

**Project 25 Compliance Assessment Program  
 Summary Test Report  
 EF Johnson Viking VM900 VHF and 700/800 MHz Multi-Band Mobile Subscriber  
 Unit  
 STR-EFJ-17071801  
 July 18, 2016**

**Test Item Description**

<b>Manufacturer</b>	EF Johnson Technologies
<b>Manufacturer Contact</b>	Randy O'Connor (972) 819-0911
<b>Product Name</b>	Viking VM900 VHF and 700/800 MHz Mobile Subscriber Unit
<b>Installed Options</b>	SEM Installed
<b>Vocoder Identification</b>	Enhanced Full Rate

<b>Test Description</b>
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

**Laboratory Information**

<b>Laboratory</b>	<b>Details</b>
<b>P25 CAP Laboratory Code</b>	P25CAP081010 (EF Johnson Technologies)
<b>Date(s) of Test</b>	February 11, 2016 to February 19, 2016
<b>Date of Issue</b>	February 22, 2016

<b>Laboratory</b>	<b>Details</b>
<b>P25 CAP Laboratory Code</b>	P25CAP081010 (EF Johnson Technologies)
<b>Date(s) of Test</b>	February 10, 2016 to February 19, 2016
<b>Date of Issue</b>	February 22, 2016

<b>Laboratory</b>	<b>Details</b>
<b>P25 CAP Laboratory Code</b>	P25CAP081017 (Harris)
<b>Date(s) of Test</b>	February 18, 2015
<b>Date of Issue</b>	February 18, 2015

<b>Laboratory</b>	<b>Details</b>
<b>P25 CAP Laboratory Code</b>	P25CAP081010 (EF Johnson Technologies)
<b>Date(s) of Test</b>	March 11, 2015 to March 12, 2015
<b>Date of Issue</b>	March 27, 2015

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Laboratory	Details
<b>P25 CAP Laboratory Code</b>	P25CAP081010 (EF Johnson Technologies)
<b>Date(s) of Test</b>	March 27, 2015
<b>Date of Issue</b>	March 27, 2015

Laboratory	Details
<b>P25 CAP Laboratory Code</b>	P25CAP081010 (EF Johnson Technologies)
<b>Date(s) of Test</b>	May 10, 2017
<b>Date of Issue</b>	June 14, 2017

**Informative References**

Date	Title
Mar 2010	P25-CAB-CAI_TEST_REQ – March 2010

**Other Devices Tested with Viking VM900 Mobile Subscriber Unit**

Manufacturer	Product Name, Definition, and Unique ID	Installed Options
Harris	P25 Trunked Infrastructure	RFSS: MASTR V Firmware R7G13 FNE: VIDA Premiere SR10A
EF Johnson	ATLAS Trunked Infrastructure	TSNI 1.2.1-8
Motorola Solutions	ASTRO Trunked Infrastructure	ASTRO 25 7.17

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**Receiver Tests (VHF) – Conventional**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081010-16022202

Receiver Tests (VHF)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm (Class A)	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm (Class A)	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μs	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB (Class A)	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 80 dB (Class A)	P
2.1.10	Intermodulation Rejection	≥ 75 dB (Class A)	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P
2.1.17	Late Entry Unsquelch Delay		
	No Talk Group or Encryption	≤ 125 ms	P
	Talk Group Only	≤ 370 ms	P
	Encryption Only	≤ 370 ms	P
	Both Talk Group and Encryption	≤ 460 ms	P3
2.1.18	Receiver Throughput Delay	≤ 125 ms	P

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**Receiver Tests (700/800 MHz) – Conventional**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081010-16022202

Receiver Tests (700/800 MHz)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm (Class A)	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm (Class A)	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μs	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB (Class A)	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 80 dB (Class A)	P
2.1.10	Intermodulation Rejection	≥ 75 dB (Class A)	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P
2.1.17	Late Entry Unsquelch Delay		
	No Talk Group or Encryption	≤ 125 ms	P
	Talk Group Only	≤ 370 ms	P
	Encryption Only	≤ 370 ms	P
	Both Talk Group and Encryption	≤ 460 ms	P
2.1.18	Receiver Throughput Delay	≤ 125 ms	P

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**Transmitter Tests (VHF) – Conventional**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081010-16022202

Transmitter Tests (VHF)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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	$2544 \text{ Hz} < f_{\text{dev}} \leq 3111 \text{ Hz}$	P
	Low Level Signal Deviation	$848 \text{ Hz} < f_{\text{dev}} \leq 1037 \text{ Hz}$	P
2.2.16	Modulation Fidelity	$\leq 5\%$ (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 5$ ms	$ \Delta f  \leq 12.5$ kHz	P
	Time Interval $t_2 = 20$ ms	$ \Delta f  \leq 6.25$ kHz	P
	Time Interval $t_3 = 5$ ms	$ \Delta f  \leq 12.5$ kHz	P

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**Transmitter Tests (800 MHz) – Conventional**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081010-16022202

Transmitter Tests (800 MHz)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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	$2544 \text{ Hz} < f_{\text{dev}} \leq 3111 \text{ Hz}$	P
	Low Level Signal Deviation	$848 \text{ Hz} < f_{\text{dev}} \leq 1037 \text{ Hz}$	P
2.2.16	Modulation Fidelity	$\leq 5\%$ (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20$ ms	$ \Delta f  \leq 12.5$ kHz	P
	Time Interval $t_2 = 50$ ms	$ \Delta f  \leq 6.25$ kHz	P
	Time Interval $t_3 = 10$ ms	$ \Delta f  \leq 12.5$ kHz	P

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**Transmitter Tests (700 MHz) – Conventional**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081010-160222022

Transmitter Tests (700 MHz)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio		
	Offset From Center Frequency (kHz)		
	9.375	≥ 40 dB	P
	15.625, 21.875, 37.5	≥ 60 dB	P
	62.5, 87.5, 150, 250, 350	≥ 65 dB	P
	>400 kHz to 12 MHz	≥ 75 dB	P
	12 MHz to paired RX Band	≥ 75 dB	P
	In the paired RX Band	≥ 100 dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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	$2544 \text{ Hz} < f_{\text{dev}} \leq 3111 \text{ Hz}$	P
	Low Level Signal Deviation	$848 \text{ Hz} < f_{\text{dev}} \leq 1037 \text{ Hz}$	P
2.2.16	Modulation Fidelity	≤ 5% (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20 \text{ ms}$	$ \Delta f  \leq 12.5 \text{ kHz}$	P
	Time Interval $t_2 = 50 \text{ ms}$	$ \Delta f  \leq 6.25 \text{ kHz}$	P
	Time Interval $t_3 = 10 \text{ ms}$	$ \Delta f  \leq 12.5 \text{ kHz}$	P

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**Receiver Tests (VHF) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Receiver Tests (VHF)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm (Class A)	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm (Class A)	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μs	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB (Class A)	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 80 dB (Class A)	P
2.1.10	Intermodulation Rejection	≥ 75 dB (Class A)	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P



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**Receiver Tests (700/800 MHz) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Receiver Tests (700/800 MHz)			
Test Case	Description	Requirement	Results
2.1.4	Reference Sensitivity	≤ -116 dBm (Class A)	P1
2.1.5	Faded Reference Sensitivity	≤ -108 dBm (Class A)	P2
2.1.6	Signal Delay Spread Capability	≥ 50 μs	P3
2.1.7	Adjacent Channel Rejection	≥ 60 dB (Class A)	P4
2.1.8	Co-Channel Rejection	≤ 9 dB	P
2.1.9	Spurious Response Rejection	≥ 80 dB (Class A)	P
2.1.10	Intermodulation Rejection	≥ 75 dB (Class A)	P
2.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P

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**Transmitter Tests (VHF) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Transmitter Tests (VHF)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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	$2544 \text{ Hz} < f_{\text{dev}} \leq 3111 \text{ Hz}$	P
	Low Level Signal Deviation	$848 \text{ Hz} < f_{\text{dev}} \leq 1037 \text{ Hz}$	P
2.2.16	Modulation Fidelity	$\leq 5\%$ (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 5$ ms	$ \Delta f  \leq 12.5$ kHz	P
	Time Interval $t_2 = 20$ ms	$ \Delta f  \leq 6.25$ kHz	P
	Time Interval $t_3 = 5$ ms	$ \Delta f  \leq 12.5$ kHz	P

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**Transmitter Tests (800 MHz) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Transmitter Tests (800 MHz)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio	$\geq 67$ dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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	$2544 \text{ Hz} < f_{\text{dev}} \leq 3111 \text{ Hz}$	P
	Low Level Signal Deviation	$848 \text{ Hz} < f_{\text{dev}} \leq 1037 \text{ Hz}$	P
2.2.16	Modulation Fidelity	$\leq 5\%$ (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval $t_1 = 20$ ms	$ \Delta f  \leq 12.5$ kHz	P
	Time Interval $t_2 = 50$ ms	$ \Delta f  \leq 6.25$ kHz	P
	Time Interval $t_3 = 10$ ms	$ \Delta f  \leq 12.5$ kHz	P

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**Transmitter Tests (700 MHz) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Transmitter Tests (700 MHz)			
Test Case	Description	Requirement	Results
2.2.8	Unwanted Emissions: Adjacent Channel Power Ratio		
	Offset From Center Frequency (kHz)		
	9.375	≥ 40 dB	P
	15.625, 21.875, 37.5	≥ 60 dB	P
	62.5, 87.5, 150, 250, 350	≥ 65 dB	P
	>400 kHz to 12 MHz	≥ 75 dB	P
2.2.12	Transmitter Power and Encoder Attack Time		
	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 Hz < f <sub>dev</sub> ≤ 3111 Hz	P
	Low Level Signal Deviation	848 Hz < f <sub>dev</sub> ≤ 1037 Hz	P
2.2.16	Modulation Fidelity	≤ 5% (Class A)	P
2.2.18	Transient Frequency Behavior		
	Time Interval t <sub>1</sub> = 20 ms	Δf  ≤ 12.5 kHz	P
	Time Interval t <sub>2</sub> = 50 ms	Δf  ≤ 6.25 kHz	P
	Time Interval t <sub>3</sub> = 10 ms	Δf  ≤ 12.5 kHz	P

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**Trunked Subscriber Unit Tests (VHF) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Trunked Subscriber Unit Tests (VHF)			
Test Case	Description	Requirement	Results
2.3.1	Trunking Control Channel Slot Times (45 ms slot) N7		
	Encode Attack Time	$2.00 \text{ ms} \leq t \leq 11.65 \text{ ms}$	P
	RF Power Attack Time	$0 \text{ ms} \leq t \leq 11.65 \text{ ms}$	P
	RF Power Turn Off Time	$\leq 1.57 \text{ ms}$	P
2.3.2	Trunking Request Time	$\leq 167.5 \text{ ms}$	P
2.3.3	Trunking Voice Access Time	500 ms (Manufacturer Specified)	P
2.3.5	Transmitter Time to Key on a Traffic Channel		
	Short Channel Form	$\leq 150.0 \text{ ms}$	P

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**Trunked Subscriber Unit Tests (700/800 MHz) – Trunked**

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081010-16022202 DTR-P25CAP081010-16022201

Trunked Subscriber Unit Tests (700/800 MHz)			
Test Case	Description	Requirement	Results
2.3.1	Trunking Control Channel Slot Times (45 ms slot) N7		
	Encode Attack Time	$2.00 \text{ ms} \leq t \leq 11.65 \text{ ms}$	P
	RF Power Attack Time	$0 \text{ ms} \leq t \leq 11.65 \text{ ms}$	P
	RF Power Turn Off Time	$\leq 1.57 \text{ ms}$	P
2.3.2	Trunking Request Time	$\leq 167.5 \text{ ms}$	P
2.3.3	Trunking Voice Access Time	500 ms (Manufacturer Specified)	P
2.3.5	Transmitter Time to Key on a Traffic Channel		
	Short Channel Form	$\leq 150.0 \text{ ms}$	P

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Test Identification	Product
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	EF Johnson Viking VM900 Mobile <b>(See note N8)</b>

Product	Detailed Test Report Identification
Harris Trunked Infrastructure	DTR-P25CAP081017-1150218E
EF Johnson Atlas Trunked Infrastructure	DTR-P25CAP081010-15032702
Motorola Solutions ASTRO Trunked Infrastructure	DTR-P25CAP081010-17061404

Test Case	Description	Harris Trunked Infrastructure	EF Johnson Atlas Trunked Infrastructure	Motorola Solutions ASTRO Trunked Infrastructure
<b>2.2.1</b>	<b>Full Registration</b>			
<b>2.2.1.4.1</b>	Test Case 1 - Valid Registration			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.1.4.2</b>	Test Case 2 – Denied or Refused Registration			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.1.4.3</b>	Test Case 3 - Unverified Registration			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.2</b>	<b>Group Voice Call</b>			
<b>2.2.2.4.1</b>	Test Case 1 – Group Call Granted			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.2.4.2</b>	Test Case 2 – Group Call Denied			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.2.4.3</b>	Test Case 3 – Group Call Request Queued			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6

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Test Identification	Product
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	EF Johnson Viking VM900 Mobile

Product	Detailed Test Report Identification
Harris Trunked Infrastructure	DTR-P25CAP081017-1150218E
EF Johnson Atlas Trunked Infrastructure	DTR-P25CAP081010-15032702
Motorola Solutions ASTRO Trunked Infrastructure	DTR-P25CAP081010-17061404

Test Case	Description	Harris Trunked Infrastructure	EF Johnson Atlas Trunked Infrastructure	Motorola Solutions ASTRO Trunked Infrastructure
<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 Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.3.4.2</b>	Test Case 2 – Unit-To-Unit Call Target Availability Check Denied By Target			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<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 Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<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 Operation	N/A 1	N/A 1	N/A 1
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.3.4.5</b>	Test Case 5 – Unit-To-Unit Call Without Target Availability Check			
	Home Operation	N3	N2	N2
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6



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Test Case	Description	Harris Trunked Infrastructure	EF Johnson Atlas Trunked Infrastructure	Motorola Solutions ASTRO Trunked Infrastructure
<b>2.2.3.4.6</b>	Test Case 6 – Unit-To-Unit Call Queued Without Target Availability Check			
	Home Operation	N3	N2	N2
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.3.4.7</b>	Test Case 7 – Unit-To-Unit Call Denied			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6

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Test Identification	Product
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	EF Johnson Viking VM900 Mobile

Product	Detailed Test Report Identification
Harris Trunked Infrastructure	DTR-P25CAP081017-1150218E
EF Johnson Atlas Trunked Infrastructure	DTR-P25CAP081010-15032702
Motorola Solutions ASTRO Trunked Infrastructure	DTR-P25CAP081010-17061404

Test Case	Description	Harris Trunked Infrastructure	EF Johnson Atlas Trunked Infrastructure	Motorola Solutions ASTRO Trunked Infrastructure
<b>2.2.4</b>	<b>Broadcast Voice Call</b>			
<b>2.2.4.4.1</b>	Test Case 1 – Broadcast Voice Call			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.5</b>	<b>Affiliation</b>			
<b>2.2.5.4.1</b>	<i>Test Case 1 - Radio Permitted To Affiliate With New Group</i>			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.5.4.2</b>	Test Case 2 - Radio Denied Affiliation To New Group			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<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 Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.7</b>	<b>Emergency Alarm</b>			
<b>2.2.7.4.1</b>	Test Case 1 - Emergency Alarm			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6

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Test Identification	Product
P25-CAB-CAI_TEST_REQ – March 2010, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	EF Johnson Viking VM900 Mobile

Product	Detailed Test Report Identification
Harris Trunked Infrastructure	DTR-P25CAP081017-1150218E
EF Johnson Atlas Trunked Infrastructure	DTR-P25CAP081010-15032702
Motorola Solutions ASTRO Trunked Infrastructure	DTR-P25CAP081010-17061404

Test Case	Description	Harris Trunked Infrastructure	EF Johnson Atlas Trunked Infrastructure	Motorola Solutions ASTRO Trunked Infrastructure
<b>2.2.8</b>	<b>Emergency Group Call</b>			
<b>2.2.8.4.1</b>	Test Case 1 - Emergency Call			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.10</b>	<b>Encryption</b>			
<b>2.2.10.4.1</b>	Test Case 1 - Call Privacy For Encrypted Call			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6
<b>2.2.11</b>	<b>Intra-Location Registration Area Roaming</b>			
<b>2.2.11.4.1</b>	Test Case 1 – Idle Radio			
	Home Operation	P	P	P
	Inter-System Operation	N5	N4	N6
	Inter-WACN Operation	N5	N4	N6

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**Model Class Definition**

Applied to P25-CAB-CAI\_Test\_Req Mar 2010, 2.1.3.2

Model Class Name	Product Name, Definition, and Unique ID	Installed Options
Viking VM900 Series Mobile	Viking VM900 Mobile	<b>Firmware:</b> V 8.10.29 <b>Firmware:</b> V 8.12.7 <b>Firmware:</b> V 8.14.18 <b>Firmware:</b> V 8.18.12

**Test Case Result Definitions**

<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)

**Comments**

N/A 1:	Test case 2.2.3.4.4 is not applicable for these infrastructures; see results of test 2.2.3.4.3.
N2:	Infrastructure and EF Johnson Viking VM900 does not support this mode of operation.
N3:	EF Johnson VM900 subscriber does not support this mode of operation.
N4:	EF Johnson trunking system release Atlas TSNI 1.3.1-8, and EF Johnson Viking VM900 subscriber do not support these features.
N5:	Harris infrastructure release SR10A and EF Johnson Viking VM900 subscriber do not support these features.
N6:	Motorola infrastructure release 25 7.17 and EF Johnson Viking VM900 subscriber do not support these features.
N7:	VM900 meets timing requirements in the 45 ms slot timing mode.
N8:	EF Johnson VM400, VM600, and VM900 series mobiles utilize common trunking software across all frequency bands. Leveraging this frequency band independence of the trunking software, EF Johnson defines a common model class for VM series mobiles as encompassing all frequency bands for the purposes of trunking interoperability.
P1:	EF Johnson Viking VM900 VHF and 700/800 MHz subscriber passes Reference Sensitivity ( $\leq -116$ dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.
P2:	EF Johnson Viking VM900 VHF and 700/800 MHz subscriber passes Faded Reference Sensitivity ( $\leq -108$ dBm) specification for C4FM (Non-Simulcast) and Simulcast modulations.
P3:	EF Johnson Viking VM900 VHF and 700/800 MHz subscriber passes Signal Delay Spread Capability specification for C4FM (Non-Simulcast) ( $\geq 50$ $\mu$ s) and Simulcast modulations ( $\geq 80$ $\mu$ s).
P4:	EF Johnson Viking VM900 VHF and 700/800 MHz subscriber passes Adjacent Channel Rejection ( $\geq 60$ dB) specification for C4FM (Non-Simulcast) and Simulcast modulations.

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**OMB NO:** 1640-0015

**EXPIRATION DATE:** 06/30/2019

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