# Project 25 Compliance Assessment Program
## SDOC-ICOM-F9011
## October 31, 2018

## SUBSCRIBER PRODUCT INFORMATION

| Subscriber Info | Detail |
|---|---|
| Model Name: | F9011T/S/B |
| Tested Software Versions:[1] | 1.6, 3.2.3 |
| Hardware Capabilities/Options & Software Options: | Full Keypad; P25 Conventional, P25 Trunking; AES-256 Encryption |

## TEST REQUIREMENTS CAB IDENTIFICATION

This product was tested according to the P25 CAP Test Requirements Compliance Assessment Bulletin (CAB) indicated by the checked box.

| check one | P25 CAP Test Requirement CAB | Details |
|---|---|---|
| **X** | **P25-CAB-CAI_TEST_REQ – August 2016**[2] | Adds conventional interoperability testing to the March 2010 P25 CAP Test Requirements |
| | **P25-CAB-CAI_TEST_REQ – July 2017**[3] | Includes August 2016 P25 CAP Test Requirements; Adds TDMA performance and interoperability testing and trunked supplementary data testing |

## SUMMARY TEST REPORT IDENTIFIER[4]

| Summary Test Report (STR) Identifier: | STR-ICOM-SUBSCRIBER-2016 |
|---|---|

## CONTACT INFORMATION

| Vendor Info | Details |
|---|---|
| Vendor Name: | ICOM AMERICA, INC. |
| Vendor Website URL: | http://www.icomamerica.com/ |
| P25 CAP Contact Name: | MASAAKI TAKAHASHI |
| P25 CAP Contact Phone: | +1 (425) 450-6073 |
| P25 CAP Contact Email: | MasaakiTakahashi@IcomAmerica.com |

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[1] Current and previous software versions are listed in the 'Models & Software' worksheet tab of the Summary Test Report (STR).

[2] The following version of the 2016 CAB was used for testing P25-CAB-CAI_TEST_REQ – August 2016.

[3] The following version of the 2017 CAB was used for testing P25-CAB-CAI_TEST_REQ – July 2017.

[4] The Summary Test Report for this product is available upon request. Please send your STR request to P25CAP@hq.dhs.gov and please include the subscriber 'Vendor Name'.

## ENCRYPTION STATEMENT

This product complies with the P25 CAP Encryption Requirements CAB (P25-CAB-ENC_REQ). The checked box indicates how the product was tested.

| | |
|---|---|
| X | Tested with the AES 256 encryption algorithm and shall be available with AES 256 encryption at a minimum or without any encryption of any type. |
| | Tested without the AES 256 encryption algorithm and shall only be available without any encryption of any  type. |

## CONVENTIONAL PERFORMANCE

The Subscriber product has been tested for Conventional Performance. All requirements were passed except for those requirements identified below under Unsupported or Failed Requirements.

P25 CAP Conventional Performance Testing Coverage
Receiver Tests: Reference Sensitivity, Faded Reference Sensitivity, Signal Delay Spread Capability, Adjacent Channel Rejection, Offset Adjacent Channel Rejection, Co-Channel Rejection, Spurious Response Rejection, Intermodulation Rejection, Signal Displacement Bandwidth, Late Entry Unsquelch Delay, and Receiver Throughput Delay.
Transmitter Tests: Unwanted Emissions (Adjacent Channel Power Ratio), Transmitter Power and Encoder Attack Time, Transmitter Throughput Delay, Frequency Deviation for C4FM, and Modulation Fidelity, Transient Frequency Behavior.

Unsupported or Failed Requirements
1. None

**TRUNKING PERFORMANCE - FDMA**

The Subscriber product has been tested for Trunking Performance - FDMA.  All requirements were passed except for those requirements identified below under Unsupported or Failed Requirements.

P25 CAP FDMA Trunking Performance Testing Coverage
Receiver Tests: Reference Sensitivity, Faded Reference Sensitivity, Signal Delay Spread Capability, Adjacent Channel Rejection, Offset Adjacent Channel Rejection, Co-Channel Rejection, Spurious Response Rejection, Intermodulation Rejection, and Signal Displacement Bandwidth.
Transmitter Tests: Unwanted Emissions (Adjacent Channel Power Ratio), Power Attack time, Encoder Attack Time, Transmitter Throughput Delay, Frequency Deviation for C4FM, and Modulation Fidelity, Transient Frequency Behavior.
Trunked Tests: Trunking Control Channel Slot Times, Trunking Request Time, and Transmitter Time to Key on a Traffic Channel.

Unsupported or Failed Requirements
1.  EUT was not evaluated against 37.5 ms Slot Times for Trunking Control Channel Slot Times
2.  EUT was not evaluated against Short From for Transmitter Time to Key on a Traffic Channel

**CONVENTIONAL DIRECT MODE INTEROPERABILITY**

The Subscriber product has been tested for Conventional Direct Mode Interoperability.  All test cases were passed except for those test cases identified below under Unsupported or Failed Test Cases.  Test cases that passed but require specific, sometimes optional, product capabilities are also identified below.

P25 CAP Direct Mode Interoperability Testing Coverage
Network Access Code (NAC) Operation, Group Voice Call, Emergency Call, Unit-to-Unit Voice Call, Encryption, Call Alert, Radio Check, Message Update, Status Update, Status Query, and Radio Unit Monitor.

Unsupported or Failed Test Cases
1.  EUT Direct Mode does not support Call Alert, Radio Check, Message Update, Status Update, Status Query, Radio Unit Monitor

Optional Product Capabilities Required to Pass Test Cases
1.  EUT requires AES-256 Encryption option to pass Encryption
2.  EUT requires display to identify calling radio for all tests

## CONVENTIONAL REPEAT MODE INTEROPERABILITY

The Subscriber product has been tested for Conventional Repeat Mode Interoperability.  All test cases were passed except for those test cases identified below under Unsupported or Failed Test Cases.  Test cases that passed but require specific, sometimes optional, product capabilities are also identified below.

P25 CAP Repeat Mode Interoperability Testing Coverage
Network Access Code (NAC) Operation, Group Voice Call, Emergency Call, Unit-to-Unit Voice Call, Encryption, Call Alert, Radio Check, Message Update, Status Update, Status Query, and Radio Unit Monitor.

Unsupported or Failed Test Cases
1.  EUT Repeat Mode does not support Call Alert, Radio Check, Message Update, Status Update, Status Query, Radio Unit Monitor

Optional Product Capabilities Required to Pass Test Cases
1.  EUT requires AES-256 Encryption option to pass Encryption
2.  EUT requires display to identify calling radio for all tests

## **CONVENTIONAL REPEAT MODE with DISPATCH MONITORING CONSOLE INTEROPERABILITY**

The Subscriber product has been tested for Conventional Repeat Mode with Dispatch Monitoring Console Interoperability.  All test cases were passed except for those test cases identified below under Unsupported or Failed Test Cases. Test cases that passed but require specific, sometimes optional, product capabilities are also identified below.

### P25 CAP Repeat Mode Interoperability Testing Coverage
Group Voice Call, Emergency Call, All Call, Unit-to-Unit Voice Call, Encryption, Emergency Alarm, Call Alert, Radio Check, Radio Unit Inhibit/Uninhibit, Message Update, Status Update, Status Query, and Radio Unit Monitor.

### Unsupported or Failed Test Cases
1. Due to limitations of the Representative Subscriber / Base Station Under Test, the EUT was not fully verified for the following tests: Routine Group Voice Call, Emergency Call, All Call, Call Alert, Radio Check, Radio Unit Inhibit/Uninhibit, Message Update, Status Update, Status Query, and Radio Unit Monitor.
2. EUT does not support Message Update from DMC, Status Update, Status Query


### Optional Product Capabilities Required to Pass Test Cases
1. EUT requires AES-256 Encryption option to pass Encryption
2. EUT requires display to identify calling radio for all tests

**TRUNKED SUBSCRIBER UNIT INTEROPERABILITY – FDMA**

The Subscriber product has been tested for Trunked Interoperability - FDMA. All test cases were passed except for those test cases identified below under Unsupported or Failed Test Cases.  Test cases that passed but require specific, sometimes optional, product capabilities are also identified below.

2016 P25 CAP FDMA Trunked Interoperability Testing Coverage
Full Registration, Group Voice Call, Unit to Unit Voice Call, Broadcast Voice Call, Affiliation, Announcement Group Call, Emergency Alarm, Emergency Group Call, Encryption, Intra-Location Registration Area Roaming

Unsupported or Failed Test Cases
1. Due to limitations of the Representative Subscriber / Base Station Under Test, the EUT was not fully verified for the following tests: Unit-to-Unit Voice Call, Intra-Location Registration Area Roaming

Optional Product Capabilities Required to Pass Test Cases
1. EUT requires AES-256 Encryption option to pass Encryption
2. EUT requires display to identify calling radio for all tests
3. EUT does not support Inter-System or Inter-WACN roaming

## SIGNATURE AND DATE

Oct 31, 2018
Date Signed

Vendor's Authorized Representative <u>Signature</u>

<u>Andy Naito</u>
Vendor's Authorized Representative <u>Printed Name</u>

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## BURDEN STATEMENT

OMB NO: 6040-0015 (additional questions are pending OMB approval)

EXPIRATION DATE: 6/30/2019 (additional questions are pending OMB approval)

An agency may not conduct or sponsor information collection and a person is not required to respond to this information collection unless it displays a current valid Office of Management and Budget control number and expiration date. The control number for this collection is 6040-0015 and this form will expire on 06/30/2019 (additional questions are pending OMB approval). The estimated average time to complete this form is 60 minutes per respondent. If you have any comments regarding the burden estimate, you can write to the U.S. Department of Homeland Security, Science and Technology Directorate, Washington, D.C. 20528.

DHS FORM 10044 – June 2009