
FCC Part 15

Test Report

Report No.: AGC22A121201F2

FCC ID : RKGRF988
PRODUCT DESIGNATION : Wireless Headphone
BRAND NAME : Silent Productionz
MODEL NAME : RF988
CLIENT : Silent Productionz
DATE OF ISSUE : Dec.27, 2012
STANDARD(S) : FCC Part 15 Rules
REPORT VERSION : V 1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd.

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VERIFICATION OF COMPLIANCE

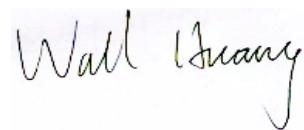
Applicant:	Silent Productionz Ricky Fairchild 4523 Junius Street, Dallas, Texas USA 75246
Manufacturer:	Lanyinda Electronic Technology (HK) Limited 5A, Bldg2, Anle Industrial park, Hezhou, Xixiang, Baoan, Shenzhen, Guangdong, China
Product Designation:	Wireless Headphone
Brand Name:	Silent Productionz
Model Name:	RF988
Hardware Version:	V91
Software Version:	1.0
Report No.:	AGC22A121201F2
Date of Test:	Dec.20, 2012 to Dec.25, 2012

WE HEREBY CERTIFY THAT:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) 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. The sample tested as described in this report is in compliance with the FCC Rules Part 15 requirements

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

Tested by



Wall Huang

Dec.27, 2012

Checked By



Forrest Lei

Dec.27, 2012

Authorized By



Solger Zhang

Dec.27, 2012

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Modulation	FM
Antenna Designation	A permanent fixed antenna, which is integrated, designed as an indispensable part of the EUT.
Power Supply	DC 3.7V by lithium battery
Operation Frequency	926MHz, 926.8MHz, 927.5MHz

Note: 1. The EUT is only a receiver.
2. The USB port is only use for charging.
3. For more information, please refer to the user manual.

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: RKGRF988**, filing to comply with the FCC Part 15 requirements.

1.3 TEST METHODOLOGY

Radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 TEST FACILITY

The test site used to collect the radiated data is located on the address of Attestation of Global Compliance (Shenzhen) Co., Ltd. 2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and IC requirements in documents RS212.

FCC register No.: 259865

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.

2.3 GENERAL TECHNICAL REQUIREMENTS

- (1). Section 15.207: Conducted Limits
- (2). Section 15.209: Radiated Emission

2.4 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	Wireless Headphone	RF988	FCC ID: RKGRF988	EUT

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207	Conducted Emission	Compliant
§15.209	Radiated Emission	Compliant

4. DESCRIPTION OF TEST MODES

EMC TEST MODES

No.	TEST MODES
1	Receiving Mode + (Charging)

5. CONDUCTED LIMITS

5.1 PROVISIONS APPLICABLE

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the, the radio frequency voltage that is conducted back onto the AC power line on any frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50uH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

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

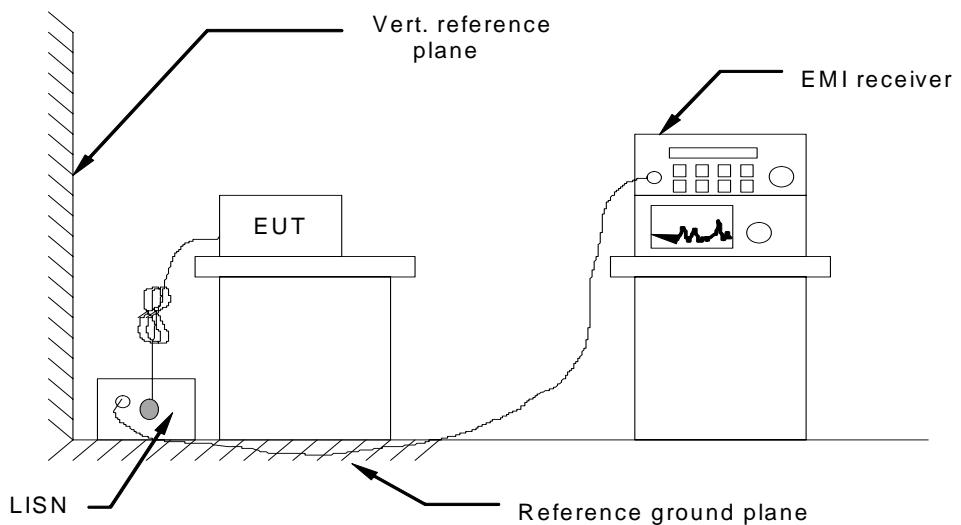
* Decreases with the logarithm of the frequency.

5.2 MEASUREMENT PROCEDURE

- (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 ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a 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 ANSI C63.4.
- (3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- (4) The EUT received power through PC which receiver power from a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- (5) All support equipments received AC power from a second LISN, 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 30MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

5.3 TEST SETUP BLOCK DIAGRAM

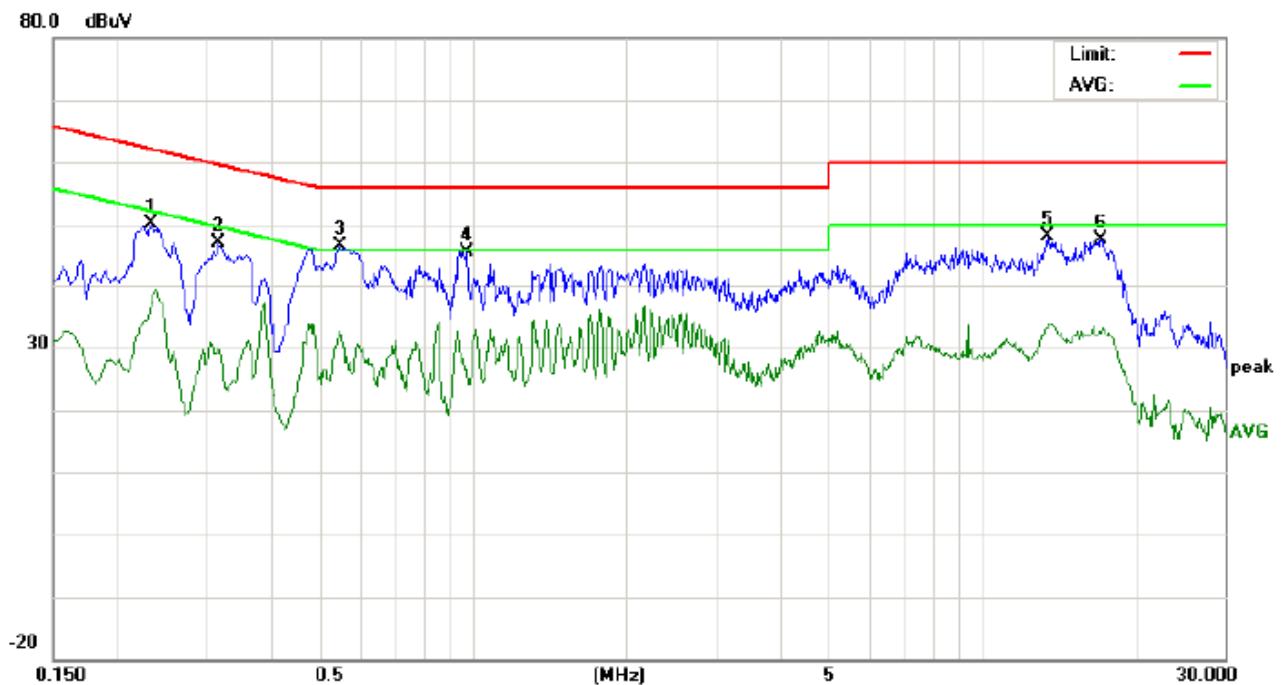


5.4 TEST EQUIPMENT USED

Conducted Emission Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	N/A	07/18/2012	07/17/2013
LISN	R&S	ESH3-Z5	N/A	07/18/2012	07/17/2013

5.5 TEST RESULT

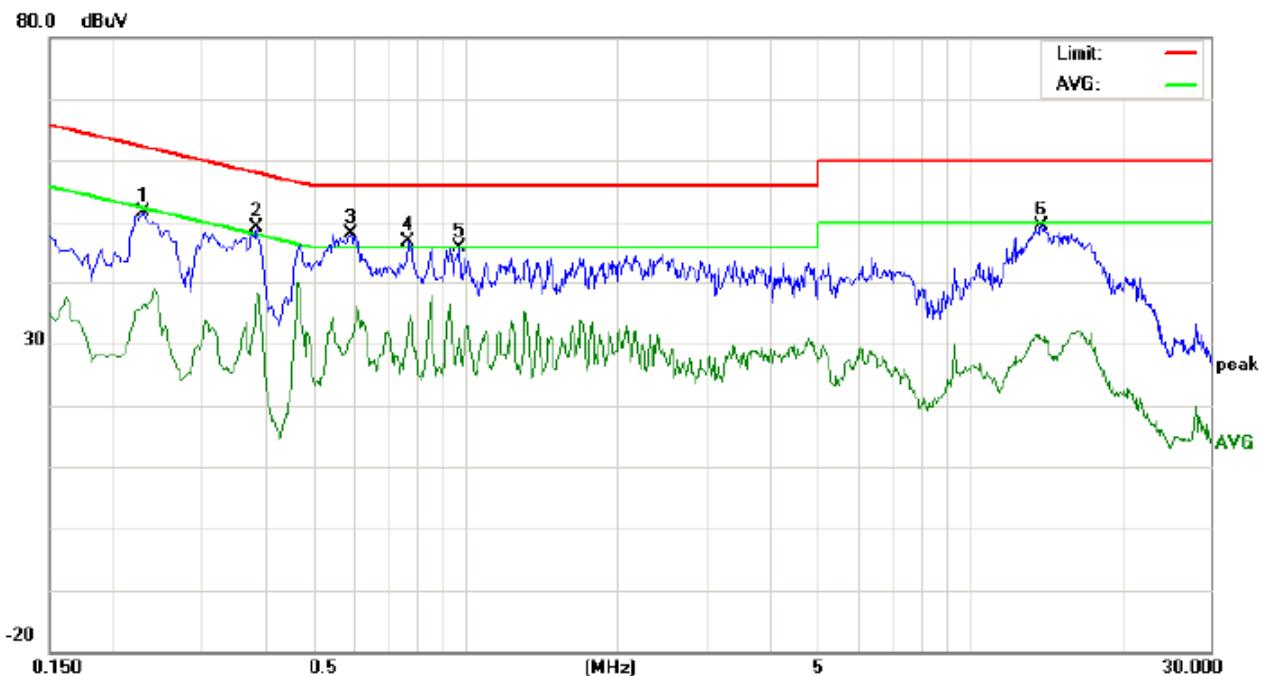
Test Result of Line Conducted Emission Test- L1



Site: Conduction Phase: **L1** Temperature: 26
 Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %
 EUT: Wireless Headphone
 M/N: RF988
 Mode: Mode 1
 Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2340	39.75		27.13	10.25	50.00		37.38	62.30	52.30	-12.30	-14.92	P	
2	0.3180	36.75		19.70	10.30	47.05		30.00	59.76	49.76	-12.71	-19.76	P	
3	0.5463	36.23		21.89	10.36	46.59		32.25	56.00	46.00	-9.41	-13.75	P	
4	0.9738	35.22		16.32	10.38	45.60		26.70	56.00	46.00	-10.40	-19.30	P	
5	13.5337	38.05		23.73	10.13	48.18		33.86	60.00	50.00	-11.82	-16.14	P	
6	17.1417	37.43		22.21	10.13	47.56		32.34	60.00	50.00	-12.44	-17.66	P	

Test Result of Line Conducted Emission Test- N



No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2300	41.38		26.23	10.25	51.63		36.48	62.45	52.45	-10.82	-15.97	P	
2	0.3860	38.80		27.80	10.32	49.12		38.12	58.15	48.15	-9.03	-10.03	P	
3	0.5936	37.78		20.61	10.32	48.10		30.93	56.00	46.00	-7.90	-15.07	P	
4	0.7700	36.51		22.20	10.30	46.81		32.50	56.00	46.00	-9.19	-13.50	P	
5	0.9737	35.37		20.40	10.38	45.75		30.78	56.00	46.00	-10.25	-15.22	P	
6	13.8856	39.31		20.77	10.12	49.43		30.89	60.00	50.00	-10.57	-19.11	P	

6. RADIATED EMISSION

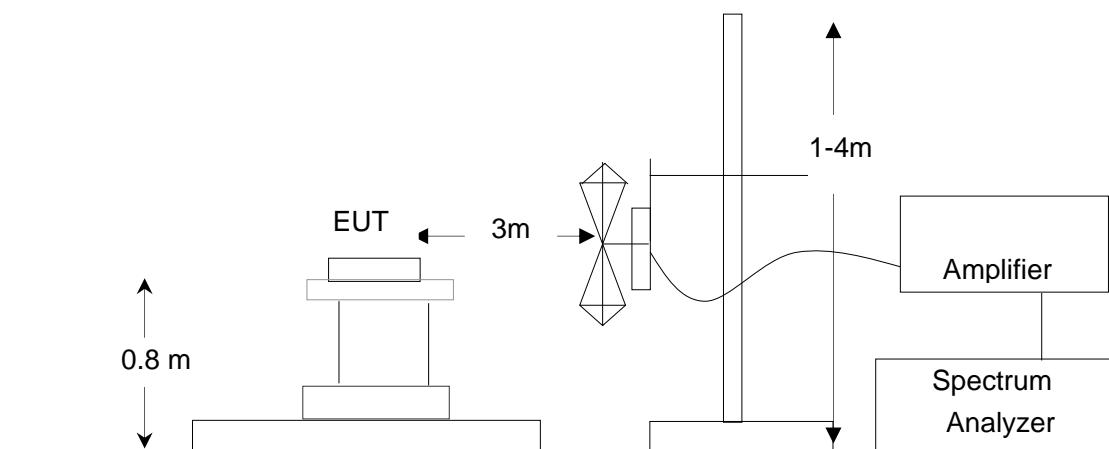
6.1 PROVISIONS APPLICABLE

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

6.2 MEASUREMENT PROCEDURE

- (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 turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (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 ANSI C63.4.
- (3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- (4) The EUT received power from PC which receiver through socket under the turntable.
- (5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
- (6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

6.3 TEST SETUP BLOCK DIAGRAM



6.4 TEST INSTRUMENTS

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Cal. Date	Cal. Due
SPECTRUM ANALYZER	AGILENT	E4440A	US44300399	07/18/2012	07/17/2013
TEST RECEIVER	R&S	ESIC	A0304218	07/18/2012	07/17/2013
LOOP ANTENNA	A.H.	SAS-562B	N/A	07/18/2012	07/17/2013
HORN ANT.	EM	EM-AH-10180	100150	07/18/2012	07/17/2013
BROADBAND ANT.	A.H.	SAS-521-4	A0304224	07/18/2012	07/17/2013

6.5 TEST RESULT

RADIATED EMISSION BELOW 1GHZ RADIATED EMISSION TEST RESULTS – HORIZONTAL



Site: site #1 Polarization: **Horizontal** Temperature: 26

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Wireless Headphone Distance: 3m

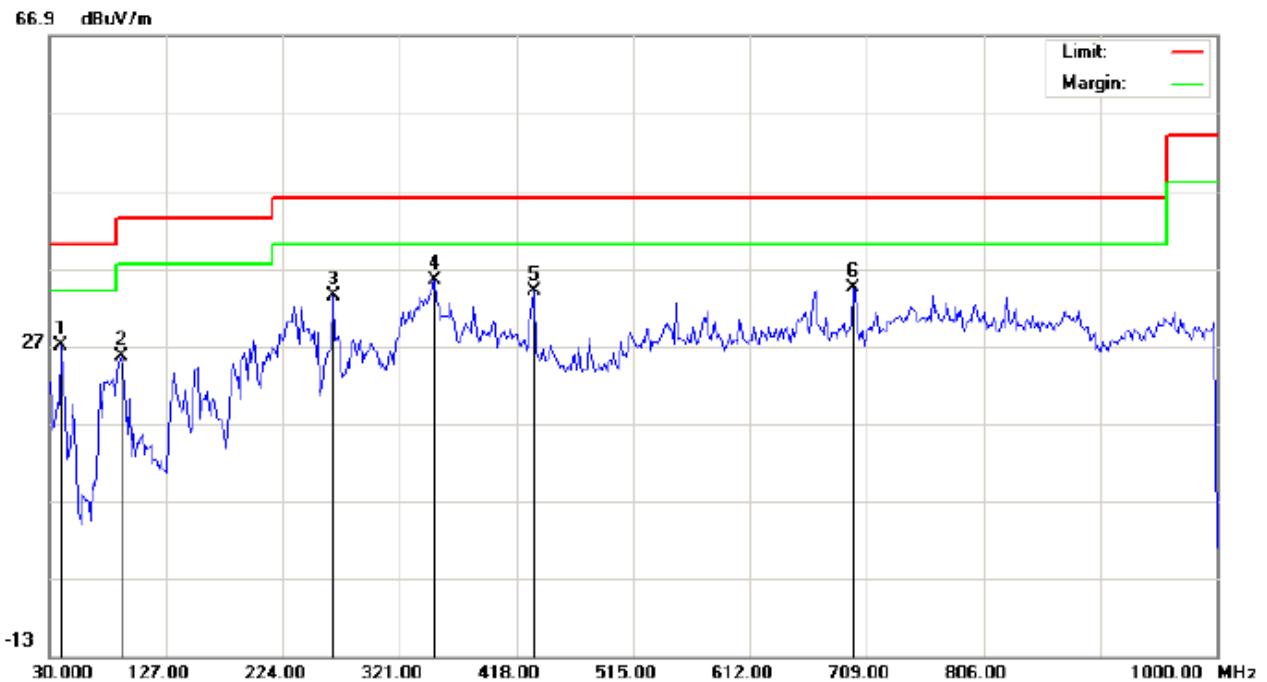
M/N: RF988

Mode: Mode 1

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		96.2833	4.83	14.16	18.99	43.50	-24.51	peak			
2		232.0833	17.02	12.44	29.46	46.00	-16.54	peak			
3		299.9833	15.05	17.00	32.05	46.00	-13.95	peak			
4	*	358.1833	15.56	19.10	34.66	46.00	-11.34	peak			
5		776.9000	4.21	28.04	32.25	46.00	-13.75	peak			
6		843.1833	0.92	30.99	31.91	46.00	-14.09	peak			

RADIATED EMISSION TEST RESULTS – VERTICAL



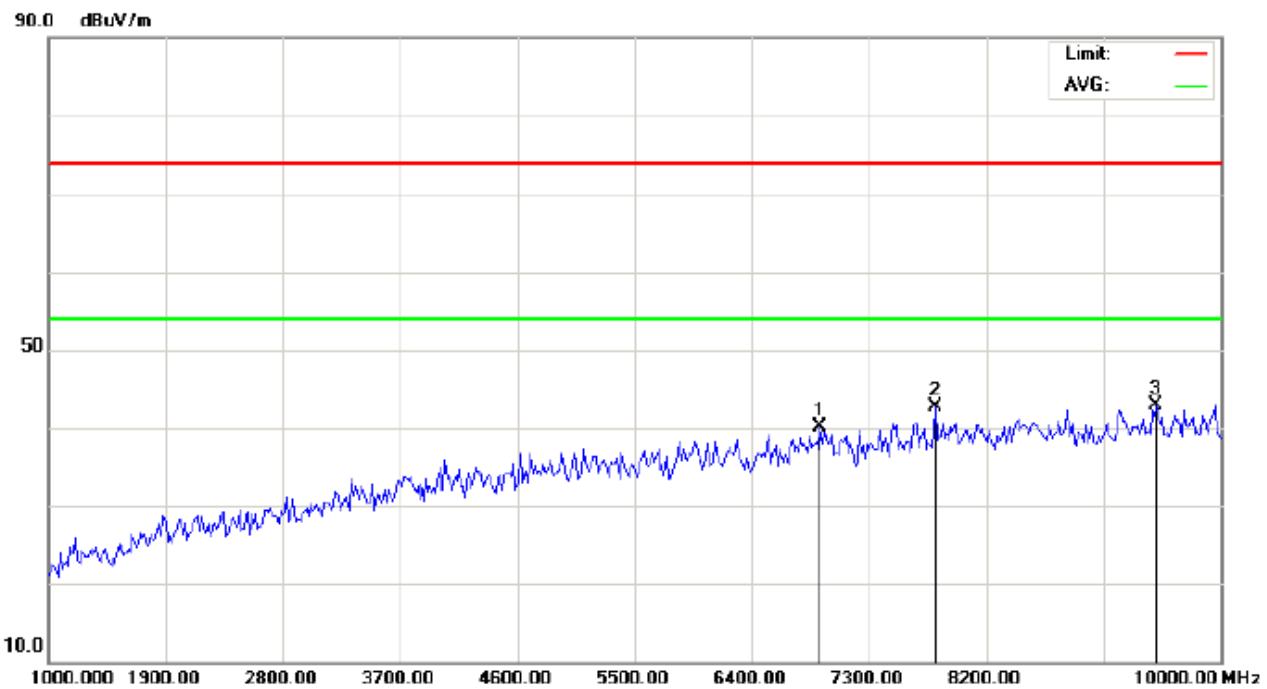
Site: site #1
Limit: FCC Class B 3M Radiation
EUT: Wireless Headphone
M/N: RF988
Mode: Mode 1
Note:

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		39.7000	19.20	7.76	26.96	40.00	-13.04	peak			
2		89.8167	17.30	8.37	25.67	43.50	-17.83	peak			
3		266.0333	18.53	14.83	33.36	46.00	-12.64	peak			
4	*	350.1000	16.28	19.05	35.33	46.00	-10.67	peak			
5		432.5500	12.52	21.47	33.99	46.00	-12.01	peak			
6		697.6833	7.79	26.54	34.33	46.00	-11.67	peak			

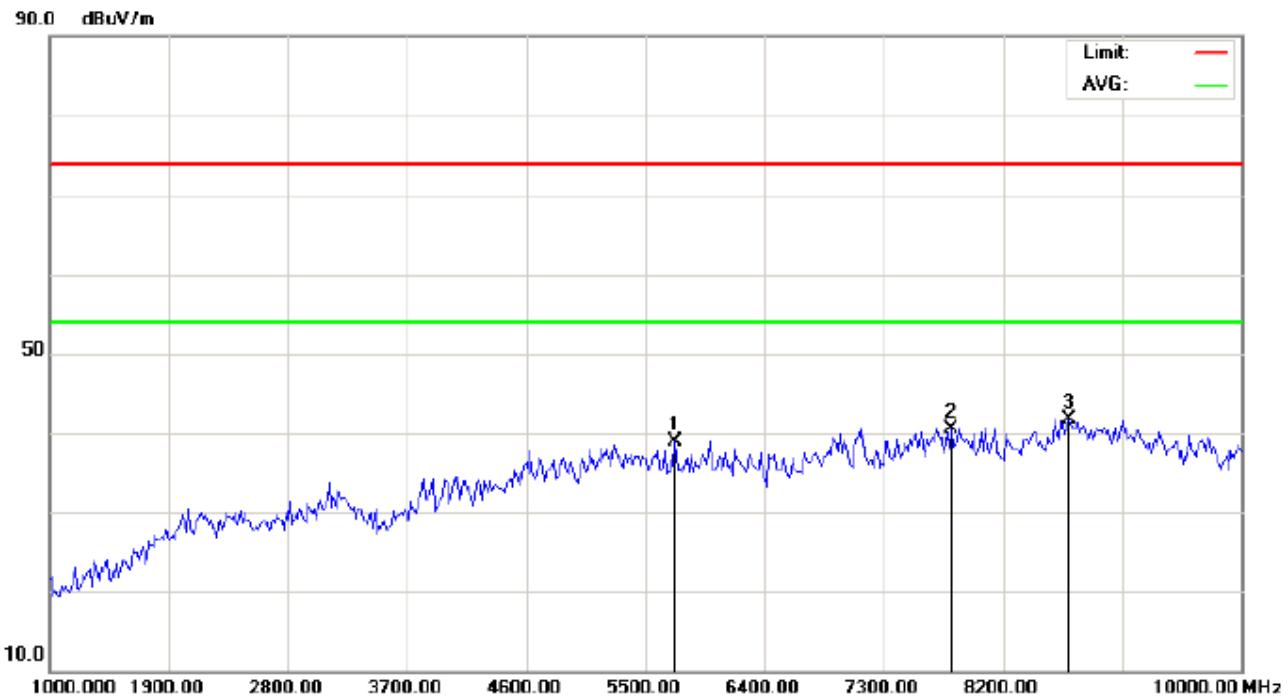
RADIATED EMISSION ABOVE 1GHZ (1-10th Harmonics) RADIATED EMISSION TEST RESULTS – HORIZONTAL



Site: site #1 Polarization: **Horizontal** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: Wireless Headphone Distance: 3m
M/N: RF988
Mode: Mode 1
Note:

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		6925.000	40.76	-0.70	40.06	74.00	-33.94	peak			
2		7810.000	42.89	-0.11	42.78	74.00	-31.22	peak			
3	*	9505.000	41.55	1.33	42.88	74.00	-31.12	peak			

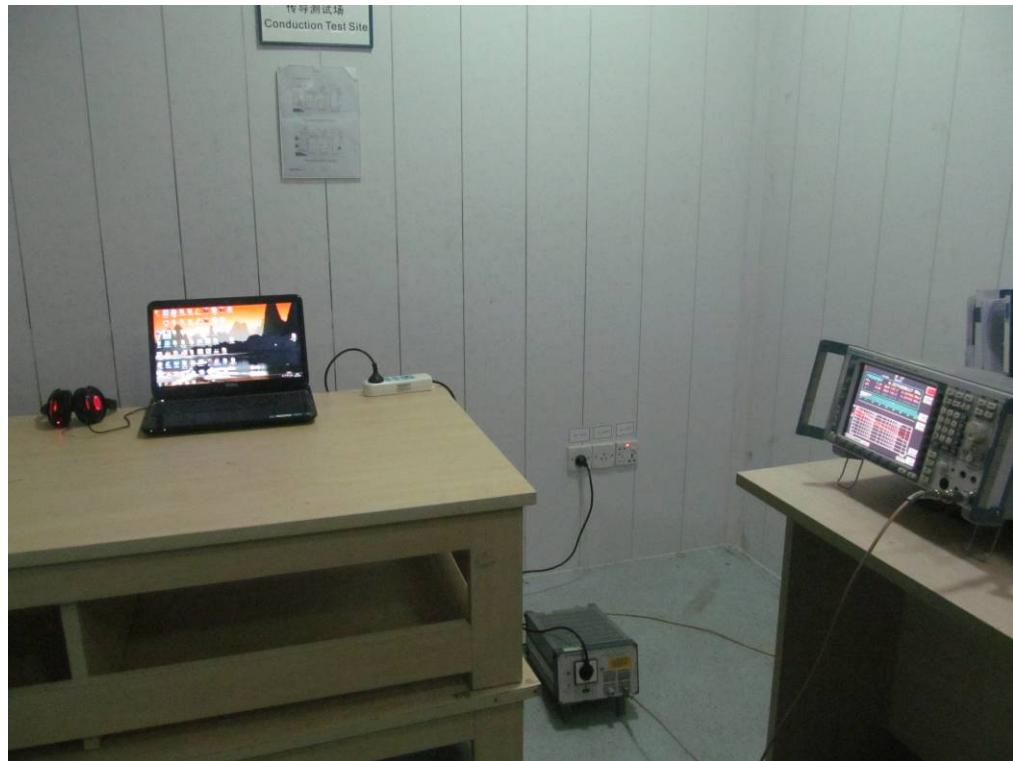
RADIATED EMISSION TEST RESULTS – VERTICAL



Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: Wireless Headphone Distance: 3m
M/N: RF988
Mode: Mode 1
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		5725.000	40.61	-1.71	38.90	74.00	-35.10	peak			
2		7810.000	40.68	-0.11	40.57	74.00	-33.43	peak			
3	*	8695.000	41.55	0.14	41.69	74.00	-32.31	peak			

APPENDIX I
PHOTOGRAPHS OF SETUP
CONDUCTION TEST SETUP



RADIATED TEST SETUP



APPENDIX II
EXTERNAL VIEW OF EUT
WHOLE VIEW OF EUT



TOP VIEW OF EUT



BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



BACK VIEW OF EUT



LEFT VIEW OF EUT



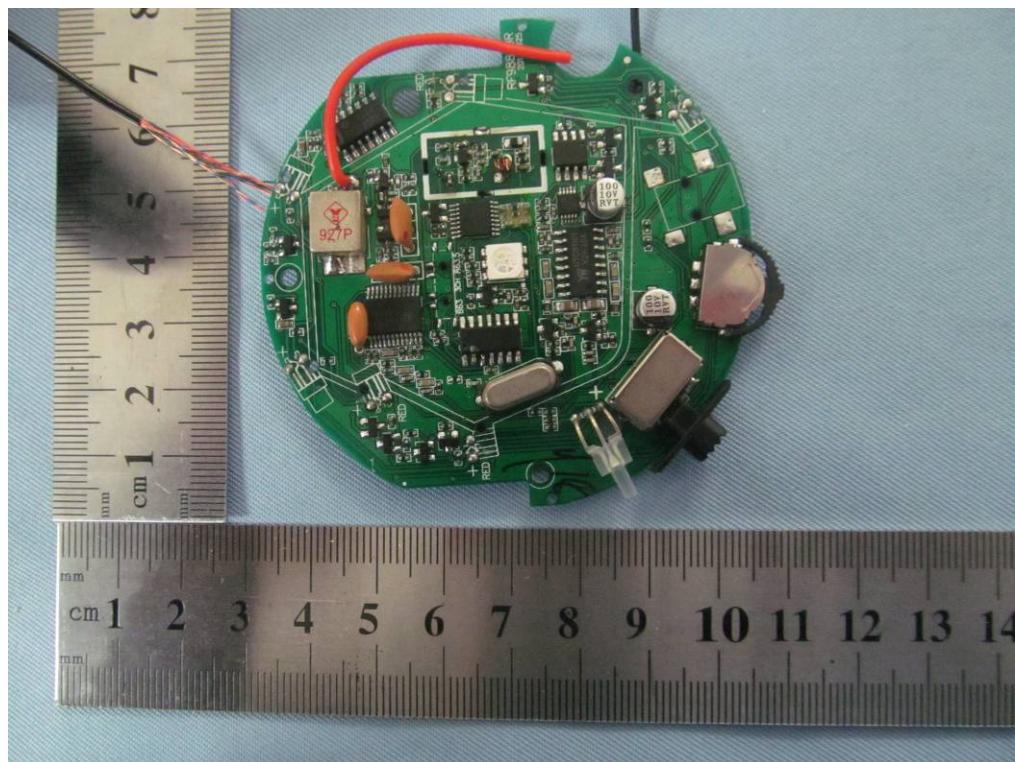
RIGHT VIEW OF EUT



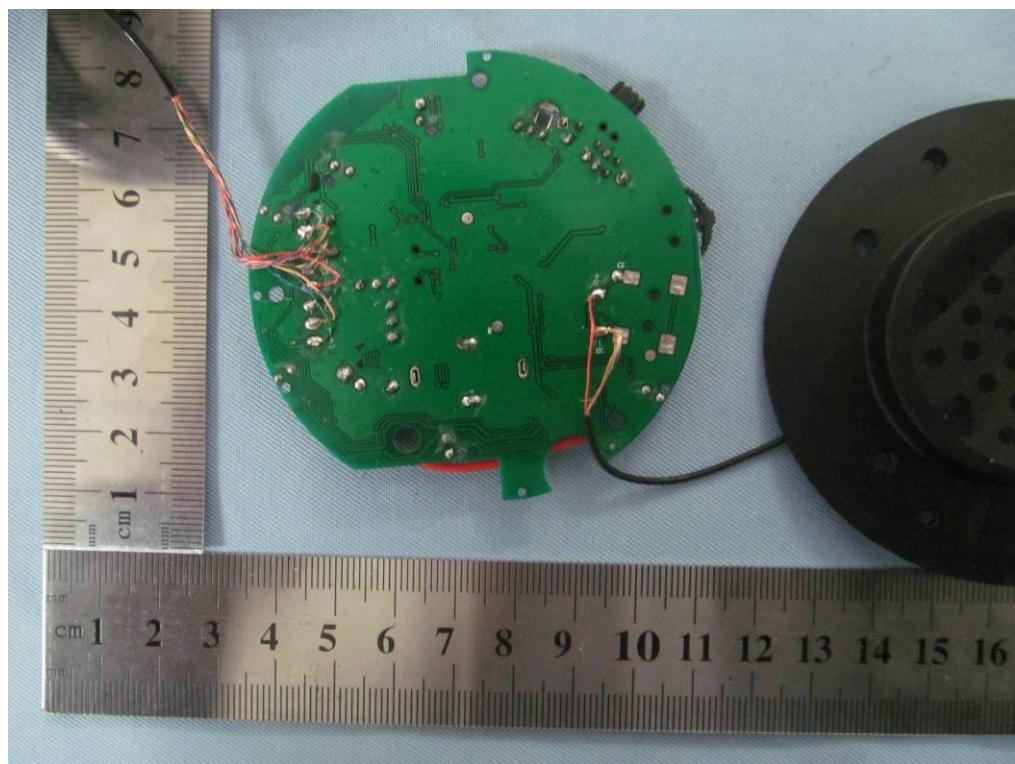
OPEN VIEW-1 OF EUT



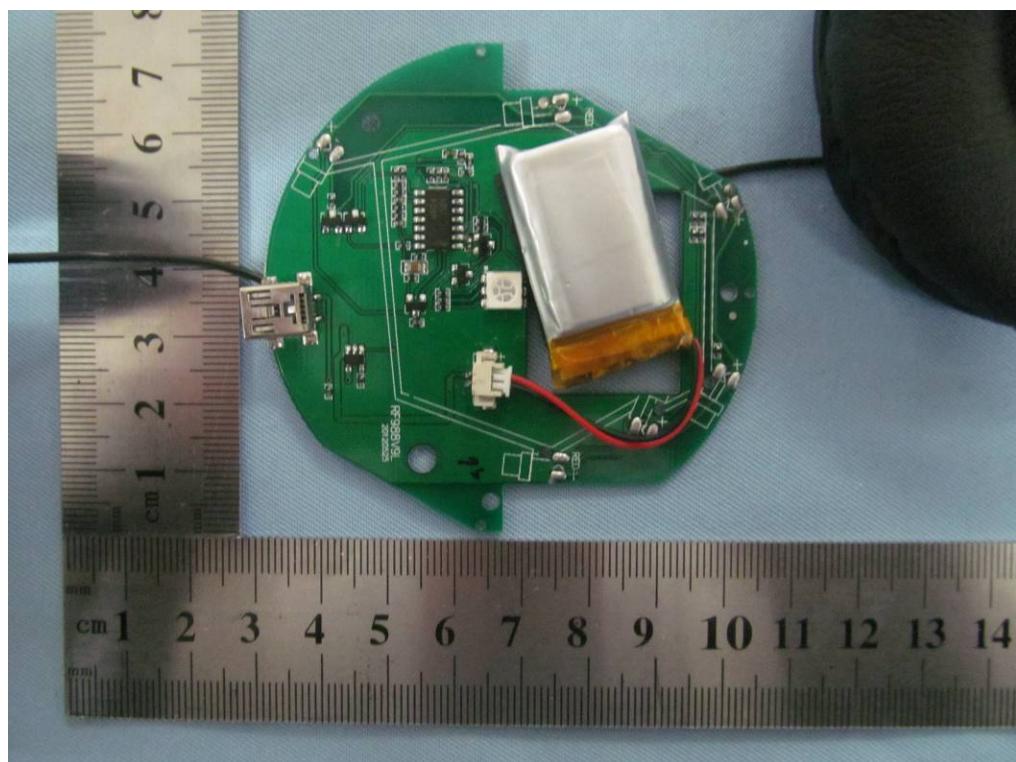
INTERNAL VIEW-1 OF EUT



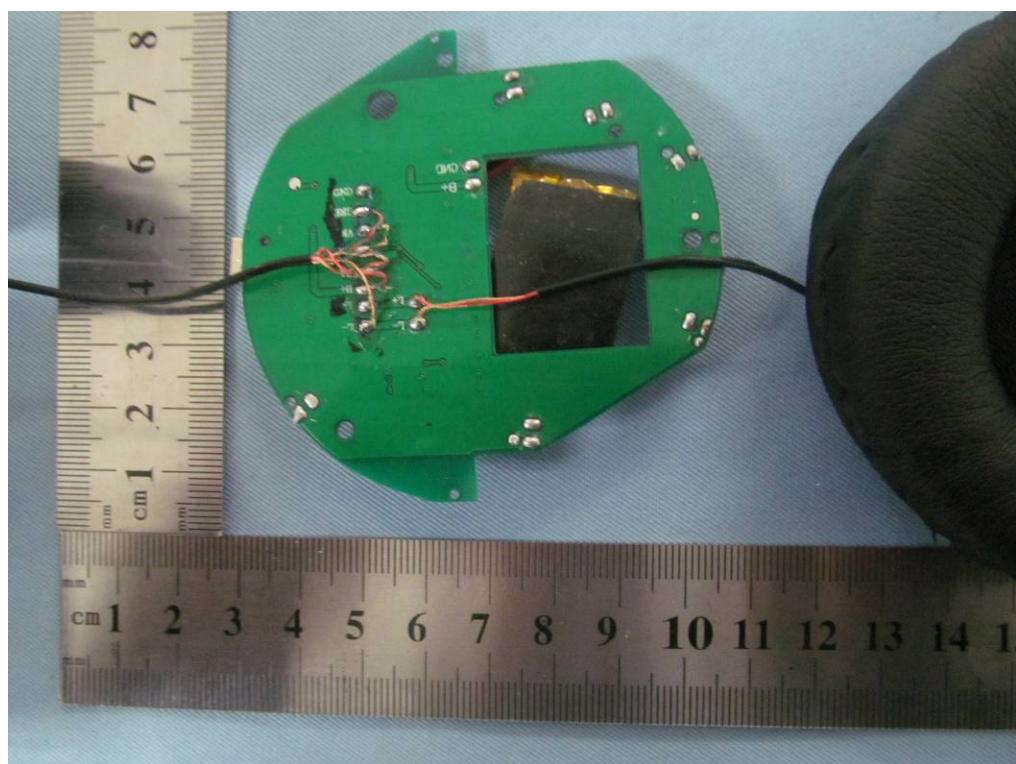
INTERNAL VIEW-2 OF EUT



INTERNAL VIEW-3 OF EUT



INTERNAL VIEW-4 OF EUT



----END OF REPORT----