ETSI TC SMG#30 Plenary Meeting **Tdoc SMG P-99-566**
Brighton, UK
9th -11th November 1999

Title: **Phase 2+ (R97) CRs to GSM 11.10-1 (Signalling and RF) for Approval**

Agenda Item: **6.7**

Source: **SMG7**

This document contains **31 CRs** to GSM 11.10-1, V.6.1.0. These CRs have been agreed by SMG7 and are put forward **to SMG as non-strategic** ones **for approval** without presentation.

SMG7 Doc	SPEC	CR	REV	PHASE	VERS	SUBJECT	CAT	NEW_ VERS	WORKITEM
7-99-263	11.10-1	A696		R97	6.1.0	Adding of "Specific Message Contents" for GSM 1800	A	6.2.0	HSCSD
7-99-271	11.10-1	A698		R97	6.1.0	Cell reselection test 20.22.2	F	6.2.0	GPRS
7-99-272	11.10-1	A700		R97	6.1.0	Cell reselection test 20.22.4	F	6.2.0	GPRS
7-99-273	11.10-1	A702		R97	6.1.0	Cell reselection test 20.22.6	F	6.2.0	GPRS
7-99-280	11.10-1	A706		R97	6.1.0	Stop paging in carrier 2 in the EGSM path in test case 20.5	A	6.2.0	DE/SMG-00110P-1
7-99-299	11.10-1	A710		R97	6.1.0	Testing state U6 problem with GSM 11.10-1 test case 31.2.1.7.2.	A	6.2.0	DE/SMG-001110P-1
7-99-300	11.10-1	A714		R97	6.1.0	Correction to test case 26.6.3.4, value of information element 'BA_used'	A	6.2.0	DE/SMG-001110P-1
7-99-301	11.10-1	A718		R97	6.1.0	Measurement reporting corrections in test case 26.10.2.1	A	6.2.0	DE/SMG-00110P-1
7-99-312	11.10-1	A720		R97	6.1.0	Correction of applicability clauses	F	6.2.0	GPRS
7-99-313	11.10-1	A722		R97	6.1.0	RR procedures on CCCH related to temporary block flow establishment	F	6.2.0	GPRS
7-99-314	11.10-1	A724		R97	6.1.0	Test of Medium Access Control (MAC) Procedures on PCCCH in idle mode	F	6.2.0	GPRS
7-99-315	11.10-1	A726		R97	6.1.0	Measurement Reports and Cell Change Order Procedures	F	6.2.0	GPRS
7-99-316	11.10-1	A729		R97	6.1.0	HSCSD test 26.13.1.2.1: GSM1800 messages missing; Steps 28,29 added.	A	6.2.0	HSCSD
7-99-317	11.10-1	A732		R97	6.1.0	HSCSD section 26.13.1.3: Table 1 corrected	A	6.2.0	HSCSD
7-99-319	11.10-1	A735		R97	6.1.0	HSCSD section 26.13: PICS/PIXIT sections reworked	A	6.2.0	HSCSD
7-99-320	11.10-1	A738		R97	6.1.0	New PICS/PIXIT in GSM 11.10-1 Annex 3	A	6.2.0	HSCSD
7-99-321	11.10-1	A741		R97	6.1.0	Default parameter values on the test SIM card for ASCI testing	B	6.2.0	REN/SMG-071110QR7-1

SMG7 Doc	SPEC	CR	REV	PHASE	VERS	SUBJECT	CAT	NEW_ VERS	WORKITEM
7-99-322	11.10-1	A744		R97	6.1.0	Alignment to the priority levels based on the test SIM card.	A	6.2.0	REN/SMG-071110QR7-1
7-99-323	11.10-1	A747		R97	6.1.0	Two editorial changes in the clause 26.14	A	6.2.0	REN/SMG-071110QR7-1
7-99-324	11.10-1	A750		R97	6.1.0	Correction of test prose 31.12.2 - eMLPP Service / automatic answering point-to-point MT call	A	6.2.0	REN/SMG-071110QR7-1
7-99-326	11.10-1	A753		R97	6.1.0	Correction of test prose 31.12.3 - eMLPP Service / automatic answering MT VGCS or VBS call.	A	6.2.0	REN/SMG-071110QR7-1
7-99-327	11.10-1	A756		R97	6.1.0	Correction of test requirements in 31.12.4 and 31.12.5 - eMLPP Service / registration and interrogation	A	6.2.0	REN/SMG-071110QR7-1
7-99-346	11.10-1	A759		R97	6.1.0	HSCSD section 26.13.1.3: Authentication procedures missing.	A	6.2.0	HSCSD
7-99-351	11.10-1	A763		R97	6.1.0	Update of table “Applicability of Tests” in Section 3.2.2, Directed Retry Tests	A	6.2.0	TEI
7-99-361	11.10-1	A767		R97	6.1.0	Test 27.21.3: Clarification of test procedure and expected sequence	A	6.2.0	TEI
7-99-362	11.10-1	A771		R97	6.1.0	Test 31.6.2.4: Clarification of test procedure and expected sequence	A	6.2.0	TEI
7-99-363	11.10-1	A775		R97	6.1.0	Test 31.6.2.5: Clarification of test procedure and expected sequence	A	6.2.0	TEI
7-99-369	11.10-1	A779		R97	6.1.0	Update of table “Applicability of Tests” in Section 3.2.2, deletion of test case 26.12.2.2	A	6.2.0	TEI
7-99-370	11.10-1	A782		R97	6.1.0	Correction of test prose 31.12.1 - eMLPP Service / priority level of MO call	A	6.2.0	REN/SMG-071110QR7-1
7-99-349	11.10-1	A785 (2)		R97	6.1.0	Introduction of GPRS test mode as a means of establishing uplink TBF in Power Control test cases (22.3 and 22.4)	C	6.2.0	GPRS
7-99-255	11.10-1	A788 (1)		R97	6.1.0	Modification of section 11.7 to enhance IMEI security	A	6.2.0	TEI

(1) This CR was approved by SMG7 conditionally to the SMG approval of CRs approved by SMG10 to GSM 02.09, GSM 03.03 and GSM 02.16 in document AP99-101.

(2) This CR was approved by SMG7 conditionally to the SMG approval of the CR approved by SMG2 to GSM 04.14 in document 2-99-D06.

SMG7 Meeting #23
Sophia Antipolis, France, 19-22 Oct 1999

Document 7-99-263
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A696	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30	for approval	X	Strategic		*(for SMG use only)*
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: 7 layers AG, Germany **Date:** 01.10.1999

Subject: Adding of "Specific Message Contents" for GSM 1800

Work item: HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Test Case 26.13.1.2.2 contains a subsection for GSM 900 "Specific Message Contents", but a corresponding subsection for GSM 1800 messages is missing.

Clauses affected: 26.13.1.2.2.3

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments: Same changes are necessary to other releases of same specification


help.doc

<--------- double-click here for help and instructions on how to create a CR.

26.13.1.2.2 Multislot signalling / RR / Dedicated assignment / failure / general case

This test is applicable to all MS that supports multislot configuration.

26.13.1.2.2.1 Conformance requirements

On the mobile station side, if a lower layer failure happens on the new channel before the ASSIGNMENT COMPLETE message has been sent, the mobile station deactivates the new channels, reactivates the old channels, reconnects the TCHs if any and triggers the establishment of the main signalling link. It then sends an ASSIGNMENT FAILURE message, cause "protocol error unspecified" on the main DCCH and resumes the normal operation, as if no assignment attempt had occurred. The operational parameters (e.g. ciphering mode) when returning on the old channel are those applied before the procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.3, 9.1.3 and 9.1.4

26.13.1.2.2.2 Test purpose

1) To test that, when the MS fails to seize the new channel, the MS reactivates the old channel.

2) This is tested in the special cases of transition:

   2.1) from non-hopping SDCCH to hopping symmetric multislot configuration

   2.2) from hopping asymmetric multislot configuration to non-hopping symmetric

   2.3) from non hopping symmetric multislot configuration to non-hopping symmetric multislot configuration, resource upgrading used

   2.4) from non-hopping asymmetric multislot configuration to non-hopping asymmetric multislot configuration, resource upgrading used

   2.5) from hopping symmetric multislot configuration to hopping asymmetric multislot configuration, resource upgrading used

   2.6) from hopping asymmetric multislot configuration to non-hopping multislot configuration, resources downgrading to one TCH/F

26.13.1.2.2.3 Method of test

Initial Conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
The MS is "idle updated".

Related PICS/PIXIT Statements

- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class

Foreseen Final State of the MS

The MS is "idle updated".

Test Procedure

A mobile terminated RR connection is established on an SDCCH. The following is repeated six times with different parameters:

The SS sends an ASSIGNMENT COMMAND message allocating a hopping/non-hopping symmetric/asymmetric multislot configuration with or without resource upgrading/downgrading, but does not activate the assigned channels. The MS shall try to activate the new channel (this is not verified) and shall then reactivate the old channel and trigger the establishment of the main signalling link on the old channel. Then the MS shall send an ASSIGNMENT FAILURE.

The SS initiates the channel release procedure and the test ends here.

Maximum Duration of Test

30 s.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	Channel Type: SDCCH/4.
4	MS -> SS	PAGING RESPONSE	
5	SS -> MS	ASSIGNMENT COMMAND	See specific message contents below. The MS attempts (and fails) to establish a signalling link on the new channel.
6			The MS re-establishes the signalling link on the old channel.
7	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
8	SS		The SS checks that the MS reports the old power level (prior to the Assignment command) in the layer 1 header of the SACCH message that is sent in the first SACCH multiframe following the SABM.
9	SS -> MS	ASSIGNMENT COMMAND	See specific message contents below.
10	MS -> SS	ASSIGNMENT COMPLETE	Assignment command is successfully performed.
11	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, symmetric multislot configuration. The MS attempts (and fails) to establish a signalling link on the new channel.
12			The MS re-establishes the signalling link on the old channel.
13	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
14	SS -> MS	ASSIGNMENT COMMAND	Assignment command to non-hopping, symmetric multislot configuration is successfully performed.
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, symmetric multislot configuration, resource upgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
17			The MS re-establishes the signalling link on the old channel.
18	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
19	SS -> MS	ASSIGNMENT COMMAND	Assignment command to non-hopping, asymmetric multislot configuration is successfully performed.
20	MS -> SS	ASSIGNMENT COMPLETE	
21	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, asymmetric multislot configuration, resource downgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
22			The MS re-establishes the signalling link on the old channel.
23	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
24	SS -> MS	ASSIGNMENT COMMAND	Assignment command to hopping, symmetric multislot configuration is successfully performed.
25	MS -> SS	ASSIGNMENT COMPLETE	
26	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, hopping, asymmetric multislot configuration, resource upgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
27			The MS re-establishes the signalling link on the old channel.
28	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
29	SS -> MS	ASSIGNMENT COMMAND	Assignment command to hopping, asymmetric multislot configuration is successfully performed.
30	MS -> SS	ASSIGNMENT COMPLETE	

31	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, multislot configuration, resources downgrading to one TCH/F. The MS attempts (and fails) to establish a signalling link on the new channel.
32			The MS re-establishes the signalling link on the old channel.
33	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
34	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

GSM 900 begin:

Step 5:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of symmetrical timeslots assigned.
- Uplink assignment	As many timeslots as downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 9:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 11:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number symmetrical of timeslots supported by MS assigned.
- Uplink assignment	As many timeslots as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 14:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 16:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Maximum number of timeslots that MS supports.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	More than one timeslot but less than maximum number of timeslots is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 24:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 26:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 29:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 31:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

GSM 900 end:

GSM 1800 begin:

Step 5:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of symmetrical timeslots assigned.
- Uplink assignment	As many timeslots as downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 9:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 11:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number symmetrical of timeslots supported by MS assigned.
- Uplink assignment	As many timeslots as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 14:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 16:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Maximum number of timeslots that MS supports.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	More than one timeslot but less than maximum number of timeslots is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 24:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 26:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 29:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 31:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

GSM 1800 end:

ETSI SMG7 **Tdoc SMG7-99-271**
Sophia Antipolis
19-22 October 1999

CHANGE REQUEST No : **A698** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 11.10-1 Version 6.1.0

Submitted to SMG #30 *list plenary meeting or STC here ↑*

for approval [X] for information [ ]

without presentation ("non-strategic") [X] with presentation ("strategic") [ ]

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: SIM [ ] ME [X] Network [ ]
(at least one should be marked with an X)

Work item: GPRS

Source: Motorola **Date:** 18/09/99

Subject: Cell reselection test 20.22.2

Category: *(one category and one release only shall be marked with an X)*

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[X]
Release 98	[ ]
Release 99	[ ]
UMTS	[ ]

Reason for change: A carrier is not enabled in the procedure section which is needed for the test to work correctly.

Clauses affected: 20.22.2.4.2

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

20.22.2.4.2 Procedure

a) The SS activates carriers 1,2 and 5. ~~and 2.~~ The MS is paged on Carriers 1 and 2. The SS starts monitoring carriers 1 and 2 for RA requests from the MS.

b) The MS is switched on.

c) The SS activates carriers 3 and 4. The MS is paged on both carriers. The SS monitors carriers 3 and 4 for RA requests from the MS.

ETSI SMG7 **Tdoc SMG7-99-272**
Sophia Antipolis
19-22 October 1999

CHANGE REQUEST No : **A700** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 11.10-1 Version 6.1.0

Submitted to SMG #30 *list plenary meeting or STC here ↑*

for approval [X] for information [ ]

without presentation ("non-strategic") [X] with presentation ("strategic") [ ]

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: SIM [ ] ME [X] Network [ ]
(at least one should be marked with an X)

Work item: GPRS

Source: Motorola **Date:** 18/09/99

Subject: Cell reselection test 20.22.4

Category: *(one category and one release only shall be marked with an X)*

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[X]
Release 98	[ ]
Release 99	[ ]
UMTS	[ ]

Reason for change: The initial conditions table in test 20.22.4.4.1 has incorrectly calculated values for C32 As C32 = C1+GRO – RARH, the value of GRO was not added to the value of C1

Clauses affected: 20.22.4.4.1

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

20.22.4.4 Method of Test

20.22.4.4.1 Initial Conditions

Parameters changed from the default values in table 20.22.1.

Parameter	Carrier 1	Carrier 2	Carrier 3	Carrier 4	Carrier 5	Carrier 6
RF Signal Level (dBm)	-60	-60	-70	-70	-70	-70
RAI					Different	
GPRS_RXLEV_ACCESS_MIN (dBm)	-100	-100	-80	-100	-100	-80
GRO			4	4	6	4
GCRH	4					
RARH	14					
C1	40 to 15		10	30	30	10
C32	40 to 15		140	340	22	140

Note1 : GRO = GPRS_RESELECT_OFFSET, GCRH = GPRS_CELL_RESELECT_HYSTERESIS, RARH = RA_RESELECT_HYSTERESIS.

Note 2 : The BA(GPRS) list only contains the ARFCNs of the carriers used during the test. The HCS structure is transmitted in the Packet system information messages.

Note 3 : Carrier 1 is the BCCH carrier which broadcasts the position of the PBCCH channel in the cell (Carrier 2.)

ETSI SMG7
Sophia Antipolis
19-22 October 1999

Tdoc SMG7-99-273

CHANGE REQUEST No : **A702**

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

Technical Specification GSM / UMTS: 11.10-1 Version 6.1.0

Submitted to SMG #30
list plenary meeting or STC here ↑

for approval [X]
for information [ ]

without presentation ("non-strategic") [X]
with presentation ("strategic") [ ]

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: SIM [ ] ME [X] Network [ ]
(at least one should be marked with an X)

Work item: GPRS

Source: Motorola **Date:** 18/09/99

Subject: Cell reselection test 20.22.6

Category: *(one category and one release only shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
UMTS	

Reason for change: The wrong carrier is used in test procedure which would cause the test to fail, also the initial conditions are incorrect.

Clauses affected: 20.22.6.4.1, 20.22.6.4.2, 20.22.6.5

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

20.22.6.4.1 Initial Conditions

Parameters changed from the default values in table 20.22.1.

Parameter	Carrier 1	Carrier 2	Carrier 3	Carrier 4
RF Signal Level (dBm)	-670	-670	-760	-760
GPRS_RXLEV_ACCESS_MIN (dBm)	-90	-90	-100	-100
GRO	-20		-28	
SPLIT_PG_CYCLE	4	4	4	4
C1	320		340	
C32	30		240	

Note 1 : The HCS structure is omitted from the system information messages on all the cells. Therefore C31 is not used.

Note 2 : The RLA_P should be updated every 3.84 seconds with SPLIT_PG_CYCLE=4

Note 3 : Carriers 1 and 3 are the BCCH carriers which broadcast the position of the PBCCH channel in the cell (Carriers 2 and 4)

20.22.6.4.2 Procedure

a) The SS activates all carriers and pages the MS on carrier 4. The SS starts to monitor carriers 3 and 4 for responses from the MS.

b) The MS is switched on.

c) The SS waits 30s before the RF level of carriers 1 & 2 are reduced to –100 dBm for 8 seconds. (During this period C1 becomes –10). Then the SS raises the level back to –60 dBm.The SS waits 20 seconds.

d) The SS reduces the RF level on carriers 1 & 2 to –100dBm. ~~for 20 seconds.~~

20.22.6.5 Test Requirements

1) After step c) there shall be no access on carrier 3 or carrier 4.

2) After step d) there shall be access on carrier 41 within 25 seconds (allow 20s for c1 average to reach –10 + 2s to decode BCCH + 2s to decode PBCCH)

ETSI SMG7
Sophia Antipolis
19th-22nd October 1999

Tdoc 7-99-280

CHANGE REQUEST No : A706

Technical Specification GSM 11.10-1 Version: 6.1.0

Submitted to SMG #30 *list SMG plenary meeting no. here ↑*
for approval [X] for information [ ]
without presentation ("non-strategic") [X] with presentation ("strategic") [ ]

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: SIM [ ] ME [ ] Network [ ]

Work item: DE/SMG-00110P-1

Source: Anite (Ref CR 1386p1) **Date:** 21st July 1999

Subject: Stop paging in carrier 2 in the EGSM path in test case 20.5 and 20.21.5

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	

Reason for change:

This problem was initiated with AniteMail 1386 and confirmed with STF79mail 99443.

There is a problem in the EGSM path of 20.5, when the MS is accessing carrier 2. The MS correctly RACHs on carrier 2 within 20 seconds of its level being increased. Currently, the test then waits for 30 seconds before increasing the level of carrier 3 and expects the MS to RACH on carrier 3 within 20 seconds.

However, after the MS has sent M+1 Channel Requests on carrier 2 and received no Immediate Assignment message, it performs a cell reselection back to carrier 1 (ref: GSM 04.08, section 3.3.1.2 Initiation of the Immediate Assignment procedure). After 5 seconds the MS re-selects to carrier 2, sends M+1 Channel Requests and re-selects to carrier 1 again. This change between carrier 1 and carrier 2 occurs during the 30 seconds waiting period. As a consequence it not possible for the MS to meet the 20 seconds requirement at the end of the test.

To resolve this problem, the paging on carrier 2 should be stopped as soon as the MS has sent the first Channel Request on this channel. This will ensure that it selects carrier 1 for 5 seconds and then reverts to and camps on carrier 2 for the remaining part of the 30 seconds waiting period. When the power on carrier 3 is increased, the MS will be ready to select this channel as it will have received the ARFCN of carrier 3 in the SI 2ter message broadcast on carrier 2, thus completing the test successfully.

This principle has already been implemented in the cell selection test cases 20.4 and 20.6.

Clauses affected: 20.5, 20.21.5

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:	This change also affects RGSM test case 20.21.5

20.5 Cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages

20.5.1 Definition and applicability

System information (SI) type 7 and 8 are transmitted on the BCCH Ext when the system information type 4 message does not contain all information needed for cell selection.

The system information type 2 bis message is used when the system information type 2 message does not contain all neighbour cell ARFCNs.

The system information type 2 ter message is used when system information type 2 messages broadcast by one cell which are system information 2 or both system information 2 and 2bis do not contain all neighbour cell ARFCNs.

Test purposes 1 and 3 are applicable to all types of GSM900 and DCS1800 MS.

Test purpose 2 is only applicable for E-GSM and DCS 1 800 MS. This is reflected in initial conditions step d).

Test purpose 4 is only applicable to an E-GSM MS. This is reflected in initial conditions step f), test procedures d) and e) and test requirements clause 3).

20.5.2 Conformance requirement

1. The MS shall be able to calculate correctly the path loss criterion parameter C2 used for cell reselection. GSM 05.08, 6.4.

2 Whilst in idle mode, an MS shall continue to monitor all BCCH carriers as indicated by the BCCH allocation. GSM 05.08, 6.6.1.

3 Mobile stations shall treat all ARFCNs in the set {0, 1, 2 ... 1023} as valid ARFCN values even if the mobile station is unable to transmit or receive on that ARFCN. GSM 04.08, 10.5.2.1b.

4 An E-GSM MS shall correctly decodes parameters transmitted in the system information type 2 ter message. GSM 04.08, 9.1.34:

20.5.3 Test purpose

1. To verify that the MS correctly calculates the C2 criterion when the parameters affecting cell reselection are transmitted in the system information type 7 and 8 messages.

2. To verify that E-GSM and DCS 1 800 MS decode parameters transmitted in the system information type 2 bis message.

3. To verify that the MS treats ARFCNs as valid ARFCNs even if the MS is unable to transmit or receive on that ARFCN.

4. To verify that an E-GSM mobile correctly decode parameters transmitted in the system information type 2 ter message.

20.5.4 Method of test

20.5.4.1 Initial conditions

a) Parameters changed from the default values in table 20.1.

Parameter	Carrier 1	Carrier 2	Carrier 3 *)	Carrier 4	Carrier 5	Carrier 6
RF Signal Level (dBµV emf() / dBm)	53 / -60	32 / -81	40 / -73	OFF	OFF	OFF
RXLEV_ACCESS_MIN (dBµV emf() / dBm)	23 / -90	23 / -90	30 / -83			
BS_AG_BLKS_RES	1	1	1			
PT		0	0			
CRO		16 dB	10 dB			
TO		0 dB	0 dB			
C1	30	9	10			
C2	30	25	20			

*) : Carrier 3 is off for P-GSM and DCS 1800 MS. Carrier 3 is only required for E-GSM MS.

b) The ARFCNs of carriers 1, 2 and 3 are chosen from those in table 20.1.

c) The cell reselection parameters PENALTY_TIME, CELL_RESELECT_OFFSET and TEMPORARY_OFFSET are transmitted in the SI3, SI7 and SI8 messages on carrier 2. They are not transmitted in SI4 and the ADDITIONAL RESELECT PARAM IND parameter is set to 1.

d) The SI2bis message is transmitted on carrier 1 and contains the ARFCN of carrier 2 and ARFCNs 43, 70, 500, 550, 990 and 995. For an E-GSM MS and a DCS 1 800 MS, the ARFCN of carrier 2 is not transmitted in the SI2 message.

e) Carriers 1 and 2 are synchronized, but staggered in frame number so that the transmission of the SI3 message on carrier 2, coincides with the paging block which the MS is listening to on carrier 1.

NOTE: Under these conditions, the MS can only decode the parameters affecting cell reselection from the SI7 or SI8 messages.

To achieve this, the following conditions are used:

BS_PA_MFRMS = 4
IMSI mod 1000 = 12
FN carrier 1 = FN carrier 2-21, for simultaneously transmitted frames.

f) For an E-GSM MS, the SI3 message on carrier 2 indicates that SI2ter is used on carrier 2. SI2ter message contains the ARFCN of carrier 3 and ARFCNs 45, 76, 891, 905. The ARFCN of carrier 3 is transmitted neither in the SI2 nor in the SI2bis messages on carriers 1 and 2.

20.5.4.2 Test Procedure

a) The SS activates the channels. The MS is not paged on carrier 1.

b) The MS is switched on.

c) After 50 seconds, the SS increases the level of carrier 2 to 42 dBµVemf( ).

d) For an E-GSM MS only, when the SS receives a response on carrier 2, the SS stops paging on that carrier and after 30 seconds, the SS increases the level of carrier 3 to 60 dBµVemf( ).

20.5.5 Test Requirements

1) After step b), there shall be no response from the MS on carrier 2. For an E-GSM MS there shall also be no response on carrier 3.

2) After increasing the level of carrier 2 in step c), the MS shall respond on carrier 2 within 20 seconds.

3) After increasing the level of carrier 3 in step d), an E-GSM mobile shall respond on carrier 3 within 20 seconds.

20.21.5 R-GSM cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages

20.21.5.1 Definition and applicability

System information (SI) type 7 and 8 are transmitted on the BCCH Ext when the system information type 4 message does not contain all information needed for cell selection.

The system information type 2 bis message is used when the system information type 2 message does not contain all neighbour cell ARFCNs.

The system information type 2 ter message is used when system information type 2 messages broadcast by one cell which are system information 2 or both system information 2 and 2bis do not contain all neighbour cell ARFCNs.

20.21.5.2 Conformance requirement

1. The MS shall be able to calculate correctly the path loss criterion parameter C2 used for cell reselection. GSM 05.08, 6.4.

2 Whilst in idle mode, an MS shall continue to monitor all BCCH carriers as indicated by the BCCH allocation. GSM 05.08, 6.6.1.

3 Mobile stations shall treat all ARFCNs in the set {0, 1, 2 ... 1023} as valid ARFCN values even if the mobile station is unable to transmit or receive on that ARFCN. GSM 04.08, 10.5.2.1b.

4 The MS shall correctly decodes parameters transmitted in the system information type 2 ter message. GSM 04.08, 9.1.34:

20.21.5.3 Test purpose

1. To verify that the MS correctly calculates the C2 criterion when the parameters affecting cell reselection are transmitted in the system information type 7 and 8 messages.

2. To verify that the MS decodes parameters transmitted in the system information type 2 bis message.

3. To verify that the MS treats ARFCNs as valid ARFCNs even if the MS is unable to transmit or receive on that ARFCN.

4. To verify that the MS correctly decodes parameters transmitted in the system information type 2 ter message.

20.21.5.4 Method of test

20.21.5.4.1 Initial conditions

a) Parameters changed from the default values in table 20.21.1.

Parameter	Carrier 1	Carrier 2	Carrier 3	Carrier 4	Carrier 5	Carrier 6
RF Signal Level (dBµV emf() / dBm)	53 / -60	32 / -81	40 / -73	OFF	OFF	OFF
RXLEV_ACCESS_MIN (dBµV emf() / dBm)	23 / -90	23 / -90	30 / -83			
BS_AG_BLKS_RES	1	1	1			
PT		0	0			
CRO		16 dB	10 dB			
TO		0 dB	0 dB			
C1	30	9	10			
C2	30	25	20			

.

b) The ARFCNs of carriers 1, 2 and 3 are chosen from those in table 20.21.1 with carrier 3 chosen between ARFCN 955 - 974.

c) The cell reselection parameters PENALTY_TIME, CELL_RESELECT_OFFSET and TEMPORARY_OFFSET are transmitted in the SI3, SI7 and SI8 messages on carrier 2. They are not transmitted in SI4 and the ADDITIONAL RESELECT PARAM IND parameter is set to 1.

d) The SI2bis message is transmitted on carrier 1 and contains the ARFCN of carrier 2 and ARFCNs 43, 70, 500, 550, 958, 963, 990 and 995. The ARFCN of carrier 2 is not transmitted in the SI2 message.

e) Carriers 1 and 2 are synchronized, but staggered in frame number so that the transmission of the SI3 message on carrier 2, coincides with the paging block which the MS is listening to on carrier 1.

NOTE: Under these conditions, the MS can only decode the parameters affecting cell reselection from the SI7 or SI8 messages.

To achieve this, the following conditions are used:

BS_PA_MFRMS = 4
IMSI mod 1000 = 12
FN carrier 1 = FN carrier 2-27, for simultaneously transmitted frames.

f) The SI3 message on carrier 2 indicates that SI2ter is used on carrier 2. SI2ter message contains the ARFCN of carrier 3 and ARFCNs 45, 76, 891, 905. The ARFCN of carrier 3 is transmitted neither in the SI2 nor in the SI2bis messages on carriers 1 and 2.

20.21.5.4.2 Test Procedure

a) The SS activates the channels. The MS is not paged on carrier 1.

b) The MS is switched on.

c) After 50 seconds, the SS increases the level of carrier 2 to 42 dBµVemf( ).

d) When the SS receives a response on carrier 2, the SS stops paging on that carrier and ~~A~~after 30 seconds, the SS increases the level of carrier 3 to 60 dBµVemf( ).

20.21.5.5 Test Requirements

1) After step b), there shall be no response from the MS on carrier 2. There shall also be no response on carrier 3.

2) After increasing the level of carrier 2 in step c), the MS shall respond on carrier 2 within 20 seconds.

3) After increasing the level of carrier 3 in step d), the mobile shall respond on carrier 3 within 20 seconds.

ETSI SMG7 **Tdoc SMG7-99-299**
Edinburgh
9th-11th June, 1999

CHANGE REQUEST No : A710

Technical Specification GSM / UMTS: 11.10-1 Version 6.1.0

Submitted to SMG #30 *List plenary meeting or STC here* ↑	for approval	X	without presentation ("non-strategic")	
	for information		with presentation ("strategic")	

Proposed change affects: SIM ☐ ME ☐ Network ☐
(at least one should be marked with an X)

Work item: DE/SMG-001110P-1

Source: Anite Telecoms **Date:** 10th June 1999

Subject: Testing state U6 problem with GSM 11.10-1 test case 31.2.1.7.2.

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
UMTS	

Reason for change:

It is not possible for the SS to check for MS state U6 with a STATUS ENQUIRY after receiving a SETUP message from the MS.

Therefore another method is required in-order to meet the purpose of test case 31.2.1.7.2.

It is however possible to check for state U9 after the MS has sent the CALL CONFIRMED message. This implies that the MS has moved through state U6.

Clauses affected: 31.2.1.7.2.

Other specs Affected:

Other releases of same spec	☐	→ List of CRs:
Other core specifications	☐	→ List of CRs:
MS test specifications / TBRs	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

31.2.1.7.2 Forwarded-to mobile subscriber side

31.2.1.7.2.1 Conformance requirements

1) Upon receipt of the SETUP message containing a notification indication that the call is a forwarded one (with any SS code except CFC), the MS shall correctly continue call establishment and enter CC state U6.

2) Upon receipt of the SETUP message containing a notification indication that the call is a forwarded one, the MS shall provide the appropriate user indication (which is to be described by the manufacturer).

References

1) GSM 04.82.

2) GSM O2.30 section 4.5.

31.2.1.7.2.2 Test purpose

1) To check that, upon receipt of the SETUP message containing a notification indication that the call is a forwarded one, the MS correctly continues call establishment and enters CC state U6.

2) Upon receipt of the SETUP message containing a notification indication that the call is a forwarded one, the MS provides the appropriate user indication (which is to be described by the manufacturer).

31.2.1.7.2.3 Method of test

Initial conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
The MS is "idle updated".

Related PICS/PIXIT statement(s)

Description of the user's commands and of display of the answers from the network for call forwarding.

Foreseen final state of the MS

The MS is "idle updated".

Test procedure

An incoming call is given to the MS with the SETUP message with the facility information element containing an invoke of the NotifySS operation with the indication that the call is forwarded.
After the MS has responded with a CALL CONFIRM message ~~Then the network~~the SS sends a STATUS ENQUIRY message: the MS responds indicating CC state ~~U6~~U9 (implying that it has travelled through state U6).
The transaction and the channel are released by the SS.

Maximum duration of test

1 min.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING	
2	MS -> SS	CHANNEL REQUEST	with establishment cause "answer to paging"
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	
5	SS -> MS	SETUP	containing the notification that the call is a forwarded one
6	MS -> SS	CALL CONFIRMED	
~~6~~7	SS -> MS	STATUS ENQUIRY	
~~7~~8	MS -> SS	STATUS	(~~U6~~U9)
~~8~~9	SS -> MS	RELEASE COMPLETE	
~~9~~10	SS -> MS	CHANNEL RELEASE	

Specific message contents

at step ~~6~~ 5 -

- protocol discriminator: CC
- transaction identifier:
- message type: SETUP
- facility

  invoke = notification
  - SS-Code (CFU, CFB, CFNRy, CFNRc or CF)
  - SS-Notification (indicating: call is forwarded i.e. Call is forwarded indication to C-subscriber).

ETSI SMG7 #23
Sophia Antipolis, France 19th – 22nd October 1999

Document 7-99-300
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A714	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30	for approval	X	strategic		(for SMG Use only)
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]

Source: Anite Telecoms **Date:** 04/10/99

Subject: Correction to test case 26.6.3.4, value of information element 'BA_used' .

Work item: DE/SMG-001110P-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change:

In GSM 11.10-1, test case 26.6.3.4, the specific message contents of the measurement report message, for the GSM 900 iteration of the test, lists an incorrect value for the parameter 'BA_used'.

The SYSTEM INFORMATION 5 message has a BCCH Allocation Sequence number of 1. Therefore the Information Element 'BA_used' in the Measurement Report should have the value 1, NOT the value 0, as is stated at present.

Clauses affected: 26.6.3.4.

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments: The Specific Message contents for the measurement report on the DCS1800 iteration of the test, lists the correct value for 'BA_used'.

26.6.3.4 Measurement / DTX

This test applies to both GSM 900 and DCS 1 800 mobile stations.

26.6.3.4.1 Conformance requirements

After the sending of the HANDOVER COMPLETE, the MS shall continuously send measurement reports in every SACCH blocks, the measurement valid indication shall be set to valid (0) within the second block at the latest. After 20 seconds the order of values in the MEASUREMENT REPORT message shall contain measurement results for the 6 strongest BCCH carriers among those monitored by the MS. Further, in a quiet environment, the DTX_USED field shall be set by the MS to "DTX used".

References

GSM 04.08 section 3.4.1.2, GSM 05.08 section 8.4.

26.6.3.4.2 Test purpose

To test that, in the case of the MS using DTX and the SS indicating that power control is in use, the MS reports appropriate results.

26.6.3.4.3 Method of test

Initial Conditions

System Simulator:

8 cells with the following settings:

Transmitter	Level	NCC	BCC	ARFCN (GSM900)	ARFCN (DCS1800)	Cell identity
Serving, S1	-60	1	3	002	514	0001H
Neighbour, N1	-85	1	5	008	530	0002H
Neighbour, N2	-80	1	7	014	602	0003H
Neighbour, N3	-75	1	1	020	665	0004H
Neighbour, N4	-55	1	3	026	762	0005H
Neighbour, N5	-50	1	5	032	686	0006H
Neighbour, N6	-45	1	7	038	549	0007H
Neighbour, N7	-40	1	1	044	810	0008H

In the serving cell, the DTX indicator is set to "MS shall use discontinuous transmission".

With the exception of the Cell Allocation, the rest of the parameters for all eight cells are the same as the default settings and default SYSTEM INFORMATION TYPE 1 to 4 message contents for cell A. The Cell Allocation for the serving cell is the same as the default setting for cell A. The Cell Allocations for the neighbour cells need have only one entry, consisting of the ARFCN of that cell's BCCH.

Mobile Station:

The MS is in the active state of a call (U10).
The MS has just completed a handover into the serving cell, S1.

Related PICS/PIXIT Statements

Support for state U10 of the Call Control protocol.
Support for transparent data services only: yes/no.
Type of MS (P-GSM 900 or EGSM or DCS 1 800).

Foreseen Final State of the MS

Active state of a call (U10).

Test Procedure

This test procedure is performed twice.

With the MS having a call in progress on an arbitrary cell, the MS is handed over to cell S1. On cell S1, the SS sends SYSTEM INFORMATION TYPE 5 & 6 (on the second iteration of the test the SS also sends SYSTEM INFORMATION TYPE 5bis) on the SACCH with all 8 of the BCCHs "on air" indicated in the BA. Cell S1 also indicates that DTX shall be used. The MS shall send MEASUREMENT REPORTs back to the SS, and it shall be indicated in these that measurement results for the 6 strongest carriers have been obtained and that DTX has been used. (The MS is positioned in an environment free from acoustic noise.)

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

This sequence is performed twice for execution counter, k = 1, 2.

Since when k = 1, SYSTEM INFORMATION TYPE 5, SYSTEM INFORMATION TYPE 6 and MEASUREMENT REPORT (and when k = 2 an additional SYSTEM INFORMATION TYPE 5bis is included) messages are sent continuously, a table is not applicable in this test. The interval between 2 successive Layer 2 frames containing MEASUREMENT REPORTs shall not exceed one Layer 2 frame.

Specific Message Contents

GSM 900 begin:

SYSTEM INFORMATION TYPE 5:

Information Element	value/remark
Neighbour Cells Description	
- Format Identifier	bit map 0
- BCCH Allocation Sequence	1
- BCCH Allocation ARFCN	only channel numbers 2, 8, 14, 20, 26, 32, 38, and 44 belong to the BCCH allocation.
- EXT IND	k = 1. Information Element carries the complete BA. k = 2. Information Element carries only a part of the BA.

SYSTEM INFORMATION TYPE 5bis (Sent only when k = 2):

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5bis.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	k = 2. Information Element carries only a part of the BA.
- W(i)	Only channel 500 belongs to the BCCH allocation.

SYSTEM INFORMATION TYPE 6:

Information Element	value/remark
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall use DTX
- Radio_Link_Timeout	8

MEASUREMENT REPORT:

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
- BA_used	1~~0~~
- DTX_used	DTX was used (NOTE 3)
- RXLEV_FULL_SERVING_CELL	See NOTE 1
- RXLEV_SUB_SERVING_CELL	See NOTE 1
- MEAS_VALID	See NOTE 2
- RXQUAL_FULL_SERVING_CELL	See NOTE 1
- RXQUAL_SUB_SERVING_CELL	See NOTE 1
- NO_NCELL_M	6 neighbour cell measurement results
- RXLEV_NCELL_1	See NOTE 1
- BCCH_FREQ_NCELL_1	Shall not correspond to N1 or N2
_ BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
- RXLEV_NCELL_2	See NOTE 1
- BCCH_FREQ_NCELL_2	Shall not correspond to N1 or N2
- BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
- RXLEV_NCELL_3	See NOTE 1
- BCCH_FREQ_NCELL_3	Shall not correspond to N1 or N2
- BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
- RXLEV_NCELL_4	See NOTE 1
- BCCH_FREQ_NCELL_4	Shall not correspond to N1 or N2
- BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
- RXLEV_NCELL_5	See NOTE 1
- BCCH_FREQ_NCELL_5	Shall not correspond to N1 or N2
- BSIC_NCELL_5	Corresponds to that of BCCH_FREQ_NCELL_5
- RXLEV_NCELL_6	See NOTE 1
- BCCH_FREQ_NCELL_6	Shall not correspond to N1 or N2
- BSIC_NCELL_6	Corresponds to that of BCCH_FREQ_NCELL_6

GSM 900 end:

DCS 1 800 begin:

SYSTEM INFORMATION TYPE 5:

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	k = 1. Information Element carries complete BA. k = 2. Information Element carries only a part of the BA.
- W(i)	k = 1. Non null for ARFCN 514, 530, 549, 602 665, 686, 762, 810. k = 2. Non null for ARFCN 549, 602, 665, 686, 810.

SYSTEM INFORMATION TYPE 5bis (Sent only when k = 2):

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5bis.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	k = 2. Information Element carries only a part of the BA.
- W(i)	k = 2. Non null ARFCN 514, 530, 762.

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall use DTX
- Radio_Link_Timeout	default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT:

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was used (see NOTE 3)
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	See NOTE 1
RXQUAL_SUB_SERVING_CELL	See NOTE 1
NO_NCELL_M	6 neighbour cell measurement results
RXLEV_NCELL_1	See NOTE 1
BCCH_FREQ_NCELL_1	Shall not correspond to N1 or N2
BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
RXLEV_NCELL_2	See NOTE 1
BCCH_FREQ_NCELL_2	Shall not correspond to N1 or N2
BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
RXLEV_NCELL_3	See NOTE 1
BCCH_FREQ_NCELL_3	Shall not correspond to N1 or N2
BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
RXLEV_NCELL_4	See NOTE 1
BCCH_FREQ_NCELL_4	Shall not correspond to N1 or N2
BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
RXLEV_NCELL_5	See NOTE 1
BCCH_FREQ_NCELL_5	Shall not correspond to N1 or N2
BSIC_NCELL_5	Corresponds to that of BCCH_FREQ_NCELL_5
RXLEV_NCELL_6	See NOTE 1
BCCH_FREQ_NCELL_6	Shall not correspond to N1 or N2
BSIC_NCELL_6	Corresponds to that of BCCH_FREQ_NCELL_6

DCS 1 800 end:

NOTE 1: These actual values are not checked.

NOTE 2: The Measurement Valid Indication shall be set to valid within the second SACCH block after the HANDOVER COMPLETE message at the latest.

NOTE 3: For an MS that only supports transparent data services, the value of DTX_used shall not be checked.

ETSI SMG7 Meeting #23
Sophia Antipolis, France 19th – 22nd October 1999

Document 7-99-301
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

11.10-1 **CR** **A718** Current Version: v. 6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30 for approval [X] strategic [ ] *(for SMG use only)*
list expected approval meeting # here ↑ for information [ ] non-strategic [X]

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Anite Telecoms **Date:** 05/10/1999

Subject: Measurement reporting corrections in test case 26.10.2.1

Work item: DE/SMG-00110P-1

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in an earlier release	[X]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[X]
Release 98	[ ]
Release 99	[ ]
Release 00	[ ]

Reason for change:

These problems were initiated with AniteMail 1408 and confirmed with STF79mail 99452.

1. In GSM 11.10-1 the BA-IND parameter used in System Information 5, 5bis and 5ter messages is set to '0', but the BA-USED parameter is set to '1' in Measurement Report message. GSM 04.08 section 10.5.2.20, specifies the 'BA-USED' parameter to be: "the value of the BA-IND field of the neighbour cells description information element or elements defining the BCCH allocation used for the coding of BCCH-FREQ-NCELL fields."

Since the MS should already be in state U10 for the start of this test, it is not necessary to discriminate between BCCH allocations on different logical channels. Therefore the BA-USED parameter in the Measurement Report should reflect the BA-IND parameter in the System Information 5 message (i.e. '0').

2. ARFCN 20 is specified to be reported on for c=3. But ARFCN 20 is not among the list of cells present. Also, a Measurement Report message can only report on 6 neighbour cells and the test specifies, for execution path c=3, that 7 ARFCNs should be reported on, including ARFCN 20. Therefore ARFCN 20 should be removed from the list for execution path c=3.

3. The Measurement Report message value “NO-NCELL-M” is incorrectly specified for c=6. Since there are only 3 neighbour cells in the list to report on, the value of “NO-NCELL-M” shall be changed to equal 3.

Clauses affected: 26.10.2.1

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:

MS test specifications	☐	→ List of CRs:	
BSS test specifications	☐	→ List of CRs:	
O&M specifications	☐	→ List of CRs:	

Other comments:	

26.10.2 E-GSM or R-GSM signalling / RR

26.10.2.1 E-GSM or R-GSM signalling / RR / Measurement

This test applies to E-GSM or R-GSM mobile stations.

Conformance requirements of section 26.6.3 fully apply to any mobile station (P-GSM, E-GSM, R-GSM or DCS) in the whole supported band of the mobile station.

Besides, as an E-GSM or R-GSM mobile station shall support the P-GSM band, it shall pass successfully every test of section 26.6.3 under the described GSM 900 conditions.

The purpose of this extra section is to test the reporting of measurements in the case where cells use E-GSM or R-GSM frequency(s). Several coding formats may be used by the network in the SYSTEM INFORMATION message.

26.10.2.1.1 Conformance requirements

The MS shall continuously send MEASUREMENT REPORT messages on every SACCH blocks and the measurement valid indication shall be set to valid (0) within the second block at the latest. After 20 seconds the values in the MEASUREMENT REPORT message shall contain measurement results for the 6 th strongest cells belonging to the set of cells indicated either in SI5 and SI5bis messages or in SI5 and SI5ter messages.

References

GSM 04.08 sections 3.4.1.2 and 9.1.39, GSM 05.08 section 8.4.

26.10.2.1.2 Test purpose

To test that, when the SS gives information about neighbouring cells indicated either in SI5 and SI5bis messages or in SI5 and SI5ter messages, the MS reports appropriate results.

26.10.2.1.3 Method of test

Initial Conditions

System Simulator:

8 cells with the following settings:

E-GSM:

Transmitter	Level	NCC	BCC	ARFCN	Cell identity
Serving, S1	-60	1	3	002	0001H
Neighbour, N1	-85	1	5	990	0002H
Neighbour, N2	-80	1	7	1005	0003H
Neighbour, N3	-75	1	1	000	0004H
Neighbour, N4	-55	1	3	026	0005H
Neighbour, N5	-50	1	5	1020	0006H
Neighbour, N6	-45	1	7	038	0007H
Neighbour, N7	-40	1	1	1003	0008H

R-GSM:

Transmitter	Level	NCC	BCC	ARFCN	Cell identity
Serving, S1	-60	1	3	002	0001H
Neighbour, N1	-85	1	5	990	0002H
Neighbour, N2	-80	1	7	970	0003H
Neighbour, N3	-75	1	1	000	0004H
Neighbour, N4	-55	1	3	026	0005H
Neighbour, N5	-50	1	5	1020	0006H
Neighbour, N6	-45	1	7	038	0007H
Neighbour, N7	-40	1	1	960	0008H

With the exception of the Cell Allocation, the rest of the parameters for all eight cells are the same as the default settings and default SYSTEM INFORMATION TYPE 1 to 4 message contents for cell A. The Cell Allocation for the serving cell is the same as the default setting for cell A. The Cell Allocations for the neighbour cells need have only one entry, consisting of the ARFCN of that cell's BCCH.

Mobile Station:
The MS is in the active state of a call (U10).

Related PICS/PIXIT Statements

Support E-GSM or R-GSM.
Support for state U10 of the Call Control protocol.

Foreseen Final State of the MS

Active state of a call (U10).

Test Procedure

The test is performed for execution counter, c=1 to 9

For c=1 to 6, the following procedure applies .

With the MS having a call in progress, the SS sends SYSTEM INFORMATION TYPE 5, 5bis & 6 on the SACCH. The MS shall send MEASUREMENT REPORTs back to the SS, and it shall be indicated in these that measurement results for the 6 strongest present carriers of the supported band have been obtained.

For c=7 to 9, the following procedure applies :

With the MS having a call in progress, the SS sends SYSTEM INFORMATION TYPE 5, 5ter & 6 on the SACCH. The MS shall send MEASUREMENT REPORTs back to the SS, and it shall be indicated in these that measurement results for the 6 strongest present carriers of the supported band have been obtained.

Maximum Duration of Test

8 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

This sequence is performed for execution counter, c= 1 to 9.

Since SYSTEM INFORMATION TYPE 5, SYSTEM INFORMATION TYPE 6 and MEASUREMENT REPORT are sent continuously, a table is not applicable in this test. The interval between 2 successive Layer 2 frames containing MEASUREMENT REPORTs shall not exceed one Layer 2 frame.

Specific Message Contents

E-GSM:

SYSTEM INFORMATION TYPE 5:

Information Element	value/remark
Protocol Discriminator Message Type Neighbour Cells Description - EXT IND - BA-IND	RR management Sys Info 5. Information Element carries only a part of the BA. 0 for c=1, use range 128 to encode the following frequencies: (26, 38) for c=2, use range 256 to encode the following frequencies (990, 1 003, 1 005) for c=3, use range 512 to encode the following frequencies (520, 990, 1 003, 1 005, 1 020) for c=4, use range 1 024 to encode the following frequencies (0, 26, 38, 990, 1 003, 1 005) for c=5, use variable Bitmap to encode the following frequencies (0, 26, 38) for c=6, use Bitmap 0 to encode the following frequencies (26) for c=7, use range 512 to encode the following frequencies : (520, 990, 1020) for c=8, use range 1024 to encode the following frequencies : (0, 26, 38, 990, 1005, 1020) for c=9, use range 256 to encode the following frequencies : (38)

SYSTEM INFORMATION TYPE 5bis:

Information Element	value/remark
Protocol Discriminator Message Type Neighbour Cells Description - EXT IND - BA-IND	RR management Sys Info 5bis. Information Element carries only a part of the BA. 0 for c=1, use range 512 to encode the following frequencies: (520, 990, 1 003, 1 005, 1 020) for c=2, use range 128 to encode the following frequencies (0, 26, 38) for c=3, use range 256 to encode the following frequencies (0, 26, 38) for c=4, use range 1 024 to encode the following frequencies (520, 1 000, 1 020) for c=5, use variable Bitmap to encode the following frequencies (884, 990, 1 003, 1 005) for c=6, use range 512 to encode the following frequencies (520, 990, 1 003)

SYSTEM INFORMATION TYPE 5ter:

Information Element	value/remark
Protocol Discriminator	RR management
Additional Multiband information	
- multiband reporting	normal reporting of the six strongest cells, irrespective of the band used.
Message Type	Sys Info 5ter.
Neighbour Cells Description	
- EXT IND	Information Element carries only a part of the BA.
- BA-IND	0 for c=7, use range 1024 to encode the following frequencies (0,26,1003, 1005) for c=8, use variable bitmap to encode the following frequencies (1000,1003) for c=9,, use range 256 to encode the following frequencies (26, 1003, 1020)

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio-Link-Time-out	default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT:

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA-used	0~~1~~
DTX-used	DTX was not used
RXLEV-FULL-SERVING-CELL	See note 1
RXLEV-SUB-SERVING-CELL	See note 1
MEAS-VALID	See note 3
RXQUAL-FULL-SERVING-CELL	See note 1
RXQUAL-SUB-SERVING-CELL	See note 1
NO-NCELL-M	n (see note 2)
RXLEV-NCELL-1	See note 1
BCCH-FREQ-NCELL-1	See note 2
BSIC-NCELL-1	Corresponds to that of BCCH-FREQ-NCELL-1
RXLEV-NCELL-2	See note 1
BCCH-FREQ-NCELL-2	See note 2
BSIC-NCELL-2	Corresponds to that of BCCH-FREQ-NCELL-2
RXLEV-NCELL-3	See note 1
BCCH-FREQ-NCELL-3	See note 2
BSIC-NCELL-3	Corresponds to that of BCCH-FREQ-NCELL-3
RXLEV-NCELL-4	See note 1
BCCH-FREQ-NCELL-4	See note 2
BSIC-NCELL-4	Corresponds to that of BCCH-FREQ-NCELL-4
RXLEV-NCELL-5	See note 1
BCCH-FREQ-NCELL-5	See note 2
BSIC-NCELL-5	Corresponds to that of BCCH-FREQ-NCELL-5
RXLEV-NCELL-6	See note 1
BCCH-FREQ-NCELL-6	See note 2
BSIC-NCELL-6	Corresponds to that of BCCH-FREQ-NCELL-6

NOTE 1: These actual values are not checked.

NOTE 2: ARFCN 2 is the serving cell carrier.

c=1 report on ARFCNs 2, 26, 38, 990, 1 003, 1 005, 1 020, n=6

c=2 report on ARFCNs 2, 26, 38, 990, 1 003, 1 005, 0, (1 020 stronger than 1 005 but not broadcasted in SYS INFO), n=6

c=3 report on ARFCNs 2, ~~20~~, 26, 38, 1 003, 1 005, 1 020, 0 (990 less strong, 520 DCS), n=6

c=4 report on ARFCNs 2, 26, 38, 990, 1 003, 1 005, 0 (1 000 less strong, 520 DCS, 1 020 not broadcasted in SYS INFO), n=6

c=5 report on ARFCNs 2, 26, 38, 990, 1 003, 1 005, 0 (884 DCS), n=6

c=6 report on 2, 26, 990, 1 003, n=3~~6~~

c=7 report on ARFCNs 2, 26, 990, 1003, 1005, 1020, 0 (520 DCS), n=6

c=8 report on ARFCNs 2, 26, 38, 1003, 1005, 1020, 0 (990 and 1000 less strong), n=6

c=9 report on ARFCNs 2, 26,38, 1003, 1020, n=4.

NOTE 3: The Measurement Valid Indication shall be set to valid within the second SACCH block at the latest.

ETSI STC SMG7 #23
Sophia Antipolis
19 – 22 October 1999

***Document* 7-99-312**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A720	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	Strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: SMG7 GPRS **Date:** 1999-10-08

Subject: Correction of applicability clauses

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The applicability of some test cases is not specified in current version and needs to be added.

Clauses affected: 3.2.2 and 41.4

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

3 Definitions, conventions, and applicability

For abbreviations and acronyms, see GSM 01.04.

3.1 Mobile station definition and configurations

In this EN, a MS can be:

- a vehicle mounted station;
- a portable station;
- a handheld station;
- a vehicle mounted/portable station;
- a vehicle mounted/handheld station.

A MS is the complete equipment configuration which may take part in a communication. However, this may not be the MS as it is offered to a test house for conformance testing.

In general, the MS, as it will be presented to a test house for conformance testing, is the station without all the additional Terminal Equipment (TE). Such a piece of hardware is also called a Mobile Termination (MT), but in this EN, the expression MS is used for any form of MS hardware as it is offered to the test house.

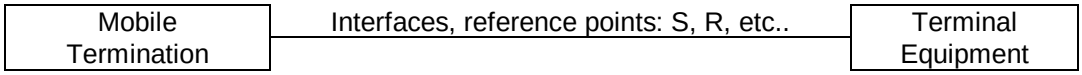

Figure 3-1

During the tests, the interfaces of the MT shall be connected to a System Simulator (SS), which will also emulate the TE. For some tests, it may be necessary to establish a pre-configured setup of the MS.

EXAMPLE: For reception of automatic fax group 3 to a fax machine on the R-interface, the MS needs configuration information about the presence of such a machine on that interface.

As an alternative, the TE may be physically integrated.

For a more detailed description of MS-configurations, see GSM 02.06.

3.2 Applicability

3.2.1 Applicability of this specification

If a MS is equipped with a connector, to connect terminal equipment on an S or R reference point as defined in GSM 04.02, then testing of the MS may include testing of appropriate functioning to and from this connector.

This EN does not apply to TE which is to be connected to that connector, even if it is delivered with the MS.

3.2.2 Applicability of the individual tests

The applicability of each individual test is identified in the following table.

Table 3.1: Applicability of tests

Clause	Title	Applicability
11.1.1	Mobile Terminated (MT) calls	Each MT Bearer Service and MT Teleservice supported by the MS
11.1.2	Mobile Originated (MO) calls	Each MO Bearer Service and MO Teleservice supported by the MS
11.2	Verification of support of the single numbering scheme	All MS
11.3	Verification of non-support of services (Advice of Charge Charging (AOCC))	MS which do not support AOCC
11.4	Verification of non-support of services (call hold)	MS which support AOCC and do not support the Call Hold supplementary service
11.5	Verification of non-support of services (multiparty)	MS which support Call Hold and AOCC, but do not support the Multi-Party supplementary service
11.6	Verification of non-support of feature (Fixed Dialling Number (FDN))	MS which do not support FDN
11.7	IMEI Security	All MS
12.1.1	Conducted spurious emissions, MS allocated a channel	All MS with a permanent antenna connector
12.1.2	Conducted spurious emissions, MS in idle mode	All MS with a permanent antenna connector
12.2.1	Radiated spurious emissions, MS allocated a channel	All MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible
12.2.2	Radiated spurious emissions, MS in idle mode	All MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible
12.3.1	Conducted spurious emissions, MS allocated a channel for MS supporting the R-GSM band	R-GSM MS with a permanent antenna connector
12.3.2	Conducted spurious emissions, MS in idle mode for MS supporting the R-GSM band	R-GSM MS with a permanent antenna connector
12.4.1	Radiated spurious emissions, MS allocated a channel for MS supporting the R-GSM band	R-GSM MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible
12.4.2	Radiated spurious emissions, MS in idle mode for MS supporting the R-GSM band	R-GSM MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible
13.1	Frequency error and phase error	All MS
13.2	Frequency error under multipath and interference conditions	All MS
13.3	Transmitter output power and burst timing	All MS
13.4	Output RF spectrum	All MS
13.5	Intermodulation attenuation	DCS 1 800 MS
13.6	Frequency error and phase error in HSCSD multislot configuration	Multislot MS
13.7	Reserved for future use	
13.8	Output RF spectrum in HSCSD multislot configuration	Multislot MS
13.9	Output RF spectrum for MS supporting the R-GSM band	R-GSM MS
13.10	Reserved for future use	
13.11	Reserved for future use	

13.12	Reserved for future use	
13.13	Reserved for future use	
13.14	Reserved for future use	
13.15	Reserved for future use	
13.16	GPRS transmitter tests	GPRS MS supporting multislot operation

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
14.1.1	Bad frame indication - TCH/FS	MS supporting speech
14.1.2	Bad frame indication - TCH/HS	MS supporting half-rate speech
14.2.1	Reference sensitivity - TCH/FS	MS supporting speech
14.2.2	Reference sensitivity - TCH/HS (Speech frames)	MS supporting half-rate speech
14.2.3	Reference sensitivity - FACCH/F	All MS
14.2.4	Reference sensitivity - FACCH/H	MS supporting half rate channels
14.2.5	Reference sensitivity - full rate data channels	MS supporting data
14.2.6	Reference sensitivity - half rate data channels	MS supporting half-rate data
14.2.7	Reference sensitivity - TCH/EFS	MS supporting TCH/EFS
14.2.9	Reference sensitivity - TCH/FS for MS supporting the R-GSM band	R-GSM MS supporting speech
14.3	Usable receiver input level range	MS supporting speech
14.4.1	Co-channel rejection - TCH/FS	MS supporting speech
14.4.2	Co-channel rejection - TCH/HS	MS supporting half-rate speech
14.4.3	Co-channel rejection - TCH/HS (SID frames)	MS supporting half-rate speech
14.4.4	Co-channel rejection - FACCH/F	All MS
14.4.5	Reference sensitivity - half rate data channels	MS supporting half rate data
14.4.6	Co-channel rejection - speech channels	MS supporting speech
14.5.1	Adjacent channel rejection - speech channels	MS supporting speech
14.5.2	Adjacent channel rejection - control channels	MS not supporting speech
14.6.1	Intermodulation rejection - speech channels	MS supporting speech
14.6.2	Intermodulation rejection - control channels	MS not supporting speech
14.7.1	Blocking and spurious response - speech channels	MS supporting speech
14.7.2	Blocking and spurious response - control channels	MS not supporting speech
14.7.3	Blocking and spurious response - speech channels for MS supporting the R-GSM band	R-GSM MS supporting speech
14.7.4	Blocking and spurious response - control channels for MS supporting the R-GSM band	R-GSM MS not supporting speech
14.8.1	AM suppression - speech channels	MS supporting speech
14.8.2	AM suppression - control channels	MS not supporting speech
14.9	Paging performance at high input levels	All MS
14.10	Reserved for future use	
14.11	Reserved for future use	
14.12	Reserved for future use	
14.13	Reserved for future use	
14.14	Reserved for future use	
14.15	Reserved for future use	
14.16	GPRS receiver tests	All GPRS MS
15.1-15.5	Timing advance and absolute delay	All MS
15.5	GPRS Timing advance and absolute delay	All GPRS MS
16	Reception time tracking speed	All MS
17.1	Intra cell channel change	All MS
17.2	Inter cell handover	All MS

18	Temporary reception gaps	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
19.1	Channel release after unrecoverable errors -1	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
19.2	Channel release after unrecoverable errors - 2	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
19.3	Channel release after unrecoverable errors - 3	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
20.1	Cell selection	All MS
20.2	Cell selection with varying signal strength values	All MS
20.3	Basic cell reselection	All MS
20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	All MS
20.5	Cell reselection using parameters transmitted in the System Information type 2bis, type 7 and type 8 messages	All MS. Test purpose 2 is only applicable to EGSM900 and DCS 1 800 MS
20.6	Cell reselection timings	All MS
20.7	Priority of cells	All MS
20.8	Cell reselection when C1 (serving cell) < 0 for 5 seconds	All MS
20.9	Running average of the surrounding cell BCCH carrier signal levels	All MS
20.10	Running average of the serving cell BCCH carrier signal level	All MS
20.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list	All MS
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	All MS
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	All MS
20.14	Emergency calls	MS supporting speech
20.15	Cell reselection due to MS rejection "LA not allowed"	All MS
20.16	Downlink signalling failure	All MS
20.17	Cell selection if no suitable cell found in 10 s	All MS
20.18	Cell reselection due to MS rejection "Roaming not allowed in this LA"	All MS
20.19	Cell selection on release of SDCCH and TCH	All MS
20.20.1	Multiband cell selection and reselection / Cell selection	MS supporting simultaneous multiband operation

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
20.20.2	Multiband cell selection and reselection / Cell reselection	MS supporting simultaneous multiband operation
20.21.1	R-GSM cell selection	R-GSM MS
20.21.2	R-GSM cell selection with varying signal strength values	R-GSM MS
20.21.3	R-GSM basic cell reselection	R-GSM MS
20.21.4	R-GSM cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	R-GSM MS
20.21.5	R-GSM cell reselection using parameters transmitted in the System Information type 2bis, type 7 and type 8 messages	R-GSM MS
20.21.6	R-GSM cell reselection timing	R-GSM MS
20.21.7	R-GSM priority of cells	R-GSM MS
20.21.8	R-GSM cell reselection when C1 (serving cell) < 0 for 5 seconds	R-GSM MS
20.21.9	R-GSM running average of the surrounding cell BCCH carrier signal levels	R-GSM MS
20.21.10	R-GSM running average of the serving cell BCCH carrier signal level	R-GSM MS
20.21.11	R-GSM updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list	R-GSM MS
20.21.12	R-GSM decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	R-GSM MS
20.21.13	R-GSM decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	R-GSM MS
20.21.14	R-GSM emergency calls	R-GSM MS supporting speech
20.21.15	R-GSM cell reselection due to MS rejection "LA not allowed"	R-GSM MS
20.21.16	R-GSM downlink signalling failure	R-GSM MS
20.21.17	R-GSM cell selection if no suitable cell found in 10 s	R-GSM MS
20.21.18	R-GSM cell reselection due to MS rejection "Roaming not allowed in this LA"	R-GSM MS
20.21.19	R-GSM cell selection on release of SDCCH and TCH	R-GSM MS
20.22	GPRS Cell Selection and Reselection	All GPRS MS
21.1	Signal strength	All MS
21.2	Signal strength selectivity	All MS
21.3	Signal quality under static conditions	MS supporting speech
21.4	Signal quality under TU50 propagation conditions	All MS
21.5	Received signal measurements in HSCSD multislot configuration	Multislot MS
22.1	Transmit power control timing and confirmation, single slot	All MS
22.2	Transmit power control timing and confirmation in HSCSD multi slot configuration	Multislot MS

23	Single frequency reference	All MS

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
25.2.1.1.1	Initialization when contention resolution required, Normal initialization	All MS
25.2.1.1.2.1	Initialization failure, Loss of UA frame	All MS
25.2.1.1.2.2	Initialization failure, UA frame with different information field	All MS
25.2.1.1.2.3	Initialization failure, Information frame and supervisory frames in response to an SABM frame	All MS
25.2.1.1.3	Initialization denial	All MS
25.2.1.1.4	Total initialization failure	All MS
25.2.1.2.1	Normal initialization without contention resolution	All MS
25.2.1.2.2	Initialization failure	All MS
25.2.1.2.3	Initialization denial	All MS
25.2.1.2.4	Total initialization failure	All MS
25.2.2.1	Sequence counting and I frame acknowledgements	All MS
25.2.2.2	Receipt of an I frame in the timer recovery state	All MS
25.2.2.3	Segmentation and concatenation	All MS
25.2.3	Normal layer 2 disconnection	All MS
25.2.4.1	I frame loss (MS to SS)	All MS
25.2.4.2	RR response frame loss (SS to MS)	All MS
25.2.4.3	RR response frame loss (MS to SS)	All MS
25.2.5.1	I frame with C bit set to zero	All MS
25.2.5.2	SABM frame with C bit set to zero	All MS
25.2.6.1	N(S) sequence error	All MS
25.2.6.2	N(R) sequence error	All MS
25.2.6.3	Improper F bit	All MS
25.2.7	Test on receipt of invalid frames	All MS
26.2.1.1	Channel request / initial time	All MS
26.2.1.2	Channel request / repetition time	All MS
26.2.1.3	Channel request / random reference	All MS
26.2.2	IMSI detach and IMSI attach	Procedure 1, All MS Procedure 2, MS where SIM removal is possible without powering down Procedure 3, All MS
26.2.3	Sequenced MM / CC message transfer	All MS
26.2.4	Establishment cause, Procedure 1	MS supporting a service on a traffic channel
26.2.4	Establishment cause, Procedure 2	MS supporting a service on a half-rate channel
26.2.4	Establishment cause, Procedure 3	MS supporting speech
26.2.4	Establishment cause, Procedure 4	MS supporting a data service
26.2.4	Establishment cause, Procedure 5	All MS
26.2.4	Establishment cause, Procedure 6	All MS
26.2.4	Establishment cause, Procedure 7	MS supporting a non call related supplementary service operation
26.2.4	Establishment cause, Procedure 8	MS supporting SMS/PP MO
26.3.2	MS indication of available PLMNs	All MS
26.3.3	MS will send only if BSS is "on air", steps a - c	All MS

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.3.3	MS will send only if BSS is "on air", step d	MS supporting speech
26.3.4	Manual mode of PLMN selection	All MS
26.5.1	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown protocol discriminator	All MS
26.5.2.1.1	TI and skip indicator / RR / Idle Mode	All MS
26.5.2.1.2	TI and skip indicator / RR / RR-Connection established	All MS
26.5.2.2	TI and skip indicator / MM	All MS
26.5.2.3	TI and skip indicator / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.3.1	Undefined or unexpected message type / undefined message type / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.3.2	Undefined or unexpected message type / undefined message type / MM	MS supporting CC protocol for at least one Bearer Capability
26.5.3.3	Undefined or unexpected message type / undefined message type / RR	All MS
26.5.3.4	Undefined or unexpected message type / unexpected message type / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.4.1	Unforeseen information elements in the non-imperative message part / duplicated information elements	All MS
26.5.5.1.1.1	Non-semantical mandatory IE errors / RR / missing mandatory IE error / special case	All MS
26.5.5.1.1.2	Non-semantical mandatory IE errors / RR / missing mandatory IE error / general case	All MS
26.5.5.1.2	Non-semantical mandatory IE errors / RR / comprehension required	All MS
26.5.5.2.1	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	MS supporting CC protocol for at least one Bearer Capability
26.5.5.2.2	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	All MS
26.5.5.2.3	Non-semantical mandatory IE errors / MM / comprehension required	All MS
26.5.5.3.1.1	Non-semantical mandatory IE errors / CC / missing mandatory IE / disconnect message	MS supporting CC protocol for at least one Bearer Capability
26.5.5.3.1.2	Non-semantical mandatory IE errors / CC / missing mandatory IE / general case	MS supporting CC protocol for at least one Bearer Capability
26.5.5.3.2	Non-semantical mandatory IE errors / CC / comprehension required	MS supporting CC protocol for at least one Bearer Capability
26.5.6.1.1	Unknown IE, comprehension not required / MM / IE unknown in the protocol	All MS
26.5.6.1.2	Unknown IE, comprehension not required / MM / IE unknown in the message	All MS
26.5.6.2.1	Unknown information elements in the non-imperative message part / CC / Call establishment	MS supporting CC protocol for at least one Bearer Capability
26.5.6.2.2	Unknown information elements in the non-imperative message part / CC / disconnect	MS supporting CC protocol for at least one Bearer Capability
26.5.6.2.3	Unknown information elements in the non-imperative message part / CC / release	MS supporting CC protocol for at least one Bearer Capability

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.5.6.2.4	Unknown information elements in the non-imperative message part / CC / release complete	MS supporting CC protocol for at least one Bearer Capability
26.5.6.3	Unknown IE in the non-imperative message part, comprehension not required / RR	All MS
26.5.7.1.1	Spare bits / RR / paging channel	All MS
26.5.7.1.2	Spare bits / RR / BCCH	All MS
26.5.7.1.3	Spare bits / RR / AGCH	All MS
26.5.7.1.4	Spare bits / RR / Connected Mode	All MS
26.5.7.2	Spare bits / MM	All MS
26.5.7.3	Spare bits / CC	All MS
26.6.1.1	Immediate assignment / SDCCH or TCH assignment	First test, All MS Second test, MS supporting TCH/F Third test, MS supporting TCH/H
26.6.1.2	Immediate assignment / extended assignment	All MS
26.6.1.3	Immediate assignment / assignment rejection	All MS
26.6.1.4	Immediate assignment / ignore assignment	All MS
26.6.1.5	Immediate assignment after immediate assignment reject	All MS
26.6.2.1.1	Paging / normal / type 1	All MS
26.6.2.1.2	Paging / normal / type 2	All MS
26.6.2.1.3	Paging / normal / type 3	All MS
26.6.2.2	Paging / extended	All MS
26.6.2.3.1	Paging / reorganization / procedure 1	All MS
26.6.2.3.2	Paging / reorganization / procedure 2	All MS
26.6.2.4	Paging / same as before	All MS
26.6.2.5	Paging / multislot CCCH	All MS
26.6.3.1	Measurement / no neighbours	MS supporting CC protocol for at least one Bearer Capability
26.6.3.2	Measurement / all neighbours present	MS supporting CC protocol for at least one Bearer Capability
26.6.3.3	Measurement / barred cells and non-permitted NCCs	MS supporting CC protocol for at least one Bearer Capability
26.6.3.4	Measurement / DTX	MS supporting CC protocol for at least one Bearer Capability
26.6.3.5	Measurement / Frequency Formats	MS supporting CC protocol for at least one Bearer Capability
26.6.3.6	Measurement / Multiband environment	MS supporting CC protocol for at least one bearer capability
26.6.4.1	Dedicated assignment / successful case	MS supporting a TCH
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 1	MS supporting TCH/F and supporting CC-state U10
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 2	MS supporting TCH/H and supporting CC-state U10
26.6.4.2.2	Dedicated assignment / failure / general case	MS supporting TCH
26.6.5.1	Handover / successful / active call / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.6.5.1	Handover / successful / active call / non-synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 6	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 7	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 8	MS supporting TCH/H and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 3	MS supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 4	MS supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 6	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 7	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 8	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 9	MS supporting TCH/F and supporting CC-state U10

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 10	MS supporting TCH/H and supporting CC-state U10
26.6.5.3	Handover / successful / active call / finely synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.3	Handover / successful / active call / finely synchronized, M = 2	MS supporting TCH/H and supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 1	MS supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 2	MS supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10
26.6.5.5.1	Handover / successful / active call / pre-synchronized / Timing Advance IE not included	MS supporting TCH/F and supporting CC-state U10
26.6.5.5.2	Handover / successful / call being established / pre-synchronized / timing advance IE is included / reporting of observed time difference requested.	MS supporting TCH/F and supporting CC-state U10
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.6.5.6	Handover / successful / active call / pseudo synchronized	MS supporting TCH/F and supporting the pseudo synchronized handover procedure and supporting CC-state U10
26.6.5.7	Handover / successful / active call / non-synchronized / reporting of observed time difference requested.	MS supporting TCH/F and supporting CC-state U10
26.6.5.8	Handover / layer 3 failure	MS supporting TCH/F and supporting CC-state U10
26.6.5.9	Handover / layer 1 failure	MS supporting CC-state U10
26.6.6.1	Frequency redefinition, R = 1	All MS
26.6.6.1	Frequency redefinition, R = 2	MS supporting TCH/F
26.6.6.1	Frequency redefinition, R = 3	MS supporting TCH/H
26.6.7.1	Test of the channel mode modify procedure / full rate	MS supporting TCH/H
26.6.7.2	Test of the channel mode modify procedure / half rate	MS supporting TCH/F
26.6.8.1	Ciphering mode / start ciphering, k = 1	MS supporting CC state U10 and supporting encryption algorithm A5/1
26.6.8.1	Ciphering mode / start ciphering, k = 2	MS supporting CC state U10 and supporting encryption algorithm A5/2
26.6.8.2	Ciphering mode / no ciphering	MS supporting CC state U10
26.6.8.3	Ciphering mode / old cipher key	MS supporting CC state U10 and supporting encryption algorithm A5/1 and/or A5/2
26.6.8.4	Ciphering mode / change of mode, algorithm and key	MS supporting CC state U10 and supporting encryption algorithm A5/1 and/or A5/2
26.6.8.5	Ciphering mode / IMEISV request	All MS
26.6.11.1	Classmark change	MS supporting CC-state U10 and supporting more than one power class
26.6.11.2	Classmark interrogation	All MS
26.6.12.1	Channel release / SDCCH	All MS
26.6.12.2	Channel release / SDCCH - no L2 ACK	All MS
26.6.12.3	Channel release / TCH-F	MS supporting TCH/F
26.6.12.4	Channel release / TCH-F - no L2 ACK	MS supporting TCH/F
26.6.13.1	Dedicated assignment with starting time / successful case / time not elapsed	All MS
26.6.13.2	Dedicated assignment with starting time / successful case / time elapsed	All MS
26.6.13.3	Dedicated assignment with starting time and frequency redefinition / failure case / time not elapsed	All MS
26.6.13.4	Dedicated assignment with starting time and frequency redefinition / failure case / time elapsed	All MS
26.6.13.5	Handover with starting time / successful case / time not elapsed	All MS
26.6.13.6	Handover with starting time / successful case / time elapsed	All MS
26.6.13.7	Handover with starting time and frequency redefinition / failure case / time not elapsed	All MS

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.6.13.8	Handover with starting time and frequency redefinition / failure case / time elapsed	All MS
26.6.13.9	Immediate assignment with starting time / successful case / time not elapsed	All MS
26.6.13.10	Immediate assignment with starting time / successful case / time elapsed	All MS
26.7.1	TMSI reallocation	All MS
26.7.2.1	Authentication accepted	All MS
26.7.2.2	Authentication rejected	All MS
26.7.3.1	General Identification	All MS
26.7.3.2	Handling of IMSI shorter than the maximum length	All MS
26.7.4.1	Location updating / accepted	All MS
26.7.4.2.1	Location updating / rejected / IMSI invalid	All MS
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 1	MS supporting speech
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 2	All MS
26.7.4.2.3	Location updating / rejected / location area not allowed	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 1	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 2	MS supporting speech
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 3	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 4	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 5	MS supporting SIM removal without powering down
26.7.4.3.1	Location updating / abnormal cases / random access fails	All MS
26.7.4.3.2	Location updating / abnormal cases / attempt counter less or equal to 4, LAI different	All MS
26.7.4.3.3	Location updating / abnormal cases / attempt counter equal to 4	All MS
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI	All MS
26.7.4.4	Location updating / release / expiry of T3240	All MS
26.7.4.5.1	Location updating / periodic spread	All MS
26.7.4.5.2	Location updating / periodic normal / test 1	All MS
26.7.4.5.3	Location updating / periodic normal / test 2	All MS
26.7.4.5.4.1	Location updating / periodic HPLMN search / MS waits time T	All MS
26.7.4.5.4.2	Location updating / periodic HPLMN search / MS in manual mode	All MS
26.7.4.5.4.3	Location updating / periodic HPLMN search / MS waits at least two minutes and at most T minutes	All MS

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.7.4.6	Location updating / interworking of attach and periodic	All MS
26.7.5.2	MM connection / establishment with cipher	All MS
26.7.5.3	MM connection / establishment without cipher	All MS
26.7.5.4	MM connection / establishment rejected	All MS
26.7.5.5	MM connection / establishment rejected cause 4	All MS
26.7.5.6	MM connection / expiry T3230	All MS
26.7.5.7.1	MM connection / abortion by the network / cause #6	All MS
26.7.5.7.2	MM connection / abortion by the network / cause not equal to #6	MS supporting a non call related supplementary service operation
26.7.5.8.1	MM connection / follow-on request pending / test 1	All MS
26.7.5.8.2	MM connection / follow-on request pending / test 2	MS supporting the follow on request procedure
26.7.5.8.3	MM connection / follow-on request pending / test 3	All MS
26.8.1.2.1.1	Outgoing call / U0 null state / MM connection requested	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.1	Outgoing call / U0.1 MM connection pending / CM service rejected	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.2	Outgoing call / U0.1 MM connection pending / CM service accepted	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.3	Outgoing call / U0.1 MM connection pending / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.1	Outgoing call / U1 call initiated / receiving CALL PROCEEDING	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.2	Outgoing call / U1 call initiated / rejecting with RELEASE COMPLETE	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.3	Outgoing call / U1 call initiated / T303 expiry	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.4	Outgoing call / U1 call initiated / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.5	Outgoing call / U1 call initiated / receiving ALERTING	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.6	Outgoing call / U1 call initiated / entering state U10	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.7	Outgoing call / U1 call initiated / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.1	Outgoing call / U3 MS originating call proceeding / ALERTING received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.2	Outgoing call / U3 MS originating call proceeding / CONNECT received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.3	Outgoing call / U3 MS originating call proceeding / PROGRESS received without in band information	MS supporting at least one MO circuit switched basic service

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.2.4.4	Outgoing call / U3 MS originating call proceeding / PROGRESS with in band information	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.5	Outgoing call / U3 MS originating call proceeding / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.6	Outgoing call / U3 MS originating call proceeding / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.7	Outgoing call / U3 MS originating call proceeding / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.8	Outgoing call / U3 MS originating call proceeding / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.9	Outgoing call / U3 MS originating call proceeding / traffic channel allocation	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.10	Outgoing call / U3 MS originating call proceeding / timer T310 time-out	MS supporting at least one MO circuit switched basic service

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.2.4.11	Outgoing call / U3 MS originating call proceeding / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.12	Outgoing call / U3 MS originating call proceeding / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.13	Outgoing call / U3 MS originating call proceeding / Internal alerting indication	MS supporting at least one MO circuit switched basic service for telephony
26.8.1.2.5.1	Outgoing call / U4 call delivered / CONNECT received	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.2	Outgoing call / U4 call delivered / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.3	Outgoing call / U4 call delivered / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.4	Outgoing call / U4 call delivered / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.5	Outgoing call / U4 call delivered / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.6	Outgoing call / U4 call delivered / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.7	Outgoing call / U4 call delivered / traffic channel allocation	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.8	Outgoing call / U4 call delivered / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.1	U10 call active / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.2	U10 call active / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.3	U10 call active / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.4	U10 call active / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.5	U10 call active / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.6	U10 call active / SETUP received	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.1	U11 disconnect request / clear collision	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.2	U11 disconnect request / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.3	U11 disconnect request / timer T305 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.4	U11 disconnect request / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.5	U11 disconnect request / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.8.1	U12 disconnect indication / call releasing requested by the user	MS supporting bearer capability for speech
26.8.1.2.8.2	U12 disconnect indication / RELEASE received	MS supporting bearer capability for speech
26.8.1.2.8.3	U12 disconnect indication / lower layer failure	MS supporting bearer capability for speech
26.8.1.2.8.4	U12 disconnect indication / unknown message received	MS supporting bearer capability for speech

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.2.9.1	Outgoing call / U19 release request / timer T308 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.2	Outgoing call / U19 release request / 2nd timer T308 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.3	Outgoing call / U19 release request / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.4	Outgoing call / U19 release request / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.5	Outgoing call / U19 release request / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.3.1.1	Incoming call / U0 null state / SETUP received with a non supported bearer capability	All MS
26.8.1.3.2.1	Incoming call / U6 call present / automatic call rejection	MS supporting at least one MT circuit switched basic service
26.8.1.3.3.1	Incoming call / U9 mobile terminating call confirmed / alerting or immediate connecting	MS supporting at least one MT circuit switched basic service
26.8.1.3.3.2	Incoming call / U9 mobile terminating call confirmed / TCH assignment	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.3	Incoming call / U9 mobile terminating call confirmed / termination requested by the user	MS supporting at least one MT circuit switched basic service for which immediate connect is not used, and supporting sending DISCONNECT when in CC-state U9
26.8.1.3.3.4	Incoming call / U9 mobile terminating call confirmed / DISCONNECT received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.5	Incoming call / U9 mobile terminating call confirmed / RELEASE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.6	Incoming call / U9 mobile terminating call confirmed / lower layer failure	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.7	Incoming call / U9 mobile terminating call confirmed / unknown message received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.1	Incoming call / U7 call received / call accepted	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.2	Incoming call / U7 call received / termination requested by the user	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.3	Incoming call / U7 call received / DISCONNECT received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.4	Incoming call / U7 call received / RELEASE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.5	Incoming call / U7 call received / lower layer failure	MS supporting at least one MT circuit switched basic service for which immediate connect is not used

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.3.4.6	Incoming call / U7 call received / unknown message received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.7	Incoming call / U7 call received / TCH assignment	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.8	Incoming call / U7 call received / RELEASE COMPLETE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.5.1	Incoming call / U8 connect request / CONNECT acknowledged	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.2	Incoming call / U8 connect request / timer T313 time-out	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.3	Incoming call / U8 connect request / termination requested by the user	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.4	Incoming call / U8 connect request / DISCONNECT received with in-band information	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.5	Incoming call / U8 connect request / DISCONNECT received without in-band information	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.6	Incoming call / U8 connect request / RELEASE received	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.7	Incoming call / U8 connect request / lower layer failure	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.8	Incoming call / U8 connect request / TCH assignment	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.9	Incoming call / U8 connect request / unknown message received	MS supporting at least one MT circuit switched basic service
26.8.1.4.1.1	In-call functions / DTMF information transfer / basic procedures	MS supporting MO DTMF protocol control procedure
26.8.1.4.2.1	In-call functions / User notification / MS terminated	MS supporting at least one circuit switched basic service
26.8.1.4.3.1	In-call functions / channel changes / a successful channel change in active state/ Handover and Assignment Command	MS supporting at least one MT circuit switched basic service
26.8.1.4.3.2	In-call functions / channel changes / an unsuccessful channel change in active mode/ Handover and Assignment Command	MS supporting at least one MT circuit switched basic service
26.8.1.4.4.1	In-call functions / MS terminated in-call modification / modify when new mode is not supported	MS supporting at least one circuit switched basic service
26.8.1.4.5.1	In-call functions / MS originated in-call modification / a successful case of modifying	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.2	In-call functions / MS originated in-call modification / modify rejected	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.3	In-call functions / MS originated in-call modification / an abnormal case of acceptance	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.4.5.4	In-call functions / MS originated in-call modification / an abnormal case of rejection	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.5	In-call functions / MS originated in-call modification / time-out of timer T323	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.6	In-call functions / MS originated in-call modification / a successful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.7	In-call functions / MS originated in-call modification / an unsuccessful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.8	In-call functions / MS originated in-call modification / unknown message received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.9	In-call functions / MS originated in-call modification / a release complete received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.2.1	Call Re-establishment/call present, re-establishment allowed	MS supporting at least one bearer capability
26.8.2.2	Call Re-establishment/call present, re-establishment not allowed	MS supporting at least one MO circuit switched basic service
26.8.2.3	Call Re-establishment/call under establishment, transmission stopped	MS supporting at least one MO circuit switched basic service
26.8.3	User to user signalling	MS supporting at least one MT circuit switched basic service
26.9.2	Structured procedures / MS originated call / early assignment	MS supporting at least one MO teleservice
26.9.3	Structured procedures / MS originated call / late assignment	MS supporting at least one MO teleservice
26.9.4	Structured procedures / MS terminated call / early assignment	MS supporting at least one MT basic service
26.9.5	Structured procedures / MS terminated call / late assignment	MS supporting at least one MT teleservice
26.9.6.1.1	Structured procedures / emergency call / idle updated / preferred channel rate	MS supporting speech
26.9.6.1.2	Structured procedures / emergency call / idle updated, non-preferred channel rate	MS supporting half-rate speech
26.9.6.2.1	Structured procedures / emergency call / idle, no IMSI / accept case	MS supporting speech
26.9.6.2.2	Structured procedures / emergency call / idle, no IMSI / reject case	MS supporting speech
26.10.2.1	E-GSM or R-GSM signalling / RR / Measurement	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.2	E-GSM or R-GSM signalling / RR / Immediate assignment	MS supporting E-GSM or R-GSM
26.10.2.3	E-GSM or R-GSM signalling / RR / channel assignment procedure	MS supporting E-GSM or R-GSM
26.10.2.4.1	E-GSM or R-GSM signalling / RR / Handover / Successful handover	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.4.2	E-GSM or R-GSM signalling / RR / Handover / layer 1 failure	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.5	E-GSM or R-GSM signalling / RR / Frequency Redefinition	MS supporting E-GSM or R-GSM

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.10.3.1	E-GSM or R-GSM signalling / Structured procedure / Mobile originated call	MS supporting E-GSM or R-GSM and supporting at least one MO teleservice
26.10.3.2	E-GSM or R-GSM signalling / Structured procedures / emergency call	MS supporting E-GSM or R-GSM and supporting speech
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	MS supporting simultaneous multiband operation
26.11.2.2.1	Multiband signalling / RR / Handover / successful / active call / non-synchronized	MS supporting simultaneous multiband operation and supporting TCH/F and supporting CC-state U10
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	MS supporting simultaneous multiband operation and supporting CC-state U10
26.11.2.3	Multiband signalling / RR / Measurement reporting	MS supporting simultaneous multiband operation and supporting CC protocol for at least one Bearer Capability
26.11.3.1.1	Multiband signalling / MM / Location updating / accepted	MS supporting simultaneous multiband operation
26.11.3.1.2	Multiband signalling / MM / Location updating / periodic	MS supporting simultaneous multiband operation
26.11.5.1	Multiband signalling / Structured procedures / MS originated call / early assignment	MS supporting simultaneous multiband operation and supporting at least one MO teleservice
26.11.5.2	Multiband signalling / Structured procedures / MS terminated call / late assignment	MS supporting simultaneous multiband operation and supporting at least one MT teleservice
26.12.1	EFR signalling / test of the channel mode modify procedure	MS supporting EFR speech
26.12.2.1	EFR signalling / Handover / active call / successful case	MS supporting EFR speech
26.12.2.2	EFR signalling / Handover / successful / call under establishment / non-synchronized	MS supporting EFR speech
26.12.3	EFR signalling / Structured procedures / MS originated call / late assignment	MS supporting EFR speech
26.12.4	EFR signalling / Structured procedures / MS terminated call / early assignment	MS supporting EFR speech
26.12.5	EFR signalling / Structured procedures / emergency call	MS supporting EFR speech
26.13.1.1.1	Multislot signalling / RR / Measurement symmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.2	Multislot signalling / RR / Measurement asymmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.3	Multislot signalling / RR / Measurement asymmetric/Change of the reported subchannel	MS supporting Multislot class and state of multislot connection
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.13.1.3.1	Multislot signalling / RR / Handover / successful / active call / non-synchronized	MS supporting Multislot class, state U10 of the Call Control protocol and radio interface rates: 12kbps, 6kbps.
26.13.1.3.2	Multislot signalling / RR / Handover / successful / call under establishment / non-synchronized / resource upgrading	MS supporting Multislot class and state U10 of the Call Control protocol
26.13.1.3.3	Multislot signalling / RR / Handover / successful / active call / finely synchronized / resource downgrading	MS supporting Multislot class and state U10 of the Call Control protocol
26.13.1.3.4	Multislot signalling / RR / Handover / successful / call under establishment / finely synchronized / relocation of channels	MS supporting Multislot class and state U10 of the Call Control protocol
26.13.1.3.5	Multislot signalling / RR / Handover / successful / call under establishment / pre-synchronized / resource upgrading	MS supporting Multislot class and state U10 of the Call Control protocol
26.13.1.4	Multislot signalling / RR / Test of the channel mode modify procedure	MS supporting Multislot class and radio interface rates: 12kbps, 6kbps
26.13.1.5	Multislot signalling / RR / Early classmark sending	MS supporting Multislot class
26.13.2.1.1	Multislot signalling / CC / In-call functions / User initiated service level upgrade / successful	MS supporting Multislot class
26.13.2.1.2	Multislot signalling / CC / In-call functions / User initiated service level downgrade / successful	MS supporting Multislot class
26.13.2.1.3	Multislot signalling / CC / In-call functions / User initiated service level upgrade / Time-out of T323	MS supporting Multislot class
26.13.2.1.4	Multislot signalling / CC / In-call functions / User initiated service level upgrade / modify reject	MS supporting Multislot class
26.13.3.1	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / non-transparent	MS supporting Multislot class
26.13.3.2	Multislot signalling / Structured procedures / MS originated call / late assignment / HSCSD / non-transparent	MS supporting Multislot class
26.13.3.3	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / transparent	MS supporting Multislot class
26.13.3.4	Multislot signalling / Structured procedures / MS terminated call / early assignment / HSCSD / non-transparent	MS supporting Multislot class and immediate connection
26.13.3.5	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / transparent	MS supporting Multislot class and immediate connection

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.14.1.1	Notification / notification indication	MS supporting VGCS/VBS listening
26.14.1.2	Notification / NCH position	MS supporting VGCS/VBS listening
26.14.1.3	Notification / Reduced NCH monitoring	MS supporting VGCS/VBS listening
26.14.1.4	Notification / limited service	MS supporting VGCS/VBS listening
26.14.2.1	Paging / Paging indication	MS supporting VGCS/VBS listening
26.14.2.2	Paging / Notification	MS supporting VGCS/VBS listening
26.14.3.1	RR Procedures / frequency redefinition	MS supporting VGCS talking or VBS originating
26.14.3.2	RR Procedures / assignment	MS supporting VGCS talking or VBS originating
26.14.3.3	RR Procedures / handover / successful in group transmit mode	MS supporting VGCS talking or VBS originating
26.14.3.4	RR Procedures / handover / successful at group call establishment	MS supporting VGCS/VBS originating
26.14.3.5	RR Procedures / handover / failure	MS supporting VGCS talking or VBS originating
26.14.3.6	RR Procedures / Measurement / all neighbours present	MS supporting VGCS talking or VBS originating
26.14.4.1	Uplink Access / uplink investigation	MS supporting VGCS talking
26.14.4.2	Uplink Access / uplink access	MS supporting VGCS talking
26.14.4.3	Uplink Reply in VGCS receive mode	MS supporting VGCS talking
26.14.5.1	Leaving group receive mode	MS supporting VGCS/VBS listening
26.14.5.2	Leaving group transmit mode	MS supporting VGCS talking
26.14.6.1	GCC/BCC Procedures / MO call establishment	MS supporting VGCS/VBS originating
26.14.6.2	GCC/BCC Procedures / Transaction Identifier	MS supporting VGCS talking or VBS originating
26.14.6.3	GCC/BCC Procedures / Call Termination / originator / group transmit mode	MS supporting VGCS/VBS originating
26.14.6.4	GCC/BCC Procedures / Call Termination / originator/ group receive mode	MS supporting VGCS orginating
26.14.6.5	GCC/BCC Procedures / Call Termination / not originator	MS supporting VGCS listening
26.14.6.6	GCC/BCC Procedures / GCC states	MS supporting VGCS listening
26.14.6.7	GCC/BCC Procedures / BCC states	MS supporting VBS originating
26.14.7.1	Error Handling / short message length, unknown message type and TI	MS supporting VGCS or VBS originating
26.14.7.2	Error Handling / incorrect information elements	MS supporting VGCS or VBS listening
26.14.7.3	Error Handling / Message not addressing VGCS receive mode	MS supporting VGCS or VBS listening
26.14.8.1	Structured procedures / very early and early assingments	MS supporting VGCS or VBS originating
26.14.9.1	Cell change / same LA	MS supporting VGCS or VBS listening
26.14.9.2	Cell change / different LA	MS supporting VGCS or VBS listening
26.14.9.3	Cell change / different PLMN	MS supporting VGCS or VBS listening

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
27.1.1	MS identification by short IMSI - Normal case	ME supporting either ID-1 or Plug-in SIM
27.1.2	MS identification by short IMSI - Phase 1 DCS SIM	DCS ME supporting either ID-1 or Plug-in SIM
27.2	MS identification by short TMSI	ME supporting either ID-1 or Plug-in SIM
27.3	MS identification by long TMSI	ME supporting either ID-1 or Plug-in SIM
27.4	MS identification by long IMSI, TMSI updating and cipher key sequence number assignment	ME supporting either ID-1 or Plug-in SIM
27.5	Forbidden PLMNs, location updating and undefined cipher key	ME supporting either ID-1 or Plug-in SIM
27.6	MS updating forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM
27.7	MS deleting forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM
27.8	MS updating the PLMN selector list	ME supporting either ID-1 or Plug-in SIM
27.9	MS recognizing the priority order of the PLMN selector list	ME supporting either ID-1 or Plug-in SIM
27.10	MS access control management	ME supporting either ID-1 or Plug-in SIM
27.11.1.1	Bit/character duration during the transmission from the ME to the SIM	ME supporting either ID-1 or Plug-in SIM
27.11.1.2	Bit/character duration during the transmission from the SIM simulator to the ME	ME supporting either ID-1 or Plug-in SIM
27.11.1.3	Inter-character delay	ME supporting either ID-1 or Plug-in SIM
27.11.1.4	Error handling during the transmission from the ME to the SIM simulator	ME supporting either ID-1 or Plug-in SIM
27.11.1.5	Error handling during transmission from the SIM simulator to the ME	ME supporting either ID-1 or Plug-in SIM
27.11.2.1	Acceptance of SIMs with internal RST	ME supporting either ID-1 or Plug-in SIM
27.11.2.2	Acceptance of SIMs with active low RST	ME supporting either ID-1 or Plug-in SIM
27.11.2.3	Characters of the answer to reset	ME supporting either ID-1 or Plug-in SIM
27.11.2.4	PTS procedure	ME supporting either ID-1 or Plug-in SIM
27.11.2.5	Reset repetition	ME supporting either ID-1 or Plug-in SIM
27.11.3	Command processing, procedure bytes	ME supporting either ID-1 or Plug-in SIM
27.12.1	Operating speed in authentication procedure	ME supporting either ID-1 or Plug-in SIM
27.12.2	Clock stop	ME supporting either ID-1 or Plug-in SIM
27.13.1	Contact pressure	ME supporting either ID-1 or Plug-in SIM
27.13.2	Shape of contacts for IC card SIM card reader	ME supporting either ID-1 or Plug-in SIM
27.14.1	Entry of PIN	All ME
27.14.2	Change of PIN	All ME
27.14.3	Disabling the PIN	ME supporting either ID-1 or Plug-in SIM and supporting a feature to disable the PIN
27.14.4	PUK entry	ME supporting either ID-1 or Plug-in SIM
27.14.5	Entry of PIN2	ME supporting a feature requiring entry of PIN2 (e.g. AoC or FDN)
27.14.6	Change of PIN2	ME supporting PIN2
27.14.7	PUK2 entry	ME supporting either ID-1 or Plug-in SIM and supporting PIN2
27.15	Abbreviated Dialling Numbers (ADN)	ME supporting either ID-1 or Plug-in SIM and supporting ADN
27.16	MMI reaction to SIM status encoding	ME supporting either ID-1 or Plug-in SIM

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
27.17.1.1	Phase preceding ME power on	All ME
27.17.1.2	Phase during SIM power on	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.1.3	Phase during ME power off with clock stop forbidden	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.1.4	Phase during ME power off with clock stop allowed	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.1.5.1	Reaction of 3V only MEs on SIM type recognition failure	ME with a 3V SIM interface
27.17.1.5.2	Reaction of 3V only MEs on type recognition of 5V only SIMs	ME with a 3V SIM interface
27.17.1.5.3	Reaction of 3V technology MEs on type recognition of 5V only SIMs	ME with a 5V/3V SIM interface
27.17.1.5.4	Reaction of 3V technology MEs on type recognition of 3V technology SIMs	ME with a 5V/3V SIM interface
27.17.2.1.1	Electrical tests on contact C1, Test 1	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.2.1.2	Electrical tests on contact C1, Test 2	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.2.2	Electrical tests on contact C2	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.2.3	Electrical tests on contact C3	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.17.2.5	Electrical tests on contact C7	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface
27.18.1	ME and SIM with FND activated	ME supporting either ID-1 or Plug-in SIM and supporting FDN
27.18.2	ME and SIM with FND deactivated	ME supporting either ID-1 or Plug-in SIM and supporting FDN
27.18.3	Enabling, disabling and updating of FND	ME supporting either ID-1 or Plug-in SIM and supporting FDN
27.19	Phase identification	ME supporting either ID-1 or Plug-in SIM
27.20	SIM presence detection	All ME
27.21.1	AoC not supported by SIM	ME supporting AoCC
27.21.2	Maximum frequency of ACM updating	ME supporting AoC
27.21.3	Call terminated when ACM greater than ACMmax	ME supporting AoCC
27.21.4	Response codes of increase command	ME supporting AoC
28.2	Constraining the access to a single number (GSM 02.07 category 3)	MS supporting autocalling
28.3	Constraining the access to a single number (GSM 02.07 categories 1 and 2)	MS supporting autocalling
28.4	Behaviour of the MS when its list of blacklisted numbers is full	MS supporting autocalling
29.2.1	Verification of synchronization	MS supporting data services in transparent mode
29.2.2	Filtering of channel control information for transparent BCs	MS supporting the MT2 configuration
29.2.3.1	Negotiation of Radio Channel Requirement (RCR)	MS with an external data interface
29.2.3.2	Negotiation of Connection Element (CE)	MS with an external data interface
29.2.3.3	Negotiation of Number of Stop Bits, Number of Data bits, and Parity	MS supporting asynchronous data services
29.2.3.4	Negotiation of Modem Type	MS supporting non-transparent data services

	(continued)	

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
29.2.3.5	Negotiation of Intermediate Rate	MS supporting non-transparent services on a TCH/F with a user rate of 4,8 kbit/s or lower
29.2.3.6	Negotiation of User Information Layer 2 Protocol	MS supporting asynchronous bearer services in non-transparent mode
29.2.3.7	Negotiation between TS 61 and TS 62: Mobile Originated call.	MS supporting TS 61
29.2.3.8	Negotiation between TS 61 and TS 62: Mobile Terminated call.	MS supporting TS 62 and not supporting TS 61
29.2.4	Data Rate Adaptation for Synchronous Transparent Bearer Capabilities	MS supporting data over the Um-interface
29.2.6.1	Data Rate Adaptation	MS supporting MT0 or MT2 configuration and supporting data over the Um-interface and supporting asynchronous data Bearer services
29.2.6.2	Passage of the Break Signal	MS supporting MT2 configuration
29.2.6.3	Overspeed/Underspeed Handling (Local Terminal)	MS supporting MT2 configuration
29.2.6.4	Overspeed/Underspeed Handling (Remote Terminal)	MS supporting MT2 configuration
29.2.7	Interchange circuit mapping for transparent bearer capabilities	MS supporting MT2 configuration
29.3.1.1	Normal initialization done by the MS	MS supporting at least one non-transparent bearer service
29.3.1.2.1	Loss of UA frame	MS supporting at least one non-transparent bearer service
29.3.1.2.2	Total loss of UA frame	MS supporting at least one non-transparent bearer service
29.3.2.2.1	N(S) sequence number	MS supporting at least one non-transparent bearer service
29.3.2.2.2	Transmission window	MS supporting at least one non-transparent bearer service
29.3.2.2.3	Busy condition	MS supporting at least one non-transparent bearer service
29.3.2.3.1	N(R) sequence number	MS supporting at least one non-transparent bearer service
29.3.2.3.2	Busy condition	MS supporting at least one non-transparent bearer service
29.3.2.4.1	REJ frame	MS supporting at least one non-transparent bearer service
29.3.2.4.2.	SREJ frame	MS supporting at least one non-transparent bearer service
29.3.2.4.3	I+S reject frame	MS supporting at least one non-transparent bearer service
29.3.2.5.1	Rejection with REJ or SREJ supervisory frames	MS supporting at least one non-transparent bearer service
29.3.2.5.2	Retransmission of REJ or SREJ frames	MS supporting at least one non-transparent bearer service
29.3.2.5.3	I+S reject frame	MS supporting at least one non-transparent bearer service
29.3.2.6.1	SS in checkpoint recovery mode	MS supporting at least one non-transparent bearer service
29.3.2.6.2	End of the window	MS supporting at least one non-transparent bearer service
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
29.3.2.6.3	End of a sequence	MS supporting at least one non-transparent bearer service
29.3.2.6.4	Time-out of one frame	MS supporting at least one non-transparent bearer service
29.3.2.6.5	No response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.6	Incorrect response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.7	Total loss of response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.8	Retransmission of a sequence	MS supporting at least one non-transparent bearer service
29.3.2.6.9	N2 retransmission of a sequence	MS supporting at least one non-transparent bearer service
29.3.3.1	Negotiation initiated by the SS	MS supporting at least one non-transparent bearer service
29.3.3.2	Negotiation initiated by the MS	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters
29.3.3.3	Collision of XID frames	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters
29.3.3.4	Loss of XID frames	MS supporting at least one non-transparent bearer service
29.3.3.5	Total loss of XID frames	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters
29.4.2.1.1	Mobile originated call, Call establishment procedure, Alternate speech / facsimile	MS supporting TS61
29.4.2.1.2	Mobile originated call, Call establishment procedure, Automatic facsimile	MS supporting TS62
29.4.2.2	Pre-message procedure	MS supporting TS 61 and/or TS62
29.4.2.3	Message procedure	MS supporting TS 61 and/or TS62
29.4.2.4	Post-message procedure	MS supporting TS 61 and/or TS62
29.4.2.5	Call release procedure	MS supporting TS 61 and/or TS62
29.4.2.6	CTC processing - 4th PPR for the same block	MS supporting TS 61 and/or TS62 and supporting the error correction mode
29.4.2.7	Transition from Facsimile to Speech - Procedure interrupt generated by receiving station	MS supporting TS61
29.4.2.8	Transition from Facsimile to Speech - Procedure interrupt generated by transmitting station	MS supporting TS61
29.4.2.9	Quality check	MS supporting transparent facsimile group 3
29.4.3.1.1.1	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD Mobile Terminated	MS supporting TS61
29.4.3.1.1.2	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD mobile originated	MS supporting TS61
29.4.3.1.2	Mobile terminated call, Call Establishment Procedure, Automatic facsimile	MS supporting TS62
29.4.3.2	Pre-message procedure	MS supporting TS61 and/or TS62

29.4.3.3	Message procedure	MS supporting TS61 and/or TS62
29.4.3.4	Post-message procedure	MS supporting TS61 and/or TS62
29.4.3.5	Call release procedure	MS supporting TS61 and/or TS62
29.4.3.6	Speed conversion factor	MS supporting TS61 and/or TS62
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
29.4.3.7	Quality Check	??
29.4.3	Notes	
30.1	Sending sensitivity/frequency response	MS with handset and supporting speech
30.2	Sending loudness rating	MS with handset and supporting speech
30.3	Receiving sensitivity/frequency response	MS with handset and supporting speech
30.4	Receiving loudness rating	MS with handset and supporting speech
30.5.1	Side Tone Masking Rating (STMR)	MS with handset and supporting speech
30.5.2	Listener Side Tone Rating (LSTR)	MS with handset and supporting speech
30.6.1	Echo Loss (EL)	MS with handset and supporting speech
30.6.2	Stability margin	MS supporting speech
30.7.1	Distortion, Sending	MS with handset and supporting speech
30.7.2	Distortion, Receiving	MS with handset and supporting speech
30.8	Sidetone distortion	MS with handset and supporting speech
30.9.1	Out-of-band signals, Sending	MS with handset and supporting speech
30.9.2	Out-of-band signals, Receiving	MS with handset and supporting speech
30.10.1	Idle channel noise, Sending	MS with handset and supporting speech
30.10.2	Idle channel noise, Receiving	MS with handset and supporting speech
31.2.1.1.1	Call forwarding supplementary services, Registration accepted	All MS
31.2.1.1.2	Call forwarding supplementary services, Registration rejected	All MS
31.2.1.2.1	Call forwarding supplementary services, Erasure accepted	All MS
31.2.1.2.2	Call forwarding supplementary services, Erasure rejected	All MS
31.2.1.3	Call forwarding supplementary services, Activation	All MS
31.2.1.4	Call forwarding supplementary services, Deactivation	All MS
31.2.1.6.1	Call forwarding supplementary services, Interrogation accepted	All MS
31.2.1.6.2	Call forwarding supplementary services, Interrogation rejected	All MS
31.2.1.7.1.1	Call forwarding supplementary services, Notification during an incoming call	MS supporting CFB and/or CFNRy
31.2.1.7.1.2	Call forwarding supplementary services, Notification during an outgoing call	All MS
31.2.1.7.2	Call forwarding supplementary services, Forwarded-to mobile subscriber side	All MS
31.6.1.1	AOC time related charging / MS originated call	MS supporting AOCC and CC-state U10
31.6.1.2	AOC time related charging / MS terminated call	MS supporting AOCC and CC-state U10
31.6.1.5	Change in charging information during a call	MS supporting AOCC and CC-state U10
31.6.1.6	Different formats of charging information	MS supporting AOCC and CC-state U10
31.6.1.7	AOC on a Call Hold call	MS supporting AOCC and CC-state U10
31.6.1.8	AOC on a Multi-party call	MS supporting AOCC and CC-state U10
31.6.2.1	Removal of SIM during an active call	MS supporting AOCC and CC-state U10

31.6.2.2	Interruption of power supply during an active call	MS supporting AOCC and CC-state U10
31.6.2.3	MS going out of coverage during an active AOCC call	MS supporting AOCC and CC-state U10
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
31.6.2.4	ACMmax operation / Mobile Originating	MS supporting AOCC and CC-state U10
31.6.2.5	ACMmax operation / Mobile Terminating	MS supporting AOCC and CC-state U10
31.8.1	Registration of a password	All MS
31.8.1.1	Registration accepted	All MS
31.8.1.2.1	Rejection after invoke of the RegisterPassword operation	All MS
31.8.1.2.2	Rejection after password check with negative result	All MS
31.8.1.2.3	Rejection after new password mismatch	All MS
31.8.3.1	Activation accepted	All MS
31.8.3.2.1	Rejection after invoke of ActivateSS operation	All MS
31.8.3.2.2	Rejection after use of password procedure	All MS
31.8.4.1	Deactivation accepted	All MS
31.8.4.2.1	Rejection after invoke of DeactivateSS operation	All MS
31.8.4.2.2	Rejection after use of password procedure	All MS
31.8.6.1	Interrogation accepted	All MS
31.8.6.2	Interrogation rejected	All MS
31.8.7	Normal operation	All MS
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
31.9.1.1	ProcessUnstructuredSS-request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.1.2	ProcessUnstructuredSS-request/cross phase compatibility and error handling	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.1	UnstructuredSS-Notify/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.2	UnstructuredSS-Notify/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.3	UnstructuredSS-Request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.4	UnstructuredSS-Request/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.10	MMI input for USSD	All MS
31.12.1	eMLPP Service / priority level of MO call	MS supporting eMLPP and MO call
31.12.2	eMLPP Service / automatic answering point-to-point MT call	MS supporting eMLPP, HOLD and CW
31.12.3	eMLPP Service / automatic answering MT VGCS or VBS call	MS supporting eMLPP and supporting VGCS or VBS listening
31.12.4	eMLPP Service / registration	MS supporting eMLPP
31.12.5	eMLPP Service / interrogation	MS supporting eMLPP
32.1	Full Rate Downlink speech transcoding	MS supporting TCH/FS
32.2	Full Rate Downlink receiver DTX functions	MS supporting TCH/FS
32.3	Full Rate Uplink speech transcoding	MS supporting TCH/FS
32.4	Full Rate Uplink transmitter DTX functions	MS supporting TCH/FS
32.5	Full Rate Speech channel transmission delay	MS supporting TCH/FS
32.5.4	Downlink processing delay	MS supporting TCH/FS
32.5.5	Downlink coding delay	MS supporting TCH/FS
32.5.6	Uplink processing delay	MS supporting TCH/FS
32.5.7	Uplink coding delay	MS supporting TCH/FS
32.6	Half Rate Downlink speech transcoding	MS supporting TCH/HS
32.7	Half Rate Downlink receiver DTX functions	MS supporting TCH/HS
32.8	Half Rate Uplink speech transcoding	MS supporting TCH/HS
32.9	Half Rate Uplink transmitter DTX functions	MS supporting TCH/HS
(continued)		

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
32.10	Half Rate Speech channel transmission delay	MS supporting TCH/HS
32.10.4	Downlink processing delay	MS supporting TCH/HS
32.10.5	Downlink coding delay	MS supporting TCH/HS
32.10.6	Uplink processing delay	MS supporting TCH/HS
32.10.7	Uplink coding delay	MS supporting TCH/HS
32.11	Intra cell channel change from a TCH/HS to a TCH/FS	MS supporting TCH/HS
32.12	Intra cell channel change from a TCH/FS to a TCH/HS	MS supporting TCH/HS
33.1	Entry and display of called number	All MS
33.2.4	Ringing tone	All MS
33.2.5	Busy tone	All MS
33.2.6	Congestion tone	All MS
33.2.7	Authentication failure tone	All MS
33.2.8	Number unobtainable tone	All MS
33.2.9	Call dropped tone	All MS
33.3	Network selection / indication	All MS
33.4	Invalid and blocked PIN indicators	All MS
33.5	Service indicator	All MS
33.6	Subscription identity management	All MS
33.7	Barring of outgoing calls	MS supporting barring of outgoing calls
33.8	Prevention of unauthorized calls	MS supporting prevention of unauthorized calls
34.2.1	SMS mobile terminated	MS supporting SMS MT/PP and supporting CC-state U10
34.2.2	SMS mobile originated	MS supporting SMS MO/PP and supporting CC-state U10
34.2.3	Test of memory full condition and memory available notification:	MS supporting SMS MT/PP and storing of short messages in the SIM
34.2.4	Test of the status report capabilities and of SMS-COMMAND:	MS supporting status report capabilities
34.2.5.1	Short message class 0	MS supporting SMS MT/PP and display of received short messages
34.2.5.2	Test of class 1 short messages	MS supporting storing of received Class I Short Messages and display of stored Short Messages
34.2.5.3	Test of class 2 short messages	MS supporting storing of received Class II Short Messages in the SIM
34.2.7	Test of the replace mechanism for SM type 1-7	MS supporting Replace Short Messages and display of received Short Messages
34.2.8	Test of the reply path scheme	MS supporting reply procedures, display of received Short Messages and submitting Short Messages
34.3	Short message service cell broadcast	All MS
35	Low battery voltage detection	All MS
36	Individual equipment type requirements and interworking - special conformance testing functions	Refer to GSM 04.14 for complete specification
37	Reserved for future use	
38	Reserved for future use	
39	Reserved for future use	
40	Reserved for future use	
41.1	/ RR / Paging	All GPRS MS
41.2	RR procedures on CCCH related to TBF establishment	All GPRS MS

41.3	TBF release	All GPRS MS
41.4	DCCH related RR procedures for TBF establishment	All GPRS MS
42.1	Medium Access Control (MAC) procedures on PCCCH	All GPRS MS
42.2	Fixed Allocation Medium Access Control (MAC) procedures in Packet Transfer Mode	All GPRS MS
42.3	Dynamic Allocation Medium Access Control (MAC) procedures in Packet Transfer Mode	All GPRS MS
42.4	Measurement reports and Cell change order procedures	All GPRS MS
43	Reserved for future use	
44	GPRS mobility management	All GPRS MS
45	Session Management Procedures	All GPRS MS

3.2.3 Applicability to terminal equipment

If a MS is delivered for conformance testing, and it contains physically integrated TE, then this EN applies to the complete MS including that TE.

This EN also applies to separate TE that is delivered for conformance testing with the MS. The MS is then tested as an MT0. In that case, the specific TE with which the MS is tested is documented in the test report.

3.3 Definitions

The following definitions are used in this EN:

idle updated:

The MS is defined to be "idle updated" if the following three conditions are fulfilled:

- its update status is U1 UPDATED (cf. GSM 04.08);
- it is in the MM state MM-IDLE (cf. GSM 04.08);
- it is in the RR idle mode (cf. GSM 04.08).

idle not updated:

The MS is defined to be "idle not updated" if the following three conditions are fulfilled:

- its update status is U2 NOT UPDATED (cf. GSM 04.08);
- it is in the MM state MM-IDLE (cf. GSM 04.08);
- it is in the RR idle mode (cf. GSM 04.08).

arbitrary:

If for a test, a test purpose, a test group, or a test suite, which uses a certain parameter the value of that parameter has to be chosen arbitrarily in a certain set of values, this means that:

- for each value in the set the MS is required to fulfil the requirements of the test, test purpose, test group, or test suite, but that
- the test, test purpose, test group, or test suite is only performed for one value in the set, the selection of which is made by the test operator.

3.4 Conventions for mathematical notations

For the purpose of this EN mathematical terms used throughout this EN are given in this subclause.

3.4.1 Mathematical signs

The "plus or minus" sign is expressed by "±".
The sign "multiplied by" is expressed by "*".
The sign "divided by" is expressed by "/", or the common division bar.
The sign "greater than or equal to" is expressed by "≥".
The sign "less than or equal to" is expressed by "≤".

3.4.2 Powers to the base 10

Powers to the base 10 are expressed by "10Ex", where x is the exponent, e.g. 10E-5, 10E6.

3.5 Conventions on electrical terms

3.5.1 Radio Frequency (RF) input signal level

In general, the RF input signal level to the MS is expressed in terms of the received field strength E in dBµV/m (assuming a 0 dBi gain antenna). This is related to the power level P in dBm by the following formula (see GSM 05.05)

GSM 900: E (dBµV/m) = P (dBm) + 136,5 (calculated for a frequency of 925 MHz).
DCS 1 800: E (dBµV/m) = P (dBm) + 142,3 (calculated for a frequency of 1 795 MHz).

According to annex 1 subclause A1.1.5.3, in all tests in which a handheld MS normally only equipped with integral antenna is the unit under test, the equivalent input signal level into a temporary test connector is determined from:

Ein = Ereq + F

where: Ein = input signal level to a temporary antenna connector (dBµVemf);
Ereq = signal level required by the test (dBµVemf);
F = coupling factor (dB) at the respective ARFCN.

Since F has to be determined by each test house individually, Ein cannot be given as a figure in test procedures.

If the case of integral antenna is applicable, the input signal level is then expressed in the test procedures as:

Ereq dBµVemf( ),

where the empty parenthesis is to be read as Ein.

Alternatively, the input signal level to the MS at the antenna connector can be expressed in dBµVemf( ). This is related to the power level P in dBm by the following formula, assuming a 50 ohm antenna connector:

Input signal level (dBµVemf( )) = P(dBm) + 113

3.5.2 Reference sensitivity level

In this EN the term:

Reference Sensitivity level ( )

is used to indicate that the SS establishes reference sensitivity level taking account of any loses associated with the RF connection to the MS.

3.5.3 Power level of fading signal

The power level of a fading signal is defined as the total signal level averaged over time.

3.6 Terms on test conditions

3.6.1 Radio test conditions

The radio propagation conditions refer to multipath propagation models of GSM 05.05.

They are expressed by typical profiles:

- static;
- rural area (RA);
- hilly terrain (HT);
- urban area (TU); or for
- equalization test (EQ).

The non-static profiles are also related to typical speeds of movement of the MS expressed in km/h, e.g. TU1,5, TU3, TU50, HT100, EQ50.

In this EN the following conventions are used:

Table 3.2

Term	for GSM 900 represents	for DCS 1 800 represents
RA	RA250	RA130
HT	HT100	HT100
Tuhigh	TU50	TU50
Tulow	TU3	TU1,5
EQ	EQ50	EQ50

For tests using ARFCN ranges the following table shall be used.

Table 3.3

Term	P-GSM 900	DCS 1 800	E-GSM 900	R-GSM 900
Low ARFCN range	1 to 5	513 to 523	975 to 980	955 to 960 (R-GSM) and 975 to 980 (E-GSM)
Mid ARFCN range	60 to 65	690 to 710	60 to 65	60 to 65
High ARFCN range	120 to 124	874 to 884	120 to 124	120 to 124

NOTE 1: For definitions of P-GSM 900, DCS 1 800, E-GSM 900 and R-GSM 900 refer to GSM 05.05.

NOTE 2: In this EN the term "GSM 900" is used to cover the primary GSM band, the extended GSM band and the railway-GSM band.

NOTE3: For R-GSM two low ARFCN ranges are defined. Unless specified otherwise for a specific test the ARFCN range defined for E-GSM900 MS is used for the testing of MS supporting the R-GSM 900 frequency range.

41.4 DCCH related RR procedures for TBF establishment

The clause is applicable for all MS supporting GPRS service.

41.4.1 Default conditions and message contents

ETSI STC SMG7 #23
Sophia Antipolis
19 – 22 October 1999

Document 7-99-313
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A722	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]

Source: SMG7 GPRS **Date:** 1999-10-08

Subject: RR procedures on CCCH related to temporary block flow establishment

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Tests of this feature is missing in current version.

Clauses affected: 41.2

Other specs Affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

41.2 RR procedures on CCCH related to temporary block flow establishment

This clause presents tests for “RR procedures on CCCH related to temporary block flow establishment” which are specified in GSM 04.08/3.5.

Applicability and default conditions

The clause is applicable for mobiles supporting GPRS.

The SS default conditions simulate one cell with default settings as defined in the GPRS general defaults section, except:
- SI 13 Rest Octets contains no PCCCH description (PCCCH is not supported by the network).

The MS default initial condition is GPRS attached. Unless otherwise stated, no PDP context is required.

Default message contents and signaling macros are also defined in the GPRS general defaults section, except for those messages and macros specified at the end of this clause.

41.2.1 Permission to access the network

41.2.1.1 Permission to access the network / priority classes

Conformance requirements

Access to the network is allowed:
- if packet access is allowed in the cell for the priority class associated with the packet transfer, as indicated by the PRIORITY_ACCESS_THR parameter broadcast in SI 13 message.

References

GSM 04.08 subclause 3.5.2.1.1

Test purpose

To verify that the MS accesses the network only if packet access is allowed in the cell for the priority class associated with the packet transfer.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

Support of PDP context.

Test procedure

The MS is triggered to transfer data with different priority classes. The SS verifies that the MS accesses the network or not as appropriate.

Expected sequence

Step	Direction	Message	Comments
A1	SS->MS	SYS INFO 13	including PRIORITY_ACCESS_THR = ‘000’ (packet access not allowed in the cell)
A2			SS waits 30 s. to allow Sys Info decoding.
A3	MS		The MS is triggered to transfer data with priority 4.
A4	SS		SS verifies for 10 s. that MS does not try to access the network.
B 1-4	SS->MS	SYS INFO 13	repeat steps A1 to A4 except that PRIORITY_ACCESS_THR = ‘001’ (spare, packet access not allowed in the cell)
C 1-4	SS->MS	SYS INFO 13	repeat steps A1 to A4 except that PRIORITY_ACCESS_THR = ‘010’ (spare, packet access not allowed in the cell)
D1	SS->MS	SYS INFO 13	including PRIORITY_ACCESS_THR = ‘011’ (packet access, priority level 1)
D2			SS waits 30 s. to allow Sys Info decoding.
D3	MS		The MS is triggered to transfer data with priority 1.
D4	MS->SS	CHANNEL REQUEST	MS tries to access the network
D5	SS->MS	IMMEDIATE ASSIGNMENT REJECT	
E1	SS->MS	SYS INFO 13	including PRIORITY_ACCESS_THR = ‘011’ (packet access, priority level 1)
E2			SS waits 30 s. to allow Sys Info decoding.
E3	MS		The MS is triggered to transfer data with priority 2.
E4	SS		SS verifies for 10 s. that MS does not try to access the network.
F1	SS->MS	SYS INFO 13	including PRIORITY_ACCESS_THR = ‘100’ (packet access, priority levels 1 to 2)
F2			SS waits 30 s. to allow Sys Info decoding.
F3	MS		The MS is triggered to transfer data with priority 1.
F4	MS->SS	CHANNEL REQUEST	MS tries to access the network
F5	SS->MS	IMMEDIATE ASSIGNMENT REJECT	
G1	SS->MS	SYS INFO 13	including PRIORITY_ACCESS_THR = ‘100’ (packet access, priority levels 1 to 2)
G2			SS waits 30 s. to allow Sys Info decoding.
G3	MS		The MS is triggered to transfer data with priority 3.
G4	SS		SS verifies for 10 s. that MS does not try to access the network.

H1 H2 H3 H4 H5	SS->MS MS MS->SS SS->MS	SYS INFO 13 CHANNEL REQUEST IMMEDIATE ASSIGNMENT REJECT	including PRIORITY_ACCESS_THR = '101' (packet access, priority levels 1 to 3) SS waits 30 s. to allow Sys Info decoding. The MS is triggered to transfer data with priority 1. MS tries to access the network
I1 I2 I3 I4	SS->MS MS SS	SYS INFO 13 	including PRIORITY_ACCESS_THR = '101' (packet access, priority levels 1 to 3) SS waits 30 s. to allow Sys Info decoding. The MS is triggered to transfer data with priority 4. SS verifies for 10 s. that MS does not try to access the network.
J1 J2 J3 J4 J5	SS->MS MS MS->SS SS->MS	SYS INFO 13 CHANNEL REQUEST IMMEDIATE ASSIGNMENT REJECT	including PRIORITY_ACCESS_THR = '110' (packet access, priority levels 1 to 4) SS waits 30 s. to allow Sys Info decoding. The MS is triggered to transfer data with priority 1. MS tries to access the network
K 1-5			Repeat steps J1 to J5 except that LLC PDU priority is set to 4.
L 1-5	SS->MS	SYS INFO 13	repeat steps J1 to J5 except that PRIORITY_ACCESS_THR = '111' (spare, packet access allowed)
M 1-5	SS->MS	SYS INFO 13	repeat steps J1 to J5 except that PRIORITY_ACCESS_THR = '111' (spare, packet access allowed) and MS is triggered to send data with priority 4.

41.2.2 Initiation of the packet access procedure

41.2.2.1 Initiation of the packet access procedure / establishment causes

Conformance requirements

The CHANNEL REQUEST messages are sent on RACH and contain the parameters:

- an establishment cause which indicates packet access, and as applicable, a request for one phase packet access or single block packet access;
- a random reference which is drawn randomly from a uniform probability distribution for every new transmission.

If the requested RLC mode is *unacknowledged mode*, the mobile station shall request a single block packet access and attempt a two phase packet access.
If the purpose of the packet access procedure is to send a Page Response, Cell Update, for a GPRS Mobility Management or a GPRS Session Management procedure the mobile station shall request a one phase packet access.

References

GSM 04.08 subclause 3.5.2.1.2

Test purpose

To verify that the CHANNEL REQUEST message sent by the MS contains the correct establishment cause when initiating a packet access procedure.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

Support of PDP context.

Test procedure

The MS is triggered to initiate a GPRS attach procedure. The SS verifies that the MS attempts a one phase packet access.

If the MS supports PDP context, a PDP context for RLC unacknowledged is established and the MS is triggered to transfer RLC data blocks. The SS verifies that the MS correctly sets the Establishment Cause in the CHANNEL REQUEST message.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is switched on and triggered to initiate a GPRS attach procedure.
2	MS -> SS	CHANNEL REQUEST	SS verifies that Establishment Cause is ‘one phase’.
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	SS <->MS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.
			Steps 5 to 8 apply to MSs supporting PDP context.
5	MS<->SS		A PDP context is established for RLC unacknowledged data transfer.
6	MS		MS is triggered to transfer data.
7	MS -> SS	CHANNEL REQUEST	SS verifies that Establishment Cause is ‘single block access’.
8	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	

41.2.2.2 Random references for single block packet access

Conformance requirements

The random reference in the CHANNEL REQUEST messages shall be randomly drawn from a uniform probability distribution for every new transmission.

References

GSM 04.08 subclause 3.5.2.1.2.

Test purpose

To verify that the MS produces different Random References when accessing the network for single block access.

Method of test

Initial conditions

System Simulator: Default settings except:

- Parameter MAX_RETRANS is set to 4 retransmissions.

Mobile Station: MS is GPRS attached, a PDP context in RLC unacknowledged mode has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to transfer data, it shall attempt a single block packet access (GSM 04.08 / 3.5.2.1.2). The SS does not answer to the access bursts but stores N (= 80) Random References and verifies that the MS uses all possible values (0 ... 7) in its Random Reference.

Justification

The length of the Random Reference is 3 bits for single block packet access (GSM 04.08 / Table 9.9). This test verifies that the MS uses all values (0 ... 7) in its Random Reference.
The probability that in a sequence of N samples one of the possible value does not appear is 8*(7/8)**N for large N.

Note
The number of samples N has been computed such that the probability of refusing a correct MS is less than 0.02 %.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is triggered to transfer data.
2	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
3	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
4	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
5	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
6	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
7	MS<->SS		Steps 1 to 6 are repeated N/5 = 16 times
8	SS		SS verifies that all Request Reference values (0 to 7) come out in the stored samples.

41.2.2.3 Random references for one phase packet access

Conformance requirements

The random reference in the CHANNEL REQUEST messages shall be randomly drawn from a uniform probability distribution for every new transmission.

References

GSM 04.08 subclause 3.5.2.1.2.

Test purpose

To verify that the MS produces different Random References when accessing the network for one phase access.

Method of test

Initial conditions

System Simulator: default settings except:

- Parameter MAX_RETRANS is set to 4 retransmissions.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure, it shall attempt a one phase packet access (GSM 04.08 / 3.5.2.1.2). The SS does not answer to the access bursts but stores N (= 80) Random References and verifies that the MS uses all possible values (0 ... 6) in its Random Reference and does not use value '111' (see GSM 04.08 / Table 9.9).

Justification

Possible values for Random Reference for one phase packet access are 0 to 6 (value '111' is not allowed). This test verifies that the MS uses all values (0 ... 6) in its Random Reference.
The probability that in a sequence of N samples one of the possible value does not appear is 7*(3/4)**N for large N.

Note

The number of samples N has been computed such that the probability of refusing a correct MS is less than 0.02 %.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is turned on.
2	MS		MS is triggered to perform GPRS attach.
3	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
4	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
5	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
6	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
7	MS -> SS	CHANNEL REQUEST	SS stores the value of Request References
8	MS<->SS		Steps 2 to 7 are repeated N/5 = 16 times
9	SS		SS verifies that all Request Reference values (0 to 6) come out in the stored samples and that value '111' is not used.

41.2.2.4 Initiation of the packet access procedure / timer T3146

Conformance requirements

Having sent the maximum number of CHANNEL REQUEST messages, the mobile station starts timer T3146. At expiry of timer T3146, the packet access procedure is aborted and a packet access failure is indicated to upper layers.

Reference

GSM 04.08 subclause 3.5.2.1.2

Test purpose

To verify that the MS waits T3146 seconds before aborting the packet access procedure.

Method of test

Initial conditions

System Simulator: Default settings except:

- System Information parameter MAX_RETRANS is set to 2 retransmissions
- CCCH is non combined.
- System Information parameter TX_INTEGER in RACH Control Parameters is set to 3.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure, the SS waits until the MS sends all M+1 CHANNEL REQUEST messages, where M is the parameter Max Retrans broadcast on BCCH. The SS waits until T3146 seconds elapse and sends an IMMEDIATE ASSIGNMENT which shall be ignored by the MS since the access procedure should be aborted.
The MS shall retry the access procedure (according to 04.60/7.1.2.3). Again, the SS waits until the MS sends all M+1 CHANNEL REQUEST messages, and then sends an IMMEDIATE ASSIGNMENT before T3146 seconds elapse. In this case the MS shall correctly send the LLC PDU on the assigned PDCH.

Note:
Timer T3146 (GSM 04.08/11) depends on parameter TX_INTEGER broadcast on BCCH.
The timer's value is 2*S+TX_INTEGER slots, where S is given in Table 3.1/04.08.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	CHANNEL REQUEST	The MS turned on and triggered to initiate the GPRS attach procedure.
2	MS -> SS	CHANNEL REQUEST	
3	MS -> SS	CHANNEL REQUEST	
4	SS		SS waits T3146 + 0.1*T3146 The value of T3146 corresponding to the current settings is 0.5 seconds (see note above).
5	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access.
6	SS		MS shall ignore the message, SS verifies that MS does not send any RLC data or control blocks.
7	MS -> SS	CHANNEL REQUEST	MS attempts a second time to access the network.
8	MS -> SS	CHANNEL REQUEST	
9	MS -> SS	CHANNEL REQUEST	
10	SS		SS waits T3146 - 0.1*T3146
11	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access.
14	SS <->MS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.

The complete test is repeated for :

- TX_INTEGER set to 20 (MS shall set timer T3146 to 1.1s) and for
- TX_INTEGER set to 32 (MS shall set timer T3146 to 2.1s).

41.2.2.5 Initiation of the packet access procedure / Request Reference

Conformance requirements

On receipt of an IMMEDIATE ASSIGNMENT message corresponding to one of its 3 last CHANNEL REQUEST messages, the mobile stops sending CHANNEL REQUEST messages and switches to the assigned PDCH.

Reference

GSM 04.08 subclause 3.5.2.1.3.1

Test purpose

- To verify that the MS continues sending CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT containing an incorrect Request Reference.

- To verify that the MS stops sending CHANNEL REQUEST messages and switches to the assigned PDCH when receiving an IMMEDIATE ASSIGNMENT containing a Request Reference IE corresponding to one of its last 3 CHANNEL REQUEST messages.

Method of test

Initial conditions

System Simulator: Default settings except:
- Parameter MAX_RETRANS is set to 7 retransmissions.

Mobile Station: The MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure. After 3 CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT including an incorrect Request Reference. The SS verifies that the MS continues sending CHANNEL REQUEST messages. After the 5th CHANNEL REQUEST message the SS sends an IMMEDIATE ASSIGNMENT including a correct Request Reference. The SS verifies that the MS stops sending CHANNEL REQUEST messages, switches to the assigned PDCH and completes the attach procedure.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is turned on and triggered to initiate the GPRS attach procedure.
1	MS -> SS	CHANNEL REQUEST	
2	MS -> SS	CHANNEL REQUEST	
3	MS -> SS	CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access, fixed allocation and including a Request Reference different from those included in previous CHANNEL REQUEST messages.
5	MS -> SS	CHANNEL REQUEST	MS continues sending CHANNEL REQUEST messages.
6	MS -> SS	CHANNEL REQUEST	
7	SS -> MS	IMMEDIATE ASSIGNMENT	with Request Reference corresponding to step 3. MS shall stop sending further access bursts.
8	MS -> SS	RLC data block (GMM ATTACH REQUEST)	(see message contents in default section)
9	MS<->SS	Completion of macro {GPRS attach procedure}	SS allows MS to complete the attach procedure.

41.2.3 Packet immediate assignment / One phase packet access

41.2.3.1 Two-message assignment / Successful case

Conformance requirements

If the mobile station receives an IMMEDIATE ASSIGNMENT message and the Dedicated mode or TBF information element indicates that this is the first message in a two-message assignment, the mobile station shall continue to listen to the full CCCH. The network may send a second IMMEDIATE ASSIGNMENT message within two multiframe periods following the first IMMEDIATE ASSIGNMENT, specifying the packet channel description and, if required, a mobile allocation for the assignment.
On receipt of an IMMEDIATE ASSIGNMENT message or, in case of a two-message assignment, a matching pair of IMMEDIATE ASSIGNMENT messages corresponding to one of its 3 last CHANNEL REQUEST messages, the mobile station stops T3146 (if running), stops sending CHANNEL REQUEST messages, and switches to the assigned PDCH.

Reference
GSM 04.08 subclause 3.5.2.1.3.1

Test purpose

To verify that the MS correctly decodes a two-message assignment and switches to the assigned PDCH.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure. After reception of CHANNEL REQUEST the SS sends a two-message IMMEDIATE ASSIGNMENT which actually describe a default IMMEDIATE ASSIGNMENT message, except that it is split in two parts: basically, the first part contains the IA Rest Octets, and the second part the Packet Channel Description IE.
The SS verifies that the MS correctly switches to the assigned PDCH and completes GPRS attach.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is turned on and triggered to initiate the GPRS attach procedure.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment
4	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents), sent within two multiframes after step 3.
5	MS<->SS	Completion of macro {GPRS attach procedure}	SS allows MS to complete the GPRS attach procedure.

Specific message contents:

IMMEDIATE ASSIGNMENT (first message)

Information Element	Value
as default except: Dedicated mode or TBF:	

- TMA	1 (is first message of a two-message assignment)
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	not present
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	as default

IMMEDIATE ASSIGNMENT (second message)

Information Element	**Value**
as default except:	
Dedicated mode or TBF:	
- TMA	0
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	as default
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	spare bits (IE Rest Octets not present)

41.2.3.2 Two-message assignment / Failure cases

Conformance requirements

If the indirect encoding is used, the IMMEDIATE ASSIGNMENT message may contain a CHANGE_MARK_1 field. If that is present, the mobile station shall verify the validity of the SI13_CHANGE_MARK associated with the GPRS mobile allocation to which the message refers, see GSM 04.60. If the CHANGE_MARK_1 field and the SI13_CHANGE_MARK do not match, the message does not satisfactorily define a PDCH.

The two IMMEDIATE ASSIGNMENT messages in a two-message assignment shall have the same contents of the Request Reference information elements.

If the mobile station does not receive the second IMMEDIATE ASSIGNMENT messages in a two-message assignment within two multiframe periods following the first message, the mobile station shall discard the first IMMEDIATE ASSIGNMENT message received.

Reference
GSM 04.08 subclause 3.5.2.1.3.1

Test purpose

To verify that the MS does not respond to a two-message assignment if:
- CHANGE_MARK_1 does not match SI13 CHANGE_MARK.
- the second IMMEDIATE ASSIGNMENT message is not received within two multiframes after the first message.
- Request References in both messages do not have same contents.

Method of test

Initial conditions

System Simulator: Default settings except:
- CHANGE_MARK in SI13 is set to 1.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure. After reception of CHANNEL REQUEST the SS sends a two-message IMMEDIATE assignment:
- first attempt: CHANGE_MARK does not match SI13 CHANGE_MARK. MS shall re-initiate packet access (see GSM 04.08 / 4.7.3.1.5, GPRS attach procedure / Abnormal cases).
- second attempt: the second IMMEDIATE ASSIGNMENT message is not received within two multiframes after the first message. MS shall re-initiate packet access.
- third attempt: Request References in both messages do not have same contents. MS shall re-initiate packet access.
- fourth attempt: the second IMMEDIATE ASSIGNMENT message is received in the last access grant block before the second multiframes after the first message. In this case the MS shall successfully switch to the assigned PDCH and complete the GPRS attach procedure.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate the GPRS attach procedure.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment with contents as specified below (see specific message contents).
4	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) except: Packet Channel Description IE describes a hopping channel including CHANGE_MARK_1 different from SI13 CHANGE_MARK.
5	MS -> SS	CHANNEL REQUEST	MS shall re-initiate packet access
6	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents)
7	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) sent after two multiframes after the first message.
8	MS -> SS	CHANNEL REQUEST	MS shall re-initiate packet access
9	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents) including a Request Reference corresponding to step 8.
10	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) except: Request Reference is different from that in step 8.
11	MS -> SS	CHANNEL REQUEST	MS shall re-initiate packet access
12	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents)
13	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) sent in the last access grant block before the second multiframe after the first message elapses.
14	MS<->SS	Completion of macro {GPRS attach procedure}	SS allows MS to complete the GPRS attach procedure.

Specific message contents:

IMMEDIATE ASSIGNMENT (first message)

Information Element	Value
as default except: Dedicated mode or TBF: - TMA	 1 (is first message of a two-message assignment)

- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	not present
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	as default

IMMEDIATE ASSIGNMENT (second message)

Information Element	Value
as default except:	
Dedicated mode or TBF:	
- TMA	0
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	as default
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	spare bits (IE Rest Octets not present)

41.2.3.3 Packet uplink assignment / Polling bit set

Conformance requirement

If the Polling bit is set to 1, MS shall send a PACKET CONTROL ACKNOWLEDGEMENT message (see 04.60) on the assigned PDCH, in the uplink block specified by the TBF Starting Time. In this case the TBF Starting Time is used both to indicate when the assigned PDCH becomes valid and to specify the uplink block.

Reference
GSM 04.08 subclause 3.5.2.1.3.2

Test purpose

To verify that the MS sends a PACKET CONTROL ACKNOWLEDGEMENT message in the correct uplink block if the Polling bit is set in packet uplink assignment construction.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and with the Polling bit set. The MS shall send a PACKET CONTROL ACKNOWLEDGMENT on the assigned uplink block and then complete the GPRS attach procedure.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is triggered to initiate GPRS attach.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access and Polling bit set, and arbitrarily chosen TBF starting time in the future.
4	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	sent on the block indicated by TBF starting time in step 3.
5	SS<->MS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.

41.2.3.4 One phase packet access / Contention resolution / Successful case

Conformance requirements

After receiving an IMMEDIATE ASSIGNMENT message in which one phase packet access for an uplink transfer is granted, the mobile station shall start timer T3164 and proceed with the contention resolution at one phase access defined in GSM 04.60.

Reference

GSM 04.08 subclause 3.5.2.1.3.2
GSM 04.60 subclause 7.1.2.3

Test purpose

To verify that the MS includes the correct TLLI (Temporary Logical Link Identifier) in the first RLC data blocks until contention resolution is completed.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the RLC data blocks which are sent preceding the reception of PACKET UPLINK ACK/NACK.

Maximum duration of the test
5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access
3	MS -> SS	3 RLC data blocks	SS verifies correct TLLI in RLC headers.
4	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI
5	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.

41.2.3.5 One phase packet access / Contention resolution / TLLI mismatch

Conformance requirement

If the TLLI in the PACKET UPLINK ACK/NACK message differs from that sent by the MS in the RLC block headers, the MS shall immediately stop transmitting on this TBF and re-initiate the packet access procedure unless it has already been repeated 4 times.

Reference
GSM 04.08 subclause 3.5.2.1.3.2
GSM 04.60 subclause 7.1.2.3

Test purpose

To verify that the MS immediately stops transmitting if it receives a PACKET UPLINK ACK/NACK with incorrect TLLI.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the first three blocks. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including an incorrect TLLI. The SS shall verify that the MS 'immediately' stops transmitting (see note below) and retries packet access procedure.

Note:
The MS is allowed to transmit n RLC blocks after the block containing the PACKET UPLINK ACK/NACK message (the exact value of n is specified in GSM 04.60 / 3.1).

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase packet access granted, fixed allocation.
3	MS -> SS	3 RLC data blocks	SS verifies correct TLLI in RLC headers.
4	SS -> MS	PACKET UPLINK ACK/NACK	Including incorrect TLLI
5	SS		The SS verifies that the MS transmits at most further n (=6) data blocks after step 4 (see Note) before re-initiating packet access.
6	MS -> SS	CHANNEL REQUEST	MS re-initiates packet access procedure.
7	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase packet access granted, fixed allocation.
8	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

41.2.3.6 One phase packet access / Contention resolution / Counter N3104

Conformance requirement

The contention resolution has failed on the mobile station when the counter N3104 has reached its maximum value.

Reference
GSM 04.60 subclause 7.1.2.3

Test purpose

To verify that the MS correctly sets and considers counter N3104.

Note
Counter N3104 is incremented by 1 with each new RLC/MAC block the mobile station sends until the first PACKET UPLINK ACK/NACK message is received.
Its maximum value is N3104_MAX = 3 * BS_CV_MAX * no-of-timeslots-assigned, where BS_CV_MAX is broadcast in SI 13 Rest Octets.

Method of test

Initial conditions

System Simulator: Default settings except:

- BS_CV_MAX value in System Information Type 13 arbitrarily chosen in the range 3 to 10.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer 1000 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks. The SS acknowledges the RLC block transfer with a correct PACKET UPLINK ACK/NACK sent after N3104_MAX data blocks. The SS verifies that the MS stops transmitting and restarts packet access procedure.
At the second attempt, the SS sends PACKET UPLINK ACK/NACK exactly after N3104_MAX - 1 data blocks. The SS verifies that this time the MS does not abort the access procedure and successfully completes uplink transfer.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	CHANNEL REQUEST	MS is triggered to transfer 1000 data octets.
2	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, indicating one phase packet access, fixed allocation and allocation bitmap granting 31 blocks.
3	MS -> SS	n RLC data blocks	SS receives n = N3104_MAX data blocks
4	SS		SS verifies that MS does not send further RLC data blocks.
5	SS -> MS	PACKET UPLINK ACK/NACK	with parameter REPEAT_ALLOCATION set. MS shall ignore this message
6	SS		SS verifies that the MS does not send further RLC data blocks.
7	MS -> SS	CHANNEL REQUEST	MS re-initiates packet access procedure.
8	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted.
9	MS -> SS	n-1 RLC data blocks	SS receives N3104_MAX – 1 data blocks
10	SS -> MS	PACKET UPLINK ACK/NACK	with parameter REPEAT_ALLOCATIOn set.
11	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

41.2.3.7 One phase packet access / Contention resolution / Timer T3166

Conformance requirement

The contention resolution has failed on the mobile station when the counter N3104 has reached its maximum value, or on expiry of timer T3166.

Reference
GSM 04.60 subclause 7.1.2.3

Test purpose

To verify that the MS correctly considers timer T3166.

Method of test

Initial conditions

System Simulator: Default settings except:

- BS_CV_MAX value in System Information Type 13 is set to 15.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer 1000 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and dynamic allocation. The MS shall start transferring RLC data blocks. The SS reduces the block transfer rate by controlling the USF flag. In this way, the SS forces T3166 (with value 5 s.) to expire before counter N3104 reaches N3104_MAX (with value 45 blocks for current settings). The SS verifies that the MS stops transmitting and restarts packet access procedure.
At the second attempt, the SS sends PACKET UPLINK ACK/NACK before T3166 seconds. The SS verifies that this time the MS does not abort the access procedure and successfully completes the data transfer.

Maximum duration of the test
5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	CHANNEL REQUEST	MS is triggered to transfer 1000 data octets.
2	SS -> MS	IMMEDIATE ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation. CS1 shall be used.
3	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF addressing the MS
4	MS -> SS	RLC data block	
5	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
8	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
9	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
11	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
12	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
14	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
15	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
16	MS<->SS		Steps 3 to 15 are repeated at most 22 times or until MS does not send further RLC data blocks at step 4. Note: steps 3 to 15 transfer one block every 52 frames, or 240 ms. 22 repetitions require about 5.5 s. (Timer T3166 shall expire)
17	MS -> SS	CHANNEL REQUEST	MS re-initiates packet access procedure.
18	SS -> MS	IMMEDIATE ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation.
19	MS<->SS		Steps 3 to 15 are repeated 17 times. Note: 17 repetitions require about 4.3 s. (Timer T3166 should not expire)

20	SS -> MS	PACKET UPLINK ACK/NACK	
21	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

41.2.3.8 One phase packet access / Contention resolution / 4 access repetition attempts

Conformance requirement

If contention resolution for packet access fails, the mobile station shall reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference
GSM 04.60 subclause 7.1.2.3

Test purpose

To verify that the MS repeats the packet access initiation 4 times.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer 200 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the first three blocks. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including a TLLI not corresponding to the MS. The SS shall verify that the MS stops transmitting blocks and reinitiates packet access, which shall be repeated four times.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted, fixed allocation.
4	MS -> SS	3 RLC data blocks	
5	SS -> MS	PACKET UPLINK ACK/NACK	including incorrect TLLI
6	MS -> SS		MS aborts packet access procedure, and does not transmit further RLC data blocks.
7	MS<->SS		repetition 1: MS shall reinitiate a packet access procedure, steps 2 to 6 are repeated.
8	MS<->SS		repetition 2: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.
9	MS<->SS		repetition 3: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.
10	MS<->SS		repetition 4: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.

Note: after step 10, the MS may reinitiate a packet access procedure, since higher layers may request to restart the access procedure.

41.2.3.9 One phase packet access / TBF starting time

Conformance requirement

In case the packet uplink assignment construction contains a TBF starting time and the mobile station receives the IMMEDIATE ASSIGNMENT message before the TBF starting time has expired, it shall wait until the frame number indicated by the TBF starting time before accessing the channel. If the mobile station receives the message after the TBF starting time has expired, it shall ignore the TBF starting time and may immediately access the channel.

[GSM 04.60]

- if the mobile station receives a PACKET UPLINK ASSIGNMENT, PACKET TIMESLOT RECONFIGURE, or a PACKET UPLINK ACK/NACK with an ALLOCATION_BITMAP whose TBF starting time has elapsed, the mobile station shall use whatever portion of the fixed allocation remains. If none of the fixed allocation remains, the mobile station shall ignore the message.

Reference
GSM 04.08 subclause 3.5.2.1.3.2
GSM 04.60 subclause 8.1.1.5

Test purpose

To verify that the MS correctly considers the TBF Starting Time included in the IMMEDIATE ASSIGNMENT message.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and containing a TBF starting time. The MS shall start transferring RLC data blocks at the exact frame specified by the TBF starting time. The test is repeated with a TBF starting time in the past. In this case the MS shall ‘immediately’ (see note below) send RLC data blocks.

Note:
The MS shall start transmitting RLC blocks within n blocks after the block containing the IMMEDIATE ASSIGNMENT message (the exact value of n is specified in GSM 04.60 / 3.1).

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted, fixed allocation and an arbitrarily chosen TBF Starting Time (indicating a future frame number).
3	SS		SS verifies that MS does not transmit for frame numbers below TBF Starting Time.
4	MS -> SS	3 RLC data blocks	SS verifies that first RLC block arrives on first allowed block after TBF Starting Time.
5	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
6	MS -> SS	RLC data blocks	
7	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.
8	MS		The MS is triggered again to transfer 200 octets of data.
9	MS -> SS	CHANNEL REQUEST	
10	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted, fixed allocation and an arbitrarily chosen TBF Starting Time with value less than current frame number, and such that the Allocation Bitmap extends over more than 3 blocks after current frame number.
11	MS -> SS	3 RLC data blocks	SS verifies that MS 'immediately' starts sending RLC data blocks, i.e. within n (=6) blocks after step 10 (see Note above).
12	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
13	MS -> SS	RLC data blocks	
14	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.

41.2.3.10 One phase packet access / Timing Advance Index present

Conformance requirement

If the timing advance index (TAI) is included in the packet uplink assignment construction, the mobile station shall use the continuous update timing advance mechanism, see GSM 05.10, using PTCCH in the same timeslot as the assigned PDCH.

Reference

GSM 04.08 subclause 3.5.2.1.3.2
GSM 03.64 subclause 6.5.7.2

Test purpose

To verify that the MS uses the continuous update timing advance mechanism and sends access bursts in the PTCCH slots as determined by the Timing Advance Index (TAI) sent in the IMMEDIATE ASSIGNMENT.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered for uplink data transfer. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and containing a Timing Advance Index. During TBF transfer, the SS shall verify the access bursts sent by the MS in the PTCCH.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 2000 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	For one phase packet access, dynamic allocation and including Timing Advance Index TAI=0.
3	MS -> SS	RLC data blocks	
4	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
5	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.

Verification

During TBF transfer (steps 3 to 5) the SS monitors access bursts on PTCCH which are located on slots with numbers FN, such that (FN mod (8*52)) = 12 for TAI = 0 (GSM 03.64/6.5.7.2 and GSM 05.02/Table 6). The access burst contents shall be '01111111'.

The test is repeated once more with an arbitrarily chosen TAI in the range 1 to 15. SS shall verify that the access bursts are sent in the correct PTCCH slots as specified in GSM 05.02/Table 6.

41.2.3.11 One phase packet access / Timing Advance Index not present

Conformance requirement

If a timing advance index (TAI) field is not included, the continuous update timing advance mechanism shall not be used.

Reference
GSM 04.08 subclause 3.5.2.1.3.2

Test purpose

To verify that the MS does not send any access bursts on PTCCH (i.e. it does not use the continuous update timing advance mechanism) if TAI is not present in the IMMEDIATE ASSIGNMENT message.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message not including a Timing Advance Index. During TBF transfer, the SS shall verify that the MS does not send any access bursts in idle frames.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 2000 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	not including Timing Advance Index
3	MS -> SS	3 RLC data blocks	
4	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
5	MS -> SS	RLC data blocks	
6	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer

Verification
The SS verifies that the MS does not transmit in idle frames during data block transfer (steps 3 to 6). Idle frame numbers are 12, 25, 38 and 51 in the 52-multiframe structure.

41.2.4 Packet immediate assignment / Single block packet access

41.2.4.1 Single block packet access / Packet Resource Request

Conformance requirement

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in GSM 04.60, or to send a PACKET MEASUREMENT REPORT message, see GSM 04.60.

Reference
GSM 04.08 subclause 3.5.2.1.3.3

Test purpose

To verify that the MS sends PACKET RESOURCE REQUEST in the assigned block as indicated by the TBF starting time when it is triggered for uplink transfer.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The MS is triggered to initiate uplink data transfer. The SS assigns packet uplink resources for single block in an IMMEDIATE ASSIGNMENT message including a TBF starting time. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, single block assignment for an arbitrarily chosen TBF Starting Time in the future.
3	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
4	SS -> MS	PACKET ASSIGNMENT REJECT	with default contents.

41.2.4.2 Single block packet access / Packet Measurement Report

Conformance requirement

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in GSM 04.60, or to send a PACKET MEASUREMENT REPORT message, see GSM 04.60.

Reference

GSM 04.08 subclause 3.5.2.1.3.3

Test purpose

To verify that the MS sends PACKET MEASUREMENT REPORT in the assigned uplink block when performing a measurement report procedure.
Further on, this tests verifies that the MS correctly considers reporting parameter NC_REPORTING_PERIOD_I.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, in Ready state and in Packet Idle mode.

Related PICS/PIXIT statement

-

Foreseen final state of the MS

-

Test procedure
The SS requests the MS via a PACKET MEASUREMENT ORDER to periodically send measurement reports. When the MS attempts a measurement report procedure, the SS assigns a single block for uplink TBF with an arbitrarily chosen TBF starting time (not yet elapsed). The SS verifies that the MS sends PACKET MEASUREMENT REPORT in the assigned block.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for single block downlink assignment on PCH corresponding to MS.
2	SS -> MS	PACKET MEASUREMENT ORDER	Including parameters: NETWORK_CONTROL_ORDER = '01' NC_REPORTING_PERIOD_I = '011' (3.84 s.)
3	MS -> SS	CHANNEL REQUEST	with establishment cause 'single block access'.
4	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single block assignment with an arbitrarily chosen TBF starting time in the future in the range 0.5 to 2 seconds.
5	MS -> SS	PACKET MEASUREMENT REPORT	Shall be sent in the assigned block.
6	SS -> MS	CHANNEL REQUEST	SS verifies that the time interval between steps 3 and 6 corresponds to NC_ REPORTING_PERIOD_I +/- 10%.
7	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single block assignment with an arbitrarily chosen TBF starting time in the future.
8	MS -> SS	PACKET MEASUREMENT REPORT	Shall be sent in the assigned block.

41.2.5 Packet immediate assignment / Packet access rejection

41.2.5.1 Packet access rejection / wait indication

Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last CHANNEL REQUEST messages, the mobile station stops sending CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

Reference
GSM 04.08 subclause 3.5.2.1.3.4

Test purpose

To verify that the MS stops sending CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT REJECT containing a Request Reference IE corresponding to one of its last 3 CHANNEL REQUEST messages.
Further on, the SS verifies that the MS makes a new attempt for uplink transfer only after T3142 seconds ("wait indication" timer) after last IMMEDIATE ASSIGNMENT REJECT elapse.

Method of test

Initial conditions

System Simulator: Default settings except:
- Parameter MAX_RETRANS is set to 7 retransmissions.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Foreseen final state of the MS

-

Test procedure

The MS is triggered to initiate the GPRS attach procedure. After reception of 3 CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT with correct Request Reference and including a waiting indication (T3142). The SS verifies that the MS stops sending CHANNEL REQUEST messages and does not attempt a new packet access until T3142 seconds elapse.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to initiate GPRS attach procedure
1	MS -> SS	CHANNEL REQUEST	
2	MS -> SS	CHANNEL REQUEST	
3	MS -> SS	CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	including Request Reference corresponding to the CHANNEL REQUEST in step 1, and waiting time indication with value T3142=50s.
5	SS		SS verifies that MS does not send any further access bursts (see note below).
6	MS -> SS	CHANNEL REQUEST	SS verifies that the access burst arrives after T3142 + 0.1*T3412 (=55s.) after last IMMEDIATE ASSIGNMENT REJECT message.
7	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access
8	MS<->SS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.

The test is repeated with an arbitrarily chosen value of T3142 in the range 2 to 255 seconds.

Note: The number of frames between successive access bursts considering the default Sys Info parameters used in the test is larger than 58 frames (see 04.08/Table 3.1). This value is large enough to allow the MS to respond to the IMMEDIATE ASSIGNMENT REJECT message by stopping sending the next access bursts.

41.2.5.2 Packet access rejection / assignment before T3142 expires

Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last CHANNEL REQUEST messages, the mobile station stops sending CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

Reference
GSM 04.08 subclause 3.5.2.1.3.4

Test purpose

To verify that the MS stops sending CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT REJECT and, if an IMMEDIATE ASSIGNMENT containing a correct Request Reference arrives before T = min {T3142, T3146} seconds elapse, then the MS shall accept this assignment. (See below for a note on T3146).

Method of test

Initial conditions

System Simulator: Default settings except:
- Parameter MAX_RETRANS is set to 7 retransmissions.
- Parameter TX_INTEGER is set to 32
- CCCH is not combined with SDCCH.

Mobile Station: MS is switched off.

Related PICS/PIXIT statement

-

Foreseen final state of the MS

-

Test procedure

The MS is triggered to initiate GPRS attach. After reception of 3 CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT with correct Request Reference and including a waiting indication (T3142). The SS verifies that the MS stops sending CHANNEL REQUEST messages.
Before T = min {T3142, T3146} seconds elapse, the SS sends an IMMEDIATE ASSIGNMENT with correct Request Reference. The MS shall switch to the assigned PDCH and transfer the data.

Note on T3146:
T3146 is started when sending the last CHANNEL REQUEST or when receiving the IMMEDIATE ASSIGNMENT REJECT. At its expiry, the packet access is aborted.
The value of T3146 is given by T+2*S (GSM 04.08/11.1.1), where T is TX_INTEGER and S is given in GSM 04.08/Table 3.1. The value of T3146 is 2.15 s. for the current settings.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to initiate GPRS attach.
1	MS -> SS	CHANNEL REQUEST	
2	MS -> SS	CHANNEL REQUEST	
3	MS -> SS	CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	including Request Reference corresponding to the CHANNEL REQUEST in step 2, and waiting time indication with value T3142 = 2 s.
5			The SS verifies that the MS stops sending CHANNEL REQUEST messages.
6	SS -> MS	IMMEDIATE ASSIGNMENT	sent after 1.5s. (of the last IMMEDIATE ASSIGNMENT REJECT) and including Request Reference corresponding to step 1.
7	SS<->MS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.

41.2.6 Packet downlink assignment procedure using CCCH

41.2.6.1 Initiation of packet downlink assignment procedure / MS listens to correct CCCH block

Conformance requirement

The network initiates the packet downlink assignment procedure by sending an IMMEDIATE ASSIGNMENT message in unacknowledged mode on the CCCH timeslot corresponding to CCCH group the mobile station belongs to.
On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned TFI; it starts timer T3190.

Reference
GSM 04.08 subclause 3.5.3.1.2

Test purpose

To verify that the MS responds to an IMMEDIATE ASSIGNMENT for downlink TBF sent on PCH blocks corresponding to the MS's paging group.

Method of test

Initial conditions

System Simulator: Default settings except:
- Parameters CCCH_CONF, BS_AG_BLKS_RES, and BS_PA_MFRMS are arbitrarily chosen.

Mobile Station:
- MS is GPRS attached, DRX have been negotiated, MS is in Ready state.
- A PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context
- Support of DRX

Test procedure

The SS sends an IMMEDIATE ASSIGNMENT for downlink transfer on a PCH block corresponding to its paging group (see 05.02/6.5.2) which depends on Sys Info parameters and the MS's IMSI. The MS shall switch to the assigned PDCH and exercise downlink transfer.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment with correct TLLI.
2	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer of 200 octets of data.

41.2.6.2 Initiation of packet downlink assignment procedure / timer T3190

Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned TFI; it then starts timer T3190.
If the mobile station does not receive a RLC/MAC block on the assigned PDCHs before timer T3190 expires, then a TBF establishment failure has occurred.

Reference
GSM 04.08 subclause 3.5.3.1.2

Test purpose

To verify that the MS returns to packet idle updated if RLC/MAC blocks are sent after T3190 seconds, and that the MS correctly receives RLC/MAC blocks if they are sent before T3190 seconds.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The SS assigns a PDCH for downlink transfer but does not send any RLC/MAC blocks until T3190 seconds have elapsed. The MS shall return to packed idle updated and ignore the RLC/MAC blocks. To verify that the MS returned to packet idle updated, the SS again assigns a PDCH and sends RLC/MAC blocks before T3190 seconds elapse. The SS shall successfully transfer all RLC data blocks.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF on a PCH block corresponding to the MS, including a packet downlink assignment.
2	SS		SS waits T3190 + 10% (=5.5s) after the last IMMEDIATE ASSIGNMENT.
3	SS -> MS	RLC data blocks	SS sends data
4	SS		SS verifies for 10s. that the MS does not respond.
5	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH.
6	SS		SS waits T3190 – 10% (=4.5s) after the last IMMEDIATE ASSIGNMENT
7	SS -> MS	RLC data blocks	SS starts sending 200 octets of data.
8	MS -> SS	PACKET DOWNLINK ACK/NACK	indicating correct reception of data blocks.
9	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer.

41.2.6.3 Initiation of packet downlink assignment procedure / TBF starting time

Conformance requirement

The IMMEDIATE ASSIGNMENT message may indicate a TBF starting time. If the mobile station receives the message before the TBF starting time has expired, it shall wait until the frame number indicated by the TBF starting time, start timer T3190 and switch to the assigned PDCH. If the mobile station receives the message after the TBF starting time has expired, it shall ignore the indicated TBF starting time, immediately start timer T3190 and switch to the assigned PDCH.

Reference

GSM 04.08 subclause 3.5.3.1.2

Test purpose

To verify that the MS correctly considers the TBF starting time during downlink assignment.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure

The SS assigns a PDCH via an IMMEDIATE ASSIGNMENT including a TBF starting time. The SS does not send RLC data blocks after TBF starting time + T3190 elapses. The MS shall return to packed idle updated and ignore the RLC data blocks.

The SS assigns again a PDCH, and this time the SS sends RLC data blocks before TBF starting time + T3190 expires. The MS shall successfully receive the RLC data blocks.

Finally, the SS assigns the third time a PDCH, but including a TBF starting time which expired. The SS immediately sends RLC data blocks which shall be acknowledged by the MS.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	including a packet downlink assignment with a TBF Starting Time corresponding to 10s after the current frame number.
2	SS		SS waits 1.1 * (TBF Starting Time +T3190) (=16.5 s) after the last IMMEDIATE ASSIGNMENT.
3	SS -> MS	RLC data block	including Polling bit set and valid RRBP field.
4	SS		SS verifies for that the MS does not respond in the assigned block in step 3.
5	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH with TBF Starting Time corresponding to 10s after the current frame number.
6	SS		SS waits 0.9 * (TBF Starting Time +T3190) (= 13.5 s) after the last IMMEDIATE ASSIGNMENT.
7	SS -> MS	RLC data block	including Polling bit set and valid RRBP field.
8	MS -> SS	PACKET DOWNLINK ACK/NACK	sent in the assigned block at step 7 indicating correct reception of downlink RLC block.
9	MS<->SS	Completion of macro {Downlink data transfer}	SS completes data transfer.
10	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH with TBF Starting Time which already elapsed.
11	SS -> MS	RLC data block	sent in the third block after the block containing the message in step 10 (see note below), including Polling bit set and valid RRBP field.
12	MS -> SS	PACKET DOWNLINK ACK/NACK	indicating correct reception of RLC block.
13	MS<->SS	Completion of macro {Downlink data transfer}	SS completes data transfer.

Note:
The requirements to uplink and downlink assignment reaction times are stated in GSM 05.10 / 6.11: An MS shall be ready to transmit and receive using a new assignment no later than the next occurrence of block B((x+3) mod 12) where block B(x) is the last radio block containing the uplink assignment.

41.2.6.4 Initiation of packet downlink assignment procedure / incorrect TFI

Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned Temporary Flow Identifier (TFI).

Reference
GSM 04.08 subclause 3.5.3.1.2

Test purpose

To verify that the MS correctly considers the TFI in the RLC/MAC blocks.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context

Test procedure
The SS assigns a PDCH and starts transmitting RLC/MAC blocks with incorrect TFI. The MS shall ignore these RLC/MAC blocks and, after T3190 expires, return to packet idle mode.
To prove that the MS returns to idle mode, the SS assigns again a PDCH, and this time the SS sends RLC/MAC blocks with correct TFI. The MS shall successfully receive the data packets.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF
2	SS -> MS	RLC data block	SS sends RLC blocks with incorrect TFI (i.e. not corresponding to the last IMMEDIATE ASSIGNMENT), including Polling bit set and valid RRBP field.
3	SS		SS verifies that the MS does not respond in the assigned block.
4	SS		SS waits value of T3190 + 10% (=5.5s).
5	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF
6	SS -> MS	RLC data block	with correct TFI, including Polling bit set and valid RRBP field.
7	MS -> SS	PACKET DOWNLINK ACK/NACK	indicating correct reception of RLC block.
8	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer.

41.2.7 Single block packet downlink assignment

41.2.7.1 Single block packet downlink assignment / TBF Starting Time

Conformance requirement

The sending of an RLC/MAC control message to a mobile station in packet idle mode may be initiated by the RR entity on network side using the packet downlink assignment procedure. The procedure is used to assign a single downlink block on a PDCH for the transfer of the RLC/MAC control message.

The packet downlink construction in the IMMEDIATE ASSIGNMENT message shall contain only:
- the TLLI; and
- the TBF starting time.

If the mobile station receives the IMMEDIATE ASSIGNMENT message before the TBF starting time has expired, it shall wait until the frame number indicated by the TBF starting time. The network shall use the TBF starting time to indicate the first frame number belonging to the single block period assigned to the mobile station. The mobile station shall switch to the assigned PDCH and attempt to decode an RLC/MAC control message in the assigned downlink block.

Reference
GSM 04.08 subclause 3.5.3.2

Test purpose

To verify that the MS correctly decodes the RLC control block sent by the network on the assigned downlink block given by TBF starting time in the IMMEDIATE ASSIGNMENT message.

Method of test

Initial conditions

System Simulator: Default settings.

Mobile Station: MS is GPRS attached, in Ready state and in Packet Idle mode.

Related PICS/PIXIT statement

-

Test procedure

The SS assigns a single block for downlink via an IMMEDIATE ASSIGNMENT message on CCCH including a TBF starting time . The SS sends a PACKET DOWNLINK DUMMY CONTROL BLOCK message with Polling Bit set and a valid RRBP field.
The MS shall respond with a PACKET CONTROL ACKNOWLEDGMENT message on the assigned TBF block. This verifies that the MS correctly received the RLC control block sent in the assigned single block TBF.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for single block downlink assignment, including a TBF starting time arbitrarily chosen in the range 0.5 to 50 s. after the current frame number.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	sent on the block indicated by TBF starting time in step 1, including Polling bit set and valid RRBP field.
3	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	sent on the block indicated by the RRBP field in step 2.

41.2.7.2 Single block packet downlink assignment / MS returns to packet idle mode

Conformance requirement

Unless otherwise indicated by the RLC/MAC control message, the mobile station remains in packet idle mode. If the mobile station remains in packet idle mode, it shall continue to monitor downlink CCCH once the block period indicated by the TBF starting time has passed.

Reference
GSM 04.08 subclause 3.5.3.2

Test purpose

To verify that the MS remains in packet idle mode and monitors downlink CCCH once the block period indicated by the TBF starting time has passed.

Method of test

Initial conditions

System Simulator: Default settings except:
- NETWORK_CONTROL_ORDER in SI 13 Rest Octets set to '00' (no measurement reporting)

Mobile Station: MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Related PICS/PIXIT statement

- Support of PDP context.

Test procedure

The SS assigns a single block for downlink via an IMMEDIATE ASSIGNMENT message on CCCH including a TBF starting time . The SS sends a PACKET MEASUREMENT ORDER message requesting the MS to periodically send measurement reports.
Next, in order to verify that the MS remains in packet idle mode, the SS assigns a downlink TBF which shall be successfully completed.
The SS shall wait until the MS attempts two periodic measurement report procedures, in order to make sure that the MS correctly decoded the PACKET MEASUREMENT ORDER on the assigned single block for downlink.

Maximum duration of the test
-

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for single block downlink assignment, including a TBF starting time arbitrarily chosen.
2	SS -> MS	PACKET MEASUREMENT ORDER	on the assigned single block. NETWORK_CONTROL_ORDER = ‘01’ NC_REPORTING_PERIOD_I = ‘110’ (30.72 s.)
3	SS -> MS	PAGING REQUEST	
4	MS -> SS	CHANNEL REQUEST	This verifies that MS is in ‘idle mode’.
5	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	including Wait Indication set to 5 s.
6	MS -> SS	CHANNEL REQUEST	
7	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single block assignment
8	MS -> SS	PACKET MEASUREMENT REPORT	
9	MS -> SS	CHANNEL REQUEST	The SS verifies reporting period: the time interval between CHANNEL REQUESTS messages in steps 7 and 10 shall be in the range 30.72 s. +/- 10%.
10	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single block assignment
11	MS -> SS	PACKET MEASUREMENT REPORT	

41.2.8 Macros and default message contents

41.2.8.1 Macros

In order to simplify the process of writing and coding test cases, macros are referenced in the expected signaling tables. These macros provide all additional signaling needed to complete the particular test but are not relevant to its purpose.

41.2.8.1.1 GPRS attach procedure

The following table describes a signaling sequence performing the GPRS attach procedure. Note that there are different possible sequences implementing the GPRS attach procedure. In this case we use fixed allocation and simultaneous uplink and downlink TBFs.
The macros {Completion of GPRS attach} in the test cases refer to the table below starting at the step required for the particular sequence.

{GPRS attach procedure}

Step	Direction	Message	Comments
0			MS is triggered to initiate the GPRS attach procedure.
1	MS -> SS	CHANNEL REQUEST	Establishment Cause is ‘one phase packet access’.
2	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single phase access, dynamic allocation.
3	MS -> SS	RLC data blocks	Transporting: **ATTACH REQUEST**
4	SS -> MS	PACKET UPLINK ACK/NACK	Indicating correct reception of uplink blocks, including RRBP field set.
5	SS -> MS	PACKET DOWNLINK ASSIGNMENT	
6	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	Corresponding to the polling in step 4
7	SS -> MS	RLC data blocks	Transporting: **ATTACH ACCEPT**. Last block containing a valid RRBP field and FBI set.
8	MS -> SS	PACKET DOWNLINK ACK/NACK	Including Channel Request Description.
9	SS -> MS	PACKET UPLINK ASSIGNMENT	
10	MS -> SS	RLC data blocks	Transporting: **ATTACH COMPLETE**
11	SS -> MS	PACKET UPLINK ACK/NACK	Including valid RRBP field
12	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	

41.2.8.1.2 Uplink data transfer

The following table describes a sequence performing uplink data transfer in acknowledged mode.

{Uplink data transfer, acknowledged mode}

Step	Direction	Message	Comments
0			A PDP context (in acknowledged RLC mode) has been established. The MS is triggered to send data.
1	MS -> SS	CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, single block access.
3	MS -> SS	PACKET RESOURCE REQUEST	
4	SS -> MS	PACKET UPLINK ASSIGNMENT	for fixed allocation
5			Steps 6 to 8 are executed 0 to n times as needed.
6	MS -> SS	RLC data block	
7			Step 6 is repeated at most 14 times (resulting in at most 15 uplink data blocks)
8	SS -> MS	PACKET UPLINK ACK/NACK	indicating correct reception of uplink data blocks and parameter REPEAT_ ALLOCATION set.
9			Countdown procedure: Step 10 is repeated as needed.
10	MS -> SS	RLC data block	The MS shall correctly set the CV value in the RLC header, the last one being 0.
11	SS -> MS	PACKET UPLINK ACK/NACK	indicating correct reception of uplink blocks, and valid RRBP field and FBI set.
12	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	

41.2.8.1.3 Downlink data transfer

The following table describes a sequence performing downlink data transfer in acknowledged mode.

{Downlink data transfer, acknowledged mode}

Step	Direction	Message	Comments
0			A PDP context (in acknowledged RLC mode) has been established.
1	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF, sent on CCCH on the correct CCCH block the MS belongs to.
2			Steps 3 to 6 are executed 0 to n times as needed.
3	SS -> MS	RLC data block	
4			Step 3 is repeated at most 14 times
5	SS -> MS	RLC data block	with polling bit set.
6	MS -> SS	PACKET DOWNLINK ACK/NACK	indicating correct reception of downlink data blocks.
7	SS -> MS	RLC data block	
8			Step 7 is repeated as needed.
9	SS -> MS	RLC data block	Last data block with FBI bit set and a valid RRBP field.
10	MS -> SS	PACKET DOWNLINK ACK/NACK	indicating correct reception of downlink data blocks.

41.2.8.2 Default message contents

41.2.8.2.1 IMMEDIATE ASSIGNMENT for downlink TBF

Protocol Discriminator	RR Management
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging
Dedicated mode or TBF	
- TMA	0 (not a two-message assignment)
- Downlink	0 ('no meaning')
- T/D	1 (assign a Temporary Block Flow)
Packet Channel Description	
- Channel Type	PDCH
- TN	slot 4
- TSC	3
-	0
-	00 (Binary)
- ARFCN	30
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH01 (Packet Downlink Assignment)
- Packet Downlink Assignment	
- TLLI	Corresponding to the value allocated to the MS.
-	1
- TFI_ASSIGNMENT	00001 (binary)
- RLC_MODE	1 (RLC acknowledged mode)
- ALPHA	0.5
- GAMMA	For GSM 900, +9 dBm For DCS 1800, +6 dBm
- POLLING	0
- TA_VALID	1 (valid)
- REL_OR_ABS_FN	1
-	0 (TIMING_ADVANCE_INDEX not present)
-	1 (TBF starting time is present)
- TBF_STARTING_TIME	indicating current frame + 50 frames
- spare padding	Spare Padding

41.2.8.2.2 IMMEDIATE ASSIGNMENT for downlink single block assignment

Protocol Discriminator	RR Management
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging
Dedicated mode or TBF	
- TMA	0 (not a two-message assignment)
- Downlink	0 ('no meaning')
- T/D	1 (assign a Temporary Block Flow)
Packet Channel Description	
- Channel Type	PDCH
- TN	slot 4
- TSC	3
-	0
-	00 (Binary)
- ARFCN	30
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH01 (Packet Downlink Assignment)
- Packet Downlink Assignment	
- TLLI	Corresponding to the value allocated to the MS.
-	0 (parameters TFI_ASSIGNMENT, RLC_MODE, ALPHA, GAMMA, POLLING, TA_VALID and REL_OR_ABS_FN not present)
-	1 (TBF starting time is present)
- TBF_STARTING_TIME	indicating current frame + 50 frames
- spare padding	Spare Padding

41.2.8.2.3 IMMEDIATE ASSIGNMENT for uplink TBF, one phase access, dynamic allocation

Protocol Discriminator	RR Management
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging
Dedicated mode or TBF	
- TMA	0 (‘no meaning’)
- Downlink	0 (‘no meaning’)
- T/D	1 (assign a Temporary Block Flow)
Packet Channel Description	
- Channel Type	PDCH
- TN	slot 4
- TSC	3
-	0
-	00 (Binary)
- ARFCN	30 (decimal)
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH00 (Packet Uplink Assignment)
- Packet Uplink Assignment	
-	1
- TFI_ASSIGNMENT	00001
- POLLING	0
-	0 (Dynamic Allocation)
- USF	001
- USF_GRANULARITY	0 (MS shall transmit one RLC/MAC block)
- CHANNEL_CODING_CMD	01 (CS-2)
- TLLI_BLOCK_CH_CODING	00 (CS-1)
-	1 (ALPHA is present)
- ALPHA	0.5
- GAMMA	For GSM 900, +9 dBm For DCS 1800, +6 dBm
-	0 (TIMING_ADVANCE_INDEX not present)
-	1 (TBF_STARTING_TIME is present)
- TBF_STARTING_TIME	indicating current frame + 50 frames
- spare padding	Spare Padding

41.2.8.2.4 IMMEDIATE ASSIGNMENT for uplink TBF, one phase access, fixed allocation

Protocol Discriminator	RR Management
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging
Dedicated mode or TBF	
- TMA	0 ‘no meaning’
- Downlink	0 ‘no meaning’
- T/D	1 assign a Temporary Block Flow
Packet Channel Description	
- Channel Type	PDCH
- TN	slot 4
- TSC	3
-	0
-	00 (Binary)
- ARFCN	30
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH00 (Packet Uplink Assignment)
- Packet Uplink Assignment	
-	1
- TFI_ASSIGNMENT	00001
- POLLING	0
-	1 (Fixed Allocation)
- ALLOCATION_BITMAP_LGTH	31
- ALLOCATION_BITMAP	bitmap of length 31, all bits set
- CHANNEL_CODING_CMD	01 (CS-2)
- TLLI_BLOCK_CH_CODING	00 (CS-1)
-	1 (ALPHA is present)
- ALPHA	0.5
- GAMMA	For GSM 900, +9 dBm For DCS 1800, +6 dBm
-	0 (TIMING_ADVANCE_INDEX not present)
-	1 (TBF_STARTING_TIME is present)
- TBF_STARTING_TIME	indicating (current frame + 50 frames)
- spare padding	Spare Padding

41.2.8.2.5 IMMEDIATE ASSIGNMENT for uplink TBF, single block access

Protocol Discriminator	RR Management
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging
Dedicated mode or TBF	
- TMA	0 'no meaning'
- Downlink	0 'no meaning'
- T/D	1 assign a Temporary Block Flow
Packet Channel Description	
- Channel Type	PDCH
- TN	slot 4
- TSC	3
-	0
-	00 (Binary)
- ARFCN	30
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH00 (Packet Uplink Assignment)
- Packet Uplink Assignment	
-	1
- TFI_ASSIGNMENT	00001
- POLLING	0
-	1 (Fixed Allocation)
- ALLOCATION_BITMAP_LGTH	1
- ALLOCATION_BITMAP	1 (only one block granted)
- CHANNEL_CODING_CMD	01 (CS-2)
- TLLI_BLOCK_CH_CODING	00 (CS-1)
-	1 (ALPHA is present)
- ALPHA	0.5
- GAMMA	For GSM 900, +9 dBm For DCS 1800, +6 dBm
-	0 (TIMING_ADVANCE_INDEX not present)
-	1 (TBF_STARTING_TIME is present)
- TBF_STARTING_TIME	indicating (current frame + 50 frames)
- spare padding	Spare Padding

41.2.8.2.6 PAGING REQUEST TYPE 1

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100001
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	00
- second channel	00
Mobile Identity 1	
- odd/even indication	Even.
- Type of Identity	P-TMSI.
- Identity Digits	P-TMSI previously allocated to MS.
Mobile Identity 2	Not present.
P1 rest octets	
-	L (no Notification List Number(PCH))
-	L (no priority specified for mobile Id 1)
-	L (no priority specified for mobile Id 2)
- Packet Page Indication 1	H
- Packet Page Indication 2	L (Not present)
-	L (no Group call Information)
-	L (no Notification List Number status)
- spare padding	Spare Padding

41.2.8.2.7 PACKET UPLINK ASSIGNMENT

MESSAGE_TYPE	001110
PAGE_MODE	Normal Paging
Referenced Address	
-	1 (not Global TFI)
-	1 (not TLLI)
-	1 (not TQI)
-	1 (Packet Request Reference)
- Packet Request Reference	information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received
CHANNEL_CODING_COMMAND	CS-2 coding
TLLI_BLOCK_CHANNEL_CODING	CS-1 coding
{L|H<UPLINK_TFI_ASSIGNMENT>}	H (assign an uplink TFI)
- UPLINK_TFI_ASSIGNMENT	0000110 (uplink TBF identifier)
Packet Timing Advance	
-	1 (timing advance value)
- TIMING_ADVANCE_VALUE	30 bit periods
-	0 (no timing advance index)
{L|H<Frequency Parameters>}	H (Frequency Parameters present)
- Frequency Parameters	
- TSC	5
-	00 (no hopping)
- ARFCN	For GSM 900, 30 For DCS 1800, 650
	HL (Fixed allocation)
{0|1<List of Reference Frequency lists>}	0 (no reference frequencies)
{0|1<Mobile Allocation list>}	0 (no MA)
	LL (Dynamic Allocation)
Fixed Allocation	
- FINAL_ALLOCATION	as required in TC
- DOWNLINK_CONTROL_TIMESLOT	2
-	H (Contention Resolution TLLI is present)
- CONTENTION_RESOLUTION_TLLI	As allocated to the MS
-	H (power control parameters)
- ALPHA	0.5
- GAMMA_TN0	0 (not present)
- GAMMA_TN1	0 (not present)
- GAMMA_TN2	1
- GAMMA_TN2	9 dBm (GSM 900), 6 dBm (DCS 1800)
- GAMMA_TN3	0 (not present)
- GAMMA_TN4	0 (not present)
- GAMMA_TN5	0 (not present)
- GAMMA_TN6	0 (not present)
- GAMMA_TN7	0 (not present)
- HALF_DUPLEX_MODE	0 (no half duplex mode)
- TBF_STARTING_TIME	indicating (current frame + 91 frames)
-	L (bit map is blocks)

- ALLOCATION_BITMAP	allocate 15 consecutive blocks

41.2.8.2.8 PACKET DOWNLINK ASSIGNMENT

MESSAGE_TYPE	000100
PAGE_MODE	Normal Paging
Referenced Address	
-	1 (address is TLLI)
- TLLI	as allocated for MS.
MAC_MODE	Dynamic Allocation
RLC_MODE	acknowledged mode
CONTROL_ACK	0
TIMESLOT_ALLOCATION	slot 2
Packet Timing Advance	
-	1 (timing advance value)
- TIMING_ADVANCE_VALUE	30 bit periods
-	0 (no timing advance index)
{L|H<Frequency Parameters>}	H (Frequency Parameters present)
- Frequency Parameters	
- TSC	5
-	00 (non-hopping channel)
- ARFCN	For GSM 900, 30 For DCS 1800, 650
{L|H<Power Control Parameters>}	H (Power Control Parameters present)
- ALPHA	0.5
- {0|1<GAMMA_TN0>}	0 (no GAMMA_TN0)
- {0|1<GAMMA_TN1>}	0 (no GAMMA_TN1)
- {0|1<GAMMA_TN2>}	0 (GAMMA_TN2 present)
- GAMMA_TN2	For GSM 900, +9 dBm For DCS 1800, +6 dBm
- {0|1<GAMMA_TN3>}	0 (no GAMMA_TN3)
- {0|1<GAMMA_TN4>}	0 (no GAMMA_TN4)
- {0|1<GAMMA_TN5>}	0 (no GAMMA_TN5)
- {0|1<GAMMA_TN6>}	0 (no GAMMA_TN6)
- {0|1<GAMMA_TN7>}	0 (no GAMMA_TN7)
{L|H<DOWNLINK_TFI_ASSIGNMENT>}	H (assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	00011(Binary)
{L|H<TBF_STARTING_TIME>}	H (TBF Starting Time present)
- TBF_STARTING_TIME	indicating (current frame + 13 frames)
{L|H<Measurement Mapping>}	L (no measurement mapping)

ETSI SMG7 Meeting #23
Sophia Antipolis, France, 19-22 October 1999

Document 7-99-314
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	**CR**	**A724**	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	Strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: SMG7 GPRS **Date:** 1999-10-18

Subject: Test of Medium Access Control (MAC) Procedures on PCCCH in idle mode

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Tests of this feature is missing in current version.

Clauses affected: 42.1

Other specs Affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

42.1 Test of Medium Access Control (MAC) Procedures on PCCCH in idle mode

This clause presents tests for “Medium Access Control (MAC) Procedures on PCCCH in idle mode” which are specified in GSM 04.60/7.

Applicability and default conditions

The clause is applicable for mobiles supporting GPRS.

The SS default conditions simulate one cell with default settings as defined in the GPRS general default section.

The MS default initial condition is GPRS attached. Unless otherwise stated, no PDP context is required.

The default message contents and signaling macro not specified in the end of this section shall be set as in “GPRS default conditions” Chapter 40. Specific message contents for a test case is specified in each test case.

Conditions or message contents specified in a test case have the highest precedence. In addition, the default message contents described in the end of this section override those specified in “GPRS default conditions”.

In case the test case not expected “short access” as access type for Packet Channel Request the amount of RLC data specified in the comments in expected sequence is not necessary to be exactly the specified amount of data. It only has to be more than the limit for short access. If the test case need a specific amount of data this is specified in the test case.

42.1.1 Packet Channel Request

42.1.1.1 Packet Channel Request / Message format

There are two formats of the PACKET CHANNEL REQUEST message containing either 8 bits or 11 bits of information. The format to be applied on PRACH is controlled by the parameter ACC_BURST_TYPE that is broadcast on PBCCH.

42.1.1.1.1 Conformance requirements

The mobile station shall apply the correct PACKET CHANNEL REQUEST message format on PRACH according to the ACC_BURST_TYPE parameter broadcast on PBCCH.

Reference

GSM 04.60 subclause 7.1.2.1

42.1.1.1.2 Test purpose

To verify that the mobile station applies the correct PACKET CHANNEL REQUEST message format on PRACH according to the ACC_BURST_TYPE parameter broadcast on PBCCH.

42.1.1.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 11 bit access.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Method of trigger GPRS attach.

Switch On/off Yes / No.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The MS shall send PACKET CHANNEL REQUEST message. The SS verifies that the MS requests 11 bit access format. Switch off the MS.

Change the ACCESS_BURST_TYPE parameter in Packet System Information to 8 bit format and repeat the test procedure. The SS verifies that the MS requests 8 bit access format.

Maximum duration of the test

1 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Mobility Management procedure”. Received on PRACH.
3	SS		SS verifies the requested access bit format.
4	MS		If possible the MS is powered down or switched off otherwise it has its power source removed and then restored.
5	SS	PACKET SYSTEM INFORMATION Type 1	Change ACCESS_BURST_TYPE to indicate 8 bit access. Sent on PBCCH.
6			Repeat step 1 to 3.

Specific message contents

None.

42.1.1.2 Packet Channel Request / Response to Packet Paging

42.1.1.2.1 Conformance requirements

A mobile station in class A or class B mode of operation shall respond to a PACKET PAGING REQUEST message indicating an RR connection establishment. A mobile station in class B mode of operation may abort the packet access procedure at the receipt of a PACKET PAGING REQUEST message indicating an establishment of a RR connection. PACKET PAGING REQUEST messages indicating a non-RR connection shall be ignored.

Mobile stations in class C mode of operating shall not respond to any type of PACKET PAGING REQUEST messages during the packet access procedure but decode the PERSISTENCE_LEVEL parameter if included in the message.

Reference

GSM 04.60 subclause 7.1.2.1

42.1.1.2.2 Test purpose

To verify that the mobile station ignores PACKET PAGING REQUEST messages indicating a non-RR connection after scheduling the sending of PACKET CHANNEL REQUEST messages.

To verify that a mobile station in class A or class B mode of operation shall respond to a PACKET PAGING REQUEST message indicating an RR connection establishment after scheduling the sending of PACKET CHANNEL REQUEST messages.

To verify that a mobile station in class C mode of operating shall not respond to any type of PACKET PAGING REQUEST messages during the packet access procedure.

42.1.1.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access and MAX_RETRANS indicates 7 allowed retransmission.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Supporting GPRS MS class A, B or C Yes/No

Support PDP context.

Method of triggering the MS to initiate an uplink packet transfer.

Test procedure

All MS classes, non-RR connection paging.

The MS is triggered to initiate an uplink packet transfer. When SS has received the first PACKET CHANNEL REQUEST message shall PACKET PAGING REQUEST message indicating a non-RR connection be sent to the MS. The MS shall ignore the PACKET PAGING REQUEST message and continue to send PACKET CHANNEL REQUEST messages requesting one or two phase access. The SS sends PACKET ACCESS REJECT to end the test case.

MS class A and class B, RR connection paging.

The MS is triggered to initiate an uplink packet transfer. When SS has received the first PACKET CHANNEL REQUEST message shall PACKET PAGING REQUEST message indicating a RR connection be sent to the MS. The MS shall send CHANNEL REQUEST messages with establishment cause = “Answer to paging”. SS verify that the MS request RR connection. The SS sends IMMEDIATE ASSIGNMENT REJECT to end the test case.

MS class C, RR connection paging.

The MS is triggered to initiate an uplink packet transfer. When SS has received the first PACKET CHANNEL REQUEST message shall PACKET PAGING REQUEST message indicating a RR connection be sent to the MS. The MS shall ignore the PACKET PAGING REQUEST message and continue to send PACKET CHANNEL REQUEST messages requesting one or two phase access. The SS sends PACKET ACCESS REJECT to end the test case.

Maximum duration of the test

1 min.

Expected sequence

All MS classes, non-RR connection paging.

Step	Direction	Message	Comments
1	MS		The MS is triggered to send 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “One or Two Phase Access Request”. Received on PRACH.
3	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH for TBF establishment.
4	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “One or Two Phase Access Request”. Received on PRACH. The SS verifies that the MS continue request One or Two Phase packet Access.
5	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

MS class A and class B, RR connection paging.

Only Network mode I.

Step	Direction	Message	Comments
1	MS		The MS is triggered to send 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “One or Two Phase Access Request”. Received on PRACH.
3	SS -> MS	PACKET PAGING REQUEST (1)	See specific message contents. Sent on PPCH for RR connection.
4	MS -> SS	CHANNEL REQUEST	Establishment cause = Answer to paging”. Received on RACH. The SS verifies that the MS request RR connection.
5	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	

MS class C, RR connection paging.

Step	Direction	Message	Comments
1	MS		The MS is triggered to send 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “One or Two Phase Access Request”. Received on PRACH.
3	SS -> MS	PACKET PAGING REQUEST (1)	See specific message contents. Sent on PPCH for RR connection.
4	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “One or Two Phase Access Request”. Received on PRACH. The SS verifies that the MS request One or Two Phase packet Access.
5	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

Specific message contents

As default messages contents, except:

PACKET PAGING REQUEST (1)

Information element	Value/remark
{1|< Repeated Page info >}	1 (start of Repeated Page info)
{1	1 (page request for RR connection establ.)
{0 < TMSI >	0 (allocated TMSI
< CHANNEL_NEEDED >	00 (any channel type)
{0|1 < eMLPP_PRIORITY >	1 (page request to trigger RR connection)
-eMLPP_PRIORITY}	000 (no priority specified)

42.1.1.3 Packet Channel Request / Access type

42.1.1.3.1 Conformance requirements

If the mobile station intends to use the TBF to send user data, it shall request two phase access if the requested RLC mode is unacknowledged mode. If the requested RLC mode is acknowledged mode and the amount of data can fit in 8 or less than 8 RLC/MAC blocks, the mobile station shall indicate

Short Access as access type. The number of blocks shall be calculated assuming channel coding scheme CS-1. If the requested RLC mode is acknowledged mode and amount of data to send takes more than 8 RLC/MAC blocks, the mobile station shall request either one phase access or two phase access.

Reference

GSM 04.60 subclause 7.1.2.1

42.1.1.3.2 Test purpose

1. To verify that the mobile station indicates Short Access as access type if the amount of data to send can fit in 8 or less than 8 RLC/MAC blocks if the requested RLC mode is acknowledged mode.

2. To verify that the mobile station requests either one phase or two phase access if the amount of data to send takes more than 8 RLC/MAC blocks if the requested RLC mode is acknowledged mode.

3. To verify that the mobile station requests two phase access if the requested RLC mode is unacknowledged mode.

42.1.1.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to send data that can fit in 8 or less RLC data blocks. The SS verifies that the MS indicates Short Access Request as the access type in the PACKET CHANNEL REQUEST message. The SS sends PACKET ACCESS REJECT to end the test case.

The MS is triggered to send data where the amount of data takes more than 8 RLC blocks. The SS verifies that the MS indicates One or Two Phase Access Request as the access type in the PACKET CHANNEL REQUEST message. The SS sends PACKET ACCESS REJECT to end the test case.

Repeat above tests with RLC unacknowledged mode.

Maximum duration of the test

20 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to send data that can fit in 8 or less RLC data blocks.
2	MS -> SS	PACKET CHANNEL REQUEST	SS verifies that the MS indicates Short Access Request as access type. Received on PRACH.
3	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.
4	MS		The MS is triggered to send data where the amount of data takes more than 8 RLC/MAC blocks.
5	MS -> SS	PACKET CHANNEL REQUEST	SS verifies that the MS indicate One or Two Phase Access Request. Received on PRACH.
6	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

Repeat above tests with RLC unacknowledged mode. The SS shall verify that the MS request Two Phase Access in the PACKET CHANNEL REQUEST messages.

Specific message contents

None.

42.1.1.4 Packet Channel Request / Access persistence control on PRACH

42.1.1.4.1 Packet Channel Request / Access persistence control on PRACH / M+1 attempts

42.1.1.4.1.1 Conformance requirements

The mobile station shall make maximally M + 1 attempts to send a PACKET CHANNEL REQUEST message.

Having made M + 1 attempts to send a PACKET CHANNEL REQUEST, the mobile station shall stop timer T3186 and start timer T3170. At expiry of timer T3170, the packet access procedure shall be aborted and the mobile station shall perform an abnormal release with cell re-selection.

Reference

GSM 04.60 subclause 7.1.2.1.1

42.1.1.4.1.2 Test purpose

To verify that the mobile station makes a maximum of M + 1 attempts to send a PACKET CHANNEL REQUEST message, M is the parameter MAX_RETRANS broadcast on PBCCH.

To verify that the mobile station aborts the packet access procedure when the network does not respond to the PACKET CHANNEL REQUEST messages.

42.1.3.1.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access, MAX_RETRANS indicate 1 retransmission and PERSISTENCE_LEVEL P(i)=0.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Test procedure

The SS send PACKET PAGING REQUEST message. The MS is expected to send M+1 PACKET CHANNEL REQUEST messages, M is the parameter MAX_RETRANS broadcast on PBCCH. The SS monitors the MS transmission for a period equal to the maximum length of time it can take to send M+1 PACKET CHANNEL REQUEST messages plus the duration of timer T3170. The SS verifies that the MS makes maximally M+1 attempts to send PACKET CHANNEL REQUEST messages in this period. When the SS not respond the MS shall abort the packet access procedure and perform an abnormal release. The SS sends PACKET UPLINK ASSIGNMENT message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages after a time higher than the duration of timer T3170 and the MS shall not respond to the message.

Repeat the test procedure with the different MAX_RETRANS parameters {2, 4, 7} sent in Packet System Information.

Maximum duration of the test

4 min.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST(n)	n = 1, …, M+1. ACCESS TYPE = “Page response”. Received on PRACH.
.	.	.	
.	.	.	
3	SS		The SS waits M+1 PACKET CHANNEL REQUESTs+ timer T3170 + 0.5s. The SS verifies that the MS makes maximally M+1 attempts to send PACKET CHANNEL REQUEST messages in this period.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Correspond to one of the last 3 messages in step 2. The MS shall not respond to this message. Sent on PAGCH.
5	SS		Change MAX_RETRANS in PSI1 to 2 retransmission.
6			Repeat step 1 to 4 after two PSI1 repeat periods.
7	SS		Change MAX_RETRANS in PSI1 to 4 retransmission.
8			Repeat step 1 to 4 after two PSI1 repeat periods.
9	SS		Change MAX_RETRANS in PSI1 to 7 retransmission.
10			Repeat step 1 to 4 after two PSI1 repeat periods.

Specific message contents

None.

42.1.1.4.2 Packet Channel Request / Access persistence control on PRACH / Persistence level

42.1.1.4.2.1 Conformance requirements

The first attempt to send a PACKET CHANNEL REQUEST message, may be initiated at the first possible TDMA frame containing PRACH on PDCH matching the mobile station's PCCCH_GROUP (see GSM 05.02). For each attempt, the mobile station shall draw a random value R with uniform probability distribution in the set {0, 1, ..., 15}. The mobile station is allowed to transmit a PACKET CHANNEL REQUEST message if P(i), where i is the radio priority of the TBF being established, is less than or equal to R.

Reference

GSM 04.60 subclause 7.1.2.1.1

42.1.1.4.2.2 Test purpose

To verify that for each attempt, the mobile station shall draw a random value R with uniform probability distribution in the set {0, 1, ..., 15}. The mobile station is only allowed to transmit a PACKET CHANNEL REQUEST message if P(i), where i is the radio priority of the TBF being established, is less than or equal to R.

42.1.1.4.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information indicates BS_PCC_CHANS = 3, BS_PAG_BLKS_RES = 2 and BS_PBCCH_BLKS = 3, BS_PRACH_BLKS = 12 (all Blocks reserved for PRACH).

Mobile Station:
The MS is GPRS attached and in packet idle mode.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

Specific test parameters:
K equals the value of 120/(MAX_RETRANS+1).
MAX_RETRANS is chosen from {1, 2, 4, 7}
PERSISTENCE_LEVEL P(i) is chosen from {0, 1, 2, ..., 14, 16}
Counter J is initialized with 0 (total number of received Packet Channel Requests)

The SS sends PACKET PAGING REQUEST message. The MS shall send between 0 and M+1 PACKET CHANNEL REQUEST message indicating page response. The SS verifies that the MS draw a random value R for each attach. Every received Packet Channel Request in response to Packet Paging Request increment counter J by 1. This test sequence is performed K times.

The test is performed with Persistence level set to at least P(i)=0, P(i)=8 and P(i)=16.

Maximum duration of the test

The execution of one sequence (for one value k): 30s

Between two consecutive executions (for k and k+1), the SS must wait for amount of time which is enough to guarantee that the MS is in service (listening to its paging subchannel).

Expected sequence

The sequence is executed for execution counter k = 1, …, K.

Step	Direction	Message	Comments
1	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST	N0 := number of received Packet Channel
3	MS -> SS	PACKET CHANNEL REQUEST	Requests in response to step1; Count for 10 sec. N0;
:	:	:	J = J + N0;
:	:	:	0 ≤ N0 ≤ M+1;
M+2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Page Response”. Received on PRACH.
M+3	SS		SS waits for expiry of T3170
M+4	SS		SS waits to allow Cell Reselection

Editors note:

The 10 sec in steps 2 to M+2 is derived from the following consideration:
Answer time for the first Packet Channel Request: 0,7 sec + 8*4,615 ms
Maximum TDMA frame spread between two successive Packet Channel Requests:
max{S+T-1}*4,615ms= 266 * 4,615ms
=>
maximum time to send M+1 Packet Channel Requests
0,7 sec + 8 * 4,615ms + M * 266 * 4,615ms = 9,33 sec.

Verification

According the test procedure J is B(120 ; 1-P(i)/16) distributed. i.e. we will accept MSs, when the following inequality holds(1-P(i)/16) – 0,0161*sqrt(P(i)*(16 – P(i))) ≤ J/120 ≤ (1-P(i)/16) + 0,0161*sqrt(P(i)*(16 – P(i)))

this confidence interval is chosen in such a way that the possibility of non accepting a correct MS is less than 0,5 %.

Remark: If P(i) = 0 the above inequality is simplified to 1 ≤ J/120 ≤ 1, i.e. J =120, i.e. the MS has to answer every PACKET PAGING REQUEST with M+1 PACKET CHANNEL REQUESTS. And if P(i) = 16 the above inequality is simplified to 0 ≤ J/120 ≤ 0, i.e. J = 0, i.e. the MS is not allowed to send PACKET CHANNEL REQUESTS.

Specific message contents

None.

42.1.1.4.3 Packet Channel Request / Access persistence control on PRACH / Successive Attempts

42.1.1.4.3.1 Conformance requirements

The first attempt to send a PACKET CHANNEL REQUEST message, may be initiated at the first possible TDMA frame containing PRACH on PDCH matching the mobile station's PCCCH_GROUP (see GSM 05.02). For each attempt, the mobile station shall draw a random value R with uniform probability distribution in the set {0, 1, ..., 15}.The mobile station is allowed to transmit a PACKET CHANNEL REQUEST message if P(i), where i is the radio priority of the TBF being established, is less than or equal to R. After each attempt, the S and T parameters are used to determine the next TDMA frame in which it may be allowed to make a successive attempt. The number of TDMA frames belonging to the PRACH on the PDCH defined by the PCCCH group for the mobile station between two successive attempts to send a PACKET CHANNEL REQUEST message excluding the TDMA frames potentially containing the messages themselves is a random value drawn for each transmission with uniform probability distribution in the set {S, S + 1, ..., S + T - 1}.

Reference

GSM 04.60 subclause 7.1.2.1.1

42.1.3.4.3.2 Test purpose

To verify that the number of TDMA frames belonging to the PRACH on the PDCH defined by the PCCCH group for the mobile station between two successive attempts to send a PACKET CHANNEL REQUEST message excluding the TDMA frames potentially containing the messages themselves is a random value drawn for each transmission with uniform probability distribution in the set {S, S + 1, ..., S + T - 1}.

42.1.3.4.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information:
BS_PCC_CHANS = 3, BS_PAG_BLKS_RES = 2 and BS_PBCCH_BLKS = 3.MAX_RETRANS is arbitrarily chosen in the set {1,2,4,7}.
TX_INT is arbitrarily chosen in the set {6, 7, 8, 9, 10, 12, 14, 16, 20, 25, 32, 50}.
S is arbitrarily chosen in the set {12, 15, 20, 30, 41, 55, 76, 109, 163, 217}.
PERSISTENCE_LEVEL P(i) = 0.

Mobile Station:
The MS is GPRS attached and in packet idle mode.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

Specific test parameters:
K equals the upper rounded value of 230/M.

The SS sends PACKET PAGING REQUEST message. The MS shall send PACKET CHANNEL REQUEST messages M+1 times indicating page response. After each attempt, the S and T parameters are used to determine the next TDMA frame in which it may be allowed to make a

successive attempt. The SS measure the number of TDMA frames f(n,k) between each attempt, excluding the slots containing the messages themselves. The SS does not answer the PACKET CHANNEL REQUEST messages MAX_RETRANS times. The SS sends an PACKET ACCESS REJECT message. The test sequence is executed K times.

M is the value of the parameter MAX_RETRANS,

T is the value of the parameter TX_INT,

S is the value of the parameter S.

Maximum duration of the test

The execution of one sequence (for one value k): 10s

Between two consecutive executions (for k and k+1), the SS must wait for amount of time which is enough to guarantee that the MS is in service (listening to its paging subchannel).

Expected sequence

The sequence is executed for execution counter k = 1, …, K.

Step	Direction	Message	Comments
1	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Page Response”. Received on PRACH.
			Step 3-5 are executed for execution counter n=1,…,MAX_RETRANS.
3	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Page Response”. Received on PRACH.
4	SS		See verification.
5	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

Verification

In step 4 the SS measure the number of TDMA frames belonging to the PRACH on the PDCH defined by the PCCCH group for the MS between two successive attempts to send a PACKET CHANNEL REQUEST message excluding the TDMA frames potentially containing the messages themselves. f(n,k) shall be in the set {S, S + 1, ..., S + T - 1}. The SS stores f.

Test:

The following requirement shall be met

((((sq(Sum(S)) + sq(Sum(S+1)) + ... + sq(Sum(S+T-1))) * T/(K*M)) – (K*M) ≤

½ * sq(sqrt(2T-3) + 2,58) + 1,1

Sum(X) := CARD { k | f(n,k) = X} := the number of times that f(n,k) equals X.

The test and the number of sample are chosen in such a way that the possibility of non-accepting a correct MS is less than [0,5%].

Specific message contents

None.

42.1.2 Packet Uplink/Downlink Assignment

42.1.2.1 Packet uplink assignment procedure

42.1.2.1.1 Packet Uplink Assignment / Packet access queuing notification procedure

42.1.2.1.1.1 Packet Uplink Assignment / Packet queuing notification / Stop sending Packet Channel Requests

42.1.2.1.1.1.1 Conformance requirements

On receipt of a PACKET QUEUING NOTIFICATION message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages, the mobile station shall stop timer T3170 if running, start timer T3162, and stop sending PACKET CHANNEL REQUEST messages.

Reference

GSM 04.60 subclause 7.1.2.2.2

42.1.2.1.1.1.2 Test purpose

To verify that the mobile station stops sending PACKET CHANNEL REQUEST messages on receipt of a PACKET QUEUING NOTIFICATION message.

42.1.2.1.1.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information MAX_RETRANS indicates 7 allowed retransmission.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS sends PACKET QUEUING NOTIFICATION message corresponding to one of the last three PACKET CHANNEL REQUEST messages. The SS verifies that the MS stops sending PACKET CHANNEL REQUEST messages. The SS sends PACKET ACCESS REJECT message to end the test procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is powered up or switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
4	SS -> MS	PACKET QUEUING NOTIFICATION	Corresponding to message in step 2. FRAME_NUMBER set to indicating + 2200 frames. Sent on PAGCH. The SS verifies during 10 seconds that MS stop sending PACKET CHANNEL REQUEST messages.
5	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

Specific message contents

None.

42.1.2.1.1.2 Packet Uplink Assignment / Packet queuing notification / Ignoring Packet Queuing Notification

42.1.2.1.1.2.1 Conformance requirements

If the mobile station receives a PACKET QUEUING NOTIFICATION message while waiting for the TBF Starting Time of a valid PACKET UPLINK ASSIGNMENT message, the mobile station shall ignore the PACKET QUEUEING NOTIFICATION.

Reference

GSM 04.60 subclause 7.1.2.2.2

42.1.2.1.1.2.2 Test purpose

To verify that the mobile station ignores the PACKET QUEUEING NOTIFICATION if the mobile station receives a PACKET QUEUING NOTIFICATION message while waiting for the TBF Starting Time of a valid PACKET UPLINK ASSIGNMENT message.

42.1.2.1.1.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS sends PACKET UPLINK ASSIGNMENT message containing a TBF Starting Time. While the MS is waiting for the TBF Starting Time the SS sends a PACKET QUEUING NOTIFICATION message. The MS shall ignore PACKET QUEUING NOTIFICATION message and at the frame number indicated by the TBF Starting Time, the MS shall starts to send the uplink RLC data in the allocated uplink resources. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	See specific message contents. Sent on PAGCH.
4	SS -> MS	PACKET QUEUING NOTIFICATION	See specific message contents. Sent on PAGCH before starting time in step 3 have elapsed.
5		{GPRS Attach procedure}	Macro. Completion from step 4 in the attach procedure. The SS verifies that the first RLC data block sends according to the indicated starting time in step 3.

Specific message contents

As default messages contents, except:

PACKET UPLINK ASSIGNMENT in step 3

Information element	Value/remark
Fixed Allocation < TBF_Starting_Time >	 [Arbitrarily chosen]

PACKET QUEUING NOTIFICATION in step 4

Information element	Value/remark
Packet Request Reference IE < FRAME_NUMBER > < TQI >	 [Arbitrarily chosen] Allocate a TQI to the MS.

42.1.2.1.1.3 Packet Uplink Assignment / Packet queuing notification / Assigned PDCHs

42.1.2.1.1.3.1 Conformance requirements

On receipt of a PACKET UPLINK ASSIGNMENT message following a PACKET QUEUING NOTIFICATION message, the mobile station shall stop timer T3162, start timer T3164, and switch to the assigned PDCHs.

Reference

GSM 04.60 subclause 7.1.2.2.2

42.1.2.1.1.3.2 Test purpose

To verify that the mobile station switches to the assigned PDCHs on receipt of a PACKET UPLINK ASSIGNMENT message after a PACKET QUEUING NOTIFICATION message.

42.1.2.1.1.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS send PACKET QUEUING NOTIFICATION message and sends then PACKET UPLINK ASSIGNMENT message. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach procedure.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET QUEUING NOTIFICATION	See specific message contents. Sent on PAGCH.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Include same TQI as step 3. Sent on PAGCH before timer T3162 expires.
5		{GPRS attach procedure }	Macro. Completion from step 4 in the attach procedure.

Specific message contents

As default messages contents, except:

PACKET QUEUING NOTIFICATION in step 3

Information element	Value/remark
Packet Request Reference IE	
< FRAME_NUMBER >	[Arbitrarily chosen]
< TQI >	Allocate a TQI to the MS.

42.1.2.1.1.4 Packet Uplink Assignment / Packet queuing notification / Expiry of timer T3162

42.1.2.1.1.4.1 Conformance requirements

On receipt of a PACKET QUEUING NOTIFICATION message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages the mobile station shall stop timer T3170 if running, start timer T3162 and stop sending PACKET CHANNEL REQUEST messages. On receipt of a PACKET UPLINK ASSIGNMENT message following a PACKET QUEUING NOTIFICATION message, the mobile station shall stop timer T3162, start timer T3164, and switch to the assigned PDCHs.On expiry of timer T3162, the packet access procedure shall be aborted and a packet access failure indicated to the upper layer.

Reference

GSM 04.60 subclause 7.1.2.2.2, subclause 13.1.

42.1.2.1.1.4.2 Test purpose

1. To verify that the MS waits T3162 seconds before aborting the packet access procedure on receipt of a PACKET QUEUING NOTIFICATION message.

2. To verify that the mobile station listening to its paging channel after a time greater than timer T3162.

42.1.2.1.1.4.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.

Mobile Station:
The MS is GPRS attached and in packet idle mode.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

The SS page the MS with a PACKET PAGING REQUEST message. The SS sends PACKET QUEUING NOTIFICATION message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages. The SS waits until T3162 seconds elapse and sends an PACKET UPLINK ASSIGNMENT message which shall be ignored by the MS since the access procedure should be aborted.

The SS page the MS with a PACKET PAGING REQUEST message. The SS verifies that the MS respond to the paging request and sends PACKET QUEUING NOTIFICATION message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages. The SS sends a PACKET UPLINK ASSIGNMENT message before T3162 seconds elapse and the MS shall complete the uplink data transfer containing the paging response.

Maximum duration of the test

1 min.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Page response”. Received on PRACH.
3	SS -> MS	PACKET QUEUING NOTIFICATION	Allocate a TQI to the MS. Sent on PAGCH.
4	SS		The SS waits T3162 + 0.1*T3162 .
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Include same TQI as in step 3 and dynamic allocation struct. Sent on PAGCH.
6	SS		The SS verifies for 5 s that the MS does not respond.
7	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
8	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = “Page response”. Received on PRACH.
9	SS -> MS	PACKET QUEUING NOTIFICATION	Allocate a TQI to the MS. Sent on PAGCH.
10	SS		The SS waits T3162 - 0.1*T3162 .
11	SS -> MS	PACKET UPLINK ASSIGNMENT	Include same TQI as in step 9, dynamic allocation struct. Sent on PAGCH.
12	MS -> SS	UPLINK RLC DATA BLOCK	LLC PDU implicitly indicating paging response. Received on uplink PDTCH assigned in step 11.
13	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data block, Final Ack Indicator = “1”. Sent on PACCH
14	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Acknowledge the RLC control message. Received on PACCH.

Specific message contents

None.

42.1.2.1.2 Packet Uplink Assignment / Response to packet polling request

42.1.2.1.2.1 Conformance requirements

On receipt of a PACKET POLLING REQUEST message, the mobile station shall restart the timer T3162 and respond to the network with the PACKET CONTROL ACKNOWLEDGEMENT message in the reserved uplink radio block specified by the RRBP field.

Reference

GSM 04.60 subclause 7.1.2.2.3

42.1.2.1.2.2 Test purpose

To verify that the mobile station responds to the Network with a PACKET CONTROL ACKNOWLEDGEMENT message in the reserved uplink radio block specified by the RRBP field on

receipt of a PACKET POLLING REQUEST message. The message from the network shall be sent in a way that the timer T3162 must have been restarted on receipt of the PACKET POLLING REQUEST message.

42.1.2.1.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information ACCESS_BURST_TYPE indicates 8 bit access and CONTROL_ACK_TYPE indicates four access bursts.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to transfer data. The SS sends a PACKET QUEUING NOTIFICATION message and sends then a PACKET POLLING REQUEST message after 10 seconds. On receipt of PACKET POLLING REQUEST message the MS shall respond with PACKET CONTROL ACKNOWLEDGEMENT message as four access bursts. The SS sends an PACKET UPLINK ASSIGNMENT message 10 seconds after the PACKET POLLING REQUEST message, the delay of the message is to verify that the timer T3162 must have been restarted. The uplink data transfer is completed.

Maximum duration of the test

30 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET QUEUING NOTIFICATION	Allocate a TQI to the MS. Sent on PAGCH.
4	SS		Wait 10s
5	SS -> MS	PACKET POLLING REQUEST	Include same TQI as step 3. Sent on PAGCH.
6	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the uplink block specified by the RRBP field on PACCH as four access bursts.
7	SS		The SS wait 10s following the packet polling request, SS verifies that the message in step 6 was received.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Include same TQI as step 3, dynamic allocation struct and USF_GRANULARITY = four blocks. Sent on PAGCH.
9		{Uplink data transfer, dynamic allocation}	Macro. Completion from step 4 in the TBF procedure.

Specific message contents

None.

42.1.2.1.3 Packet Uplink Assignment / Packet access reject procedure

42.1.2.1.3.1 Packet Uplink Assignment / Packet access reject / Action during Wait_Indication

42.1.2.1.3.1.1 Conformance requirements

On receipt of a PACKET ACCESS REJECT message containing a WAIT_INDICATION field in a Reject structure addressed to the mobile station, where the Packet Request Reference in the Reject structure corresponds to one of its three last PACKET CHANNEL REQUEST messages, the mobile station shall stop sending PACKET CHANNEL REQUEST messages, start timer T3172 with the value indicated in the WAIT_INDICATION field, start timer T3162 if it has not already been started and listen to the downlink PCCCH until timer T3162 expires. During this time, the mobile station shall ignore additional PACKET ACCESS REJECT message, but on reception of any PACKET UPLINK ASSIGNMENT message corresponding to any other of its 3 last PACKET CHANNEL REQUEST MESSAGE the mobile station shall stop timers T3162 and T3172 and switch to the assigned PDCHs.

Reference

GSM 04.60 subclause 7.1.2.2.4

42.1.2.1.3.1.2 Test purpose

To verify that the mobile station stops sending PACKET CHANNEL REQUEST messages on receipt of a PACKET ACCESS REJECT message containing a WAIT_INDICATION field.

To verify that the mobile station ignores additional PACKET ACCESS REJECT messages, but on reception of any PACKET UPLINK ASSIGNMENT message corresponding to any other of its 3 last PACKET CHANNEL REQUEST messages the mobile station shall switch to the assigned PDCHs if the message is received before timer T3162 expire.

42.1.2.1.3.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information MAX_RETRANS indicates 7 retransmissions.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedures

The MS is switched on and triggered to perform a GPRS attach. The SS sends PACKET ACCESS REJECT message with WAIT_INDICATION field corresponding to one of the last three PACKET CHANNEL REQUEST messages. The SS verifies that the MS does not send further PACKET CHANNEL REQUEST messages. The SS sends a new PACKET ACCESS REJECT message without WAIT_INDICATION field The SS shall then send a PACKET UPLINK ASSIGNMENT message corresponding to one of the last three sent PACKET CHANNEL REQUEST messages before the time indicated in the first PACKET ACCESS REJECT message. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
4	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
5	SS -> MS	PACKET ACCESS REJECT	Containing WAIT_INDICATION = 15 seconds and packet request reference = pertaining to message received in step 2. Sent on PAGCH.
6	SS		The SS check for 5 seconds that the MS not sends PACKET CHANNEL REQUEST messages.
7	SS -> MS	PACKET ACCESS REJECT	Without WAIT_INDICATION. Sent on PAGCH before the time indicated in step 5 elapsed. The MS shall not consider this message.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Random Reference = pertaining to message received in step 2. Sent on PAGCH before the time indicated in step 5 elapsed.
9		{GPRS attach procedure}	Macro. Completion from step 4 in the attach procedure.

Specific message contents

None.

42.1.2.1.3.2 Packet Uplink Assignment / Packet access reject / No respond

42.1.2.1.3.2.1 Conformance requirements

On receipt of a PACKET ACCESS REJECT message containing a WAIT_INDICATION field in a Reject structure addressed to the mobile station, where the Packet Request Reference in the Reject structure corresponds to one of its 3 last PACKET CHANNEL REQUEST messages, - the mobile station is not allowed to make a new attempt for packet access in the same cell until timer T3172 expires, but may attempt packet access in an other cell after successful cell reselection. A mobile station in an other cell after successful cell reselection. A mobile station in class A or B mode of operation may attempt to enter the dedicated mode in the same cell before timer T3172 has expired. During the time T3172 is running, the mobile station shall ignore all received PACKET PAGING REQUEST messages except paging request to trigger RR connection establishment.

Reference

GSM 04.60 subclause 7.1.2.2.4

42.1.2.1.3.2.2 Test purpose

To verify that the mobile station ignores PACKET PAGING REQUEST messages request TBF establishment during the time T3172 is running.

42.1.2.1.3.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode.

Related PICS/PIXIT statement

Support GPRS service.

Supporting GPRS MS class A and MS class B.

Test procedure

The SS sends a PACKET PAGING REQUEST message. After response from the MS the SS sends PACKET ACCESS REJECT message with WAIT_INDICATION set to a value between 1-255 seconds(see specific message contents). The SS sends then a PACKET UPLINK ASSIGNMENT message after timer T3162 has elapse. The SS verifies that the MS not respond to the message. The SS sends a PACKET PAGING REQUEST message request TBF establishment before the wait indication has elapse. The SS verifies that the MS not respond to the message. The SS sends a PACKET PAGING REQUEST message request TBF establishment after the wait indication has elapse. The SS verifies that the MS respond to the message.

The test procedures shall be repeated with different chosen values of WAIT INDICATION.

Maximum duration of the test

10 min.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PACKET PAGING REQUEST	Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET ACCESS REJECT	See specific message contents. Sent on PAGCH.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Send this message after timer T3162 has expires on PAGCH.
5	SS		Verify for 5 seconds that the MS not respond to message in step 4.
6	SS -> MS	PACKET PAGING REQUEST	Request TBF establishment. Send this message after (WAIT INDICATION (step 3) - 0,1* WAIT INDICATION) on PPCH.
7	SS		Verify that the MS not respond to message in step 4.
8	SS -> MS	PACKET PAGING REQUEST	Request TBF establishment. Send this message after (WAIT INDICATION (step 3) + 0,1* WAIT INDICATION) on PPCH.
9	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
10	SS		Verify that the MS respond to message in step 8.

The test is repeated with different values of WAIT INDICATION, see specific message contents.

Specific message contents

As default messages contents, except:

PACKET ACCESS REJECT in step 3

Information element	Value/remark
< WAIT_INDICATION >	Set values between 1-255, see below.
< WAIT_INDICATION_SIZE >	0 (units of seconds)

Case 1 : WAIT_INDICATION = 60.

Case 2 : WAIT_INDICATION = 240.

42.1.2.1.3.3 Packet Uplink Assignment / Packet access reject / PRACH Control Parameter decoding

On receipt of a PACKET ACCESS REJECT message that contains a Reject structure addressed to the mobile station without a WAIT_INDICATION field, the mobile station shall stop timer T3162 if running and return to packet idle mode. Before initiating a new packet access procedure, the mobile station shall decode the PRACH Control Parameters if they are broadcast.

42.1.2.1.3.3.1 Conformance requirements

The mobile station shall decode the PRACH Control Parameters if they are broadcast.

Reference

GSM 04.60 subclause 7.1.2.2.4

42.1.2.1.3.3.2 Test purpose

To verify that the mobile station decodes the PRACH Control Parameters anew on receipt of a PACKET ACCESS REJECT message.

42.1.2.1.3.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS shall save the MS action when sending Packet Channel Request regarding the PRACH Control Parameters. Change packet system information PRACH Control Parameters. The SS sends PACKET ACCESS REJECT message and the MS shall return to idle mode.

The MS will reinitiate the GPRS attach. The SS shall verify that the change of the PRACH Control Parameters has influenced the Packet Channel Request message in a correct way. The SS shall send PACKET ACCESS REJECT message.

Maximum duration of the test

1 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST (n)	n = 1,.., M+1. Received on PRACH.
3	SS		The SS verifies for 5 seconds that the MS send M+1 messages in step 2.
4	SS -> MS	PACKET SYSTEM INFORMATION	The PRACH Control Parameter MAX_RETRANS in PSI1 is changed to 2 retransmission allowed. Sent on PBCCH.
5	SS -> MS	PACKET ACCESS REJECT	No WAIT_INDICATION field. Sent on PAGCH. The MS shall return to packet idle mode.
6	SS		Waits until the MS has reinitiated the GPRS attach procedure.
7	MS -> SS	PACKET CHANNEL REQUEST (n)	n = 1,.., M+1. Received on PRACH.
8	SS		The SS verifies for 5 seconds that the MS send M+1 messages in step 7 according to the change in step 4.
9	SS -> MS	PACKET ACCESS REJECT	Sent on PAGCH.

Specific message contents

None.

42.1.2.1.4 Packet Uplink Assignment / Packet Uplink Assignment handling

42.1.2.1.4.1 Conformance requirements

On receipt of a PACKET UPLINK ASSIGNMENT message corresponding to one of its 3 last PACKET CHANNEL REQUEST messages, the mobile station shall stop timer T3170 if running, stop sending PACKET CHANNEL REQUEST messages, and switch to the assigned PDCHs.

Reference

GSM 04.60 subclause 7.1.2.2.1

42.1.2.1.4.2 Test purpose

To verify that the mobile station stops sending PACKET CHANNEL REQUEST messages and switches to the assigned PDCHs on receipt of a PACKET UPLINK ASSIGNMENT message.

42.1.2.1.4.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information MAX_RETRANS indicates 7 allowed retransmission.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Foreseen final state of the MS

Packet idle mode.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message corresponding to one of the last 3 PACKET CHANNEL REQUEST messages from the MS. The SS verifies that the MS stops sending PACKET CHANNEL REQUEST messages. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Respond to requests message in step 2. Sent on PAGCH with dynamic allocation struct. The SS shall verify for 4.5 seconds that the MS stops sending packet channel request messages.
5		{GPRS attach procedure }	Macro. Completion from step 4 in the attach procedure.

Specific message contents

None.

42.1.2.1.5 Packet Uplink Assignment / One or two phase access

42.1.2.1.5.1 Conformance requirements

A mobile station that has not indicated Measurement Report in the PACKET CHANNEL REQUEST message shall perform a two phase access if the Single Block Allocation struct is included in the PACKET UPLINK ASSIGNMENT message, or a one phase access if the Dynamic Allocation or Fixed Allocation struct is included.

Reference

GSM 04.60 subclause 7.1.2.2.1

42.1.2.1.5.2 Test purpose

To verify that the mobile station proceeds with one phase access or two phase access according to the parameters in the PACKET UPLINK ASSIGNMENT message.

42.1.2.1.5.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedures

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message with Dynamic Allocation struct information field, the MS shall proceed with a one-phase access. The SS allows the MS to complete the GPRS attach procedure. Switch off the MS.

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message with Fixed Allocation struct information field, the MS shall proceed with a one-phase access. The SS allows the MS to complete the GPRS attach procedure. Switch off the MS.

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message with Single Block Allocation struct information field, the MS shall perform a two-phase access i.e. it should transmit a PACKET RESOURCE REQUEST message on the allocated uplink resource. The SS responds with a PACKET UPLINK ASSIGNMENT message with Dynamic Allocation struct information field. The SS allows the MS to complete the GPRS attach procedure. Switch off the MS.

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message with Single Block Allocation struct information field, the MS shall perform a two-phase access i.e. it should transmit a PACKET RESOURCE REQUEST message on the allocated uplink resource. The SS responds with a PACKET UPLINK ASSIGNMENT message with Fixed Allocation struct information field. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

2 min.

Expected sequences

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Dynamic Allocation struct information. Sent on PAGCH.
4		{GPRS attach procedure }	Macro. Completions from step 4 in the attach procedure as one phase access.
5	MS		Switch off the MS.
6	MS		The MS is switched on and triggered to perform a GPRS attach.
7	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Fixed Allocation struct information. Sent on PAGCH.
9	MS -> SS	Uplink RLC data blocks (GMM ATTACH REQUEST)	
10	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH to acknowledge the data blocks.
11	SS -> MS	PACKET DOWNLINK ASSIGNMENT	
12	SS -> MS	Downlink RLC data blocks (GMM ATTACH ACCEPT)	
13	MS -> SS	PACKET DOWNLINK ACK/NACK	Received on PACCH.
14	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
15	SS -> MS	PACKET UPLINK ASSIGNMENT	Fixed Allocation struct information. Sent on PAGCH.
16	MS -> SS	Uplink RLC data blocks (GMM ATTACH COMPLETE)	
17	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH to acknowledge the data blocks.
18	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	
19	MS		Switch off the MS.
20	MS		The MS is switched on and triggered to perform a GPRS attach.
21	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
22	SS -> MS	PACKET UPLINK ASSIGNMENT	Single Block Allocation struct information. Sent on PAGCH.
23	MS -> SS	PACKET RESOURCE REQUEST	Received on PACCH.
24	SS -> MS	PACKET UPLINK ASSIGNMENT	Dynamic Allocation struct information. Sent on PAGCH.
25		{ GPRS attach procedure }	Macro. Completion from step 4 in the attach procedure.
26	MS		Switch off the MS.

27	MS		The MS is switched on and triggered to perform a GPRS attach.
28	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
29	SS -> MS	PACKET UPLINK ASSIGNMENT	Single Block Allocation struct information. Sent on PAGCH.
30	MS -> SS	PACKET RESOURCE REQUEST	Received on PACCH.
31	SS -> MS	PACKET UPLINK ASSIGNMENT	Fixed Allocation struct information. Sent on PAGCH.
32	MS -> SS	Uplink RLC data blocks (GMM ATTACH REQUEST)	
33	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH to acknowledge the data blocks.
34	SS -> MS	PACKET DOWNLINK ASSIGNMENT	
35	SS -> MS	Downlink RLC data blocks (GMM ATTACH ACCEPT)	
36	MS -> SS	PACKET DOWNLINK ACK/NACK	Received on PACCH.
37	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
38	SS -> MS	PACKET UPLINK ASSIGNMENT	Single Block Allocation struct information. Sent on PAGCH.
39	MS -> SS	PACKET RESOURCE REQUEST	Received on PACCH.
40	SS -> MS	PACKET UPLINK ASSIGNMENT	Fixed Allocation struct information. Sent on PAGCH.
41	MS -> SS	Uplink RLC data blocks (GMM ATTACH COMPLETE)	
42	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH to acknowledge the data blocks.
43	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	

Specific message contents

None.

42.1.2.1.6 Packet Uplink Assignment / Decoding of frequency parameters

42.1.2.1.6.1 Conformance requirements

The mobile station may use information received on PBCCH, BCCH or a previous assignment message to decode the frequency parameters contained in the assignment message. If the mobile station detects an invalid Frequency Parameters information element in the assignment message, it shall abort the procedure, if required initiate a partial acquisition of PBCCH or BCCH, and may then re-initiate this procedure.

When the indirect encoding is used, the network may include a CHANGE_MARK_1 and a CHANGE_MARK_2 in the Frequency Parameters information element. The mobile station shall then verify that it is using a set of PBCCH or BCCH information identified by a PSI or SI *change mark* corresponding to one of the CHANGE_MARK_1 or 2 parameters, for the decoding of the frequency information. If that is not the case, an abnormal condition occurs.

Reference

GSM 04.60 subclause 7.1.2.2.1, subclause 5.5.1.7.

42.1.2.1.6.2 Test purpose

To verify that the mobile station uses information received on PBCCH to decode the frequency parameters contained in the assignment message and when the mobile station receives a PACKET UPLINK ASSIGNMENT message with an invalid frequency parameters information element the mobile station shall abort the procedure.

42.1.2.1.6.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. Packet system information PSI2 including frequency hopping parameters.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS send a PACKET UPLINK ASSIGNMENT message containing frequency parameter information elements. The SS allows the MS to complete the GPRS attach procedure. The MS is switched off, then switched on again and triggered to perform a GPRS attach. The SS sends PACKET UPLINK ASSIGNMENT message containing an invalid frequency parameter as respond to the PACKET CHANNEL REQUEST message from the MS. The SS verifies that the MS abort the GPRS attach procedure.

Maximum duration of the test

30 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Include frequency parameters see specific message contents. Sent on PAGCH.
4		{GPRS attach procedure}	Macro. Completion from step 4 in the attach procedure.
5	MS		Switch off the MS.
6	MS		The MS is switched on and triggered to perform a GPRS attach.
7	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Include invalid frequency parameter see specific message contents. Sent on PAGCH.
9	SS		The SS verifies that the MS abort the GPRS attach procedure.

Specific message contents

As default messages contents, except:

PACKET SYSTEM INFORMATION type 2 in initial condition

Information element	Value/remark
< PSI2_CHANGE_MARK >	00
< PCCCH Description List struct >	
< TSC >	arbitrarily chosen
{0|1< Hopping PCCCH carriers >	1
< MA_NUMBER	0001 (List 1)
< Hopping PCCCH carriers struct >	
< Hopping PCCCH carriers struct >	
< MAIO >	arbitrarily chosen
< TIMESLOT_ALLOCATION	000000100 (timeslot 2)

PACKET UPLINK ASSIGNMENT in step 3

Information element	Value/remark
{0|1< Frequency Parameters >} < Frequency Parameters IE > < TSC > < Indirect encoding struct > < MAIO > < MA_NUMBER > {0|1< CHANGE_MARK_1 > - CHANGE_MARK_1} {0|1< CHANGE_MARK_2 >}	1 (hopping channel) Same as PSI2. 01 (Indirect encoding) Same as PSI2. Same as PSI2. 1 (CHANGE_MARK_1 present) 00 (same change mark as PSI2_CHANGE_MARK) 0 (no CHANGE_MARK_2)

PACKET UPLINK ASSIGNMENT in step 8

Information element	Value/remark
{0|1< Frequency Parameters >} < Frequency Parameters IE > < TSC > < Indirect encoding struct > < MAIO > < MA_NUMBER > {0|1< CHANGE_MARK_1 > - CHANGE_MARK_1} {0|1< CHANGE_MARK_2 >}	1 (hopping channel) Same as PSI2. 01 (Indirect encoding) Same as PSI2. Same as PSI2. 1 (CHANGE_MARK_1 present) 01 (which mismatches PSI2_CHANGE_MARK) 0 (no CHANGE_MARK_2)

42.1.2.1.7 Packet Uplink Assignment / Most recently received Packet Uplink Assignment

42.1.2.1.7.1 Conformance requirements

A PACKET UPLINK ASSIGNMENT message may indicate an assignment starting time in the TBF Starting Time parameter. The mobile station shall monitor PCCCH until the point in time denoted by the TBF Starting Time. If while monitoring the PCCCH the mobile station receives more than one PACKET UPLINK ASSIGNMENT message, it shall act upon the most recently received message and shall ignore the previous message.

Reference

GSM 04.60 subclause 7.1.2.2.1

42.1.2.1.7.2 Test purpose

To verify that the mobile station monitors PCCCH until the point in time denoted by the TBF Starting Time and that the mobile station acts on the most recently received Packet Uplink Assignment.

42.1.2.1.7.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Method of trigger GPRS attach.

Test procedure

The MS is switched on and triggered to perform a GPRS attach. The SS sends PACKET UPLINK ASSIGNMENT message with a TBF starting time. Then send a new PACKET UPLINK ASSIGNMENT message with another TBF starting time and a different timeslot on PCCCH before the first TBF starting time has elapse. The MS shall start to send the RLC data block on the allocated uplink according to the second TBF starting time. The SS allows the MS to complete the GPRS attach procedure.

Maximum duration of the test

15 s.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach procedure.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	See specific message contents. Sent on PAGCH.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	See specific message contents. Sent on PAGCH.
5		{GPRS attach procedure}	Macro. Completion from step 4 in the attach procedure. Sent on allocated uplink resource. The SS verifies that the MS starts to send data according to information in step 4.

Specific message contents

As default messages contents, except:

PACKET UPLINK ASSIGNMENT in step 3

Information element	Value/remark
Dynamic allocation struct < TIMESLOT_ALLOCATION > < TBF_STARTING_TIME >	 00010000, allocate timeslot 3. Arbitrarily chosen, high enough so the next message will be sent before the time has elapsed.

PACKET UPLINK ASSIGNMENT in step 4

Information element	Value/remark
Dynamic allocation struct < TIMESLOT_ALLOCATION > < TBF_STARTING_TIME >	 00000010, allocate timeslot 6. Arbitrarily chosen.

42.1.2.1.8 Packet Uplink Assignment / One phase access

42.1.2.1.8.1 Packet Uplink Assignment / One phase access / Contention Resolution

Contention resolution is completed on the mobile station when the mobile station receives a PACKET UPLINK ACK/NACK message with the same TLLI as the mobile station has included in the RLC header of the first RLC data blocks. The mobile station shall then stop timer T3166 and counter N3104.

At sending of the first RLC data block, the mobile station shall stop timer T3164, set counter N3104 to 1, and start timer T3166. Counter N3104 shall be stepped each time the mobile station sends an RLC data block.

42.1.2.1.8.1.1 Packet Uplink Assignment / One phase access / Contention resolution / Inclusion of TLLI in RLC data blocks

42.1.2.1.8.1.1.1 Conformance requirements

In order to uniquely identify the mobile station when sending on uplink, the RLC Header is extended to include the TLLI of the mobile station until contention resolution is completed on the mobile station side.

All the RLC data blocks of an uplink TBF initiated by one phase access shall each contain a TLLI field in the RLC data block header until the contention resolution is completed on the mobile station side. After the reaction time specified in GSM 05.10 no other RLC data blocks shall contain a TLLI field.

The TLLI_BLOCK_CHANNEL_CODING parameter in the PACKET UPLINK ASSIGNMENT message indicates whether a RLC data block containing a TLLI field in the RLC data block header shall be encoded using CS-1 or using the channel coding scheme commanded.

The mobile station shall send all other RLC data blocks using the channel coding scheme commanded.

Upon contention resolution during one phase access, the mobile station shall start transmitting RLC data blocks without the TLLI field no later than the next occurrence of block B((x+3) mod 12) where block B(x) is the radio block containing the contention resolution message.

Reference

GSM 04.60 subclause 7.1.2.3, subclause 8.1.1, GSM 05.10 subclause 6.11.3.

42.1.2.1.8.1.1.2 Test purpose

1. To verify that in one phase access the first RLC data blocks of an uplink TBF contain a TLLI field in the RLC data block header and that these blocks are encoded according to the TLLI_BLOCK_CHANNEL_CODING parameter specified in the PACKET UPLINK ASSIGNMENT message.

2. To verify that upon contention resolution during one phase access the RLC data blocks not contain a TLLI field and are encoded using the CHANNEL_CODING_COMMAND parameter included in the PACKET_UPLINK_ASSIGNMENT after the contention resolution reaction time.

42.1.2.1.8.1.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to transfer an LLC PDU. The SS sends PACKET UPLINK ASSIGNMENT message containing Dynamic Allocation struct. The MS shall start to send RLC data and RLC/MAC control blocks on the allocated uplink. The SS allows the MS to send the uplink data transfer. The SS verifies the coding is the scheme specified by TLLI_BLOCK_CHANNEL_CODING, the TFI is correct and the block contains TLLI in the first RLC data blocks. After contention resolution reaction time shall the remaining RLC data blocks contain coding scheme specified by CHANNEL_CODING_COMMAND, the TFI shall be correct and the blocks do not contain TLLI.

Maximum duration of the test

3 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 500 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Dynamic allocation struct, USF_GRANULARITY = one block, Sent on PAGCH.
4	SS -> MS	PACKET DOWLINK DUMMY CONTROL BLOCK	Sent on the PACCH of the PDCH assigned in step 3, containing USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that the coding is the scheme specified by TLLI_BLOCK_CHANNEL_CODING, the TFI is correct and the block contains TLLI.
6	SS		Check that there is no RLC data block transmitted by the MS in the next radio block on PDTCH.
7	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH 3 blocks after step 4, containing USF assigned to the MS.
8	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that if the RLC data block is received after the contention resolution reaction time the coding is the scheme specified by CHANNEL_CODING_COMMAND, the TFI is correct and the block does not contain TLLI otherwise the content should be as comments in step 5.
9	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH assigned in step 3, containing USF assigned to the MS.
10	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that the coding is the scheme specified by CHANNEL_CODING_COMMAND, the TFI is correct and the block does not contain TLLI.
11			Repeat step 9 and 10 until the countdown value CV=0 in step 10.
12	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP. Sent on PACCH of the assigned PDCH.
13	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific message contents

PACKET UPLINK ASSIGNMET message in step 3:

{0 < Global TFI > |10 < TLLI > |110 < TQI > |111 < Packet Request Reference >}	111 (Packet Request Reference, information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received)
< CHANNEL_CODING_COMMAND >	arbitrarily chosen but different from TLLI_BLOCK_CHANNEL_CODING
< TLLI_BLOCK_CHANNEL_CODING >	CS-1

PACKET UPLINK ACK/NACK message in step 7:

{0|1< CONTENTION_RESOLUTION_TLLI > - CONTENTION_RESOLUTION_TLLI}	1 the value received in step 5.

42.1.2.1.8.1.2 Packet Uplink Assignment / One phase access / Contention resolution / Counter N3104

42.1.2.1.8.1.2.1 Conformance requirements

Contention resolution has failed on the mobile station side when the counter N3104 has reached its maximum value, or on expiry of timer T3166, or if the mobile station receives a PACKET UPLINK ACK/NACK message with the right TFI but with a another TLLI than the mobile station has included in the RLC header of the first RLC data blocks. The mobile station shall then reset the counter N3104, stop timer T3166 if not expired, immediately stop transmitting on this TBF and reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference

GSM 04.60 subclause 7.1.2.3

42.1.2.1.8.1.2.2 Test purpose

To verify that the mobile station correctly sets and considers counter N3104.

Note

Counter N3104 is incremented by 1 with each new RLC/MAC block the mobile station sends until the first PACKET UPLINK ACK/NACK message is received.

Its maximum value is N3104_MAX = 3 * BS_CV_MAX * no-of-timeslots-assigned, where BS_CV_MAX is broadcast in PSI1.

42.1.2.1.8.1.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information BS_CV _MAX value = 1.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to initiate packet uplink transfer of an LLC PDU. The SS assigns packet uplink resources in a PACKET UPLINK ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks.. The SS verifies that the MS stops transmitting and re-initiates the packet access procedure.

At the second attempt, the SS sends PACKET UPLINK ACK/NACK exactly after N3104_MAX - 1 data blocks. The SS verifies that this time the MS does not abort the access procedure and successfully completes uplink transfer.

Maximum duration of the test

5 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 500 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted and CS-1. Sent on PAGCH.
4	MS -> SS	n RLC data blocks	SS receives n = N3104_MAX data blocks. Received on the assigned PDTCH.
5	SS		SS verifies that MS does not send further RLC data blocks.
6	MS -> SS	PACKET CHANNEL REQUEST	MS re-initiates packet access procedure. Received on PRACH.
7	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted. Sent on PAGCH.
8	MS -> SS	n-1 RLC data blocks	SS receives N3104_MAX – 1 data blocks. Received on the assigned PDTCH.
9	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
10		{Uplink data transfer, dynamic allocation}	Macro. Completion of the macro procedure.

Specific message contents

None.

42.1.2.1.8.1.3 Packet Uplink Assignment / One phase access / Contention resolution / Timer T3166

42.1.2.1.8.1.3.1 Conformance requirements

The contention resolution has failed on the mobile station side when the counter N3104 has reached its maximum value, or on expiry of timer T3166, or if the mobile station receives a PACKET UPLINK ACK/NACK message with the right TFI but with a another TLLI than the mobile station has included in the RLC header of the first RLC data blocks. The mobile station shall then reset the counter N3104, stop timer T3166 if not expired, immediately stop transmitting on this TBF and reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference

GSM 04.60 subclause 7.1.2.3

42.1.2.1.8.1.3.2 Test purpose

To verify that the mobile station correctly considers timer T3166.

42.1.2.1.8.1.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access and BS_CV _MAX value = 15.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Foreseen final state of the MS

Packet idle mode.

Test procedure

The MS is triggered to initiate packet uplink transfer of an LLC PDU. The SS assigns packet uplink resources in a PACKET UPLINK ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks. The SS reduces the block transfer rate by controlling the USF flag. In this way, the SS forces T3166 (with value 5 s.) to expire before counter N3104 reaches N3104_MAX (with value 45 blocks for current settings). The SS verifies that the MS stops transmitting and re-initiates the packet access procedure.

At the second attempt, the SS sends PACKET UPLINK ACK/NACK before T3166 expire. The SS verifies that this time the MS does not abort the access procedure and successfully completes the data transfer.

Maximum duration of the test

5 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 1000 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted, CS-1 shall be used and USF_GRANULARITY = one block. Sent on PAGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF addressing the MS. Sent on PACCH of PDCH assigned in step 3.
5	MS -> SS	RLC data block	Received on the assigned PDTCH.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
8	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
9	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
11	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
12	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
14	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
15	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
16	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS. Sent on PACCH.
17	MS<->SS		Steps 4 to 16 are repeated at most 22 times or until MS does not send further RLC data blocks at step 5. Note: steps 4 to 16 transfer one block every 52 frames, or 240 ms. 22 repetitions require about 5.5 s. (Timer T3166 shall expire).
19	MS -> SS	PACKET CHANNEL REQUEST	MS re-initiates packet access procedure. Received on PRACH.

20	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted, CS-1 shall be used and USF_GRANULARITY = one block. Sent on PAGCH.
21	MS<->SS		Steps 4 to 16 are repeated 17 times. Note: 17 repetitions require about 4.3 s. (Timer T3166 should not expire).
22 23	SS -> MS	PACKET UPLINK ACK/NACK {Uplink data transfer, dynamic allocation}	Sent on PACCH. Macro. Completion of the TBF procedure.

Specific message contents

None.

42.1.2.1.8.1.4 Packet Uplink Assignment / One phase access / Contention resolution / TLLI mismatch

42.1.2.1.8.1.4.1 Conformance requirements

The contention resolution has failed on the mobile station side when the counter N3104 has reached its maximum value, or on expiry of timer T3166, or if the mobile station receives a PACKET UPLINK ACK/NACK message with the right TFI but with a another TLLI than the mobile station has included in the RLC header of the first RLC data blocks. The mobile station shall then reset the counter N3104, stop timer T3166 if not expired, immediately stop transmitting on this TBF and reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference

GSM 04.60 subclause 7.1.2.3

42.1.2.1.8.1.4.2 Test purpose

To verify that the mobile station reinitiates packet access when it receives a PACKET UPLINK ACK/NACK message with the correct TFI but with a TLLI other than the mobile station has included in the RLC header.

42.1.2.1.8.1.4.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to initiate packet uplink transfer of an LLC PDU. The SS assigns packet uplink resources in a PACKET UPLINK ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data block after SS has assigned USF to the MS. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including correct TFI and incorrect TLLI. The SS continue to assign USF to the MS. The SS shall verify that the MS immediately stops transmitting (see note below) and retries packet access procedure.

At the second attempt, the SS sends PACKET UPLINK ACK/NACK including a correct TLLI. The SS verifies that this time the MS does not abort the access procedure and successfully completes the data transfer.

Note:

A mobile station, receiving a commanding message in block number N, shall take an “immediate” action as a result of the command, starting in any block from block number N+1 to N+6 (inclusive).

Maximum duration of the test

5 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation struct and USF_GRANULARITY = one block. Sent on PAGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Contained USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
6	SS -> MS	PACKET UPLINK ACK/NACK	Assign USF to the MS, include correct TFI and incorrect TLLI. Sent on PACCH.
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Execute step 7 six times with USF assigned to the MS or until the MS sends Packet Channel request in step 8. The SS verifies that the MS does not transmit more than 6 uplink RLC data block after step 6 and before step 8.
8	MS -> SS	PACKET CHANNEL REQUEST	MS re-initiates packet access procedure. Received on PRACH.
9	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation struct and USF_GRANULARITY = one block. Sent on PAGCH.
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Contained USF assigned to the MS.
11	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
12	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI. Sent on PACCH.
13		{Uplink data transfer, dynamic allocation}	Macro. Completion of the TBF procedure.

Specific message contents

None.

42.1.2.1.8.1.5 Packet Uplink Assignment / One phase access / Contention resolution / 4 access repetition attempts

42.1.2.1.8.1.5.1 Conformance requirement

The contention resolution has failed on the mobile station side when the counter N3104 has reached its maximum value, or on expiry of timer T3166, or if the mobile station receives a PACKET UPLINK ACK/NACK message with the right TFI but with a another TLLI than the mobile station has included in the RLC header of the first RLC data blocks.

The mobile station shall then reset the counter N3104, stop timer T3166 if not expired, immediately stop transmitting on this TBF and reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference

GSM 04.60 subclause 7.1.2.3

42.1.2.1.8.1.5.2 Test purpose

To verify that the mobile station repeats the packet access initiation 4 times.

42.1.2.1.8.1.5.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to initiate packet uplink transfer of an LLC PDU. The SS assigns packet uplink resources in a PACKET UPLINK ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks after SS has assigned USF to the MS. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including a TLLI not corresponding to the MS. The SS shall verify that the MS stops transmitting blocks and reinitiates packet access. This test sequence shall be repeated four times.

Maximum duration of the test

5 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation struct and USF_GRANULARITY = one block. Sent on PAGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Contained USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
6	SS -> MS	PACKET UPLINK ACK/NACK	Assign USF to the MS, include a incorrect TLLI. Sent on PACCH.
7	SS		The SS verifies that the MS reinitiates the packet access procedure from step 2 four times.

Specific message contents

None.

42.1.2.1.8.2 Packet Uplink Assignment / One phase access / Timing Advance

42.1.2.1.8.2.1 Packet Uplink Assignment / One phase access / Timing Advance / TA Index present

42.1.2.1.8.2.1.1 Conformance requirements

If a Timing Advance Index is included in the assignment message, the mobile station shall use the continuous update timing advance mechanism, using its allocation on PTCCH (see GSM 05.10).

Reference

GSM 04.60 subclause 7.1.2.5, GSM 03.64 subclause 6.5.7.2

42.1.2.1.8.2.1.2 Test purpose

To verify that the mobile station uses the continuous update timing advance mechanism and sends access bursts on the PTCCH slots as determined by the Timing Advance Index sent in the PACKET UPLINK ASSIGNMENT message.

42.1.2.1.8.2.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established. **Related PICS/PIXIT statement**

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink packet data transfer.

Test procedure

The MS is triggered to initiate uplink data packet transfer. The SS responds with PACKET UPLINK ASSIGNMENT message indicating one phase access and containing a Timing Advance Index. The MS shall start to send data on the allocated uplink. The SS allows the MS to send the uplink data transfer. During the Uplink data transfer, the SS shall verify that the access bursts are sent correctly by the MS in the PTCCH.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 500 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Including Timing Advance Index = 0, Dynamic allocation struct. Sent on PAGCH.
4		{Uplink data transfer, dynamic allocation}	Macro. Completion from step 4 in the TBF procedure. Verification, see below.

Verification

During the uplink data transfer (step 4) the SS monitors the access burst on PTCCH which are located on slots with numbers FN, such that (FN mod (8*52)) = 12 for Timing Advance Index = 0 (GSM 03.64/6.5.7.2 and GSM 05.02/Table 6). The access burst contents shall be MESSAGE_TYPE = 011111 and CTRL_ACK = 11.

The test is repeated with an arbitrarily chosen Timing Advance Index in the range 1 to 15. SS shall verify that the access burst are sent in the correct idle slots as specified in GSM 05.02/Table 6.

Specific message contents

None.

42.1.2.1.8.2.2 Packet Uplink Assignment / One phase access / Timing Advance / TA Index not present

42.1.2.1.8.2.2.1 Conformance requirements

If a Timing Advance Index is included in the assignment message, the mobile station shall use the continuous update timing advance mechanism, using its allocation on PTCCH (see GSM 05.10). Otherwise, the continuous update timing advance mechanism shall not be used.

Reference

GSM 04.60 subclause 7.1.2.5.

42.1.2.1.8.2.2.2 Test purpose

To verify that the mobile station does not send any access bursts on the PTCCH if Timing Advance Index is not present in the PACKET UPLINK ASSIGNMENT message.

42.1.2.1.8.2.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established. **Related PICS/PIXIT statement**

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate uplink data transfer. The SS responds with PACKET UPLINK ASSIGNMENT message that request one phase access and not including a Timing Advance Index. The MS shall start to send data on the allocated uplink. The SS allows the MS to send the uplink data transfer. During the uplink data transfer, the SS shall verify that the MS not send any access bursts on PTCCH.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 500 octets data..
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Not include Timing Advance Index. Indicating Dynamic allocation struct. Sent on PAGCH.
4		{Uplink data transfer, dynamic allocation}	Macro. Completion from step 4 in the TBF procedure. Verification, see below.

Verification

The SS verifies that the MS does not transmit in idle frames during data block transfer (steps 4). Idle frame numbers are 12, 25, 38 and 51 in the 52-multiframe structure.

Specific message contents

None.

42.1.2.1.8.2.3 Packet Uplink Assignment / One phase access / Timing Advance / TA value field not provided

42.1.2.1.8.2.3.1 Conformance requirements

For the case where a TIMING_ADVANCE_VALUE field is not provided in the assignment message, the mobile station is not allowed to send normal bursts on the uplink until it receives a valid timing advance either through the continuous timing advance procedure or in a PACKET TIMING ADVANCE/POWER CONTROL message.

Reference

GSM 04.60 subclause 7.1.2.5.

42.1.2.1.8.2.2.2 Test purpose

To verify that the mobile station does not send normal bursts on the uplink until it receives a valid timing advance in a PACKET POWER CONTROL/TIMING ADVANCE message if Timing Advance Value field is not provided in the PACKET UPLINK ASSIGNMENT message.

42.1.2.1.8.2.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established. **Related PICS/PIXIT statement**

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate uplink data transfer. The SS responds with PACKET UPLINK ASSIGNMENT message that request one phase access and does not include Timing Advance Value field. The SS shall wait 2 seconds and then send a PACKET POWER CONTROL/TIMING ADVANCE message with a valid timing advance information. The MS shall start to send data on the allocated uplink. The SS allows the MS to send the uplink data transfer. The SS verifies that the MS not send any normal burst on the uplink until the SS sends a valid timing advance.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 500 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	No Timing Advance Value. Indicating Dynamic allocation struct. Sent on PAGCH.
4	SS		Wait 2 seconds and verifies that the MS not send any normal burst on the uplink.
5	SS -> MS	PACKET POWER CONTROL/TIMING ADVANCE	Include a valid Timing Advance information. Sent on PACCH.
6		{Uplink data transfer, dynamic allocation}	Macro. Completion of the TBF procedure.

Specific message contents

None.

42.1.2.1.9 Packet Uplink Assignment / Two phase access

42.1.2.1.9.1 Packet Uplink Assignment / Two phase access / Packet Resource Request / RLC Octet Count

42.1.2.1.9.1.1 Conformance requirements

The mobile station shall indicate in the RLC_OCTET_COUNT the number of octets of user data that it has to be transferred in the TBF.

Reference

GSM 04.60 subclause 7.1.3.1

42.1.2.1.9.1.2 Test purpose

To verify that the mobile station indicates the number of octets of user data that it has to be transferred in the TBF.

42.1.2.1.9.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 1 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate unacknowledged uplink data transfer. The SS shall send PACKET UPLINK ASSIGNMENT message including Single Block Allocation struct information to instruct the MS to send PACKET RESOURCE REQUEST. The MS should perform a two-phase access i.e. the MS shall transmit a PACKET RESOURCE REQUEST message on the allocated uplink resource.
The RLC_OCTET_COUNT field shall indicate the number of LLC data octets the MS wishes to transfer.

The SS should then respond with PACKET UPLINK ASSIGNMENT message and the MS should begin transmitting RLC data blocks on the allocated uplink resources. The SS allows the MS to complete the sending of the data.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU containing 400 octets of data.
2	MS -> SS	PACKET CHANNEL REQUEST	Two Phase Access Request. Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Single block allocation struct. Sent on PAGCH.
4	MS -> SS	PACKET RESOURCE REQUEST	The SS verifies the indicated number of octets to transfer see specific message contents. Received on PACCH.
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Dynamic allocation struct. Sent on the PACCH of the assigned PDCH.
6		{Uplink data transfer, dynamic allocation}	Macro. Completion from step 4 in the TBF procedure.

Specific message contents

As default messages contents, except:

PACKET RESOURCE REQUEST in step 4

Information element	Value/remark
< Channel Request Description IE >: < RLC_OCTET_COUNT >	400 LLC data octets + RLC data block length octets.

42.1.2.1.9.2 Packet Uplink Assignment / Two phase access / Contention resolution

42.1.2.1.9.2.1 Packet Uplink Assignment / Two phase access / Contention resolution / Expiry of timer T3168

42.1.2.1.9.2.1.1 Conformance requirements

The contention resolution has failed on the mobile station side when the mobile station does not receive a PACKET UPLINK ASSIGNMENT message with its TLLI before expiry of timer T3168. The mobile station shall then reinitiate the packet access procedure unless it has already been repeated 4 times. In that case, TBF failure has occurred.

Reference

GSM 04.60 subclause 7.1.3.3

42.1.2.1.9.2.1.2 Test purpose

To verify that the mobile station reinitiates the packet access procedure after a time equal to timer T3168 and the procedure shall be repeated 4 times.

42.1.2.1.9.2.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. PSI GPRS Cell Options, T3168 = 7
Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 1 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate unacknowledged uplink data transfer. The SS sends PACKET UPLINK ASSIGNMENT message including Single Block Allocation struct information to order the MS to send PACKET RESOURCE REQUEST message. The MS shall perform a two-phase access i.e. the MS shall transmit a PACKET RESOURCE REQUEST message on the allocated uplink resource. The SS wait for a time greater than timer T3168 so the MS shall reinitiate packet access procedure. This procedure shall be repeated 4 times.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Two Phase Access Request. Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Single Block Allocation struct. Sent on PAGCH.
4	MS -> SS	PACKET RESOURCE REQUEST	ACCESS_TYPE = “Two Phase Access Request”. Received on the single block assigned in step 3.
5	SS		The SS waits T3168 expiry.
6			The SS verifies that the MS reinitiate packet access procedure four times.

Specific message contents

None.

42.1.2.1.9.2.2 Packet Uplink Assignment / Two phase access / Contention resolution / TLLI mismatch

The contention resolution is completed on the mobile station side when the mobile station receives a PACKET UPLINK ASSIGNMENT message with the same TLLI as the mobile station has included in the PACKET RESOURCE REQUEST message.

42.1.2.1.9.2.2.1 Conformance requirements

If the failure is due to a TLLI mismatch, or to the expiry of timers T3166 or T3168, or to the fact that the counter N3104 reached its maximum value in the contention resolution procedure, and repetition as described in subclause 7.1.3.3 has been performed, the mobile station shall remain in packet idle mode, notify higher layer (TBF establishment failure), transactions in progress shall be aborted and cell reselection continued.

Reference

GSM 04.60 subclause 7.1.4, subclause 7.1.3.3

42.1.2.1.9.2.2.2 Test purpose

To verify that the MS reinitiates packet access procedure with failure due to a TLLI mismatch in the contention resolution procedure, unless it has already been repeated 4 times. In that case, TBF failure has occurred.

42.1.2.1.9.2.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 1 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate unacknowledged uplink data transfer. The SS responds with PACKET UPLINK ASSIGNMENT message that request two phase access. The MS shall then send PACKET RESOURCE REQUEST message. The SS responds with PACKET UPLINK ASSIGNMENT message with a TLLI different to that the MS has sent in PACKET RESOURCE REQUEST message. The MS shall reinitiate the packet access procedure.

This procedure shall be repeated 4 times.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Two Phase Access Request. Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Single Block Allocation struct. Sent on PAGCH.
4	MS -> SS	PACKET RESOURCE REQUEST	ACCESS_TYPE = “Two Phase Access Request”. Include TLLI. Received on the PACCH of the assigned PDCH.
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Include incorrect TLLI according to step 4. Sent on the PACCH of the assigned PDCH.
6			The SS verifies that the MS reinitiate packet access procedure four times.

Specific message contents

None.

42.1.2.1.10 Packet Uplink Assignment / Abnormal cases

42.1.2.1.10.1 Packet Uplink Assignment / Abnormal cases / Incorrect PDCH assignment

42.1.2.1.10.1.1 Conformance requirements

If the mobile station has been assigned more PDCHs than it supports according to its MS multislot class, the mobile station shall reinitiate the packet access procedure unless it has already been repeated 4 times. In that case, TBF failure has occurred.

Reference

GSM 04.60 subclause 7.1.4

42.1.2.1.10.1.2 Test purpose

To verify that the mobile station reinitiates the packet access procedure when the mobile station has been assigned more PDCHs than it supports and after 4 repetitions of the packet access procedure the mobile station shall initiate TBF failure.

42.1.2.1.10.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is switched off.

Related PICS/PIXIT statement

Support GPRS service.

Switch off on button Yes/No.

Multislot class.

Method of trigger GPRS attach.

Test procedure

Convert the MS Multislot Class to number of uplink timeslot supported.

The MS is switched on and triggered to perform a GPRS attach. The SS sends PACKET UPLINK ASSIGNMENT message containing more assigned PDCHs than the MS supports according to its multislot class. The MS shall reinitiate packet access procedure; this procedure shall be repeated 4 times.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is switched on and triggered to perform a GPRS attach.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Assign one more Tx than the MS supported . Sent on PAGCH.
4			The SS verifies that the MS reinitiate packet access procedure four times.

Specific message contents

None.

42.1.2.1.10.2 Packet Uplink Assignment / Abnormal cases / Expiry of timer T3164

42.1.2.1.10.2.1 Conformance requirements

On expiry of timer T3164, the mobile station shall reinitiate the packet access procedure unless it has already been reinitiated 3 times, in which case the mobile station shall return to packet idle mode and notify higher layers.

Reference

GSM 04.60 subclause 7.1.4

42.1.2.1.10.2.2 Test purpose

To verify that the mobile station reinitiate the packet access procedure when the network have sent a PACKET UPLINK ASSIGNMENT message but the MS has not sent the first block within the time equal to the timer T3164. This packet access procedure shall at most be reinitiated 3 times.

42.1.2.1.10.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode. PDP context 2 has been established.

Related PICS/PIXIT statement

Support GPRS service.

Support PDP context.

Method of triggering the MS to initiate an uplink data transfer.

Test procedure

The MS is triggered to initiate uplink data transfer. The SS sends PACKET UPLINK ASSIGNMENT message with a USF assigned to the MS. The SS shall send PACKET DOWNLINK DUMMY CONTROL BLOCK messages with USF not assigned to the MS. The SS verifies that the MS reinitiate packet access procedure after a time equal to timer T3164; this shall be repeated 3 times.

Maximum duration of the test

1 min.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate packet uplink transfer of an LLC PDU consisting of 200 octets data.
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Allocate a USF for the MS. Sent on PAGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCKs	Don't contain the assigned USF in step 3. Repeat step 4 during timer T3164 is running.
5	MS		The SS verifies that the packet access procedure is reinitiated after a time equal to timer T3164 four times.

Specific message contents

None.

42.1.2.2 Packet Downlink Assignment

42.1.2.2.1 Packet Downlink Assignment / Response to poll bit

42.1.2.2.1.1 Conformance requirements

In case valid timing advance for the mobile station is not available and the CONTROL_ACK_TYPE parameter in the System Information indicates acknowledgement is access burst, the network may set the poll bit in the PACKET DOWNLINK ASSIGNMENT message. The mobile station shall then send the PACKET CONTROL ACKNOWLEDGEMENT as four access bursts in the reserved uplink radio block specified by the RRBP field.

Reference

GSM 04.60 subclause 7.2.1.1

42.1.2.2.1.2 Test purpose

To verify that the mobile station sends PACKET CONTROL ACKNOWLEDGEMENT as four access bursts if the network sets the poll bit in the PACKET DOWNLINK ASSIGNMENT message when CONTROL_ACK_TYPE is set to four access bursts.

42.1.2.2.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information CONTROL_ACK_TYPE is set to indicate PACKET CONTROL ACKNOWLEGEMENT format as four access bursts and the ACCESS_BURST_TYPE indicates 11 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode and Ready state.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

The SS initiate a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message. The poll bit in the MAC header of the PACKET DOWNLINK ASSIGNMENT message will be set to indicate RRBP field is valid. The SS verifies that the MS sends PACKET CONTROL ACKNOWLEDGEMENT as four access bursts.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	SS		The SS initiate a downlink transfer of 200 octets data.
2	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Poll bit in the MAC header is set to indicate a valid RRBP = 1. Sent on PCCCH.
3	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	As four access bursts. Received on PACCH.
4	SS		The SS verifies that the MS sends the PACKET CONTROL ACKNOWLEDGEMENT as four access bursts, one per TDMA frame of the uplink radio block and the RRBP = 1.

Specific message contents

None.

42.1.2.2.2 Packet Downlink Assignment / PCCCH monitoring

42.1.2.2.2.1 Conformance requirements

A PACKET DOWNLINK ASSIGNMENT message may indicate an assignment starting time in the TBF Starting Time parameter. The mobile station shall monitor PCCCH until the point in time denoted by the TBF Starting Time. Thereafter it shall switch to the assigned PDCHs. If while monitoring the PCCCH the mobile station receives more than one PACKET DOWNLINK ASSIGNMENT message, it shall act upon the most recently received message and shall ignore the previous message.

Reference

GSM 04.60 subclause 7.2.1.1

42.1.2.2.2.2 Test purpose

To verify that the mobile station monitors PCCCH until the point in time denoted by the TBF Starting Time.

To verify that the mobile station considers the most recently received PACKET DOWNLINK ASSIGNMENT message.

42.1.2.2.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode and Ready state.

Related PICS/PIXIT statement

Support of GPRS Yes/No.

Test procedure

The SS initiate a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message to the MS with a TBF starting time. Then send a new PACKET DOWNLINK ASSIGNMENT message on PCCCH with another TBF starting time and a different timeslot before the first starting time has occurred. The SS starts to send RLC/MAC data blocks according to the second PACKET DOWNLINK ASSIGNMENT message. The MS shall send PACKET DOWNLINK ACK/NACK message to indicate correct reception of data blocks.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	SS		The SS initiate a downlink transfer of 200 octets data.
2	SS -> MS	PACKET DOWNLINK ASSIGNMENT	See specific message contents. Sent on PCCCH.
3	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Sent 3 blocks before TBF starting time in step 2 has elapsed. See specific message contents. Sent on PCCCH.
4	SS -> MS	DOWNLINK RLC DATA BLOCK	SS sends data starting at frame as indicated by TBF starting time in step 3 on assigned PDTCH.
5	MS -> SS	PACKET DOWNLINK ACK/NACK	Indicating correct reception of downlink data block. Received on PACCH.

Specific message contents

As default messages contents, except:

PACKET DOWNLINK ASSIGNMENT in step 2

Information element	Value/remark
< TIMESLOT_ALLOCATION >	00010000, allocate timeslot 3.
{0|1< TBF Starting Time >	1
-TBF_STARTING_TIME}	arbitrarily chosen

PACKET DOWNLINK ASSIGNMENT in step 3

Information element	Value/remark
< TIMESLOT_ALLOCATION >	00000010, allocate timeslot 6.
{0|1< TBF Starting Time >	1
-TBF_STARTING_TIME}	arbitrarily chosen different from step 2

42.1.2.2.3 Packet Downlink Assignment / Frequency hopping

42.1.2.2.3.1 Conformance requirements

The mobile station shall use information received on the PBCCH to decode the channel descriptions contained in the assignment. If frequency hopping is applied, the mobile station shall use the last CA received on PBCCH to decode the Mobile Allocation.

Reference

GSM 04.60 subclause 7.2.1.1

42.1.2.2.3.2 Test purpose

To verify that, if frequency hopping is applied, the mobile station uses the last CA received on PBCCH to decode the Mobile Allocation.

To verify that, if frequency hopping is applied, indirect encoding, direct encoding 1 and direct encoding 2 worked as intend together with the information received on PBCCH.

42.1.2.2.3.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. PACKET SYSTEM INFORMATION Type 2 (PSI2) sent on PBCCH indicate frequency hopping parameters, see specific message contents.

Mobile Station:
The MS is GPRS attached and in packet idle mode.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

The SS initiate a downlink data transfer. The SS send PACKET DOWNLINK ASSIGNMENT message indicating Indirect encoding in frequency parameters. The SS shall start to transmit the downlink data to the MS. The MS and SS complete the downlink data transfer. The SS verifies that the MS use the last CA information received on PBCCH to decode the Mobile Allocation. Repeat the test with frequency parameters Direct encoding 1 and Direct encoding 2.

Maximum duration of the test

5 min

Expected sequence

Step	Direction	Message	Comments
1	SS		Wait until MS has read initial PSI2.
2	SS -> MS	PACKET SYSTEM INFORMATION Type 2	Change Reference Frequency List, CA and MA see specific message contents.
3	SS		Wait 35 seconds.
4	SS		The SS initiate a downlink transfer of 200 octets data.
5	SS -> MS	PACKET DOWNLINK ASSIGNMENT	See specific message contents. Sent on PCCCH.
6	SS -> MS	DOWNLINK RLC DATA BLOCKs	Sent on assigned PDTCHs.
7	MS -> SS	PACKET DOWNLINK ACK/NACK	The SS verifies that the MS use the last CA information received on PBCCH. Received on PACCH.
8			Repeat step 5 to 7 five times.
9	SS -> MS	PACKET PDCH RELEASE	

Repeat the test with frequency parameters Direct encoding 1 and Direct encoding 2.

Specific message contents

As default messages contents, except:

PACKET SYSTEM INFORMATION Type 2 in initial condition

Information element	Value/remark
< PSI2_CHANGE_MARK >	00
< PCCCH Description List struct >	
< TSC >	value arbitrarily chosen from valid values (default 5)
{0|1< Hopping PCCCH carriers >	1
< MA_NUMBER	0001 (list 1)
< Hopping PCCCH carriers struct >	
< Hopping PCCCH carriers struct >	
< MAIO >	arbitrarily chosen
< TIMESLOT_ALLOCATION	00001000 (timeslot 4)

PACKET SYSTEM INFORMATION Type 2 in step 2

Information element	Value/remark
< PSI2_CHANGE_MARK >	01
{0|1< Reference Frequency Lists>	1 Reference Frequency lists present
-RFL_NUMBER	0010 List 2
-Length of RFL contents	1111 IE length = 16
-RFL contents}	For GSM900, in bit map 0, (10, 25, 40, 55, 70, 85, 100) For DCS1800, in bit map 0, (740, 755, 770, 785, 800, 810, 825)
{0|1<Cell Allocation>	1 Cell Allocation present
-RFL_NUMBER	0010 List 2
-{0|1<Cell Allocation>}}	0 No Further Cell Allocation present
{0|1<GPRS Mobile Allocations>	1 GPRS Mobile Allocation present
-MA_NUMBER	0010 List 2
-HSN	000000 Sequence 0
-{0|1<RFL number list>}	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000111 7 octets
-MA_BITMAP}	1010101 4 belonging

PACKET DOWNLINK ASSIGNMENT in step 5, Indirect encoding

Information element	Value/remark
{0|1< Frequency Parameters > < Frequency Parameters > < TSC > 01 < Indirect encoding 1 >} < Indirect encoding struct > < MAIO > < MA_NUMBER > {0|1< CHANGE_MARK_1 > - CHANGE_MARK_1} {0|1< CHANGE_MARK_2 > - CHANGE_MARK_2}	1 (Frequency Parameters present) value arbitrarily chosen from valid values (default 5) 01 (indirect encoding) arbitrarily chosen 0010 (point to a GPRS Mobile Allocation in PSI2 step 2) 1 (CHANGE_MARK_1 present) the same value as PSI2_CHANGE_MARK in PSI2 step 2 1 (CHANGE_MARK_2 present) the same value as PSI2_CHANGE_MARK in PSI2 step 2

PACKET DOWNLINK ASSIGNMENT in step 5, Direct encoding 1

Information element	Value/remark
{0|1<Frequency Parameters>} - Frequency Parameters IE > < TSC > 10 < Direct encoding 1 >} < Direct encoding 1 struct > < MAIO > < GPRS Mobile Allocation IE > < GPRS Mobile Allocation > < HSN > { 0|1< RFL number list > < RFL_NUMBER >} - < MA_LENGTH > < MA_BITMAP >	1 (Frequency Parameters present) value arbitrarily chosen from valid values (default 5) 10 (direct encoding 1) arbitrarily chosen arbitrary chosen 1 (RFL number list) 0010 (the value points to a RFL_NUMBER in PSI2 step 2) 0 (MA_BITMAP) 000111 corresponding to MA in PSI2 step 2

PACKET DOWNLINK ASSIGNMENT in step 5, Direct encoding 2

Information element	Value/remark
{0|1< Frequency Parameters > Frequency Parameters IE < TSC > 11 < Direct encoding 2 >} < Direct encoding 2 struct > < MAIO > < HSN > < Length of MA Frequency List contents > < MA Frequency List contents >	1 (Frequency Parameters present) value arbitrarily chosen from valid values (default 5) 11 (direct encoding 2) arbitrarily chosen arbitrarily chosen containing the frequencies indicated by CA and MA in PSI2 step 2 coded by bit map 0 format

42.1.2.2.4 Packet Downlink Assignment / Response to Packet Polling

42.1.2.2.4.1 Conformance requirements

On receipt of a PACKET POLLING REQUEST message, the mobile station shall respond to the network with the PACKET CONTROL ACKNOWLEDGEMENT message in the block period specified by the RRBP field. If the MS has received a PACKET DOWNLINK ASSIGNMENT message with no starting time or with a starting time that has already elapsed, the PACKET POLLING REQUEST message shall be sent on PACCH. Otherwise the PACKET POLLING REQUEST message shall be sent on PAGCH.

Reference

GSM 04.60 subclause 7.2.1.3

42.1.2.2.4.2 Test purpose

To verify that on receipt of a PACKET POLLING REQUEST message, the mobile station responds with PACKET CONTROL ACKNOWLEDGEMENT message in the block period specified by the RRBP field.

42.1.2.2.4.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode and Ready state.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

The SS initiate a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message to the MS with a TBF starting time. The SS sends a PACKET POLLING REQUEST message containing a valid RRBP field. The SS verifies that the MS sends a PACKET CONTROL ACKNOWLEDGEMENT message in the block period specified by the RRBP field. The SS sends PACKET PDCH RELEASE message to the MS. The SS initiate a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message to the MS without TBF starting time. The SS sends a PACKET POLLING REQUEST message containing a valid RRBP field. The SS verifies that the MS sends a PACKET CONTROL ACKNOWLEDGEMENT message in the block period specified by the RRBP field.

Maximum duration of the test

5 min.

Expected sequence

Step	Direction	Message	Comments
1	SS		The SS initiate a downlink transfer of 200 octets data.
2	SS -> MS	PACKET DOWNLINK ASSIGNMENT	See specific message contents. Sent on PCCCH.
3	SS -> MS	PACKET POLLING REQUEST	Sent on PAGCH before TBF starting time in step 2 has elapsed. See specific message contents.
4	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	The SS verifies that the MS send this message in the block period specified by the RRBP field as four access bursts. Received on PACCH.
5	SS -> MS	PACKET PDCH RELEASE	Sent on PACCH.
6	SS		Wait 20 seconds.
7	SS		The SS initiate a downlink transfer of 200 octets data.
8	SS -> MS	PACKET DOWNLINK ASSIGNMENT	See specific message contents. Sent on PCCCH.
9	SS -> MS	PACKET POLLING REQUEST	Sent on PACCH. See specific message contents.
10	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	The SS verifies that the MS send this message in the block period specified by the RRBP field as four access bursts. Received on PACCH.

Specific message contents

As default messages contents, except:

PACKET DOWNLINK ASSIGNMENT in step 2

Information element	Value/remark
< TIMESLOT_ALLOCATION > {0|1< TBF Starting Time > -TBF_STARTING_TIME}	00000100, allocate timeslot 5. 1 arbitrarily chosen

PACKET DOWNLINK ASSIGNMENT in step 8

Information element	Value/remark
< TIMESLOT_ALLOCATION > {0|1< TBF Starting Time >}	00000001, allocate timeslot 7. 0 (No TBF starting time)

PACKET POLLING REQUEST in step 3 and 9

Information element	Value/remark
RRBP in MAC header S/P in MAC header	Set to 1 Set to 1 : RRBP field is valid
< MESSAGE_TYPE > < PAGE_MODE { 0 < **Global TFI** > | 10 < **TLLI** > | 110 < **TQI** >} < **TYPE_OF_ACK** >	000100 Normal Paging 10 (TLLI) 0 as four access bursts

42.1.2.2.5 Packet Downlink Assignment / Abnormal cases

42.1.2.2.5.1 Packet Downlink Assignment / Abnormal cases / Incorrect PDCH assignment

42.1.2.2.5.1.1 Conformance requirements

If the mobile station has been assigned more PDCHs than it supports according to its MS multislot class, the mobile station shall return to packet idle mode.

Reference

GSM 04.60 subclause 7.2.2

42.1.2.2.5.1.2 Test purpose

To verify that the mobile station return to packet idle mode if the mobile station is assigned more PDCHs than it supports according to its MS multislot class.

42.1.2.2.5.1.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS.
Mobile Station:
The MS is GPRS attached and in packet idle mode and Ready state.

Related PICS/PIXIT statement

Support GPRS service.

Multislot Class.

Test procedure

Convert MS Multislot Class to number of downlink timeslot supported.

The SS initiated a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message containing one more assigned Rx than the MS supports according to its multislot class. The SS sends RLC data blocks. The SS verify that the MS not respond to the RLC data blocks sent by SS. Verify that the MS return to packet idle mode.

The SS sends PACKET DOWNLINK ASSIGNMENT message again containing correct multislot class. The SS starts to send RLC data blocks and the MS complete the downlink data transfer.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	SS		The SS initiate a downlink transfer of 200 octets data.
2	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Assign one more Rx timeslot than the MS support. Sent on PCCCH.
3	SS		Wait one block period.
4	SS -> MS	DOWNLINK RLC DATA BLOCK	Sent on assigned PDTCHs.
5	SS		Verify for 10 seconds that the MS not respond.
6	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Assign Rx timeslot according to the MS multislot class. Sent on PCCCH.
7	SS -> MS	DOWNLINK RLC DATA BLOCK	Sent on assigned PDTCHs with a valid RRBP field.
8	MS -> SS	PACKET DOWNLINK ACK/NACK	The SS verifies that the MS indicating correct reception of downlink data blocks. Received on PACCH.

Specific message contents

None.

42.1.2.2.5.2 Packet Downlink Assignment / Abnormal cases / Expiry of timer T3190

42.1.2.2.5.2.1 Conformance requirements

When receiving the PACKET DOWNLINK ASSIGNMENT message and after waiting the TBF Starting Time when applicable, the mobile station starts timer T3190. The timer is reset when receiving the first valid RLC/MAC block.

On expiry of timer T3190, the mobile station shall abort and return to packet idle mode.

Reference

GSM 04.60 subclause 7.2.1.1

42.1.2.2.5.2.2 Test purpose

To verify that the mobile station aborts the TBF and returns to packet idle mode if a valid RLC block is not received within the duration of timer T3190.

42.1.2.2.5.2.3 Method of test

Initial conditions

System Simulator:
1 cell supporting GPRS. The packet system information ACCESS_BURST_TYPE indicates 8 bit access.

Mobile Station:
The MS is GPRS attached and in packet idle mode and Ready state.

Related PICS/PIXIT statement

Support GPRS service.

Test procedure

The SS initiate a downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message to the MS. The SS wait to send RLC data blocks for a time greater than timer T3190. The SS verifies that the MS not respond to the RLC data blocks sent by SS.

The SS reinitiate the sending of downlink data transfer. The SS sends PACKET DOWNLINK ASSIGNMENT message again and starts to send RLC data blocks after a time less than timer T3190. The MS shall complete the downlink data transfer.

Maximum duration of the test

2 min.

Expected sequence

Step	Direction	Message	Comments
1	SS		The SS initiate a downlink transfer of 200 octets data.
2	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Not indicating any TBF Starting Time. Sent on PCCCH.
3	SS		The SS waits timer T3190 + 0.1*T3190.
4	SS -> MS	DOWNLINK RLC DATA BLOCK	Sent on assigned PDTCHs.
5	SS		Verify for 10 seconds that the MS not respond.
6	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Reinitiate the downlink data transfer. Sent on PCCCH.
7	SS		The SS waits timer T3190 – 0.1*T3190.
8	SS -> MS	DOWNLINK RLC DATA BLOCK	Sent on assigned PDTCHs with a valid RRBP field.
9	MS -> SS	PACKET DOWNLINK ACK/NACK	Indicating correct reception of downlink data blocks. SS verifies that ACK/NACK is sent from the MS.

Specific message contents

None.

42.1.3 Macro and default message contents

42.1.3.1 Macro

In order to simplify the process of writing and coding test cases, macros are referenced in the expected signaling tables. These macros provide all additional signaling needed to complete the particular test but are not relevant to its purpose. This Macro is only applicable to test case in clause 42.1.1 and 42.1.2.

42.1.3.1.1 GPRS attach procedure

The following table describes a signaling sequence performing the GPRS attach procedure when PCCCH is present. Note that there are different possible sequences implementing the GPRS attach procedure. In this case we use dynamic allocation and simultaneous uplink and downlink TBFs.

{GPRS attach procedure}

Step	Direction	Message	Comments
1			MS is triggered to initiate the GPRS attach procedure.
2	MS -> SS	PACKET CHANNEL REQUEST	Mobility Management procedure request.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicate dynamic allocation struct.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Containing USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCKs (GMM ATTACH REQUEST)	
6	SS -> MS	PACKET UPLINK ACK/NACK	Containing Final Ack Indicator bit = 1, and valid RRBP field.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Sent in the block assigned by the RRBP field in step 6.
8	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Assign a downlink TBF, “MAC mode” = dynamic allocation.
9	SS -> MS	DOWNLINK RLC DATA BLOCKs (GMM ATTACH ACCEPT)	Containing USF assigned to the MS. Last block shall contain Final Block Indicator bit = 1, and valid RRBP field.
10	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent in the block assigned by the RRBP field in step 9.
11	MS -> SS	PACKET CHANNEL REQUEST	Mobility Management procedure request.
12	SS -> MS	PACKET UPLINK ASSIGNMENT	Indicate dynamic allocation struct.
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Containing USF assigned to the MS.
14	MS -> SS	UPLINK RLC DATA BLOCKs (GMM ATTACH COMPLETE)	
15	SS -> MS	PACKET UPLINK ACK/NACK	Containing Final Ack Indicator bit = 1, and valid RRBP field.
16	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Sent in the block assigned by the RRBP field in step 15.

42.1.3.2 Uplink data transfer, dynamic allocation

The following table describes a sequence performing uplink data transfer with one phase access dynamic allocation when PCCCH is present.

{Uplink data transfer, dynamic allocation}

Step	Direction	Message	Comments
1			PDP context 2 has been established. The MS is triggered to send data.
2	MS -> SS	PACKET CHANNEL REQUEST	
3	SS -> MS	PACKET UPLINK ASSIGNMENT	One phase access, dynamic allocation struct.
4	SS -> MS	PACKET DOWLINK DUMMY CONTROL BLOCK	Containing USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCK(S)	If USF_GRANULARITY = four blocks, 4 RLC data block will be sent.
6	SS -> MS	PACKET UPLINK ACK/NACK	Containing USF assigned to the MS.
7	MS -> SS	UPLINK RLC DATA BLOCK(S)	If USF_GRANULARITY = four blocks, 4 RLC data block will be sent.
8			Repeat step 6 and 7 until the countdown value CV=0 in step 7 .
9	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = 1 containing valid RRBP.
10	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	

42.1.3.2 Default Messages

These default message contents override those specified in “GPRS default conditions” but messages specified in a test case have always the highest precedence.

42.1.3.2.1 PACKET CHANNEL REQUEST message:

< Access Type >	"One phase access request" or "Two phase access request"
< Multislot class >	Not checked
< Radio priority >	Not checked
< Random Reference >	Not checked.

42.1.3.2.2 PACKET CONTROL ACKNOWLEDGEMENT message:

< MESSAGE_TYPE >	000001
< TLLI >	not checked
< CTRL_ACK >	not checked
< padding bits >	Spare Padding

42.1.3.2.3 PACKET DOWNLINK ACK/NACK message:

< MESSAGE_TYPE >	000010
< DOWNLINK_TFI >	pertaining to the downlink TBF
< Ack/Nack Description >	
< FINAL_ACK_INDICATION >	0 (not final ack)
< STARTING_SEQUENCE_NUMBER >	not checked
< RECEIVED_BLOCK_BITMAP >	not checked
{0|1 < Channel Request Description >}	0 (no channel request)
< Channel Quality Report >	
< C_VALUE >	not checked
< RXQUAL >	not checked
< SIGN_VAR >	not checked
{0|1<I_LEVEL_TN0>}	not checked
{0|1<I_LEVEL_TN1>}	not checked
{0|1<I_LEVEL_TN2>}	not checked
{0|1<I_LEVEL_TN3>}	not checked
{0|1<I_LEVEL_TN4>}	not checked
{0|1<I_LEVEL_TN5>}	not checked
{0|1<I_LEVEL_TN6>}	not checked
{0|1<I_LEVEL_TN7>}	not checked
< padding bits >	Spare Padding

42.1.3.2.4 PACKET DOWNLINK ASSIGNMET message:

< MESSAGE_TYPE >	000010
< PAGE_MODE >	Normal Paging
{0|1< PERSISTENCE_LEVEL >}	0 (no persistence level present)
{ {0 < Global TFI	1 (address is TLLI)
|1 < TLLI >}	same as the value received from MS
< MAC_MODE	Dynamic Allocation
< RLC_MODE	acknowledged mode
< CONTROL_ACK	0
< TIMESLOT_ALLOCATION	single slot arbitrarily chosen from valid values (default slot 2)
< Packet Timing Advance >	
{0|1< TIMING_ADVANCE_VALUE >}	1 (timing advance value)
- TIMING_ADVANCE_VALUE	30 bit periods
{0|1<DOWNLINK_TIMING_ADVANCE_INDEX>	0 (no timing advance index)
{0|1 < P0 >	0 (no power control parameter)
{0|1< Frequency Parameters >}	1 (Frequency Parameters present)
< TSC >	value arbitrarily chosen from valid values (default 5)
{ 00 < ARFCN >}	00 (ARFCN no hopping)
- ARFCN	For GSM 900, 30 For DCS 1800, 650
{0|1< DOWNLINK_TFI_ASSIGNMENT >}	1 (assign downlink TFI)
< DOWNLINK_TFI_ASSIGNMENT >	arbitrarily chosen from valid values (default 3)
{0|1< Power Control Parameters >}	1 (Power Control Parameters present)
< ALPHA >	0.5
{0|1< GAMMA_TN0 >}	depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN0)
{0|1< GAMMA_TN1 >}	depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN1)
{0|1< GAMMA_TN2 >}	depending on the value in TIMESLOT_ALLOCATION (default 1 GAMMA_TN2)
- GAMMA_TN2	For GSM 900, +9 dBm For DCS 1800, +6 dBm
{0|1< GAMMA_TN3 >}	depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN0)
{0|1< GAMMA_TN4 >}	depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN4)
{0|1< GAMMA_TN5 >}	depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN5)
{0|1< GAMMA_TN6 >}	depending on the value in

{0|1< GAMMA_TN7 >}	TIMESLOT_ALLOCATION (default 0 no GAMMA_TN6) depending on the value in TIMESLOT_ALLOCATION (default 0 no GAMMA_TN7)
{0|1< TBF_STARTING_TIME >}	0 (no starting time present)
{0|1< Measurement Mapping >}	0 (no measurement mapping)
< padding bits >	Spare Padding

42.1.3.2.5 PACKET PAGING REQUEST message:

< MESSAGE_TYPE >	100010
< PAGE_MODE >	00 (Normal Paging)
{0|1< PERSISTENCE_LEVEL >}	0 (no persistence level present)
{0|1< NLN >}	0 (no notification list number)
{1|< Repeated Page info>}	1 (start of Repeated Page info)
{0	0 (Page request for TBF establishment)
{0< PTMSI >	0 (PTMSI)
- PTMSI	P-TMSI allocated during GPRS attach procedure
< padding bits >	Spare Padding

42.1.3.2.6 PACKET RESOURCE REQUEST message (two phase access):

< MESSAGE_TYPE >	000101
{0|1< ACCESS_TYPE >}	1 (response to single block assignment)
- ACCESS_TYPE	00 (two phase access)
{0< Global TFI >	1 (TLLI)
|1 < TLLI >}	
- TLLI	not checked
{0|1< MS Radio Access Capability >}	1 (MS Radio Access Capability)
- MS Radio Access Capability	not checked
< Channel Request Description >	
- PEAK_THROUGHPUT_CLASS	not checked
- RADIO_PRIORITY	not checked
- RLC_MODE	not checked
- LLC_PDU_TYPE	1 (not SACK or ACK)
- RLC_OCTET_COUNT	not checked
{0|1< CHANGE_MARK >}	not checked
< C_VALUE >	not checked
{0|1< SIGN_VAR >	not checked
{0|1< I_LEVEL_TN0 >}	not checked
{0|1< I_LEVEL_TN1 >}	not checked
{0|1< I_LEVEL_TN2 >}	not checked
{0|1< I_LEVEL_TN3 >}	not checked
{0|1< I_LEVEL_TN4 >}	not checked
{0|1< I_LEVEL_TN5 >}	not checked
{0|1< I_LEVEL_TN6 >}	not checked
{0|1< I_LEVEL_TN7 >}	not checked
< padding bits >	Spare Padding

42.1.3.2.7 PACKET UPLINK ACK/NACK message:

< MESSAGE_TYPE >	001001
< UPLINK_TFI >	same as the TFI value of the TBF which the message applies
< CHANNEL_CODING_COMMAND >	same as the coding scheme of the TBF which the message applies
< Ack/Nack Description >	
< FINAL_ACK_INDICATION >	0 (not a final ACK)
< STARTING_SEQUENCE_NUMBER >	V(R)
< RECEIVED_BLOCK_BITMAP >	acknowledges all data blocks transmitted by the MS
{0|1< CONTENTION_RESOLUTION_TLLI >}	0 (no contention resolution TLLI)
{0|1< Packet Timing Advance >}	0 (no packet timing advance)
{0|1< Power Control Parameters >}	0 (no power control parameters)
{0|1< Fixed Allocation parameters >}	0 (no fixed allocation parameters present)
< padding bits >	Spare Padding

42.1.3.2.8 PACKET UPLINK ASSIGNMENT message (dynamic allocation)

< MESSAGE_TYPE >	001010
< PAGE_MODE >	Normal Paging
{0|1< PERSISTENCE_LEVEL >	0 (no persistence level present)
Referenced Address struct	
{ 0 < Global TFI >	
| 10 < TLLI >	10 (TLLI, the value received from the MS)
| 110 < TQI >	
| 111 <Packet Request Reference >}	
< CHANNEL_CODING_COMMAND >	arbitrarily chosen from the valid values (default CS-1)
< TLLI_BLOCK_CHANNEL_CODING >	arbitrarily chosen but different from CHANNEL_CODING_COMMAND
< Packet Timing Advance >	
{ 0|1< TIMING_ADVANCE_VALUE >	1 (timing advance value)
- TIMING_ADVANCE_VALUE }	30 bit periods
{ 0|1< TIMING_ADVANCE_INDEX >	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER > }	
{0|1< Frequency Parameters >	1 (Frequency Parameters present)
< TSC >	arbitrarily chosen (default 5)
{ 00< ARFCN >}	00 (ARFCN no hopping)
- ARFCN }	For GSM 900, 30 For DCS 1800, 650
{ 01 < Dynamic Allocation >	01 (Dynamic allocation)
< Extended Dynamic Allocation >	0 (Dynamic allocation)
{ 0|1< P0 >	1
-P0 }	0 dB
< USF_GRANULARITY >	0 (one block)
{0|1< UPLINK_TFI_ASSIGNMENT >	1 (uplink TFI assignment)
- UPLINK_TFI_ASSIGNMENT }	arbitrarily chosen (default 00101)
{0|1< RLC_DATA_BLOCKS_GRANTED >}	0 (no RLC_DATA_BLOCKS_GRANTED, open-ended TBF)
{0|1< TBF_STARTING_TIME >}	0 (no starting time)
{0|1< Timeslot Allocation >	1 (Timeslot Allocation with Power Control Parameters) one slot arbitrarily chosen and the following USF_TNx and GAMMA_TNx shall be corresponding to the chosen value (default slot 2)
< ALPHA >	0.5
{0|1< USF_TN0><GAMMA_TN0 >}	0 (timeslot 0 not assigned)
{0|1< USF_TN1><GAMMA_TN1 >}	0 (timeslot 1 not assigned)
{0|1< USF_TN2><GAMMA_TN2 >	1 (timeslot 2 assigned)
- USF_TN2	arbitrarily chosen (default 101)
- GAMMA_TN2 }	For GSM 900, +9 dBm

	For DCS 1800, +6 dBm
{0|1< USF_TN3><GAMMA_TN3 >}	0 (timeslot 3 not assigned)
{0|1< USF_TN4><GAMMA_TN4 >}	0 (timeslot 4 not assigned)
{0|1< USF_TN5><GAMMA_TN5 >}	0 (timeslot 5 not assigned)
{0|1< USF_TN6><GAMMA_TN6 >}	0 (timeslot 6 not assigned)
{0|1< USF_TN7><GAMMA_TN7>}}	0 (timeslot 7 not assigned)
< padding bits >	Spare Padding

42.1.3.2.9 PACKET UPLINK ASSIGNMENT message (fixed allocation)

< MESSAGE_TYPE >	001010
< PAGE_MODE >	Normal Paging
{0|1< PERSISTENCE_LEVEL >	0 (no persistence level present)
Referenced Address struct	
{ 0 < Global TFI >	
| 10 < TLLI >	
| 110 < TQI >	
| 111 <Packet Request Reference >}	111 (Packet Request Reference, information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received
< CHANNEL_CODING_COMMAND >	00 (CS-1 coding)
< TLLI_BLOCK_CHANNEL_CODING >	0 (CS-1)
< Packet Timing Advance >	
{0|1< TIMING_ADVANCE_VALUE >	1 (timing advance value)
- TIMING_ADVANCE_VALUE}	30 bit periods
{0|1<TIMING_ADVANCE_INDEX>	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER >}	
{0|1< Frequency Parameters >	1 (Frequency Parameters present)
< TSC >	arbitrarily chosen (default 5)
{ 00< ARFCN >}	00 (ARFCN no hopping)
- ARFCN }	For GSM 900, 30 For DCS 1800, 650
{ 11 < Fixed Allocation >	11 (Fixed allocation)
{0|1< UPLINK_TFI_ASSIGNMENT >}	1
-UPLINK_TFI_ASSIGNMENT	arbitrarily chosen
< FINAL_ALLOCATION >	Final allocation
< DOWNLINK_CONTROL_TIMESLOT >	arbitrarily chosen (default 2)
{ 0|1	1
< P0 >	0 dB
< BTS_PWR_CTRL_MODE >}	0 (mode A)
{0|1 < Timeslot Allocation >	1 (Timeslot Allocation with Power Control Parameters) one slot arbitrarily chosen and the following GAMMA_TNx shall be corresponding to the chosen value (default slot 2)
< ALPHA >	0.5
< GAMMA_TN0 >	0 (no GAMMA_TN0)
< GAMMA_TN1 >	0 (no GAMMA_TN1)
< GAMMA_TN2 >	1 (GAMMA_TN2)
- GAMMA_TN2	For GSM 900, +9 dBm For DCS 1800, +6 dBm
< GAMMA_TN3 >	0 (no GAMMA_TN3)
< GAMMA_TN4 >	0 (no GAMMA_TN4)
< GAMMA_TN5 >	0 (no GAMMA_TN5)

< GAMMA_TN6 >	0 (no GAMMA_TN6)
< GAMMA_TN7 >}	0 (no GAMMA_TN7)
< HALF_DUPLEX_MODE >	0 (no half duplex mode)
< TBF_STARTING_TIME >	no TBF starting time
{0|1 <Length of Allocation Bitmap >	1 (without length of Allocation Bitmap)
< ALLOCATION_BITMAP >}	allocate 5 blocks

42.1.3.2.10 PACKET UPLINK ASSIGNMENT message (single block allocation):

< MESSAGE_TYPE >	001010
< PAGE_MODE >	Normal Paging
{0|1< PERSISTENCE_LEVEL >	
Referenced Address struct	
{ 0 < Global TFI >	
| 10 < TLLI >	
| 110 < TQI >	
| 111 <Packet Request Reference >}	111 (Packet Request Reference, information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received)
< CHANNEL_CODING_COMMAND >	arbitrarily chosen (default CS-1)
< TLLI_BLOCK_CHANNEL_CODING >	arbitrarily chosen but different from CHANNEL_CODING_COMMAND
< Packet Timing Advance >	
- {0|1< TIMING_ADVANCE_VALUE >	1 (timing advance value)
- TIMING_ADVANCE_VALUE }	30 bit periods
- {0|1< TIMING_ADVANCE_INDEX>	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER >}	
{0|1< Frequency Parameters >	1 (Frequency Parameters present)
< TSC >	arbitrarily chosen (default 5)
{ 00< ARFCN >}	00 (ARFCN no hopping)
- ARFCN}	For GSM 900, 30 For DCS 1800, 650
{ 10 < Single Block Allocation >	10 (Single block allocation)
< TIMESLOT_NUMBER >	arbitrarily chosen (default slot 2)
{0|1	1 (power control parameters)
< ALPHA >	0.5
< GAMMA_TN >}	For GSM 900, +9 dBm For DCS 1800, +6 dBm
{0|1	1 (downlink power control parameters)
< P0 >	0 dB
< BTS_PWR_CTRL_MODE >	0 (mode A)
< TBF_STARTING_TIME >	no TBF starting time
< padding bits >	Spare padding

ETSI STC SMG7 #23
Sophia Antipolis
19 – 22 October 1999

Document 7-99-315
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A726	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30 *list expected approval meeting # here ↑*	for approval	X	Strategic		*(for SMG use only)*
	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: SMG7 GPRS **Date:** 1999-10-19

Subject: Measurement Reports and Cell Change Order Procedures

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
Release 00	

Reason for change: Tests of this feature is missing in current version.

Clauses affected: 42.4

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

42.4 Measurement reports and Cell change order procedures

This clause presents tests for “Measurement Reports and Cell Change Order Procedures” which are specified in GSM 04.60/5.6 and 8.4.

Applicability and default conditions

The clause is applicable for mobiles supporting GPRS.

Default message contents and signalling macros are defined in the GPRS general defaults section, except for those messages and macros specified at the end of this clause.

42.4.1 Measurement reports

42.4.1.1 Network Control measurement reporting / Uplink / Normal case

42.4.1.1.1 Conformance requirement

The behaviour of the mobile station is controlled by the NETWORK_CONTROL_ORDER parameter in a PACKET MEASUREMENT ORDER message. The reporting periods are indicated in the NC_REPORTING_PARAMETER_T field of the PACKET MEASUREMENT ORDER message. The mobile station shall apply to the timer T3158 the NC_REPORTING_PARAMETER_T when in packet transfer mode.

The procedure for NC measurement report sending shall be initiated by the mobile station at the expiry of the NC measurement report interval timer T3158. At expiry of the timer T3158 the mobile station shall restart the timer T3158, perform the measurements and send the PACKET MEASUREMENT REPORT message containing the ‘NC measurement report struct’ on PACCH.

A mobile station in mode NC1 may receive a new indicated reporting period or change packet mode while timer T3158 is active. If the new indicated reporting period is less than the time to expiry of timer T3158, the mobile station shall immediately restart timer T3158 with the new indicated reporting period. Otherwise, the timer T3158 shall continue to run.

42.4.1.1.2 Test Purpose

To verify that the MS sends the measurement report of the NC measurements according to the indicated reporting periods, when the T3158 expires.

To verify that the MS restarts the timer T3158 when it expires.

Reference

GSM 04.60, v.6.3.0, Chapters 5.6.1 and 8.3.

42.4.1.1.3 Method of test

Initial conditions

System Simulator:

- 1 cell, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends a PACKET MEASUREMENT ORDER message. MS sends continuously data blocks and PACKET MEASUREMENT REPORT messages according to the indicated reporting period. A PACKET MEASUREMENT ORDER message is sent again with new reporting period. MS sends data blocks and PACKET MEASUREMENT REPORT messages according to the new reporting period.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (dyn)}	MS is brought into uplink packet transfer mode.
2	SS->MS	PACKET MEASUREMENT ORDER	-Sent on PACCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_T See specific message contents
3	MS -> SS	RLC data blocks	MS sends data
4	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
5			Repeat steps 3 and 4 until the reporting period has expired.
6	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
7	MS -> SS	RLC data blocks	MS sends data.
8	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
9			Repeat steps 7 and 8 until the reporting period has expired.
10	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
11	MS -> SS	RLC data blocks	MS sends data.
12	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
13	SS ->MS	PACKET MEASUREMENT ORDER	- Sent on PACCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_T with new reporting period, which is greater than time to expiry of the timer T3158. See specific message contents
14	MS -> SS	RLC data blocks	MS sends data.
15	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
16			Repeat steps 14 and 15 until the old reporting period has expired.
17	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
18	MS -> SS	RLC data blocks	MS sends data.
19	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
20			Repeat steps 18 and 19 until the new reporting period has expired.
21	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH

Specific message contents

PACKET MEASUREMENT ORDER in step 2:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_T	 01 (NC1) 001 (0,96 s)

PACKET MEASUREMENT ORDER in step 13:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_T	 01 (NC1) 100 (7,68 s)

42.4.1.2 Network Control measurement reporting / Idle mode / New cell reselection

42.4.1.2.1 Conformance requirement

The procedure for measurement report sending shall be initiated by the mobile station at expiry of the NC measurement report interval timer T3158. At expiry of the timer T3158 the mobile station shall restart the expired timer T3158, perform the measurements and initiate the packet access. The packet access procedure is initiated by the RR entity in the mobile station with access type 'Single block without TBF establishment' indicated in the PACKET CHANNEL REQUEST message. The radio resource is assigned to the mobile station in a PACKET UPLINK ASSIGNMENT message sent on any PAGCH on the same PCCCH on which the network has received the PACKET CHANNEL REQUEST message.

When receiving a PACKET UPLINK ASSIGNMENT message the mobile station shall send PACKET MEASUREMENT REPORT in the allocated radio block on the assigned PDCH and immediately switch back to the PCCCH in non-DRX mode. No TBF is established and the network shall not acknowledge the reception of the PACKET MEASUREMENT REPORT.

A mobile station may reselect a new cell or may be ordered to reselect a new cell while timer T3158 is active. If time to expiry of timer T3158 is greater than the indicated reporting period for the new cell, the mobile station shall immediately restart timer T3158 with the indicated reporting period for the new cell. Otherwise the timer T3158 shall continue to run.

42.4.1.2.2 Test Purpose

To verify that if the MS reselects a new cell while timer T3158 is active, and the time to expiry of timer T3158 is greater than the indicated reporting period for the new cell, the MS shall immediately restart timer T3158 with the indicated reporting period for the new cell.

To verify that if the MS reselects a new cell while timer T3158 is active, and the time to expiry of timer T3158 is shorter than the indicated reporting period for the new cell, the timer T3158 shall continue to run.

Reference

GSM 04.60, v.6.3.0, Chapters 7.3 and 5.6.1.

42.4.1.2.3 Method of test

Initial conditions

System Simulator:

- 3 cells, GPRS supported, PCCCH is present

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS .

Foreseen final state of the MS

- MS is in idle mode

Test procedure

SS sends PACKET MEASUREMENT ORDER message to MS. SS sends PACKET CELL CHANGE ORDER message to MS with new reporting period before the old reporting period has expired. MS initiates a packet access and sends the PACKET MEASUREMENT REPORT to SS. Another measurement report is sent before new PACKET CELL CHANGE ORDER message with new reporting period is sent to MS. Two more measurement reports are sent using correct reporting periods.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS->MS	PACKET MEASUREMENT ORDER	-Sent on PCCCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_I of cell A See specific message contents
2	SS		SS waits 0.5 * the indicated reporting period.
3	SS->MS	PACKET CELL CHANGE ORDER	-Sent on PCCCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_I of cell B with new reporting period, which is shorter than remaining time of the old reporting period. See specific message contents
4	MS ->SS	PACKET CHANNEL REQUEST	To the new cell. 'Single block without TBF establishment.' SS verifies that PACKET CHANNEL REQUEST arrives at the end of correct reporting period.
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH.
6	MS ->SS	PACKET MEASUREMENT REPORT	Sent on the allocated PDCH.
7	MS ->SS	PACKET CHANNEL REQUEST	'Single block without TBF establishment.' SS verifies that PACKET CHANNEL REQUEST arrives at the end of correct reporting period.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH.
9	MS ->SS	PACKET MEASUREMENT REPORT	Sent on the allocated PDCH.
10	SS->MS	PACKET CELL CHANGE ORDER	-Sent on PCCCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_I of cell C with new reporting period, which is longer than remaining time of the old reporting period. See specific message contents
11	MS ->SS	PACKET CHANNEL REQUEST	'Single block without TBF establishment.' SS verifies that PACKET CHANNEL REQUEST arrives at the end of correct reporting period.
12	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH.
13	MS ->SS	PACKET MEASUREMENT REPORT	Sent on the allocated PDCH.
14	MS ->SS	PACKET CHANNEL REQUEST	'Single block without TBF establishment.' SS verifies that PACKET CHANNEL REQUEST arrives at the end of correct reporting period.
15	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH.
16	MS ->SS	PACKET MEASUREMENT REPORT	Sent on the allocated PDCH.

Specific message contents

PACKET MEASUREMENT ORDER:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_I	 01 (NC1) 100 (7,68 s)

PACKET CELL CHANGE ORDER in step 3:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_I	 01 (NC1) 001 (0,96 s)

PACKET CELL CHANGE ORDER in step 10:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_I	 01 (NC1) 010 (1,92 s)

42.4.1.3 Network Control measurement reporting / Downlink transfer/ Normal case

42.4.1.3.1 Conformance requirement

The procedure for NC measurement report sending shall be initiated by the mobile station at the expiry of the NC measurement report interval timer T3158. At expiry of the timer T3158 the mobile station shall restart the timer T3158, perform the measurements and send the PACKET MEASUREMENT REPORT message containing the 'NC measurement report struct' on PACCH.

Following a downlink TBF establishment, the PACKET MEASUREMENT REPORT message shall not be sent on the uplink PACCH associated with this TBF until two PACKET DOWNLINK ACK/NACK messages has been sent to the network.

The mobile station shall transmit an RLC/MAC control message other than a PACKET DOWNLINK ACK/NACK message at most every fourth time it is polled.

42.4.1.3.2 Test Purpose

To verify that the MS sends the measurement report of the NC measurements according to the indicated reporting periods, when the T3158 expires.

To verify that the MS restarts the timer T3158 when it expires.

To verify that the MS sends at least two PACKET DOWNLINK ACK/NACK messages before transmitting a PACKET MEASUREMENT REPORT message upon entering transfer state.

Reference

GSM 04.60, v.6.3.0, Chapters 8.1.2.2, 8.3 and 5.6.1.

42.4.1.3.3 Method of test

Initial conditions

System Simulator:

- 1 cell, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS .

Foreseen final state of the MS

- MS is in transfer mode

Test procedure

MS is brought into downlink packet transfer mode. SS sends a PACKET MEASUREMENT ORDER message. SS sends data blocks and MS answers with PACKET DOWNLINK ACK/NACK. When reporting period has expired and at least two PACKET DOWNLINK ACK/NACK messages has been sent, MS sends a PACKET MEASUREMENT REPORT message. SS sends data blocks continuously and MS sends PACKET MEASUREMENT REPORT messages when reporting period has expired and at least three PACKET DOWNLINK ACK/NACK messages have been sent after the last PACKET MEASUREMENT REPORT message.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PCCCH.
2	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
3	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET MEASUREMENT ORDER	-Sent on PACCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_T See specific message contents
5	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
6	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
7	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
8	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
9	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
10			Repeat steps 6 and 7 until the reporting period has expired.
11	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
12	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
13	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
14	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
15	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
16	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
17	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
18	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
19			Repeat steps 15 and 16 until the reporting period has expired.
20	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
21	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
22	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
23	SS->MS	PACKET MEASUREMENT ORDER	- Sent on PACCH. -Contains NETWORK_CONTROL_ORDER and NC_REPORTING_PERIOD_T with new reporting period. See specific message contents
24	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
25	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
26	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
27	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
28	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
29			Repeat steps 24 and 25 until the reporting period has expired.
30	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH
31	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
32	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
33	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
34	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
35	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
36	MS -> SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
37	SS -> MS	10 RLC data blocks	SS sends data, last block is polling.
38			Repeat steps 33 and 34 until the reporting period has expired.

39	MS->SS	PACKET MEASUREMENT REPORT	- Sent on PACCH. - Contains the "NC measurement report struct" on PACCH

Specific message contents

PACKET MEASUREMENT ORDER in step 4:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_T	 01 (NC1) 000 (0,48 s)

PACKET MEASUREMENT ORDER in step 23:

NC Measurement parameters NETWORK_CONTROL_ORDER NC_REPORTING_PERIOD_T	 01 (NC1) 001 (0,96 s)

42.4.2 Cell change order procedures

42.4.2.1 Cell change order procedure / Uplink transfer

42.4.2.1.1 Cell change order procedure / Uplink transfer / Normal case

42.4.2.1.1.1 Conformance requirement

The cell change order procedure is started by sending a PACKET CELL CHANGE ORDER message to the mobile station on the PCCCH or PACCH. Upon receipt of the PACKET CELL CHANGE ORDER message the mobile station shall start timer T3174.

When a cell reselection is made controlled by the network, the mobile station shall act upon the IMMEDIATE_REL value which has been received in the Packet Cell Change Order: if required, the mobile station shall abort any TBF in progress by immediately ceasing to decode the downlink, ceasing to transmit on the uplink, stopping all RLC/MAC timers except for timers related to measurement reporting. The mobile station shall then switch to the identified specified new cell and shall obey the relevant RLC/MAC procedures on this new cell.

42.4.2.1.1.2 Test Purpose

To verify that when the cell change order procedure is started by sending a PACKET CELL CHANGE ORDER message, the MS shall abort any TBF in progress and stop transmitting.

To verify that the MS shall switch to the new cell.

Reference

GSM 04.60, v.6.4.0, Chapter 8.4.

42.4.2.1.1.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS .

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends a PACKET CELL CHANGE ORDER message. SS checks that there is no traffic on the old cell. MS switches to the new cell and re-establishes the uplink TBF.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (fixed)}	MS is brought into uplink packet transfer mode. (Fixed allocation)
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order - USF
5	SS		Check that no more than six data blocks are transmitted from the MS on the old channel.
6		{Uplink packet transfer mode (fixed)}	
7	MS -> SS	RLC data blocks	MS sends data
8	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents

None.

42.4.2.1.2 Cell change order procedure / Uplink transfer / Failure cases / T3174 expiry

42.4.2.1.2.1 Conformance requirement

If timer T3174 expires before a response to the PACKET CHANNEL REQUEST message has been received from the new cell, the mobile station shall start timer T3176 and return to the old cell. The mobile station shall send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in uplink packet transfer before the cell change, the mobile station shall establish a new uplink TBF and send the PACKET CELL CHANGE FAILURE message on this TBF. The mobile station shall then resume its uplink transfer on this TBF.

42.4.2.1.2.2 Test Purpose

To verify that the mobile station sends a PACKET CELL CHANGE FAILURE message to the network, if timer T3174 expires before a response from the new cell, and returns to the old cell.

Reference

GSM 04.60, v.6.4.0, Chapter 8.4.1.

42.4.2.1.2.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS .

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in Transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends several PACKET CHANNEL REQUESTs on the new cell, but the timer T3174 expires before a response to PACKET CHANNEL REQUEST message has been received from the new cell. MS returns to the old cell, sends a PACKET CELL CHANGE FAILURE message to the SS and continues data transfer on the old cell.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (dyn)}	MS is brought into uplink packet transfer mode.
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS ->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS ->SS	PACKET CHANNEL REQUEST	To the new cell.
6	MS		MS sends PACKET CHANNEL REQUESTS until timer T3174 has expired.
7	MS ->SS	PACKET CHANNEL REQUEST	To the old cell.
8	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
9	MS ->SS	PACKET CELL CHANGE FAILURE	Error cause:" No response on target cell "
10	MS->SS	RLC data blocks	MS sends data
11	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents
PACKET CELL CHANGE FAILURE in step 9:

Packet Cell Change Failure message content: CAUSE	0001

42.4.2.1.3 Cell change order procedure / Uplink transfer / Failure cases / REJECT from the new cell

42.4.2.1.3.1 Conformance requirement

If a PACKET ACCESS REJECT message is received from the new cell, the mobile station shall start timer T3176, return to the old cell and send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in uplink packet transfer before the cell change, the mobile station shall establish a new uplink TBF and send the PACKET CELL CHANGE FAILURE message on this TBF. The mobile station shall then resume its uplink transfer on this TBF.

42.4.2.1.3.2 Test Purpose

To verify that the mobile station sends a PACKET CELL CHANGE FAILURE message to the network from the old cell, if a PACKET ACCESS REJECT message is received from the new cell.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4.1

42.4.2.1.3.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in Transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends the PACKET CHANNEL REQUEST. SS sends PACKET ACCESS REJECT message. MS returns to the old cell and sends PACKET CELL CHANGE FAILURE message to the network.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode}	MS is brought into uplink packet transfer mode.
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS->SS	PACKET CHANNEL REQUEST	To the new cell.
6	SS->MS	PACKET ACCESS REJECT	Received from the new cell
7	MS->SS	PACKET CHANNEL REQUEST	To the old cell.
8	SS->MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
9	MS ->SS	PACKET CELL CHANGE FAILURE	Error cause:" Packet Access Reject on target cell "
10	MS->SS	RLC data blocks	MS sends data
11	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

42.4.2.1.4 Cell change order procedure / Uplink transfer / Failure cases / Contention resolution failure

42.4.2.1.4.1 Conformance requirement

If the contention resolution procedure fails on the new cell, then the mobile station shall start timer T3176 and return to the old cell. The mobile station shall send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in uplink packet transfer before the cell change, the mobile station shall establish a new uplink TBF and send the PACKET CELL CHANGE FAILURE message on this TBF. The mobile station shall then resume its uplink transfer on this TBF.

42.4.2.1.4.2 Test Purpose

To verify that the mobile station initiates a random access to the old cell, if the contention resolution procedure fails on the new cell.

Reference

GSM 04.60, v.6.4.0, Chapter 8.4.1.

42.4.2.1.4.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in Transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends the PACKET CHANNEL REQUEST to the new cell. Contention resolution procedure fails in the new cell. MS initiates a random access to the old cell and sends PACKET CELL CHANGE FAILURE message to the network.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (dyn)}	MS is brought into uplink packet transfer mode.
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PCCCH or PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS->SS	PACKET CHANNEL REQUEST	To the new cell.
6	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on the PACCH.
7	MS -> SS	RLC/MAC data and control blocks	The first three data blocks contain the TLLI. The TLLI should be the same in each RLC data block header.

8	SS->MS	PACKET UPLINK ACK/NACK	Contention resolution procedure fails in the new cell. Message has wrong TLLI.
9	MS ->SS	PACKET CHANNEL REQUEST	To the old cell.
10	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on the PACCH.
11	MS->SS	PACKET CELL CHANGE FAILURE	No error cause.
12	MS->SS	RLC data blocks	MS sends data
13	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents

None.

42.4.2.1.5 Cell change order procedure / Uplink transfer / Failure cases / REJECT from the new cell and T3176 expiry

42.4.2.1.5.1 Conformance requirement

If a PACKET ACCESS REJECT message is received from the new cell, the mobile station shall start timer T3176, return to the old cell and send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in uplink packet transfer before the cell change, the mobile station shall establish a new uplink TBF and send the PACKET CELL CHANGE FAILURE message on this TBF. When the mobile station has sent a PACKET CELL CHANGE FAILURE message, timer T3176 shall be stopped.

If T3176 expires and the mobile station was previous in an uplink packet transfer on the old cell, the mobile station shall perform the abnormal release with random access.

42.4.2.1.5.2 Test Purpose

To verify that the mobile station shall perform the abnormal release with random access, if a PACKET ACCESS REJECT message is received from the new cell and timer T3176 expires.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4.1

42.4.2.1.5.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in idle mode.

Test procedure

MS is brought into uplink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends the PACKET CHANNEL REQUEST. SS sends PACKET ACCESS REJECT message. MS performs the abnormal release with random access.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode}	MS is brought into uplink packet transfer mode.
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS->SS	PACKET CHANNEL REQUEST	To the new cell.
6	SS->MS	PACKET ACCESS REJECT	Received from the new cell.
7	MS ->SS	PACKET CHANNEL REQUEST	To the old cell. Timer T3176 expires.
8	MS ->SS	PACKET CHANNEL REQUEST	To the old cell.

Specific message contents

None.

42.4.2.1.6 Cell change order procedure / Uplink transfer / Failure cases / Frequency not implemented

42.4.2.1.6.1 Conformance requirement

If the network message instructs the mobile station to use a frequency that it is not capable of using, the mobile station shall send a PACKET CELL CHANGE FAILURE message and remain on the current PDCH(s).

42.4.2.1.6.2 Test Purpose

To verify that the mobile station returns a PACKET CELL CHANGE FAILURE message, if the ordered frequency cannot be used.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4.2.

42.4.2.1.6.3 Method of test

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in Transfer mode

Test procedure

MS is brought into uplink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message. MS is not capable of using the ordered frequency and sends a PACKET CELL CHANGE FAILURE message to the network. MS shall remain on the current PDCH(s).

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (dyn)}	MS is brought into uplink packet transfer mode.
2	MS -> SS	RLC data blocks	MS sends data
3	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Contains -BSIC + BCCH frequency -The network control order MS is not capable of using the ordered frequency.
5	MS->SS	PACKET CELL CHANGE FAILURE	Sent on the PACCH. Error cause "frequency not implemented".
6	MS		MS shall remain on the current PDCH(s).
7	MS -> SS	RLC data blocks	MS sends data
8	SS -> MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents

PACKET CELL CHANGE FAILURE in step 5:

Packet Cell Change Failure message content: CAUSE	0000

42.4.2.2 Cell change order procedure / Downlink transfer

42.4.2.2.1 Cell change order procedure / Downlink transfer / Normal case

42.4.2.2.1.1 Conformance requirement

The cell change order procedure is started by sending a PACKET CELL CHANGE ORDER message to the mobile station on the PCCCH or PACCH. Upon receipt of the PACKET CELL CHANGE ORDER message the mobile station shall start timer T3174.

When a cell reselection is made controlled by the network, the mobile station shall act upon the IMMEDIATE_REL value which has been received in the Packet Cell Change Order: if required, the mobile station shall abort any TBF in progress by immediately ceasing to decode the downlink, ceasing to transmit

on the uplink, stopping all RLC/MAC timers except for timers related to measurement reporting. The mobile station shall then switch to the identified specified new cell and shall obey the relevant RLC/MAC procedures on this new cell.

42.4.2.2.1.2 Test Purpose

To verify that the cell change order procedure is started when the MS receives a PACKET CELL CHANGE ORDER message.

To verify that the MS switches to the new cell.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4

42.4.2.2.1.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

Foreseen final state of the MS

- MS is in Transfer mode

Test procedure

MS is brought into downlink packet transfer mode. SS sends a PACKET CELL CHANGE ORDER message. MS switches to the new cell and SS establishes a new downlink TBF.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PCCCH.
2	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
3	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS->SS	PACKET CHANNEL REQUEST	To the new cell. Single block without TBF.
6	SS->MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH.
7	MS->SS	RLC data block	Sent on the PDCH
8	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on PCCCH. On the new cell. Addressing the MS with TLLI.
9	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
10	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.

Specific message contents

None

42.4.2.2.2 Cell change order procedure / Downlink transfer / Failure cases / REJECT from the new cell

42.4.2.2.2.1 Conformance requirement

If a PACKET ACCESS REJECT message is received from the new cell, the mobile station shall start timer T3176, return to the old cell and send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in downlink packet transfer mode before the cell change, the mobile station shall initiate a random access to the old cell, with access type “single block without TBF establishment”, and then transmit the PACKET CELL CHANGE FAILURE message on the single block.

42.4.2.2.2.2 Test Purpose

To verify that the mobile station sends a PACKET CELL CHANGE FAILURE message to the network in the old cell, if a PACKET ACCESS REJECT message is received from the new cell.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4.1

42.4.2.2.2.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

Foreseen final state of the MS

- MS is in idle mode

Test procedure

MS is brought into downlink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends the PACKET CHANNEL REQUEST. SS sends PACKET ACCESS REJECT message. MS returns to the old cell and sends PACKET CELL CHANGE FAILURE message to the network.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PCCCH.
2	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
3	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order
5	MS->SS	PACKET CHANNEL REQUEST	To the new cell.
6	SS->MS	PACKET ACCESS REJECT	Received from the new cell
7	MS->SS	PACKET CHANNEL REQUEST	To the old cell. 'Single block without TBF establishment.'
8	SS->MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
9	MS ->SS	PACKET CELL CHANGE FAILURE	Single block. Error cause:" Packet Access Reject on target cell "

Specific message contents

PACKET CELL CHANGE FAILURE in step 9:

Packet Cell Change Failure message content: CAUSE	0010

42.4.2.2.3 Cell change order procedure / Downlink transfer / Failure cases / Frequency not implemented

42.4.2.2.3.1 Conformance requirement

If the network message instructs the mobile station to use a frequency that it is not capable of using, the mobile station shall send a PACKET CELL CHANGE FAILURE message and remain on the current PDCH(s).

42.4.2.2.3.2 Test Purpose

To verify that the mobile station returns a PACKET CELL CHANGE FAILURE message if it is not capable of using the ordered frequency.

Reference

GSM 04.60, v. 6.4.0, Chapter 8.4.2.

42.4.2.2.3.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

Foreseen final state of the MS

- MS is in idle mode

Test procedure

MS is brought into downlink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message. The ordered frequency is not capable of using and MS initiates a random access. The MS sends a PACKET CELL CHANGE FAILURE message to the network.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PCCCH.
2	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
3	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
4	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains -BSIC + BCCH frequency -The network control order The frequency is not capable of using.
5	MS ->SS	PACKET CHANNEL REQUEST	'Single block without TBF establishment.'
6	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
7	MS->SS	PACKET CELL CHANGE FAILURE	Single block Error cause: "Frequency not implemented".

Specific message contents

PACKET CELL CHANGE FAILURE in step 7:

Packet Cell Change Failure message content: CAUSE	0000

42.4.2.3 Cell change order procedure / Simultaneous uplink and downlink transfer

42.4.2.3.1 Cell change order procedure / Simultaneous uplink and downlink transfer / Normal case

42.4.2.3.1.1 Conformance requirement

The cell change order procedure is started by sending a PACKET CELL CHANGE ORDER message to the mobile station on the PCCCH or PACCH. Upon receipt of the PACKET CELL CHANGE ORDER message the mobile station shall start timer T3174.

When a cell reselection is made controlled by the network, the mobile station shall act upon the IMMEDIATE_REL value which has been received in the Packet Cell Change Order: if required, the mobile station shall abort any TBF in progress by immediately ceasing to decode the downlink, ceasing to transmit on the uplink, stopping all RLC/MAC timers except for timers related to measurement reporting. The mobile station shall then switch to the identified specified new cell and shall obey the relevant RLC/MAC procedures on this new cell.

When cell reselection is controlled by the network, the mobile station in packet transfer mode shall act upon the IMMEDIATE_REL value: it may continue its operation in the old serving cell, as in mobile steered cell reselection, or it shall immediately abort its TBF if it is indicated by the IMMEDIATE_REL value.

Under no circumstances, operations in the old cell shall be continued more than 5 seconds after a cell reselection has been determined.

42.4.2.3.1.2 Test Purpose

To verify that when the cell change order procedure is started by sending a PACKET CELL CHANGE ORDER message, the MS shall abort any TBF in progress and stop transmitting.

To verify that the MS shall switch to the new cell.

To verify that the MS shall act upon the IMMEDIATE_REL value.

Reference

GSM 04.60, v. 6.4.0, Chapters 5.5.1.1, 8.4 and 8.4.1

42.4.2.3.1.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in simultaneous uplink and downlink packet transfer mode.

Test procedure

MS is brought into simultaneous uplink and downlink packet transfer mode. SS sends a PACKET CELL CHANGE ORDER message with IMMEDIATE_REL value set to 1 to force the mobile to release all ongoing TBFs. MS switches to the new cell and simultaneous uplink and downlink TBF is re-established.

SS sends a PACKET CELL CHANGE ORDER message with IMMEDIATE_REL value set to 0. The MS continues its operation in the old serving cell.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (fixed)}	MS is brought into uplink packet transfer mode. (Fixed allocation)
2	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PACCH.
3	MS->SS	RLC data blocks	MS sends data.
4	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
5	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
6	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
7	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains –BSIC + BCCH frequency -The network control order -USF
8	SS		Check that no more than six data blocks are transmitted from the MS on old channel.
9	MS->SS	PACKET CHANNEL REQUEST	Sent on the PRACH. To the new cell.
10	SS->MS	PACKET UPLINK ASSIGNMENT	Sent on the PCCCH.
11	MS->SS	RLC data block	MS sends data.
12	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
13	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on PACCH. On the new cell.
14	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
15	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
16	MS->SS	RLC data blocks	MS sends data.
17	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
18	SS->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains –BSIC + BCCH frequency -The network control order -USF IMMEDIATE_REL bit is not set. See specific message contents.
19	MS->SS	RLC data blocks	MS sends data.
20	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
21	SS		Steps 13 and 14 are optional and can be repeated, but not more than 5 seconds.
22	MS->SS	PACKET CHANNEL REQUEST	Sent on the PRACH. To the new cell.
23	SS->MS	PACKET UPLINK ASSIGNMENT	Sent on the PCCCH.
24	MS->SS	RLC data block	MS sends data.
25	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
26	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on PACCH. On the new cell.
27	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
28	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
29	MS->SS	RLC data blocks	MS sends data.
30	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents

PACKET CELL CHANGE ORDER in Step 18:

Packet Cell Change Order message content: **IMMEDIATE_REL**	0 (Same procedure as for an autonomous cell reselection)

42.4.2.3.2 Cell change order procedure / Simultaneous uplink and downlink transfer / Failure case / T3174 expiry

42.4.2.3.2.1 Conformance requirement

If timer T3174 expires before a response to the PACKET CHANNEL REQUEST message has been received from the new cell, the mobile station shall start timer T3176 and return to the old cell. The mobile station shall send a PACKET CELL CHANGE FAILURE message to the network.

If the mobile station was in a simultaneous uplink and downlink packet transfer mode before the cell change, the mobile station shall establish a new uplink TBF and send the PACKET CELL CHANGE FAILURE message on this TBF. When the mobile station has sent a PACKET CELL CHANGE FAILURE message, timer T3176 shall be stopped. The mobile station shall then resume its uplink transfer on this TBF.

42.4.2.3.2.2 Test Purpose

To verify that the mobile station sends a PACKET CELL CHANGE FAILURE message to the network and returns to the old cell if timer T3174 expires before a response from the new cell.

Reference

GSM 04.60, v.6.4.0, Chapter 8.4.1.

42.4.2.3.2.3 Method of test

Initial conditions

System Simulator:

- 2 cells, GPRS supported

Mobile Station:

- MS is in Packet Idle mode and GPRS attached.

- PDP context established

Related PICS/PIXIT statement

Support of GPRS.

The way to trigger the MS initiating an uplink packet transfer.

Foreseen final state of the MS

- MS is in Idle mode

Test procedure

MS is brought into simultaneous uplink and downlink packet transfer mode. SS sends the PACKET CELL CHANGE ORDER message to the MS. MS sends several PACKET CHANNEL REQUESTs to the new cell, but the timer T3174 expires before a response to PACKET CHANNEL REQUEST message has been received from the new cell. MS returns to the old cell and sends a PACKET CELL CHANGE FAILURE message to the SS.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink packet transfer mode (fixed)}	MS is brought into uplink packet transfer mode. (Fixed allocation)
2	SS->MS	PACKET DOWNLINK ASSIGNMENT	Sent on the PACCH.
3	MS->SS	RLC data blocks	MS sends data.
4	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.
5	SS->MS	10 RLC data blocks	SS sends data, last block is polling.
6	MS->SS	PACKET DOWNLINK ACK/NACK	Sent on PACCH.
7	SS ->MS	PACKET CELL CHANGE ORDER	Sent on the PACCH. Contains –BSIC + BCCH frequency -The network control order
8	MS ->SS	PACKET CHANNEL REQUEST	To the new cell.
9	MS		MS sends PACKET CHANNEL REQUESTS until timer T3174 has expired.
10	MS ->SS	PACKET CHANNEL REQUEST	To the old cell.
11	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on the PACCH.
12	MS ->SS	PACKET CELL CHANGE FAILURE	Error cause:" No response on target cell "
13	MS->SS	RLC data blocks	MS sends data.
14	SS->MS	PACKET UPLINK ACK/NACK	Sent on PACCH.

Specific message contents

PACKET CELL CHANGE FAILURE in step 12:

Packet Cell Change Failure message content: CAUSE	0001

42.4.3 Macros and Default Message contents

42.4.3.1 Macros

In order to simplify the process of writing and coding test cases, macros are referenced in the expected signalling tables. These macros provide all additional signalling needed to complete the particular test but are not relevant to its purpose.

42.4.3.1.1 Uplink packet transfer mode / Dynamic allocation

Step	Direction	Message	Comments
	MS → SS	{ Uplink packet transfer mode (dyn) }	Macro
1	MS → SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS → MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH. (Dynamic allocation)

42.4.3.1.2 Uplink packet transfer mode / Fixed allocation

Step	Direction	Message	Comments
	MS → SS	{ Uplink packet transfer mode (fixed) }	Macro
1	MS → SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS → MS	PACKET UPLINK ASSIGNMENT	Sent on PAGCH. (Fixed allocation)

42.4.3.2 Default Messages

42.4.3.2.1 PACKET CELL CHANGE ORDER message

MESSAGE_TYPE	0000 01
PAGE_MODE	00 Normal Paging
Referenced Address	
-	10 (address is TLLI)
- TLLI	e received from MS
IMMEDIATE_REL	1 (Immediate release of the on-going TBF.)
ARFCN	For GSM 900, 00 0001 0100 (ARFCN 20)
	For DCS 1800, 10 0100 1110 (ARFCN 590)
BSIC	For GSM 900, 001101
	For DCS 1800, 001101
NC Measurement Parameters	
NETWORK_CONTROL_ORDER	0 0 NC0
{ 0 | 1 < NC_NON_DRX_PERIOD	0 No additional NC parameters
< NC_REPORTING_PERIOD_I	
< NC_REPORTING_PERIOD_T }	
NC Frequency list struct	
{ 0 | 1 < NC_FREQUENCY_LIST }	0 No NC_FREQUENCY_LIST
< padding bits >	Spare Padding

42.4.3.2.2 PACKET CELL CHANGE FAILURE message

MESSAGE_TYPE	0000 00
TLLI	same as the value received from MS
ARFCN	For GSM 900, 00 0001 0100 (ARFCN 20)
	For DCS 1800, 10 0100 1110 (ARFCN 590)
BSIC	For GSM 900, 001101
	For DCS 1800, 001101
CAUSE	0 0 0 1 No response on target cell
spare padding	Spare Padding

42.4.3.2.3 PACKET MEASUREMENT ORDER message

MESSAGE_TYPE	0000 11
PAGE_MODE	00 Normal Paging
TLLI	10 (address is TLLI)
-	Same as the value received from MS
PMO_INDEX	0 0 first message of two messages
PMO_COUNT	0 1 two messages expected
{ 0 | 1 < NC Measurement Parameters }	1 NC Measurement Parameters available
NC Measurement Parameters	
NETWORK_CONTROL_ORDER	0 1 NC1
{ 0 | 1 < NC_NON_DRX_PERIOD	1 Additional NC parameters available
< NC_REPORTING_PERIOD_I	NC_NON_DRX_PERIOD = 000
< NC_REPORTING_PERIOD_T }	(No non-DRX mode after a measurement report has been sent)
	NC_REPORTING_PERIOD_I = 111 (61.44 sec)
	NC_REPORTING_PERIOD_T = 011 (3.84 sec)
{ 0 | 1 < NC_FREQUENCY_LIST }	1 NC Frequency list struct available
NC Frequency list	
{ 0 | 1 { < NR_OF_REMOVED_FREQ	1 Frequencies have been removed
NR_OF_REMOVED_FREQ	00001
REMOVED_FREQ_INDEX	000000
{ 1 < List of added Frequency struct	
Add Frequency list	
START_FREQUENCY	00 0101 1000 (ARFCN 88)
BSIC	001101
{ 0 | 1 < Cell selection params	1 cell selection parameters available
Cell selection params	
EXC_ACC	0
CELL_BAR_ACCESS_2	0 normal reselection
SAME_RA_AS_SERVING_CELL	1 same RA as serving cell
{ 0 | 1 < GPRS_RXLEV_ACCESS_MIN }	1 GPRS_RXLEV_ACCESS_MIN present
GPRS_RXLEV_ACCESS_MIN	011111 -80dBm
GPRS_MS_TXPWR_MAX_CCH	10001 Mid level
{ 0 | 1 < GPRS_TEMPORARY_OFFSET }	1 GPRS_TEMPORARY_OFFSET present
GPRS_TEMPORARY_OFFSET	000
GPRS_PENALTY_TIME	0000
{ 0 | 1 < GPRS_RESELECT_OFFSET }	1 GPRS_RESELECT_OFFSET present
GPRS_RESELECT_OFFSET	10000 0dBm
{ 0 | 1 < HCS params }	1 HCS params present
GPRS_PRIORITY_CLASS	000
GPRS_HCS_THR	10100
{ 0 | 1 < SI13_PBCCH_LOCATION }	1 SI13_PBCCH_LOCATION present
{ 0 < SI13_LOCATION }	0
SI13_LOCATION	0 SI13 is sent on BCCH norm
NR_OF_FREQUENCIES	0001
FREQ_DIFF_LENGTH	010
FREQUENCY_DIFF	111 (ARFCN 95)
BSIC	001101
{ 0 | 1 < Cell selection params }	1 cell selection parameters available
Cell selection params	
EXC_ACC	0
CELL_BAR_ACCESS_2	0 Normal reselection
SAME_RA_AS_SERVING_CELL	0 Not RA as serving cell
{ 0 | 1 < GPRS_RXLEV_ACCESS_MIN }	0 GPRS_RXLEV_ACCESS_MIN not present
{ 0 | 1 < GPRS_TEMPORARY_OFFSET }	0 GPRS_TEMPORARY_OFFSET not present
{ 0 | 1 < GPRS_RESELECT_OFFSET }	0 GPRS_RESELECT_OFFSET not present
{ 0 | 1 < HCS params }	0 HCS params not present
{ 0 | 1 < SI13_PBCCH_LOCATION }	1 SI13_PBCCH_LOCATION present

{ 0 < SI13_LOCATION }	0
SI13_LOCATION	1 SI13 is sent on BCCH norm
} 0	End of list
< padding bits >	Spare Padding

SMG7 Meeting #23
Sophia-Antipolis, France, 19-22 Oct 1999

Document P-99-316
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A729	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: Rohde & Schwarz **Date:** 11.10.1999

Subject: HSCSD test 26.13.1.2.1: GSM1800 messages missing; Steps 28,29 added.

Work item: HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
Release 00	

Reason for change:
The definition of GSM 1800 messages in 'Specific Message Contents' for test 26.13.1.2.1 was missing.
Test steps added to cover assignment procedure with resource downgrading.

Clauses affected: 26.13.1.2.1

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

26.13.1.2.1 Multislot signalling / RR / Dedicated assignment / successful case

This test is applicable to all MS that supports multislot configuration.

26.13.1.2.1.1 Conformance requirements

1) Upon receipt of the ASSIGNMENT COMMAND message, the mobile station initiates a local end release of link layer connections, disconnects the physical channels, commands the switching to the assigned channels and initiates the establishment of lower layer connections (this includes the activation of the channels, their connection and the establishment of the main signalling links).

2) MM-messages and CM-messages using SAPI=0 sent from the mobile station to the network can be duplicated by the data link layer in the following case:

   - a channel change of dedicated channels is required (assignment or handover procedure) and the last layer 2 frame has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

   In this case, the mobile station does not know whether the network has received the message correctly. Therefore, the mobile station has to send the message again after the new dedicated channel is established.

3) The MS shall establish the link with the power level specified in the ASSIGNMENT COMMAND message.

   The MS shall confirm the power control level that it is currently employing in the uplink SACCH L1 header. The indicated value shall be the power control level actually used by the mobile for the last burst of the previous SACCH period.

4) The MS shall apply the hopping frequencies specified in ASSIGNMENT COMMAND message in the Mobile Allocation IE or the Frequency List IE at the time of accessing the new channel using the last received Cell Allocation.

5) After receipt of the ASSIGNMENT COMMAND the MS shall perform the assignment and return an ASSIGNMENT COMPLETE without undue delay.

References

Conformance requirements	1),4)	GSM 04.08 sections 3.4.3 and 9.1.2.
Conformance requirements	2)	GSM 04.08 section 3.1.4.3.
Conformance requirements	3)	GSM 04.08 sections 3.4.3 and 9.1.2; GSM 05.08, section 4.2.
Conformance requirements	5)	GSM 04.08 sections 3.4.3 and 9.1.3, GSM 04.13 section 5.2.4.

26.13.1.2.1.2 Test purpose

1) To verify that upon receipt of an ASSIGNMENT COMMAND, the MS switches to the channel(s) defined in the ASSIGNMENT COMMAND, establishes the link and sends an ASSIGNMENT COMPLETE message. This is tested for an MS supporting TCH and multislot configuration in the special cases of a transition.

   1.1) from non-hopping SDCCH to hopping multislot configuration;

   1.2) from hopping multislot configuration to non-hopping multislot configuration;

   1.3) from non-hopping multislot configuration to hopping multislot configuration;

   1.4) from hopping symmetric multislot configuration to hopping asymmetric multislot configuration, resource upgrading used;

1.5) from hopping asymmetric multislot configuration to hopping symmetric multislot configuration;

1.6) from hopping multislot configuration to non-hopping multislot configuration, resources downgrading to one TCH/F;

1.7) from non-hopping multislot configuration with one TCH/F to non-hopping multislot configuration, resource upgrading used;

1.8) from non-hopping multislot configuration to hopping multislot configuration, relocating all channels in multislot configuration call without changing the number of TCH/Fs allocated;

1.9) from hopping multislot configuration to non-hopping multislot configuration, partially relocating the channels in multislot configuration call without changing the number of TCH/Fs allocated;

1.10) from non-hopping multislot configuration to hopping multislot configuration, resource downgrading to one TCH/F;

2) To verify that an MS supporting TCH and multislot configuration, having sent a MM- or CM message that was not acknowledged on L2 before the channel assignment procedure was initiated and before the MS has left the old channel, repeats that message after completion of the assignment procedure without incrementing N(SD). This is tested in the special case of MM message AUTHENTICATION RESPONSE.

3) To verify that an MS supporting TCH and multislot configuration, having received an ASSIGNMENT COMMAND, having sent an SABM frame to establish the main signalling link on the assigned main channel of the multislot configuration, reports the power level(s) specified in the ASSIGNMENT COMMAND message, in the uplink SACCH L1 header of the SACCH message sent int the SACCH period following the transmission of the SABM frame.

4) To verify that an MS supporting TCH and multislot configuration, having received an ASSIGNMENT COMMAND, is able in the case of frequency hopping to decode the Mobile Allocation and Frequency List IEs correctly and applies the specified frequencies using the correct Cell Allocation.

5) To verify that after receipt of the ASSIGNMENT COMMAND the MS returns an ASSIGNMENT COMPLETE without undue delay.

26.13.1.2.1.3 Method of test

Initial Conditions

System Simulator:
- 1 cell, default parameters except:
- Early classmark sending enabled in SI3 rest octets

GSM 900:
- BCCH ARFCN =20.
- Throughout the test, the CA broadcast in System Information 1 is (10, 17, 20, 26, 34, 42, 45, 46, 52, 59).
- Note that the actual CA of the cell contains other frequencies.

DCS 1 800:
- BCCH ARFCN =747.
- Throughout the test, the CA broadcast in System Information 1 is (734, 741, 747, 754, 759, 766, 773, 775, 779, 782).
- Note that the actual CA of the cell contains other frequencies.

Mobile Station:
- The MS is in the "idle, updated" state with a TMSI allocated.

Related PICS/PIXIT Statements

- The supported channel mode(s) need to be declared.
- The supported frequencies (P-GSM, E-GSM,R-GSM or DCS 1 800).
- Multislot class
- Classmark change

Foreseen Final State of the MS

- "Idle, updated", with TMSI allocated.

Test Procedure

The SS pages the MS and allocates an SDCCH. Each time the MS shall switch to the assigned channel, establish the link and send an ASSIGNMENT COMPLETE message.

Then the SS sends an AUTHENTICATION REQUEST message. The MS shall answer with an AUTHENTICATION RESPONSE message, which is not acknowledged on L2 by the SS. Immediately after the AUTHENTICATION RESPONSE message is received, the SS sends an ASSIGNMENT COMMAND. The MS shall switch to the assigned channel, establish the link with the commanded power level and send as ASSIGNMENT COMPLETE message. Then MS shall repeat the AUTHENTICATION RESPONSE message, with the same N(SD) value.

Then the SS sends an ASSIGNMENT COMMAND, which includes a Starting Time IE. The MS shall react as specified above, but this shall be done at the time specified in Starting Time IE.

The SS initiates the channel release procedure and the main signalling link is released.

Maximum Duration of Test

30 s.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	See specific message contents.
4	MS -> SS	PAGING RESPONSE	
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
7	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 6.
8	SS		The SS checks that the MS reports the requested power level in the layer 1 header of the SACCH message that is sent in the first SACCH multiframe following the SABM.
9	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
10	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 9.
11	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
12	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 11.
13	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.

Step	Direction	Message	Comments
14	MS -> SS	ASSIGNMENT COMPLETE	
15	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
16	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 15.
17	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
18	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 17.
19	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
20	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 19.
21	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
22	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 21.
23	SS -> MS	AUTHENTICATION REQUEST	
24	MS -> SS	AUTHENTICATION RESPONSE	This message is not L2 acknowledged by the SS.
25	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
26	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. . This message shall be transmitted ~~at the specified Starting Time in step 25.~~before 600 ms after the completion of step 25.
27	MS -> SS	AUTHENTICATION RESPONSE	N(SD) shall be the same as in step 24.
28	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
29	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be transmitted at the specified Starting Time in step 28.
30~~28~~	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

GSM 900 begin:

Step 3

IMMEDIATE ASSIGNMENT:

As default message contents except	
Channel Description	
- Channel Type	SDCCH/8
TDMA offset	Chosen arbitrarily
- Timeslot Number	N, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier

Step 6

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Multislot allocation	
- Downlink assignment	Maximum number of timeslots supported by the MS
- Uplink assignment	Maximum number of timeslots supported by the MS after specifying Downlink timeslots
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates all of the CA (broadcast on the BCCH) except for the BCCH carrier.
Starting Time	Not included

Step 9

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Maximum number of possible additional bidirectional TCH/Fs and SACCH/Ms substracted by one, minimum being one)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 11

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Depending on Multislot class, Shall not have maximum number of timeslots.
- Uplink assignment	Appropriate for the test, but as many as in downlink assignment
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 13

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	11XXX (Appropriate number of additional unidirectional TCH/FDs and SACCH/MDs or Additional bidirectional TCH/F and SACCH/M and additional unidirectional TCH/FD and SACCH/MD Number of downlink timeslots shall be more than in step 11)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 15

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Must be more than one.
- Uplink assignment	Appropriate for the test, but as many as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 17

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10000 (no additional timeslots)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Appropriate for the test, but more than one timeslot allocated and excluding timeslot 0.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Same number of TCH/Fs and timeslot mapping as in step 19)
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Frequency hopping
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicate frequencies (46, 73 74)
Starting Time	Not included

Step 25

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Indicate same timeslots as step 19.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included~~Chosen arbitrarily~~

Step 28

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10000 (no additional timeslots)
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Frequency hopping
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Not included
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicate frequencies (46, 73 74)
Starting Time	Chosen arbitrarily

GSM 900 end:

GSM 1800 begin:

Step 3

IMMEDIATE ASSIGNMENT:

As default message contents except	
Channel Description	
- Channel Type	SDCCH/8
TDMA offset	Chosen arbitrarily
- Timeslot Number	N, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier

Step 6

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Multislot allocation	
- Downlink assignment	Maximum number of timeslots supported by the MS
- Uplink assignment	Maximum number of timeslots supported by the MS after specifying Downlink timeslots
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates all of the CA (broadcast on the BCCH) except for the BCCH carrier.
Starting Time	Not included

Step 9

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Maximum number of possible additional bidirectional TCH/Fs and SACCH/Ms substracted by one, minimum being one)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 11

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Depending on Multislot class, Shall not have maximum number of timeslots.
- Uplink assignment	Appropriate for the test, but as many as in downlink assignment
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (773, 775, 779, 829, 832, 844)
Starting Time	Not included

Step 13

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	11XXX (Appropriate number of additional unidirectional TCH/FDs and SACCH/MDs or Additional bidirectional TCH/F and SACCH/M and additional unidirectional TCH/FD and SACCH/MD Number of downlink timeslots shall be more than in step 11)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (773, 775, 779, 829, 832, 844)
Starting Time	Not included

Step 15

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Must be more than one.
- Uplink assignment	Appropriate for the test, but as many as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (773, 775, 779, 829, 832, 844)
Starting Time	Not included

Step 17

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10000 (no additional timeslots)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Appropriate for the test, but more than one timeslot allocated and excluding timeslot 0.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Same number of TCH/Fs and timeslot mapping as in step 19)
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Frequency hopping
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicate frequencies (782, 791, 798)
Starting Time	Not included

Step 25

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Use Range 128 to encode (773, 775, 779, 782, 791, 798, 829, 832, 844)
Multislot allocation	
- Downlink assignment	Indicate same timeslots as step 19.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 28

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10000 (no additional timeslots)
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Frequency hopping
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Not Included
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicate frequencies (782, 791, 798)
Starting Time	Chosen arbitrarily

GSM 1800 end:

SMG7 Meeting #23
Sophia-Antipolis, France, 19-22 Oct 1999

***Document* 7-99-317**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A732	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source:	Rohde & Schwarz	**Date:**	11.10.1999

Subject:	HSCSD section 26.13.1.3: Table 1 corrected.

Work item:	HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
Release 00	

Reason for change:	Correction in column ‘State of call’ for test 26.13.1.3.2.

Clauses affected:	26.13.1.3 Test of Handover

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:	

26.13.1.3 Test of handover

With the Handover procedure, it is possible to completely alter the channels allocated to a MS. This makes it possible in particular to switch a call in progress from one cell to another. The procedure is always initiated by the network and with the MS in a dedicated mode.

Sections 26.13.1.3.1 - 26.13.1.3.5 contain test procedures to be used for executing successful Handover tests in multislot configuration. Table 26.13.1.3-1 contains a summary of the different combinations of parameters that have to be tested, together with a reference to the appropriate test procedure.

Table 26.13.1.3-1

From	To	Timing Adv.	Start Time	Syn ?	State of call	Section	Exec Counter
Multislot configuration, MAX number of timeslots, no FH	Multislot configuration, MAX number of timeslots, FH	arbitrarily	none	no	U10	26.13.1.3.1	1
Multislot configuration, MIN number of timeslots, no FH	Multislot configuration, MAX number of timeslots, no FH	arbitrarily	none	no	estab* ~~U10~~	26.13.1.3.2	1
Multislot configuration, MAX number of timeslots, FH	Multislot configuration, MIN number of timeslots, no FH	arbitrarily	none	finely	U10	26.13.1.3.3	1
Multislot configuration, FH	Multislot configuration, FH	arbitrarily	none	finely	estab *	26.13.1.3.4	1
Multislot configuration, MIN number of timeslots, FH	Multislot configuration, MAX number of timeslots, no FH	arbitrarily	none	pre	estab *	26.13.1.3.5	1

*) The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A

SMG7 Meeting #23
Sophia-Antipolis, France, 19-22 Oct 1999

***Document* P-99-319**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A735	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Rohde & Schwarz **Date:** 11.10.1999

Subject: HSCSD section 26.13: PICS/PIXIT sections reworked

Work item: HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change:
The PICS/PIXIT sections in 26.13 needed to be cleared up:
missing PICS/PIXIT's added
removal of PICS/PIXIT's without references
removal of PICS/PIXIT's which are not relevant for a test
editorial corrections

Clauses affected: 26.13 Multislot signalling

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

26.13 Multislot signalling

26.13.1 Multislot signalling / RR

26.13.1.1 Multislot signalling / RR / Measurement

26.13.1.1.1 Multislot signalling / RR / Measurement / symmetric

This test is applicable to all MS that supports multislot configuration.

26.13.1.1.1.1 Conformance requirements

The MS shall continuously send MEASUREMENT REPORT messages, on every uplink HSCSD channel used, on every SACCH blocks and the measurement valid indication shall be set to valid (0) within the second block at the latest. After 20 seconds the values in the MEASUREMENT REPORT message shall contain measurement results for the 4 strongest BCCH carriers with known and allowed NCC part of BSIC.

References

GSM 04.08 sections 3.4.1.2 and 9.1.21, GSM 05.08 section 8.4.

26.13.1.1.1.2 Test purpose

1) To test that, when a combination of normal neighbours, and non-permitted NCCs is “on air”, the MS reports only on normal neighbours and that in symmetric HSCSD configuration the neighbouring cell measurement reports are copied on every uplink HSCSD channel used.

26.13.1.1.1.3 Method of test

Initial Conditions

System Simulator:

8 cells with the following settings:

Transmitter	Level	NCC	BSCC	ARFCN (GSM900)	ARFCN (DCS1800)	Cell identity
Serving, S1	-60	1	3	002	514	0001H
Neighbour, N1	-85	1	5	008	530	0002H
Neighbour, N2	-80	1	7	014	602	0003H
Neighbour, N3	-75	2	1	020	665	0004H
Neighbour, N4	-55	3	3	026	762	0005H
Neighbour, N5	-50	4	5	032	686	0006H
Neighbour, N6	-45	1	7	038	549	0007H
Neighbour, N7	-40	1	1	044	810	0008H

With the exception of the Cell Allocation, the rest of the parameters for all eight cells are the same as the default settings and default SYSTEM INFORMATION TYPE 1 to 4 message contents for cell A. The Cell Allocation for the serving cell is the same as the default setting for cell A. The Cell Allocations for the neighbour cells need have only one entry, consisting of the ARFCN of that cell's BCCH.

Mobile Station:

The MS is in the active state of a service using symmetric multislot connection.

Related PICS/PIXIT Statements

~~- Support for state of a multislot connection.~~
- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Supported teleservices/bearer services

Foreseen Final State of the MS

Active state of a service using symmetric multislot connection.

Test Procedure

This test procedure is repeated for all the symmetric multislot configurations MS supports.

With the MS having a multislot connection in progress, the SS sends SYSTEM INFORMATION TYPE 5 & 6 on the SACCH/M. All 7 of the BCCHs "on air" are indicated in the BA (N1 is excluded). The MS shall send MEASUREMENT REPORTs back to the SS on every uplink HSCSD channel, and it shall be indicated in these that measurement results for the 4 strongest carriers have been obtained.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

SYSTEM INFORMATION TYPE 5, SYSTEM INFORMATION TYPE 6 and MEASUREMENT REPORT are sent continuously, a table is not applicable in this test. The interval between 2 successive Layer 2 frames containing MEASUREMENT REPORTs shall not exceed one Layer 2 frame.

Specific Message Contents

GSM 900 begin:

SYSTEM INFORMATION TYPE 5

Information Element	value/remark
Neighbour Cells Description	
Format Identifier	bit map 0
BCCH Allocation Sequence	1
BCCH Allocation ARFCN	The channel numbers 2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24, 26, 28, 29, 30, 32, 34, 35, 36, 38, 40 and 44 belong to the BCCH allocation.
- EXT IND	Information Element carries complete BA.

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	Default
LAI	Default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio-Link-Time-out	Default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	See NOTE 1
RXQUAL_SUB_SERVING_CELL	See NOTE 1
NO_NCELL_M	4 neighbour cell measurement results
RXLEV_NCELL_1	See NOTE 1
BCCH_FREQ_NCELL_1	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
RXLEV_NCELL_2	See NOTE 1
BCCH_FREQ_NCELL_2	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
RXLEV_NCELL_3	See NOTE 1
BCCH_FREQ_NCELL_3	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
RXLEV_NCELL_4	See NOTE 1
BCCH_FREQ_NCELL_4	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
RXLEV_NCELL_5	00 0000
BCCH_FREQ_NCELL_5	0 0000
BSIC_NCELL_5	00 0000
RXLEV_NCELL_6	00 0000
BCCH_FREQ_NCELL_6	0 0000
BSIC_NCELL_6	00 0000

This message shall contain one report on each of N7, N6, S1 and N2.

GSM 900 end:

DCS 1 800 begin:

SYSTEM INFORMATION TYPE 5

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	Information Element carries complete BA.
- W(i)	Non null for ARFCN 514, 549, 602, 665, 686, 762, 810.

SYSTEM INFORMATION TYPE 6

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	Default
LAI	Default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio_Link_Timeout	Default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	See NOTE 1
RXQUAL_SUB_SERVING_CELL	See NOTE 1
NO_NCELL_M	4 neighbour cell measurement results
RXLEV_NCELL_1	See NOTE 1
BCCH_FREQ_NCELL_1	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
RXLEV_NCELL_2	See NOTE 1
BCCH_FREQ_NCELL_2	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
RXLEV_NCELL_3	See NOTE 1
BCCH_FREQ_NCELL_3	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
RXLEV_NCELL_4	See NOTE 1
BCCH_FREQ_NCELL_4	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
RXLEV_NCELL_5	00 0000
BCCH_FREQ_NCELL_5	0 0000
BSIC_NCELL_5	00 0000
RXLEV_NCELL_6	00 0000
BCCH_FREQ_NCELL_6	0 0000
BSIC_NCELL_6	00 0000

This message shall contain one report on each of N7, N6, S1 and N2.

DCS 1 800 end:

NOTE 1: These actual values are not checked.

NOTE 2: The Measurement Valid Indication shall be set to valid within the second SACCH block at the latest.

26.13.1.1.2 Multislot signalling / RR / Measurement / asymmetric

This test is applicable to all MS that supports multislot configuration.

26.13.1.1.2.1 Conformance requirements

The MS shall continuously send MEASUREMENT REPORT messages, on every uplink HSCSD channel used, on every SACCH blocks and the measurement valid indication shall be set to valid (0) within the second block at the latest. After 20 seconds the values in the MEASUREMENT REPORT message shall contain measurement results for the 4 strongest BCCH carriers with known and allowed NCC part of BSIC.

References

GSM 04.08 sections 3.4.1.2 and 9.1.21, GSM 05.08 section 8.4.

26.13.1.1.2.2 Test purpose

1) To test that, when a combination of normal neighbours, barred cells and non-permitted NCCs is “on air”, the MS reports only on normal neighbours and that in asymmetric HSCSD configuration the neighbouring cell measurement reports are copied on every uplink HSCSD channel used.

26.13.1.1.2.3 Method of test

Initial Conditions

System Simulator:

8 cells with the following settings:

Transmitter	Level	NCC	BSCC	ARFCN (GSM900)	ARFCN (DCS1800)	Cell identity
Serving, S1	-60	1	3	002	514	0001H
Neighbour, N1	-85	1	5	008	530	0002H
Neighbour, N2	-80	1	7	014	602	0003H
Neighbour, N3	-75	2	1	020	665	0004H
Neighbour, N4	-55	3	3	026	762	0005H
Neighbour, N5	-50	4	5	032	686	0006H
Neighbour, N6	-45	1	7	038	549	0007H
Neighbour, N7	-40	1	1	044	810	0008H

With the exception of the Cell Allocation, the rest of the parameters for all eight cells are the same as the default settings and default SYSTEM INFORMATION TYPE 1 to 4 message contents for cell A. The Cell Allocation for the serving cell is the same as the default setting for cell A. The Cell Allocations for the neighbour cells need have only one entry, consisting of the ARFCN of that cell's BCCH.

Mobile Station:

The MS is in the active state of a service using asymmetric multislot connection.

Related PICS/PIXIT Statements

~~- Support for state of a multislot connection.~~
- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Supported teleservices/bearer services

Foreseen Final State of the MS

Active state of a service using asymmetric multislot connection.

Test Procedure

This test procedure is performed twice.

MS having a multislot connection with maximum number of timeslots in the downlink and one slot in uplink direction in progress, the SS sends SYSTEM INFORMATION TYPE 5 & 6 (on the second iteration of the test two timeslots are used in the downlink and one in uplink direction the SS also sends SYSTEM INFORMATION TYPE 5bis) on the SACCH/M. All 7 of the BCCHs "on air" are indicated in the BA (N1 is excluded). The MS shall send MEASUREMENT REPORTs back to the SS on every uplink HSCSD channel, and it shall be indicated in these that measurement results for the 4 strongest carriers have been obtained.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

This sequence is performed for execution counter, k = 1, 2.

Since when k = 1, SYSTEM INFORMATION TYPE 5, SYSTEM INFORMATION TYPE 6 and MEASUREMENT REPORT (and when k = 2 an additional SYSTEM INFORMATION TYPE 5bis is included) are sent continuously, a table is not applicable in this test. The interval between 2 successive Layer 2 frames containing MEASUREMENT REPORTs shall not exceed one Layer 2 frame.

Specific Message Contents

GSM 900 begin:

SYSTEM INFORMATION TYPE 5

Information Element	value/remark
Neighbour Cells Description	
Format Identifier	bit map 0
BCCH Allocation Sequence	1
BCCH Allocation ARFCN	The channel numbers 2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24, 26, 28, 29, 30, 32, 34, 35, 36, 38, 40 and 44 belong to the BCCH allocation.
- EXT IND	k = 1. Information Element carries complete BA. k = 2. Information Element carries only a part of the BA.

SYSTEM INFORMATION TYPE 5bis (Sent only when k = 2)

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5bis.
Neighbour Cells Description	
- Format	256 range
- EXT IND	k = 2. Information Element carries only a part of the BA.
- W(i)	Channel 0 and 800 belong to the BCCH allocation.

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio_Link_Timeout	default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT

Information Element	Value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	See NOTE 1
RXQUAL_SUB_SERVING_CELL	See NOTE 1
NO_NCELL_M	4 neighbour cell measurement results
RXLEV_NCELL_1	See NOTE 1
BCCH_FREQ_NCELL_1	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
RXLEV_NCELL_2	See NOTE 1
BCCH_FREQ_NCELL_2	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
RXLEV_NCELL_3	See NOTE 1
BCCH_FREQ_NCELL_3	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
RXLEV_NCELL_4	See NOTE 1
BCCH_FREQ_NCELL_4	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
RXLEV_NCELL_5	00 0000
BCCH_FREQ_NCELL_5	0 0000
BSIC_NCELL_5	00 0000
RXLEV_NCELL_6	00 0000
BCCH_FREQ_NCELL_6	0 0000
BSIC_NCELL_6	00 0000

This message shall contain one report on each of N7, N6, S1 and N2.

GSM 900 end:

DCS 1 800 begin:

SYSTEM INFORMATION TYPE 5

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	k = 1. Information Element carries complete BA. k = 2. Information Element carries only a part of the BA.
- W(i)	k = 1. Non null for ARFCN 514, 549, 602, 665, 686, 762, 810. k = 2. Non null for ARFCN 549, 602, 665, 686, 810.

SYSTEM INFORMATION TYPE 5bis (Sent only when k = 2)

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5bis.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	k = 2. Information Element carries only a part of the BA.
- W(i)	k = 2. Non null ARFCN 20, 514, 762.

SYSTEM INFORMATION TYPE 6

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio_Link_Timeout	default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT

Information Element	Value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	See NOTE 1
RXQUAL_SUB_SERVING_CELL	See NOTE 1
NO_NCELL_M	4 neighbour cell measurement results
RXLEV_NCELL_1	See NOTE 1
BCCH_FREQ_NCELL_1	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_1	Corresponds to that of BCCH_FREQ_NCELL_1
RXLEV_NCELL_2	See NOTE 1
BCCH_FREQ_NCELL_2	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_2	Corresponds to that of BCCH_FREQ_NCELL_2
RXLEV_NCELL_3	See NOTE 1
BCCH_FREQ_NCELL_3	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_3	Corresponds to that of BCCH_FREQ_NCELL_3
RXLEV_NCELL_4	See NOTE 1
BCCH_FREQ_NCELL_4	Corresponds to one of N7, N6, S1 or N2
BSIC_NCELL_4	Corresponds to that of BCCH_FREQ_NCELL_4
RXLEV_NCELL_5	00 0000
BCCH_FREQ_NCELL_5	0 0000
BSIC_NCELL_5	00 0000
RXLEV_NCELL_6	00 0000
BCCH_FREQ_NCELL_6	0 0000
BSIC_NCELL_6	00 0000

This message shall contain one report on each of N7, N6, S1 and N2.

DCS 1 800 end:

NOTE 1: These actual values are not checked.

NOTE 2: The Measurement Valid Indication shall be set to valid within the second SACCH block at the latest.

26.13.1.1.3 Multislot signaling / RR / Measurement / asymmetric / change of the reported subchannel

This test is applicable to all MS that supports multislot configuration.

26.13.1.1.3.1 Conformance requirements

The MS shall continuously send MEASUREMENT REPORT messages, on the main channel, reporting the worst subchannel. One of the other subchannels is made worse than the one originally reported one and the MEASUREMENT REPORTs sent on the main channel are based on the new worst subchannel.

References

GSM 04.08 sections 3.4.1.2 and 9.1.21, GSM 05.08 section 8.4.

26.13.1.1.3.2 Test purpose

1) To test that the MS shall report on the main SACCH: RXLEV_FULL and RXLEV_SUB from the main channel and the worst RXQUAL_FULL values and RXQUAL_SUB values from the main channel and the unidirectional channels.

2) To test that, when an another subchannel becomes the worst, MEASUREMENT REPORTs sent on the main channel are based on the new worst subchannel.

26.13.1.1.3.3 Method of test

Initial Conditions

System Simulator:

1 cell with the following settings:

Transmitter	Level	NCC	BSCC	ARFCN (GSM900)	ARFCN (DCS1800)	Cell identity
Serving, S1	-60	1	3	002	514	0001H

Mobile Station:

The MS is in the active state of a service using asymmetric multislot connection.

Related PICS/PIXIT Statements

~~- Support for state of a multislot connection.~~
- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Supported teleservices/bearer services

Foreseen Final State of the MS

Active state of a service using asymmetric multislot connection.

Test Procedure

MS having a multislot connection with maximum number of timeslots in the downlink and one slot in uplink direction in progress, the SS sends SYSTEM INFORMATION TYPE 5 & 6 on the SACCH/M. The MS shall send MEASUREMENT REPORTs back to the SS on the main channel based on the worst subchannel. The SS allows 2 seconds for the MS to get used to the RF conditions and then records the reported RXQUAL_FULL_SERVING_CELL and RXQUAL_SUB_SERVING_CELL values.

Then an arbitrarily chosen uni-directional subchannel is made the worst from the RX quality point of view by switching off the ciphering in the SS on this channel. The MS shall send MEASUREMENT REPORTs back to the SS on the main channel based on the new worst channel. The SS allows 2 seconds for the MS to get used to the new RF conditions and then records the reported RXQUAL_FULL_SERVING_CELL and RXQUAL_SUB_SERVING_CELL values.

The difference between the RXQUAL values recorded before and after the change in RX quality shall be greater than 3.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Since SYSTEM INFORMATION TYPE 5, SYSTEM INFORMATION TYPE 6 and MEASUREMENT REPORT are sent continuously, a table is not applicable in this test. The interval between 2 successive Layer 2 frames containing MEASUREMENT REPORTs shall not exceed one Layer 2 frame.

Specific Message Contents

GSM 900 begin:

SYSTEM INFORMATION TYPE 5:

Information Element	value/remark
Neighbour Cells Description	
Format Identifier	bit map 0
BCCH Allocation Sequence	1
BCCH Allocation ARFCN	The channel numbers 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 28, 29, 30, 32, 34, 35, 36, 38, 40 and 44 belong to the BCCH allocation.
- EXT IND	Information Element carries complete BA.

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio_Link_Timeout	default
PLMN permitted	NCC 1 permitted

MEASUREMENT REPORT:

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	The worst subchannel
RXQUAL_SUB_SERVING_CELL	The worst subchannel

GSM 900 end:

DCS 1 800 begin:

SYSTEM INFORMATION TYPE 5:

Information Element	value/remark
Protocol Discriminator	RR management
Message Type	Sys Info 5.
Neighbour Cells Description	
- Format	1024 range
- EXT IND	Information Element carries complete BA.
- W(i)	Non null for ARFCN 514, 530, 549, 602, 665, 686, 762, 810.

SYSTEM INFORMATION TYPE 6:

Information Element	value/ remark
Protocol Discriminator	RR Management
Message Type	sys info 6
Cell Identity	default
LAI	default
Cell Options	
- Power Control Indicator	Power Control Indicator is set
- DTX Indicator	MS shall not use DTX
- Radio_Link_Timeout	default
PLMN permitted	only NCC 1 permitted

MEASUREMENT REPORT:

Information Element	value/remark
Protocol Discriminator	RR Management
Transaction Identifier	0000
Message Type	MEASUREMENT REPORT
Measurement Results	
BA_used	1
DTX_used	DTX was not used
RXLEV_FULL_SERVING_CELL	See NOTE 1
RXLEV_SUB_SERVING_CELL	See NOTE 1
MEAS_VALID	See NOTE 2
RXQUAL_FULL_SERVING_CELL	The worst subchannel
RXQUAL_SUB_SERVING_CELL	The worst subchannel

DCS 1 800 end:

NOTE 1: These actual values are not checked.

NOTE 2: The Measurement Valid Indication shall be set to valid within the second SACCH block at the latest.

26.13.1.2 Multislot signalling / RR / Dedicated assignment

26.13.1.2.1 Multislot signalling / RR / Dedicated assignment / successful case

This test is applicable to all MS that supports multislot configuration.

26.13.1.2.1.1 Conformance requirements

1) Upon receipt of the ASSIGNMENT COMMAND message, the mobile station initiates a local end release of link layer connections, disconnects the physical channels, commands the switching to the

assigned channels and initiates the establishment of lower layer connections (this includes the activation of the channels, their connection and the establishment of the main signalling links).

2) MM-messages and CM-messages using SAPI=0 sent from the mobile station to the network can be duplicated by the data link layer in the following case:

- a channel change of dedicated channels is required (assignment or handover procedure) and the last layer 2 frame has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

In this case, the mobile station does not know whether the network has received the message correctly. Therefore, the mobile station has to send the message again after the new dedicated channel is established.

3) The MS shall establish the link with the power level specified in the ASSIGNMENT COMMAND message.

The MS shall confirm the power control level that it is currently employing in the uplink SACCH L1 header. The indicated value shall be the power control level actually used by the mobile for the last burst of the previous SACCH period.

4) The MS shall apply the hopping frequencies specified in ASSIGNMENT COMMAND message in the Mobile Allocation IE or the Frequency List IE at the time of accessing the new channel using the last received Cell Allocation.

5) After receipt of the ASSIGNMENT COMMAND the MS shall perform the assignment and return an ASSIGNMENT COMPLETE without undue delay.

References

Conformance requirements	1),4)	GSM 04.08 sections 3.4.3 and 9.1.2.
Conformance requirements	2)	GSM 04.08 section 3.1.4.3.
Conformance requirements	3)	GSM 04.08 sections 3.4.3 and 9.1.2; GSM 05.08, section 4.2.
Conformance requirements	5)	GSM 04.08 sections 3.4.3 and 9.1.3, GSM 04.13 section 5.2.4.

26.13.1.2.1.2 Test purpose

1) To verify that upon receipt of an ASSIGNMENT COMMAND, the MS switches to the channel(s) defined in the ASSIGNMENT COMMAND, establishes the link and sends an ASSIGNMENT COMPLETE message. This is tested for an MS supporting TCH and multislot configuration in the special cases of a transition.

1.1) from non-hopping SDCCH to hopping multislot configuration;

1.2) from hopping multislot configuration to non-hopping multislot configuration;

1.3) from non-hopping multislot configuration to hopping multislot configuration;

1.4) from hopping symmetric multislot configuration to hopping asymmetric multislot configuration, resource upgrading used;

1.5) from hopping asymmetric multislot configuration to hopping symmetric multislot configuration;

1.6) from hopping multislot configuration to non-hopping multislot configuration, resources downgrading to one TCH/F;

1.7) from non-hopping multislot configuration with one TCH/F to non-hopping multislot configuration, resource upgrading used;

1.8) from non-hopping multislot configuration to hopping multislot configuration, relocating all channels in multislot configuration call without changing the number of TCH/Fs allocated;

1.9) from hopping multislot configuration to non-hopping multislot configuration, partially relocating the channels in multislot configuration call without changing the number of TCH/Fs allocated;

2) To verify that an MS supporting TCH and multislot configuration, having sent a MM- or CM message that was not acknowledged on L2 before the channel assignment procedure was initiated and before the MS has left the old channel, repeats that message after completion of the assignment procedure without incrementing N(SD). This is tested in the special case of MM message AUTHENTICATION RESPONSE.

3) To verify that an MS supporting TCH and multislot configuration, having received an ASSIGNMENT COMMAND, having sent an SABM frame to establish the main signalling link on the assigned main channel of the multislot configuration, reports the power level(s) specified in the ASSIGNMENT COMMAND message, in the uplink SACCH L1 header of the SACCH message sent int the SACCH period following the transmission of the SABM frame.

4) To verify that an MS supporting TCH and multislot configuration, having received an ASSIGNMENT COMMAND, is able in the case of frequency hopping to decode the Mobile Allocation and Frequency List IEs correctly and applies the specified frequencies using the correct Cell Allocation.

5) To verify that after receipt of the ASSIGNMENT COMMAND the MS returns an ASSIGNMENT COMPLETE without undue delay.

26.13.1.2.1.3 Method of test

Initial Conditions

System Simulator:
- 1 cell, default parameters except:
- Early classmark sending enabled in SI3 rest octets

GSM 900:
- BCCH ARFCN =20.
- Throughout the test, the CA broadcast in System Information 1 is (10, 17, 20, 26, 34, 42, 45, 46, 52, 59).
- Note that the actual CA of the cell contains other frequencies.

DCS 1 800:
- BCCH ARFCN =747.
- Throughout the test, the CA broadcast in System Information 1 is (734, 741, 747, 754, 759, 766, 773, 775, 779, 782).
- Note that the actual CA of the cell contains other frequencies.

Mobile Station:
- The MS is in the "idle, updated" state with a TMSI allocated.

Related PICS/PIXIT Statements

- ~~The supported channel mode(s) need to be declared.~~
- ~~The supported frequencies (P-GSM, E-GSM,R-GSM or DCS 1 800).~~ Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Classmark ~~change~~

Foreseen Final State of the MS

- "Idle, updated", with TMSI allocated.

Test Procedure

The SS pages the MS and allocates an SDCCH. Each time the MS shall switch to the assigned channel, establish the link and send an ASSIGNMENT COMPLETE message.

Then the SS sends an AUTHENTICATION REQUEST message. The MS shall answer with an AUTHENTICATION RESPONSE message, which is not acknowledged on L2 by the SS. Immediately after the AUTHENTICATION RESPONSE message is received, the SS sends an ASSIGNMENT COMMAND. The MS shall switch to the assigned channel, establish the link with the commanded power level and send as ASSIGNMENT COMPLETE message. Then MS shall repeat the AUTHENTICATION RESPONSE message, with the same N(SD) value.

Then the SS sends an ASSIGNMENT COMMAND, which includes a Starting Time IE. The MS shall react as specified above, but this shall be done at the time specified in Starting Time IE.

The SS initiates the channel release procedure and the main signalling link is released.

Maximum Duration of Test

30 s.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	See specific message contents.
4	MS -> SS	PAGING RESPONSE	
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
7	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 6.
8	SS		The SS checks that the MS reports the requested power level in the layer 1 header of the SACCH message that is sent in the first SACCH multiframe following the SABM.
9	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
10	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 9.
11	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
12	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 11.
13	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
14	MS -> SS	ASSIGNMENT COMPLETE	
15	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
16	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 15.
17	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
18	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 17.
19	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.

Step	Direction	Message	Comments
20	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 19.
21	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
22	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. This message shall be ready to be transmitted before 600 ms after the completion of step 21.
23	SS -> MS	AUTHENTICATION REQUEST	
24	MS -> SS	AUTHENTICATION RESPONSE	This message is not L2 acknowledged by the SS.
25	SS -> MS	ASSIGNMENT COMMAND	See specific message contents.
26	MS -> SS	ASSIGNMENT COMPLETE	Sent on the correct channel after establishment of the main signalling link. . This message shall be transmitted at the specified Starting Time in step 25.
27	MS -> SS	AUTHENTICATION RESPONSE	N(SD) shall be the same as in step 24.
28	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

GSM 900 begin:

Step 3

IMMEDIATE ASSIGNMENT:

As default message contents except Channel Description	
- Channel Type	SDCCH/8
TDMA offset	Chosen arbitrarily
- Timeslot Number	N, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier

Step 6

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Multislot allocation	
- Downlink assignment	Maximum number of timeslots supported by the MS
- Uplink assignment	Maximum number of timeslots supported by the MS after specifying Downlink timeslots
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates all of the CA (broadcast on the BCCH) except for the BCCH carrier.
Starting Time	Not included

Step 9

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Maximum number of possible additional bidirectional TCH/Fs and SACCH/Ms substracted by one, minimum being one)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 11

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Depending on Multislot class, Shall not have maximum number of timeslots.
- Uplink assignment	Appropriate for the test, but as many as in downlink assignment
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 13

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	11XXX (Appropriate number of additional unidirectional TCH/FDs and SACCH/MDs or Additional bidirectional TCH/F and SACCH/M and additional unidirectional TCH/FD and SACCH/MD Number of downlink timeslots shall be more than in step 11)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 15

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not included
Cell Channel Description	Not included
Multislot allocation	
- Downlink assignment	Appropriate for the test. Must be more than one.
- Uplink assignment	Appropriate for the test, but as many as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicates frequencies (45, 46, 73, 74, 75, 76, 108, 114)
Starting Time	Not included

Step 17

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10000 (no additional timeslots)
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Appropriate for the test, but more than one timeslot allocated and excluding timeslot 0.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	10XXX (Same number of TCH/Fs and timeslot mapping as in step 19)
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Frequency hopping
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Indicate frequencies (46, 73 74)
Starting Time	Not included

Step 25

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	Same as in step 19
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF Channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Indicate same timeslots as step 19.
- Uplink assignment	Same as in downlink assignment.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Chosen arbitrarily

26.13.1.2.2 Multislot signalling / RR / Dedicated assignment / failure / general case

This test is applicable to all MS that supports multislot configuration.

26.13.1.2.2.1 Conformance requirements

On the mobile station side, if a lower layer failure happens on the new channel before the ASSIGNMENT COMPLETE message has been sent, the mobile station deactivates the new channels, reactivates the old channels, reconnects the TCHs if any and triggers the establishment of the main signalling link. It then sends an ASSIGNMENT FAILURE message, cause "protocol error unspecified" on the main DCCH and resumes the normal operation, as if no assignment attempt had occurred. The operational parameters (e.g. ciphering mode) when returning on the old channel are those applied before the procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.3, 9.1.3 and 9.1.4

26.13.1.2.2.2 Test purpose

1) To test that, when the MS fails to seize the new channel, the MS reactivates the old channel.

2) This is tested in the special cases of transition:

   2.1) from non-hopping SDCCH to hopping symmetric multislot configuration

   2.2) from hopping asymmetric multislot configuration to non-hopping symmetric

   2.3) from non hopping symmetric multislot configuration to non-hopping symmetric multislot configuration, resource upgrading used

   2.4) from non-hopping asymmetric multislot configuration to non-hopping asymmetric multislot configuration, resource upgrading used

   2.5) from hopping symmetric multislot configuration to hopping asymmetric multislot configuration, resource upgrading used

   2.6) from hopping asymmetric multislot configuration to non-hopping multislot configuration, resources downgrading to one TCH/F

26.13.1.2.2.3 Method of test

Initial Conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
The MS is "idle updated".

Related PICS/PIXIT Statements

- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class

Foreseen Final State of the MS

The MS is "idle updated".

Test Procedure

A mobile terminated RR connection is established on an SDCCH. The following is repeated six times with different parameters:

The SS sends an ASSIGNMENT COMMAND message allocating a hopping/non-hopping symmetric/asymmetric multislot configuration with or without resource upgrading/downgrading, but does not activate the assigned channels. The MS shall try to activate the new channel (this is not verified) and shall then reactivate the old channel and trigger the establishment of the main signalling link on the old channel. Then the MS shall send an ASSIGNMENT FAILURE.

The SS initiates the channel release procedure and the test ends here.

Maximum Duration of Test

30 s.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	Channel Type: SDCCH/4.
4	MS -> SS	PAGING RESPONSE	
5	SS -> MS	ASSIGNMENT COMMAND	See specific message contents below. The MS attempts (and fails) to establish a signalling link on the new channel.
6			The MS re-establishes the signalling link on the old channel.
7	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
8	SS		The SS checks that the MS reports the old power level (prior to the Assignment command) in the layer 1 header of the SACCH message that is sent in the first SACCH multiframe following the SABM.
9	SS -> MS	ASSIGNMENT COMMAND	See specific message contents below.
10	MS -> SS	ASSIGNMENT COMPLETE	Assignment command is successfully performed.
11	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, symmetric multislot configuration. The MS attempts (and fails) to establish a signalling link on the new channel.
12			The MS re-establishes the signalling link on the old channel.
13	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
14	SS -> MS	ASSIGNMENT COMMAND	Assignment command to non-hopping, symmetric multislot configuration is successfully performed.
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, symmetric multislot configuration, resource upgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
17			The MS re-establishes the signalling link on the old channel.
18	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
19	SS -> MS	ASSIGNMENT COMMAND	Assignment command to non-hopping, asymmetric multislot configuration is successfully performed.
20	MS -> SS	ASSIGNMENT COMPLETE	
21	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, asymmetric multislot configuration, resource downgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
22			The MS re-establishes the signalling link on the old channel.
23	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
24	SS -> MS	ASSIGNMENT COMMAND	Assignment command to hopping, symmetric multislot configuration is successfully performed.
25	MS -> SS	ASSIGNMENT COMPLETE	
26	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, hopping, asymmetric multislot configuration, resource upgrading used. The MS attempts (and fails) to establish a signalling link on the new channel.
27			The MS re-establishes the signalling link on the old channel.
28	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
29	SS -> MS	ASSIGNMENT COMMAND	Assignment command to hopping, asymmetric multislot configuration is successfully performed.
30	MS -> SS	ASSIGNMENT COMPLETE	

31	SS -> MS	ASSIGNMENT COMMAND	Channel Type = TCH/F, non-hopping, multislot configuration, resources downgrading to one TCH/F. The MS attempts (and fails) to establish a signalling link on the new channel.
32			The MS re-establishes the signalling link on the old channel.
33	MS -> SS	ASSIGNMENT FAILURE	RR cause value = “protocol error unspecified".
34	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

Step 5:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of symmetrical timeslots assigned.
- Uplink assignment	As many timeslots as downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 9:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Arbitrarily chosen from Cell channel description
Starting Time	Not included

Step 11:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number symmetrical of timeslots supported by MS assigned.
- Uplink assignment	As many timeslots as in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 14:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 16:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Maximum number of timeslots that MS supports.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 19:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	More than one timeslot but less than maximum number of timeslots is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 21:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

Step 24:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 26:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 29:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	RF hopping channel
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1) where N is the number of frequencies in the Mobile Allocation IE.
- HSN	Chosen arbitrarily from the set (1 to 63)
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Maximum number of timeslots that MS supports.
- Uplink assignment	Less timeslots assigned than in downlink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Chosen arbitrarily from the Cell channel description
Starting Time	Not included

Step 31:

ASSIGNMENT COMMAND

Channel Description 2	
- Channel Type and TDMA offset	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily
- Training Sequence Code	Chosen arbitrarily
- Hopping	Single RF channel
- ARFCN	the ARFCN of the BCCH carrier
Power Command	
- Power level	Chosen arbitrarily but with a changed value.
Frequency list IE	Not Included
Cell Channel Description	Bit map zero encodes (45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114)
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test
Channel Mode	
- Mode	Data, 12.0 kbit/s radio interface rate
Mobile Allocation	Not included
Starting Time	Not included

26.13.1.3 Test of handover

With the Handover procedure, it is possible to completely alter the channels allocated to a MS. This makes it possible in particular to switch a call in progress from one cell to another. The procedure is always initiated by the network and with the MS in a dedicated mode.

Sections 26.13.1.3.1 - 26.13.1.3.5 contain test procedures to be used for executing successful Handover tests in multislot configuration. Table 26.13.1.3-1 contains a summary of the different combinations of parameters that have to be tested, together with a reference to the appropriate test procedure.

Table 26.13.1.3-1

From	To	Timing Adv.	Start Time	Syn ?	State of call	Section	Exec Counter
Multislot configuration, MAX number of timeslots, no FH	Multislot configuration, MAX number of timeslots, FH	arbitrarily	none	no	U10	26.13.1.3.1	1
Multislot configuration, MIN number of timeslots, no FH	Multislot configuration, MAX number of timeslots, no FH	arbitrarily	none	no	U10	26.13.1.3.2	1
Multislot configuration, MAX number of timeslots, FH	Multislot configuration, MIN number of timeslots, no FH	arbitrarily	none	finely	U10	26.13.1.3.3	1
Multislot configuration, FH	Multislot configuration, FH	arbitrarily	none	finely	estab *	26.13.1.3.4	1
Multislot configuration, MIN number of timeslots, FH	Multislot configuration, MAX number of timeslots, no FH	arbitrarily	none	pre	estab *	26.13.1.3.5	1

*) The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A

26.13.1.3.1 Multislot signalling / RR / Handover / successful / active call / non-synchronized

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.1.1 Conformance requirements

1) The MS shall correctly apply the handover procedure in the non-synchronized case when a multislot connection is in progress and when handover is performed from a non-hopping multislot configuration towards a hopping multislot configuration.

References

Conformance requirement 1: GSM 04.08 sections 3.4.4 and 9.1.15. GSM 04.13 section 5.2.6.2.

26.13.1.3.1.2 Test purpose

1) To test that when the MS is ordered to make a non-synchronized handover from non-hopping multislot configuration to hopping multislot configuration, it continuously sends access bursts on the main DCCH until it receives a PHYSICAL INFORMATION message from the SS.

2) To test that the MS correctly handles the Timing Advance IE in the PHYSICAL INFORMATION message.

3) To test that the MS activates the new channels correctly and transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.1.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B with same LAI, default parameters except:
- Early classmark sending enabled in SI3 rest octets

GSM 900:

Cell A has:
- BCCH ARFCN = 20
Cell B has:
- BCCH ARFCN = 40
- Cell Allocation = (14, 18, 22, 24, 30, 31, 38, 40, 60, 66, 73, 74, 75, 76, 108, 114)

- The Cell Allocation of Cell B shall be coded using range 256 format.

- The frame numbers of cells A and B shall be different by 100.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

DCS 1 800:

Cell A has:
- BCCH ARFCN = 747
Cell B has:
- BCCH ARFCN = 764
- Cell Allocation = (739, 743, 746, 749, 756, 758, 761, 764, 771, 779, 782, 791, 798, 829, 832, 844)

- The Cell Allocation of Cell B shall be coded using range 256 format.

- The frame numbers of cells A and B shall be different by 100.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

Mobile Station:

- The MS is in the active state (U10) of a service using a multislot connection on cell A.

Related PICS/PIXIT Statements

~~- Support for state U10 of the Call Control protocol.~~
~~- Supported radio interface rates: 12kbps, 6kbps, 14.5kbps.~~
- Type of M~~obile Station~~ (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
~~–~~Supported teleservices/bearer services
- Classmark

Foreseen Final State of the MS

The active state (U10) of a multislot connection on cell B.

Test Procedure

The MS is in the active state (U10) of a multislot connection. The SS sends a HANDOVER COMMAND on the main DCCH. The MS shallbegin to send access bursts on the new DCCH of the target cell. The SS observes the access bursts and after receiving 10-20 access bursts, the SS sends one PHYSICAL INFORMATION message with a Timing Advance arbitrarily selected. The MS shall activate the new channels that belongs to same multislot configuration. The MS shall establish a signalling link. The MS shall be ready to transmit a HANDOVER COMPLETE message, before 500 ms after the end of the PHYSICAL INFORMATION message, but not before a UA frame has been sent by the SS.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
0	MS, SS		The MS and SS are using a maximum multislot configuration according to the MS multislot class (highest class that MS supports) in non-hopping mode on cell A.
1	SS -> MS	HANDOVER COMMAND	See Specific message contents.
2	MS -> SS	HANDOVER ACCESS	Repeated on every burst of the uplink main DCCH until reception of PHYSICAL INFORMATION. Handover Reference as included in the HANDOVER COMMAND.
3	SS -> MS	PHYSICAL INFORMATION	Sent after reception of n HANDOVER ACCESS messages. See specific message contents.
4	MS -> SS	SABM	Sent without information field.
5	SS -> MS	UA	
6	MS -> SS	HANDOVER COMPLETE	The message shall be ready to be transmitted before 500 ms after the completion of step 3.
7	MS, SS		The MS and SS are using a maximum multislot configuration according to the MS multislot class (highest class that MS supports) in hopping mode on cell B and state U10 is reached.

Specific Message Contents

P-GSM 900

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except: Cell Description - Network Colour Code - Base Station Colour Code - BCCH Carrier Number Channel Description 2 - Channel Type - Timeslot number - Training Sequence Code - Hopping - MAIO - HSN Synchronization Indication IE is not included. Channel Mode IE is not included. Description of a multislot configuration: - Downlink assignment - Uplink assignment - Channel set X (1=<x<=8) Frequency Channel Sequence after time - Frequency Channel Sequence	 1 5 40 00000 A suitable value for multislot configuration, chosen arbitrarily. Chosen arbitrarily RF hopping channel. Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency Channel Sequence IE. Chosen arbitrarily from the set (1,2,..63). As many timeslots assigned as before HANDOVER COMMAND As many timeslots assigned as before HANDOVER COMMAND Same as before HANDOVER COMMAND Allocates the following 15 frequencies (14, 18, 22, 24, 30, 31, 38, 53, 66, 73, 74, 75, 76, 108, 114).

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except: Timing advance	 Arbitrarily selected but different to default value.

DCS 1 800

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	764
Channel Description 2	
- Channel Type	00000
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency Short List IE.
- HSN	Chosen arbitrarily from the set (1,2,..63).
Synchronization Indication IE is not included.	
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	As many timeslots assigned as before HANDOVER COMMAND
- Uplink assignment	As many timeslots assigned as before HANDOVER COMMAND
- Channel set X (1=<X<=8)	Same as before HANDOVER COMMAND
Frequency Short List after time	
- Frequency List	Use Range 256 to encode the following 16 frequencies: (739, 743, 746, 749, 756, 758, 761, 764, 771, 779, 782, 791, 798, 829, 832, 844).

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except:	
Timing advance	Arbitrarily selected but different to default value.

26.13.1.3.2 Multislot signalling / RR / Handover / successful / call under establishment / non synchronized / resource upgrading

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.2.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from non-hopping multislot configuration to non-hopping multislot configuration in the non-synchronized case during call establishment.

2) The MS shall activate the new channels that belongs to same multislot configuration correctly, taking into account upgraded resources.

3) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.4 and 9.1.15, GSM 04.13 section 5.2.6.2

26.13.1.3.2.2 Test purpose

1) To test that when the MS is ordered to make a non-synchronized handover from non-hopping multislot configuration to a non-hopping multislot configuration, it continuously sends access bursts on the main DCCH until it receives a PHYSICAL INFORMATION message from the SS.

2) To test that the MS correctly takes the values of the Timing Advance information element in the PHYSICAL INFORMATION message into account.

3) To test that the MS activates the new channels that belongs to same multislot configuration correctly, taking into account upgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

4) To test that MS correctly retransmits Layer 3 MM or CC messages, that were not acknowledged by Layer 2 before the Handover, after completion of the Handover.

26.13.1.3.2.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B with same LAI, default parameters except:
- Early classmark sending enabled in SI3 rest octets

GSM 900:

Cell A has:
- BCCH ARFCN = 20
- PLMN colour code, NCC = as defaults.
- BS colour code, BCC = as defaults.
- PLMN_PERM = 00001010.

Cell B has:
- BCCH ARFCN = 40
- PLMN colour code, NCC = 3.
- BS colour code, BCC = 0.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

DCS 1 800:

Cell A has:
- BCCH ARFCN = 747
- PLMN colour code, NCC = as defaults.
- BS colour code, BCC = as defaults.
- PLMN_PERM = 00001010.

Cell B has:
- BCCH ARFCN = 764
- PLMN colour code, NCC = 3.
- BS colour code, BCC = 0.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

Mobile Station:

- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A..

Related PICS/PIXIT Statements

~~- Support for MO calls~~
- Type of M~~obile Station~~ (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Supported teleservices/bearer servioces
- Classmark ~~change~~

Foreseen Final State of the MS

- "idle, updated" with a TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated on Cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS defining used multislot configuration. Mulstislot configuration with one TCH/F is allocated. MS responds with ASSIGNMENT COMPLETE message. Then the SS sends a HANDOVER COMMAND message, ordering the MS to switch to cell B. The MS shall then begin to send access bursts on the new DCCH to cell B. The SS observes the access bursts and after receiving 10-20 access bursts, the SS sends one PHYSICAL INFORMATION message with a Timing Advance as specified in table 26.13.1.3-1 of section 26.13.1.3.6. The MS shall activate the channels that belongs to same multislot configuration correctly, taking into account upgraded resources. The MS shall establish a signalling link. The MS shall be ready to transmit a HANDOVER COMPLETE message before 650 ms after the end of the PHYSICAL INFORMATION message, but not before a UA frame has been sent by the SS. The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated on cell A.
2	MS -> SS	CHANNEL REQUEST	Establ. Cause = "Originating call, NECI not set to 1
3	SS -> MS	IMMEDIATE ASSIGNMENT	See specific message contents.
4	MS -> SS	CM SERVICE REQUEST	CM Service Type = Mobile Originating Call Establishment.
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	CIPHERING MODE COMMAND	
7	MS -> SS	CIPHERING MODE COMPLETE	
8	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
9	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. Multislot configuration with one TCH/F is allocated. See specific message contents below.
10	MS -> SS	ASSIGNMENT COMPLETE	
11	SS -> MS	HANDOVER COMMAND	See specific message contents. Resource upgrading.
12	MS -> SS	HANDOVER ACCESS	Repeated on every burst of the uplink main DCCH until reception of PHYSICAL INFORMATION. Handover Reference as included in the HANDOVER COMMAND
13	SS -> MS	PHYSICAL INFORMATION	Sent after reception of n HANDOVER ACCESS message. Timing Advance as specified in table 26.13.1.3-1 of section 26.13.1.3.6.
14	MS -> SS	SABM	Sent without information field.
15	SS -> MS	UA	
16	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 13.
17	MS -> SS	SETUP	Same N(SD) as in step 8.
18	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

P-GSM 900

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes non-hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Downlink assignment	Only one timeslot is allocated in downlink direction.
- Uplink assignment	Only one timeslot is allocated in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test.
Mode of the channel set X (1=<X<=8)	Appropriate for on bearer capability chosen for the test.
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	3
- Base Station Colour Code	0
- BCCH Carrier Number	40
Channel Description 2	
- Channel Type	00000
- Timeslot number	Chosen arbitrarily, but not Zero.
- Training Sequence Code	Chosen arbitrarily
- Hopping	0 (= no hopping)
- ARFCN	The ARFCN of the BCCH carrier
Synchronization Indication IE is not included.	
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	More timeslots are assigned than before HANDOVER COMMAND
- Uplink assignment	As many timeslots assigned as in Downlink assignment
- Channel set X (1=<x<=8)	Same as before HANDOVER COMMAND

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except:	
Timing advance	Arbitrarily selected but different to default value.

DCS 1 800

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes non-hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	Appropriate for the teleservice selected for the test
- Downlink assignment	Only one timeslot is allocated in downlink direction.
- Uplink assignment	Only one timeslot is allocated in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test.
Mode of the channel set X (1=<X<=8)	Appropriate for on bearer capability chosen for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except: Cell Description - Network Colour Code - Base Station Colour Code - BCCH Carrier Number Channel Description 2 - Channel Type - Timeslot number - Training Sequence Code - Hopping - ARFCN Synchronization Indication IE is not included. Channel Mode IE is not included. Description of a multislot configuration: - Downlink assignment - Uplink assignment - Channel set X (1=<x<=8)	 3 0 764 00000 Chosen arbitrarily, but not Zero. Chosen arbitrarily 0 (= no hopping) the ARFCN of the BCCH carrier More timeslot are assigned than before HANDOVER COMMAND As many timeslots assigned as before HANDOVER COMMAND Same as before HANDOVER COMMAND

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except: Timing advance	 Arbitrarily selected but different to default value.

26.13.1.3.3 Multislot signalling / RR / Handover / successful / active call / finely synchronized / resource downgrading

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.3.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from multislot configuration with frequency hopping to multislot configuration without frequency hopping in the finely synchronized case when a call is in progress. Resources are downgraded in handover procedure.

References

Conformance requirement 1: GSM 04.08 sections 3.4.4, 9.1.14, 9.1.15 and 9.1.16.

26.13.1.3.3.2 Test purpose

1) To test that when the MS is ordered to make a finely synchronized handover to a synchronized cell from a hopping multislot configuration to a non-hopping multislot configuration, it sends 4 access bursts on the main DCCH and then activates the channels correctly, taking into account power command, downgraded resources and correctly calculating the timing advance to use.

2) To test the MS activates the new channels that belongs to same multislot configuration correctly, taking into account downgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.3.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B, with same LAI, default parameters, except:
- Early classmark sending enabled in SI3 rest octets- The BCCH of cell A is sent k bit periods before the BCCH of cell B. The timing advance in cell A sent to the MS is y bit periods. k and y are selected such that $0 < (2k+y) \bmod 256 < 60$.

P-GSM 900:
- Cell B has BCCH ARFCN = 40.

DCS 1 800:
- Cell B has BCCH ARFCN = 764.

Mobile Station:

-The MS is in the active state (U10) of a service using a multislot connection (on cell A). The MS is using a power level P. Where P is a power level within the supported range of that type of MS.

Related PICS/PIXIT Statements

~~- Support for state U10 of the Call Control protocol.~~
- Type of M~~obile Station~~ (P-GSM 900 or EGSM or DCS 1 800).
~~- Power class of Mobile Station.~~
- Multislot class
- Supported teleservices/bearer services

Foreseen Final State of the MS

The active state (U10) of a multislot connection (on cell B).

Test Procedure

The MS is in the active state (U10) of a multislot connection on cell A. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated. The SS sends a HANDOVER COMMAND on the main DCCH In the case that the MS supports only 1 timeslot in uplink direction the HANDOVER COMMAND'S Uplink assignment shall be one timeslot. The MS shall send 4 access bursts, in 4 successive slots on the new DCCH to cell B. Then the MS shall establish a signalling link indicating the correct Timing Advance and power level and send a HANDOVER COMPLETE message.

The MS shall be "ready to transmit" a HANDOVER COMPLETE message before 650 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
0	MS, SS		The MS and SS are using a multislot configuration in hopping mode on cell A. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated
1	SS -> MS	HANDOVER COMMAND	See Specific Message Contents.
2	MS -> SS	HANDOVER ACCESS	See specific message contents. Four messages.
3	MS -> SS	HANDOVER ACCESS	are transmitted to Cell B in 4 successive slots.
4	MS -> SS	HANDOVER ACCESS	on the new DCCH.
5	MS -> SS	HANDOVER ACCESS	
6	MS -> SS	SABM	Sent without information field.
7	SS -> MS	UA	
8	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 1.
9	SS		The header of the next uplink SACCH/M is examined and the Timing Advance and Power Level indications are examined. The correct timing advance shall be indicated. The power level indication shall indicate the power level used in the handover command.
10	MS, SS		The MS and SS are using a multislot configuration in non-hopping mode on cell B

Specific Message Contents

GSM 900

HANDOVER COMMAND

Information Element	value/remark
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	40
Channel Description 2	
- Channel type	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	Single RF Channel.
- ARFCN	40
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by that type of MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Description of the multislot connection	
- Uplink assignment	If possible fewer timeslots are allocated than before HANDOVER COMMAND
- Downlink assignment	Less timeslots are allocated than before HANDOVER COMMAND
- Channel set X (1=<X<=8)	Appropriate for the test

HANDOVER ACCESS

Information Element	value/remark
As default message contents except: Handover Reference - Value	 Same as HANDOVER COMMAND

DCS 1 800

HANDOVER COMMAND

Information Element	value/remark
As default message contents, except: Cell Description - Network Colour Code - Base Station Colour Code - BCCH Carrier Number Channel Description 2 - Channel type - Timeslot Number - Training Sequence Code - Hopping - ARFCN Handover Reference - Value Power command - Power Level Synchronization Indication - Report Observed Time Difference - Synchronization Indication - Normal Cell Indication Description of the multislot connection - Uplink assignment - Downlink assignment - Channel set X (1=<X<=8)	 1 5 764 00000 A suitable value for multislot configuration, chosen arbitrarily. Chosen arbitrarily. Single RF Channel. 764 Chosen arbitrarily from the range (0, 1..255). Arbitrarily chosen, but different to the one already in use and within the range supported by that type of MS. Shall not be included. "Synchronized". Ignore out of range timing advance. Same as before HANDOVER COMMAND or less timeslots are allocated than before HANDOVER COMMAND Less timeslots are allocated than before HANDOVER COMMAND Appropriate for the test

HANDOVER ACCESS

Information Element	value/remark
As default message contents except: Handover Reference - Value	 Same as HANDOVER COMMAND

26.13.1.3.4 Multislot signalling / RR / Handover / successful / call under establishment / finely synchronized / relocation of channels

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.4.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from hopping, multislot configuration, finely synchronized case to hopping, multislot configuration, synchronized case during call establishment.

2) The MS shall not change number of channels in multislot configuration but the place of each channel is changed.

3) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.4 and 9.1.15, GSM 04.13 section 5.2.6.2

26.13.1.3.4.2 Test purpose

1) To test that when the MS is ordered to make a finely synchronized handover to a synchronized cell, it sends 4 access bursts on the main DCCH and then activates the channel correctly, taking into account power command, new order of channels in multislot configuration and correctly calculating the timing advance to use. Handover is done from hopping multislot configuration to hopping multislot configuration, number of channels in multislot configuration is not changed but the place of each channel is changed.

2) To test that MS correctly retransmits Layer 3 MM or CC messages, that were not acknowledged by Layer 2 before the Handover, after completion of the Handover.

3) To verify the MS transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.4.3 Method of test

Initial Conditions

System Simulator:

- 2 cells, A and B, with same LAI, default parameters, except:
- Early classmark sending enabled in SI3 rest octets
- The BCCH of cell A is sent k bit periods before the BCCH of cell B. The timing advance in cell A sent to the MS is y bit periods. k and y are selected such that $0 < (2k + y) \bmod 256 < 60$.
- The frame numbers of cells A and B shall be different by 100.

GSM 900:

- Cell A has:
  - BCCH ARFCN = 20.
  - Cell Allocation = (10, 17, 20, 26, 34, 42, 45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114).
- Cell B has:
  - BCCH ARFCN = 40.
  - Cell Allocation = (14, 18, 22, 24, 30, 31, 38, 40, 60, 66, 73, 74, 75, 76, 108, 114).

DCS 1 800:

- Cell A has:
  - BCCH ARFCN = 747.
  - Cell Allocation = (734, 741, 747, 754, 759, 762, 766, 767, 773, 775, 779, 782, 791, 798, 829, 832, 844).
- Cell B has:
  - BCCH ARFCN = 764.
  - Cell Allocation = (739, 743, 746, 749, 756, 758, 761, 764, 771, 779, 782, 791, 798, 829, 832, 844).

Mobile Station:

- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A.

Related PICS/PIXIT Statements

~~- Support for state MO calls.~~
- Type of M~~obile Station~~ (P-GSM 900 or EGSM or DCS 1 800).
~~- Power class of Mobile Station.~~
- Multislot class.
- Supported teleservices/bearer services
- Classmark ~~change~~

Foreseen Final State of the MS

"Idle, updated" with TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated on cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS defining used multislot configuration. MS responds with ASSIGNMENT COMPLETE message. Then the SS sends a HANDOVER COMMAND message, ordering the MS to switch to cell B. After the handover timeslots are relocated. Timeslots are also overlapped (this is described in specific message contents). The MS shall then send 4 access bursts, in successive slots on the new DCCH to cell B. Then the MS shall establish a signalling link indicating the correct timing advance and power level (number of channels in multislot configuration is not changed but the place of each channel is changed) and send a HANDOVER COMPLETE message. The MS shall be "ready to transmit" the HANDOVER COMPLETE message before 1500 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS. The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated.
2	MS -> SS	CHANNEL REQUEST	Establ. Cause = "Originating call, NECI not set to 1"
3	SS -> MS	IMMEDIATE ASSIGNMENT	See Specific Message contents.
4	MS -> SS	CM SERVICE REQUEST	CM Service Type = Mobile Originating Call Establishment.
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	CIPHERING MODE COMMAND	
7	MS -> SS	CIPHERING MODE COMPLETE	
8	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
9	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. See specific message contents below.
10	MS -> SS	ASSIGNMENT COMPLETE	
11	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS. Same N(SD) as in step 8.
12	SS -> MS	HANDOVER COMMAND	See Specific Message Contents below.
13	MS -> SS	HANDOVER ACCESS	
14	MS -> SS	HANDOVER ACCESS	
15	MS -> SS	HANDOVER ACCESS	See Specific message contents.
16	MS -> SS	HANDOVER ACCESS	Four messages are transmitted to cell B in 4 successive slots on the new DCCH.
17	MS -> SS	SABM	Sent without information field.
18	SS -> MS	UA	
19	MS -> SS	HANDOVER COMPLETE	The message shall be ready to be transmitted before 1500 ms after the completion of step 12.
20	SS		The header of the next uplink SACCH/M is examined and the Timing Advance and Power Level indications are examined. The correct timing advance shall be indicated. The power level indication shall indicate the power level used in the handover command.
21	MS -> SS	SETUP	Same N(SD) as in step 8.
22	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

DCS 1 800:

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

IMMEDIATE ASSIGNMENT

Information Element	value/remark
As default message contents except:	
Channel Description	Channel Description.
- Channel Type	SDCCH/8
- TDMA offset	As default message contents.
- Timeslot number	Arbitrary value, but not zero.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Mobile Allocation.
- HSN	Chosen arbitrarily from the set. (1,2,..63).
Mobile Allocation	Indicates all of the CA of cell A except for the BCCH frequency.

HANDOVER COMMAND

Information Element	value/remark
As default message contents except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	764
Channel Description 2	
- Channel Type	00000
- TDMA offset	Chosen arbitrarily.
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency List IE.
- HSN	Zero (this gives cyclic hopping).
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by the MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Frequency List after time	
- Frequency List	Use Range 512 to encode the complete CA of Cell B.
Description of the multislot configuration	
- Downlink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Uplink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Channel set X (1=<X<=8)	Appropriate for the test.

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

GSM 900:

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

IMMEDIATE ASSIGNMENT

Information Element	value/remark
As default message contents except:	
Channel Description	Channel Description.
- Channel Type	SDCCH/8
- TDMA offset	As default message contents.
- Timeslot number	Arbitrary value, but not zero.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Mobile Allocation.
- HSN	Chosen arbitrarily from the set (1,2,..63).
Mobile Allocation	Indicates all of the CA of cell A except for the BCCH frequency.

HANDOVER COMMAND

Information Element	value/remark
As default message contents except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	40
Channel Description 2	
- Channel Type	00000
- TDMA offset	Chosen arbitrarily.
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency List IE.
- HSN	Zero (this gives cyclic hopping).
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by the MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Frequency List after time	
- Frequency List	Use Range 512 to encode the complete CA of Cell B.
Description of the multislot configuration	
- Downlink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Uplink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Channel set X (1=<X<=8)	Appropriate for the test.

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

26.13.1.3.5 Multislot signalling / RR /Handover / successful / call under establishment / pre-synchronized / resource upgrading

If an MS does not implement the pre-synchronized handover procedure correctly then calls may fail.

If an MS does not report the observed time difference between cells correctly then pseudo synchronized handovers might not be possible for any MS.

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.5.1 Conformance requirements

1) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

2) When the Timing Advance information element is included in the HANDOVER COMMAND, the MS shall access the new cell with the timing advance included in the Timing Advance IE.

3) The MS shall be ready to transmit the HANDOVER COMPLETE message within 650 ms of the end of the HANDOVER COMMAND message.

4) When requested to do so in the HANDOVER COMMAND message, the MS shall return the Mobile Time Difference IE in the HANDOVER COMPLETE message indicating the sum of the observed time difference between the cells and the timing advance used on the old cell.

References

Conformance requirement 1: GSM 04.08, sections 3.1.4.3 and 9.1.5.
Conformance requirement 2: GSM 05.10, section 6.6, GSM 04.08 section 9.1.16.
Conformance requirement 3: GSM 04.13, section 5.2.6.1.
Conformance requirement 4: GSM 04.08, section 10.5.2.39.

26.13.1.3.5.2 Test purpose

1) To verify that when the MS is ordered to make a pre-synchronized handover from hopping multislot configuration to non-hopping multislot configuration, it sends 4 access bursts on the main DCCH and then activates the channel correctly and correctly calculates the time to transmit.

2) To test that the MS activates the new channels that belong to same multislot configuration correctly, taking into account upgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.5.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B, with same LAI, default parameters.
- The BCCH of cell A is sent k bit periods before the BCCH of cell B.

Mobile Station:
- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A.

Related PICS/PIXIT Statements

~~- Support for state MO calls.~~
- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Classmark ~~change~~

Foreseen Final State of the MS

"Idle, updated" with TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated. The SS sends an IMMEDIATE ASSIGNMENT message allocating an SDCCH/4. The MS is commanded to use a timing advance of y bit periods on cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS specifying used multislot configuration. MS responds by sending ASSIGNMENT COMPLETE message to SS. Then the SS sends a HANDOVER COMMAND, ordering the MS to switch to cell B. The MS shall then send 4 access bursts, at the commanded power level, in 4 successive slots of the new DCCH to cell B. Then the MS shall establish a signalling link using the correct timing advance and send a HANDOVER COMPLETE message. The MS shall be ready to transmit the HANDOVER COMPLETE message before 650 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS.

The term "ready to transmit" is defined in GSM 04.13.

The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

Maximum Duration of Test

20 seconds.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	to an SDCCH/4.
4	MS -> SS	CM SERVICE REQUEST	
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	CIPHERING MODE COMMAND	
7	MS -> SS	CIPHERING MODE COMPLETE	
8	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
9	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. Multislot configuration shall not have the maximum number of timeslots allocated. See specific message contents below.
10	MS -> SS	ASSIGNMENT COMPLETE	
11	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS. Same N(SD) as in step 8.
12	SS -> MS	HANDOVER COMMAND	See specific message contents below.
13	MS -> SS	HANDOVER ACCESS	Handover Reference as included in the
14	MS -> SS	HANDOVER ACCESS	HANDOVER COMMAND
15	MS -> SS	HANDOVER ACCESS	
16	MS -> SS	HANDOVER ACCESS	
17	MS -> SS	SABM	Sent without information field.
18	SS -> MS	UA	
19	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 12. Shall include the Mobile Time Difference IE with value (2k+y) mod 2,097,152 half bit periods. A tolerance of ±2 half bit periods is allowed.
20	MS -> SS	SETUP	Same N(SD) as in step 8
21	SS	-	The SS checks that the timing advance reported in the layer 1 header of the SACCH/M message that is sent in the first SACCH/M multiframe following the SABM is 9 bit periods.
22	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

P-GSM 900

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test, shall not be the maximum number of timeslots.
- Downlink assignment	Appropriate for the test, but shall not be the maximum number of timeslots.
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Arbitrarily chosen from Cell channel description
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	40
Channel Description 2	
- Channel Type	00000
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily
- Hopping	0 (= no hopping)
- ARFCN	Chosen arbitrarily
Synchronization Indication.	pre-synchronized; ROT=1; NCI=0.
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	More timeslots are allocated than before HANDOVER COMMAND
- Uplink assignment	Same as before HANDOVER COMMAND
- Channel set X (1=<x<=8)	Same as before HANDOVER COMMAND
Timing Advance	9 bit periods.

DCS 1 800

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test, but shall not be the maximum number of timeslots.
- Downlink assignment	Appropriate for the test, but shall not be the maximum number of timeslots.
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Arbitrarily chosen from Cell channel description
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	764
Channel Description 2	
- Channel Type	00000
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily
- Hopping	0 (= no hopping)
- ARFCN	Chosen arbitrarily
Synchronization Indication.	pre-synchronized; ROT=1; NCI=0.
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	More timeslots are allocated than before HANDOVER COMMAND
- Uplink assignment	Same as before HANDOVER COMMAND
- Channel set X (1=<x<=8)	Same as before HANDOVER COMMAND
Timing Advance	9 bit periods.

26.13.1.4 Multislot signalling / RR / Test of the channel mode modify procedure

This test is applicable to all MS that supports multislot configuration.

26.13.1.4.1 Conformance requirements

1) When the MS has received the CHANNEL MODE MODIFY message, the mobile station changes the mode for the indicated channel and then replies by a CHANNEL MODE MODIFY ACKNOWLEDGE message indicating the new channel mode.

2) If the mobile station does not support the indicated mode, it shall retain the old mode and return the associated channel mode information in the CHANNEL MODE MODIFY ACKNOWLEDGE message.

References

Conformance requirement: GSM 04.08, sections 3.4.6 and 9.1.5 and 9.1.6

26.13.1.4.2 Test purpose

1) To verify that the MS, in an RR connected state, acknowledges a CHANNEL MODE MODIFY message by sending a CHANNEL MODE MODIFY ACKNOWLEDGEMENT message specifying and switching to the correct mode for the channels in a multislot configuration

   - the new mode if that mode is supported
   - the old mode if the new mode is not supported.

2) This shall be verified for all existing channel modes

   - data 9.6 Kb/s
   - data 4.8 Kb/s full rate
   - data 14.4 Kb/s

26.13.1.4.3 Method of test

Initial Conditions

System Simulator:

- 1 cells, default parametersexcept:

- Early classmark sending enabled in SI3 rest octets

Mobile Station:

- The MS is "idle updated", with TMSI allocated.

Related PICS/PIXIT statement(s)

- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- ~~Bearer capabilities supported by the MS.~~Supported tesleservices/bearer services
- Channel modes supported by the MS:
  - MS supports data 9,6 Kb/s (p1 = Y/N)
  - MS supports data 4,8 Kb/s full rate (p2 = Y/N)
  - MS supports data 14.4 Kb/s (p3 = Y/N)
- ~~-~~Multislot class
- Classmark

Foreseen final state of the MS

“Idle, updated “ with TMSI allocated.

Test procedure

1) A Mobile Terminated multislot connection is initiated, however following the Channel Request received from the Mobile Station, the SS sends an Immediate Assignment to the MS commanding it to go to a TCH/F. This sets the Channel Mode automatically to "Signalling Only".

2) The SS then sends a series of CHANNEL MODE MODIFY messages to the MS. Each time it is checked that the MS responds with a CHANNEL MODE MODIFY ACKNOWLEDGE message specifying:

2.1) the channel mode that has been specified in the CHANNEL MODE MODIFY message, if the MS supports that mode (this mode then becomes the "channel mode in use");

2.2) the channel mode that was in use when the CHANNEL MODE MODIFY message has been received, if the MS does not support the channel mode specified in the CHANNEL MODE MODIFY message.

Maximum duration of test

3 minutes.

Expected Sequence

Step	Direction	Message	Comments
1	SS->MS	PAGING REQUEST TYPE 1	Sent on correct paging subchannel.
2	MS->SS	CHANNEL REQUEST	Establishment cause indicates "answer to paging".
3	SS->MS	IMMEDIATE ASSIGNMENT	Assignment to a non hopping TCH/F.
4	MS->SS	PAGING RESPONSE	
5	MS->SS	CLASSMARK CHANGE	Multislot class
6	SS->MS	ASSIGNMENT COMMAND	Multislot configuration, Channel mode = 'signalling only'
7	MS->SS	ASSIGNMENT COMPLETE	
8	SS->MS	CHANNEL MODE MODIFY	See specific message contents
9	MS->SS	CHANNEL MODE MODIFY ACKNOWLEDGE	See specific message contents
10	SS->MS	CHANNEL MODE MODIFY	See specific message contents
11	MS->SS	CHANNEL MODE MODIFY ACKNOWLEDGE	See specific message contents
12	SS->MS	CHANNEL MODE MODIFY	See specific message contents
13	MS->SS	CHANNEL MODE MODIFY ACKNOWLEDGE	See specific message contents
14	SS->MS	CHANNEL RELEASE	The main signalling link is released

Specific Message Contents

CHANNEL MODE MODIFY

Information Element	value/remark
Channel description	describes the already assigned dedicated channel.
Channel mode	
Mode	in step 8: data 9,6 Kb/s in step 10: data 4,8 Kb/s full rate in step 12: data 14,4 Kb/s

CHANNEL MODE MODIFY ACKNOWLEDGE

Channel mode	
Mode	in step 9: if p1 = Y: data 9,6 Kb/s if p1 = N: signalling only in step 11: if p2 = Y: data 4,8 Kb/s full rate if p2 = N: same as in step 9 in step 13: if p3 = Y: data 14,4 Kb/s full rate if p2 = N: same as in step 11

26.13.1.5 Multislot signalling / RR / Early classmark sending

This test is applicable to all MS that supports multislot configuration.

26.13.1.5.1 Conformance requirement

1) MS uses Controlled Early Classmark Sending procedure when indicated in SYSTEM INFORMATION TYPE 3 (ES ind bit in SI 3 Rest Octets).

   1.1) If Controlled Early Classmark Sending is not allowed by network the MS does not send a CLASSMARK CHANGE message.

   1.2) If Controlled Early Classmark Sending is allowed by network the MS shall send its multislot class in Mobile Station Classmark 3 in a CLASSMARK CHANGE message.

Reference

Conformance requirement 1: GSM 04.08 sections 3.3.1.1.4 and 3.4.10

26.13.1.5.2 Test purpose

1) To verify that the MS sends its multislot class in Mobile Station Classmark 3 using Controlled Early Classmark Sending procedure if allowed by network.

2) To verify that the MS does not perform Early Classmark Sending if it is not allowed.

26.13.1.5.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Classmark
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is made to initiate a multislot connection. In the first case Controlled Early Classmark Sending procedure is allowed by network, the MS performs Early Classmark sending. In the second case Controlled Early Classmark Sending procedure is not allowed by network, the MS does not send a CLASSMARK CHANGE message.

SS checks Controlled Early Classmark Change procedure from CLASSMARK CHANGE message. If Controlled Early Classmark Sending procedure is allowed by the network ES ind bit in SI 3 Resr Octets is set. If this bit is not set SS sends CHANNEL RELEASE and the main signalling link is released. If ES ind bit

was set then the MS's multislot class is sent in Mobile Station Classmark 3 (octet 4) in the CLASSMARK CHANGE message.

Maximum duration of test

2 minutes

Expected sequence

This test is executed with the following sequences in allowed and not allowed cases respectively.

After the first sequence Early classmark sending is disabled from SI3 rest octets.

Step	Direction	Message	Comments
	SS		Controlled Early Classmark Sending procedure is allowed by the network.
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel.
2	MS -> SS	CHANNEL REQUEST	Establishment cause is: answer to paging
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM.
5	MS -> SS	CLASSMARK CHANGE	SS checks that MS sent its multislot class in Mobile Station Classmark 3.
7	SS -> MS	CHANNEL RELEASE	The main signalling link is released

Step	Direction	Message	Comments
	SS		Controlled Early Classmark Sending procedure is not allowed by the network.
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel.
2	MS -> SS	CHANNEL REQUEST	Establishment cause is: answer to paging
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM
5	SS		SS checks for 2 seconds that no CLASSMARK CHANGE message is sent by the MS.
6	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

NOTE Step 5: GSM 04.08 section 3.3.1.1.4.1 states that the MS shall send CLASSMARK CHANGE as early as possible. 2 seconds are chosen as a reasonable value to verify that the MS does not send a CLASSMARK CHANGE message.

26.13.1.6 Default contents of layer 3 messages for RR tests

26.13.1.6.1 Default contents of GSM 900 layer 3 messages for RR tests

This section contains the default values of GSM 900 L3 messages, which unless indicated otherwise in section 26.13 shall be transmitted by the system simulator and which are required to be received from the GSM 900 MS under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements that are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this section, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION 2 bis, SYSTEM INFORMATION 5 bis, SYSTEM INFORMATION 7, and SYSTEM INFORMATION 8 messages are not used.

Cell A

Contents of information elements in SYSTEM INFORMATION TYPE 1 to 6 messages for cell A.

(CBCH) Channel Description	Not present.
(CBCH) Mobile Allocation	Not present.
Cell Channel Description	
- Format identifier	bit map 0.
- Cell Allocation ARFCN	Channels 20, 30, 50 and 70.
Cell Identity	
- Cell Identity Value	0001H
Cell Options	
- Power Control Indicator	Power Control Indicator is not set.
- DTX Indicator	MS shall not use DTX.
- Radio_Link_Timeout	8 SACCH blocks.
Cell Selection Parameters	
- Cell_Reselect_Hysteresis	12 dB.
- MX_TXPWR_MAX_CCH	Minimum level.
- ACS	No addition cell parameters are present in SYSTEM INFORMATION messages 7 and 8.
- NECI	New establishment causes not supported.
- RXLEV_ACCESS_MIN	Minimum level.
Control Channel Description	
- Attach-Detach allowed	No Attach/Detach.
- BS_AG_BLKS_RES	0 blocks reserved for access grant.
- CCCH_CONF	1 basic physical channel used for CCCH, combined with SDCCHs.
- BS_PA_MFRMS	5 multiframe periods for transmission of paging messages.
- T3212 Time-out value	Infinite.
L2 pseudo length	
- System information 1	21
- System information 2	22
- System information 3	18
- System information 4	12
Location Area Identification	
- Mobile Country Code	001 decimal
- Mobile Network Code	01 decimal
- Location Area Code	0001H
Message Type	
- System information 1	00011001
- System information 2	00011010
- System information 3	00011011
- System information 4	00011100
- System information 5	00011101
- System information 6	00011110
Neighbour Cells Description	
- Format identifier	bit map 0.
- BCCH Allocation Sequence	0
- BCCH Allocation ARFCN	Channels 10, 20, 40, 80, 90, 100, 110 and 120.
- EXT-IND	This IE carries the complete BA.
NCC Permitted	0000 0010
RACH Control Parameters	
- Max Retrans	Max 1 retrans.
- Tx-integer	5 slots used.
- Cell Barred for Access	Cell is not barred.
- Call Reestablishment Allowed	Not allowed.
- Access Control Class	Access is not barred.
- Emergency Call allowed	Yes.
SI 1 rest octets	Not used (all bits are set to spare).
SI 2 rest octets	Not used (all bits are set to spare).
SI 3 rest octets	Not used (all bits are set to spare).

SI 4 rest octets	Not used (all bits are set to spare).

Default settings for cell A:

Downlink input level	63 dBmicroVolt emf.
Uplink output power	minimum supported by the MS's power class.
Propagation profile	static.
BCCH/CCCH carrier number	20

Cell B

The contents of SYSTEM INFORMATION TYPE 1 to 6 messages for cell B are identical to those of cell A with the following exceptions:

Cell Channel Description	
- Format Identifier	Bit map 0.
- Cell Allocation ARFCN	Channel Number 10.

NOTE 2: This IE needs modification when used in handover tests that command the MS to go to a frequency hopping channel in cell B.

Cell Identity
- Cell Identity Value 0002H

Default settings for cell B:

Downlink input level	53 dBmicroVolt emf.
Uplink output power	minimum supported by the MS's power class.
Propagation profile	static.
BCCH/CCCH carrier number	10

Contents of ALERTING message (SS to MS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1 (destination side).
Message Type	00000001
All other information elements	Not present.

Contents of ASSIGNMENT COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101110
Channel Description 2	
- Channel Type and TDMA offset	Bm + ACCHs
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Channel number 30.
Power Command	
- Power level	Chosen arbitrarily by the test house.
Multislot allocation	
- Downlink assignment	Appropriate for the test
- Uplink assignment	Appropriate for the test
- Channel set 1=<X<=8	Appropriate for the test
Channel mode	Appropriate for the test

Contents of ASSIGNMENT COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101001
RR Cause	
- RR Cause Value	Normal event.

Contents of ASSIGNMENT FAILURE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101111
RR Cause	
- RR Cause Value	Depending on test.

Contents of AUTHENTICATION REQUEST message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	00010010
Ciphering Key Sequence Number	
- Key Sequence	Chosen arbitrarily by the test house from the range 0 to 6.
Authentication Parameter RAND	
- RAND value	Chosen arbitrarily by the test house.

Contents of AUTHENTICATION RESPONSE message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	0X010100
Other information element(s)	Not checked.

Contents of CALL PROCEEDING message:

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1 (destination side).
Message Type	00000010
All other information elements	Not present.

Contents of CHANNEL MODE MODIFY message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00010000
Channel Description 2	
- Channel Type and TDMA offset	Depending on test.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Channel number 30.
Channel Mode	
- Mode	Depending on test.

Contents of CHANNEL MODE MODIFY ACKNOWLEDGE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00010111
Channel Description 2	
- Channel Type and TDMA offset	Depending on test.
- Timeslot Number	Same as in the CHANNEL MODE MODIFY message.
- Training Sequence Code	Same as in the CHANNEL MODE MODIFY message.
- Hopping	Single RF channel.
- Frequency Band	Band number 0.
- ARFCN	Channel number 30.
Channel Mode	
- Mode	Same as in the CHANNEL MODE MODIFY message.

Contents of CHANNEL RELEASE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00001101
RR Cause	
- RR Cause Value	Normal event.

Contents of CHANNEL REQUEST message

Establishment Cause	Not checked.
Random Reference	Not checked.

Contents of CIPHERING MODE COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00110101
Cipher Mode Setting	
- algorithm identifier	cipher with A5/1.
- SC	Start ciphering.
Cipher Response	IMEI shall not be included.

Contents of CIPHERING MODE COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00110010
Mobile Identity	Not present.

Contents of the CLASSMARK CHANGE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	000100110
Mobile Station Classmark 2	See PICS/PIXIT.
Mobile Station Classmark 3	For presence and contents see PICS/PIXIT.

Contents of CM SERVICE ACCEPT message:

Protocol Discriminator	Mobility Management.
Skip Indicator	0000
Message Type	00100001

Contents of CM SERVICE REQUEST message

Protocol Discriminator	Mobility Management.
Skip Indicator	0000
Message Type	0X100100
Other information elements	Not checked.

Contents of CONFIGURATION CHANGE COMMAND message (SS to MS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110000
Multislot allocation	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Uplink assignment	Appropriate for the test
- Channel set 1=<X<=8	Appropriate for the test
Channel mode 1=<X<=8	Appropriate for the test

Contents of CONFIGURATION CHANGE ACKNOWLEDGE message (MS to SS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110001

Contents of CONFIGURATION CHANGE REJECT message (MS to SS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110011
RR Cause	Protocol Error Unspecified

Contents of CONNECT message (SS to MS)

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1
Message Type	00000111
All other information elements	Not present.

Contents of CONNECT ACKNOWLEDGE message (MS to SS)

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	0
Message Type	0X001111

Contents of HANDOVER ACCESS message:

Handover Reference	Equal to the value included in the Handover Command message.

Contents of HANDOVER COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101011
Cell Description	
- Network Colour Code	1
- Base station Colour Code	Corresponding to target cell
- BCCH Carrier Number	Set to the BCCH carrier number of cell B. (one of 10, 20, 80, 90, 100, 110 or 120).
Channel Description 2	
- Channel Type and TDMA offset	Bm + ACCHs.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Chosen arbitrarily by the test house from those supported on the target cell.
Handover Reference	
- Handover Reference Value	Chosen arbitrarily by the test house.
Power Command	
- Power level	Chosen arbitrarily by the test house.
Multislot allocation	
- Downlink assignment	Appropriate for the test
- Uplink assignment	Appropriate for the test
- Channel set 1=<X<=8	Appropriate for the test
Channel mode	Appropriate for the test

Contents of HANDOVER COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101100
RR cause	Normal event.
Time difference	Not present.

Contents of HANDOVER FAILURE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101000
RR cause	Dependent on the test.

Contents of IMMEDIATE ASSIGNMENT message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging.
Channel Description	
- Channel Type and TDMA offset	For non-combined CCCH/SDCCH (see initial conditions), SDCCH/8, with subchannel chosen arbitrarily by the test house For combined CCCH/SDCCH (default SS conditions), SDCCH/4, with subchannel chosen arbitrarily by the test house.
- Timeslot Number	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, timeslot zero.
- Training Sequence Code	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, TSC=5 (same as the BCC).
- Hopping	Single RF channel.
- ARFCN	For non-combined CCCH/SDCCH (see initial conditions), Channel number 30; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, Channel number 20.
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	Not used (all bits set to spare).

Contents of IMMEDIATE ASSIGNMENT EXTENDED message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IAX rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 18.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111001
Page Mode	
- Page Mode	Normal Paging.
Channel Description 1	
- Channel Type and TDMA offset	For non-combined CCCH/SDCCH (see test conditions), SDCCH/8, with subchannel chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, with subchannel chosen arbitrarily by the test house.
- Timeslot Number	For non-combined CCCH/SDCCH (see test conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, timeslot zero.
- Training Sequence Code	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, TSC=5 (same as the BCC).
- Hopping	Single RF channel.
- ARFCN	For non-combined CCCH/SDCCH (see initial conditions),Channel number 30; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, Channel number 20.
Request Reference 1	Pertaining to last Channel Request sent by the MS.
Timing Advance 1	
- Timing advance value	Chosen arbitrarily by the test house.
Channel Description 2	
- Channel Type and TDMA offset	Same channel type as in Channel Description 1, but different TDMA offset to that in Channel Description 1.
- Timeslot Number	equal to the value in Channel Description 1.
- Training Sequence Code	equal to the value in Channel Description 1.
- Hopping	Single RF channel.
- ARFCN	equal to the value in Channel Description 1.
Request Reference 2	Not pertaining to any Channel Requests sent by the MS.
Timing Advance 2	
- Timing advance value	Chosen arbitrarily by the test house.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IAX rest octets	Not used (all bits set to spare).

Contents of IMMEDIATE ASSIGNMENT REJECT message:

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111010
Page Mode	
- Page Mode	Normal Paging.
Request Reference	Pertaining to last Channel Request sent by the MS.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
IAR rest octets	Not used (all bits set to spare).

Contents of LOCATION UPDATING REQUEST message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	0X001000
Other information elements	Not checked.

Contents of PAGING REQUEST TYPE 1 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P1 rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 9.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100001
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile Identity 1	
- odd/even indication	Even.
- Type of Identity	TMSI.
- Identity Digits	TMSI previously allocated to MS.
Mobile Identity 2	Not present.
P1 rest octets	Not used (all bits set to spare).

Contents of PAGING REQUEST TYPE 2 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P2 rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management..
Skip Indicator	0000
Message Type	00100010
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile Identity 1	
- TMSI value	TMSI previously allocated to MS.
Mobile Identity 2	
- TMSI value	TMSI not allocated to MS.
Mobile Identity	Not present.
P2 rest octets	Not used (all bits set to spare).

Contents of PAGING REQUEST TYPE 3 message:

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100100
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile identity 1	
- TMSI value	TMSI previously allocated to MS.
Mobile identity 2	
- TMSI value	TMSI not allocated to MS.
Mobile identity 3	
- TMSI value	TMSI not allocated to MS.
Mobile identity 4	
- TMSI value	TMSI not allocated to MS.
P3 rest octets	Not used (all bits set to spare).

Contents of PAGING RESPONSE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100111
Ciphering Key Sequence Number	
- Key Sequence	Key sequence number previously allocated to MS, or "111" if no key is available.
Mobile Station Classmark 2	
Mobile Identity	
- odd/even indication	Even
- Type of identity	TMSI
- Identity Digits	TMSI previously allocated to MS.

Contents of PHYSICAL INFORMATION message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101101
Timing advance	20 bit periods.

Contents of SETUP message; (MS to SS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	any value from the set {0, ..., 6}.
TI flag	0
Message Type	0X000101
Other information elements	Not checked.

26.13.1.6.2 Default contents of DCS 1 800 layer 3 messages for RR tests

This section contains the default values of DCS 1 800 L3 messages, which unless indicated otherwise in section 26.6 shall be transmitted by the system simulator and which are required to be received from the DCS 1 800 MS under test. These values are used in order to be consistent with the phase 2 version of 26.6.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements that are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this section, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION 2 bis, SYSTEM INFORMATION 7, and SYSTEM INFORMATION 8 messages are not used.

SYSTEM INFORMATION 5 bis is not sent as a default message. For those tests that require SYSTEM INFORMATION 5 bis see the specific message contents for that test.

Cell A

Contents of information elements in SYSTEM INFORMATION TYPE 1 to 6 messages for cell A.

(CBCH) Channel Description	Not present.
(CBCH) Mobile Allocation	Not present.
Cell Channel Description	
- Format identifier	Range 512.
- Cell Allocation ARFCN	Channel Numbers, 590, 650, 750 and 850.
Cell Identity	
- Cell Identity Value	0001H
Cell Options	
- Power Control Indicator	Power Control Indicator is not set, 0
- DTX Indicator	MS shall not use DTX.
- Radio_Link_Timeout	8 SACCH blocks.
Cell Selection Parameters	
- Cell_Reselect_Hysteresis	12 dB
- MX_TXPWR_MAX_CCH	Minimum level.
- ACS	No addition cell parameters are present in SYSTEM INFORMATION messages 7 and 8.
- NECI	New establishment causes not supported.
- RXLEV_ACCESS_MIN	Minimum level.
Control Channel Description	
- Attach-Detach allowed	MS shall not apply.
- BS_AG_BLKS_RES	0 blocks reserved for access grant.
- CCCH_CONF	1 basic physical channel used for CCCH, combined with SDCCHs.
- BS_PA_MFRMS	5 multiframe periods for transmission of paging messages.
- T3212 Time-out value	Infinite.
L2 pseudo length	
- System information 1	21
- System information 2	22
- System information 3	18
- System information 4	12
Location Area Identification	
- Mobile Country Code	001 decimal.
- Mobile Network Code	01 decimal.
- Location Area Code	0001H
Message Type	
- System information 1	00011001
- System information 2	00011010
- System information 3	00011011
- System information 4	00011100
- System information 5	00011101
- System information 6	00011110
Neighbour Cells Description	
- Format identifier	Range 512.
- BCCH Allocation Sequence	0
- BCCH Allocation ARFCN	Channels numbers, 520, 590, 600, 700, 780, 810, 870.
- EXT-IND	This IE carries the complete BA. EXT-IND is 0.
NCC Permitted	0000 0010
RACH Control Parameters	
- Max Retrans	Max 1 retrans.
- Tx-integer	5 slots used.
- Cell Barred for Access	Cell is not barred.
- Call Reestablishment Allowed	Not Allowed.
- Access Control Class	Access is not barred.
- Emergency Call allowed	Yes.
SI 1 rest octets	Not used (all bits are set to spare).
SI 2 rest octets	Not used (all bits are set to spare).
SI 3 rest octets	Not used (all bits are set to spare).

SI 4 rest octets	Not used (all bits are set to spare).

Default settings for cell A:

Downlink input level	63 dBmicroVolt emf().
Uplink output power	minimum supported by the MS's power class
Propagation profile	static.
BCCH/CCCH carrier number	ARFN 590.

Cell B

The contents of SYSTEM INFORMATION TYPE 1 to 6 messages for cell B are identical to those of cell A with the following exceptions:

Cell Channel Description	
- Format Identifier	Range 512.
- Cell Allocation ARFCN	Channel Number 520.

NOTE 2: This IE needs modification when used in handover tests that command the MS to go to a frequency hopping channel in cell B.

Cell Identity	
- Cell Identity Value	0002H

Default settings for cell B:

Downlink input level	53 dBmicroVolt emf().
Uplink output power	minimum supported by the MS's power class
Propagation profile	static.
BCCH/CCCH carrier number	520

Contents of ALERTING message (SS to MS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1 (destination side).
Message Type	00000001
All other information elements	Not present.

Contents of ASSIGNMENT COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101110
Channel Description	
- Channel Type and TDMA offset	Bm + ACCHs.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Channel number 650.
Power Command	
- Power level	Chosen arbitrarily by the test house.
Multislot allocation	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Uplink assignment	Appropriate for the test
- Channel set 1=<X<=8	Appropriate for the test
Channel mode 1=<X<=8	Appropriate for the test

Contents of ASSIGNMENT COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101001
RR Cause	
- RR Cause Value	Normal event.

Contents of ASSIGNMENT FAILURE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101111
RR Cause	
- RR Cause Value	Depending on test.

Contents of AUTHENTICATION REQUEST message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	00010010
Ciphering Key Sequence Number	
- Key Sequence	Chosen arbitrarily by the test house from the range 0 to 6.
Authentication Parameter RAND	
- RAND value	Chosen arbitrarily by the test house.

Contents of AUTHENTICATION RESPONSE message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	0X010100
Other information element(s)	Not checked.

Contents of CALL PROCEEDING message:

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1 (destination side).
Message Type	00000010
All other information elements	Not present.

Contents of CHANNEL MODE MODIFY message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00010000
Channel Description	
- Channel Type and TDMA offset	Depending on test.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Channel number 650.
Channel Mode	
- Mode	Depending on test.

Contents of CHANNEL MODE MODIFY ACKNOWLEDGE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00010111
Channel Description	
- Channel Type and TDMA offset	Depending on test.
- Timeslot Number	Same as in the CHANNEL MODE MODIFY message.
- Training Sequence Code	Same as in the CHANNEL MODE MODIFY message.
- Hopping	Single RF channel.
- Frequency Band	Band number 0.
- ARFCN	Channel number 650.
Channel Mode	
- Mode	Same as in the CHANNEL MODE MODIFY message.

Contents of CHANNEL RELEASE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00001101
RR Cause	
- RR Cause Value	Normal event.

Contents of CHANNEL REQUEST message:

Establishment Cause	Not checked.
Random Reference	Not checked.

Contents of CIPHERING MODE COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00110101
Cipher Mode Setting	
- algorithm identifier	cipher with A5/1.
- SC	Start ciphering.
Cipher Response	IMEI shall not be included.

Contents of CIPHERING MODE COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00110010
Mobile Identity	Not present.

Contents of the CLASSMARK CHANGE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	000100110
Mobile Station Classmark 2	
- RF Power Capability	See PICS/PIXIT.
- Frequency Capability	Set to 0.
Mobile Station Classmark 3	For presence and contents see PICS/PIXIT.

Contents of CM SERVICE ACCEPT message:

Protocol Discriminator	Mobility Management.
Skip Indicator	0000
Message Type	00100001

Contents of CM SERVICE REQUEST message:

Protocol Discriminator	Mobility Management.
Skip Indicator	0000
Message Type	0X100100
Other information elements	Not checked.

Contents of CONFIGURATION CHANGE COMMAND message (SS to MS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110000
Multislot allocation	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Uplink assignment	Appropriate for the test
- Channel set 1=<X<=8	Appropriate for the test
Channel mode 1=<X<=8	Appropriate for the test

Contents of CONFIGURATION CHANGE ACKNOWLEDGE message (MS to SS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110001

Contents of CONFIGURATION CHANGE REJECT message (MS to SS)

Protocol Discriminator	Radio Resource
Skip Indicator	0000
Message type	00110011
RR Cause	Protocol Error Unspecified

Contents of CONNECT message (SS to MS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	1
Message Type	00000111
All other information elements	Not present.

Contents of CONNECT ACKNOWLEDGE message (MS to SS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	As used in the SETUP message.
TI flag	0
Message Type	0X001111

Contents of HANDOVER ACCESS message:

Handover Reference	Equal to the value included in the Handover Command message.

Contents of HANDOVER COMMAND message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101011
Cell Description	
- Network Colour Code	1
- Base station Colour Code	Corresponding to target cell
- BCCH Carrier Number	Set to the BCCH carrier number of cell B. (one of 520, 590, 600, 700, 780, 810 or 870).
Channel Description	
- Channel Type and TDMA offset	Bm + ACCHs.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	Chosen arbitrarily by the test house from those supported on the target cell.
Handover Reference	
- Handover Reference Value	Chosen arbitrarily by the test house.
Power Command	
- Power level	Chosen arbitrarily by the test house.
All other information elements	Not present.

Contents of HANDOVER COMPLETE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101100
RR cause	Normal event.
Time difference	Not present.

Contents of HANDOVER FAILURE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101000
RR cause	Dependent on the test.

Contents of IMMEDIATE ASSIGNMENT message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging.
Channel Description	
- Channel Type and TDMA offset	For non-combined CCCH/SDCCH (see initial conditions), SDCCH/8, with subchannel chosen arbitrarily by the test house For combined CCCH/SDCCH (default SS conditions), SDCCH/4, with subchannel chosen arbitrarily by the test house.
- Timeslot Number	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, timeslot zero.
- Training Sequence Code	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, TSC=5 (same as the BCC).
- Hopping	Single RF channel.
- ARFCN	For non-combined CCCH/SDCCH (see initial conditions), Channel number 650; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, Channel number 590.
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	Not used (all bits set to spare).

Contents of IMMEDIATE ASSIGNMENT EXTENDED message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IAX rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 18.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111001
Page Mode	
- Page Mode	Normal Paging.
Channel Description 1	
- Channel Type and TDMA offset	For non-combined CCCH/SDCCH (see test conditions), SDCCH/8, with subchannel chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, with subchannel chosen arbitrarily by the test house.
- Timeslot Number	For non-combined CCCH/SDCCH (see test conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, timeslot zero.
- Training Sequence Code	For non-combined CCCH/SDCCH (see initial conditions), chosen arbitrarily by the test house; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, TSC=5 (same as the BCC).
- Hopping	Single RF channel.
- ARFCN	For non-combined CCCH/SDCCH (see initial conditions),Channel number 650; For combined CCCH/SDCCH (default SS conditions), SDCCH/4, Channel number 590.
Request Reference 1	Pertaining to last Channel Request sent by the MS.
Timing Advance 1	
- Timing advance value	Chosen arbitrarily by the test house.
Channel Description 2	
- Channel Type and TDMA offset	Same channel type as in Channel Description 1, but different TDMA offset to that in Channel Description 1.
- Timeslot Number	equal to the value in Channel Description 1.
- Training Sequence Code	equal to the value in Channel Description 1.
- Hopping	Single RF channel.
- ARFCN	equal to the value in Channel Description 1.
Request Reference 2	Not pertaining to any Channel Requests sent by the MS.
Timing Advance 2	
- Timing advance value	Chosen arbitrarily by the test house.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IAX rest octets	Not used (all bits set to spare).

Contents of IMMEDIATE ASSIGNMENT REJECT message:

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111010
Page Mode	
- Page Mode	Normal Paging.
Request Reference	Pertaining to last Channel Request sent by the MS.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
Request Reference	Not pertaining to the MS under test.
Wait Indication	0 seconds.
IAR rest octets	Not used (all bits set to spare).

Contents of LOCATION UPDATING REQUEST message:

Protocol Discriminator	MM message.
Skip Indicator	0000
Message Type	0X001000
Other information elements	Not checked.

Contents of PAGING REQUEST TYPE 1 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P1 rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 9.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100001
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile Identity 1	
- odd/even indication	Even.
- Type of Identity	TMSI.
- Identity Digits	TMSI previously allocated to MS.
Mobile Identity 2	Not present.
P1 rest octets	Not used (all bits set to spare).

Contents of PAGING REQUEST TYPE 2 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P2 rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100010
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile Identity 1	
- TMSI value	TMSI previously allocated to MS.
Mobile Identity 2	
- TMSI value	TMSI not allocated to MS.
Mobile Identity	Not present.
P2 rest octets	Not used (all bits set to spare).

Contents of PAGING REQUEST TYPE 3 message:

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100100
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	any channel.
- second channel	any channel.
Mobile identity 1	
- TMSI value	TMSI previously allocated to MS.
Mobile identity 2	
- TMSI value	TMSI not allocated to MS.
Mobile identity 3	
- TMSI value	TMSI not allocated to MS.
Mobile identity 4	
- TMSI value	TMSI not allocated to MS.
P3 rest octets	Not used (all bits set to spare).

Contents of PAGING RESPONSE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100111
Ciphering Key Sequence Number	
- Key Sequence	Key sequence number previously allocated to MS, or "111" if no key is available.
Mobile Station Classmark 2	
Mobile Identity	
- odd/even indication	Even.
- Type of identity	TMSI
- Identity Digits	TMSI previously allocated to MS.

Contents of PHYSICAL INFORMATION message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00101101
Timing advance	20 bit periods.

Contents of SETUP message; (MS to SS):

Protocol Discriminator	Call Control.
Transaction Identifier	
TI value	any value from the set {0, ..., 6}.
TI flag	0
Message Type	0X000101
Other information elements	Not checked.

26.13.2 Multislot signalling / CC

26.13.2.1 Multislot signalling / CC / In-call functions

26.13.2.1.1 Multislot signalling / CC / In-call functions / User initiated service level upgrade / successful

This test is applicable to all MS that supports multislot configuration.

26.13.2.1.1.1 Definition and applicability

Multislot connection is established. Multislot configuration with one TCH/F is allocated. User initiated service level upgrade is successfully performed.

This test is applicable for any equipment supporting multislot connection.

26.13.2.1.1.2 Conformance requirements

1) MS shall send MODIFY message to SS indicating that User initiated service level upgrade is initiated.

2) MS enters CC state 'Mobile originating modify (U26)' after sending MODIFY.
3) MS enters CC state 'Active (U10)' when MODIFY COMPLETE is received.

References

Conformance requirement 1: GSM 04.08, section 9.3.13
Conformance requirement 2: GSM 04.08, section 5.3.5.1
Conformance requirement 3: GSM 04.08, section 5.3.5.2

26.13.2.1.1.3 Test purpose

1) To verify that the procedure is initiated by the MS in the "active" state of a multislot connection. It sends a MODIFY message including the wanted value of the "maximum number of traffic channels" and/or the "wanted air interface" parameters; and enters the "mobile originating modify" state. Other parameters of the bearer capability given in MODIFY message and already negotiated and agreed during the establishment phase of the call, may not be changed.

2) To verify that upon receipt of the MODIFY COMPLETE message with bearer capability negotiated at call setup in the MS enters the "active" state.

26.13.2.1.1.4 Method of test

Initial conditions

Mobile station:

- MS in the active state of a service using a multislot connection.

System simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

--Supported teleservices/bearer services
--Classmark
- Multislot class

Foreseen final state of the MS

MS is in the active state of a service using a multislot connection.

Test procedure

MS is in the active state of a multislot connection. Multislot configuration with one TCH/F is allocated. User initiates User initiated service level upgrade by sending MODIFY message including the wanted value of the Maximum number of traffic channels, this being one supported by the MS and channel modes supported by the MS. The MS enters 'mobile originating modify' state. This is verified by a status enquiry procedure.

MS receives MODIFY COMPLETE message from SS and enters the active state. This is verified by a status enquiry procedure.

Maximum duration of test

3 min

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	MODIFY	User initiated service level upgrade is initiated.
2	MS		MS enters the Mobile originating modify state
3	SS -> MS	STATUS ENQUIRY	
4	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U26 Mobile originated modify.
5	SS -> MS	MODIFY COMPLETE	
6	MS		MS enters the active state
7	SS -> MS	STATUS ENQUIRY	
8	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U10 Active.

Specific message contents

MODIFY

Information element	Value/remark
Bearer capability	Maximum number of TCH/F's the MS is able to support and channel modes supported by the MS
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

26.13.2.1.2 Multislot signalling / CC / In-call functions / User initiated service level downgrade / successful

25.13.2.1.2.1 Definition and applicability

Multislot connection is established. Multislot configuration has the maximum number of timeslots supported by the MS. User initiated service level downgrade is successfully performed.

This test is applicable for any equipment supporting multislot configuration.

26.13.2.1.2.2 Conformance requirements

1) MS shall send MODIFY message to SS indicating that User initiated service level downgrade is initiated.

2) MS enters CC state 'Mobile originating modify (U26)' after sending MODIFY.
3) MS enters CC state 'Active (U10)' when MODIFY COMPLETE is received.

References

Conformance requirement 1: GSM 04.08, section 9.3.13
Conformance requirement 2: GSM 04.08, section 5.3.5.1
Conformance requirement 3: GSM 04.08, section 5.3.5.2

26.13.2.1.2.3 Test purpose

1) To verify that the procedure is initiated by the MS in the "active" state of a multislot connection. It sends a MODIFY message including the wanted value of the "maximum number of traffic channels" and/or the "wanted air interface" parameters; and enters the "mobile originating modify" state. Other parameters of the bearer capability given in MODIFY message and already negotiated and agreed during the establishment phase of the call, may not be changed.

2) To verify that upon receipt of the MODIFY COMPLETE message with bearer capability negotiated at call setup in the MS enters the "active" state.

26.13.2.1.2.4 Method of test

Initial conditions

Mobile station:

- MS in the active state of a service using a multislot connection. Multislot configuration has maximum number of timeslots supported by the MS.

System simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

MS is in the active state of a service using a multislot connection.

Test procedure

MS in the active state of a multislot connection. Multislot configuration has maximum number of timeslots supported by the MS. User initiates User initiated service level downgrade by sending MODIFY message including the wanted value of the Maximum number of traffic channels, this being one supported by the MS and channel modes supported by the MS. The MS enters 'mobile originating modify' state. This is verified by a status enquiry procedure.MS receives MODIFY COMPLETE message from SS and enters the active state. This is verified by a status enquiry procedure.

Maximum duration of test

3 min

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	MODIFY	User initiated service level downgrade is initiated.
2	MS		MS enters the Mobile originating modify state
3	SS -> MS	STATUS ENQUIRY	
4	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U26 Mobile originated modify.
5	SS -> MS	MODIFY COMPLETE	
6	MS		MS enters the active state
7	SS -> MS	STATUS ENQUIRY	
8	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U10 Active.

Specific message contents

MODIFY

Information element	Value/remark
Bearer capability	One TCH/F is indicated and the channel modes supported by the MS
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

26.13.2.1.3 Multislot signalling / CC / In-call functions / User initiated service level upgrade / Time-out of timer T323

26.13.2.1.3.1 Definition and applicability

Multislot connection is established. Multislot configuration with one TCH/F is allocated. User initiated service level upgrade is requested. Timer T323 expires. Call is cleared.

This test is applicable for any equipment supporting multislot configuration.

26.13.2.1.3.2 Conformance requirements

1) MS shall send MODIFY message to SS indicating that User initiated service level upgrade is initiated.

2) After timer T323 has expired MS starts call clearing by sending DISCONNECT message.

3) After receipt of RELEASE message the MS sends RELEASE COMPLETE message and goes to idle updated state.

References

Conformance requirement 1: GSM 04.08, section 9.3.13
Conformance requirement 2: GSM 04.08, section 9.3.7
Conformance requirement 3: GSM 04.08, sections 9.3.18 and 9.1.7 and 5.4.4.2.2

26.13.2.1.3.3 Test purpose

1) To verify that upon expiration of T323 (accuracy +/- 10%) the MS shall initiate the procedures for call clearing with cause #102 “recovery on timer expiry”.

26.13.2.1.3.4 Method of test

Initial conditions

Mobile station:

- MS in the active state of a service using a multislot connection.

System simulator:

- 1 cell, default parameters

Related PICS/PIXIT statement(s)

–Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

“Idle, updated”, with TMSI allocated.

Test procedure

MS is in the active state of a multislot connection. Multislot configuration with one TCH/F is allocated. User initiates User initiated service level upgrade by sending MODIFY message including the wanted value of the Maximum number of traffic channels, this being one supported by the MS and channel modes supported by the MS.

Timer T323 expires and MS starts call clearing procedure by sending DISCONNECT message to SS. After MS receives RELEASE message it sends RELEASE COMPLETE message. SS sends CHANNEL RELEASE message to MS and the main signalling link is released.

Maximum duration of test

3 min

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	MODIFY	User initiated service level upgrade is initiated.
2	MS		Timer T323 expires
3	MS -> SS	DISCONNECT	Cause = #102 “recovery on timer expiry”
4	SS -> MS	RELEASE	
5	MS -> SS	RELEASE COMPLETE	
6	SS -> MS	CHANNEL RELEASE	The main signalling link is released

Specific message contents

MODIFY

Information element	Value/remark
Bearer capability	Maximum number of TCH/F’s the MS is able to support and channel modes supported by the MS
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

26.13.2.1.4 Multislot signalling / CC / In-call functions / User initiated service level upgrade / modify reject

26.13.2.1.4.1 Definition and applicability

Multislot connection is established. Multislot configuration with one TCH/F is allocated. User initiated service level upgrade is requested. SS responds to upgrade request by rejecting it. MS enters the active multislot connection state.

This test is applicable for any equipment supporting multislot configuration.

26.13.2.1.4.2 Conformance requirements

1) MS shall send MODIFY message to SS indicating that User initiated service level upgrade is initiated.

2) MS enters CC state ‘Mobile originating modify (U26)’ after sending MODIFY.
3) MS enters CC state ‘Active (U10)’ when MODIFY REJECT is received.

References

Conformance requirement 1: GSM 04.08, section 9.3.13
Conformance requirement 2: GSM 04.08, section 5.3.5.1Conformance requirement 3: GSM 04.08, section 5.3.5.3

26.13.2.1.4.3 Test purpose

1) To verify that upon receipt of the MODIFY REJECT message with the bearer capability negotiated at the call setup, the MS is continuously sending user information according to current call mode.

26.13.2.1.4.4 Method of test

Initial conditions

Mobile station:

- MS in the active state of a service using a multislot connection.

System simulator:

- 1 cell, default parameters

Related PICS/PIXIT statement(s)

–Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

MS is in the active state of a service using a multislot connection.

Test procedure

MS is in the active state of a multislot connection. Multislot configuration with one TCH/F is allocated. Then user initiates User initiated service level upgrade by sending MODIFY message including the wanted value of the Maximum number of traffic channels, this being one supported by the MS and channel modes supported by the MS. The MS enters 'mobile originating modify' state. This is verified by a status enquiry procedure.

SS responds to MODIFY message by sending MODIFY REJECT message to MS. MS enters the active state. This is verified by a status enquiry procedure.Maximum duration of test

1 min

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	MODIFY	User initiated service level upgrade is initiated.
2	SS -> MS	STATUS ENQUIRY	
3	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U26 Mobile originated modify.
4	SS -> MS	MODIFY REJECT	Cause = #58 "bearer capability not presently available".
5	MS		MS enters in the active state of multislot call
6	SS -> MS	STATUS ENQUIRY	
7	MS -> SS	STATUS	Cause shall be 30# (response to enq.) and state U10 Active.

Specific message contents

MODIFY

Information element	Value/remark
Bearer capability	Maximum number of TCH/F's the MS is able to support and channel modes supported by the MS
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

26.13.2.1.5 Multislot signalling / CC / In call functions / contents of some of the messages

The following messages are used for testing in-call modification procedures, test cases 26.13.2.1.*, as default messages for those ones defined below. If any other values are defined in the expected sequence of the actual test cases, those values take precedence over the ones defined hereafter.

SETUP (MS to SS)

Information element	Value/remark
BC Repeat indicator	Omitted
Bearer capability 1	Appropriate for the teleservice/Bearer Service selected as an initial call mode
Bearer capability 2	Omitted
Facility	Omitted
Calling party subaddress	Omitted
Called party BCD number	As entered
Called party subaddress	Omitted
LLC repeat indicator	Omitted
Low layer compatibility I	See note 1
Low layer compatibility II	Omitted
HLC repeat indicator	Omitted
High layer compatibility I	See note 1
High layer compatibility ii	Omitted
User-user	Omitted
SS version	Omitted
CLIR suppression	Omitted
CC Capabilities	present, but contents not checked

NOTE 1: HLC/LLC may or may not be present. The contents of HLC/LLC are not verified.

CALL PROCEEDING

Information element	Value/remark
Repeat Indicator	Omitted
Bearer Capability 1	GSM 04.08 section 10.5.4.5
Bearer Capability 2	Omitted
Facility	Omitted
Progress indicator	Omitted

MODIFY

Information element	Value/remark
Bearer capability	Appropriate for the selected test
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

MODIFY COMPLETE

Information element	Value/remark
Bearer capability	Appropriate for the selected test
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

MODIFY REJECT

Information element	Value/remark
Bearer capability	Appropriate for the selected test
Cause	#58 "bearer capability not presently available".
Low layer compatibility	Appropriate for the basic service selected for the test
High layer compatibility	Appropriate for the basic service selected for the test

26.13.3 Multislot signalling / Structured procedures

26.13.3.1 Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / non-transparent

This test is applicable to all MS that supports multislot configuration.

26.13.3.1.1 Conformance requirements

1) An MS in MM state "idle, updated" and in RR idle mode, when made to initiate a call, if it provides a human interface, shall display the dialled number.

2) An MS in MM state "idle, updated" and in RR idle mode, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS, starts to initiate the immediate assignment procedure by sending a CHANNEL REQUEST message with correct establishment cause.

3) Subsequently after establishment of a MM connection, after MS sends its multislot class in CLASSMARK CHANGE message, the MS shall send a SETUP message with correct parameters.

4) The call control entity of the Mobile Station in the "call initiated" state, in the "mobile originating call proceeding" state or in the "call delivered" state, shall, upon receipt of a CONNECT message:

   4.1) attach the user connection to the radio path;
   4.2) return a CONNECT ACKNOWLEDGE message;

4.3) establish the RLP link.

5) User initiated service level upgrade is initiated by sending MODIFY message. After receipt of MODIFY COMPLETE message MS enters the active state.

6) After receipt of a CONFIGURATION CHANGE COMMAND message MS sends CONFIGURATION CHANGE ACKNOWLEDGE message.

7) Subsequently when the network initiates call clearing by sending a DISCONNECT message, the MS shall proceed to release the call by sending a RELEASE message.

8) On receipt of a CHANNEL RELEASE message, the MS shall disconnect the main signalling link.

Reference

Conformance requirement 1: GSM 02.07
Conformance requirement 2: GSM 04.08 sections 3.3.1.1 and 9.1.8 and 9.1.18
Conformance requirement 3: GSM 04.08 sections 3.4.10 and 9.1.11 and 9.3.23
Conformance requirement 4: GSM 04.08 sections 9.3.5 and 9.3.6, GSM 07.01 section 8Conformance requirement 5: GSM 04.08 sections 9.3.13 and 9.3.14
Conformance requirement 6: GSM 04.08 sections 9.1.12b and 9.1.12c
Conformance requirement 7: GSM 04.08 sections 5.4.4.2.2 and 9.3.7 and 9.3.18
Conformance requirement 8: GSM 04.08 section 9.1.7

26.13.3.1.2 Test purpose

1) To verify that the MS in MM state “idle, updated” with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS as declared in a PICS/PIXIT statement, displays the dialled number in the way described in a PICS/PIXIT statement.

2) To verify that the MS in MM state “idle, updated” and in RR idle mode, with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS as declared in a PICS/PIXIT statement, starts to initiate an immediate assignment procedure by sending the CHANNEL REQUEST message with correct establishment cause.

3) To verify that subsequently after receipt of an IMMEDIATE ASSIGNMENT message allocating an SDCCH, after completion of establishment of the main signalling link, after having sent a CM SERVICE REQUEST message, after MS sends it’s multislot class in CLASSMARK CHANGE message, after having successfully performed the authentication and cipher mode setting procedures, the MS sends a SETUP message with correct parameters.

4) Multislot configuration with one TCH/F is allocated. To verify that subsequently, after receipt of a CALL PROCEEDING message and of an ASSIGNMENT COMMAND message allocating an appropriate TCH, after having completed the early assignment procedure by replying with the ASSIGNMENT COMPLETE message, after receipt of an ALERTING message and a CONNECT message, the MS returns a CONNECT ACKNOWLEDGE message.

5) To verify that subsequently the MS has attached the user connection to the radio path This is verified by checking that the MS establishes the RLP link correctly and sends and receives correct RLP frames in each data block.

6) To verify that subsequently upon user requests User initiated service level upgrade, the MS sends MODIFY message and after receipt of MODIFY COMPLETE message the MS enters the active state.

7) To verify that subsequently, after receipt of a CONFIGURATION CHANGE COMMAND, after MS sends CONFIGURATION CHANGE ACKNOWLEDGE, MS through connects all bi-directional channel(s) in multislot configuration in both directions and all uni-directional channels in downlink direction. Multislot configuration is upgraded from the simplest case up to the maximum number of channels supported by MS in the HSCSD configuration. This is verified by checking that the MS sends and receives correct RLP frames in each data block.

8) To verify that subsequently upon the network initiating call clearing by sending a DISCONNECT message, the MS proceed to release the call with RELEASE.

9) To verify that subsequently, on receipt of a RELEASE COMPLETE message followed by a CHANNEL RELEASE message, the MS disconnects the main signalling link.

26.13.3.1.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

~~- Supported rates (full rate)~~
- Interface to human user (p1 = Y/N)
- Way to display the called number (only applicable if the MS has an interface to human user)
- Way to indicate alerting (only applicable if the MS supports the feature).
~~- SS version~~
~~-~~Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is made to initiate a HSCSD connection. The call is established with early assignment. MS enters the active state. Multislot configuration with one TCH/F is allocated. User initiated service level upgrade is successfully performed. The SS sends CONFIGURATION CHANGE COMMAND message to MS and it reply’s with CONFIGURATION CHANGE ACKNOWLEDGE message. This is repeated from simplest case up to the maximum number of channels supported by the MS in the HSCSD configuration (this is performed within highest multislot class that the MS supports).

Maximum duration of test

7 min

Expected Sequence

Step	Direction	Message	Comments
1	MS		The “called number” is entered
2	MS		If p1 = Y, the MS must display the called number in the way defined in PICS/PIXIT.
3	MS -> SS	CHANNEL REQUEST	Establishment cause is “Originating call and TCH/F is needed, or originating call and the network does not set NECI bit to 1”
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	CM SERVICE REQUEST	Message is contained in SABM
6	MS -> SS	CLASSMARK CHANGE	Multislot class
7	SS -> MS	AUTHENTICATION REQUEST	
8	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
9	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
10	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
11	SS		SS starts ciphering.
12	MS -> SS	SETUP	Non-transparent connection
13	SS -> MS	CALL PROCEEDING	
14	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	ALERTING	
17	MS		Depending on the PICS, an alerting indication is given.
18	SS -> MS	CONNECT	
19	MS -> SS	CONNECT ACKNOWLEDGE	
20	MS		The appropriate bearer channel is through connected in both directions. The RLP link establishment is initiated by the MS.
21	MS -> SS	MODIFY	User initiated service level upgrade is initiated
22	SS -> MS	MODIFY COMPLETE	
23	MS		MS enters the active state
24			Next three steps are performed as many times as used multislot class has different channel combinations. Timeslot allocation starts from simplest case and is upgraded up to the maximum that MS multislot class supports, one step at the time (within highest multislot class that the MS supports).
24A	SS -> MS	CONFIGURATION CHANGE COMMAND	Appropriate number of timeslots is selected.
24B	MS -> SS	CONFIGURATION CHANGE ACKNOWLEDGE	
24C	MS		TCH(s) shall be through connected in both directions
25	SS -> MS	DISCONNECT	
26	MS -> SS	RELEASE	
27	SS -> MS	RELEASE COMPLETE	
28	SS -> MS	CHANNEL RELEASE	The main signalling link is released

26.13.3.2 Multislot signalling / Structured procedures / MS originated call / late assignment / HSCSD / non-transparent

This test is applicable to all MS that supports multislot configuration.

26.13.3.2.1 Conformance requirements

1) An MS in MM state "idle, updated" and in RR idle mode with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS, shall start to initiate an immediate assignment procedure by sending the CHANNEL REQUEST message with correct establishment cause.

2) Subsequently after establishment of a MM connection, after MS sends its multislot class in CLASSMARK CHANGE message, the MS shall send a SETUP message with correct parameters.

3) Upon receipt of the ASSIGNMENT COMMAND message, the Mobile Station initiates a local end release of link layer connections, disconnects the physical channels, commands the switching to the assigned channels and initiates the establishment of lower layer connections (this includes the activation of the channels, their connection and the establishment of the data links). After the main signalling link is successfully established, the MS returns an ASSIGNMENT COMPLETE message, specifying cause "normal event", to the network on the main DCCH.

4) The call control entity of the Mobile Station in the "call initiated" state, in the "mobile originating call proceeding" state or in the "call delivered" state, shall, upon receipt of a CONNECT message:

   4.1) attach the user connection to the radio path;
   4.2) return a CONNECT ACKNOWLEDGE message;
   4.3) establish the RLP link.

5) MS sends User initiated service level upgrade with MODIFY message and after receipt of MODIFY COMPLETE message the MS enters the active state.

6) MS receives CONFIGURATION CHANGE COMMAND and answers to it by sending CONFIGURATION CHANGE ACKNOWLEDGE message.

7) Subsequently when the network initiates call clearing by sending a DISCONNECT message, the MS shall proceed to release the call by sending a RELEASE message.

8) On receipt of a CHANNEL RELEASE message, the MS shall disconnect the main signalling link.

Reference

Conformance requirement 1: GSM 02.07 and GSM 04.08 sections 3.3.1.1 and 9.1.8
Conformance requirement 2: GSM 04.08 sections 9.1.11 and 9.3.23
Conformance requirement 3: GSM 04.08 sections 3.4.3, 9.1.2 and 9.1.3
Conformance requirement 4: GSM 04.08 sections 9.3.5 and 9.3.6, GSM 07.01 section 8Conformance requirement 5: GSM 04.08 sections 9.3.13 and 9.3.14
Conformance requirement 6: GSM 04.08 sections 9.1.12b and 9.1.12c
Conformance requirement 7: GSM 04.08 sections 9.3.7 and 9.3.18 and 5.4.4.2.2
Conformance requirement 8: GSM 04.08 section 9.1.7

26.13.3.2.2 Test purpose

1) To verify that the MS in MM state “idle, updated” and in RR idle mode with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS as declared in a PICS/PIXIT statement, starts to initiate an immediate assignment procedure by sending the CHANNEL REQUEST message.

2) Multislot configuration with one TCH/F is allocated. To verify that subsequently after receipt of an IMMEDIATE ASSIGNMENT message allocating an SDCCH, after completion of establishment of the main signalling link, after having sent a CM SERVICE REQUEST message, after MS sends it’s multislot class in CLASSMARK CHANGE message, after having successfully performed the authentication and cipher mode setting procedures, after having sent a SETUP message, after having received of a CALL PROCEEDING message followed by an ALERTING message and an

ASSIGNMENT COMMAND message allocating an appropriate TCH, the MS sends an ASSIGNMENT COMPLETE message.

3) To verify that subsequently, after the suite of actions specified in test purposes 1 and 2, the MS after receiving a CONNECT message returns a CONNECT ACKNOWLEDGE message.

4) To verify that subsequently the MS has attached the user connection to the radio path. This is verified by checking that the MS establishes the RLP link correctly and sends and receives correct RLP frames in each data block.

5) To verify that subsequently upon user requests User initiated service level upgrade, the MS sends MODIFY message and after receipt of MODIFY COMPLETE message the MS enters the active state.

6) To verify that subsequently, after receipt of a CONFIGURATION CHANGE COMMAND, after MS sends CONFIGURATION CHANGE ACKNOWLEDGE, MS through connects all bi-directional channel(s) in multislot configuration in both directions and all uni-directional channels in downlink direction. Multislot configuration is upgraded from the simplest case up to the maximum number of channels supported by MS in the HSCSD configuration. . This is verified by checking that the MS sends and receives correct RLP frames in each data block.

7) To verify that subsequently upon the network initiating call clearing by sending a DISCONNECT message, the MS proceed to release the call with RELEASE.

8) To verify that subsequently, on receipt of a RELEASE COMPLETE message followed by a CHANNEL RELEASE message, the MS disconnects the main signalling link.

26.13.3.2.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Interface to human user (p1 = Y/N)
- Way to display the called number (only applicable if the MS has an interface to human user)
- Way to indicate alerting (only applicable if the MS supports the feature).
- ~~SS version~~
- Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is made to initiate a HSCSD connection. The call is established with late assignment. MS enters the active state. Multislot configuration with one TCH/F is allocated. User initiated service level upgrade is successfully performed. The SS sends CONFIGURATION CHANGE COMMAND message to MS and it reply’s with CONFIGURATION CHANGE ACKNOWLEDGE message. This is done from simplest case up to

the maximum number of channels supported by the MS in the HSCSD configuration (this is performed within highest multislot class that MS supports).

Maximum duration of test

7 min

Expected Sequence

Step	Direction	Message	Comments
1	MS		The “called number” is entered
2	MS		If p1 = Y, the MS must display the called number in the way defined in PICS/PIXIT.
3	MS -> SS	CHANNEL REQUEST	Establishment cause is “Originating call and TCH/F is needed, or originating call and the network does not set NECI bit to 1”
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	CM SERVICE REQUEST	Message is contained in SABM
6	MS -> SS	CLASSMARK CHANGE	Multislot class
7	SS -> MS	AUTHENTICATION REQUEST	
8	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
9	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
10	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
11	SS		SS starts ciphering.
12	MS -> SS	SETUP	Non-transparent connection
13	SS -> MS	CALL PROCEEDING	
14	SS -> MS	ALERTING	
15	MS		Depending on the PICS, an alerting indication is given.
16	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
17	MS -> SS	ASSIGNMENT COMPLETE	
18	SS -> MS	CONNECT	
19	MS -> SS	CONNECT ACKNOWLEDGE	
20	MS		The appropriate bearer channel is through connected in both directions. The RLP link establishment is initiated by the MS.
21	MS -> SS	MODIFY	User initiated service level upgrade is initiated
22	SS -> MS	MODIFY COMPLETE	
23	MS		MS enter the active state
24			Next three steps are performed as many times as used multislot class has different channel combinations. Timeslot allocation starts from simplest case and is upgraded up to the maximum that MS multislot class supports, one step at the time (within highest multislot class that the MS supports).
24A	SS -> MS	CONFIGURATION CHANGE COMMAND	Appropriate number of timeslots is selected.
24B	MS -> SS	CONFIGURATION CHANGE ACKNOWLEDGE	
24C	MS		TCH(s) shall be through connected in both directions
25	SS -> MS	DISCONNECT	
26	MS -> SS	RELEASE	
27	SS -> MS	RELEASE COMPLETE	
28	SS -> MS	CHANNEL RELEASE	The main signalling link is released

26.13.3.3 Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / Transparent

This test is applicable to all MS that supports multislot configuration.

26.13.3.3.1 Conformance requirement

1) An MS in MM state "idle, updated" and in RR idle mode, when made to initiate a call, if it provides a human interface, shall display the dialled number.

2) An MS in MM state "idle, updated" and in RR idle mode, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS, starts to initiate the immediate assignment procedure by sending a CHANNEL REQUEST message with correct establishment cause.

3) Subsequently after establishment of a MM connection, after MS sends its multislot class in CLASSMARK CHANGE message, the MS shall send a SETUP message with correct parameters.

4) The call control entity of the Mobile Station in the "call initiated" state, in the "mobile originating call proceeding" state or in the "call delivered" state, shall, upon receipt of a CONNECT message:

   4.1) attach the user connection to the radio path;
   4.2) return a CONNECT ACKNOWLEDGE message;
   4.1) establish the TDS link.

5) Subsequently when the network initiates call clearing by sending a DISCONNECT message, the MS shall proceed to release the call by sending a RELEASE message.

6) On receipt of a CHANNEL RELEASE message, the MS shall disconnect the main signalling link.

Reference

Conformance requirement 1: GSM 02.07
Conformance requirement 2: GSM 02.07 and GSM 04.08 sections 3.3.1.1 and 9.1.8
Conformance requirement 3: GSM 04.08 sections 9.1.11 and 9.3.23
Conformance requirement 4: GSM 04.08 sections 9.3.5 and 9.3.6, GSM 07.01 section 8Conformance requirement 5: GSM 04.08 sections 9.3.7 and 9.3.18 and 5.4.4.2.2
Conformance requirement 6: GSM 04.08 section 9.1.7

26.13.3.3.2 Test purpose

1) To verify that the MS in MM state “idle, updated” with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS as declared in a PICS/PIXIT statement, displays the dialled number in the way described in a PICS/PIXIT statement.

2) To verify that the MS in MM state “idle, updated” and in RR idle mode, with a TMSI assigned, when made to initiate a call for a selected teleservice/bearer service for HSCSD that is supported by the MS as declared in a PICS/PIXIT statement, starts to initiate an immediate assignment procedure by sending the CHANNEL REQUEST message with correct establishment cause.

3) To verify that subsequently after receipt of an IMMEDIATE ASSIGNMENT message allocating an SDCCH, after completion of establishment of the main signalling link, after having sent a CM SERVICE REQUEST message, after MS sends it’s multislot class in CLASSMARK CHANGE message, after having successfully performed the authentication and cipher mode setting procedures, the MS sends a SETUP message with correct parameters.

4) Multislot configuration with maximum number of channels supported by MS in a HSCSD configuration, is allocated. To verify that subsequently, after receipt of a CALL PROCEEDING message and of an ASSIGNMENT COMMAND message allocating an appropriate TCHs, after having completed the early assignment procedure for all traffic channel in multislot configuration by

replying with the ASSIGNMENT COMPLETE message, after receipt of an ALERTING message and a CONNECT message, the MS returns a CONNECT ACKNOWLEDGE message.

5) To verify that subsequently the MS has attached the user connection to the radio path. This is verified by checking that the MS synchronises correctly to the TCHs and sends and receives correct data frames in each data block.

6) To verify that subsequently upon the network initiating call clearing by sending a DISCONNECT message, the MS proceed to release the call with RELEASE.

7) To verify that subsequently, on receipt of a RELEASE COMPLETE message followed by a CHANNEL RELEASE message, the MS disconnects the main signalling link.

26.13.3.3.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Interface to human user (p1 = Y/N)
- Way to display the called number (only applicable if the MS has an interface to human user)
- Way to indicate alerting (only applicable if the MS supports the feature).
- ~~SS version~~
- Supported teleservices/bearer services
- Classmark
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is made to initiate a HSCSD connection. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated. The call is established with early assignment. Having reached the active state, the call is cleared by the SS.

Maximum duration of test

7 min

Expected sequence

Step	Direction	Message	Comments
1	MS		The “called number” is entered
2	MS		If p1 = Y, the MS must display the called number in the way defined in PICS/PIXIT.
3	MS -> SS	CHANNEL REQUEST	Establishment cause is “Originating call and TCH/F is needed, or originating call and the network does not set NECI bit to 1”
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	CM SERVICE REQUEST	Message is contained in SABM
6	MS -> SS	CLASSMARK CHANGE	Multislot class
7	SS -> MS	AUTHENTICATION REQUEST	
8	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
9	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
10	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
11	SS		SS starts ciphering.
12	MS -> SS	SETUP	Transparent connection
13	SS -> MS	CALL PROCEEDING	
14	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation maximum number of timeslots, that MS supports, is allocated.
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	ALERTING	
17	MS		Depending on the PICS, an alerting indication is given.
18	SS -> MS	CONNECT	
19	MS -> SS	CONNECT ACKNOWLEDGE	
20	MS		The appropriate bearer channel is through connected in both directions
21	SS -> MS	DISCONNECT	
22	MS -> SS	RELEASE	
23	SS -> MS	RELEASE COMPLETE	
24	SS -> MS	CHANNEL RELEASE	The main signalling link is released

26.13.3.4 Multislot signalling / Structured procedures / MS Terminated call / early assignment / HSCSD / non-transparent

This test is applicable to all MS that supports multislot configuration.

26.13.3.4.1 Conformance requirement

1) The MS is in MM state “idle, updated” and in RR idle mode when being paged by the network.

2) The MS sends CHANNEL REQUEST message to the network and after that it receives IMMEDIATE ASSIGNMENT message from the network

3) The MS sends PAGING RESPONSE message to network and after that MS sends its multislot class in CLASSMARK CHANGE message to the network.

4) The MS performs successfully authentication and cipher mode setting procedures.

5) The MS shall acknowledge the SETUP message with a CALL CONFIRMED message, if compatibility checking was successful, the MS is not busy, and the user does not refuse the call.

6) Upon receipt of the ASSIGNMENT COMMAND message the MS continues a mobile terminating call establishment with early establishment of the traffic channel(s)

6.1) by replying to the ASSIGNMENT COMMAND with an ASSIGNMENT COMPLETE message, and

6.2) if the MS supports immediate connect, by continuing the call establishment by through-connecting the traffic channel(s) in both directions, or if the MS does not support immediate connect, by sending an ALERTING message

7) An MS indicates acceptance of a MT call by sending CONNECT.

8) After receiving the CONNECT ACKNOWLEDGE message from the network the MS shall establish the RLP link.

9) User requests User initiated service level upgrade. MS sends MODIFY message and after receipt of MODIFY COMPLETE message the MS enters the active state.

10) MS receives CONFIGURATION CHANGE COMMAND message and reply's to SS by sending CONFIGURATION CHANGE ACKNOWLEDGE message.

11) The MS initiates call clearing of an active call by sending a DISCONNECT message.

12) The MS in this phase of call release, upon receipt of a RELEASE message, shall return a RELEASE COMPLETE message.

13) Subsequently the MS, upon receipt of a CHANNEL RELEASE message, shall disconnect the main signalling link.

Reference

Conformance requirement 1: GSM 02.07
Conformance requirement 2: GSM 04.08 sections 3.3.1.1 and 9.1.8
Conformance requirement 3: GSM 04.08 sections 3.3.2.2, 9.1.25 and 9.1.11
Conformance requirement 4: GSM 04.08 sections 4.3.2, 9.2.2, 9.2.3, 3.4.7, 9.1.9, 9.1.10
Conformance requirement 5: GSM 04.08, sections 9.3.23 and 9.3.2
Conformance requirement 6: GSM 04.08 sections 9.1.2 and 9.1.3 and 5.2.1.5 and 9.3.1
Conformance requirement 7: GSM 04.08 section 9.3.5
Conformance requirement 8: GSM 04.08 section 9.3.6, GSM 07.01 section 8Conformance requirement 9: GSM 04.08 sections 9.3.13 and 9.3.14
Conformance requirement 10: GSM 04.08 sections 9.1.12b and 9.1.12c
Conformance requirement 11: GSM 04.08 section 9.3.7
Conformance requirement 12: GSM 04.08 sections 9.3.18 and 9.3.19 and 5.4.4.2.2
Conformance requirement 13: GSM 04.08 section 9.1.7

26.13.3.4.2 Test purpose

1) To verify that the MS in MM state "idle, updated" and in RR idle mode with a TMSI assigned, after being paged by the network on the correct paging subchannel, after initiating the immediate assignment procedure by sending the CHANNEL REQUEST message, after receipt of an IMMEDIATE ASSIGNMENT message allocating an SDCCH, after having sent a PAGING RESPONSE message on the allocated SDCCH, after having sent multislot class in CLASSMARK CHANGE message, after having performed successful authentication and cipher mode setting procedures, after receipt of a SETUP message not containing a signal information element, returns a CALL CONFIRMED message.

2) Multislot configuration with one TCH/F is allocated. To verify that subsequently, the SS sending an ASSIGNMENT COMMAND message, the MS successfully continues a mobile terminating call establishment with early assignment of traffic channel(s):

2.1) by replying to the ASSIGNMENT COMMAND with an ASSIGNMENT COMPLETE message, and

2.2) by continuing the call establishment by either sending a CONNECT message or sending an ALERTING message depending on PICS/PIXIT statemant.

3) To verify that the MS generates an alerting indication if an ALERTING message had to be sent.

4) To verify that if an ALERTING had been sent, subsequently, when the user accepts the call (possibly internal action as declared in PICS/PIXIT statement), the MS returns a CONNECT message.

5) To verify that the MS after receipt of a CONNECT ACKNOWLEDGE message subsequently attaches the user connection to the radio path. This is verified by checking that the MS establishes the RLP link correctly and sends and receives correct RLP frames in each data block.

6) To verify that subsequently upon user requests User initiated service level upgrade, the MS send MODIFY message and after receipt of MODIFY COMPLETE message the MS enters the active state.

7) To verify that subsequently, after receipt of a CONFIGURATION CHANGE COMMAND, after MS sends CONFIGURATION CHANGE ACKNOWLEDGE, MS through connects all bi-directional channel(s) in multislot configuration in both directions and all uni-directional channels in downlink direction. Multislot configuration is upgraded from simplest case up to the maximum number of channels supported by MS in the HSCSD configuration. This is verified by checking that the MS sends and receives correct RLP frames in each data block.

8) To verify that subsequently, the MS can initiate call clearing by sending DISCONNECT message.

9) To verify that the MS in this phase of call release, upon receipt of a RELEASE message, returns a RELEASE COMPLETE message.

10) To verify that subsequently the MS, upon receipt of a CHANNEL RELEASE message, disconnects the main signalling link.

26.13.3.4.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

- Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Interface to the human user (p1= Y/N)
- ~~Way to display the called number (only applicable if the MS has an interface to human user)~~
- Way to indicate alerting (only applicable if the MS supports the feature).
- Way to make the MS accept an incoming call after alerting (possibly dependent on teleservice/bearer service and configuration)
- Supported teleservices/bearer services
- Classmark
- Immediate connect supported (Y/N)
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is paged and the resulting HSCSD connection is established. Multislot configuration with one TCH/F is allocated. User service level upgrade is performed. MS enters the active state. Then CONFIGURATION CHANGE COMMAND message is sent to MS and it reply's with CONFIGURATION CHANGE ACKNOWLEDGE message. This is done from simplest case up to the maximum number of channels supported by the MS in the HSCSD configuration (this is performed within highest multislot class that MS supports).

Maximum duration of test

7 min

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel.
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "answer to paging".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM.
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
8	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
9	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
10	SS		SS starts ciphering.
11	SS -> MS	SETUP	Message does not contain the signal IE. Setup indicates non-transparent connection.
12	MS -> SS	CALL CONFIRMED	If the MS supports immediate connect then branch A applies. If the MS does not support immediate connect then branch B applies
A13	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
A14	MS -> SS	ASSIGNMENT COMPLETE	
A15	MS -> SS	CONNECT	
B13	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
B14	MS -> SS	ASSIGNMENT COMPLETE	
B15	MS -> SS	ALERTING	
B16	MS		An alerting indication as defined in a PICS/PIXIT statement is given by the MS
B17	MS		The MS is made to accept the call in the way described in a PICS/PIXIT statement
B18	MS -> SS	CONNECT	
19	SS -> MS	CONNECT ACKNOWLEDGE	
20	MS		TCH shall be through connected in both directions. The RLP link establishment is initiated by the MS.
21	MS -> SS	MODIFY	User initiated service level upgrade is initiated
22	SS -> MS	MODIFY COMPLETE	
23	MS		MS enters the active state
24			Next three steps are performed as many times as used multislot class has different channel combinations. Timeslot allocation starts from simplest case and is upgraded up to the maximum that MS multislot class supports, one step at the time (within the highest multislot class that MS supports).
24A	SS -> MS	CONFIGURATION CHANGE COMMAND	Appropriate number of timeslots is selected.
24B	MS -> SS	CONFIGURATION CHANGE ACKNOWLEDGE	
24C	MS		MS connects all bi-directional channels in both directions and all uni-directional channels in downlink direction.
25	MS		The MS is made to release the call.
26	MS -> SS	DISCONNECT	
27	SS -> MS	RELEASE	
28	MS -> SS	RELEASE COMPLETE	
29	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

26.13.3.5 Multislot signalling / Structured procedures / MS Terminated call / early assignment / HSCSD / Transparent

This test is applicable to all MS that supports multislot configuration.

26.13.3.5.1 Conformance requirement

1) The MS is in MM state “idle, updated” and in RR idle mode when being paged by the network.

2) The MS sends CHANNEL REQUEST message to the network and after that it receives IMMEDIATE ASSIGNMENT message from the network

3) The MS sends PAGING RESPONSE message to network and after that MS sends its multislot class in CLASSMARK CHANGE message to the network.

4) The MS performs successfully authentication and cipher mode setting procedures.

5) The MS shall acknowledge the SETUP message with a CALL CONFIRMED message, if compatibility checking was successful, the MS is not busy, and the user does not refuse the call.

6) Upon receipt of the ASSIGNMENT COMMAND message the MS continues a mobile terminating call establishment with early establishment of the traffic channel(s)

   6.1) by replying to the ASSIGNMENT COMMAND with an ASSIGNMENT COMPLETE message, and

   6.2) if the MS supports immediate connect, by continuing the call establishment by through-connecting the traffic channel(s) in both directions, or if the MS does not support immediate connect, by sending an ALERTING message

7) An MS indicates acceptance of a MT call by sending CONNECT.

8) The mobile station shall attach the user connection and establish the TDS link when receiving the CONNECT ACKNOWLEDGE message from the network.

9) MS correctly uses different ciphering bit streams on the different timeslots in a multislot configuration.

10) The MS initiates call clearing of an active call by sending a DISCONNECT message.

11) The MS in this phase of call release, upon receipt of a RELEASE message, shall return a RELEASE COMPLETE message.

12) Subsequently the MS, upon receipt of a CHANNEL RELEASE message, shall disconnect the main signalling link.

Reference

Conformance requirement 1: GSM 02.07
Conformance requirement 2: GSM 04.08 sections 3.3.1.1 and 9.1.8
Conformance requirement 3: GSM 04.08 sections 3.3.2.2, 9.1.25 and 9.1.11
Conformance requirement 4: GSM 04.08 sections 4.3.2, 9.2.2, 9.2.3, 3.4.7, 9.1.9, 9.1.10
Conformance requirement 5: GSM 04.08, sections 9.3.23 and 9.3.2
Conformance requirement 6: GSM 04.08 sections 9.1.2 and 9.1.3
Conformance requirement 7: GSM 04.08 section 9.3.5
Conformance requirement 8: GSM 04.08 section 9.3.6, GSM 07.01 section 8Conformance requirement 9: GSM 03.34 section 5.2.5, GSM 04.08 sections 3.4.7 and 9.1.9
Conformance requirement 10: GSM 04.08 section 9.3.7
Conformance requirement 11: GSM 04.08 section 9.3.19
Conformance requirement 12: GSM 04.08 section 9.1.7

26.13.3.5.2 Test purpose

1) To verify that the MS in MM state "idle, updated" and in RR idle mode with a TMSI assigned, after being paged by the network on the correct paging subchannel, after initiating the immediate assignment procedure by sending the CHANNEL REQUEST message, after receipt of an IMMEDIATE ASSIGNMENT message allocating an SDCCH, after having sent a PAGING RESPONSE message on the allocated SDCCH, after having sent multislot class in CLASMARK CHANGE message which has been explicitly accepted by the network, as indicated in the last reception in the accessed cell of the SYSTEM INFORMATION TYPE 3 message, after having performed successful authentication and cipher mode setting procedures, after receipt of a SETUP message not containing a signal information element, returns a CALL CONFIRMED message.

2) Multislot configuration with maximum number of channels supported by MS in a HSCSD configuration, is allocated. To verify that subsequently, the SS sending an ASSIGNMENT COMMAND message, the MS successfully continues a mobile terminating call establishment with early assignment of traffic channel(s):

   2.1) by replying to the ASSIGNMENT COMMAND with an ASSIGNMENT COMPLETE message, and

   2.2) by continuing the call establishment by either sending a CONNECT message or sending an ALERTING message depending on PICS/PIXIT statemant.

3) To verify that the MS generates an alerting indication if an ALERTING message had to be sent.

4) To verify that if an ALERTING had been sent, subsequently, when the user accepts the call (possibly internal action as declared in PICS/PIXIT statement), the MS returns a CONNECT message.

5) To verify that the MS after receipt of a CONNECT ACKNOWLEDGE message subsequently attaches the user connection to the radio path. This is verified by checking that the MS synchronises correctly to the TCHs and sends and receives correct data frames in each data block.

6) To verify that the MS correctly uses different ciphering bit streams on the different timeslots in a multislot configuration.

7) To verify that subsequently, the MS can initiate call clearing by sending a DISCONNECT message.

8) To verify that the MS in this phase of call release, upon receipt of a RELEASE message, returns a RELEASE COMPLETE message.

9) To verify that subsequently the MS, upon receipt of a CHANNEL RELEASE message, disconnects the main signalling link.

These test purposes are tested for all rates supported by the MS (full rate).

26.13.3.5.3 Method of test

Initial conditions

Mobile Station:

- The MS is in MM-state “idle, updated” with valid TMSI and CKSN.

System Simulator:

- 1 cell, default parameters except:

 - Early classmark sending enabled in SI3 rest octets

Related PICS/PIXIT statement(s)

- Interface to the human user (p1= Y/N)
- ~~Way to display the called number (only applicable if the MS has an interface to human user)~~
- Way to indicate alerting (only applicable if the MS supports the feature).
- Way to make the MS accept an incoming call after alerting (possibly dependent on teleservice/bearer service and configuration)
- Supported teleservices/bearer service
- Classmark
- Immediate connect supported (Y/N)
- Multislot class

Foreseen final state of the MS

MS is in MM-state “idle, updated” with valid TMSI and CKSN.

Test procedure

The MS is paged and the resulting HSCSD connection is established. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated. Having reached the active state, the MS is made to clear the call.

Maximum duration of test

7 min

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel.
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "answer to paging".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM.
5	MS -> SS	CLASSMARK CHANGE	Early classmark sending Multislot class indicated
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
8	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
9	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
10	SS		SS starts ciphering.
11	SS -> MS	SETUP	Message does not contain the signal IE.
12	MS -> SS	CALL CONFIRMED	If the MS supports immediate connect then branch A applies. If the MS does not support immediate connect then branch B applies
A13	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation maximum number of timeslots that MS supports, is allocated.
A14	MS -> SS	ASSIGNMENT COMPLETE	
A15	MS -> SS	CONNECT	
B13	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation maximum number of timeslots that MS supports, is allocated.
B14	MS -> SS	ASSIGNMENT COMPLETE	sent on the TCH/Sm channel
B15	MS -> SS	ALERTING	
B16	MS		An alerting indication as defined in a PICS/PIXIT statement is given by the MS
B17	MS		The MS is made to accept the call in the way described in a PICS/PIXIT statement
B18	MS -> SS	CONNECT	
19	SS -> MS	CONNECT ACKNOWLEDGE	
20	MS		The appropriate bearer channel is through connected in both directionsand the MS correctly uses different ciphering bit streams on the different timeslots.
21	MS		The MS is made to release the call.
22	MS -> SS	DISCONNECT	
23	SS -> MS	RELEASE	
24	MS -> SS	RELEASE COMPLETE	
25	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

26.13.3.6 Default test conditions during layer 3 tests

During tests in section 26.13 the following default test conditions shall apply if not otherwise stated within the test description. In the table below, decimal values are normally used. Sometimes a hexadecimal value, indicated with a "H", or a binary value, indicated with a "B" is given.

	GSM 900	DCS 1 800
General signalling conditions for all carriers		
Ciphering	yes	yes
General RF-conditions for all carriers		
Frequency hopping mode Propagation profile Downlink Input Level Uplink output power	Non-hopping Static 63 dBµVemf( ) Minimum according to MS power class	Non-hopping Static 63 dBµVemf( ) Minimum according to MS power class
Serving cell, BCCH/CCCH carrier		
Channel ARFCN Alternative channels	20 40 or 60	590 690 or 830
Serving cell, Traffic channel, SDCCH		
Channel ARFCN Alternative channels Power Control Indicator	30 50 or 70 0	650 750 or 850 0
Neighbouring cells BCCH/CCCH carriers		
Channel ARFCN Alternative channels Input level	10, 80, 90, 100, 110, 120 15, 85, 95, 105, 115, 122 53 dBµVemf( )	520, 600, 700, 780, 810, 870 530, 610, 710, 790, 820, 880 53 dBµVemf( )
Network dependent parameters		
Cell identity Mobile country code, MCC Mobile network code, MNC Location area code, LAC Frequency List BCCH allocation sequence number(BA_IND) Cell Channel Descriptor PLMN colour code, NCC BS colour code, BCC SMS Cell Broadcast DTX IMSI Attach-detach CCCH_CONF BS_AG_BLKS_RES BS_PA_MFRMS CELL_BAR_ACCESS Call-re-establishment (RE) Emergency Call allowed Access Control Class (AC) (0..9, 11..15)	0001H 001 (decimal) 01 (decimal) 0001H Bit Map 0 0 Bit Map 0 1 5 not active MS must not use MS shall not apply 1 basic physical channel for CCCH combined with SDCCH 0 blocks reserved 5 paging subgroups (not barred) (allowed) allowed allowed	0001H 001 (decimal) 01 (decimal) 0001H Range 512 0 Range 512 1 5 not active MS must not use MS shall not apply 1 basic physical channel for CCCH combined with SDCCH 0 blocks reserved 5 paging subgroups (not barred) (allowed) same same

	GSM 900	DCS 1 800
Network dependent timers		
Radio_Link_Time-out	8	8
T3212 Periodic updating in decihours	Infinite	Infinite
Access control parameters		
Max retrans	1	1
Tx-integer, nr. of slots	5	5
CELL_RESELECT_HYSTERESIS	12 dB	12 dB
MS_TXPWR_MAX_CCH	minimum level	minimum level
RXLEV_ACCESS_MIN	minimum	minimum
NECI	New establishment causes are not supported	same
ACS (ADDITIONAL RESELECTION	No additional cell parameters	same
PARAM IND)	are present in SI messages 7 and 8	
P1 and C2 parameters	C2 parameters not present	same
POI and POWER OFFSET	N/A	POWER OFFSET Parameter not present.

These information's are provided by system information 1, 2, 3 and 4 messages.

The system information elements that are broadcast on the SACCH/M during the dedicated mode should be consistent with those sent on the BCCH when the MS was in idle mode prior to the channel request.

In addition, all fill paging messages sent on the paging sub-channels will have by default, their page mode set to NORMAL PAGING.

26.13.3.7 Default contents of messages

ALERTING (mobile station to network direction)

Information element	Value/remark
Facility	Not checked
User-user	Not checked
SS version	Not checked

ALERTING (network to mobile station direction)

Information element	Value/remark
Facility	Omitted
Progress indicator	Omitted
User-user	Omitted

ASSIGNMENT COMMAND

Information element	Value/remark
Description of the first channel	describes non-hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	Appropriate for the teleservice selected for the test
Mode of the channel set X (1=<X<=8)	Appropriate for on bearer capability chosen for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

ASSIGNMENT COMPLETE

Information element	Value/remark
RR cause	normal event

AUTHENTICATION REQUEST

Information element	Value/remark
Ciphering key sequence number	Arbitrary
Spare half octet	(spare bits)
Authentication parameter RAND	Arbitrary

AUTHENTICATION RESPONSE

Information element	Value/remark
Authentication parameter SRES	Correct for given SRES

CALL CONFIRMED

Information element	Value/remark
Repeat indicator	Omitted
Bearer capability 1	GSM 04.08 section 10.5.4.5
Bearer capability 2	Omitted
Cause	Omitted

CALL PROCEEDING

Information element	Value/remark
Repeat Indicator	Omitted
Bearer Capability 1	GSM 04.08 section 10.5.4.5
Bearer Capability 2	Omitted
Facility	Omitted
Progress indicator	Omitted

CHANNEL RELEASE

Information element	Value/remark
RR cause	Normal event

CHANNEL REQUEST

Information element	Value/remark
Establishment cause	Answer to paging (100)
Random reference	Arbitrary value of 5 bits length

CIPHERING MODE COMMAND

Information element	Value/remark
Cipher mode setting	
algorithm identifier	indicates a supported algorithm
SC	Start ciphering
Cipher response	
CR	IMEI must not be included

CIPHERING MODE COMPLETE

Information element	Value/remark
Mobile equipment identity	Omitted

CLASSMARK CHANGE

Information element	Value/remark
MS classmark	Multislot classmark value appropriate for the test
Additional mobile station classmark information	Omitted

CM SERVICE ACCEPT

Information element	Value/remark
none but message head	

CM SERVICE REQUEST

Information element	Value/remark
CM service type	Mobile originating call establishment or packet mode connection establishment
Ciphering key sequence number	CKSN of the MS
Mobile station classmark 2	as given by PICS.
Mobile identity	TMSI of MS

CONFIGURATION CHANGE COMMAND

Information element	Value/remark
Description of the multislot configuration	Appropriate for the teleservice selected for the test
Mode of channel set X (1=<X<=8)	Appropriate channel mode is selected

CONFIGURATION CHANGE REJECT

Information element	Value/remark
RR Cause	Cause = “Channel mode unacceptable”

CONNECT (network to mobile station direction)

Information element	Value/remark
Facility	Omitted
Progress indicator	Omitted
Connected number	Omitted
Connected subaddress	Omitted
User-user	Omitted

CONNECT (mobile station to network direction)

Information element	Value/remark
Facility	Not checked
Connected subaddress	Not checked
User-user	Not checked
SS version	Not checked

CONNECT ACKNOWLEDGE

Information element	Value/remark
none but message head	

DISCONNECT (network to mobile station direction)

Information element	Value/remark
Cause	
Coding standard	GSM
Location	User
Cause value	Normal clearing
Facility	Omitted
Progress indicator	Omitted
User-user	Omitted

DISCONNECT (mobile station to network direction)

Information element	Value/remark
Cause	
Coding standard	GSM
Location	User
Cause value	Normal clearing
Facility	Not checked
User-user	Not checked
SS version	Not checked

IMMEDIATE ASSIGNMENT

Information element	Value/remark
Page mode	Normal paging
Channel description	describes a valid SDCCH+SACCH in non-hopping mode
Request reference	
Random access information	As received from MS
N51, N32, N26	Corresponding to frame number of the CHANNEL REQUEST
Timing advance	Arbitrary
Mobile allocation	Empty (L=0)
Starting time	Omitted

MODIFY

Information element	Value/remark
Bearer capability	
Connection element (octet 6c)	Transparent for cases: 26.13.3.3, 26.13.3.5 Non-transparent for cases: 26.13.3.1, 26.13.3.2, 26.13.3.4
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

MODIFY COMPLETE

Information element	Value/remark
Bearer capability	
Connection element (octet 6c)	Transparent for cases: 26.13.3.3, 26.13.3.5 Non-transparent for cases: 26.13.3.1, 26.13.3.2, 26.13.3.4
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test
Reverse call setup direction	Presence and value not checked

MODIFY REJECT

Information element	Value/remark
Bearer capability	
Connection element (octet 6c)	Transparent for cases: 26.13.3.3, 26.13.3.5 Non-transparent for cases: 26.13.3.1, 26.13.3.2, 26.13.3.4
Cause	Cause = Channel Unacceptable
Low layer comp.	Appropriate for the basic service selected for the test
High layer comp.	Appropriate for the basic service selected for the test

PAGING REQUEST TYPE 1

Information element	Value/remark
L2 pseudo length	L2 pseudo length of the message
Page Mode	Normal Paging
Channels needed for Mobiles 1 and 2	
channel (first)	any channel
channel (second)	any channel
Mobile identity 1	TMSI of MS under test
Mobile identity 2	Omitted
P1 rest octets	(spare octets)

PAGING RESPONSE

Information element	Value/remark
Ciphering key sequence number	Value assigned to MS in the initial conditions
Spare half octet	(spare bits)
Mobile station classmark 2	as given by PICS
Mobile identity	specifies TMSI of MS

RELEASE (network to mobile station direction)

Information element	Value/remark
Cause	Omitted
Second cause	Omitted
Facility	Omitted
User-user	Omitted

RELEASE (mobile station to network direction)

Information element	Value/remark
Cause	Not checked
Second cause	Not checked
Facility	Not checked
User-user	Not checked
SS version	Not checked

RELEASE COMPLETE (network to mobile station direction)

Information element	Value/remark
Cause	Omitted
Facility	Omitted
User-user	Omitted

RELEASE COMPLETE (mobile station to network direction)

Information element	Value/remark
Cause	Not checked
Facility	Not checked
User-user	Not checked
SS version	Not checked

SETUP (MS to SS)

Information element	Value/remark
BC Repeat indicator	Omitted
Bearer capability 1	Appropriate for the teleservice selected for the test
Bearer capability 2	Omitted
Facility	Not checked
Calling party subaddress	Not checked
Called party BCD number	As entered
Called party subaddress	Omitted
LLC repeat indicator	Omitted
Low layer compatibility I	Appropriate for teleservice selected for the test
Low layer compatibility II	Omitted
HLC repeat indicator	Omitted
High layer compatibility i	Appropriate for teleservice selected for the test
High layer compatibility ii	Omitted
User-user	Not checked
SS version	Not checked
CLIR suppression	Not checked
CC Capabilities	Not checked

SETUP (SS to MS)

Information element	Value/remark
BC repeat indicator	Omitted
Bearer capability 1	Appropriate for teleservice selected for the test
Bearer capability 2	Omitted
Facility	Omitted
Progress indicator	Omitted
Signal	Omitted
Calling party BCD number	Omitted
Calling party subaddress	Omitted
Called party BCD number	Omitted
Called party subaddress	Omitted
LLC repeat indicator	Omitted
Low layer compatibility I	Appropriate for the teleservice selected for the test
Low layer compatibility II	Omitted
HLC repeat indicator	Omitted
High layer compatibility i	Appropriate for the teleservice selected for the test
High layer compatibility ii	Omitted
User-user	Omitted

SMG7 Meeting #23
Sophia-Antipolis, France, 19-22 Oct 1999

***Document* P-99-320**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	**CR**	**A738**	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Rohde & Schwarz **Date:** 12.10.1999

Subject: New PICS/PIXIT in GSM 11.10-1 Annex 3

Work item: HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: For testcases of section 26.13 Multislot signalling the PIXIT section in Annex 3 of GSM 11.10-1 needed to be enhanced.

Clauses affected: Annex 3, A3.2

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

A3.2 Protocol Implementation Extra Information for Testing (PIXIT)

A3.2.0 Introduction

Some of the features listed below are mandatory, others are not ; but in any case for each feature implemented the manufacturer must provide information to enable regulatory testing to be conducted.

A3.2.1 Basic characteristics

A3.2.1.1 Type of antenna

- Integrated without a connector.
- Position for normal use (if integrated without a connector).
- With a connector allowing the connection of an external antenna.
  If with a connector, declare in band impedance.

A3.2.1.2 Power supply

- Type of battery (if any).
- Type of power supply.
- Nominal voltage(s).
- End-point voltage(s) of battery(s) (if any).
- Details of MS shut-down voltage.

A3.2.1.3 Power class of the MS

- Different class declared.
- Class mark change: description of the means to change the RF power capabilities.

A3.2.1.4 Channel modes supported

Speech full rate
Speech half rate
Data 14.5 kbit/s T/NT
Data 12 kbit/s full rate T/NT
Data 6 kbit/s full rate T/NT
Data 6 kbit/s half rate T/NT
Data 3,6 kbit/s full rate T
Data 3,6 kbit/s half rate T

A3.2.1.5 Teleservices supported

11) Telephony
12) Emergency calls
21) Short message MT/PP
22) Short message MO/PP
23) Short message transmission cell broadcast
61) Alternate speech and facsimile group 3 T/NT
62) Automatic facsimile group 3 T/NT

A3.2.1.6 Supplementary services supported

Call forwarding.
Call restriction.
Handling of undefined GSM Supplementary Services.

A3.2.1.7 Bearer services supported

20) Asynchronous General Bearer Service see GSM 02.02 sect.3.1
21) Data circuit Duplex asynchronous 300 bit/s T/NT

22)	Data circuit Duplex asynchronous	1200 bit/s	T/NT
23)	Data circuit Duplex asynchronous	1200/75 bit/s	T/NT
24)	Data circuit Duplex asynchronous	2400 bit/s	T/NT
25)	Data circuit Duplex asynchronous	4800 bit/s	T/NT
26)	Data circuit Duplex asynchronous	9600 bit/s	T/NT
30)	Synchronous General Bearer Service	see GSM 02.02 sect.3.1	
31)	Data circuit Duplex synchronous	1200 bit/s	T
32)	Data circuit Duplex synchronous	2400 bit/s	T/NT
33)	Data circuit Duplex synchronous	4800 bit/s	T/NT
34)	Data circuit Duplex synchronous	9600 bit/s	T/NT
40)	General PAD Access Bearer Service	see GSM 02.02 sect.3.1	
41)	PAD Access circuit asynchronous	300 bit/s	T/NT
42)	PAD Access circuit asynchronous	1200 bit/s	T/NT
43)	PAD Access circuit asynchronous	1200/75 bit/s	T/NT
44)	PAD Access circuit asynchronous	2400 bit/s	T/NT
45)	PAD Access circuit asynchronous	4800 bit/s	T/NT
46)	PAD Access circuit asynchronous	9600 bit/s	T/NT
50)	General Packet Access Bearer Service	see GSM 02.02 sect.3.1	
51)	Data Packet Duplex synchronous	2400 bit/s	NT
52)	Data Packet Duplex synchronous	4800 bit/s	NT
53)	Data Packet Duplex synchronous	9600 bit/s	NT
61)	Alternate Speech/Date (here Data offers the same service as bearer services 21-34 with "3,1kHz" information transfer capability)		
81)	Speech followed by Data (here Data offers the same service as bearer services 21-34 with "3,1kHz" information transfer capability)		

A3.2.1.8 SIM removal

- Removal of the SIM is possible without disconnection of the power supply (Y/N).

A3.2.1.9 Classmark

The coding of Mobile station classmark 1, 2, and 3 and the fact whether and under which conditions the classmark 3 information element is included in a CLASSMARK CHANGE message, has to be declared by the manufacturer. The declaration has to fulfil the following requirements:

- Mobile station classmark 1: Bits 4, 5, and 8 of the first (and only) octet of the value part of the information element shall be coded as "0". The "Revision level" and "RF power capability" field shall specify the value that is correct for the MS.

- Mobile station classmark 2: Bits 4, 5, and 8 of the first octet, bits 2, 3, and 8 of the second octet, bits 3 to 7 of the third octet of the value part of the information element shall be coded as "0". The "Revision level" field, "RF power capability" field, "PS capability" field, "SS Screening indicator" field, "SM capability" field, "Frequency capability" field, "Classmark 3" field, "A5/2 algorithm supported" field, and "A5/3 algorithm supported" field shall specify the value that is correct for the MS.

- Mobile station classmark 3: Bits 5 to 8 of the first octet of the value part of the information element shall be coded as "0". If the value part contains more octets, they shall be coded as "0000 0000". The "A5/4 algorithm supported" field, "A5/5 algorithm supported" field "A5/6 algorithm supported" field, and "A5/7 algorithm supported" field shall specify the value that is correct for the MS (that is, they shall be set to "0").

  NOTE: The requirements to the classmark may be subject to changes. That is why test cases are expected to verify the manufacturer's declaration, whereas the correctness of the manufacturer's declaration is to be verified "off line".

A3.2.1.10 Type of SIM/ME interface (ref. GSM 11.11 and GSM 11.12)

- 5V SIM/ME interface (5V only ME)

- 3V SIM/ME interface (3V only ME)
- 5V/3V SIM/ME interface (3V technology ME)

A3.2.1.11 Multislot class

- Multislot class as defined in annex B.1 of GSM 05.02

A3.2.2 Man machine interface

A3.2.2.1 Mobile station features

- Description of manual entry and display of a called number.
- Description of the basic way to send a call manually.
- Description of the basic way to take a call manually.
- Description of the basic way to end a call manually.
- Description of the basic way to send an emergency call manually.
- Description of the basic way to send DTMF manually.
- Description of the manual PLMN selector.
- Description of the automatic PLMN selector.
- Description of the indication of the country.
- Description of the indication of the available PLMN.
- Description of the indication of the automatic registration to a PLMN.
- Description of the service indicator.
- Description of the management of the SIM by the user:
  - keying PIN and changing PIN,
  - indication of acceptance or rejection of keyed PIN,
  - indication of blocked SIM,
  - indication of successful unblocking of the SIM,
  - storing an abbreviated number,
  - displaying an abbreviated number.
- Description of the selection of the hands free.
- Description of the volume control.
- Description of local barring of outgoing calls.
- Description of prevention of unauthorized calls.
- Description of the auto calling management:
  - selection of the auto calling,
  - indication that the call failed and a re-try is attempted,
  - indication that the call finally failed.
- Description of the way in which the MS generates an MS originated NOTIFY, if possible. This feature may or may not be supported by the MS.

NOTE: All the above description could be extracted from the user's manual.

A3.2.2.2 Short message service

- Description of the basic procedures to send a mobile originated short message.
- Description of the basic procedures to display a mobile terminated short message.
- Description of the basic procedures to display a cell broadcasted short message.
- The value of the timer TC1M.
- Whether SMS messages are stored in the SIM and/or the ME.
- Maximum length (characters) of a mobile originated short message.

A3.2.2.3 Supplementary services

A3.2.2.3.1 Call forwarding

- Description of the user's commands and of the display of the answers from the network for:
  registration,
  erasure,
  activation,
  deactivation,
  interrogation,
  specific data request.
- Description of the display of:
  . notification of an incoming call to the "served" mobile or the "forwarded to" mobile,
  . notification during out-going call,
  . information to the calling mobile.

A3.2.2.3.2 Call restriction

- Description of the user's commands and the display of the answers from the network for:
  registration,
  change of the password,
  activation,
  deactivation,
  interrogation.
- Description of the display of the indication of call barring.

A3.2.2.3.3 Handling of (undefined) GSM supplementary services

- Description of the user's commands and the display of the answer from the network.

A3.2.3 Electrical Man Machine Interface (EMMI)

A3.2.3.1 Methods supported for activation/deactivation of EMMI

- all possibilities specified in GSM 11.10, section 36.2.2 ;
- all possibilities specified in GSM 11.10, section 36.2.2 , except activation by inserting a test SIM (when the ME is already switched on);
- activation/deactivation only via layer 3 messages on the radio interface according to GSM 11.10, section 36.2.2 .

A3.2.3.2 Transmission rate supported by the ME on the EMMI

A3.2.3.3 Layer 3 messages supported on the EMMI

- Layer 3 messages as specified in GSM 11.10, section 36.3.5.3.2, except: (followed by the list of messages not supported);
- others than defined in GSM 11.10 section 36.3.5.3.1 table 9.

A3.2.3.4 Keystroke sequence messages

Non standard keystroke sequences to be used on the EMMI (in line with GSM 11.10, 36.3.5.3.2):

- related to tests of the mobile station features (GSM 11.10, section 33);
- related to testing of the ME/SIM interface (GSM 11.10, section 27);
- related to tests of autocalling restrictions (GSM 11.10, section 28);
- related to tests of supplementary services (GSM 11.10, section 31);
- related to tests of data services (GSM 11.10, section 29);
- related to tests of short message service (GSM 11.10, section 34);
- related to other tests.

A3.2.3.5 Internal malfunction detected messages

List of the error indicators provided.

A3.2.4 Digital Audio Interface (DAI)

Description of the speech data routing:

- via the control lines;
- or via the test interface message.

A3.2.5 Characteristics related to bearer services or teleservices

A3.2.5.1 Access interface

Description of the access interface to connect the DTE (e.g. V series (V.24, V.28), X series, two wire analogue interface for use with fax group 3, I.420 (S-reference point).

In case of a proprietary interface to a DTE (non standard), description of this interface (hardware and software).

In case of a non standard connector provide a mechanical adapter.

A3.2.5.2 Configuration of the MT

Description of the configuration information to be selected in the MT to connect a terminal equipment to the mobile termination.

Description of the (different) configuration(s) of the MT for each bearer service and each teleservice supported, with the range or value for the parameters and the configuration procedure.

For the purpose of test of MOC, the manufacturer shall describe precisely how it is possible to put the MT in the different configurations to generate the capability information of the Mobile according to section 3.2.5.3, and described as supported by the MS.

For the purpose of test of MTC, the manufacturer shall describe how to verify the correct selection by the MT of the required function with regard to the capability information as described below, especially using the messages at the Um interface if there is no R or S interface available (case MTO). The description shall be made for every combination of the parameter value valid for the MT.

A3.2.5.3 Capability information

Description of the capability information, related to supported bearer services:

- bearer capabilities,
- higher layer capabilities,
- lower layer capabilities,

The manufacturer shall describe for every capability the associated terminal functions and their characteristics.

A3.2.5.4 Subaddress or DDI number

Subaddress or a DDI number of the MT.

Procedure to allocate or change DDI number or subaddress, if possible.

A3.2.5.5 User to user signalling

Description of the function and the user's access to it.

A3.2.5.6 Data call set-up and data call clearing

For each implemented transparent and non-transparent data service:

- Description of the data call establishment mechanism:
  - Terminal initiated (CT108) (if possible),
  - MT (MMI/EMMI) initiated.
  - Description of DCE provided information (MT to TE), if any.
  - Declaration of optimal function and procedure, services supported by the MT.

- Description of the data call clearing mechanism:
  - Terminal initiated (CT109) (if possible),
  - MT (MMI/EMMI) initiated.
  - Description of DCE provided information (MT to TE) related to a mobile or network initiated call clearing, if any.

A3.2.5.7 Characteristics of non-transparent data services

Description of Radio Link Protocol (RLP) features supported.

Description of supported RLP parameters and how to modify these values (if possible)

<iws>	IWF to MS window size
<mws>	MS to IWF window size
<T1>	acknowledgement timer T1
<N2>	retransmission attempts N2

Ability to configure the MS to use non-default RLP parameters.

Description of flow control mechanism:

- INBAND (XON/XOFF);
- OUTBAND COPnoFICt (CT105 and CT106).

A3.2.5.8 Possible ways of setting-up a call from either an external interface or internally

Describe in detail all possible ways a call can be initiated from the MS or a connected terminal.

A3.2.5.9 Application layer causing automatic call termination

State whether the call termination facility can be disabled and if so, describe in detail how.

A3.2.5.10 Call re-establishment for MS not supporting speech

Applicability of call re-establishment.

A3.2.6 International mobile station equipment identity

IMEI of the MS.

A3.2.7 Receiver intermediate frequencies

F_{lo} - Local Oscillator frequency applied to first receiver mixer.
IF_1 ... IF_n - intermediate frequencies.

A3.2.8 Artificial ear

The manufacturer shall declare which type of artificial ear (type 1 or type 3.2) is used for teleservices speech testing.

ETSI SMG7 #23
Sophia, France
19-22 October

Tdoc 7-99-321

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A741	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TC SMG	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: MCC STF 61V **Date:** 13/10/99

Subject: Default parameter values on the test SIM card for ASCI testing

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature	X		Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change:

In order to use a single test SIM card for all ASCI test, the following default values are proposed in annex 4:

1. for EF_{SST} , EF_{VGCS} , EF_{VGCSS} , EF_{VBS} , EF_{VBSS};

2. for EF_{eMLPP} the proposed coding gives the available priority levels 2, 3, 4 and 0. If a test purpose needs to check a priority not granted, the priority level shall be greater than 2 and not equals to 0. For a fast call setup the coding corresponds to the available level 0.

3. for EF_{AAeM}, the proposed coding gives the capability of the MS to answer automatically to incoming calls that have a priority level higher than 2.

Clauses affected:

Modification of A4.3.8

New sub-clauses A4.3.27, A4.3.28, A4.3.29, A4.3.30, A4.3.31, A4.3.32

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

Annex 4

A4.3.8 EF_{SST} (SIM service table)

Services will be allocated and activated as follows:

Service	Allocated	Activated
No. 1: CHV1 disable function	Yes	Yes
No. 2: Abbreviated Dialling numbers (ADN)	Yes	Yes
No. 3: Fixed dialling numbers (FDN)	Yes	Optional
No. 4: Short Message Storage (SMS)	Yes	Yes
No. 5: Advice of Charge (AoC)	Yes	Yes
No. 6: Capability Configuration Parameters (CCP)	Yes	Yes
No. 7: PLMN Selector	Yes	Yes
No. 8: Reserved for future use	No	No
No. 9: MSISDN	Optional	Optional
No. 10: Extension 1	Yes	Optional
No. 11: Extension 2	Yes	Optional
No. 12: SMS Parameters	Yes	Yes
No. 13: Last Dialled Number (LND)	Yes	Yes
No. 14: Cell Broadcast Message Identifier	Yes	Yes
No. 15: Group identifier Level 1	Yes	Optional
No. 16: Group identifier Level 2	Yes	Optional
No. 21: VGCS Group Identifier List (EF_{VGCS} , EF_{VGCSS})	Yes	Yes
No. 22: VBS Group Identifier List (EF_{VBS} , EF_{VBSS})	Yes	Yes
No. 23: eMLPP service	Yes	Yes
No. 24: Automatic answer for eMLPP	Yes	Yes

A4.3.27 EF_{VGCS} (Voice Group Call Service)

This EF contains a list of the default VGCS group identifiers.

File size: Bytes 200
Default values:

Bytes	Group ID	Value	BCD encoding in the SIM card
1-4	1	12	21 FF FF FF
5-8	2	123	21 F3 FF FF
9-12	3	1234	21 43 FF FF
13-16	4	12348	21 43 F8 FF
17-20	5	123491	21 43 19 FF
21-24	6	1235029	21 53 20 F9
25-28	7	12351	21 53 F1 FF
29-32	8	12352	21 53 F2 FF
33-36	9	12353	21 53 F3 FF
37-40	10	12354	21 53 F4 FF
41-44	11	12355	21 53 F5 FF
45-48	12	12356	21 53 F6 FF
49-52	13	12357	21 53 F7 FF
53-56	14	12358	21 53 F8 FF
57-60	15	12359	21 53 F9 FF
61-64	16	20000	02 00 F0 FF
65-68	17	20001	02 00 F1 FF
69-72	18	20002	02 00 F2 FF
73-76	19	20003	02 00 F3 FF
77-80	20	20004	02 00 F4 FF

81-84	21	20005	02 00 F5 FF
85-88	22	20006	02 00 F6 FF
89-92	23	20007	02 00 F7 FF
93-96	24	20008	02 00 F8 FF
97-100	25	20009	02 00 F9 FF
101-104	26	20010	02 10 F0 FF
105-108	27	66660	66 66 F0 FF
109-112	28	66661	66 66 F1 FF
113-116	29	66662	66 66 F2 FF
117-120	30	666638	66 66 83 FF
121-124	31	66664	66 66 F4 FF
125-128	32	66665	66 66 F5 FF
129-132	33	66666	66 66 F6 FF
133-136	34	66667	66 66 F7 FF
137-140	35	66668	66 66 F8 FF
141-144	36	66669	66 66 F9 FF
145-148	37	66670	66 76 F0 FF
149-152	38	80120	08 21 F0 FF
153-156	39	80121	08 21 F1 FF
157-160	40	80122	08 21 F2 FF
161-164	41	80123	08 21 F3 FF
165-168	42	80124	08 21 F4 FF
169-172	43	80125	08 21 F5 FF
173-176	44	80126	08 21 F6 FF
177-180	45	80127	08 21 F7 FF
181-184	46	80128	08 21 F8 FF
185-188	47	80129	08 21 F9 FF
189-192	48	80130	08 31 F0 FF
193-196	49	99999	99 99 F9 FF
197-200	50	1111119	11 11 11 F9

A4.3.28 EF_{VGCSS} (Voice Group Call Service Status)

This EF contains the default activation of the VGCS group identifiers. The following list of group ID are activated: 1, 4, 20, 30, 50.

File size: Bytes 7
Default values (HEX): Bytes 1-7: '09 00 08 20 00 00 FE'

A4.3.29 EF_{VBS} (Voice Broadcast Service)

This EF contains a list of the default VBS group identifiers.

File size: Bytes 200
Default values:

Bytes	Group ID	Value	BCD encoding in the SIM card
1-4	1	12	21 FF FF FF
5-8	2	123	21 F3 FF FF
9-12	3	1234	21 43 FF FF
13-16	4	12348	21 43 F8 FF
17-20	5	123491	21 43 19 FF
21-24	6	1235029	21 53 20 F9
25-28	7	12351	21 53 F1 FF
29-32	8	12352	21 53 F2 FF
33-36	9	12353	21 53 F3 FF

37-40	10	12354	21 53 F4 FF
41-44	11	12355	21 53 F5 FF
45-48	12	12356	21 53 F6 FF
49-52	13	12357	21 53 F7 FF
53-56	14	12358	21 53 F8 FF
57-60	15	12359	21 53 F9 FF
61-64	16	20000	02 00 F0 FF
65-68	17	20001	02 00 F1 FF
69-72	18	20002	02 00 F2 FF
73-76	19	20003	02 00 F3 FF
77-80	20	20004	02 00 F4 FF
81-84	21	20005	02 00 F5 FF
85-88	22	20006	02 00 F6 FF
89-92	23	20007	02 00 F7 FF
93-96	24	20008	02 00 F8 FF
97-100	25	20009	02 00 F9 FF
101-104	26	20010	02 10 F0 FF
105-108	27	66660	66 66 F0 FF
109-112	28	66661	66 66 F1 FF
113-116	29	66662	66 66 F2 FF
117-120	30	666638	66 66 83 FF
121-124	31	66664	66 66 F4 FF
125-128	32	66665	66 66 F5 FF
129-132	33	66666	66 66 F6 FF
133-136	34	66667	66 66 F7 FF
137-140	35	66668	66 66 F8 FF
141-144	36	66669	66 66 F9 FF
145-148	37	66670	66 76 F0 FF
149-152	38	80120	08 21 F0 FF
153-156	39	80121	08 21 F1 FF
157-160	40	80122	08 21 F2 FF
161-164	41	80123	08 21 F3 FF
165-168	42	80124	08 21 F4 FF
169-172	43	80125	08 21 F5 FF
173-176	44	80126	08 21 F6 FF
177-180	45	80127	08 21 F7 FF
181-184	46	80128	08 21 F8 FF
185-188	47	80129	08 21 F9 FF
189-192	48	80130	08 31 F0 FF
193-196	49	99999	99 99 F9 FF
197-200	50	1111119	11 11 11 F9

A4.3.30 EF_{VBSS} (Voice Broadcast Service Status)

This EF contains the default activation of the VBS group identifiers. The following list of group ID are activated: 1, 4, 20, 30, 50.

File size: Bytes 7
Default values (HEX): Bytes 1-7: '09 00 08 20 00 00 FE'

A4.3.31 EF_{eMLPP} (enhanced Multi Level Pre-emption and Priority)

This EF contains default information about priority levels and fast call set-up conditions for the enhanced Multi Level Pre-emption and Priority service.

Length: 2 Bytes
Format (HEX): Byte 1 (Priority levels): '74'

Byte 2 (Fast call set-up conditions): '04'

The coding corresponds to available priority levels 2, 3, 4 and 0. For fast call setup, the coding corresponds to available priority level 0.

A4.3.32 EF_{AAeM} (Automatic Answer for eMLPP Service)

This EF contains the default priority levels (of the Multi Level Pre-emption and Priority service) for which the mobile station shall answer automatically to incoming calls.

Length: 1 Byte
Format (HEX): Byte 1 : '0F'

The coding corresponds to the default capability of the MS to answer automatically to incoming calls that have a priority level higher than 2.

ETSI SMG7 #23
Sophia, France
19-22 October

Tdoc 7-99-322

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A744	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	#30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM ☐ ME ☐ UTRAN / Radio ☐ Core Network ☐

Source: MCC STF 61V **Date:** 13/10/99

Subject: Alignment to the priority levels based on the test SIM card.

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change:

Based on the test SIM specified for the ASCI testing, the following alignments are needed:

1. In 26.14.2.1, priority level B shall be replaced with 3, because non automatic answering is requested. In 26.14.6.1 and 26.14.8.1 the priority level 0 is chosen for a fast setup.

2. In the group receive mode receiving paging has become an optional feature due to the change of the core specs, 03.68, 03.69. The corresponding conformance requirement in 26.14.2.1 needs to be aligned.

Clauses affected: Modification of 26.14.2.1, 26.14.6.1, 26.14.8.1,

Other specs Affected:

Other 3G core specifications	☐	→ List of CRs:
Other GSM core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

26.14.2.1 VGCS-VBS / Paging / Paging indication

26.14.2.1.1 Conformance requirement

1 Paging into on-going voice group calls shall be provided as an implementation option.
~~In group receive mode the MS shall read its paging sub-channel in the current cell in order to receive paging messages.~~
2 In group receive mode the MS shall be ready to receive paging information on the FACCH containing the mobile subscriber identity and the priority level if eMLPP applies.
3 In group transmit mode if the MS has received a paging message with the own mobile station identity on the PCH or on the voice group call channel downlink, the RR entity shall provide an indication to the upper layers, together with the related priority, if applicable.
4 In group transmit mode if the MS receives information on the voice group call channel of the existence of a paging message in its paging subgroup of the PCH, the RR entity shall pass this information to the upper layers together with the related priority.

Reference(s)

GSM 04.08 clause 3.4.12, 9.1.21a, 3.4.15.1.2.4, 10.5.2.23, 10.5.2.24, 10.5.2.25.
GSM 03.68 clause 11.3.1.3c.
GSM 03.69 clause 11.3.1.3c.

26.14.2.1.2 Test purpose

It is checked that:

1 When the MS in group receive mode if ~~receives~~ a NOTIFICATION/FACCH message on the voice group call channel containing in-band paging information is received, the MS provides an indication with the correct priority if applicable.

2 When the MS in group receive mode if ~~receives~~ a paging message with the own mobile station identity on PCH is received, it provides an indication with the correct priority.

3 When the MS in group transmit mode if ~~receives~~ a NOTIFICATION/FACCH message on the voice group call channel containing in-band paging information is received, the MS provides an indication with the correct priority.

4 If the MS in group transmit mode if ~~receives~~ a paging message with the own mobile station identity on PCH is received, it provides an indication with the correct priority.

26.14.2.1.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters for ASCI testing.

Mobile Station:
No automatic answering configured.

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).
Support VGCS talking.
Support VBS originating.
Support eMLPP.
Support monitoring on PCH in group transmit mode.
Way to configure VGCS or VBS.

Way to request uplink.

Foreseen Final State of the MS

"'Idle, updated"'.

Test Procedure

The MS is in group receive mode. The SS sends NOTIFICATION/FACCH message containing Paging Information IE which addresses the MS. It is checked that the MS indicates the paging information.

The SS changes SI 6 indicating no support of in-band paging. After waiting 5s. the SS sends a PAGING REQUEST TYPE 1 message addressing the MS on the paging sub-channel of the MS. It is checked that the MS indicates the paging information, together with the priority level if it supports eMLPP. The test procedure is repeated for sending PAGING REQUEST TYPE 2 and PAGING REQUEST TYPE 3 messages.

The same test procedure is repeated for the MS in group transmit mode if supporting VGCS talking or VBS originating.

Maximum Duration of Test

5 minutes

Expected Sequence

If the MS mode supports VGCS talking or VBS originating the test sequence is repeated once for k=2. If the MS supports monitoring PCH in group transmit mode steps 5 - 17 for k=2 are executed.

Step	Direction	Message	Comments
0	SS		broadcast the default SIs.
A1 B1	MS		for k=1, the MS is brought in group receive mode. for k=2, the MS is in brought group transmit mode.
2 3 4	SS -> MS MS MS	NOTIFICATION/FACCH	In-band paging Information addresses the MS. check that the MS indicates correctly the paging information of a new MT call with priority 4 if the MS supports eMLPP. user action to reject the point-to-point MT call.
5 6	SS -> MS SS	SYSTEM INFORMATION TYPE 6	indicating no in-band paging on FACCH wait 5s.
7 8 9 10	SS -> MS MS MS SS	PAGING REQUEST TYPE 1	with priority 2 check that the MS indicates correctly the paging information of a new MT call with the priority if the MS supports eMLPP. user action to reject the incoming call. wait 5 s.
11 12 13 14	SS -> MS MS MS SS	PAGING REQUEST TYPE 2	with priority 3~~B~~ check that the MS indicates correctly the paging information of a new MT call with the priority if the MS supports eMLPP. user action to reject the incoming call. wait 5s.
15 16 17	SS -> MS MS MS	PAGING REQUEST TYPE 3	no priority check that the MS indicates correctly the paging information of a new MT call which no priority is provided to. user action to reject the incoming call.
A18			for k=1, no signalling
B18	SS -> MS	UPLINK RELEASE	for k=2, return to group receive mode.
19	SS -> MS	CHANNEL RELEASE	UI format, the MS returns to idle updated state.

Specific Message Contents

NOTIFICATION/FACCH - in step 2

Information Element	value/remark
Group call / Paging information indication	'1', paging information
Paging Information	
- mobility identity	TMSI previously allocated to MS
- channel first	'10'B, TCH/F
EMLPP priority indication	'1'B
- priority	'001'B, call priority level 4
spare padding	logic L

SYSTEM INFORMATION TYPE 6 - in step 5

Information Element	value/remark
S6 Rest Octets	7 octets length
- PCH/NCH info indication	L
- VGCS/VBS options	
- in-band notifications	H
- in-band paging	L
- Spare padding	logic L

PAGING REQUEST TYPE 1 - in step 7

Information Element	value/remark
P1 Rest Octets	
- NLN (PCH) indication	L
- Priority 1 indication	H
- Priority	'011'B, level 2
- Spare padding	logic L

PAGING REQUEST TYPE 2 - in step 11

Information Element	value/remark
P2 Rest Octets	
- CN3 indication	L
- NLN (PCH) indication	L
- Priority 1 indication	H
- Priority	'010~~110~~'B, level ~~B~~3
- Spare padding	logic L

PAGING REQUEST TYPE 3 - in step 15

Information Element	value/remark
Mobile Identity 1	TMSI not allocated to MS
P3 Rest Octets	
- CN3 indication	L
- NLN (PCH) indication	L
- Priority 1 indication	H
- Priority	'000'B, no level applied
- Spare padding	logic L

26.14.6.1 VGCS-VBS / GCC-BCC Procedures / MO call establishment

26.14.6.1.1 Conformance requirement

1. The MS in idle updated mode shall initiate a VGCS/VBS call correctly using IMMEDIATE SETUP procedure if a priority level is requested by the user for which the user has the subscription and the fast call setup is enabled~~on request~~.

2. The MS in idle updated mode shall initiate a VGCS/VBS call correctly using SETUP procedure on request.

3. For VGCS call after establishment, the MS shall indicate to the user that an indication of the desire to speak should be made if he wants to speak. If this is not done within a certain time, the MS shall send an UPLINK RELEASE.

Reference(s)

GSM 04.68 clause 6.2.2.
GSM 04.69 clause 6.2.2.
GSM 03.68 clause 11.3.1.1.3.

26.14.6.1.2 Test purpose

To verify that in idle updated mode:

1. The MS initiates a VGCS/VBS call correctly using IMMEDIATE SETUP procedure if a priority level is requested by the user for which the user has the subscription and the fast call setup is enabled~~on request~~.

2. The MS initiates a VGCS/VBS call correctly using SETUP procedure on request.

3. After establishment of VGCS call, the MS indicates that an user action is required if he wants to speak. If such user action is not made within a certain time, the MS sends an UPLINK RELEASE.

26.14.6.1.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters for ASCI testing.

Mobile Station:
The MS is in MM-state "idle, updated" with a TMSI allocated.

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).
Support VGCS originating.
Support VBS originating.

Way to configure VGCS or VBS.
Way to initiate a VGCS/VBS call.
Way to select the immediate set-up or the normal set-up
Way to verify the downlink speech path.
Way to indicate the desire of speaking.
The allowed duration between an indication of a required user action for speaking and an action performed by user.

Foreseen Final State of the MS

"Idle, updated", with TMSI allocated.

Test Procedure

The MS is in MM-state ”idle, updated”. The MS is requested to initiate a VGCS or VBS call using immediate setup procedure by MMI action. It is checked that the MS performs correctly the immediate setup procedure. The call is terminated. The MS is requested to initiate a VGCS or VBS call using setup procedure by MMI action. It is checked that the MS performs correctly the setup procedure. The call is cleared.

Maximum Duration of Test

5 minutes.

Expected Sequence

Steps 0 to 18 are executed if MS supports eMLPP.

Step	Direction	Message	Comments
00	MS		The MS is in idle updated state.
1	MS		MMI action to select a priority level 0 and MMI action to initiate VGCS/VBS call with immediate setup.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	TCH/F, single RF channel GSM 900: 50, DCS 1800: 750
4	MS -> SS	IMMEDIATE SETUP	L2: SABM / UA
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	
7	SS -> MS	CIPHERING MODE COMMAND	no ciphering
8	MS -> SS	CIPHERING MODE COMPLETE	
9	SS -> MS	CHANNEL MODE MODIFY	very early assignment
10	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
11	SS -> MS	CONNECT	verify that the TCH is through connected
12	SS -> MS	GET STATUS	
13	MS -> SS	STATUS	check that the MS is in state U2sr (for VGCS) or U2 (for VBS).
			for VGCS call
A14	MS		check that the MS indicates a user action needed for a desire of speaking.
A15	MS		user does not answer the indication.
A16	MS -> SS	UPLINK RELEASE	
A17	SS -> MS	UPLINK FREE	
A18	SS -> MS	CHANNEL RELEASE	UI format
			for VBS call
B14	SS -> MS	TERMINATION	terminate the call.
B15	SS -> MS	CHANNEL RELEASE	The MS releases L2 multiple frame link L2:DISC/UA.
20	MS		MMI action to initiate VGCS/VBS call with setup.
21	MS -> SS	CHANNEL REQUEST	
22	SS -> MS	IMMEDIATE ASSIGNMENT	TCH/F, single RF channel GSM 900: 50, DCS 1800: 750
23	MS -> SS	CM SERVICE REQUEST	L2: SABM / UA
24	SS -> MS	AUTHENTICATION REQUEST	
25	MS -> SS	AUTHENTICATION RESPONSE	
26	SS -> MS	CIPHERING MODE COMMAND	no ciphering
27	MS -> SS	CIPHERING MODE COMPLETE	
28	MS -> SS	SETUP	
29	SS -> MS	CHANNEL MODE MODIFY	very early assignment
30	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
31	SS -> MS	CONNECT	verify that the TCH is through connected
			only for VGCS call

Step	Direction	Message	Comments
A32	MS		check that the MS indicates a user action needed for a desire of speaking. An user action for speaking.
35	SS -> MS	GET STATUS	
36	MS -> SS	STATUS	check that the MS is in state U2sr (for VGCS) or U2 (for VBS).
37	SS -> MS	TERMINATION	terminate the call.
38	SS -> MS	CHANNEL RELEASE	The MS releases L2 multiple frame link L2:DISC/UA.

26.14.8.1 VGCS-VBS / Structured Procedures / Very early and early assignment

This test is applicable to the MS supporting VGCS/VBS originating.

26.14.8.1.1 Conformance requirement

1. The mobile station initiates immediate assignment, service request, and contention resolution.

2. After sending the CIPHERING MODE COMPLETE message, the mobile station initiates call establishment by sending the SETUP message to the network.

3. The network allocates a traffic channel to the mobile station before it initiates call establishment in the fixed network.

4. The network assigns the traffic channel at the earliest possible moment, i.e. in the immediate assignment procedure. The mode of the traffic channel is changed from signalling only to the mode necessary for the call by means of the channel mode change procedure.

Reference(s)

GSM 04.08 clause 7.3.2.

26.14.8.1.2 Test purposes

1. To verify that the MS initiates immediate assignment, service request using the IMMEDIATE ASSIGNMENT or CM SERVICE REQUEST message, and contention resolution.

2. To verify that the MS after sending the CIPHERING MODE COMPLETE message, initiates call establishment by sending the SETUP message to the network.

3. To check that the MS performs correctly the early assignment procedure.

4. To check that the MS performs correctly the very early assignment procedure.

26.14.8.1.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters for ASCI testing.

Mobile Station:
The MS is in MM-state "idle, updated" with a TMSI allocated.

Related PICS/PIXIT Statement(s)

Type of MS ((P-, E-, R-GSM 900 or DCS 1800).).
Support VGCS originating.
Support VBS originating.
Supported speech versions.

Way to configure a necessary radio channel rate.
Way to configure VGCS or VBS.
Way to select the immediate set-up or the normal set-up
Way to verify the downlink speech path.

Foreseen Final State of the MS

"Idle, updated", with TMSI allocated.

Test Procedure

The MS is requested to initiate a VGCS/VBS call using immediate setup procedure. The authentication and ciphering mode setting (to no ciphering) procedures are applied. The call is established by using early assignment procedure. For an R-band MS a carrier with ARFCN in the rage of 955 - 974 is assigned for the traffic channel. The MS needs to be configured to use EFR codec for the test, if it supports EFR. The MS is requested to terminate the call

The MS is requested to initiate a VGCS/VBS call using setup procedure. The authentication and ciphering mode setting (to no ciphering) procedures are applied. The call is established by using assignment procedure. For an R-band MS a carrier with ARFCN in the rage of 955 - 974 is assigned for the traffic channel. The MS needs to be configured to use half rate codec for the test, if it supports dual rate. The call is terminated.

Maximum Duration of Test

5 minutes.

Expected Sequence

Steps 0 to 20 are executed if MS supports eMLPP.

Step	Direction	Message	Comments
0	MS		The MS is in idle updated mode.
1	MS		MMI action to select a priority level 0 and MMI action to initiate VGCS /VBS call using immediate setup procedure.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	IMMEDIATE SETUP	L2: SABM / UA
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	
7	SS -> MS	CIPHERING MODE COMMAND	no ciphering
8	MS -> SS	CIPHERING MODE COMPLETE	
9	SS -> MS	ASSIGNMENT COMMAND	see specific message contents
10	MS -> SS	ASSIGNMENT COMPLETE	
11	SS -> MS	CONNECT	verify that the TCH is through connected
12	MS		MMI action to terminate the call
13	MS -> SS	TERMINATION REQUEST	
14	SS -> MS	TERMINATION	cause = protocol error, unspecified
15	SS -> MS	CHANNEL RELEASE	The MS releases L2 multiple frame link L2:DISC/UA.
21	MS		MMI action to initiate VGCS/VBS call with setup procedure.
22	MS -> SS	CHANNEL REQUEST	TCH/F needed
23	SS -> MS	IMMEDIATE ASSIGNMENT	
24	MS -> SS	CM SERVICE REQUEST	L2: SABM / UA
25	SS -> MS	AUTHENTICATION REQUEST	
26	MS -> SS	AUTHENTICATION RESPONSE	
27	SS -> MS	CIPHERING MODE COMMAND	no ciphering
28	MS -> SS	CIPHERING MODE COMPLETE	
29	MS -> SS	SETUP	
30	SS -> MS	CHANNEL MODE MODIFY	
31	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
32	SS -> MS	CONNECT	verify that the TCH is through connected
33	SS -> MS	TERMINATION	
34	SS -> MS	CHANNEL RELEASE	The MS releases L2 multiple frame link L2:DISC/UA.

ETSI SMG7 #23
Sophia, France
19-22 October 1999

Tdoc 7-99-323

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A747	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]
(at least one should be marked with an X)

Source: MCC STF 61V **Date:** 13/10/99

Subject: Two editorial changes in the clause 26.14

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Two minor editorial changes are introduced in 26.14.6.7.3 and 26.14.10.

Clauses affected: 26.14.6.7.3 and 26.14.10

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

26.14.6.7 VGCS-VBS / GCC-BCC Procedures / BCC states

This test is applicable to the MS supporting VBS originating.

26.14.6.7.1 Conformance requirement

The BCC entity of the MS performs transitions between states. It has certain parameters and attributes, which it sets and changes based on interaction with higher layer and lower layers and on message exchanges with its peer entity. These states and parameters shall be consistent as defined.

Reference(s)

GSM 04.69 clause 6.1.2.1 - 6.1.2.11, 6.5.1.1.

26.14.6.7.2 Test purpose

To verify that the BCC states and parameters of the MS are consistent as defined.

26.14.6.7.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters for ASCI testing.

Mobile Station:
The MS is in MM-state "idle, updated" with a TMSI allocated.

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).
Support VBS originating.
Way to configure VBS.
Way to select the immediate set-up or the normal set-up
Way to initiate VBS call.

Foreseen Final State of the MS

MM-state Idle, updated.

Test Procedure

The MS is requested to initiate VBS call. Then it is checked by getting status procedure that the MS goes through different GCC states with correct parameters.

Maximum Duration of Test

5 minutes.

Expected Sequence

Step	Direction	Message	Comments
0	MS		The MS is in idle mode.
1	MS		MMI action to initiate VBS call
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	TCH/F, single RF channel GSM 900: 50, DCS 1800: 750
4	MS -> SS	CM SERVICE REQUEST	VBC establishment, L2: SABM / UA
5	SS -> MS	GET STATUS	
6	MS -> SS	STATUS	state U0.p, ORIG=T COMM=F D-ATT=F U-ATT=F
7	SS -> MS	CM SERVICE ACCEPT	
8	MS -> SS	SETUP	
9	SS -> MS	GET STATUS	
10	MS -> SS	STATUS	state U1, ORIG=T COMM=T D-ATT=F U-ATT=F
11	SS -> MS	CONNECT	
12	SS -> MS	GET STATUS	
13	MS -> SS	STATUS	state U2, ORIG=T COMM=TF D-ATT=T U-ATT=T
14	SS -> MS	CHANNEL MODE MODIFY	
15	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
16	MS		MMI action to terminate VBS call
17	MS -> SS	TERMINATION REQUEST	
18	SS -> MS	GET STATUS	
19	MS -> SS	STATUS	state U5, ORIG=T COMM=T D-ATT=T U-ATT=T
20	SS -> MS	TERMINATION	
21	SS -> MS	CHANNEL RELEASE	The MS releases L2 multiple frame link L2:DISC/UA.

26.14.10 VGCS-VBS / Default Message Contents

The default message contents listed in clause 26.6.14 and 26.6.15 are applicable to the clause 26.14, except BS_AG_BLKS_RES = 1. Additional default message contents are specified below.

SYSTEM INFORMATION TYPE 1

Information Element	value/remark
S1 Rest Octets - NCH position indication - NCH position - Spare padding	2 octets length H The 1st NCH block number = 1, No. of blocks = 1

SYSTEM INFORMATION TYPE 6

Information Element	value/remark
S6 Rest Octets - PCH/NCH info indication - VGCS/VBS options - in-band notifications - in-band paging - Spare padding	7 octets length L H H logical L

NOTIFICATION/NCH

Information Element	value/remark
L2 Pseudo Length	This is the sum of the lengths of all the information elements present in the message except for the NT/N rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is '09'B.
RR Protocol Discriminator	'0110'B
Skip Indicator	'0000'B'
Message Type	'00100000'B
NT/N Rest Octets	
Reduced monitoring indication	'0'B, no reduced monitoring
List of group call NCH information	
Group call reference 1 indication	'1'B
Group or broadcast call reference	
- Group or broadcast call reference	PICS/PIXIT, active in the SIM (27 bits)
- SF	VBS if only VBS supported, otherwise VGCS
- AF	acknowledgement not required
- Ciphering information	No ciphering
Group Channel Description indication	'1'
Channel Description	
- Channel type and TDMA offset	TCH/F
- Timeslot number	arbitrarily chosen but not 0
- TSC	arbitrarily chosen
- Hopping	Single RF Channel
- ARFCN	GSM 900: 50 DCS 1800: 750
- MA or FSL	'0'B, non hopping
Another Group call references	'0'B, no
Spare padding	logic L

NOTIFICATION/FACCH

Information Element	value/remark
RR short PD	'0'B
message type	'00001'B
short layer 2 header	'00' for UI frame
Group call / Paging information indication	'0', group call information
Group or broadcast call reference	
- Group or broadcast call reference	PICS/PIXIT (27 bits), active in the SIM
- SF	VBS if only VBS supported, otherwise VGCS
- AF	'0'B, acknowledgement not required
- priority	4
- Ciphering information	No ciphering
Group Channel Description indication	'1', group channel description
Channel Description	24 bits
- Channel type and TDMA offset	TCH/F
- Timeslot number	arbitrarily chosen, but not 0
- TSC	arbitrarily chosen
- Hopping	Single RF, non hopping channel
- ARFCN	GSM 900: 70 DCS 1800: 850
MA or FSL	'0'B, non hopping
Spare padding	logic L

NOTIFICATION RESPONSE

Information Element	value/remark
MM Protocol Discriminator	'0101'B
Skip Indicator	'0000'B'
Message Type	'0x100101'B
Mobile station classmark	PICS/PIXIT
Mobile identity	PICS/PIXIT
Group or broadcast call reference 1	
- Group or broadcast call reference	Not checked
- SF	Not checked
- AF	Not checked
- Ciphering information	No ciphering

UPLINK ACCESS

Information field	value/remark
Establishment Cause	'110'B for subsequent talker uplink access; '00100101'B for reply on uplink access request
Random Reference	Not checked for subsequent talker uplink request

UPLINK BUSY

Information Element	value/remark
RR Protocol Discriminator	'0110'B
Skip Indicator	'0000'B'
Message Type	'00101010'B

UPLINK FREE

Information Element	value/remark
RR short PD	'0'B
Message Type	'00010'B
short L2 header	'00'B, type 1
Uplink access request bit	L
UIC indication	H
UIC	PICS/PIXIT, bit(6)
Spare padding	logic L

UPLINK RELEASE

Information Element	value/remark
RR Protocol Discriminator	'0110'B
Skip Indicator	'0000'B'
Message Type	'00001110'B
RR Cause	Normal event

VGCS UPLINK GRANT

Information Element	value/remark
RR Protocol Discriminator	'0110'B
Skip Indicator	'0000'B'
Message Type	'00001001'B
Request Reference	Same as that in UPLINK ACCESS
Timing Advance	30

TALKER INDICATION

Information Element	value/remark
RR Protocol Discriminator	'0110'B
Skip Indicator	'0000'B'
Message Type	'00010001'B
Mobile station classmark	PICS/PIXIT
Mobile identity	PICS/PIXIT

Default Message contents for GCC/BCC

CHANNEL MODE MODIFY:

Channel Description	Same as in IMMEDIATE ASSIGNMENT in test
Channel Mode	
- Mode	speech full rate or half rate version 1
VGCS target mode indication	
- iei	
- target mode	group transmit mode
- group cipher key number	no ciphering
- spare bit	'11'B

CHANNEL MODE MODIFY ACKNOWLEDGE:

Channel Description	Same as in CHANNEL MODE in test
Channel Mode	Same as in CHANNEL MODE in test

CM SERVICE REQUEST

Information Element	value/remark
CM service type	VGC or VBC establishment, depending on the service
Priority	any or omit

CONNECT

Information Element	value/remark
GCC/BCC Protocol Discriminator	'0000'B for GCC, '0001'B for BCC
Transaction identifier	depending on the context of the test
Message Type	'0x110011'B
Broadcast call reference	PICS/PIXIT
Originator indication	Originator
Spare half octet	'0000'B

GET STATUS

Information Element	value/remark
GCC/BCC Protocol Discriminator	'0000'B for GCC, '0001'B for BCC
Transaction identifier	depending on the context of the test
Message Type	'0x111001'B
Mobile identity	PICS/PIXIT
Parameters	call state & state attribute requested

IMMEDIATE SETUP

Information Element	value/remark
GCC/BCC Protocol Discriminator	'0000'B for GCC, '0001'B for BCC
Transaction identifier	'0001'B
Message Type	'0x110001'B
Spare half octet	'0000'B
Ciphering key sequence number	PICS/PIXIT
Mobile station classmark	PICS/PIXIT
Mobile identity	PICS/PIXIT
Group~~Broadcast~~ identity	PICS/PIXIT

SET STATUS

Information Element	value/remark
GCC/BCC Protocol Discriminator	'0000'B for GCC, '0001'B for BCC
Transaction identifier	depending on the context of the test
Message Type	'0x111010'B
All other information elements	Not present

SETUP

Information Element	value/remark
GCC/BCC Protocol Discriminator	'0000'B for GCC, '0001'B for BCC
Transaction identifier	'0001'B
Message Type	'0x110010'B
Broadcast identity	PICS/PIXIT

STATUS

Information Element	value/remark
GCC/BCC Protocol Discriminator	‘0000’B for GCC, ‘0001’B for BCC
Transaction identifier	depending on the context of the test
Message Type	‘0x111000’B
Cause	Not checked
Call state	depending on the context of the test
State attributes	depending on the context of the test

TERMINATION

Information Element	value/remark
GCC/BCC Protocol Discriminator	‘0000’B for GCC, ‘0001’B for BCC
Transaction identifier	depending on the context of the test
Message Type	‘0x110100’B
Cause	any

TERMINATION REJECT

Information Element	value/remark
GCC/BCC Protocol Discriminator	‘0000’B for GCC, ‘0001’B for BCC
Transaction identifier	depending on the context of the test
Message Type	‘0x110110’B
Reject cause	any

TERMINATION REQUEST

Information Element	value/remark
GCC/BCC Protocol Discriminator	‘0000’B for GCC, ‘0001’B for BCC
Transaction identifier	depending on the context of the test
Message Type	‘0x110101’B
Broadcast identity	PICS/PIXIT

ETSI SMG7 #7
Sophia, France
19-22, October 1999

Tdoc 7-99-324

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A750	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30 *list expected approval meeting # here ↑*

for approval [X] for information [ ]

strategic [ ] non-strategic [X] *(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]

Source: MCC STF 61V **Date:** 13/10/99

Subject: Correction of test prose 31.12.2 - eMLPP Service / automatic answering point-to-point MT call

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]	**Release:**	Phase 2	[ ]
A	Corresponds to a correction in an earlier release	[X]		Release 96	[ ]
B	Addition of feature	[ ]		Release 97	[X]
C	Functional modification of feature	[ ]		Release 98	[ ]
D	Editorial modification	[ ]		Release 99	[ ]
				Release 00	[ ]

Reason for change:

1. Due to the corrections of GSM 04.67 and GSM 03.67, the requirement text have been largely changed.
2. In step 55 DISCONNECT shall be sent from the MS. According to GSM 04.67, 4.1.3, after receiving HOLD REJECT the MS shall release the current call and accept the waiting call.
3. Messages on steps 64, 65 and 66 are related to the second call and belong to the same Transaction as in step 51, but not step 60.
4. Cause value for DISCONNECT message 'pre-empt' is not defined in GSM 04.08. The cause value shall be 'Normal call clearing'.
5. Steps 71 and 87 shall be deleted. According to GSM 04.08, NOTIFICATION FACCH is used to notify other VGCS/VBS calls. The purpose of this test is to check point-to-point call.
6. On the test SIM the MS has the capability to answer automatically to incoming calls that have a priority higher than 2. The test step 20 is unnecessary. The steps 21, 25, 40, 51, 60 must have a higher priority than 2.
7. The maximum duration of test is proposed for 5 minutes.

Clauses affected: 31.12.2

Other specs Affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:	

31.12.2 eMLPP Service / automatic answering point-to-point MT call

31.12.2.1 Conformance requirement

For the MS supporting MT call:

~~1. In idle mode the MS shall automatically accept an incoming point-to-point call of priority level for which automatic answering is enabled.~~

~~2. In idle mode the MS shall alert an incoming point-to-point call of a priority level for which automatic answering is disabled.~~

~~3. In dedicated mode and supporting Call Waiting, when a Call Waiting indication includes priority of sufficient higher level of the point-to-point call, the MS shall automatically confirm the waiting call and send a hold message to the network. If a hold reject is received the other call shall be released and the waiting call accepted.~~

~~4. In dedicated mode and supporting Call Waiting, when a Call Waiting indication includes priority of a level not high enough for automatic answering, the MS shall indicate the waiting call.~~

~~5. In group receive mode the MS shall automatically respond to the paging message containing sufficient higher priority level.~~

~~6. In group receive mode the MS shall indicate an incoming point-to-point call of a priority level not high enough for automatic answering.~~

1. Automatic answering or, if necessary, called-party pre-emption has to be performed by the Mobile Station as defined in the following:

   - point-to-point calls:
     If the user is in idle mode, the Mobile Station shall automatically connect to an incoming call of a sufficient priority level. If the user is in dedicated mode and has a subscription to Call Waiting, a Call Waiting indication including the priority level of the call shall be given to the Mobile Station which automatically accepts the waiting call.

2. In dedicated mode , in the case where the called subscriber has a subscription for eMLPP and for Call Waiting and is using a compatible Mobile Station, the Mobile Station shall be informed of the priority of the new call together with the call waiting indication. The Mobile Station will then consult the internal service configuration list stored on the SIM to establish whether it should automatically accept the waiting call without consulting the user, or whether the call waiting facility will be used as normal.

3. In the case where the called subscriber has a subscription for eMLPP and for CW, the mobile station shall be informed of the priority of the new call together with the CW indication. On reception of the set-up message the compatible mobile station decides on called party pre-emption. If called party pre-emption applies, the mobile station shall automatically accept the waiting call and send a hold message to the network. If a hold acknowledge is received, the waiting call is accepted. If a hold reject is received for any reason, e.g. there is no subscription for hold, the other call shall be released and the waiting call accepted. If the ongoing call is not a TS11 call, the mobile station should not send a hold message to the network but release the call and accept the waiting call.

Reference(s)

GSM 02.67 section 4, 5.9.
GSM 03.67 section 4, 11.3.2.4, 11.3.2.5., 11.6
GSM 04.67 section 4.1.3~~2~~.
GSM 04.83 section 1.1, 1.2.

31.12.2.2 Test purpose

For the MS supporting MT call, to verify that:

1. In idle mode the MS automatically accepts an incoming point-to-point call of priority level for which automatic answering is enabled.

2. In idle mode the MS alerts an incoming point-to-point call of a priority level for which automatic answering is disabled.

3. In dedicated mode and supporting Call Waiting, when a Call Waiting indication includes a ~~priority of sufficient higher~~ level for which automatic answering is enabled and the priority level is higher than the ongoing ~~of the~~ point-to-point call, the MS automatically confirms the waiting call and sends a hold message to the network. If a hold reject is received the other call is released and the waiting call is accepted.

4. In dedicated mode and supporting Call Waiting, when a Call Waiting indication includes a priority ~~of a~~ level for which automatic answering is enabled and the priority level is equal or lower than the priority level of the ongoing call~~not high enough for automatic answering~~, the MS indicates the waiting call.

5. In group receive mode the MS automatically responds to the paging message containing ~~sufficient higher~~ a priority level for which automatic answering is enabled and the priority level is higher than the priority level of the ongoing call.

6. In group receive mode the MS indicates an incoming point-to-point call of a priority level for which automatic answering is enabled and the priority level is equal or lower than the priority level of the ongoing call~~not high enough for automatic answering~~.

31.12.2.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters.

Mobile Station:
the MS is in idle mode;
The auto answering priority level is set to higher than priority level 2.

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).
Support VGCS listening.
Support VBS listening.
Support call waiting
Support hold
Support eMLPP.

Way to configure automatic answering.
Way to indicate a call has been automatically answered.

Foreseen Final State of the MS

"Idle, updated".

Test Procedure

The call waiting is activated. The MS is in idle mode and automatic answering for priority level 2 is disabled. A PAGING REQUEST message containing priority level 2 is sent. It is checked that the MS indicates the incoming call to the user. The automatic answering for level 1~~2~~ is enabled. A PAGING REQUEST message with priority level 2 is sent. It is checked that the MS automatically accepts the incoming normal call. The call is released. A PAGING REQUEST message without priority level is sent, and during the call set-up the SETUP message contains priority level 1~~2~~. It is checked that the MS automatically accepts the incoming normal call.

The MS is in dedicated mode (If the MS supports TS11, TS11service shall be selected for the dedicated mode testing). a SETUP message with priority level higher enough for auto answering is sent by the SS. It is checked that the MS automatically accepts the incoming normal call. A SETUP message containing low priority level without auto answering is sent. It is checked that the MS indicates the incoming call to the user. The MS is in group receive mode, a NOTIFICATION/FACCH message containing paging information and a PAGING REQUEST message with priority level 0 are sent. It is checked that the MS automatically accepts the incoming normal call. The MS is brought into group receive mode. A NOTIFICATION/FACCH message containing paging information and a PAGING REQUEST message containing low priority level are sent. It is checked that the MS indicates the incoming call to the user.

Maximum Duration of Test

5 minutes

Expected Sequence

Step	Direction	Message	Comments
0	MS		the MS is in idle mode and auto answering for priority level 2 is disabled
1	SS -> MS	PAGING REQUEST TYPE 1	with priority level 2
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	SDCCH
4	MS -> SS	PAGING RESPONSE	
5	SS -> MS	SETUP	containing priority level 2, but not signal IE
6	MS -> SS	CALL CONFIRMED	
7	SS -> MS	ASSIGNMENT COMMAND	TCH
8	MS -> SS	ASSIGNMENT COMPLETE	
9	MS -> SS	ALERTING	
10	MS		An alerting indication as defined in a PICS/PIXIT statement is given by the MS
11	MS		The MS is made to accept the call in the way described in a PICS/PIXIT statement
12	MS -> SS	CONNECT	
13	SS -> MS	CONNECT ACKNOWLEDGE	
14	SS -> MS	DISCONNECT	
15	MS -> SS	RELEASE	
16	SS -> MS	RELEASE COMPLETE	
17	SS -> MS	CHANNEL RELEASE	return to idle mode
~~20~~	~~MS~~		~~to enable automatic answering for priority level 2~~
21	SS -> MS	PAGING REQUEST TYPE 1	containing priority level 1~~2~~
22	MS -> SS	CHANNEL REQUEST	
23	SS -> MS	IMMEDIATE ASSIGNMENT	SDCCH
24	MS -> SS	PAGING RESPONSE	
25	SS -> MS	SETUP	containing priority level 1~~2~~, but no signal IE
26	MS -> SS	CALL CONFIRMED	
27	MS -> SS	CONNECT	automatic connection
28	SS -> MS	ASSIGNMENT COMMAND	TCH
29	MS -> SS	ASSIGNMENT COMPLETE	
30	SS -> MS	CONNECT ACKNOWLEDGE	
31	MS		to check that the MS gives an indication as defined in a PICS/PIXIT statement for call automatically answered
32	SS -> MS	DISCONNECT	
33	MS -> SS	RELEASE	
34	SS -> MS	RELEASE COMPLETE	
35	SS -> MS	CHANNEL RELEASE	return to idle mode
36	SS -> MS	PAGING REQUEST TYPE 1	containing no priority level
37	MS -> SS	CHANNEL REQUEST	
38	SS -> MS	IMMEDIATE ASSIGNMENT	SDCCH
39	MS -> SS	PAGING RESPONSE	

Step	Direction	Message	Comments
40	SS -> MS	SETUP	containing priority level 3, but no signal IE
41	MS -> SS	CALL CONFIRMED	
42	MS -> SS	CONNECT	automatic connection
43	SS -> MS	ASSIGNMENT COMMAND	TCH
44	MS -> SS	ASSIGNMENT COMPLETE	
45	SS -> MS	CONNECT ACKNOWLEDGE	
51	SS -> MS	SETUP	new transaction, containing priority level 1~~2~~ and Signal Information Element with value #7
52	MS -> SS	CALL CONFIRMED	on new transaction with cause #17
53a	MS -> SS	HOLD	on old transaction for service TS11
53b			no signalling for services other than TS11
54a	SS -> MS	HOLD REJECT	on old transaction for service TS11 with cause #69
54b			no signalling for services other than TS11
55	M~~S~~S -> S~~M~~S	DISCONNECT	on old transaction, cause = 'Normal call clearing'
56	S~~M~~S -> M~~S~~S	RELEASE	on old transaction~~, cause = pre-empty~~
57	M~~S~~S -> S~~M~~S	RELEASE COMPLETE	on old transaction
58	MS -> SS	CONNECT	on new transaction
59	SS -> MS	CONNECT ACKNOWLEDGE	on new transaction
60	SS -> MS	SETUP	another new transaction different from step 51, containing priority level ~~2~~1~~-~~ and Signal Information Element with value #7
61	MS -> SS	CALL CONFIRMED	on the same transaction as step 60, with cause #17
62	MS -> SS	ALERTING	on the same transaction as step 60
63	MS		to check that the MS gives incoming call indication
64	SS -> MS	DISCONNECT	on the same transaction as step 51~~60~~
65	MS -> SS	RELEASE	on the same transaction as step 51~~60~~
66	SS -> MS	RELEASE COMPLETE	on the same transaction as step 51~~60~~
67	SS -> MS	CHANNEL RELEASE	
70	MS		the MS is in group receive mode, the priority level of current call is level 3
~~71~~	~~SS -> MS~~	~~NOTIFICATION/FACCH~~	~~containing paging information addressing the MS~~
72	SS -> MS	PAGING REQUEST TYPE 1	containing priority level 0
73	MS -> SS	CHANNEL REQUEST	
74	SS -> MS	IMMEDIATE ASSIGNMENT	SDCCH
75	MS -> SS	PAGING RESPONSE	
76	SS -> MS	SETUP	without priority level and signal IE
77	MS -> SS	CALL CONFIRMED	
78	MS -> SS	CONNECT	automatic connection
79	SS -> MS	ASSIGNMENT COMMAND	TCH
80	MS -> SS	ASSIGNMENT COMPLETE	
81	SS -> MS	CONNECT ACKNOWLEDGE	
82	SS -> MS	DISCONNECT	
83	MS -> SS	RELEASE	
84	SS -> MS	RELEASE COMPLETE	
85	SS -> MS	CHANNEL RELEASE	
86	MS		the MS is brought into group receive mode with the priority level 3
~~87~~	~~SS -> MS~~	~~NOTIFICATION/FACCH~~	~~containing paging information addressing the MS~~
88	SS -> MS	PAGING REQUEST TYPE 1	containing priority level 3
89	MS		to check that the MS gives incoming call indication
90	SS -> MS	CHANNEL RELEASE	UI format

ETSI SMG7 #23
Sophia, France
19-22, October 1999

Tdoc 7-99-326

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A753	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30 *list expected approval meeting # here ↑*

for approval [X]
for information [ ]

strategic [ ]
non-strategic [X]
(for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*
(U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]

Source: MCC STF 61V **Date:** 13/10/99

Subject: Correction of test prose 31.12.3 - eMLPP Service / automatic answering MT VGCS or VBS call.

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in an earlier release	[X]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[X]
Release 98	[ ]
Release 99	[ ]
Release 00	[ ]

Reason for change: Due to corrections of GSM 04.67 and GSM 03.67, the requirement text have been largely changed. It leads to deletion of a test purpose and the some expected message sequences.

Clauses affected: 31.12.3

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

31.12.3 eMLPP Service / automatic answering MT VGCS or VBS call

31.12.3.1 Conformance requirement

For the MS supporting VGCS/VBS listening:

1. Automatic answering or, if necessary, called-party pre-emption has to be performed by the Mobile Station as defined in the following:

   - voice group calls and voice broadcast calls:
     Notifications for other voice group calls, voice broadcast calls or information on paging for point-to-point calls shall be given to the Mobile Stations involved in on-going voice group calls or voice broadcast calls as defined in GSM 03.68 and GSM 03.69, respectively. The notifications include the related priority level of the call. In case of a notified call with higher priority where called-party pre-emption applies, the Mobile Station shall automatically leave the on-going voice group call or voice broadcast call and react according to the type of the notified call type.

2. In dedicated mode , in the case where the called subscriber has a subscription for eMLPP and for Call Waiting and is using a compatible Mobile Station, the Mobile Station shall be informed of the priority of the new call together with the call waiting indication. The Mobile Station will then consult the internal service configuration list stored on the SIM to establish whether it should automatically accept the waiting call without consulting the user, or whether the call waiting facility will be used as normal.

3. In the case where the called subscriber has a subscription for eMLPP and for CW, the mobile station shall be informed of the priority of the new call together with the CW indication. On reception of the set-up message the compatible mobile station decides on called party pre-emption. If called party pre-emption applies, the mobile station shall automatically accept the waiting call and send a hold message to the network. If a hold acknowledge is received, the waiting call is accepted. If a hold reject is received for any reason, e.g. there is no subscription for hold, the other call shall be released and the waiting call accepted. If the ongoing call is not a TS11 call, the mobile station should not send a hold message to the network but release the call and accept the waiting call.

~~4. 1. In idle mode the MS shall automatically accept an incoming VGCS or VBS call of sufficient priority level.~~

~~2. In idle mode the MS shall indicate an incoming VGCS or VBS call of priority level not high enough for automatic answering.~~
~~3. In dedicated mode, the MS shall automatically accept an incoming VGCS or VBS call of sufficient priority level.~~
~~4. In dedicated mode, the MS shall indicate an incoming VGCS or VBS call of priority level not high enough for automatic answering.~~
~~5. In group receive mode the MS shall automatically accept an incoming VGCS or VBS call of sufficient priority level.~~
~~6. In group receive mode the MS shall indicate an incoming VGCS or VBS call of priority level not high enough for automatic answering.~~
~~7. A pre-emption of an on-going call is not be possible if the on-going call is a TS12 call (emergency call).~~

Reference(s)

GSM 02.67 section 4.
GSM 03.68 section 4, 11.3.1.3, 11.3.1.4.
GSM 03.67 section 4.
GSM 04.67 section 4.1.5

31.12.3.2 Test purpose

For the MS supporting VGCS/VBS listening, to verify that:

1. In idle mode the MS automatically accepts an incoming VGCS or VBS call of sufficient priority level.

2. In idle mode the MS indicates an incoming VGCS or VBS call of priority level not high enough for automatic answering.

3. In dedicated mode, the MS automatically accepts an incoming VGCS or VBS call of sufficient priority level.

4. In dedicated mode, the MS indicates an incoming VGCS or VBS call of priority level not high enough for automatic answering.

5. In group receive mode the MS automatically accepts an incoming VGCS or VBS call of sufficient priority level.

6. In group receive mode the MS indicates an incoming VGCS or VBS call of priority level not high enough for automatic answering.

~~7. An incoming VGCS or VBS call does not pre-empty an on-going emergency call with a lower priority level.~~

31.12.3.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters.

Mobile Station:
the MS is in idle mode;
The auto answering priority level is set to higher than priority level 2.

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).

Support eMLPP.

Way to configure automatic answering.

Way to indicate that a VGCS/VBS call has been automatically accepted.

Foreseen Final State of the MS

"Idle, updated".

Test Procedure

The MS is in idle mode. a NOTIFICATION/NCH message with priority level higher enough for auto answering is sent. It is checked that the MS automatically accepts the incoming VGCS/VBS call. The call is released. A NOTIFICATION/NCH message containing low priority level without auto answering is sent. It is checked that the MS indicates the incoming VGCS/VBS call to the user.
The MS is in dedicated mode. a NOTIFICATION/FACCH message with priority level higher enough for auto answering is sent. It is checked that the MS automatically accepts the incoming VGCS/VBS call. A NOTIFICATION/FACCH message containing low priority level without auto answering is sent. It is checked that the MS indicates the incoming VGCS/VBS call to the user.
The MS is in group receive mode. a NOTIFICATION/FACCH message with priority level higher enough for auto answering and containing VGCS/VBS channel description is sent. It is checked that the MS automatically accepts the incoming VGCS/VBS call. A NOTIFICATION/FACCH message containing priority level not higher enough for auto answering and containing VGCS/VBS channel description is sent. It is checked that the MS indicates the incoming VGCS/VBS call to the user.

Maximum Duration of Test

5 minutes

Expected Sequence

Step	Direction	Message	Comments
1	MS		the MS is in idle mode
2	SS -> MS	NOTIFICATION/NCH	containing priority level 1
3	MS		to check that the MS automatically accepts the VGCS/VBS call
4	SS		stop sending NOTIFICATION/NCH
5	SS -> MS	CHANNEL RELEASE	UI format, release VGCS/VBS channel
6	SS -> MS	NOTIFICATION/NCH	containing priority level 3
7	MS		to check that the MS indicates the VGCS/VBS call to the user
8	SS		stop sending NOTIFICATION/NCH
15	MS		the MS is in dedicated mode, the priority level of current call is level 3
16	SS -> MS	NOTIFICATION/FACCH	containing priority level 2
17	MS -> SS	DISCONNECT	
18	SS -> MS	RELEASE	
19	MS -> SS	RELEASE COMPLETE	
20	SS -> MS	CHANNEL RELEASE	
21	MS		to check that the MS automatically accepts the VGCS/VBS call
22	SS -> MS	CHANNEL RELEASE	UI format, release VGCS/VBS channel
23	MS		the MS is brought into dedicated mode, the priority level of current call is level 3
24	SS -> MS	NOTIFICATION/FACCH	containing priority level 4
25	MS		to check that the MS indicates the VGCS/VBS call to the user
26	SS		stop sending NOTIFICATION/FACCH
27	SS -> MS	DISCONNECT	
28	MS -> SS	RELEASE	
29	SS -> MS	RELEASE COMPLETE	
30	SS -> MS	CHANNEL RELEASE	I format, release dedicated channel
~~31~~	~~MS~~		~~An emergency call is established with priority level 3~~
~~32~~	~~SS -> MS~~	~~NOTIFICATION/FACCH~~	~~containing priority level 2~~
~~33~~	~~MS~~		~~to check that the MS indicates the VGCS/VBS call to the user~~
~~34~~	~~SS~~		~~stop sending NOTIFICATION/FACCH~~
~~35~~	~~SS -> MS~~	~~DISCONNECT~~	
~~36~~	~~MS -> SS~~	~~RELEASE~~	
~~37~~	~~SS -> MS~~	~~RELEASE COMPLETE~~	
~~38~~	~~SS -> MS~~	~~CHANNEL RELEASE~~	~~I format, release dedicated channel~~
~~40~~31	MS		the MS is in group receive mode, the priority level of current call is level 3
~~41~~32	SS -> MS	NOTIFICATION/FACCH	containing priority level 1 and with VGCS/VBS channel description
~~42~~33	MS		to check the MS automatically accepts the incoming VGCS/VBS call
~~43~~34	SS -> MS	NOTIFICATION/FACCH	containing priority level 4 and with VGCS/VBS channel description
~~44~~35	MS		to check the MS indicates the incoming VGCS/VBS call to the user
~~45~~36	SS -> MS	CHANNEL RELEASE	UI format, release VGCS/VBS channel

ETSI SMG7 #23
Sophia, France
19-22 October 1999

Tdoc 7-99-327

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	**CR**	**A756**	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	#30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐ ME ☐ UTRAN / Radio ☐ Core Network ☐
(at least one should be marked with an X)

Source: MCC STF 61V **Date:** 13/10/99

Subject: Correction of test requirements in 31.12.4 and 31.12.5 - eMLPP Service / registration and interrogation

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Due to the corrections of GSM 04.67, the requirements have been changed.

Clauses affected: 31.12.4 and 31.12.5

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:
Other GSM core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

31.12.4 eMLPP Service / registration

31.12.4.1 Conformance requirement

For registration of eMLPP default priority level, the MS shall transmit successively:

1. A CHANNEL REQUEST with establishment cause set to "other services requested by the mobile user";

2. A CM SERVICE REQUEST with CM service type indicating "supplementary service activation";

3. An eMLPP registration request from a mobile user shall include the SS-Code of the eMLPP service and the default priority level.

~~And then the REGISTER message containing a facility IE that includes an invoke of the RegisterSS operation with parameter values according to the eMLPP and default priority level (MMI action);~~

~~4. Upon receipt of the RELEASE COMPLETE message, the MS shall provide the appropriate user indication (which is to be described by the manufacturer).~~

Reference(s)

GSM 04.67 section 4.2 (figure 6),
GSM 04.08 sections 3.3.1.2, 4.5.1.1, 9.1.8~~9~~, 9.2.9.

31.12.4.2 Test purpose

To check that the MS:

1. Correctly requests a supplementary service transaction for registration of eMLPP in CHANNEL REQUEST message.

2. Correctly requests a supplementary service transaction for registration of eMLPP in the subsequent CM SERVICE REQUEST.

3. Then sends a REGISTER message containing the invoke of the RegisterSS operation with the expected parameter values for registration of eMLPP default priority level.

4. Provides the appropriate user indication (as described by the manufacturer) upon receipt of the result of the operation (in a RELEASE COMPLETE message).

31.12.4.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters.

Mobile Station:
the MS is in idle mode

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).

Support eMLPP.

Way to select a priority level.

Way to initiate eMLPP registration.
Way to indicate the result of the eMLPP registration.

Foreseen Final State of the MS

"Idle, updated".

Test Procedure

By means of appropriate MMI functions (using either GSM 02.30 or manufacturer defined MMI), the user requests registration of eMLPP for a default priority level DefaultPriorityLevel arbitrarily selected.
Upon receipt of the operation (in a REGISTER message), the system simulator answers with a RELEASE COMPLETE message with the Facility information element containing the return result of the RegisterSS operation.
The SS transaction is released and the dedicated channel is released.
Then check the MS provides a correct user indication.

Maximum Duration of Test

3 min

Expected Sequence

Step	Direction	Message	Comments
1	MS		The MS is made to initiate a registration of eMLPP default priority level
2	MS -> SS	CHANNEL REQUEST	with establishment cause "Other procedures which can be completed with an SDCCH"
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	CM SERVICE REQUEST	cause: "supplementary service activation"
5	SS -> MS	CM SERVICE ACCEPT	
6	MS -> SS	REGISTER	RegisterSS(eMLPP, DefaultPriorityLevel)
7	SS -> MS	RELEASE COMPLETE	RegisterSS operation Return_result
8	MS		provide correct MMI user indication
9	SS -> MS	CHANNEL RELEASE	

Special Message Contents

REGISTER:

Information Element	value/remark
as default except:	
Facility	
invoke	RegisterSS
Supplementary service code	eMLPP
Default Priority	arbitrary

31.12.5 eMLPP Service / interrogation

31.12.5.1 Conformance requirement

For interrogation of eMLPP default priority level, the MS shall transmit successively:

1. A CHANNEL REQUEST with establishment cause set to "other services requested by the mobile user";

2. A CM SERVICE REQUEST with CM service type indicating "supplementary service activation";

3. And then the REGISTER message containing a facility IE that includes an invoke of the InterrogateSS operation with parameter values eMLPP (MMI action) (See Figure 7 of GSM 04.67 subclause 4.5).

4. ~~Upon receipt of the RELEASE COMPLETE message, the MS shall provide the appropriate user indication (which is to be described by PIXIT).~~

Reference(s)

GSM 04.67 section 4.5 (figure 7)
GSM 04.08 sections 3.3.1.2, 4.5.1.1, 9.1.9, 9.2.9.

31.12.5.2 Test purpose

To check that the MS:

1. Correctly requests a supplementary service transaction for interrogation of eMLPP in CHANNEL REQUEST message.

2. Correctly requests a supplementary service transaction for interrogation of eMLPP in the subsequent CM SERVICE REQUEST.

3. Then sends a REGISTER message containing the invoke of the InterrogateSS operation with the expected parameter values for interrogation of eMLPP default priority level.

4. Provides the appropriate user indication (as described by PIXIT) upon receipt of the result of the operation (in a RELEASE COMPLETE message).

31.12.5.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters.

Mobile Station:
the MS is in idle mode

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).

Support eMLPP.

Way to select a priority level.
Way to initiate eMLPP interrogation.
Way to indicate the result of the eMLPP interrogation.

Foreseen Final State of the MS

"Idle, updated".

Test Procedure

By means of appropriate MMI functions (using either GSM 02.30 or manufacturer defined MMI), the user requests interrogation of eMLPP.
Upon receipt of the operation (in a REGISTER message), the system simulator answers with a RELEASE COMPLETE message with the Facility information element containing the return result of the InterrogateSS operation.
The SS transaction is released and the dedicated channel is released.
Then check the MS provides a correct user indication.

Maximum Duration of Test

3 min

Expected Sequence

Step	Direction	Message	Comments
1	MS		The MS is made to initiate a interrogation of eMLPP default priority level
2	MS -> SS	CHANNEL REQUEST	with establishment cause "Other procedures which can be completed with an SDCCH"
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	CM SERVICE REQUEST	cause: "supplementary service activation"
5	SS -> MS	CM SERVICE ACCEPT	
6	MS -> SS	REGISTER	InterrogateSS(eMLPP)
7	SS -> MS	RELEASE COMPLETE	InterrogateSS operation Return_result containing SS-Status, MaximumPriorityLevel, DefaultPriorityLevel
8	MS		provide correct MMI user indication
9	SS -> MS	CHANNEL RELEASE	

Special Message Contents

REGISTER:

Information Element	value/remark
as default except: Facility invoke Supplementary service code	 InterrogateSS eMLPP

SMG7 Meeting #23
Sophia-Antipolis, France, 19-22 Oct 1999

***Document* 7-99-346**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A759	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	SMG #30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Rohde & Schwarz **Date:** 12.10.1999

Subject: HSCSD section 26.13.1.3: Authentication procedures missing.

Work item: HSCSD

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The Authentication procedures were missing in the Expected Sequence for test 26.13.1.3.2, 26.13.1.3.4, 26.13.1.3.5. Authentication is required for Ciphering.

Clauses affected: 26.13.1.3.2, 26.13.1.3.4 26.13.1.3.5

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

26.13.1.3.2 Multislot signalling / RR / Handover / successful / call under establishment / non synchronized / resource upgrading

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.2.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from non-hopping multislot configuration to non-hopping multislot configuration in the non-synchronized case during call establishment.

2) The MS shall activate the new channels that belongs to same multislot configuration correctly, taking into account upgraded resources.

3) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.4 and 9.1.15, GSM 04.13 section 5.2.6.2

26.13.1.3.2.2 Test purpose

1) To test that when the MS is ordered to make a non-synchronized handover from non-hopping multislot configuration to a non-hopping multislot configuration, it continuously sends access bursts on the main DCCH until it receives a PHYSICAL INFORMATION message from the SS.

2) To test that the MS correctly takes the values of the Timing Advance information element in the PHYSICAL INFORMATION message into account.

3) To test that the MS activates the new channels that belongs to same multislot configuration correctly, taking into account upgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

4) To test that MS correctly retransmits Layer 3 MM or CC messages, that were not acknowledged by Layer 2 before the Handover, after completion of the Handover.

26.13.1.3.2.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B with same LAI, default parameters except:
- Early classmark sending enabled in SI3 rest octets

GSM 900:

Cell A has:
- BCCH ARFCN = 20
- PLMN colour code, NCC = as defaults.
- BS colour code, BCC = as defaults.
- PLMN_PERM = 00001010.

Cell B has:
- BCCH ARFCN = 40
- PLMN colour code, NCC = 3.
- BS colour code, BCC = 0.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

DCS 1 800:

Cell A has:
- BCCH ARFCN = 747
- PLMN colour code, NCC = as defaults.
- BS colour code, BCC = as defaults.
- PLMN_PERM = 00001010.

Cell B has:
- BCCH ARFCN = 764
- PLMN colour code, NCC = 3.
- BS colour code, BCC = 0.

- The timebase of cells A and B shall be such that the edges of their timeslots are not coincident at the antenna connector.

Mobile Station:

- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A..

Related PICS/PIXIT Statements

- Support for MO calls
- Type of Mobile Station (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Supported teleservices
- Classmark change

Foreseen Final State of the MS

- "idle, updated" with a TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated on Cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS defining used multislot configuration. Mulstislot configuration with one TCH/F is allocated. MS responds with ASSIGNMENT COMPLETE message. Then the SS sends a HANDOVER COMMAND message, ordering the MS to switch to cell B. The MS shall then begin to send access bursts on the new DCCH to cell B. The SS observes the access bursts and after receiving 10-20 access bursts, the SS sends one PHYSICAL INFORMATION message with a Timing Advance as specified in table 26.13.1.3-1 of section 26.13.1.3.6. The MS shall activate the channels that belongs to same multislot configuration correctly, taking into account upgraded resources. The MS shall establish a signalling link. The MS shall be ready to transmit a HANDOVER COMPLETE message before 650 ms after the end of the PHYSICAL INFORMATION message, but not before a UA frame has been sent by the SS. The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated on cell A.
2	MS -> SS	CHANNEL REQUEST	Establ. Cause = "Originating call, NECI not set to 1
3	SS -> MS	IMMEDIATE ASSIGNMENT	See specific message contents.
4	MS -> SS	CM SERVICE REQUEST	CM Service Type = Mobile Originating Call Establishment.
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	
~~6~~8	SS -> MS	CIPHERING MODE COMMAND	
~~7~~9	MS -> SS	CIPHERING MODE COMPLETE	
~~8~~10	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
~~9~~11	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. Multislot configuration with one TCH/F is allocated. See specific message contents below.
~~10~~12	MS -> SS	ASSIGNMENT COMPLETE	
~~11~~13	SS -> MS	HANDOVER COMMAND	See specific message contents. Resource upgrading.
~~12~~14	MS -> SS	HANDOVER ACCESS	Repeated on every burst of the uplink main DCCH until reception of PHYSICAL INFORMATION. Handover Reference as included in the HANDOVER COMMAND
~~13~~15	SS -> MS	PHYSICAL INFORMATION	Sent after reception of n HANDOVER ACCESS message. Timing Advance as specified in table 26.13.1.3-1 of section 26.13.1.3.6.
~~14~~16	MS -> SS	SABM	Sent without information field.
~~15~~17	SS -> MS	UA	
~~16~~18	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 13.
~~17~~19	MS -> SS	SETUP	Same N(SD) as in step 8.
~~18~~20	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

P-GSM 900

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes non-hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Downlink assignment	Only one timeslot is allocated in downlink direction.
- Uplink assignment	Only one timeslot is allocated in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test.
Mode of the channel set X (1=<X<=8)	Appropriate for on bearer capability chosen for the test.
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	3
- Base Station Colour Code	0
- BCCH Carrier Number	40
Channel Description 2	
- Channel Type	00000
- Timeslot number	Chosen arbitrarily, but not Zero.
- Training Sequence Code	Chosen arbitrarily
- Hopping	0 (= no hopping)
- ARFCN	The ARFCN of the BCCH carrier
Synchronization Indication IE is not included.	
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	More timeslots are assigned than before HANDOVER COMMAND
- Uplink assignment	As many timeslots assigned as in Downlink assignment
- Channel set X (1=<x<=8)	Same as before HANDOVER COMMAND

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except:	
Timing advance	Arbitrarily selected but different to default value.

DCS 1 800

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes non-hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	Appropriate for the teleservice selected for the test
- Downlink assignment	Only one timeslot is allocated in downlink direction.
- Uplink assignment	Only one timeslot is allocated in uplink direction.
- Channel set X (1=<X<=8)	Appropriate for the test.
Mode of the channel set X (1=<X<=8)	Appropriate for on bearer capability chosen for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

HANDOVER COMMAND

Information Element	value/remarks
As default message contents, except:	
Cell Description	
- Network Colour Code	3
- Base Station Colour Code	0
- BCCH Carrier Number	764
Channel Description 2	
- Channel Type	00000
- Timeslot number	Chosen arbitrarily, but not Zero.
- Training Sequence Code	Chosen arbitrarily
- Hopping	0 (= no hopping)
- ARFCN	the ARFCN of the BCCH carrier
Synchronization Indication IE is not included.	
Channel Mode IE is not included.	
Description of a multislot configuration:	
- Downlink assignment	More timeslot are assigned than before HANDOVER COMMAND
- Uplink assignment	As many timeslots assigned as before HANDOVER COMMAND
- Channel set X (1=<x<=8)	Same as before HANDOVER COMMAND

PHYSICAL INFORMATION

Information Element	value/remarks
As default message contents, except:	
Timing advance	Arbitrarily selected but different to default value.

26.13.1.3.3 Multislot signalling / RR / Handover / successful / active call / finely synchronized / resource downgrading

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.3.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from multislot configuration with frequency hopping to multislot configuration without frequency hopping in the finely synchronized case when a call is in progress. Resources are downgraded in handover procedure.

References

Conformance requirement 1: GSM 04.08 sections 3.4.4, 9.1.14, 9.1.15 and 9.1.16.

26.13.1.3.3.2 Test purpose

1) To test that when the MS is ordered to make a finely synchronized handover to a synchronized cell from a hopping multislot configuration to a non-hopping multislot configuration, it sends 4 access bursts on the main DCCH and then activates the channels correctly, taking into account power command, downgraded resources and correctly calculating the timing advance to use.

2) To test the MS activates the new channels that belongs to same multislot configuration correctly, taking into account downgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.3.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B, with same LAI, default parameters, except:
- Early classmark sending enabled in SI3 rest octets- The BCCH of cell A is sent k bit periods before the BCCH of cell B. The timing advance in cell A sent to the MS is y bit periods. k and y are selected such that $0 < (2k+y) \bmod 256 < 60$.

P-GSM 900:
- Cell B has BCCH ARFCN = 40.

DCS 1 800:
- Cell B has BCCH ARFCN = 764.

Mobile Station:

-The MS is in the active state (U10) of a service using a multislot connection (on cell A). The MS is using a power level P. Where P is a power level within the supported range of that type of MS.

Related PICS/PIXIT Statements

- Support for state U10 of the Call Control protocol.
- Type of Mobile Station (P-GSM 900 or EGSM or DCS 1 800).
- Power class of Mobile Station.
- Multislot class
- Supported teleservices

Foreseen Final State of the MS

The active state (U10) of a multislot connection (on cell B).

Test Procedure

The MS is in the active state (U10) of a multislot connection on cell A. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated. The SS sends a HANDOVER COMMAND on the main DCCH In the case that the MS supports only 1 timeslot in uplink direction the HANDOVER COMMAND'S Uplink assignment shall be one timeslot. The MS shall send 4 access bursts, in 4 successive slots on the new DCCH to cell B. Then the MS shall establish a signalling link indicating the correct Timing Advance and power level and send a HANDOVER COMPLETE message.

The MS shall be "ready to transmit" a HANDOVER COMPLETE message before 650 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
0	MS, SS		The MS and SS are using a multislot configuration in hopping mode on cell A. Maximum number of channels supported by the MS in a HSCSD configuration, is allocated
1	SS -> MS	HANDOVER COMMAND	See Specific Message Contents.
2	MS -> SS	HANDOVER ACCESS	See specific message contents. Four messages.
3	MS -> SS	HANDOVER ACCESS	are transmitted to Cell B in 4 successive slots.
4	MS -> SS	HANDOVER ACCESS	on the new DCCH.
5	MS -> SS	HANDOVER ACCESS	
6	MS -> SS	SABM	Sent without information field.
7	SS -> MS	UA	
8	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 1.
9	SS		The header of the next uplink SACCH/M is examined and the Timing Advance and Power Level indications are examined. The correct timing advance shall be indicated. The power level indication shall indicate the power level used in the handover command.
10	MS, SS		The MS and SS are using a multislot configuration in non-hopping mode on cell B

Specific Message Contents

GSM 900

HANDOVER COMMAND

Information Element	value/remark
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	40
Channel Description 2	
- Channel type	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	Single RF Channel.
- ARFCN	40
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by that type of MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Description of the multislot connection	
- Uplink assignment	If possible fewer timeslots are allocated than before HANDOVER COMMAND
- Downlink assignment	Less timeslots are allocated than before HANDOVER COMMAND
- Channel set X (1=<X<=8)	Appropriate for the test

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

DCS 1 800

HANDOVER COMMAND

Information Element	value/remark
As default message contents, except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	764
Channel Description 2	
- Channel type	00000
- Timeslot Number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	Single RF Channel.
- ARFCN	764
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by that type of MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Description of the multislot connection	
- Uplink assignment	Same as before HANDOVER COMMAND or less timeslots are allocated than before HANDOVER COMMAND
- Downlink assignment	Less timeslots are allocated than before HANDOVER COMMAND
- Channel set X (1=<X<=8)	Appropriate for the test

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

26.13.1.3.4 Multislot signalling / RR / Handover / successful / call under establishment / finely synchronized / relocation of channels

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.4.1 Conformance requirements

1) The MS shall correctly apply the handover procedure from hopping, multislot configuration, finely synchronized case to hopping, multislot configuration, synchronized case during call establishment.

2) The MS shall not change number of channels in multislot configuration but the place of each channel is changed.

3) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS

shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

References

Conformance requirements: GSM 04.08 sections 3.4.4 and 9.1.15, GSM 04.13 section 5.2.6.2

26.13.1.3.4.2 Test purpose

1) To test that when the MS is ordered to make a finely synchronized handover to a synchronized cell, it sends 4 access bursts on the main DCCH and then activates the channel correctly, taking into account power command, new order of channels in multislot configuration and correctly calculating the timing advance to use. Handover is done from hopping multislot configuration to hopping multislot configuration, number of channels in multislot configuration is not changed but the place of each channel is changed.

2) To test that MS correctly retransmits Layer 3 MM or CC messages, that were not acknowledged by Layer 2 before the Handover, after completion of the Handover.

3) To verify the MS transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.4.3 Method of test

Initial Conditions

System Simulator:

- 2 cells, A and B, with same LAI, default parameters, except:
- Early classmark sending enabled in SI3 rest octets
- The BCCH of cell A is sent k bit periods before the BCCH of cell B. The timing advance in cell A sent to the MS is y bit periods. k and y are selected such that $0 < (2k + y) \bmod 256 < 60$.
- The frame numbers of cells A and B shall be different by 100.

GSM 900:

- Cell A has:
  - BCCH ARFCN = 20.
  - Cell Allocation = (10, 17, 20, 26, 34, 42, 45, 46, 52, 59, 66, 73, 74, 75, 76, 108, 114).
- Cell B has:
  - BCCH ARFCN = 40.
  - Cell Allocation = (14, 18, 22, 24, 30, 31, 38, 40, 60, 66, 73, 74, 75, 76, 108, 114).

DCS 1 800:
- Cell A has:
  - BCCH ARFCN = 747.
  - Cell Allocation = (734, 741, 747, 754, 759, 762, 766, 767, 773, 775, 779, 782, 791, 798, 829, 832, 844).
- Cell B has:
  - BCCH ARFCN = 764.
  - Cell Allocation = (739, 743, 746, 749, 756, 758, 761, 764, 771, 779, 782, 791, 798, 829, 832, 844).

Mobile Station:

- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A.

Related PICS/PIXIT Statements

- Support for state MO calls.
- Type of Mobile Station (P-GSM 900 or EGSM or DCS 1 800).
- Power class of Mobile Station.
- Multislot class.

- Supported teleservices
- Classmark change

Foreseen Final State of the MS

"Idle, updated" with TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated on cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS defining used multislot configuration. MS responds with ASSIGNMENT COMPLETE message. Then the SS sends a HANDOVER COMMAND message, ordering the MS to switch to cell B. After the handover timeslots are relocated. Timeslots are also overlapped (this is described in specific message contents). The MS shall then send 4 access bursts, in successive slots on the new DCCH to cell B. Then the MS shall establish a signalling link indicating the correct timing advance and power level (number of channels in multislot configuration is not changed but the place of each channel is changed) and send a HANDOVER COMPLETE message. The MS shall be "ready to transmit" the HANDOVER COMPLETE message before 1500 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS. The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

The term "ready to transmit" is defined in GSM 04.13.

Maximum Duration of Test

5 minutes, including 1 minute for any necessary operator actions.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated.
2	MS -> SS	CHANNEL REQUEST	Establ. Cause = "Originating call, NECI not set to 1"
3	SS -> MS	IMMEDIATE ASSIGNMENT	See Specific Message contents.
4	MS -> SS	CM SERVICE REQUEST	CM Service Type = Mobile Originating Call Establishment.
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	
~~6~~8	SS -> MS	CIPHERING MODE COMMAND	
~~7~~9	MS -> SS	CIPHERING MODE COMPLETE	
~~8~~10	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
~~9~~11	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. See specific message contents below.
~~10~~12	MS -> SS	ASSIGNMENT COMPLETE	
~~11~~13	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS. Same N(SD) as in step 8.
~~12~~14	SS -> MS	HANDOVER COMMAND	See Specific Message Contents below.
~~13~~15	MS -> SS	HANDOVER ACCESS	
~~14~~16	MS -> SS	HANDOVER ACCESS	
~~15~~17	MS -> SS	HANDOVER ACCESS	See Specific message contents.
~~16~~18	MS -> SS	HANDOVER ACCESS	Four messages are transmitted to cell B in 4 successive slots on the new DCCH.
~~17~~19	MS -> SS	SABM	Sent without information field.
~~18~~20	SS -> MS	UA	
~~19~~21	MS -> SS	HANDOVER COMPLETE	The message shall be ready to be transmitted before 1500 ms after the completion of step 12.
~~20~~22	SS		The header of the next uplink SACCH/M is examined and the Timing Advance and Power Level indications are examined. The correct timing advance shall be indicated. The power level indication shall indicate the power level used in the handover command.
~~21~~23	MS -> SS	SETUP	Same N(SD) as in step 8.
~~22~~24	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents

DCS 1 800:

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

IMMEDIATE ASSIGNMENT

Information Element	value/remark
As default message contents except:	
Channel Description	Channel Description.
- Channel Type	SDCCH/8
- TDMA offset	As default message contents.
- Timeslot number	Arbitrary value, but not zero.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Mobile Allocation.
- HSN	Chosen arbitrarily from the set. (1,2,..63).
Mobile Allocation	Indicates all of the CA of cell A except for the BCCH frequency.

HANDOVER COMMAND

Information Element	value/remark
As default message contents except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	764
Channel Description 2	
- Channel Type	00000
- TDMA offset	Chosen arbitrarily.
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency List IE.
- HSN	Zero (this gives cyclic hopping).
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by the MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Frequency List after time	
- Frequency List	Use Range 512 to encode the complete CA of Cell B.
Description of the multislot configuration	
- Downlink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Uplink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Channel set X (1=<X<=8)	Appropriate for the test.

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

GSM 900:

ASSIGNMENT COMMAND

Information element	Value/remark
Channel description 2	describes hopping Bm+ACCHs or Lm+ACCHs as appropriate for the test
Power Command	As in section 26.1.1
Frequency list	Omitted
Cell channel description	Omitted
Description of the multislot configuration	
- Uplink assignment	Appropriate for the test
- Downlink assignment	Appropriate for the test
- Channel set X (1=<X<=8)	Appropriate for the test
Mode of the channel set X (1=<X<=8)	Appropriate for the test
Description of the second channel	Omitted
Mode of the second channel	Omitted
Mobile allocation	Omitted
Starting time	Omitted
Cipher mode setting	Omitted

IMMEDIATE ASSIGNMENT

Information Element	value/remark
As default message contents except:	
Channel Description	Channel Description.
- Channel Type	SDCCH/8
- TDMA offset	As default message contents.
- Timeslot number	Arbitrary value, but not zero.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Mobile Allocation.
- HSN	Chosen arbitrarily from the set (1,2,..63).
Mobile Allocation	Indicates all of the CA of cell A except for the BCCH frequency.

HANDOVER COMMAND

Information Element	value/remark
As default message contents except:	
Cell Description	
- Network Colour Code	1
- Base Station Colour Code	5
- BCCH Carrier Number	40
Channel Description 2	
- Channel Type	00000
- TDMA offset	Chosen arbitrarily.
- Timeslot number	A suitable value for multislot configuration, chosen arbitrarily.
- Training Sequence Code	Chosen arbitrarily.
- Hopping	RF hopping channel.
- MAIO	Chosen arbitrarily from the set (0, 1 to N-1), where N is the number of frequencies encoded in the Frequency List IE.
- HSN	Zero (this gives cyclic hopping).
Handover Reference	
- Value	Chosen arbitrarily from the range (0, 1..255).
Power command	
- Power Level	Arbitrarily chosen, but different to the one already in use and within the range supported by the MS.
Synchronization Indication	
- Report Observed Time Difference	Shall not be included.
- Synchronization Indication	"Synchronized".
- Normal Cell Indication	Ignore out of range timing advance.
Frequency List after time	
- Frequency List	Use Range 512 to encode the complete CA of Cell B.
Description of the multislot configuration	
- Downlink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Uplink assignment	For Type 1 MS timeslots are shifted one position to right if timeslot 7 is not used. If timeslot 7 is used then timeslots are shifted one position to left. For type 2 MS timeslots are shifted one position to right taking into account rules of multislot capability described in 05.02 Annex B.
- Channel set X (1=<X<=8)	Appropriate for the test.

HANDOVER ACCESS

Information Element	value/remark
As default message contents except:	
Handover Reference	
- Value	Same as HANDOVER COMMAND

26.13.1.3.5 Multislot signalling / RR /Handover / successful / call under establishment / pre-synchronized / resource upgrading

If an MS does not implement the pre-synchronized handover procedure correctly then calls may fail.

If an MS does not report the observed time difference between cells correctly then pseudo synchronized handovers might not be possible for any MS.

This test is applicable to all MS that supports multislot configuration.

26.13.1.3.5.1 Conformance requirements

1) If during call establishment a Layer 3 MM or CC message just sent by the MS is not Layer 2 acknowledged before the channel change caused by the HANDOVER COMMAND message, the MS shall send the Layer 3 message to the new cell, using the same value in the N(SD) field, after the handover procedure.

2) When the Timing Advance information element is included in the HANDOVER COMMAND, the MS shall access the new cell with the timing advance included in the Timing Advance IE.

3) The MS shall be ready to transmit the HANDOVER COMPLETE message within 650 ms of the end of the HANDOVER COMMAND message.

4) When requested to do so in the HANDOVER COMMAND message, the MS shall return the Mobile Time Difference IE in the HANDOVER COMPLETE message indicating the sum of the observed time difference between the cells and the timing advance used on the old cell.

References

Conformance requirement 1: GSM 04.08, sections 3.1.4.3 and 9.1.5.
Conformance requirement 2: GSM 05.10, section 6.6, GSM 04.08 section 9.1.16.
Conformance requirement 3: GSM 04.13, section 5.2.6.1.
Conformance requirement 4: GSM 04.08, section 10.5.2.39.

26.13.1.3.5.2 Test purpose

1) To verify that when the MS is ordered to make a pre-synchronized handover from hopping multislot configuration to non-hopping multislot configuration, it sends 4 access bursts on the main DCCH and then activates the channel correctly and correctly calculates the time to transmit.

2) To test that the MS activates the new channels that belong to same multislot configuration correctly, taking into account upgraded resources and transmits the HANDOVER COMPLETE message without undue delay.

26.13.1.3.5.3 Method of test

Initial Conditions

System Simulator:
- 2 cells, A and B, with same LAI, default parameters.
- The BCCH of cell A is sent k bit periods before the BCCH of cell B.

Mobile Station:
- The MS is in the "idle, updated" state, with a TMSI allocated and camped on cell A.

Related PICS/PIXIT Statements

- Support for state MO calls.
- Type of MS (P-GSM 900 or EGSM or DCS 1 800).
- Multislot class
- Classmark change

Foreseen Final State of the MS

"Idle, updated" with TMSI allocated and camped on cell B.

Test Procedure

A Mobile Originating Call is initiated. The SS sends an IMMEDIATE ASSIGNMENT message allocating an SDCCH/4. The MS is commanded to use a timing advance of y bit periods on cell A. After the MS has sent the SETUP message (and before the last L2 frame carrying the SETUP message is acknowledged by the SS) the SS sends ASSIGNMENT COMMAND message to MS specifying used multislot configuration. MS responds by sending ASSIGNMENT COMPLETE message to SS. Then the SS sends a HANDOVER COMMAND, ordering the MS to switch to cell B. The MS shall then send 4 access bursts, at the commanded power level, in 4 successive slots of the new DCCH to cell B. Then the MS shall establish a signalling link using the correct timing advance and send a HANDOVER COMPLETE message. The MS shall be ready to transmit the HANDOVER COMPLETE message before 650 ms after the end of the HANDOVER COMMAND message, but not before a UA frame has been sent by the SS.

The term "ready to transmit" is defined in GSM 04.13.

The MS shall then again send the SETUP message to the SS, using the same value in the N(SD) field. Finally the SS sends a CHANNEL RELEASE to end the test.

Maximum Duration of Test

20 seconds.

Expected Sequence

Step	Direction	Message	Comments
1	--------	--------	An MO call is initiated.
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	to an SDCCH/4.
4	MS -> SS	CM SERVICE REQUEST	
5	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	
~~6~~8	SS -> MS	CIPHERING MODE COMMAND	
~~7~~9	MS -> SS	CIPHERING MODE COMPLETE	
~~8~~10	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS.
~~9~~11	SS -> MS	ASSIGNMENT COMMAND	Multislot configuration is sent to MS. Multislot configuration shall not have the maximum number of timeslots allocated. See specific message contents below.
~~10~~12	MS -> SS	ASSIGNMENT COMPLETE	
~~11~~13	MS -> SS	SETUP	Last L2 frame not acknowledged by the SS. Same N(SD) as in step 8.
~~12~~14	SS -> MS	HANDOVER COMMAND	See specific message contents below.
~~13~~15	MS -> SS	HANDOVER ACCESS	Handover Reference as included in the HANDOVER COMMAND
~~14~~16	MS -> SS	HANDOVER ACCESS	
~~15~~17	MS -> SS	HANDOVER ACCESS	
~~16~~18	MS -> SS	HANDOVER ACCESS	
~~17~~19	MS -> SS	SABM	Sent without information field.
~~18~~20	SS -> MS	UA	
~~19~~21	MS -> SS	HANDOVER COMPLETE	This message shall be ready to be transmitted before 650 ms after the completion of step 12. Shall include the Mobile Time Difference IE with value (2k+y) mod 2,097,152 half bit periods. A tolerance of ±2 half bit periods is allowed.
~~20~~22	MS -> SS	SETUP	Same N(SD) as in step 8
~~21~~23	SS	-	The SS checks that the timing advance reported in the layer 1 header of the SACCH/M message that is sent in the first SACCH/M multiframe following the SABM is 9 bit periods.
~~22~~24	SS -> MS	CHANNEL RELEASE	The main signalling link is released.

SMG7 Meeting #23
Sophia Antipolis, France, 19-22 October 1999

***Document* 7-99-351**

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A763	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30 *list expected approval meeting # here ↑*	for approval	X	Strategic		*(for SMG Use only)*
	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Mannesmann Mobilfunk GmbH **Date:** 19.10.1999

Subject: Update of table “Applicability of Tests” in Section 3.2.2, Directed Retry Tests

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: New tests for Directed Retry have been introduced in sections 26.9.7, 26.8.8, 26.12.6 and 26.12.7 of GSM 11.10. The table for the applicability of tests in section 3.2.2 of GSM 11.10 needs to be updated accordingly.

Clauses affected: Section 3.2.2 of GSM 11.10

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.8.1.4.5.4	In-call functions / MS originated in-call modification / an abnormal case of rejection	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.5	In-call functions / MS originated in-call modification / time-out of timer T323	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.6	In-call functions / MS originated in-call modification / a successful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.7	In-call functions / MS originated in-call modification / an unsuccessful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.8	In-call functions / MS originated in-call modification / unknown message received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.9	In-call functions / MS originated in-call modification / a release complete received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.2.1	Call Re-establishment/call present, re-establishment allowed	MS supporting at least one bearer capability
26.8.2.2	Call Re-establishment/call present, re-establishment not allowed	MS supporting at least one MO circuit switched basic service
26.8.2.3	Call Re-establishment/call under establishment, transmission stopped	MS supporting at least one MO circuit switched basic service
26.8.3	User to user signalling	MS supporting at least one MT circuit switched basic service
26.9.2	Structured procedures / MS originated call / early assignment	MS supporting at least one MO teleservice
26.9.3	Structured procedures / MS originated call / late assignment	MS supporting at least one MO teleservice
26.9.4	Structured procedures / MS terminated call / early assignment	MS supporting at least one MT basic service
26.9.5	Structured procedures / MS terminated call / late assignment	MS supporting at least one MT teleservice
26.9.7	Directed Retry / Mobile Originated Call	MS supporting at least one MO circuit switched basic service
26.9.8	Directed Retry / Mobile Terminated Call	MS supporting at least one MT circuit switched basic service
26.9.6.1.1	Structured procedures / emergency call / idle updated / preferred channel rate	MS supporting speech
26.9.6.1.2	Structured procedures / emergency call / idle updated, non-preferred channel rate	MS supporting half-rate speech
26.9.6.2.1	Structured procedures / emergency call / idle, no IMSI / accept case	MS supporting speech
26.9.6.2.2	Structured procedures / emergency call / idle, no IMSI / reject case	MS supporting speech
26.10.2.1	E-GSM or R-GSM signalling / RR / Measurement	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.2	E-GSM or R-GSM signalling / RR / Immediate assignment	MS supporting E-GSM or R-GSM
26.10.2.3	E-GSM or R-GSM signalling / RR / channel assignment procedure	MS supporting E-GSM or R-GSM
26.10.2.4.1	E-GSM or R-GSM signalling / RR / Handover / Successful handover	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.4.2	E-GSM or R-GSM signalling / RR / Handover / layer 1 failure	MS supporting E-GSM or R-GSM and supporting CC-state U10
26.10.2.5	E-GSM or R-GSM signalling / RR / Frequency Redefinition	MS supporting E-GSM or R-GSM

(continued)

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.10.3.1	E-GSM or R-GSM signalling / Structured procedure / Mobile originated call	MS supporting E-GSM or R-GSM and supporting at least one MO teleservice
26.10.3.2	E-GSM or R-GSM signalling / Structured procedures / emergency call	MS supporting E-GSM or R-GSM and supporting speech
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	MS supporting simultaneous multiband operation
26.11.2.2.1	Multiband signalling / RR / Handover / successful / active call / non-synchronized	MS supporting simultaneous multiband operation and supporting TCH/F and supporting CC-state U10
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	MS supporting simultaneous multiband operation and supporting CC-state U10
26.11.2.3	Multiband signalling / RR / Measurement reporting	MS supporting simultaneous multiband operation and supporting CC protocol for at least one Bearer Capability
26.11.3.1.1	Multiband signalling / MM / Location updating / accepted	MS supporting simultaneous multiband operation
26.11.3.1.2	Multiband signalling / MM / Location updating / periodic	MS supporting simultaneous multiband operation
26.11.5.1	Multiband signalling / Structured procedures / MS originated call / early assignment	MS supporting simultaneous multiband operation and supporting at least one MO teleservice
26.11.5.2	Multiband signalling / Structured procedures / MS terminated call / late assignment	MS supporting simultaneous multiband operation and supporting at least one MT teleservice
26.12.1	EFR signalling / test of the channel mode modify procedure	MS supporting EFR speech
26.12.2.1	EFR signalling / Handover / active call / successful case	MS supporting EFR speech
26.12.2.2	EFR signalling / Handover / successful / call under establishment / non-synchronized	MS supporting EFR speech
26.12.3	EFR signalling / Structured procedures / MS originated call / late assignment	MS supporting EFR speech
26.12.4	EFR signalling / Structured procedures / MS terminated call / early assignment	MS supporting EFR speech
26.12.5	EFR signalling / Structured procedures / emergency call	MS supporting EFR speech
26.12.6	EFR Signalling / Directed Retry / Mobile Originated Call	MS supporting EFR speech
26.12.7	EFR Signalling / Directed Retry / Mobile Terminated Call	MS supporting EFR speech
26.13.1.1.1	Multislot signalling / RR / Measurement symmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.2	Multislot signalling / RR / Measurement asymmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.3	Multislot signalling / RR / Measurement asymmetric/Change of the reported subchannel	MS supporting Multislot class and state of multislot connection
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.

(continued)

3GPP/SMG7 Meeting #23
Nice, France, 19-22 Oct 1999

***Document* 7-99-361**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A767	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	#30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Nokia **Date:** 20-Oct-99

Subject: Test 27.21.3: Clarification of test procedure and expected sequence

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The cause value of the Disconnect message has not been defined

Clauses affected:

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments: Ref GSM04.86 ch2.3

2.3 Accumulated Call Meter is equal to or greater than ACMmax

If the change stored in the Accumulated Call Meter (ACM) is equal to or greater than the maximum value specified by ACMmax, then the mobile station shall initiate call clearing giving a specific cause value for this situation as indicated in figure 2.5.

MS Network

DISCONNECT

---------->

....Cause #68 (ACM equal to or greater than ACMmax)....

Figure 2.5: Mobile station releases the call due to ACM being equal to or greater than ACMmax

27.21.3 Call terminated when ACM greater than ACMmax

27.21.3.1 Definition and applicability

ACMmax gives the maximum value of ACM, at which the current calls shall be terminated and no further charged calls may be made (except emergency calls).
This test applies to all ME supporting AoCC.

27.21.3.2 Conformance requirement

ACM shall be incremented by the value of CCM.
If the ACMmax is valid, and the ACM becomes equal to or exceeds the value of the ACMmax, then all calls in progress, chargeable to the user, shall be terminated by the MS with cause value #68, once the chargeable interval determined by the CAI has elapsed, (except emergency calls).
Reference:

GSM 02.24, section 4.3 part h and section 4.2.2.
GSM 04.86, section 2.3

27.21.3.3 Test purpose

1. To verify that the ME increments the ACM by the correct number of units, even though this may take ACM above ACMmax.

2. To verify that the ME terminates the call with cause value #68.

27.21.3.4 Method of test

27.21.3.4.1 Initial conditions

The ME shall be connected to a SIM or the SIM simulator, with all elementary files coded as default with the exception of:
EF_{SST} (SIM Service Table)

Logically: CHV1 disable function allocated and activated.
Abbreviated dialling numbers allocated and activated.
PLMN selector allocated and activated.
Fixed dialling numbers not activated.
AoC allocated and activated.

Coding:	B1	B2		B3	B4
	xx0x1111	0011xx11	xxxxxxxx	0000xxxx (binary)	

The coding of EF_{SST} shall conform with the capabilities of the SIM used.

EF_{ACM} (Accumulated call meter)

Logically: 80 units

EF_{ACMmax} (Accumulated call meter maximum)

Logically: 94 units

System Simulator:

1 cell, default parameters, IMSI attach/detach disabled.

Mobile Station:

The MS is in MM-state "idle, updated".

27.21.3.4.2 Procedure

a) The MS is made to initiate a call. The call is established with AoCC e-parameters sent in a Facility IE in the CONNECT message, as given below. The MS returns the AoCC acknowledgement within 1 second of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the MS before or after the CONNECT ACKNOWLEDGE.

b) The call is maintained until cleared by the MS (after 30 seconds) with cause value #68.

c) The contents of ACM are checked.

Maximum Duration of Test:

2 minutes.

Expected Sequence:

Step	Direction	Message	Comments
1	MS		The MS is made to initiate a call
2	MS -> SS	CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	CM SERVICE REQUEST	
5	SS -> MS	CM SERVICE ACCEPT	
6	MS -> SS	SETUP	
7	SS -> MS	CALL PROCEEDING	
8	SS -> MS	ASSIGNMENT COMMAND to a supported channel type	
9	MS -> SS	ASSIGNMENT COMPLETE	
10	SS -> MS	ALERTING	
11	SS -> MS	CONNECT	As default message except contains Facility IE with contents as indicated in i below
			Either A or B branch is taken
A12	MS -> SS	CONNECT ACKNOWLEDGE	
A13	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
B12	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
B13	MS -> SS	CONNECT ACKNOWLEDGE	
14			call duration 30 seconds after CAI information sent by SS
15	MS -> SS	DISCONNECT	Cause value #68
16	SS -> MS	RELEASE	
17	MS -> SS	RELEASE COMPLETE	
18	MS -> SS	CHANNEL RELEASE	The main signalling link is released.

3GPP/SMG7 Meeting #23
Nice, France, 19-22 Oct 1999

Document 7-99-362
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A771	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	#30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Nokia **Date:** 20-Oct-99

Subject: Test 31.6.2.4: Clarification of test procedure and expected sequence

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The cause value of the Disconnect message has not been defined

Clauses affected:

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments: Ref GSM04.86 ch2.3

2.3 Accumulated Call Meter is equal to or greater than ACMmax

If the change stored in the Accumulated Call Meter (ACM) is equal to or greater than the maximum value specified by ACMmax, then the mobile station shall initiate call clearing giving a specific cause value for this situation as indicated in figure 2.5.

MS Network

DISCONNECT

---------->

....Cause #68 (ACM equal to or greater than ACMmax)....

Figure 2.5: Mobile station releases the call due to ACM being equal to or greater than ACMmax

31.6.2.4 ACMmax operation / Mobile Originating

Purpose:

1) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, any outgoing calls in progress for which a non-zero CAI exists are terminated by the ME, with cause value #68 once the chargeable interval determined by the CAI has elapsed, with an appropriate indication given to the user.

2) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the making of non-emergency calls is inhibited.

3) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the making of emergency calls is uninhibited.

Conformance Requirement(s):

1) When the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, any outgoing calls in progress for which a non-zero CAI exists shall be terminated by the ME with cause value #68, once the chargeable interval determined by the CAI has elapsed, with an appropriate indication given to the user.

2) When the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the making of further non-emergency calls shall be inhibited.

3) When the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the making of emergency calls shall be uninhibited.

Reference(s):

Conformance requirement 1: GSM 02.24, GSM 04.86 section 2.3
Conformance requirement 2: GSM 02.24.
Conformance requirement 3: GSM 02.24.

Related PICS/PIXIT Statement(s):

- Support of AoCC.
- Supported rates (full rate/half rate).
- Method of reading ACM from the SIM via the ME.
- Type of user indication when ACMmax exceeded.
- Supported teleservices.
- Support for active state of the call control protocol (U10).

Initial Conditions:

System Simulator:

1 cell, default parameters, IMSI attach/detach disabled.

Mobile Station:

The MS is in MM-state "idle, updated".

PIN 2 is entered into the MS allowing modification of both the ACM and ACMmax fields on the SIM. The ACM is reset to zero and the ACMmax is set to 2 units.

Foreseen Final State of the MS:

The MS is in MM-state "idle, updated".
Method of Test:

The MS is made to initiate a call. The call is established with certain AoCC non-zero e-parameters sent in a Facility IE in the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent before or after the CONNECT ACKNOWLEDGE.
After the ACM has been incremented to 2 units (60 s) the call shall be terminated by the MS once an additional chargeable interval of 30s has elapsed, and an indication given to the user. The call duration is recorded and the ACM is checked to ensure it has been incremented to 2 units.

The MS is then made to attempt to originate an ordinary call to the MS for which a non-zero CAI exists for the calling party and shall be unsuccessful. The MS shall not send a CHANNEL REQUEST for that call.
The MS is then made to attempt to originate an emergency call and shall be successful.

Maximum Duration of Test:

10 minutes.

Expected Sequence:

Step	Direction	Message	Comments
0			At start of test only, read and note value of ACM on SIM (it shall be zero)
			For k= 1
A1	MS		The MS is made to initiate an ordinary call
A2	MS -> SS	CHANNEL REQUEST	
A3	SS -> MS	IMMEDIATE ASSIGNMENT	
A4	MS -> SS	CM SERVICE REQUEST	
A5	SS -> MS	CM SERVICE ACCEPT	
A6	MS -> SS	SETUP	
A7	SS -> MS	CALL PROCEEDING	
A8	SS -> MS	ASSIGNMENT COMMAND	to a supported channel type
A9	MS -> SS	ASSIGNMENT COMPLETE	
A10	SS -> MS	ALERTING	
A11	SS -> MS	CONNECT	As default message except contains Facility IE with contents as indicated in I below
			For k = 3
B1	MS		The MS is made to initiate an emergency call (112 is entered)
B2	MS -> SS	CHANNEL REQUEST	Establishment cause is emergency call establishment
B3	SS -> MS	IMMEDIATE ASSIGNMENT	
B4	MS -> SS	CM SERVICE REQUEST	CM service type IE indicates "emergency call establishment"
B5	SS -> MS	CM SERVICE ACCEPT	
B6	MS -> SS	EMERGENCY SETUP	
B7	SS -> MS	CALL PROCEEDING	
B8	SS -> MS	ASSIGNMENT COMMAND	to a supported channel type
B9	MS -> SS	ASSIGNMENT COMPLETE	
B10	SS -> MS	ALERTING	
B11	SS -> MS	CONNECT	As default message except contains Facility IE with contents as indicated in i below For k=1 or 3 either branch C or D is taken
C12	MS -> SS	CONNECT ACKNOWLEDGE	
C13	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
D12	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
D13	MS -> SS	CONNECT ACKNOWLEDGE	
			For k=1
L14			Record call duration, x seconds, after CAI information sent by SS until call is terminated by the ME
L15	MS -> SS	DISCONNECT	Cause value #68
L16	SS -> MS	RELEASE	
L17	MS -> SS	RELEASE COMPLETE	
L18	SS -> MS	CHANNEL RELEASE	The main signalling link is released.
L19			ACM checked (shall be 2 units)
			For k=3
M14			Call duration y seconds after CAI information sent by SS
M15	MS -> SS	DISCONNECT	
M16	SS -> MS	RELEASE	
M17	MS -> SS	RELEASE COMPLETE	
M18	SS -> MS	CHANNEL RELEASE	The main signalling link is released.
M19			ACM checked (shall be 2 units)

k=1 - Non zero CAI call attempted by MS and should succeed.

k=2 - Non zero CAI call attempted by MS and should fail.

k=3 - Emergency call attempted by MS and should succeed.

NOTE: The values of x and y are given below.

The correct value of the ACM is found from the general AOC formula given in GSM 02.24 section 4 with CDUR = x,y seconds and e parameters as defined below.

3GPP/SMG7 Meeting #23
Nice, France, 19-22 Oct 1999

***Document* 7-99-363**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A775	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	#30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Nokia **Date:** 20-Oct-99

Subject: Test 31.6.2.5: Clarification of test procedure and expected sequence

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The cause value of the Disconnect message has not been defined

Clauses affected:

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments: Ref GSM04.86 ch2.3

2.3 Accumulated Call Meter is equal to or greater than ACMmax

If the change stored in the Accumulated Call Meter (ACM) is equal to or greater than the maximum value specified by ACMmax, then the mobile station shall initiate call clearing giving a specific cause value for this situation as indicated in figure 2.5.

MS Network

DISCONNECT

---------->

....Cause #68 (ACM equal to or greater than ACMmax)....

Figure 2.5: Mobile station releases the call due to ACM being equal to or greater than ACMmax

31.6.2.5 ACMmax operation / Mobile Terminating

Purpose:

1) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, any mobile terminating calls in progress for which a non-zero CAI exists are terminated by the ME, with cause value #68 once the chargeable interval determined by the CAI has elapsed, with an appropriate indication given to the user.

2) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, and an incoming call is received for which subsequently a non-zero CAI is received, then the call is terminated by the ME using cause value #68 with an appropriate indication given to the user.

3) To verify that when the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the receiving of calls for which the CAI is zero is uninhibited.

Conformance Requirement(s):

1) When the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, any mobile terminating calls in progress for which a non-zero CAI exists shall be terminated by the ME with cause value #68, once the chargeable interval determined by the CAI has elapsed, with an appropriate indication given to the user.

2) When the value stored in the ACM becomes equal to or exceeds its maximum value, the ACMmax, and an incoming call is received for which subsequently a non-zero CAI is received, the call shall be terminated by the ME using cause value #68 with an appropriate indication given to the user.

3) When the value stored in the ACM becomes equal to or exceeds its maximum limit, the ACMmax, the receiving of calls for which the CAI is zero shall be uninhibited.

Reference(s):

Conformance requirement 1: GSM 02.24, GSM 04.86 section 2.3
Conformance requirement 2: GSM 02.24, GSM 04.86 section 2.3
Conformance requirement 2: GSM 02.24.

Related PICS/PIXIT Statement(s):

- Support of AoCC.
- Supported rates (full rate/half rate).
- Method of reading ACM from the SIM via the ME.
- Type of user indication when ACMmax exceeded.
- Supported teleservices.
- Support for active state of the call control protocol (U10).

Initial Conditions:

System Simulator:
1 cell, default parameters, IMSI attach/detach disabled.

Mobile Station:
The MS is in MM-state "idle, updated".

PIN 2 is entered into the MS allowing modification of both the ACM and ACMmax fields on the SIM. The ACM is reset to zero and the ACMmax is set to 2 units.

Foreseen Final State of the MS:

The MS is in MM-state "idle, updated".
Method of Test:

The SS is made to initiate a call. The call is established with certain non-zero AoCC e-parameters sent in a Facility IE contained in a FACILITY message sent before the CONNECT message. It is an implementation option whether the AoCC e-parameters and AoCC acknowledge are sent before or after the CONNECT ACKNOWLEDGE.

After the ACM has been incremented to 2 units (60s) the call shall be terminated by the MS once an additional chargeable interval of 30s has elapsed and an indication given to the user. The ACM shall be checked to ensure that it has been incremented to 2 units.
The SS is then made to attempt to make an ordinary call to the MS for which a non-zero CAI exists for the called party and shall be unsuccessful. The MS shall terminate the call with a DISCONNECT message.
The SS is then made to attempt to make an ordinary call to the MS for which a zero CAI exists for the called party and shall be successful.

Maximum Duration of Test:

10 minutes.

Expected Sequence:

The sequence step 1-20 is executed for execution counter k = 1,...,3..

Step	Direction	Message	Comments
0			At start of test only, read and note value of ACM on SIM
1	SS		The SS is made to initiate a call
2	SS -> MS	PAGING REQUEST	
3	MS -> SS	CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	PAGING RESPONSE	
6	SS -> MS	SETUP	
7	MS -> SS	CALL CONFIRMED	
8	SS -> MS	ASSIGNMENT COMMAND	to a supported channel type
9	MS -> SS	ASSIGNMENT COMPLETE	
10	MS -> SS	ALERTING	
11	MS -> SS	CONNECT	
12	SS -> MS	CONNECT ACKNOWLEDGE	
			For k=1 or 3 branch A is taken
A13	SS -> MS	FACILITY	As default message except contains Facility IE with contents as indicated in i below
A14	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
			For k=2 branch B, and then either branch C, D or E is taken
B13	SS -> MS	FACILITY	As default message except contains Facility IE with contents as indicated in i below
C13	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
C14	MS -> SS	DISCONNECT	MS terminates call with cause value #68
D13	MS -> SS	DISCONNECT	MS terminates call with cause value #68
D14	MS -> SS	FACILITY	As default message except contains Facility IE with contents as indicated in ii below
E13	MS -> SS	DISCONNECT	MS terminates call with cause value #68. DISCONNECT may or may not contain Facility IE with contents as indicated in ii below
			For k= 1, 2 and 3, F, G and branch shall be taken respectively
F15			For k=1 Record call duration, x seconds, after CAI information sent by SS until call is terminated by the ME
F16	MS -> SS	DISCONNECT	MS terminates call with cause value #68
F17	SS -> MS	RELEASE	
F18	MS -> SS	RELEASE COMPLETE	
F19	SS -> MS	CHANNEL RELEASE	The main signalling link is released.
			For k=2
G15	SS -> MS	RELEASE	
G16	MS -> SS	RELEASE COMPLETE	RELEASE COMPLETE may or may not contain Facility IE with contents as indicated in ii below
G17	SS -> MS	CHANNEL RELEASE	The main signalling link is released.
H15			For k=3 Call duration y seconds after CAI information sent by SS
H16	MS -> SS	DISCONNECT	MS terminates call
H17	SS -> MS	RELEASE	
H18	MS -> SS	RELEASE COMPLETE	
H19	SS -> MS	CHANNEL RELEASE	The main signalling link is released.
20			ACM checked (should be 2 units)

k=1 - Non zero CAI call attempted to MS and should succeed.
k=2 - Non zero CAI call attempted to MS and should fail.
k=3 - Zero CAI call attempted to MS and should succeed.

NOTE: The values of x and y are given below.

The correct value of the ACM is found from the general AOC formula given in GSM 02.24 section 4 with CDUR = x,y seconds and e parameters as defined below.

SMG7 Meeting #23
Sophia Antipolis, France, 19-22 October 1999

Document 7-99-369

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A779	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: SMG #30	for approval	X	Strategic		*(for SMG Use only)*
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Mannesmann Mobilfunk GmbH **Date:** 19.10.1999

Subject: Update of table “Applicability of Tests” in Section 3.2.2, deletion of test case 26.12.2.2

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: The test case 26.12.2.2 “EFR signalling / Handover / successful / call under establishment / non-synchronized” of GSM 11.10-1 has been deleted. The table for the applicability of tests in section 3.2.2 of GSM 11.10-1 needs to be updated accordingly.

Clauses affected: Section 3.2.2 of GSM 11.10-1

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

Table 3.1 (continued): Applicability of tests

Clause	Title	Applicability
26.10.3.1	E-GSM or R-GSM signalling / Structured procedure / Mobile originated call	MS supporting E-GSM or R-GSM and supporting at least one MO teleservice
26.10.3.2	E-GSM or R-GSM signalling / Structured procedures / emergency call	MS supporting E-GSM or R-GSM and supporting speech
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	MS supporting simultaneous multiband operation
26.11.2.2.1	Multiband signalling / RR / Handover / successful / active call / non-synchronized	MS supporting simultaneous multiband operation and supporting TCH/F and supporting CC-state U10
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	MS supporting simultaneous multiband operation and supporting CC-state U10
26.11.2.3	Multiband signalling / RR / Measurement reporting	MS supporting simultaneous multiband operation and supporting CC protocol for at least one Bearer Capability
26.11.3.1.1	Multiband signalling / MM / Location updating / accepted	MS supporting simultaneous multiband operation
26.11.3.1.2	Multiband signalling / MM / Location updating / periodic	MS supporting simultaneous multiband operation
26.11.5.1	Multiband signalling / Structured procedures / MS originated call / early assignment	MS supporting simultaneous multiband operation and supporting at least one MO teleservice
26.11.5.2	Multiband signalling / Structured procedures / MS terminated call / late assignment	MS supporting simultaneous multiband operation and supporting at least one MT teleservice
26.12.1	EFR signalling / test of the channel mode modify procedure	MS supporting EFR speech
26.12.2.1	EFR signalling / Handover / active call / successful case	MS supporting EFR speech
~~26.12.2.2~~	~~EFR signalling / Handover / successful / call under establishment / non-synchronized~~	~~MS supporting EFR speech~~
26.12.3	EFR signalling / Structured procedures / MS originated call / late assignment	MS supporting EFR speech
26.12.4	EFR signalling / Structured procedures / MS terminated call / early assignment	MS supporting EFR speech
26.12.5	EFR signalling / Structured procedures / emergency call	MS supporting EFR speech
26.13.1.1.1	Multislot signalling / RR / Measurement symmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.2	Multislot signalling / RR / Measurement asymmetric	MS supporting Multislot class and state of multislot connection
26.13.1.1.3	Multislot signalling / RR / Measurement asymmetric/Change of the reported subchannel	MS supporting Multislot class and state of multislot connection
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.

(continued)

ETSI SMG7 #23
Sophia
19-22, October 1999

Tdoc 7-99-370 (rev.325)

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

GSM 11.10-1	CR	A782	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [ ]

Source: MCC STF 61V **Date:** 13/10/99

Subject: Correction of test prose 31.12.1 - eMLPP Service / priority level of MO call

Work item: REN/SMG-071110Q6R1-1

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release	X		Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				Release 00	

Reason for change: Due to improvement of GSM 04.67 and GSM 03.67, the requirements have been changed. It leads to the modification of the test purposes and the test procedures for the establishment of a normal, an emergency and a group call.

Clauses affected: 31.12.1

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

31.12.1 eMLPP Service / priority level of MO call

31.12.1.1 Conformance requirement

For the MS supporting MO calls:

1. Mobile stations indicate the priority of their call in the signalling that takes place during the call establishment process.~~When user selects priority level for normal MO call, the priority level shall be indicated in the signalling message.~~

2. The MS shall verify the selected priority level against the priority levels stored in the SIM. If the selected priority is not allowed, then the priority of the call shall be modified to that of the nearest allowed priority level below the requested level.

3. In case of no priority selection or use of a non-compatible Mobile Station the Mobile Station shall send a standard service request message.~~If the user does not select a priority level, the priority level shall not be indicated in the signalling message.~~

4. ~~If a priority selection is performed by the user the MS shall provide the priority level information element in L3-MM CM SERVICE REQUEST message when a group call is initiated~~ Signalling information required for the prioritisation at mobile originating call establishment. (see figure 1 of GSM 04.67 subclause 4.1.1) and Signalling information between the network and the calling mobile station required for the prioritisation in case of a VGCS or VBS call (figure 4 of GSM 04.67 subclause 4.1.4).

5. The user or the network may wish to omit or postpone authentication and ciphering in order to provide for a faster call set-up.

Reference(s)

GSM 03.67 section ~~4, 5, 6,~~ 11.3.1.1., 11.3.1.2, 11.6, 11.3.1.3

GSM 02.67 section 4.

GSM 04.67 section 4.1.1, 4.1.4

31.12.1.2 Test purpose

For the MS supporting MO, to verify that:

1. When user selects priority level for normal MO call, the priority level is indicated in the signalling message.

2. The MS verifies the selected priority level against the priority levels stored in the SIM. If the selected priority is not allowed, then the priority of the call shall be modified to that of the nearest allowed priority level below the requested level.

3. If the user does not select a priority level, the priority level is not indicated in the signalling message.

4. If a priority selection is performed by the user the MS provides the priority level information element in L3-MM CM SERVICE REQUEST message when a group call is initiated.

5. The mobile is able to establish a normal MO call with a priority level or a group call with a priority level according to the procedure specified in GSM 04.67 subclause 4.1.1 and the procedure in GSM 04.67 subclause 4.1.4.

6. The mobile is able to initiate a fast call set-up without authentication and ciphering.

31.12.1.3 Method of test

Initial Conditions

System Simulator:
1 cell with default parameters.

Mobile Station:
The MS is in idle mode with SIM in which the available priority levels are level 2, level 3, and level 4

Related PICS/PIXIT Statement(s)

Type of MS (P-, E-, R-GSM 900 or DCS 1800).

Support mobile originating call.
Support mobile emergency call (TS12).
Support VGCS originating.
Support VBS originating.
Support eMLPP.

Way to select a priority level.

Foreseen Final State of the MS

"Idle, updated".

Test Procedure

The test steps 1 to 26~~7~~ are repeated for k=1, 2, 3.~~,~~ After the repetition is finished the steps 27 to 71 are performed.
The test steps 1 to 7 are performed if the mobile station supports normal MO call. The steps 8 to 13 are executed if the MS supports TS12. The test steps 20 to step 26 are executed for k= 1, 2, 3, if the mobile station supports VGCS/VBS originating.

An allowed priority level (level 3) or a priority level (level 1) higher than allowed level or no priority level is selected by MMI action (for k=1, 2, 3 respectively). An MO call is attempted. It is checked that the MS indicates the selected priority level (for k=1) or the nearest allowed priority level below the selected level (for k=2) or no priority level (for k=3) in the signalling message.

A normal MO call is attempted with an allowed priority level (level 3). It is checked that the MS establishes completely this call.

If the mobile station supports VGCS/VBS originating a VGCS/VBS call is initiated via the MMI by using the SETUP procedure.

A MO VGCS/VBS call is attempted with the allowed priority level 0. It is checked that the MS establishes completely this call using the immediate setup procedure without authentication and ciphering.

Maximum Duration of Test

5 minutes

Expected Sequence

~~The sequence is executed for k=1, 2, 3~~

Step	Direction	Message	Comments
1	MS		for k=1, MMI action to select a priority level 3 for k=2, MMI action to select a priority level 0 for k=3, no MMI action to select priority level
2	MS		to initiate a normal MO call
3	MS -> SS	CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	CM SERVICE REQUEST	for k=1, containing priority IE with the selected priority for k=2, containing priority IE with a priority level nearest allowed priority level below the requested one (level 2) for k=3, containing no priority IE
6	SS -> MS	CM SERVICE REJECT	
7	SS -> MS	CHANNEL RELEASE	
8	MS		to initiate a normal MO emergency call
9	MS -> SS	CHANNEL REQUEST	
10	SS -> MS	IMMEDIATE ASSIGNMENT	
11	MS -> SS	CM SERVICE REQUEST	for k=1, containing priority IE with the selected priority for k=2, containing priority IE with a priority level nearest allowed priority level below the requested one (level 2) for k=3, containing no priority IE
12	SS -> MS	CM SERVICE REJECT	
13	SS -> MS	CHANNEL RELEASE	
20	MS		for k=1, MMI action to select a priority level 3 for k=2, MMI action to select a priority level 0 for k=3, no MMI action to select priority level
21	MS		to initiate a VGCS call by setup procedure, if supporting VGCS originating. to initiate a VBS call by setup procedure, if supporting only VBS originating.
22	MS -> SS	CHANNEL REQUEST	
23	SS -> MS	IMMEDIATE ASSIGNMENT	
24	MS -> SS	CM SERVICE REQUEST	for k=1, containing priority IE with the selected priority for k=2, containing priority IE with a priority level nearest allowed priority level below the requested one (level 2) for k=3, containing no priority IE
25	SS -> MS	CM SERVICE REJECT	
26	SS -> MS	CHANNEL RELEASE	
27	MS		MMI action to select a priority level 3
28	MS		initiate a normal MO call
29	MS -> SS	CHANNEL REQUEST	
30	SS -> MS	IMMEDIATE ASSIGNMENT	
31	MS -> SS	CM SERVICE REQUEST	containing priority IE with a priority level nearest allowed priority level below the requested one (level 3)
32	SS -> MS	AUTHENTICATION REQUEST	

33	MS -> SS	AUTHENTICATION RESPONSE	
34	SS -> MS	CIPHERING MODE COMMAND	no ciphering
35	MS -> SS	CIPHERING MODE COMPLETE	
36	MS -> SS	SETUP	
37	SS -> MS	CALL PROCEEDING	
38	SS -> MS	ASSIGNMENT COMMAND	
39	MS -> SS	ASSIGNMENT COMPLETE	
40	SS -> MS	ALERTING	
41	SS -> MS	CONNECT	
42	MS -> MS	CONNECT ACKNOWLEDGE	
43	SS -> MS	DISCONNECT	
44	MS -> SS	RELEASE	
45	SS -> MS	RELEASE COMPLETE	
46	SS -> MS	CHANNEL RELEASE	
			Steps 47 – 71 are performed if the MS supports VGCS/VBS originating
47	MS		MMI action to select a priority level 3 and initiate a VGCS/VBS call by setup procedure
49	MS -> SS	CHANNEL REQUEST	
50	SS -> MS	IMMEDIATE ASSIGNMENT	
51	MS -> SS	CM SERVICE REQUEST	containing priority IE with a priority level nearest allowed priority level below the requested one (level 3)
52	SS -> MS	AUTHENTICATION REQUEST	
53	MS -> SS	AUTHENTICATION RESPONSE	
54	SS -> MS	CIPHERING MODE COMMAND	no ciphering
55	MS -> SS	CIPHERING MODE COMPLETE	
56	MS -> SS	SETUP	
57	SS -> MS	CHANNEL MODE MODIFY	
58	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
59	SS -> MS	CONNECT	
60	SS		Verify that TCH is through connected
61	SS -> MS	TERMINATION	
62	SS -> MS	CHANNEL RELEASE	
63	MS		MMI action to select a priority level 0, MMI action to initiate VGCS/VBS call.
64	MS -> SS	CHANNEL REQUEST	
65	SS -> MS	IMMEDIATE ASSIGNMENT	TCH/F, single RF channel GSM 900: 50, DCS 1800: 750
66	MS -> SS	IMMEDIATE SETUP	L2: SABM / UA
67	SS -> MS	CHANNEL MODE MODIFY	very early assignment
68	MS -> SS	CHANNEL MODE MODIFY ACKNOWLEDGE	
69	SS -> MS	CONNECT	verify that the TCH is through connected
70	SS		Verify that TCH is through connected
70	SS -> MS	TERMINATION	
71	SS -> MS	CHANNEL RELEASE	

Special Message Contents

CM SERVICE REQUEST in step 5 and step 24

for k=1, 2

Information Element	value/remark
as default except:	
CM Service Type	not checked
Ciphering key sequence number	not checked
Mobile station classmark	not checked
Priority	
Information element identifier	0001
Spare	0
Call priority	010 for k=1 011 for k=2

for k=3

Information Element	value/remark
as default except:	
CM Service Type	not checked
Ciphering key sequence number	not checked
Mobile station classmark	not checked
Priority	not present

CM SERVICE REQUEST in step 11

for k=1, 2

Information Element	value/remark
as default except:	
CM Service Type	“emergency call establishment”
Ciphering key sequence number	not checked
Mobile station classmark	not checked
Priority	
Information element identifier	0001
Spare	0
Call priority	010 for k=1 011 for k=2

for k=3

Information Element	value/remark
as default except: CM Service Type Ciphering key sequence number Mobile station classmark Priority	 “emergency call establishment” not checked not checked not present

SMG7
SOPHIA ANTIPOLIS, FRANCE, 19-22 OCT 1999

Document 7-99-349
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

11.10-1	CR	A785	Current Version:	6.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: #30 *list expected approval meeting # here ↑*	for approval	X	strategic		*(for SMG use only)*
	for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Hewlett-Packard **Date:** 18 OCT 1999

Subject: Introduction of GPRS test mode as a means of establishing uplink TBF in Power Control test cases

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	X
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
Release 00	

Reason for change: A recent CR to GSM 04.14 introduces a GPRS test mode. This enables a GPRS device to establish an uplink TBF without being connected to a data terminal running an application.

Clauses affected: 22.3 and 22.4

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

22.3.4.1 Initial conditions

The SS establishes a BCCH and a PBCCH on the same carrier in the mid ARFCN range. GPRS_MS_TXPWR_MAX_CCH is set to the maximum level (39dBm for GSM and 36dBm for DCS). The Γ_{CH} value is set such that (Γ_0 - Γ_{CH}) equals the maximum power control level supported by the Power Class of the MS under test. The α value is set to 0.

~~The MS and the SS establish an uplink TBF on the same ARFCN as the BCCH and PBCCH.~~ The SS establishes a downlink TBF on the same ARFCN as the BCCH and PBCCH. The MS shall transmit on the uplink. This is achieved using the GPRS test mode by transmitting a GPRS_TEST_MODE_CMD (see GSM 04.14, section5.4). The downlink power level is adjusted until a stable C-value of –52dBm is reported by the MS in the channel quality report (see GSM 05.08, 10.2.3).

22.4.4.1 Initial conditions

The MS shall transmit on the uplink with the maximum number of TS for the multislot class of the MS.. This is achieved using the GPRS test mode by first establishing a downlink TBF and transmitting a GPRS_TESST_MODE_CMD (see GSM 04.14, section 5,4).~~The MS and the SS establish an uplink TBF with the maximum number of TS for the multislot class of the MS.~~ Each TS is transmitting on its maximum power. The α-value is set to 0.

ETSI STC SMG7 #23
Sophia Antipolis
19 – 22 October 1999

Tdoc SMG7-99-255
(SMG10 AP99-101)

CHANGE REQUEST No :	**A788**	*Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*			
Technical Specification GSM/UMTS	11.10-1	Version	6.1.0		
Submitted to SMG *list plenary meeting or STC here ↑*	#30	For approval / for information	**X**	Without presentation ("non-strategic") / with presentation ("strategic")	**X**

PT SMG CR cover form. Filename: crf26_2.doc

Proposed change affects: *(at least one should be marked with an X)*	SIM		ME	**X**	Network		**Workitem:** TEI

Source:	ETSI SMG10, GSMA Security Group & GSMA Terminal Working Group		**Date:**	04.06.1999	

Subject:	Modification of section 11.7 to enhance IMEI security				

Category: *(one category and one release shall be marked with an X)*			**Release:**		
F	Correction			Phase 2	
A	Corresponds to a correction in an earlier release	**X**		Release 96	
B	Addition of feature			Release 97	**X**
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	
				UMTS	

Reason for change:	The security of the IMEI was not sufficiently given by the core specification. Therefore GSM 02.09 was modified. GSM 11.10 needs to be aligned with GSM 02.09. The modification is reflected in this CR.
Clauses affected:	Section 11.7.1 and 11.7.2

Other specs affected: *(One or more may be marked with an X)*			
Other releases of same spec		→ List of CRs:	
Other core specifications		→ List of CRs:	
MS test specifications / TBRs		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:	This CR is approved by SMG7 #23 conditionally to the approval of the corresponding CRs to the core specifications in SMG #30

11.7 IMEI Security

11.7.1 Conformance requirements

11.7.1.1 Electrical/~~P~~programming security

The manufacturer declares that ~~concerning the programming security~~ he has taken necessary and sufficient steps to ensure that ~~either,~~ the IMEI cannot be electrically changed or modified by any software after the ME's final production process~~once initially programmed, or, secure password techniques have been adopted to prevent unauthorized re-programming of the IMEI~~.

GSM 02.09, GSM 03.20.

11.7.1.2 Mechanical security

The manufacturer declares that he has taken necessary and sufficient steps to ensure that ~~unauthorised~~ any individuals or organisations cannot economically replace the component in which the IMEI is stored and thereby provide the MS with a different IMEI after the ME's final production process.

GSM 02.09, GSM 03.20

~~**11.7.1.3 Technical knowledge and availability of programme**~~

~~The manufacturer declares that he takes the necessary measurers to ensure that the technical knowledge for changing the IMEI (where applicable) will remain securely under his control and that the knowledge of the programme content will be restricted to his authorized representative(s) on a need to know basis.~~

~~GSM 02.09, GSM 03.20.~~

11.7.2 Test purpose

To verify that it is not possible to change the IMEI after the ME's final production process. It shall resist tampering by any means (e.g. physical, electrical or software) ~~the physical protection of the IMEI is sufficiently secure~~.

11.7.3 Method of test

The manufacturer submitting his equipment for Type Approval shall make the declarations listed in the "Conformance Requirements".

The manufacturer shall give justification to support a claim that the requirements are met.