



FCC 47 CFR PART 95

TEST REPORT

For

Applicant : Aervoe Industries, Inc

Address : 1100 Mark circle, Gardnerville, NV89410, USA

Product Name : Walkie Talkie

Model Name : 7910A

Brand Name : The logo for Wind 'N Go is written in a red, stylized font with a red swoosh underneath.

FCC ID : YT9-7910A

Report No. : STS131009F1

Date of Issue : October 30, 2013

Issued by : Shenzhen Super Test Service Technology Co., Ltd.

Address : No.5, Langshan 2nd Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China

Tel : 86-755-27958522


Fax : 86-755-27958022

The report consists 45 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by STS. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver.

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1. TEST RESULT CERTIFICATION

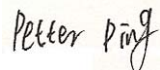
Applicant Name:	Aervoe Industries, Inc
Address:	1100 Mark circle, Gardnerville, NV89410, USA
Manufacturer Name:	SINORISE TECHNOLOGY CO., LTD
Address:	6F,6th Bld,Education road NO. 49,Pingdi town,longgang,shenzhen,P.R.C
Brand Name:	
Equipment Under Test:	Walkie Talkie
Model Number:	7910A
FCC ID:	YT9-7910A
Test Standard	FCC 47 CFR Part 95
File Number:	STS131009F1
Date of Test:	October 21, 2013 – October 30, 2013

We (STS) hereby certify that:

The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI TIA 603:2004 and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 95.

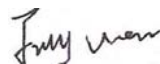
The test results of this report relate only to the tested sample identified in this report.

Tested By:



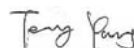
Petter Ping / Test Engineer October 30, 2013

Checked By:



July Wen / Quality Engineer October 30, 2013

Authorized By:




Terry Yang / General Manager October 30, 2013

2. Technical Information

Note: the following data is based on the information by the applicant.

2.1 EUT Description

Product	Walkie Talkie																																																																		
Brand Name																																																																			
Model Number	7910A																																																																		
Series Model Name:	N/A																																																																		
Series Model Difference description:	N/A																																																																		
Power Supply:	DC 3.7V Supplied by Adapter AC 100-240V,50Hz/60Hz, 0.5A																																																																		
Frequency Range:	462.5500MHz -462.7250MHz (GMRS Band) 462.5625MHz- 462.7125MHz (FRS/GMRS Band) 467.5625MHz-467.7125MHz (FRS Band)																																																																		
Modulation Technique:	FM																																																																		
Channel Spacing:	25KHz																																																																		
Channel Number:	<table border="1"> <tr><td>1</td><td>462.5625 MHz</td><td>FRS/GMRS</td><td>12</td><td>467.6625 MHz</td><td>FRS</td></tr> <tr><td>2</td><td>462.5875 MHz</td><td>FRS/GMRS</td><td>13</td><td>467.6875 MHz</td><td>FRS</td></tr> <tr><td>3</td><td>462.6125 MHz</td><td>FRS/GMRS</td><td>14</td><td>467.7125 MHz</td><td>FRS</td></tr> <tr><td>4</td><td>462.6375 MHz</td><td>FRS/GMRS</td><td>15</td><td>462.5500 MHz</td><td>GMRS</td></tr> <tr><td>5</td><td>462.6625 MHz</td><td>FRS/GMRS</td><td>16</td><td>462.5750 MHz</td><td>GMRS</td></tr> <tr><td>6</td><td>462.6875 MHz</td><td>FRS/GMRS</td><td>17</td><td>462.6000 MHz</td><td>GMRS</td></tr> <tr><td>7</td><td>462.7125 MHz</td><td>FRS/GMRS</td><td>18</td><td>462.6250 MHz</td><td>GMRS</td></tr> <tr><td>8</td><td>467.5625 MHz</td><td>FRS</td><td>19</td><td>462.6500 MHz</td><td>GMRS</td></tr> <tr><td>9</td><td>467.5875 MHz</td><td>FRS</td><td>20</td><td>462.6750 MHz</td><td>GMRS</td></tr> <tr><td>10</td><td>467.6125 MHz</td><td>FRS</td><td>21</td><td>462.7000 MHz</td><td>GMRS</td></tr> <tr><td>11</td><td>467.6375Mhz</td><td>FRS</td><td>22</td><td>462.7250 MHz</td><td>GMRS</td></tr> </table>	1	462.5625 MHz	FRS/GMRS	12	467.6625 MHz	FRS	2	462.5875 MHz	FRS/GMRS	13	467.6875 MHz	FRS	3	462.6125 MHz	FRS/GMRS	14	467.7125 MHz	FRS	4	462.6375 MHz	FRS/GMRS	15	462.5500 MHz	GMRS	5	462.6625 MHz	FRS/GMRS	16	462.5750 MHz	GMRS	6	462.6875 MHz	FRS/GMRS	17	462.6000 MHz	GMRS	7	462.7125 MHz	FRS/GMRS	18	462.6250 MHz	GMRS	8	467.5625 MHz	FRS	19	462.6500 MHz	GMRS	9	467.5875 MHz	FRS	20	462.6750 MHz	GMRS	10	467.6125 MHz	FRS	21	462.7000 MHz	GMRS	11	467.6375Mhz	FRS	22	462.7250 MHz	GMRS
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11	467.6375Mhz	FRS	22	462.7250 MHz	GMRS																																																														
Test Channel	GMRS Band 5: 462.6625 MHz; FRS Band 12: 467.6625 MHz																																																																		
Antenna Gain:	1.0 dBi																																																																		

Temperature Range:	-20°C-50°C
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Note:

1. *This submittal(s) (test report) is intended for FCC ID:YT9-7910A filing to comply with the FCC Part 95, Subpart B Rules.*
2. *Please refer to Appendix B for the photographs of the EUT. For more details, please refer to the User's manual of the EUT.*

2.2 Objective

The tests documented in this report were performed in accordance with ANSI TIA 603:2004 and FCC CFR 47 Rules Part 95 Subpart B.

2.3 Test Standards and Results

The EUT has been tested according to FCC CFR 47:

- Part 2: Frequency Allocations and Radio Treaty Matters: General Rules and Regulations (10-1-05 Edition)
- Part 95: Personal Radio Services

Test items and the results are as bellow:

№	Test Type	Para. Number	Limit	Result
1	Power and Antenna High Limits	2.1046; Part 95 B	Refer to 95 B	PASS
2	Modulation Characteristic	2.1047; Part 95 B	Refer to 95 B	PASS
3	Occupied Bandwidth	2.1049; Part 95 B	Refer to 95 B	PASS
4	Emission Mask	2.1053; Part 95 B	Refer to 95 B	PASS
5	Frequency Stability vs. Temperature	2.1055; Part 95 B	Refer to 95 B	PASS
6	Frequency Stability vs. Voltage	2.1055; Part 95 B	Refer to 95 B	PASS
7	Transmitter Frequency Behavior	95 B	Refer to 95 B	PASS
8	Lined conducted emission	15.109	Refer to 15.109	PASS

3. Details of Test

3.1 Identification of the Responsible Testing Laboratory

Company:	Most Technology Service Co., Ltd
Address:	No.5, Nangshan 2nd Rd., North Hi-Tech Industrial park ,Nanshan, Shenzhen, Guangdong ,China

3.2 Identification of the Responsible Testing Location

Test Site:	Most Technology Service Co., Ltd
Address:	No.5, Nangshan 2nd Rd., North Hi-Tech Industrial park ,Nanshan, Shenzhen, Guangdong ,China
Description:	<p>There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003/ANSI TIA 603:2004 and CISPR 16 requirements.</p> <p>The FCC Registration Number is 490827.</p> <p>The CNAS Registration Number is CNAS L3573.</p>

3.3 List of Test Equipments

No.	Equipment	Manufacturer	Model No.	S/N	Calibration due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2014/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2014/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2014/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2014/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2014/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2014/03/14
7	Bilog Antenna	Sunol	JB3	A121206	2014/03/14
8	Cable	Resenberger	N/A	NO.1	2014/03/14
9	Cable	SchwarzBeck	N/A	NO.2	2014/03/14
10	Cable	SchwarzBeck	N/A	NO.3	2014/03/14
11	DC Power Filter	DuoJi	DL2030B	N/A	2014/03/14
12	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2014/03/14
13	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2014/03/14
14	Test Receiver	Rohde & Schwarz	ESCI	100492	2014/03/14
15	Absorbing Clamp	Luthi	MDS21	3635	2014/03/14
16	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2014/03/14
17	AC Power Source	Kikusui	AC40MA	LM003232	2014/03/14
18	Test Analyzer	Kikusui	KHA1000	LM003720	2014/03/14
19	Line Impedance Network	Kikusui	LIN40MA-PCR-L	LM002352	2014/03/14
20	ESD Tester	Kikusui	KES4021	LM003537	2014/03/14
21	EMC PRO System	EM Test	UCS-500-M4	V0648102026	2014/03/14
22	Signal Generator	IFR	2032	203002/100	2014/03/14
23	Amplifier	A&R	150W1000	301584	2014/03/14
24	CDN	FCC	FCC-801-M2-25	47	2014/03/14
25	CDN	FCC	FCC-801-M3-25	107	2014/03/14
26	EM Injection Clamp	FCC	F-203I-23mm	403	2014/03/14
27	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2014/03/14
28	Audio Power Amplifier	B&K	2716-C-001	2610976	2014/03/14
29	Mouth Simulator	B&K	4227	2630621	2014/03/14
30	Sound Calibrator	B&K	4231	2637486	2014/03/14
31	1/2" Pressure-field Microphone	B&K	4192	2641678	2014/03/14
32	Ear Simulator for Telephonometry	B&K	4185	2553612	2014/03/14
33	Telephone Test Head	B&K	4185	2631728	2014/03/14

34	RF Cable	MIYAZAKI	N/A	No.1/No.2	2014/03/14
35	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2014/03/14

3.4 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60%
- Atmospheric pressure: 86-106 k Pa

3.5 Configuration of Tested System



3.6 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Identifier	Series No.	Note
1	AC Adapter	N/A	KZ0600600	FCC DOC	N/A	EUT

4. Test Methodology

4.1 General Test Procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirement in Section 13.1.4.1 of ANSI TIA 603:2004. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI TIA 603:2004.

4.2 Description of Test Modes

The EUT has been tested under normal operating condition.

Two channels (The top channel and the bottom channel) are chosen for testing.

4.3 FCC Part 15.205 Restricted Bands of Operations

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi- peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

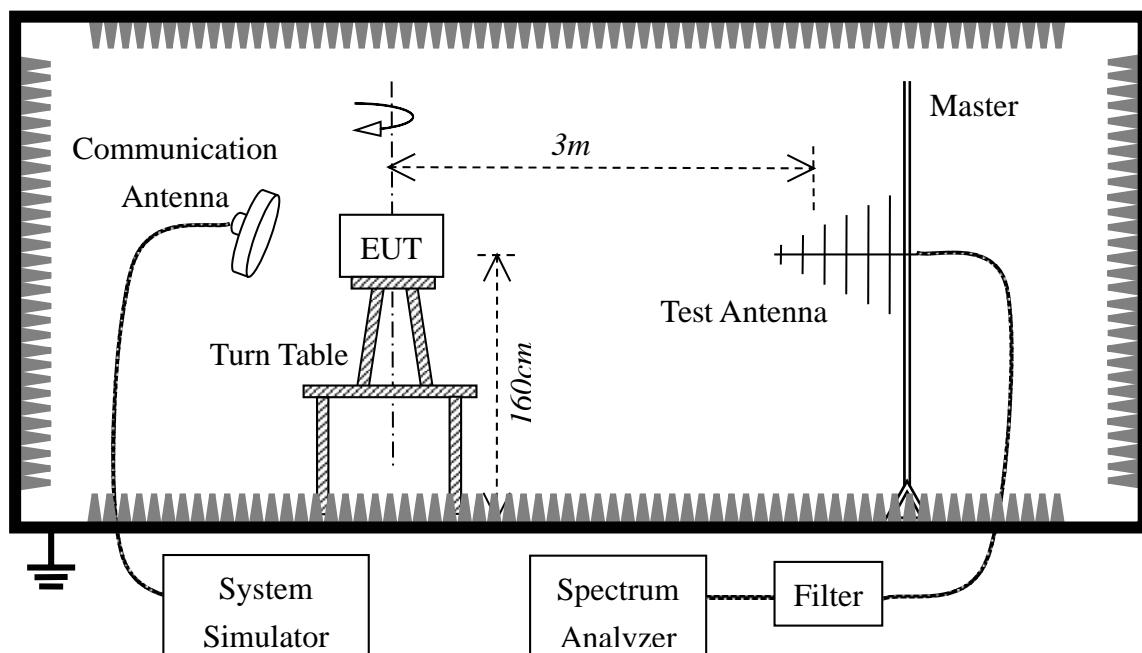
5. FCC Part 95 Requirements

5.1 Power and Antenna High Limits

LIMIT

Maximum ERP is dependent upon the station's antenna HAAT and required service area.

TEST CONFIGURATION



Plot 5.1.1

TEST PROCEDURE

1. On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
2. The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
3. The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.

4. The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The measurement shall be repeated with the test antenna set to horizontal polarization.
10. Replace the antenna with a proper Antenna (substitution antenna).
11. The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
12. The substitution antenna shall be connected to a calibrated signal generator.
13. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
14. The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
15. The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
16. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
17. The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

TEST RESULTS

Channel	Freq.	Antenna	Reading	S.G	Cable Loss	AntennaGain	ERP
	(MHz)	Polarity	(dBm)	(dBm)	(dB)	(dB)	(dBm)
Channel 5	462.6625	V	5.31	28.60	5.59	1.11	24.12
	462.6625	H	4.98	28.49	5.59	1.11	24.01
Channel 12	467.6625	V	4.67	29.18	5.62	1.12	24.68
	467.6625	H	4.46	28.95	5.62	1.12	24.45

Note:

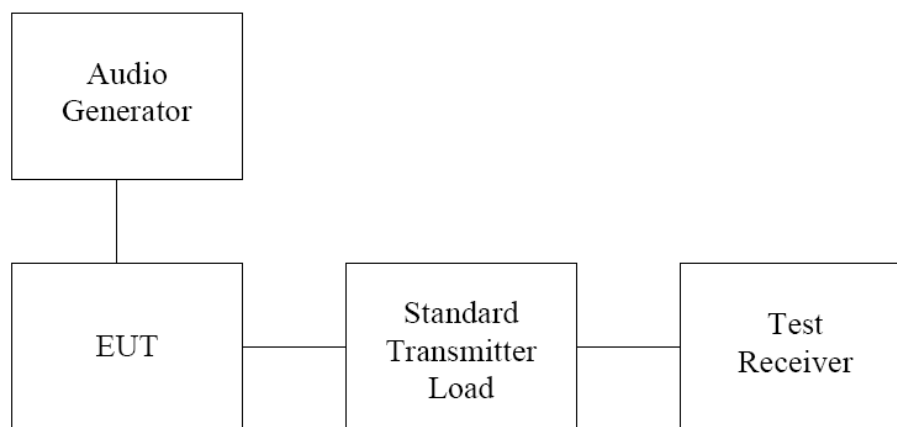
E.R.P(dBm) = SG output power (dBm) – Cable losses (dB) + Antenna gain (dB)

5.2 Modulation Characteristic

LIMIT

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 5000 Hz shall be measured.

TEST CONFIGURATION



TEST PROCEDURE

Modulation limits is the transmitter circuit's ability to limit the transmitter from producing deviations in excess of rated system deviation.

The audio signal generator is connected to the audio input of the EUT with its full rating.

The modulation response is measured at certain modulation frequencies, related to 1000 Hz reference signal.

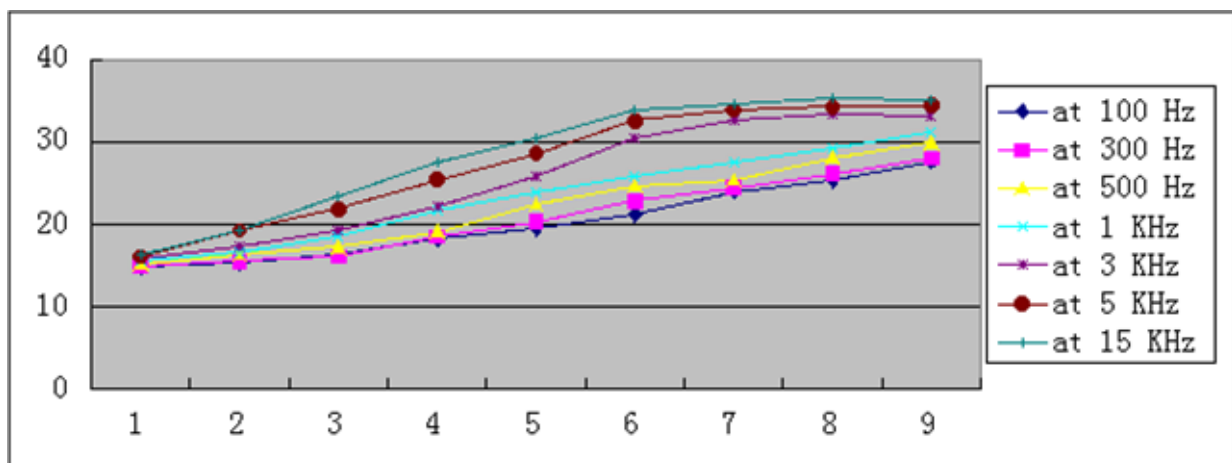
Tests are performed for positive and negative modulation.

TEST RESULTS

A). Modulation Limit:

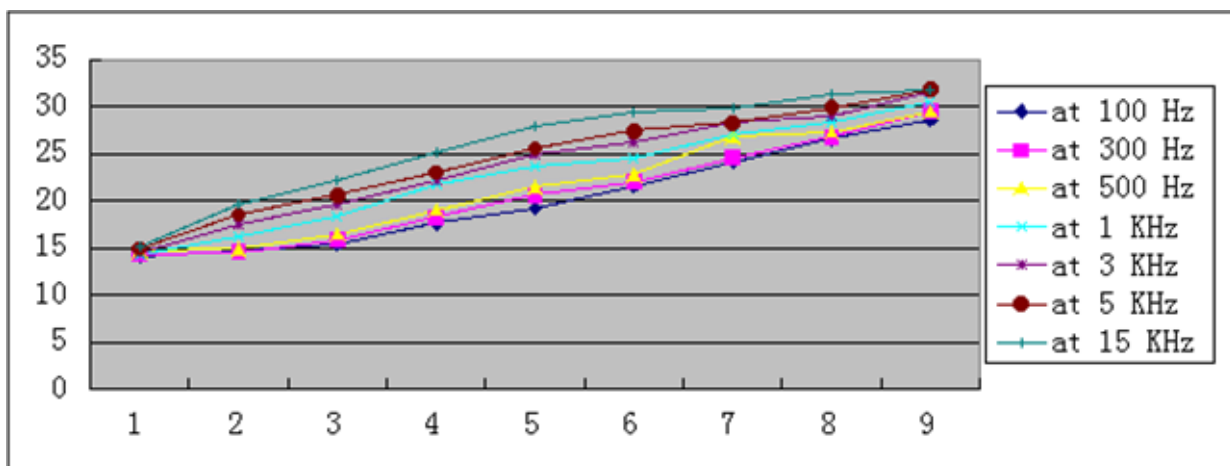
The Channel 5(462.6625 MHz)

Modulation Level (dB)	Peak Frequency Deviation						
	at 100 Hz	at 300 Hz	at 500 Hz	at 1 KHz	at 3 KHz	at 5 KHz	at 15 KHz
-20	14.79	14.96	15.24	15.68	15.82	16.11	16.43
-15	15.26	15.54	16.36	16.49	17.35	19.26	19.38
-10	16.45	16.12	17.25	18.62	19.19	21.85	23.43
-5	18.21	18.51	19.06	21.76	22.28	25.40	27.56
0	19.40	20.32	22.41	23.92	25.94	28.62	30.35
+5	21.16	22.81	24.65	25.89	30.39	32.54	33.88
+10	23.89	24.44	25.33	27.51	32.77	33.90	34.55
+15	25.24	26.18	28.08	29.22	33.36	34.25	35.26
+20	27.52	28.01	29.92	31.14	33.19	34.46	35.02



The Channel 12(467.6625 MHz)

Modulation Level (dB)	Peak Frequency Deviation						
	at 100 Hz	at 300 Hz	at 500 Hz	at 1 KHz	at 3 KHz	at 5 KHz	at 15 KHz
-20	14.15	14.39	14.64	14.28	14.56	14.91	15.09
-15	14.62	14.56	14.85	16.19	17.39	18.56	19.62
-10	15.46	15.88	16.46	18.35	19.54	20.62	22.18
-5	17.61	18.25	18.96	21.71	22.15	23.06	25.20
0	19.24	20.64	21.49	23.60	24.92	25.59	27.86
+5	21.64	22.05	22.74	24.55	26.16	27.42	29.41
+10	24.19	24.62	26.80	27.16	28.34	28.26	29.78
+15	26.56	26.78	27.32	28.32	29.05	29.92	31.26
+20	28.61	29.52	29.42	30.49	31.56	31.86	31.68



B). Audio Frequency Response:

The Channel 5(462.6625 MHz)

Frequency (Hz)	Deviation (KHz)
100	0.605
200	0.825
300	0.910
400	1.015
500	1.350
600	1.463
700	1.561
800	1.725
900	1.903
1000	1.919
1200	1.932
1400	1.946
1600	1.958
1800	1.705
2000	1.652
2200	1.508
2400	1.369
2600	1.285
2800	1.032
3000	0.916
3500	0.820
4000	0.795
4500	0.650
5000	0.542
5500	0.369
6000	0.585
6500	0.720
7000	0.816
8500	0.905
10000	0.936

The Channel 12(467.6625 MHz)

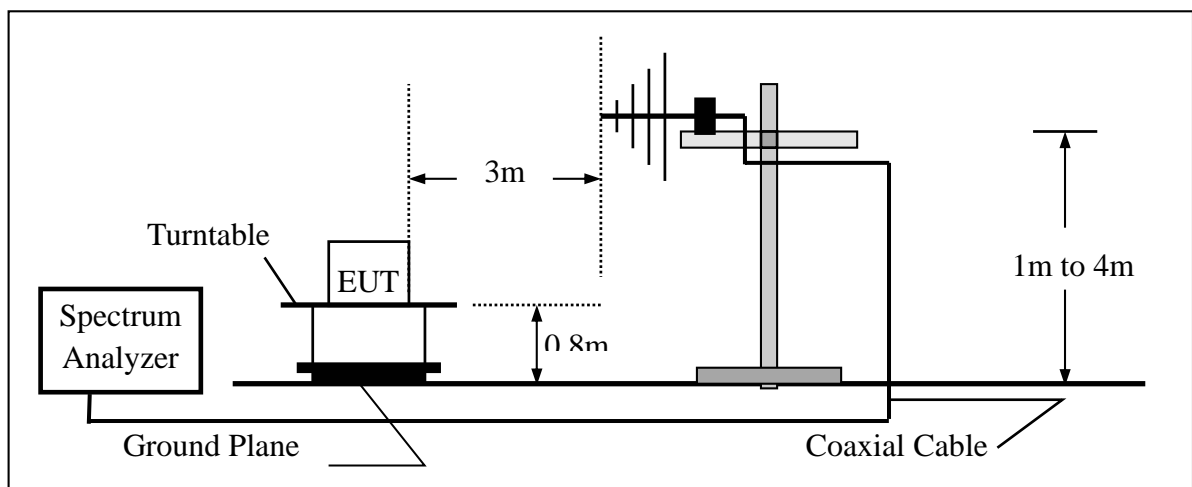
Frequency (Hz)	Deviation (KHz)
100	0.531
200	0.885
300	1.320
400	1.656
500	1.725
600	1.810
700	1.926
800	1.945
900	1.960
1000	1.975
1200	1.988
1400	1.965
1600	1.940
1800	1.796
2000	1.625
2200	1.459
2400	1.205
2600	0.950
2800	0.715
3000	0.680
3500	0.595
4000	0.486
4500	0.385
5000	0.320
5500	0.285
6000	0.325
6500	0.585
7000	0.721
8500	0.823
10000	0.945

5.3 Occupied Bandwidth

LIMIT

For other types of emissions, the maximum authorized bandwidth shall not be more than that normally authorized for voice operations.

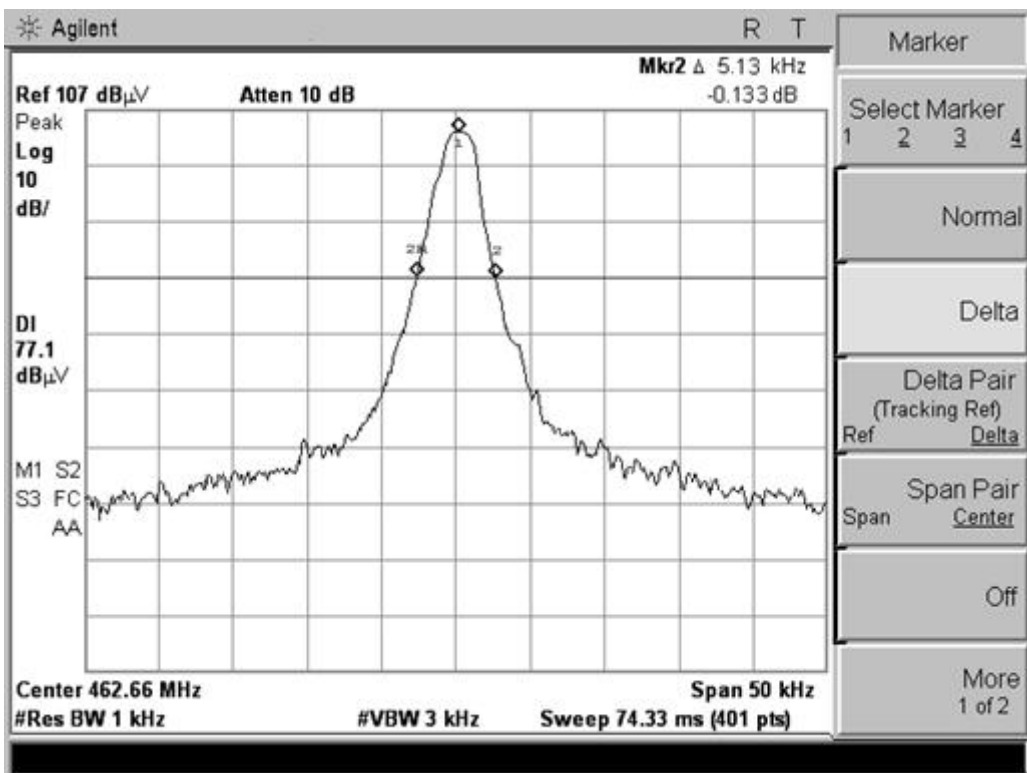
TEST CONFIGURATION



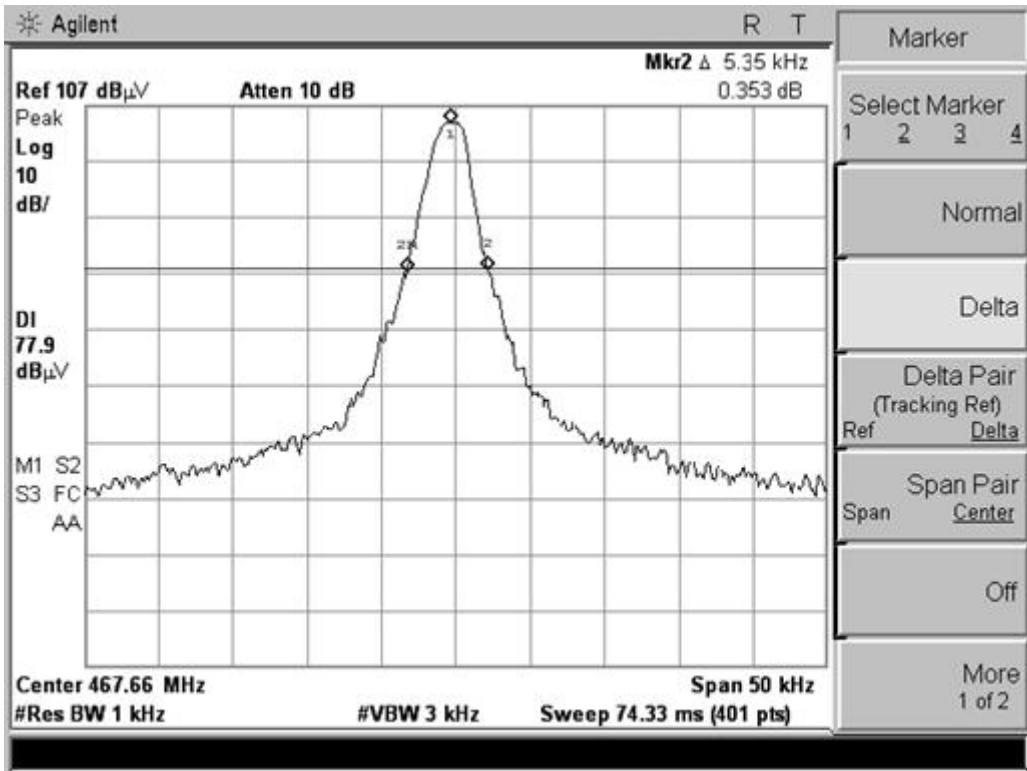
TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Set SPA center frequency=fundamental frequency, RBW=1 KHz, VBW=3 KHz, Span=50 KHz.
4. Set SPA max. Hold. Mark peak, -26dB.

TEST RESULTS



Channel 5(462.6625 MHz)



Channel 12(467.6625 MHz)

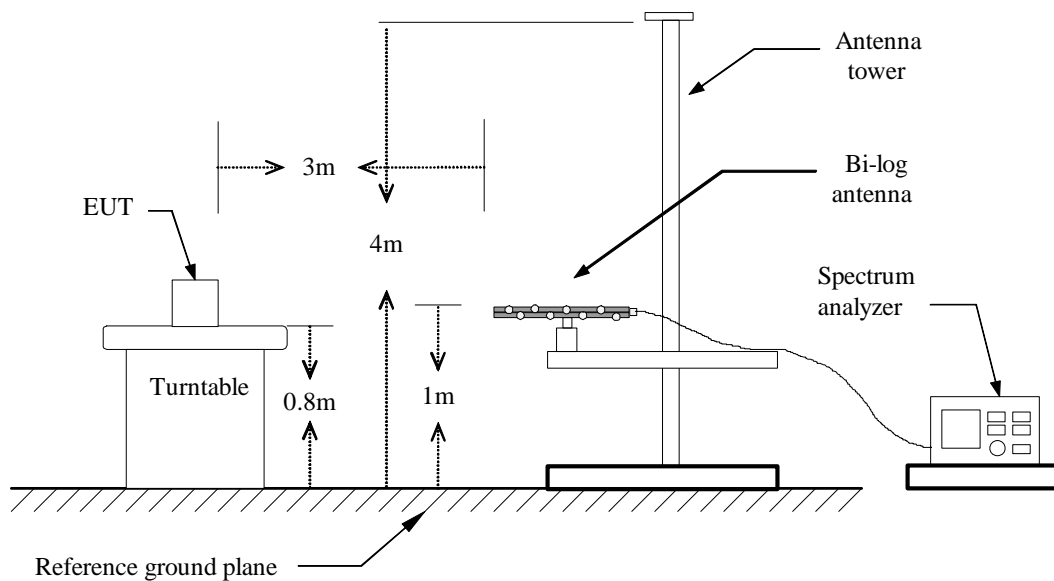
5.4 Emission Mask

LIMIT

The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

- (1) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;
- (2) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;
- (3) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43 + 10 \log_{10} *$ (mean output power in watts) dB;

TEST CONFIGURATION



TEST PROCEDURE

1. On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
2. The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
3. The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
4. The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The measurement shall be repeated with the test antenna set to horizontal polarization.
10. Replace the antenna with a proper Antenna (substitution antenna).
11. The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
12. The substitution antenna shall be connected to a calibrated signal generator.
13. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
14. The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
15. The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
16. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
17. The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

TEST RESULTS

The Unwanted Radiated Emission

The Channel 5(462.6625 MHz)

Frequency (MHz)	Reading level (dBuv)	Antenna Polarization	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
925.13	25.18	V	-17.03	10.82	8.49	-19.36	-13	-6.36
1387.65	28.26	V	-19.23	14.09	9.64	-23.68	-13	-10.68
Other	--	V	--	--	--	--	-13	> 10 dB
--	--	V	--	--	--	--	-13	> 10 dB
--								
925.13	24.68	H	-17.69	10.82	8.49	-20.02	-13	-7.02
1387.65	26.92	H	-20.09	14.09	9.64	-24.54	-13	-11.54
Other	--	H	--	--	--	--	-13	> 10 dB
--								
--								

Notes:

- (1) "--" in the table above means that the emissions are too small to be measured and are at least 10 dB below the limit.
- (2) $Emission\ Level = S.G\ output\ power(dBm) - Cable\ loss(db) + Antenna\ Gain(dBi)$

The Channel 12(467.6625 MHz)

Frequency (MHz)	Reading level (dBuv)	Antenna Polarization	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
935.425	26.25	V	-16.26	10.92	8.73	-18.45	-13	-5.45
1403.138	29.61	V	-17.32	14.21	9.71	-21.82	-13	-9.82
Other	--	V	--	--	--	--	-13	> 10 dB
--	--	V	--	--	--	--	-13	> 10 dB
--	--	V	--	--	--	--	-13	> 10 dB
--	--	V	--	--	--	--	-13	> 10 dB
--	--							
--	--							
935.425	25.89	H	-17.17	10.92	8.73	-19.36	-13	-6.36
1403.138	28.26	H	-16.65	14.21	9.71	-21.15	-13	-8.15
Other	--	H	--	--	--	--	-13	> 10 dB
--	--	H	--	--	--	--	-13	> 10 dB
--	--	H	--	--	--	--	-13	> 10 dB
--	--	H	--	--	--	--	-13	> 10 dB
--	--	H	--	--	--	--	-13	> 10 dB
--	--							

Notes:

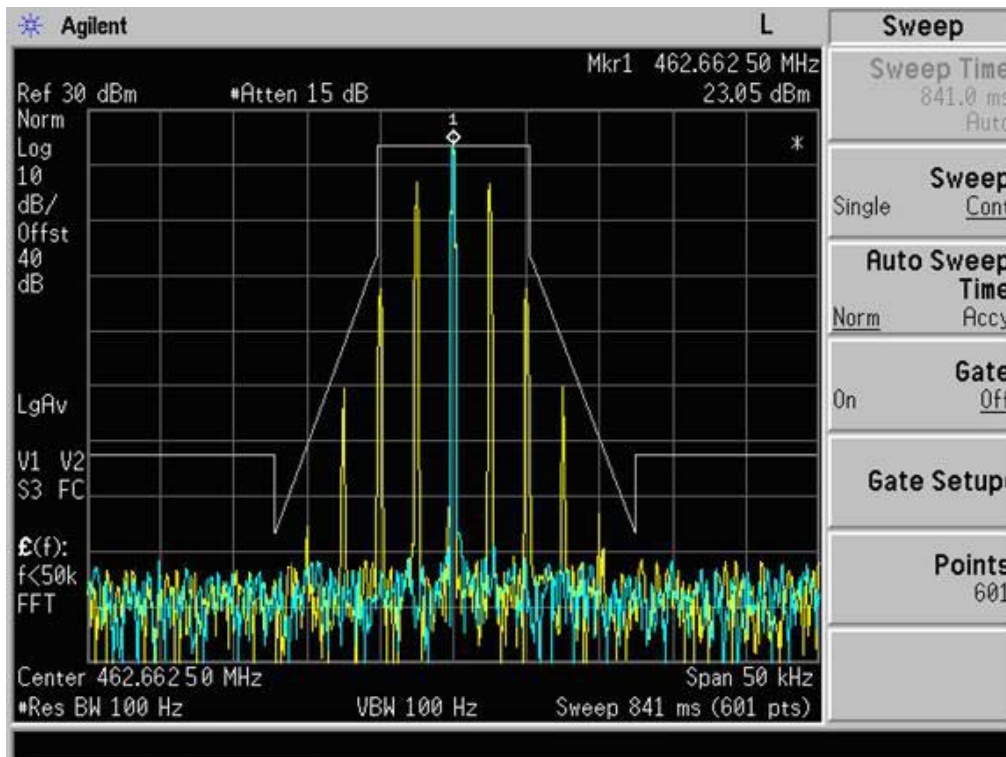
(1) "--" in the table above means that the emissions are too small to be measured and are at least 10 dB below the limit.

(2) Emission Level=S.G ourput power(dBm)-Cable loss(db)+Antenna Gain(dBi)

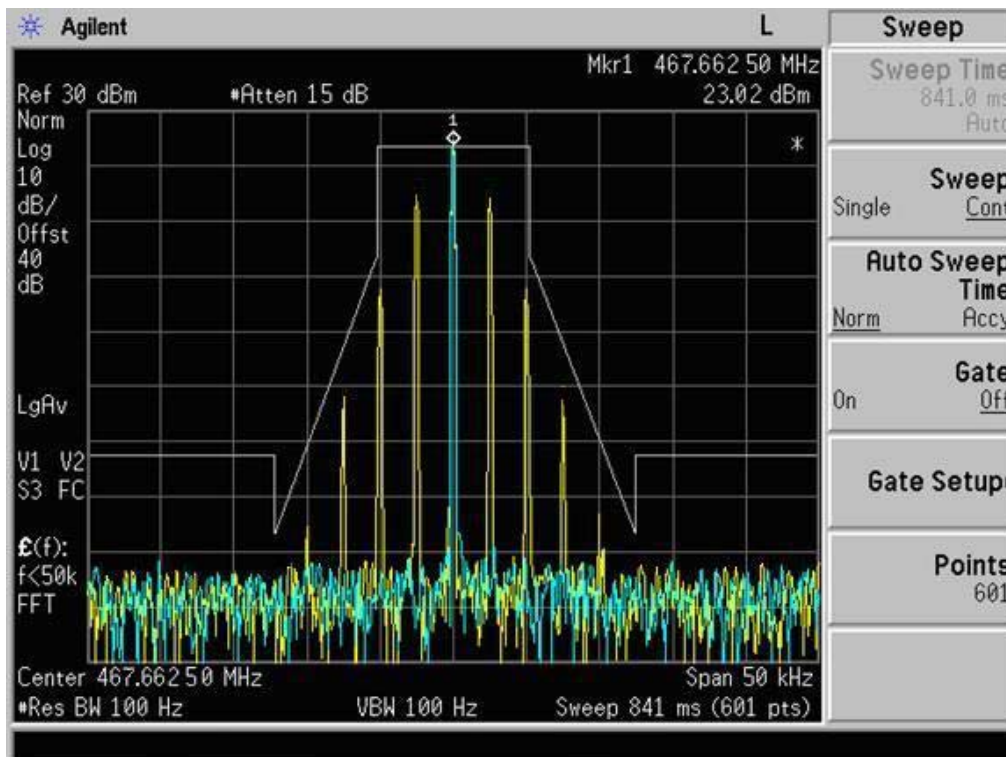
Maximum Transmitter Power (P)	24.68 dBm
Require attenuation	$43+10\log_{10} (0.294)= 37.68 \text{ dB}$
Emission Limits	$P-[43+10\log_{10} (0.00014)]= -13 \text{ dBm}$

Emission Mask:

The Channel 5(462.6655 MHz)



The Channel 12(467.6655 MHz)



5.5 Frequency Stability vs. Temperature

LIMIT

- a). According to FCC Part 2 Section 2.1055(a)(1), the frequency stability shall be measured with variation of ambient temperature from - 30°C to +50°C centigrade.
- b). According to FCC Part 2 Section 2.1055(d) (1), vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
- c). According to FCC Part 95 Section B, mobile stations designed to operate with a 12.5 kHz channel bandwidth must have a frequency stability of 2.5 ppm(0.00025%).

TEST PROCEDURE

The EUT power was supplied by AC110V 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 the RF output cable, exited the chamber through an opening made for that purpose.

After the temperature stabilized the frequency output was recorded form the counter.

RESULTS

The Channel 5(462.6625 MHz)

Temperature (°C)	Frequency Error (K Hz)	Frequency Error (%)	Frequency Error (ppm)	Limit (%)
-30	-0.795	-0.000172	-1.72	0.00025
-20	-0.620	-0.000134	-1.34	0.00025
-10	-0.515	-0.000113	-1.13	0.00025
0	0.489	0.000106	1.06	0.00025
10	0.395	0.000085	0.85	0.00025
20	-0.415	-0.000090	-0.90	0.00025
30	-0.538	-0.000116	-1.16	0.00025
40	-0.619	-0.000134	-1.34	0.00025
50	-0.752	-0.000162	-1.62	0.00025

The Channel 12(467.6625 MHz)

Temperature (°C)	Frequency Error (K Hz)	Frequency Error (%)	Frequency Error (ppm)	Limit (%)
-30	-0.592	-0.000127	-1.27	0.00025
-20	-0.605	-0.000129	-1.29	0.00025
-10	-0.420	0.000089	0.89	0.00025
0	0.365	0.000078	0.78	0.00025
10	0.409	0.000087	0.87	0.00025
20	0.425	0.000091	0.91	0.00025
30	-0.486	-0.000104	-1.04	0.00025
40	-0.515	-0.000110	-1.10	0.00025
50	-0.623	-0.000133	-1.33	0.00025

5.6 Frequency Stability vs. Voltage

LIMIT

- a). According to FCC Part 2 Section 2.1055(a)(1), the frequency stability shall be measured with variation of ambient temperature from - 30°C to +50°C centigrade.
- b). According to FCC Part 2 Section 2.1055(d) (1), vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
- c). According to FCC Part 95 Section B, for output power > 2Wats, the limits is 2.5 ppm (0.00025%).

TEST PROCEDURE

An external variable AC power supply was connected to the EUT.

For hand carried, The AC power equipment primary supply voltage was reduced to the end point as specified by the manufacturer. The output frequency was recorded for highest and lowest voltage.

RESULTS

The Channel 5 (462.5500 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (%)	Frequency Error (ppm)	Limit (%)
93.5	758	0.000164	1.64	0.00025
110.0	685	0.000148	1.48	0.00025
126.5	590	0.000128	1.28	0.00025

The Channel 12(467.6625 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (%)	Frequency Error (ppm)	Limit (%)
93.5	765	0.000164	1.64	0.00025
110.0	536	0.000115	1.15	0.00025
126.5	625	0.000134	1.34	0.00025

5.7 Transmitter Frequency Behavior

Provisions Applicable

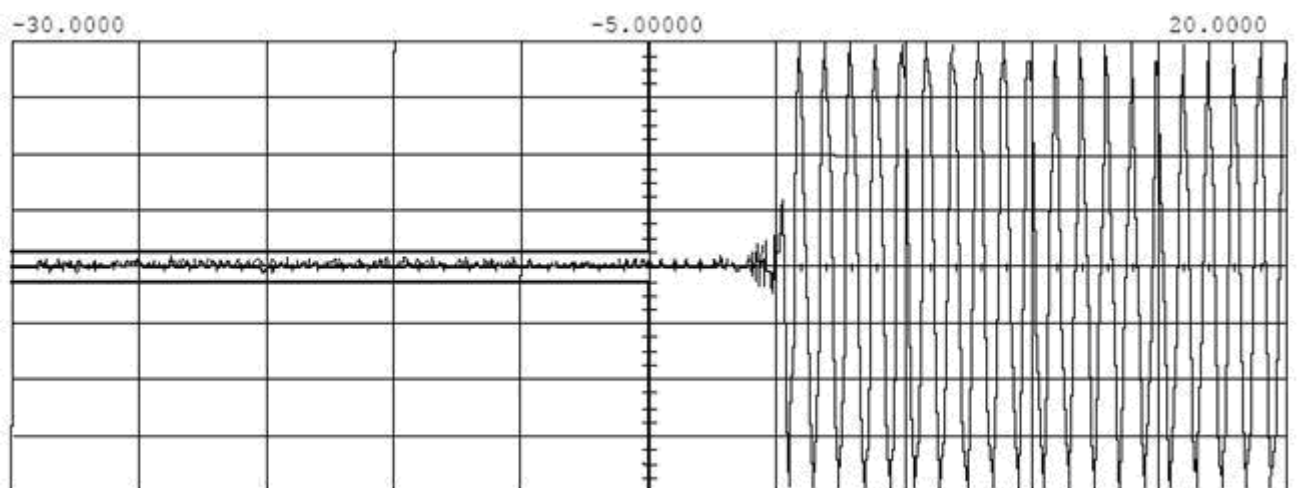
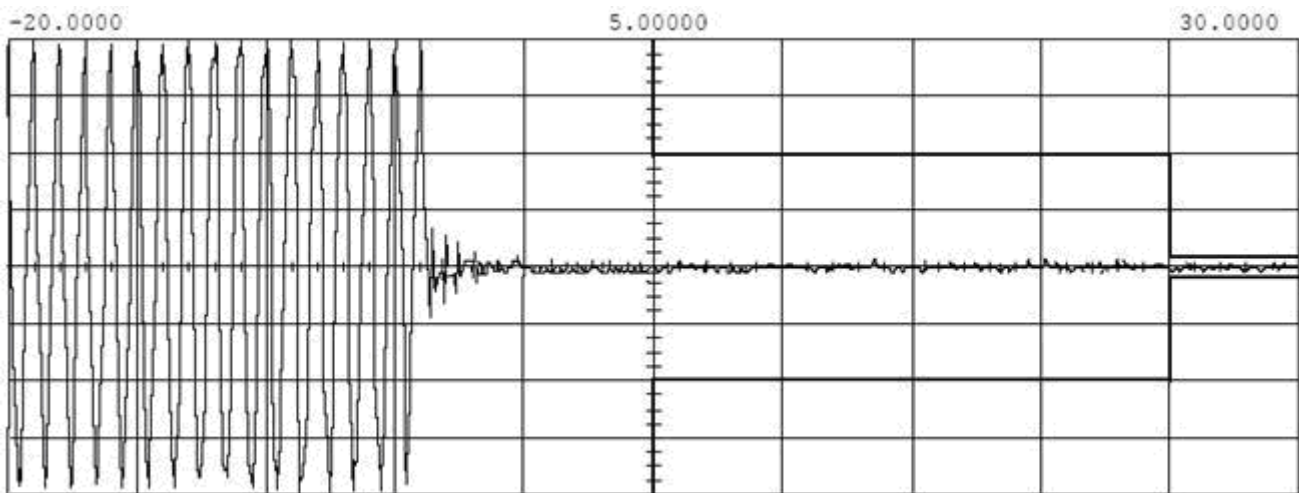
Section 95 B

TEST PROCEDURE

TIA/EIA-603 2.2.19

RESULTS

Please refer to the test plot.



No non-compliance noted

Conclusion: PASS

5.8 LINE CONDUCTED EMISSION TEST

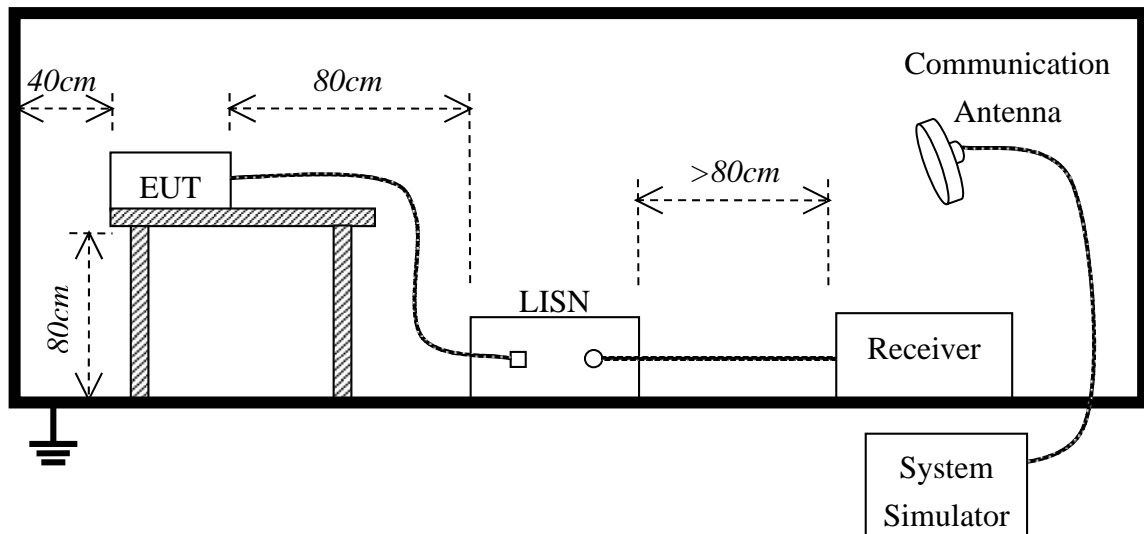
LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

****Note:** 1. the lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

BLOCK DIAGRAM OF TEST SETUP



PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user’s manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per FCC Part 15.
- 3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
- 4) The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test:

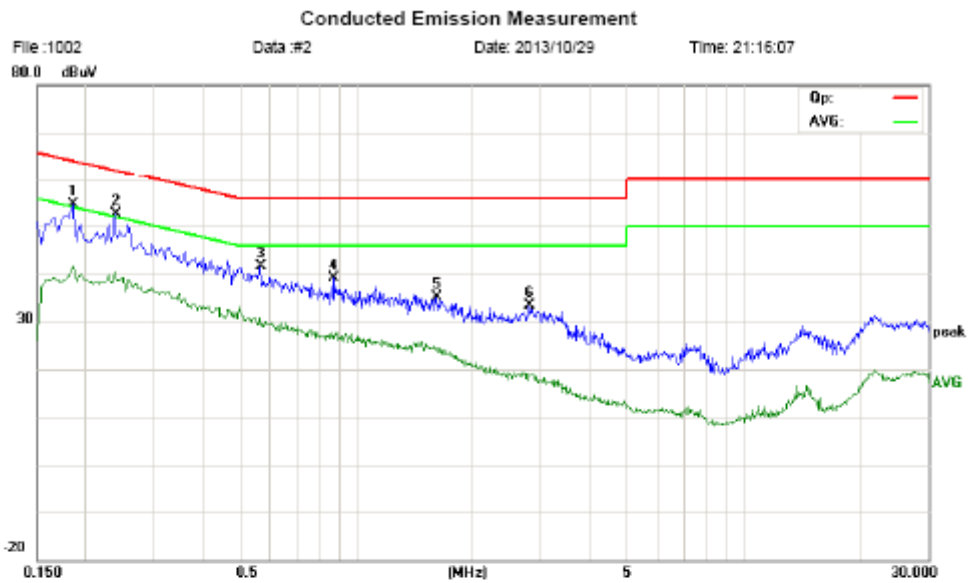
Preliminary Conducted Emission Test				
Frequency Range Investigated		150KHz TO 30 MHz		
Mode of operation	Date	Report No.	Data#	Worst Mode
TX Mode	2013-10-29	STS131009F1	1_(L, N)	☒
Standby Mode	2013-10-29	STS131009F1	2_(L, N)	
Flash Light Mode	2013-10-29	STS131009F1	3_(L, N)	

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector. The test data of the worst case condition(s) was reported on the Summary Data page.

TEST RESULT OF LINE CONDUCTED EMISSION TEST



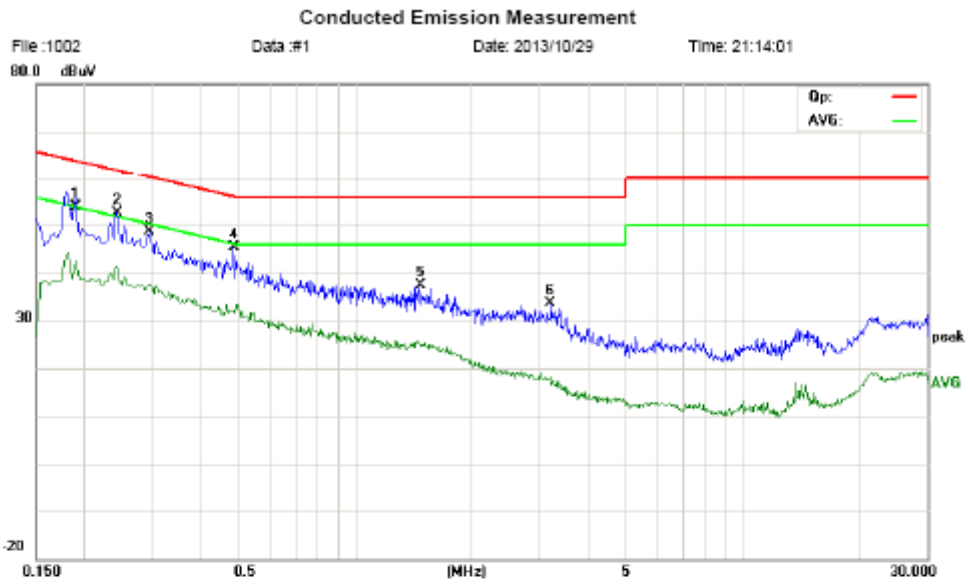
Site: site #1
 Limit: FCC Part15 B Class B QP
 EUT: Walkie Talkie
 M/N: 7910A
 Mode: TX
 Note:

Phase: L1
 Power: DC 5V From PC Input
 Ac120V/60Hz

Temperature: 26
 Humidity: 60 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1860	43.48	11.16	54.64	64.21	-9.57	peak	
2	*	0.2380	40.93	11.75	52.68	62.17	-9.49	peak	
3		0.5660	31.52	10.00	41.52	56.00	-14.48	peak	
4		0.8740	29.03	10.00	39.03	56.00	-16.97	peak	
5		1.6060	25.68	9.39	35.07	56.00	-20.93	peak	
6		2.7860	23.64	9.79	33.43	56.00	-22.57	peak	

*:Maximum data x:Over limit !:over margin



Site: site #1 Phase: *N* Temperature: 26
 Limit: FCC Part15 B Class B QP Power: DC 5V From PC Input Humidity: 60 %
 EUT: Walkie Talkie Ac120V/60Hz
 M/N: 7910A
 Mode: TX
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1904	42.54	11.42	53.96	64.02	-10.06	peak	
2	*	0.2420	40.99	11.72	52.71	62.03	-9.32	peak	
3		0.2940	37.36	11.37	48.73	60.41	-11.68	peak	
4		0.4860	35.21	10.09	45.30	56.24	-10.94	peak	
5		1.4700	27.92	9.53	37.45	56.00	-18.55	peak	
6		3.1900	23.46	10.19	33.65	56.00	-22.35	peak	

*:Maximum data x:Over limit !:over margin

Annex A

Photographs of the Test Setup

Conducted Emission Setup Photo



Radio Emission Setup Photo



Annex B
Photographs of the EUT

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



UP VIEW OF SAMPLE



DOWN VIEW OF SAMPLE



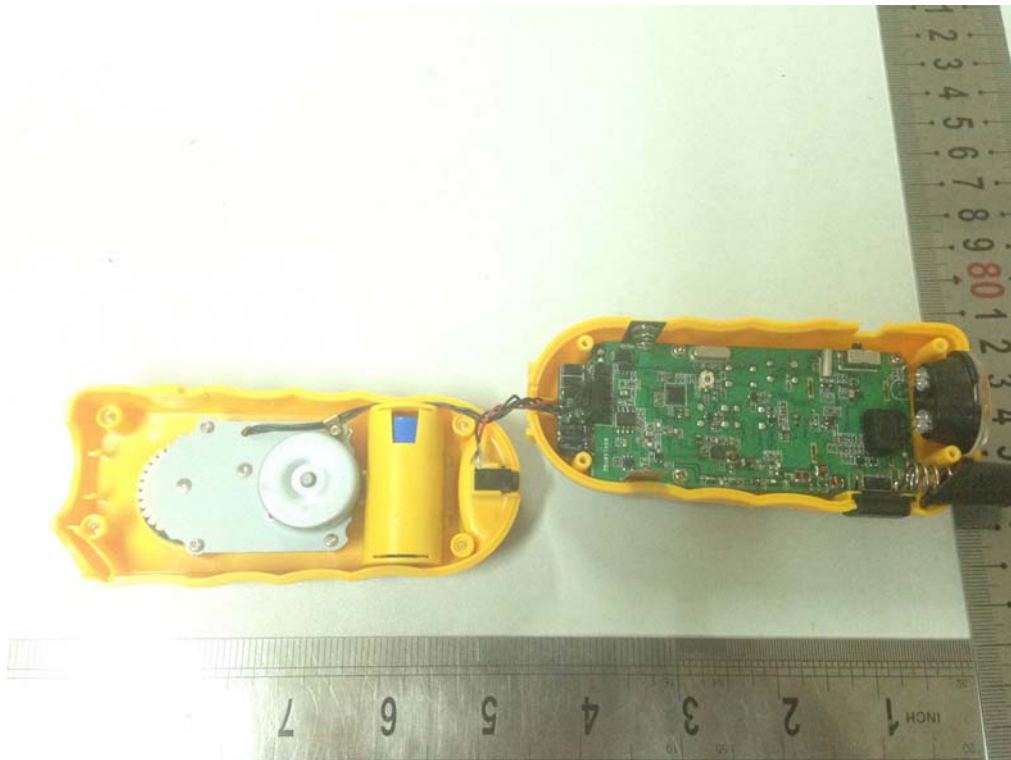
PHOTO OF ADAPTER



PHOTO OF THE ENTIRE SAMPLE



INTERNAL PHOTO OF SAMPLE-1



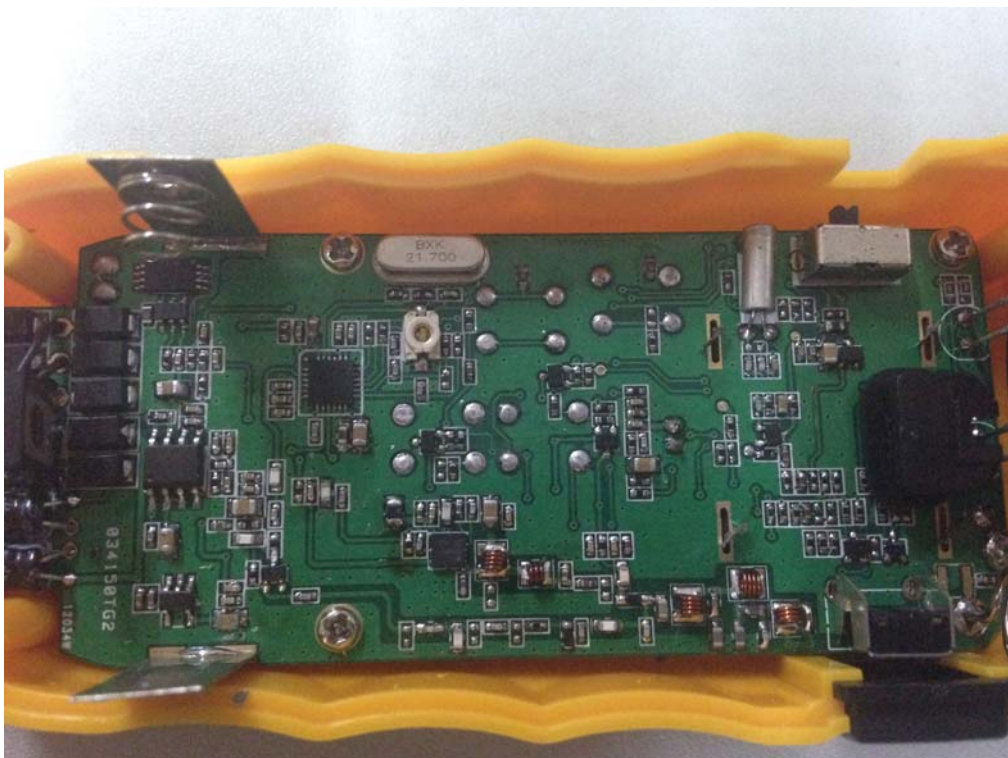
INTERNAL PHOTO OF SAMPLE-2



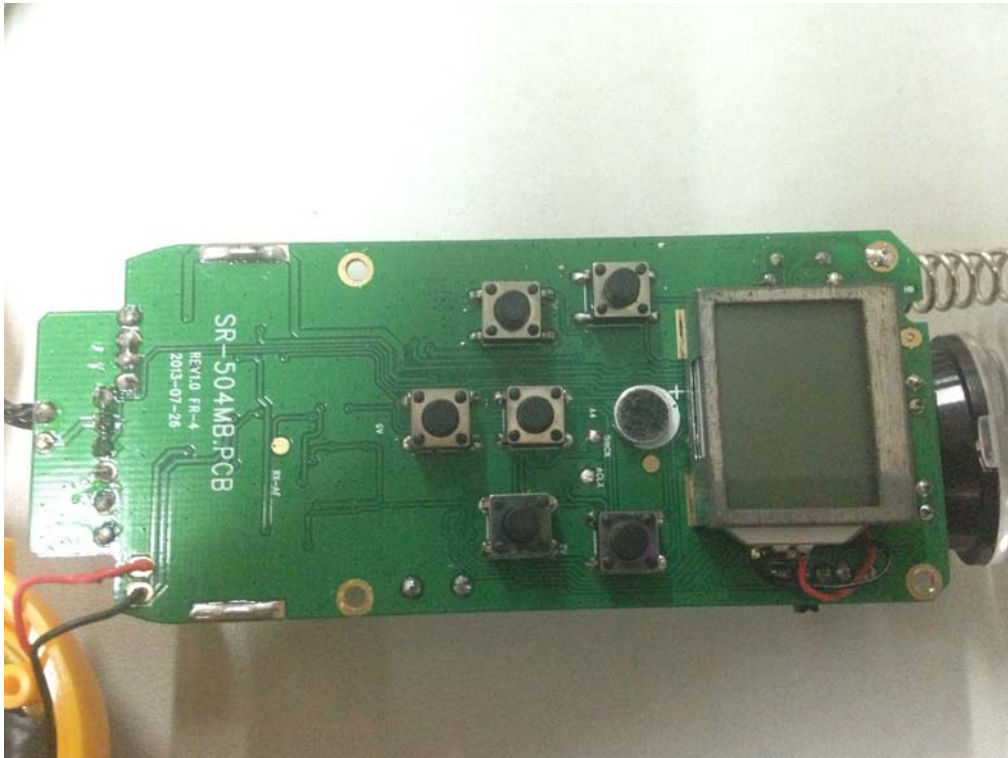
INTERNAL PHOTO OF SAMPLE-3



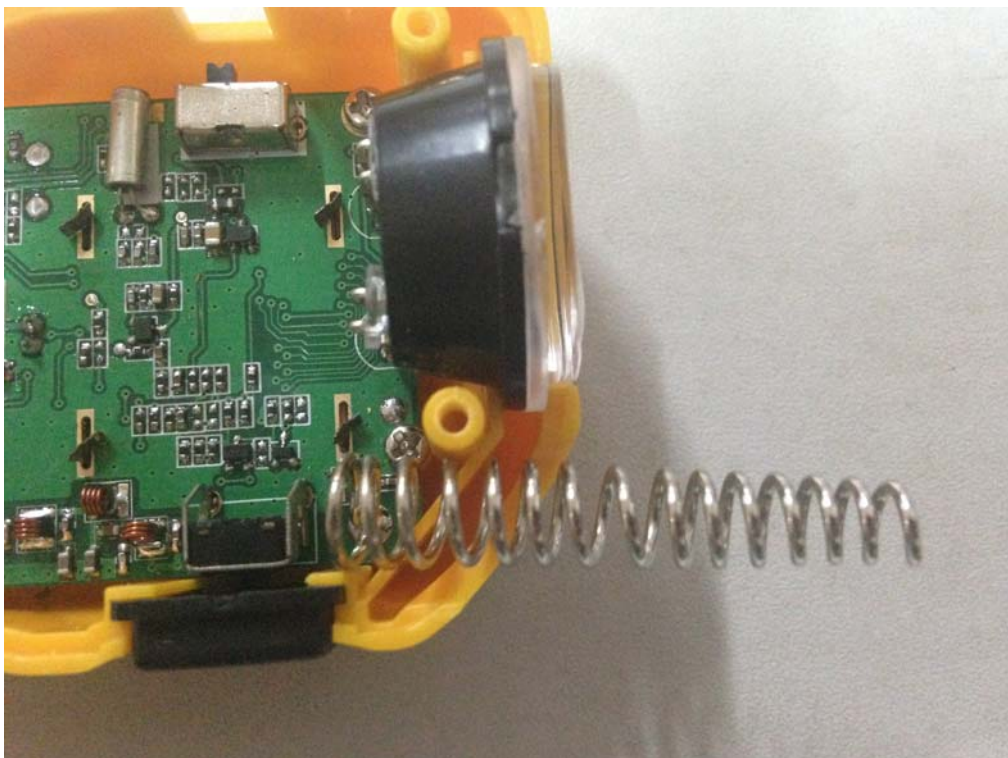
INTERNAL PHOTO OF SAMPLE-4



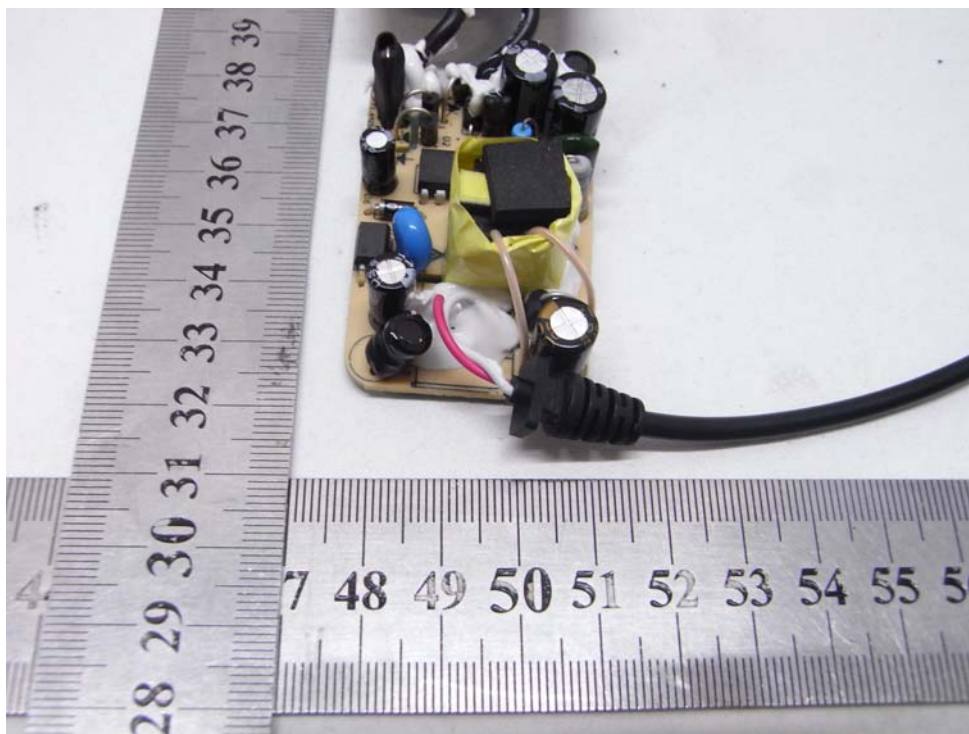
INTERNAL PHOTO OF SAMPLE-5



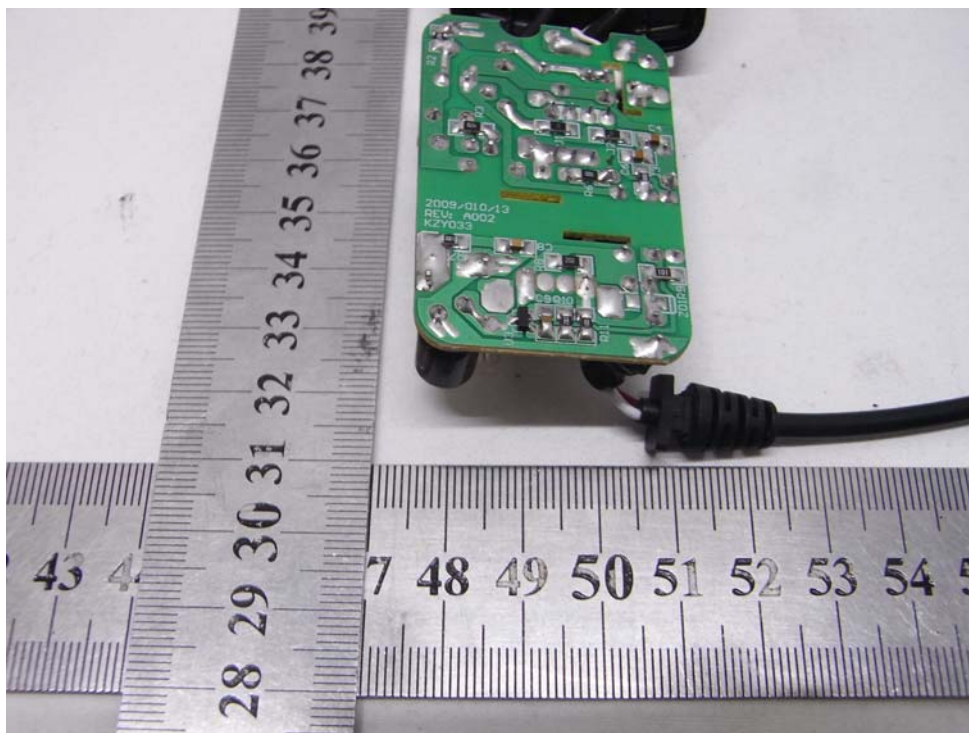
INTERNAL PHOTO OF ANTENNA



INTERNAL PHOTO OF ADAPTER-1



INTERNAL PHOTO OF ADAPTER-2



*** End of the Reports***