

# FCC Test Report

Product Name	Bluetooth Headset
Model No.	OTE130L (left earbud), OTE130R (right earbud), CPB130 (wireless charging case)
FCC ID.	BCE-OTE130

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

Date of Receipt	Aug. 28, 2020
Issued Date	Sep. 19, 2020
Report No.	2080865R-E3032700107
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 of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

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

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

# Test Report

Issued Date: Sep. 19, 2020

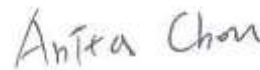
Report No.: 2080865R-E3032700107



Product Name	Bluetooth Headset
Applicant	GN Audio A/S
Address	Lautrupbjerg 7, 2750 Ballerup, Denmark
Manufacturer	GN Audio A/S
Model No.	OTE130L (left earbud), OTE130R (right earbud), CPB130 (wireless charging case)
FCC ID.	BCE-OTE130
EUT Rated Voltage	DC 3.7V by Battery
EUT Test Voltage	DC 3.7V by Battery
Trade Name	Jabra
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By

:



( Senior Engineering Adm. Specialist / Anita Chou )

Tested By

:



( Engineer / Yunche Chen )

Approved By

:



( Director / Vincent Lin )

## TABLE OF CONTENTS

Description	Page
<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. EUT Description.....	5
1.2. Tested System Details.....	7
1.3. Configuration of Tested System .....	7
1.4. EUT Exercise Software .....	8
1.5. Test Facility .....	9
1.6. List of Test Equipment.....	10
1.7. Uncertainty .....	12
<b>2. CONDUCTED EMISSION .....</b>	<b>13</b>
2.1. Test Setup .....	13
2.2. Limits.....	13
2.3. Test Procedure .....	14
2.4. Test Result of Conducted Emission .....	15
<b>3. PEAK POWER OUTPUT .....</b>	<b>19</b>
3.1. Test Setup .....	19
3.2. Limit .....	19
3.3. Test Procedure .....	19
3.4. Test Result of Peak Power Output .....	20
<b>4. RADIATED EMISSION .....</b>	<b>22</b>
4.1. Test Setup .....	22
4.2. Limits.....	23
4.3. Test Procedure .....	24
4.4. Test Result of Radiated Emission .....	26
<b>5. RF ANTENNA CONDUCTED TEST .....</b>	<b>48</b>
5.1. Test Setup .....	48
5.2. Limits.....	48
5.3. Test Procedure .....	48
5.4. Test Result of RF Antenna Conducted Test .....	49
<b>6. BAND EDGE .....</b>	<b>51</b>
6.1. Test Setup .....	51
6.2. Limit .....	52
6.3. Test Procedure .....	52
6.4. Test Result of Band Edge .....	54
<b>7. 6DB BANDWIDTH .....</b>	<b>70</b>
7.1. Test Setup .....	70
7.2. Limits.....	70
7.3. Test Procedure .....	70
7.4. Test Result of 6dB Bandwidth.....	71
<b>8. POWER DENSITY .....</b>	<b>77</b>
8.1. Test Setup .....	77
8.2. Limits.....	77
8.3. Test Procedure .....	77
8.4. Test Result of Power Density .....	78
<b>9. DUTY CYCLE .....</b>	<b>84</b>
9.1. Test Setup .....	84
9.2. Test Procedure .....	84
9.3. Test Result of Duty Cycle.....	85
<b>10. EMI REDUCTION METHOD DURING COMPLIANCE TESTING .....</b>	<b>87</b>
Attachment 1: EUT Test Photographs	
Attachment 2: EUT Detailed Photographs	

## **Revision History**

Report No.	Version	Description	Issued Date
2080865R-E3032700107	V1.0	Initial issue of report.	2020-09-19

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Bluetooth Headset
Trade Name	Jabra
Model No.	OTE130L (left earbud), OTE130R (right earbud), CPB130 (wireless charging case)
FCC ID.	BCE-OTE130
Frequency Range	2402 – 2480MHz
Channel Number	V5.0: 40CH
Type of Modulation	V5.0: $\pi/4$ DQPSK (2Mbps)
Antenna Type	Monopole Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
USB Cable	Non-Shielded, 0.35m

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Jabra	Jabra Elite 85t	Monopole Antenna	-1.51 dBi in 2.4GHz

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

## Center Frequency of Each Channel: (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, this report for Bluetooth V5.0.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. The circuit schematics and components of Right earbud (OTE130R) and Left earbud (OTE130L) are the same. So is the antenna, output power and software. The PCB layout of Right earbud and Left earbud are mirrored, but there are small variations in layout due to non-symmetries of certain component footprints (e.g. IC's).
6. Right ear and Left ear mode of the EUT,only the worst case (Left ear) is shown in the report.  
(Addition test of Radiated Emission below 1GHz for Right ear.)

Test Mode	Mode 1: Transmit - BLE (GFSK)
	Mode 2: Charge

## 1.2. 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.	Power Cord
1	Notebook PC	DELL	Latitude E5440	FS9TK32	Non-Shielded, 0.8m

BT mode

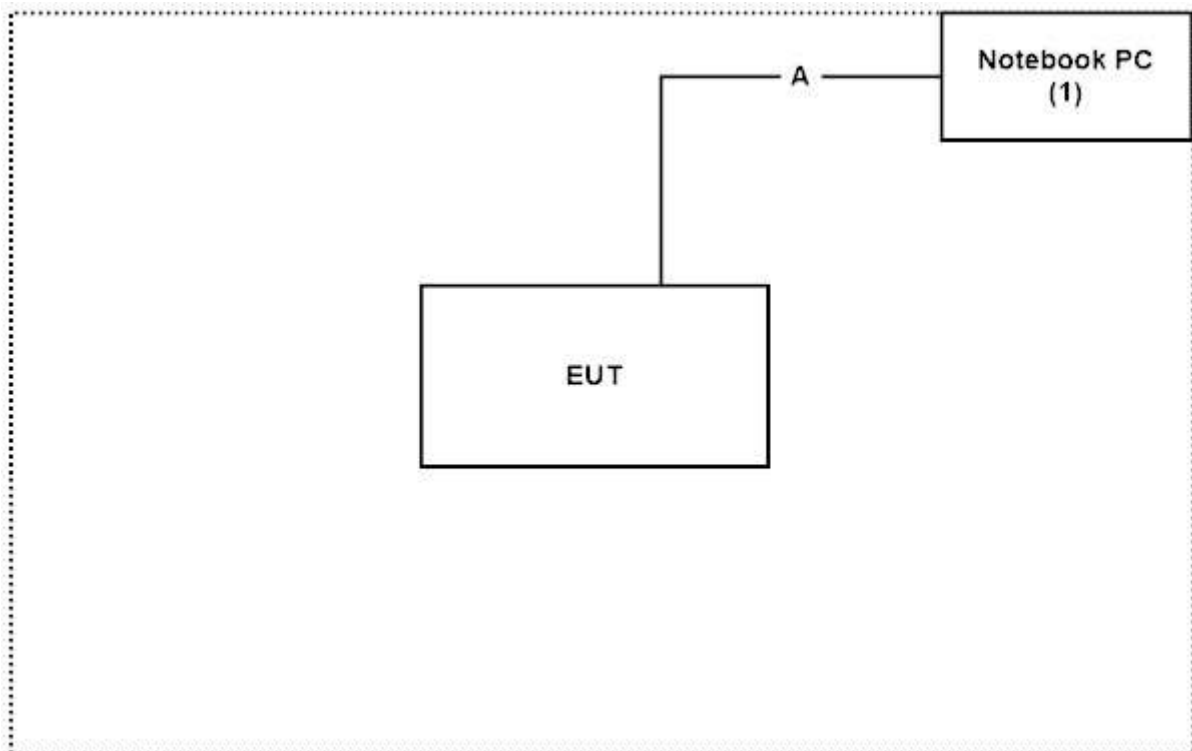
Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 1.7m

Charge mode

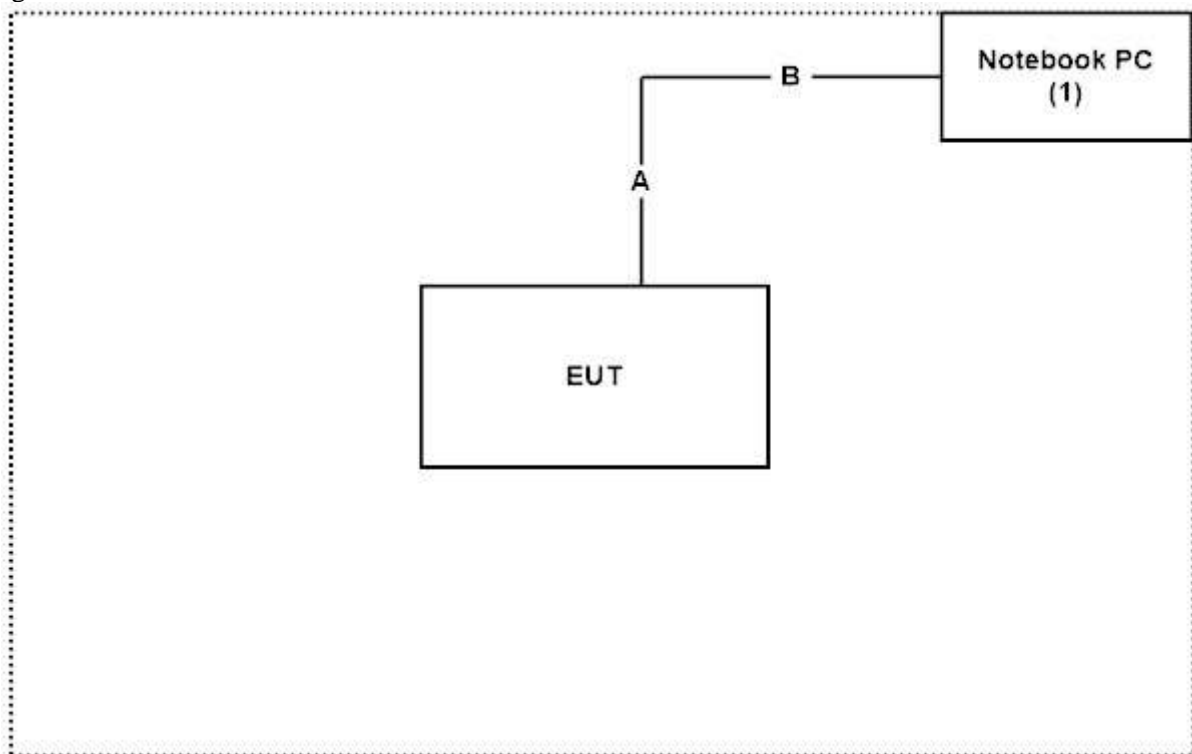
Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 0.35m
B	USB Cable	Non-Shielded, 1.7m

## 1.3. Configuration of Tested System

BT mode



Charge mode



#### 1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software "BTCLI\_Interface\_01.exe" 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 (°C)	10~40 °C	26.5 °C
	Humidity (%RH)	10~90 %	56.0 %
Radiated Emission	Temperature (°C)	10~40 °C	26.1 °C
	Humidity (%RH)	10~90 %	73.0 %
Conductive	Temperature (°C)	10~40 °C	28.0 °C
	Humidity (%RH)	10~90 %	72.9 %

**USA : FCC Registration Number: TW3023**

**Canada : IC Registration Number: 4075A**

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](mailto: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	2020/04/06	2021/04/05
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2019/09/25	2020/09/24
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2020/07/01	2021/06/30
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2020/07/01	2021/06/30
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2020/07/01	2021/06/30
X	EMI Test Receiver	R&S	ESCS 30	100369	2019/11/27	2020/11/26
X	LISN	R&S	ENV216	101105	2020/04/27	2021/04/26
X	LISN	R&S	ESH3-Z5	836679/014	2020/04/26	2021/04/25
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2020/06/19	2021/06/18

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	Test Receiver	R&S	ESR7	101602	2019/12/16	2020/12/15
X	Signal Analyzer	R&S	FSV40	101869	2020/06/24	2021/06/23
X	Loop Antenna	Teseq	HLA6121	37133	2019/10/15	2021/10/14
X	Bilog Antenna	Schaffner Chase	CBL6112B	2916	2020/01/20	2021/01/19
X	Coaxial Cable	DEKRA	L1907-001C	280280.F141.1000D	2020/07/09	2021/07/08
X	Amplifier	EMCI	EMC001330	980254	2020/07/28	2021/06/10
X	Horn Antenna	ETS-LINDGREN	3117	00228113	2020/05/28	2021/05/27
X	Coaxial Cable	DEKRA	L1907-002C	280280.F141.1000D	2020/07/09	2021/07/08
X	Amplifier	EMCI	EMC05820SE	980361	2019/09/23	2020/09/22
X	Amplifier	SGH	PRAMP118	20200202	2020/03/17	2021/03/16
X	Horn Antenna	Com-Power	AH-1840	101101	2019/10/31	2020/10/30
X	Amplifier + Cable	EMCI	EMC184045SE	980369	2020/04/23	2021/04/22
	Bilog Antenna	Schaffner Chase	CBL6112B	2916	2020/01/20	2021/01/19
	Coaxial Cable	DEKRA	L1907-003C	00100A1B3A120M	2020/07/09	2021/07/08
	Amplifier	EMCI	EMC001330	980255	2020/03/17	2021/03/16
	Horn Antenna	ETS-LINDGREN	3117	00228111	2020/05/28	2021/05/27
	Amplifier	SGH	PRAMP0510	20200206	2020/03/17	2021/03/16
	Amplifier	SGH	PRAMP118	20200202	2020/03/17	2021/03/16
X	Filter	MICRO-TRONICS	BRM50702	G270	2020/08/08	2021/08/07
X	Filter	MICRO-TRONICS	BRM50716	G196	2020/08/08	2021/08/07

**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 : DEKRA Test System V1.1.

## 1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

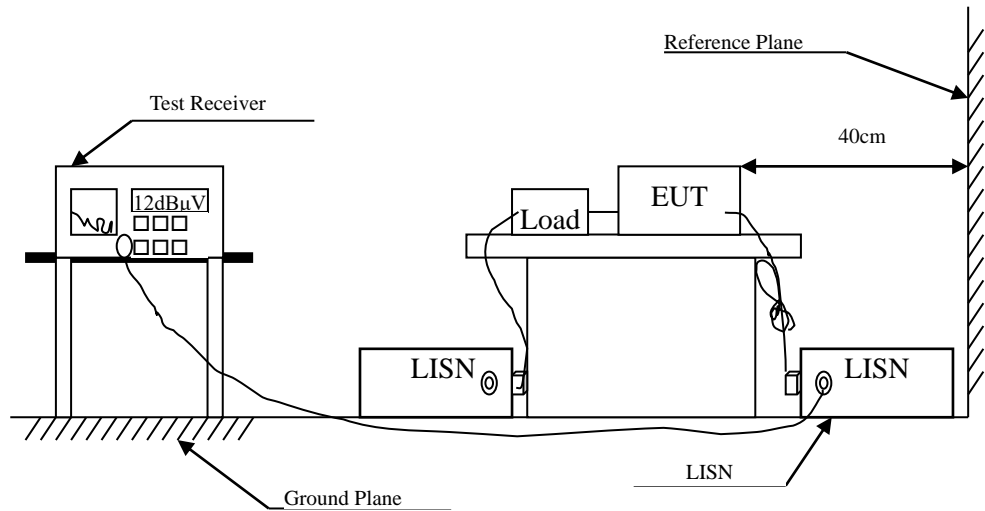
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty	
Conducted Emission	$\pm 3.42\text{dB}$	
Peak Power Output	Power Meter $\pm 0.89\text{dB}$	Spectrum Analyzer $\pm 2.06\text{dB}$
Radiated Emission	9kHz~30MHz: $\pm 3.88\text{dB}$ 30MHz~1GHz: $\pm 4.06\text{dB}$ 1GHz~18GHz: $\pm 3.71\text{dB}$ 18GHz~40GHz: $\pm 3.73\text{dB}$ 40GHz~50GHz: $\pm 3.75\text{dB}$ 50GHz~325GHz: $\pm 4.39\text{dB}$	
RF antenna conducted test	$\pm 2.06\text{dB}$	
Band Edge	9kHz~30MHz: $\pm 3.88\text{dB}$ 30MHz~1GHz: $\pm 4.06\text{dB}$ 1GHz~18GHz: $\pm 3.71\text{dB}$	
6dB Bandwidth	$\pm 1544.74\text{Hz}$	
Power Density	$\pm 2.06\text{dB}$	
Duty Cycle (2.4GHz)	$\pm 2.31\text{msec}$	

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBμV) 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 Peripherals 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 the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

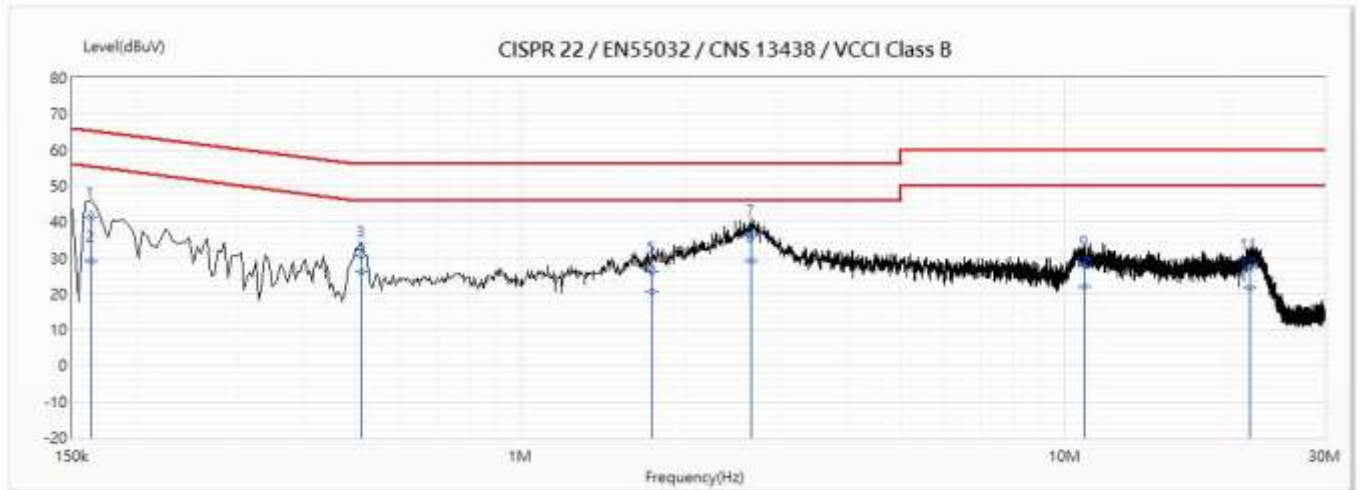
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2014; tested to DTS test procedure of FCC KDB-558074 for compliance to FCC 47CFR Subpart C requirements.

## 2.4. Test Result of Conducted Emission

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)\_ 2Mbps (2440MHz)

Line1



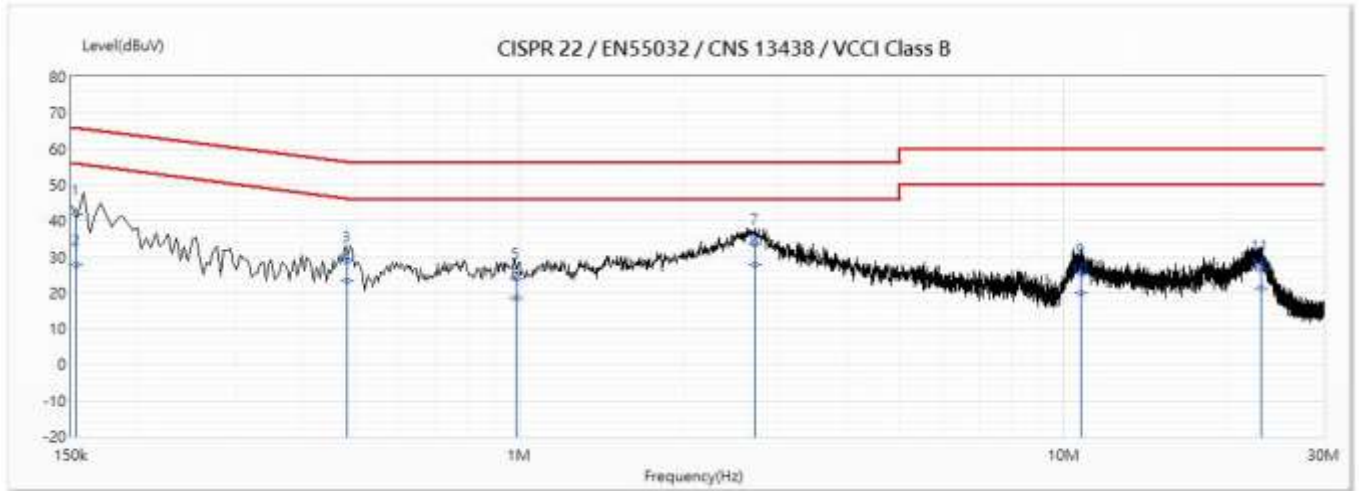
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.162	41.51	65.34	-23.83	31.70	9.81	QP
2	0.162	28.98	55.34	-26.35	19.18	9.81	AV
3	0.509	30.64	56.00	-25.36	20.84	9.80	QP
4	0.509	25.96	46.00	-20.04	16.16	9.80	AV
5	1.746	26.18	56.00	-29.82	16.34	9.84	QP
6	1.746	20.68	46.00	-25.32	10.84	9.84	AV
7	2.651	36.16	56.00	-19.84	26.29	9.88	QP
*8	2.651	29.25	46.00	-16.75	19.37	9.88	AV
9	10.86	27.71	60.00	-32.29	17.62	10.08	QP
10	10.86	22.11	50.00	-27.89	12.03	10.08	AV
11	21.868	27.09	60.00	-32.91	16.87	10.22	QP
12	21.868	21.48	50.00	-28.52	11.26	10.22	AV

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

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)\_ 2Mbps (2440MHz)

## Line2



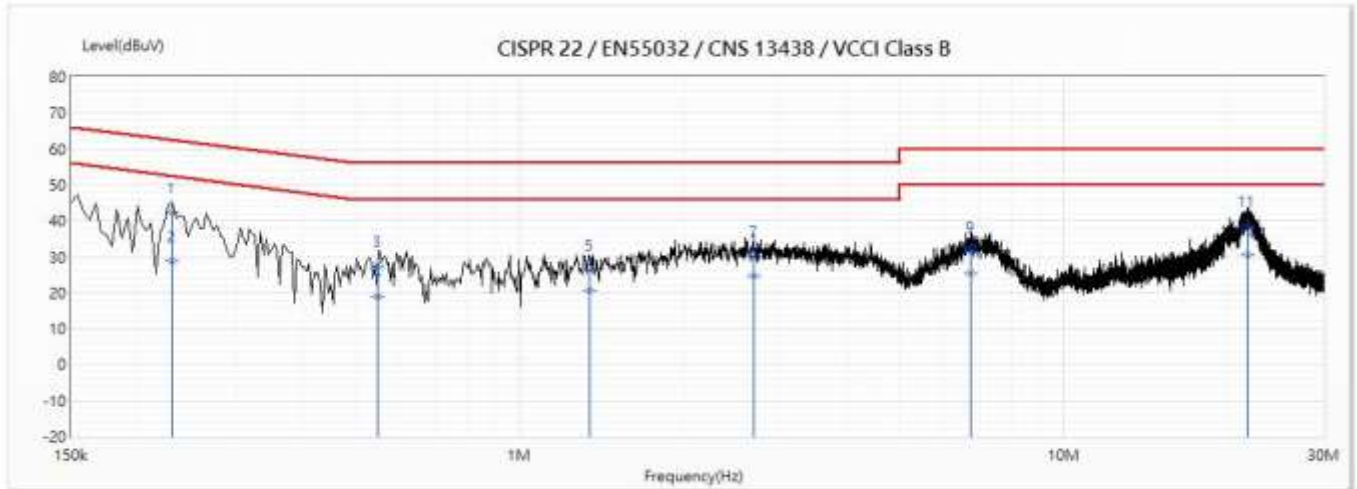
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.153	41.78	65.84	-24.05	31.99	9.79	QP
2	0.153	27.76	55.84	-28.07	17.97	9.79	AV
3	0.481	28.86	56.33	-27.47	19.07	9.79	QP
4	0.481	23.22	46.33	-23.11	13.43	9.79	AV
5	0.983	24.02	56.00	-31.98	14.23	9.79	QP
6	0.983	18.72	46.00	-27.28	8.93	9.79	AV
7	2.712	33.73	56.00	-22.27	23.87	9.86	QP
*8	2.712	27.84	46.00	-18.16	17.98	9.86	AV
9	10.757	25.47	60.00	-34.53	15.35	10.11	QP
10	10.757	19.95	50.00	-30.05	9.83	10.11	AV
11	23.052	26.39	60.00	-33.61	16.00	10.40	QP
12	23.052	21.23	50.00	-28.77	10.84	10.40	AV

## 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

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Test date : 2020/09/02  
 Test Mode : Mode 2: Charge

## Line 1



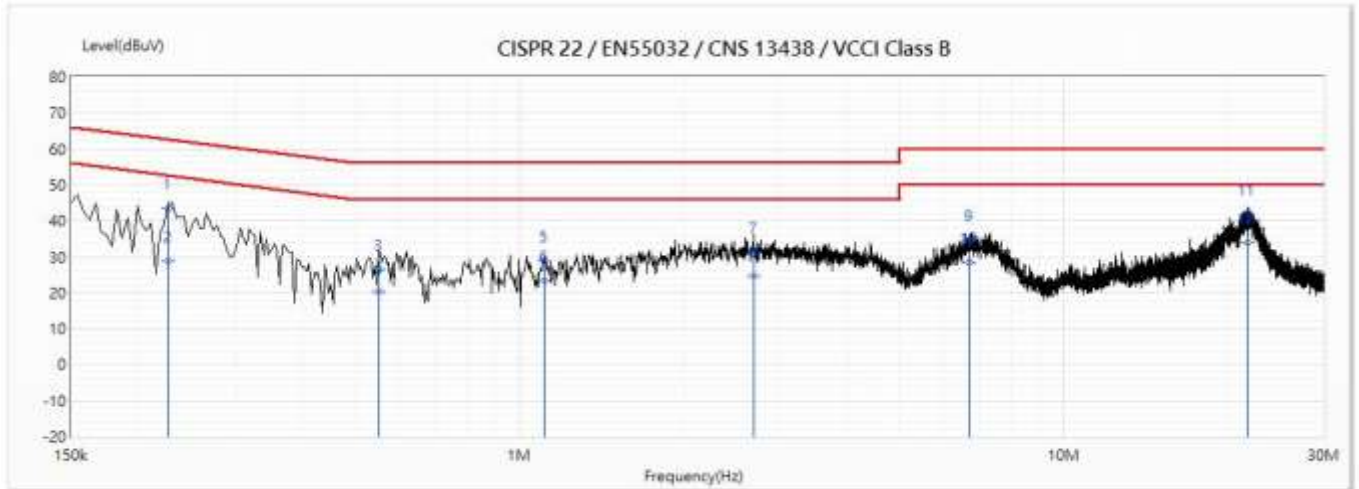
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.229	42.45	62.49	-20.04	32.66	9.79	QP
2	0.229	28.71	52.49	-23.78	18.92	9.79	AV
3	0.547	27.47	56.00	-28.53	17.67	9.79	QP
4	0.547	18.78	46.00	-27.22	8.99	9.79	AV
5	1.341	26.57	56.00	-29.43	16.74	9.83	QP
6	1.341	20.69	46.00	-25.31	10.85	9.83	AV
7	2.689	30.27	56.00	-25.73	20.38	9.90	QP
8	2.689	24.54	46.00	-21.46	14.64	9.90	AV
9	6.728	31.42	60.00	-28.58	21.41	10.01	QP
10	6.728	25.54	50.00	-24.46	15.52	10.01	AV
11	21.742	38.54	60.00	-21.46	28.28	10.26	QP
*12	21.742	30.65	50.00	-19.35	20.40	10.26	AV

## 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

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Test date : 2020/09/02  
 Test Mode : Mode 2: Charge

## Line 2



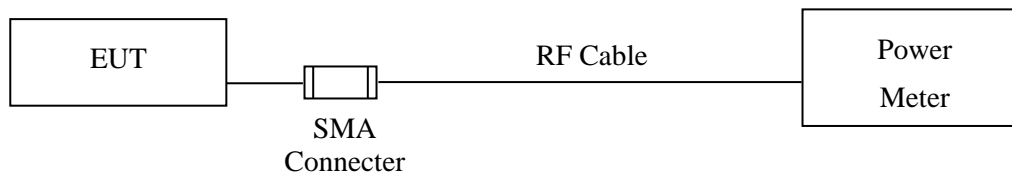
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.226	43.45	62.59	-19.13	33.68	9.77	QP
2	0.226	28.76	52.59	-23.83	18.98	9.77	AV
3	0.55	26.51	56.00	-29.49	16.73	9.78	QP
4	0.55	20.36	46.00	-25.64	10.58	9.78	AV
5	1.109	28.67	56.00	-27.33	18.86	9.81	QP
6	1.109	23.20	46.00	-22.80	13.38	9.81	AV
7	2.688	31.08	56.00	-24.92	21.20	9.88	QP
8	2.688	24.77	46.00	-21.23	14.89	9.88	AV
9	6.72	34.63	60.00	-25.37	24.61	10.01	QP
10	6.72	28.50	50.00	-21.50	18.48	10.01	AV
11	21.745	41.86	60.00	-18.14	31.45	10.41	QP
*12	21.745	33.79	50.00	-16.21	23.37	10.41	AV

## Note:

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

### 3. Peak Power Output

#### 3.1. Test Setup



#### 3.2. Limit

The maximum peak power shall be less 1Watt.

#### 3.3. Test Procedure

The EUT was tested according to C63.10:2013 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using C63.10:2013 Section 11.9.1.3 PKPM1 Peak power meter method.

### 3.4. Test Result of Peak Power Output

Product : Bluetooth Headset  
Test Item : Peak Power Output  
Test date : 2020/09/09  
Test Mode : Mode 1: Transmit - BLE (GFSK)\_ 1Mbps

Channel No.	Frequency (MHz)	Peak Measurement (dBm)	Required Limit	Result
Channel 00	2402	8.22	1 Watt= 30 dBm	Pass
Channel 19	2440	9.46	1 Watt= 30 dBm	Pass
Channel 39	2480	8.31	1 Watt= 30 dBm	Pass

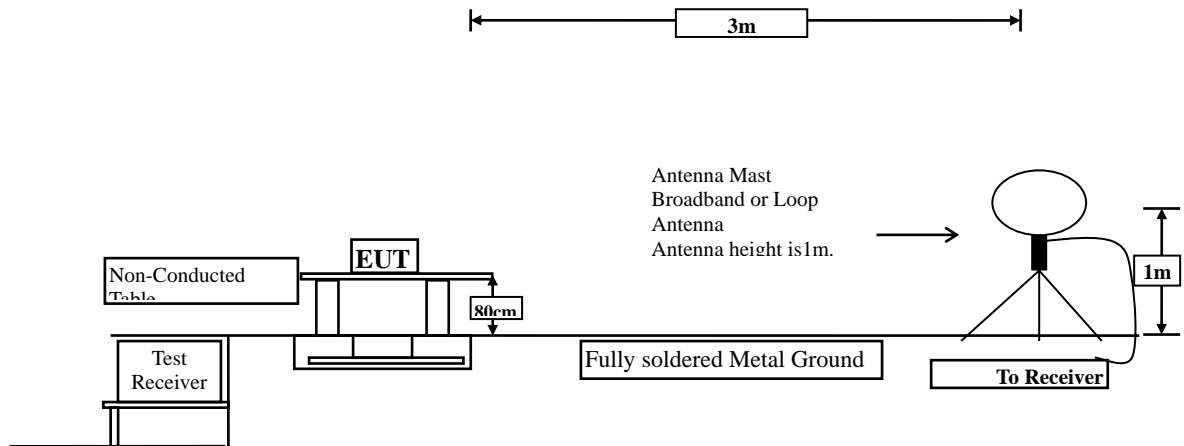
Product : Bluetooth Headset  
Test Item : Peak Power Output  
Test date : 2020/09/09  
Test Mode : Mode 1: Transmit - BLE (GFSK)\_ 2Mbps

Channel No.	Frequency (MHz)	Peak Measurement (dBm)	Required Limit	Result
Channel 00	2402	8.13	1 Watt= 30 dBm	Pass
Channel 19	2440	9.58	1 Watt= 30 dBm	Pass
Channel 39	2480	8.25	1 Watt= 30 dBm	Pass

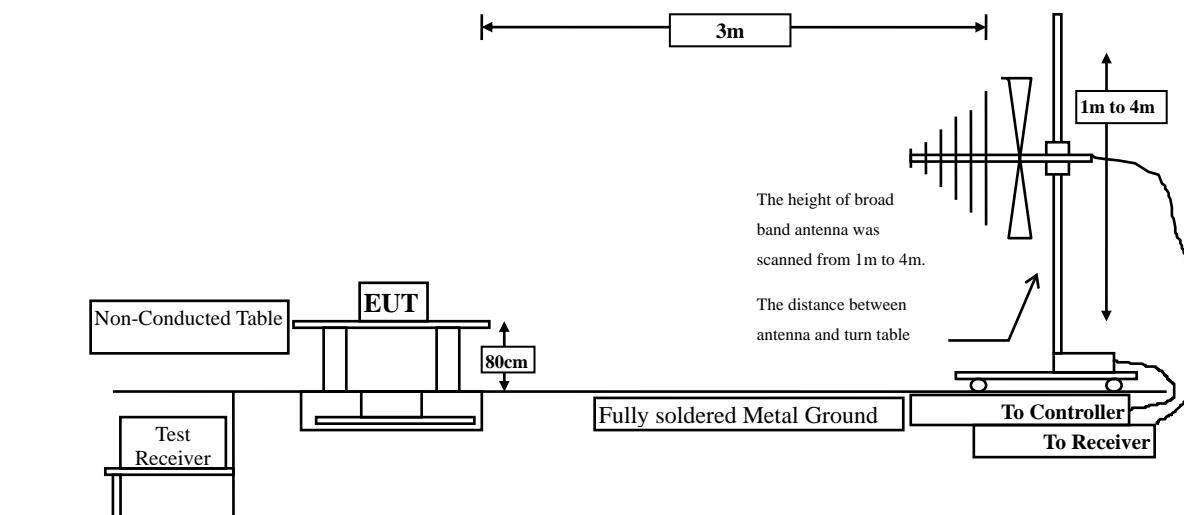
## 4. Radiated Emission

### 4.1. Test Setup

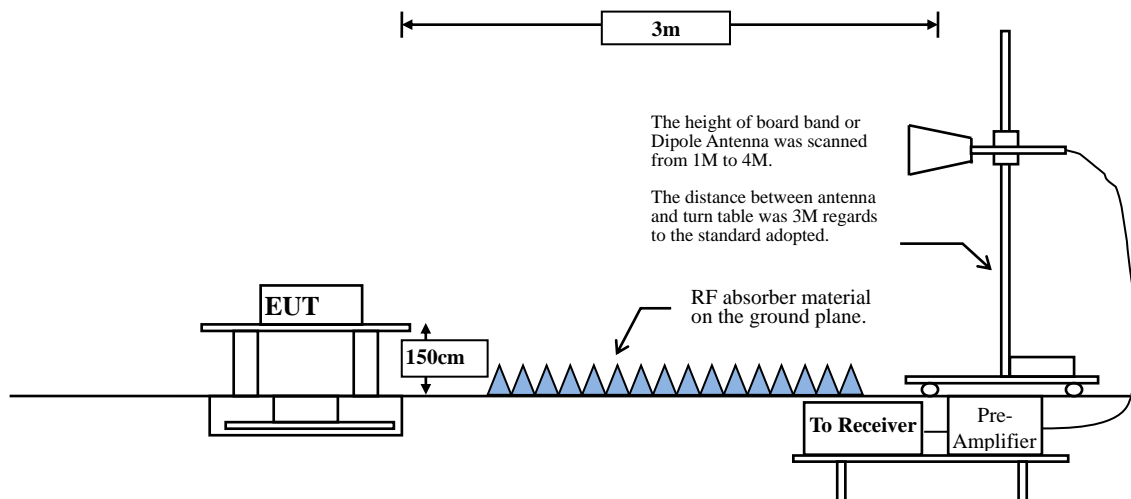
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



## 4.2. Limits

### ➤ General Radiated Emission Limits

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

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

- Remarks:
1. RF Voltage (dBμV) = 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.

### 4.3. Test Procedure

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

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 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 is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~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 in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

**RBW and VBW Parameter setting:**

According to KDB 558074 section 12.2.4. Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$ .

**Table 1 —RBW as a function of frequency**

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

$VBW = 10\text{Hz}$ , when duty cycle  $\geq 98\%$

$VBW \geq 1/T$ , when duty cycle  $< 98\%$

( T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

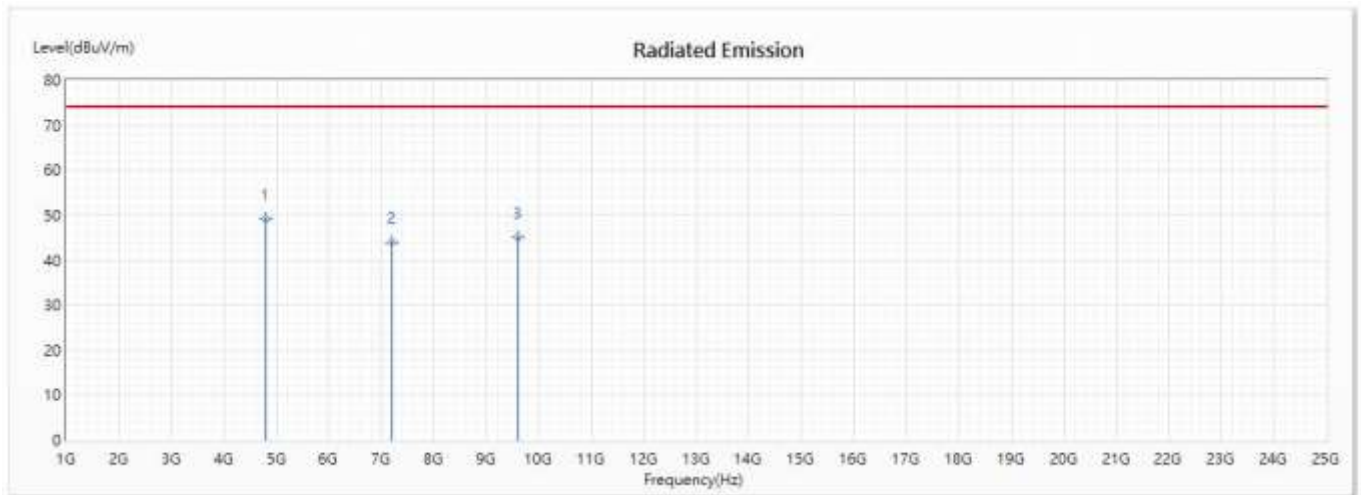
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE 1M	62.07	0.3913	2556	3000
BLE 2M	57.45	1.0800	926	1000

Note: Duty Cycle Refer to Section 9

#### 4.4. Test Result of Radiated Emission

Product : Bluetooth Headset  
 Test Item : Harmonic Radiated Emission  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)(2402MHz) \_ 1Mbps

Horizontal



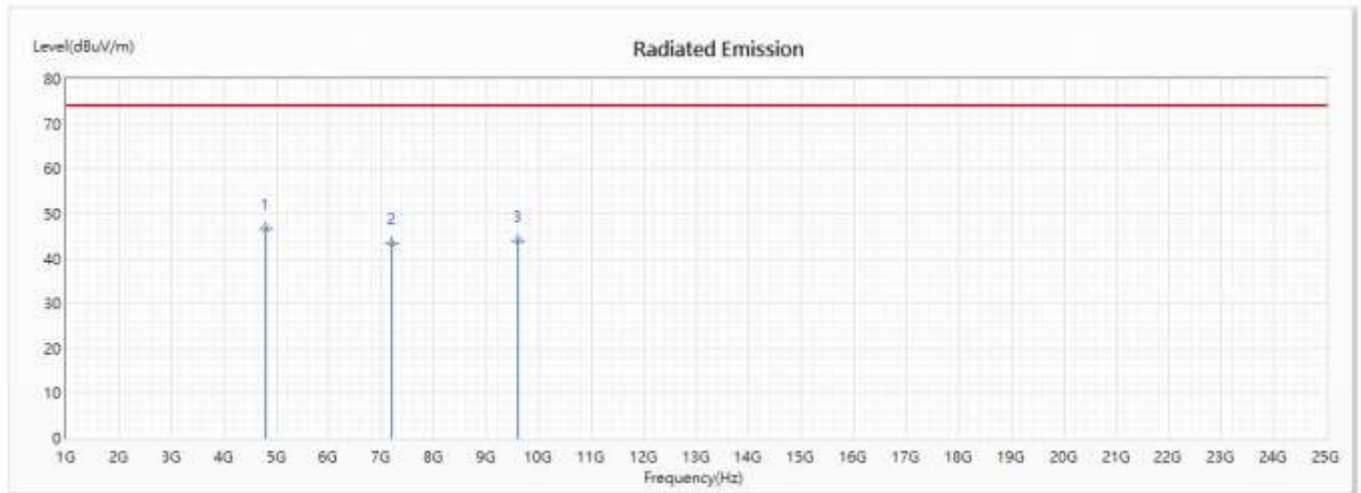
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	49.10	74.00	-24.90	59.71	-10.61	PK
2	7206	43.91	74.00	-30.09	52.60	-8.69	PK
3	9608	44.98	74.00	-29.02	54.10	-9.12	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)(2402MHz) \_ 1Mbps

### Vertical



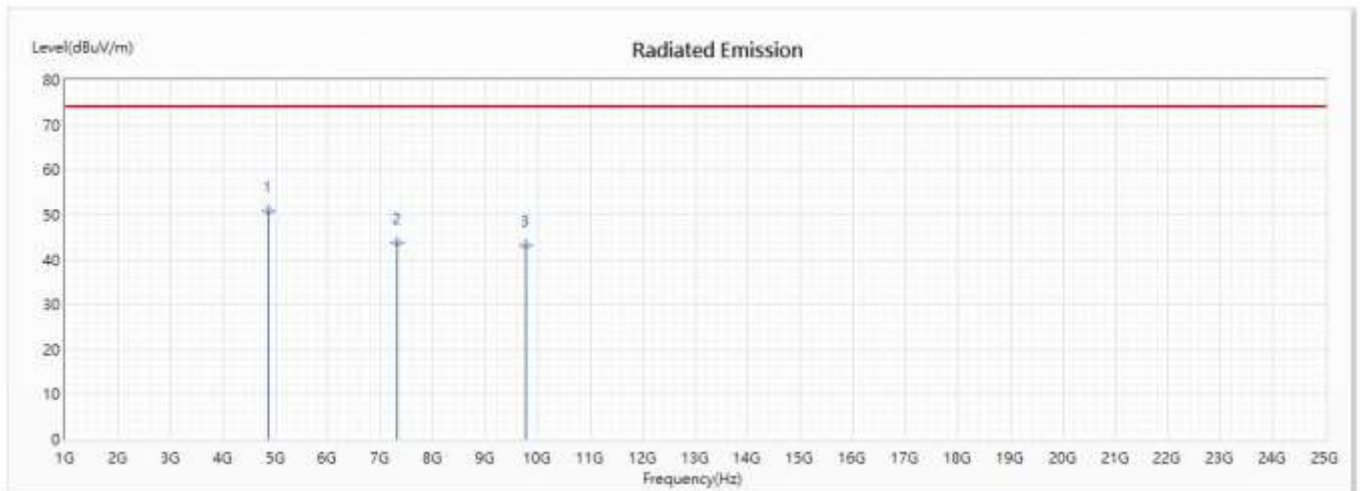
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	46.64	74.00	-27.36	57.25	-10.61	PK
2	7206	43.37	74.00	-30.63	52.06	-8.69	PK
3	9608	44.00	74.00	-30.00	53.12	-9.12	PK

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps

#### Horizontal



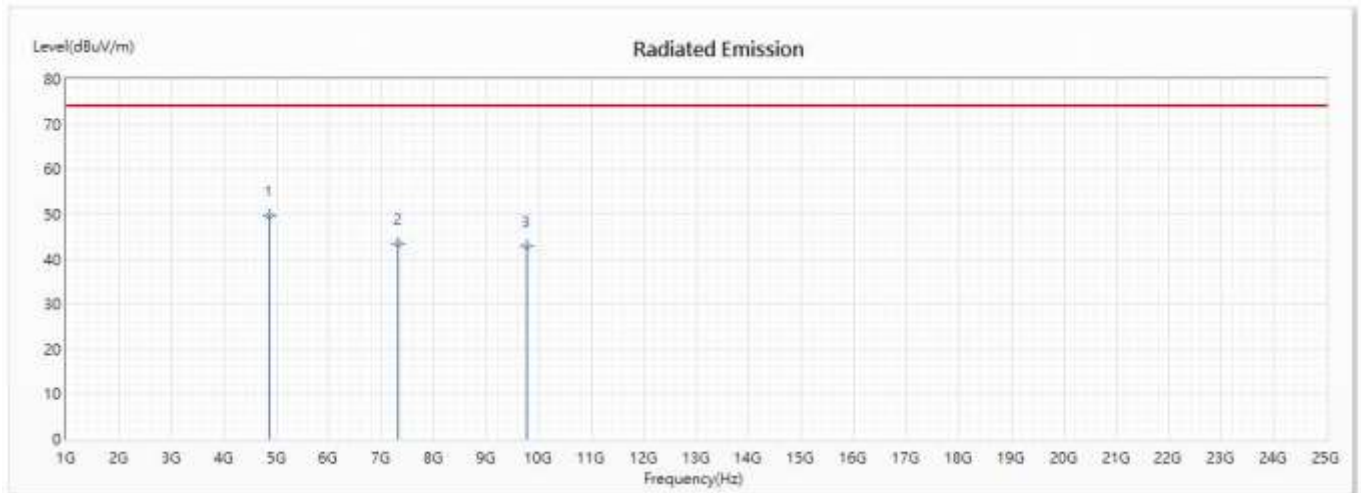
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4880	50.85	74.00	-23.15	61.10	-10.25	PK
2	7320	43.67	74.00	-30.33	52.81	-9.14	PK
3	9760	43.19	74.00	-30.81	52.30	-9.11	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps

#### Vertical



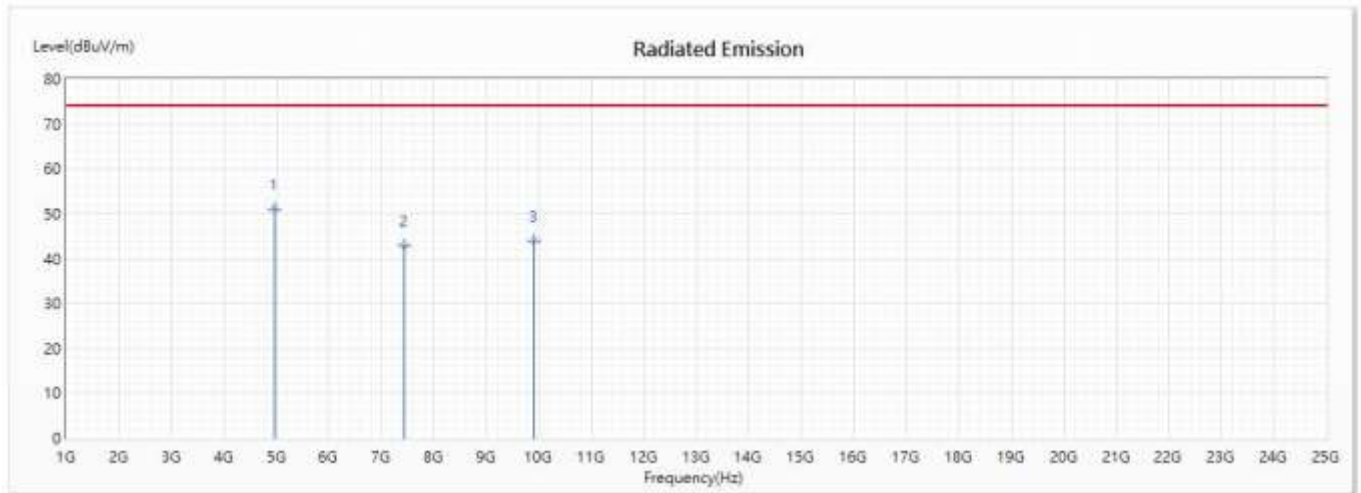
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4880	49.67	74.00	-24.33	59.92	-10.25	PK
2	7320	43.45	74.00	-30.55	52.59	-9.14	PK
3	9760	42.83	74.00	-31.17	51.94	-9.11	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

#### Horizontal



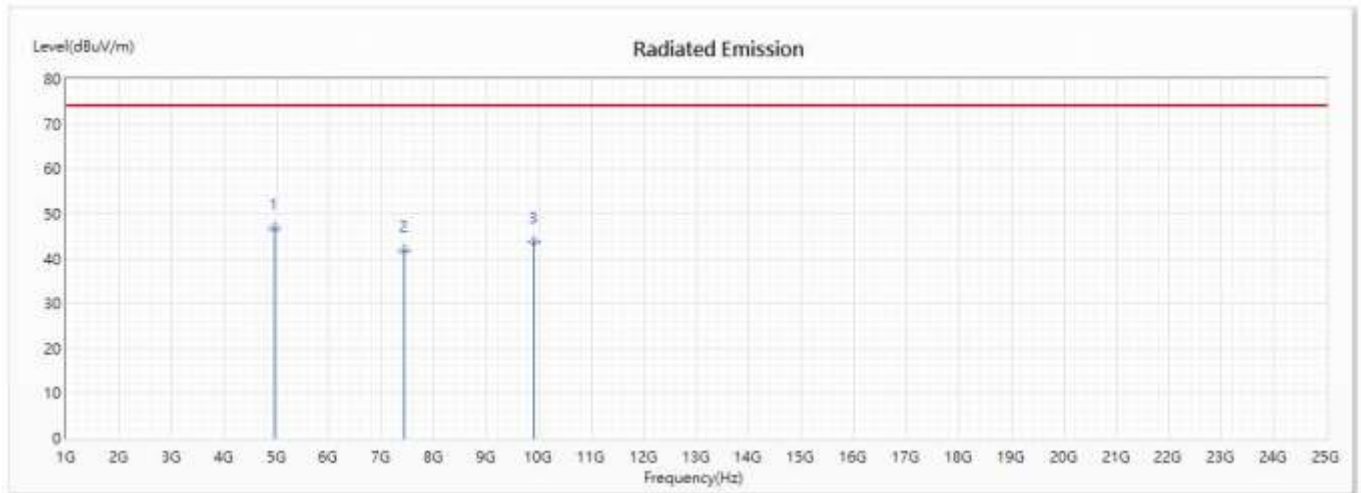
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	51.13	74.00	-22.87	61.18	-10.05	PK
2	7440	42.95	74.00	-31.05	52.42	-9.47	PK
3	9920	43.95	74.00	-30.05	52.13	-8.18	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

### Vertical



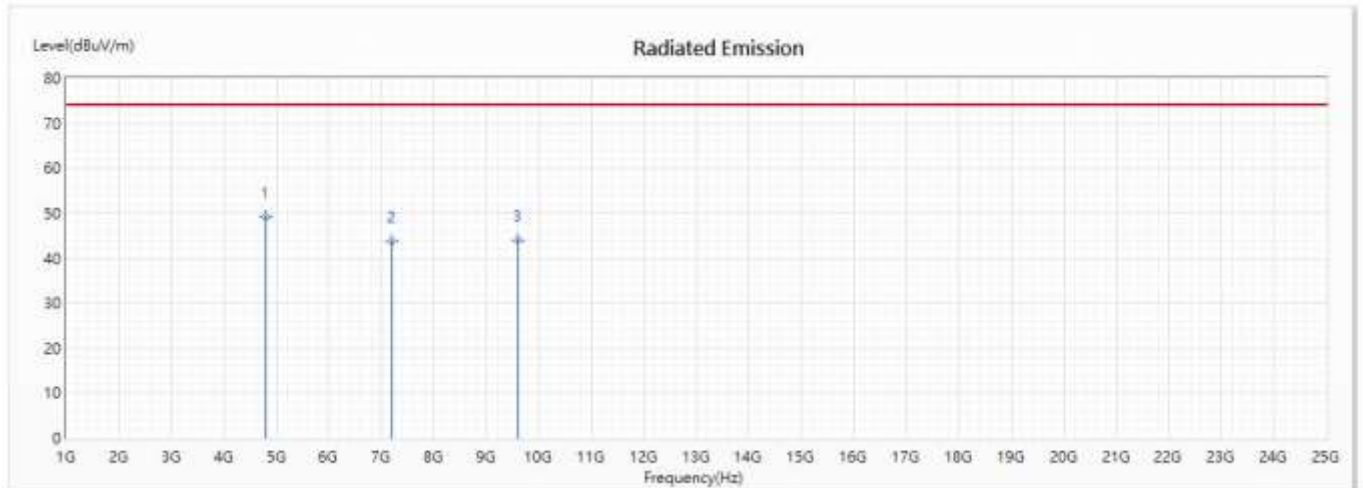
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	46.74	74.00	-27.26	56.79	-10.05	PK
2	7440	41.83	74.00	-32.17	51.30	-9.47	PK
3	9920	43.66	74.00	-30.34	51.84	-8.18	PK

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)(2402MHz) \_ 2Mbps

## Horizontal



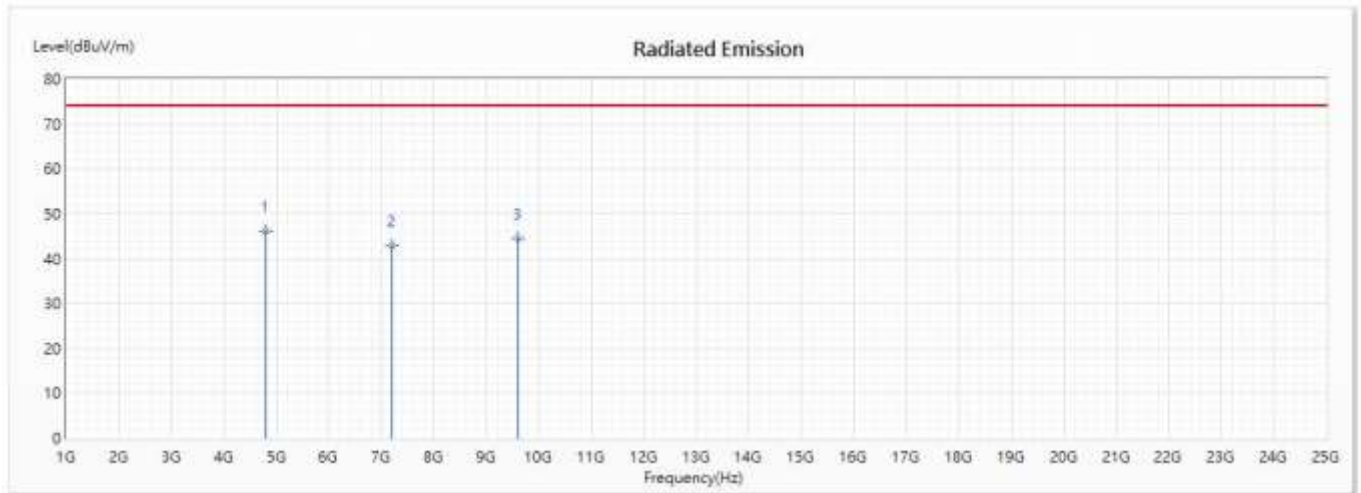
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	49.18	74.00	-24.82	59.79	-10.61	PK
2	7206	43.57	74.00	-30.43	52.26	-8.69	PK
3	9608	44.09	74.00	-29.91	53.21	-9.12	PK

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK)(2402MHz) \_ 2Mbps

### Vertical



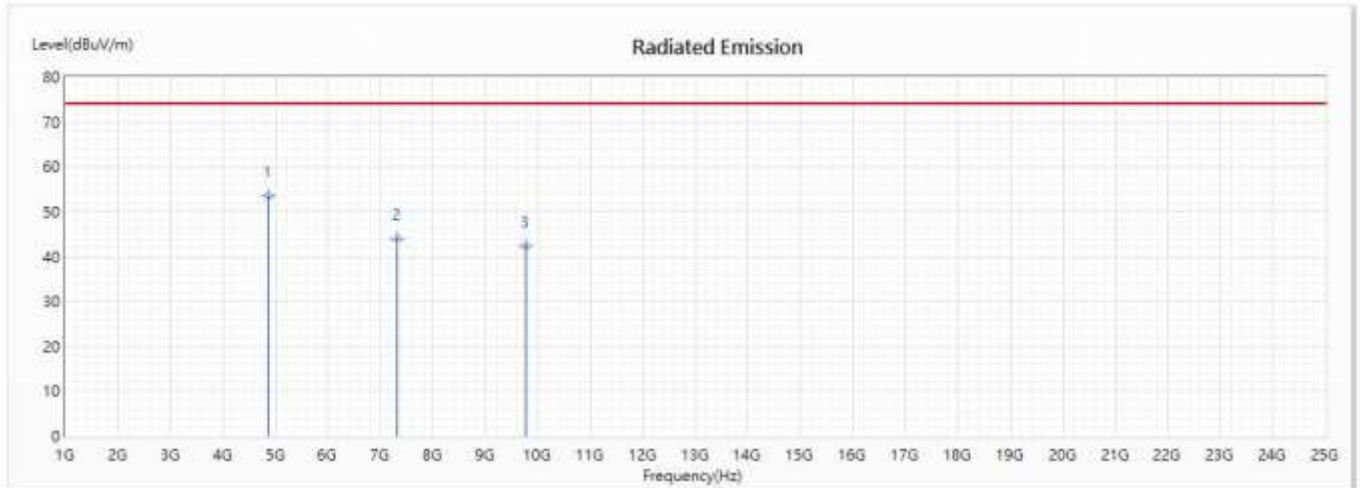
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	46.04	74.00	-27.96	56.65	-10.61	PK
2	7206	42.90	74.00	-31.10	51.59	-8.69	PK
3	9608	44.45	74.00	-29.55	53.57	-9.12	PK

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps

#### Horizontal



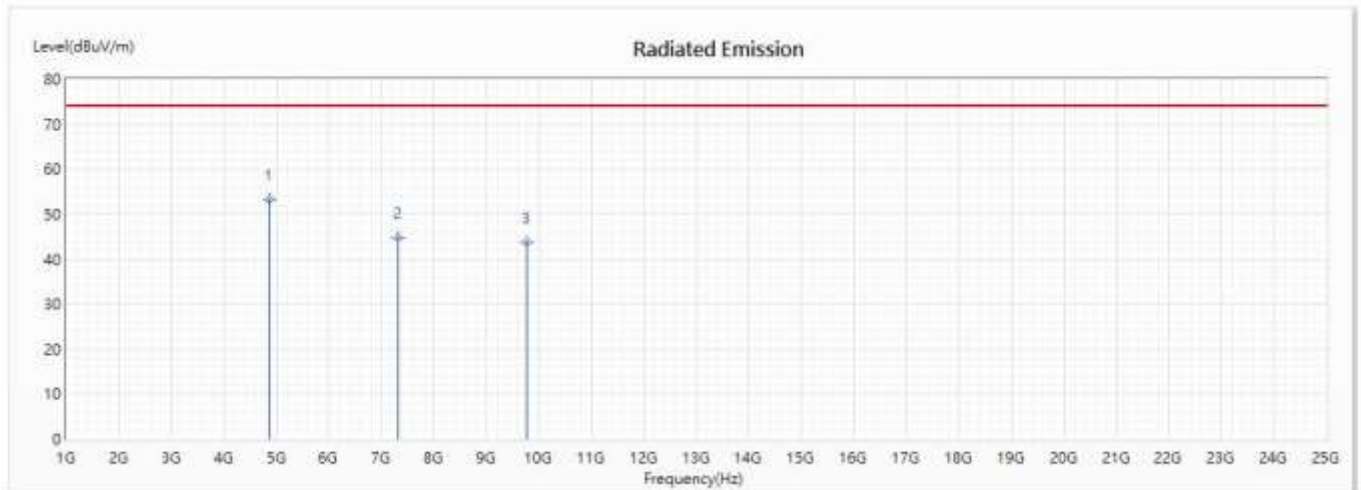
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4880	53.46	74.00	-20.54	63.71	-10.25	PK
2	7320	43.87	74.00	-30.13	53.01	-9.14	PK
3	9760	42.41	74.00	-31.59	51.52	-9.11	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps

#### Vertical



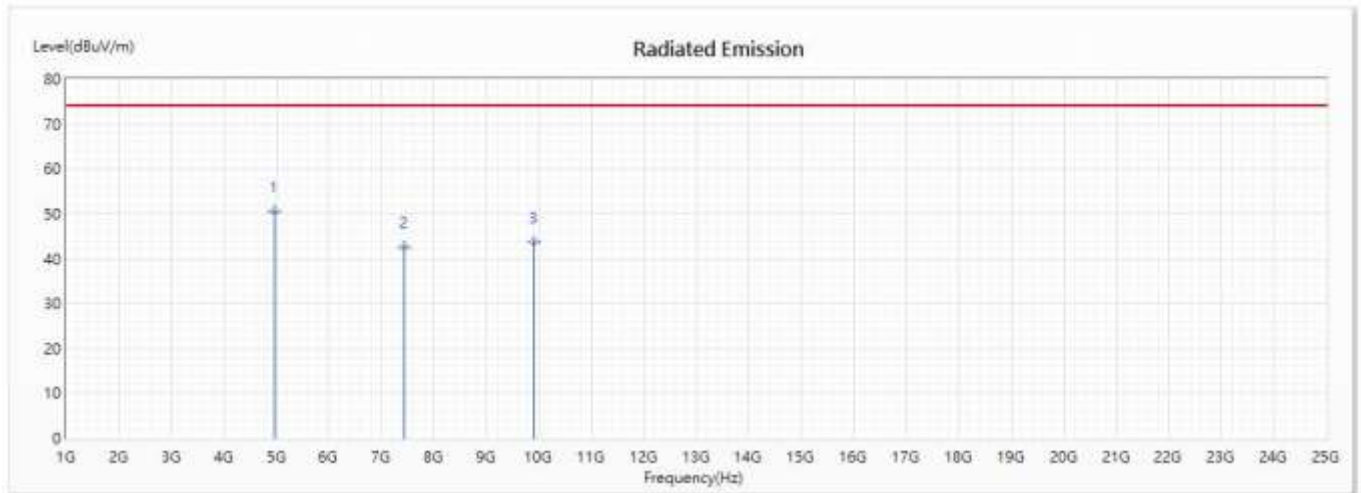
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4880	53.37	74.00	-20.63	63.62	-10.25	PK
2	7320	44.71	74.00	-29.29	53.85	-9.14	PK
3	9760	43.62	74.00	-30.38	52.73	-9.11	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

#### Horizontal



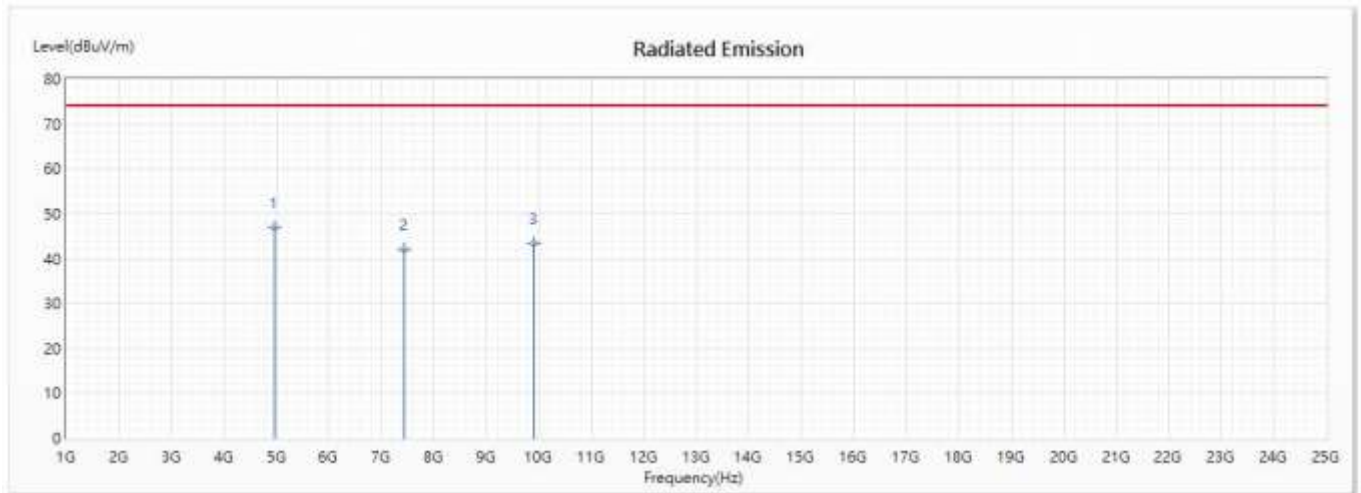
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	50.49	74.00	-23.51	60.54	-10.05	PK
2	7440	42.64	74.00	-31.36	52.11	-9.47	PK
3	9920	43.65	74.00	-30.35	51.83	-8.18	PK

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

### Vertical



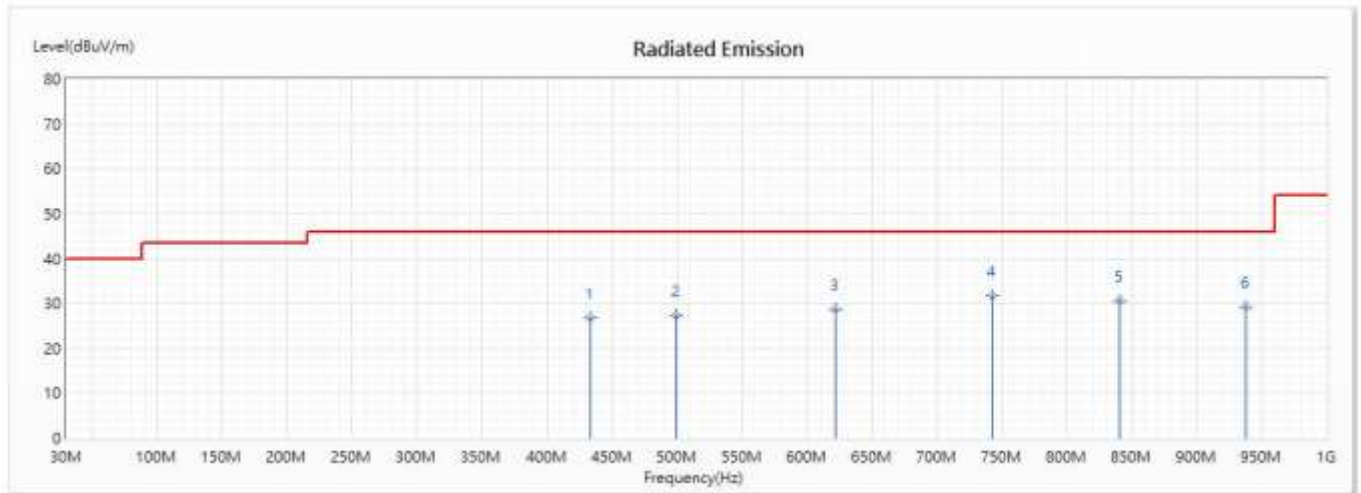
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	46.99	74.00	-27.01	57.04	-10.05	PK
2	7440	41.96	74.00	-32.04	51.43	-9.47	PK
3	9920	43.29	74.00	-30.71	51.47	-8.18	PK

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps(Right ear)

#### Horizontal



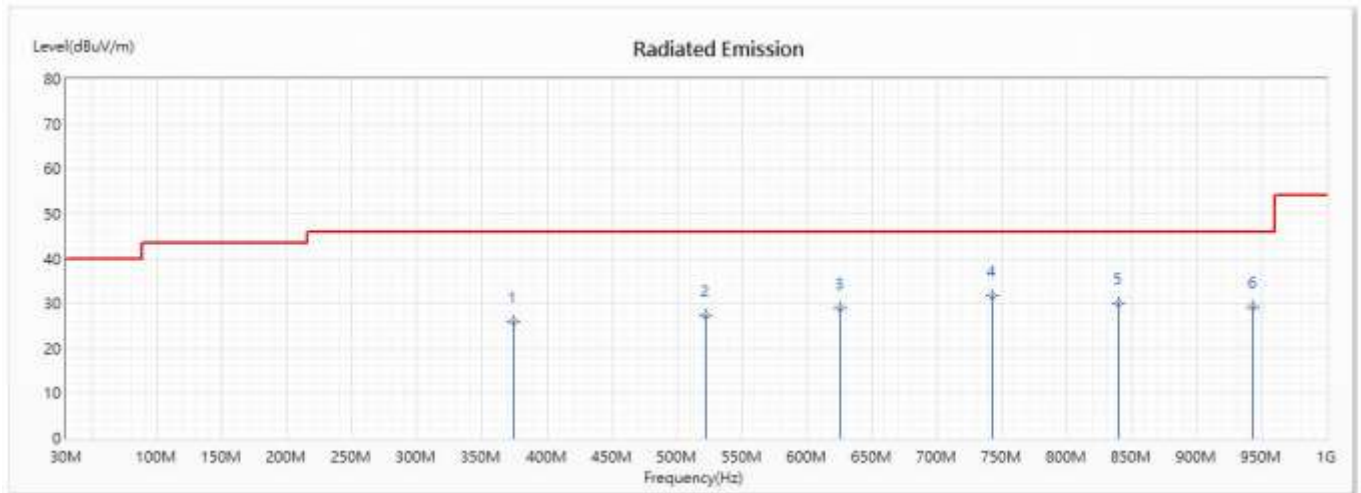
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	433.464	26.80	46.00	-19.20	30.60	-3.80	QP
2	499.536	27.42	46.00	-18.58	30.31	-2.89	QP
3	621.841	28.72	46.00	-17.28	29.61	-0.89	QP
* 4	742.739	31.77	46.00	-14.23	32.69	-0.92	QP
5	841.145	30.48	46.00	-15.52	32.19	-1.71	QP
6	938.145	29.19	46.00	-16.81	29.88	-0.69	QP

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps(Right ear)

### Vertical



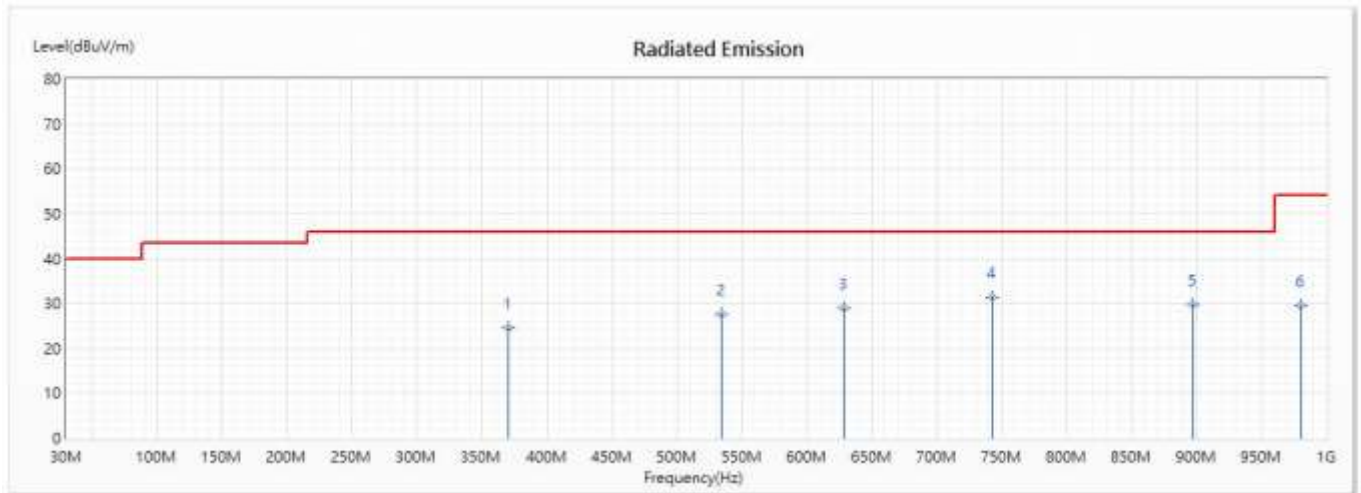
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	374.42	25.94	46.00	-20.06	30.34	-4.40	QP
2	522.029	27.32	46.00	-18.68	30.15	-2.83	QP
3	626.058	28.81	46.00	-17.19	29.78	-0.97	QP
* 4	742.739	31.70	46.00	-14.30	32.62	-0.92	QP
5	839.739	30.11	46.00	-15.89	31.84	-1.73	QP
6	943.768	29.21	46.00	-16.79	29.81	-0.60	QP

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps(Right ear)

#### Horizontal



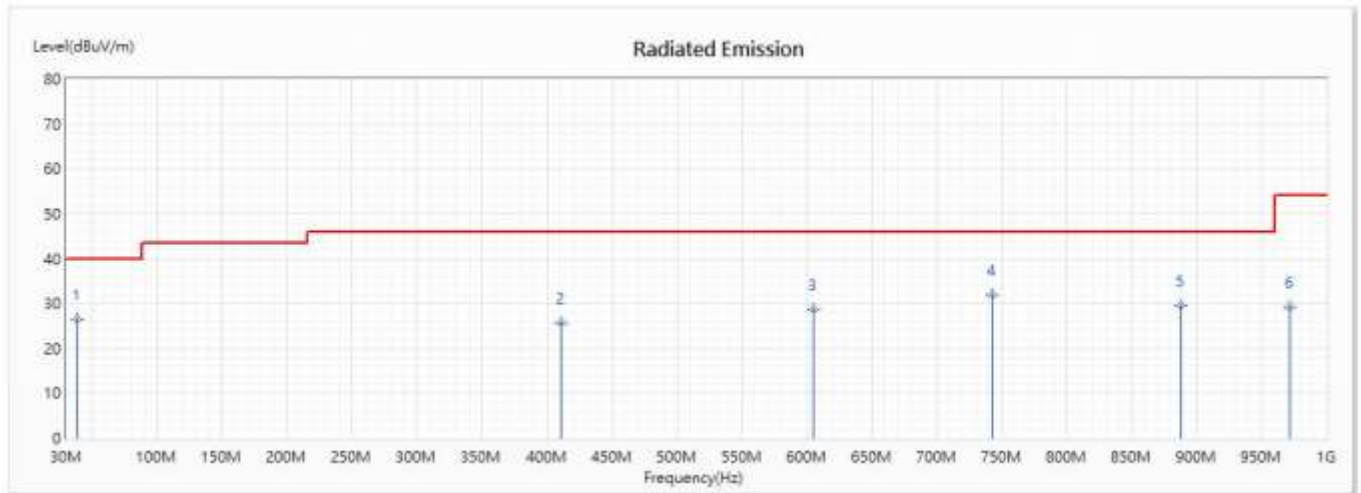
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	370.203	24.70	46.00	-21.30	29.39	-4.69	QP
2	534.681	27.70	46.00	-18.30	30.23	-2.53	QP
3	628.87	28.98	46.00	-17.02	30.06	-1.08	QP
* 4	742.739	31.32	46.00	-14.68	32.24	-0.92	QP
5	897.377	29.71	46.00	-16.29	31.26	-1.55	QP
6	980.319	29.62	54.00	-24.38	30.05	-0.43	QP

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps(Right ear)

### Vertical



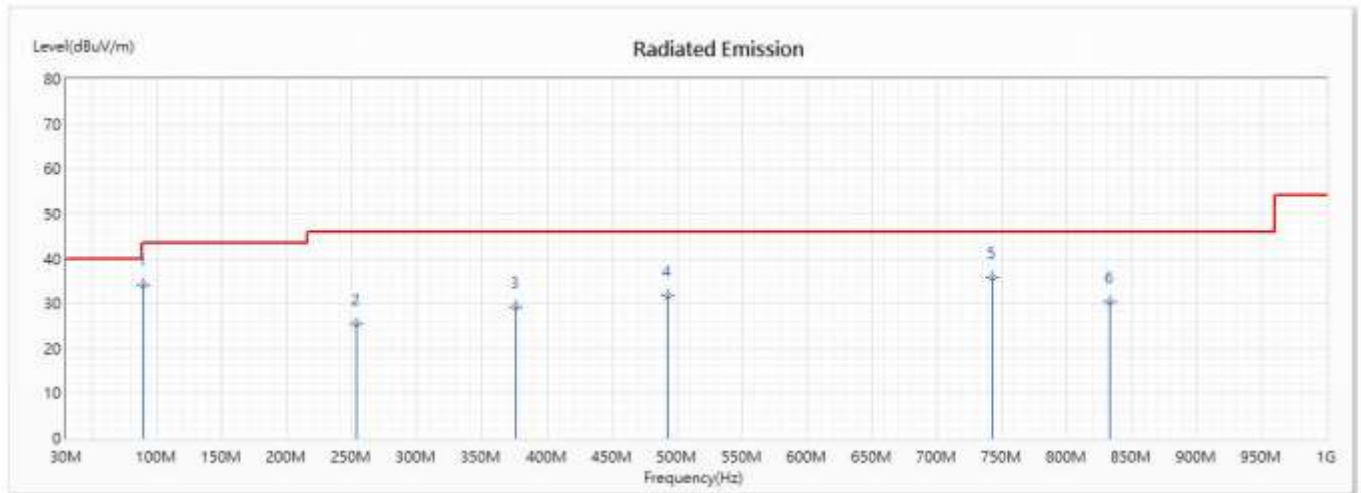
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	38.435	26.45	40.00	-13.55	37.96	-11.51	QP
2	410.971	25.75	46.00	-20.25	30.57	-4.82	QP
3	604.971	28.75	46.00	-17.25	30.28	-1.53	QP
4	742.739	32.05	46.00	-13.95	32.97	-0.92	QP
5	887.536	29.51	46.00	-16.49	31.16	-1.65	QP
6	971.884	29.25	54.00	-24.75	29.89	-0.64	QP

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/09  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps(Left ear)

#### Horizontal



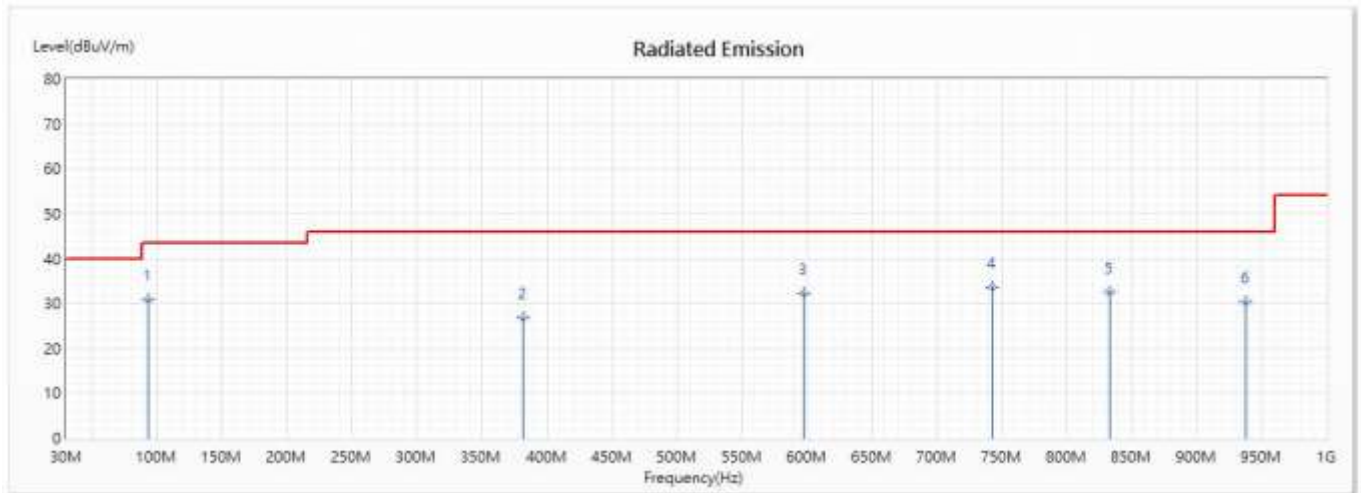
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	89.043	34.21	43.50	-9.29	44.68	-10.47	QP
2	253.522	25.50	46.00	-20.50	34.90	-9.40	QP
3	375.826	29.32	46.00	-16.68	33.62	-4.30	QP
4	492.507	31.79	46.00	-14.21	35.34	-3.55	QP
5	742.739	35.66	46.00	-10.34	36.58	-0.92	QP
6	832.71	30.22	46.00	-15.78	31.61	-1.39	QP

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/09  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps(Left ear)

### Vertical



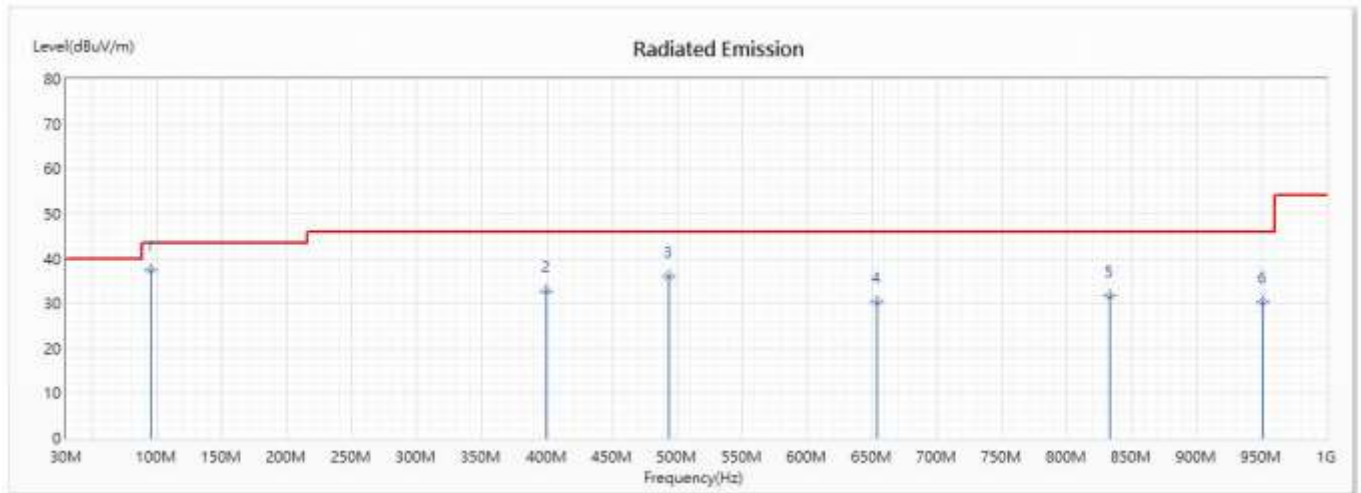
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	93.261	30.79	43.50	-12.71	41.18	-10.39	QP
2	381.449	26.73	46.00	-19.27	30.92	-4.19	QP
3	597.942	32.16	46.00	-13.84	33.88	-1.72	QP
* 4	742.739	33.66	46.00	-12.34	34.58	-0.92	QP
5	832.71	32.49	46.00	-13.51	33.88	-1.39	QP
6	938.145	30.25	46.00	-15.75	30.94	-0.69	QP

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/09  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps(Left ear)

#### Horizontal



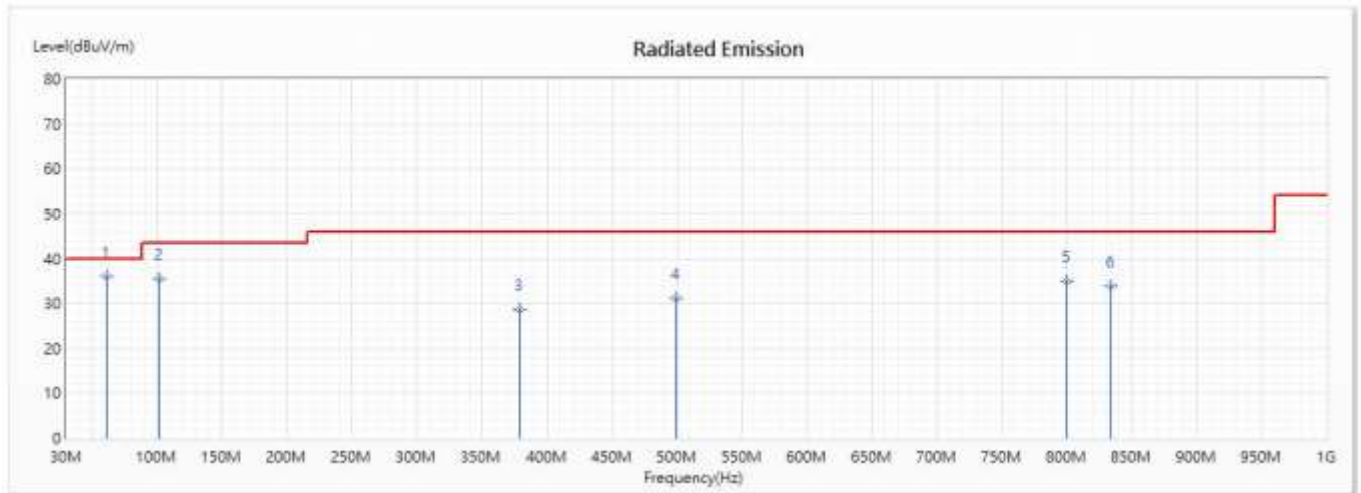
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	94.667	37.47	43.50	-6.03	47.94	-10.47	QP
2	399.725	32.63	46.00	-13.37	38.02	-5.39	QP
3	493.913	36.15	46.00	-9.85	39.58	-3.43	QP
4	654.174	30.32	46.00	-15.68	31.60	-1.28	QP
5	832.71	31.70	46.00	-14.30	33.09	-1.39	QP
6	950.797	30.19	46.00	-15.81	30.98	-0.79	QP

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/09  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps(Left ear)

### Vertical



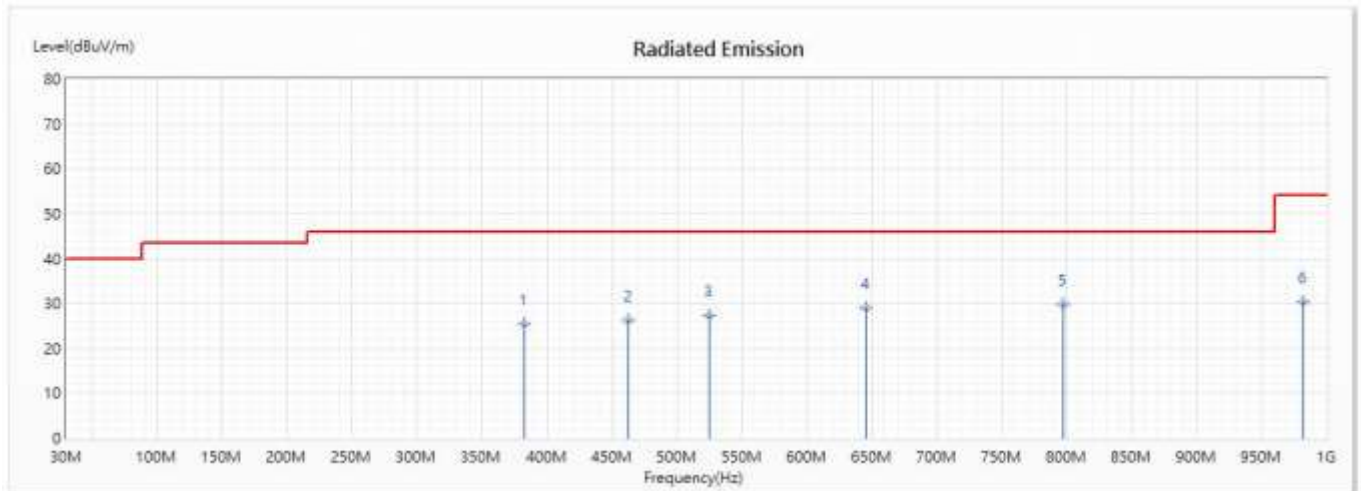
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	60.928	36.00	40.00	-4.00	49.24	-13.24	QP
2	101.696	35.58	43.50	-7.92	45.14	-9.56	QP
3	378.638	28.62	46.00	-17.38	32.79	-4.17	QP
4	499.536	31.11	46.00	-14.89	34.00	-2.89	QP
5	800.377	34.98	46.00	-11.02	35.88	-0.90	QP
6	834.116	33.76	46.00	-12.24	35.12	-1.36	QP

### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 2: Charge

## Horizontal



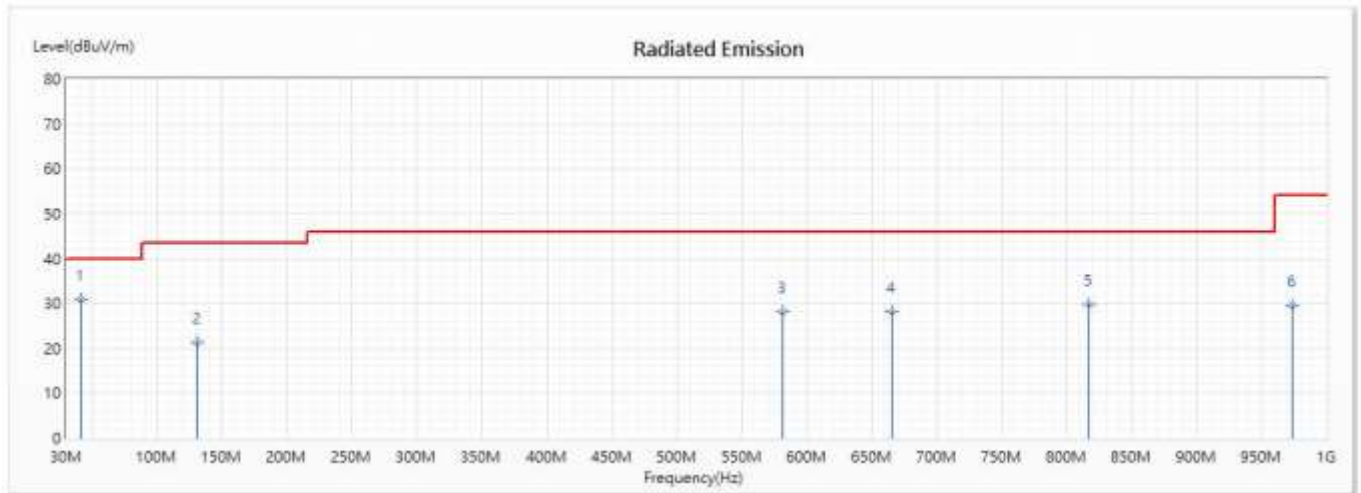
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	382.855	25.46	46.00	-20.54	29.74	-4.28	QP
2	462.986	26.33	46.00	-19.67	30.46	-4.13	QP
3	524.841	27.35	46.00	-18.65	30.10	-2.75	QP
4	645.739	28.96	46.00	-17.04	30.45	-1.49	QP
* 5	797.565	29.68	46.00	-16.32	30.66	-0.98	QP
6	981.725	30.25	54.00	-23.75	30.73	-0.48	QP

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : 2020/09/17  
 Test Mode : Mode 2: Charge

## Vertical



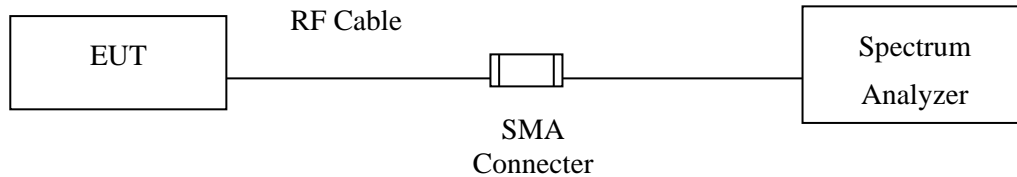
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	41.246	30.72	40.00	-9.28	42.65	-11.93	QP
2	131.217	21.17	43.50	-22.33	29.71	-8.54	QP
3	581.072	28.12	46.00	-17.88	31.08	-2.96	QP
4	665.42	28.04	46.00	-17.96	29.59	-1.55	QP
5	817.246	29.76	46.00	-16.24	30.54	-0.78	QP
6	973.29	29.40	54.00	-24.60	29.97	-0.57	QP

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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.

## 5. RF Antenna Conducted Test

### 5.1. Test Setup



### 5.2. Limits

According to FCC Section 15.247(d). 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 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.

### 5.3. Test Procedure

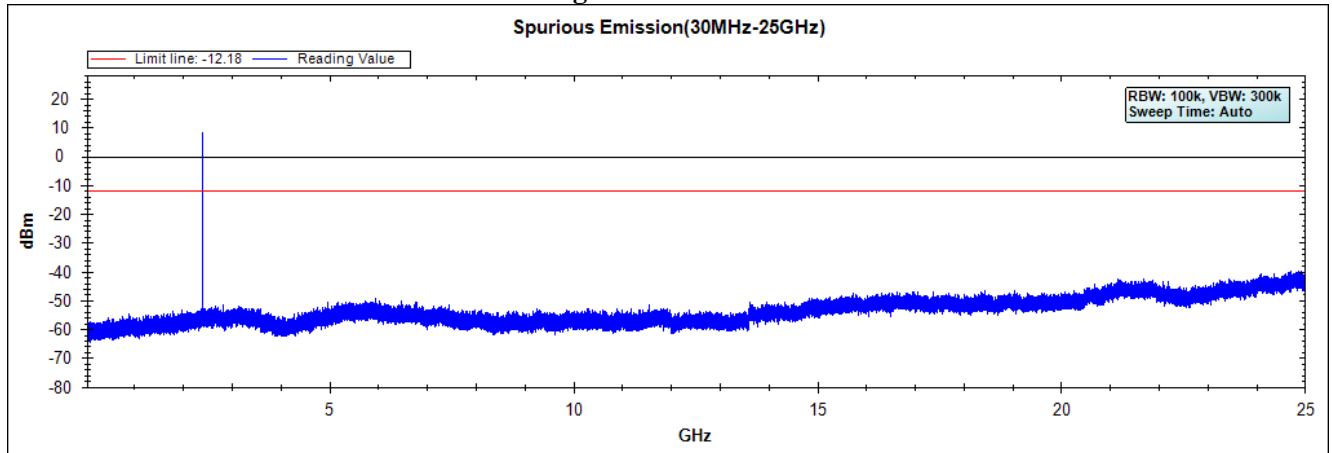
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

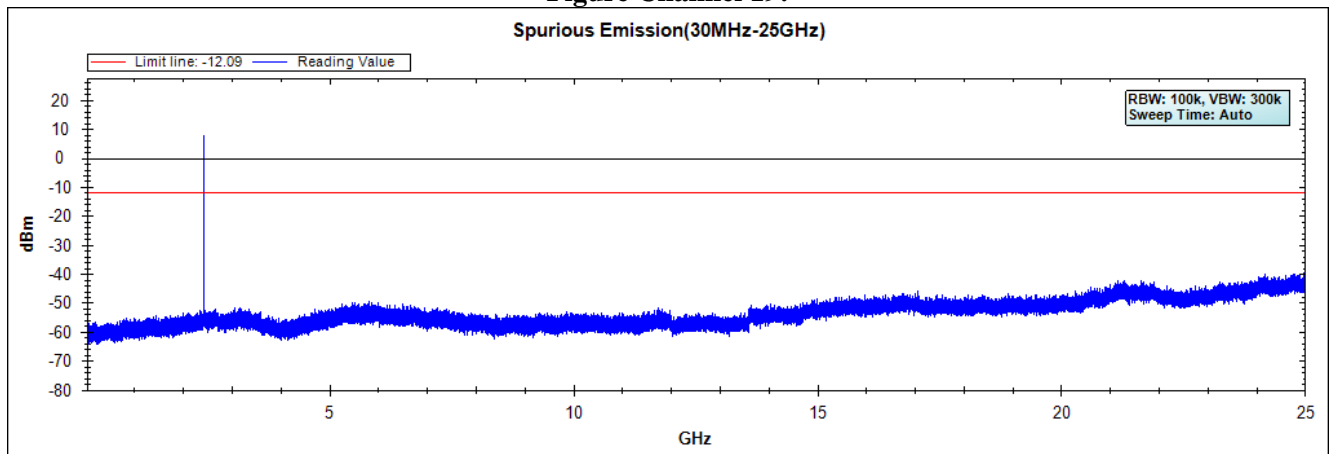
#### 5.4. Test Result of RF Antenna Conducted Test

Product : Bluetooth Headset  
Test Item : RF Antenna Conducted Test  
Test date : 2020/09/03  
Test Mode : Mode 1: Transmit - BLE (GFSK) \_ 1Mbps

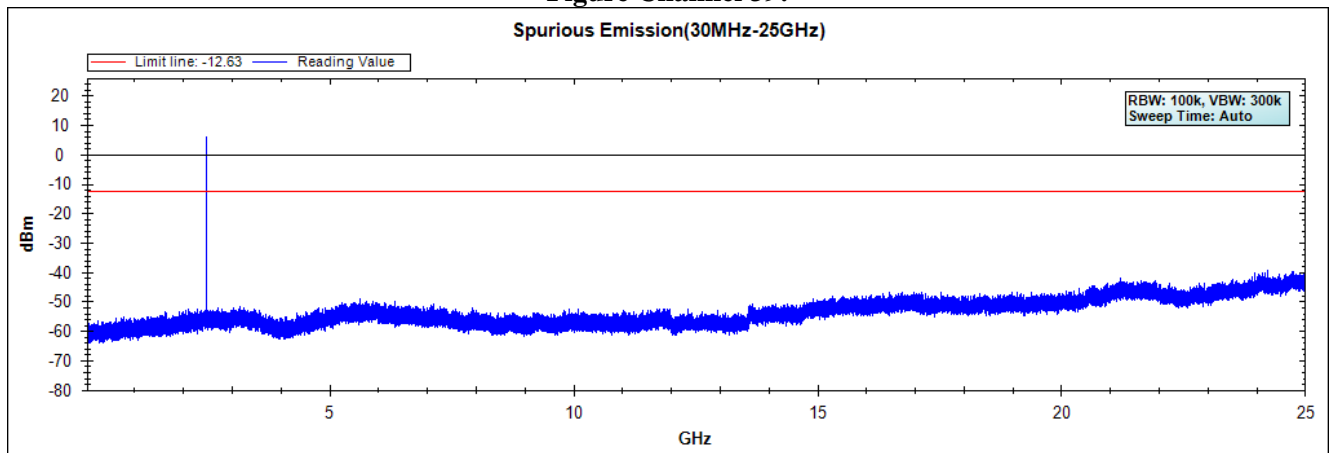
**Figure Channel 00:**



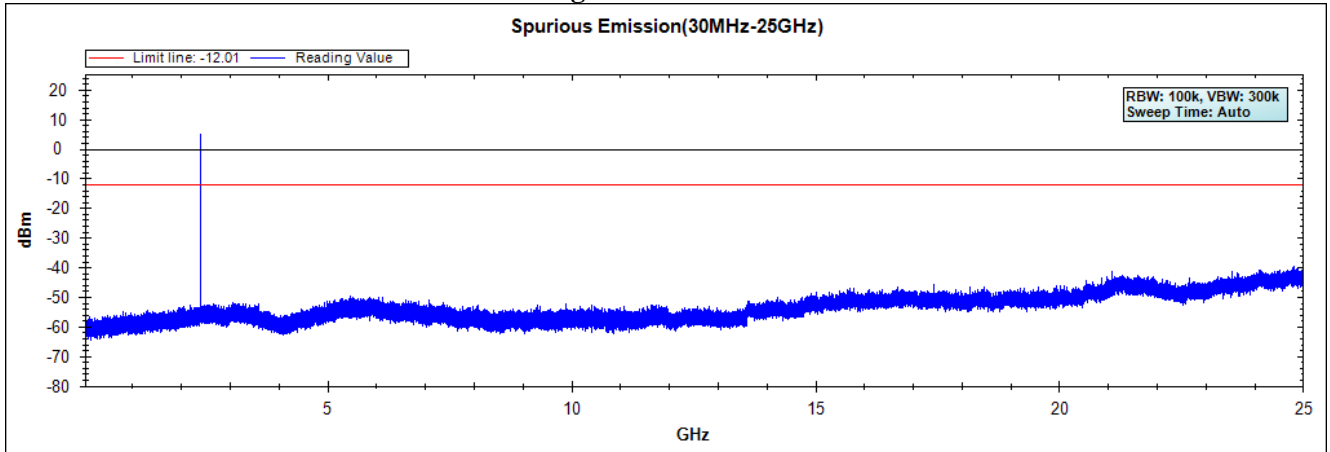
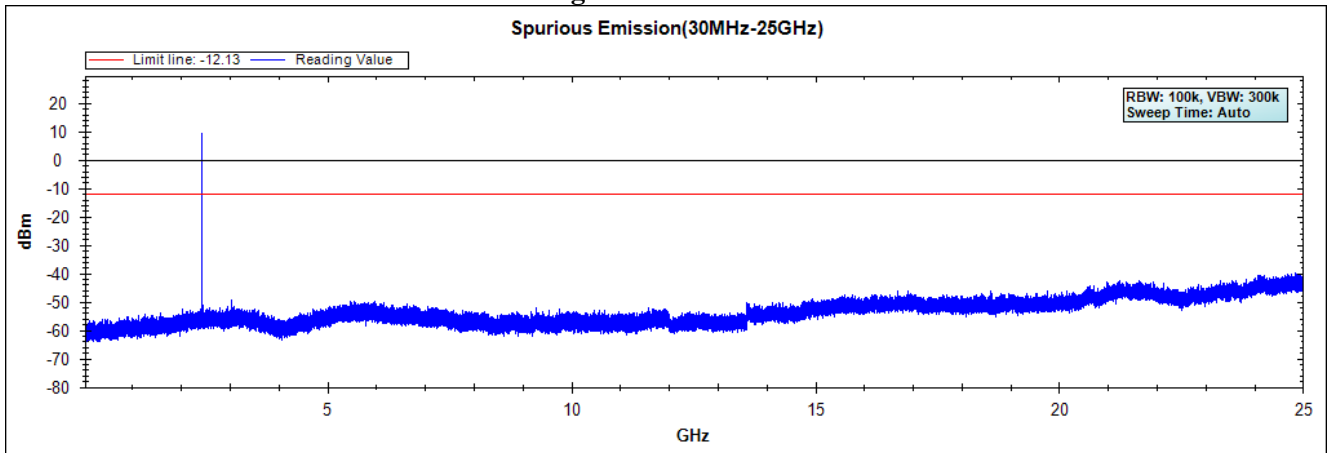
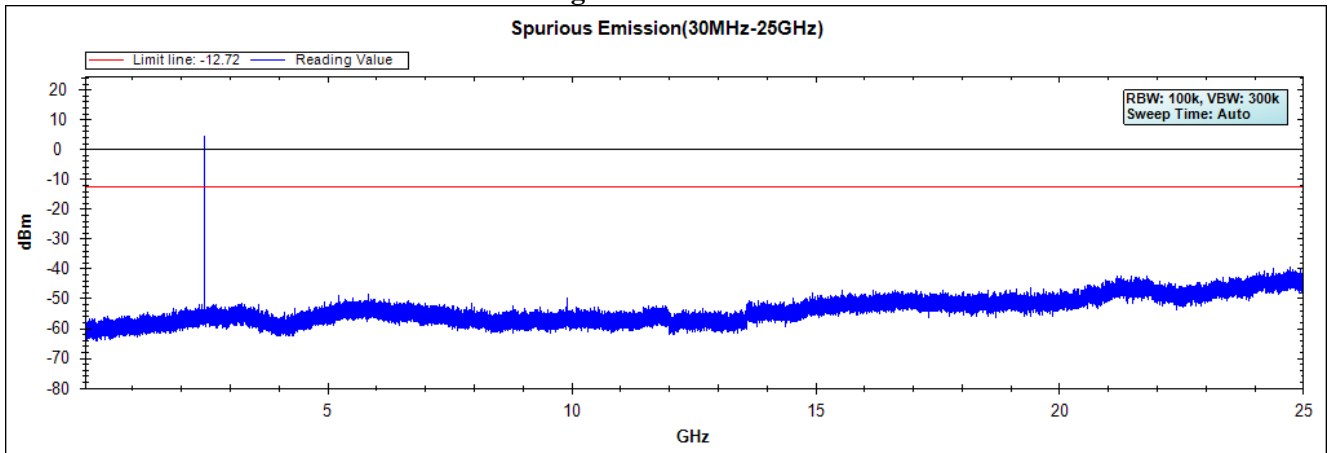
**Figure Channel 19:**



**Figure Channel 39:**



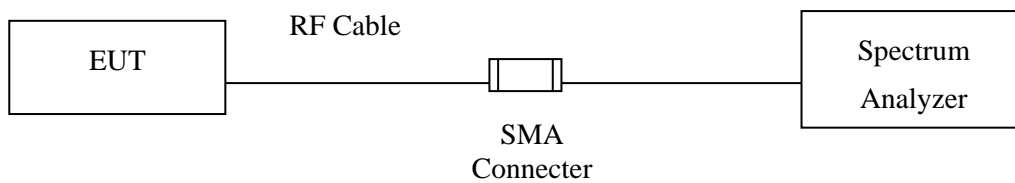
Product : Bluetooth Headset  
Test Item : RF Antenna Conducted Test  
Test date : 2020/09/03  
Test Mode : Mode 1: Transmit - BLE (GFSK) \_ 2Mbps

**Figure Channel 00:****Figure Channel 19:****Figure Channel 39:**

## 6. Band Edge

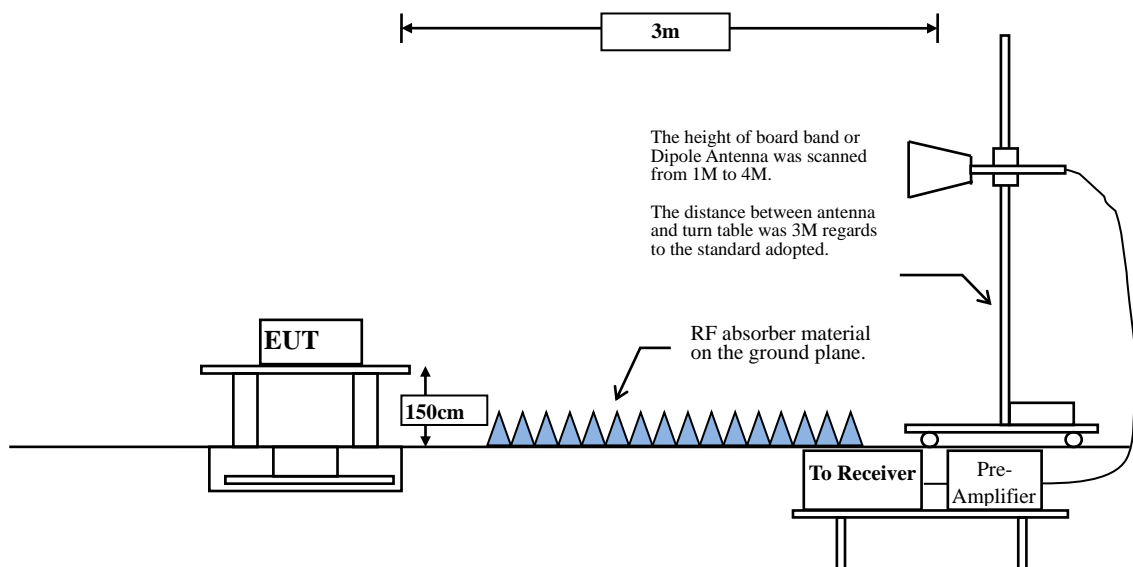
### 6.1. Test Setup

#### RF Conducted Measurement



#### RF Radiated Measurement:

Above 1GHz



## **6.2. Limit**

According to FCC Section 15.247(d). 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 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 Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

## **6.3. Test Procedure**

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

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 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 is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

**RBW and VBW Parameter setting:**

According to KDB 558074 section 12.2.4. Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$ .

**Table 1 —RBW as a function of frequency**

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to KDB 558074 section 12.2.5. Average power measurement procedure

RBW = 1MHz.

$VBW = 10\text{Hz}$ , when duty cycle  $\geq 98\%$

$VBW \geq 1/T$ , when duty cycle  $< 98\%$

( T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

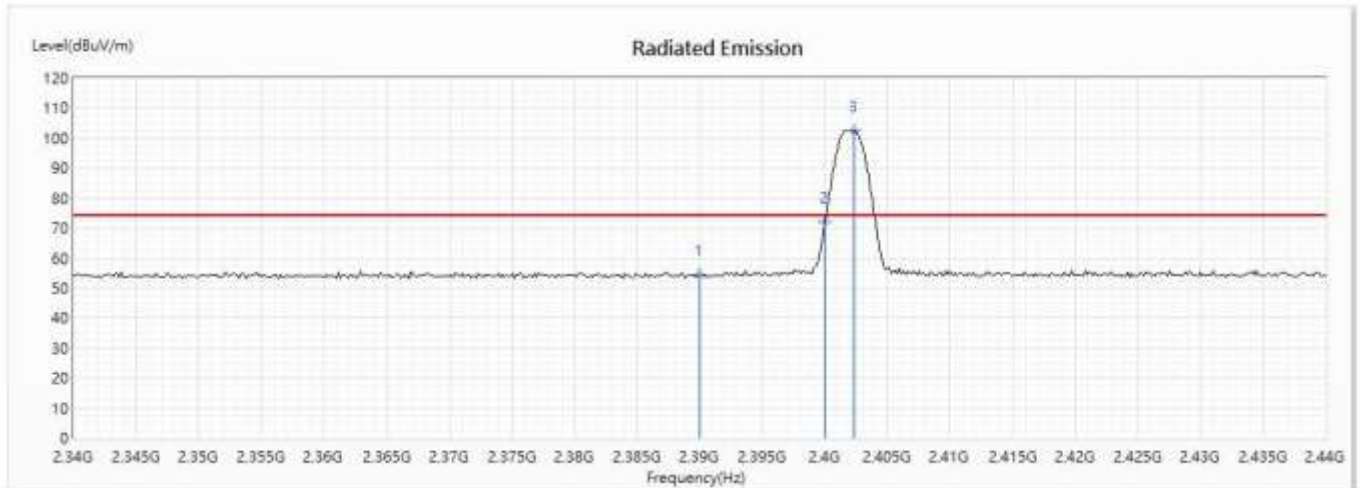
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE 1M	84.97	2.1304	469	500
BLE 2M	57.37	1.0725	932	1000

Note: Duty Cycle Refer to Section 9

#### 6.4. Test Result of Band Edge

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

Horizontal



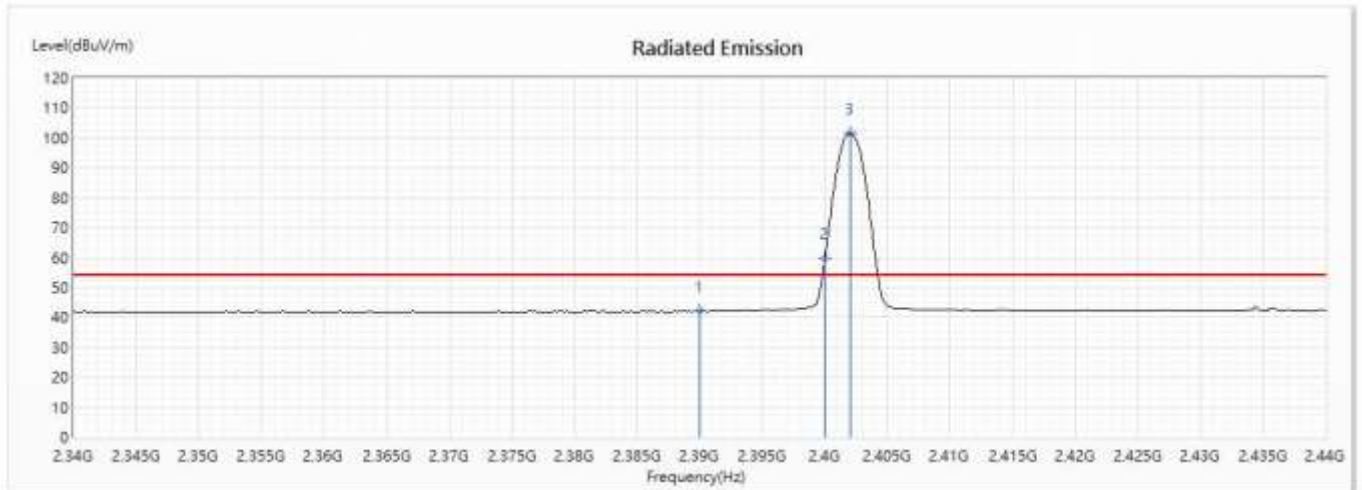
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	54.62	74.00	-19.38	40.61	14.01	PK
2	2400	71.90	74.00	-2.10	57.91	13.99	PK
! 3	2402.319	102.44	--	--	88.46	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

#### Horizontal



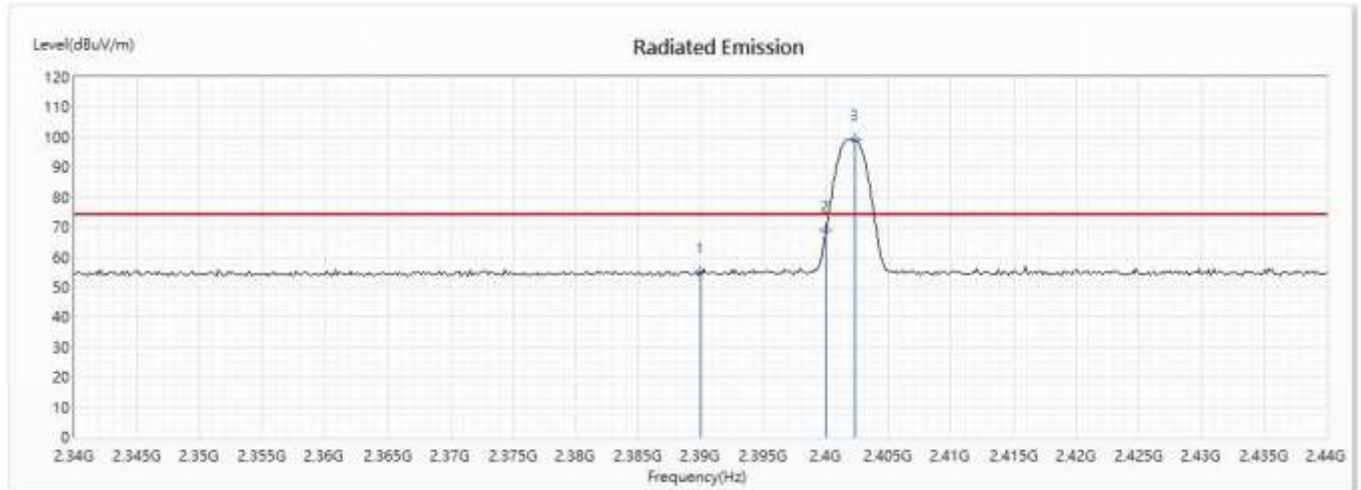
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	42.03	54.00	-11.97	28.02	14.01	AV
! 2	2400	59.72	--	--	45.73	13.99	AV
! 3	2402.029	101.59	--	--	87.60	13.99	AV

#### Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

## Vertical



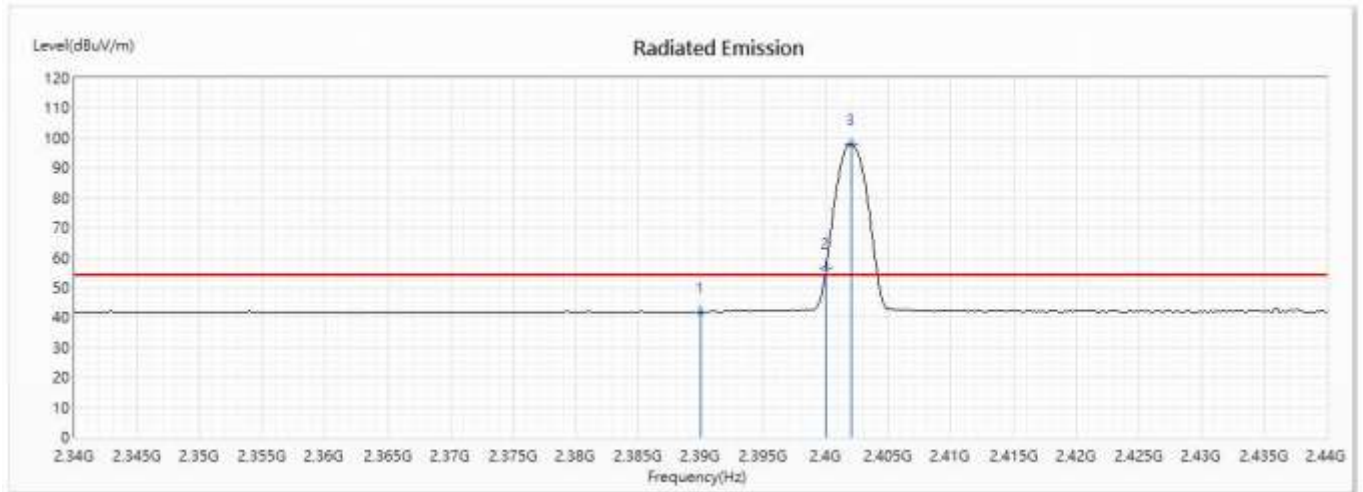
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	54.94	74.00	-19.06	40.93	14.01	PK
2	2400	68.77	74.00	-5.23	54.78	13.99	PK
! 3	2402.319	99.04	--	--	85.06	13.98	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

## Vertical



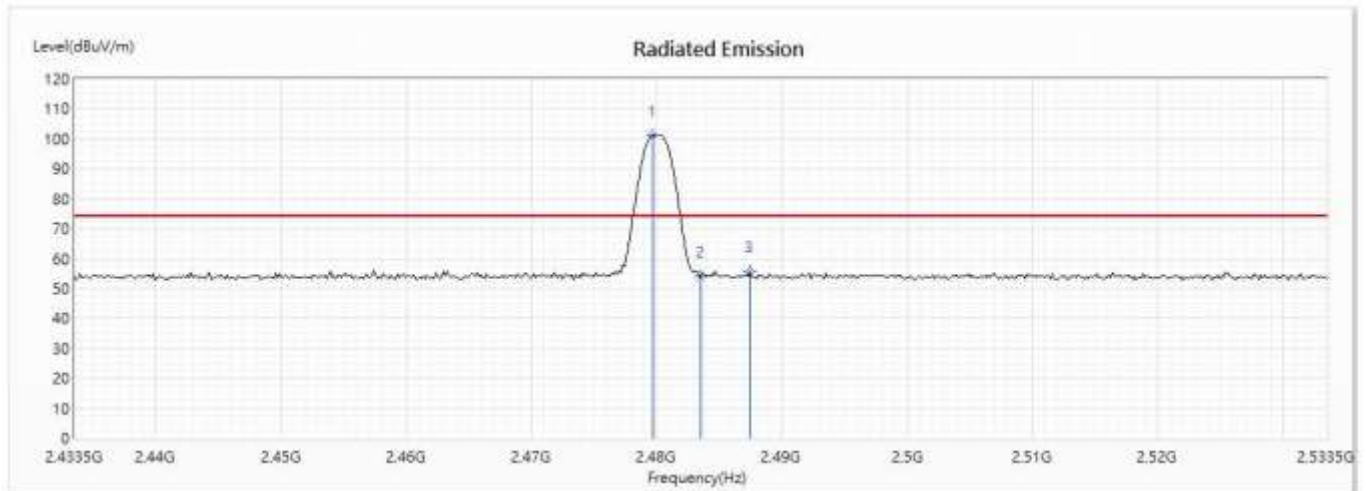
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	41.80	54.00	-12.20	27.79	14.01	AV
! 2	2400	56.65	--	--	42.66	13.99	AV
! 3	2402.029	97.96	--	--	83.97	13.99	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

## Horizontal



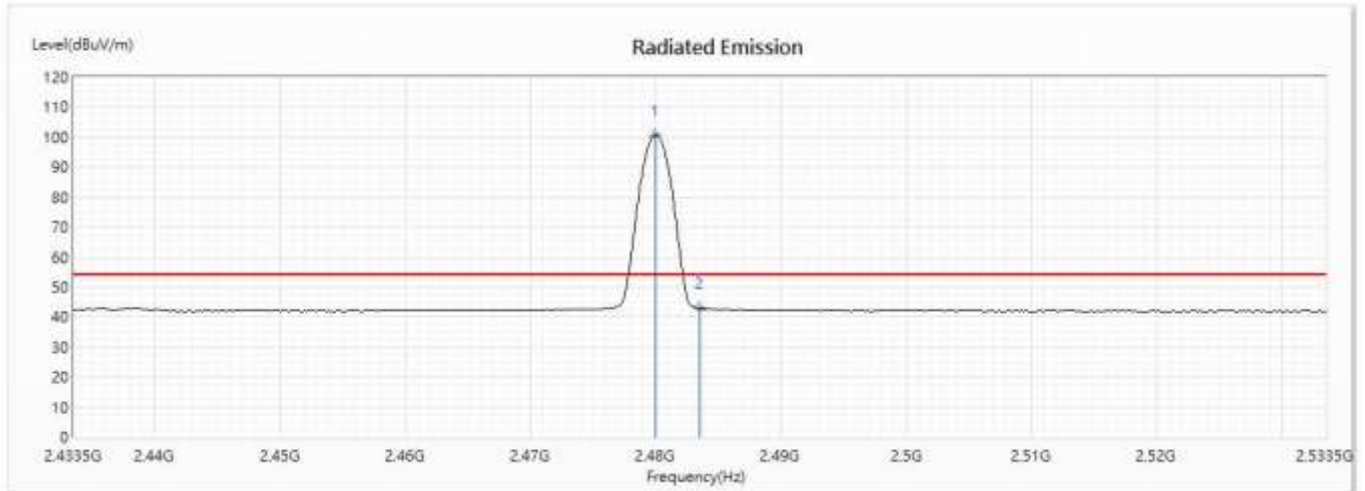
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2479.732	101.23	--	--	87.40	13.83	PK
2	2483.5	54.07	74.00	-19.93	40.26	13.81	PK
3	2487.413	55.64	74.00	-18.36	41.84	13.80	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

## Horizontal



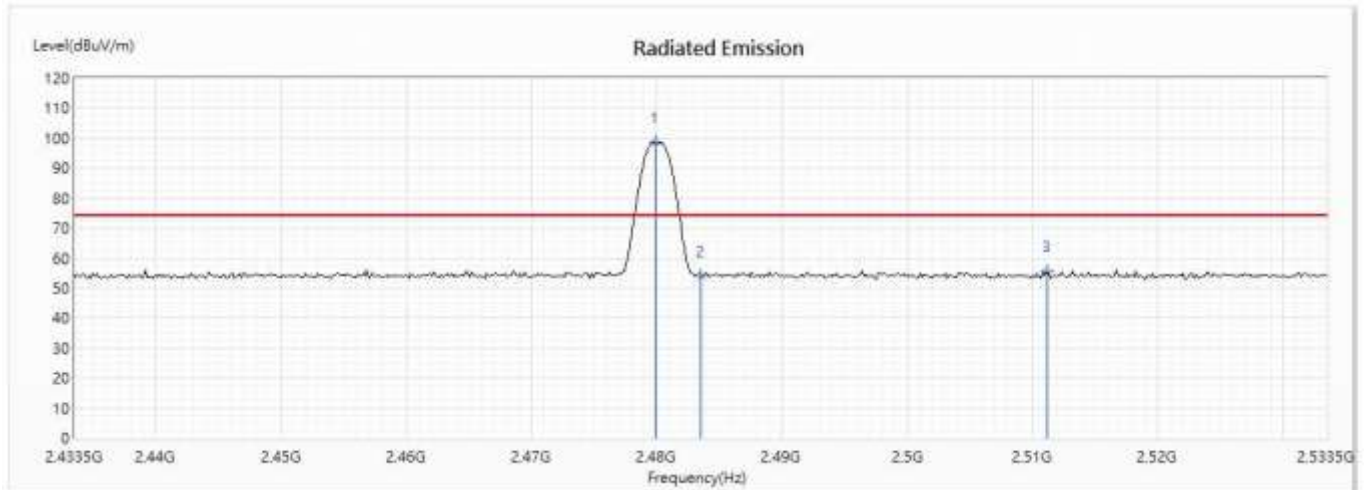
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2480.022	100.60	--	--	86.77	13.83	AV
2	2483.5	42.89	54.00	-11.11	29.08	13.81	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

## Vertical



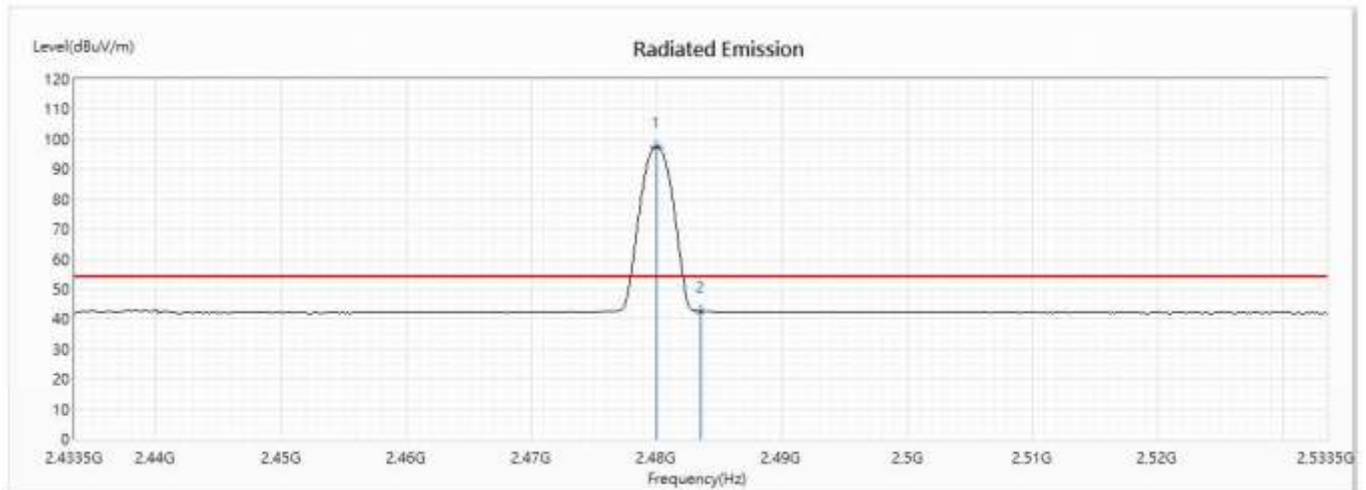
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2479.877	98.51	--	--	84.68	13.83	PK
2	2483.5	54.17	74.00	-19.83	40.36	13.81	PK
3	2511.181	55.86	74.00	-18.14	42.17	13.69	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

## Vertical



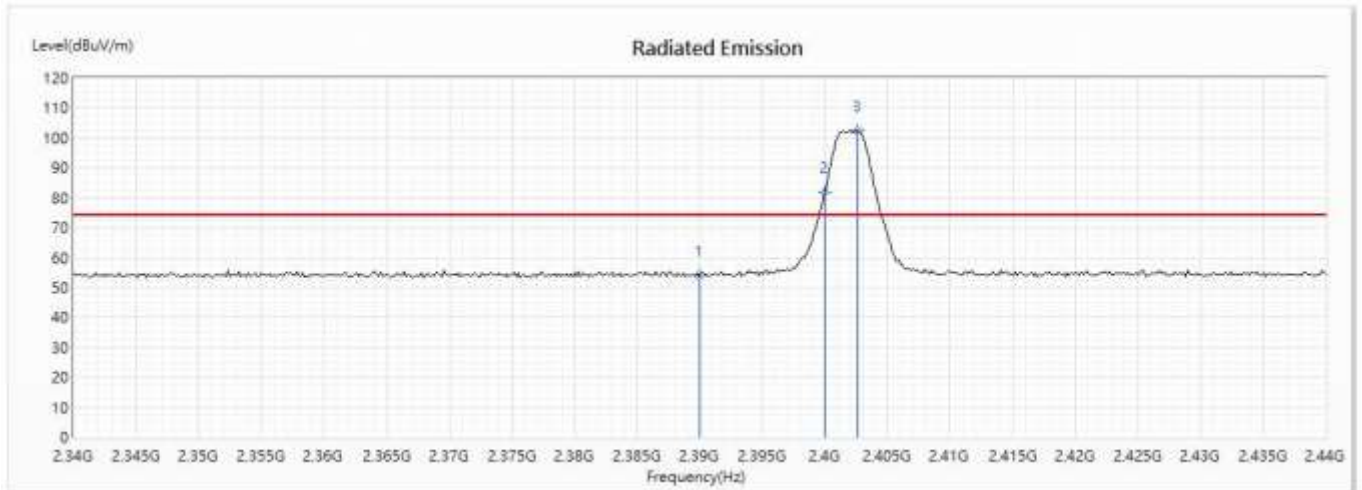
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2480.022	97.50	--	--	83.67	13.83	AV
2	2483.5	42.46	54.00	-11.54	28.65	13.81	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

#### Horizontal



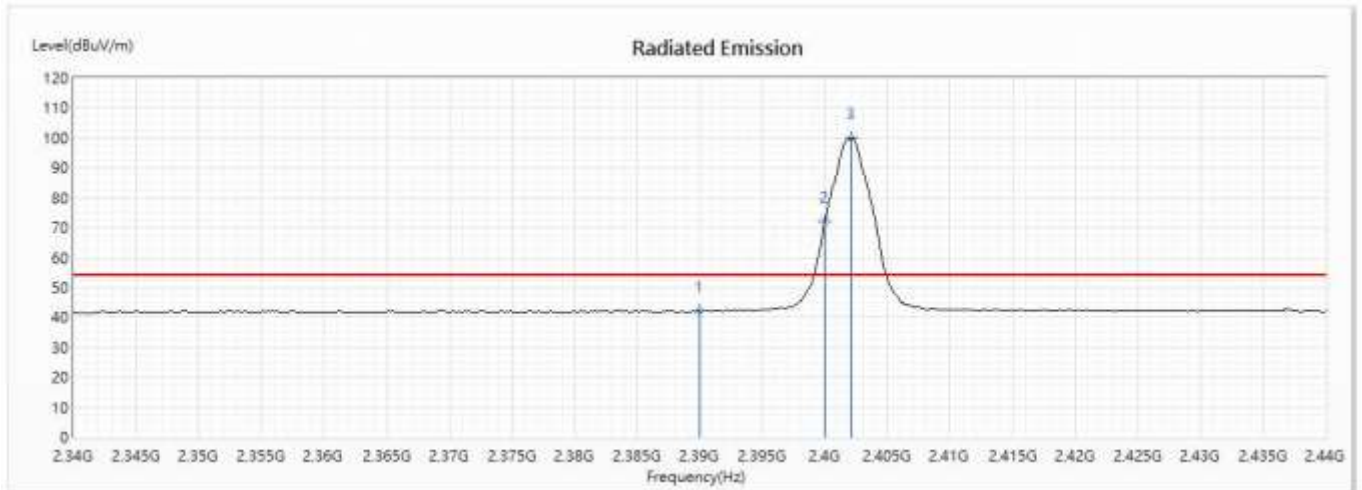
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	54.20	74.00	-19.80	40.19	14.01	PK
! 2	2400	81.81	--	--	67.82	13.99	PK
! 3	2402.609	102.37	--	--	88.38	13.99	PK

#### Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

#### Horizontal



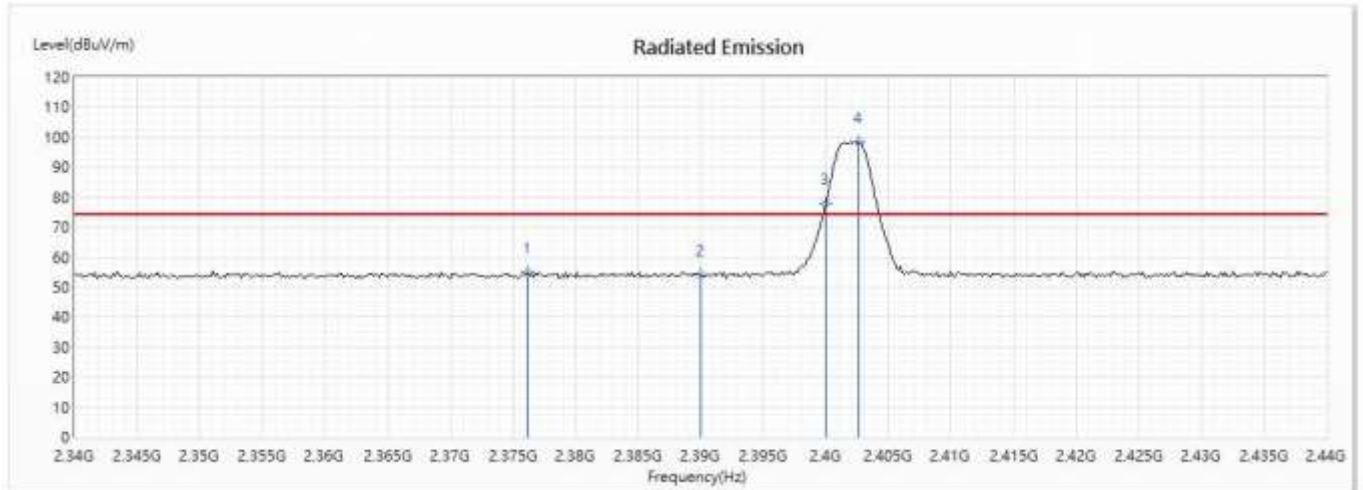
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	42.07	54.00	-11.93	28.06	14.01	AV
! 2	2400	72.07	--	--	58.08	13.99	AV
! 3	2402.174	99.82	--	--	85.84	13.98	AV

#### Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

## Vertical



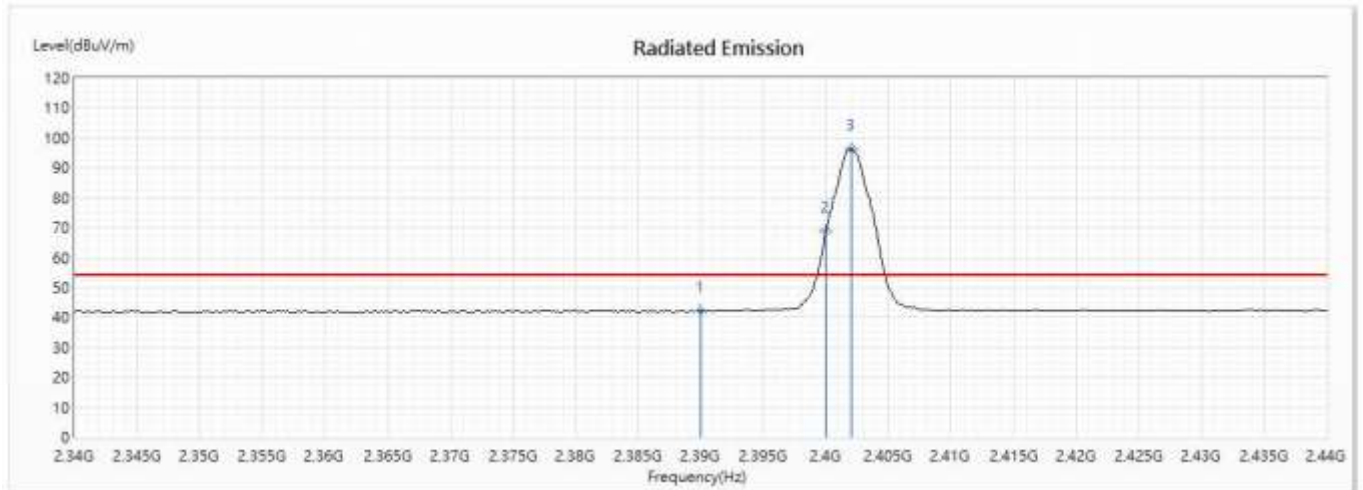
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2376.232	54.98	74.00	-19.02	40.96	14.02	PK
2	2390	54.15	74.00	-19.85	40.14	14.01	PK
! 3	2400	77.82	--	--	63.83	13.99	PK
! 4	2402.609	98.39	--	--	84.40	13.99	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

## Vertical



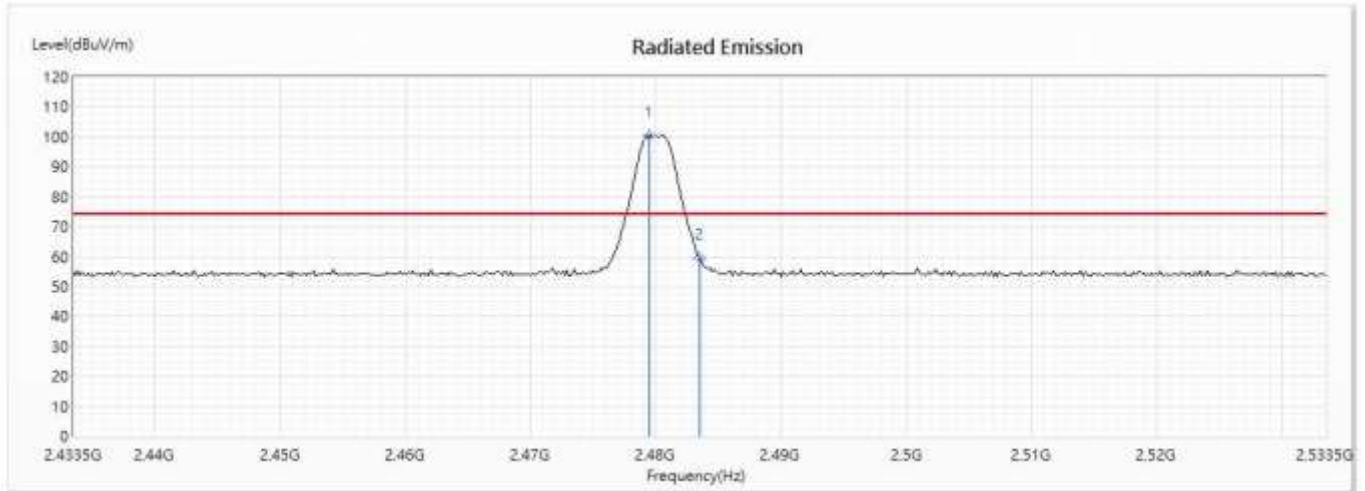
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	42.19	54.00	-11.81	28.18	14.01	AV
! 2	2400	68.75	--	--	54.76	13.99	AV
! 3	2402.029	96.36	--	--	82.37	13.99	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

## Horizontal



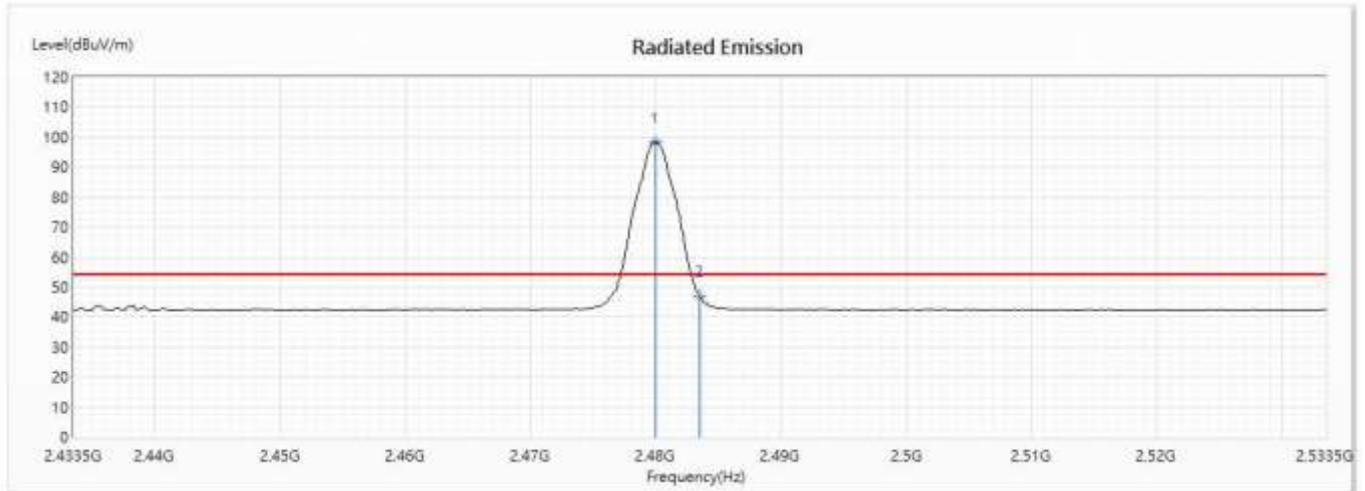
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2479.442	100.37	--	--	86.54	13.83	PK
2	2483.5	59.50	74.00	-14.50	45.69	13.81	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

## Horizontal



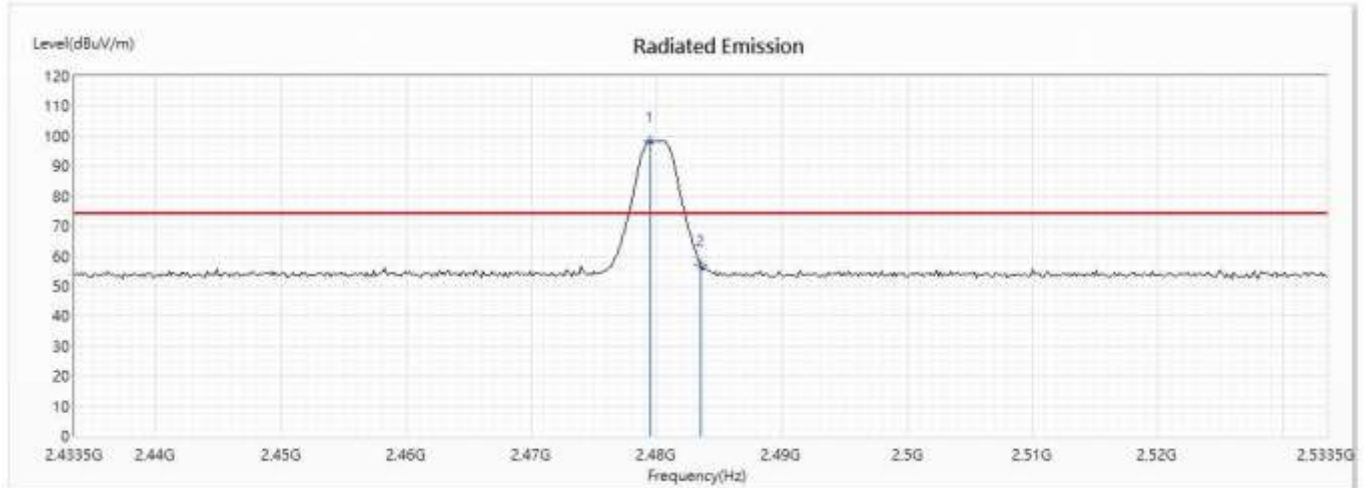
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2480.022	98.42	--	--	84.59	13.83	AV
2	2483.5	46.93	54.00	-7.07	33.12	13.81	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

## Vertical



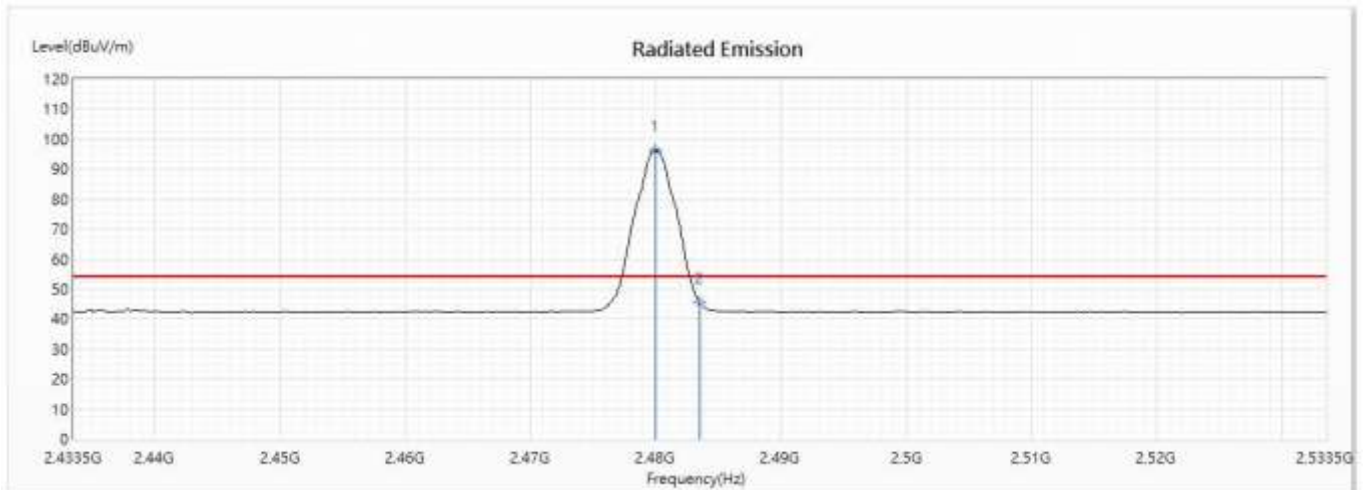
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2479.442	98.41	--	--	84.58	13.83	PK
2	2483.5	56.93	74.00	-17.07	43.12	13.81	PK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bluetooth Headset  
 Test Item : Band Edge  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

## Vertical



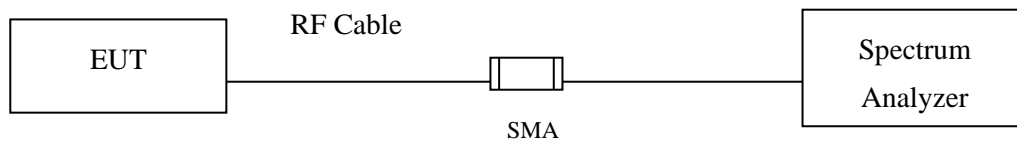
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2480.022	96.45	--	--	82.62	13.83	AV
2	2483.5	45.52	54.00	-8.48	31.71	13.81	AV

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

## 7. 6dB Bandwidth

### 7.1. Test Setup



### 7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

### 7.3. Test Procedure

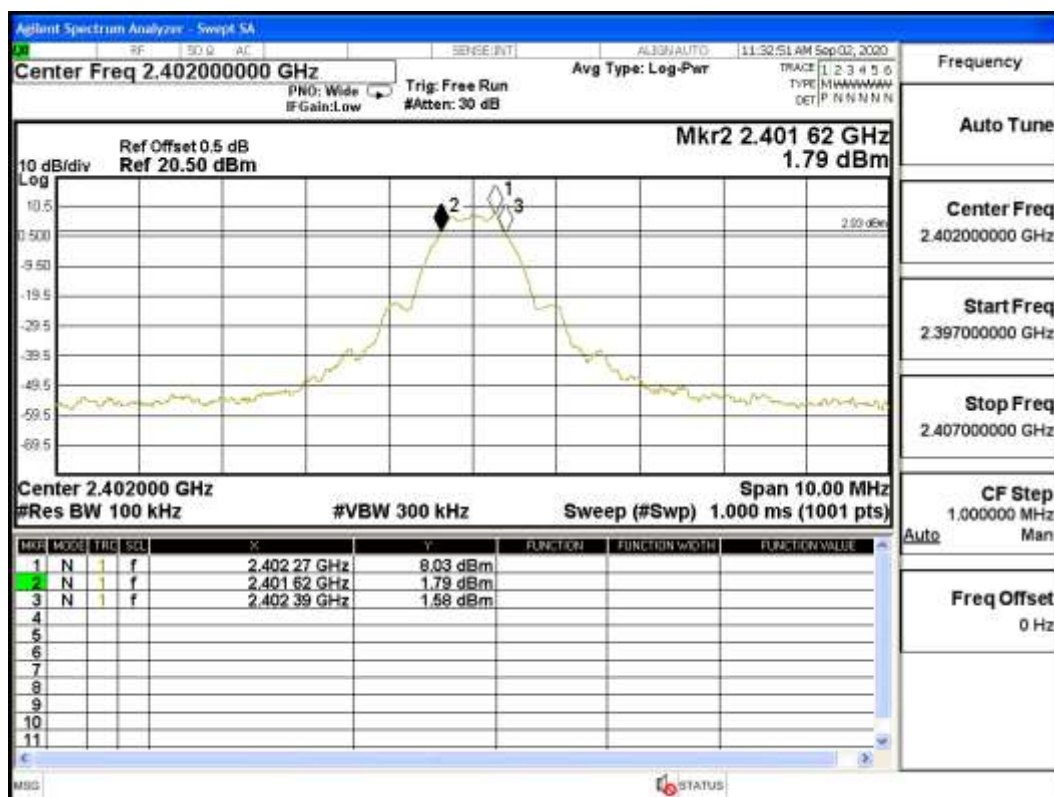
The EUT was setup according to ANSI C63.4, 2014; tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

#### 7.4. Test Result of 6dB Bandwidth

Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	770	>500	Pass

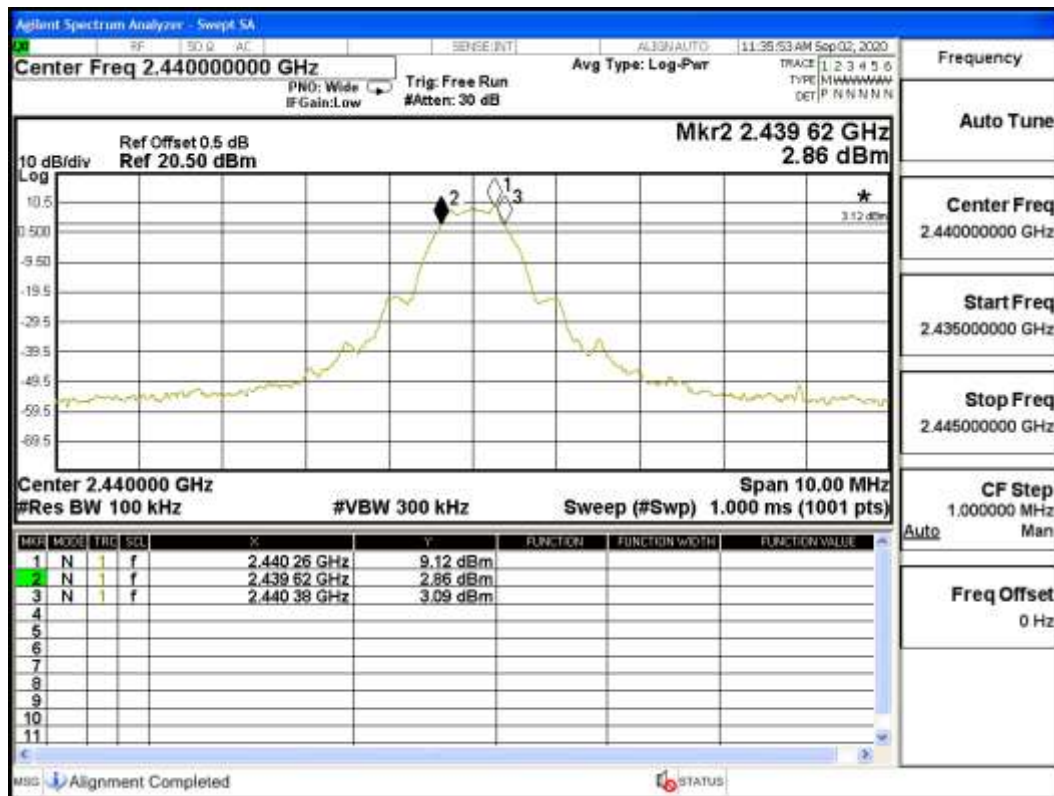
Figure Channel 00:



Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
19	2440	760	>500	Pass

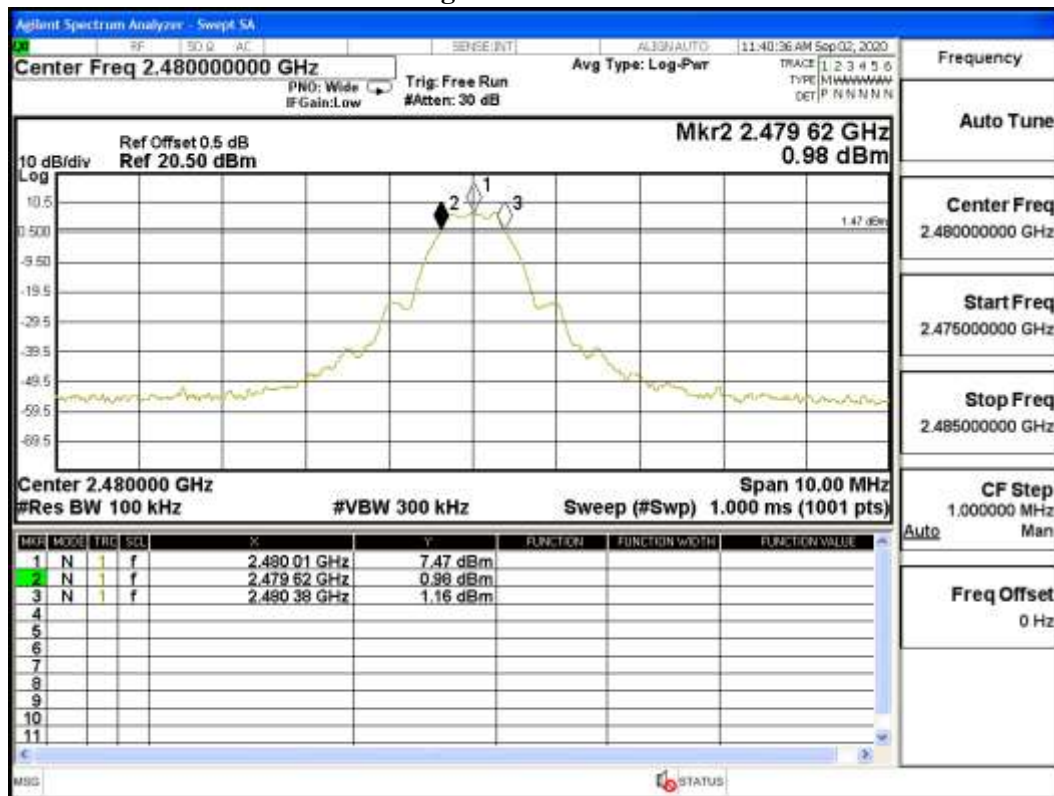
Figure Channel 19:



Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2480	760	>500	Pass

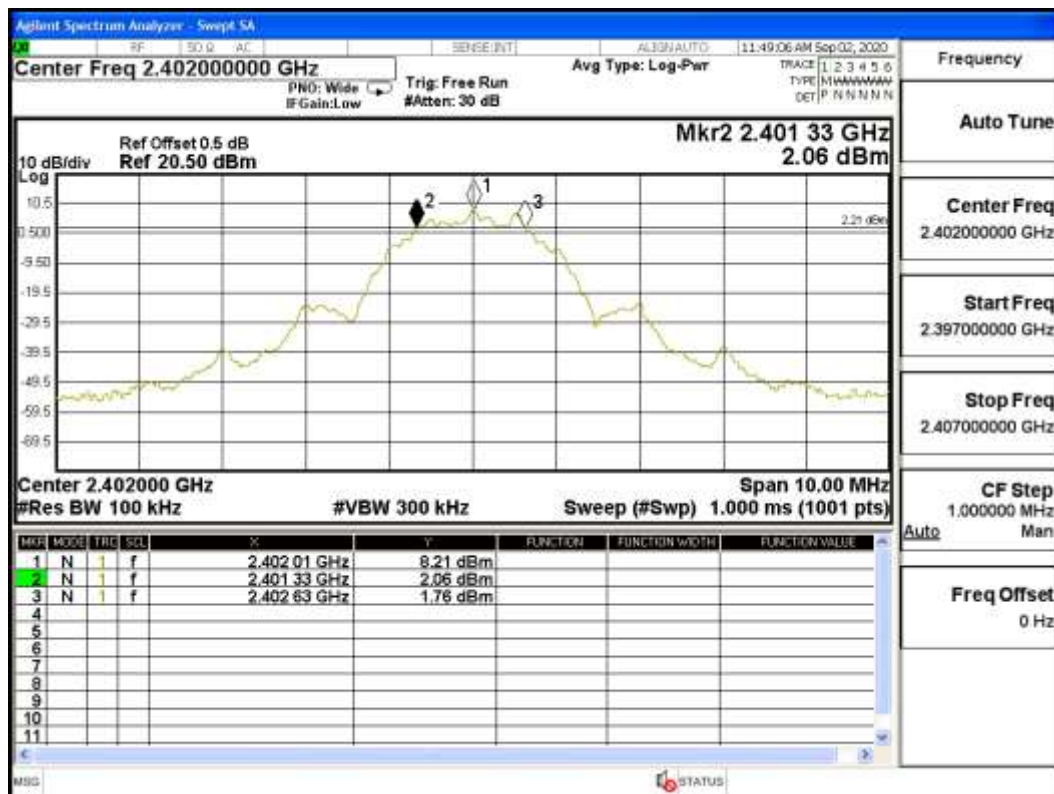
Figure Channel 39:



Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1300	>500	Pass

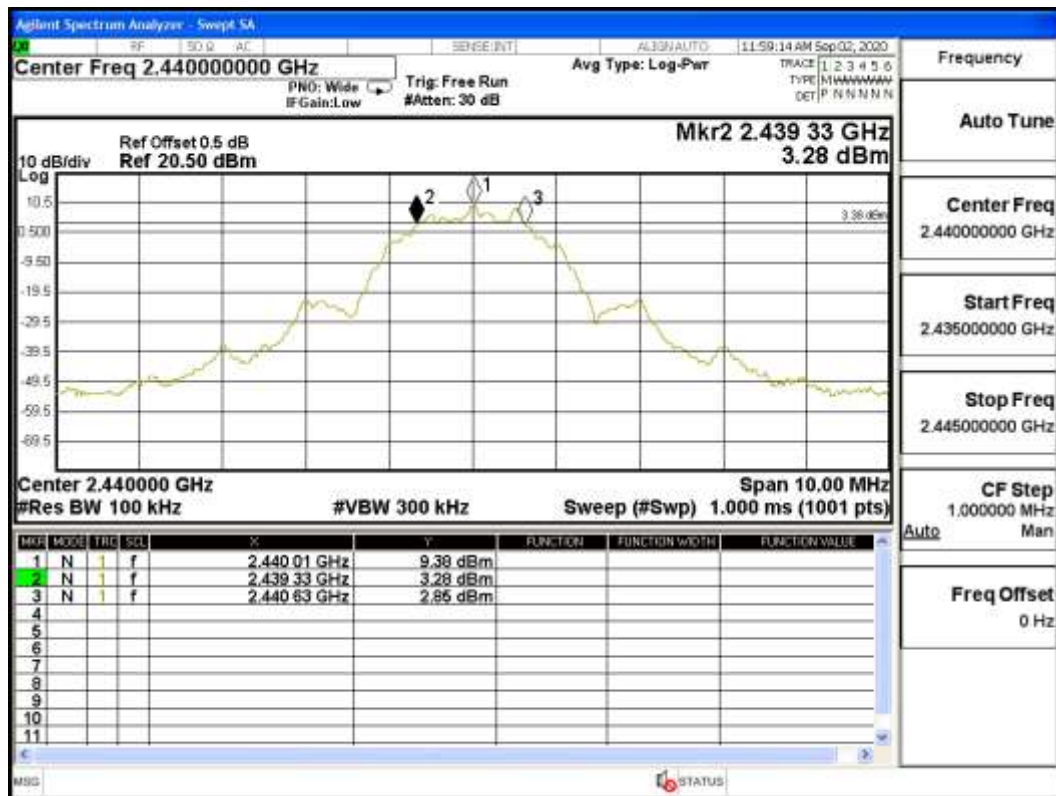
Figure Channel 00:



Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
19	2440	1300	>500	Pass

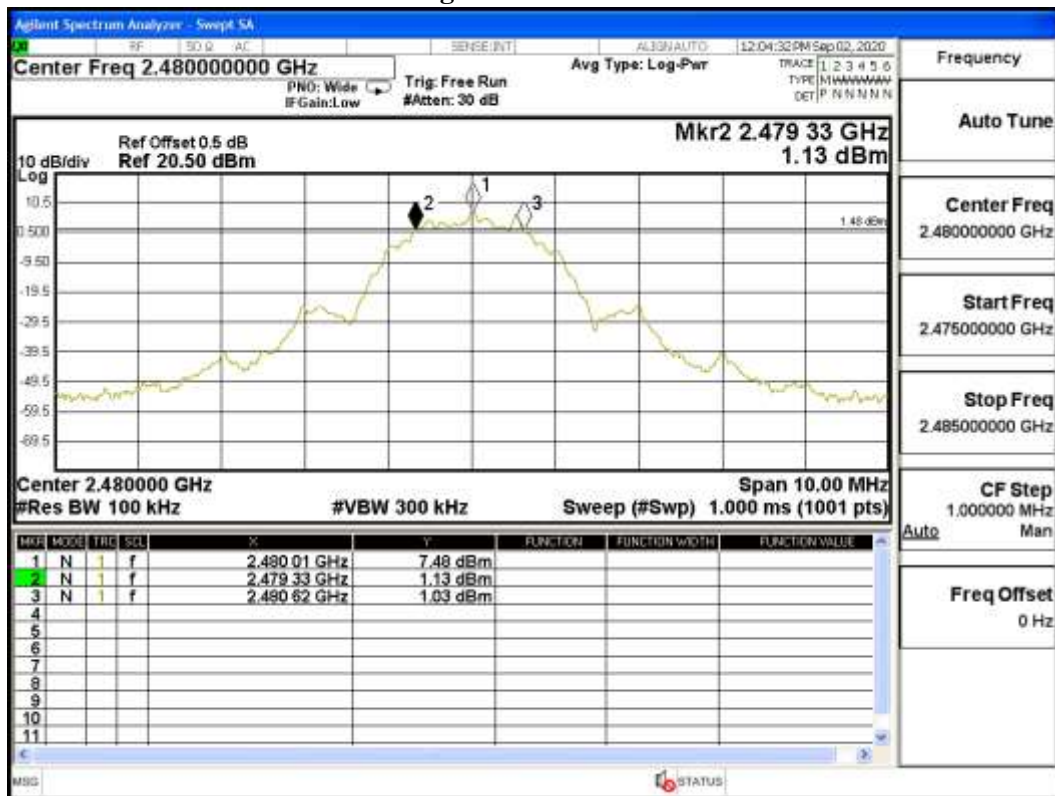
Figure Channel 19:



Product : Bluetooth Headset  
 Test Item : 6dB Bandwidth Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

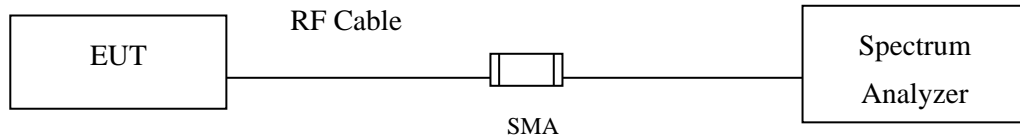
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2480	1290	>500	Pass

Figure Channel 39:



## 8. Power Density

### 8.1. Test Setup



### 8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

### 8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

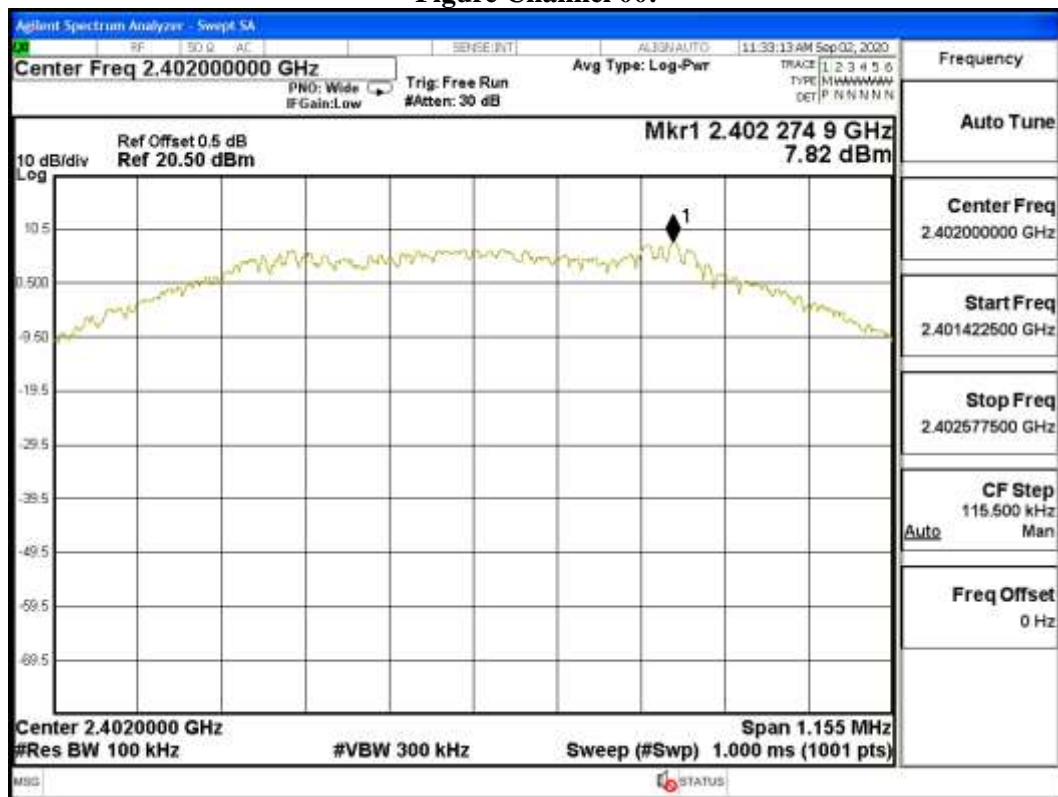
The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

#### 8.4. Test Result of Power Density

Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	7.82	$\leq 8\text{dBm}$	Pass

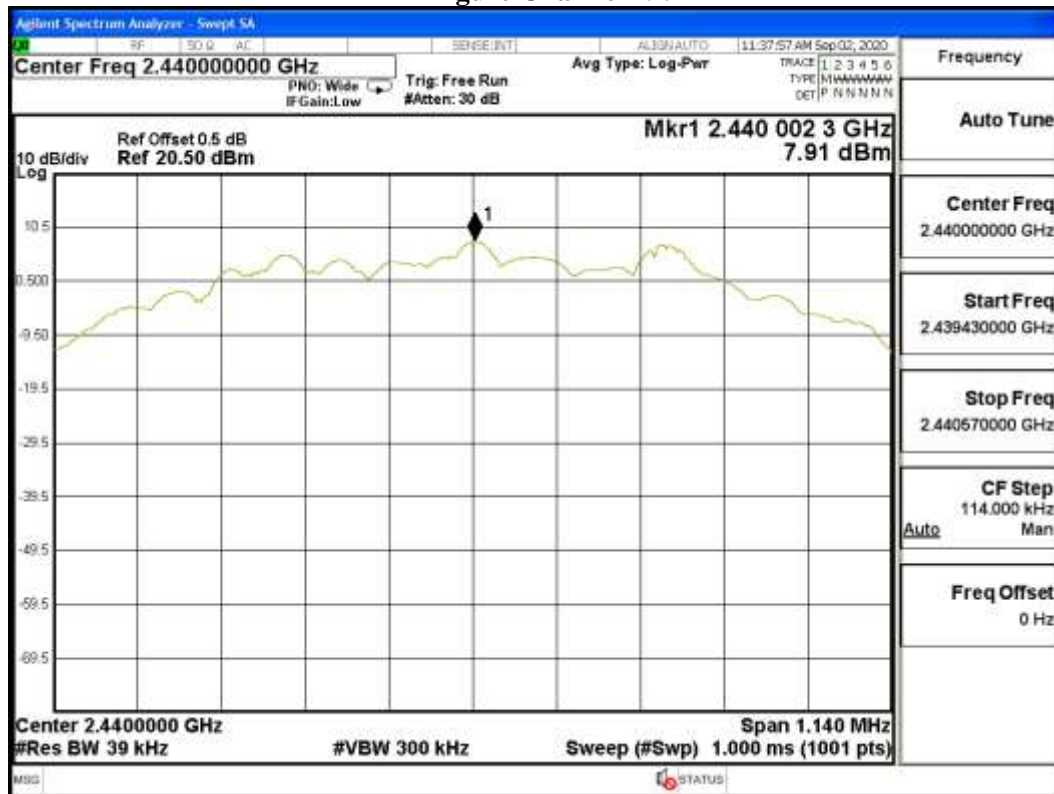
Figure Channel 00:



Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
19	2440	7.91	$\leq 8\text{dBm}$	Pass

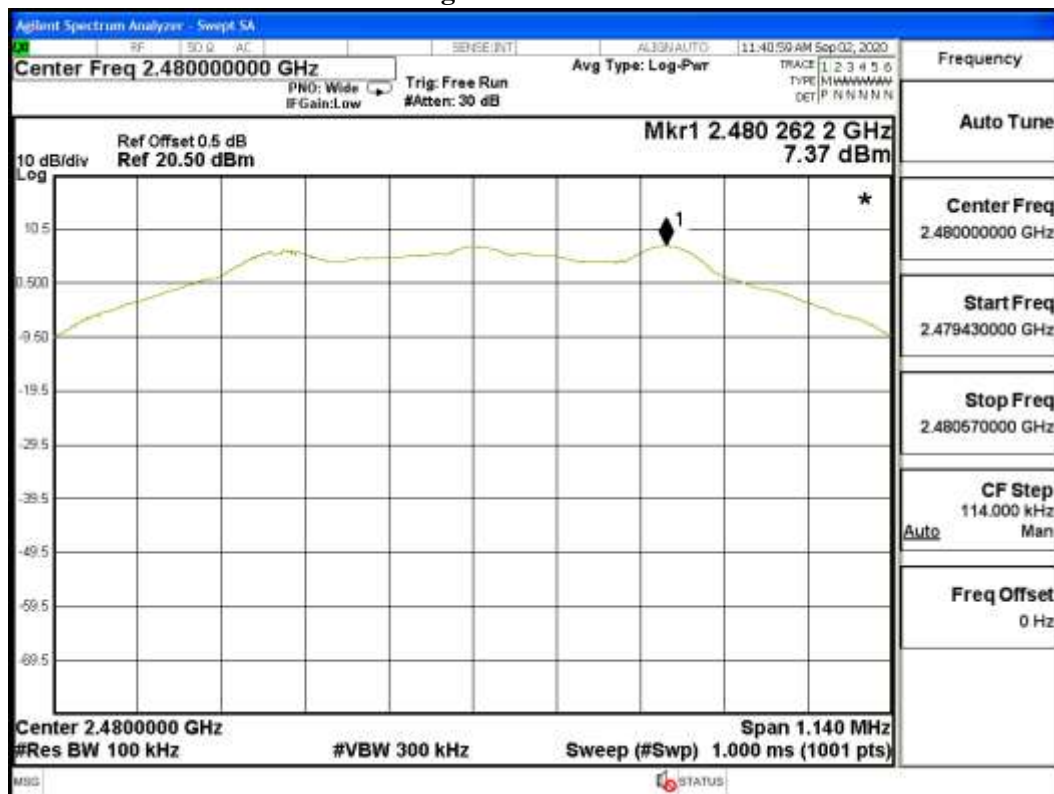
Figure Channel 19:



Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 1Mbps

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
39	2480	7.37	$\leq 8\text{dBm}$	Pass

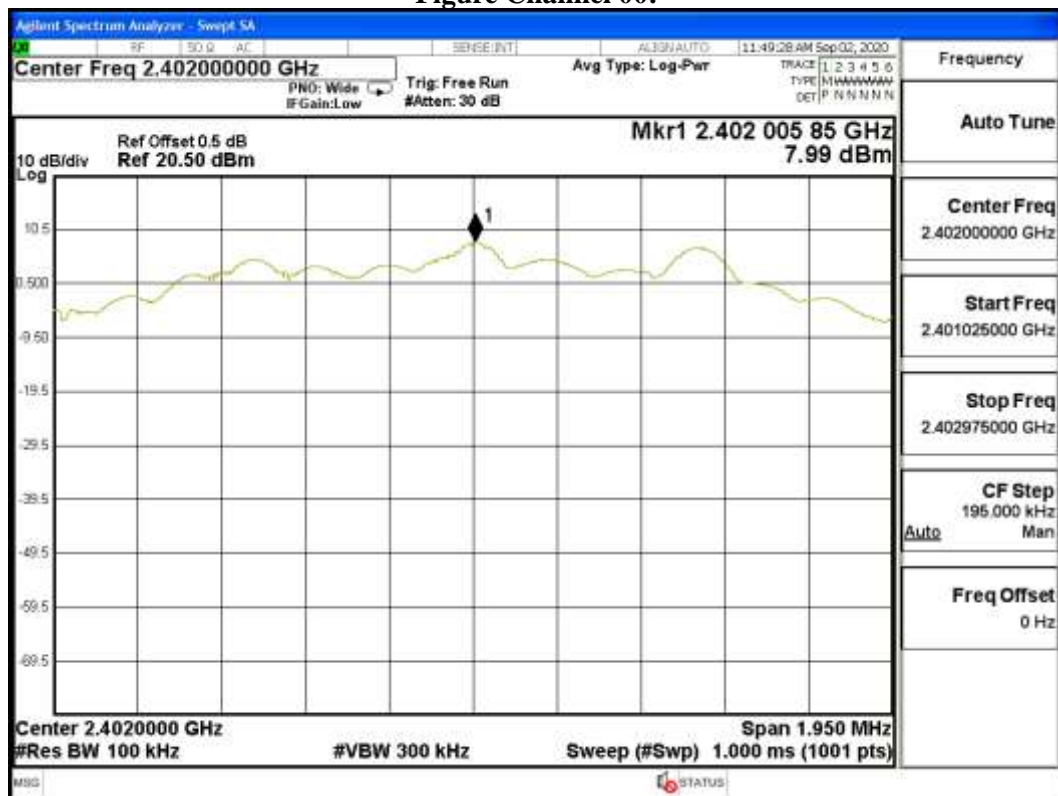
Figure Channel 39:



Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2402MHz) \_ 2Mbps

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	7.99	$\leq 8\text{dBm}$	Pass

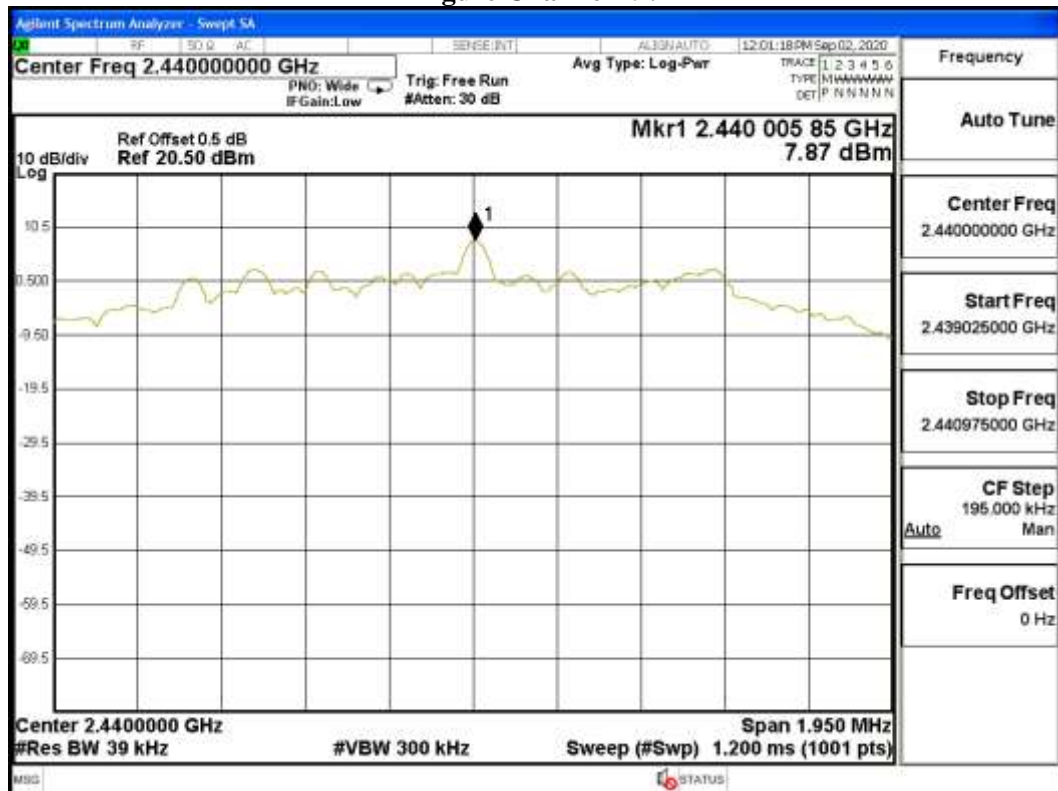
Figure Channel 00:



Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2440MHz) \_ 2Mbps

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
19	2440	7.87	$\leq 8\text{dBm}$	Pass

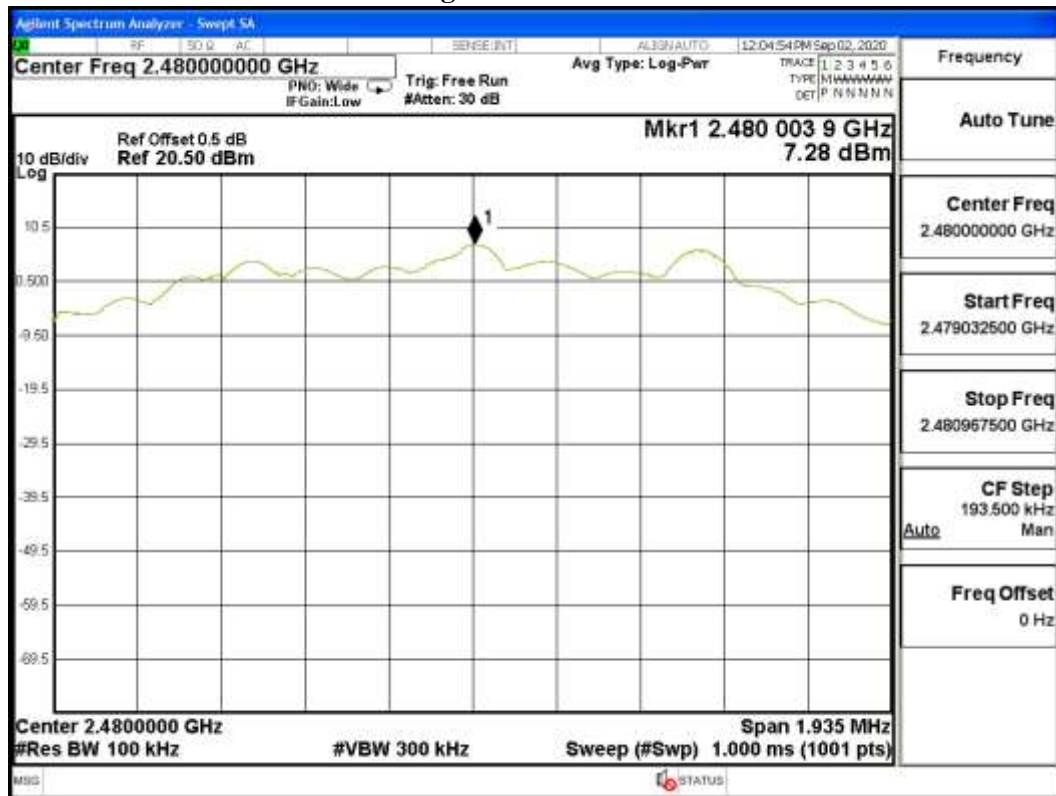
Figure Channel 19:



Product : Bluetooth Headset  
 Test Item : Power Density Data  
 Test date : 2020/09/02  
 Test Mode : Mode 1: Transmit - BLE (GFSK) (2480MHz) \_ 2Mbps

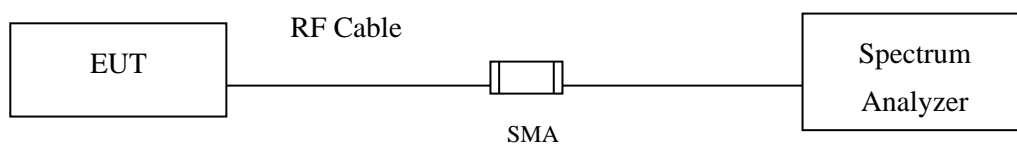
Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
39	2480	7.28	$\leq 8\text{dBm}$	Pass

Figure Channel 39:



## 9. Duty Cycle

### 9.1. Test Setup



### 9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to ANSI C63.10 2013 for compliance to FCC 47CFR 15.247 requirements.

### 9.3. Test Result of Duty Cycle

Product : Bluetooth Headset  
 Test Item : Duty Cycle  
 Test Mode : Mode 1: Transmit - BLE (GFSK) \_ 1Mbps

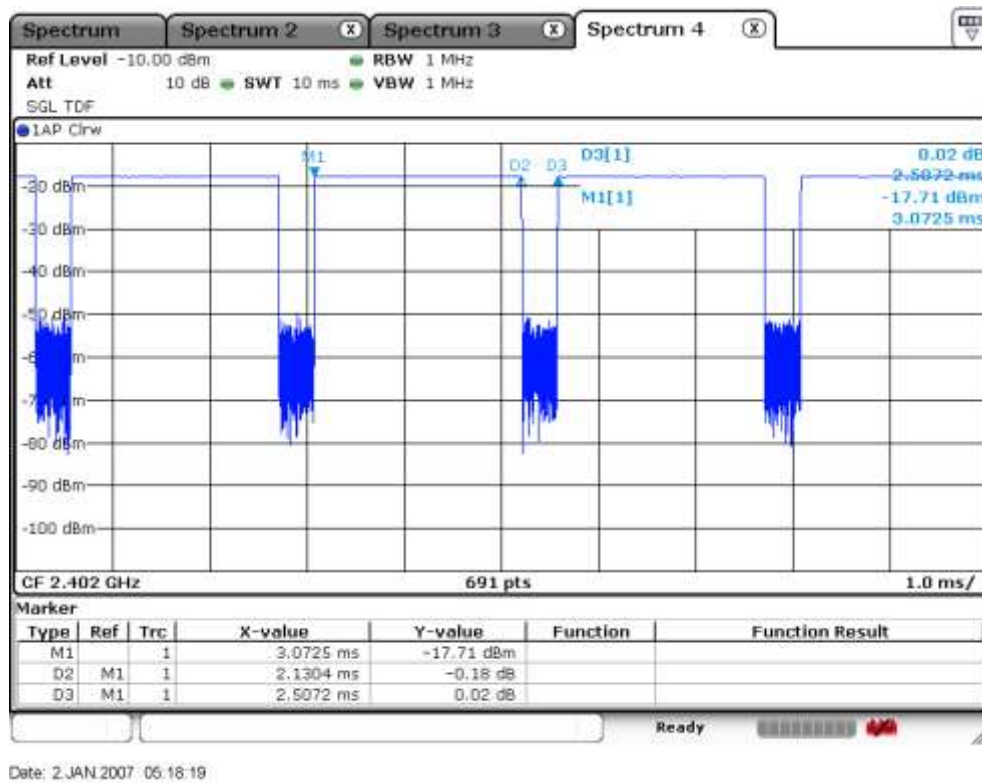
Duty Cycle Formula:

Duty Cycle = Ton / (Ton + Toff)

Duty Factor = 10 Log (1/Duty Cycle)

Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
BLE	2.1304	2.5072	84.97	0.71



Product : Bluetooth Headset  
 Test Item : Duty Cycle  
 Test Mode : Mode 1: Transmit - BLE (GFSK) \_ 2Mbps

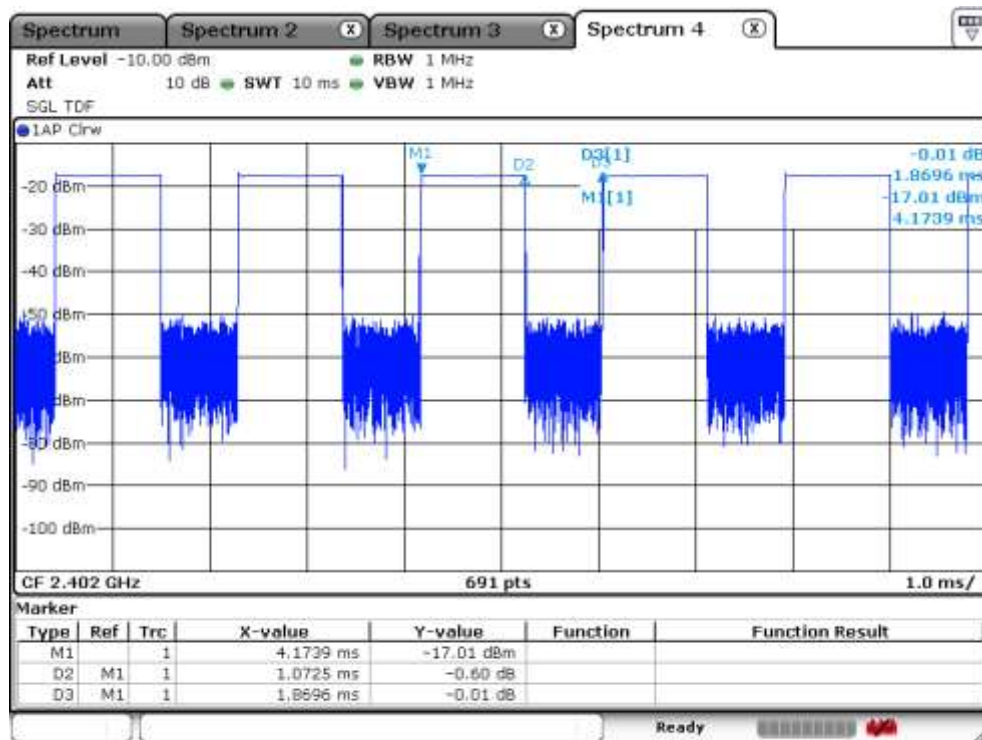
Duty Cycle Formula:

Duty Cycle =  $T_{on} / (T_{on} + T_{off})$

Duty Factor =  $10 \log (1/\text{Duty Cycle})$

Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
BLE	1.0725	1.8696	57.37	2.41



Date: 2 JAN 2007 06:39:14

## **10. EMI Reduction Method During Compliance Testing**

No modification was made during testing.