Project 25 Compliance Assessment Program
SDOC – L3HARRIS – XL-185M
March 20, 2020

SUBSCRIBER PRODUCT INFORMATION

Subscriber Info	Detail
Model Name:	XL-185M
Tested Software Versions:	XLPR07B12, XLPR06D03, XLPR05D05, XLPR04B09, XLPR02A28, XGPR01A
Hardware Capabilities/Options & Software Options:	SW Options: P25 Trunking, P25 Phase 2 TDMA, AES-256 Encryption, P25 Data (for Short Message/Status Update/Message Update interoperability tests only) Frequency Bands: 700MHz, 800MHz

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
	P25-CAB-CAI_TEST_REQ – July 2017	Includes August 2016 P25 CAP Test Requirements; Adds TDMA performance and interoperability testing and trunked supplementary data testing
X	**P25-CAB-CAI_TEST_REQ - October 2018**	Includes all July 2017 P25 CAP Test Requirements; Adds minor updates to conventional interoperability testing due to TIA standard update

SUMMARY TEST REPORT IDENTIFIER[1]

Summary Test Report (STR) Identifier:	STR-L3HARRIS-SUBSCRIBERS

CONTACT INFORMATION

Vendor Info	Details
Vendor Name:	L3Harris Technologies (Communication Systems segment, PSPC sector)
Vendor Website URL:	http://www.harris.com/what-we-do/public-safety-and-professional-communications
P25 CAP Contact Name:	David Prather
P25 CAP Contact Phone:	(434) 455-6742
P25 CAP Contact Email:	David.Prather@L3Harris.com

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[1] 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. 45ms slot times not supported.

TRUNKING PERFORMANCE - TDMA

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

P25 CAP TDMA 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), Frequency Deviation for H-CPM, Modulation Fidelity, Symbol Rate Accuracy, H-CPM Logical Channel Power measurements, and H-CPM Channel Time Alignment.

Unsupported or Failed Requirements
1. None.

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. Call Alert, Radio Check, Message Update, Status Update, Status Query, Radio Unit Monitor are unsupported

Optional Product Capabilities Required to Pass Test Cases
1. In order to pass the supported Encryption test case, a subscriber with the AES-256 Encryption capability is required.

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. Call Alert, Radio Check, Short Message, Status Update, Status Query, Radio Unit Monitor are unsupported.

Optional Product Capabilities Required to Pass Test Cases
1. In order to pass the supported Encryption test case, a subscriber with the AES-256 Encryption capability is required.

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. Call Alert, Radio Check, All Call, Radio Unit Inhibit/Uninhibit, Status Query, and Radio Unit Monitor are unsupported.
2. For Message Update only test case 3 (*SU 1 to DMC Message Update*) is supported while test cases 1, 2 and 4 are unsupported.
3. For Status Update only test case 1 is supported (*Status Update from SU 1 to DMC*) while test case 2 is unsupported.

Optional Product Capabilities Required to Pass Test Cases
1. In order to pass the supported Encryption test case, a subscriber with the AES-256 Encryption capability is required.
2. In order to pass the supported Status Update and Message Update test cases, a subscriber with the P25 Data software option is required.

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.

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, Deregistration, System Call, Call Alert, Short Message, Status Query, Status Update, Radio Unit Monitoring, Radio Unit Disable/Re-Enable, and Radio Check.

Unsupported or Failed Test Cases
1. Unit-to-unit call queued with target availability check – traffic channel assignment before target availability check, and Status Query are not supported.
2. Test Cases not verified due to operational limitations of the base station or infrastructure equipment used for interoperability testing –
    In Home Operational Mode: System Call
    In Inter-System Roaming Operational Mode: System Call
    In Inter-WACN Roaming Operational Mode: Unverified Registration, Unit to Unit Voice Call, System Call, Call Alert, Short Message, Status Update, Radio Unit Monitoring, Radio Unit Disable/Re-Enable, and Radio Check

Optional Product Capabilities Required to Pass Test Cases
1. In order to pass the FDMA trunked test cases, a subscriber with the P25 Trunking capability is required.
2. In order to pass the Encryption test case, a subscriber with the AES-256 Encryption capability is required.
3. In order to pass the supported Status Update and Short Message test cases, a subscriber with the P25 Data software option is required.

TRUNKED SUBSCRIBER UNIT INTEROPERABILITY – TDMA

The Subscriber product has been tested for Trunked Interoperability - TDMA. 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 TDMA Trunked Interoperability Testing Coverage
Registration, Group Voice Call, Unit-to-Unit Voice Call, Broadcast Call, Announcement Group Call, Emergency Group Call, Encryption Group Call, System Call, Radio Unit Monitoring, and Transmitting Subscriber Forced Preemption.

Unsupported or Failed Test Cases

1. Unit-to-unit call queued with target availability check – traffic channel assignment before target availability check, and Transmitting Subscriber Forced Preemption test case 1: TDMA SU Forced Audio Preemption are not supported.
2. Test Cases not verified due to operational limitations of the base station or infrastructure equipment used for interoperability testing –
    > In Home Operational Mode: System Call
    > In Inter-System Roaming Operational Mode: System Call
    > In Inter-WACN Roaming Operational Mode: Unit-to-Unit Voice Call, System Call, and Radio Unit Monitoring

Optional Product Capabilities Required to Pass Test Cases

1. In order to pass the TDMA trunked test cases, a subscriber with the P25 Trunking and P25 Phase 2 TDMA capability is required.
2. In order to pass the supported Encryption test case, a subscriber with the AES-256 Encryption capability is required.

SIGNATURE AND DATE

<u>   March 20, 2020   </u>   _____

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

_____<u>David Prather</u>_____

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

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