FCC PART 95
EMI MEASUREMENT AND TEST REPORT

For

3M Svenska AB

Malmstensgatan 19, SE331 02 Varnamo, Sweden

FCC ID: COZMT4610NA

Report Type:	**Product Type:**
Original Report	Programmable 2-way transceiver headset

Test Engineer:	Eric Lee
Report Number:	R1DG120919007-00A
Report Date:	2013-08-26
Reviewed By:	Alvin Huang RF Leader
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *3M Svenska AB*'s product, model number: *MT7H7A4610-NA (FCC ID: COZMT4610NA)* or the "EUT" as referred to in this report is a *Programmable 2-way transceiver headset*, named as *LiteCom Plus* by applicant. The EUT is measured approximately: 25.0 cm (L) x 16.0 cm (W) x 11.0 cm (H), rated input voltage: DC 3.7V Li-Ion battery.

Note: The serial products model MT7H7B4610-NA and MT7H7P3E4610-NA are electrically identical with the model MT7H7A4610-NA which was selected for full testing, the difference among them is just the model number, which was explained for details in the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 120919007 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2012-09-19.*

Objective

This Type approval report is prepared on behalf of *3M Svenska AB* in accordance with Part 2-Subpart J, and Part 95 of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

FCC Part 90 TNE submission with FCC ID: COZMT4610NA.

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. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement uncertainty with radiated emission is 5.91 dB for 30MHz-1GHz, and 4.92 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication 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 December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. 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).

Transmit Frequency Ranges:

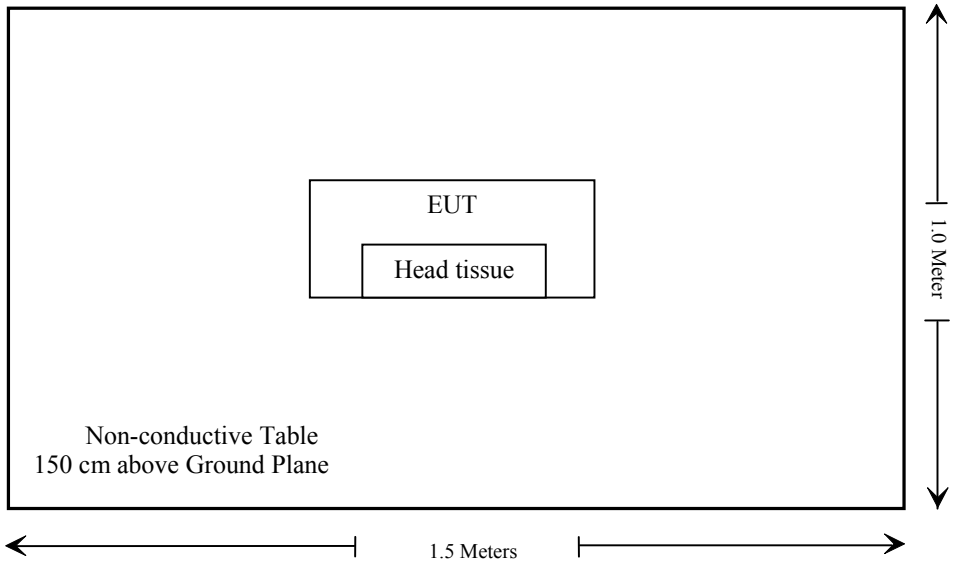
462.5500 - 462.7250 MHz (GMRS Channels 15-22)
462.5625 – 462.7125 MHz (GMRS/FRS Channels 1-7)
467.5625 – 467.7125 MHz (FRS Channels 8-14)

Selected Channel 11 (FRS 467.6375 MHz), Channel 18 (GMRS 462.6250 MHz) to test.

Equipment Modifications

Bay Area Compliance Laboratories Corp. (Shenzhen) has not done any modification on the EUT.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§1.1307(b) (1), §2.1093	RF Exposure Info	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)	Occupied Bandwidth & Emission Mask	Compliance
§2.1053, §95.635(b) (7)	Spurious Radiated Emissions	Compliance
§2.1055(d), §95.627(b), §95.621	Frequency Stability	Compliance

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.

According to FCC OET, KDB 447498 D01 General RF Exposure Guidance v05 section 4.3.1 & 6.1 Push-to-talk (PTT) devices:

RF exposure is evaluated with a duty factor of 50% when the actual operating duty factor is ≤ 50%. Devices supporting higher duty factors shall be evaluated at the maximum duty factor; for example, devices supporting operator-assisted PSTN calls. Contact the FCC Laboratory when unable to test a device at the required duty factor due to hardware limitations or other reasons.

Result

According to FCC KDB 447498 D01 General RF Exposure Guidance v05 generic portable criteria

The distance between antenna and head is 40mm
The Maximum tune-up conducted output power: 24.5dBm (282 mW), for PTT device the duty factor is 50%

The time-averaged output power is: 282*0.5= 141 mW

The exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√ f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

So, the exclusion thresholds is 175.5mW @ 467.7125MHz (worst case)

Conclusion:

The time-averaged output power is 141 mW ＜the exclusion thresholds is 175.4 mW

Stand-alone SAR evaluation is not required.

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
HP	Signal Generator	8657A	3217A04699	2011-12-19	2012-12-18
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
Com Power	Dipole Antenna	AD-100	041000	2012-06-06	2013-06-05

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

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Eric Lee on 2012-09-27.

Test Mode: Transmitting

Indicated		Table Angle Degree	Test Ant.		Substituted			Absolute Level (dBm)	FCC Part 95	
Frequency (MHz)	S.A. Reading (dBµV)		Height (m)	Polar (H/V)	S.G. Level (dBm)	Ant. Gain (dB)	Cable Loss (dB)		ERP (W)	Limit (Watt)
FRS Channel 11: 467.6375, High Power										
467.6375	99.18	42	1.5	V	23.2	0	1	22.2	0.166	0.5
467.6375	92.98	17	1.0	H	17.0	0	1	16.0	0.039	0.5
FRS Channel 11: 467.6375, Low Power										
467.6375	90.59	38	1.5	V	14.6	0	1	13.6	0.022	0.5
467.6375	85.45	18	1.0	H	9.5	0	1	8.5	0.007	0.5
GMRS Channel 18: 462.6250, High Power										
462.6250	99.88	42	1.5	V	23.9	0	1	22.9	0.195	50
462.6250	92.98	17	1.0	H	17.0	0	1	16.0	0.040	50
GMRS Channel 18: 462.6250, Low Power										
462.6250	91.03	42	1.5	V	15.0	0	1	14.0	0.025	50
462.6250	84.36	17	1.0	H	8.4	0	1	7.4	0.005	50

Note: The Maximum tune-up conducted output power: 24.5dBm

Test Result: Compliance.

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

Applicable Standard

FCC §2.1047 & §95.637:

(a) Equipment which utilizes voice modulated communication shall show the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz. for equipment which is required to have a low pass filter, the frequency response of the filter, or all of the circuitry installed between the modulation limited and the modulated stage shall be supplied.
(b) Equipment which employs modulation limiting, a curve showing the percentage of modulation versus the modulation input voltage shall be supplied.
(c) A FRS Unit that transmits emission type F3E must not exceed peak frequency deviation of plus or minus 2.5 kHz.
(d) A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communication Test Set	8920A	3438A05201	2012-06-14	2013-06-13
LEADER	MILLIVOLTMETER	LMV-181A	6041126	2012-05-09	2013-05-08

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to 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:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Eric Lee on 2012-09-26.

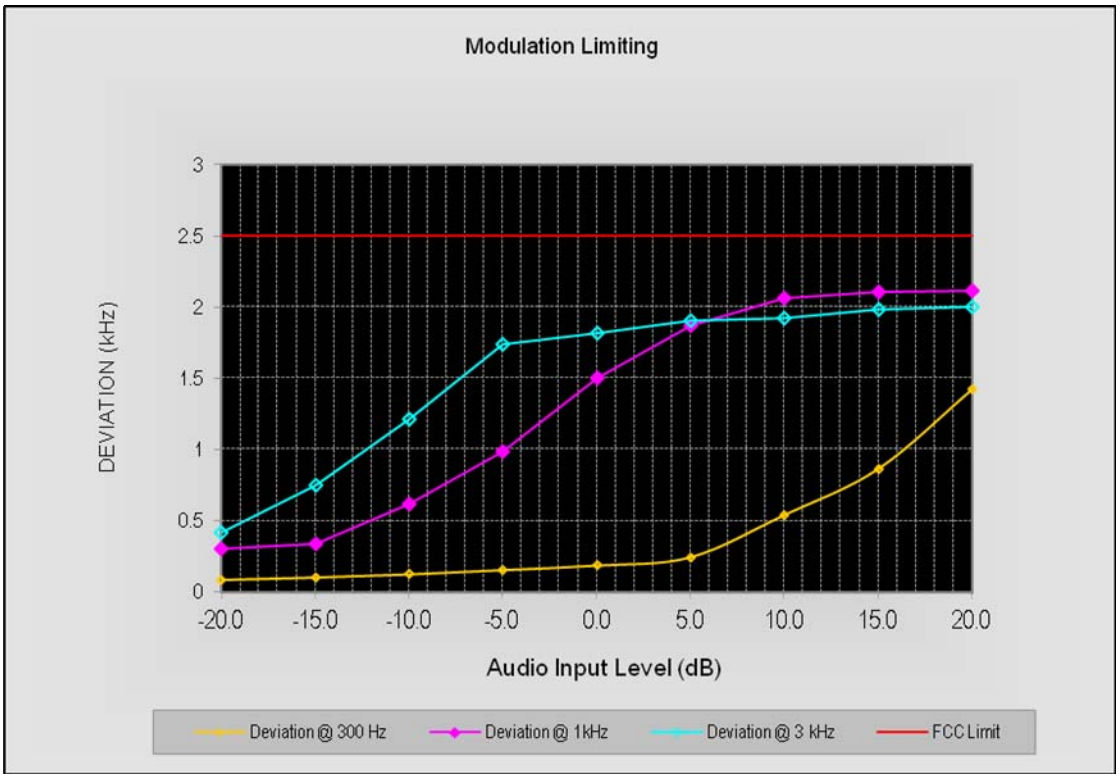
Please refer to the following tables and plots.

Test Mode: Transmitting

TRANSMITTER FREQUENCY DEVIATION

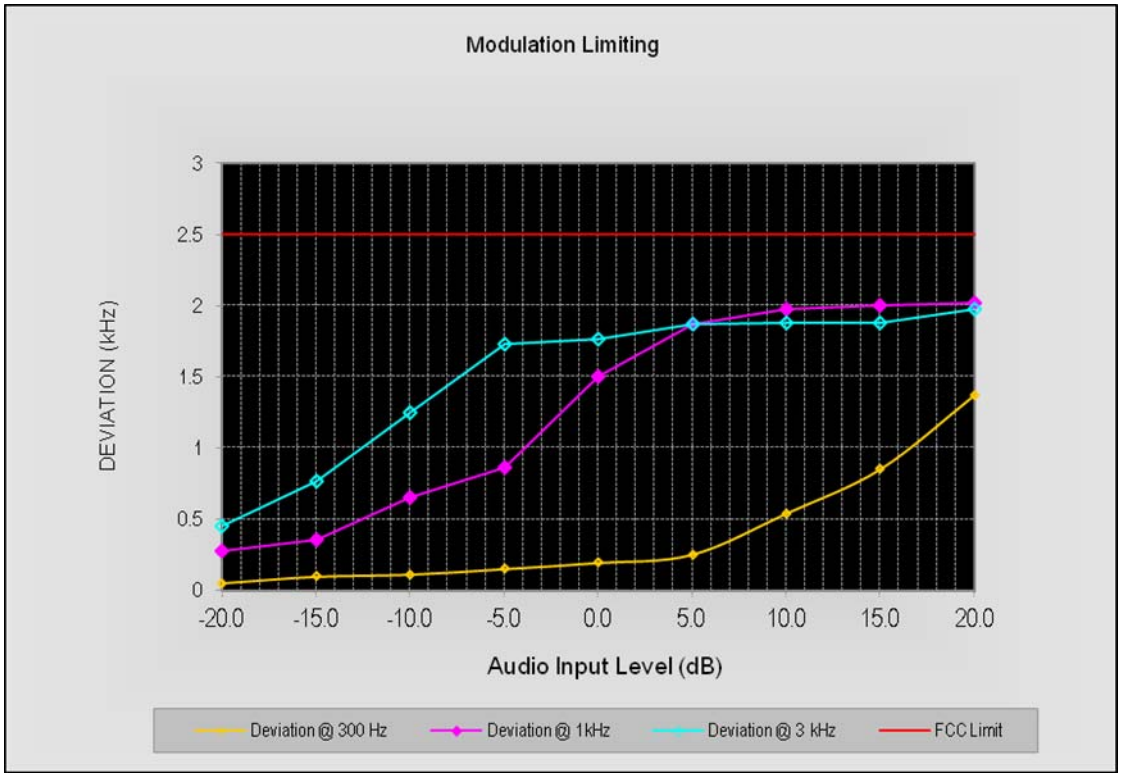
FRS – Channel 11 (467.6375 MHz)-High power

Audio Input Level [dB]	Frequency Deviation (kHz)			Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.423	2.111	2.003	2.5
15.0	0.865	2.105	1.986	2.5
10.0	0.542	2.065	1.924	2.5
5.0	0.245	1.867	1.905	2.5
0.0	0.186	1.500	1.815	2.5
-5.0	0.154	0.985	1.735	2.5
-10.0	0.124	0.621	1.215	2.5
-15.0	0.102	0.342	0.751	2.5
-20.0	0.085	0.305	0.421	2.5



FRS – Channel 11 (467.6375 MHz)-Low power

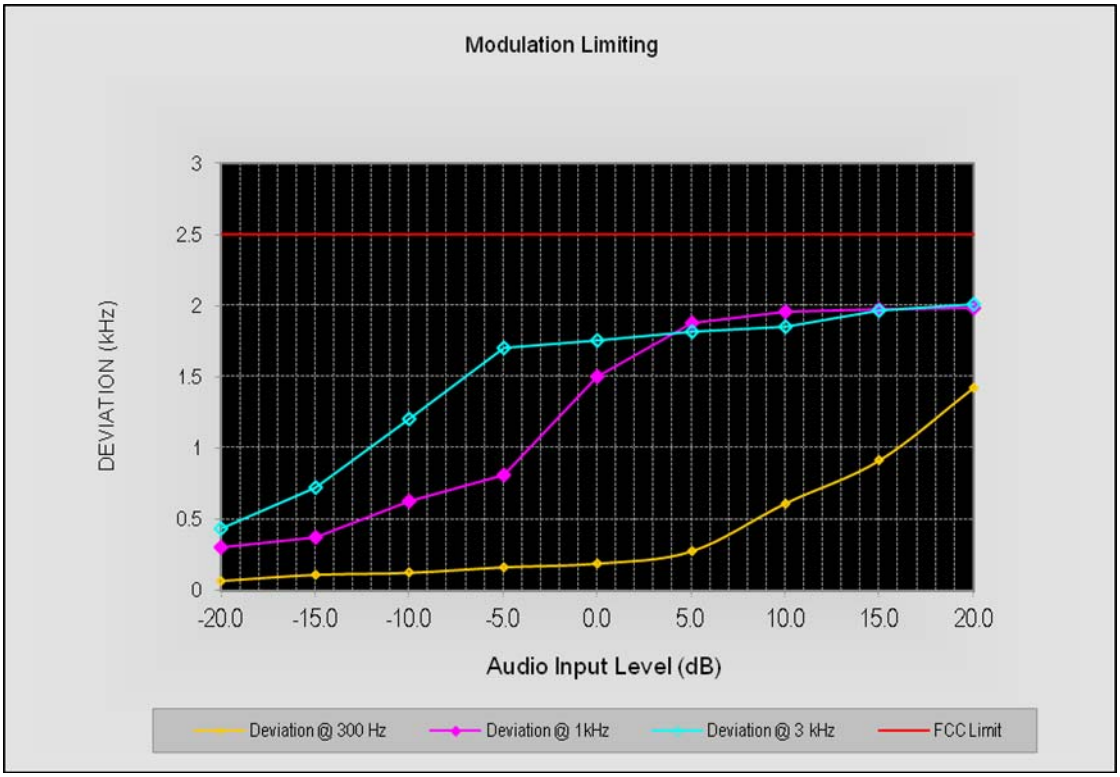
Audio Input Level [dB]	Frequency Deviation (kHz)			Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.375	2.015	1.979	2.5
15.0	0.855	2.002	1.876	2.5
10.0	0.543	1.976	1.875	2.5
5.0	0.253	1.874	1.867	2.5
0.0	0.195	1.500	1.768	2.5
-5.0	0.152	0.867	1.732	2.5
-10.0	0.113	0.654	1.245	2.5
-15.0	0.098	0.354	0.768	2.5
-20.0	0.052	0.278	0.454	2.5



TRANSMITTER FREQUENCY DEVIATION

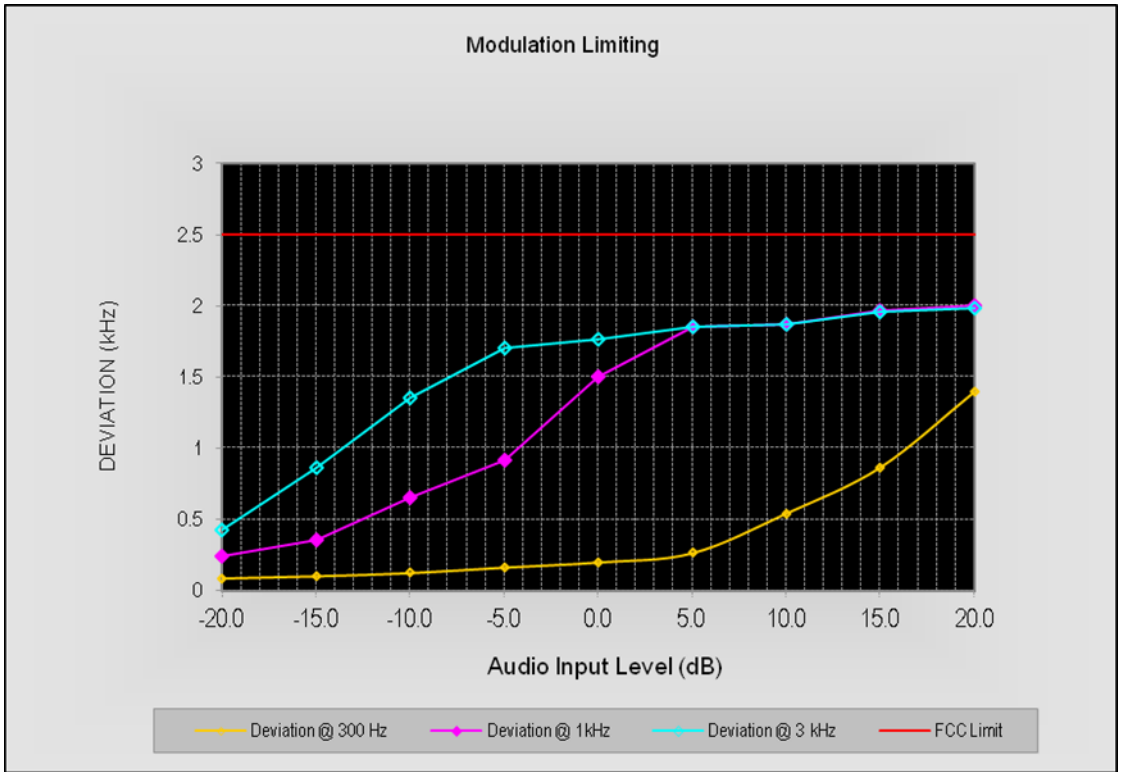
GMRS – Channel 18 (462.6250 MHz)-High Power

Audio Input Level [dB]	Frequency Deviation (kHz)			Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.425	1.986	2.013	2.5
15.0	0.915	1.975	1.967	2.5
10.0	0.612	1.962	1.857	2.5
5.0	0.275	1.875	1.821	2.5
0.0	0.189	1.500	1.754	2.5
-5.0	0.163	0.815	1.702	2.5
-10.0	0.124	0.631	1.205	2.5
-15.0	0.110	0.376	0.725	2.5
-20.0	0.867	0.301	0.432	2.5



GMRS – Channel 18 (462.6250 MHz)-Low Power

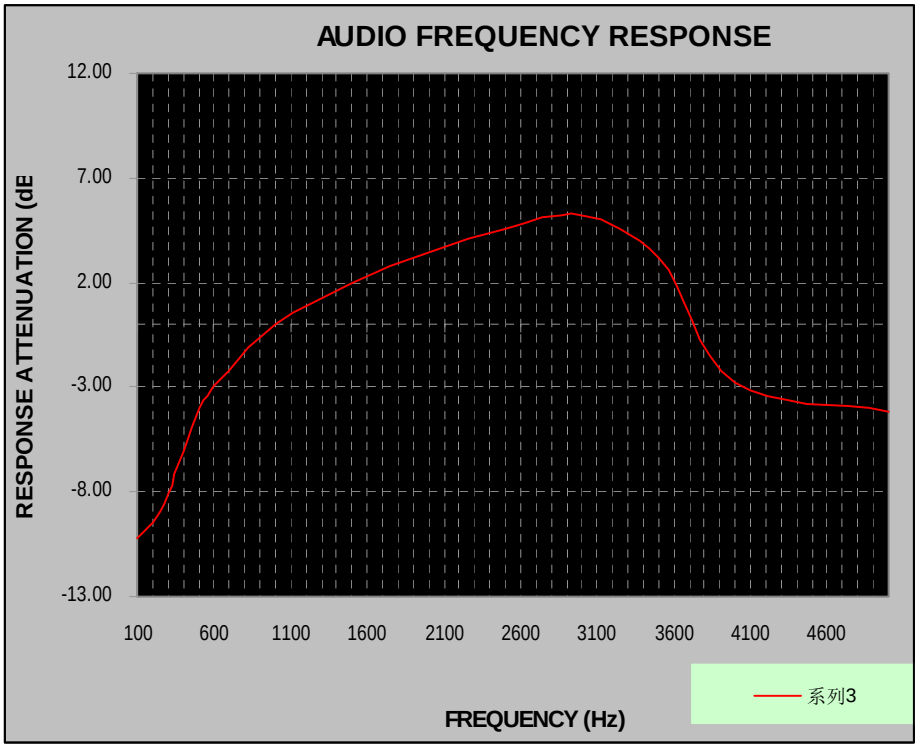
Audio Input Level [dB]	Frequency Deviation (kHz)			Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.398	1.998	1.987	2.5
15.0	0.867	1.967	1.957	2.5
10.0	0.543	1.867	1.867	2.5
5.0	0.264	1.857	1.854	2.5
0.0	0.199	1.500	1.762	2.5
-5.0	0.163	0.912	1.702	2.5
-10.0	0.124	0.657	1.354	2.5
-15.0	0.102	0.354	0.865	2.5
-20.0	0.086	0.245	0.425	2.5



Audio Frequency Response

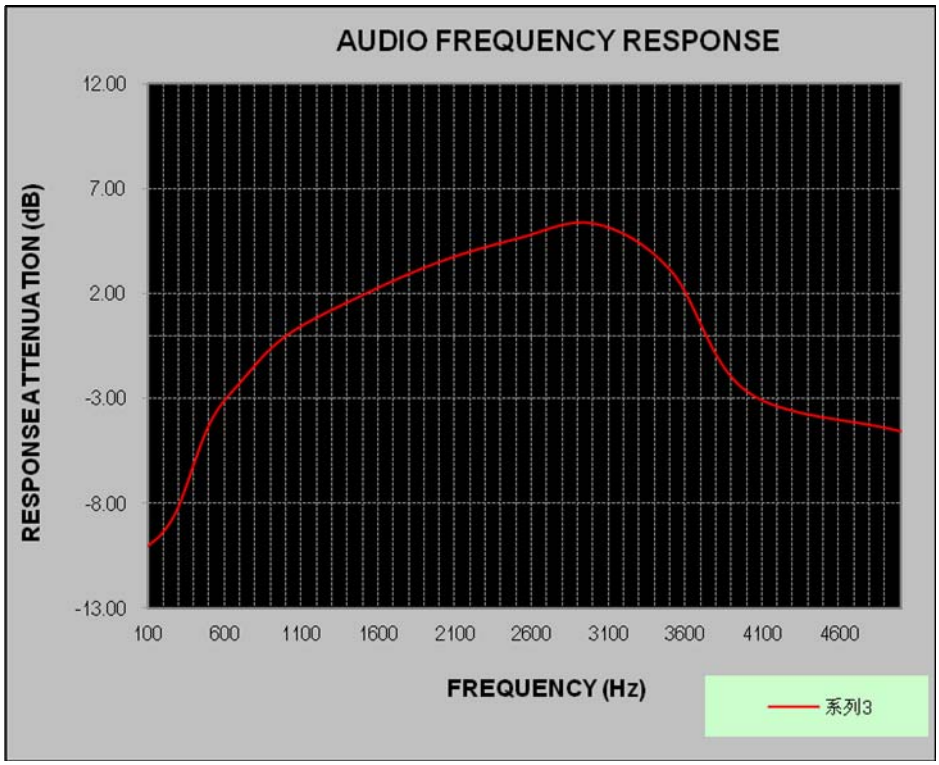
FRS – Channel 11 (467.6375 MHz)-High power

Audio Frequency (Hz)	Response Attenuation (dB)
100	-10.17
200	-9.47
300	-8.05
500	-4.01
700	-2.18
1000	0.00
1500	1.94
2000	3.42
2500	4.53
3000	5.25
3500	3.18
4000	-2.76
5000	-4.15



FRS – Channel 11 (467.6375 MHz)-Low power

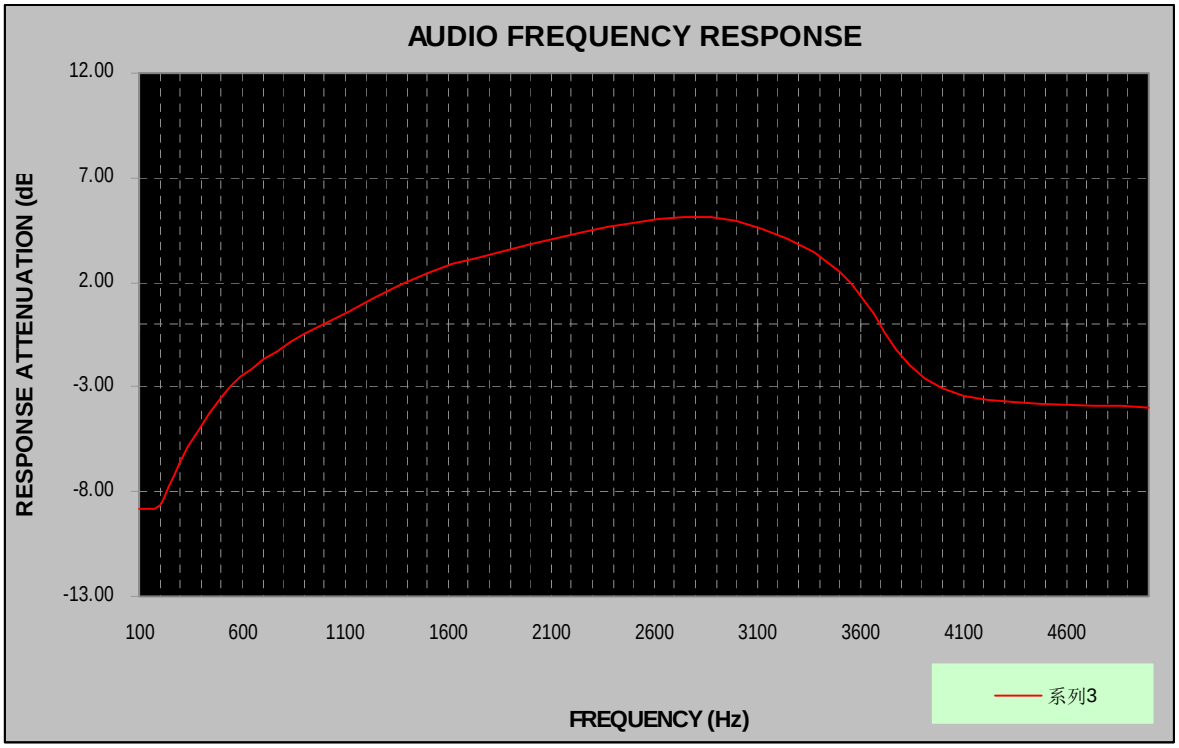
Audio Frequency (Hz)	Response Attenuation (dB)
100	-10.02
200	-9.34
300	-8.12
500	-4.21
700	-2.23
1000	0.00
1500	1.95
2000	3.53
2500	4.62
3000	5.35
3500	3.12
4000	-2.67
5000	-4.55



Audio Frequency Response

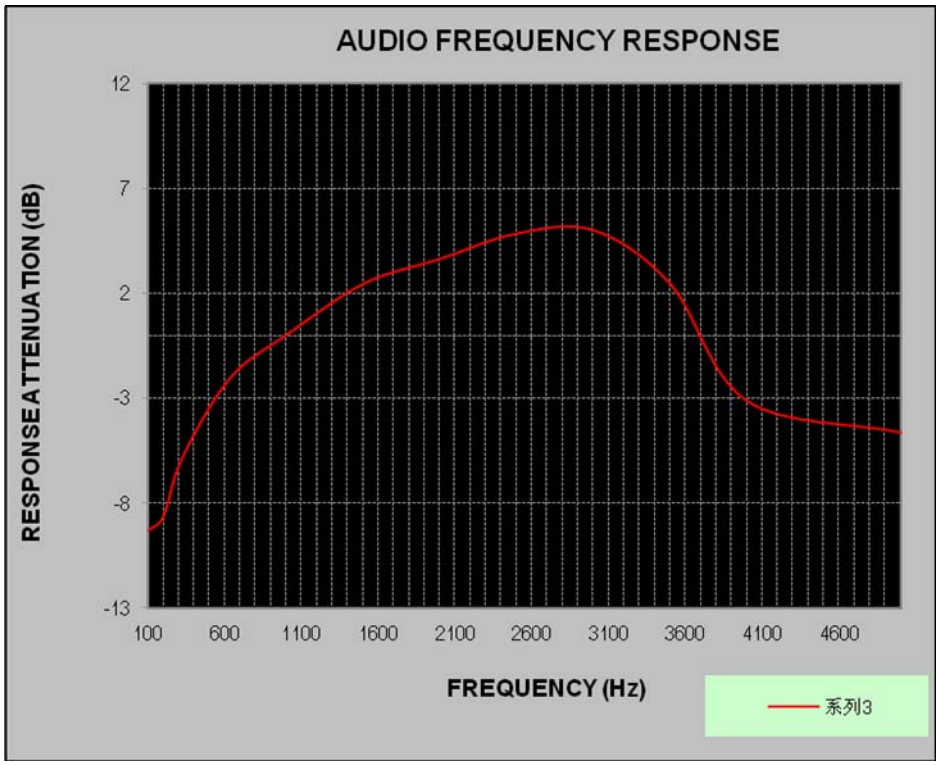
GMRS – Channel 18 (462.625 MHz)-High Power

Audio Frequency (Hz)	Response Attenuation (dB)
100	-8.78
200	-8.59
300	-6.56
500	-3.50
700	-1.62
1000	0.00
1500	2.42
2000	3.84
2500	4.81
3000	4.96
3500	2.54
4000	-3.07
5000	-4.01



GMRS – Channel 18 (462.625 MHz)-Low Power

Audio Frequency (Hz)	Response Attenuation (dB)
100	-9.35
200	-8.67
300	-6.25
500	-3.46
700	-1.55
1000	0
1500	2.45
2000	3.64
2500	4.85
3000	5.01
3500	2.43
4000	-3.15
5000	-4.65

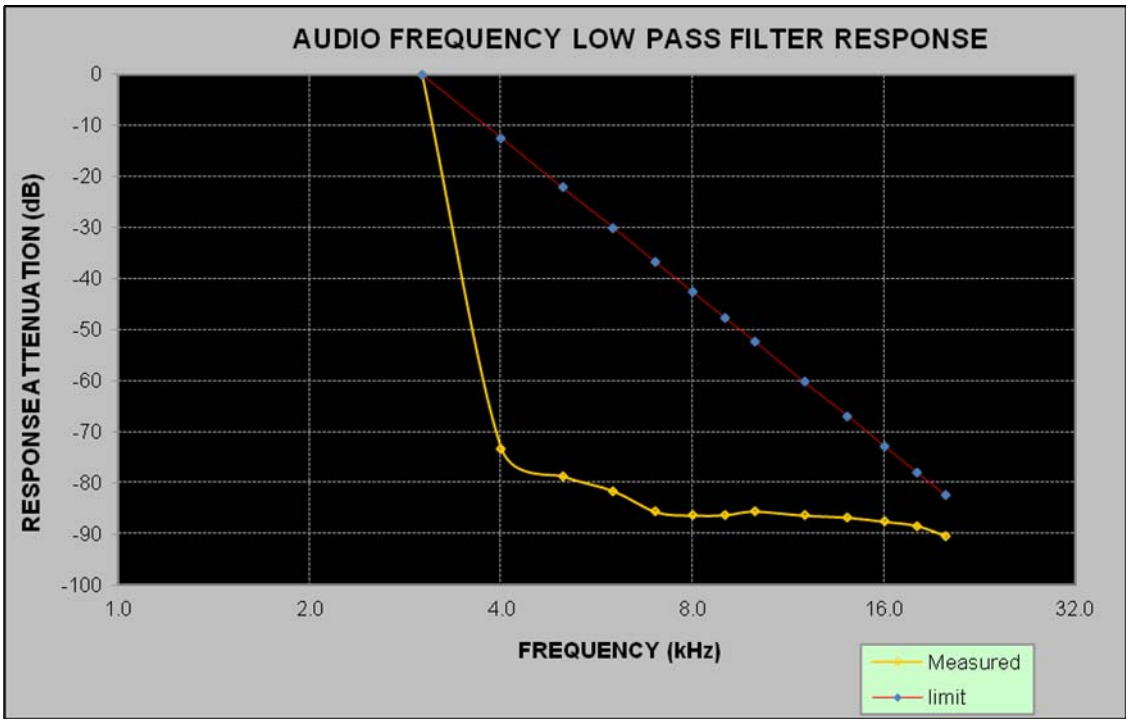


Test result: Compliance.

Audio frequency Low Pass Filter Response

FRS – Channel 11 (467.6375 MHz)

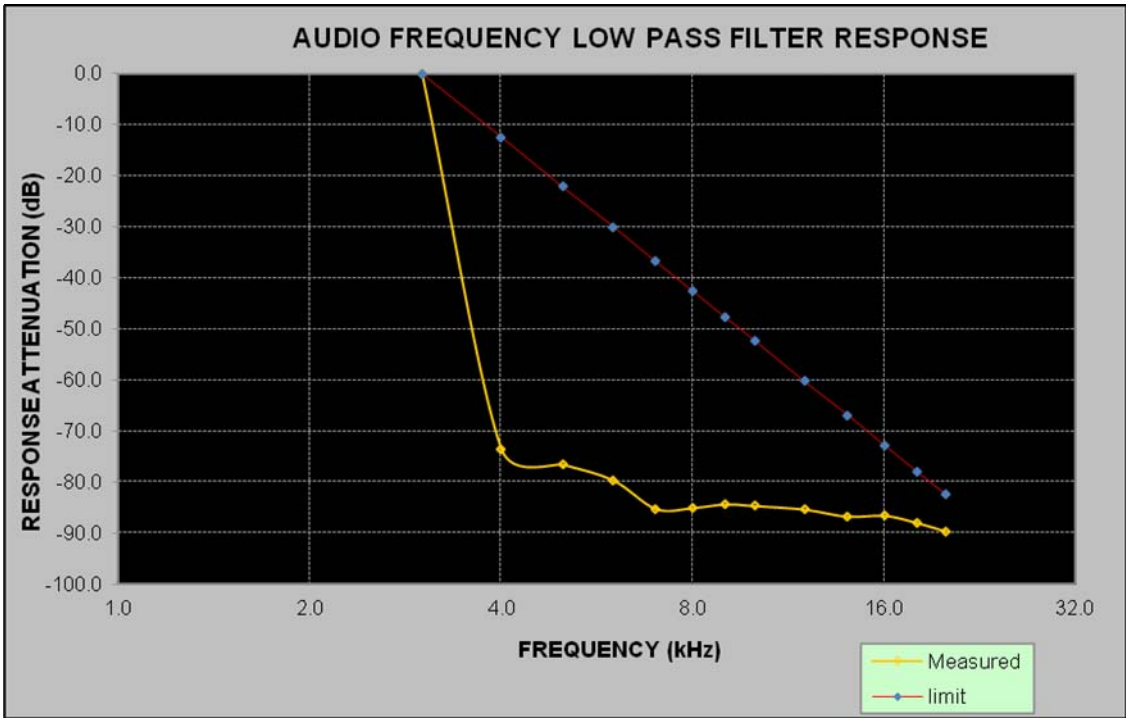
Audio Frequency (kHz)	Response Attenuation (dB)	FCC Limit (dB)
3.0	0.0	0.0
4.0	-73.2	-12.5
5.0	-78.6	-22.2
6.0	-81.5	-30.1
7.0	-85.6	-36.8
8.0	-86.3	-42.6
9.0	-86.2	-47.7
10.0	-85.5	-52.3
12.0	-86.3	-60.2
14.0	-86.7	-66.9
16.0	-87.5	-72.7
18.0	-88.3	-77.8
20.0	-90.3	-82.4



Audio frequency Low Pass Filter Response

GMRS – Channel 18 (462.6250 MHz)

Audio Frequency (kHz)	Response Attenuation (dB)	FCC Limit (dB)
3.0	0.0	0.0
4.0	-73.5	-12.5
5.0	-76.5	-22.2
6.0	-79.6	-30.1
7.0	-85.2	-36.8
8.0	-85.0	-42.6
9.0	-84.3	-47.7
10.0	-84.6	-52.3
12.0	-85.3	-60.2
14.0	-86.7	-66.9
16.0	-86.5	-72.7
18.0	-87.9	-77.8
20.0	-89.6	-82.4



Test result: Compliance.

FCC §2.1049 & §95.633(a) (c) - OCCUPIED BANDWIDTH AND EMISSION MASK

Applicable Standard

Per FCC §2.1049 and FCC §95.633(a) (c), the authorized bandwidth for emission type F3E or F2D transmitted by an FRS Unit is 12.5 kHz.and The authorized bandwidth for emission type F1D, G1D, F3E or G3E transmitted by an GMRS Unit is 20 kHz.

Test Procedure

TIA-603-D, section 2.2.11

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
NANYAN	Audio Generator	NY2201	007727	2011-09-26	2012-09-25
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07

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

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	100.0 kPa

The testing was performed by Eric Lee on 2012-09-25.

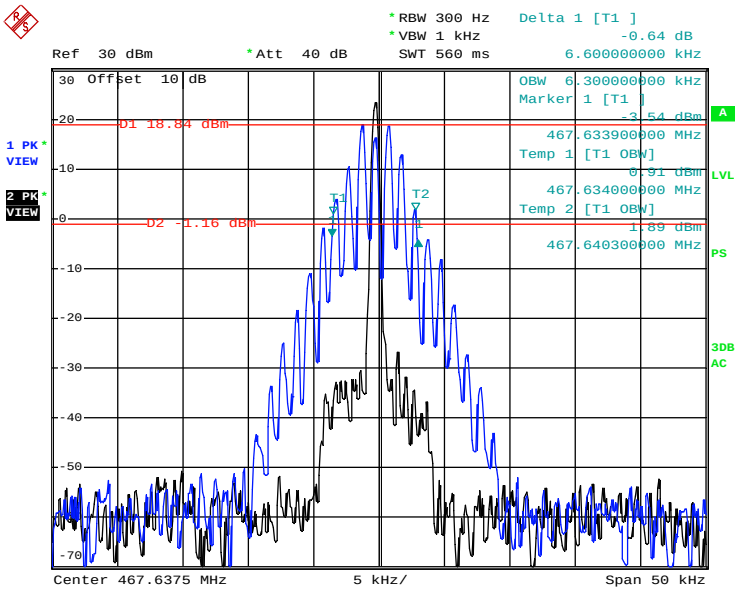
Test Mode: Transmitting

Mode	Emission Bandwidth (kHz)	Modulation Type	Authorized Bandwidth (kHz)
FRS	6.60	F3E	12.5
GMRS	6.60	F3E	20

Please refer to thefollowing plots

Occupied Bandwidth

FRS – Channel 11 (467.6375 MHz)



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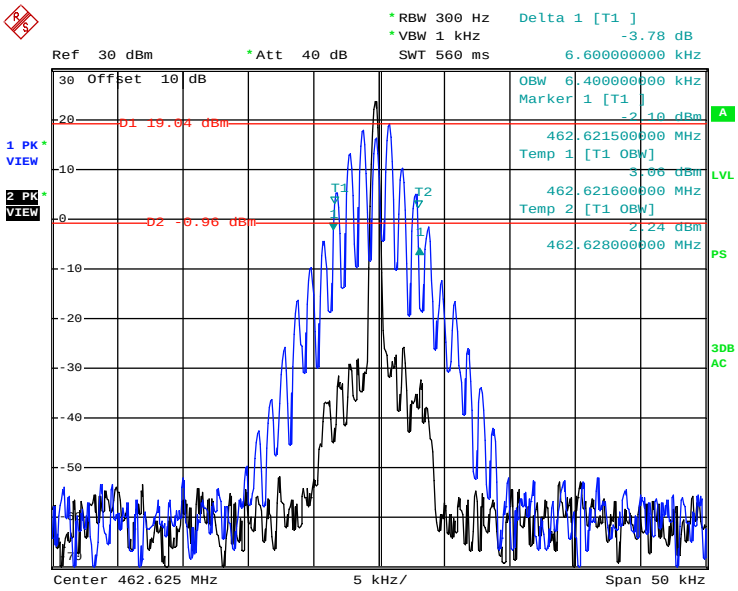
GMRS – Channel 18 (462.6250 MHz)



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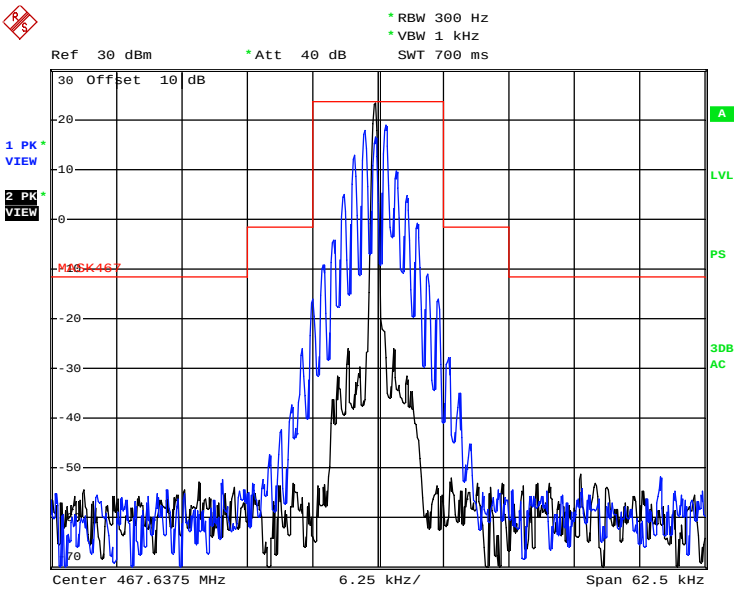
Emission Mask

FRS – Channel 11 (467.6375 MHz), High Power



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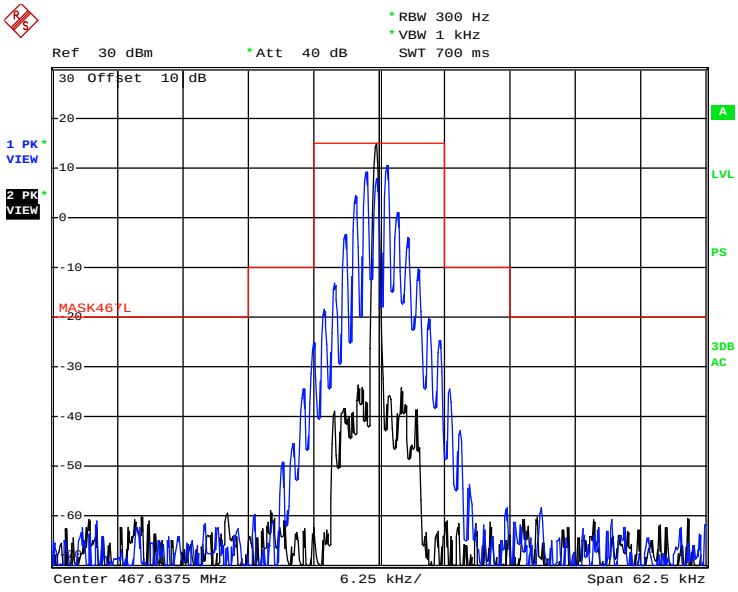
FRS – Channel 11 (467.6375 MHz), Low Power



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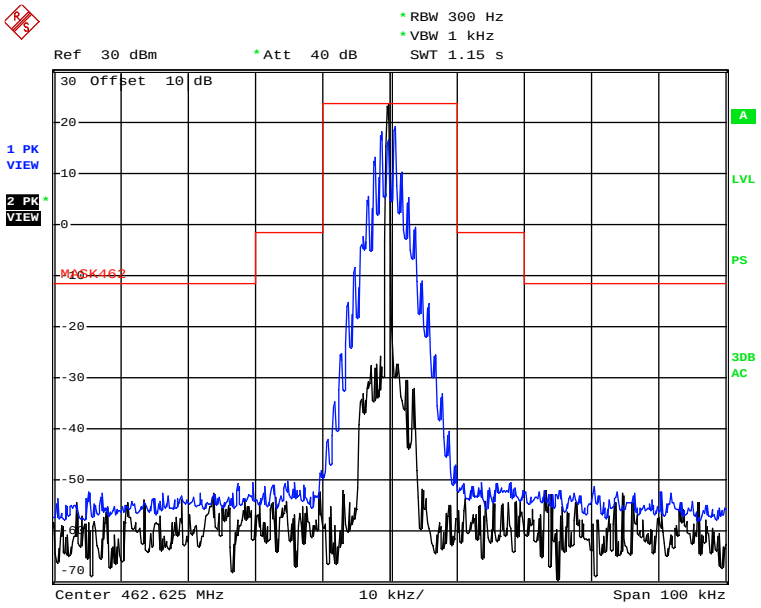
GMRS – Channel 18 (462.6250 MHz), High Power



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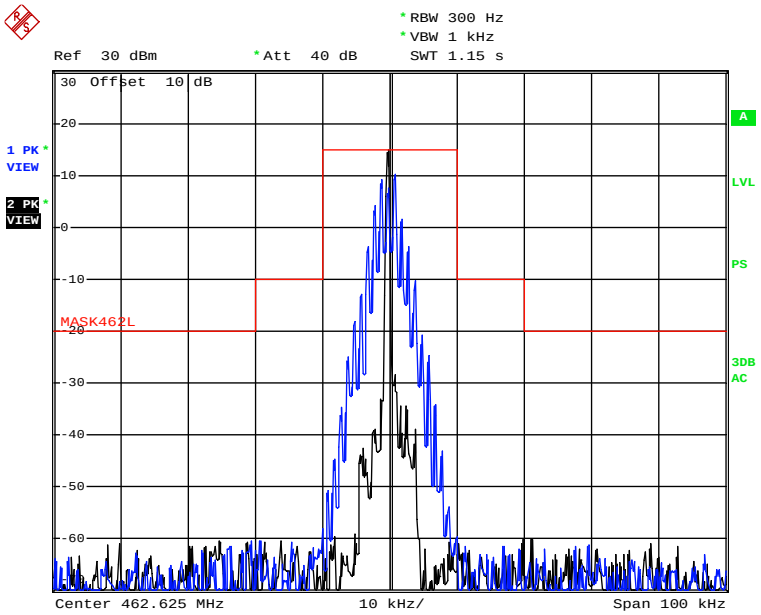
GMRS – Channel 18 (462.6250 MHz), Low Power



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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 1g (TXpwr in Watts/0.001)-the absolute level
Spurious attenuation limit in dB = 43+10 Log_{10} (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2012-11-30
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
Agilent	Spectrum Analyzer	8564E	3943A01781	2012-05-17	2013-05-16
Mini-circuits	Amplifier	ZVA-213+	N/A	2011-11-24	2012-11-23
HP	Signal Generator	8657A	3217A04699	2011-12-19	2012-12-18
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
HP	Synthesized Sweeper	8341B	2624A00116	2012-05-17	2013-05-16
Com Power	Dipole Antenna	AD-100	041000	2012-09-25	2013-09-25
A.H. System	Horn Antenna	SAS-200/571	135	2012-02-11	2013-02-10

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

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Eric Lee on 2012-09-27.

Test Mode: Transmitting

30MHz -5GHz:

Frequency (MHz)	Receiver Reading (dBμV)	TurnTable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 95	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
FRS Channel 11: 467.6375 MHz										
3701.0	48.11	45	1.8	V	-48.4	2.59	10.4	-40.59	-13	27.59
3701.0	45.57	95	1.5	H	-51.6	2.59	10.4	-43.79	-13	30.79
925.2	52.51	139	1.8	V	-44.5	0.72	0	-45.22	-13	32.22
1387.8	41.83	85	1.8	V	-59.6	0.88	9.0	-51.48	-13	38.48
1387.8	40.93	66	1.6	H	-59.7	0.88	9.0	-51.58	-13	38.58
925.2	44.56	98	1.5	H	-52.4	0.72	0	-53.12	-13	40.12
GMRS Channel 18: 462.625 MHz										
3741.1	49.29	45	1.6	V	-47.3	2.59	10.4	-39.49	-13	26.49
3741.1	47.35	72	1.8	H	-49.9	2.59	10.4	-42.09	-13	29.09
935.2	54.65	18	1.6	V	-42.3	0.73	0	-43.03	-13	30.03
1402.9	44.29	56	1.5	V	-57.2	0.88	9.0	-49.08	-13	36.08
1402.9	43.29	88	1.5	H	-57.3	0.88	9.0	-49.18	-13	36.18
935.2	45.12	214	1.8	H	-51.9	0.73	0	-52.63	-13	39.63

Note:
1) Absolute Level = SG Level - Cable loss + Antenna Gain
2) Margin = Limit-Absolute Level

FCC§2.1055 (d), §95.627(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 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 §95.627(b), Each FRS Unit must be maintained within a frequency tolerance of 0.00025%.

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%.

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
HP	Microwave Frequency Counter	5343A	2232A00827	2012-07-08	2013-07-07
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2011-11-24	2012-11-23

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

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Eric Lee on 2012-09-24.

Test Mode: Transmitting

FRS: Channel 11 (467.6375 MHz)

Reference Frequency: 467.6375 MHz, Limit: ±2.5 ppm			
Environment Temperature (℃)	**Power Supplied (V_{DC})**	**Measurement Frequency (MHz)**	**Frequency Error (ppm)**
Frequency Stability Ver. Temperature			
50	3.7	467.637209	-0.622
40	3.7	467.637211	-0.618
30	3.7	467.637235	-0.567
20	3.7	467.637225	-0.588
10	3.7	467.637236	-0.565
0	3.7	467.637219	-0.601
-10	3.7	467.637212	-0.616
-20	3.7	467.637231	-0.575
-30	3.7	467.637228	-0.582
Frequency Stability Ver. Input Voltage			
20	3.5	467.637229	-0.580

GMRS: Channel 18 (462.625 MHz)

Reference Frequency: 462.625 MHz, Limit: ±5 ppm			
Environment Temperature (℃)	**Power Supplied (V_{DC})**	**Measurement Frequency (MHz)**	**Frequency Error (ppm)**
Frequency Stability Ver. Temperature			
50	3.7	462.624719	-0.607
40	3.7	462.624721	-0.603
30	3.7	462.624723	-0.599
20	3.7	462.624721	-0.603
10	3.7	462.624716	-0.614
0	3.7	462.624719	-0.607
-10	3.7	462.624725	-0.594
-20	3.7	462.624714	-0.618
-30	3.7	462.624722	-0.601
Frequency Stability Ver. Input Voltage			
20	3.5	462.624712	-0.623

PRODUCT SIMILARITY DECLARATION LETTER

3M Svenska AB

Sollentuna 2013-08-23

Product Similarity Declaration

To Whom It May Concern,

We, 3M Svenska AB, hereby declare that our (LiteCom Plus), Model Number: MT7H7P3E4610-NA and MT7H7B4610-NA is electrically identical with the Model Number: MT7H7A4610-NA and that was certified by BACL.
MT7H7A4610-NA, MT7H7P3E4610-NA and MT7H7B4610-NA are named differently due to marketing purposes.

Signature:		
Print name:	Lars Näslund	Mats Nilsson
Title:	Country Manager	Finance Manager
Date:	August 23rd 2013	

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