



Test Report

FCC Part15 Subpart C

Product Name : BLUETOOTH EARPHONES
Model No. : LTI800
FCC ID : Y2SLTI800

Applicant : Libratone A/S
Address : Sundkaj 9, 2150 Nordhavn, Denmark

Date of Receipt : Apr. 23, 2019
Test Date : Apr. 24, 2019 ~ May. 17, 2019
Issued Date : May. 24, 2019
Report No. : 1942157R-RF-US-P06V03
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.

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Test Report Certification

Issued Date : May. 24, 2019

Report No. : 1942157R-RF-US-P06V03



Product Name : BLUETOOTH EARPHONES
 Applicant : Libratone A/S
 Address : Sundkaj 9, 2150 Nordhavn, Denmark
 Manufacturer : Libratone A/S
 Address : Sundkaj 9, 2150 Nordhavn, Denmark
 Factory : Goertek Inc.
 Address : West of Weian Road, North of Yingqian Street, High-tech Industrial Development Zone, Weifang, Shandong Province, China 261031

Model No. : LT1800
 FCC ID : Y2SLTI800
 EUT Voltage : DC 3.7V
 Test Voltage : AC120V/60Hz
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
 KDB 558074 D01v05r02
 ANSI C63.10: 2013

Test Result : Complied
 Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1942157R-RF-US-P06V03	V1.0	Initial Issued Report	May. 24, 2019

1. General Information

1.1. EUT Description

Product Name	BLUETOOTH EARPHONES
Model No.	LT1800
EUT Voltage	DC 3.7V
Test Voltage	AC120V/60Hz
Bluetooth Specification	V3.0
Frequency Range	2402- 2480 MHz
Channel Number	V3.0: 79
Channel Separation	V3.0: 1MHz
Type of Modulation	V3.0: GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	V3.0: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps(8DPSK)
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

Bluetooth Working Frequency of Each Channel: (For V3.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2403 MHz	02	2404 MHz	03	2405 MHz
04	2406 MHz	05	2407 MHz	06	2408 MHz	07	2409 MHz
08	2410 MHz	09	2411 MHz	10	2412 MHz	11	2413 MHz
12	2414 MHz	13	2415 MHz	14	2416 MHz	15	2417 MHz
16	2418 MHz	17	2419 MHz	18	2420 MHz	19	2421 MHz
20	2422 MHz	21	2423 MHz	22	2424 MHz	23	2425 MHz
24	2426 MHz	25	2427 MHz	26	2428 MHz	27	2429 MHz
28	2430 MHz	29	2431 MHz	30	2432 MHz	31	2433 MHz
32	2434 MHz	33	2435 MHz	34	2436 MHz	35	2437 MHz
36	2438 MHz	37	2439 MHz	38	2440 MHz	39	2441 MHz
40	2442 MHz	41	2443 MHz	42	2444 MHz	43	2445 MHz
44	2446 MHz	45	2447 MHz	46	2448 MHz	47	2449 MHz
48	2450 MHz	49	2451 MHz	50	2452 MHz	51	2453 MHz
52	2454 MHz	53	2455 MHz	54	2456 MHz	55	2457 MHz
56	2458 MHz	57	2459 MHz	58	2460 MHz	59	2461 MHz
60	2462 MHz	61	2463 MHz	62	2464 MHz	63	2465 MHz
64	2466 MHz	65	2467 MHz	66	2468 MHz	67	2469 MHz
68	2470 MHz	69	2471 MHz	70	2472 MHz	71	2473 MHz
72	2474 MHz	73	2475 MHz	74	2476 MHz	75	2477 MHz
76	2478 MHz	77	2479 MHz	78	2480 MHz	N/A	N/A

1.2 Antenna information

Antenna manufacturer	N/A		
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/> SISO		
	<input type="checkbox"/> MIMO	<input type="checkbox"/> Basic	
		<input type="checkbox"/> CDD	
		<input type="checkbox"/> Beam-forming	
Antenna Type	<input type="checkbox"/> External	<input type="checkbox"/> Dipole	
	<input checked="" type="checkbox"/> Internal	<input type="checkbox"/> PIFA	
		<input type="checkbox"/> PCB	
		<input type="checkbox"/> Ceramic Chip Antenna	
		<input type="checkbox"/> Stamping Antenna	
		<input type="checkbox"/> Metal plate type F antenna	
		<input checked="" type="checkbox"/> Monopole antenna	
	Antenna Gain	2.7dBi	

1.3 Mode of Operation

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

Test Mode
Mode 1: Transmitter-1Mbps(GFSK_DH5)
Mode 2: Transmitter-2Mbps(Pi/4 DQPSK_DH5)
Mode 3: Transmitter-3Mbps(8DPSK_DH5)
Mode 4: Transmitter-Hopping

Note:

1. For portable device, radiated spurious emission was verified over X, Y, Z Axis, and shown the worst case on this report.
2. Regards to the frequency band operation for systems using FHSS modulation: normal operation (hopping) was selected to test for conducted spurious test.
3. The extreme test condition for voltage and temperature were declared by the manufacturer.
4. The reading values of all the test items contain cable loss.

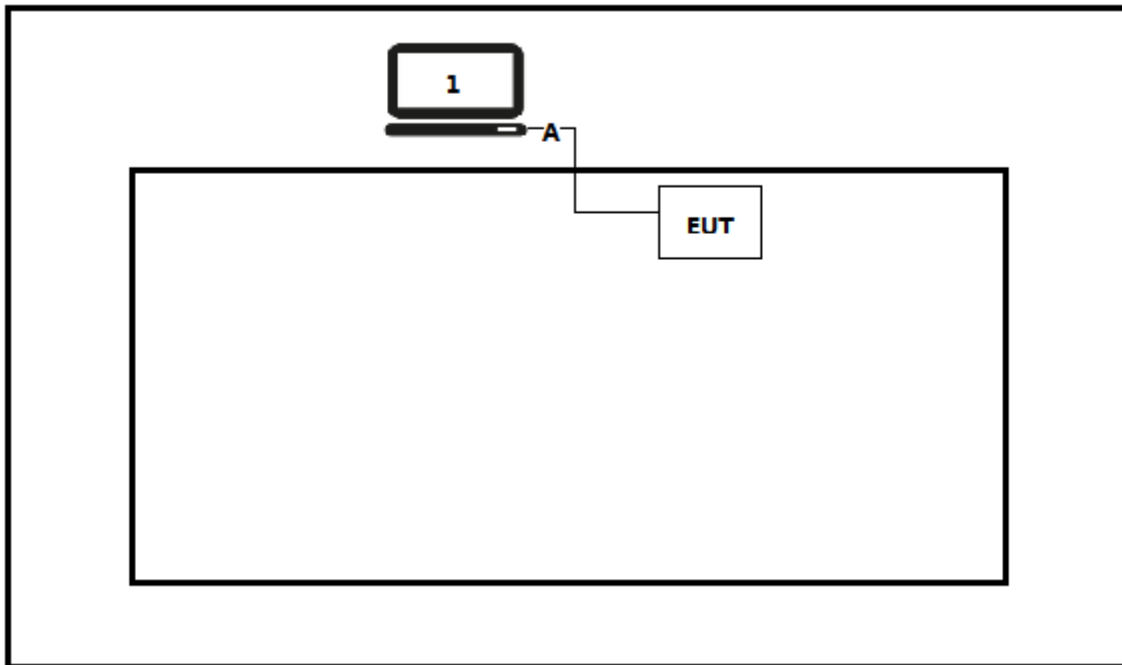
1.4 Tested System Details

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

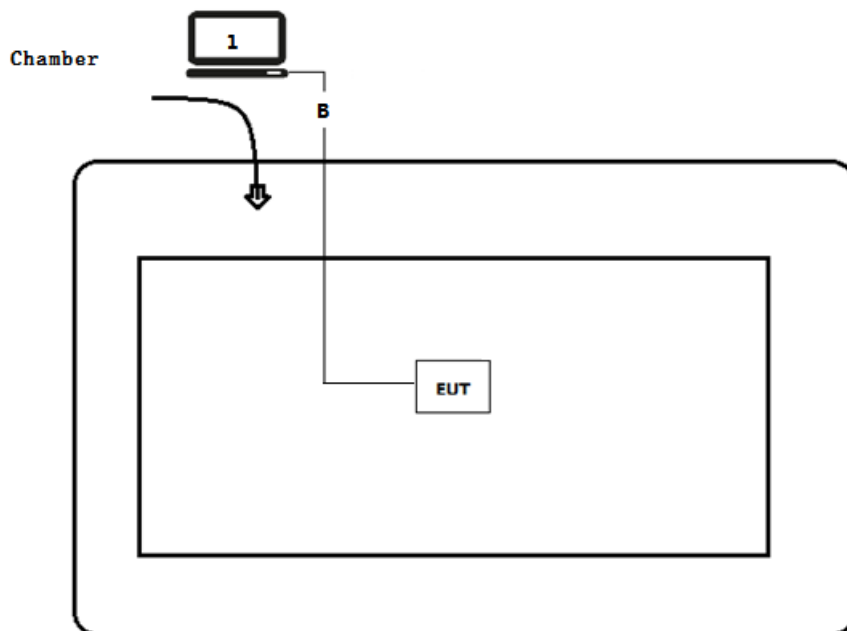
Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook	Think Pad	2526	LV-A3285	Power by adapter
A USB Cable	N/A	N/A	N/A	Shield, 0.5m
B USB Cable	N/A	N/A	N/A	Shield, 10m

1.5 Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



1.6 EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	Run RF software [Bluetest 3], and set the test mode and channel, then press OK to start to continue transmit.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
- Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	Yes	No
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	Yes	No
20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)	Yes	No
Carrier Frequency Separation	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)	Yes	No
Number of Hopping Frequencies	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)(iii)	Yes	No
Time of Occupancy (Dwell Time)	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)(iii)	Yes	No
Peak Output Power	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(1)	Yes	No
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.215(c), 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	Yes	No
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

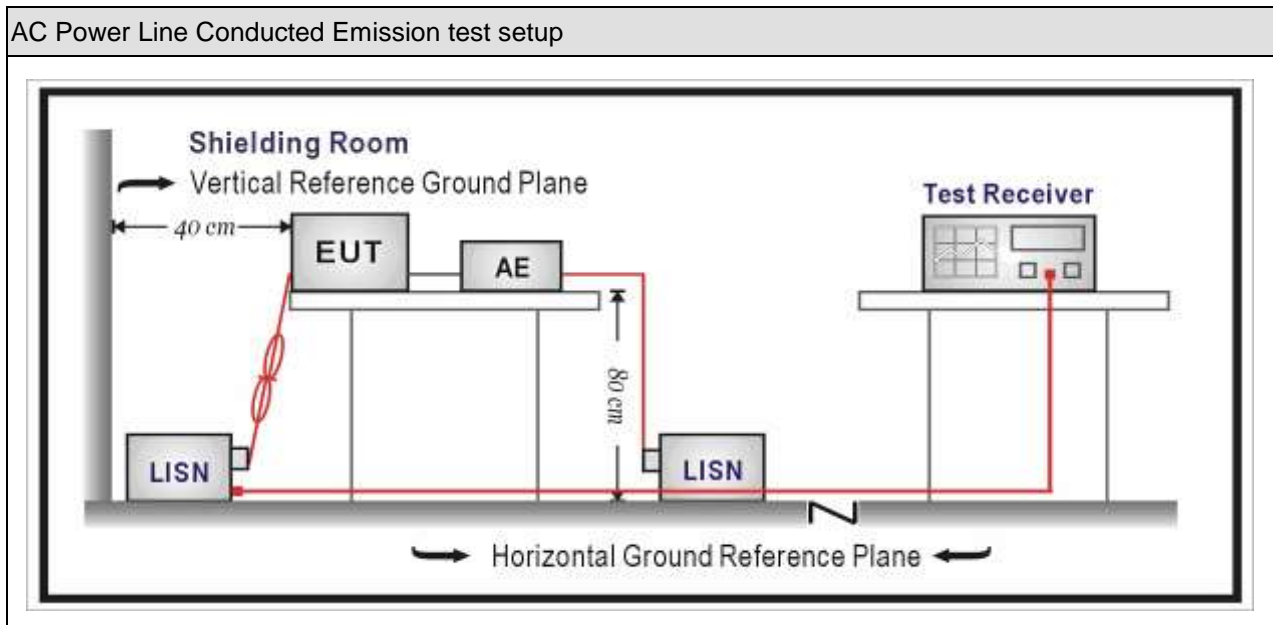
3. Conducted Emission

3.1. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2019.03.05	2020.03.04
Two-Line V-Network	R&S	ENV 216	101189	2018.07.16	2019.07.15
Two-Line V-Network	R&S	ENV 216	101044	2018.09.15	2019.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2018.09.15	2019.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2019.01.05	2020.01.04
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dBµV)	Average(dBµV)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

3.4. Test Procedure

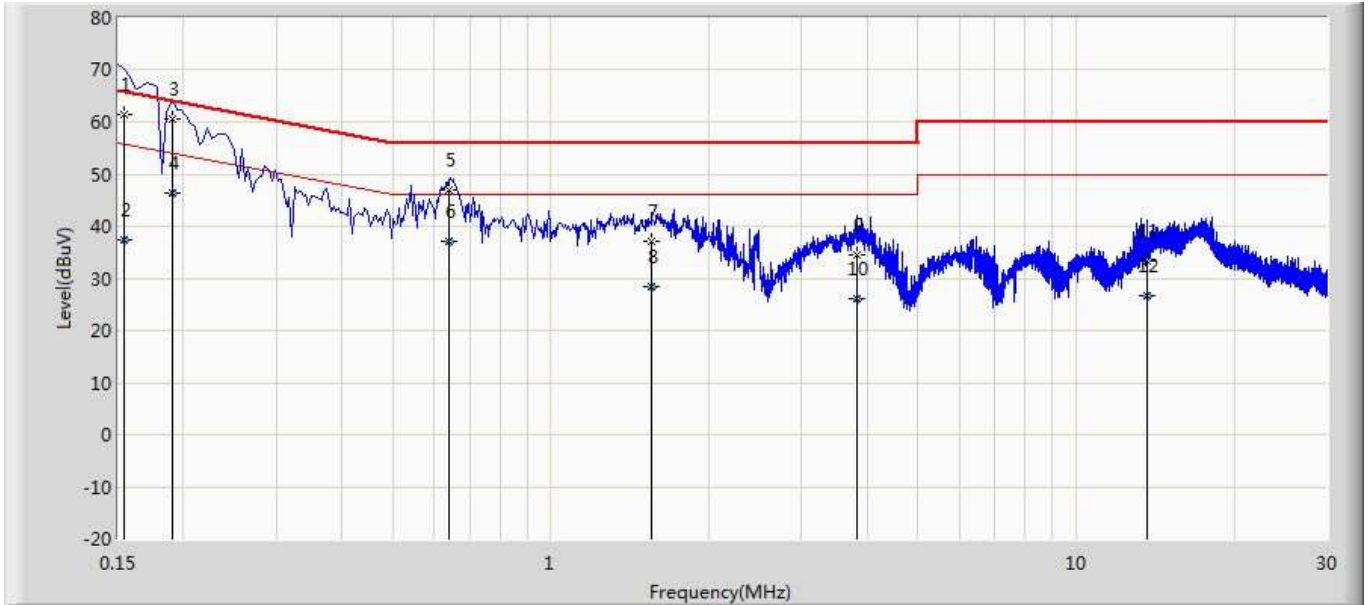
Test Method			
	References Rule	Chapter	Item
<input checked="" type="checkbox"/>	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Site: TR1	Time: 2019/05/23
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1	



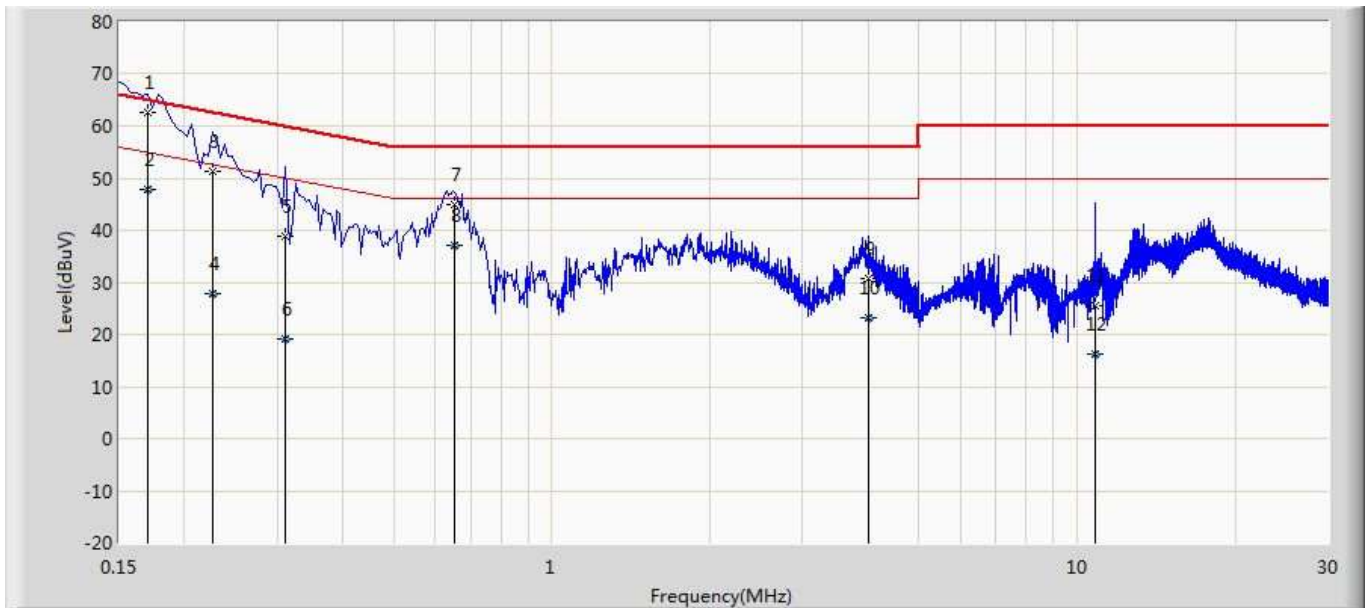
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.154	61.573	51.959	-4.208	65.781	9.593	0.022	0.000	QP
2		0.154	37.250	27.636	-18.531	55.781	9.593	0.022	0.000	AV
3	*	0.190	60.610	50.984	-3.427	64.037	9.598	0.028	0.000	QP
4		0.190	46.362	36.736	-7.674	54.037	9.598	0.028	0.000	AV
5		0.638	46.918	37.283	-9.082	56.000	9.590	0.045	0.000	QP
6		0.638	37.021	27.386	-8.979	46.000	9.590	0.045	0.000	AV
7		1.554	37.020	27.344	-18.980	56.000	9.601	0.075	0.000	QP
8		1.554	28.341	18.665	-17.659	46.000	9.601	0.075	0.000	AV
9		3.826	34.437	24.677	-21.563	56.000	9.634	0.125	0.000	QP
10		3.826	26.032	16.272	-19.968	46.000	9.634	0.125	0.000	AV
11		13.638	33.324	23.169	-26.676	60.000	9.913	0.242	0.000	QP
12		13.638	26.630	16.475	-23.370	50.000	9.913	0.242	0.000	AV

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

2. " * ", means this data is the worst emission level.

3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: TR1	Time: 2019/05/23
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.170	62.552	52.923	-2.408	64.960	9.606	0.024	0.000	QP
2		0.170	47.812	38.182	-7.149	54.960	9.606	0.024	0.000	AV
3		0.226	51.312	41.681	-11.283	62.595	9.600	0.031	0.000	QP
4		0.226	27.817	18.186	-24.779	52.595	9.600	0.031	0.000	AV
5		0.310	38.700	29.068	-21.271	59.970	9.600	0.032	0.000	QP
6		0.310	19.077	9.445	-30.894	49.970	9.600	0.032	0.000	AV
7		0.654	45.022	35.375	-10.978	56.000	9.600	0.048	0.000	QP
8		0.654	37.232	27.584	-8.768	46.000	9.600	0.048	0.000	AV
9		4.006	30.836	21.072	-25.164	56.000	9.643	0.121	0.000	QP
10		4.006	23.237	13.473	-22.763	46.000	9.643	0.121	0.000	AV
11		10.810	25.407	15.399	-34.593	60.000	9.791	0.217	0.000	QP
12		10.810	16.137	6.129	-33.863	50.000	9.791	0.217	0.000	AV

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

2. " * ", means this data is the worst emission level.

3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4. Emissions in restricted frequency bands

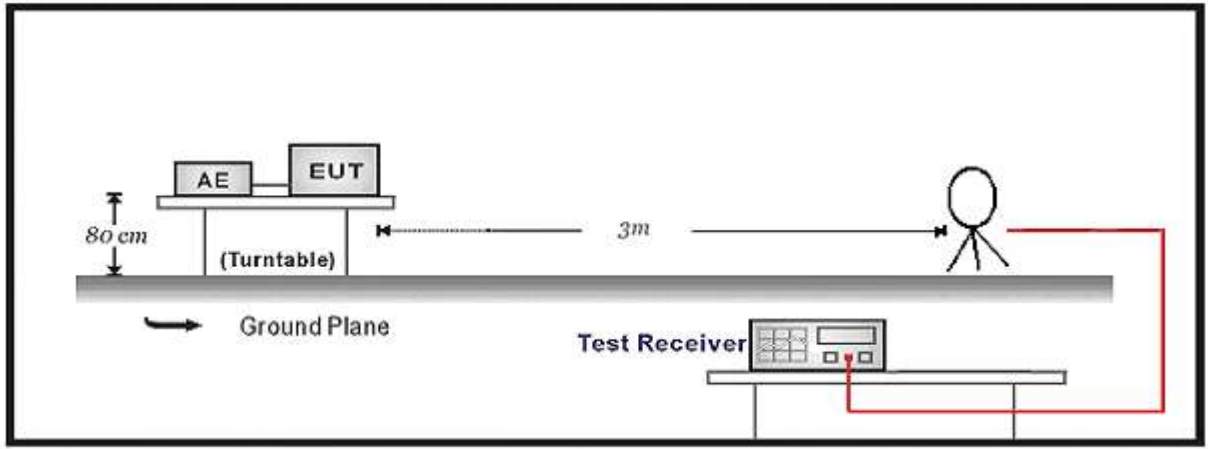
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2019.03.29	2020.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2018.11.16	2019.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2018.10.16	2019.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2019.03.02	2020.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2019.01.04	2020.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

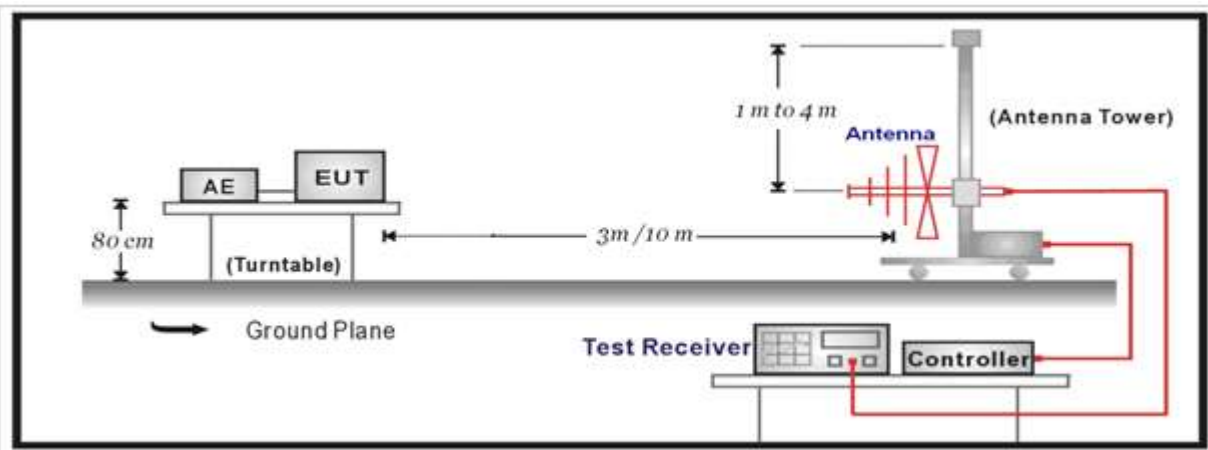
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2019.05.06	2020.05.05
Preamplifier	Quietek	AP-040G	CHM-0906001	2019.05.06	2020.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2019.01.22	2020.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.11.25	2019.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2019.03.02	2020.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2018.06.10	2019.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.04	2020.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

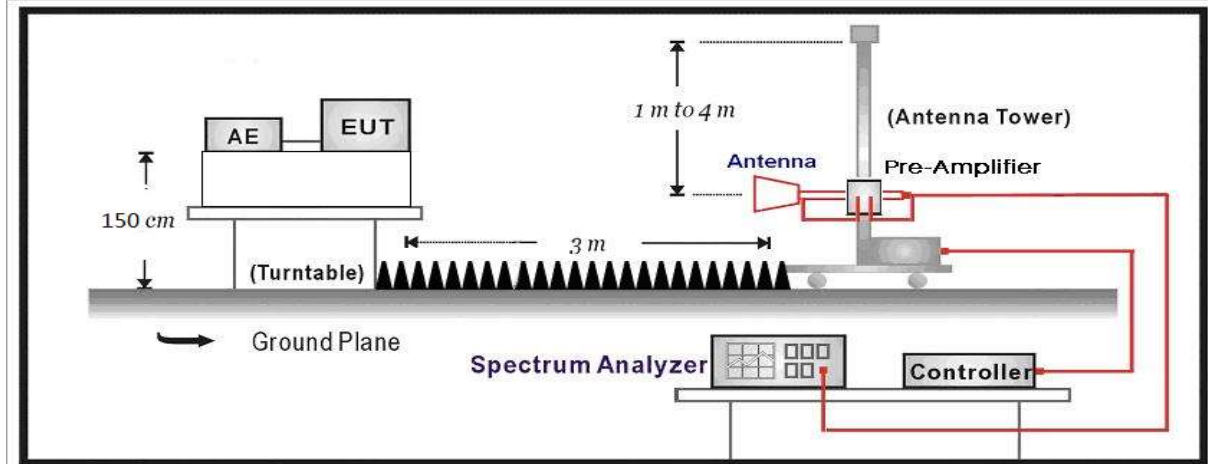
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.4. Test Procedure

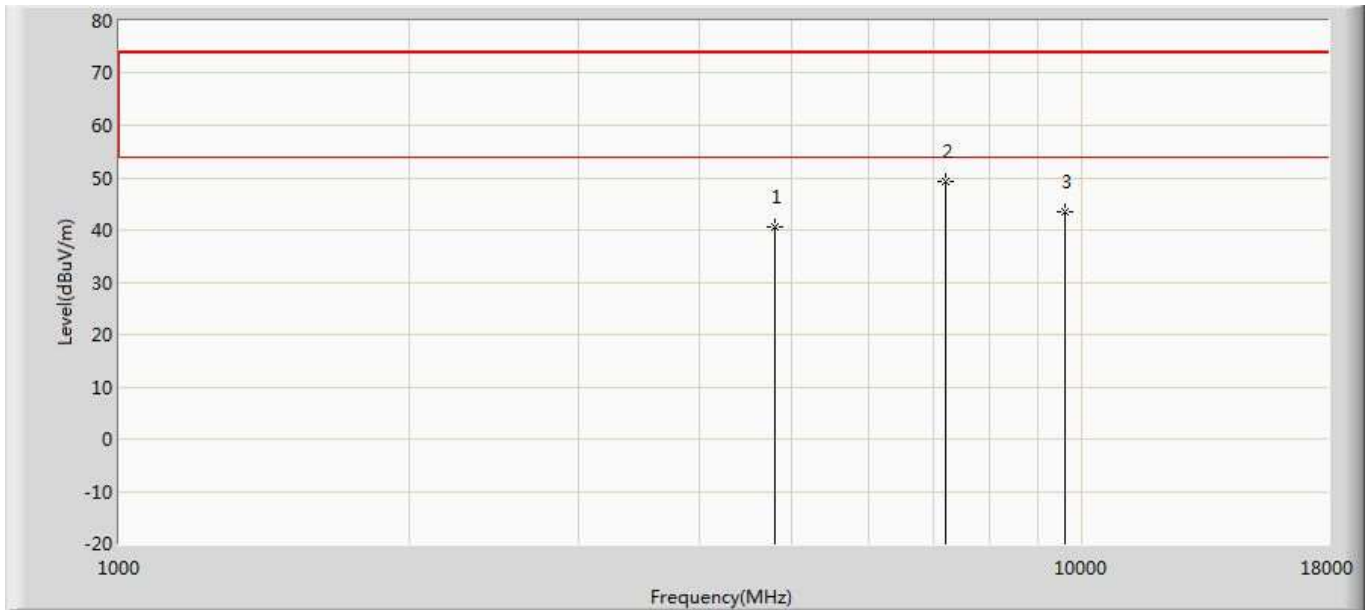
Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
<input checked="" type="checkbox"/>	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
<input checked="" type="checkbox"/>	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

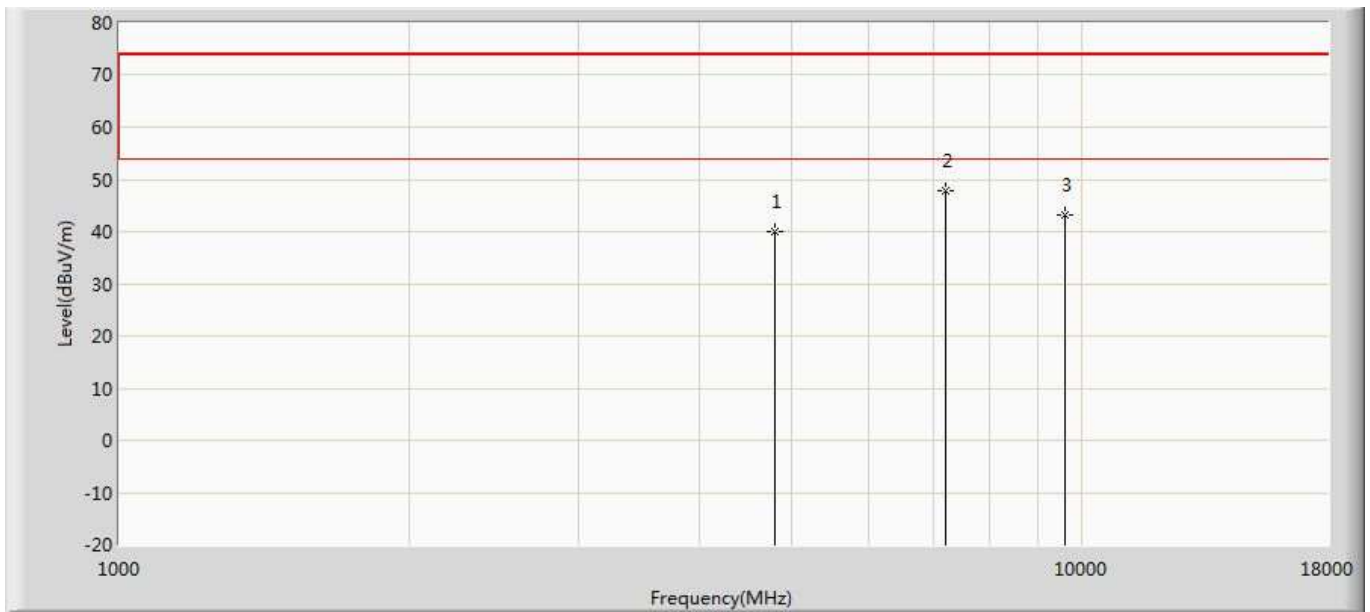
4.6. Test Result

Profile: 1942157R	Page No.: 57
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402Mhz by DH5	



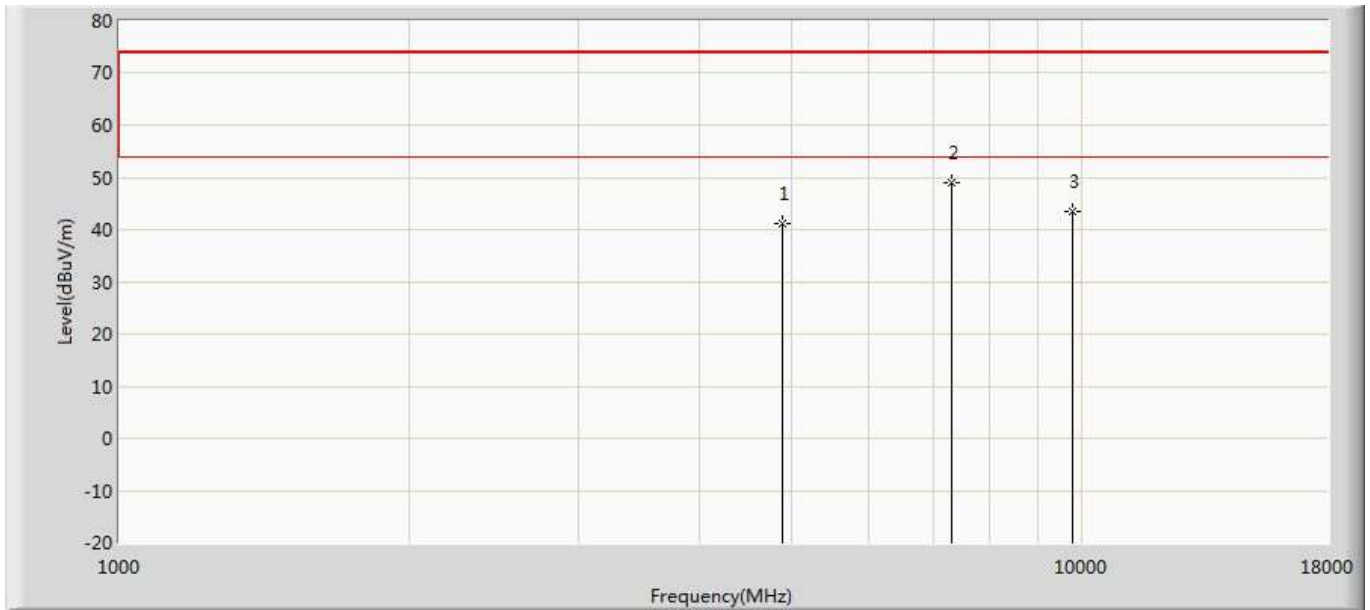
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.500	38.759	-33.500	74.000	1.741	PK
2	*	7205.000	49.173	43.920	-24.827	74.000	5.253	PK
3		9608.000	43.474	36.605	-30.526	74.000	6.869	PK

Profile: 1942157R	Page No.: 58
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402Mhz by DH5	



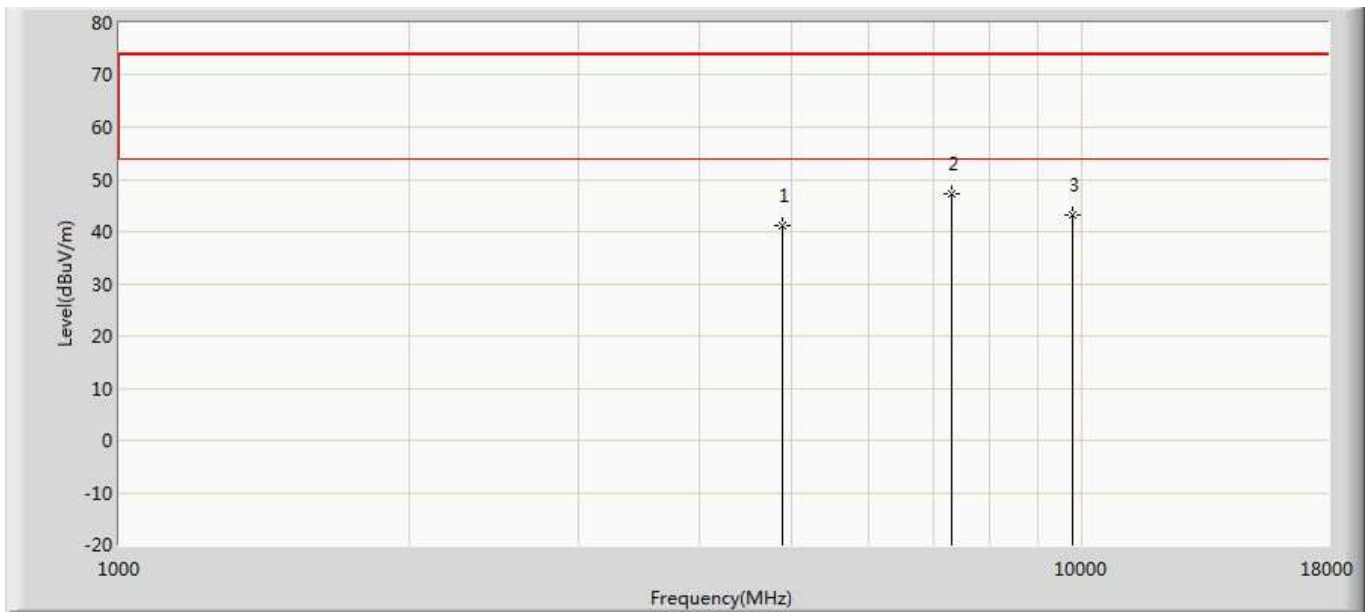
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.120	38.379	-33.880	74.000	1.741	PK
2	*	7205.000	47.838	42.585	-26.162	74.000	5.253	PK
3		9608.000	43.164	36.295	-30.836	74.000	6.869	PK

Profile: 1942157R	Page No.: 59
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2441Mhz by DH5	



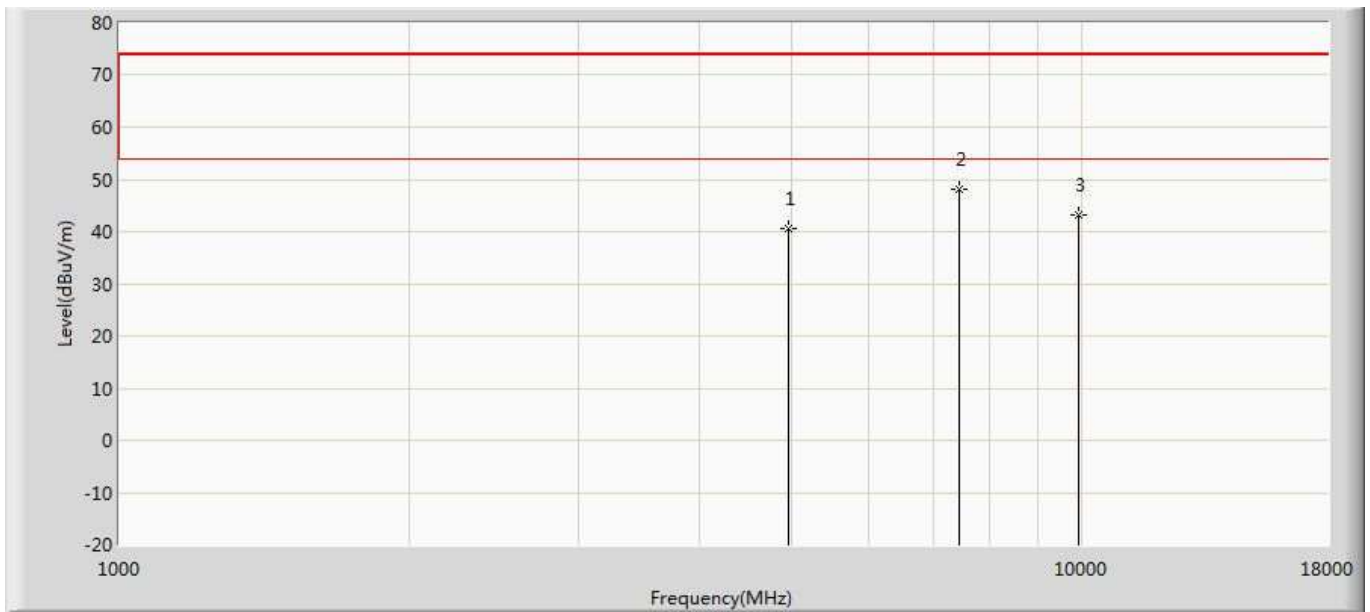
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	41.027	39.184	-32.973	74.000	1.843	PK
2	*	7324.000	49.092	43.497	-24.908	74.000	5.595	PK
3		9764.000	43.485	36.242	-30.515	74.000	7.244	PK

Profile: 1942157R	Page No.: 60
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2441Mhz by DH5	



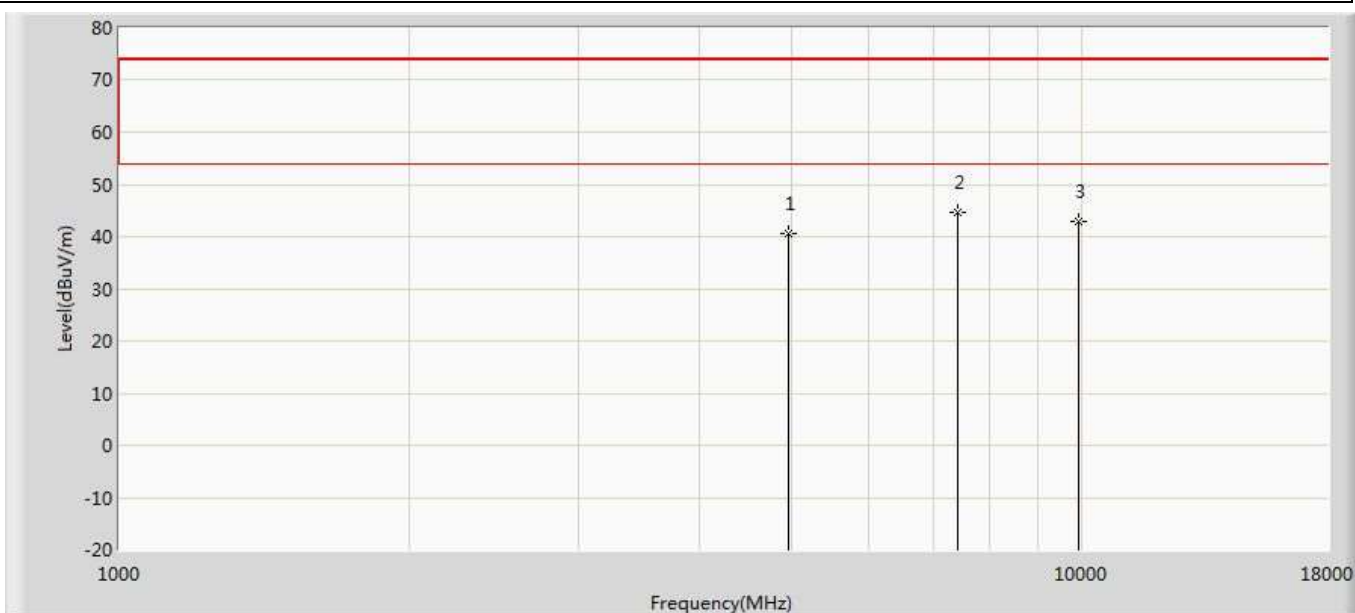
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	41.019	39.176	-32.981	74.000	1.843	PK
2	*	7324.000	47.216	41.621	-26.784	74.000	5.595	PK
3		9764.000	43.140	35.897	-30.860	74.000	7.244	PK

Profile: 1942157R	Page No.: 61
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480Mhz by DH5	



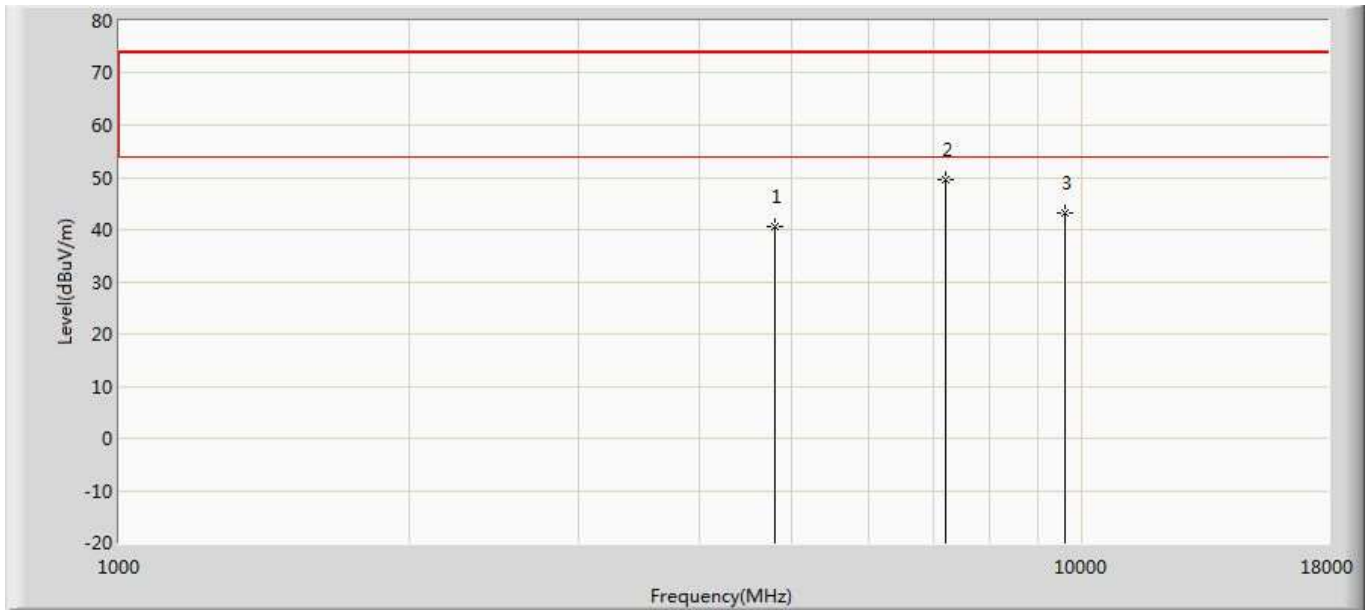
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.698	38.717	-33.302	74.000	1.981	PK
2	*	7443.000	48.128	42.798	-25.872	74.000	5.330	PK
3		9920.000	43.192	36.103	-30.808	74.000	7.088	PK

Profile: 1942157R	Page No.: 62
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480Mhz by DH5	



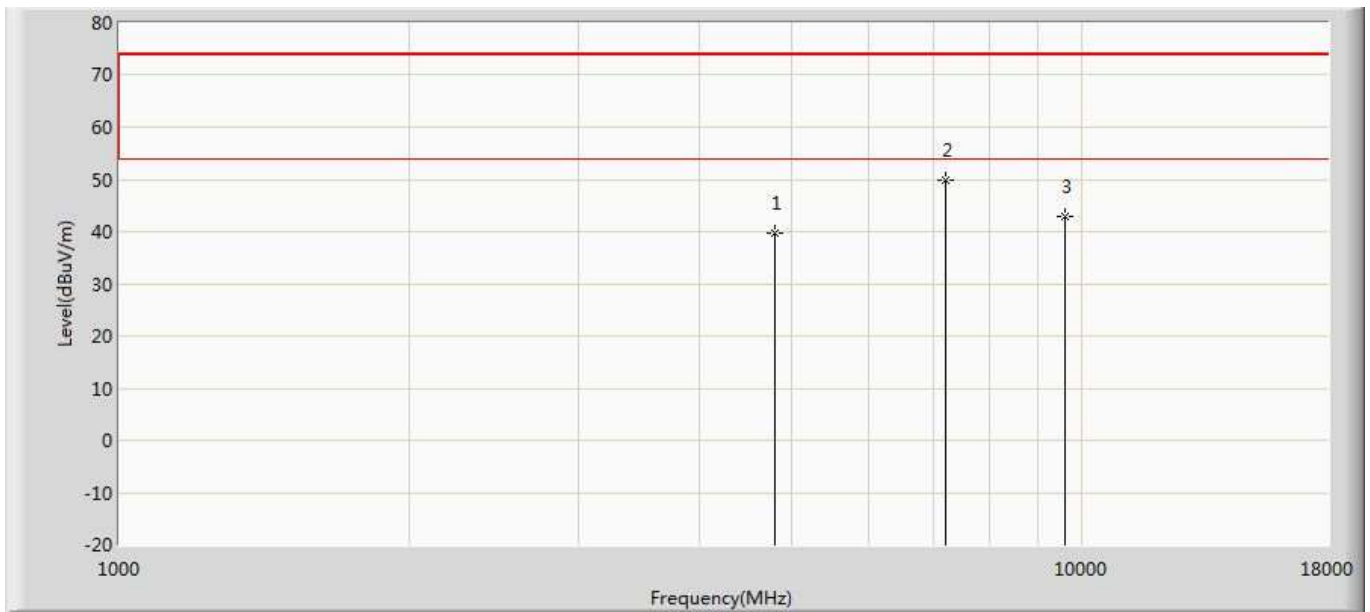
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.573	38.592	-33.427	74.000	1.981	PK
2	*	7440.000	44.763	39.422	-29.237	74.000	5.341	PK
3		9920.000	43.033	35.944	-30.967	74.000	7.088	PK

Profile: 1942157R	Page No.: 63
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



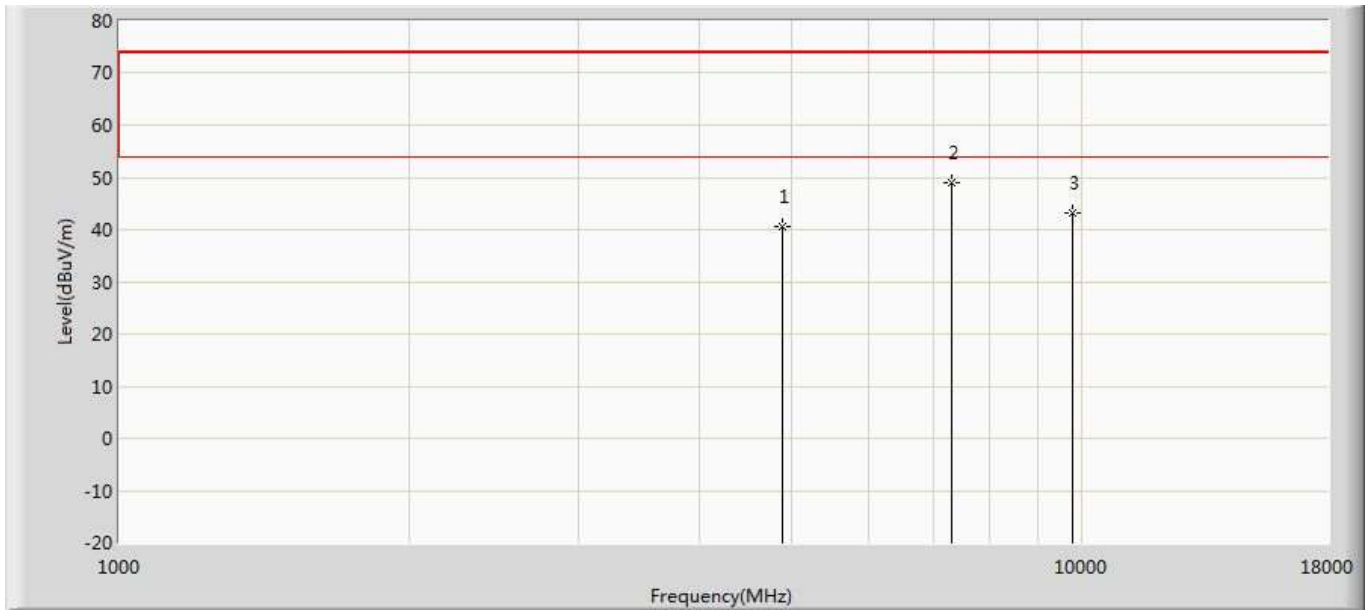
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.514	38.773	-33.486	74.000	1.741	PK
2	*	7205.000	49.611	44.358	-24.389	74.000	5.253	PK
3		9608.000	43.325	36.456	-30.675	74.000	6.869	PK

Profile: 1942157R	Page No.: 64
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



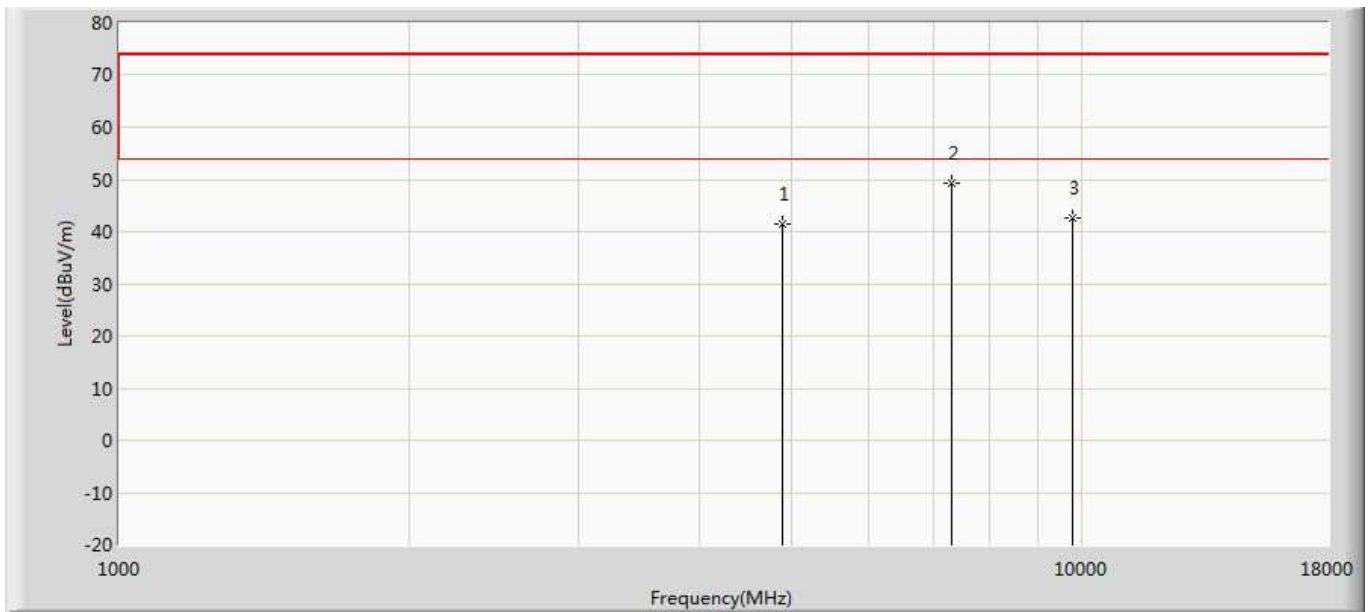
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.826	38.085	-34.174	74.000	1.741	PK
2	*	7205.000	49.892	44.639	-24.108	74.000	5.253	PK
3		9608.000	42.841	35.972	-31.159	74.000	6.869	PK

Profile: 1942157R	Page No.: 65
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441Mhz by 2DH5	



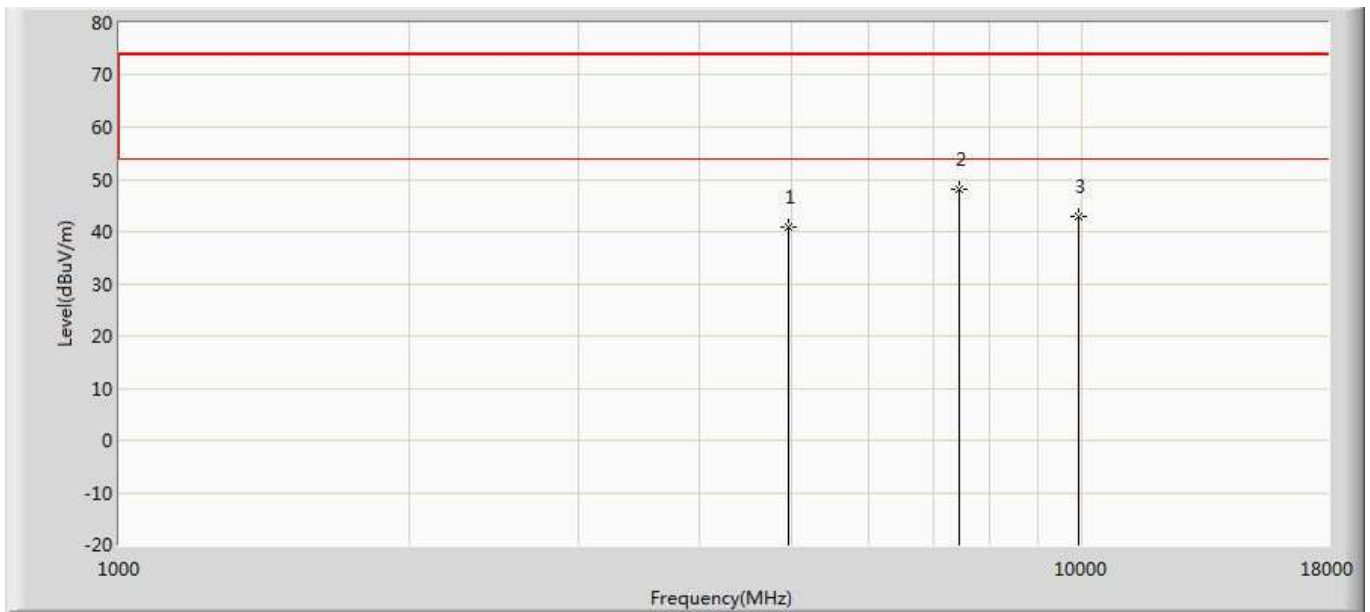
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.502	38.659	-33.498	74.000	1.843	PK
2	*	7324.000	48.849	43.254	-25.151	74.000	5.595	PK
3		9764.000	43.202	35.959	-30.798	74.000	7.244	PK

Profile: 1942157R	Page No.: 66
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441Mhz by 2DH5	



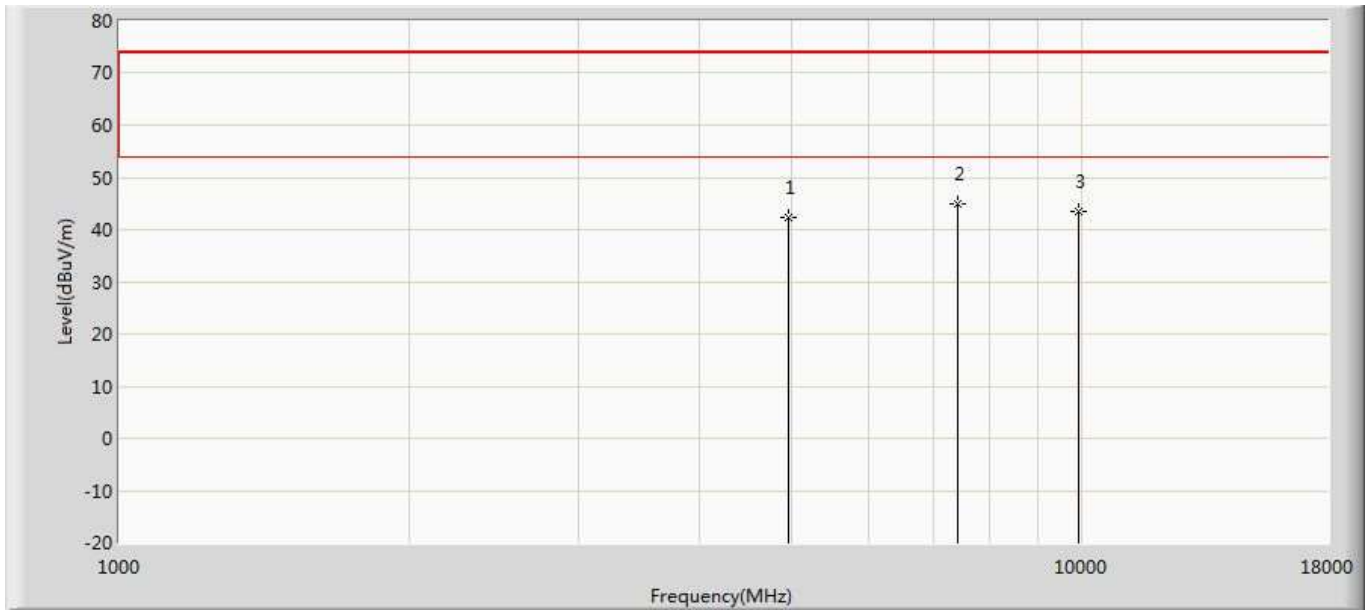
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	41.435	39.592	-32.565	74.000	1.843	PK
2	*	7324.000	49.376	43.781	-24.624	74.000	5.595	PK
3		9764.000	42.533	35.290	-31.467	74.000	7.244	PK

Profile: 1942157R	Page No.: 67
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



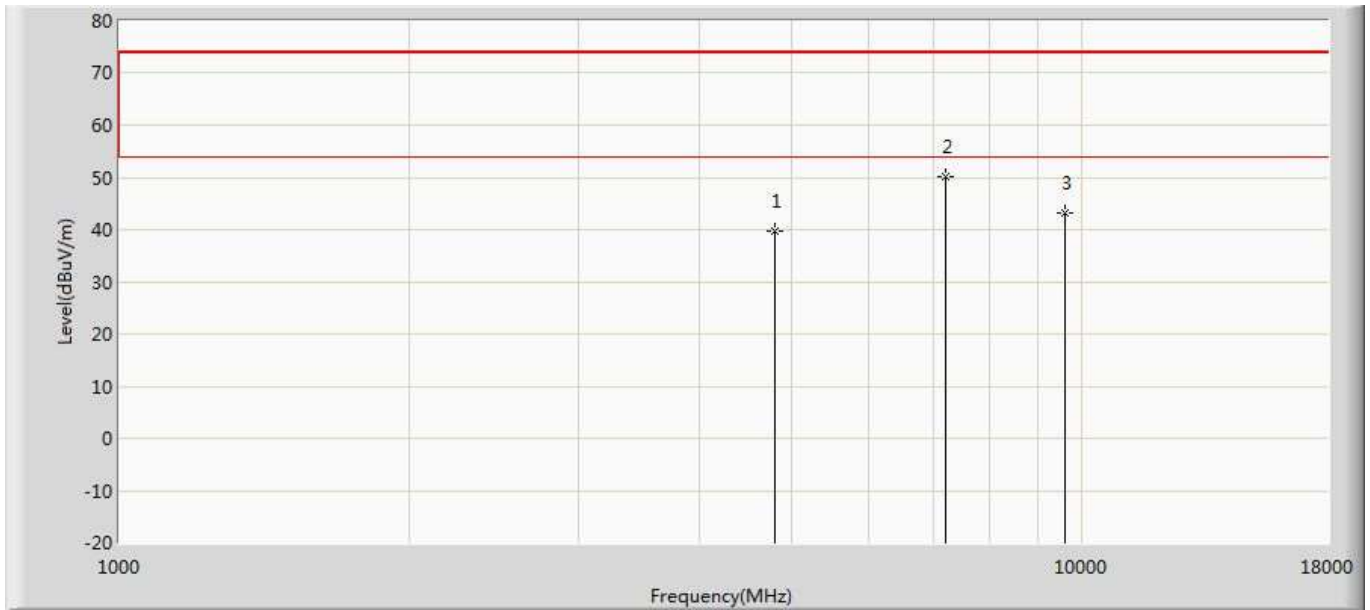
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.843	38.862	-33.157	74.000	1.981	PK
2	*	7443.000	48.146	42.816	-25.854	74.000	5.330	PK
3		9920.000	42.935	35.846	-31.065	74.000	7.088	PK

Profile: 1942157R	Page No.: 68
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



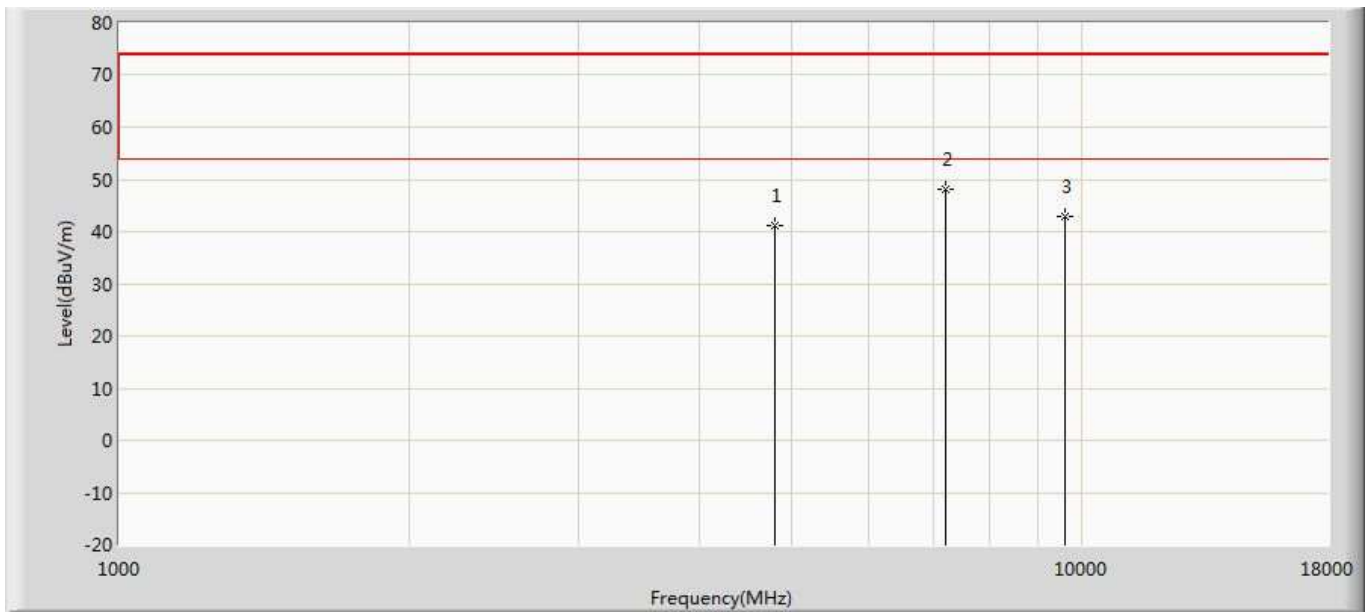
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	42.229	40.248	-31.771	74.000	1.981	PK
2	*	7440.000	44.905	39.564	-29.095	74.000	5.341	PK
3		9920.000	43.477	36.388	-30.523	74.000	7.088	PK

Profile: 1942157R	Page No.: 69
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



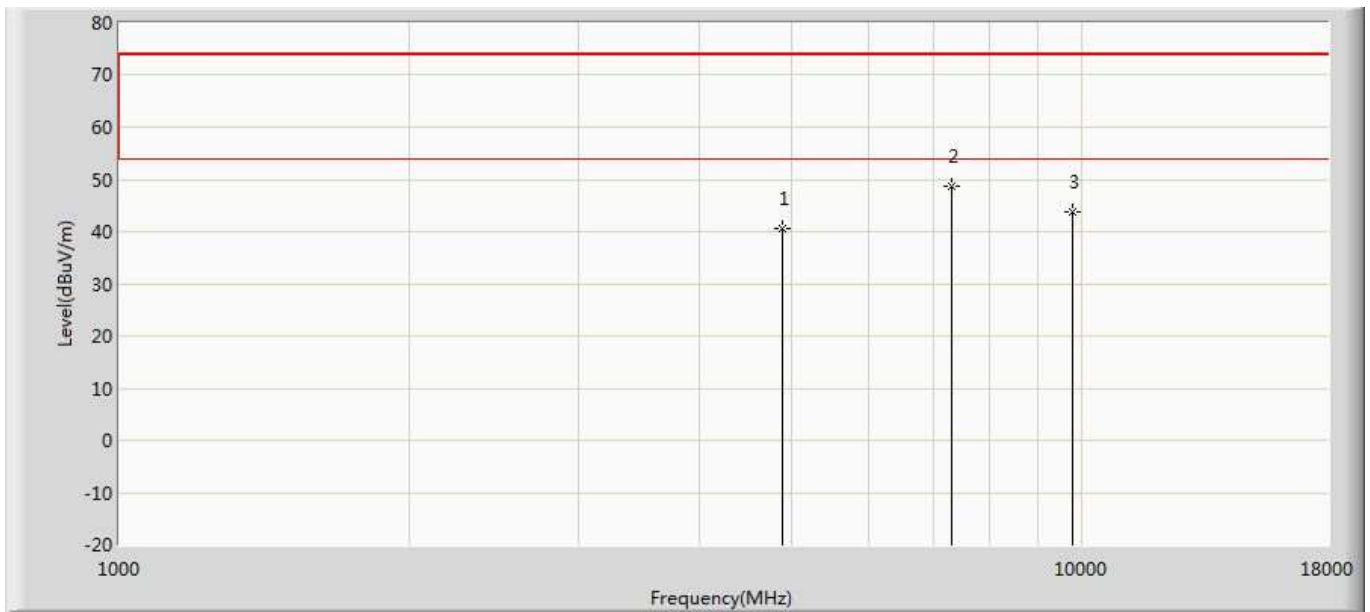
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.804	38.063	-34.196	74.000	1.741	PK
2	*	7205.000	50.105	44.852	-23.895	74.000	5.253	PK
3		9608.000	43.230	36.361	-30.770	74.000	6.869	PK

Profile: 1942157R	Page No.: 70
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



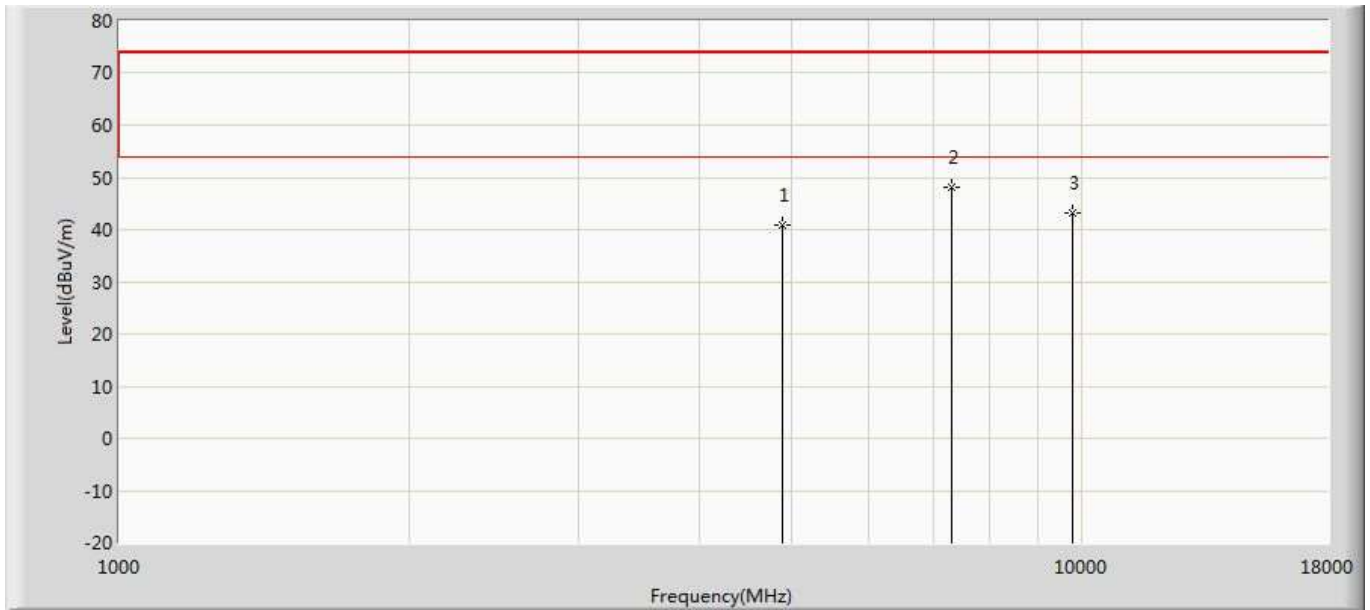
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.039	39.298	-32.961	74.000	1.741	PK
2	*	7205.000	48.223	42.970	-25.777	74.000	5.253	PK
3		9608.000	42.886	36.017	-31.114	74.000	6.869	PK

Profile: 1942157R	Page No.: 71
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441Mhz by 3DH5	



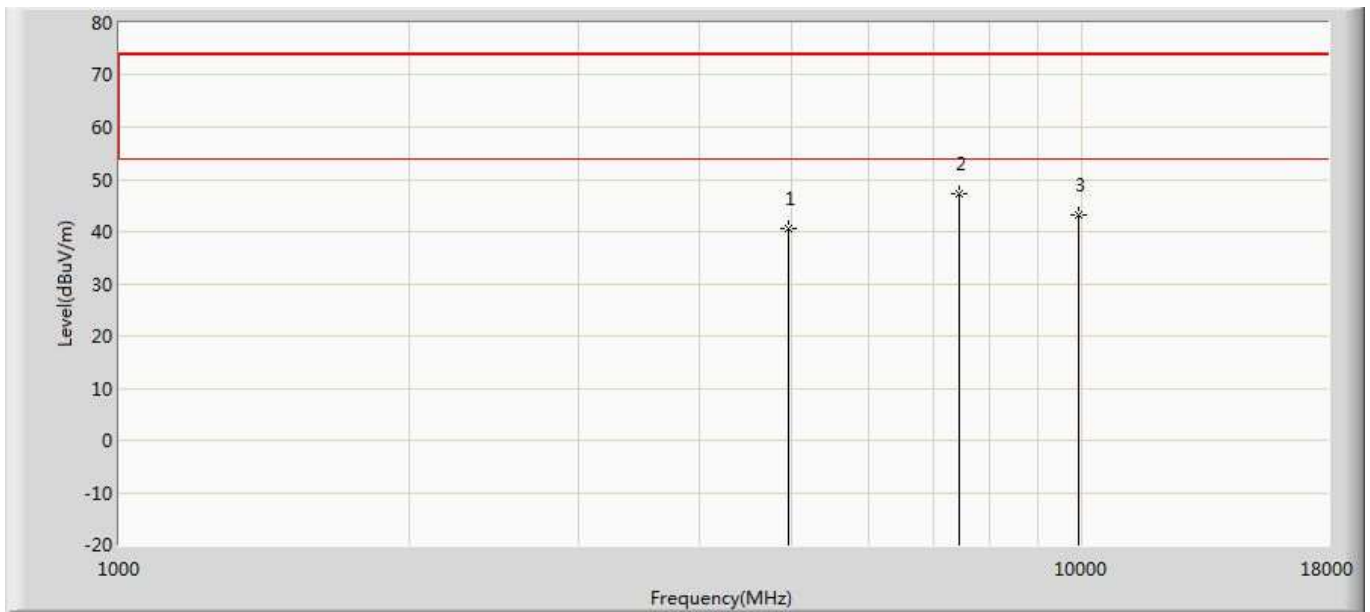
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.511	38.668	-33.489	74.000	1.843	PK
2	*	7324.000	48.623	43.028	-25.377	74.000	5.595	PK
3		9764.000	43.733	36.490	-30.267	74.000	7.244	PK

Profile: 1942157R	Page No.: 72
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441Mhz by 3DH5	



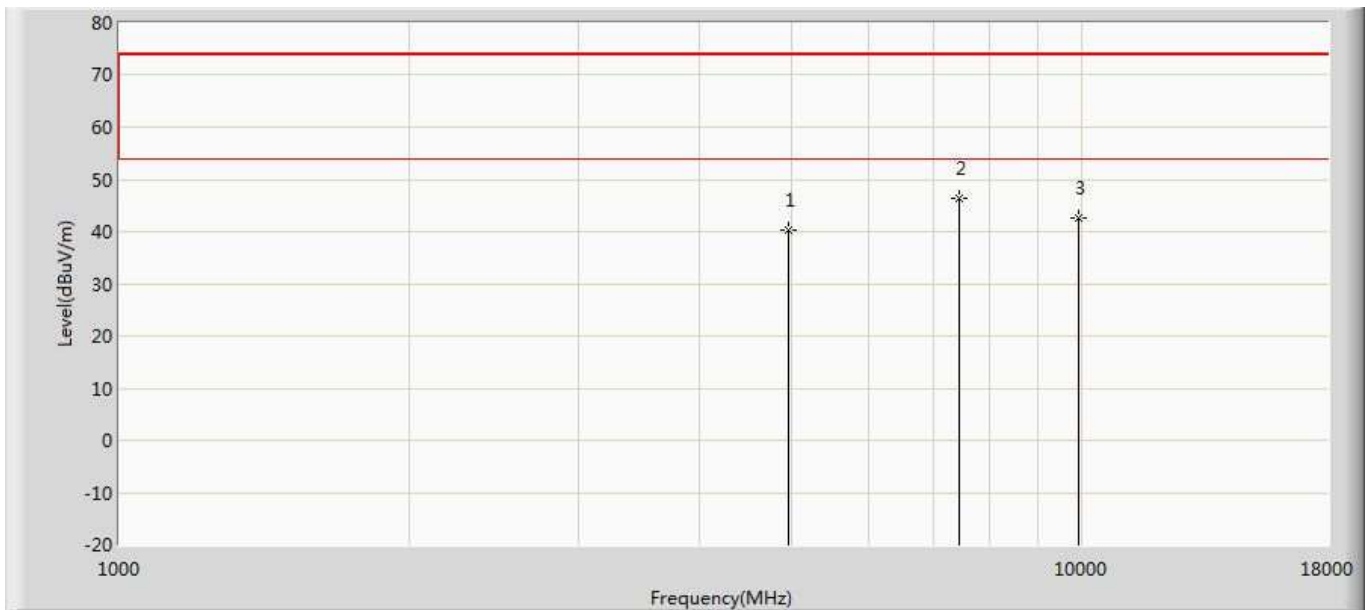
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.829	38.986	-33.171	74.000	1.843	PK
2	*	7324.000	48.005	42.410	-25.995	74.000	5.595	PK
3		9764.000	43.301	36.058	-30.699	74.000	7.244	PK

Profile: 1942157R	Page No.: 73
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.486	38.505	-33.514	74.000	1.981	PK
2	*	7443.000	47.358	42.028	-26.642	74.000	5.330	PK
3		9920.000	43.131	36.042	-30.869	74.000	7.088	PK

Profile: 1942157R	Page No.: 74
Engineer: Simon	
Site: AC5	Time: 2019/05/24 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



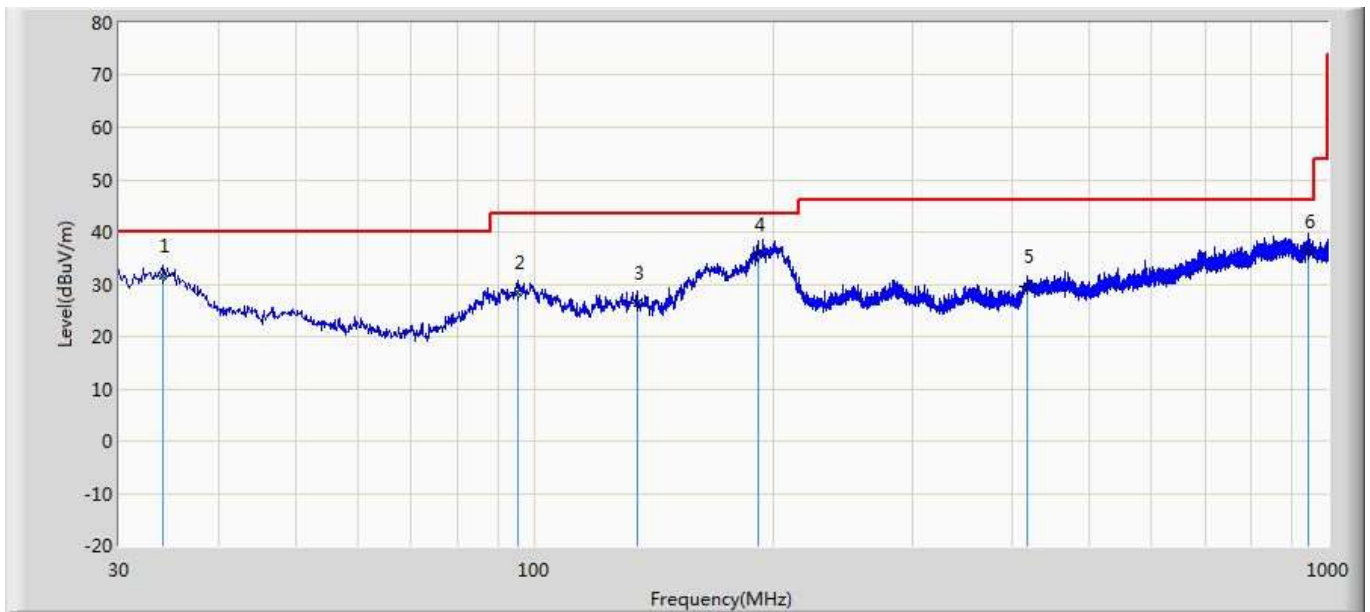
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.327	38.346	-33.673	74.000	1.981	PK
2	*	7443.000	46.513	41.183	-27.487	74.000	5.330	PK
3		9920.000	42.684	35.595	-31.316	74.000	7.088	PK

Note:

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. As the radiated emission was performed, so conducted emission was not tested.

The worst case of Radiated Emission below 1GHz:

Engineer: Simple	
Site: AC2	Time: 2019/05/23 - 19:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1	

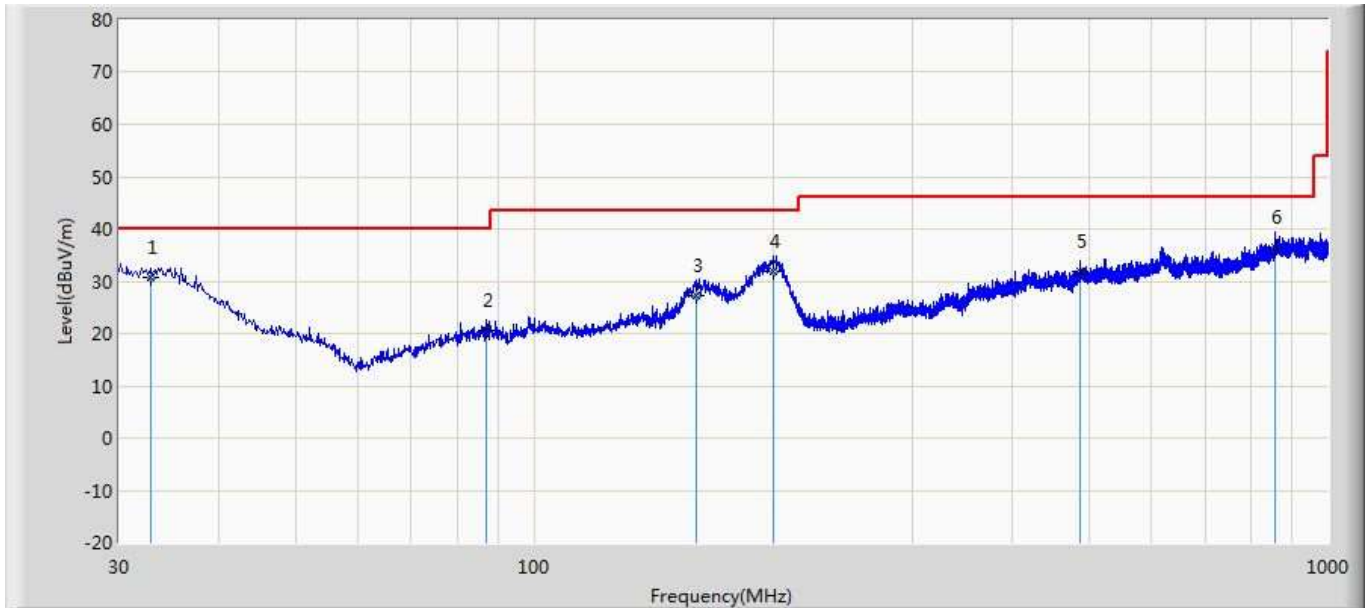


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		34.001	31.519	8.356	-8.481	40.000	23.163	155	36	QP
2		95.354	28.379	8.339	-15.121	43.500	20.041	140	341	QP
3		134.881	26.278	6.427	-17.222	43.500	19.851	180	95	QP
4	*	191.262	35.578	14.125	-7.922	43.500	21.452	120	154	QP
5		418.728	29.633	2.994	-16.367	46.000	26.640	177	263	QP
6		943.740	36.253	2.085	-9.747	46.000	34.168	195	256	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Simple	
Site: AC2	Time: 2019/05/23 - 19:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	32.910	30.711	3.342	-9.289	40.000	27.369	155	123	QP
2		86.988	20.532	6.407	-19.468	40.000	14.126	128	156	QP
3		159.859	27.315	10.046	-16.185	43.500	17.269	178	125	QP
4		199.992	31.759	13.846	-11.741	43.500	17.913	189	121	QP
5		486.749	31.812	4.025	-14.188	46.000	27.787	120	339	QP
6		858.986	36.593	4.088	-9.407	46.000	32.505	130	45	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

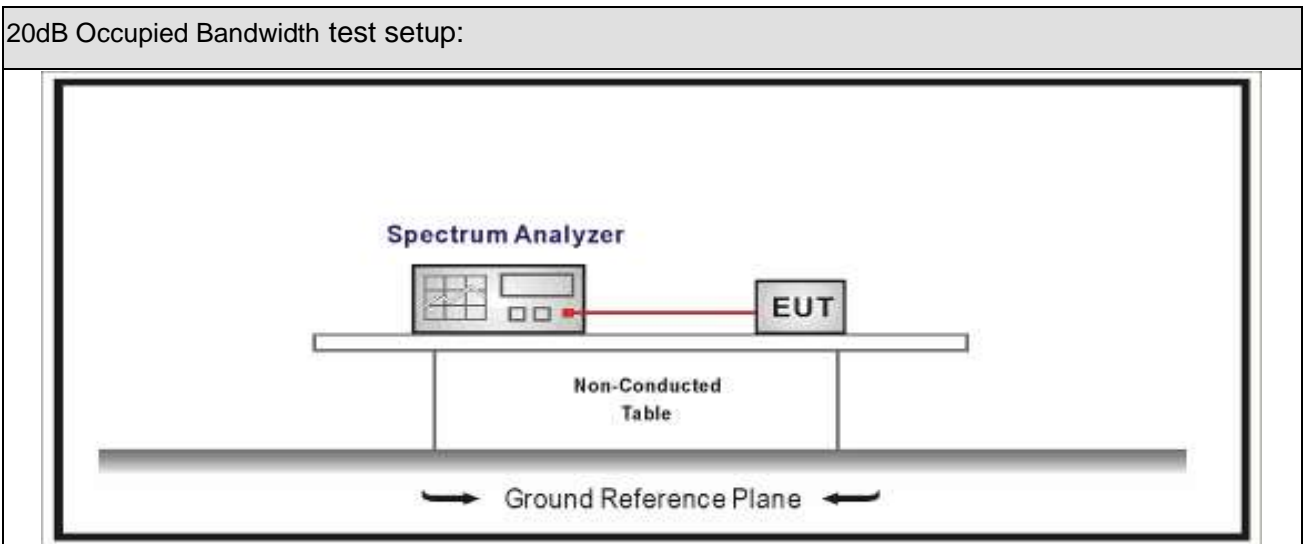
5. 20dB Bandwidth

5.1 Test Equipment

20dB Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2 Test Setup



5.3 Limit

Carrier Frequency Separation	
<input checked="" type="checkbox"/>	For frequency hopping systems operating in 2400-2483.5 MHz band, within frequency range.
<input type="checkbox"/>	For frequency hopping systems operating in 902-928 MHz band, the maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
<input type="checkbox"/>	For frequency hopping systems operating in 5725-5850 MHz band, the maximum 20 dB bandwidth of the hopping channel is 1 MHz.

5.4 Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	6.9.2	Occupied bandwidth tests

5.5 Uncertainty

The measurement uncertainty is defined as ± 1 kHz

5.6 Test Result

Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	927.9	865.58
39	2441	927.4	867.01
78	2480	926.3	861.28

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1335	1195.1
39	2441	1345	1203.9
78	2480	1336	1194.9

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



Product Name	: BLUETOOTH EARPHONES	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1331	1197.2
39	2441	1329	1198.5
78	2480	1336	1206.4

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



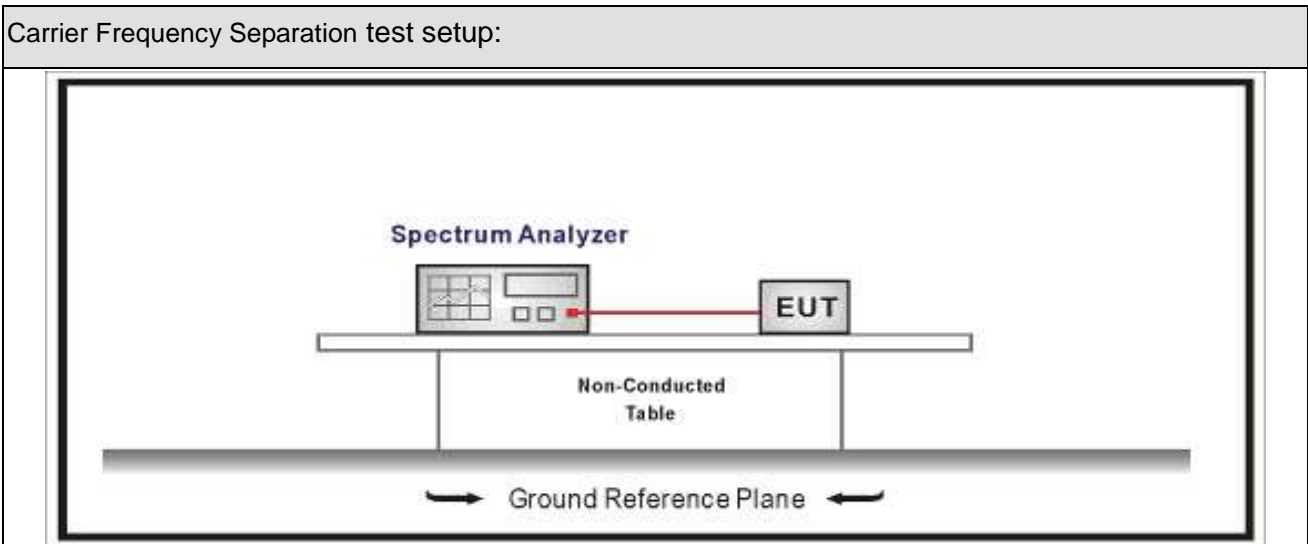
6. Carrier Frequency Separation

6.1. Test Equipment

Carrier Frequency Separation / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

Carrier Frequency Separation	
<input checked="" type="checkbox"/>	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
<input checked="" type="checkbox"/>	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel.
<input type="checkbox"/>	The 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period;
<input type="checkbox"/>	The 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
<input type="checkbox"/>	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

6.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	7.8.2	Carrier frequency separation

6.5. Uncertainty

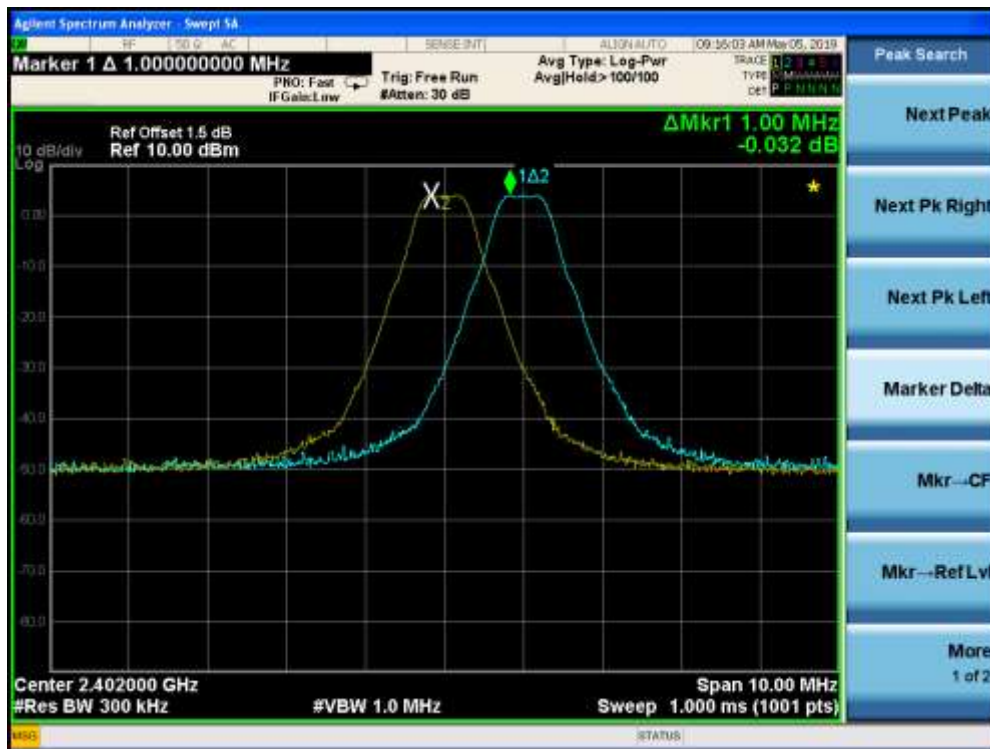
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

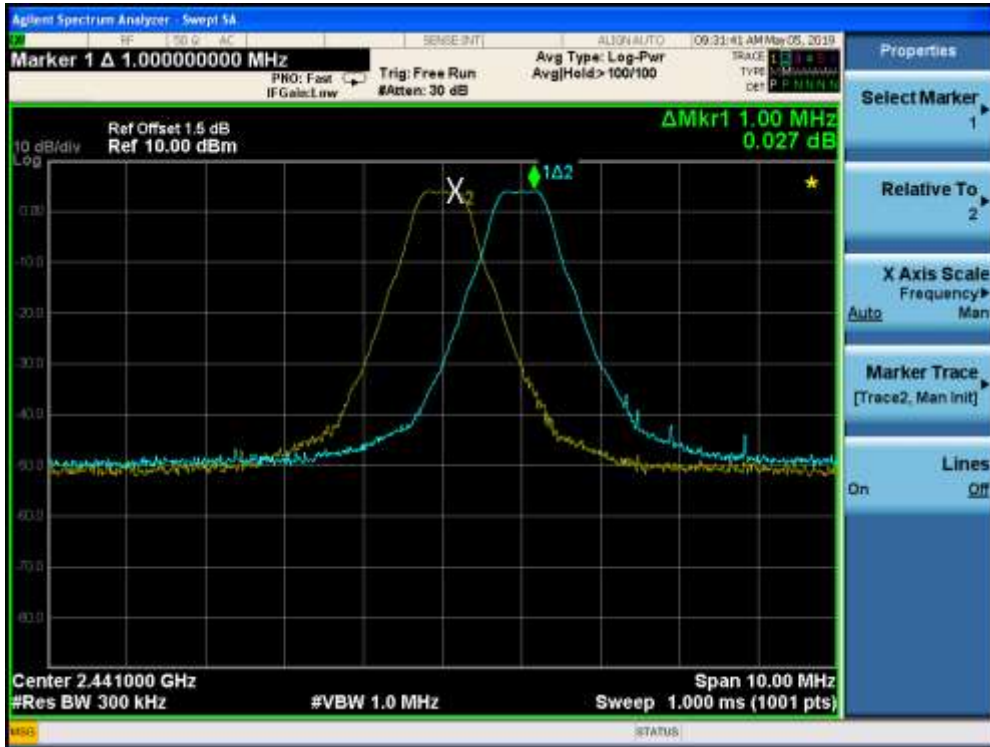
Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	927.9	Pass
39	2441	1000	927.4	Pass
78	2480	1000	926.3	Pass

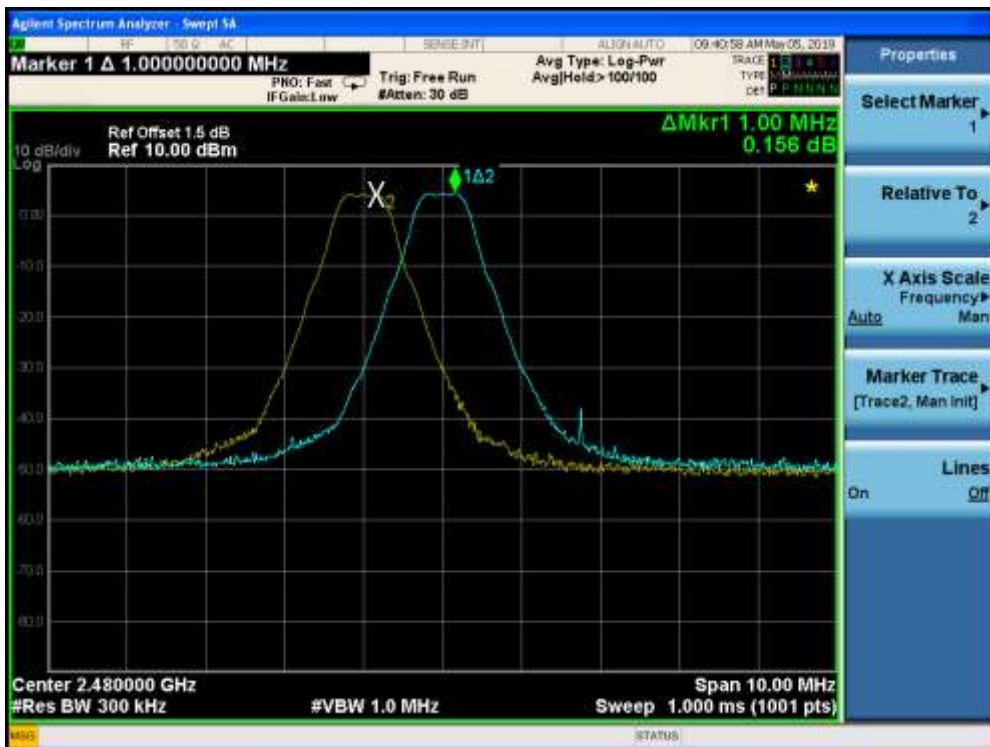
Channel 00 (2402MHz)



Channel 39 (2441MHz)



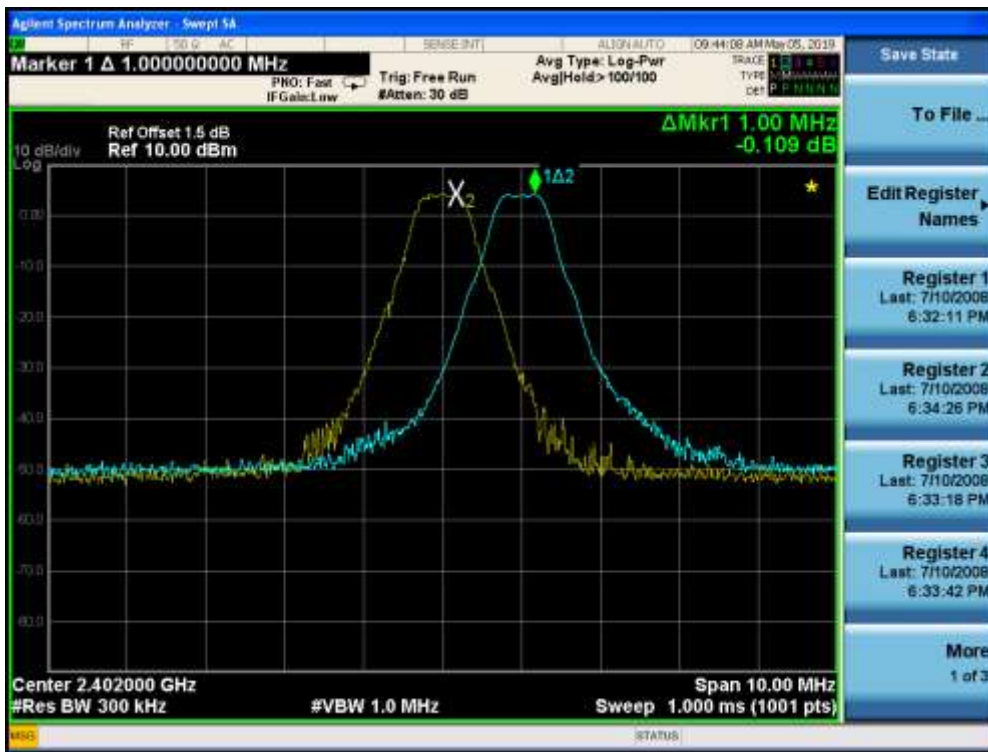
Channel 78 (2480MHz)



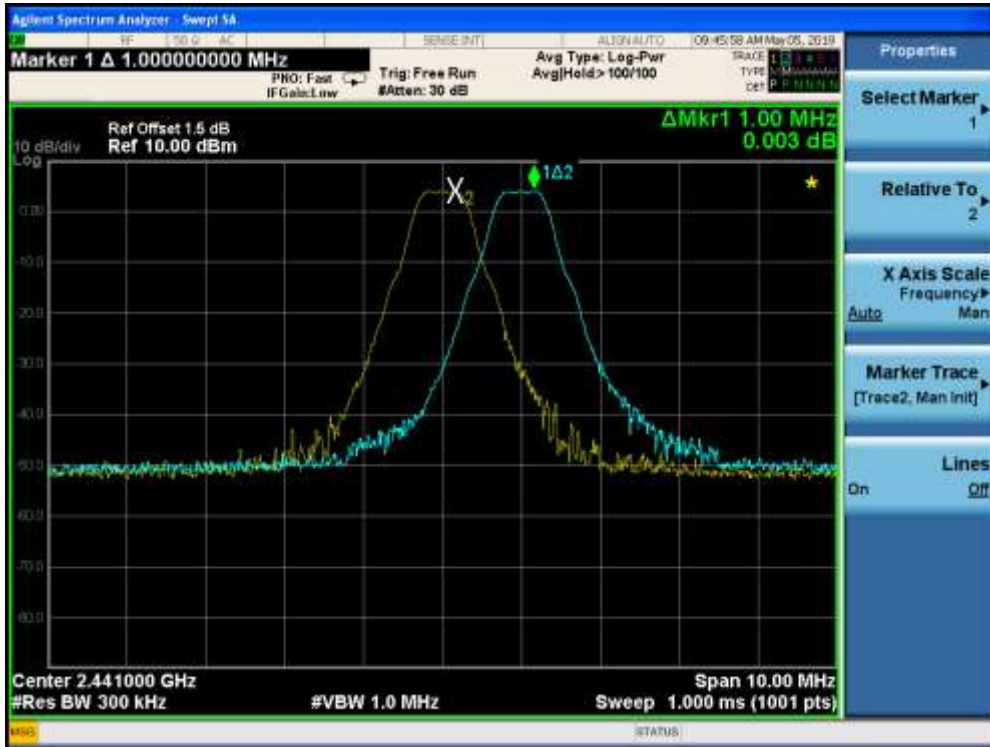
Product Name	: BLUETOOTH EARPHONES	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	890.0	Pass
39	2441	1000	896.7	Pass
78	2480	1000	890.7	Pass

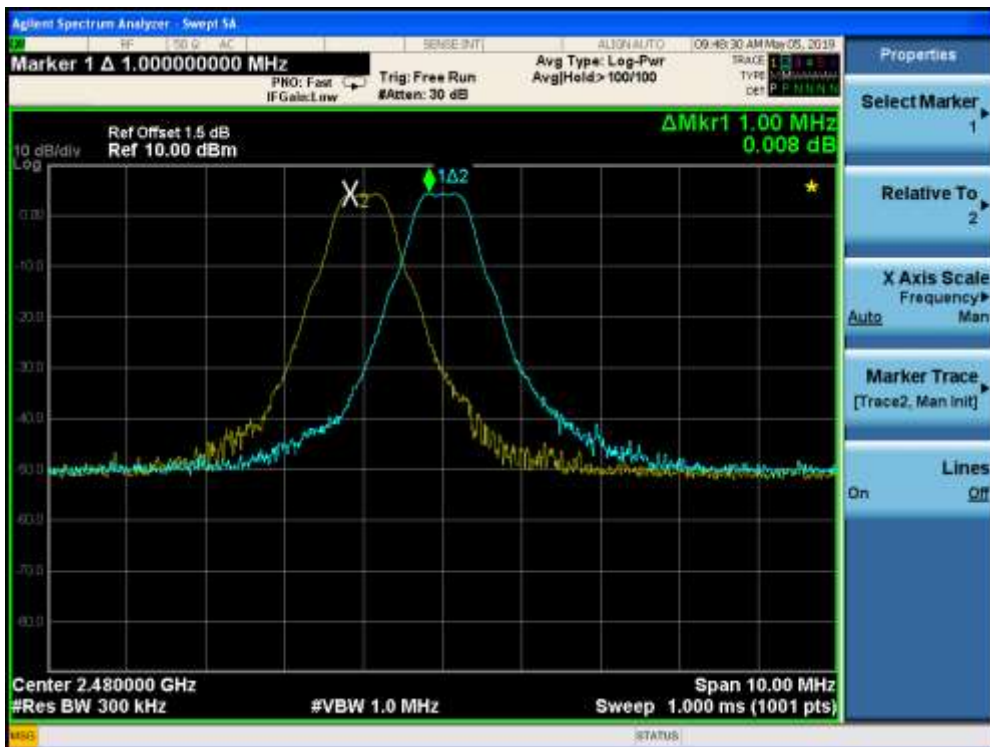
Channel 00 (2402MHz)



Channel 39 (2441MHz)



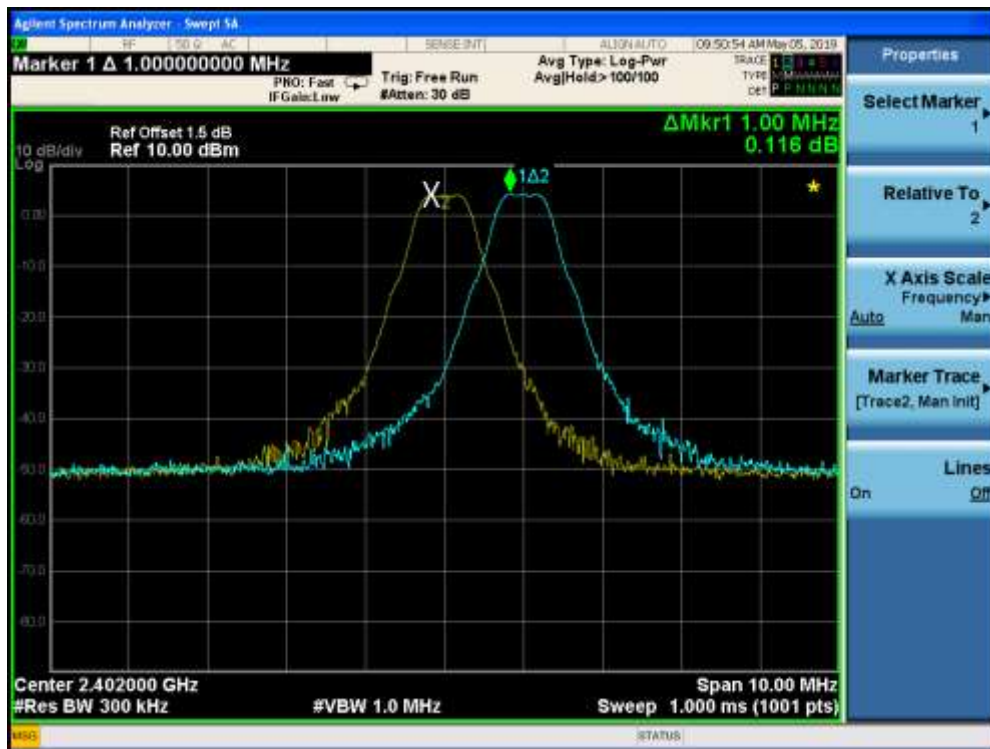
Channel 78 (2480MHz)



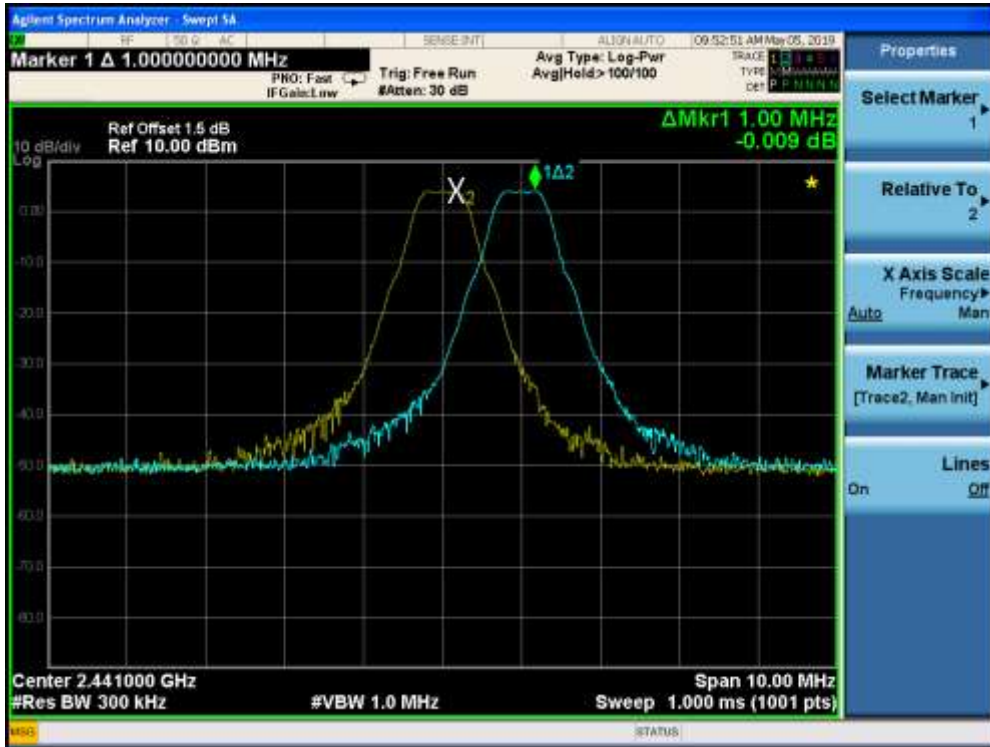
Product Name	: BLUETOOTH EARPHONES	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	887.3	Pass
39	2441	1000	886.0	Pass
78	2480	1000	890.7	Pass

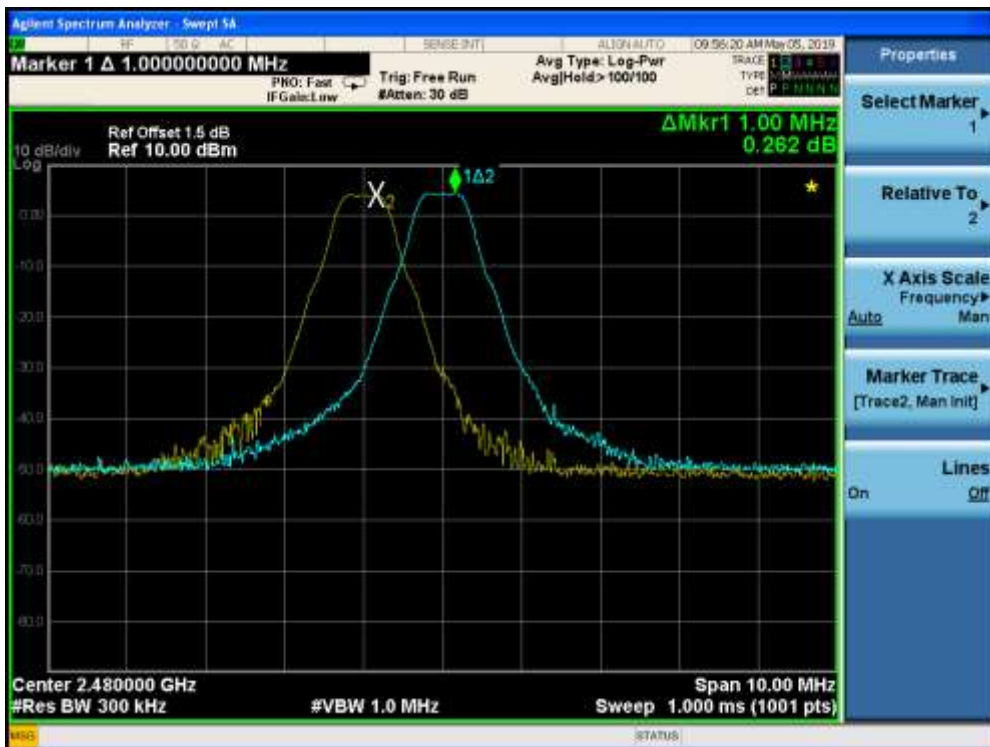
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



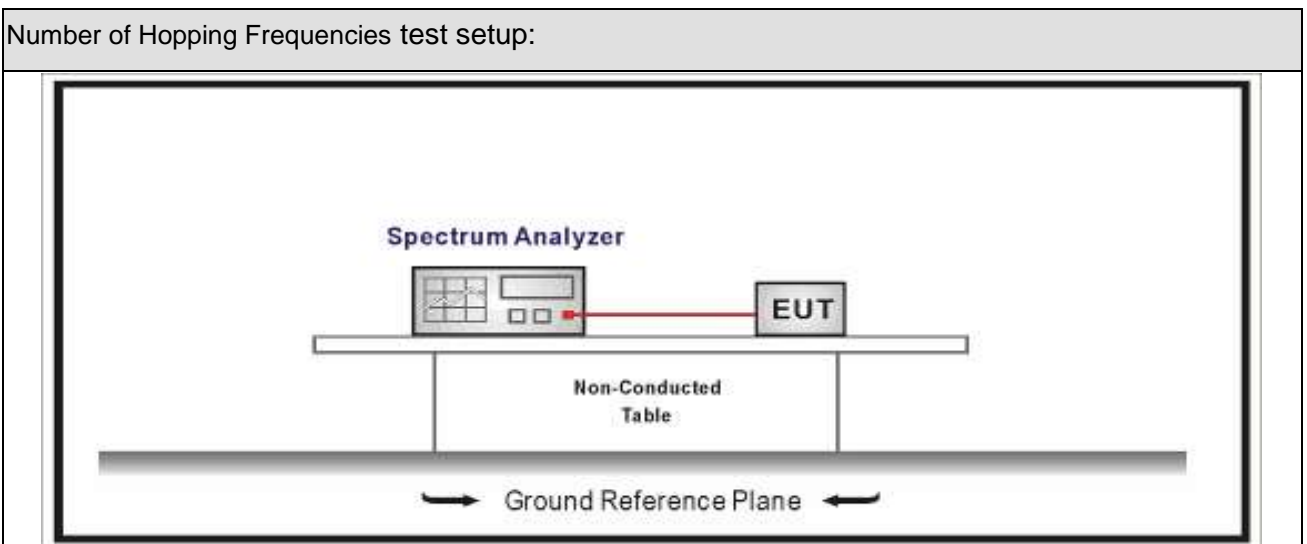
7. Number of Hopping Frequencies

7.1. Test Equipment

Number of Hopping Frequencies / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

Carrier Frequency Separation	
<input checked="" type="checkbox"/>	For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
<input type="checkbox"/>	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is less than 250 kHz, shall use at least 50 hopping frequencies.
<input type="checkbox"/>	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is higher than 250 kHz, shall use at least 25 hopping frequencies.
<input type="checkbox"/>	For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

7.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	7.8.3	Number of Hopping Frequencies

7.5. Uncertainty

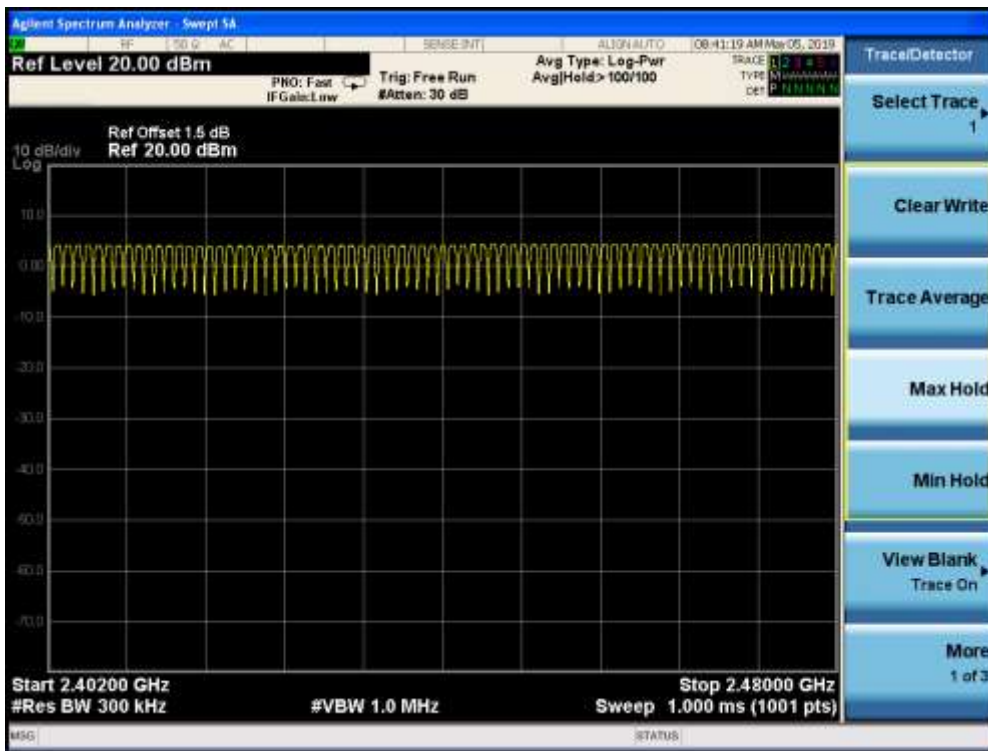
The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Frequency Band (MHz)	Number of Hopping Frequencies	Limit	Result
2400 - 2483.5	79	>15	Pass

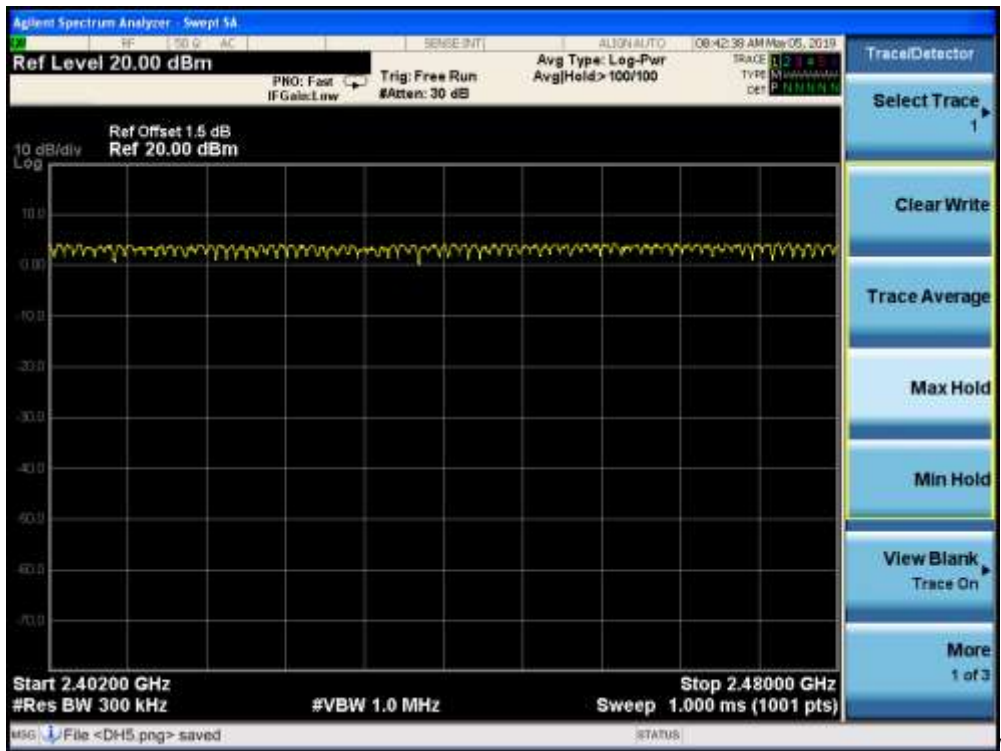
2402 - 2480MHz



Product Name	: BLUETOOTH EARPHONES	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Frequency Band (MHz)	Number of Hopping Frequencies	Limit	Result
2400 - 2483.5	79	>15	Pass

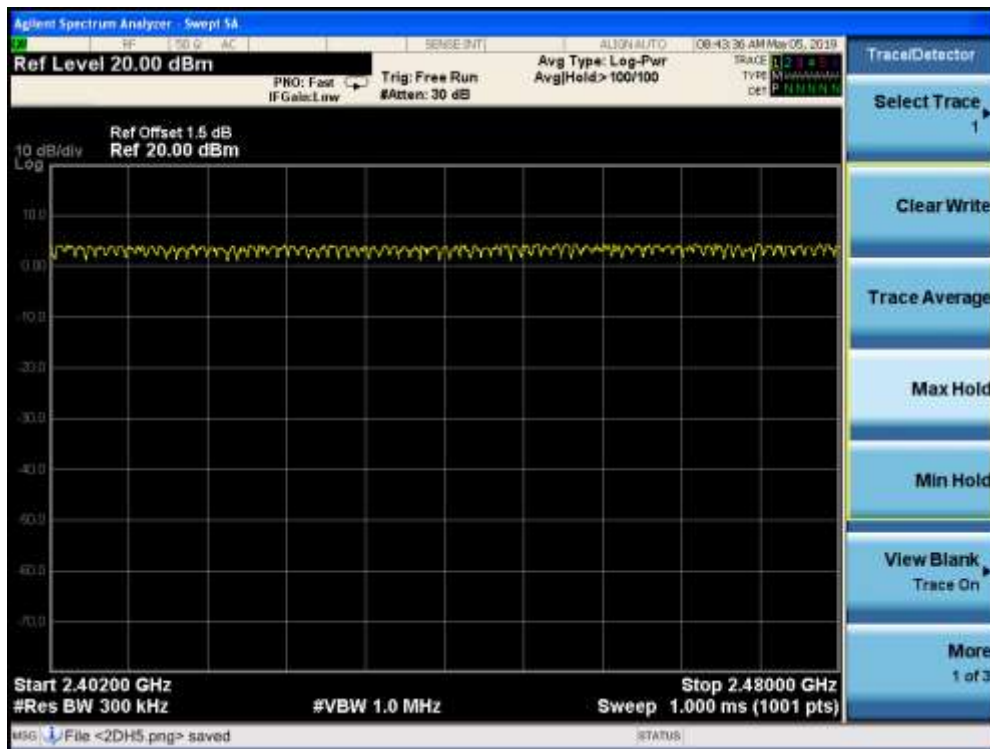
2402 - 2480 MHz



Product Name	: BLUETOOTH EARPHONES	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.05.05	Test Engineer	: Simon

Frequency Band (MHz)	Number of Hopping Frequencies	Limit	Result
2400 - 2483.5	79	>15	Pass

2402 - 2480 MHz



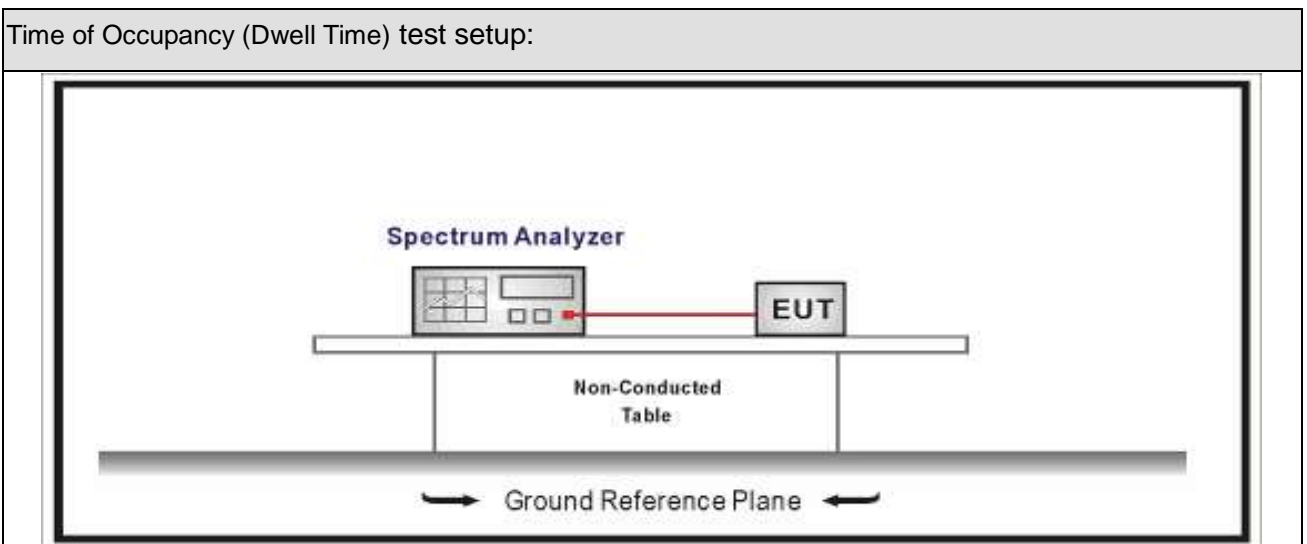
8. Time of Occupancy (Dwell Time)

8.1. Test Equipment

Time of Occupancy (Dwell Time) / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

Time of Occupancy (Dwell Time)	
<input checked="" type="checkbox"/>	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
<input type="checkbox"/>	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period
<input type="checkbox"/>	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping

	frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.
<input type="checkbox"/>	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

8.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	7.8.4	Time of Occupancy (Dwell Time)

8.5. Uncertainty

The measurement uncertainty is defined as ± 0.1 us

8.6. Test Result

Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH1)	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

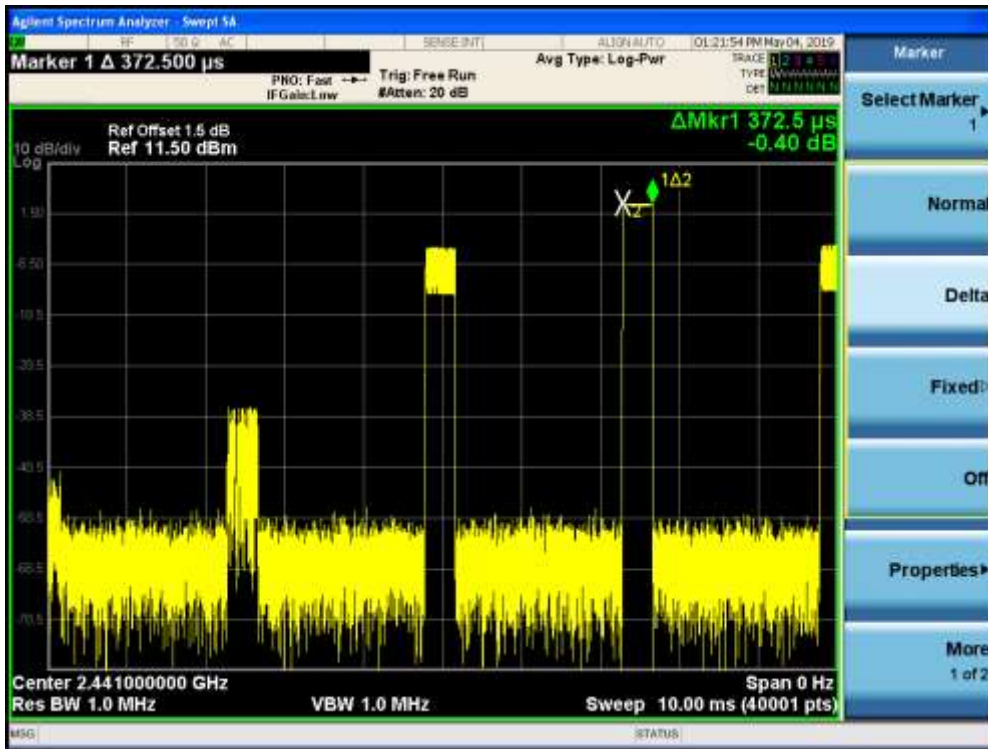
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	119.2	< 400	Pass

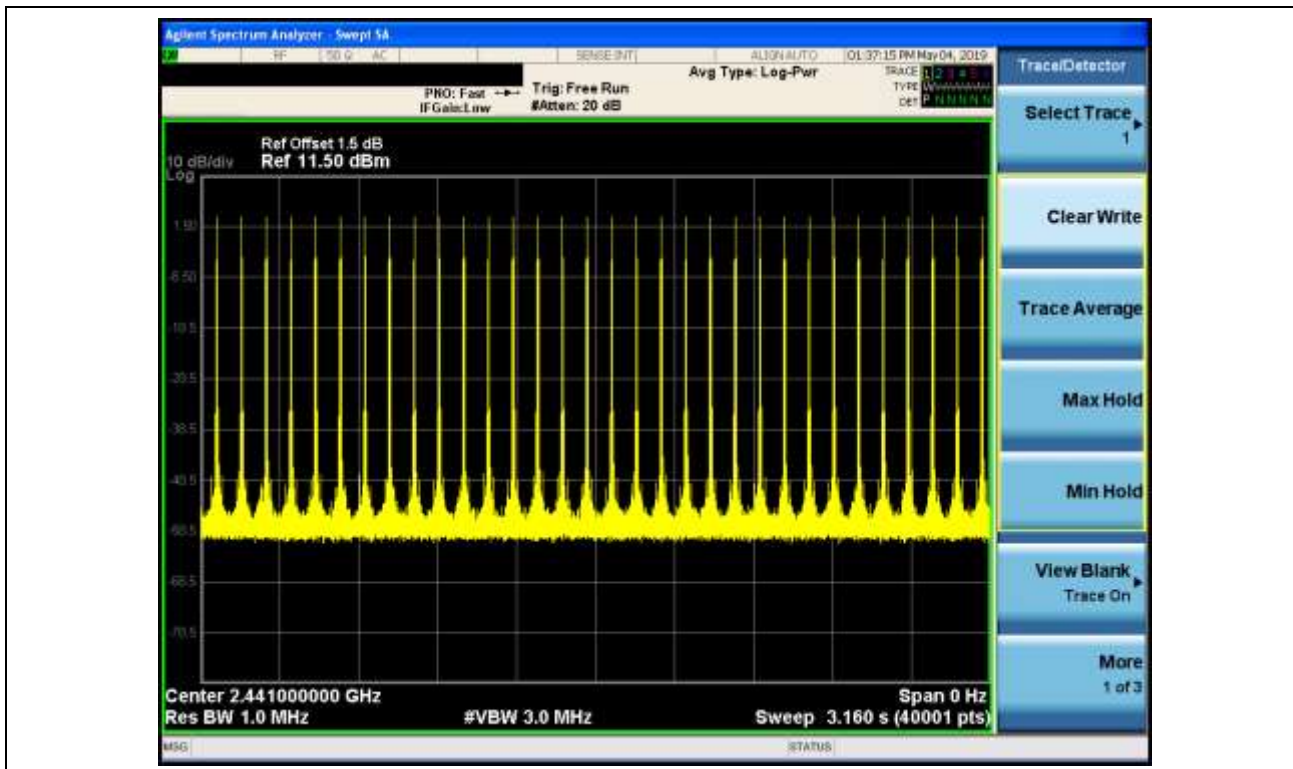
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{sec}$

Note2: Time of Occupancy = $0.3725 \times 32 \times 31.6 / 3.16 = 119.2 \text{ms}$

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH1)





Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH3)	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

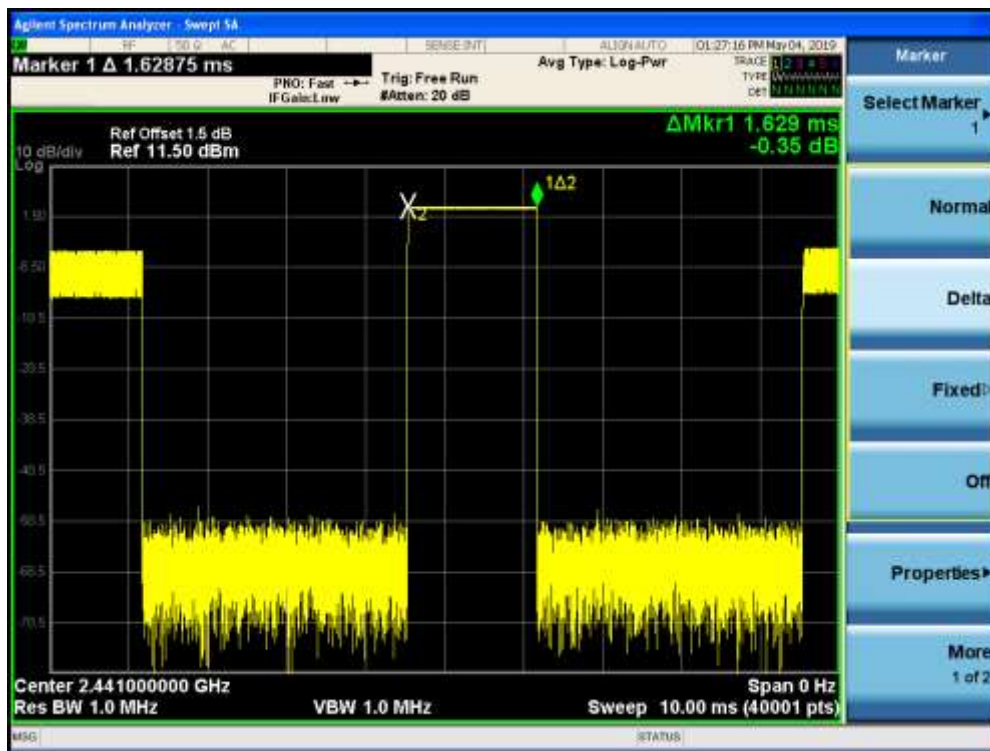
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	260.64	< 400	Pass

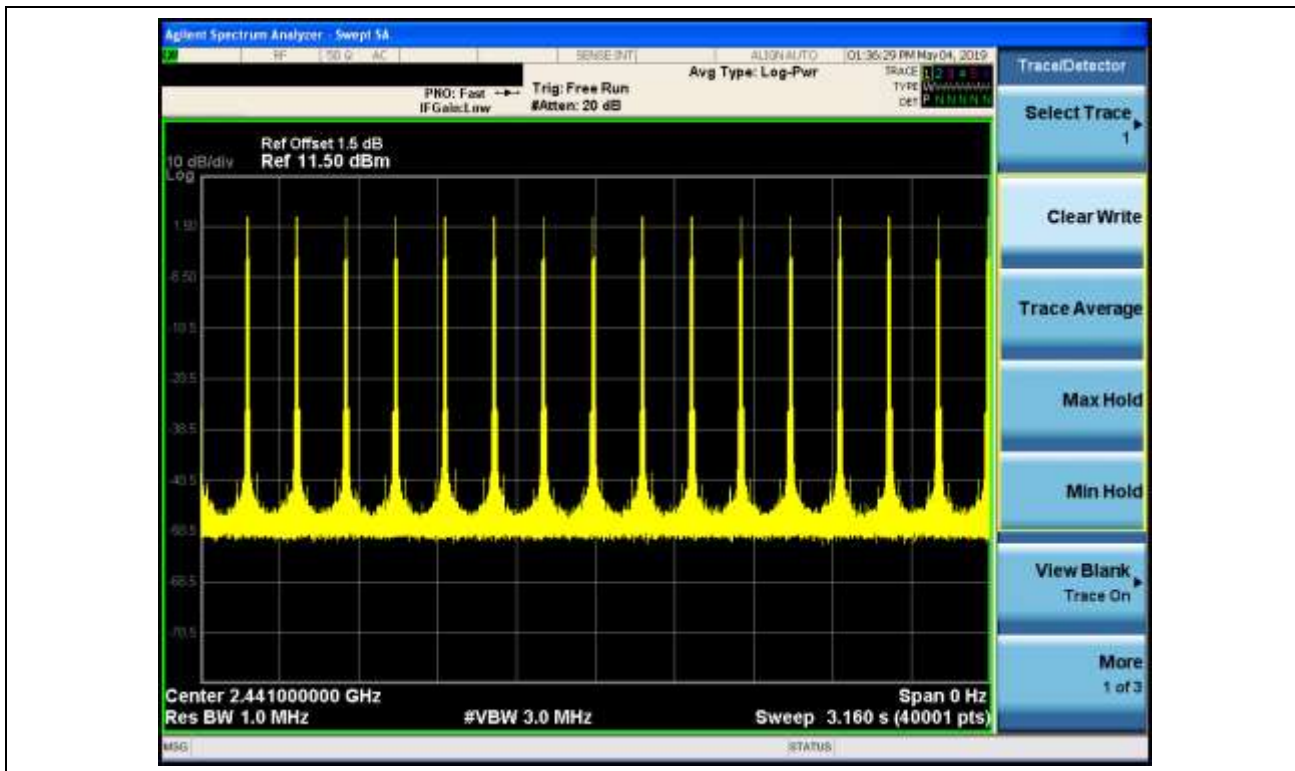
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$

Note2: Time of Occupancy = $1.629 \times 16 \times 31.6 / 3.16 = 260.64 \text{ ms}$

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH3)





Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH5)	Test Site	: TR-8
Test Date	: 2019.05.04	Test Engineer	: Simon

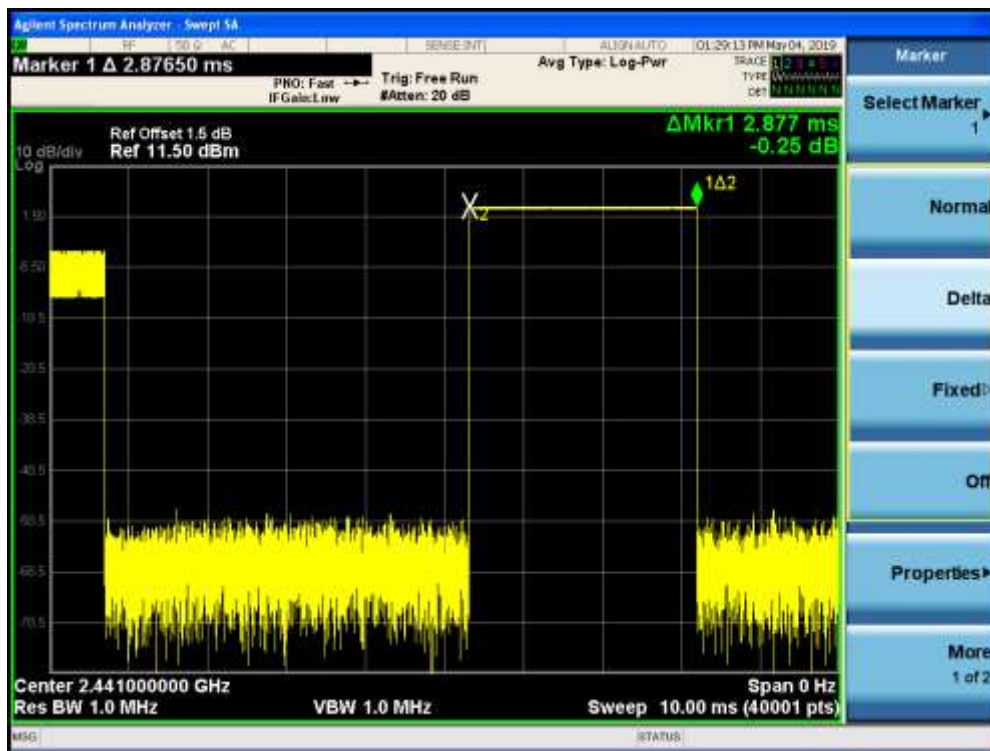
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	316.47	< 400	Pass

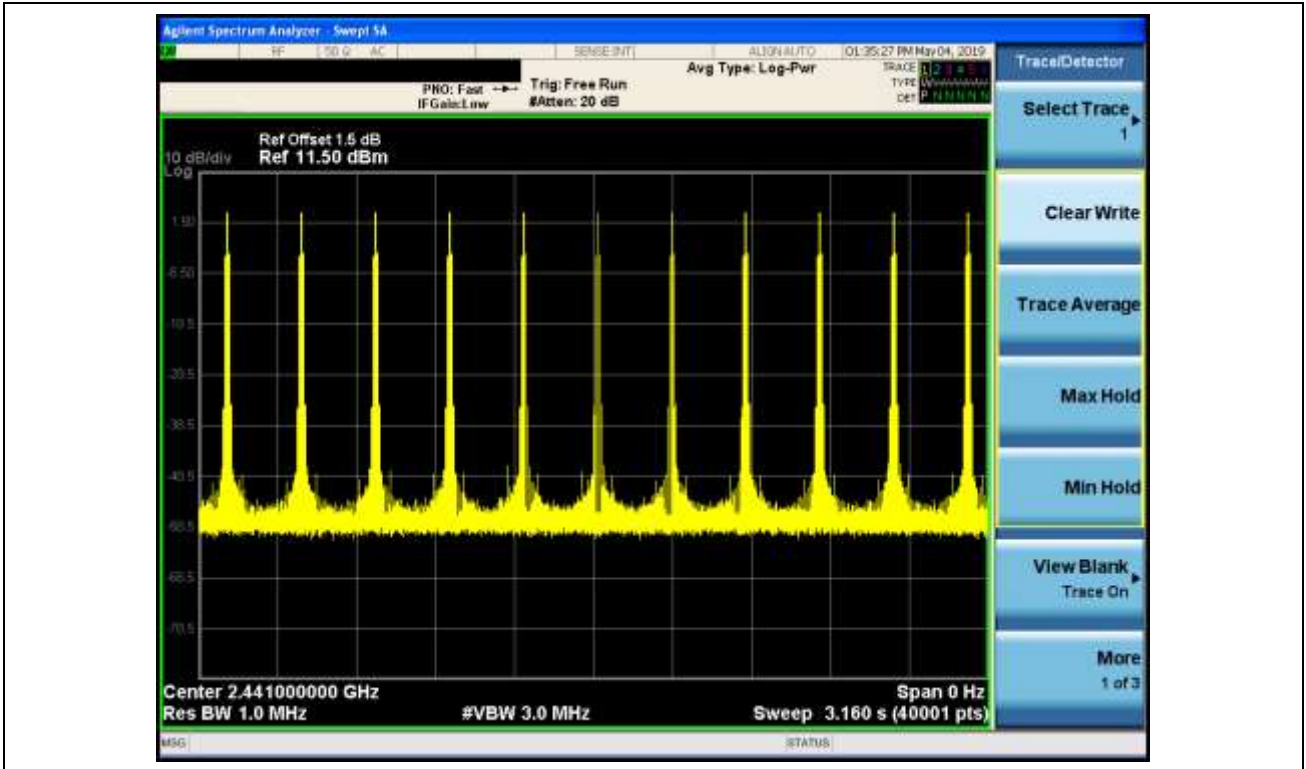
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$

Note2: Time of Occupancy = $2.877 \times 11 \times 31.6 / 3.16 = 316.47 \text{ ms}$

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH5)





Note: The packet time of AFH mode is same as normal mode, due to the packet time of AFH mode multiply with lesser factor is dwell time of $0.4 \times 20 = 8S$, the dwell time of AFH mode comply with the limit.

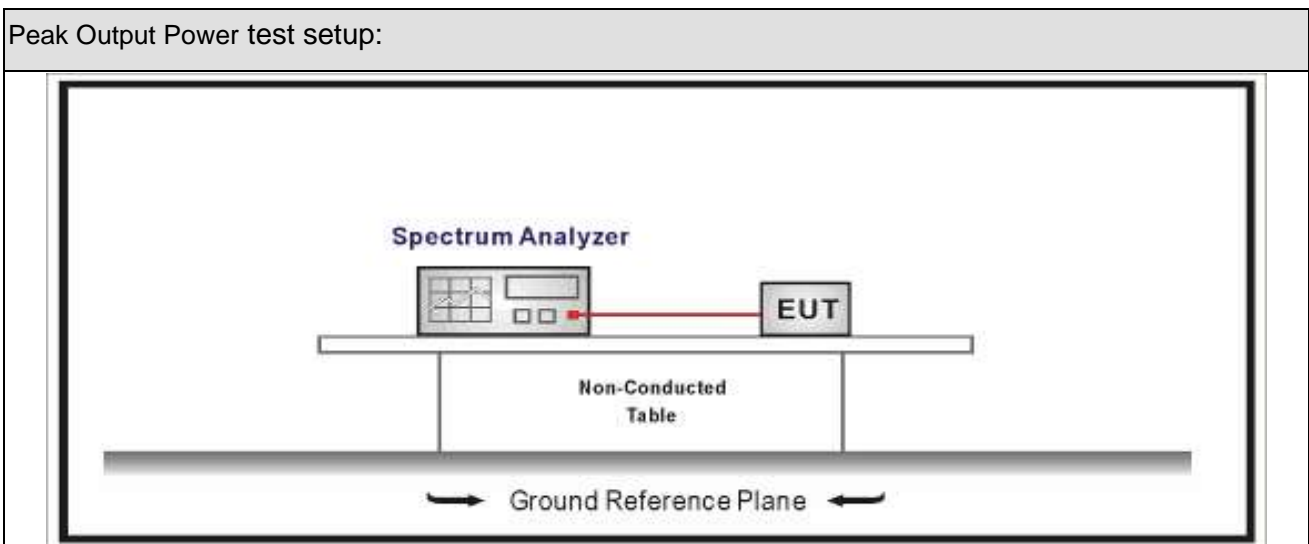
9. Peak Output Power

9.1. Test Equipment

Peak Output Power / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

Peak Output Power	
<input checked="" type="checkbox"/>	Frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
<input checked="" type="checkbox"/>	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
<input type="checkbox"/>	For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels

9.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	7.8.5	Output power test procedure for frequency-hopping spread-spectrum (FHSS) devices

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.0 dB

9.6. Test Result

Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.04.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	4.13	30.00	Pass
39	2441	4.25	30.00	Pass
78	2480	4.45	30.00	Pass

Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.04.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	3.65	21.00	Pass
39	2441	3.77	21.00	Pass
78	2480	4.31	21.00	Pass

Product Name	:	BLUETOOTH EARPHONES	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2019.04.28	Test Engineer	:	Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	3.49	21.00	Pass
39	2441	3.96	21.00	Pass
78	2480	4.27	21.00	Pass

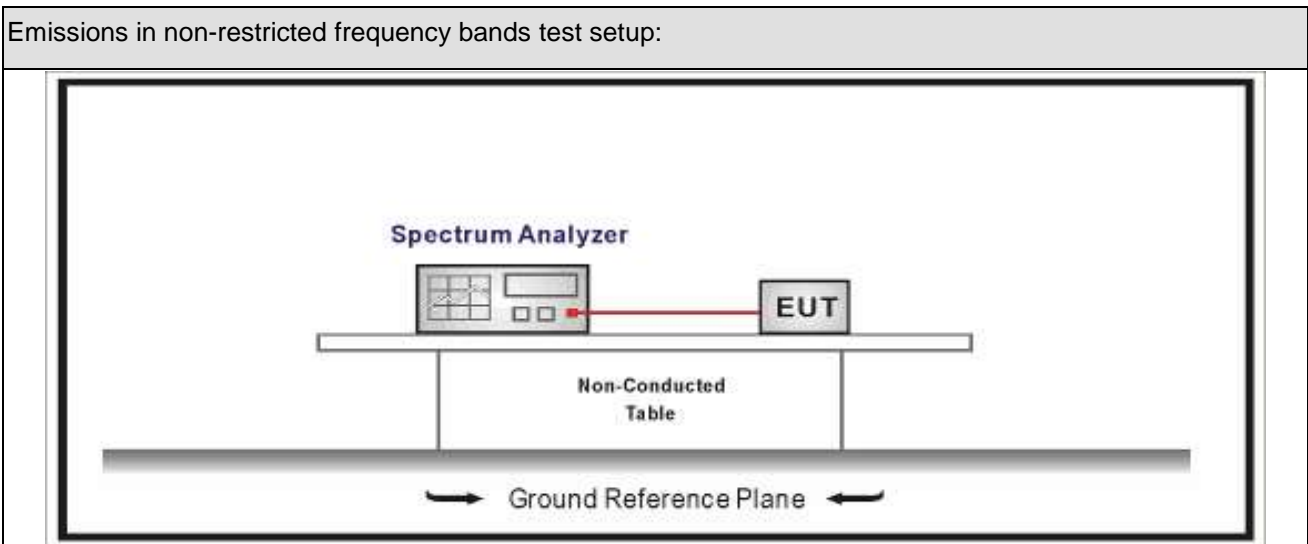
10. Emissions in non-restricted frequency bands

10.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

10.2. Test Setup



10.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
<p>Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).</p> <p>Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).</p>	

10.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	7.8.6	Band-edge Compliance of RF Conducted Emissions

10.5. Uncertainty

The measurement uncertainty is defined as ± 1.0 dB

10.6. Test Result

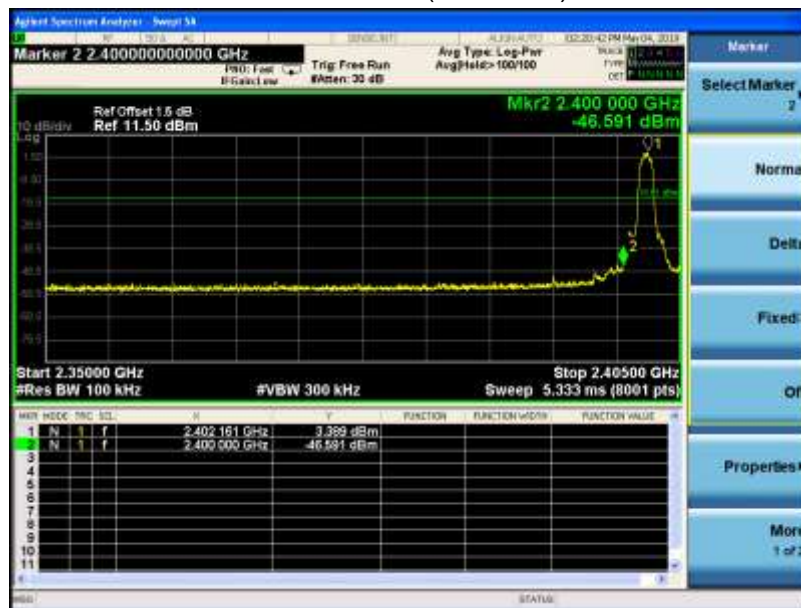
Product Name	: BLUETOOTH EARPHONES	Test Voltage	: AC 120V/60Hz
Test Mode	: Mode 1~4	Test Site	: TR-8
Test Date	: 2019.04.28	Test Engineer	: Simon

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	3.408	2400.00	-47.691	51.099	>20	Pass
1	78	2480	4.040	2500.00	-55.185	59.225	>20	Pass
2	00	2402	3.670	2400.00	-50.752	54.422	>20	Pass
2	78	2480	4.001	2500.00	-55.864	59.865	>20	Pass
3	00	2402	3.389	2400.00	-46.591	49.980	>20	Pass
3	78	2480	4.045	2500.00	-55.338	59.383	>20	Pass
4	00~78	00~78	4.021	2400.00	-50.032	54.053	>20	Pass

Note1: The worst case of Emissions in non-restricted frequency bands as below:

2: Mode 1-3, The In-Band PSD is the highest PSD of All channels.

Mode3 CH00(2402MHz)

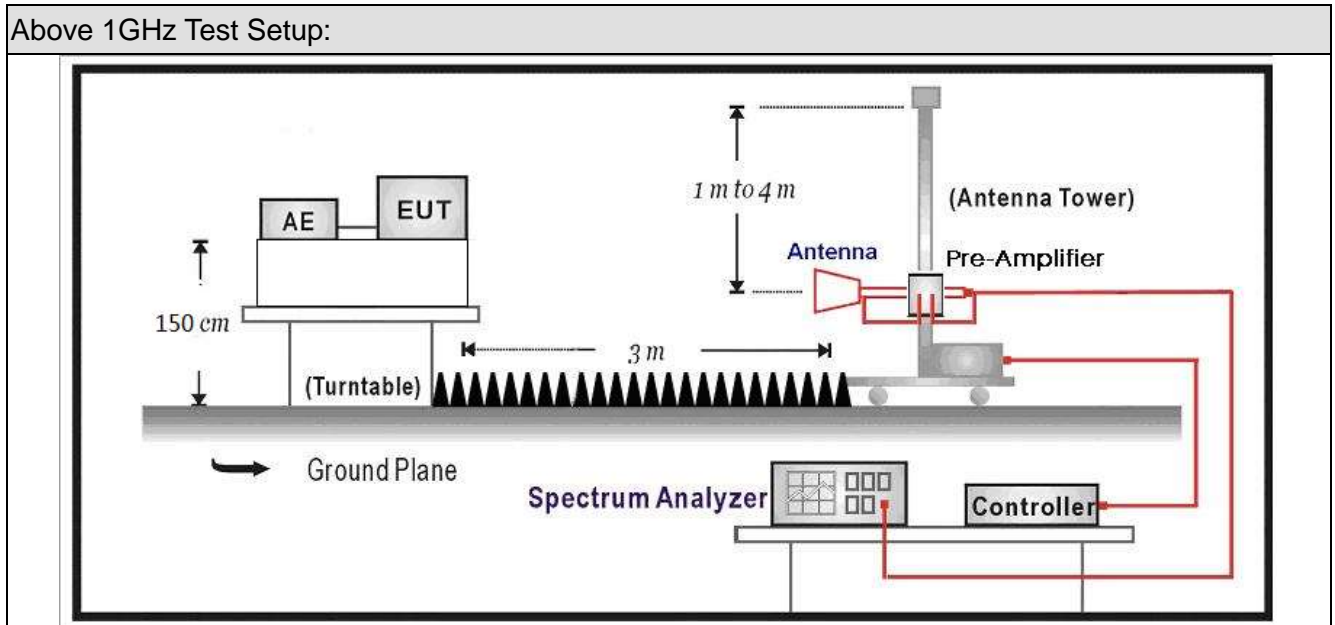


11. Radiated Emission Band Edge

11.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2018.07.16	2019.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2019.05.03	2020.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2018.07.12	2019.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.09.18	2019.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.02.28	2020.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.02.28	2020.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.05	2020.01.04

11.2. Test Setup



11.3. Limit

Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dBµV/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

11.4. Test Procedure

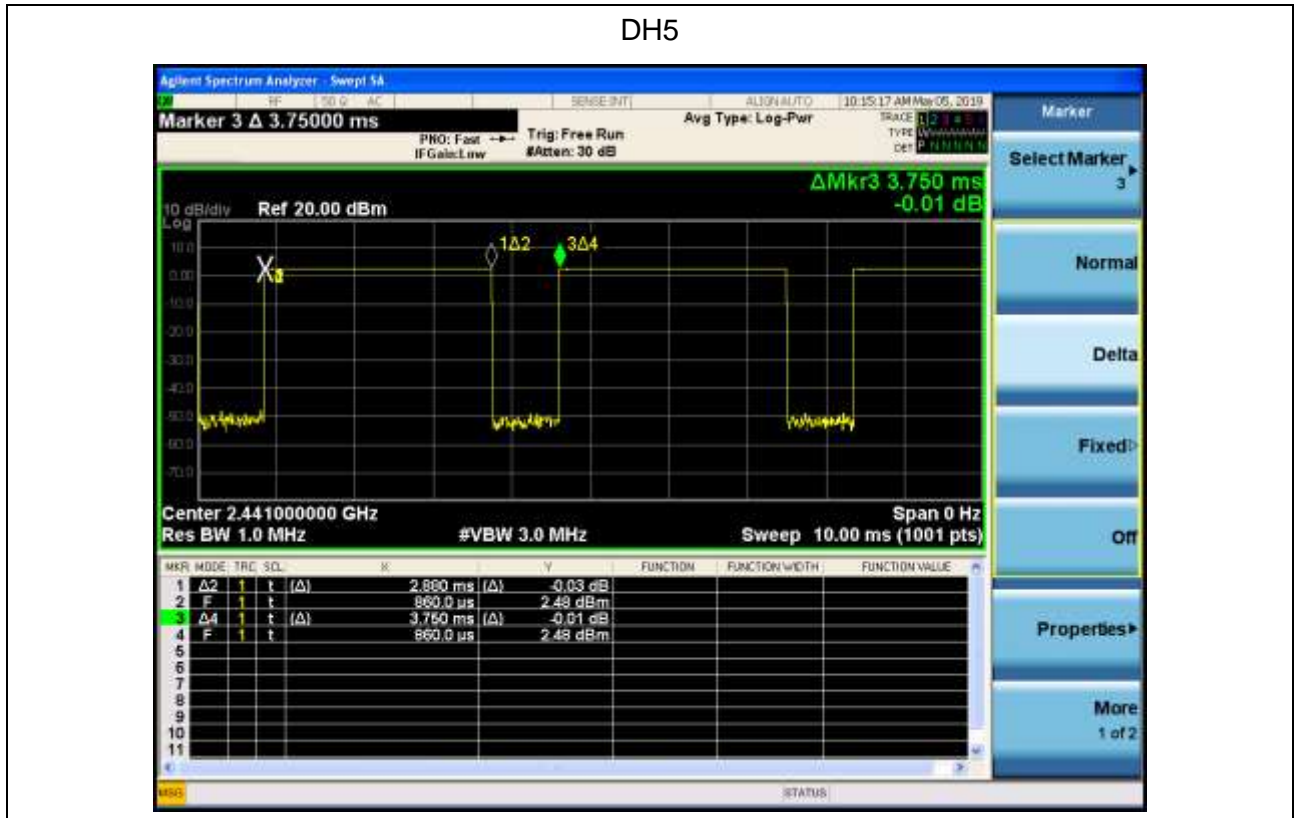
Test Method			
	References Rule	Chapter	Description
<input type="checkbox"/>	DA 00-705	N/A	duty cycle correction factor
<input checked="" type="checkbox"/>	ANSI C63.10	6.10	Band-edge testing
	<input checked="" type="checkbox"/> ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	<input type="checkbox"/> ANSI C63.10	6.10.6	Marker-delta method
<input type="checkbox"/>	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
<input type="checkbox"/>	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
<input checked="" type="checkbox"/>	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

11.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
 below 1G is defined as ± 3.8 dB

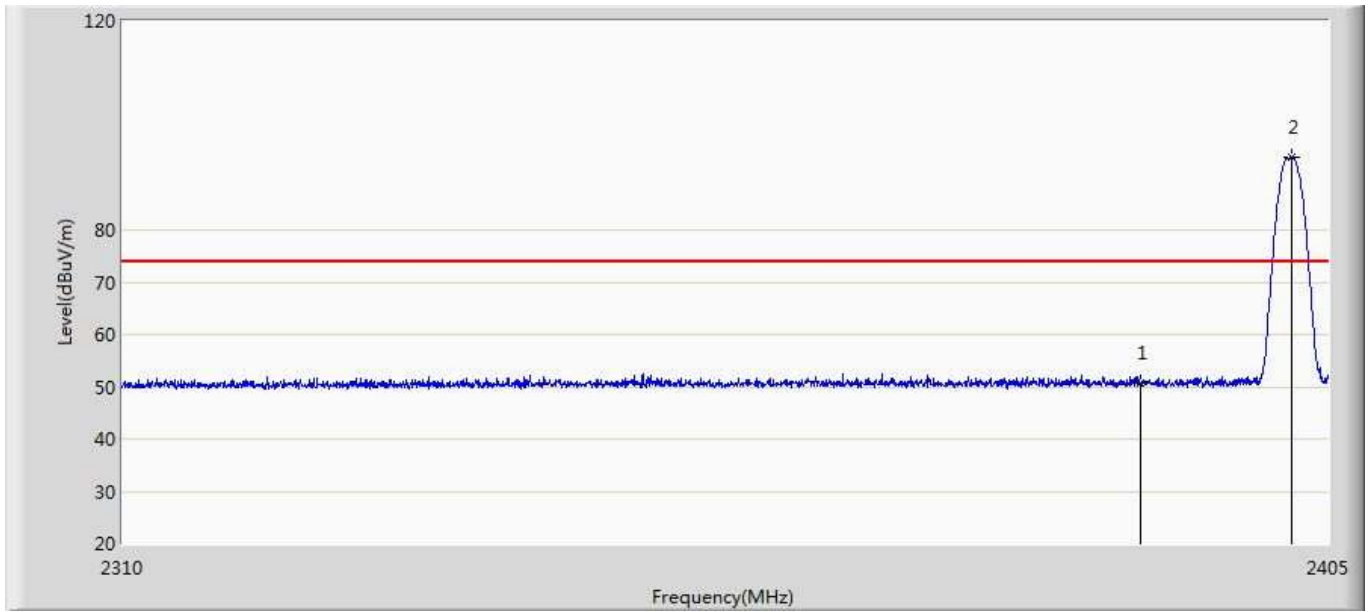
11.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (Hz)	Tx On + Tx Off (ms)	Duty Cycle
DH5	2.88	0.87	360	3.75	76.80%



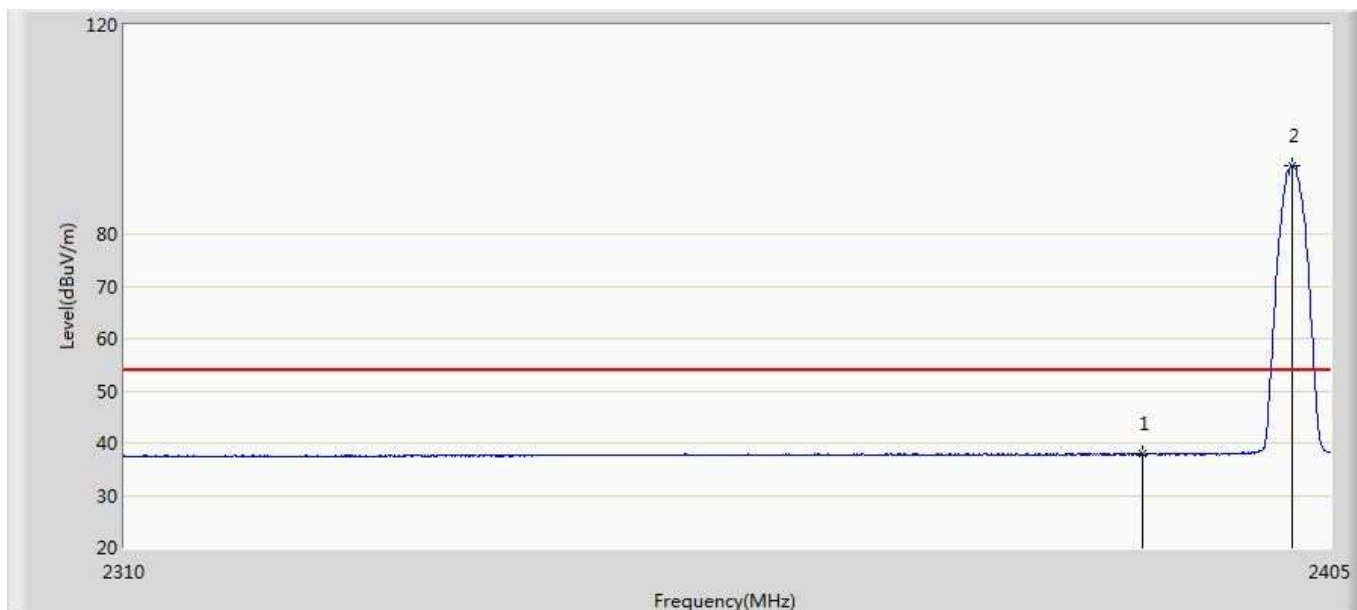
11.7. Test Result

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2402Mhz by DH5	



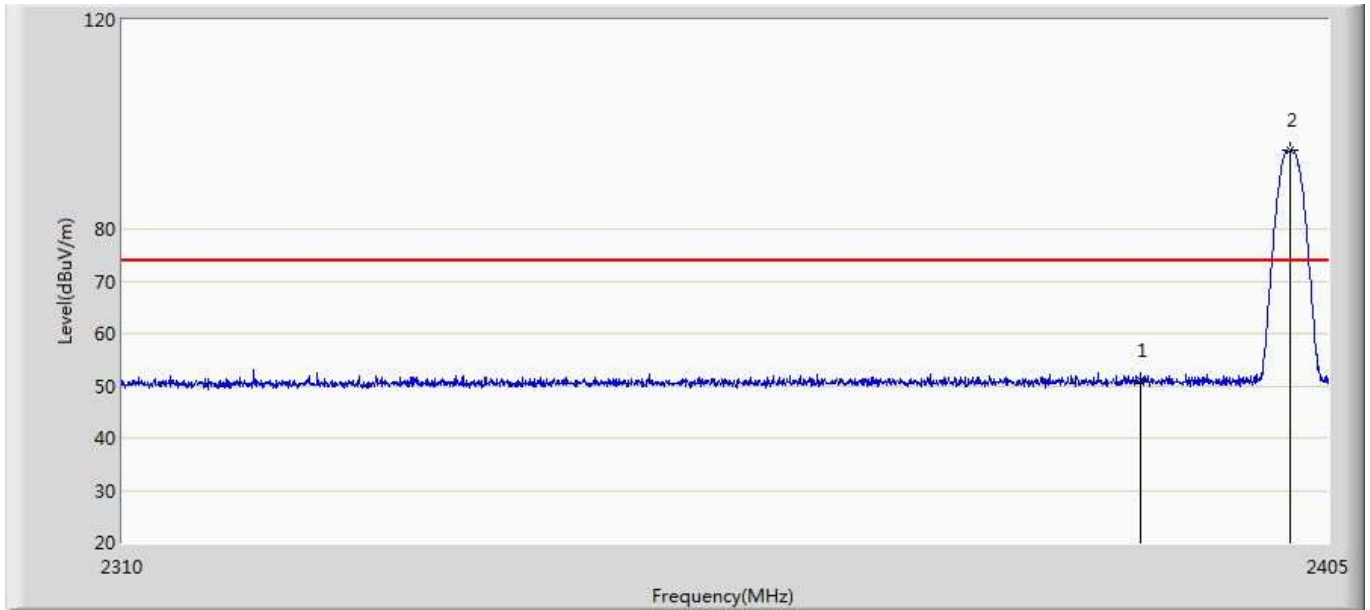
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.770	15.088	-23.230	74.000	35.682	PK
2	*	2402.055	93.964	58.251	19.964	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2402Mhz by DH5	



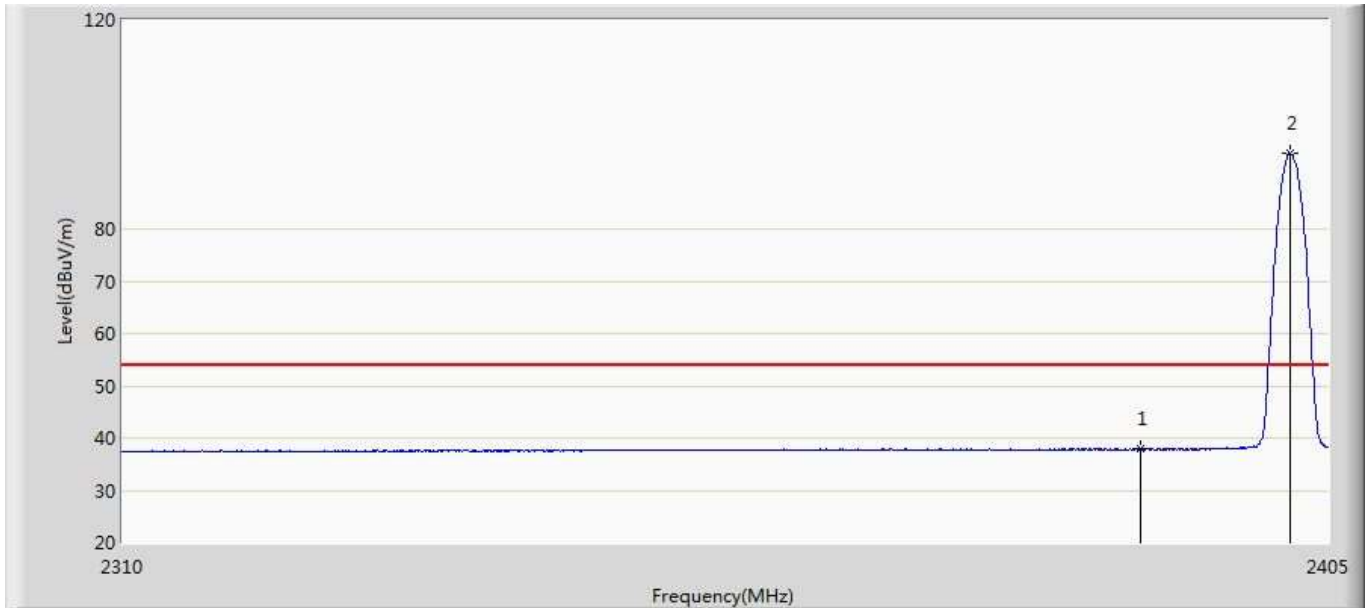
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.974	2.292	-16.026	54.000	35.682	AV
2	*	2401.913	93.010	57.298	39.010	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2402Mhz by DH5	



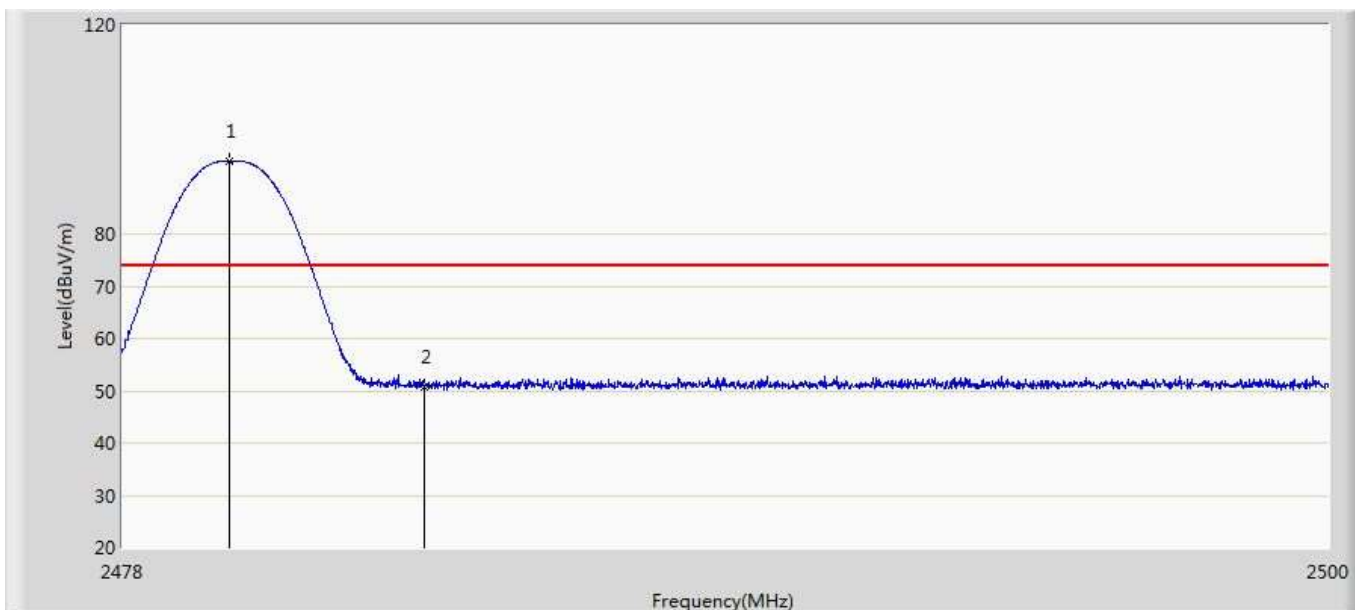
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.990	15.308	-23.010	74.000	35.682	PK
2	*	2401.913	95.010	59.298	21.010	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2402Mhz by DH5	



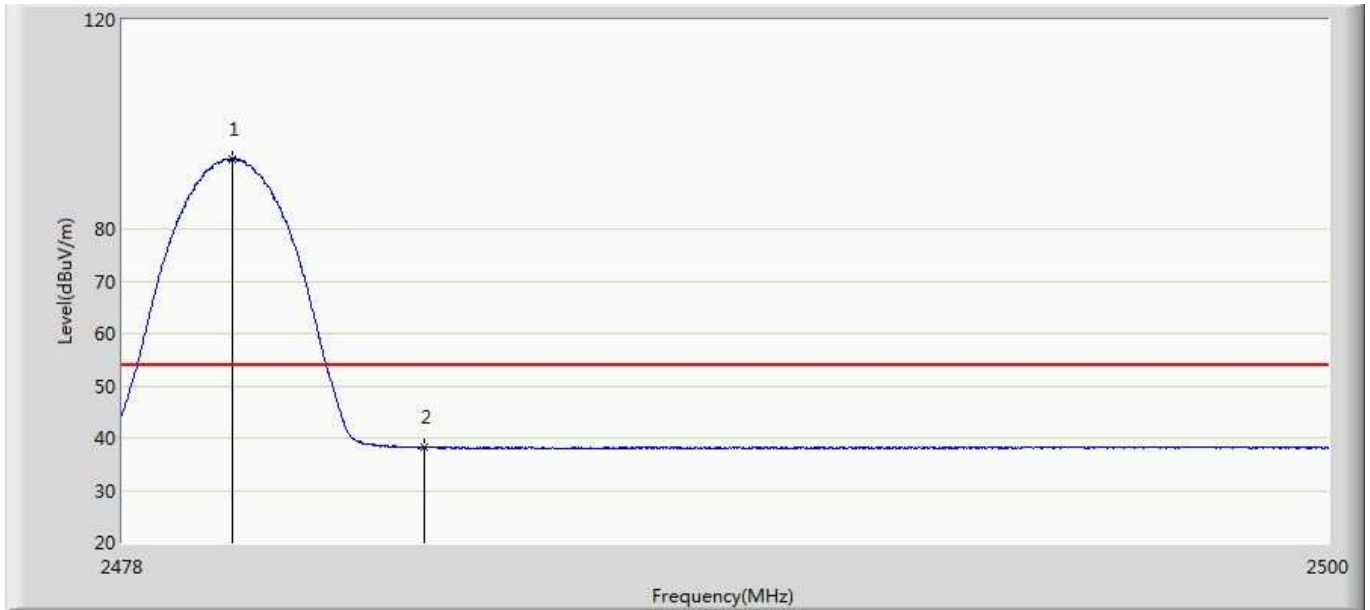
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.829	2.147	-16.171	54.000	35.682	AV
2	*	2401.913	94.448	58.736	40.448	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2480Mhz by DH5	



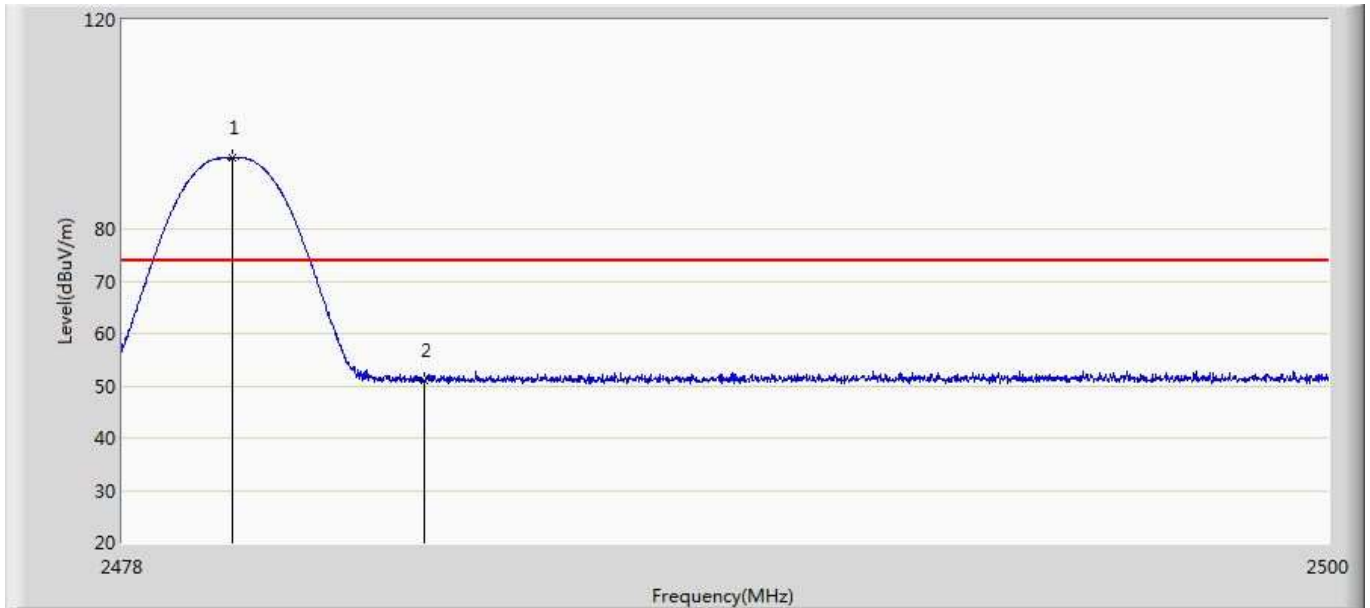
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	93.837	57.971	19.837	74.000	35.866	PK
2		2483.500	50.772	14.880	-23.228	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2480Mhz by DH5	



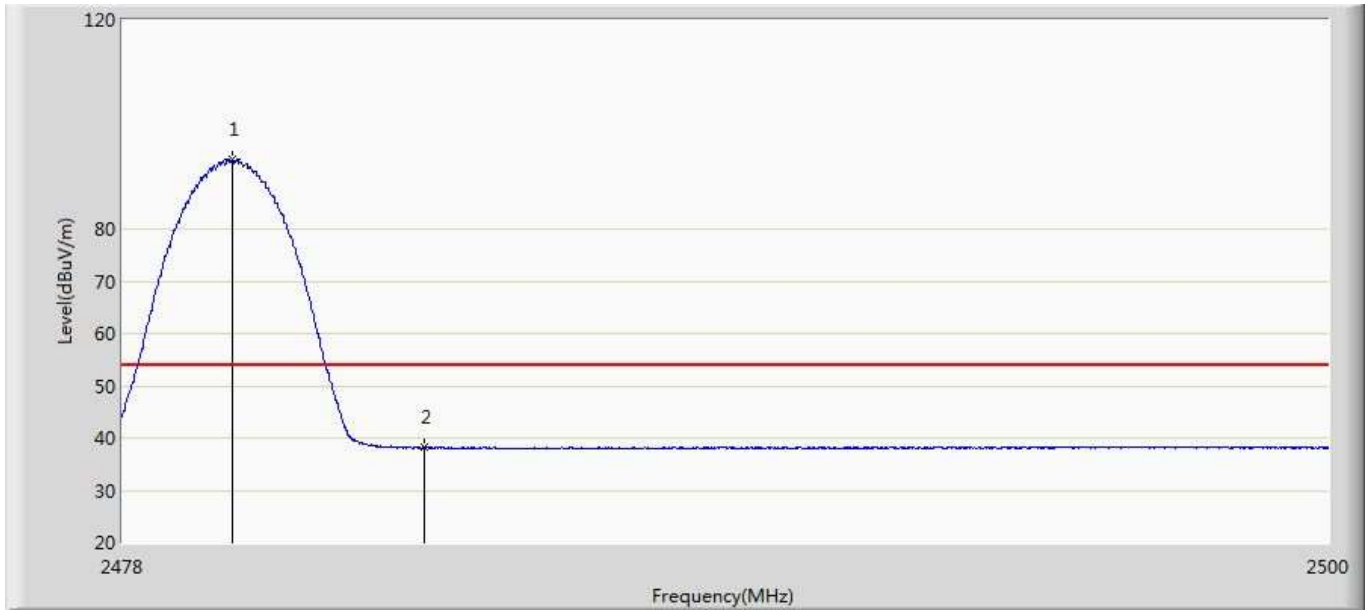
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.991	93.459	57.593	39.459	54.000	35.866	AV
2		2483.500	38.270	2.378	-15.730	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2480Mhz by DH5	



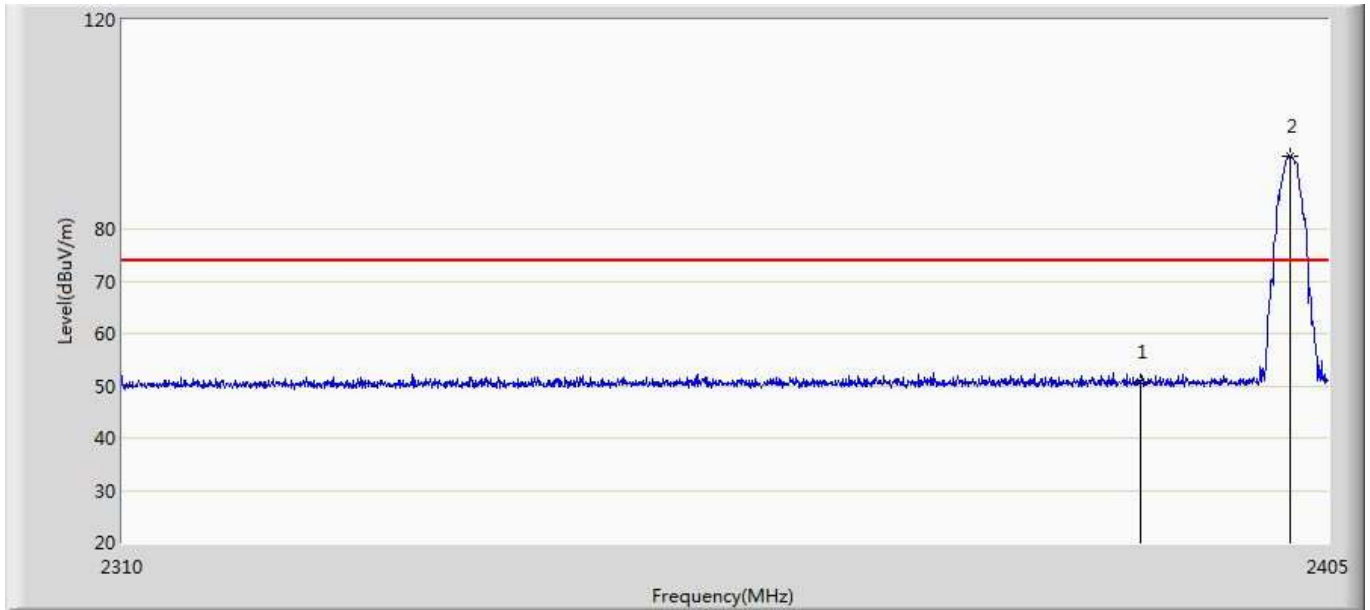
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	93.552	57.686	19.552	74.000	35.866	PK
2		2483.500	51.081	15.189	-22.919	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2480Mhz by DH5	



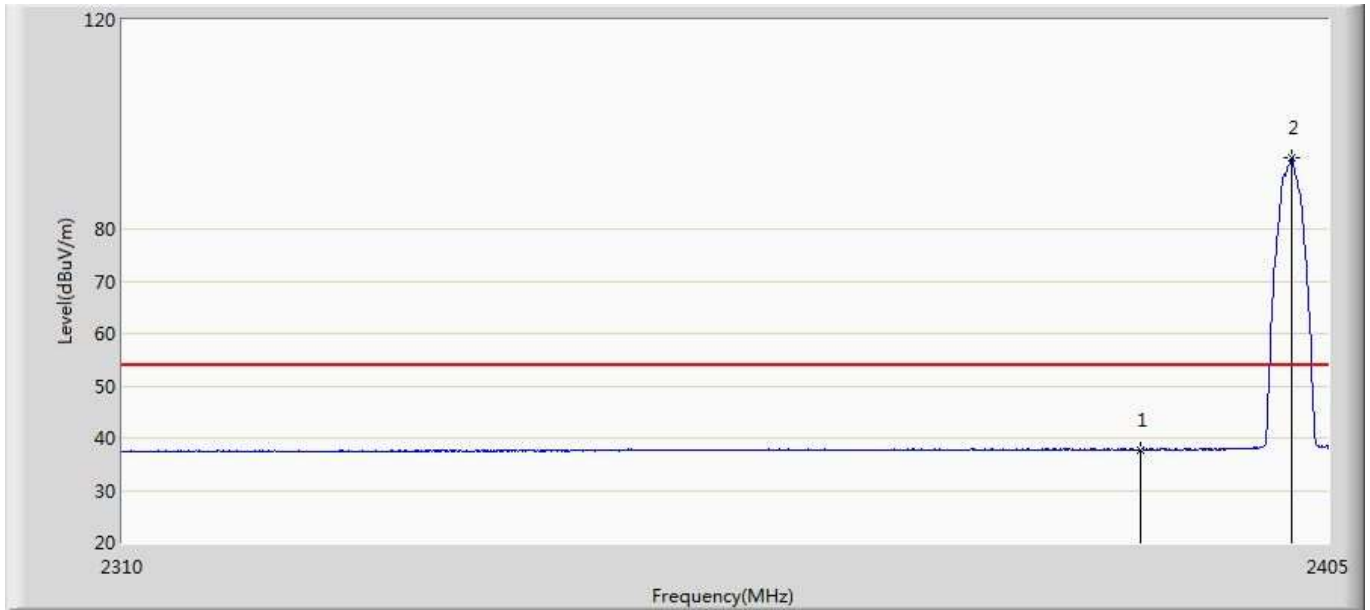
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	93.223	57.357	39.223	54.000	35.866	AV
2		2483.500	38.137	2.245	-15.863	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



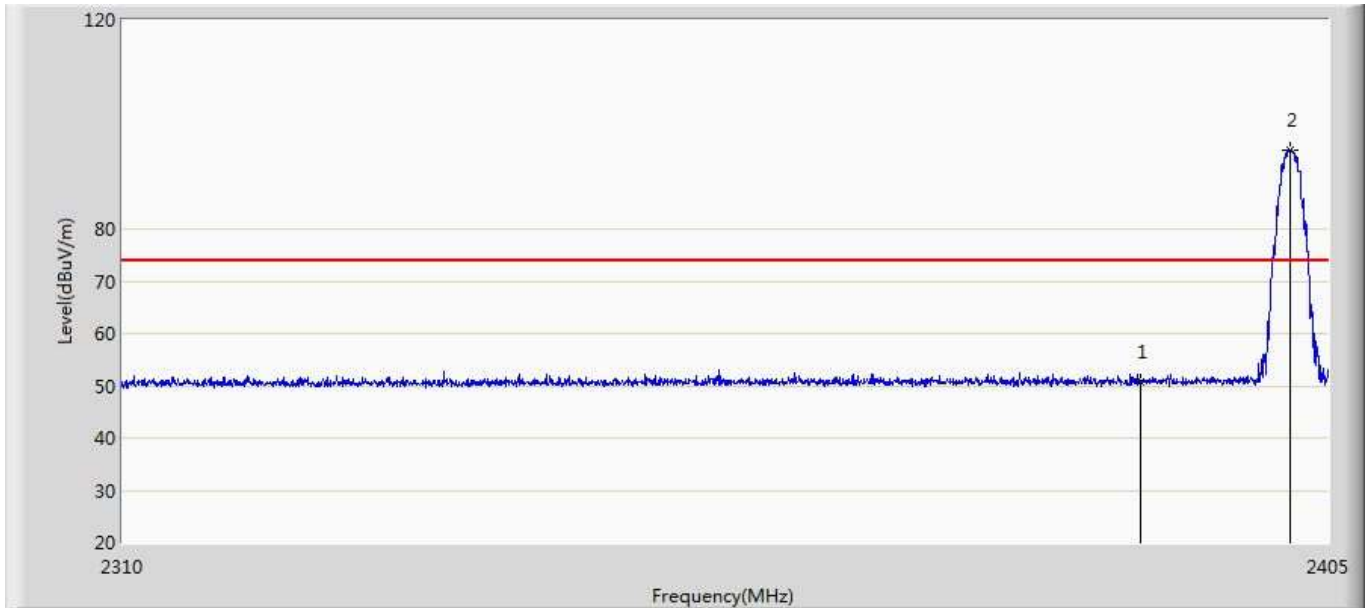
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.583	14.901	-23.417	74.000	35.682	PK
2	*	2401.913	93.939	58.227	19.939	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



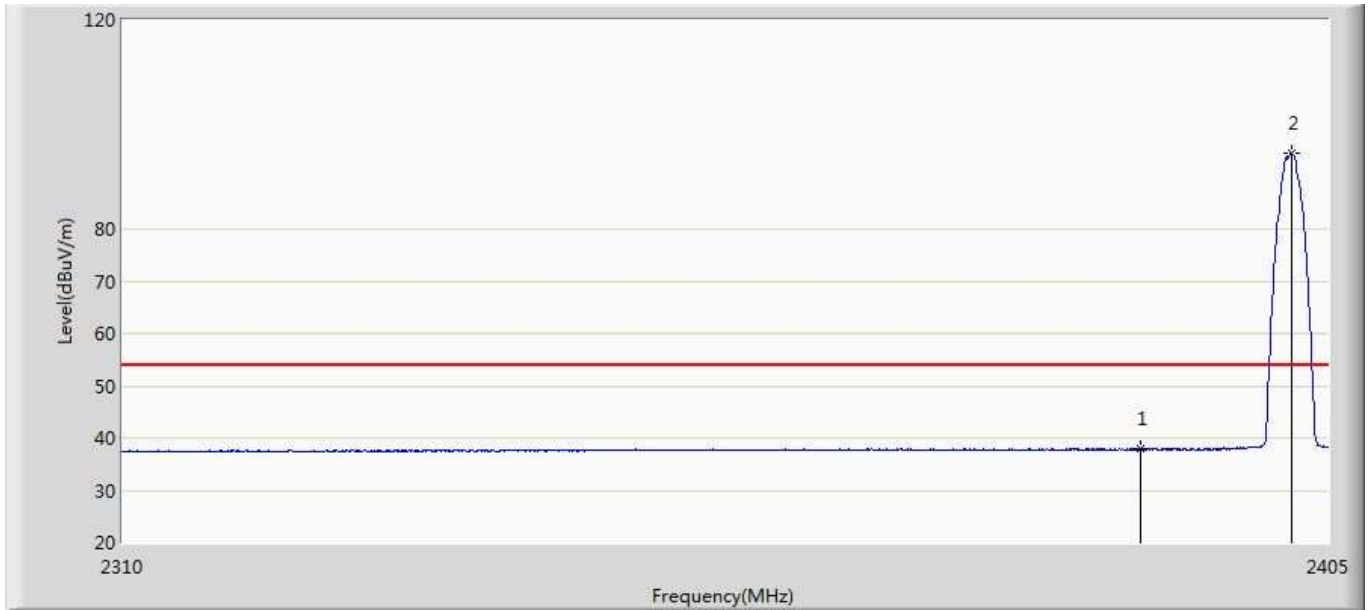
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.781	2.099	-16.219	54.000	35.682	AV
2	*	2402.055	93.545	57.832	39.545	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



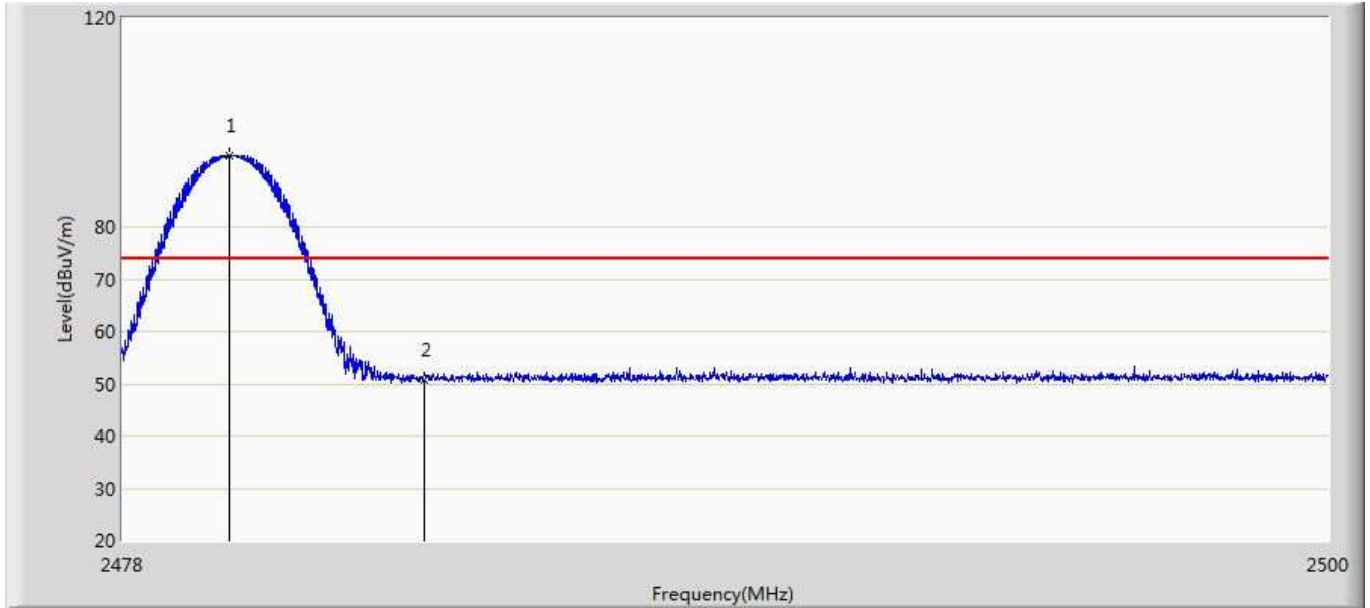
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.760	15.078	-23.240	74.000	35.682	PK
2	*	2401.960	95.036	59.323	21.036	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402Mhz by 2DH5	



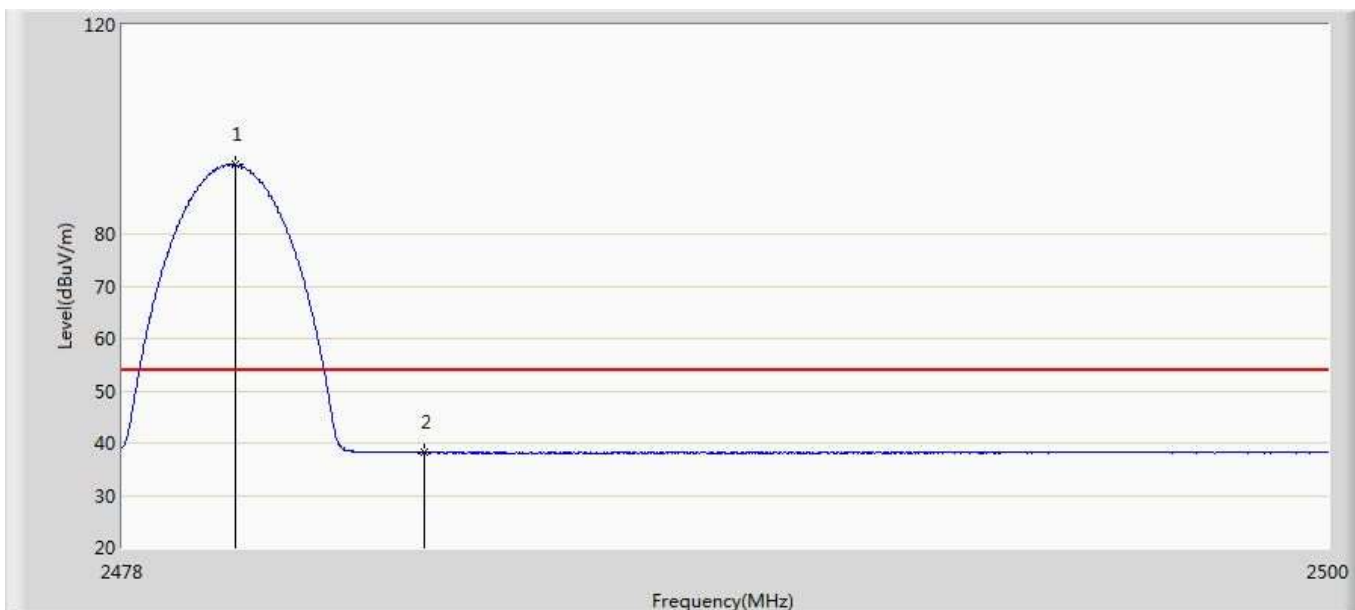
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.840	2.158	-16.160	54.000	35.682	AV
2	*	2402.055	94.449	58.736	40.449	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



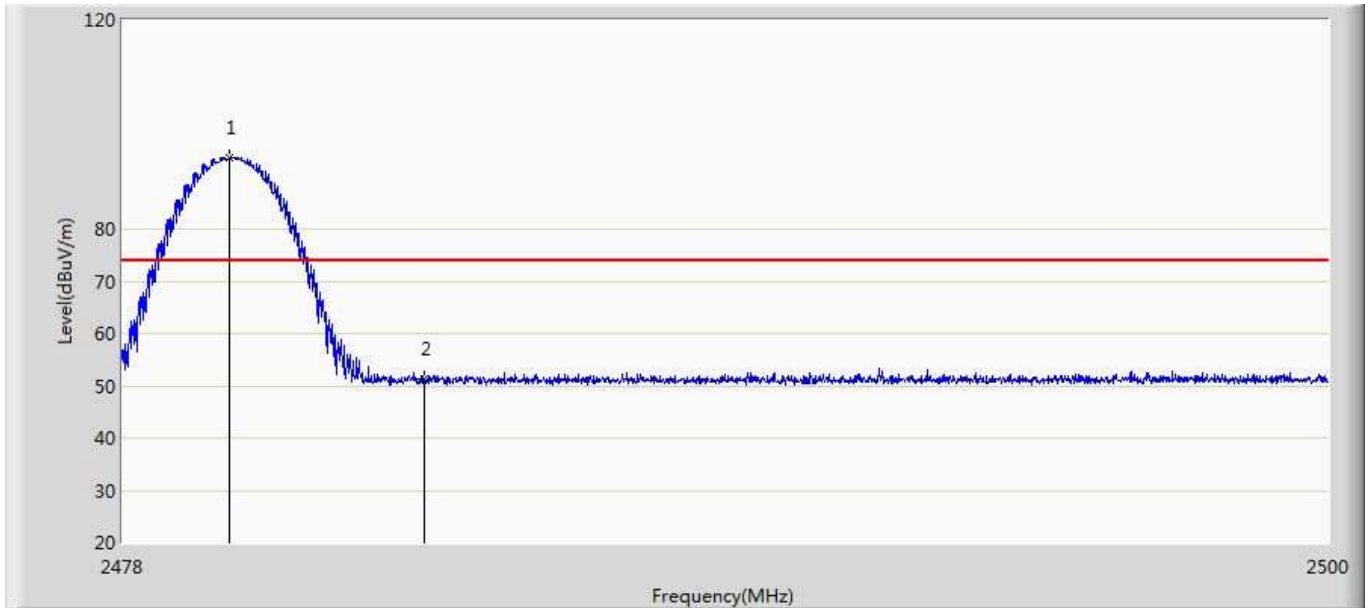
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	93.584	57.718	19.584	74.000	35.866	PK
2		2483.500	50.721	14.829	-23.279	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



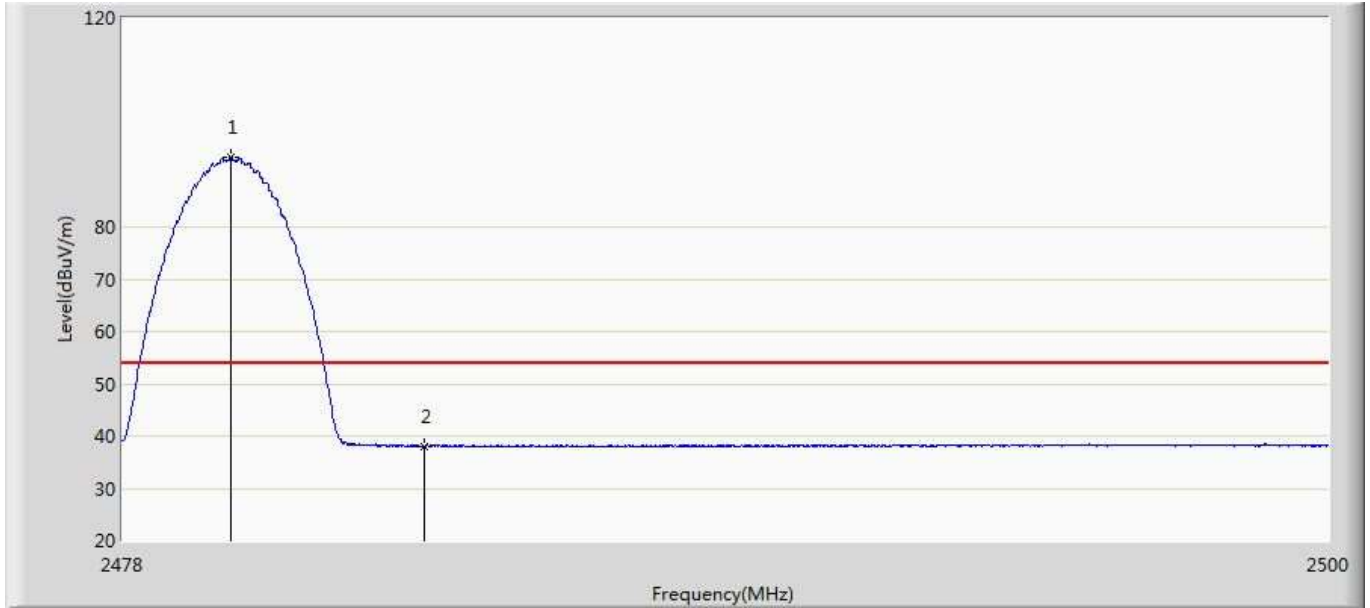
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	93.342	57.475	39.342	54.000	35.866	AV
2		2483.500	38.210	2.318	-15.790	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



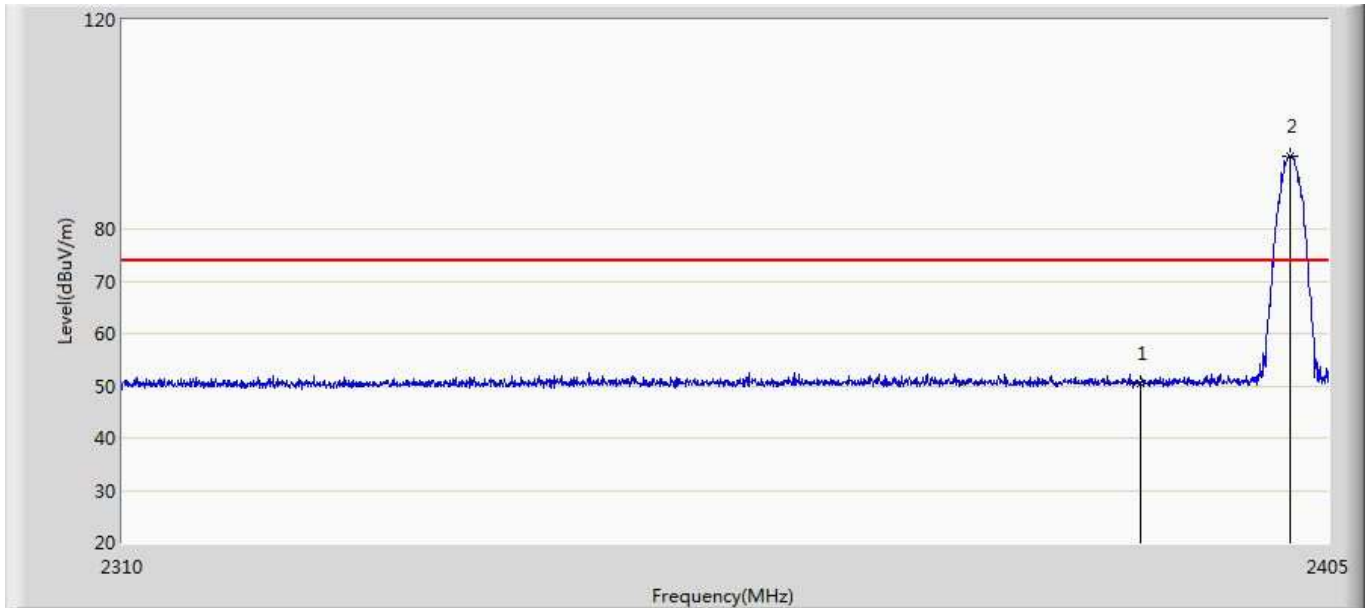
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.958	93.573	57.707	19.573	74.000	35.866	PK
2		2483.500	51.336	15.444	-22.664	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480Mhz by 2DH5	



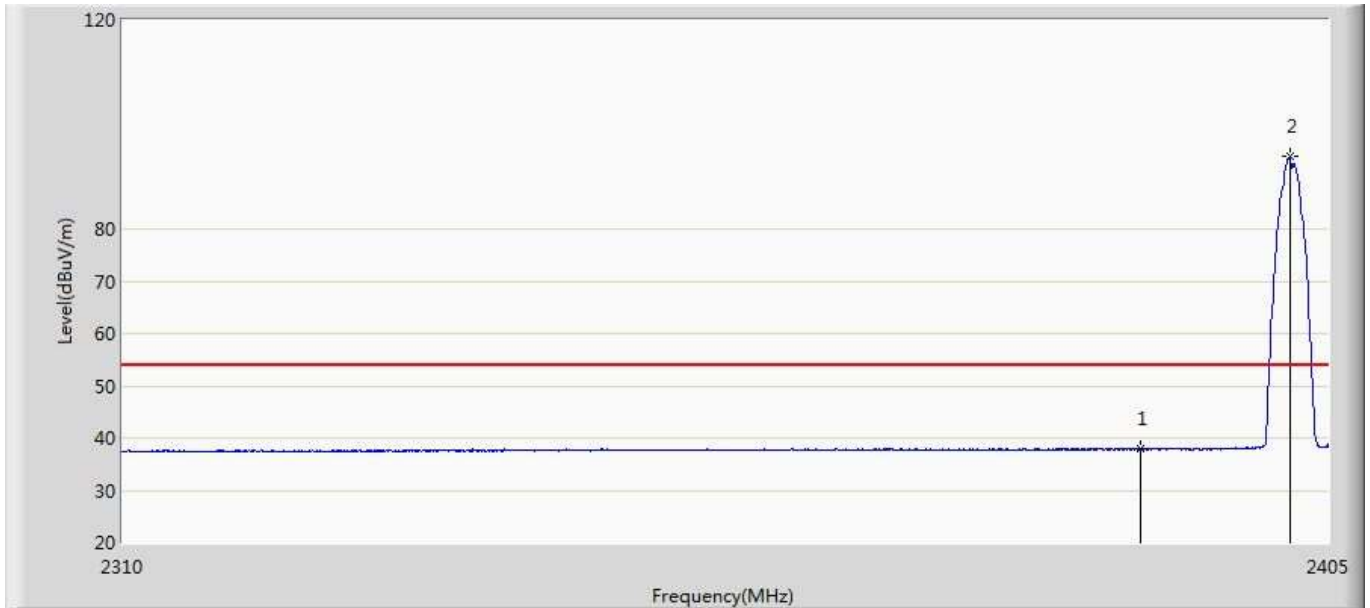
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	93.423	57.557	39.423	54.000	35.866	AV
2		2483.500	38.104	2.212	-15.896	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



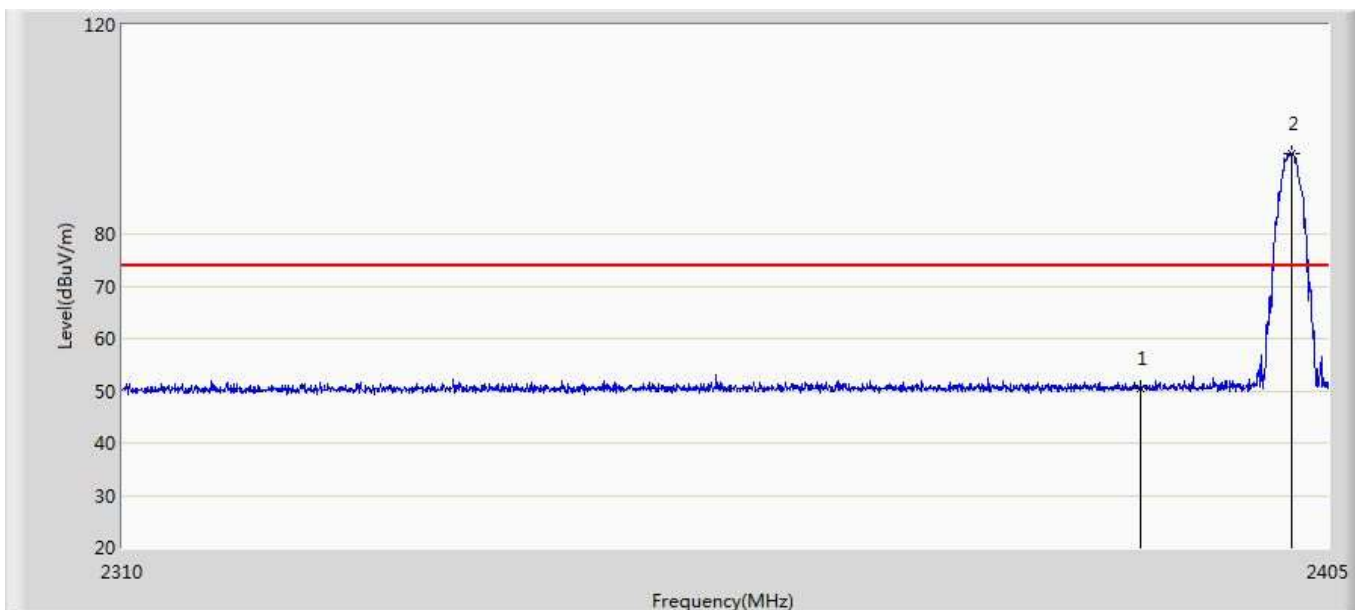
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.450	14.768	-23.550	74.000	35.682	PK
2	*	2401.913	93.867	58.155	19.867	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



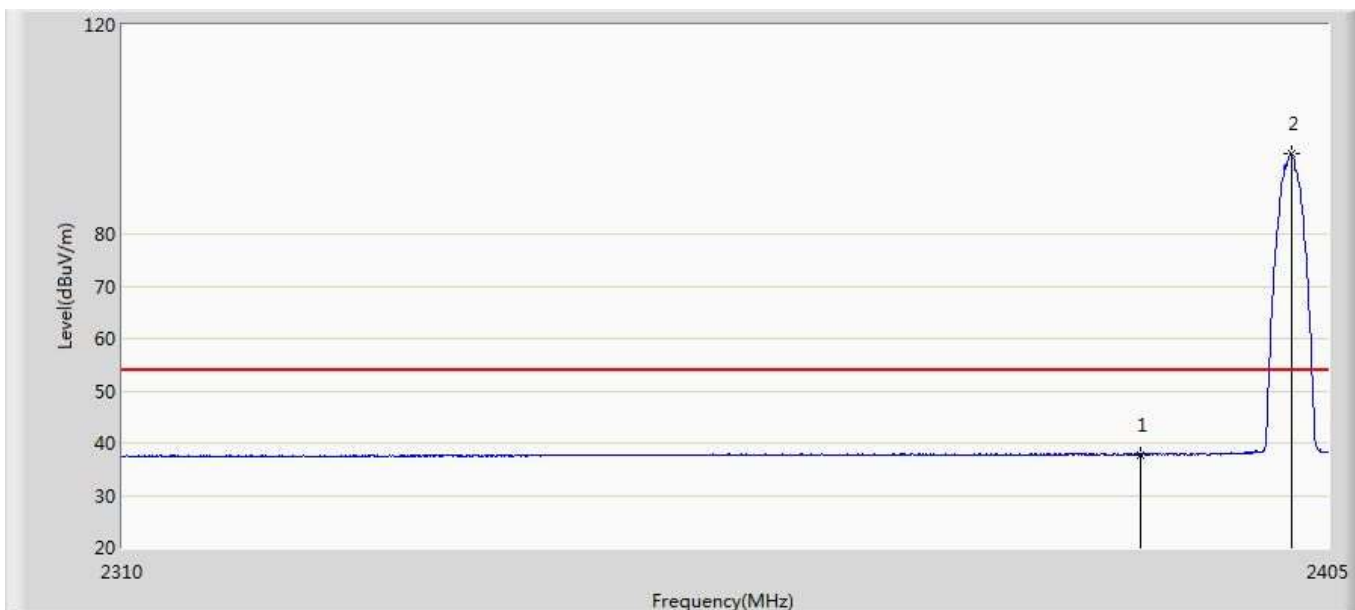
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.869	2.187	-16.131	54.000	35.682	AV
2	*	2401.913	93.815	58.103	39.815	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



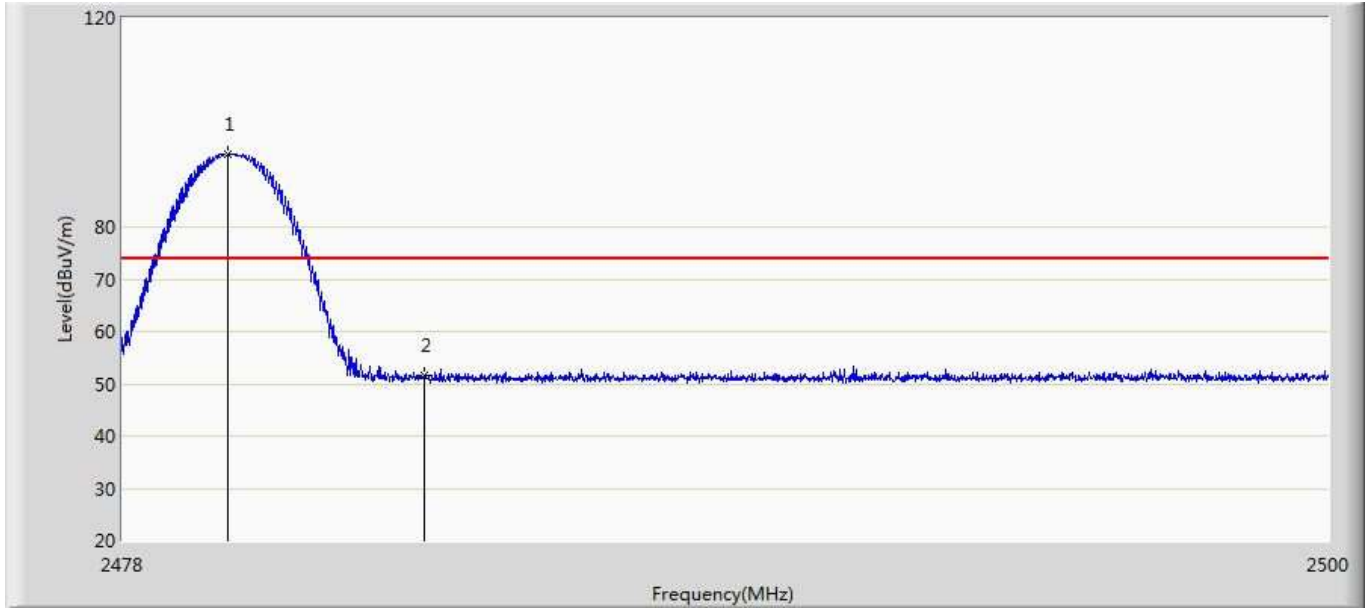
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.499	14.817	-23.501	74.000	35.682	PK
2	*	2402.055	95.369	59.656	21.369	74.000	35.712	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402Mhz by 3DH5	



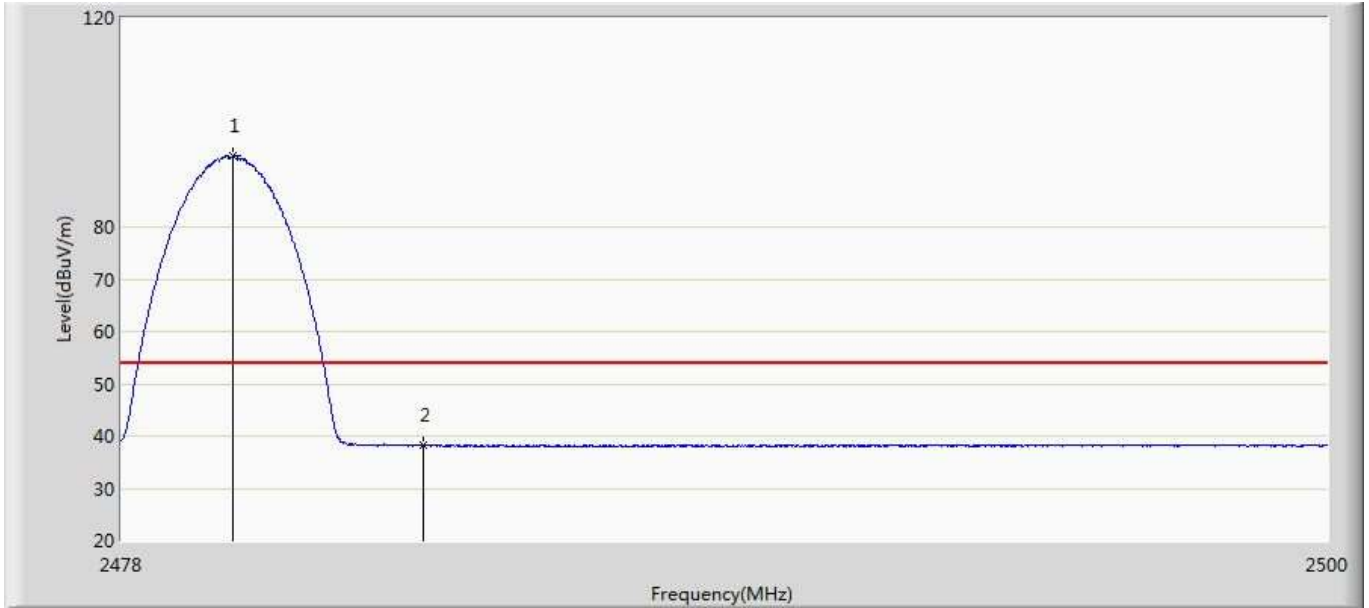
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.820	2.138	-16.180	54.000	35.682	AV
2	*	2402.055	95.249	59.536	41.249	54.000	35.712	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



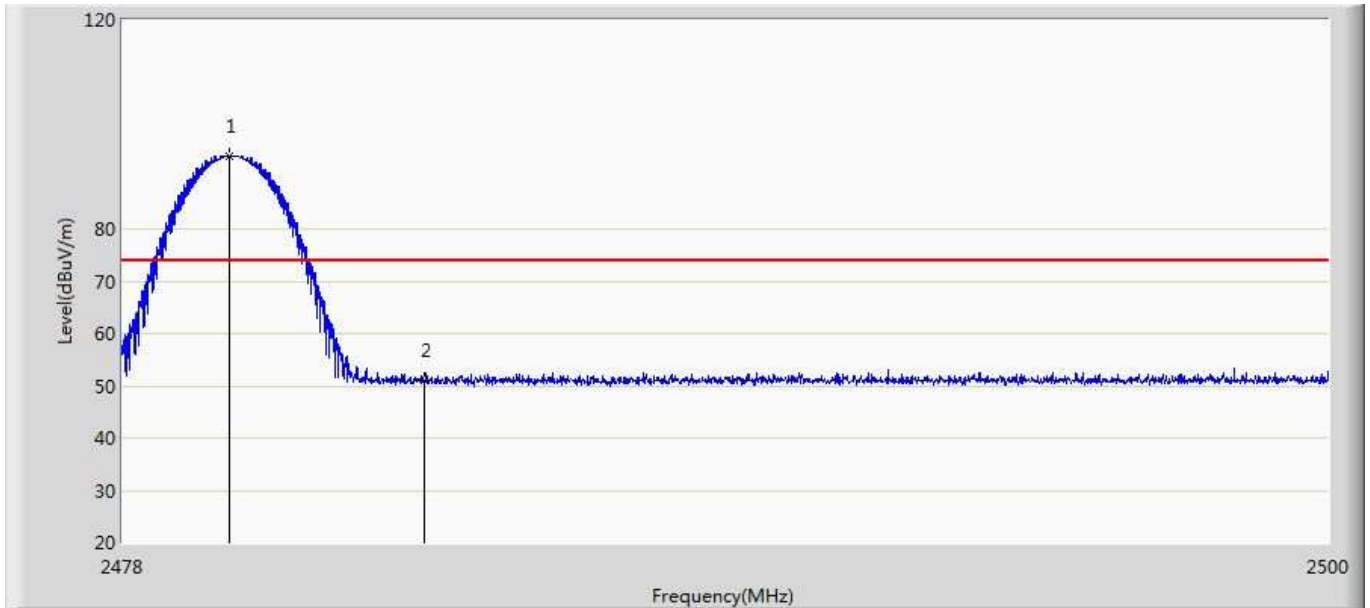
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	93.793	57.927	19.793	74.000	35.866	PK
2		2483.500	51.622	15.730	-22.378	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



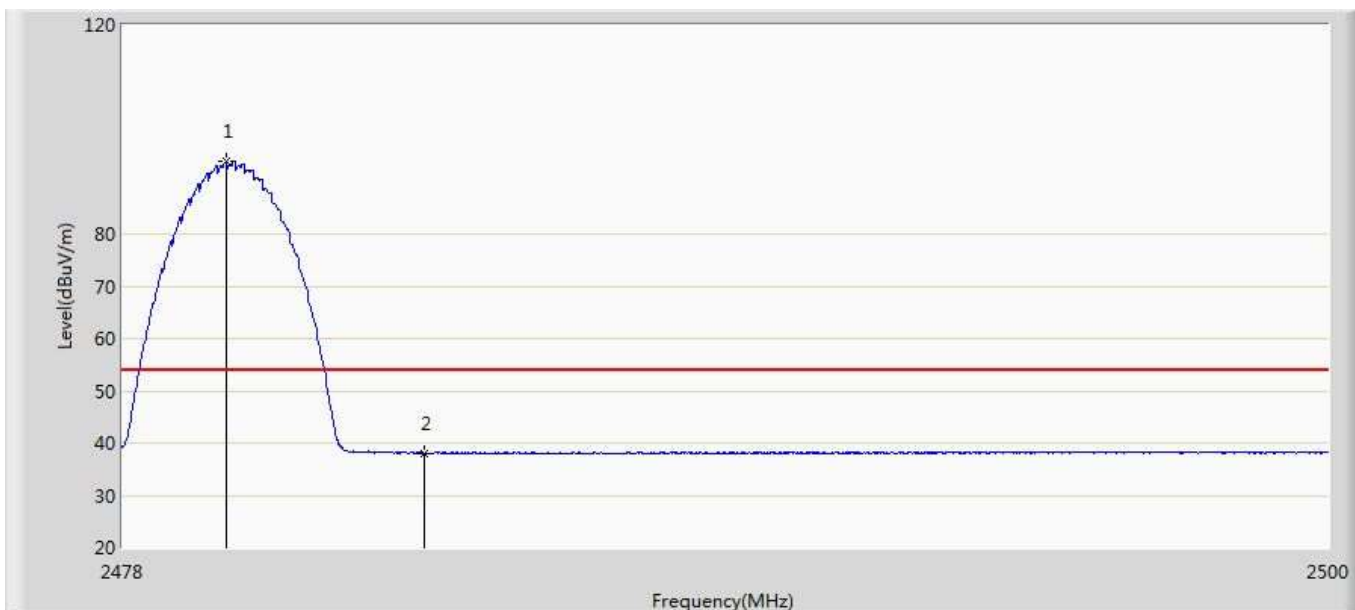
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.024	93.528	57.661	39.528	54.000	35.866	AV
2		2483.500	38.220	2.328	-15.780	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	93.935	58.069	19.935	74.000	35.866	PK
2		2483.500	51.058	15.166	-22.942	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2019/05/16 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLUETOOTH EARPHONES	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480Mhz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.881	93.783	57.918	39.783	54.000	35.865	AV
2		2483.500	38.029	2.137	-15.971	54.000	35.891	AV

12. Antenna Requirement

12.1. Limit

Antenna Requirement Limit	
<p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.</p>	

12.2. Antenna Connector Construction

Antenna Connector Construction	
<input type="checkbox"/>	The use of a permanently attached antenna
<input type="checkbox"/>	The antenna use of a unique coupling to the intentional radiator
<input checked="" type="checkbox"/>	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document "Internal Photograph" to show the antenna connector.	

_____ The End _____