




TEST REPORT

Report No. : **CHTEW19120069** Report Verification: 

Project No...... : **SHT1909028402EW**

FCC ID..... : **2ASNSRT76**

Applicant's name..... : **Shenzhen Retevis Technology Co., Ltd.**

Address..... : Room 700, 7/F, 13-C, Zhonghaixin Science &Technology Park,
No.12 Ganli 6th Road,Jihua Street, Longgang District,
Shenzhen,China

Manufacturer..... : Shenzhen Retevis Technology Co., Ltd.

Address..... : Room 700, 7/F, 13-C, Zhonghaixin Science &Technology Park,
No.12 Ganli 6th Road,Jihua Street, Longgang District,
Shenzhen,China

Test item description : **Two Way Radio**

Trade Mark : RETEVIS

Model/Type reference..... : RT76

Listed Model(s) : RT1, RT26, RT29

Standard : **FCC CFR Title 47 Part 95 Subpart E**

Date of receipt of test sample : Oct.29, 2019

Date of testing..... : Oct.29, 2019- Dec.12, 2019

Date of issue..... : Dec.13, 2019

Result..... : **PASS**

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Testing Laboratory Name : **Shenzhen Huatongwei International Inspection Co., Ltd.**

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The test report merely correspond to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

- [FCC Rules Part 95](#): PERSONAL RADIO SERVICES
- [FCC Rules Part 2](#): Frequency allocations and radio treaty matters; General rules and regulations
- [ANSI C63.26-2013](#): 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 40 GHz

1.2. Report version

Revision No.	Date of issue	Description
N/A	2019-12-13	Original

2. TEST DESCRIPTION

Report clause	Test Items	Standard Requirement	Result
5.1	Carrier Output Power(ERP)	Part 95.567 Part 2.1046(a)	PASS
5.2	99% Occupied Bandwidth & 26dB bandwidth	Part 95.573 Part 2.1049	PASS
5.3	Emission Mask	Part 95.579(a)(1)(2)(3) Part 2.1049	PASS
5.4	Modulation Limit	Part 95.575 Part 2.1047(b)	PASS
5.5	Audio Frequency Response	Part 95.575 Part 2.1047(a)	PASS
5.6	Audio Low Pass Filter Response	Part 95.575 Part 2.1047(a)	PASS
5.7	Frequency Stability V.S. Temperature	Part 95.565 Part 2.1055	PASS
5.8	Frequency Stability V.S. Voltage	Part 95.565 Part 2.1055	PASS
5.9	Spurious Emission On Antenna Port	Part 95.2779, Part 2.1053	PASS
5.10	Transmit Radiated Spurious Emission	Part 95.579(a)(3) Part 2.1053	PASS

Note:

- The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Shenzhen Retevis Technology Co., Ltd.
Address:	Room 700, 7/F, 13-C, Zhonghaixin Science & Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China
Manufacturer:	Shenzhen Retevis Technology Co., Ltd.
Address:	Room 700, 7/F, 13-C, Zhonghaixin Science & Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China

3.2. Product Description

Name of EUT:	Two Way Radio
Trade Mark:	RETEVIS
Model No.:	RT76
Listed Model(s):	RT1, RT26, RT29
Power supply:	DC 7.4V
Battery information:	Model: BL43 1400mAh(10.36Wh)
Charger information:	Model: DC43 Input: DC 5Vd.c., 1000mA Output: DC 8.4Vd.c., 400mA
Adapter information:	Model: DSA-5PF07-05 FUS 050100 Input: 100-240V a.c., 50/60Hz 0.2A Output: 5Vd.c., 1A
Hardware version:	VER1.0
Software version:	VER0.2

3.3. Radio Specification Description

Support Frequency Range:	462MHz Main channel:	462.5500, 462.5750, 462.6000, 462.6250, 462.6500, 462.6750, 462.7000, 462.7250MHz
	462MHz interstitial channel:	462.5625, 462.5875, 462.6125, 462.6375, 462.6625, 462.6875, 462.7125 MHz
	467MHz Main channel:	467.5500, 467.5750, 467.6000, 467.6250, 467.6500, 467.6750, 467.7000, 467.7250MHz
	467MHz interstitial channel:	467.5675, 467.5875, 467.6125, 467.6375, 467.6625, 467.6875, 467.7125MHz
Modulation Type:	FM	
Emission Designator: *1	16K0F3E, 11K0F3E	
Antenna Type:	Integral	
Antenna Gain:	2.15dBi	

Note:

(1) *1 According to FCC Part 2.202 requirements, the Necessary Bandwidth is calculated as follows:

- For FM Voice Modulation

Channel Spacing = 12.5 KHz, D = 2.5 KHz max, K = 1, M = 3 KHz

$B_n = 2M + 2DK = 2*3 + 2*2.5*1 = 11 \text{ KHz}$

Emission designation: 11K0F3E

Channel Spacing = 25 KHz, D = 5 KHz max, K = 1, M = 3 KHz

$B_n = 2M + 2DK = 2*3 + 2*5*1 = 16 \text{ KHz}$

Emission designation: 16K0F3E

(2) The device only supports voice communication.

3.4. Testing Laboratory Information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.	
Laboratory Location	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China	
Qualifications	Type	Accreditation Number
	CNAS	L1225
	A2LA	3902.01
	FCC	762235
	Canada	5377A

4. TEST CONFIGURATION

4.1. Test frequency list

According to ANSI C63.26 section 5.1.2.1:

Measurements of transmitters shall be performed and, if required, reported for each frequency band in which the EUT can be operated with the device transmitting at the number of frequencies in each band specified in Table 2.

Frequency range over which EUT operates	Number of frequencies	Location in frequency range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

Test Channel	Frequency range	Type	Frequency (MHz)
CH _{M1}	462MHz	Interstitial	462.6375
CH _{M2}	467MHz	Interstitial	467.6375
CH _{M3}	462MHz	Main	462.6500
CH _{M4}	467MHz	Main	467.6500

The Product channel frequency table:

Frequency Band	Type	Frequency (MHz)	Frequency Band	Type	Frequency (MHz)
462MHz	Main	462.5500	467MHz	Main	467.5500
		462.5750			467.5750
		462.6000			467.6000
		462.6250			467.6250
		462.6500			467.6500
		462.6750			467.6750
		462.7000			467.7000
462MHz	Interstitial	462.7250	467MHz	Interstitial	467.7250
		462.5625			467.5675
		462.5875			467.5875
		462.6125			467.6125
		462.6375			467.6375
		462.6625			467.6625
		462.6875			467.6875
	462.7125	467.7125			

4.2. Test mode

Test mode	Transmitting	GMRS	Charing
TX-GMRS	√	√	
Charing			√

Note:

1)√: is operation mode.

2) When charing, the EUT needs to be turned off.

Modulation Type	Description
UM	Un-modulation
AM2	Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.
AM6	Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation, then increase the level from the audio generator by 20 dB
AM5	Modulate the transmitter with a 2500 Hz sine wave at an input level 16 dB greater than that necessary to produce 50% of rated system deviation.

Test item	Modulation Type	Test mode
Output Power(ERP)	UM	TX-GMRS
99% Occupied Bandwidth & 26dB bandwidth	AM6	TX-GMRS
Emission Mask	AM5	TX-GMRS
Modulation Limit	AM6	TX-GMRS
Audio Frequency Response	AM2	TX-GMRS
Audio Low Pass Filter Response	AM2	TX-GMRS
Frequency Stability VS Temperature	UM	TX-GMRS
Frequency Stability VS Voltage	UM	TX-GMRS
Spurious Emission On Antenna Port	AM5	TX-GMRS
Transmit Radiated Spurious Emission	AM5	TX-GMRS

4.3. Support unit used in test configuration and system

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The following peripheral devices and interface cables were connected during the measurement:

Whether support unit is used?					
√ No					
Item	Equipement	Trade Name	Model No.	FCC ID	Power cord
1					
2					

4.4. Testing environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar
Test voltage:	Normal voltage:	DC 7.40V
	Extreme lower voltage:	DC 6.29V
	Extreme upper voltage:	DC 8.51V

4.5. Measurement uncertainty

Test Item	Measurement Uncertainty
Frequency stability	25 Hz
Carrier output power (ERP)	2.20 dB
Occupied Bandwidth	35 Hz
Modulation Limiting	0.42 %
FM deviation	25 Hz
Audio level	0.62 dB
Radiated Spurious Emission 30~1000MHz	4.65 dB
Radiated Spurious Emission 1~18GHz	5.16 dB
AC power line Conducted Emission 9KHz-30MHz	3.39 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

4.6. Equipment Used during the Test

● TS8613 Test system							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Spectrum Analyzer	Agilent	HTWE0286	N9020A	MY50510187	2019/10/26	2020/10/25
●	Signal & Spectrum Analyzer	R&S	HTWE0262	FSW26	103440	2019/10/26	2020/10/25
●	RF Communication Test Set	HP	HTWE0038	8920A	3813A10206	2019/10/26	2020/10/25
●	Digital intercom communication tester	Aeroflex	HTWE0255	3920B	1001682041	2019/10/26	2020/10/25
●	Signal Generator	R&S	HTWE0191	SML02	100507	2019/10/26	2020/10/25
●	RF Control Unit	Tonscend	HTWE0294	JS0806-2	N/A	N/A	N/A
○	Filter-VHF	Microwave	HTWE0309	N26460M1	498702	N/A	N/A
●	Filter-UHF	Microwave	HTWE0311	N25155M2	498704	N/A	N/A
○	Power Divider	Microwave	HTWE0043	OPD1040-N-4	N/A	2019/05/24	2020/05/23
○	Attenuator	JFW	HTWE0292	50FH-030-100	N/A	2019/05/18	2020/05/17
○	Attenuator	JFW	HTWE0293	50-A-MFN-20	0322	2019/05/18	2020/05/17
●	Test software	HTW	N/A	Radio ATE	N/A	N/A	N/A

● Auxiliary Equipment							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Climate chamber	ESPEC	HTWE0254	GPL-2	N/A	2019/10/23	2020/10/22
●	DC Power Supply	Gwinstek	HTWE0274	SPS-2415	GER835793	N/A	N/A

● Radiated emission-7th test site							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0122	SAC-3m-01	N/A	2018/09/27	2021/09/26
●	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2019/10/26	2020/10/25
●	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2017/04/01	2020/03/31
●	Horn Antenna	SCHWARZBECK	HTWE0103	BBHA9170	25841	2017/03/27	2020/03/26
●	Broadband Horn Antenna	SCHWARZBECK	HTWE0103	BBHA9170	BBHA9170472	2018/10/11	2021/10/10
●	Pre-amplifier	CD	HTWE0071	PAP-0102	12004	2019/11/14	2020/11/13
●	Broadband Pre-amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2019/05/23	2020/05/22
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-01	6m 18GHz S Serisa	N/A	2019/05/10	2020/05/09
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-02	6m 3GHz RG Serisa	N/A	2019/05/10	2020/05/09

●	RF Connection Cable	HUBER+SUHNER	HTWE0120-03	6m 3GHz RG Serisa	N/A	2019/05/10	2020/05/09
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-04	6m 3GHz RG Serisa	N/A	2019/05/10	2020/05/09
●	RF Connection Cable	HUBER+SUHNER	HTWE0121-01	6m 18GHz S Serisa	N/A	2019/05/10	2020/05/09
●	Test Software	Audix	N/A	E3	N/A	N/A	N/A
●	Filter-UHF	Microwave	HTWE0311	N25155M2	498704	N/A	N/A
○	Filter-VHF	Microwave	HTWE0309	N26460M1	498702	N/A	N/A

5. TEST CONDITIONS AND RESULTS

5.1. Carrier Output Power (ERP)

LIMIT

FCC Part FCC Part 95.1767, FCC Part 2.1046

(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**.

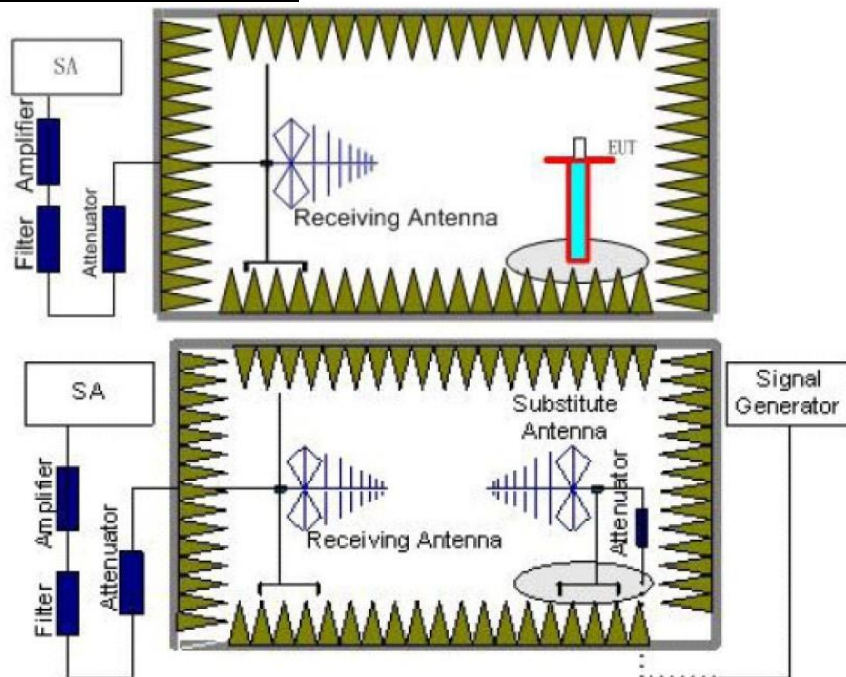
(b) 462 MHz interstitial channels.

The effective radiated power (ERP) of mobile, hand-held portable and base stations transmitting on the 462MHz 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 CONFIGURATION



TEST PROCEDURE

- 1) The measuring distance of at 3m shall be used for measurements
- 2) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation
- 3) The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4) The spectrum setting for Equivalent Isotropically Radiated Power (EIRP) is RBW = 100kHz, VBW = 300kHz. Detector Mode is Positive Peak
- 5) Record the field strength level of the EUT from the spectrum
- 6) The substitution antenna is substituted for EUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be moved height from 1m to 4m to find the highest radiation. Adjust the S.G. output level and repeat this step to get the same field strength level as the EUT
- 7) The EIRP level = S.G. output level(dBm)- TX cable(dB) + Substituted Antenna Gain(dBi)
- 8) The ERP level = EIRP-2.15

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed **Not Applicable**

TEST Data

Please refer to appendix A on the appendix report

Note: Both horizontal and vertical directions are tested, the report only shows the worst direction, and the worst direction is vertical data.

5.2. 99% Occupied Bandwidth & 26dB Bandwidth

LIMIT

FCC Part 95.1773, FCC Part 2.1049

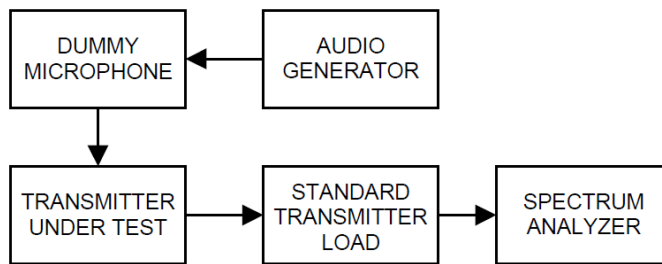
(a) Main channels.

The authorized bandwidth is **20 kHz** for GMRS transmitters operating on any of the 462 MHz main channels or any of the 467 MHz main channels.

(b) Interstitial channels.

The authorized bandwidth is **20 kHz** for GMRS transmitters operating on any of the 462 MHz interstitial channels and is **12.5 kHz** for GMRS transmitters operating on any of the 467 MHz interstitial channels

TEST CONFIGURATION



TEST PROCEDURE

1) Connect the equipment as illustrated

2) Spectrum set as follow:

Centre frequency = the nominal EUT channel center frequency,

The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of $1.5 \times \text{OBW}$ is sufficient)

RBW = 1% to 5% of the anticipated OBW, VBW $\geq 3 \times \text{RBW}$, Sweep = auto,

Detector function = peak, Trace = max hold

3) Set 99% Occupied Bandwidth and 26dB Bandwidth

4) Measure and record the results in the test report.

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix B on the appendix report

5.3. Emission Mask

LIMIT

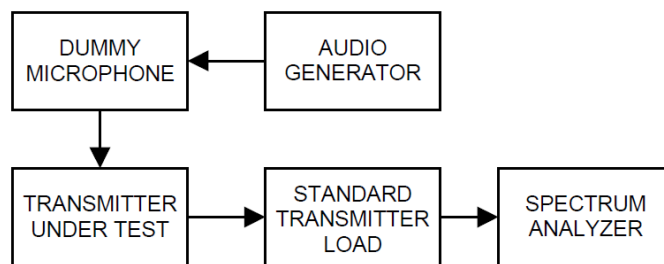
FCC Part 95.1779(b)(1)(2)(7), FCC Part 2.1049

(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.
- (7) **43 + 10 log (P) dB** on any frequency removed from the center of the authorized bandwidth by more than 250%.

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Spectrum set as follow:
Centre frequency = fundamental frequency, RBW=300Hz, VBW=1000Hz, Sweep = auto,
Detector function = peak, Trace = max hold
- 3) Key the transmitter, and set the level of the unmodulated carrier to a full scale reference line.
This is the 0dB reference for the measurement.
- 4) Apply Input Modulation Signal to EUT according to Section 4.2
- 5) Measure and record the results in the test report.

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix C on the appendix report

5.4. Modulation Limit

LIMIT

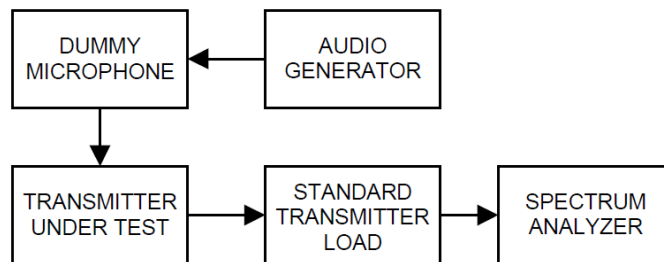
FCC Part 95.1775, FCC Part 2.1047(b)

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**.

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- 3) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤ 0.25 Hz to $\geq 15,000$ Hz. Turn the de-emphasis function off.
- 4) Apply Input Modulation Signal to EUT according to Section 4.2 and vary the input level from -20 to $+20$ dB.
- 5) Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level
- 6) Repeat step 4-5 with input frequency changing to 300Hz, 1004Hz, 1500Hz and 2500Hz in sequence.

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix D on the appendix report

5.5. Audio Frequency Response

LIMIT

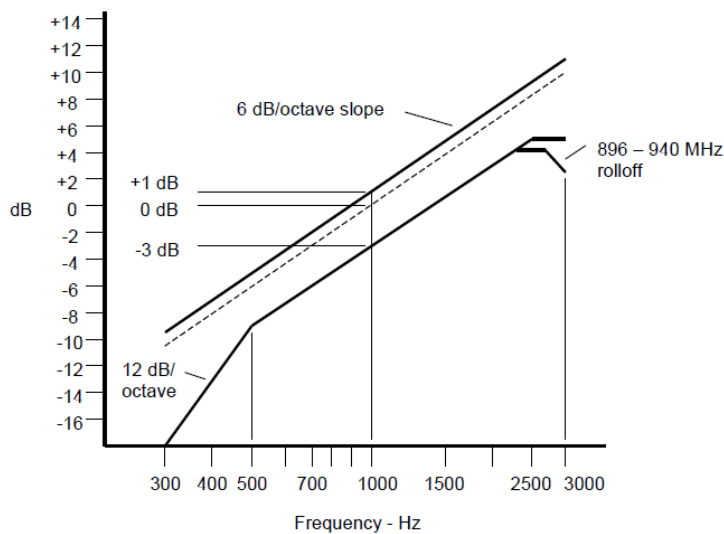
FCC Part 95.1775, FCC Part 2.1047(a)

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.

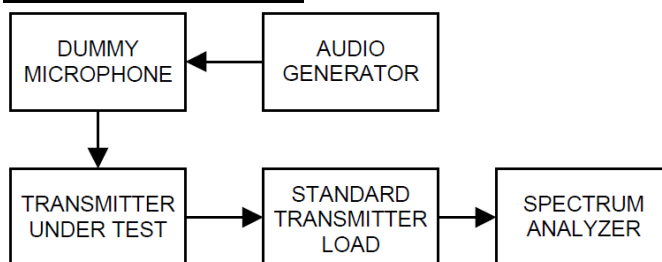
- (d) **Main channels** The peak frequency deviation for emissions to be transmitted on the main channels must **not exceed ± 5 kHz**.
- (e) **462 MHz interstitial channels.** The peak frequency deviation for emissions to be transmitted on the 462 MHz interstitial channels must **not exceed ± 5 kHz**.
- (f) **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**.

Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted.



An additional 6 dB per octave attenuation is allowed from 2500 Hz to 3000 Hz in equipment operating in the 25 MHz to 869 MHz range.

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for 50 Hz to 15,000 Hz. Turn the de-emphasis function off.
- 3) Set the DMM to measure rms voltage.
- 4) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- 5) Apply Input Modulation Signal to EUT according to Section 4.2
- 6) Set the test receiver to measure rms deviation and record the deviation reading.
- 7) Record the DMM reading as V_{REF} .
- 8) Set the audio frequency generator to the desired test frequency between 300 Hz and 3000 Hz.
- 9) Vary the audio frequency generator output level until the deviation reading that was recorded in step 6) is obtained.
- 10) Record the DMM reading as V_{FREQ}

- 11) Calculate the audio frequency response at the present frequency as:
audio frequency response= $20\log_{10}(V_{\text{FREQ}}/V_{\text{REF}})$.
- 12) Repeat steps 8) through 11) for all the desired test frequencies

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed **Not Applicable**

TEST Data

Please refer to appendix E on the appendix report

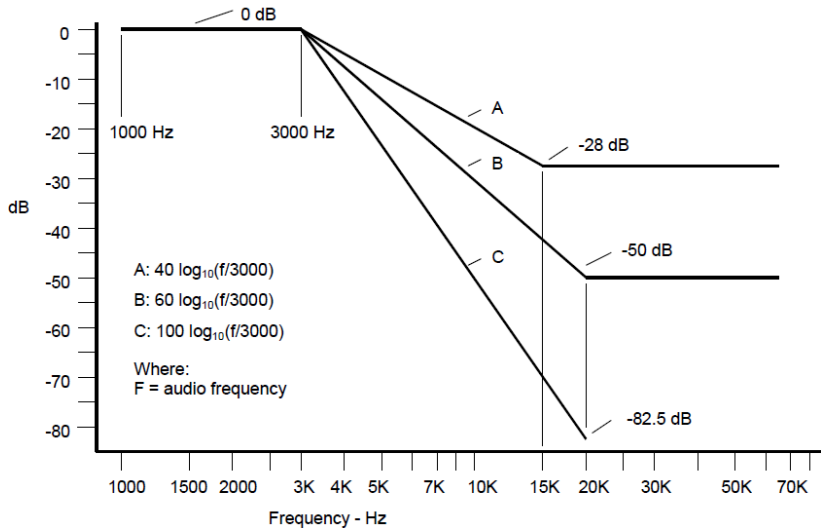
5.6. Audio Low Pass Filter Response

LIMIT

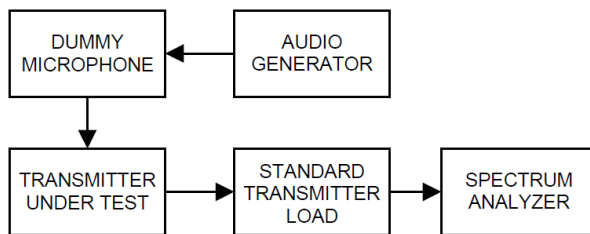
FCC Part 95.1775(e)(1)(2):

(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 CONFIGURATION



TEST PROCEDURE

- 1) Configure the EUT as shown in figure .
- 2) Apply a 1000 Hz tone from the audio signal generator and adjust the level per manufacturer's specifications. Record the dB level of the 1000 Hz tone as LEV_{REF} .
- 3) Set the audio signal generator to the desired test frequency between 3000 Hz and the upper low pass filter limit. Record the dB level at the test frequency as LEV_{FREQ} .
- 4) Calculate the audio frequency response at the test frequency as:
 low pass filter response = $LEV_{FREQ} - LEV_{REF}$

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix F on the appendix report

5.7. Frequency stability VS Temperature

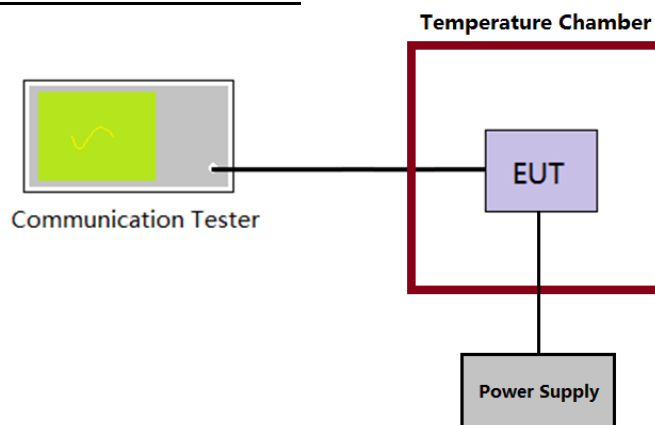
LIMIT

FCC Part 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.

- (a) The carrier frequency of each GMRS transmitter transmitting an emission with an occupied bandwidth greater than 12.5 kHz must remain **within 5 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 CONFIGURATION



TEST PROCEDURE

- 1) The EUT output port was connected to communication tester.
- 2) The EUT was placed inside the temperature chamber.
- 3) Turn EUT off and set the chamber temperature to -30°C . After the temperature stabilized for approximately 30 minutes recorded the frequency as MCF_{MHz} .
- 4) Calculate the ppm frequency error by the following:

$$\text{ppm error} = (MCF_{\text{MHz}} / ACF_{\text{MHz}} - 1) * 10^6$$
 where
 MCF_{MHz} is the Measured Carrier Frequency in MHz
 ACF_{MHz} is the Assigned Carrier Frequency in MHz
- 5) Repeat step 3 measure with 10°C increased per stage until the highest temperature of $+50^{\circ}\text{C}$ reached.

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix G on the appendix report

5.8. Frequency stability VS Voltage

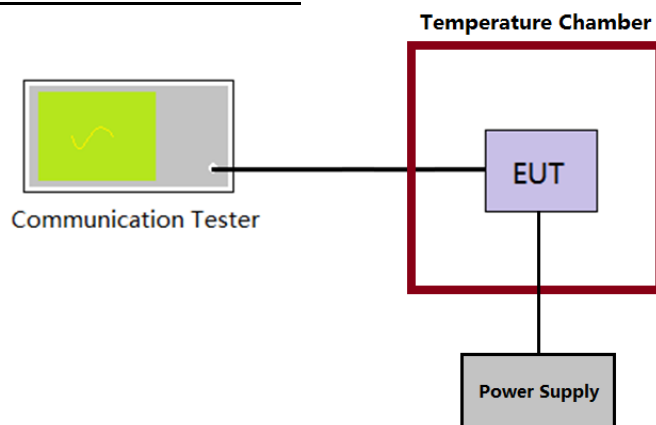
LIMIT

FCC Part 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.

- (a) The carrier frequency of each GMRS transmitter transmitting an emission with an occupied bandwidth greater than 12.5 kHz must remain **within 5 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 CONFIGURATION



TEST PROCEDURE

- 1) The EUT output port was connected to communication tester.
- 2) The EUT was placed inside the temperature chamber at 25°C
- 3) Record the carrier frequency of the transmitter as MCF_{MHz}
- 4) Calculate the ppm frequency error by the following:

$$ppm\ error = (MCF_{MHz} / ACF_{MHz} - 1) * 10^6$$

where
 MCF_{MHz} is the Measured Carrier Frequency in MHz
 ACF_{MHz} is the Assigned Carrier Frequency in MHz
- 5) Repeat step 3 measure with varied $\pm 15\%$ of the nominal value measured at the input to the EUT

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed Not Applicable

TEST Data

Please refer to appendix H on the appendix report

5.9. Spurious Emission on Antenna Port

Conducted spurious emissions are emissions at the antenna terminals on a frequency or frequencies that are outside a band sufficient to ensure transmission of information of required quality for the class of communication desired

LIMIT

FCC Part 95.2779 (b)(2):

50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation, on any frequency removed from the channel center frequency by more than 12.5 kHz.

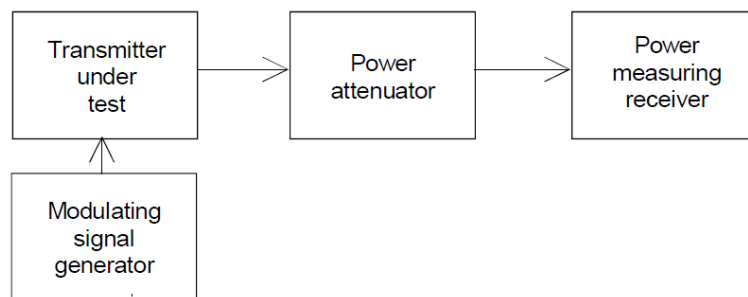
Limit (dBm) = P (dBm) - 50 - 10 log (Pwatts) = -20dBm

FCC Part 95.2779 (b)(7)

43 + 10 log(P) dB on any frequency removed from the channel center frequency by more than 50 kHz

Limit (dBm) = P (dBm) - 43 - 10 log (Pwatts) = -13dBm

TEST CONFIGURATION



TEST PROCEDURE

1. The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation.
2. The resolution bandwidth of the spectrum analyzer was set to 100 kHz. Sufficient scans were taken to show any out of band emission up to 10th. Harmonic for the lower and the highest frequency range.
3. Set RBW 100 kHz, VBW 300 kHz in the frequency band 30MHz to 1GHz, while set RBW=1MHz. VBW=3MHz from the 1GHz to 10th Harmonic.
4. The audio input was set the unmodulated carrier, the resulting picture is print out for each channel separation.

TEST MODE:

Please reference to the section 3.4

TEST RESULTS

Passed Not Applicable

Please refer to appendix I on the section 8 appendix report

5.10. Transmit Radiated Spurious Emission

LIMIT

FCC Part 95.1779(b)(1)(2)(7), FCC Part 2.1049

(c) 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.
- (7) **43 + 10 log (P) dB** on any frequency removed from the center of the authorized bandwidth by more than 250%.

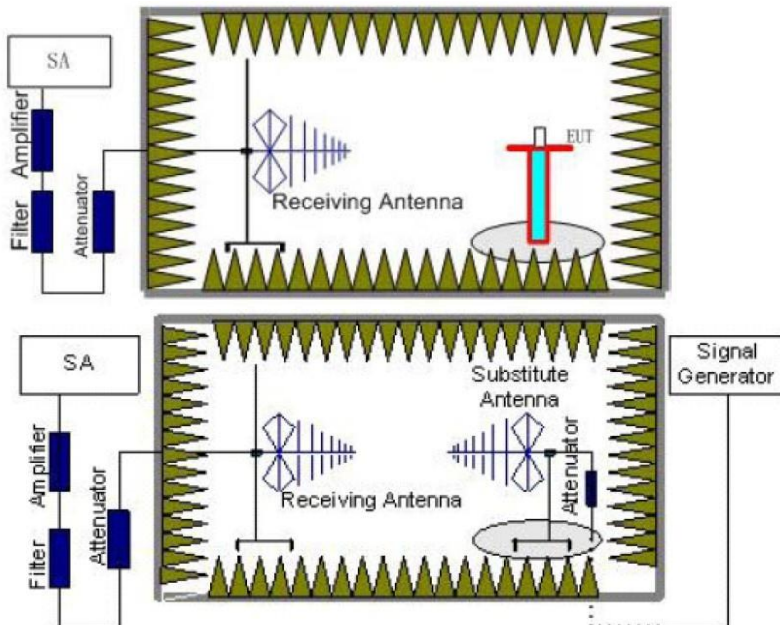
Note:

Limit (dBm)=EL-[43+10log(P)] =10log(P*1000)-[43+10log(P)] = 10log(P)+30-43-10log(P)=-13dBm

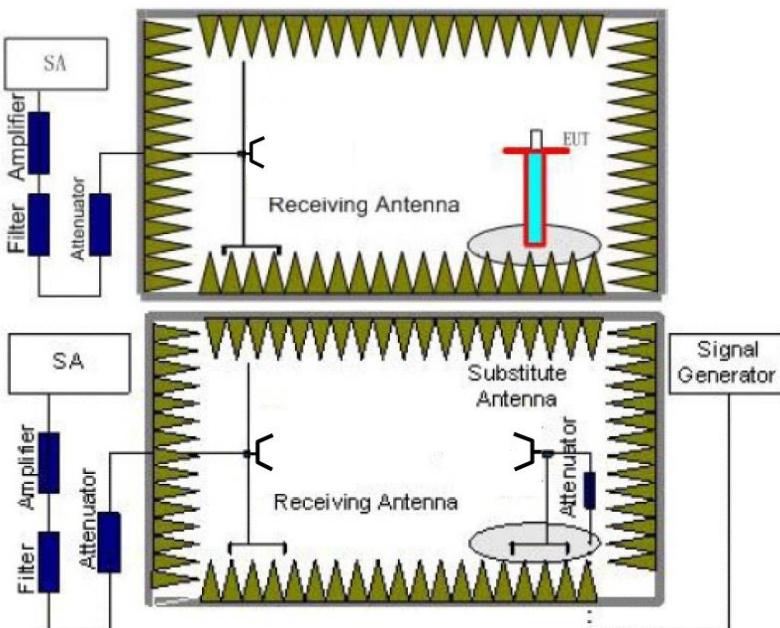
EL is the emission level of the Output Power expressed in dBm,

TEST CONFIGURATION

Below 1GHz:



Above 1GHz:



TEST PROCEDURE

- 1) The measuring distance of at 3m shall be used for measurements
- 2) The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The table was rotated 360 degrees to determine the position of the highest radiation
- 3) The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4) The spectrum setting as follow
Below 1 GHz: RBW=120kHz, VBW=300kHz, Sweep time=auto, Detector =peak, Trace=max hold;
Above 1GHz: RBW=1MHz, VBW=3MHz Sweep time=auto, Detector=peak, Trace=max hold
- 5) Record the field strength level of the EUT from the spectrum
- 6) The substitution antenna is substituted for EUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be moved height from 1m to 4m to find the highest radiation. Adjust the S.G. output level and repeat this step to get the same field strength level as the EUT
- 7) The EIRP level = S.G. output level(dBm)- TX cable(dB) + Substituted Antenna Gain(dBi)
- 8) Record the ERP value for below 1GHz, ERP value = EIRP-2.15; Record the EIRP for above 1GHz.

TEST MODE

Please reference to the section 4.2

TEST RESULTS

Passed **Not Applicable**

Test Channel:		CH _{M1}			Polarity:		Horizontal	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	925.3100	-43.81	9.38	-34.43	-13.00	21.43	Horizontal	PK
2	1388.000	-42.72	5.62	-37.10	-13.00	24.10	Horizontal	PK
3	1850.500	-52.93	6.18	-46.75	-13.00	33.75	Horizontal	PK
4	3238.500	-50.46	12.83	-37.63	-13.00	24.63	Horizontal	PK
5	3701.500	-56.75	14.58	-42.17	-13.00	29.17	Horizontal	PK
6	4626.500	-55.26	18.44	-36.82	-13.00	23.82	Horizontal	PK

Test Channel:		CH _{M1}			Polarity:		Vertical	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	925.3100	-39.90	9.65	-30.25	-13.00	17.25	Vertical	PK
2	1388.000	-37.75	6.19	-31.56	-13.00	18.56	Vertical	PK
3	1850.500	-51.65	5.78	-45.87	-13.00	32.87	Vertical	PK
4	3238.500	-49.69	12.92	-36.77	-13.00	23.77	Vertical	PK
5	3701.500	-58.32	14.61	-43.71	-13.00	30.71	Vertical	PK
6	4164.000	-58.69	16.00	-42.69	-13.00	29.69	Vertical	PK

Test Channel:		CH _{M2}			Polarity:		Horizontal	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	935.3738	-44.61	9.55	-35.06	-13.00	22.06	Horizontal	PK
2	1403.000	-43.60	5.66	-37.94	-13.00	24.94	Horizontal	PK
3	2338.000	-50.97	9.89	-41.08	-13.00	28.08	Horizontal	PK
4	3273.500	-55.92	12.31	-43.61	-13.00	30.61	Horizontal	PK
5	3741.000	-58.19	14.58	-43.61	-13.00	30.61	Horizontal	PK
6	4676.500	-64.07	18.64	-45.43	-13.00	32.43	Horizontal	PK

Test Channel:		CH _{M2}			Polarity:		Vertical	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	935.3738	-42.93	9.43	-33.50	-13.00	20.50	Vertical	PK
2	1403.000	-38.74	6.28	-32.46	-13.00	19.46	Vertical	PK
3	2338.000	-55.88	9.78	-46.10	-13.00	33.10	Vertical	PK
4	2805.500	-61.26	14.57	-46.69	-13.00	33.69	Vertical	PK
5	3273.500	-55.35	12.37	-42.98	-13.00	29.98	Vertical	PK
6	3741.500	-55.19	14.53	-40.66	-13.00	27.66	Vertical	PK

Test Channel:		CH _{M3}			Polarity:		Horizontal	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	925.4313	-44.47	9.38	-35.09	-13.00	22.09	Horizontal	PK
2	1388.000	-41.80	5.62	-36.18	-13.00	23.18	Horizontal	PK
3	2313.000	-54.82	9.93	-44.89	-13.00	31.89	Horizontal	PK
4	3238.500	-54.67	12.83	-41.84	-13.00	28.84	Horizontal	PK
5	4164.000	-58.00	15.74	-42.26	-13.00	29.26	Horizontal	PK
6	4626.500	-56.95	18.44	-38.51	-13.00	25.51	Horizontal	PK

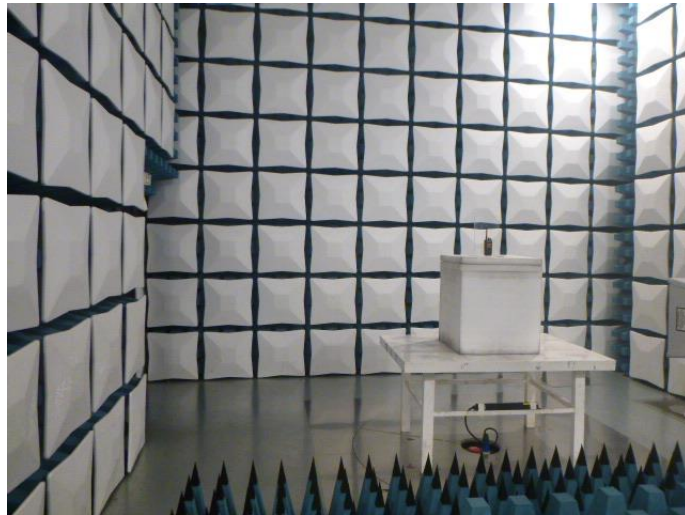
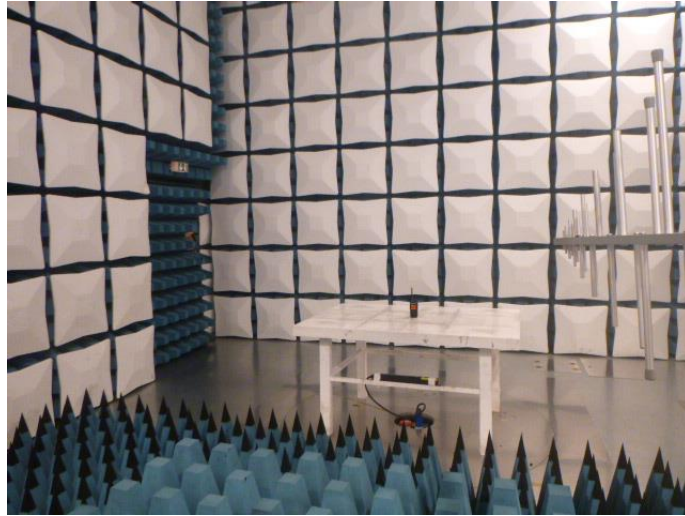
Test Channel:		CH _{M3}			Polarity:		Vertical	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	925.4313	-40.74	9.65	-31.09	-13.00	18.09	Vertical	PK
2	1388.000	-39.01	6.19	-32.82	-13.00	19.82	Vertical	PK
3	1850.500	-52.67	5.78	-46.89	-13.00	33.89	Vertical	PK
4	2313.500	-57.05	9.97	-47.08	-13.00	34.08	Vertical	PK
5	3238.500	-55.50	12.92	-42.58	-13.00	29.58	Vertical	PK
6	4164.000	-58.44	16.00	-42.44	-13.00	29.44	Vertical	PK

Test Channel:		CH _{M4}			Polarity:		Horizontal	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	935.3738	-43.85	9.55	-34.30	-13.00	21.30	Horizontal	PK
2	1403.000	-44.54	5.66	-38.88	-13.00	25.88	Horizontal	PK
3	1870.500	-51.30	6.44	-44.86	-13.00	31.86	Horizontal	PK
4	2338.500	-53.94	9.89	-44.05	-13.00	31.05	Horizontal	PK
5	3741.000	-54.24	14.58	-39.66	-13.00	26.66	Horizontal	PK
6	4209.000	-59.10	16.11	-42.99	-13.00	29.99	Horizontal	PK

Test Channel:		CH _{M4}			Polarity:		Vertical	
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity	Detector
1	935.3738	-41.00	9.43	-31.57	-13.00	18.57	Vertical	PK
2	1403.000	-38.05	6.28	-31.77	-13.00	18.77	Vertical	PK
3	1870.500	-52.41	5.98	-46.43	-13.00	33.43	Vertical	PK
4	2338.500	-55.88	9.77	-46.11	-13.00	33.11	Vertical	PK
5	3273.500	-57.18	12.37	-44.81	-13.00	31.81	Vertical	PK
6	3742.000	-54.58	14.53	-40.05	-13.00	27.05	Vertical	PK

6. TEST SETUP PHOTOS

Transmitter Radiated Spurious Emission



Frequency stability

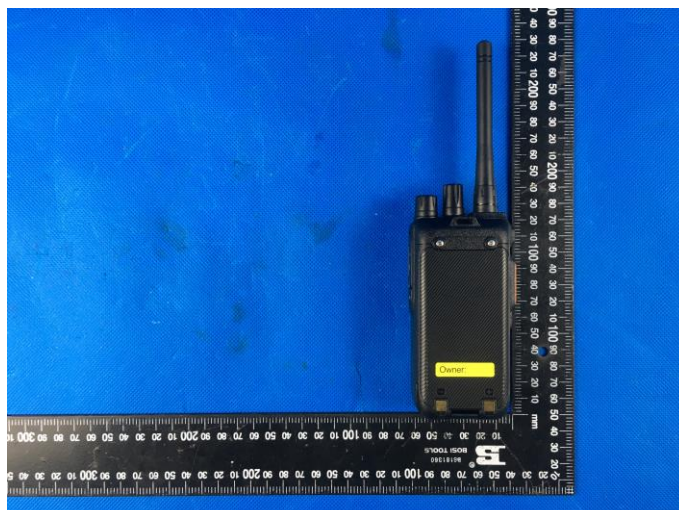


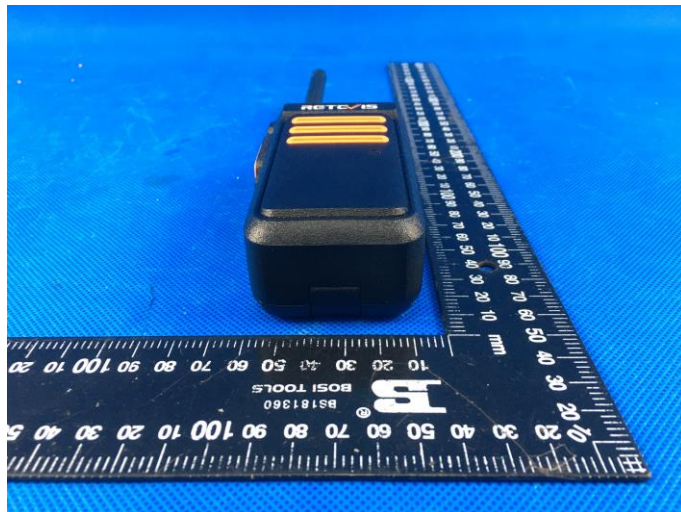
Other RF test item

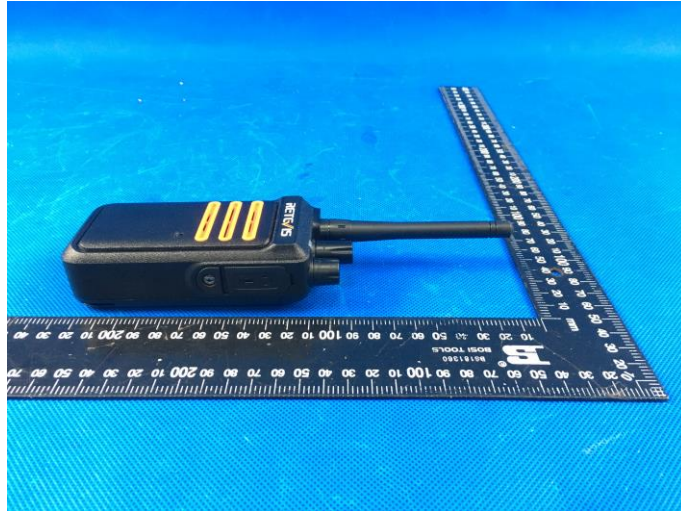


7. EXTERANAL AND INTERNAL PHOTOS

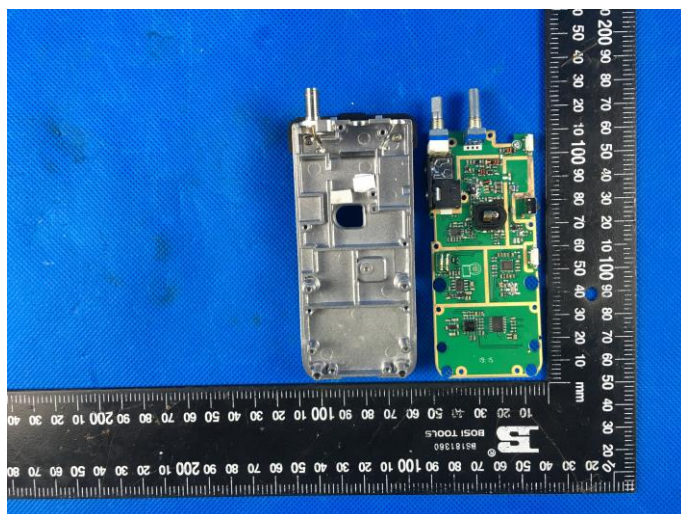
External Photos

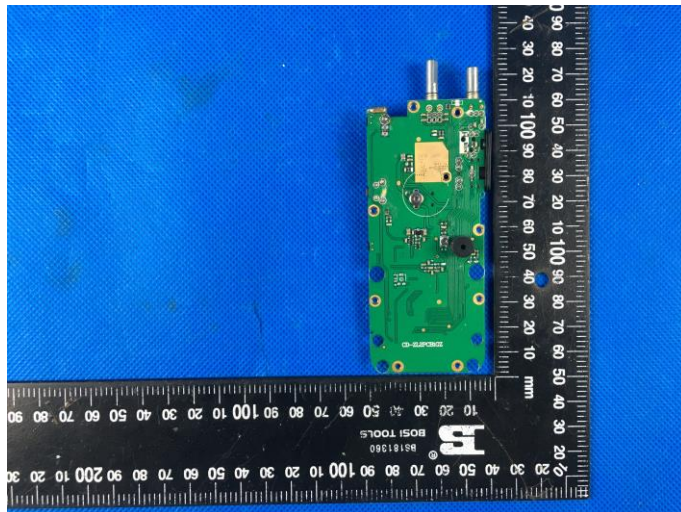
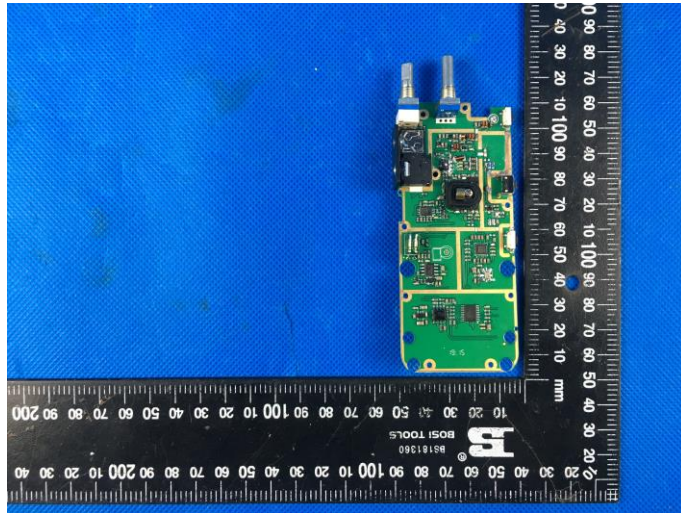


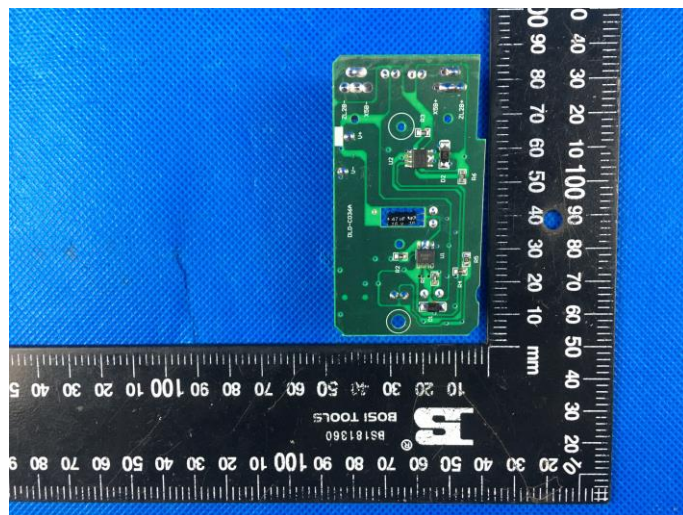
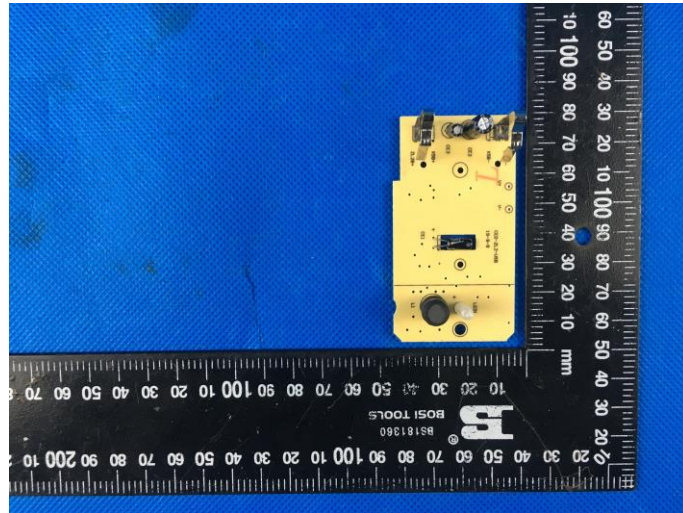




Internal Photos







8. Appendix



Appendix A:Maximum Transmitter Power(ERP)

Operation Mode	Modulation Type	Test Channel	Measured Power(dBm)	Measured Power(W)	Limit (W)	Result
TX-GMRS	FM	CH _{M1}	36.5	4.47	5.00	PASS
TX-GMRS	FM	CH _{M2}	26.3	0.43	5.00	PASS
TX-GMRS	FM	CH _{M3}	36.2	4.17	5.00	PASS
TX-GMRS	FM	CH _{M4}	36.4	4.37	5.00	PASS



Appendix B:Occupied Bandwidth

Test Mode	Modulation Type	Test Channel	Occupied Bandwidth		99% Limit(kHz)	Result
			99%(kHz)	26dB(kHz)		
TX-GMRS	FM	CH _{M1}	10.339	12.425	≤20	PASS
TX-GMRS	FM	CH _{M2}	6.046	6.267	≤12.5	PASS
TX-GMRS	FM	CH _{M3}	10.339	12.405	≤20	PASS
TX-GMRS	FM	CH _{M4}	10.339	12.462	≤20	PASS



Appendix B: Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																			
TX-GMRS	FM	CH _{M1}	<p>1 Occupied Bandwidth</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>462.631175 MHz</td> <td>3.51 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>462.6322053 MHz</td> <td>16.93 dBm</td> <td>Occ Bw</td> <td>10.33966034 kHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>462.642545 MHz</td> <td>17.18 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>12.425 kHz</td> <td>0.31 dB</td> <td></td> <td></td> </tr> </tbody> </table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		462.631175 MHz	3.51 dBm			T1	1		462.6322053 MHz	16.93 dBm	Occ Bw	10.33966034 kHz	T2	1		462.642545 MHz	17.18 dBm			D1	M1	1	12.425 kHz	0.31 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																
M1	1		462.631175 MHz	3.51 dBm																																		
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T2	1		462.642545 MHz	17.18 dBm																																		
D1	M1	1	12.425 kHz	0.31 dB																																		
TX-GMRS	FM	CH _{M2}	<p>1 Occupied Bandwidth</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>467.634351 MHz</td> <td>-4.12 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>467.6403971 MHz</td> <td>6.41 dBm</td> <td>Occ Bw</td> <td>6.043956044 kHz</td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>6.267 kHz</td> <td>-4.58 dB</td> <td></td> <td></td> </tr> </tbody> </table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		467.634351 MHz	-4.12 dBm			T1	1		467.6403971 MHz	6.41 dBm	Occ Bw	6.043956044 kHz	D1	M1	1	6.267 kHz	-4.58 dB									
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TX-GMRS	FM	CH _{M3}	<p>1 Occupied Bandwidth</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>462.643673 MHz</td> <td>4.17 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>462.6447053 MHz</td> <td>17.03 dBm</td> <td>Occ Bw</td> <td>10.33966034 kHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>462.655045 MHz</td> <td>16.97 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>12.405 kHz</td> <td>-0.10 dB</td> <td></td> <td></td> </tr> </tbody> </table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		462.643673 MHz	4.17 dBm			T1	1		462.6447053 MHz	17.03 dBm	Occ Bw	10.33966034 kHz	T2	1		462.655045 MHz	16.97 dBm			D1	M1	1	12.405 kHz	-0.10 dB		
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Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																			
TX-GMRS	FM	CH _{M4}	<p>1 Occupied Bandwidth</p> <p>Rel Level 36.00 dBm Offset 20.50 dB RBW 300 Hz Att -25 dB SWT 14 ms (~23 ms) VBW 1 kHz Mode Auto FFT</p> <p>M1[1] 4.22 dBm 467.643636 MHz D1[1] -0.51 dB 12.4620 kHz</p> <p>CF 467.65 MHz 1001 pts 5.0 kHz/ Span 50.0 kHz</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>467.643636 MHz</td> <td>4.22 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>467.6447053 MHz</td> <td>16.98 dBm</td> <td>Occ Bw</td> <td>10.33966034 kHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>467.655045 MHz</td> <td>16.60 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>12.462 kHz</td> <td>-0.51 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12.DEC.2019 15:22:02</p>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		467.643636 MHz	4.22 dBm			T1	1		467.6447053 MHz	16.98 dBm	Occ Bw	10.33966034 kHz	T2	1		467.655045 MHz	16.60 dBm			D1	M1	1	12.462 kHz	-0.51 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																
M1	1		467.643636 MHz	4.22 dBm																																		
T1	1		467.6447053 MHz	16.98 dBm	Occ Bw	10.33966034 kHz																																
T2	1		467.655045 MHz	16.60 dBm																																		
D1	M1	1	12.462 kHz	-0.51 dB																																		



Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-GMRS	FM	CH _{M1}	<p>MultiView Spectrum Ref Level 38.00 dBm Offset 20.50 dB RBW 300 Hz Att 27 dB SWT 1.4 ms (~23 ms) VBW 1 kHz Mode Auto FFT Frequency Sweep 30 dBm 20 dBm 10 dBm 0 dBm -10 dBm MASK-GMRS -20 dBm -30 dBm -40 dBm -50 dBm CF 467.6375 MHz 1001 pts 12.0 kHz/ Span 120.0 kHz M1[1] 36.20 dBm 467.637380 MHz Date: 12.DEC.2019 15:38:06</p>
TX-GMRS	FM	CH _{M2}	<p>MultiView Spectrum Ref Level 30.00 dBm Offset 20.50 dB RBW 100 Hz Att 12 dB SWT 41.9 ms (~56 ms) VBW 300 Hz Mode Auto FFT Frequency Sweep 20 dBm 10 dBm 0 dBm -10 dBm MASK-GMRS-12.5K -20 dBm -30 dBm -40 dBm -50 dBm CF 467.6375 MHz 1001 pts 12.0 kHz/ Span 120.0 kHz M1[1] 25.38 dBm 467.637380 MHz Date: 12.DEC.2019 15:47:09</p>
TX-GMRS	FM	CH _{M3}	<p>MultiView Spectrum Ref Level 38.00 dBm Offset 20.50 dB RBW 300 Hz Att 27 dB SWT 1.4 ms (~23 ms) VBW 1 kHz Mode Auto FFT Frequency Sweep 30 dBm 20 dBm 10 dBm 0 dBm -10 dBm MASK-GMRS -20 dBm -30 dBm -40 dBm -50 dBm CF 462.65 MHz 1001 pts 12.0 kHz/ Span 120.0 kHz M1[1] 36.21 dBm 462.649880 MHz Date: 12.DEC.2019 15:35:48</p>



Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANH	FM	CH _{M4}	<p>MultiView Spectrum</p> <p>Ref Level 38.00 dBm Offset 20.50 dB RBW 300 Hz</p> <p>Att 27 dB SWI 1.4 ms (>23 ms) VBW 1 kHz Mode Auto FFT</p> <p>Frequency Sweep</p> <p>30 dBm</p> <p>20 dBm</p> <p>10 dBm</p> <p>0 dBm</p> <p>-10 dBm</p> <p>-20 dBm</p> <p>-30 dBm</p> <p>-40 dBm</p> <p>-50 dBm</p> <p>-60 dBm</p> <p>MASK-GMS</p> <p>M1[1] -36.57 dBm</p> <p>467.649880 MHz</p> <p>CF 467.65 MHz 1001 pts 12.0 kHz/ Span 120.0 kHz</p> <p>Date: 12.DEC.2019 15:36:57</p>



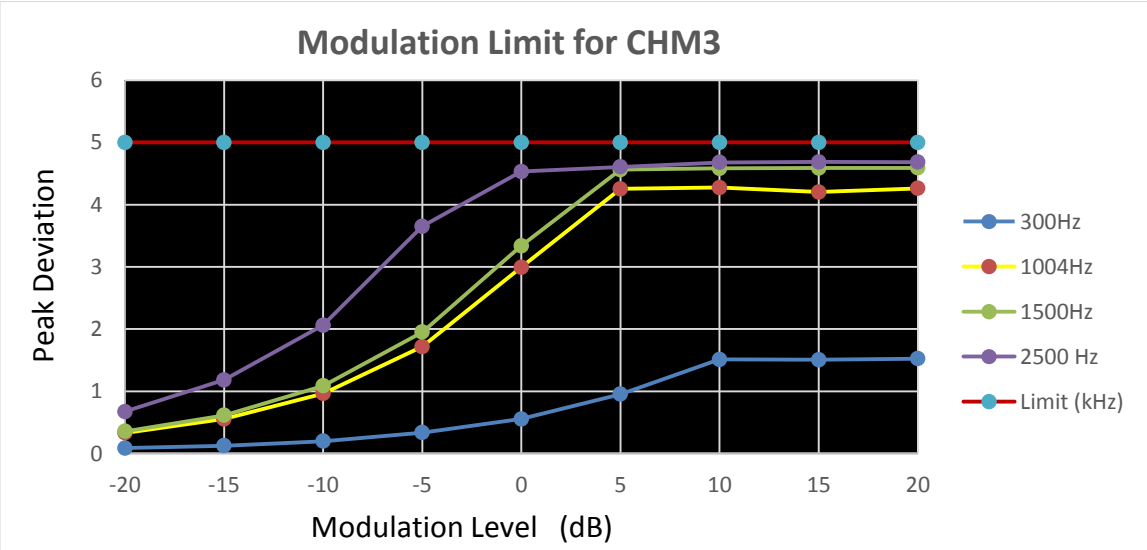
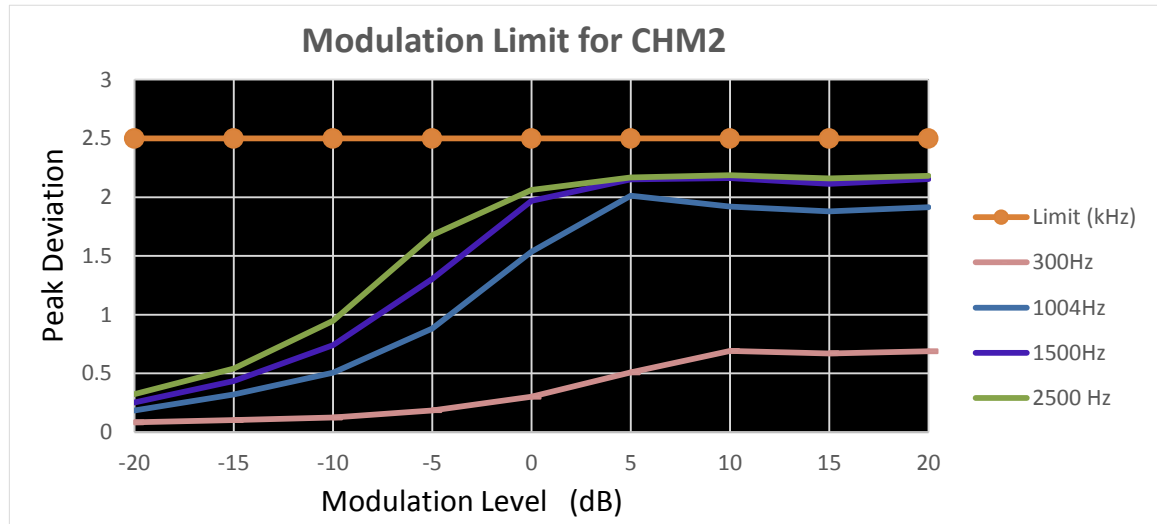
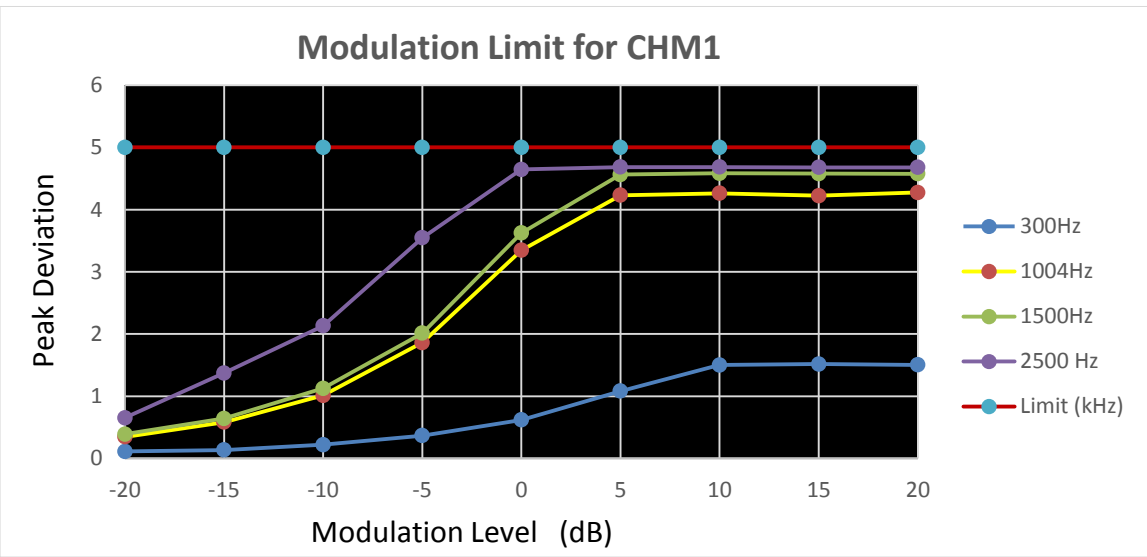
Appendix D: Modulation Limit

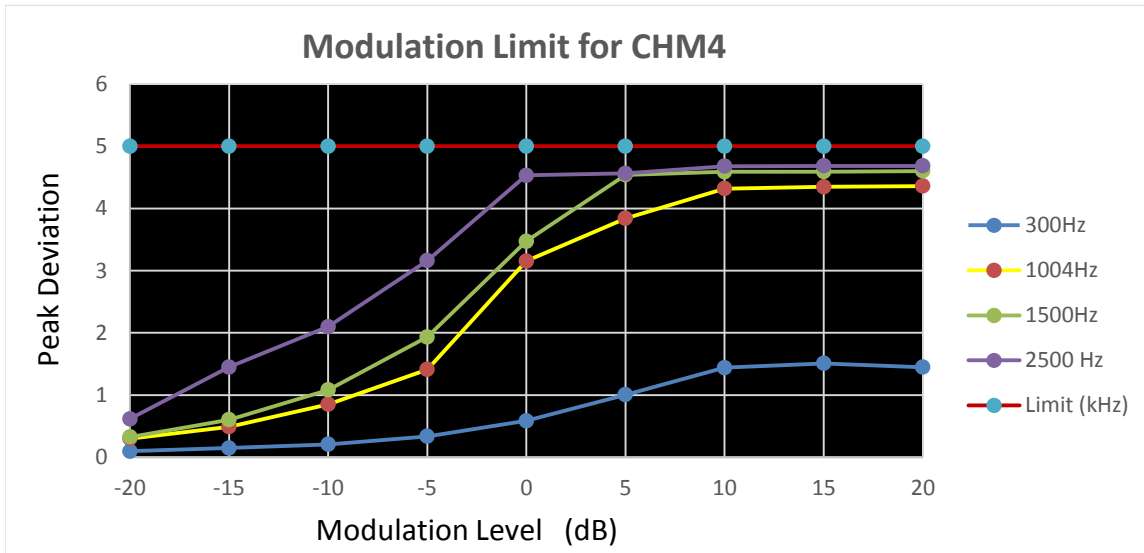
Operation Mode	Modulation Type	Test Channel	Modulation Level (dB)	Peak frequency deviation (kHz)				Limit (kHz)	Result
				300Hz	1004Hz	1500Hz	2500 Hz		
TX-GMRS	FM	CH _{M1}	-20	0.112	0.345	0.389	0.652	5	PASS
TX-GMRS	FM	CH _{M1}	-15	0.135	0.581	0.642	1.372	5	PASS
TX-GMRS	FM	CH _{M1}	-10	0.219	1.013	1.125	2.132	5	PASS
TX-GMRS	FM	CH _{M1}	-5	0.366	1.862	2.014	3.547	5	PASS
TX-GMRS	FM	CH _{M1}	0	0.617	3.346	3.625	4.646	5	PASS
TX-GMRS	FM	CH _{M1}	5	1.082	4.231	4.564	4.683	5	PASS
TX-GMRS	FM	CH _{M1}	10	1.501	4.261	4.584	4.684	5	PASS
TX-GMRS	FM	CH _{M1}	15	1.516	4.224	4.579	4.678	5	PASS
TX-GMRS	FM	CH _{M1}	20	1.503	4.276	4.575	4.68	5	PASS
TX-GMRS	FM	CH _{M2}	-20	0.084	0.185	0.254	0.324	2.5	PASS
TX-GMRS	FM	CH _{M2}	-15	0.103	0.321	0.435	0.541	2.5	PASS
TX-GMRS	FM	CH _{M2}	-10	0.124	0.507	0.741	0.947	2.5	PASS
TX-GMRS	FM	CH _{M2}	-5	0.186	0.883	1.304	1.677	2.5	PASS
TX-GMRS	FM	CH _{M2}	0	0.301	1.537	1.968	2.062	2.5	PASS
TX-GMRS	FM	CH _{M2}	5	0.509	2.013	2.152	2.168	2.5	PASS
TX-GMRS	FM	CH _{M2}	10	0.691	1.920	2.162	2.187	2.5	PASS
TX-GMRS	FM	CH _{M2}	15	0.670	1.878	2.113	2.159	2.5	PASS
TX-GMRS	FM	CH _{M2}	20	0.688	1.914	2.154	2.181	2.5	PASS
TX-GMRS	FM	CH _{M3}	-20	0.086	0.331	0.356	0.673	5	PASS
TX-GMRS	FM	CH _{M3}	-15	0.124	0.555	0.613	1.181	5	PASS
TX-GMRS	FM	CH _{M3}	-10	0.196	0.962	1.087	2.062	5	PASS
TX-GMRS	FM	CH _{M3}	-5	0.336	1.718	1.95	3.651	5	PASS
TX-GMRS	FM	CH _{M3}	0	0.553	2.993	3.339	4.533	5	PASS
TX-GMRS	FM	CH _{M3}	5	0.952	4.255	4.564	4.608	5	PASS
TX-GMRS	FM	CH _{M3}	10	1.51	4.274	4.584	4.678	5	PASS
TX-GMRS	FM	CH _{M3}	15	1.506	4.204	4.59	4.687	5	PASS
TX-GMRS	FM	CH _{M3}	20	1.524	4.263	4.592	4.685	5	PASS
TX-GMRS	FM	CH _{M4}	-20	0.095	0.299	0.326	0.615	5	PASS
TX-GMRS	FM	CH _{M4}	-15	0.146	0.489	0.602	1.45	5	PASS
TX-GMRS	FM	CH _{M4}	-10	0.207	0.849	1.082	2.098	5	PASS
TX-GMRS	FM	CH _{M4}	-5	0.334	1.412	1.934	3.16	5	PASS
TX-GMRS	FM	CH _{M4}	0	0.584	3.152	3.472	4.533	5	PASS
TX-GMRS	FM	CH _{M4}	5	1.004	3.841	4.539	4.562	5	PASS
TX-GMRS	FM	CH _{M4}	10	1.44	4.319	4.588	4.679	5	PASS
TX-GMRS	FM	CH _{M4}	15	1.508	4.348	4.591	4.685	5	PASS
TX-GMRS	FM	CH _{M4}	20	1.448	4.361	4.603	4.685	5	PASS



Appendix D: Modulation Limit

TEST PLOT RESULT





**Appendix E:Audio Frequency Response**

Operation Mode	Modulation Type	Test Channel	Frequency (Hz)	Audio Frequency Response (dB)	Lower Limit	Upper Limit	Result
TX-GMRS	FM	CH _{M1}	100	-38.71	-	-	PASS
TX-GMRS	FM	CH _{M1}	200	-38.30	-	-	PASS
TX-GMRS	FM	CH _{M1}	300	-16.25	-17.84	-9.42	PASS
TX-GMRS	FM	CH _{M1}	400	-12.01	-12.86	-6.93	PASS
TX-GMRS	FM	CH _{M1}	500	-8.65	-9.00	-5.00	PASS
TX-GMRS	FM	CH _{M1}	600	-5.93	-7.42	-3.42	PASS
TX-GMRS	FM	CH _{M1}	700	-4.25	-6.09	-2.09	PASS
TX-GMRS	FM	CH _{M1}	800	-2.58	-4.93	-0.93	PASS
TX-GMRS	FM	CH _{M1}	900	-1.28	-3.91	0.09	PASS
TX-GMRS	FM	CH _{M1}	1000	-0.01	-3.00	1.00	PASS
TX-GMRS	FM	CH _{M1}	1200	0.63	-1.42	2.58	PASS
TX-GMRS	FM	CH _{M1}	1400	2.15	-0.09	3.91	PASS
TX-GMRS	FM	CH _{M1}	1600	3.43	1.07	5.07	PASS
TX-GMRS	FM	CH _{M1}	1800	4.05	2.09	6.09	PASS
TX-GMRS	FM	CH _{M1}	2000	5.30	3.00	7.00	PASS
TX-GMRS	FM	CH _{M1}	2100	5.44	3.42	7.42	PASS
TX-GMRS	FM	CH _{M1}	2200	5.51	3.83	7.83	PASS
TX-GMRS	FM	CH _{M1}	2300	5.73	4.21	8.21	PASS
TX-GMRS	FM	CH _{M1}	2400	6.25	4.58	8.58	PASS
TX-GMRS	FM	CH _{M1}	2500	6.76	4.93	8.93	PASS
TX-GMRS	FM	CH _{M1}	2600	6.88	4.59	9.27	PASS
TX-GMRS	FM	CH _{M1}	2700	6.75	4.27	9.60	PASS
TX-GMRS	FM	CH _{M1}	2800	7.17	3.95	9.91	PASS
TX-GMRS	FM	CH _{M1}	2900	7.59	3.65	10.22	PASS
TX-GMRS	FM	CH _{M1}	3000	7.24	3.35	10.51	PASS
TX-GMRS	FM	CH _{M1}	3500	-38.17	-	-	PASS
TX-GMRS	FM	CH _{M1}	4000	-38.43	-	-	PASS
TX-GMRS	FM	CH _{M1}	4500	-38.32	-	-	PASS
TX-GMRS	FM	CH _{M1}	5000	-38.24	-	-	PASS
TX-GMRS	FM	CH _{M2}	100	-19.26	-	-	PASS
TX-GMRS	FM	CH _{M2}	200	-17.25	-	-	PASS
TX-GMRS	FM	CH _{M2}	300	-12.46	-17.84	-9.42	PASS
TX-GMRS	FM	CH _{M2}	400	-9.10	-12.86	-6.93	PASS
TX-GMRS	FM	CH _{M2}	500	-6.83	-9.00	-5.00	PASS
TX-GMRS	FM	CH _{M2}	600	-5.09	-7.42	-3.42	PASS
TX-GMRS	FM	CH _{M2}	700	-3.52	-6.09	-2.09	PASS
TX-GMRS	FM	CH _{M2}	800	-2.17	-4.93	-0.93	PASS
TX-GMRS	FM	CH _{M2}	900	-1.13	-3.91	0.09	PASS
TX-GMRS	FM	CH _{M2}	1000	0.00	-3.00	1.00	PASS
TX-GMRS	FM	CH _{M2}	1200	1.13	-1.42	2.58	PASS
TX-GMRS	FM	CH _{M2}	1400	2.49	-0.09	3.91	PASS

**Appendix E:Audio Frequency Response**

Operation Mode	Modulation Type	Test Channel	Frequency (Hz)	Audio Frequency Response (dB)	Lower Limit	Upper Limit	Result
TX-GMRS	FM	CH _{M2}	1600	3.63	1.07	5.07	PASS
TX-GMRS	FM	CH _{M2}	1800	4.17	2.09	6.09	PASS
TX-GMRS	FM	CH _{M2}	2000	5.31	3.00	7.00	PASS
TX-GMRS	FM	CH _{M2}	2100	5.54	3.42	7.42	PASS
TX-GMRS	FM	CH _{M2}	2200	5.60	3.83	7.83	PASS
TX-GMRS	FM	CH _{M2}	2300	5.87	4.21	8.21	PASS
TX-GMRS	FM	CH _{M2}	2400	6.38	4.58	8.58	PASS
TX-GMRS	FM	CH _{M2}	2500	6.85	4.93	8.93	PASS
TX-GMRS	FM	CH _{M2}	2600	7.03	4.59	9.27	PASS
TX-GMRS	FM	CH _{M2}	2700	6.97	4.27	9.60	PASS
TX-GMRS	FM	CH _{M2}	2800	7.28	3.95	9.91	PASS
TX-GMRS	FM	CH _{M2}	2900	7.72	3.65	10.22	PASS
TX-GMRS	FM	CH _{M2}	3000	7.50	3.35	10.51	PASS
TX-GMRS	FM	CH _{M2}	3500	-19.18	-	-	PASS
TX-GMRS	FM	CH _{M2}	4000	-19.25	-	-	PASS
TX-GMRS	FM	CH _{M2}	4500	-19.14	-	-	PASS
TX-GMRS	FM	CH _{M2}	5000	-19.23	-	-	PASS
TX-GMRS	FM	CH _{M3}	100	-37.59			PASS
TX-GMRS	FM	CH _{M3}	200	-37.76			PASS
TX-GMRS	FM	CH _{M3}	300	-15.49	-17.84	-9.42	PASS
TX-GMRS	FM	CH _{M3}	400	-10.97	-12.86	-6.93	PASS
TX-GMRS	FM	CH _{M3}	500	-8.48	-9.00	-5.00	PASS
TX-GMRS	FM	CH _{M3}	600	-5.69	-7.42	-3.42	PASS
TX-GMRS	FM	CH _{M3}	700	-4.09	-6.09	-2.09	PASS
TX-GMRS	FM	CH _{M3}	800	-2.63	-4.93	-0.93	PASS
TX-GMRS	FM	CH _{M3}	900	-1.28	-3.91	0.09	PASS
TX-GMRS	FM	CH _{M3}	1000	-0.10	-3.00	1.00	PASS
TX-GMRS	FM	CH _{M3}	1200	1.19	-1.42	2.58	PASS
TX-GMRS	FM	CH _{M3}	1400	2.67	-0.09	3.91	PASS
TX-GMRS	FM	CH _{M3}	1600	3.85	1.07	5.07	PASS
TX-GMRS	FM	CH _{M3}	1800	4.44	2.09	6.09	PASS
TX-GMRS	FM	CH _{M3}	2000	5.44	3.00	7.00	PASS
TX-GMRS	FM	CH _{M3}	2100	5.80	3.42	7.42	PASS
TX-GMRS	FM	CH _{M3}	2200	5.80	3.83	7.83	PASS
TX-GMRS	FM	CH _{M3}	2300	5.92	4.21	8.21	PASS
TX-GMRS	FM	CH _{M3}	2400	6.59	4.58	8.58	PASS
TX-GMRS	FM	CH _{M3}	2500	7.15	4.93	8.93	PASS
TX-GMRS	FM	CH _{M3}	2600	7.25	4.59	9.27	PASS
TX-GMRS	FM	CH _{M3}	2700	7.16	4.27	9.60	PASS
TX-GMRS	FM	CH _{M3}	2800	7.47	3.95	9.91	PASS
TX-GMRS	FM	CH _{M3}	2900	7.97	3.65	10.22	PASS

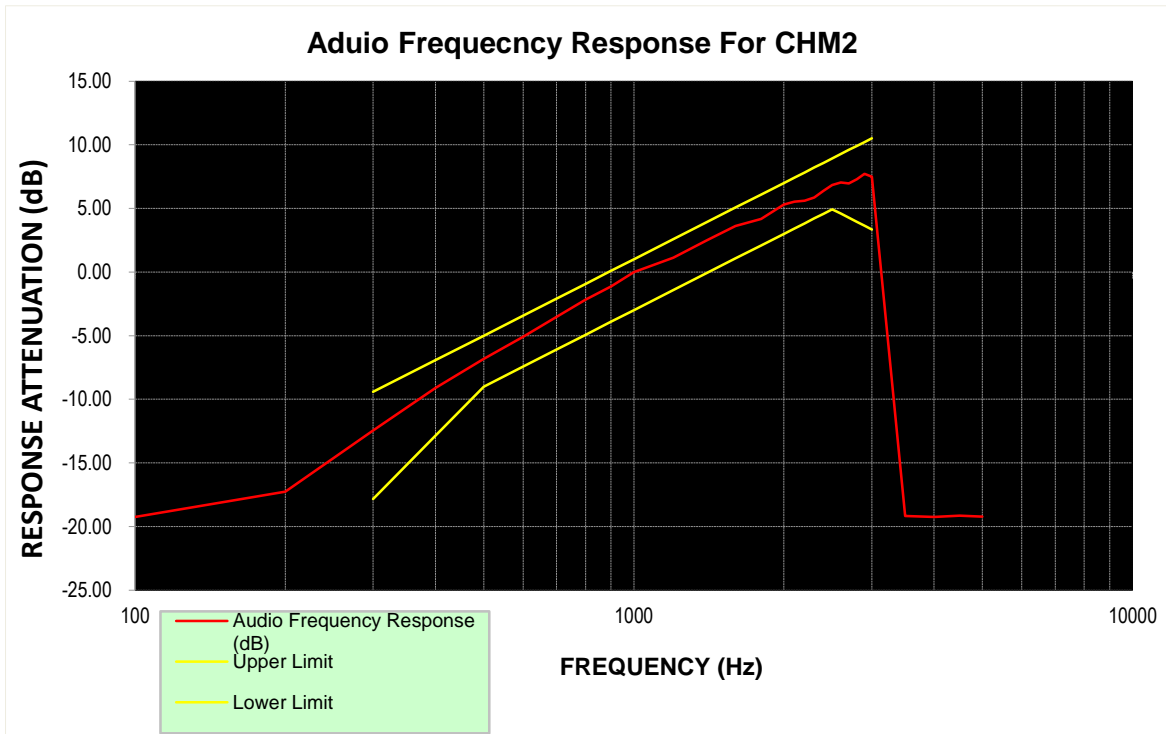
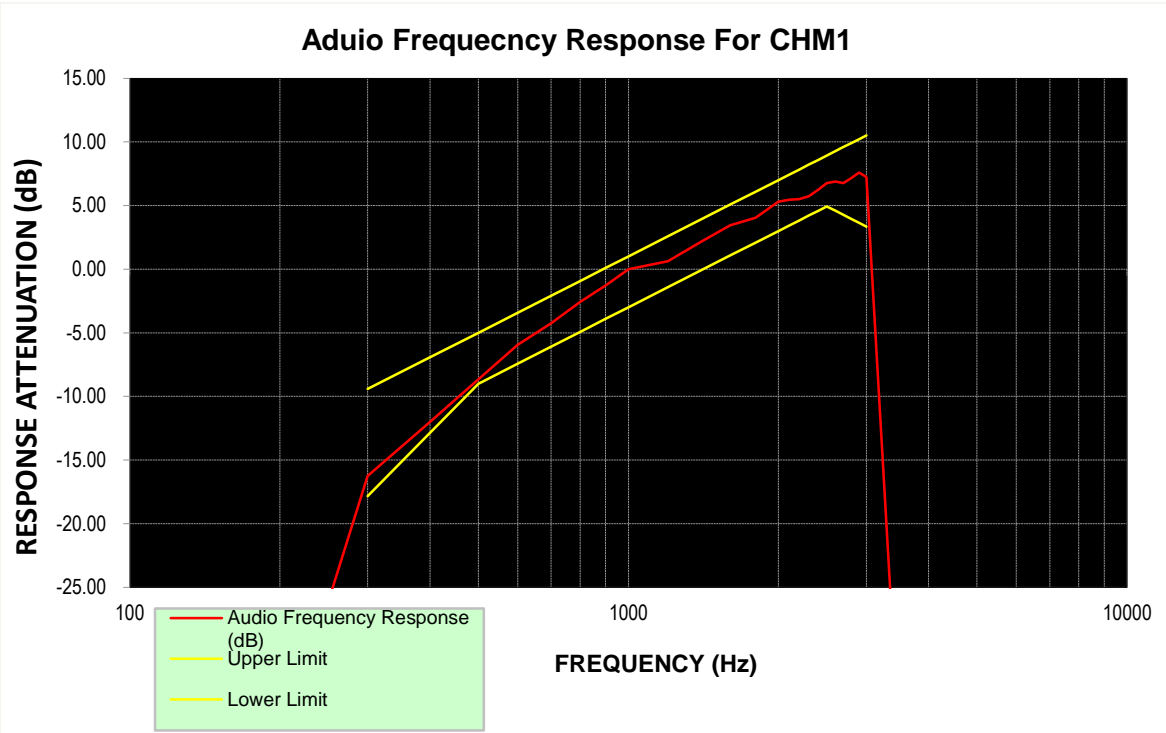
**Appendix E:Audio Frequency Response**

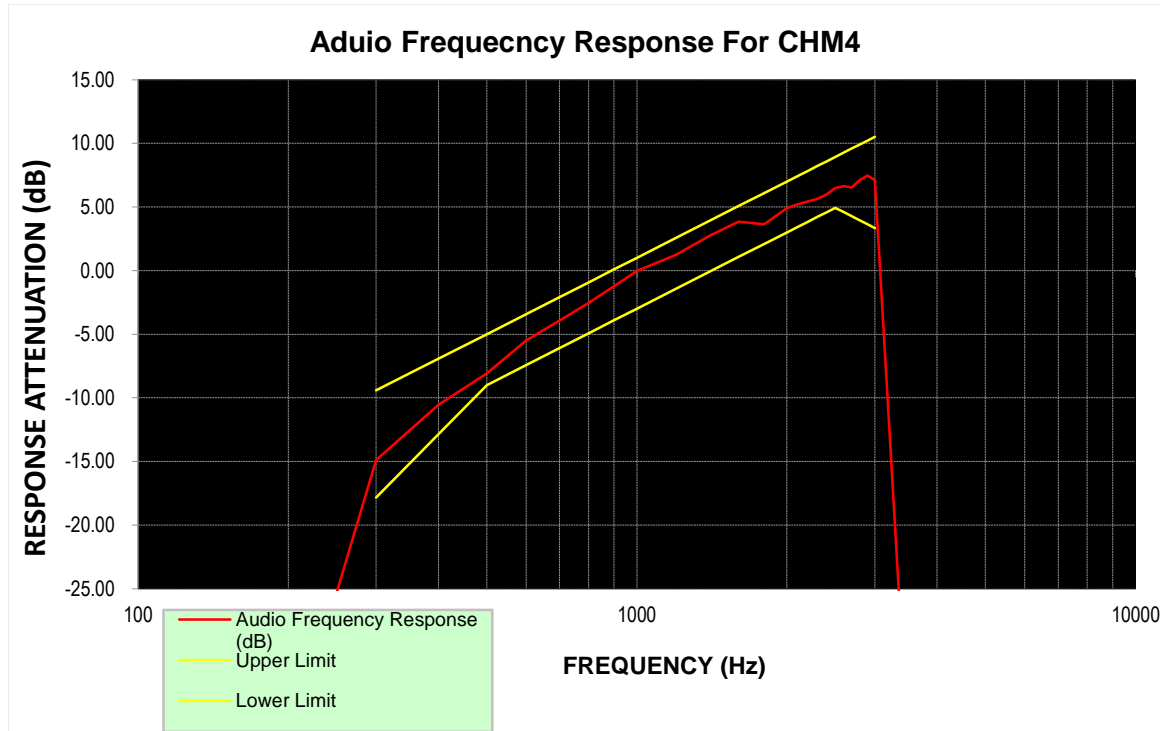
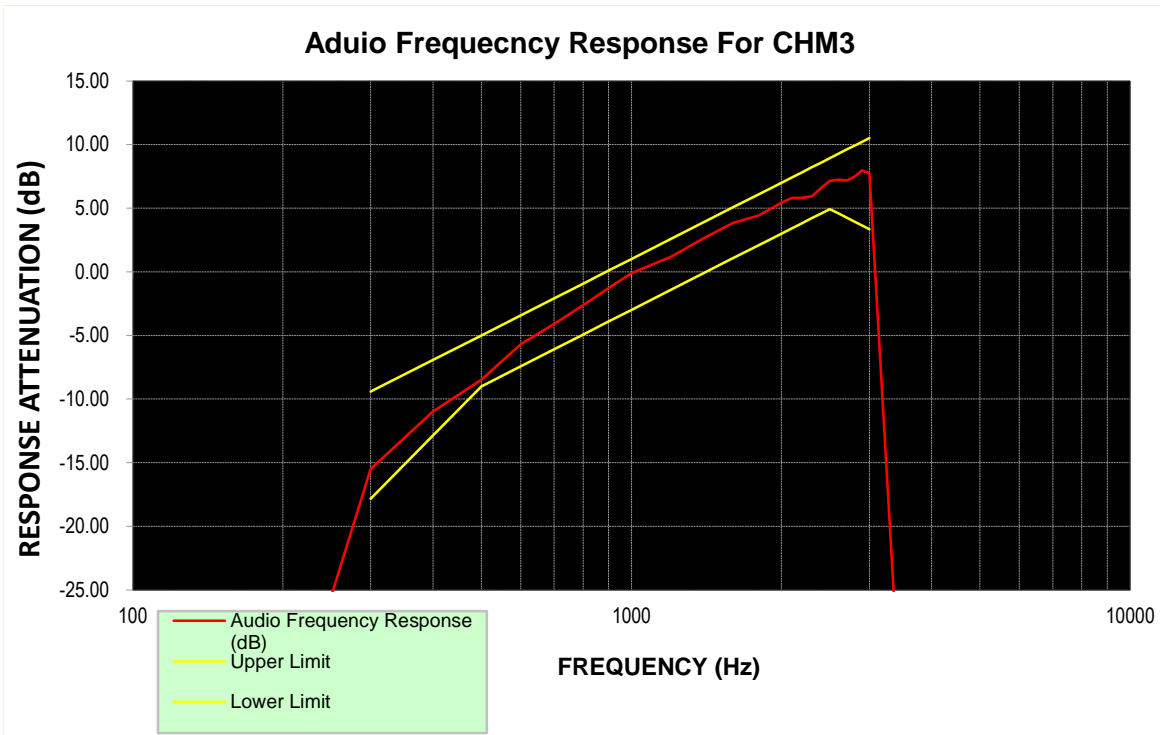
Operation Mode	Modulation Type	Test Channel	Frequency (Hz)	Audio Frequency Response (dB)	Lower Limit	Upper Limit	Result
TX-GMRS	FM	CH _{M3}	3000	7.73	3.35	10.51	PASS
TX-GMRS	FM	CH _{M3}	3500	-37.43			PASS
TX-GMRS	FM	CH _{M3}	4000	-37.61			PASS
TX-GMRS	FM	CH _{M3}	4500	-37.51			PASS
TX-GMRS	FM	CH _{M3}	5000	-37.87			PASS
TX-GMRS	FM	CH _{M4}	100	-38.40			PASS
TX-GMRS	FM	CH _{M4}	200	-38.10			PASS
TX-GMRS	FM	CH _{M4}	300	-14.90	-17.84	-9.42	PASS
TX-GMRS	FM	CH _{M4}	400	-10.55	-12.86	-6.93	PASS
TX-GMRS	FM	CH _{M4}	500	-8.07	-9.00	-5.00	PASS
TX-GMRS	FM	CH _{M4}	600	-5.49	-7.42	-3.42	PASS
TX-GMRS	FM	CH _{M4}	700	-3.93	-6.09	-2.09	PASS
TX-GMRS	FM	CH _{M4}	800	-2.53	-4.93	-0.93	PASS
TX-GMRS	FM	CH _{M4}	900	-1.23	-3.91	0.09	PASS
TX-GMRS	FM	CH _{M4}	1000	-0.02	-3.00	1.00	PASS
TX-GMRS	FM	CH _{M4}	1200	1.25	-1.42	2.58	PASS
TX-GMRS	FM	CH _{M4}	1400	2.74	-0.09	3.91	PASS
TX-GMRS	FM	CH _{M4}	1600	3.85	1.07	5.07	PASS
TX-GMRS	FM	CH _{M4}	1800	3.64	2.09	6.09	PASS
TX-GMRS	FM	CH _{M4}	2000	4.89	3.00	7.00	PASS
TX-GMRS	FM	CH _{M4}	2100	5.21	3.42	7.42	PASS
TX-GMRS	FM	CH _{M4}	2200	5.44	3.83	7.83	PASS
TX-GMRS	FM	CH _{M4}	2300	5.62	4.21	8.21	PASS
TX-GMRS	FM	CH _{M4}	2400	5.98	4.58	8.58	PASS
TX-GMRS	FM	CH _{M4}	2500	6.48	4.93	8.93	PASS
TX-GMRS	FM	CH _{M4}	2600	6.63	4.59	9.27	PASS
TX-GMRS	FM	CH _{M4}	2700	6.54	4.27	9.60	PASS
TX-GMRS	FM	CH _{M4}	2800	7.12	3.95	9.91	PASS
TX-GMRS	FM	CH _{M4}	2900	7.48	3.65	10.22	PASS
TX-GMRS	FM	CH _{M4}	3000	7.11	3.35	10.51	PASS
TX-GMRS	FM	CH _{M4}	3500	-37.81			PASS
TX-GMRS	FM	CH _{M4}	4000	-37.75			PASS
TX-GMRS	FM	CH _{M4}	4500	-37.96			PASS
TX-GMRS	FM	CH _{M4}	5000	-37.95			PASS



Appendix E: Aduio Frequency Response

TEST PLOT RESULT





**Appendix F:Audio Low Pass Filter Response**

Test Mode	Modulation Type	Test Channel	Audio Frequency(Hz)	Audio Frequency Response(dB)	Limit	Result
TX-GMRS	FM	CH _{M1}	1000	-16.75	0	PASS
TX-GMRS	FM	CH _{M1}	3000	-26.54	0	PASS
TX-GMRS	FM	CH _{M1}	4000	-54.97	-7.5	PASS
TX-GMRS	FM	CH _{M1}	5000	-55.12	-13.3	PASS
TX-GMRS	FM	CH _{M1}	6000	-55.21	-18.1	PASS
TX-GMRS	FM	CH _{M1}	8000	-55.19	-25.6	PASS
TX-GMRS	FM	CH _{M1}	10000	-55.42	-31.4	PASS
TX-GMRS	FM	CH _{M1}	15000	-55.25	-41.9	PASS
TX-GMRS	FM	CH _{M1}	20000	-55.33	-50	PASS
TX-GMRS	FM	CH _{M1}	30000	-55.26	-50	PASS
TX-GMRS	FM	CH _{M1}	40000	-55.61	-50	PASS
TX-GMRS	FM	CH _{M1}	50000	-55.53	-50	PASS
TX-GMRS	FM	CH _{M1}	60000	-55.45	-50	PASS
TX-GMRS	FM	CH _{M1}	70000	-55.26	-50	PASS
TX-GMRS	FM	CH _{M1}	80000	-55.74	-50	PASS
TX-GMRS	FM	CH _{M1}	90000	-55.45	-50	PASS
TX-GMRS	FM	CH _{M1}	100000	-55.32	-50	PASS
TX-GMRS	FM	CH _{M2}	1000	-16.72	0	PASS
TX-GMRS	FM	CH _{M2}	3000	-26.57	0	PASS
TX-GMRS	FM	CH _{M2}	4000	-55.32	-7.5	PASS
TX-GMRS	FM	CH _{M2}	5000	-55.13	-13.3	PASS
TX-GMRS	FM	CH _{M2}	6000	-55.45	-18.1	PASS
TX-GMRS	FM	CH _{M2}	8000	-55.74	-25.6	PASS
TX-GMRS	FM	CH _{M2}	10000	-55.62	-31.4	PASS
TX-GMRS	FM	CH _{M2}	15000	-55.43	-41.9	PASS
TX-GMRS	FM	CH _{M2}	20000	-55.26	-50	PASS
TX-GMRS	FM	CH _{M2}	30000	-55.86	-50	PASS
TX-GMRS	FM	CH _{M2}	40000	-55.74	-50	PASS
TX-GMRS	FM	CH _{M2}	50000	-55.64	-50	PASS
TX-GMRS	FM	CH _{M2}	60000	-55.23	-50	PASS
TX-GMRS	FM	CH _{M2}	70000	-55.61	-50	PASS
TX-GMRS	FM	CH _{M2}	80000	-55.44	-50	PASS
TX-GMRS	FM	CH _{M2}	90000	-55.35	-50	PASS
TX-GMRS	FM	CH _{M2}	100000	-55.62	-50	PASS
TX-GMRS	FM	CH _{M3}	1000	-16.25	0	PASS
TX-GMRS	FM	CH _{M3}	3000	-26.11	0	PASS
TX-GMRS	FM	CH _{M3}	4000	-55.31	-7.5	PASS
TX-GMRS	FM	CH _{M3}	5000	-55.28	-13.3	PASS
TX-GMRS	FM	CH _{M3}	6000	-55.61	-18.1	PASS
TX-GMRS	FM	CH _{M3}	8000	-55.98	-25.6	PASS
TX-GMRS	FM	CH _{M3}	10000	-55.78	-31.4	PASS
TX-GMRS	FM	CH _{M3}	15000	-55.21	-41.9	PASS
TX-GMRS	FM	CH _{M3}	20000	-56.12	-50	PASS
TX-GMRS	FM	CH _{M3}	30000	-55.64	-50	PASS

**Appendix F:Audio Low Pass Filter Response**

Test Mode	Modulation Type	Test Channel	Audio Frequency(Hz)	Audio Frequency Response(dB)	Limit	Result
TX-GMRS	FM	CH _{M3}	40000	-55.78	-50	PASS
TX-GMRS	FM	CH _{M3}	50000	-55.63	-50	PASS
TX-GMRS	FM	CH _{M3}	60000	-55.22	-50	PASS
TX-GMRS	FM	CH _{M3}	70000	-55.41	-50	PASS
TX-GMRS	FM	CH _{M3}	80000	-55.21	-50	PASS
TX-GMRS	FM	CH _{M3}	90000	-55.25	-50	PASS
TX-GMRS	FM	CH _{M3}	100000	-55.36	-50	PASS
TX-GMRS	FM	CH _{M4}	1000	-15.89	0	PASS
TX-GMRS	FM	CH _{M4}	3000	-25.63	0	PASS
TX-GMRS	FM	CH _{M4}	4000	-53.22	-7.5	PASS
TX-GMRS	FM	CH _{M4}	5000	-54.23	-13.3	PASS
TX-GMRS	FM	CH _{M4}	6000	-55.36	-18.1	PASS
TX-GMRS	FM	CH _{M4}	8000	-55.62	-25.6	PASS
TX-GMRS	FM	CH _{M4}	10000	-55.89	-31.4	PASS
TX-GMRS	FM	CH _{M4}	15000	-55.74	-41.9	PASS
TX-GMRS	FM	CH _{M4}	20000	-55.87	-50	PASS
TX-GMRS	FM	CH _{M4}	30000	-55.56	-50	PASS
TX-GMRS	FM	CH _{M4}	40000	-55.75	-50	PASS
TX-GMRS	FM	CH _{M4}	50000	-55.36	-50	PASS
TX-GMRS	FM	CH _{M4}	60000	-55.67	-50	PASS
TX-GMRS	FM	CH _{M4}	70000	-55.74	-50	PASS
TX-GMRS	FM	CH _{M4}	80000	-55.16	-50	PASS
TX-GMRS	FM	CH _{M4}	90000	-55.88	-50	PASS
TX-GMRS	FM	CH _{M4}	100000	-56.17	-50	PASS

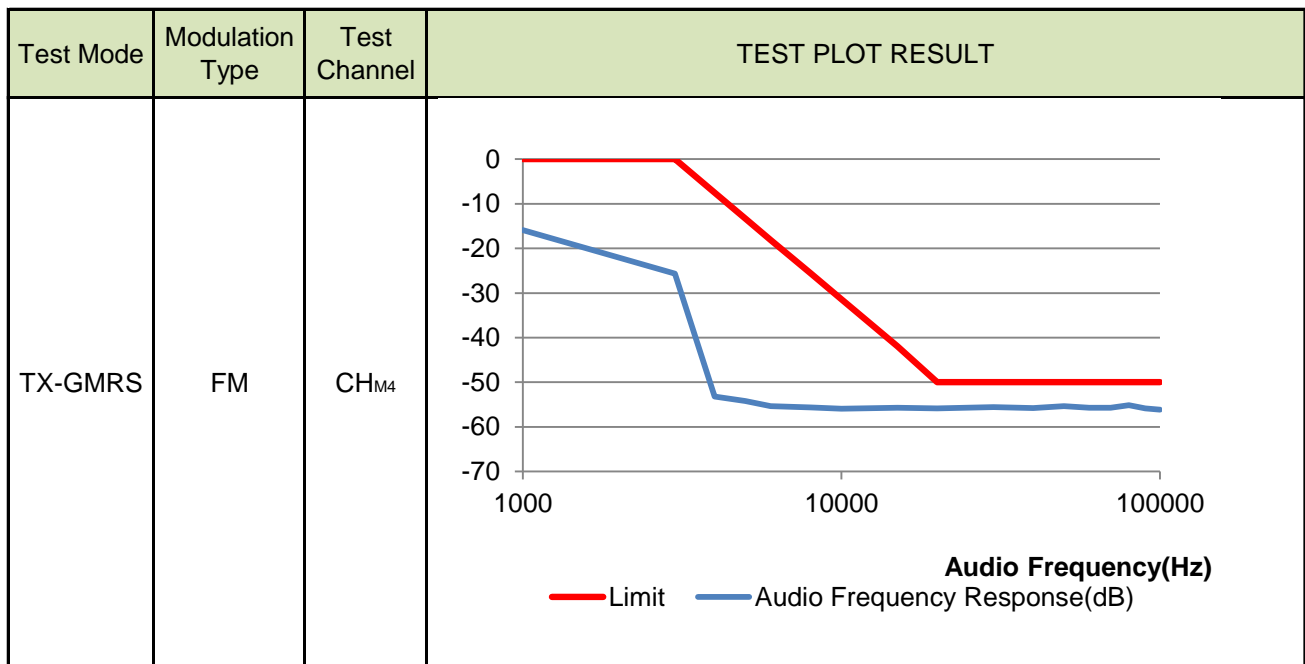


Appendix F:Audio Low Pass Filter Response

Test Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-GMRS	FM	CH _{M1}	<p>Audio Frequency Response (dB) vs Audio Frequency (Hz) for CH_{M1}. The blue line (Audio Frequency Response) starts at approximately -18 dB at 1000 Hz, drops to -28 dB at 3000 Hz, then to -55 dB at 4000 Hz, and remains constant at -55 dB up to 100,000 Hz. The red line (Limit) starts at 0 dB, drops to -50 dB at 20,000 Hz, and remains constant at -50 dB up to 100,000 Hz.</p>
TX-GMRS	FM	CH _{M2}	<p>Audio Frequency Response (dB) vs Audio Frequency (Hz) for CH_{M2}. The blue line (Audio Frequency Response) starts at approximately -18 dB at 1000 Hz, drops to -28 dB at 3000 Hz, then to -55 dB at 4000 Hz, and remains constant at -55 dB up to 100,000 Hz. The red line (Limit) starts at 0 dB, drops to -50 dB at 20,000 Hz, and remains constant at -50 dB up to 100,000 Hz.</p>
TX-GMRS	FM	CH _{M3}	<p>Audio Frequency Response (dB) vs Audio Frequency (Hz) for CH_{M3}. The blue line (Audio Frequency Response) starts at approximately -18 dB at 1000 Hz, drops to -28 dB at 3000 Hz, then to -55 dB at 4000 Hz, and remains constant at -55 dB up to 100,000 Hz. The red line (Limit) starts at 0 dB, drops to -50 dB at 20,000 Hz, and remains constant at -50 dB up to 100,000 Hz.</p>



Appendix F: Audio Low Pass Filter Response



**Appendix G: Frequency Stability Test & Temperature**

Operation Mode	Modulation Type	Test Conditions						Limit (ppm)	Result
		Voltage	Temperature	CH _{M1}	CH _{M2}	CH _{M3}	CH _{M4}		
TX-GMRS	FM	V _N	-30	-0.045	-0.032	-0.029	-0.033	±2.5	PASS
TX-GMRS	FM	V _N	-20	-0.059	-0.044	-0.040	-0.041	±2.5	PASS
TX-GMRS	FM	V _N	-10	-0.074	-0.053	-0.055	-0.053	±2.5	PASS
TX-GMRS	FM	V _N	0	-0.089	-0.066	-0.063	-0.068	±2.5	PASS
TX-GMRS	FM	V _N	10	-0.081	-0.057	-0.055	-0.059	±2.5	PASS
TX-GMRS	FM	V _N	20	-0.065	-0.046	-0.042	-0.048	±2.5	PASS
TX-GMRS	FM	V _N	30	-0.051	-0.030	-0.027	-0.040	±2.5	PASS
TX-GMRS	FM	V _N	40	-0.041	-0.018	-0.012	-0.030	±2.5	PASS
TX-GMRS	FM	V _N	55	-0.025	-0.004	<u>-0.001</u>	-0.016	±2.5	PASS

**Appendix H: Frequency Stability Test & Voltage**

Operation Mode	Modulation Type	Test Conditions						Limit (ppm)	Result
		Voltage	Temperature	CH _{M1}	CH _{M2}	CH _{M3}	CH _{M4}		
TX-GMRS	FM	V _N	T _N	-0.089	-0.066	<u>-0.063</u>	-0.068	±2.5	PASS
TX-GMRS	FM	V _L	T _N	-0.040	-0.029	-0.019	<u>-0.018</u>	±2.5	PASS
TX-GMRS	FM	V _H	T _N	-0.071	-0.044	-0.035	-0.049	±2.5	PASS



Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																																														
TX-GMRS	FM	CH _{M1}	<p>1 Spurious Emissions</p> <table border="1"> <tr> <td>M1[1]</td> <td>-46.30 dBm</td> <td>925.267000 MHz</td> </tr> <tr> <td>M1[1]</td> <td>-38.62 dBm</td> <td>103.975000 MHz</td> </tr> </table> <p>2 Result Summary</p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>Alimit</th> </tr> </thead> <tbody> <tr> <td>9.000 kHz</td> <td>150.000 kHz</td> <td>1.000 kHz</td> <td>25.39301 kHz</td> <td>-77.85 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>150.000 kHz</td> <td>30.000 MHz</td> <td>10.000 kHz</td> <td>295.48238 kHz</td> <td>-68.46 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>30.000 MHz</td> <td>1.000 GHz</td> <td>100.000 kHz</td> <td>358.62270 MHz</td> <td>-37.40 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>1.000 GHz</td> <td>5.000 GHz</td> <td>1.000 MHz</td> <td>1.78341 GHz</td> <td>-52.51 dBm</td> <td>-200.00 dB</td> </tr> </tbody> </table> <p>3 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td>1</td> <td>103.975 MHz</td> <td>-38.62 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td>1</td> <td>566.621 MHz</td> <td>-43.29 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td>1</td> <td>358.623 MHz</td> <td>-37.40 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td>1</td> <td>462.622 MHz</td> <td>-40.28 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td>1</td> <td>925.267 MHz</td> <td>-46.30 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 6.NOV.2019 11:11:02</p>	M1[1]	-46.30 dBm	925.267000 MHz	M1[1]	-38.62 dBm	103.975000 MHz	Range Low	Range Up	RBW	Frequency	Power Abs	Alimit	9.000 kHz	150.000 kHz	1.000 kHz	25.39301 kHz	-77.85 dBm	-200.00 dB	150.000 kHz	30.000 MHz	10.000 kHz	295.48238 kHz	-68.46 dBm	-200.00 dB	30.000 MHz	1.000 GHz	100.000 kHz	358.62270 MHz	-37.40 dBm	-200.00 dB	1.000 GHz	5.000 GHz	1.000 MHz	1.78341 GHz	-52.51 dBm	-200.00 dB	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1	1	103.975 MHz	-38.62 dBm			M2	1	1	566.621 MHz	-43.29 dBm			M3	1	1	358.623 MHz	-37.40 dBm			M4	1	1	462.622 MHz	-40.28 dBm			M5	1	1	925.267 MHz	-46.30 dBm		
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Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																																																	
TX-GMRS	FM	CHM4	<p>1 Spurious Emissions</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Frequency</th> <th>Power</th> </tr> </thead> <tbody> <tr> <td>M5[1]</td> <td>935.300000 MHz</td> <td>-47.49 dBm</td> </tr> <tr> <td>M1[1]</td> <td>363.624000 MHz</td> <td>-37.40 dBm</td> </tr> </tbody> </table> <p>2 Result Summary</p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>Alimit</th> </tr> </thead> <tbody> <tr> <td>9.000 kHz</td> <td>150.000 kHz</td> <td>1.000 kHz</td> <td>16.14051 kHz</td> <td>-78.16 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>150.000 kHz</td> <td>30.000 MHz</td> <td>10.000 kHz</td> <td>295.48238 kHz</td> <td>-69.00 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>30.000 MHz</td> <td>1.000 GHz</td> <td>100.000 kHz</td> <td>363.62411 MHz</td> <td>-37.40 dBm</td> <td>-200.00 dB</td> </tr> <tr> <td>1.000 GHz</td> <td>5.000 GHz</td> <td>1.000 MHz</td> <td>1.40255 GHz</td> <td>-53.13 dBm</td> <td>-200.00 dB</td> </tr> </tbody> </table> <p>3 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>363.624 MHz</td> <td>-37.40 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>571.622 MHz</td> <td>-44.53 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>103.975 MHz</td> <td>-38.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>467.623 MHz</td> <td>-43.70 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>935.3 MHz</td> <td>-47.49 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 6.NOV.2019 11:15:06</p>	Marker	Frequency	Power	M5[1]	935.300000 MHz	-47.49 dBm	M1[1]	363.624000 MHz	-37.40 dBm	Range Low	Range Up	RBW	Frequency	Power Abs	Alimit	9.000 kHz	150.000 kHz	1.000 kHz	16.14051 kHz	-78.16 dBm	-200.00 dB	150.000 kHz	30.000 MHz	10.000 kHz	295.48238 kHz	-69.00 dBm	-200.00 dB	30.000 MHz	1.000 GHz	100.000 kHz	363.62411 MHz	-37.40 dBm	-200.00 dB	1.000 GHz	5.000 GHz	1.000 MHz	1.40255 GHz	-53.13 dBm	-200.00 dB	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		363.624 MHz	-37.40 dBm			M2	1		571.622 MHz	-44.53 dBm			M3	1		103.975 MHz	-38.35 dBm			M4	1		467.623 MHz	-43.70 dBm			M5	1		935.3 MHz	-47.49 dBm		
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