

FCC PART 95

MEASUREMENT AND TEST REPORT

For

REDELL OF FUJIAN ELECTRONIC TECHNOLOGY CO.,LTD

No.150 Xia Pu, Xia Mei Village, Xia Mei Town, Nan'an City, Fujian Province, China

FCC ID: 2AJOQ-R5308

Report Type: Original Report	Product Type: Two Way Radio
Test Engineer: <u>Lion Xiao</u>	<i>Lion Xiao</i>
Report Number: <u>RXM160805051-00</u>	
Report Date: <u>2016-09-05</u>	
Reviewed By: <u>Dean Liu</u> RF Engineer	<i>Dean Liu</i>
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.(Dongguan). This report may contain data or test methods that are not covered by the NVLAP accreditation scope and shall be marked with an asterisk "*" and noted.

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	3
SYSTEM TEST CONFIGURATION.....	4
DESCRIPTION OF TEST CONFIGURATION	4
EQUIPMENT MODIFICATIONS	4
BLOCK DIAGRAM OF TEST SETUP	4
SUMMARY OF TEST RESULTS	5
FCC §2.1093 - RF EXPOSURE INFORMATION	6
APPLICABLE STANDARD	6
TEST RESULT	6
FCC §2.1046, §95.639(a) & §95.639(d) - RF OUTPUT POWER	7
APPLICABLE STANDARD	7
TEST PROCEDURE	7
TEST EQUIPMENT LIST AND DETAILS.....	7
TEST DATA	8
FCC §2.1047 & §95.637(a) - MODULATION CHARACTERISTIC	9
APPLICABLE STANDARD	9
TEST EQUIPMENT LIST AND DETAILS.....	9
TEST PROCEDURE	9
TEST DATA	9
FCC §2.1049 & §95.633(a) (c) - AUTHOURIZED BANDWIDTH AND EMISSION MASK.....	16
APPLICABLE STANDARD	16
TEST PROCEDURE	16
TEST EQUIPMENT LIST AND DETAILS.....	16
TEST DATA	17
FCC §2.1053 & §95.635(b) (7) - RADIATED SPURIOUS EMISSION	22
APPLICABLE STANDARD	22
TEST PROCEDURE	22
TEST EQUIPMENT LIST AND DETAILS.....	22
TEST DATA	23
FCC§2.1055 (d), §95.626(b) & §95.621 - FREQUENCY STABILITY	25
APPLICABLE STANDARD	25
TEST PROCEDURE	25
TEST EQUIPMENT LIST AND DETAILS.....	25
TEST DATA	26

GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The REDELL OF FUJIAN ELECTRONIC TECHNOLOGY CO.,LTD 's product, model number: R-UV88 (FCC ID: 2AJOQ-R5308) or the "EUT" in this report was a Two Way Radio , which was measured approximately:15.15 cm (L) x 5.75cm (W) x 2.75 cm (H), rated input voltage: DC3.7 V rechargeable Li-ion battery pack or DC5V charging from adapter.

Adapter information:

MODEL: CG-D050100

INPUT: AC 100-240V, 50/60Hz, 0.3A Max

OUTPUT: DC 5V, 1000mA

Note: The series product, model R-5308, R-330, R-310, R-380, R-390 and R-5508 are electrically identical, the difference them is the screen, we selected R-5308 for fully testing, the details was explained in the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 160805051 (Assigned by BACL,Dongguan). The EUT supplied by the applicant was received on 2016-08-16.*

Objective

This report is prepared on behalf of REDELL OF FUJIAN ELECTRONIC TECHNOLOGY CO.,LTD in accordance with Part 2 and Part 95, Subpart A & Subpart B & Subpart E of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with Part 95 Subpart A, B and Subpart E of the Federal Communication Commissions rules with TIA-603-D, Land Mobile FM or PM-Communications Equipment-Measurement and Performance Standards.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

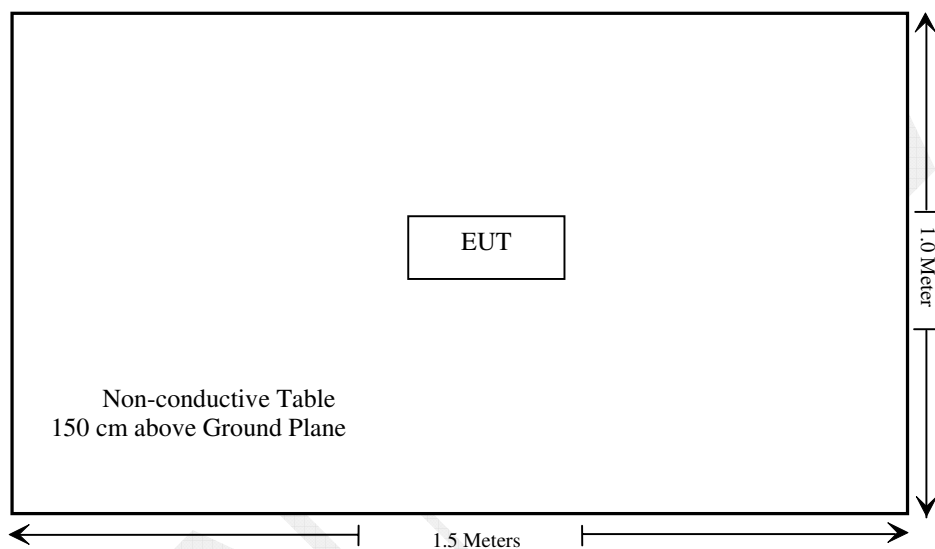
Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

Equipment Modifications

No modification was made to the EUT tested.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§2.1093	RF Exposure	Compliance
§2.1046, §95.639(a), §95.639(d)	RF Output Power	Compliance
§2.1047, §95.637(a)	Modulation Characteristic	Compliance
§2.1049, §95.633(a) (c)	Authorized Bandwidth & Emission Mask	Compliance
§2.1053, §95.635(b) (7)	Spurious Radiated Emissions	Compliance
§2.1055(d), §95.626(b), §95.621	Frequency Stability	Compliance

Test Time: 2016-08-30 ~ 2016-09-01

FCC §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

According to FCC §2.1093 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Test Result

Please refer to SAR Report Number: RXM160805051-20.

FINAL

FCC §2.1046, §95.639(a) & §95.639(d) - RF OUTPUT POWER**Applicable Standard**

Per FCC §2.1046, §95.639(a) and §95.639(d), No FRS Unit, under any condition of modulation, shall exceed a 0.5 W effective radiated power (ERP).

Per FCC §95.639 (a) (1), No GMRS transmitter, under any condition of modulation, shall exceed 50 W Carrier power when transmitting emission type A1D, F1D, G1D, A3E, F3E or G3E.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the emissions were measured by the substitution.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Agilent	Signal Generator	E8247C	MY43321350	2014-10-16	2016-10-15
R&S	EMI Test Receiver	ESCI	100224	2016-08-03	2017-08-02
N/A	Coaxial Cable	14m	N/A	2016-05-06	2017-05-06
Mini-Circuits	HIGH PASS FILTER	BHP-550+	YZU15801121	2016-05-06	2017-05-06
Weinschel Corp	Terminal Load(100W)	1440-3	MD447	/	/

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	29.8 °C
Relative Humidity:	39 %
ATM Pressure:	99.7 kPa

The testing was performed by Lion Xiao on 2016-08-31

Test Mode: Transmitting

Conducted Output Power:

Mode	Channel Separation	Frequency (MHz)	High Power (W)	Low Power (W)
FM	25kHz	462.550	1.948	0.513
FM	25kHz	462.625	1.969	0.517
FM	25kHz	462.725	1.974	0.509
FM	25kHz	467.550	1.951	0.485
FM	25kHz	467.625	1.963	0.492
FM	25kHz	467.725	1.956	0.498

Note: The rated high power is 2 W, and low power is 0.5 W.

ERP:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
frequency: 462.625 MHz								
462.625	H	96.81	15.5	0.0	0.7	14.8	47.0	32.2
462.625	V	111.98	33.6	0.0	0.7	32.9	47.0	14.1
frequency: 467.625 MHz								
467.625	H	98.60	17.4	0.0	0.7	16.7	47.0	30.3
467.625	V	111.64	33.4	0.0	0.7	32.7	47.0	14.3

Test Result: Compliance.

FCC §2.1047 & §95.637(a) - MODULATION CHARACTERISTIC

Applicable Standard

Per FCC §2.1047 and §95.637(a): A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A FRS unit that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency response must not exceed 3.125 kHz.

Each GMRS transmitter, except a mobile station transmitter with a power output of 2.5 W or less, must automatically prevent a greater than normal audio level from causing over-modulation. The transmitter also must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of § 95.631 (without filtering.) The filter must be between the modulation limiter and the modulated stage of the transmitter. At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least $60 \log_{10} (f/3)$ dB greater than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB greater than the attenuation at 1 kHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	8920A	00 235	2016-07-18	2017-07-17
R&S	Spectrum Analyzer	FSEM	DE23437	2015-11-23	2016-11-22
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

Test Method: TIA/EIA-603-D

Test Data

Environmental Conditions

Temperature:	29.8 °C
Relative Humidity:	39 %
ATM Pressure:	99.7 kPa

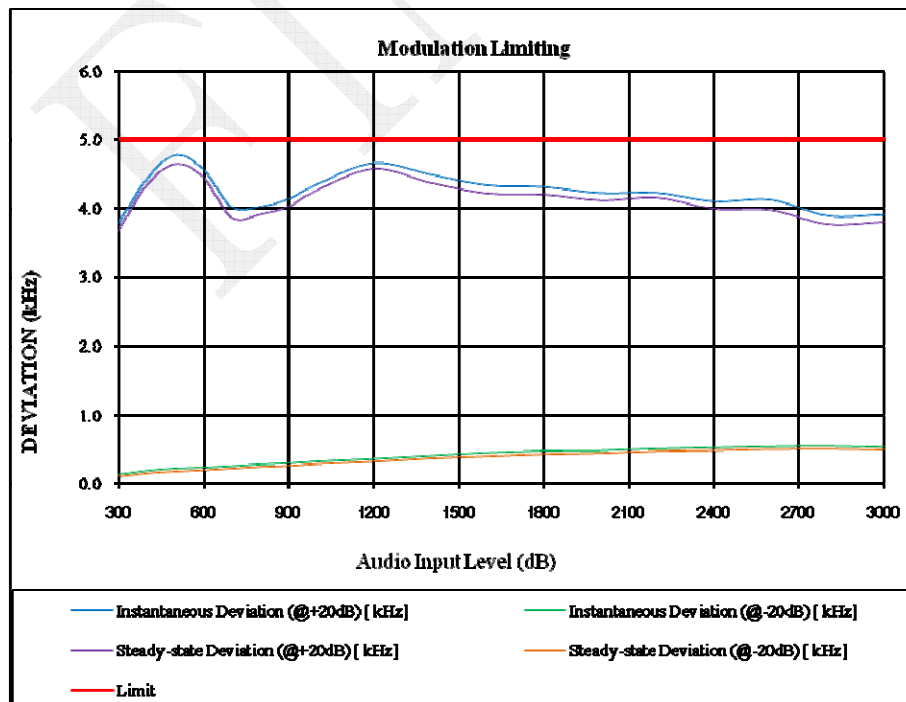
The testing was performed by Lion Xiao on 2016-08-31.

Please refer to the following tables and plots.

*Test Mode: Transmitting***MODULATION LIMITING**

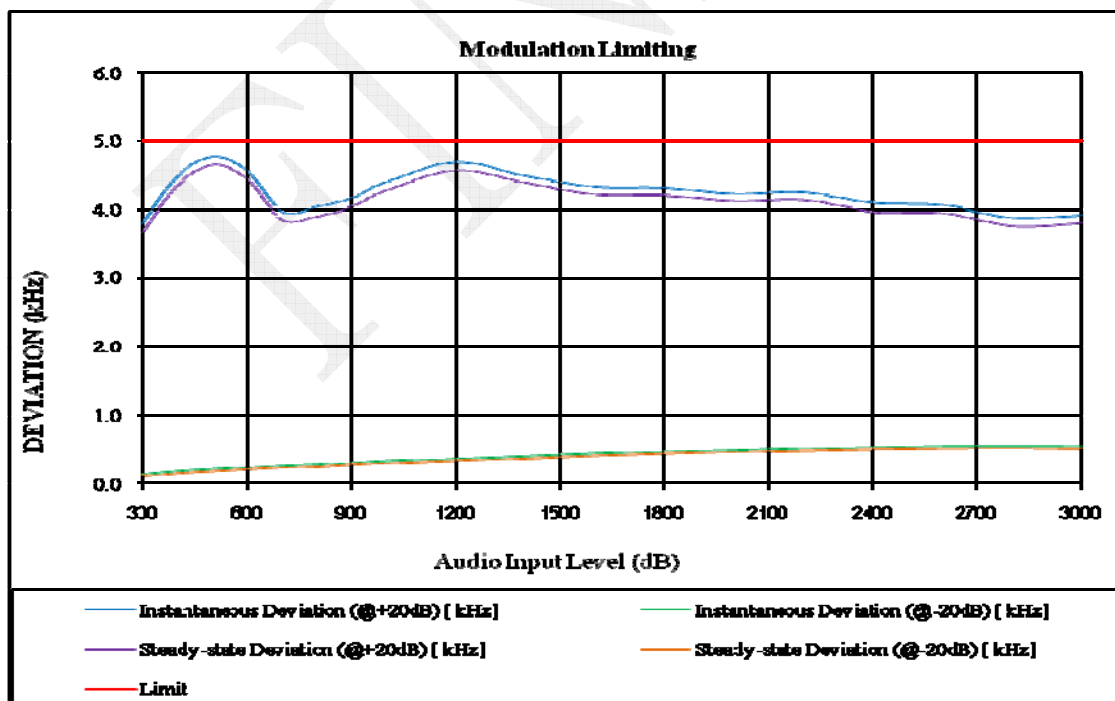
GMRS (462.625 MHz)

Audio Frequency (Hz)	Instantaneous		Steady-state		Limit [kHz]
	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	
300	3.769	0.132	3.655	0.106	5
400	4.423	0.189	4.331	0.155	5
500	4.778	0.224	4.645	0.182	5
600	4.573	0.237	4.452	0.203	5
700	4.021	0.259	3.861	0.227	5
800	4.026	0.285	3.907	0.253	5
900	4.139	0.301	4.020	0.267	5
1000	4.355	0.327	4.263	0.294	5
1200	4.663	0.363	4.576	0.329	5
1400	4.497	0.408	4.372	0.377	5
1600	4.341	0.452	4.215	0.405	5
1800	4.316	0.477	4.199	0.435	5
2000	4.227	0.483	4.114	0.450	5
2200	4.230	0.510	4.152	0.479	5
2400	4.105	0.526	3.986	0.490	5
2600	4.129	0.541	3.968	0.507	5
2800	3.894	0.548	3.761	0.510	5
3000	3.911	0.533	3.793	0.499	5



GMRS (467.625 MHz)

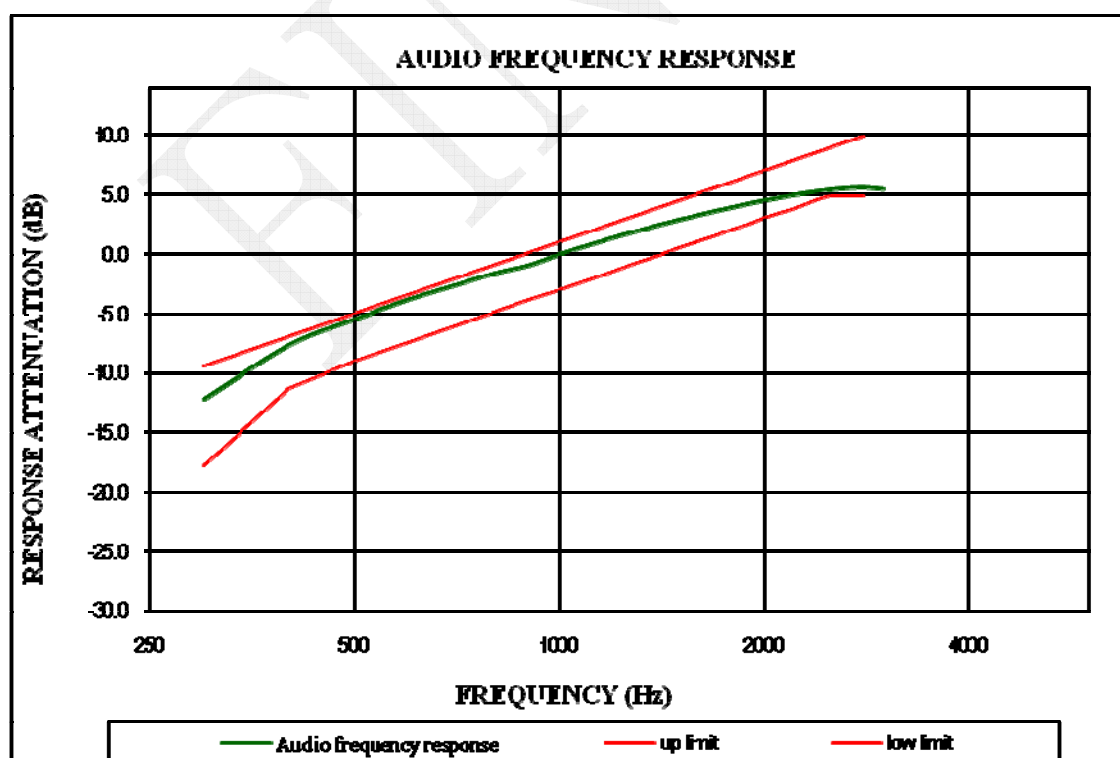
Audio Frequency (Hz)	Instantaneous		Steady-state		Limit [kHz]
	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	
300	3.782	0.150	3.646	0.113	5
400	4.475	0.192	4.339	0.155	5
500	4.769	0.217	4.647	0.182	5
600	4.576	0.241	4.455	0.206	5
700	3.980	0.268	3.858	0.233	5
800	4.034	0.283	3.901	0.249	5
900	4.159	0.309	4.035	0.274	5
1000	4.396	0.337	4.270	0.297	5
1200	4.693	0.372	4.572	0.333	5
1400	4.490	0.408	4.388	0.370	5
1600	4.326	0.445	4.213	0.406	5
1800	4.310	0.472	4.201	0.434	5
2000	4.224	0.491	4.119	0.459	5
2200	4.248	0.517	4.134	0.480	5
2400	4.093	0.535	3.970	0.498	5
2600	4.061	0.549	3.952	0.510	5
2800	3.884	0.552	3.766	0.515	5
3000	3.917	0.548	3.801	0.505	5



Audio Frequency Response

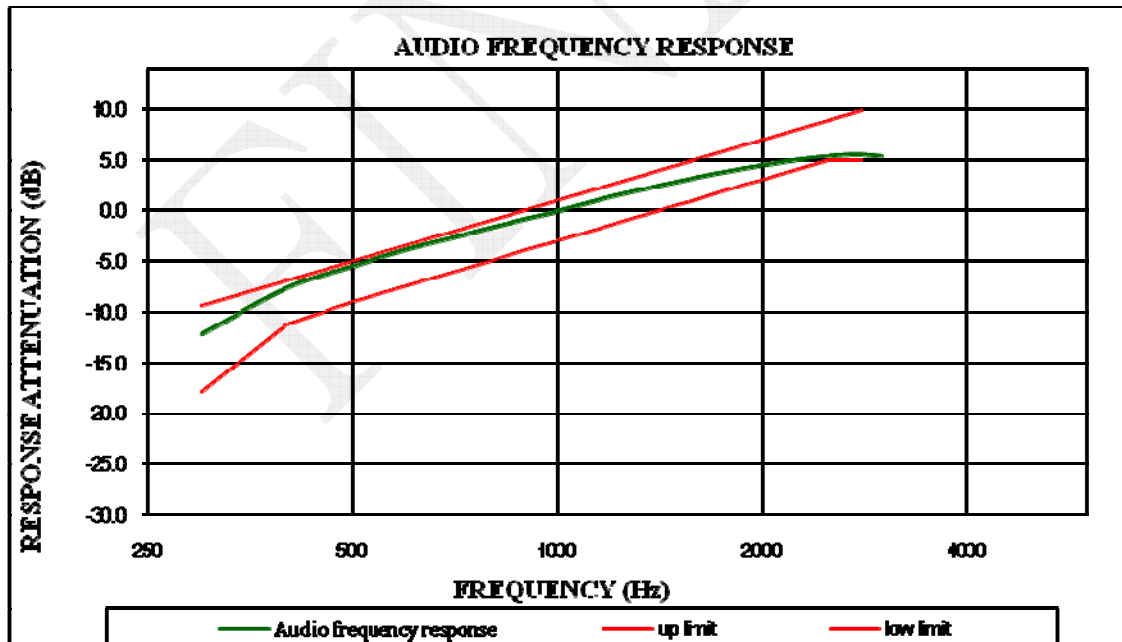
GMRS (462.625 MHz)

Audio Frequency (Hz)	Response Attenuation (dB)
300	-12.16
400	-7.62
500	-5.46
600	-3.80
700	-2.63
800	-1.61
900	-0.93
1000	0.00
1200	1.40
1400	2.47
1600	3.31
1800	3.99
2000	4.54
2200	4.98
2400	5.30
2600	5.52
2800	5.61
3000	5.47



GMRS (467.625 MHz)

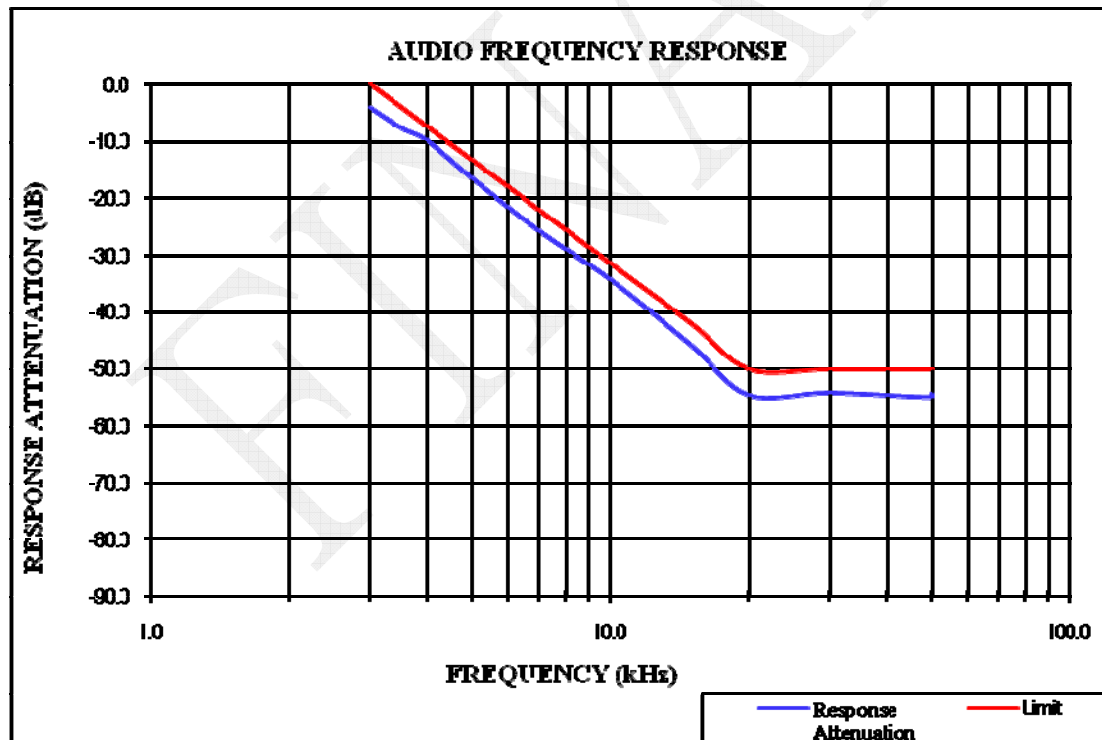
Audio Frequency (Hz)	Response Attenuation (dB)
300	-12.11
400	-7.57
500	-5.43
600	-3.78
700	-2.63
800	-1.60
900	-0.73
1000	0.00
1200	1.44
1400	2.46
1600	3.32
1800	4.00
2000	4.53
2200	4.97
2400	5.28
2600	5.50
2800	5.56
3000	5.40



Audio Low Pass Filter Response

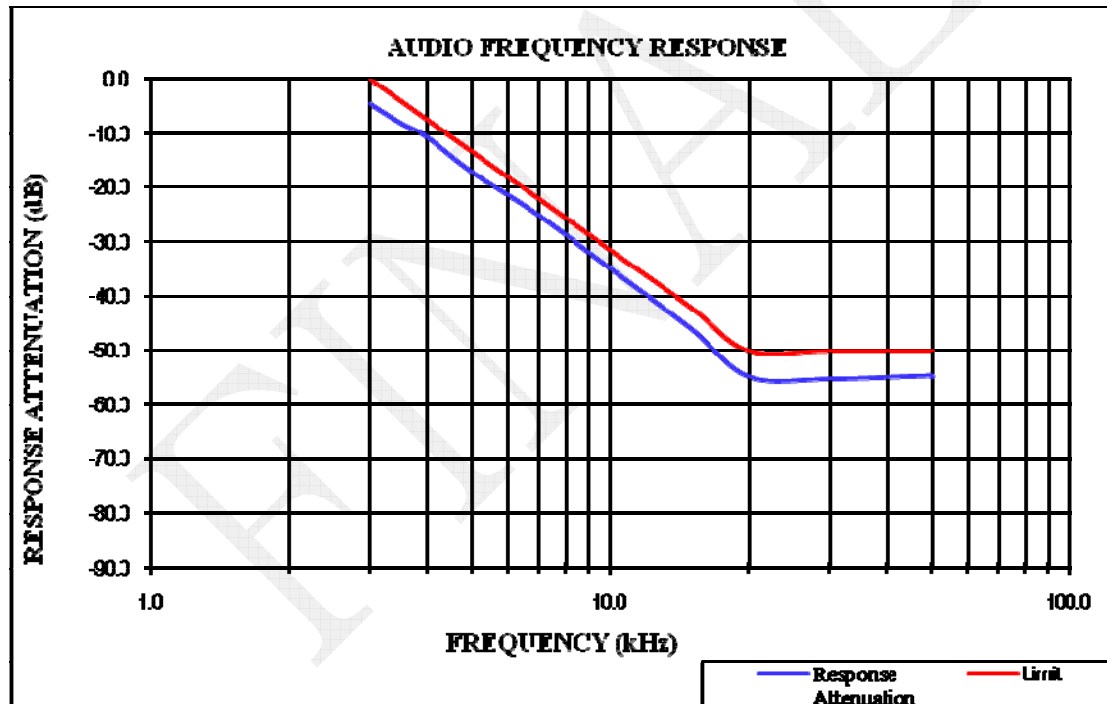
462.625 MHz, Channel Separation 25kHz

Audio Frequency (Hz)	Response Attenuation (dB)	Limit (dB)
3.0	-4.1	0.0
3.5	-7.6	-4.0
4.0	-9.9	-7.5
5.0	-16.5	-13.3
7.0	-25.7	-22.1
10.0	-34.2	-31.4
15.0	-45.8	-42.0
20.0	-54.5	-50.0
30.0	-54.1	-50.0
50.0	-54.9	-50.0
50.0	-54.3	-50.0



467.625 MHz, Channel Separation 25kHz

Audio Frequency (Hz)	Response Attenuation (dB)	Limit (dB)
3.0	-4.7	0.0
3.5	-8.2	-4.0
4.0	-10.8	-7.5
5.0	-17.2	-13.3
7.0	-25.2	-22.1
10.0	-34.9	-31.4
15.0	-46.0	-42.0
20.0	-54.9	-50.0
30.0	-55.3	-50.0
50.0	-54.7	-50.0
50.0	-55.1	-50.0



FCC §2.1049 & §95.633(a) (c) - AUTHORIZED BANDWIDTH AND EMISSION MASK**Applicable Standard**

According to §95.633(c), the authorized bandwidth for emission type F3E or F2D transmitted by a FRS unit is 12.5 kHz. The authorized bandwidth for emission type F1D, G1D, F3E or G3E is 20kHz.

The power of each unwanted emission shall be less than TP as specified in the applicable paragraphs listed in the following :

- 1) At least 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) At least 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) At least $43 + 10 \log_{10}(T)$ dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

Test Procedure

TIA-603-D, section 2.2.11

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	8920A	00 235	2016-07-18	2017-07-17
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06
R&S	Spectrum Analyzer	FSEM	DE31388	2016-05-09	2017-05-09
Weinschel Corp	Attenuator	53-20-34	LN749	2016-05-08	2017-05-08

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

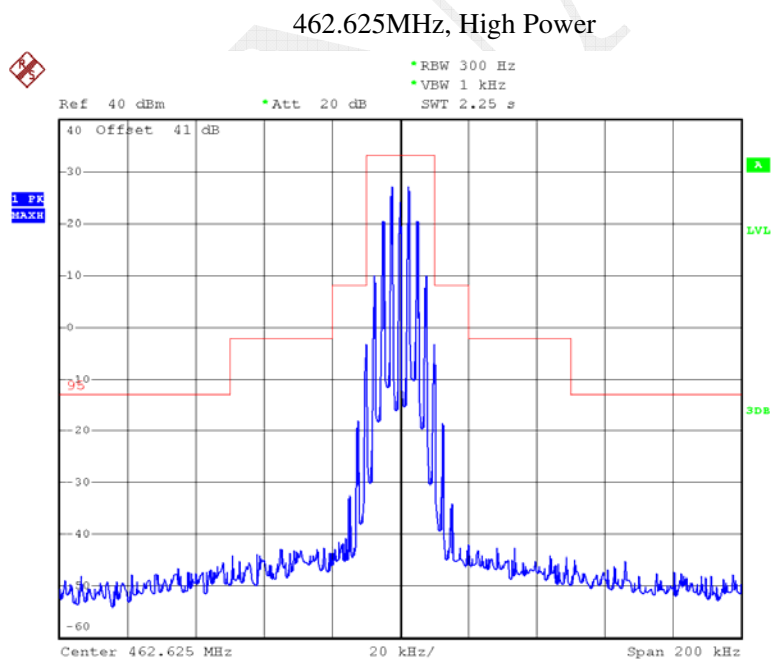
Test Data**Environmental Conditions**

Temperature:	28.1 ~ 29.8 °C
Relative Humidity:	39 ~ 44 %
ATM Pressure:	99.7 ~ 99.8 kPa

The testing was performed by Lion Xiao from 2016-08-30 to 2016-09-01.

Test Mode: Transmitting

Modulation Mode	f_c	High Power		Low Power	
	MHz	99% Occupied Bandwidth kHz	20 dB Bandwidth kHz	99% Occupied Bandwidth kHz	20 dB Bandwidth kHz
FM	462.625	14.750	16.000	14.750	15.750
FM	467.625	14.750	15.750	14.750	15.750



Date: 30.AUG.2016 05:52:13

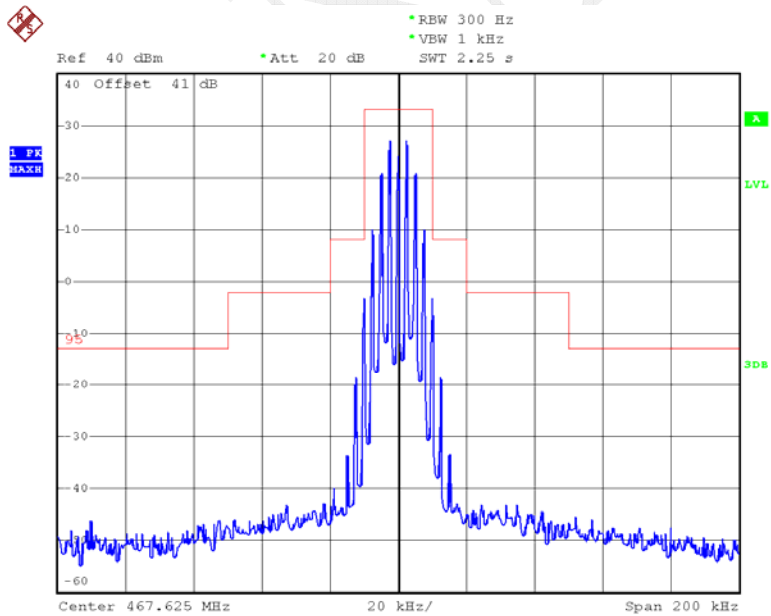
Ref 30 dBm Att 20 dB REW 300 Hz VEW 1 kHz SWT 2.25 s

30 Offset 41 dB

1 PK SEARCH

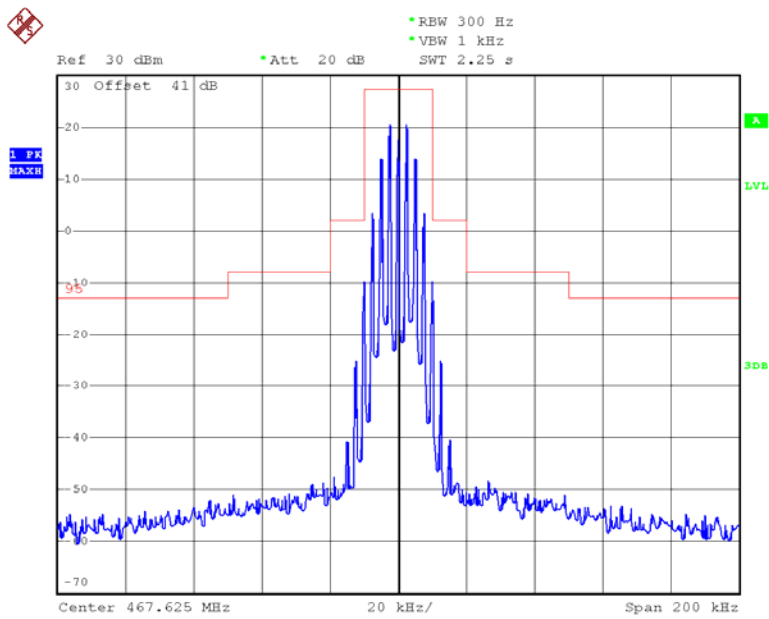
Center 462.625 MHz 20 kHz/ Span 200 kHz

467.625 MHz, High Power



Page 18 of 27

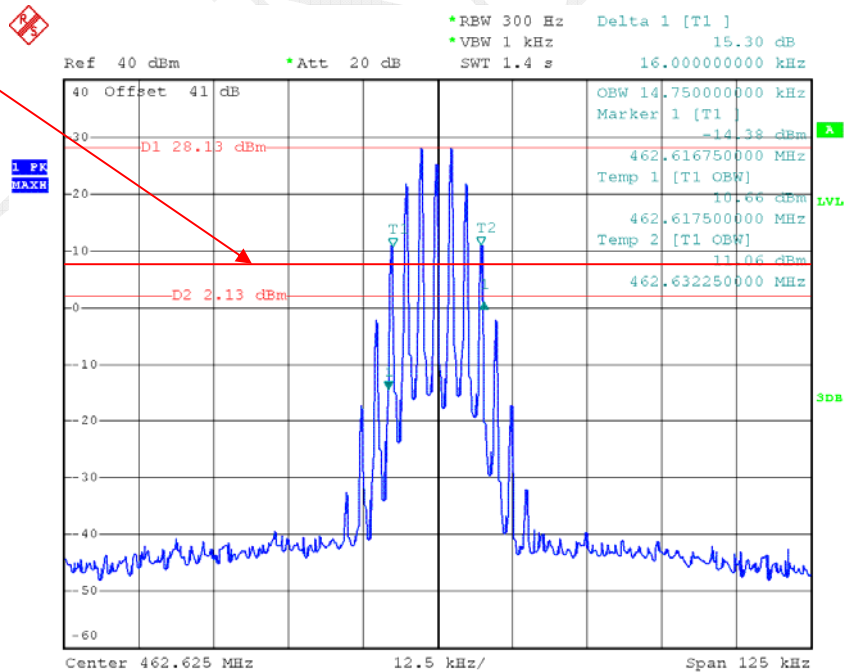
467.625 MHz, Low Power



Date: 30.AUG.2016 05:48:08

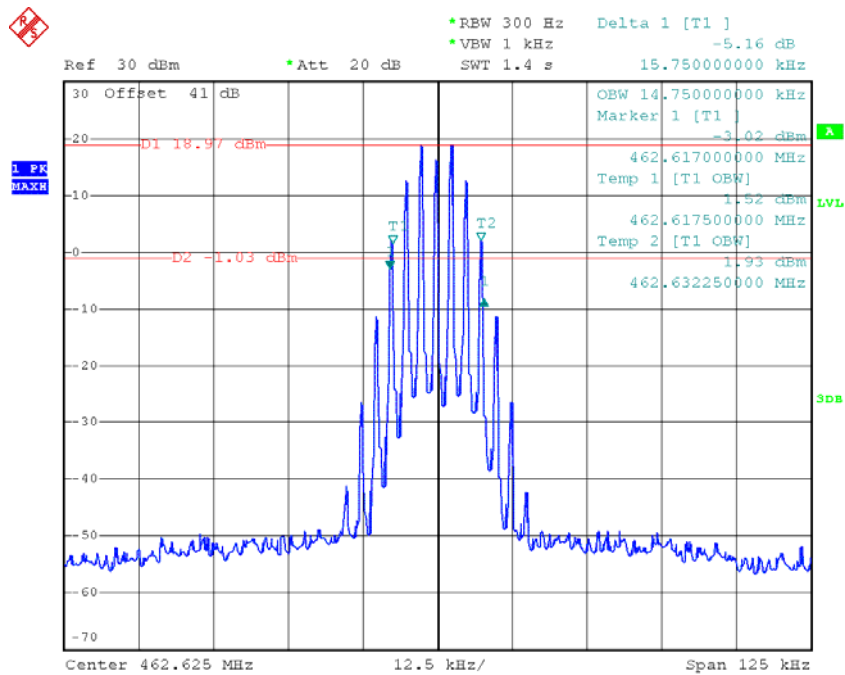
20dB
attenuation

462.625MHz, High Power



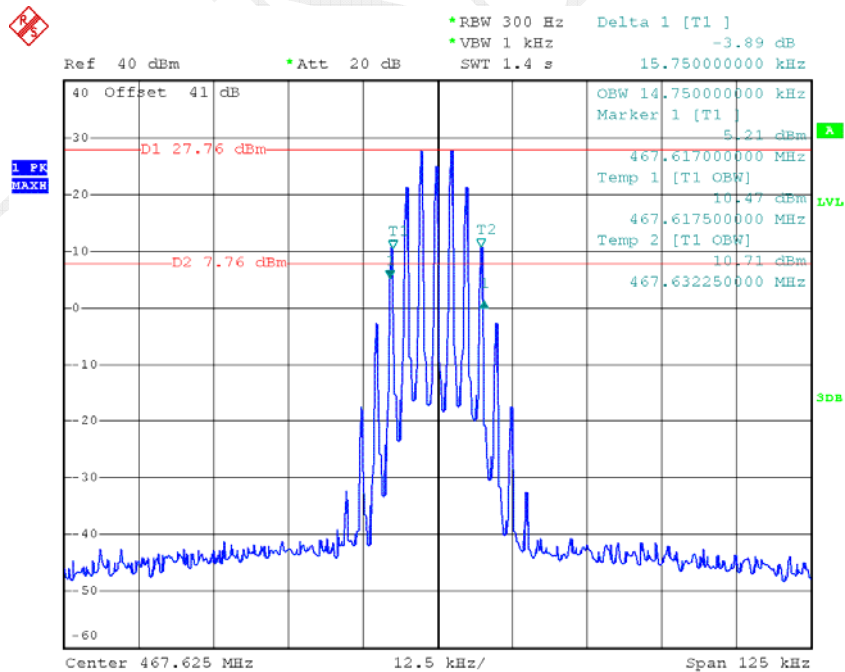
Date: 1.SEP.2016 17:43:30

462.625MHz, Low Power



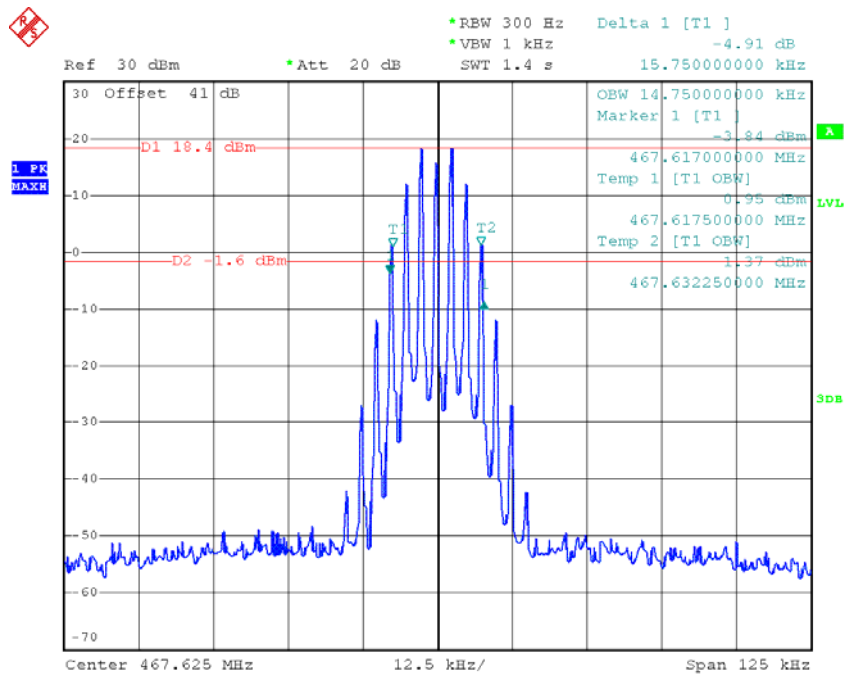
Date: 1.SEP.2016 17:41:55

467.625 MHz, High Power



Date: 1.SEP.2016 17:38:04

467.625 MHz, Low Power



Date: 1.SEP.2016 17:39:38

FCC §2.1053 & §95.635(b) (7) - RADIATED SPURIOUS EMISSION

Applicable Standard

FCC §2.1053 and §95.635

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001)-the absolute level
Spurious attenuation limit in dB = 43+10 Log₁₀ (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2016-08-03	2017-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2015-11-23	2016-11-22
ETS-Lindgren	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2016-02-19	2017-02-19
R&S	Spectrum Analyzer	FSEM	DE23437	2015-11-23	2016-11-22
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
N/A	Coaxial Cable	14m	N/A	2016-05-06	2017-05-06
N/A	Coaxial Cable	8m	N/A	2016-05-06	2017-05-06
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2015-09-06	2016-09-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	29.8 °C
Relative Humidity:	39 %
ATM Pressure:	99.7 kPa

The testing was performed by Lion Xiao on 2016-08-31.

Test Mode: Transmitting

30MHz-5GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
frequency: 462.625 MHz								
925.250	H	49.21	-24.5	0.0	1	-25.5	-13.0	12.5
925.250	V	57.64	-12.8	0.0	1	-13.8	-13.0	0.8
1387.875	H	72.22	-28.4	8.9	1.5	-21.0	-13.0	8.0
1387.875	V	70.08	-30.3	8.9	1.5	-22.9	-13.0	9.9
1850.500	H	61.54	-38.1	11.4	1.4	-28.1	-13.0	15.1
1850.500	V	59.88	-39.7	11.4	1.4	-29.7	-13.0	16.7
2313.125	H	62.04	-34.3	11.4	2.4	-25.3	-13.0	12.3
2313.125	V	63.23	-32.6	11.4	2.4	-23.6	-13.0	10.6
2775.750	H	62.34	-35.6	13.1	2.3	-24.8	-13.0	11.8
2775.750	V	59.12	-39.2	13.1	2.3	-28.4	-13.0	15.4
3238.375	H	46.65	-50.8	13.6	2.2	-39.4	-13.0	26.4
3238.375	V	47.84	-48.9	13.6	2.2	-37.5	-13.0	24.5
3701.000	H	51.20	-43.5	14.0	2.4	-31.9	-13.0	18.9
3701.000	V	49.10	-45.2	14.0	2.4	-33.6	-13.0	20.6

30MHz-5GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
frequency: 467.625 MHz								
935.250	H	50.41	-23	0.0	1	-24.0	-13.0	11.0
935.250	V	57.42	-12.7	0.0	1	-13.7	-13.0	0.7
1402.875	H	70.00	-30.7	9.0	1.5	-23.2	-13.0	10.2
1402.875	V	69.04	-31.3	9.0	1.5	-23.8	-13.0	10.8
1870.500	H	56.21	-43.2	11.6	1.4	-33.0	-13.0	20.0
1870.500	V	55.29	-43.9	11.6	1.4	-33.7	-13.0	20.7
2338.125	H	59.72	-36.8	11.6	2.5	-27.7	-13.0	14.7
2338.125	V	59.47	-36.3	11.6	2.5	-27.2	-13.0	14.2
2805.750	H	49.62	-48.7	13.2	2.2	-37.7	-13.0	24.7
2805.750	V	46.96	-51.4	13.2	2.2	-40.4	-13.0	27.4
3273.375	H	41.18	-56.2	13.6	2.1	-44.7	-13.0	31.7
3273.375	V	40.05	-56.8	13.6	2.1	-45.3	-13.0	32.3
3741.000	H	41.20	-53.2	13.8	2.7	-42.1	-13.0	29.1
3741.000	V	42.40	-51.1	13.8	2.7	-40.0	-13.0	27.0

FCC§2.1055 (d), §95.626(b) & §95.621 - FREQUENCY STABILITY**Applicable Standard**

According to FCC §2.1055(a) (1), the frequency stability shall be measured with variation of ambient temperature from –30 °C to +50 °C, 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 §95.626(b), Each FRS Unit must be maintained within a frequency tolerance of 0.00025 % (2.5 ppm).

According to FCC §95.621, Each GMRS transmitter for mobile station, small base station and control station operation must be maintained within a frequency tolerance of 0.0005 % (5 ppm).

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:

(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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2015-09-10	2016-09-09
UNI-T	Multimeter	UT39A	M130199938	2016-04-02	2017-04-02
Pasternack	RF Coaxial Cable	RF-01	/	2016-05-06	2017-05-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	29.8°C
Relative Humidity:	39 %
ATM Pressure:	99.7 kPa

The testing was performed by Lion Xiao on 2016-08-31.

Test Mode: Transmitting

Reference Frequency: 462.625 MHz				
Temperature	Voltage	Reading	Frequency Error	Limit
°C	Vdc	MHz	ppm	ppm
-30	3.7	462.625100	0.22	5
-20		462.625118	0.26	
-10		462.625106	0.23	
0		462.625112	0.24	
10		462.625104	0.22	
20		462.625110	0.24	
30		462.625108	0.23	
40		462.625114	0.25	
50		462.625120	0.26	
60		462.625122	0.26	
25	3.5	462.625128	0.28	

Reference Frequency: 467.625 MHz				
Temperature	Voltage	Reading	Frequency Error	Limit
℃	Vdc	MHz	ppm	ppm
-30	3.7	467.624700	-0.64	5
-20		467.624684	-0.68	
-10		467.624692	-0.66	
0		467.624688	-0.67	
10		467.624684	-0.68	
20		467.624696	-0.65	
30		467.624680	-0.68	
40		467.624678	-0.69	
50		467.624694	-0.65	
60		467.624679	-0.69	
25	3.5	467.624675	-0.70	

Note: The extreme low voltage was declared by applicant.

***** END OF REPORT *****