



# Test Report

## FCC Part15 Subpart C& RSS-247 Issue 2

Product Name : Bluetooth Headset  
Model No. : B4220T, B4210T  
FCC ID : AL8-B4220T  
IC : 457A-B4220T

Applicant : Plantronics, Inc.

Address : 345 Encinal Street, Santa Cruz, CA95060 USA

Date of Receipt : Jan. 31, 2018

Test Date : Jan. 31, 2018~ Mar. 26, 2018

Issued Date : Apr. 18, 2018

Report No. : 1812179R-RF-US-P06V03

Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by A2LA, TAF or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing & Certification (Suzhou) Co., Ltd.

# Test Report Certification

Issued Date : Apr. 18, 2018

Report No. : 1812179R-RF-US-P06V03



Product Name : Bluetooth Headset

Applicant : Plantronics, Inc.

Address : 345 Encinal Street, Santa Cruz, CA95060 USA

Manufacturer : Plantronics, Inc.

Address : 345 Encinal Street, Santa Cruz, CA95060 USA

Model No. : B4220T, B4210T

FCC ID : AL8-B4220T

IC : 457A-B4220T

EUT Voltage : DC 3.7V

Test Voltage : AC120V/60Hz

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C  
KDB DA 00-705 Released March 30, 2000  
ANSI C63.10: 2013  
RSS-Gen Issue 4/RSS-247 Issue 2

Test Result : Complied

Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.  
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,  
Jiangsu, China  
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
FCC Designation Number: CN1199; ISED Lab Code: 4075B

Documented By : *Kathy Feng*  
(Adm. Specialist: Kathy Feng)

Reviewed By : *Frank He*  
(Senior Engineer: Frank He)

Approved By : *Harry Zhao*  
(Engineering Manager: Harry Zhao)

## TABLE OF CONTENTS

Description	Page
1. General Information.....	7
1.1. EUT Description .....	7
1.2. Antenna information .....	9
1.3. Mode of Operation.....	10
1.4. Tested System Details .....	11
1.5. Configuration of Tested System.....	12
1.6. EUT Exercise Software.....	13
2. Technical Test.....	14
2.1. Summary of Test Result .....	14
2.2. Test Environment.....	16
3. Conducted Emission.....	17
3.1. Test Equipment.....	17
3.2. Test Setup .....	17
3.3. Limit .....	18
3.4. Test Procedure .....	18
3.5. Uncertainty .....	18
3.6. Test Result .....	19
4. Emissions in restricted frequency bands.....	19
4.1. Test Equipment.....	21
4.2. Test Setup .....	22
4.3. Limit .....	23
4.4. Test Procedure .....	26
4.5. Uncertainty .....	26
4.6. Test Result .....	27
5. 20dB Bandwidth .....	65
5.1. Test Equipment.....	65
5.2. Test Setup .....	65
5.3. Limit .....	65
5.4. Test Procedure .....	66
5.5. Uncertainty .....	66
5.6. Test Result .....	67
6. Carrier Frequency Separation .....	73
6.1. Test Equipment.....	73
6.2. Test Setup .....	73
6.3. Limit .....	74
6.4. Test Procedure .....	74
6.5. Uncertainty .....	74

6.6.	Test Result .....	75
7.	Number of Hopping Frequencies .....	81
7.1.	Test Equipment.....	81
7.2.	Test Setup .....	81
7.3.	Limit .....	81
7.4.	Test Procedure .....	82
7.5.	Uncertainty .....	82
7.6.	Test Result .....	83
8.	Time of Occupancy (Dwell Time) .....	86
8.1.	Test Equipment.....	86
8.2.	Test Setup .....	86
8.3.	Limit .....	86
8.4.	Test Procedure.....	87
8.5.	Uncertainty .....	87
8.6.	Test Result .....	88
9.	Peak Output Power .....	91
9.1.	Test Equipment.....	91
9.2.	Test Setup .....	91
9.3.	Limit .....	92
9.4.	Test Procedure .....	92
9.5.	Uncertainty .....	92
9.6.	Test Result .....	93
10.	Emissions in non-restricted frequency bands .....	96
10.1.	Test Equipment.....	96
10.2.	Test Setup .....	96
10.3.	Limit .....	97
10.4.	Test Procedure .....	97
10.5.	Uncertainty .....	97
10.6.	Test Result .....	98
11.	Radiated Emission Band Edge .....	99
11.1.	Test Equipment.....	99
11.2.	Test Setup .....	99
11.3.	Limit .....	100
11.4.	Test Procedure .....	100
11.5.	Uncertainty .....	100
11.6.	Duty Factor.....	101
11.7.	Test Result .....	102
12.	Antenna Requirement.....	126

---

12.1. Limit .....	126
12.2. Antenna Connector Construction.....	126

### History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1812179R-RF-US-P06V03	V1.0	Initial Issued Report	Mar. 27, 2018
1812179R-RF-US-P06V03	V1.1	Modified some typo in the report	Apr. 18, 2018

## 1. General Information

### 1.1. EUT Description

Product Name	Bluetooth Headset
Model No.	B4220T, B4210T
Working 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

Note1: The difference of the two models is that the B4220T has one more speaker than the B4210T, the other is the same.

2: The power of AFH mode is less than the power at normal mode, so test was performed in normal mode.

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 checked="" type="checkbox"/> PCB	
		<input type="checkbox"/> Ceramic Chip Antenna	
		<input type="checkbox"/> Metal plate type F antenna	
		<input type="checkbox"/> Monopole antenna	
	Antenna Gain	3.36dBi	

### 1.3 Mode of Operation

We have 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.

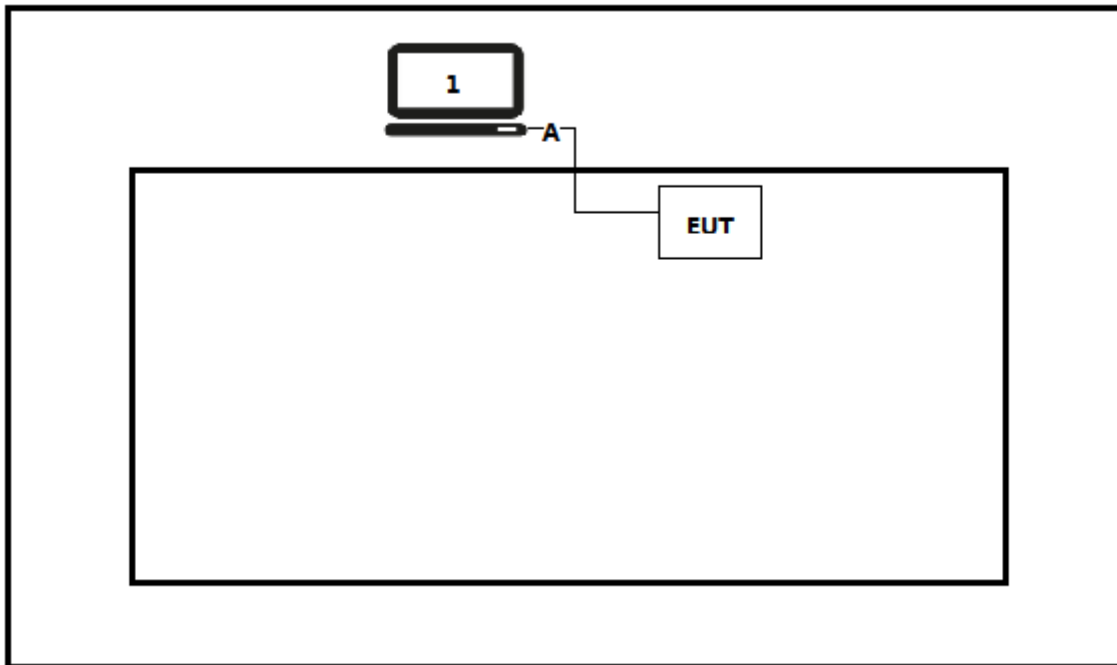
### 1.4 Tested System Details

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

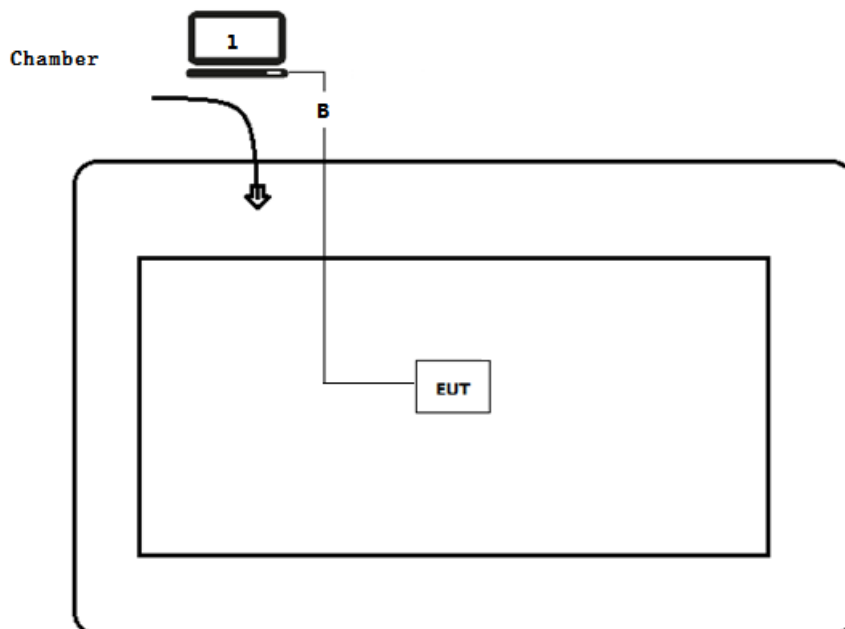
Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook	Think Pad	2526	LV-A3285	Power by adapter
A USB Cable	N/A	N/A	N/A	Shield, 0.5m
B USB Cable	N/A	N/A	N/A	Shield, 10m

### 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 [BlueTest3], 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:

**For FCC**

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

**For ISED**

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	RSS-Gen Issue 4 Section 8.8	Yes	No
Radiated Emission	RSS-Gen Issue 4 Section 8.9	Yes	No
20dB Bandwidth	RSS-247 Issue 2 Section 5.1	Yes	No
Carrier Frequency Separation	RSS-247 Issue 2 Section 5.1	Yes	No
Number of Hopping Frequencies	RSS-247 Issue 2 Section 5.1	Yes	No
Time of Occupancy (Dwell Time)	RSS-247 Issue 2 Section 5.1	Yes	No
Peak Output Power	RSS-247 Issue 2 Section 5.4	Yes	No
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section 5.5	Yes	No
Radiated Emission Band Edge	RSS-Gen Issue 4 Section 8.10	Yes	No
Antenna Requirement	RSS-Gen Issue 4 Section 8.3	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



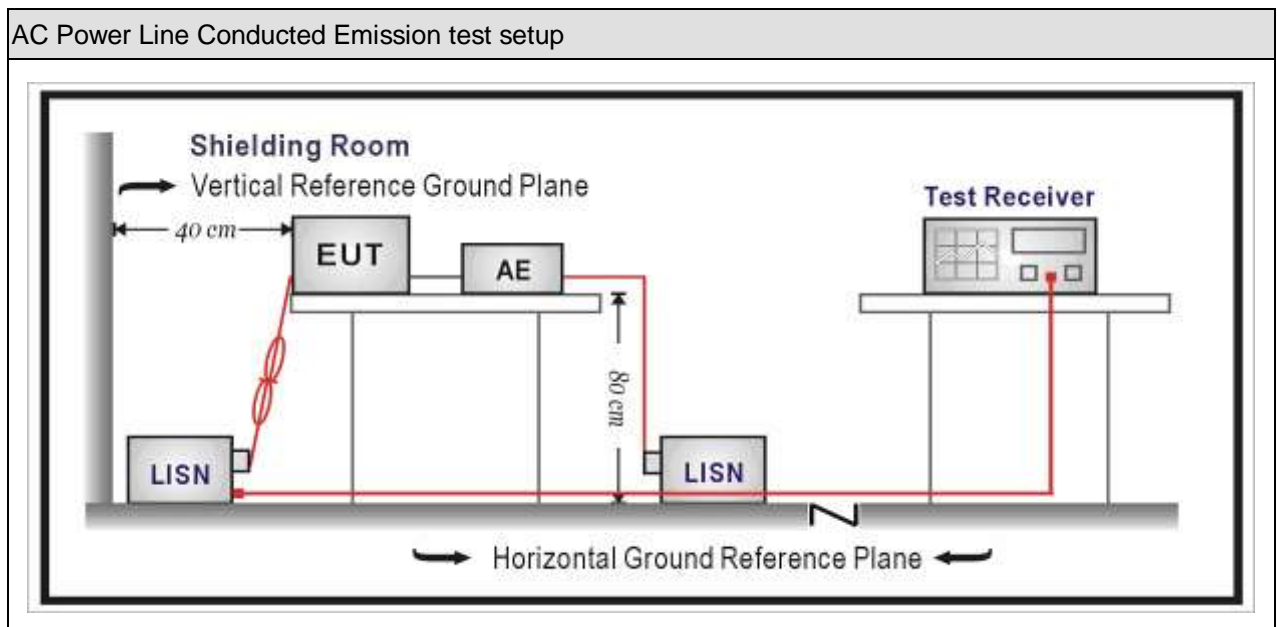
### 3. Conducted Emission

#### 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	2017.03.05	2019.03.04
Two-Line V-Network	R&S	ENV 216	101189	2017.07.16	2018.07.15
Two-Line V-Network	R&S	ENV 216	101044	2017.09.15	2018.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2017.09.15	2018.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2018.01.05	2019.01.04
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A

Note: All equipment are 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 (dB $\mu$ V)	Average (dB $\mu$ V)
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

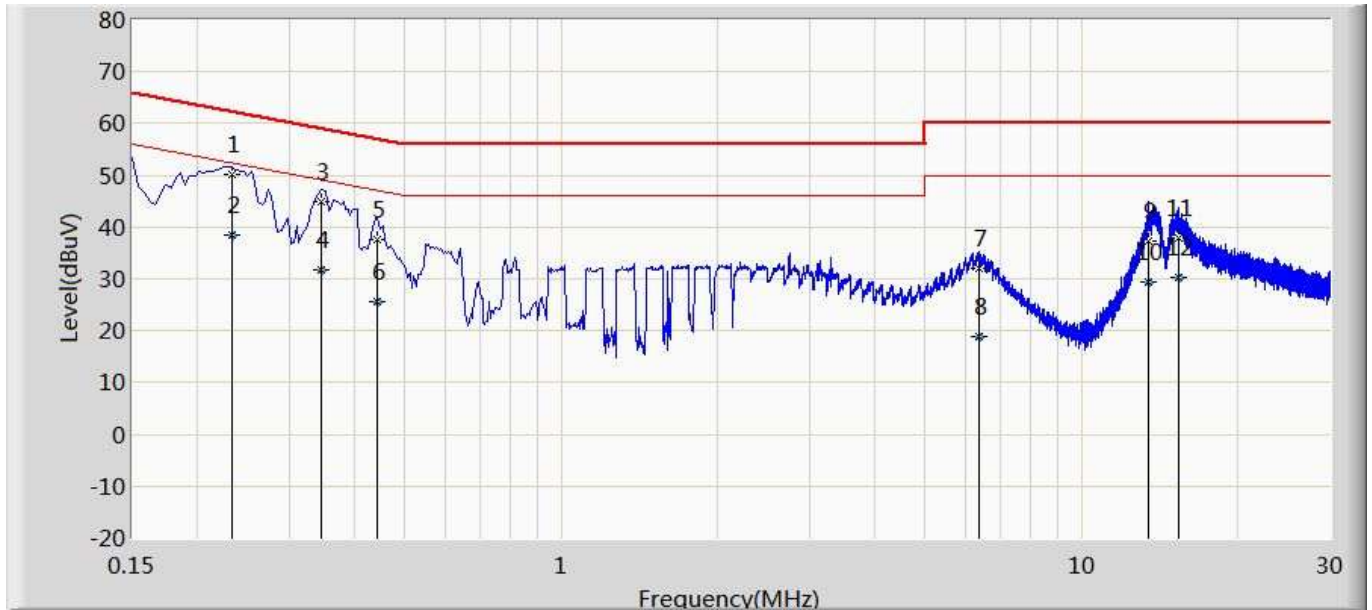
Test Method			
	References Rule	Chapter	Item
<input checked="" type="checkbox"/>	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

### 3.5. Uncertainty

The measurement uncertainty is defined as  $\pm 2.02$  dB

### 3.6. Test Result

Engineer: Michael	
Site: TR1	Time: 2018/03/15
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at channel 2402MHz by DH5	

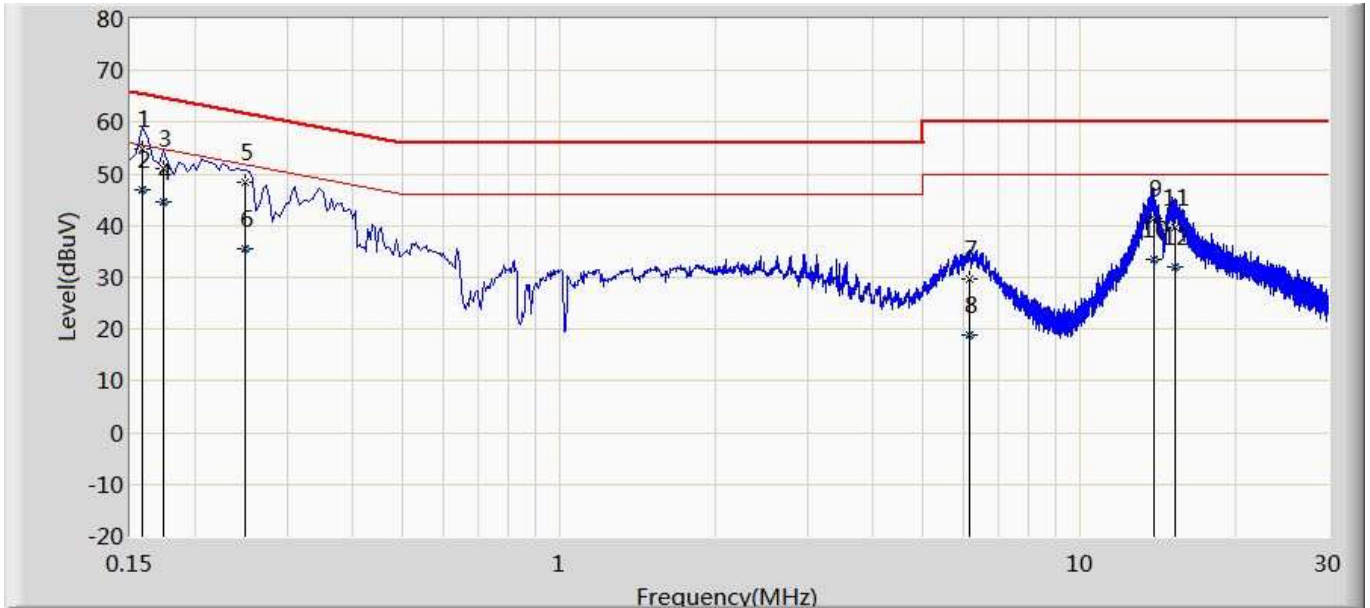


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.234	50.096	40.467	-12.210	62.307	9.600	0.030	0.000	QP
2		0.234	38.452	28.822	-13.854	52.307	9.600	0.030	0.000	AV
3		0.346	44.943	35.307	-14.115	59.058	9.600	0.036	0.000	QP
4		0.346	31.894	22.259	-17.164	49.058	9.600	0.036	0.000	AV
5		0.442	37.613	27.973	-19.411	57.024	9.600	0.041	0.000	QP
6		0.442	25.516	15.875	-21.508	47.024	9.600	0.041	0.000	AV
7		6.346	32.002	22.154	-27.998	60.000	9.687	0.161	0.000	QP
8		6.346	18.930	9.083	-31.070	50.000	9.687	0.161	0.000	AV
9		13.406	37.241	27.149	-22.759	60.000	9.859	0.234	0.000	QP
10		13.406	29.495	19.402	-20.505	50.000	9.859	0.234	0.000	AV
11		15.318	37.864	27.697	-22.136	60.000	9.915	0.251	0.000	QP
12		15.318	30.183	20.017	-19.817	50.000	9.915	0.251	0.000	AV

Note:

1. " \* ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Michael	
Site: TR1	Time: 2018/03/15
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at channel 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.158	54.829	45.211	-10.739	65.568	9.592	0.026	0.000	QP
2	*	0.158	47.102	37.484	-8.467	55.568	9.592	0.026	0.000	AV
3		0.174	51.122	41.500	-13.645	64.767	9.595	0.027	0.000	QP
4		0.174	44.708	35.086	-10.059	54.767	9.595	0.027	0.000	AV
5		0.250	48.413	38.784	-13.344	61.757	9.598	0.031	0.000	QP
6		0.250	35.662	26.033	-16.095	51.757	9.598	0.031	0.000	AV
7		6.138	29.775	19.939	-30.225	60.000	9.678	0.158	0.000	QP
8		6.138	18.766	8.930	-31.234	50.000	9.678	0.158	0.000	AV
9		13.882	41.373	31.214	-18.627	60.000	9.922	0.238	0.000	QP
10		13.882	33.388	23.229	-16.612	50.000	9.922	0.238	0.000	AV
11		15.306	39.644	29.419	-20.356	60.000	9.973	0.251	0.000	QP
12		15.306	31.967	21.743	-18.033	50.000	9.973	0.251	0.000	AV

**Note:**

1. " \* ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

## 4. Emissions in restricted frequency bands

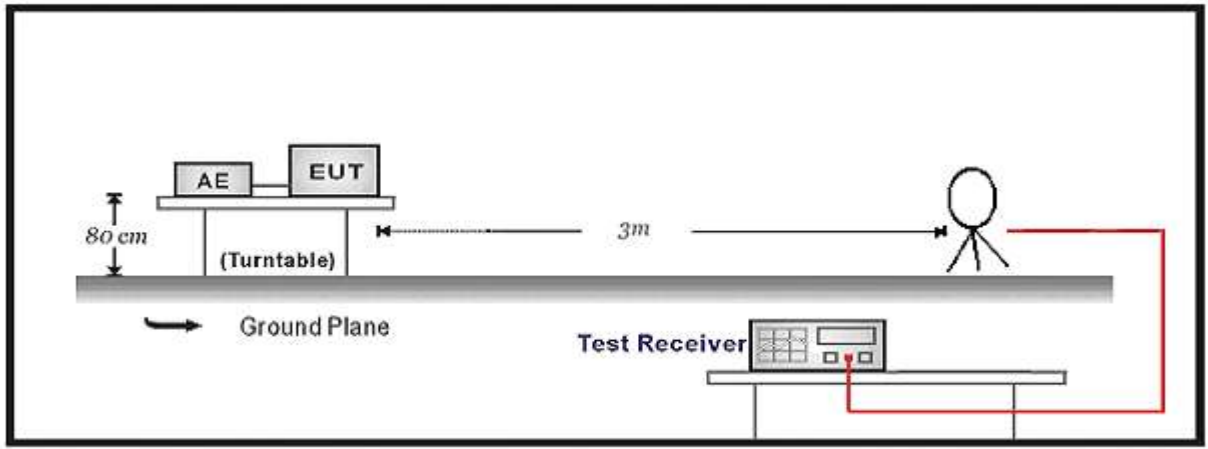
### 4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2017.03.29	2018.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2017.11.16	2018.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2017.10.16	2018.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2017.03.02	2019.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2018.01.04	2019.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

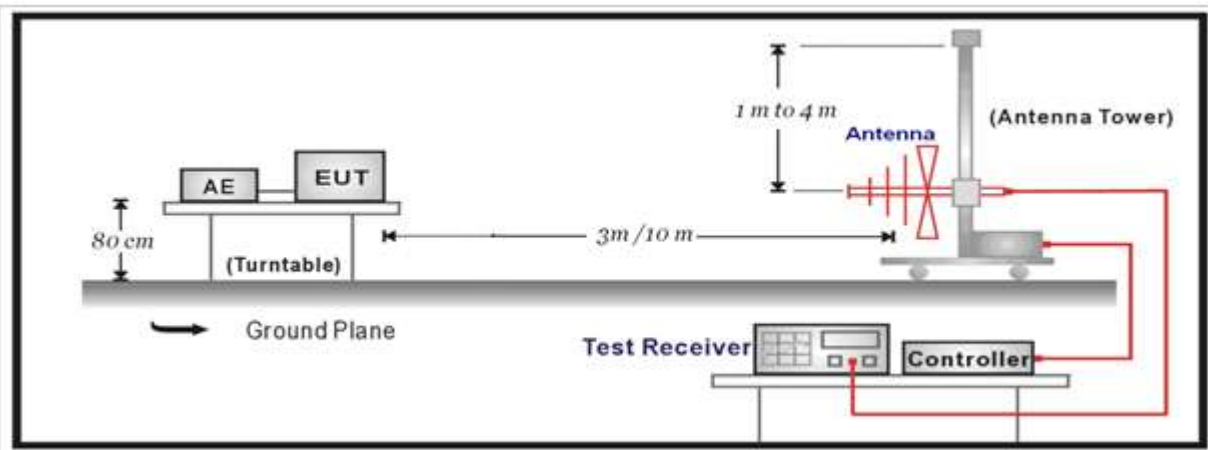
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2018.01.22	2019.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2017.03.02	2019.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

### 4.2. Test Setup

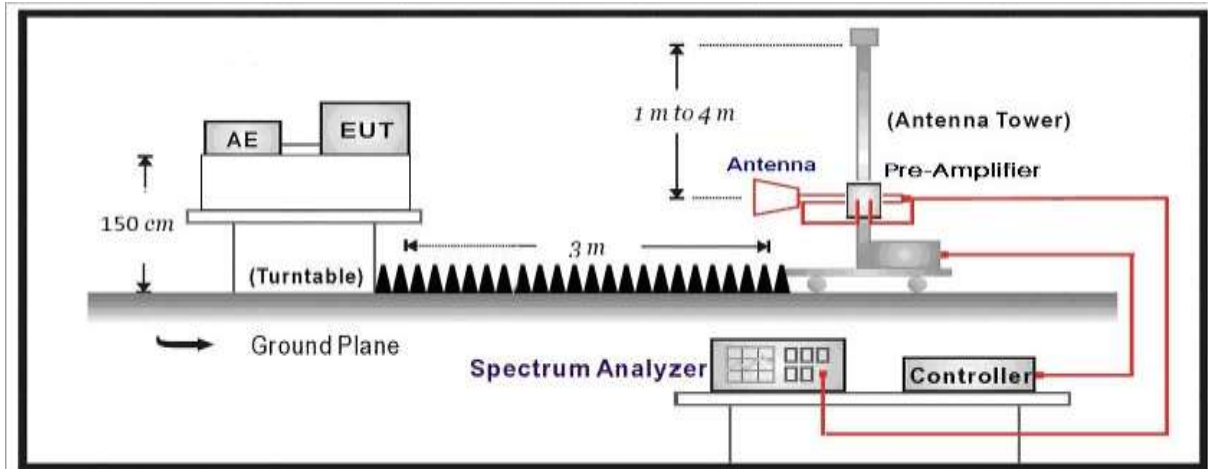
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



**4.3. Limit**

**For FCC:**

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			

**For ISED:**

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090-0.110	13.36-13.41	1645.5-1646.5	13.25-13.4
2.1735-2.1905	16.42-16.423	1660-1710	14.47-14.5
3.020-3.026	16.69475-16.69525	1718.8-1722.2	15.35-16.2
4.125-4.128	16.80425-16.80475	2200-2300	17.7-21.4
4.17725-4.17775	25.5-25.67	2310-2390	22.01-23.12
4.20725-4.20775	37.5-38.25	2655-2900	23.6-24.0
5.677-5.683	73-74.6	3260-3267	31.2-31.8
6.215-6.218	74.8-75.2	3332-3339	36.43-36.5
6.26775-6.26825	108-138	3345.8-3358	Above 38.6
6.31175-6.31225	156.52475-156.52525	3500-4400	
8.291-8.294	156.7-156.9	4500-5150	
8.362-8.366	240-285	5350-5460	
8.37625-8.38675	322-335.4	7250-7750	
8.41425-8.41475	399.9-410	8025-8500	
12.29-12.293	608-614	9.0-9.2	
12.51975-12.52025	960-1427	9.3-9.5	
12.57675-12.57725	1435-1626.5	10.6-12.7	



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

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  $\pm 3.9$  dB  
 below 1G is defined as  $\pm 3.8$  dB

### 4.6. Test Result

**B4220T:**

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



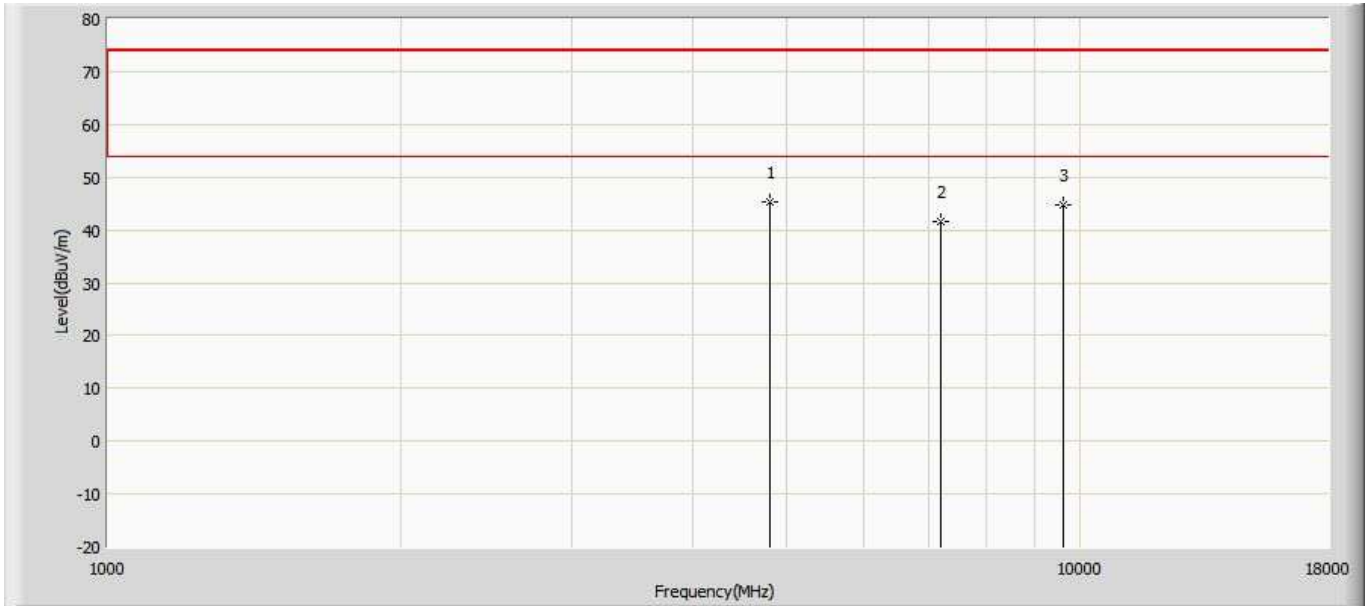
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4808.000	46.047	51.615	-27.953	74.000	-5.568	PK
2		7205.000	44.566	44.850	-29.434	74.000	-0.284	PK
3		9608.000	44.976	40.845	-29.024	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



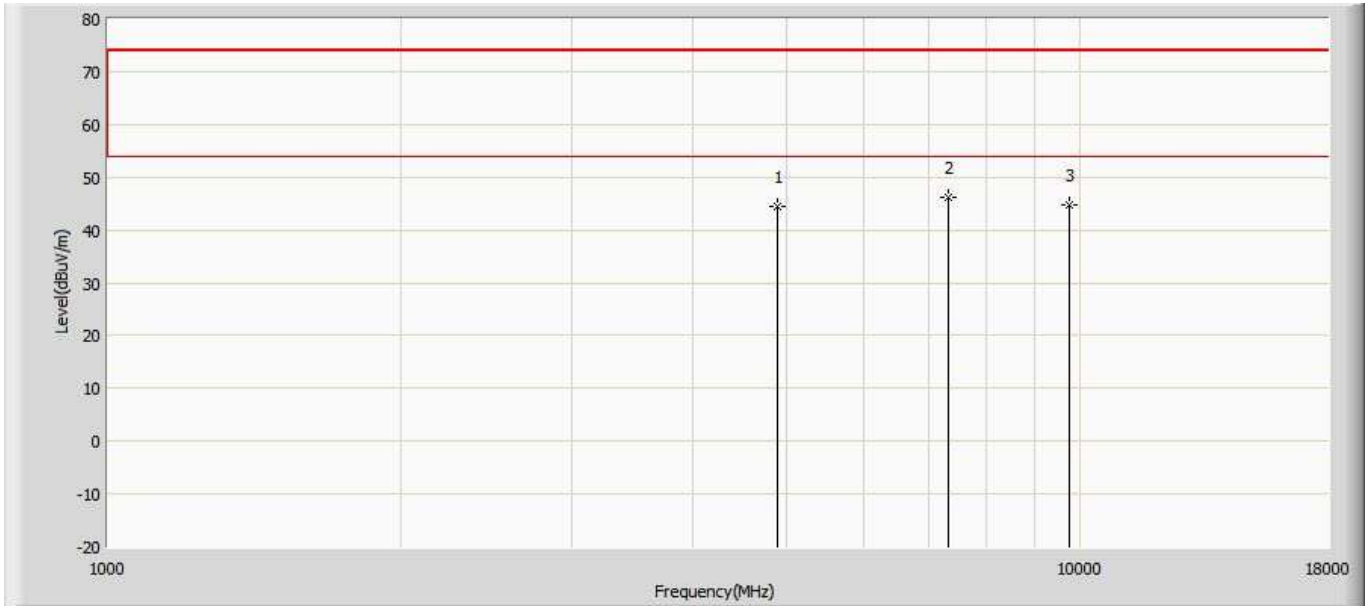
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4808.000	45.187	50.755	-28.813	74.000	-5.568	PK
2		7206.000	41.468	41.756	-32.532	74.000	-0.288	PK
3		9608.000	44.897	40.766	-29.103	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2441MHz by DH5	



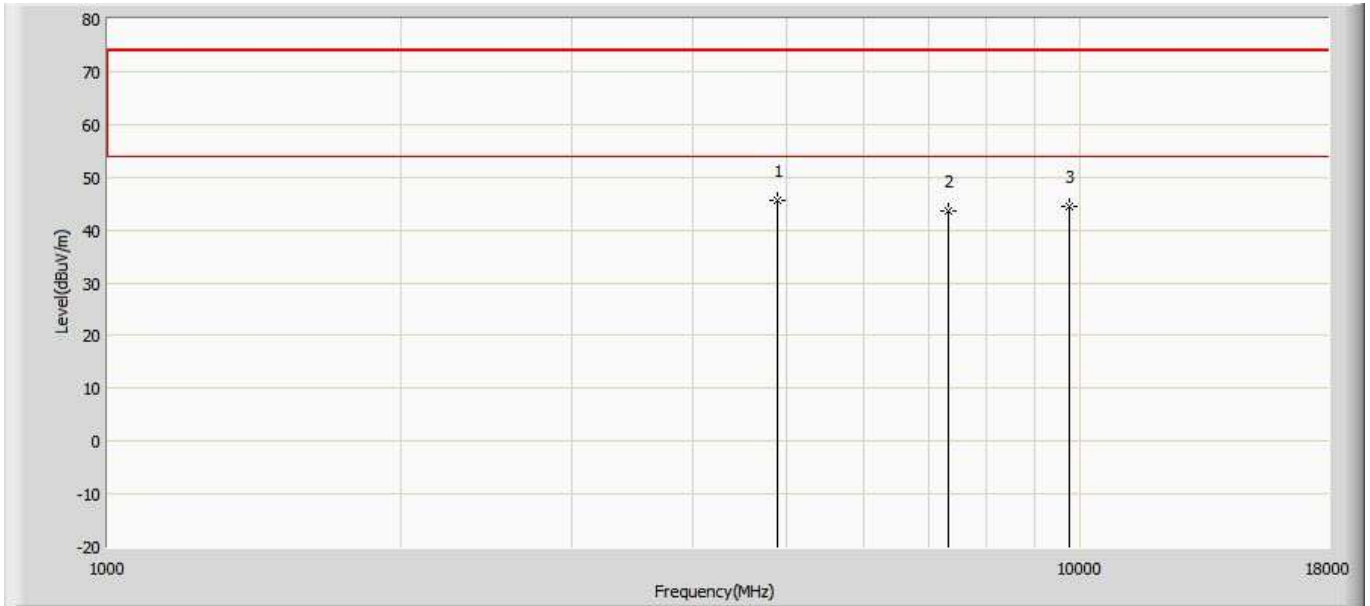
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	44.585	50.158	-29.415	74.000	-5.573	PK
2	*	7324.000	46.087	46.337	-27.913	74.000	-0.250	PK
3		9764.000	44.864	40.560	-29.136	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2441MHz by DH5	



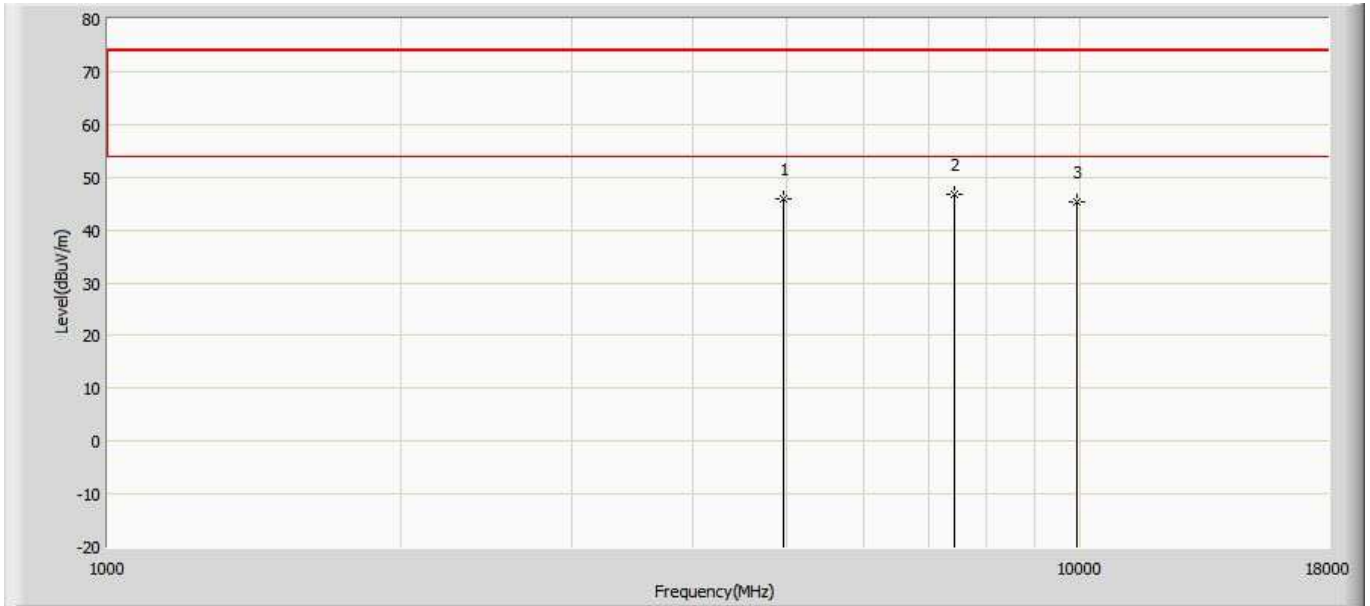
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.500	45.569	51.142	-28.431	74.000	-5.573	PK
2		7324.000	43.495	43.745	-30.505	74.000	-0.250	PK
3		9764.000	44.461	40.157	-29.539	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



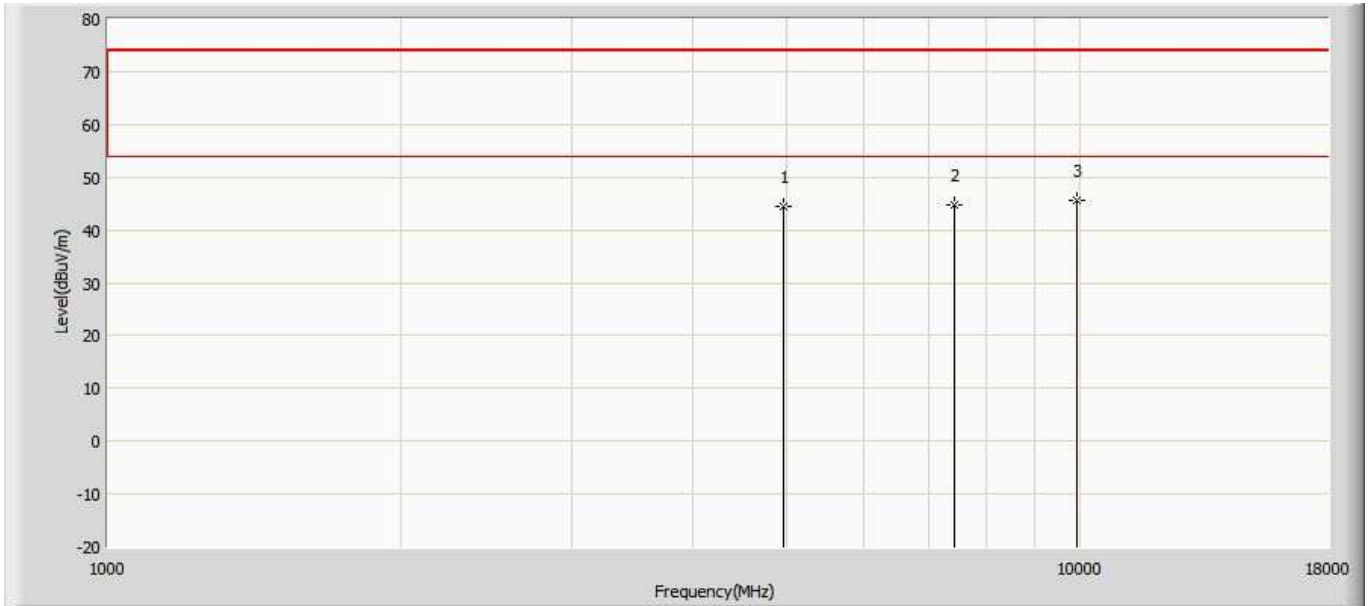
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.879	51.106	-28.121	74.000	-5.227	PK
2	*	7443.000	46.689	46.815	-27.311	74.000	-0.126	PK
3		9920.000	45.438	40.492	-28.562	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4961.000	44.601	49.828	-29.399	74.000	-5.227	PK
2		7443.000	44.698	44.824	-29.302	74.000	-0.126	PK
3	*	9920.000	45.707	40.761	-28.293	74.000	4.946	PK

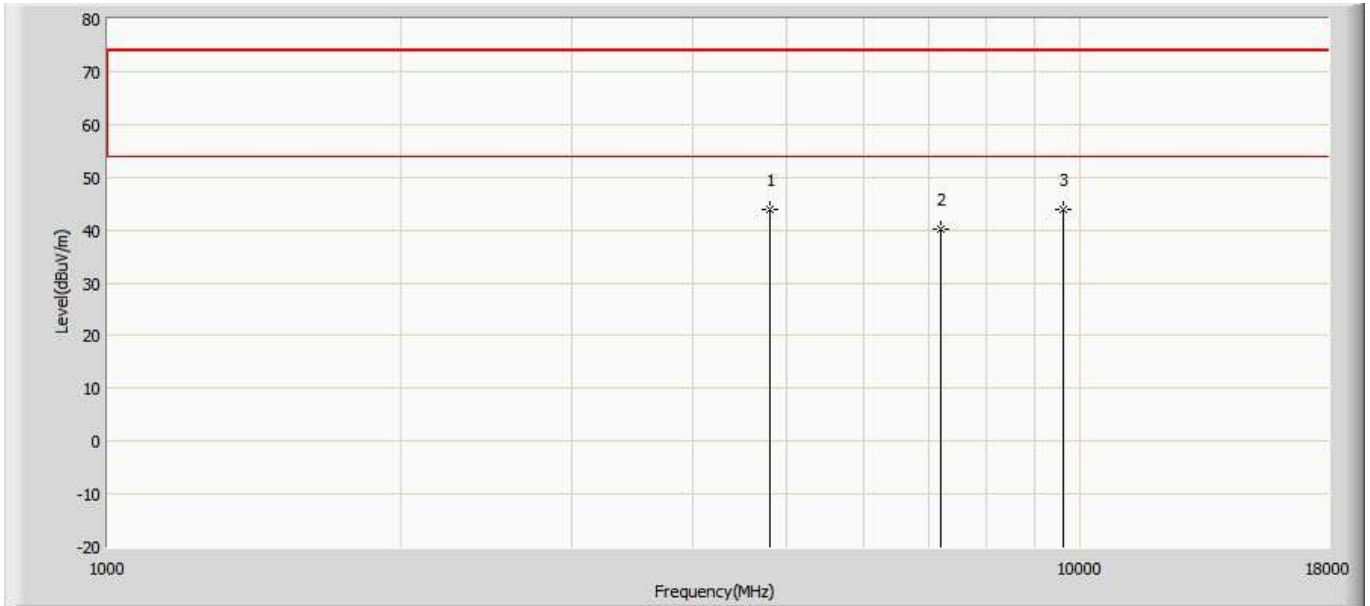
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.



Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



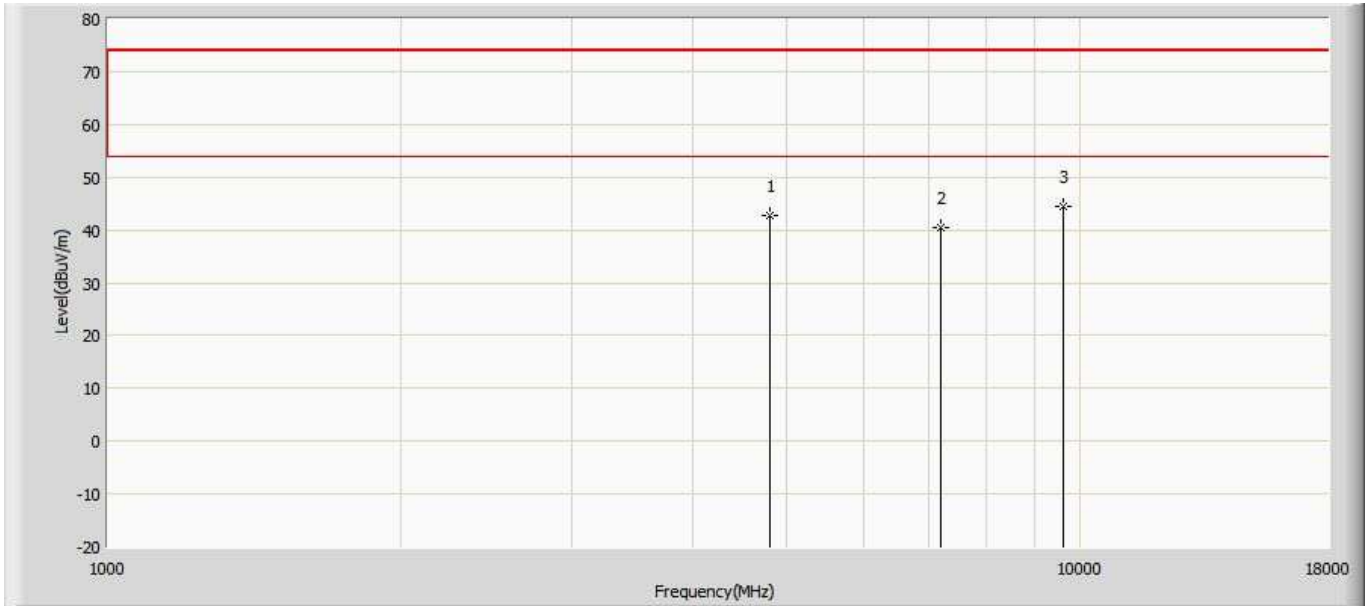
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	43.984	49.644	-30.016	74.000	-5.660	PK
2		7206.000	40.097	40.385	-33.903	74.000	-0.288	PK
3	*	9608.000	44.008	39.877	-29.992	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



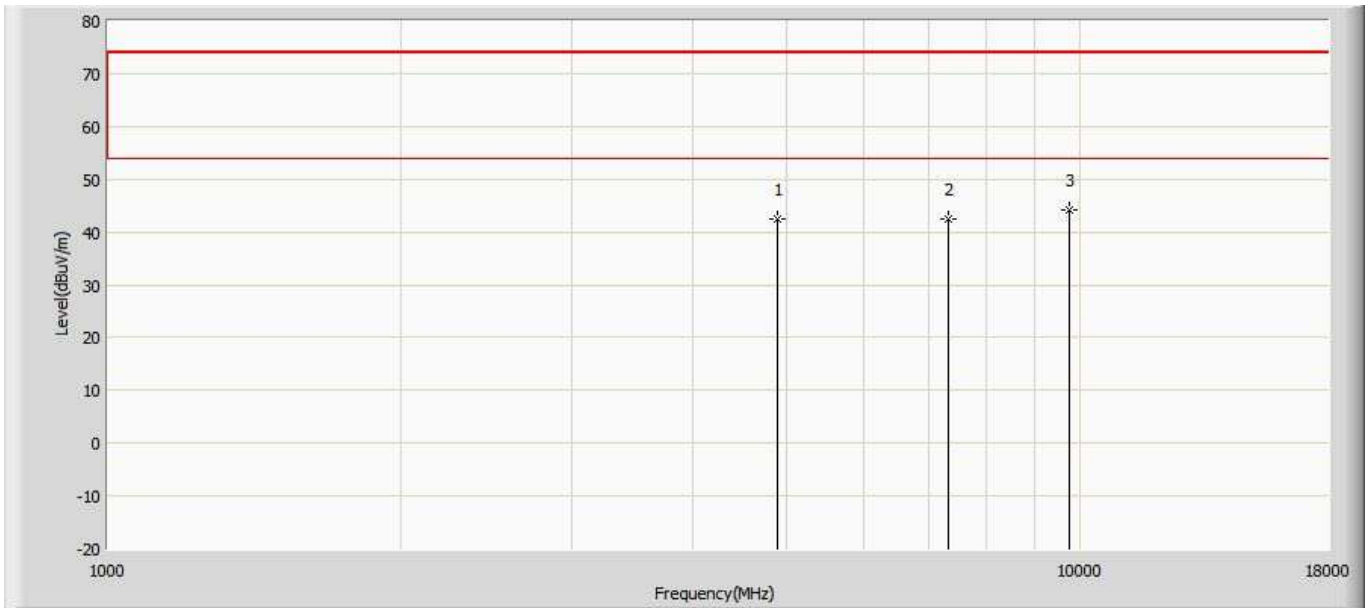
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	42.844	48.504	-31.156	74.000	-5.660	PK
2		7206.000	40.364	40.652	-33.636	74.000	-0.288	PK
3	*	9608.000	44.365	40.234	-29.635	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



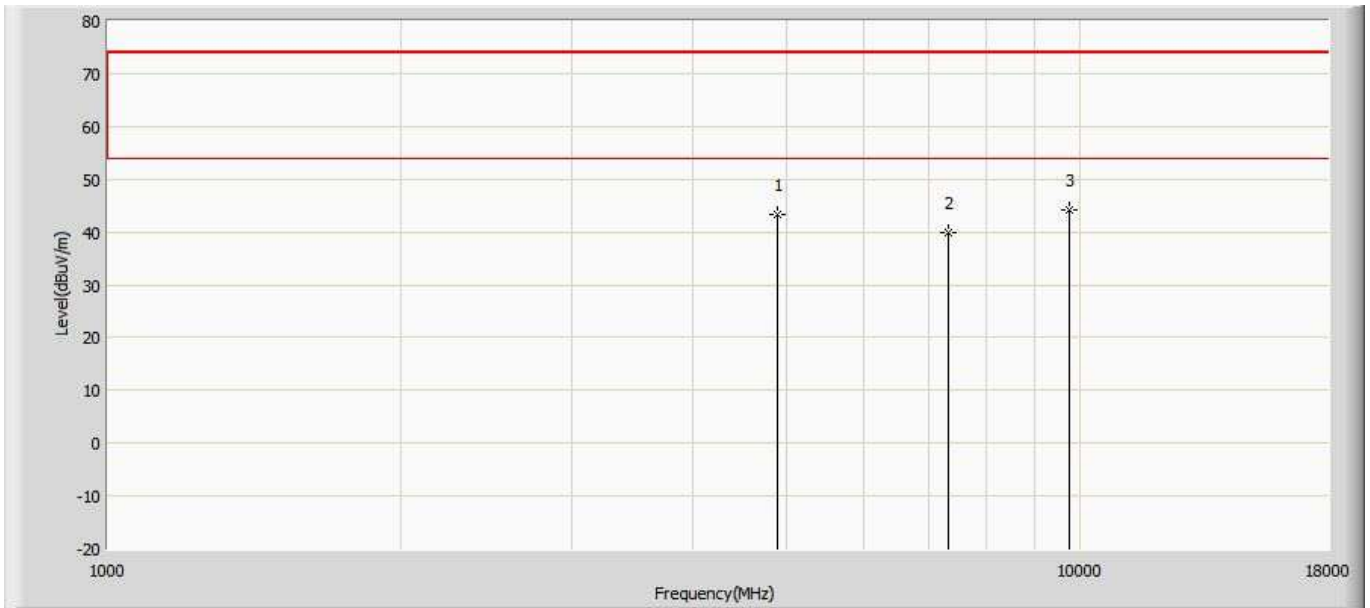
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	42.543	48.116	-31.457	74.000	-5.573	PK
2		7323.000	42.580	42.855	-31.420	74.000	-0.275	PK
3	*	9764.000	44.182	39.878	-29.818	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



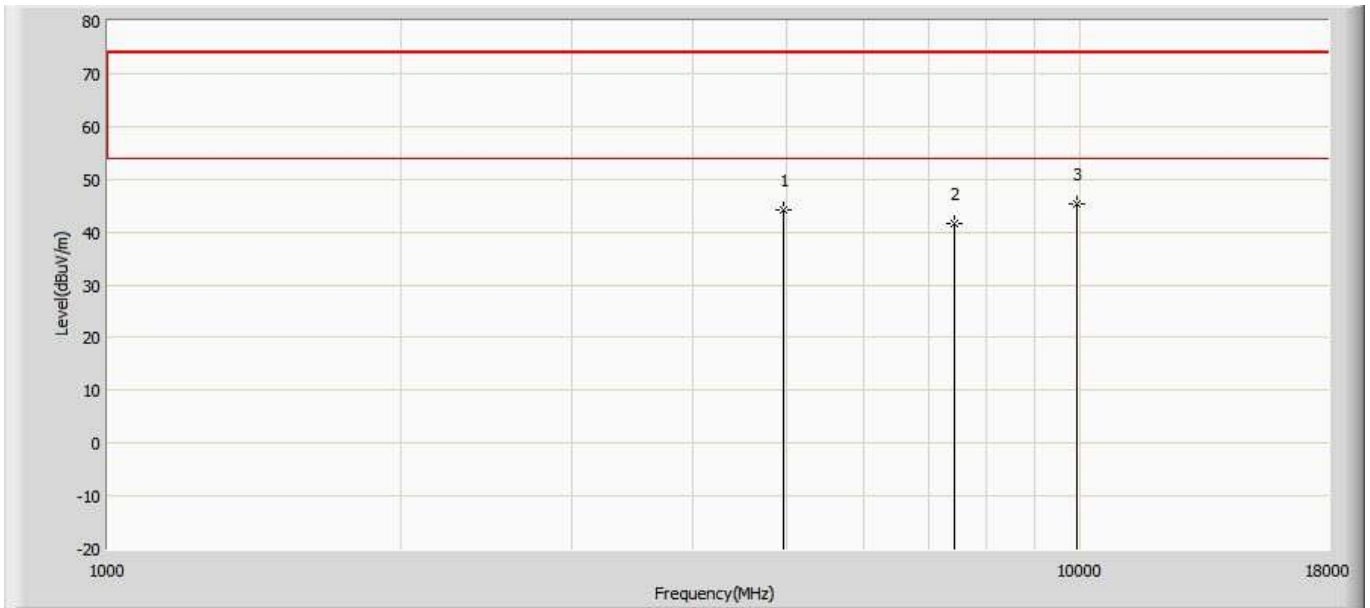
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	43.218	48.791	-30.782	74.000	-5.573	PK
2		7323.000	40.017	40.292	-33.983	74.000	-0.275	PK
3	*	9764.000	44.312	40.008	-29.688	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



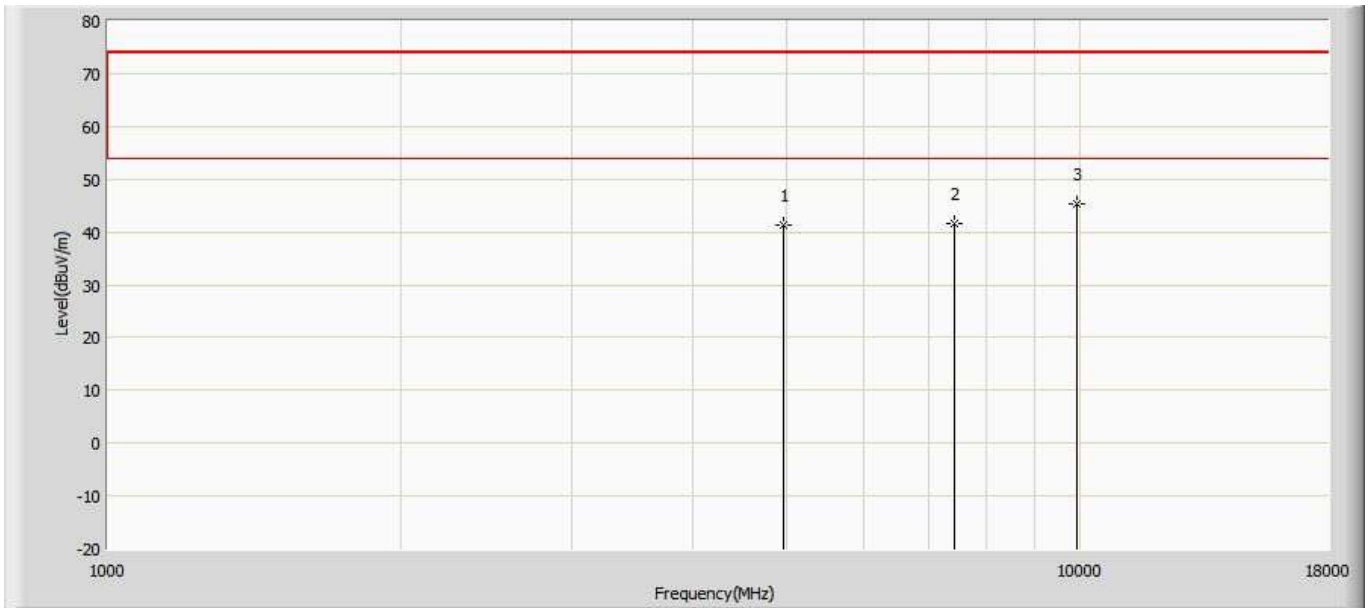
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	44.300	49.527	-29.700	74.000	-5.227	PK
2		7440.000	41.568	41.747	-32.432	74.000	-0.179	PK
3	*	9920.000	45.297	40.351	-28.703	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



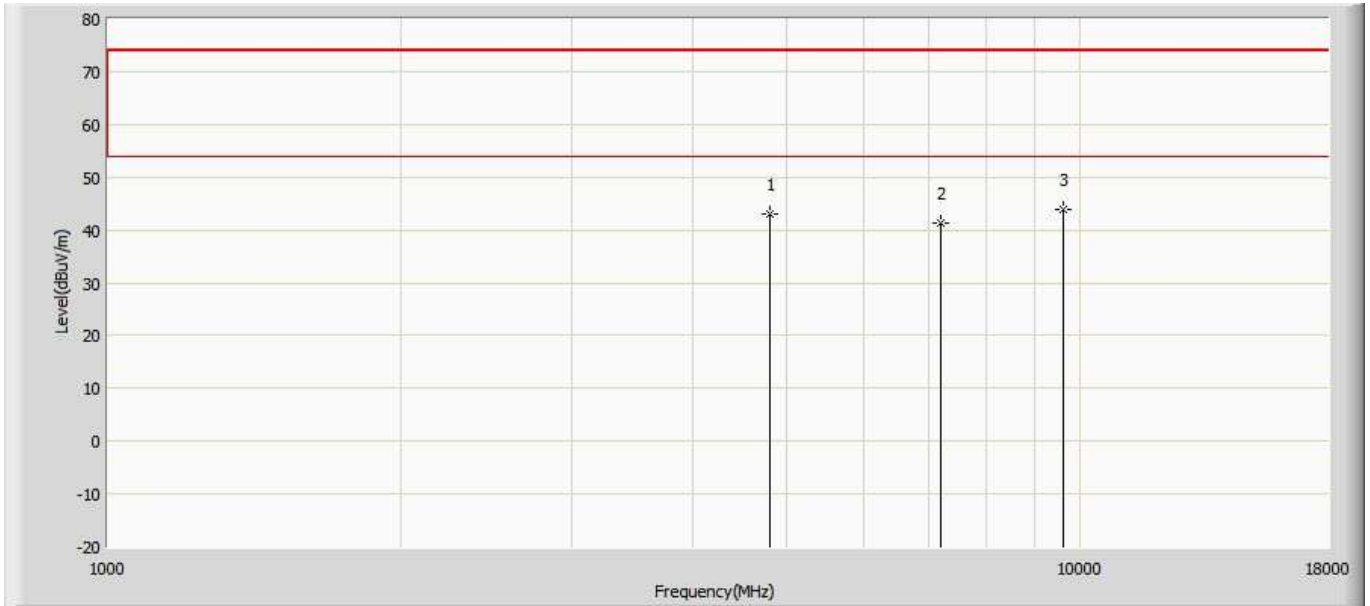
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	41.301	46.528	-32.699	74.000	-5.227	PK
2		7440.000	41.579	41.758	-32.421	74.000	-0.179	PK
3	*	9920.000	45.344	40.398	-28.656	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



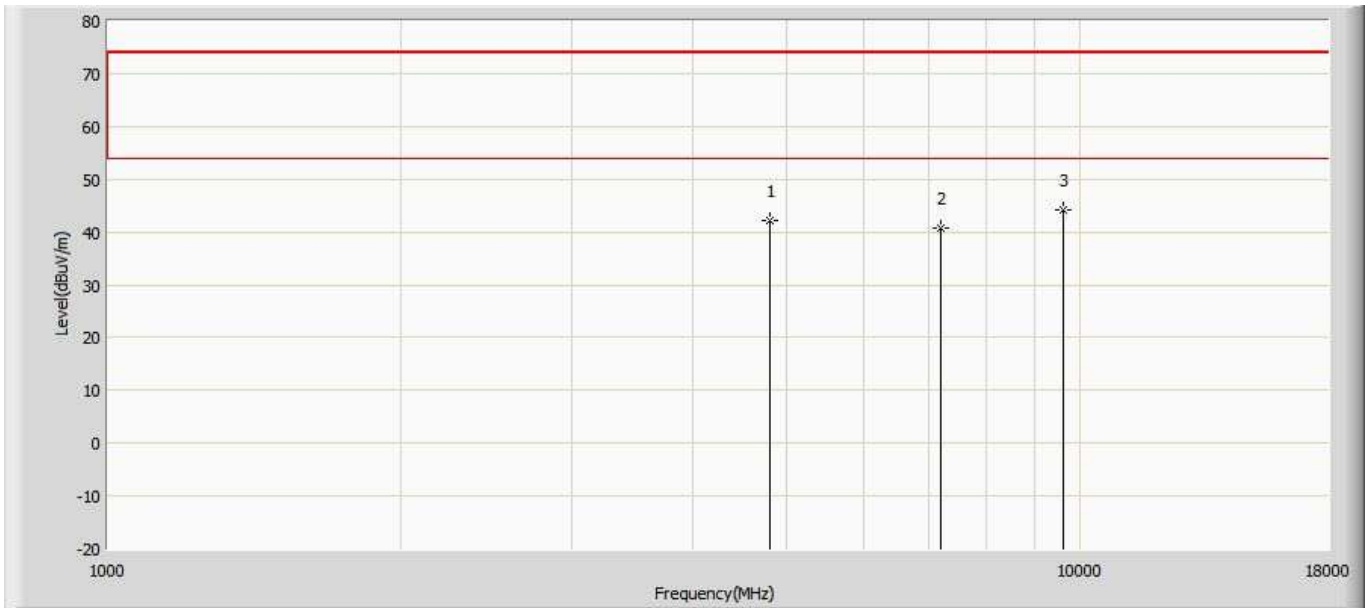
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	42.923	48.583	-31.077	74.000	-5.660	PK
2		7206.000	41.217	41.505	-32.783	74.000	-0.288	PK
3	*	9608.000	43.968	39.837	-30.032	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4808.000	42.290	47.858	-31.710	74.000	-5.568	PK
2		7206.000	40.879	41.167	-33.121	74.000	-0.288	PK
3	*	9608.000	44.055	39.924	-29.945	74.000	4.131	PK

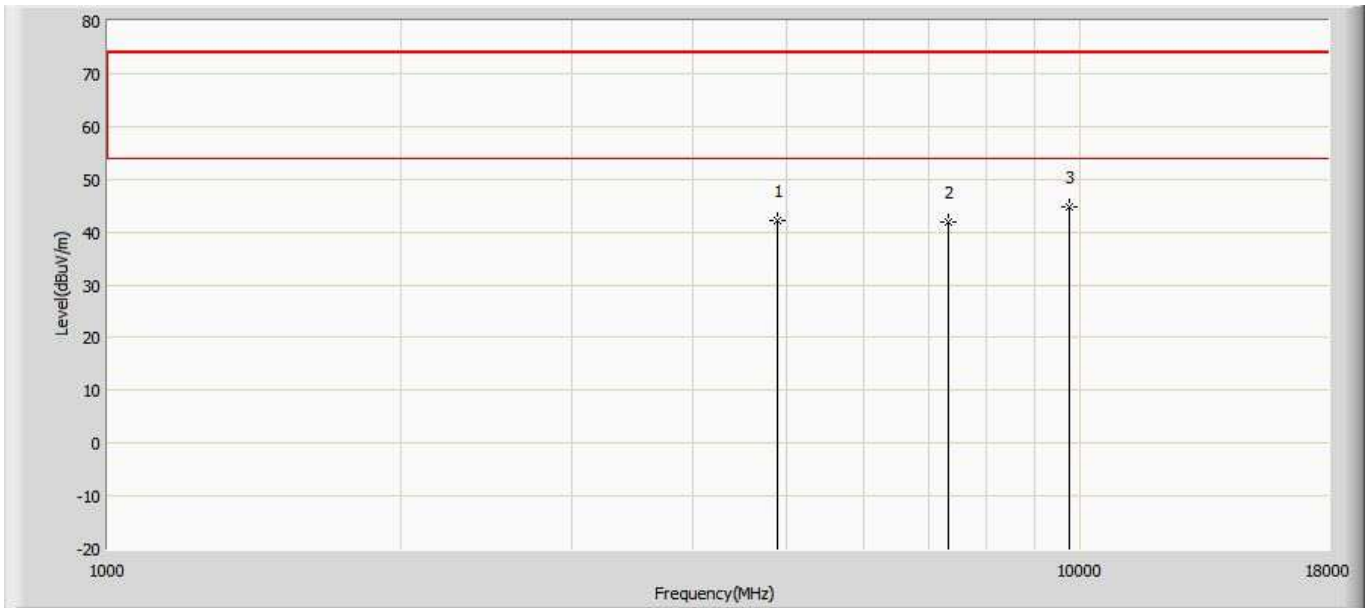
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.



Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



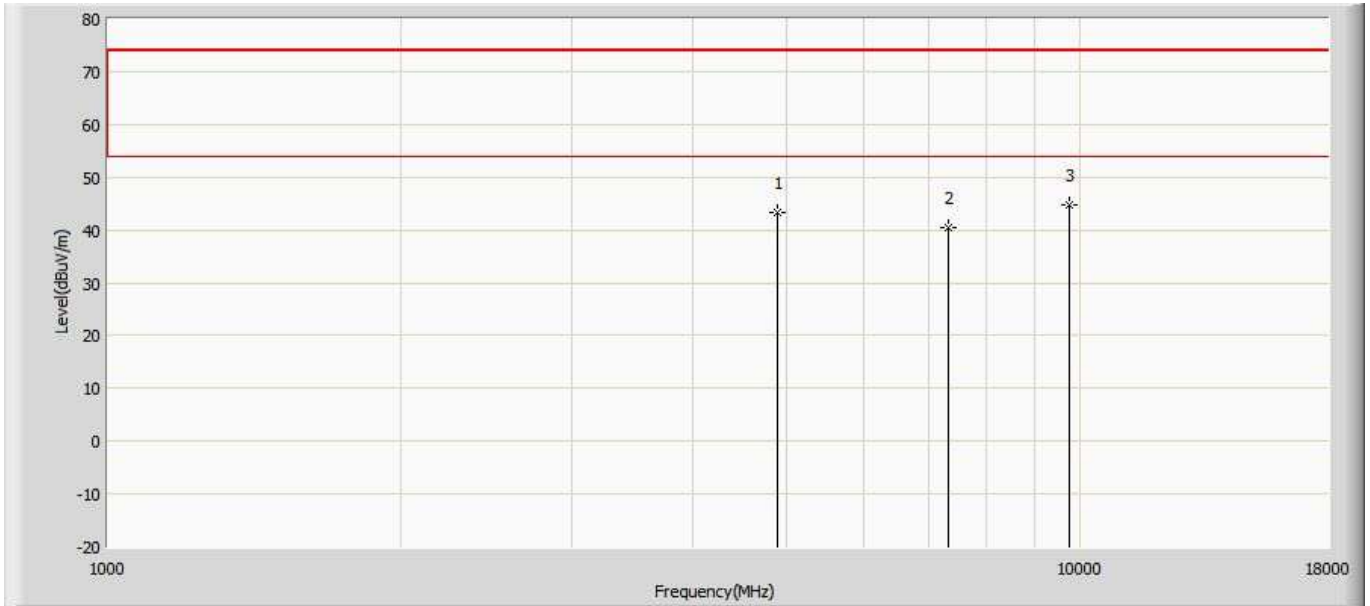
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	42.317	47.890	-31.683	74.000	-5.573	PK
2		7323.000	41.842	42.117	-32.158	74.000	-0.275	PK
3	*	9764.000	44.722	40.418	-29.278	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



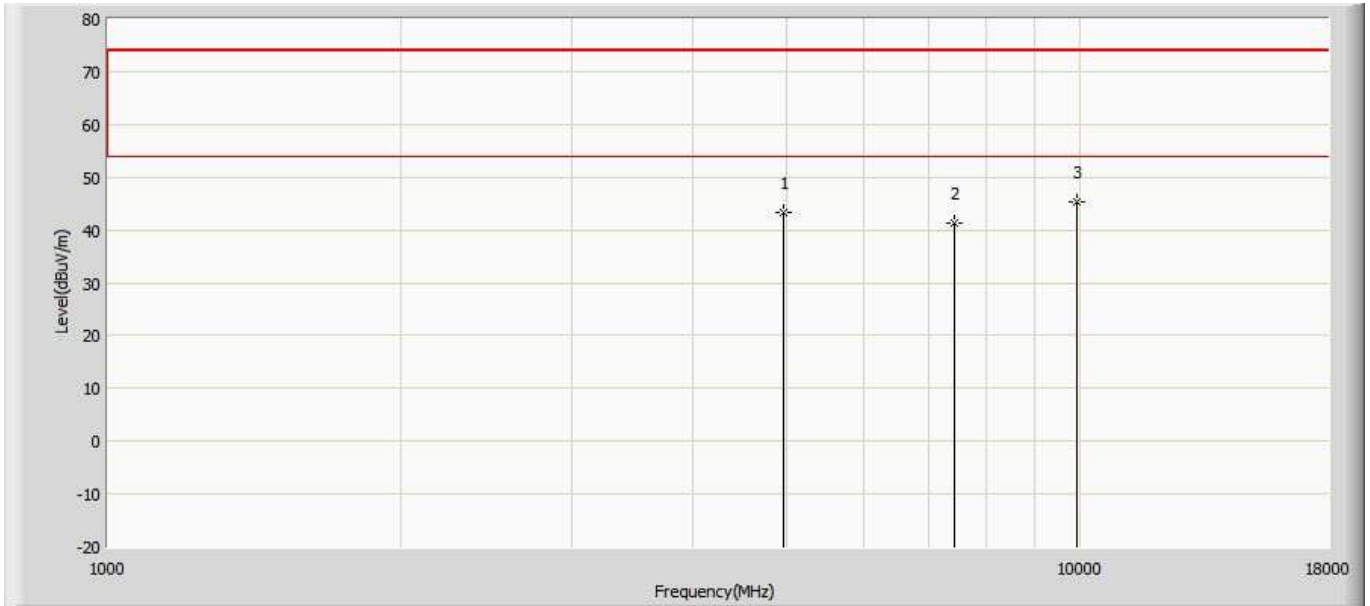
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	43.225	48.798	-30.775	74.000	-5.573	PK
2		7323.000	40.354	40.629	-33.646	74.000	-0.275	PK
3	*	9764.000	44.864	40.560	-29.136	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



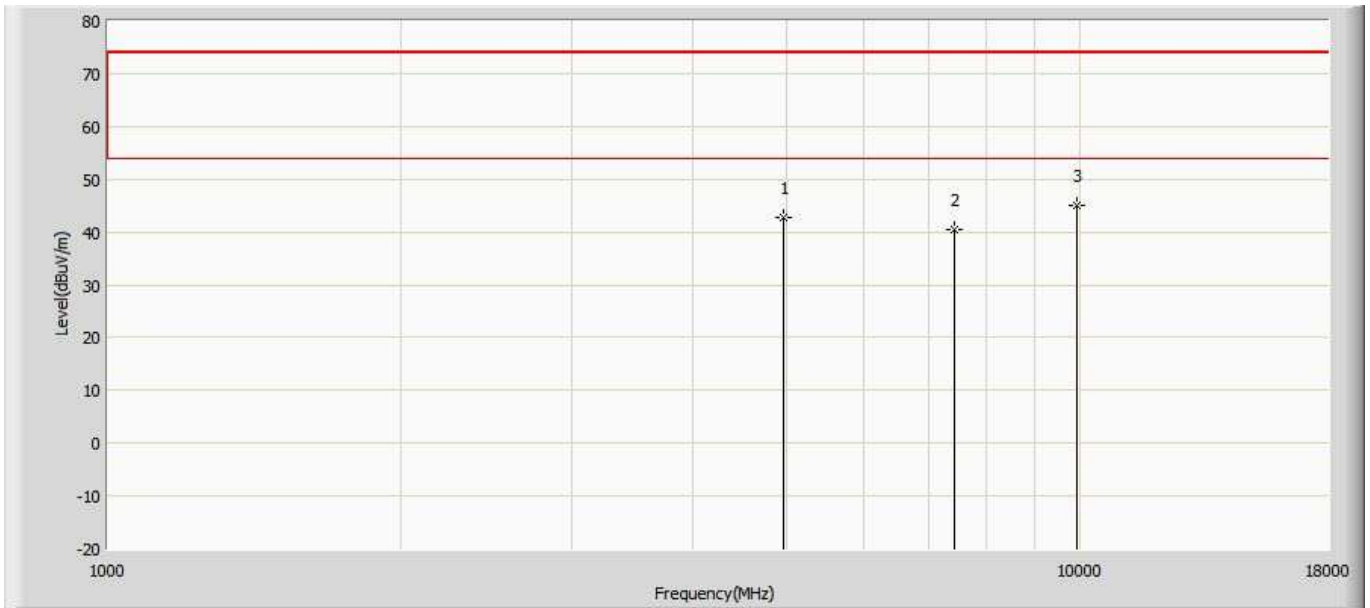
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	43.312	48.539	-30.688	74.000	-5.227	PK
2		7440.000	41.214	41.393	-32.786	74.000	-0.179	PK
3	*	9920.000	45.207	40.261	-28.793	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4961.000	42.676	47.903	-31.324	74.000	-5.227	PK
2		7440.000	40.449	40.628	-33.551	74.000	-0.179	PK
3	*	9920.000	44.980	40.034	-29.020	74.000	4.946	PK

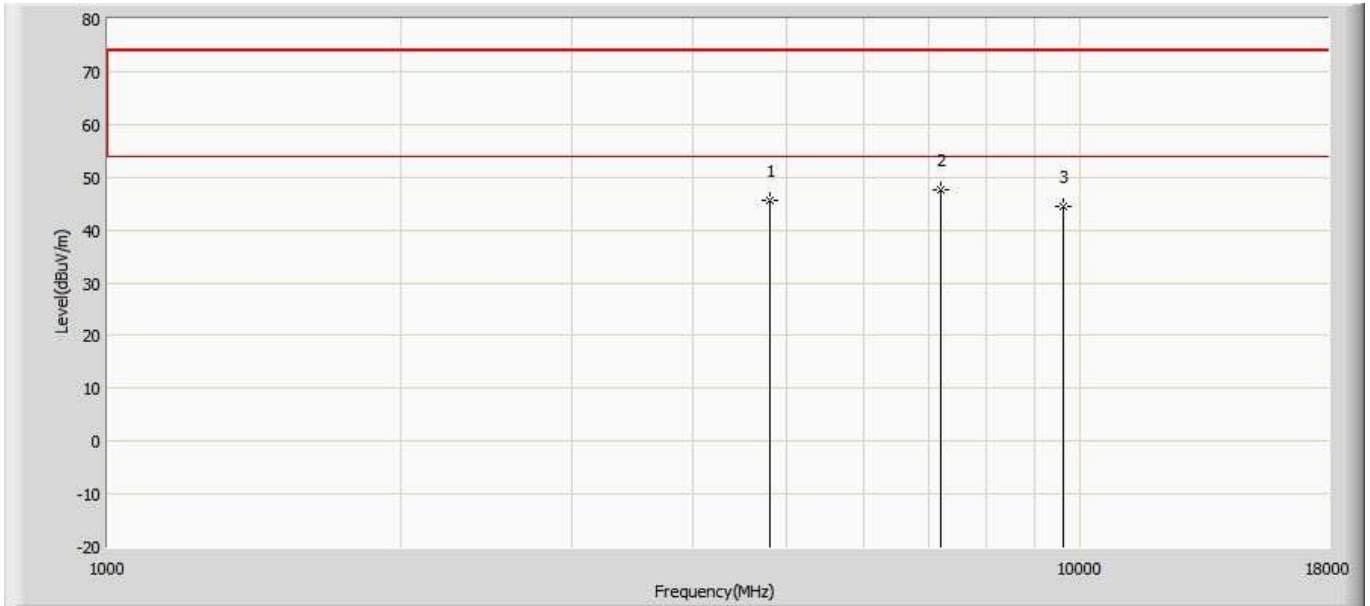
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

**B4210T:**

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



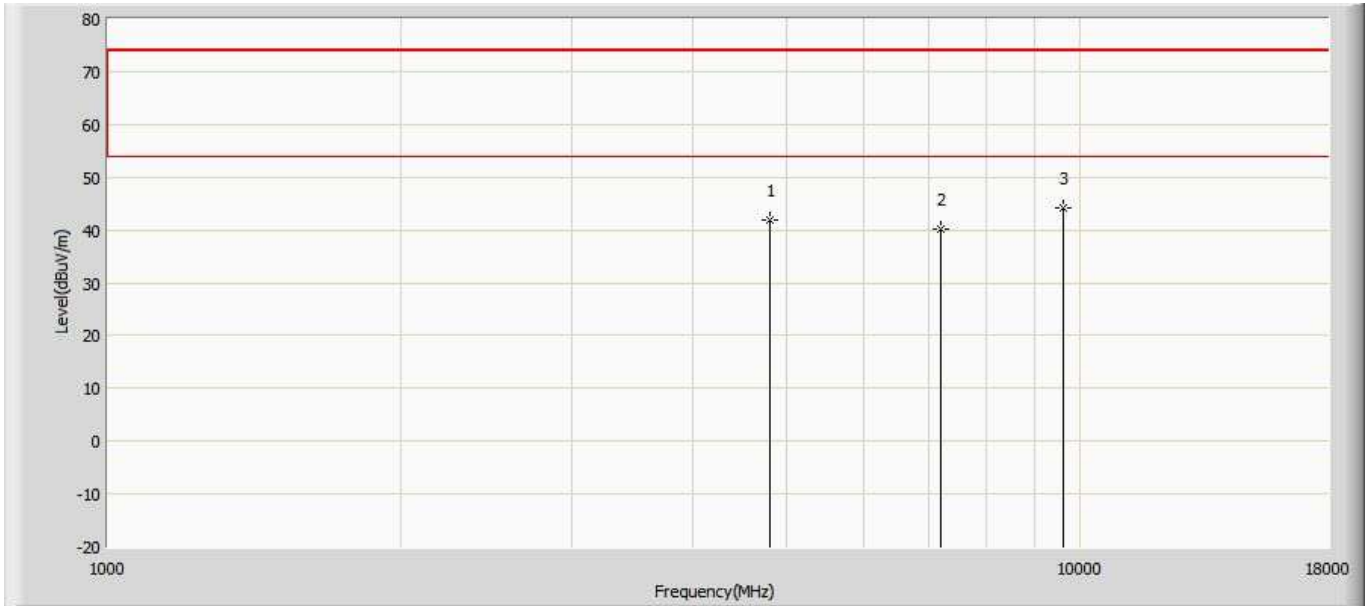
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	45.722	51.382	-28.278	74.000	-5.660	PK
2	*	7206.000	47.481	47.769	-26.519	74.000	-0.288	PK
3		9608.000	44.330	40.199	-29.670	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



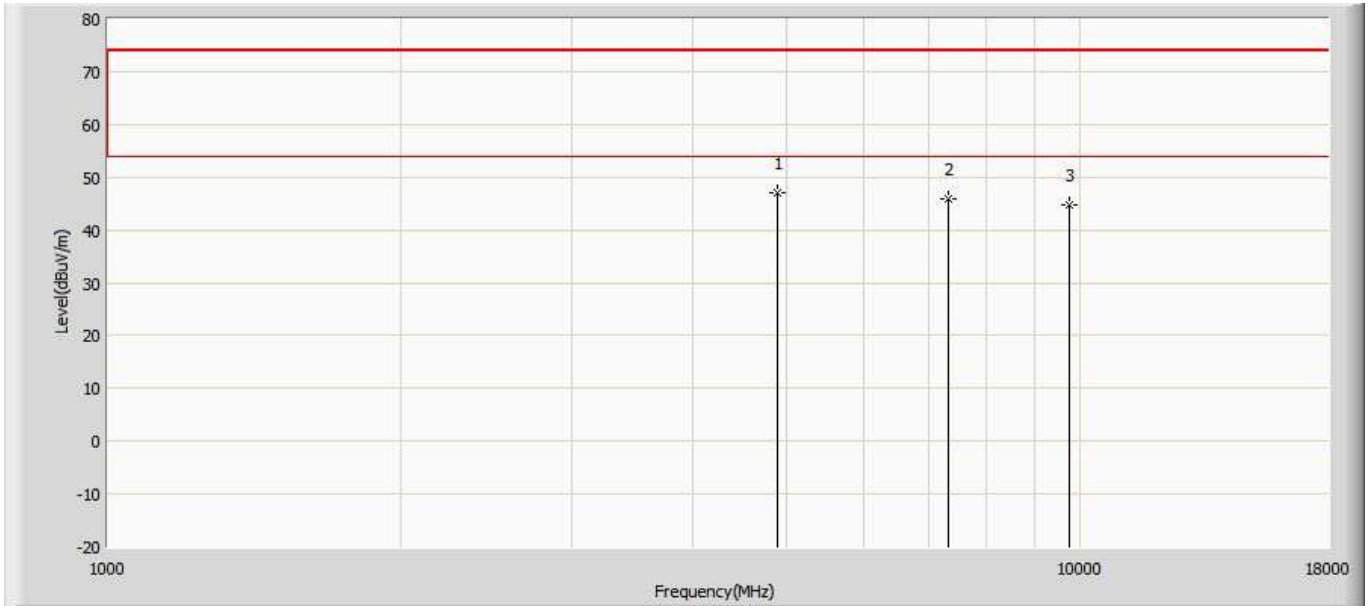
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	41.889	47.457	-32.111	74.000	-5.568	PK
2		7206.000	40.313	40.601	-33.687	74.000	-0.288	PK
3	*	9608.000	44.321	40.190	-29.679	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2441MHz by DH5	



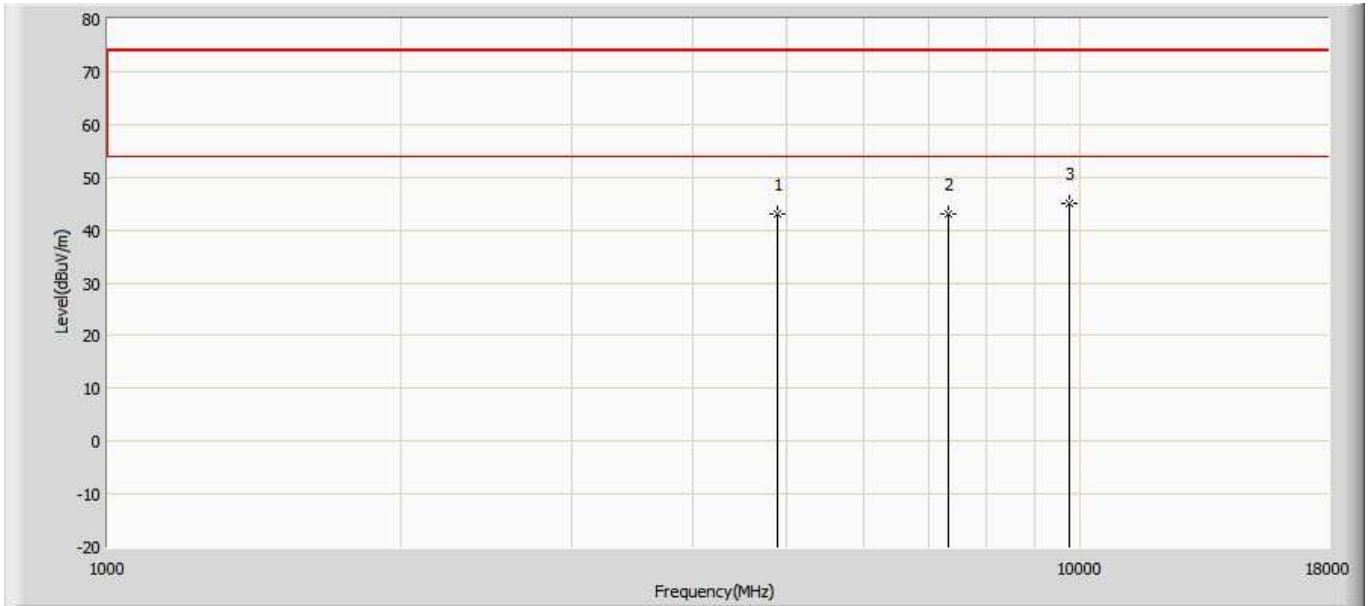
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.500	46.959	52.532	-27.041	74.000	-5.573	PK
2		7324.000	45.855	46.105	-28.145	74.000	-0.250	PK
3		9764.000	44.636	40.332	-29.364	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4884.500	42.977	48.550	-31.023	74.000	-5.573	PK
2		7324.000	42.999	43.249	-31.001	74.000	-0.250	PK
3	*	9764.000	45.118	40.814	-28.882	74.000	4.304	PK

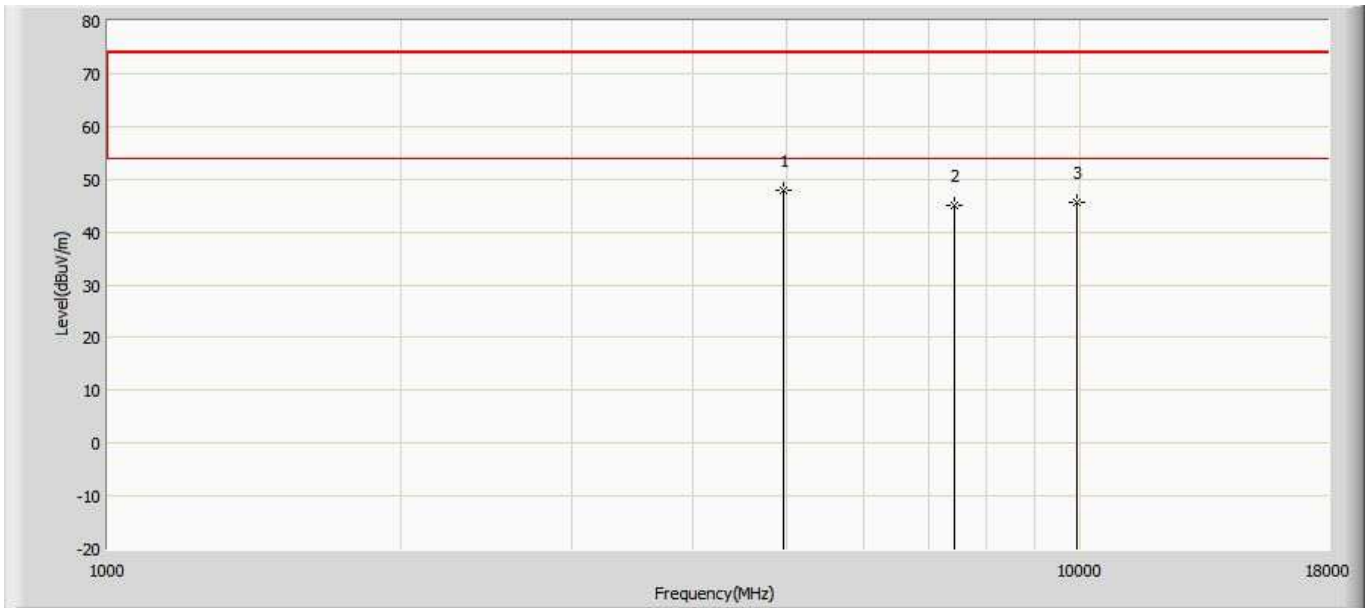
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.



Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



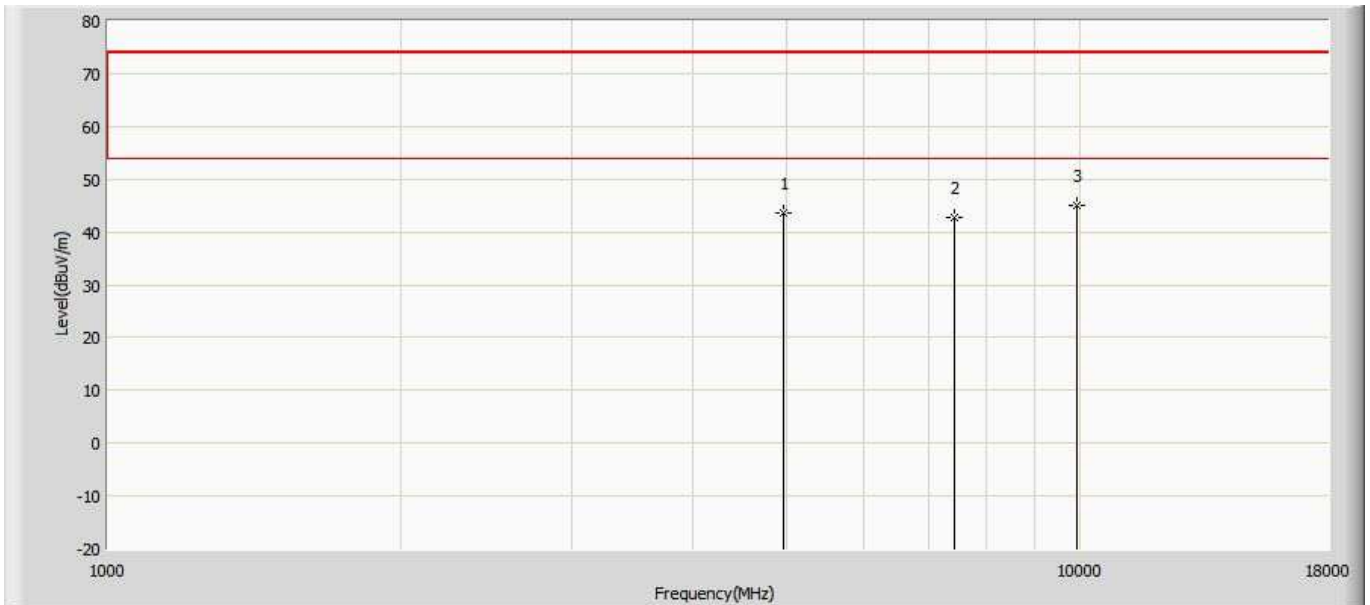
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4961.000	48.026	53.253	-25.974	74.000	-5.227	PK
2		7443.000	45.167	45.293	-28.833	74.000	-0.126	PK
3		9920.000	45.522	40.576	-28.478	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



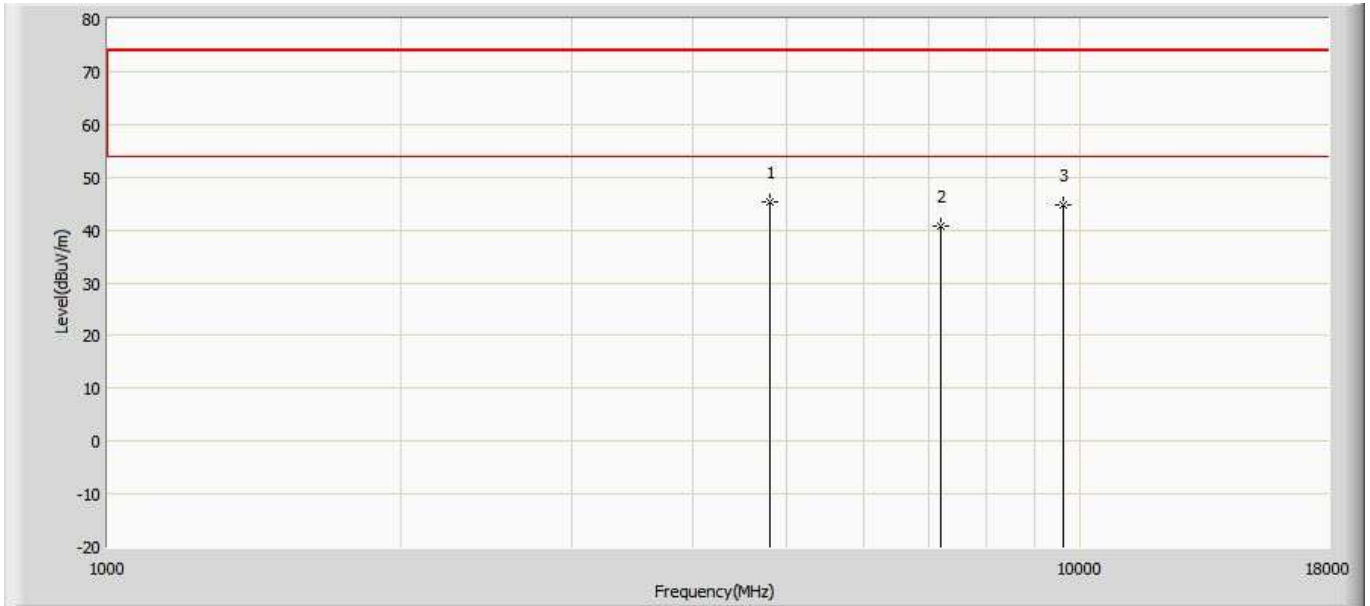
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	43.510	48.737	-30.490	74.000	-5.227	PK
2		7443.000	42.623	42.749	-31.377	74.000	-0.126	PK
3	*	9920.000	45.112	40.166	-28.888	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



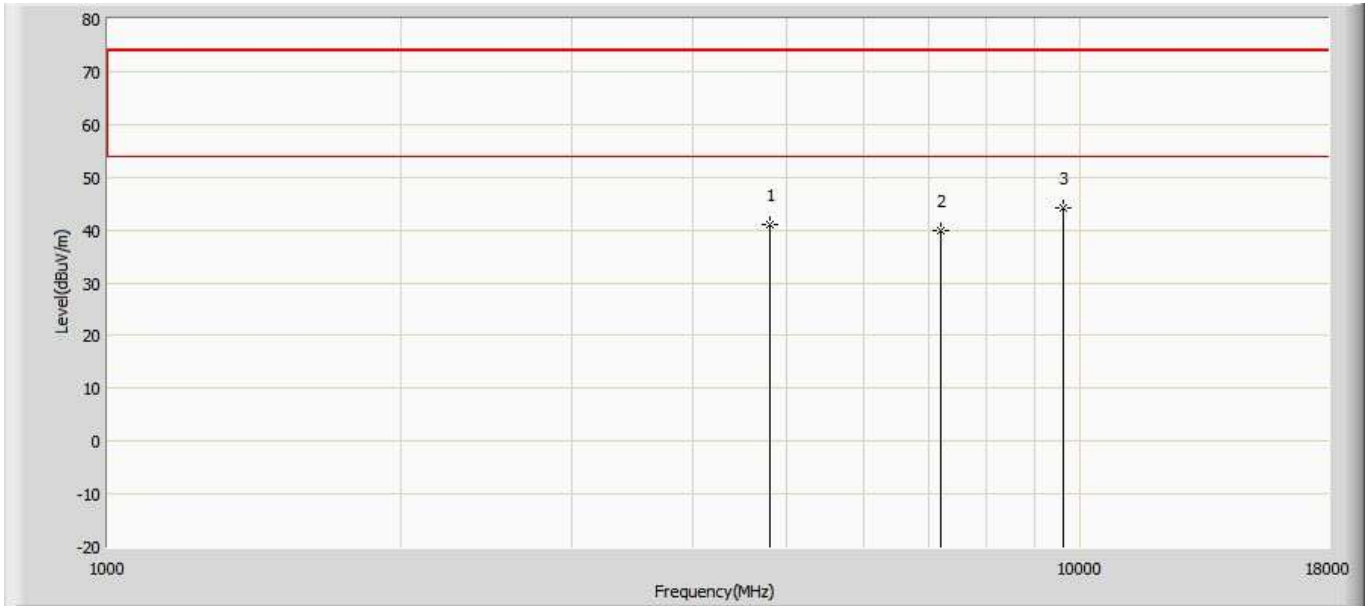
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4799.500	45.289	50.949	-28.711	74.000	-5.660	PK
2		7206.000	40.765	41.053	-33.235	74.000	-0.288	PK
3		9608.000	44.685	40.554	-29.315	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



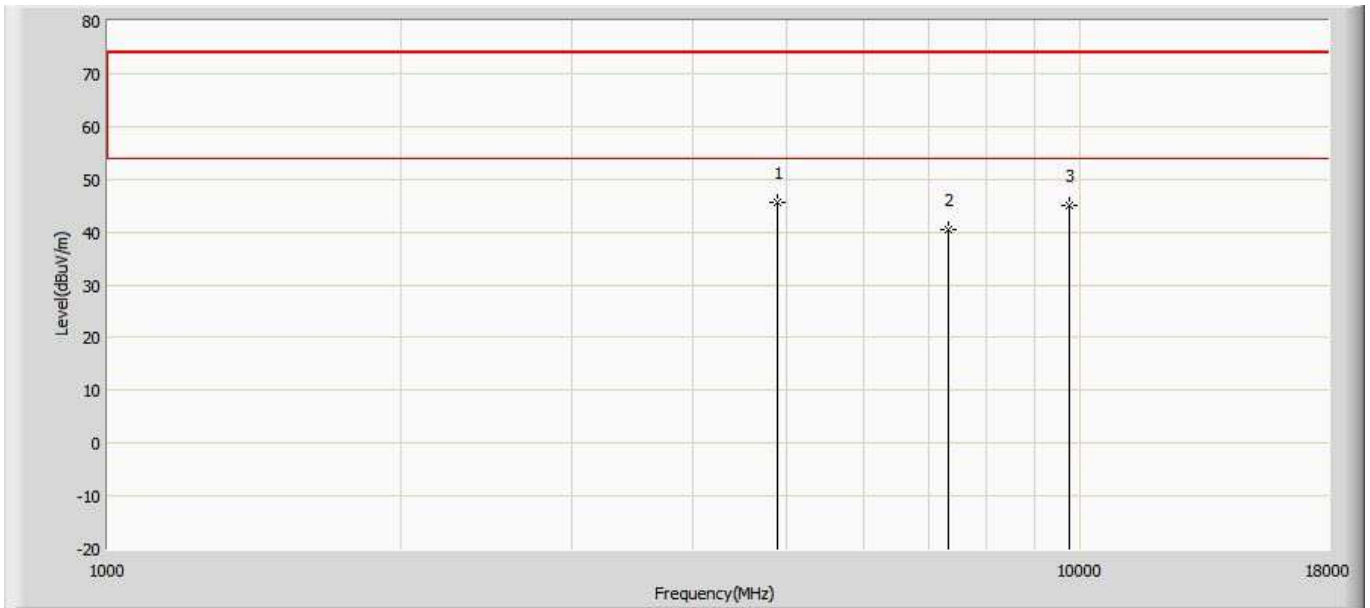
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	41.098	46.758	-32.902	74.000	-5.660	PK
2		7206.000	39.781	40.069	-34.219	74.000	-0.288	PK
3	*	9608.000	44.090	39.959	-29.910	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



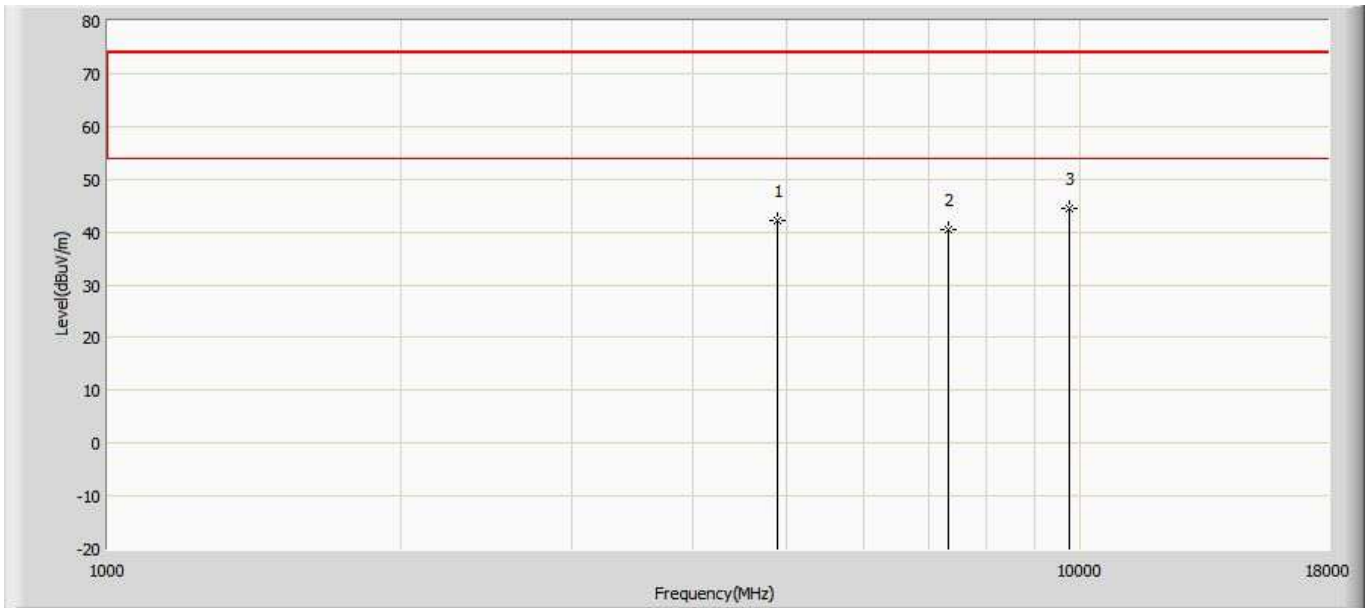
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.500	45.517	51.090	-28.483	74.000	-5.573	PK
2		7323.000	40.447	40.722	-33.553	74.000	-0.275	PK
3		9764.000	45.027	40.723	-28.973	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



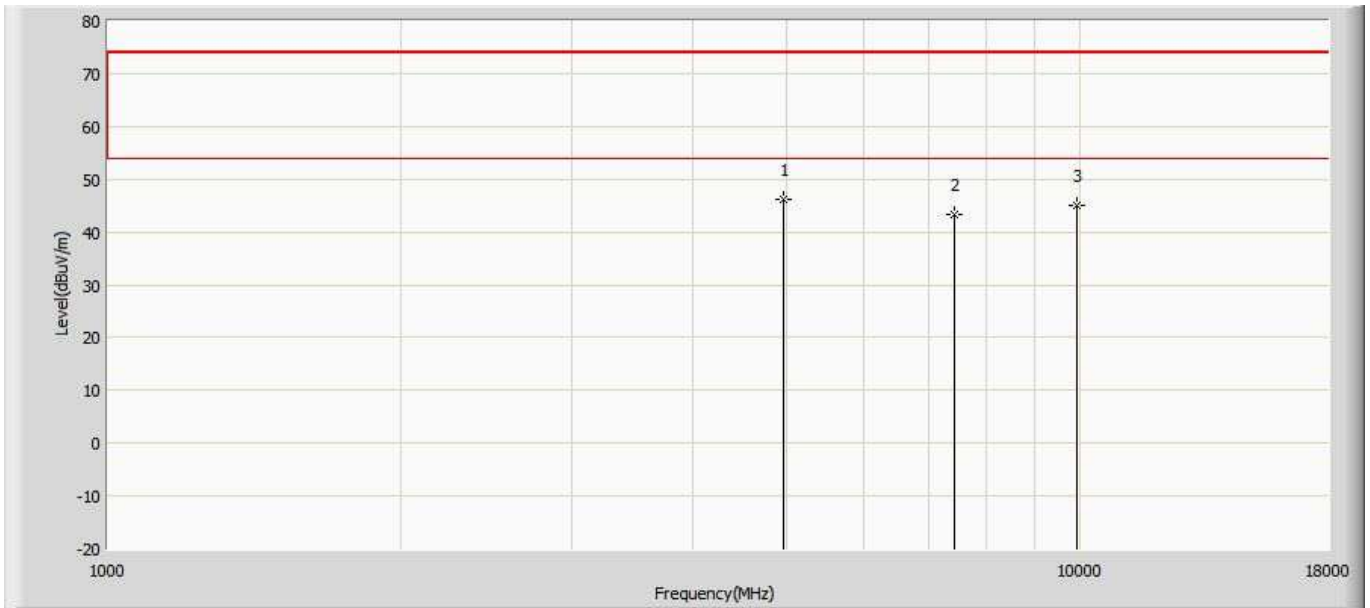
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	42.178	47.751	-31.822	74.000	-5.573	PK
2		7323.000	40.345	40.620	-33.655	74.000	-0.275	PK
3	*	9764.000	44.568	40.264	-29.432	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



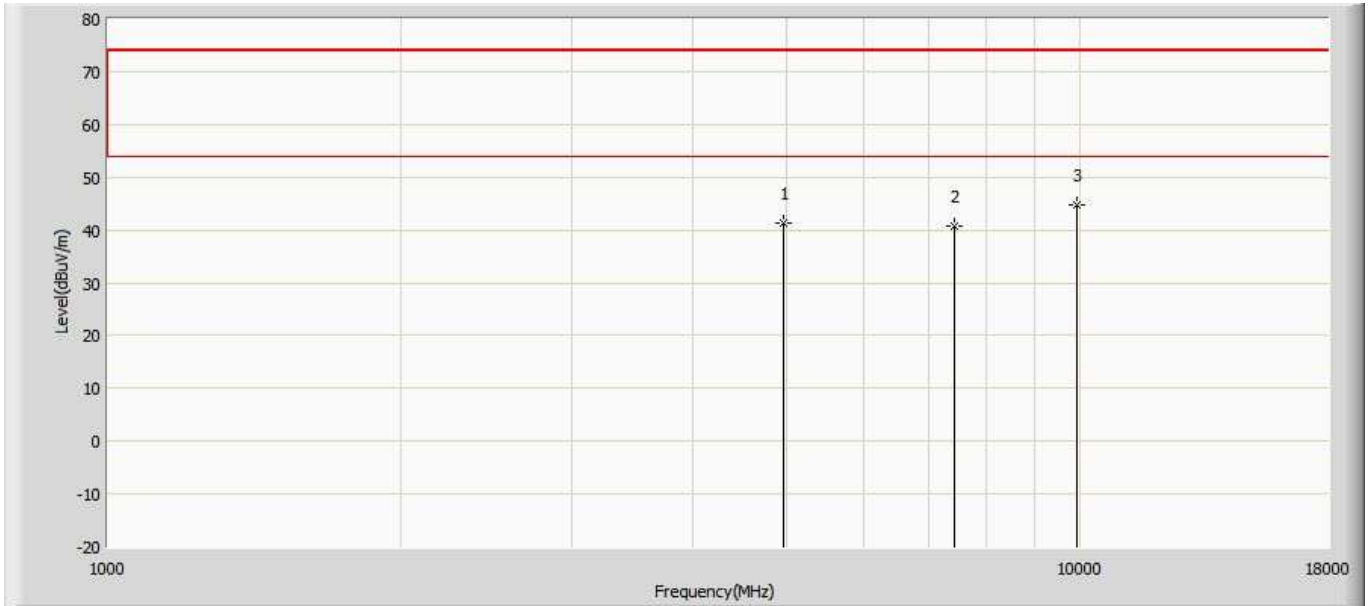
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4961.000	46.145	51.372	-27.855	74.000	-5.227	PK
2		7443.000	43.258	43.384	-30.742	74.000	-0.126	PK
3		9920.000	44.912	39.966	-29.088	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4961.000	41.260	46.487	-32.740	74.000	-5.227	PK
2		7440.000	40.648	40.827	-33.352	74.000	-0.179	PK
3	*	9920.000	44.773	39.827	-29.227	74.000	4.946	PK

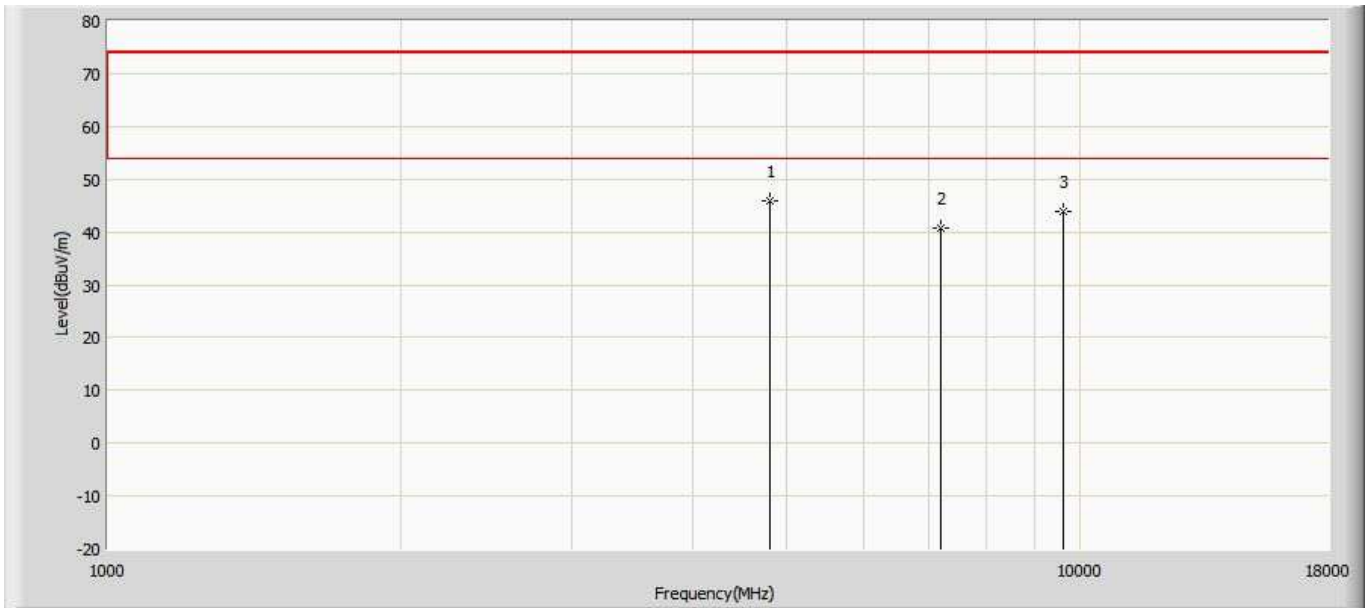
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.



Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



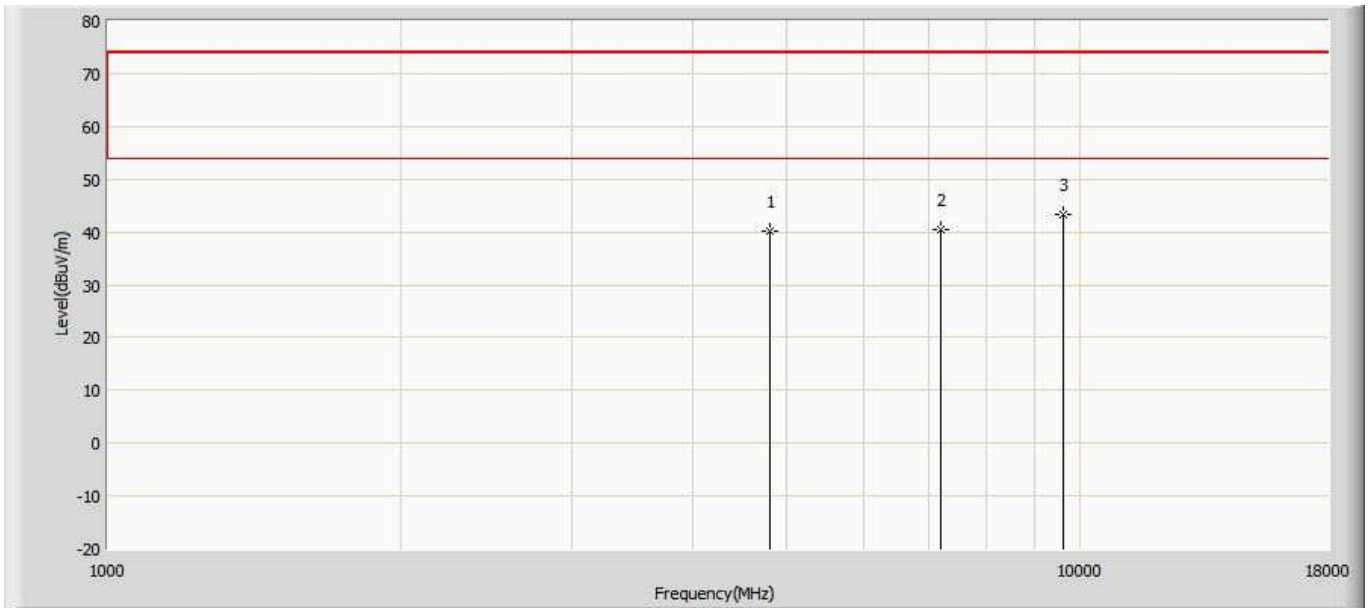
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4799.500	45.919	51.579	-28.081	74.000	-5.660	PK
2		7206.000	40.675	40.963	-33.325	74.000	-0.288	PK
3		9608.000	43.892	39.761	-30.108	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



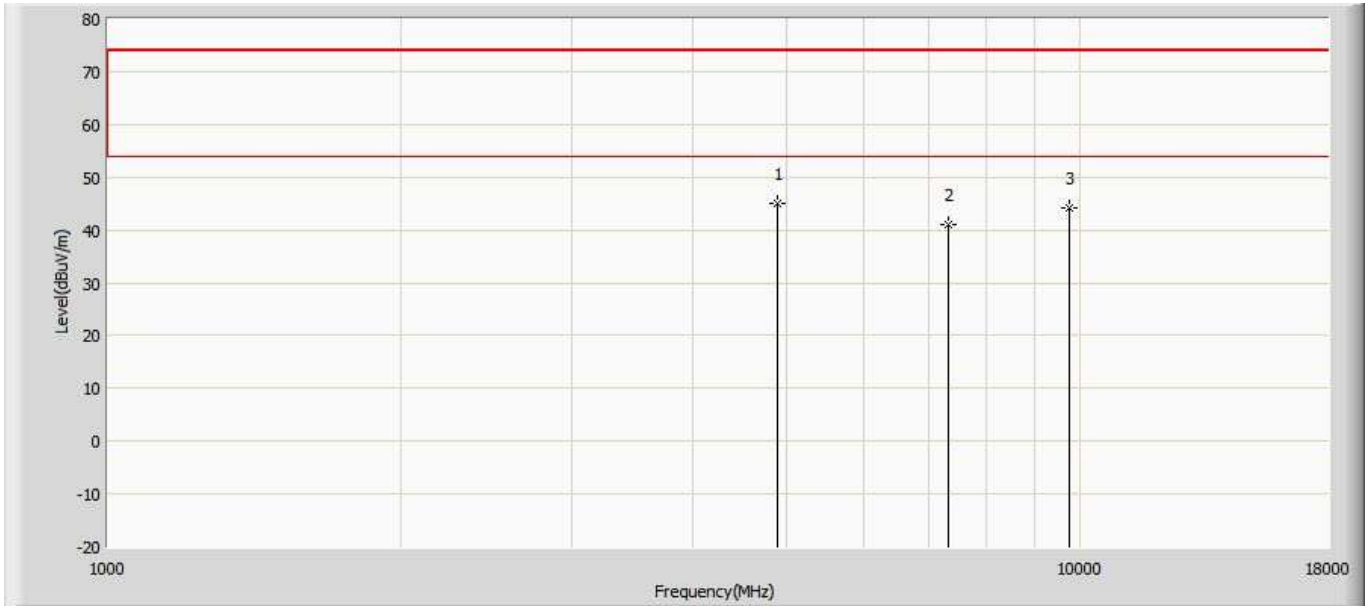
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	40.224	45.792	-33.776	74.000	-5.568	PK
2		7206.000	40.485	40.773	-33.515	74.000	-0.288	PK
3	*	9608.000	43.465	39.334	-30.535	74.000	4.131	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



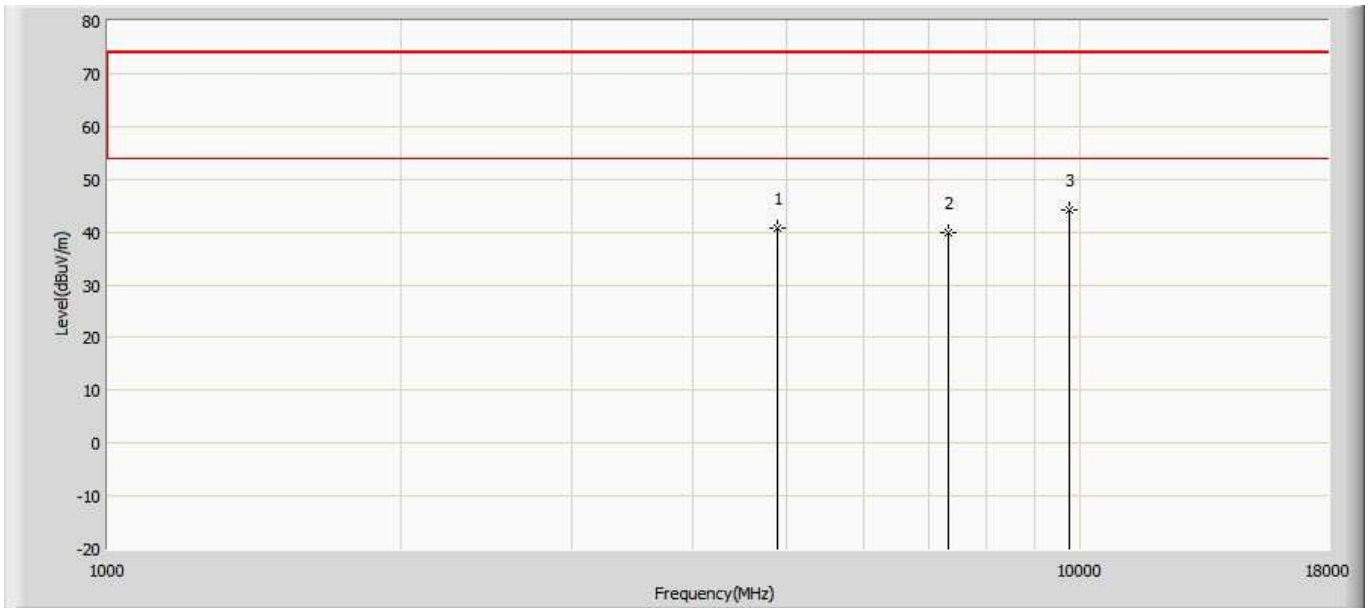
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.500	45.033	50.606	-28.967	74.000	-5.573	PK
2		7323.000	41.086	41.361	-32.914	74.000	-0.275	PK
3		9764.000	44.280	39.976	-29.720	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



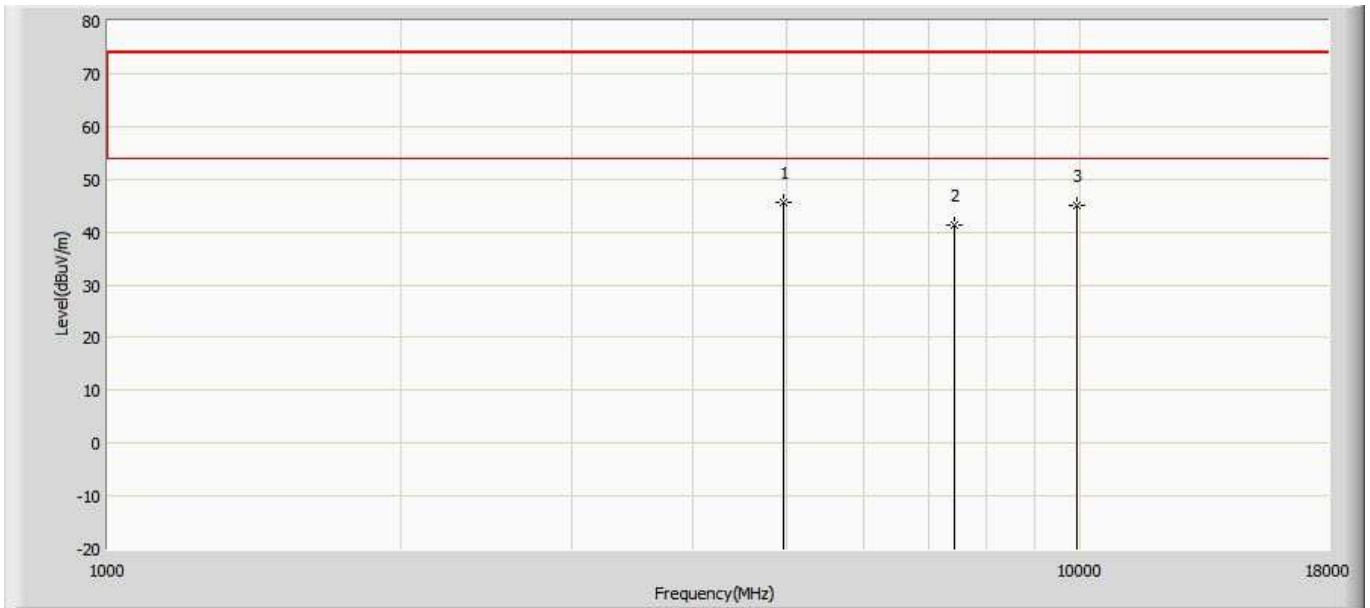
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	40.841	46.414	-33.159	74.000	-5.573	PK
2		7323.000	39.791	40.066	-34.209	74.000	-0.275	PK
3	*	9764.000	44.275	39.971	-29.725	74.000	4.304	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



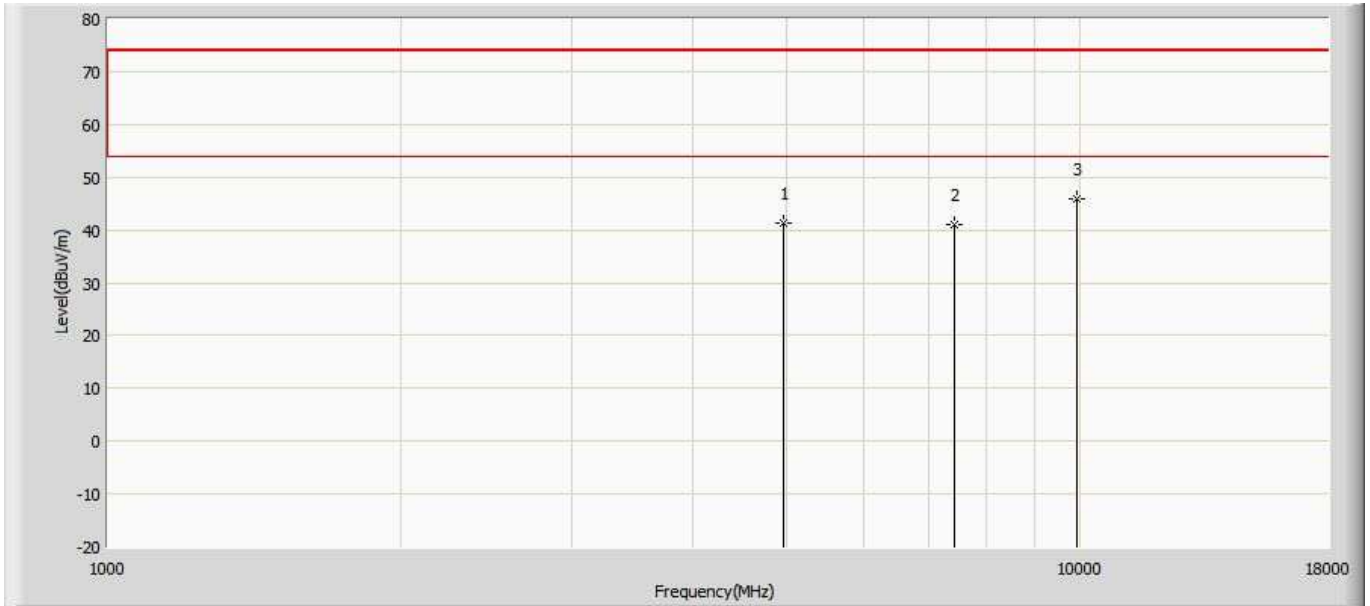
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4961.000	45.690	50.917	-28.310	74.000	-5.227	PK
2		7440.000	41.222	41.401	-32.778	74.000	-0.179	PK
3		9920.000	45.004	40.058	-28.996	74.000	4.946	PK

Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

Engineer: Simon	
Site:AC5	Time: 2018/03/12 - 14:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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		4961.000	41.406	46.633	-32.594	74.000	-5.227	PK
2		7440.000	41.070	41.249	-32.930	74.000	-0.179	PK
3	*	9920.000	45.854	40.908	-28.146	74.000	4.946	PK

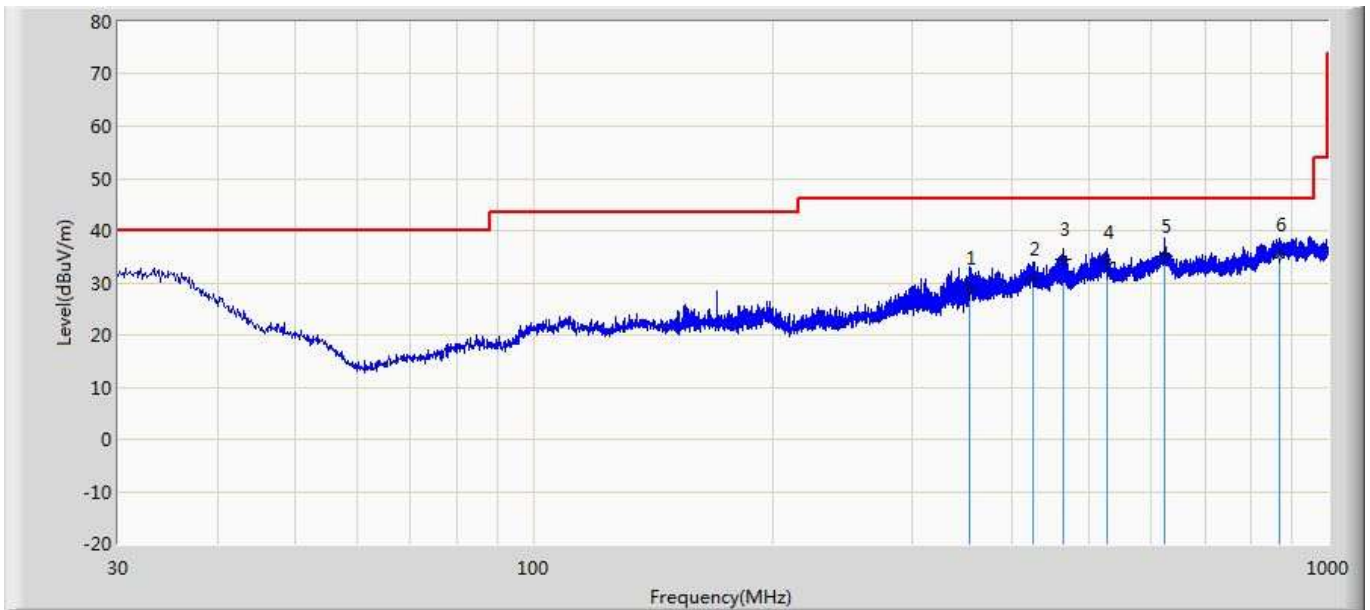
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

Note: 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.

**The worst case of Radiated Emission below 1GHz:**

Engineer: Abel	
Site: AC2	Time: 2018/03/14
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at channel 2402MHz by DH5	

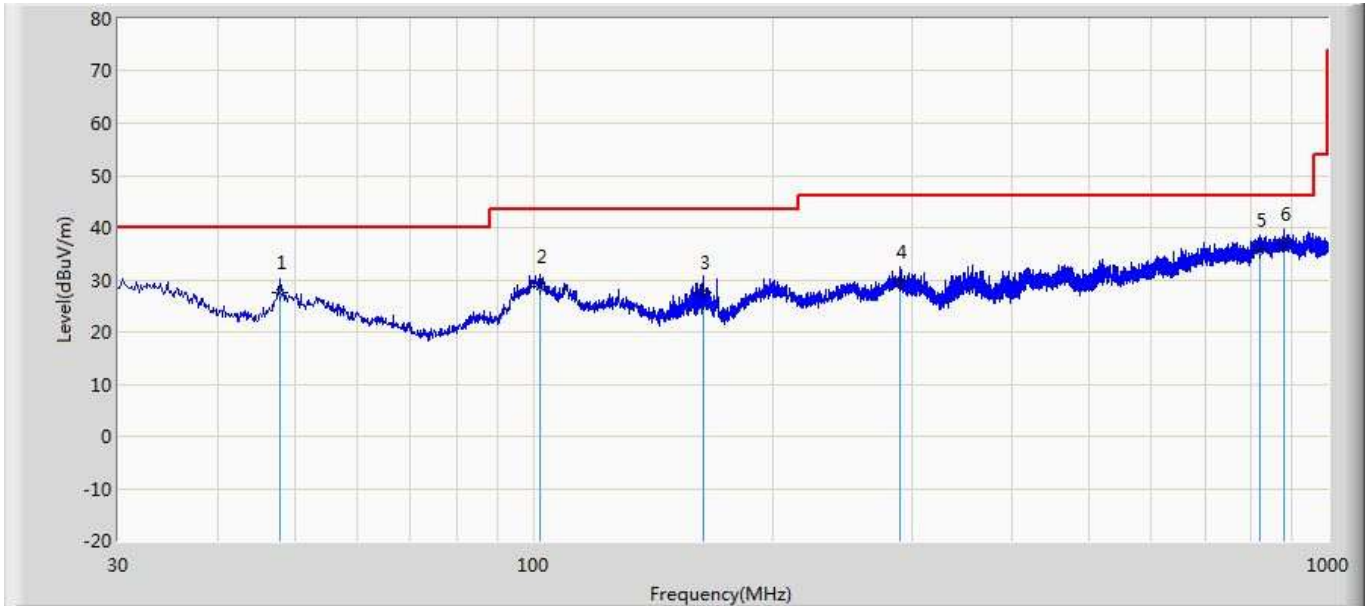


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		354.586	29.123	5.300	-16.877	46.000	16.023	7.800	0.000	100	20	QP
2		424.911	30.799	3.500	-15.201	46.000	19.327	7.972	0.000	100	77	QP
3		464.924	34.358	7.200	-11.642	46.000	19.150	8.008	0.000	100	166	QP
4		526.276	33.869	5.100	-12.131	46.000	20.608	8.161	0.000	200	123	QP
5		624.246	35.128	4.400	-10.872	46.000	22.161	8.567	0.000	200	240	QP
6	*	868.929	35.332	2.300	-10.668	46.000	23.858	9.175	0.000	100	50	QP

**Note:**

1. " \* ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Abel	
Site: AC2	Time: 2018/03/14
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at channel 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		47.945	27.469	8.500	-12.531	40.000	12.399	6.570	0.000	200	61	QP
2		101.780	28.773	6.600	-14.727	43.500	15.287	6.886	0.000	100	77	QP
3		163.375	27.601	8.200	-15.899	43.500	12.143	7.259	0.000	100	197	QP
4		289.354	29.657	4.800	-16.343	46.000	17.247	7.609	0.000	200	155	QP
5		820.550	35.777	2.800	-10.223	46.000	23.918	9.059	0.000	100	39	QP
6	*	882.266	36.792	3.100	-9.208	46.000	24.485	9.207	0.000	100	80	QP

**Note:**

1. " \* ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).



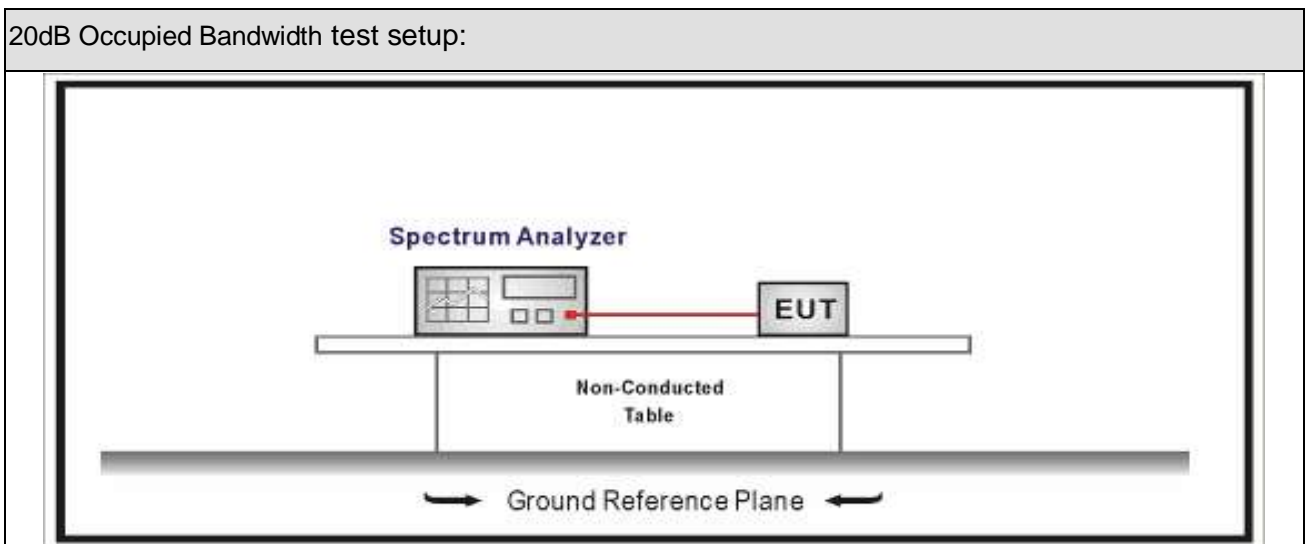
## 5. 20dB Bandwidth

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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"/>	DA 00-705	N/A	20 dB Bandwidth

## 5.5 Uncertainty

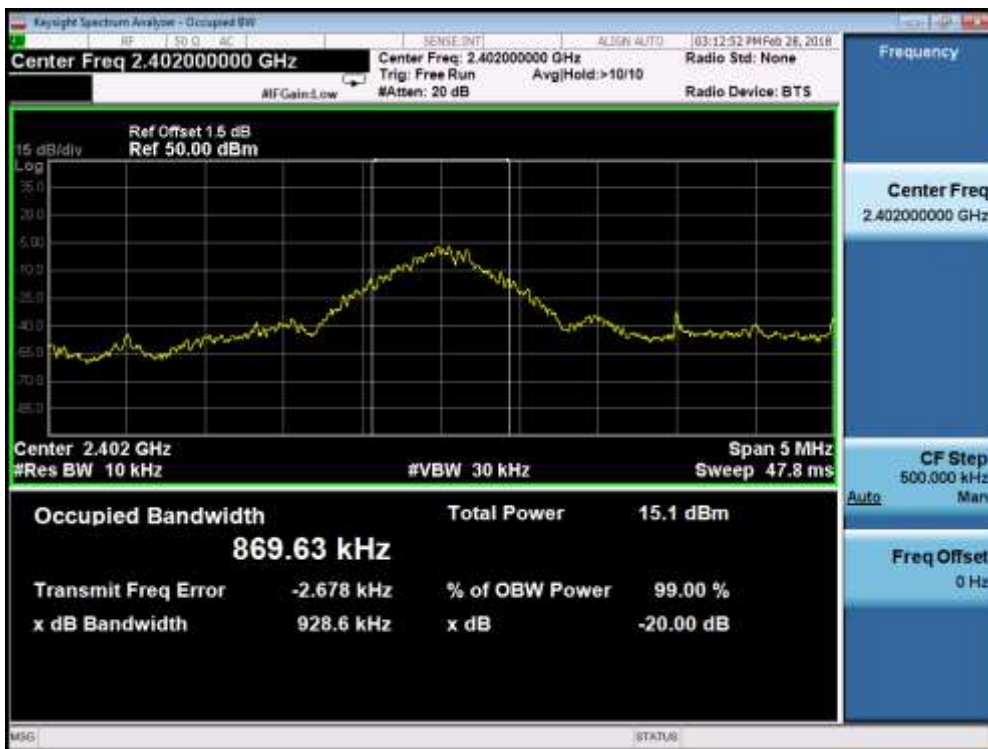
The measurement uncertainty is defined as  $\pm 1$  kHz

### 5.6 Test Result

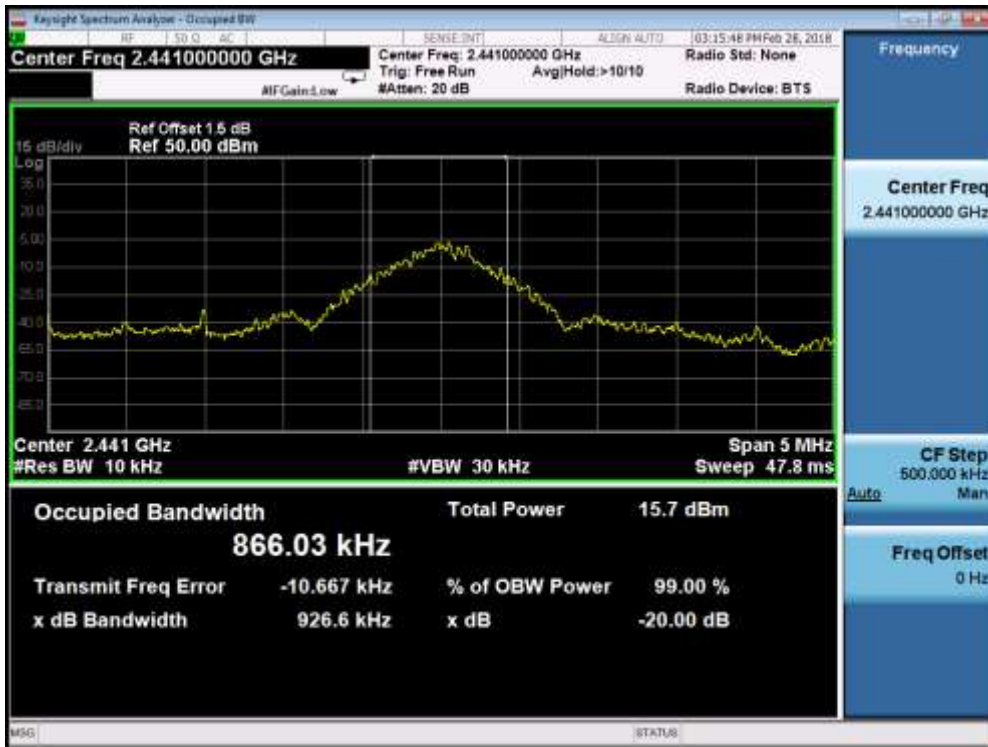
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	928.6	869.63
39	2441	926.6	866.03
78	2480	928.0	869.14

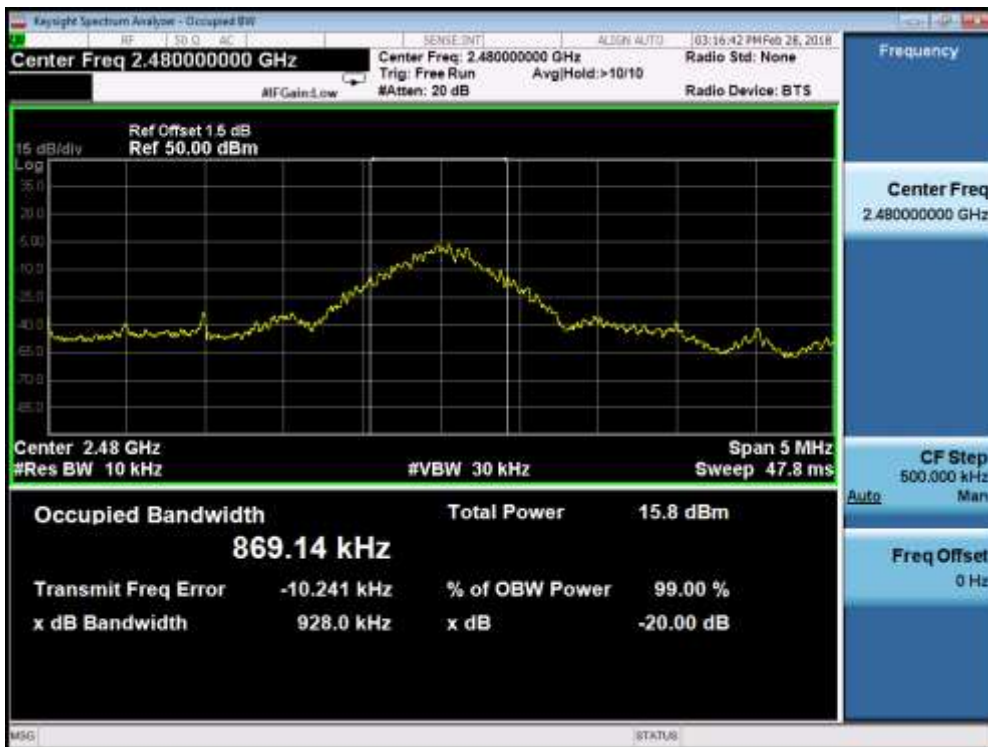
Channel 00 (2402MHz)



### Channel 39 (2441MHz)



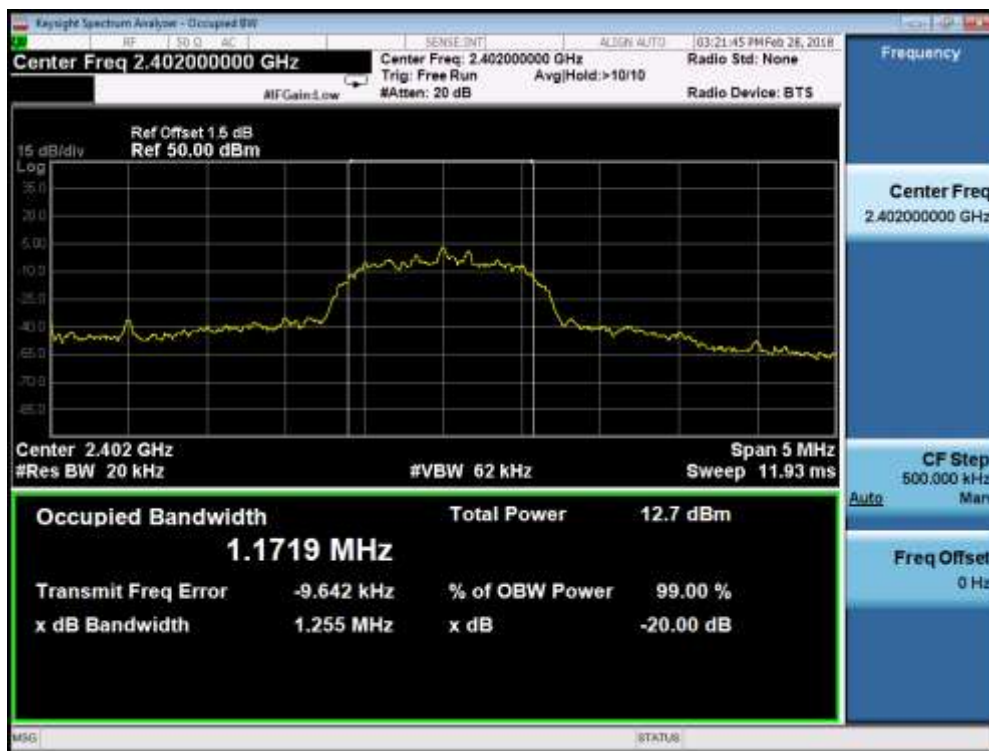
### Channel 78 (2480MHz)



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1255	1171.9
39	2441	1255	1174.7
78	2480	1260	1180.4

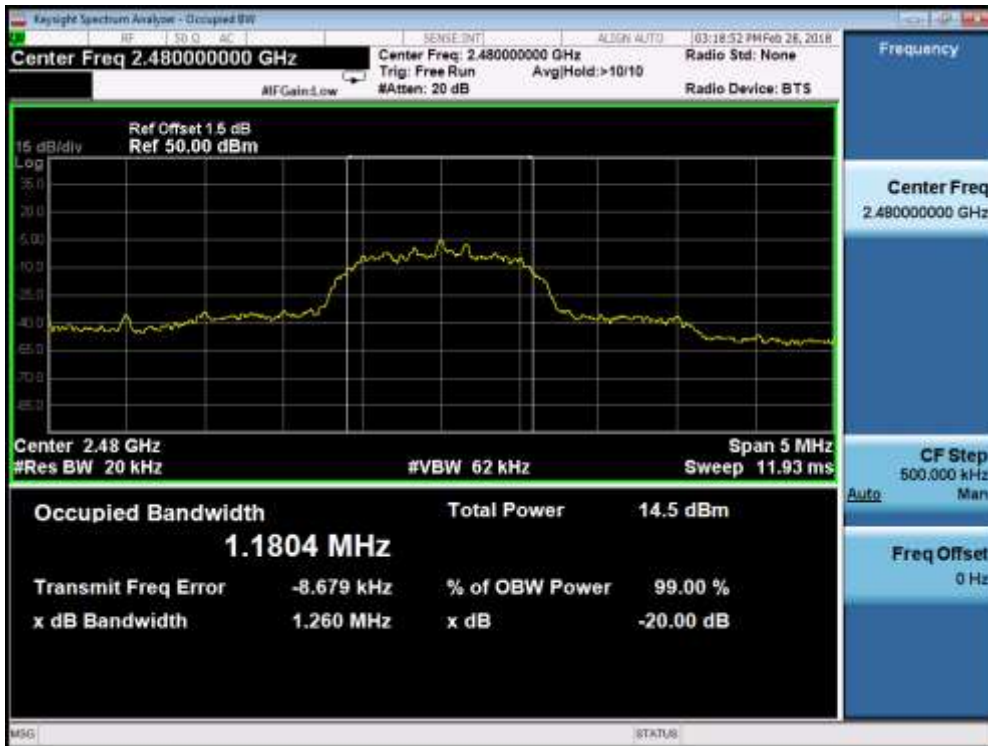
**Channel 00 (2402MHz)**



### Channel 39 (2441MHz)



### Channel 78 (2480MHz)



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1261	1171.6
39	2441	1260	1176.2
78	2480	1262	1181.2

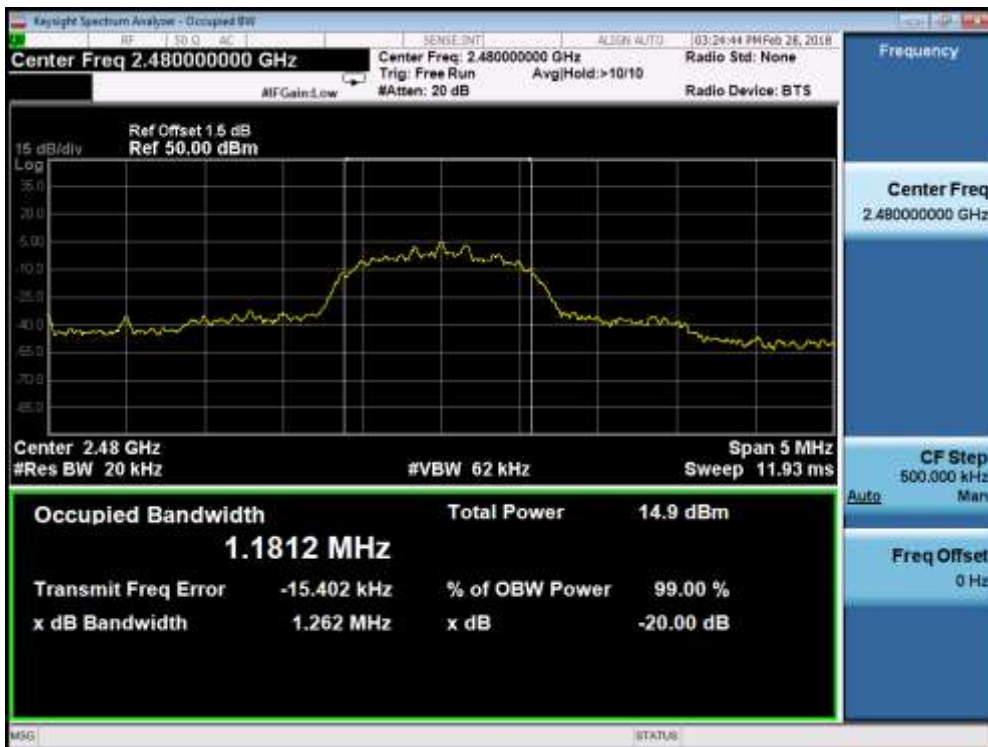
**Channel 00 (2402MHz)**



### Channel 39 (2441MHz)



### Channel 78 (2480MHz)





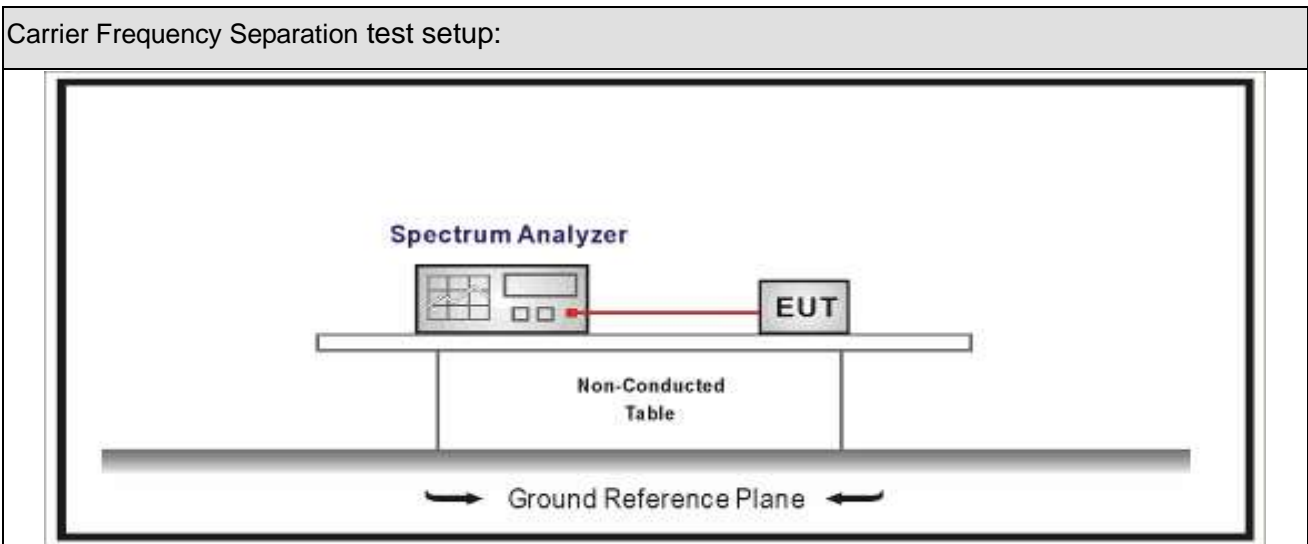
## 6. Carrier Frequency Separation

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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 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  $\pm 1$  kHz

### 6.6. Test Result

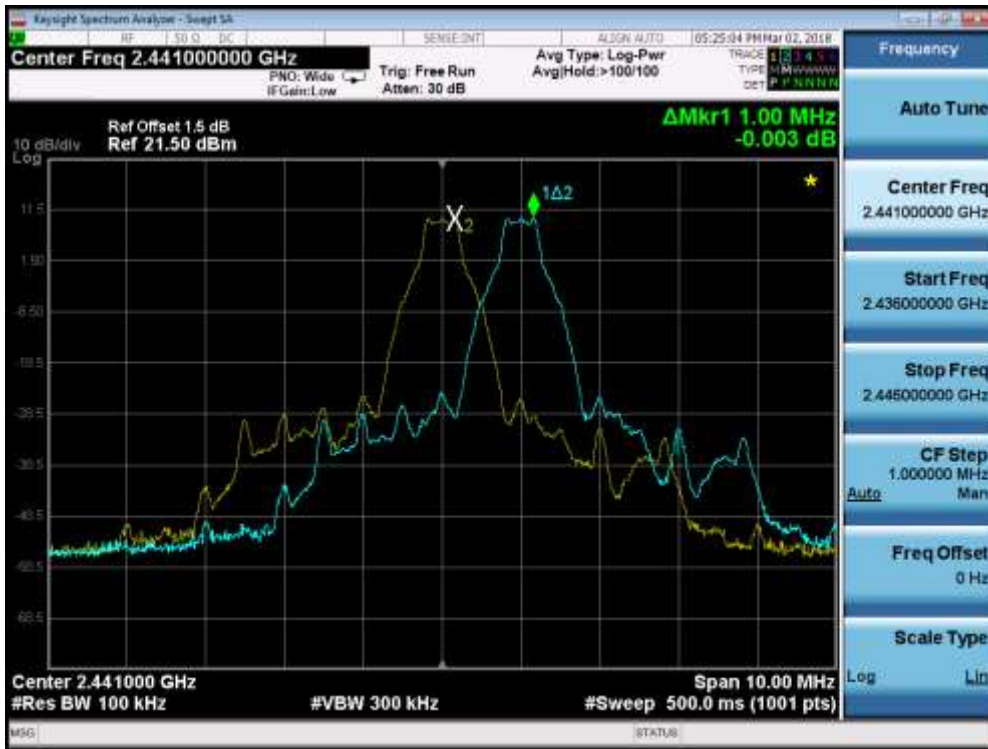
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2018.03.02	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	619.1	Pass
39	2441	1000	617.7	Pass
78	2480	1000	618.7	Pass

Channel 00 (2402MHz)



### Channel 39 (2441MHz)



### Channel 78 (2480MHz)



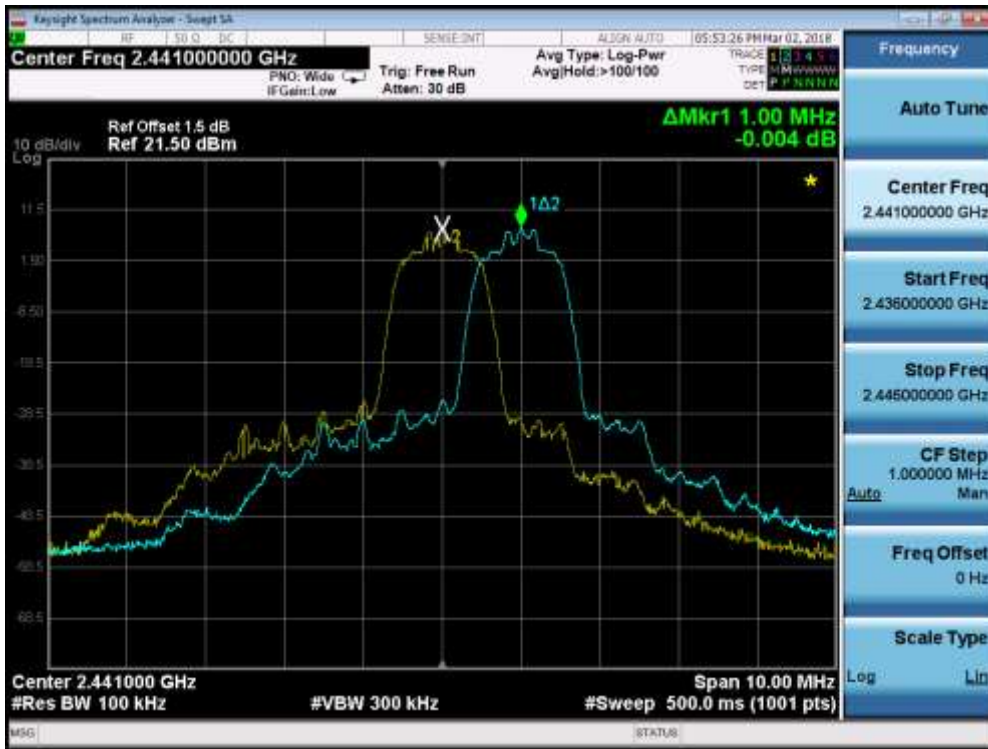
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2018.03.02	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	836.7	Pass
39	2441	1000	836.7	Pass
78	2480	1000	840.0	Pass

**Channel 00 (2402MHz)**



### Channel 39 (2441MHz)



### Channel 78 (2480MHz)



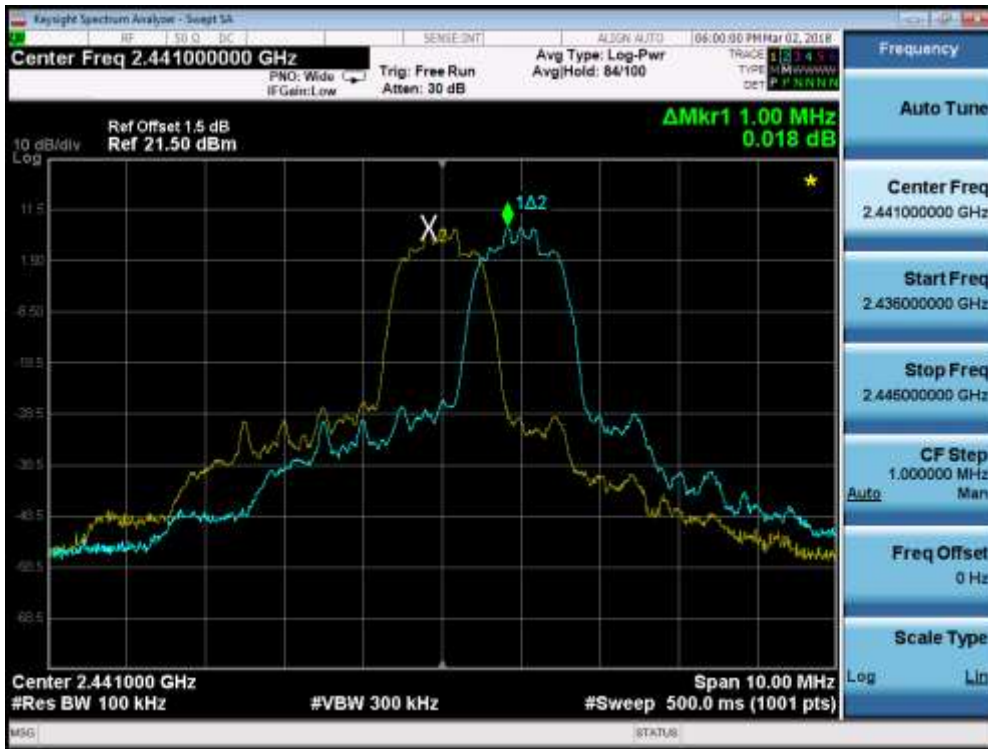
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2018.03.02	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	840.7	Pass
39	2441	1000	840.0	Pass
78	2480	1000	841.3	Pass

**Channel 00 (2402MHz)**



### Channel 39 (2441MHz)



### Channel 78 (2480MHz)





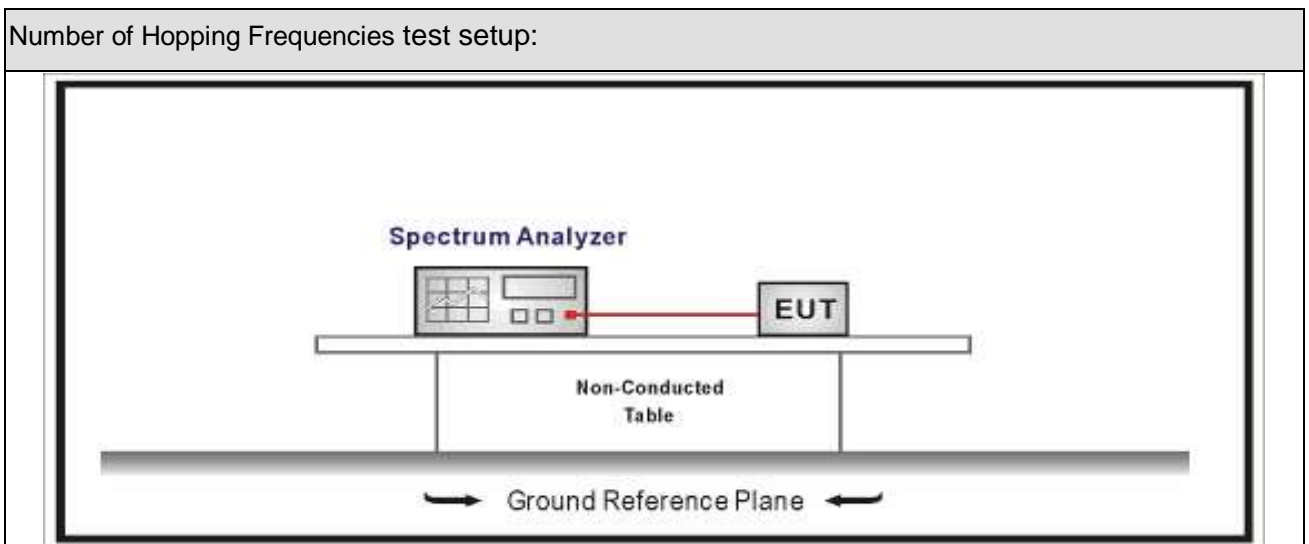
## 7. Number of Hopping Frequencies

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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

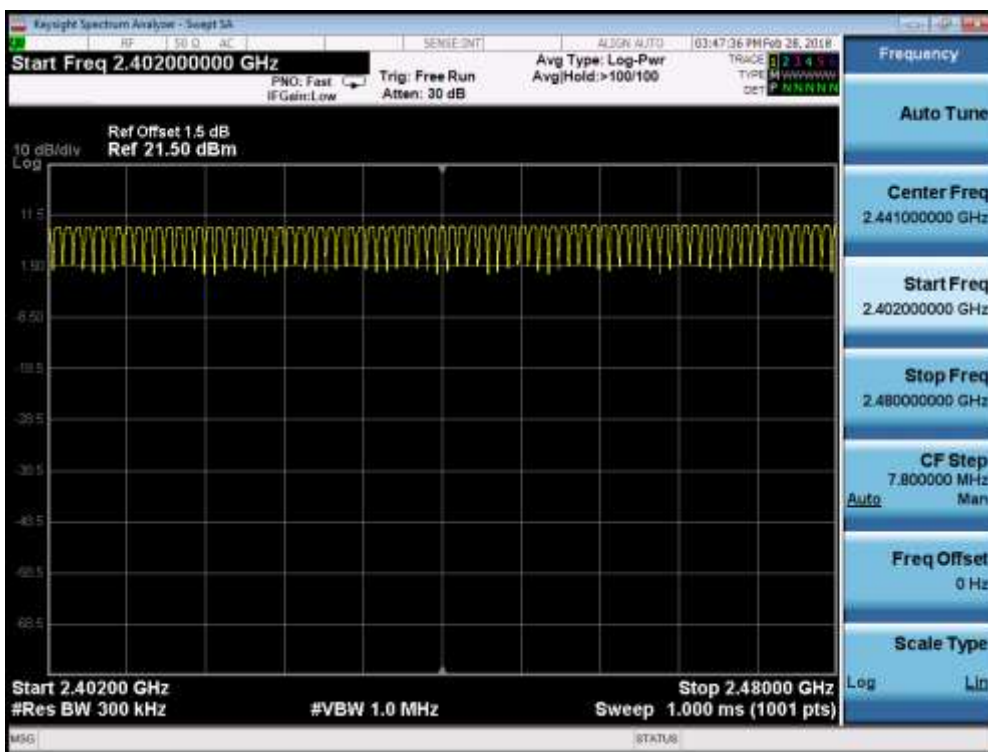
The measurement uncertainty is defined as  $\pm 1$  kHz

### 7.6. Test Result

Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

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

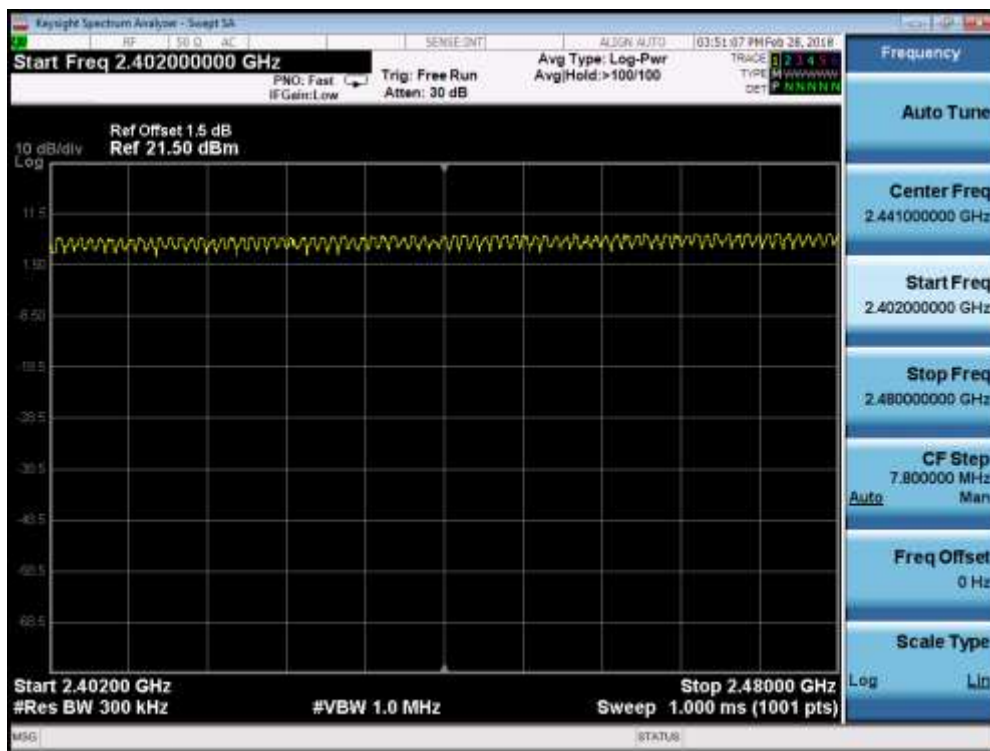
#### 2402 - 2480MHz



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

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

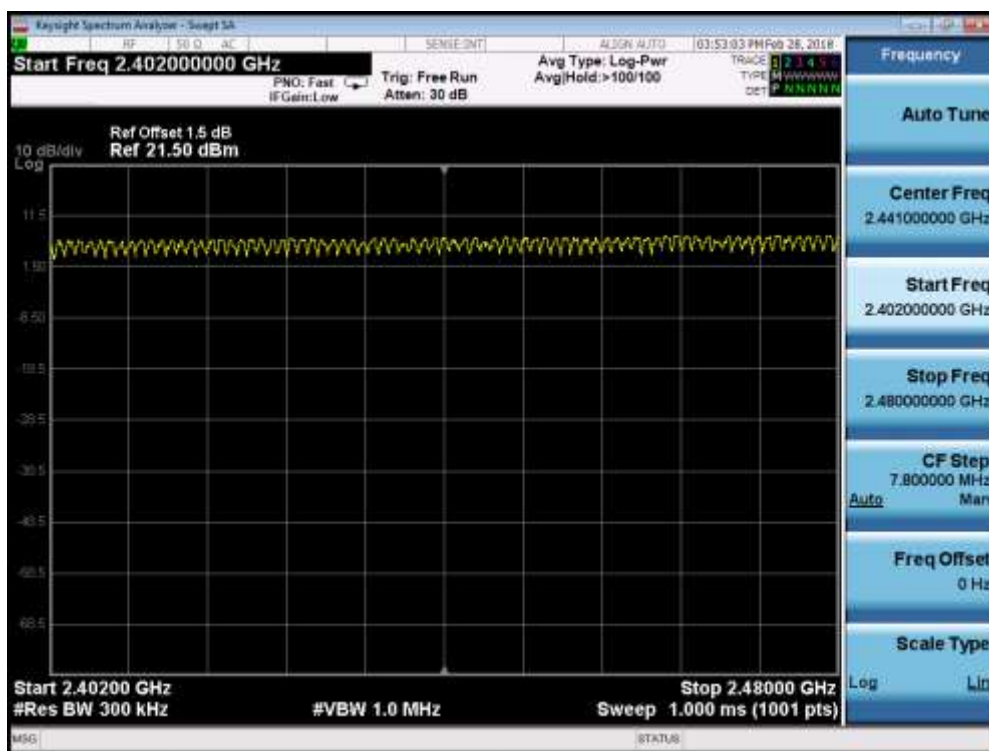
**2402 - 2480 MHz**



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

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

**2402 - 2480 MHz**



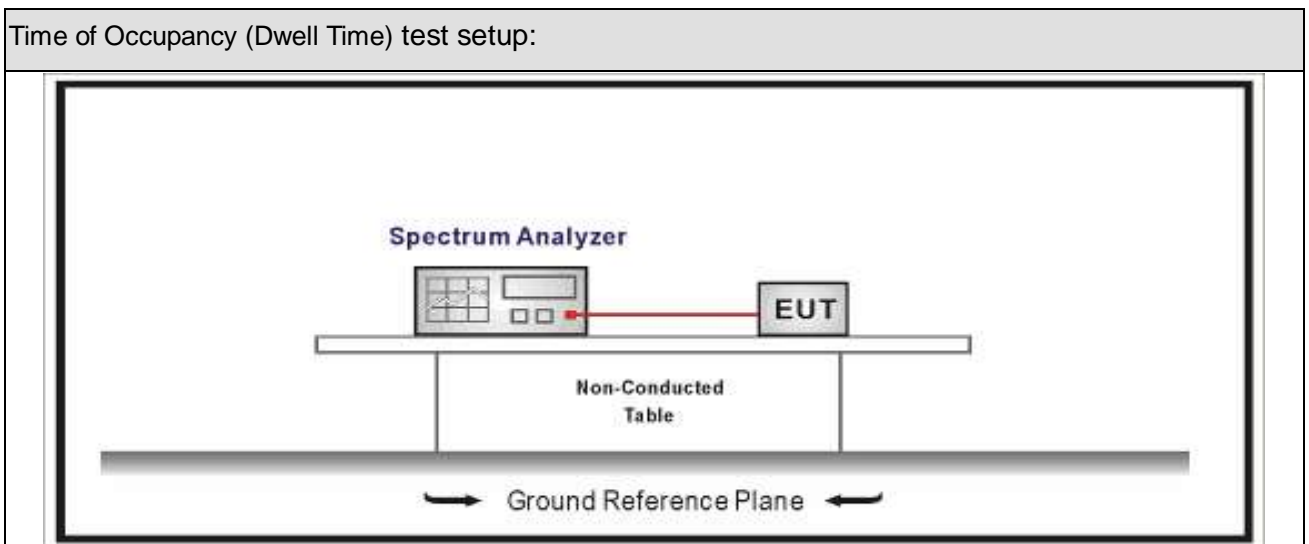
## 8. Time of Occupancy (Dwell Time)

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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  $\pm 0.1 \text{ us}$

### 8.6. Test Result

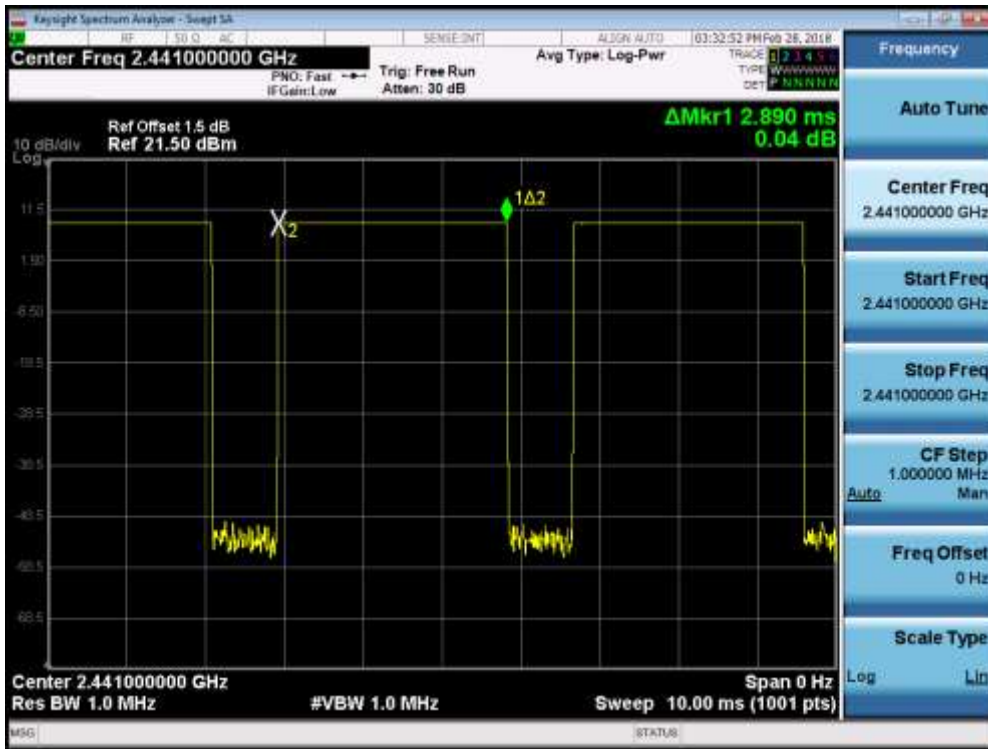
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	308.3	< 400	Pass

Note1: Test Time Period:  $0.4 * 79 = 31.6$  sec

Note2: Time of Occupancy = pulse time \*  $(1600 / (6 * 79)) * 31.6$

**Channel 39 (2441MHz)-(DH5)**





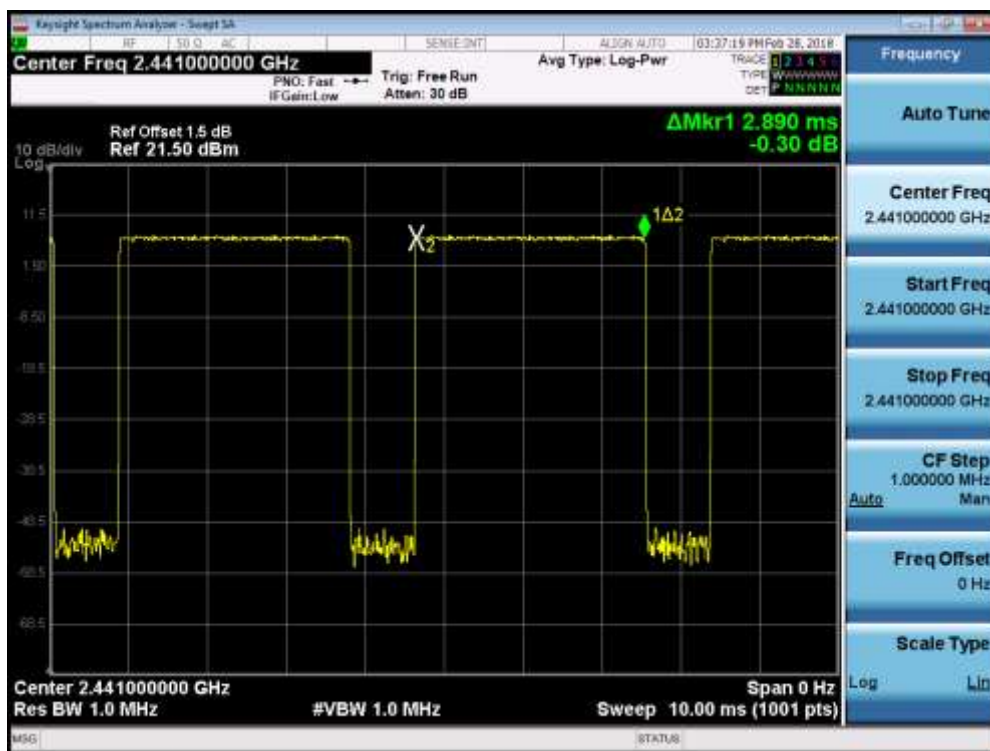
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	308.3	< 400	Pass

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

Note2: Time of Occupancy = pulse time  $\times (1600 / (6 \times 79)) \times 31.6$

**Channel 39 (2441MHz) - 2(DH5)**



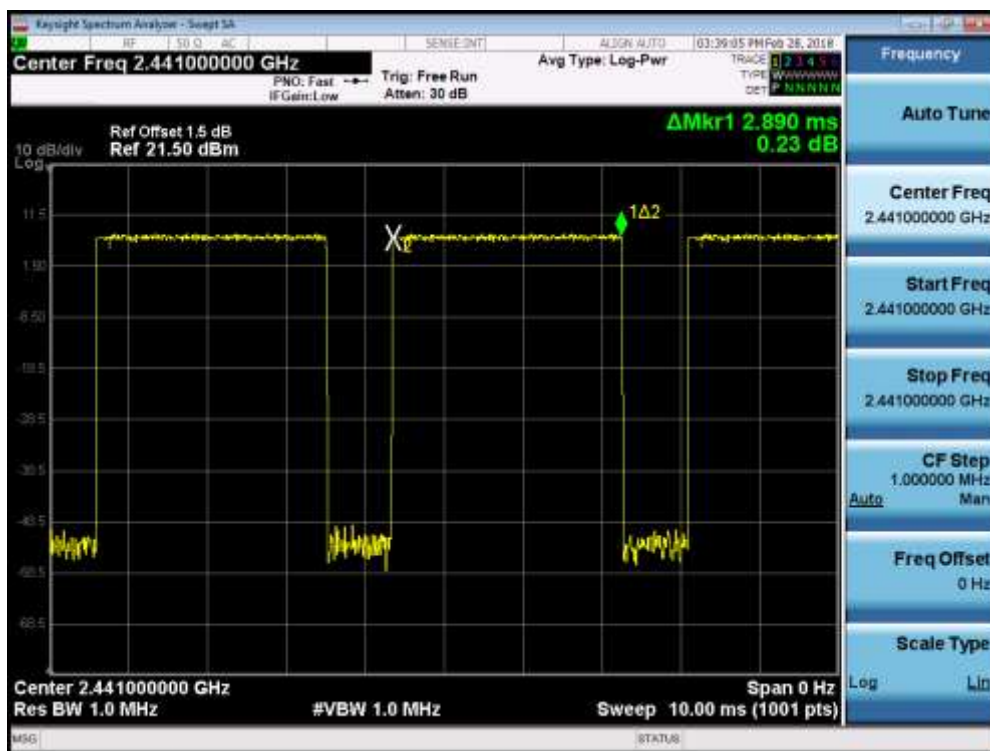
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2018.02.28	Test Engineer	: Slark

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	308.3	< 400	Pass

Note1: Test Time Period:  $0.4 * 79 = 31.6$  sec

Note2: Time of Occupancy = pulse time \*  $(1600 / (6 * 79)) * 31.6$

**Channel 39 (2441MHz) - 3(DH5)**



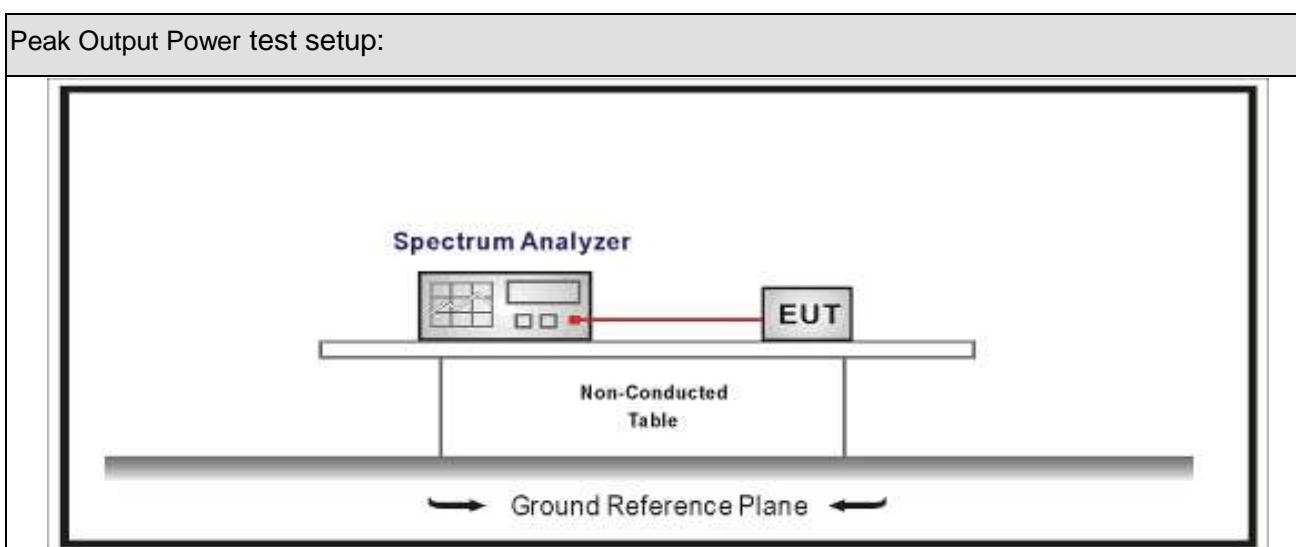
## 9. Peak Output Power

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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 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  $\pm 1.0$  dB

**9.6. Test Result**

Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2018.03.01	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	7.58	21.00	Pass
39	2441	8.08	21.00	Pass
78	2480	8.27	21.00	Pass



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2018.03.01	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	6.08	21.00	Pass
39	2441	7.11	21.00	Pass
78	2480	7.5	21.00	Pass

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2018.03.01	Test Engineer	:	Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	6.38	21.00	Pass
39	2441	7.34	21.00	Pass
78	2480	7.68	21.00	Pass

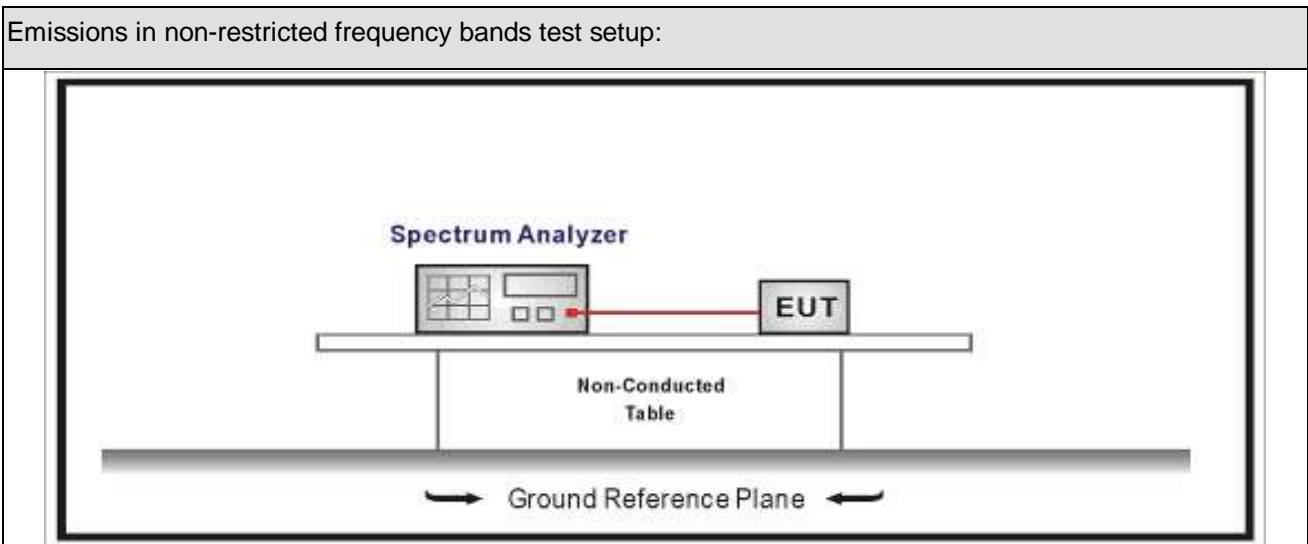
## 10. Emissions in non-restricted frequency bands

### 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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are 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  $\pm 1.0$  dB

### 10.6. Test Result

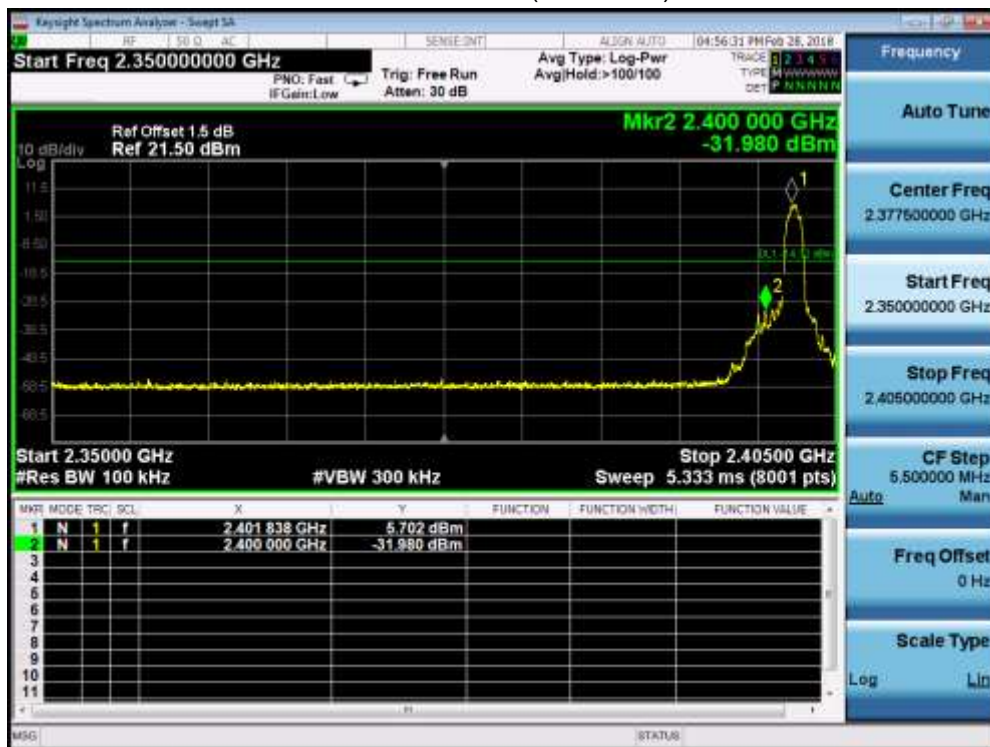
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1~4	Test Site	: TR-8
Test Date	: 2018.03.20	Test Engineer	: Simon

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	8.612	2400.00	-35.192	43.804	>20	Pass
1	78	2480	9.267	2500.00	-57.560	66.827	>20	Pass
2	00	2402	5.730	2400.00	-32.398	38.128	>20	Pass
2	78	2480	7.534	2500.00	-57.809	65.343	>20	Pass
3	00	2402	5.702	2400.00	-31.980	37.682	>20	Pass
3	78	2480	7.586	2500.00	-57.743	65.329	>20	Pass
4	00~78	00~78	6.577	2400.00	-33.328	39.905	>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)

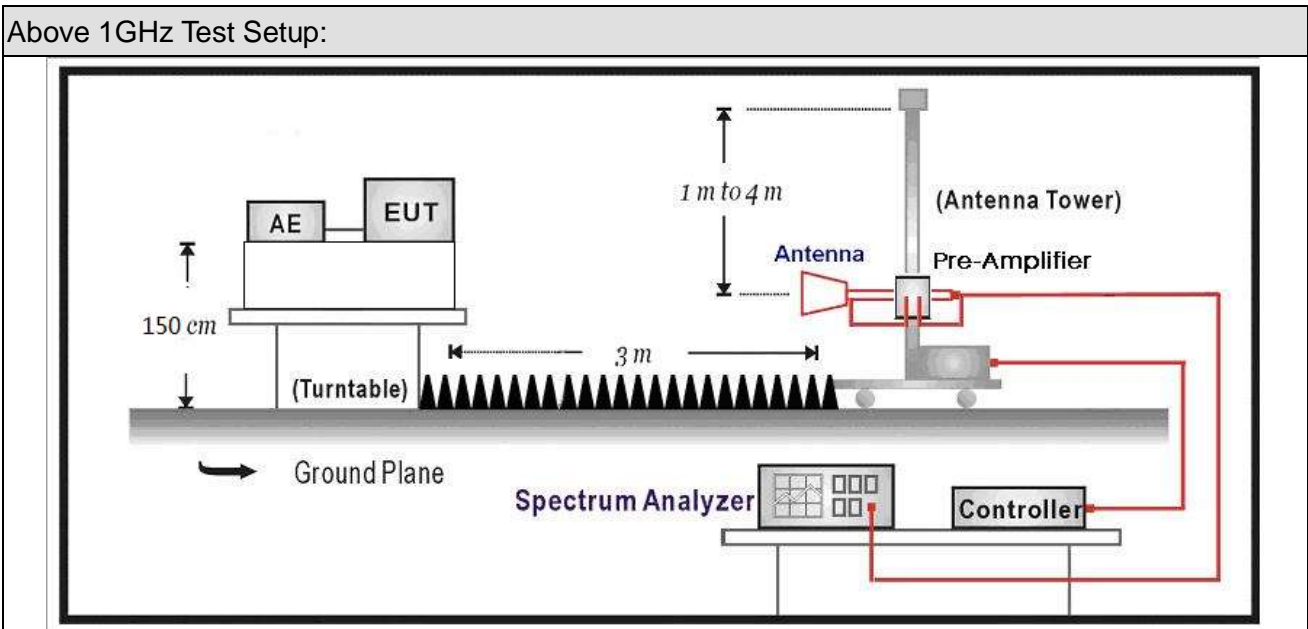


## 11. Radiated Emission Band Edge

### 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	2017.07.16	2018.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2017.05.03	2018.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2017.07.12	2018.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.09.18	2018.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2018.02.28	2019.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.02.28	2019.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.05	2019.01.04

### 11.2. Test Setup



### 11.3. Limit

Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB $\mu$ V/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 checked="" 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

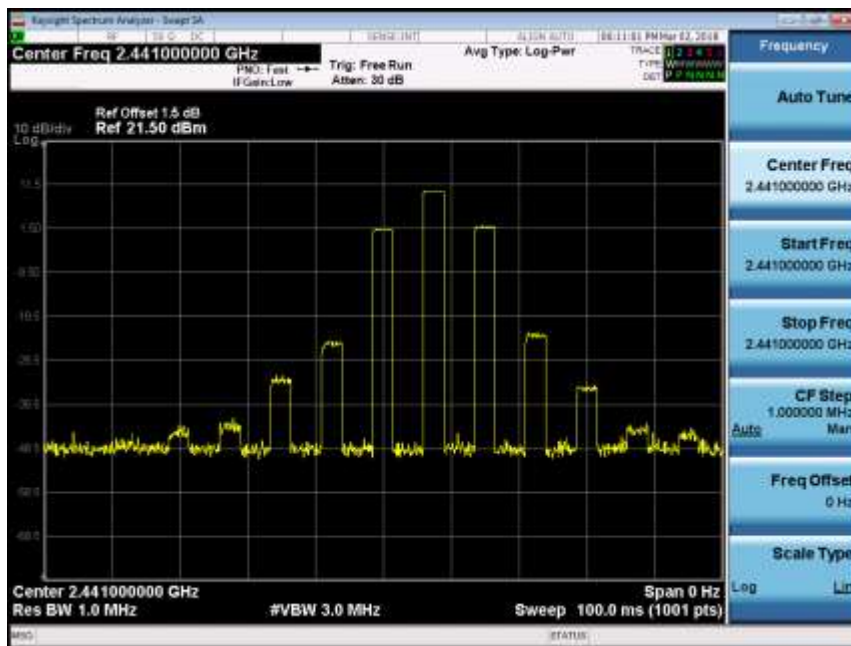
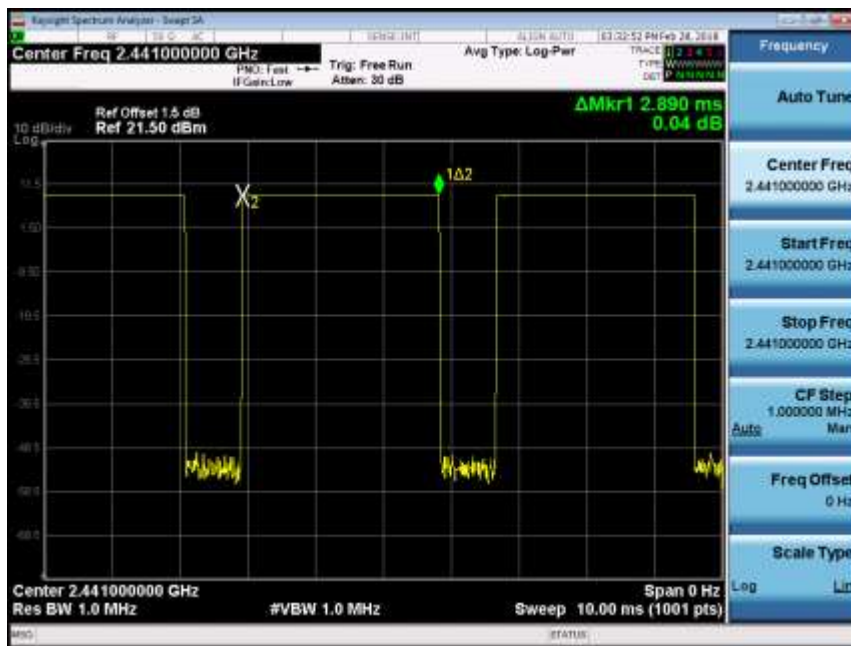
### 11.5. Uncertainty

The measurement uncertainty above 1G is defined as  $\pm 3.9$  dB  
 below 1G is defined as  $\pm 3.8$  dB

### 11.6. Duty Factor

Test Mode	Pluse Time (ms)	Pluse Number	Accumulated Transmit Time (ms)	Duty Factor (dB)
Mode 4	2.89	1	2.89	-30.78

Pulse Number

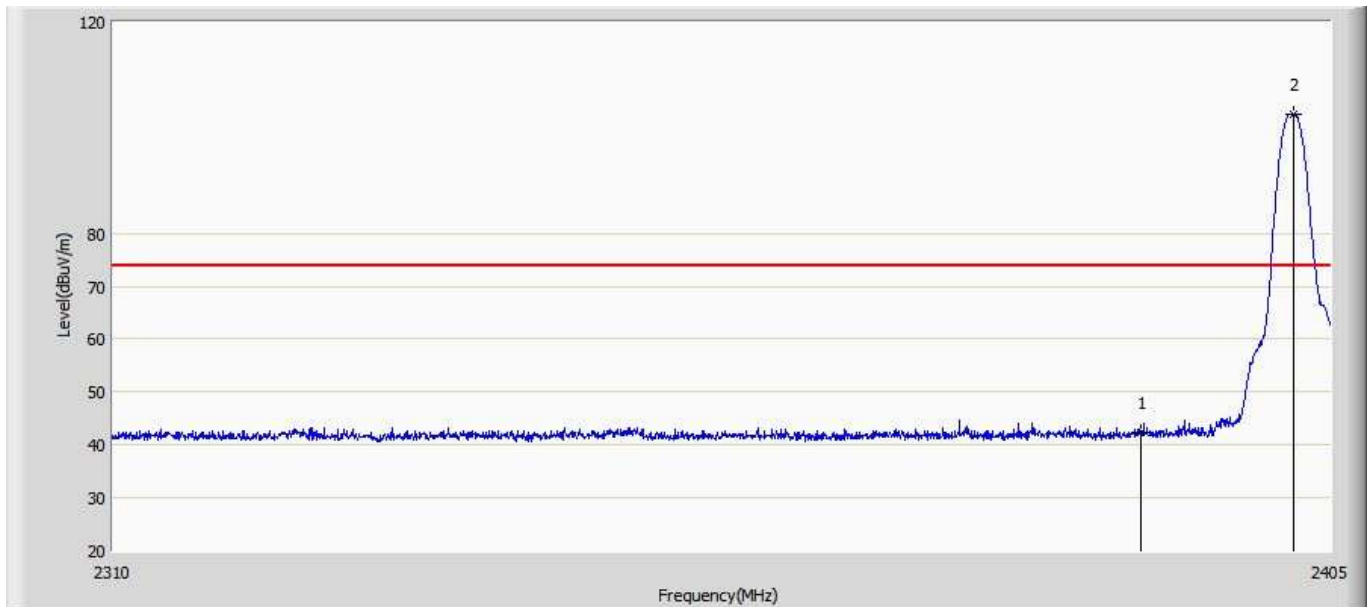


Note: Duty Fcator = 20Log(Accumulated Transmit Time/ 100ms)

### 11.7. Test Result

**B4220T:**

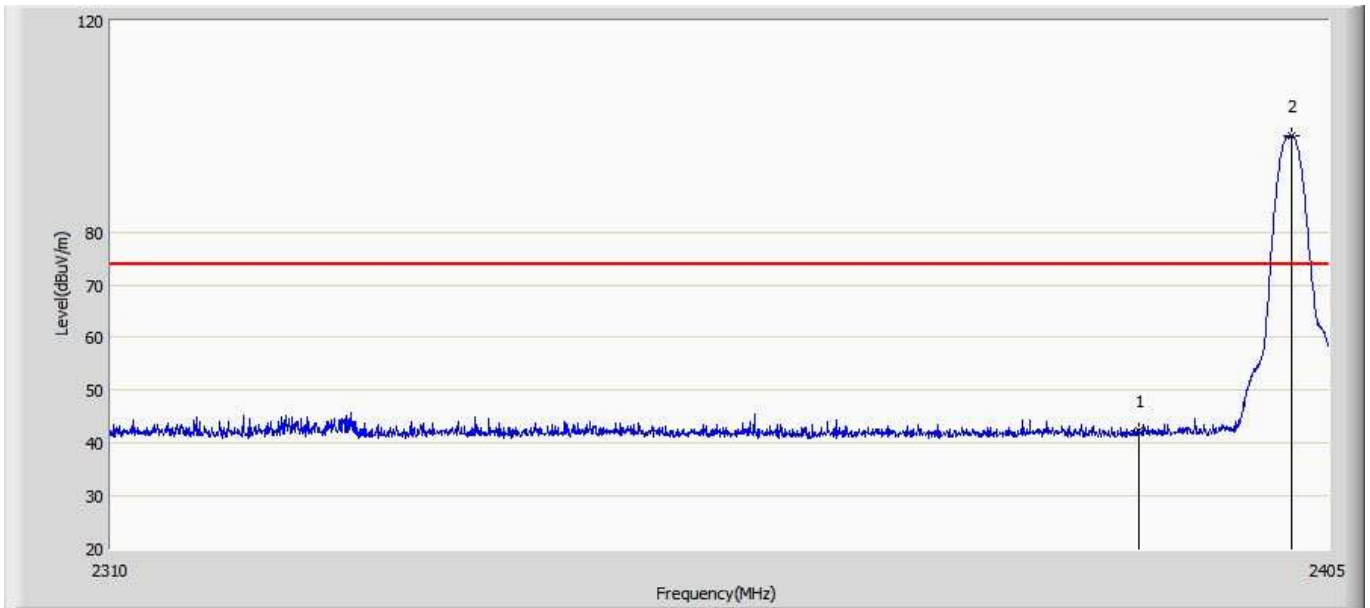
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 15:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.409	7.697	-31.591	74.000	34.712	PK
2	*	2402.055	102.564	67.747	28.564	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.627	42.409	-42.373	54.000	-30.782	AV
2	*	2402.055	71.782	102.564	17.782	54.000	-30.782	AV

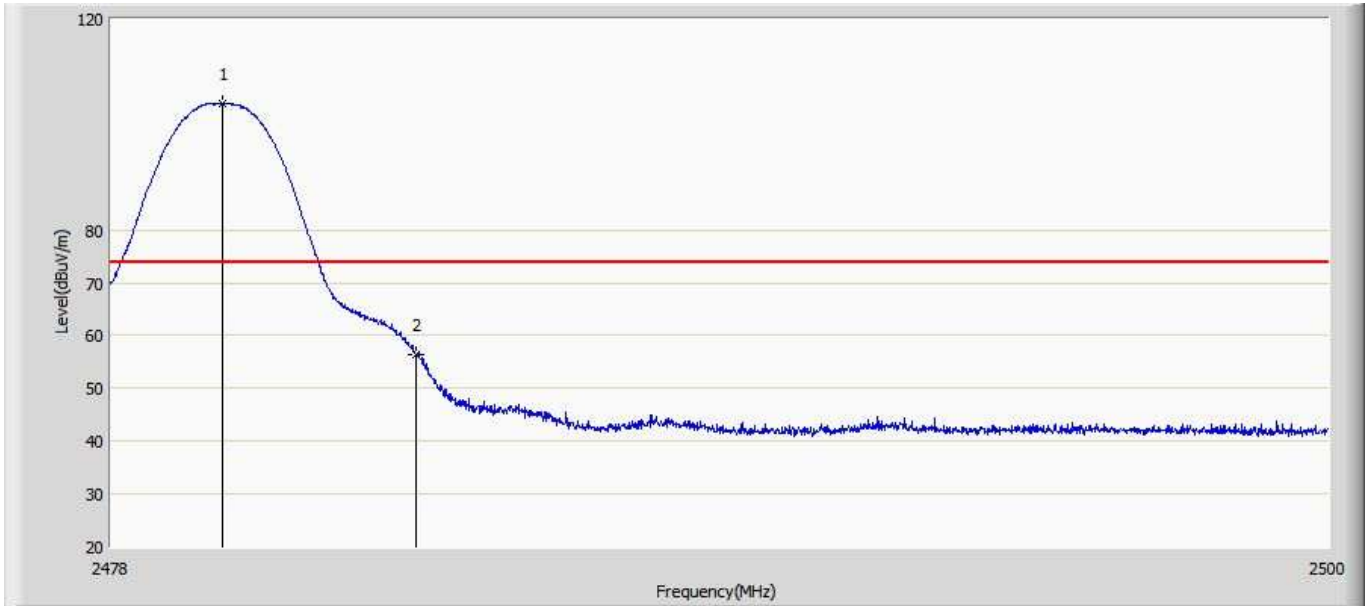
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 15:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.449	7.737	-31.551	74.000	34.712	PK
2	*	2402.055	98.153	63.336	24.153	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.667	42.449	-42.333	54.000	-30.782	AV
2	*	2402.055	67.371	98.153	13.371	54.000	-30.782	AV

Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 15:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	

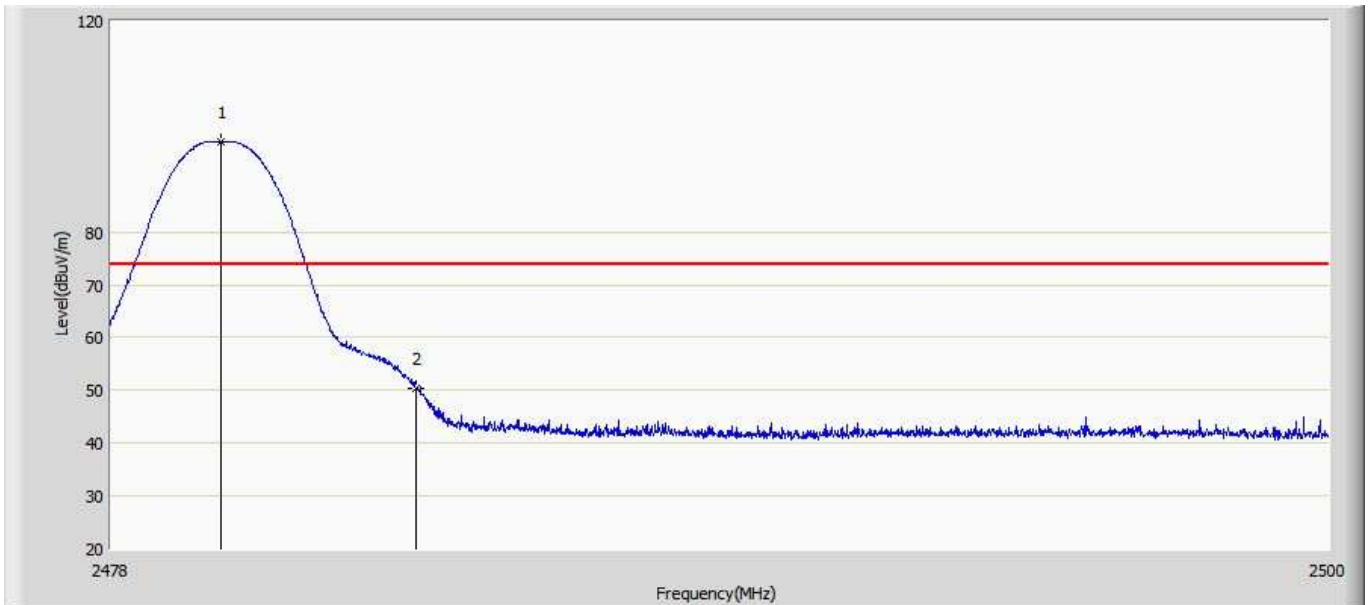


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	103.823	68.645	29.823	74.000	35.178	PK
2		2483.500	56.299	21.150	-17.701	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	73.041	103.823	19.041	54.000	-30.782	AV
2		2483.500	25.517	56.299	-28.483	54.000	-30.782	AV



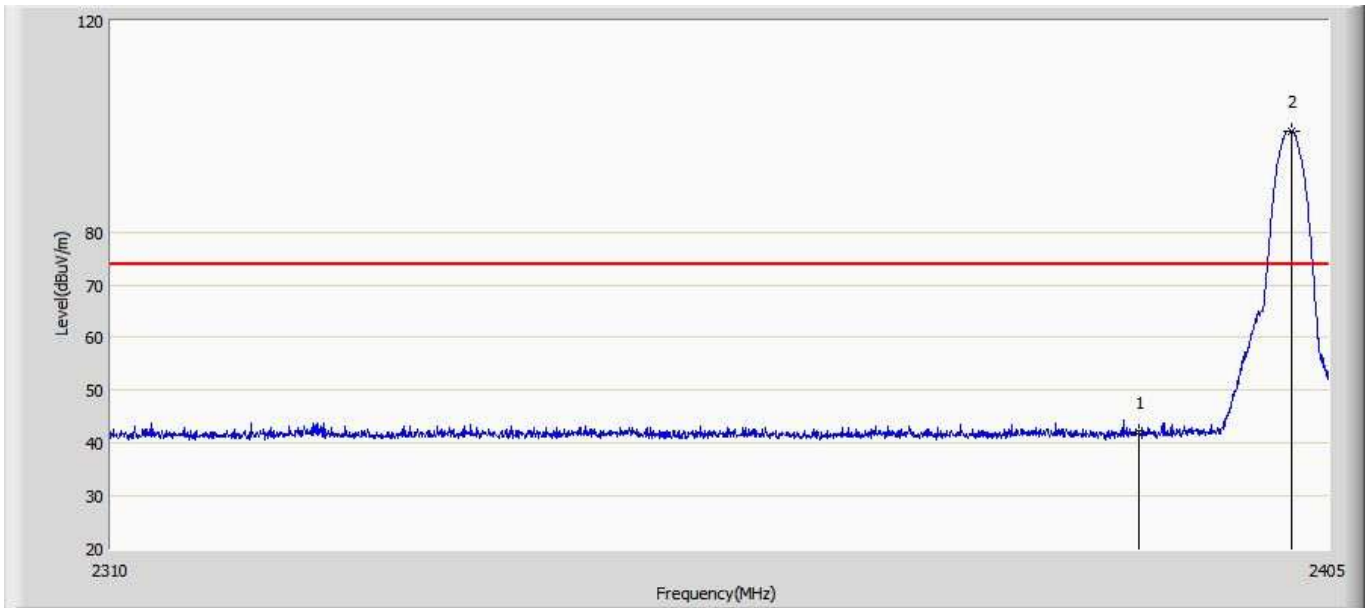
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 15:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	97.087	61.909	23.087	74.000	35.178	PK
2		2483.500	50.463	15.314	-23.537	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	66.305	97.087	12.305	54.000	-30.782	AV
2		2483.500	19.681	50.463	-34.319	54.000	-30.782	AV

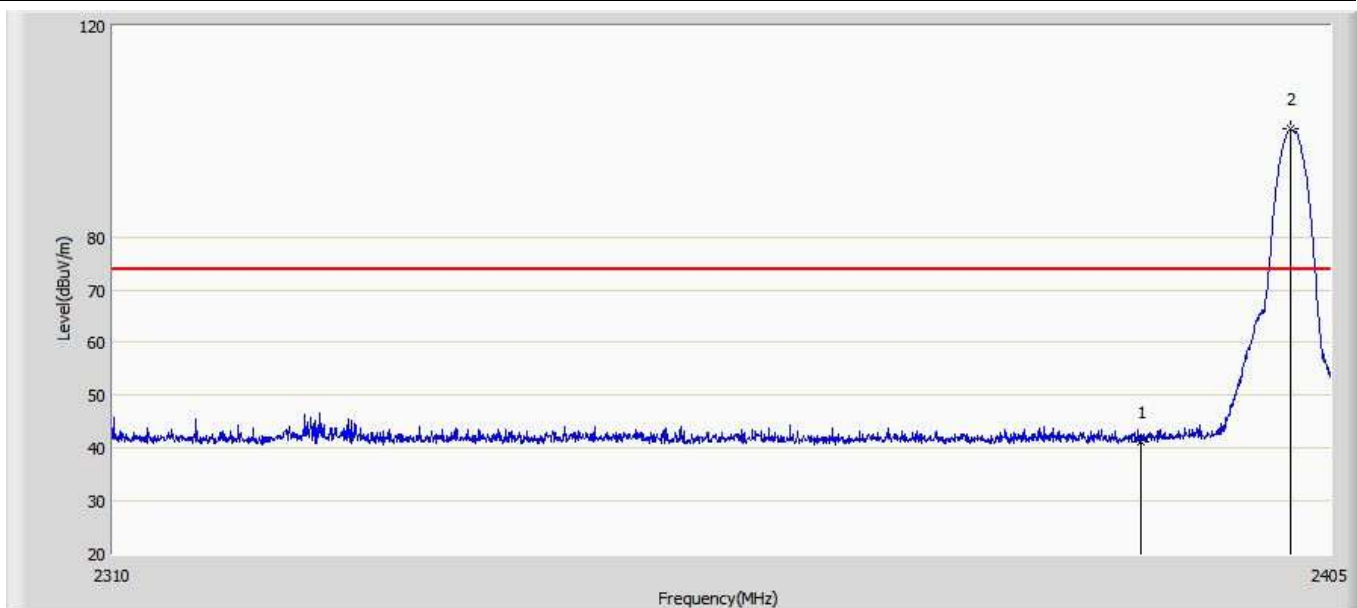
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 16:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.066	7.354	-31.934	74.000	34.712	PK
2	*	2402.055	99.116	64.299	25.116	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.284	42.066	-42.716	54.000	-30.782	AV
2	*	2402.055	68.334	99.116	14.334	54.000	-30.782	AV

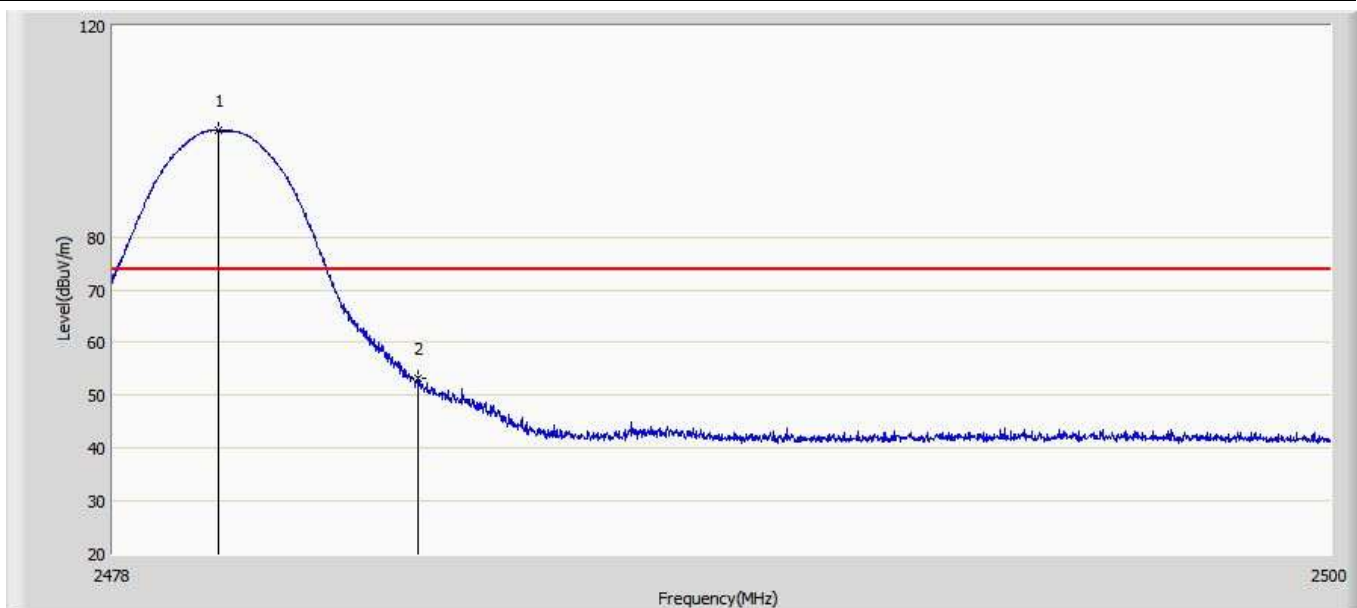
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.318	6.606	-32.682	74.000	34.712	PK
2	*	2401.913	100.440	65.625	26.440	74.000	34.815	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	10.536	41.318	-43.464	54.000	-30.782	AV
2	*	2401.913	69.658	100.44	15.658	54.000	-30.782	AV

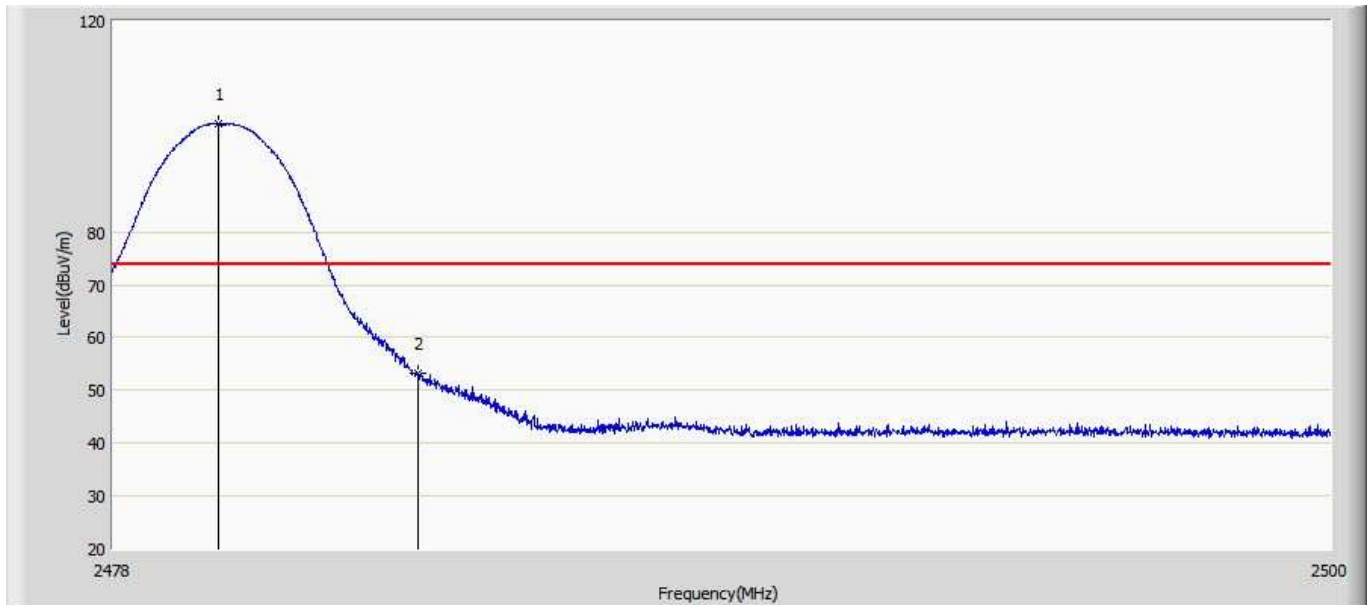
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 16:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	100.108	64.929	26.108	74.000	35.179	PK
2		2483.500	53.355	18.206	-20.645	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	69.326	100.108	15.326	54.000	-30.782	AV
2		2483.500	22.573	53.355	-31.427	54.000	-30.782	AV

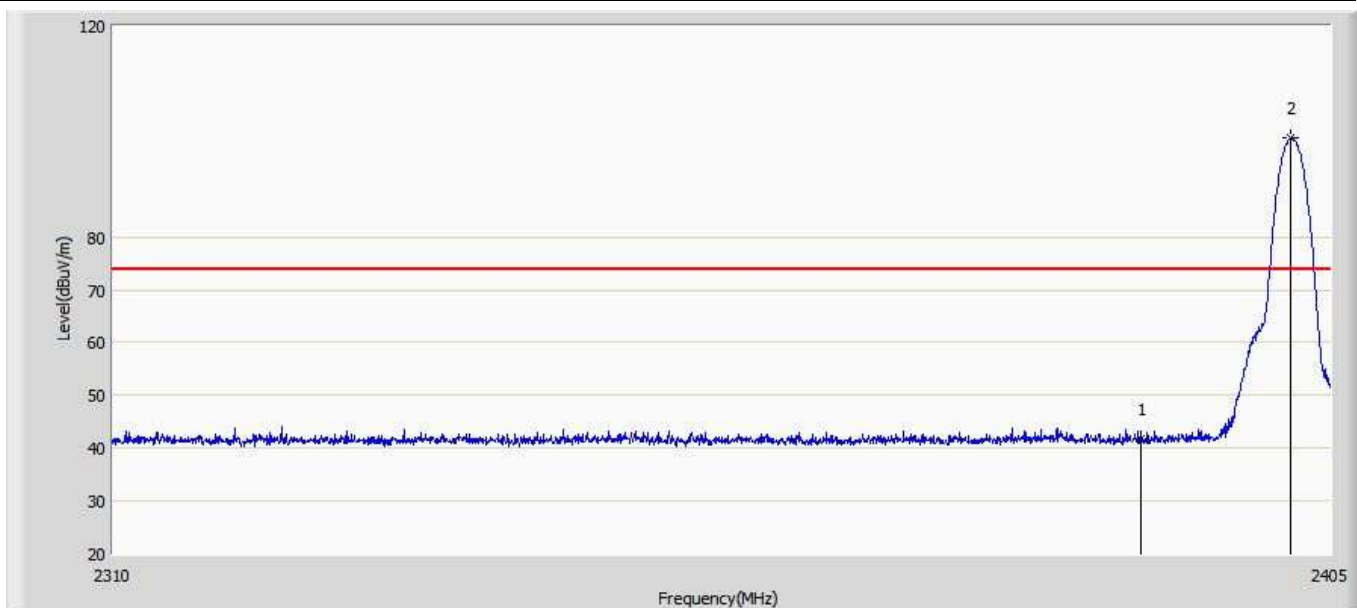
Engineer: Simon	
Site: AC5	Time: 2018/02/07 - 16:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	100.468	65.289	26.468	74.000	35.179	PK
2		2483.500	53.167	18.018	-20.833	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	69.686	100.468	15.686	54.000	-30.782	AV
2		2483.500	22.385	53.167	-31.615	54.000	-30.782	AV

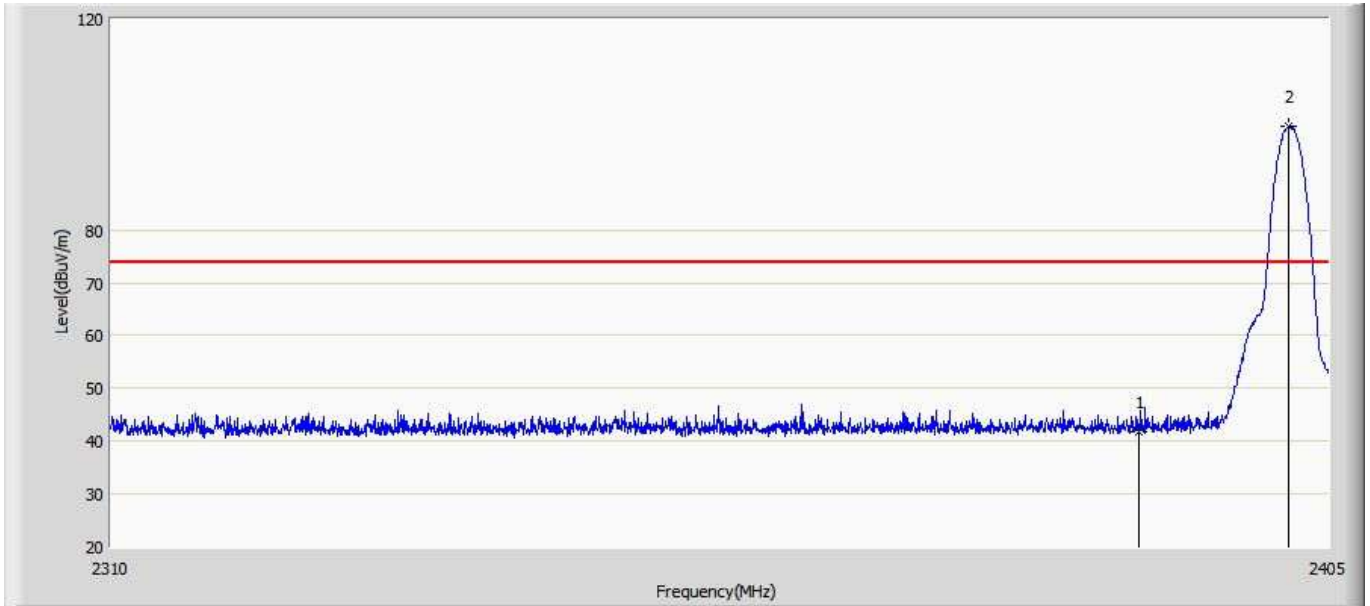
Engineer: Simon	
Site: AC5	Time: 2018/02/08 - 09:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.793	7.081	-32.207	74.000	34.712	PK
2	*	2401.913	98.813	63.998	24.813	74.000	34.815	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.011	41.793	-42.989	54.000	-30.782	AV
2	*	2401.913	68.031	98.813	14.031	54.000	-30.782	AV

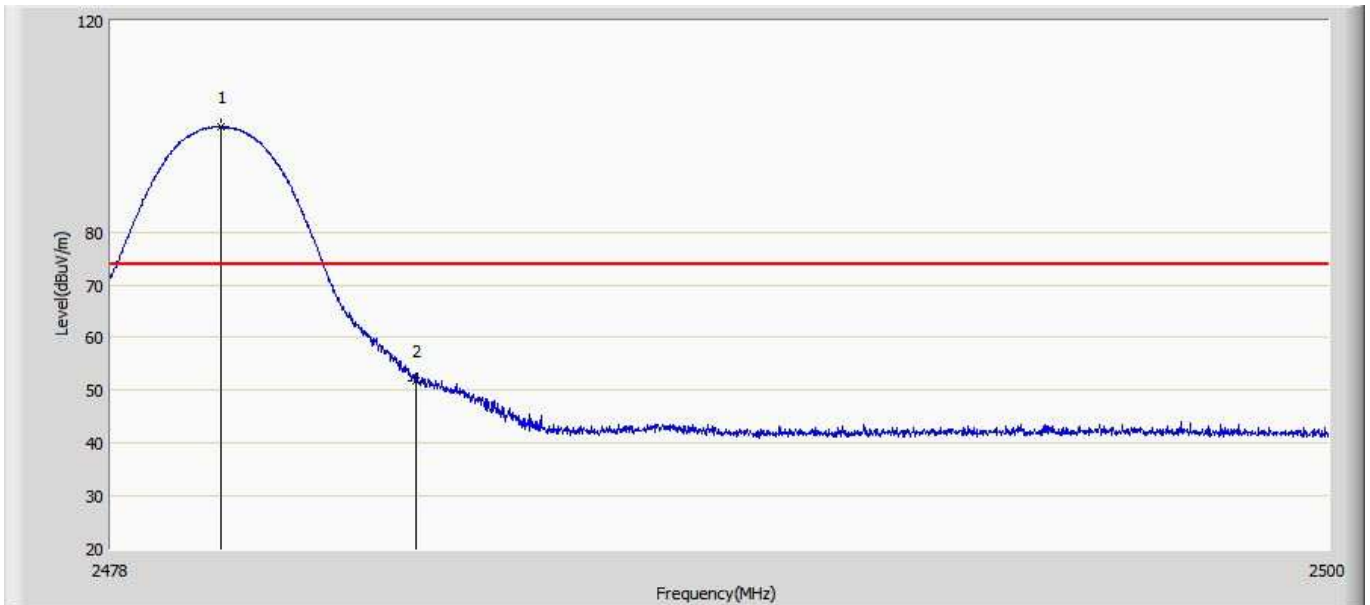
Engineer: Simon	
Site: AC5	Time: 2018/02/08 - 09:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.834	7.122	-32.166	74.000	34.712	PK
2	*	2401.865	99.675	64.861	25.675	74.000	34.814	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.052	41.834	-42.948	54.000	-30.782	AV
2	*	2401.865	68.893	99.675	14.893	54.000	-30.782	AV

Engineer: Simon	
Site: AC5	Time: 2018/02/08 - 10:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	

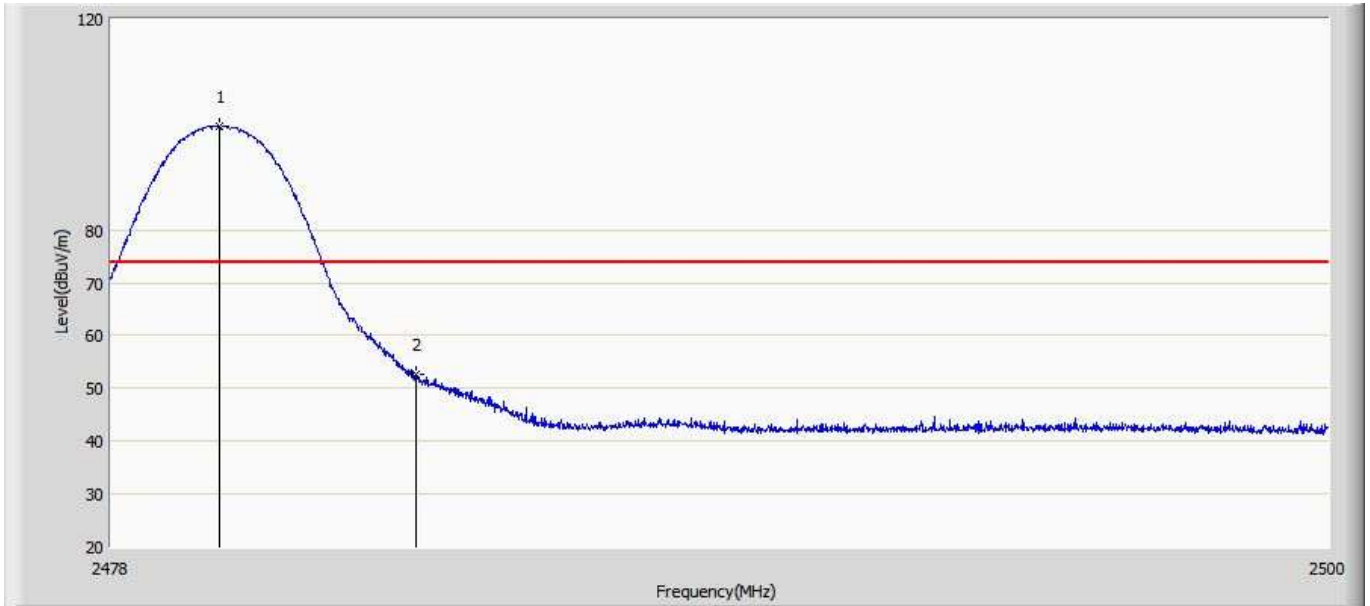


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.991	99.999	64.821	25.999	74.000	35.178	PK
2		2483.500	51.773	16.624	-22.227	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.991	69.217	99.999	15.217	54.000	-30.782	AV
2		2483.500	20.991	51.773	-33.009	54.000	-30.782	AV



Engineer: Simon	
Site: AC5	Time: 2018/02/08 - 10:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	

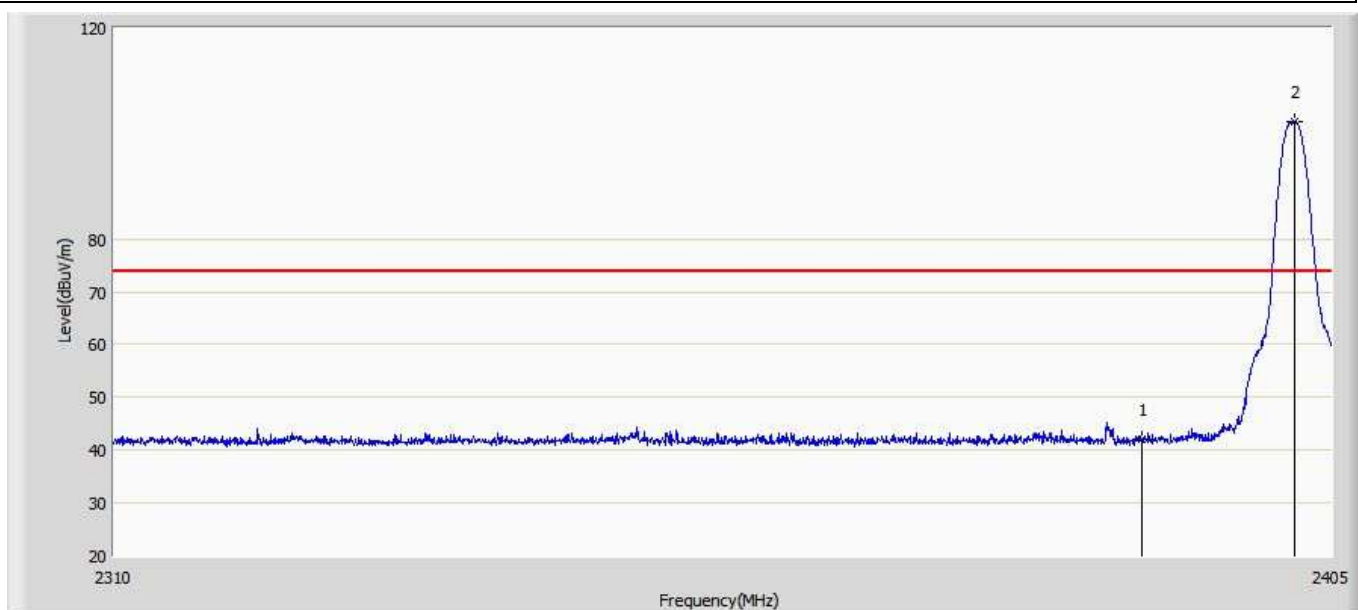


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	99.773	64.595	25.773	74.000	35.178	PK
2		2483.500	52.561	17.412	-21.439	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	68.991	99.773	14.991	54.000	-30.782	AV
2		2483.500	21.779	52.561	-32.221	54.000	-30.782	AV

**B4210T:**

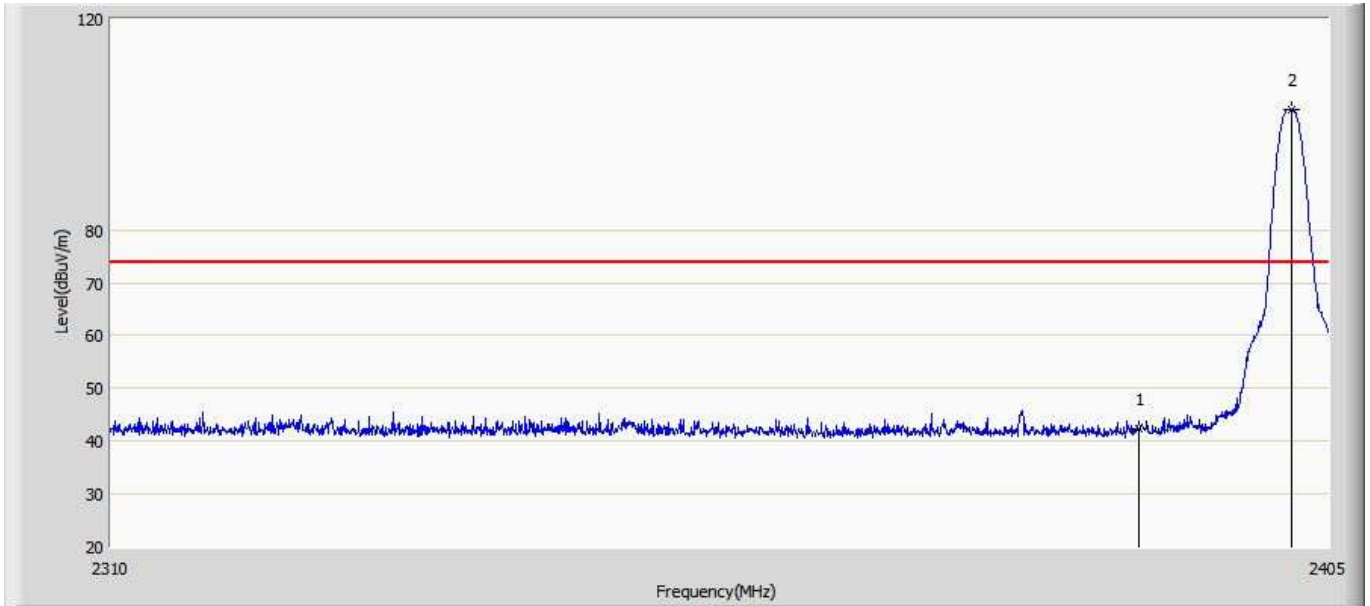
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 09:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.990	7.278	-32.010	74.000	34.712	PK
2	*	2402.055	102.193	67.376	28.193	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	11.208	41.99	-42.792	54	-30.782	AV
2	*	2402.055	71.411	102.193	17.411	54	-30.782	AV

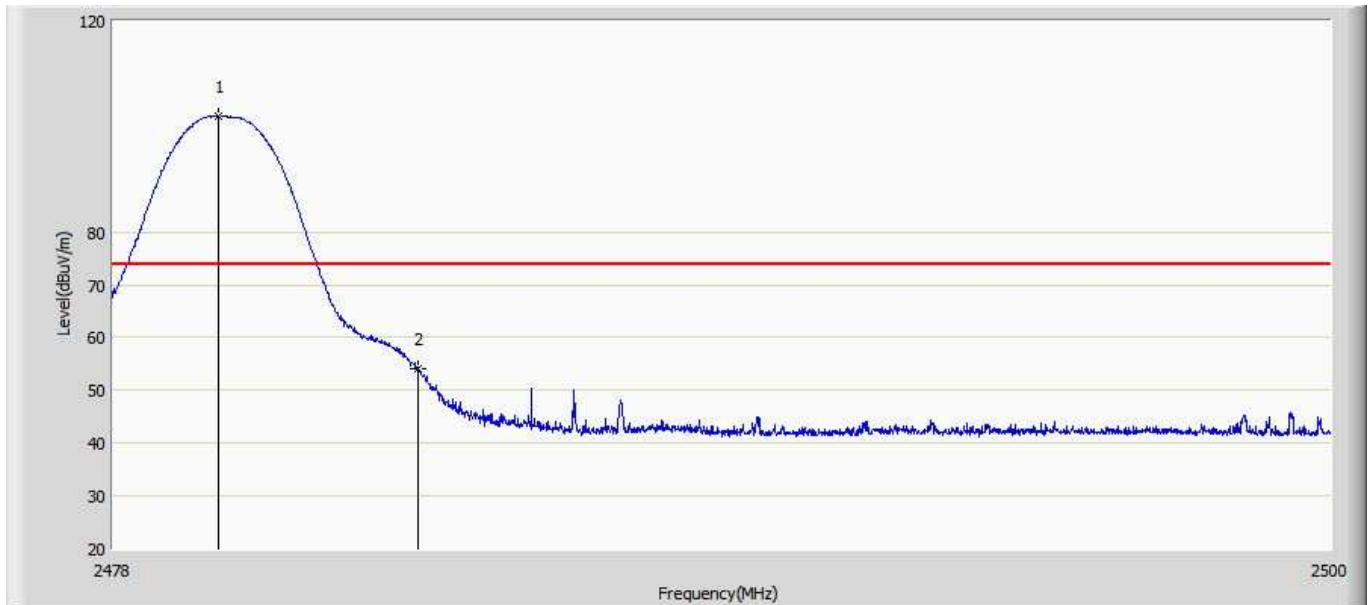
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 09:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.391	7.679	-31.609	74.000	34.712	PK
2	*	2402.055	102.862	68.045	28.862	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390	11.609	42.391	-42.391	54	-30.782	AV
2	*	2402.055	72.08	102.862	18.08	54	-30.782	AV

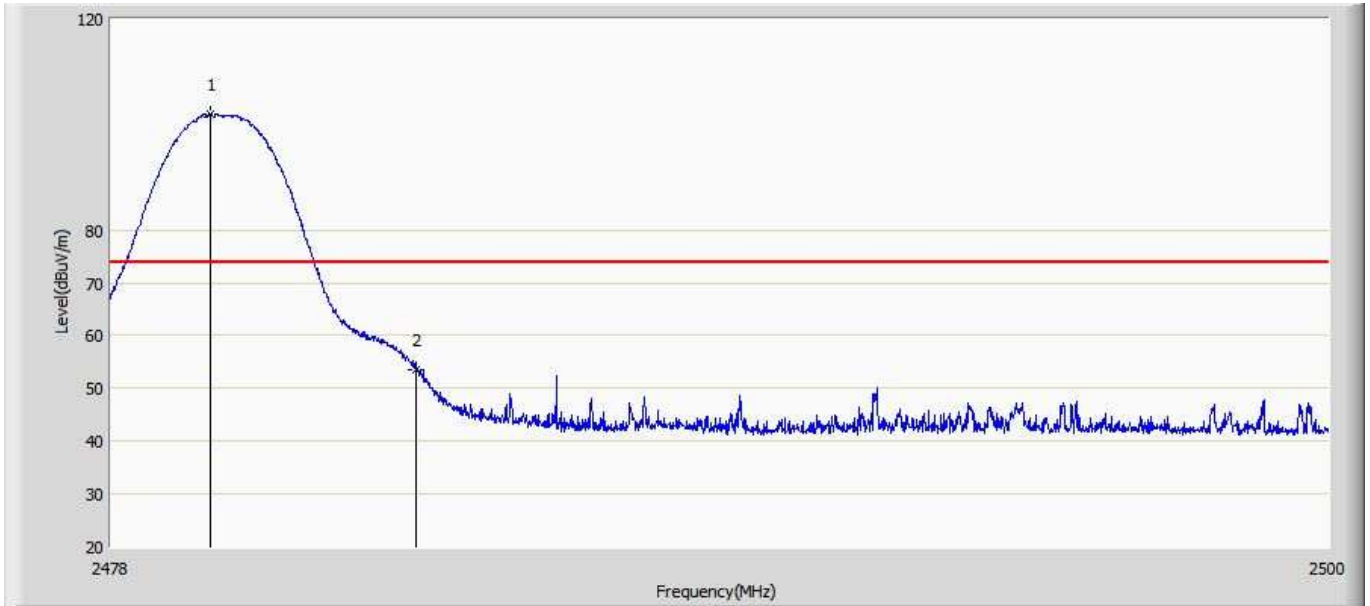
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 09:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	101.854	66.675	27.854	74.000	35.179	PK
2		2483.500	54.012	18.863	-19.988	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	71.072	101.854	17.072	54	-30.782	AV
2		2483.5	23.23	54.012	-30.77	54	-30.782	AV

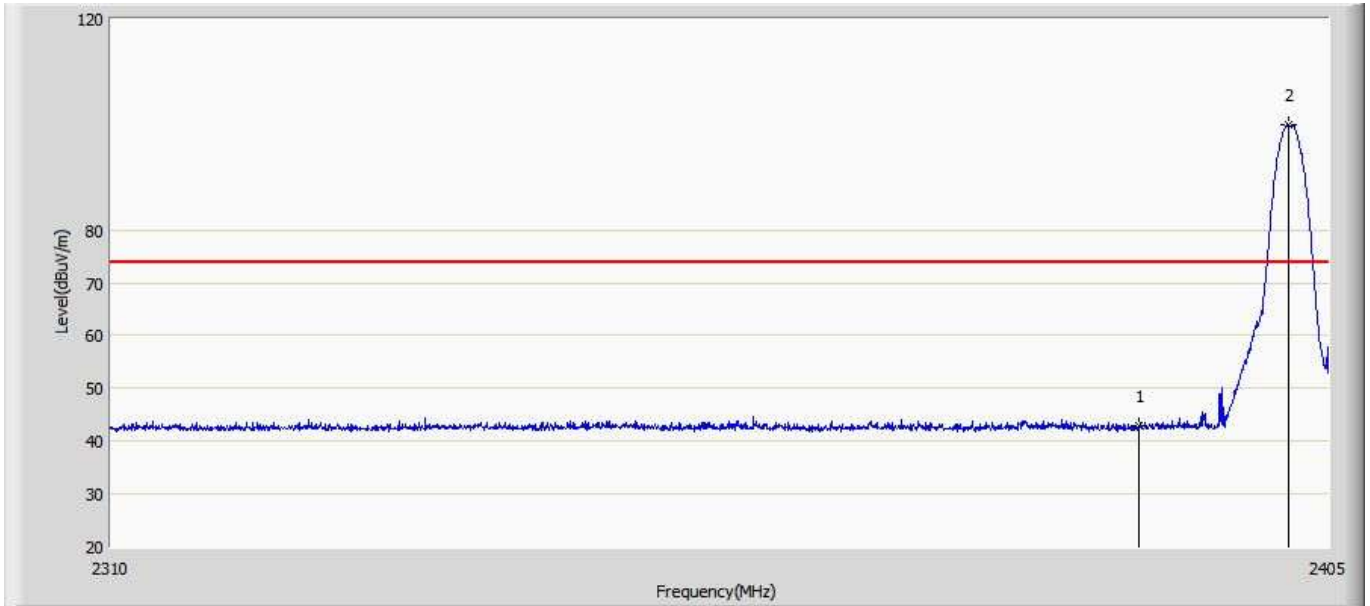
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 10:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.793	101.835	66.655	27.835	74.000	35.180	PK
2		2483.500	53.423	18.274	-20.577	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.793	71.053	101.835	17.053	54	-30.782	AV
2		2483.5	22.641	53.423	-31.359	54	-30.782	AV

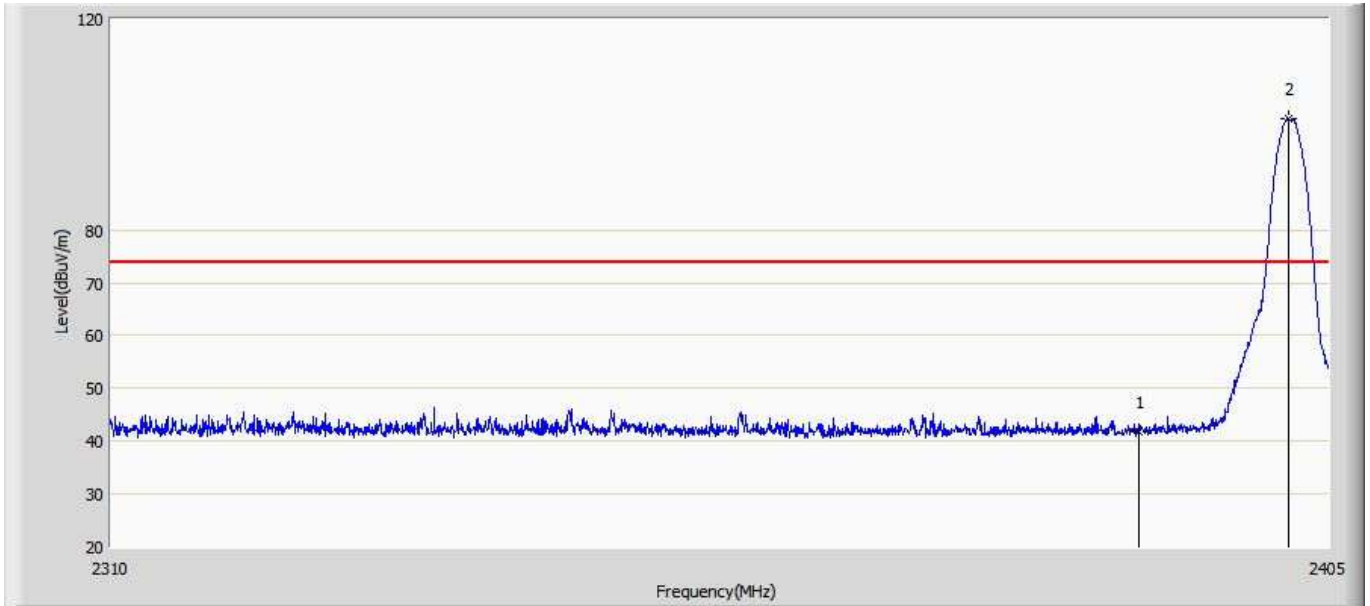
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 10:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.971	8.259	-31.029	74.000	34.712	PK
2	*	2401.817	99.979	65.166	25.979	74.000	34.813	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390	12.189	42.971	-41.811	54	-30.782	AV
2	*	2401.817	69.197	99.979	15.197	54	-30.782	AV

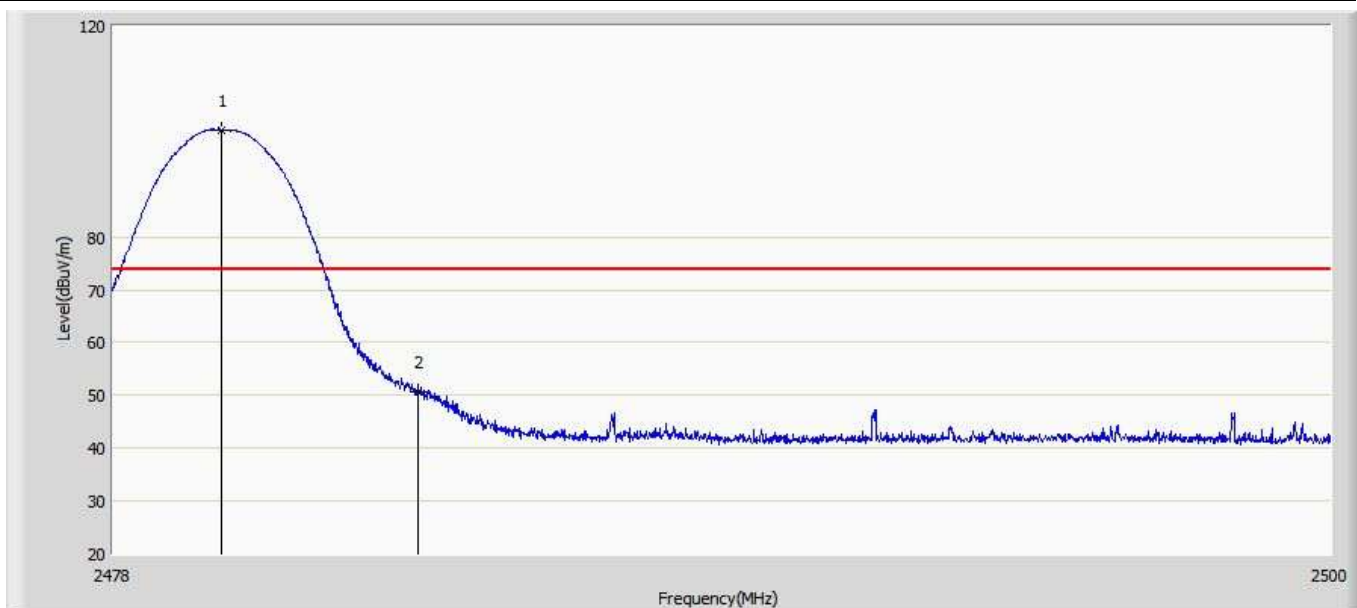
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 11:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.872	7.160	-32.128	74.000	34.712	PK
2	*	2401.865	101.221	66.407	27.221	74.000	34.814	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390	11.09	41.872	-42.91	54	-30.782	AV
2	*	2401.865	70.439	101.221	16.439	54	-30.782	AV

Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	

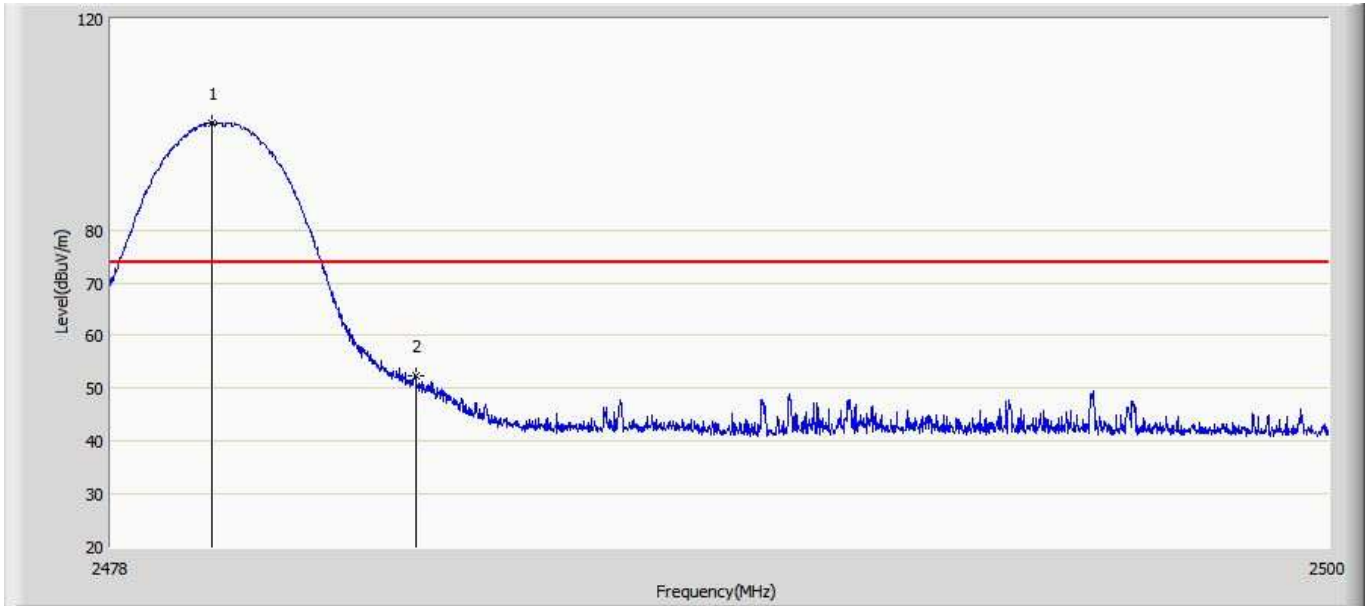


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.958	100.353	65.175	26.353	74.000	35.178	PK
2		2483.500	50.718	15.569	-23.282	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.958	69.571	100.353	15.571	54	-30.782	AV
2		2483.5	19.936	50.718	-34.064	54	-30.782	AV



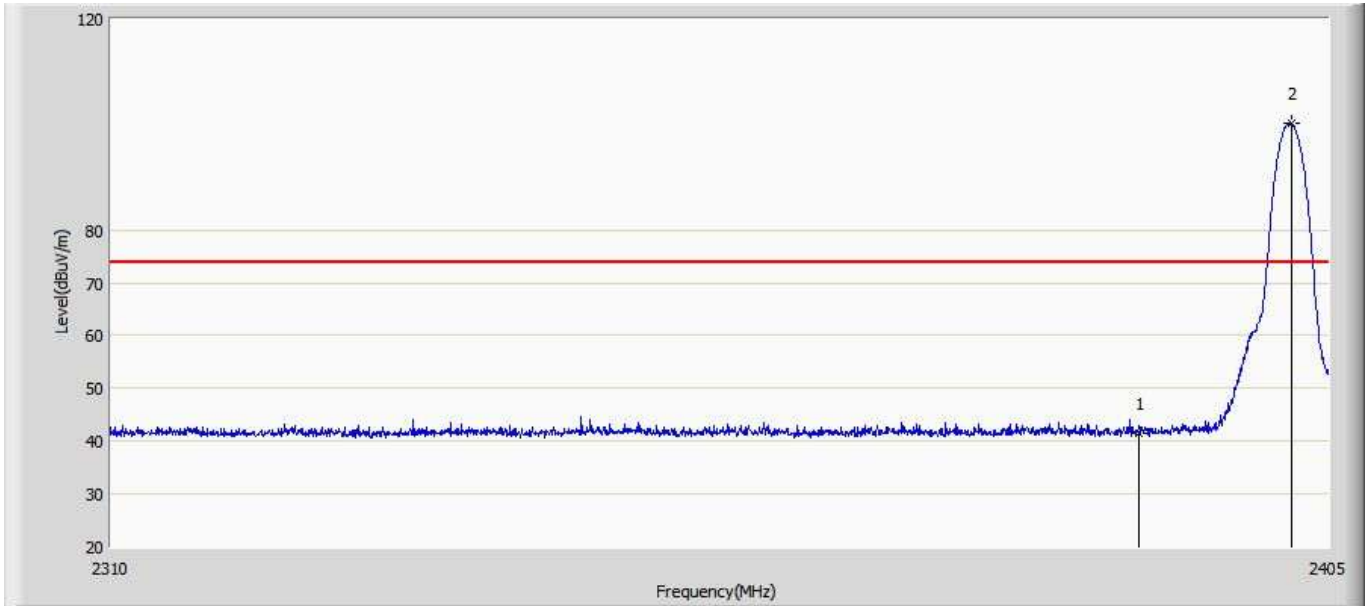
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.837	100.333	65.154	26.333	74.000	35.179	PK
2		2483.500	52.347	17.198	-21.653	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.837	69.551	100.333	15.551	54	-30.782	AV
2		2483.5	21.565	52.347	-32.435	54	-30.782	AV

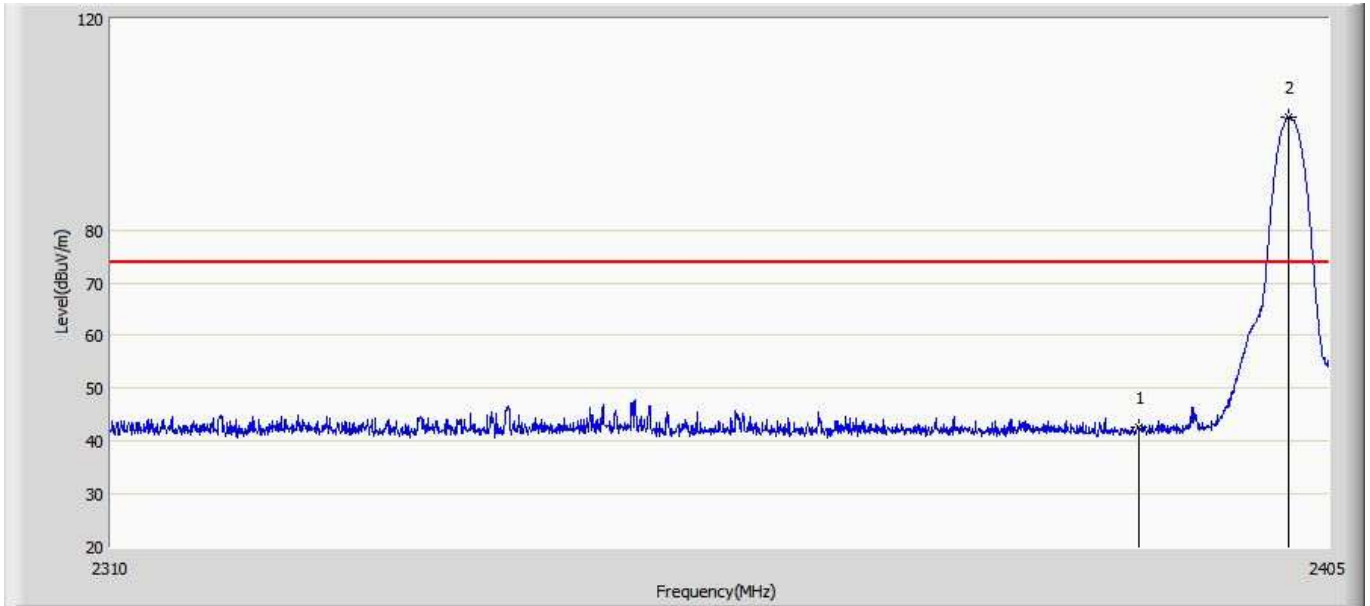
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 13:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.415	6.703	-32.585	74.000	34.712	PK
2	*	2402.055	100.292	65.475	26.292	74.000	34.817	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390	10.633	41.415	-43.367	54	-30.782	AV
2	*	2402.055	69.51	100.292	15.51	54	-30.782	AV

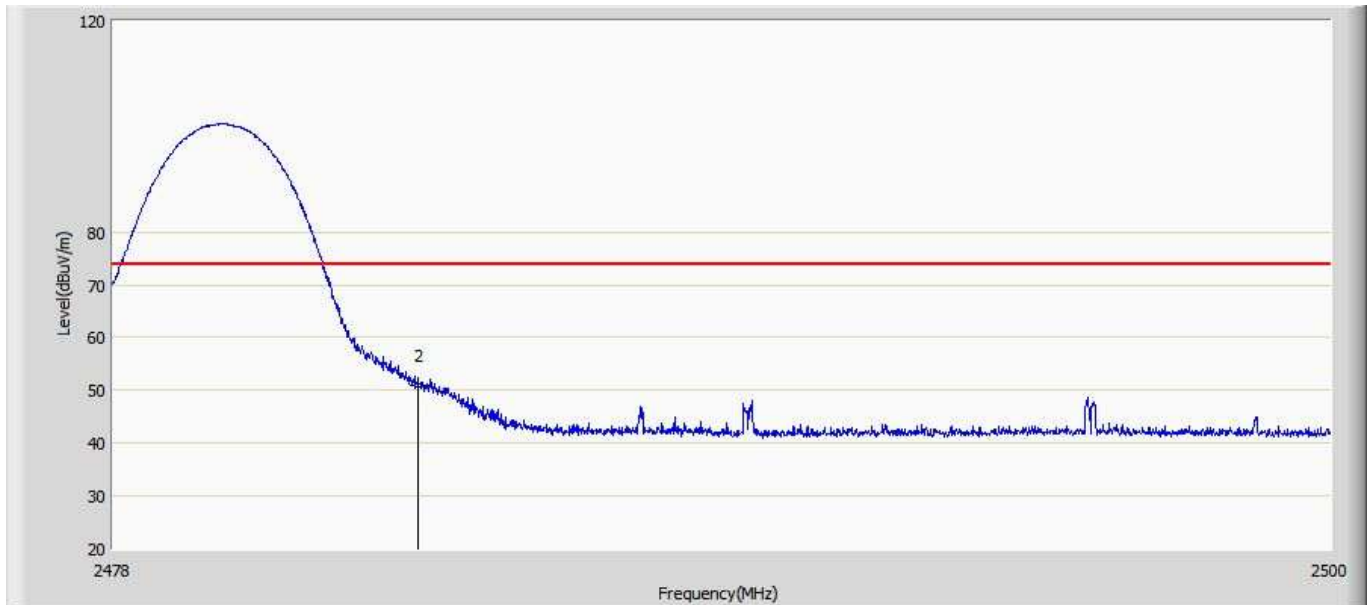
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 13:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.572	7.860	-31.428	74.000	34.712	PK
2	*	2401.913	101.471	66.656	27.471	74.000	34.815	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390	11.79	42.572	-42.21	54	-30.782	AV
2	*	2401.913	70.689	101.471	16.689	54	-30.782	AV

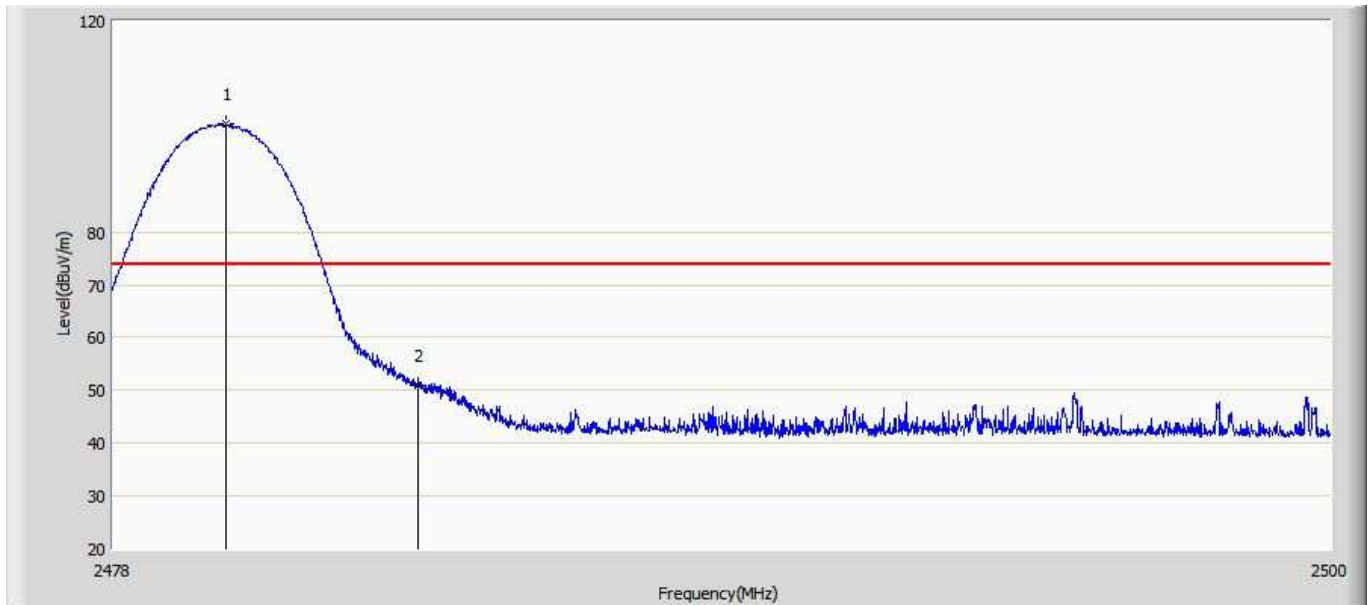
Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 13:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2401.913	101.471	66.656	27.471	74.000	34.815	PK
2		2483.500	51.084	15.935	-22.916	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2401.913	70.689	101.471	16.689	54	-30.782	AV
2		2483.5	20.302	51.084	-33.698	54	-30.782	AV

Engineer: Simon	
Site: AC5	Time: 2018/02/10 - 14:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055 (1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	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	*	2480.035	100.415	65.237	26.415	74.000	35.178	PK
2		2483.500	50.993	15.844	-23.007	74.000	35.149	PK

No	Mark	Frequency (MHz)	AV Level (dBuV/m)	PK Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.035	69.633	100.415	15.633	54	-30.782	AV
2		2483.5	20.211	50.993	-33.789	54	-30.782	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 checked="" type="checkbox"/>	The use of a permanently attached antenna
<input type="checkbox"/>	The antenna use of a unique coupling to the intentional radiator
<input 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 \_\_\_\_\_