

# FCC Test Report

Product Name	Bluetooth Headset
Model No.	HSC150W

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

Date of Receipt	Jun. 24, 2021
Issued Date	Aug. 19, 2021
Report No.	2161010R-E3032110101
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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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

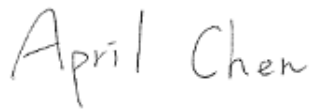
Issued Date: Aug. 19, 2021

Report No.: 2161010R-E3032110101



Product Name	Bluetooth Headset
Applicant	GN Audio A/S
Address	Lautrupbjerg 7, 2750 Ballerup, Denmark
Manufacturer	GN Audio A/S
Model No.	HSC150W
FCC ID.	BCE-HSC150W
EUT Rated Voltage	DC 5V by USB or DC 3.8V by Battery
EUT Test Voltage	DC 5V by USB
Trade Name	Jabra
Applicable Standard	FCC CFR Title 47 Part 15 Subpart B ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

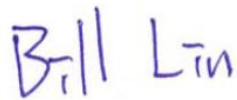
Documented By :




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 (Senior Adm. Specialist / April Chen)

Tested By :




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 (Senior Engineer / Bill Lin)

Approved By :




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 (Senior Engineer / Alan Chen)

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## Revision History

<b>Report No.</b>	<b>Version</b>	<b>Description</b>	<b>Issued Date</b>
2161010R-E3032110101	V1.0	Initial issue of report.	Aug. 19, 2021

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Bluetooth Headset
Trade Name	Jabra
Model No.	HSC150W
FCC ID.	BCE-HSC150W
Frequency Range	2402 – 2480MHz
Number of Channels	V2.1+EDR: 79CH, V5.0: 40CH
Data Speed	1-3Mbps
Type of Modulation	V2.1+EDR: GFSK(1Mbps) / $\pi$ / 4DQPSK(2Mbps) / 8DPSK(3Mbps), V5.0: GFSK(1Mbps)/ (2Mbps)
Antenna Type	PCB Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	GN Audio A/S	HSC150W	PCB Antenna	3.69dBi for 2.4 GHz

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

## Center Frequency of Each Channel (Bluetooth V3.0+HS, 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		

## Center Frequency of Each Channel (Bluetooth 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 、 V3.0+HS,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 transmitting was measured and made a test report that the report number is 2161010R-E3032110101, 2161010R-E3032110108 and 2161010R-E3032110108-A, certified under FCC ID: BCE-HSC150W.

Test Mode	Mode 1: Receive - Bluetooth - 3Mbps Mode 2: Receive - BLE- 2Mbps
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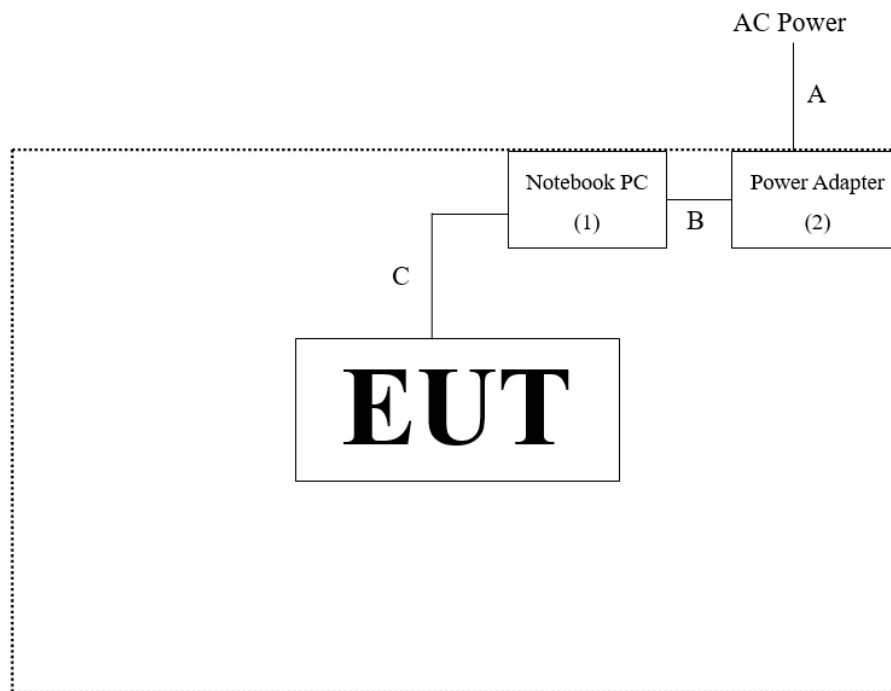
### 1.2. Test System Details

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	Lenovo	TinkPad X250	N/A	N/A
2   Power Adapter	ChiconyPower	ADLX45NCC3A	N/A	N/A

Signal Cable Type	Signal cable Description
A   Power Cable	Non-shielded, 1m
B   Power Cable	Non-shielded, 1.8m, with one ferrite core bonded.
C   Type A to USB Cable	Shielded, 1.2m

### 1.3. Configuration of Test System



### 1.4. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.3.
- (2) Execute software “BlueTest3 Version 3.3.5” 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	27 °C
	Humidity (%RH)	10~90 %	48.6 %
Radiated Emission	Temperature (°C)	10~40 °C	23.5 °C
	Humidity (%RH)	10~90 %	65 %

**USA : FCC Registration Number: TW0033**

**Canada : IC Registration Number: 26930**

Site Description : Accredited by TAF  
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd  
Address : No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City  
Phone number : 886-2-2602-7968  
Fax number : 866-2-2602-3286  
Email address : [info.tw@dekra.com](mailto:info.tw@dekra.com)  
Website : <http://www.dekra.com.tw>

## 1.6. List of Test Item and Equipment

### For Conduction measurements /SH1

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	EMI Test Receiver	R&S	ESR7	101601	2021.01.04	2022.01.03
X	Two-Line V-Network	R&S	ENV216	101306	2021.04.08	2022.04.07
X	Two-Line V-Network	R&S	ENV216	101307	2021.05.04	2022.05.03
X	Coaxial Cable	DEKRA	RG400_BNC	RF001	2021.05.24	2022.05.23

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 Testing System V2.0

### For Conducted measurements /SH2

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
	Spectrum Analyzer	R&S	FSV30	103466	2020.12.28	2021.12.27
	Peak Power Analyzer	Anritsu	ML2496A	1548002	2021.02.24	2022.02.23
	Wideband Power Sensor	Anritsu	MA2411B	1531023	2021.02.24	2022.02.23
	Wideband Power Sensor	Anritsu	MA2411B	1531022	2021.02.24	2022.02.23

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 System V9.0.5.

### For Radiated measurements /966-3

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-678	2020.09.04	2021.09.03
X	Horn Antenna	ETS-Lindgren	3117	00201259	2020.10.23	2021.10.22
X	Horn Antenna	Com-Power	AH-840	101087	2021.06.16	2022.06.15
X	Pre-Amplifier	EMCI	EMC001330	980316	2021.06.22	2022.06.21
X	Pre-Amplifier	EMCI	EMC051835SE	980312	2021.02.24	2022.02.23
X	Pre-Amplifier	EMCI	EMC05820SE	980361	2020.12.21	2021.12.20
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2021.06.24	2022.06.23
X	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR	102793	2020.12.17	2021.12.16
X	Spectrum Analyzer	R&S	FSV3044	101113	2021.02.03	2022.02.02
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2021.03.03	2022.03.02
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2021.06.25	2022.06.24

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 Testing System V2.0

## 1.7. Uncertainty

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

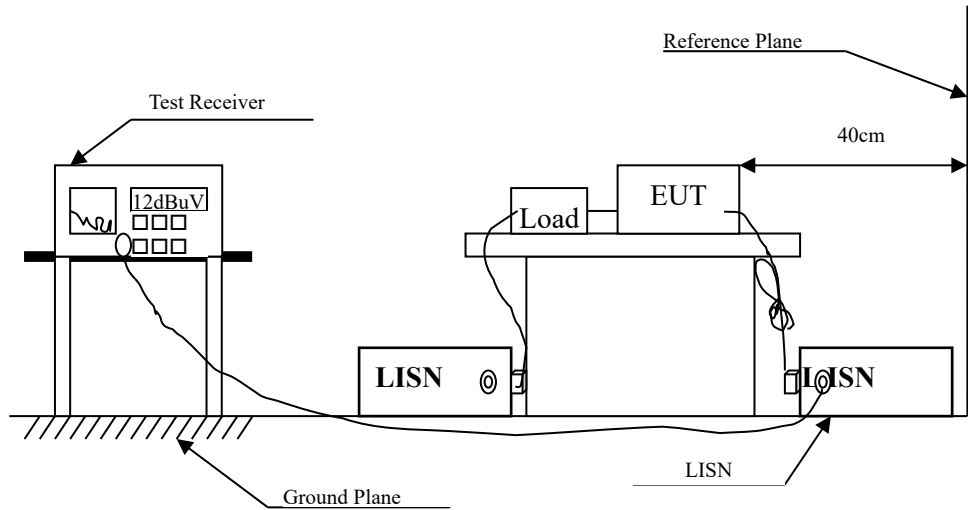
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

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	$\pm 3.42$ dB	
Radiated Emission	Under 1GHz $\pm 4.06$ dB	Above 1GHz $\pm 3.73$ dB

## 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

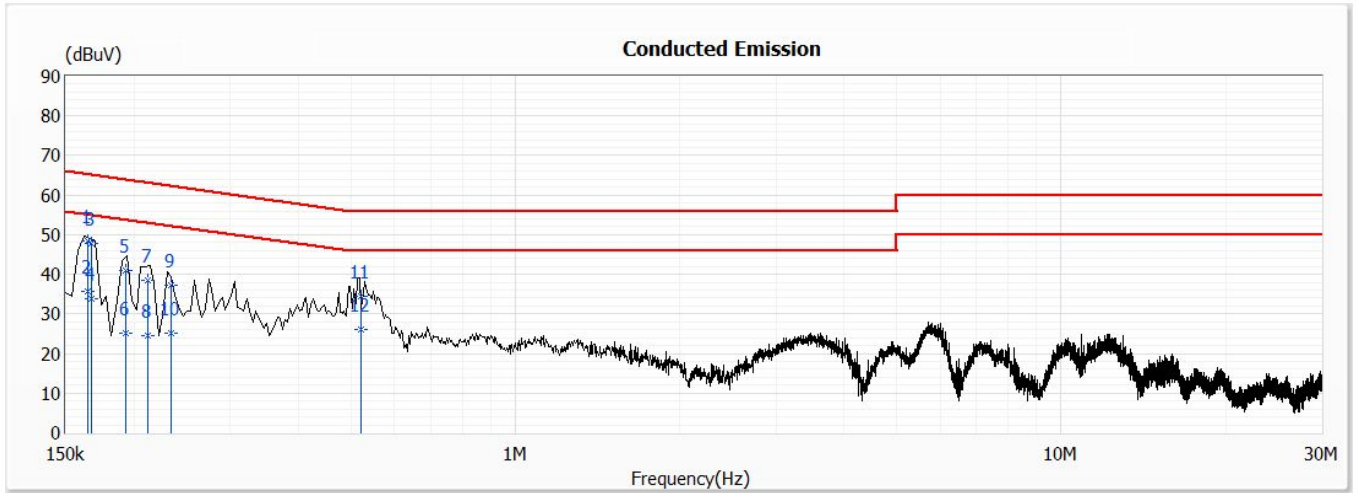
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling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

### 2.4. Test Result of Conducted Emission

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Power Line : L 1  
 Test Mode : Mode 1: Receive - Bluetooth - 3Mbps  
 Test Date : 2021/08/18

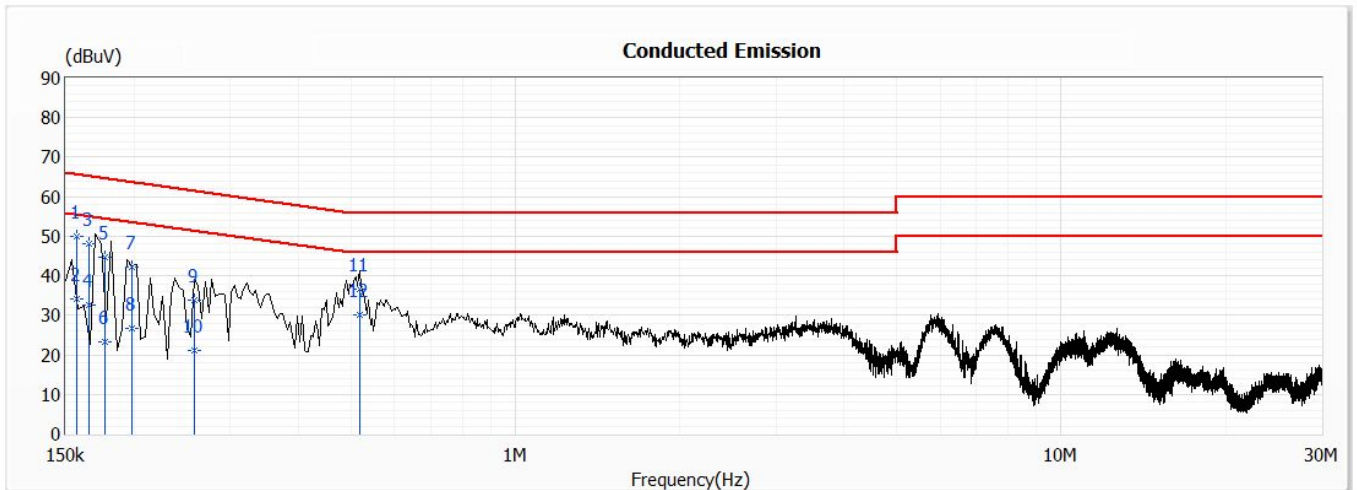


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.165	48.36	65.22	-16.86	38.70	9.66	QP
2	0.165	35.54	55.22	-19.68	25.88	9.66	AV
3	0.167	47.65	65.12	-17.47	37.99	9.66	QP
4	0.167	33.81	55.12	-21.31	24.15	9.66	AV
5	0.193	41.09	63.89	-22.80	31.44	9.65	QP
6	0.193	25.22	53.89	-28.67	15.57	9.65	AV
7	0.212	38.33	63.11	-24.78	28.68	9.65	QP
8	0.212	24.46	53.11	-28.65	14.81	9.65	AV
9	0.234	37.23	62.30	-25.07	27.58	9.65	QP
10	0.234	25.09	52.30	-27.21	15.44	9.65	AV
11	0.520	34.48	56.00	-21.52	24.82	9.66	QP
12	0.520	26.15	46.00	-19.85	16.49	9.66	AV

Note:

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

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Power Line : N  
 Test Mode : Mode 1: Receive - Bluetooth - 3Mbps  
 Test Date : 2021/08/18

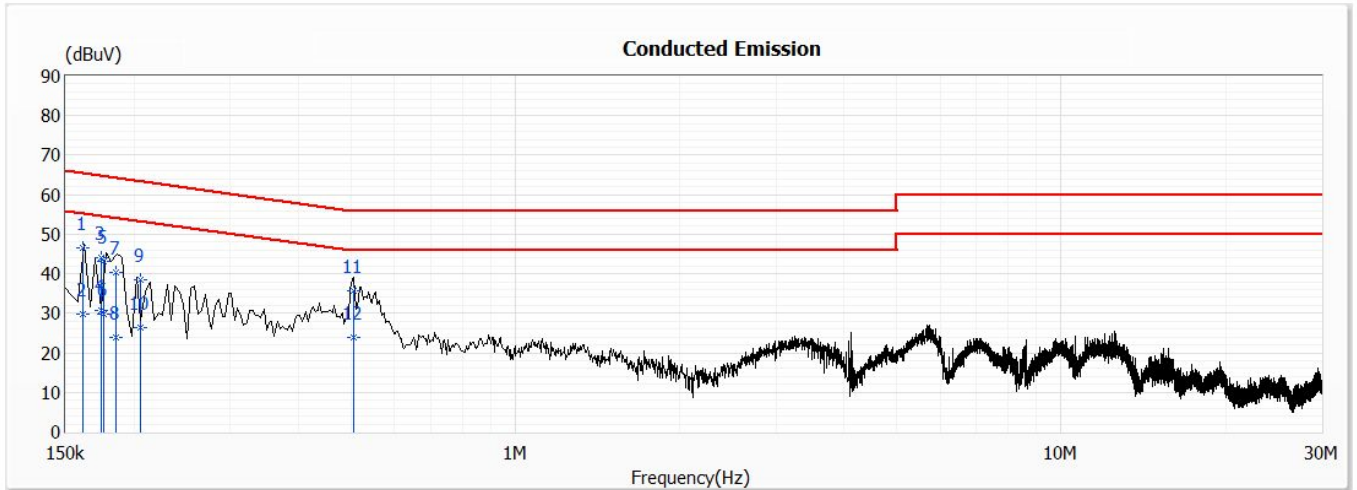


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.157	49.83	65.60	-15.77	40.16	9.67	QP
2	0.157	34.24	55.60	-21.36	24.57	9.67	AV
3	0.166	48.05	65.18	-17.13	38.38	9.67	QP
4	0.166	32.66	55.18	-22.52	22.99	9.67	AV
5	0.177	44.80	64.61	-19.81	35.13	9.67	QP
6	0.177	23.21	54.61	-31.40	13.54	9.67	AV
7	0.198	42.28	63.69	-21.41	32.61	9.67	QP
8	0.198	26.71	53.69	-26.98	17.04	9.67	AV
9	0.258	33.87	61.50	-27.63	24.20	9.67	QP
10	0.258	21.01	51.50	-30.49	11.34	9.67	AV
11	0.518	36.51	56.00	-19.49	26.84	9.67	QP
12	0.518	30.21	46.00	-15.79	20.54	9.67	AV

Note:

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

Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Power Line : L 1  
 Test Mode : Mode 2: Receive - BLE- 2Mbps  
 Test Date : 2021/08/18



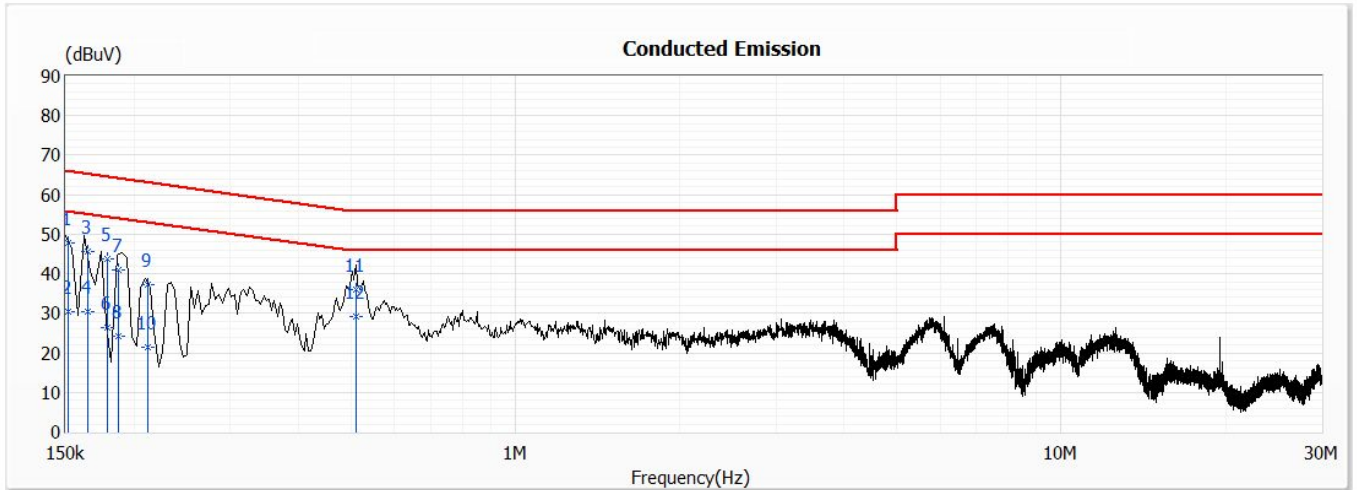
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.161	46.50	65.40	-18.90	36.84	9.66	QP
2	0.161	29.83	55.40	-25.57	20.17	9.66	AV
3	0.174	44.04	64.75	-20.71	34.38	9.66	QP
4	0.174	30.83	54.75	-23.92	21.17	9.66	AV
5	0.176	43.10	64.69	-21.59	33.45	9.65	QP
6	0.176	29.70	54.69	-24.99	20.05	9.65	AV
7	0.185	40.40	64.24	-23.84	30.75	9.65	QP
8	0.185	24.01	54.24	-30.23	14.36	9.65	AV
9	0.206	38.49	63.38	-24.89	28.84	9.65	QP
10	0.206	26.45	53.38	-26.93	16.80	9.65	AV
11	0.504	35.80	56.00	-20.20	26.14	9.66	QP
12	0.504	23.87	46.00	-22.13	14.21	9.66	AV

Note:

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



Product : Bluetooth Headset  
 Test Item : Conducted Emission Test  
 Power Line : N  
 Test Mode : Mode 2: Receive - BLE- 2Mbps  
 Test Date : 2021/08/18



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.152	47.81	65.90	-18.09	38.14	9.67	QP
2	0.152	30.55	55.90	-25.35	20.88	9.67	AV
3	0.165	45.58	65.22	-19.64	35.91	9.67	QP
4	0.165	30.46	55.22	-24.76	20.79	9.67	AV
5	0.178	43.70	64.56	-20.86	34.03	9.67	QP
6	0.178	26.26	54.56	-28.30	16.59	9.67	AV
7	0.187	41.06	64.15	-23.09	31.39	9.67	QP
8	0.187	24.25	54.15	-29.90	14.58	9.67	AV
9	0.212	37.11	63.14	-26.03	27.44	9.67	QP
10	0.212	21.40	53.14	-31.74	11.73	9.67	AV
11	0.510	35.99	56.00	-20.01	26.32	9.67	QP
*12	0.510	29.03	46.00	-16.97	19.36	9.67	AV

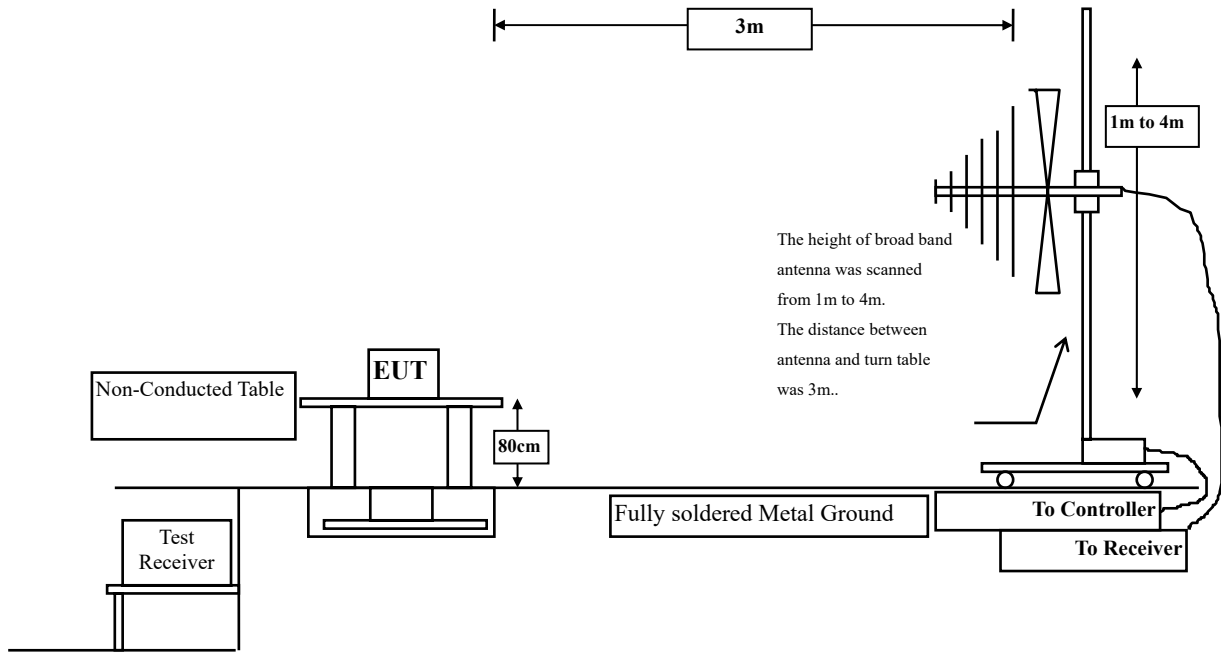
Note:

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

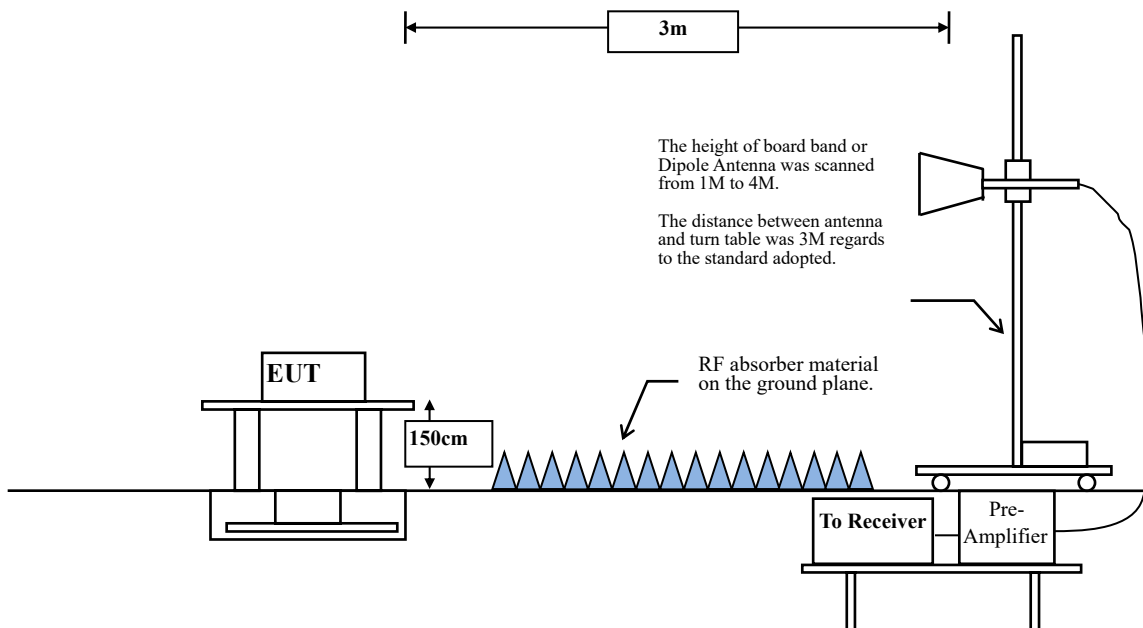
### 3. Radiated Emission

#### 3.1. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



### 3.2. Limits

<b>FCC Part 15 Subpart B Paragraph 15.109 Limits</b>		
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

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 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.

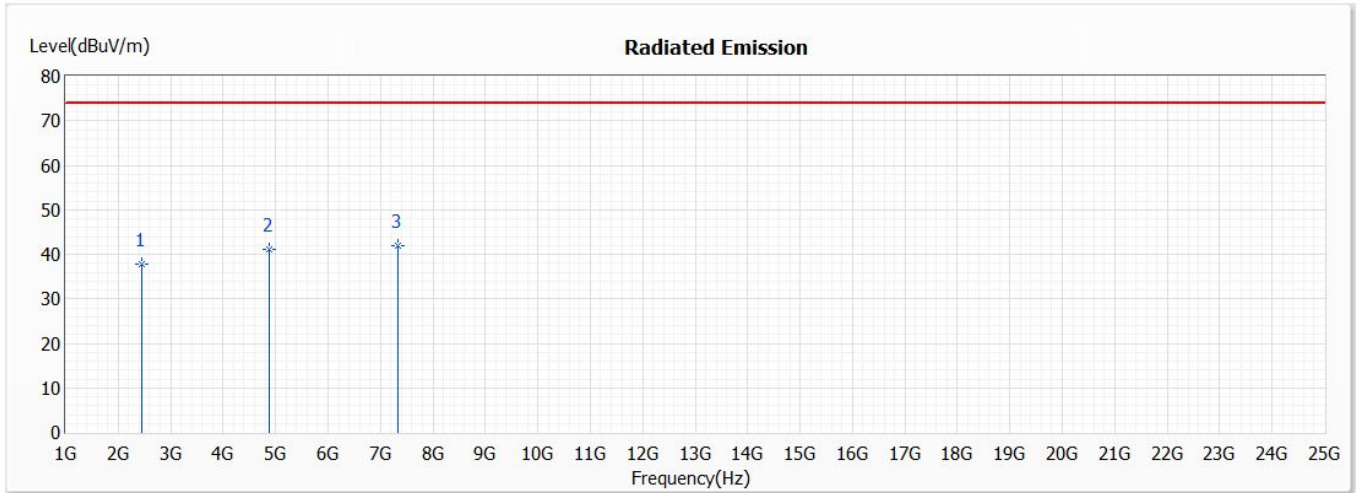
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the 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 measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

### 3.4. Test Result of Radiated Emission

Product : Bluetooth Headset  
 Test Item : Harmonic Radiated Emission  
 Test Mode : Mode 1: Receive - Bluetooth - 3Mbps (2441MHz)  
 Test Date : 2021/07/21

#### Horizontal



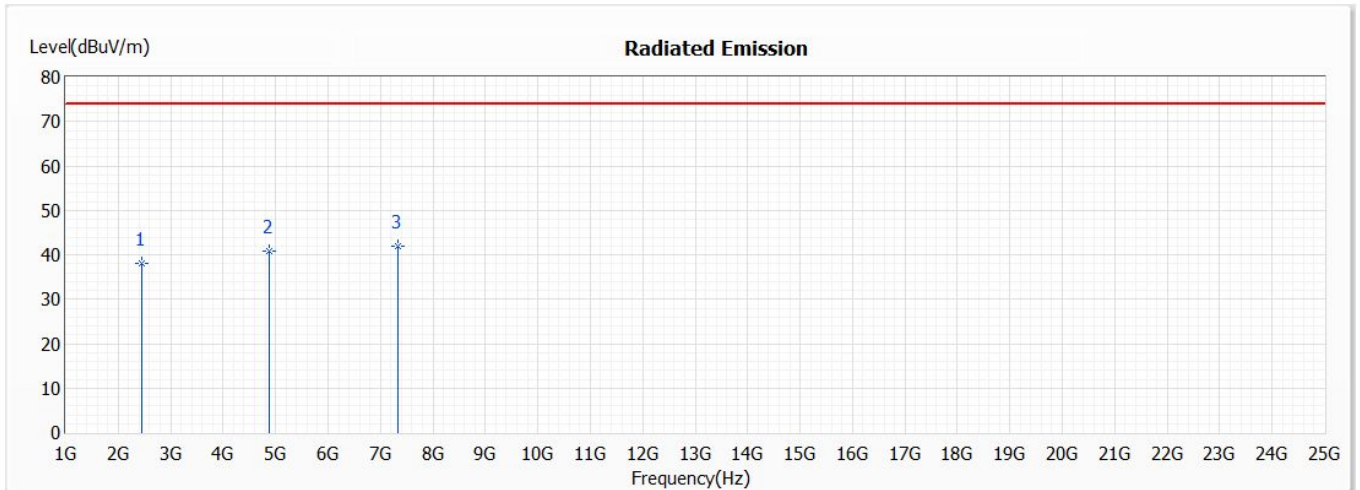
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2441.000	37.83	74.00	-36.17	43.45	-5.62	PK
2	4882.000	41.17	74.00	-32.83	42.67	-1.50	PK
* 3	7323.000	41.97	74.00	-32.03	39.04	2.93	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. 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 Mode : Mode 1: Receive - Bluetooth - 3Mbps (2441MHz)  
 Test Date : 2021/07/21

**Vertical**



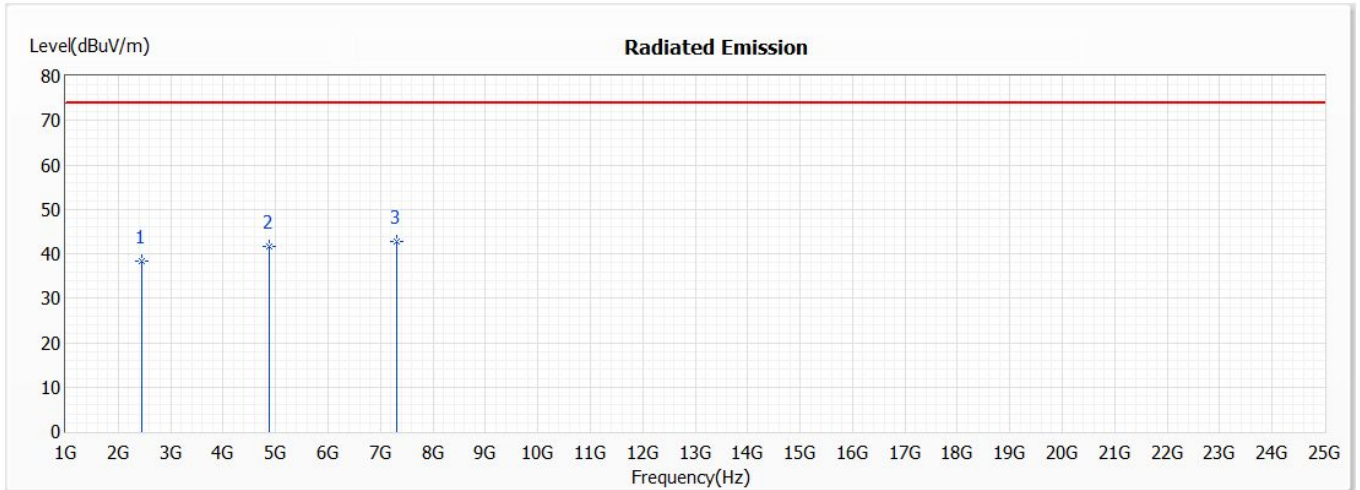
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2441.000	38.14	74.00	-35.86	43.76	-5.62	PK
2	4882.000	40.86	74.00	-33.14	42.36	-1.50	PK
* 3	7323.000	42.05	74.00	-31.95	39.12	2.93	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. 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 Mode : Mode 2: Receive - BLE- 2Mbps (2440MHz)  
 Test Date : 2021/07/21

**Horizontal**



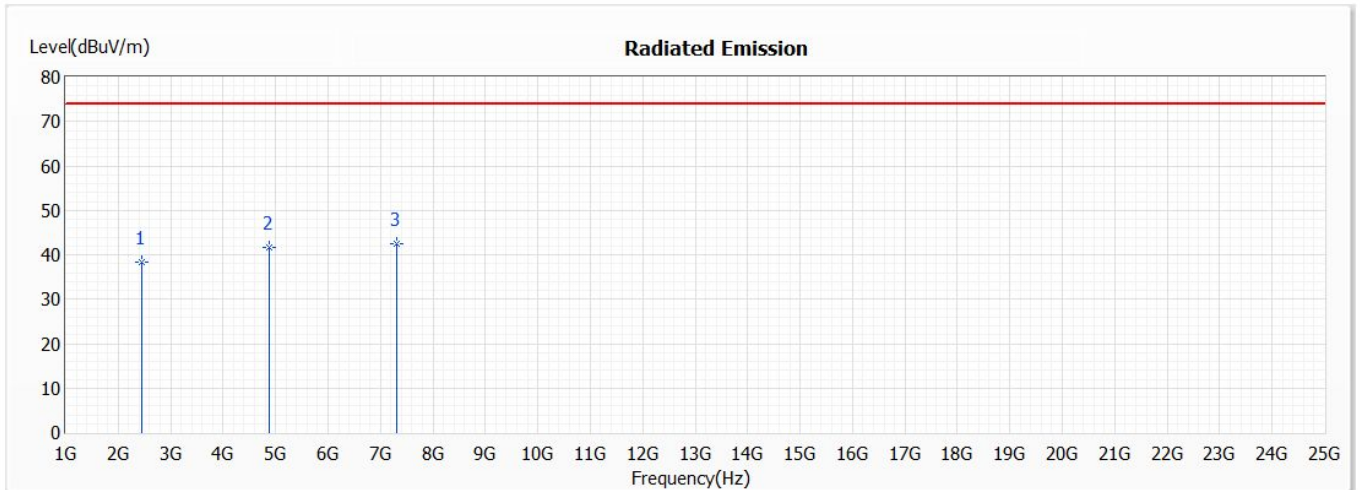
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2440.000	38.39	74.00	-35.61	44.02	-5.63	PK
2	4880.000	41.73	74.00	-32.27	43.23	-1.50	PK
* 3	7320.000	42.67	74.00	-31.33	39.74	2.93	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. 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 Mode : Mode 2: Receive - BLE- 2Mbps (2440MHz)  
 Test Date : 2021/07/21

**Vertical**



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2440.000	38.26	74.00	-35.74	43.89	-5.63	PK
2	4880.000	41.66	74.00	-32.34	43.16	-1.50	PK
* 3	7320.000	42.46	74.00	-31.54	39.53	2.93	PK

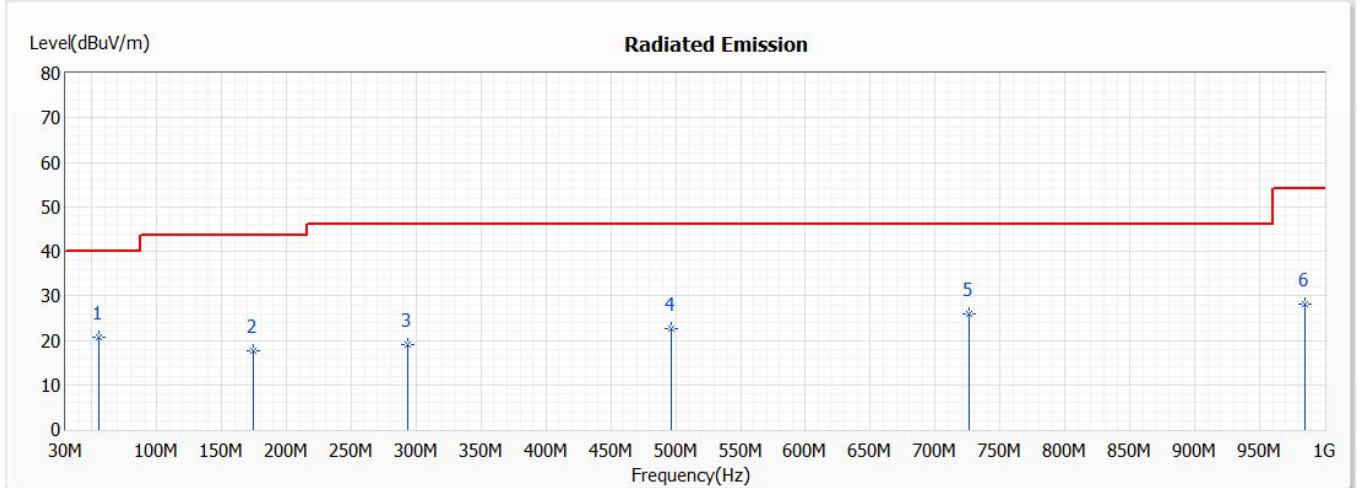
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. 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 Mode : Mode 1: Receive - Bluetooth - 3Mbps (2441MHz)  
 Test Date : 2021/07/22

**Horizontal**



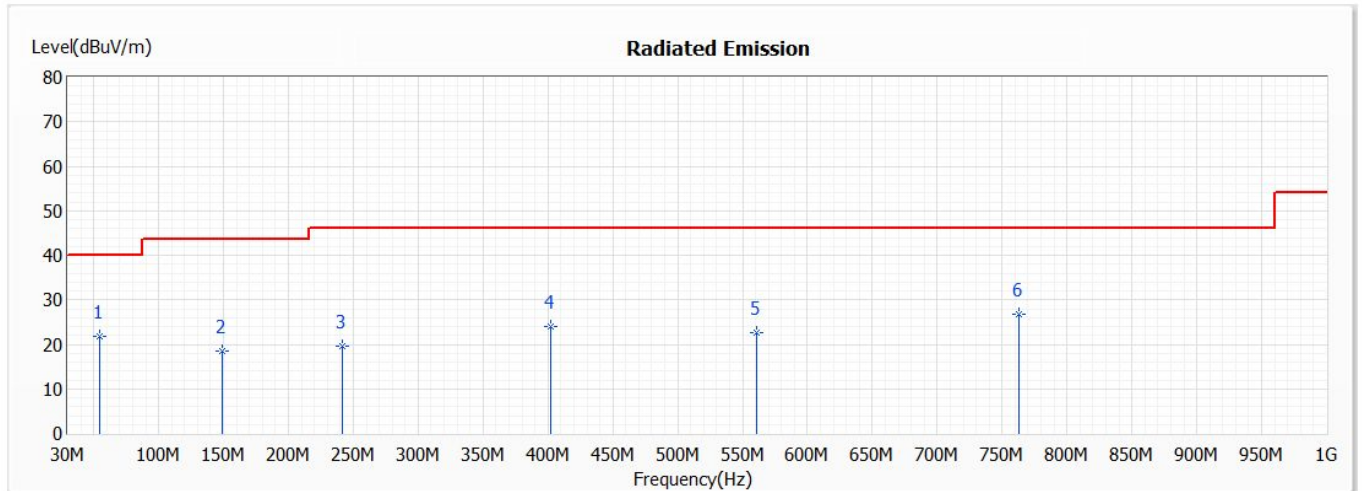
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	55.220	20.74	40.00	-19.26	39.79	-19.05	QP
2	174.530	17.79	43.50	-25.71	37.18	-19.39	QP
3	293.840	19.00	46.00	-27.00	37.39	-18.39	QP
4	496.570	22.71	46.00	-23.29	36.38	-13.67	QP
5	726.460	25.83	46.00	-20.17	35.25	-9.42	QP
6	984.480	28.14	54.00	-25.86	34.33	-6.19	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 Mode : Mode 1: Receive - Bluetooth - 3Mbps (2441MHz)  
 Test Date : 2021/07/22

**Vertical**



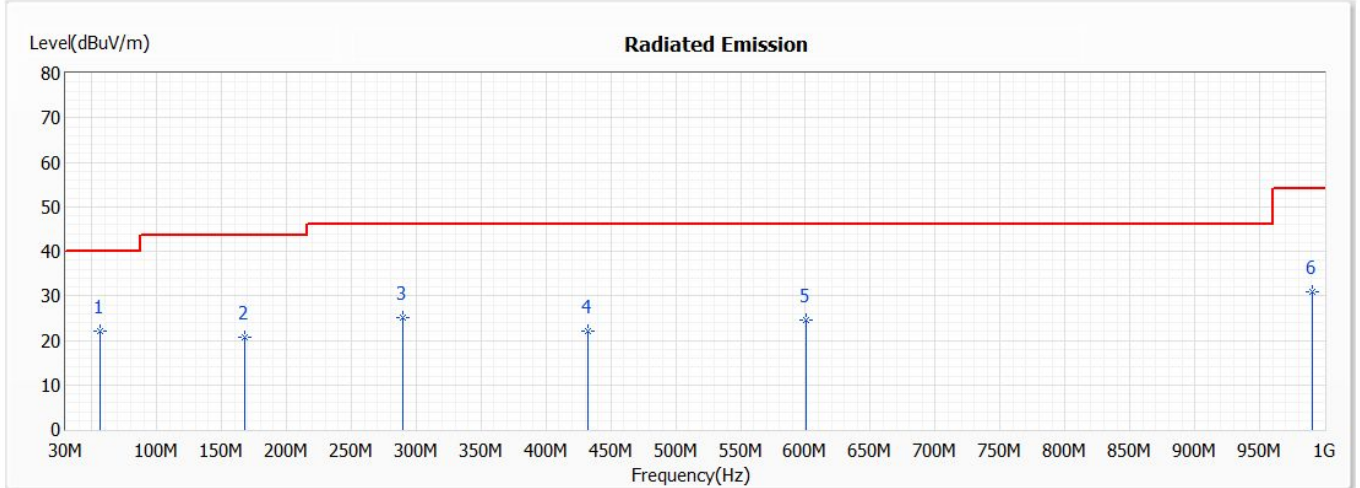
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	54.250	21.76	40.00	-18.24	40.73	-18.97	QP
2	149.310	18.42	43.50	-25.08	37.45	-19.03	QP
3	241.460	19.46	46.00	-26.54	39.55	-20.09	QP
4	402.480	24.09	46.00	-21.91	39.69	-15.60	QP
5	560.590	22.69	46.00	-23.31	34.88	-12.19	QP
6	763.320	26.77	46.00	-19.23	35.47	-8.70	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 Mode : Mode 2: Receive - BLE- 2Mbps (2440MHz)  
 Test Date : 2021/07/22

**Horizontal**



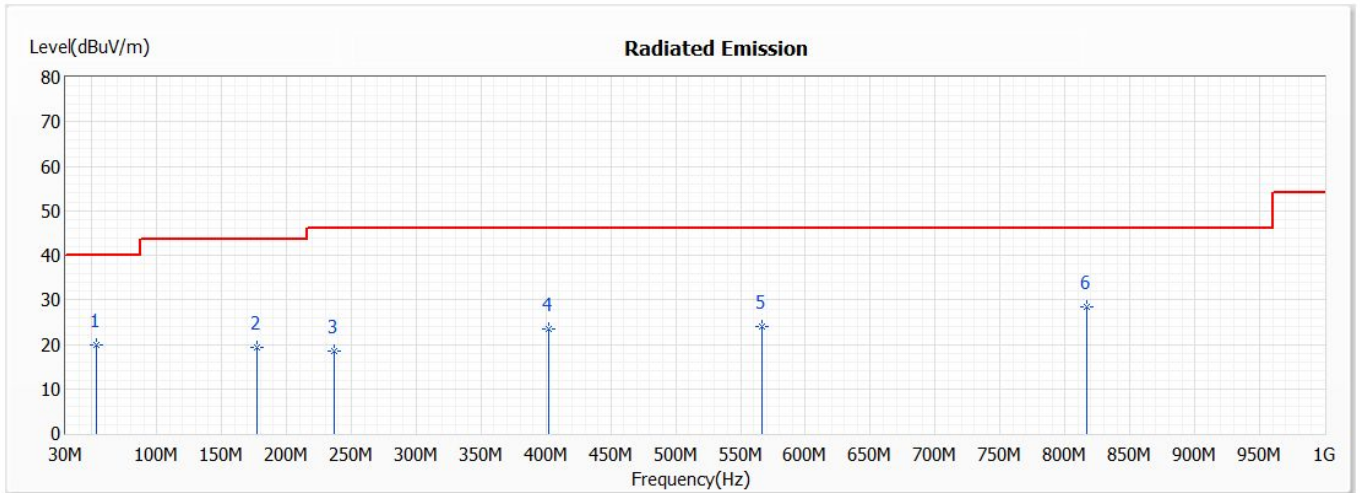
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	56.190	22.08	40.00	-17.92	41.23	-19.15	QP
2	167.740	20.74	43.50	-22.76	39.67	-18.93	QP
3	289.960	25.15	46.00	-20.85	43.64	-18.49	QP
4	432.550	21.98	46.00	-24.02	36.84	-14.86	QP
5	600.360	24.52	46.00	-21.48	35.78	-11.26	QP
6	990.300	31.03	54.00	-22.97	37.13	-6.10	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 Mode : Mode 2: Receive - BLE- 2Mbps (2440MHz)  
 Test Date : 2021/07/22

**Vertical**



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	53.280	19.82	40.00	-20.18	38.77	-18.95	QP
2	177.440	19.32	43.50	-24.18	39.18	-19.86	QP
3	236.610	18.61	46.00	-27.39	38.79	-20.18	QP
4	402.480	23.52	46.00	-22.48	39.12	-15.60	QP
5	566.410	23.92	46.00	-22.08	36.07	-12.15	QP
* 6	816.670	28.32	46.00	-17.68	36.48	-8.16	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.

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

No modification was made during testing.