# FCC Test Report

| | |
|---|---|
| Product Name | Bluetooth Headset |
| Model No. | HSC110W |

| | |
|---|---|
| Applicant | GN Audio A/S |
| Address | Lautrupbjerg 7, 2750 Ballerup, Denmark |

| | |
|---|---|
| Date of Receipt | Nov. 04, 2019 |
| Issued Date | Jan. 14, 2020 |
| Report No. | 19B0039R-RFUSP01V00 |
| Report Version | V1.0 |



The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
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# Test Report

Issued Date: Jan. 14, 2020
Report No.: 19B0039R-RFUSP01V00

| | |
|---|---|
| Product Name | Bluetooth Headset |
| Applicant | GN Audio A/S |
| Address | Lautrupbjerg 7, 2750 Ballerup, Denmark |
| Manufacturer | GN Audio A/S |
| Model No. | HSC110W |
| EUT Rated Voltage | DC 3.8V by Battery |
| EUT Test Voltage | DC 3.8V by Battery |
| Trade Name | Jabra |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart B<br>ANSI C63.4: 2014, ANSI C63.10: 2013 |
| Test Result | Complied |

Documented By : Elephant Chen
( Adm. Specialist / Elephant Chen )

Tested By : Yun Che Chen
( Engineer / Yunche Chen )

Approved By :
( Director / Vincent Lin )

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# 1. GENERAL INFORMATION

## 1.1. EUT Description

| | |
|---|---|
| Product Name | Bluetooth Headset |
| Trade Name | Jabra |
| Model No. | HSC110W |
| Frequency Range | BT: 2402 – 2480MHz |
| Number of Channels | Bluetooth: V2.1+EDR: 79CH, V5.0: 40CH |
| Type of Modulation | Bluetooth: V2.1+EDR: GFSK(1Mbps) /π/4DQPSK(2Mbps) / 8DPSK(3Mbps), V5.0:GFSK (2Mbps) |
| Antenna Type | PIFA Antenna |
| Antenna Gain | Refer to the table “Antenna List” |
| Channel Control | Auto |
| USB Cable | Shielded, 1.2m |
| USB Cable | Shielded, 0.25m |

## Antenna List

| No. | Manufacturer | Part No. | Antenna Type | Peak Gain |
|---|---|---|---|---|
| 1 | Jabra | Jabra HSC110W | PIFA Antenna | -0.52dBi for 2.4GHz |

Note: The antenna of EUT is conform to FCC 15.203.

Frequency of Each Channel (Bluetooth: For V2.1+EDR):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| Channel 00: | 2402 MHz | Channel 20: | 2422 MHz | Channel 40: | 2442 MHz | Channel 60: | 2462 MHz |
| Channel 01: | 2403 MHz | Channel 21: | 2423 MHz | Channel 41: | 2443 MHz | Channel 61: | 2463 MHz |
| Channel 02: | 2404 MHz | Channel 22: | 2424 MHz | Channel 42: | 2444 MHz | Channel 62: | 2464 MHz |
| Channel 03: | 2405 MHz | Channel 23: | 2425 MHz | Channel 43: | 2445 MHz | Channel 63: | 2465 MHz |
| Channel 04: | 2406 MHz | Channel 24: | 2426 MHz | Channel 44: | 2446 MHz | Channel 64: | 2466 MHz |
| Channel 05: | 2407 MHz | Channel 25: | 2427 MHz | Channel 45: | 2447 MHz | Channel 65: | 2467 MHz |
| Channel 06: | 2408 MHz | Channel 26: | 2428 MHz | Channel 46: | 2448 MHz | Channel 66: | 2468 MHz |
| Channel 07: | 2409 MHz | Channel 27: | 2429 MHz | Channel 47: | 2449 MHz | Channel 67: | 2469 MHz |
| Channel 08: | 2410 MHz | Channel 28: | 2430 MHz | Channel 48: | 2450 MHz | Channel 68: | 2470 MHz |
| Channel 09: | 2411 MHz | Channel 29: | 2431 MHz | Channel 49: | 2451 MHz | Channel 69: | 2471 MHz |
| Channel 10: | 2412 MHz | Channel 30: | 2432 MHz | Channel 50: | 2452 MHz | Channel 70: | 2472 MHz |
| Channel 11: | 2413 MHz | Channel 31: | 2433 MHz | Channel 51: | 2453 MHz | Channel 71: | 2473 MHz |
| Channel 12: | 2414 MHz | Channel 32: | 2434 MHz | Channel 52: | 2454 MHz | Channel 72: | 2474 MHz |
| Channel 13: | 2415 MHz | Channel 33: | 2435 MHz | Channel 53: | 2455 MHz | Channel 73: | 2475 MHz |
| Channel 14: | 2416 MHz | Channel 34: | 2436 MHz | Channel 54: | 2456 MHz | Channel 74: | 2476 MHz |
| Channel 15: | 2417 MHz | Channel 35: | 2437 MHz | Channel 55: | 2457 MHz | Channel 75: | 2477 MHz |
| Channel 16: | 2418 MHz | Channel 36: | 2438 MHz | Channel 56: | 2458 MHz | Channel 76: | 2478 MHz |
| Channel 17: | 2419 MHz | Channel 37: | 2439 MHz | Channel 57: | 2459 MHz | Channel 77: | 2479 MHz |
| Channel 18: | 2420 MHz | Channel 38: | 2440 MHz | Channel 58: | 2460 MHz | Channel 78: | 2480 MHz |
| Channel 19: | 2421 MHz | Channel 39: | 2441 MHz | Channel 59: | 2461 MHz | | |

Frequency of Each Channel: (Bluetooth: For V5.0)

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

Note:
1. The EUT is a Bluetooth Headset with a built-in Bluetooth V5.0,V2.1+EDR transceiver.
2. Regarding to the operation frequency band, the lowest, middle, and highest frequency are selected to perform the test.
3. This device is a composite device in accordance with Part 15 regulations. The function for the 2.4GHz transmitting was measured and made a test report that the report number is 19B0039R-RFUSP01V00-B、19B0039R-RFUSP01V00-A, certified under FCC ID: BCE-HSC110W.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. The EUT are three types, only non-RF components are removed(#2&#3) from #1, all test data(#1) and radiated emission below 1GHz(#2&#3) are shown in the report.

   The type is:

   #1: stereo headset with adjustable arm.

   #2: mono earphone with adjustable arm.

   #3: stereo headset.

| | |
|---|---|
| Test Mode | Mode 1: Receive - Bluetooth-3Mbps<br>Mode 2: Receive - BLE-2Mbps |

## 1.2. Test System Details

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

BT mode

| Product | | Manufacturer | Model No. | Serial No. | Power Cord |
|---|---|---|---|---|---|
| 1 | Notebook PC | DELL | Latitude E5440 | FS9TK32 | Non-Shielded, 0.8m |
| 2 | Adapter | SAMSUNG | EP-TA20JWS | R37H2CMJ8F3DK3 | N/A |

Charge mode

| Product | | Manufacturer | Model No. | Serial No. | Power Cord |
|---|---|---|---|---|---|
| 1 | Notebook PC | DELL | Latitude E5440 | FS9TK32 | Non-Shielded, 0.8m |
| 2 | Deskatand | Jabra | DIV020 | N/A | Non-Shielded, 1.1m |
| 3 | Adapter | SAMSUNG | EP-TA20JWS | R37H2CMJ8F3DK3 | N/A |

BT mode(stereo headset with adjustable arm & mono earphone with adjustable arm)

| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | USB Cable | Shielded, 1.2m |

BT mode(stereo headset)

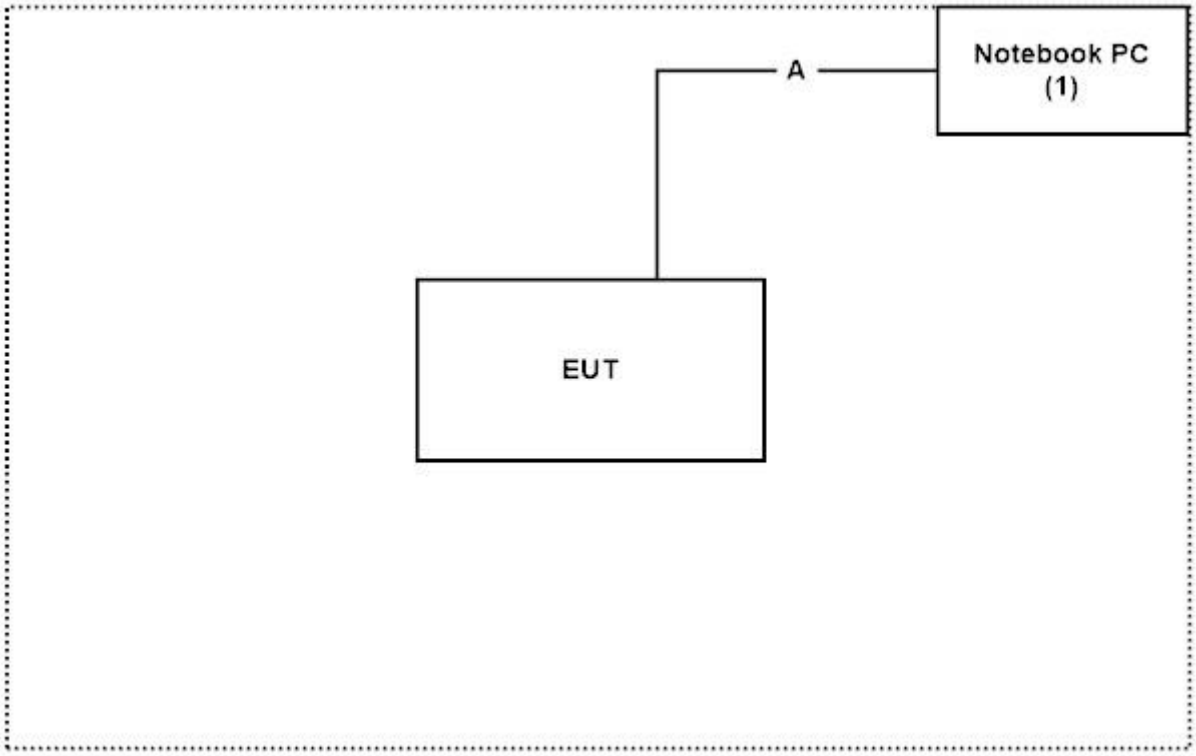
| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | USB Cable | Shielded, 0.25m |
| B | USB Cable | Shielded, 1.7m |

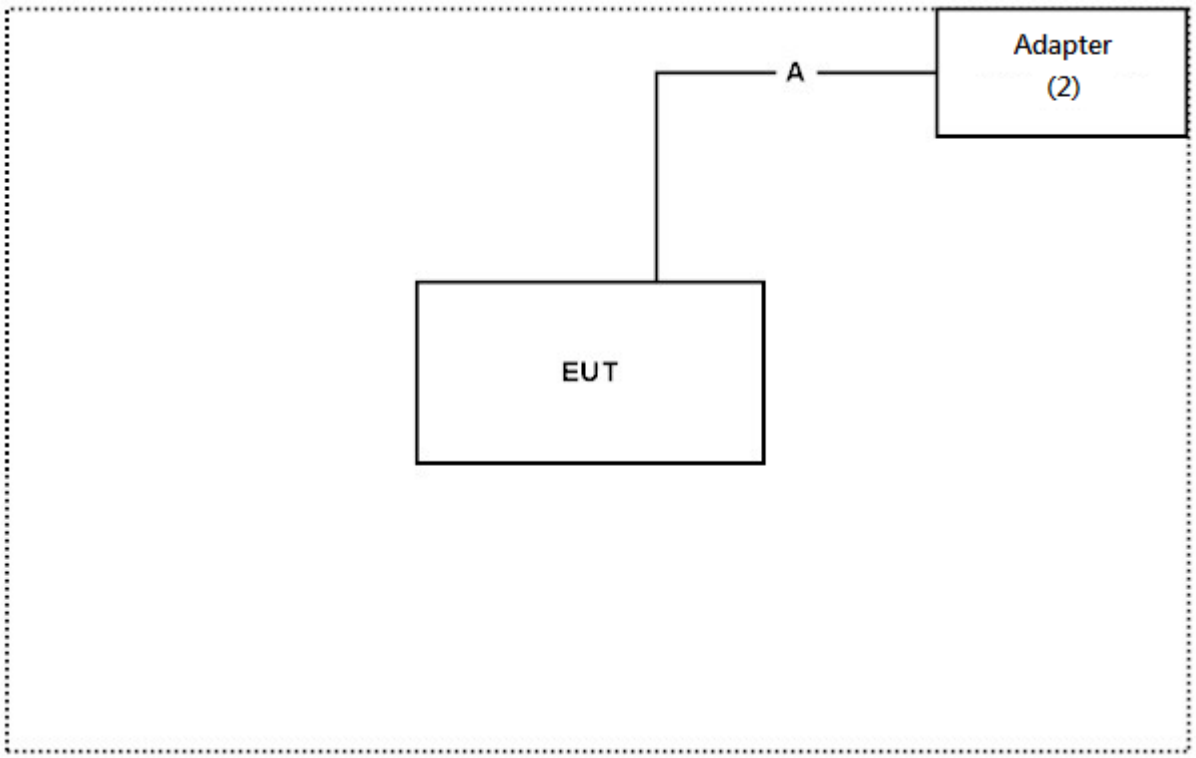
Charge mode

| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | USB Cable | Shielded, 1.2m |

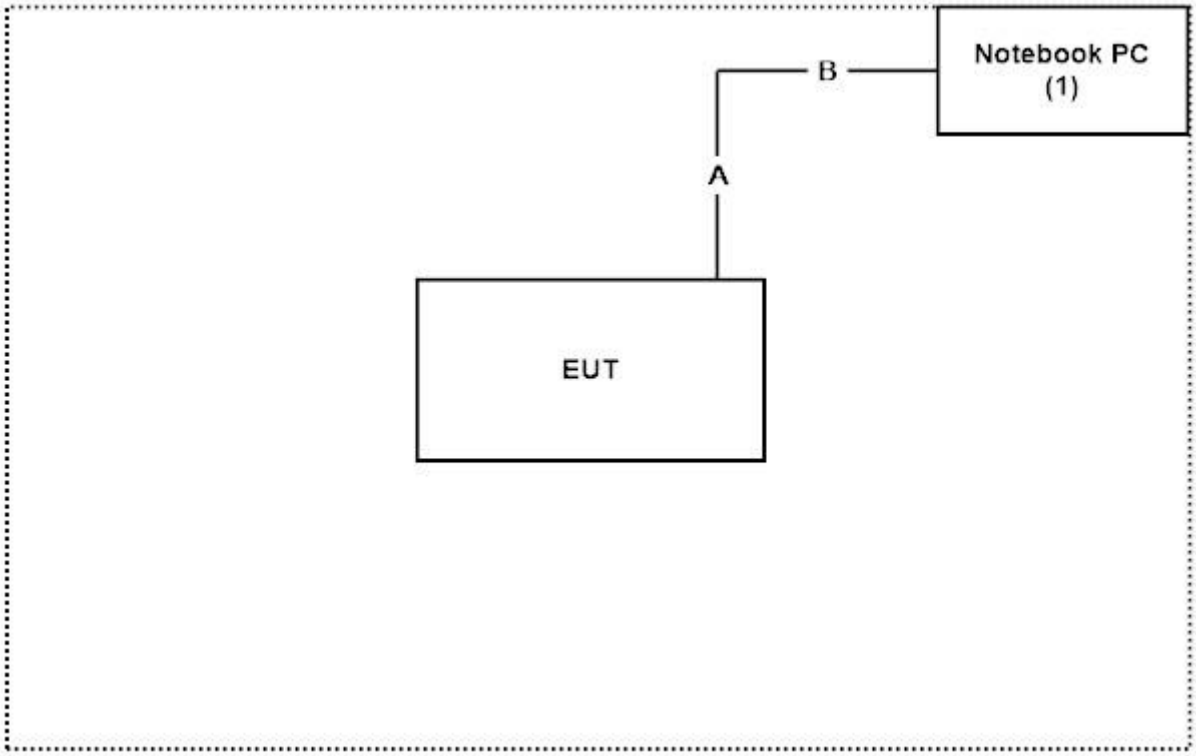
## 1.3. Configuration of Tested System

BT mode(stereo headset with adjustable arm & mono earphone with adjustable arm)

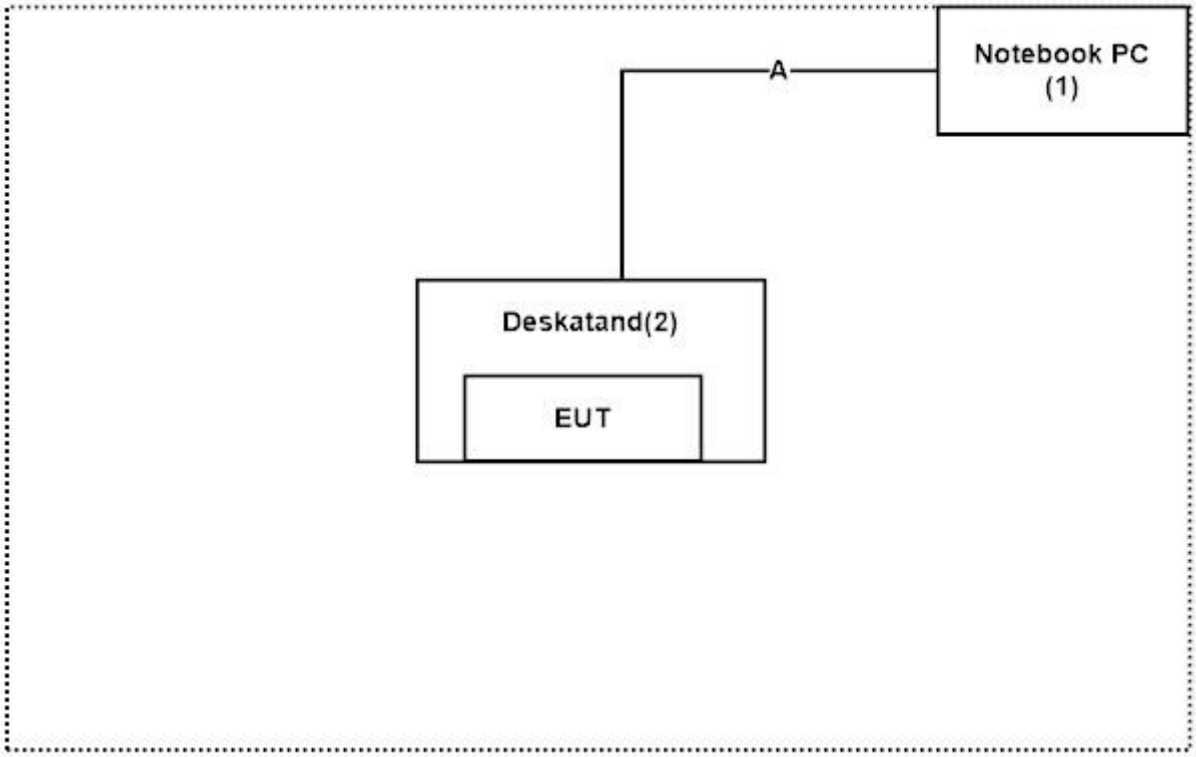


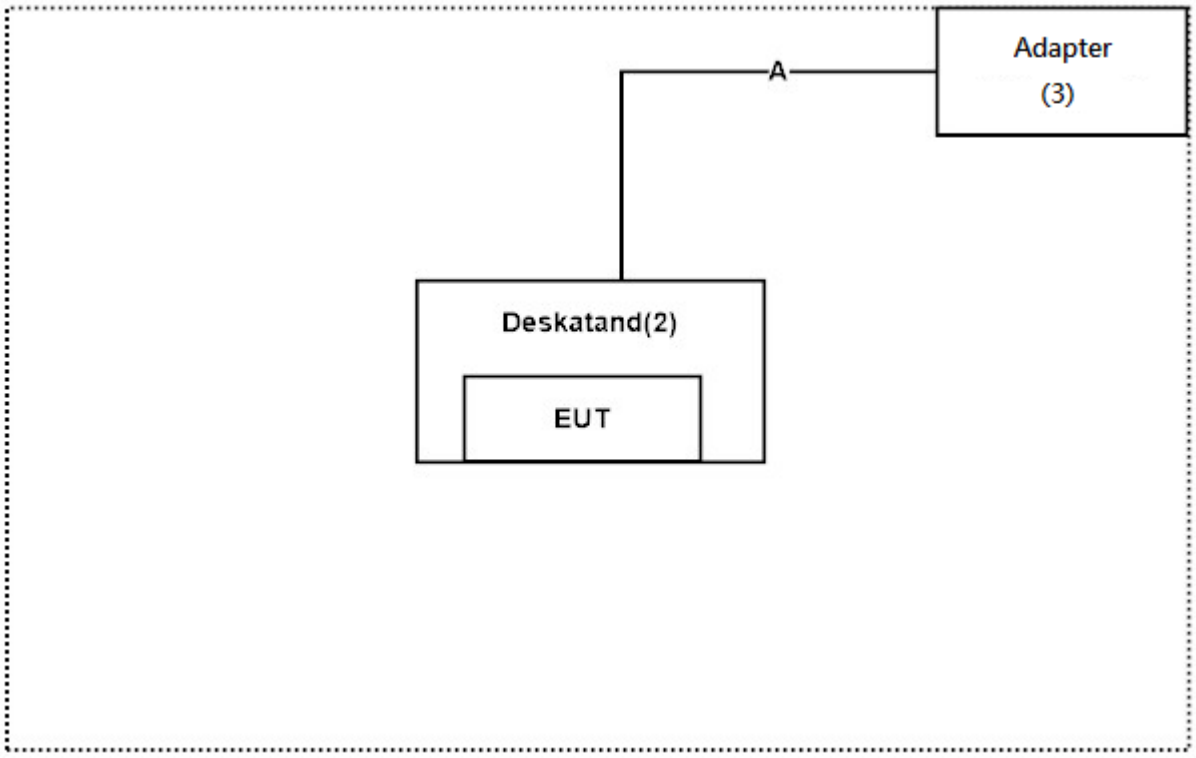



BT mode(stereo headset)




Charge mode






## 1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.3.
2. Execute software “Blue test3, Ver.3.2” on the EUT.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

## 1.5. Test Facility

Ambient conditions in the laboratory:

| Performed Item | Items | Required | Actual |
|---|---|---|---|
| Conducted Emission | Temperature (℃) | 10~40 ℃ | 23.5 ℃ |
| | Humidity (%RH) | 10~90 % | 44 % |
| Radiated Emission | Temperature (℃) | 10~40 ℃ | 22 ℃ |
| | Humidity (%RH) | 10~90 % | 63 % |

**USA : FCC Registration Number: TW1014**

Site Description: Accredited by TAF
Accredited Number: 3023

Test Laboratory: DEKRA Testing and Certification Co., Ltd
Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
Phone number: 886-2-8601-3788
Fax number: 886-2-8601-3789
Email address: info.tw@dekra.com
Website: http://www.dekra.com.tw

## 1.6. List of Test Equipment

**For Conducted measurements /CB3/SR8**

| | Equipment | Manufacturer | Model No. | Serial No. | Cali. Date | Due. Date |
|---|---|---|---|---|---|---|
| | Temperature Chamber | WIT GROUP | TH-1S-B | EQ-201-00146 | 2019/02/26 | 2020/02/25 |
| X | Spectrum Analyzer | Agilent | N9010A | MY53470892 | 2019/09/25 | 2020/09/24 |
| | Peak Power Analyzer | Keysight | 8990B | MY51000410 | 2019/07/30 | 2020/07/29 |
| | Wideband Power Sensor | Keysight | N1923A | MY56080003 | 2019/07/30 | 2020/07/29 |
| | Wideband Power Sensor | Keysight | N1923A | MY56080004 | 2019/07/30 | 2020/07/29 |
| X | EMI Test Receiver | R&S | ESCS 30 | 100369 | 2018/11/19 | 2019/11/18 |
| X | LISN | R&S | ENV216 | 101105 | 2019/04/10 | 2020/04/09 |
| X | LISN | R&S | ESH3-Z5 | 836679/014 | 2019/04/10 | 2020/04/09 |
| X | Coaxial Cable | DEKRA | RG 400 | LC018-RG | 2019/06/20 | 2020/06/19 |

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version :DEKRA Conduction Test SystemV9.0.5.

**For Radiated measurements /Site3/CB8**

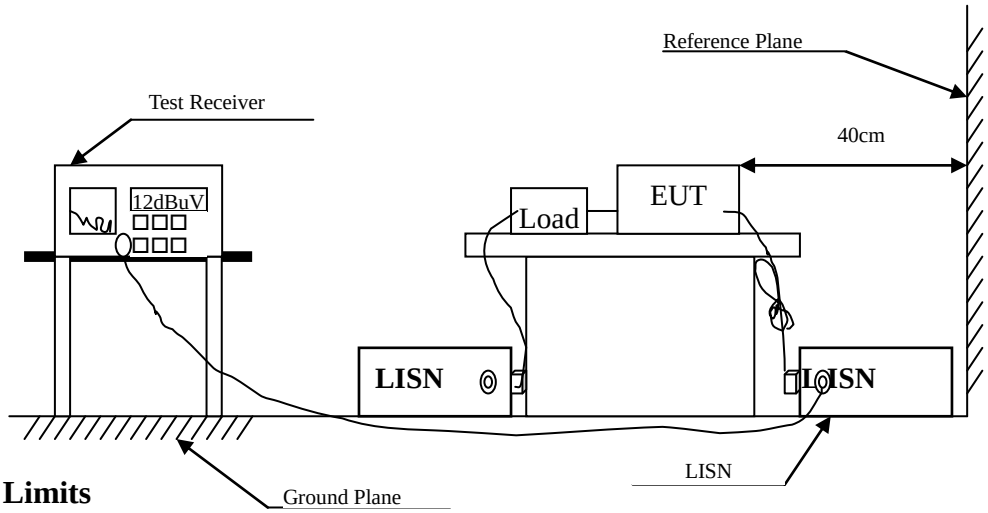
| | Equipment | Manufacturer | Model No. | Serial No. | Cali. Date | Due. Date |
|---|---|---|---|---|---|---|
| X | Spectrum Analyzer | R&S | FSP40 | 100170 | 2019/03/11 | 2020/03/10 |
| X | Loop Antenna | Teseq | HLA6121 | 37133 | 2019/10/15 | 2021/10/14 |
| X | Bilog Antenna | Schaffner Chase | CBL6112B | 2794 | 2019/06/23 | 2020/06/22 |
| X | Coaxial Cable | DEKRA | L1907-001C | 280280.F141.1000D | 2019/07/10 | 2020/07/09 |
| X | Amplifier | EMCI | EMC001330 | 980254 | 2019/08/22 | 2020/08/21 |
| X | Horn Antenna | ETS-LINDGREN | 3117 | 00228113 | 2019/05/02 | 2020/05/01 |
| X | Coaxial Cable | DEKRA | L1907-002C | 280280.F141.1000D | 2019/07/10 | 2020/07/09 |
| X | Amplifier | EMCI | EMC05820SE | 980362 | 2019/06/26 | 2020/06/25 |
| X | Amplifier | EMCI | EMC051845SE | SN980632 | 2019/08/08 | 2020/08/07 |
| | Horn Antenna | Com-Power | AH-1840 | 101101 | 2019/10/31 | 2020/10/30 |
| | Amplifier + Cable | EMCI | EMC184045SE | 980369 | 2019/04/16 | 2020/04/15 |
| | Bilog Antenna | Schaffner Chase | CBL6112B | 2916 | 2019/06/23 | 2020/06/22 |
| | Coaxial Cable | DEKRA | L1907-003C | 00100A1B3A120M | 2019/07/10 | 2020/07/09 |
| | Amplifier | EMCI | EMC001330 | 980255 | 2019/06/28 | 2020/06/27 |
| X | Filter | MICRO-TRONICS | BRM50702 | G270 | 2019/08/08 | 2020/08/07 |
| | Filter | MICRO-TRONICS | BRM50716 | G196 | 2019/08/08 | 2020/08/07 |

Note:

1. Loop Antenna is calibrated every two years, the other equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version :QuieTek EMI System V2.1.134.

## 2. Conducted Emission

### 2.1. Test Setup




### 2.2. Limits

| FCC Part 15 Subpart B Paragraph 15.107 (dBuV) Limit | | |
|---|---|---|
| Frequency MHz | Limits | |
| | QP | AV |
| 0.15 - 0.50 | 66-56 | 56-46 |
| 0.50-5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

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

### 2.3. Test Procedure

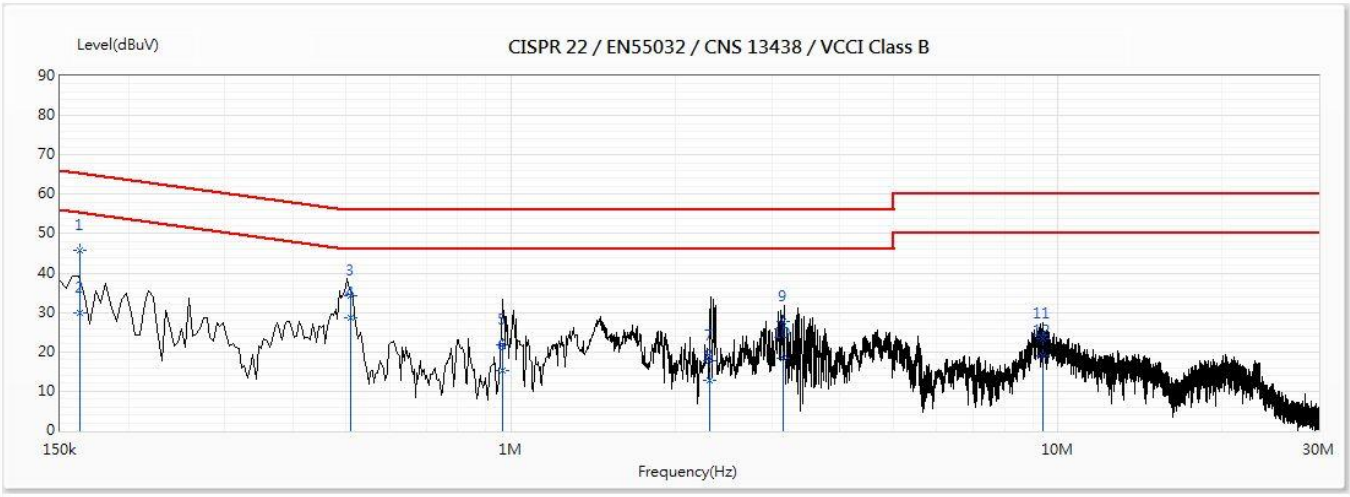
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers 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 invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.4. Uncertainty

± 2.26 dB

## 2.5. Test Result of Conducted Emission

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2019/11/08
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)

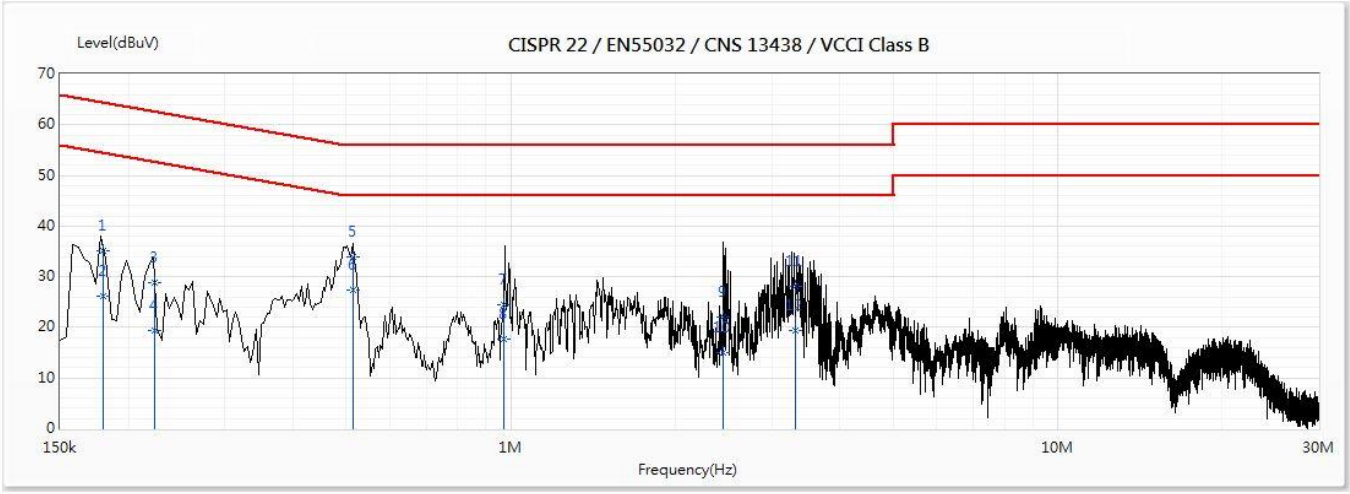



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Cable Loss (dB) | LISN (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.163 | 45.90 | 65.31 | -19.41 | 36.21 | 0.12 | 9.57 | QP |
| 2 | 0.163 | 30.04 | 55.31 | -25.27 | 20.35 | 0.12 | 9.57 | AV |
| 3 | 0.51 | 34.37 | 56.00 | -21.63 | 24.67 | 0.13 | 9.57 | QP |
| *4 | 0.51 | 28.74 | 46.00 | -17.26 | 19.03 | 0.13 | 9.57 | AV |
| 5 | 0.967 | 21.95 | 56.00 | -34.05 | 12.22 | 0.16 | 9.57 | QP |
| 6 | 0.967 | 15.13 | 46.00 | -30.87 | 5.40 | 0.16 | 9.57 | AV |
| 7 | 2.314 | 17.61 | 56.00 | -38.39 | 7.82 | 0.21 | 9.58 | QP |
| 8 | 2.314 | 12.65 | 46.00 | -33.35 | 2.86 | 0.21 | 9.58 | AV |
| 9 | 3.155 | 27.58 | 56.00 | -28.42 | 17.76 | 0.23 | 9.59 | QP |
| 10 | 3.155 | 18.41 | 46.00 | -27.59 | 8.60 | 0.23 | 9.59 | AV |
| 11 | 9.418 | 23.21 | 60.00 | -36.79 | 13.21 | 0.37 | 9.64 | QP |
| 12 | 9.418 | 18.89 | 50.00 | -31.11 | 8.88 | 0.37 | 9.64 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2019/11/08
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)

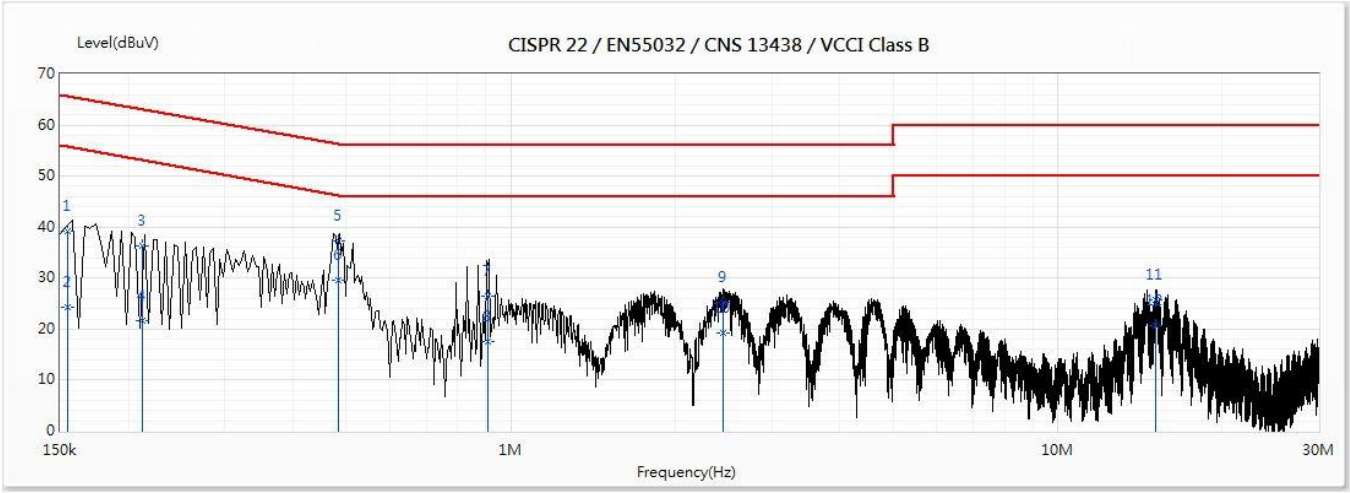



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Cable Loss (dB) | LISN (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.18 | 35.24 | 64.49 | -29.25 | 25.51 | 0.12 | 9.60 | QP |
| 2 | 0.18 | 26.17 | 54.49 | -28.32 | 16.44 | 0.12 | 9.60 | AV |
| 3 | 0.223 | 28.80 | 62.70 | -33.90 | 19.08 | 0.12 | 9.60 | QP |
| 4 | 0.223 | 19.33 | 52.70 | -33.37 | 9.61 | 0.12 | 9.60 | AV |
| 5 | 0.514 | 33.93 | 56.00 | -22.07 | 24.19 | 0.13 | 9.60 | QP |
| *6 | 0.514 | 27.46 | 46.00 | -18.54 | 17.73 | 0.13 | 9.60 | AV |
| 7 | 0.972 | 24.42 | 56.00 | -31.58 | 14.65 | 0.16 | 9.61 | QP |
| 8 | 0.972 | 17.80 | 46.00 | -28.20 | 8.04 | 0.16 | 9.61 | AV |
| 9 | 2.448 | 22.02 | 56.00 | -33.98 | 12.18 | 0.21 | 9.62 | QP |
| 10 | 2.448 | 14.94 | 46.00 | -31.06 | 5.11 | 0.21 | 9.62 | AV |
| 11 | 3.306 | 28.05 | 56.00 | -27.95 | 18.19 | 0.23 | 9.63 | QP |
| 12 | 3.306 | 19.33 | 46.00 | -26.67 | 9.47 | 0.23 | 9.63 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2020/01/13
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)-Adapter

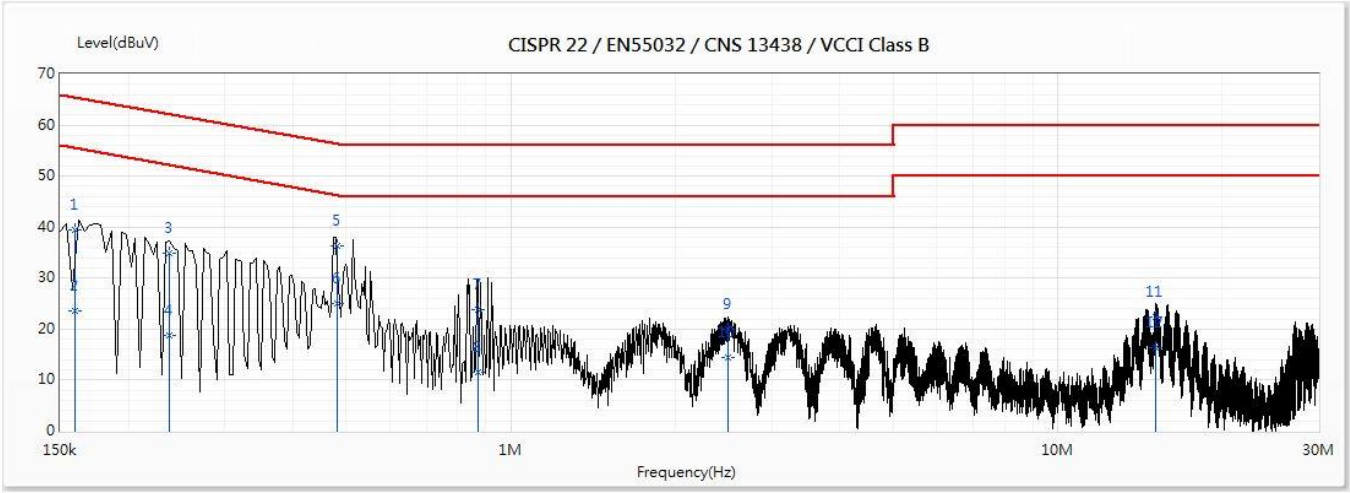



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.155 | 39.24 | 65.75 | -26.51 | 29.55 | 9.69 | QP |
| 2 | 0.155 | 24.40 | 55.75 | -31.35 | 14.71 | 9.69 | AV |
| 3 | 0.211 | 36.29 | 63.15 | -26.86 | 26.59 | 9.69 | QP |
| 4 | 0.211 | 21.58 | 53.15 | -31.57 | 11.89 | 9.69 | AV |
| 5 | 0.484 | 37.19 | 56.27 | -19.08 | 27.49 | 9.70 | QP |
| *6 | 0.484 | 29.50 | 46.27 | -16.77 | 19.80 | 9.70 | AV |
| 7 | 0.909 | 26.35 | 56.00 | -29.65 | 16.63 | 9.72 | QP |
| 8 | 0.909 | 17.48 | 46.00 | -28.52 | 7.75 | 9.72 | AV |
| 9 | 2.442 | 25.17 | 56.00 | -30.83 | 15.38 | 9.79 | QP |
| 10 | 2.442 | 19.33 | 46.00 | -26.67 | 9.54 | 9.79 | AV |
| 11 | 15.137 | 25.63 | 60.00 | -34.37 | 15.53 | 10.10 | QP |
| 12 | 15.137 | 20.60 | 50.00 | -29.40 | 10.49 | 10.10 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2020/01/13
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)-Adapter

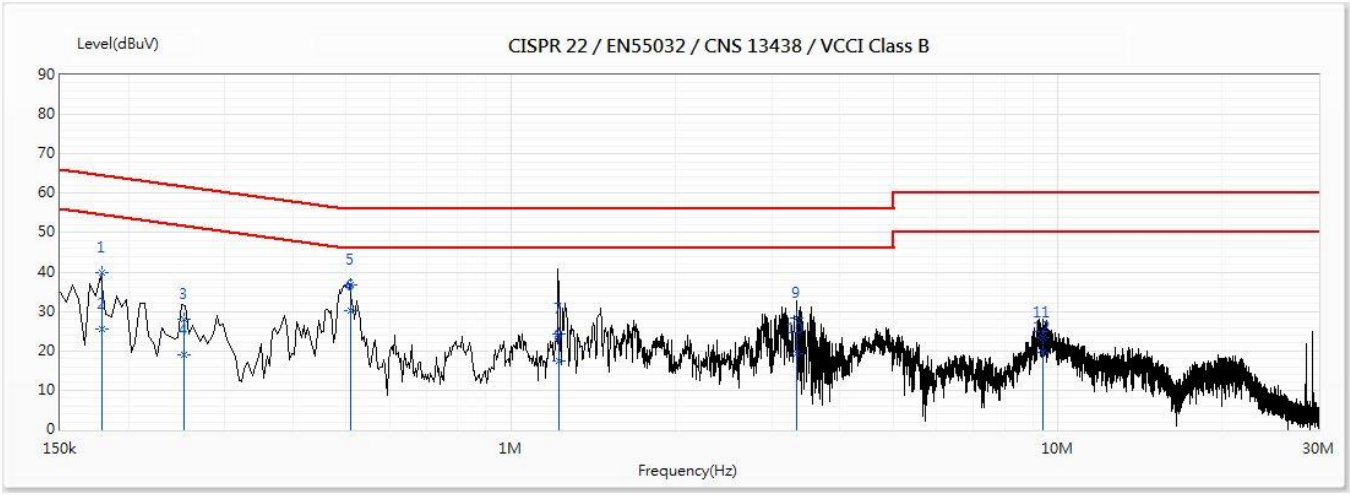



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.159 | 39.54 | 65.50 | -25.96 | 29.81 | 9.73 | QP |
| 2 | 0.159 | 23.67 | 55.50 | -31.83 | 13.94 | 9.73 | AV |
| 3 | 0.238 | 34.81 | 62.17 | -27.36 | 25.09 | 9.72 | QP |
| 4 | 0.238 | 18.68 | 52.17 | -33.49 | 8.96 | 9.72 | AV |
| *5 | 0.482 | 36.22 | 56.30 | -20.09 | 26.49 | 9.73 | QP |
| 6 | 0.482 | 25.13 | 46.30 | -21.18 | 15.39 | 9.73 | AV |
| 7 | 0.872 | 23.85 | 56.00 | -32.15 | 14.09 | 9.76 | QP |
| 8 | 0.872 | 11.43 | 46.00 | -34.57 | 1.67 | 9.76 | AV |
| 9 | 2.495 | 20.00 | 56.00 | -36.00 | 10.17 | 9.83 | QP |
| 10 | 2.495 | 14.37 | 46.00 | -31.63 | 4.53 | 9.83 | AV |
| 11 | 15.115 | 22.49 | 60.00 | -37.51 | 12.26 | 10.23 | QP |
| 12 | 15.115 | 16.35 | 50.00 | -33.65 | 6.13 | 10.23 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2019/11/08
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)

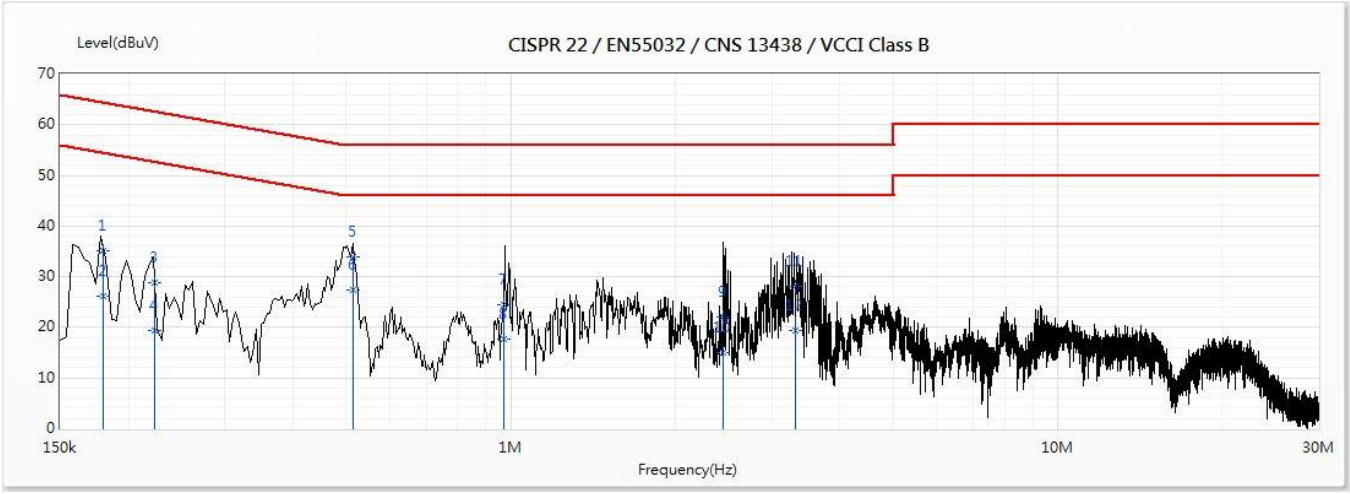



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Cable Loss (dB) | LISN (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.179 | 39.92 | 64.53 | -24.61 | 30.23 | 0.12 | 9.57 | QP |
| 2 | 0.179 | 25.43 | 54.53 | -29.10 | 15.74 | 0.12 | 9.57 | AV |
| 3 | 0.253 | 28.12 | 61.66 | -33.54 | 18.43 | 0.12 | 9.57 | QP |
| 4 | 0.253 | 18.96 | 51.66 | -32.70 | 9.27 | 0.12 | 9.57 | AV |
| 5 | 0.509 | 36.88 | 56.00 | -19.12 | 27.18 | 0.13 | 9.57 | QP |
| *6 | 0.509 | 30.30 | 46.00 | -15.70 | 20.59 | 0.13 | 9.57 | AV |
| 7 | 1.224 | 24.41 | 56.00 | -31.59 | 14.67 | 0.17 | 9.57 | QP |
| 8 | 1.224 | 17.48 | 46.00 | -28.52 | 7.74 | 0.17 | 9.57 | AV |
| 9 | 3.34 | 28.36 | 56.00 | -27.64 | 18.54 | 0.24 | 9.59 | QP |
| 10 | 3.34 | 19.34 | 46.00 | -26.66 | 9.52 | 0.24 | 9.59 | AV |
| 11 | 9.391 | 23.32 | 60.00 | -36.68 | 13.31 | 0.37 | 9.63 | QP |
| 12 | 9.391 | 19.61 | 50.00 | -30.39 | 9.60 | 0.37 | 9.63 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2019/11/08
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)

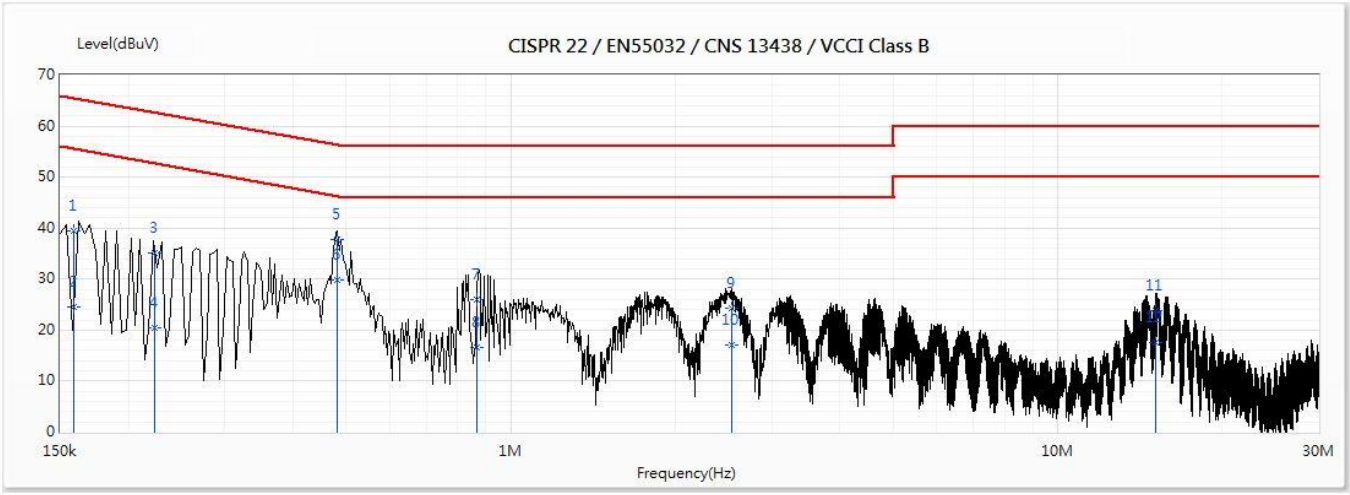



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Cable Loss (dB) | LISN (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.18 | 35.24 | 64.49 | -29.25 | 25.51 | 0.12 | 9.60 | QP |
| 2 | 0.18 | 26.17 | 54.49 | -28.32 | 16.44 | 0.12 | 9.60 | AV |
| 3 | 0.223 | 28.80 | 62.70 | -33.90 | 19.08 | 0.12 | 9.60 | QP |
| 4 | 0.223 | 19.33 | 52.70 | -33.37 | 9.61 | 0.12 | 9.60 | AV |
| 5 | 0.514 | 33.93 | 56.00 | -22.07 | 24.19 | 0.13 | 9.60 | QP |
| *6 | 0.514 | 27.46 | 46.00 | -18.54 | 17.73 | 0.13 | 9.60 | AV |
| 7 | 0.972 | 24.42 | 56.00 | -31.58 | 14.65 | 0.16 | 9.61 | QP |
| 8 | 0.972 | 17.80 | 46.00 | -28.20 | 8.04 | 0.16 | 9.61 | AV |
| 9 | 2.448 | 22.02 | 56.00 | -33.98 | 12.18 | 0.21 | 9.62 | QP |
| 10 | 2.448 | 14.94 | 46.00 | -31.06 | 5.11 | 0.21 | 9.62 | AV |
| 11 | 3.306 | 28.05 | 56.00 | -27.95 | 18.19 | 0.23 | 9.63 | QP |
| 12 | 3.306 | 19.33 | 46.00 | -26.67 | 9.47 | 0.23 | 9.63 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2020/01/13
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)-Adapter

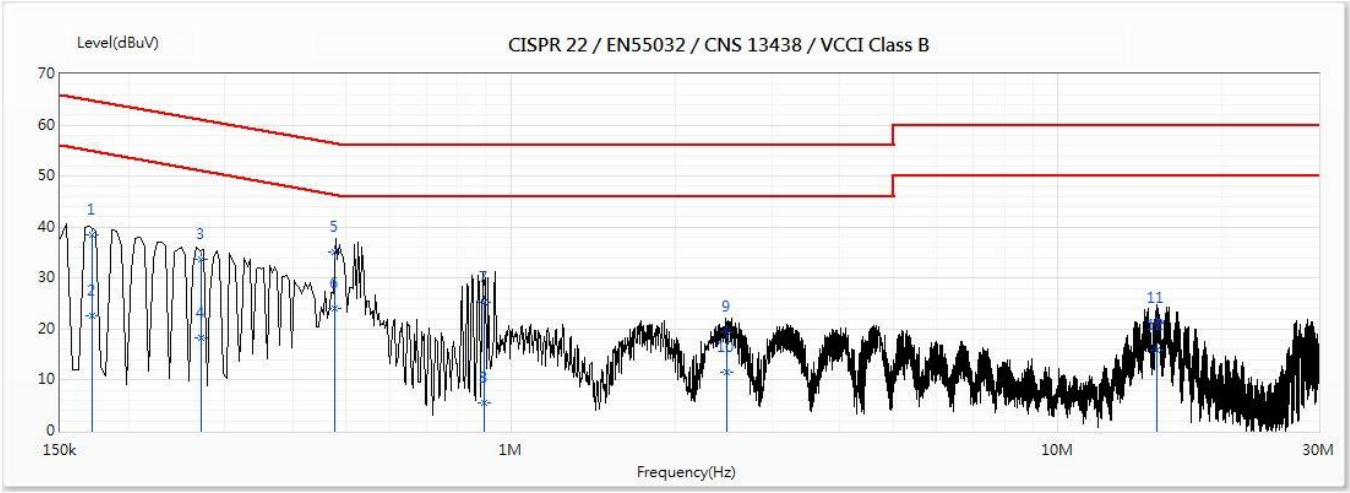



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.159 | 39.44 | 65.51 | -26.06 | 29.75 | 9.69 | QP |
| 2 | 0.159 | 24.50 | 55.51 | -31.01 | 14.81 | 9.69 | AV |
| 3 | 0.224 | 35.09 | 62.68 | -27.59 | 25.39 | 9.69 | QP |
| 4 | 0.224 | 20.36 | 52.68 | -32.32 | 10.67 | 9.69 | AV |
| 5 | 0.481 | 37.85 | 56.31 | -18.46 | 28.15 | 9.70 | QP |
| *6 | 0.481 | 29.85 | 46.31 | -16.46 | 20.15 | 9.70 | AV |
| 7 | 0.868 | 25.92 | 56.00 | -30.08 | 16.20 | 9.72 | QP |
| 8 | 0.868 | 16.68 | 46.00 | -29.32 | 6.96 | 9.72 | AV |
| 9 | 2.534 | 24.40 | 56.00 | -31.60 | 14.60 | 9.79 | QP |
| 10 | 2.534 | 17.15 | 46.00 | -28.85 | 7.35 | 9.79 | AV |
| 11 | 15.122 | 23.77 | 60.00 | -36.23 | 13.67 | 10.10 | QP |
| 12 | 15.122 | 17.50 | 50.00 | -32.50 | 7.39 | 10.10 | AV |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

Product : Bluetooth Headset
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2020/01/13
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)-Adapter




| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.171 | 38.51 | 64.89 | -26.38 | 28.78 | 9.73 | QP |
| 2 | 0.171 | 22.52 | 54.89 | -32.37 | 12.79 | 9.73 | AV |
| 3 | 0.272 | 33.70 | 61.07 | -27.36 | 23.98 | 9.72 | QP |
| 4 | 0.272 | 18.31 | 51.07 | -32.75 | 8.59 | 9.72 | AV |
| *5 | 0.476 | 35.20 | 56.41 | -21.20 | 25.47 | 9.73 | QP |
| 6 | 0.476 | 24.02 | 46.41 | -22.38 | 14.29 | 9.73 | AV |
| 7 | 0.893 | 25.35 | 56.00 | -30.65 | 15.59 | 9.76 | QP |
| 8 | 0.893 | 5.62 | 46.00 | -40.38 | -4.14 | 9.76 | AV |
| 9 | 2.479 | 19.46 | 56.00 | -36.54 | 9.63 | 9.83 | QP |
| 10 | 2.479 | 11.65 | 46.00 | -34.35 | 1.81 | 9.83 | AV |
| 11 | 15.163 | 21.16 | 60.00 | -38.84 | 10.93 | 10.23 | QP |
| 12 | 15.163 | 15.92 | 50.00 | -34.08 | 5.69 | 10.23 | AV |

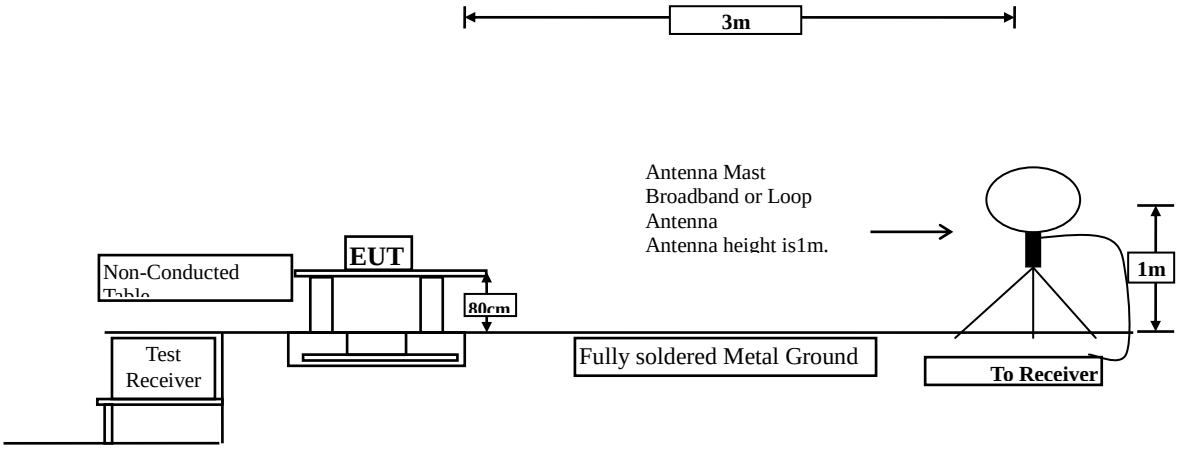
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.

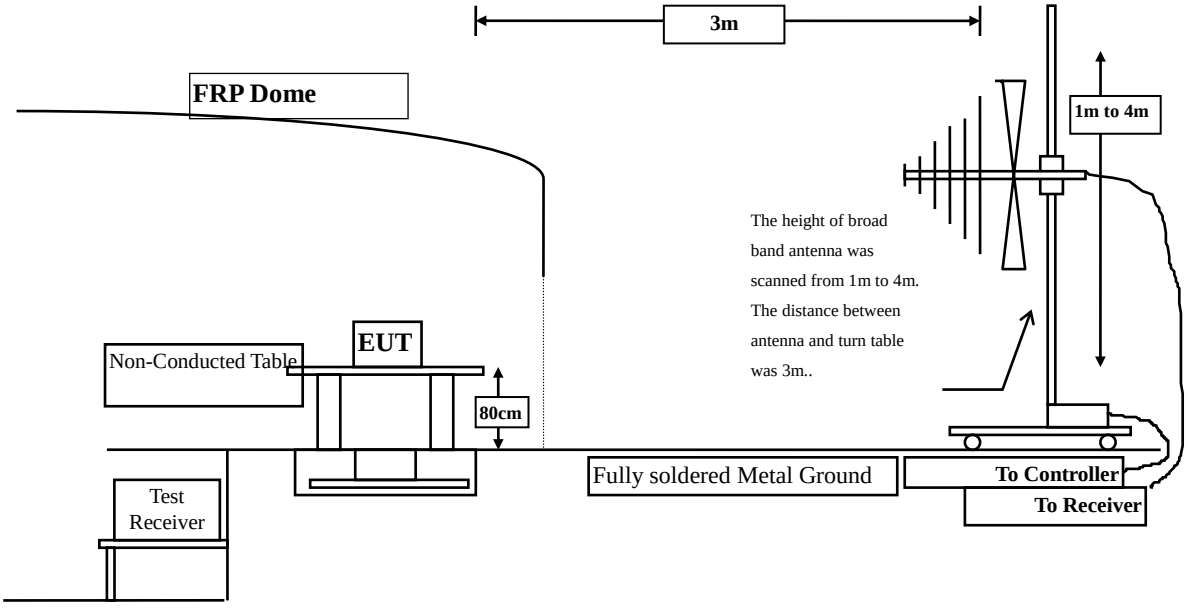
# 3. Radiated Emission

## 3.1. Test Setup

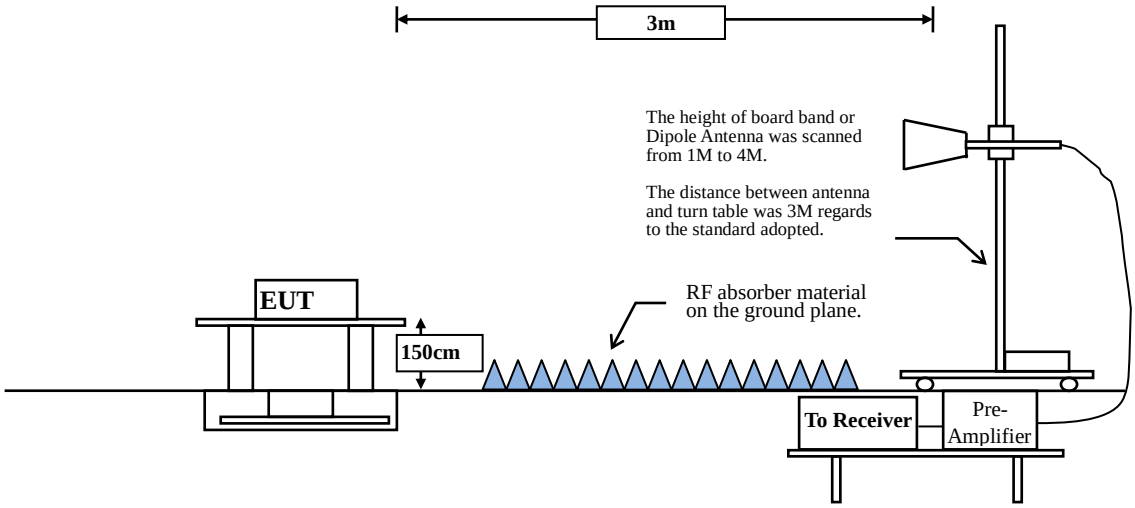
Radiated Emission Under 30MHz




Radiated Emission Below 1GHz



Radiated Emission Above 1GHz




## 3.2. Limits

| FCC Part 15 Subpart B Paragraph 15.109 Limits | | |
|---|---|---|
| Frequency MHz | uV/m @3m | DBuV /m@3m |
| 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 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.

## 3.3. Test Procedure

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.
The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz. Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.
The worst radiated emission is measured on the Final Measurement.
The measurement frequency range form 30MHz - 10th Harmonic of fundamental was investigated.

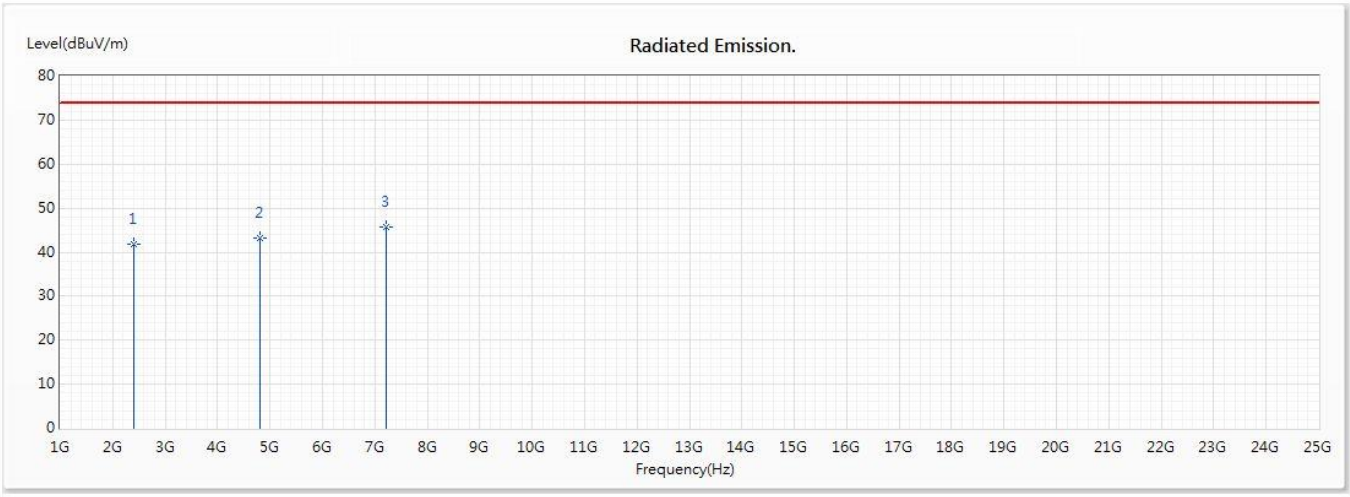
## 3.4. Uncertainty

± 4.08 dB above 1GHz
± 4.22 dB below 1GHz

## 3.5. Test Result of Radiated Emission

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2402MHz)

Horizontal



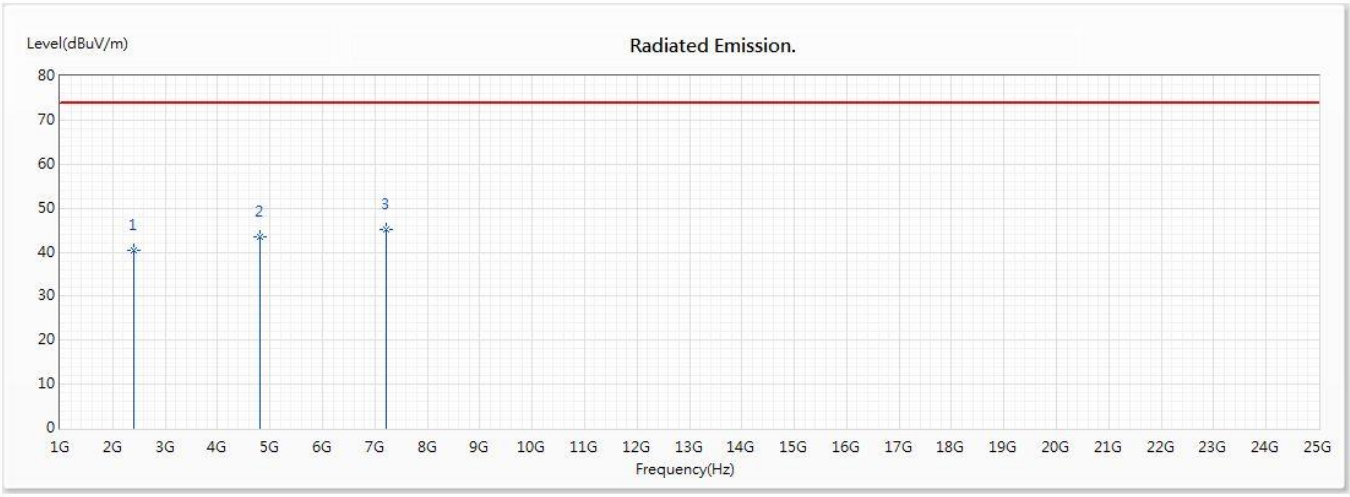

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2402 | 41.74 | 74.00 | -32.26 | 56.48 | -14.74 | PK |
| 2 | 4804 | 43.34 | 74.00 | -30.66 | 55.49 | -12.15 | PK |
| * 3 | 7206 | 45.69 | 74.00 | -28.31 | 58.83 | -13.14 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2402MHz)

Vertical



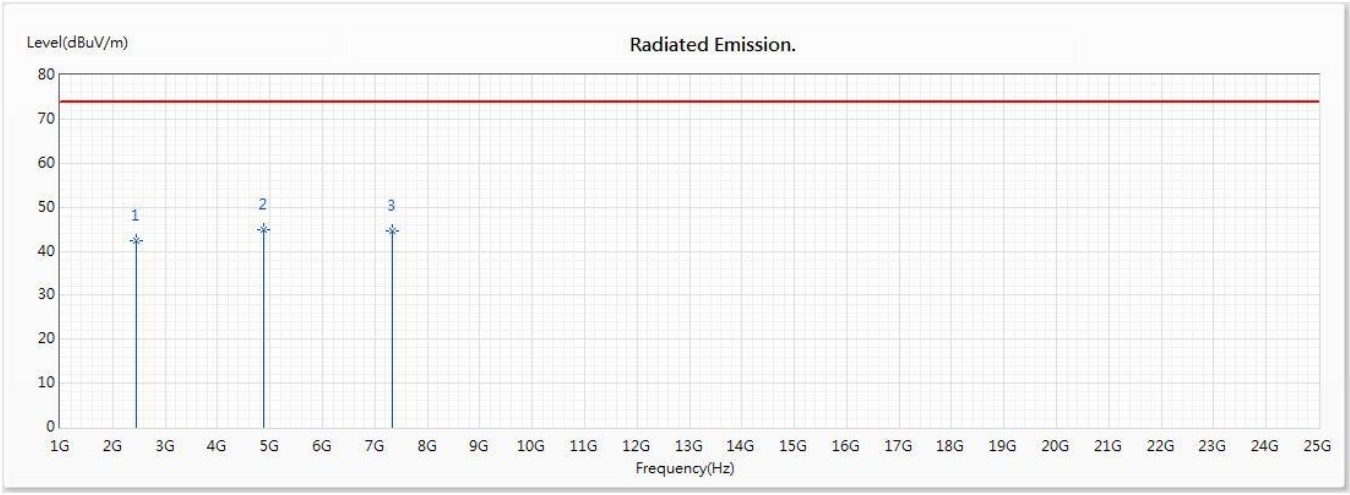

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2402 | 40.44 | 74.00 | -33.56 | 55.18 | -14.74 | PK |
| 2 | 4804 | 43.61 | 74.00 | -30.39 | 55.76 | -12.15 | PK |
| * 3 | 7206 | 45.20 | 74.00 | -28.80 | 58.34 | -13.14 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)

Horizontal



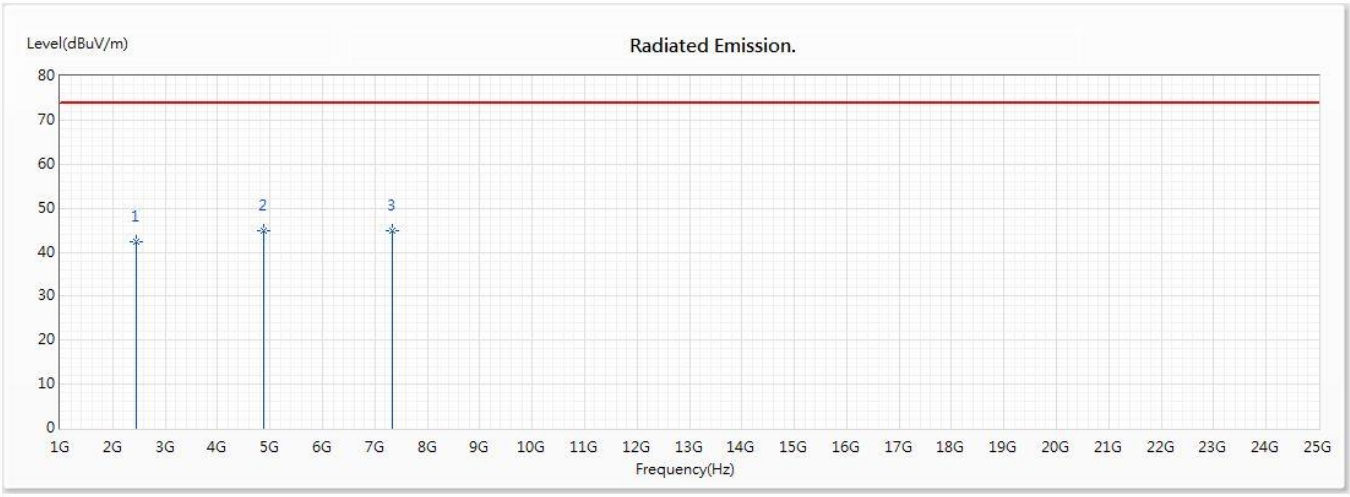

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2441 | 42.47 | 74.00 | -31.53 | 56.94 | -14.47 | PK |
| * 2 | 4882 | 44.96 | 74.00 | -29.04 | 56.55 | -11.59 | PK |
| 3 | 7323 | 44.62 | 74.00 | -29.38 | 58.19 | -13.57 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)

Vertical



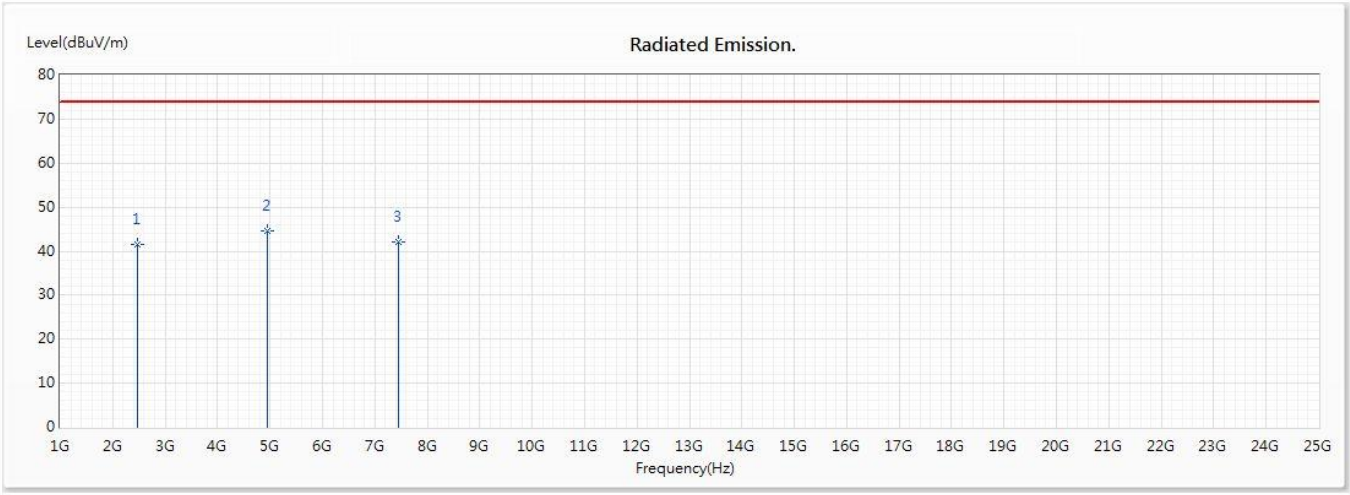

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2441 | 42.45 | 74.00 | -31.55 | 56.92 | -14.47 | PK |
| 2 | 4882 | 44.81 | 74.00 | -29.19 | 56.40 | -11.59 | PK |
| * 3 | 7323 | 44.82 | 74.00 | -29.18 | 58.39 | -13.57 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2480MHz)

Horizontal



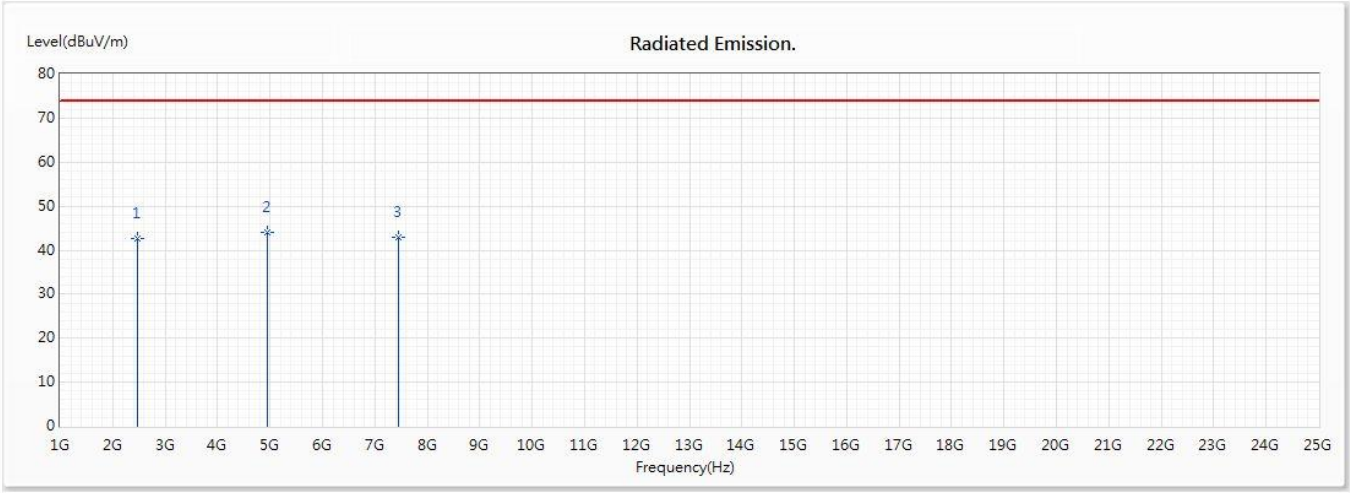

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2480 | 41.61 | 74.00 | -32.39 | 55.99 | -14.38 | PK |
| * 2 | 4960 | 44.51 | 74.00 | -29.49 | 55.40 | -10.89 | PK |
| 3 | 7440 | 42.15 | 74.00 | -31.85 | 56.77 | -14.62 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2480MHz)

Vertical



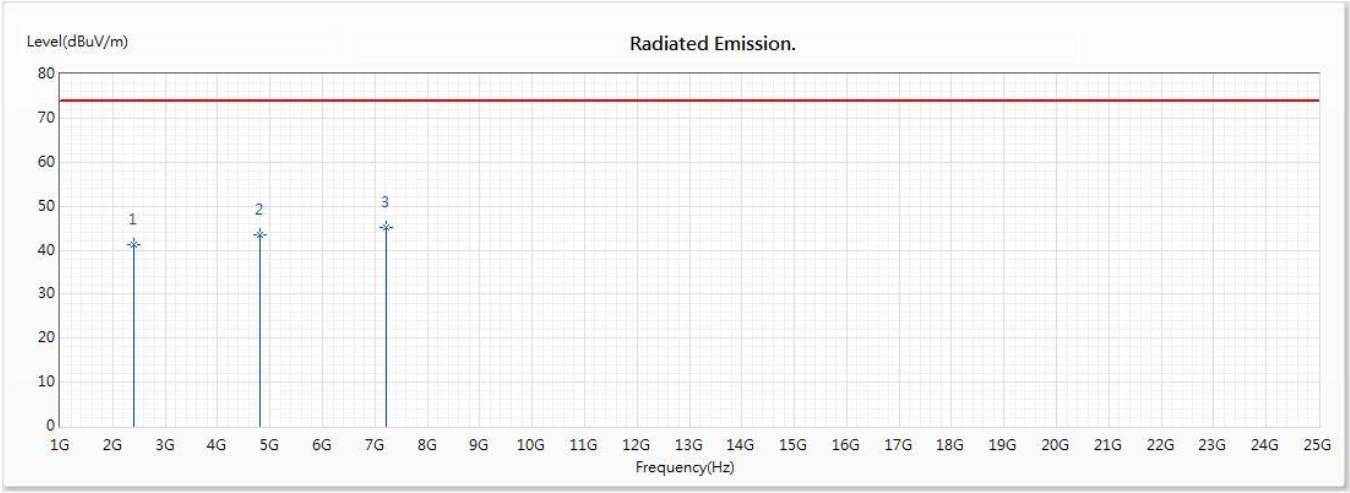

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2480 | 42.54 | 74.00 | -31.46 | 56.92 | -14.38 | PK |
| * 2 | 4960 | 44.09 | 74.00 | -29.91 | 54.98 | -10.89 | PK |
| 3 | 7440 | 43.00 | 74.00 | -31.00 | 57.62 | -14.62 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2402MHz)

Horizontal



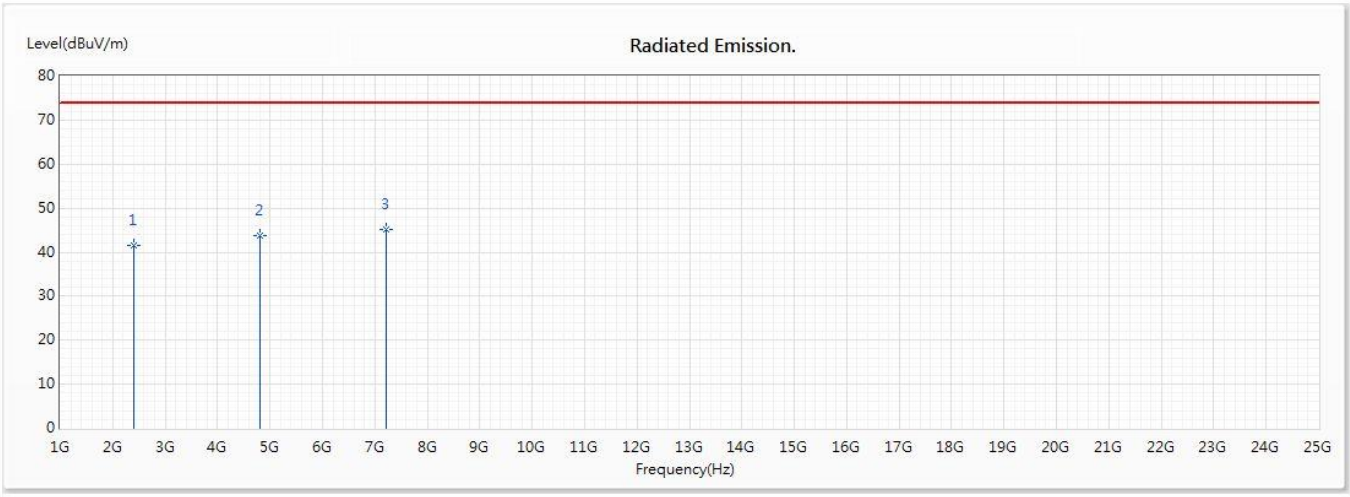

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2402 | 41.12 | 74.00 | -32.88 | 55.86 | -14.74 | PK |
| 2 | 4804 | 43.57 | 74.00 | -30.43 | 55.72 | -12.15 | PK |
| * 3 | 7206 | 45.29 | 74.00 | -28.71 | 58.43 | -13.14 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2402MHz)

Vertical



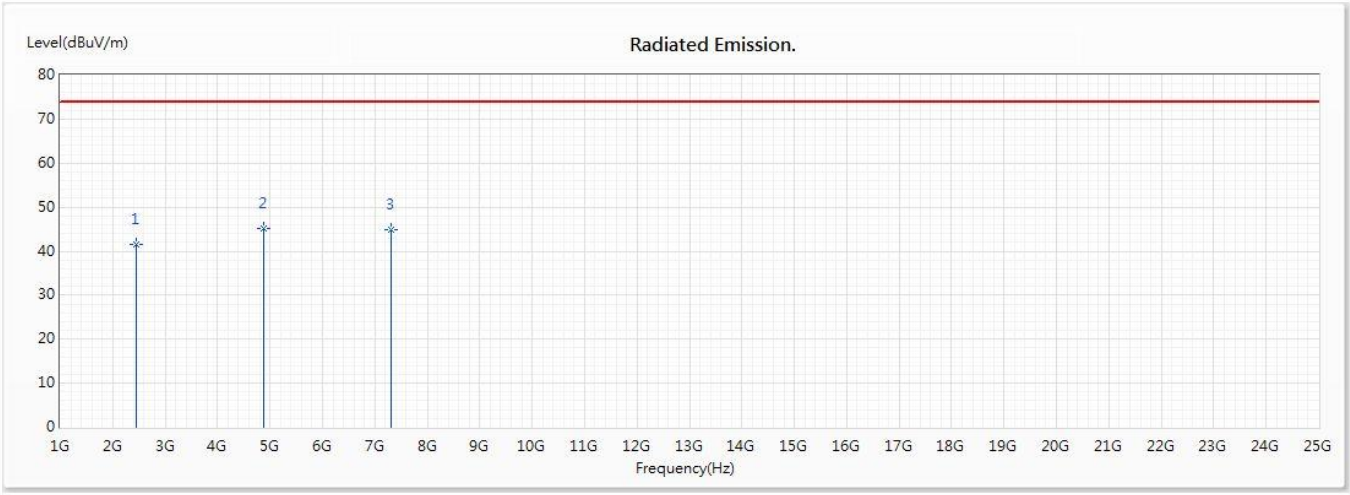

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2402 | 41.53 | 74.00 | -32.47 | 56.27 | -14.74 | PK |
| 2 | 4804 | 43.70 | 74.00 | -30.30 | 55.85 | -12.15 | PK |
| * 3 | 7206 | 45.24 | 74.00 | -28.76 | 58.38 | -13.14 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report..

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)

Horizontal



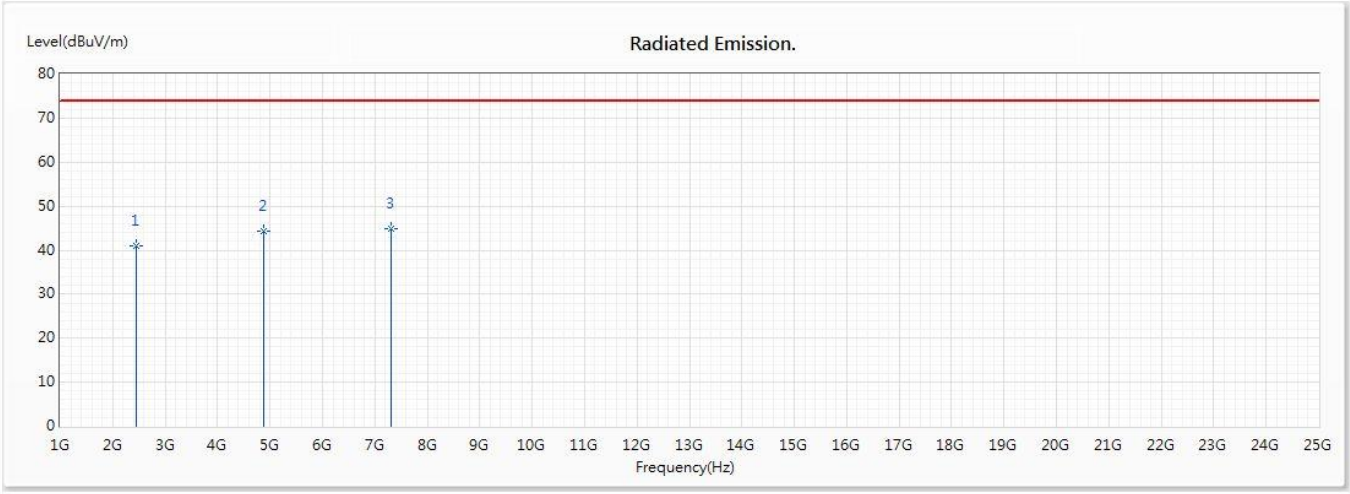

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2440 | 41.45 | 74.00 | -32.55 | 55.92 | -14.47 | PK |
| * 2 | 4880 | 45.08 | 74.00 | -28.92 | 56.68 | -11.60 | PK |
| 3 | 7320 | 44.76 | 74.00 | -29.24 | 58.31 | -13.55 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz)

Vertical



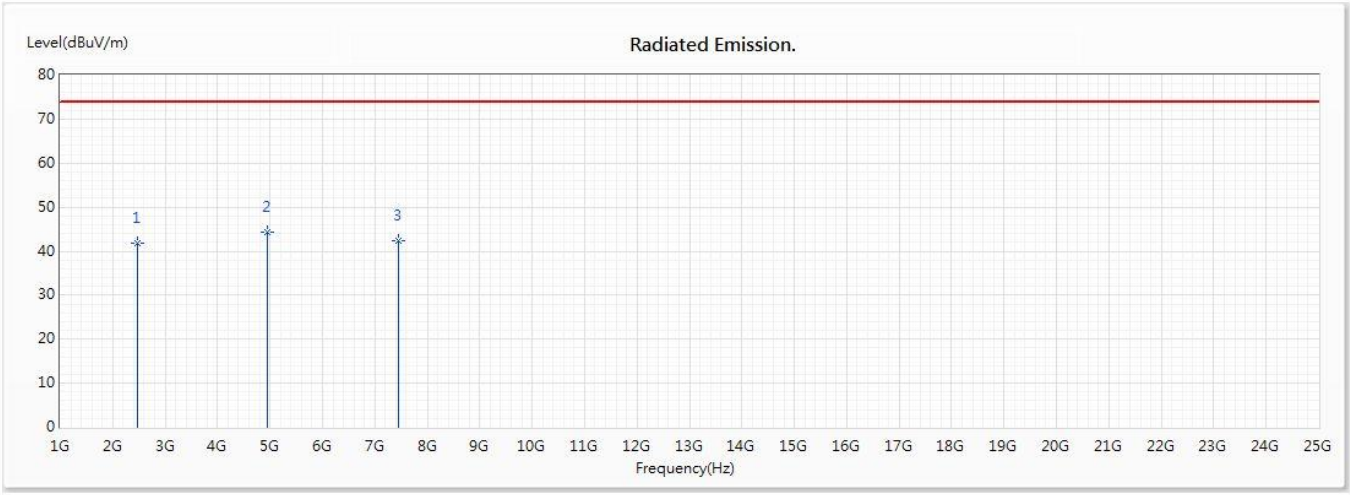

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2440 | 41.08 | 74.00 | -32.92 | 55.55 | -14.47 | PK |
| 2 | 4880 | 44.29 | 74.00 | -29.71 | 55.89 | -11.60 | PK |
| * 3 | 7320 | 44.83 | 74.00 | -29.17 | 58.38 | -13.55 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2480MHz)

Horizontal



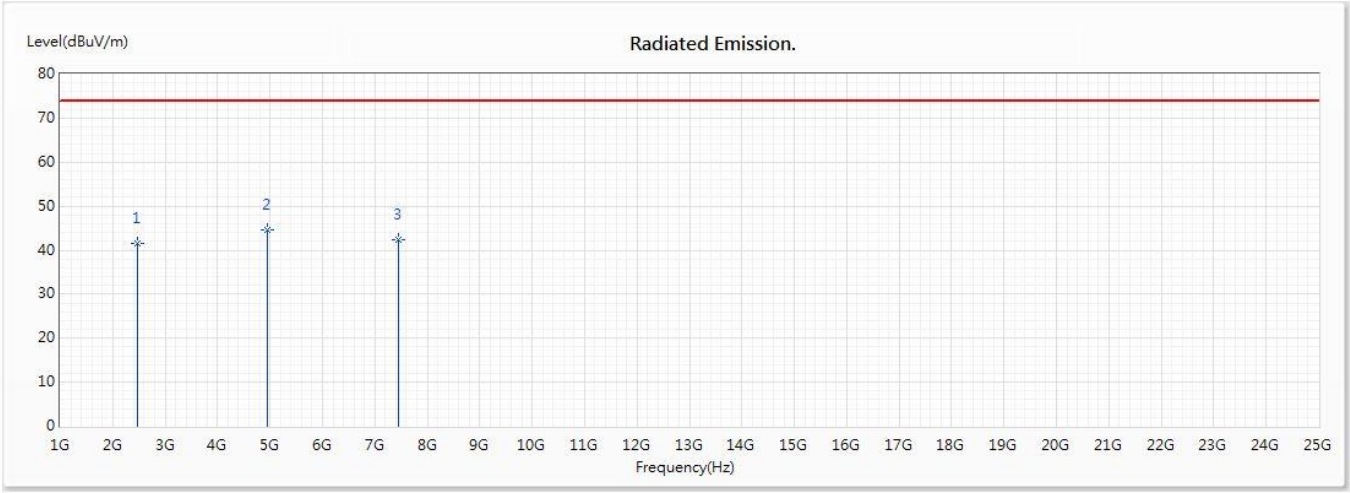

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2480 | 41.74 | 74.00 | -32.26 | 56.12 | -14.38 | PK |
| * 2 | 4960 | 44.35 | 74.00 | -29.65 | 55.24 | -10.89 | PK |
| 3 | 7440 | 42.29 | 74.00 | -31.71 | 56.91 | -14.62 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bluetooth Headset
Test Item : Harmonic Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2480MHz)

Vertical



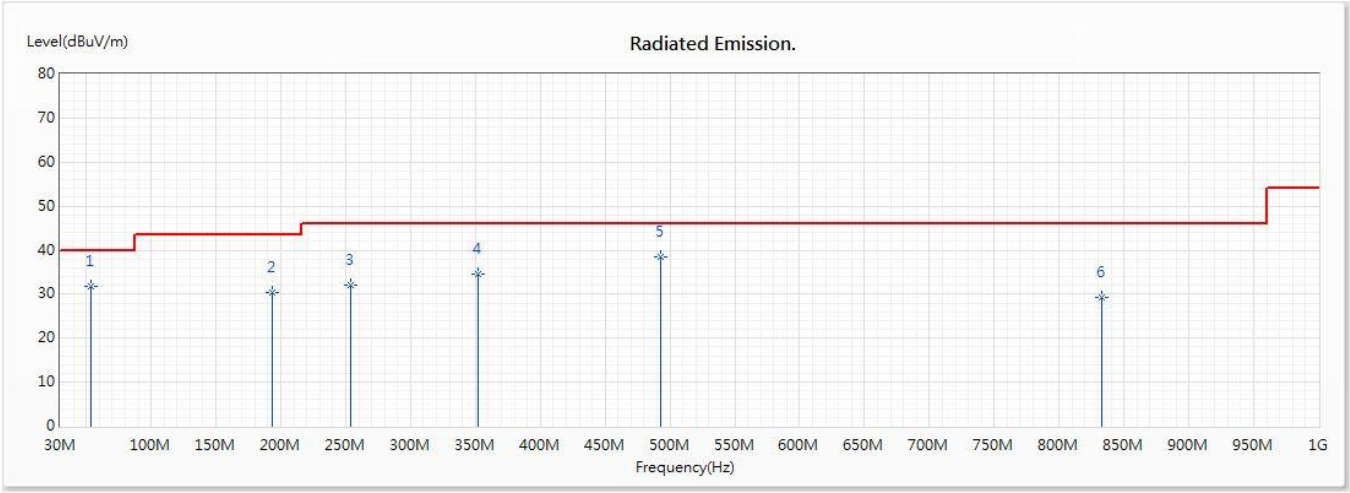

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 2480 | 41.54 | 74.00 | -32.46 | 55.92 | -14.38 | PK |
| * 2 | 4960 | 44.62 | 74.00 | -29.38 | 55.51 | -10.89 | PK |
| 3 | 7440 | 42.49 | 74.00 | -31.51 | 57.11 | -14.62 | PK |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)( stereo headset with adjustable arm)

Horizontal



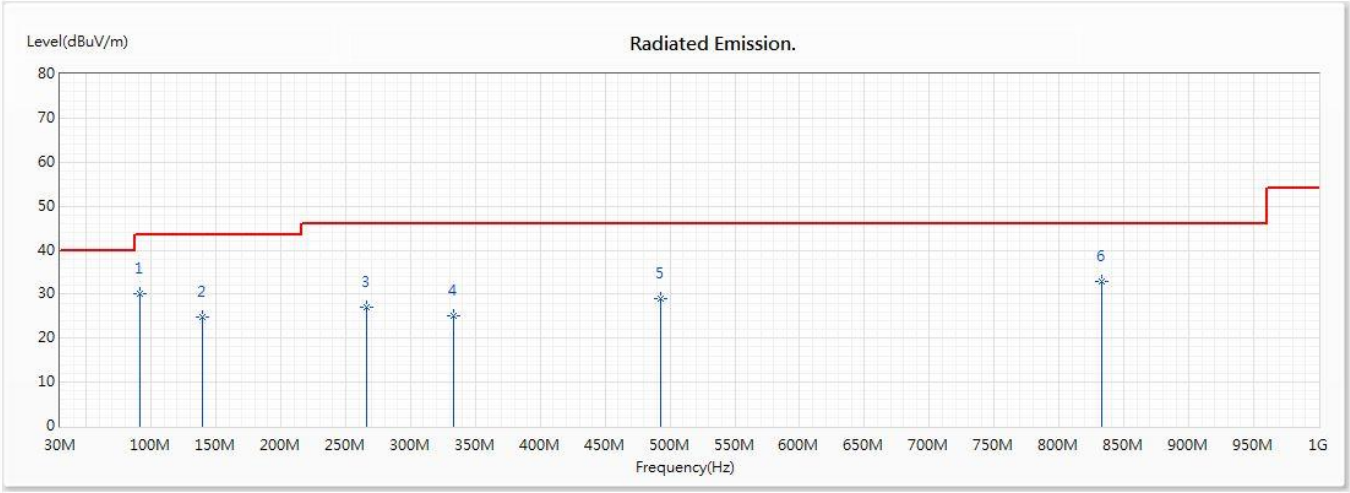

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 53.899 | 31.82 | 40.00 | -8.18 | 49.50 | -17.68 | QP |
| 2 | 193.072 | 30.36 | 43.50 | -13.14 | 48.92 | -18.56 | QP |
| 3 | 253.522 | 31.93 | 46.00 | -14.07 | 49.96 | -18.03 | QP |
| 4 | 351.928 | 34.68 | 46.00 | -11.32 | 47.89 | -13.21 | QP |
| * 5 | 492.507 | 38.35 | 46.00 | -7.65 | 49.69 | -11.34 | QP |
| 6 | 832.71 | 29.33 | 46.00 | -16.67 | 37.96 | -8.63 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz) ( stereo headset with adjustable arm)

Vertical



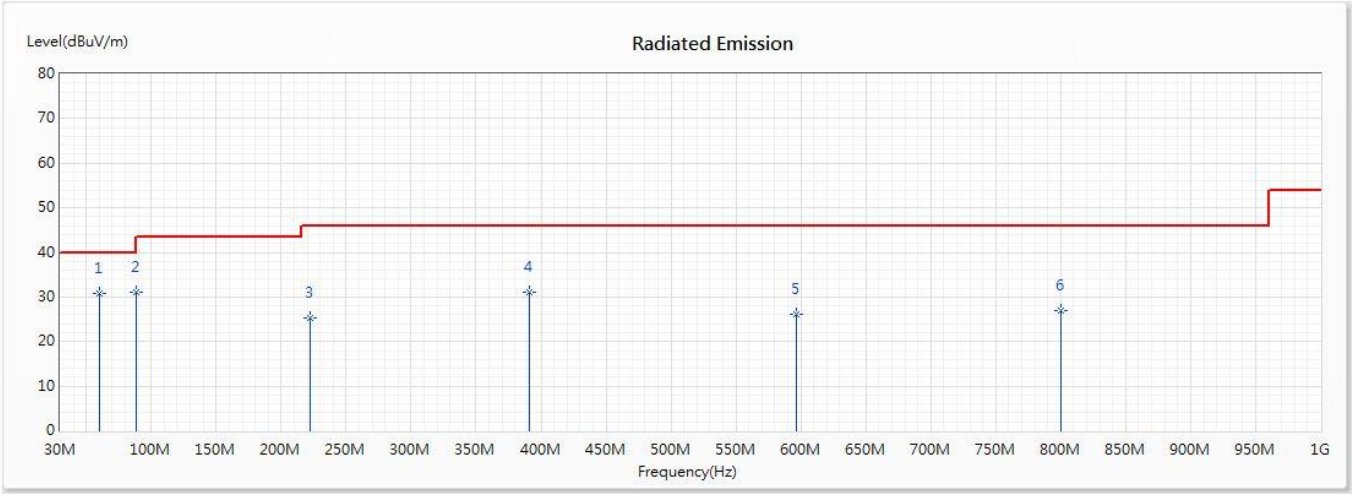

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 91.855 | 30.04 | 43.50 | -13.46 | 47.09 | -17.05 | QP |
| 2 | 139.652 | 24.84 | 43.50 | -18.66 | 42.40 | -17.56 | QP |
| 3 | 266.174 | 27.17 | 46.00 | -18.83 | 45.66 | -18.49 | QP |
| 4 | 333.652 | 25.00 | 46.00 | -21.00 | 38.99 | -13.99 | QP |
| 5 | 492.507 | 29.09 | 46.00 | -16.91 | 40.43 | -11.34 | QP |
| * 6 | 832.71 | 32.99 | 46.00 | -13.01 | 41.62 | -8.63 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/12/12
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz)( mono earphone with adjustable arm)

Horizontal



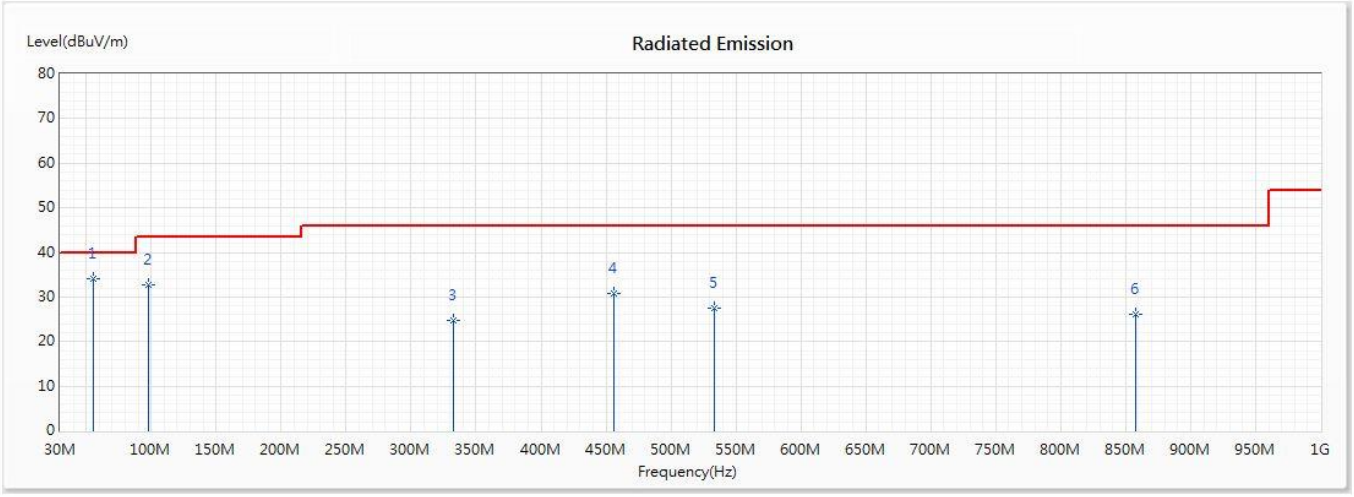

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 60.07 | 30.68 | 40.00 | -9.32 | 48.97 | -18.29 | QP |
| 2 | 88.2 | 31.18 | 43.50 | -12.32 | 47.74 | -16.56 | QP |
| 3 | 222.06 | 25.32 | 46.00 | -20.68 | 41.93 | -16.61 | QP |
| 4 | 390.84 | 31.20 | 46.00 | -14.80 | 42.52 | -11.32 | QP |
| 5 | 596.48 | 25.98 | 46.00 | -20.02 | 31.93 | -5.95 | QP |
| 6 | 800.18 | 26.83 | 46.00 | -19.17 | 33.96 | -7.13 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/12/12
Test Mode : Mode 1: Receive - Bluetooth-3Mbps (2441MHz) (mono earphone with adjustable arm)

Vertical



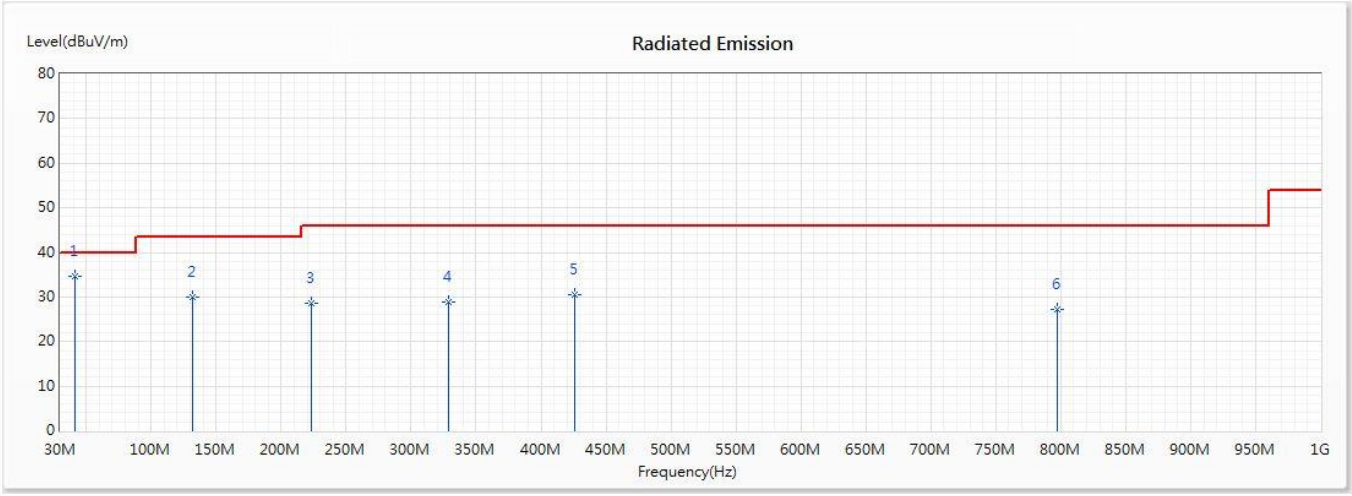

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 55.22 | 34.15 | 40.00 | -5.85 | 51.41 | -17.26 | QP |
| 2 | 97.9 | 32.62 | 43.50 | -10.88 | 48.62 | -16.00 | QP |
| 3 | 332.64 | 24.81 | 46.00 | -21.19 | 37.03 | -12.22 | QP |
| 4 | 455.83 | 30.66 | 46.00 | -15.34 | 38.98 | -8.32 | QP |
| 5 | 533.43 | 27.39 | 46.00 | -18.61 | 36.65 | -9.26 | QP |
| 6 | 857.41 | 26.20 | 46.00 | -19.80 | 33.32 | -7.12 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

| | | |
|---|---|---|
| Product | : | Bluetooth Headset |
| Test Item | : | General Radiated Emission |
| Test Date | : | 2019/12/12 |
| Test Mode | : | Mode 1: Receive - Bluetooth-3Mbps (2441MHz)(stereo headset) |

Horizontal



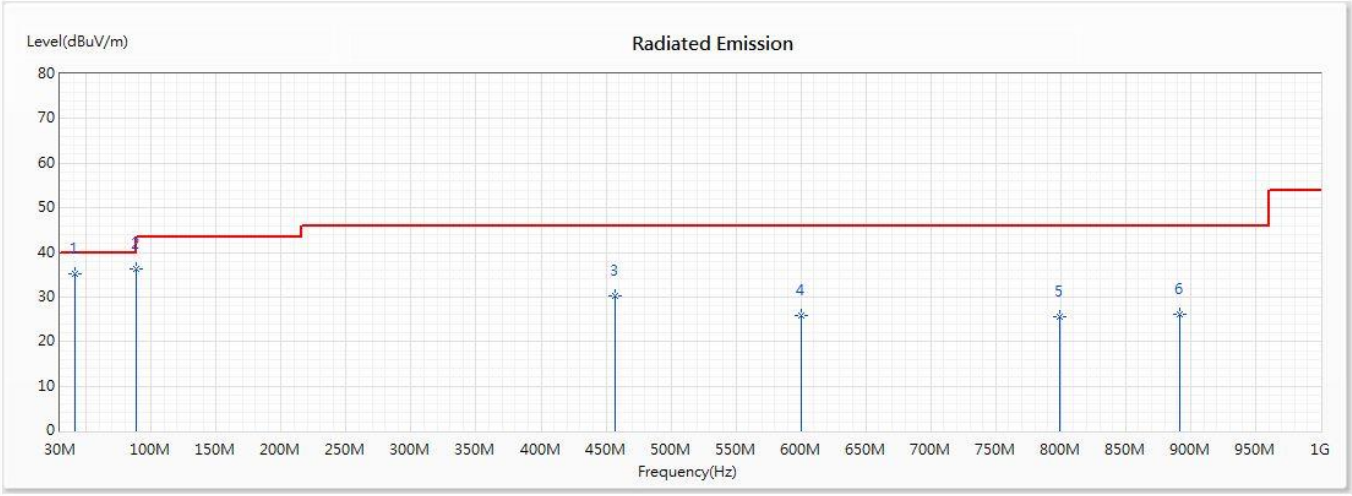

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 41.64 | 34.59 | 40.00 | -5.41 | 51.52 | -16.93 | QP |
| 2 | 131.85 | 29.93 | 43.50 | -13.57 | 44.43 | -14.50 | QP |
| 3 | 223.03 | 28.47 | 46.00 | -17.53 | 44.97 | -16.50 | QP |
| 4 | 328.76 | 28.73 | 46.00 | -17.27 | 41.01 | -12.28 | QP |
| 5 | 425.76 | 30.51 | 46.00 | -15.49 | 40.00 | -9.49 | QP |
| 6 | 797.27 | 27.18 | 46.00 | -18.82 | 34.27 | -7.09 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

| | | |
|---|---|---|
| Product | : | Bluetooth Headset |
| Test Item | : | General Radiated Emission |
| Test Date | : | 2019/12/12 |
| Test Mode | : | Mode 1: Receive - Bluetooth-3Mbps (2441MHz) (stereo headset) |

Vertical



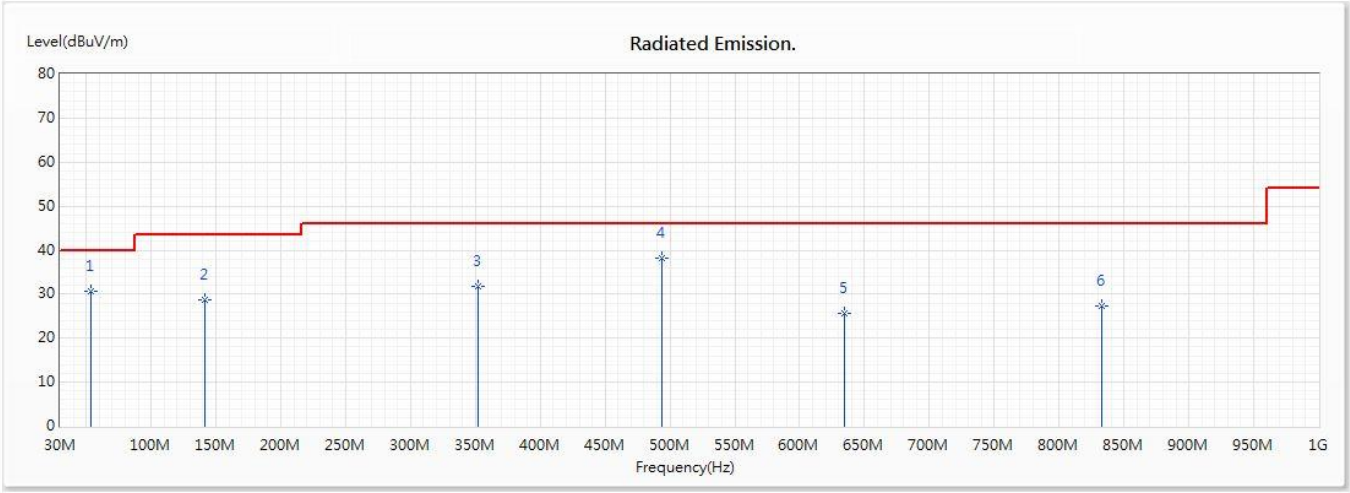

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 41.64 | 35.32 | 40.00 | -4.68 | 52.25 | -16.93 | QP |
| 2 | 88.2 | 36.38 | 43.50 | -7.12 | 52.94 | -16.56 | QP |
| 3 | 456.8 | 30.37 | 46.00 | -15.63 | 38.73 | -8.36 | QP |
| 4 | 600.36 | 25.78 | 46.00 | -20.22 | 31.75 | -5.97 | QP |
| 5 | 799.21 | 25.59 | 46.00 | -20.41 | 32.70 | -7.11 | QP |
| 6 | 891.36 | 26.06 | 46.00 | -19.94 | 33.01 | -6.95 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz) (stereo headset with adjustable arm)

Horizontal



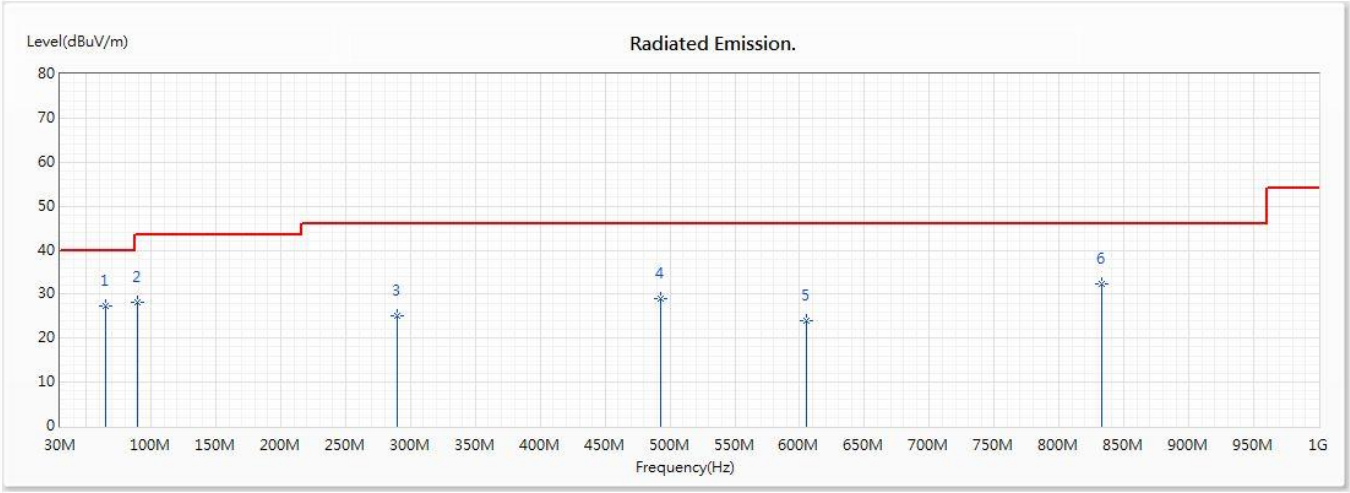

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| 1 | 53.899 | 30.59 | 40.00 | -9.41 | 48.27 | -17.68 | QP |
| 2 | 141.058 | 28.72 | 43.50 | -14.78 | 46.57 | -17.85 | QP |
| 3 | 351.928 | 31.87 | 46.00 | -14.13 | 45.08 | -13.21 | QP |
| * 4 | 493.913 | 38.15 | 46.00 | -7.85 | 49.40 | -11.25 | QP |
| 5 | 634.493 | 25.74 | 46.00 | -20.26 | 34.37 | -8.63 | QP |
| 6 | 832.71 | 27.18 | 46.00 | -18.82 | 35.81 | -8.63 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/11/14
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz) (stereo headset with adjustable arm)

Vertical



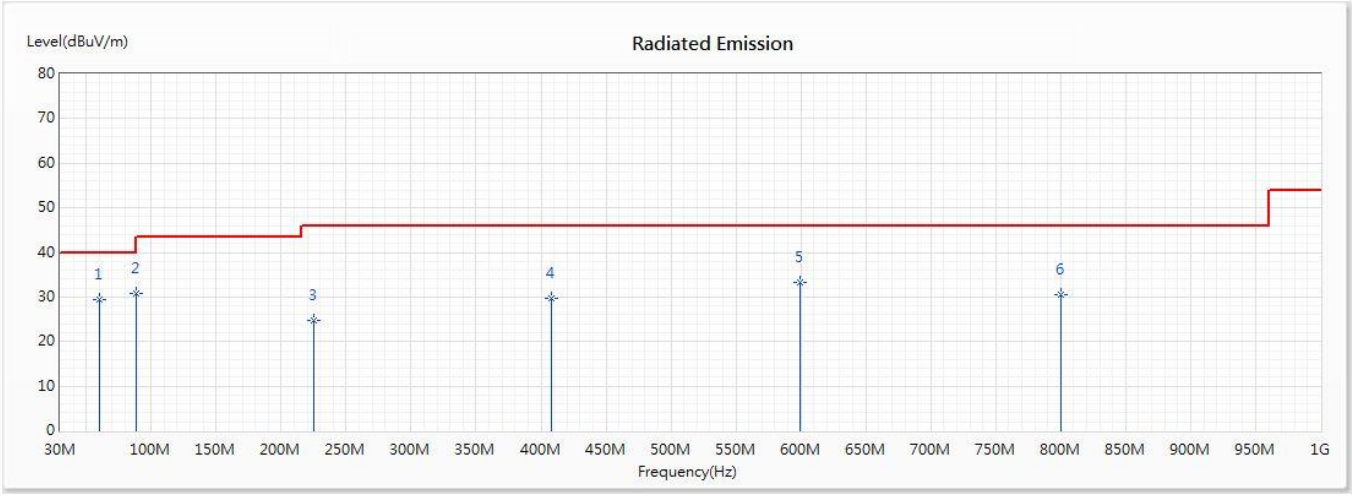

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 65.145 | 27.22 | 40.00 | -12.78 | 47.85 | -20.63 | QP |
| 2 | 89.043 | 28.21 | 43.50 | -15.29 | 45.50 | -17.29 | QP |
| 3 | 290.072 | 25.06 | 46.00 | -20.94 | 42.09 | -17.03 | QP |
| 4 | 492.507 | 29.01 | 46.00 | -16.99 | 40.35 | -11.34 | QP |
| 5 | 604.971 | 23.91 | 46.00 | -22.09 | 30.88 | -6.97 | QP |
| 6 | 832.71 | 32.43 | 46.00 | -13.57 | 41.06 | -8.63 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/12/12
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz) (mono earphone with adjustable arm)

Horizontal



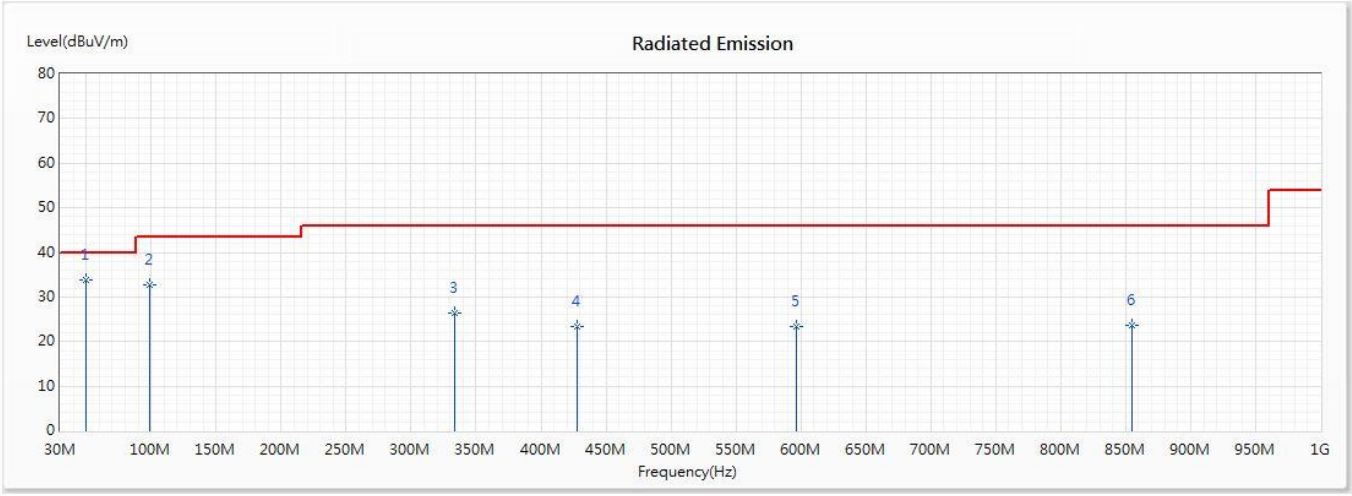

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 60.07 | 29.50 | 40.00 | -10.50 | 47.79 | -18.29 | QP |
| 2 | 88.2 | 30.78 | 43.50 | -12.72 | 47.34 | -16.56 | QP |
| 3 | 224.97 | 24.68 | 46.00 | -21.32 | 40.96 | -16.28 | QP |
| 4 | 408.3 | 29.64 | 46.00 | -16.36 | 40.94 | -11.30 | QP |
| 5 | 599.39 | 33.22 | 46.00 | -12.78 | 39.17 | -5.95 | QP |
| 6 | 800.18 | 30.62 | 46.00 | -15.38 | 37.75 | -7.13 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bluetooth Headset
Test Item : General Radiated Emission
Test Date : 2019/12/12
Test Mode : Mode 2: Receive - BLE-2Mbps (2440MHz) (mono earphone with adjustable arm)

Vertical



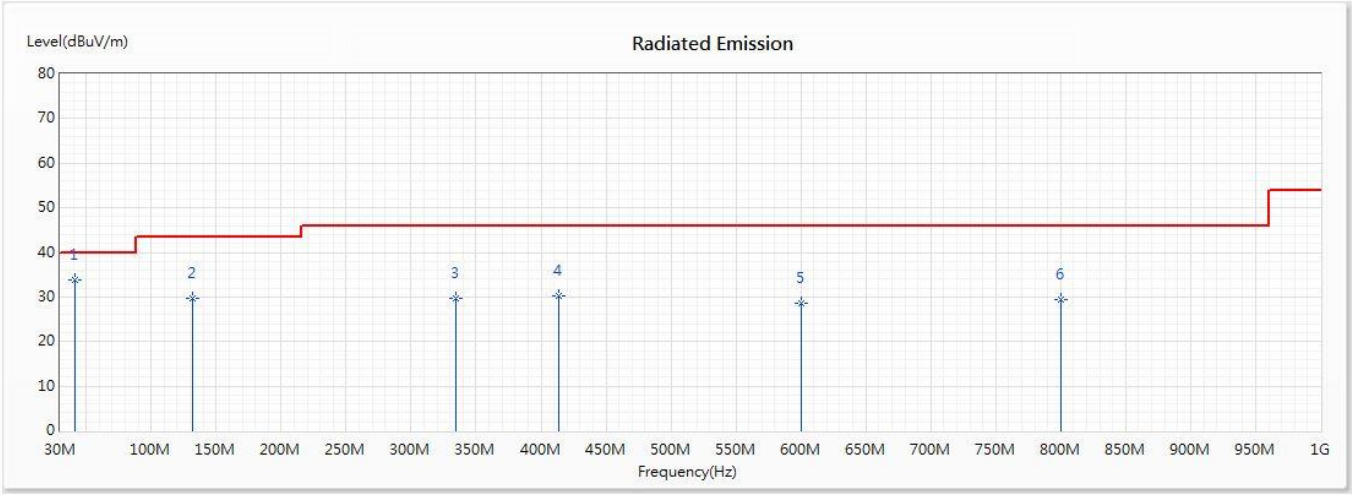

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 49.4 | 33.95 | 40.00 | -6.05 | 51.09 | -17.14 | QP |
| 2 | 98.87 | 32.75 | 43.50 | -10.75 | 48.62 | -15.87 | QP |
| 3 | 333.61 | 26.37 | 46.00 | -19.63 | 38.58 | -12.21 | QP |
| 4 | 427.7 | 23.31 | 46.00 | -22.69 | 32.56 | -9.25 | QP |
| 5 | 596.48 | 23.48 | 46.00 | -22.52 | 29.43 | -5.95 | QP |
| 6 | 854.5 | 23.54 | 46.00 | -22.46 | 30.63 | -7.09 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

| | | |
|---|---|---|
| Product | : | Bluetooth Headset |
| Test Item | : | General Radiated Emission |
| Test Date | : | 2019/12/12 |
| Test Mode | : | Mode 2: Receive - BLE-2Mbps (2440MHz) (stereo headset) |

Horizontal



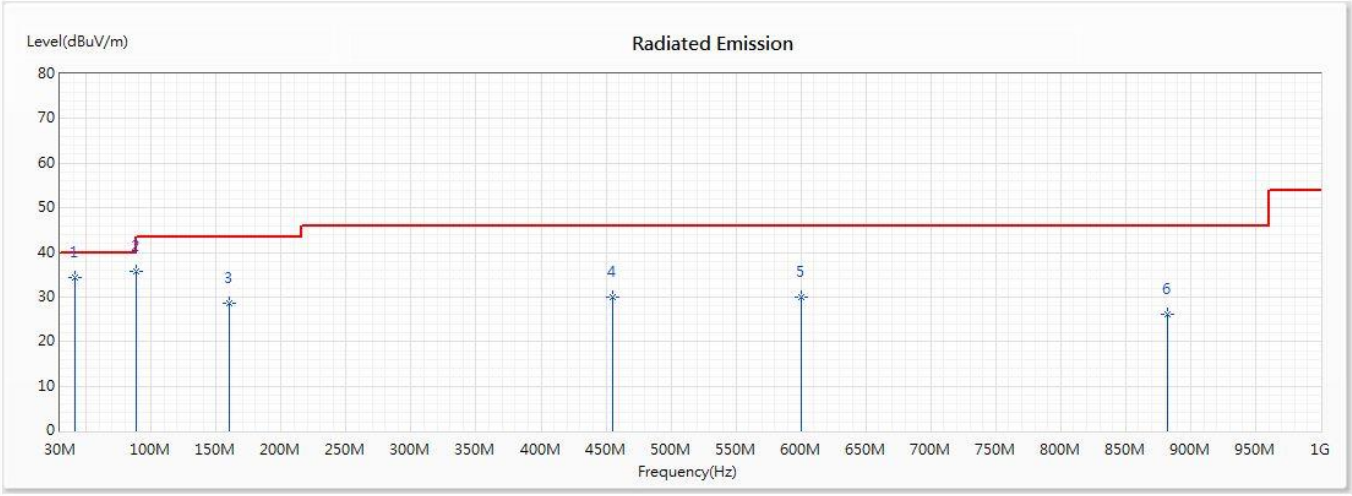

| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 41.64 | 33.92 | 40.00 | -6.08 | 50.85 | -16.93 | QP |
| 2 | 131.85 | 29.75 | 43.50 | -13.75 | 44.25 | -14.50 | QP |
| 3 | 334.58 | 29.65 | 46.00 | -16.35 | 41.85 | -12.20 | QP |
| 4 | 414.12 | 30.16 | 46.00 | -15.84 | 41.08 | -10.92 | QP |
| 5 | 600.36 | 28.49 | 46.00 | -17.51 | 34.46 | -5.97 | QP |
| 6 | 800.18 | 29.34 | 46.00 | -16.66 | 36.47 | -7.13 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

| | | |
|---|---|---|
| Product | : | Bluetooth Headset |
| Test Item | : | General Radiated Emission |
| Test Date | : | 2019/12/12 |
| Test Mode | : | Mode 2: Receive - BLE-2Mbps (2440MHz) (stereo headset) |

Vertical




| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Detector Type |
|---|---|---|---|---|---|---|---|
| * 1 | 41.64 | 34.50 | 40.00 | -5.50 | 51.43 | -16.93 | QP |
| 2 | 88.2 | 35.71 | 43.50 | -7.79 | 52.27 | -16.56 | QP |
| 3 | 159.98 | 28.53 | 43.50 | -14.97 | 47.17 | -18.64 | QP |
| 4 | 454.86 | 30.09 | 46.00 | -15.91 | 38.36 | -8.27 | QP |
| 5 | 600.36 | 30.10 | 46.00 | -15.90 | 36.07 | -5.97 | QP |
| 6 | 882.63 | 26.00 | 46.00 | -20.00 | 32.41 | -6.41 | QP |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

## 4. EMI Reduction Method During Compliance Testing

No modification was made during testing.