

## Project 25 Compliance Assessment Program

Summary Test Report  
 APX 4000 Portable Subscriber  
 STR-MOT-APX4000-08242015  
 August 24, 2015

Device Under Test Description	
<b>Manufacturer</b>	Motorola Solutions
<b>Manufacturer Contact</b>	Olga Derasmo 954-723-4054
<b>Product Name</b>	APX 4000 Portable Subscriber
<b>Frequency Bands</b>	VHF, UHF R1, UHF R2, 700, 800, 900 MHz
<b>Installed Options</b>	Trunking, Encryption
<b>Installed Vocoder</b>	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 APX 4000 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	
<b>P25 CAP Laboratory Code</b>	Motorola Compliance Testing LLC P25CAP081011
<b>Date(s) of Test</b>	March 2012, January 2012, December 2011, August 2015
<b>Date of Issue</b>	August 24, 2015
<b>P25 CAP Laboratory Code</b>	Motorola Performance CAI Subscriber FL P25CAP081014
<b>Date(s) of Test</b>	March 2012, January 2012, December 2011
<b>Date of Issue</b>	June 2012, January 2012
<b>P25 CAP Laboratory Code</b>	TIMCO Engineering Inc.(Infrastructure used Motorola Solutions) P25CAP081016
<b>Date(s) of Test</b>	March 3, 2011
<b>Date of Issue</b>	March 8, 2011
<b>P25 CAP Laboratory Code</b>	Harris Corp P25CAP081017
<b>Date(s) of Test</b>	January 20, 2011
<b>Date of Issue</b>	January 24, 2011
<b>P25 CAP Laboratory Code</b>	TIMCO Engineering Inc.(Infrastructure used Tait) P25CAP081016
<b>Date(s) of Test</b>	July 24, 2012
<b>Date of Issue</b>	August 16, 2012
<b>P25 CAP Laboratory Code</b>	Teltest Laboratories (Infrastructure used TAIT/EADS) P25CAP081015
<b>Date(s) of Test</b>	October 28, 2010
<b>Date of Issue</b>	November 15, 2010
<b>P25 CAP Laboratory Code</b>	TIMCO Engineering Inc.(Infrastructure used PowerTrunk) P25CAP081016
<b>Date(s) of Test</b>	June 14, 2010
<b>Date of Issue</b>	June 28, 2010
<b>P25 CAP Laboratory Code</b>	EF Johnson Technologies P25CAP081010
<b>Date(s) of Test</b>	October 14, 2009
<b>Date of Issue</b>	November 16, 2009

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance</b>		DTR-P25CAP081014 P25-3047 (VHF) DTR-P25CAP081014P25-3049 (UHF-R1) DTR-P25CAP081014P25-3048 (UHF-R2) DTR-P25CAP081014P25-3051 (800MHz) DTR-P25CAP081014P25-3420 (900MHz)	
<b>PERFORMANCE – Conventional Receiver Tests APX 4000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800, 900)</b>			
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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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance</b>		DTR-P25CAP081014-P25-3051 (7/800)	
<b>PERFORMANCE – Conventional Transmitter Tests APX 4000 (800)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power Attack Time	$\leq 50$ ms	P
	Encoder Attack Time	$\leq 100$ ms	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ 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

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance</b>		DTR-P25CAP081014-P25-3051 (7/800)	
<b>PERFORMANCE – Conventional Transmitter Tests APX 4000 (700)</b>			
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 In the Paired RX Band	75 100	P P
2.2.12	Transmitter Power Attack Time	$\leq 50$ ms	P
	Encoder Attack Time	$\leq 100$ ms	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ 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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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance</b>		DTR-P25CAP081014P25-3049 (UHF-R1) DTR-P25CAP081014P25-3048 (UHF-R2) DTR-P25CAP081014P25-3420 (900MHz)	
<b>PERFORMANCE – Conventional Transmitter Tests APX 4000 (UHF-R1 380-470, UHF-R2 450-520, 900)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power Attack Time	$\leq 50$ ms	P
		Encoder Attack Time	$\leq 100$ ms
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	P
2.2.15	Frequency Deviation for C4FM High Level signal Deviation Low Level Signal Deviation	$2544 \leq f_{dev} \leq 3111$ Hz	P
		$848 \leq f_{dev} \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior Time Interval $t_1 = 10.0$ ms Time Interval $t_2 = 25.0$ ms Time Interval $t_3 = 10.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
		$\{\Delta f\} \leq 6.25$ kHz	P
		$\{\Delta f\} \leq 12.5$ kHz	P

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance</b>		DTR-P25CAP081014-P25-3047 (VHF)	
<b>PERFORMANCE – Conventional Transmitter Tests APX 4000 (VHF 136-174)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power Attack Time	$\leq 50$ ms	P
		Encoder Attack Time	$\leq 100$ ms
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	P
2.2.15	Frequency Deviation for C4FM High Level signal Deviation Low Level Signal Deviation	$2544 \leq f_{dev} \leq 3111$ Hz	P
		$848 \leq f_{dev} \leq 1037$ Hz	P
2.2.16	Modulation Fidelity	$\leq 5\%$	P
2.2.18	Transient Frequency Behavior Time Interval $t_1 = 5.0$ ms Time Interval $t_2 = 20.0$ ms Time Interval $t_3 = 5.0$ ms	$\{\Delta f\} \leq 12.5$ kHz	P
		$\{\Delta f\} \leq 6.25$ kHz	P
		$\{\Delta f\} \leq 12.5$ kHz	P

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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>	DTR-P25CAP081014 P25-3047 (VHF) DTR-P25CAP081014P25-3049 (UHF-R1) DTR-P25CAP081014P25-3048 (UHF-R2) DTR-P25CAP081014P25-3051 (800MHz) DTR-P25CAP081014P25-3420 (900MHz)
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**PERFORMANCE – Trunked Receiver Tests APX 4000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800,900)**

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

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>	DTR-P25CAP081014-P25-3051 (7/800)
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**PERFORMANCE – Trunked Transmitter Tests APX 4000 (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 ≤ 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 <sub>1</sub> = 20.0 ms	{Δf} ≤ 12.5 kHz	P
	Time Interval t <sub>2</sub> = 50.0 ms	{Δf} ≤ 6.25 kHz	P
	Time Interval t <sub>3</sub> = 10.0 ms	{Δf} ≤ 12.5 kHz	P

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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>		DTR-P25CAP081014-P25-3051 (7/800)	
<b>PERFORMANCE – Trunked Transmitter Tests APX 4000 (700)</b>			
Test Case	Description	Requirement	Results
<b>2.2.8</b>	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
<b>2.2.12</b>	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
<b>2.2.14</b>	Transmitter Throughput Delay	≤ 125 ms	P
<b>2.2.15</b>	Frequency Deviation for C4FM		
	High Level signal Deviation	2544 ≤ fdev ≤ 3111 Hz	P
	Low Level Signal Deviation	848 ≤ fdev ≤ 1037 Hz	P
<b>2.2.16</b>	Modulation Fidelity	≤ 5%	P
<b>2.2.18</b>	Transient Frequency Behavior		
	Time Interval t <sub>1</sub> = 20.0 ms	{Δf} ≤ 12.5 kHz	P
	Time Interval t <sub>2</sub> = 50.0 ms	{Δf} ≤ 6.25 kHz	P
	Time Interval t <sub>3</sub> = 10.0 ms	{Δf} ≤ 12.5 kHz	P

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>		DTR-P25CAP081014P25-3049 (UHF-R1) DTR-P25CAP081014P25-3048 (UHF-R2) DTR-P25CAP081014P25-3420 (900MHz)	
<b>PERFORMANCE – Trunked Transmitter Tests APX 4000 (UHF-R1 380-470, UHF-R2 450-520, 900)</b>			
Test Case	Description	Requirement	Results
<b>2.2.8</b>	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
<b>2.2.12</b>	Transmitter Power Attack Time	≤ 50 ms	P
	Encoder Attack Time	≤ 100 ms	P
<b>2.2.14</b>	Transmitter Throughput Delay	≤ 125 ms	P
<b>2.2.15</b>	Frequency Deviation for C4FM		
	High Level signal Deviation	2544 ≤ fdev ≤ 3111 Hz	P
	Low Level Signal Deviation	848 ≤ fdev ≤ 1037 Hz	P
<b>2.2.16</b>	Modulation Fidelity	≤ 5%	P
<b>2.2.18</b>	Transient Frequency Behavior		
	Time Interval t <sub>1</sub> = 10.0 ms	{Δf} ≤ 12.5 kHz	P
	Time Interval t <sub>2</sub> = 25.0 ms	{Δf} ≤ 6.25 kHz	P
	Time Interval t <sub>3</sub> = 10.0 ms	{Δf} ≤ 12.5 kHz	P

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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>		DTR-P25CAP081014 P25-3047 (VHF)	
<b>PERFORMANCE – Trunked Transmitter Tests APX 4000 (VHF 136-174)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power Attack Time	$\leq 50$ ms	P
	Encoder Attack Time	$\leq 100$ ms	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ 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

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance</b>		DTR-P25CAP081014 P25-3047 (VHF) DTR-P25CAP081014P25-3049 (UHF-R1) DTR-P25CAP081014P25-3048 (UHF-R2) DTR-P25CAP081014P25-3051 (800MHz) DTR-P25CAP081014P25-3420 (900MHz)	
<b>PERFORMANCE – Trunked Subscriber Tests APX 4000 (VHF 136-174, UHF-R1 380-470, UHF-R2 450-520, 700, 800, 900)</b>			
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	$\leq 1.57$ ms	P
2.3.2	Trunking Request Time	$\leq 167.5$ ms	P
2.3.3	Trunking Voice Access Time	$\leq 700$ ms	P5
2.3.5	Transmit Time to Key on Traffic Channel	$\leq 150.0$ 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 – P25CAP 081011 – 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 APX 4000 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						
<b>2.2.1</b>	<b>Full Registration</b>							
<b>2.2.1.4.1</b>	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
<b>2.2.1.4.2</b>	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
<b>2.2.1.4.3</b>	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
<b>2.2.2</b>	<b>Group Voice Call</b>							
<b>2.2.2.4.1</b>	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
<b>2.2.2.4.2</b>	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
<b>2.2.2.4.3</b>	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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<b>2.2.3</b>	<b>Unit-to-Unit Voice Call</b>							
<b>2.2.3.4.1</b>	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
<b>2.2.3.4.2</b>	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
<b>2.2.3.4.3</b>	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
<b>2.2.3.4.4</b>	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
<b>2.2.3.4.5</b>	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
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
<b>2.2.3.4.6</b>	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
<b>2.2.3.4.7</b>	Test Case 7 - Unit-to-Unit Call Denied							
	Home Configuration	P	P	P	P	P	P	P

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	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
<b>2.2.4</b>	<b>Broadcast Voice Call</b>							
<b>2.2.4.4.1</b>	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
<b>2.2.5</b>	<b>Affiliation</b>							
<b>2.2.5.4.1</b>	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
<b>2.2.5.4.2</b>	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
<b>2.2.6</b>	<b>Announcement Group Call</b>							
<b>2.2.6.4.1</b>	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
<b>2.2.7</b>	<b>Emergency Alarm</b>							
<b>2.2.7.4.1</b>	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
<b>2.2.8</b>	<b>Emergency Group Call</b>							
<b>2.2.8.4.1</b>	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
<b>2.2.10</b>	<b>Encryption</b>							
<b>2.2.10.4.1</b>	Test Case 1 - Call Privacy for Encrypted Call							
	Home Configuration	P	P	P	P	P	P	P

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	Inter-System Roaming Configuration	N2	N2	N2	N2	N2	N2	N2
	Inter-WACN Roaming Configuration	N3	N3	N3	N3	N3	N3	N3
<b>2.2.11</b>	<b>Intra-Location Registration Area Roaming</b>							
<b>2.2.11.4.1</b>	<b>Test Case 1 - Idle Radio</b>							
	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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<b>Model Class: APX 4000 Portable Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>VHF</b>	
APX 4000 Portable Firmware/DSP: R07 thru R14	H51KDF9PW6-N, H51KDH9PW7-N Options: Trunking and Encryption
<b>UHF-R1</b>	
APX 4000 Portable Firmware/DSP: R07 thru R14	H51QDF9PW6-N, H51QDH9PW7-N Options: Trunking and Encryption
<b>UHF-R2</b>	
APX 4000 Portable Firmware/DSP: R07 thru R14	H51SDF9PW6-N, H51SDH9PW7-N Options: Trunking and Encryption
<b>700/800/900 MHz</b>	
APX 4000 Portable Firmware/DSP: R07 thru R14	H51UCF9PW6-N, H51UCH9PW7-N H51WCF9PW6-N, H51WCH9PW7-N Options: Trunking and Encryption

<b>Model Class: ASTRO 25 System</b>	
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
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

<b>Test Case Result Definitions</b>	
<b>No Test Performed</b>	---
<b>Test Does Not Apply to the Test Object</b>	N/A
<b>Test Object Meets Requirements</b>	P (Pass)
<b>Test Object Does Not Meet Requirements</b>	F (Fail)
<b>Test Object is Not Conclusive</b>	I (Inconclusive)
<b>Comments</b>	
P1: Motorola subscriber passes Reference Sensitivity ( $\leq -116$ dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.	
P2: Motorola subscriber passes Faded Reference Sensitivity ( $\leq -108$ dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.	
P3: Motorola subscriber passes Signal Delay Spread Capability specification for C4FM (Non-Simulcast) ( $\geq 50$ $\mu$ s) and Simulcast ( $\geq 80$ $\mu$ s) modulations.	
P4: Motorola subscriber passes Adjacent Channel Rejection ( $\geq 60$ 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 Infrastructures and Motorola Subscribers do not support the Inter-System Roaming Configuration.	
N3: Motorola, Harris, Tait, Tait/EADS, Cassidian Infrastructures and Motorola Subscribers do not support Inter-WACN Roaming Configurations.	

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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

### **Burden Statement**

An agency may not conduct or sponsor information collection and a person is not required to respond to this information collection unless it displays a current valid Office of Management and Budget control number and an expiration date.

The control number for this collection is 1640-0015 and this form will expire on 07/31/2015. The estimated average time to complete this form is 60 minutes per respondent. If you have any comments regarding the burden estimate you can write to Department of Homeland Security, Science and Technology Directorate, Washington, DC 20528.

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