



中国认可
国际互认
检测
TESTING
CNAS L5313



DEKRA

Test Report

FCC Part15 Subpart C& Industry Canada RSS-247 Issue 2

Product Name : Bluetooth Headset

Model No. : AM07C

FCC ID : QISAM07C

IC : 6369A- AM07C

Applicant : HUAWEI TECHNOLOGIES CO.,LTD.

Address : Administration Building, Huawei Technologies Co.,
Ltd. Bantian, Longgang District, Shenzhen, P. R.
China

Date of Receipt : Feb. 22nd, 2017

Test Date : Feb. 22nd, 2017~ Mar. 07th, 2017

Issued Date : Apr. 12th, 2017

Report No. : 1722090R-RF-US-P06V02

Report Version : V 1.0

The test results relate only to the samples tested.

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

This report must not be used to claim product endorsement by TAF, CNAS 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. 12th, 2017

Report No. : 1722090R-RF-US-P06V02



Product Name : Bluetooth Headset

Applicant : HUAWEI TECHNOLOGIES CO.,LTD.

Address : Administration Building, Huawei Technologies Co., Ltd.
Bantian, Longgang District, Shenzhen, P. R. China

Manufacturer : HUAWEI TECHNOLOGIES CO.,LTD.

Address : Administration Building, Huawei Technologies Co., Ltd.
Bantian, Longgang District, Shenzhen, P. R. China

Model No. : AM07C

FCC ID : QISAM07C

IC : 6369A-AM07C

EUT Voltage : DC 3.7V

Test Voltage : AC120V/60Hz

Brand Name : Huawei ; Honor

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2015
KDB DA 00-705 Released March 30, 2000
ANSI C63.4: 2014; ANSI C63.10: 2013
Industry Canada 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 Registration Number: 800392; IC Lab Code: 4075B

Documented By

:



(Adm. Specialist: Kitty Li)

Reviewed By

:



(Senior Engineer: Jack Zhang)

Approved By

:



(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	21
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	32
5.1. Test Equipment	32
5.2. Test Setup	32
5.3. Limit.....	32
5.4. Test Procedure	33
5.5. Uncertainty	33
5.6. Test Result	34
6. Carrier Frequency Separation	40
6.1. Test Equipment	40
6.2. Test Setup	40
6.3. Limit.....	41
6.4. Test Procedure	41
6.5. Uncertainty	41

6.6.	Test Result	42
7.	Number of Hopping Frequencies	48
7.1.	Test Equipment	48
7.2.	Test Setup	48
7.3.	Limit.....	48
7.4.	Test Procedure	49
7.5.	Uncertainty	49
7.6.	Test Result	50
8.	Time of Occupancy (Dwell Time).....	56
8.1.	Test Equipment	56
8.2.	Test Setup	56
8.3.	Limit.....	56
8.4.	Test Procedure	57
8.5.	Uncertainty	57
8.6.	Test Result	58
9.	Peak Output Power	61
9.1.	Test Equipment	61
9.2.	Test Setup	61
9.3.	Limit.....	62
9.4.	Test Procedure	62
9.5.	Uncertainty	62
9.6.	Test Result	63
10.	Emissions in non-restricted frequency bands.....	66
10.1.	Test Equipment	66
10.2.	Test Setup	66
10.3.	Limit.....	67
10.4.	Test Procedure	67
10.5.	Uncertainty	67
10.6.	Test Result	68
11.	Radiated Emission Band Edge.....	69
11.1.	Test Equipment	69
11.2.	Test Setup	70
11.3.	Limit.....	70
11.4.	Test Procedure	70
11.5.	Uncertainty	71
11.6.	Duty Factor.....	72
11.7.	Test Result	73
12.	Antenna Requirement	85

12.1. Limit.....	85
12.2. Antenna Connector Construction	85

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1722090R-RF-US-P06V02	V1.0	Initial Issued Report	Apr. 12th, 2017

1. General Information

1.1. EUT Description

Product Name	Bluetooth Headset
Model No.	AM07C
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

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

Model No.	N/A					
Antenna manufacturer	N/A					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	CDD		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
	☒	Internal	☐	PIFA		
			☐	PCB		
			☒	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
Antenna Gain	1.67dBi					

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.

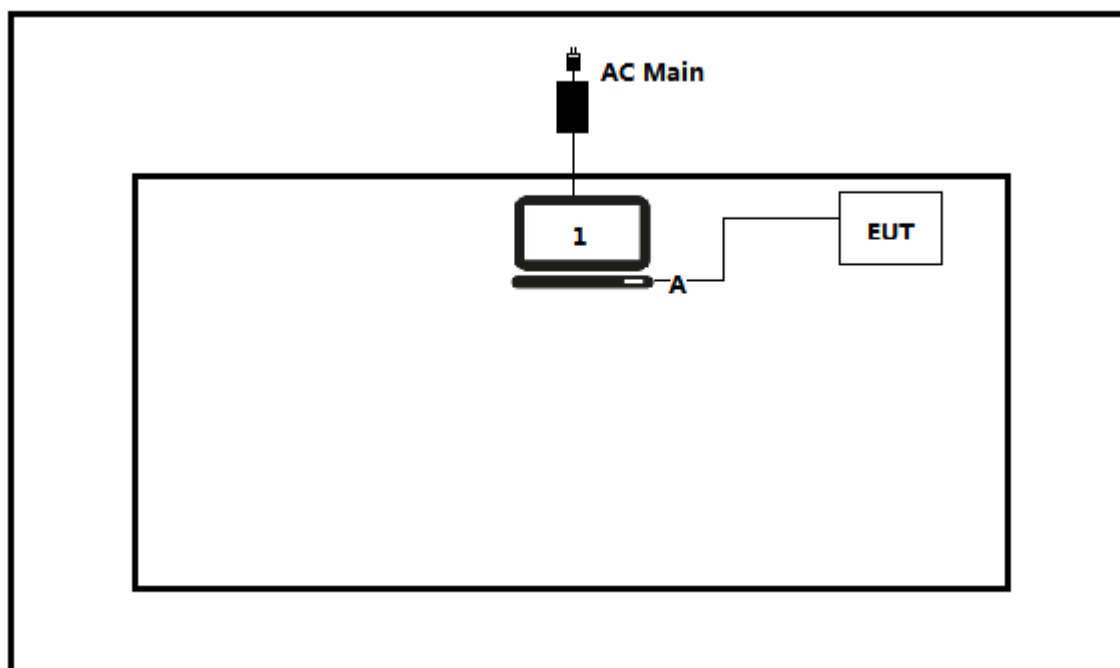
1.4 Tested System Details

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

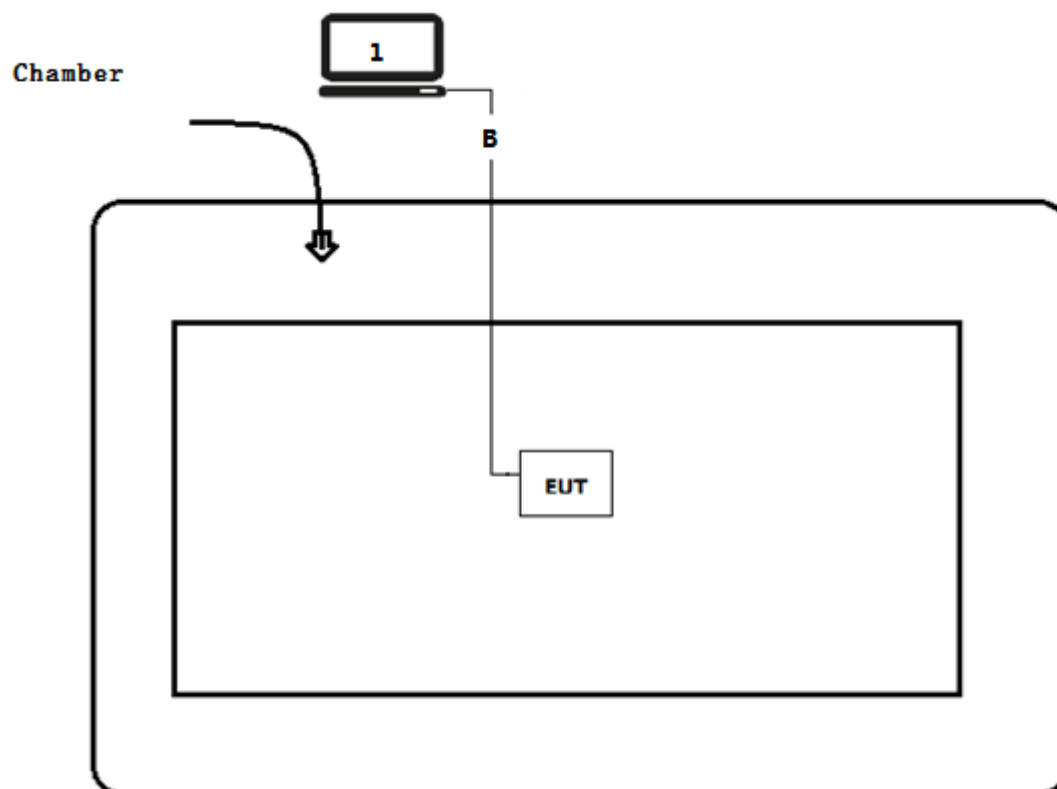
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	2526	LV-A3285	Power by adapter
A	USB Cable	N/A	N/A	N/A	Shield, 0.75m
B	USB Cable	N/A	N/A	N/A	Shield, 10m

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 the Bluetest3 software, and set the test mode and channel, then press OK to start 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 IC

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

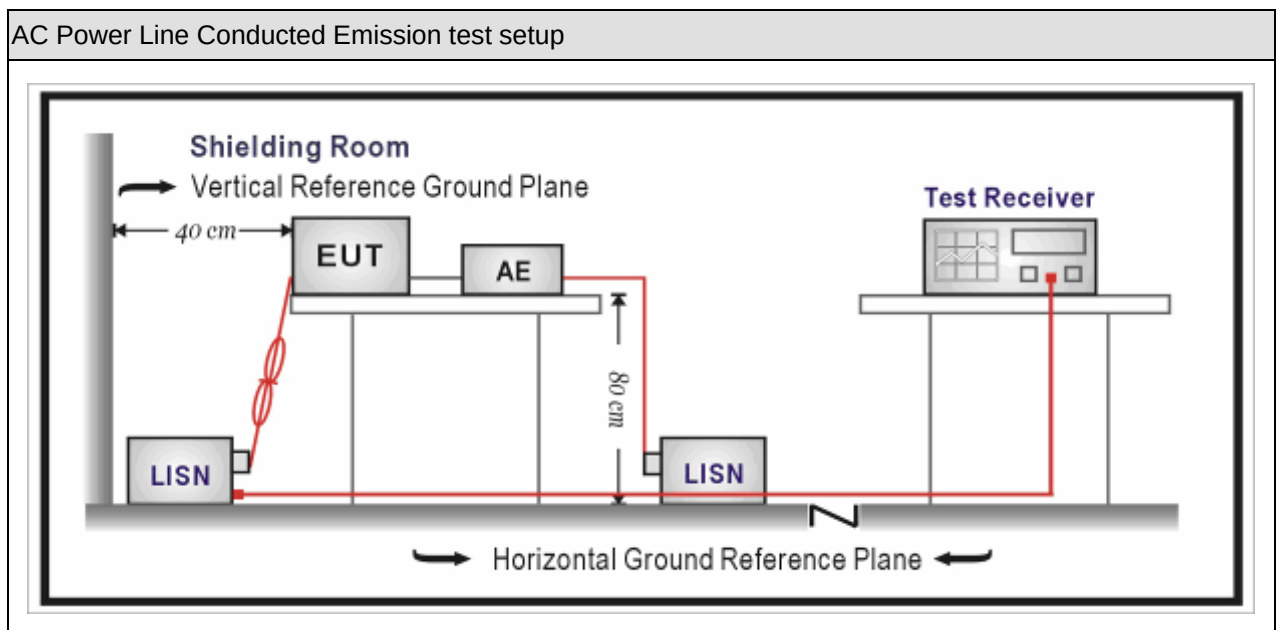
3. Conducted Emission

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	2018.03.04
Two-Line V-Network	R&S	ENV 216	101189	2016.07.16	2017.07.15
Two-Line V-Network	R&S	ENV 216	101044	2016.09.15	2017.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2016.09.15	2017.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2017.01.05	2018.01.04

Note: All equipments 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 μ V)	Average (dB μ 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

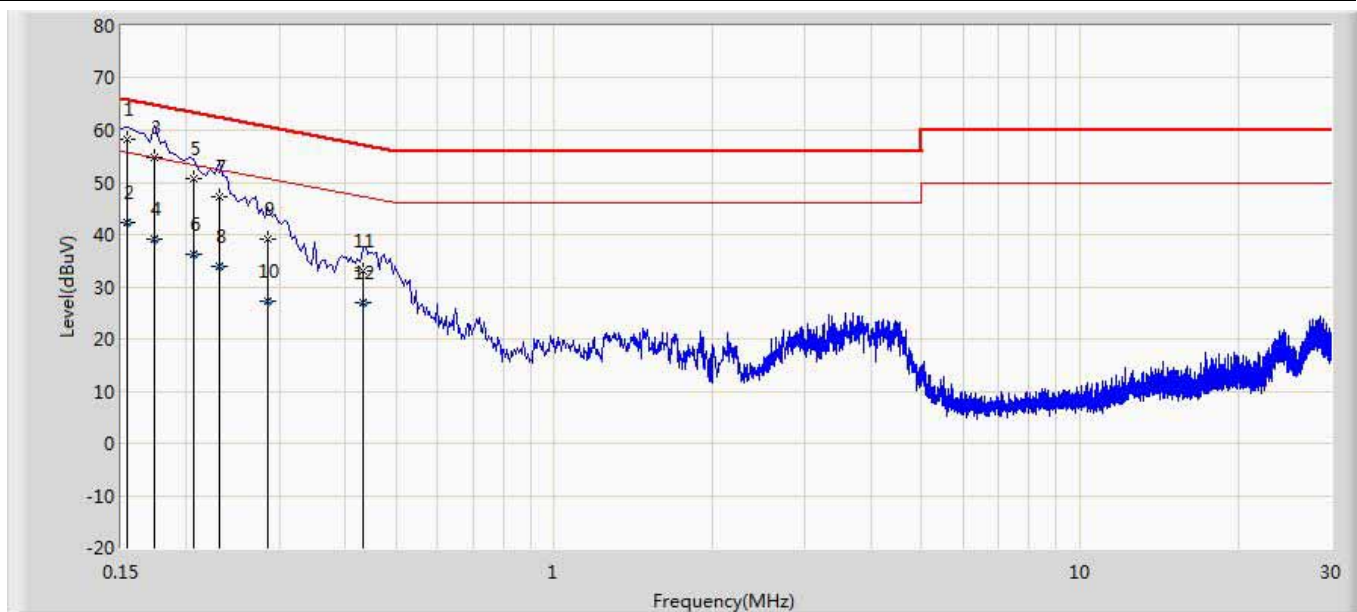
Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Site: SR8	Time: 2017/03/05
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-L1	Polarity: Line
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1	

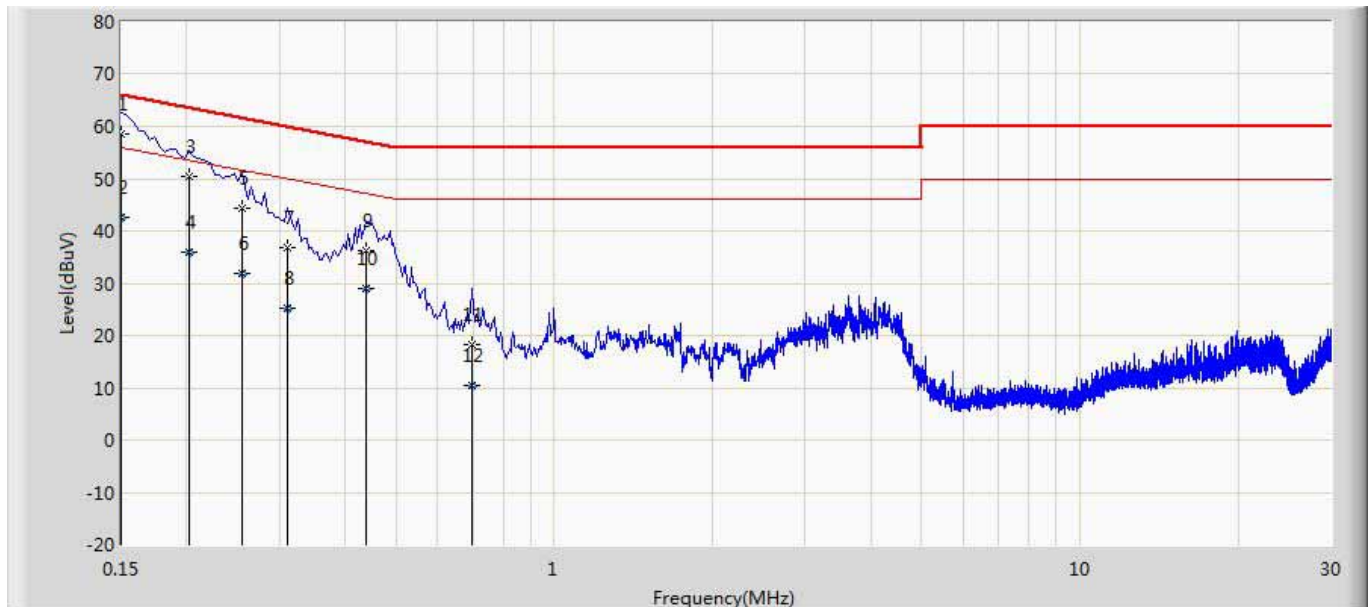


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.154	58.405	48.672	-7.376	65.781	9.673	0.060	0.000	QP
2		0.154	42.427	32.694	-13.354	55.781	9.673	0.060	0.000	AV
3		0.174	54.869	45.149	-9.898	64.767	9.660	0.060	0.000	QP
4		0.174	39.164	29.444	-15.603	54.767	9.660	0.060	0.000	AV
5		0.206	50.614	40.904	-12.751	63.365	9.650	0.060	0.000	QP
6		0.206	36.348	26.638	-17.017	53.365	9.650	0.060	0.000	AV
7		0.230	47.253	37.543	-15.197	62.450	9.650	0.060	0.000	QP
8		0.230	33.931	24.221	-18.519	52.450	9.650	0.060	0.000	AV
9		0.286	39.236	29.536	-21.404	60.640	9.640	0.060	0.000	QP
10		0.286	27.176	17.476	-23.464	50.640	9.640	0.060	0.000	AV
11		0.434	33.058	23.358	-24.118	57.176	9.630	0.070	0.000	QP
12		0.434	26.924	17.224	-20.252	47.176	9.630	0.070	0.000	AV

Note:

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

Site: TR1	Time: 2017/03/05
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-N	Polarity: Neutral
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.150	58.522	48.786	-7.478	66.000	9.676	0.060	0.000	QP
2		0.150	42.514	32.778	-13.486	56.000	9.676	0.060	0.000	AV
3		0.202	50.406	40.686	-13.122	63.528	9.660	0.060	0.000	QP
4		0.202	35.961	26.241	-17.567	53.528	9.660	0.060	0.000	AV
5		0.254	44.344	34.626	-17.281	61.625	9.658	0.060	0.000	QP
6		0.254	31.771	22.053	-19.854	51.625	9.658	0.060	0.000	AV
7		0.310	36.923	27.213	-23.047	59.970	9.650	0.060	0.000	QP
8		0.310	25.209	15.499	-24.761	49.970	9.650	0.060	0.000	AV
9		0.438	36.359	26.652	-20.741	57.100	9.637	0.070	0.000	QP
10		0.438	28.962	19.255	-18.138	47.100	9.637	0.070	0.000	AV
11		0.698	18.261	8.551	-37.739	56.000	9.640	0.070	0.000	QP
12		0.698	10.310	0.600	-35.690	46.000	9.640	0.070	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

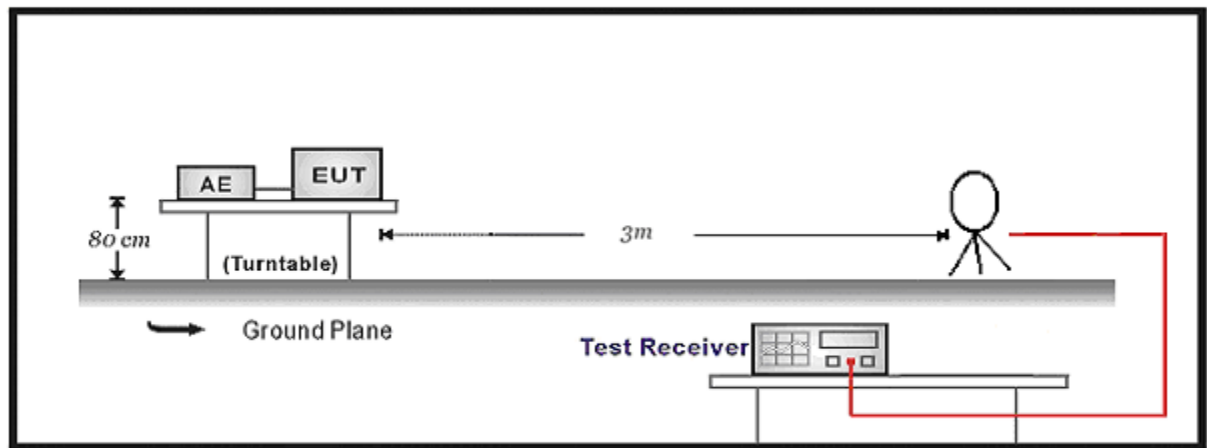
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2016.11.16	2017.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2016.10.16	2017.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2017.03.02	2018.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

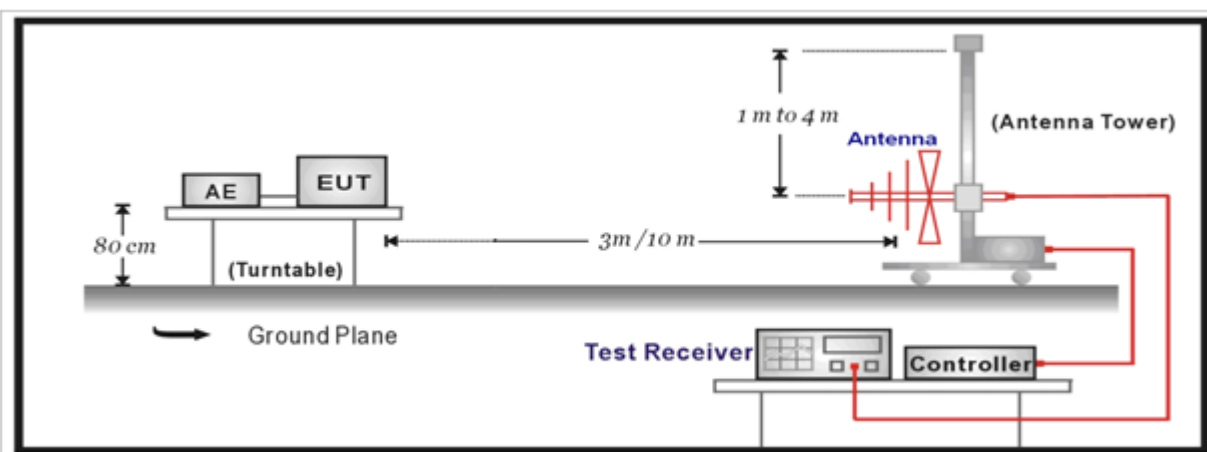
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2017.01.04	2018.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2017.01.22	2018.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.11.25	2017.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2017.03.02	2018.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

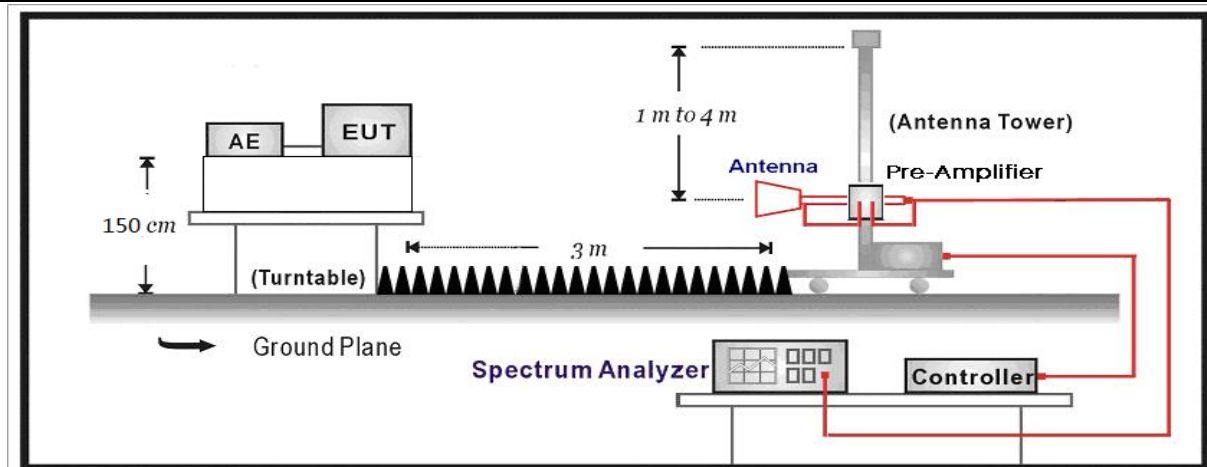
Below 30MHz Test Setup:



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 IC:

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 (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

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

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

4.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.5. Uncertainty

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

4.6. Test Result

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	AC-5
Test Date	:	2017.02.24			

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
0	H	4804.042	57.058	-8.912	48.146	54	-5.854	AV
	H	4808.000	63.577	-8.930	54.647	74	-19.353	PK
	V	4808.000	60.256	-8.930	51.326	54(Note3)	-2.674	PK
	H	7206.000	48.165	-5.496	42.670	54(Note3)	-11.330	PK
	V	7206.000	48.090	-5.496	42.595	54(Note3)	-11.405	PK
	H	9608.000	45.502	-2.167	43.335	54(Note3)	-10.665	PK
	V	9608.000	45.352	-2.167	43.185	54(Note3)	-10.815	PK
39	H	4882.025	59.293	-8.730	50.564	54	-3.436	AV
	H	4884.500	65.425	-8.747	56.678	74	-17.322	PK
	V	4884.480	55.698	-8.747	46.951	54	-7.049	AV
	V	4884.500	62.936	-8.747	54.189	74	-19.811	PK
	H	7323.000	47.400	-5.468	41.932	54(Note3)	-12.068	PK
	V	7323.000	47.013	-5.468	41.545	54(Note3)	-12.455	PK
	H	9764.000	44.864	-2.248	42.615	54(Note3)	-11.385	PK
	V	9764.000	45.173	-2.248	42.924	54(Note3)	-11.076	PK
78	H	4960.580	57.028	-8.718	48.311	54	-5.689	AV
	H	4961.000	64.654	-8.715	55.939	74	-18.061	PK
	V	4961.000	61.559	-8.715	52.844	54(Note3)	-1.156	PK
	H	7440.000	47.685	-5.025	42.660	54(Note3)	-11.340	PK
	V	7440.000	47.601	-5.025	42.576	54(Note3)	-11.424	PK
	H	9920.000	44.594	-1.888	42.707	54(Note3)	-11.293	PK
	V	9920.000	44.289	-1.888	42.402	54(Note3)	-11.598	PK

Note 1: 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.

2: 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.

3: Measure Level = Reading Level + Factor.

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	AC-5
Test Date	:	2017.02.24			

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
0	H	4808.000	58.177	-8.930	49.247	54(Note3)	-4.753	PK
	V	4808.000	55.256	-8.930	46.326	54(Note3)	-7.674	PK
	H	7206.000	48.063	-5.496	42.568	54(Note3)	-11.432	PK
	V	7206.000	48.830	-5.496	43.335	54(Note3)	-10.665	PK
	H	9608.000	45.713	-2.167	43.546	54(Note3)	-10.454	PK
	V	9608.000	45.120	-2.167	42.953	54(Note3)	-11.047	PK
39	H	4884.500	60.958	-8.747	52.211	54(Note3)	-1.789	PK
	V	4884.500	58.432	-8.747	49.685	54(Note3)	-4.315	PK
	H	7323.000	47.501	-5.468	42.033	54(Note3)	-11.967	PK
	V	7323.000	47.140	-5.468	41.672	54(Note3)	-12.328	PK
	H	9764.000	44.083	-2.248	41.834	54(Note3)	-12.166	PK
	V	9764.000	45.191	-2.248	42.942	54(Note3)	-11.058	PK
78	H	4961.000	60.435	-8.715	51.720	54(Note3)	-2.280	PK
	V	4961.000	57.642	-8.715	48.927	54(Note3)	-5.073	PK
	H	7440.000	46.921	-5.025	41.896	54(Note3)	-12.104	PK
	V	7440.000	47.564	-5.025	42.539	54(Note3)	-11.461	PK
	H	9920.000	43.884	-1.888	41.997	54(Note3)	-12.003	PK
	V	9920.000	44.138	-1.888	42.251	54(Note3)	-11.749	PK

Note 1: 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.

2: 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.

3: Measure Level = Reading Level + Factor.

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	AC-5
Test Date	:	2017.02.24			

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
0	H	4808.000	58.902	-8.930	49.972	54(Note3)	-4.028	PK
	V	4808.000	56.378	-8.930	47.448	54(Note3)	-6.552	PK
	H	7206.000	48.341	-5.496	42.846	54(Note3)	-11.154	PK
	V	7206.000	48.767	-5.496	43.272	54(Note3)	-10.728	PK
	H	9608.000	45.314	-2.167	43.147	54(Note3)	-10.853	PK
	V	9608.000	44.808	-2.167	42.641	54(Note3)	-11.359	PK
39	H	4884.500	62.282	-8.747	53.535	54(Note3)	-0.465	PK
	V	4884.500	58.767	-8.747	50.020	54(Note3)	-3.980	PK
	H	7323.000	48.028	-5.468	42.560	54(Note3)	-11.440	PK
	V	7323.000	46.979	-5.468	41.511	54(Note3)	-12.489	PK
	H	9764.000	44.463	-2.248	42.214	54(Note3)	-11.786	PK
	V	9764.000	44.711	-2.248	42.462	54(Note3)	-11.538	PK
78	H	4961.000	60.749	-8.715	52.034	54(Note3)	-1.966	PK
	V	4961.000	57.247	-8.715	48.532	54(Note3)	-5.468	PK
	H	7440.000	47.360	-5.025	42.335	54(Note3)	-11.665	PK
	V	7440.000	47.150	-5.025	42.125	54(Note3)	-11.875	PK
	H	9920.000	44.835	-1.888	42.948	54(Note3)	-11.052	PK
	V	9920.000	45.031	-1.888	43.144	54(Note3)	-10.856	PK

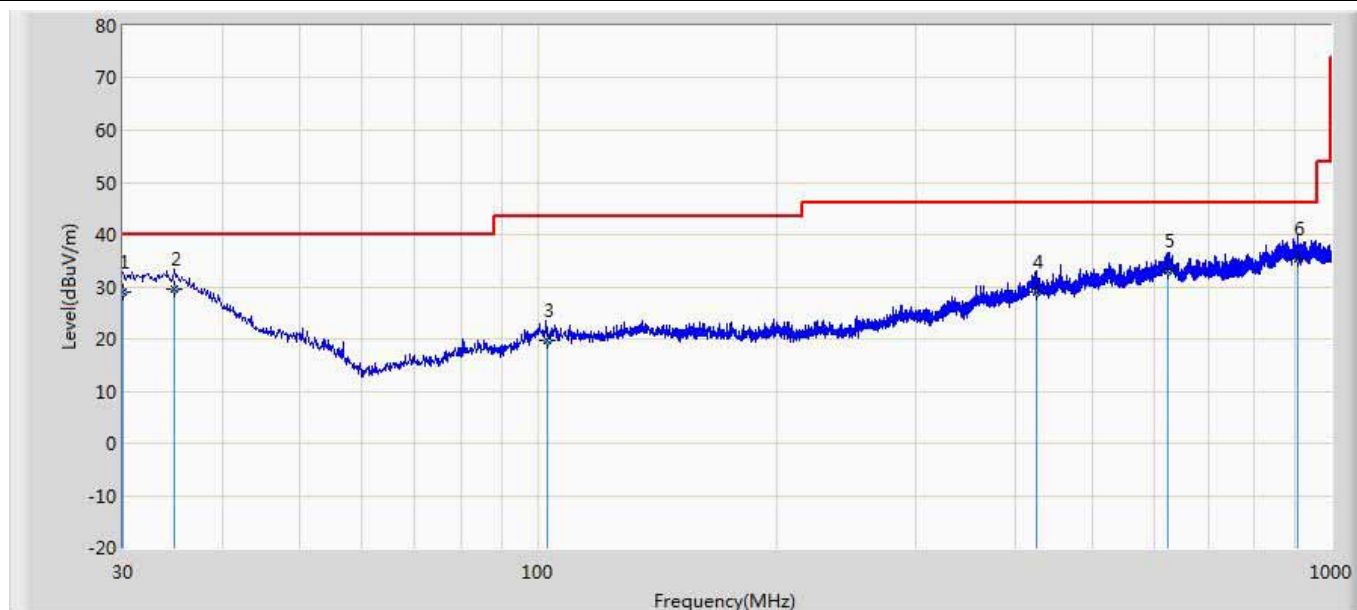
Note 1: The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

2: 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.

3: Measure Level = Reading Level + Factor.

The worst case of Radiated Emission below 1GHz:

Site: AC2	Time: 2017/03/05
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1	

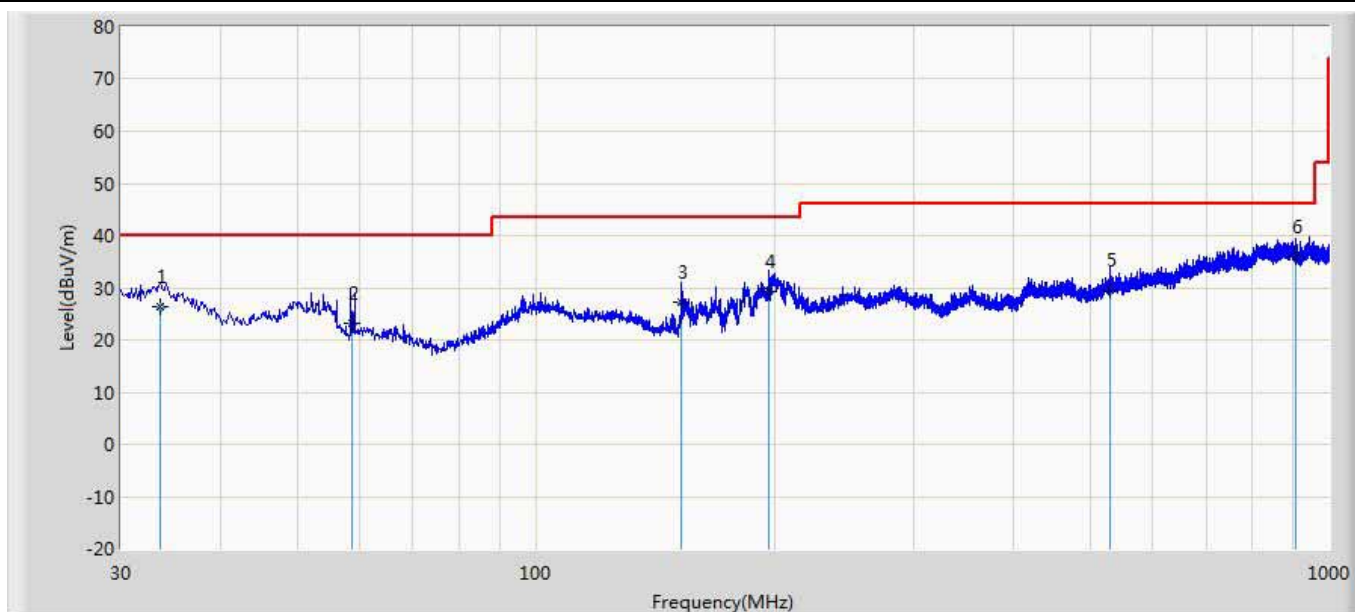


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		30.065	28.890	32.608	-11.110	40.000	18.762	0.601	23.081	100	3	QP
2	*	34.864	29.432	35.983	-10.568	40.000	15.979	0.640	23.170	200	203	QP
3		102.654	19.672	30.369	-23.828	43.500	11.365	1.099	23.161	100	17	QP
4		425.532	29.016	33.138	-16.984	46.000	16.511	2.270	22.902	300	325	QP
5		623.265	33.060	33.874	-12.940	46.000	19.000	2.740	22.554	100	247	QP
6		907.355	35.410	34.266	-10.590	46.000	20.559	3.320	22.735	100	78	QP

Note:

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

Site: AC2	Time: 2017/03/05 - 13:15
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1	



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		33.633	26.449	32.271	-13.551	40.000	16.693	0.630	23.145	114	360	QP
2		58.665	23.142	38.619	-16.858	40.000	6.727	0.826	23.030	100	225	QP
3		152.857	27.134	38.472	-16.366	43.500	10.329	1.340	23.007	100	144	QP
4		196.987	29.332	41.571	-14.168	43.500	9.409	1.522	23.170	100	25	QP
5		530.564	29.683	31.420	-16.317	46.000	18.533	2.500	22.770	200	79	QP
6	*	908.865	35.943	34.771	-10.057	46.000	20.571	3.320	22.720	100	2	QP

Note:

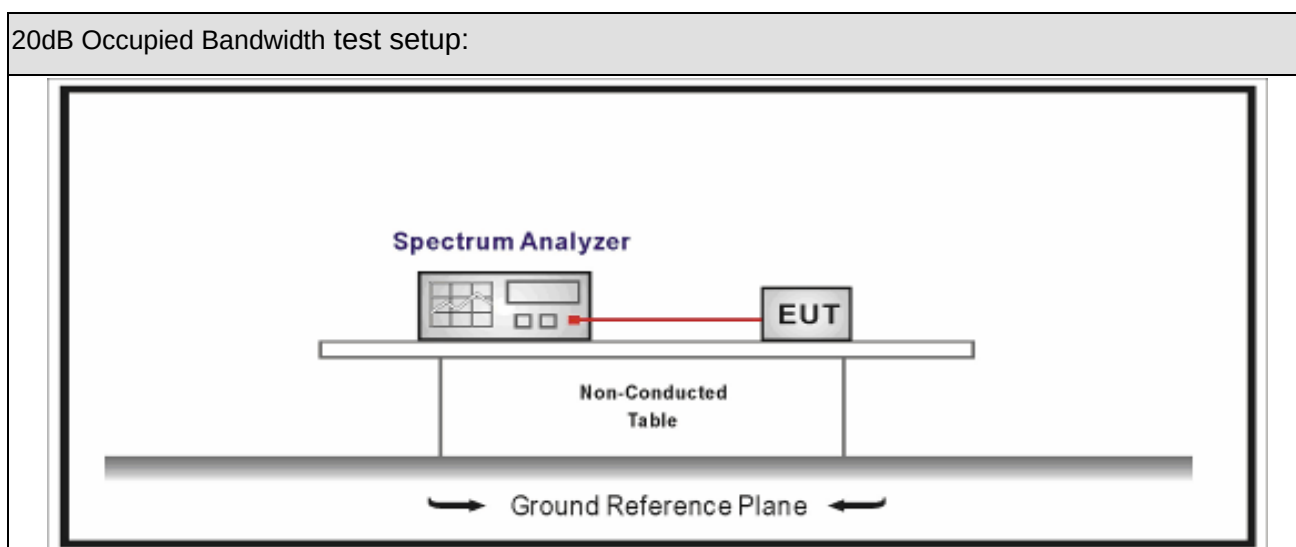
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments 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	
☒	For frequency hopping systems operating in 2400-2483.5 MHz band, within frequency range.
☐	For frequency hopping systems operating in 902-928 MHz band, the maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
☐	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
☒	DA 00-705	N/A	20 dB Bandwidth

5.5 Uncertainty

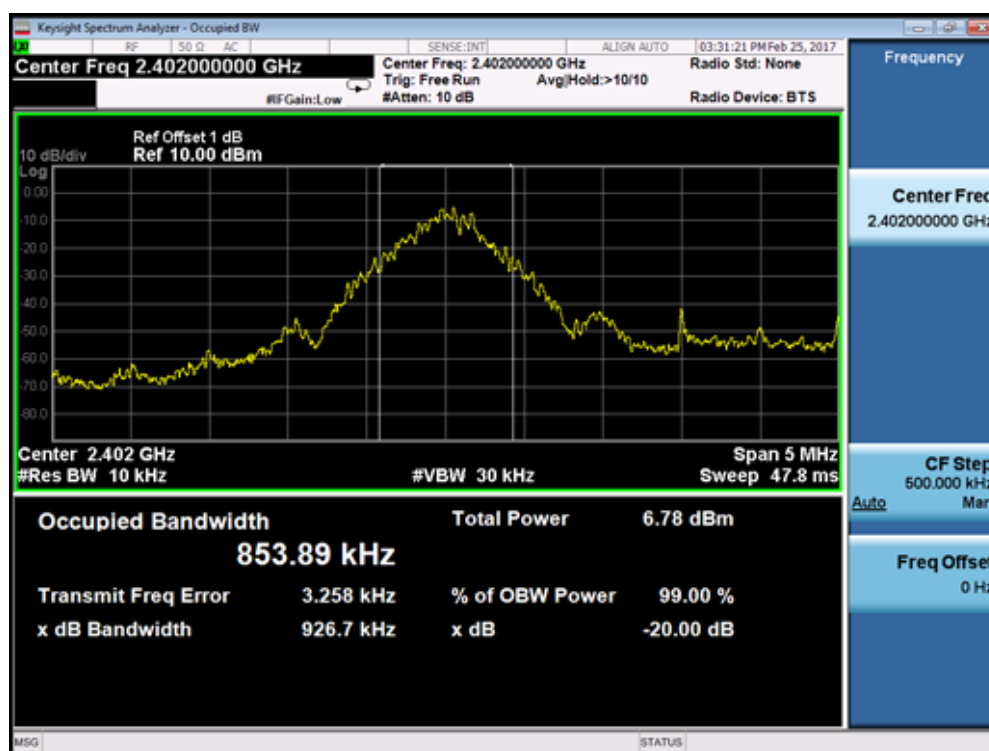
The measurement uncertainty is defined as ± 1 kHz

5.6 Test Result

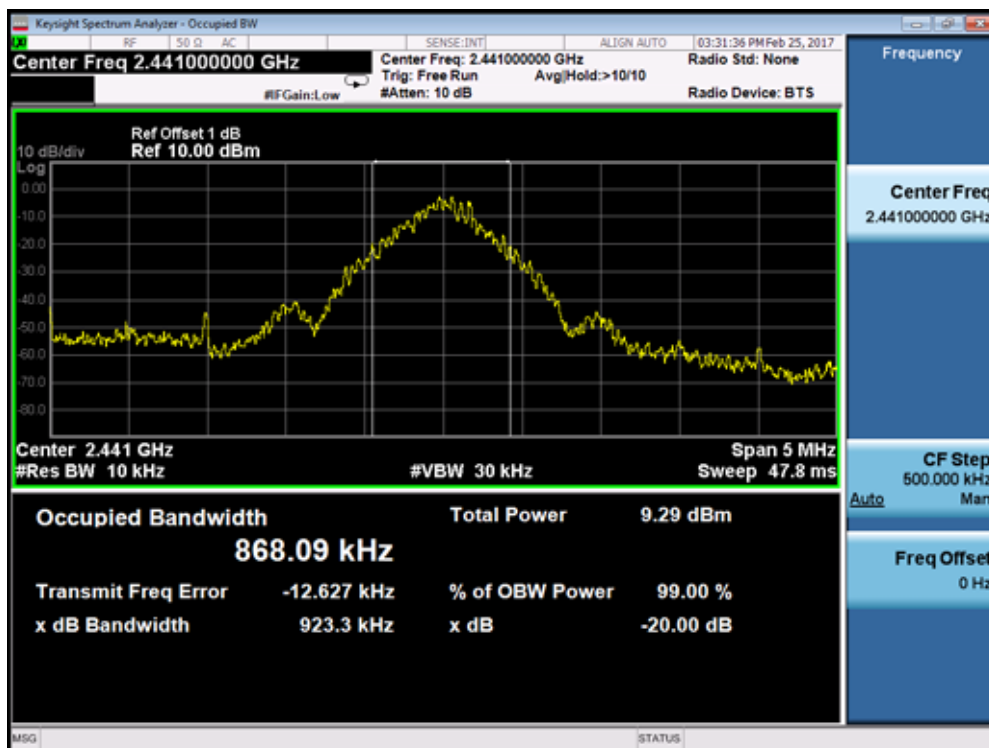
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	926.7	853.89
39	2441	923.3	868.09
78	2480	914.1	866.28

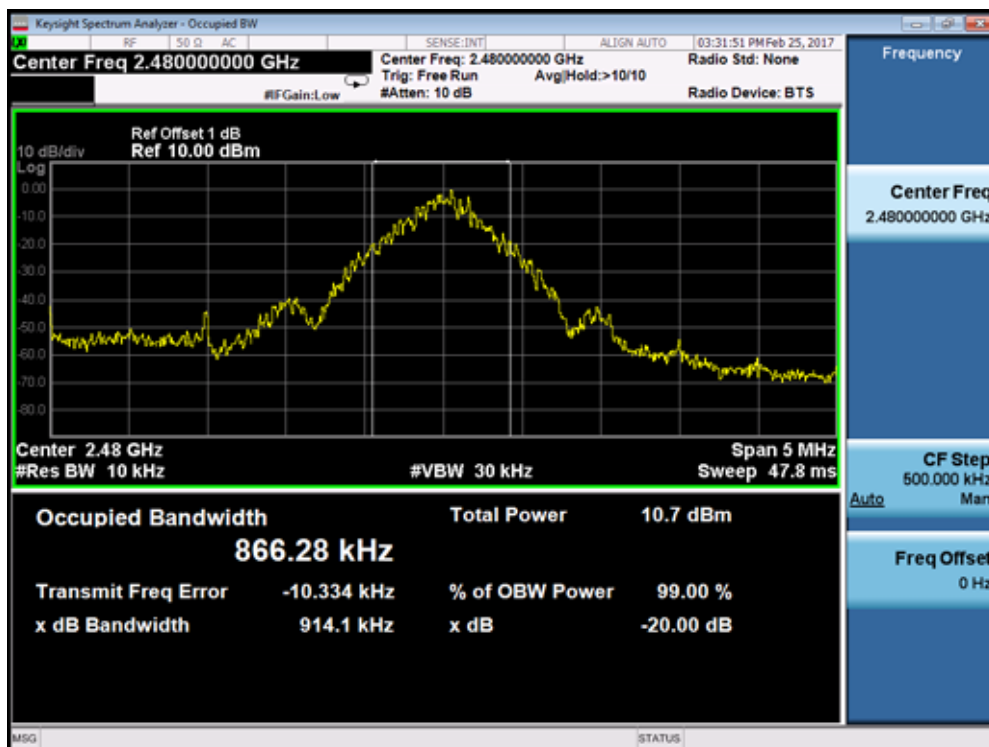
Channel 00 (2402MHz)



Channel 39 (2441MHz)



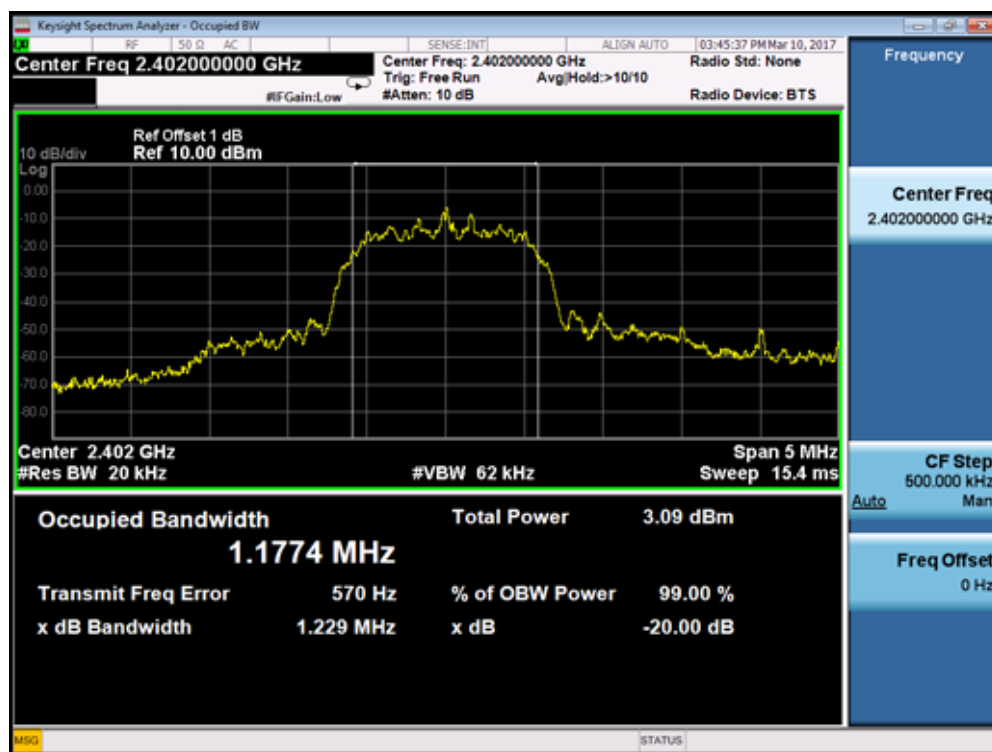
Channel 78 (2480MHz)



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1229	1177.4
39	2441	1235	1168.3
78	2480	1205	1169.2

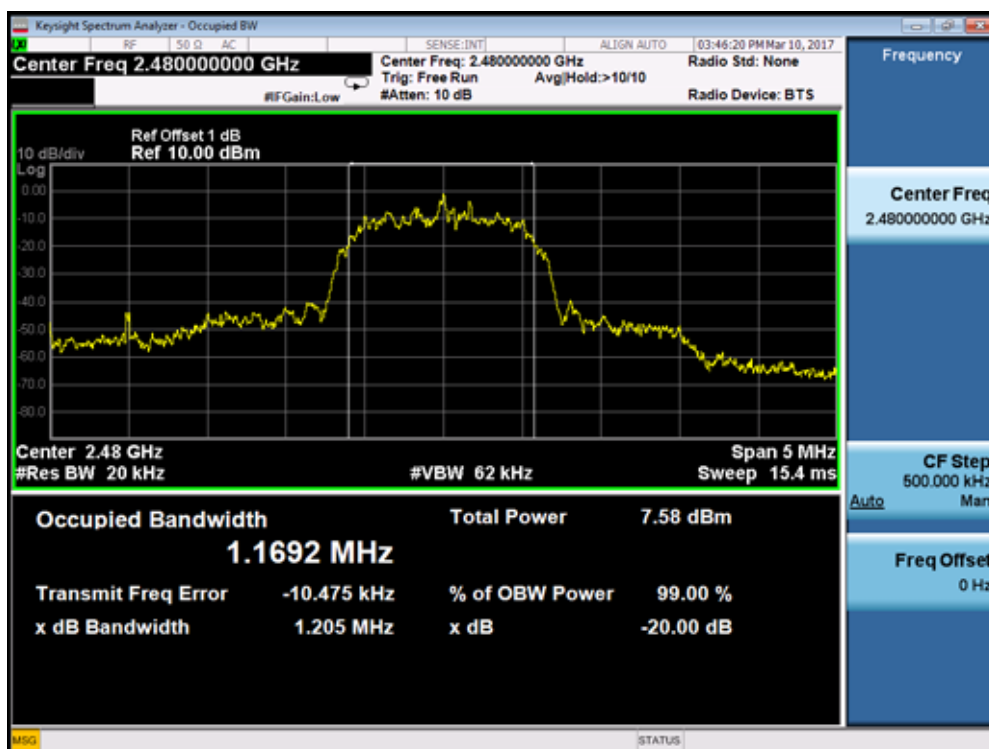
Channel 00 (2402MHz)



Channel 39 (2441MHz)



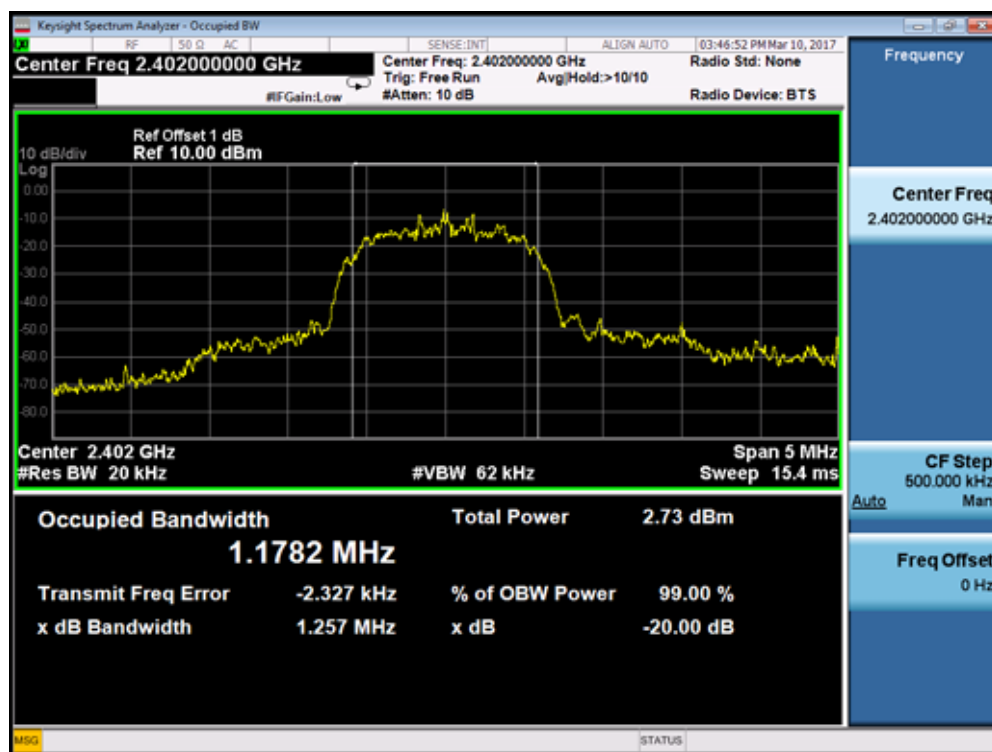
Channel 78 (2480MHz)



Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1257	1178.2
39	2441	1247	1178.9
78	2480	1275	1193.2

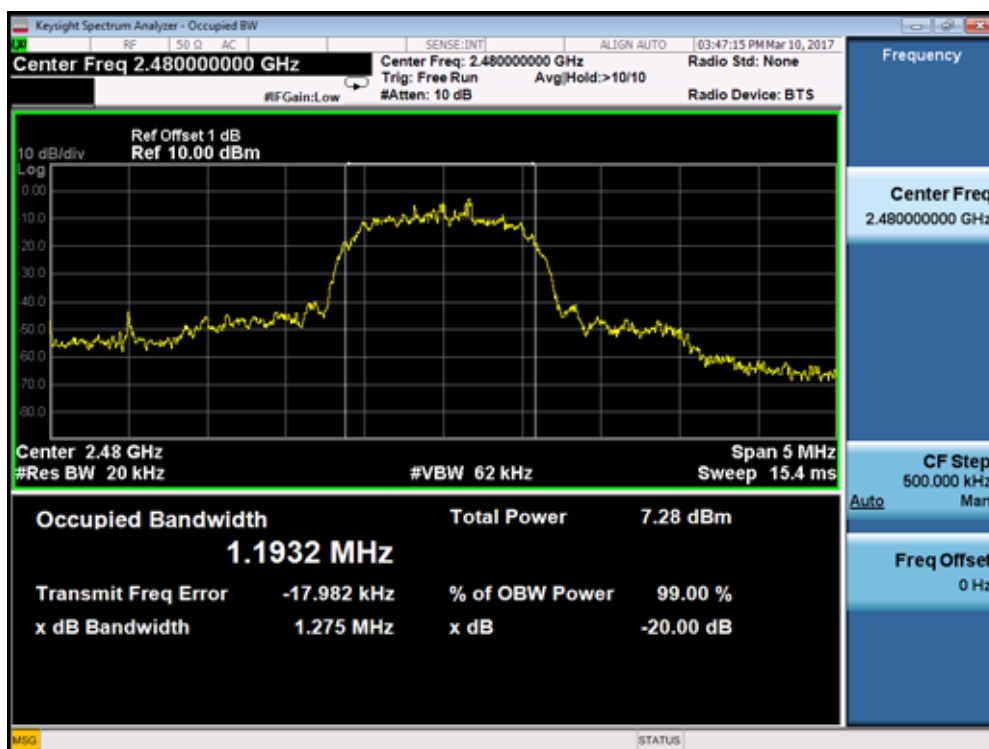
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



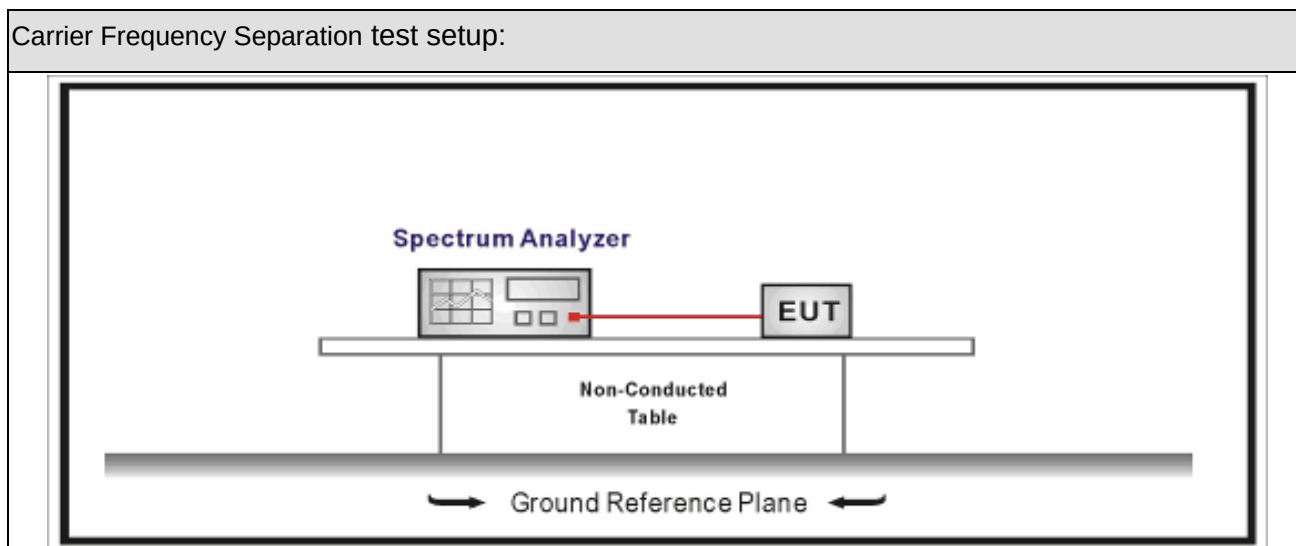
6. Carrier Frequency Separation

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09

Note: All equipments 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	
☐	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.
☒	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.
☐	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;
☐	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.
☐	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
☒	ANSI C63.10	7.8.2	Carrier frequency separation

6.5. Uncertainty

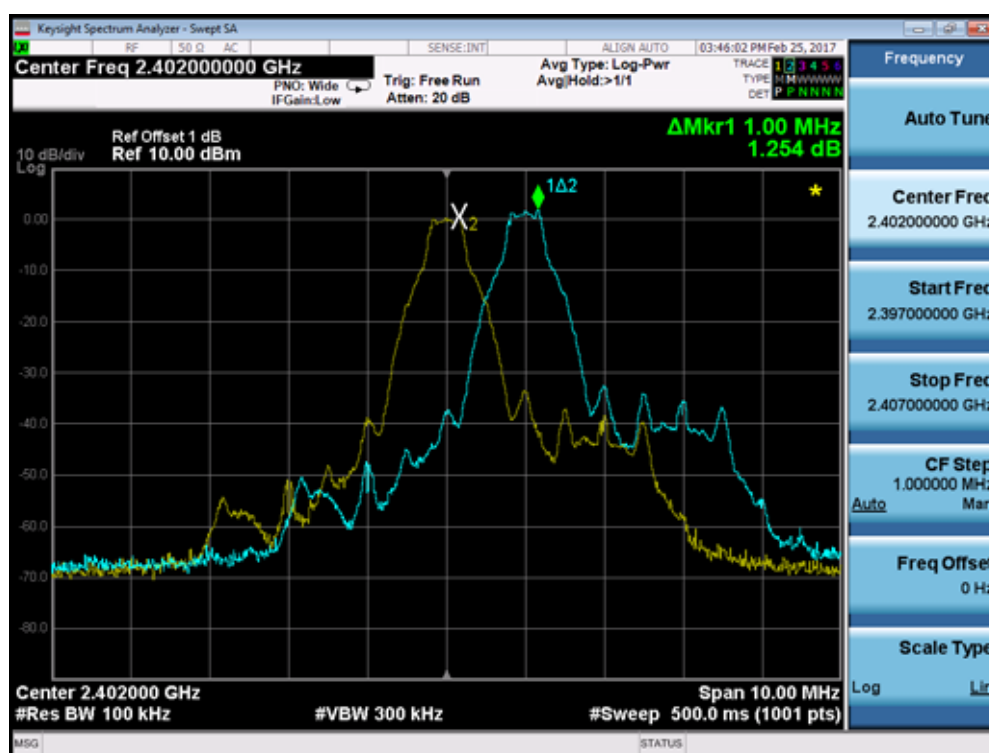
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	617.8	Pass
39	2441	1000	615.5	Pass
78	2480	1000	609.4	Pass

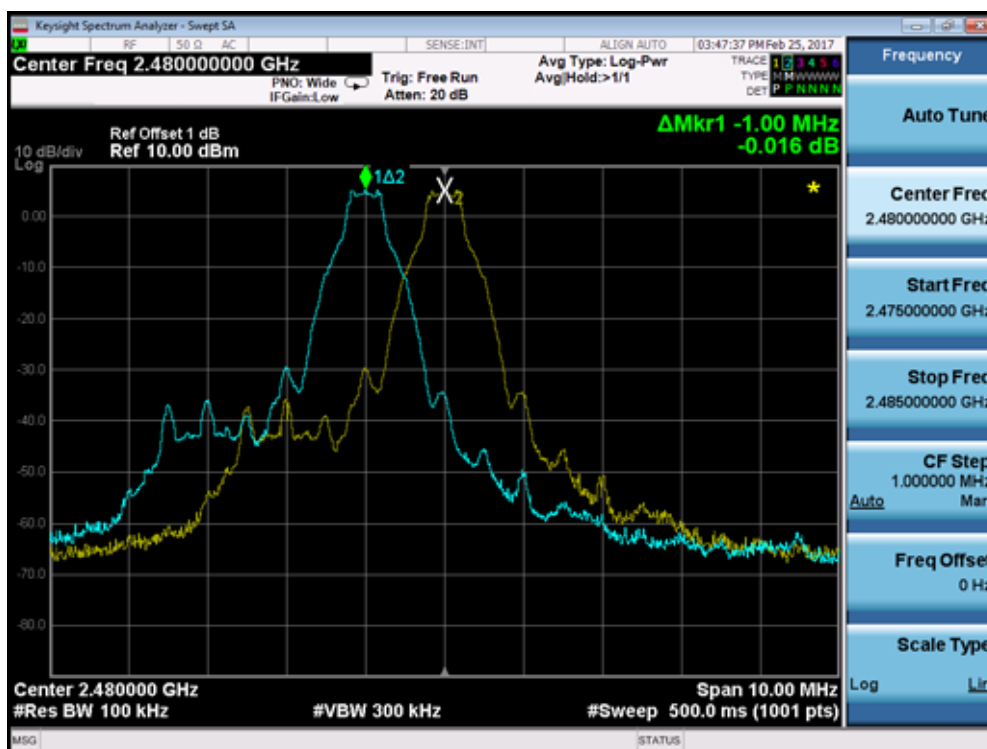
Channel 00 (2402MHz)



Channel 39 (2441MHz)



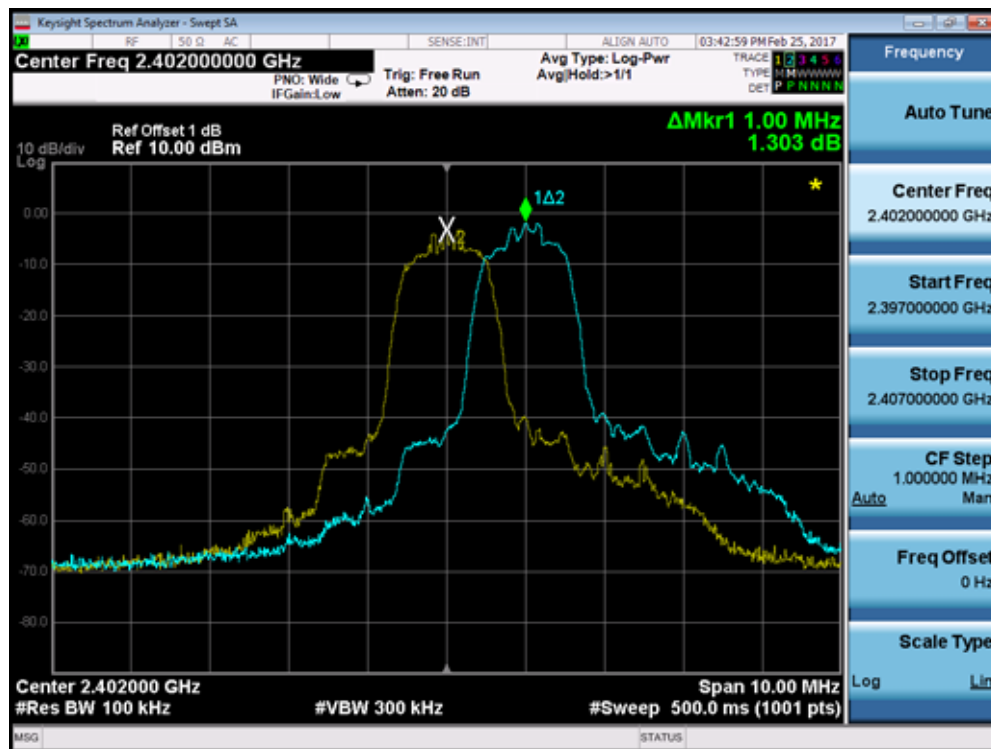
Channel 78 (2480MHz)



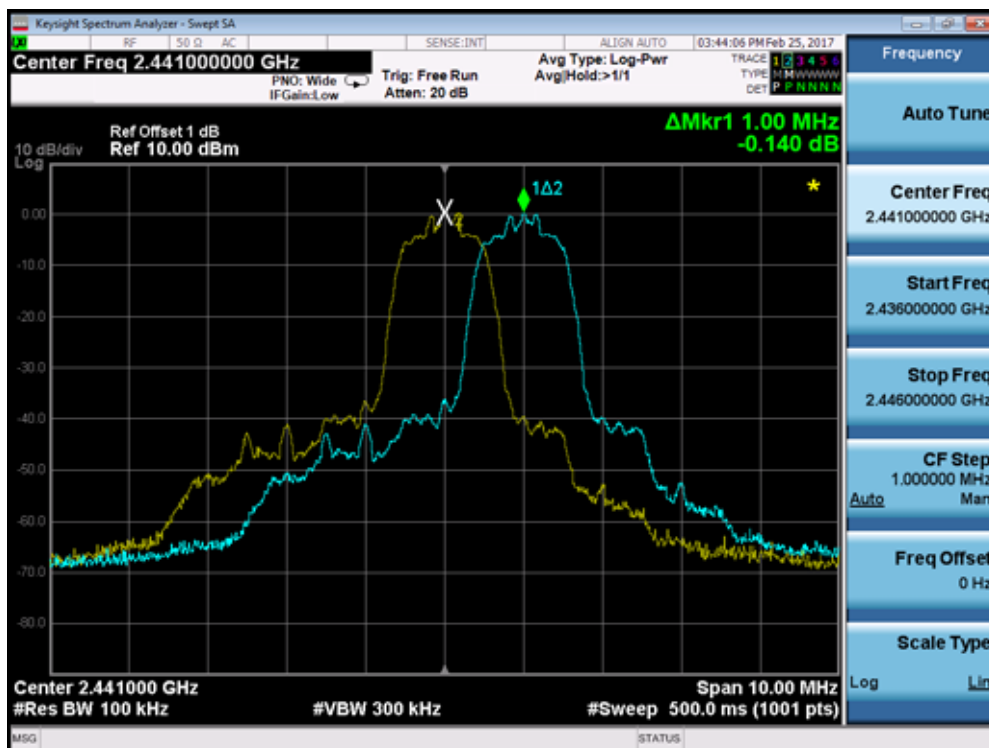
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	819.3	Pass
39	2441	1000	823.3	Pass
78	2480	1000	803.3	Pass

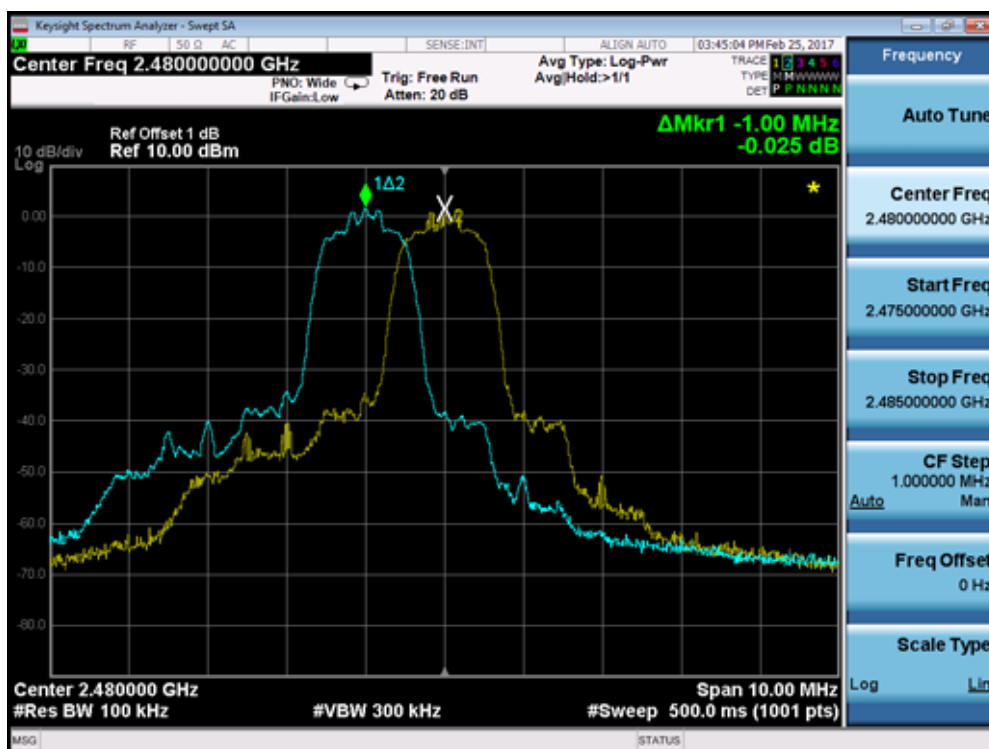
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



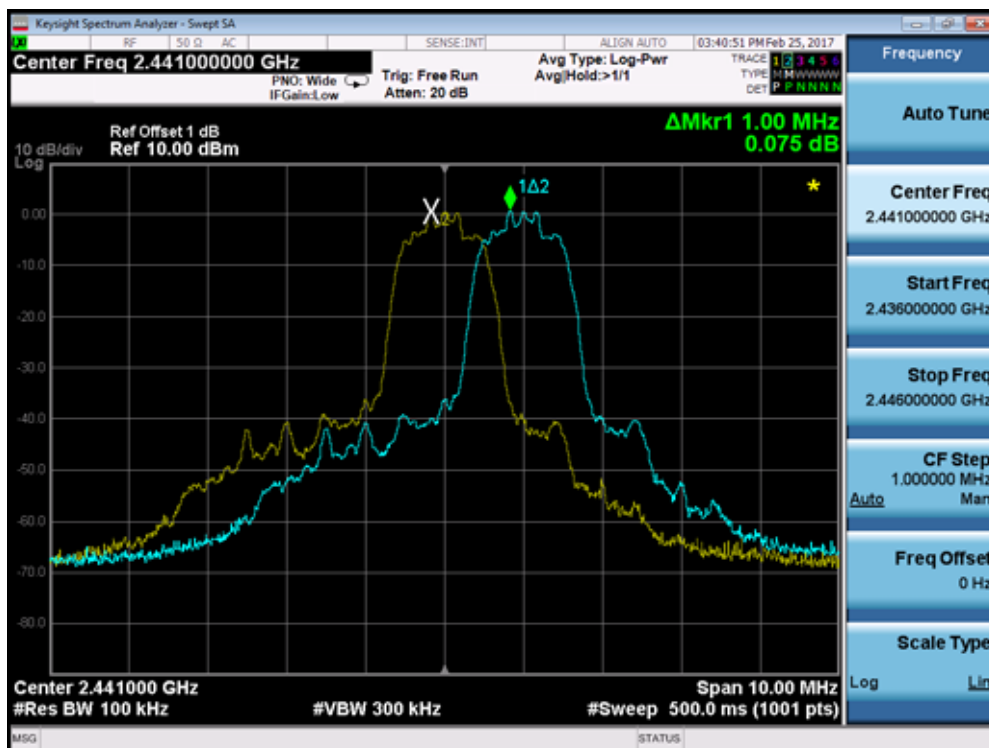
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	838.0	Pass
39	2441	1000	831.3	Pass
78	2480	1000	850.0	Pass

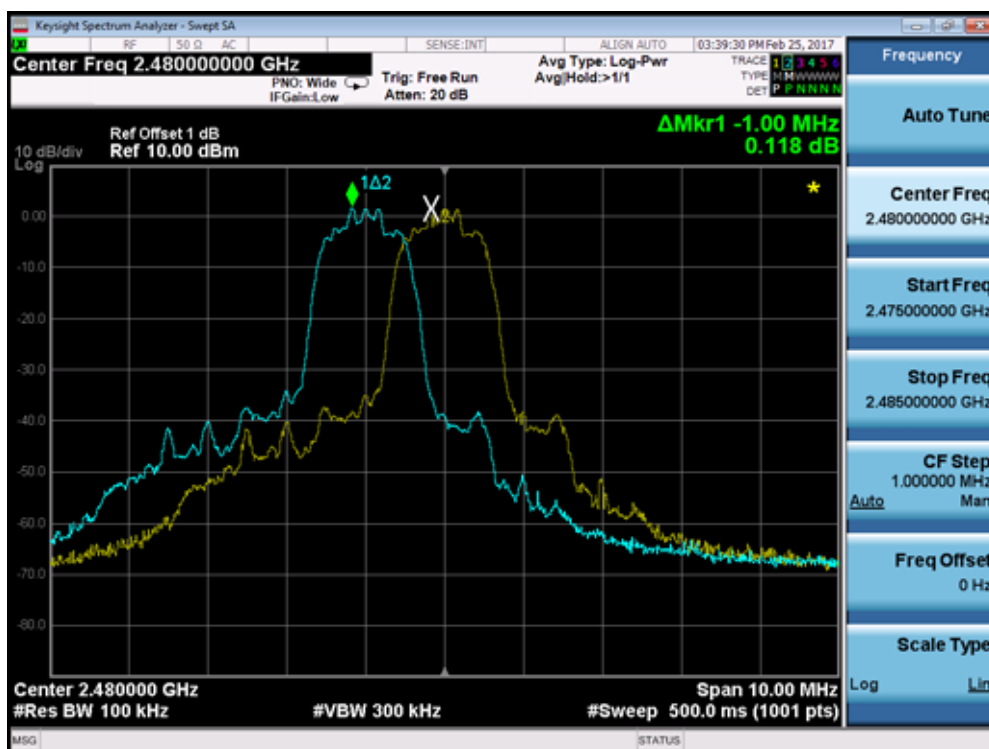
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)

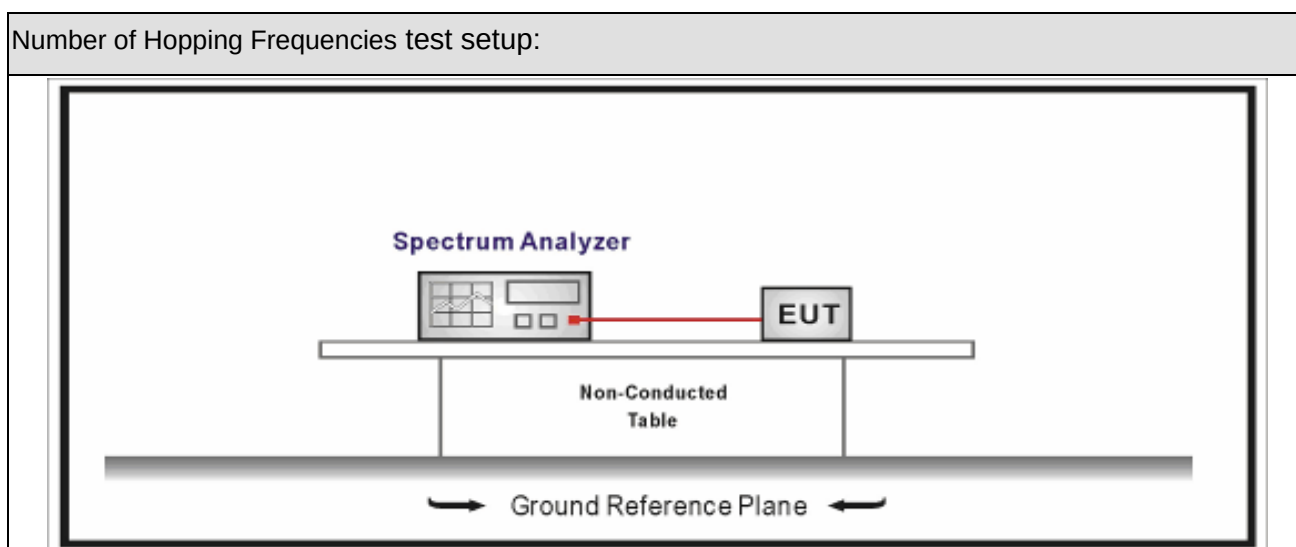


7. Number of Hopping Frequencies

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments 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	
☒	For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
☐	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.
☐	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.
☐	For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

7.4. Test Procedure

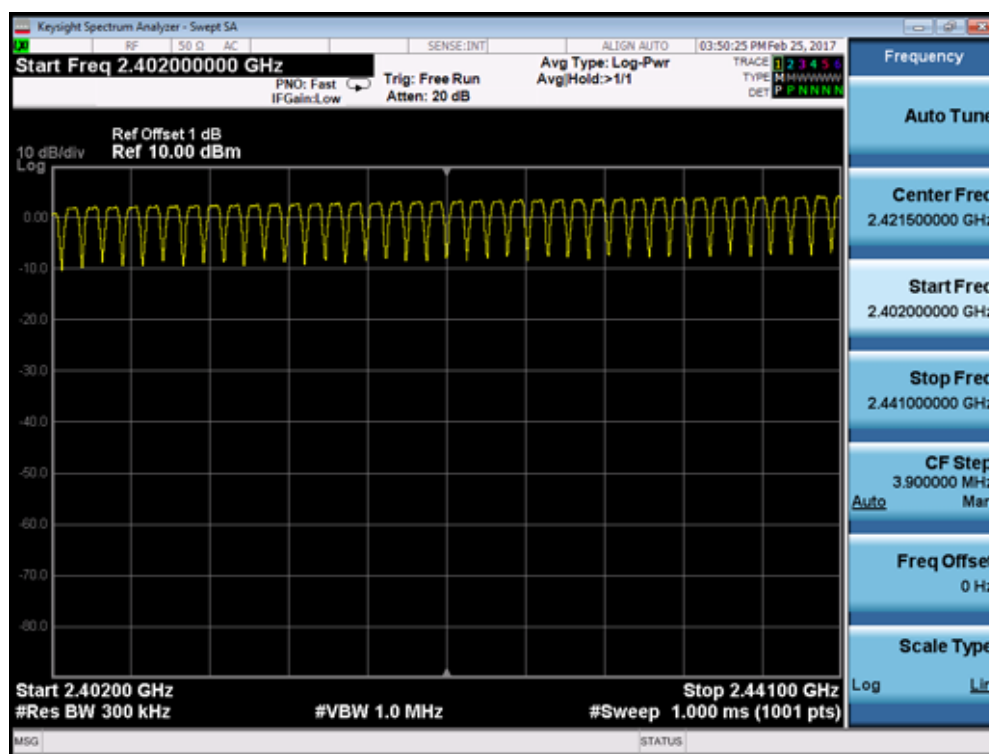
Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	7.8.3	Number of Hopping Frequencies

7.5. Uncertainty

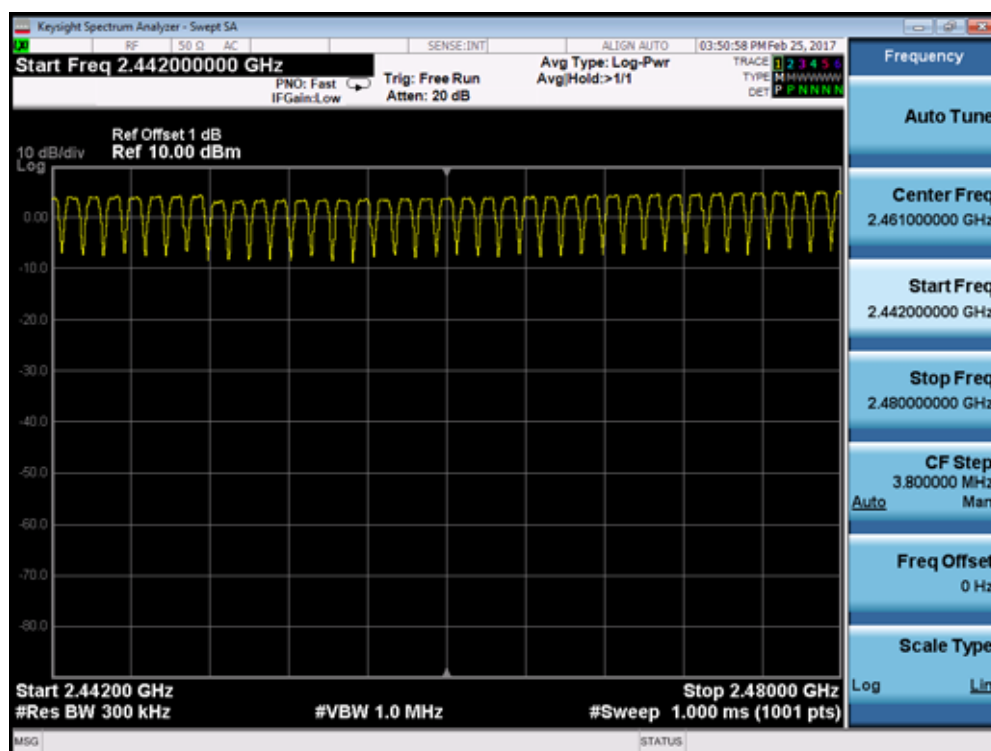
The measurement uncertainty is defined as ± 1 kHz

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2017.02.24			

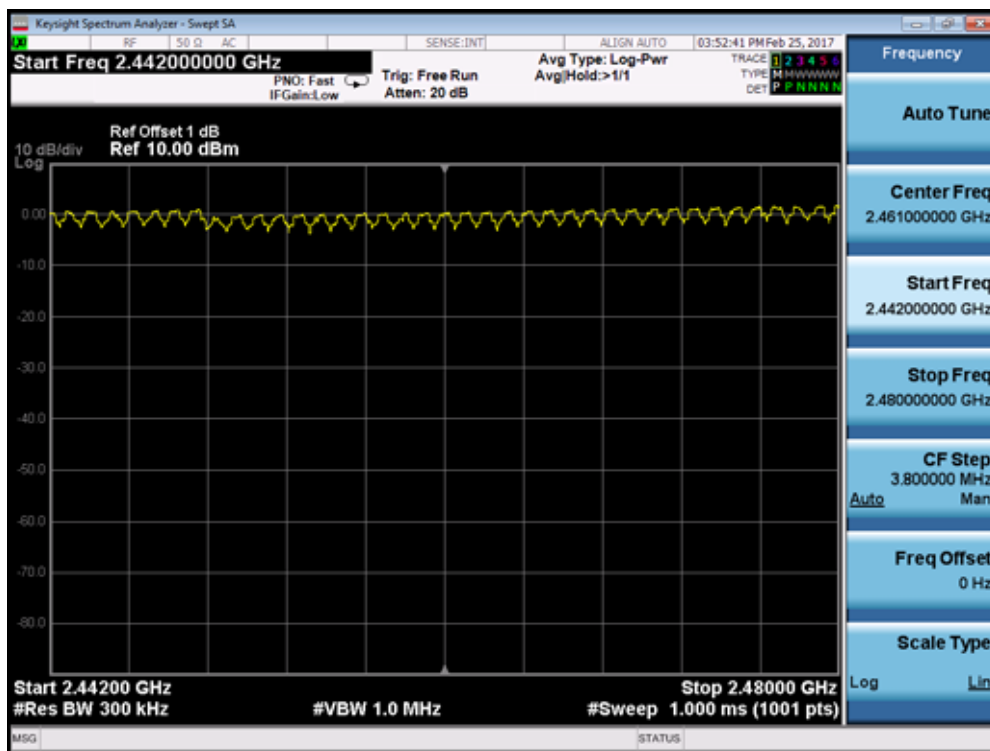
Frequency Band (MHz)	Number of Hopping Frequencies	Limit	Result
2400 - 2483.5	79	>15	Pass



2442 - 2480 MHz



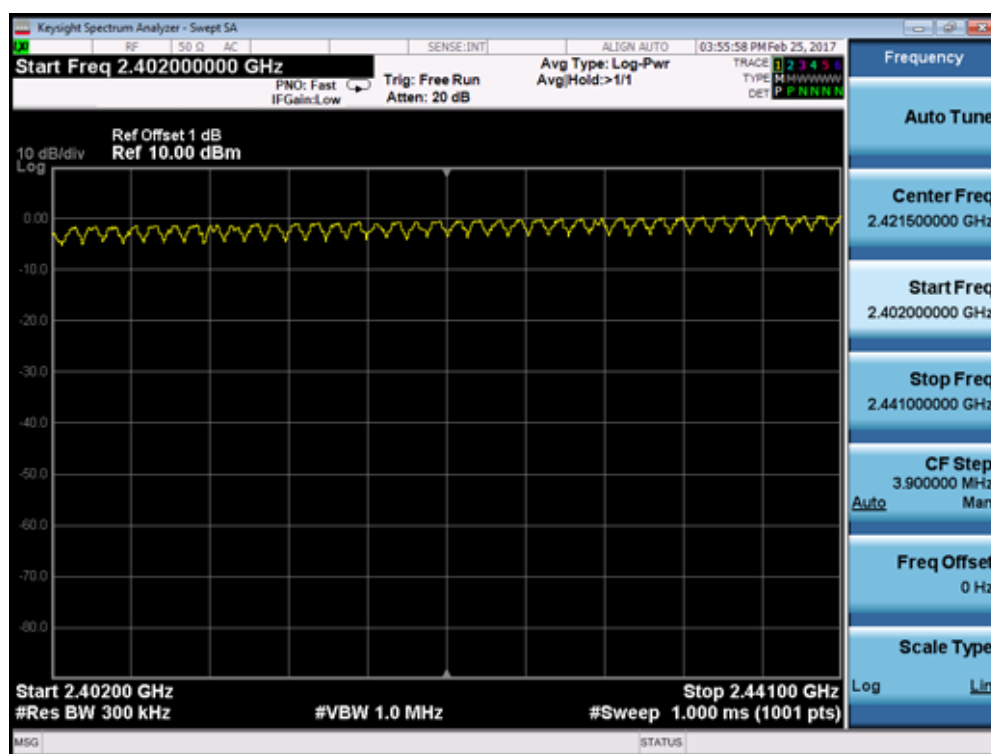
2442 - 2480 MHz



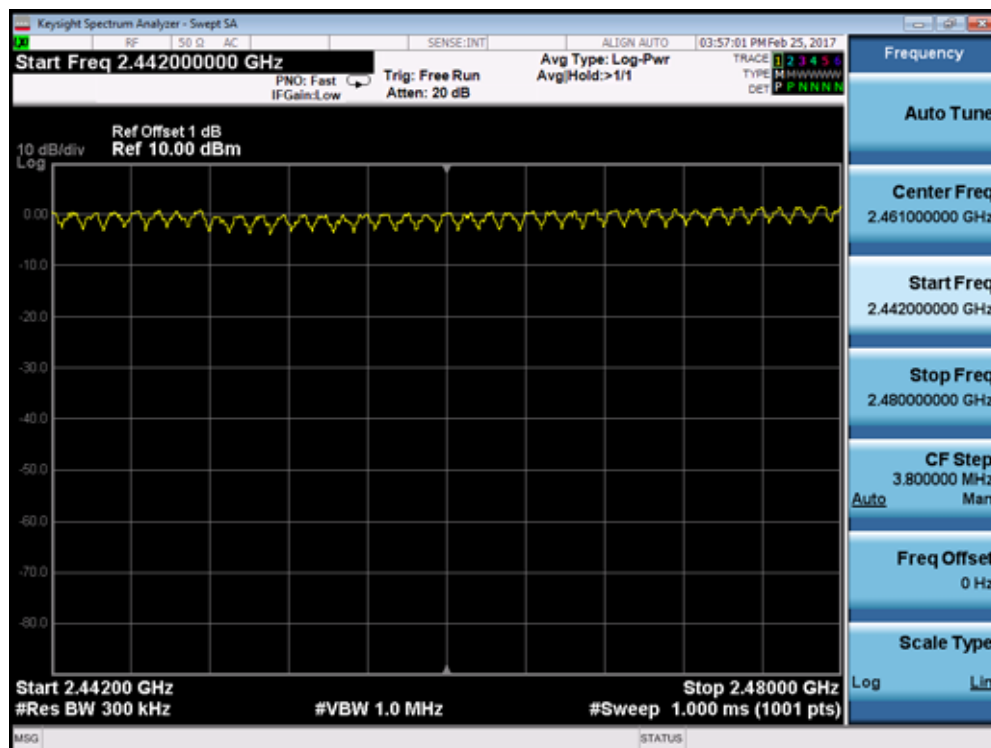
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2017.02.24		

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

2402 - 2441 MHz



2442 - 2480 MHz

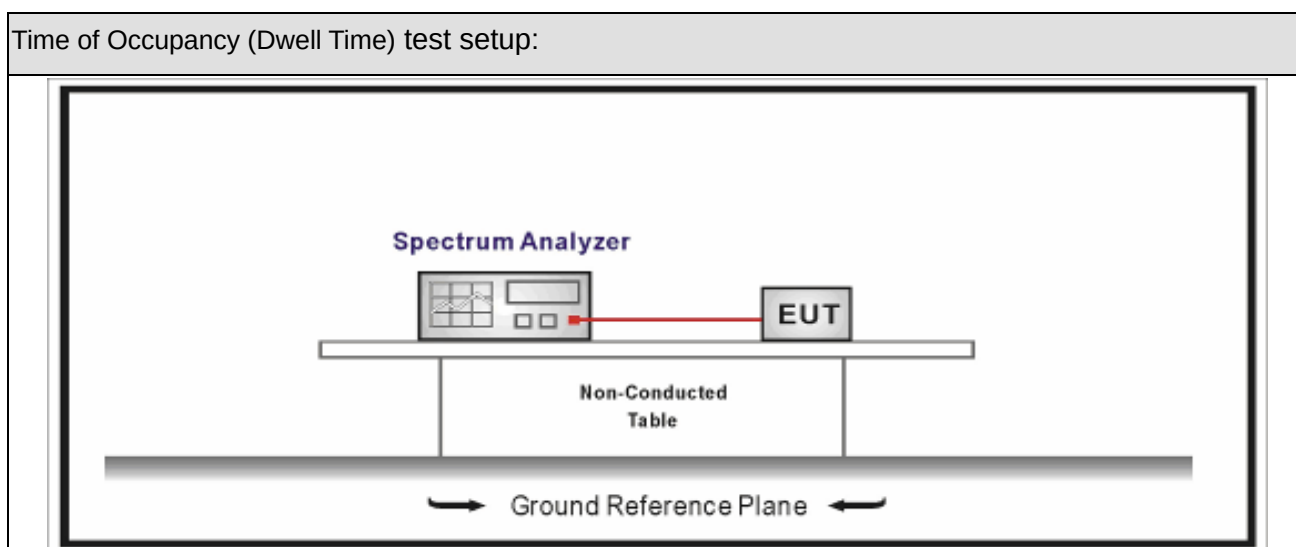


8. Time of Occupancy (Dwell Time)

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup



8.3. Limit

Carrier Frequency Separation	
☒	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.
☐	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
☐	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.
☐	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
☒	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

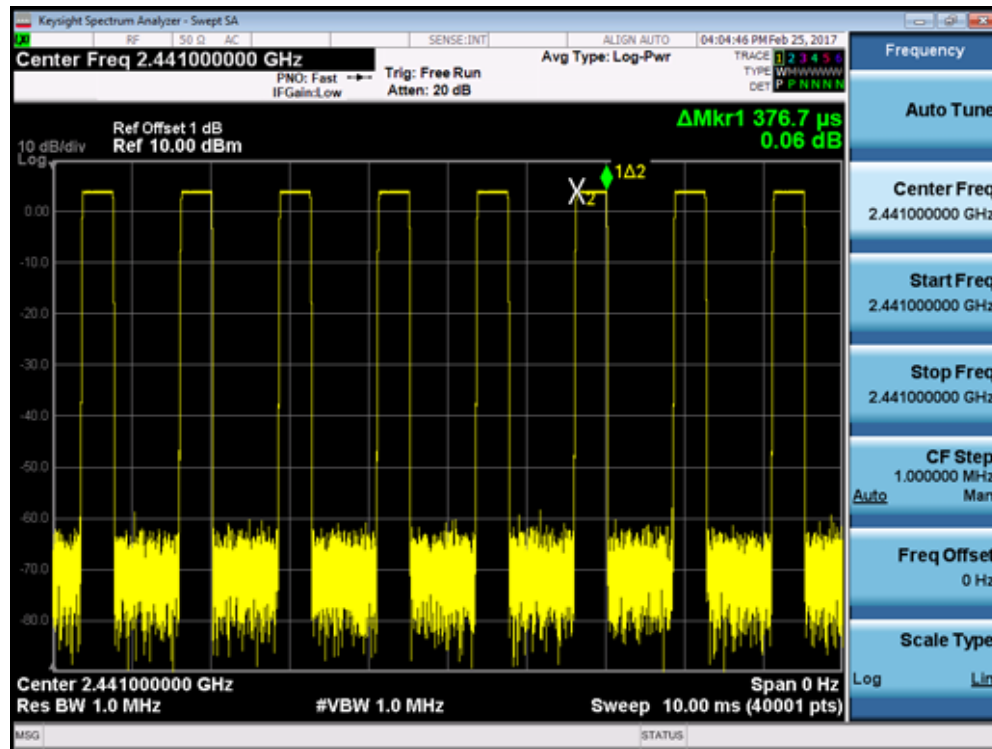
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH1)	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	120.54	< 400	Pass

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

Note2: Time of Occupancy = pulse time $\times (1600 / (2 \times 79)) \times 31.6$

Channel 39 (2441MHz)-(DH1)



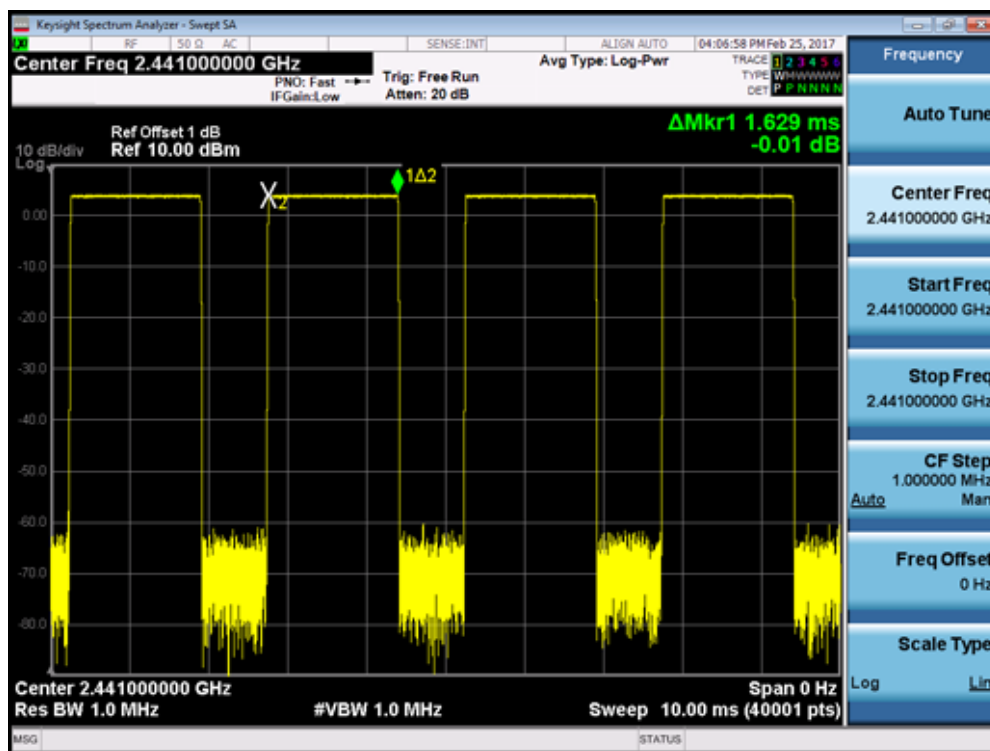
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH3)	Test Site	: TR-8
Test Date	: 2017.02.24		

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

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

Note2: Time of Occupancy= pulse time*(1600/(4*79))*31.6

Channel 39 (2441MHz) - (DH3)



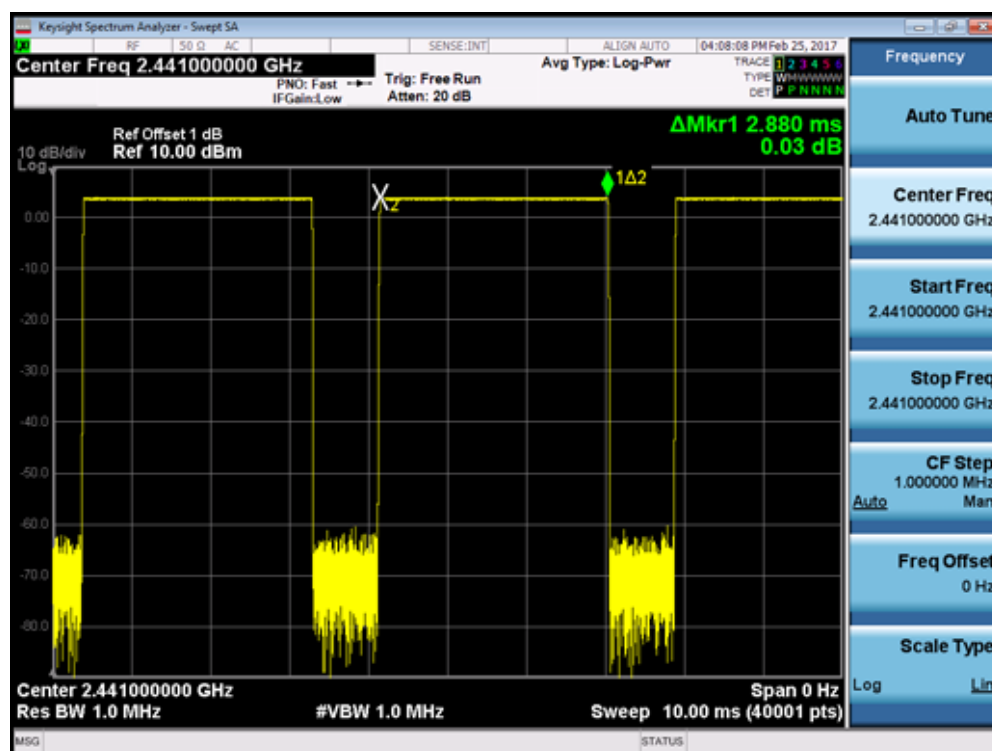
Product Name	: Bluetooth Headset	Power	: AC 120V/60Hz
Test Mode	: Mode 1(GFSK_DH5)	Test Site	: TR-8
Test Date	: 2017.02.24		

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	307.20	< 400	Pass

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

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

Channel 39 (2441MHz) - (DH5)

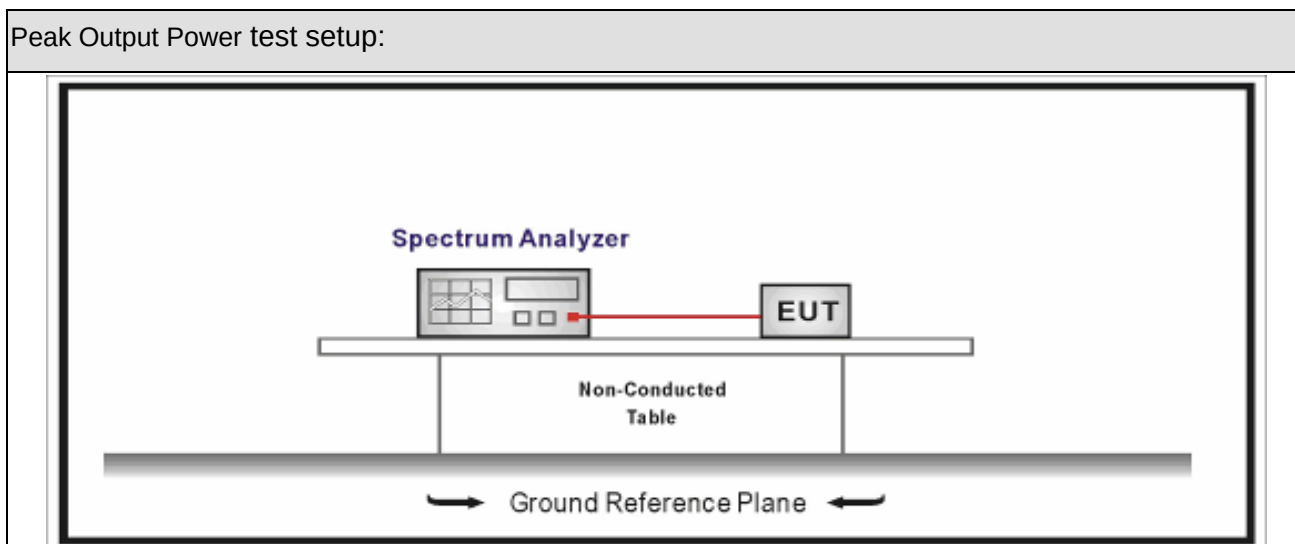


9. Peak Output Power

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments 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	
☐	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.
☒	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.
☐	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
☒	ANSI C63.10	7.8.5	Output power test procedure for frequency-hopping spread-spectrum (FHSS) devices

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.0 dB

9.6. Test Result

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2017.02.24			

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	1.46	21.00	Pass
39	2441	4.41	21.00	Pass
78	2480	5.32	21.00	Pass

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2017.02.24			

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	-0.89	21.00	Pass
39	2441	2.24	21.00	Pass
78	2480	3.19	21.00	Pass

Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2017.02.24			

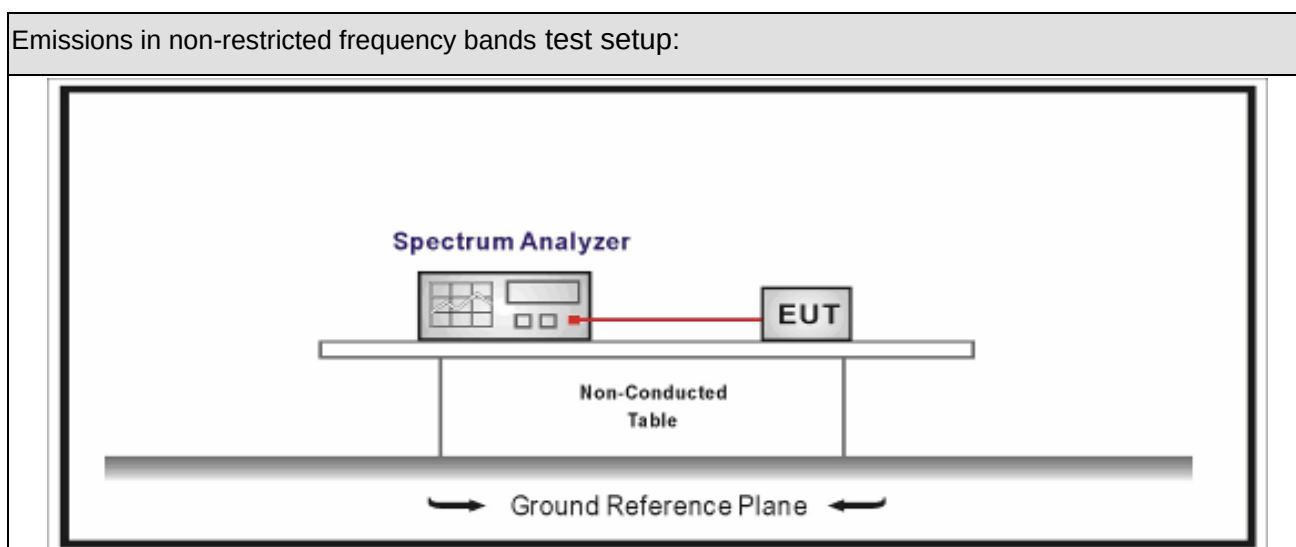
Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	-0.56	21.00	Pass
39	2441	2.61	21.00	Pass
78	2480	3.61	21.00	Pass

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	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments 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)
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). 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).	

10.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	7.8.6	Band-edge Compliance of RF Conducted Emissions

10.5. Uncertainty

The measurement uncertainty is defined as ± 1.0 dB

10.6. Test Result

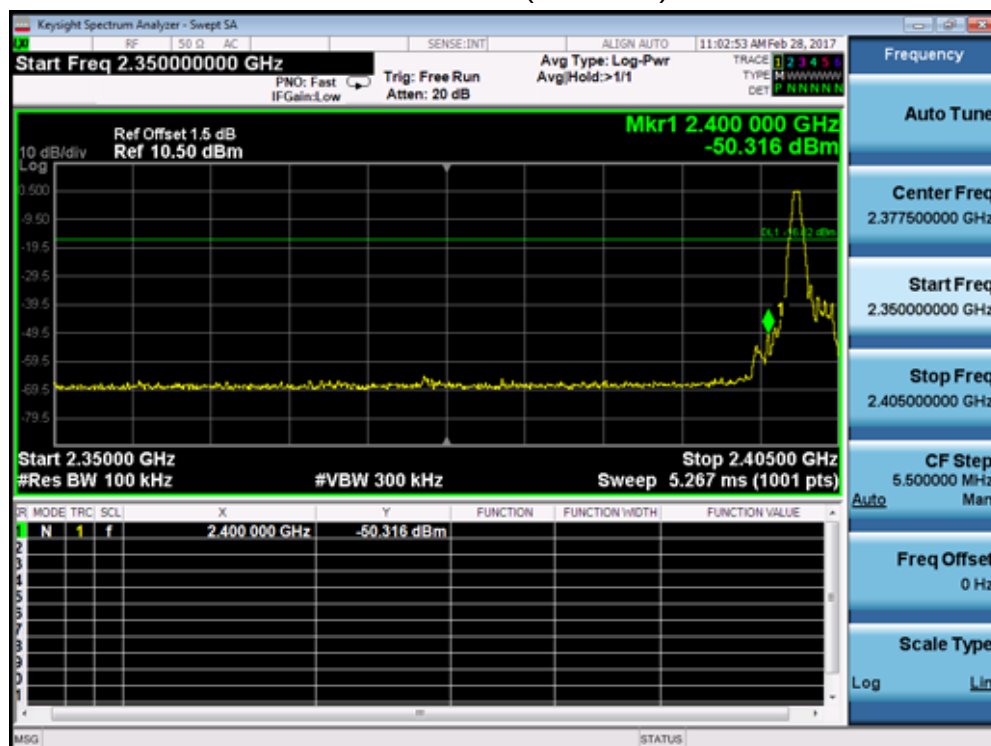
Product Name	:	Bluetooth Headset	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1~4	Test Site	:	TR-8
Test Date	:	2017.02.24			

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	3.182	2400.00	-50.316	53.498	>20	Pass
1	78	2480	3.182	2506.08	-59.384	62.566	>20	Pass
2	00	2402	0.828	2400.00	-57.637	58.465	>20	Pass
2	78	2480	0.828	2506.22	-63.106	63.934	>20	Pass
3	00	2402	1.275	2400.00	-56.586	57.861	>20	Pass
3	78	2480	1.275	2506.15	-62.423	63.698	>20	Pass
4	00~78	00~78	5.133	2400.00	-53.986	59.119	>20	Pass

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

2: The In-Band PSD is the highest PSD of All channels.

Mode 1 CH00(2402MHz)



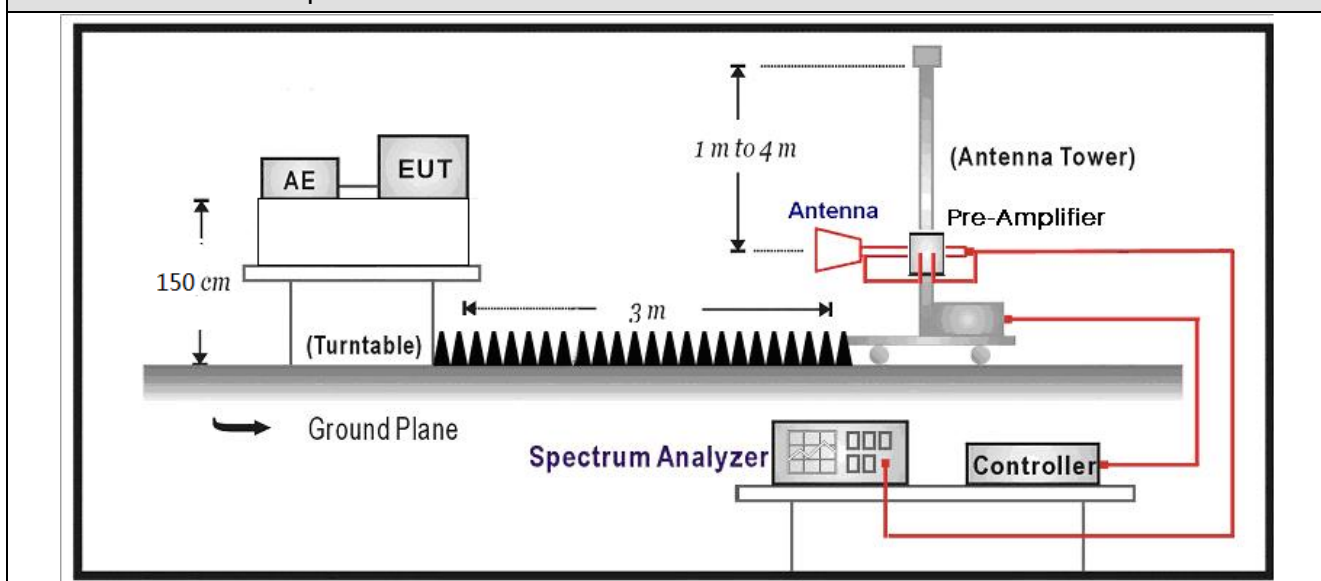
11. Radiated Emission Band Edge

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	2016.07.16	2017.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2016.05.03	2017.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2016.07.12	2017.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.09.18	2017.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.02.28	2018.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.02.28	2018.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2017.01.05	2018.01.04

11.2. Test Setup

Above 1GHz Test Setup:



11.3. Limit

Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ 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
☒	DA 00-705	N/A	duty cycle correction factor
☒	ANSI C63.10	6.10	Band-edge testing
	☒ ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	☐ ANSI C63.10	6.10.6	Marker-delta method
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz

☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

11.5. Uncertainty

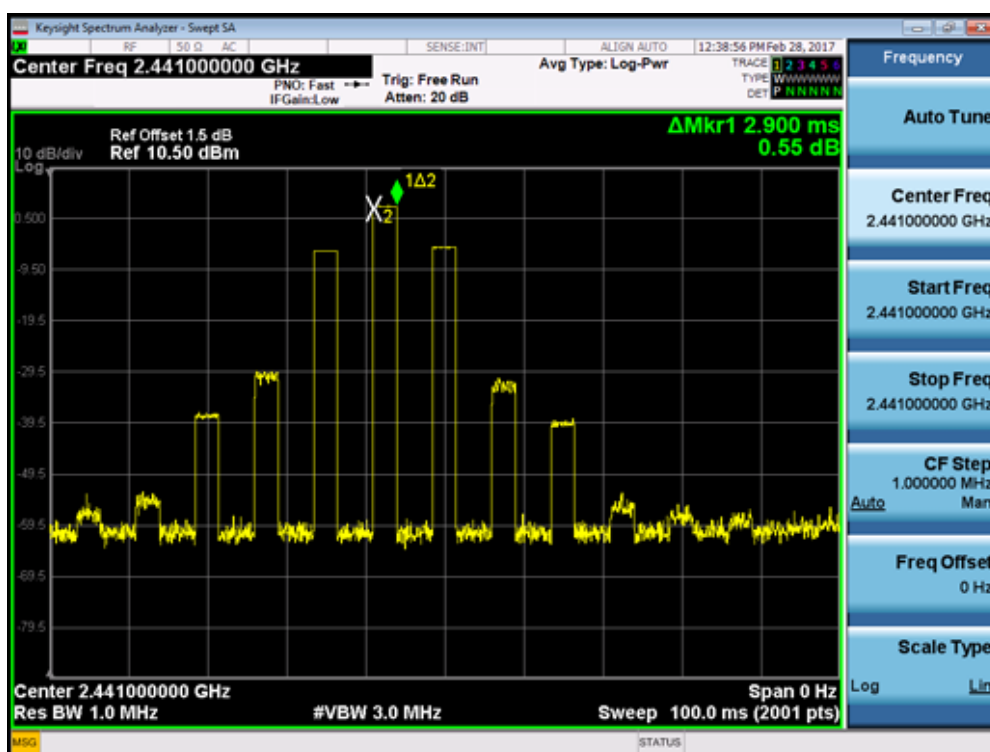
The measurement uncertainty above 1G is defined as ± 3.9 dB

below 1G is defined as ± 3.8 dB

11.6. Duty Factor

Test Mode	Pluse Time (ms)	Pluse Number	Accumulated Transmit Time (ms)	Duty Factor (dB)
Mode 4	2.9	1	2.9	-30.75

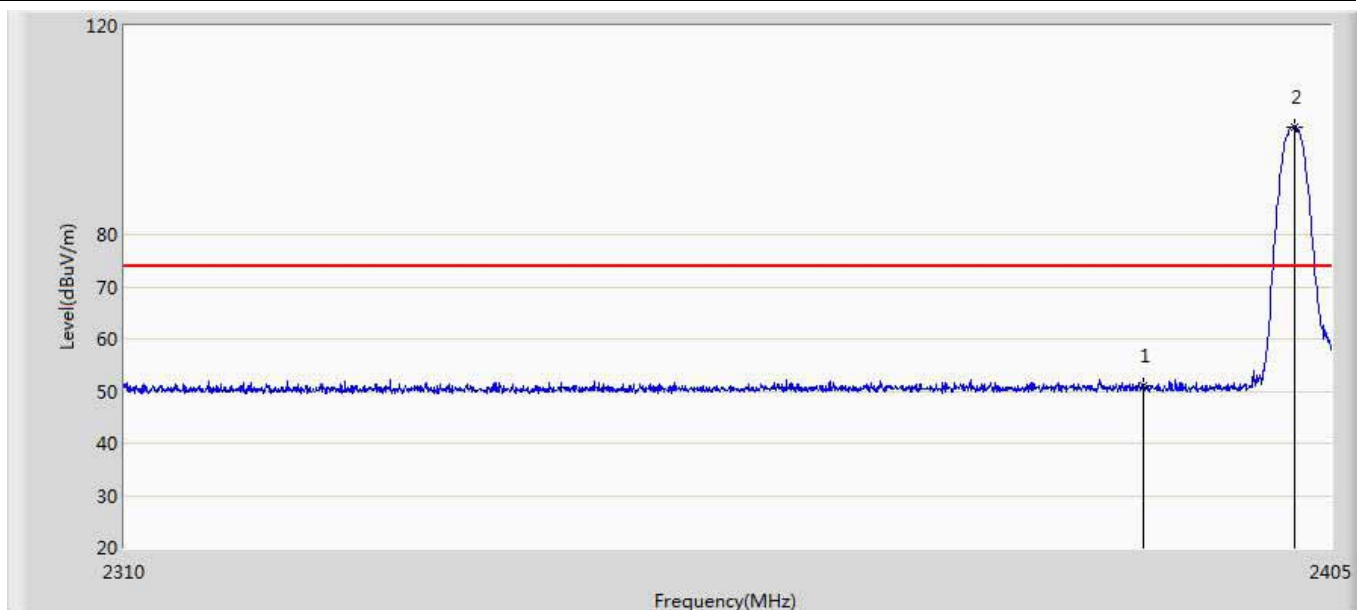
Pulse Number



Note: Duty Fcator = $20\log(\text{Accumulated Transmit Time} / 100\text{ms})$

11.7. Test Result

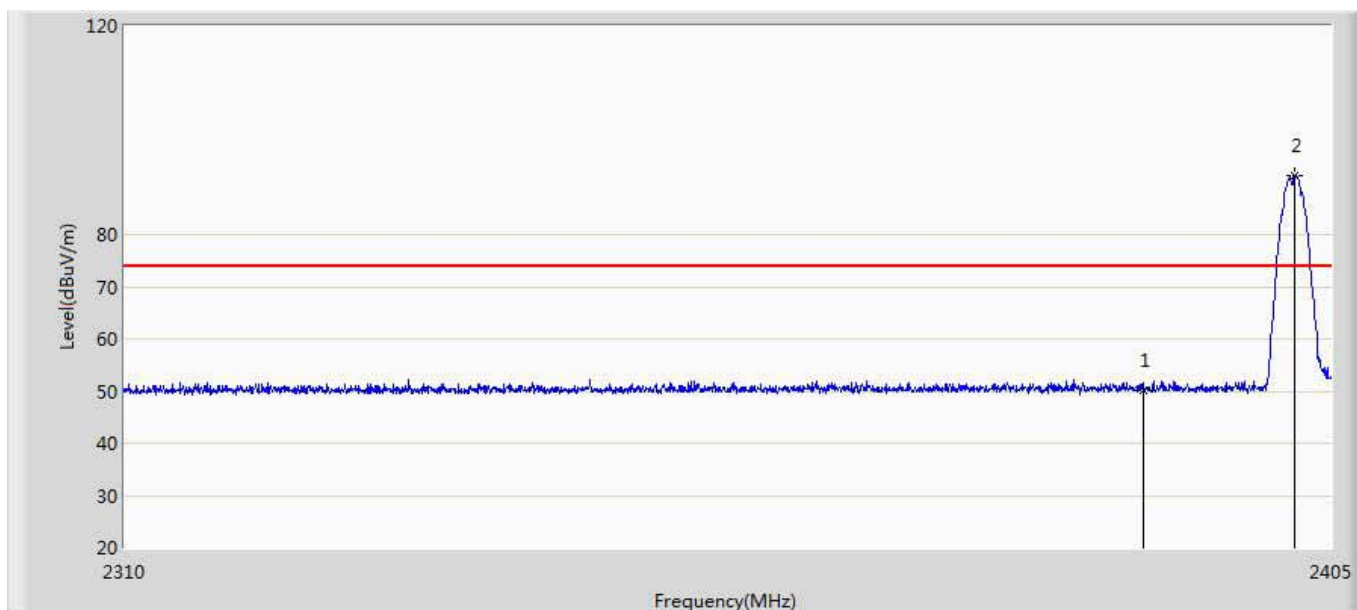
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.124	15.442	-22.876	74.000	35.682	PK
2	*	2402.055	100.719	65.006	26.719	74.000	35.712	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	51.124	48.854	-5.146	54.000	-30.75	AV
2	*	2402.055	100.719	98.449	44.449	54.000	-30.75	AV

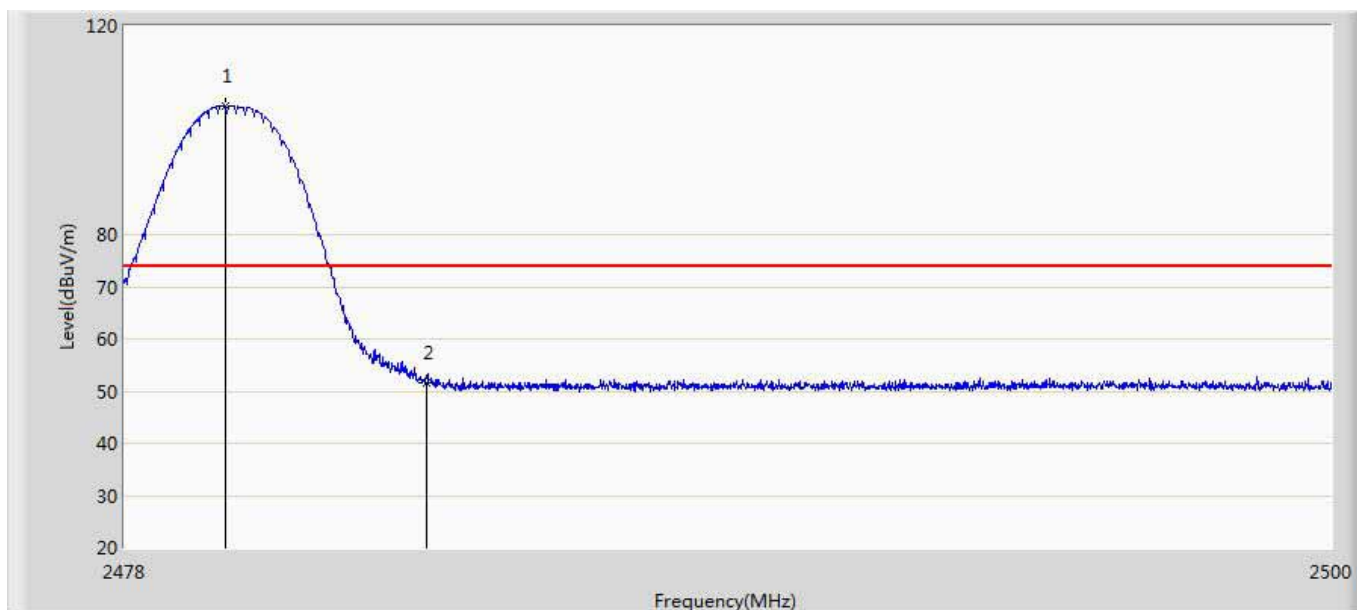
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.265	14.583	-23.735	74.000	35.682	PK
2	*	2402.055	91.179	55.466	17.179	74.000	35.712	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	50.265	47.995	-6.005	54.000	-30.75	AV
2	*	2402.055	91.179	88.909	34.909	54.000	-30.75	AV

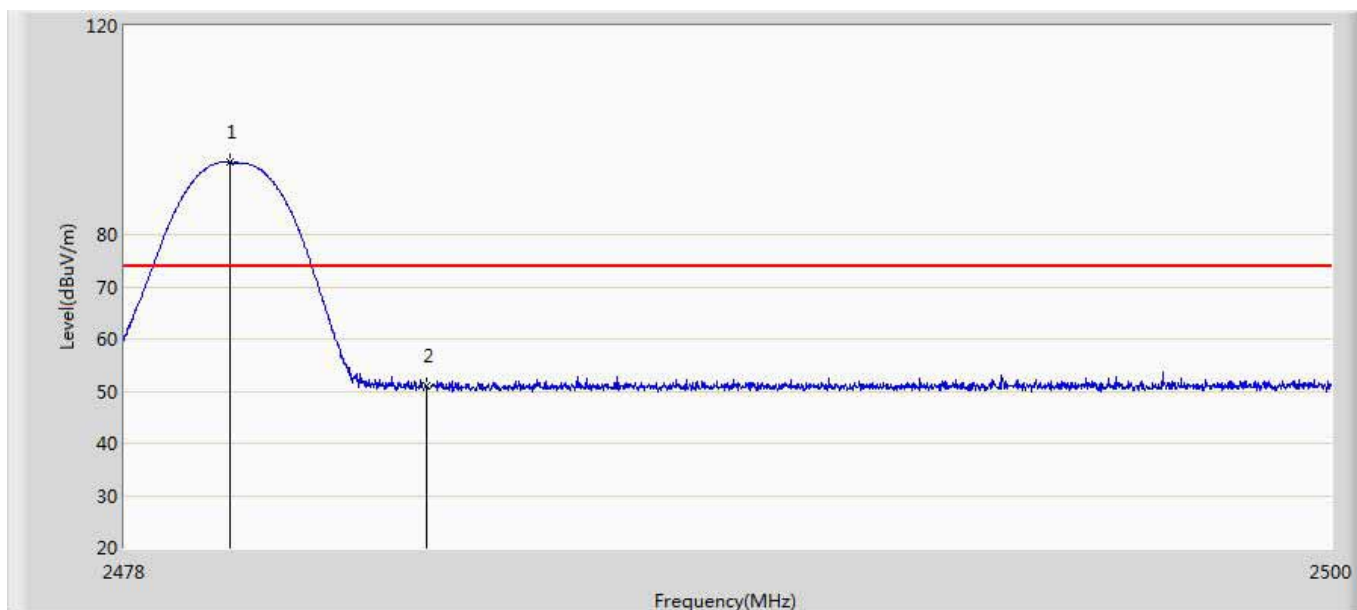
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.837	104.688	68.823	30.688	74.000	35.865	PK
2		2483.500	51.482	15.590	-22.518	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2479.837	104.688	102.418	48.418	54.000	-30.75	AV
2	*	2483.500	51.482	49.212	-4.788	54.000	-30.75	AV

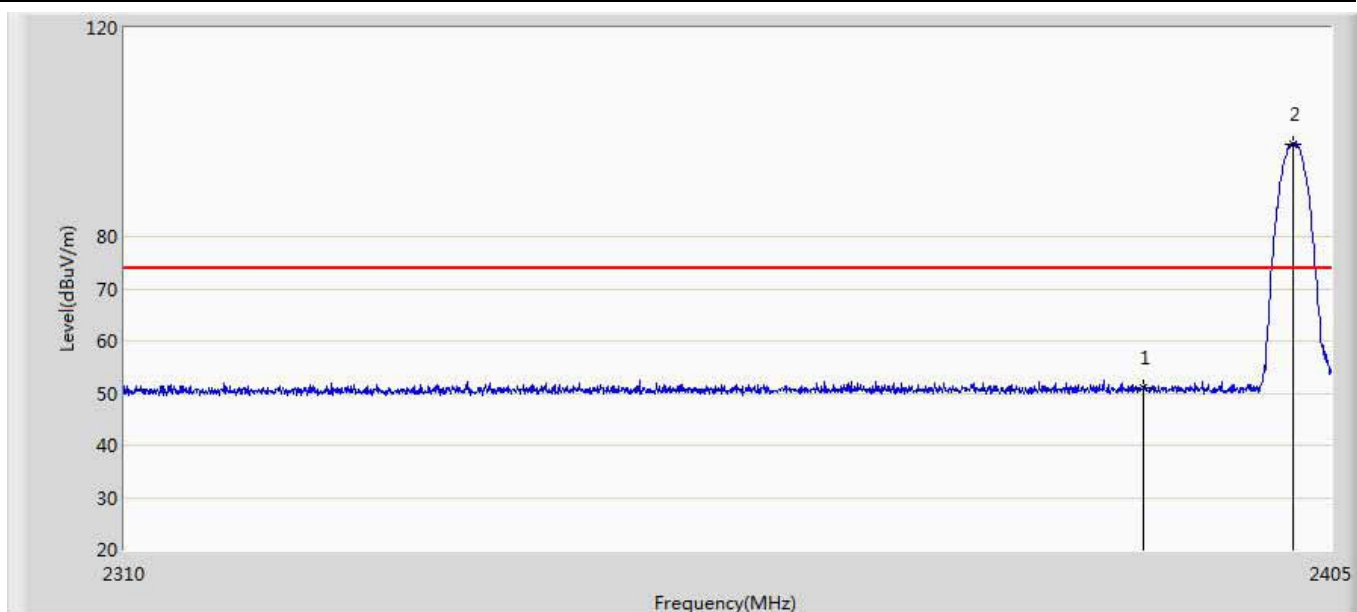
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	93.805	57.939	19.805	74.000	35.866	PK
2		2483.500	50.896	15.004	-23.104	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2479.914	93.805	91.535	37.535	54.000	-30.75	AV
2	*	2483.500	50.896	48.626	-5.374	54.000	-30.75	AV

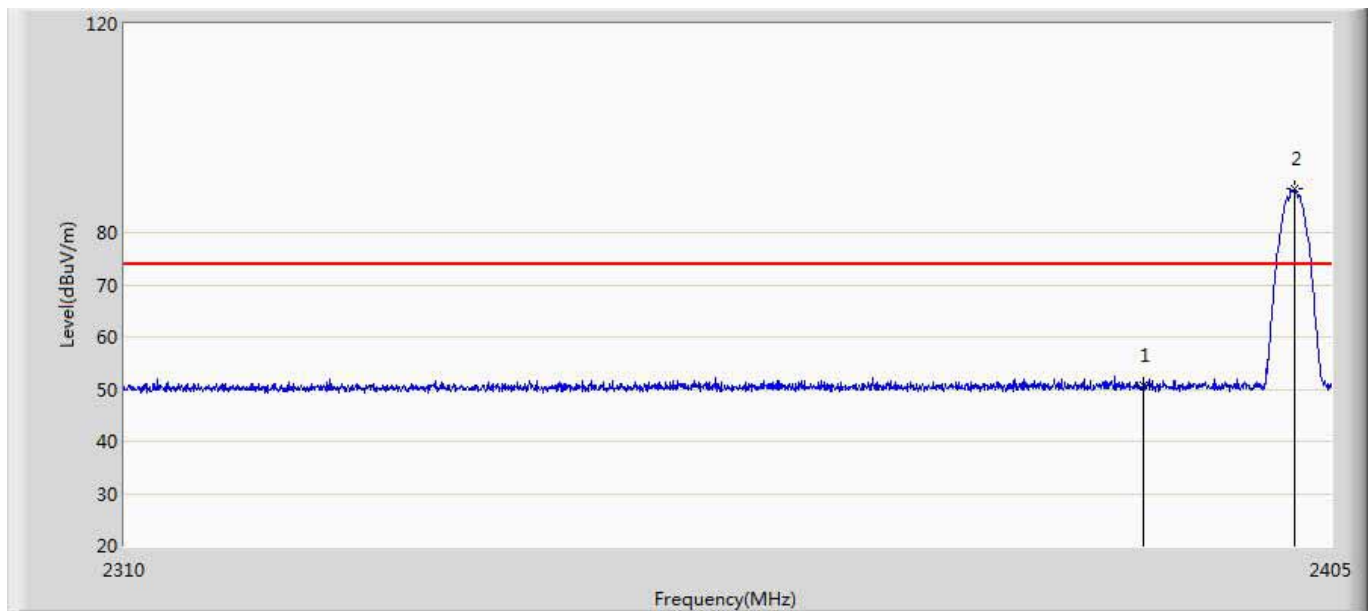
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.038	15.356	-22.962	74.000	35.682	PK
2	*	2401.960	97.815	62.102	23.815	74.000	35.712	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	51.038	48.768	-5.232	54.000	-30.75	AV
2	*	2401.960	97.815	95.545	41.545	54.000	-30.75	AV

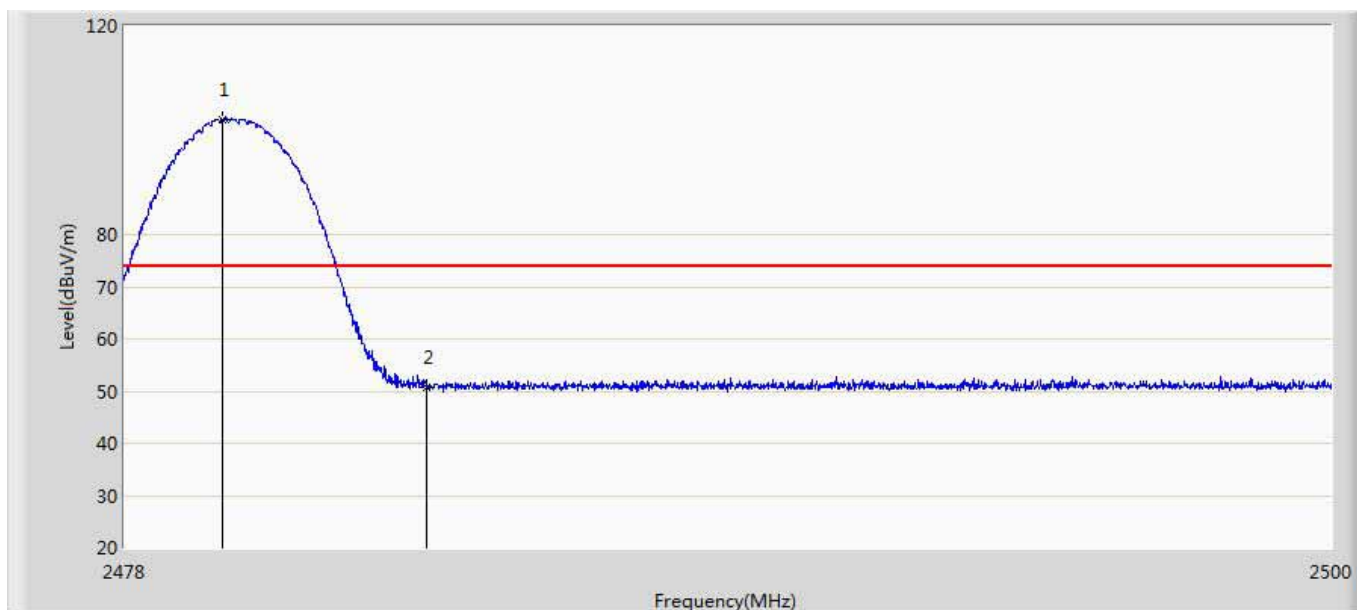
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.659	14.977	-23.341	74.000	35.682	PK
2	*	2402.103	88.302	52.589	14.302	74.000	35.713	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	50.659	48.389	-5.611	54.000	-30.75	AV
2	*	2402.103	88.302	86.032	32.032	54.000	-30.75	AV

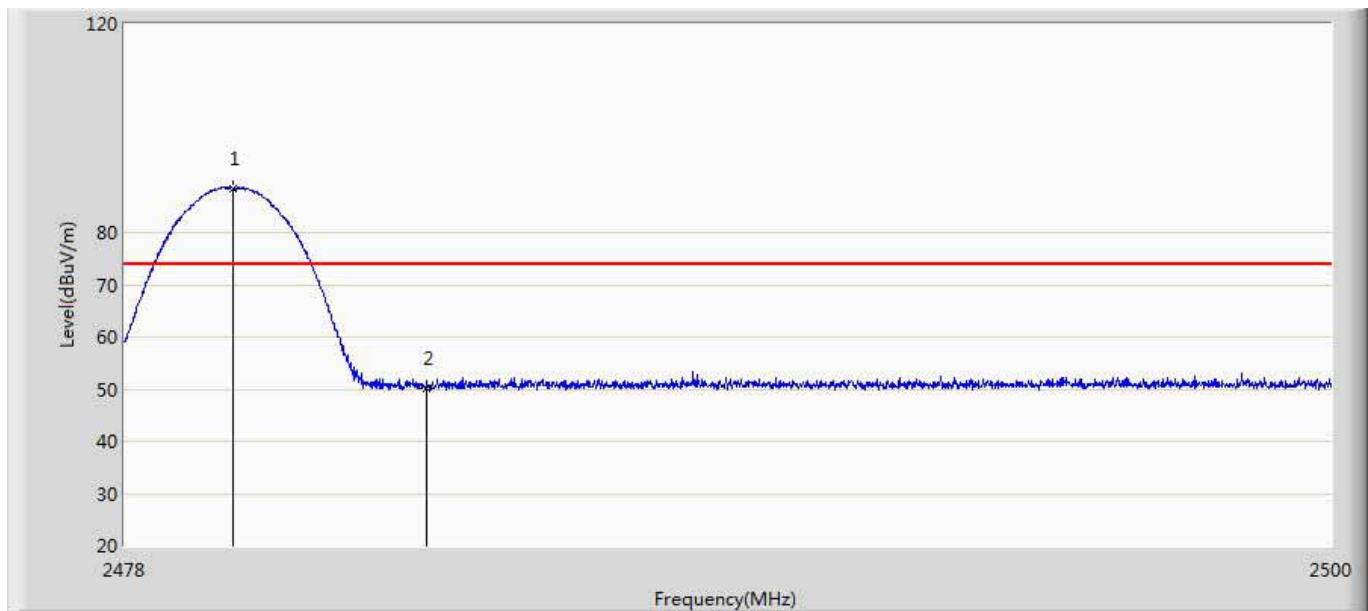
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.771	102.144	66.279	28.144	74.000	35.865	PK
2		2483.500	50.795	14.903	-23.205	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2479.771	102.144	99.874	45.874	54.000	-30.75	AV
2	*	2483.500	50.795	48.525	-5.475	54.000	-30.75	AV

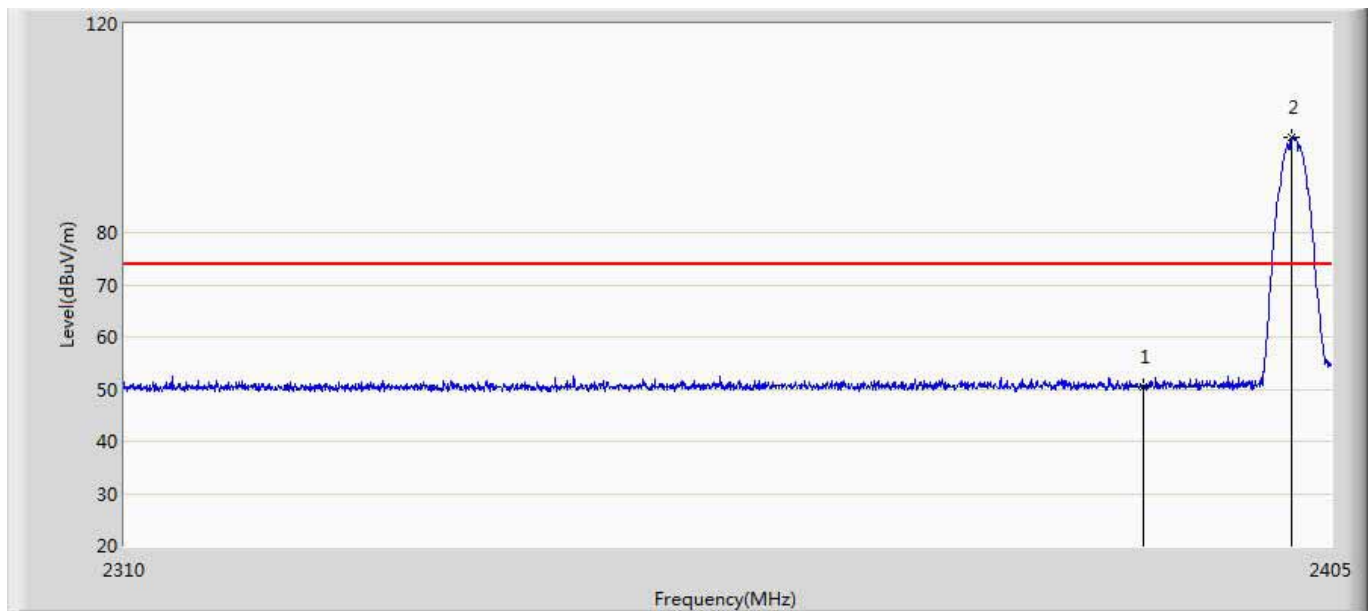
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	88.539	52.673	14.539	74.000	35.866	PK
2		2483.500	50.246	14.354	-23.754	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2479.980	88.539	86.269	32.269	54.000	-30.75	AV
2	*	2483.500	50.246	47.976	-6.024	54.000	-30.75	AV

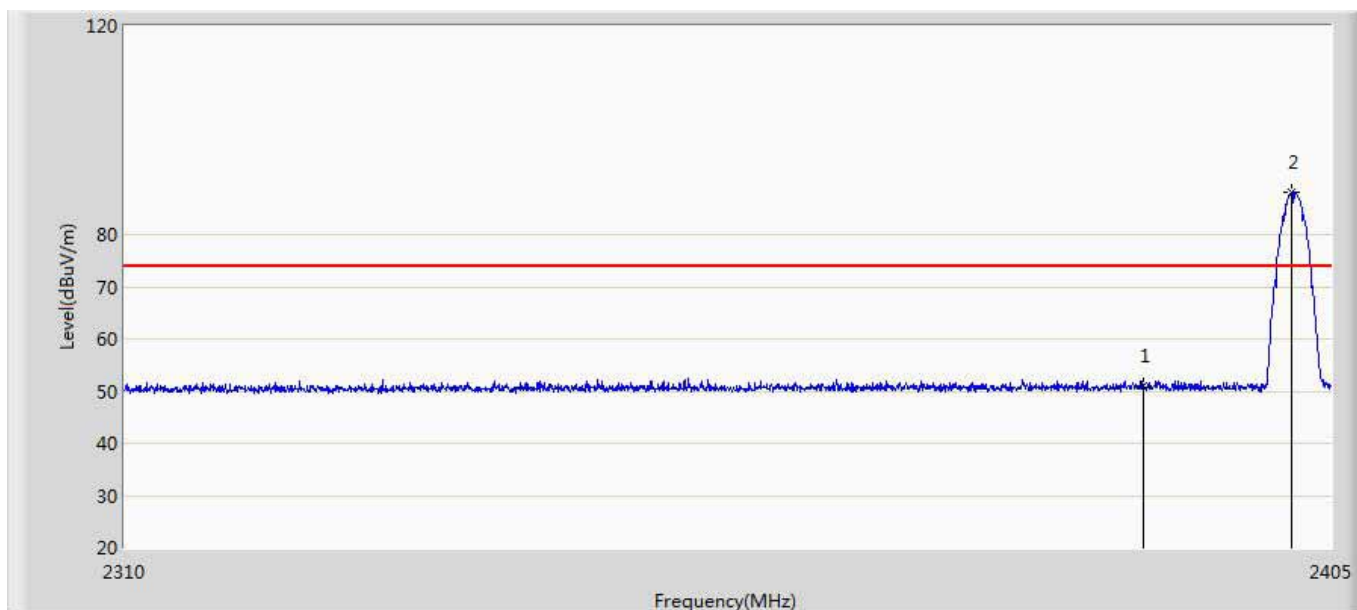
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.351	14.669	-23.649	74.000	35.682	PK
2	*	2401.865	98.208	62.496	24.208	74.000	35.712	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	50.351	48.081	-5.919	54.000	-30.75	AV
2	*	2401.865	98.208	95.938	41.938	54.000	-30.75	AV

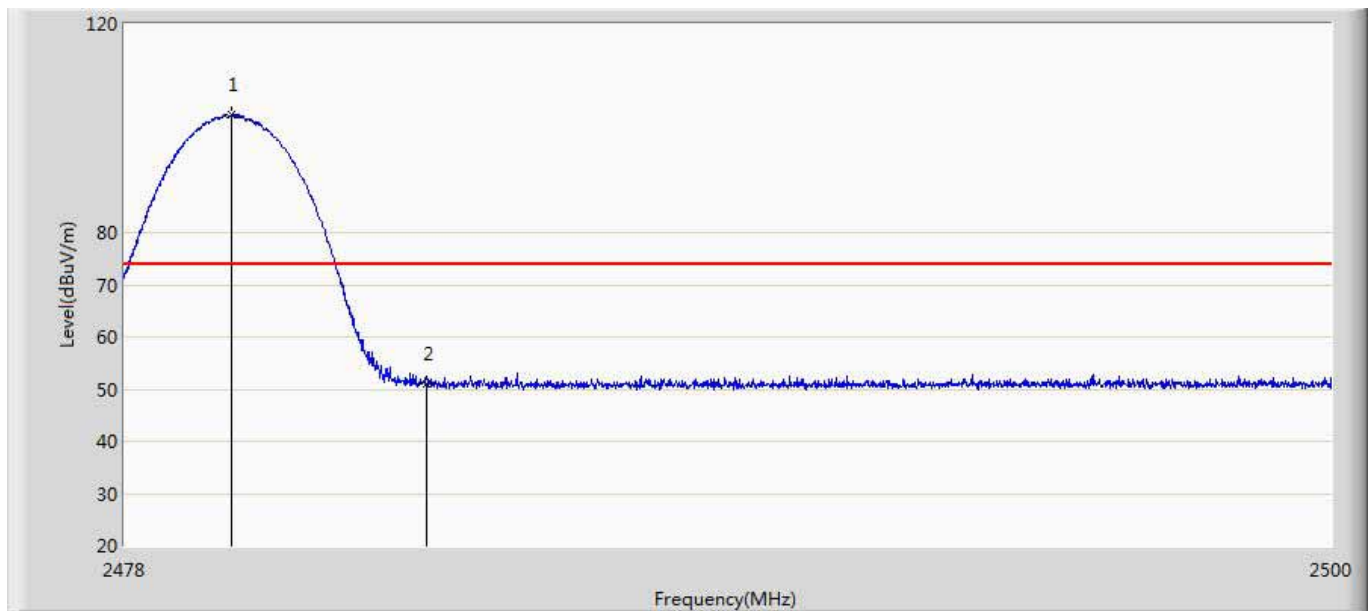
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 17:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.994	15.312	-23.006	74.000	35.682	PK
2	*	2401.865	88.065	52.353	14.065	74.000	35.712	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2390.000	50.994	48.724	-5.276	54.000	-30.75	AV
2	*	2401.865	88.065	85.795	31.795	54.000	-30.75	AV

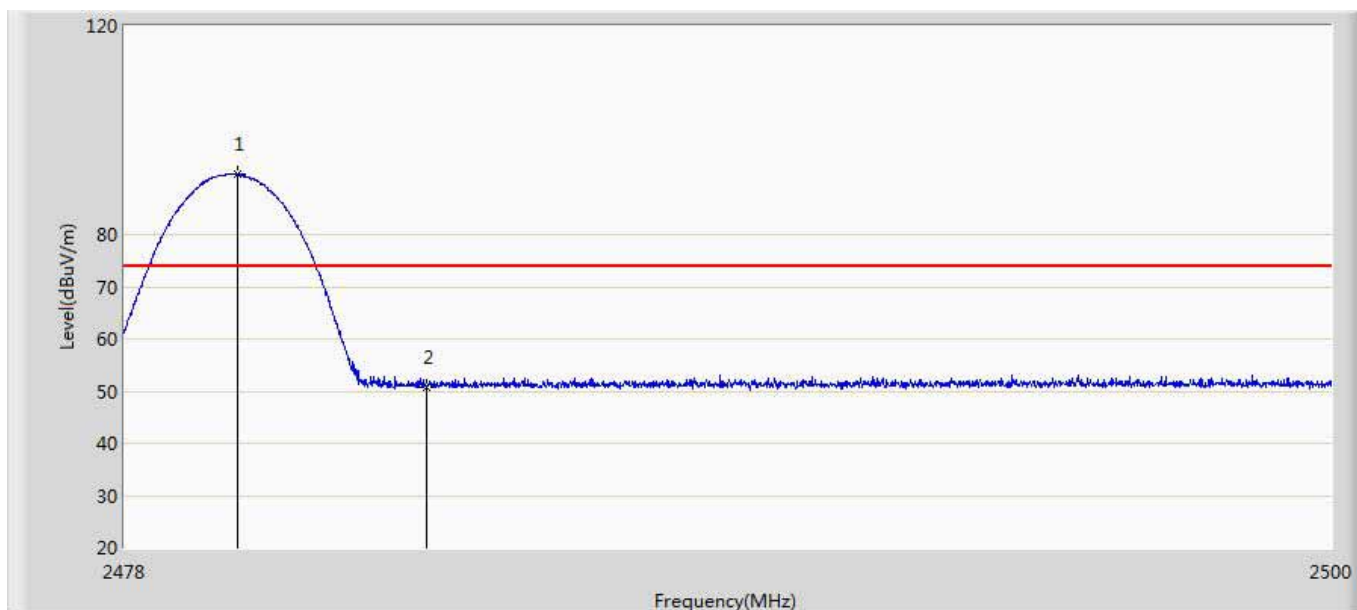
Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 18:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Bluetooth Headset	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	102.512	66.646	28.512	74.000	35.866	PK
2		2483.500	51.147	15.255	-22.853	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2479.947	102.512	100.242	46.242	54.000	-30.75	AV
2	*	2483.500	51.147	48.877	-5.123	54.000	-30.75	AV

Engineer: Damon	
Site: AC5	Time: 2017/02/27 - 18:04
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 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	*	2480.057	91.600	55.733	17.600	74.000	35.867	PK
2		2483.500	50.779	14.887	-23.221	74.000	35.891	PK

No	Mark	Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Duty Factor (dB)	Type
1		2480.057	91.600	89.33	35.33	54.000	-30.75	AV
2	*	2483.500	50.779	48.509	-5.491	54.000	-30.75	AV

12. Antenna Requirement

12.1. Limit

Antenna Requirement Limit	
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.	

12.2. Antenna Connector Construction

Antenna Connector Construction	
☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	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 _____