

# 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.

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# 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  
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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 |
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## 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       |

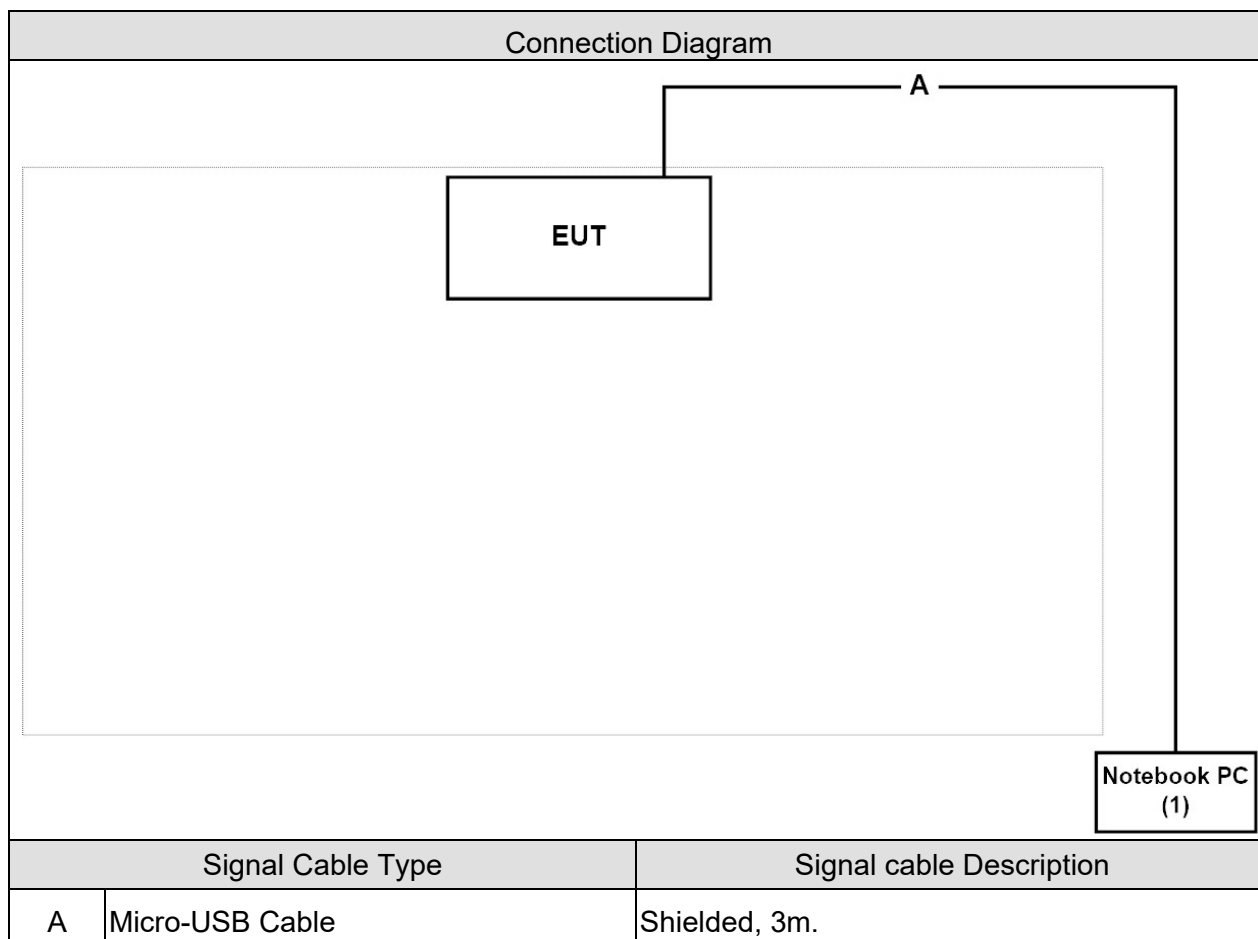
| Test Items                                    | Modulation | Channel  | Result   |
|-----------------------------------------------|------------|----------|----------|
| Conducted Emission                            | GFSK       | 19       | Complies |
| Maximum peak conducted output power           | 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<br>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<br>Maximum peak conducted<br>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<br>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<br>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<br>Radiated Emission Band<br>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<br>Occupied Bandwidth &<br>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<br>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](http://www.dekra.com.tw/index_en.aspx)

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## 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 &amp; 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     |

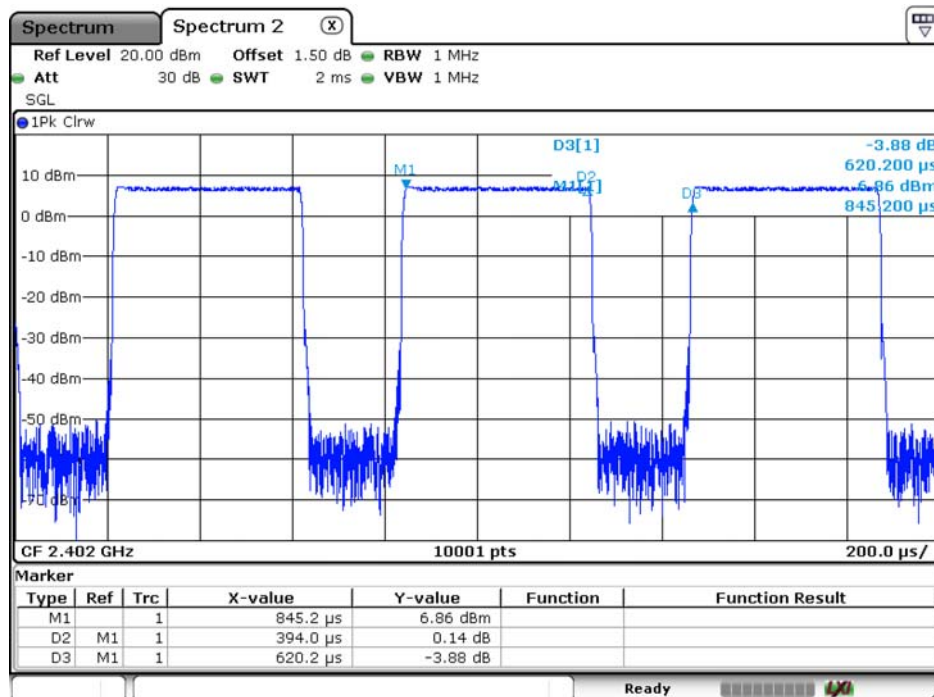
## Power Density / SR10-H

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



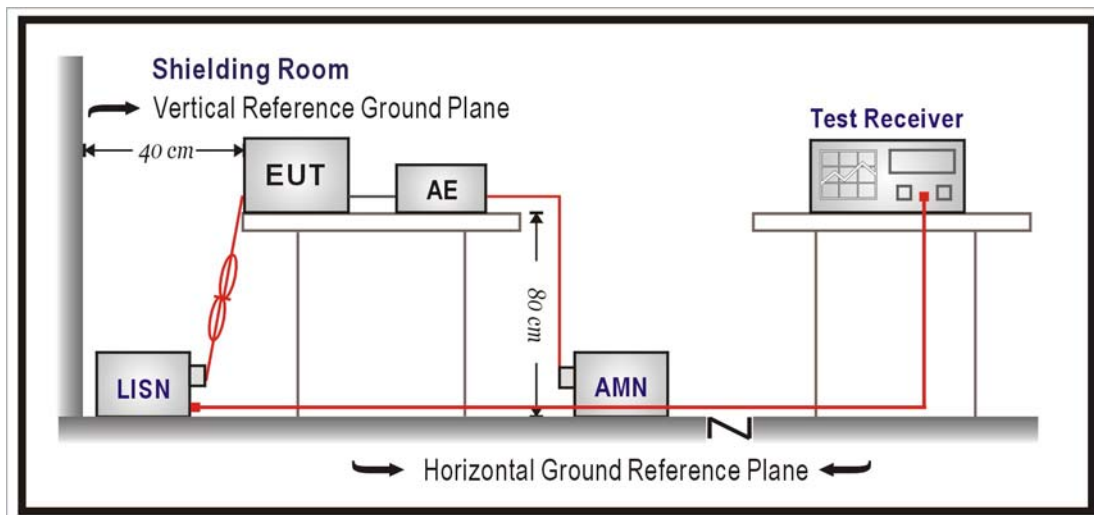
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## 1.9. Uncertainty

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

## 2. Conducted Emission

### 2.1. Test Setup



### 2.2. Limits

| FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV) |         |         |
|------------------------------------------------------|---------|---------|
| Frequency<br>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.

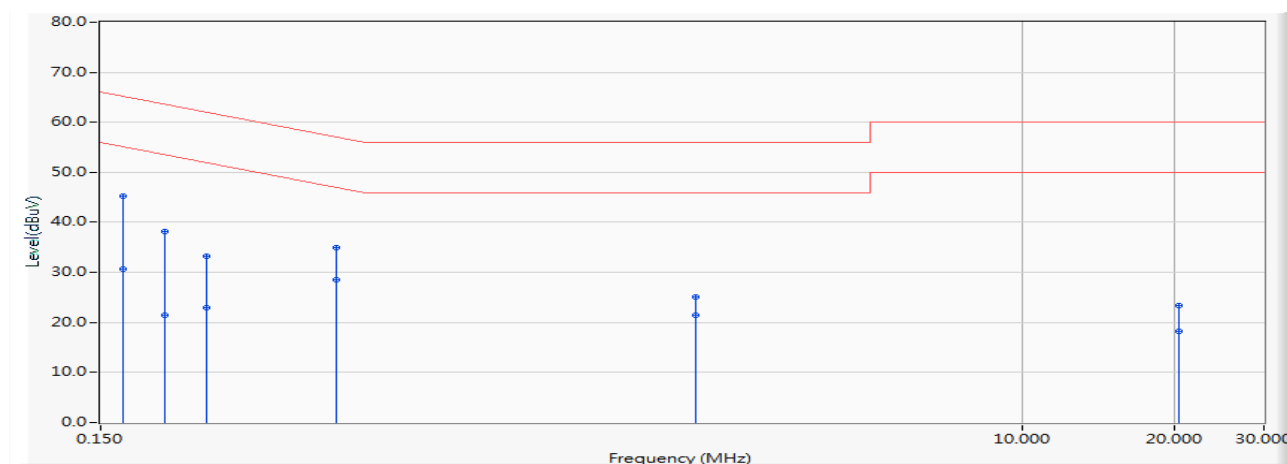
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9KHz.

### **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)<br>802.15.1_BLE_2440MHz |

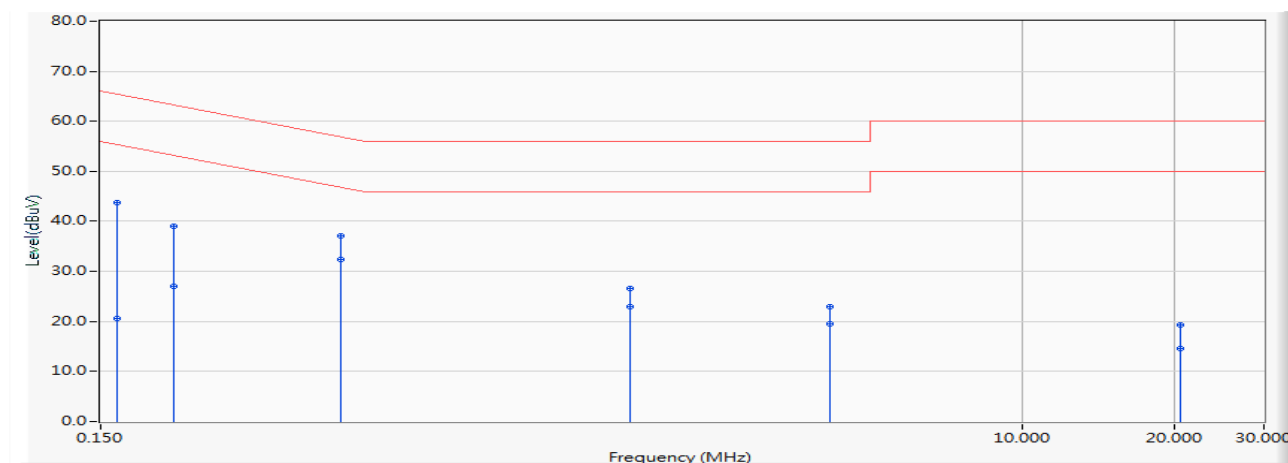


|    |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV) | Margin<br>(dB) | Limit<br>(dBuV) | Detector Type |
|----|---|--------------------|------------------------|-------------------------|-------------------------|----------------|-----------------|---------------|
| 1  |   | 0.166              | 9.680                  | 35.640                  | 45.320                  | -19.857        | 65.177          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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)<br>802.15.1_BLE_2440MHz |



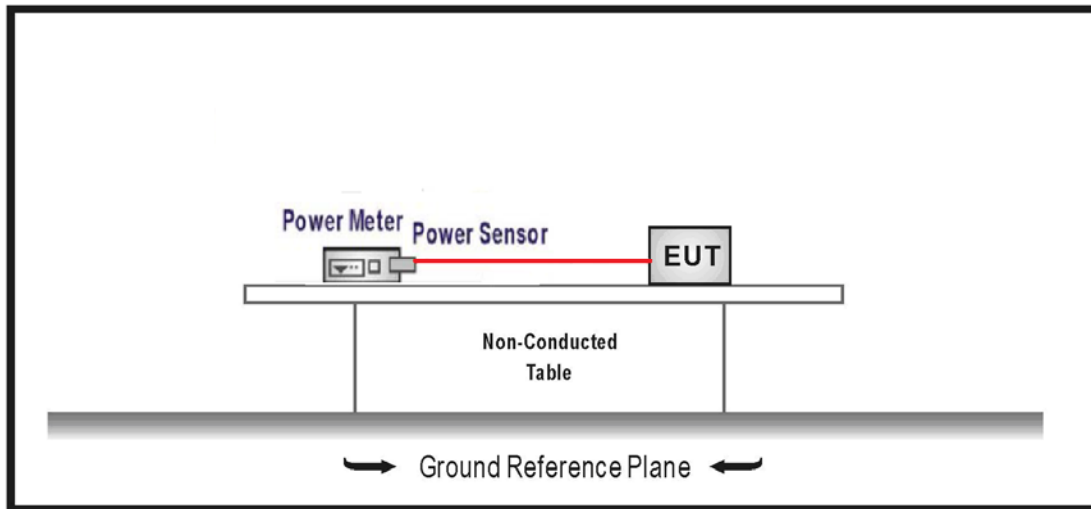
|    |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV) | Margin<br>(dB) | Limit<br>(dBuV) | Detector Type |
|----|---|--------------------|------------------------|-------------------------|-------------------------|----------------|-----------------|---------------|
| 1  |   | 0.162              | 9.680                  | 34.140                  | 43.820                  | -21.555        | 65.375          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 6  | * | 0.447              | 9.681                  | 22.770                  | 32.451                  | -14.482        | 46.933          | AVERAGE       |
| 7  |   | 1.670              | 9.797                  | 16.820                  | 26.617                  | -29.383        | 56.000          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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          | QUASIPeAK     |
| 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 |

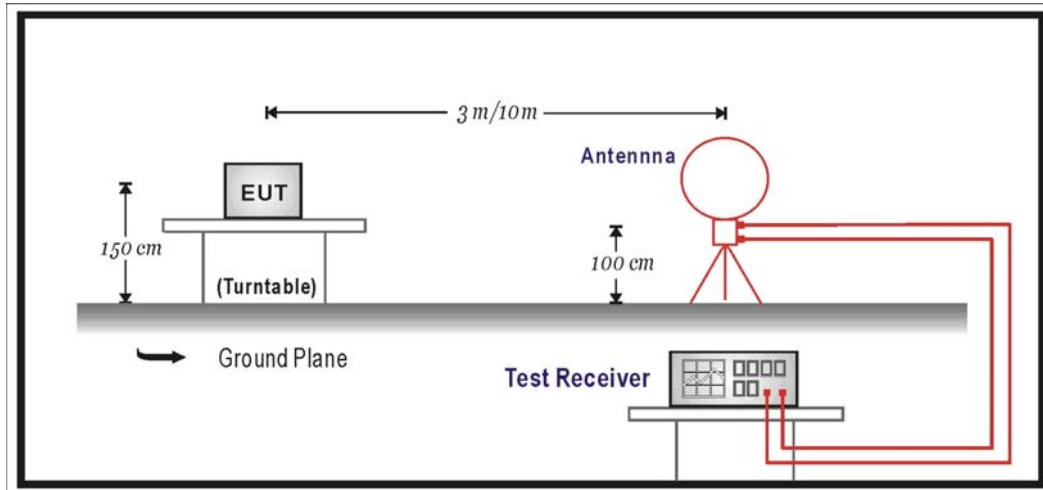
#### GFSK

| Channel No. | Frequency<br>(MHz) | Measure Level<br>(dBm) | Limit<br>(dBm) |
|-------------|--------------------|------------------------|----------------|
| 0           | 2402               | 7.710                  | $\leq 30$      |
| 19          | 2440               | 7.760                  | $\leq 30$      |
| 39          | 2480               | 7.800                  | $\leq 30$      |

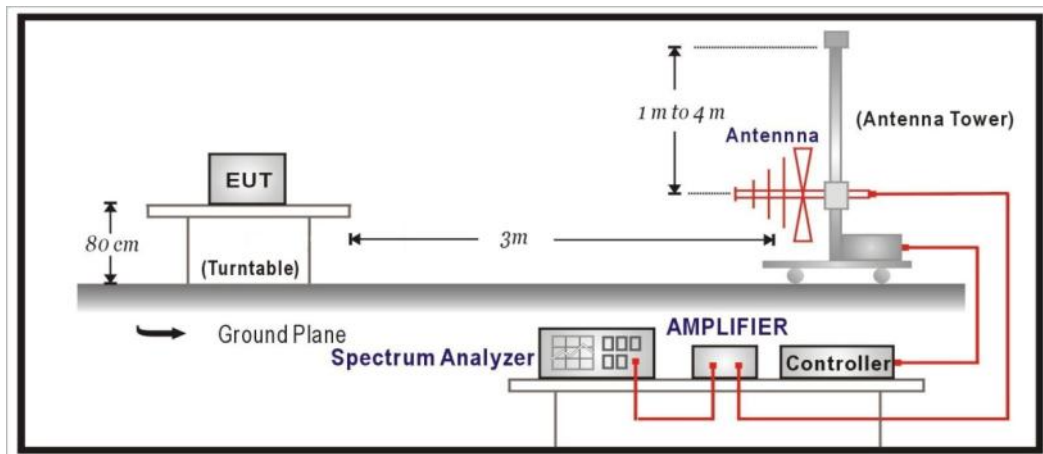
## 4. Radiated Emission

### 4.1. Test Setup

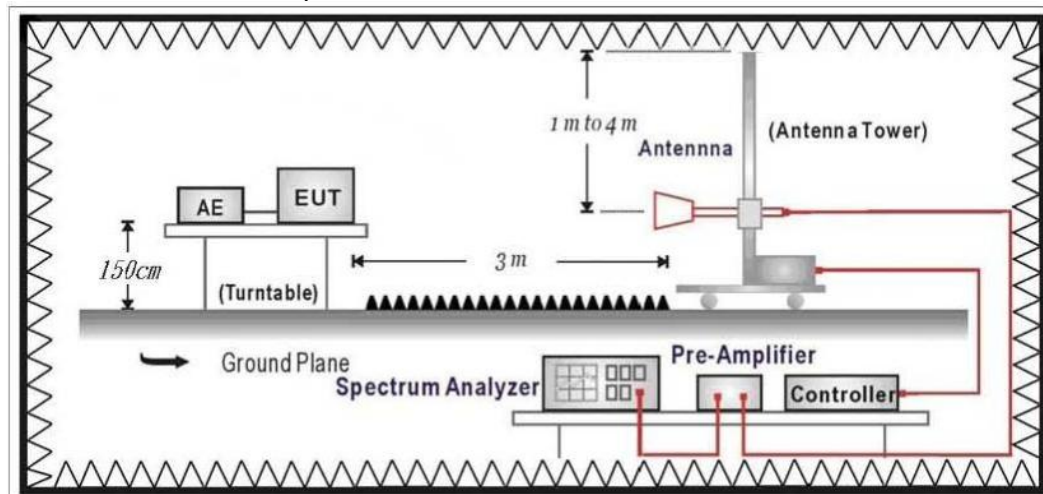
Under 30MHz Test Setup:



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<br>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.

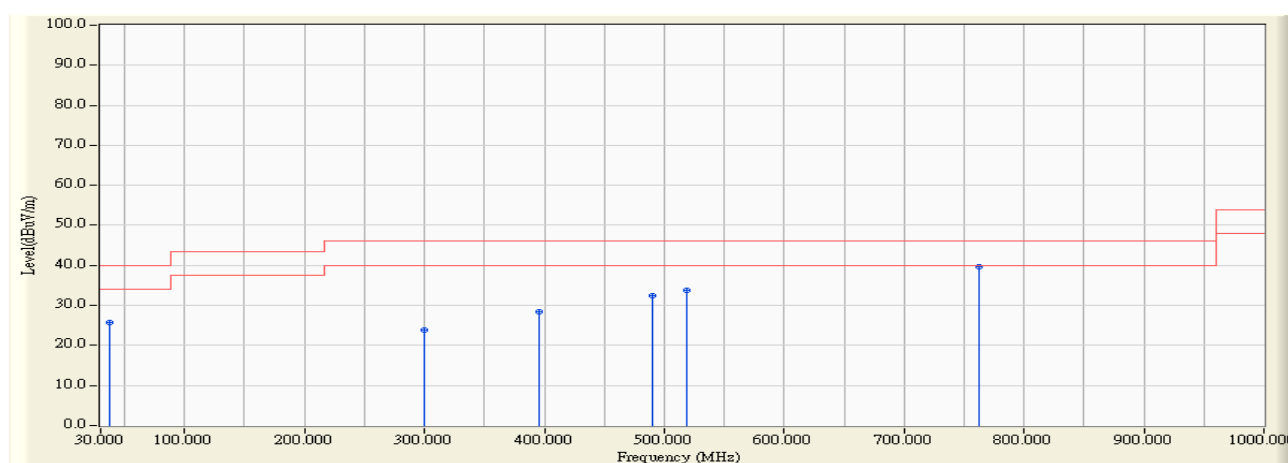
### **4.4. Test Specification**

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 -<br>HORIZONTAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                              | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

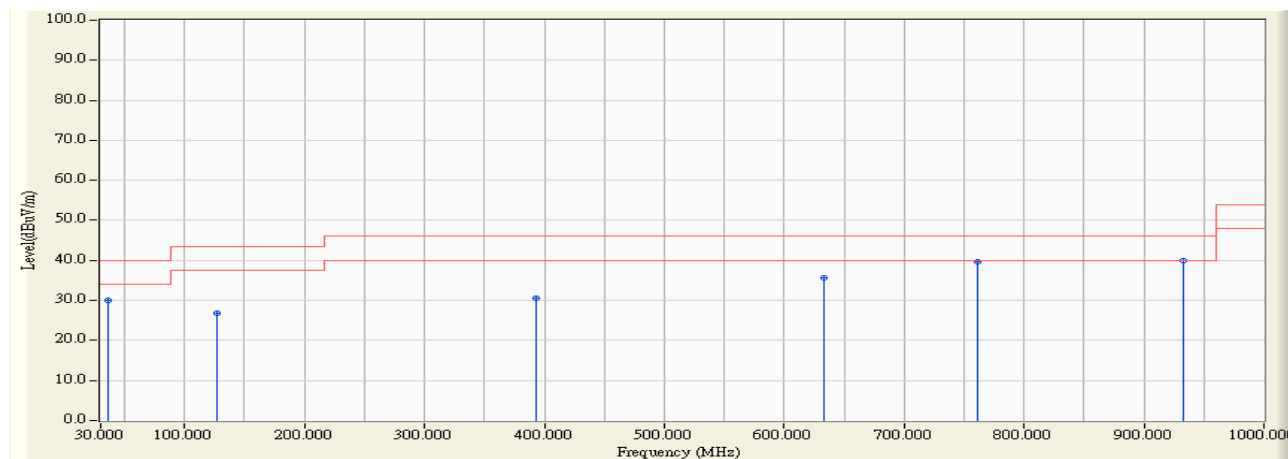


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 1 | 37.274             | -16.162                | 42.003                  | 25.841                    | -14.159        | 40.000            | QUASIPeAK     |
| 2 | 300.409            | -18.951                | 42.912                  | 23.962                    | -22.038        | 46.000            | QUASIPeAK     |
| 3 | 395.168            | -15.490                | 43.778                  | 28.288                    | -17.712        | 46.000            | QUASIPeAK     |
| 4 | 490.122            | -13.598                | 46.059                  | 32.461                    | -13.539        | 46.000            | QUASIPeAK     |
| 5 | 518.734            | -12.547                | 46.336                  | 33.789                    | -12.211        | 46.000            | QUASIPeAK     |
| 6 | * 763.053          | -10.413                | 50.193                  | 39.780                    | -6.220         | 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                            | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

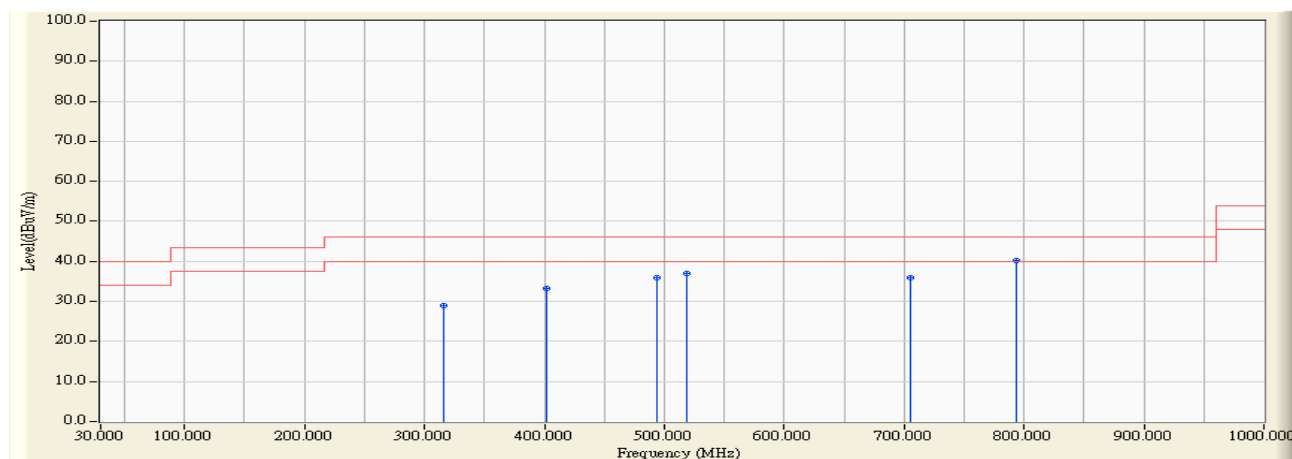


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>HORIZONTAL | Power : DC 3.7V (Powered by Battery) |
| EUT : Bluetooth Headphone                              | Note : Mode 2: Powered by Battery    |

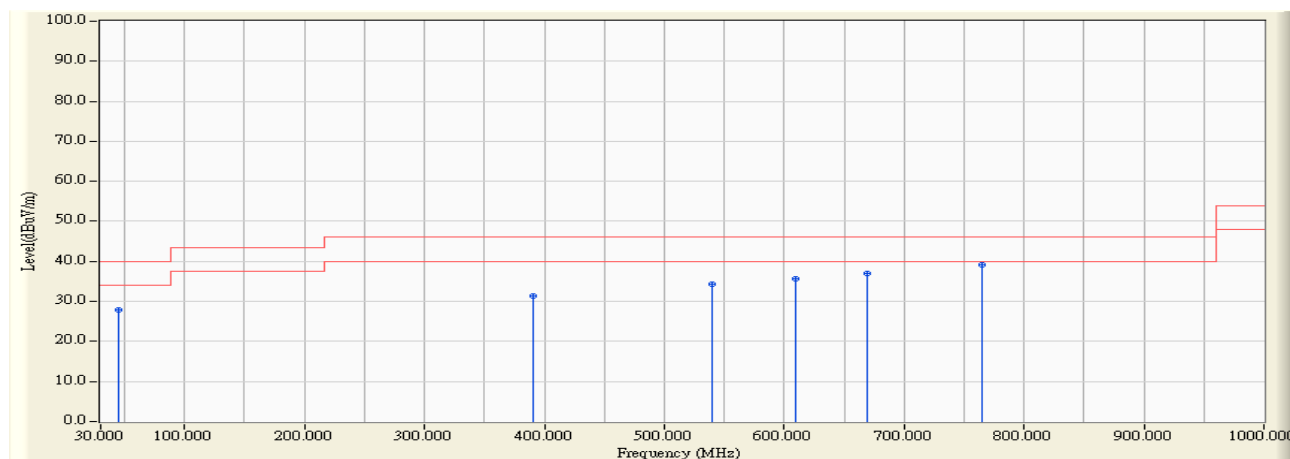


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : DC 3.7V (Powered by Battery) |
| EUT : Bluetooth Headphone                            | Note : Mode 2: Powered by Battery    |



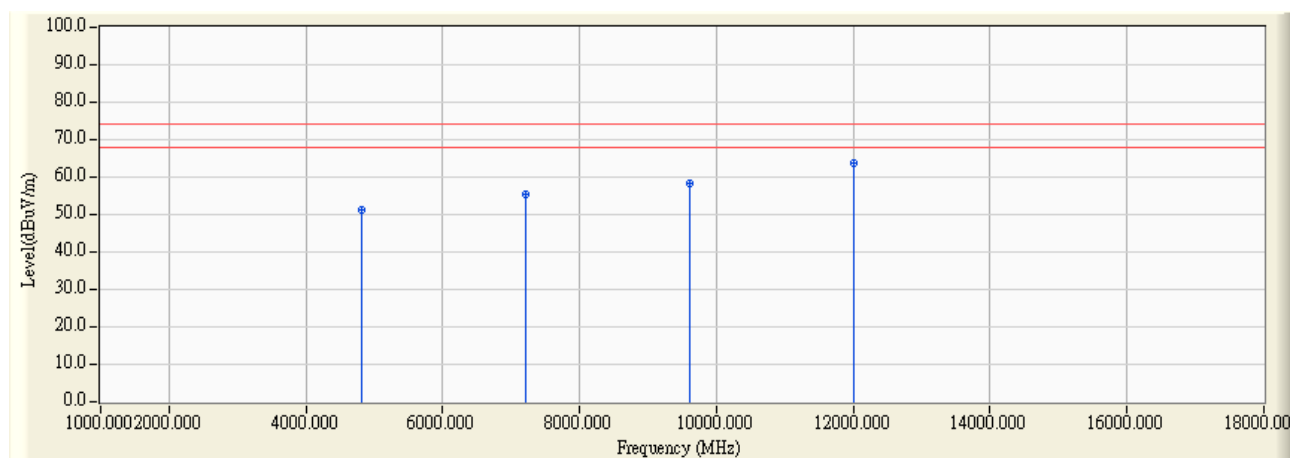
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|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

**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 -<br>HORIZONTAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                  | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2402MHz |

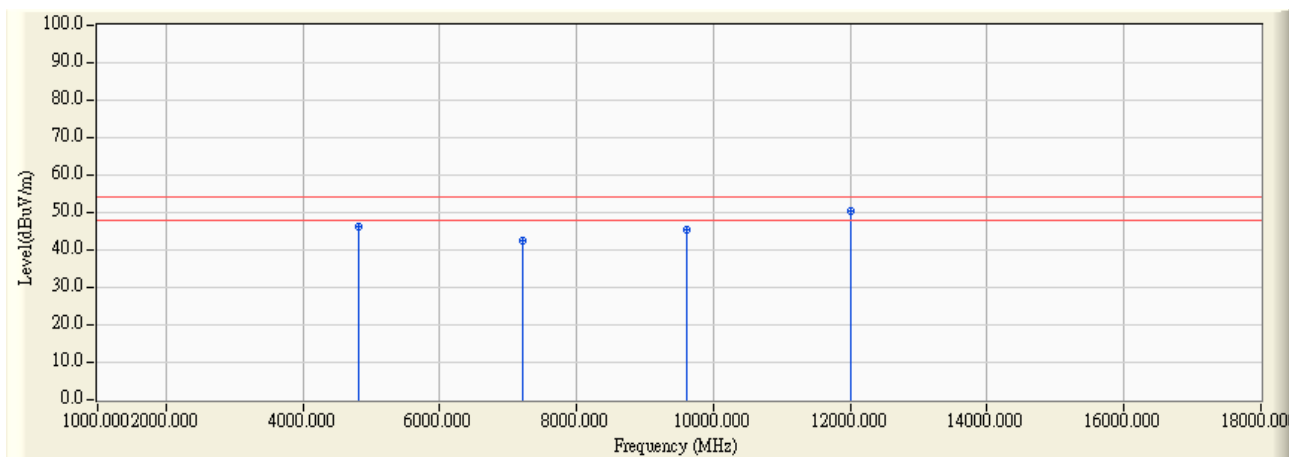


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2402MHz |

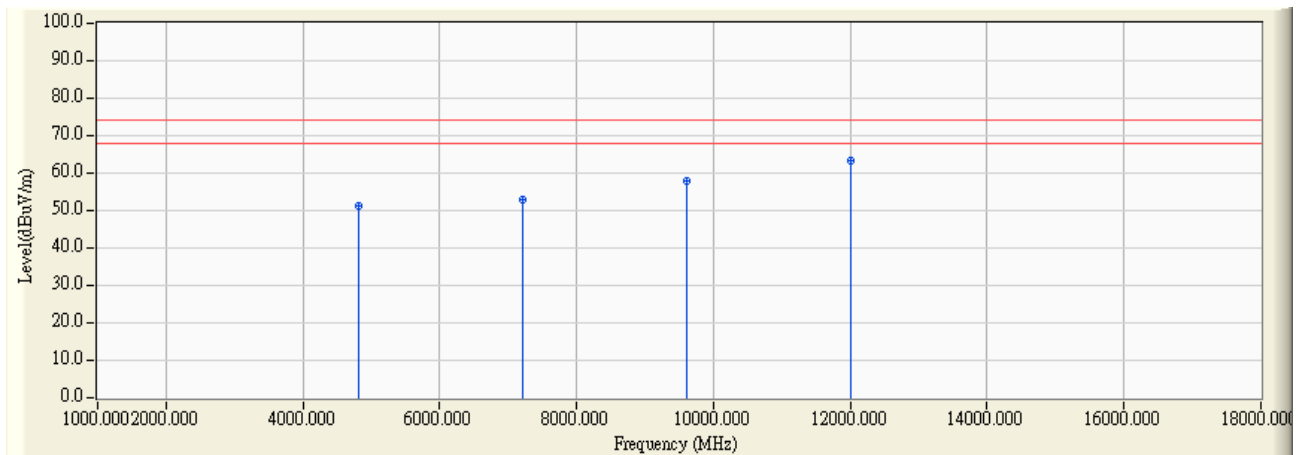


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2402MHz |

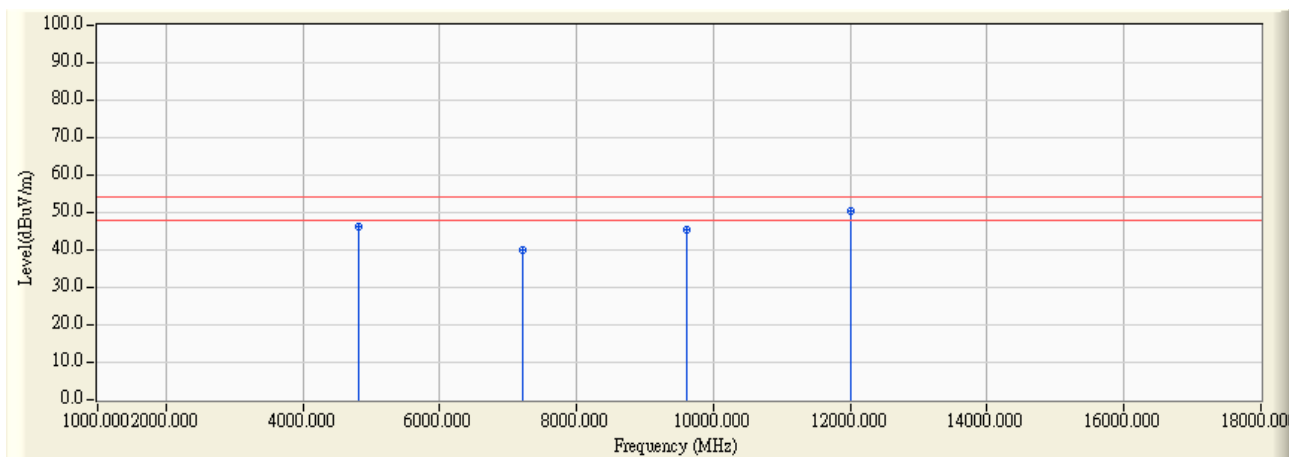


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2402MHz |

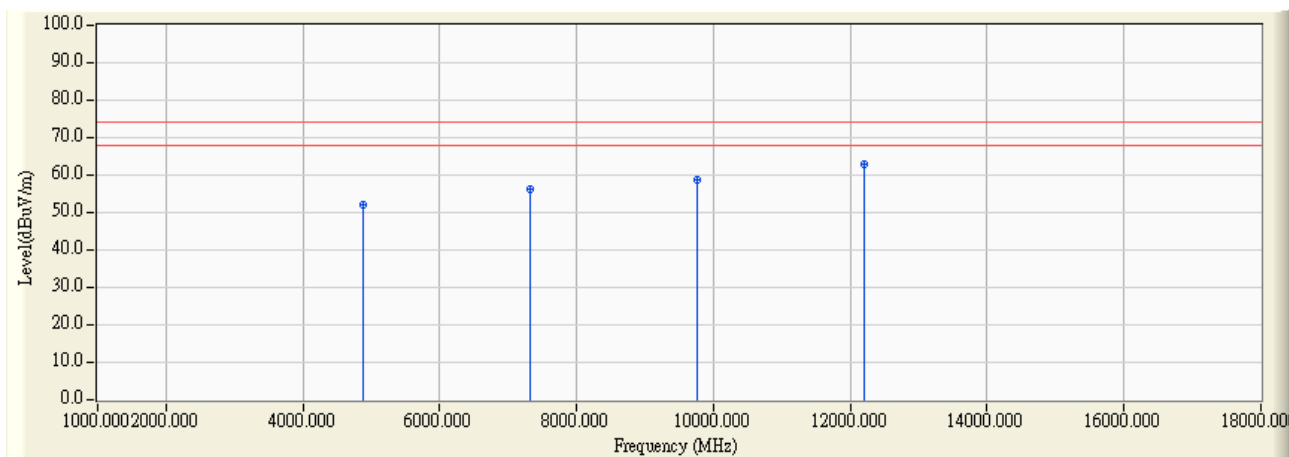


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>HORIZONTAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                  | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

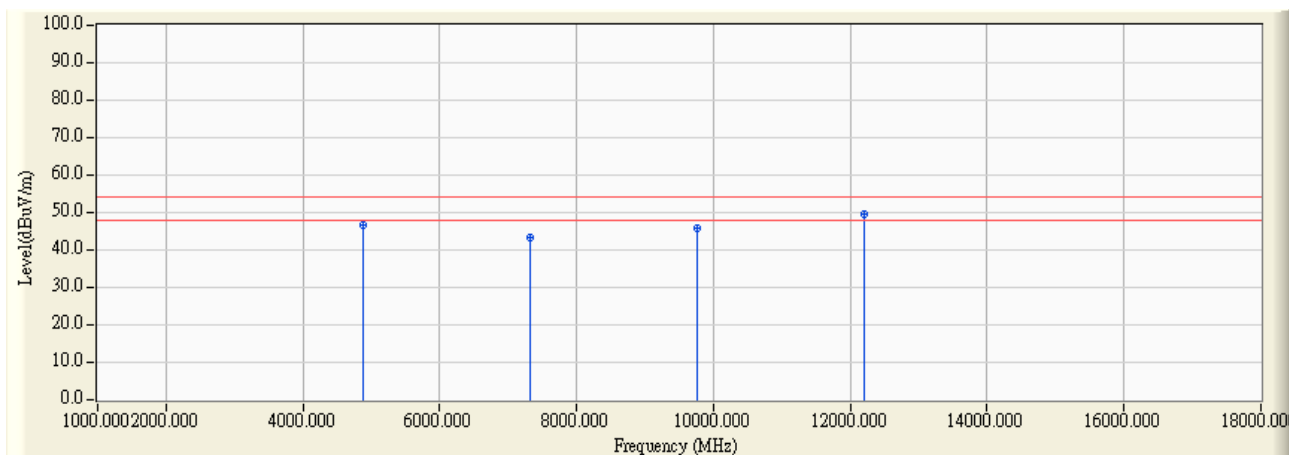


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>HORIZONTAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                  | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

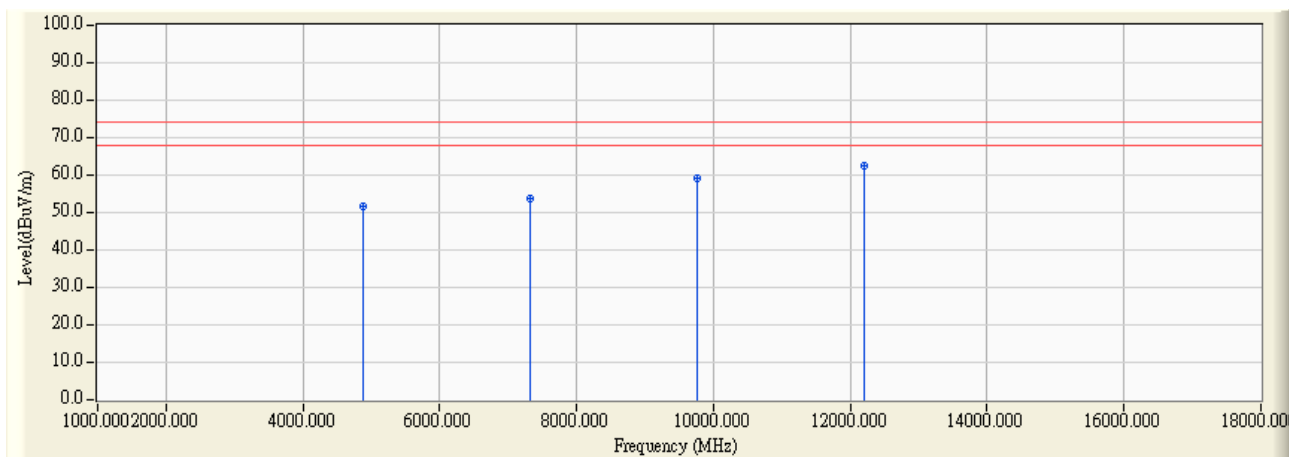


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

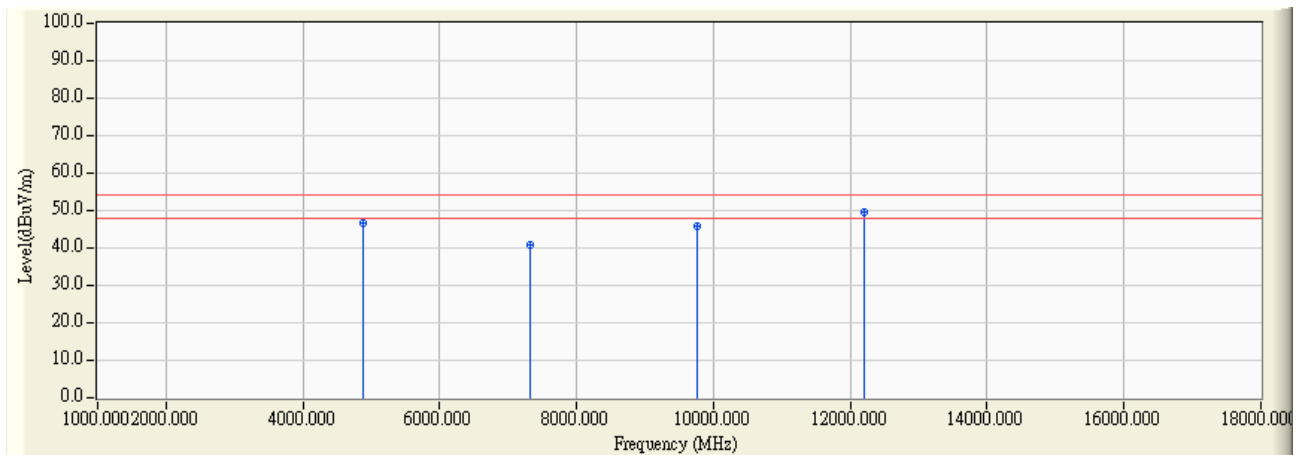


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

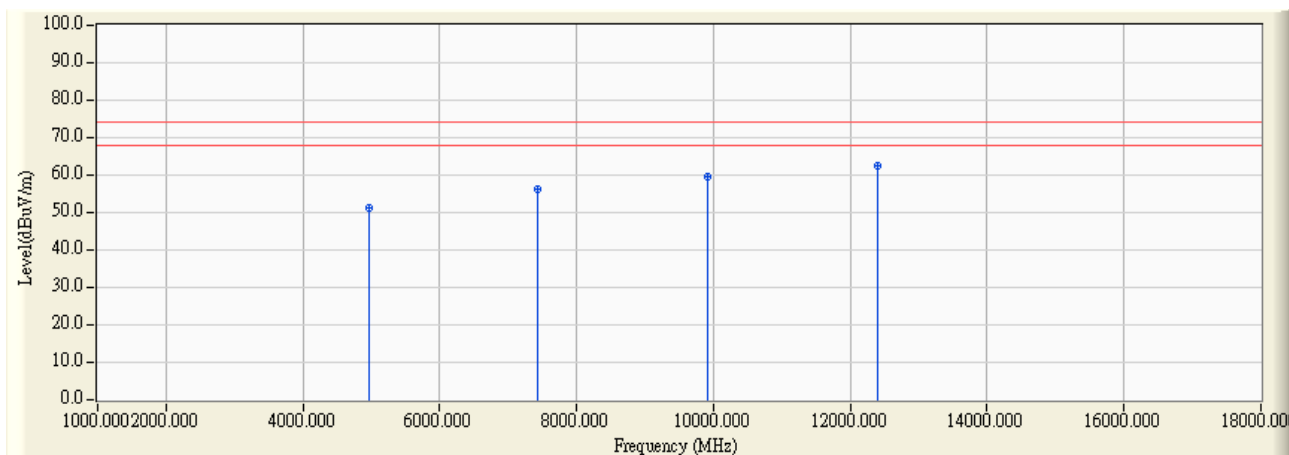


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2480MHz |

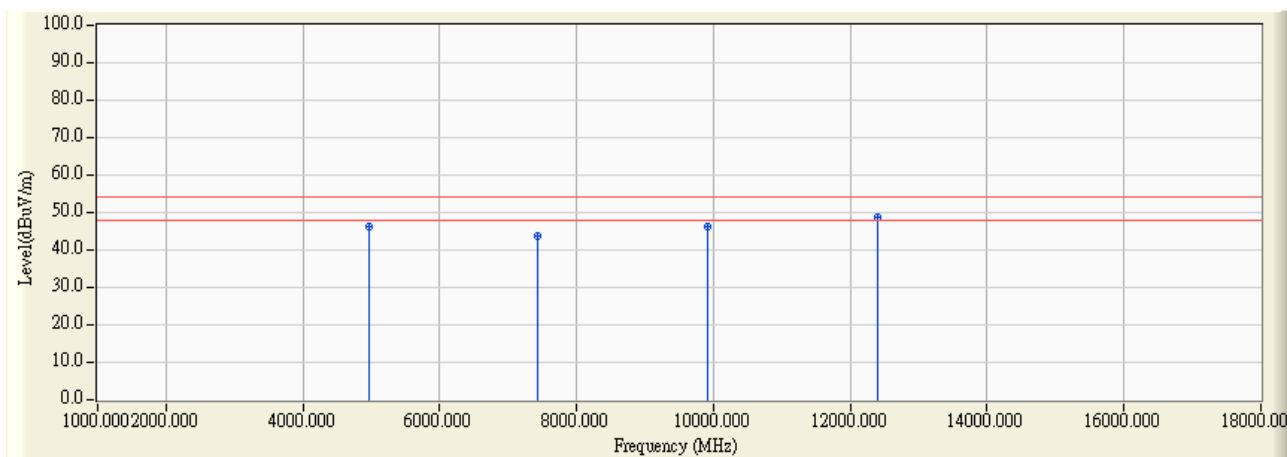


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2480MHz |

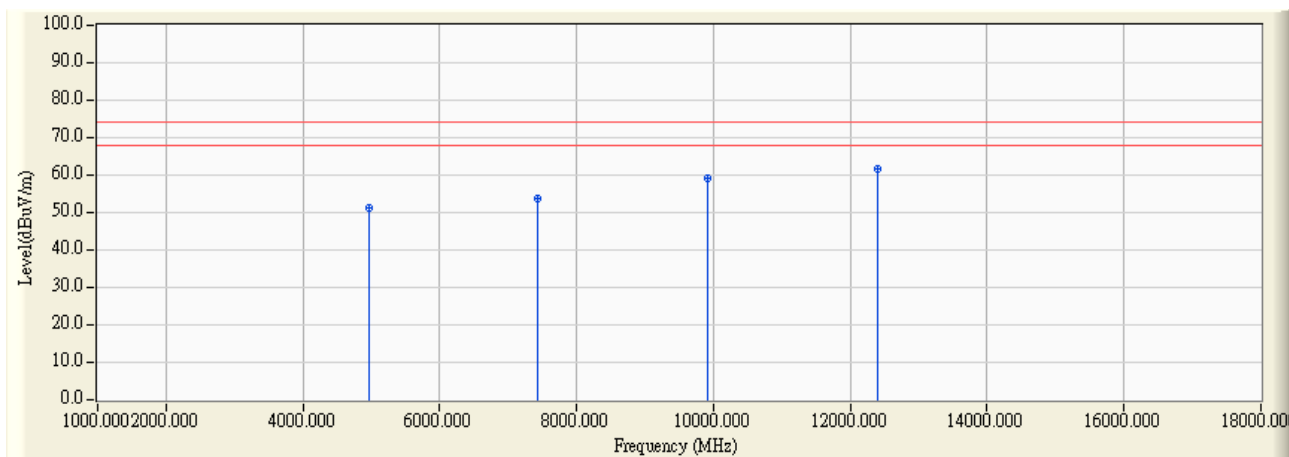


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2480MHz |

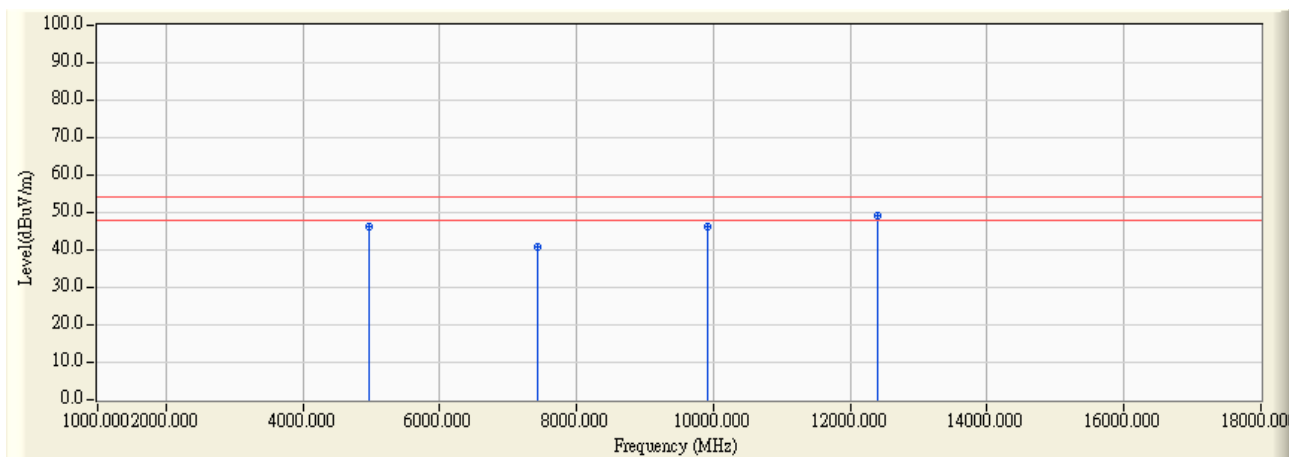


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2480MHz |



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(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       |

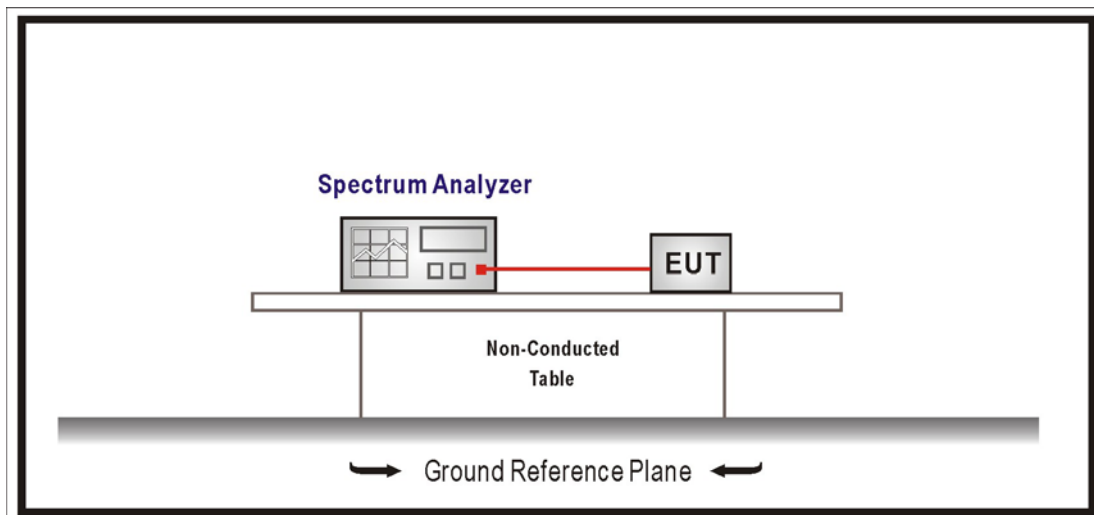
**Note:**

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

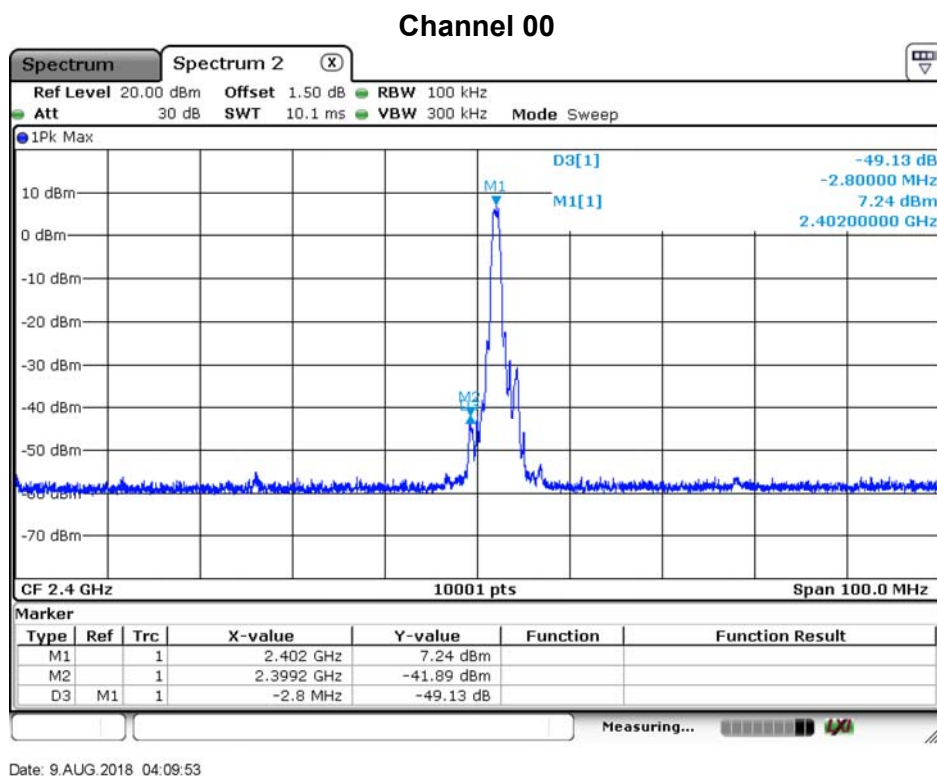
According to FCC Part 15 Subpart C Paragraph 15.247: 2017

## 5.5. Test Result

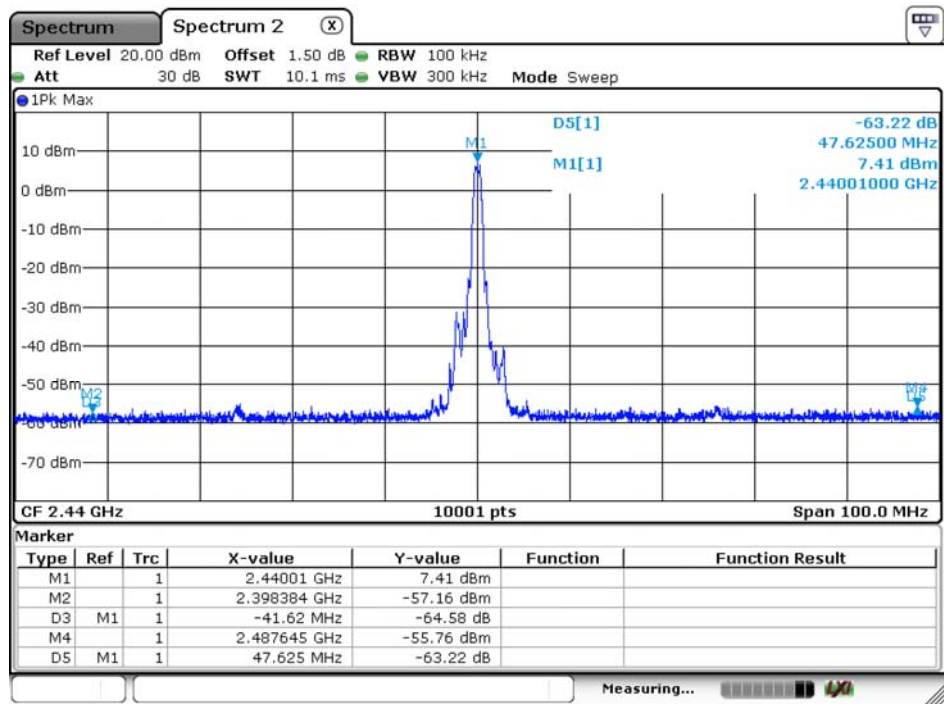
|              |                                  |           |        |
|--------------|----------------------------------|-----------|--------|
| Product      | Bluetooth Headphone              |           |        |
| Test Item    | RF antenna conducted test        |           |        |
| Test Mode    | 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              | $\geq 30$   |
| 19      | 2440            | 56.800              | $\geq 30$   |
| 39      | 2480            | 56.360              | $\geq 30$   |

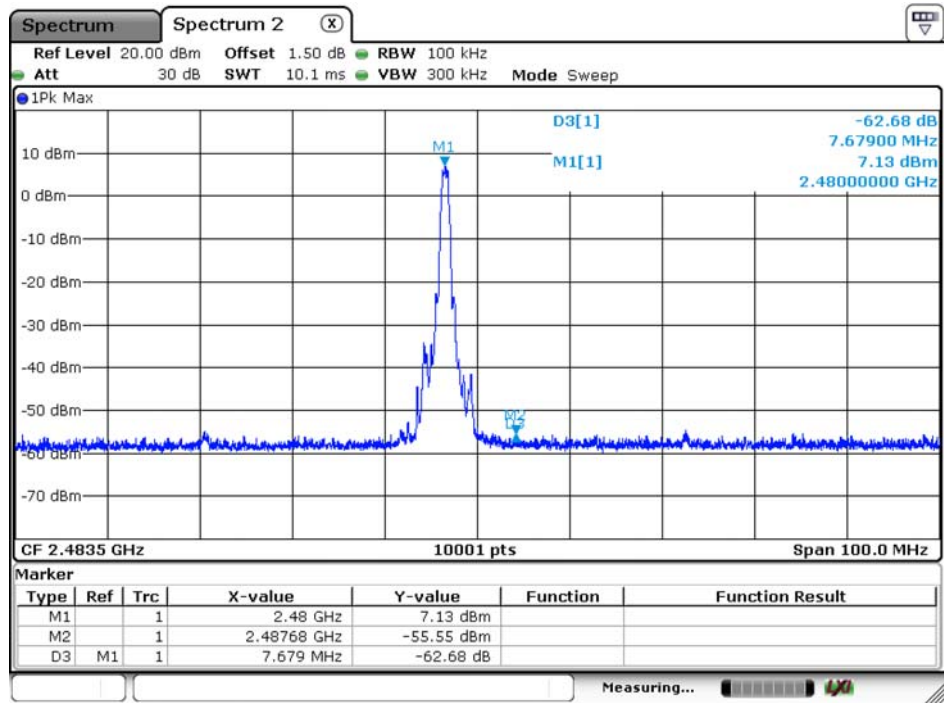


Channel 19



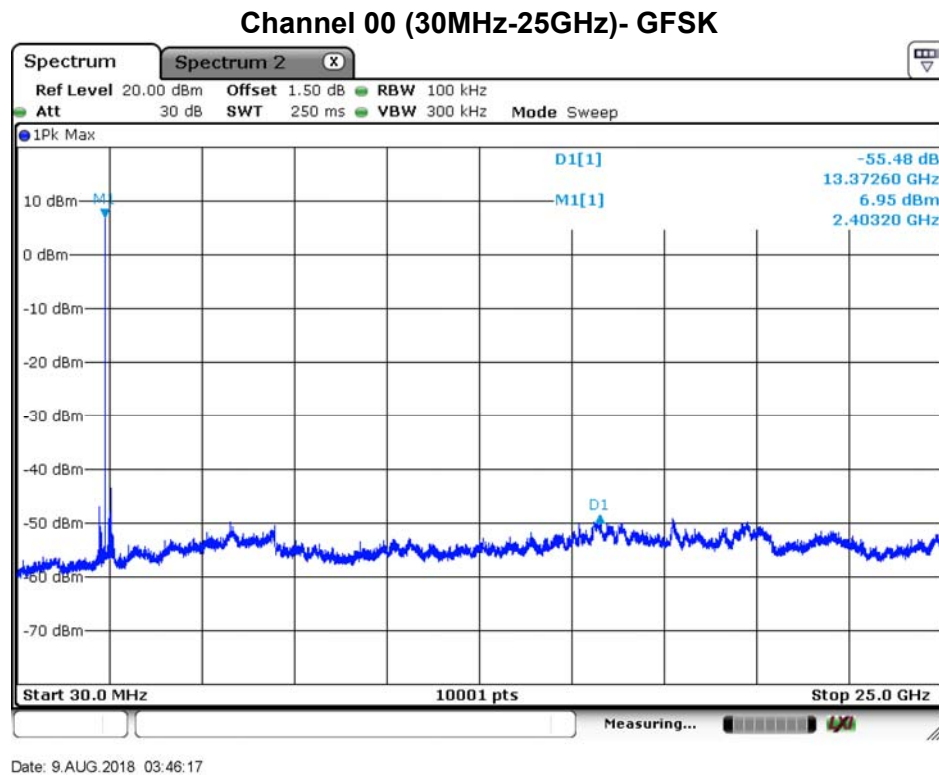
Date: 9.AUG.2018 04:10:55

Channel 39

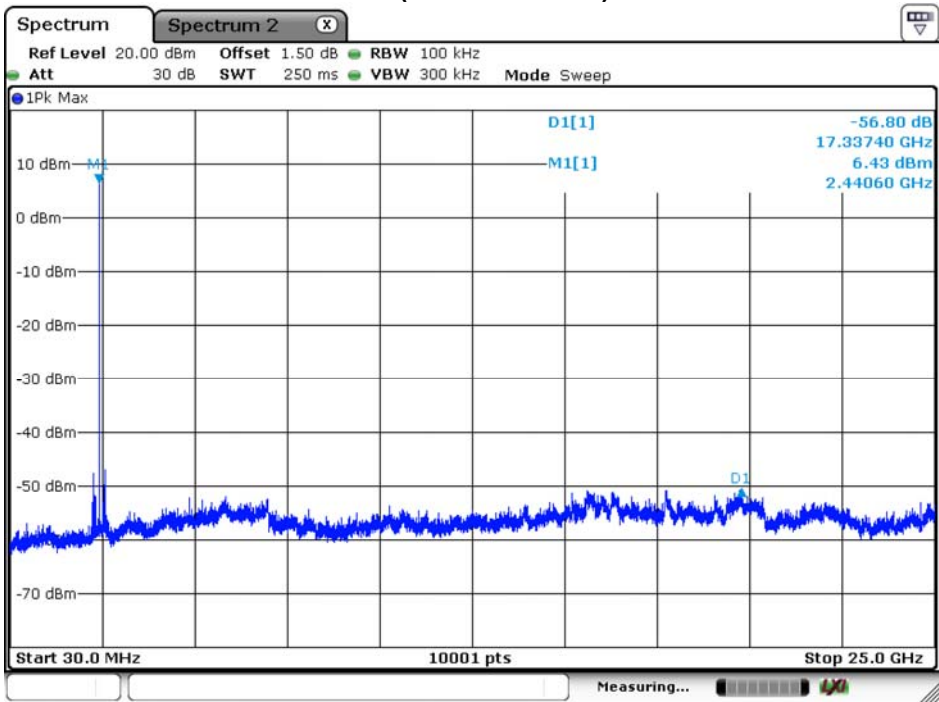


Date: 9.AUG.2018 04:08:23

|              |                                  |           |        |
|--------------|----------------------------------|-----------|--------|
| 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 |

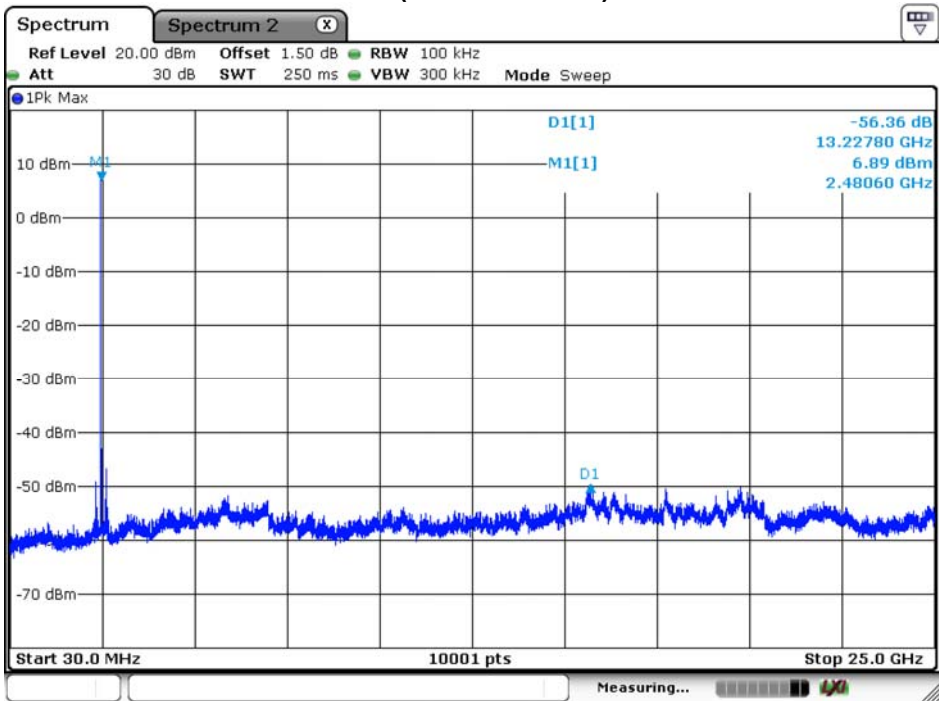


Channel 19 (30MHz-25GHz)- GFSK



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

Channel 39 (30MHz-25GHz)- GFSK

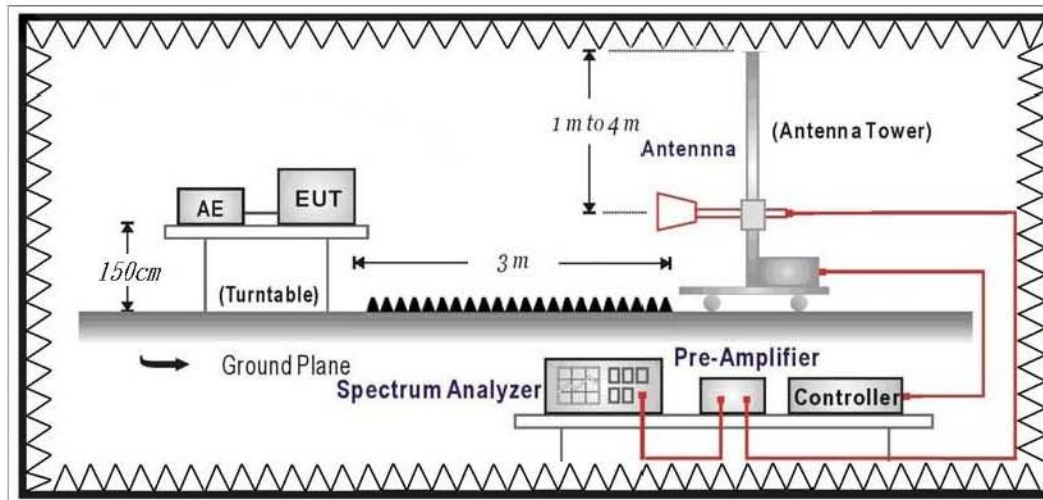


Date: 9.AUG.2018 03:47:52

## 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.

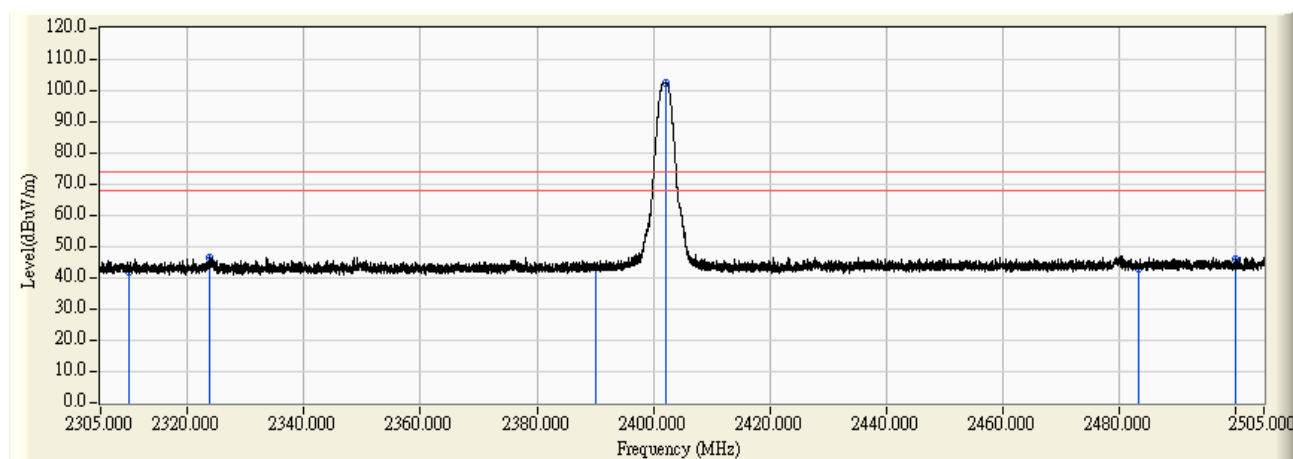
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

### 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)<br>802.15.1_BLE_2402MHz |

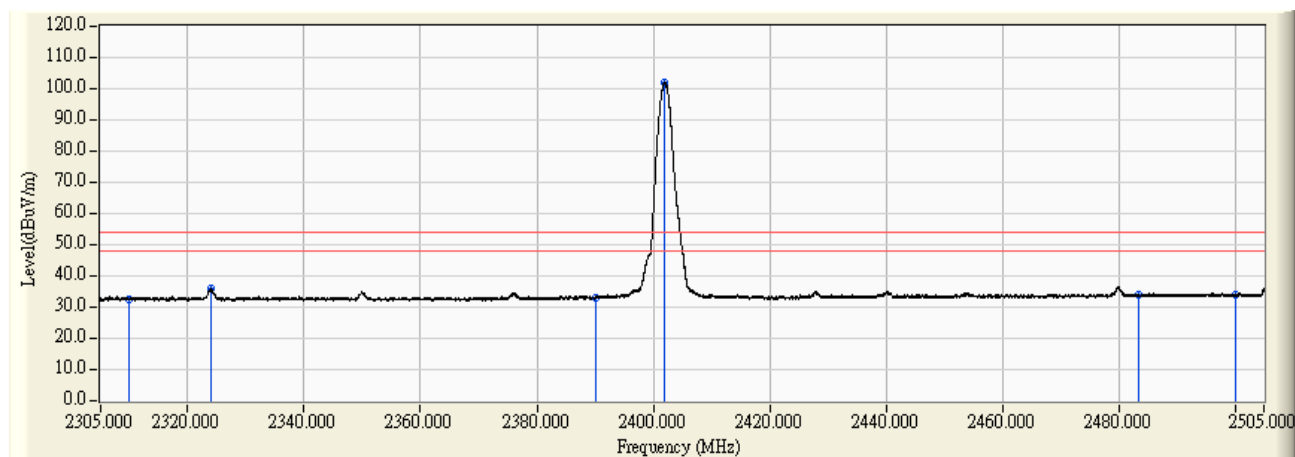


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | 2310.000        | 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)<br>802.15.1_BLE_2402MHz |

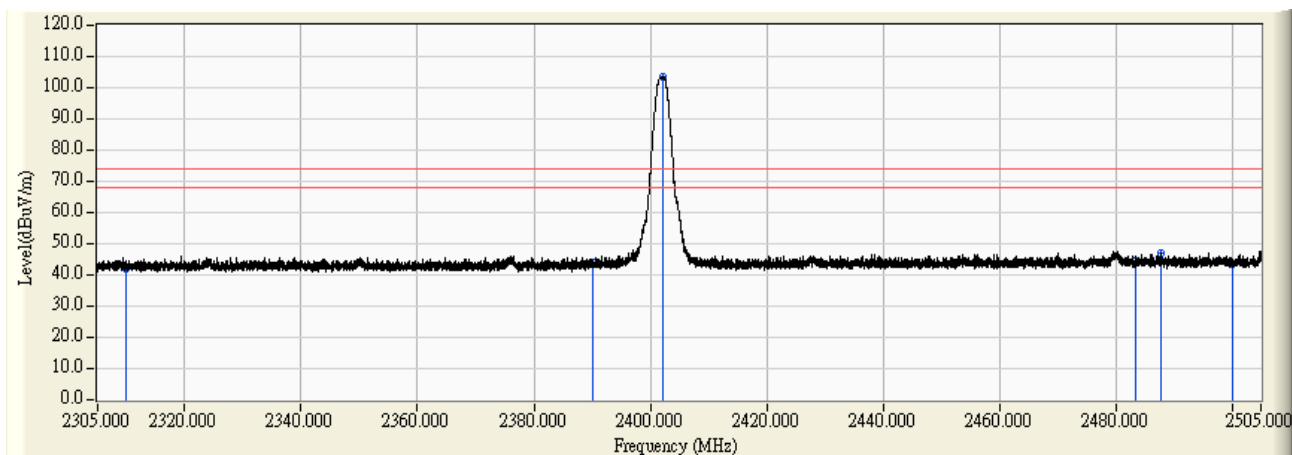


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2402MHz |

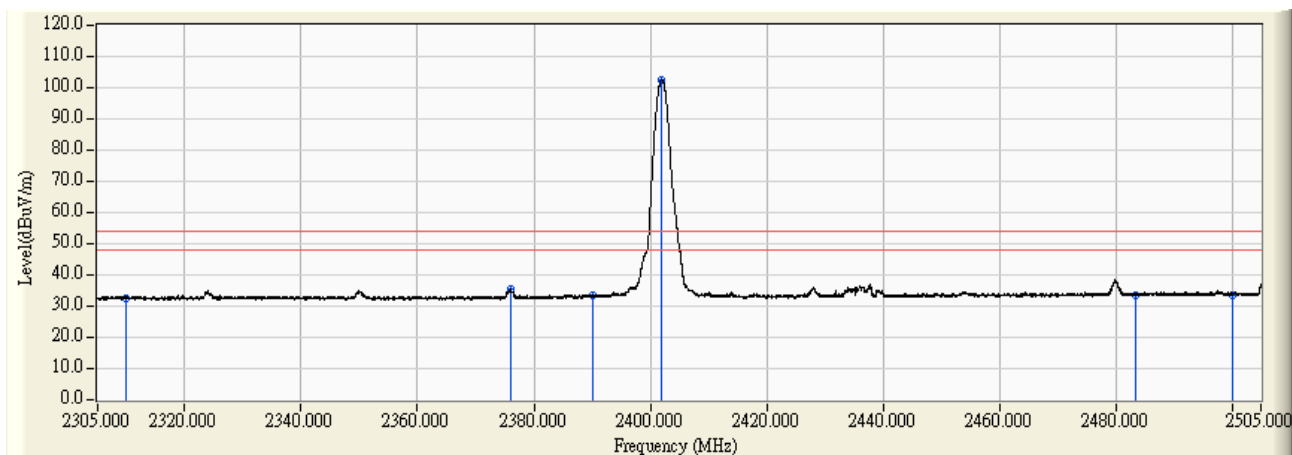


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2402MHz |

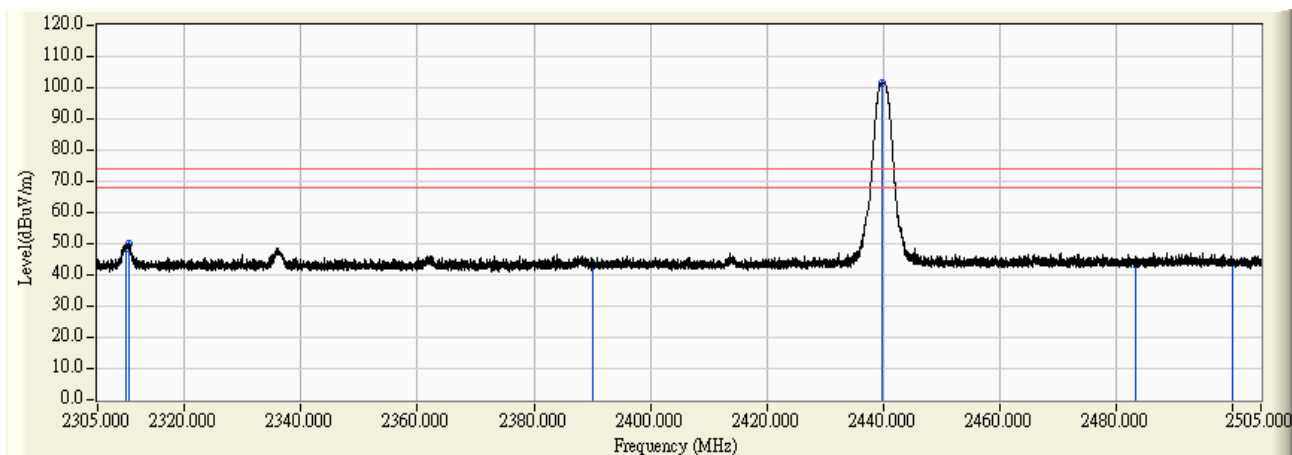


|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2440MHz |

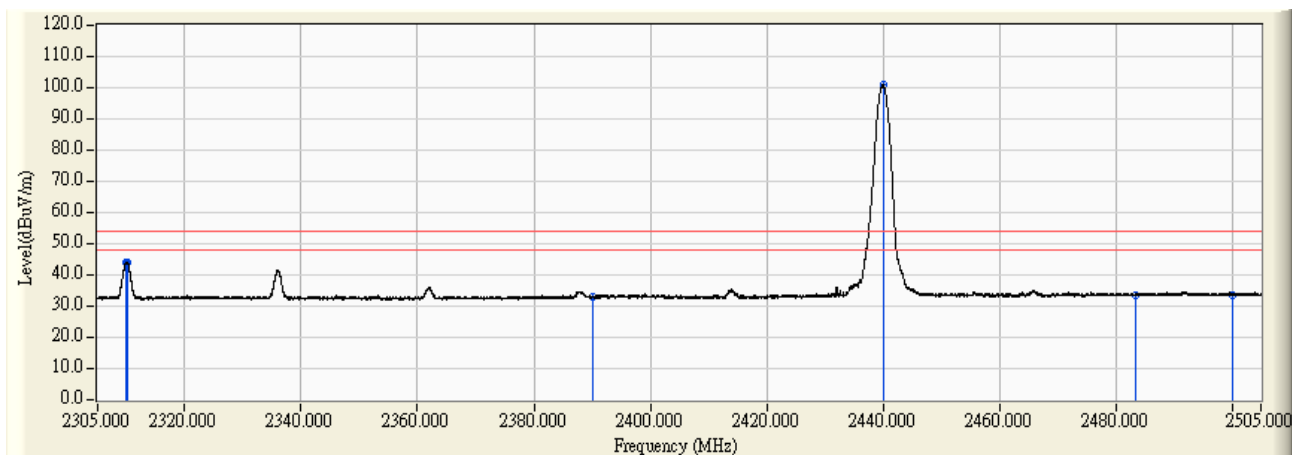


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | 2310.000        | 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)<br>802.15.1_BLE_2440MHz |

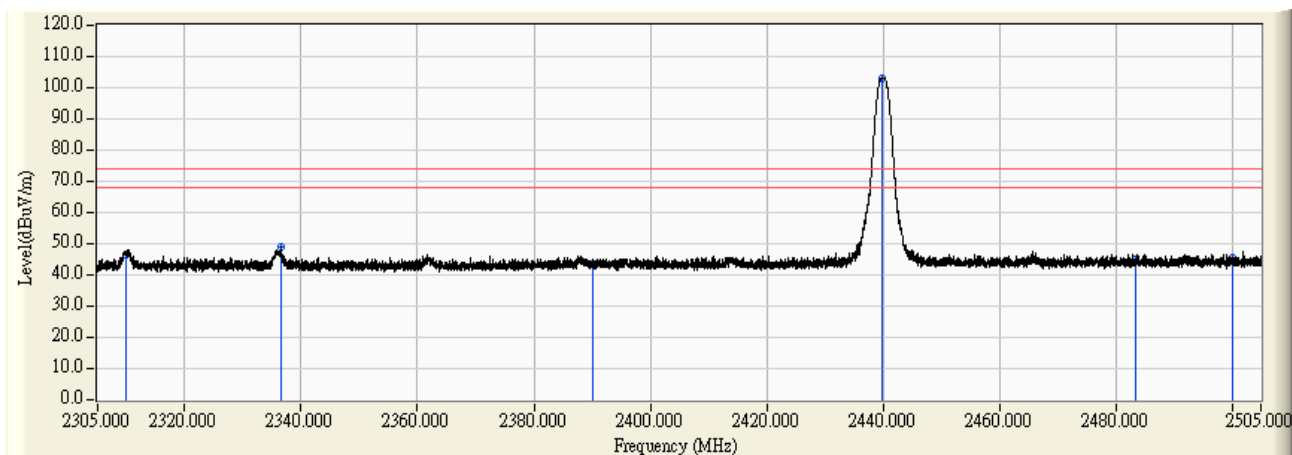


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | 2310.000        | 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

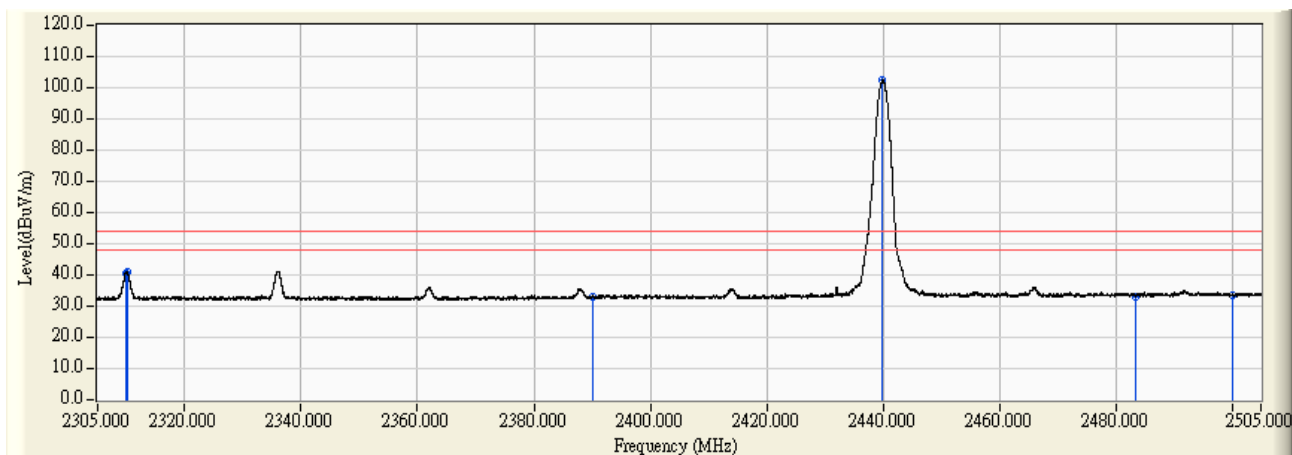


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2440MHz |

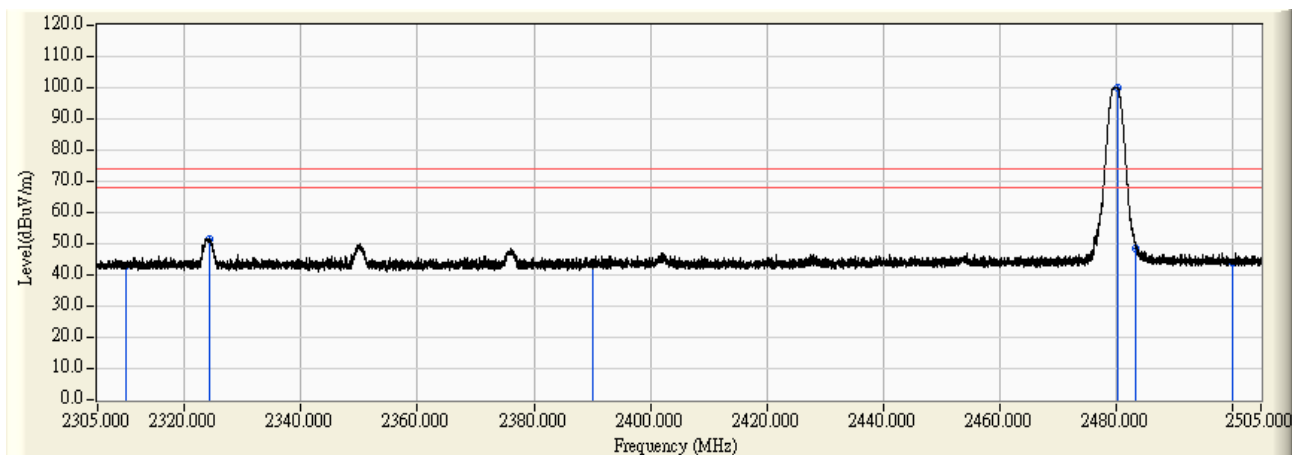


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2480MHz |

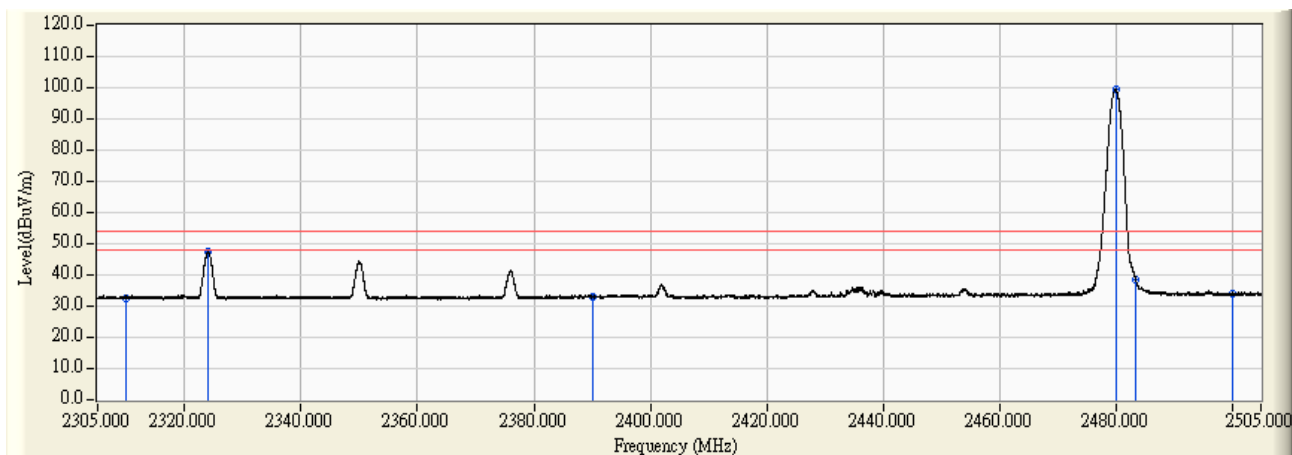


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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)<br>802.15.1_BLE_2480MHz |

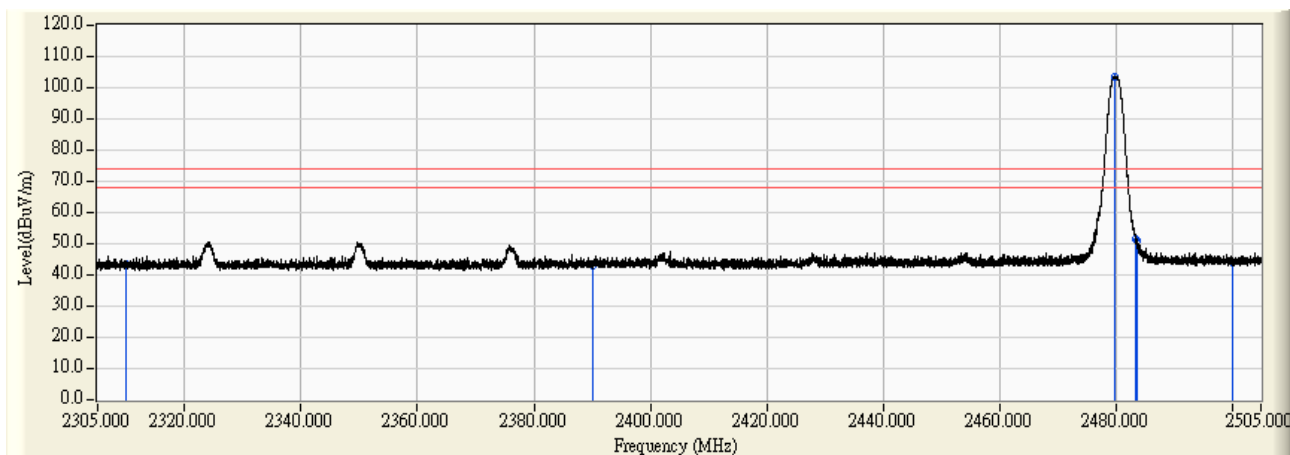


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|-----------------|---------------------|----------------------|------------------------|-------------|----------------|---------------|
| 1 | 2310.000        | 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2480MHz |

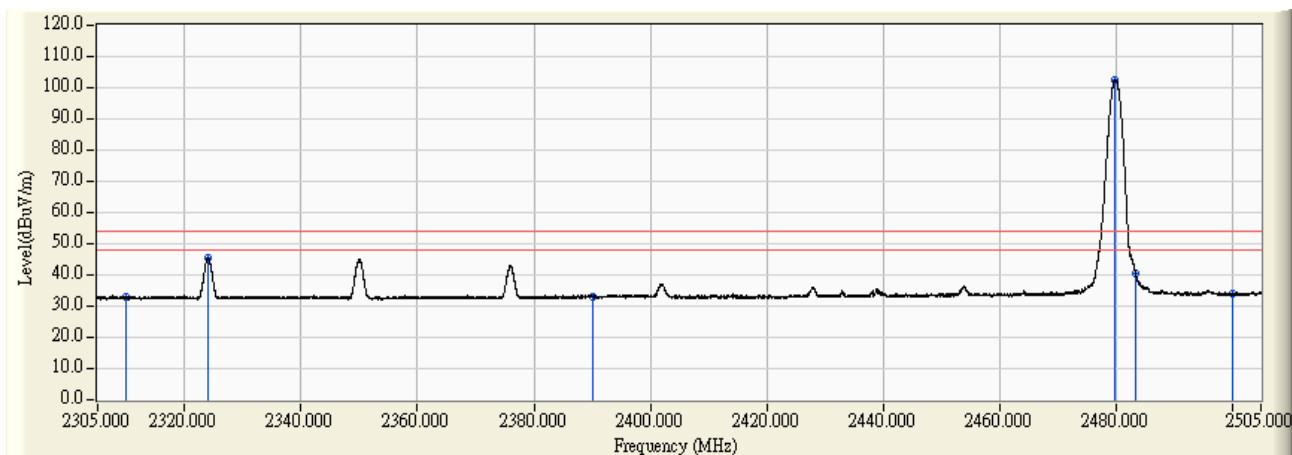


|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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 -<br>VERTICAL | Power : AC 120V/60Hz (Powered by PC)                            |
| EUT : Bluetooth Headphone                                | Note : Mode 1: Transmit (Powered by PC)<br>802.15.1_BLE_2480MHz |



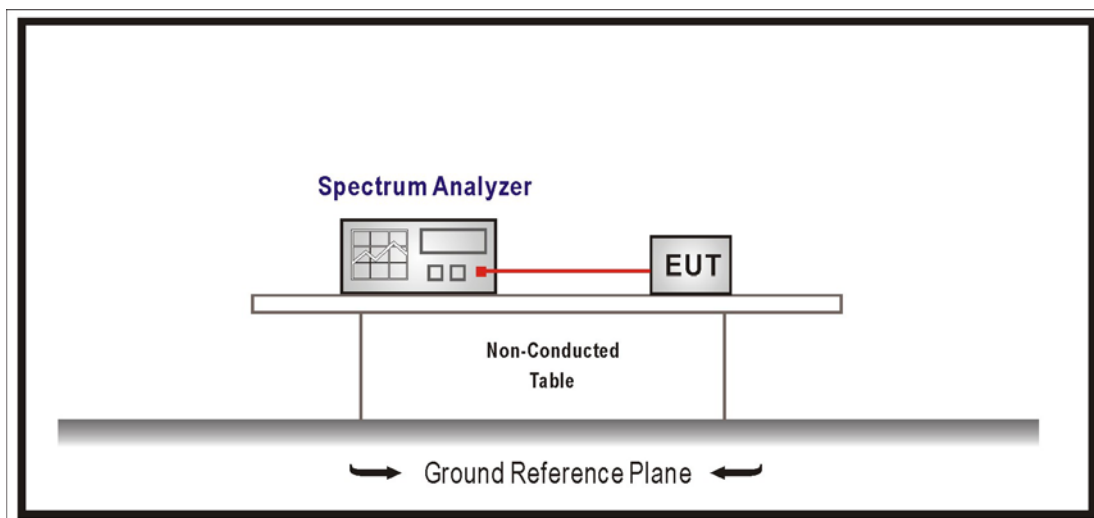
|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|
| 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:  $\geq 500$  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.

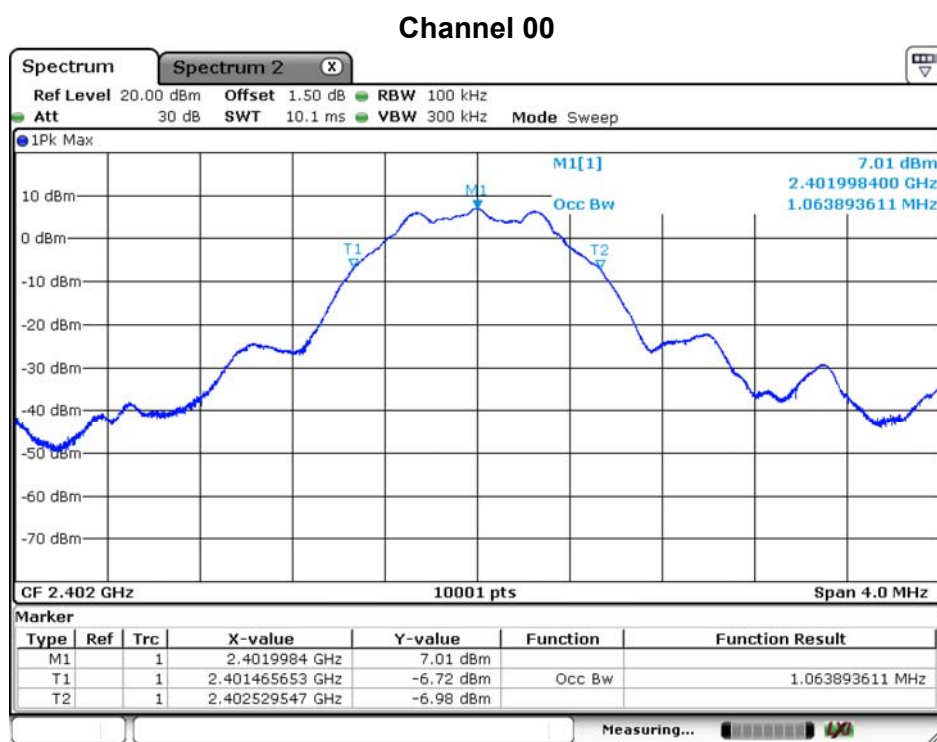
### 7.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247:2017

## 7.5. Test Result

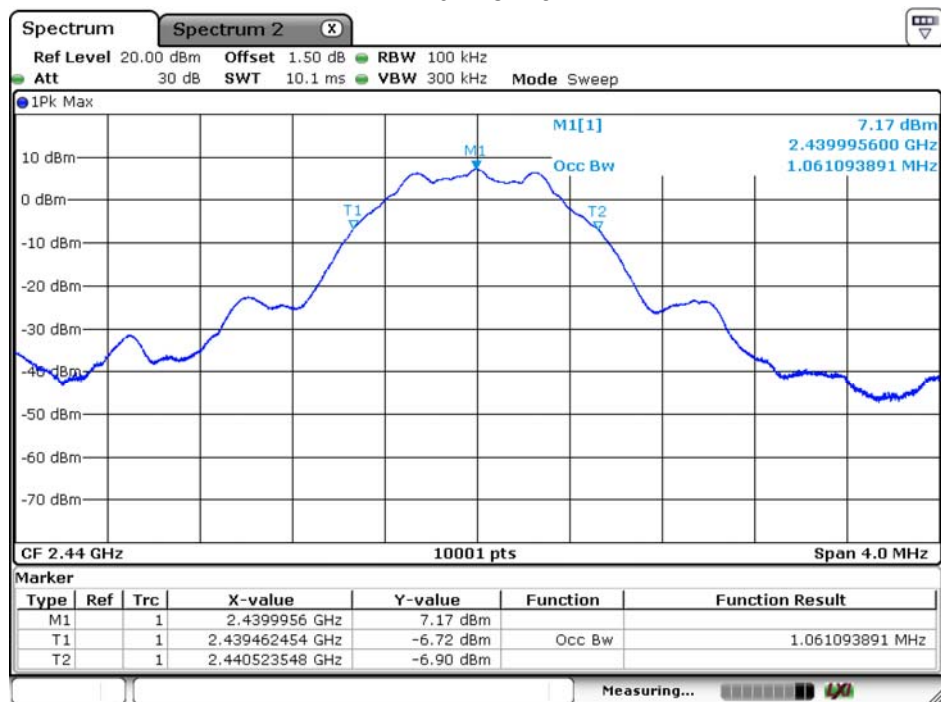
|              |                                  |           |        |
|--------------|----------------------------------|-----------|--------|
| Product      | Bluetooth Headphone              |           |        |
| Test Item    | Occupied Bandwidth               |           |        |
| Test Mode    | 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               | --          |



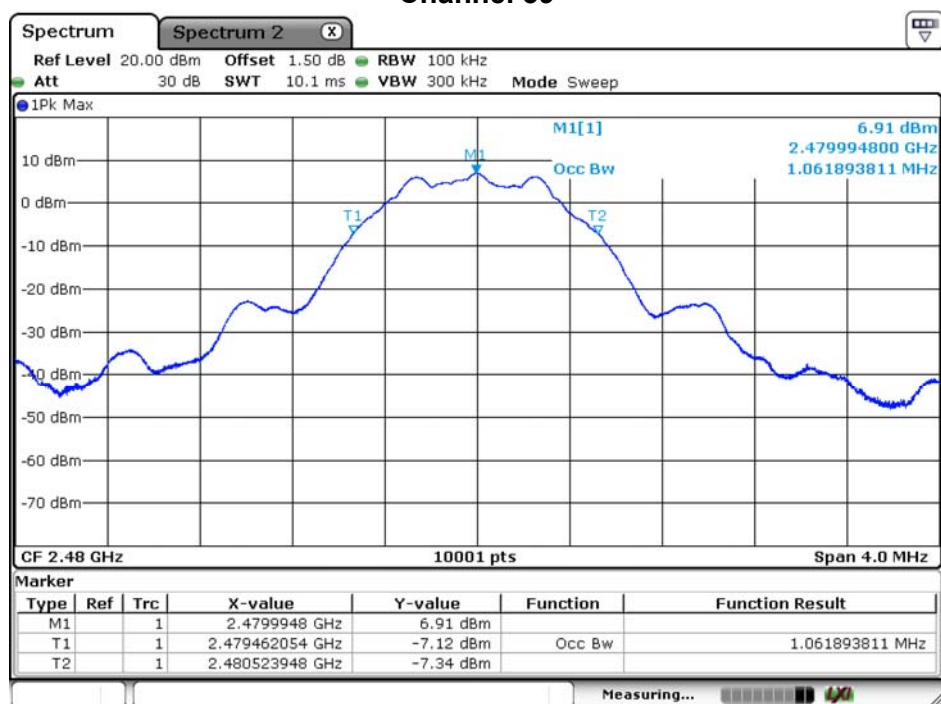
Date: 9.AUG.2018 03:54:28

## Channel 19



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

## Channel 39

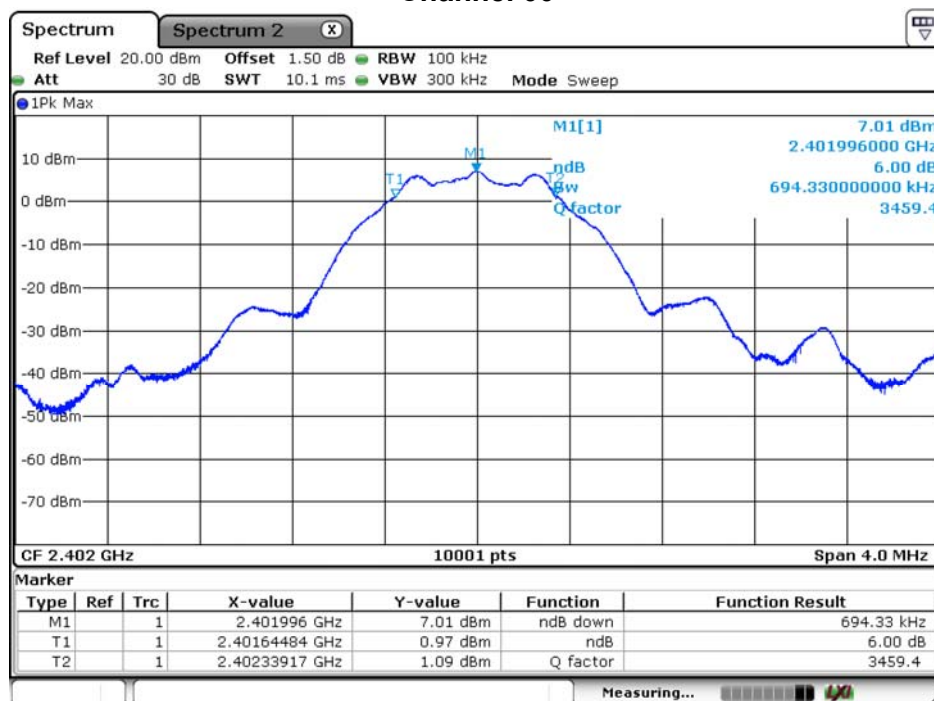


Date: 9.AUG.2018 03:56:30

|              |                                  |           |        |
|--------------|----------------------------------|-----------|--------|
| 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 |

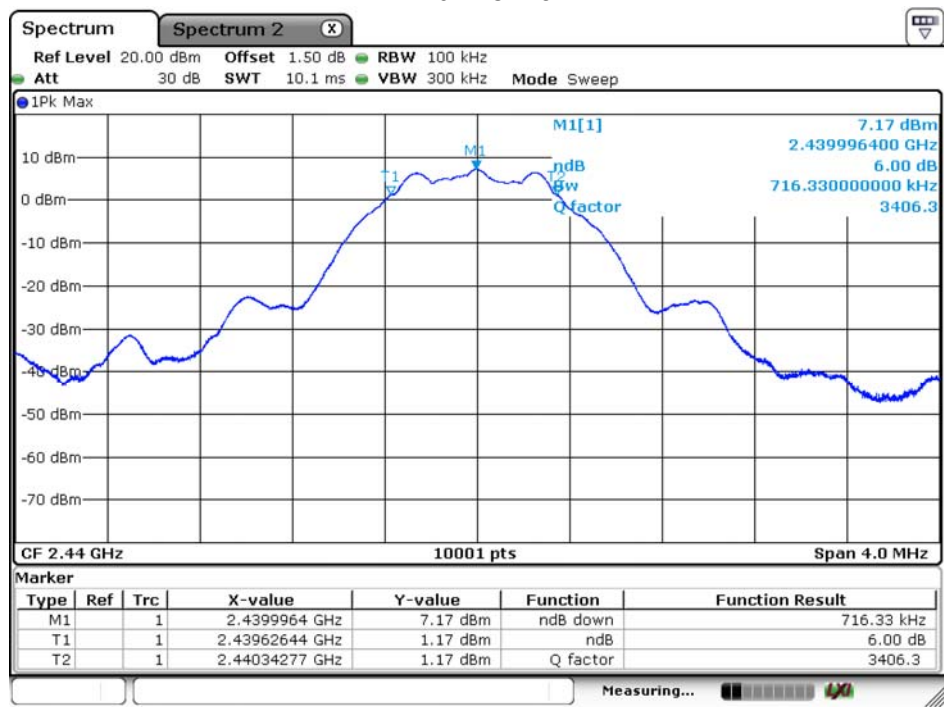
| Channel No. | Frequency (MHz) | Measure Level (KHz) | Limit (KHz) |
|-------------|-----------------|---------------------|-------------|
| 0           | 2402            | 694.33              | $\geq 500$  |
| 19          | 2440            | 716.33              | $\geq 500$  |
| 39          | 2480            | 712.33              | $\geq 500$  |

Channel 00



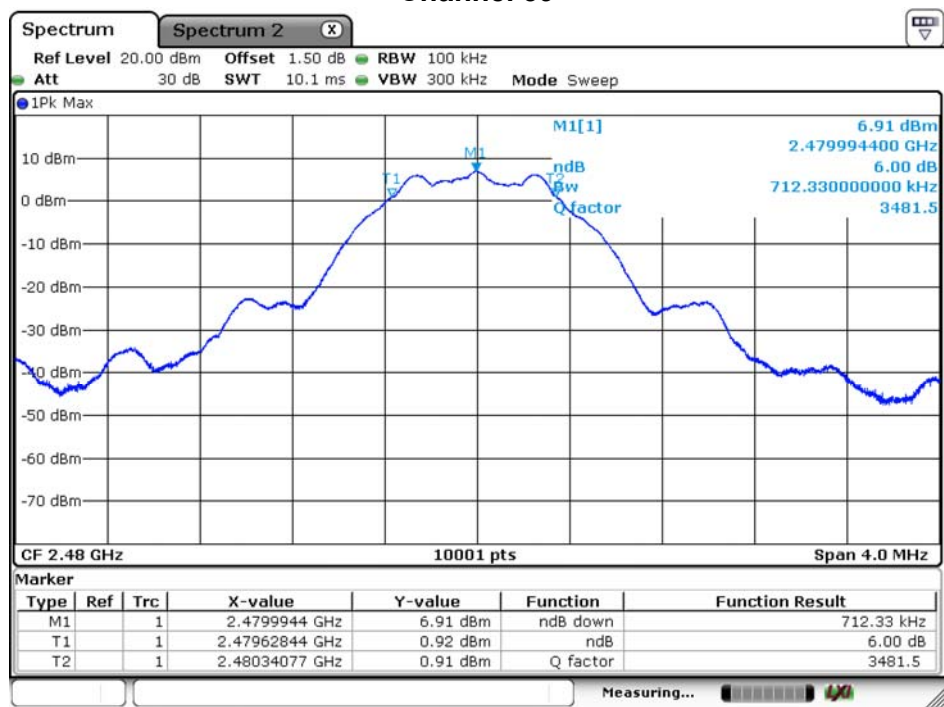
Date: 9.AUG.2018 03:53:57

Channel 19



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

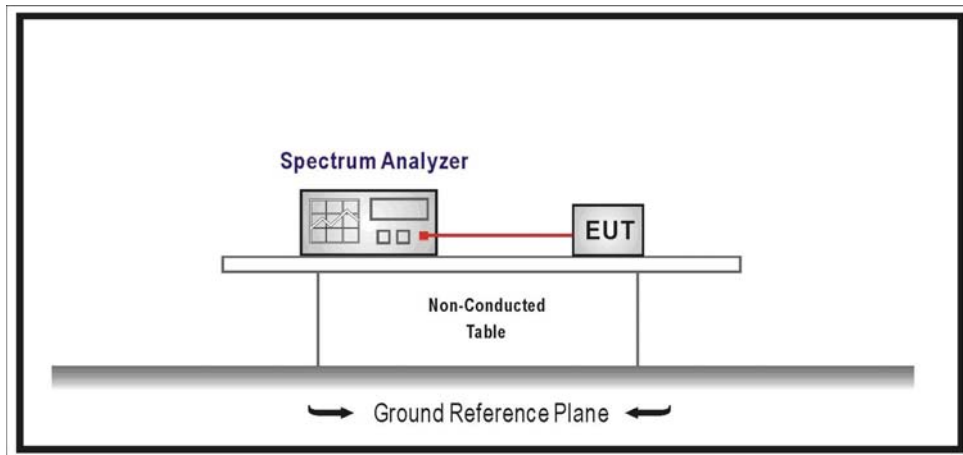
Channel 39



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.

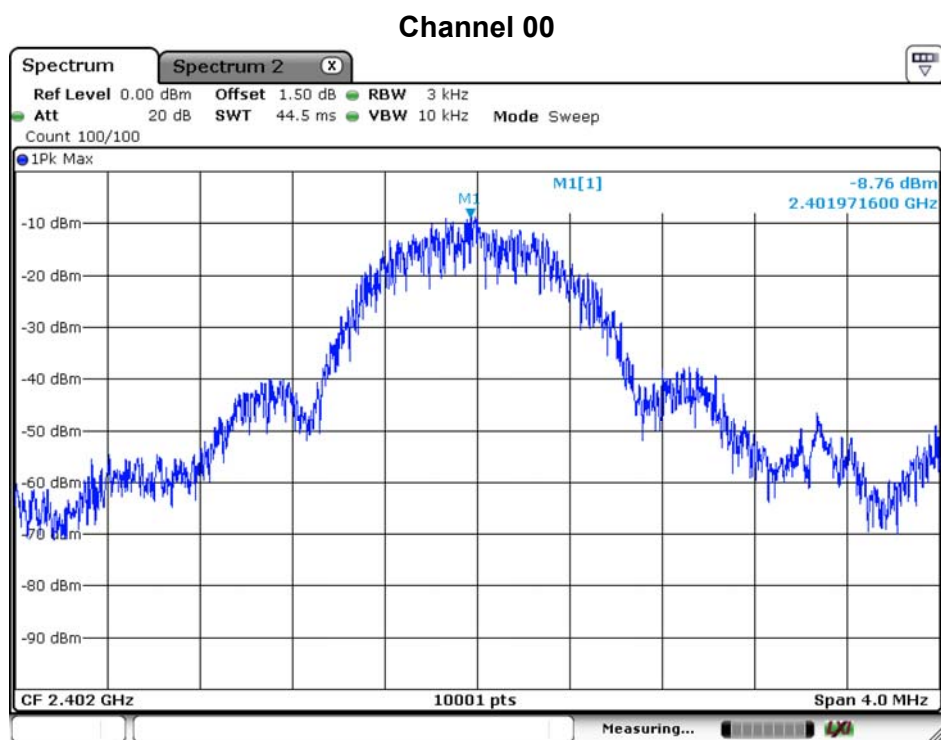
### 8.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

## 8.5. Test Result

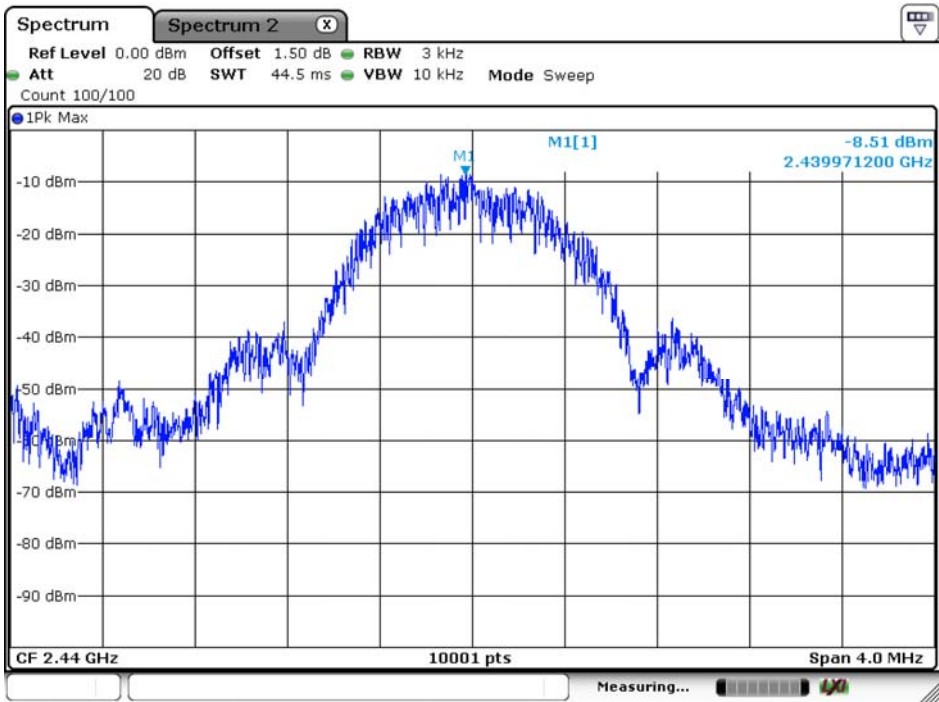
|              |                                  |           |        |
|--------------|----------------------------------|-----------|--------|
| Product      | Bluetooth Headphone              |           |        |
| Test Item    | Power Density                    |           |        |
| Test Mode    | 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                   | $\leq 8$         |
| 19          | 2440            | -8.510                   | $\leq 8$         |
| 39          | 2480            | -8.620                   | $\leq 8$         |



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

Channel 19



Channel 39

