Homeland Security
Science and Technology

Office for Interoperability and Compatibility

Project 25 Compliance Assessment Bulletin

Project 25 Compliance Assessment Program

Summary Test Report Requirements

P25-CAB-STR_REQ

August 2016

Notice of Disclaimer and Limitation of Liability

The Project 25 Compliance Assessment Program (P25 CAP) provides equipment purchasers with demonstrated evidence of a product's compliance with a select group of requirements within the suite of P25 standards. The test procedures used to validate these requirements are also part of the P25 suite of standards. Although successful tests will demonstrate P25 compliance for the specific requirements tested, the conclusions drawn from these tests do not apply to every environment or individual user's needs. P25 CAP-mandated tests only demonstrate product compliance with the test procedures listed in the Supplier's Declaration of Compliance and, therefore, only attest to a product's compliance with specific requirements within the P25 Standard.

Revision History

Version	Date	Description
Draft	6/20/2014	Revised dates and made minor editorial changes. Changed Responders Knowledgebase links to First Responder Group links. Added Annex A.
Draft (For PC)	3/3/2015	Final release version for public comment (PC) approved on March 3, 2015. Posted for PC on March 19, 2015.
Draft 2 (For PC)	6/30/2015	Incorporates public comment-resolution candidates. Posted again for PC the week of June 30, 2015.
2016 Release	8/17/2016	Addresses March and July 2015 public comments. Posted for general use on August 17, 2016.

Contents

Figures

1 Introduction

The Department of Homeland Security (DHS) Office for Interoperability and Compatibility (OIC) Project 25 Compliance Assessment Program (P25 CAP) is a voluntary program that allows P25 equipment suppliers to formally demonstrate their products' compliance with a select group of requirements within the suite of P25 standards. The purpose of the program is to provide emergency response agencies with evidence that the communications equipment they are purchasing meet P25 standards for performance, conformance and interoperability.

The program requires test laboratories to demonstrate their competence through a rigorous and objective assessment process. Such a process promotes the user community's confidence in, and acceptance of, test results from DHS-recognized laboratories. All equipment suppliers that participate in the P25 CAP must use DHS-recognized laboratories to conduct performance, conformance and interoperability tests on their products. P25 equipment suppliers will release Summary Test Report (STR) and Supplier's Declaration of Compliance (SDOC) documents based on the Detailed Test Report (DTR) from the DHS-recognized laboratory(s) that performed the product testing. This documentation will serve to increase the public's confidence in the performance, conformance and interoperability of P25 equipment.

Performance, conformance and interoperability issues are likely to occur in all communications technologies and especially in ones like P25 with protocols that constantly adapt to changing user requirements. Users should seek to address such problems with the supplier first, then with TIA TR8.25, and then within the P25 CAP and, notably, before product launch and deployment. Further, the declaration of compliance-related documents developed by program participants will provide useful technical information about the equipment.

1.1 Scope

Federal Grant Guidance states that grant applicants using funds to purchase P25 equipment must obtain SDOC and STR documents posted to the dhs.gov/science-and-technology/p25-cap website. The evidence should show that the equipment has been tested based on all of the applicable, published P25 CAP Compliance Assessment Bulletins (CABs) covering performance, conformance and interoperability. This CAB defines uniform format requirements for use in preparation of STR documents. STR and SDOC documents are submitted to P25CAP@hq.dhs.gov for DHS OIC review and posting.

1.2 Effective Date

This CAB becomes effective on August 17, 2016.

1.3   Normative References

[1]   P25-CAB-STR_TMPLT – P25 CAP Summary Test Report template[1]

[2]   P25-CAB-SDOC_REQ, *Project 25 Compliance Assessment Program* Supplier's Declaration of Compliance Requirements

1.4   Informative References

[3]   01_P25-CAB_CHARTER, *Charter for the Project 25 Compliance Assessment Program*[1]

[4]   P25-CAB-LAB_BASE_REQ, *Project 25 Compliance Assessment Program Baseline Laboratory Requirements*[1]

[5]   P25-CAB-LAB_EQP_REQ, *Project 25 Compliance Assessment Program Laboratory Equipment Requirements*[1]

[6]   P25-CAB-TEST_REQ, *Project 25 Compliance Assessment Program Testing Requirements*[1]

2   Summary Test Report Requirements

This portion of the CAB describes each major element or section of the Summary Test Report (STR) document in a separate subsection.

2.1   STR File Format

All STR documents submitted to DHS for review and posting will use the Adobe Acrobat Portable Document Format (.pdf). In addition, all STR documents submitted must be Section 508[2] compliant. A document template [1] is available that supports Section 508 compliance for STR document creation.

2.2   STR Naming Convention

To provide easy document management and traceability, STR documents will use a common naming convention as follows:

STR–SUPPLIER_NAME_ABBREVIATION–PRODUCT_NAME_ABBREVIATION–MMDDYYYY

The supplier issuing the STR document specifies the document's unique identifier. The identifier must be unique to avoid confusion with another supplier's STR documents. An SDOC and STR document that form a pair for a product shall share the same document number except for the prefix portion, where an SDOC document number begins with SDOC- and an STR document number begins with STR-. An SDOC or STR number is unique to other SDOC or STR documents issued by the same supplier. Following is an SDOC and STR document number example for a product:

SDOC-WOKYTOKY-ABC2000M78-11302016
STR-WOKYTOKY-ABC2000M78-11302016

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[1] See https://www.dhs.gov/science-and-technology/p25-cap for the latest document version.
[2] http://www.section508.gov

2.3   Letterhead, Title, Product and STR Document Number

Each page of the STR document carries a header that includes the Project 25 CAP letterhead, followed by the STR title, product name and STR identification, as Figure 1 illustrates.

Figure 1. First-Page Letterhead and STR Identification

Project 25 Compliance Assessment Program
SUMMARY TEST REPORT (STR)
WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER
STR–WOKYTOKY–ABC2000M78–11302016

– End Figure 1 –

2.4   Page Count

Each page of the STR carries a footer that includes the current page number and total number of pages (Page # of #) centered.

Figure 2. Page Count

November 30, 2016
Page 1 of 10

– End Figure 2 –

2.5   Product Information

A description of the product tested in the P25 CAP appears at the top of the document, just below the company address and contact information. As Figure 3 illustrates, this information includes the name of supplier, supplier contact, the product name, a description of the package (when applicable) such as a version or release for the product and its installed options, and the vocoder type if a vocoder is included in the product. The description of the installed options provides a single unique identifier to reflect the tested product's software, hardware and firmware configuration. The vocoder identification will be one of the following: IMBE,[3] AMBE,[4] AMBE+,[5] AMBE+2[6] or Not Applicable.

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[3] Improved Multi-Band Excitation (IMBE) — Baseline.
[4] Advanced Multiband Excitation (AMBE) — Baseline with System Improvements.
[5] AMBE+ — Enhanced Full Rate.
[6] AMBE+2 — Enhanced Full Rate with System Improvements.

Figure 3 shows tables that identify supplier and product information. Note in the Product table that the product name and installed option identifiers must match those identifiers used in the accompanying SDOC.

Figure 3. Tested Product Description

SUPPLIER

Supplier Info	Detail
Name:	Wokytoky LMR Equipment
Contact:	Ted Zed – (xxx) xxx-xxxx

PRODUCT

Product Info	Detail
Product Name, Definition, Unique ID:	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber SN C87TJD8NX2-O (See table, Model Class: Wokytoky ABC Subscriber for a listing of compliance equivalent model-family products.)[7]
Installed Hardware Options:	Trunking, Encryption
Installed Software Options:	Trunking, Encryption
Installed Vocoder:	AMBE+2

– End Figure 3 –

2.6   Test Description

Figure 4 illustrates a table listing the test(s) run, which immediately follows the description of product under test. The names of the tests listed will follow the guidance in the References sections of the Testing Requirements CAB [5] for the tested interface.

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[7] If necessary, follow the product name with a reference to a Model Class table near the end of the report.

Figure 4. Test Description

TESTS

Description
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.1 – Project 25 Phase 1 Common Air Interface Conventional Direct Mode Subscriber Unit Interoperability
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.3 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability
P25-CAB-ISSI_TEST_REQ – August 2016, Section 2.1.2.1 – Project 25 Scope 1 Inter-RF Sub-Subsystem Interface RFSS Voice Services Conformance

– End Figure 4 –

2.7 Laboratory Information

Laboratory information for the product under test appears following the test description(s). As Figure 5 illustrates, the table includes the P25 CAP laboratory code(s) assigned by DHS based on the recognition process, the date of the test (this may be a single date, two or more dates, or a date range) followed by the detailed test report (DTR) identifier, and the date the report was issued with the product identified in parentheses. If multiple laboratories were involved in testing the specified product, this table will be reproduced with each laboratory's relevant information.

Figure 5. Laboratory Information

LABORATORY INFORMATION

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081001
Date(s) of Test:	OCT 5, 2016 to OCT 9, 2016
Detailed Test Report:	DTR-P25CAP081001-34330
Date of Issue:	OCT 19, 2016 (Product)

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081002
Date(s) of Test:	OCT 12, 2016 to OCT 16, 2016
Detailed Test Report:	DTR-P25CAP081002-IC66120
Date of Issue:	OCT 26, 2016 (Product)

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081003
Date(s) of Test:	OCT 19, 2016 to OCT 23, 2016
Detailed Test Report:	DTR-P25CAP081003-IC66120
Date of Issue:	NOV 2, 2016 (Product)

– End Figure 5 –

2.8   References

The laboratory information section will be followed by a list of references that note appropriate P25 CAP CABs. Each CAB identifies the P25 CAP tests that encompass conformance test procedures, measurement methods, performance recommendations and interoperability test procedures. Figure 6 provides an example of an appropriate normative reference.

Figure 6. Normative References

NORMATIVE REFERENCES

Date:	Title:
August 2016	P25-CAB-CAI_Test_REQ
August 2016	P25-CAB-ISSI_Test_REQ

– End Figure 6 –

3   Test Cases and Results Requirements

Following the preceding sections, the test cases and results will be presented. If multiple types of tests were run on the device under test, the tests will be listed in the order that they are presented in the

applicable CAB. If multiple interfaces are tested on the device, the order that the interface test results are presented will be as follows: Common Air Interface (CAI), Inter-RF Sub-System Interface (ISSI), Console Sub-System Interface and Fixed Station Interface. If the device is capable of performing functionality identified by tests in the applicable CAB, that functionality must be tested.

Each test type will report the applicable test cases, their descriptions, the Detailed Test Report (DTR) document code(s),[8] whether the test sets are Conventional or Trunked, the frequency band (repeat tests for each as applicable to product) and the results of each test case for the product under test. Annexes A and B provide several comprehensive examples.

To identify the standards that included the necessary test cases:

1)   Refer to the CABs that are applicable to the type of equipment under test.

2)   Use the standards listed in the CABs to identify the necessary test cases for the tests.

To minimize document length, the performance and interoperability sections in this document show only conventional or trunked examples, rather than both. In addition, some examples are abbreviated in that they do not include all tests. For more detail, see the STR example for a portable subscriber unit in [1].

3.1   Performance Testing – Conventional

Figure 7 provides an example of presenting subscriber unit receiver test case results for conventional performance tests. For performance tests, the Test Case column reflected in the STR identifies the performance recommendation section listed in the CAB referenced in the Test Identification.

Figure 7. Receiver Conventional Performance Test Case Results Example

RECEIVER PERFORMANCE TESTING (700 MHZ, 800 MHZ)[9] – CONVENTIONAL

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case	Description	Requirement	Results
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm (Class A)[10]	P

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[8] Note that inclusion of the DTR document code(s) provide(s) for document traceability between SDOC, Summary Test Report and DTR documents. The format for the DTR document code is DTR–*P25_CAP_Laboratory_Code*– *P25_CAP_Laboratory_Document_Identification_#.*

[9] This example is for 700/800 MHz frequency band. Throughout the report, remember to insert the appropriate frequency band in this space. Include multiple tables if necessary and appropriate. For example, to present test results for a multi-band radio, include tables for VHF, UHF and 700/800 MHz bands. Also, see footnote 11 and 12.

[10] The example given here is for Class A Portable equipment; ensure you use the appropriate value for Class B and/or Mobile or Base Station equipment as specified in [TIA-102.CAAB].

Test Case	Description	Requirement	Results
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm (Class A)[10]	P
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 µs	P
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 µs	P
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB (Class A)[10]	P
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – C4FM	≥ 47 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – Standard Simulcast	≥ 47 dB (Class A)[10]	P
3.1.8	Co-Channel Rejection	≤ 9 dB	P
3.1.9	Spurious Response Rejection	≥ 70 dB (Class A)[10]	P
3.1.10	Intermodulation Rejection	≥ 70 dB (Class A)[10]	P
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P
3.1.17	Late Entry Unsquelch Delay: No Talk Group or Encryption	≤ 125 ms	P
3.1.17	Late Entry Unsquelch Delay: Talk Group Only, Unencrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Encryption Only, Encrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Encryption Only, Unencrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Both Talk Group and Encryption, Encrypted Transmission	≤ 460 ms	P
3.1.17	Late Entry Unsquelch Delay: Both Talk Group and Encryption, Unencrypted Transmission	≤ 460 ms	P
3.1.18	Receiver Throughput Delay	≤ 125 ms	P

– End Figure 7 –

Figure 8 provides an example of presenting subscriber unit transceiver test case results for conventional performance tests. For performance tests, the Test Case column reflected in the STR identifies the performance recommendation section listed in the CAB referenced in the Test Identification.

Figure 8. Transceiver Conventional Performance Test Case Results Example

TRANSMITTER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case 2.2.8[11] – Unwanted Emissions: Adjacent Channel Power Ratio

Test Case	Offset from Center Frequency (KHz)	Measurement Bandwidth (KHz)	ACPR (dB)	Results
3.2.8.2	9.375	6.25	≥ 40	P
3.2.8.2	15.625	6.25	≥ 60	P
3.2.8.2	21.875	6.25	≥ 60	P
3.2.8.2	37.5	25	≥ 60	P
3.2.8.2	62.5	25	≥ 65	P
3.2.8.2	87.5	25	≥ 65	P
3.2.8.2	150	100	≥ 65	P
3.2.8.2	250	100	≥ 65	P
3.2.8.2	350	100	≥ 65	P
3.2.8.2	> 400 KHz to 12 MHz	30 (s)	≥ 75	P
3.2.8.2	12 MHz to paired receive band	30 (s)	≥ 75	P
3.2.8.2	In paired receive band	30 (s)	≥ 100	P

Test Case	Description	Requirement	Results
3.2.8.1[12]	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
3.2.12	Transmitter Attack Time	≤ 50 ms	P

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[11] For 700 MHz, use a separate table to handle Test Case 2.2.8. Use of a separate table supports the 1:1 row-to-column ratio required for Section 508 compliance. Also, see footnotes 9 and 12.

[12] For 700 MHz, remove this row and use a separate table to handle Test Case 2.2.8. Also, see footnotes 9 and 11. Use of a separate table supports the 1:1 row-to-column ratio required for Section 508 compliance. For more detail, see the STR example for a portable subscriber unit in [1].

Test Case	Description	Requirement	Results
3.2.12	Encoder Attack Time	≤ 100 ms	P
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	$2544 < f_{dev} \leq 3111$ Hz	P
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	$848 < f_{dev} \leq 1037$ Hz	P
3.2.16	Modulation Fidelity – C4FM	$\leq 5\%$ (Class A)[10]	P
3.2.16	Modulation Fidelity – CQPSK	$\leq 5\%$ (Class A)[10]	P
3.2.16	Modulation Fidelity – Standard Simulcast	$\leq 5\%$ (Class A)[10]	P
3.2.18	Transient Frequency Behavior: Time Interval $t_1 = 20$ ms[13]	$|\Delta f| \leq 12.5$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval $t_2 = 50$ ms	$|\Delta f| \leq 6.25$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval $t_3 = 10$ ms[13]	$|\Delta f| \leq 12.5$ kHz	P

– End Figure 8 –

3.2   Performance Testing – Trunked

Figure 9 provides an example of presenting subscriber unit receiver test case results for trunked performance tests. For performance tests, the Test Case column reflected in the STR identifies the performance recommendation section listed in the CAB referenced in the Test Identification.

Figure 9. Receiver Trunked Performance Test Case Results Example

RECEIVER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081001-34330

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[13] 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 t_1 and t_3, may be greater than ±12.5 kHz. Although the corresponding plot of frequency versus time during t1 and t3 shall be recorded in the Detailed Test Report's data, in the Summary Test Report, the reported result should be "NR1", "NR2", etc., as appropriate, or may optionally be reported as "P" or "F" as if the transmitter's output power rating were greater than 6 watts. The elaborative comment (see Figure 19) shall include the first sentence of this footnote verbatim ("In accordance with the guidance... ±12.5 kHz.").

Test Case	Description	Requirement	Results
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm (Class A)[10]	P
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm (Class A)[10]	P
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 µs	P
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 µs	P
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB (Class A)[10]	P
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – C4FM	≥ 47 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – Standard Simulcast	≥ 47 dB (Class A)[10]	P
3.1.8	Co-Channel Rejection	≤ 9 dB	P
3.1.9	Spurious Response Rejection	≥ 70 dB (Class A)[10]	P
3.1.10	Intermodulation Rejection	≥ 70 dB (Class A)[10]	P
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P

– End Figure 9 –

Figure 10 provides an example of presenting subscriber unit transceiver test case results for trunked performance tests. For performance tests, the Test Case column reflected in the STR identifies the performance recommendation section listed in the CAB referenced in the Test Identification.

Figure 10. Transceiver Trunked Performance Test Case Results Example

TRANSMITTER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case 2.2.8[11] – Unwanted Emissions: Adjacent Channel Power Ratio

Test Case	Offset from Center Frequency (KHz)	Measurement Bandwidth (KHz)	ACPR (dB)	Results
3.2.8.2	9.375	6.25	≥ 40	P
3.2.8.2	15.625	6.25	≥ 60	P

Test Case	Offset from Center Frequency (KHz)	Measurement Bandwidth (KHz)	ACPR (dB)	Results
3.2.8.2	21.875	6.25	≥ 60	P
3.2.8.2	37.5	25	≥ 60	P
3.2.8.2	62.5	25	≥ 65	P
3.2.8.2	87.5	25	≥ 65	P
3.2.8.2	150	100	≥ 65	P
3.2.8.2	250	100	≥ 65	P
3.2.8.2	350	100	≥ 65	P
3.2.8.2	> 400 KHz to 12 MHz	30 (s)	≥ 75	P
3.2.8.2	12 MHz to paired receive band	30 (s)	≥ 75	P
3.2.8.2	In paired receive band	30 (s)	≥ 100	P

Test Case	Description	Requirement	Results
3.2.8.1[12]	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
3.2.12	Transmitter Attack Time	≤ 50 ms	P
3.2.12	Encoder Attack Time	≤ 100 ms	P
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	$2544 < f_{dev} \leq 3111$ Hz	P
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	$848 < f_{dev} \leq 1037$ Hz	P
3.2.16	Modulation Fidelity – C4FM	≤ 5% (Class A)[10]	P
3.2.16	Modulation Fidelity – CQPSK	≤ 5% (Class A)[10]	P
3.2.16	Modulation Fidelity – Standard Simulcast	≤ 5% (Class A)[10]	P
3.2.18	Transient Frequency Behavior: Time Interval t_1 = 20 ms[13]	$|\Delta f| \leq 12.5$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval t_2 = 50 ms	$|\Delta f| \leq 6.25$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval t_3 = 10 ms[13]	$|\Delta f| \leq 12.5$ kHz	P

– End Figure 10 –

3.3   Conformance

Figure 11 provides an abbreviated example for presenting test case results for conformance tests.[14]

Figure 11. Conformance Test Case Results Example

CONFORMANCE TESTING FOR VOICE SERVICES

Test Identification	Detailed Test Report Identification
P25-CAB-ISSI_TEST_REQ – August 2016, Section 2.1.2.1 – Project 25 Scope 1 Inter-RF Sub-Subsystem Interface RFSS Voice Services Conformance	DTR-P25CAP081001-TC55120

Test Case	Description	Results
4.1	SU Registration – Successful (SU Presence Confirmed)	P
5.1	SG Registration – Successful	P
5.2	SG Registration – Unsuccessful (Target RFSS is not Home to the SG)	P
6.1	SU De-Registration – Successful (Serving RFSS Initiated)	P
7.1	SG De-Registration – Successful (Serving RFSS Initiated)	P

– End Figure 11 –

3.4   Other Devices Tested for Interoperability

In the event that the tests performed on product(s) given in Figure 3 are interoperability tests, the other devices that the product under test was tested against will be listed following the list of references. For each device listed, the manufacturer and contact, product name, definition,[15] and unique identification (e.g., serial number (SN)) and installed options will be given. Figure 12 provides an example of how the other devices(s) tested will be displayed. Following the "Other Devices Tested for Interoperability" heading, the product under test will be identified in a sentence above the matrix.

Figure 12. Other Devices Tested

OTHER DEVICES TESTED FOR INTEROPERABILITY

Other devices tested with Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber.

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[14] P25 CAP test laboratories are not yet available to perform ISSI Conformance testing. When P25 CAP test laboratories do become available for ISSI Conformance, ISSI Conformance test case results table will be added to the Summary Test Report.

[15] In this context, the definition of a product will indicate whether or not it is portable, mobile, base station, repeater, RF Sub-System (RFSS), etc.

Supplier and Contact	Product Name, Definition,[16] Unique ID	Installed Hardware Options	Installed Software Options
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	SkyNet SN2000T Trunk System SN 100577008 (See table, Model Class: Wokytoky SkyNet Trunk System for a listing of compliance equivalent model-family products.)	Option A15 Option B12	Release 5.10 Release 5.11 Release 5.12
AirTalky John Doe (xxx) xxx-xxxx	AT1000T Trunk System SN AFE0014	1.5 ACMv1	ERCv3
Speak Systems Jane Smith (xxx) xxx-xxxx	SS4T Trunk System SN 0011234	Option 4 Option 7	Option Av14
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	SkyNet SN100R Repeater SN 100578008	Package 3	R04.9
AirTalky John Doe (xxx) xxx-xxxx	AT100R Repeater SN AFE0347	Setup 5 with trunking	ERDv7.3
Speak Systems Jane Smith (xxx) xxx-xxxx	SS4R Repeater SN 0021758	Package 2 with encryption	N/A
AirTalky John Doe (xxx) xxx-xxxx	AT10C Console SN AFE0449	Option 1	EREv9.5
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	DEF3500P78 700/800 MHz Portable SN 100576908 (See table, Model Class: Wokytoky DEF Subscriber for a listing of compliance equivalent model-family products.)	Trunking, Encryption	Firmware: R1 thru R4

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[16] If necessary, identify the Model Class table to reference for Installed Options.

Supplier and Contact	Product Name, Definition,[16] Unique ID	Installed Hardware Options	Installed Software Options
ClearWaivier Fred Jones (xxx) xxx-xxxx	CWX7300P 700/800 MHz Portable SN 018362985	7300CWXPd98jd	7300CWXPx2tt
AirVine Karen Wu (xxx) xxx-xxxx	AV100P 700/800 MHz Portable SN AV100000122	100AVPH007a5y	100AVPS028ca1g
TalkAbout Cab Calloday (xxx) xxx-xxxx	TA9000M 700/800 MHz Mobile SN TA300037894	9000TAFJH333	9000TAFJS333
Frank Systems Lesslee Ismore (xxx) xxx-xxxx	FS2000P 700/800 MHz Portable SN FS100008837	2000FS0089fu	2000FSPS085ig7

– End Figure 12 –

3.5   Conventional Interoperability: Direct Mode

Figure 13 provides an abbreviated example for presenting test case results for conventional interoperability direct mode tests. Each product tested will be identified by a Results Key that identifies each product's results for a given test case.

Figure 13. Conventional Interoperability: Direct Mode Test Case Results Example

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL: DIRECT MODE

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.1 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
Wokytoky DEF 3500P78 Portable	DTR-P25CAP081002-IC32430
ClearWaivier CWX7300P Portable	DTR-P25CAP081002-IC55430
AirVine AV100P Portable	DTR-P25CAP081002-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081002-IC77430
Frank Systems FS2000P Portable	DTR-P25CAP081002-IC88430

Test Case	Description	DEF3500P78 Portable	CWX7300P Portable	AV100P Portable	TA3000M Mobile	FS2000P Portable
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	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	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	P	P

– End Figure 13 –

3.6   Conventional Interoperability: Repeat Mode

Figure 14 provides an abbreviated example for presenting test case results for conventional interoperability repeat mode tests. Each product tested will be identified by a Results Key that identifies each product's results for a given test case.

Figure 14. Conventional Interoperability: Repeat Mode Test Case Results Example

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL: REPEAT MODE
(SU-TO-FNE-TO-SU)

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
Wokytoky SkyNet Repeater	DTR-P25CAP081003-IC66129
AT100R Repeater	DTR- P25CAP081003-IC48129
SS4R Repeater	DTR- P25CAP081003-IC58129
Wokytoky DEF Subscriber	DTR-P25CAP081003-IC32430
ClearWaivier CWX Subscriber	DTR-P25CAP081003-IC55430
AirVine AV100 Portable	DTR-P25CAP081003-IC66430
TalkAbout TA3000 Mobile	DTR-P25CAP081003-IC77430
Frank Systems FS2000 Portable	DTR-P25CAP081003-IC88430

Test Case	Description	SN100R Repeater	AT100R Repeater	SS4R Repeater	DEF3500P78 Portable	CWX300P Subscribers	AV100P Portable	TA3000M Mobile	FS2000P Portable
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	P	P	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	P	P	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	P	P	P	P	P

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL FNE INCLUDES DISPATCH AND OTHER MONITORING CONSOLES (REPEAT MODE (SU-TO-FNE-TO-SU) OR DIRECT MODE)

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
AirTalky AT10C Console	DTR- P25CAP081003-ICON45
Wokytoky SkyNet Repeater	DTR-P25CAP081003-IC66129
AirTalky AT100R Repeater	DTR- P25CAP081003-IC48129
Speak Systems SS4R Repeater	DTR- P25CAP081003-IC58129
Wokytoky DEF3500P78 Portable	DTR-P25CAP081003-IC32430
ClearWaivier CWX7300P Portable	DTR-P25CAP081003-IC55430
AirVine AV100P Portable	DTR-P25CAP081003-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081003-IC77430

Test Case	Description	AT10C Console	SN100R Repeater	AT100R Repeater	SS4R Repeater	DEF3500P78 Portable	CWX7300P Portable	TA3000M Mobile
2.6.1	**Unaddressed Voice Call**							
2.6.1.4.1	Test Case 1 – Unaddressed Voice Call	P	P	P	P	P	P	P
2.6.2	**Routine Group Call**							
2.6.2.4.1	Test Case 1 – Routine Group Call	P	P	P	P	P	P	P
2.6.3	**Emergency Call**							
2.6.3.4.1	Test Case 1 – Emergency Call from SU	P	P	P	P	P	P	P
2.6.3.4.2	Test Case 2 – Emergency Call from DMC	P	P	P	P	P	P	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	P	P	P	P	P
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	P	P	P	P
2.6.5.4.2	Test Case 2 – Initiate Unit-to-Unit Call from SU 1	P	P	P	P	P	P	P

– End Figure 14 –

3.7   Trunked Interoperability

Figure 15 provides an abbreviated example for presenting test case results for trunked interoperability tests. Each product tested will be identified by a Results Key that identifies each product's results for a given test case.

Figure 15. Trunked Interoperability Test Case Results Example

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.3 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
Wokytoky SkyNet SN2000T Trunked Base Station	DTR-P25CAP081003-IC55120
AirTalky AT1000T Trunked Base Station	DTR-P25CAP081003-IC33430
Speak Systems SS4T Trunked Base Station	DTR-P25CAP081003-IC44430
AirVine AV100P Portable	DTR-P25CAP081002-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081002-IC77430

Test Case	Description	SN2000T Trunking	AT1000T Trunking	SS4T Trunking	AV100P Portable	TA3000M Mobile
2.2.1	**Full Registration**					
2.2.1.4.1	Test Case 1 – Valid Registration	P	P	P	P	P
2.2.1.4.2	Test Case 2 – Denied or Refused Registration	P	P	P	P	P
2.2.1.4.3	Test Case 3 – Unverified Registration	P	P	P	P	P
2.2.2	**Group Voice Call**					
2.2.2.4.1	Test Case 1 – Group Call Granted	P	P	P	P	P
2.2.2.4.2	Test Case 2 – Group Call Denied	P	P	P	P	P
2.2.2.4.3	Test Case 3 – Group Call Request Queued	P	P	P	P	P

– End Figure 15 –

3.8   Model Class Definitions

It is customary for equipment suppliers to issue SDoCs for representative equipment which is the test article for a model class. This means equipment that the supplier has determined, through engineering analysis or internal functional testing, to be functionally equivalent to a particular, actual test article. For instance, a product with multiple software level revisions, such as 6.4.1, 6.4.2, and 6.4.3, may be determined to be functionally equivalent for all of these variations. The equipment supplier may publish an SDoC and summary test report for each revision based on testing the representative equipment. In

this instance, the product variations are representative equipment which constitutes a "model class." Based on the example, the model class would then be identified in the SDoC as all product variants containing software levels 6.4.x. Representative equipment in a model class shall produce test results equivalent to the actual test article.

To substantiate the validity of representative equipment in a model class, equipment suppliers shall keep documented evidence of engineering changes to their products, including:

a) Detailed descriptions of changes to the item's hardware, software, or firmware

b) Version number for each modification

c) Implementation date of each change

d) Analysis of the impact of the change or the results of development engineering-level testing for each of the test requirements stipulated in the applicable P25 CAP CAB's. This should include an explanation of why the subject modification should not affect the outcome of each test.

The analysis shall receive an overall grade according to the following schedule:

Grade I—Obvious that retesting is not required; product changes are cosmetic in nature or only affect functionality which is not standardized P25 functionality.

Grade II—Uncertain whether retesting is required; warrants a more thorough engineering analysis. For instance, changes in equipment supplier proprietary functionality, bug fixes, feature additions, etc.

Grade III—Obvious that retesting is required; substantial changes to the product's hardware or firmware have occurred.

A published STR shall only apply to the model class tested. Other configurations or product variants that do not constitute representative equipment shall not be included in the SDoC. Product variants include changes in a product's hardware, firmware, or software that relate to P25 functionality.

Note: Changes in interchangeable accessory items such as, but not limited to, batteries, programming and data cables, speakers, microphones, or antennas—which are required to make the equipment function, but are not an integral part of the functionality described within the SDoC— shall not constitute a product variant, unless those items are an integral part of product testing. For instance, radio performance testing may be conducted using a battery eliminator, so batteries would not represent a product variant. However, a test procedure that stipulated the use of an actual battery— perhaps to evaluate its performance under various environmental conditions—would make any battery other than the one tested a product variant.

Equipment suppliers are solely responsible for identifying product variants, and for determining whether a modified product requires re-testing. Nonconforming products may trigger a monitoring visit to the test laboratory and may result in revocation in laboratory recognition and/or revocation of specific manufacturer's SDoCs. If laboratory recognition is revoked, all SDoCs traceable to that laboratory recognition may be scrutinized and may be removed by DHS OIC from the DHS P25 CAP website.

3.8.1 Device Under Test

When a supplier chooses to identify model classes and subclasses, if applicable, to which the supplier's device under test belongs, a "Model Class Definitions – Device Under Test" heading will precede a table identifying the model class to which the device under test belongs (see Figure 16).

Figure 16. Device under Test Model Class

MODEL CLASS DEFINITIONS – DEVICE UNDER TEST

Model Class: Wokytoky ABC Subscriber

Model Class	Sub-Class	Installed Options
ABC Subscriber	ABC2000M Mobile	See Sub-Class for ABC2000M
ABC Subscriber	ABC2500P Portable	See Sub-Class for ABC2500P

Model Sub-Class: Wokytoky ABC2000MB, ABC2000MU, ABC2000MV, ABC2000M78 Mobile Subscriber

Product Name, Definition, Firmware	Installed Options
ABC2000MB Multiband Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000MU UHF Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000MV VHF Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000M78 700/800 MHz Mobile Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky ABC2500PMB, ABC2500PU, ABC2500PV, ABC2500P78 Portable Subscriber

Product Name, Definition, Firmware	Installed Options
ABC2500PMB Multiband Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500PU UHF Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500PV VHF Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500P78 700/800 MHz Portable Firmware: R1 through R4	Trunking, Encryption

– End Figure 16 –

3.8.2 Other Devices Tested for Interoperability

Interoperability shall be demonstrated between the device under test and devices from three different suppliers. A supplier can optionally identify model classes and subclasses of one or more of the other devices, if that information is known.

A supplier can include another of its own devices for interoperability against its device under test and, optionally, can identify model classes and subclasses, if applicable, to which the supplier's device belongs.

It is the reporting supplier's responsibility to describe in the STR document what a given model class and subclass (if used) designation means. The supplier must identify the distinguishing features that constitute a given model class and subclass. List tables of model classes and subclasses following the last set of tests reported.

When a supplier chooses to identify model classes and subclasses, if applicable, for other devices tested for interoperability, a "Model Class Definitions – Other Devices Tested for Interoperability" heading will precede any model class tables necessary for that supplier's other devices tested for interoperability. Following this heading, the device under test will be identified in a sentence above the model class table. Figure 17 provides an example of how the other devices(s) tested will be displayed.

Figure 17. Other Devices Tested Model Class

MODEL CLASS DEFINITIONS – OTHER DEVICES TESTED FOR INTEROPERABILITY

Other devices tested with Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber.

Model Class: Wokytoky DEF Subscriber

Model Class	Sub-Class	Installed Options
DEF Subscriber	DEF3000M Mobile	See Sub-Class for DEF3000M
DEF Subscriber	DEF3500P Portable	See Sub-Class for DEF3500P

Model Sub-Class: Wokytoky DEF3000MMB, DEF3000MU, DEF3000MV, DEF3000M78 Mobile Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3000MMB Multiband Mobile Firmware: R1 through R4	Trunking, Encryption
DEF3000MU UHF Mobile Firmware: R1 through R4	Trunking, Encryption
DEF3000MV VHF Mobile Firmware: R1 through R4	Trunking, Encryption
DEF3000M78 700/800 MHz Mobile Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky DEF3500PMB, DEF3500PU, DEF3500PV, DEF3500P78 Portable Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3500PMB Multiband Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500PU UHF Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500PV VHF Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500P78 700/800 MHz Portable Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky DEF3500PMB Multiband 700/800 MHz, UHF, VHF Portable Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3500PMB Multiband Portable Firmware: R1 through R4	Trunking, Encryption

Model Class: Wokytoky SkyNet Base Station

Product Name	Installed Options
Wokytoky SkyNet Trunked Base Station	Release 5.10
Wokytoky SkyNet Trunked Base Station	Release 5.11
Wokytoky SkyNet Trunked Base Station	Release 5.12

– End Figure 17 –

3.9   Results Definitions and Comments

Following the presentation of the test cases with results, list the result definitions used in the report. Figure 18 provides an example.

Figure 18. Test Case Result Definitions

REPORT KEY

Notation	Test Case Result Definition
U (Unsupported)	Test examines functionality the test object does not support
P (Pass)	Test Object Meets Requirements
F (Fail)	Test Object Does Not Meet Requirements
N/R (No Requirement)	Test object operates at a level for which there is no requirement. For example, see Footnote 13.

– End Figure 18 –

Finally, provide notated comments to elaborate on the test case results where necessary. Figure 19 provides conventional examples based on the examples listed in Figure 18.

Figure 19. Test Case Result Comments

Comments
U1: Add information here for an "Unsupported" test.
U2: Add information here for a second "Unsupported" test.
P1: Add information here for a "Pass" verdict that requires elaboration.
P2: Add information here for a second "Pass" verdict that requires elaboration.
F1: Add information here for a "Fail" verdict that requires elaboration.
F2: Add information here for a second "Fail" verdict that requires elaboration.
NR1: 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 t_1 and t_3 may be greater than ±12.5 kHz. Add information here for a "No Requirement" designation.
NR2: 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 t_1 and t_3 may be greater than ±12.5 kHz. Add information here for a second "No Requirement" designation.

– End Figure 19 –

3.10   DHS Disclaimer and Paper Reduction Act Information

After the test results, the DHS disclaimer and White House Office of Management and Budget (OMB) Paperwork Reduction Act information for this document will be presented as Figure 20 illustrates.

Figure 20. Presentation of Disclaimer and Paper Reduction Act Information

The information contained herein has been provided by the supplier of the product with permission to make the information publicly available. The U.S. Department of Homeland Security (DHS) is making this information available as a public service; however, DHS IS PROVIDING THE INFORMATION "AS IS." DHS MAKES NO EXPRESS OR IMPLIED WARRANTIES AND, SPECIFICALLY, DHS MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING THE ACCURACY OR USE OF THIS INFORMATION. Reference to any specific commercial products, processes or services by trade name, trademark, supplier or otherwise does not constitute an endorsement by or a recommendation from DHS. Dates in the following Burden Statement have no expiration bearing on the complying product's formal declaration.

BURDEN STATEMENT

OMB NO: 6040-0015

EXPIRATION DATE: 9/30/2016

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 9/30/2016. 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, DC 20528.

DHS FORM 10056 – June 2009

– End Figure 20 –

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Project 25 Compliance Assessment Program

SUMMARY TEST REPORT (STR)

WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER

STR–WOKYTOKY-ABC2000M78–11302016

SUPPLIER

Supplier Info	Detail
Name:	Wokytoky LMR Equipment
Contact:	Ted Zed – (xxx) xxx-xxxx

PRODUCT

Product Info	Detail
Product Name, Definition, Unique ID:	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber SN C87TJD8NX2-O (See table, Model Class: Wokytoky ABC Subscriber for a listing of compliance equivalent model-family products.)[7]
Installed Hardware Options:	Trunking, Encryption
Installed Software Options:	Trunking, Encryption
Installed Vocoder:	AMBE+2

TESTS

Description
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.1 – Project 25 Phase 1 Common Air Interface Conventional Direct Mode Subscriber Unit Interoperability
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.3 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability
P25-CAB-ISSI_TEST_REQ – August 2016, Section 2.1.2.1 – Project 25 Scope 1 Inter-RF Sub-Subsystem Interface RFSS Voice Services Conformance

LABORATORY INFORMATION

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081001
Date(s) of Test:	OCT 5, 2016 to OCT 9, 2016

Project 25 Compliance Assessment Program

Laboratory	Details
Detailed Test Report:	DTR-P25CAP081001-34330
Date of Issue:	OCT 19, 2016 (Product)

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081002
Date(s) of Test:	OCT 12, 2016 to OCT 16, 2016
Detailed Test Report:	DTR-P25CAP081002-IC66120
Date of Issue:	OCT 26, 2016 (Product)

Laboratory	Details
P25 CAP Laboratory Code:	P25CAP081003
Date(s) of Test:	OCT 19, 2016 to OCT 23, 2016
Detailed Test Report:	DTR-P25CAP081003-IC66120
Date of Issue:	NOV 2, 2016 (Product)

INFORMATIVE REFERENCES

Date:	Title:
MONTH YEAR	P25-CAB-CAI_Test_REQ
MONTH YEAR	P25-CAB-ISSI_Test_REQ

RECEIVER PERFORMANCE TESTING (700 MHZ, 800 MHZ)[9] – CONVENTIONAL

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case	Description	Requirement	Results
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm (Class A)[10]	P
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm (Class A)	P
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm (Class A)[10]	P

Test Case	Description	Requirement	Results
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 µs	P
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 µs	P
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB (Class A)[10]	P
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB (Class A) [10]	P
3.1.7.2	Offset Channel Rejection – C4FM	≥ 47 dB (Class A) [10]	P
3.1.7.2	Offset Channel Rejection – Standard Simulcast	≥ 47 dB (Class A) [10]	P
3.1.8	Co-Channel Rejection	≤ 9 dB	P
3.1.9	Spurious Response Rejection	≥ 70 dB (Class A)[10]	P
3.1.10	Intermodulation Rejection	≥ 70 dB (Class A)[10]	P
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P
3.1.17	Late Entry Unsquelch Delay: No Talk Group or Encryption	≤ 125 ms	P
3.1.17	Late Entry Unsquelch Delay: Talk Group Only, Unencrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Encryption Only, Encrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Encryption Only, Unencrypted Transmission	≤ 370 ms	P
3.1.17	Late Entry Unsquelch Delay: Both Talk Group and Encryption, Encrypted Transmission	≤ 460 ms	P
3.1.17	Late Entry Unsquelch Delay: Both Talk Group and Encryption, Unencrypted Transmission	≤ 460 ms	P
3.1.18	Receiver Throughput Delay	≤ 125 ms	P

TRANSMITTER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.1 – Project 25 Phase 1 Common Air Interface Conventional Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case 2.2.8[11] – Unwanted Emissions: Adjacent Channel Power Ratio

Test Case	Offset from Center Frequency (KHz)	Measurement Bandwidth (KHz)	ACPR (dB)	Results
3.2.8.2	9.375	6.25	≥ 40	P
3.2.8.2	15.625	6.25	≥ 60	P
3.2.8.2	21.875	6.25	≥ 60	P
3.2.8.2	37.5	25	≥ 60	P
3.2.8.2	62.5	25	≥ 65	P
3.2.8.2	87.5	25	≥ 65	P
3.2.8.2	150	100	≥ 65	P
3.2.8.2	250	100	≥ 65	P
3.2.8.2	350	100	≥ 65	P
3.2.8.2	> 400 KHz to 12 MHz	30 (s)	≥ 75	P
3.2.8.2	12 MHz to paired receive band	30 (s)	≥ 75	P
3.2.8.2	In paired receive band	30 (s)	≥ 100	P

Test Case	Description	Requirement	Results
3.2.8.1[12]	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
3.2.12	Transmitter Attack Time	≤ 50 ms	P
3.2.12	Encoder Attack Time	≤ 100 ms	P
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	$2544 < ƒ_{dev} ≤ 3111$ Hz	P
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	$848 < ƒ_{dev} ≤ 1037$ Hz	P

Test Case	Description	Requirement	Results
3.2.16	Modulation Fidelity	≤ 5% (Class A)	P
3.2.18	Transient Frequency Behavior: Time Interval t_1 = 20 ms[13]	$|\Delta f| \leq 12.5$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval t_2 = 50 ms	$|\Delta f| \leq 6.25$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval t_3 = 10 ms[13]	$|\Delta f| \leq 12.5$ kHz	P

RECEIVER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case	Description	Requirement	Results
3.1.4	Reference Sensitivity – C4FM	≤ -116 dBm (Class A)[10]	P
3.1.4	Reference Sensitivity – Standard Simulcast	≤ -116 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – C4FM	≤ -108 dBm (Class A)[10]	P
3.1.5	Faded Reference Sensitivity – Standard Simulcast	≤ -108 dBm (Class A)[10]	P
3.1.6	Signal Delay Spread Capability – C4FM	≥ 50 µs	P
3.1.6	Signal Delay Spread Capability – Standard Simulcast	≥ 80 µs	P
3.1.7.1	Adjacent Channel Rejection – C4FM	≥ 60 dB (Class A)[10]	P
3.1.7.1	Adjacent Channel Rejection – Standard Simulcast	≥ 60 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – C4FM	≥ 47 dB (Class A)[10]	P
3.1.7.2	Offset Channel Rejection – Standard Simulcast	≥ 47 dB (Class A)[10]	P
3.1.8	Co-Channel Rejection	≤ 9 dB	P
3.1.9	Spurious Response Rejection	≥ 70 dB (Class A)[10]	P
3.1.10	Intermodulation Rejection	≥ 70 dB (Class A)[10]	P

Test Case	Description	Requirement	Results
3.1.11	Signal Displacement Bandwidth	≥ 1000 Hz	P

TRANSMITTER PERFORMANCE TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Detailed Test Report Identification
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.1.2 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Performance	DTR-P25CAP081001-34330

Test Case 2.2.8[11] – Unwanted Emissions: Adjacent Channel Power Ratio

Test Case	Offset from Center Frequency (KHz)	Measurement Bandwidth (KHz)	ACPR (dB)	Results
3.2.8.2	9.375	6.25	≥ 40	P
3.2.8.2	15.625	6.25	≥ 60	P
3.2.8.2	21.875	6.25	≥ 60	P
3.2.8.2	37.5	25	≥ 60	P
3.2.8.2	62.5	25	≥ 65	P
3.2.8.2	87.5	25	≥ 65	P
3.2.8.2	150	100	≥ 65	P
3.2.8.2	250	100	≥ 65	P
3.2.8.2	350	100	≥ 65	P
3.2.8.2	> 400 KHz to 12 MHz	30 (s)	≥ 75	P
3.2.8.2	12 MHz to paired receive band	30 (s)	≥ 75	P
3.2.8.2	In paired receive band	30 (s)	≥ 100	P

Test Case	Description	Requirement	Results
3.2.8.1[12]	Unwanted Emissions: Adjacent Channel Power Ratio	≥ 67 dB	P
3.2.12	Transmitter Attack Time	≤ 50 ms	P
3.2.12	Encoder Attack Time	≤ 100 ms	P
3.2.14	Transmitter Throughput Delay	≤ 125 ms	P

Test Case	Description	Requirement	Results
3.2.15	Frequency Deviation for C4FM: High-Level Signal Deviation	$2544 < f_{dev} \leq 3111$ Hz	P
3.2.15	Frequency Deviation for C4FM: Low-Level Signal Deviation	$848 < f_{dev} \leq 1037$ Hz	P
3.2.16	Modulation Fidelity – C4FM	$\leq 5\%$ (Class A)[10]	P
3.2.16	Modulation Fidelity – CQPSK	$\leq 5\%$ (Class A)[10]	P
3.2.16	Modulation Fidelity – Standard Simulcast	$\leq 5\%$ (Class A)[10]	P
3.2.18	Transient Frequency Behavior: Time Interval $t_1 = 20$ ms[13]	$\lvert \Delta f \rvert \leq 12.5$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval $t_2 = 50$ ms	$\lvert \Delta f \rvert \leq 6.25$ kHz	P
3.2.18	Transient Frequency Behavior: Time Interval $t_3 = 10$ ms[13]	$\lvert \Delta f \rvert \leq 12.5$ kHz	P

OTHER DEVICES TESTED FOR INTEROPERABILITY

Other devices tested with Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber.

Supplier and Contact	Product Name, Definition,[16] Unique ID	Installed Hardware Options	Installed Software Options
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	SkyNet SN2000T Trunk System SN 100577008 (See table, Model Class: Wokytoky SkyNet Trunk System for a listing of compliance equivalent model-family products.)	Option A15 Option B12	Release 5.10 Release 5.11 Release 5.12
AirTalky John Doe (xxx) xxx-xxxx	AT1000T Trunk System SN AFE0014	1.5 ACMv1	ERCv3
Speak Systems Jane Smith (xxx) xxx-xxxx	SS4T Trunk System SN 0011234	Option 4 Option 7	Option Av14

Supplier and Contact	Product Name, Definition,[16] Unique ID	Installed Hardware Options	Installed Software Options
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	SkyNet SN100R Repeater SN 100578008	Package 3	R04.9
AirTalky John Doe (xxx) xxx-xxxx	AT100R Repeater SN AFE0347	Setup 5 with trunking	ERDv7.3
Speak Systems Jane Smith (xxx) xxx-xxxx	SS4R Repeater SN 0021758	Package 2 with encryption	Package 4v2
AirTalky John Doe (xxx) xxx-xxxx	AT10C Console SN AFE0449	Option 1	EREv9.5
Wokytoky LMR Equipment Ted Zed (xxx) xxx-xxxx	DEF3500P78 700/800 MHz Portable SN 100576908 (See table, Model Class: Wokytoky DEF Subscriber for a listing of compliance equivalent model-family products.)	Trunking, Encryption	Firmware: R1 - R4
ClearWaivier Fred Jones (xxx) xxx-xxxx	CWX7300P 700/800 MHz Portable SN 018362985	7300CWXPd98jd	7300CWXPx2tt
AirVine Karen Wu (xxx) xxx-xxxx	AV100P 700/800 MHz Portable SN AV100000122	100AVPH007a5y	100AVPS028ca1g
TalkAbout Cab Calloday (xxx) xxx-xxxx	TA9000M 700/800 MHz Mobile SN TA300037894	9000TAFJH333	9000TAFJS333
Frank Systems Lesslee Ismore (xxx) xxx-xxxx	FS2000P 700/800 MHz Portable SN FS100008837	2000FS0089fu	2000FSPS085ig7

Project 25 Compliance Assessment Program
SUMMARY TEST REPORT (STR)
WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER
STR–WOKYTOKY-ABC2000M78–11302016

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL: DIRECT MODE

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.1 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
Wokytoky DEF 3500P78 Portable	DTR-P25CAP081002-IC32430
ClearWaivier CWX7300P Portable	DTR-P25CAP081002-IC55430
AirVine AV100P Portable	DTR-P25CAP081002-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081002-IC77430
Frank Systems FS2000P Portable	DTR-P25CAP081002-IC88430

Test Case	Description	DEF3500P78 Portable	CWX7300P Portable	AV100P Portable	TA3000M Mobile	FS2000P Portable
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	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	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	P	P

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL: REPEAT MODE (SU-TO-FNE-TO-SU)

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Project 25 Compliance Assessment Program
SUMMARY TEST REPORT (STR)
WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER

STR–WOKYTOKY-ABC2000M78–11302016

Product	Detailed Test Report Identification
Wokytoky SkyNet Repeater	DTR-P25CAP081002-IC66129
AT100R Repeater	DTR- P25CAP081002-IC48129
SS4R Repeater	DTR- P25CAP081002-IC58129
Wokytoky DEF Subscriber	DTR-P25CAP081002-IC32430
ClearWaivier CWX Subscriber	DTR-P25CAP081002-IC55430
AirVine AV100 Portable	DTR-P25CAP081002-IC66430
TalkAbout TA3000 Mobile	DTR-P25CAP081002-IC77430
Frank Systems FS2000 Portable	DTR-P25CAP081002-IC88430

Test Case	Description	SN100R Repeater	AT100R Repeater	SS4R Repeater	DEF3500P78 Portable	CWX300P Subscribers	AV100P Portable	TA3000M Mobile	FS2000P Portable
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	P	P	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	P	P	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	P	P	P	P	P

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – CONVENTIONAL FNE INCLUDES DISPATCH AND OTHER MONITORING CONSOLES (REPEAT MODE (SU-TO-FNE-TO-SU) OR DIRECT MODE)

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.2 – Project 25 Phase 1 Common Air Interface Conventional Repeat Mode Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Project 25 Compliance Assessment Program
SUMMARY TEST REPORT (STR)
WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER

STR–WOKYTOKY-ABC2000M78–11302016

Product	Detailed Test Report Identification
AirTalky AT10C Console	DTR- P25CAP081003-ICON45
Wokytoky SkyNet Repeater	DTR-P25CAP081003-IC66129
AirTalky AT100R Repeater	DTR- P25CAP081003-IC48129
Speak Systems SS4R Repeater	DTR- P25CAP081003-IC58129
Wokytoky DEF3500P78 Portable	DTR-P25CAP081003-IC32430
ClearWaivier CWX7300P Portable	DTR-P25CAP081003-IC55430
AirVine AV100P Portable	DTR-P25CAP081003-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081003-IC77430

Test Case	Description	AT10C Console	SN100R Repeater	AT100R Repeater	SS4R Repeater	DEF3500P78 Portable	CWX7300P Portable	TA3000M Mobile
2.6.1	**Unaddressed Voice Call**							
2.6.1.4.1	Test Case 1 – Unaddressed Voice Call	P	P	P	P	P	P	P
2.6.2	**Routine Group Call**							
2.6.2.4.1	Test Case 1 – Routine Group Call	P	P	P	P	P	P	P
2.6.3	**Emergency Call**							
2.6.3.4.1	Test Case 1 – Emergency Call from SU	P	P	P	P	P	P	P
2.6.3.4.2	Test Case 2 – Emergency Call from DMC	P	P	P	P	P	P	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	P	P	P	P	P
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	P	P	P	P
2.6.5.4.2	Test Case 2 – Initiate Unit-to-Unit Call from SU 1	P	P	P	P	P	P	P

[P25-CAB-STR_REQ – August 2016, Annex A – STR Example]

Project 25 Compliance Assessment Program
SUMMARY TEST REPORT (STR)
WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER
STR–WOKYTOKY-ABC2000M78–11302016

INTEROPERABILITY TESTING (700 MHZ, 800 MHZ) – TRUNKED

Test Identification	Product
P25-CAB-CAI_TEST_REQ – August 2016, Section 2.1.3.3 – Project 25 Phase 1 Common Air Interface Trunked Subscriber Unit Interoperability	Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber

Product	Detailed Test Report Identification
Wokytoky SkyNet SN2000T Trunked Base Station	DTR-P25CAP081003-IC55120
AirTalky AT1000T Trunked Base Station	DTR-P25CAP081003-IC33430
Speak Systems SS4T Trunked Base Station	DTR-P25CAP081003-IC44430
AirVine AV100P Portable	DTR-P25CAP081002-IC66430
TalkAbout TA3000M Mobile	DTR-P25CAP081002-IC77430

Test Case	Description	SN2000T Trunking	AT1000T Trunking	SS4T Trunking	AV100P Portable	TA3000M Mobile
2.2.1	**Full Registration**					
2.2.1.4.1	Test Case 1 – Valid Registration	P	P	P	P	P
2.2.1.4.2	Test Case 2 – Denied or Refused Registration	P	P	P	P	P
2.2.1.4.3	Test Case 3 – Unverified Registration	P	P	P	P	P
2.2.2	**Group Voice Call**					
2.2.2.4.1	Test Case 1 – Group Call Granted	P	P	P	P	P
2.2.2.4.2	Test Case 2 – Group Call Denied	P	P	P	P	P
2.2.2.4.3	Test Case 3 – Group Call Request Queued	P	P	P	P	P

MODEL CLASS DEFINITIONS – DEVICE UNDER TEST

Model Class: Wokytoky ABC Subscriber

Model Class	Sub-Class	Installed Options
ABC Subscriber	ABC2000M Mobile	See Sub-Class for ABC2000M
ABC Subscriber	ABC2500P Portable	See Sub-Class for ABC2500P

Model Sub-Class: Wokytoky ABC2000MB, ABC2000MU, ABC2000MV, ABC2000M78 Mobile Subscriber

Product Name, Definition, Firmware	Installed Options
ABC2000MB Multiband Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000MU UHF Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000MV VHF Mobile Firmware: R1 through R4	Trunking, Encryption
ABC2000M78 700/800 MHz Mobile Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky ABC2500PMB, ABC2500PU, ABC2500PV, ABC2500P78 Portable Subscriber

Product Name, Definition, Firmware	Installed Options
ABC2500PMB Multiband Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500PU UHF Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500PV VHF Portable Firmware: R1 through R4	Trunking, Encryption
ABC2500P78 700/800 MHz Portable Firmware: R1 through R4	Trunking, Encryption

MODEL CLASS DEFINITIONS – OTHER DEVICES TESTED FOR INTEROPERABILITY

Other devices tested with Wokytoky ABC2000M78 700/800 MHz Mobile Subscriber.

Model Class: Wokytoky DEF Subscriber

Model Class	Sub-Class	Installed Options
DEF Subscriber	DEF3000M Mobile	See Sub-Class for DEF3000M
DEF Subscriber	DEF3500P Portable	See Sub-Class for DEF3500P

Model Sub-Class: Wokytoky DEF3000MMB, DEF3000MU, DEF3000MV, DEF3000M78 Mobile Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3000MMB Multiband Mobile Firmware: R1 through R4	Trunking, Encryption

Project 25 Compliance Assessment Program

SUMMARY TEST REPORT (STR)

WOKYTOKY ABC2000M78 700/800 MHZ MOBILE SUBSCRIBER

STR–WOKYTOKY-ABC2000M78–11302016

Product Name, Definition, Firmware	Installed Options
DEF3000MU UHF Mobile Firmware: R1 through R4	Trunking, Encryption
DEF3000MV VHF Mobile Firmware: R1 through R4	Trunking, Encryption
DEF3000M78 700/800 MHz Mobile Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky DEF3500PMB, DEF3500PU, DEF3500PV, DEF3500P78 Portable Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3500PMB Multiband Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500PU UHF Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500PV VHF Portable Firmware: R1 through R4	Trunking, Encryption
DEF3500P78 700/800 MHz Portable Firmware: R1 through R4	Trunking, Encryption

Model Sub-Class: Wokytoky DEF3500PMB Multiband 700/800 MHz, UHF, VHF Portable Subscriber

Product Name, Definition, Firmware	Installed Options
DEF3500PFB Multiband Portable Firmware: R1 through R4	Trunking, Encryption

Model Class: Wokytoky SkyNet Base Station

Product Name	Installed Options
Wokytoky SkyNet Trunked Base Station	Release 5.10
Wokytoky SkyNet Trunked Base Station	Release 5.11
Wokytoky SkyNet Trunked Base Station	Release 5.12

REPORT KEY

Notation	Test Case Result Definition
U	Test examines functionality the test object does not support

Notation	Test Case Result Definition
P (Pass)	Test Object Meets Requirements
F (Fail)	Test Object Does Not Meet Requirements
N/R (No Requirement)	Test object operates at a level for which there is no requirement. For example, see Footnote 13.

Comments
U1: Add information here for an "Unsupported" test.
U2: Add information here for a second "Unsupported" test.
P1: Add information here for a "Pass" verdict that requires elaboration.
P2: Add information here for a second "Pass" verdict that requires elaboration.
F1: Add information here for a "Fail" verdict that requires elaboration.
F2: Add information here for a second "Fail" verdict that requires elaboration.
NR1: 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 t_1 and t_3 may be greater than ±12.5 kHz. Add information here for a "No Requirement" designation.
NR2: 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 t_1 and t_3 may be greater than ±12.5 kHz. Add information here for a second "No Requirement" designation.

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BURDEN STATEMENT

OMB NO: 6040-0015

EXPIRATION DATE: 9/30/2016

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 9/30/2016. 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, DC 20528.

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