FCC TEST REPORT

For

Shenzhen Ysair Technology Co., LTD

Two Way Radio

Test Model: MetaTalk C5B

Prepared for	:	Shenzhen Ysair Technology Co., LTD
Address	:	Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	December 02, 2024
Number of tested samples	:	2
Serial number	:	Prototype
Date of Test	:	December 02, 2024 ~ April 14, 2025
Date of Report	:	April 16, 2025

FCC TEST REPORT
FCC CFR 47 PART 95

Report Reference No.	**:**	**LCSA12024361EA**
Date of Issue	:	April 16, 2025
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	**:**	**Shenzhen Ysair Technology Co., LTD**
Address	:	Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen
Test Specification		
Standard.....	:	FCC CFR 47 PART 95
Test Report Form No.....	**:**	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

EUT Description.	**:**	**Two Way Radio**
Trade Mark	:	RETEVIS
Test Model.....	:	MetaTalk C5B
Ratings	:	Please Refer to Page 6
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Jack Liu/ Administrator	Cary Luo/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCSA12024361EA	April 16, 2025 Date of issue

Test Model.....	:	MetaTalk C5B
EUT.....	:	Two Way Radio
Applicant.....	**:**	**Shenzhen Ysair Technology Co., LTD**
Address.....	:	Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen
Telephone.....	:	/
Fax.....	:	/
Manufacturer.....	**:**	**Shenzhen Retevis Technology Co., Ltd**
Address.....	:	7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China
Telephone.....	:	/
Fax.....	:	/
Factory.....	**:**	**/**
Address.....	:	/
Telephone.....	:	/
Fax.....	:	/

Test Result	**Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	April 16, 2025	Initial Issue	---

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Two Way Radio
Test Model	:	MetaTalk C5B
Battery	:	Charging base: Input : 5V⎓2000mA Output :7.4V⎓1500mA Type-C Charging Input: 5V⎓2A Battery: DC 7.4V, 1800mAh
Hardware Version	:	V1.4
Software Version	:	V230607
Frequency Range	:	462MHz Main channels: 462.5500-462.7250MHz 462MHz Interstitial channels: 462.5625-462.7125MHz 467MHz Main channels: 467.5500-467.7250MHz 467MHz Interstitial channels: 467.5625-467.7125MHz
Maximum Conducted Output Power	:	462MHz Main channels: 2W(High Power)/0.5W(Low Power) 462MHz Interstitial channels: 2W(High Power)/0.5W(Low Power) 467MHz Main channels: 2W(High Power)/0.5W(Low Power) 467MHz Interstitial channels: 0.5W(Low Power)
Channel Separation	:	Analog Voice :12.5KHz(467MHz Interstitial channels) Analog Voice : 12.5KHz&25KHz(462MHz Main channels&462MHz Interstitial channels&467MHz Main channels)
Channel Number	:	30 Channels
Modulation Type	:	FM for Analog Voice
Antenna Description	:	External, 2.0dBi (Max)
Sample/EUT Status	:	Good condition

1.2. Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Shenzhen Retevis Technology Co.,Ltd.	Charger	DC5B	---	FCC

1.3. External I/O Cable

I/O Port Description	Quantity	Cable
Antenna Port	1	N/A
Type-C Port	1	N/A

1.4. Description of Test Facility

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.5. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item	Uncertainty	Note
Frequency error	30 Hz	(1)
Transmitter power conducted	0.62 dB	(1)
Transmitter power Radiated	2.67 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.88 dB	(1)
Conducted Emission 9KHz-30MHz	1.63 dB	(1)
Radiated spurious emission 30~1000MHz	4.65 dB	(1)
Radiated spurious emission 1~18GHz	3.89 dB	(1)
Radiated spurious emission 18-40GHz	3.90 dB	(1)
Occupied Bandwidth	N/A	N/A
Emission Mask	N/A	N/A
Modulation Characteristic	N/A	N/A
Transmitter Frequency Behavior	N/A	N/A

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.7. Description of Test Modes

The EUT has been tested under typical operating condition. As, test modes selected as below by the technical parameters of the EUT:

Operation Mode	Modulation	Channel Separation	Condition
TM1	FM	12.5KHz bandwidth at minimum rated power(0.5W) for transmitter (467MHz Interstitial channels)	TX
TM2	FM	12.5KHz bandwidth at maximum rated power(2W) for transmitter (462MHz Main channels&462MHz Interstitial channels&467MHz Main channels)	TX
TM3	FM	12.5KHz bandwidth at minimum rated power (0.5W) for transmitter (462MHz Main channels&462MHz Interstitial channels&467MHz Main channels)	TX
TM4	FM	25KHz bandwidth at maximum rated power(2W) for transmitter (462MHz Main channels&462MHz Interstitial channels&467MHz Main channels)	TX
TM5	FM	25KHz bandwidth at minimum rated power (0.5W) for transmitter (462MHz Main channels&462MHz Interstitial channels&467MHz Main channels)	TX

Operation Frequency Detail:

Channel Type	Channel Number	Frequency(MHz)	Channel Type	Channel Number	Frequency (MHz)
462 MHz Main Channels	1	462.5500	**467 MHz Main Channels**	1	467.5500
	2	462.5750		2	467.5750
	3	462.6000		3	467.6000
	4	**462.6250**		4	**467.6250**
	5	462.6500		5	467.6500
	6	462.6750		6	467.6750
	7	462.7000		7	467.7000
	8	462.7250		8	467.7250
462 MHz interstitial channels	1	462.5625	**467 MHz interstitial channels**	1	467.5625
	2	462.5875		2	467.5875
	3	462.6125		3	467.6125
	4	**462.6375**		4	**467.6375**
	5	462.6625		5	467.6625
	6	462.6875		6	467.6875
	7	462.7125		7	467.7125

Note1: In section 15.31(m), regards to the operating frequency range less than 1MHz, only one point centered in the frequency range of operation selected to measure,the above frequencies in bold were performed the test

Note2: The EUT transmit on these 467MHz main channels only when communicating through a repeater station or making brief test transmissions in accordance with § 95.319(c), and which testing is compliant to this report and will do not cause interference to the communications of other stations.

2. TEST METHODOLOGY

2.1. TEST STANDARDS

The tests were performed according to following standards:
FCC Rules Part 95: PERSONAL RADIO SERVICES.
ANSI/TIA-603-E-2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS
ANSI C63.26: 2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
ANSI C63.4: 2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz.

2.2. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.3. EUT Exercise

The EUT has been tested under typical operating condition and The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.4. General Test Procedures

2.4.1 Conducted Emissions

N/A

2.4.2 Radiated Emissions

The EUT is placed on a turntable, which is directly placed on the ground. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10-2013

2.5. Test Sample

The application provides 1 samples to meet requirement;

Sample Number	Description
Sample 1	continuous transmit

3. SYSTEM TEST CONFIGURATION

3.1. Justification

The system was configured for testing in a continuous transmits condition.

3.2. EUT Exercise Software

N/ A

3.3. Special Accessories

N/ A

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

Applied Standard: FCC Part 95				
FCC Rules	Description of Test	Test Sample	Result	Remark
FCC Part 95.1771	GMRS Emission Types	Sample 1	Compliant	Note 3
FCC Part 95.1787	GMRS additional requirements	Sample 1	Compliant	Note 4
FCC Part 2.1046 FCC Part 95.1767	RF Output Power	Sample 1	Compliant	Note 1
FCC Part 2.1047 FCC Part 95.1775	Modulation Characteristic	Sample 1	Compliant	Note 1
FCC Part 2.1049 FCC Part 95.1773 FCC Part 95.1779	Authorized Bandwidth & Emission Mask	Sample 1	Compliant	Note 1
FCC Part 2.1049 , FCC Part 95.1779	Conducted Spurious at Antenna Terminals	Sample 1	Compliant	Note 1
FCC Part 2.1053 FCC Part 95.1779	Spurious Radiated Emissions	Sample 1	Compliant	Note 1
FCC Part 2.1055(d) FCC Part 95.1765	GMRS Frequency Accuracy	Sample 1	Compliant	Note 1
FCC Part 2.1093	RF Exposure	Sample 1	Compliant	Note 2

Remark:
1. Note 1 – Test results inside test report;
2. Note 2 –Test results in other test report (SAR Report);
3. Note 3 – Emission type is F3E;
4. Note 4 –The product has not digital data transmissions function.
5. The product has a detachable antenna.

5. MEASUREMENT RESULTS

5.1. RF OUTPUT POWER

Applicable Standard

Per FCC §2.1046, and §95.1767, this section contains transmitting power limits for GMRS stations. The maximum transmitting power depends on which channels are being used and the type of station.

(a) 462/467 MHz main channels. The limits in this paragraph apply to stations transmitting on any of the 462 MHz main channels or any of the 467 MHz main channels. Each GMRS transmitter type must be capable of operating within the allowable power range. GMRS licensees are responsible for ensuring that their GMRS stations operate in compliance with these limits.

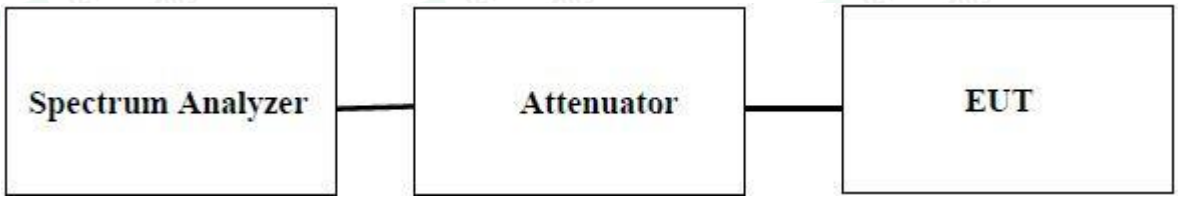
(1) The transmitter output power of mobile, repeater and base stations must not exceed 50 Watts.
(2) The transmitter output power of fixed stations must not exceed 15 Watts.

(b) 462 MHz interstitial channels. The effective radiated power (ERP) of mobile, hand-held portable and base stations transmitting on the 462 MHz interstitial channels must not exceed 5 Watts.

(c) 467 MHz interstitial channels. The effective radiated power (ERP) of hand-held portable units transmitting on the 467 MHz interstitial channels must not exceed 0.5 Watt. Each GMRS transmitter type capable of transmitting on these channels must be designed such that the ERP does not exceed 0.5 Watt.

Test Procedure

C63.26-2015, Clause 5.2.3.3



The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Set the RBW ≥ OBW.

Set VBW ≥ 3 × RBW.

Set span ≥ 2 × OBW.

Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period).

Detector = peak.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the peak amplitude level.

Test Data

Environmental Conditions

Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

Test Result: Compliant

Please refer to the following tables and plots.

12.5KHz(High Power/Low Power)

Test Bands	Test Frequency (MHz)	Conducted Output power (dBm)	Conducted Output Power Limit (dBm)	ERP (dBm)	ERP Limit (dBm)
462 MHz Main (12.5KHz High)	462.625	31.502	≤47.00	31.352	/
462 MHz interstitial (12.5KHz High)	462.6375	31.498	/	31.348	≤37.00
467 MHz Main (12.5KHz High)	467.625	31.683	≤47.00	31.533	/
462 MHz Main (12.5KHz Low)	462.625	26.665	≤47.00	26.515	/
462 MHz interstitial (12.5KHz Low)	462.6375	26.686	/	26.536	≤37.00
467 MHz Main (12.5KHz Low)	467.625	26.540	≤47.00	26.390	/
ERP=Conducted Output Power+ Antenna Gain(dBd) Antenna gain=2.0dBi=-0.15dBd (0dBi=-2.15dBd)					

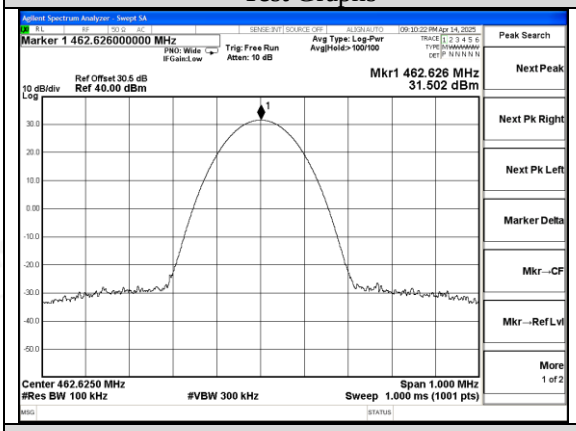
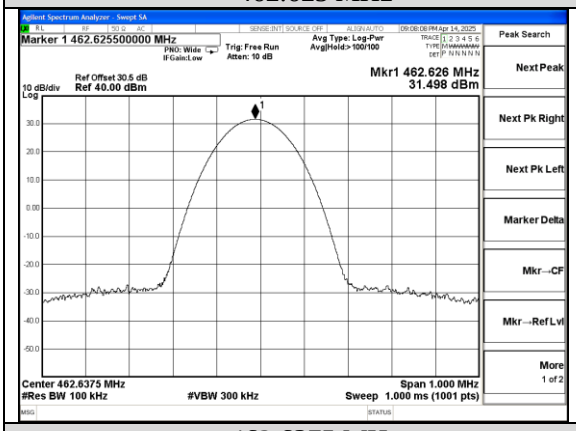
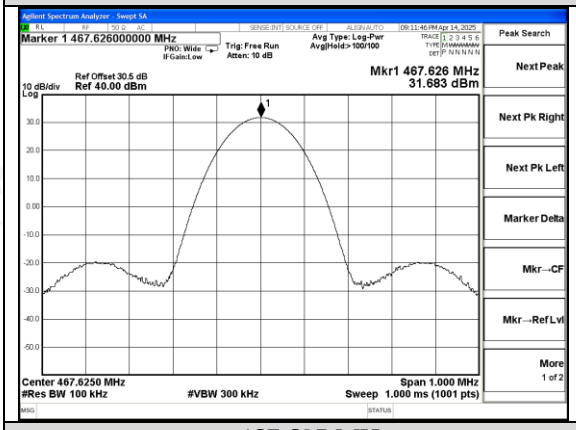
25KHz(High Power/Low Power)

Test Bands	Test Frequency (MHz)	Conducted Output power (dBm)	Conducted Output Power Limit (dBm)	ERP (dBm)	ERP Limit (dBm)
462 MHz Main (25KHz High)	462.625	31.601	≤47.00	31.451	/
462 MHz interstitial (25KHz High)	462.6375	31.543	/	31.393	≤37.00
467 MHz Main (25KHz High)	467.625	31.565	≤47.00	31.415	/
462 MHz Main (25KHz Low)	462.625	26.475	≤47.00	26.325	/
462 MHz interstitial (25KHz Low)	462.6375	26.775	/	26.625	≤37.00
467 MHz Main (25KHz Low)	467.625	26.660	≤47.00	26.510	/
ERP=Conducted Output Power+ Antenna Gain(dBd) Antenna gain=2.0dBi=-0.15dBd (0dBi=-2.15dBd)					

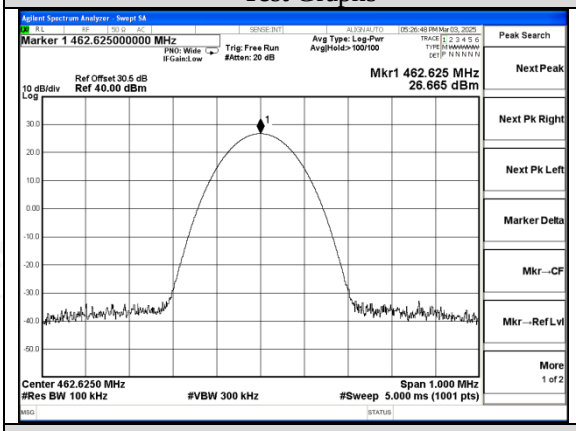
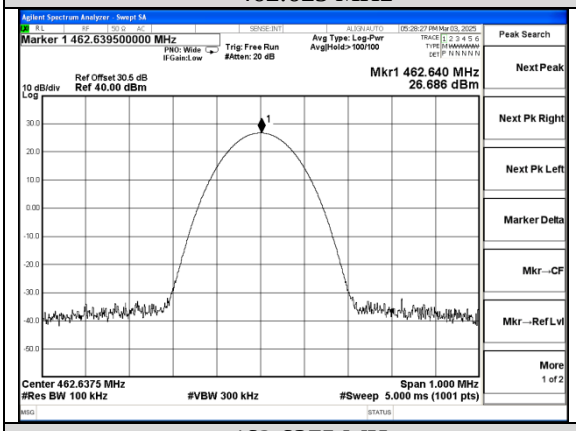
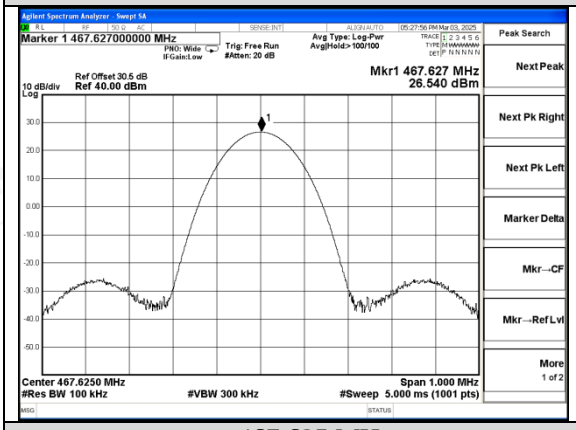
12.5KHz(Low Power)

Test Bands	Test Frequency (MHz)	Conducted Output power (dBm)	Conducted Output Power Limit (dBm)	ERP (dBm)	ERP Limit (dBm)
467 MHz interstitial	467.6375	26.690	/	26.540	≤27.00
ERP=Conducted Output Power+ Antenna Gain(dBd) Antenna gain=2.0dBi=-0.15dBd (0dBi=-2.15dBd)					

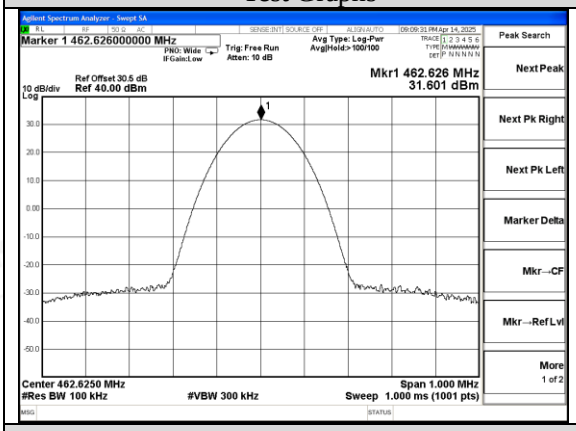
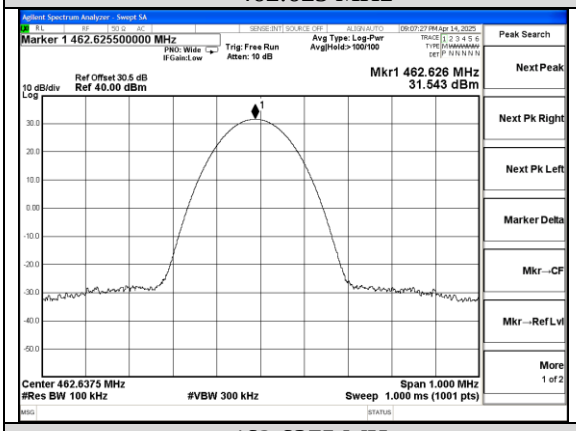
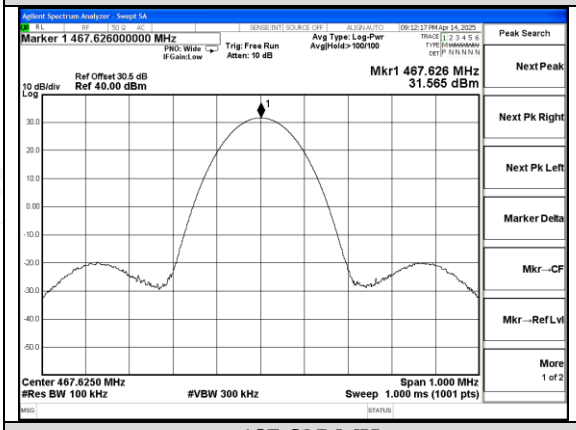
12.5KHz(High Power)

Test Graphs

462.625 MHz

462.6375 MHz

467.625 MHz

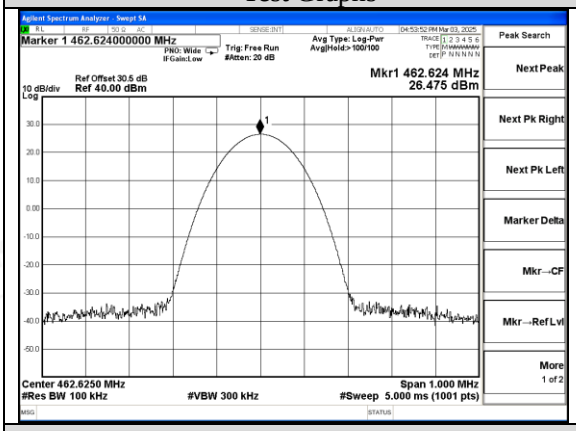
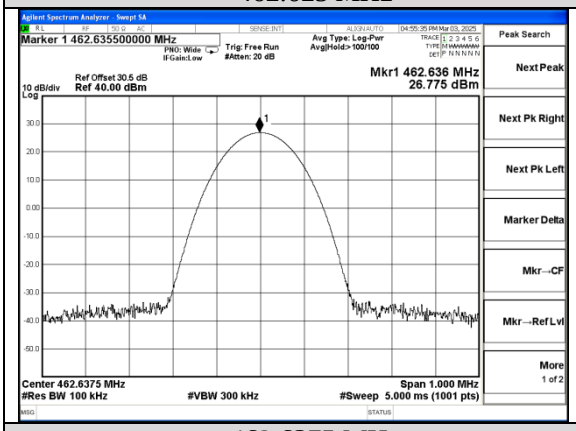
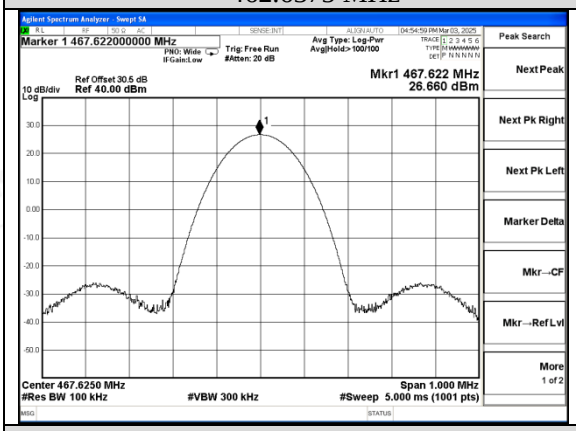
12.5KHz(Low Power)

Test Graphs

462.625 MHz

462.6375 MHz

467.625 MHz

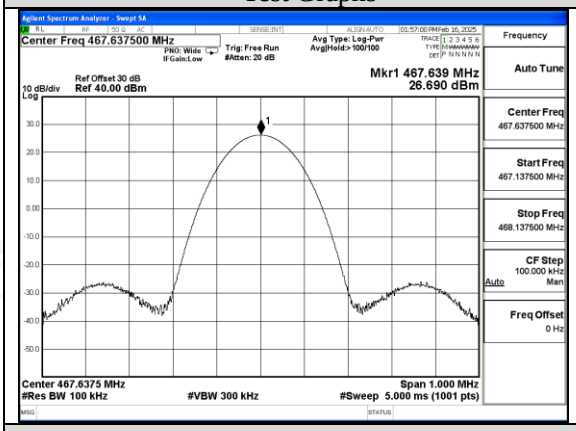
25KHz(High Power)

Test Graphs

462.625 MHz

462.6375 MHz

467.625 MHz

25KHz(Low Power)

Test Graphs

462.625 MHz

462.6375 MHz

467.625 MHz

12.5KHz(Low Power)

Test Graphs

467.6375

5.2. MODULATION CHARACTERISTIC

Applicable Standard

Per FCC §2.1047 and §95.1775: Each GMRS transmitter type must be designed to satisfy the modulation requirements in this section. Operation of GMRS stations must also be in compliance with these requirements.

(a) Main channels. The peak frequency deviation for emissions to be transmitted on the main channels must not exceed ± 5 kHz.

(b) 462 MHz interstitial channels. The peak frequency deviation for emissions to be transmitted on the 462 MHz interstitial channels must not exceed ± 5 kHz.

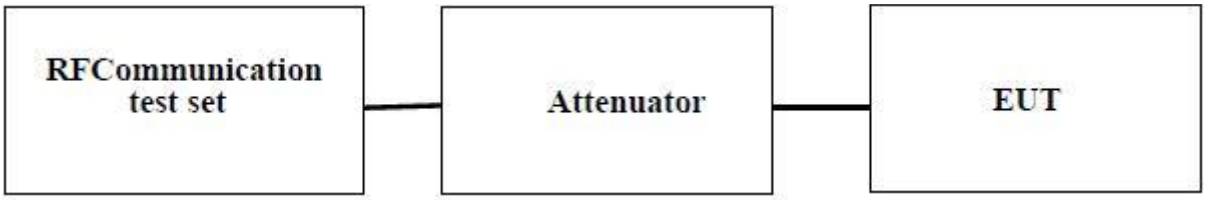
(c) 467 MHz interstitial channels. The peak frequency deviation for emissions to be transmitted on the 467 MHz interstitial channels must not exceed ± 2.5 kHz, and the highest audio frequency contributing substantially to modulation must not exceed 3.125 kHz.

(d) Over modulation. Each GMRS transmitter type, except for a mobile station transmitter type with a transmitter power output of 2.5 W or less, must automatically prevent a higher than normal audio level from causing over modulation.

(e) Audio filter. Each GMRS transmitter type must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of §95.1779 (without filtering).

(1) The filter must be between the modulation limiter and the modulated stage of the transmitter.
(2) At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least 60 log (f/3) dB more than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB more than the attenuation at 1 kHz.

Test Procedure
EUT Setup Block Diagram



Test Method: C63.26-2015, Clause 5.3.2 and Clause 5.3.3.2

Test Data
Environmental Conditions

Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

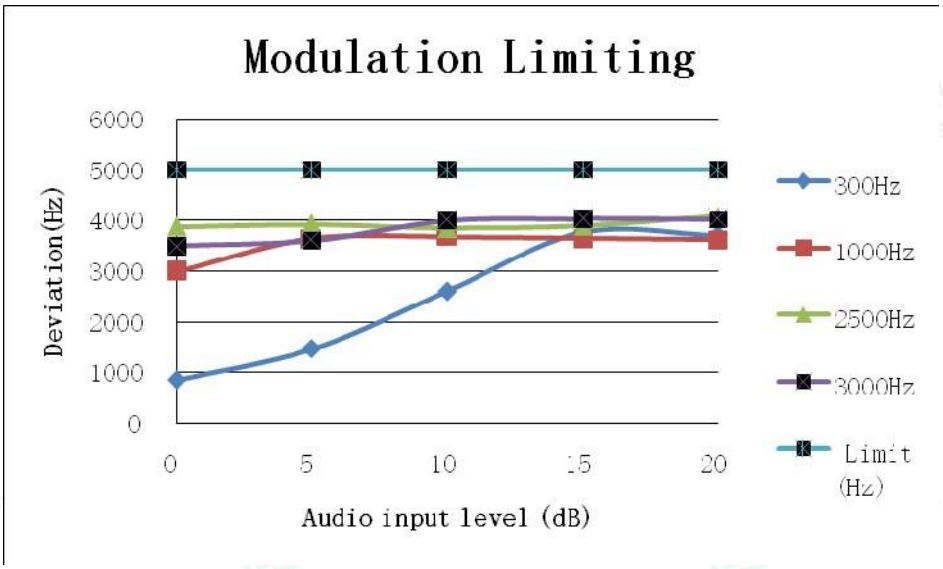
Test Result: Compliant
Please refer to the following tables and plots.

MODULATION LIMITING

Carrier Frequency: 462.625MHz

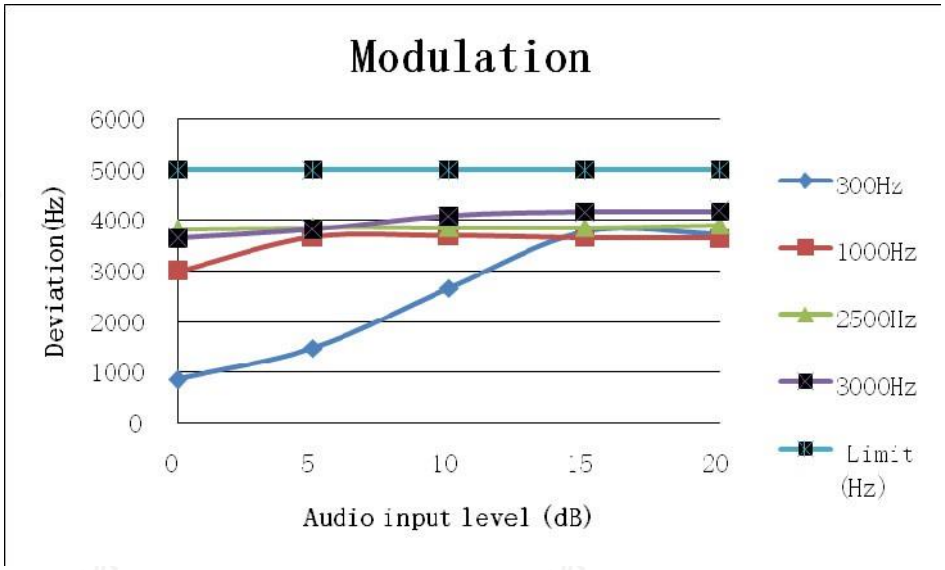
Peak+ deviation

Audio input level (dB)	Deviation (Hz)				Limit (Hz)
	300Hz	1000Hz	2500Hz	3000Hz	
20	3710	3624	4089	4023	5000
15	3776	3646	3890	4035	5000
10	2609	3679	3846	4008	5000
5	1472	3643	3927	3603	5000
0	867	3000	3883	3504	5000



Peak- deviation

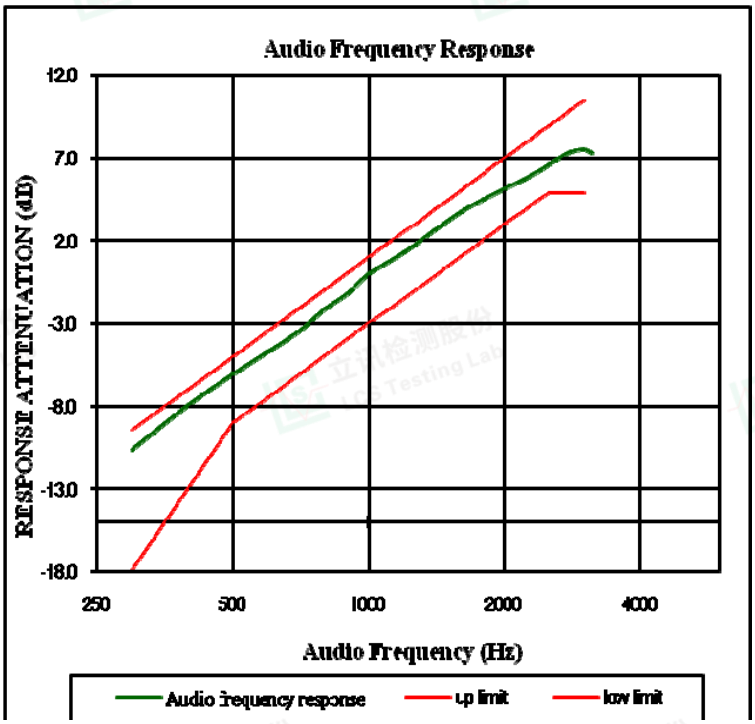
Audio input level (dB)	Deviation (Hz)				Limit (Hz)
	300Hz	1000Hz	2500Hz	3000Hz	
20	3726	3654	3913	4172	5000
15	3779	3663	3859	4167	5000
10	2666	3690	3852	4094	5000
5	1485	3670	3860	3813	5000
0	867	3000	3828	3643	5000



Audio Frequency Response

Carrier Frequency: 462.625MHz

Audio Frequency (Hz)	Response (dB)
300	-10.63
400	-7.87
500	-6.09
600	-4.76
700	-3.47
800	-2.14
900	-1.17
1000	0.00
1200	1.34
1400	2.65
1600	3.76
1800	4.51
2000	5.16
2200	5.74
2400	6.30
2600	6.92
2800	7.34
3000	7.54
3125	7.35

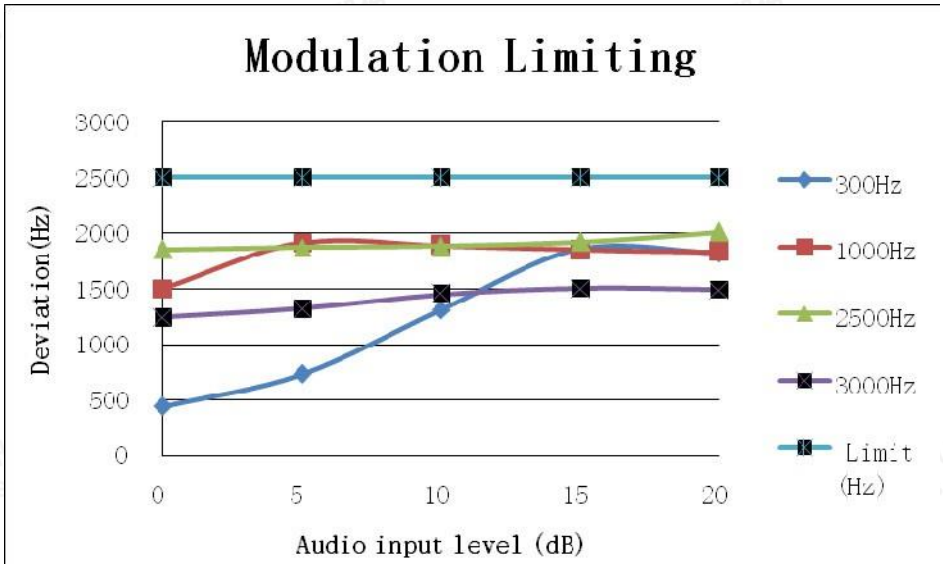

Audio Frequency Response
12.0
7.0
2.0
-3.0
-8.0
-13.0
-18.0
RESPONSE ATTENUATION (dB)
250
500
1000
2000
4000
Audio Frequency (Hz)
Audio frequency response
up limit
low limit

MODULATION LIMITING

Carrier Frequency: 467.6375MHz

Peak+ deviation

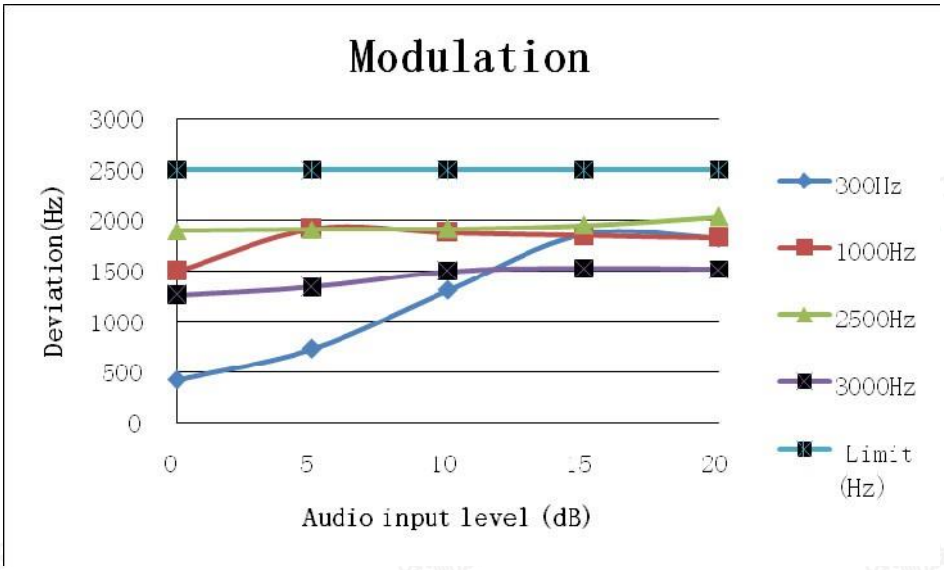
Audio input level (dB)	Deviation (Hz)				Limit (Hz)
	300Hz	1000Hz	2500Hz	3000Hz	
20	1820	1834	2014	1493	2500
15	1858	1846	1925	1501	2500
10	1311	1893	1882	1450	2500
5	732	1914	1870	1326	2500
0	439	1500	1852	1245	2500



Carrier Frequency: 467.6375MHz

Peak- deviation

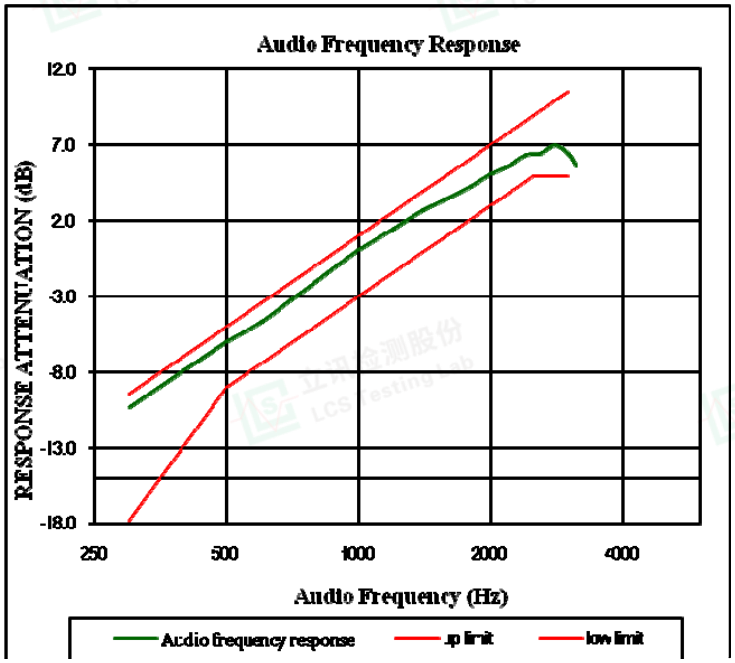
Audio input level (dB)	Deviation (Hz)				Limit (Hz)
	300Hz	1000Hz	2500Hz	3000Hz	
20	1825	1832	2036	1517	2500
15	1863	1847	1954	1526	2500
10	1312	1881	1917	1503	2500
5	739	1917	1910	1341	2500
0	434	1500	1900	1268	2500



Audio Frequency Response

Carrier Frequency: 467.6375MHz

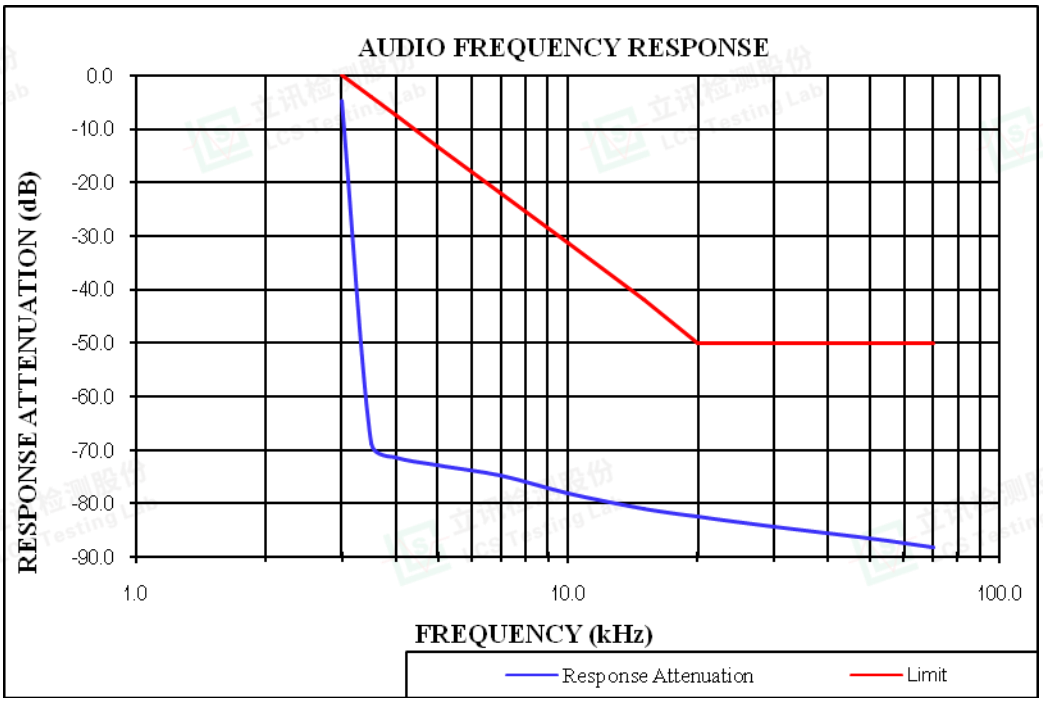
Audio Frequency (Hz)	Response (dB)
300	-10.28
400	-7.91
500	-6.06
600	-4.70
700	-3.27
800	-2.06
900	-0.88
1000	0.00
1200	1.48
1400	2.67
1600	3.45
1800	4.26
2000	5.01
2200	5.59
2400	6.34
2600	6.45
2800	6.95
3000	6.33
3125	5.57


Audio Frequency Response
RESPONSE ATTENUATION (dB)
12.0
7.0
2.0
-3.0
-8.0
-13.0
-18.0
250
500
1000
2000
4000
Audio Frequency (Hz)
Audio frequency response
up limit
low limit

Audio Low Pass Filter Response

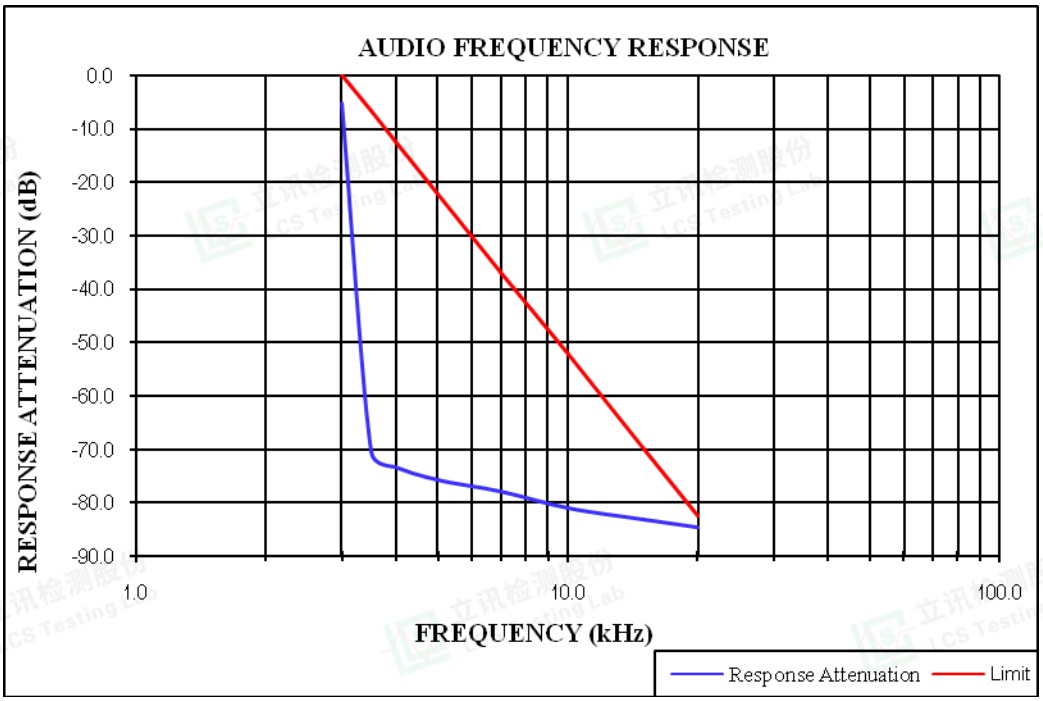
Carrier Frequency: 462.6250 MHz

Audio Frequency	Response Attenuation	Limit
kHz	dB	dB
3.0	-4.6	0
3.5	-68.8	-4.1
4.0	-71.4	-7.6
5.0	-72.8	-13.4
7.0	-74.7	-22.1
10.0	-78.5	-31.5
15.0	-80.6	-41.8
20.0	-82.4	-50.1
30.0	-84.2	-50.1
50.0	-86.9	-50.1
70.0	-88.4	-50.1



Carrier Frequency: 467.6375 MHz

Audio Frequency	Response Attenuation	Limit
kHz	dB	dB
3.0	-5.4	0.0
3.5	-70.6	-6.8
4.0	-73.4	-12.4
5.0	-75.7	-22.2
7.0	-77.8	-36.5
10.0	-81.2	-52.7
15.0	-83.3	-69.8
20.0	-84.9	-82.4



5.3. AUTHOURIZED BANDWIDTH AND EMISSION MASK

According to §95.1773. Each GMRS transmitter type must be designed such that the occupied bandwidth does not exceed the authorized bandwidth for the channels used. Operation of GMRS stations must also be in compliance with these requirements.

(a) Main channels. The authorized bandwidth is 20 kHz for GMRS transmitters operating on any of the 462 MHz main channels (see § 95.1763(a)) or any of the 467 MHz main channels (see § 95.1763(c)).

(b) Interstitial channels. The authorized bandwidth is 20 kHz for GMRS transmitters operating on any of the 462 MHz interstitial channels (see § 95.1763(b)) and is 12.5 kHz for GMRS transmitters operating on any of the 467 MHz interstitial channels (see § 95.1763(d)).

(c) Digital data transmissions. Digital data transmissions are limited to the 462 MHz main channels and interstitial channels in the 462 MHz and 467 MHz bands.

According to §95.1779. Each GMRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

(a) Emission masks. Emission masks applicable to transmitting equipment in the GMRS are defined by the requirements in the following table. The numbers in the attenuation requirements column refer to rule paragraph numbers under paragraph (b) of this section.

Emission types filter	Attenuation requirements
A1D, A3E, F1D, G1D, F2D, F3E, G3E with audio filter	(1), (2), (7)
A1D, A3E, F1D, G1D, F3E, G3E without audio filter	(3), (4), (7)
H1D, J1D, R1D, H3E, J3E, R2E	(5), (6), (7)

(1) Filtering noted for GMRS transmitters refers to the requirement in § 95.1775(e).
(2) Unwanted emission power may be measured as either mean power or peak envelope power, provided that the transmitter output power is measured the same way.

(b) Attenuation requirements. The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:

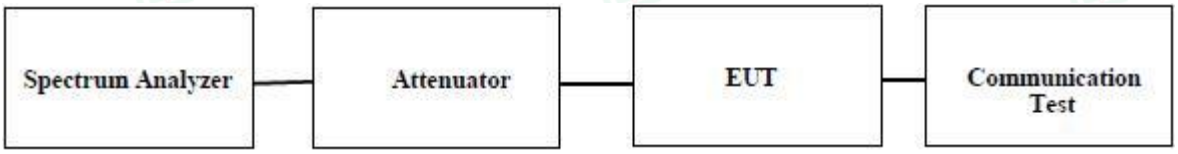
(1) 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.
(2) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.
(3) 83 log (fd ÷ 5) dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5 kHz up to and including 10 kHz.
116 log (fd ÷ 6.1) dB or 50 + 10 log (P) dB, whichever is the lesser attenuation, on any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz), of more than 10 kHz up to and including 250% of the authorized bandwidth.
(4) 25 dB on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 150% of the authorized bandwidth.
(5) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 150% up

to and including 250% of the authorized bandwidth.
(6) 43 + 10 log (P) dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

(c) Measurement bandwidths. The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency range specified in paragraph (b)(5) of this section is measured with a reference bandwidth of at least 30 kHz.

Test Procedure

C63.26-2015, Clause 5.4.4



Test Data

Environmental Conditions

Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

Test Result: Compliant

Please refer to the following tables and plots.

25KHz(High Power)

Test Bands	Test Frequency (MHz)	99% Occupied Bandwidth (kHz)	Limit (kHz)
462 MHz Main	462.625	17.843	≤20
462 MHz interstitial	462.6375	18.152	≤20
467 MHz Main	467.625	17.851	≤20

12.5KHz(High Power)

Test Bands	Test Frequency (MHz)	99% Occupied Bandwidth (kHz)	Limit (kHz)
462 MHz Main	462.625	9.694	≤20
462 MHz interstitial	462.6375	9.730	≤20
467 MHz Main	467.625	9.731	≤20

12.5KHz(Low Power)

Test Bands	Test Frequency (MHz)	99% Occupied Bandwidth (kHz)	Limit (kHz)
467 MHz interstitial	467.6375	8.356	≤12.5

Emission Designator Per CFR 47 §2.201& §2.202&, Bn = 2M + 2D:

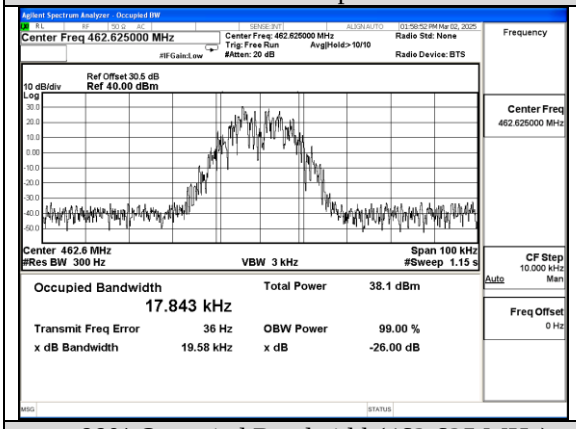
Emission Designator 11K0F3E
In this case, the maximum modulating frequency is 3.0 kHz with a 2.5 kHz deviation. BW = 2(M+D) = 2*(3.0 kHz + 2.5 kHz) = 11 kHz → 11K0
F3E portion of the designator represents an FM voice transmission Therefore, the entire designator for 12.5 kHz channel spacing FM mode is 11K0F3E.

Emission Designator 16K0F3E
In this case, the maximum modulating frequency is 3.0 kHz with a 5.0 kHz deviation. BW = 2(M+D) = 2*(3.0 kHz + 5.0 kHz) = 16 kHz → 16K0
F3E portion of the designator represents an FM voice transmission Therefore, the entire designator for 12.5 kHz channel spacing FM mode is 16K0F3E.

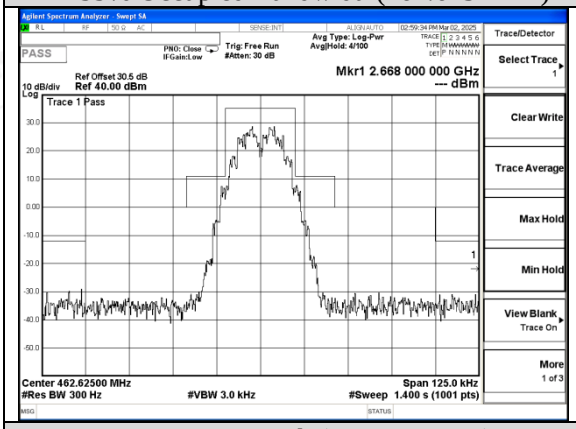
Emission Mask test was according to Attenuation requirements (1), (2), (7), low pass filter is required. Please refer to the below Plots.

25KHz(High Power)

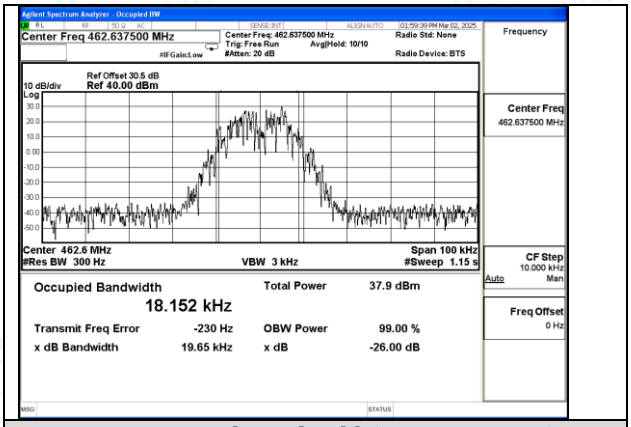
Test Graphs



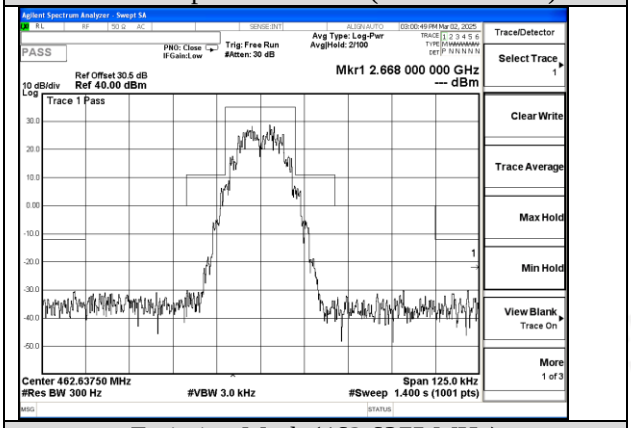
99% Occupied Bandwidth(462.625 MHz)



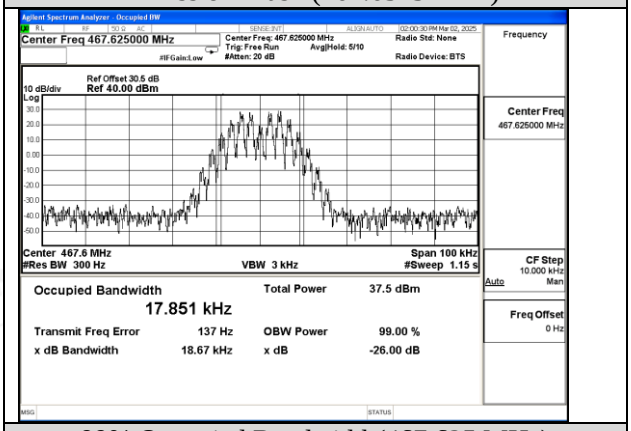
Emission Mask (462.625 MHz)



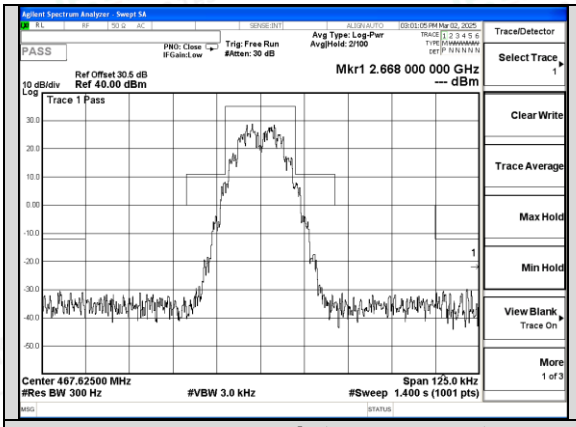
99% Occupied Bandwidth(462.6375 MHz)



Emission Mask (462.6375 MHz)

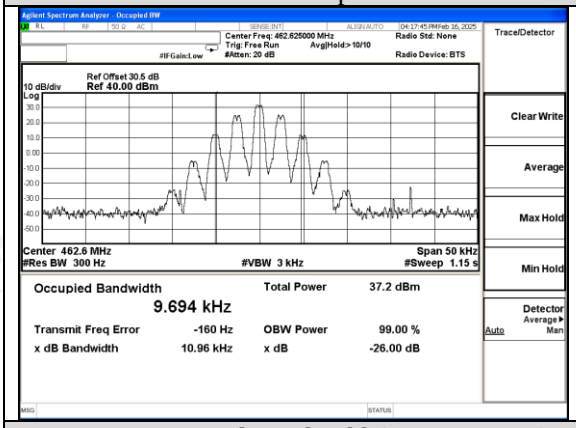
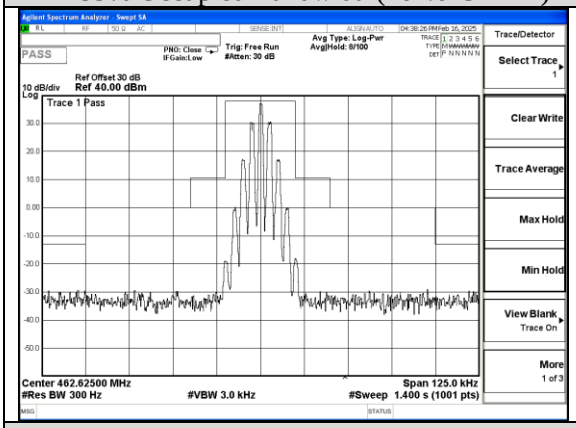
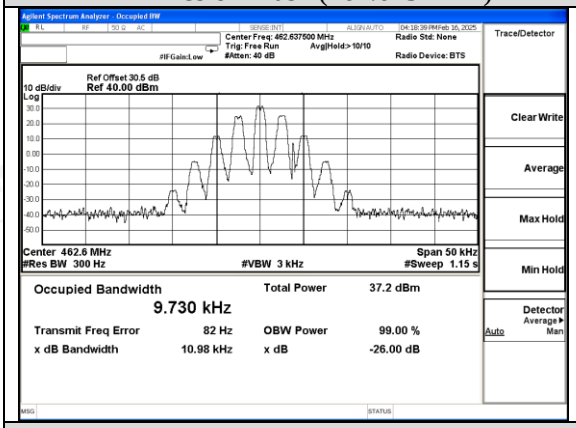


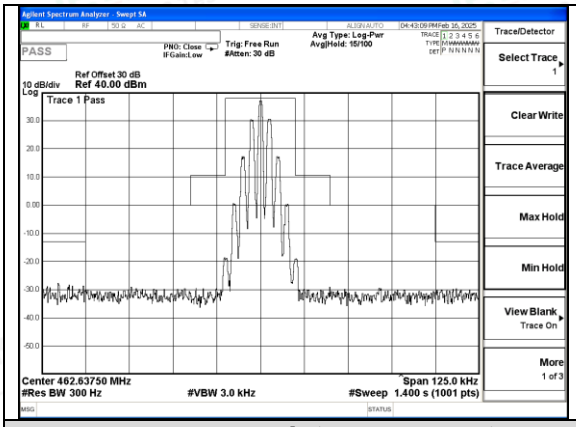
99% Occupied Bandwidth(467.625 MHz)



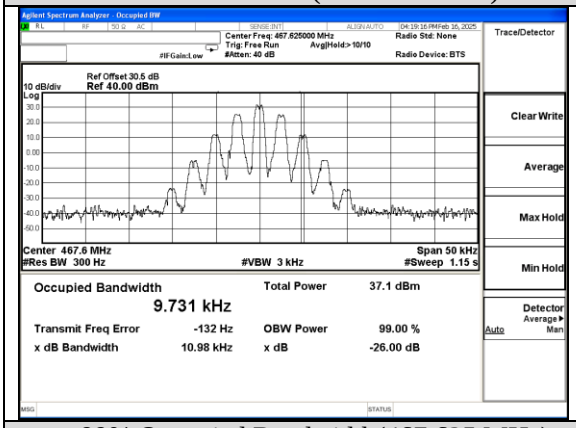
Emission Mask (467.625 MHz)

12.5KHz(High Power)

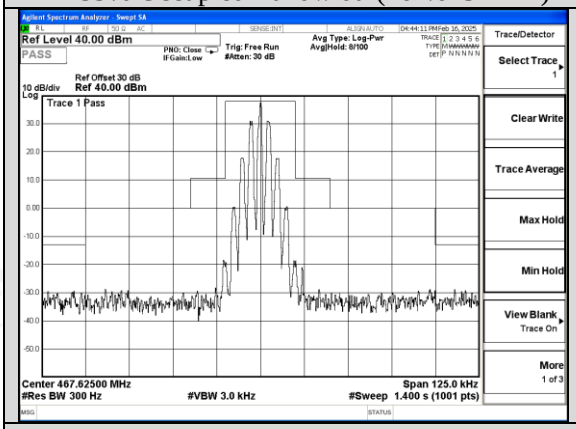
Test Graphs

99% Occupied Bandwidth(462.625 MHz)

Emission Mask (462.625 MHz)

99% Occupied Bandwidth(462.6375 MHz)



Emission Mask (462.6375 MHz)

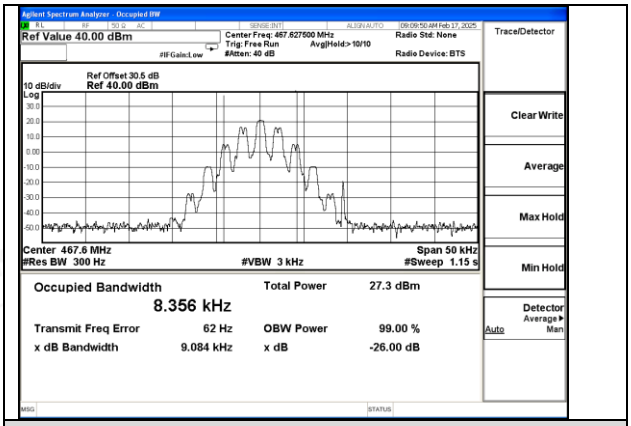


99% Occupied Bandwidth(467.625 MHz)

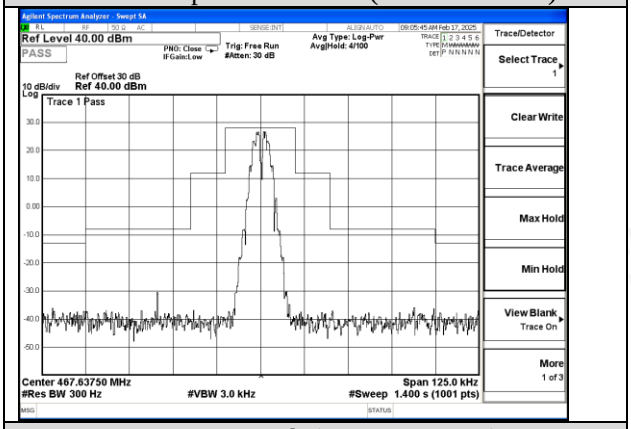


Emission Mask (467.625 MHz)

12.5KHz(Low Power)



99% Occupied Bandwidth(467.6375 MHz)



Emission Mask (467.6375 MHz)

Note:Low Power and High Power were tested,the report only recorded the worst of High Power.

5.4. CONDUCTED SPURIOUS AT ANTENNA TERMINAS

FCC §95.1779. Each GMRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

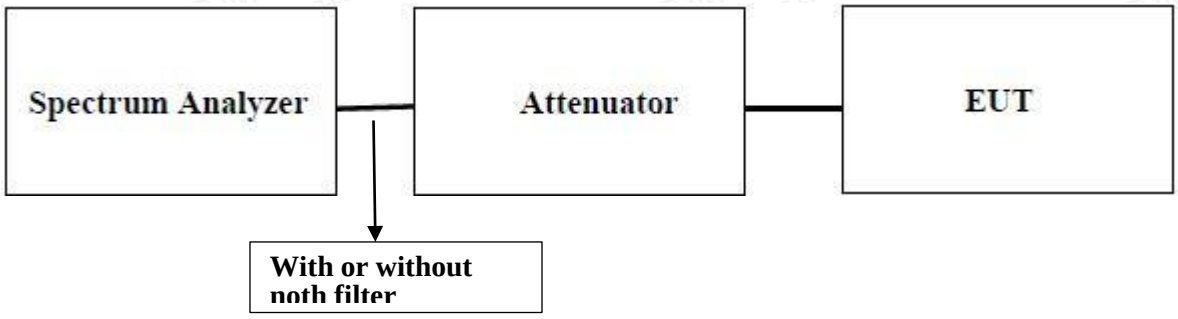
(b) ***Attenuation requirements.*** The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:
(1) 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.
(2) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.
(3) 83 log ($f_d \div 5$) dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz up to and including 10 kHz.
(4) 116 log ($f_d \div 6.1$) dB or 50 + 10 log (P) dB, whichever is the lesser attenuation, on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz), of more than 10 kHz up to and including 250% of the authorized bandwidth.
(5) 25 dB on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 150% of the authorized bandwidth.
(6) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 150% up to and including 250% of the authorized bandwidth.
(7) 43 + 10 log (P) dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

(d) ***Measurement bandwidths.*** The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency range specified in paragraph (b)(5) of this section is measured with a reference bandwidth of at least 30 kHz.

(e)
(d) ***Measurement conditions.*** The requirements in this section apply to each GMRS transmitter type both with and without the connection of permitted attachments, such as an external speaker, microphone, power cord and/or antenna.

Test Procedure

C63.26-2015, Clause 5.7.4



Test Data

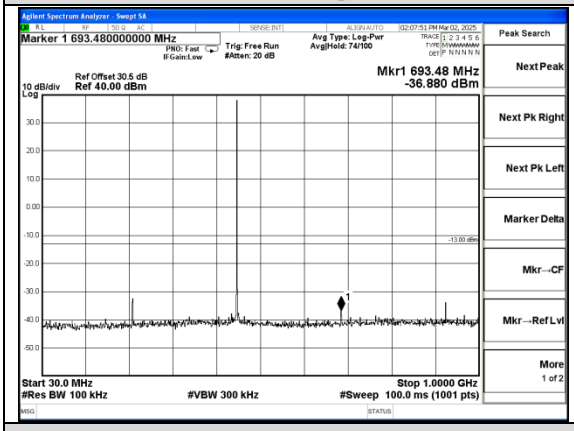
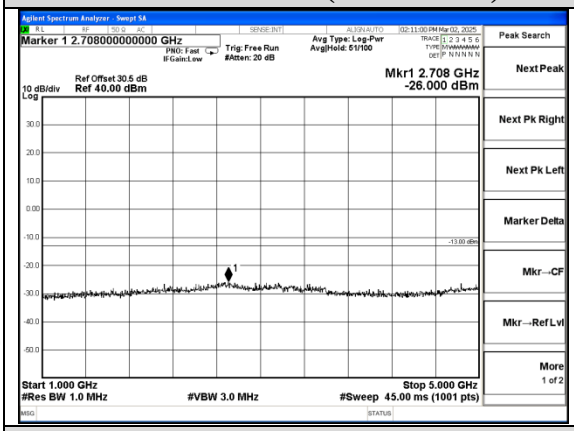
Environmental Conditions

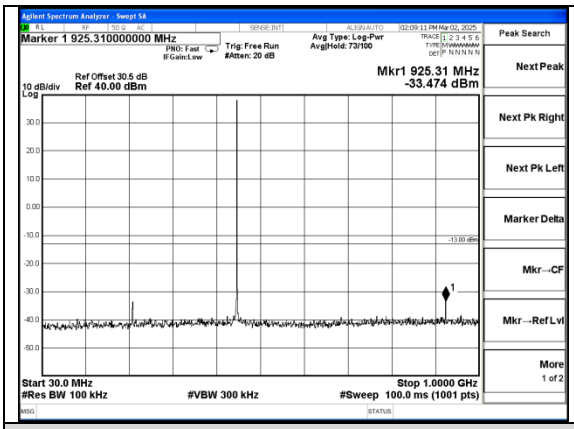
Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

Test Result: Compliant

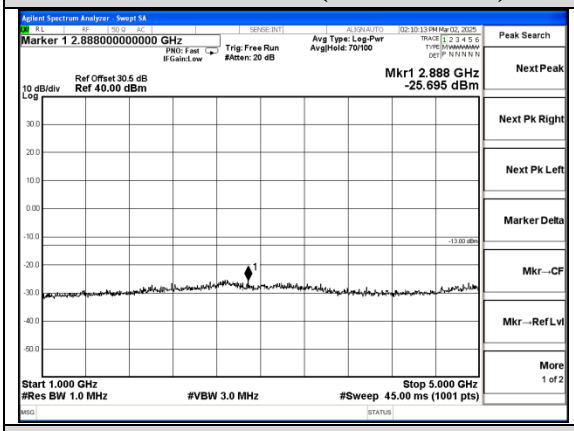
Please refer to the plots.

25KHz(High Power)

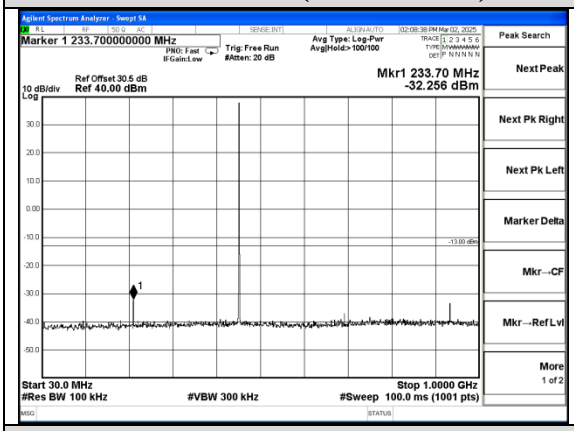
Test Graphs

30 MHz – 1GHz (462.625 MHz)

1GHz -5GHz (462.625 MHz)



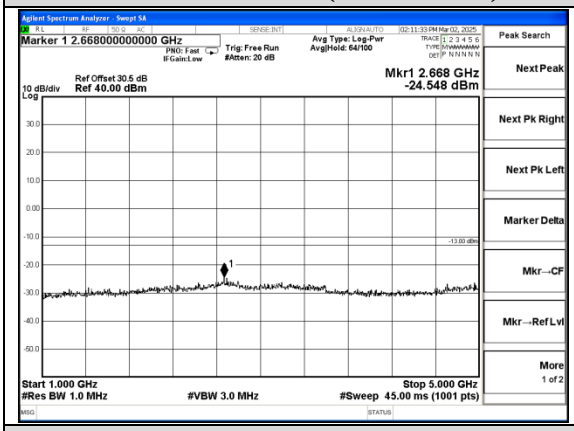
30 MHz – 1GHz (462.6375 MHz)



1GHz -5GHz (462.6375 MHz)

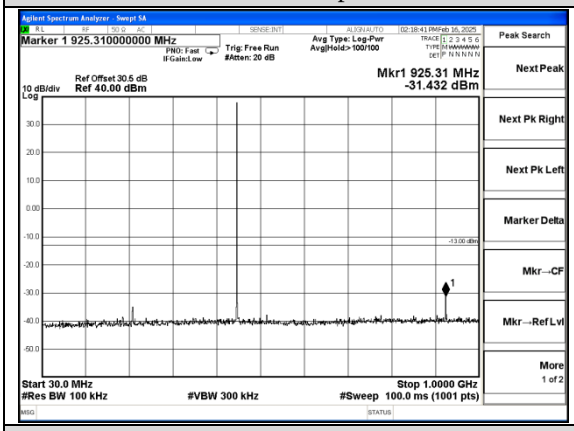
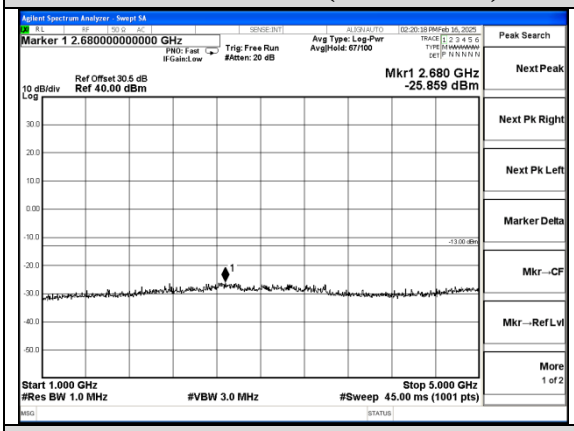
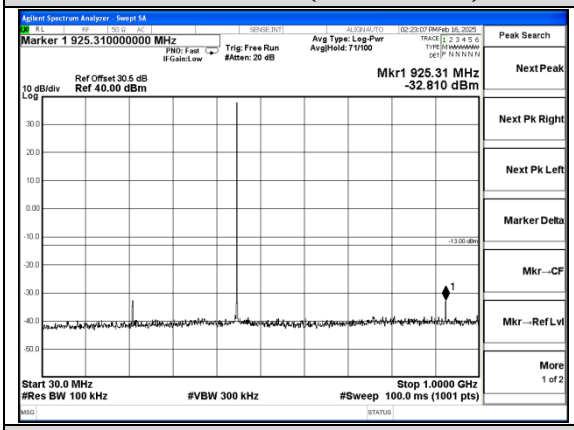


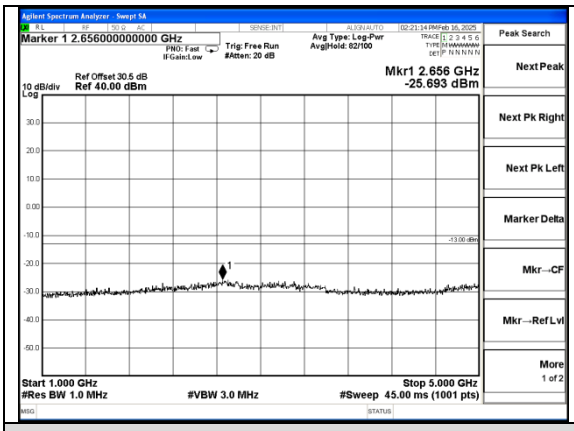
30 MHz – 1GHz (467.625 MHz)



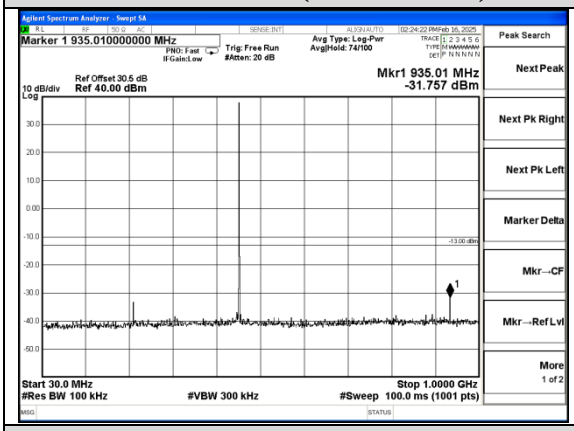
1GHz -5GHz (467.625 MHz)

12.5KHz(High Power)

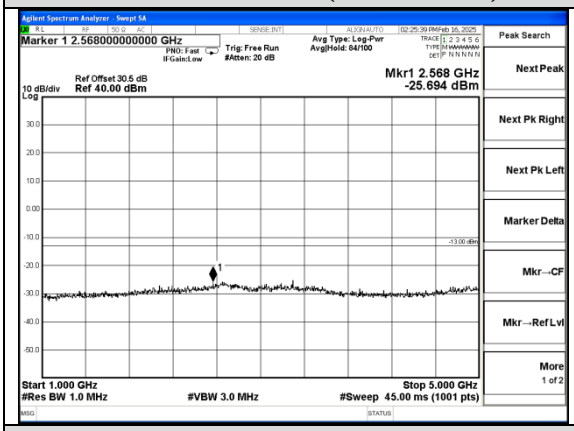
Test Graphs

30 MHz – 1GHz (462.625 MHz)

1GHz -5GHz (462.625 MHz)

30 MHz – 1GHz (462.6375 MHz)



1GHz -5GHz (462.6375 MHz)

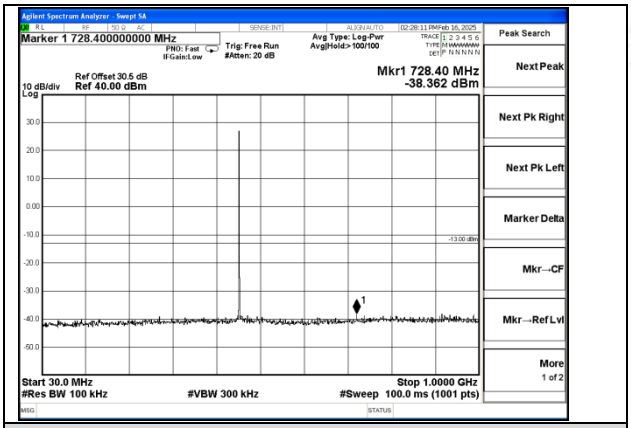


30 MHz – 1GHz (467.625 MHz)

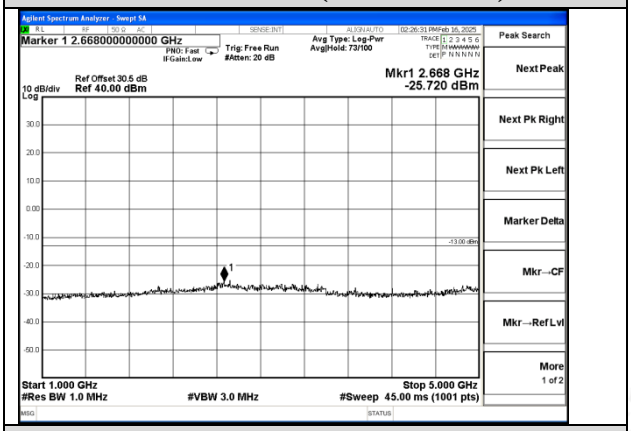


1GHz -5GHz (467.625 MHz)

12.5KHz(Low Power)



30 MHz – 1GHz (467.6375 MHz)



1GHz -5GHz (467.6375 MHz)

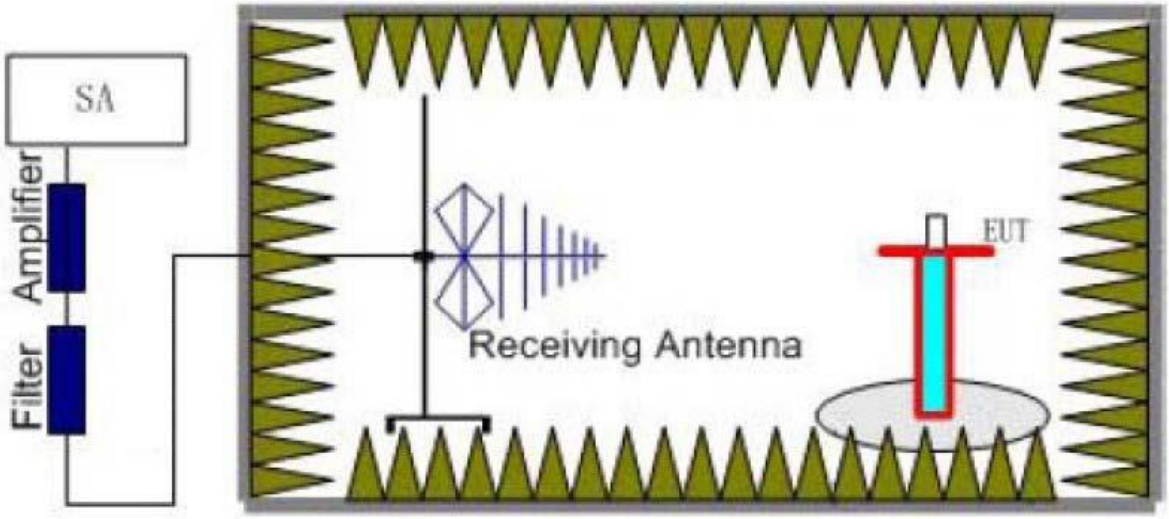
Note:Low Power and High Power were tested,the report only recorded the worst of High Power.

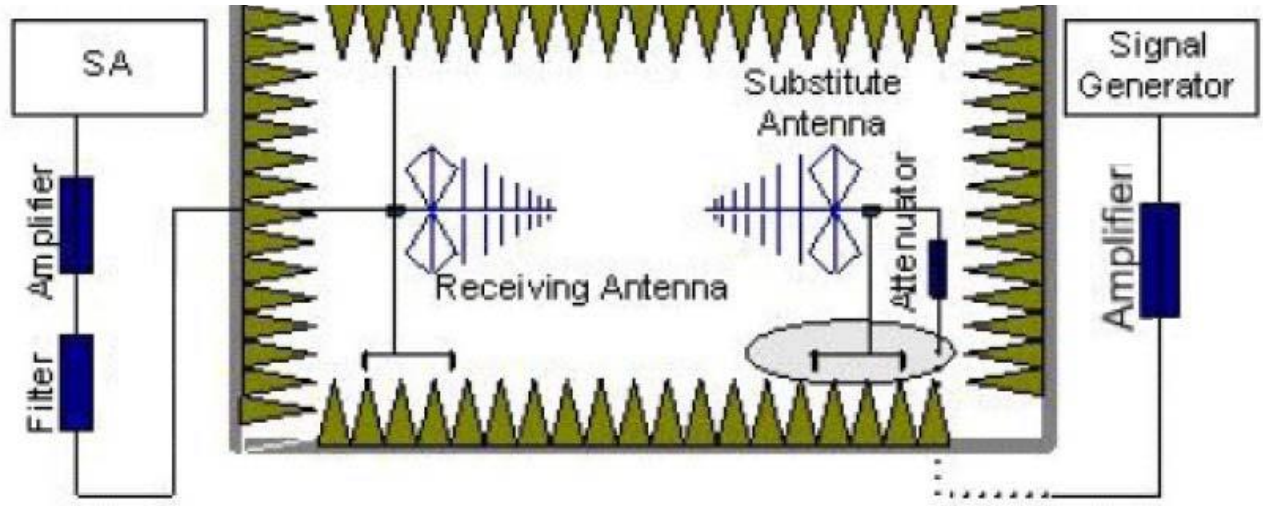
5.5. RADIATED SPURIOUS EMISSION

FCC §95.1779. Each GMRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

(b) ***Attenuation requirements.*** The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) by at least:
(1) 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.
(2) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.
(3) 83 log ($f_d \div 5$) dB on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz up to and including 10 kHz.
(4) 116 log ($f_d \div 6.1$) dB or 50 + 10 log (P) dB, whichever is the lesser attenuation, on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz), of more than 10 kHz up to and including 250% of the authorized bandwidth.
(5) 25 dB on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 150% of the authorized bandwidth.
(6) 35 dB on any frequency removed from the center of the authorized bandwidth by more than 150% up to and including 250% of the authorized bandwidth.
(7) 43 + 10 log (P) dB on any frequency removed from the center of the authorized bandwidth by more than 250%.
(c) ***Measurement bandwidths.*** The power of unwanted emissions in the frequency bands specified in paragraphs (b)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency range specified in paragraph (b)(5) of this section is measured with a reference bandwidth of at least 30 kHz.
(d) ***Measurement conditions.*** The requirements in this section apply to each GMRS transmitter type both with and without the connection of permitted attachments, such as an external speaker, microphone, power cord and/or antenna.

Test Procedure





a. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization.
The radiated emission measurements of all test transmit frequencies were measured with peak detector.
b. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
c. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum 100 kHz below 1GHz and 1MHz above 1GHz, Sweep from 30MHz to the 10th harmonic of the fundamental frequency; and recorded the level of the concerned spurious emission point as (Pr).
d. The EUT then replaced by a substitution antenna. In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
The measurement results are obtained as described below:
Power (EIRP) = PMea - Pcl + Ga
Where;
PMea is the recorded signal generator level
Pcl is the cable loss connect between instruments
Ga Substitution Antenna Gain
e. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dBi) and known input power.
f. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.
g. Test site anechoic chamber refer to ANSI C63.10.

Test Data

Environmental Conditions

Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

Test Mode: Transmitting (Un-modulation)

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Y-axis of orientation was recorded.

25KHz(High Power)

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
462.625	925.25	-29.61	3.54	3.00	12.87	-20.28	-13.00	7.28	V
	1387.875	-33.61	4.21	3.00	15.48	-22.34	-13.00	9.34	V
	1850.5	-37.39	4.52	3.00	17.32	-24.59	-13.00	11.59	V
	2313.125	-40.18	5.24	3.00	18.76	-26.66	-13.00	13.66	V
462.625	925.25	-35.25	3.54	3.00	12.87	-25.92	-13.00	12.92	H
	1387.875	-31.38	4.21	3.00	15.48	-20.11	-13.00	7.11	H
	1850.5	-37.06	4.52	3.00	17.32	-24.26	-13.00	11.26	H
	2313.125	-40.21	5.24	3.00	18.76	-26.69	-13.00	13.69	H

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
462.6375	925.275	-37.41	3.54	3.00	12.87	-28.08	-13.00	15.08	V
	1387.9125	-29.05	4.21	3.00	15.48	-17.78	-13.00	4.78	V
	1850.55	-39.18	4.52	3.00	17.32	-26.38	-13.00	13.38	V
	2313.1875	-40.82	5.24	3.00	18.76	-27.30	-13.00	14.30	V
462.6375	925.275	-38.26	3.54	3.00	12.87	-28.93	-13.00	15.93	H
	1387.9125	-31.37	4.21	3.00	15.48	-20.10	-13.00	7.10	H
	1850.55	-36.85	4.52	3.00	17.32	-24.05	-13.00	11.05	H
	2313.1875	-43.26	5.24	3.00	18.76	-29.74	-13.00	16.74	H

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
467.625	935.25	-36.17	3.56	3.00	12.89	-26.84	-13.00	13.84	V
	1402.875	-28.16	4.29	3.00	15.51	-16.94	-13.00	3.94	V
	1870.5	-36.07	4.61	3.00	17.41	-23.27	-13.00	10.27	V
	2338.125	-42.52	5.34	3.00	18.82	-29.04	-13.00	16.04	V
467.625	935.25	-37.76	3.56	3.00	12.89	-28.43	-13.00	15.43	H
	1402.875	-35.53	4.29	3.00	15.51	-24.31	-13.00	11.31	H
	1870.5	-34.13	4.61	3.00	17.41	-21.33	-13.00	8.33	H
	2338.125	-42.26	5.34	3.00	18.82	-28.78	-13.00	15.78	H

12.5KHz(High Power)

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
462.625	925.25	-29.70	3.54	3.00	12.87	-20.37	-13.00	7.37	V
	1387.875	-33.64	4.21	3.00	15.48	-22.37	-13.00	9.37	V
	1850.5	-37.39	4.52	3.00	17.32	-24.59	-13.00	11.59	V
	2313.125	-40.25	5.24	3.00	18.76	-26.73	-13.00	13.73	V
462.625	925.25	-35.31	3.54	3.00	12.87	-25.98	-13.00	12.98	H
	1387.875	-31.47	4.21	3.00	15.48	-20.20	-13.00	7.20	H
	1850.5	-37.11	4.52	3.00	17.32	-24.31	-13.00	11.31	H
	2313.125	-40.22	5.24	3.00	18.76	-26.70	-13.00	13.70	H

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
462.6375	925.275	-37.50	3.54	3.00	12.87	-28.17	-13.00	15.17	V
	1387.9125	-29.10	4.21	3.00	15.48	-17.83	-13.00	4.83	V
	1850.55	-39.22	4.52	3.00	17.32	-26.42	-13.00	13.42	V
	2313.1875	-40.91	5.24	3.00	18.76	-27.39	-13.00	14.39	V
462.6375	925.275	-38.28	3.54	3.00	12.87	-28.95	-13.00	15.95	H
	1387.9125	-31.41	4.21	3.00	15.48	-20.14	-13.00	7.14	H
	1850.55	-36.89	4.52	3.00	17.32	-24.09	-13.00	11.09	H
	2313.1875	-43.31	5.24	3.00	18.76	-29.79	-13.00	16.79	H

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
467.625	935.25	-36.20	3.56	3.00	12.89	-26.87	-13.00	13.87	V
	1402.875	-28.19	4.29	3.00	15.51	-16.97	-13.00	3.97	V
	1870.5	-36.08	4.61	3.00	17.41	-23.28	-13.00	10.28	V
	2338.125	-42.60	5.34	3.00	18.82	-29.12	-13.00	16.12	V
467.625	935.25	-37.79	3.56	3.00	12.89	-28.46	-13.00	15.46	H
	1402.875	-35.56	4.29	3.00	15.51	-24.34	-13.00	11.34	H
	1870.5	-34.16	4.61	3.00	17.41	-21.36	-13.00	8.36	H
	2338.125	-42.35	5.34	3.00	18.82	-28.87	-13.00	15.87	H

12.5KHz(Low Power)

Test Frequency (MHz)	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Distance (m)	G_a Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Pol.
467.6375	935.275	-36.18	3.56	3.00	12.89	-26.85	-13.00	13.85	V
	1402.9125	-28.19	4.29	3.00	15.51	-16.97	-13.00	3.97	V
	1870.55	-36.04	4.61	3.00	17.41	-23.24	-13.00	10.24	V
	2338.1875	-42.54	5.34	3.00	18.82	-29.06	-13.00	16.06	V
467.6375	935.275	-37.80	3.56	3.00	12.89	-28.47	-13.00	15.47	H
	1402.9125	-35.59	4.29	3.00	15.51	-24.37	-13.00	11.37	H
	1870.55	-34.14	4.61	3.00	17.41	-21.34	-13.00	8.34	H
	2338.1875	-42.26	5.34	3.00	18.82	-28.78	-13.00	15.78	H

Remark:

1. *EIRP = P_{Mea}(dBm) - P_{cl}(dB) + G_a(dBi)*
2. *Margin = Limit - EIRP*
3. *The Report only recorded the worst result.*
4. *The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency，and only recorded worst spurious emissions.*
5. *Low Power and High Power were tested,the report only recorded the worst of High Power.*

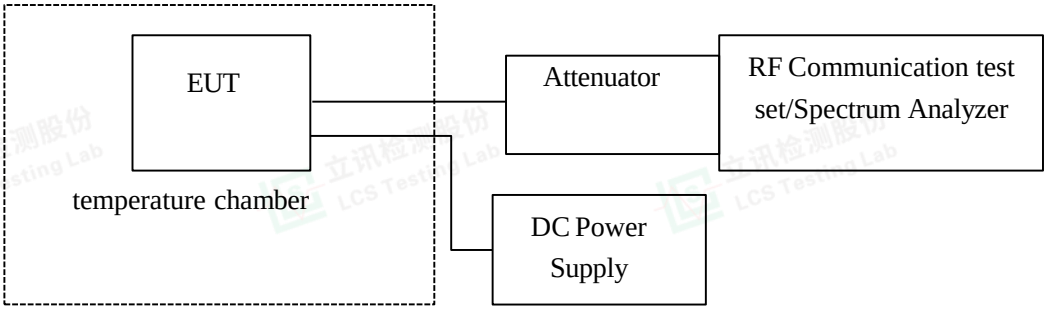
5.6. GMRS FREQUENCY ACCURACY

According to FCC §2.1055(a) (1), the frequency stability shall be measured with variation of ambient temperature from -30 ºC to +50 ºC, and according to FCC 2.1055(d) (2), the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point which is specified by the manufacturer.

According to FCC §95.1765,Each GMRS transmitter type must be designed to comply with the frequency accuracy requirements in this section under normal operating conditions. Operators of GMRS stations must also ensure compliance with these requirements.

The carrier frequency of each GMRS transmitter transmitting an emission with an occupied bandwidth greater than 12.5 kHz must remain within 5 parts-per-million (ppm) of the channel center frequencies listed in § 95.1763 under normal operating conditions.
(b) The carrier frequency of each GMRS transmitter transmitting an emission with an occupied bandwidth of 12.5 kHz or less must remain within 2.5 ppm of the channel center frequencies listed in § 95.1763 under normal operating conditions.

Test Procedure



Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Frequency Counter via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Frequency Counter.
Frequency Stability vs. Voltage (item 1or item 2 will be chosen according to different condition) :

1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.
The output frequency was recorded for each voltage.

Test Data

Environmental Conditions

Temperature	23.4℃	Humidity	53.2%
Test Engineer	Nick Peng	Test Mode	Transmitting

Test Mode: Transmitting (Un-modulation)

25KHz(High Power)

Test Frequency (MHz)	Temperature (℃)	Voltage (V_{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
462.625	-30	7.4	462.625403	0.871	≤5.0
	-20	7.4	462.625321	0.694	≤5.0
	-10	7.4	462.625406	0.878	≤5.0
	0	7.4	462.625321	0.694	≤5.0
	10	7.4	462.625281	0.607	≤5.0
	20	7.4	462.625341	0.737	≤5.0
	30	7.4	462.625389	0.841	≤5.0
	40	7.4	462.625723	1.563	≤5.0
	50	7.4	462.625675	1.459	≤5.0
	20	6.3	462.625456	0.986	≤5.0
	20	8.5	462.625612	1.323	≤5.0
462.6375	-30	7.4	462.638403	1.952	≤5.0
	-20	7.4	462.638268	1.660	≤5.0
	-10	7.4	462.638238	1.595	≤5.0
	0	7.4	462.638318	1.768	≤5.0
	10	7.4	462.638416	1.980	≤5.0
	20	7.4	462.638623	2.427	≤5.0
	30	7.4	462.638284	1.695	≤5.0
	40	7.4	462.638432	2.015	≤5.0
	50	7.4	462.638354	1.846	≤5.0
	20	6.3	462.638298	1.725	≤5.0
	20	8.5	462.638320	1.772	≤5.0

Test Frequency (MHz)	Temperature (℃)	Voltage (V_{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
467.625	-30	7.4	467.625561	1.200	≤5.0
	-20	7.4	467.625423	0.905	≤5.0
	-10	7.4	467.625503	1.076	≤5.0
	0	7.4	467.625603	1.289	≤5.0
	10	7.4	467.625415	0.887	≤5.0
	20	7.4	467.625639	1.366	≤5.0
	30	7.4	467.625506	1.082	≤5.0
	40	7.4	467.625742	1.587	≤5.0
	50	7.4	467.625698	1.493	≤5.0
	20	6.3	467.625718	1.535	≤5.0
	20	8.5	467.625689	1.473	≤5.0

12.5KHz(High Power)

Test Frequency (MHz)	Temperature (℃)	Voltage (V_{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
462.625	-30	7.4	462.625205	0.443	≤2.5
	-20	7.4	462.625315	0.681	≤2.5
	-10	7.4	462.625205	0.443	≤2.5
	0	7.4	462.625305	0.659	≤2.5
	10	7.4	462.625161	0.348	≤2.5
	20	7.4	462.625156	0.337	≤2.5
	30	7.4	462.625256	0.553	≤2.5
	40	7.4	462.625529	1.143	≤2.5
	50	7.4	462.625612	1.323	≤2.5
	20	6.3	462.625216	0.467	≤2.5
	20	8.5	462.625315	0.681	≤2.5
	-30	7.4	462.638214	1.543	≤2.5
	-20	7.4	462.638154	1.414	≤2.5
	-10	7.4	462.638107	1.312	≤2.5
	0	7.4	462.638109	1.316	≤2.5

462.6375	10	7.4	462.638218	1.552	≤2.5
	20	7.4	462.638318	1.768	≤2.5
	30	7.4	462.638125	1.351	≤2.5
	40	7.4	462.638265	1.654	≤2.5
	50	7.4	462.638174	1.457	≤2.5
	20	6.3	462.638185	1.481	≤2.5
	20	8.5	462.638143	1.390	≤2.5

Test Frequency (MHz)	Temperature (℃)	Voltage (V_{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
467.625	-30	7.4	467.625421	0.900	≤2.5
	-20	7.4	467.625263	0.562	≤2.5
	-10	7.4	467.625312	0.667	≤2.5
	0	7.4	467.625453	0.969	≤2.5
	10	7.4	467.625558	1.193	≤2.5
	20	7.4	467.625456	0.975	≤2.5
	30	7.4	467.625756	1.617	≤2.5
	40	7.4	467.625661	1.414	≤2.5
	50	7.4	467.625703	1.503	≤2.5
	20	6.3	467.625652	1.394	≤2.5
	20	8.5	467.625581	1.242	≤2.5

12.5KHz(Low Power)

Test Frequency (MHz)	Temperature (℃)	Voltage (V_{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
467.6375	-30	7.4	467.638312	1.736	≤2.5
	-20	7.4	467.63808	1.240	≤2.5
	-10	7.4	467.638117	1.319	≤2.5
	0	7.4	467.638208	1.514	≤2.5
	10	7.4	467.638128	1.343	≤2.5
	20	7.4	467.638174	1.441	≤2.5
	30	7.4	467.638159	1.409	≤2.5
	40	7.4	467.638138	1.364	≤2.5
	50	7.4	467.638186	1.467	≤2.5
	20	6.3	467.638178	1.450	≤2.5
	20	8.5	467.638184	1.463	≤2.5

Note:

1) the extreme voltage was provided by applicant.

2) Low Power and High Power were tested,the report only recorded the worst of High Power.

6. SUMMARY OF TEST EQUIPMENT

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power Meter	R&S	NRVS	100444	2024-06-06	2025-06-05
2	Power Sensor	R&S	NRV-Z81	100458	2024-06-06	2025-06-05
3	Power Sensor	R&S	NRV-Z32	10057	2024-06-06	2025-06-05
4	Test Software	Tonscend	JS1120-2	/	N/A	N/A
5	RF Control Unit	Tonscend	JS0806-2	N/A	2024-06-06	2025-06-05
6	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2024-10-08	2025-10-07
7	DC Power Supply	Agilent	E3642A	N/A	2024-10-08	2025-10-07
8	EMI Test Software	AUDIX	E3	/	N/A	N/A
9	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2024-06-06	2025-06-05
10	Positioning Controller	Max-Full	MF7802BS	MF780208586	N/A	N/A
11	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2024-07-13	2027-07-12
12	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2024-08-03	2027-08-02
13	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2024-07-13	2027-07-12
14	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2024-07-13	2027-07-12
15	Broadband Preamplifier	SCHWARZBECK	BBV9719	9719-025	2024-07-30	2025-07-29
16	EMI Test Receiver	R&S	ESR 7	101181	2024-06-06	2025-06-05
17	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2024-06-06	2025-06-05
18	Low-frequency amplifier	SchwarzZBECK	BBV9745	00253	2024-10-08	2025-10-07
19	High-frequency amplifier	JS Denki Pte	PA0118-43	JSPA21009	2024-10-08	2025-10-07
20	6dB Attenuator	/	100W/6dB	1172040	2024-06-06	2025-06-05
21	3dB Attenuator	/	2N-3dB	/	2024-10-08	2025-10-07
22	EMI Test Receiver	R&S	ESPI	101940	2024-06-06	2025-06-05
23	Artificial Mains	R&S	ENV216	101288	2024-06-06	2025-06-05
24	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2024-06-06	2025-06-05
25	EMI Test Software	Farad	EZ	/	N/A	N/A
26	Antenna Mast	Max-Full	MFA-515BSN	1308572	N/A	N/A
27	Pulse Limiter	R&S	ESH3-Z2	102750-NB	2024-06-06	2025-06-05
28	RF Communication test set	HP	8921A	3344A00457	2024-06-06	2025-06-05

7. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

8. EXTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

9. INTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

----------THE END OF REPORT----------