

FCC Test Report

Product Name : Bluetooth Headphone

Trade Name : Plantronics

Model No. : B8200

FCC ID. : AL8-V8200

Applicant : Plantronics, Inc.

Address : 345 Encinal Street, Santa Cruz, CA95060 USA

Date of Receipt : Aug. 03, 2018

Issued Date : Aug. 22, 2018

Report No. : 1880049R-RFUSP01V00

Report Version : V1.0



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

Test Report Certification

Issued Date : Aug. 22, 2018

Report No. : 1880049R-RFUSP01V00



Product Name : Bluetooth Headphone
Applicant : Plantronics, Inc.
Address : 345 Encinal Street, Santa Cruz, CA95060 USA
Manufacturer : Plantronics, Inc.
Trade Name : Plantronics
Model No. : B8200
FCC ID. : AL8-V8200
EUT Voltage : DC 3.7V
Testing Voltage : AC 120V/60Hz (Powered by PC)
DC 3.7V (Powered by Battery)
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2017
ANSI C63.10: 2013
Laboratory Name : Hsin Chu Laboratory
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu
County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result : Complied

Documented By :



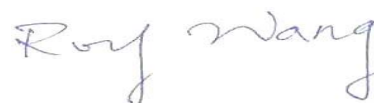
(Carol Tsai / Senior Engineering Adm. Specialist)

Tested By :



(Andy Tsai / Senior Engineer)

Approved By :



(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1880049R-RFUSP01V00	V1.0	Initial issue of report	Aug. 22, 2018

TABLE OF CONTENTS

Description	Page
1. General Information.....	6
1.1. EUT Description	6
1.2. Test Mode	7
1.3. Tested System Details	8
1.4. Configuration of tested System	8
1.5. EUT Exercise Software	8
1.6. Test Facility.....	9
1.7. List of Test Equipment	10
1.8. Duty cycle	12
1.9. Uncertainty	13
2. Conducted Emission	14
2.1. Test Setup.....	14
2.2. Limits	14
2.3. Test Procedure	15
2.4. Test Specification.....	15
2.5. Test Result.....	16
3. Maximum peak conducted output power.....	18
3.1. Test Setup.....	18
3.2. Test procedures	18
3.3. Limits	18
3.4. Test Specification.....	18
3.5. Test Result.....	19
4. Radiated Emission	20
4.1. Test Setup.....	20
4.2. Limits	21
4.3. Test Procedure	22
4.4. Test Specification.....	22
4.5. Test Result.....	23
5. RF antenna conducted test	39
5.1. Test Setup.....	39
5.2. Limits	39
5.3. Test Procedure	39
5.4. Test Specification.....	39
5.5. Test Result.....	40
6. Radiated Emission Band Edge.....	44
6.1. Test Setup.....	44
6.2. Limits	44
6.3. Test Procedure	44
6.4. Test Specification.....	44
6.5. Test Result.....	45
7. Occupied Bandwidth & DTS Bandwidth	57
7.1. Test Setup.....	57

7.2.	Limits	57
7.3.	Test Procedures.....	57
7.4.	Test Specification.....	57
7.5.	Test Result.....	58
8.	Power Density	62
8.1.	Test Setup.....	62
8.2.	Limits	62
8.3.	Test Procedures.....	62
8.4.	Test Specification.....	62
8.5.	Test Result.....	63
Attachment 1	65
	Test Setup Photograph	65
Attachment 2	69
	EUT External Photograph.....	69
Attachment 3	74
	EUT Internal Photograph.....	74

1. General Information

1.1. EUT Description

Product Name	Bluetooth Headphone
Trade Name	Plantronics
Model No.	B8200
Frequency Range/Channel Number	2402~2480MHz / 40 Channels
Type of Modulation	GFSK

Antenna Information	
MFR. / Model No.	Goertek / N/A
Antenna Type	PCB Antenna
Antenna Gain	2.3dBi

Accessories Information	
Micro-USB Cable	Shielded, 1m.

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 Bluetooth Headphone support BT4.0 transmitting and receiving function.
2. 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.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Test Mode	Mode 1: Transmit (Powered by PC) Mode 2: Powered by Battery
-----------	--

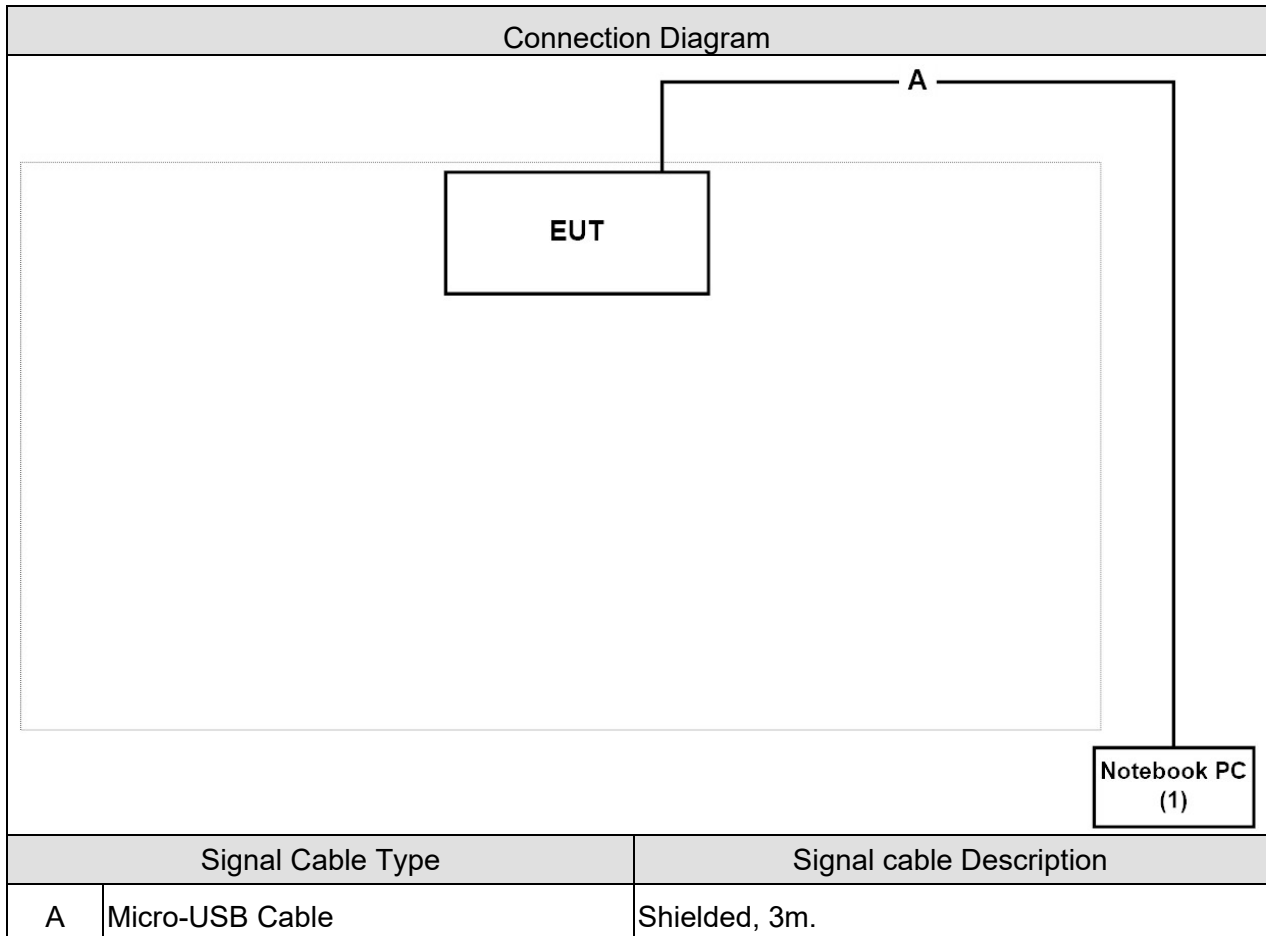
Test Items	Modulation	Channel	Result
Conducted Emission	GFSK	19	Complies
Maximum peak conducted output power	GFSK	00/19/39	Complies
Radiated Emission	GFSK	00/19/39	Complies
RF antenna conducted test	GFSK	00/19/39	Complies
Radiated Emission Radiated Emission Band Edge	GFSK	00/19/39	Complies
Occupied Bandwidth & DTS Bandwidth	GFSK	00/19/39	Complies
Power Density	GFSK	00/19/39	Complies

1.3. Tested System Details

The types for all equipment, 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	DELL	PP26L	66TLZ1S	DoC	Non-Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the “Blue Test 3” on the laptop.
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	Test Site
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20	3
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Maximum peak conducted output power	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	25	2
Humidity (%RH)		25 - 75	54	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission Band Edge	15 - 35	25	2
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth & DTS Bandwidth	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test site information refers to Laboratory Information.

USA : **FCC Registration Number: TW3024**
Canada **IC Registration Number: 22397-1 / 22397-2 / 22397-3**

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

<http://www.dekra.com.tw/english/about/certificates.aspx?bval=5>

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

- No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan (R.O.C.)
TEL: +886-3-592-8858 / FAX: +886-3-592-8859 E-Mail : info.tw@dekra.com
- No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com
- No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

1.7. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2018/01/22	2019/01/21
Test Receiver	R&S	ESCS 30	836858/022	2018/03/30	2019/03/29
LISN	R&S	ENV216	100092	2018/07/23	2019/07/22

Maximum peak conducted output power / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411B	1531043	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411B	1531044	2018/01/02	2019/01/01
Power Meter	Keysight	8990B	MY51000248	2018/06/07	2019/06/06
Power Sensor	Keysight	N1923A	MY57240005	2018/06/07	2019/06/06

Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Radiated Emission Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

Occupied Bandwidth & DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

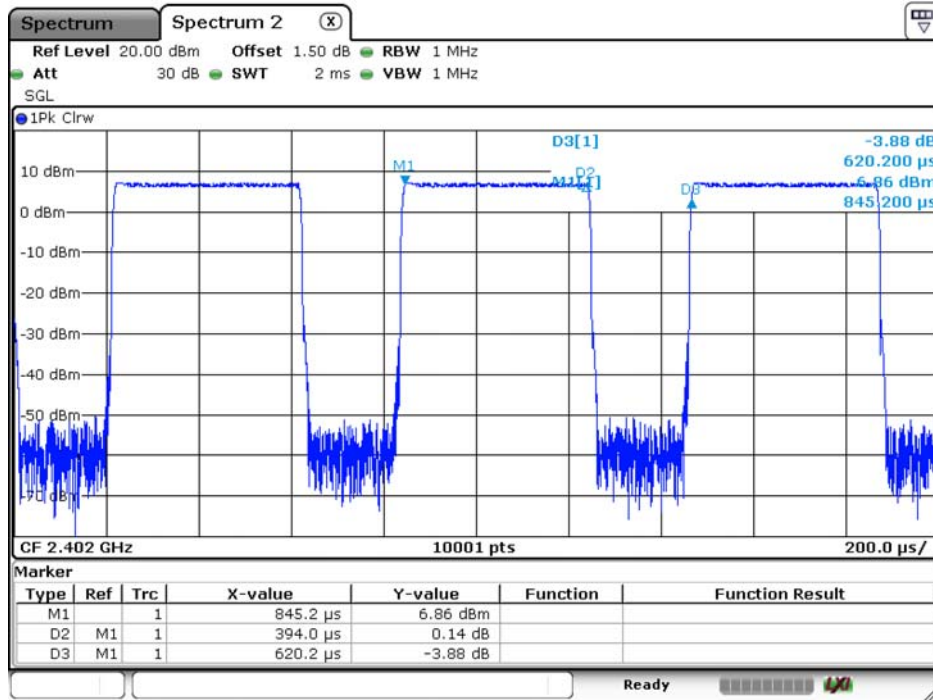
Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.8. Duty cycle

On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
0.394	0.620	63.55%	1.97	2.54



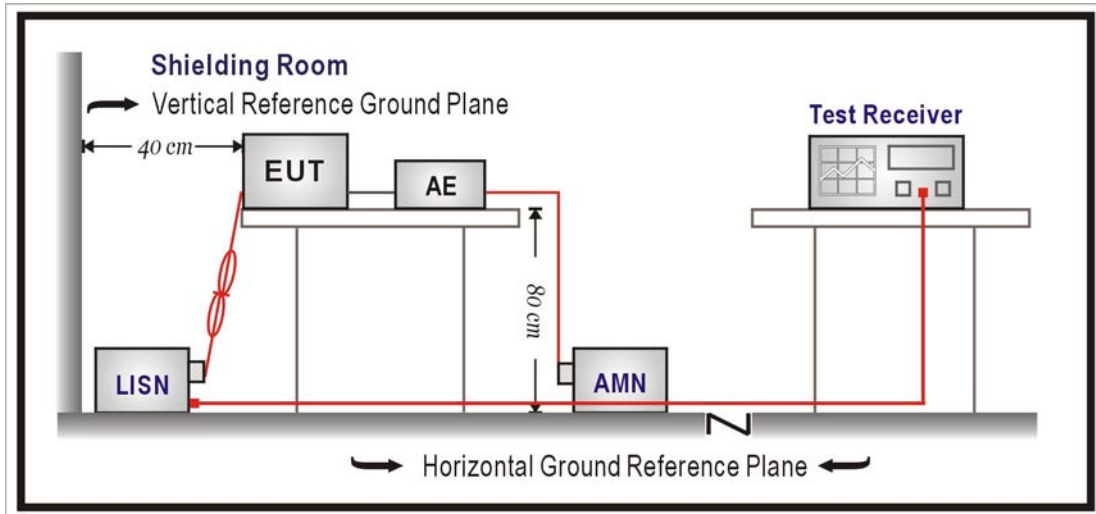
Date: 9.AUG.2018 04:16:44

1.9. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
Maximum peak conducted output power	± 1.27 dB
Radiated Emission	30MHz~1GHz as ± 3.43 dB 1GHz~26.5GHz as ± 3.65 dB
RF antenna conducted test	± 1.27 dB
Radiated Emission Radiated Emission Band Edge	± 3.9 dB
Occupied Bandwidth & DTS Bandwidth	± 50 kHz
Power Density	± 1.27 dB

2. Conducted Emission

2.1. Test Setup



2.2. 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 Radiated Emission Band Edges.

2.3. 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. (Please refer to the block diagram of the test setup and photographs.)

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: 2014 on conducted measurement.

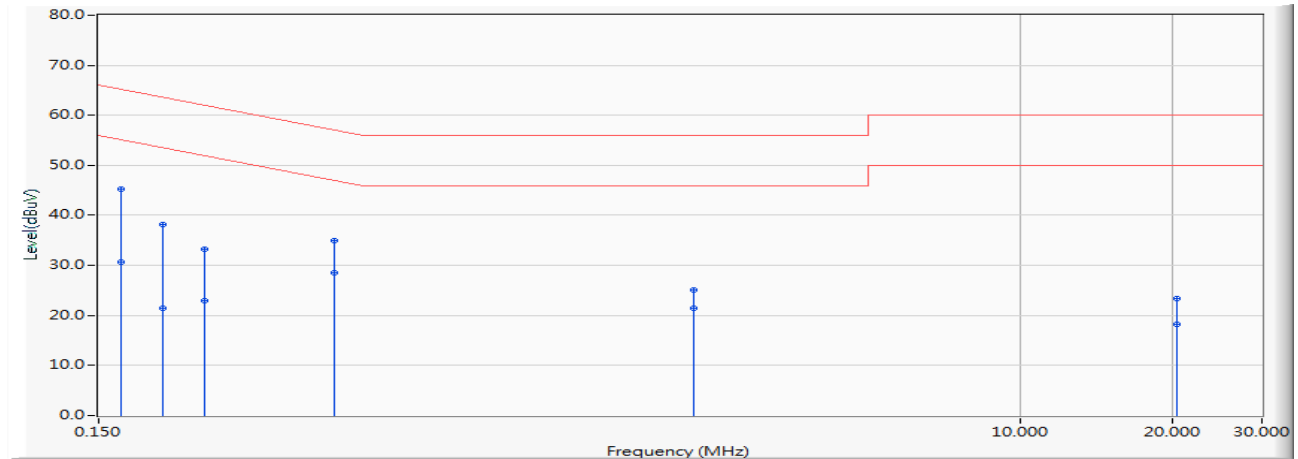
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9KHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2017

2.5. Test Result

Site : SR2-H	Time : 2018/08/20
Limit : CISPR B_00M_QP	Margin : 10
Probe : SR2-B127_LISN(16A)-8 - Line1	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

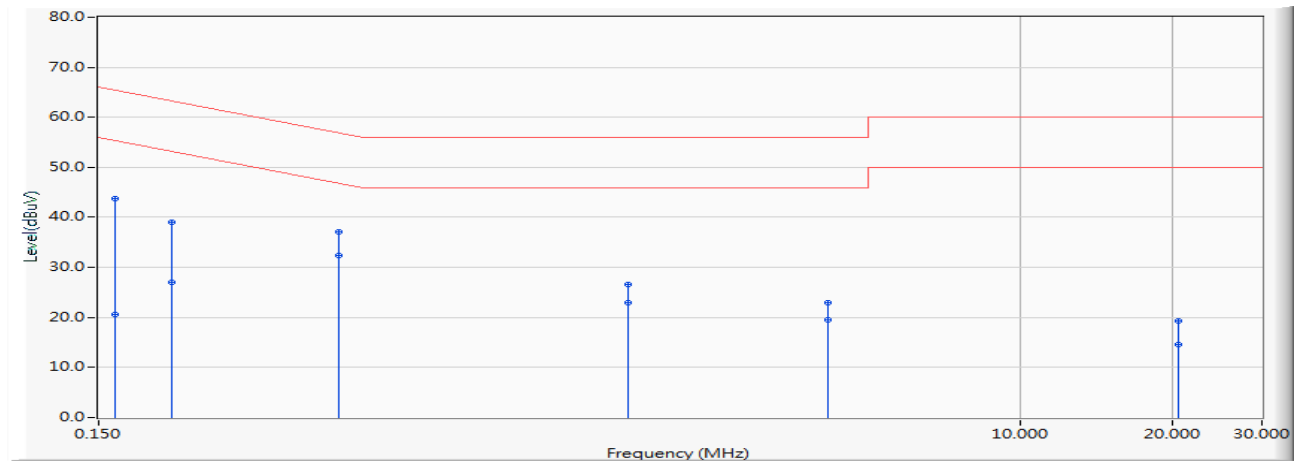


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.166	9.680	35.640	45.320	-19.857	65.177	QUASPEAK
2	0.166	9.680	21.060	30.740	-24.437	55.177	AVERAGE
3	0.201	9.680	28.400	38.080	-25.498	63.578	QUASPEAK
4	0.201	9.680	11.780	21.460	-32.118	53.578	AVERAGE
5	0.244	9.680	23.580	33.260	-28.707	61.967	QUASPEAK
6	0.244	9.680	13.180	22.860	-29.107	51.967	AVERAGE
7	0.439	9.681	25.320	35.001	-22.079	57.079	QUASPEAK
8	* 0.439	9.681	18.850	28.531	-18.549	47.079	AVERAGE
9	2.252	9.801	15.380	25.181	-30.819	56.000	QUASPEAK
10	2.252	9.801	11.560	21.361	-24.639	46.000	AVERAGE
11	20.314	10.412	13.000	23.412	-36.588	60.000	QUASPEAK
12	20.314	10.412	7.870	18.282	-31.718	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.

Site : SR2-H	Time : 2018/08/20
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-B127_LISN(16A)-8 - Line2	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz



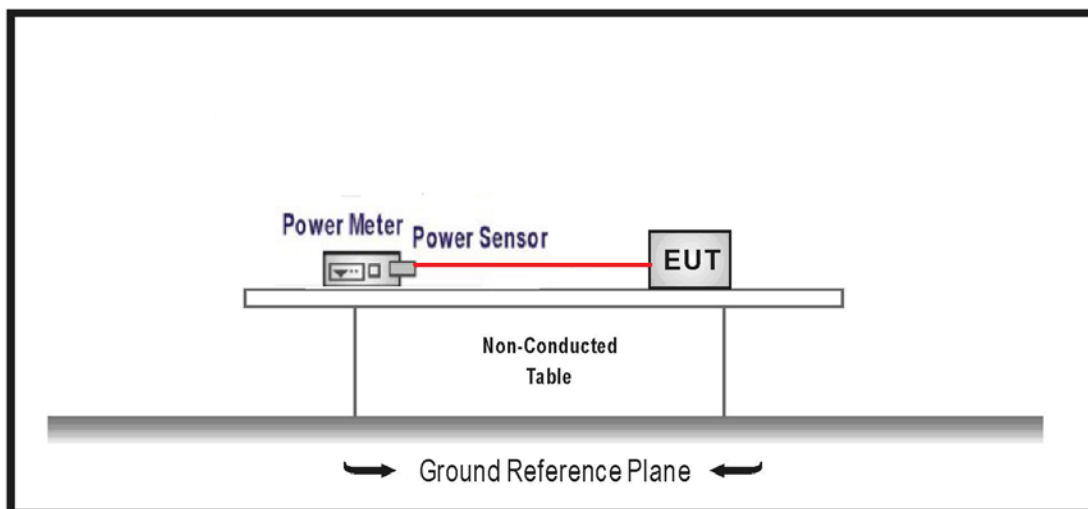
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.162	9.680	34.140	43.820	-21.555	65.375	QUASPEAK
2	0.162	9.680	10.830	20.510	-34.865	55.375	AVERAGE
3	0.209	9.680	29.420	39.100	-24.161	63.261	QUASPEAK
4	0.209	9.680	17.350	27.030	-26.231	53.261	AVERAGE
5	0.447	9.681	27.440	37.121	-19.812	56.933	QUASPEAK
6	*	9.681	22.770	32.451	-14.482	46.933	AVERAGE
7	1.670	9.797	16.820	26.617	-29.383	56.000	QUASPEAK
8	1.670	9.797	13.180	22.977	-23.023	46.000	AVERAGE
9	4.150	9.822	13.220	23.042	-32.958	56.000	QUASPEAK
10	4.150	9.822	9.760	19.582	-26.418	46.000	AVERAGE
11	20.466	10.359	8.920	19.279	-40.721	60.000	QUASPEAK
12	20.466	10.359	4.180	14.539	-35.461	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. Maximum peak conducted output power

3.1. Test Setup



3.2. Test procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements.

3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2017

3.5. Test Result

Product	Bluetooth Headphone		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H

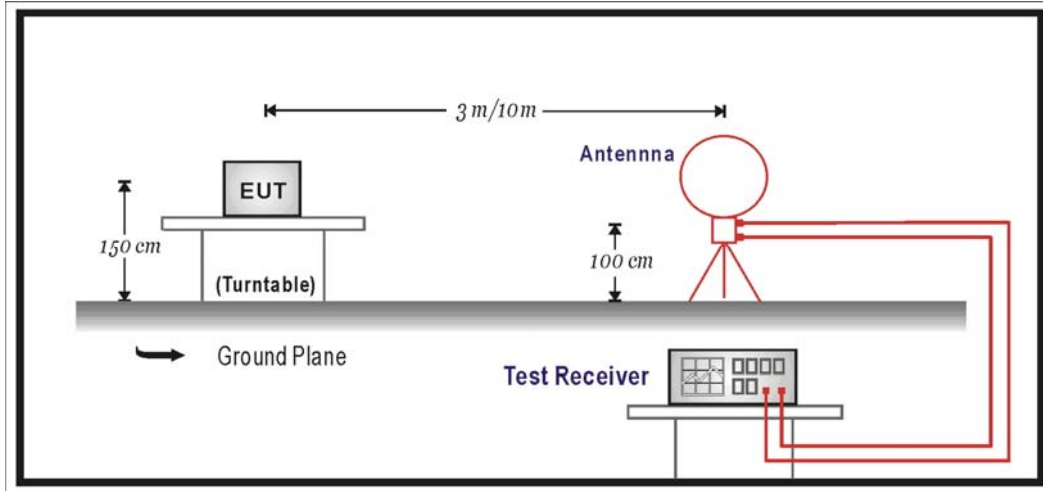
GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
0	2402	7.710	≤ 30
19	2440	7.760	≤ 30
39	2480	7.800	≤ 30

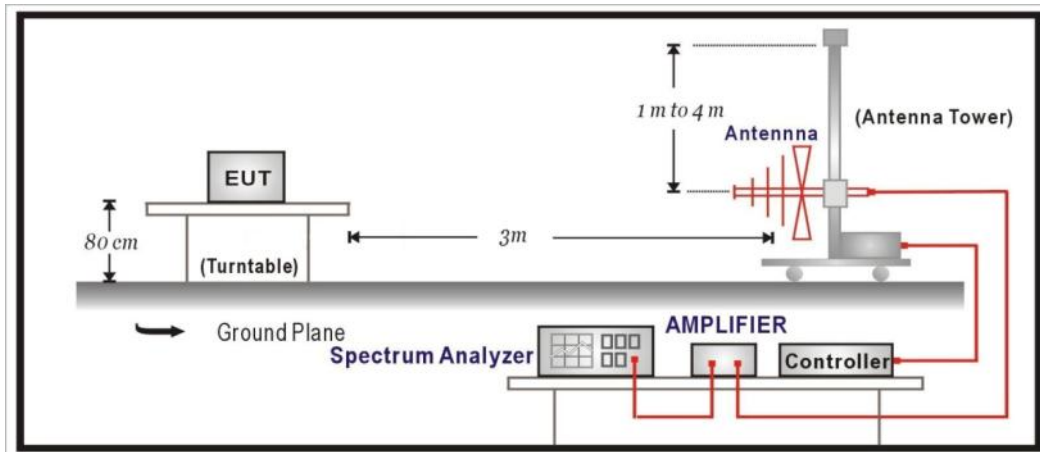
4. Radiated Emission

4.1. Test Setup

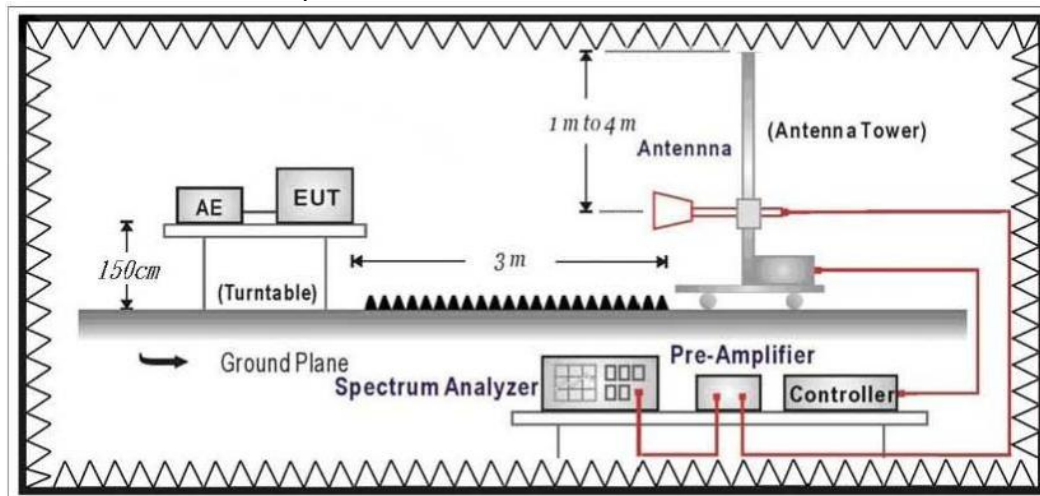
Under 30MHz Test Setup:



Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.2. 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	uV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

- Remarks:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the Radiated Emission 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.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements. The EUT and its simulators are placed on a turn table which is 0.8 or 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 from 9KHz (include The the lowest oscillator frequency generated within the device up to the 10th harmonic) 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.

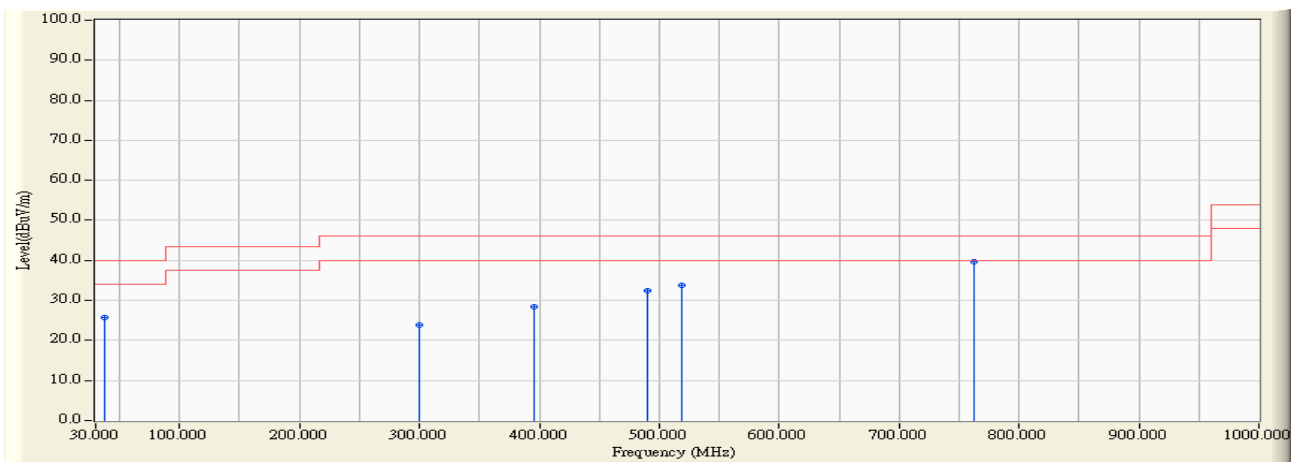
4.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247:2017

4.5. Test Result

30MHz-1GHz Spurious

Site : CB4-H	Time : 2018/08/11
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

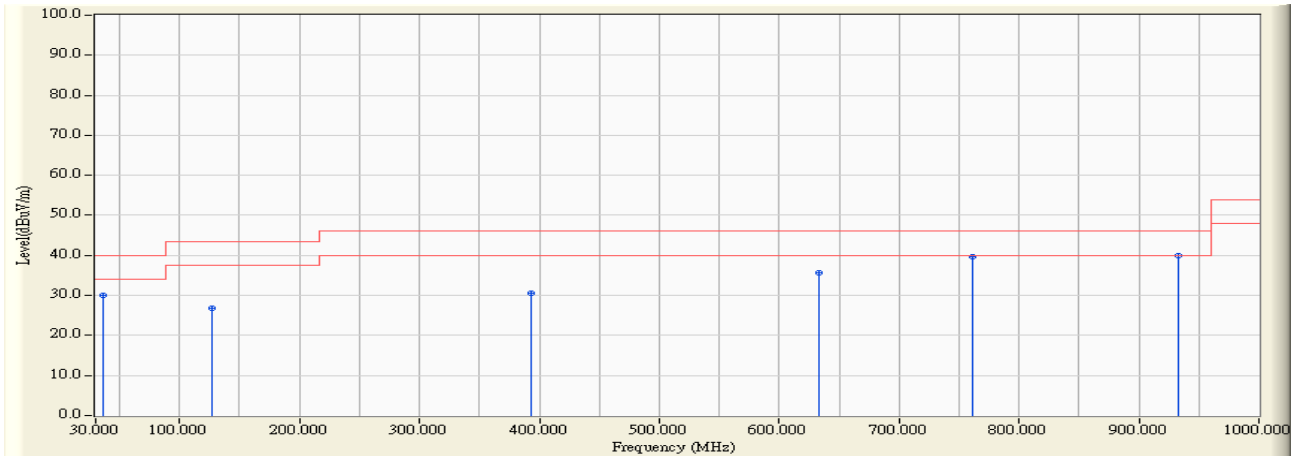


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	37.274	-16.162	42.003	25.841	-14.159	40.000	QUASPEAK
2	300.409	-18.951	42.912	23.962	-22.038	46.000	QUASPEAK
3	395.168	-15.490	43.778	28.288	-17.712	46.000	QUASPEAK
4	490.122	-13.598	46.059	32.461	-13.539	46.000	QUASPEAK
5	518.734	-12.547	46.336	33.789	-12.211	46.000	QUASPEAK
6	* 763.053	-10.413	50.193	39.780	-6.220	46.000	QUASPEAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

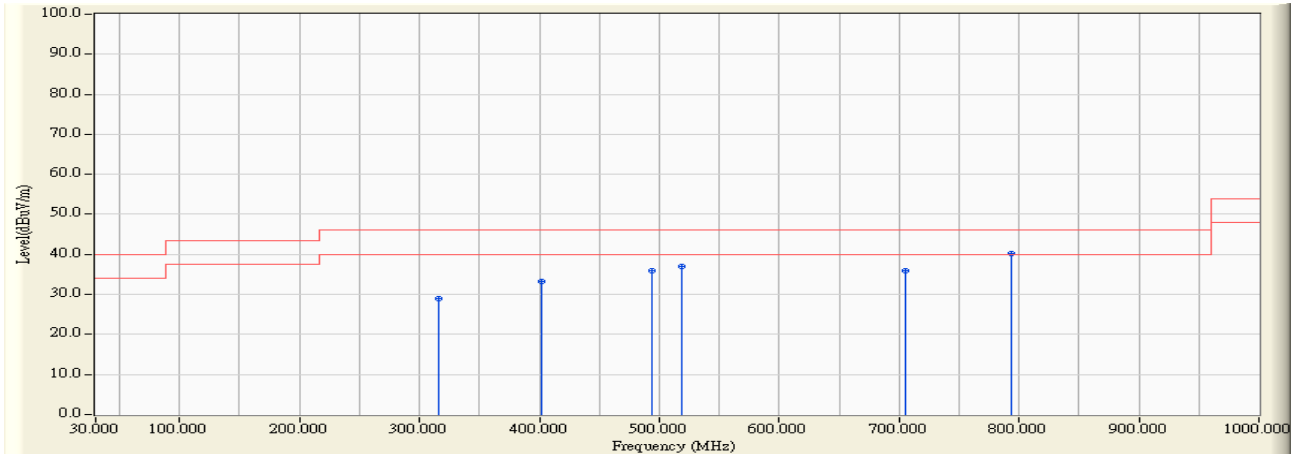


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	36.401	-16.230	46.193	29.963	-10.037	40.000	QUASIPeAK
2	126.893	-20.848	47.656	26.808	-16.692	43.500	QUASIPeAK
3	392.841	-15.671	46.335	30.663	-15.337	46.000	QUASIPeAK
4	633.377	-11.522	47.252	35.730	-10.270	46.000	QUASIPeAK
5	760.628	-10.310	50.067	39.757	-6.243	46.000	QUASIPeAK
6	* 932.398	-7.242	47.312	40.070	-5.930	46.000	QUASIPeAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 3.7V (Powered by Battery)
EUT : Bluetooth Headphone	Note : Mode 2: Powered by Battery

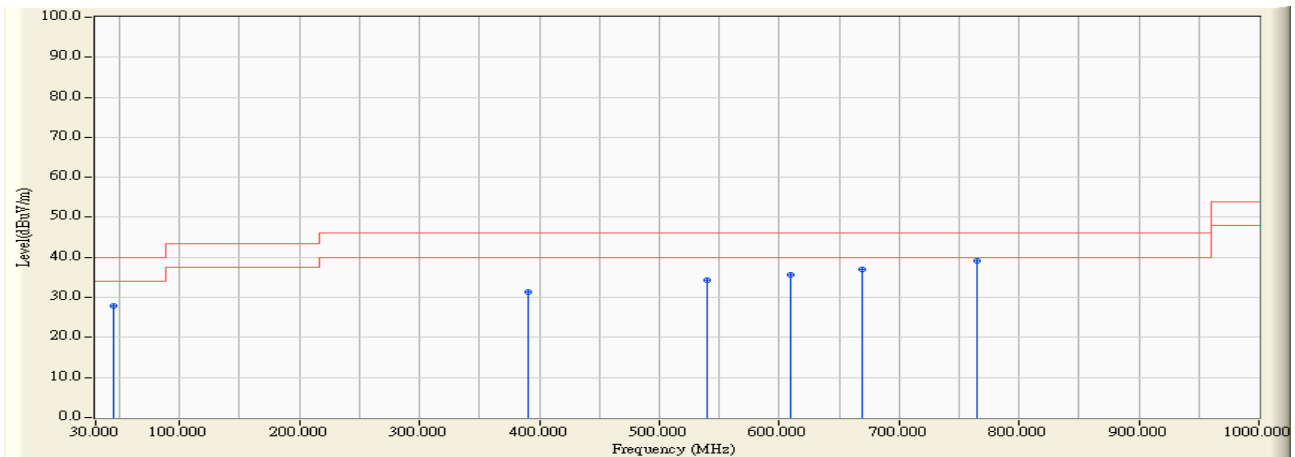


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	316.218	-18.932	47.978	29.046	-16.954	46.000	QUASIPeAK
2	401.376	-15.601	48.748	33.147	-12.853	46.000	QUASIPeAK
3	494.002	-14.279	50.165	35.886	-10.114	46.000	QUASIPeAK
4	518.540	-12.519	49.463	36.944	-9.056	46.000	QUASIPeAK
5	704.859	-11.705	47.588	35.882	-10.118	46.000	QUASIPeAK
6	* 793.411	-9.593	49.917	40.324	-5.676	46.000	QUASIPeAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 3.7V (Powered by Battery)
EUT : Bluetooth Headphone	Note : Mode 2: Powered by Battery



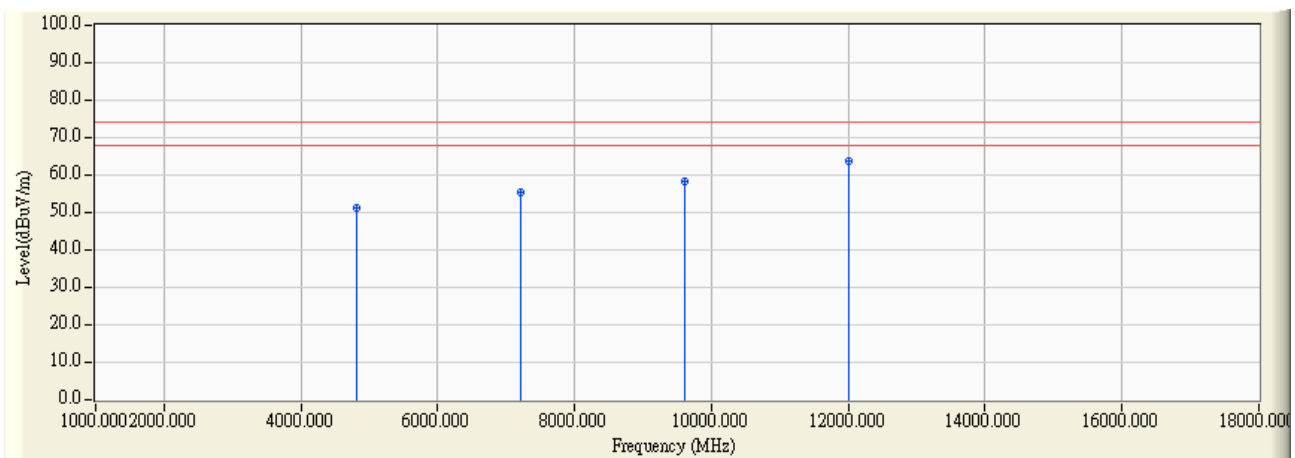
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	44.840	-21.730	49.704	27.974	-12.026	40.000	QUASPEAK
2	391.095	-15.483	46.975	31.492	-14.508	46.000	QUASPEAK
3	539.975	-12.494	46.734	34.240	-11.760	46.000	QUASPEAK
4	609.517	-11.491	47.130	35.639	-10.361	46.000	QUASPEAK
5	669.554	-10.420	47.401	36.982	-9.018	46.000	QUASPEAK
6	* 764.411	-10.555	49.712	39.156	-6.844	46.000	QUASPEAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Harmonic & Spurious:

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

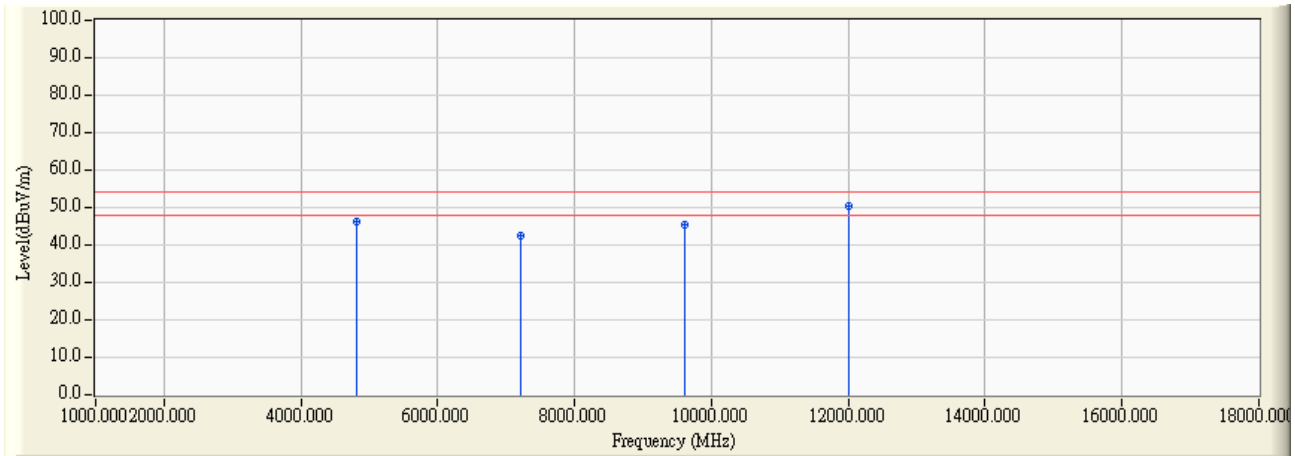


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4804.000	8.252	42.980	51.233	-22.767	74.000	PEAK
2	7206.000	16.729	38.710	55.439	-18.561	74.000	PEAK
3	9608.000	23.184	35.350	58.535	-15.465	74.000	PEAK
4	* 12010.000	26.768	37.050	63.818	-10.182	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

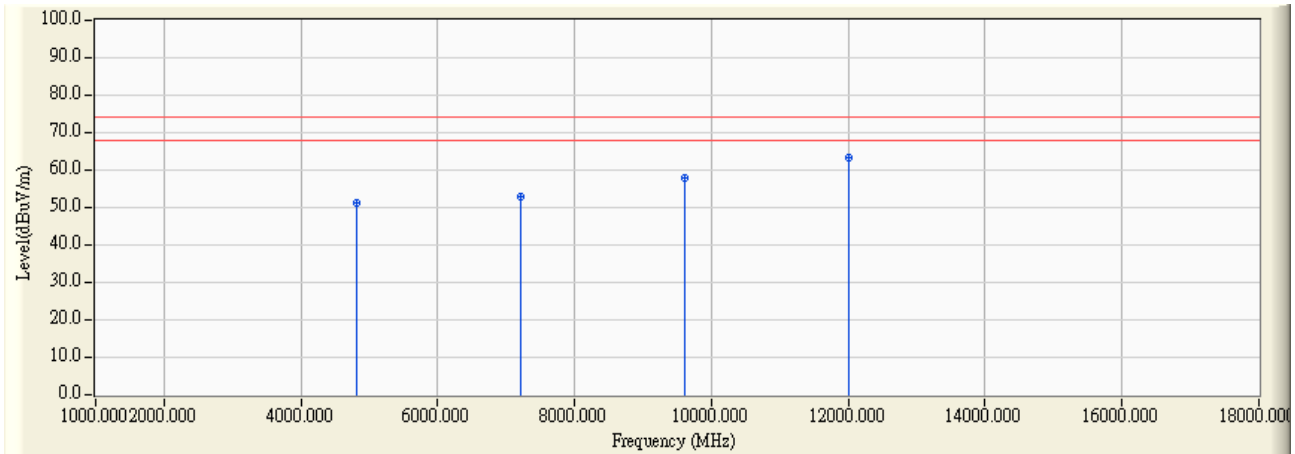


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	8.252	37.900	46.153	-7.847	54.000	AVERAGE
2		7206.000	16.729	25.930	42.659	-11.341	54.000	AVERAGE
3		9608.000	23.184	22.360	45.545	-8.455	54.000	AVERAGE
4	*	12010.000	26.768	23.790	50.558	-3.442	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

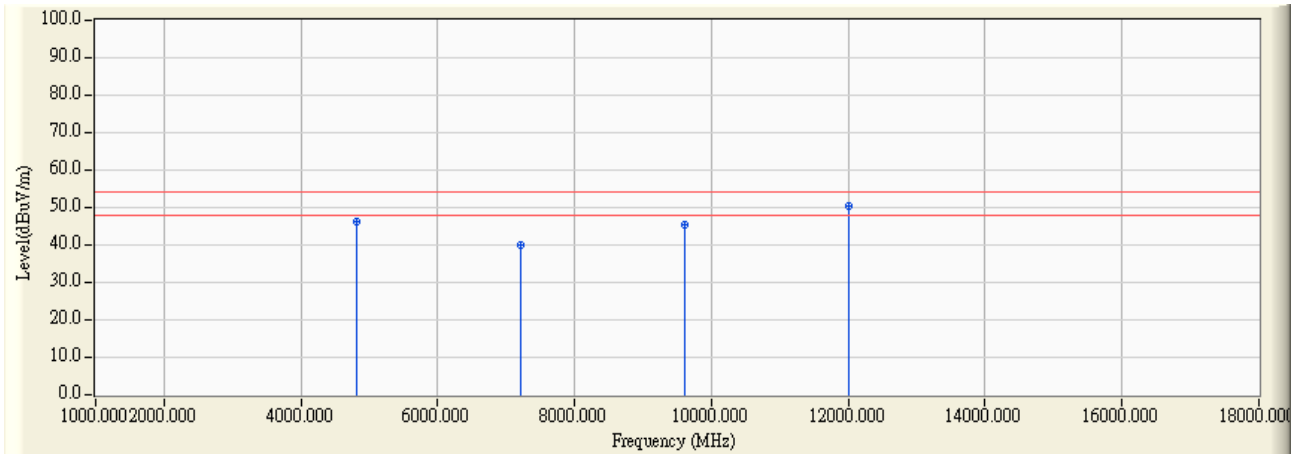


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	8.252	42.890	51.143	-22.857	74.000	PEAK
2		7206.000	16.729	36.270	52.999	-21.001	74.000	PEAK
3		9608.000	23.184	34.870	58.055	-15.945	74.000	PEAK
4	*	12010.000	26.768	36.580	63.348	-10.652	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

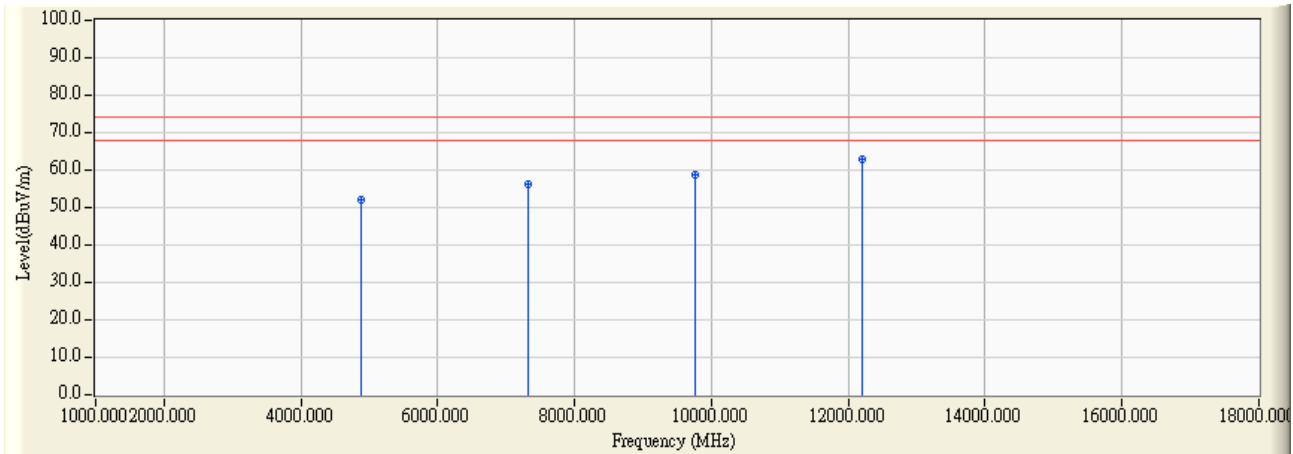


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	8.252	37.820	46.073	-7.927	54.000	AVERAGE
2		7206.000	16.729	23.360	40.089	-13.911	54.000	AVERAGE
3		9608.000	23.184	22.190	45.375	-8.625	54.000	AVERAGE
4	*	12010.000	26.768	23.650	50.418	-3.582	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

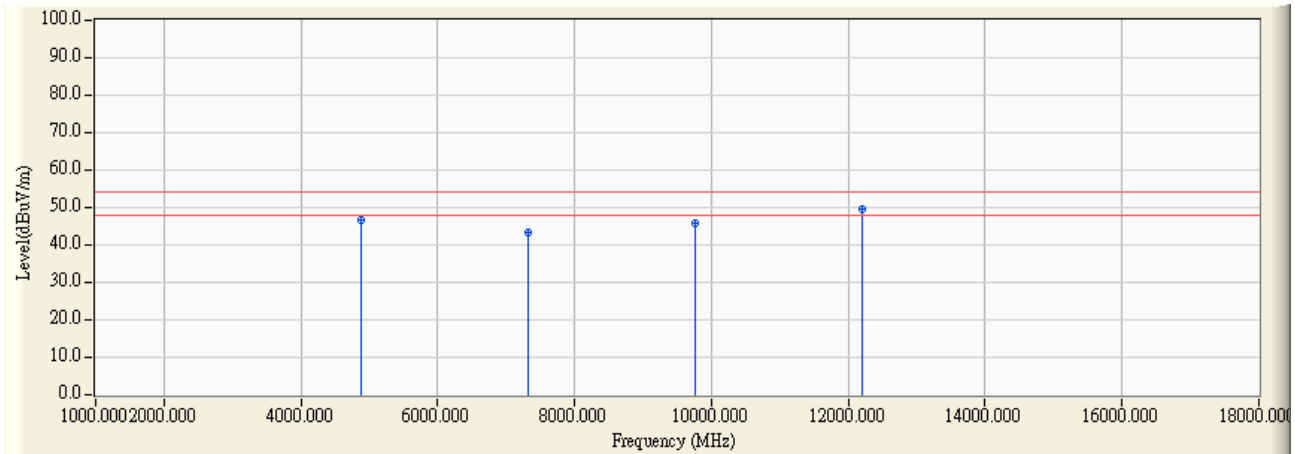


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	8.404	43.620	52.024	-21.976	74.000	PEAK
2		7320.000	17.096	39.210	56.306	-17.694	74.000	PEAK
3		9760.000	23.225	35.400	58.625	-15.375	74.000	PEAK
4	*	12200.000	26.120	36.860	62.980	-11.020	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

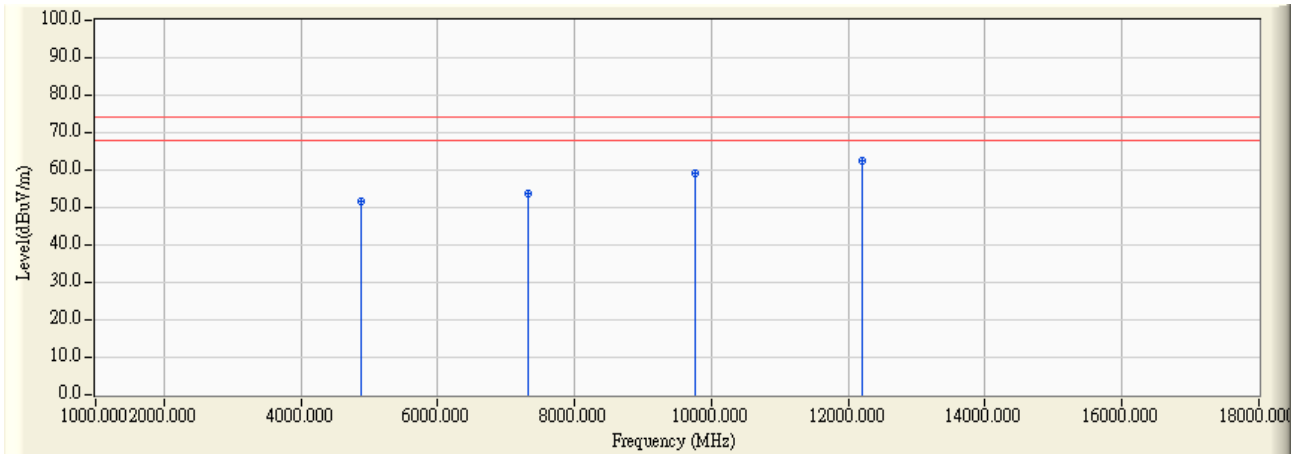


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4880.000	8.404	38.280	46.684	-7.316	54.000	AVERAGE
2	7320.000	17.096	26.190	43.286	-10.714	54.000	AVERAGE
3	9760.000	23.225	22.510	45.735	-8.265	54.000	AVERAGE
4	* 12200.000	26.120	23.610	49.730	-4.270	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

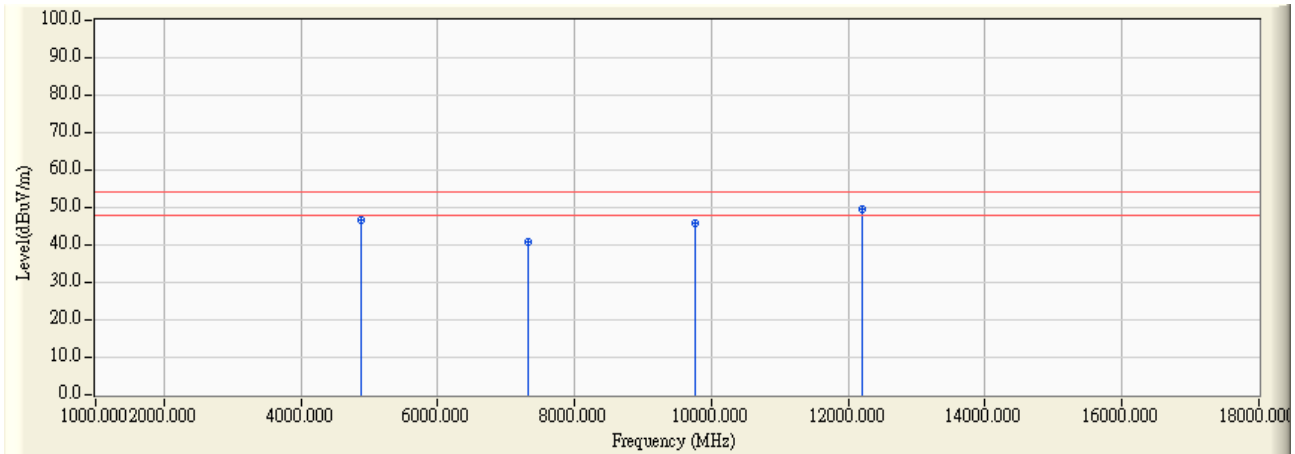


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	8.404	43.360	51.764	-22.236	74.000	PEAK
2		7320.000	17.096	36.840	53.936	-20.064	74.000	PEAK
3		9760.000	23.225	35.950	59.175	-14.825	74.000	PEAK
4	*	12200.000	26.120	36.230	62.350	-11.650	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

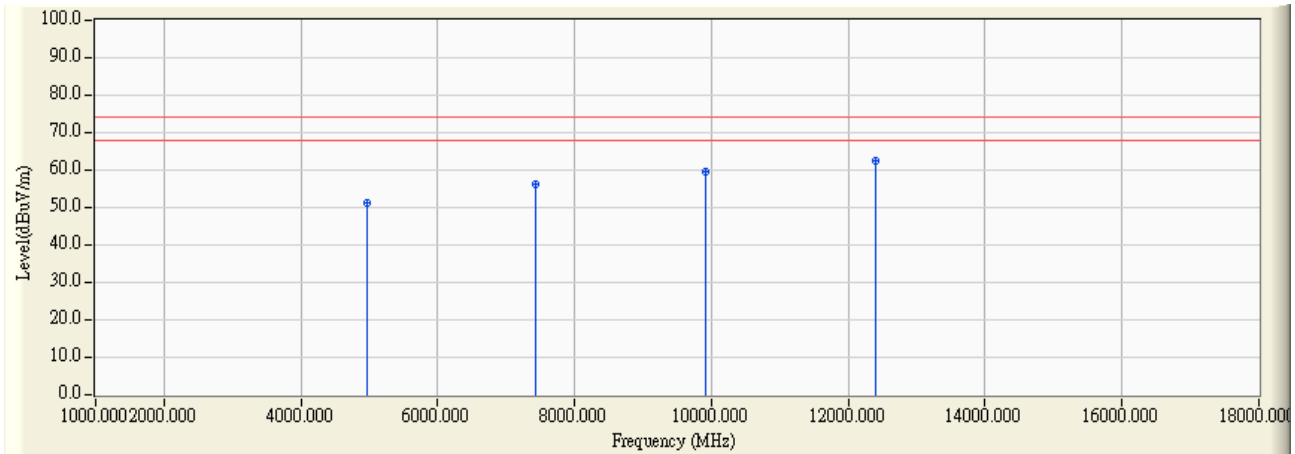


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	8.404	38.260	46.664	-7.336	54.000	AVERAGE
2		7320.000	17.096	23.560	40.656	-13.344	54.000	AVERAGE
3		9760.000	23.225	22.650	45.875	-8.125	54.000	AVERAGE
4	*	12200.000	26.120	23.450	49.570	-4.430	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

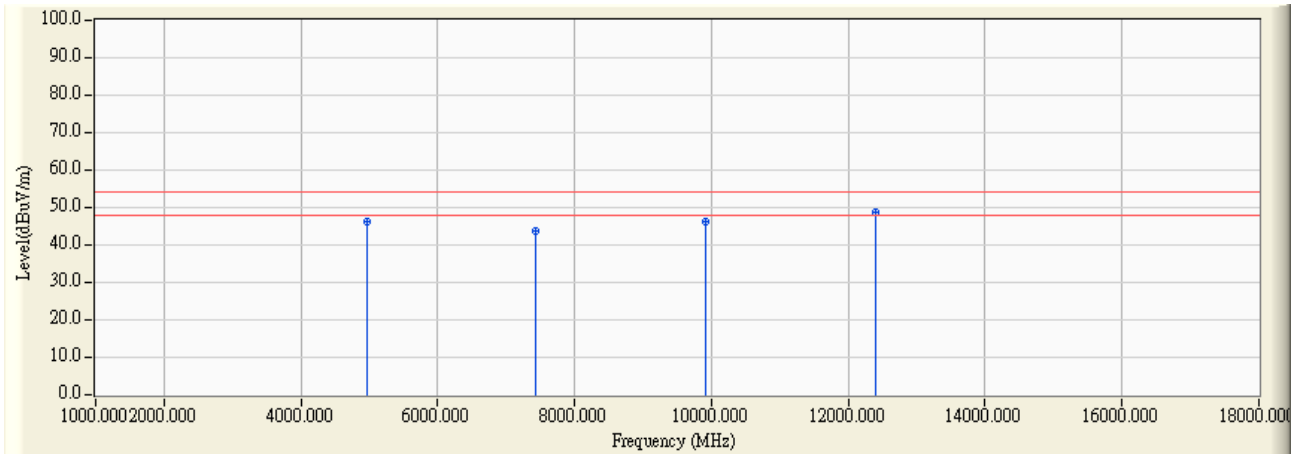


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	8.607	42.840	51.447	-22.553	74.000	PEAK
2		7440.000	17.822	38.550	56.372	-17.628	74.000	PEAK
3		9920.000	23.731	35.870	59.601	-14.399	74.000	PEAK
4	*	12400.000	25.659	36.660	62.319	-11.681	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

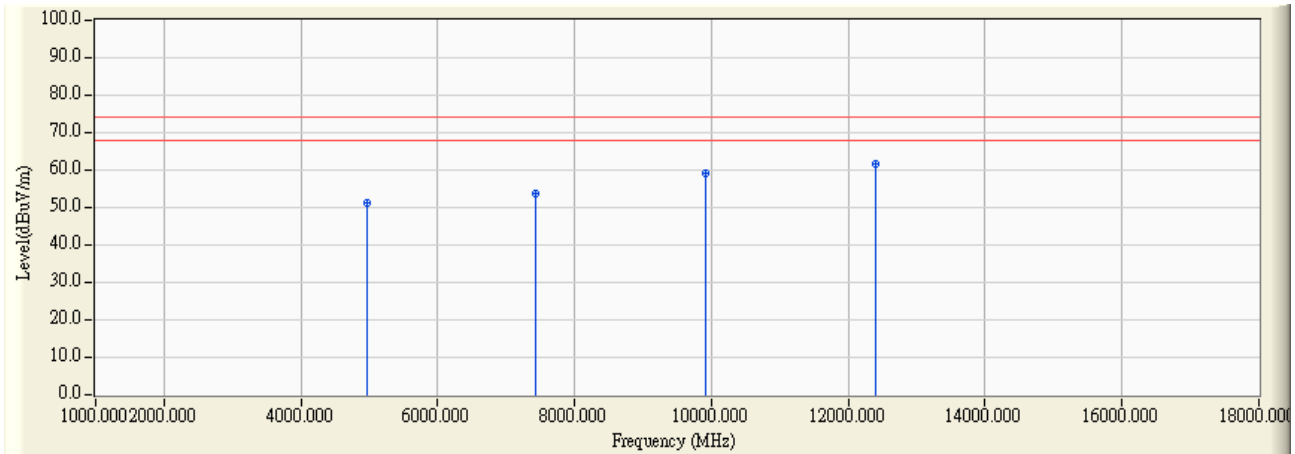


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	8.607	37.580	46.187	-7.813	54.000	AVERAGE
2		7440.000	17.822	25.840	43.662	-10.338	54.000	AVERAGE
3		9920.000	23.731	22.620	46.351	-7.649	54.000	AVERAGE
4	*	12400.000	25.659	23.120	48.779	-5.221	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

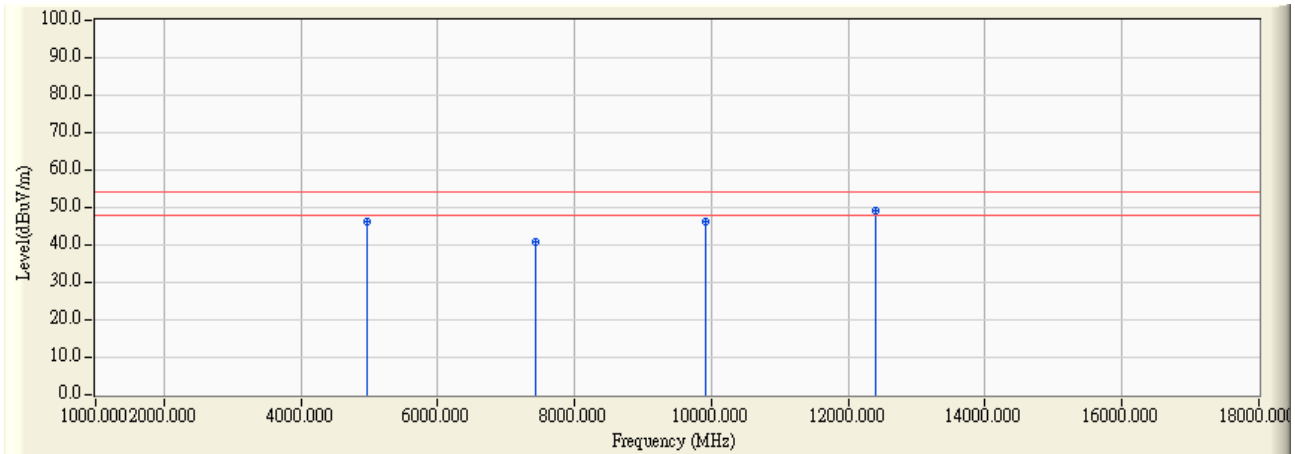


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	8.607	42.710	51.317	-22.683	74.000	PEAK
2		7440.000	17.822	36.020	53.842	-20.158	74.000	PEAK
3		9920.000	23.731	35.260	58.991	-15.009	74.000	PEAK
4	*	12400.000	25.659	36.140	61.799	-12.201	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 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		4960.000	8.607	37.560	46.167	-7.833	54.000	AVERAGE
2		7440.000	17.822	23.100	40.922	-13.078	54.000	AVERAGE
3		9920.000	23.731	22.700	46.431	-7.569	54.000	AVERAGE
4	*	12400.000	25.659	23.400	49.059	-4.941	54.000	AVERAGE

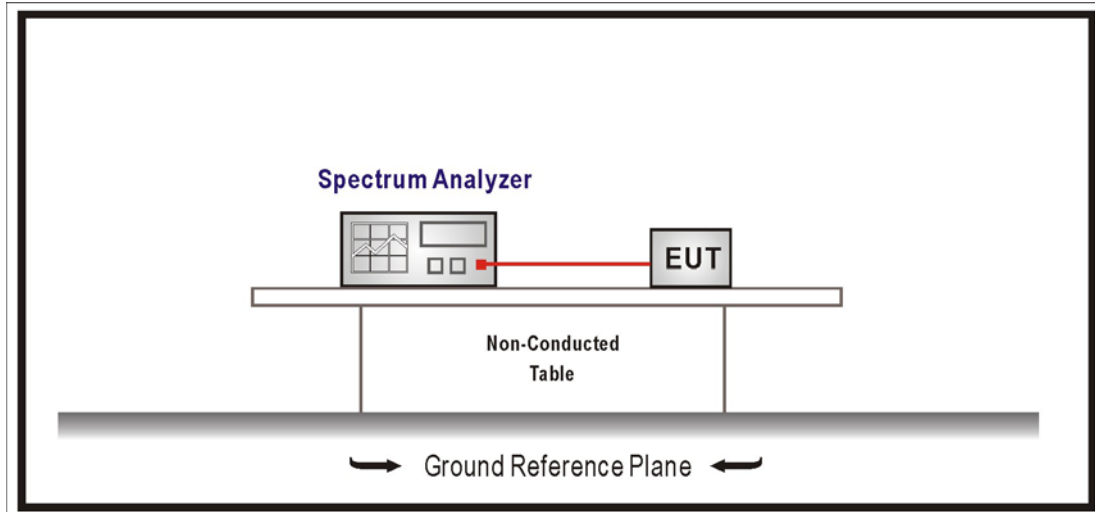
Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

5. RF antenna conducted test

5.1. Test Setup

RF Conducted Measurement:



5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

5.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

5.4. Test Specification

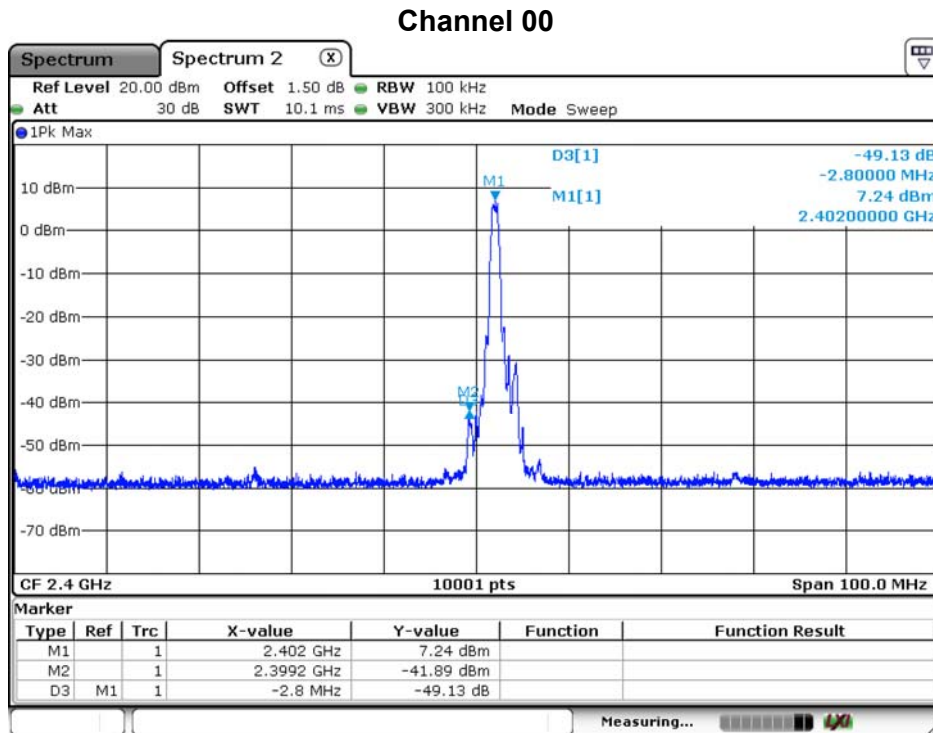
According to FCC Part 15 Subpart C Paragraph 15.247: 2017

5.5. Test Result

Product	Bluetooth Headphone		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H

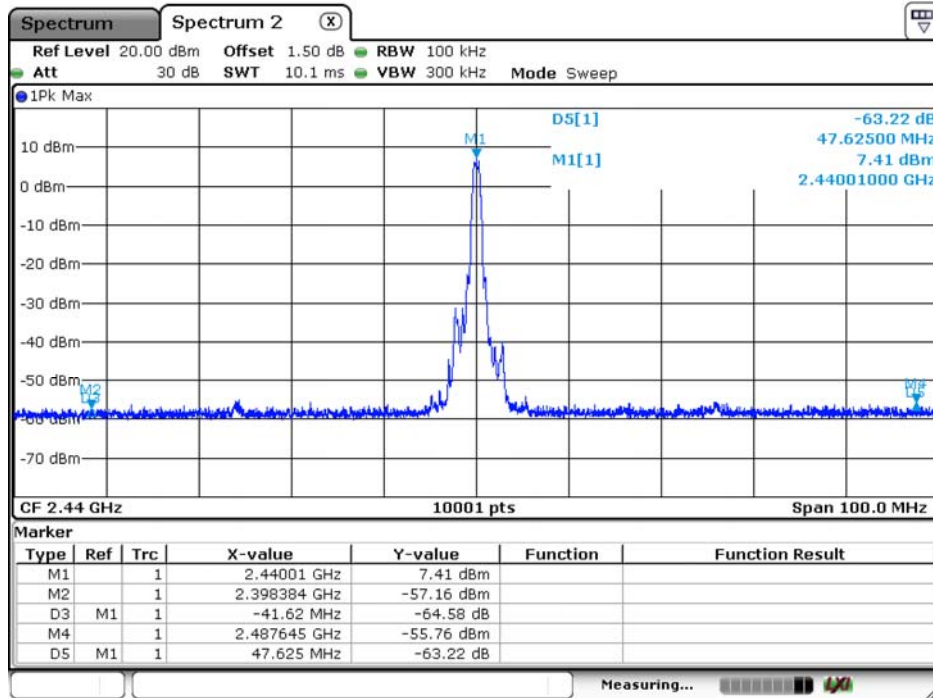
GFSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)
0	2402	49.130	≥ 30
19	2440	56.800	≥ 30
39	2480	56.360	≥ 30



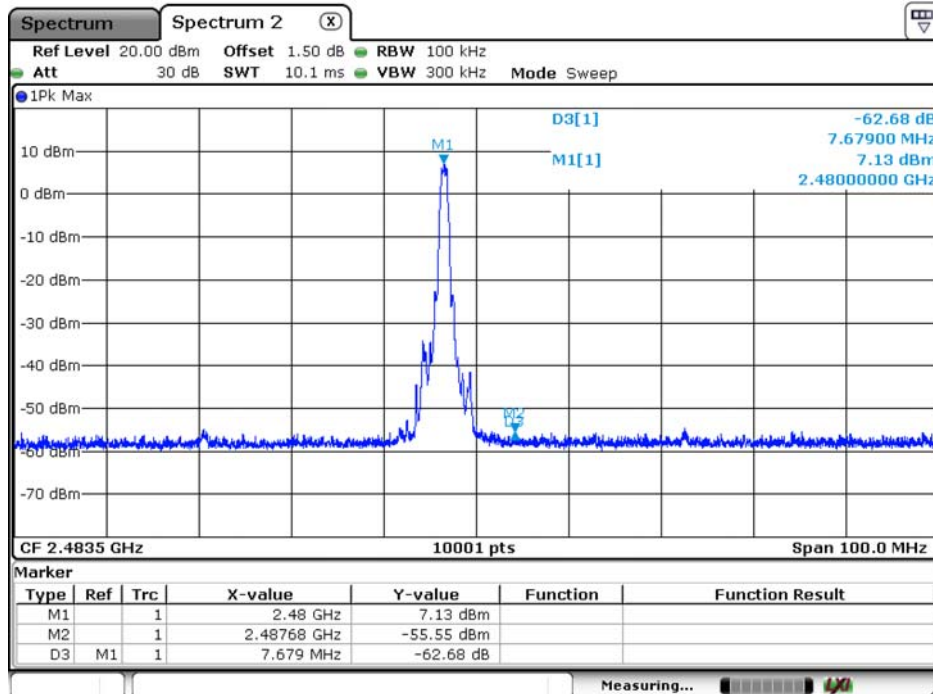
Date: 9.AUG.2018 04:09:53

Channel 19



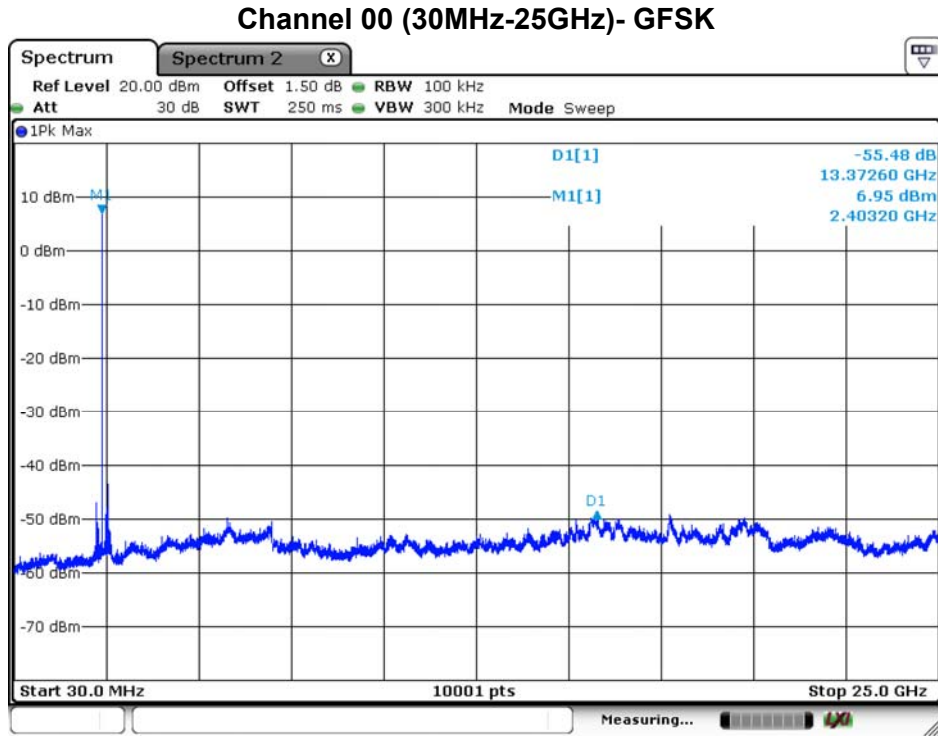
Date: 9.AUG.2018 04:10:55

Channel 39



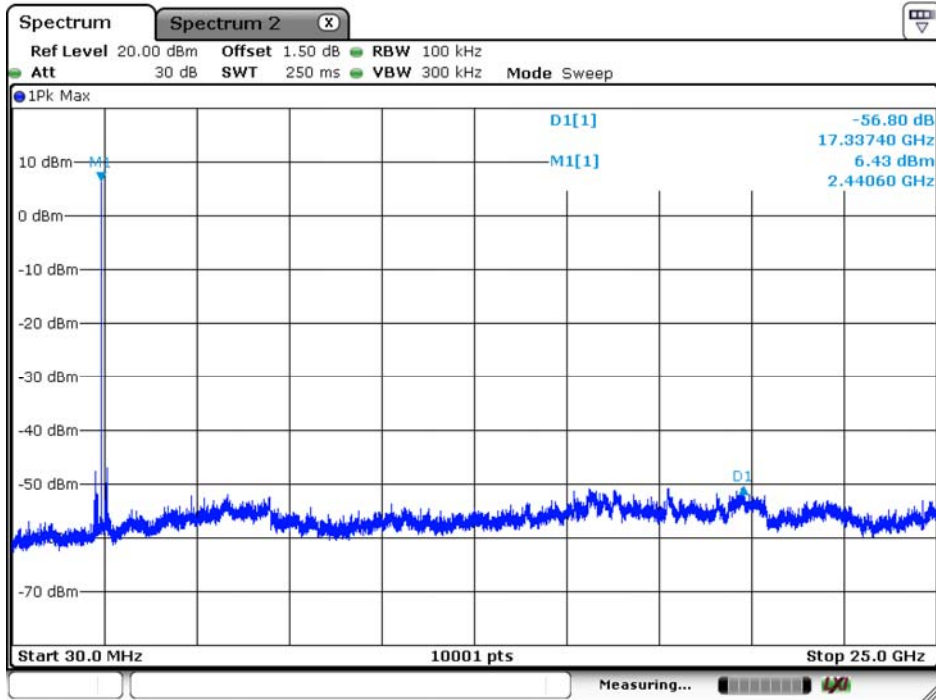
Date: 9.AUG.2018 04:08:23

Product	Bluetooth Headphone		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H



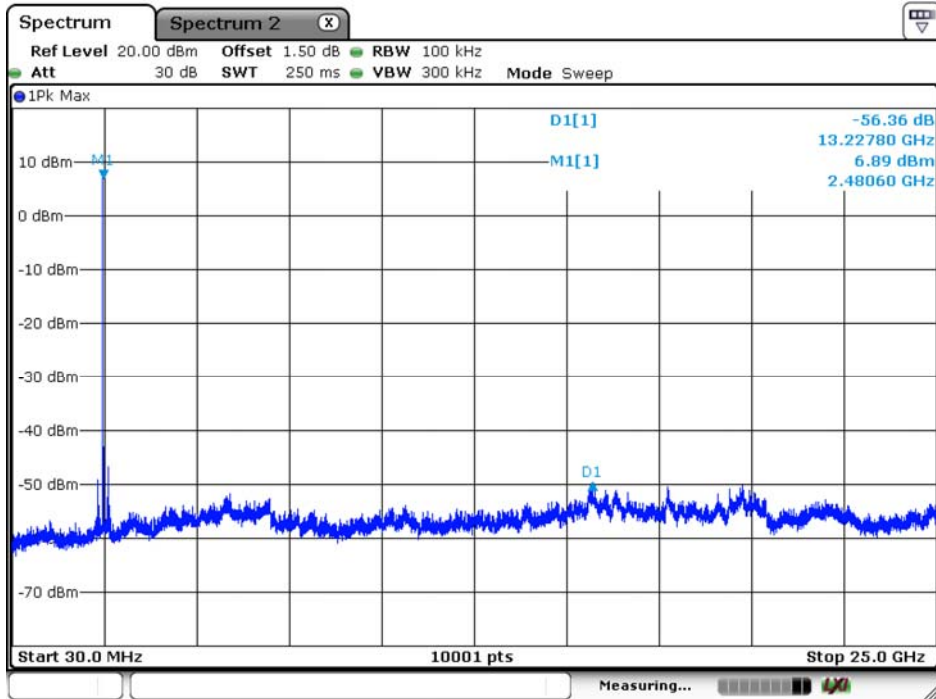
Date: 9.AUG.2018 03:46:17

Channel 19 (30MHz-25GHz)- GFSK



Date: 9.AUG.2018 03:47:16

Channel 39 (30MHz-25GHz)- GFSK

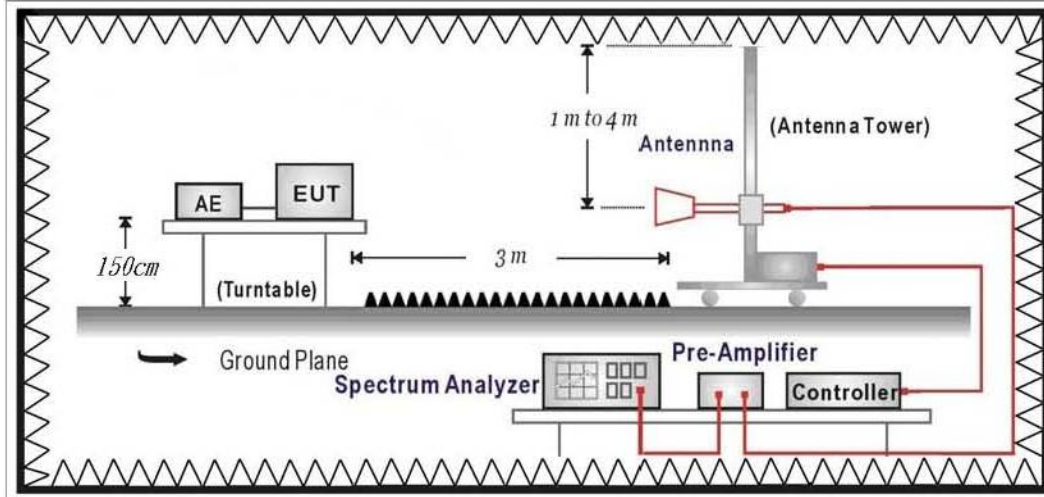


Date: 9.AUG.2018 03:47:52

6. Radiated Emission Band Edge

6.1. Test Setup

RF Radiated Measurement:



6.2. 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.

6.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements. The EUT and its simulators are placed on a turn table which is 0.8 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.

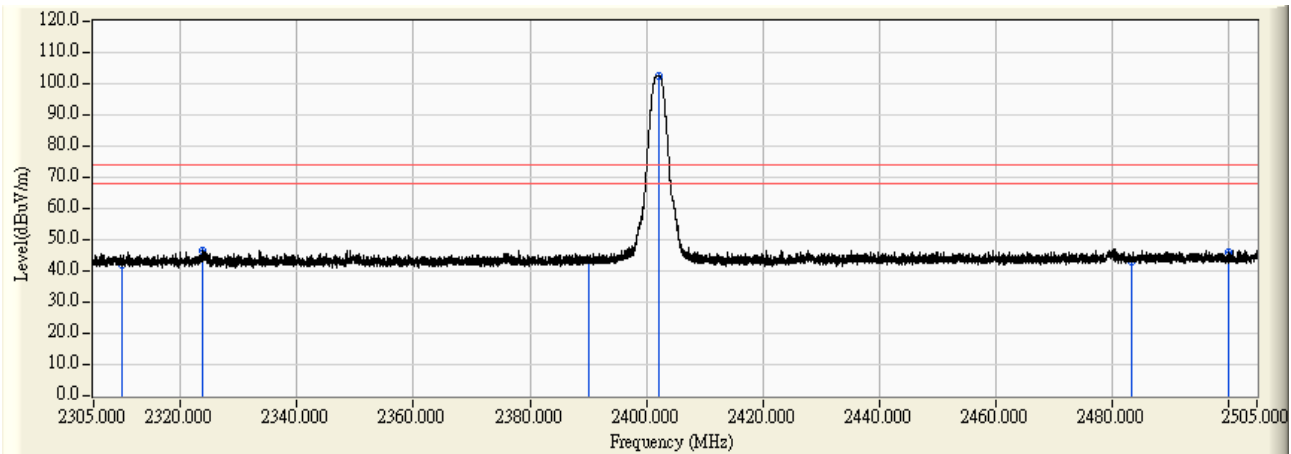
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

6.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247:2017

6.5. Test Result

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

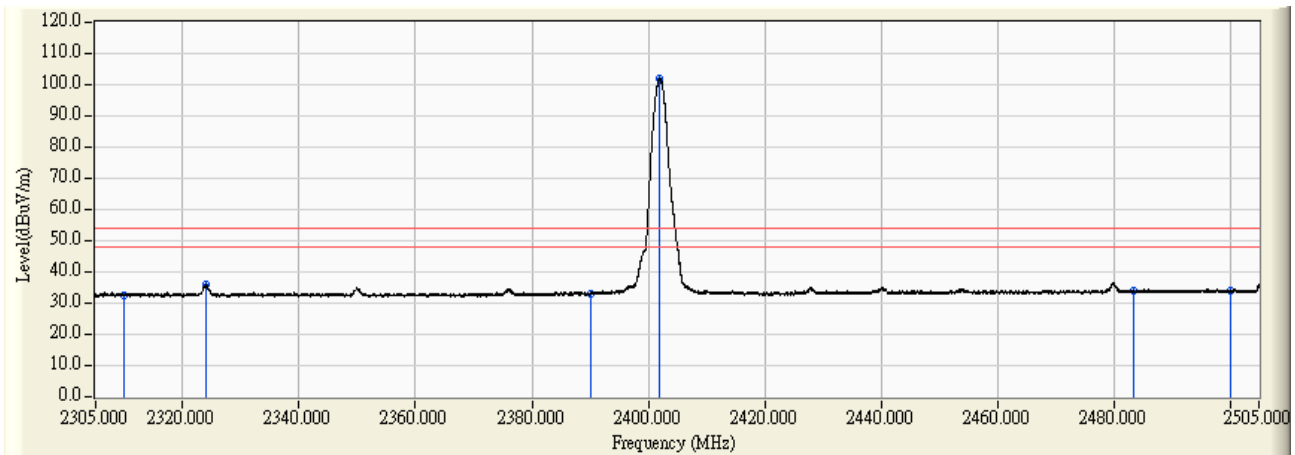


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	28.052	42.170	-31.830	74.000	PEAK
2	2323.738	14.192	32.148	46.340	-27.660	74.000	PEAK
3	2390.000	14.762	28.646	43.408	-30.592	74.000	PEAK
4	* 2402.270	14.788	87.851	102.640	28.640	74.000	PEAK
5	2483.500	15.288	27.689	42.977	-31.023	74.000	PEAK
6	2500.000	15.314	30.562	45.877	-28.123	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

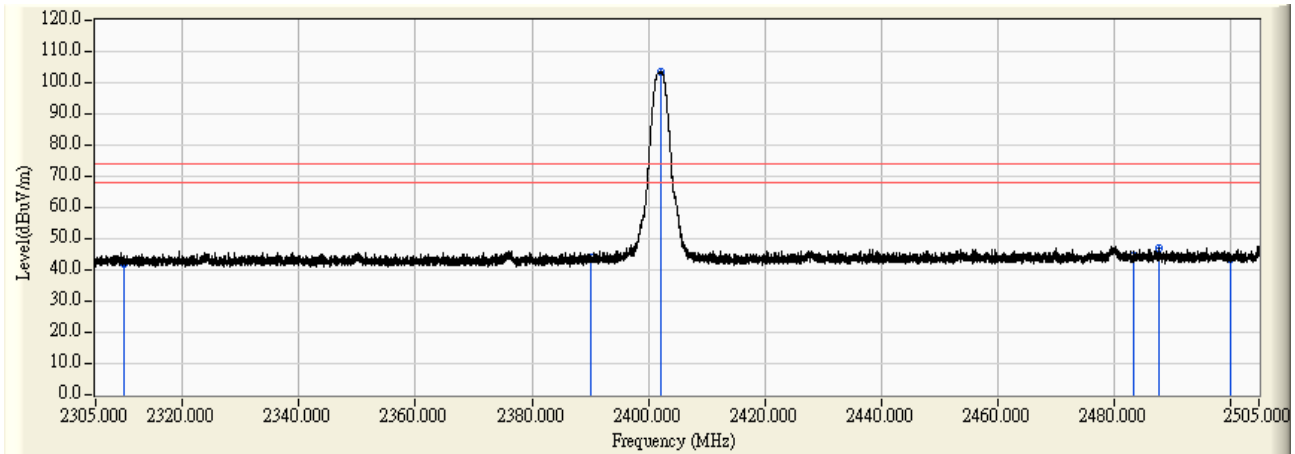


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	18.213	32.331	-21.669	54.000	AVERAGE
2	2323.998	14.193	21.665	35.858	-18.142	54.000	AVERAGE
3	2390.000	14.762	18.126	32.888	-21.112	54.000	AVERAGE
4	* 2402.030	14.790	87.029	101.819	47.819	54.000	AVERAGE
5	2483.500	15.288	18.470	33.758	-20.242	54.000	AVERAGE
6	2500.000	15.314	18.574	33.889	-20.111	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

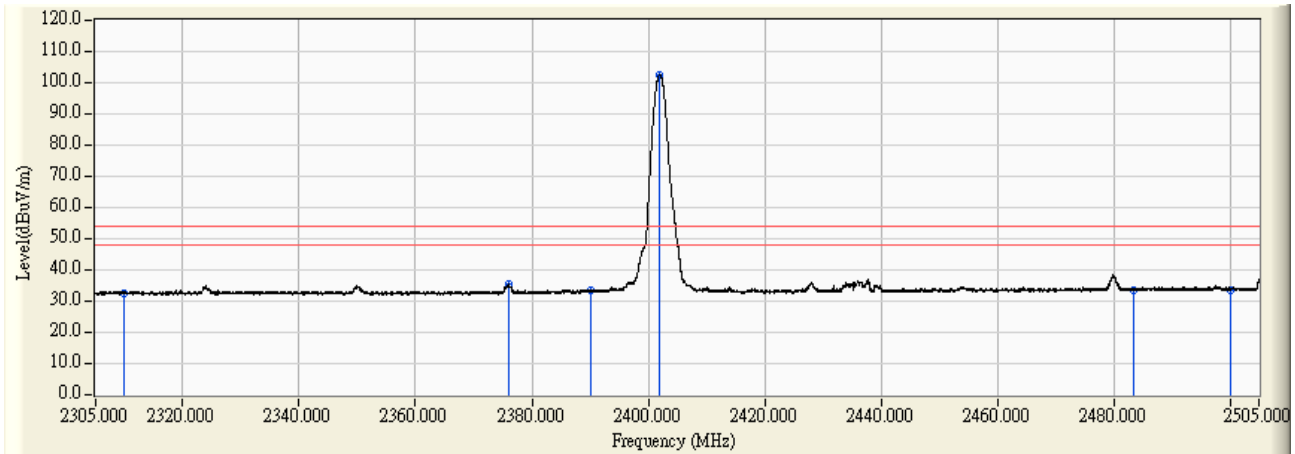


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	27.652	41.770	-32.230	74.000	PEAK
2	2390.000	14.762	29.055	43.817	-30.183	74.000	PEAK
3	* 2402.250	14.788	88.585	103.374	29.374	74.000	PEAK
4	2483.500	15.288	29.306	44.594	-29.406	74.000	PEAK
5	2487.802	15.302	31.541	46.842	-27.158	74.000	PEAK
6	2500.000	15.314	28.418	43.733	-30.267	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2402MHz

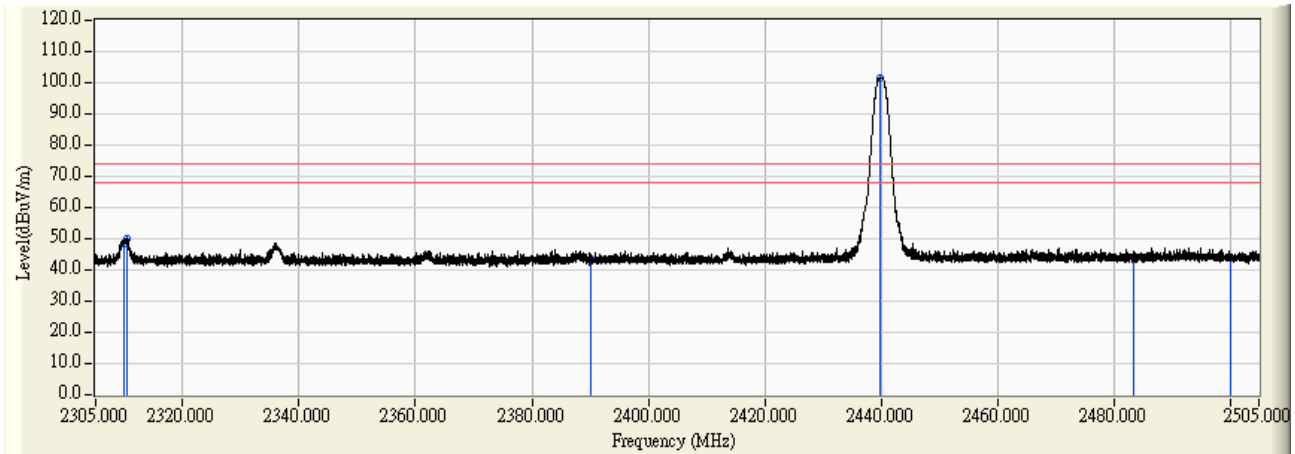


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	18.389	32.507	-21.493	54.000	AVERAGE
2	2375.933	14.524	20.993	35.517	-18.483	54.000	AVERAGE
3	2390.000	14.762	18.619	33.381	-20.619	54.000	AVERAGE
4	* 2401.990	14.791	87.824	102.614	48.614	54.000	AVERAGE
5	2483.500	15.288	18.447	33.735	-20.265	54.000	AVERAGE
6	2500.000	15.314	18.150	33.465	-20.535	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

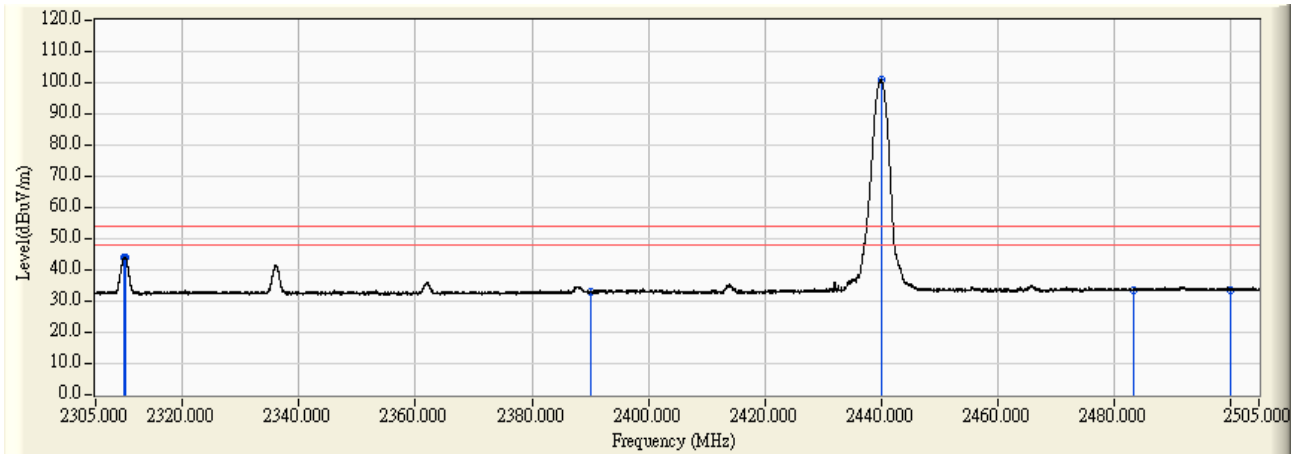


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	34.448	48.566	-25.434	74.000	PEAK
2	2310.339	14.120	35.754	49.874	-24.126	74.000	PEAK
3	2390.000	14.762	28.571	43.333	-30.667	74.000	PEAK
4	* 2439.746	14.838	86.703	101.540	27.540	74.000	PEAK
5	2483.500	15.288	28.830	44.118	-29.882	74.000	PEAK
6	2500.000	15.314	28.574	43.889	-30.111	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

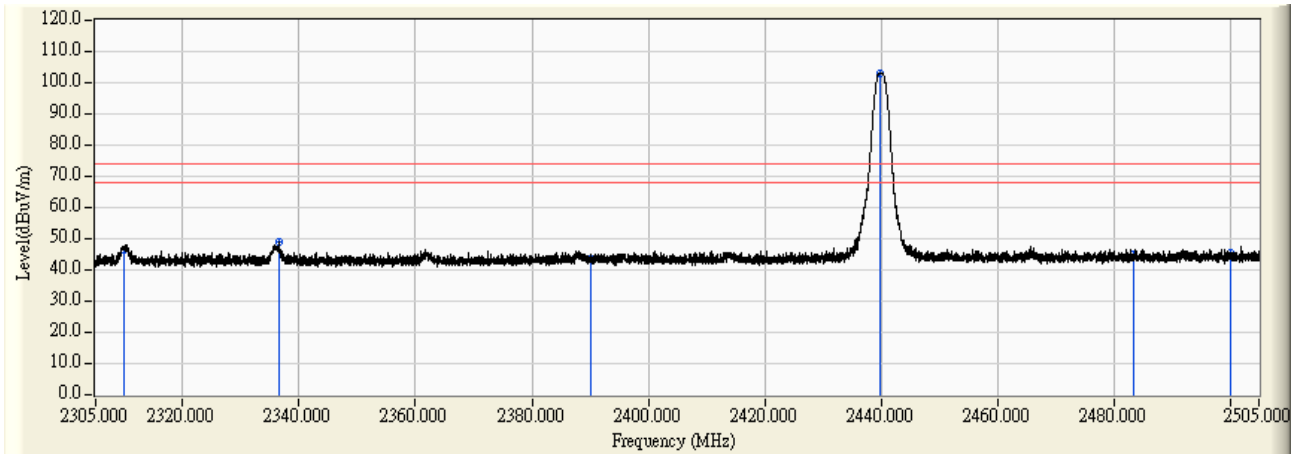


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	29.893	44.011	-9.989	54.000	AVERAGE
2	2310.020	14.118	29.883	44.001	-9.999	54.000	AVERAGE
3	2390.000	14.762	18.393	33.155	-20.845	54.000	AVERAGE
4	* 2440.026	14.839	85.996	100.835	46.835	54.000	AVERAGE
5	2483.500	15.288	18.332	33.620	-20.380	54.000	AVERAGE
6	2500.000	15.314	18.368	33.683	-20.317	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

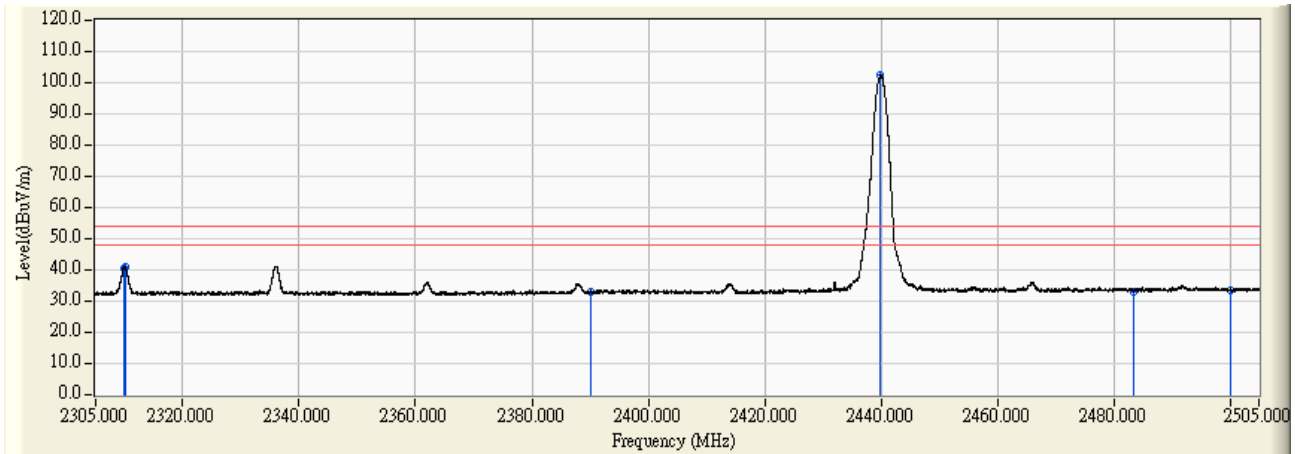


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	32.505	46.623	-27.377	74.000	PEAK
2	2336.517	14.250	34.528	48.777	-25.223	74.000	PEAK
3	2390.000	14.762	28.718	43.480	-30.520	74.000	PEAK
4	* 2439.746	14.838	88.187	103.024	29.024	74.000	PEAK
5	2483.500	15.288	29.571	44.859	-29.141	74.000	PEAK
6	2500.000	15.314	30.194	45.509	-28.491	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2440MHz

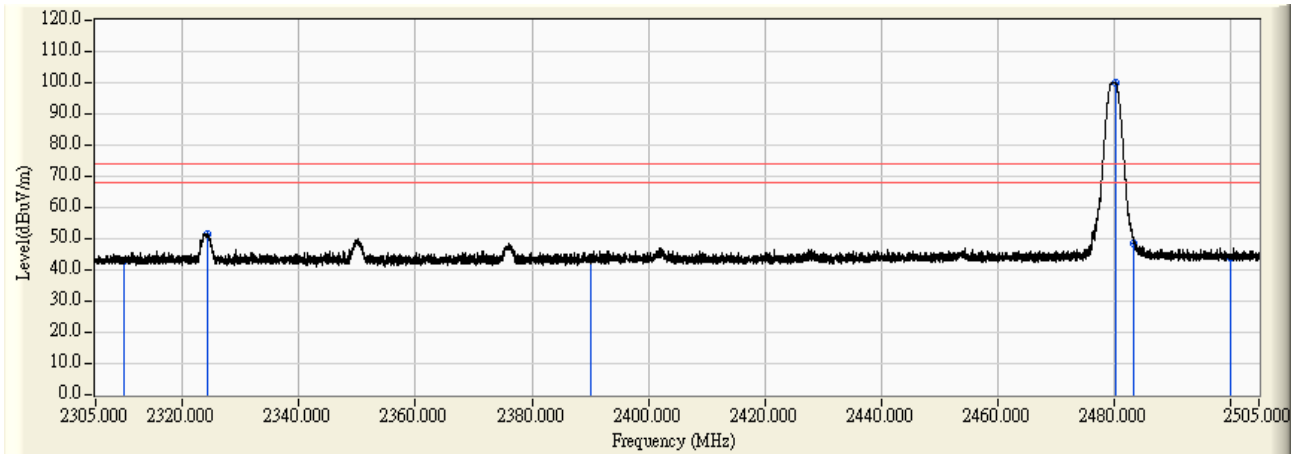


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	26.262	40.380	-13.620	54.000	AVERAGE
2	2310.079	14.118	26.756	40.874	-13.126	54.000	AVERAGE
3	2390.000	14.762	18.034	32.796	-21.204	54.000	AVERAGE
4	* 2439.986	14.839	87.458	102.297	48.297	54.000	AVERAGE
5	2483.500	15.288	17.856	33.144	-20.856	54.000	AVERAGE
6	2500.000	15.314	18.405	33.720	-20.280	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

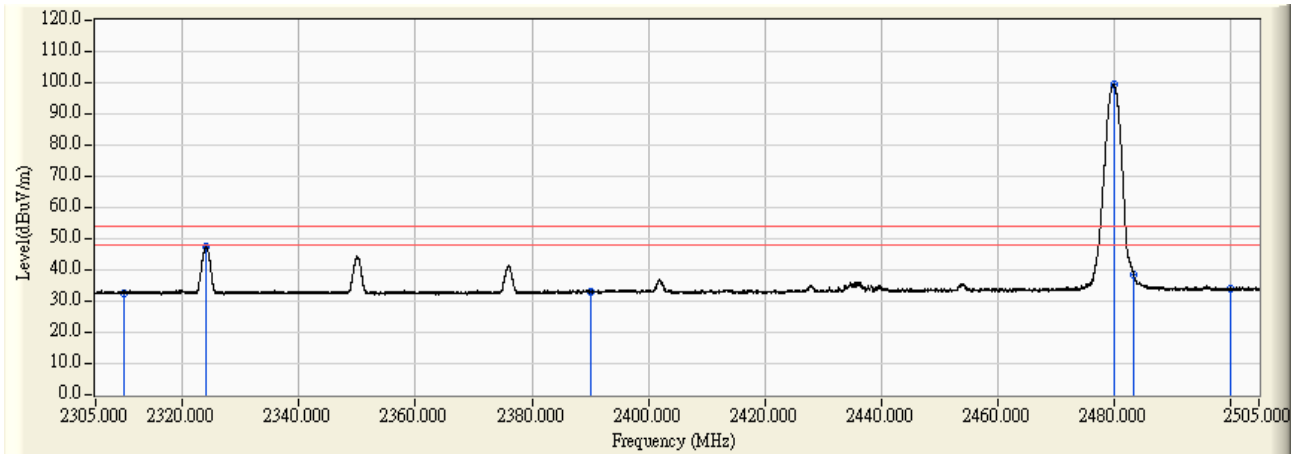


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	29.115	43.233	-30.767	74.000	PEAK
2	2324.118	14.194	37.174	51.368	-22.632	74.000	PEAK
3	2390.000	14.762	28.730	43.492	-30.508	74.000	PEAK
4	* 2480.262	15.278	84.741	100.020	26.020	74.000	PEAK
5	2483.500	15.288	33.335	48.623	-25.377	74.000	PEAK
6	2500.000	15.314	28.620	43.935	-30.065	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

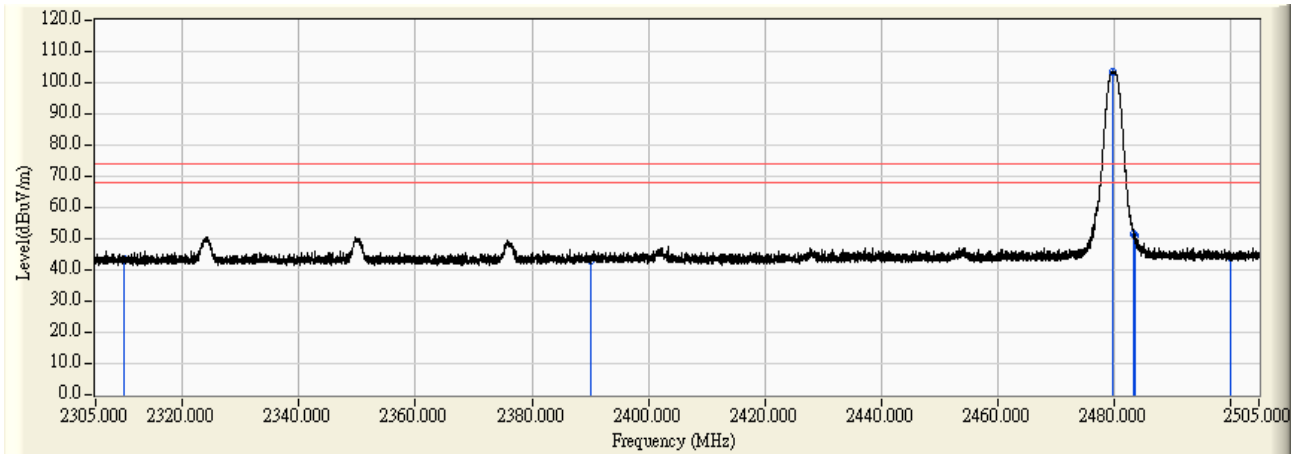


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	18.403	32.521	-21.479	54.000	AVERAGE
2	2323.938	14.192	33.087	47.280	-6.720	54.000	AVERAGE
3	2390.000	14.762	18.385	33.147	-20.853	54.000	AVERAGE
4	* 2480.002	15.278	84.092	99.370	45.370	54.000	AVERAGE
5	2483.500	15.288	23.149	38.437	-15.563	54.000	AVERAGE
6	2500.000	15.314	18.437	33.752	-20.248	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz

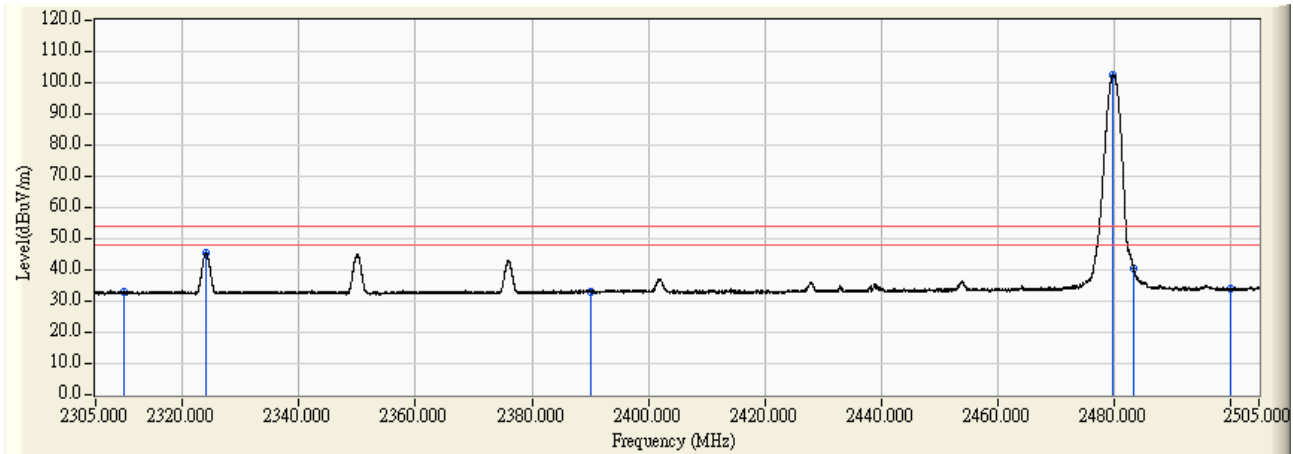


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	29.526	43.644	-30.356	74.000	PEAK
2	2390.000	14.762	28.321	43.083	-30.917	74.000	PEAK
3	* 2479.762	15.277	88.056	103.333	29.333	74.000	PEAK
4	2483.500	15.288	36.213	51.501	-22.499	74.000	PEAK
5	2483.602	15.289	35.724	51.013	-22.987	74.000	PEAK
6	2500.000	15.314	28.924	44.239	-29.761	74.000	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	Time : 2018/08/11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz (Powered by PC)
EUT : Bluetooth Headphone	Note : Mode 1: Transmit (Powered by PC) 802.15.1_BLE_2480MHz



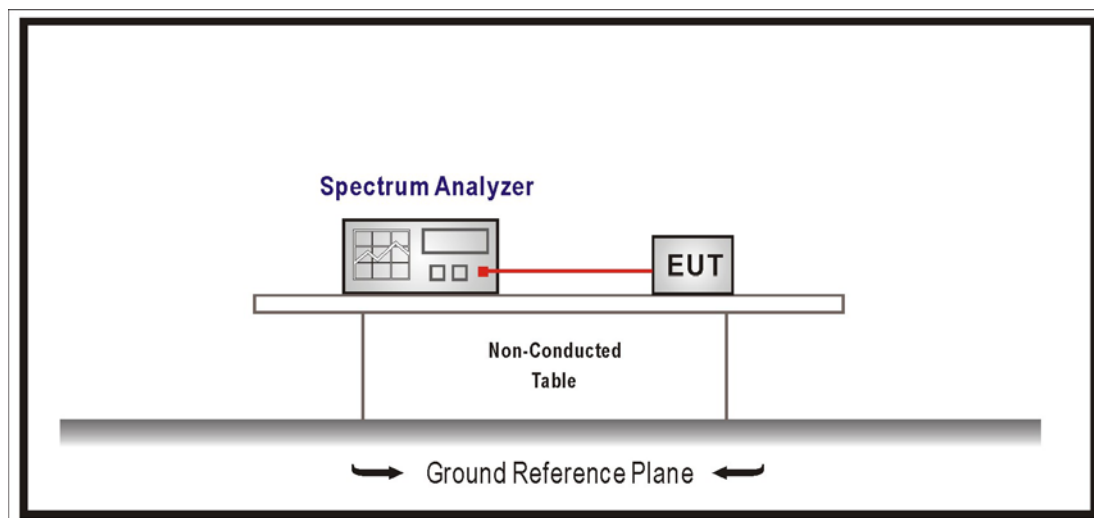
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	14.118	18.700	32.818	-21.182	54.000	AVERAGE
2	2323.878	14.192	31.135	45.328	-8.672	54.000	AVERAGE
3	2390.000	14.762	18.158	32.920	-21.080	54.000	AVERAGE
4	* 2479.982	15.278	87.346	102.624	48.624	54.000	AVERAGE
5	2483.500	15.288	25.268	40.556	-13.444	54.000	AVERAGE
6	2500.000	15.314	18.530	33.845	-20.155	54.000	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

7. Occupied Bandwidth & DTS Bandwidth

7.1. Test Setup



7.2. Limits

The 6 dB bandwidth: ≥ 500 kHz.

Occupied Bandwidth: NA

7.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements.

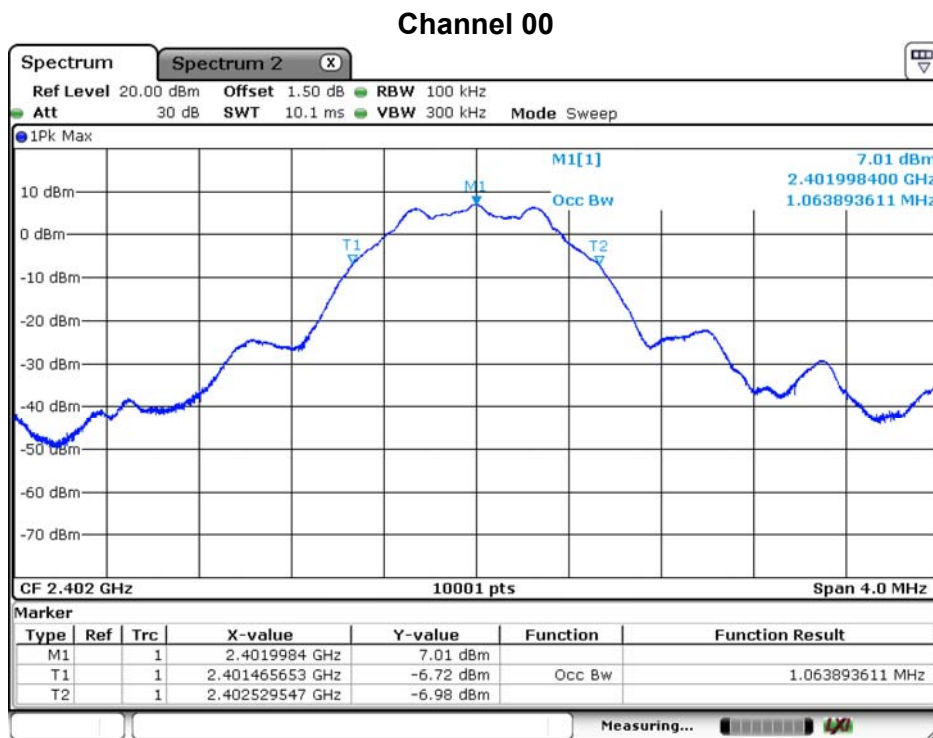
7.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247:2017

7.5. Test Result

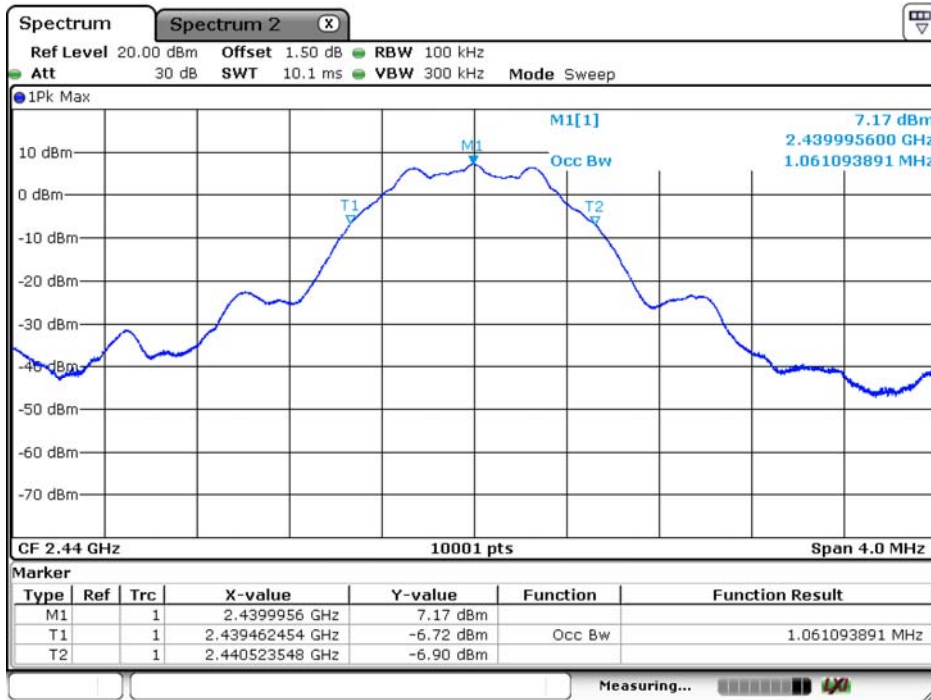
Product	Bluetooth Headphone		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
0	2402	1.064	--
19	2440	1.061	--
39	2480	1.062	--



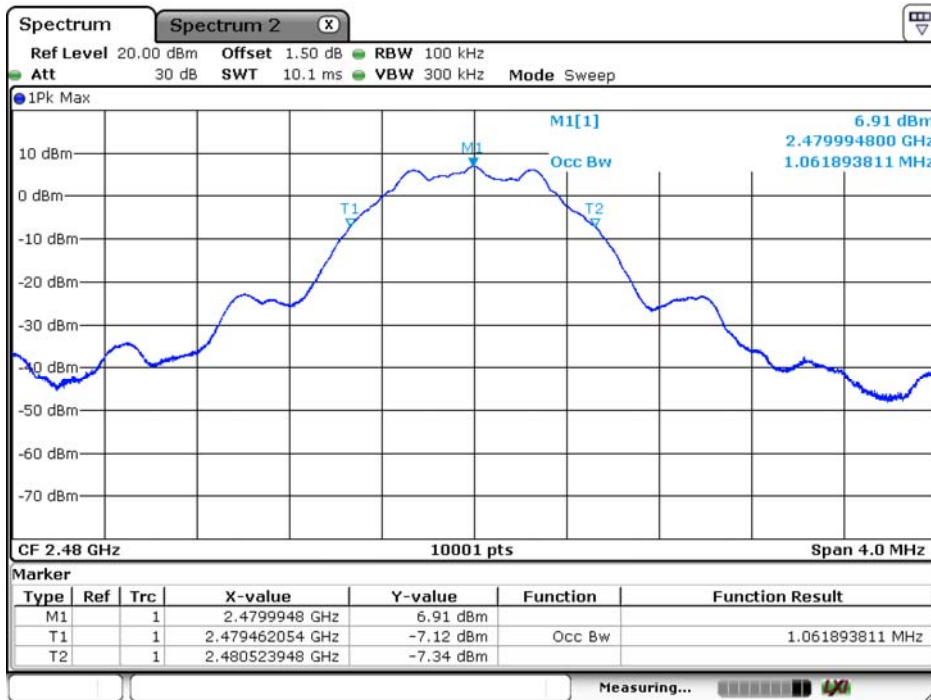
Date: 9.AUG.2018 03:54:28

Channel 19



Date: 9.AUG.2018 03:55:34

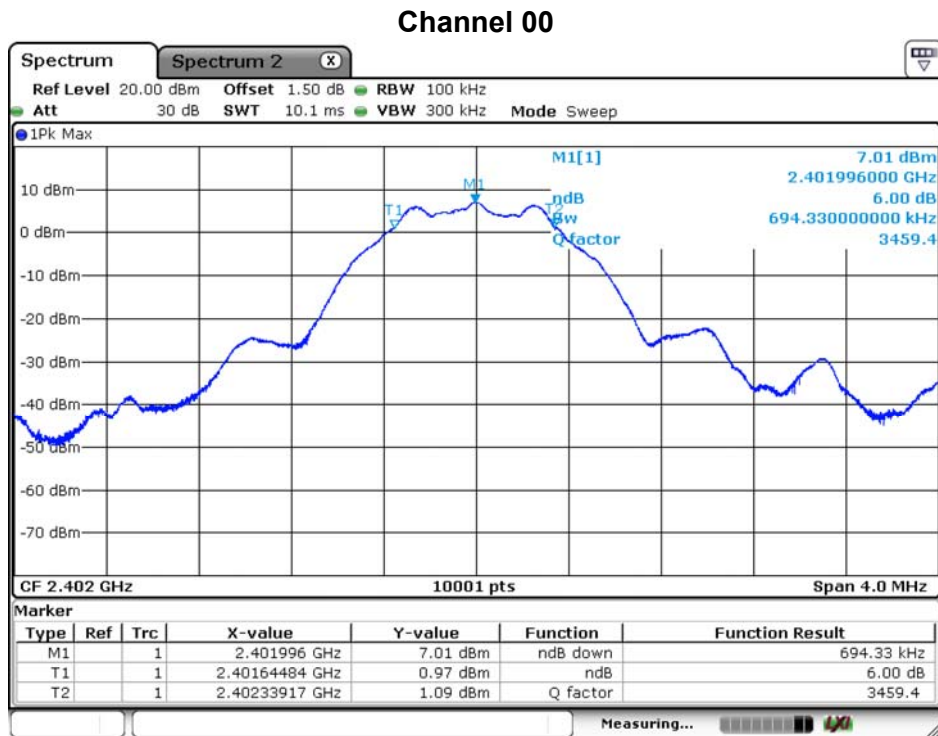
Channel 39



Date: 9.AUG.2018 03:56:30

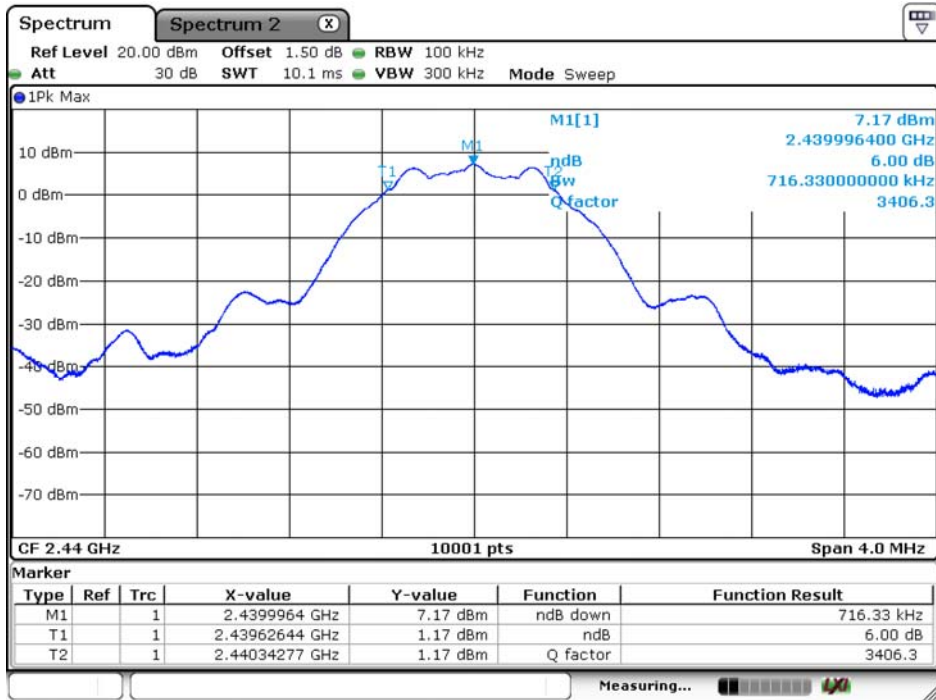
Product	Bluetooth Headphone		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H

Channel No.	Frequency (MHz)	Measure Level (KHz)	Limit (KHz)
0	2402	694.33	≥ 500
19	2440	716.33	≥ 500
39	2480	712.33	≥ 500



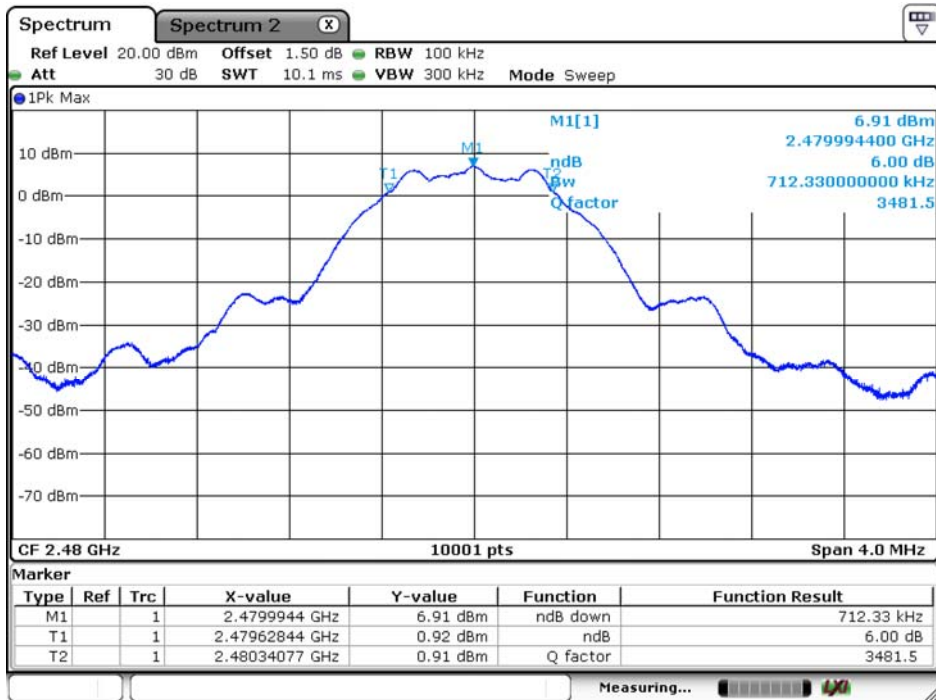
Date: 9.AUG.2018 03:53:57

Channel 19



Date: 9.AUG.2018 03:53:31

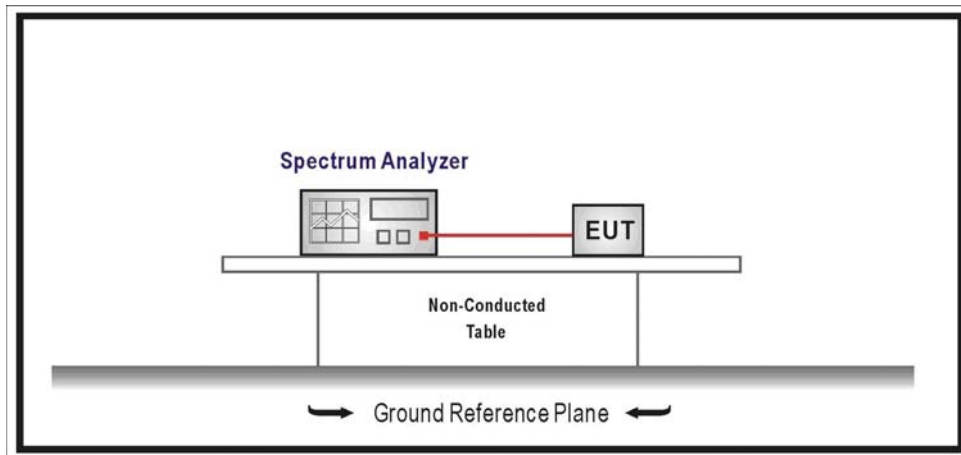
Channel 39



Date: 9.AUG.2018 03:52:40

8. Power Density

8.1. Test Setup



8.2. 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.

8.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 D01V04 for compliance to FCC 47CFR 15.247 requirements.

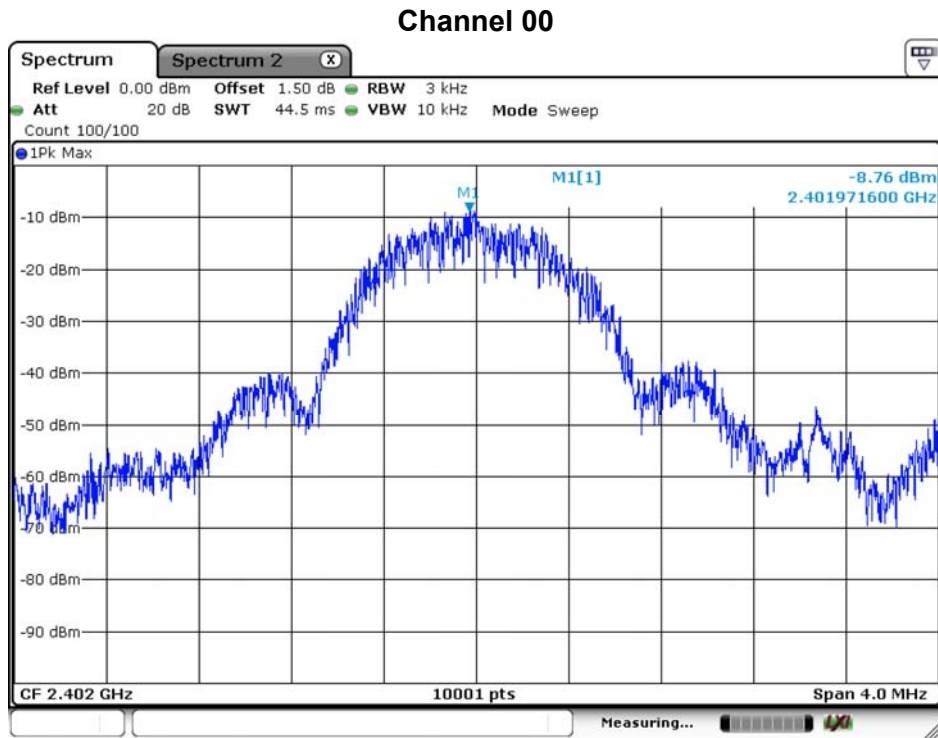
8.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

8.5. Test Result

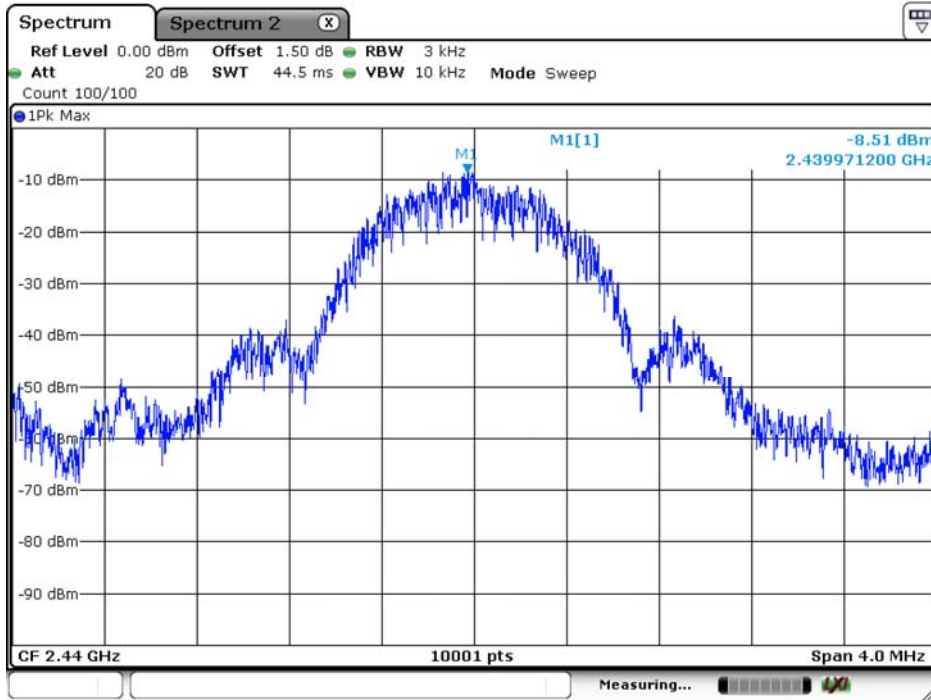
Product	Bluetooth Headphone		
Test Item	Power Density		
Test Mode	Mode 1: Transmit (Powered by PC)		
Date of Test	2018/08/09	Test Site	SR10-H

Channel No.	Frequency (MHz)	Measure Vaule (dBm/3kHz)	Limit (dBm/3kHz)
0	2402	-8.760	≤ 8
19	2440	-8.510	≤ 8
39	2480	-8.620	≤ 8



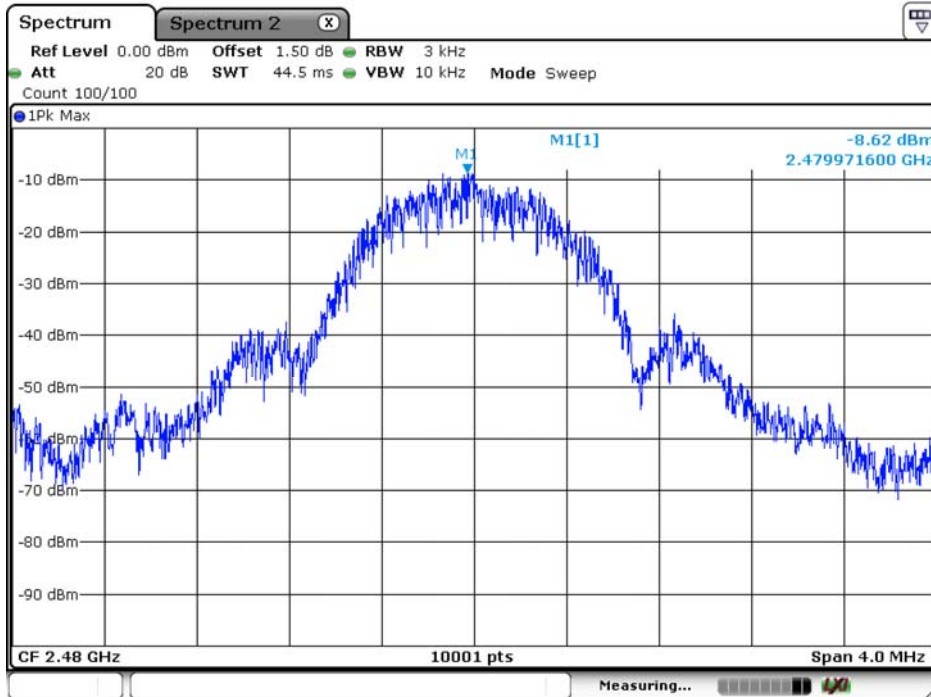
Date: 9.AUG.2018 04:03:38

Channel 19



Date: 9.AUG.2018 04:02:41

Channel 39



Date: 9.AUG.2018 04:00:38