Neon

Service Manual

HTC Proprietary

Confidential Treatment Requested

Rev. A06

HTC Corporation.

Engineering Mobility

REVISION CONTROL TABLE

REV	DATE	CONTENTS	DEPT	REVISED	STAGE
AX01	2007/12/01	First Draft	PSE	Ares_Chang	DVT
A01	2008/1/14	Release A01 Ver.	PSE	Ares_Chang	PVT
A02	2008/01/30	Update LCD assembly process	PSE	Ares_Chang	MV
A03	2008/06/12	4 Update chapter 10. RF Antenna SPEC (add Neon #C/#K/#U type) 2.Revise chapter9.2 Level 2.5, add description 3.Revise chapter2.1 72H02289-00M instead of 72H00765-01M 4 Add chapter9.1 repair code	PSE	Kent_Wu	MV
A04	2008/07/04	1. Update 5.1leakage jig type 2. Update Neon#K and Neon-T12 antenna spec 3. Update 8.1 Agency label for JP 4. Update Assembly screw parts 5. Update Chapter 6 Cosmetic Inspection Criteria	PSE	Kent_Wu	MV
A05	2008/09/25	1. Win CE test item add Audio test	PSE	Kent_Wu	MV
A06	2008/11/17	1. Revise SPL repair code.	PSE	Kent Wu	MV

1. Introduction

- This manual provides the technical information to support the service activities of this product.
- This document contains highly confidential information, so any or all of this document should not be revealed to any third party.
  - Chapter 1: Introduction-This Chapter is about Products features and basic Product function. After reading this chapter, you will know what feature the product has and basic hardware operation. Also you will know how to perform soft-rest and hard-rest in this chapter.
  - Chapter 2: Device Disassembling and Assembling Procedure- After reading this chapter, you will learn how to disassemble and assemble the product. Also, you will know what tools to use and the torque. Please follow the instruction to disassemble the unit to prevent from damaging the unit.
  - Chapter 3: ROM Re-flash Procedure- After reading this chapter, you will learn how to perform the ROM image re-flesh by using RUU and SD-Card. Also you can find the steps of enter the boot loader mode.
  - Chapter 4: DIAGNOSTIC PROGRAM- After reading this chapter, you will learn
    - How to use the diagnostic program to perform unit function test
    - How to test some functions in Windows Mobile mode (ex. WLAN, Bluetooth, and USB etc…)
  - Chapter 5: Power measurement test- After reading this chapter, you will learn how to use MB leakage test procedure and battery run-down test (Battery Capacity Measurement).
  - Chapter 6: Cosmetic Inspection Criteria- After reading this chapter you will learn the appearance quality inspection criteria, ex. Display, bezel, and housing etc…
  - Chapter 7: Generic Troubleshooting- After reading this chapter, you will learn how to do generic trouble-shooting.
  - Chapter 8: Generic Labeling Plan- In this chapter, you will find generic labels for reference, ex. Regulation label, and battery label etc…
  - Chapter 9: Generic Spare Part List and Photos- In this chapter, you will find Spar parts reference list and photos for repairing, including unit and Board level.
  - Chapter 10: RF Antenna Specification- Reference Spec for RF test.

1.1 Product Features

Platform

PDA form factor with sliding out phone pad with integrated dual modes UMTS/HSDPA and Quad-band GSM/EDGE, Bluetooth, FM Radio, 2 mega-pixel camera, and one stop sliding phone keypad

Windows Mobile 6 Professional

Dimension

- **Docomo**
  - 107 mm(L) x 55 mm(W) x 16.5 mm(T)
- **Telstra**
  - 107 mm(L) x 55 mm(W) x 17.05 mm(T)

120 g with battery pack

Processor/Chipset

- Qualcomm MSM7200, 400Mhz

Memory

- ROM: 128/ 256MB (for programs and users' storage)
- RAM: 64/128 MB DDR RAM (96+160 MB)

LCD Module

- 2.6" QVGA dots resolution
- 65K-color TFT LCD with LED back light
- Sensitive Touch Screen
- Touch Window design

HSPA/UMTS/EDGE/GPRS/GSM Function

- Internal antenna
- Dual mode HSDPA/UMTS (800/2100Mhz dual-band for Japan) and GSM/GPRS/EDGE Quad-band(850/900/1800/1900Mhz)
  - HSDPA/UMTS
    - ◎ 800: 830-840MHz, 875-885MHz (NTT DoCoMo)
    - ◎ 2100:1920-1980MHz, 2110-2170MHz
  - GSM/GPRS/EDGE
    - ◎ 850: 824-849, 869-894MHz
    - ◎ 900: 880-915, 925-960MHz
    - ◎ 1800: 1710-1785, 1805-1880MHz
    - ◎ 1900: 1850-1910, 1930-1990MHz
- HSDPA / UMTS
  - 3GPP Release 5 compliant
  - UE category 6, 3.6Mbps peak rate
  - Concurrent : DL up to 3.6Mbps and UL up to 384Kbps
- Global roaming
- Auto band switching
- Handover and cell selection between GSM/EDGE and UMTS
- DTM
- SAIC (Circuit Switch only)
- Audio codec: AMR, EFR, FR, HR
- SMS (MO, MT), concatenated SMS (640 characters)
- Generic services:
  - Call holding/waiting/forwarding
  - Call barring
  - CLI (Calling Line Identity)
  - Display own number
  - Network selection
  - Cell broadcast
  - Multi-party conference call
  - Spool icon
  - Phase 2+ unstructured supplementary service data
  - Network Lock
  - CPHS (partial support)
- EGPRS Functionality
  - EGPRS class B
  - Multi-slot standard class 10 (Class 12- carrier

dependent)

○ PBCCH

○ Link Adaptation and Incremental Redundancy

• USIM/SIM

○ 1.8/3V of UICC

○ USIM Application at least according to 3GPP TS31.102

○ SIM Application Tool Kit release 96 complete, 98 class 3, and 99 partial

○ Over the Air (OTA) programming

○ FDN

○ ADN

○ Security Pin 1 & 2 control

FM Radio (DoCoMo)

• Turing range: 76Mhz ~ 90Mhz

• FM sensitivity: 8uV @ (S+N)/N=26dB

• Auto channel search

Digital Camera

• Main camera:

○ Colors CMOS 2 Mega-Pixels Auto Focus function camera

• 2nd camera:

○ Color CMOS CIF camera

• Preview Mirror

Keyboard/Button/Switch

• Power button (position: Right up side)

○ Short Press: system on/off

○ Long Press: Turn off power totally

• Portal button (Right button (Dialing pad area))

• One 5-way navigation pad

• Send/Hands-free button

○ Long Press during the call: Hands-free On/Off

• End Key/lock button

• Messaging/Inbox button (Left button (Dialing pad area))

• Volume Up Button (position: left side)

○ Quick Press: Volume Up

○ Long Press: Voice Recording

• Volume Down Button (position: left side)

○ Quick Press: Volume Down

○ Long Press: Voice Command

Camera capture button (position: right side)

○ 2-step camera button.

• Smart Launcher button (Grid menu) (Left upper button (Dialing pad area))

• Vibrator button (share with # Key)

○ Long Press # Key: Turn off/on Vibration mode

• Back / Clear button (Right upper button (Dialing pad area))

○ Non-Text mode: Back key

○ Text Editing mode: Clear one character

• One numerical dialing pad

○ 2 skus: 12 keys and 20 keys

• Reset

Notification

• One bi-color LED for UMTS/GSM standby, UMTS/GSM message, UMTS/GSM network status, notification, and charging status

• One Blue LED for Bluetooth connectivity status

• Vibration for notification and incoming call

• Notification by LED, Sound, message on the display

Audio

• Built-in Microphone

• Receiver

• Loud speaker for Hands-Free supported

• Full duplex

• Audio sampling rate

- ○ 16-bits with 8KHz, 11KHz, 22KHz, 44.1KHz
- AMR/AAC/WAV/WMA/MP3 codec
- Audio Path Routing
  - ○ Bluetooth
  - ○ Receiver
  - ○ Speaker
  - ○ Headset

Connectivity & Interface

- Bluetooth
  - ○ Compliant with v2.0 with EDR
  - ○ Class 2 transmit power
  - ○ Supported profiles:
    - ◎ GAP (generic access profile)
    - ◎ SPP (serial port profile)
    - ◎ OPP (object push profile)
    - ◎ GOEP (generic object exchange profile)
    - ◎ ActiveSync-Over-Bluetooth (legacy applicationvia SPP)
    - ◎ HSP (headset profile)
    - ◎ HFP (handsfree profile)
    - ◎ A2DP (Advanced Audio Distribution profile)
    - ◎ AVRCP (Audio/Video Remote control Profile)
    - ◎ HID (Human interface device profile)
    - ◎ SAP(SIM Access Profile)
    - ◎ Service Discovery Application Profile
    - ◎ BPP (basic printing profile)
    - ◎ FTP (file transfer profile)
    - ◎ PAN (personal area networking profile)
- HTC 11-pin mini-USB Connector
  - ○ USB 2.0 Client with Full Speed
  - ○ Audio Jack
  - ○ Support USB charging and synchronization
  - ○ H2W
- Micro SD
- 1.8/3V USIM/SIM card slot
- External RF connector with cover

Power

- **Docomo**
  - ○ Battery
    - ◎ Removable and Rechargeable Lithium ion or Lithium-polymer battery, 1000mAh
    - ◎ HTC Travel Charger: Charging time: 3 hours
    - ◎ DoCoMo Aladdin Adaptor: Charging time: 3 hours
  - ○ Battery life
    - ◎ Playing WMV: 8 hours
    - ◎ Playing WMA: 12 hours
    - ◎ Talk time: 2.71 ~ 4.75 hours for GSM based on RF power level 5~12
    - ◎ Talk time: 1.35 ~ 3.15 hours for UMTS based on RF power level 0 dbm~Max
    - ◎ Video Telephony time: 57~100 mins based on RF power level 0 dbm~Max
    - ◎ Standby time: 135+ hours for GSM based on multiframe 2~5
    - ◎ Standby time: 153~ 268 hours for UMTS
  - ○ AC adaptor
    - ◎ AC input: 100 ~ 240V AC, 50/60 Hz
    - ◎ DC output: 5V and 1A
- **Telstra**
  - ○ Battery
    - ◎ Removable and Rechargeable Lithium ion or Lithium-polymer battery, 1350mAh
    - ◎ HTC Travel Charger: Charging time: 3 hours
  - ○ Battery life
    - ◎ Playing WMV: 8 hours
    - ◎ Playing WMA: 12 hours

◎ Talk time: 3.66 ~ 6.40 hours for GSM based on RF power level 5~12

◎ Talk time: 1.83 ~ 4.25 hours for UMTS based on RF power level 0 dbm~Max

◎ Video Telephony time: 76~134 mins based on RF power level 0 dbm~Max

◎ Standby time: 180+ hours for GSM based on multiframe 2~5

◎ Standby time: 207 ~ 360 hours for UMTS

○ AC adaptor

◎ AC input: 100 ~ 240V AC, 50/60 Hz

◎ DC output: 5V and 1A

Liquid Indicator

Stylus

• Retractable stylus with lock type mechanism

Hanger hole

• Stylish hanger to wear phone with neck strap as pendant or to attach various phone hangers

Accessories

• Quick Start Guide [Inbox]
• CD (User manual & Sync. software) [Inbox]
• Screen Protector [Inbox]
• Stylus [Inbox]
• Travel Charger (AC adapter) [Inbox]
• Pouch (Carrying Case) [Inbox]
• USB Sync Cable (mini-USB/USB) [Inbox]
• Battery with battery cover [Inbox]
• Wired Stereo Headset (HS 168 or HS 200) [Inbox]
• 3-in-1 stylus
• 3.5 mm Audio Adaptor with Microphone plus 3.5mm stereo headset, HS U110
• Wired Remote Controller, RC W100
• Wired Remote Controller with Earphone, RC E100
• Mono Bluetooth Headset, BH M100
• Mono Bluetooth Headset, BH M200
• Stereo Bluetooth Headset, BH S100
• Bluetooth Keyboard
• Y-Cable 11 pin to 5pin + 6pin
• Y-Cable 11 pin to 5pin + 3.5 mm Audio Jack
• 4-in-1 multifunction audio cable
• Car Charger
• Car Holder
• DoCoMo Aladdin adaptor (standard type) [inbox]
• DoCoMo Aladdin Adaptor (service usage type) – will only be offered to service maintenance goods and not be offered to end users.

Windows Mobile 6 Professional

• Microsoft Outlook Mobile
  ○ Messaging (SMS/E-mail), Contacts, Calendar, Tasks, Email Set Up Wizard
• Microsoft Internet Explorer Mobile
• Microsoft Media Player Mobile
• Microsoft ActiveSync
• Microsoft Windows Mobile Update
• Microsoft Windows Mobile Marketplace
• Internet Sharing
• Picture & Video
• Games
• File Explorer
• Device Management
• Security Enhancement
  ○ Storage Card Encryption, Device Lock
• Microsoft Office Mobile (optional with extra cost)
  ○ Word, Excel & PowerPoint Mobile
• Microsoft Windows Live!
  ○ Windows Live Messenger
  ○ Windows Live Mail (Push Mail)
  ○ Windows Live Contacts

- ○ Windows Live Search
- ○ Windows Live Spaces

• Microsoft Remote Desktop Mobile (optional with extra cost)

Value Added Applications

• Camera / Camcorder
- ○ Camera Mode
  - ◎ Encoding format: JPEG
  - ◎ Resolution: UXGA 1600x1200, SXGA 1280x960, VGA 640x480, QVGA 320x240, QQVGA 160x120
  - ◎ Night Mode
  - ◎ Digital Zooming: at least 8X
  - ◎ Support user selectable UI for Normal and Macro mode
- ○ Camcorder Mode
  - ◎ 25 fps encoding for QVGA resolution
  - ◎ Encoding format
  - ◎ H.263 + AMR-NB
  - ◎ MPEG4 + AMR-NB
  - ◎ Motion JPEG + PCM (AVI)

• Ringtone
- ○ MIDI
  - ◎ 40 polyphonic & Standard MIDI format 0 and 1 (SMF) / SP MIDI
- ○ MP3, AAC, AAC+, WMA, WAV and AMR-NB

• DirectShow Filters for WMP - Audio
- ○ Audio Playback format: AAC, AAC+, eAAC+, MP3, WMA, WAV, AMR-NB/WB, M4A, SP-Midi

• DirectShow Filters for WMP - Video
- ○ Video Playback format: H.263, MPEG4, WMV, Motion JPEG (AVI), H. 264
- ○ Min. 30 fps decoding for H.263 & MPEG4 & H. 264@ QVGA resolution
- ○ Combined Bit Rate: 64Kbps (playback)

• Picture Enhancement for Pictures & Videos
- ○ Graphics: JPEG, GIF87a, GIF89a, PNG, WBMP
- ○ Video Thumbnail Preview: H.263, MPEG4, Motion JPEG (AVI), and WMV, H. 264

• 3G-324M Video Telephony

• ZIP

• Smart Dialing

• MMS Client
- ○ Compliant to MMS 1.2

• Java virtual machine (J2ME, CLDC 1.1, MIDP 2.0)
- ○ JSR 118 MIDP2.0
- ○ JSR 139 CLDC 1.1
- ○ JSR 185 JTWI
- ○ JSR 75 PDA Optional Pack
- ○ JSR 135 Mobile Media API
- ○ JSR 120 Wireless Messaging API
- ○ JSR 184 Mobile 3D Graphics API
- ○ JSR 179 Location API

• Voice Dial & Command
- ○ Speaker Dependent or Independent

Document Viewer - PDF

• OMA DRM Engine: For all types of files (Pictures, audio, application etc.), and also all types of delivery method (MMS, email etc.)
- ○ OMA 1.0 / 2.0 when available
- ○ Multi-DRM support : MSFT & OMA DRM

• SIM Manager

• Comm. Manager

• STK

• Sound Effect
- ○ Keypad Sliding Sound
  - ◎ System sound effect when sliding out and

closing up the phone pad

◎ User customizable sounds

○ Keypad/Button Sound

- Device Behavior when Sliding Out/In Keypad

○ If the display is off, turn on display when sliding out keypad

Note: The display also can be timeout if user doesn't press any key after the keypad slides out

○ If key lock is also on, unlock key lock when sliding out keypad. And immediately key lock after the keypad slides in

- Audio Booster
- Audio Manager
- Ringtone Trimmer
- Podcast/RSS Reader
- Magic Lyric (TBD)
- Voice Recorder (AMR only)
- Streaming Media Player
  - ○ A 3GPP PSS based client solution
  - ○ Support RTSP/RTP based streaming protocol
  - ○ Support Live broadcast/on-Demand Streaming
  - ○ Launched from Internet Explorer Mobile
- Linear & Animated menu
- Personalization of the presentation
  - ○ Music Player
  - ○ Window Media Player
- Music Player Home Screen Plug-in
- Media Hub
- Bluetooth Explorer
- Task Manager
- Flash 7 PIE Plug-in
- Flash 7 Player
- Backup Tool
- IME
- Network Plug-in for File Explorer
- Pictbridge
- Yahoo Go!
- Phone Experience Enhancement
- FM Radio application

Carrier Specific Applications (TBD)

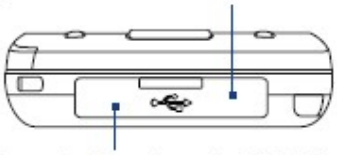
Regulatory

- BQB (Bluetooth Qualification Body) certification
- Windows Mobile Logo (NSTL)
- USB certification
- JRF
- JPA

1.2 Product overview

Bottom panel

RESET
Open the rubber cover to access the reset button. With the stylus, press the RESET button to soft-reset your device.



Sync Connector/Earphone Jack/AC adapter connector
Open the rubber cover to connect the supplied USB cable to synchronize information or plug in the AC adapter to recharge the battery. You can also connect the supplied USB stereo headset for hands-free conversation or for listening to audio media.

Left panel

Volume Buttons
- Press the top or bottom to adjust the speaker volume.
- During a call, press the top or bottom to adjust the earpiece volume.

microSD Slot
See "Installing a Storage Card" for details.

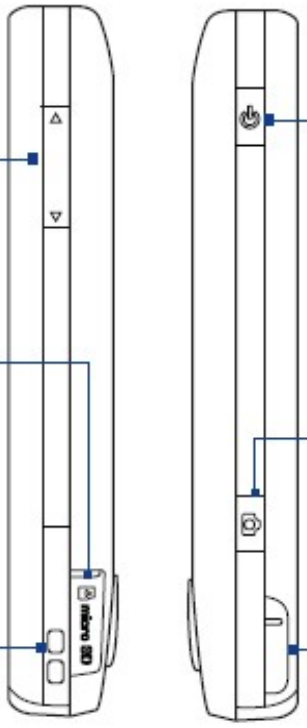
Lanyard/Strap holder

Right panel

POWER
Press to turn off the display temporarily. To turn off the power, press and hold for about 5 seconds. For more information, see "Starting Up" in this chapter.

CAMERA
Press to launch the Camera. See Chapter 11 for details.

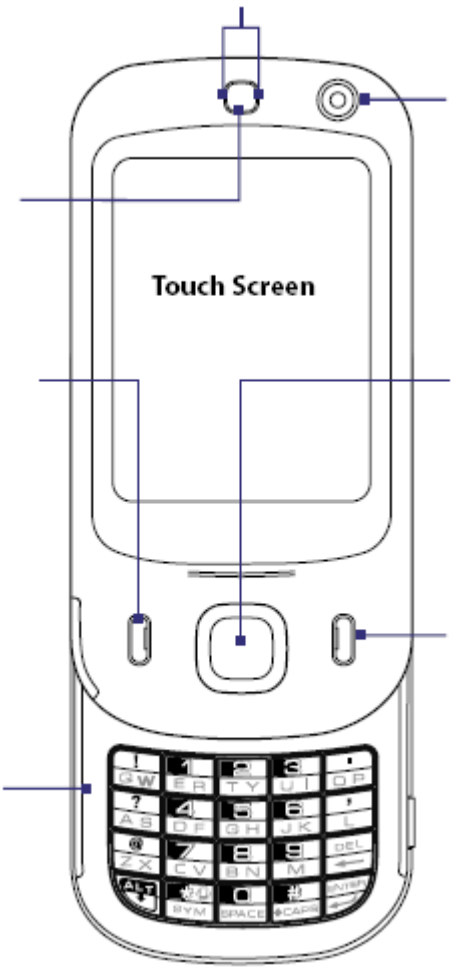
Stylus



Front panel

Notification LEDs

* See description below.



Second Camera

Use this camera for video call conversations.

Earpiece

Listen to a phone call from here.

NAVIGATION Control/ENTER

Press this multi-directional control up, down, left, or right to move through menus and program instructions; carry out the selection by pressing the center button.

TALK

Press to answer an incoming call or dial a number.

END

Press to end a call or to return to the Today screen. Press and hold to open the Quick List where you can choose an action to do.

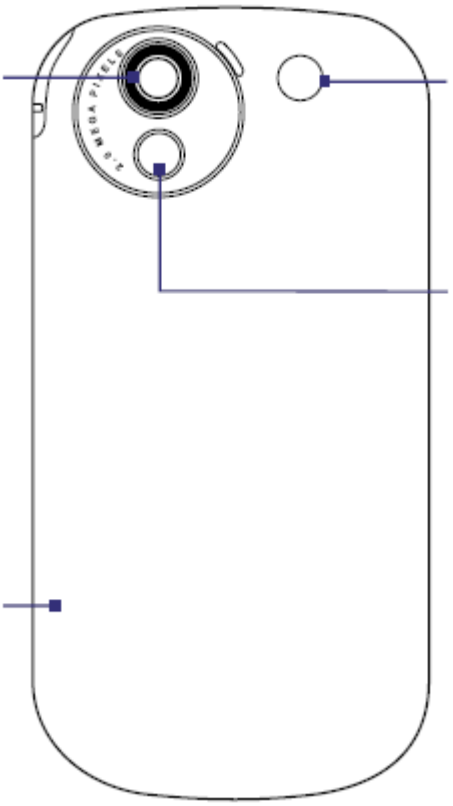
In the Quick List, touch **Setings** (or tap **Start > Settings > System** tab **> Long Press End Key**) to set the behavior when pressing and holding the END key.

16/20-key QWERTY keyboard

Slide up the front panel of the device to reveal the keyboard. Use to dial phone numbers and enter information.

- Shows Green and Amber lights for HSDPA/UMTS/GSM/GPRS/EDGE standby, message and network status as well as for notification and battery charging status. Shows a flashing red light when the battery level reaches 5% or lower.
- Left LED: Shows a flashing Blue light when the Bluetooth system is powered up and ready to transmit Bluetooth radio signal.

Back panel



2 Megapixel Camera

Speaker

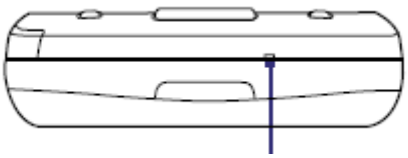
Self-portrait Mirror

Use it when taking self-portrait shots.

Back Cover

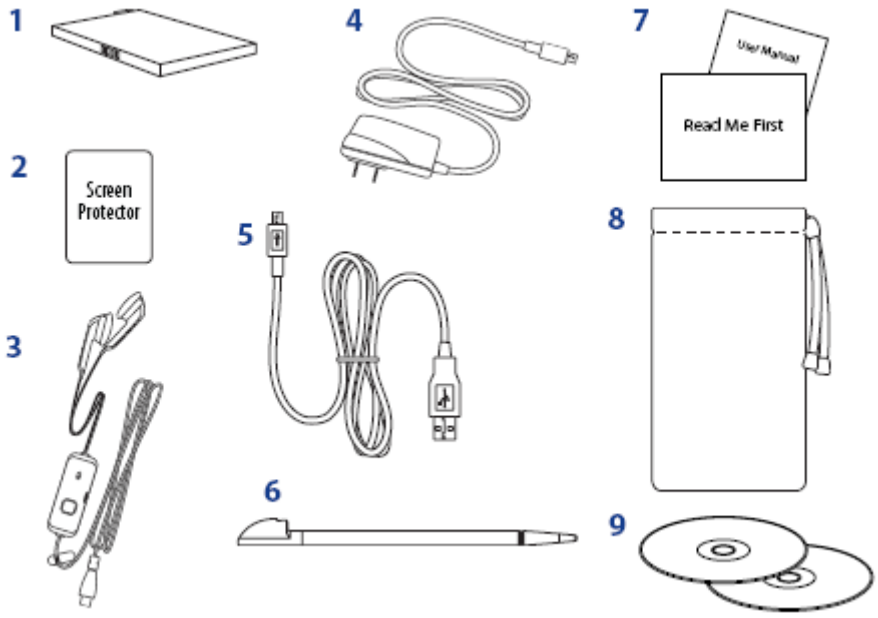
Remove to install the SIM card and battery.

Bottom panel



Microphone

Accessories

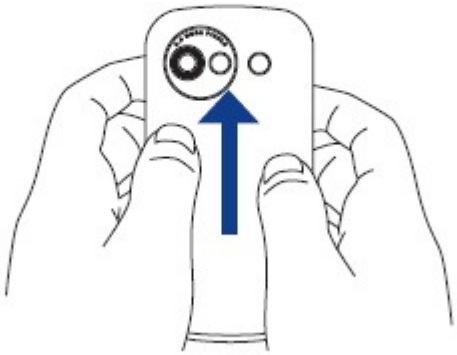


No	Accessory	Function
1	Battery	Insert into the device before turning it on.
2	Screen protector	Stick on the touch screen to prevent scratches.
3	Stereo headset	Provides a volume control slider and a Send/End button. Press the Send/End button to pick up a call or put a call on hold; press and hold the button to end the call.
4	AC adapter	Recharges the battery.
5	USB Sync cable	Connects your device to a PC and synchronizes data.
6	Extra stylus	Use to tap items onscreen.
7	User manual and ReadMeFirst	References for using your device.
8	Pouch	Acts as a protective carrying case for your device.
9	Getting Started and Applications discs	Source for additional tools and programs.

To remove the back cover

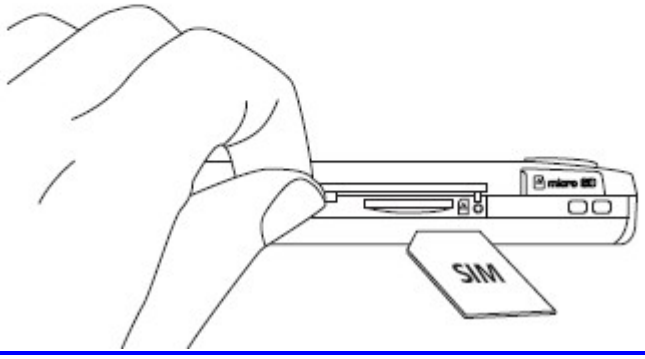
Before installing the SIM card or battery, you have to remove the back cover.

1. Make sure your device is turned off.
2. Slide the back cover upward as shown in the following illustration.



To install the SIM card

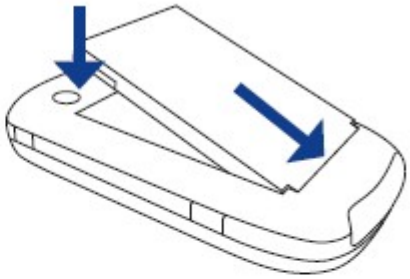
1. Use your thumb or finger to pry open the cover that houses the SIM card slot. To open the slot cover easier, pry it open from both ends.
2. Hold open the slot cover with one hand.
3. Insert the SIM card with its gold contacts facing down and its cut-off corner facing toward the inside of the slot.
4. Close the slot cover.



To install the battery

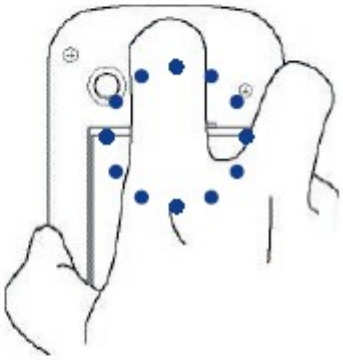
Install the battery by inserting it with its exposed copper part aligned with the protruding copper conductor on the lower-left side of the battery compartment.

Insert the bottom side of the battery first, then gently push the battery into place.



To remove the battery

1. Make sure your device is turned off.
2. Remove the back cover.
3. To remove the battery, lift it up from the top end of the battery.



To install the microSD™ card

1. Pry open the rubber cover at the bottom-left side of the device.
2. Insert the microSD card with the gold contacts facing up.
3. Close the rubber cover.

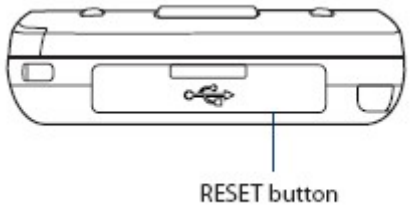
Tip Press the microSD card to pop it out of the slot.

Soft reset

Occasionally, you may need to reset your device. A soft (or normal) reset of your device clears all active program memory and shuts down all active programs. This can be useful when your device is running slower than normal, or a program is not performing properly. A soft reset is also necessary after the installation of some programs. If a soft reset is performed when programs are running, unsaved work will be lost.

To perform a soft reset

Open the rubber cover at the bottom of your device and then use the stylus to press the RESET button. Your device restarts and displays the Today screen.



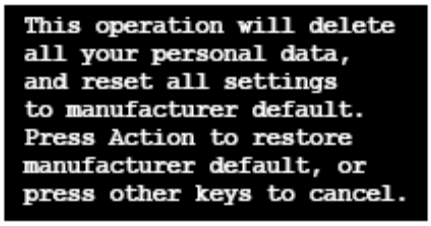
Hard reset

You can also perform a hard reset (also known as a full reset). A hard reset should be performed only if a normal reset does not solve a system problem. After a hard reset, the device is restored to its default settings - the way it was when you first purchased it and turned it on. Any programs you installed, data you entered, and settings you customized on your device will be lost. Only Windows Mobile® software and other pre-installed programs will remain.

To perform a hard reset

1. Press and hold the TALK and END buttons, and at the same time, use the stylus to press the RESET button at the bottom of your device.

2. Release the stylus, but continue pressing the TALK and END buttons until you see the following message on the screen:



3. Release the TALK and END buttons, and then press ENTER on your device.

Warning! Your device will be set back to factory default settings. Please ensure any additional installed programs and/or user data have been backed up before a hard reset is performed.

Important If **Encrypt files placed on storage cards** is or was enabled before, then backup all files from the storage card **before** using Clear Storage, hard reset or updating the ROM system software. Otherwise you will no longer be able to access the encrypted files on the storage card. Use ActiveSync or Windows Mobile Device Center to transfer files between your storage card and computer. After the procedure, copy your files back to the storage card.

2. Device Disassembling and Assembling Procedure

2.1 Disassembling procedure

	**Tools needed for Assembling and Disassembling:** **1. Philip Screw Driver #0.** **2. Torx Screw Driver type T6.** **3. Special Made Plastic Stick.** **4. ESD bracelet.** **5. Plastic type tweezers.** **6. Lens Cleaning Tissue.** **7.** Air gun **8.** Clean environment
	**Power off the device before removes the Battery cover.**
	**Take off the Stylus.**
	**Remove the Battery.**

Unfasten the screw at the location indicated

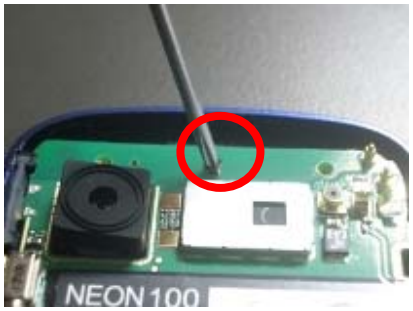
- ✓ Upper SCREW: 72H02289-00M (M1.6*3.5)(Q'TY:2)
- ✓ Lower SCREW:
  - ■ Black Device: 72H02288-00M (M1.6*4) (Q'TY:2)
  - ■ White Device:72H02288-01M (M1.6*4) (Q'TY:2)

1. Use the flat plastic stick to insert into the Gap to release the antenna hooks.
2. Unfasten the screw at the location indicated

- ✓ SCREW: 72H02289-00M (Q'TY:2)

Use the plastic to slide through the gap of housing to release the hooks

Take off the speaker from Housing-D.
[NOTE]
The speaker can't reuse. If damage when disassemble the speaker, must replace new.



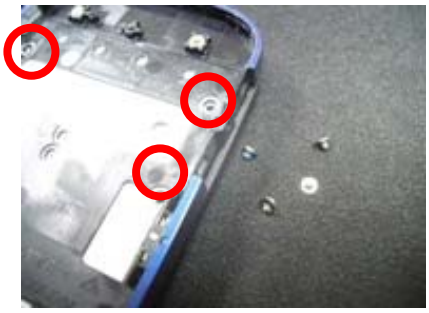
Unfasten the 2 screws on M/B.

✓ **SCREW:72H01129-00M (Q'TY:2) (T1.2*2.4)**

Remove the main board.

Peel off the camera gasket and disconnect the main camera.

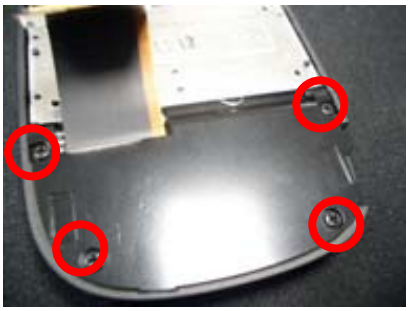
Remove the keypad.



Unfasten the screws on Housing-C.

✓ **SCREW:72H02287-00M (M1.6*1.4) (Q'TY:4)**

Remove the Housing-C.



Unfasten the screws on B-cover.

✓ **Upper SCREW:**

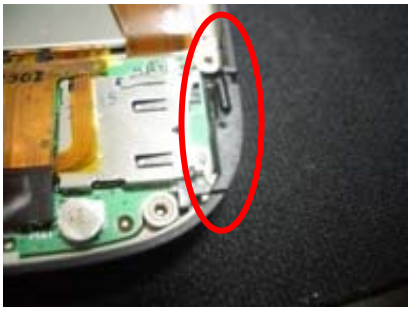
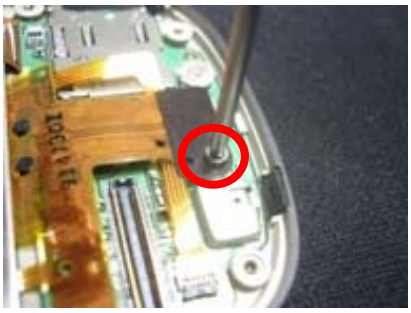
✓ Black Device: 72H02289-00M (Q'TY:2)

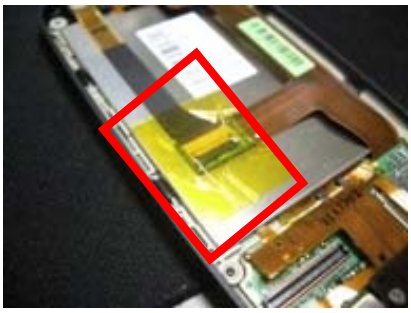
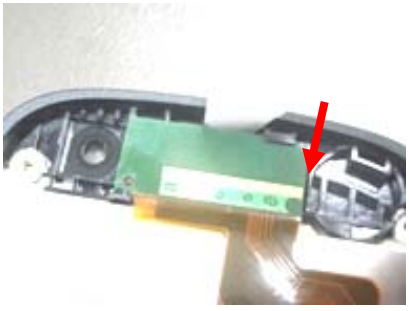
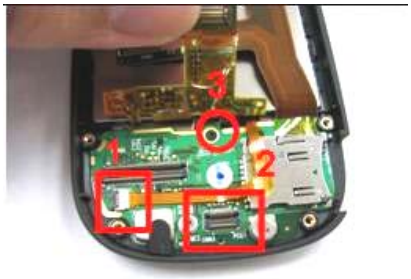
✓ White Device:72H00765-02M (Q'TY:2)

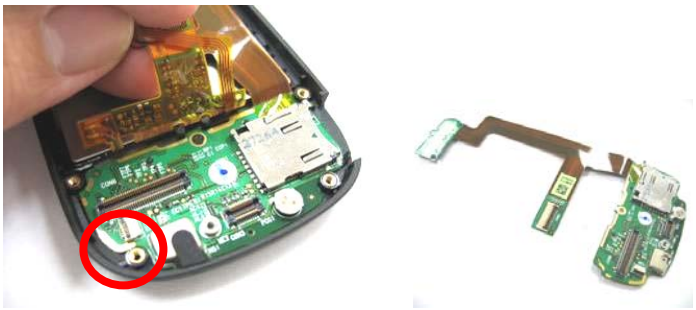
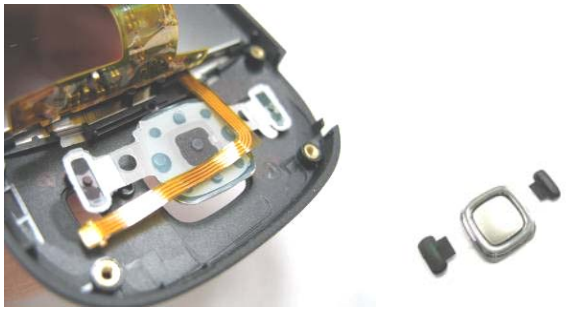
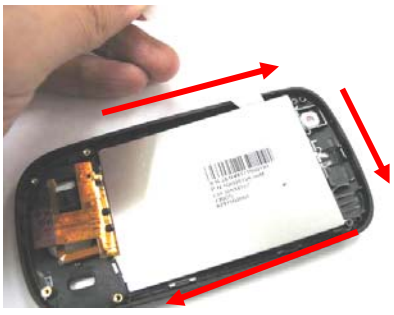
✓ **Middle SCREW:**77H02569-00M (M1.6*3) (Q'TY:2)

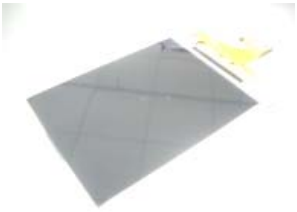
✓ **Lower SCREW:**77H02246-00M (M1.6*5) (Q'TY:2)

Disassemble the receiver cover.

	**Disassemble the Hinge by plastic stick as indicated direction.**
	**Remove the SD –Door Cover.**
	**Unfasten the screw on Housing.** ✓ **SCREW: 72H01129-00M (T1.4*2.4) (Q'TY:1)**
	**Disconnect the sliding FPC.** 

	**Remove the Tape.**
	**Release the lock to take off 2nd Camera module.** 
	**Remove the upper side of Rigid-Flex Board**
	**1. Release the LCD connector.** **2. Disconnect the touch panel FPC.** **3. Unfasten the screw from Rigid-Flex Board.** ✓ **SCREW: 72H00934-00M (M1.6*2) (Q'TY:1)**

	**1. Remove the MIC Rubber.** **2. Take off the Rigid-Flex Board.**
	**Take off the NAVI key.**
	**Remove the receiver from the bezel.**
	**Disassemble the LCD by plastic stick as indicated direction.**

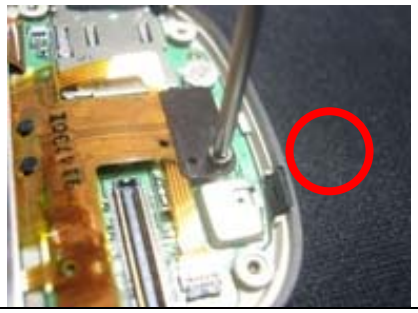
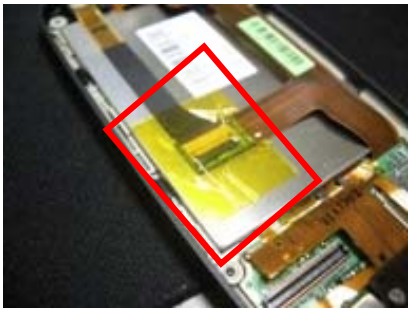


Separate the LCD from the display upper cover.

The Disassemble process is done

2.2 Assembling procedure

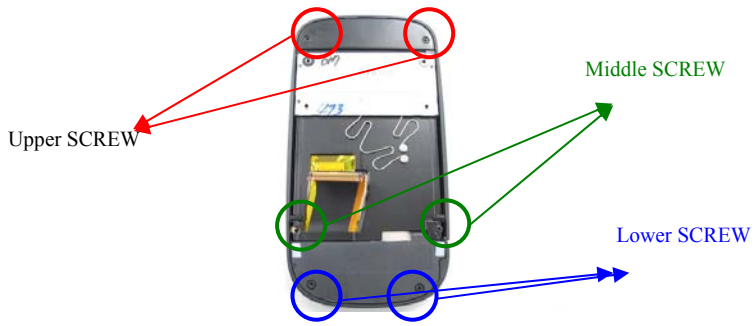
 	Peel off the film on inner side of Touch Panel and check if any stain exists. Then assemble the LCD into bezel. **Warning:** Please apply air gun to clean the LCM & casing surface in **CLEAN ENVIRONMENT** , and ensure no dust or particle inside before assemble into bezel.
	Assemble the Receiver into receiver slot.
	Assemble the NAVI key into bezel.
 	1. Assemble the Rigid-Flex Board and MIC rubber. 2. Fasten the screw on the Rigid-Flex Board. ✓ **SCREW: 72H00934-00M (M1.6*2) (Q'TY:1)** **[NOTE]** **PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW** **(Torque) : 0.6+ 0.1 kg-cm**

	1. Connect the LCD FPC 2. Connect the touch panel FPC. 3. Connect the sliding FPC with the Rigid-Flex Board.
 	Fasten the screw on the Rigid-Flex Board. ✓ **SCREW: 72H01129-00M (T1.4*2.4) (Q'TY:1)** **[NOTE]** **PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW** **(Torque) : 0.8+0.1 kg-cm (LCD FPC)**
	Connect the 2nd camera module with Rigid-Flex board.
	Stick the Tape.


Insert the upper FPC into fixed support and assemble the right side of FPC.

Assemble the SD-door cover.

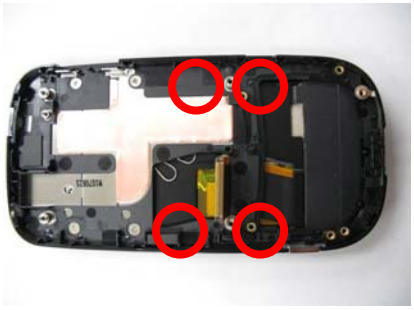

Assemble the Hinge and receiver cover.



Fasten the screws on the Hinge.

- ✓ **Upper SCREW:**
- ✓ **Black Device: 72H02289-00M (Q'TY:2)**
- ✓ **White Device:72H00765-02M (Q'TY:2)**
- ✓ **Middle SCREW:77H02569-00M (M1.6*3) (Q'TY:2)**
- ✓ **Lower SCREW:77H02246-00M (M1.6*2.5) (Q'TY:2)**

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW
(Torque) : 0.6+ 0.1 kg-cm

	Assemble the Housing-C.
 	Fasten the screws on the Housing-C. ✓ SCREW:72H02287-00M (M1.6*1.4) (Q'TY:4) **[NOTE]** **PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW** **(Torque) : 0.8+ 0.1 kg-cm**
	Assemble the keypad.
	Connect the FPC with M/B.

Fasten the 2 screws on the M/B.

✓ SCREW: 72H01129-00M (T1.4*2.4)(Q'TY:2)

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW
(Torque) : 1.0 + 0.1 kg-cm

Assemble the Speaker into Housing-D.

Assemble the Housing-D into Device and then fasten the 2 screws at the location indicated.

✓ SCREW: 72H02289-00M (M1.6*3.5)(Q'TY:2)

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW
(Torque) : 0.6+ 0.1 kg-cm

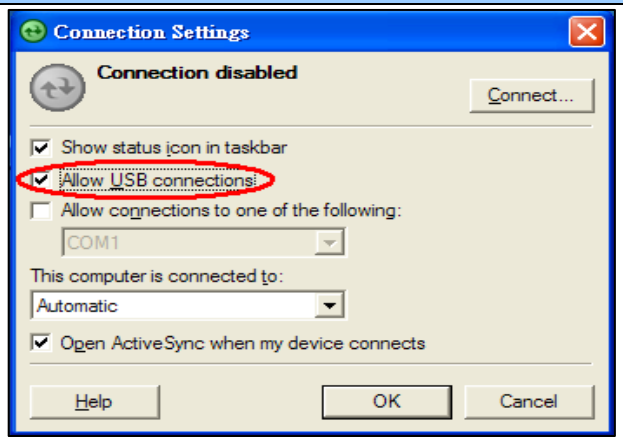
Attach the water sensitive label
Water sensitive label: 77H00488-00M (Q'TY:1)

	**Install the Antenna cover on the Housing-D**
	Assemble the antenna cover into Device and then fasten the 4 screws at the location indicated. ✓ **Upper SCREW: 72H02289-00M (Q'TY:2)** ✓ **Lower SCREW:** ■ Black Device: 72H02288-00M (Q'TY:2) ■ White Device:72H02288-01M (Q'TY:2) **[NOTE]** **PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW** **(Torque) : 0.6+ 0.1 kg-cm**
	Insert the Stylus and Battery.
	Assemble the battery cover.

The Assemble Procedure is Done. You may perform the Function Test or the following process.

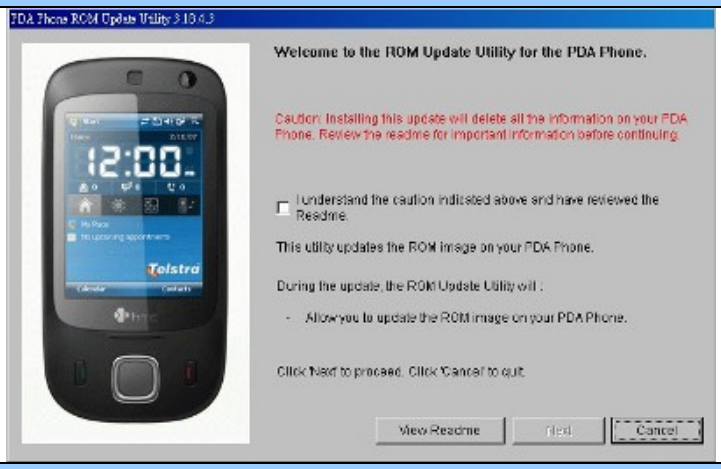
3. ROM Re-flash Procedure

3.1 ROM upgrade thru RUU (Re-flash Upgrade Utility)

Connect device to PC	
I. Setting and allow USB connections in Microsoft ActiveSync. II. Connect your device and desktop/ or laptop via USB cable. III. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC.	
Download ROM Image from SDO	
I. Download OS image from SDO. http://htcscm10.htc.com.tw/SDO II. Un-zip the file and execute RUU program.	

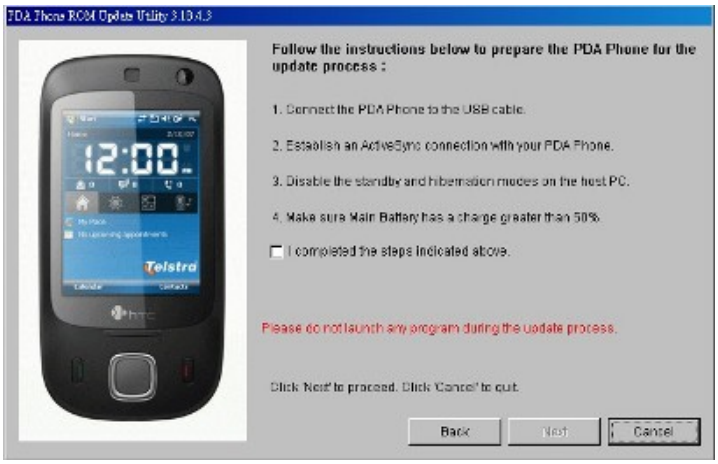
RUU - 1

III. Read the pop-up message form ROM update utility and select the “I understand…” checkbox.
IV. Click “Next” to proceed.



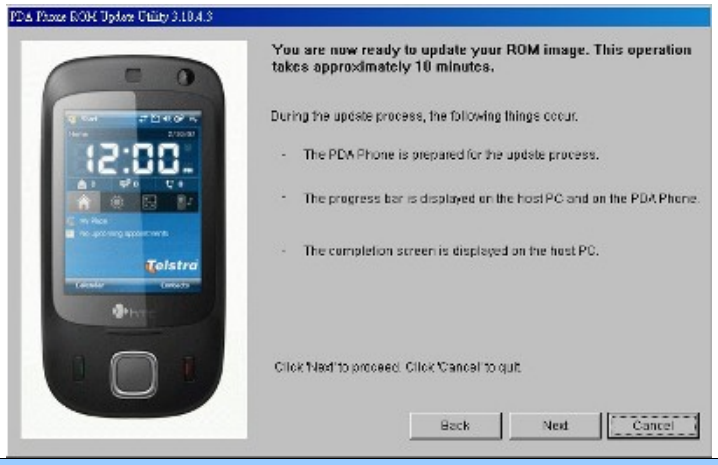
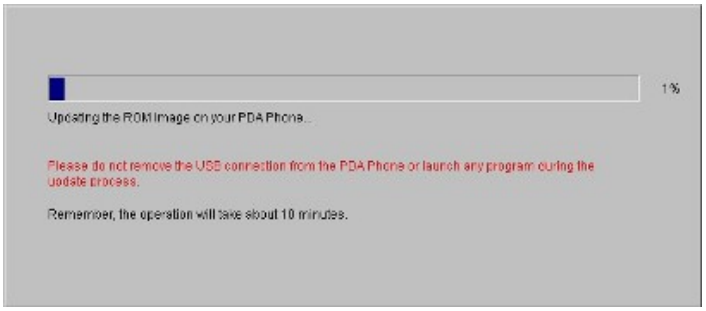
RUU - 2

V. Read the pop-up message form ROM update utility to follow and perform the instructions and select the “I completed…” checkbox.
VI. Click “Next” to proceed.



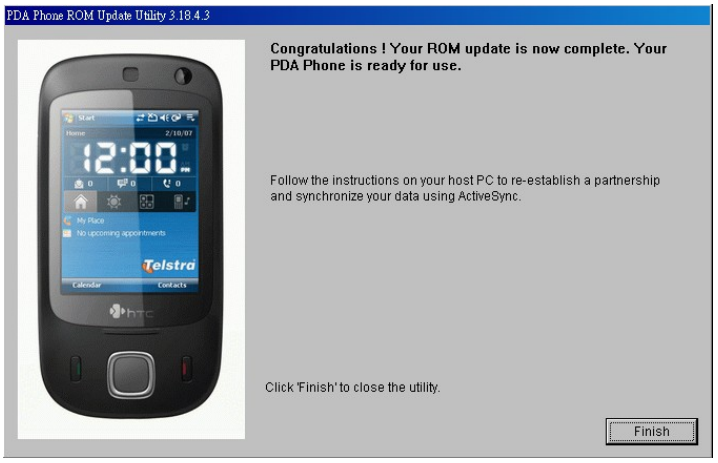
RUU - 3

VII. Current image version confirmation.
VIII. Click “Update” to proceed.

RUU - 4	
IX. Double verify the ROM revision which you want to update before re-flash procedure. X. Click “Next” to proceed.	
RUU - 5	
XI. Read the information from pop-up message and the OS update procedure will takes 10 minutes long. XII. Click “Next” to proceed.	
RUU - 6	
XIII. You can see the update progress from your PC and in your device.	

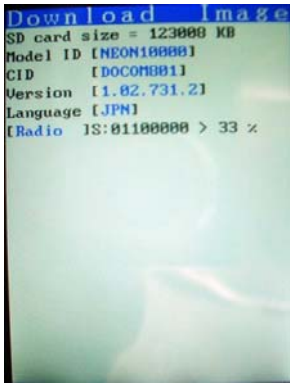
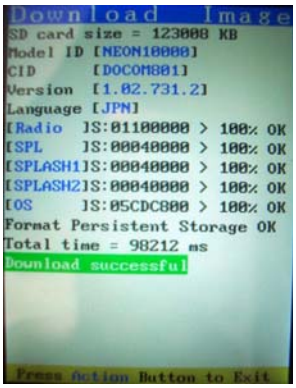
RUU - 7

XIV. The OS upgrade is finished, click “Finish” to close the utility.



3.2 Rom Image upgrade thru SD card

Download ROM Image from SDO	
I. Download ROM image from SDO. http://htcscm10.htc.com.tw/SDO II. Un-zip the image file.	
Format SD card and copy image file to SD card	
III. Select file system and format the SD card to **FAT32** mode. IV. Copy image file XXX.nbh to the micro SD card and rename to **NEONIMG.NBH**.	

SD Upgrade - 1	
V. Turn the device power off and insert Diagnostic SD card. VI. Press and hold **Power+Camera** button, and **Reset** button to entry Boot loader mode. VII. Press **Power** button to start upgrade procedure.	
SD Upgrade - 2	
VIII. Reading source code from SD card. [Note]: This process will takes 10 mins, please don't power off the device. IX. After finish, press **Reset** button to reboot.	

4. DIAGNOSTIC PROGRAM

4.1 List of Diagnostic / WinCE Test Items

Model	No	Item	Description	Remark
DIAGNOSTIC	Function Test			
	1	Auto Test	Auto run the regular tests	
	2	Display Test	Color bar/R/G/B/Black/White/Gray pattern display	
	3	TouchPanel Test	Align screen test	
	4	Vibrator Test	Vibrator on test	
	5	Button Test	Function keys and keyboard test	
	6	RAM Test	RAM memory test	
	7	ROMChecksum Test	Show device Checksum info	
	8	SD Card Test	SD card Read/Write test	
	9	Battery Test	Battery info and charge/discharge test	
	10	Show Flash Info	Show flash information	
	11	Show RF Status	Show Radio information	
	12	LED Test	LED indicator test	
	13	Backlight Test	Back Light adjust test	
	14	MR Sensor Test	Keyboard slide Sensor test	
	Run-in Test			
	1	1 Hour	1 Hour Run-in Test/Press UP key.	Option
	2	2 Hours	2 Hours Run-in Test/Press DOWN key.	Option
	3	4 Hours	4 Hours Run-in Test/Press LEFT key.	Option
	4	8 Hours	8 Hours Run-in Test/Press RIGHT key.	Option
	Format Storage (Personal information, talk times)			
	Device Info			
WiN CE	1	USB Test	USB link test (Microsoft ActiveSync v4.5 or above).	
	2	Camera Test	Camera test.	
	3	Bluetooth Test	Bluetooth test.	
	4	GPRS/3G Test	GPRS/3G connection Test	
	5	Audio Test	Audio related Test	

Test Procedure

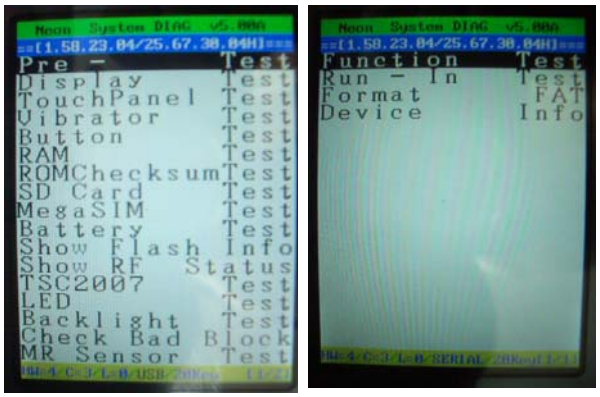
How to select test item: Using “Action” button -"Up" or "Down" to select the test items

How to execute the test program: Press “Action” button to start each of test items.

Diagnostic

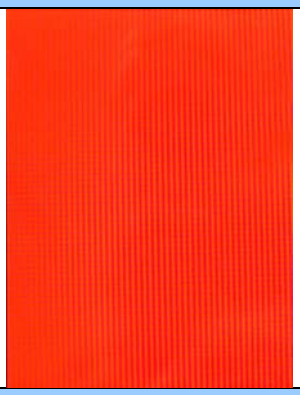
Main Menu/Function Test Menu

I. Turn the device power off and insert Diagnostic SD card.
II. Press and hold **Power + Capture** button, including **Reset** button, and then enter Diagnostic mode.
III. Using to select the test item and move to next page as well.
IV. Select item “Function Test” to find the Function test menu.



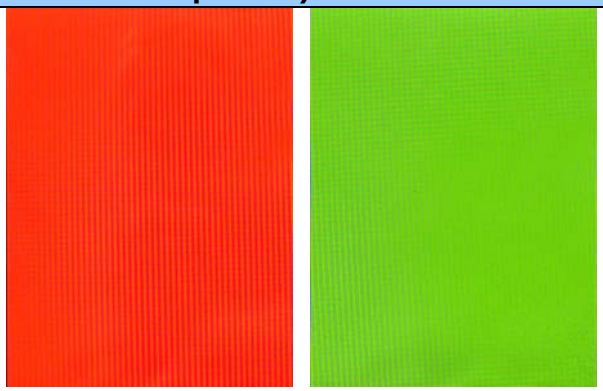
Auto Test

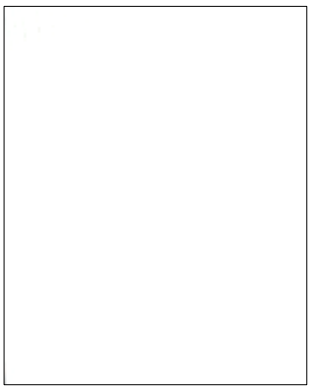
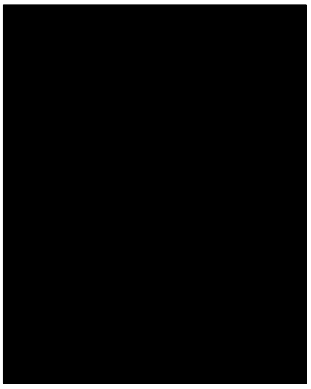
I. Press the Action key to start the Auto-test.
II. It will perform the regular tests, please follow the system instruction to do the test.



Display Test-1 (RED/ GREEN pattern)

I. Press Action key to select Display Test on Function test menu.
II. After the test pattern is show up, please check the pattern if any un-uniform color or chromatist.
III. Press Action key to continue the next test pattern.

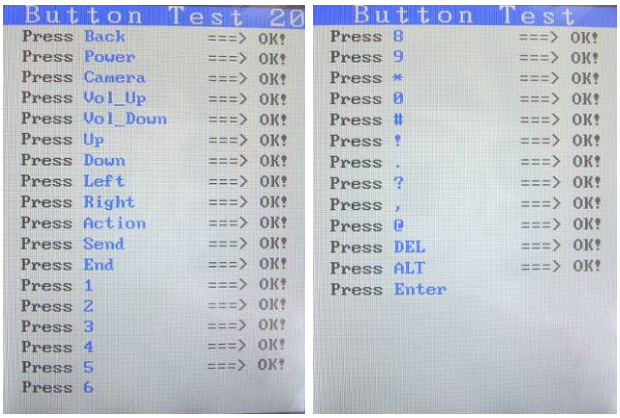


Display Test-2 (BLUE/ WHITE pattern)	
IV. Press Action key to continue the next test pattern.	 
Display Test-3 (BLACK/Color bar pattern)	
V. Press Action key to continue the next test pattern.	 
Display Test-4 (Straight/Crabwise lines pattern)	
VI. Press Action key to continue the next test pattern.	 

Display Test-5(Black white contrast pattern)	
VII. Press action key to exit and return to Function test menu.	
Touch Panel Test	
I. Press Action key to select Touch Panel on Function test menu. II. Using Stylus to tap and follow the symbol “+” at Center, Up-left, Down-left, Down-right position of the screen to perform the test. III. Press action key to exit and return to Function test menu.	
Vibrator Test	
I. Press Action key to select Vibrator on Function test menu. Check the device if vibrating. II. Press Action key to exit and return to Function test menu.	

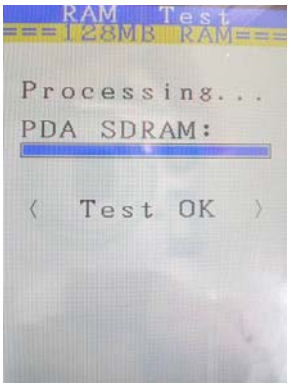
Button Test

I. Press Action key to select Button on Function test menu.
II. Follow the instruction on screen to perform the Button test.
III. Press action key to exit and return to Function test menu.



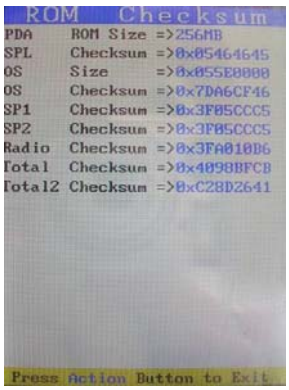
RAM Test

I. Press Action key to select RAM on Function test menu.
II. After test process pass. It will exit and return to Function test menu.



Rom Checksum Test

I. Press Action key to select Rom Checksum on Function test menu.
II. Inspect the Checksum and please check the value.
III. Press action key to exit and return to Function test menu.



SD Card Test

I. Press Action key to select SD Card on Function test menu.
II. Insert SD card and device will read/write SD card for testing.
III. Remove the SD Card to exit and return to Function test menu.

Battery Test

I. Press Action key to select Battery on Function test menu.
II. Plug In/Out the AC-Adapter to check the battery charging/discharging status.
III. Press action key exit and return to Function test menu.

Show Flash Info Test

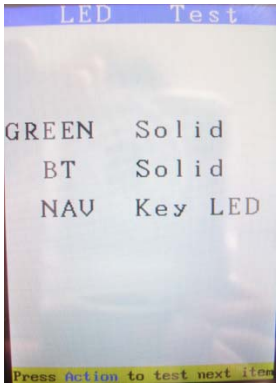
I. Press Action key to select Show Flash Info on Function test menu.
II. Please check the information.
III. Press action key exit and return to Function test menu.

Show RF Status

I. Press Action key to select Show RF Status on Function test menu.
II. Please check the information.
III. Press action key exit and return to Function test menu.

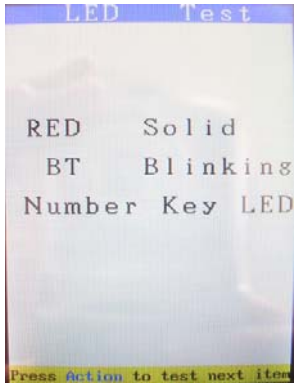
LED Test-1

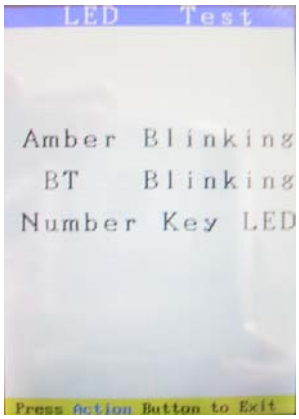
I. Press Action key to select LED on Function test menu.
II. Follow the screen instruction to check the LED status.
III. Press Action key to test next item.



LED Test-2

IV. Follow the screen instruction to check the LED status.
V. Press Action key to test next item.

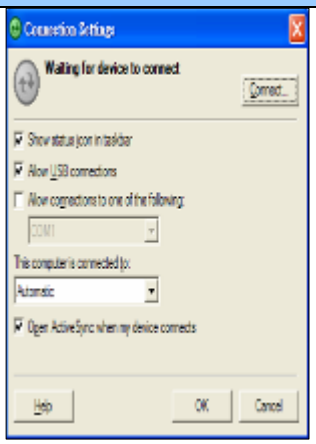


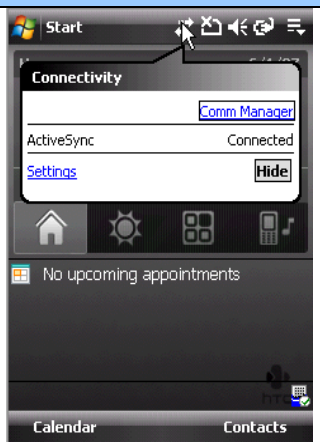
LED Test-3	
VI. Follow the screen instruction to check the LED status. VII. Press action key exit and return to Function test menu.	
Backlight Test	
I. Press Action key to select Backlight on Function test menu. II. Press action key test next level.(Level3 -> Level2 -> Level1 -> Black screen) III. Press action key exit and return to Function test menu.	
MR Sensor Test	
I. Follow the screen instruction to close the slide keyboard.	

WinCE Test

USB Test

I. Start up the Microsoft® ActiveSync® V4.5 or above program in the PC.
II. Insert USB cable and connect unit to desktop/ or laptop.
III. The USB to PC icon -> is appears on the Today screen when your device is connected to your desktop/ or laptop.

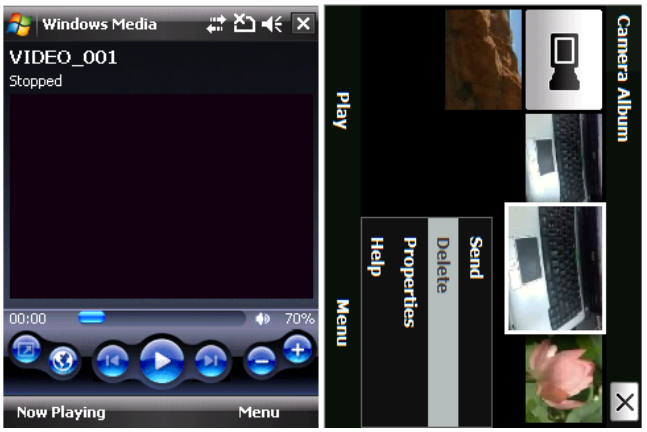




Camera Test

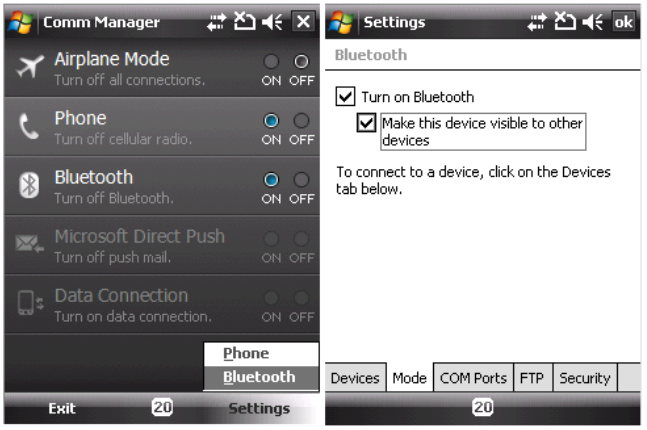
I. Tap Start->Program->Camera or Press Camera button to turn on the Camera.
II. Make sure the device will present and enter the preview display.
III. Check camera pre-view and image quality.
IV. Photo Test:
(1). Press Capture key.
(2). Press Capture key again.
(3). Tap 'Delete' icon on the preview screen, then Yes.
V. Video Recording Test
(1). Tap the camera icon until a video icon appears.
(2). Press Capture key to start recording a clip.
(3). Press Capture key again to stop recording.

(4). On the preview screen, tap the 'Magnifier' icon to view the captured video clip.
(5). Tap X. to close the camera program
(6). Tap the 'Browser' icon and choose My video.
(7). Tap and Hold on the clip and select Delete.
(8). Tap X and then X to exit.



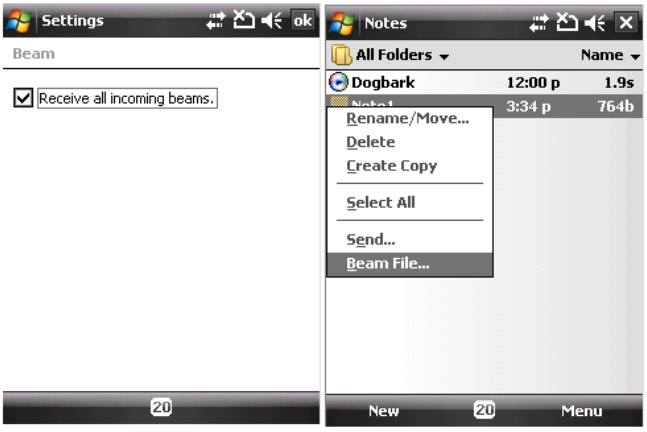
Bluetooth Test - 1

I. Tap icon Comm Manager on the Today screen and turn on Bluetooth.
II. Tap the icon “Settings” down-right the corner of the screen and select the “Make this device….” Checkbox.
III. Press Action key to go next test pattern.



Bluetooth Test - 2

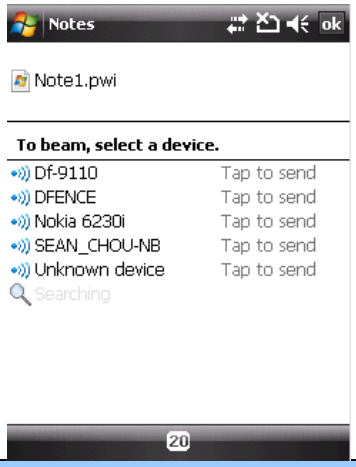
I. Tap Start->Settings->Connections-> Beam and select “Receive all….” Checkbox.
II. To create a file, tap Start->Programs ->Notes->New.
III. Tap and select the “Beam file…”



Bluetooth Test - 3

IV. Once device is searched, tap the device to send the file.

V. Return to Today screen and tap Start->Program->Comm Manager ->Bluetooth to turn off Bluetooth.



GPRS/3G connection Test

I. Tap Start, Settings, Connections, Connections.

II. Select 'Add a new modem connection'

III. Key in random name for the first field, and choose 'Cellular Line (GPRS/3G)' as second field.

IV. Tap Next, and key in name of the 'access point carrier'.

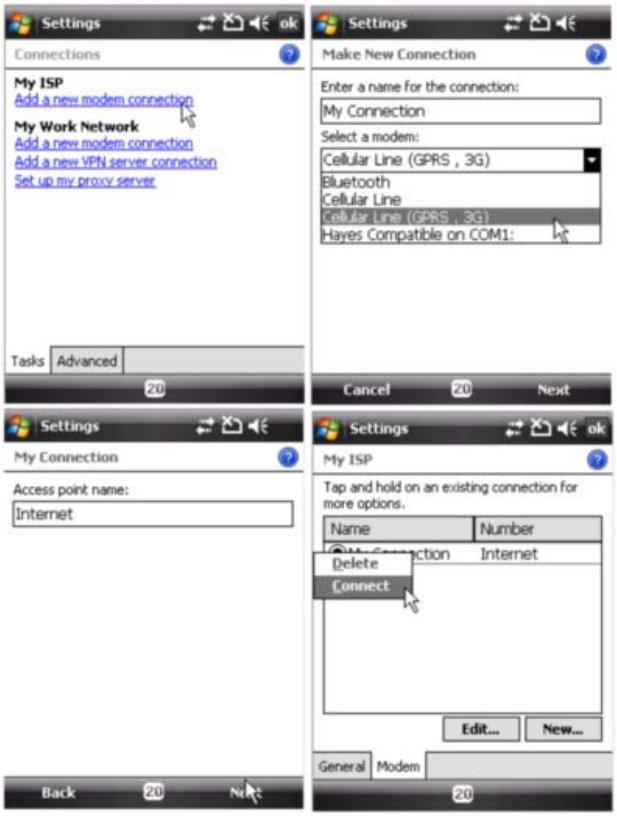
V. Tap Next, then key in the GPRS/3G account details, then Finish.

VI. Tap 'Manage existing connections', then tap and hold on an existing connection. Tap 'Connect'

VII. Tap Start and select Internet Explorer.

VIII. On the address bar, key in an address.

IX. (9). Tap and Hold the 'END' key to disconnect GPRS/3G.



Audio Test

I. Download “NeonAudio Test100.zip” from SDO.
http://htcscm10.htc.com.tw/SDO

II. Un-zip the image file.

III. Copy “MFGWINCEAPI.dll” and “NeonAudioTest.exe” to storage card.

IV. Execute “**NeonAudio Test.exe**” from storage card.(Fig.1)

V. Execute **Tools -> AudioTest -> Speaker Test** (Fig.2, Fig.3)

VI. Check Audio voice on this screen.

VII. Execute **Tools -> AudioTest -> Receiver Test** (Fig.2, Fig.4)

VIII. Check Receiver function on this page. The receiver will give off 1k Hz sound that human can hear it by ear.

IX. Execute **Tools -> AudioTest -> Headset Test** (Fig.2, Fig.5)

X. Check Headset function. (including headset stereo function)

XI. Execute **Tools -> AudioTest -> Int-Record Test** (Fig.2, Fig.6)

XII. Check Internal microphone record function.

XIII. Execute **Tools -> AudioTest -> Ext-Record Test**

XIV. Check external microphone record.

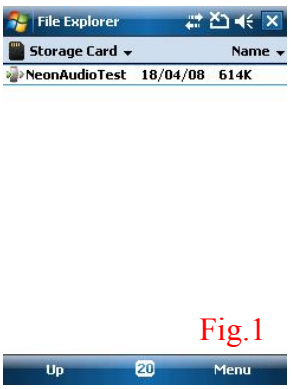


Fig.1

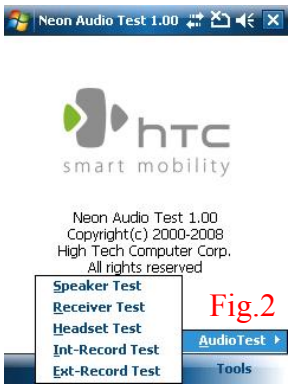


Fig.2

Fig.3

Fig.4

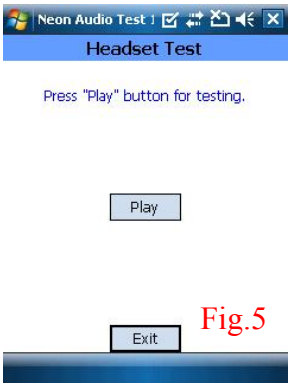


Fig.5

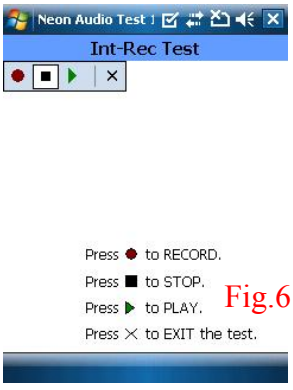
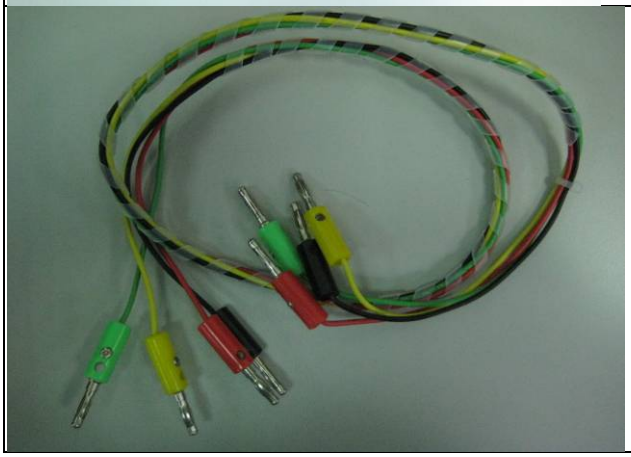


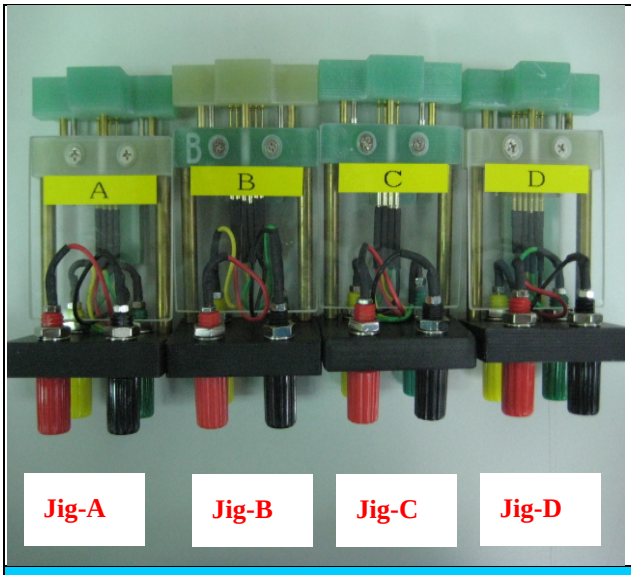
Fig.6

5. Power measurement test

5.1 Main board leakage current Test Procedure

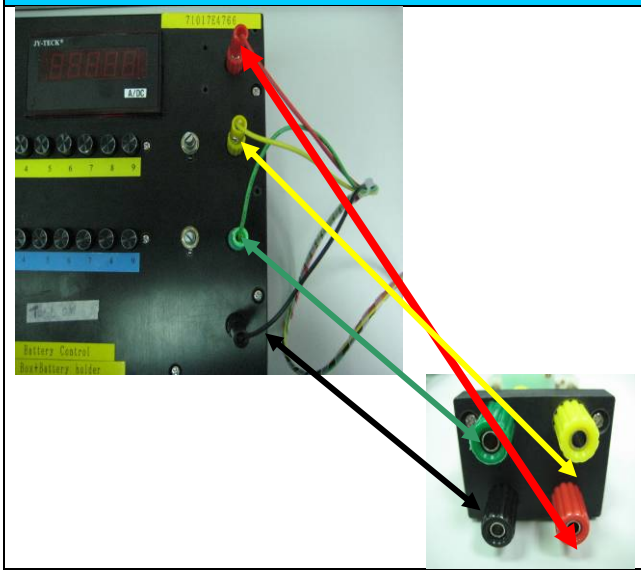
This is a quick method to measure if any abnormal leakage current on main board which caused high power consumption compare to GOOD main board.

Equipment list	
	**1. Control box**
	**2. 4 colors cable** Cable A: Red Cable B: Yellow Cable C: Green Cable D: Black



C. 4 types Jig
Jig - A (4 pins-Long)
Jig - B (6 pins-Short)
Jig - C (4 pins-Short)
Jig - D (6 pins-Long)

Equipment set up



1. Connect control box and jig through 4 colors cable

2. Set up each button by row A~D according to product specification Following is an example for NEON

MADEL	JIG TYPE	Button set up matrix			
		A	B	C	D
NEON	A	0	8	0	0

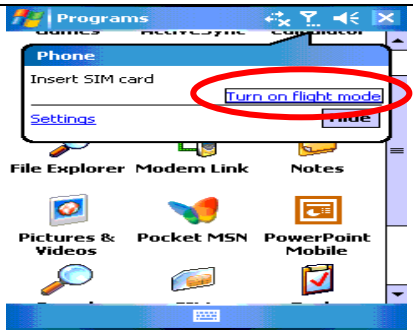
It means, press button A0,B0,C4,D0

3. Install jig to device (the photo is for reference only)

Start testing

1. Turn on control box power button

2. Press Power button to turn on the Device

	3. In “main page”, Check phone status, Click “Turn on flight mode” Set the unit to : * Flight mode * Make sure all RF function is off (phone, BT, Wifi..)
Idle current test	4. Measure Idle mode current. Idle current value must under 32mA, if over the criteria, it means M/B failed, please replace M/B for repair.
Sleep current test	5. After idle current checked, Switch OFF the unit. Unit is turn off and no display. Sleep current value must under 1.7mA, if over the criteria, it means M/B failed, please replace M/B for repair.

Conclusion:

If current consumption is passed at both of idle and sleep mode, it means M/B is GOOD. If there is any item FAILED at idle or sleep mode, it means M/B is failed, please replace M/B for repair.

Model	Jig Type	Button set up matrix				Testing Criteria	
		A	B	C	D	Idle Current <=	Sleep Current <=
NEON	A	0	8	0	0	32 mA	1.7 mA

5.2 Battery rundown test procedure

Test Requirement:

-Windows 2000/XP

-USB Cable

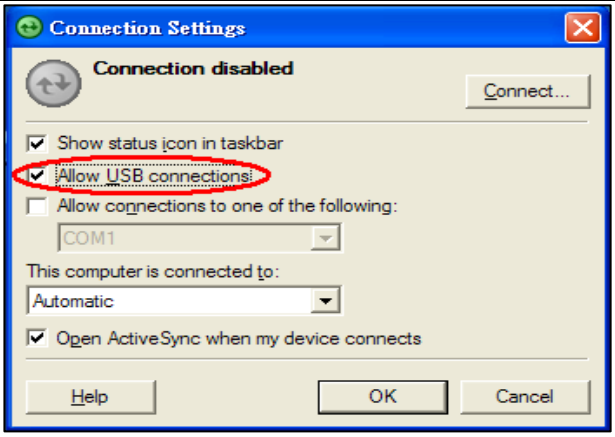
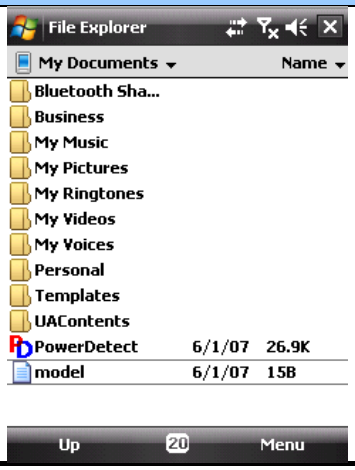
-ActiveSync 4.5 or above

-Master Unit

-Battery in Warrantee

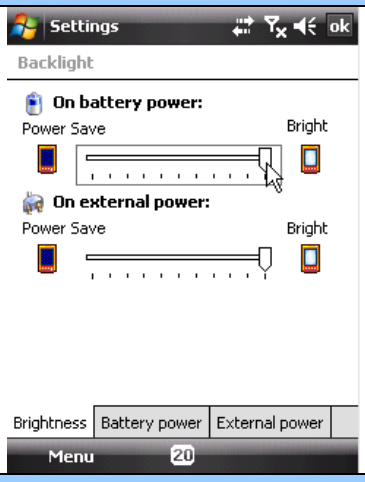
Caution: Please charge your unit to full capacity for battery (until the green light is displayed) before doing the test.

TEST PROCEDURE

Connect device to PC	
I. Setting and allow USB connections in Microsoft ActiveSync. II. Connect your device and desktop/ or laptop via USB cable. III. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC.	
Copy the Battery Rundown tool into the device	
IV. Make a folder in the device. V. Download testing program from SDO. VI. Copy PowerDetect.exe and model.txt into the folder.	

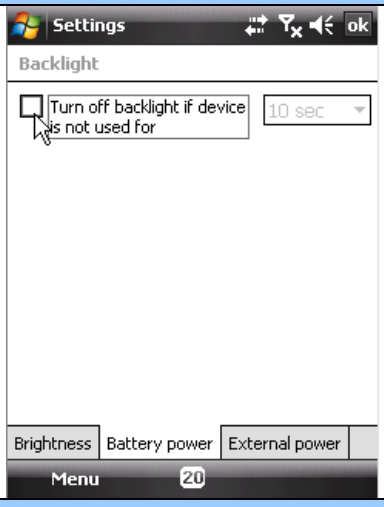
Battery Rundown-1

VII. Adjust the Backlight brightness into the maximum level on battery power.



Battery Rundown-2

VIII. Disable Turn off backlight if device is not used for in Battery power.



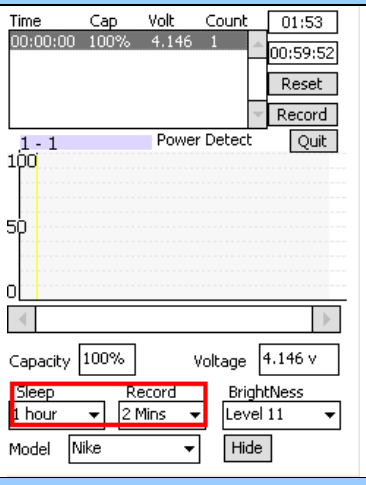
Battery Rundown-3

IX. Execute PowerDetect.exe under WinCE

Battery Rundown-3

X. Set the Sleep as 1hour

XI. Set the Record as 2Mins

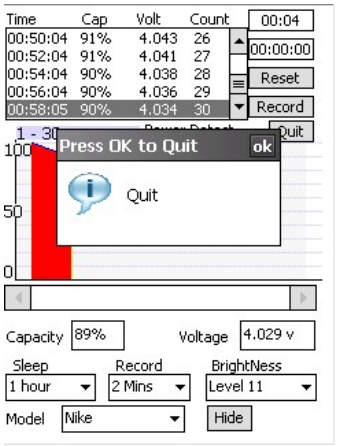


Battery Rundown-4

XII. After running 1 hour, the test will be finished.

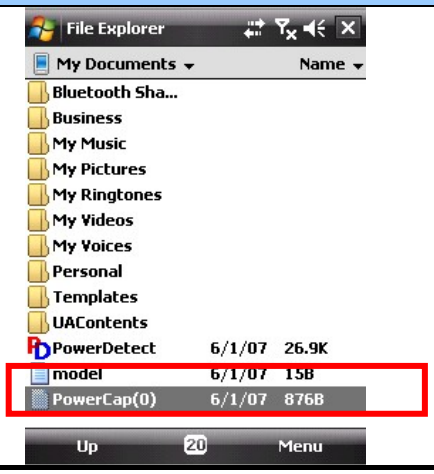
XIII. Press the Power Button to turn on the power.

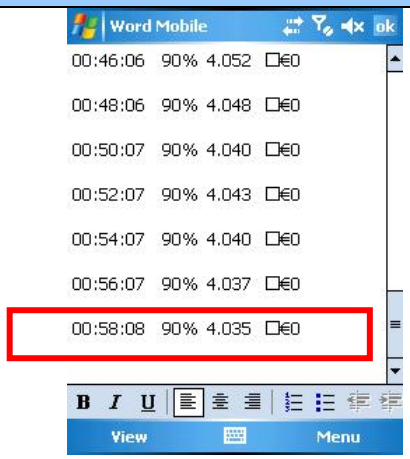
XIV. Click ok to quit the program.



Battery Rundown-5

XV. Test result is generated into the log file as PowerCap(x).



Battery Rundown-6	
XVI. Tag the log file to check the capacity.	
Caution: If the capacity is under 70%, Please replace a new battery.	

6. Cosmetic Inspection Criteria

6.1 Classes definition of inspective area :

Class A

Class B

Class C

Class D

6.1.1 Description:

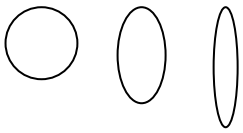
1. D: Diameter / **L**: Length / **W**: Width / **N**: Number of defects/ **S**: Distance from dot to dot
2. Inspecting distance: 30 ± 5cm / Mechanical inspection angle：90 degrees /
   LCM inspection angle：90±15 degrees / Inspection time:5 secs per surface.
3. Ambient illumination is to be 500-1100 lux
4. The inspection condition of Newton ring:
   a. Inspection distance: 30cm / Inspection time: 5 sec
      (Could check it after one hour)
   b. Ambient illumination is to be 500-1000 Lux (Incandescent lamp)
   c. Inspection should be performed under the condition that LCD

screen could reflect the mirror image of lamp.

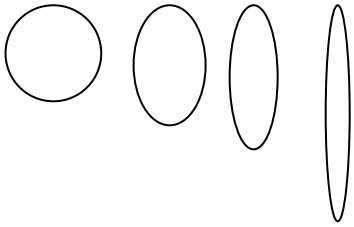
d. The criteria of Newton ring's tinges must follow up the worst-case sample.

e. The area of Newton ring.

For less than 2.8 inch LCM, the area is smaller than 7*7 square mm



For 2.8 to 7 inch LCM, the area is smaller than 10*10 square mm



6.2 Display inspection :

Inspection Defects			Accept Level	Level
1. Electrical Characteristic Defects	1.Bright Dots	Single	Red+ Green+ Blue ≦ 3 S ≥ 5mm.	Minor
		2 adjacent	0	Minor
		3 or more adjacent	0	Minor
	2.Dark Dots	Single	Total Number ≦ 2 S ≥ 5mm.	Minor
		2 adjacent	0	Minor
	3. Dark or Bright lines		0	Minor
	4. All Allowable Dots Defects		Total Number ≦ 3 S ≥ 5mm.	Minor
	5. Shift and tilt of screen viewed area		The black edge around display area must be detected by front view.	Minor

2. Foreign Scratch, Objects or Lint	1. Scratch	0.03 < W ≦ 0.1 (mm) L ≦ 5 (mm) N ≦ 2	Minor
	2. Lint (linear foreign objects)	0.03 < W ≦ 0.1 (mm) 0.3 < L ≦ 3.0 (mm) N ≦ 5	Minor
	3. Spots	0.1 < D ≦ 0.3 (mm) N ≦ 4	Minor
	4. Fish eye on film	0.1 < D ≦ 0.4 (mm) N ≦ 4	Minor
	5. Breakage on film surface	Not acceptable	Minor
	6. Total acceptable defect quantity ≦ 10		Minor

6.3 Main unit inspection:

6.3.1 Cosmetic inspection generic spec :

1. Exposure of substratum is not acceptable for peeling. (Area 4 is included)If not exposure of substratum, please check by SPEC of dot or scratch. (Area 4 is not included)
2. Logo may not have blurred or double print., the peeling on logo is not acceptable.
3. The character printing of main unit does not allow bad printing, scratch, dirty, lacquered peeling, dark/white dot on it)
4. Camera Lens: Contamination dot / foreign matter
   D≦0.25mm, S≧3mm；Lint: L≦1.5mm , W≦0.2mm。
5. Accessories include Cradle; please follow Class B for inspection.
6. Main unit cosmetic inspection criteria of class D, please follow dummy class C for inspection criteria.

6.3.2 System assembly inspection:

Gap inspection		
Description		**Accept criteria**
1.	Gap between each key and ME parts	Can't stuck up or no click feeling It couldn't allow stuck up at pressing process.
2	Gap between all generic ME parts	Gap between all generic ME parts < 0.4 mm
3	Slider gap between B and C part	Slider gap between B and C part ≦ 0.9 mm
4	Stylus (If necessary)	Stylus assembly protruding, loose, missing, falling and deformed is not allowed.
5	outlook dimension spec	Device thickness: 18.05mm (+0.4mm / -0.1mm)
6.	Others, refer to production release spec	Others, refer to production release spec

Step inspection		
Description		**Accept criteria**
1.	Step between mating parts.	Step < 0.3 mm
2.	Others, refer to production release spec	Others, refer to production release spec

Scratch

Description	**Accept criteria**	
Class A	Exposure of substrate do not accept Scratch : L≦4mm ,W≦0.2mm ,N≦2, S≧10mm	**MI**

Class B	Exposure of substrate do not accept Scratch : L≦7mm ,W≦0.25mm ,N≦3, S≧10mm If IR window has scratch without any effective feeling then don't care IR window scratch: L≦3mm,W≦0.2mm,N≦3	**MI**
Class C	Label area don't care Exposure of substrate do not accept Scratch : L≦10mm ,W≦0.4mm ,N≦5, S≧5mm	**MI**

Contamination dot/Granule dot/Cave granule

Description	**Accept criteria**	
Class A	D≦0.5mm ,N≦2,S ≧15 mm Ignored if D D≦ 0.15mm	**MI**
Class B	Total: D<0.6mm ,N≦4,S ≧15 mm Ignored if D D≦ 0.25mm	**MI**
Class C	D<0.9mm ,N≦4,S ≧10 mm	**MI**

Burr….etc.

Description	**Accept criteria**	
Burr.	Don't accept hand scrape	**MI**

Imprint mark

Description	**Accept criteria**	
Class A	0.25≦diameter≦0.65mm ,N≦3	**MI**
Class B	0.65mm<Diameter≦1.00mm,N≦3	**MI**

Bright mark

Description	Accept criteria	
Class A	L≦2.5mm,W≦0.25mm,N≦3	**MI**
Class B	L≦3.0mm,W≦0.25mm,N≦4	**MI**
Class C	L≦3.0mm,W≦0.3mm,N≦5	**MI**

Lint

Description	Accept criteria	
Class A	L≦3mm , W≦0.2mm ,N≦2, S ≧5 mm	**MI**
Class B	L≦5mm , W≦0.3mm ,N≦3, S ≧5 mm	**MI**
Class C	L≦10mm , W≦0.3 mm ,N≦3	**MI**

This definition is not applicable to LCM.

7. Generic Troubleshooting

1 · Main Unit Does Not Respond to Power Button

(1) Connect the AC adapter, maybe the battery pack is exhaust and wait few minutes for battery recharging.

(2) Check if battery installed well.

(3) Check the Power Button whether it's damaged.

(4) Replace another battery pack.

(5) Try to start boot-loader mode [refer to section 4.2]. Re-flash ROM if boot loader mode is enabled.

(6) Check all connectors including LCD FPC to Main Board.

(7) Replace Main Board if necessary.

(8) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

2 · Touch Panel Does Not Respond to Screen Tap

(1) Check the connection of LCM FPC cable whether is properly connected.

(2) Try to cold boot the unit then perform screen tap again.

(3) Try with another LCM.

(4) Try with another Main Board.

(5) Replace LCM if necessary

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

3 · Buttons Do Not Respond

(1) Try to cold boot the unit then tries again.

(2) Dismantle the unit; check the status of switches on the Main Board and the plastic parts of the Button not responding.

(3) Try with another Main Board or Front Bezel.

(4) Replace Main Board or Front Bezel if necessary.

(5) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

4 · Unusual Vertical / Horizontal lines or partial display

(1) Check the connection of LCM FPC whether is properly connected.

(2) Try to cold boot the unit then tries again.

(3) Try to re-flash the ROM code.

(4) Try with another LCM.

(5) Try with another Main Board.

(6) Replace LCM if necessary

(7) Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

5 · Back Light Does Not Turn ON/OFF

(1) Check the connection of LCM FPC whether is properly connected.

(2) Try to re-flash the ROM code.

(3) Try with another LCM.

(4) Try with another Main Board.

(5) Replace LCM if necessary

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

6 · microSD Card cannot be used

(1) Check whether microSD Card is fully inserted to the slot until you hear a click.

(2) Try to re-flash the ROM code.

(3) Try with another microSD Card.

(4) Try with another Main Board.

(5) Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

7 · PC Connection not possible

(1) If test result is NFF, it is possible caused by user connect cradle to computer before ActiveSync is installed.

(2) Check whether “Connection Settings” in the MS ActiveSync is properly set.

(3) Check whether it connects with other cables or cradle, customer’s cable might be damaged.

(4) Check the external appearance of the connector on the unit whether it is physically damaged.

(5) Try to re-flash the ROM code.

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

8 · Battery Pack does not start

(1) Make sure the battery cover is closed properly.

(2) Connect to the AC Adapter and see if it takes charge. Also check AC Adapter condition.

(3) Check whether AC Adapter is functioning properly.

(4) Check whether the condition of Battery Charging status is correct.

(5) Check the appearance of Battery Pack if any abnormal..

(6) Try with another Battery Pack or Replace Battery Pack if necessary

(7) Try with another Main Board or Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

9 · Battery discharges quickly even after fully charged

(1) Make sure the Battery Pack takes fully charge with AC Adapter.

(2) Check whether the condition of Battery Charging status is correct.

(3) Dismantle the unit and check the appearance of Battery Pack.

(4) Try with another Battery Pack or Replace Battery Pack if necessary

(5) Try with another Main Board or Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

10 · Battery Pack does not recharge

(1) Make sure the Battery Pack takes fully charge with AC Adapter.

(2) Check whether the condition of Battery Charging status is correct. Charge should be done no more than 4 hours.

(3) Dismantle the unit and check the appearance of Battery Pack.

(4) Try with another Battery Pack or Replace Battery Pack if necessary

(5) Try with another Main Board or Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

11 · No Sound from Speaker or Distorted sound

(1) Check “Sound & Notifications” Settings in the unit for Sound Enabling.

(2) Make sure it’s not MUTED.

(3) Try to re-flash the ROM code.

(4) Clean up the speaker connection side on MB if there is any contamination.

(5) Dismantle and Check whether the Speaker is properly installed (Orientation)

(6) Replace Speaker if necessary.

(7) Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

12 · No Recorded Sound or Distorted sound

(1) Check “Sound & Notifications” Settings in the unit for Sound Enabling.

(2) Make sure it’s not MUTED.

(3) Try to re-flash the ROM code.

(4) Dismantle and Check whether the Microphone is properly installed.

(5) Replace Microphone if necessary.

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

13 · BT connection not functioning

(1) Make sure the wireless environment is OK before connecting to WLAN.

(2) Make sure the wireless connection setting has properly set.

(3) Make a life connection with Internet or another device.

(4) Try to re-flash the ROM code.

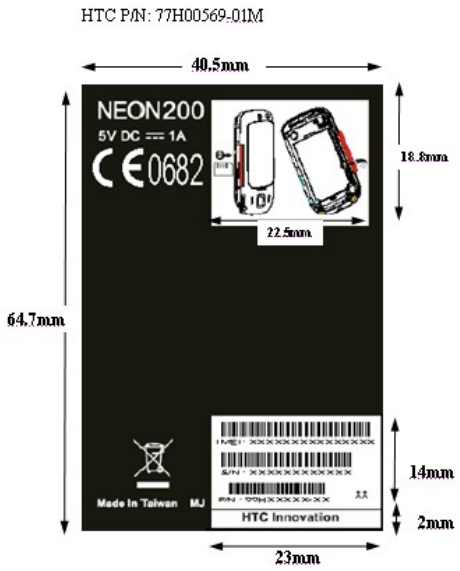
(5) Try with another main board if necessary

(6) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

8. Generic Labeling Plan

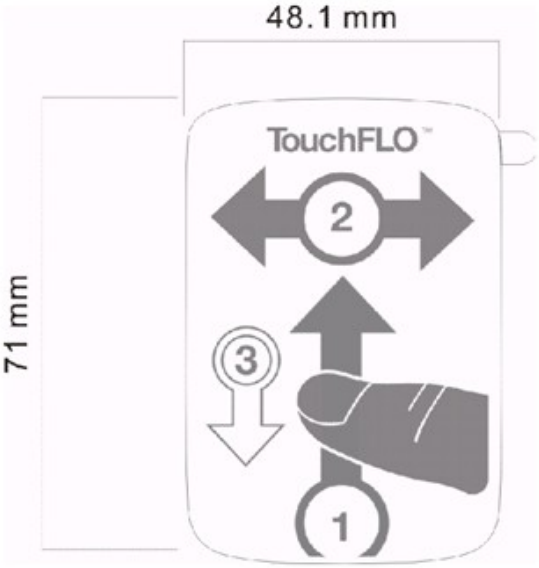
8.1 Main unit Regulation label-(for JP)

8.2 Main unit Regulation label (on the rear housing of main unit)



8.3 Screen Protector label

HTC P/N: 76H02262-00M
Size: 71* 48.1mm



8.4 Main Battery Warning Label (SMP)-for Neon100(JP)

HTC P/N: 35H00109-00M
Image file name: Main_Battery_warning
Manufacture by battery vendor.

8.5 Main Battery Warning Label (SMP)-for Neon200

HTC P/N: 35H00110-00M
Image file name: Main_Battery_warning
Manufacture by battery vendor.

9 Generic Spare Part List and Photos

9.1 SPL for Repair

Item	HTC P/N	Description	Using Q'ty	Remark
1	35H00109-00M	BATTERY_LI-POLYMER,1000mAh,3.7V,CER759-2,SONY,SIMPLO,60/-20degC,65.1*41*5.3mm,Neon 1 each 1(XA)	1	
2	36H00632-00M	Receiver,2403 266 00028 ,PHILIPS 1 each 1(A)	1	
3	36H00636-00M	Speaker,SBD181029P-BS01B8,BLUECOM 1 each 1(A)	1	
4	36H00662-00M	Additional Antenna,AMPHENOL,HT0733-12-001-C,Antenna,HT0733-12-001-C,Al	1	
5	51H00443-00M	PCBA-MAIN BOARD,Generic 16 key,Neon	1	
6	51H10068-00M	Rigid-Flex Board ASSY,SD board(AB board),Generic,Neon 1 each 8(A01)	1	
7	54H00260-00M	Camera Module,07P008,LITEON,FF,LiteOn,Largan,SUIWA,OV6680,Largan-988A,0.16Mpixel,56.35*5.92*3.09mm 1 each 1(A)	1	
8	54H00273-00M	Camera Module,LITEON,07PK02,Neon 1 each 1(XA)	1	
9	60H00108-00M	TFT-LCD,L5F30634T00,EPSON,64.7*46.2*1.85mm,Nike 1 each 1(A)	1	
10	61H00110-01M	Touch Window,67.87*46.94*1.62mm,NISSHA,HIT-V3A,NIKE	1	
11	71H02239-00M	Cover,SD_DOOR,TPU,NEON	1	
12	72H00464-00M	SCREW_KH-B1.4X2 BZ,AISI-1018 1 each 1(A01)	1	Phillips
13	72H00934-00M	Screw,M1.6*2,SKH-M16020NI,POINT SCREW 1 each 1(A)	1	Phillips
14	72H01129-00M	Screw,PH,FD,T1.4*2.4,Nickel,Black,AISI 1018 2 each 1(A)	2	Phillips
15	72H02246-00M	Screw,PH-M1.6*2.5 BZ+NY,NIKE 4 each 1(A)	4	Phillips
16	72H02287-00M	Screw,KH,M1.6*1.4,POINT SCREW,Neon 4 each 1(A)	4	Phillips
17	72H02289-00M	Screw,M1.6*3.5,Neon 8 each 1(A)	8	TORX
18	72H02341-00M	Conductive Fabric,Q840K-19.5X9X0.09t-1,U-TEK,19.5*9*0.09mm,Neon	1	
19	72H02347-00M	EMI Gasket,U-TEK,10*5*1mm,Neon 1 each 1(A)	1	
20	73H20129-41M	FPC Pre-Assy,B to B Sliding Board,GLOBAL FLEX,Tradition-SS_DS,Neon	1	
21	74H01049-00M	Stylus Pre-Assy,Neon 1 each 1(XA)	1	
22	74H01052-00M	Cover Pre-Assy,Battery,16key,Neon 1 each 4(XD)	1	
23	74H01054-00M	Housing Pre-Assy,HOUSING-D_ASSY,16key,NEON 1 each 4(XD)	1	
24	74H01093-00M	HINGE_PRE_ASSY,NEON 1 each 1(XA)	1	
25	74H01096-00M	Bezel Pre-Assy,A,NEON 1 each 6(XF)	1	
26	74H01098-00M	Housing Pre-Assy,HOUSING-C_ASSY,LONGHAN,NEON 1 each 4(XD)	1	
27	74H01099-00M	Keypad Pre-Assy,ZEITO,16KEY,NEON 1 each 1(XA)	1	
28	74H01100-00M	Keypad Pre-Assy,NAVI_KEY,Neon 1 each 1(XA)	1	
29	74H01104-00M	Cover Pre-Assy,RECEIVER,NEON 1 each 1(XA)	1	
30	76H02239-00M	Rubber,Rubber,MIC,NIKE 1 each 1(A)	1	
31	76H02246-00M	Mylar,2nd-cam,NEON 2 each 1(A)	2	
32	76H02262-00M	Film,48.1*69.1mm,film,TouchFLO film on LCD,CHENG MAY,NIKE 1 each 1(A)	1	
33	76H02330-00M	Rubber,Silicon,main,camera,Neon 1 each 1(XA)	1	

NOTE:

THE PHOTO OF SPL IS GENERIC AND ONLY FOR REFERENCE, THE COLOR AND APPEARANCE MAY BE DIFFERENT FROM THE SHIPPED PARTS, IF YOU WANT TO APPLY THOSE PARTS, PLEASE CONTACT YOUR SERVICE ACCOUNT MANAGER FOR MORE INFORMATION. AS FOR PICTURE, PLEASE REFER TO

THE TABLE AS BELOW.

Picture for SPL 80H Kernel and Accessories

(Part no on picture is for Generic version only, please check SPL for detail per customer)

Part No.	35H00109-00M
Description	BATTERY_LI-ION
Q'ty	1
Repair Code	B101
Refurbishment	Yes

Part No.	36H00632-00M
Description	Receiver
Q'ty	1
Repair Code	G103.1
Refurbishment	No

Part No.	51H00443-00M
Description	PCBA MAIN BOARD
Q'ty	1
Repair Code	M101
Refurbishment	No

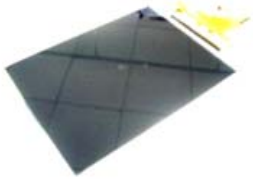
Part No.	36H00636-00M
Description	Speaker
Q'ty	1
Repair Code	G103
Refurbishment	No

Part No.	51H10068-00M
Description	Rigid-Flex Board
Q'ty	1
Repair Code	M201.2
Refurbishment	No

Part No.	54H00273-00M
Description	Main Camera Module,07PE03
Q'ty	1
Repair Code	G117
Refurbishment	No

Part No.	54H00260-00M
Description	2nd Camera Module,07P008
Q'ty	1
Repair Code	G117
Refurbishment	No

Part No.	60H00108-00M
Description	LCD
Q'ty	1
Repair Code	L101
Refurbishment	No



Part No.	71H02239-00M
Description	Cover SD_DOOR
Q'ty	1
Repair Code	C113
Refurbishment	No

Part No.	72H00464-00M
Description	SCREW_KH-B1.4X2 BZ,AISI-1018
Q'ty	1
Repair Code	O05
Refurbishment	No

Part No.	72H01129-00M
Description	Screw,PH,FD,T1.4*2.4,Nickel,Black,AISI1018
Q'ty	2
Repair Code	O05
Refurbishment	No

Part No.	72H02246-00M
Description	Screw,PH-M1.6*2.5 BZ+NY,NIKE
Q'ty	4
Repair Code	O05
Refurbishment	No

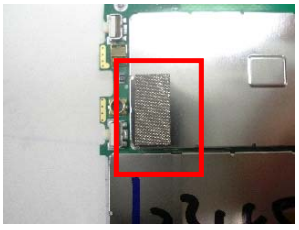
Part No.	72H02287-00M
Description	Screw,KH,M1.6*1.4, POINT SCREW,Neon
Q'ty	4
Repair Code	O05
Refurbishment	No

Part No.	72H02289-00M
Description	Screw,M1.6*3.5,Neon
Q'ty	8
Repair Code	O05
Refurbishment	No

Part No.	36H00662-00M
Description	Antenna
Q'ty	1
Repair Code	G114
Refurbishment	Yes

Part No.	72H00934-00M
Description	Screw,M1.6*2,SKH-M16020NI,POINT SCREW
Q'ty	1
Repair Code	O05
Refurbishment	No

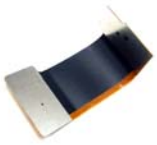
Part No.	72H02347-00M
Description	EMI Gasket
Q'ty	1
Repair Code	NA
Refurbishment	No



Part No.	72H02341-00M
Description	Conductive Fabric
Q'ty	1
Repair Code	NA
Refurbishment	No

Part No.	74H01049-00M
Description	Stylus
Q'ty	1
Repair Code	G102
Refurbishment	Yes

Part No.	73H20187-41M
Description	FPC Pre-Assy,B to B Sliding Board
Q'ty	1
Repair Code	C122.3
Refurbishment	No



Part No.	74H01100-00M
Description	NAVI_KEY
Q'ty	1
Repair Code	C105
Refurbishment	Yes

Part No.	80H00672-00
Description	FRU-SUB ASSY,Bezel w/Touch window
Q'ty	1
Repair Code	C101.8
Refurbishment	Yes

Part No.	74H01178-00M
Description	Housing Pre-Assy,C_ASSY_2ND
Q'ty	1
Repair Code	C101.6
Refurbishment	Yes

Part No.	74H01054-00M
Description	Housing D part
Q'ty	1
Repair Code	C102.6
Refurbishment	No

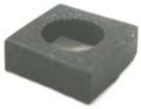
Part No.	74H01104-00M
Description	Receiver Cover
Q'ty	1
Repair Code	C112.1
Refurbishment	Yes

Part No.	74H01052-00M
Description	Battery cover
Q'ty	1
Repair Code	C112
Refurbishment	Yes

Part No.	74H01165-00M
Description	HINGE
Q'ty	1
Repair Code	C112.4
Refurbishment	Yes

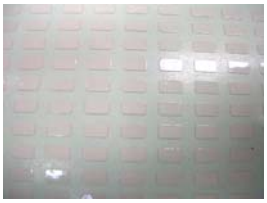
Part No.	74H01099-00M
Description	Keypad
Q'ty	1
Repair Code	C109
Refurbishment	No

Part No.	76H02330-00M
Description	Camera Rubber
Q'ty	1
Repair Code	NA
Refurbishment	Yes



Part No.	76H02246-00M
Description	Mylar,2nd-cam,NEON
Q'ty	1
Repair Code	NA
Refurbishment	No

Part No.	77H00488-00M
Description	Water Sensitive Label,5*2.8*0.2mm,
Q'ty	1
Repair Code	NA
Refurbishment	Yes



Part No.	76H02239-00M
Description	MIC Rubber
Q'ty	1
Repair Code	G114.2
Refurbishment	No

Part No.	36H00582-01M
Description	Earphone
Q'ty	1
Repair Code	G106
Refurbishment	Yes

Part No.	70H00144-02M
Description	Accessary Pouch
Q'ty	1
Repair Code	G110
Refurbishment	No

Part No	73H00131-04M
Description	USB Cable with WEEE logo
Q'ty	1
Repair Code	G110
Refurbishment	Yes

Part No	77H00314-00M
Description	Warranty Label,LABLE,SECURITY
Q'ty	1
Repair Code	NA
Refurbishment	No

Part No	79H00055-01M
Description	AC Adapter,1A,5V
Q'ty	1
Repair Code	G101
Refurbishment	Yes

Part No	77H00569-00M
Description	Regulation Label,64.7*40.5mm,
Q'ty	1
Repair Code	NA
Refurbishment	No

9.2 Board Level 2.5 Repairs

■ Basic Repair Instructions for Component Replacement:

Step 1 Place the solder-proof tape to cover the surrounding area of the components which being replaced.

Warning：DO NOT overheat the tape and components to avoid the tape melted and the components damaged

Step 2 Use Heater Gun (HAKO850B, set the temperature between 350°C, Air Speed 3~5) to remove the components.

Step 3 Wait till the temperature cool down before removing the solder-proof tape to avoid other components being removed

Step 4 After the damaged or defective components have been replaced; clear the surroundings for solder and flux residues.

Notice:

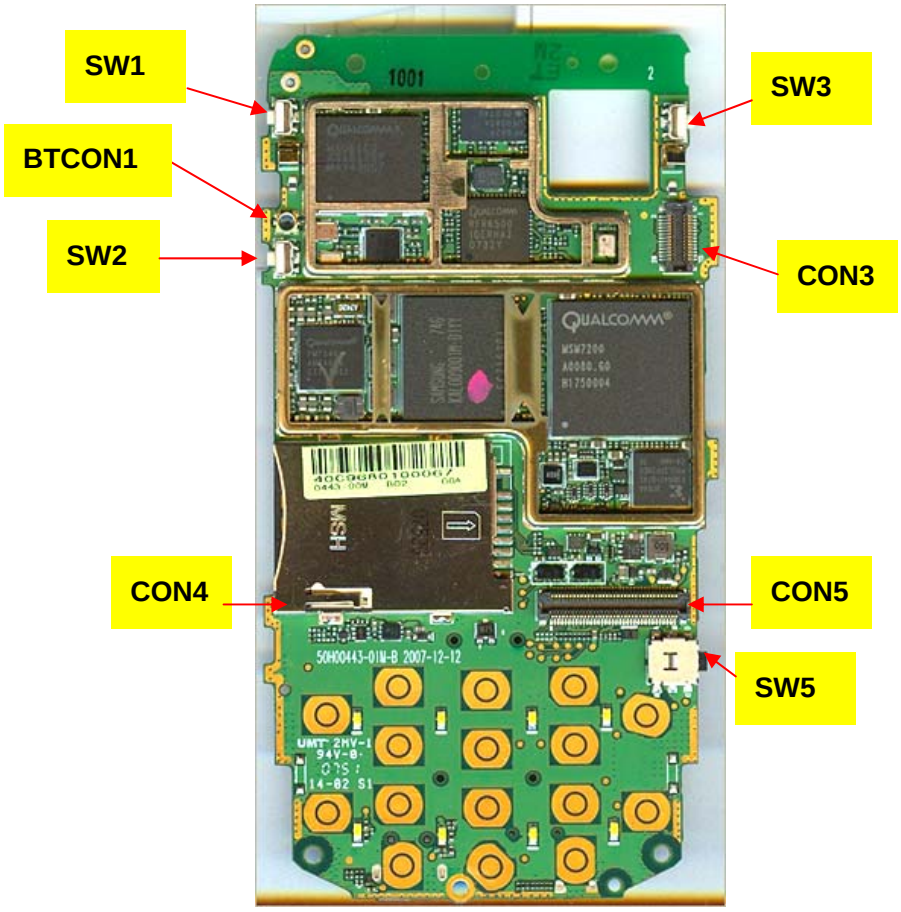
A. All the parts of the PCB should be checked if it is missing or not.

B. The OP must to wear antistatic wrist band. Don't put boards together and avoid hitting them.

C. When you solder and repair that the soldering iron ,temperature must be setup 415℃. (The temperature range is 415℃±5℃),and the solder wire's diameter is 0.4/0.5/0.6mm(SAC 305 (1.1%)

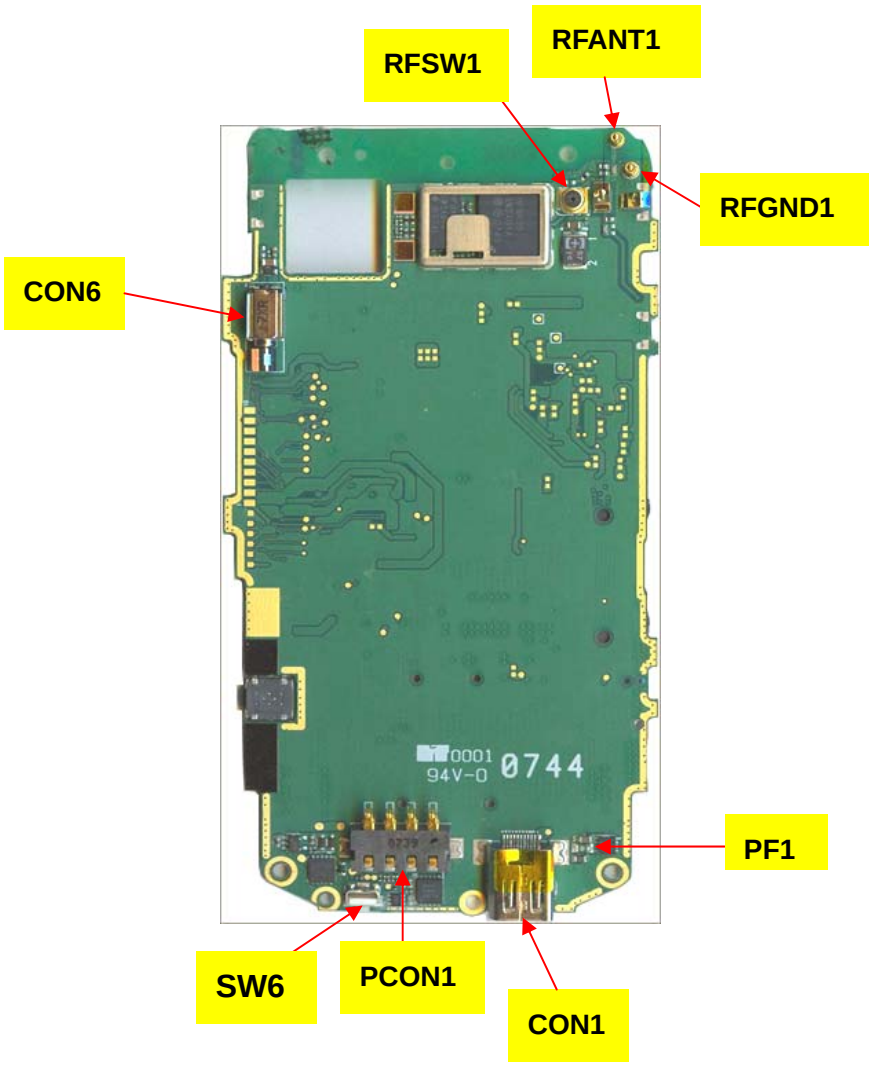
➢ 51H00443-00M PCBA-MAIN BOARD (Side A)

51H00443-00M PCBA-MAIN BOARD (Side A)				
Location	**P/N**	**Description**	**Q'ty**	**Description**
CON3	75H00728-00M	Connector B to B,26P,0.4Pitch,90mohm,0.5A,60V,MATSUSHITA,AXT326164,CA	1	Main camera connector
CON4	75H00706-00M	Connector SIM Card,9P,1.27Pitch,SPPN08-D0-1000,PROCONN	1	SIM connector
CON5	75H00724-00M	Connector B to B,1000mohm,70P,0.4Pitch,0.3A,60V,AXT370164,MATSUSHITA	1	Main FPC connector
BTCON1	75H00734-00M	Connector RF,6P,2Pitch,MM8130-2600,MURATA,2.5*2.5*1.5mm	1	BT-Ann connector
SW1 SW2 SW3	36H00515-00M	Switch,LS12K2-T,CITIZEN,3.85*2.9*1.55mm	4	Switch
SW5	36H00682-00M	Switch,T-MEC,NTC603-CC1G-B200T,5.5*5*1.55mm,Neon	1	Camera Switch



51H00443-00M PCBA-MAIN BOARD (Side B)

51H00443-00M PCBA-MAIN BOARD (Side B)				
Location	**P/N**	**Description**	**Q'ty**	**Description**
PF1	36H00300-00M	Fuse,046702.5,2.5A/32V,LITTLEFUSE,Apache	1	Fuse
RFANT1 RFGND1	75H00795-00P	Antenna-W/O Elec Inspection,ACON,SBT13-1030G04	2	Antenna POGO pin
CON1	75H00465-10M	Connector I/O,Reverse,11P,0.4pitch,302-11101-01,ACT,Vera	1	Mini USB
CON6	36H00665-00M	Vibrator,BHT-3285,SANYO,SMT Type,70/-20degC,11*4.4*3.6mm	1	Vibrator
PCON1	75H00745-00M	Connector Others,20mohm,4P,2.5Pitch,15V,XS800-04000-12a,ACT	1	Bettery connector
RFSW1	75H00514-00P	Connector RF,Female,4P,MS-162,HIROSE,3.5*3.1*2.5mm	1	EXT-Ann Connector
SW6	36H00515-00M	Switch,LS12K2-T,CITIZEN,3.85*2.9*1.55mm	4	Switch



10 RF Antenna Specification

- **Neon**

Neon WCDMA Antenna Test Specification					
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell powe	note
1	Camp@ W-CDMA Band (2100	3	9613 / 10563	-60	
2	BS Originate Cell	3	9613 / 10563	-60	
Receiver Test					
3	Fast Bit Error Rate	3	9613 / 10563	-105	<= 0.1 %
4	Fast Bit Error Rate	3	9750 / 10700	-105	
5	Fast Bit Error Rate	3	9887 / 10837	-105	
Transmitter Test					
6	TX Power	3	9613 / 10563	-60	>= 18 dbm
7	TX Power	3	9750 / 10700	-60	
8	TX Power	3	9887 / 10837	-60	
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell powe	note
1	Camp@ W-CDMA Band (850	3	4133 / 4358	-60	
2	BS Originate Cell	3	4133 / 4358	-60	
Receiver Test					
3	Fast Bit Error Rate	3	4133 / 4358	-104	<= 0.1 %
4	Fast Bit Error Rate	3	4175 / 4400	-104	
5	Fast Bit Error Rate	3	4232 / 4457	-104	
Transmitter Test					
6	TX Power	3	4133 / 4358	-60	>= 18 dbm
7	TX Power	3	4175 / 4400	-60	
8	TX Power	3	4232 / 4457	-60	

Neon GSM Antenna Test Specification

Item	Test Name	TX Level	TCH	1st Downlink cell power	note
1	Wait_Signal	0	600	-65	
2	Power_Class	0	600	-65	
PCS 1900 Receiver Test					
3	Fast Bit Error Rate	0	512	-104	<= 2 %
4	Fast Bit Error Rate	0	662	-104	
5	Fast Bit Error Rate	0	810	-104	
PCS 1900 Transmitter Test					
6	TX Power	0	512	-65	>= 26 dbm
7	TX Power	0	662	-65	
8	TX Power	0	810	-65	
GSM 850 Receiver Test					
9	Fast Bit Error Rate	5	128	-104	<= 2 %
10	Fast Bit Error Rate	5	189	-104	
11	Fast Bit Error Rate	5	251	-104	
GSM 850 Transmitter Test					
12	TX Power	5	128	-65	>= 28 dbm
13	TX Power	5	189	-65	
14	TX Power	5	251	-65	
PCS 1800 Receiver Test					
21	Fast Bit Error Rate	0	512	-104	<= 2 %
22	Fast Bit Error Rate	0	698	-104	
23	Fast Bit Error Rate	0	885	-104	
PCS 1800 Transmitter Test					
24	TX Power	0	512	-65	>= 26 dbm
25	TX Power	0	698	-65	
26	TX Power	0	885	-65	
GSM 900 Receiver Test					
9	Fast Bit Error Rate	5	975	-104	<= 2 %
10	Fast Bit Error Rate	5	37	-104	
11	Fast Bit Error Rate	5	124	-104	
GSM 900 Transmitter Test					
12	TX Power	5	975	-65	>= 28 dbm
13	TX Power	5	37	-65	
14	TX Power	5	124	-65	

- **Neon –Docomo**

Neon WCDMA Antenna Test Specification					
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Camp@ W-CDMA Band (2100)	3	9613 / 10563	-60	
2	BS Originate Cell	3	9613 / 10563	-60	
Receiver Test					
3	Fast Bit Error Rate	3	9613 / 10563	-104	
4	Fast Bit Error Rate	3	9750 / 10700	-104	<= 0.1 %
5	Fast Bit Error Rate	3	9887 / 10837	-104	
Transmitter Test					
6	TX Power	3	9613 / 10563	-60	
7	TX Power	3	9750 / 10700	-60	>= 18 dbm
8	TX Power	3	9887 / 10837	-60	
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Camp@ W-CDMA Band (850)	3	4133 / 4358	-60	
2	BS Originate Cell	3	4133 / 4358	-60	
Receiver Test					
3	Fast Bit Error Rate	3	4133 / 4358	-104	
4	Fast Bit Error Rate	3	4175 / 4400	-104	<= 0.1 %
5	Fast Bit Error Rate	3	4232 / 4457	-104	
Transmitter Test					
6	TX Power	3	4133 / 4358	-60	
7	TX Power	3	4175 / 4400	-60	>= 18 dbm
8	TX Power	3	4232 / 4457	-60	

Neon GSM Antenna Test Specification					
Item	Test Name	TX Level	TCH	1st Downlink cell power	note
1	Wait_Signal	0	600	-65	
2	Power_Class	0	600	-65	
PCS 1900 Receiver Test					
3	Fast Bit Error Rate	0	512	-104	
4	Fast Bit Error Rate	0	662	-104	<= 2 %
5	Fast Bit Error Rate	0	810	-104	
PCS 1900 Transmitter Test					
6	TX Power	0	512	-65	
7	TX Power	0	662	-65	>= 26 dbm
8	TX Power	0	810	-65	
GSM 850 Receiver Test					
9	Fast Bit Error Rate	5	128	-104	
10	Fast Bit Error Rate	5	189	-104	<= 2 %
11	Fast Bit Error Rate	5	251	-104	
GSM 850 Transmitter Test					
12	TX Power	5	128	-65	
13	TX Power	5	189	-65	>= 28 dbm
14	TX Power	5	251	-65	
PCS 1800 Receiver Test					
21	Fast Bit Error Rate	0	512	-104	
22	Fast Bit Error Rate	0	698	-104	<= 2 %
23	Fast Bit Error Rate	0	885	-104	
PCS 1800 Transmitter Test					
24	TX Power	0	512	-65	
25	TX Power	0	698	-65	>= 26 dbm
26	TX Power	0	885	-65	

Neon #K

Neon WCDMA Antenna Test Specification					
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Camp@ W-CDMA Band (2100)	3	9613 / 10563	-60	
2	BS Originate Cell	3	9613 / 10563	-60	
Receiver Test					
3	Fast Bit Error Rate	3	9613 / 10563	-104	
4	Fast Bit Error Rate	3	9750 / 10700	-104	<= 0.1 %
5	Fast Bit Error Rate	3	9887 / 10837	-104	
Transmitter Test					
6	TX Power	3	9613 / 10563	-60	
7	TX Power	3	9750 / 10700	-60	>= 18 dbm
8	TX Power	3	9887 / 10837	-60	

Neon GSM Antenna Test Specification					
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Wait_Signal	0	600	-65	
2	Power_Class	0	600	-65	
GSM 850 Receiver Test					
3	Fast Bit Error Rate	5	128	-104	
4	Fast Bit Error Rate	5	189	-104	<= 2 %
5	Fast Bit Error Rate	5	251	-104	
GSM 850 Transmitter Test					
6	TX Power	5	128	-65	
7	TX Power	5	189	-65	>= 28 dbm
8	TX Power	5	251	-65	
GSM 900 Receiver Test					
9	Fast Bit Error Rate	5	975	-104	<= 2 %
GSM 900 Transmitter Test					
10	TX Power	5	975	-65	>= 28 dbm

- **Neon #C**

Items	Test Name	TCH	lst Downlink CellPower	Note
US_Cellular Ttansmitter Test				
1	Check TX Output Power	1013	-104	
2	Check TX Output Power	384	-104	
3	Check TX Output Power	777	-104	
US_Cellular Ttansmitter Test				
4	FER(Frame error rate)	1013	-104	
5	FER(Frame error rate)	384	-104	
6	FER(Frame error rate)	777	-104	
7	ERRS	1013	-104	
8	ERRS	384	-104	
9	ERRS	777	-104	
US_PCS Ttansmitter Test				
10	Check TX Output Power	25	-104	
11	Check TX Output Power	600	-104	
12	Check TX Output Power	1175	-104	
US_PCS Ttansmitter Test				
13	FER(Frame error rate)	25	-104	
14	FER(Frame error rate)	600	-104	
15	FER(Frame error rate)	1175	-104	
16	ERRS	25	-104	
17	ERRS	600	-104	
18	ERRS	1175	-104	

- **Neon #U**

Neon WCDMA Antenna Test Specification					
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Camp@ W-CDMA Band (1900)	3	9263 / 9663	-60	
2	BS Originate Cell	3	9263 / 9663	-60	
Receiver Test					
3	Fast Bit Error Rate	3	9263 / 9663	-104	
4	Fast Bit Error Rate	3	9400 / 9800	-104	<= 0.1 %
5	Fast Bit Error Rate	3	9537 / 9937	-104	
Transmitter Test					
6	TX Power	3	9263 / 9663	-60	
7	TX Power	3	9400 / 9800	-60	>= 18 dbm
8	TX Power	3	9537 / 9937	-60	
Item	Test Name	TX Level	Uplink / Downlink UA RF CN	1st Downlink cell power	note
1	Camp@ W-CDMA Band (850)	3	4133 / 4358	-60	
2	BS Originate Cell	3	4133 / 4358	-60	
Receiver Test					
3	Fast Bit Error Rate	3	4133 / 4358	-104	
4	Fast Bit Error Rate	3	4175 / 4400	-104	<= 0.1 %
5	Fast Bit Error Rate	3	4232 / 4457	-104	
Transmitter Test					
6	TX Power	3	4133 / 4358	-60	
7	TX Power	3	4175 / 4400	-60	>= 18 dbm
8	TX Power	3	4232 / 4457	-60	

Neon GSM Antenna Test Specification					
Item	Test Name	TX Level	TCH	1st Downlink cell power	note
1	Wait_Signal	0	600	-65	
2	Power_Class	0	600	-65	
PCS 1900 Receiver Test					
3	Fast Bit Error Rate	0	512	-104	
4	Fast Bit Error Rate	0	662	-104	<= 2 %
5	Fast Bit Error Rate	0	810	-104	
PCS 1900 Transmitter Test					
6	TX Power	0	512	-65	
7	TX Power	0	662	-65	>= 26 dbm
8	TX Power	0	810	-65	
GSM 850 Receiver Test					
9	Fast Bit Error Rate	5	128	-104	
10	Fast Bit Error Rate	5	189	-104	<= 2 %
11	Fast Bit Error Rate	5	251	-104	
GSM 850 Transmitter Test					
12	TX Power	5	128	-65	
13	TX Power	5	189	-65	>= 28 dbm
14	TX Power	5	251	-65	
PCS 1800 Receiver Test					
21	Fast Bit Error Rate	0	512	-104	
22	Fast Bit Error Rate	0	698	-104	<= 2 %
23	Fast Bit Error Rate	0	885	-104	
PCS 1800 Transmitter Test					
24	TX Power	0	512	-65	
25	TX Power	0	698	-65	>= 26 dbm
26	TX Power	0	885	-65	