

PRODUCT UNDER TEST

CAP Approval 20240823

Product Info	Details
Model_Name:	APX 4000, APX4000H
Hardware Capability/Options:	Full Display; VHF (136-174MHz); UHF-R1 (380-470MHz); UHF-R2 (450-520MHz); 700MHz (764-776, 794-806 MHz); 800MHz (806-824, 851-870 MHz), 900 MHz
Software Options:	P25 Conventional, P25 Trunked, P25 TDMA Trunked, AES-256 Encryption

TEST CASE RESULT NOTATIONS AND DEFINITIONS (Vendors may define additional notations/definitions)

Notation	Test Case Result Definition
P (Pass)	Test was passed and met stated requirements where listed
P1	Functionality requires product with DTMF keypad
P2	Functionality requires product with display capable of ID display
P3	Functionality requires DTMF microphone
P4	Functionality requires AES 256 encryption
P5	Interoperability verified with only one representative base station repeater
P	Interoperability verified with only two representative base station repeaters
P7	Test was passed based on TIA-102.CABA-A (test cases 2.2.8.4.1 and 2.4.14.4.1) which allows a subscriber to always unmute with \$F7E NAC.
U (Unsupported)	Test examines functionality the Product Under Test does not support
U1	37.5 millisecond slot times is not supported
U2	45 millisecond slot times is not supported
U3	Functionality is not supported by subscriber unit
U4	Functionality is not supported by the representative base station repeater tested with the subscriber under test
U5	Functionality is not supported by the representative subscriber unit tested with the subscriber under test
E (Exception)	DHS OIC Approved Test Case Exception
E1	In accordance with the guidance given in TIA 102.CAAB-D §3.2.18, if the transmitter carrier output power rating is 6 watts or less, the mean frequency difference during t1 and t3, may be greater than ±12.5 kHz.
F (Fail)	Test was failed and did not meet stated requirements where listed

Conventional Subscriber Performance (2018 CAB)
P25 CAP Test Identification
P25-CAB-CAL_TEST_REQ – October 2018, Section 2.1.1.1 – Conventional Subscriber Unit Performance
Detailed Test Report Identification
[DTR-P25CAP-3511 (VHF)] [DTR-P25CAP-3513 (UHF)] [DTR-P25CAP-3582 (700-800MHz)][DTR-P25CAP-3671 (700-800MHz)]

The 'test case' number refers to the paragraph number for the test procedure found in the TIA-102.CAAA-E Digital C4FM/CQPSK Transceiver Measurement Methods for FDMA .

Conventional Subscriber Unit Receiver Tests (2018 CAB)				Only display results for tested frequency band(s)				
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result	
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm	P	P	P	P	P	
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm	P	P	P	P	P	
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm	P	P	P	P	P	
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm	P	P	P	P	P	
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 μs	P	P	P	P	P	
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 μs	P	P	P	P	P	
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB	P	P	P	P	P	
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB	P	P	P	P	P	
3.1.7.2	Offset Adjacent Channel Rejection – C4FM	≥ 47 dB	P	P	P	P	P	
3.1.7.2	Offset Adjacent Channel Rejection – Standard Simulcast	≥ 47 dB	P	P	P	P	P	
3.1.8	Co-Channel Rejection	≤ 9 dB	P	P	P	P	P	
3.1.9	Spurious Response Rejection	≥ 80 dB Mobile ≥ 70 dB Portable	P	P	P	P	P	
3.1.10	Intermodulation Rejection	≥ 75 dB Mobile ≥ 70 dB Portable	P	P	P	P	P	
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P	P	P	P	P	
3.1.17	Late Entry Unsilence Delay: No Talk Group or Encryption	≤ 125 ms	P	P	P	P	P	
3.1.18	Receiver Throughput Delay	≤ 125 ms	P	P	P	P	P	
Conventional Subscriber Unit Transmitter Tests (2018 CAB)				Only display results for tested frequency band(s)				
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result	
3.2.8	Unwanted Emissions: Adjacent Channel Power Ratio*	≥ 67 dB (non-700MHz)	P	P	P	P	P	
3.2.12	Transmitter Attack Time	≤ 50 ms	P	P	P	P	P	
3.2.12	Encoder Attack Time	≤ 100 ms	P	P	P	P	P	
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P	P	P	P	P	
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	2544 < f _{dev} ≤ 3111 Hz	P	P	P	P	P	
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	848 < f _{dev} ≤ 1037 Hz	P	P	P	P	P	
3.2.16	Modulation Fidelity – C4FM	≤ 5%	P	P	P	P	P	
3.2.18	Transient Frequency Behavior: Time Interval [see t1 value in cell]	Δf ≤ 12.5 kHz	[t1=5ms] P	[t1=10ms] P	[t1=10ms] P	[t1=20ms] P	[t1=20ms] P	

3.2.18	Transient Frequency Behavior: Time Interval [see t2 value in cell]	$ \Delta f \leq 6.25$ kHz	[t2=20ms] P	[t2=25ms] P	[t2=25ms] P	[t2=50ms] P	[t2=50ms] P
3.2.18	Transient Frequency Behavior: Time Interval [see t3 value in cell]	$ \Delta f \leq 12.5$ kHz	[t3=5ms] P	[t3=10ms] P	[t3=10ms] P	[t3=10ms] P	[t3=10ms] P

*700MHz Adjacent Channel Power Ratio test is passed based on test results submitted for FCC equipment authorization.

Trunked Subscriber Performance - FDMA (2018 CAB)	
P25 CAP Test Identification	
P25-CAB-CAI_TEST_REQ – October 2018, Section 2.1.1.2 – Trunked Subscriber Unit Performance - FDMA	
Detailed Test Report Identification	
[DTR-P25CAP-3511 (VHF)] [DTR-P25CAP-3513 (UHF)] [DTR-P25CAP-3582 (700-800MHz)] [DTR-P25CAP-3671 (700-800MHz)]	

The 'test case' number refers to the paragraph number for the test procedure found in the TIA-102.CAAA-E Digital C4FM/CQPSK Transceiver Measurement Methods for FDMA .

Trunked Subscriber Unit Receiver Tests - FDMA (2018 CAB)				Only display results for tested frequency band(s)				
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result	
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm	P	P	P	P	P	
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm	P	P	P	P	P	
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm	P	P	P	P	P	
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm	P	P	P	P	P	
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 μ s	P	P	P	P	P	
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 μ s	P	P	P	P	P	
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB	P	P	P	P	P	
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB	P	P	P	P	P	
3.1.7.2	Offset Adjacent Channel Rejection – C4FM	≥ 47 dB	P	P	P	P	P	
3.1.7.2	Offset Adjacent Channel Rejection – Standard Simulcast	≥ 47 dB	P	P	P	P	P	
3.1.8	Co-Channel Rejection	≤ 9 dB	P	P	P	P	P	
3.1.9	Spurious Response Rejection	≥ 80 dB Mobile ≥ 70 dB Portable	P	P	P	P	P	
3.1.10	Intermodulation Rejection	≥ 75 dB Mobile ≥ 70 dB Portable	P	P	P	P	P	
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P	P	P	P	P	

Trunked Subscriber Unit Transmitter Tests - FDMA (2018 CAB)				Only display results for tested frequency band(s)				
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result	
3.2.8	Unwanted Emissions: Adjacent Channel Power Ratio*	≥ 67 dB (non-700MHz)	P	P	P	P	P	
3.2.12	Power Attack Time	≤ 50 ms	P	P	P	P	P	
3.2.12	Encoder Attack Time	≤ 100 ms	P	P	P	P	P	
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P	P	P	P	P	
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	$2544 < f_{dev} \leq 3111$ Hz	P	P	P	P	P	
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	$848 < f_{dev} \leq 1037$ Hz	P	P	P	P	P	
3.2.16	Modulation Fidelity – C4FM	$\leq 5\%$	P	P	P	P	P	
3.2.18	Transient Frequency Behavior: Time Interval [see t1 value in cell]	$ \Delta f \leq 12.5$ kHz	[t1=5ms] P	[t1=10ms] P	[t1=10ms] P	[t1=20ms] P	[t1=20ms] P	
3.2.18	Transient Frequency Behavior: Time Interval [see t2 value in cell]	$ \Delta f \leq 6.25$ kHz	[t2=20ms] P	[t2=25ms] P	[t2=25ms] P	[t2=50ms] P	[t2=50ms] P	
3.2.18	Transient Frequency Behavior: Time Interval [see t3 value in cell]	$ \Delta f \leq 12.5$ kHz	[t3=5ms] P	[t3=10ms] P	[t3=10ms] P	[t3=10ms] P	[t3=10ms] P	

*700MHz Adjacent Channel Power Ratio test is passed based on test results submitted for FCC equipment authorization.

Trunked Subscriber Unit Trunked Tests - FDMA (2018 CAB)			
Test Case	Test Case Description	Requirement	Result
3.3.1	Trunked Control Channel Slot Times - 37.5 ms Slot Encode Attack Time	$2.00 \leq t_{slot} \leq 4.15$ ms	P
3.3.1	Trunked Control Channel Slot Times - 37.5 ms Slot RF Power Attack Time	$0.00 \leq t_{slot} \leq 4.15$ ms	P
3.3.1	Trunked Control Channel Slot Times - 37.5 ms Slot RF Power Turn Off Time	≤ 1.57 ms	P
3.3.1	Trunked Control Channel Slot Times - 45 ms Slot Encode Attack Time	$2.00 \leq t_{slot} \leq 11.65$ ms	P
3.3.1	Trunked Control Channel Slot Times - 45 ms Slot RF Power Attack Time	$0.00 \leq t_{slot} \leq 11.65$ ms	P
3.3.1	Trunked Control Channel Slot Times - 45 ms Slot RF Power Turn Off Time	≤ 1.57 ms	P
3.3.2	Trunked Request Time - 37.5 ms Slot	≤ 160 ms	P
3.3.2	Trunked Request Time - 45 ms Slot	≤ 167.5 ms	P
3.3.5	Transmitter Time to Key on a Traffic Channel Short Channel Form RF Transmitter time to Key on a Working Channel	≤ 150.0 ms	P
3.3.5	Transmitter Time to Key on a Traffic Channel Short Channel Form Encoder Transmit Time	≤ 150.0 ms	P
3.3.5	Transmitter Time to Key on a Traffic Channel Explicit Channel Form RF Transmitter Time to Key on a Working Channel	≤ 171.1 ms	P
3.3.5	Transmitter Time to Key on a Traffic Channel Explicit Channel Form Encoder Transmit Time	≤ 171.1 ms	P

Trunked Subscriber Performance - TDMA (2018 CAB)		(leave test section empty for 2016 CAB)					
Test Identification							
P25-CAB-CAL_TEST_REQ – October 2018, Section 2.1.1.3 - Trunked Subscriber Unit Performance - TDMA							
Detailed Test Report Identification							
[DTR-P25CAP-3511 (VHF)] [DTR-P25CAP-3513 (UHF)] [DTR-P25CAP-3582 (700-800MHz)] [DTR-P25CAP-3671 (700-800MHz)]							
The 'test case' number refers to the paragraph number for the test procedure found in TIA-102.CCAA-B Two-Slot Time Division Multiple Access Transceiver Measurement Methods for TDMA.							
Trunked Subscriber Unit Receiver Tests - TDMA (2018 CAB)		Only display results for tested frequency band(s)					
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result
3.1.4	Reference Sensitivity - HDQPSK	≤ -116 dBm	P	P	P	P	P
3.1.5	Faded Reference Sensitivity - HDQPSK	≤ -108 dBm	P	P	P	P	P
3.1.6	Signal Delay Spread Capability - HDQPSK	≥ 65 μs	P	P	P	P	P
3.1.7.1	Adjacent Channel Rejection - HDQPSK	≥ 60 dB	P	P	P	P	P
3.1.7.2	Offset Adjacent Channel Rejection - HDQPSK	≥ 47 dB	P	P	P	P	P
3.1.8	Co-Channel Rejection	≤ 9 dB	P	P	P	P	P
3.1.9	Spurious Response Rejection	≥ 80 dB Mobile ≥ 70 dB Portable	P	P	P	P	P
3.1.10	Intermodulation Rejection	≥ 75 dB Mobile ≥ 70 dB Portable	P	P	P	P	P
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P	P	P	P	P
Trunked Subscriber Unit Transmitter Tests - TDMA (2018 CAB)		Only display results for tested frequency band(s)					
Test Case	Test Case Description	Requirement	VHF Result	UHF-L Result	UHF-H Result	700 Result	800 Result
3.2.8	Unwanted Emissions: Adjacent Channel Power Ratio*	≥ 65 dB (non-700MHz)	P	P	P	P	P
3.2.12	Frequency Deviation H-CPM – High Level Signal	2995 < f _{dev} ≤ 3310 Hz	P	P	P	P	P
3.2.12	Frequency Deviation H-CPM – Low Level Signal	998 < f _{dev} ≤ 1104 Hz	P	P	P	P	P
3.2.13	Modulation Fidelity	≤ 5%	P	P	P	P	P
3.2.14	Symbol Rate Accuracy	Not to exceed 10 parts per million	P	P	P	P	P
3.2.15	H-CPM Transmitter Logical Channel Peak Adjacent Channel Power Ratio	≥ 35 dB	P	P	P	P	P
3.2.16	H-CPM Transmitter Logical Channel Off Slot Power	≤ -57dBm	P	P	P	P	P
3.2.17	H-CPM Transmitter Logical Channel Power Envelope						
3.2.17	Max - On	4 dBc	P	P	P	P	P
3.2.17	Slot Max	1 dBc	P	P	P	P	P
3.2.17	Slot Min	-3 dBc	P	P	P	P	P
3.2.17	Max - Off	4 dBc	P	P	P	P	P
3.2.18	H-CPM Transmitter Logical Channel Time Alignment	±25 microseconds or less	P	P	P	P	P

*700MHz Adjacent Channel Power Ratio test is passed based on test results submitted for FCC equipment authorization.

Conventional Subscriber Unit Interoperability - Direct Mode (2018 CAB)	
Test Identification	
P25-CAB-CAL_TEST_REQ – October 2018, Section 2.1.3.1 - Conventional Subscriber Unit Interoperability – Direct Mode	

Representative Conventional Subscriber Unit Products tested with the Subscriber Unit for Conventional Interoperability - Direct Mode			
Subscriber Vendor	Model Name	Product No.	Detailed Test Report #
Motorola Solutions	APX8000	1	DTR-P25CAP081011-P1850004-DMO-
EF Johnson Technologies	Viking VP900	2	DTR-P25CAP081010-18052403
Harris Corporation	XL-200P	3	DTR-P25CAP081017-1180424M

The 'test case' number refers to the test suite paragraph number and test case number in TIA-102.CABA Interoperability Testing for Voice Operation in Conventional Systems.

Conventional Subscriber Unit Interoperability Tests - Direct Mode (2016&2017 CAB)				
Test Case	Description	Product 1 Result	Product 2 Result	Product 3 Result
2.2.1**	Matching NAC Operation and SU Unaddressed Voice Call**			
2.2.1.4.1	Test Case 1 – Unaddressed Voice Call	P	P	P
2.2.2**	Matching NAC Operation and SU Routine Group Voice Call**			
2.2.2.4.1	Test Case 1 – Routine Group Voice Call	P	P	P
2.2.3**	Monitor Mode – SU Group Voice Call**			
2.2.3.4.1	Test Case 1 – Receiving Group Call	P	P	P
2.2.8**	Accept Any NAC in Normal & Selective Squelch Mode – SU Group Voice Call**			
2.2.8.4.1	Test Case 1 – Receiving Group Call with Receive NAC \$F7E under Normal and Selective Squelch Modes	P7	P7	P7
2.2.4	Emergency Call			
2.2.4.4.1	Test Case 1 – Emergency Call	P	P	P
2.2.5	Unit-to-Unit Voice Call			

2.2.5.4.1	Test Case 1 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.2.5.4.2	Test Case 2 – Initiate Unit-to-Unit Call from SU 5	P	P	P
2.2.6	Unit-to-Unit Voice Call – Receiving Units also in Monitor Mode			
2.2.6.4.1	Test Case 1 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.2.6.4.2	Test Case 2 – Initiate Unit-to-Unit Call from SU 5	P	P	P
2.2.7	Encryption			
2.2.7.4.1	Test Case 1 – Call Privacy for Encrypted Call	P	P	P
2.3.1	Call Alert			
2.3.1.4.1	Test Case 1 – Call Alert (SU 1 to SU 5)	P	P	U5
2.3.1.4.2	Test Case 2 – Call Alert (SU 5 to SU 1)	P	P	U5
2.3.2	Radio Check			
2.3.2.4.1	Test Case 1 – Radio Check (SU 1 to SU 5)	U	U	U
2.3.2.4.2	Test Case 2 – Radio Check (SU 5 to SU 1)	U	U	U
2.3.3	Message Update			
2.3.3.4.1	Test Case 1 – Message Update (SU 1 to SU 5)	U	U	U
2.3.3.4.2	Test Case 2 – Message Update (SU 5 to SU 1)	U	U	U
2.3.4	Status Update			
2.3.4.4.1	Test Case 1 – Status Update (SU 1 to SU 5)	U	U	U
2.3.4.4.2	Test Case 2 – Status Update (SU 5 to SU 1)	U	U	U
2.3.5	Status Query			
2.3.5.4.1	Test Case 1 – Status Query (SU 1 to SU 5)	U	U	U
2.3.5.4.2	Test Case 2 – Status Query (SU 5 to SU 1)	U	U	U
2.3.6	Radio Unit Monitor			
2.3.6.4.1	Test Case 1 – Radio Unit Monitor Initiated by SU 1 – Group Call	U	U	U
2.3.6.4.2	Test Case 2 – Radio Unit Monitor Initiated by SU 5 – Group Call	U	U	U
2.3.6.4.3	Test Case 3 – Radio Unit Monitor Initiated by SU 1 – Unit-to-Unit Call	U	U	U
2.3.6.4.4	Test Case 4 – Radio Unit Monitor Initiated by SU 5 – Unit-to-Unit Call	U	U	U

**** P25 CAP Minimum Feature Requirement - Test Case Result must be a Pass (P)**

For further information: https://www.dhs.gov/sites/default/files/publications/P25-CAB-MIN-FEATURE_REQ_171113-508.pdf

Conventional Subscriber Unit Interoperability - Repeat Mode (2017 CAB)
CAB Test Section Identification
P25-CAB-CAL_TEST_REQ – July 2017, Section 2.1.3.2 - Conventional Subscriber Unit Interoperability – Repeat Mode

Representative Conventional Base Station Repeater Products tested with the Subscriber Unit for Conventional Interoperability - Repeat Mode			
Base Station Repeater Vendor	Model Name	Product No.	Detailed Test Report #
Motorola Solutions	GTR 8000	1	DTR-P25CAP081011-P1850004-RMO-4
EF Johnson Technologies	4500 Repeater	2	DTR-P25CAP081010-18052402
Harris Corporation	MASTR V	3	DTR-P25CAP081017-1180424M

The 'test case' number refers to the test suite paragraph number and test case number in TIA-102.CABA Interoperability Testing for Voice Operation in Conventional Systems.

Conventional Subscriber Unit Interoperability Tests- Repeat Mode (2016&2017 CAB)				
Test Case	Description	Product 1 Result	Product 2 Result	Product 3 Result
2.4.1**	Matching NAC Operation and SU Unaddressed Voice Call **			
2.4.1.4.1	Test Case 1 – Matching NAC operation – Unaddressed Voice Call	P	P	P
2.4.2**	Matching NAC Operation – SU Routine Group Call Mode **			
2.4.2.4.1	Test Case 1 – Matching NAC – SU Routine Group Call Mode	P	P	P
2.4.3	Transmit NAC Independent of Receive NAC – SU Unaddressed Voice Call			
2.4.3.4.1	Test Case 1 – Independent NAC Operation – SU Unaddressed Voice Call	P	P	P
2.4.4	Transmit NAC Independent of Receive NAC – SU Routine Group Call			
2.4.4.4.1	Test Case 1 – Independent NAC Operation – SU Routine Group Call	P	P	P
2.4.5	Any NAC (\$F7F) Operation – SU Unaddressed Voice Call			
2.4.5.4.1	Test Case 1 – NAC \$F7F Operation – SU Unaddressed Voice Call	P	P	P
2.4.6	Any NAC (\$F7F) Operation – SU Routine Group Call			
2.4.6.4.1	Test Case 1 – NAC \$F7F Operation – SU Routine Group Call	P	P	P
2.4.7	Any NAC (\$F7E) Operation with Fixed Transmit NAC – SU Group Call			
2.4.7.4.1	Test Case 1 – NAC \$F7E Operation – SU Group Call	P	P	P
2.4.8	Emergency Call			
2.4.8.4.1	Test Case 1 – Emergency Call	P	P	P
2.4.9**	Monitor Mode – SU Group Call **			
2.4.9.4.1	Test Case 1 – Monitor Mode – Receiving Group Call	P	P	P
2.4.10	Unit-to-Unit Voice Call			
2.4.10.4.1	Test Case 1 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.4.10.4.3	Test Case 3 – Initiate Unit-to-Unit Call from SU 1, No Co-Channel Interference Suppression	P	P	P
2.4.11	Unit-to-Unit Voice Call Co-Channel Interference Suppression by FNE			
2.4.11.4.1	Test Case 1 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.4.12	Unit-to-Unit Voice Call – Receiving Units Also in Monitor Mode			
2.4.12.4.1	Test Case 1 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.4.13	Encryption			
2.4.13.4.1	Test Case 1 – Call Privacy for Encrypted Call	P	P	P
2.4.14	Accept Any NAC in Normal and Selective Squelch Mode – SU Group Call			
2.4.14.4.1	Test Case 1 – Receiving group Call with receive NAC \$F7F under Normal and Selective Squelch Modes	P7	P7	P7
2.5.1	Call Alert			

2.5.1.4.1	Test Case 1 – Initiate Call Alert Request from SU 1	P	P	U4
2.5.2	Radio Check			
2.5.2.4.1	Test Case 1 – Initiate Radio Check from SU 1	U	U	U
2.5.3	Message Update			
2.5.3.4.1	Test Case 1 – Message Update Initiated by SU 1	U	U	U
2.5.3.4.3	Test Case 3 – SU 1 to Group Message Update	U	U	U
2.5.4	Status Update			
2.5.4.4.1	Test Case 1 – Status Update Initiated by SU 1	U	U	U
2.5.4.4.3	Test Case 3 – SU to Talk Group Status Update Initiated by SU 1	U	U	U
2.5.5	Status Query			
2.5.5.4.1	Test Case 1 – Status Query Initiated by SU 1	U	U	U
2.5.6	Radio Unit Monitor			
2.5.6.4.1	Test Case 1 – Radio Unit Monitor Initiated by SU 1 – Group Call	U	U	U
2.5.6.4.3	Test Case 3 – Radio Unit Monitor Initiated by SU 1 – Unit-to-Unit Call	U	U	U

**** P25 CAP Minimum Feature Requirement - Test Case Result must be a Pass (P)**

For further information: https://www.dhs.gov/sites/default/files/publications/P25-CAB-MIN-FEATURE_REQ_171113-508.pdf

Conventional Subscriber Unit Interoperability - FNE Dispatch Monitoring Console - Repeat Mode (2017 CAB)
CAB Test Section Identification
P25-CAB-CAL_TEST_REQ – July 2017, Section 2.1.3.3 - Conventional Subscriber Unit Interoperability - FNE Dispatch Monitoring Console - Repeat Mode

Representative Conventional Base Station Repeater Products tested with the Subscriber Unit for Conventional Interoperability - FNE Dispatch Monitoring Console - Repeat Mode

Base Station Repeater Vendor	Model Name	Product No.	Detailed Test Report #
Motorola Solutions	GTR 8000	1	DTR-P25CAP081011-P1850004-DMC-4
EF Johnson Technologies	4500 Repeater	2	DTR-P25CAP081010-18052402
Harris Corporation	MASTR V	3	DTR-P25CAP081017-1180424M

The 'test case' number refers to the test suite paragraph number and test case number in TIA-102.CABA Interoperability Testing for Voice Operation in Conventional Systems.

Conventional Subscriber Unit Interoperability Tests - FNE Dispatch Monitoring Console - Repeat Mode (2016&2017 CAB)

Test Case	Description	Product 1 Result	Product 2 Result	Product 3 Result
2.6.1	Unaddressed Voice Call			
2.6.1.4.1	Test Case 1 – Unaddressed Voice Call	P	P	P
2.6.2	Routine Group Call			
2.6.2.4.1	Test Case 1 – Routine Group Call	P	P	P
2.6.3	Emergency Call			
2.6.3.4.1	Test Case 1 – Emergency Call from SU	P	P	P
2.6.3.4.2	Test Case 2 – Emergency Call from DMC	U4	U4	P
2.6.4	All Call (System-Wide Call)			
2.6.4.4.1	Initiate System-Wide Call to Collection of Talk Groups	P	P	U4
2.6.5	Unit-to-Unit Voice Call			
2.6.5.4.1	Test Case 1 – Initiate Unit-to-Unit Call from DMC	P	P	P
2.6.5.4.2	Test Case 2 – Initiate Unit-to-Unit Call from SU 1	P	P	P
2.6.6	Encryption			
2.6.6.4.1	Test Case 1 – Call Privacy for Encrypted Call	P	P	P
2.7.1	Emergency Alarm to Dispatch and/or other Monitoring Console			
2.7.1.4.1	Test Case 1 – Emergency Alarm	P	P	P
2.7.2	Call Alert			
2.7.2.4.1	Test Case 1 – Initiate Call Alert Request from DMC	P	P	U4
2.7.2.4.2	Test Case 2 – Initiate Call Alert Request from SU 1	P	P	U4
2.7.3	Radio Check			
2.7.3.4.1	Test Case 1 – Initiate Radio Check from DMC	P	U4	U4
2.7.4	Radio Unit Inhibit			
2.7.4.4.1	Test Case 1 – Radio Unit Inhibit from DMC	P	U4	U4
2.7.5	Radio Unit Uninhibit			
2.7.5.4.1	Test Case 1 – Radio Unit Uninhibit from DMC	P	U4	U4
2.7.6	Message Update			
2.7.6.4.1	Test Case 1 – Message Update from DMC	U	U4	U4
2.7.6.4.2	Test Case 2 – DMC to Group Message Update	U	U	U4
2.7.6.4.3	Test Case 3 – SU 1 to DMC Message Update	U	U	U
2.7.6.4.4	Test Case 4 – SU 1 to Group Message Update	P	U	U4
2.7.7	Status Update			
2.7.7.4.1	Test Case 1 – Status Update from SU 1 to DMC	U	U	U
2.7.7.4.2	Test Case 2 – Talk Group Status Update Initiated by SU 1	P	U	U4
2.7.8	Status Query			
2.7.8.4.1	Test Case 1 – Status Query Initiated by DMC	P	U	U4
2.7.9	Radio Unit Monitor			
2.7.9.4.1	Test Case 1 – Radio Unit Monitor Initiated by DMC – Group Call	P	U	U4
2.7.9.4.2	Test Case 2 – Radio Unit Monitor Initiated by DMC – Unit-to-Unit Call	U	U	U4

Trunked Subscriber Unit Interoperability - FDMA (2017 CAB)
CAB Test Section Identification
P25-CAB-CAL_TEST_REQ – July 2017, Section 2.1.3.4 - Trunked Subscriber Unit Interoperability – FDMA (Phase 1)

Representative Trunked Base Station Repeater Products tested with the Subscriber Unit for Trunked Interoperability - FDMA			
Base Station Repeater Vendor	Model Name	Product No.	Detailed Test Report #
Motorola Solutions	GTR 8000	1	DTR-P25CAP081011-P1850004-FDMA
EF Johnson Technologies	4500 Repeater	2	DTR-P25CAP081010-09111601; DTR-P
Harris Corporation	MASTR V	3	DTR-P25CAP081017-1180424M; DTR-

The 'test case' number refers to the test suite paragraph number and test case number in TIA-102.CABC-C Interoperability Testing for Voice Operation in Trunked Systems

Trunked Subscriber Unit Interoperability Tests - FDMA (2016&2017 CAB)

*** Test case included in the 2017 Test Requirements CAB. Leave test case result empty if submitting under the 2016 Test Requirements CAB.

Test Case	Description	Product 1 Result Home	Product 1 Result Inter-SYS Roaming	Product 1 Result Inter-WACN Roaming	Product 2 Result Home	Product 2 Result Inter-SYS Roaming	Product 2 Result Inter-WACN Roaming	Product 3 Result Home	Product 3 Result Inter-SYS Roaming	Product 3 Result Inter-WACN Roaming
2.2.1	Full Registration									
2.2.1.4.1	Test Case 1 – Valid Registration	P	P	P	P	U4	U4	P	P	U4
2.2.1.4.2	Test Case 2 – Denied or Refused Registration	P	P	P	P	U4	U4	P	P	U4
2.2.1.4.3	Test Case 3 – Unverified Registration	P	P	P	P	U4	U4	P	P	U4
2.2.2	Group Voice Call									
2.2.2.4.1	Test Case 1 – Group Call Granted	P	P	P	P	U4	U4	P	P	U4
2.2.2.4.2	Test Case 2 – Group Call Denied	P	P	P	P	U4	U4	P	P	U4
2.2.2.4.3	Test Case 3 – Group Call Request Queued	P	P	P	P	U4	U4	P	P	U4
2.2.2.4.4	*** Test Case 4 – Group Call Interrupt ***	P	P	P				P	P	U4
2.2.3	Unit-to-Unit Voice Call									
2.2.3.4.1	Test Case 1 – Unit-to-Unit Call with Target Availability Check	P	U4	U4	P	U4	U4	P	P	U4
2.2.3.4.2	Test Case 2 - Unit-to-Unit Call with Target Availability Check- Denied by Target	P	U4	U4	P	U4	U4	P	P	U4
2.2.3.4.3	Test Case 3 – Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment After Target Availability Check	P	U4	U4	P	U4	U4	P	P	U4
2.2.3.4.4	Test Case 4 – Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment Before Target Availability Check	U4	U4	U4	U4	U4	U4	U4	U4	U4
2.2.3.4.5	Test Case 5 – Unit-to-Unit Call without Target Availability Check	U4	U4	U4	U4	U4	U4	P	P	U4
2.2.3.4.6	Test Case 6 – Unit-to-Unit Call Queued without Target Availability Check	U4	U4	U4	U4	U4	U4	P	P	U4
2.2.3.4.7	Test Case 7 – Unit-to-Unit Call Denied	P	U4	U4	P	U4	U4	P	P	U4
2.2.4	Broadcast Voice Call									
2.2.4.4.1	Test Case 1 – Broadcast Voice Call	P	P	P	P	U4	U4	P	P	U4
2.2.5	Affiliation									
2.2.5.4.1	Test Case 1 – Radio Permitted to Affiliate with New Group	P	P	P	P	U4	U4	P	P	U4
2.2.5.4.2	Test Case 2 – Radio Denied Affiliation to New Group	P	P	P	P	U4	U4	P	P	U4
2.2.6	Announcement Group Call									
2.2.6.4.1	Test Case 1 – Collection of Talk Groups Receive Call	P	P	P	P	U4	U4	P	P	U4
2.2.7	Emergency Alarm									
2.2.7.4.1	Test Case 1 – Emergency Alarm	P	P	P	P	U4	U4	P	P	U4
2.2.8	Emergency Group Call									
2.2.8.4.1	Test Case 1 – Emergency Call	P	P	P	P	U4	U4	P	P	U4
2.2.10	Encryption									
2.2.10.4.1	Test Case 1 – Call Privacy for Encrypted Call	P	P	P	P	U4	U4	P	P	U4
2.2.11	Intra-Location Registration Area Roaming									
2.2.11.4.1	Test Case 1 – Idle Radio	P	P	P	P	U4	U4	P	P	U4
2.2.13	Deregistration ***									
2.2.13.4.1	Test Case 1 – Deregistration	P	P	P	P	P	P	P	P	U4
2.2.14	System Call ***									
2.2.14.4.1	Test Case 1 – System Call	U4	U4	U4	P	P	P	U4	U4	U4
2.2.15	Call Alert ***									
2.2.15.4.1	Test Case 1 – Call Alert	P	U4	U4	P	P	P	P	P	U4
2.2.16	Short Message ***									
2.2.16.4.1	Test Case 1 – Short Message	U	U	U4	U4	U4	U4	U	U	U4
2.2.17	Status Query ***									
2.2.17.4.1	Test Case 1 – Status Query	U4	U4	U4	U4	U4	U4	U4	U4	U4
2.2.18	Status Update ***									
2.2.18.4.1	Test Case 1 – Status Update	P	U4	U4	P	P	P	P	P	U4
2.2.19	Radio Unit Monitoring ***									
2.2.19.4.1	Test Case 1 – Individual Non-Silent	U	U	U	U4	U4	U4	U4	U4	U4
2.2.19.4.2	Test Case 2 – Individual Silent	U	U	U	U4	U4	U4	U4	U4	U4
2.2.19.4.3	Test Case 3 – Group Non-Silent	P	U4	U4	U4	U4	U4	U4	U4	U4
2.2.19.4.4	Test Case 4 – Group Silent	P	U4	U4	U4	U4	U4	U4	U4	U4
2.2.20	Radio Unit Disable/Re-Enable ***									
2.2.20.4.1	Test Case 1 – Radio Unit Disable	P	U4	U4	P	P	P	P	P	U4
2.2.20.4.2	Test Case 2 – Radio Unit Re-Enable	P	U4	U4	P	P	P	P	P	U4
2.2.21	Radio Check ***									
2.2.21.4.1	Test Case 1 – Radio Check Successful	P	U4	U4	P	P	P	U4	U4	U4

*** Test case included in the 2017 Test Requirements CAB. Leave test case result empty if submitting under the 2016 Test Requirements CAB.

Trunked Subscriber Unit Interoperability - TDMA (2017 CAB)	
CAB Test Section Identification	(leave test section empty for 2016 CAB)
P25-CAB-CAL_TEST_REQ – July 2017, Section 2.1.3.5 - Trunked Subscriber Unit Interoperability – TDMA (Phase 2)	
Representative Trunked Base Station Repeater Products tested with the Subscriber Unit for Trunked Interoperability - TDMA	

Base Station Repeater Vendor	Model Name	Product No.	Detailed Test Report #
Motorola Solutions	GTR 8000	1	DTR-P25CAP081011-P1850004-TDMA
EF Johnson Technologies	4500 Repeater	2	DTR-P25CAP081010-18111101
Harris Corporation	MASTR V	3	DTR-P25CAP081017-1180424M

The 'test case' number refers to the test suite paragraph number and test case number in TIA-102.CABC-C Interoperability Testing for Voice Operation in Trunked Systems

Trunked Subscriber Unit Interoperability Tests - TDMA (2017 CAB)

Test Case	Description	Product 1 Result Home	Product 1 Result Inter-SYS Roaming	Product 1 Result Inter-WACN Roaming	Product 2 Result Home	Product 2 Result Inter-SYS Roaming	Product 2 Result Inter-WACN Roaming	Product 3 Result Home	Product 3 Result Inter-SYS Roaming	Product 3 Result Inter-WACN Roaming
2.2.1	Full Registration									
2.2.1.4.1	Test Case 1 – Valid Registration	P	P	P	P	P	P	P	P	U4
2.2.2	Group Voice Call									
2.2.2.4.1	Test Case 1 – Group Call Granted	P	P	P	P	P	P	P	P	U4
2.2.2.4.3	Test Case 3 – Group Call Request Queued	P	P	P	P	P	P	P	P	U4
2.2.2.4.4	Test Case 4 – Group Call Interrupt	P	P	P	P	P	P	P	P	U4
2.2.3	Unit-to-Unit Voice Call									
2.2.3.4.1	Test Case 1 – Unit-to-Unit Call with Target Availability Check	P	P	P	P	P	P	P	P	U4
2.2.3.4.3	Test Case 3 – Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment After Target Availability Check	P	U4	U4	P	P	P	P	P	U4
2.2.3.4.4	Test Case 4 – Unit-to-Unit Call Queued with Target Availability Check – Traffic Channel Assignment Before Target Availability Check	U4	U4	U4	U4	U4	U4	U4	U4	U4
2.2.3.4.5	Test Case 5 – Unit-to-Unit Call without Target Availability Check	U4	U4	U4	U4	U4	U4	U	U	U4
2.2.3.4.6	Test Case 6 – Unit-to-Unit Call Queued without Target Availability Check	U4	U4	U4	U4	U4	U4	U	U	U4
2.2.4	Broadcast Voice Call									
2.2.4.4.1	Test Case 1 – Broadcast Voice Call	P	P	P	P	P	P	P	P	U4
2.2.6	Announcement Group Call									
2.2.6.4.1	Test Case 1 – Collection of Talk Groups Receive Call	P	P	P	P	P	P	P	P	U4
2.2.8	Emergency Group Call									
2.2.8.4.1	Test Case 1 – Emergency Call	P	P	P	P	P	P	P	P	U4
2.2.10	Encryption									
2.2.10.4.1	Test Case 1 – Call Privacy for Encrypted Call	P	P	P	P	P	P	P	P	U4
2.2.14	System Call									
2.2.14.4.1	Test Case 1 – System Call	U4	U4	U4	P	U4	U4	U4	U4	U4
2.2.19	Radio Unit Monitoring									
2.2.19.4.1	Test Case 1 – Individual Non-Silent	U	U	U	U4	U4	U4	U4	U4	U4
2.2.19.4.2	Test Case 2 – Individual Silent	U	U	U	U4	U4	U4	U4	U4	U4
2.2.19.4.3	Test Case 3 – Group Non-Silent	P	P	U	U4	U4	U4	U4	U4	U4
2.2.19.4.4	Test Case 4 – Group Silent	P	P	U	U4	U4	U4	U4	U4	U4
2.2.26	Transmitting Subscriber Forced Preemption									
2.2.26.4.1	Test Case 1 – TDMA SU Forced Audio Preemption	U	U	U	U4	U4	U4	U4	U4	U4
2.2.26.4.2	Test Case 2 – TDMA SU Forced Emergency Call Ruthless Preemption	P	P	P	U4	U4	U4	P	P	U4