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FCC TEST REPORT

Under

FCC 15 Subpart C, Paragraph 15.249

Prepared For :

Zeeva International Limited

Suite 1007B,10th Floor, Exchange Tower 33 Wang Chiu Road, Kowloon Bay HongKong

FCC ID: 2ADM5-BTHEADSET
EUT: IFLAVOR BT HEADSET
Model: HP-0176

May 4, 2015 **Issue Date:**
Original Report **Report Type:**
Eric Guo **Test Engineer:** Eric Guo
Apollo Liu **Review By:** Apollo Liu / Manager

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1. General Information

1. 1 Notes

The test results of this report relate exclusively to the test item specified in 1.5. The KMO Lab does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the KMO Lab.

1. 2 Testing Laboratory

Ke Mei Ou Laboratory Co., Ltd.

ANSI-ASQ National Accreditation Board/ACLASS ISO/IEC 17025 Accredited Lab for telecommunication standards. The Registration Number is AT-1532. The testing quality system meets with ISO/IEC-17025 requirements, This approval results is accepted by MRA of ILAC.
FCC Test Site Registration Number: 962205
IC Test Site Registration Number: 4986A-2
Internet: www.kmolab.com

1. 3 Details of Applicant

Name : Zeeva International Limited
Address : Suite 1007B,10th Floor, Exchange Tower 33 Wang Chiu Road, Kowloon Bay HongKong
Contact :
Tel :
Fax :

1. 4 Application Details

Date of Receipt of Application : April 27, 2015
Date of Receipt of Test Item : April 27, 2015
Date of Test : April 29~May 4, 2015

1. 5 Test Item

Manufacturer : Same as applicant
Address : Same as applicant
Trade Name : Biglots
Model No.(Base) : HP-0176
Model No.(Extension) : N/A
Description : IFLAVOR BT HEADSET

Additional Information

Frequency : 2402-2480MHz
Number of Channels : 79
Power Supply : DC 5V
Operation Distance : N/A
Antenna Gain : PCB, 2dBi
Resolution : N/A

1. 6 Test Standards

FCC 15 Subpart C, Paragraph 15.249

Note: All radiated measurements were made in all three orthogonal planes. The values reported are the maximum values.

2. Technical Test

2. 1 Summary of Test Results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	PASS	Complies
FCC Part 15, Paragraph 15.207	Conducted Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) and 15.249(b) Limit	Field Strength of Fundamental	PASS	Complies
FCC Part 15, Paragraph 15.209	Radiated Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Measured Band Edges	PASS	Complies.

3. EUT Modifications

No modification by test lab.

4. Conducted Power Line Test

4. 1 Test Equipment

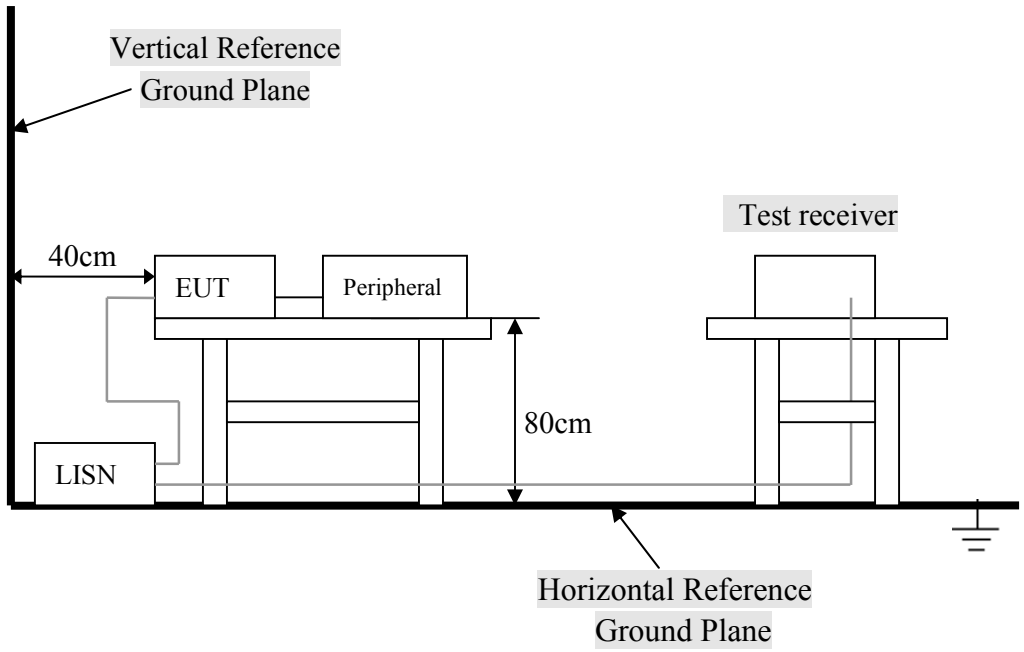
Please refer to Section 10 this report.

4. 2 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission., the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2003 on conducted measurement. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

4. 3 Test Setup



For the actual test configuration, Please refer to the related items – Photos of Testing.

4. 4 Configuration of the EUT

The EUT was configured according to ANSI C63.4-2003. EUT was used DC3.7V. The operation frequency is from 2400MHz~2483.5MHz. Enable the signal transmitted from the external antenna from EUT to receiver. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

Note:

1) Below 1GHz, the channel low, middle, high were pre-tested, The channel high, worst case one, was chosen for conducted and radiated emission test.
2) Above 1GHz, the channel low, middle, high were tested individually.

A. EUT

Device	Manufacturer	Model #	FCC ID
IFLAVOR BT HEADSET_	Same as applicant	HP-0176	2ADM5-BTHEADSET

B. Internal Devices

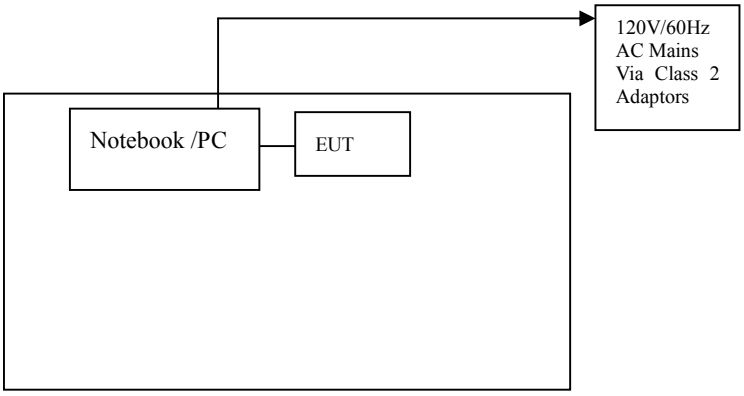
Device	Manufacturer	Model #	FCC ID
N/A			

C. Peripherals

Device	Manufacturer	Model # Serial #	FCC ID/ DoC	Cable
Printer	HP	HP930C	DoC	1.5m unshielded power cord 1.2m unshielded data cable.
Modem	GVC	N/A	DoC	1.5m unshielded power cord 1.2m unshielded data cable.
Notebook	DELL	PP10L	DoC	1.5m unshielded power cord
PC	Dell	2400n	DoC	1.5m unshielded power cord

4. 5 EUT Operating Condition

Operating condition is according to ANSI C63.4 - 2003.
A. Setup the EUT and simulators as shown on follow.
B. Enable RF signal and confirm EUT active.
D. Modulate output capacity of EUT up to specification.



4. 6 Conducted Power Line Emission Limits

FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency Range (MHz)	**Class A QP/AV**	**Class B QP/AV**
0.15 – 0.5	79/66	66-56/56-46
0.5 – 5.0	73/60	56/46
5.0 - 30	73/60	60/50

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

4. 7 Conducted Power Line Test Result

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All readings are quasi -peak values with a resolution bandwidth of 9 KHz.

- Temperature ： 26 ℃
- Humidity ： 53 % RH
- Result ： **PASSED**

Charging mode

FCC Part 15 Paragraph 15.207							
Frequency (MHz)	**Emission (dBuV) QP**	**AV**	**LINE/ NEUTRAL**	**Limit (dBuV) QP**	**AV**	**Margin (dB) QP**	**AV**
0.154	45.98	30.67	Line	65.78	55.78	-19.80	-25.11
0.154	46.06	29.63	Neutral	65.78	55.78	-19.72	-26.15
0.178	53.35	40.49	Line	64.58	54.58	-11.23	-14.09
0.178	52.97	40.55	Neutral	64.58	54.58	-11.61	-14.03
0.238	45.62	34.31	Line	62.17	52.17	-16.55	-17.86
0.190	51.23	37.89	Neutral	64.04	54.04	-12.81	-16.15

Note: NF = No Significant Peak was Found.

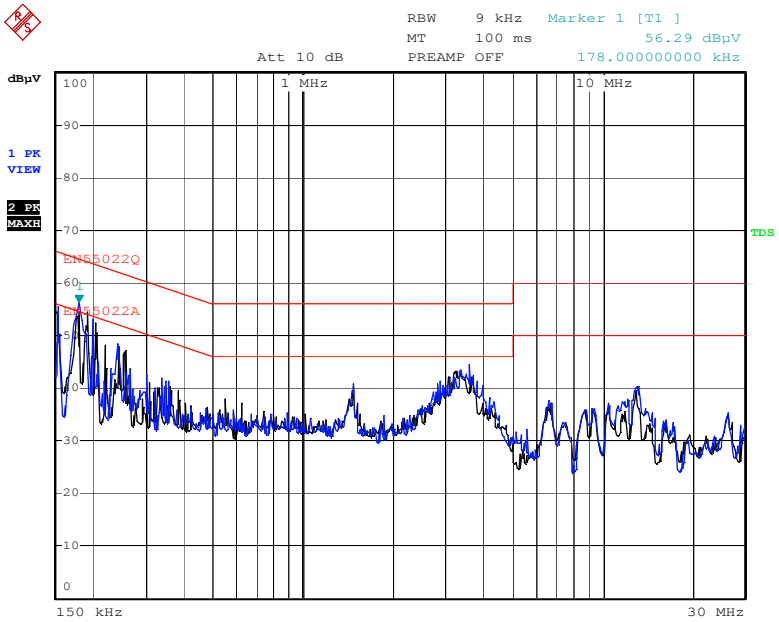
Remarks：

1.Uncertainty in conducted emission measured is <+/ -2dB.
2.QP and AV are abbreviations of quasi-peak and average individually.
3.The emission levels of other frequencies were very low against the limit.
4.The Quasi-peak emission level also meets average limit and measurement with the average detector is unnecessary.
5.Margin Value= Emission Level – Limit Value.

Conducted Emission

FCC 15.207

*EUT: IFLAVOR BT HEADSET_*
M/N: HP-0176
Manufacturer: Same as applicant
Operating Condition: Normal
Test Site:
Test Specification: LINE&NEUTRAL
Comment:



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5. Radiated Emission Test

5. 1 Test Equipment

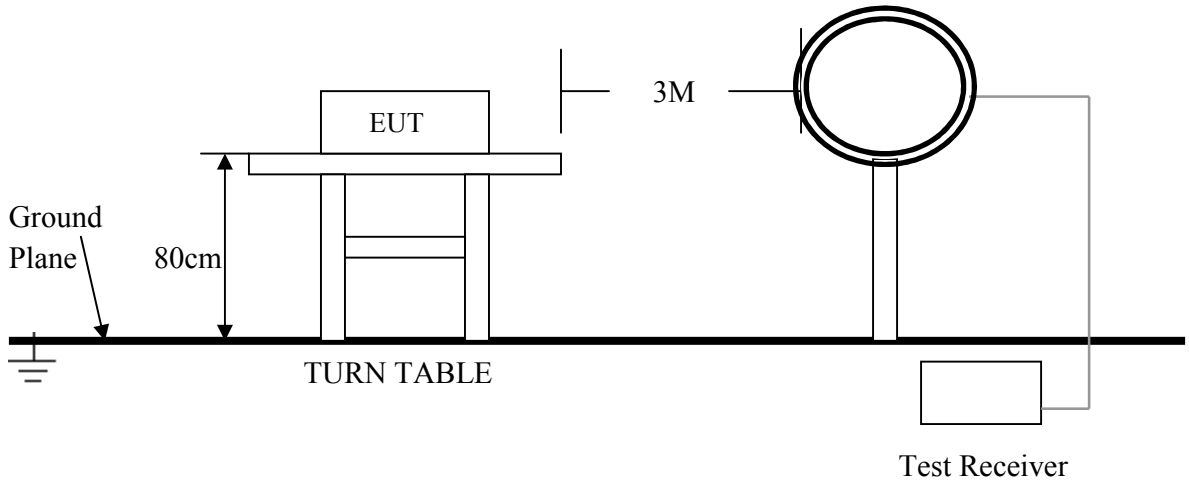
Please refer to Section 10 this report.

5. 2 Test Procedure

1. The EUT was tested according to ANSI C63.4 - 2003.
2. The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
3. The frequency spectrum from 9 kHz to 25 GHz was investigated. All readings from 9 kHz to 150 kHz are quasi-peak values with a resolution bandwidth of 200 Hz. All readings from 150 kHz to 30 MHz are quasi-peak values with a resolution bandwidth of 9 KHz. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. All readings are above 1 GHz , peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.
4. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. The Receiving antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency. Emissions below 30MHz were measured with a loop antenna while emission above 30MHz were measured using a broadband E-field antenna.
5. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4 - 2003.

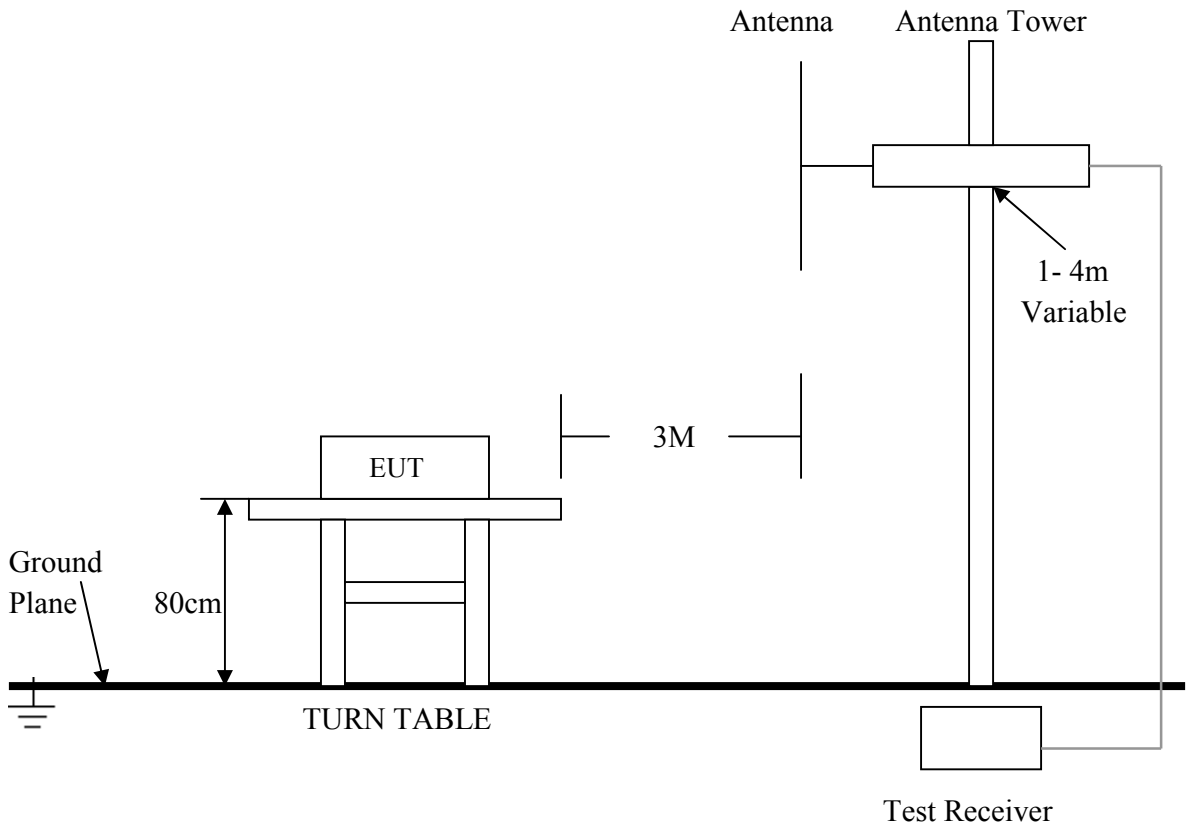
5. 3 Radiated Test Setup

For Frequencies below 30 MHz



For the actual test configuration , please refer to the related items – Photos of Testing

For Frequencies above 30 MHz



For the actual test configuration , please refer to the related items – Photos of Testing

5. 4 Configuration of the EUT

Same as section 4.4 of this report

5. 5 EUT Operating Condition

Same as section 4.5 of this report.

5. 6 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below ：

A. FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
	mV/m	dBuV/m		uV/m	dBuV/m	
902~928	50	94(Average)	114(Peak)	500	54(Average)	74(Peak)
2400~2483.5	50	94(Average)	114(Peak)	500	54(Average)	74(Peak)

Note:
(1) RF Voltage (dBuV) = 20 log RF Voltage (uV)
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(3) The emission limit in this paragraph is based on measurement instrumentation employing an average detector. Measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency (MHz)	Distance (m)	Field Strength (dBuV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

Note:
(1) RF Voltage (dBuV) = 20 log RF Voltage (uV)
(2) In the Above Table, the tighter limit applies at the band edges.
(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5. 7 Radiated Emission Test Result

A. Fundamental Radiated Emission Data

Product	: IFLAVOR BT HEADSET_	Test Mode	: CH Low ~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V	Humidity	: 56%RH
Test Result	: **PASS**		

CH Low

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2402.00	88.52	80.59	HORIZ	114.00	94.00	-25.48	-13.41
2402.00	86.37	80.25	VERT	114.00	94.00	-27.63	-13.75

CH Mid

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2441.00	89.41	81.36	HORIZ	114.00	94.00	-24.59	-12.64
2441.00	86.06	82.32	VERT	114.00	94.00	-27.94	-11.68

CH High

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2480.00	90.93	86.15	HORIZ	114.00	94.00	-23.07	-7.85
2480.00	86.79	81.64	VERT	114.00	94.00	-27.21	-12.36

Note:
(1) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
(2) Emission Level = Reading Level + Probe Factor + Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

B. Harmonics Radiated Emission Data

Product	: IFLAVOR BT HEADSET_	Test Mode	: CH Low ~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V	Humidity	: 56%RH
Test Result	: **PASS**		

CH Low

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4804.00	48.55	HORZ	74.0 / 54.0	-25.45
4804.00	47.98	VERT	74.0 / 54.0	-26.02
7206.00	48.22	HORZ	74.0 / 54.0	-25.78
7206.00	47.25	VERT	74.0 / 54.0	-26.75
24020.00	-	HORZ	74.0 / 54.0	-
24020.00	-	VERT	74.0 / 54.0	-

CH Mid

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4882.00	48.46	HORZ	74.0 / 54.0	-25.54
4882.00	47.85	VERT	74.0 / 54.0	-26.15
7323.00	48.12	HORZ	74.0 / 54.0	-25.88
7323.00	47.67	VERT	74.0 / 54.0	-26.33
24410.00	-	HORZ	74.0 / 54.0	-
24410.00	-	VERT	74.0 / 54.0	-

CH High

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4960.00	48.89	HORZ	74.0 / 54.0	-25.11
4960.00	47.93	VERT	74.0 / 54.0	-26.07
7440.00	48.33	HORZ	74.0 / 54.0	-25.67
7440.00	47.96	VERT	74.0 / 54.0	-26.04
24800.00	-	HORZ	74.0 / 54.0	-
24800.00	-	VERT	74.0 / 54.0	-

Note: (1) All Reading Levels below 1GHz are Quasi-Peak, above are peak and average value.
(2) Emission Level = Reading Level + Probe Factor + Cable Loss.
(3) Receiver setting (Peak Detector) : RBW=1MHz; VBW=1MHz; Span=100MHz
(4) Receiver setting (AVG Detector): RBW=1MHz; VBW=30Hz; Span=20MHz
(5) The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

C. General Radiated Emission Data

Product	: IFLAVOR BT HEADSET_	Test Mode	: CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V(From Host)	Humidity	: 56%RH
Test Result	: **PASS**		

For Frequency below 30MHz

Freq. (MHz)	Emission (dBuV/m) QP Detector	HORIZ / VERT	Limits (dBuV/m)	Margin (dB)
N/A	N/A	N/A	N/A	N/A

Note: (1) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
(2) "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
(3) Emission Level = Reading Level + Probe Factor + Cable Loss.

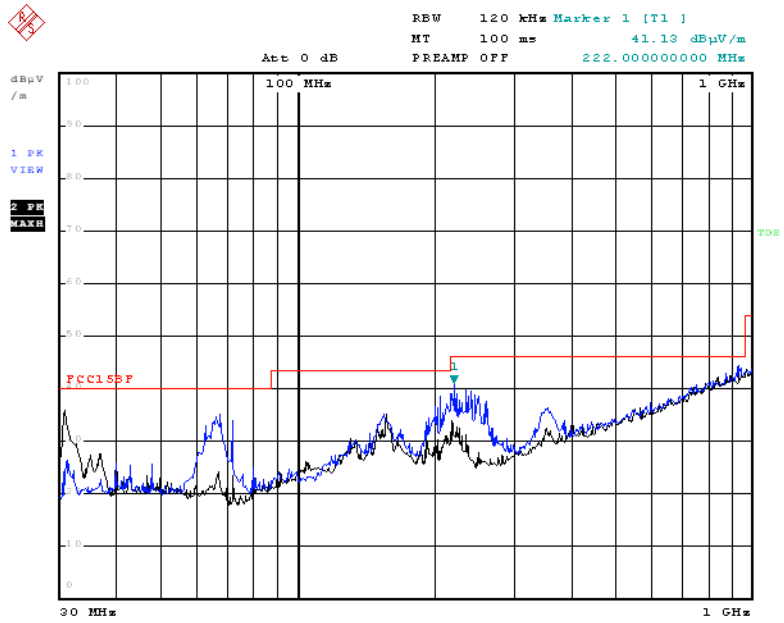
For Frequency from 30MHz to 1GHz

Freq. (MHz)	Emission (dBuV/m) QP Detector	HORIZ / VERT	Limits (dBuV/m)	Margin (dB)
67.440	28.11	HORZ	40.0	-11.89
30.760	32.68	VERT	40.0	-7.32
72.000	29.26	HORZ	40.0	-10.74
157.360	28.51	VERT	43.5	-14.99
222.000	38.68	HORZ	46.0	-7.32
402.000	27.46	VERT	46.0	-18.54

Note: (1) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
(2) "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
(3) Emission Level = Reading Level + Probe Factor + Cable Loss.

Radiated Emission

FCC 15.209



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6. Band Edge

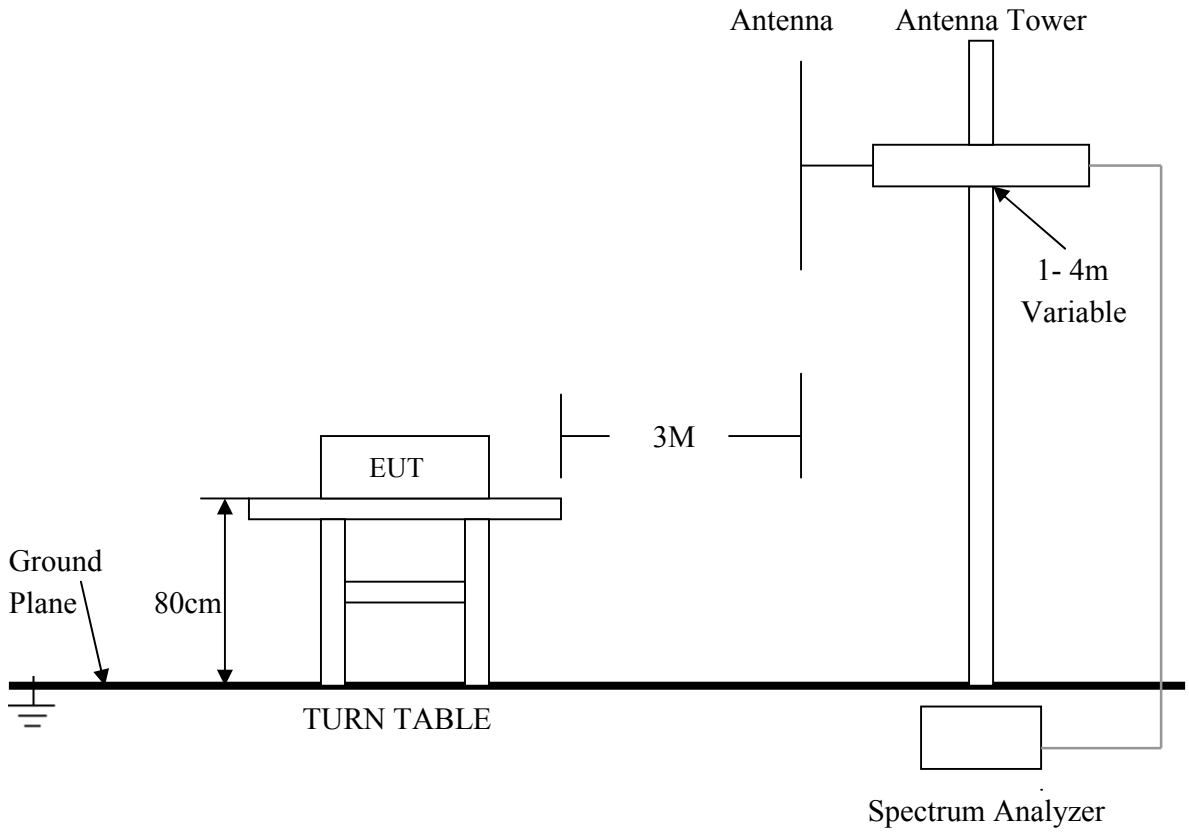
6. 1 Test Equipment

Please refer to Section 10 this report.

6. 2 Test Procedure

1. The EUT was tested according to ANSI C63.4 - 2003.
2. The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
3. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4 - 2003.

6. 3 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

6. 4 Configuration of The EUT

Same as section 4 . 4 of this report

6. 5 EUT Operating Condition

Same as section 4 . 5 of this report.

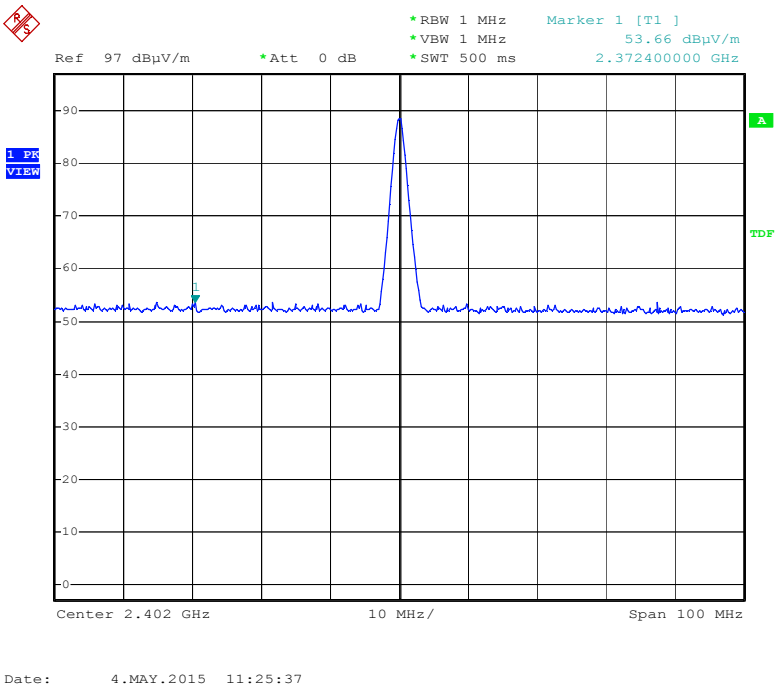
6. 6 Band Edge FCC 15.249(d) Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

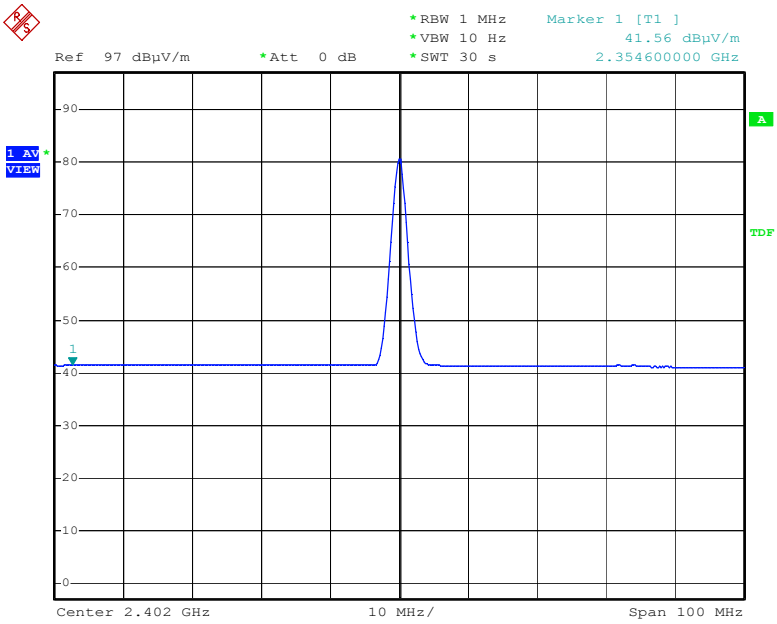
6. 7 Band Edge Test Result

Product	: IFLAVOR BT HEADSET_	Test Mode	: CH Low ~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V	Humidity	: 56%RH
Test Result	: **PASS**		

CH Low
Horizontal (Peak)



Horizontal (Average)



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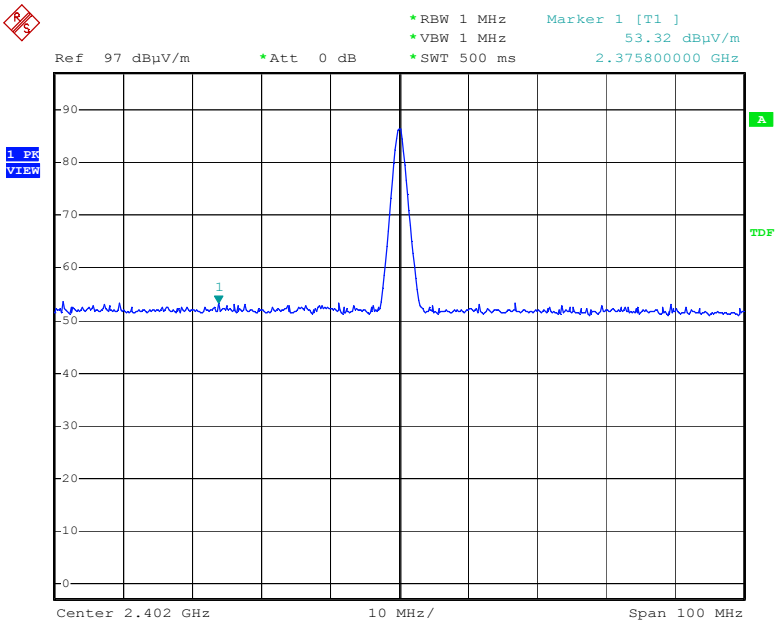
Vertical (Peak)



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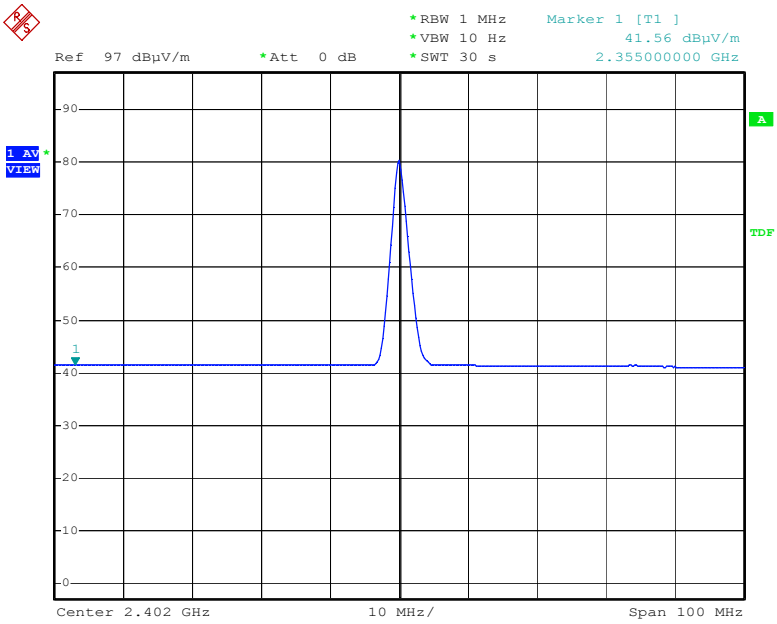
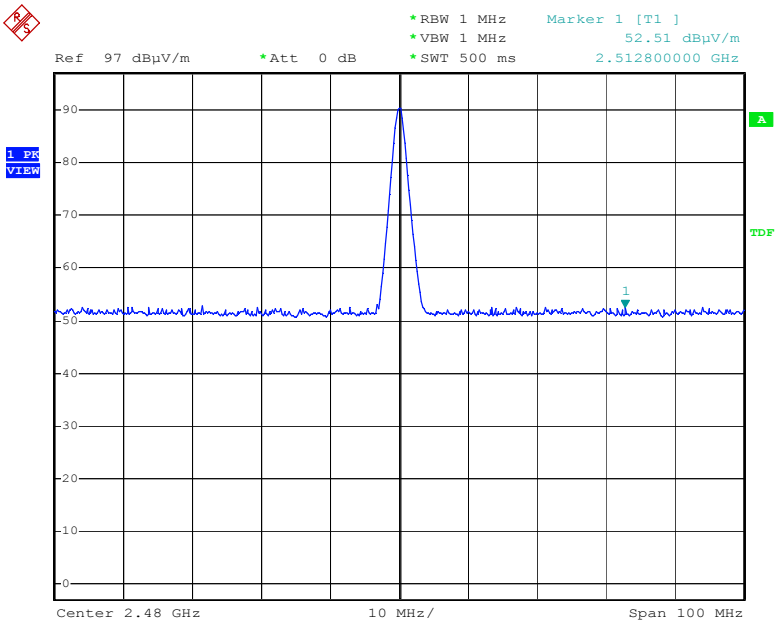
Vertical (Average)



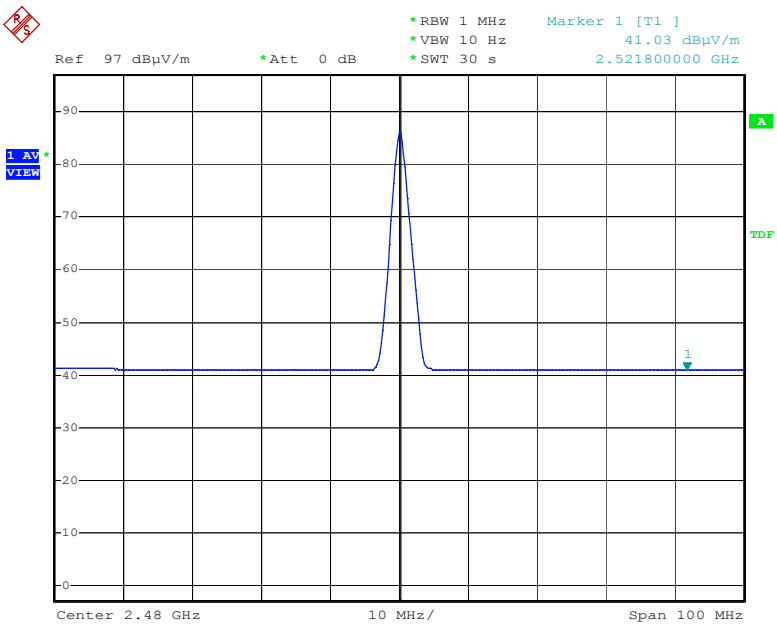
Note: (1) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.

(2) The average measurement was not performed when the peak measured data under the limit of average detection.

CH High
Horizontal (Peak)



Horizontal (Average)



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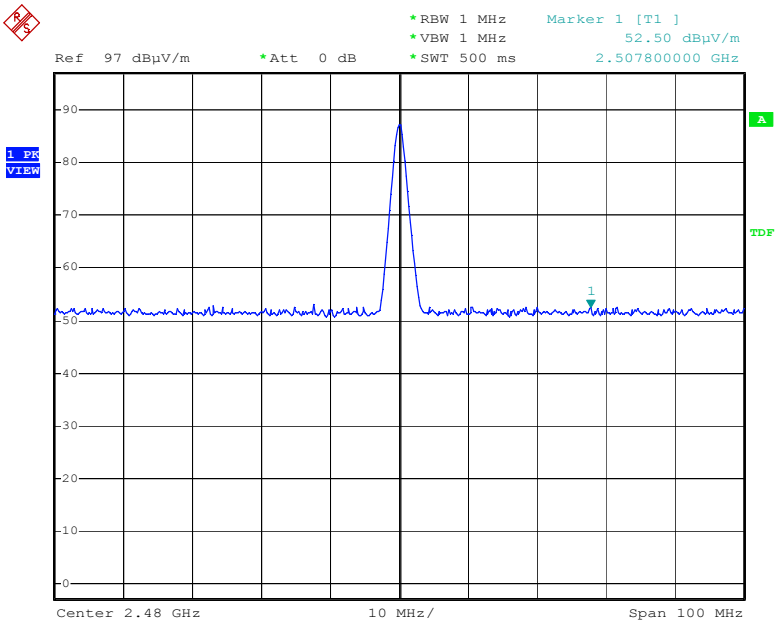
Vertical (Peak)



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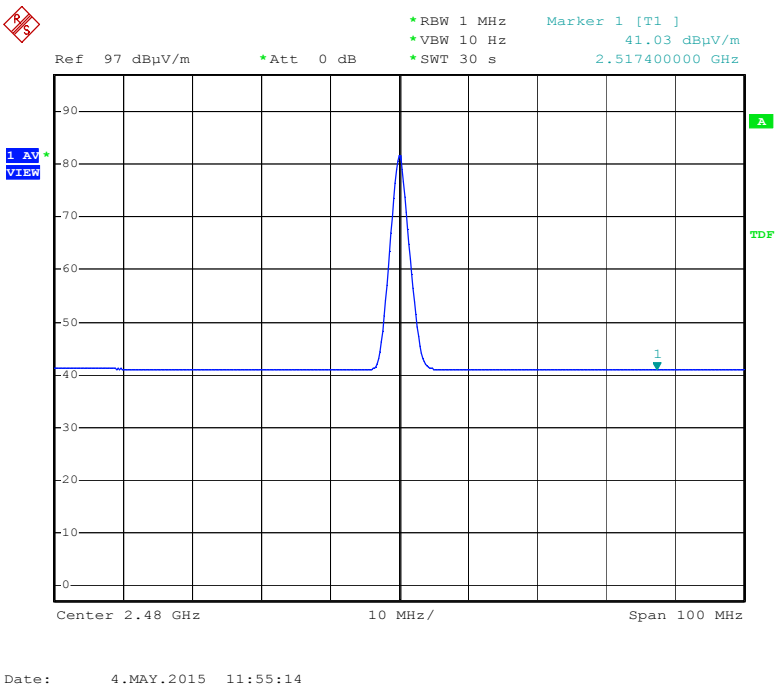
Vertical (Average)



Note: (1) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.
(2) The average measurement was not performed when the peak measured data under the limit of average detection.

7. Antenna Requirement

According to Section 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.

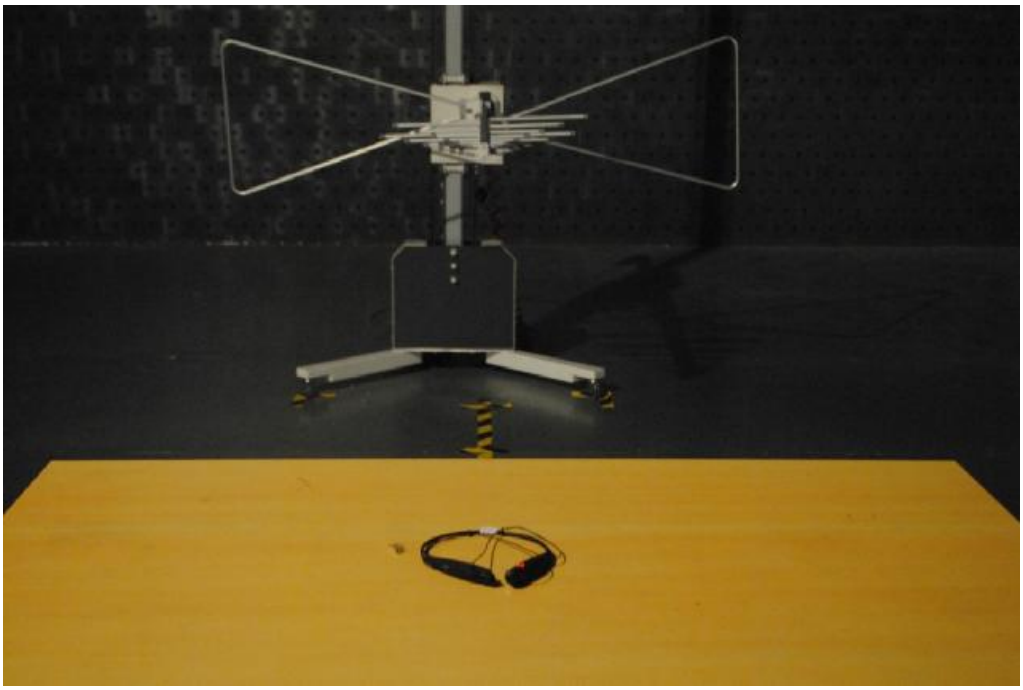
The EUT no antenna connector for printed antenna. Therefore the EUT complies with Section 15.203 of the FCC rules.

8. Photos of Testing

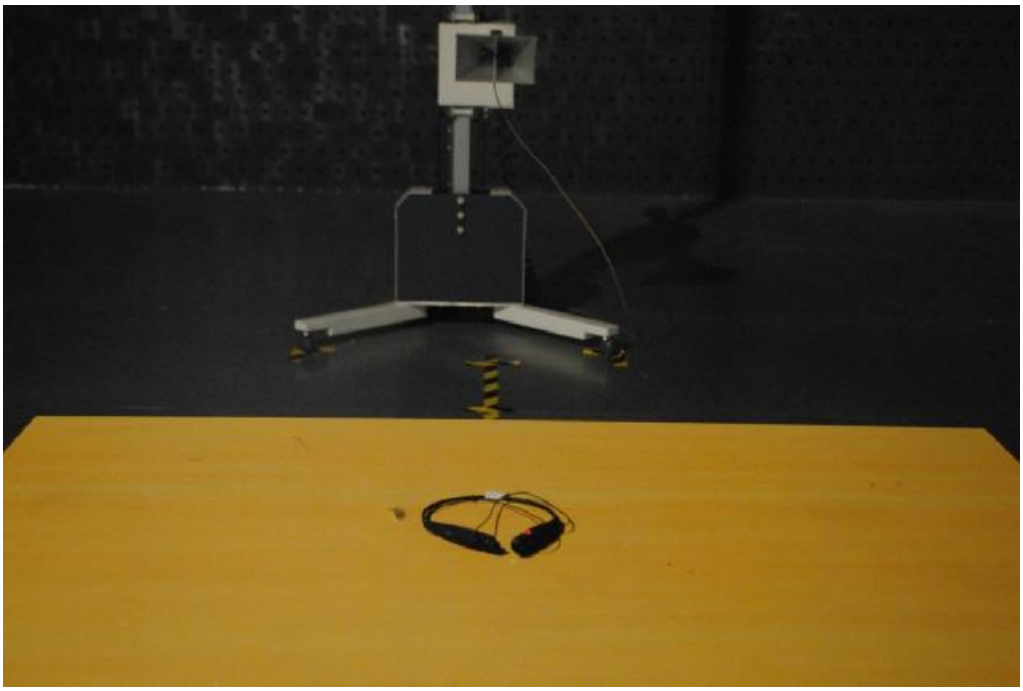
8. 1 EUT Test Photographs

Conducted Emission test view

Radiated Emission test view (Frequency from 30MHz to 1GHz)

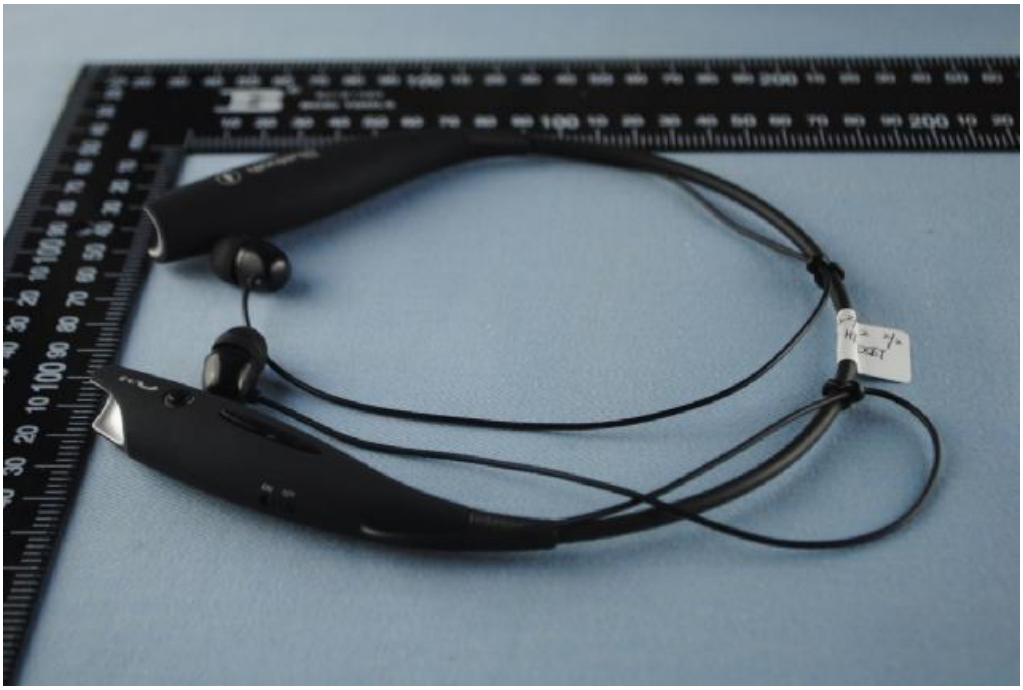


Radiated Emission test view (Frequency above 1GHz)

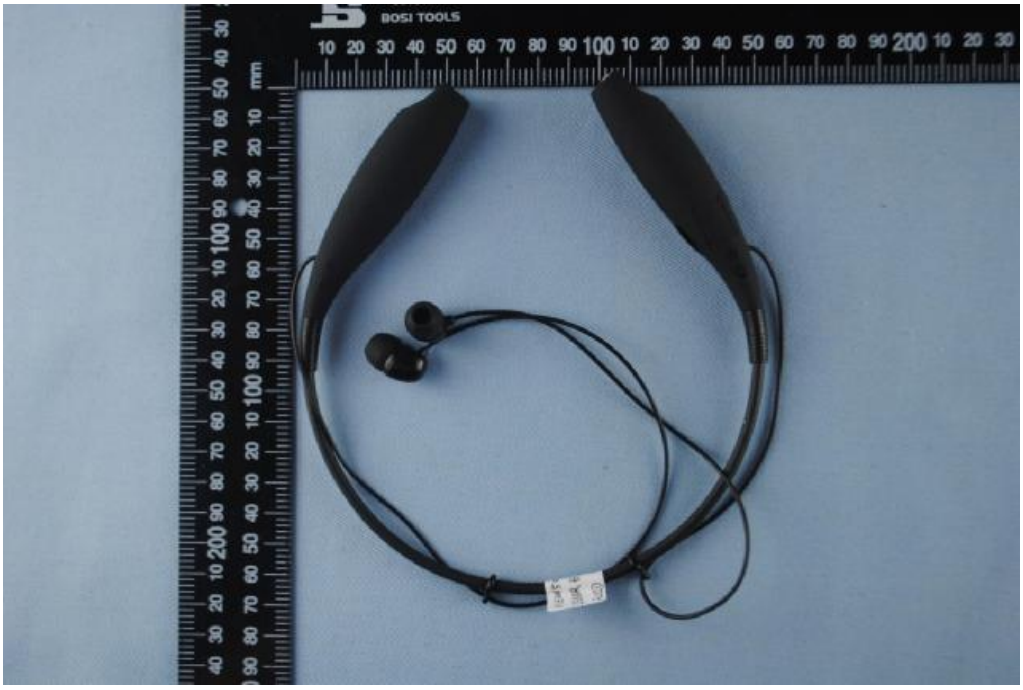


8. 2 EUT Detailed Photographs

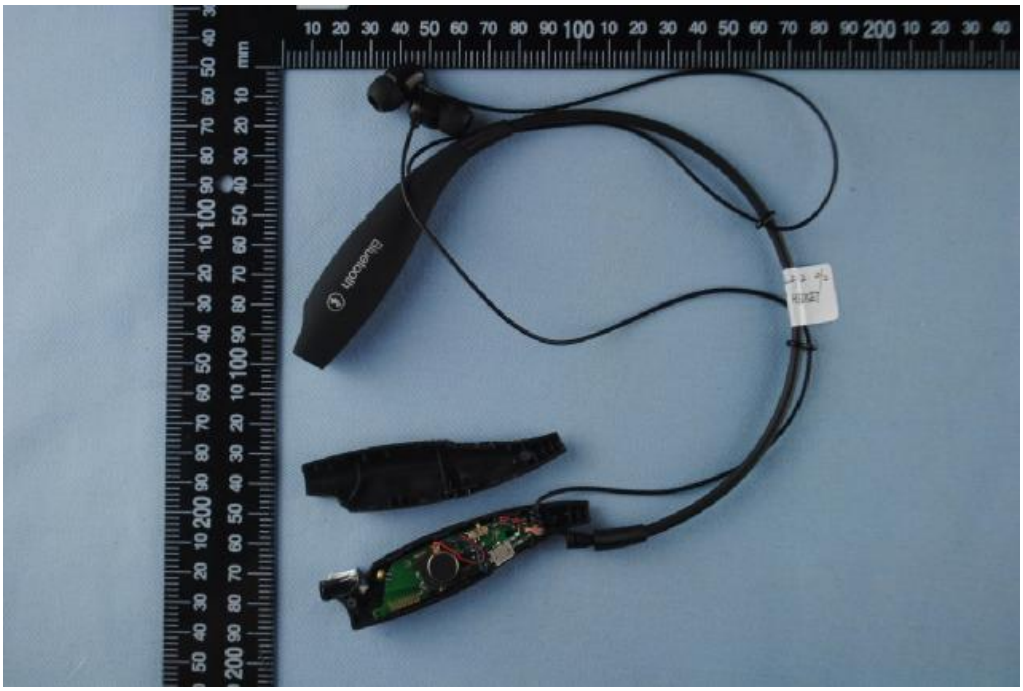
EUT top view



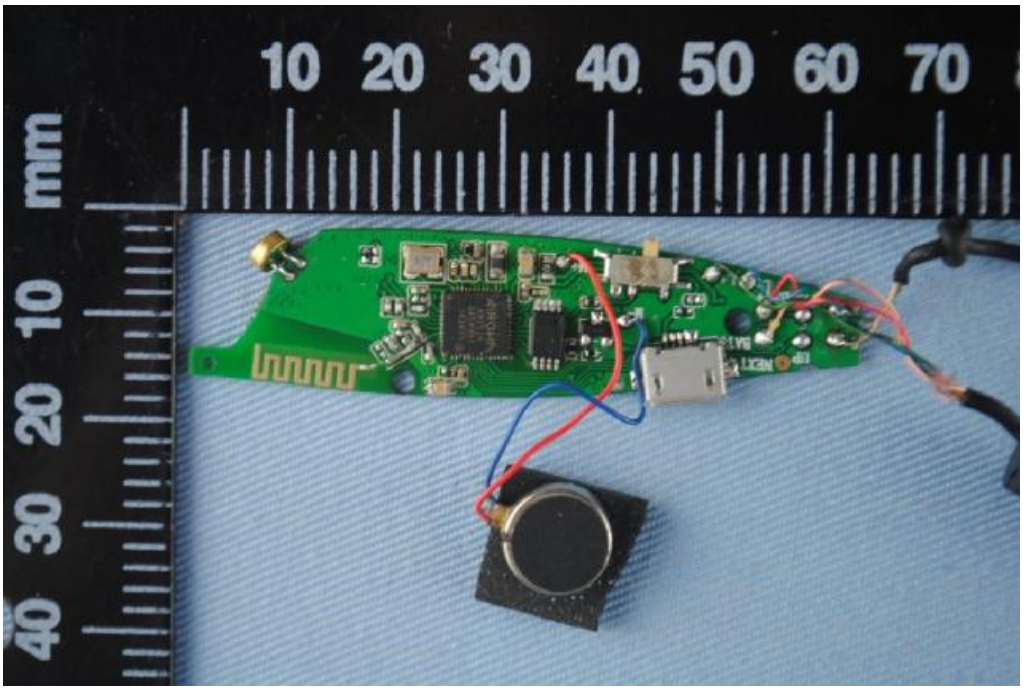
EUT bottom view



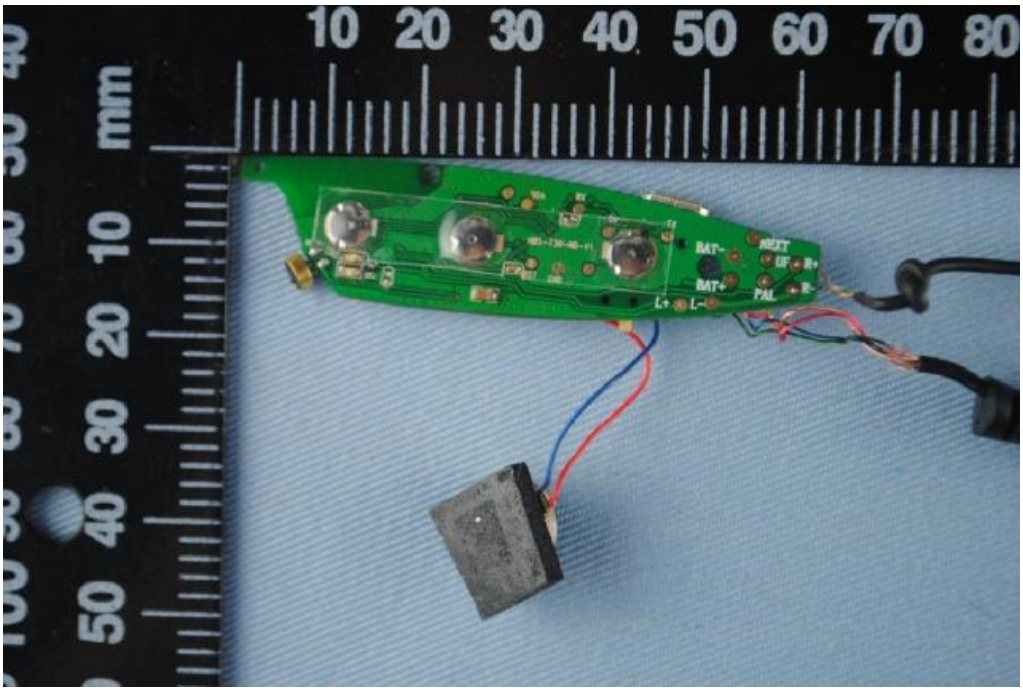
EUT inside whole view



Main board component side



Main board solder side



9. FCC ID Label

FCC ID: 2ADM5-BTHEADSET

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper label. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

10. Test Equipment

The following test equipments were used during the radiated & conducted emission test:

Equipment/ Facilities	Manufacturer	Model #	Serial No.	Due Date
Turntable	Innco systems GmbH	CT-0801	KMO-SZ114	NCR
Antenna Tower	Innco systems GmbH	MM4000-PP	KMO-SZ115	NCR
Controller	Innco systems GmbH	CO2000	KMO-SZ116	NCR
Pre-Amplifier	Agilent	87405C	KMO-SZ155	Dec.6, 2015
Pre-Amplifier	Com-Power	PAM-840	KMO-SZ156	Dec.6, 2015
Horn Antenna	Com-Power	AH-840	KMO-SZ157	Dec.6, 2015
EMI Test Receiver	Rohde & Schwarz	ESPI7	KMO-SZ002	June 27, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP40	KMO-SZ003	June 27, 2015
Signal Generator	FLUKE	PM5418+Y/C	KMO-SZ020	May 27, 2015
Loop Antenna	Rohde & Schwarz	HFH2-Z2	KMO-SZ004	Jan. 30, 2016
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	KMO-SZ005	Sep.18, 2015
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	KMO-SZ006	Sep.18, 2015
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120D	KMO-SZ007	Sep.18, 2015
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120D	KMO-SZ008	Sep.18, 2015
AMN	Rohde & Schwarz	ESH3-Z5	KMO-SZ009	June 27, 2015
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	KMO-SZ077	Nov.29, 2015
ISN	SCHWARZBECK	NTFM 8158 CAT3	KMO-SZ070	Nov.19, 2015
ISN	SCHWARZBECK	NTFM 8158 CAT5	KMO-SZ071	Nov.19, 2015
ISN	SCHWARZBECK	NTFM 8158 CAT6	KMO-SZ072	Nov.19, 2015
KMO Shielded Room	KMO	KMO-001	KMO-SZ036	NCR
Coaxial Cable with N-Connectors	SCHWARZBECK	AK9515H	KMO-SZ037	Sep.18, 2015
AC Power Source / Analyzer	Agilent	6813B	KMO-SZ166	July 22, 2015
Digital Radio Communication Tester	Rohde & Schwarz	CMD60	KMO-SZ169	April 10, 2016
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	KMO-SZ170	April 10, 2016
Program Control Telephone Exchanger	Excelltel	CDX8000-M	KMO-SZ221	NCR
3m Anechoic Chamber	KMO	KMO-3AC	KMO-3AC-1	Nov.12, 2016
Temperature Chamber	TABAI	PSL-4GTW	N/A	Feb.10, 2016