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# FCC Test Report

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Report No.: AGC00021130301F2B

**FCC ID** : ZG8BSH558  
**APPLICATION PURPOSE** : Original Equipment  
**PRODUCT DESIGNATION** : Bluetooth Stereo Headset  
**BRAND NAME** : N/A  
**MODEL NAME** : BSH558  
**CLIENT** : LANYA ELECTRONIC Co., Ltd.  
**DATE OF ISSUE** : Mar.26,2013  
**STANDARD(S)** : FCC Part 15 Rules  
**REPORT VERSION** : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar.26,2013	Valid	Original Report

## TABLE OF CONTENTS

<b>1. VERIFICATION OF CONFORMITY .....</b>	<b>5</b>
<b>2. GENERAL INFORMATION.....</b>	<b>6</b>
2.1. PRODUCT DESCRIPTION.....	6
2.2. TEST STANDARDS .....	6
2.3. RELATED SUBMITTAL(S)/GRANT(S).....	6
2.4. TEST METHODOLOGY .....	6
2.5. SPECIAL ACCESSORIES .....	7
2.6. EQUIPMENT MODIFICATIONS .....	7
<b>3. MEASUREMENT UNCERTAINTY.....</b>	<b>8</b>
<b>4. DESCRIPTION OF TEST MODES.....</b>	<b>8</b>
<b>5. SYSTEM TEST CONFIGURATION .....</b>	<b>9</b>
5.1. CONFIGURATION OF EUT SYSTEM .....	9
5.2. EQUIPMENT USED IN EUT SYSTEM .....	9
5.3. SUMMARY OF TEST RESULTS .....	9
<b>6. TEST FACILITY .....</b>	<b>10</b>
<b>7. §15.203-ANTENNA REQUIREMENT .....</b>	<b>11</b>
7.1. STANDARD APPLICABLE.....	11
7.2. TEST RESULT .....	11
<b>8. §15.209, §15.249 RADIATED EMISSION .....</b>	<b>12</b>
8.1. MEASUREMENT UNCERTAINTY .....	12
8.2. STANDARD APPLICABLE.....	12
8.3. TEST PROCEDURE .....	13
8.4. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....	13
8.5. TEST RESULTS.....	15
<b>9. §15.249 EMISSION BANDWIDTH.....</b>	<b>28</b>

9.1. STANDARD APPLICABLE.....	28
9.2. TEST PROCEDURE .....	28
9.3. SUMMARY OF TEST RESULTS/PLOTS.....	28
<b>10. FCC LINE CONDUCTED EMISSION TEST .....</b>	<b>30</b>
10.1. LIMITS .....	30
10.2. TEST SETUP .....	30
10.3. PRELIMINARY PROCEDURE.....	31
10.4. FINAL TEST PROCEDURE .....	31
10.5. TEST RESULT OF POWER LINE .....	32
<b>APPENDIX A: PHOTOGRAPHS OF TEST SETUP .....</b>	<b>34</b>
<b>APPENDIX B: PHOTOGRAPHS OF EUT .....</b>	<b>36</b>

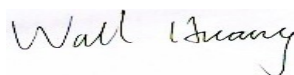
## 1. VERIFICATION OF CONFORMITY

<b>Applicant</b>	LANYA ELECTRONIC Co., Ltd.
<b>Address</b>	3-5F, Workshop of 6,Lijincheng Science & Technology Industrial Area, The East Road of Industrial Area, longhua Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
<b>Manufacturer</b>	LANYA ELECTRONIC CO., Ltd.
<b>Address</b>	3-5F, Workshop of 6,Lijincheng Science & Technology Industrial Area, The East Road of Industrial Area, longhua Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
<b>Product Designation</b>	Bluetooth Stereo Headset
<b>Brand Name</b>	N/A
<b>Test Model</b>	BSH558
<b>Date of test</b>	Mar.19,2013 to Mar.26,2013
<b>Deviation</b>	None
<b>Condition of Test Sample</b>	Normal
<b>Report Template</b>	AGCRT-US-BLE/RF (2013-03-01)

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) 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 15.249.

Prepared By



Wall Huang Mar.26,2013

Checked By



Forrest Lei Mar.26,2013

Authorized By



Solger Zhang Mar.26,2013

## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

The EUT is a Bluetooth Stereo Headset designed as a "Communication Device". It is designed by way of utilizing the FHSS technology to achieve the system operation.

A major technical description of EUT is described as following

<b>Operation Frequency</b>	2.402 GHz to 2.480GHz
<b>RF Output Power</b>	2.53dBm
<b>Bluetooth Version:</b>	V 4.0
<b>Modulation</b>	GFSK
<b>Number of channels</b>	40
<b>Antenna Designation</b>	Integrated Antenna
<b>Antenna Gain</b>	2.0dBi
<b>Power Supply</b>	DC3.7V by Built-in Li-ion Battery

Note:BT is active when charging. The USB port only used for charging and can't be used to transfer data with PC

### 2.2. TEST STANDARDS

The following report of is prepared on behalf of the Attestation of Global Compliance Co., Ltd. in accordance with FCC Part 15, Subpart C, and section 15.249, 15.203 and 15.209 of the Federal Communication Commission rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.249, 15.203 and 15.209 of the Federal Communication Commission rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

### 2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: ZG8BSH558** filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

### 2.4. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions. The EUT was tested in all three orthogonal planes and the worse case was showed.

## **2.5. SPECIAL ACCESSORIES**

Refer to section 2.2.

## **2.6. EQUIPMENT MODIFICATIONS**

Not available for this EUT intended for grant.

**3. MEASUREMENT UNCERTAINTY**

Conducted measurement: +/- 2.75dB  
Radiated measurement: +/- 3.2dB

**4. DESCRIPTION OF TEST MODES**

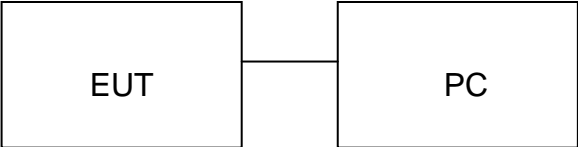
TEST MODE DESCRIPTION		
NO.	TEST MODE DESCRIPTION	WORST
1	Low channel TX	
2	Middle channel TX	
3	High channel TX	
4	Normal Hopping	V
<p>Note:</p> <p>1. V means EMI worst mode.</p> <p>2. All the test modes can be supply by Built-in Li-ion battery, only the result of the worst case was recorded in the report if no any records.</p> <p>3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.</p>		



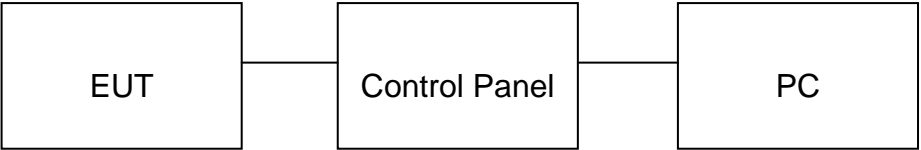
## 5. SYSTEM TEST CONFIGURATION

### 5.1. CONFIGURATION OF EUT SYSTEM

**Configuration:** Normal Operating



**Configuration:** Continuous TX



### 5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	Remark
1	Bluetooth Stereo Headset	N/A	BSH558	EUT
2	PC	DELL	INSPIRON	A.E

### 5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.207	Power Line Conducted Emission	Compliant
§15.209	General Requirement	Compliant
§15.249	Emission Bandwidth	Compliant
§15.249	Spurious Emission	Compliant

## 6. TEST FACILITY

<b>Site</b>	Attestation of Global Compliance (Shenzhen) Co., Ltd
<b>Location</b>	2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China
<b>Description</b>	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.

### ALL TEST EQUIPMENT LIST

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	US41421290	07/18/2012	07/17/2013
BICONICAL ANTENNA	A.H.	SAS-521-4	128	06/08/2012	06/07/2013
LOOP ANTENNA	R&S	HM525	N/A	07/18/2012	07/17/2013
HORN ANTENNA	EM	EM-AH-10180	N/A	07/18/2012	07/17/2013
HORN ANTENNA	A.H. Systems Inc.	SAS-574	--	07/18/2012	07/17/2013
AMPLIFIER	EM	EM30180	0607030	02/28/2013	02/27/2014
COAXIAL CABLE	SCHWARZBECK	AK9513	9513-10	07/18/2012	07/17/2013
POSITIONING CONTROLLER	MF	MF-7802	MF780208147	07/18/2012	07/17/2013
RECEIVER ANTENNA	ETS	2175	57337	07/18/2012	07/17/2013
COAXIAL CABLE	ETS	SUCOFLEX 104	25498514	07/18/2012	07/17/2013

## **7. §15.203-ANTENNA REQUIREMENT**

### **7.1. STANDARD APPLICABLE**

According to FCC 15.203, An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

### **7.2. TEST RESULT**

This product has a permanent antenna, fulfill the requirement of this section.

## 8. §15.209, §15.249 RADIATED EMISSION

### 8.1. MEASUREMENT UNCERTAINTY

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is +/-3.2 dB.

### 8.2. STANDARD APPLICABLE

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental Field Strength (mV/m)	Field Strength of Harmonics ( $\mu$ V/m)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ( $\mu$ V/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500*	3

In the above emission table, the tighter limit applies at the band edges.

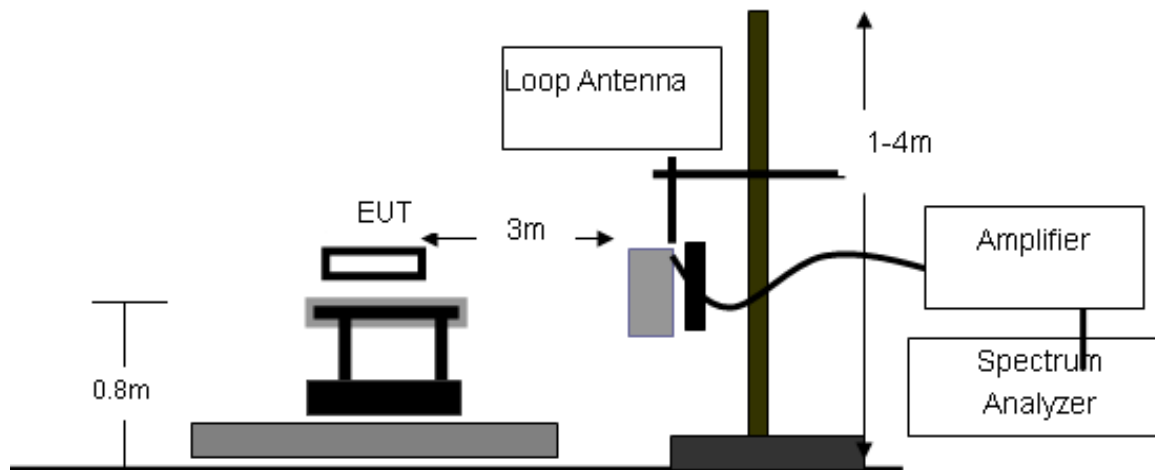
Frequency (MHz)	Field Strength ( $\mu$ V/m at 3-meter)	Field Strength (dB $\mu$ V/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

### 8.3. TEST PROCEDURE

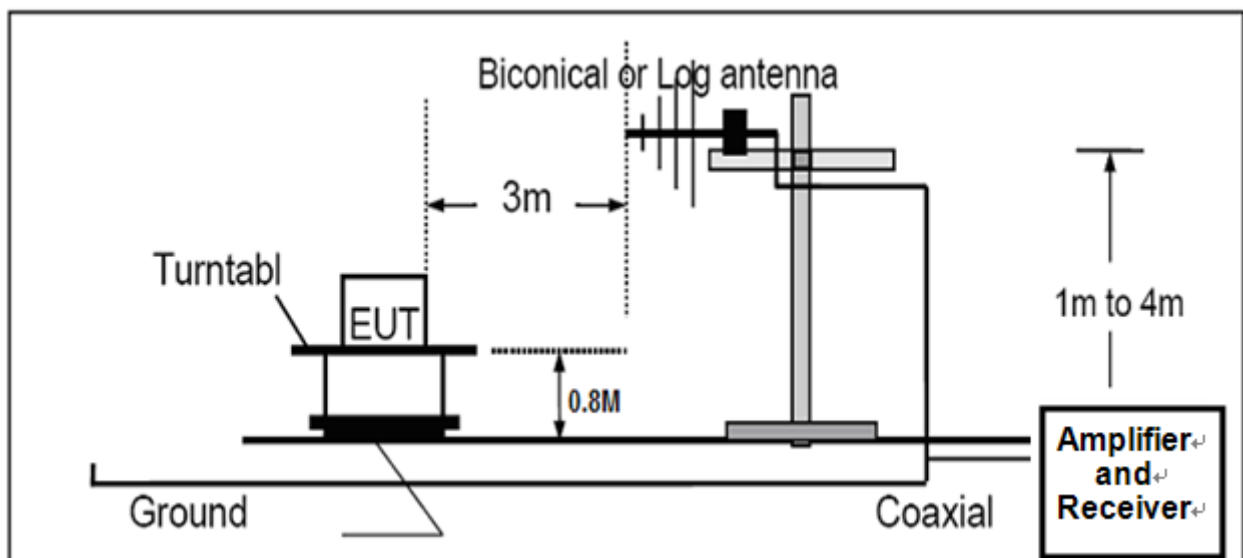
The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.249 and FCC Part 15.209 Limit

### 8.4. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

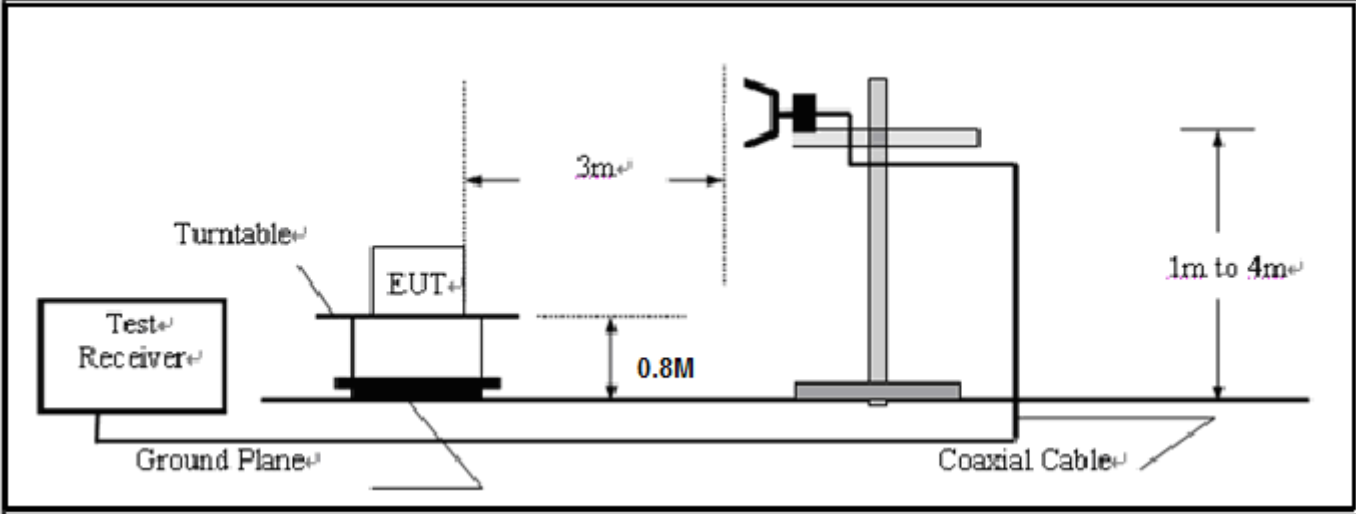
**BELOW 30MHz:**



**30MHz-1000MHz:**



ABOVE 1000MHz:



## 8.5. TEST RESULTS

### 8.5.1. TEST RESULT OF RADIATED EMISSION TEST (9KHZ-30MHZ)

Freq. (MHz)	Level (dB uV)	Over Limit (dB)	Limit Line (dB uV)	Remark
--	--	--	--	Seen to Note

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be report.

8.5.2. TEST RESULT

RADIATED EMISSION TEST (30MHZ-1GHZ)-LOW CHANNEL-HORIZONTAL



Site: site #1  
Limit: FCC Class B 3M Radiation  
EUT: Bluetooth Stereo Headset  
M/N: BSH558  
Mode: Low Channel TX  
Note:

Polarization: *Horizontal*  
Power:  
Distance: 3M

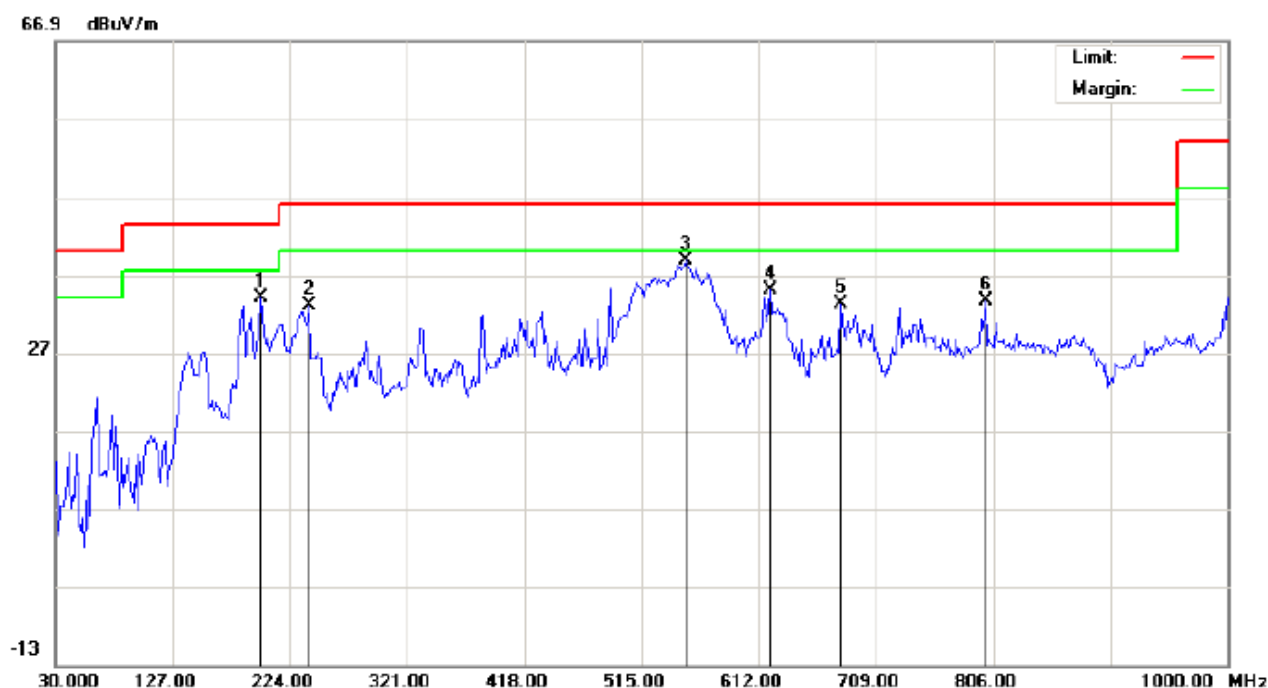
Temperature: 26  
Humidity: 60 %

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		60.7167	24.35	4.06	28.41	40.00	-11.59	peak			
2		144.7832	17.86	12.90	30.76	43.50	-12.74	peak			
3		270.8833	17.69	17.22	34.91	46.00	-11.09	peak			
4	*	435.7832	15.75	21.26	37.01	46.00	-8.99	peak			
5		513.3832	12.92	21.17	34.09	46.00	-11.91	peak			
6		838.3333	0.62	31.08	31.70	46.00	-14.30	peak			

RESULT: PASS



# RADIATED EMISSION TEST (30MHZ-1GHZ)-LOW CHANNEL -VERTICAL

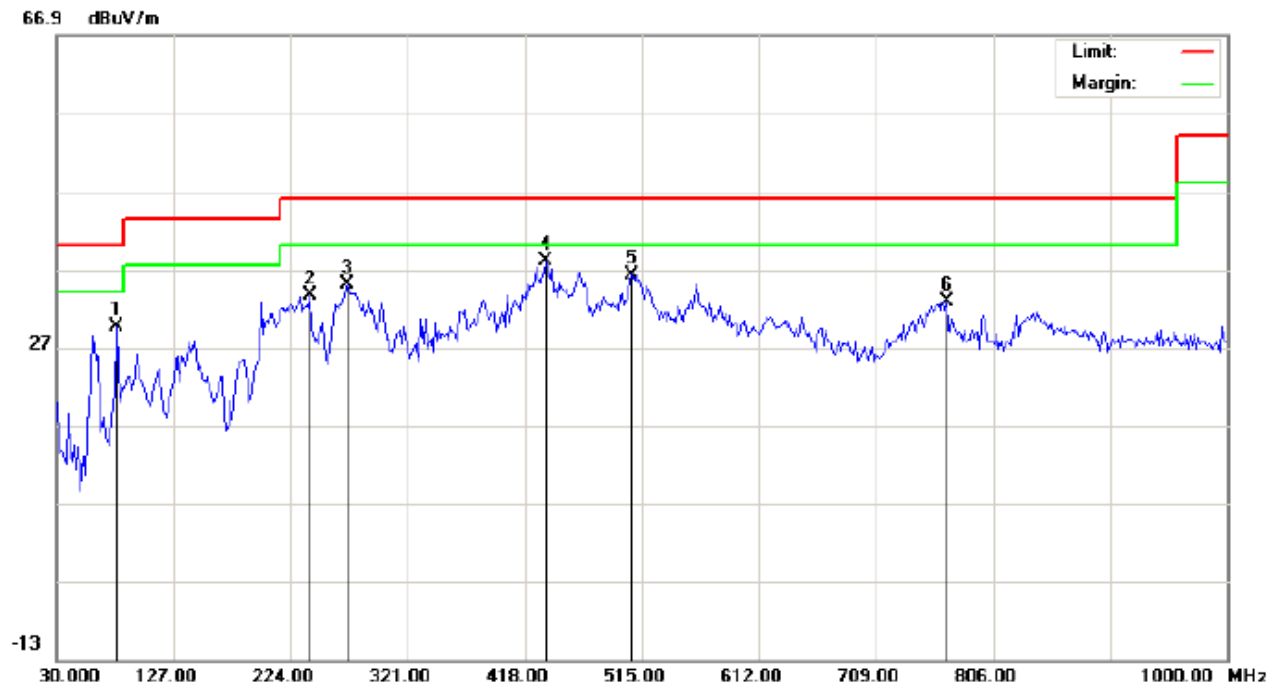


Site: site #1 Polarization: **Vertical** Temperature: 26  
Limit: FCC Class B 3M Radiation Power: Humidity: 60 %  
EUT: Bluetooth Stereo Headset Distance: 3M  
M/N: BSH558  
Mode: Low Channel TX  
Note:

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		199.7500	25.74	8.23	33.97	43.50	-9.53	peak			
2		240.1666	18.76	14.23	32.99	46.00	-13.01	peak			
3	*	552.1833	15.07	23.79	38.86	46.00	-7.14	peak			
4		621.7000	9.93	25.03	34.96	46.00	-11.04	peak			
5		679.8999	7.41	25.82	33.23	46.00	-12.77	peak			
6		799.5333	5.53	28.13	33.66	46.00	-12.34	peak			

**RESULT: PASS**

## RADIATED EMISSION TEST (30MHZ-1GHZ)-MIDDLE CHANNEL-HORIZONTAL



Site: site #1  
 Limit: FCC Class B 3M Radiation  
 EUT: Bluetooth Stereo Headset  
 M/N: BSH558  
 Mode: Middle Channel TX  
 Note:

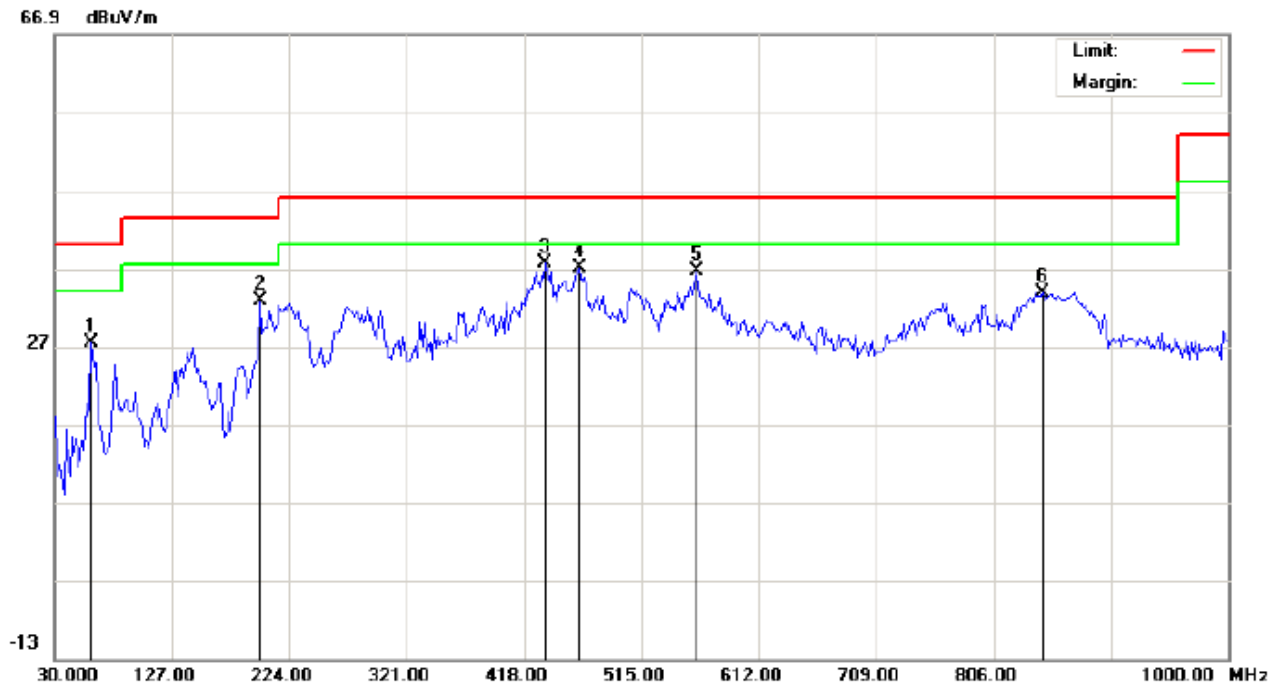
Polarization: *Horizontal*  
 Power:  
 Distance: 3M

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		80.1166	17.63	11.92	29.55	40.00	-10.45	peak			
2		240.1666	21.49	12.18	33.67	46.00	-12.33	peak			
3		270.8833	17.69	17.22	34.91	46.00	-11.09	peak			
4	*	435.7832	16.75	21.26	38.01	46.00	-7.99	peak			
5		506.9166	14.26	22.04	36.30	46.00	-9.70	peak			
6		767.2000	5.14	27.76	32.90	46.00	-13.10	peak			

**RESULT: PASS**

## RADIATED EMISSION TEST (30MHZ-1GHZ)- MIDDLE CHANNEL -VERTICAL



Site: site #1

Polarization: **Vertical**

Temperature: 26

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3M

M/N: BSH558

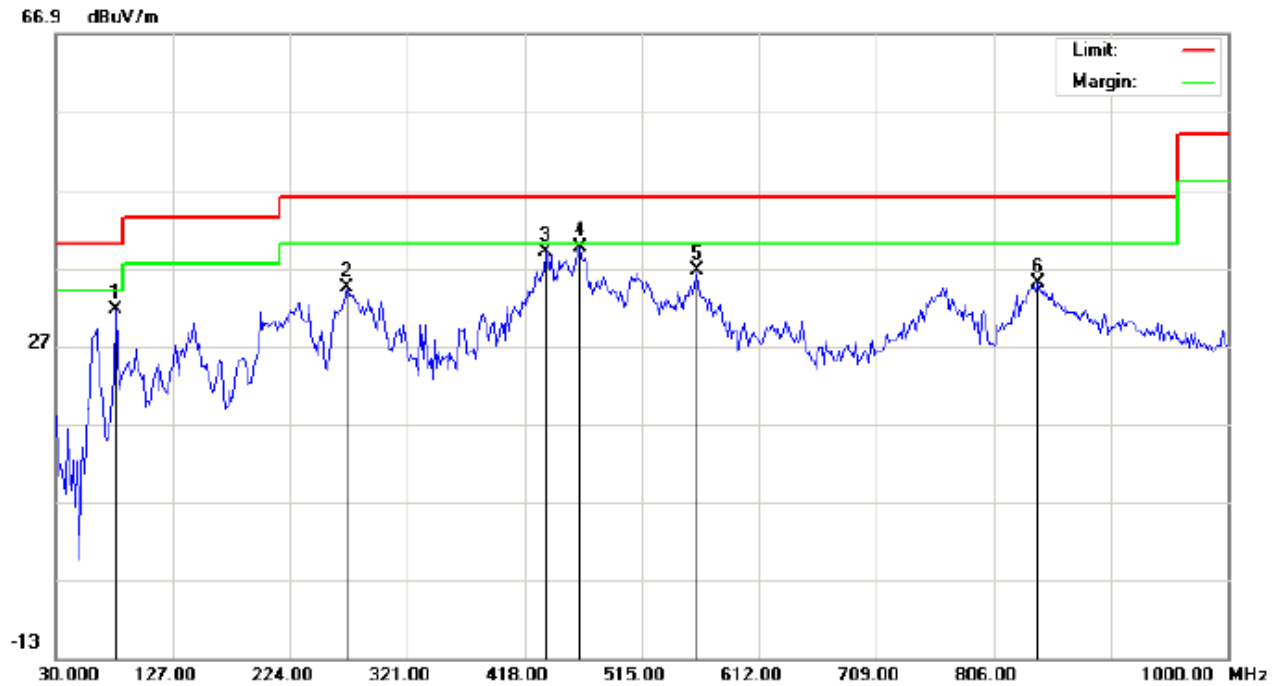
Mode: Middle Channel TX

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		60.7167	23.35	4.06	27.41	40.00	-12.59	peak			
2		199.7500	25.51	7.21	32.72	43.50	-10.78	peak			
3	*	435.7832	16.25	21.26	37.51	46.00	-8.49	peak			
4		463.2667	15.48	21.54	37.02	46.00	-8.98	peak			
5		560.2667	12.53	24.02	36.55	46.00	-9.45	peak			
6		846.4166	3.17	30.63	33.80	46.00	-12.20	peak			

**RESULT: PASS**

## RADIATED EMISSION TEST (30MHZ-1GHZ)-HIGH CHANNEL-HORIZONTAL



Site: site #1

Polarization: *Horizontal*

Temperature: 26

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3M

M/N: BSH558

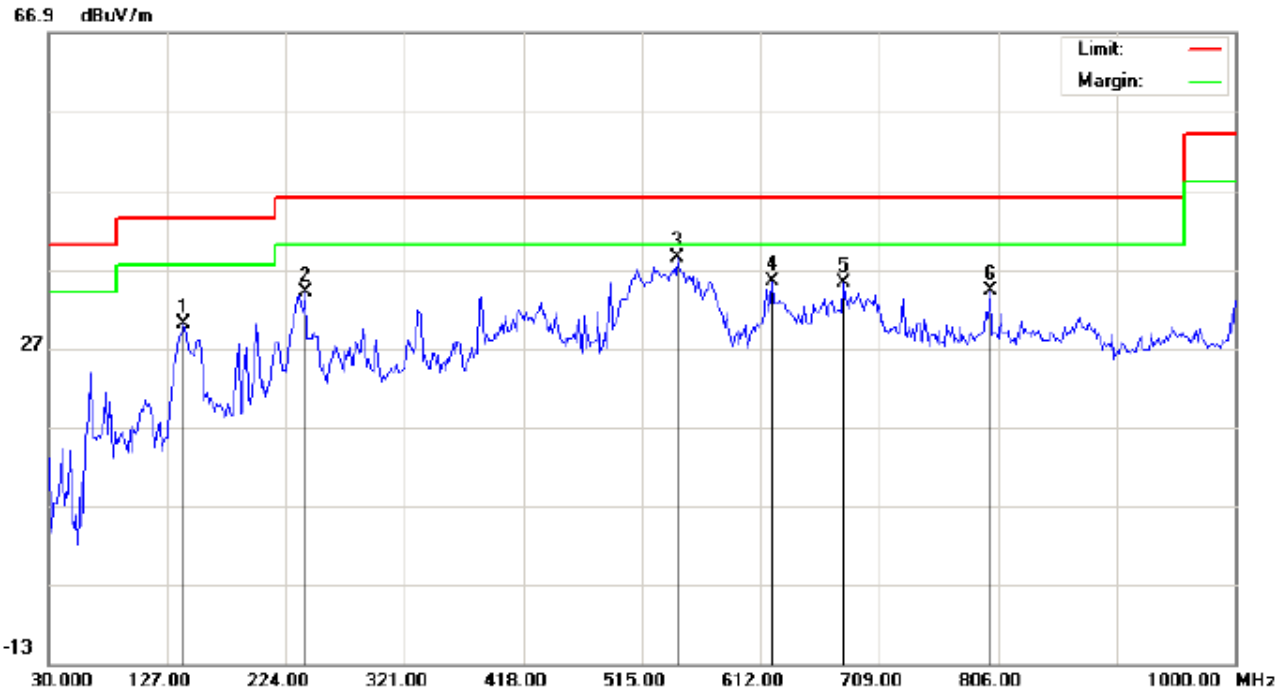
Mode: High Channel TX

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		80.1166	19.63	11.92	31.55	40.00	-8.45	peak			
2		270.8833	17.19	17.22	34.41	46.00	-11.59	peak			
3		435.7832	17.75	21.26	39.01	46.00	-6.99	peak			
4	*	463.2667	17.98	21.54	39.52	46.00	-6.48	peak			
5		560.2667	12.53	24.02	36.55	46.00	-9.45	peak			
6		843.1833	3.99	30.99	34.98	46.00	-11.02	peak			

**RESULT: PASS**

## RADIATED EMISSION TEST (30MHZ-1GHZ)-HIGH CHANNEL -VERTICAL



Site: site #1

Polarization: **Vertical**

Temperature: 26

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3M

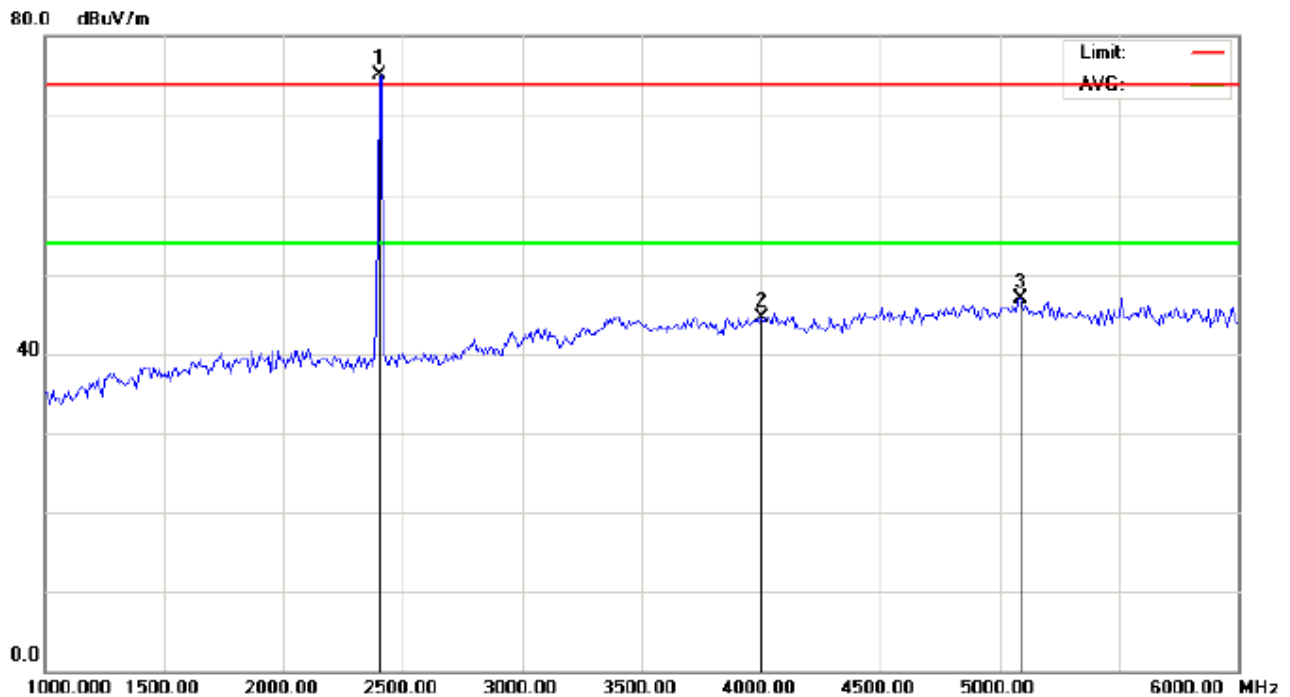
M/N: BSH558

Mode: High Channel TX

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		139.9333	18.48	11.56	30.04	43.50	-13.46	peak			
2		240.1666	19.76	14.23	33.99	46.00	-12.01	peak			
3	*	544.1000	14.92	23.56	38.48	46.00	-7.52	peak			
4		621.7000	10.43	25.03	35.46	46.00	-10.54	peak			
5		679.8999	9.41	25.82	35.23	46.00	-10.77	peak			
6		799.5333	6.03	28.13	34.16	46.00	-11.84	peak			

**RESULT: PASS**

**8.5.3 TEST RESULT****RADIATED EMISSION TEST(ABOVE 1GHZ)-LOW CHANNEL-HORIZONTAL**

Site: site #1 Polarization: *Horizontal* Temperature: 26  
 Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %  
 EUT: Bluetooth Stereo Headset Distance: 3m  
 M/N: BSH558  
 Mode: Low Channel TX  
 Note:

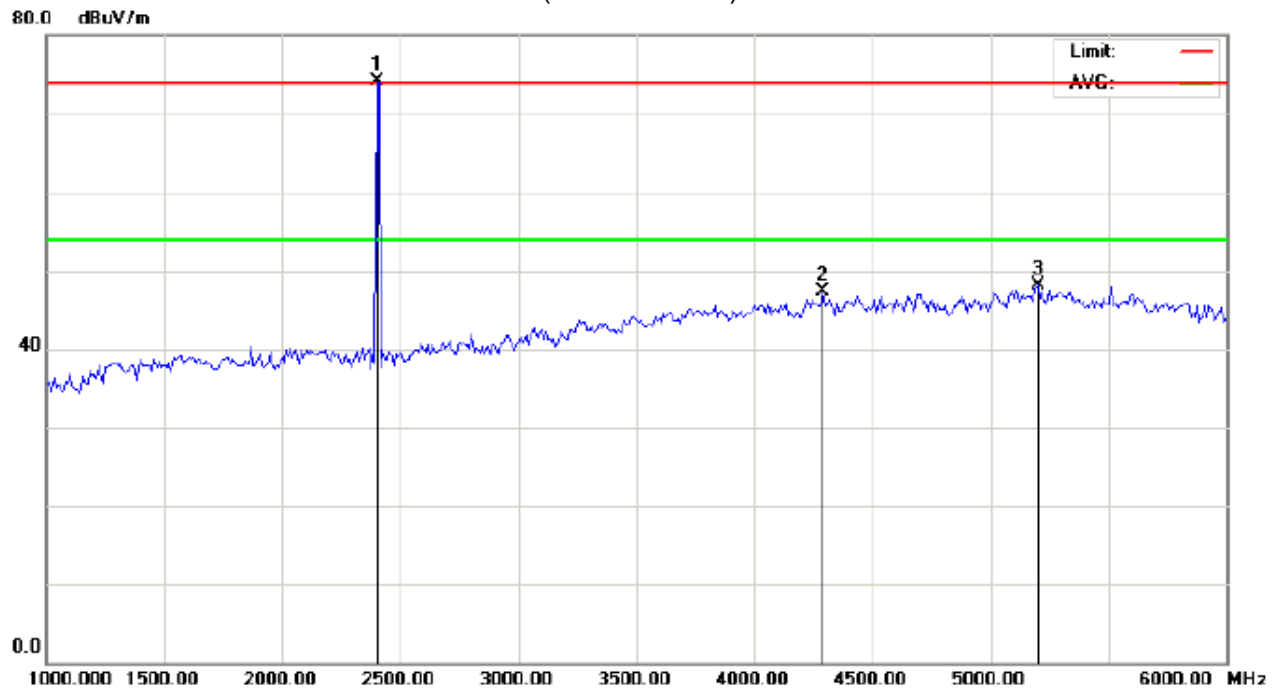
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2402.056	75.13	0.00	75.13	74.00	1.13	peak			
2		4000.000	44.60	0.00	44.60	74.00	-29.40	peak			
3		5091.667	46.99	0.00	46.99	74.00	-27.01	peak			

**RESULT: PASS**

Note : Marker2 is fundamental frequency and the Average result is 45.42dBuV/m.

6~25GHz at least have 20dB margin. No recording in the test report.

## RADIATED EMISSION TEST(ABOVE 1GHZ)-LOW CHANNEL-VERTICAL



Site: site #1

Polarization: **Vertical**

Temperature: 26

Limit: FCC Class B 3M Radiation above 1GHz(PK)

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3m

M/N: BSH558

Mode: Low Channel TX

Note:

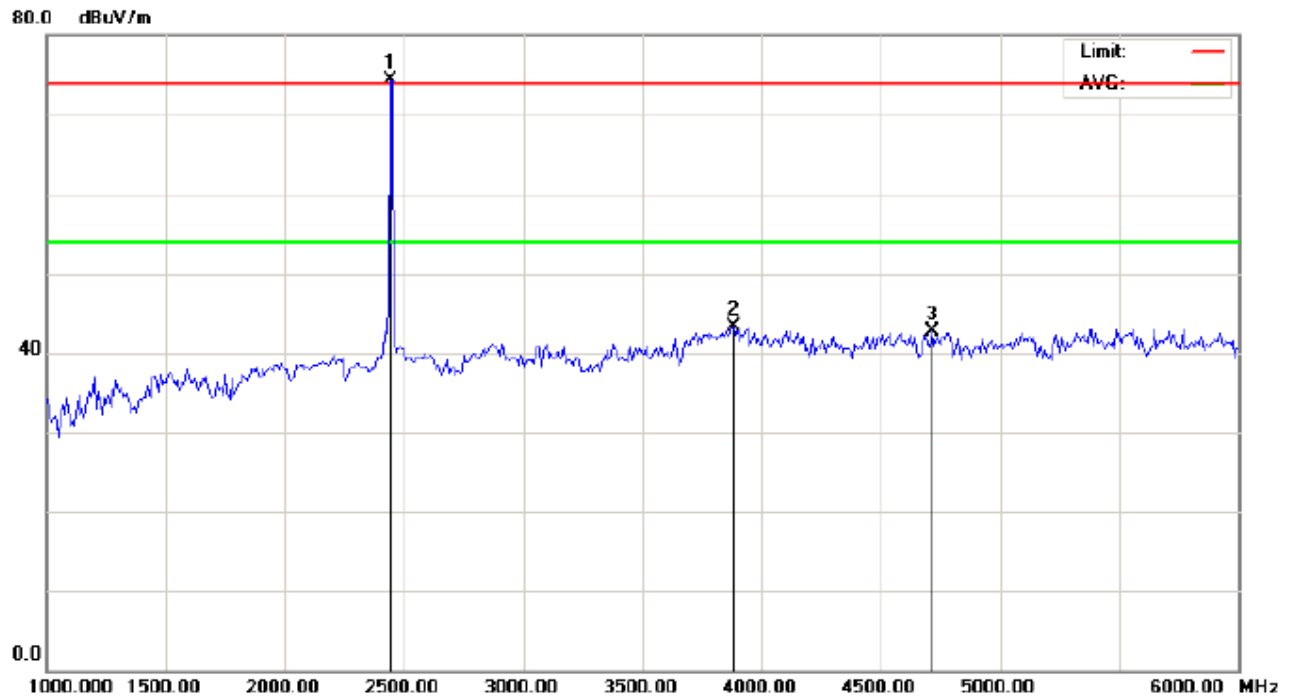
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2402.023	74.13	0.00	74.13	74.00	0.13	peak			
2		4291.667	47.28	0.00	47.28	74.00	-26.72	peak			
3		5200.000	48.01	0.00	48.01	74.00	-25.99	peak			

**RESULT: PASS**

Note : Marker 2 is fundamental frequency and the Average result is 45.33dBuV/m.

6~25GHz at least have 20dB margin. No recording in the test report.

## RADIATED EMISSION TEST(ABOVE 1GHZ)-MIDDLE CHANNEL-HORIZONTAL



Site: site #1

Polarization: *Horizontal*

Temperature: 26

Limit: FCC Class B 3M Radiation above 1GHz(PK)

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3m

M/N: BSH558

Mode: Middle Channel TX

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	*	2442.115	74.30	0.00	74.30	74.00	0.30	peak			
2		3883.333	43.36	0.00	43.36	74.00	-30.64	peak			
3		4716.667	42.64	0.00	42.64	74.00	-31.36	peak			

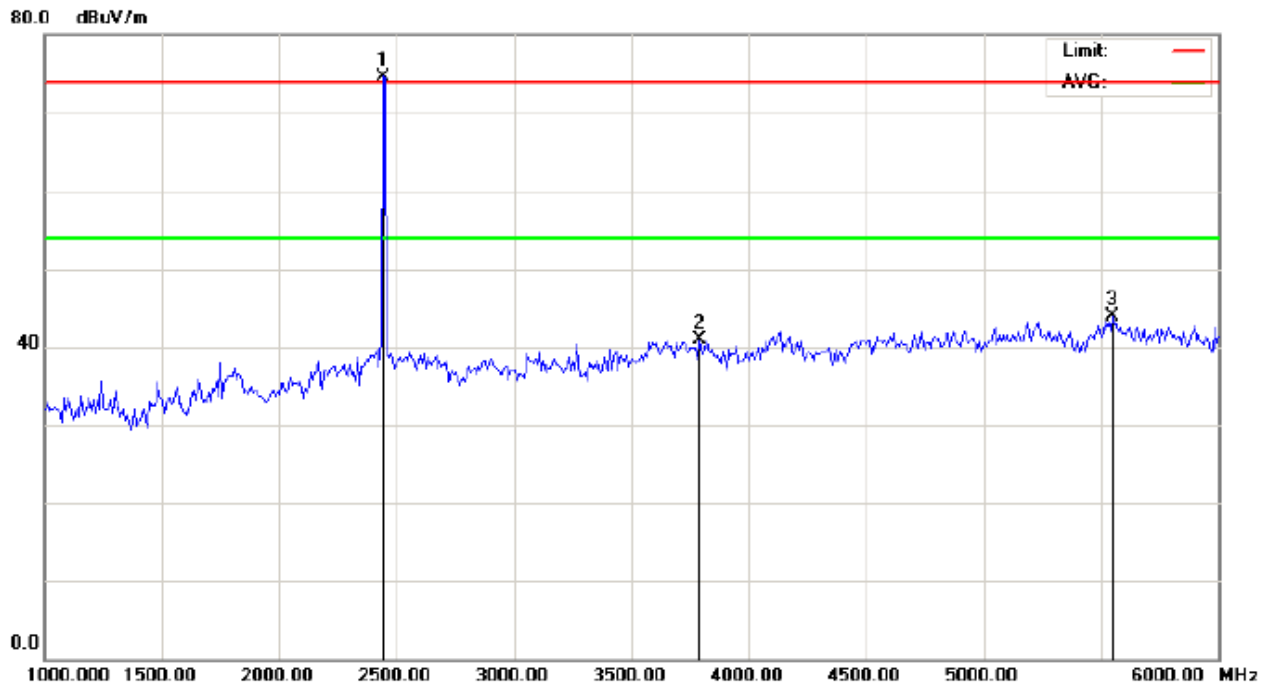
**RESULT: PASS**

Note: Marker 2 fundamental frequency and the Average result is 44.41dBuV/m.

6~25GHz at least have 20dB margin. No recording in the test report.



## RADIATED EMISSION TEST(ABOVE 1GHZ)-MIDDLE CHANNEL-VERTICAL



Site: site #1

Polarization: *Vertical*

Temperature: 26

Limit: FCC Class B 3M Radiation above 1GHZ(PK)

Power:

Humidity: 60 %

EUT: Bluetooth Stereo Headset

Distance: 3m

M/N: BSH558

Mode: Middle Channel TX

Note:

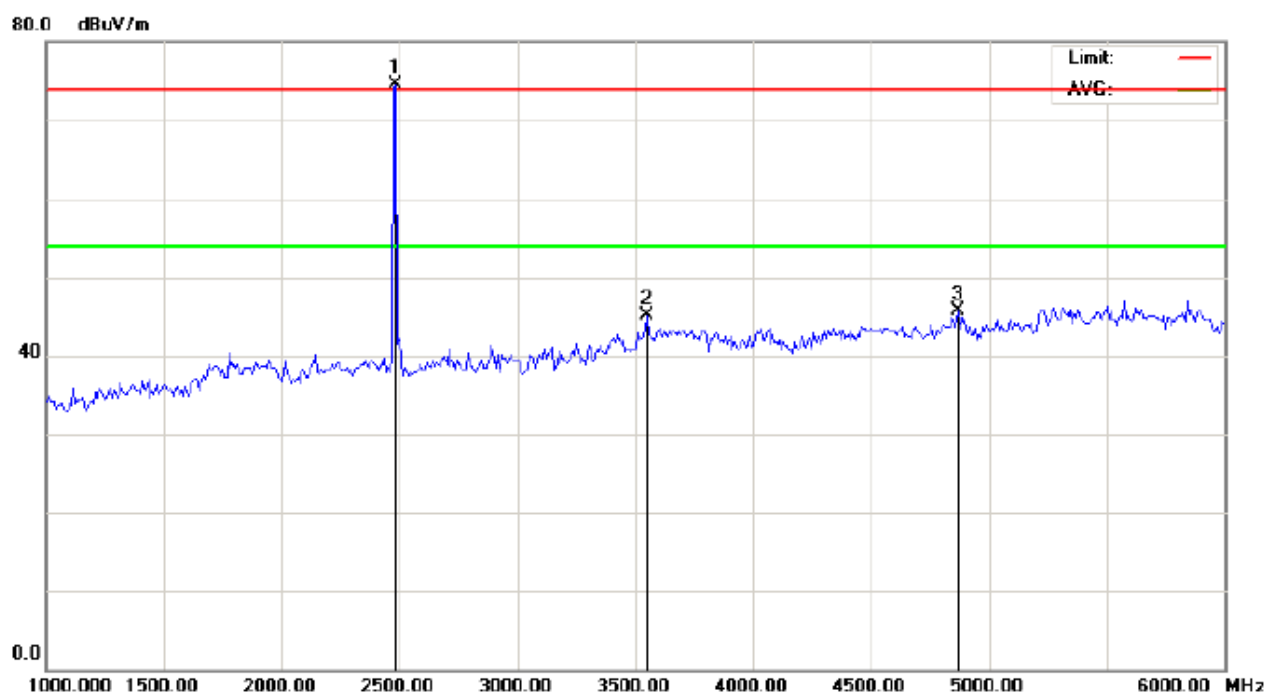
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2442.087	74.59	0.00	74.59	74.00	0.59	peak			
2		3791.667	40.81	0.00	40.81	74.00	-33.19	peak			
3		5550.000	43.96	0.00	43.96	74.00	-30.04	peak			

**RESULT: PASS**

Note: Marker 2 is the fundamental frequency and the Average result is 43.93dBuV/m.

6~25GHz at least have 20dB margin. No recording in the test report.

# RADIATED EMISSION TEST(ABOVE 1GHZ)-HIGH CHANNEL-HORIZONTAL



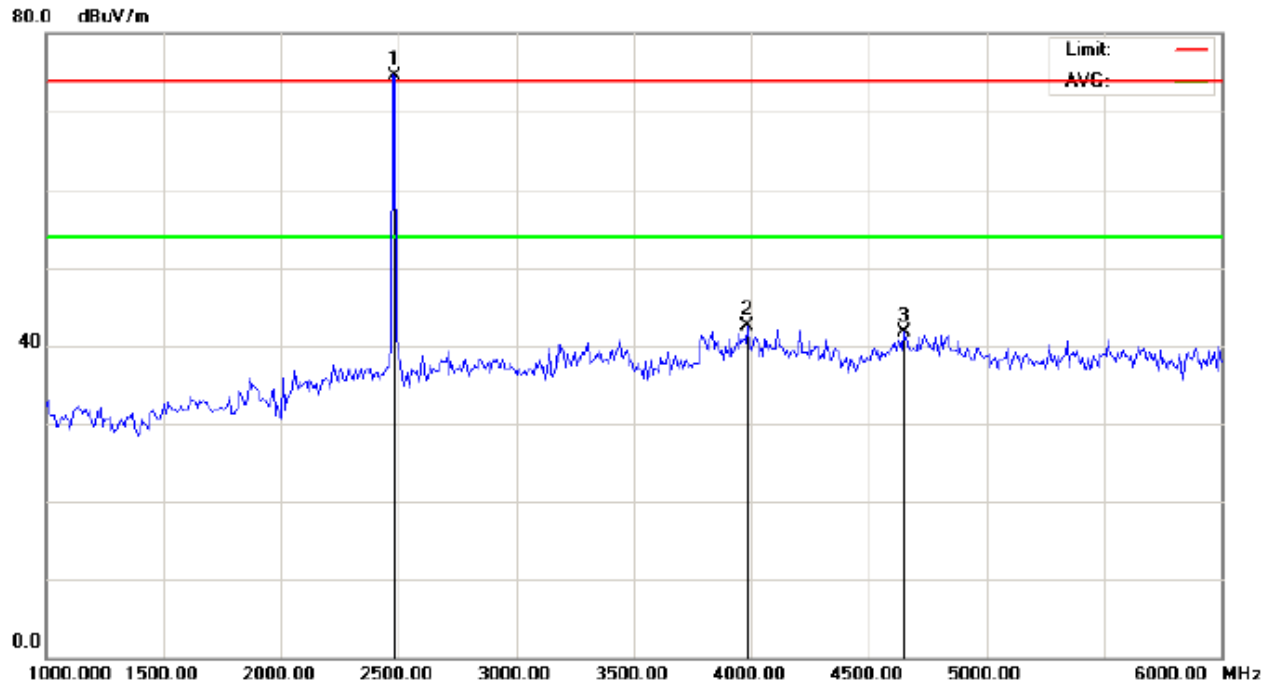
Site: site #1 Polarization: *Horizontal* Temperature: 26  
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %  
EUT: Bluetooth Stereo Headset Distance: 3m  
M/N: BSH558  
Mode: High Channel TX  
Note:

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	*	2480.158	74.48	0.00	74.48	74.00	0.48	peak			
2		3550.000	45.07	0.00	45.07	74.00	-28.93	peak			
3		4866.667	45.63	0.00	45.63	74.00	-28.37	peak			

## RESULT: PASS

Note: Marker 2 is the fundamental frequency and the Average result is 44.56dBuV/m.  
6~25GHz at least have 20dB margin. No recording in the test report.

## RADIATED EMISSION TEST(ABOVE 1GHZ)-HIGH CHANNEL-VERTICAL



Site: site #1 Polarization: **Vertical** Temperature: 26  
 Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %  
 EUT: Bluetooth Stereo Headset Distance: 3m  
 M/N: BSH558  
 Mode: High Channel TX  
 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	*	2480.115	74.55	0.00	74.55	74.00	0.55	peak			
2		3983.333	42.48	0.00	42.48	74.00	-31.52	peak			
3		4650.000	41.80	0.00	41.80	74.00	-32.20	peak			

**RESULT: PASS**

Note: Marker 2 is the fundamental frequency and the Average result is 44.21dBuV/m.

6~25GHz at least have 20dB margin. No recording in the test report.

## 9. §15.249 EMISSION BANDWIDTH

### 9.1. STANDARD APPLICABLE

Note; for reporting purposes only.

### 9.2. TEST PROCEDURE

With the EUT's antenna attached, the EUT's 20dB Bandwidth power was received by the test antenna, which was connected to the spectrum analyzer with the START, and STOP frequencies set to the EUT's operation band.

### 9.3. SUMMARY OF TEST RESULTS/PLOTS

Channel	Emission Bandwidth (KHz)	Limit (KHz)
Low	1.186	N/A
Middle	1.235	
High	1.142	

Low Channel Test Result



## Middle Channel Test Result



## High Channel Test Result



# 10. FCC LINE CONDUCTED EMISSION TEST

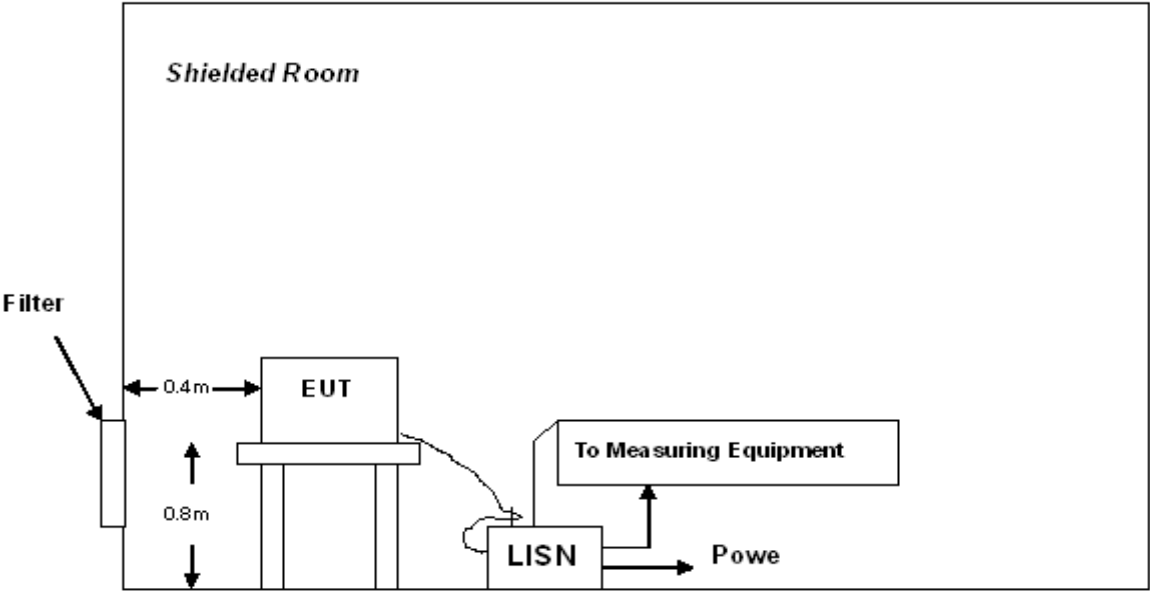
## 10.1. LIMITS

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

## 10.2. TEST SETUP



A: Powered through filter

### **10.3. PRELIMINARY 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. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received power by PC which received power by a LISN.
6. The 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.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The following test mode(s) were scanned during the preliminary test.

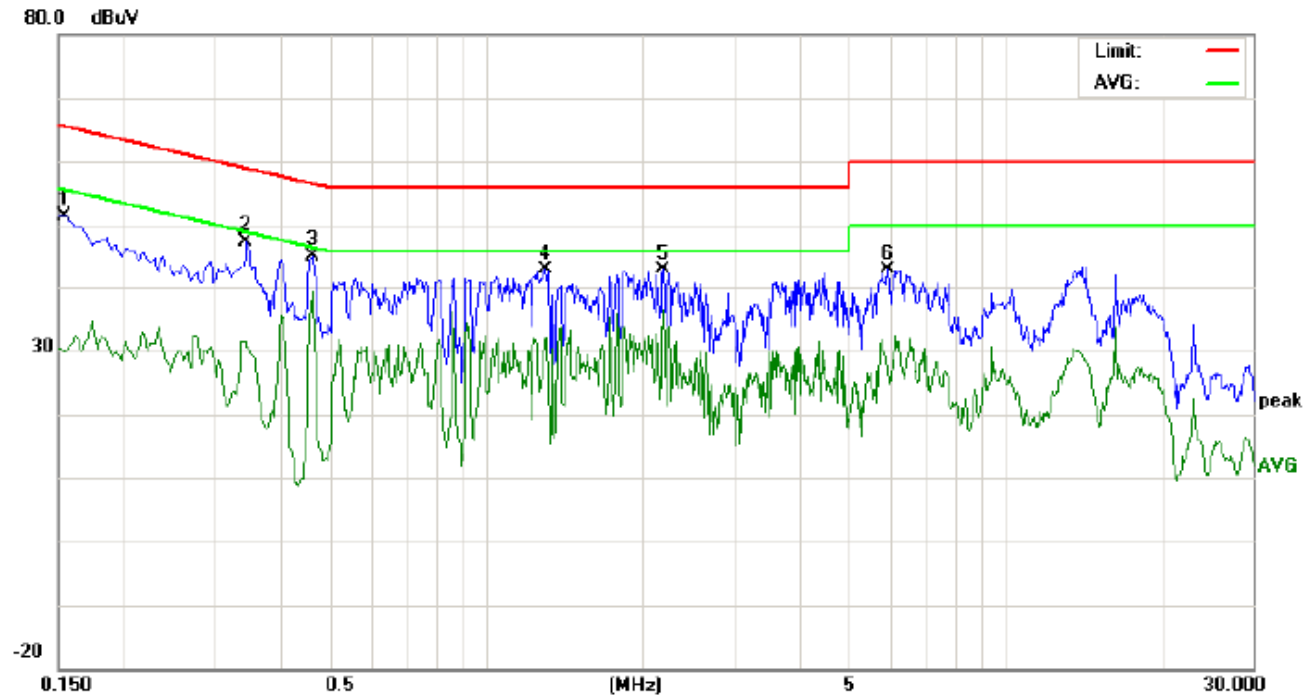
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

### **10.4. FINAL TEST PROCEDURE**

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. 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.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

10.5. TEST RESULT OF POWER LINE

Line Conducted Emission Test Line 1-L

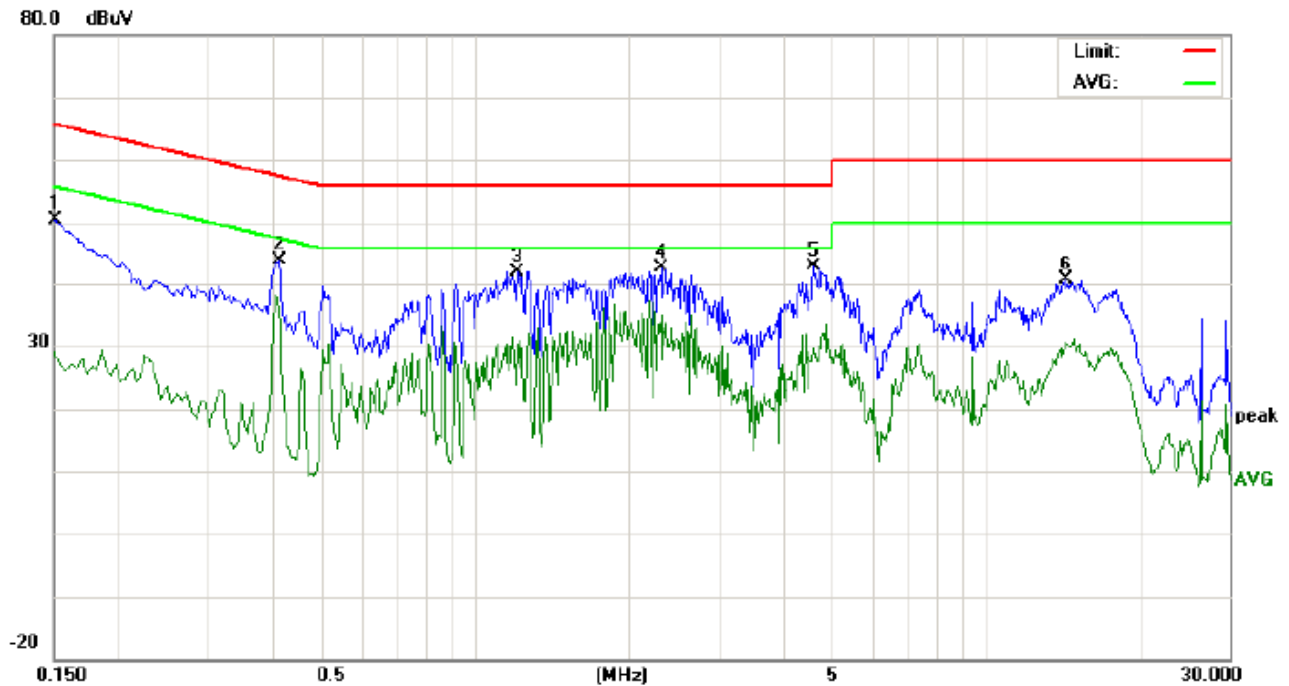


Site: Conduction	Phase: <b>L1</b>	Temperature: 26
Limit: FCC Class B Conduction(QP)	Power:	Humidity: 60 %
EUT: Bluetooth Stereo Headset		
M/N: BSH558		
Mode: Normal Hopping		
Note:		

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	0.1539	41.29		19.82	10.16	51.45		29.98	65.78	55.78	-14.33	-25.80	P	
2	0.3457	36.96		20.42	10.31	47.27		30.73	59.06	49.06	-11.79	-18.33	P	
3	0.4620	34.84		28.91	10.37	45.21		39.28	56.66	46.66	-11.45	-7.38	P	
4	1.3020	32.53		21.61	10.38	42.91		31.99	56.00	46.00	-13.09	-14.01	P	
5	2.1939	32.45		26.07	10.30	42.75		36.37	56.00	46.00	-13.25	-9.63	P	
6	5.9298	32.48		16.85	10.28	42.76		27.13	60.00	50.00	-17.24	-22.87	P	



Line Conducted Emission Test Line 1-N



Site: Conduction Phase: **N** Temperature: 26  
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %  
EUT: Bluetooth Stereo Headset  
M/N: BSH558  
Mode: Normal Hopping  
Note:

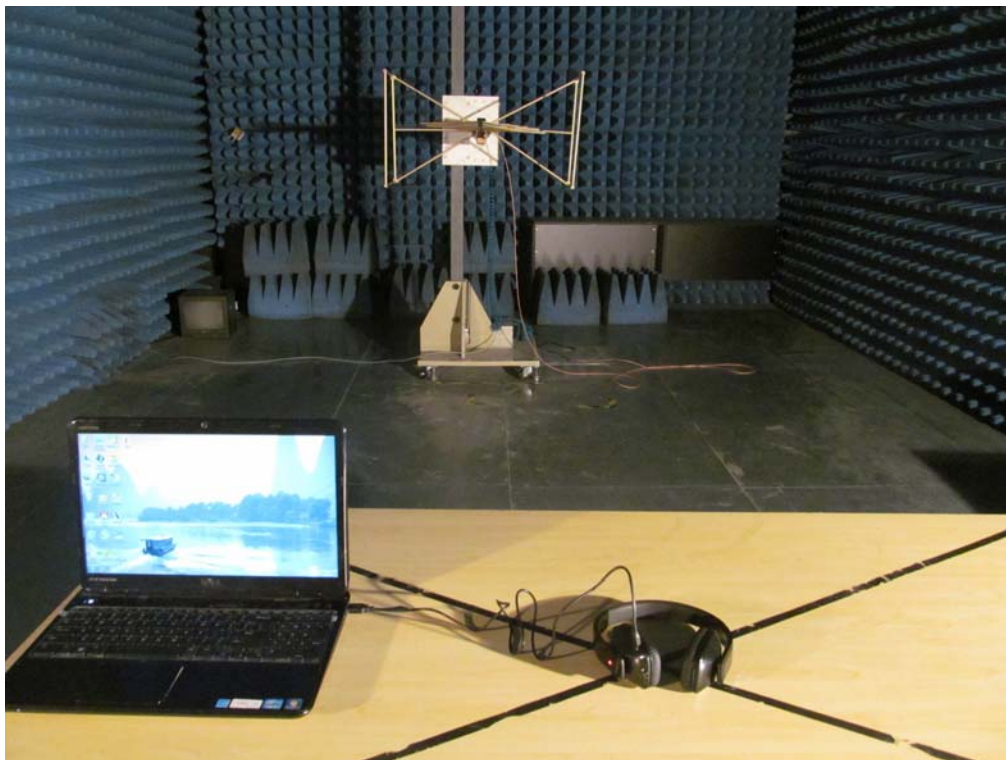
No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor dB	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1499	40.33		18.90	10.16	50.49		29.06	66.00	56.00	-15.51	-26.94	P	
2	0.4138	33.59		25.10	10.34	43.93		35.44	57.57	47.57	-13.64	-12.13	P	
3	1.2138	31.59		19.93	10.37	41.96		30.30	56.00	46.00	-14.04	-15.70	P	
4	2.3100	32.18		24.65	10.35	42.53		35.00	56.00	46.00	-13.47	-11.00	P	
5	4.5979	32.53		19.46	10.22	42.75		29.68	56.00	46.00	-13.25	-16.32	P	
6	14.3537	30.50		20.42	10.12	40.62		30.54	60.00	50.00	-19.38	-19.46	P	

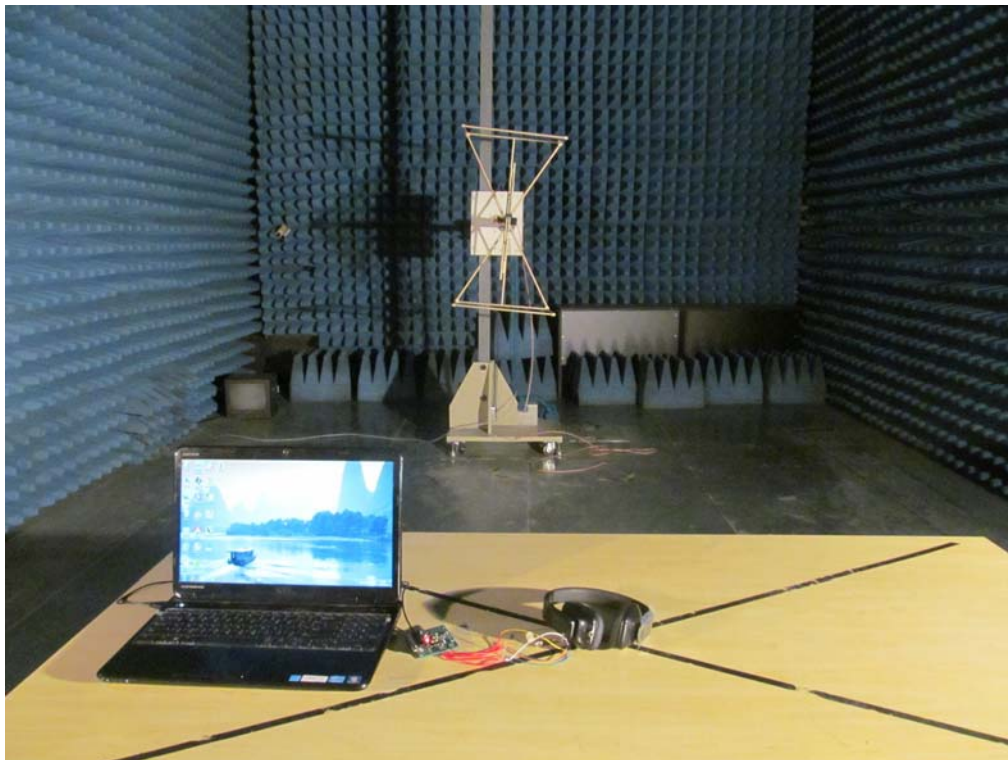
## APPENDIX A: PHOTOGRAPHS OF TEST SETUP

### FCC LINE CONDUCTED EMISSION TEST SETUP



### FCC RADIATED EMISSION TEST SETUP







## APPENDIX B: PHOTOGRAPHS 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 OF EUT-1

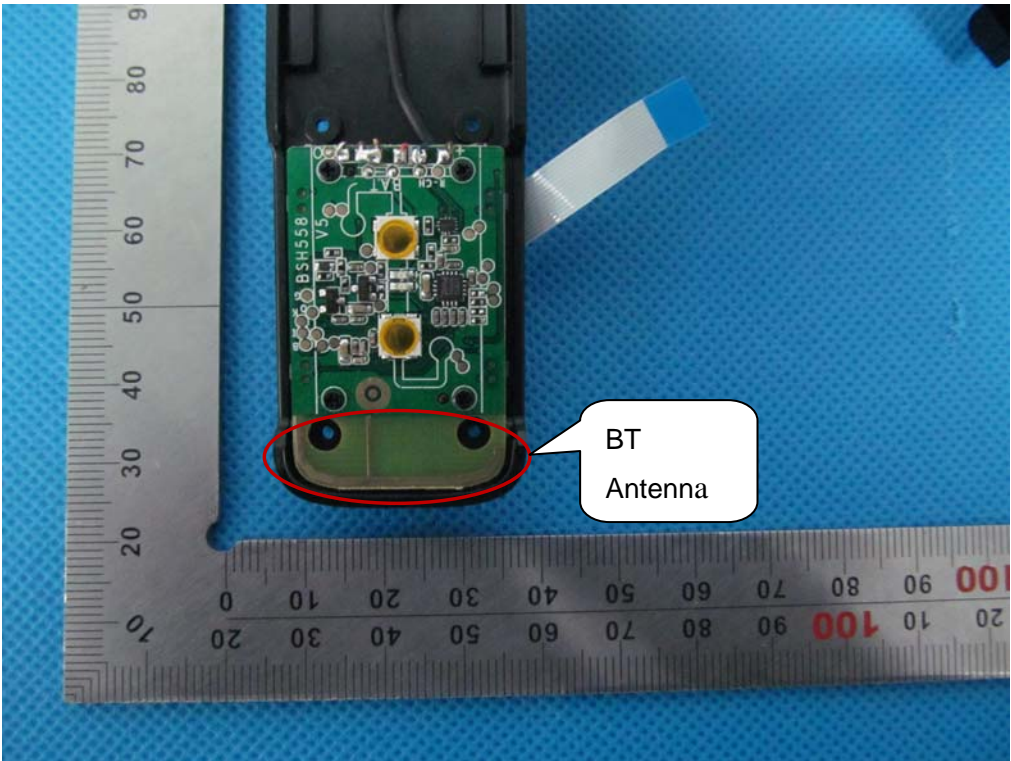


OPEN VIEW OF EUT-2

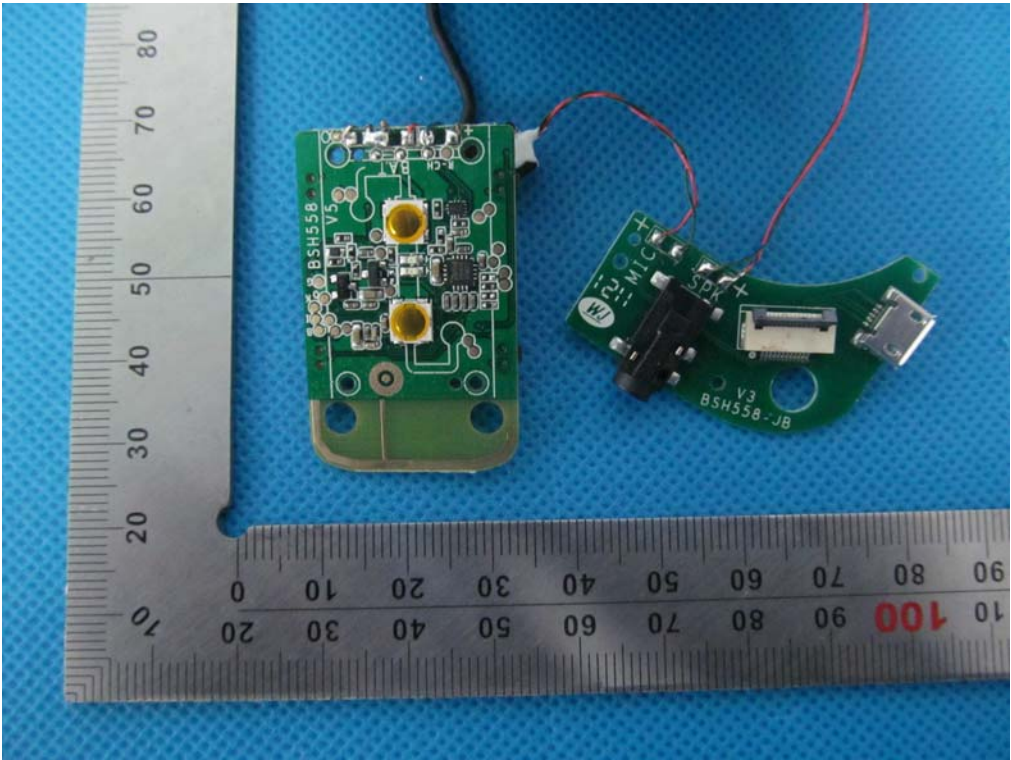




INTERNAL VIEW OF EUT-1

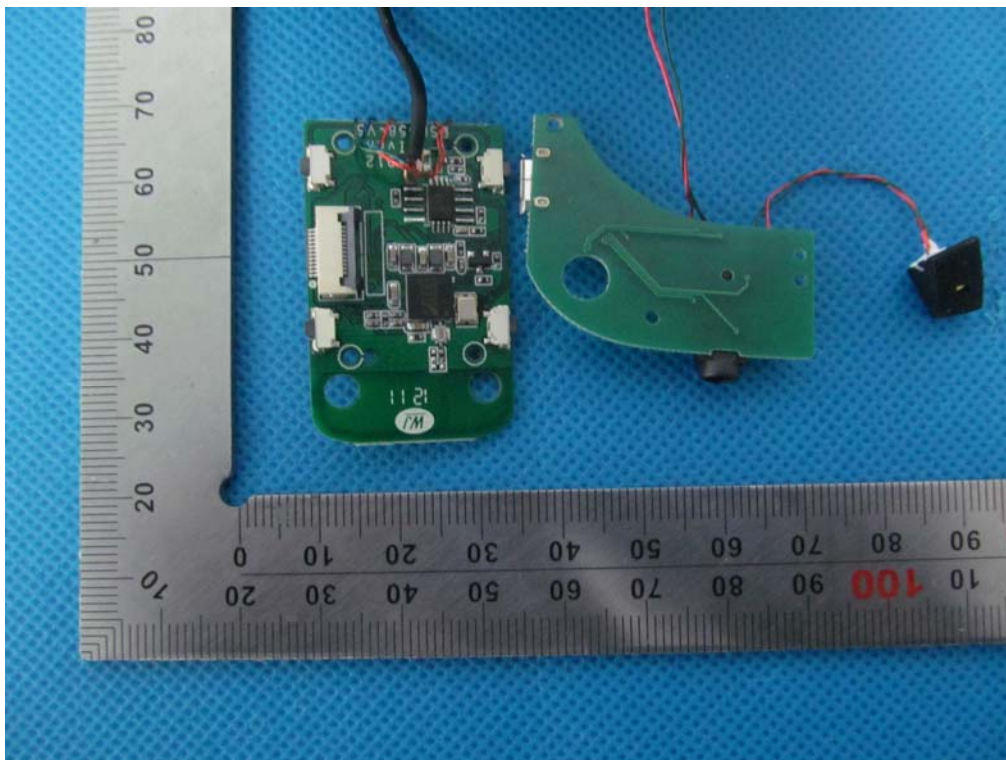


INTERNAL VIEW OF EUT-2

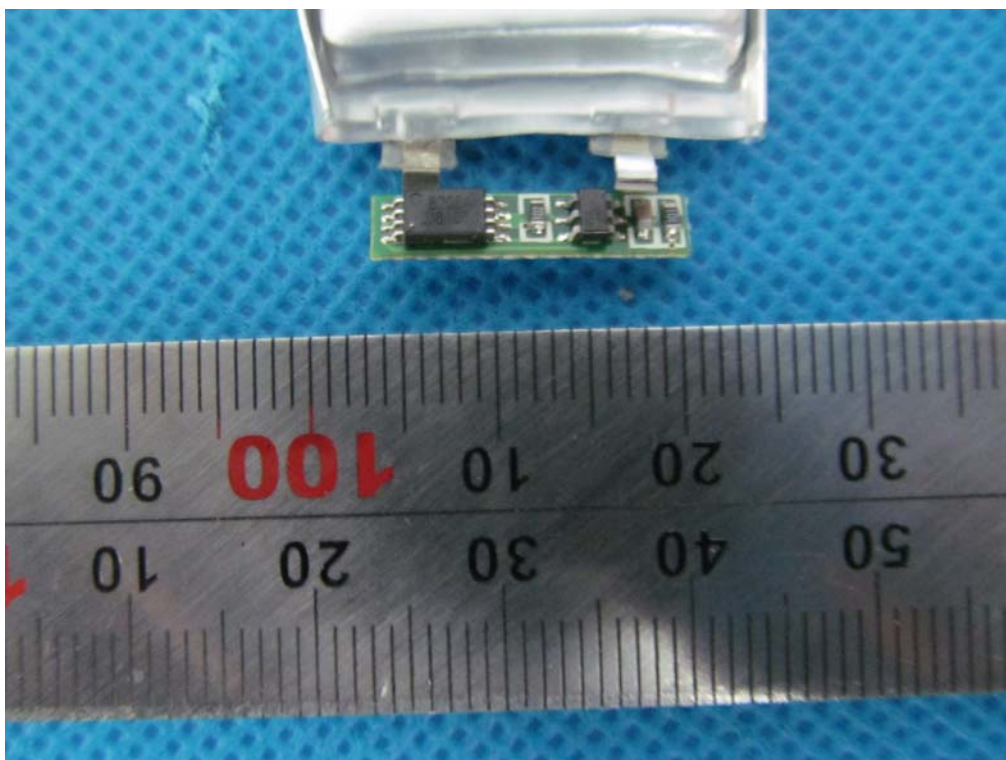




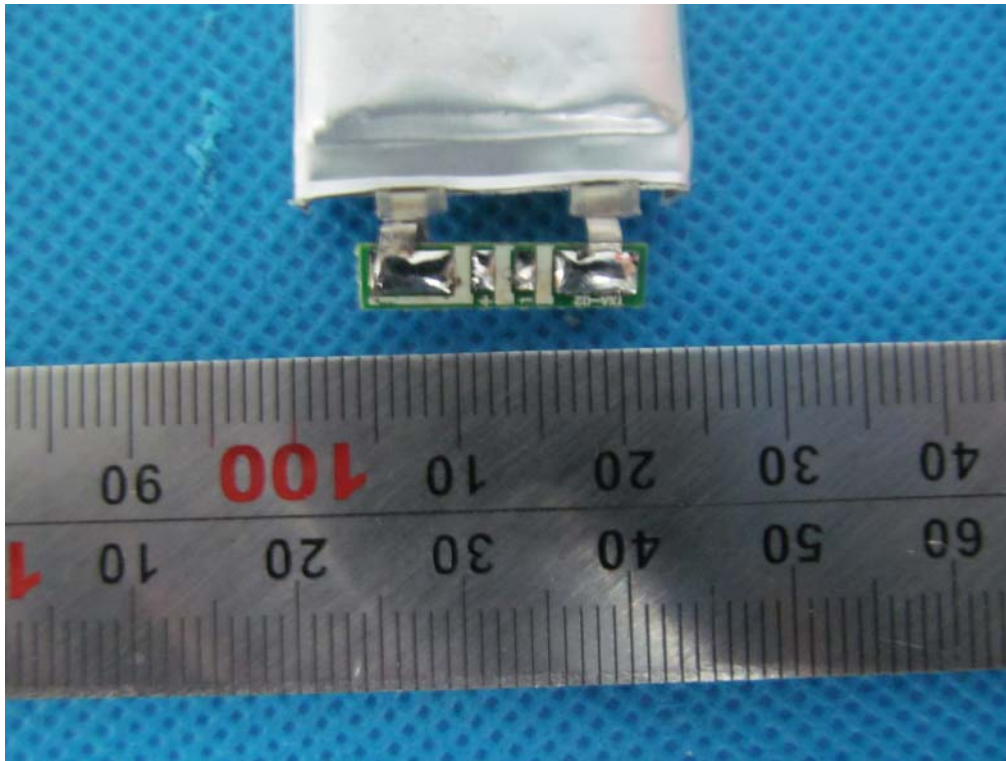
INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4



INTERNAL VIEW OF EUT-5



----END OF REPORT----