FCC Test Report

Product Name	：	Headphone
Trade Name	：	
Model No.	：	VIE SHAIR
FCC ID.	：	NGVVIEH10001

Applicant	：	Airwave Technologies INC.
Address	：	4F, NO.9. INDUSTRY E. 9TH ROAD SCIENCE-BASED INDUSTRIAL PART, HSINCHU, TAIWAN, R.O.C.

Date of Receipt	：	Oct. 28, 2016
Issued Date	：	Dec. 20, 2016
Report No.	：	16B0054R-RFUSP23V00
Report Version	：	V1.0

Test Report Certification

Issued Date : Dec. 20, 2016
Report No. : 16B0054R-RFUSP23V00

Product Name	:	Headphone
Applicant	:	Airwave Technologies INC.
Address	:	4F, NO.9. INDUSTRY E. 9TH ROAD SCIENCE-BASED INDUSTRIAL PART, HSINCHU, TAIWAN, R.O.C.
Manufacturer	:	Airwave Technologies INC.
Trade Name	:	
Model No.	:	VIE SHAIR
FCC ID.	:	NGVVIEH10001
EUT Voltage	:	DC 4.2V (Power by Battery) AC 110V/60Hz (Power by PC)
Testing Voltage	:	DC 4.2V (Power by Battery) AC 110V/60Hz (Power by PC)
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
Test Lab	:	Hsin Chu Laboratory
Test Result	:	Complied

The test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : (Demi Chang / Senior Engineering Adm. Specialist)

Tested By : (Scott Chang / Assistant Engineer)

Approved By : (Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
16B0054R-RFUSP23V00	V1.0	Initial issue of report	Dec. 20, 2016

Laboratory Information

We, **QuieTek Corporation**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	**:**	**TAF, Accreditation Number: 3024**
USA	**:**	**FCC, Registration Number: 834100**
Canada	**:**	**IC, Submission No: 181665 / IC Registration Number: 4075C-4**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site:http://www.quietek.com/english/about/certificates.aspx?bval=5
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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1. General Information

1.1. EUT Description

Product Name	Headphone
Trade Name	
Model Name	VIE SHAIR
Frequency Range/	2402~2480MHz
Channel Number	40 Channels
Type of Modulation	BLE 4.0 (GFSK)

Antenna Information	
Antenna Type	PCB Antenna
Antenna Gain	4.75dBi

Accessories Information	
Audio Cable	Non-Shielded, 1.2m
micro USB Cable	Non-Shielded, 1.5m

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 10	2422 MHz	Channel 20	2442 MHz	Channel 30	2462 MHz
Channel 01	2404 MHz	Channel 11	2424 MHz	Channel 21	2444 MHz	Channel 31	2464 MHz
Channel 02	2406 MHz	Channel 12	2426 MHz	Channel 22	2446 MHz	Channel 32	2466 MHz
Channel 03	2408 MHz	Channel 13	2428 MHz	Channel 23	2448 MHz	Channel 33	2468 MHz
Channel 04	2410 MHz	Channel 14	2430 MHz	Channel 24	2450 MHz	Channel 34	2470 MHz
Channel 05	2412 MHz	Channel 15	2432 MHz	Channel 25	2452 MHz	Channel 35	2472 MHz
Channel 06	2414 MHz	Channel 16	2434 MHz	Channel 26	2454 MHz	Channel 36	2474 MHz
Channel 07	2416MHz	Channel 17	2436 MHz	Channel 27	2456 MHz	Channel 37	2476 MHz
Channel 08	2418 MHz	Channel 18	2438 MHz	Channel 28	2458 MHz	Channel 38	2478 MHz
Channel 09	2420 MHz	Channel 19	2440 MHz	Channel 29	2460 MHz	Channel 39	2480 MHz

Note:

1. This device is a Headphone including BT3.0, BT 4.2 and 2.4G transmitting and receiving function.
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The function of the receiving was tested and its test report number is 16B0054R-RFUSP04V00.

1.2. Test Mode

QuieTek has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit Mode Mode 2: Power by PC

Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	GFSK	00/19/39	0	Complies
Peak Power Output	GFSK	00/19/39	0	Complies
Radiated Emission	GFSK	00/19/39	0	Complies
RF antenna conducted test	GFSK	00/19/39	0	Complies
Radiated Emission Band Edge	GFSK	00/19/39	0	Complies
DTS Bandwidth	GFSK	00/19/39	0	Complies
Occupied Bandwidth	GFSK	00/19/39	0	Complies
Power Density	GFSK	00/19/39	0	Complies

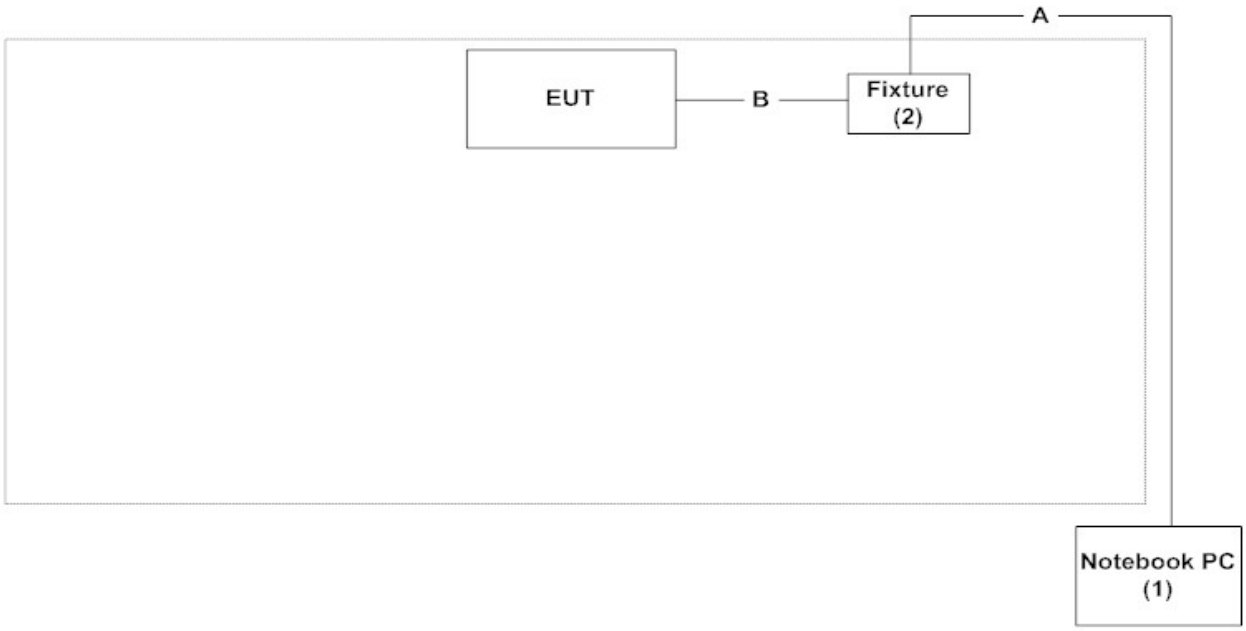
1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	ASUS	K45VD	K45VD-0343G 3110M	DoC	Non-Shielded, 1.8m
2	Fixture	Airwave	N/A	N/A	DoC	--

1.4. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 2m
B	Signal Cable	Non-Shielded, 0.5m

1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.5.
2	Turn on the EUT and tested equipment power.
3	Configure the test mode, the test channel, and the data rate.
4	Press “Start TX” to start the continuous transmitting.
5	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	24 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

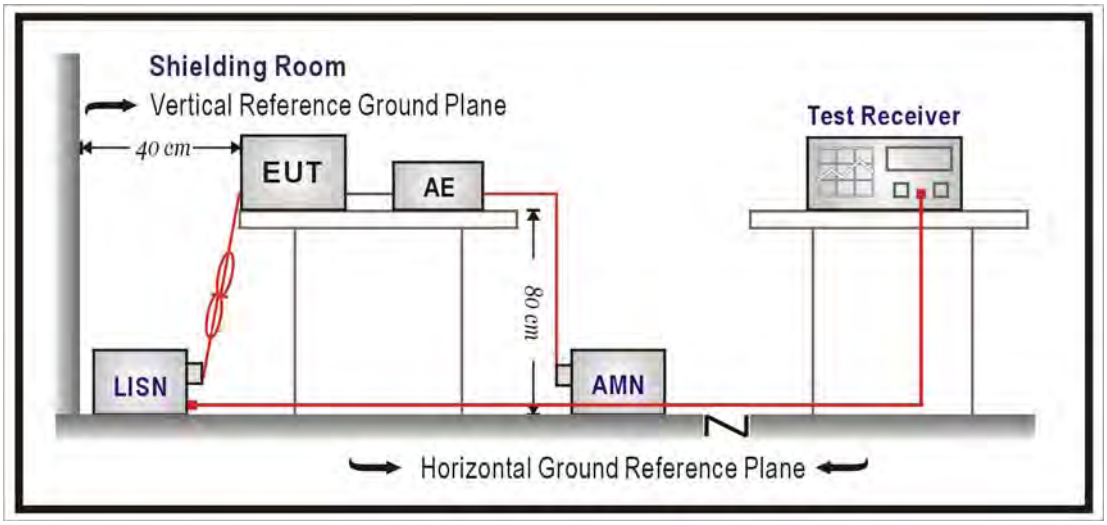
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2017/01/20
LISN	R&S	ENV216	100092	2017/08/16
Test Receiver	R&S	ESCS 30	825442/014	2017/06/29

Note: All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

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

2.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

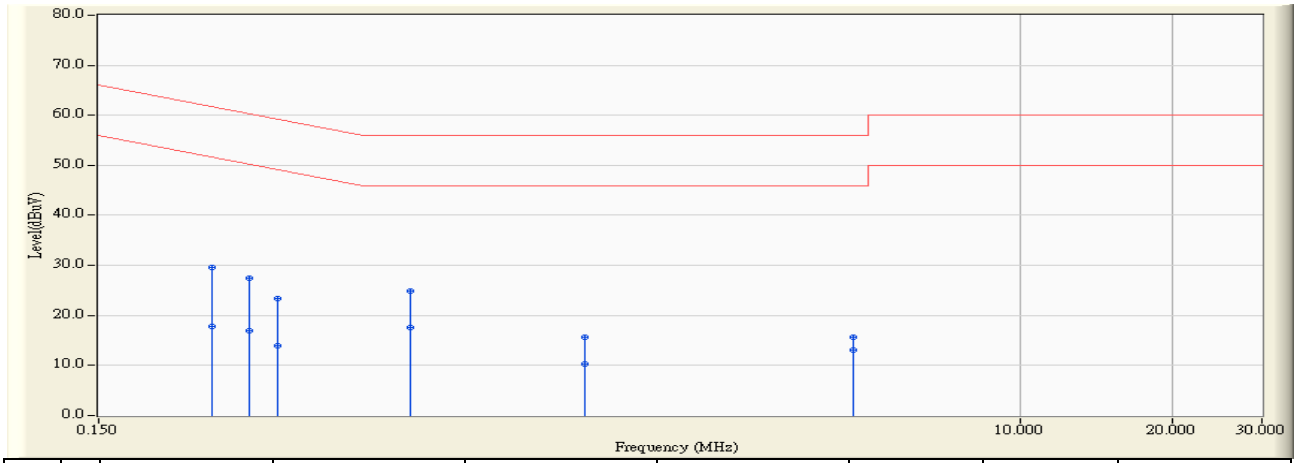
According to FCC Part 15 Subpart C Paragraph 15.207: 2015

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2	**Time : 2016/12/13 - 11:05**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-6_0712 - Line1	**Power : AC 120V / 60Hz**
EUT : Headphone	**Note : Mode 2: Power by PC**

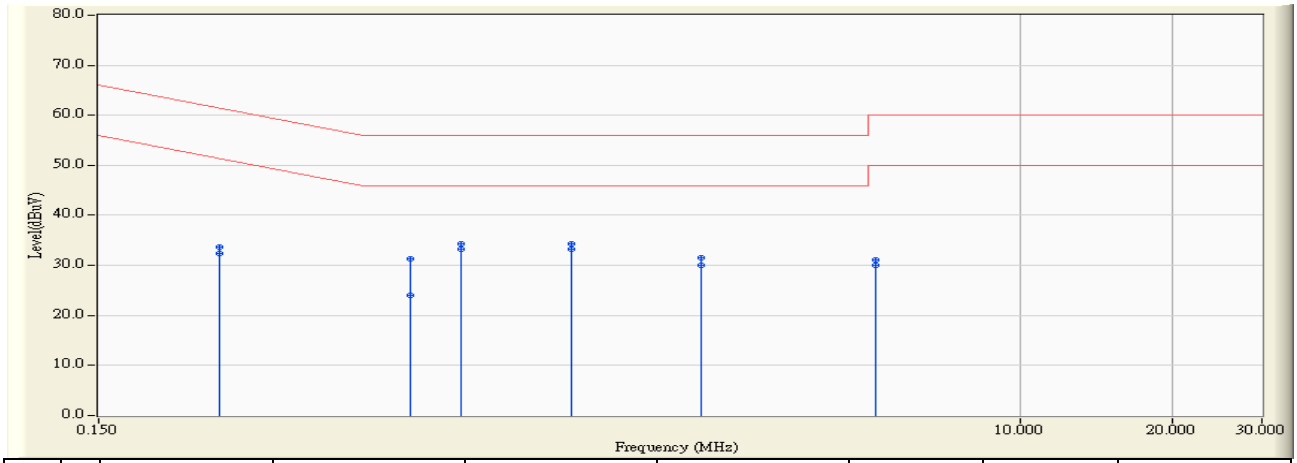


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.252	9.745	19.860	29.605	-32.101	61.705	QUASIPEAK
2		0.252	9.745	8.160	17.905	-33.801	51.705	AVERAGE
3		0.298	9.740	17.700	27.440	-32.846	60.286	QUASIPEAK
4		0.298	9.740	7.130	16.870	-33.416	50.286	AVERAGE
5		0.338	9.736	13.560	23.296	-35.956	59.252	QUASIPEAK
6		0.338	9.736	4.230	13.966	-35.286	49.252	AVERAGE
7		0.619	9.750	15.100	24.850	-31.150	56.000	QUASIPEAK
8	*	0.619	9.750	7.730	17.480	-28.520	46.000	AVERAGE
9		1.376	9.835	5.760	15.595	-40.405	56.000	QUASIPEAK
10		1.376	9.835	0.540	10.375	-35.625	46.000	AVERAGE
11		4.662	9.921	5.640	15.561	-40.439	56.000	QUASIPEAK
12		4.662	9.921	3.120	13.041	-32.959	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2	**Time : 2016/12/13 - 11:10**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-6_0712 - Line2	**Power : AC 120V / 60Hz**
EUT : Headphone	**Note : Mode 2: Power by PC**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.259	9.750	23.940	33.690	-27.761	61.451	QUASIPEAK
2		0.259	9.750	22.610	32.360	-19.091	51.451	AVERAGE
3		0.619	9.763	21.500	31.263	-24.737	56.000	QUASIPEAK
4		0.619	9.763	14.250	24.013	-21.987	46.000	AVERAGE
5		0.779	9.787	24.540	34.327	-21.673	56.000	QUASIPEAK
6		0.779	9.787	23.370	33.157	-12.843	46.000	AVERAGE
7		1.295	9.829	24.580	34.409	-21.591	56.000	QUASIPEAK
8	*	1.295	9.829	23.370	33.199	-12.801	46.000	AVERAGE
9		2.334	9.848	21.740	31.588	-24.412	56.000	QUASIPEAK
10		2.334	9.848	20.200	30.048	-15.952	46.000	AVERAGE
11		5.177	9.869	21.220	31.089	-28.911	60.000	QUASIPEAK
12		5.177	9.869	20.200	30.069	-19.931	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Peak Power Output

3.1. Test Equipment

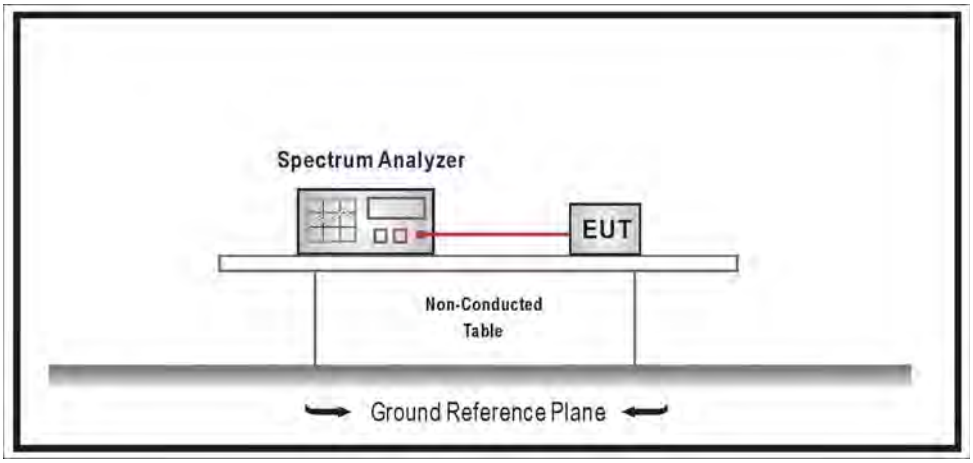
The following test equipments are used during the test:

Peak Power Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal Analyzer	R&S	FSV7	101650	2017/11/15

Note: All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup



3.3. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 v03r02 measurement to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

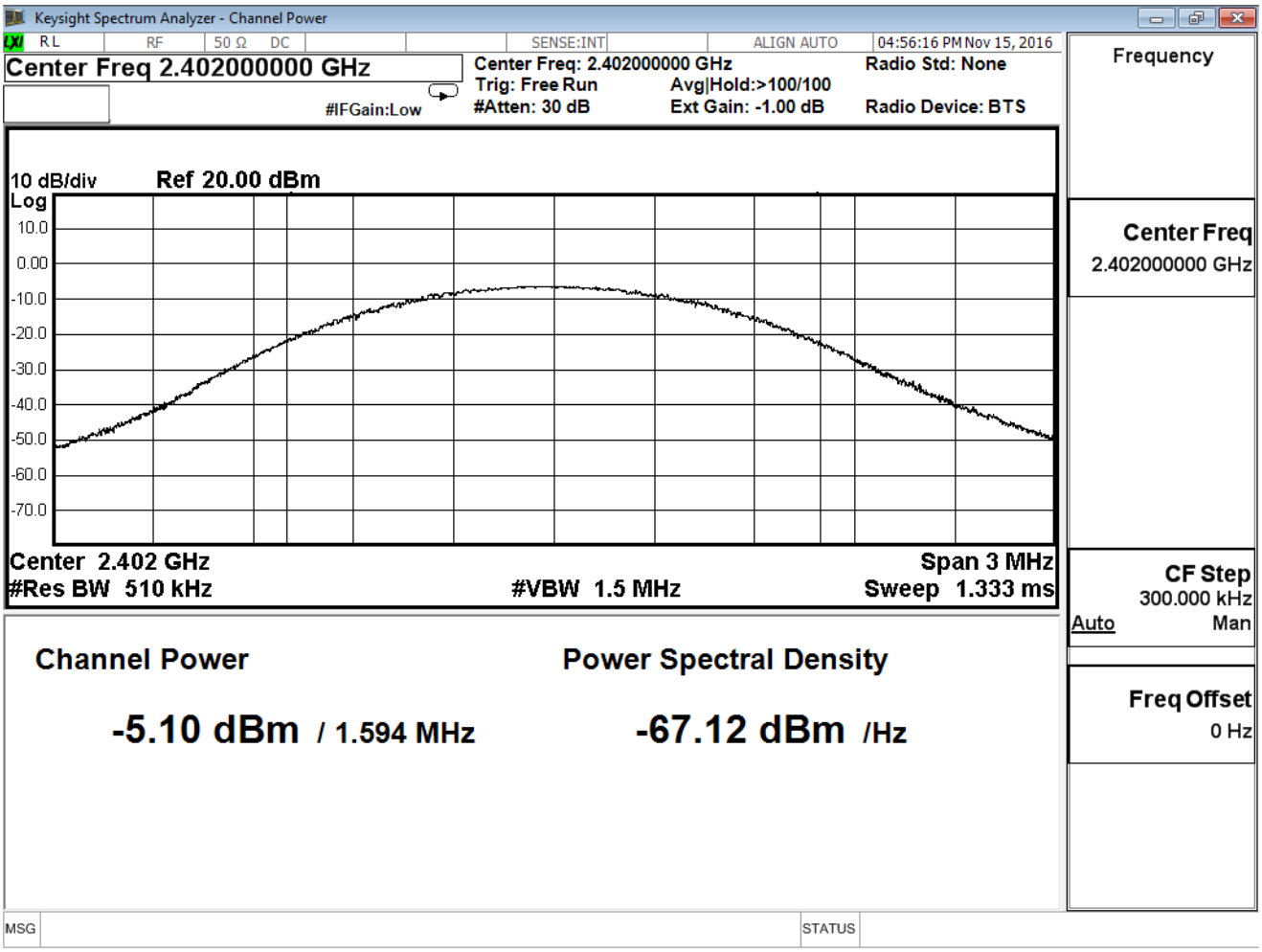
3.7. Test Result

Product	Headphone		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

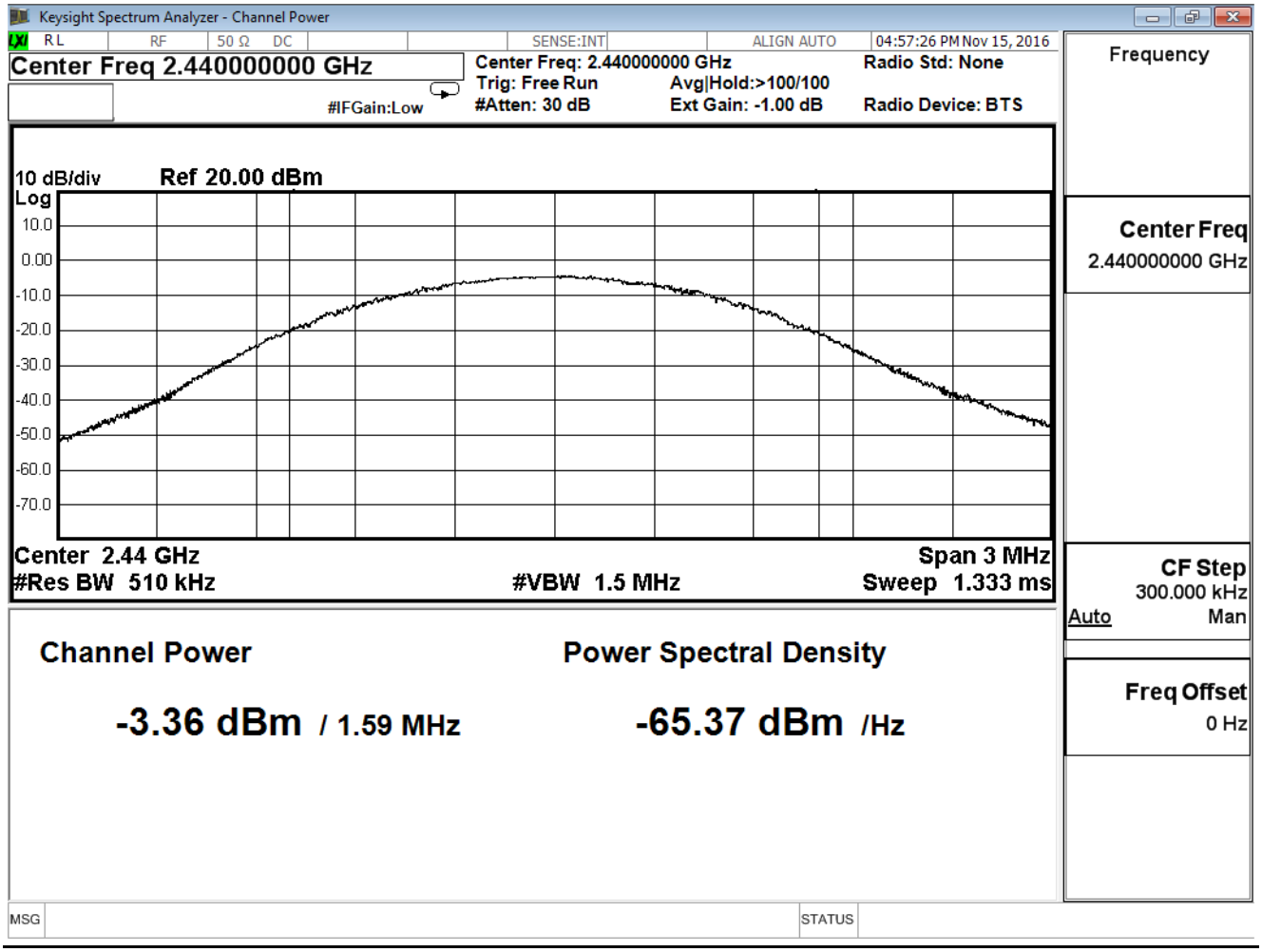
BLE 4.0 (GFSK)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-5.10	≦30	Pass
19	2440	-3.36	≦30	Pass
39	2480	-1.77	≦30	Pass

2402MHz



2440MHz


Keysight Spectrum Analyzer - Channel Power
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
04:57:26 PM Nov 15, 2016
Center Freq 2.440000000 GHz
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Radio Device: BTS
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-50.0
-60.0
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CF Step
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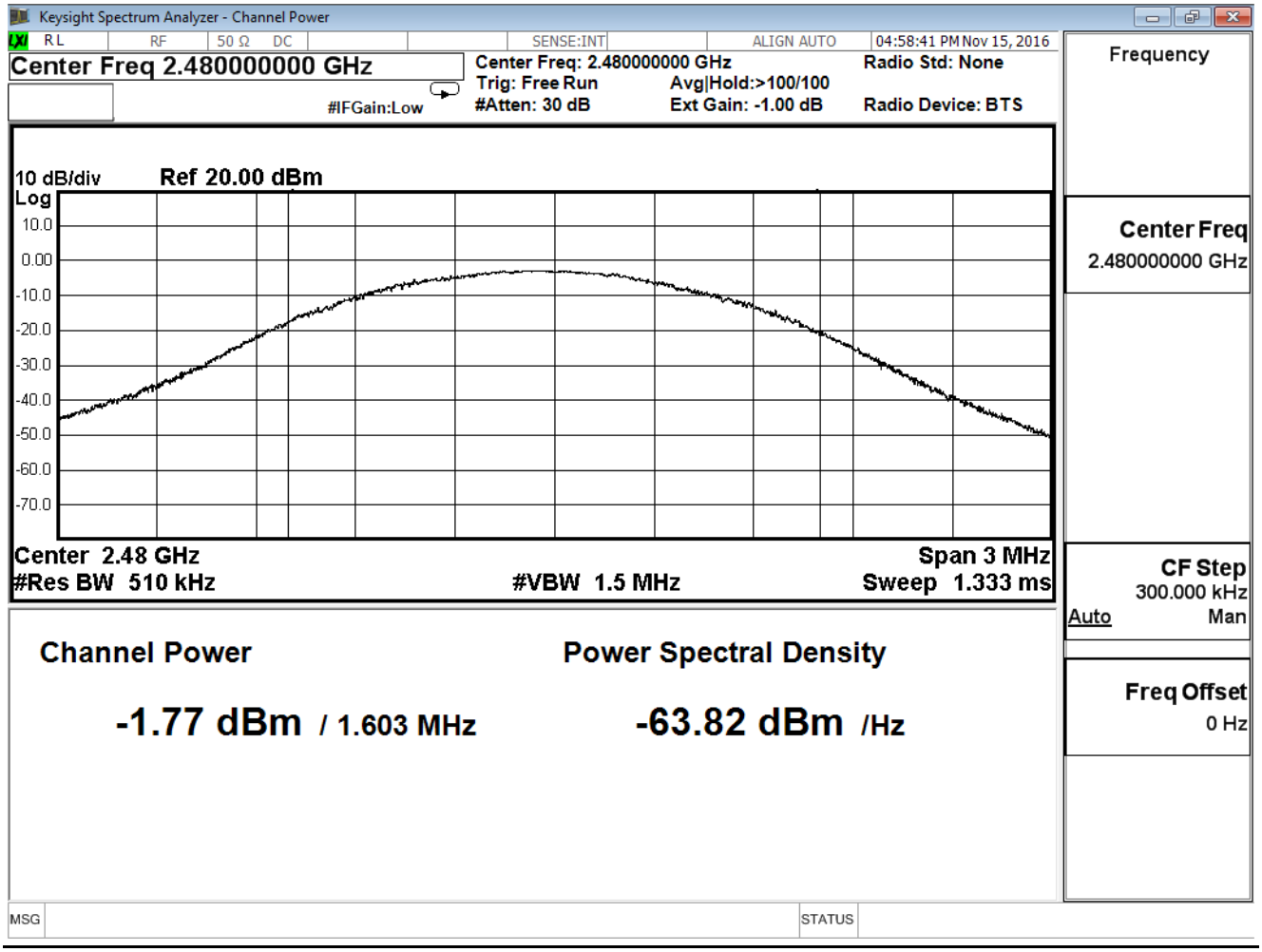
STATUS

2480MHz


Keysight Spectrum Analyzer - Channel Power
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
04:58:41 PM Nov 15, 2016
Center Freq 2.480000000 GHz
#IFGain:Low
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.48 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 3 MHz
Sweep 1.333 ms
Center Freq
2.480000000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz
Channel Power
-1.77 dBm / 1.603 MHz
Power Spectral Density
-63.82 dBm /Hz
MSG
STATUS

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the test:

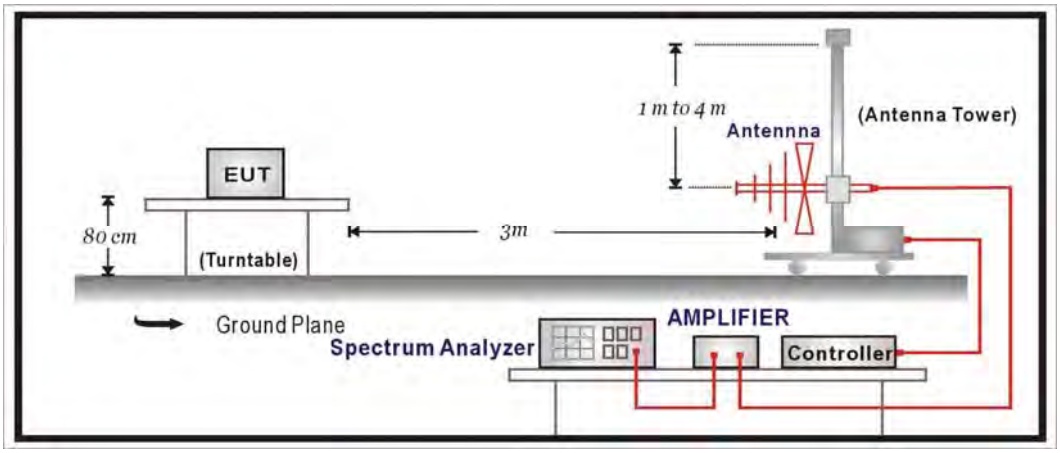
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2895	2017/08/14
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2017/01/14
Pre-Amplifier	EMCI	EMC0031835	980233	2017/01/26
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2017/01/03
Spectrum Analyzer	Agilent	E4440A	MY46187335	2016/12/24
k Type Cable	Huber+Suhner	SF 102	25623/2	2017/01/11

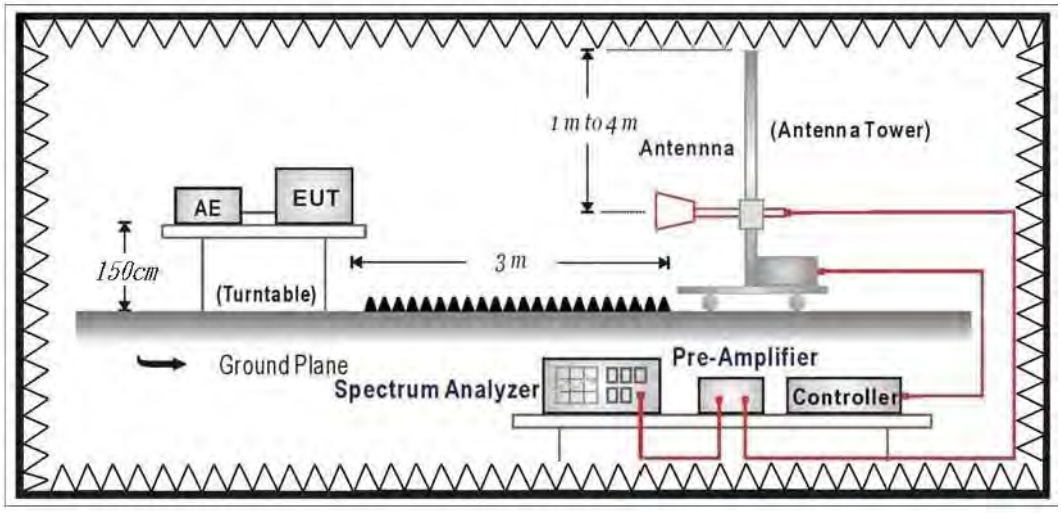
Note: All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remark: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 and 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

4.6. Uncertainty

The measurement uncertainty

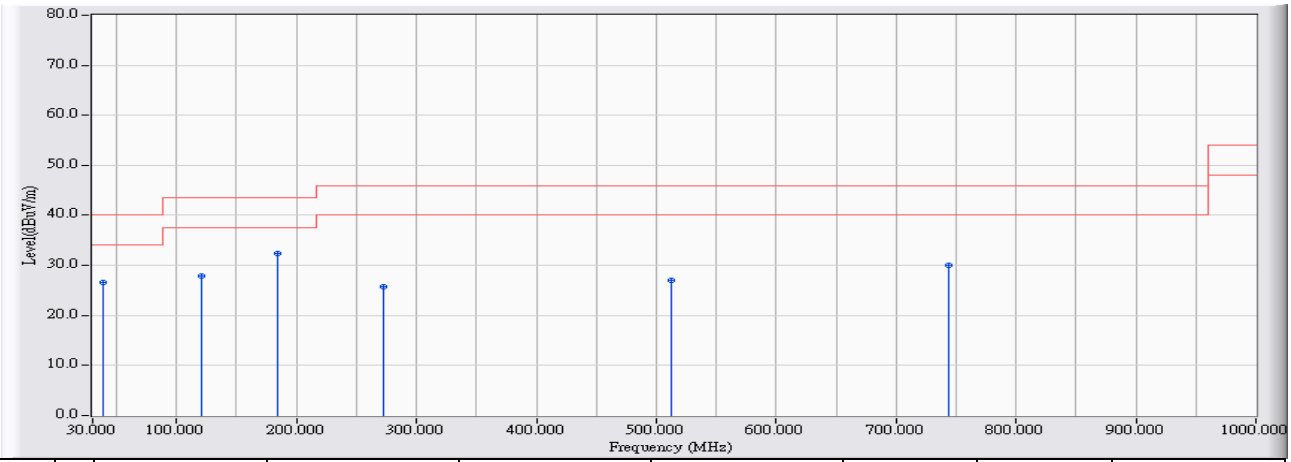
30MHz～1GHz as ±3.43dB

1GHz～26.5Ghz as ±3.65dB

4.7. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2016/12/08 - 21:14**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : Mode 1: Transmit Mode_ 802.15.1_2440MHz**

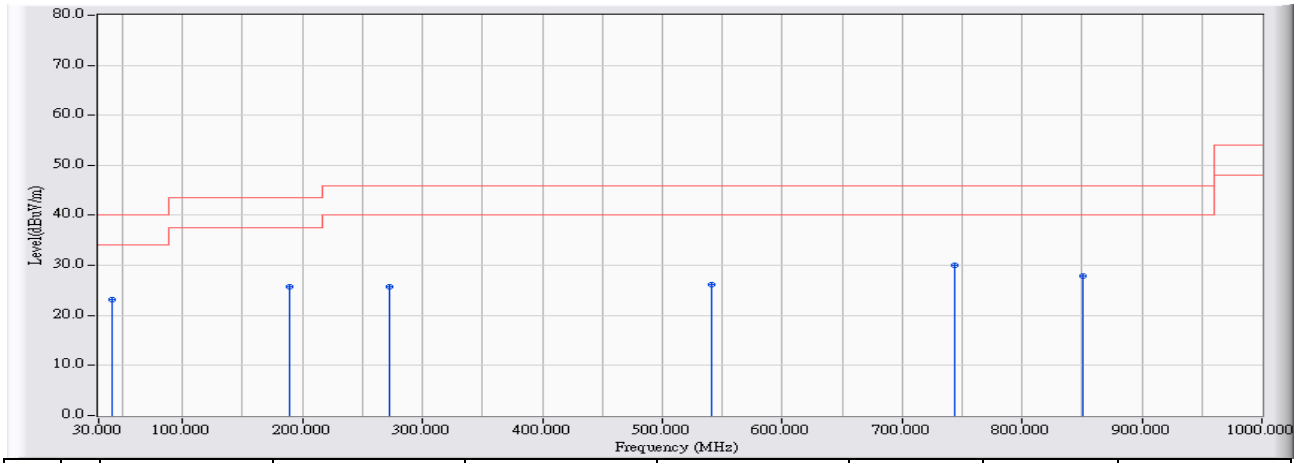


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		38.245	-12.582	39.173	26.590	-13.410	40.000	QUASIPEAK
2		120.210	-19.284	47.205	27.921	-15.579	43.500	QUASIPEAK
3	*	184.230	-22.707	55.034	32.327	-11.173	43.500	QUASIPEAK
4		272.015	-19.297	45.120	25.823	-20.177	46.000	QUASIPEAK
5		512.090	-13.995	40.976	26.980	-19.020	46.000	QUASIPEAK
6		743.920	-11.629	41.750	30.121	-15.879	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB1	**Time : 2016/12/08 - 21:16**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	**Power : DC 5V(Power By Battery)**
EUT : Headphone	**Note : Mode 1: Transmit Mode_ 802.15.1_2440MHz**

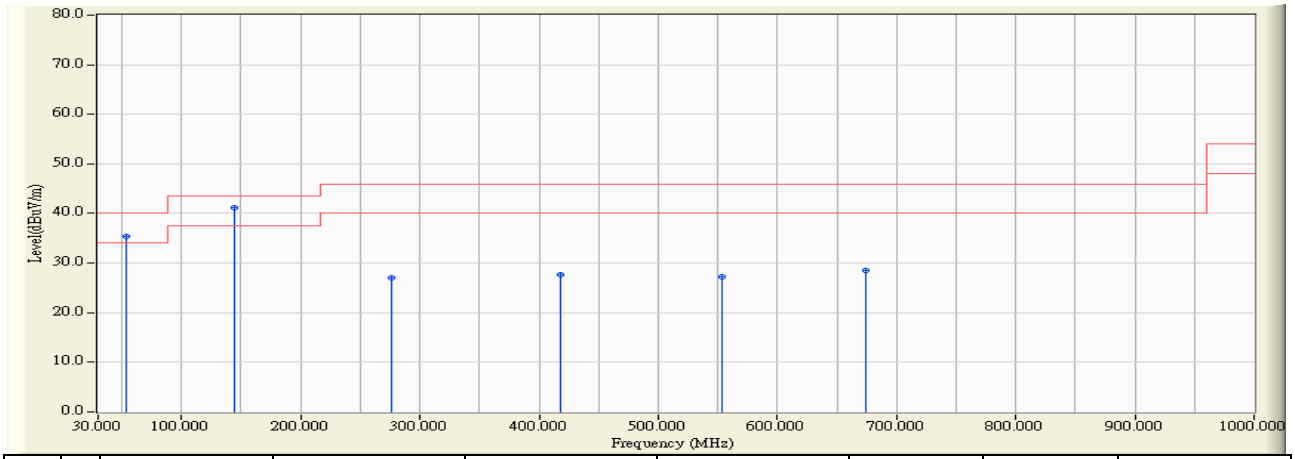


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		41.155	-13.958	37.137	23.179	-16.821	40.000	QUASIPEAK
2		188.595	-22.585	48.322	25.737	-17.763	43.500	QUASIPEAK
3		272.015	-19.297	45.120	25.823	-20.177	46.000	QUASIPEAK
4		540.705	-13.666	39.783	26.117	-19.883	46.000	QUASIPEAK
5	*	743.920	-11.629	41.750	30.121	-15.879	46.000	QUASIPEAK
6		850.620	-10.391	38.312	27.921	-18.079	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB1	**Time : 2016/12/19 - 14:24**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_30M-1G-4_9161 - HORIZONTAL	**Power : Power by pc**
EUT : Headphone	**Note : Mode 2: Power by PC_BT4.0_ 2440MHz**

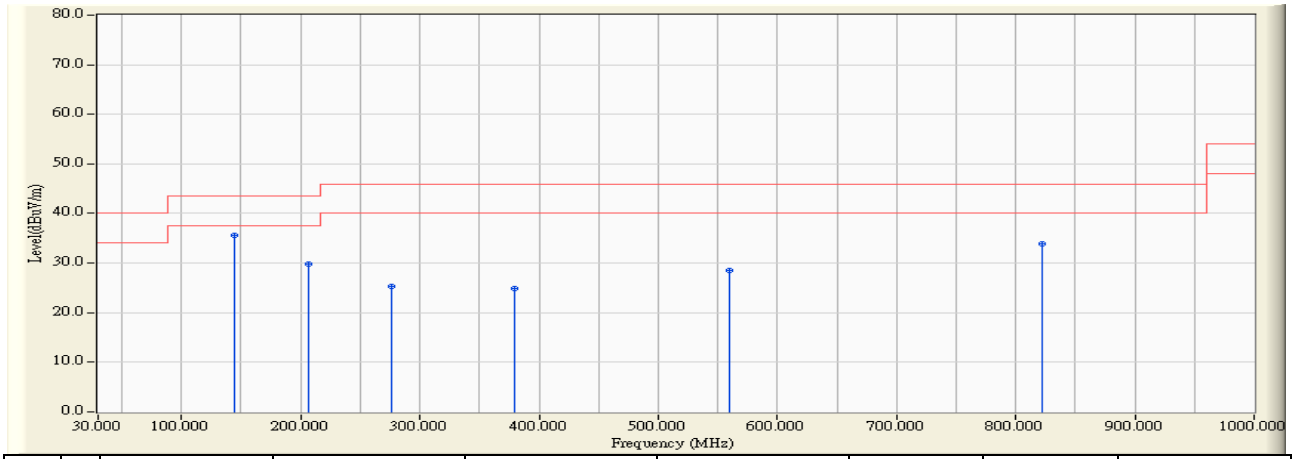


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		53.086	11.336	23.976	35.312	-4.688	40.000	QUASIPEAK
2	*	143.975	16.684	24.446	41.130	-2.370	43.500	QUASIPEAK
3		275.992	13.206	13.902	27.108	-18.892	46.000	QUASIPEAK
4		417.612	16.304	11.260	27.564	-18.436	46.000	QUASIPEAK
5		553.800	18.790	8.550	27.341	-18.659	46.000	QUASIPEAK
6		674.565	20.879	7.685	28.564	-17.436	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB1	**Time : 2016/12/19 - 14:26**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_30M-1G-4_9161 - VERTICAL	**Power : Power by pc**
EUT : Headphone	**Note : Mode 2: Power by PC_BT4.0_2440MHz**



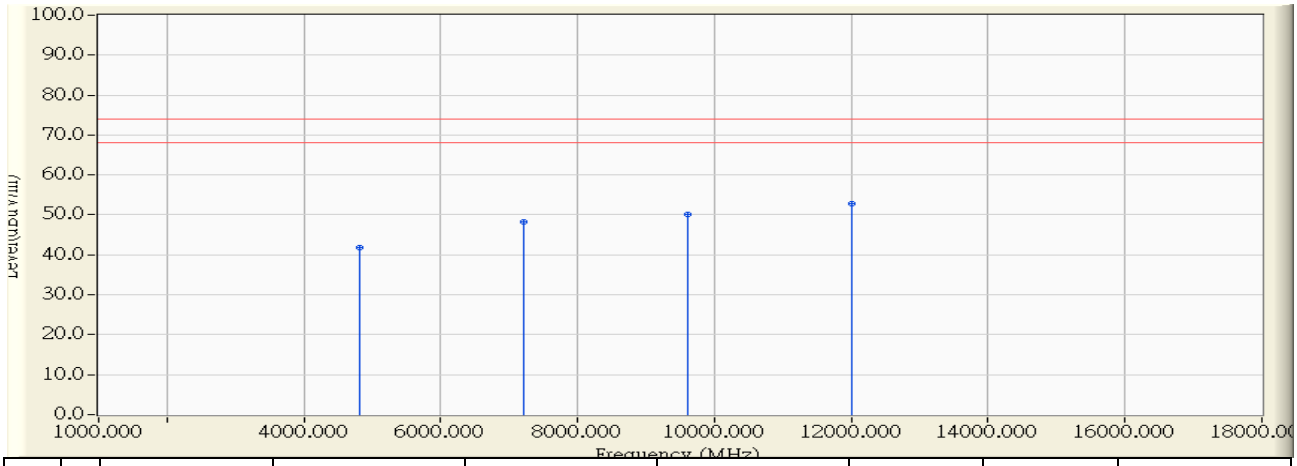
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	143.975	16.684	18.892	35.576	-7.924	43.500	QUASIPEAK
2		206.928	12.358	17.499	29.858	-13.642	43.500	QUASIPEAK
3		275.992	13.206	12.126	25.332	-20.668	46.000	QUASIPEAK
4		379.297	15.421	9.434	24.855	-21.145	46.000	QUASIPEAK
5		560.202	18.918	9.578	28.496	-17.504	46.000	QUASIPEAK
6		822.587	22.639	11.168	33.807	-12.193	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Above 1GHz Spurious

Site : CB1	**Time : 2016/12/08 - 14:03**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2402MHz**

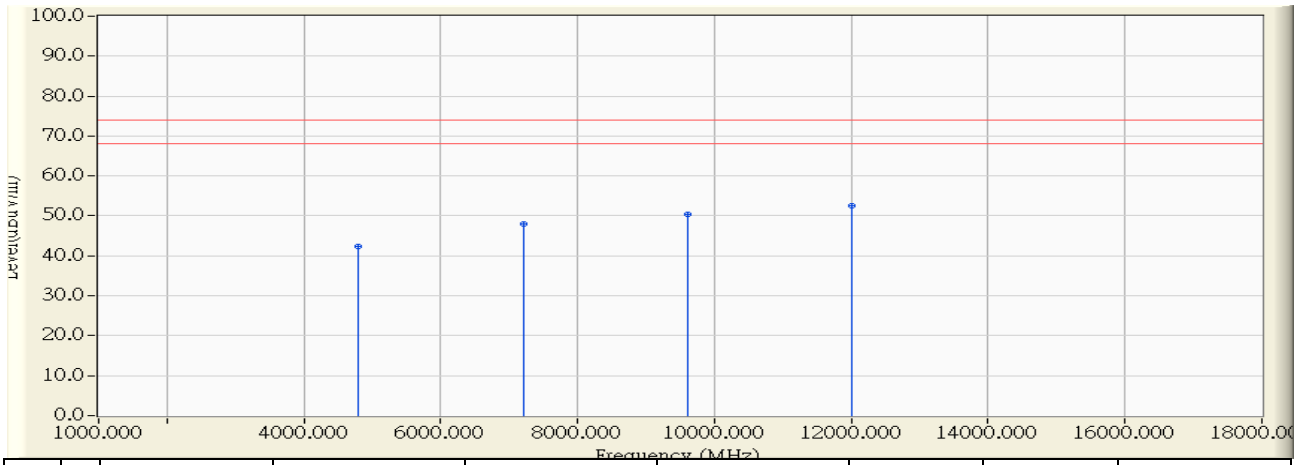


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-2.613	44.530	41.917	-32.083	74.000	PEAK
2		7203.000	5.861	42.450	48.311	-25.689	74.000	PEAK
3		9611.000	7.458	42.590	50.048	-23.952	74.000	PEAK
4	*	12006.000	10.401	42.340	52.742	-21.258	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2016/12/08 - 14:15**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2402MHz**

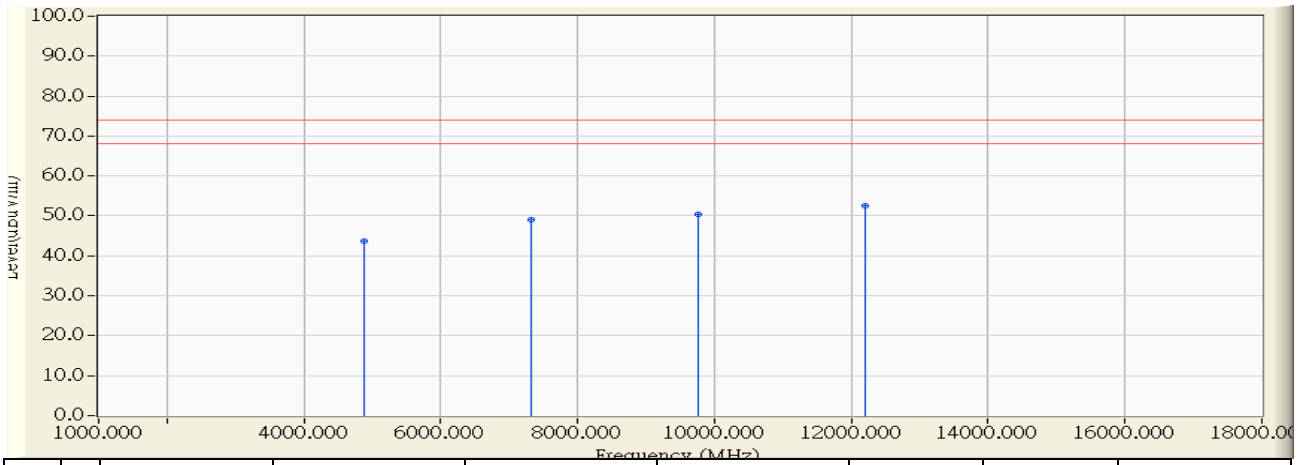


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4803.000	-1.666	43.990	42.324	-31.676	74.000	PEAK
2		7202.000	5.359	-53.520	-48.161	-122.161	74.000	PEAK
3		7202.000	5.359	42.520	47.879	-26.121	74.000	PEAK
4		9609.000	7.008	43.350	50.358	-23.642	74.000	PEAK
5	*	12011.000	9.923	42.710	52.634	-21.366	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2016/12/08 - 14:40**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2440MHz**

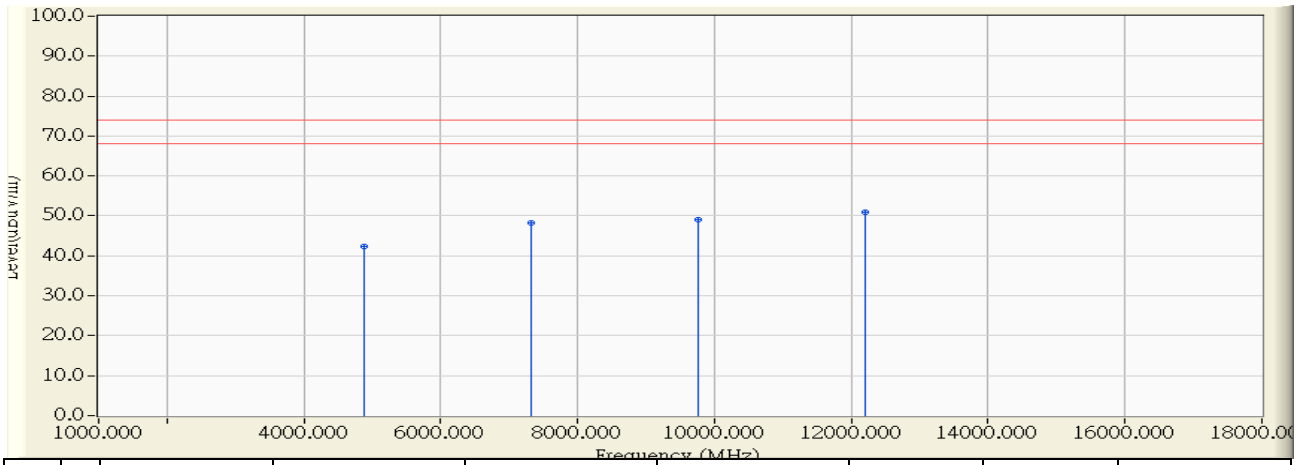


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-2.409	46.130	43.721	-30.279	74.000	PEAK
2		7320.000	6.092	42.900	48.991	-25.009	74.000	PEAK
3		9760.000	8.265	42.180	50.445	-23.555	74.000	PEAK
4	*	12196.000	10.174	42.470	52.645	-21.355	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2016/12/08 - 14:48**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2440MHz**

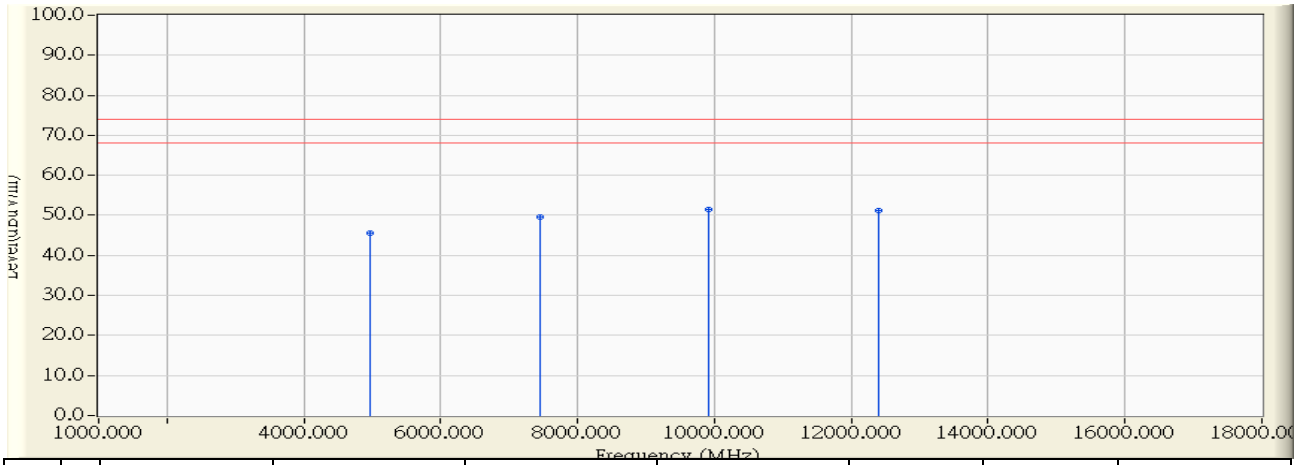


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-1.652	43.990	42.338	-31.662	74.000	PEAK
2		7323.000	5.597	42.710	48.307	-25.693	74.000	PEAK
3		9759.000	7.595	41.370	48.966	-25.034	74.000	PEAK
4	*	12195.000	9.889	41.090	50.978	-23.022	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2016/12/08 - 14:58**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2480MHz**

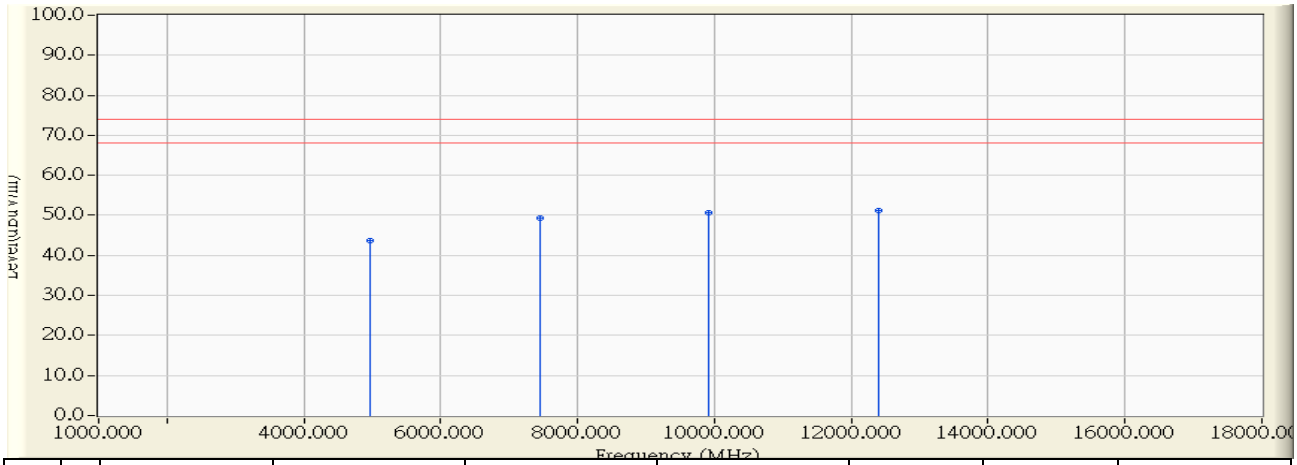


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.000	-2.197	47.680	45.483	-28.517	74.000	PEAK
2		7442.000	6.331	43.340	49.671	-24.329	74.000	PEAK
3	*	9920.000	9.132	42.210	51.342	-22.658	74.000	PEAK
4		12404.000	9.927	41.370	51.297	-22.703	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2016/12/08 - 15:09**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_802.15.1_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.000	-1.637	45.230	43.593	-30.407	74.000	PEAK
2		7442.000	5.831	43.380	49.211	-24.789	74.000	PEAK
3		9924.000	8.241	42.450	50.692	-23.308	74.000	PEAK
4	*	12404.000	9.848	41.370	51.218	-22.782	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

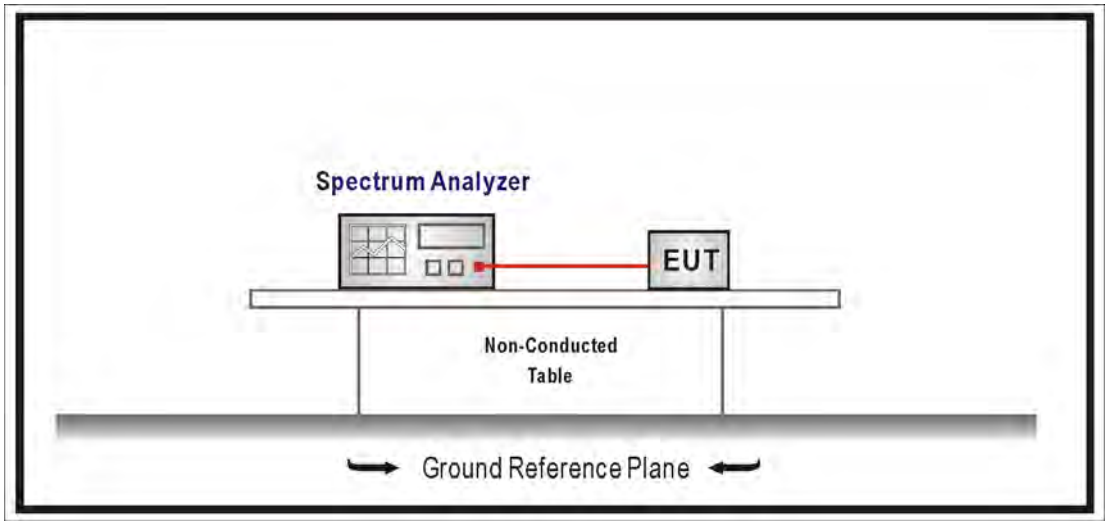
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal Analyzer	R&S	FSV7	101650	2017/11/15

Note: All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Antenna Conducted Measurement:



5.3. Limits

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or 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)).

5.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure section 11.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

5.6. Uncertainty

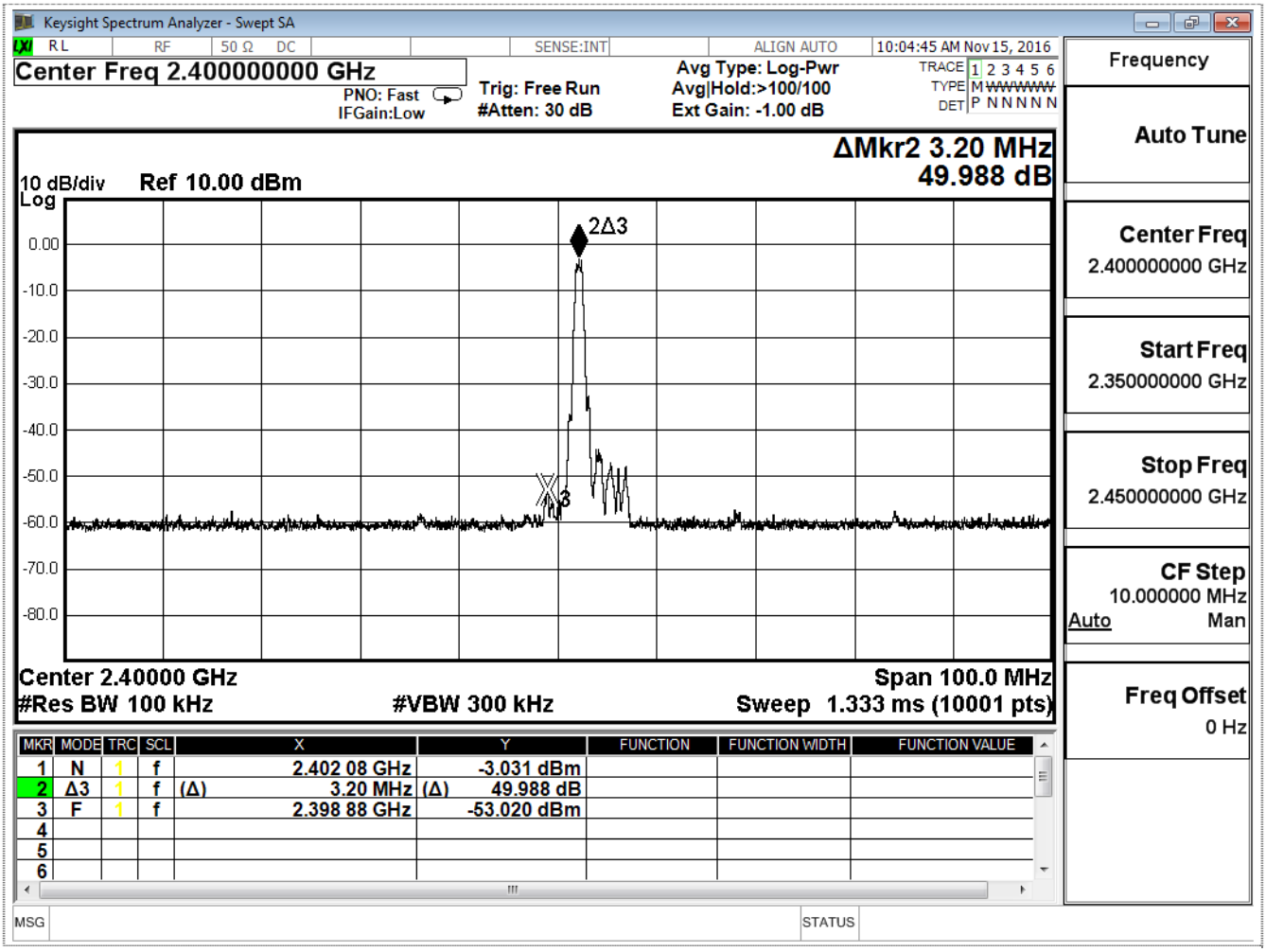
Conducted is defined as ± 1.27dB

5.7. Test Result

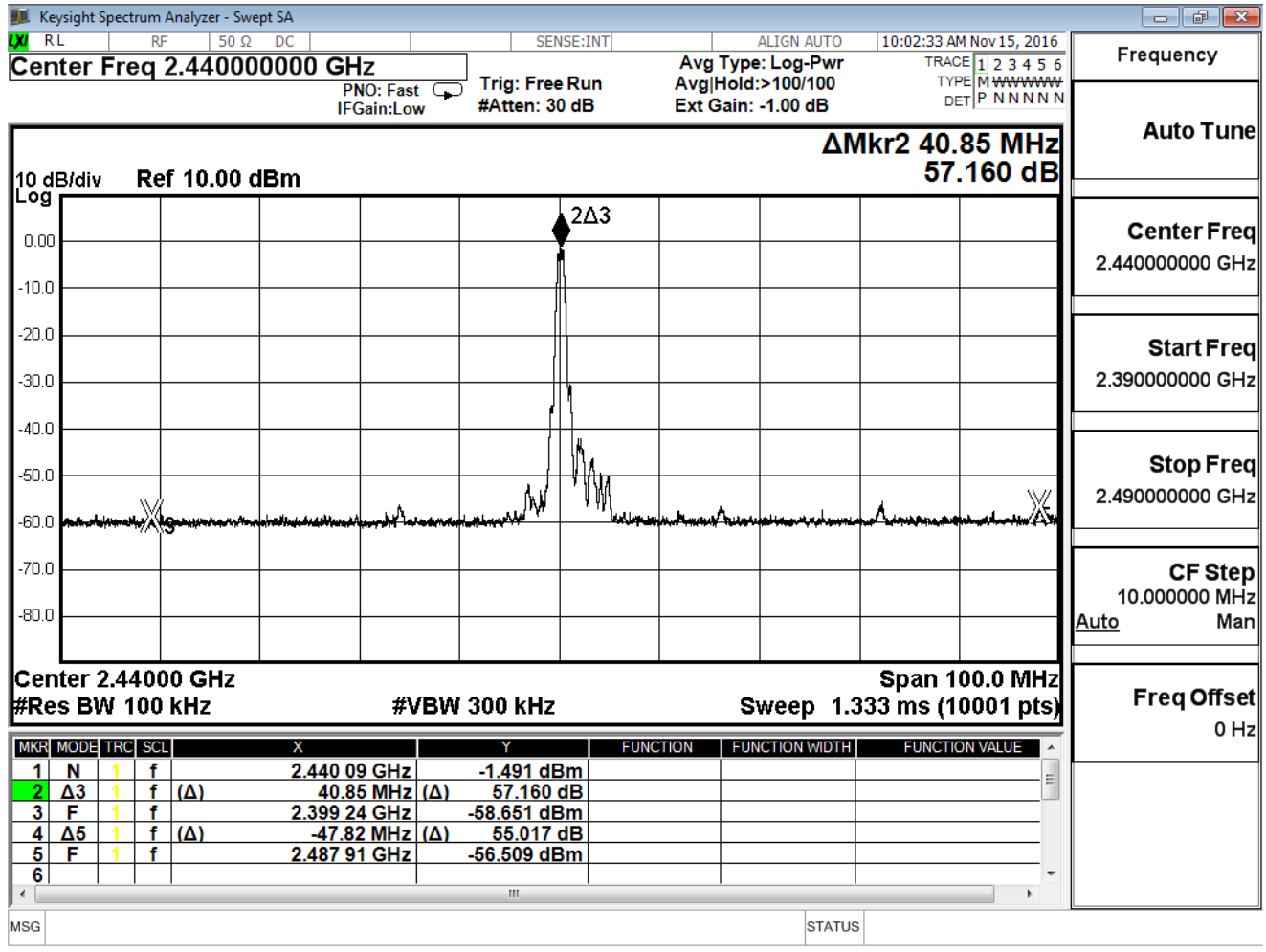
Product	Headphone		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

BLE 4.0 (GFSK)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	49.988	≧20	Pass
19	2440	55.017	≧20	Pass
39	2480	51.313	≧20	Pass

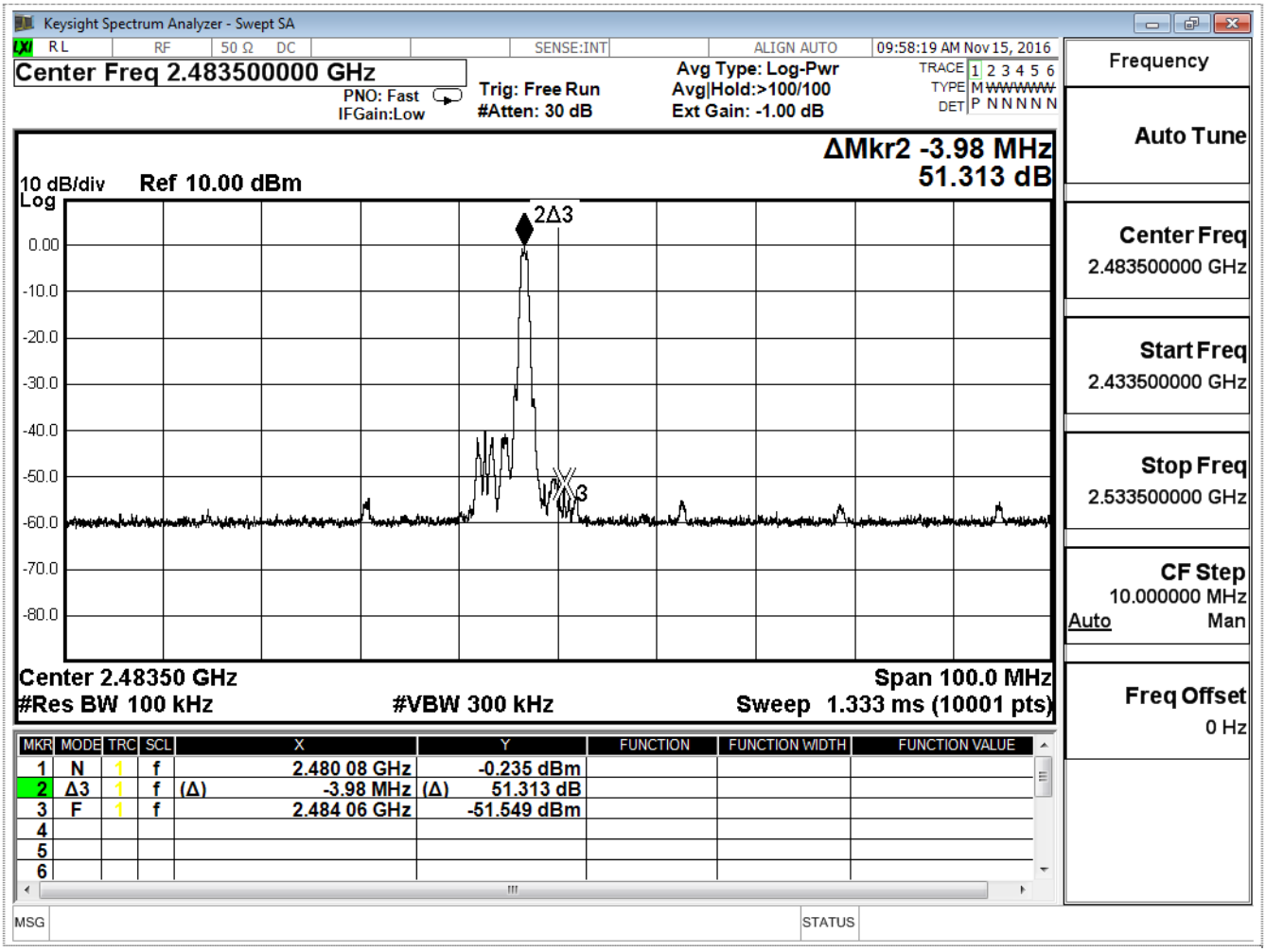
Channel 00



Channel 19

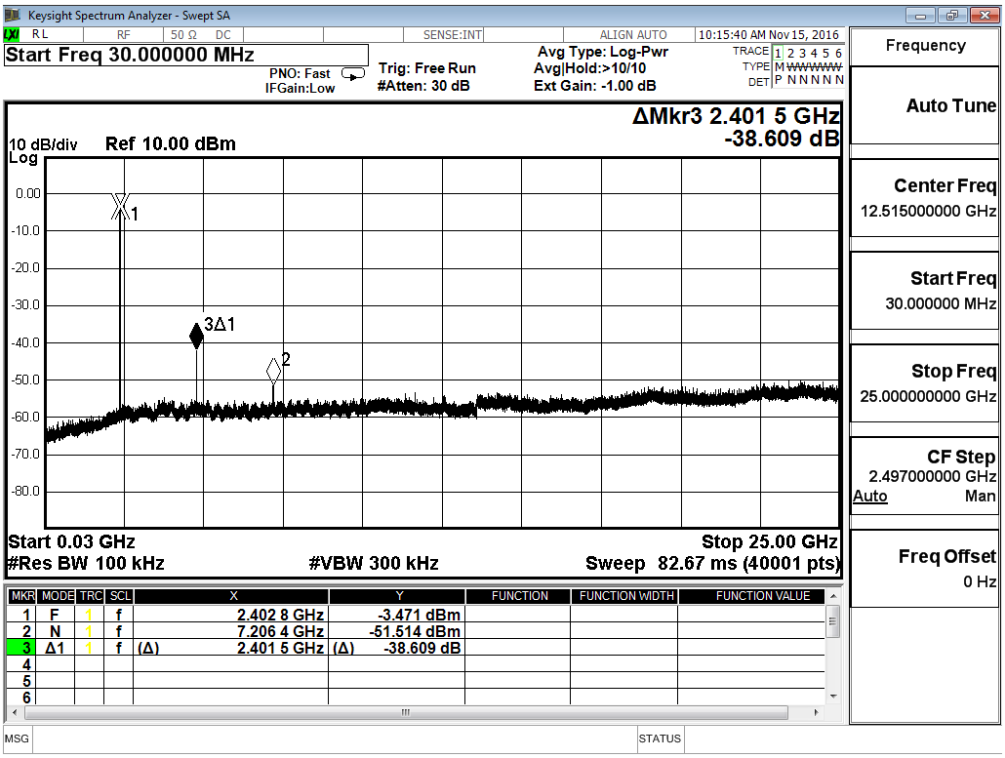

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
10:02:33 AM Nov 15, 2016
Center Freq 2.440000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.00 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
ΔMkr2 40.85 MHz
57.160 dB
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
2Δ3
Center 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100.0 MHz
Sweep 1.333 ms (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.440 09 GHz -1.491 dBm
2 Δ3 1 f (Δ) 40.85 MHz (Δ) 57.160 dB
3 F 1 f 2.399 24 GHz -58.651 dBm
4 Δ5 1 f (Δ) -47.82 MHz (Δ) 55.017 dB
5 F 1 f 2.487 91 GHz -56.509 dBm
6
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.440000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.490000000 GHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

Channel 39

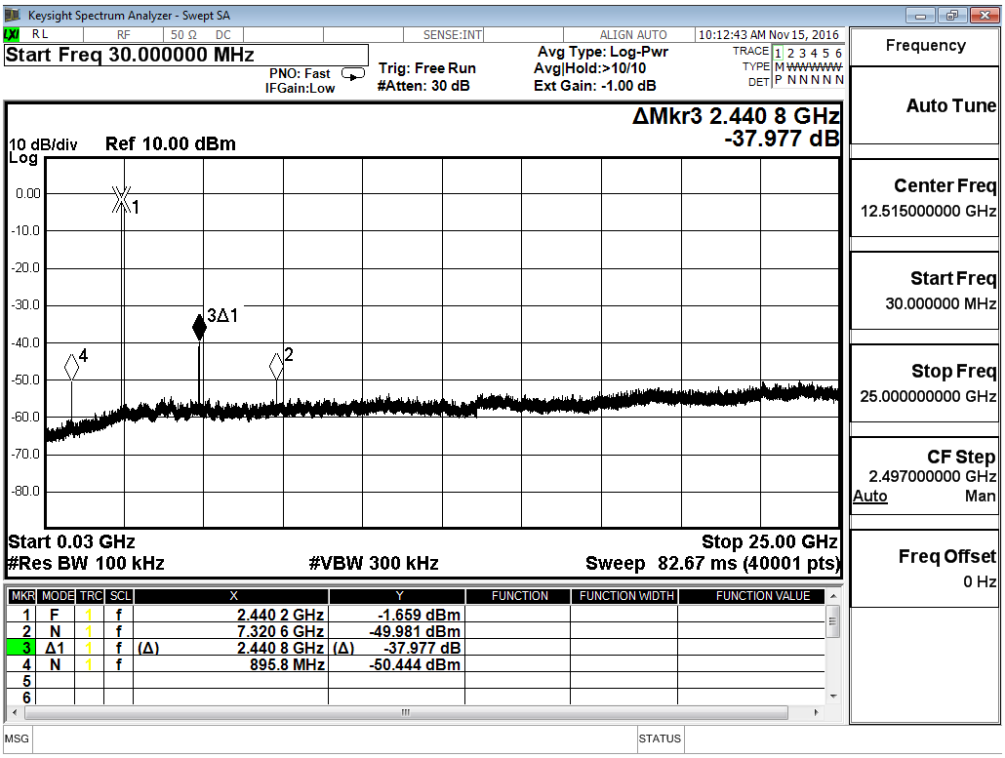

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
09:58:19 AM Nov 15, 2016
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.00 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
ΔMkr2 -3.98 MHz
51.313 dB
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
2Δ3
3
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100.0 MHz
Sweep 1.333 ms (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.480 08 GHz -0.235 dBm
2 Δ3 1 f (Δ) -3.98 MHz (Δ) 51.313 dB
3 F 1 f 2.484 06 GHz -51.549 dBm
4
5
6
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.433500000 GHz
Stop Freq
2.533500000 GHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

Product	Headphone		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

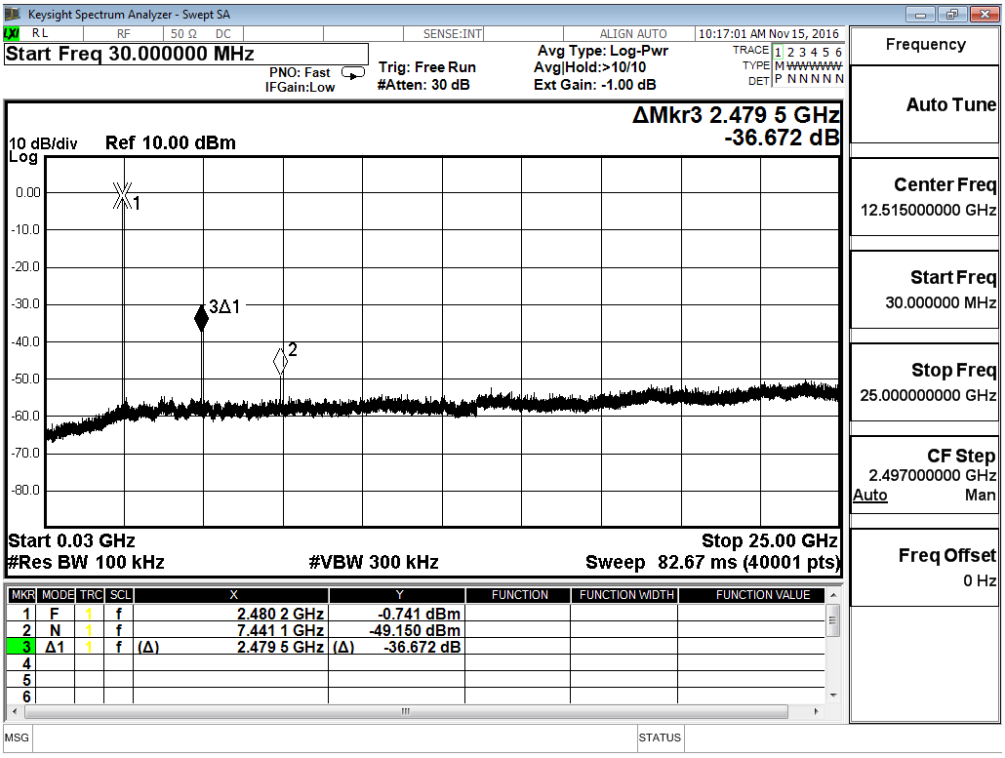
Channel 00 (30MHz-25GHz)- 2402MHz_BLE 4.0 (GFSK)



Channel 19 (30MHz-25GHz)- 2440MHz_BLE 4.0 (GFSK)



Channel 39 (30MHz-25GHz)- 2480MHz_BLE 4.0 (GFSK)



6. Radiated Emission Band Edge

6.1. Test Equipment

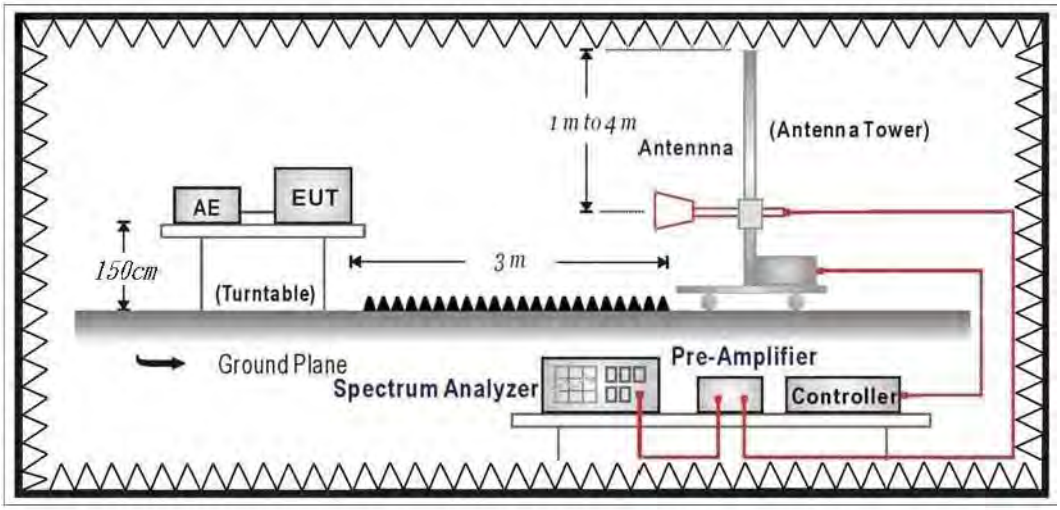
The following test equipments are used during the test:

Radiated Emission Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2017/01/14
Spectrum Analyzer	Agilent	E4440A	MY46187335	2016/12/24
k Type Cable	Huber+Suhner	SF 102	25623/2	2017/01/11

Note: All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

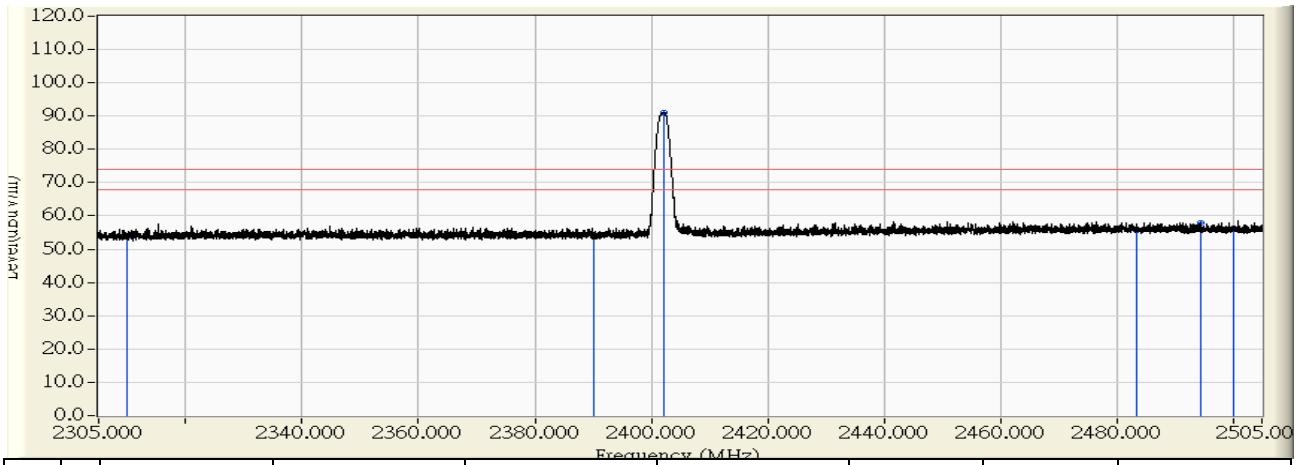
The measurement uncertainty

± 3.9 dB above 1GHz

6.7. Test Result

Radiated is defined as

Site : CB1	**Time : 2016/12/08 - 11:49**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2402MHz**

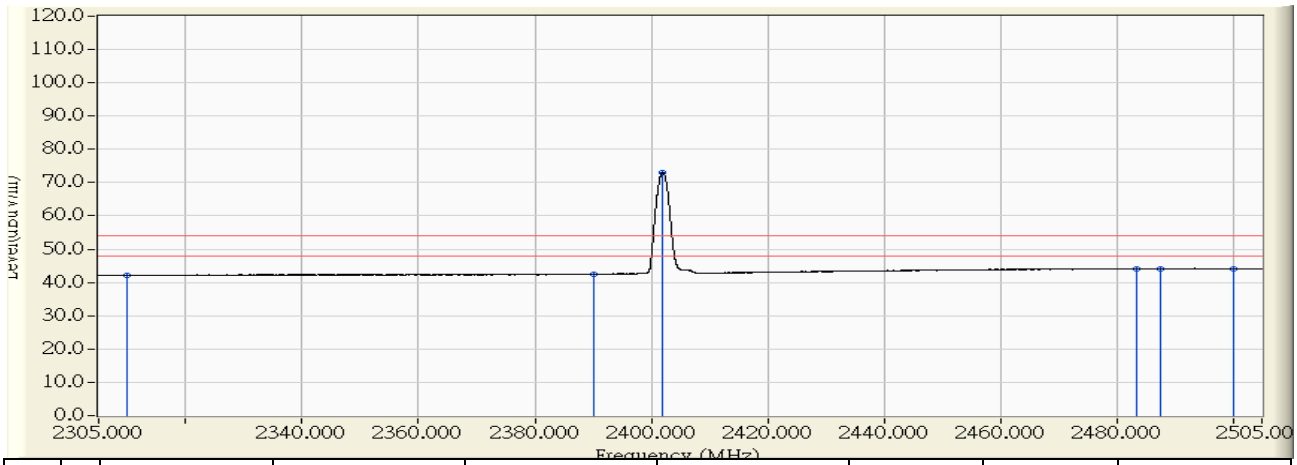


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	25.589	53.719	-20.281	74.000	PEAK
2		2390.000	28.933	24.664	53.597	-20.403	74.000	PEAK
3	*	2402.230	29.056	62.122	91.178	17.178	74.000	PEAK
4		2483.500	29.829	25.968	55.797	-18.203	74.000	PEAK
5		2494.481	29.834	27.938	57.772	-16.228	74.000	PEAK
6		2500.000	29.826	26.560	56.385	-17.615	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 11:51**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2402MHz**

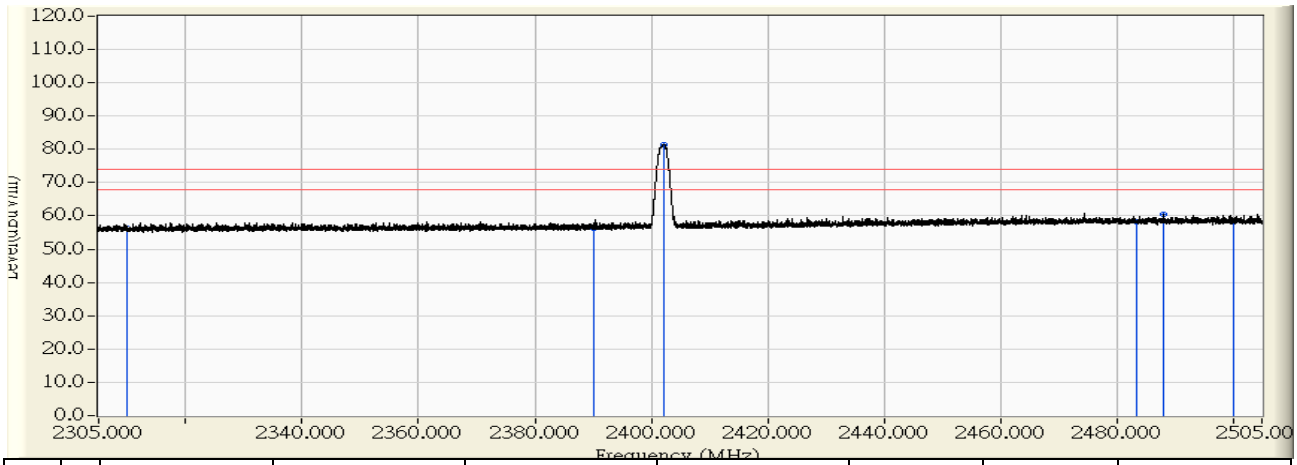


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	13.961	42.091	-11.909	54.000	AVERAGE
2		2390.000	28.933	13.612	42.545	-11.455	54.000	AVERAGE
3	*	2401.910	29.052	43.976	73.029	19.029	54.000	AVERAGE
4		2483.500	29.829	14.300	44.129	-9.871	54.000	AVERAGE
5		2487.442	29.831	14.313	44.144	-9.856	54.000	AVERAGE
6		2500.000	29.826	14.193	44.018	-9.982	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 11:58**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2402MHz**

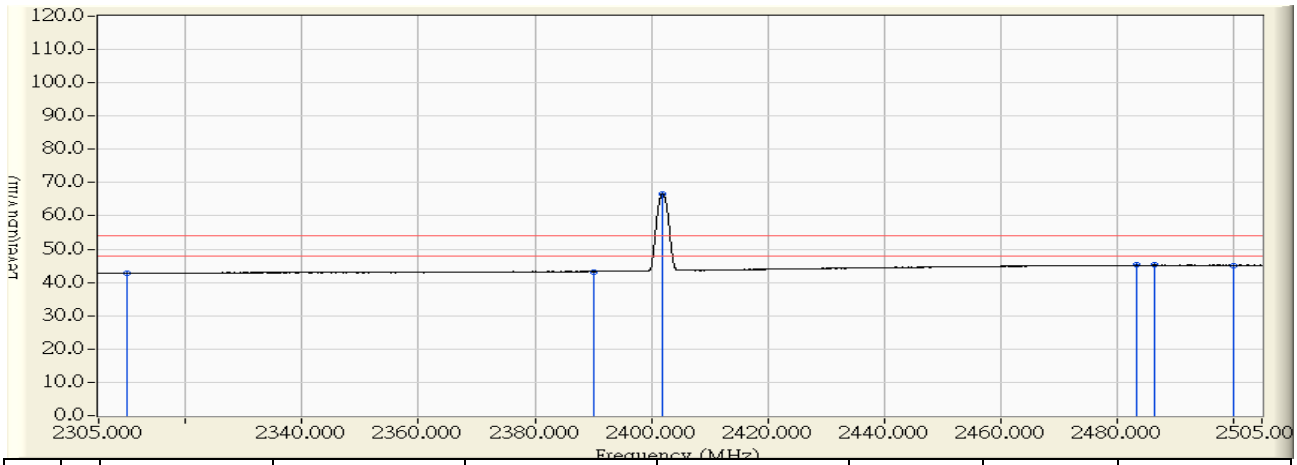


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	27.529	56.313	-17.687	74.000	PEAK
2		2390.000	29.747	26.568	56.315	-17.685	74.000	PEAK
3	*	2402.210	29.894	51.573	81.467	7.467	74.000	PEAK
4		2483.500	30.830	27.301	58.131	-15.869	74.000	PEAK
5		2487.982	30.841	29.486	60.327	-13.673	74.000	PEAK
6		2500.000	30.860	27.752	58.611	-15.389	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 11:59**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2402MHz**

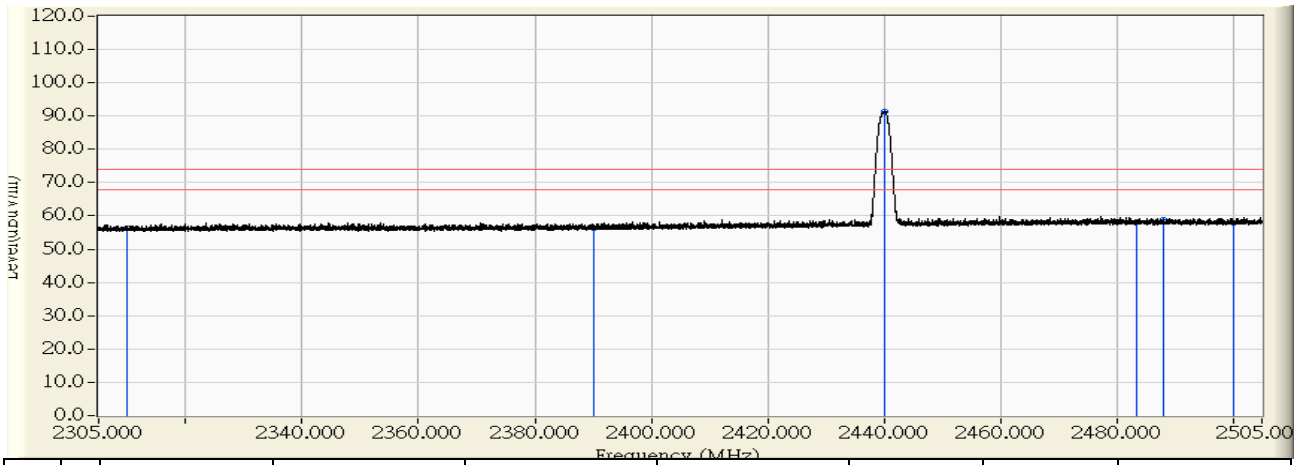


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	14.011	42.795	-11.205	54.000	AVERAGE
2		2390.000	29.747	13.461	43.208	-10.792	54.000	AVERAGE
3	*	2401.950	29.891	36.783	66.674	12.674	54.000	AVERAGE
4		2483.500	30.830	14.385	45.215	-8.785	54.000	AVERAGE
5		2486.422	30.838	14.418	45.255	-8.745	54.000	AVERAGE
6		2500.000	30.860	14.335	45.194	-8.806	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:14**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2440MHz**

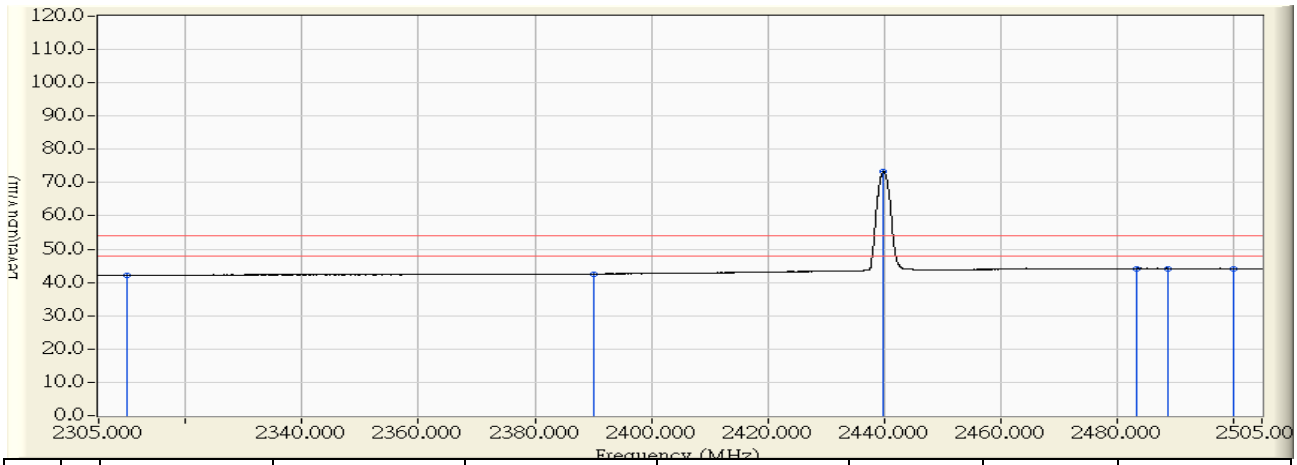


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	28.292	56.422	-17.578	74.000	PEAK
2		2390.000	28.933	27.237	56.170	-17.830	74.000	PEAK
3	*	2440.246	29.437	61.889	91.327	17.327	74.000	PEAK
4		2483.500	29.829	28.496	58.325	-15.675	74.000	PEAK
5		2487.982	29.831	28.929	58.760	-15.240	74.000	PEAK
6		2500.000	29.826	28.037	57.862	-16.138	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:17**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2440MHz**

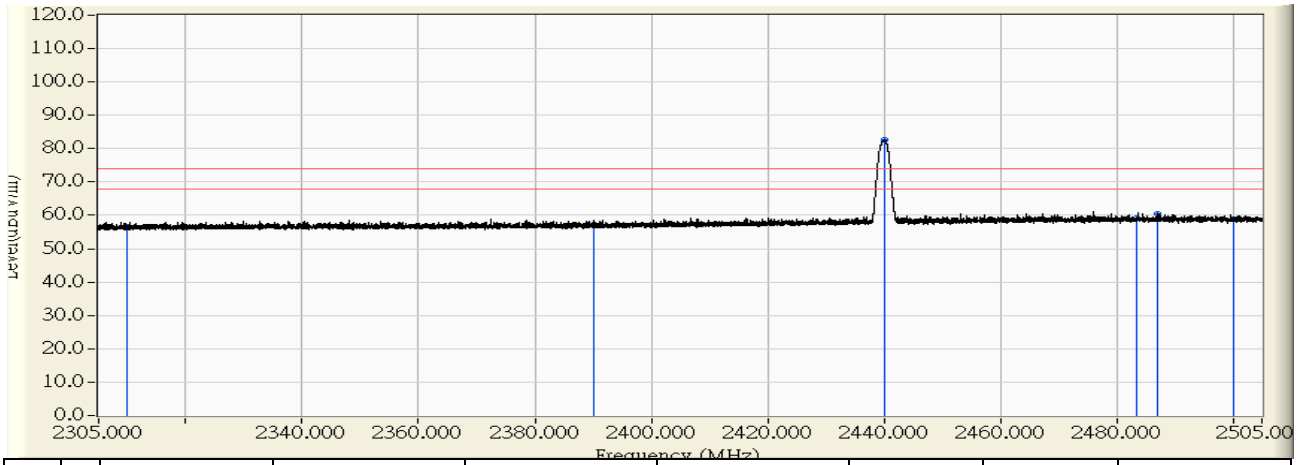


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	13.973	42.103	-11.897	54.000	AVERAGE
2		2390.000	28.933	13.599	42.532	-11.468	54.000	AVERAGE
3	*	2439.947	29.434	43.802	73.237	19.237	54.000	AVERAGE
4		2483.500	29.829	14.350	44.179	-9.821	54.000	AVERAGE
5		2488.722	29.832	14.329	44.161	-9.839	54.000	AVERAGE
6		2500.000	29.826	14.316	44.141	-9.859	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:29**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2440MHz**

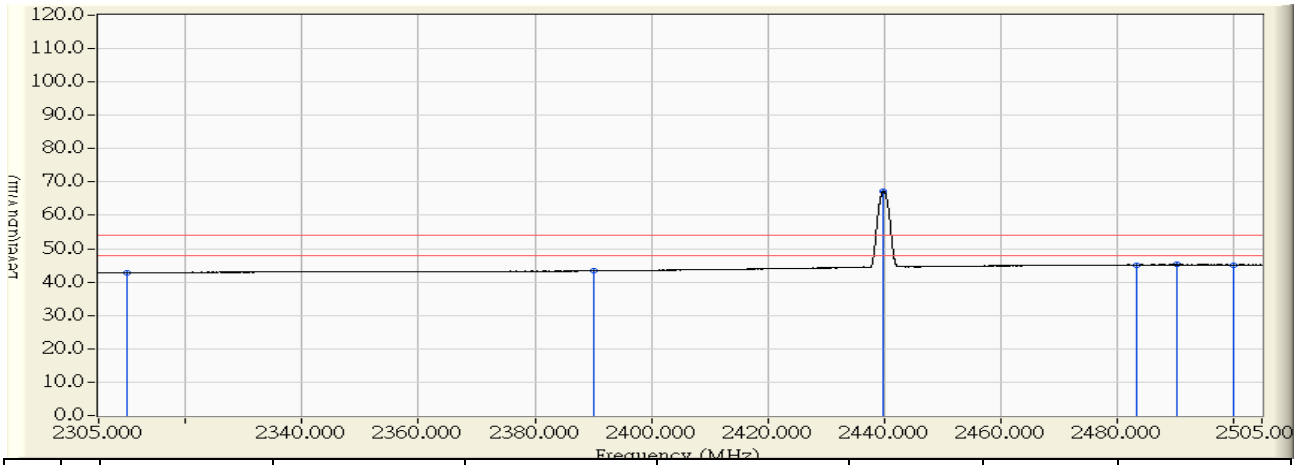


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	27.679	56.463	-17.537	74.000	PEAK
2		2390.000	29.747	27.392	57.139	-16.861	74.000	PEAK
3	*	2440.187	30.351	52.309	82.660	8.660	74.000	PEAK
4		2483.500	30.830	28.365	59.195	-14.805	74.000	PEAK
5		2486.982	30.839	29.501	60.340	-13.660	74.000	PEAK
6		2500.000	30.860	27.979	58.838	-15.162	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:30**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2440MHz**

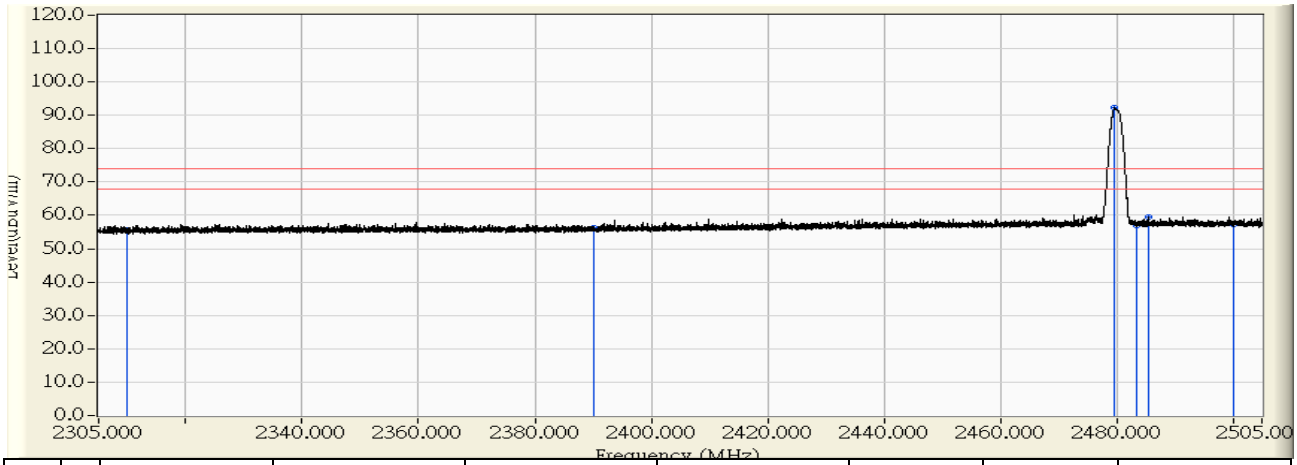


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	14.024	42.808	-11.192	54.000	AVERAGE
2		2390.000	29.747	13.621	43.368	-10.632	54.000	AVERAGE
3	*	2439.947	30.348	36.912	67.261	13.261	54.000	AVERAGE
4		2483.500	30.830	14.325	45.155	-8.845	54.000	AVERAGE
5		2490.261	30.846	14.359	45.206	-8.794	54.000	AVERAGE
6		2500.000	30.860	14.304	45.163	-8.837	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:40**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2480MHz**

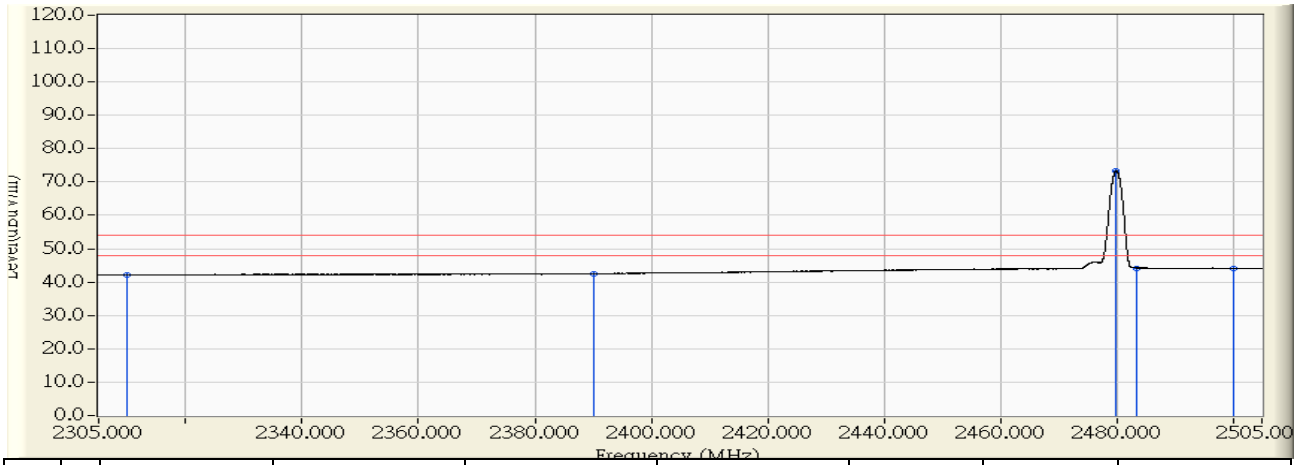


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	27.678	55.808	-18.192	74.000	PEAK
2		2390.000	28.933	27.408	56.341	-17.659	74.000	PEAK
3	*	2479.682	29.827	62.377	92.204	18.204	74.000	PEAK
4		2483.500	29.829	27.013	56.842	-17.158	74.000	PEAK
5		2485.402	29.830	29.551	59.381	-14.619	74.000	PEAK
6		2500.000	29.826	27.450	57.275	-16.725	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:40**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2480MHz**

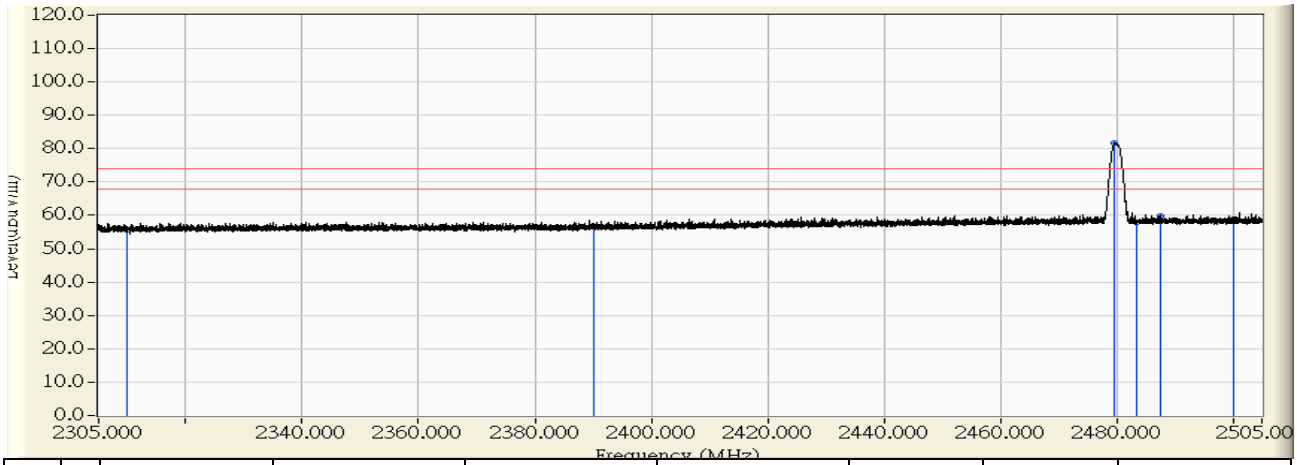


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.130	13.932	42.062	-11.938	54.000	AVERAGE
2		2390.000	28.933	13.620	42.553	-11.447	54.000	AVERAGE
3	*	2479.902	29.827	43.592	73.419	19.419	54.000	AVERAGE
4		2483.500	29.829	14.382	44.211	-9.789	54.000	AVERAGE
5		2500.000	29.826	14.275	44.100	-9.900	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:45**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2480MHz**

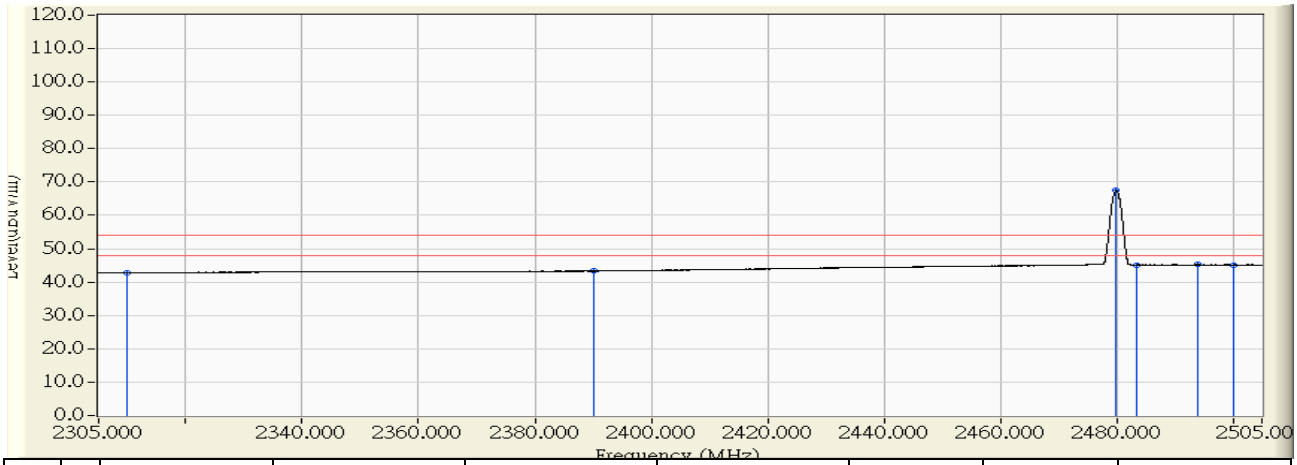


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	26.726	55.510	-18.490	74.000	PEAK
2		2390.000	29.747	26.817	56.564	-17.436	74.000	PEAK
3	*	2479.662	30.821	51.010	81.830	7.830	74.000	PEAK
4		2483.500	30.830	27.159	57.989	-16.011	74.000	PEAK
5		2487.662	30.840	29.006	59.846	-14.154	74.000	PEAK
6		2500.000	30.860	28.048	58.907	-15.093	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

Site : CB1	**Time : 2016/12/08 - 13:46**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 4.2V (power by battery)**
EUT : Headphone	**Note : 802.15.1_BLE_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.784	14.029	42.813	-11.187	54.000	AVERAGE
2		2390.000	29.747	13.546	43.293	-10.707	54.000	AVERAGE
3	*	2479.942	30.821	36.606	67.427	13.427	54.000	AVERAGE
4		2483.500	30.830	14.336	45.166	-8.834	54.000	AVERAGE
5		2493.861	30.856	14.402	45.258	-8.742	54.000	AVERAGE
6		2500.000	30.860	14.274	45.133	-8.867	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. 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.

7. DTS Bandwidth

7.1. Test Equipment

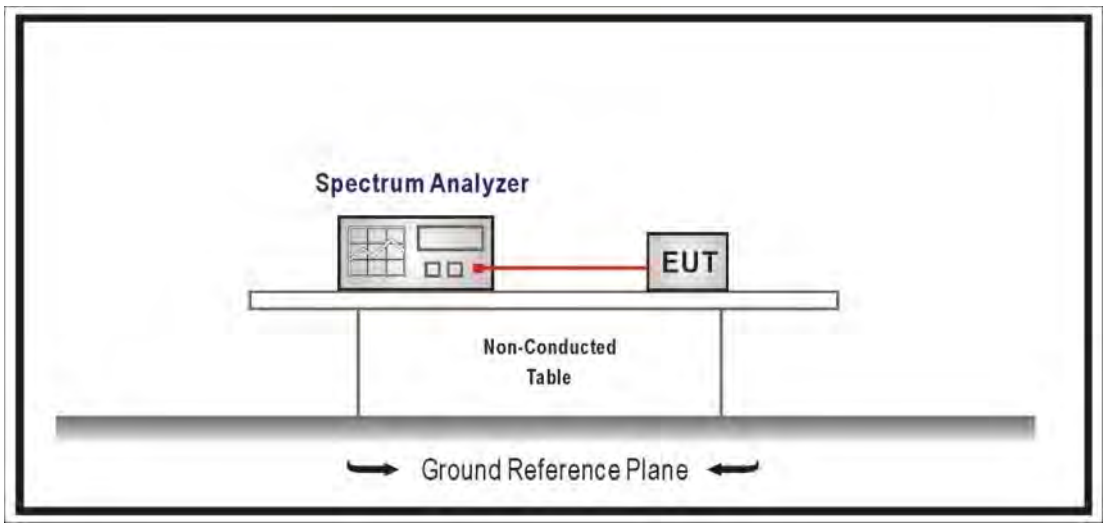
The following test equipments are used during the test:

DTS Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal Analyzer	R&S	FSV7	101650	2016/11/30

Note: All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested procedure section 8.1 of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100KHz, Set the VBW≧3xRBW, Sweep Time=Auto, Set Peak Detector.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

7.6. Uncertainty

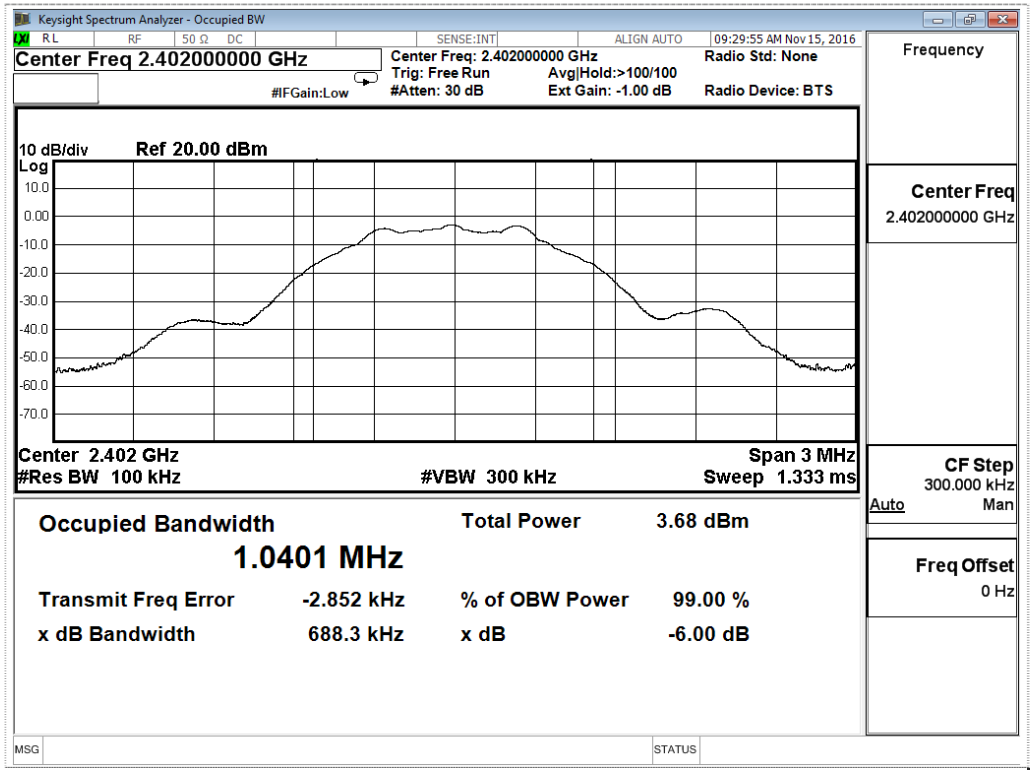
The measurement uncertainty is defined as ±150Hz

7.7. Test Result

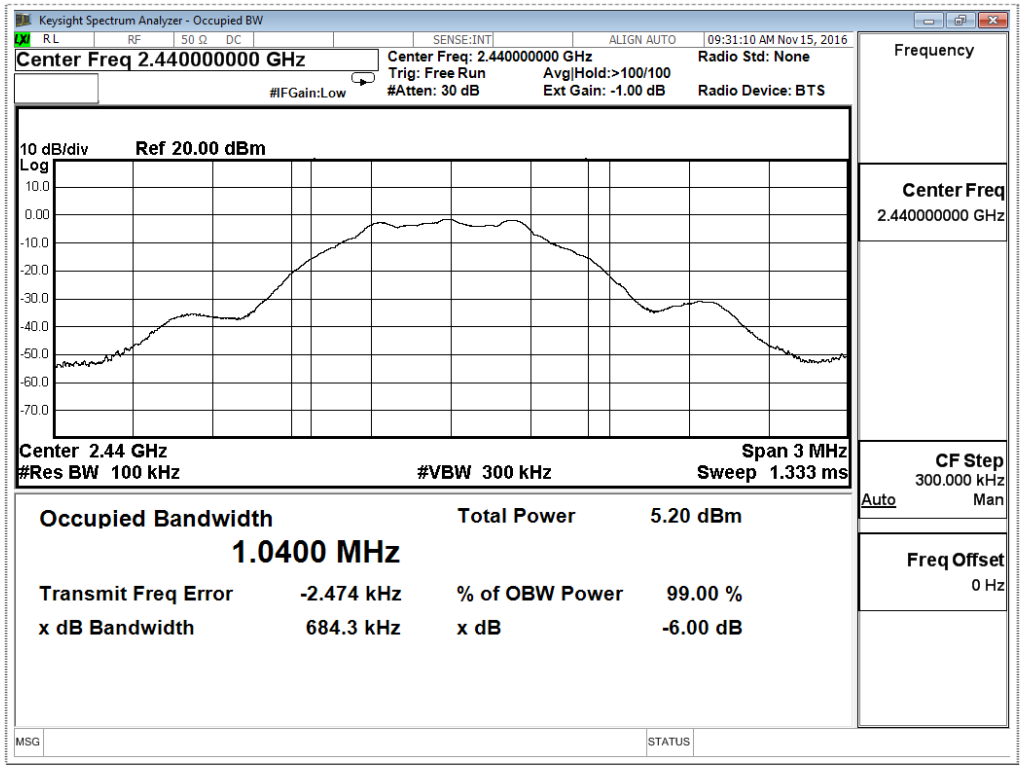
Product	Headphone		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
00	2402	688.3	≧0.5	Pass
19	2440	684.3	≧0.5	Pass
39	2480	694.6	≧0.5	Pass

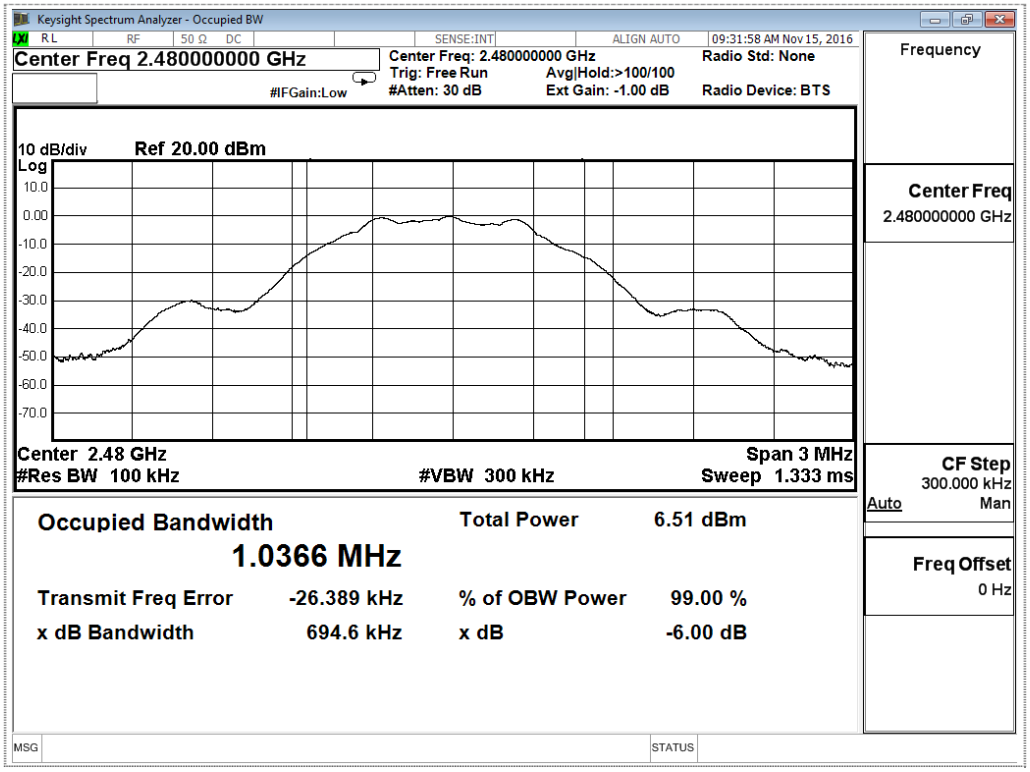
Channel 00



Channel 19



Channel 39



8. Occupied Bandwidth

8.1. Test Equipment

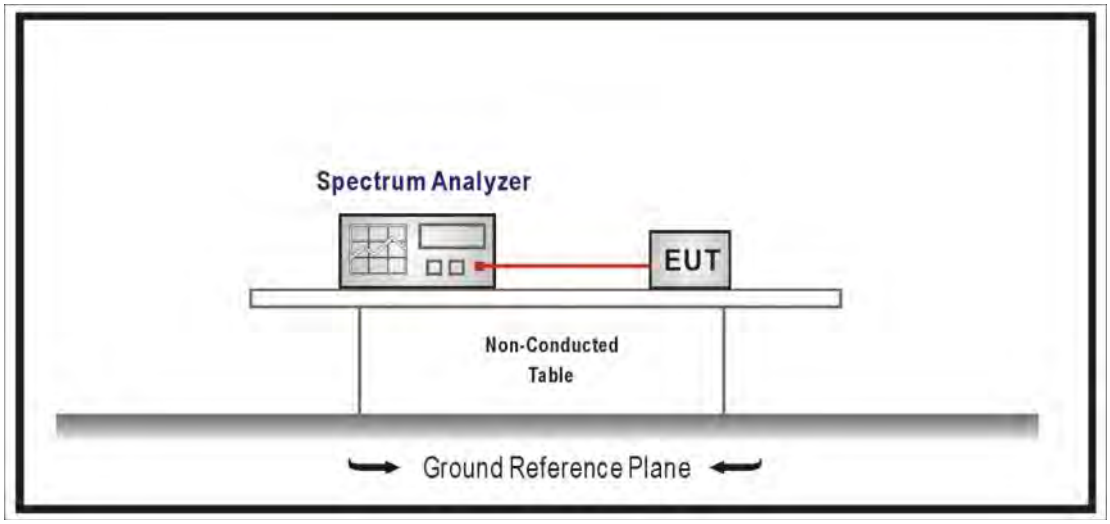
The following test equipments are used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal Analyzer	R&S	FSV7	101650	2017/11/15

Note: All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup



8.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 1-5% of the OBW, Set the VBW≧3xRBW, Sweep Time=Auto.

8.4. Limits

N/A

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

8.6. Uncertainty

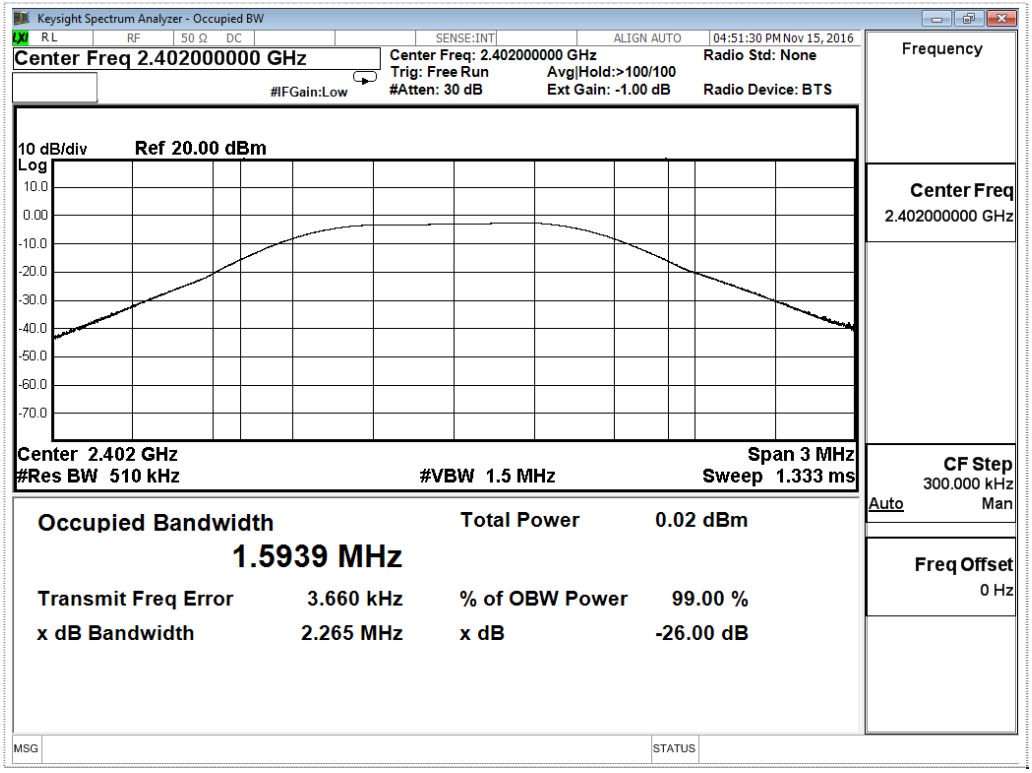
The measurement uncertainty is defined as ±150Hz

8.7. Test Result

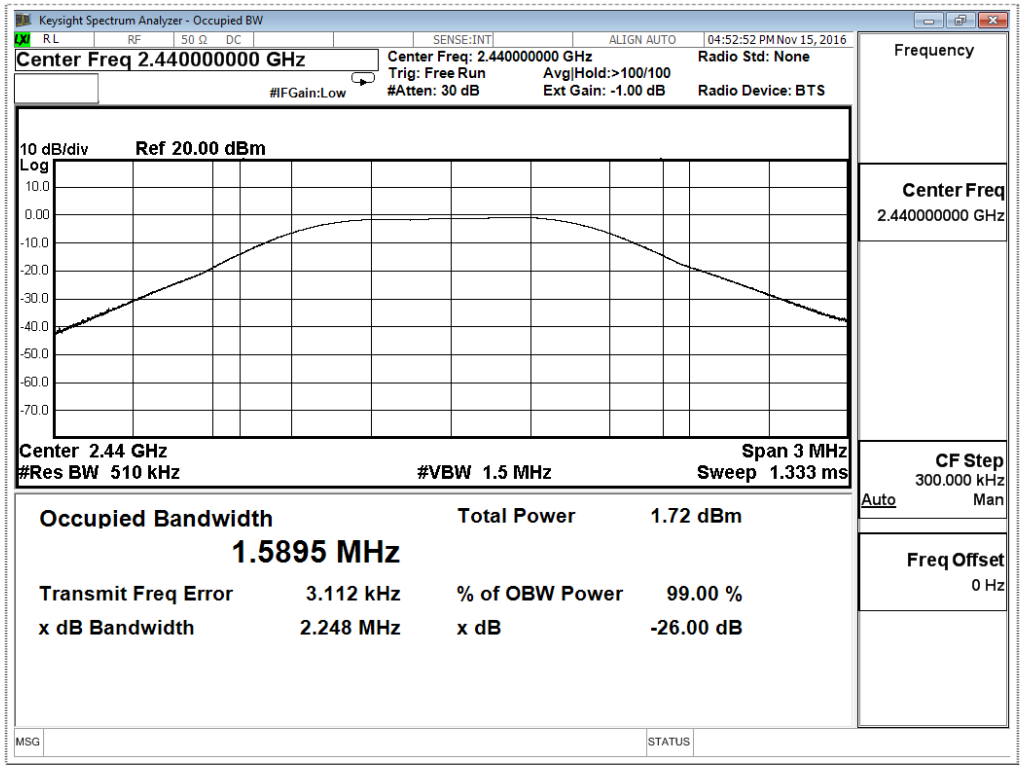
Product	Headphone		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.5939	--	Pass
19	2440	1.5895	--	Pass
39	2480	1.6025	--	Pass

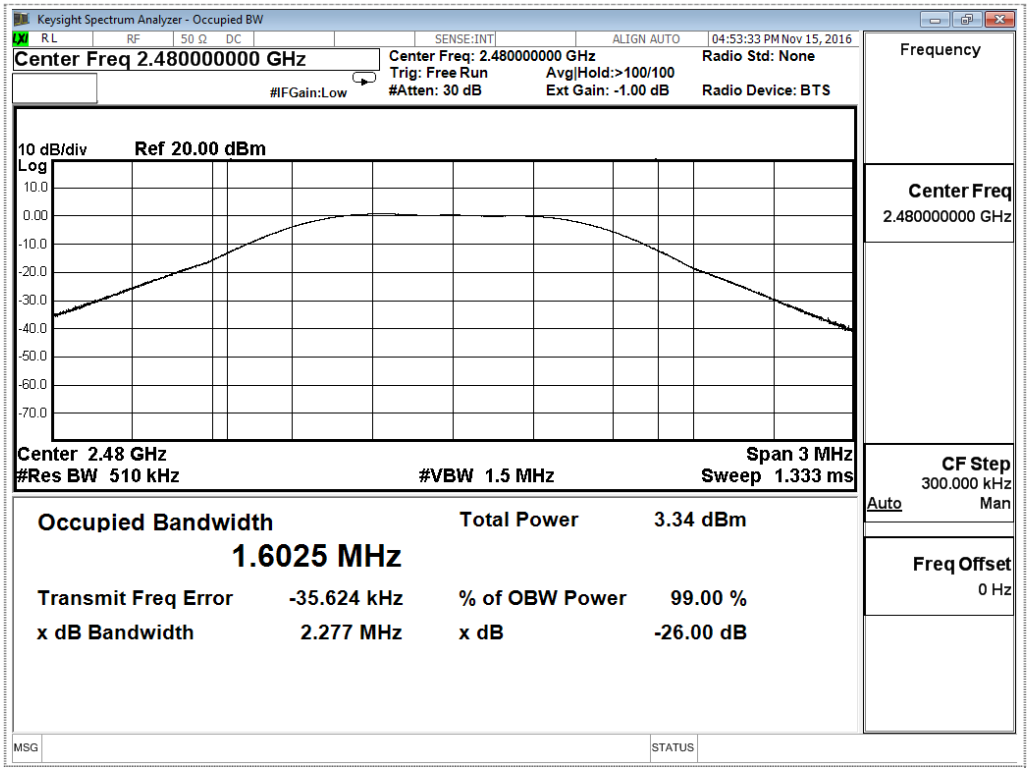
Channel 00



Channel 19



Channel 39



9. Power Density

9.1. Test Equipment

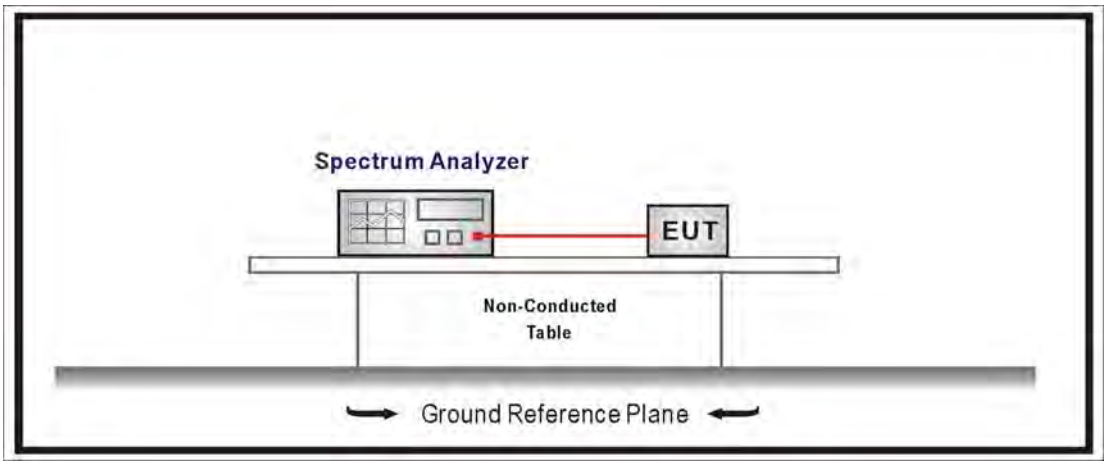
The following test equipment is used during the test:

Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal Analyzer	R&S	FSV7	101650	2016/11/30

Note: All equipments that need to calibrate are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

9.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure section 10.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.
Set 3KHz ≦RBW≦100 kHz, Set VBW≧3xRBW, Sweep time=Auto, Set Peak detector;
The tested according to section E)c) of KDB662911 v02v01.

9.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

9.6. Uncertainty

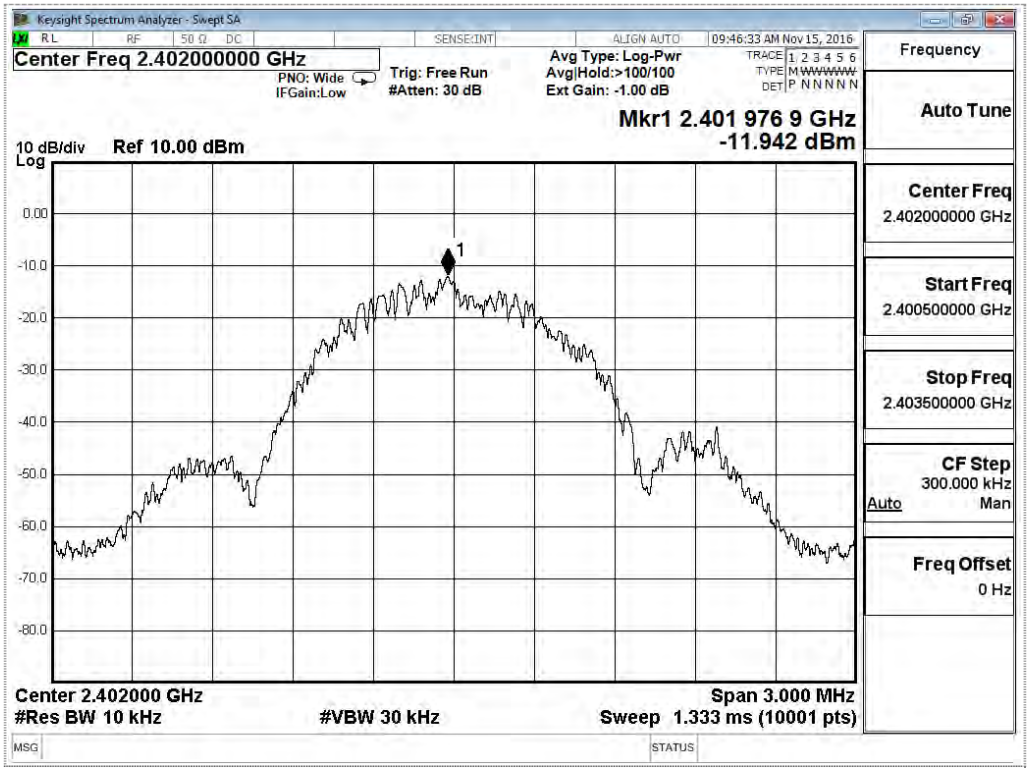
The measurement uncertainty is defined as ±1.27dB.

9.7. Test Result

Product	Headphone		
Test Item	Power Density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2016/11/15	Test Site	SR7

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-11.942	≦8	Pass
19	2440	-10.478	≦8	Pass
39	2480	-9.143	≦8	Pass

Channel 00



Channel 19

Channel 39