TEST PRODUCT INFORMATION

Subscriber Info	Detail
Model Name:	**MSI GTR8000 Trunked Base Station Repeater**
Tested Software Versions:	ASTRO25 System Release 2021.1, 2020.1, 2019.2, 2019.1, 7.18, 7.17, 7.16, 7.15, 7.14, 7.13, 7.11, 7.9, 7.8, 7.7
Hardware Capabilities/Options & Software Options:	VHF (136-174MHz) 60W&100W; UHF-R1 (380-435MHz); UHF-R2 (435-524MHz); 700MHz; 800MHz, P25 Conventional, P25 Trunking, P25 TDMA Trunking, RF preselector

SUMMARY TEST REPORT IDENTIFIER

CAP Summary Test Report (STR) Identifier:	P25CAP MSI GTR8000 Base Repeater STRv3.0 (9-10-2021)

POINT OF CONTACT INFORMATION

Vendor Info	Details
Vendor Name:	Motorola Solutions, Inc.
Vendor Website URL:	www.motorolasolutions.com
P25 CAP Contact Name:	TAQI MOHIUDDIN
P25 CAP Contact Phone:	(224) 227-0217
P25 CAP Contact Email:	taqi.mohiuddin@motorolasolutions.com

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 Base Station 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

Conventional Base Station Repeater Receiver Tests: Reference Sensitivity, Faded Reference Sensitivity, 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.

Conventional Base Station Repeater Transmitter Tests: Unwanted Emissions: Adjacent Channel Power Ratio, Transmitter Power and Encoder Attack Time, Frequency Deviation for C4FM, and Modulation Fidelity, Transient Frequency Behavior across three time intervals. [13]

Unsupported or Failed Test Cases
None*.* Test Case 3.1.9 Notation - [13] Transmitter Throughput Delay is not applicable since the station under test does not provide an audio (analog) input.

TRUNKED PERFORMANCE

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

P25 CAP FDMA Trunking Performance Testing Coverage

FDMA Trunked Base Station Repeater Receiver Tests: Reference Sensitivity, Faded Reference Sensitivity, Adjacent Channel Rejection, Offset Adjacent Channel Rejection, Co-Channel Rejection, Spurious Response Rejection, Intermodulation Rejection, and Signal Displacement Bandwidth.

FDMA Trunked Base Station Repeater Transmitter Tests: Unwanted Emissions (Adjacent Channel Power Ratio), Frequency Deviation for C4FM, Modulation Fidelity and Transient Frequency Behavior. [13]

Trunked Tests: Time to Grant

Unsupported or Failed Test Cases
None, note [13]

P25 CAP TDMA Trunking Performance Testing Coverage

TDMA Trunked Base Station Repeater Receiver Tests: Reference Sensitivity – H-CPM, Faded Reference Sensitivity - H-CPM, Signal Delay Spread Capability - H-CPM, Adjacent Channel Rejection - H-CPM, Offset Adjacent Channel Rejection - H-CPM, Co-Channel Rejection, Spurious Response Rejection, Intermodulation Rejection and Signal Displacement Bandwidth.

TDMA Trunked Base Station Repeater Transmitter Tests: Unwanted Emissions (Adjacent Channel Power Ratio), Modulation Fidelity and Symbol Rate Accuracy.

Unsupported or Failed Test Cases
None

CONVENTIONAL INTEROPERABILITY – REPEAT MODE (RMO)

The Base Station Repeater 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 identified in STR. In order to pass the Encryption test case AES-256 encryption is required.

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 (RUM).

Test Cases Recorded with One Representative CAP-Tested Subscriber

The following test cases were executed and recorded tested against a single Representative Subscriber:
- (2.5.6.4.3) Test Case 3 – RUM Initiated by SU 1 – Unit to Unit Call

Test Cases Recorded with Two Representative CAP-Tested Subscribers

The following test cases were executed and recorded tested against two Representative Subscribers:
- (2.5.6.4.1) Test Case 1 – RUM Initiated by SU 1 – Group Call
- Pre-programmed Status Message Test Cases (2.5.3.4.3, 2.5.4.4.3, 2.5.5.4.1)

Unsupported or Failed Test Cases
None

CONVENTIONAL BASE STATION REPEATER INTEROPERABILITY, REPEAT MODE - FNE DISPATCH MONITORING CONSOLE (DMC)

The Base Station Repeater 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.

P25 CAP Repeat Mode with DMC Interoperability Testing Coverage
Group Voice Call, Emergency Call (2.6.3.4.1), All Call, Unit-to-Unit Voice Call, Encryption, Emergency Alarm, Call Alert, Radio Check, Radio Unit Inhibit/Un-Inhibit, Message Update (2.7.6.4.3 , 2.7.6.4.4), Status Update, Status Query and Radio Unit Monitor (RUM).

Test Cases Recorded with One Representative CAP-Tested Subscriber

The following test cases were executed and recorded tested against a single Representative Subscriber:
- (2.7.9.4.2) Test Case 2 – Radio Unit Monitor Initiated by DMC – Unit-to-Unit

Test Cases Recorded with Two Representative CAP-Tested Subscribers

The following test cases were executed and recorded tested against two Representative Subscribers:
- (2.7.7.4.2) Test Case 2 – Group Status Update Initiated by SU 1

Unsupported or Failed Test Cases
- Routine Group Voice Call (Test Case 2.6.2.4.1); Emergency Call *from DMC* (Test Case 2.6.3.4.2); Message Update (Test Cases 2.7.6.4.1, 2.7.6.4.2) are unsupported by the Motorola console.

TRUNKED INTEROPERABILITY

The Base Station Repeater product has been tested for Trunked Interoperability. All test cases were passed except for those test cases identified below under Unsupported or Failed Test Cases.

P25 CAP FDMA Trunked Interoperability Testing Coverage

Full Registration, Group Voice Call, Group Call Interrupt, Individual (Unit to Unit) Voice Call, Broadcast Voice Call, Talkgroup Affiliation, Announcement Group Call, Emergency Alarm, Emergency Group Call, AES Encryption, Intra-Location Registration Area Roaming, Deregistration, Call Alert, Status Update, Radio Unit Monitoring (RUM) – Group, RUM – Individual, Radio Unit Inhibit/Un-Inhibit and Radio Check.

Unsupported or Failed Test Cases
- Test Cases for Individual Call without Target Availability Check (Test Case 2.2.3.4.5), Individual Call Queued without Target Availability Check (Test Case 2.2.3.4.6), Radio Unit Monitor (Test Cases 2.2.19.4.1, 2.2.19.4.2 and 2.2.19.4.3) are not supported; System Call, Short Message, Status Query are not supported.

Test Case Not Required (NR) by P25 CAP
- (2.2.3.4.4) Test Case 4 – Individual Call With TAC, Traffic Channel Assigned *before* TAC

P25 CAP TDMA Trunked Interoperability Testing Coverage

Full Registration, Group Voice Call, Group Call Interrupt, Individual Call, Broadcast Call, Announcement Group Call, Emergency Group Call, Encrypted Group Call, Radio Unit Monitoring and Transmitting Subscriber Forced Emergency Call Ruthless Preemption (2.2.26.4.2).

Unsupported or Failed Test Cases
- Transmitting Subscriber Forced Preemption (Test Case 2.2.26.4.1) and System Call are unsupported. Test Cases for Individual Call without Target Availability Check (Test Case 2.2.3.4.5), Individual Call Queued without Target Availability Check (Test Case 2.2.3.4.6), Radio Unit Monitor (Test Cases 2.2.19.4.1, 2.2.19.4.2 and 2.2.19.4.3) are also unsupported.

Test Case Not Required (NR) by P25 CAP
- (2.2.3.4.4) Test Case 4 – TDMA Individual Call With TAC, Traffic Channel Assigned *before* TAC

SIGNATURE AND DATE

8/24/2021 _____ Jagi Mohindel. _____

Date Signed | Vendor's Authorized Representative Signature

TAQI MOHIUDDIN

Vendor's Authorized Representative Printed Name

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