

## Project 25 Compliance Assessment Program

Summary Test Report

Motorola Solutions ASTRO 25 System

STR-MOT-ASTRO25-09112015

September 11, 2015

Device Under Test Description			
<b>Manufacturer</b>		Motorola Solutions	
<b>Manufacturer Contact</b>		Brad Graca 847-544-6355	
<b>Product Name</b>	<b>Motorola Solutions ASTRO 25 System</b>		
<b>Installed Options</b>	Model Class: ASTRO 25 System	Hardware/Software Release 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7	
	With GTR8000 Trunked Base Station/Repeater	Hardware	GTR8000 w/RF preselector VHF (136-174MHz) UHF-R1 (380-435MHz) UHF-R2 (435-524MHz) 700MHz, 800MHz
		Software	SiteRptrBR_R07.15
	<b>Installed Vocoder</b>		

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. (Home Configuration tests are the same as the September 2009 CAB. Inter-System and Inter-WACN roaming configurations are not supported on the Motorola infrastructure.)

Informative References	
Date	Title
March 2010	P25-CAB-CAI_TEST_REQ

Laboratory Information	
<b>P25 CAP Laboratory Code</b>	P25CAP081011 Compliance Testing LLC (Infrastructure used Motorola Solutions)
<b>Date(s) of Test</b>	August 24 through August 28, 2015
<b>Date of Issue</b>	September 4, 2015
<b>P25 CAP Laboratory Code</b>	P25CAP081013 Motorola GP25 HEC-PITEC test lab
<b>Date(s) of Test</b>	December 2010
<b>Date of Issue</b>	December 2010
<b>P25 CAP Laboratory Code</b>	P25CAP081016 TIMCO Engineering Inc. (Infrastructure used Motorola Solutions)
<b>Date(s) of Test</b>	June 24 2011, April 15, 2011, March 3, 2011
<b>Date of Issue</b>	June 28 2011, April 18, 2011, March 8, 2011
<b>P25 CAP Laboratory Code</b>	P25CAP081012 Motorola ASTRO System Integration & Test Laboratory
<b>Date(s) of Test</b>	March 8-10, 2010, July 13, 2009 through July 24, 2009
<b>Date of Issue</b>	April 6, 2010, August 20, 2009

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<b>Devices Tested FOR INTEROPERABILITY with Motorola Solutions ASTRO 25 Trunked System</b>			
<b>Manufacturer</b>	<b>Product Name, Definition and Unique ID</b>	<b>Installed Options</b>	
Motorola	XTS/XTL Subscribers	See Model Class - XTS/XTL Subscriber Table	
Motorola	APX Subscribers	See Model Class - APX Subscriber Table	
EF Johnson Technologies, Inc.	5100es Portable	See Model Class EFJ 5100es Portable Table	
EF Johnson Technologies, Inc.	5300es Mobile	See Model Class EFJ 5300es Mobile Table	
Harris Corporation	P5400 Portable	<b>Hardware:</b>	MAEX-DN1XX
		<b>Software:</b>	R7D
Harris Corporation	P3300 Portable	<b>Hardware:</b>	MAKS-TLNXX
		<b>Software:</b>	2.19.10
Harris Corporation	P7100 Portable	<b>Hardware:</b>	HT7170TN1X
		<b>Software:</b>	R18D
Harris Corporation	P7300 Portable	<b>Hardware:</b>	Rev B
		<b>Software:</b>	R14
Harris Corporation	Harris Unity XG-100P Portable	<b>Hardware:</b>	Rev N
		<b>Software:</b>	2.0.2
Harris Corporation	Harris Unity XM-100F Mobile	<b>Hardware:</b>	07
		<b>Software:</b>	1.0.4
Harris Corporation	Harris Unity XL-200P Portable	<b>Hardware:</b>	R06
		<b>Software:</b>	R01A
Icom Inc	IC-F9000	See Model Class - IC-F9000 Series Radios Table	
JVC Kenwood Corporation	P25 VHF Portable	<b>Hardware:</b>	TK-5210GK3
		<b>Firmware:</b>	G5.10.00
		<b>Software:</b>	G5.10.00
JVC Kenwood Corporation	P25 700/800 Portable	<b>Hardware:</b>	TK-5410GK2
		<b>Firmware:</b>	G5.10.00
		<b>Software:</b>	G5.10.00
JVC Kenwood Corporation	NX-5000 series NX-5400	<b>Hardware:</b>	1
		<b>Firmware:</b>	1.40.00
		<b>Software:</b>	F67B (Checksum)
Midland Radio Corporation	SynTech III STM1050B	<b>Hardware:</b>	4
		<b>Firmware:</b>	MDV 1.05.4757
		<b>Software:</b>	6.06.0002
BK Radio KNG (Relm Wireless)	BK Radio KNG Series Subscriber	See Model Class – BK Radio KNG Series Subscriber	
Tait Radio Communications	Tait Radio Series Subscriber	See Model Class – Tait Radio Series Subscriber	
Technisonic	TDFM Series Multiband Radio Subscriber	See Model Class – TDFM Series Multiband Radio Subscriber	
Teltronic, S.A.U / PowerTrunk Inc.	TPH-225 Portable	<b>Hardware:</b>	D380000
		<b>Firmware:</b>	V01.01.00
		<b>Software:</b>	V01.01.00
Thales Communications, Inc.	Liberty	<b>Hardware:</b>	PRC7332
		<b>Firmware:</b>	N/A
		<b>Software:</b>	00.00.09.0246

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### PERFORMANCE TESTING - Conventional

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.1 – Project 25 Phase 1 Common Air Interface Conventional Repeater Performance</b>		DTR-P25CAP081013-5421255905 (800MHz) DTR-P25CAP081013-5421256084 (700MHz) DTR-P25CAP081013-5421255907 (UHF-R2 435-524 MHz) DTR-P25CAP081013-5421255906 (UHF-R1 380-435 MHz) DTR-P25CAP081013-5421255908 (VHF 136-174 MHz)	
<b>PERFORMANCE - Conventional Receiver Tests GTR8000 (800, 700, UHF-R2, UHF-R1, VHF)</b>			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	$\leq -116$ dBm	P
2.1.5	Faded Reference Sensitivity	$\leq -108$ dBm	P
2.1.7	Adjacent Channel Rejection	$\geq 60$ dB	P
2.1.8	Co-Channel Rejection	$\leq 9$ dB	P
2.1.9	Spurious Response Rejection	$\geq 90$ dB	P
2.1.10	Intermodulation Rejection	$\geq 80$ dB	P
2.1.11	Signal Displacement Bandwidth	$\geq 1000$ Hz	P
2.1.17	Late Entry Unsquench Delay		
	No Talk Group or Encryption	$\leq 125$ ms	N1
	Talk Group Only	$\leq 370$ ms	N1
	Encryption Only	$\leq 370$ ms	N1
	Both (on clear or encrypted channel)	$\leq 460$ ms	N1
2.1.18	Receiver Throughput Delay	$\leq 125$ ms	N1

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.1 – Project 25 Phase 1 Common Air Interface Conventional Repeater Performance</b>		DTR-P25CAP081013-5421255905 (800MHz)	
<b>PERFORMANCE - Conventional Transmitter Tests GTR8000 (800MHz)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 2.2.1.1 – Project 25 Phase 1 Common Air Interface Conventional Repeater Performance</b>		DTR-P25CAP081013-5421256084 (700MHz)	
<b>PERFORMANCE - Conventional Transmitter Tests GTR8000 (700MHz)</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, 12 MHz to paired RX Band	80	P
	In the Paired RX Band	100	P
<b>2.2.14</b>	Transmitter Throughput Delay	≤ 125 ms	N2
<b>2.2.15</b>	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
<b>2.2.16</b>	Modulation Fidelity	≤ 5%	P
<b>2.2.18</b>	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 2.2.1.1 – Project 25 Phase 1 Common Air Interface Conventional Repeater Performance</b>		DTR-P25CAP081013-5421255907 (UHF-R2 435-524 MHz) DTR-P25CAP081013-5421255906 (UHF-R1 380-435 MHz)	
<b>PERFORMANCE - Conventional Transmitter Tests GTR8000 (UHF-R1 380-435MHz; UHF-R2 435-524MHz)</b>			
Test Case	Description	Requirement	Results
<b>2.2.8</b>	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
<b>2.2.14</b>	Transmitter Throughput Delay	≤ 125 ms	N2
<b>2.2.15</b>	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
<b>2.2.16</b>	Modulation Fidelity	≤ 5%	P
<b>2.2.18</b>	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

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P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.1 – Project 25 Phase 1 Common Air Interface Conventional Repeater Performance		DTR-P25CAP081013-5421255908 (VHF 136-174 MHz)	
<b>PERFORMANCE - Conventional Transmitter Tests GTR8000 (VHF 138-174MHz)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 $t_1 = 5.0$ 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

### PERFORMANCE TESTING - Trunked

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance		DTR-P25CAP081013-5421254915 (800MHz) DTR-P25CAP081013-5421254925 (700MHz) DTR-P25CAP081013-5421254929 (UHF-R2 435-524 MHz) DTR-P25CAP081013-5421254928 (UHF-R1 380-435 MHz) DTR-P25CAP081013-5421254933 (VHF 136-174 MHz)	
<b>PERFORMANCE - Trunked Receiver Tests GTR8000 (800, 700, UHF-R2, UHF-R1, VHF)</b>			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	$\leq -116$ dBm	P
2.1.5	Faded Reference Sensitivity	$\leq -108$ dBm	P
2.1.7	Adjacent Channel Rejection	$\geq 60$ dB	P
2.1.8	Co-Channel Rejection	$\leq 9$ dB	P
2.1.9	Spurious Response Rejection	$\geq 90$ dB	P
2.1.10	Intermodulation Rejection	$\geq 80$ dB	P
2.1.11	Signal Displacement Bandwidth	$\geq 1000$ Hz	P

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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance</b>		DTR-P25CAP081013-5421254915 (800MHz)	
<b>PERFORMANCE - Trunked Transmitter Tests GTR8000 (800MHz)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance</b>		DTR-P25CAP081013-5421254925 (700MHz)	
<b>PERFORMANCE - Trunked Transmitter Tests GTR8000 (700MHz)</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, 12 MHz to paired RX Band In the Paired RX Band	80 100	P P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance</b>		DTR-P25CAP081013-5421254929 (UHF-R2 435-524 MHz) DTR-P25CAP081013-5421254928 (UHF-R1 380-435 MHz)	
<b>PERFORMANCE - Trunked Transmitter Tests GTR8000 (UHF-R1 380-435MHz; UHF-R2 435-524MHz)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 $t_1 = 10.0$ 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

<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance</b>		DTR-P25CAP081013-5421254933 (VHF; 136-174 MHz)	
<b>PERFORMANCE - Trunked Transmitter Tests GTR8000 (VHF 138-174MHz)</b>			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.14	Transmitter Throughput Delay	$\leq 125$ ms	N2
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 $t_1 = 5.0$ 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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<b>P25-CAB-CAI_TEST_REQ – March 2010, Section 2.2.1.2 – Project 25 Phase 1 Common Air Interface Trunked Repeater Performance</b>		DTR-P25CAP081013-5421254915 (800MHz) DTR-P25CAP081013-5421254925 (700MHz) DTR-P25CAP081013-5421254929 (UHF-R2 435-524 MHz) DTR-P25CAP081013-5421254928 (UHF-R1 380-435 MHz) DTR-P25CAP081013-5421254933 (VHF 136-174 MHz)		
<b>PERFORMANCE - Trunked Infrastructure Tests GTR8000 (800, 700, UHF-R2, UHF-R1, VHF)</b>				
Test Case	Description	Requirement	Results	
2.3.3	Trunking Voice Access time	≤ 691 ms	P2	
2.3.4	Time to Grant	OSP		
		Non-simulcast 37.5ms ISP	Single TSBK ≤ 337.5ms	N3
			Double TSBK ≤ 354ms	N3
			Triple TSBK ≤ 366.5ms	N4
		Non-simulcast 45ms ISP	Single TSBK ≤ 345ms	N3
		Double TSBK ≤ 361.5ms	N3	
		Triple TSBK ≤ 374ms	P	



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### INTEROPERABILITY TESTING

P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability		DTR-TIMCO081016 XTS	DTR- P25CAP081011	DTR-TIMCO081016 MP150	DTR- P25CAP081011	DTR- P800	DTR- P7300	DTR- P7300	DTR- XG-100P	DTR- TIMCO081016M	DTR- TIMCO081016M	DTR- TIMCO081016M	DTR- XM-100F	DTR-MOT-40016- ML-MC1	DTR-MOT-40016- ML-MC2	DTR-MOT-40018- M2-MC1/MC2	DTR- P25CAP081011	DTR-MOT-40018- M2-MC3	DTR- P25CAP081011	DTR-MOT-40245- M6-MC1	DTR- P25CAP081011	DTR- P25CAP081011	DTR-MOT- 40245OM3- MC1/MC2	DTR- P25CAP081011	DTR- P25CAP081011	DTR-MOT- 40016- M7-MC1	DTR-MOT-40245- M8-MC1	
Motorola Solutions Model Class ASTRO 25 System (System Release 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7)		Motorola XTS/XTL	Motorola APX	BK Radio KNG (ReIm)	Harris P7300	Harris Unity XG- 100P	Harris Unity XM-100F	EFJ 5100	EFJ 5300	Harris P5400/P3300	Harris XL200P	Harris P7100	Icom IC9000	Kenwood P25 VHF/800	Kenwood NX5000	Midland SynTech III	Tait TP/TM9100	Tait TP9400	Technisonic TDFM	Power/Trunk TPH-225	Thales Liberty							
Test Case	Description	Results																										
2.2.1	Full Registration																											
2.2.1.4.1	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
2.2.1.4.2	Test Case 2 – Denied or Refused Registration																											
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
2.2.1.4.3	Test Case 3 – Unverified Registration																											
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
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	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
2.2.2.4.2	Test Case 2 - Group Call Denied																											
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
2.2.2.4.3	Test Case 3 - Group Call Request Queued																											
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6

# Project 25 Compliance Assessment Program

## Summary Test Report

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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-TIMCO081016 XTS	DTR- P25CAP081011	DTR-TIMCO081016 M P 150	DTR- P25CAP081011	DTR- P800	TIMCO081016M P7300	DTR- P7300	TIMCO081016M XG-100P	DTR- TIMCO081016M XM-100F	DTR-MOT-40016- M1-MC1	DTR-MOT-40016- M1-MC2	DTR-MOT-40018- M2-MC1/MC2	DTR- P25CAP081011	DTR-MOT-40018- M2-MC3	DTR- P25CAP081011	DTR-MOT-40245- M6-MC1	DTR- P25CAP081011	DTR- P25CAP081011	DTR-MOT- 40245M3- MCI/MC2	DTR- P25CAP081011	DTR- P25CAP081011	DTR-MOT- 40016- M7-MC1	DTR-MOT-40245- M8-MC1
<b>Motorola Solutions Model Class ASTRO 25 System (System Release 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7)</b>		Motorola XTS/XTL	Motorola APX	BK Radio KMG (Reim)	Harris P7300	Harris Unity XG- 100P	Harris Unity XM-100F	EFJ 5100	EFJ 5300	Harris P5400/P3300	Harris XL200P	Harris P7100	Icom IC9000	Kenwood P25 VHF/800	Kenwood NX5000	Midland SynTech III	Tait TP/TW9100	Tait TP9400	Technisonic TDFM	Power/Trunk TPH-225	Thales Liberty			
<b>2.2.3</b>	<b>Unit-to-Unit Voice Call</b>																							
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	P	P	P	P	N7	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
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	P	P	P	N7	P	P	P	P	P	P	P	P	P	P	P	
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	
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	P	P	P	P	P	P	P	N7	P	P	P	P	P	P	P	P	P	P	P	P	
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	
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	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	N/A1	
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	
2.2.3.4.5	Test Case 5 - Unit-to-Unit Call without Target Availability Check																							
	Home Configuration	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N/A1	N8	N8	N8	N8	N8	N8	
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	
2.2.3.4.6	Test Case 6 - Unit-to-Unit Call Queued without Target Availability Check																							
	Home Configuration	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	N8	
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	

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<b>Motorola Solutions Model Class ASTRO 25 System (System Release 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7)</b>		Motorola XTS/XTL	Motorola APX	BK Radio KMG (Reim)	Harris P7300	Harris Unity XG- 100P	Harris Unity XM-100F	EFJ 5100	EFJ 5300	Harris P5400/P3300	Harris XL200P	Harris P7100	Icom IC9000	Kenwood P25-VHF/800	Kenwood NX5000	Midland SynTech III	Tait TP/TW9100	Tait TP9400	Technisonic TDFM	Power/Trunk TPH-225	Thales Liberty			
2.2.3.4.7	Test Case 7 - Unit-to-Unit Call Denied																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.4</b>	<b>Broadcast Voice Call</b>																							
2.2.4.4.1	Test Case 1 - Broadcast Voice Call																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.5</b>	<b>Affiliation</b>																							
2.2.5.4.1	Test Case 1 - Radio Permitted to Affiliate with New Group																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
2.2.5.4.2	Test Case 2 - Radio Denied Affiliation to New Group																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.6</b>	<b>Announcement Group Call</b>																							
2.2.6.4.1	Test Case 1 - Collection of Talk Groups Receive Call																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.7</b>	<b>Emergency Alarm</b>																							
2.2.7.4.1	Test Case 1 - Emergency Alarm																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	N9	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.8</b>	<b>Emergency Group Call</b>																							
2.2.8.4.1	Test Case 1 - Emergency Call																							
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

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Motorola Solutions Model Class ASTRO 25 System (System Release 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7)		Motorola XTS/XTL	Motorola APX	BK Radio KNG (ReIm)	Harris P7300	Harris Unity XG-100P	Harris Unity XM-100F	EFJ 5100	EFJ 5300	Harris P5400/P3300	Harris XL200P	Harris P7100	Icom IC9000	Kenwood P25-VHF/800	Kenwood NX5000	Midland SynTech III	Tait TP/TM9100	Tait TP9400	Technisonic TDFM	Power/Trunk TPH-225	Thales Liberty		
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.10</b>	<b>Encryption</b>																						
2.2.10.4.1	Test Case 1 - Call Privacy for Encrypted Call																						
	Home Configuration	P1	P	P	P	P	P	P	P	P	P	N10	P	P	P	P	P	P	P	P	P	N11	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6
<b>2.2.11</b>	<b>Intra-Location Registration Area Roaming</b>																						
2.2.11.4.1	Test Case 1 - Idle Radio																						
	Home Configuration	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Inter-System Roaming Configuration	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5	N5
	Inter-WACN Roaming Configuration	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6	N6

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### Model Class Definitions

#### Motorola

<b>Motorola Solutions 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>Motorola Solutions Model Class</b>	<b>Sub-Class</b>	<b>Installed Options</b>
<b>APX Subscriber</b>	<b>APX8000 Portable</b>	See Sub-Class for APX8000
	<b>APX7000 Portable</b>	See Sub-Class for APX7000
	<b>APX7500 Mobile</b>	See Sub-Class for APX7500
	<b>APX6000 Portable</b>	See Sub-Class for APX6000
	<b>APX6500 Mobile</b>	See Sub-Class for APX6500

<b>Model Sub-Class: APX8000 Portable Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
APX8000 Portable Firmware/DSP: R07 thru R14	H91TGD9PW5AN, H91TGD9PW6AN, H91TGD9PW7AN Options: Trunking, Encryption

<b>Model Sub-Class: APX7000, APX7000XE Portable Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
APX7000 Portable Firmware/DSP: R01 thru R06	H97TGD9PW1-N Options: Trunking, Encryption
APX7000XE Portable Firmware/DSP: R05 thru R06	H49TGD9PW1-N Options: Trunking, Encryption

<b>Model Sub-Class: APX7500 Mobile Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>Single Band</b>	
700/800 MHz	
APX7500 Mobile Mid Power Firmware/DSP: R01 thru R06	M30URS9PW1-N Options: Trunking, Encryption
UHF R2	
APX7500 Mobile Mid Power Firmware/DSP: R01 thru R06	M30SSS9PW1-N Options: Trunking, Encryption
UHF R1	
APX7500 Mobile Mid & High Power Firmware/DSP: R01 thru R06	M30QSS9PW1-N, M30QTS9PW1-N Options: Trunking, Encryption

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VHF	
APX7500 Mobile Mid & High Power Firmware/DSP: R01 thru R06	M30KSS9PW1-N, M30KTS9PW1-N Options: Trunking, Encryption
<b>Dual Band</b>	
APX7500 Mobile Mid & High Power Firmware/DSP: R01 thru R06	M30TSS9PW1-N, M30TXS9PW1-N Options: Trunking, Encryption

<b>Model Sub-Class: APX6000, APX6000XE Portable Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>VHF</b>	
APX6000, APX6000XE Portable Firmware/DSP: R05 thru R06	H98KGD9PW5-N, H98KGF9PW6-N, H98KGH9PW7-N Options: Trunking and Encryption
<b>UHF-R1</b>	
APX6000, APX6000XE Portable Firmware/DSP: R05 thru R06	H98QDD9PW5-N, H98QDF9PW6-N, H98QDH9PW7-N Options: Trunking and Encryption
<b>UHF-R2</b>	
APX6000, APX6000XE Portable Firmware/DSP: R05 thru R06	H98SDD9PW5-N, H98SDF9PW6-N, H98SDH9PW7-N Options: Trunking and Encryption
<b>700/800 MHZ</b>	
APX6000, APX6000XE Portable Firmware/DSP: R05 thru R06	H98UCD9PW5-N, H98UCF9PW6-N, H98UCH9PW7-N Options: Trunking and Encryption

<b>Model Sub-Class: APX6500 Mobile Subscriber</b>	
<b>Product Name, Definitions and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>700/800 MHz</b>	
APX6500 Mobile Low/Mid Power Firmware/DSP: R05 thru R06	M25URS9PW1-N Options: Trunking, Encryption
<b>UHF R2</b>	
APX6500 Mobile Mid Power Firmware/DSP: R05 thru R06	M25SSS9PW1-N Options: Trunking, Encryption
<b>UHF R1</b>	
APX6500 Mobile Mid & High Power Firmware/DSP: R05 thru R06	M25QSS9PW1-N, M25QTS9PW1-N Options: Trunking, Encryption
<b>VHF</b>	
APX6500 Mobile Mid & High Power Firmware/DSP: R05 thru R06	M25KSS9PW1-N, M25KTS9PW1-N Options: Trunking, Encryption

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Motorola Solutions Model Class	Sub-Class	Installed Options
XTS/XTL Subscriber	XTS5000 Portable	See Sub-Class for XTS5000
	XTS2500 Portable, XTS1500 Portable	See Sub-Class for XTS2500, XTS1500
	XTL5000 Mobile, XTL Console, XTL2500 Mobile, XTL1500 Mobile	See Sub-Class for XTL5000, XTL2500 and XTL 1500

Model Sub-Class: XTS5000 Portable	
Product Name, Definition and Unique ID	Model Number and Installed Options
<b>700/800 MHz</b>	
XTS5000 700/800MHz Portable; Firmware/DSP: R12 thru R16	H18UCC9PW5-N, H18UCF9PW6-N, H18UCH9PW7-N Options: Trunking and Encryption
<b>VHF</b>	
XTS5000 VHF Portable; Firmware/DSP: R12 thru R16	H18KEC9PW5-N, H18KEF9PW6-N, H18KEH9PW7-N Options: Trunking and Encryption
<b>UHF-R1</b>	
XTS5000 UHF R1 Portable; Firmware/DSP: Release R12 thru R16	H18QDC9PW5-N, H18QDF9PW6-N, H18QDH9PW7-N Options: Trunking and Encryption
<b>UHF-R2</b>	
XTS5000 UHF R2 Portable; Firmware/DSP: R12 thru R16	H18SDC9PW5-N, H18SDF9PW6-N, H18SDH9PW7-N Options: Trunking and Encryption

Model Sub-Class: XTS 2500 Portable, XTS 1500 Portable	
Product Name, Definition and Unique ID	Model Number and Installed Options
<b>700/800 MHz</b>	
XTS2500 700/800MHz Portable; Firmware/DSP: R12 thru R16	H46UCC9PW5-N, H46UCD9PW5-N, H46UCF9PW6-N, H46UCH9PW7-N Options: Trunking and Encryption
XTS1500 700/800MHz Portable Firmware/DSP: R12 thru R16	H66UCC9PW5-N, H66UCD9PW5-N Options: Trunking
<b>VHF</b>	
XTS2500 VHF Portable; Firmware/DSP: R12 thru R16	H46KDC9PW5-N, H46KDD9PW5-N, H46KDF9PW6-N, H46KDH9PW7-N Options: Trunking and Encryption
XTS1500 VHF Portable Firmware/DSP: R12 thru R16	H66KDC9PW5-N, H66KDD9PW5-N Options: Trunking
<b>UHF-R1</b>	
XTS2500 UHF R1 Portable; Firmware/DSP: Release R12 thru R16	H46QDC9PW5-N, H46QDD9PW5-N, H46QDF9PW6-N, H46QDH9PW7-N Options: Trunking and Encryption
XTS1500 UHF R1 Portable Firmware/DSP: R12 thru R16	H66QDC9PW5-N H66QDD9PW5-N Options: Trunking
<b>UHF-R2</b>	
XTS2500 UHF R2 Portable; Firmware/DSP: R12 thru R16	H46SDC9PW5-N, H46SDD9PW5-N, H46SDF9PW6-N, H46SDH9PW7-N Options: Trunking and Encryption
XTS1500 UHF R2 Portable Firmware/DSP: R12 thru R16	H66SDC9PW5-N, H66SDD9PW5-N Options: Trunking

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<b>Model Sub-Class: XTL5000 Mobile, XTL5000 Console, XTL2500 Mobile, XTL1500 Mobile</b>	
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>700/800 MHz</b>	
XTL5000 700/800MHz Mobile; Firmware/DSP: R12 thru R16	M20URS9PW1-N Options: Trunking and Encryption
XTL5000 700/800MHz Console; Firmware/DSP: R12 thru R16	L20URS9PW1-N Options: Trunking and Encryption
XTL2500 700/800MHz Mobile; Firmware/DSP: R12 thru R16	M21URM9PW1-N Options: Trunking and Encryption
XTL1500 700/800MHz Mobile Firmware/DSP: R12 thru R16	M28URS9PW1-N Options: Trunking
<b>VHF</b>	
XTL5000 VHF Mobile; Firmware/DSP: Release R12 thru R16	M20KSS9PW1-N Options: Trunking and Encryption
XTL5000 VHF Console; Firmware/DSP: R12 thru R16	L20KSS9PW1-N Options: Trunking and Encryption
XTL5000 VHF High Power Mobile; Firmware/DSP: R12 thru R16	M20KTS9PW1-N Options: Trunking and Encryption
XTL2500 VHF Mid Power Mobile; Firmware/DSP: R12 thru R16	M21KSM9PW1-N Options: Trunking and Encryption
XTL2500 VHF High Power Mobile; Firmware/DSP: R12 thru R16	M21KTM9PW1-N Options: Trunking and Encryption
XTL1500 VHF Mid Power Mobile Firmware/DSP: R12 thru R16	M28KSS9PW1-N Options: Trunking
<b>UHF-R1</b>	
XTL5000 UHF R1 Mid Power Mobile; Firmware/DSP: Release R12 thru R16	M20QSS9PW1-N Options: Trunking and Encryption
XTL5000 UHF R1 Mid Power Console; Firmware/DSP: R12 thru R16	L20QSS9PW1-N Options: Trunking and Encryption
XTL5000 UHF R1 High Power Mobile; Firmware/DSP: R12 thru R16	M20QTS9PW1-N Options: Trunking and Encryption
XTL2500 UHF R1 Mid Power Mobile; Firmware/DSP: R12 thru R16	M21QSM9PW1-N Options: Trunking and Encryption
XTL2500 UHF R1 High Power Mobile; Firmware/DSP: R12 thru R16	M21QTM9PW1-N Options: Trunking and Encryption
XTL1500 UHF R1 Mid Power Mobile; Firmware/DSP: R12 thru R16	M28QSS9PW1-N Options: Trunking and Encryption
<b>UHF-R2</b>	
XTL5000 UHF R2 Mid Power Mobile; Firmware/DSP: R12 thru R16	M20SSS9PW1-N Options: Trunking and Encryption
XTL5000 UHF R2 Mid Power Console; Firmware/DSP: R12 thru R16	L20SSS9PW1-N Options: Trunking and Encryption
XTL2500 UHF R2 Mid Power Mobile; Firmware/DSP: R12 thru R16	M21SSM9PW1-N Options: Trunking and Encryption
XTL1500 UHF R2 Mid Power Mobile Firmware/DSP: R12 thru R16	M28SSS9PW1-N Options: Trunking



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### EF Johnson

<b>EFJ 5100es Portable Model Class</b>	
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>700/800 MHz</b>	
5100es 700/800MHz Portable; Firmware: 6.10.4 thru 6.12.7 DSP: 4.16.0 thru 4.18.0	023-5170 Options: Trunking and Encryption
<b>VHF</b>	
5100es VHF Portable; Firmware: 6.10.4 thru 6.12.7 DSP: 4.16.0 thru 4.18.0	023-5110 Options: Trunking and Encryption
<b>UHF-380</b>	
5100es 380 Portable; Firmware: 6.10.4 thru 6.12.7 DSP: 4.16.0 thru 4.18.0	023-5120 Options: Trunking and Encryption
<b>UHF-High</b>	
5100es High Portable; Firmware: 6.10.4 thru 6.12.7 DSP: 4.16.0 thru 4.18.0	023-5141 Options: Trunking and Encryption

<b>EFJ 5300es Mobile Model Class</b>	
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>VHF</b>	
5300es VHF Mobile; Firmware: 6.10.4 thru 6.12.8 DSP: 4.16.0 thru 4.18.0	023-5318 Options: Trunking and Encryption
<b>UHF-380</b>	
5100es 380 Mobile; Firmware: 6.10.4 thru 6.12.8 DSP: 4.16.0 thru 4.18.0	023-5363 Options: Trunking and Encryption

### Icom

<b>Icom Model Class</b>	<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
<b>Icom IC-F9000 Series Radios</b>	IC-F9011 Portable Firmware: Rev 3.0.2 Software: Rev 3.0.0	Hardware: Rev 1.0 Options: UT-125 Encryption Module
	IC-F9011 Portable Firmware: Rev 1.7 Software: Rev 1.4	Hardware: Rev 1.0 Options: UT-125 Encryption Module
	IC-F9021 Portable Firmware: Rev 1.7 Software: Rev 1.4	Hardware: Rev 1.0 Options: UT-125 Encryption Module
	IC-F9511 Mobile Firmware: Rev 1.7 Software: Rev 1.4	Hardware: Rev 1.0 Options: UT-125 Encryption Module
	IC-F9521 Mobile Firmware: Rev 1.7 Software: Rev 1.4	Hardware: Rev 1.0 Options: UT-125 Encryption Module

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### BK Radio KNG (Relm Wireless)

<b>Model Class: BK Radio (Relm) KNG Series Subscriber</b>	
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>
KNG-P150 VHF Portable Release 1.2.1.1 thru 1.4.2.8	KNG-P150, KNG-P150T2 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-P400 380-470 MHz Portable Release 1.2.1.1 thru 1.4.2.8	KNG-P400, KNG-P400T2 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-P500 440-520 MHz Portable Release 1.2.1.1 thru 1.4.2.8	KNG-P500, KNG-P500T2 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-P800 700/800MHz Portable Release 1.2.1.1 thru 2.2.1	KNG-P800, KNG-P800T2 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-M150 VHF Mobile Release 2.2.1.1 thru 2.4.2.8	KNG-M150, KNG-B150 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-M400 380-470 MHz Mobile Release 2.2.1.1 thru 2.4.2.8	KNG-M400, KNG-B400 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-M500 440-520 MHz Mobile Release 2.2.1.1 thru 2.4.2.8	KNG-M500, KNG-B500 Options: Trunking (KZA0579) and Encryption (KZA0577)
KNG-M800 700/800MHz Mobile Release 2.2.1.1 thru 2.4.2.8	KNG-M800, KNG-B800 Options: Trunking (KZA0579) and Encryption (KZA0577)

### Tait Radio Communications

<b>Model Class: Tait Series Subscriber</b>		
<b>Product Name, Definition and Unique ID</b>	<b>Model Number and Installed Options</b>	
TP/TM9100	<b>Hardware:</b>	TPAB11-B100B
	<b>Firmware:</b>	6.09.04.0027
	<b>Software:</b>	6.11.0.1
TP/TM9100	<b>Hardware:</b>	TPAB11-B100B
	<b>Firmware:</b>	7.09.04.0001
	<b>Software:</b>	8.11.0.1
TP9400 Model TPK5A	<b>Hardware:</b>	1.06
	<b>Firmware:</b>	2.03 (Release 2)
	<b>Software:</b>	2.03

### Technisonic

<b>Technisonic Model Class</b>	<b>Product Name, Definition and Unique ID</b>	<b>Installed Options</b>
TDFM Series Multiband Radio Subscriber Hardware Modules: VHF RF Module – T1085 UHF Low RF Module – T1086 UHF High RF Module – T1087 700/800MHz RF Module – T1088	TDFM 600 Firmware: R12 thru R15 Software: TR21	Options: P25 CAI, Trunking and Encryption
	TDFM 6000 Firmware: R12 thru R15 Software: TR21	Options: P25 CAI, Trunking and Encryption
	TDFM 7000/MOD 2 Firmware: R12 thru R15 Software: TS 17	Options: P25 CAI, Trunking and Encryption
	TDFM 7000/MOD 3 Firmware: R12 thru R15 Software: TS 25	Options: P25 CAI, Trunking and Encryption
	TDFM 7300	Options: P25 CAI, Trunking and

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Technisonic Model Class	Product Name, Definition and Unique ID	Installed Options
	Firmware: R12 thru R15 Software: TL8	Encryption
TDFM-9000 Multiband P25 Airborne Transceiver Model 101263-1-90-A40	TDFM 9000/MOD 4 Firmware: R13.00.05 Software: V2.0.5	Options: P25 CAI, Trunking and Encryption

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<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: All of the XTS/XTL models support encryption except for the XTS1500 portable and XTL1500 mobile. Please see XTS/XTL Model Class tables to identify the specific models that do not support encryption.	
P2: Trunking Voice Access Time will vary dependent on actual system design and implementation.	
N1: The GTR8000 base station/repeater does not offer an analog audio receiver output so this test cannot be run.	
N2: The GTR8000 base station/repeater does not offer an analog audio transmitter input so this test cannot be run.	
N3: Motorola ASTRO 25 trunked infrastructure does not use single TSBK or double TSBK for Outbound Signaling Packets (OSP) for test case 2.3.4.	
N4: The ASTRO 25 system operates with 45ms ISP slot times, not 37.5ms ISP slot times.	
N5: Motorola Infrastructure does not support the Inter-System Roaming Configuration.	
N6: Motorola Infrastructure does not support Inter-WACN Roaming Configuration.	
N7: The Harris P3300 subscriber does not support unit-to-unit call with target availability check.	
N8: Motorola Infrastructure does not support test cases 2.2.3.4.5 and 2.2.3.4.6.	
N9: The Harris P3300 subscriber does not support emergency alarm.	
N10: The Harris P3300 subscriber does not support encryption.	
N11: The Teltronic, S.A.U. / PowerTrunk Inc. TPH-225 subscriber does not support encryption.	
N/A1: Test Case 2.2.3.4.4 is not applicable for subscribers on a Motorola infrastructure; see results of test case 2.2.3.4.3.	

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