
FCC Test Report

Report No.: AGC05C120401F1

TEST NAME : FCC Part 95
FCC ID : N3EWWWT70489
MODEL NAME : Wrist Watch Walkie Talkie
BRAND NAME : N/A
TEST MODEL : #70489
CLIENT : Wild Planet Entertainment, Inc
DATE OF ISSUE : May 03, 2012
STANDARD(S) : FCC Part 95 Rules
REPORT VERSION : V1.0

Attestation of Global Compliance Co., Ltd.

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VERIFICATION OF COMPLIANCE

Applicant:	Wild Planet Entertainment, Inc
	225 Bush Street, Suite 1300, San Francisco, California, United States, Zip: 94104
Manufacturer:	Wild Planet Entertainment, Inc
	225 Bush Street, Suite 1300, San Francisco, California, United States, Zip: 94104
Product Description:	Wrist Watch Walkie Talkie
Brand Name:	N/A
Model Number:	#70489
File Number:	AGC05C120401F1
Date of Test:	Apr. 25 to Apr. 28, 2012

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C 63.4:2003 and TIA/EIA 603. The sample tested as described in this report is in compliance with the FCC Rules Part 95.

The test results of this report relate only to the tested sample identified in this report.

Tested By:


Curoky Chen May 03, 2012

Reviewed By:


Forrest Lei May 03, 2012

Approved By:


Solger Zhang May 03, 2012

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The EUT is a single channel Two-way Radio designed for voice communication. It is designed by way of utilizing the FM modulation achieves the system operating.

A major technical description of EUT is described as following:

Communication Type	Voice / Tone only
Modulation	FM(F3E)
Emission Type	9K0F3E for FRS 9K1F3E for GMRS
Audio Frequency Response	2.5 KHz for FRS 2.5 KHz for GMRS
Declared Output power	0.5W (It was fixed by the manufacturer, any individual can't arbitrarily change it)
Maximum Transmitter Power	0.38w(25.8 dBm)for FRS 0.37w(25.7dBm) for GMRS
Frequency error	1.08ppm for FRS 1.07ppm for GMRS
Receiver spurious worst case	44.59 dBuV/m
99% occupied bandwidth	9.0113KHz for FRS 9.1389KHz for GMRS
Antenna Designation	Internal Antenna, It isn't detachable Antenna Gain: 1.2dBi
Power Supply	DC 4.5V by battery
Battery Endpoint	DC 3.825V
Operation Frequency Range	Frequency Range: 462.5500MHz to 467.7125MHz (See 4. DESCRIPTION OF TEST FREQUENCY RANGE)
Channel Number	22

NOTE: For more details, please refer to the User's manual of the EUT.

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: N3EWWWT70489**, filing to comply with the FCC Part 95.

1.3 TEST METHODOLOGY

The radiated emission testing was performed according to the procedures of ANSI C 63.4: 2003; TIA/EIA 603 and FCC CFR 47 Rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057 .

1.4 TEST FACILITY

The test site used to collect the radiated data is located on the address of Attestation of Global Compliance Co., Ltd. 2F., No.2 Building, Huafeng No.1 Technical Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen. The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC register No.: 259865 and IC register No.: 9083A

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

1.5 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

1.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.3 CONFIGURATION OF TESTED SYSTEM

Fig. 2-1 Configuration of Tested System



Table 2-1 Equipment Used in Tested System

Item	Equipment	Model No.	Identifier	Note
1	Wrist Watch Walkie Talkie	#70489	FCC ID: N3EWWWT70489	EUT
--	--	--	--	--
--	--	--	--	--

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§95.621	Frequency Tolerance	Compliant
§2.1047	Modulation Characteristic	Compliant
§95.633	Emission Bandwidth	Compliant
§95.635	Unwanted Radiation	Compliant
§95.639	RF Power output	Compliant
§15.209	Radiated Emission on Receiving Mode	Compliant

4. DESCRIPTION OF TEST FREQUENCY RANGE

The EUT has been tested under normal operating condition. The top channel, the middle channel and the bottom channel are chosen for testing at each channel separation.

EMISSION DESIGNATOR AND FREQUENCIES

FRS Authorized Bandwidth 12.5 kHz

2.1033(c)(5) FRS Frequency Range:

95.627

- | | |
|-------------|------------------|
| 1. 462.5625 | 8. 467.5625 |
| 2. 462.5875 | 9. 467.5875 |
| 3. 462.6125 | 10. 467.6125 |
| 4. 462.6375 | 11. 467.6375 |
| 5. 462.6625 | 12. 467.6625 |
| 6. 462.6875 | 13. 467.6875 |
| 7. 462.7125 | 14. 467.7125 MHz |

GMRS Authorized Bandwidth 20.0 kHz

2.1033(c)(5) GMRS Frequency Range:

95.621

- 15. 462.5500
- 16. 462.5750
- 17. 462.6000
- 18. 462.6250
- 19. 462.6500
- 20. 462.6750
- 21. 462.7000
- 22. 462.7250 MHz

Note: for FRS choose channel 1, 8, 14 for testing, and channel 18 for GMRS.

5. FREQUENCY STABILITY

5.1 PROVISIONS APPLICABLE

Rule Parts. No.: Part 95.627(b)

Each FRS unit must be maintained within a frequency tolerance of 0.00025%.

Each GMRS unit must be maintained within a frequency tolerance of 0.0005%.

5.2 MEASUREMENT PROCEDURE

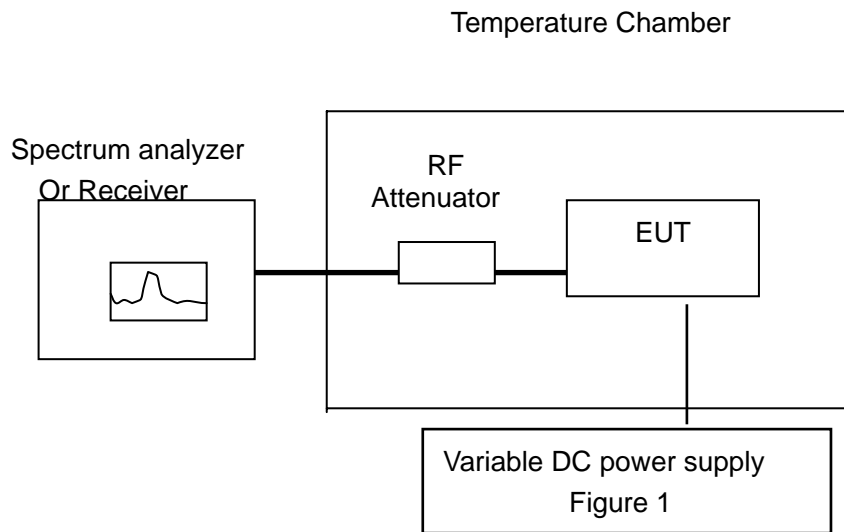
5.2.1 Frequency stability versus environmental temperature

1. Setup the configuration per figure 1 for frequencies measurement inside an environment chamber, Install new battery in the EUT.
2. Turn on EUT and set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1KHz and Video Resolution Bandwidth to 1KHz and Frequency Span to 50KHz. Record this frequency as reference frequency.
3. Set the temperature of chamber to 50°C. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
4. Repeat step 2 with a 10°C decreased per stage until the lowest temperature -30°C is measured, record all measured frequencies on each temperature step.

5.2.2 Frequency stability versus input voltage

1. Setup the configuration per figure 1 for frequencies measured at temperature if it is within 15°C to 25°C. Otherwise, an environment chamber set for a temperature of 20°C shall be used. The EUT shall be powered by DC 4.5 V
2. Set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1 KHz and Video Resolution Bandwidth to 1KHz. Record this frequency as reference frequency.
3. Supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.

5.3 TEST SETUP BLOCK DIAGRAM



5.4 TEST EQUIPMENT USED:

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL. DATE
Receiver	R&S	ESCI	--	2012.06.27
Climate Chamber	Albatross	--	--	2012.06.27

5.5 TEST RESULT

(1)Frequency stability versus ambient temperature

FRS:

Bottom Channel

Reference Frequency:	462.5625	Limit:		5ppm
Environment Temperature	Power Supply	Frequency Deviation		
(°C)	(V)	(MHz)	ppm	%
50	4.5	462.562371	-0.2789	-0.0000279
40	4.5	462.562278	-0.4799	-0.0000480
30	4.5	462.562201	-0.6464	-0.0000646
20	4.5	462.562171	-0.7113	-0.0000711
10	4.5	462.562169	-0.7156	-0.0000716
0	4.5	462.562143	-0.7718	-0.0000772
-10	4.5	462.562101	-0.8626	-0.0000863
-20	4.5	462.562042	-0.9901	-0.0000990
-30	4.5	462.562031	-1.0139	-0.0001014

Middle Channel

Reference Frequency:	467.5625	Limit:		5ppm
Environment Temperature	Power Supply	Frequency Deviation		
(°C)	(V)	(MHz)	ppm	%
50	4.5	467.562376	-0.2652	-0.0000265
40	4.5	467.562282	-0.4662	-0.0000466
30	4.5	467.562231	-0.5753	-0.0000575
20	4.5	467.562175	-0.6951	-0.0000695
10	4.5	467.562166	-0.7143	-0.0000714
0	4.5	467.562141	-0.7678	-0.0000768
-10	4.5	467.562121	-0.8106	-0.0000811
-20	4.5	467.562099	-0.8576	-0.0000858
-30	4.5	467.562042	-0.9795	-0.0000980

Top Channel

Reference Frequency:	462.7250	Limit:		5ppm
Environment Temperature	Power Supply	Frequency Deviation		
(°C)	(V)	(MHz)	ppm	%
50	4.5	462.725502	1.0849	0.0001085
40	4.5	462.725323	0.6980	0.0000698
30	4.5	462.725301	0.6505	0.0000650
20	4.5	462.725272	0.5878	0.0000588
10	4.5	462.725192	0.4149	0.0000415
0	4.5	462.725178	0.3847	0.0000385
-10	4.5	462.725101	0.2183	0.0000218
-20	4.5	462.725098	0.2118	0.0000212
-30	4.5	462.725041	0.0886	0.0000089

GMRS:

Middle Channel

Reference Frequency:	467.5625	Limit:	5ppm	
Envionment Temperature	Power Supply	Frequency Deviation		
(°C)	(V)	(MHz)	ppm	%
50	4.5	462.625493	1.0657	0.0001066
40	4.5	462.625321	0.6939	0.0000694
30	4.5	462.625327	0.7068	0.0000707
20	4.5	462.625319	0.6895	0.0000690
10	4.5	462.625311	0.6723	0.0000672
0	4.5	462.625326	0.7047	0.0000705
-10	4.5	462.625331	0.7155	0.0000715
-20	4.5	462.625352	0.7609	0.0000761
-30	4.5	462.625372	0.8041	0.0000804

(2)The manufacturer specified battery end point 3.825V

channel	Frequency MHz	Test Frequency MHz	frequency tolerance %	frequency tolerance ppm
4	462.6375	462.637423	-0.0000618	-0.618
18	462.6250	462.624917	-0.0000685	-0.685

Remark:

- 1) Each FRS unit must be maintained within a frequency tolerance of 0.00025%.
- 2) Each GMRS unit must be maintained within a frequency tolerance of 0.0005%.

6. EMISSION BANDWIDTH

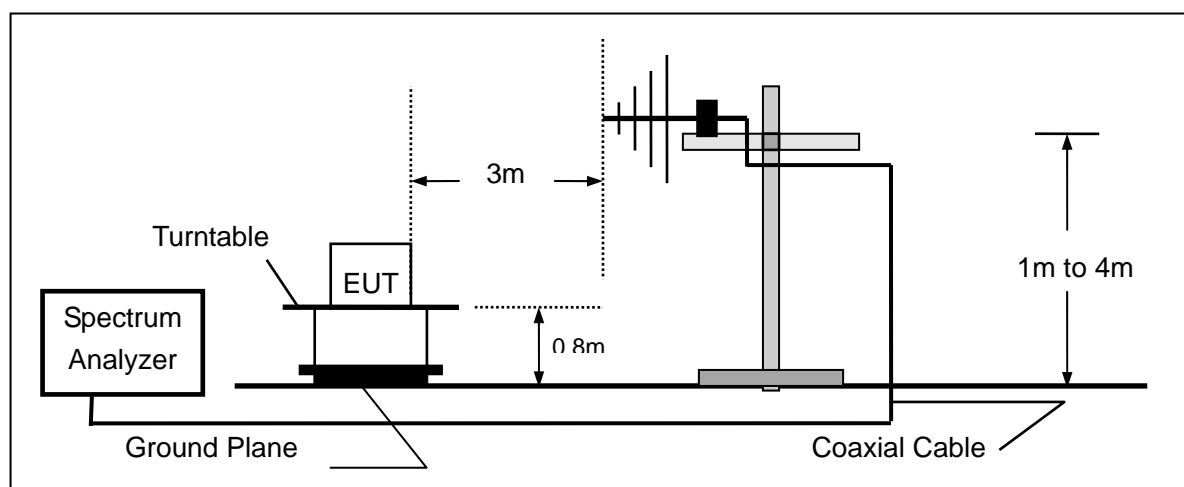
6.1 PROVISIONS APPLICABLE

According to FCC Part 95 Section 95.635b (1) (3) (7): At least 25 dB on any frequency removed from the center of the authorized bandwidth by more than 50 % up to and including 100 % of the authorized bandwidth. At least 35 dB on any frequency removed from the center of the authorized BW by more than 100 % up to and including 250 % of the authorized BW. At least $43 + \log_{10}(TP)$ dB on any frequency removed from the center of the authorized bandwidth by more than 250%. See the following plot.

6.2 MEASUREMENT PROCEDURE

- 1). The EUT was placed on a turn table which is 0.8m above ground plane.
- 2). The EUT was modulated by 2.5 KHz Sine wave audio signal, The level of the audio signal employed is 16 dB greater than that necessary to produce 50% of rated system deviation. Rated system deviation is 2.5 kHz (12.5 kHz channel spacing).
- 3). Set SPA Center Frequency = fundamental frequency, RBW=VBW= 300 Hz, Span =50 KHz.
- 4). Set SPA Max hold.

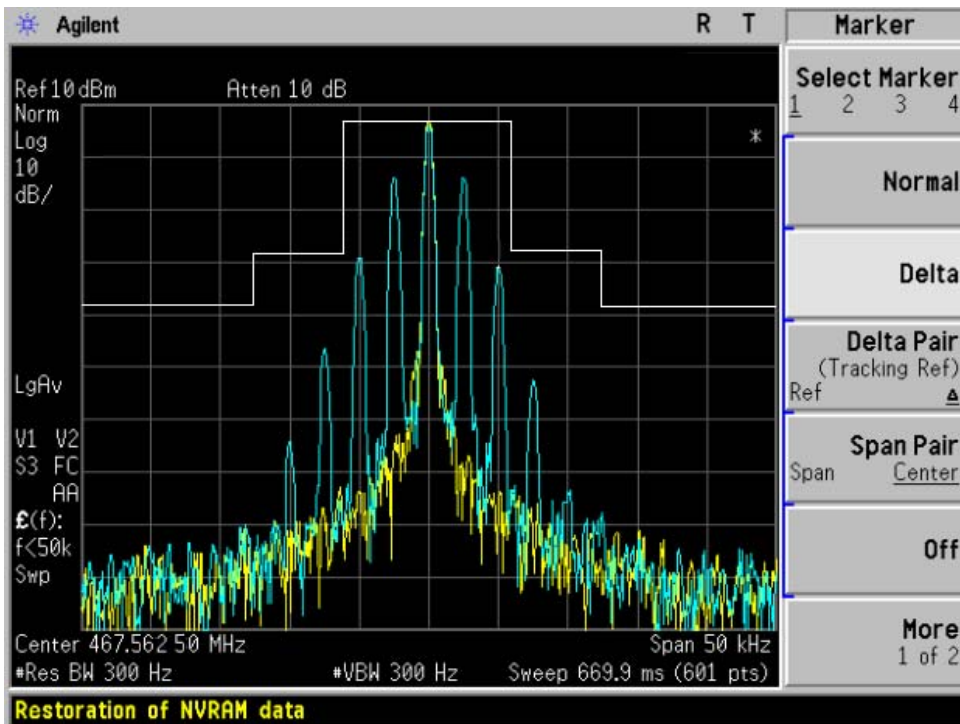
6.3 TEST SETUP BLOCK DIAGRAM



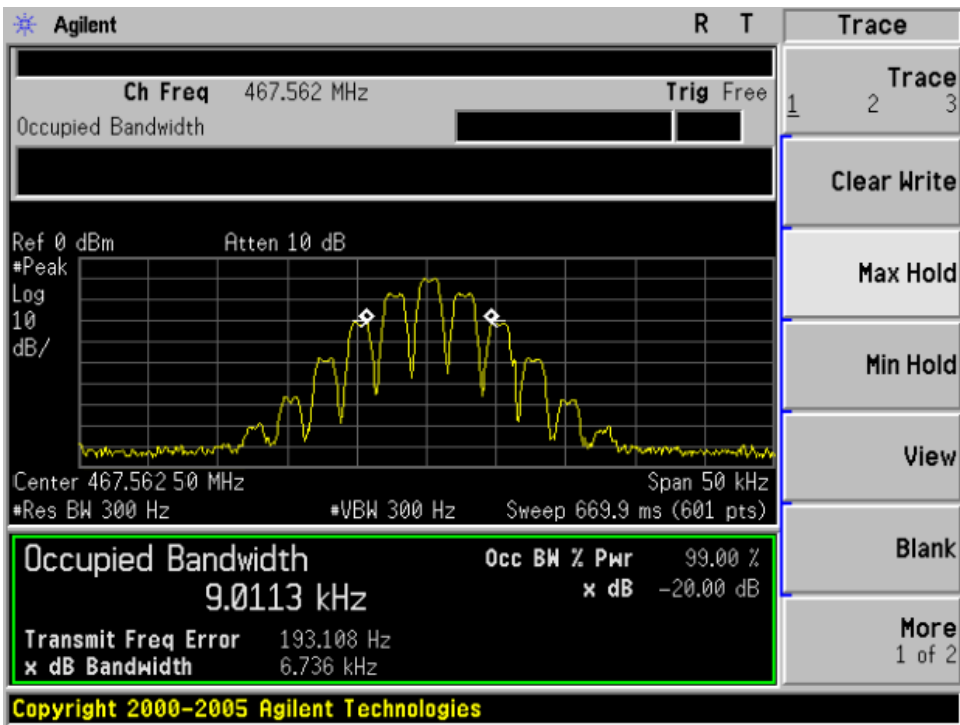
6.4 MEASUREMENT EQUIPMENT USED:

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL. DATE
SPECTRUM ANALYZER	AGILENT	E4440A	US44300399	2012.06.27
MODULATION ANALYZER	HP	8901B	3104A03367	2012.06.27
BROADBAND ANT.	R&S	HL562	A0304224	2012.06.27

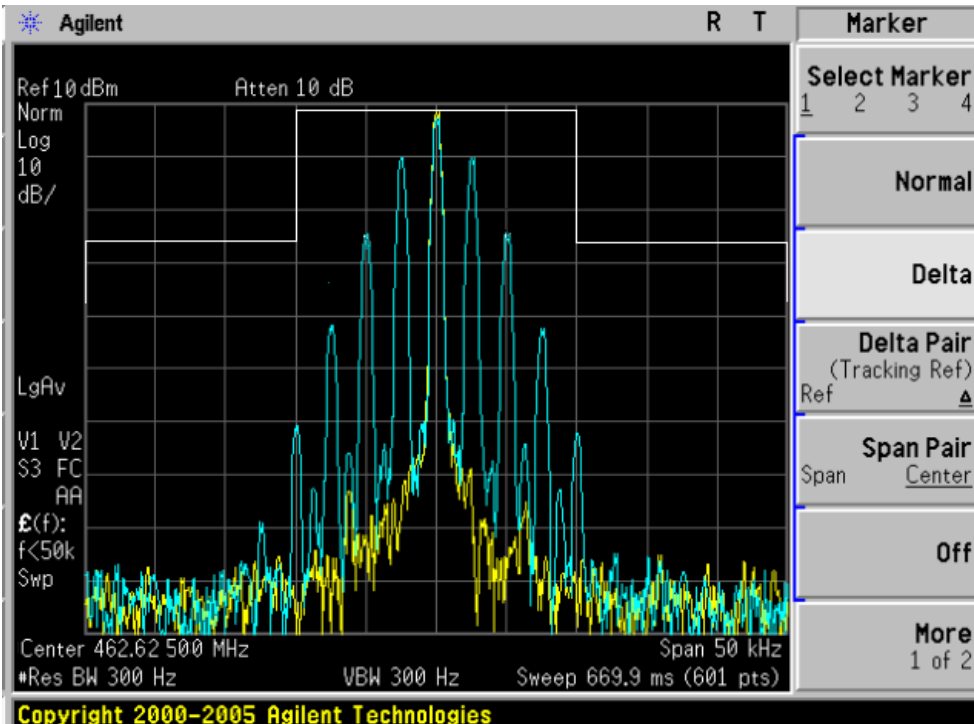
Occupied bandwidth plot:
FCC 95.635 MASK (1) (3)(7) FOR FRS



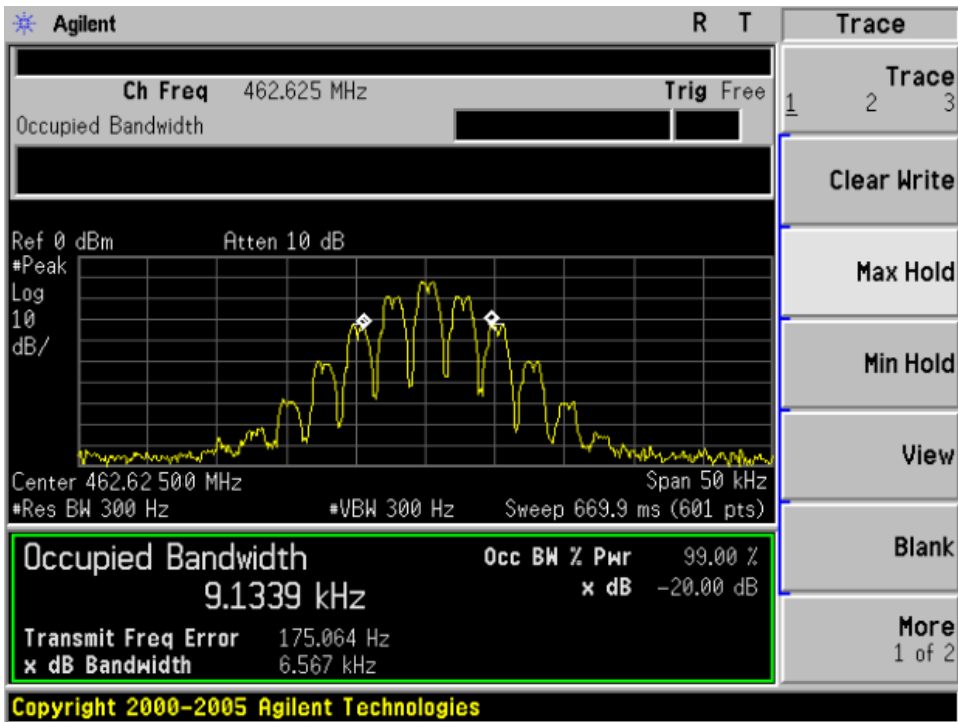
99% Occupied bandwidth FOR FRS



FCC 95.635 MASK (1) (3)(7) FOR GMRS



99% Occupied bandwidth FOR GMRS



7. UNWANTED RADIATION

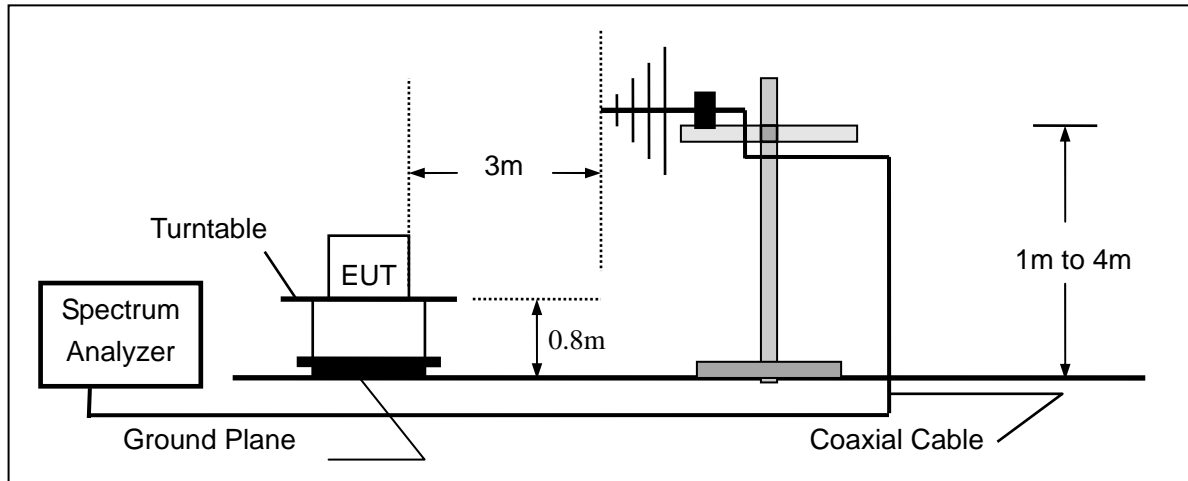
7.1 PROVISIONS APPLICABLE

According to FCC Part 95 Section 95.635b (7): At least $43 + 10 \log_{10}(T)$ dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

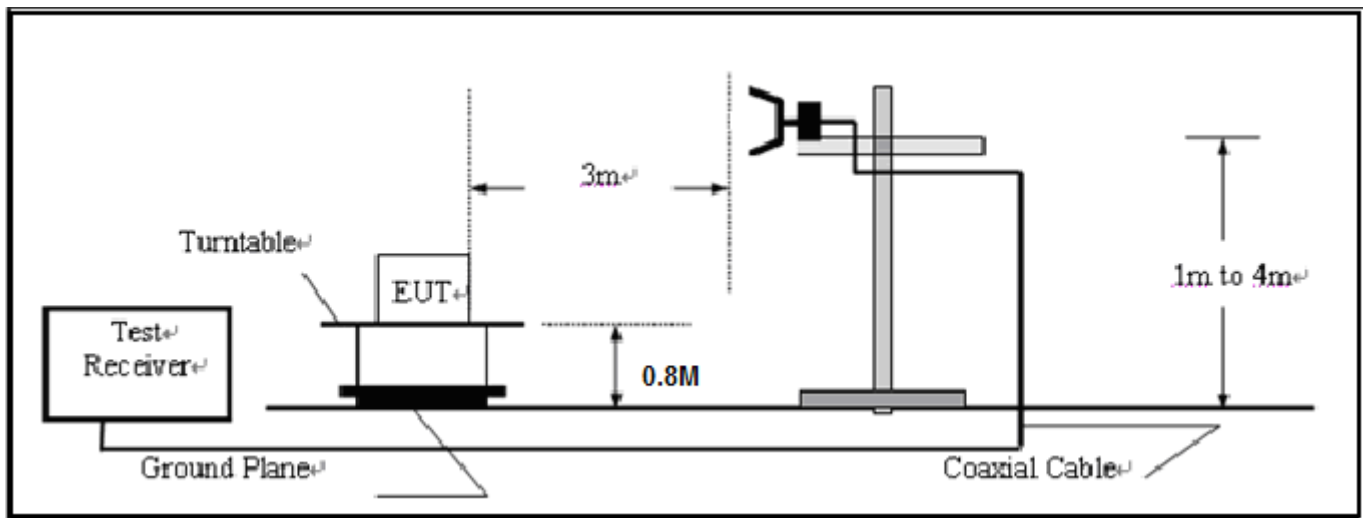
7.2 MEASUREMENT PROCEDURE

1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

7.3 TEST SETUP BLOCK DIAGRAM
SUBSTITUTION METHOD: (Radiated Emissions)
Radiated Below 1GHz



Radiated Above 1 GHz



7.4 MEASUREMENT EQUIPMENT USED:

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL. DATE
SPECTRUM ANALYZER	AGILENT	E4440A	US44300399	2012.06.27
TEST RECEIVER	R&S	ESIB26	A0304218	2012.06.27
LOOP ANTENNA	R&S	HFH2-Z2	A0304220	2012.06.27
HORN ANT.	R&S	HF906	100150	2012.06.27
BROADBAND ANT.	R&S	HL562	A0304224	2012.06.27

7.5 MEASUREMENT RESULTS:

Calculation: Limit = $43 + 10 \log_{10} (TP)$

Notes:

EL is the emission level of the Output Power expressed in dBm,, in this application, the EL is 0.38 (25.8 dBm).

Limit = $43 + 10 \log_{10} (0.36) = 38.6$

Radiated emissions of the bottom Channel

Emission Frequency (MHz)	Ant. Polarity(H/V)	Radiated emissions PK(dBuV/m)	Radiated emissions AV(dBuV/m)	Measurement Result Below carrier(dBc)	Limit	Result(P/F)
462.56	V	120.06	--	0	--	Pass
925.12	V	67.13	--	52.93	38.6	Pass
1387.68	V	66.25	--	53.81	38.6	Pass
1850.24	V	63.87	--	56.19	38.6	Pass
2312.8	V	56.74	--	63.32	38.6	Pass
2775.36	V	49.78	--	--	38.6	Pass
3237.92	V	48.23	--	--	38.6	Pass
3700.48	V	48.57	--	--	38.6	Pass
4163.04	V	46.97	--	--	38.6	Pass
4625.61	V	42.91	--	--	38.6	Pass

Limit = $43 + 10 \log_{10} (0.38) = 38.8$

Radiated emissions of the middle Channel

Emission Frequency (MHz)	Ant. Polarity(H/V)	Radiated emissions PK(dBuV/m)	Radiated emissions AV(dBuV/m)	Measurement Result Below carrier(dBc)	Limit	Result(P/F)
467.56	V	119.81	--	0	--	Pass
935.13	V	68.12	--	51.69	38.8	Pass
1402.69	V	65.74	--	54.07	38.8	Pass
1870.25	V	63.87	--	55.94	38.8	Pass
2337.81	V	58.45	--	61.36	38.8	Pass
2805.38	V	49.54	--	--	38.8	Pass
3272.94	V	47.32	--	--	38.8	Pass
3740.50	V	48.41	--	--	38.8	Pass
4208.06	V	46.68	--	--	38.8	Pass
4675.63	V	42.57	--	--	38.8	Pass

Limit = $43 + 10 \log_{10} (0.37) = 38.7$

Radiated emissions of the top Channel

Emission Frequency (MHz)	Ant. Polarity(H/V)	Radiated emissions PK(dBuV/m)	Radiated emissions AV(dBuV/m)	Measurement Result Below carrier(dBc)	Limit	Result(P/F)
467.73	V	119.64	--	0	--	Pass
935.46	V	68.12	--	56.32	38.7	Pass
1870.92	V	64.37	--	53.38	38.7	Pass
3741.84	V	65.21	--	54.42	38.7	Pass
7483.68	V	55.23	--	63.99	38.7	Pass
14967.36	V	46.87	--	--	38.7	Pass
29934.72	V	45.44	--	--	38.7	Pass
59869.44	V	44.31	--	--	38.7	Pass
119738.88	V	42.56	--	--	38.7	Pass
239477.76	V	41.65	--	--	38.7	Pass

Note: Transmitter spurious worst case was showed.

8. MODULATION CHARACTERISTICS

8.1 PROVISIONS APPLICABLE

According to CFR 47 section 2.1047(a), for Voice Modulation Communication Equipment, the frequency response of the audio modulation circuit over a range of 100 to 5000Hz shall be measured.

8.2 MEASUREMENT METHOD

8.2.1 Modulation Limit

- (1). Configure the EUT as shown in figure 1, adjust the audio input for 60% of rated system deviation at 1KHz using this level as a reference (0dB) and vary the input level from –20 to +20dB. Record the frequency deviation obtained as a function of the input level.
- (2). Repeat step 1 with input frequency changing to 300, 1000, 1500 and 3000Hz in sequence.

8.2.2 Audio Frequency Response

- (1). Configure the EUT as shown in figure 1.
- (2). Adjust the audio input for 20% of rated system deviation at 1 KHz using this level as a reference (0 dB).
- (3). Vary the Audio frequency from 100 Hz to 10 KHz and record the frequency deviation.
- (4). Audio Frequency Response = $20\log_{10} (\text{Deviation of test frequency} / \text{Deviation of 1 KHz reference})$.

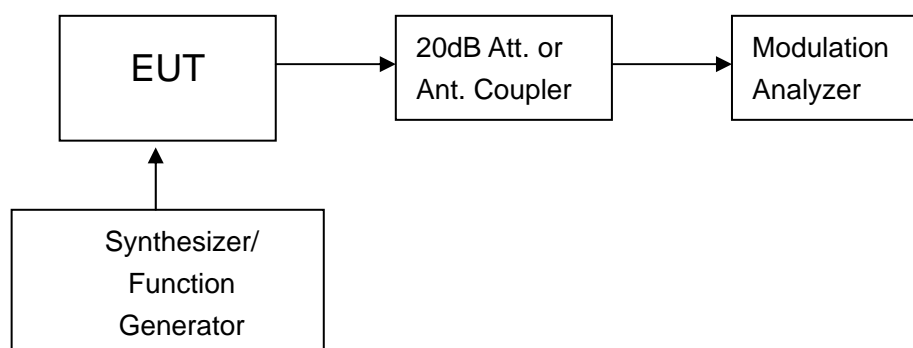


Figure 1: Modulation characteristic measurement configuration

8.3 MEASUREMENT INSTRUMENTS

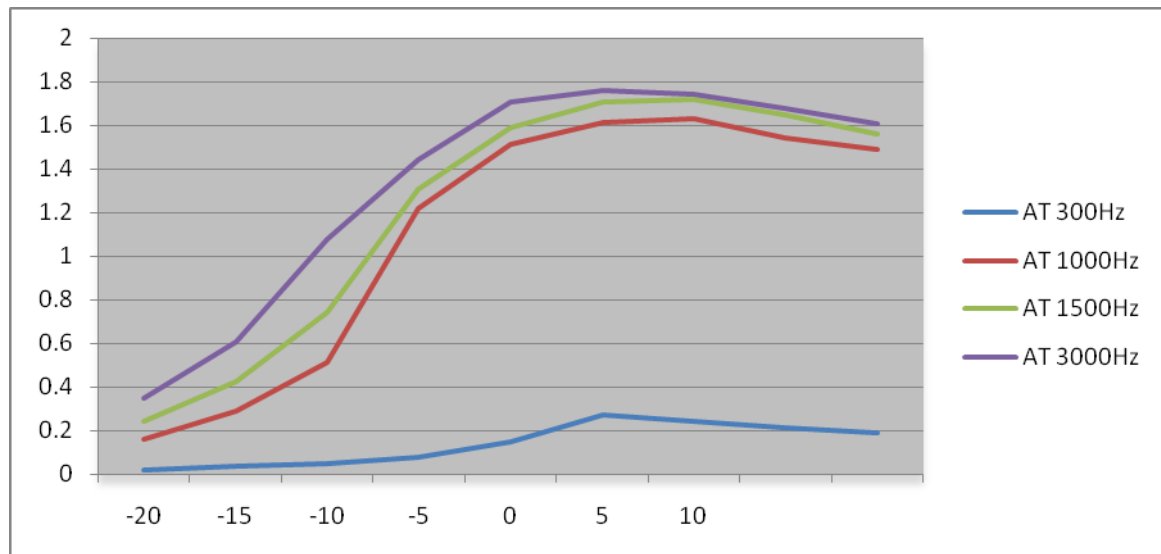
NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL. DATE
Modulation Analyzer	HP	8901B	3104A03367	2012.06.27

8.4 MEASUREMENT RESULT

(a). Modulation Limit:

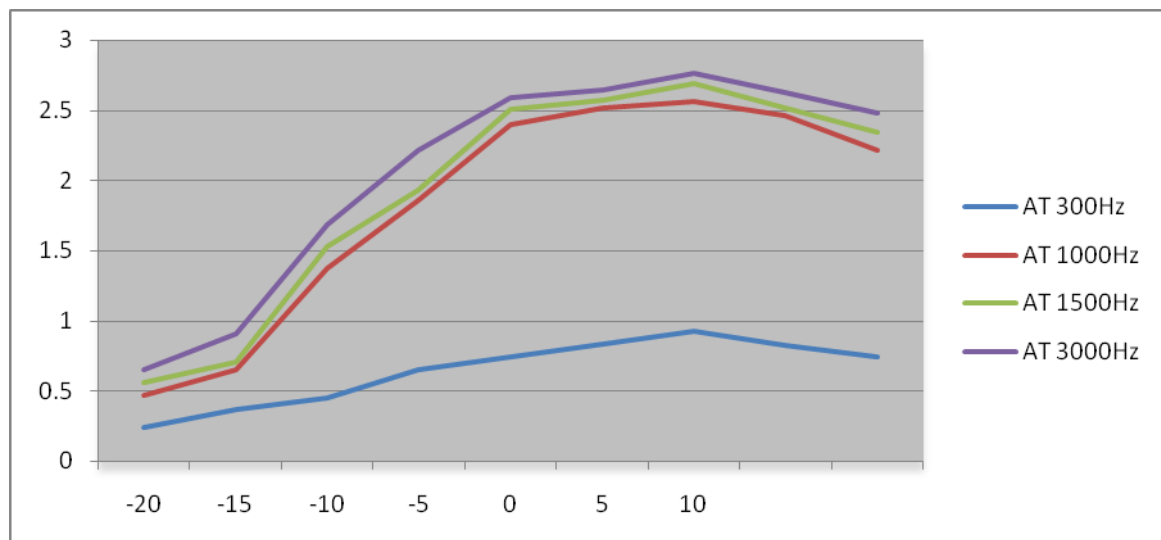
Middle Channel @ 12.5 KHz Channel Separations

Modulation Level (dB)	Peak Freq. Deviation At 300 Hz	Peak Freq. Deviation At 1000 Hz	Peak Freq. Deviation At 1500 Hz	Peak Freq. Deviation At 3000 Hz
-20	0.02	0.16	0.24	0.35
-15	0.04	0.29	0.42	0.61
-10	0.05	0.51	0.74	1.08
-5	0.08	1.22	1.31	1.44
0	0.15	1.51	1.59	1.71
+5	0.27	1.61	1.71	1.76
+10	0.24	1.63	1.72	1.74
+15	0.21	1.54	1.65	1.68
+20	0.19	1.49	1.56	1.61



Middle Channel @ 20 KHz Channel Separations

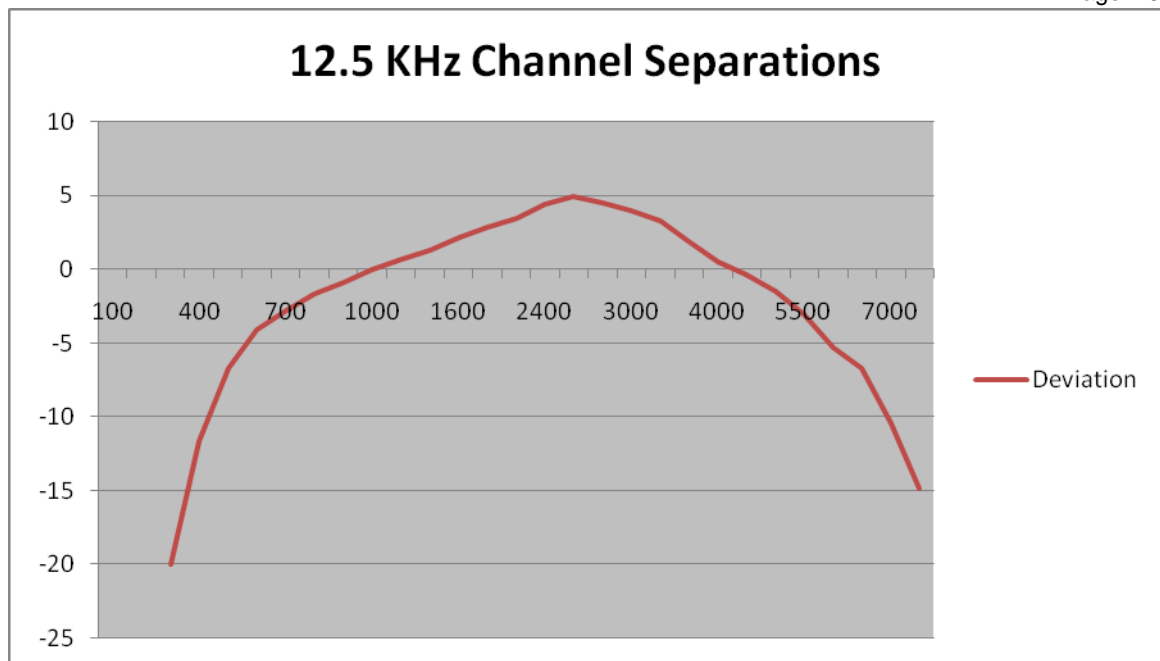
Modulation Level (dB)	Peak Freq. Deviation At 300 Hz	Peak Freq. Deviation At 1000 Hz	Peak Freq. Deviation At 1500 Hz	Peak Freq. Deviation At 3000 Hz
-20	0.24	0.47	0.56	0.65
-15	0.37	0.65	0.71	0.91
-10	0.45	1.37	1.53	1.68
-5	0.65	1.86	1.93	2.21
0	0.75	2.4	2.51	2.59
+5	0.84	2.51	2.57	2.64
+10	0.93	2.56	2.69	2.76
+15	0.83	2.46	2.52	2.62
+20	0.75	2.21	2.34	2.48



(b). Audio Frequency Response:

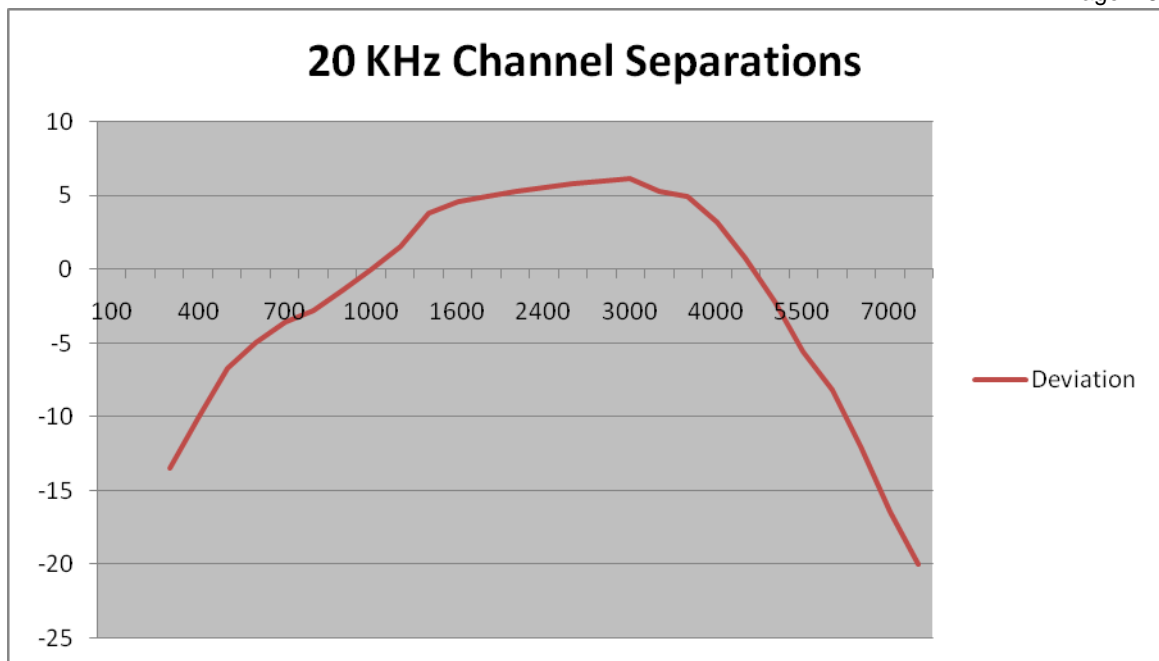
Middle Channel @12.5 KHz Channel Separation

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.05	-20.00
400	0.13	-11.70
500	0.23	-6.74
600	0.31	-4.15
700	0.36	-2.85
800	0.41	-1.72
900	0.45	-0.92
1000	0.5	0.00
1200	0.54	0.67
1400	0.58	1.29
1600	0.64	2.14
1800	0.69	2.80
2000	0.74	3.41
2400	0.83	4.40
2500	0.88	4.91
2800	0.84	4.51
3000	0.79	3.97
3200	0.73	3.29
3600	0.62	1.87
4000	0.53	0.51
4500	0.48	-0.35
5000	0.42	-1.51
5500	0.35	-3.10
6000	0.27	-5.35
6500	0.23	-6.74
7000	0.15	-10.46
7500	0.09	-14.89
9000	--	--
10000	--	--
12000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--



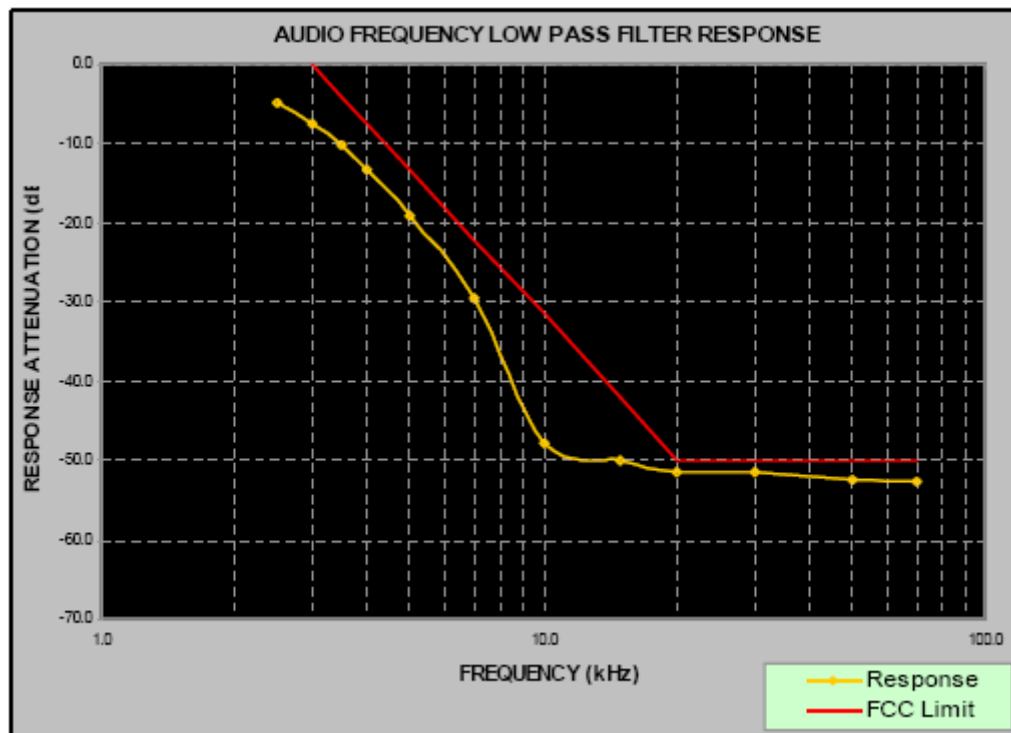
Middle Channel @20 KHz Channel Separation

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.17	-13.45
400	0.25	-10.10
500	0.37	-6.70
600	0.45	-5.00
700	0.53	-3.58
800	0.58	-2.79
900	0.68	-1.41
1000	0.8	0.00
1200	0.95	1.49
1400	1.24	3.81
1600	1.35	4.54
1800	1.41	4.92
2000	1.46	5.23
2400	1.51	5.52
2500	1.56	5.80
2800	1.59	5.97
3000	1.62	6.13
3200	1.46	5.23
3600	1.41	4.92
4000	1.15	3.15
4500	0.87	0.73
5000	0.62	-2.21
5500	0.42	-5.60
6000	0.31	-8.23
6500	0.2	-12.04
7000	0.12	-16.48
7500	0.08	-20.00
9000	--	--
10000	--	--
12000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--



(c). Audio Frequency low Pass Filter Response:

Audio Frequency	Response Attenuation (dB)	FCC Limit (dB)
2.5	-4.93	
3.0	-7.41	0.0
3.5	-10.23	-4.0
4.0	-13.27	-7.5
5.0	-19.08	-13.3
7.0	-29.39	-22.1
10.0	-47.75	-31.4
15.0	-50.01	-42.0
20.0	-51.37	-50.0
30.0	-51.45	-50.0
50.0	-52.29	-50.0
70.0	-52.70	-50.0



9. RF POWER OUTPUT

9.1 PROVISIONS APPLICABLE

Rule Part No.: §95.639

Requirements: Power output shall not exceed 0.50 Watts effective radiated power for the FRS channels.

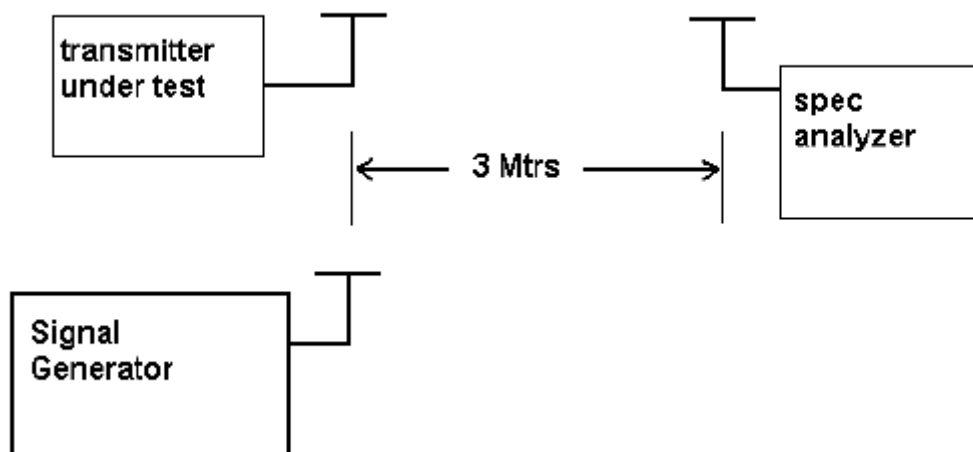
There can be no provisions for increasing the power or varying the power. No GMRS channel, under any condition of modulation, shall exceed:

1. 50W Carrier power (average TP during one modulated RF cycle) when transmitting emissions type A1D, F1D, G1D, A3E, F3E, or G3E.
2. 50W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E, or R3E

9.2 TEST PROCEDURE

RF power is measured as ERP as the antenna is permanently attached. The substitution method was used. With a nominal battery voltage, and the transmitter properly adjusted the RF output measures:

Test Setup Diagram:



9.3 TEST RESULT

Power Measurement Results		
Channel	Channel	Measurement Result For 0.5W
		ERP
FRS	462.5625MHz	0.36w(25.5dBm)
	467.5625MHz	0.38w(25.8dBm)
	467.7125MHz	0.37w (25.7dBm)
GMRS	462.6250MHz	0.37w(25.7dBm)

NOTE: The EUT was measured in 3 orientations with respect to the receive antenna and the orientation with the highest radiated power results is shown (Vertical Polarization).

10. Radiated Emission on Receiving Mode

10.1 PROVISIONS APPLICABLE

FCC Part 15 Subpart B Section 15.109

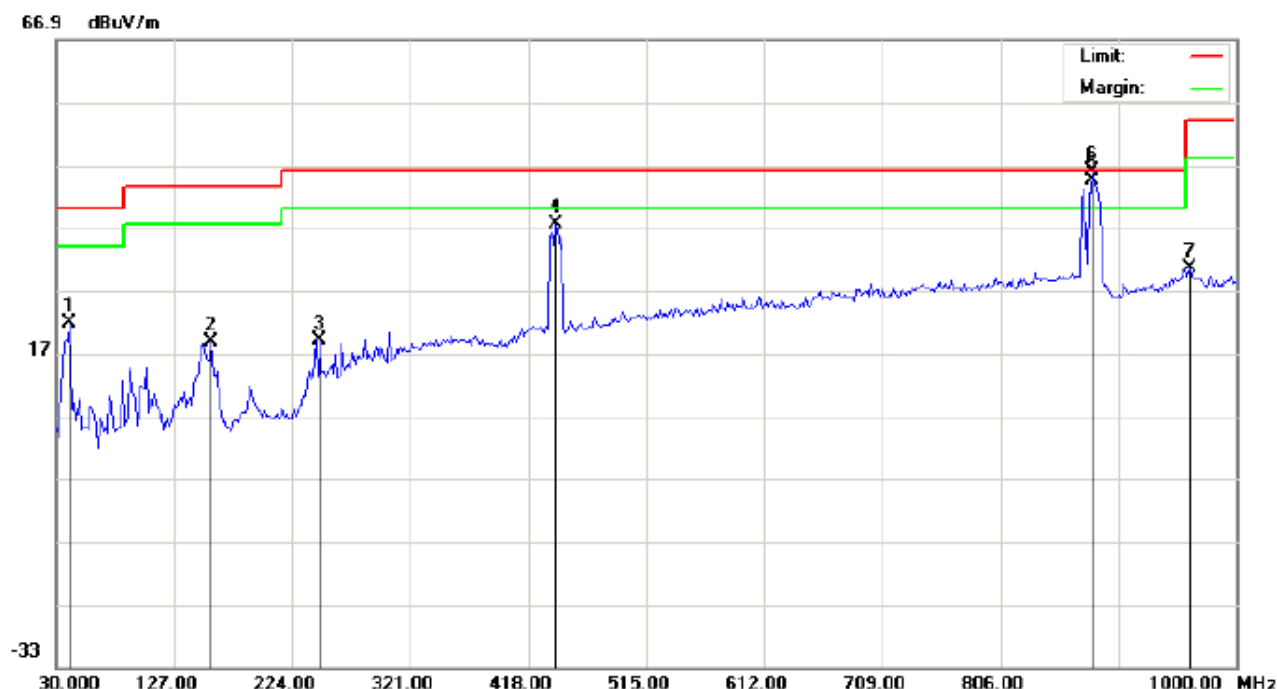
10.2 TEST METHOD

ANSI C 63.4: 2009

10.3 TEST INSTRUMENTS

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL. DATE
SPECTRUM ANALYZER	AGILENT	E4440A	N/A	2012.06.27
LOOP ANTENNA	A.H.	SAS-526B	264	2012.06.27
HORN ANT.	EM	EM-AH-10180	N/A	2012.06.27
BROADBAND ANT.	A.H.	SAS-521-4	N/A	2012.06.27

10.4 MEASURE RESULT (MEASURED AT 3M USING FCC PART15 B LIMITS) RADIATED EMISSION TEST RESULTS – Vertical



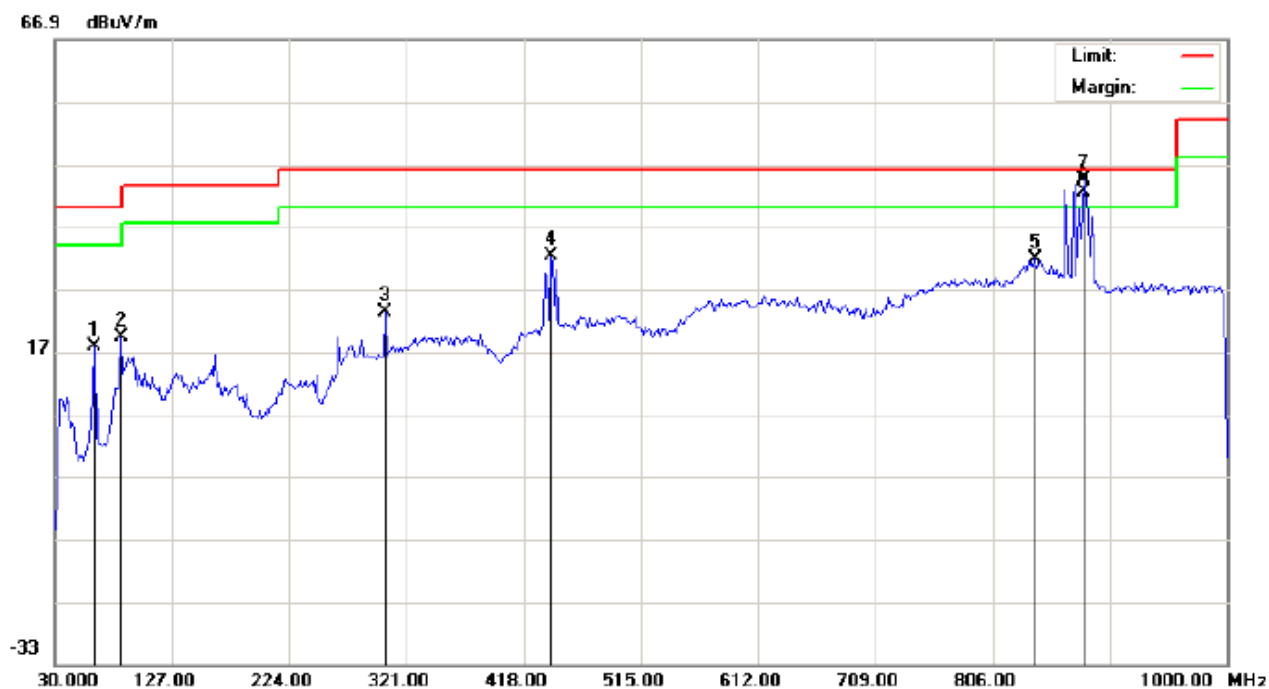
Site: site #1
Limit: FCC Class B 3M Radiation
EUT: Wrist Watch Walkie Talkie
M/N: #70489
Mode: RX
Note:

Polarization: **Vertical**
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		41.3167	16.39	5.32	21.71	40.00	-18.29	peak			
2		157.7167	3.78	14.92	18.70	43.50	-24.80	peak			
3		246.6333	4.83	14.23	19.06	46.00	-26.94	peak			
4		440.6333	15.99	21.48	37.47	46.00	-8.53	peak			
5	!	881.7382	14.55	30.04	44.59	46.00	-1.41	QP	150	139	
6	*	881.9833	16.04	29.98	46.02	46.00	0.02	peak			
7		961.2000	1.75	28.85	30.60	54.00	-23.40	peak			

RADIATED EMISSION TEST RESULTS – Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: Wrist Watch Walkie Talkie
M/N: #70489
Mode: RX
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

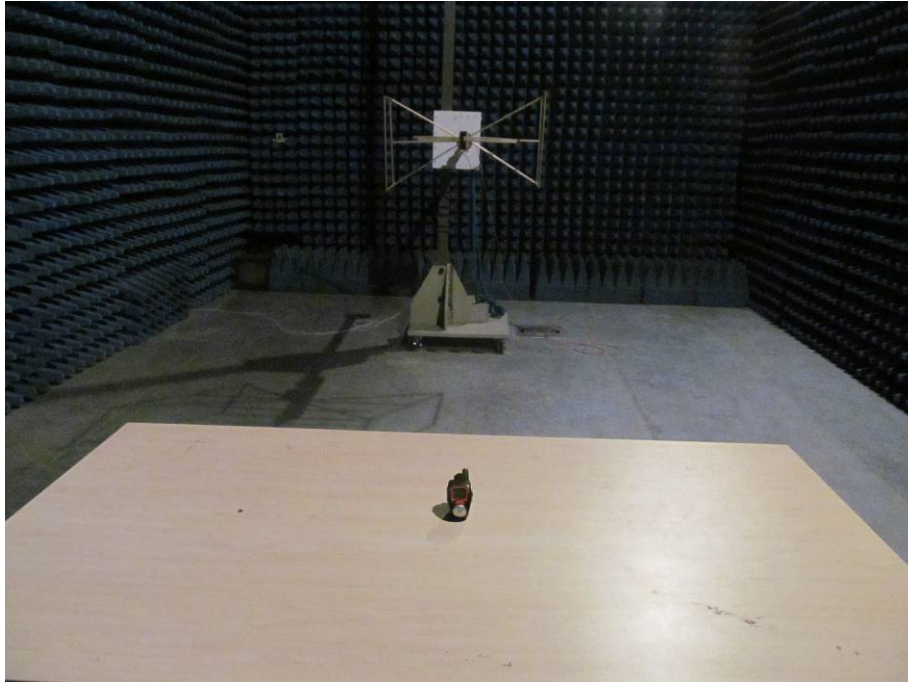
Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		62.3333	14.32	3.48	17.80	40.00	-22.20	peak			
2		84.9666	5.29	13.89	19.18	40.00	-20.82	peak			
3		303.2167	5.96	17.21	23.17	46.00	-22.83	peak			
4		440.6333	10.77	21.48	32.25	46.00	-13.75	peak			
5		841.5667	0.62	31.17	31.79	46.00	-14.21	peak			
6	!	881.7228	13.42	29.01	42.43	46.00	-3.57	QP	150	113	
7	*	881.9833	15.53	28.98	44.51	46.00	-1.49	peak			

APPENDIX I

PHOTOGRAPHS OF SETUP

RADIATED TEST SETUP



APPENDIX II

EXTERNAL VIEW OF EUT

TOP VIEW OF EUT



BOTTOM VIEW OF EUT



LEFT VIEW OF EUT



RIGHT VIEW OF EUT



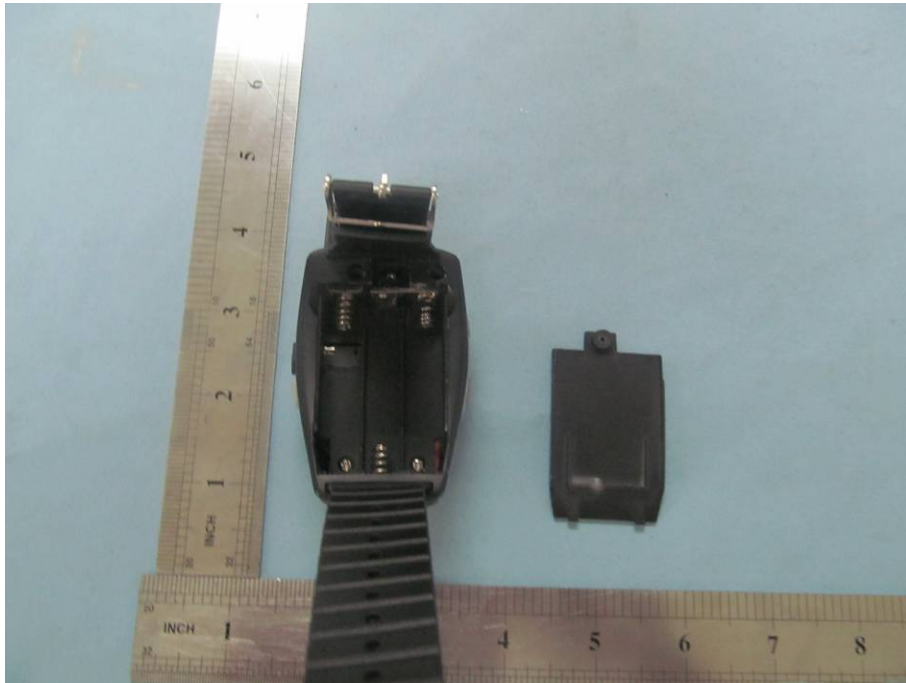
FRONT VIEW OF EUT



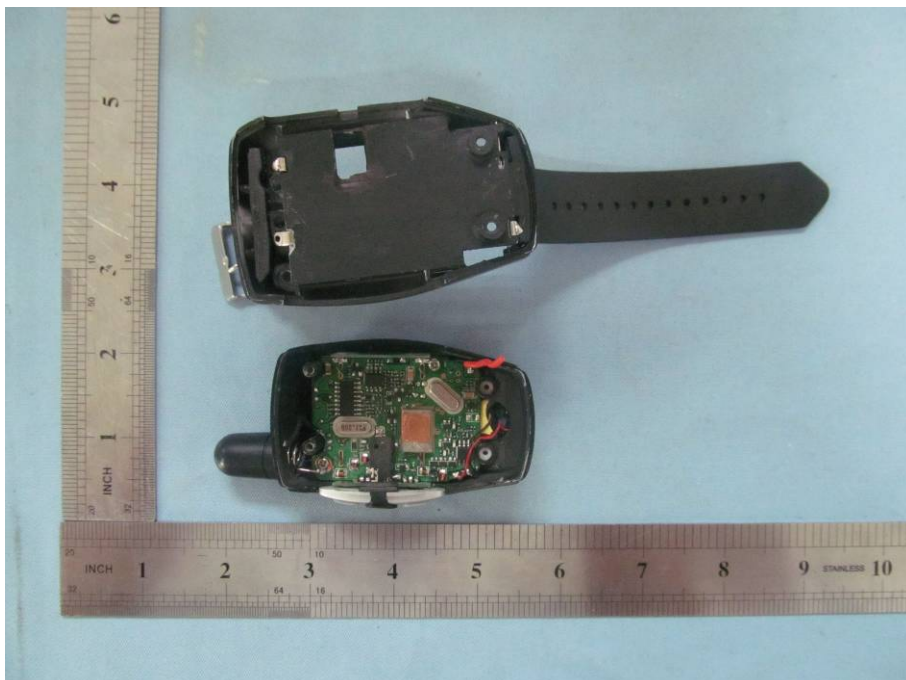
BACK VIEW OF EUT



OPEN VIEW OF EUT



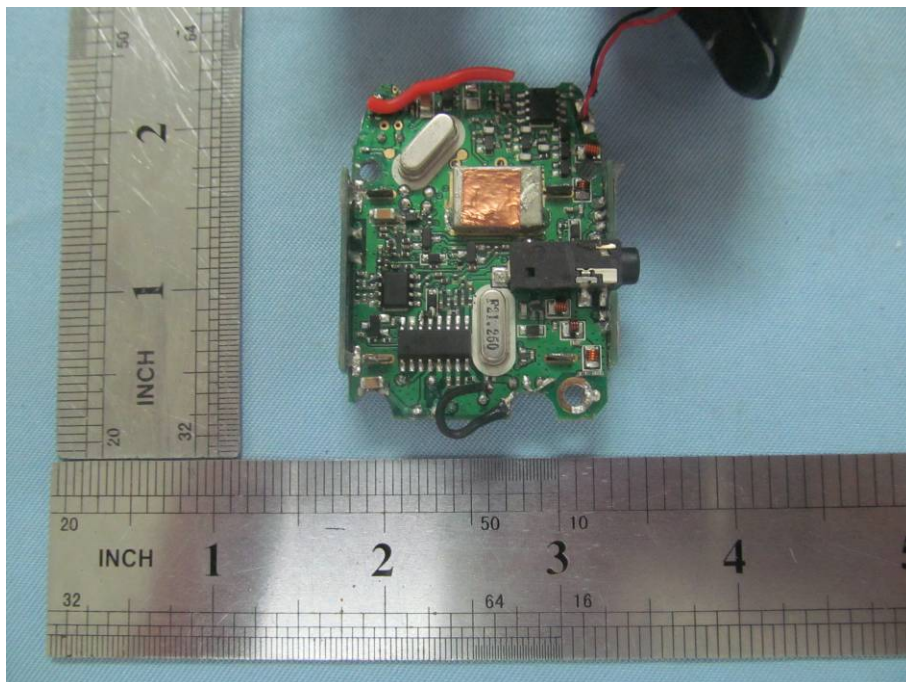
INTERNAL VIEW OF EUT - 1



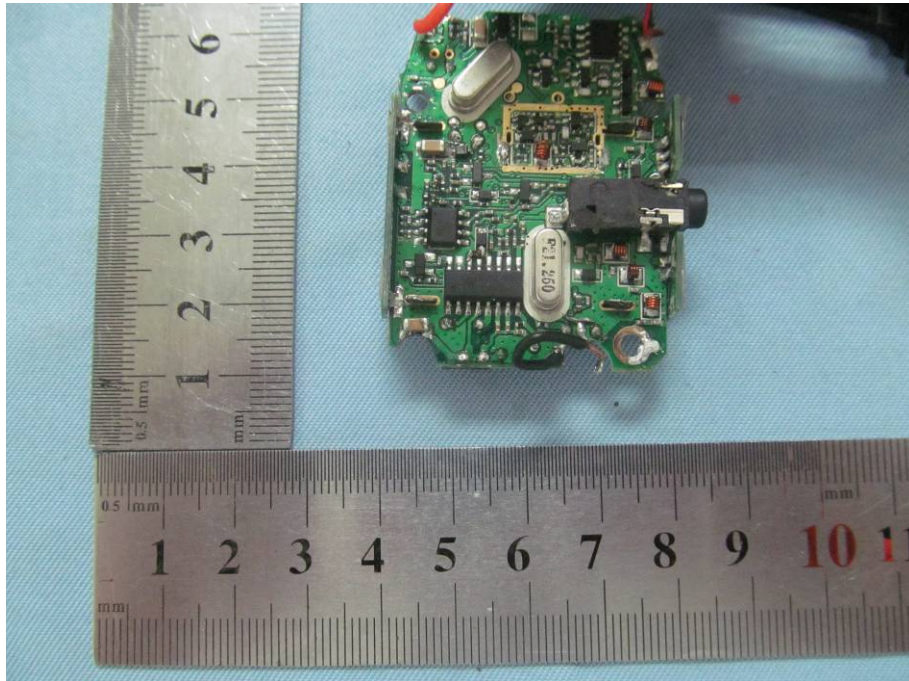
INTERNAL VIEW OF EUT - 2



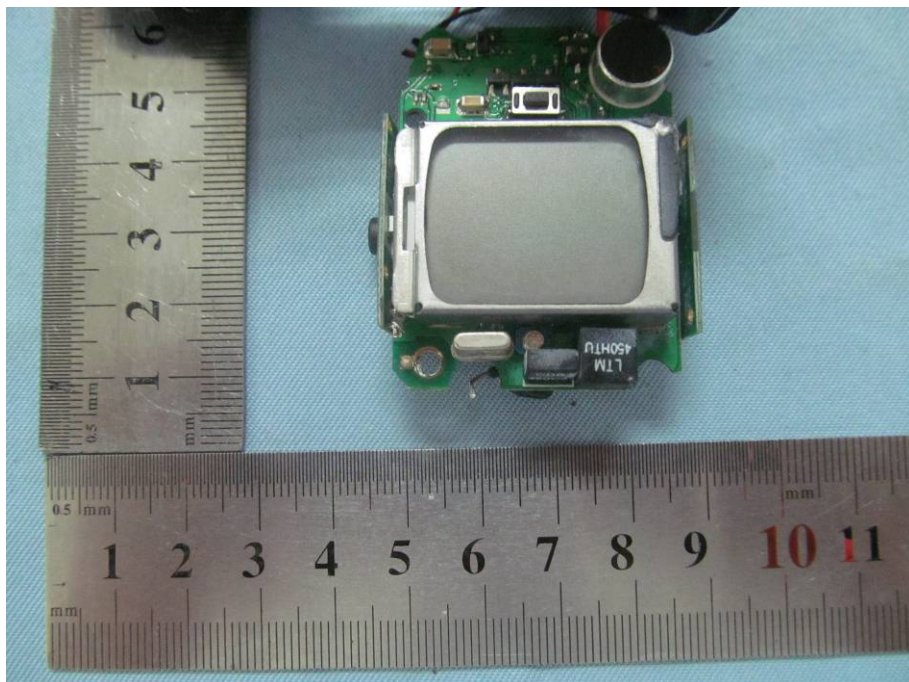
INTERNAL VIEW OF EUT - 3



INTERNAL VIEW OF EUT - 4



INTERNAL VIEW OF EUT – 5



----END OF REPORT----