

Project 25 Compliance Assessment Program

Summary Test Report

APX2000 Portable Subscriber

STR-MOT-APX2000-008242015

August 24, 2015

Device Under Test Description	
Manufacturer	Motorola Solutions
Manufacturer Contact	Olga Derasmo 954-723-4054
Product Name	APX2000 Portable Subscriber
Frequency Bands	VHF, UHF R1, UHF R2, 700, 800MHz
Installed Options	Trunking, Encryption
Installed Vocoder	Enhanced Full Rate with System Improvements

Test Description
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance.
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance.
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability.

Informative References	
Date	Title
March 2010	P25-CAB-CAI_TEST_REQ

Other Devices Tested with Motorola Solutions APX2000 Subscriber		
Manufacturer	Product Name and Definition	Installed Options
Motorola Solutions	ASTRO®25	System Release 7.7
		System Release 7.8
		System Release 7.9
		System Release 7.11
		System Release 7.13
		System Release 7.14
		System Release 7.15
Harris	Harris Master V P25 Station	System Release SR10A
Tait	TaitNet P25 Trunked Network	TB9100/TN9400
Tait/EADS	P25 Trunked Radio System	TaitNet P25/EADS COR P25 Network
Cassidian	Cassidian COR P25 Infrastructure	TB5000i Base Station Model Class
PowerTrunk	PowerTrunk 25 FNE B800014	System Release Ver. 9.4.52
EF Johnson	Trunking	System Release 3.1-RC1

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Laboratory Information	
P25 CAP Laboratory Code	Motorola Compliance Testing LLC AZ P25CAP081011
Date(s) of Test	March 2012, January 2012, December 2011, August 2015
Date of Issue	August 24, 2015
P25 CAP Laboratory Code	Motorola Performance CAI Subscriber FL P25CAP081014
Date(s) of Test	March 2012, January 2012, December 2011
Date of Issue	June 2012, January 2012
P25 CAP Laboratory Code	TIMCO Engineering Inc.(Infrastructure used Motorola Solutions) P25CAP081016
Date(s) of Test	March 3, 2011
Date of Issue	March 8, 2011
P25 CAP Laboratory Code	Harris Corp P25CAP081017
Date(s) of Test	January 20, 2011
Date of Issue	January 24, 2011
P25 CAP Laboratory Code	TIMCO Engineering Inc.(Infrastructure used Tait) P25CAP081016
Date(s) of Test	July 24, 2012
Date of Issue	August 16, 2012
P25 CAP Laboratory Code	Teltest Laboratories (Infrastructure used TAIT/EADS) P25CAP081015
Date(s) of Test	October 28, 2010
Date of Issue	November 15, 2010
P25 CAP Laboratory Code	TIMCO Engineering Inc.(Infrastructure used PowerTrunk) P25CAP081016
Date(s) of Test	June 14, 2010
Date of Issue	June 28, 2010
P25 CAP Laboratory Code	EF Johnson Technologies P25CAP081010
Date(s) of Test	October 14, 2009
Date of Issue	November 16, 2009

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance		DTR-P25CAP081014-P25-3044 (VHF) DTR-P25CAP081014-P25-3043 (UHF-R1) DTR-P25CAP081014-P25-3045 (UHF-R2) DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Conventional Receiver Tests APX2000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μs	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 70 dB	P
2.1.10	Intermodulation Rejection	≥ 70 dB	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P
2.1.17	Late Entry Unsquench Delay		
	No Talk Group or Encryption	≤ 125 ms	P
	Talk Group Only	≤ 370 ms	P
	Encryption Only	≤ 370 ms	P
2.1.18	Both (On Clear or Encrypted Channel)	≤ 460 ms	P
2.1.18	Receiver Throughput Delay	≤ 125 ms	P

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance		DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Conventional Transmitter Tests APX2000 (800)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	$2544 \leq f_{dev} \leq 3111$ Hz	P
	Low Level Signal Deviation	$848 \leq f_{dev} \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 50.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance		DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Conventional Transmitter Tests APX2000 (700)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio		
	Offset From Center Frequency (kHz)	ACPR (dB)	
	9.375	40	P
	15.625, 21.875, 37.5	60	P
	62.5, 87.5, 150, 250, 350	65	P
	>400 kHz to 12 MHz	75	P
	12 MHz to paired RX Band	75	P
	In the Paired RX Band	100	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	$2544 \leq f_{dev} \leq 3111$ Hz	P
	Low Level Signal Deviation	$848 \leq f_{dev} \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 50.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance		DTR-P25CAP081014-P25-3043(UHF-R1) DTR-P25CAP081014-P25-3045(UHF-R2)	
PERFORMANCE – Conventional Transmitter Tests APX2000 (UHF-R1 380-470, UHF-R2 450-520)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
		Encoder Attack Time	≤ 100 ms
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	$2544 \leq fdev \leq 3111$ Hz	P
	Low Level Signal Deviation	$848 \leq fdev \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 25.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance		DTR-P25CAP081014-P25-3044 (VHF)	
PERFORMANCE – Conventional Transmitter Tests APX2000 (VHF 136-174)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
		Encoder Attack Time	≤ 100 ms
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	$2544 \leq fdev \leq 3111$ Hz	P
	Low Level Signal Deviation	$848 \leq fdev \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 5.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 20.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 5.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3044 (VHF) DTR-P25CAP081014-P25-3043 (UHF-R1) DTR-P25CAP081014-P25-3045 (UHF-R2) DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Trunked Receiver Tests APX2000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μ s	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 70 dB	P
2.1.10	Intermodulation Rejection	≥ 70 dB	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Trunked Transmitter Tests APX2000 (800)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	$2544 \leq f_{dev} \leq 3111$ Hz	P
	Low Level Signal Deviation	$848 \leq f_{dev} \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 50.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Trunked Transmitter Tests APX2000 (700)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio		
	Offset From Center Frequency (kHz)	ACPR (dB)	
	9.375	40	P
	15.625, 21.875, 37.5	60	P
	62.5, 87.5, 150, 250, 350	65	P
	>400 kHz to 12 MHz	75	P
	12 MHz to paired RX Band	75	P
	In the Paired RX Band	100	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	2544 ≤ fdev ≤ 3111 Hz	P
	Low Level Signal Deviation	848 ≤ fdev ≤ 1037 Hz	P
2.2.16	Modulation Fidelity	≤ 5%	P
2.2.18	Transient Frequency Behavior		
	Time Interval t ₁ = 20.0 ms	{Δf} ≤ 12.5 kHz	P
	Time Interval t ₂ = 50.0 ms	{Δf} ≤ 6.25 kHz	P
	Time Interval t ₃ = 10.0 ms	{Δf} ≤ 12.5 kHz	P

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3043 (UHF-R1) DTR-P25CAP081014-P25-3045 (UHF-R2)	
PERFORMANCE – Trunked Transmitter Tests APX2000 (UHF-R1 380-470, UHF-R2 450-520)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM		
	High Level signal Deviation	2544 ≤ fdev ≤ 3111 Hz	P
	Low Level Signal Deviation	848 ≤ fdev ≤ 1037 Hz	P
2.2.16	Modulation Fidelity	≤ 5%	P
2.2.18	Transient Frequency Behavior		
	Time Interval t ₁ = 10.0 ms	{Δf} ≤ 12.5 kHz	P
	Time Interval t ₂ = 25.0 ms	{Δf} ≤ 6.25 kHz	P
	Time Interval t ₃ = 10.0 ms	{Δf} ≤ 12.5 kHz	P

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3044 (VHF)	
PERFORMANCE – Trunked Transmitter Tests APX2000 (VHF 136-174)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
2.2.12	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
2.2.14	Transmitter Throughput Delay	≤ 125 ms	P
2.2.15	Frequency Deviation for C4FM	$2544 \leq fdev \leq 3111$ Hz	P
	High Level signal Deviation Low Level Signal Deviation	$848 \leq fdev \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 5.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
	Time Interval $t_2 = 20.0$ ms	$\{\Delta f\} \leq 6.25$ kHz	P
	Time Interval $t_3 = 5.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance		DTR-P25CAP081014-P25-3044 (VHF) DTR-P25CAP081014-P25-3043 (UHF-R1) DTR-P25CAP081014-P25-3045 (UHF-R2) DTR-P25CAP081014-P25-3042 (7/800)	
PERFORMANCE – Trunked Subscriber Tests APX2000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800)			
Test Case	Description	Requirement	Results
2.3.1	Trunking Control Channel Slot Time (45 ms slot)		
	Encode Attack Time	$2.00\text{ms} \leq t \leq 11.65\text{ms}$	P
	RF Power Attack Time	$0.00\text{ms} \leq t \leq 11.65\text{ms}$	P
	RF Power Turn Off Time	≤ 1.57 ms	P
2.3.2	Trunking Request Time	≤ 167.5 ms	P
2.3.3	Trunking Voice Access Time	≤ 700 ms	P5
2.3.5	Transmit Time to Key on Traffic Channel	≤ 150.0 ms	P

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Interoperability Test Cases and Results

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability		DTR - P25CAP081 011 – APX8000	DTR- P25CAP08 1017 - 1110120 M02	DTR- TIMCO0810 16 TN9400 APX	DTR- P25CAP081 015 -3212	DTR- P25CAP08 1015 - 3212	DTR- TIMCO08 1016 APX7000	DTR- P25CAP081 010 - 09111601
Motorola Solutions Model Class APX2000 Subscribers		Motorola Astro 25 System	Harris System	Tait TaitNet P25	Tait/EADS COR P25 Network	Cassidian COR P25 TB5000i	Power Trunk25 System	EFJ System
Test Case	Description	Results						
2.2.1	Full Registration							
2.2.1.4.1	Test Case 1 - Valid Registration							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.1.4.2	Test Case 2 – Denied or Refused Registration							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.1.4.3	Test Case 3 – Unverified Registration							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.2	Group Voice Call							
2.2.2.4.1	Test Case 1 - Group Call Granted							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.2.4.2	Test Case 2 - Group Call Denied							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.2.4.3	Test Case 3 - Group Call Request Queued							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3

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Motorola Solutions Model Class APX2000 Subscribers		Motorola Astro 25 System	Harris System	Tait TaitNet P25	Tait/EADS COR P25 Network	Cassidian COR P25 TB5000i	Power Trunk25 System	EFJ System
Test Case	Description	Results						
2.2.3	Unit-to-Unit Voice Call							
2.2.3.4.1	Test Case 1 - Unit-to-Unit Call with Target Availability Check							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.2	Test Case 2 - Unit-to-Unit Call with Target Availability Check Denied by Target							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.3	Test Case 3 - Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment After Target Availability Check							
	Home Configuration	P	P	N/A2	N/A2	N/A2	N/A2	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.4	Test Case 4 - Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment Before Target Availability Check							
	Home Configuration	N/A1	N/A1	P	P	P	P	N/A1
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.5	Test Case 5 - Unit-to-Unit Call without Target Availability Check							
	Home Configuration	N1	N1	N1	N1	N1	N4	N1
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability		DTR - P25CAP081 011 – APX8000	DTR- P25CAP08 1017 - 1110120 M02	DTR- TIMCO0810 16 TN9400 APX	DTR- P25CAP081 015 -3212	DTR- P25CAP08 1015 - 3212	DTR- TIMCO08 1016 APX7000	DTR- P25CAP081 010 - 09111601
Motorola Solutions Model Class APX2000 Subscribers		Motorola Astro 25 System	Harris System	Tait TaitNet P25	Tait/EADS COR P25 Network	Cassidian COR P25 TB5000i	Power Trunk25 System	EFJ System
Test Case	Description	Results						
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.6	Test Case 6 - Unit-to-Unit Call Queued without Target Availability Check							
	Home Configuration	N1	N1	N1	N1	N1	N4	N1
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.3.4.7	Test Case 7 - Unit-to-Unit Call Denied							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.4	Broadcast Voice Call							
2.2.4.4.1	Test Case 1 - Broadcast Voice Call							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.5	Affiliation							
2.2.5.4.1	Test Case 1 - Radio Permitted to Affiliate with New Group							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.5.4.2	Test Case 2 - Radio Denied Affiliation to New Group							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability		DTR - P25CAP081 011 – APX8000	DTR- P25CAP08 1017 - 1110120 M02	DTR- TIMCO0810 16 TN9400 APX	DTR- P25CAP081 015 -3212	DTR- P25CAP08 1015 - 3212	DTR- TIMCO08 1016 APX7000	DTR- P25CAP081 010 - 09111601
Motorola Solutions Model Class APX2000 Subscribers		Motorola Astro 25 System	Harris System	Tait TaitNet P25	Tait/EADS COR P25 Network	Cassidian COR P25 TB5000i	Power Trunk25 System	EFJ System
Test Case	Description	Results						
2.2.6	Announcement Group Call							
2.2.6.4.1	Test Case 1 - Collection of Talk Groups Receive Call							
	Home Configuration	P	P	P	P	P	N5	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.7	Emergency Alarm							
2.2.7.4.1	Test Case 1 - Emergency Alarm							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.8	Emergency Group Call							
2.2.8.4.1	Test Case 1 - Emergency Call							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.10	Encryption							
2.2.10.4.1	Test Case 1 - Call Privacy for Encrypted Call							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
2.2.11	Intra-Location Registration Area Roaming							
2.2.11.4.1	Test Case 1 - Idle Radio							
	Home Configuration	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3

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Model Class: APX2000 Portable Subscriber	
Product Name, Definitions and Unique ID	Model Number and Installed Options
VHF	
APX2000 Portable Firmware/DSP: R07 thru R09	H51KDF9PW6AN, H51KDH9PW7AN Options: Trunking and Encryption
UHF-R1	
APX2000 Portable Firmware/DSP: R07 thru R09	H51QDF9PW6AN, H51QDH9PW7AN Options: Trunking and Encryption
UHF-R2	
APX2000 Portable Firmware/DSP: R07 thru R09	H51SDF9PW6AN, H51SDH9PW7AN Options: Trunking and Encryption
700/800 MHZ	
APX2000 Portable Firmware/DSP: R07 thru R09	H51UCF9PW6AN, H51UCH9PW7AN Options: Trunking and Encryption

Model Class: ASTRO 25 System	
Product Name, Definition and Unique ID	Model Number and Installed Options
Motorola ASTRO 25 Trunked System	Release 7.7
Motorola ASTRO 25 Trunked System	Release 7.8
Motorola ASTRO 25 Trunked System	Release 7.9
Motorola ASTRO 25 Trunked System	Release 7.11
Motorola ASTRO 25 Trunked System	Release 7.13
Motorola ASTRO 25 Trunked System	Release 7.14
Motorola ASTRO 25 Trunked System	Release 7.15

Test Case Result Definitions	
No Test Performed	---
Test Does Not Apply to the Test Object	N/A
Test Object Meets Requirements	P (Pass)
Test Object Does Not Meet Requirements	F (Fail)
Test Object is Not Conclusive	I (Inconclusive)
Comments	
P1: Motorola subscriber passes Reference Sensitivity (≤ -116 dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.	
P2: Motorola subscriber passes Faded Reference Sensitivity (≤ -108 dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.	
P3: Motorola subscriber passes Signal Delay Spread Capability specification for C4FM (Non-Simulcast) (≥ 50 μ s) and Simulcast (≥ 80 μ s) modulations.	
P4: Motorola subscriber passes Adjacent Channel Rejection (≥ 60 dB) specification for C4FM (Non-Simulcast) and Simulcast modulations.	
P5: Trunking Voice Access Time will vary dependent on actual system design and implementation.	
N1: Motorola Subscribers do not support unit-to-unit call without target availability check.	
N2: Motorola, Harris, Tait, Tait/EADS, Cassidian, PowerTrunk, EFJ Infrastructures and Motorola Subscribers do not support the Inter-System Roaming Configuration.	
N3: Motorola, Harris, Tait, Tait/EADS, Cassidian, PowerTrunk, EFJ Infrastructures and Motorola Subscribers do not	

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support Inter-WACN Roaming Configurations.
N4: PowerTrunk25 FNE does not support unit to unit call without target availability check.
N5: PowerTrunk25 FNE does not support announcement group call.
N/A1: Test Case 2.2.3.4.4 is not applicable for Motorola subscribers on Motorola, Harris and EFJ infrastructures; see results of test case 2.2.3.4.3.
N/A2: Test Case 2.2.3.4.3 is not applicable for Motorola subscribers on a Tait, Tait/EADS, Cassidian and PowerTrunk infrastructures; see results of test case 2.2.3.4.4.

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OMB NO: 1640-0015

EXPIRATION DATE: 07/31/2015

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