Entry Point
Order Routing

Certification Script

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Contents

Revision History

Date	Version	Description	Author
April 07, 2015	4.4	- Market Maker Protection updated	DC CTC
December 12, 2013	4.3	- "Stop With Protection" scenarios updated - "Frozen Instrument" scenario removed - "Cross orders" scenario now available for DMA on Equities segment	AMS/CTC
March 4, 2013	4.2	- Automation of Certification script on MyCTC	CTC
November 21, 2012	4.1	- Corrected Scenario "Self Trade Prevention" - Corrected Requirement of scenario "Account Modification" - Corrected scenario "Market on Auction" - Corrected scenario "Trade on Behalf"	JMCGA/CTC
September 15, 2012	4.0	- Added New Release scenario: C;E; Q	JMCGA/CTC
August 27, 2012	3.5	- Correction in scenario "Limit Orders with validity Day" - Correction in scenario "Order entry with frozen instrument"	DCG/CTC
August 23, 2012	3.4	- Line scenario modified - Forward scenario modified - E&B scenario modified - Self-Trade Prevention scenario modified - GTSClient Drop Copy scenario removal - "Order entry with reserved instrument" scenario modified - Market on Auction scenario modified	DCG/CTC
May 25, 2012	3.3	- Corrected the self-trade prevention scenario - Removed session message scenario - Included scenarios C6 for equities - Scenario A5.3 is no longer mandatory - Trade give up corrected	JMCGA/CTC
May 09, 2012	3.2	- Notes for still unavailable scenarios included - Scenario 2.8 moved to 1.8 once it is now mandatory - Corrected, in the EntryPoint line scenario the quantity and price to be accepted in Mega EntryPoint and EntryPoint Derivatives, also added the rejection information - Added the session messages tests - Corrected Self Trade Prevention scenario. - Corrected Cancel On Disconnect scenario.	JMCGA/CTC
January 11, 2012	3.1	- Initial version	AMS/CTC

1. Preface

This document describes the series of tests that qualify a third-party institution to connect to BM&FBOVESPA for the purpose of routing orders for Derivatives and Equities segments using FIX4.4 (Financial Information exchange).

FIX is a technical specification for an electronic communication of trade-related messages. It is an open standard managed by members of FIX Protocol Limited.
(www.fixprotocol.org)

This document outlines the certification process to route orders through BM&FBOVESPA's EntryPoint and is provided for third-parties which need trading connectivity with BM&FBOVESPA.

To request copies of this document, please contact: **ctc@bvmf.com.br**

2. Introduction

The test scenarios will be executed sequentially, and each one will be available for 15 minutes, this way, the expected results can be verified and initially analyzed in case of failure.

2.1. Pre- requisite

All FIX messages should follow the specification in "EntryPoint: Order Entry Messaging – Message Specification" and "EntryPoint: Order Entry Messaging - Messaging Guidelines" which are available on the BM&FBOVESPA's website at: http://www.bmfbovespa.com.br/en-us/services/trading-platforms/entrypoint.aspx?idioma=en-us

3. Glossary

GTD	Good Till Date
GTC	Good Till Cancel
IOC	Immediate Or Cancel
FAK	Fill And Kill
FOK	Fill Or Kill
ATC	At The Close
GFA	Good For Auction
HFT	High Frequence Trader

	A1. LIMIT Orders with Validity DAY Tags: 35=D; 40=2; 59=0 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Expected result	Req	Status	
A1.1	Customer: Sends buy limit order, DAY • 100@20,00 CTC: Sends sell limit order, DAY • 100@20,00	Orders filled - Trade	Y	☐ Pass	☐ N/E
A1.2	Customer: Sends buy limit order, DAY • 200@20,00 CTC: Sends sell limit order, DAY • 100@20,00	Orders partially filled - Trade Orders in the book: • Buy 100@20,00	Y	☐ Pass	☐ N/E
A1.3	Customer: Modifies pending buy order • From: 100@20,00 • Modify to: 300@21,00	Modification of the pending offer Orders in the book: • Buy 200@21,00	Y	☐ Pass	☐ N/E
A1.4	CTC: Sends sell limit order, DAY • 100@21,00	Modified order partial filled - Trade Orders in the book: • Buy 100@21,00	Y	☐ Pass	☐ N/E
A1.5	Customer: Cancels pending order • 100@21,00	Cancel pending order.	Y	☐ Pass	☐ N/E
A1.6	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, DAY • 100@21,00	Orders in the book: • Buy: 200@20,00 • Sell: 100@21,00	Y	☐ Pass	☐ N/E
A1.7	Customer: Modifies pending sell order • From: 100@21,00 • Modify to: 300@20,00	Modified order partial filled - Trade Orders in the book: • Sell 100@20,00	Y	☐ Pass	☐ N/E
A1.8	Customer: Logs out of the connection with the Exchange	Receive logout message 35=5.	Y	☐ Pass	☐ N/E
A1.9	CTC: Cancels sell limit order, DAY	Cancel pending order	Y	☐ Pass	☐ N/E
A1.10	Customer: Sends the logon message with 141=N (don't restart the sequence number) Customer: sends resend request message	The orders that have not been sent shall not be submitted to the Exchange. Execution Report messages are resent.	Y	☐ Pass	☐ N/E
A1.11	CTC: Cancels trade(s)	Trades cancelled	Y	☐ Pass	☐ N/E

	A2. LIMIT Orders with Validity GTC Tags: 35=D; 40=2; 59=1 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Expected result	Req	Status	
A2.1	Customer: Sends buy limit order, GTC • 100@20,00 CTC: Sends sell limit order, DAY • 100@20,00	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
A2.2	Customer: Sends buy limit order, GTC • 200@20,00 CTC: Sends sell limit order, DAY • 100@20,00	Orders partially filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E
A2.3	Customer: Modifies pending buy order • From: 100@20,00 • Modify to: 300@21,00	Pending orders in the book modification Orders in the book: • Buy 200@21,00	N	☐ Pass	☐ N/E
A2.4	CTC: Sends sell limit order, DAY • 100@21,00	Modified order partially filled Trade. Orders in the book: • Buy 100@21,00	N	☐ Pass	☐ N/E
A2.5	Customer: Cancels pending order • 100@21,00	Cancel pending order.	N	☐ Pass	☐ N/E
A2.6	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, GTC • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
A2.7	Customer: Modifies pending sell order • From: 100@21,00 • Modify to: 300@20,00	Modified order partially filled: Trade. Orders on in the book: • Sell 100@20,00	N	☐ Pass	☐ N/E
A2.8	CTC: Cancels sell limit order, GTC	Cancel pending order.	N	☐ Pass	☐ N/E
A2.9	CTC: Cancels trade(s).	Trades cancelled.	N	☐ Pass	☐ N/E

Step	Description	Expected Result	Req	Status	
A3. LIMIT Orders with Validity IOC/FAK Tags: 35=D; 40=2; 59=3 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader					
A3.1	Customer: Sends buy limit order, IOC/FAK • 100@20,00	Immediate order cancel	Y	☐ Pass	☐ N/E
A3.2	CTC: Sends sell limit order, DAY • 100@20,00 Customer: Sends buy limit order, IOC/FAK • 200@20,00	Orders partially filled. • Trade. Cancel pending Quantity: • Buy 100@20,00	Y	☐ Pass	☐ N/E
A3.3	Customer: Sends buy limit order, DAY • 100@20,00 Customer: Modifies buy order to validity IOC/FAK	Order modification execution: • Order cancelled.	N	☐ Pass	☐ N/E
A3.4	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, IOC/FAK • 100@20,00	Orders totally filled. • Trade. Pending Quantity : • Buy 100@20,00	Y	☐ Pass	☐ N/E
A3.5	Customer: Sends sell limit order, IOC/FAK • 100@20,00	Orders totally filled. • Trade.	Y	☐ Pass	☐ N/E
A3.6	CTC: Cancels trade(s)	Trades cancelled	Y	☐ Pass	☐ N/E

	A4. LIMIT Orders with Validity GTD Tags: 35=D; 40=2; 59=6 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Expected Result	Req	Status	
A4.1	Customer: Sends buy limit order, GTD • 100@20,00 CTC: Sends sell limit order, DAY • 100@20,00	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
A4.2	Customer: Sends buy limit order, GTD • 200@20,00 CTC: Sends sell limit order, GTD • 100@20,00	Orders partially filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E
A4.3	Customer: Modifies pending buy order • From: 100@20,00 • Modify to: 300@21,00	Pending orders in the book modification Orders in the book: • Buy 200@21,00	N	☐ Pass	☐ N/E
A4.4	CTC: Sends sell limit order, GTD • 100@21,00	Modified order partially filled: Trade. Orders in the book: • Buy 100@21,00	N	☐ Pass	☐ N/E
A4.5	Customer: Cancels pending order • 100@21,00	Cancel pending order.	N	☐ Pass	☐ N/E
A4.6	CTC: Sends buy limit order, GTD • 200@20,00 Customer: Sends sell limit order, GTD • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
A4.7	Customer: Modifies pending sell order • From: 100@21,00 • Modify to: 300@20,00	Modified order partially filled: Trade. Orders in the book: • Sell 100@20,00	N	☐ Pass	☐ N/E
A4.8	Customer: Sends buy limit order, GTD with **earlier date** • 100@20,00	Order rejection.	N	☐ Pass	☐ N/E
A4.9	CTC: Cancels sell limit order	Cancel pending order.	N	☐ Pass	☐ N/E
A4.10	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	A5. LIMIT Orders with Validity FOK Tags: 35=D; 40=2; 59=4 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and desk trader			12	
Step	Description	Expected Result	Req	Status	
A5.1	Customer: Sends buy limit order, FOK • 100@20,00	Immediate order cancel	N	☐ Pass	☐ N/E
A5.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, FOK • 200@20,00	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
A5.3	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, FOK • 400@20,00	Immediate order cancel	N	☐ Pass	☐ N/E
A5.4	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

Step	Description	Expected Result	Req	Status	
B1. MARKET TO LIMIT Orders with Validity DAY Tags: 35=D; 40=K; 59=0 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader					
B1.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, DAY • 100@Market to Limit	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
B1.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market to Limit sell order, DAY • 100@Market to Limit	Orders totally filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E
B1.3	Customer: Sends Market to Limit sell order, DAY • 200@Market to Limit	Order partially filled. Trade Orders on in the book: • Sell 100@20,00	N	☐ Pass	☐ N/E
B1.4	Customer: Cancels pending order • 100@20,00	Cancel pending order.	N	☐ Pass	☐ N/E
B1.5	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, DAY • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
B1.6	Customer: Modifies sell limit order, DAY • From: 100@21,00 • Modify to: 200@Market to Limit	Modified order totally filled: Trade.	N	☐ Pass	☐ N/E
B1.7	CTC: Sends buy limit order, DAY • 100@20,00 • 100@21,00 Customer: Sends Market to Limit sell order, DAY • 200@Market to Limit	Order partially filled. Trade. Orders in the book: • Buy 100@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
B1.8	CTC: Cancels buy and sell limit orders, DAY. including Customer's order	Pending order(s) cancel	N	☐ Pass	☐ N/E
B1.9	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	B2. MARKET TO LIMIT Orders with Validity GTC Tags: 35=D; 40=K; 59=1 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Expected Result	Req	Status	
B2.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, GTC • 100@Market to Limit	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
B2.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market to Limit sell order, GTC • 100@Market to Limit	Orders totally filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E
B2.3	Customer: Sends Market to Limit sell order, GTC • 200@Market to Limit	Order partial filled. Trade Orders in the book: • Sell 100@20,00	N	☐ Pass	☐ N/E
B2.4	Customer: Cancels pending order • 100@20,00	Cancel pending order.	N	☐ Pass	☐ N/E
B2.5	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, GTC • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
B2.6	Customer: Modifies sell limit order, GTC • From: 100@21,00 • Modify to: 200@Market to Limit	Modified order totally filled: Trade.	N	☐ Pass	☐ N/E
B2.7	CTC: Sends buy limit order, DAY • 100@20,00 • 100@21,00 Customer: Sends Market to Limit sell order, GTC • 200@Market to Limit	Order partial filled. Trade. Orders in the book: • Buy 100@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
B2.8	CTC: Cancels buy and sell limit orders, GTC. including Customer's order	Pending order(s) cancel.	N	☐ Pass	☐ N/E
B2.9	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	B3. MARKET TO LIMIT Orders with Validity IOC/FAK Tags: 35=D; 40=K; 59=3 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader					
Step	Description	Expected Result	Req	Status	
B3.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, IOC/FAK • 100@Market to Limit	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
B3.2	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, IOC/FAK • 200@Market to Limit	Orders partially filled. • Trade. Pending order cancellation	N	☐ Pass	☐ N/E
B3.3	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends sell limit order, DAY • 100@21,00 Customer: Modifies sell order to validity Market to Limit, IOC/FAK	Order modification execution Orders totally filled - Trade	N	☐ Pass	☐ N/E
B3.4	CTC: Sends sell limit order, DAY • 100@20,00 Customer: Sends Market to Limit buy order, IOC/FAK • 300@Market to Limit	Orders partially filled. • Trade. Order (quantity 200) cancelled.	N	☐ Pass	☐ N/E
B3.5	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	B4. MARKET TO LIMIT Orders with Validity GTD Tags: 35=D; 40=K; 59=6 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader			16		
Step	Description	Expected Result	Req	Status	

B4.1	CTC: Sends buy limit order, DAY
	    100@20,00
	
	Customer: Sends Market to Limit sell order, GTD
	   • 100@Market to Limit
		Orders totally filled.
		Trade.
			N	☐ Pass	☐ N/E

B4.2	CTC: Sends buy limit order, DAY
	   • 100@20,00
	
	Customer: Sends Market to Limit sell order, GTD
	   • 200@Market to Limit
		Orders partial filled.
		Trade.
		
		Orders in the book:
		   • Sell 100@20,00
			N	☐ Pass	☐ N/E

B4.3	Customer: Modifies pending sell order
	   • From: 100@20,00
	   • Modify to: 300@Market to Limit
		Modification Rejected, once there is no Counterparty	N	☐ Pass	☐ N/E

B4.4	CTC: Sends buy limit order, DAY • 100@21,00	Order totally filled Trade.	N	☐ Pass	☐ N/E
B4.5	Customer: Sends Market to Limit sell order, GTD • 100@Market to Limit	Order Rejected once there is no Counterparty	N	☐ Pass	☐ N/E

B4.6	CTC: Sends buy limit order, GTD
	   • 100@20,00
	
	Customer: Sends Market to Limit sell order, GTD
	   • 200@Market to Limit
		Partial filled
		
		Orders in the book:
		   • Sell 100@20,00
			N	☐ Pass	☐ N/E

B4.7	CTC: Cancels pending sell order	Cancel pending order.	N	☐ Pass	☐ N/E
B4.8	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	B5. MARKET TO LIMIT Orders with Validity FOK Tags: 35=D; 40=K; 59=4 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader					
Step	Description	Expected Result	Req	Status	
B5.1	Customer: Sends Market to Limit sell order, FOK • 200@Market to Limit	Order Rejected	N	☐ Pass	☐ N/E
B5.2	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, FOK • 100@Market to Limit	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
B5.3	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market to Limit sell order, FOK • 200@Market to Limit	Order is accepted then canceled	N	☐ Pass	☐ N/E
B5.4	CTC: cancels trades	Trades cancelled	N	☐ Pass	☐ N/E

	C1. MARKET WITH PROTECTION Orders with Validity DAY Tags: 35=D; 40=1; 59=0 Available for: PUMA Equities;					
Step	Description	Expected Result	Req	Status		
	CTC: Adjust protection point to 1,00					
C1.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market with Protection sell order, DAY • 100@Market with Protection	Orders totally filled. Trade.	N	☐ Pass		☐ N/E
C1.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market with Protection sell order, DAY • 100@Market with Protection	Orders totally filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass		☐ N/E
C1.3	Customer: Send Market with Protection sell order, DAY • 200@Market with Protection	Order partially filled. Trade Orders in the book: • Sell 100@19,00	N	☐ Pass		☐ N/E
C1.4	Customer: Cancels pending order • 100@19,00	Cancel pending order.	N	☐ Pass		☐ N/E
C1.5	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, DAY • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass		☐ N/E
C1.6	Customer: Modifies sell limit order, DAY • From: 100@21,00 • Modify to: 200@Market with Protection	Modified order totally filled: Trade.	N	☐ Pass		☐ N/E
C1.7	CTC: Sends buy limit order, DAY • 100@20,00 • 100@21,00 Customer: Sends Market to with Protection sell order, DAY • 200@Market with Protection	Order partially filled then totally filled Trades.	N	☐ Pass		☐ N/E
C1.8	CTC: Sends buy limit order, DAY • 100@20,00 • 100@22,00 Customer: Sends Market to with Protection sell order, DAY • 200@Market with Protection	Order partial filled. Trades. Orders in the book: • Sell 100@21,00 • Buy 100@20,00	N	☐ Pass		☐ N/E
C1.9	CTC: BVMF cancels orders	Pending order(s) cancel.	N	☐ Pass		☐ N/E
C1.10	CTC: cancels trades	Trades cancelled	N	☐ Pass		☐ N/E

	C2. MARKET WITH PROTECTION Orders with Validity GTC Tags: 35=D; 40=1; 59=1 Available for: PUMA Equities;					
Step	Description	Expected Result	Req	Status		
C2.1	CTC: Sendsbuy limit order, DAY • 100@20,00 Customer: Sends Market with Protection sell order, GTC • 100@Market with Protection	Orders totally filled. Trade.	N	☐ Pass	☐ N/E	
C2.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market with Protection sell order, GTC • 100@Market with Protection	Orders totally filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E	
C2.3	Customer: Sends Market with Protection sell order, GTC • 200@Market with Protection	Order partial filled. Trade Orders in the book: • Sell 100@19,00	N	☐ Pass	☐ N/E	
C2.4	Customer: Cancels pending order • 100@19,00	Cancel pending order.	N	☐ Pass	☐ N/E	
C2.5	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, GTC • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E	
C2.6	Customer: Modifies sell limit order, GTC • From: 100@21,00 • Modify to: 200@Market with Protection	Modified order totally filled Trade.	N	☐ Pass	☐ N/E	
C2.7	CTC: Sends buy limit order, DAY • 100@20,00 • 100@21,00 Customer: Sends Market with Protection sell order, GTC • 200@Market with Protection	Partial fill followed by total fill of the order. Trade.	N	☐ Pass	☐ N/E	
C2.8	CTC: Sends buy limit order, DAY • 100@20,00 • 100@22,00 Customer: Sends Market with Protection sell order, GTC • 200@Market with Protection	Order partial filled. Trade. Orders in the book: • Sell 100@21,00 • Buy 100@20,00	N	☐ Pass	☐ N/E	
C2.9	CTC: BVMF cancels orders	Pending order(s) cancel.	N	☐ Pass	☐ N/E	
C2.10	CTC: cancels trades	Trades cancelled	N	☐ Pass	☐ N/E	

		C3. MARKET WITH PROTECTION Orders with Validity IOC/FAK Tags: 35=D; 40=1; 59=3 Available for: PUMA Equities;				
Step	Description	Expected Result	Req	Status		
C3.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market with Protection sell order, IOC/FAK • 100@Market with Protection	Orders totally filled. Trade.	N	☐ Pass		☐ N/E
C3.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market with Protection sell order, IOC/FAK • 100@Market with Protection	Orders totally filled. • Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass		☐ N/E
C3.3	Customer: Sends sell limit order, DAY • 100@21,00 • Customer: Modifies sell order to Market with Protection, IOC/FAK	Order modification execution Orders totally filled. • Trade.	N	☐ Pass		☐ N/E
C3.4	CTC: Sends sell limit order, DAY • 100@20,00 Customer: Sends Market with Protection buy order, IOC/FAK • 300@Market with Protection	Orders partial filled. • Trade. Order (quantity 200) cancelled.	N	☐ Pass		☐ N/E
C3.5	CTC: cancels trades	Trades cancelled	N	☐ Pass		☐ N/E

	C4. MARKET WITH PROTECTION Orders with Validity GTD Tags: 35=D; 40=1; 59=6 Available for: PUMA Equities;				
Step	Description	Expected Result	Req	Status	
C4.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market with Protection sell order, GTD • 100@Market with Protection	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
C4.2	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market with Protection sell order, GTD • 200@Market with Protection	Orders partially filled. Trade. Orders in the book: • Sell 100@19,00	N	☐ Pass	☐ N/E
C4.3	Customer: Modifies pending sell order • From: 100@19,00 • Modify to: 300@22,00	Pending orders in the book modification Orders in the book: • Sell 200@22,00	N	☐ Pass	☐ N/E
C4.4	CTC: Sends buy limit order, GTD • 100@22,00	Modified order partially filled Trade. Orders in the book: • Sell 100@22,00	N	☐ Pass	☐ N/E
C4.5	Customer: Cancels pending order • 100@22,00	Cancel pending order.	N	☐ Pass	☐ N/E
C4.6	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends sell limit order, GTD • 100@21,00	Orders in the book: • Buy 200@20,00 • Sell 100@21,00	N	☐ Pass	☐ N/E
C4.7	Customer: Modifies pending sell order • From: 100@21,00 • Modify to: 200@Market with Protection	Modified order totally filled: Trade.	N	☐ Pass	☐ N/E
C4.8	Customer: Sends sell Market with Protection order, GTD with **earlier date** • 100@20,00	Order rejection.	N	☐ Pass	☐ N/E
C4.9	CTC: cancels trades	Trades cancelled	N	☐ Pass	☐ N/E

	C5. MARKET WITH PROTECTION Orders with Validity FOK Tags: 35=D; 40=1; 59=4 Available for: PUMA Equities;			22		
Step	Description	Expected result	Req	Status		
C5.1	Customer: Sends Market with Protection sell order, FOK • 200@Market with Protection	Order is rejected once there is no counterparty	N	☐ Pass	☐ N/E	
C5.2	CTC: Sends buy limit order, DAY • 200@20,00 Customer: Sends Market with Protection sell order, FOK • 100@Market with Protection	Order totally filled. Trade. Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E	
C5.3	Customer: Sends Market with Protection sell order, FOK • 200@Market with Protection	Order immediate cancelled	N	☐ Pass	☐ N/E	
C5.4	CTC: Sends buy limit order, DAY • 100@21,00 Customer: Sends Market with Protection sell order, FOK • 200@Market with Protection	Orders partially and totally filled. Trade.	N	☐ Pass	☐ N/E	
C5.5	CTC: cancels trades	Trades cancelled	N	☐ Pass	☐ N/E	

Step	Description	Expected Result	Req	Status	
C6. MARKET ON AUCTION Orders Tags: 35=D; 40=1; 59=A Available for: PUMA Equities; Access model: DMA and Desk trader				23	
CTC: Change market state to Reserved					
C6.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends Market sell order, GFA • 100@MOA	Order entry. Orders in the book: • Buy 100@20,00 • Sell 100@MOA	N	☐ Pass	☐ N/E
C6.2	CTC: Sends buy limit order, DAY • 200@21,00 Customer: Sends Market sell order, GFA • 200@MOA	Order entry. Orders in the book: • Buy 200@21,00 • Buy 100@20,00 • Sell 300@MOA	N	☐ Pass	☐ N/E
CTC: Change market state to Open					
C6.3	CTC: Changes market state	MOA Orders totally filled.	N	☐ Pass	☐ N/E
C6.4	CTC: cancels trades	Trades cancelled	N	☐ Pass	☐ N/E

Step	Description	Expected result	Req	Status	
	D1. STOP LIMIT Orders with Validity DAY Tags: 35=D; 40=4; 59=0 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader		24		
D1.1	Customer: Sends Stop Limit buy order, DAY • 100@22,10 • Stop price: 22,00 CTC: Sends buy limit order, DAY • 100@22,00 CTC: Sends sell limit order, DAY • 100@22,00 CTC: Trades at price 22,00 CTC: Sends sell limit order, DAY • 100@22,00 CTC: Trade at price 22,10	Order triggered and totally filled	N	☐ Pass	☐ N/E
D1.2	Customer: Sends Stop Limit buy order, DAY • 200@22,30 • Stop price: 22,20 CTC: Sends buy limit order, DAY • 100@22,20 CTC: Sends sell limit order, DAY • 100@22,20 CTC: Trade at price 22,20 CTC: Sends sell limit order, DAY • 100@22,20 CTC: Trade at price 22,30	Order triggered and partially filled Orders in the book: • Buy 100@22,30	N	☐ Pass	☐ N/E
D1.3	Customer: Cancels pending order • 100@22,30	Cancel pending order.	N	☐ Pass	☐ N/E
D1.4	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	D2. STOP LIMIT Orders with Validity GTC Tags: 35=D; 40=4; 59=1 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader		25		
Step	Description	Expected result	Req	Status	
D2.1	Customer: Sends Stop Limit buy order, GTC • 100@23,10 • Stop price: 23,00 CTC: Sends buy limit order, DAY • 100@23,00 CTC: Sends sell limit order, DAY • 100@23,00 CTC: Trade at price 23,00 CTC: Sends sell limit order, DAY • 100@23,00 CTC: Trade at price 23,10	Order triggered and totally filled	N	☐ Pass	☐ N/E
D2.2	Customer: Send Stop Limit buy order, GTC • 200@23,30 • Stop price: 23,20 CTC: Send buy limit order, DAY • 100@23,20 CTC: Send sell limit order, DAY • 100@23,20 CTC: Trade at price 23,20 CTC: Sends sell limit order, DAY • 100@23,20 CTC: Trade at price 23,30	Order triggered and partially filled Orders in the book: • Buy 100 – 23,30	N	☐ Pass	☐ N/E
D2.3	Customer: Cancels pending order • 100@23,30	Cancel pending order.	N	☐ Pass	☐ N/E
D2.4	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

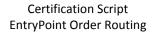|	**D3. STOP LIMIT Orders with Validity GTD** Tags: 35=D; 40=4; 59=6 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				26	
Step	Description	Expected result	Req	Status		
D3.1	Customer: Sends Stop Limit buy order, GTD • 100@25,10 • Stop price: 25,00 CTC: Sends buy limit order, DAY • 100@25,00 CTC: Sends sell limit order, DAY • 100@25,00 CTC: Trade at price 25,00 CTC: Sends sell limit order, DAY • 100@25,00 CTC: Trade at price 25,10	Order triggered and totally filled	N	☐ Pass	☐ N/E
D3.2	Customer: Sends Stop Limit buy order, GTD • 200@25,30; • Stop price: 25,20 CTC: Sends buy limit order, DAY • 100@25,20 CTC: Sends sell limit order, DAY • 100@25,20 CTC: Trade at price 25,20 CTC: Sends sell limit order, DAY • 100@25,30 CTC: Trade at price 25,30.	Order triggered and partially filled Orders in the book: • Buy 100@25,30	N	☐ Pass	☐ N/E
D3.3	Customer: Cancels pending order • 100@25,30	Cancel pending order.	N	☐ Pass	☐ N/E
D3.4	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

Step	Description	Expected Result	Req	Status	
E1. STOP with PROTECTION Orders with Validity DAY Tags: 35=D; 40=3; 59=0 Available for: PUMA Equities					
E1.1	Customer: Sends Stop Loss buy order, DAY • Quantity 100 • Stop price: 27,00 CTC: Changes the Protection value	Order enter and is restated	N	☐ Pass	☐ N/E
E1.2	CTC: Sends buy limit order, DAY • 100@27,00 CTC: Sends sell limit order, DAY • 100@27,00 CTC: Trade at price 27,00 CTC: Sends sell limit order, DAY • 100@27,00 CTC: Trade at price 28,10	Order sent on E1.1 is triggered and filled	N	☐ Pass	☐ N/E
E1.3	Customer: Sends Stop Loss buy order, DAY • Quantity 200 • Stop price: 28,10 CTC: Sends buy limit order, DAY • 100@28,10 CTC: Sends sell limit order, DAY • 100@28,10 CTC: Trade at price 28,10 CTC: Sends sell limit order, DAY • 100@28,10 CTC: Trade at price 29,10	Order triggered and partially filled Orders in the book: • Buy 100 – 29,10	N	☐ Pass	☐ N/E
E1.4	Customer: Cancels pending order • 100@29,10	Pending order cancelled	N	☐ Pass	☐ N/E
E1.5	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

Step	Description	Expected Result	Req	Status	
E2. STOP with PROTECTION Orders with Validity GTC Tags: 35=D; 40=3; 59=1 Available for: PUMA Equities					
E2.1	Customer: Sends Stop Loss buy order, GTC • Quantity 100 • Stop price: 29,20 CTC: Changes the Protection value	Order enter and is restated	N	☐ Pass	☐ N/E
E2.2	CTC: Sends buy limit order, DAY • 100@29,20 CTC: Sends sell limit order, DAY • 100@29,20 CTC: Trade at price 29,20 CTC: Sends sell limit order, DAY • 100@29,20 CTC: Trade at price 30,30	Order sent on E2.1 is triggered and filled	N	☐ Pass	☐ N/E
E2.3	Customer: Sends Stop Loss buy order, GTC • Quantity 200 • Stop price: 30,30 CTC: Sends buy limit order, DAY • 100@30,30 CTC: Sends sell limit order, DAY • 100@30,30 CTC: Trade at price 30,30 CTC: Sends sell limit order, DAY • 100@30,30 CTC: Trade at price 31,30	Order triggered and partially filled Orders in the book: • Buy 100 – 31,30	N	☐ Pass	☐ N/E
E2.4	Customer: Cancels pending order • 100@31,30	Cancel pending order.	N	☐ Pass	☐ N/E
E2.5	CTC: Cancels trade(s)	Trades cancelled	N	☐ Pass	☐ N/E

	E3. STOP with PROTECTION Orders with Validity GTD Tags: 35=D; 40=3; 59=6 Available for: PUMA Equities				
Step	Description	Expected Result	Req	Status	
E3.1	Customer: Sends Stop Loss buy order, GTD • Quantity 100 • Stop price: 31,40 CTC: Changes the Protection value	Order enter and is restated	N	☐ Pass	☐ N/E
E3.2	CTC: Sends buy limit order, DAY • 100@31,40 CTC: Sends sell limit order, DAY • 100@31,40 CTC: Trade at price 31,40 CTC: Sends sell limit order, DAY • 100@31,40 CTC: Trade at price 32,50	Order sent on E3.1 is triggered and filled	N	☐ Pass	☐ N/E
E3.3	Customer: Sends Stop Loss buy order, GTD • Quantity 200 • Stop price: 32,50 CTC: Sends buy limit order, DAY • 100@32,50 CTC: Sends sell limit order, DAY • 100@32,50 CTC: Trade at price 32,50 CTC: Sends sell limit order, DAY • 100@32,50 CTC: Trade at price 33,50	Order triggered and partially filled Orders in the book: • Buy 100@33,50	N	☐ Pass	☐ N/E
E3.4	Customer: Cancels pending order • 100@33,50	Cancel pending order.	N	☐ Pass	☐ N/E
E3.5	CTC: Cancels trade(s)	Trades cancelled *Customer confirms Execution Report*	N	☐ Pass	☐ N/E

	F. Trade Give-Ups Tags: 35=D; 581=40 Available for: PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Result	Req	Status	
F.1	Customer: Sends a sell limit order, DAY • 200@20,00 • Account = 9898 • Account Type = 40 • SenderLocation = BVMF • Valid Entering Trader	Order entry	N	☐ Pass	☐ N/E

<table>
<tr><td colspan="6">G. CROSS Orders with Validity DAY
Tags: 35=s
Available for: PUMA Equities; PUMA Derivatives
Access model: Desk trader (DMA for Equities segment)</td></tr>
</table>

Step	Description	Expected Result	Req	Status	
G.1	Customer: Sends limit Cross orders, DAY with SenderLocation BVMF and valid Entering Trader • 100@20,00	Orders totally filled. Trade.	N	☐ Pass	☐ N/E
G.2	Customer: Sends limit Cross order, DAY with SenderLocation BVMF and invalid Entering Trader • 100@20,00	Order rejected.	N	☐ Pass	☐ N/E
G.3	Customer: Sends limit Cross order, DAY with SenderLocation DMA and valid Entering Trader • 100@20,00	Order rejected.	N	☐ Pass	☐ N/E
G.4	CTC: Cancels trade	Trade cancelled.	N	☐ Pass	☐ N/E

<table>
<tr><td colspan="6">H. Order entry with account modification
Tags: 35=G
Available for: PUMA Equities
Access model: Desk Trader Only</td><td>32</td></tr>
</table>

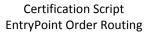| Step	Description	Expect result	Req	Status	
H.1	Customer: Sends a buy limit order, DAY • 100@20,00	New buy order entry. Orders in the book: • Buy 100@20,00	Y	☐ Pass	☐ N/E
H.2	Customer: Modifies order account sent	Modify account number.	Y	☐ Pass	☐ N/E
H.3	Customer: Sends a sell limit order, DAY (new account) • 100@20,00	Order totally filled.	Y	☐ Pass	☐ N/E

	I. Order entry with minimum quantity Tags: 110 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader				
Step	Description	Expected result	Req	Status	
I.1	CTC: Sends 2 sell limit orders, DAY • 100@20,00 Customer: Sends buy limit order, DAY • 200@20,00 • Minimum Quantity: 100	Order partially and totally filled	N	☐ Pass	☐ N/E
I.2	Customer: Sends buy limit order, DAY • 200@20,00 • Minimum Quantity: 100	Order accepted and cancelled.	N	☐ Pass	☐ N/E
I.3	CTC: Sends 2 sell limit orders, DAY • 100@20,00 Customer: Sends buy limit order, GTC • 200@20,00 • Minimum Quantity: 100	Order partially and totally filled	N	☐ Pass	☐ N/E
I.4	CTC: Sends 1 sell limit orders, DAY • 100@20,00 Customer: Sends a buy limit order, IOC/FAK • 200@20,00 • Minimum Quantity: 100	Order partially filled. Order cancelled.	N	☐ Pass	☐ N/E
I.5	CTC: Sends a sell Limit order, DAY • 100@20,00 Customer: Sends buy limit order, GTD • 200@20,00 • Minimum Quantity: 100	Order partially and totally filled	N	☐ Pass	☐ N/E

	J. Order entry with disclosed quantity Tags: 111 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader			34	
Step	Description	Expected result	Req	Status	
J.1	Customer: Sends buy limit order, DAY • 200@20,00 • Disclosed Quantity: 100 CTC: Sends 2 sell limit orders, DAY • 100@20,00	Order partially and totally filled	N	☐ Pass	☐ N/E
J.2	Customer: Sends buy limit order, GTC • 200@20,00 • Disclosed quantity: 100 CTC: Sends 2 sell limit orders, DAY • 100@20,00	Order partially and totally filled	N	☐ Pass	☐ N/E
J.3	CTC: Sends 1 sell limit orders, DAY • 100@20,00 Customer: Sends buy limit order, DAY • 200@20,00 • Disclosed Quantity: 100	Order partially filled Orders in the book: • Buy 100@20,00	N	☐ Pass	☐ N/E
J.4	CTC: Cancels pending order • 100@20,00	Cancels pending order.	N	☐ Pass	☐ N/E

<table>
<tr><td colspan="6">K. Order Entry with reserved instrument
Tags: 35=D; 40=2
Available for: PUMA Equities; PUMA Derivatives
Access model: DMA and Desk trader</td><td>35</td></tr>
</table>

Step	Description	Expected result	Req	Status	
CTC: Change instrument state to Reserved					
K.1	Customer: Sends buy limit order, DAY • 200@20,00 CTC: Sends sell limit order, DAY • 200@20,00	Order entry with executions on the instrument opening. Orders in the book: • Buy 200@20,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.2	Customer: Modifies order quantity • 100@20,00	Rejection on modification. Orders in the book: • Buy 200@20,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.3	Customer: Cancels the buy order	Rejection on cancel Orders in the book: • Buy 200@20,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.4	Customer: Sends buy limit order, DAY • 200@19,00	New order entry Orders in the book: • Buy 200@20,00 • Buy 200@19,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.5	Customer: Modifies order price (buy: 19,00) • 200@19,50	Modification order entry. Orders in the book: • Buy 200@20,00 • Buy 200@19,50 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.6	Customer: Cancels buy order (19,50)	Order cancel Orders in the book: • Buy 200@20,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.7	Customer: Sends buy limit order, DAY • 200@21,00	New order entry Orders in the book: • Buy 200@21,00 • Buy 200@20,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.8	Customer: Cancels buy order • 200@20,00	Order cancel Orders in the book: • Buy 200@21,00 • Sell 200@20,00	Y	☐ Pass	☐ N/E
K.9	CTC: Modifies the instrument state to Open	Order totally filled	Y	☐ Pass	☐ N/E
K.10	CTC: Cancels all trades	Trades cancelled	Y	☐ Pass	☐ N/E

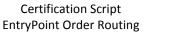|	M. Order entry on high frequency Available for: PUMA Equities; PUMA Derivatives Access model: DMA				
	This scenario can be executed for Derivatives or/and Equities				
Step	Description	Expected result	Req	Status	
M.1	Customer: Sends 10 orders per second during 30 seconds	300 order entries after 30 seconds	N	☐ Pass	☐ N/E

	N. MARKET ON CLOSE Orders Available for: PUMA Equities				
Step	Description	Expected result	Req	Status	
N.1	CTC: Sends buy limit order, DAY • 100@20,00 Customer: Sends sell ATC order • 100@MOC	Order entry. Orders in the book: • Buy 100@20,00 Sell 100@MOC	N	☐ Pass	☐ N/E
N.2	CTC: Sends buy limit order, DAY • 200@21,00 Customer: Sends sell ATC order • 200@MOC	Order entry Orders in the book: • Buy 200@21,00 • Buy 100@20,00 • Sell 300@MOC	N	☐ Pass	☐ N/E
	CTC: Sets Closing Call and changes Market state to On Close				
N.3	CTC: Changes Market state	ATC orders totally filled. Open price: 21,00 Orders in the book will be cancelled.	N	☐ Pass	☐ N/E
N.4	CTC: Cancels trades.	Trades cancelled.	N	☐ Pass	☐ N/E

	O. EntryPoint Line Available for: PUMA Equities; PUMA Derivatives				
Step	Description	Expected result	Req	Status	
O.1	Sends a buy order (1st Contract) 500@24	Order entry message	C	☐ Pass	☐ N/E
O.2	Sends a buy order (1st Contract) 1500@24	Rejection message of order entry by limit of order (TCI)	C	☐ Pass	☐ N/E
O.3	Sends a buy order (1st Contract) 1000@24	Order entry message	C	☐ Pass	☐ N/E
O.4	Sends a buy order (1st Contract) 1000@24	Rejection message of order entry by contract limit (LCI)	C	☐ Pass	☐ N/E
O.5	Sendsa buy order (1st Contract) 500@24	Order entry message	C	☐ Pass	☐ N/E
O.6	Modifies the buy order (O.3) 1500@24	Rejection message of order modification by limit by order (TCI)	C	☐ Pass	☐ N/E
O.7	Modifies the buy order (O.1) 1000@24	Rejection message of order modification by contract limit (LCI)	C	☐ Pass	☐ N/E
O.8	Cancels the buy order (O.5) 500@24	Order cancel message	C	☐ Pass	☐ N/E
O.9	Sends a buy order (2nd Contract) 1000@30	Order entry message	C	☐ Pass	☐ N/E
O.10	Sends a buy order (2nd Contract) 600@30	Rejection message of order entry by equivalent instrument (LCC)	C	☐ Pass	☐ N/E
O.11	Sends a buy order (2nd Contract) 100@30	Order entry message	C	☐ Pass	☐ N/E
O.12	Modifies the buy order (O.11) 1000@30	Rejection message of order entry by equivalent instrument (LCC)	C	☐ Pass	☐ N/E
O.13	Cancels all the buy orders for 1st and 2nd contracts	Order cancel messages	C	☐ Pass	☐ N/E
O.14	Sends a sell order (1st Contract) 500@24	Order entry message	C	☐ Pass	☐ N/E
O.15	Sends a sell order (1st Contract) 1500@24	Rejection message of order modification by limit by order (TVI)	C	☐ Pass	☐ N/E
O.16	Sends a sell order (1st Contract) 1000@24	Order entry message	C	☐ Pass	☐ N/E
O.17	Sends a sell order (1st Contract) 1000@24	Rejection message of order entry by contract limit (LVI)	C	☐ Pass	☐ N/E
O.18	Sends a sell order (1st Contract) 500@24	Order entry message	C	☐ Pass	☐ N/E
O.19	Modifies the sell order (O.16) 1500@24	Rejection message of order modification by limit by order (TVI)	C	☐ Pass	☐ N/E
O.20	Modifies the sell order (O.14) 1000@24	Rejection message of order modification by contract limit (LVI)	C	☐ Pass	☐ N/E
O.21	Cancels the sell order (O.18) 500@24	Order cancel message	C	☐ Pass	☐ N/E
O.22	Sends a sell order (2nd Contract) 1000@30	Order entry message	C	☐ Pass	☐ N/E
O.23	Sends a sell order (2nd Contract) 600@30	Rejection message of order entry by equivalent instrument (LVC)	C	☐ Pass	☐ N/E
O.24	Sends a sell order (2nd Contract) 100@30	Order entry message	C	☐ Pass	☐ N/E
O.25	Cancels all the buy orders for 1st and 2nd contracts	Order cancel messages	C	☐ Pass	☐ N/E

P. Self Trade Prevention Aditional repeating group: 452=5 Available for: PUMA Equities; PUMA Derivatives Access model: DMA and Desk trader					
Step	Description	Expected result	Req	Status	
P.1	Customer: Sends buy limit order, DAY • 100@20,00 • Investor ID: 12345678901 Customer: Sends sell limit order, DAY • 100@20,00 • Investor ID: 12345678901	Buy order is accepted Sell order is accepted and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E
P.2	Customer: Sends sell limit order, DAY • 100@21,00 • Investor ID: 12345678901	Order entry	N	☐ Pass	☐ N/E
P.3	Customer: Modifies pending sell order • From: 100@21,00 • Modify to: 100@20,00	Sell order is replaced and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E
P.4	CTC: Sends sell limit order, DAY • 100@20,00 • Investor ID: 98765432109	Order totally filled.	N	☐ Pass	☐ N/E
P.5	CTC: Sends buy limit order, DAY • 100@20,00 • Investor ID: 98765432109 Customer: Sends buy limit order, DAY • 100@20,00 • Investor ID: 12345678901 Customer: Sends sell limit order, DAY • 300@20,00 • Investor ID: 12345678901 CTC: Cancels the remaining order	Partial trade and the leftover is eliminated (tag 378=103)	N	☐ Pass	☐ N/E
P.6	CTC: Sends buy limit order, DAY • 100@20,00 • Investor ID: 98765432109 Customer: Sends sell limit order, FOK • 100@20,00 • Investor ID: 12345678901	Order totally filled.	N	☐ Pass	☐ N/E
P7	CTC: Sends buy limit order, DAY • 100@20,00 • Investor ID: 98765432109 Customer: Sends sell limit order, FOK • 200@20,00 • Investor ID: 12345678901	Sell order is accepted and then eliminated	N	☐ Pass	☐ N/E
P.8	Customer: Sends sell limit order, FOK • 100@20,00 • Investor ID: 98765432109	Sell order is accepted and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E
P.9	Customer: Sends sell limit order, DAY • 100@20,00 • Investor ID: 12345678901	Order totally filled.	N	☐ Pass	☐ N/E
P.10	Customer: Sends Stop Limit buy order, DAY • 200@22,00 • Stop price: 21,00 • Investor ID: 98765432109 CTC: Sends buy limit order DAY	Sell order is accepted and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E

	• 200@21,00 • Investor ID: 98765432109 CTC: Sends sell limit order DAY • 100@21,00 • Investor ID: 12345678901				40
P.11	Customer: Sends buy Market order, DAY • 200@Market • Investor ID: 12345678901	Order totally filled	N	☐ Pass	☐ N/E
P.12	CTC: Cancels pending orders	Cancel pending orders	N	☐ Pass	☐ N/E
P.13	CTC: Sends buy limit order DAY • 100@20,00 • Investor ID: 98765432109 Customer: Sends sell Market order, DAY • 200@Market • Investor ID: 98765432109	Sell order is accepted and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E
P.14	Customer: Sends sell limit order, IOC/FAK • 100@20,00 • Investor ID: 12345678909 CTC: Cancels the pending order	Order totally filled	N	☐ Pass	☐ N/E
P.15	CTC: Sends buy limit order, DAY • 100@20,00 • Investor ID: 98765432109 Customer: Sends sell limit order, IOC/FAK • 200@20,00 • Investor ID: 98765432101	Sell order is accepted and then eliminated (tag 378=103)	N	☐ Pass	☐ N/E

<table>
<tr><td colspan="6">Q. Market Operation - Trade on Behalf
Available for: PUMA Equities; PUMA Derivatives
Access model: Desk Trader</td></tr>
<tr><td colspan="6">In order to execute this scenario you will need:
Two SenderCompID, A and B, that will be used by the supervisor and the operator
Two Entering Trader, one in the role of operator (OPE), one in the role of supervisor(SUP) – Contact CTC to set this configuration</td></tr>
<tr><td>Step</td><td>Description</td><td>Expected result</td><td>Req</td><td colspan="2">Status</td></tr>
<tr>
<td>Q.1</td>
<td>Customer: Sends Buy limit order, DAY
• SenderCompID: A
• Entering Trader: OPE
• Sender Location: BVMF

Customer: Modifies the buy limit order, DAY
• SenderCompID:B
• Entering Trader: OPE
• Executing trader: SUP
• Sender Location:BVMF</td>
<td>Buy order is accepted

Order is modified</td>
<td>N</td>
<td>☐ Pass</td>
<td>☐ N/E</td>
</tr>
<tr>
<td>Q.2</td>
<td>Customer: Sends Buy limit order, DAY
• SenderCompID:B
• Entering Trader: OPE
• Executing trader: SUP
• Sender Location:BVMF

Customer: Modifies buy limit order, DAY
• SenderCompID:A
• Entering Trader: OPE
• Sender Location:BVMF</td>
<td>Buy order is accepted

Order is modified</td>
<td>N</td>
<td>☐ Pass</td>
<td>☐ N/E</td>
</tr>
<tr>
<td>Q.3</td>
<td>Customer: Sends Buy limit order, DAY
• SenderCompID:B
• Entering Trader: OPE
• Executing trader: SUP
• Sender Location:DMA1</td>
<td>Order Rejected</td>
<td>N</td>
<td>☐ Pass</td>
<td>☐ N/E</td>
</tr>
<tr>
<td>Q.4</td>
<td>Customer: Sends Buy limit order, DAY
• SenderCompID: A
• Enterning Trader: OPE
• Sender Location: DMA1

Customer: Modifies the buy limit order, DAY
• SenderCompID:B
• Entering Trader: OPE
• Executing trader: SUP
• Sender Location:BVMF</td>
<td>Buy order is accepted

Order modification Rejected</td>
<td>N</td>
<td>☐ Pass</td>
<td>☐ N/E</td>
</tr>
</table>

	R1. Forward				
	Tag 35=R				
	Available for: PUMA Equities;				
	Access model: DMA and Desk trader				
Step	Description	Expected result	Req	Status	
CTC: Sends sell limit order, DAY • 100@20,00					
R1.1	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 CTC: accepts the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass	☐ N/E
R1.2	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 CTC: rejects the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass	☐ N/E
R1.3	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 CTC: cancels the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is cancelled. Receives Quote Status Report (35=AI) with the tag 297=17 and the tag 35005=2 (Cancel)	N	☐ Pass	☐ N/E
R1.4	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 12345 • TAG 5706 (FixedRate): 0.21	The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass	☐ N/E
R1.5	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 Customer: Sends forward cancelation (35=Z)	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is cancelled. Receives Quote Status Report (35=AI) with the tag 297=17 and the tag 35005=2 (Cancel)	N	☐ Pass	☐ N/E
R1.6	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 Customer: Sends forward cancelation (35=Z) with an invalid value for tag 117 (QuoteID)	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is NOT cancelled. Receives Quote Status Report (35=AI) with the tag 297=9 (Quote Not Found) e 35005 = 3 (reject)	N	☐ Pass	☐ N/E
R1.7	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 CTC: accepts the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass	☐ N/E

	CTC: cancels the forward execution	Receives 2 execution reports, with the tag 150=H			
R1.8	Customer: Sends cross forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21	Receives 2 Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) Receives 4 execution reports, with the tag 150=F.	N	☐ Pass	☐ N/E
R1.9	Customer: Sends forward declaration (buy) as a DMA • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • SenderLocation: DMA CTC: accepts the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass	☐ N/E

	R2. Forward + Cash				
	Available for: PUMA Equities; Access model: DMA and desk trader				
Step	Description	Expected result	Req	Status	
CTC: Sends sell limit order, DAY • 100@20,00					
R2.1	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1 CTC: accept the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass	☐ N/E
R2.2	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1 CTC: rejects the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass	☐ N/E
R2.3	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1 CTC: cancels the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is cancelled. Receives Quote Status Report (35=AI) with the tag 297=17 and the tag 35005=2 (Cancel)	N	☐ Pass	☐ N/E
R2.4	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1 CTC: accepts the forward declaration CTC: cancels the forward execution	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F. Receives 2 execution reports, with the tag 150=H	N	☐ Pass	☐ N/E
R2.5	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1 • Customer: Sends forward cancelation (35=Z)	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is cancelled. Receives Quote Status Report (35=AI) with the tag 297=17 and the tag 35005=2 (Cancel)	N	☐ Pass	☐ N/E
R2.6	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 12345 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1	The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass	☐ N/E
R2.7	Customer: Sends forward declaration (buy) as a DMA • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New)	N	☐ Pass	☐ N/E

	• TAG 35004 (ExecuteUnderlyingTrade): 1 • SenderLocation: DMA CTC: accepts the forward declaration	The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.			
R2.8	CTC: cancels the sell limit order, DAY Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 1	The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass	☐ N/E

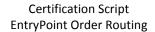|	R3. Forward Cash Registered Available for: PUMA Equities; Access model: DMA and desk trader					
Step	Description	Expected result	Req	Status		
CTC: executes trades and gives the number to the participant, during this scenario execution CTC: Sends sell limit order, DAY • 100@20,00						
R3.1	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 0 • TAG 6032 (Unique TradeID): trade number CTC: accepts the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass		☐ N/E
R3.2	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 0 • TAG 6032 (Unique TradeID): trade number CTC: rejects the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is rejected. Receives Quote Request Reject (35=AG)	N	☐ Pass		☐ N/E
R3.3	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 0 • TAG 6032 (Unique TradeID): trade number CTC: cancels the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is cancelled. Receives Quote Status Report (35=AI) with the tag 297=17 and the tag 35005=2 (Cancel)	N	☐ Pass		☐ N/E
R3.4	Customer: Sends forward declaration (buy) • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 0 • TAG 6032 (Unique TradeID): trade number CTC: accepts the forward declaration CTC: cancels the forward execution	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F. Receives 2 execution reports, with the tag 150=H	N	☐ Pass		☐ N/E
R3.5	Customer: Sends forward declaration (buy) as a DMA • 100@20,00 • TAG 5497 (DaysToSettlement): 50 • TAG 5706 (FixedRate): 0.21 • TAG 35004 (ExecuteUnderlyingTrade): 0 • TAG 6032 (Unique TradeID): trade number • SenderLocation: DMA CTC: accepts the forward declaration	Pending forward declaration. Receives Quote Status Report (35=AI) with the tag 297 (QuoteStatus) = 10 (Pending) and the tag 35005=0 (New) The declaration is accepted. Receives Quote message (35=S) and 2 execution reports, with the tag 150=F.	N	☐ Pass		☐ N/E

	S. Exercise and Blocking				
	Available for: PUMA Equities; Access model: DMA and desk trader				
Step	Description	Expected result	Req	Status	
S.1	Customer: Sends an option exercise • Quantity: 100 • TAG 35=AL • Holder: account A • Issuer: account B	Customer receives 35=AM with the tag 722=3 (Completed)	N	☐ Pass	☐ N/E
S.2	Customer: Sends sell limit order, DAY, in the option from exercise above • 100@20,00 • Account: anyone but A Customer: Sends buy limit order, DAY, in the option from exercise above • 100@20,00 • Account: A	Customer receives Execution Report with the tag 150=F Customer receives 35=AM with the tag 709=101 (Auto blocking of short option position)	N	☐ Pass	☐ N/E
S.3	*Manual Blocking* Customer: Sends sell limit order, DAY, in the option from exercise above • 100@20,00 • Account: anyone but A or B Customer: Sends buy limit order, DAY, in the option from exercise above • 100@20,00 • Account: anyone but A or B Customer: Sends 35=J (EB allocation instruction) • Quantity:100 • Account: A (Holder) • Trade number generated above	Trade generated Customer receives EB allocation report (35=AS) with the tag 87=0 (Accepted successfully processed)	N	☐ Pass	☐ N/E
S.4	*Cancel the blocking by cancelling the trade* CTC: Cancels the trade generated in R1.3 step	Customer receives the trade cancelation Customer receives the blocking cancelation (353=AM)	N	☐ Pass	☐ N/E
S.5	*Cancel the blocking by BVMF* Customer: Sends sell limit order, DAY, in the option from exercise above • 100@20,00 • Account: anyone but A or B Customer: Sends buy limit order, DAY, in the option from exercise above • 100@20,00 • Account: anyone but A or B Customer: Send 35=J (EB allocation instruction) • Quantity:100 • Account: A (Holder) • Trade number generated above CTC: Cancels the blocking	Trade generated Customer receives EB allocation report (35=AS) with the tag 87=0 (Accepted successfully processed) Customer receives the blocking cancelation (353=AM)	N	☐ Pass	☐ N/E

	T. Cancel on disconnect					
	Available for: PUMA Equities; Access model: DMA and desk trader					
Step	Description	Expected result	Req	Status		
T.1	Customer: Sends logon message with tags 35002=0 and 35003=0	FIX session connected	N	☐ Pass		☐ N/E
T.2	Customer: Send a buy limit order, DAY • 100@20,00 Customer: Send a buy limit order, GTC • 100@21,00 Customer: Send a buy limit order, GTD • 100@22,00	Order entry Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass		☐ N/E
T.3	Customer: Disconnects the application by Task Manager or disconnect network cable	FIX session disconnected	N	☐ Pass		☐ N/E
T.4	Customer: Sends a logon message with TAGs 35002=0 and 35003=0 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) 100@20,00 (DAY)	N	☐ Pass		☐ N/E
T.5	Customer: Sends a logout message	FIX session disconnected	N	☐ Pass		☐ N/E
T.6	Customer: Sends a logon message with TAGs 35002=0 and 35003=0 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass		☐ N/E
T.7	Customer: Disconnects FIX session	FIX session disconnected	N	☐ Pass		☐ N/E
T.8	Customer: Sends logon message with TAGS 35002=1 and 35003=30000	FIX session connected	N	☐ Pass		☐ N/E
T.9	Customer: Disconnects the application by Task Manager or disconnect network cable	FIX session disconnected	N	☐ Pass		☐ N/E
	Wait less time than what is set in the COD trigger					
T.10	Customer: Sends logon message with TAGs 35002=1 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass		☐ N/E
T.11	Customer: Sends logout message	FIX session disconnected	N	☐ Pass		☐ N/E
	Wait longer than the time set in COD trigger					
T.12	Customer: Send logon message with TAGs 35002=1 and 35003=30000 Customer: send a resend request message (35=2)	FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass		☐ N/E
T.13	Customer: Disconnects the application by Task Manager or disconnect network cable	FIX session disconnected	N	☐ Pass		☐ N/E
	Wait longer than the time set in COD trigger					

T.14	Customer: Sends logon message with TAGs 35002=1 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Customer receives order cancel message and confirm the receipt of Execution Report 35=8 and TAG 150=4 for the day order Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC)	N	☐ Pass	☐ N/E
T.15	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
T.16	Customer: Sends logon message with TAGs 35002=2 and 35003=30000	FIX session connected	N	☐ Pass	☐ N/E
T.17	Customer: Sends a buy limit order, DAY • 100@20,00	Orders entry Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass	☐ N/E
T.18	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait less than the time set in COD trigger				
T.19	Customer: Sends logon message with TAGs 35002=2 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass	☐ N/E
T.20	Customer: Disconnects the application by Task Manager or disconnects network cable	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait longer than the time set in COD trigger				
T.21	Customer: Sends logon message with TAGs 35002=2 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass	☐ N/E
T.22	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait longer than the time set in COD trigger				
T.23	Customer: Send logon message with TAGs 35002=2 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Customer receives order cancel message and confirm the receipt of Execution Report 35=8 and TAG 150=4 for the day order Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC)	N	☐ Pass	☐ N/E
T.24	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
T.25	Customer: Sends logon message with TAGs 35002=3 and 35003=30000	FIX session connected	N	☐ Pass	☐ N/E
T.26	Customer: Send a buy limit order, DAY • 100@20,00	Order entry Orders in the book: • 100 @22,00 (GTD)	N	☐ Pass	☐ N/E

		• 100@21,00 (GTC) • 100@20,00 (DAY)			
T.27	Customer: Disconnects from the application via Task Manager or by unplugging the network cable	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait less than the time set in COD trigger				
T.28	Customer: Sends logon message with TAGs 35002=3 and 35003=30000 Customer: sends a resend request message (35=2)	FIX session reconnected Orders in the book: FIX session reconnected Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass	☐ N/E
T.29	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait longer than the time set in COD trigger				
T.30	Customer: Sends logon message with TAGs 35002=3 and 35003=30000 Customer: sends a resend request message (35=2)	Customer receives order cancel message and confirm the receipt of Execution Report 35=8 and TAG 150=4 for the day order Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC)	N	☐ Pass	☐ N/E
T.31	Customer: Sends a buy limit order, DAY • 100@20,00	Order entry Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC) • 100@20,00 (DAY)	N	☐ Pass	☐ N/E
T.32	Customer: Sends logout message	FIX session disconnected	N	☐ Pass	☐ N/E
	Wait longer than the time set in COD trigger				
T.33	Customer: Sends logon message with TAGs 35002=3 and 35003=30000 Customer: sends a resend request message (35=2)	Customer receives order cancel message and confirms the receipt of Execution Report 35=8 and TAG 150=4 for the day order Orders in the book: • 100 @22,00 (GTD) • 100@21,00 (GTC)	N	☐ Pass	☐ N/E

	U. UDS Creation and Trades Tag 35=c Available for: PUMA Equities; Access model: DMA and desk trader					
Step	Description	Expected result	Req	Status		
U.1	Customer: Sends request for instrument creation with two legs for the same instrument (E.g.: B1 VALE3 + S1 VALE3)	Customer receives Security Definition message 35=d with TAG 323=5 (Rejected)	N	☐ Pass	☐ N/E	
U.2	Customer: Sends request for instrument creation with two legs for different instruments Cash/Cash (ex: B1 VALE3 + S1 VALE5)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.3	Customer: Sends request for instrument creation with two legs for different instruments Cash/Options (E.g.: B1 PETR4 + S1 PETRF74)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.4	Customer: Sends request for instrument creation with two legs for different instruments Options/Options (E.g.: B1 PETRF25 + S1 PETRF28)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.5	Customer: Sends request for instrument creation with three legs for different instruments Cash/Cash/Cash (E.g.: B1 USIM3 + S1 USIM5 + B1 USIM6)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.6	Customer: Sends request for instrument creation with three legs for different instruments Options/Options/Options (Eg: B1 UGPAA20 + S2 UGPAA22 + B1 UGPAA26)	Customer receives Security Definition message 35=d withTAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.7	Customer: Sends request for instrument creation with four legs for different instruments Cash/ Cash/ Cash/ Cash (Eg: B1 VALE3 + S1 VALE5 + B1 VIVT3 x S1 VIVT5)	Customer receives Security Definition message 35=d withTAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.8	Customer: Sends request for instrument creation with four legs for different instruments Options/Options/Options/Options (Eg: B1 PETRF30 + S1 PETRR30 + B1 PETRR31 x S1 PETRF31)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.9	Customer: Sends request for instrument creation with five legs for different instruments Cash/Options/Options/Options/Options (Eg: B1 PETR4 + B1 PETRF14 + B1 PETRF15 + B1 PETRF16 x B1 PETRF17)	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.10	Customer: Sends request to create a 3W strategy (tag 35=c): • Buy 1 Call at strike2exp1 (inst 1) • Sell 1 Call at strike3exp1 (inst 2) • Sell 1 Put at strike1exp1 (inst 3) Note: Step for New Release only	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.11	Customer: Sends request to create a 3C strategy (tag 35=c): • Buy 1 call at strike1exp1 (inst 1) • Buy 1 Put at strike1exp1 (inst 2) • Sell 1 Call at strike2exp1 (inst 3) • Note: Step for New Release only	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
U.12	Customer: Sends request to create a GN strategy , with instruments that are in the same contract (tag 35=c): • Buy 1 instrument 1 • Buy 1 instrument 2 • Buy 1 instrument 3 • Sell 1 instrument 4 • Sell 1 instrument 5 • Sell 1 instrument 6 Note: Step for New Release only	Customer receives Security Definition message 35=d with TAG 323=1 (Accepted)	N	☐ Pass	☐ N/E	
	CTC changes UDS state to Forbidden, reserves the instrument and authorizes the order entry					

U.13	Customer: Sends buy limit order, DAY in a already created UDS • 100@20,00	New order entry into the book for created strategy.	N	☐ Pass	☐ N/E
U.14	CTC: Sends sell limit order, DAY • 100@20,00	New sell order entry into the book: • 100@20,00	N	☐ Pass	☐ N/E
U.15	CTC changes instrument state to Open	Customer receives Execution Report: • 1 Execution Report for UDS • 1 Execution Report for each leg of UDS	N	☐ Pass	☐ N/E

<table>
<tr><td colspan="6">V. Message Replay
Available for: PUMA Equities;
Access model: DMA and desk trader</td><td>53</td></tr>
</table>

Step	Description	Expected result	Req	Status	
V.1	Customer: Logon Customer: Sends 500 buy limit orders, day Customer: Log out CTC: Cancels the orders Customer: Logon with tag 141=N Reset sequence reset flag active	Receives the 35033=Y on the sequence reset message *Important note: On production you receive this tag for over 2000 lost messages. On certification this feature requests only 500 lost messages. Lower quantities you can recover by resent request (35=2)*	N	☐ Pass	☐ N/E

V.2	Customer: Connects to "Message Replay" GW
	• Sends a "Message Replay" request (35=BW)
	• ApplBegSeqNum = <Sequence Number given in the preview test for the start of lost messages>,
	• ApplEndSeqNum=<Sequence Number given in the preview test for the end of lost messages>,;
		• Receive message acknowledgment message (35=BX)
		• Receive the 35=BY to start the recovery
		• Receive the recovered (35=8) messages, with the values below in tags:
		   o 1180: Original TargetCompId
		   o 1181: Original MsgSeqNun fo the message
		• Receive the 35=BY to finish the recovery
			N	☐ Pass	☐ N/E

	W. Market Maker Protection			
	Available for: PUMA Equities; Puma Derivatives			
Passo	Description	Expected Result	Req	Status
W.1	**Wait for CTC sets Protected Mode to the selected trading group** **Customer:** Sends DAY limit orders to the group's instruments **CTC**: fills the orders until they reach Protected Mode **Customer**: Sends orders after they reach Protection Mode	Orders filled Remaining orders are canceled Customer receives Execution Report for each cancelled order with the tag: 378=200	N	☐ Pass ☐ N/E
W.2	**Wait for CTC change the group state to Pre-open and sets again the Protected Mode** **Customer:** Sends DAY limit orders to the group's instruments until they reach Protected Mode **Customer:** Reset Protection Mode with tag 9773=Y sending a New Order Single (35=D) **Customer:** Sends a new DAY Limit order	Orders role Theoretical Price will remain on Book Customer receives Execution Report for each cancelled order with the tag: 378=200 Order is accepted	N	☐ Pass ☐ N/E
W.3	**Wait for CTC sets Protected Mode to the selected group to NOT allow GTD and GTC orders to be cancelled** **Customer:** Sends DAY Limit and GTC/GTD orders to selected group **Customer:** Sends orders after they reach Protected Mode	DAY Limit orders are cancelled and GTD/GTC orders remains on Book.	N	☐ Pass ☐ N/E
W.4	**Wait for CTC sets Protected Mode to the selected group to NOT allow STOP orders to be cancelled** **Customer:** Sends DAY Limit orders and STOP orders to instruments until they reach Protected Mode	DAY Limit orders are cancelled and the STOP orders remain on Book	N	☐ Pass ☐ N/E