Test Report

FCC Part15 Subpart C& RSS-247 Issue 2

Product Name	:	EZ-BT WICED XR Module with Mesh
Model No.	:	CYBT-483039-02
FCC ID	:	WAP3039
IC	:	7922A-3039

Applicant	:	Cypress Semiconductor
Address	:	198 Champion Ct, San Jose, California 95134 United States

Date of Receipt	:	Mar. 29, 2018
Test Date	:	Mar. 29, 2018~ May. 15, 2018
Issued Date	:	May. 16, 2018
Report No.	:	1832171R-RF-US-P06V03
Report Version	:	V 1.0

Test Report Certification

Issued Date : May. 16, 2018
Report No. : 1832171R-RF-US-P06V03

Product Name	:	EZ-BT WICED XR Module with Mesh
Applicant	:	Cypress Semiconductor
Address	:	198 Champion Ct, San Jose, California 95134 United States
Manufacturer	:	Cypress Semiconductor
Address	:	198 Champion Ct, San Jose, California 95134 United States
Model No.	:	CYBT-483039-02
FCC ID	:	WAP3039
IC	:	7922A-3039
EUT Voltage	:	DC 2.0~3.6V
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

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Approved By : Harry Zhao

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1832171R-RF-US-P06V03	V1.0	Initial Issued Report	May. 16, 2018

1. General Information

1.1. EUT Description

Product Name	EZ-BT WICED XR Module with Mesh
Model No.	CYBT-483039-02
Working Voltage	DC 2.0-3.6V
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			
			☐	Sectorized			
			☐	Beam-forming			
Antenna Type	☐	External	☐	Dipole			
			☐	Sectorized			
	☒	Internal	☐	PIFA			
			☐	PCB			
			☒	Ceramic Chip Antenna			
			☐	Monopole Antenna			

Antenna Technology	Ant Gain (dBi)
☒ SISO	2.3

1.3 Mode of Operation

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

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

Note:

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

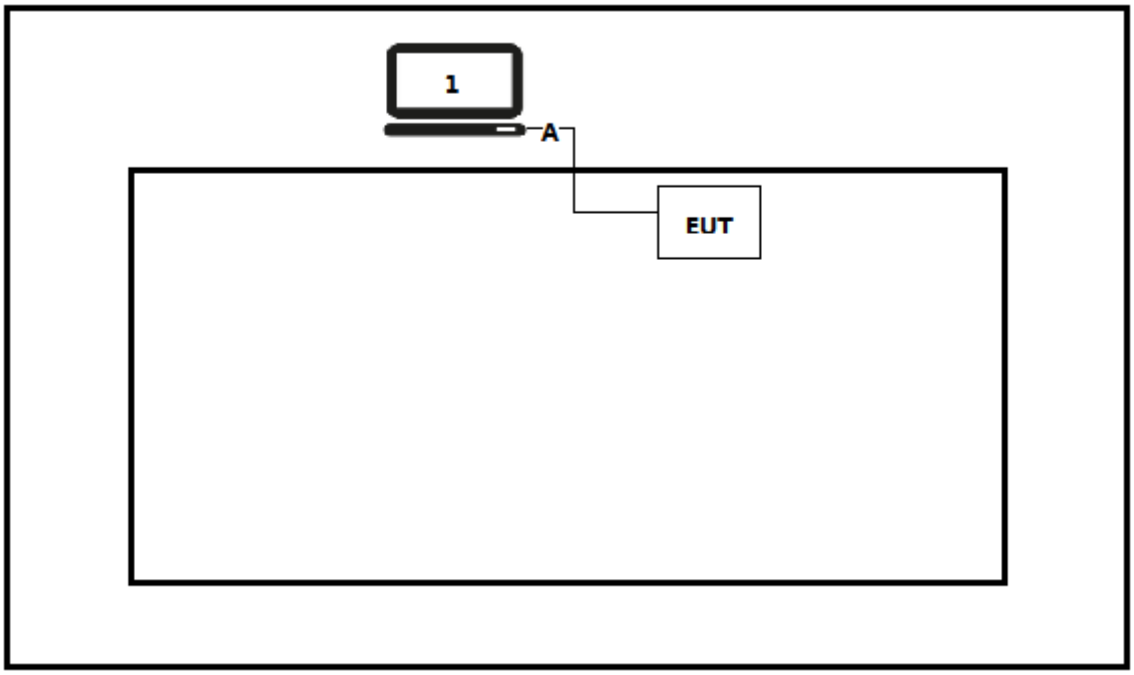
1.4 Tested System Details

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

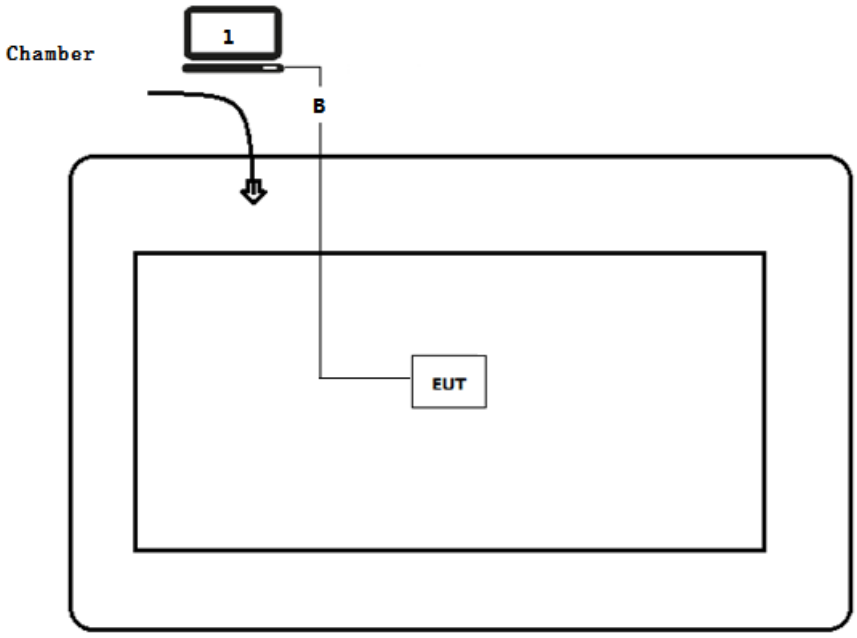
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	2526	LV-A3285	Power by adapter
A	USB Cable	N/A	N/A	N/A	Shield, 0.5m
B	USB Cable	N/A	N/A	N/A	Shield, 10m

1.5 Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



1.6 EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	Run RF software [Bluetool], 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

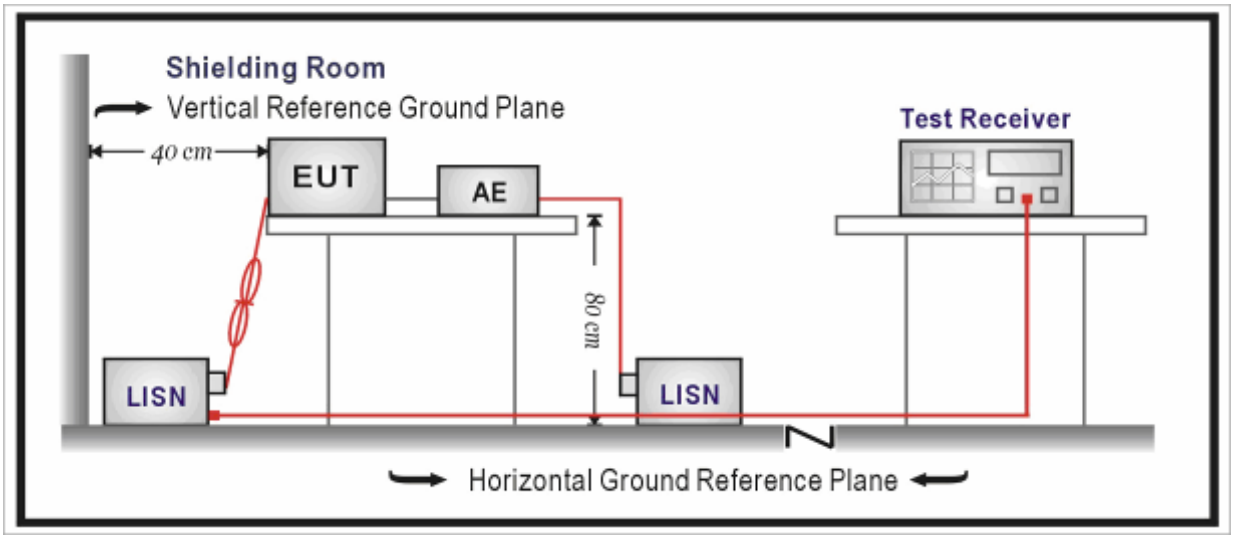
3. Conducted Emission

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	2018.03.05	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

AC Power Line Conducted Emission test setup



3.3. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dB μV)	Average(dB μV)
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

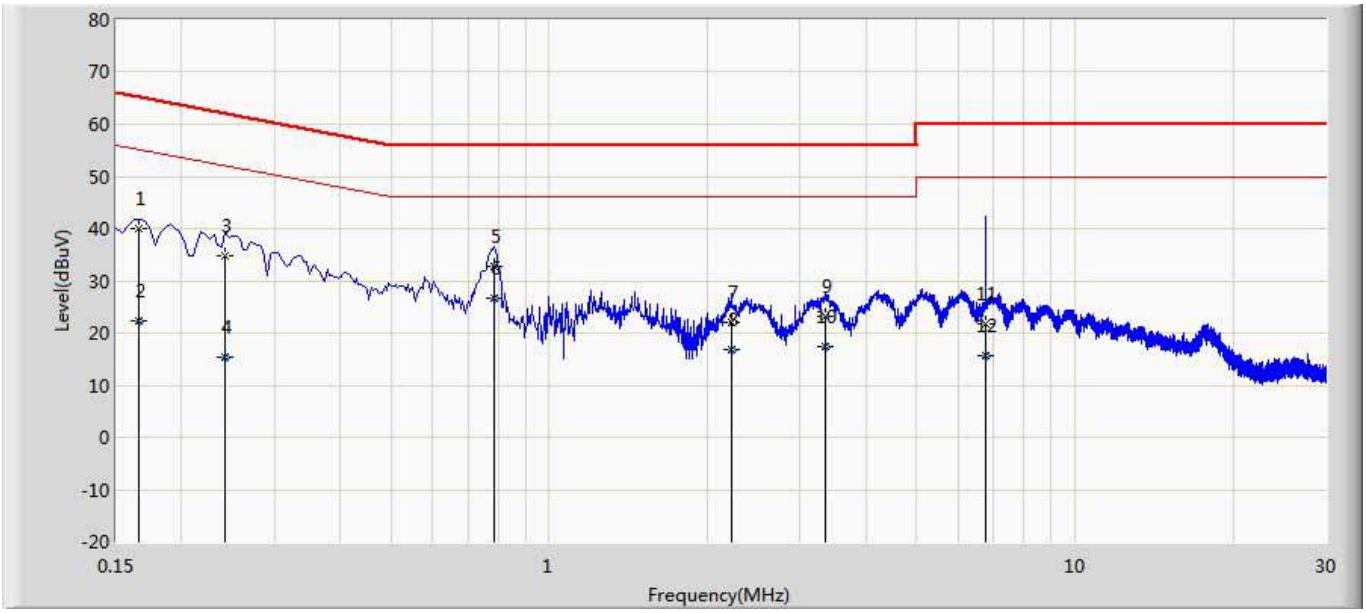
Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

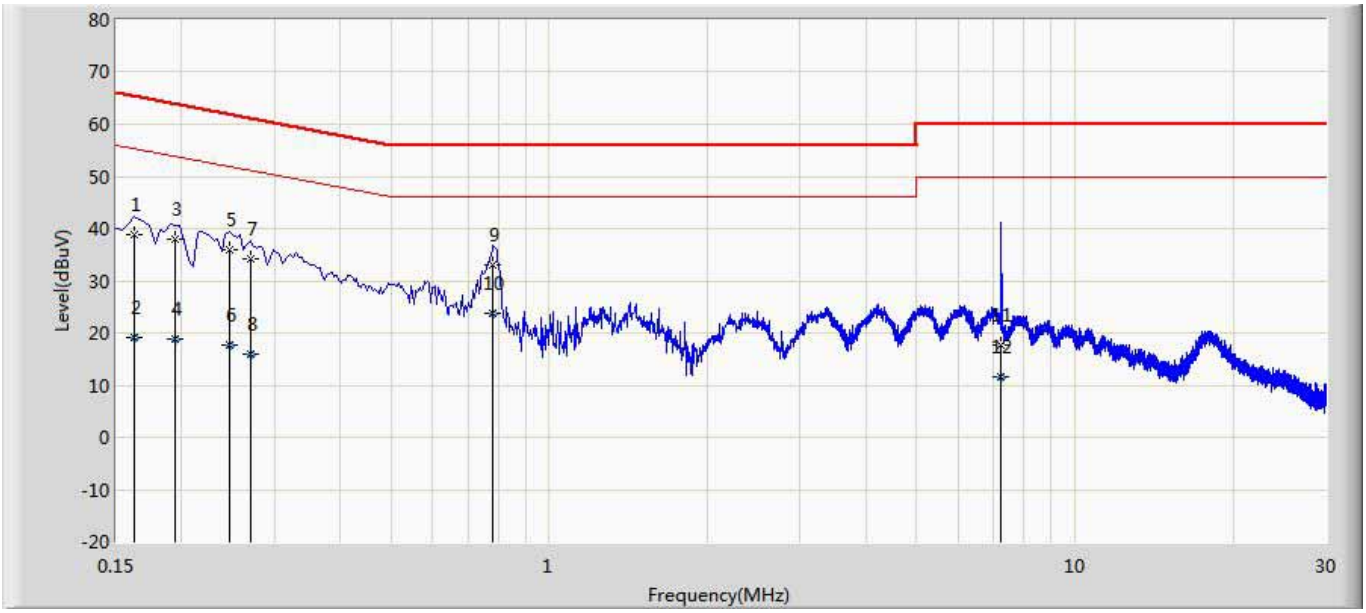
3.6. Test Result

Site: TR1	Time: 2018/04/09
Limit: FCC_Part15.207_CE	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: EZ-BT WICED XR Module with Mesh	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		0.166	39.891	30.257	-25.268	65.158	9.607	0.027	0.000	QP
2		0.166	22.186	12.553	-32.972	55.158	9.607	0.027	0.000	AV
3		0.242	34.827	25.196	-27.201	62.027	9.600	0.030	0.000	QP
4		0.242	15.337	5.706	-36.691	52.027	9.600	0.030	0.000	AV
5		0.786	32.728	23.072	-23.272	56.000	9.603	0.052	0.000	QP
6	*	0.786	26.739	17.084	-19.261	46.000	9.603	0.052	0.000	AV
7		2.218	22.066	12.360	-33.934	56.000	9.614	0.093	0.000	QP
8		2.218	16.759	7.053	-29.241	46.000	9.614	0.093	0.000	AV
9		3.358	23.271	13.523	-32.729	56.000	9.633	0.115	0.000	QP
10		3.358	17.441	7.693	-28.559	46.000	9.633	0.115	0.000	AV
11		6.770	21.862	12.001	-38.138	60.000	9.695	0.165	0.000	QP
12		6.770	15.721	5.861	-34.279	50.000	9.695	0.165	0.000	AV

Site: TR1	Time: 2018/04/09
Limit: FCC_Part15.207_CE	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: EZ-BT WICED XR Module with Mesh	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		0.162	38.860	29.241	-26.501	65.361	9.593	0.026	0.000	QP
2		0.162	19.223	9.604	-36.137	55.361	9.593	0.026	0.000	AV
3		0.194	38.004	28.377	-25.860	63.864	9.598	0.028	0.000	QP
4		0.194	18.951	9.325	-34.912	53.864	9.598	0.028	0.000	AV
5		0.246	36.078	26.449	-25.813	61.891	9.598	0.031	0.000	QP
6		0.246	17.681	8.053	-34.210	51.891	9.598	0.031	0.000	AV
7		0.270	34.127	24.496	-26.991	61.118	9.597	0.033	0.000	QP
8		0.270	15.908	6.277	-35.210	51.118	9.597	0.033	0.000	AV
9		0.782	33.040	23.397	-22.960	56.000	9.590	0.052	0.000	QP
10	*	0.782	23.674	14.032	-22.326	46.000	9.590	0.052	0.000	AV
11		7.246	17.825	7.947	-42.175	60.000	9.707	0.171	0.000	QP
12		7.246	11.605	1.727	-38.395	50.000	9.707	0.171	0.000	AV

4. Emissions in restricted frequency bands

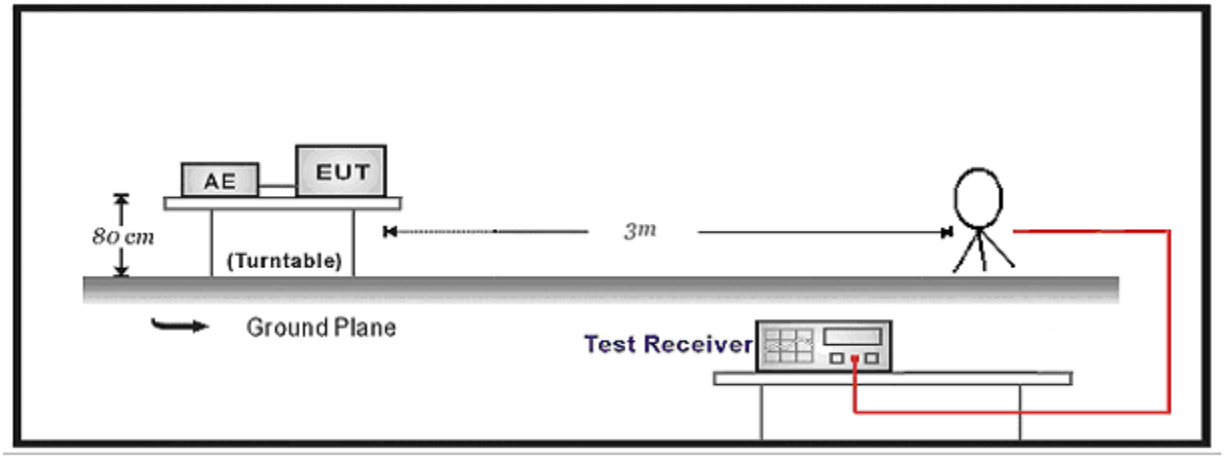
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2018.03.29	2019.03.28
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	2018.03.02	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.					

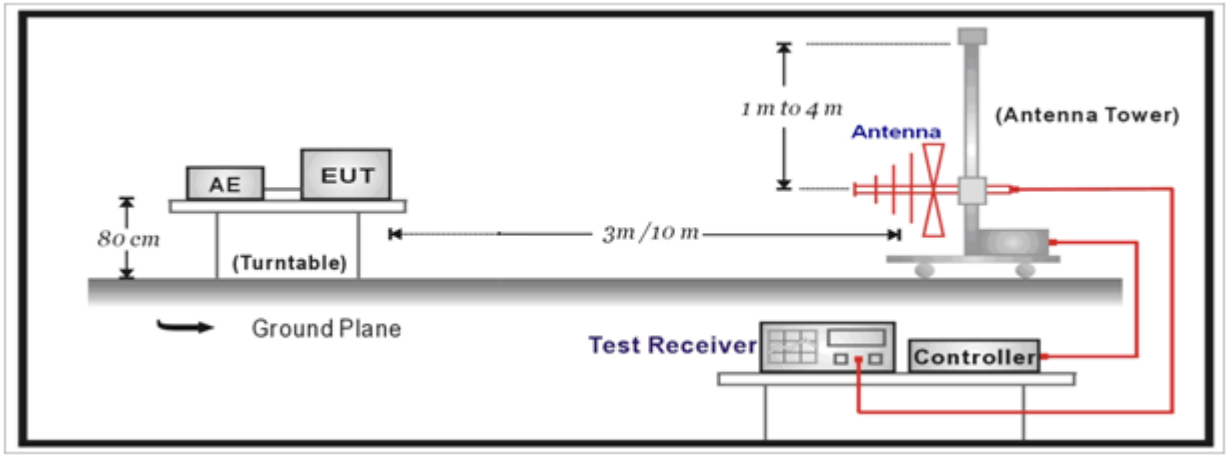
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2019.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2019.05.05
DRG 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	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2018.03.02	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

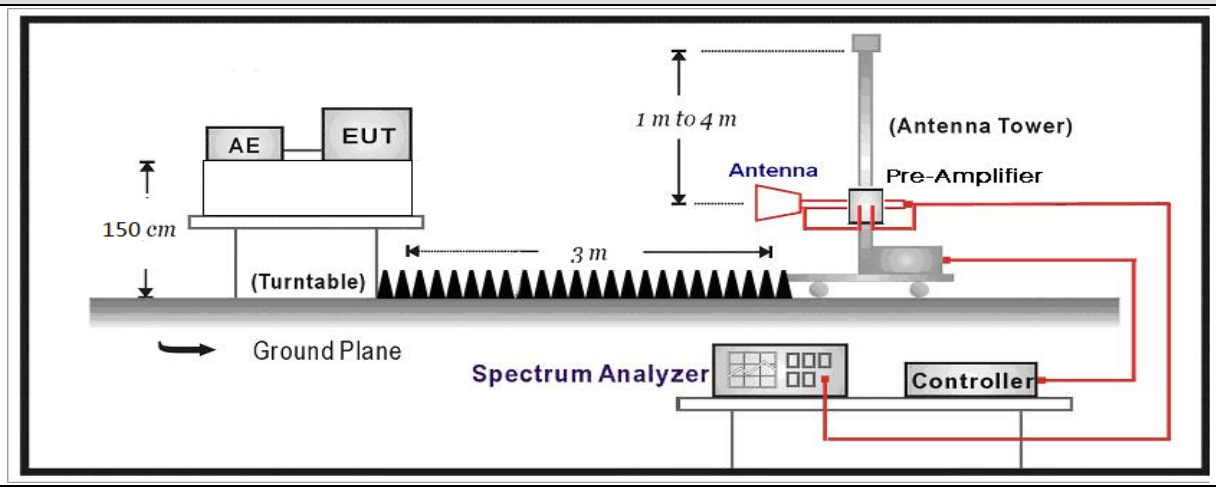
Below 30MHz Test Setup:



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 (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

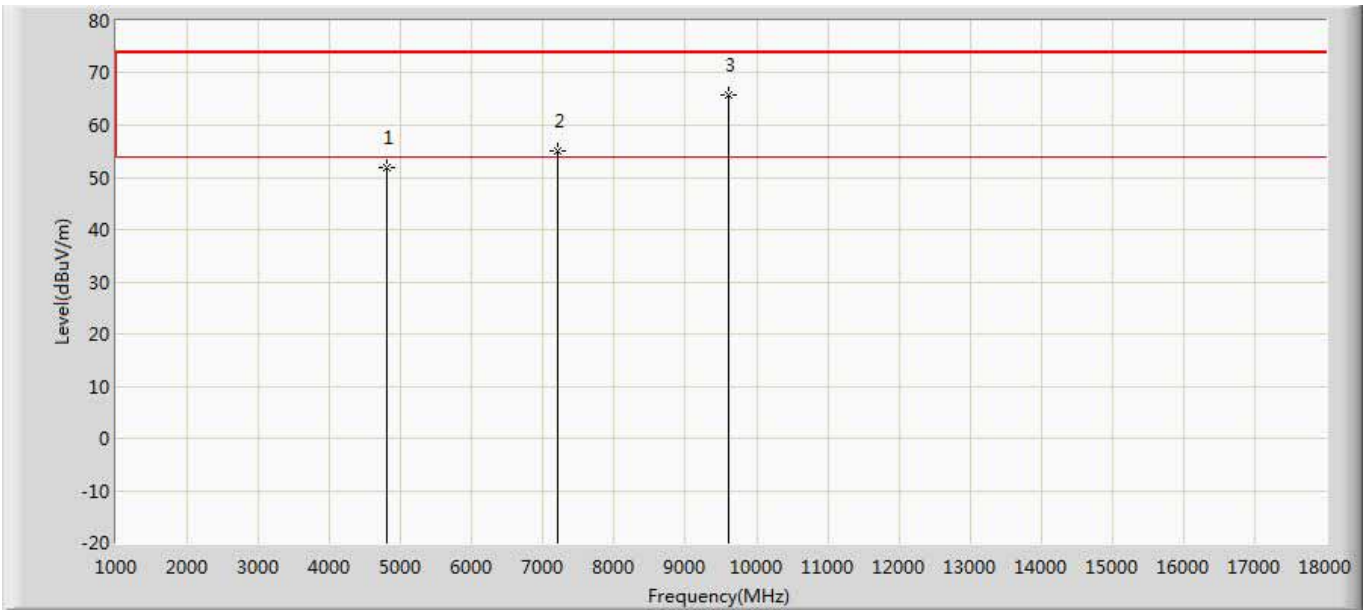
4.5. Uncertainty

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

below 1G is defined as ± 3.8 dB

4.6. Test Result

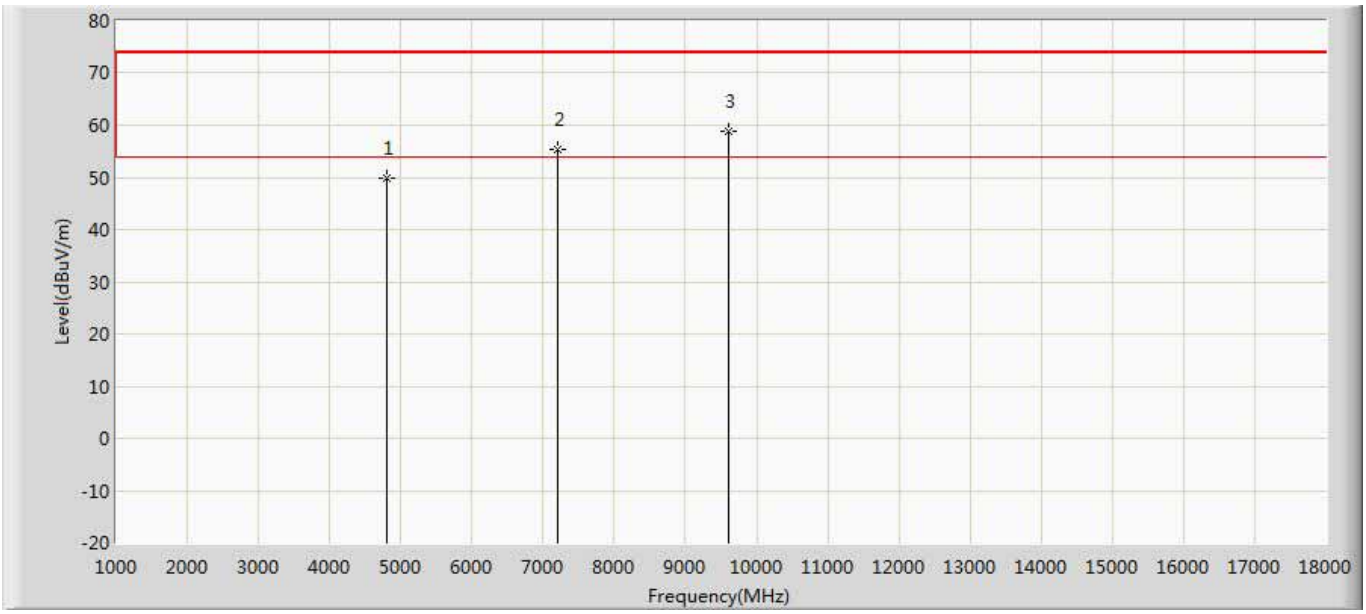
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	52.024	53.715	-21.976	74.000	-1.691	PK
2		7205.000	54.960	52.057	-19.040	74.000	2.903	PK
3	*	9602.000	65.693	61.017	-8.307	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	52.024	21.182	-32.818	54.000	-30.842	AV
2	*	7205.000	54.960	24.118	-29.882	54.000	-30.842	AV
3	*	9602.000	65.693	34.851	-19.149	54.000	-30.842	AV

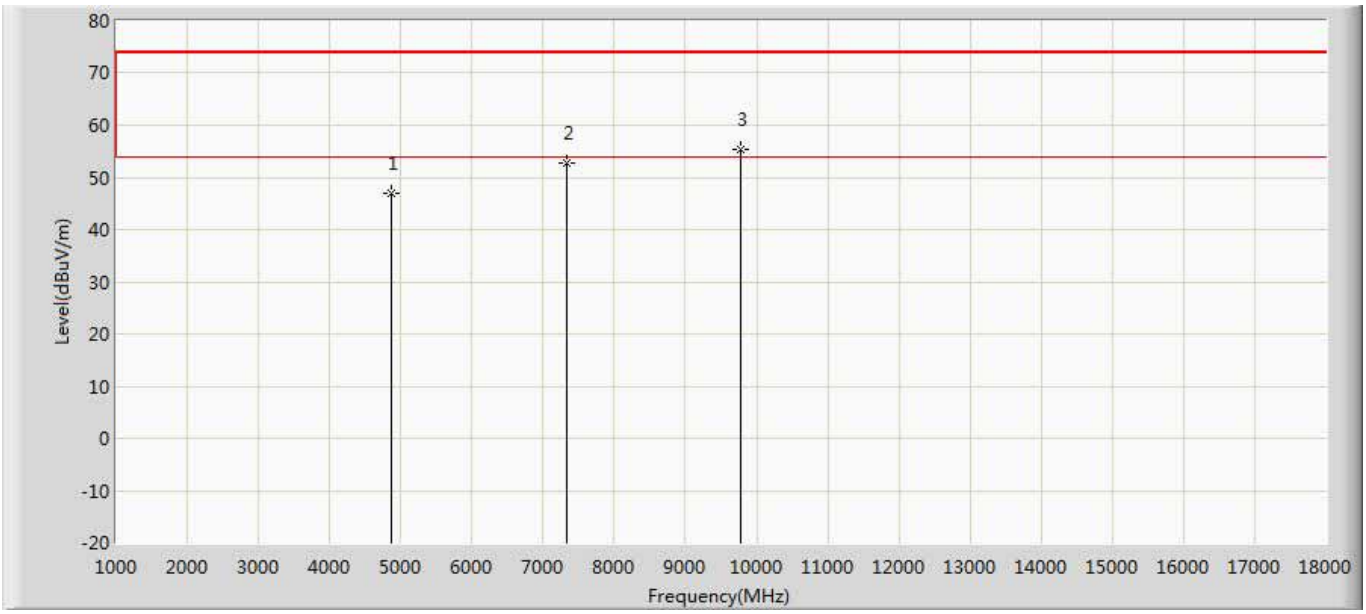
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	49.853	51.544	-24.147	74.000	-1.691	PK
2		7205.000	55.228	52.325	-18.772	74.000	2.903	PK
3	*	9602.000	58.784	54.108	-15.216	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	49.853	19.011	-34.989	54.000	-30.842	AV
2	*	7205.000	55.228	24.386	-29.614	54.000	-30.842	AV
3	*	9602.000	58.784	27.942	-26.058	54.000	-30.842	AV

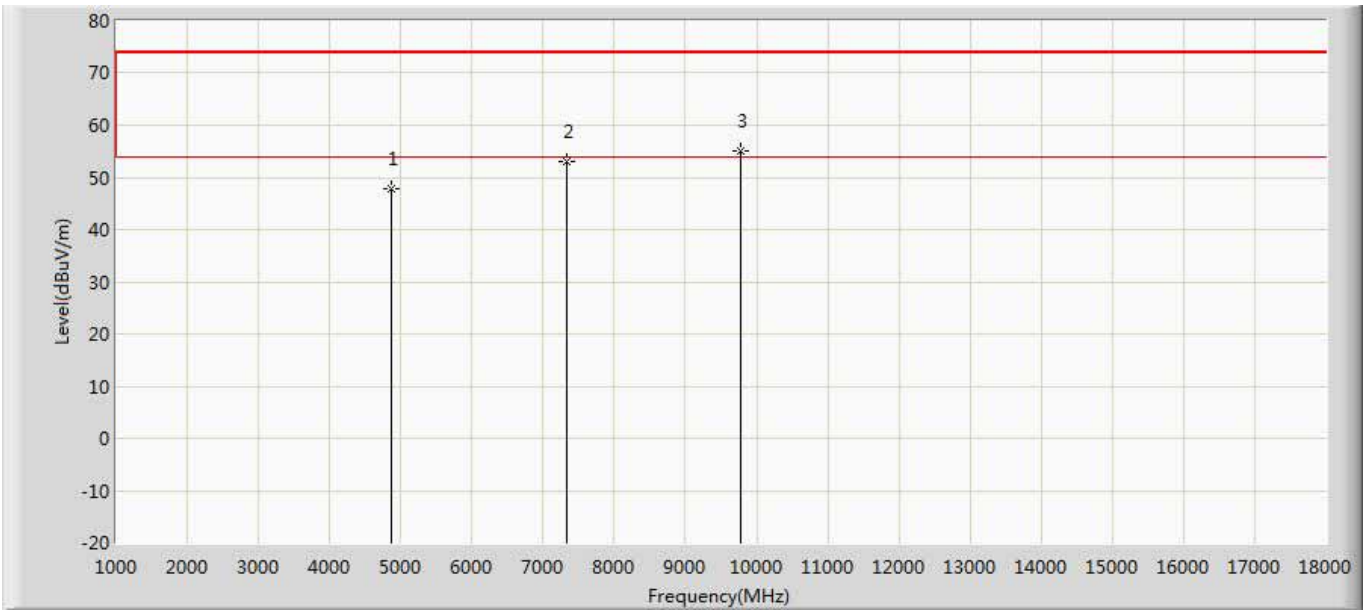
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2441MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	47.039	48.621	-26.961	74.000	-1.582	PK
2		7324.000	52.890	50.095	-21.110	74.000	2.795	PK
3	*	9772.000	55.435	50.745	-18.565	74.000	4.690	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	47.039	16.197	-37.803	54.000	-30.842	AV
2	*	7324.000	52.890	22.048	-31.952	54.000	-30.842	AV
3	*	9772.000	55.435	24.593	-29.407	54.000	-30.842	AV

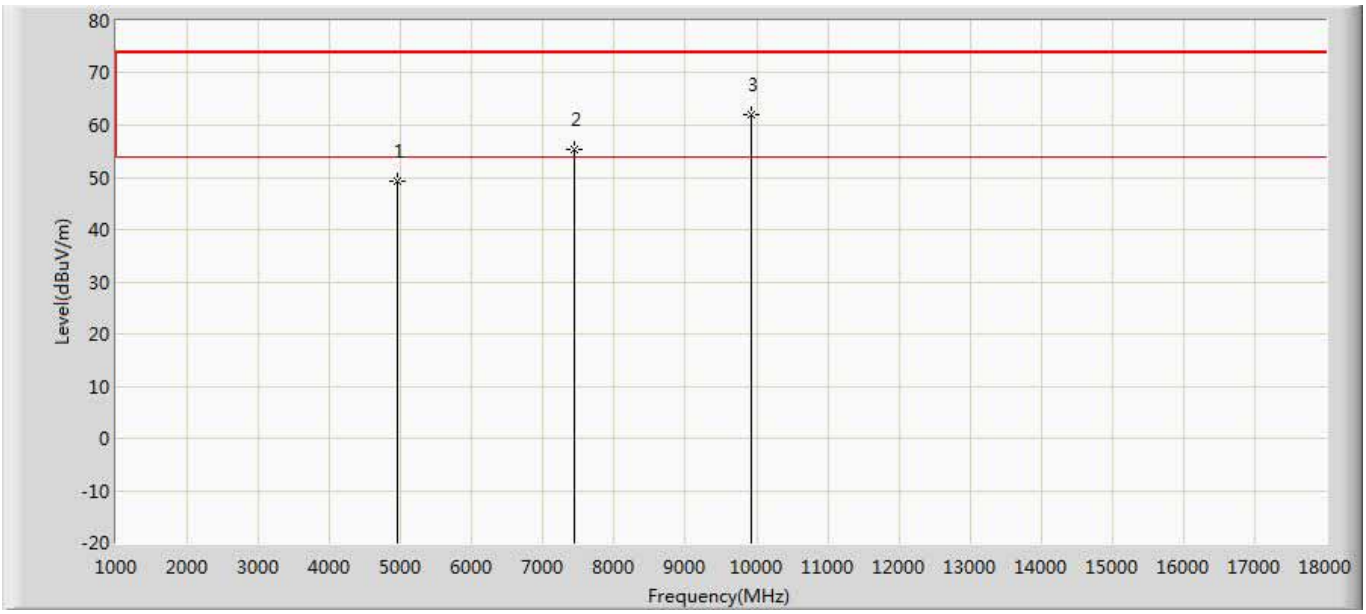
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2441MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	47.942	49.524	-26.058	74.000	-1.582	PK
2		7324.000	53.186	50.391	-20.814	74.000	2.795	PK
3	*	9772.000	55.145	50.455	-18.855	74.000	4.690	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	47.942	17.100	-36.900	54.000	-30.842	AV
2	*	7324.000	53.186	22.344	-31.656	54.000	-30.842	AV
3	*	9772.000	55.145	24.303	-29.697	54.000	-30.842	AV

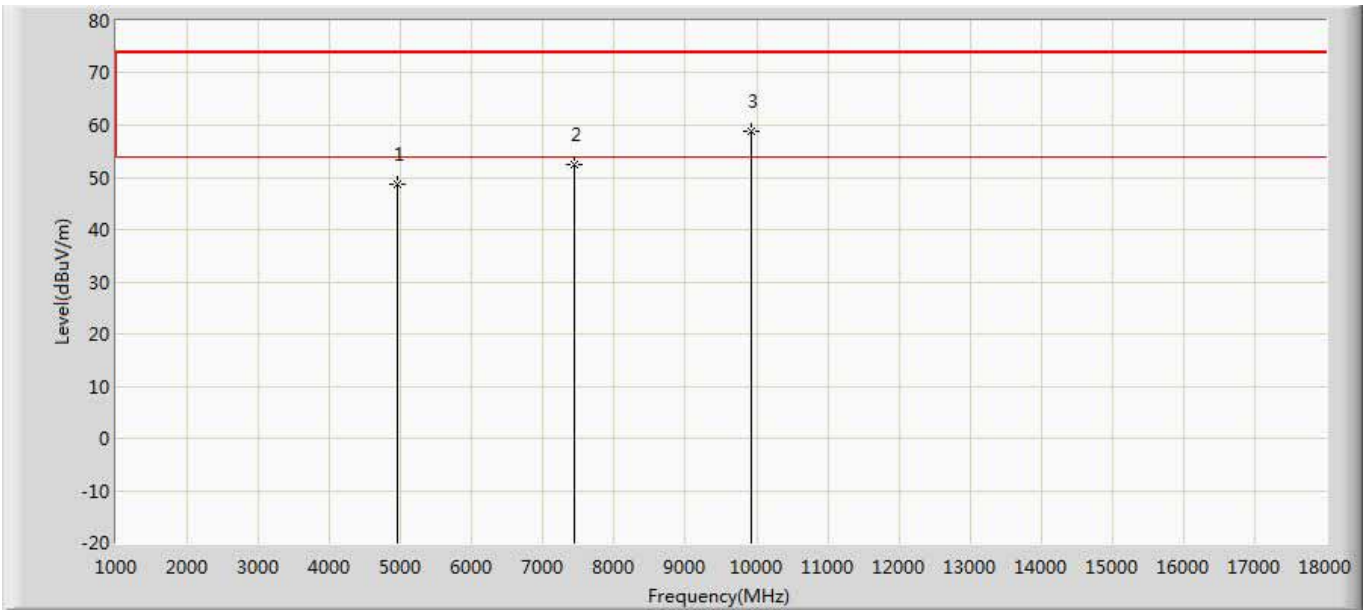
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	49.399	51.350	-24.601	74.000	-1.951	PK
2		7443.000	55.257	52.597	-18.743	74.000	2.660	PK
3	*	9925.000	61.941	56.924	-12.059	74.000	5.017	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	49.399	18.557	-35.443	54.000	-30.842	AV
2	*	7443.000	55.257	24.415	-29.585	54.000	-30.842	AV
3	*	9925.000	61.941	31.099	-22.901	54.000	-30.842	AV

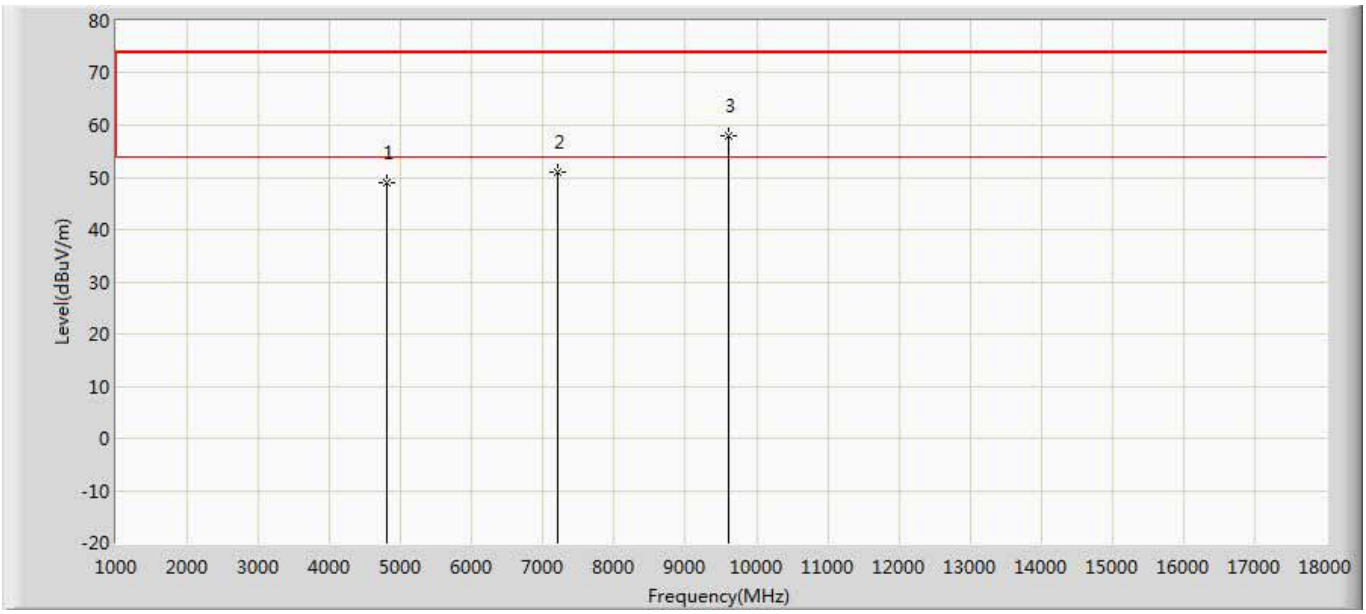
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	48.689	50.640	-25.311	74.000	-1.951	PK
2		7443.000	52.466	49.806	-21.534	74.000	2.660	PK
3	*	9925.000	58.961	53.944	-15.039	74.000	5.017	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	48.689	17.847	-36.153	54.000	-30.842	AV
2	*	7443.000	52.466	21.624	-32.376	54.000	-30.842	AV
3	*	9925.000	58.961	28.119	-25.881	54.000	-30.842	AV

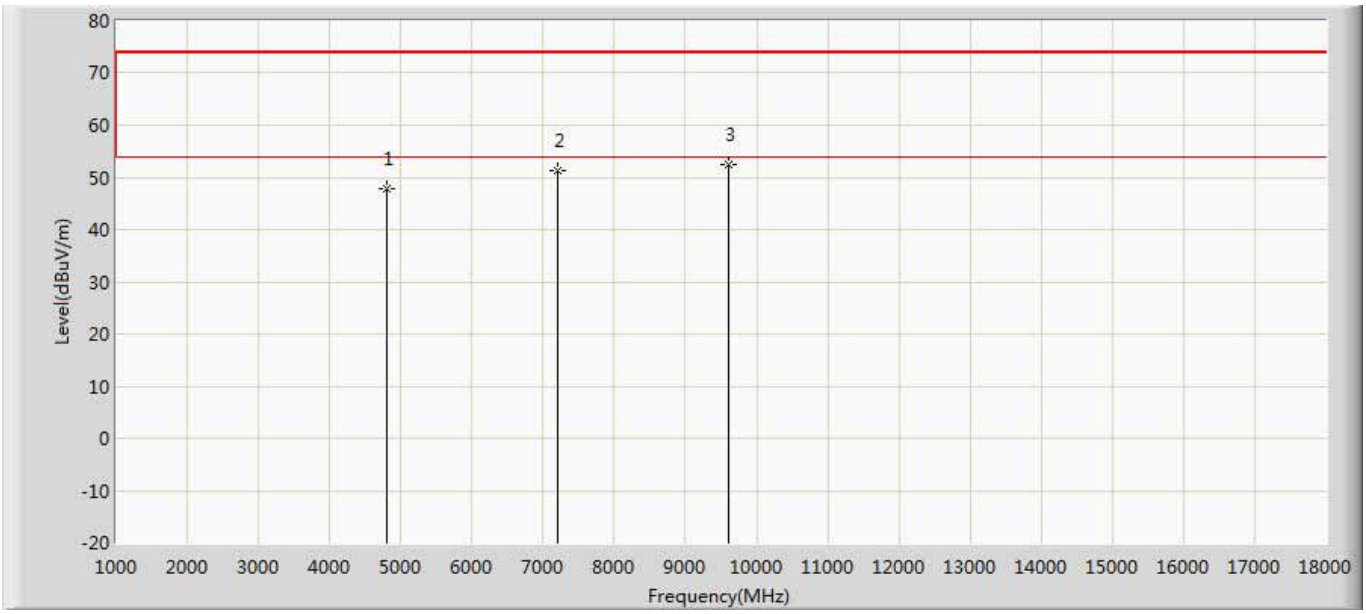
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	49.085	50.776	-24.915	74.000	-1.691	PK
2		7205.000	51.096	48.193	-22.904	74.000	2.903	PK
3	*	9602.000	57.897	53.221	-16.103	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	49.085	18.243	-35.757	54.000	-30.842	AV
2	*	7205.000	51.096	20.254	-33.746	54.000	-30.842	AV
3	*	9602.000	57.897	27.055	-26.945	54.000	-30.842	AV

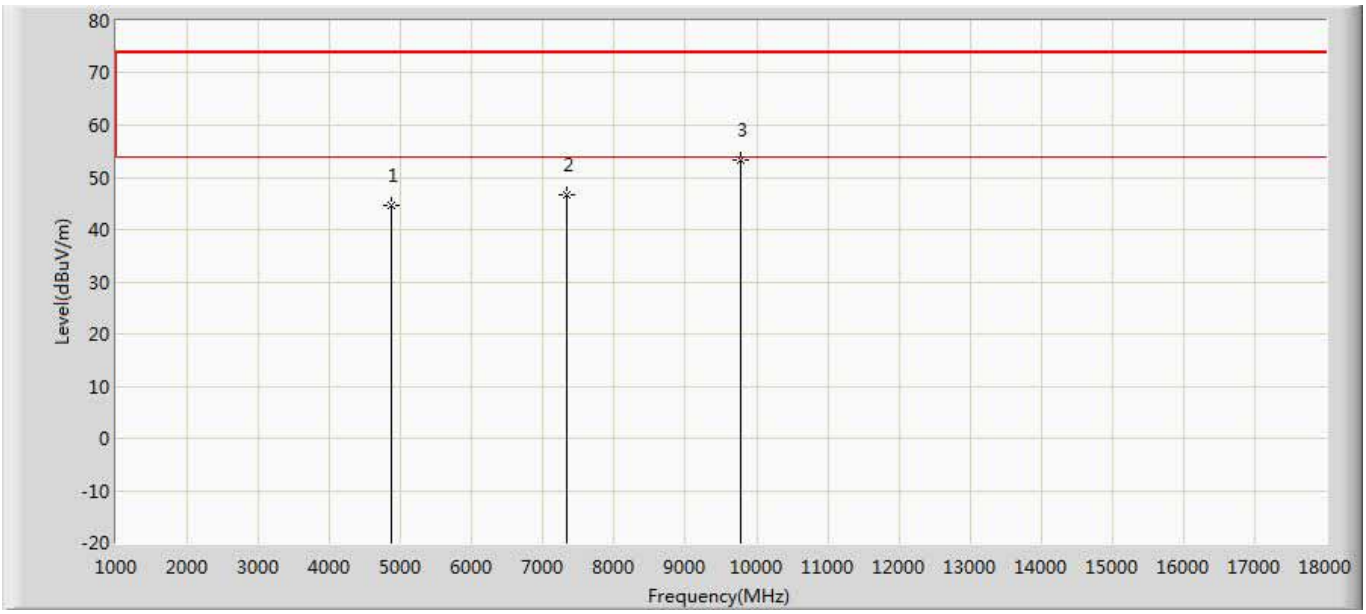
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	47.803	49.494	-26.197	74.000	-1.691	PK
2		7205.000	51.413	48.510	-22.587	74.000	2.903	PK
3	*	9602.000	52.538	47.862	-21.462	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	47.803	16.961	-37.039	54.000	-30.842	AV
2	*	7205.000	51.413	20.571	-33.429	54.000	-30.842	AV
3	*	9602.000	52.538	21.696	-32.304	54.000	-30.842	AV

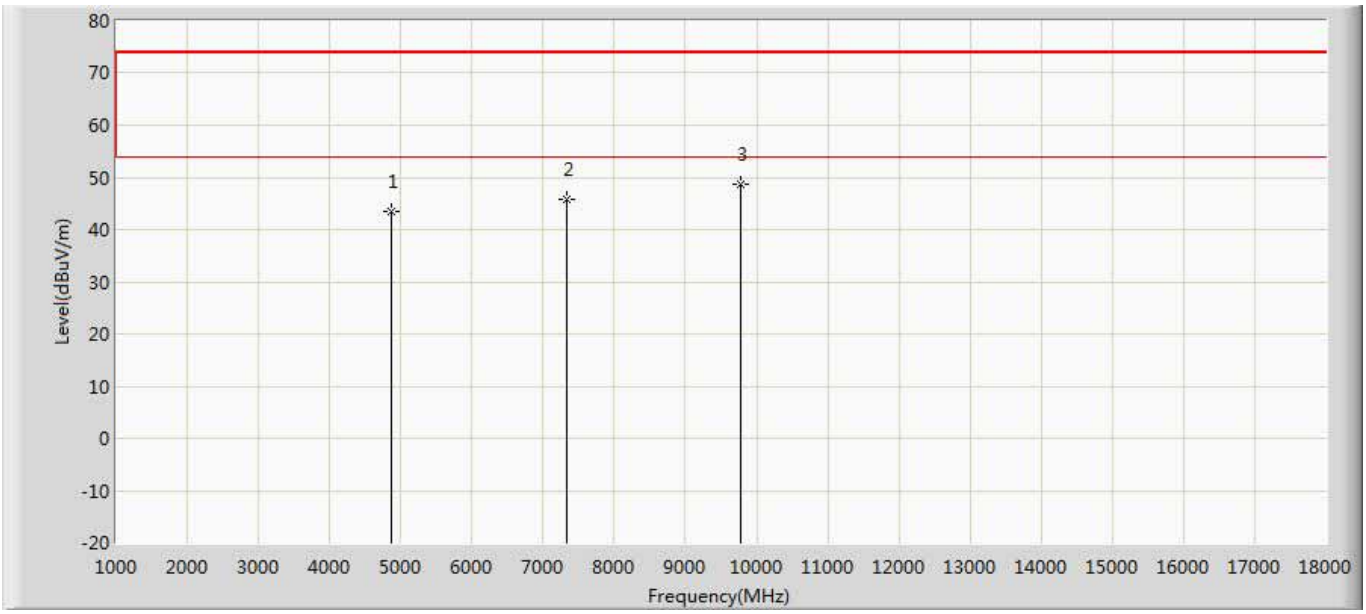
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	44.725	46.307	-29.275	74.000	-1.582	PK
2		7324.000	46.793	43.998	-27.207	74.000	2.795	PK
3	*	9772.000	53.279	48.589	-20.721	74.000	4.690	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	44.725	13.883	-40.117	54.000	-30.842	AV
2	*	7324.000	46.793	15.951	-38.049	54.000	-30.842	AV
3	*	9772.000	53.279	22.437	-31.563	54.000	-30.842	AV

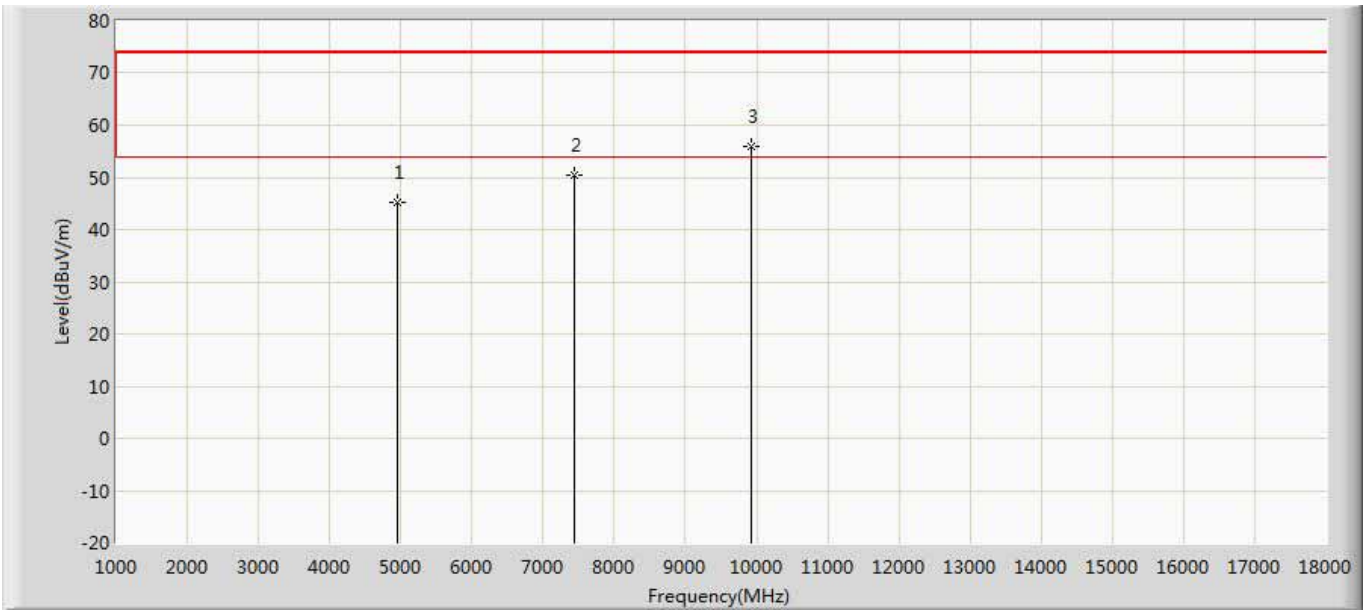
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2441MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	43.486	45.068	-30.514	74.000	-1.582	PK
2		7324.000	45.838	43.043	-28.162	74.000	2.795	PK
3	*	9772.000	48.754	44.064	-25.246	74.000	4.690	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	43.486	12.644	-41.356	54.000	-30.842	AV
2	*	7324.000	45.838	14.996	-39.004	54.000	-30.842	AV
3	*	9772.000	48.754	17.912	-36.088	54.000	-30.842	AV

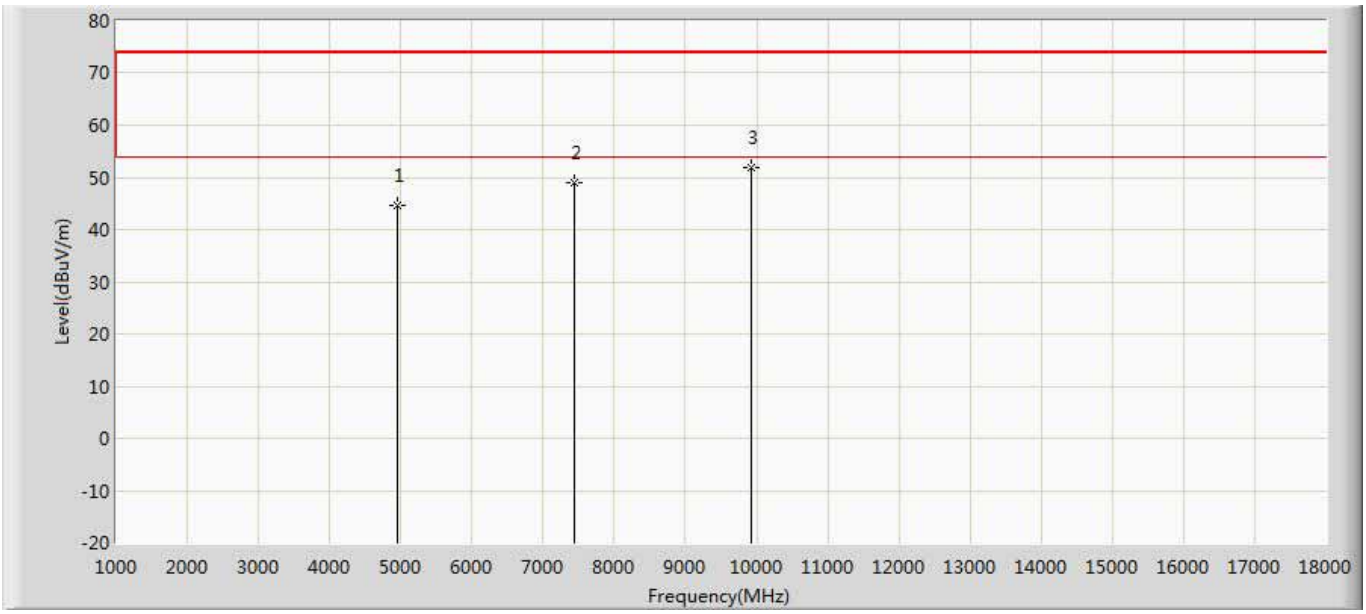
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.090	47.041	-28.910	74.000	-1.951	PK
2		7443.000	50.366	47.706	-23.634	74.000	2.660	PK
3	*	9925.000	55.857	50.840	-18.143	74.000	5.017	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.090	14.248	-39.752	54.000	-30.842	AV
2	*	7443.000	50.366	19.524	-34.476	54.000	-30.842	AV
3	*	9925.000	55.857	25.015	-28.985	54.000	-30.842	AV

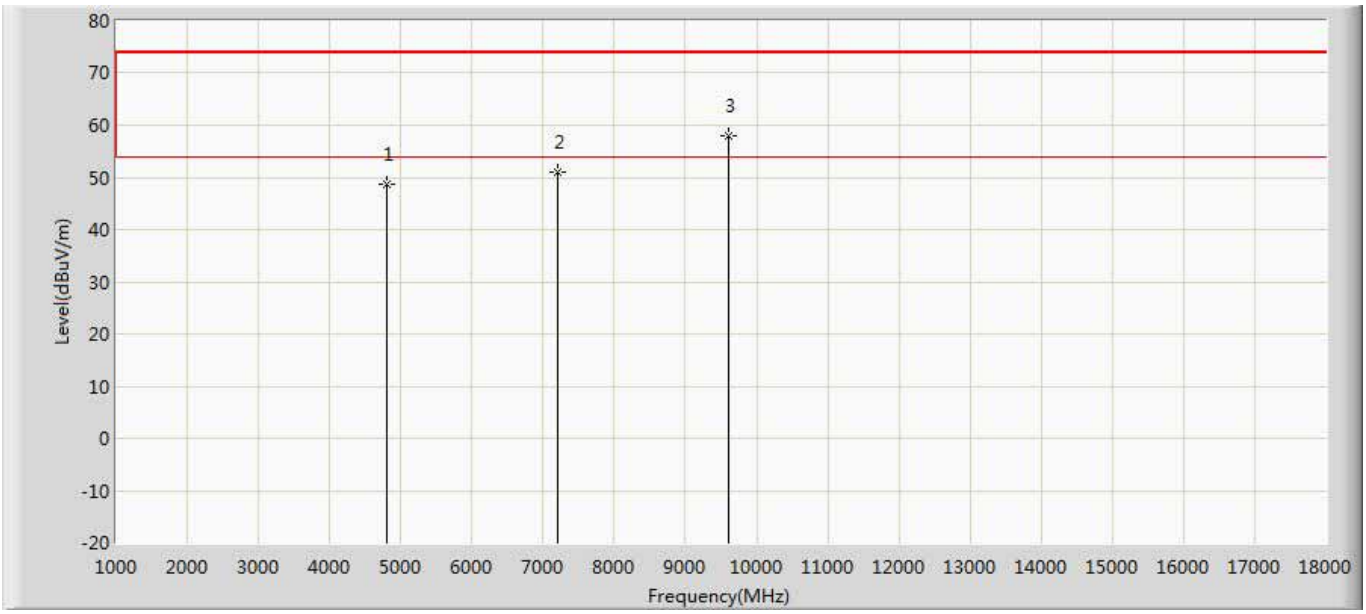
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	44.543	46.494	-29.457	74.000	-1.951	PK
2		7443.000	48.951	46.291	-25.049	74.000	2.660	PK
3	*	9925.000	51.835	46.818	-22.165	74.000	5.017	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	44.543	13.701	-40.299	54.000	-30.842	AV
2	*	7443.000	48.951	18.109	-35.891	54.000	-30.842	AV
3	*	9925.000	51.835	20.993	-33.007	54.000	-30.842	AV

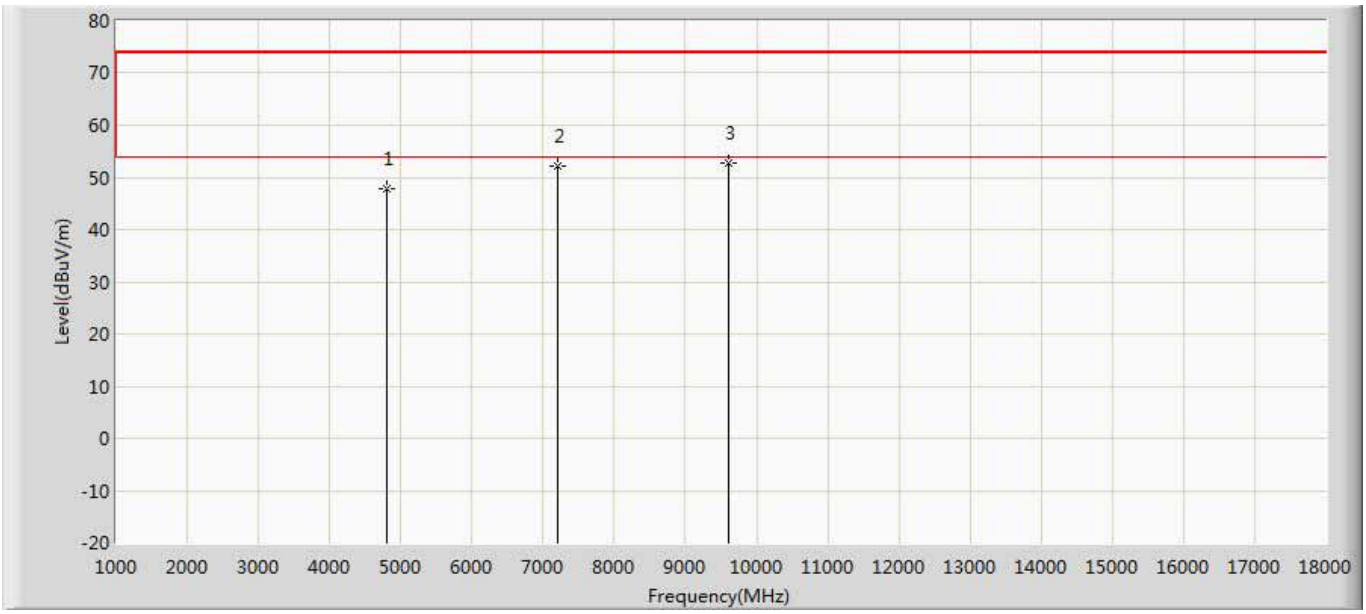
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	48.564	50.255	-25.436	74.000	-1.691	PK
2		7205.000	51.140	48.237	-22.860	74.000	2.903	PK
3	*	9602.000	57.935	53.259	-16.065	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	48.564	17.722	-36.278	54.000	-30.842	AV
2	*	7205.000	51.140	20.298	-33.702	54.000	-30.842	AV
3	*	9602.000	57.935	27.093	-26.907	54.000	-30.842	AV

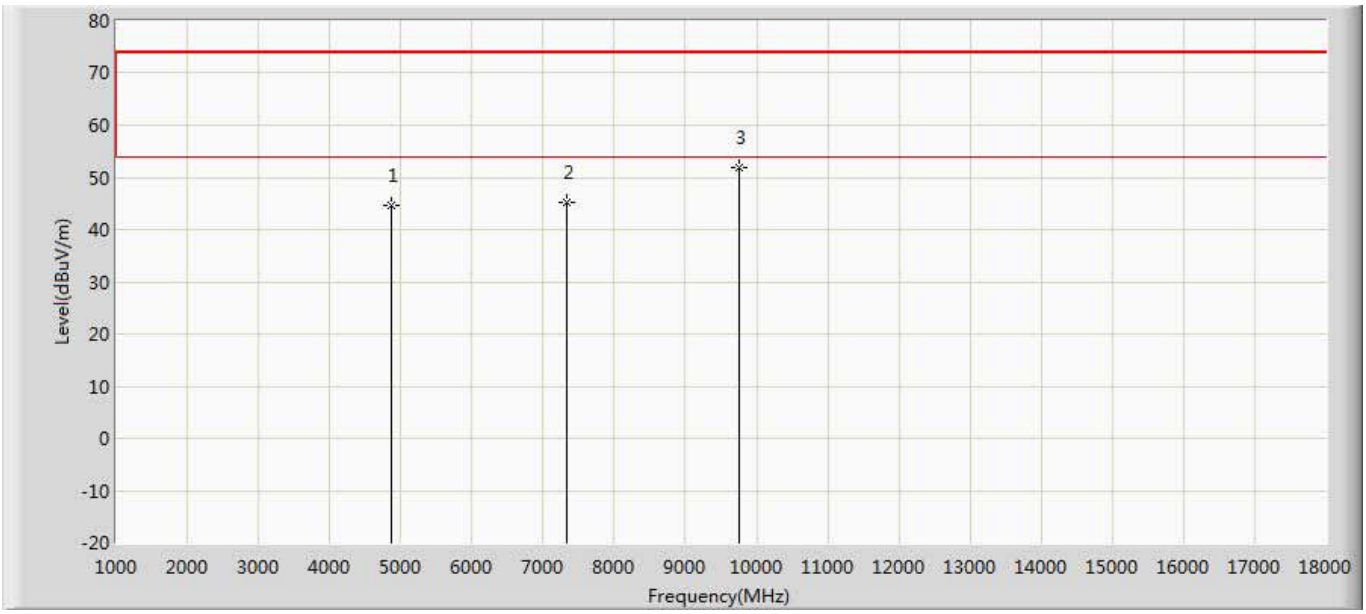
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	47.724	49.415	-26.276	74.000	-1.691	PK
2		7205.000	52.090	49.187	-21.910	74.000	2.903	PK
3	*	9602.000	52.821	48.145	-21.179	74.000	4.676	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	47.724	16.882	-37.118	54.000	-30.842	AV
2	*	7205.000	52.090	21.248	-32.752	54.000	-30.842	AV
3	*	9602.000	52.821	21.979	-32.021	54.000	-30.842	AV

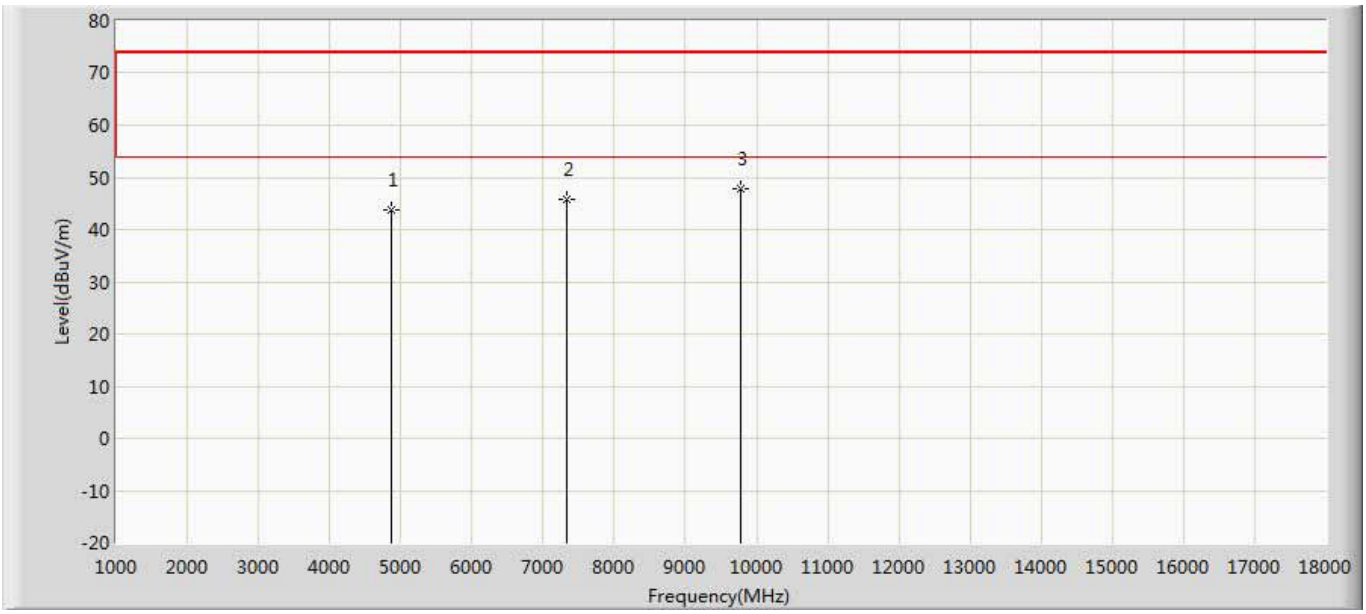
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	44.757	46.339	-29.243	74.000	-1.582	PK
2		7324.000	45.344	42.549	-28.656	74.000	2.795	PK
3	*	9755.000	51.938	48.143	-22.062	74.000	3.795	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	44.757	13.915	-40.085	54.000	-30.842	AV
2	*	7324.000	45.344	14.502	-39.498	54.000	-30.842	AV
3	*	9755.000	51.938	21.096	-32.904	54.000	-30.842	AV

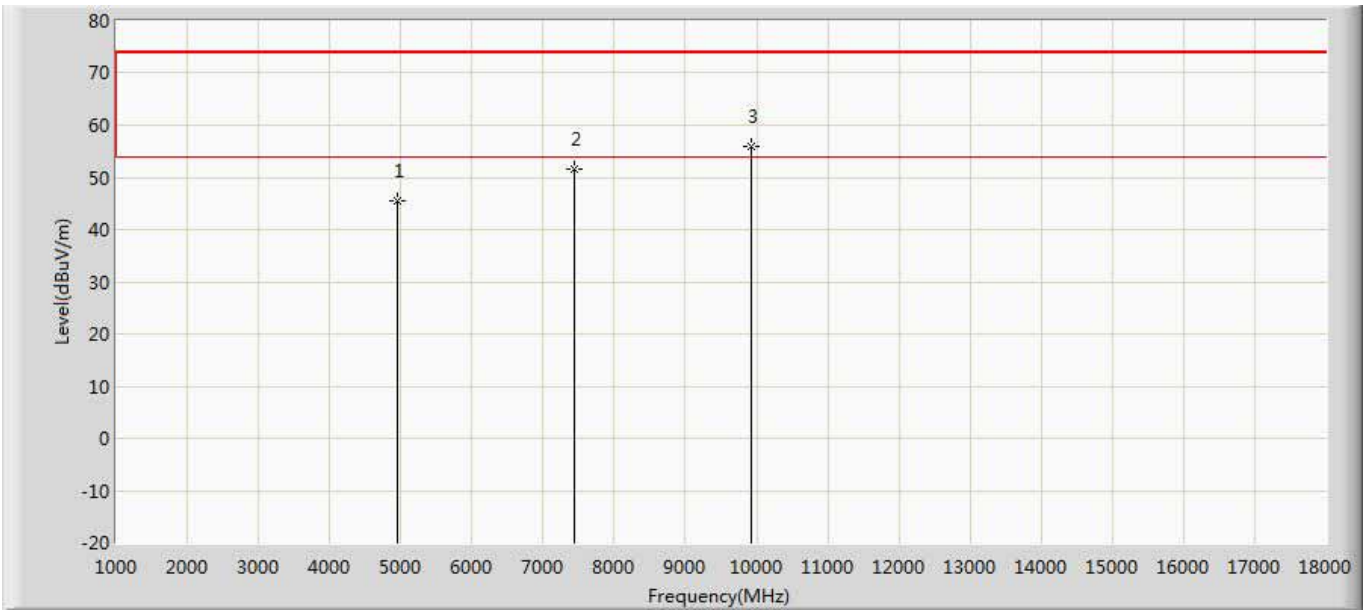
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2441MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	43.790	45.372	-30.210	74.000	-1.582	PK
2		7324.000	45.935	43.140	-28.065	74.000	2.795	PK
3	*	9772.000	47.879	43.189	-26.121	74.000	4.690	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	43.790	12.948	-41.052	54.000	-30.842	AV
2	*	7324.000	45.935	15.093	-38.907	54.000	-30.842	AV
3	*	9772.000	47.879	17.037	-36.963	54.000	-30.842	AV

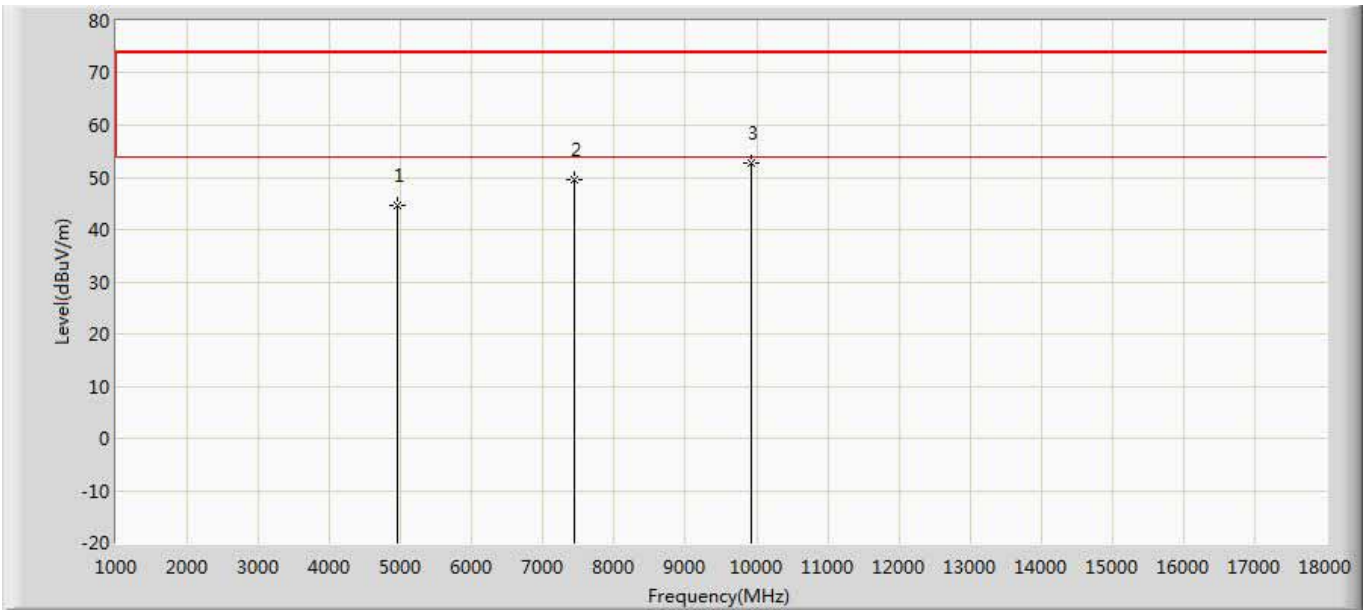
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.634	47.585	-28.366	74.000	-1.951	PK
2		7443.000	51.543	48.883	-22.457	74.000	2.660	PK
3	*	9925.000	56.010	50.993	-17.990	74.000	5.017	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.634	14.792	-39.208	54.000	-30.842	AV
2	*	7443.000	51.543	20.701	-33.299	54.000	-30.842	AV
3	*	9925.000	56.010	25.168	-28.832	54.000	-30.842	AV

Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 16:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 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	44.500	46.451	-29.500	74.000	-1.951	PK
2		7443.000	49.464	46.804	-24.536	74.000	2.660	PK
3	*	9925.000	52.880	47.863	-21.120	74.000	5.017	PK

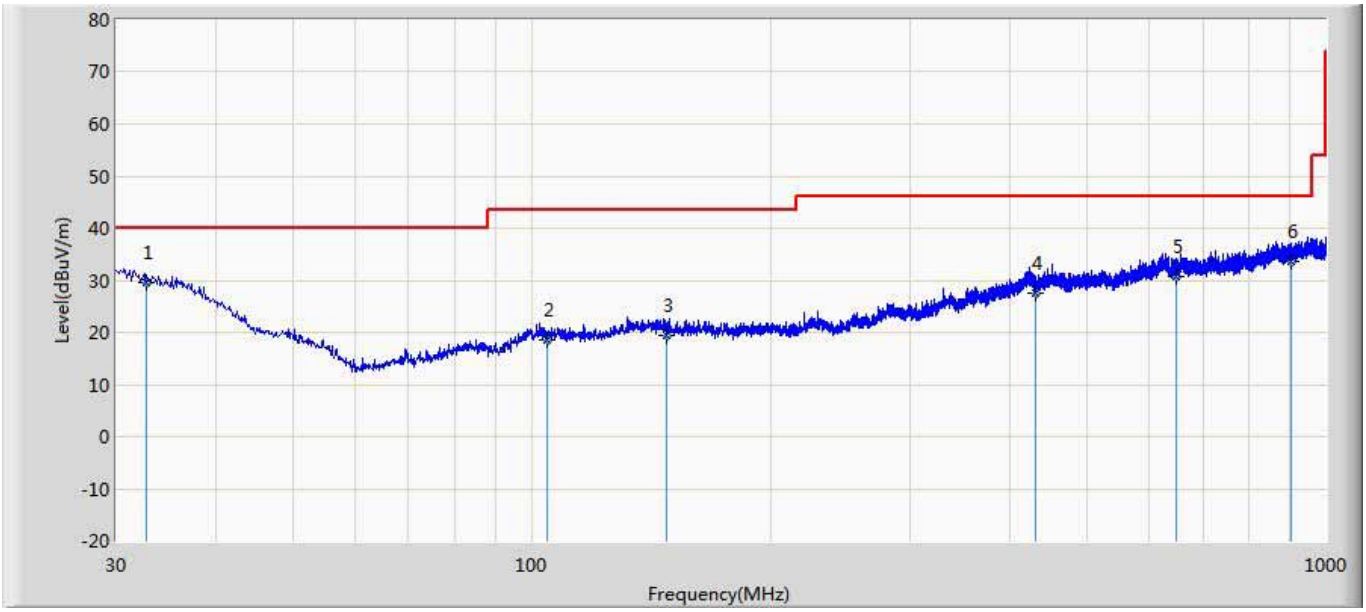
No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	44.500	13.658	-40.342	54.000	-30.842	AV
2	*	7443.000	49.464	18.622	-35.378	54.000	-30.842	AV
3	*	9925.000	52.880	22.038	-31.962	54.000	-30.842	AV

Radiated Emission above 18GHz:

Note：The peak value of Radiated Emission above 18GHz is negligible, so this test item is not shown in the report.

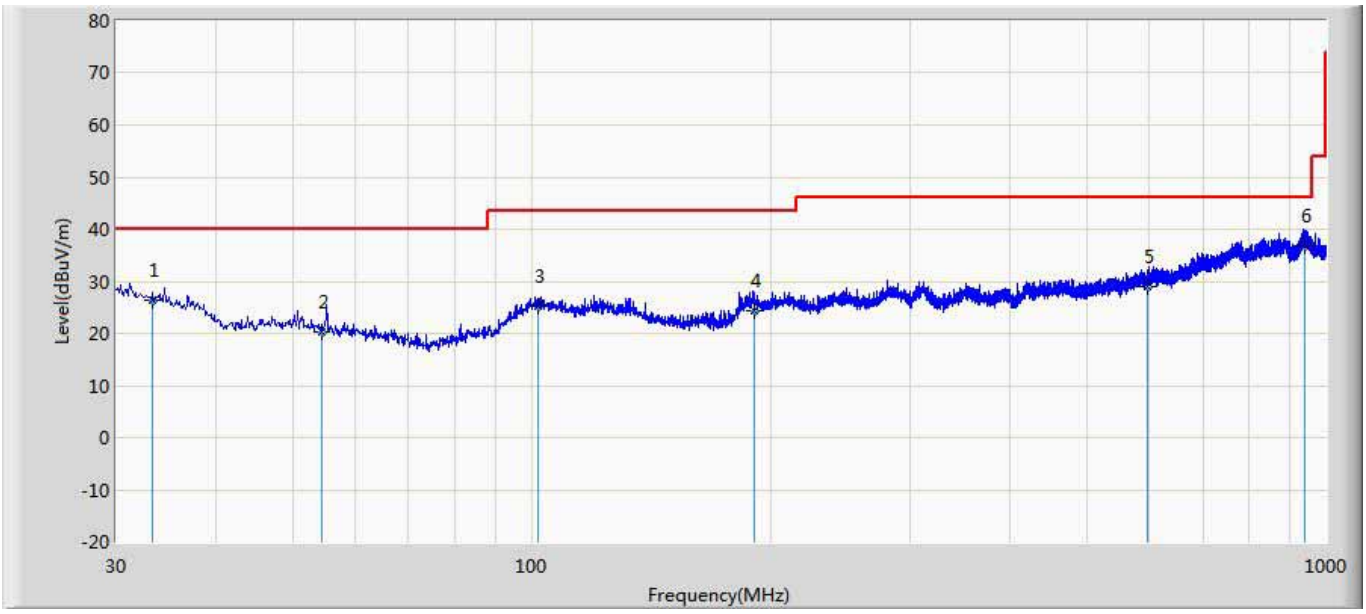
The worst case of Radiated Emission below 1GHz:

Engineer: CptJack	
Site: AC3	Time: 2018/04/08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	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)	Type
1	*	32.789	29.573	3.100	-10.427	40.000	19.968	6.470	QP
2		104.811	18.499	2.300	-25.001	43.500	9.299	6.871	QP
3		148.098	19.406	2.000	-24.094	43.500	10.239	7.071	QP
4		430.367	27.509	0.800	-18.491	46.000	18.646	7.986	QP
5		648.981	30.733	2.000	-15.267	46.000	20.094	8.544	QP
6		904.576	33.737	1.600	-12.263	46.000	22.968	9.105	QP

Engineer: CptJack	
Site: AC3	Time: 2018/04/08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	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)	Type
1		33.395	26.325	3.300	-13.675	40.000	16.533	6.475	QP
2		54.493	20.200	3.100	-19.800	40.000	10.430	6.620	QP
3		101.780	25.170	3.000	-18.330	43.500	15.236	6.866	QP
4		190.656	24.264	3.000	-19.236	43.500	14.014	7.249	QP
5		596.480	28.901	1.800	-17.099	46.000	18.678	8.420	QP
6	*	939.739	36.778	2.500	-9.222	46.000	25.039	9.182	QP

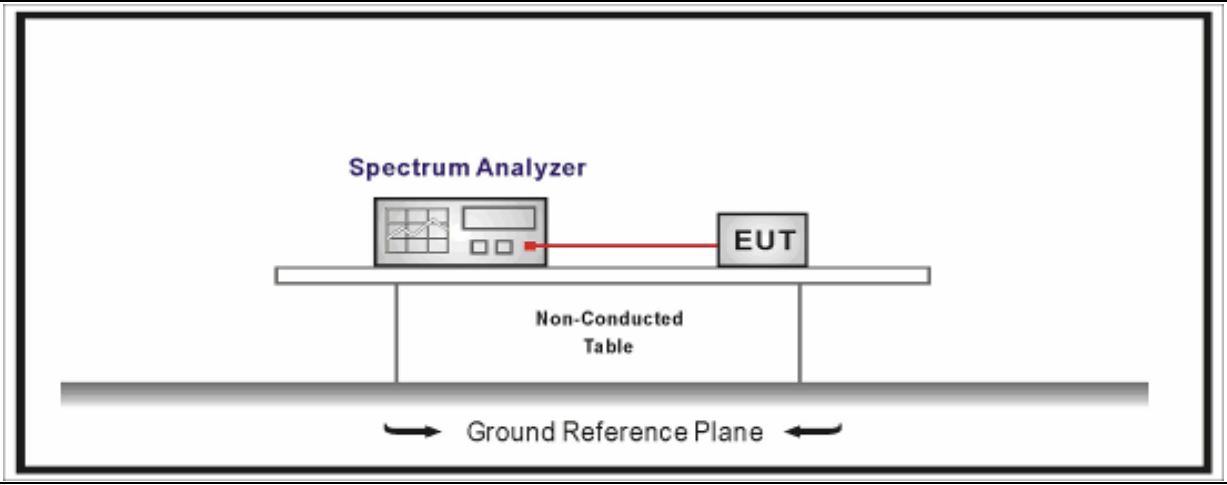
5. 20dB Bandwidth

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2 Test Setup

20dB Occupied Bandwidth 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

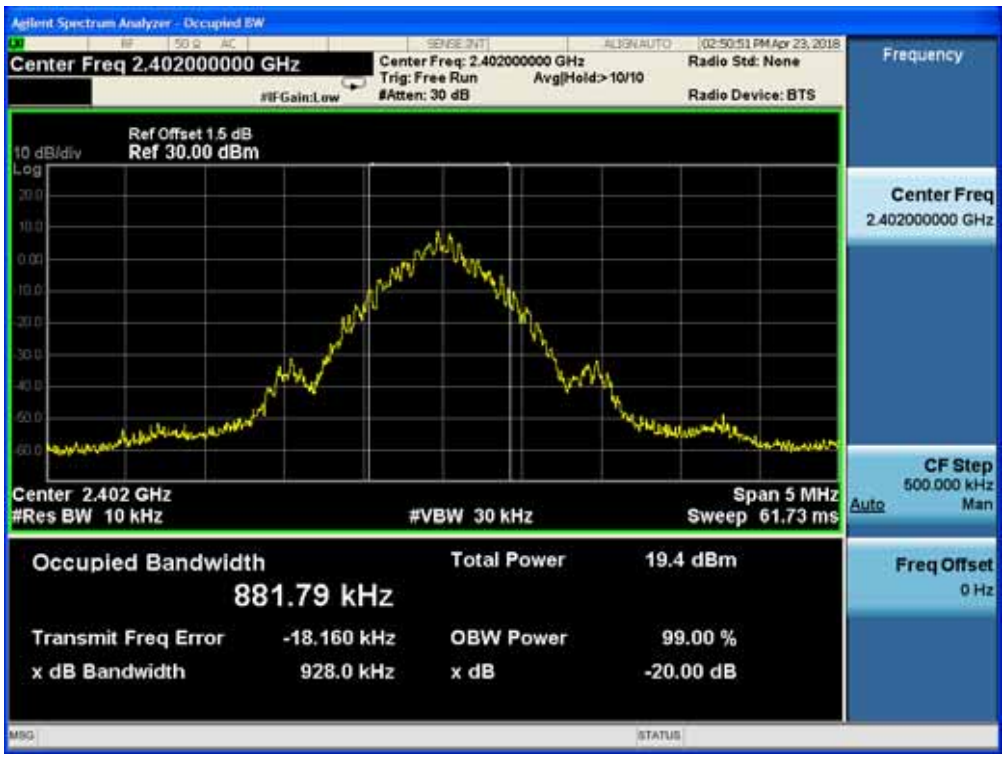
The measurement uncertainty is defined as ± 1 kHz

5.6 Test Result

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	928.0	881.79
39	2441	936.0	929.79
78	2480	970.8	940.89

Channel 00 (2402MHz)



Channel 39 (2441MHz)

Channel 78 (2480MHz)

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1379	1240.4
39	2441	1420	1280.5
78	2480	1422	1278.7

Channel 00 (2402MHz)

Channel 39 (2441MHz)

Channel 78 (2480MHz)

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1388	1283.7
39	2441	1384	1269.7
78	2480	1371	1233.5

Channel 00 (2402MHz)

Channel 39 (2441MHz)

Channel 78 (2480MHz)

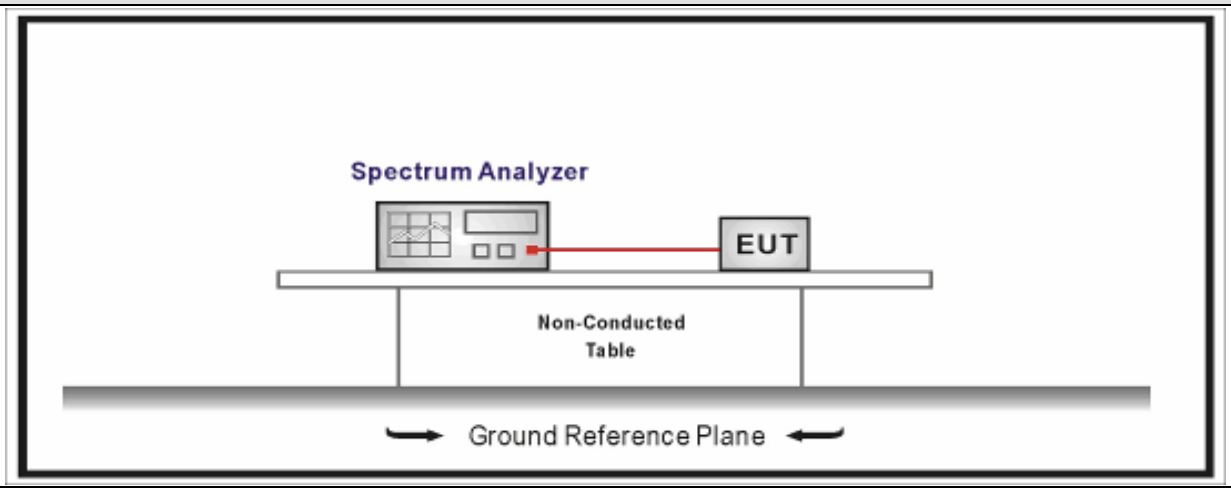
6. Carrier Frequency Separation

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup

Carrier Frequency Separation 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

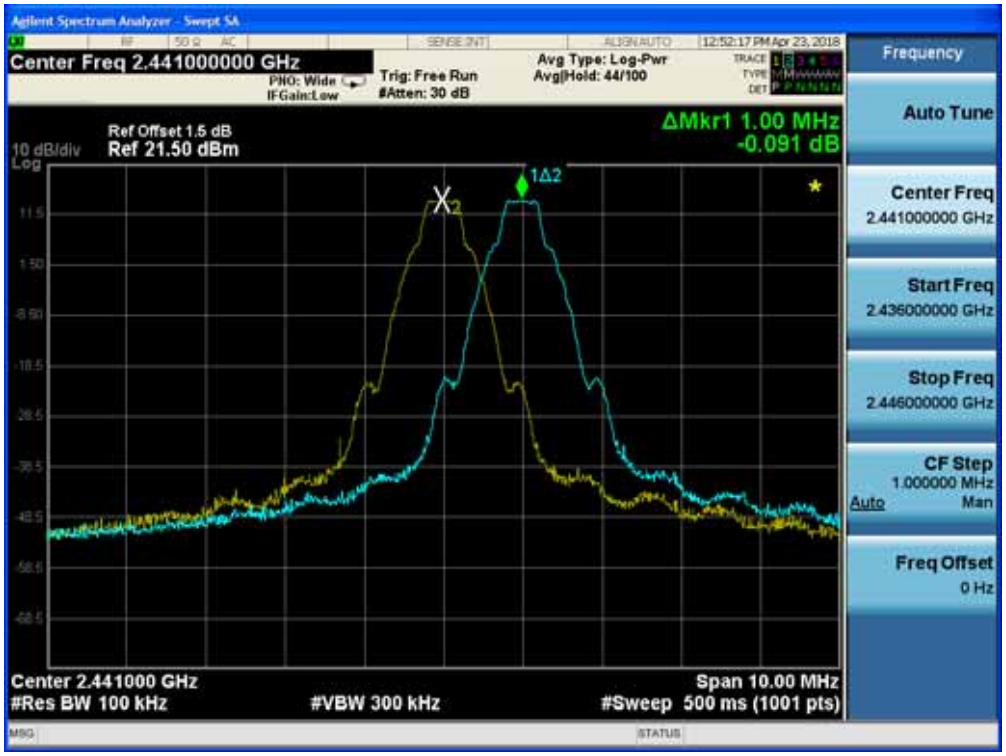
6.6. Test Result

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	928	Pass
39	2441	1000	936	Pass
78	2480	1000	970.8	Pass

Channel 00 (2402MHz)

Channel 39 (2441MHz)

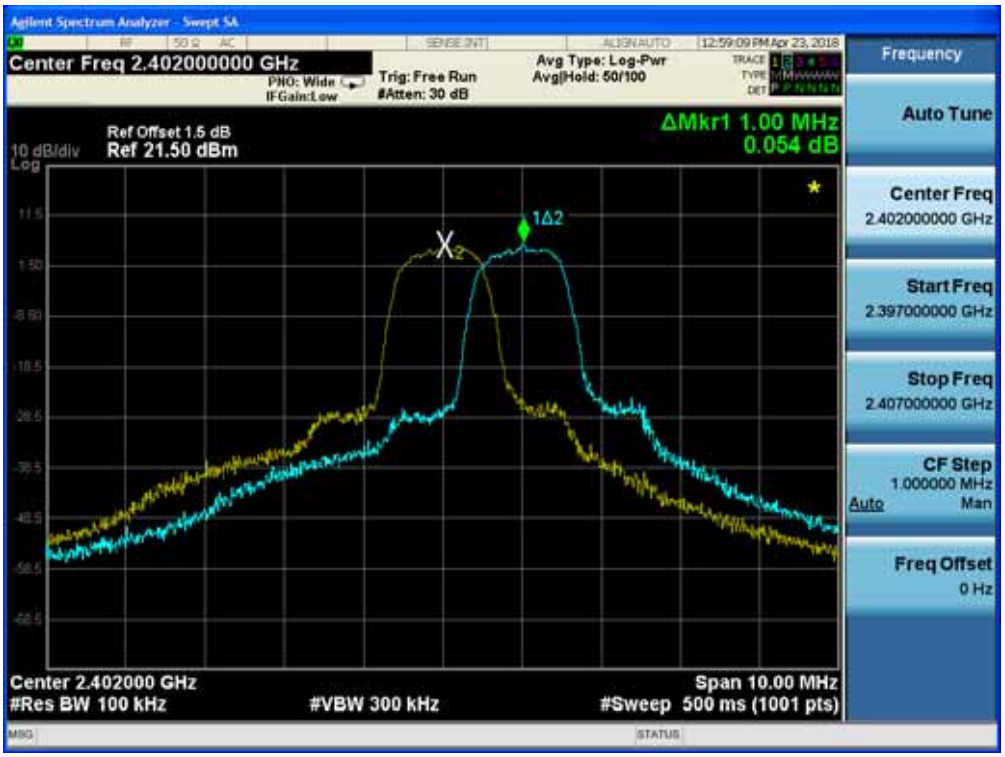


Channel 78 (2480MHz)

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	1379	Pass
39	2441	1000	1420	Pass
78	2480	1000	1422	Pass

Channel 00 (2402MHz)



Channel 39 (2441MHz)

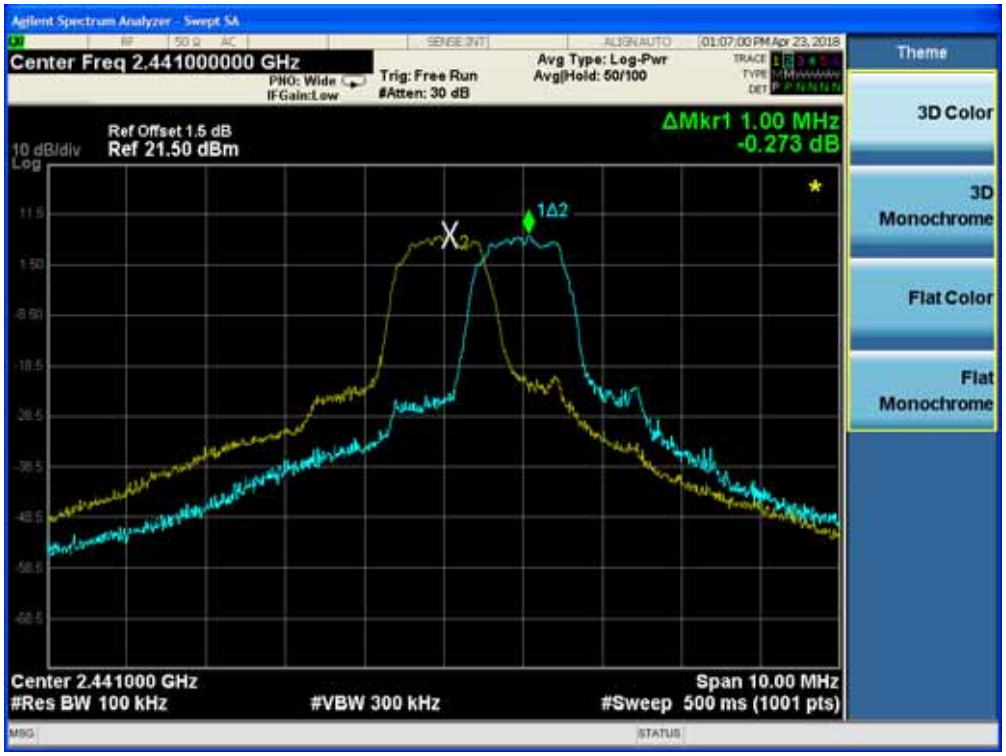
Channel 78 (2480MHz)

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	1388	Pass
39	2441	1000	1384	Pass
78	2480	1000	1371	Pass

Channel 00 (2402MHz)

Channel 39 (2441MHz)



Channel 78 (2480MHz)

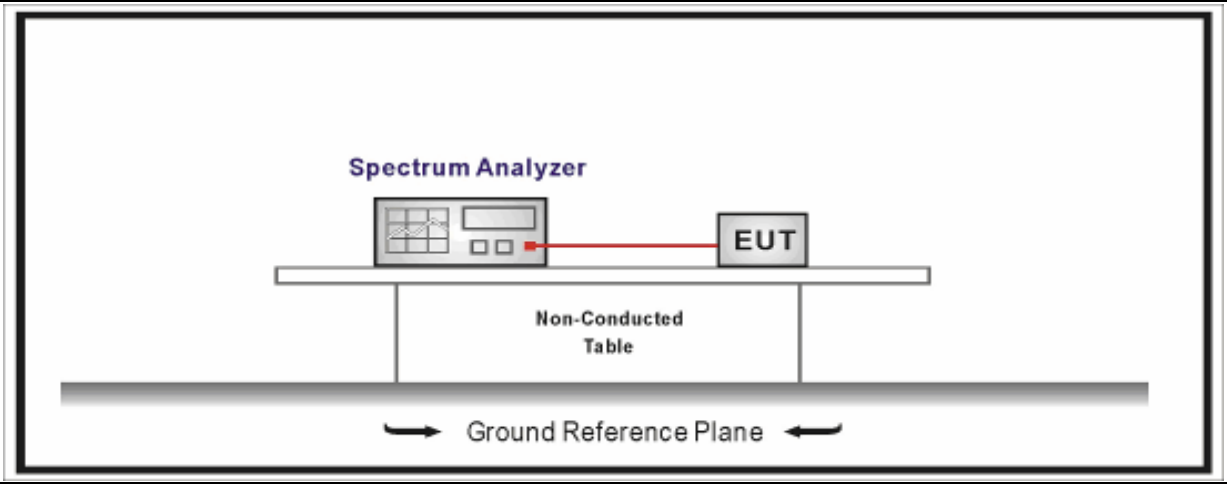
7. Number of Hopping Frequencies

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Number of Hopping Frequencies 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

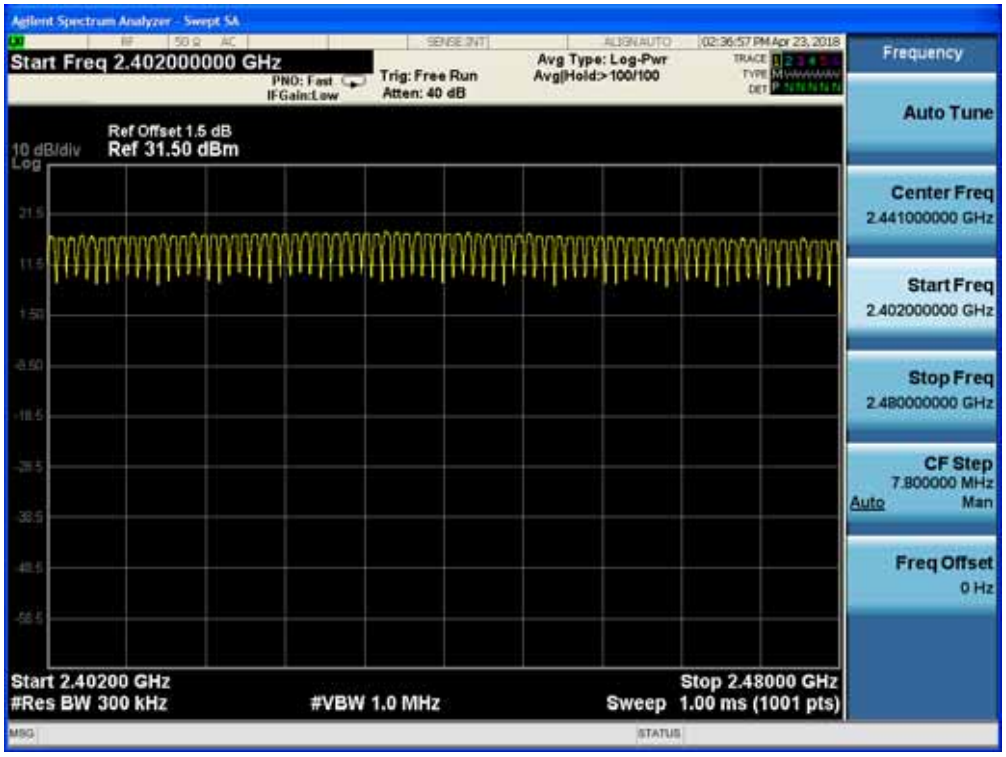
The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

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

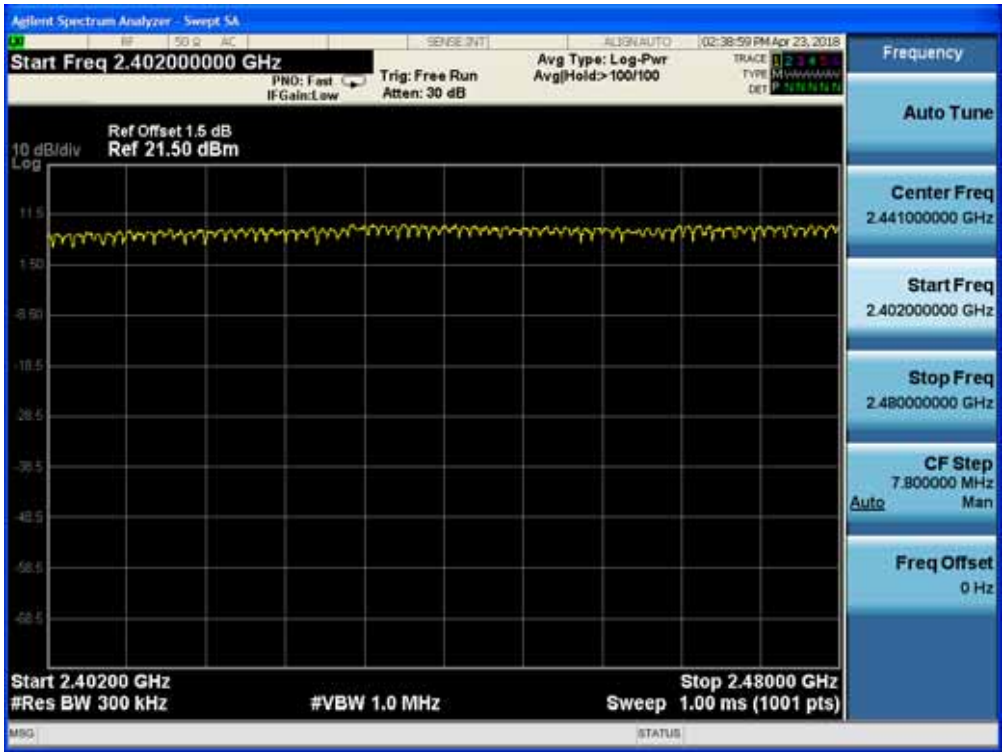
2402 - 2480MHz



Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

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

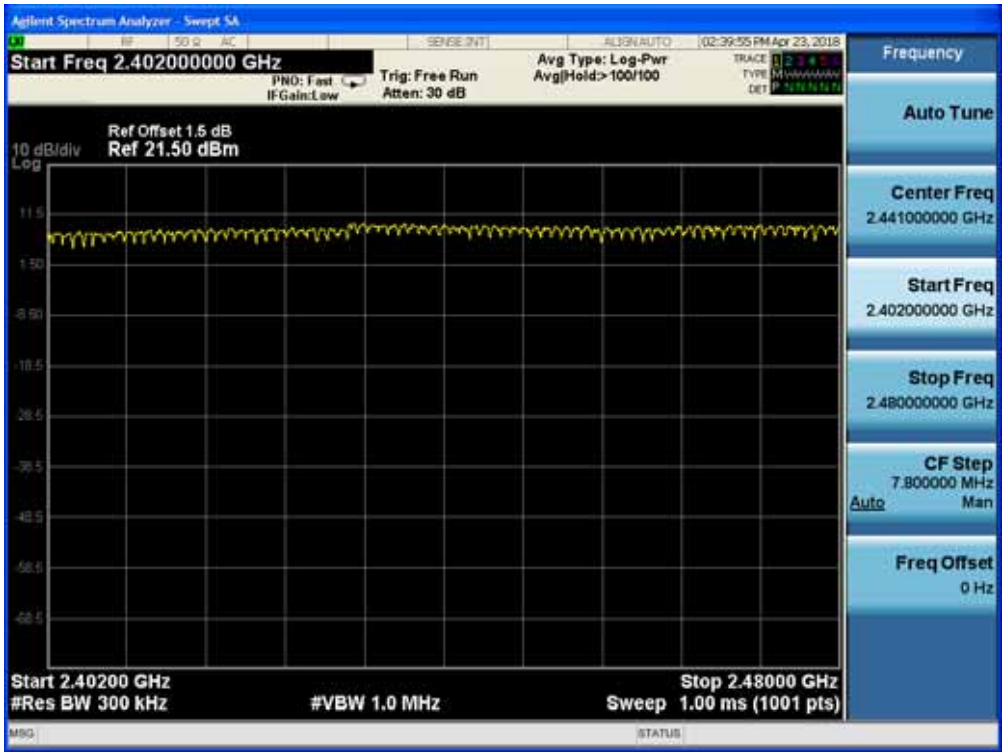
2402 - 2480 MHz



Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2018.04.12	Test Engineer	:	Slark

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

2402 - 2480 MHz



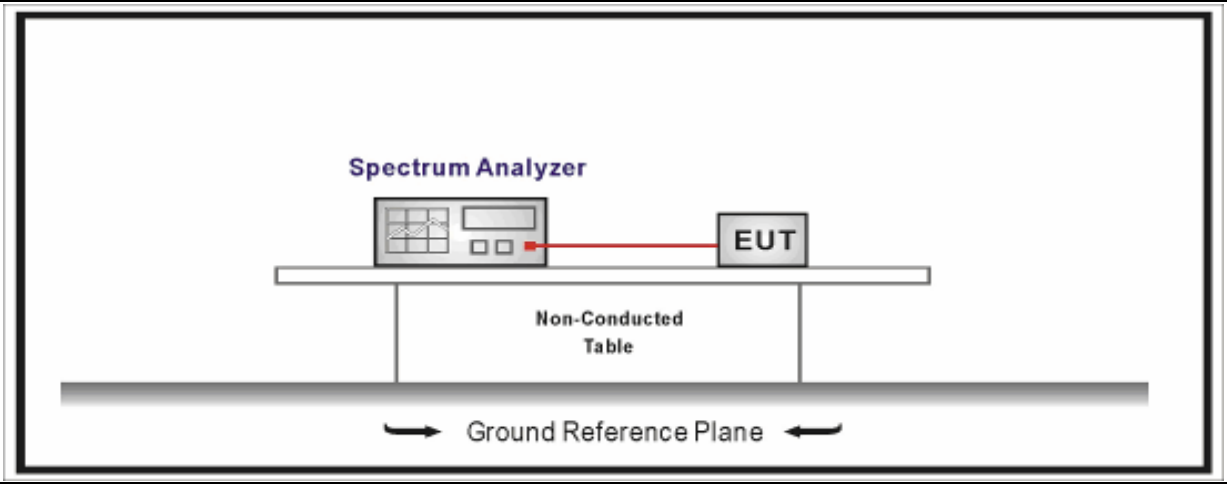
8. Time of Occupancy (Dwell Time)

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Time of Occupancy (Dwell Time) test setup:



8.3. Limit

Time of Occupancy (Dwell Time)	
☒	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 ± 0.1 us

8.6. Test Result

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1(GFSK_DH1)	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

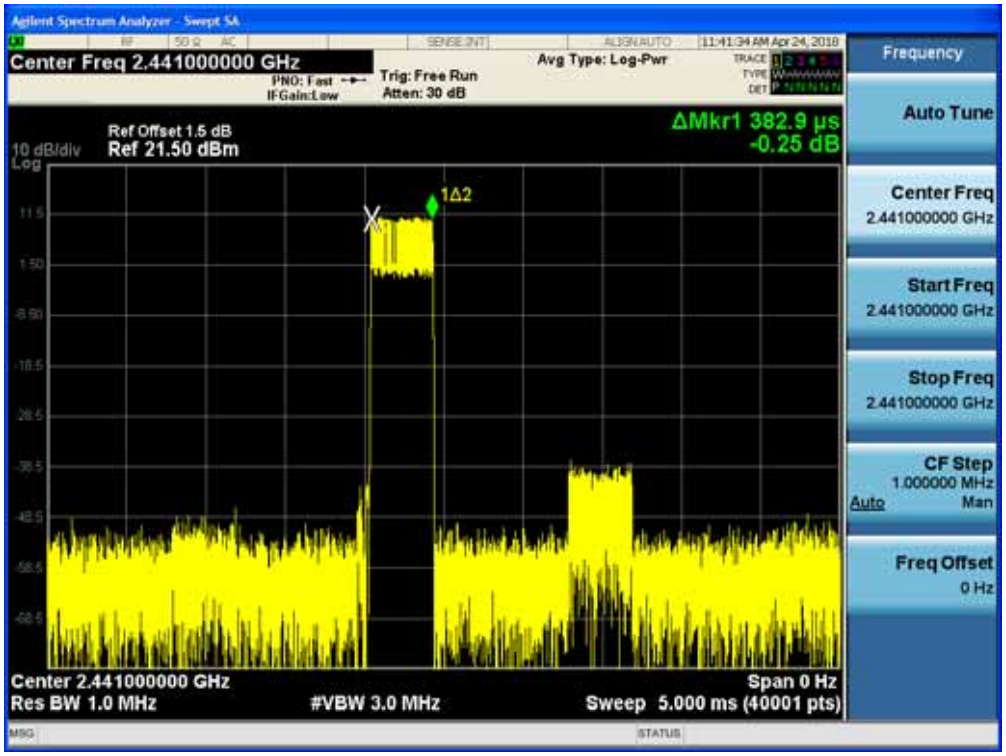
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	122.56	< 400	Pass

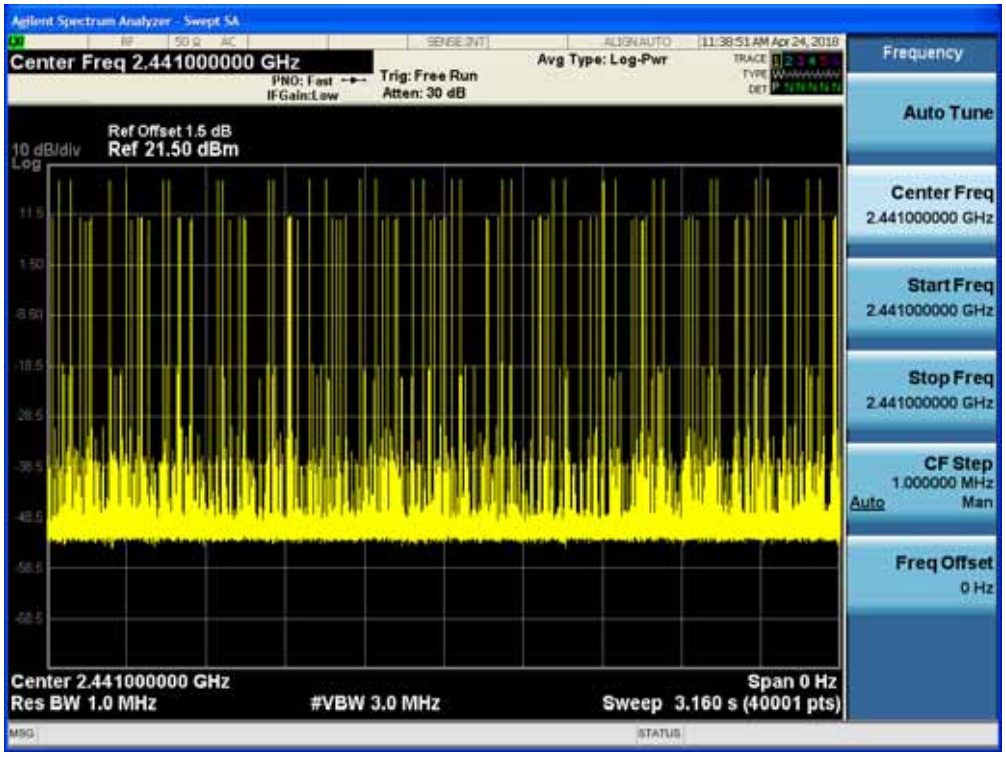
Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=0.383*32*31.6/3.16=122.56ms

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

Channel 39 (2441MHz)-(DH1)




Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
11:38:51 AM Apr 24, 2018
Ref Offset 1.5 dB
10 dB/div
Log
Ref 21.50 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.160 s (40001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1(GFSK_DH3)	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

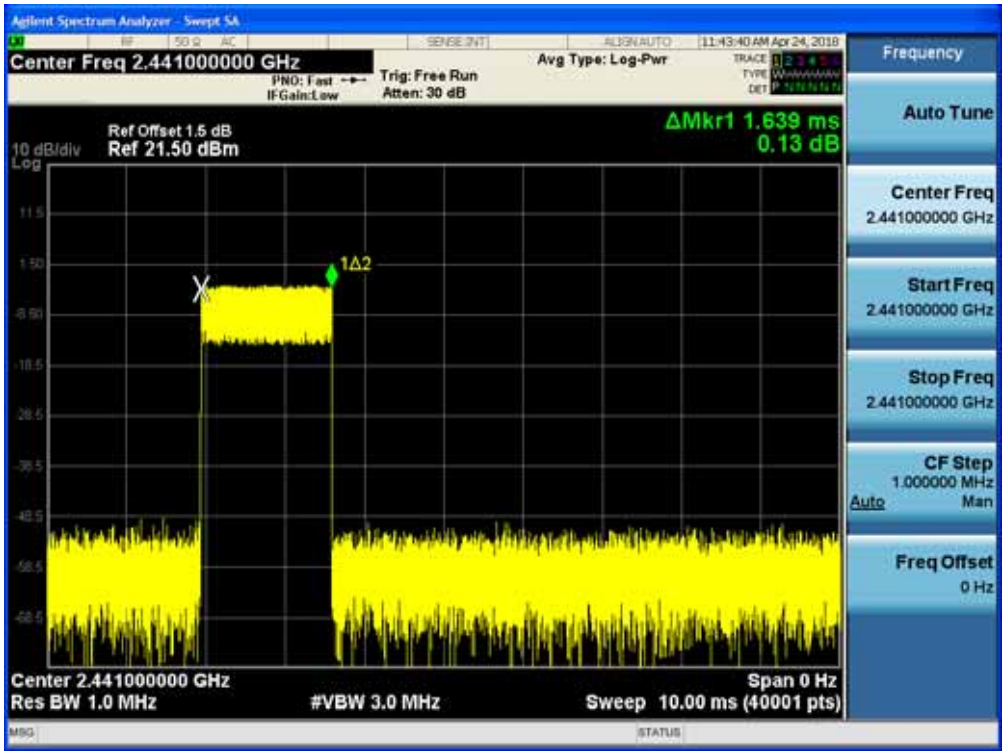
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	262.24	< 400	Pass

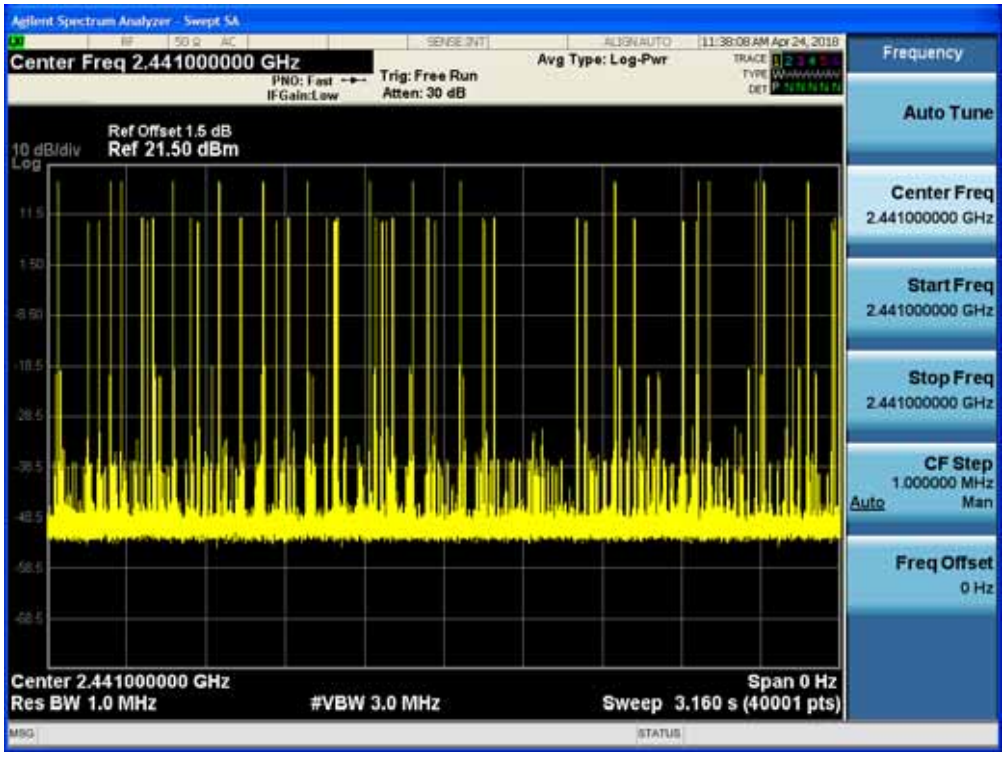
Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=1.639*16*31.6/3.16=262.24ms

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

Channel 39 (2441MHz) - (DH3)




Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Ref Offset 1.5 dB
10 dB/div
Ref 21.50 dBm
Log
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.160 s (40001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1(GFSK_DH5)	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

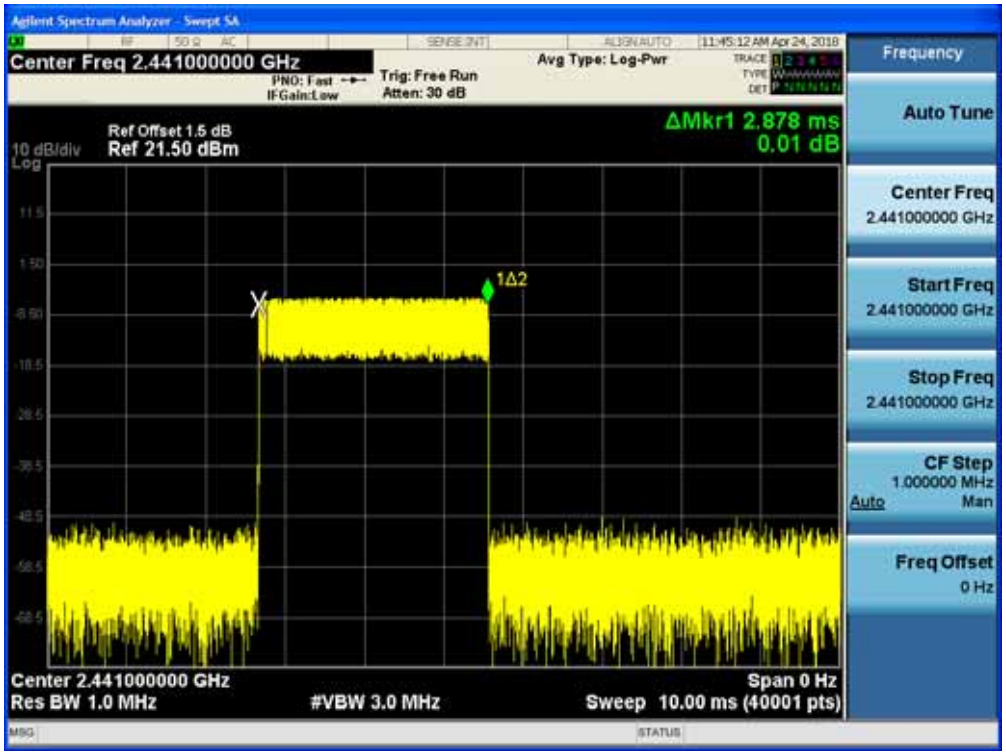
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	259.02	< 400	Pass

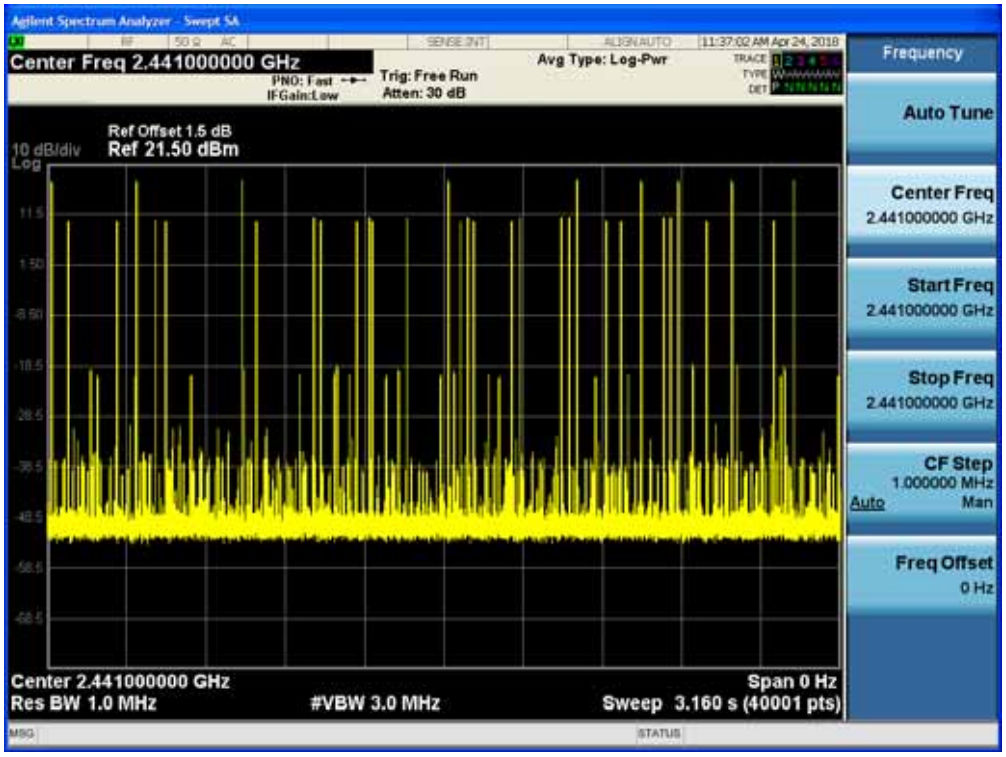
Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=2.878*9*31.6/3.16=259.02ms

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

Channel 39 (2441MHz) - (DH5)




Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
11:37:02 AM Apr 24, 2018
Ref Offset 1.5 dB
10 dB/div
Log
Ref 21.50 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.160 s (40001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

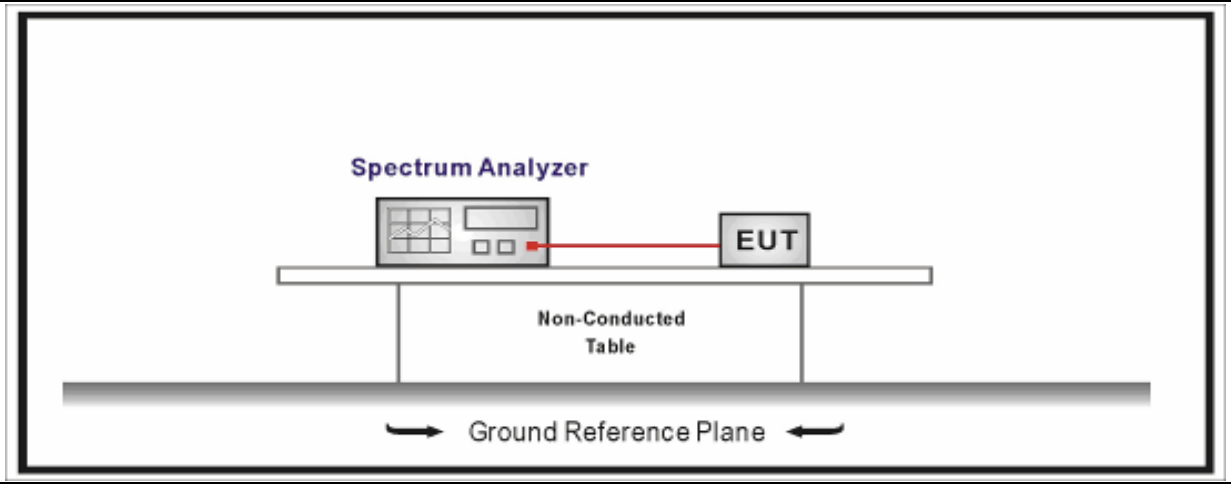
9. Peak Output Power

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup

Peak Output Power 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	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	16.8	21.00	Pass
39	2441	17.3	21.00	Pass
78	2480	17.6	21.00	Pass

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	12.8	21.00	Pass
39	2441	14.0	21.00	Pass
78	2480	13.8	21.00	Pass

Product Name	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2018.04.24	Test Engineer	:	Slark

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	13.3	21.00	Pass
39	2441	14.5	21.00	Pass
78	2480	14.3	21.00	Pass

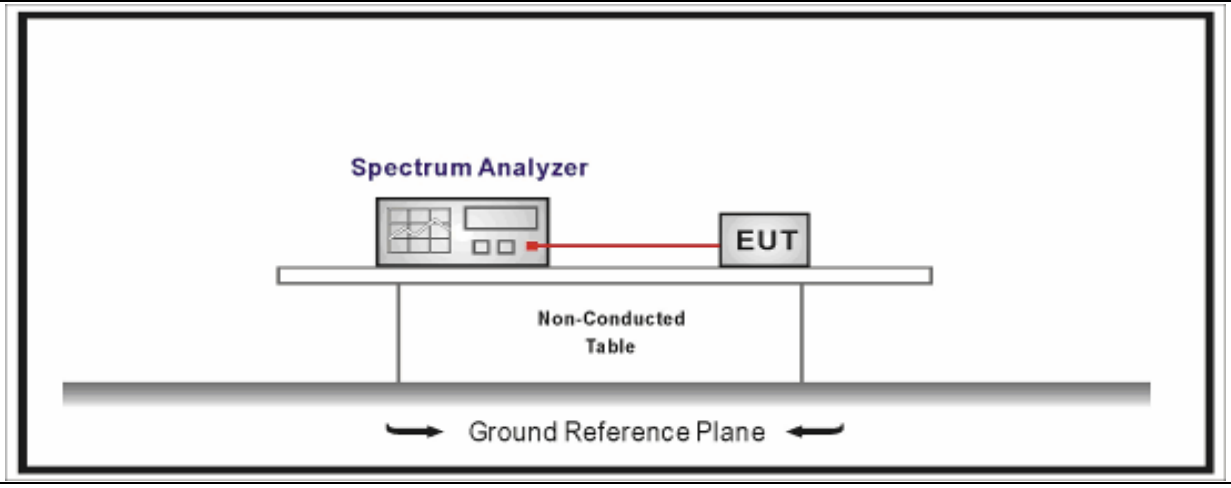
10. Emissions in non-restricted frequency bands

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	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

10.2. Test Setup

Emissions in non-restricted frequency bands 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	:	EZ-BT WICED XR Module with Mesh	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1~4	Test Site	:	TR-8
Test Date	:	2018.04.23	Test Engineer	:	Slark

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	15.623	2400.00	-39.611	55.234	>20	Pass
1	78	2480	15.867	2500.00	-56.976	72.843	>20	Pass
2	00	2402	8.906	2400.00	-34.080	42.986	>20	Pass
2	78	2480	9.766	2500.00	-57.103	66.869	>20	Pass
3	00	2402	9.032	2400.00	-25.974	35.006	>20	Pass
3	78	2480	9.772	2500.00	-57.072	66.844	>20	Pass
4	00~78	00~78	16.813	2400.00	-44.075	60.888	>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)

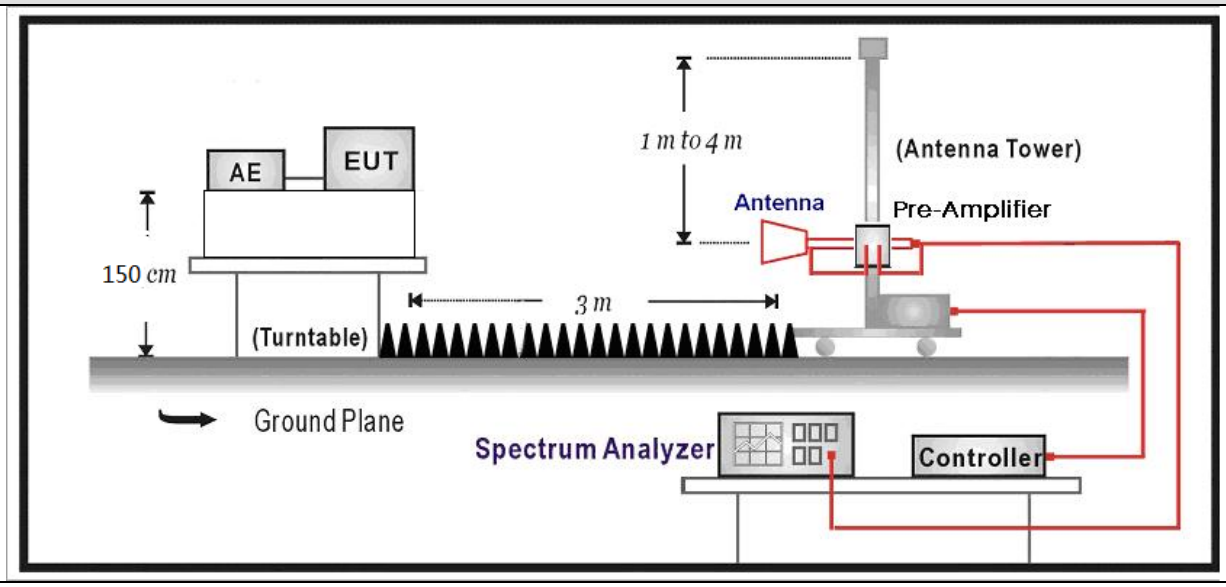
11. Radiated Emission Band Edge

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	2019.05.02
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

Above 1GHz Test Setup:



11.3. Limit

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

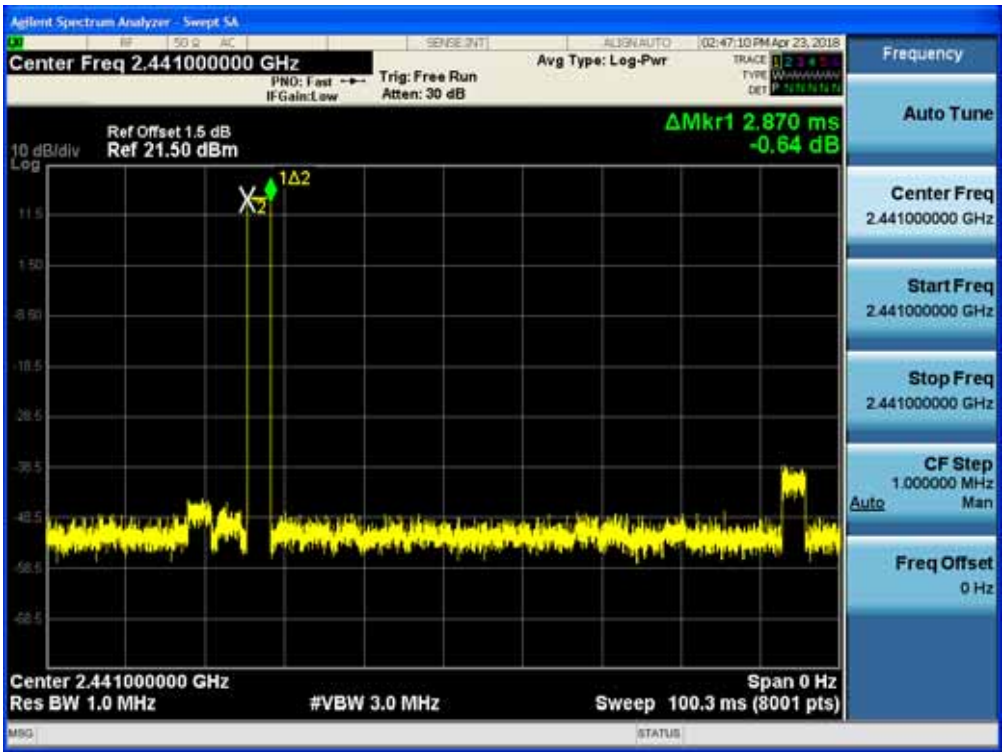
The measurement uncertainty above 1G is defined as ± 3.9 dB

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	2.870	1	2.870	-30.842

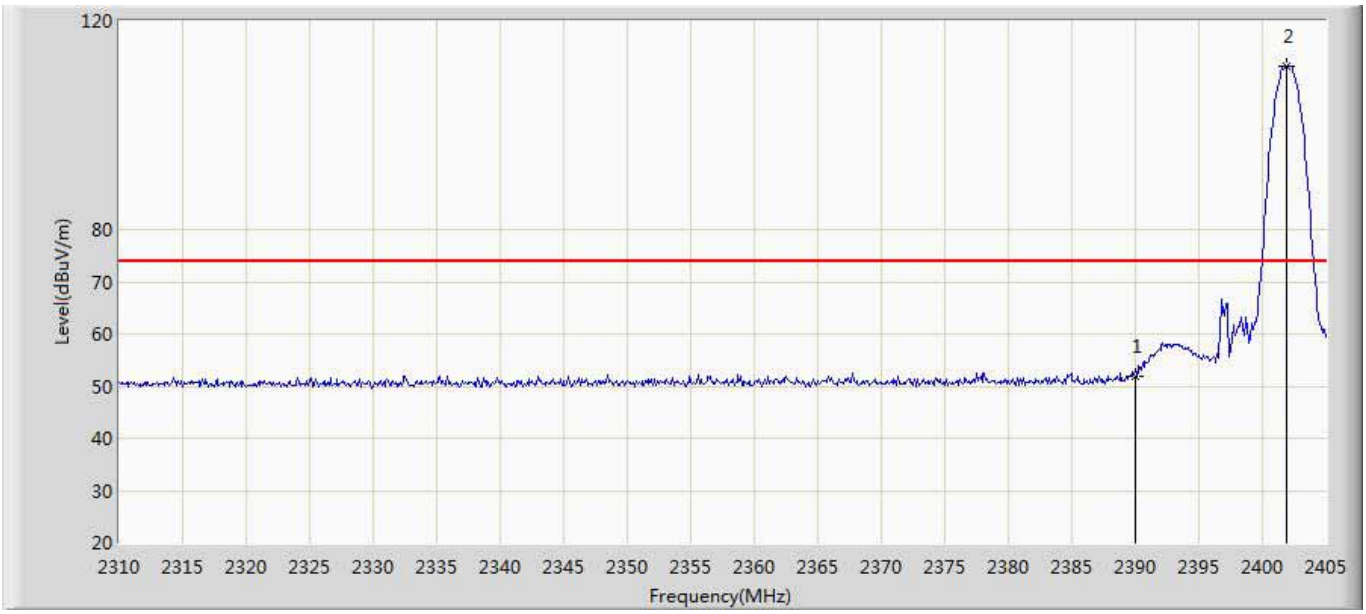
Pulse Number



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

11.7. Test Result

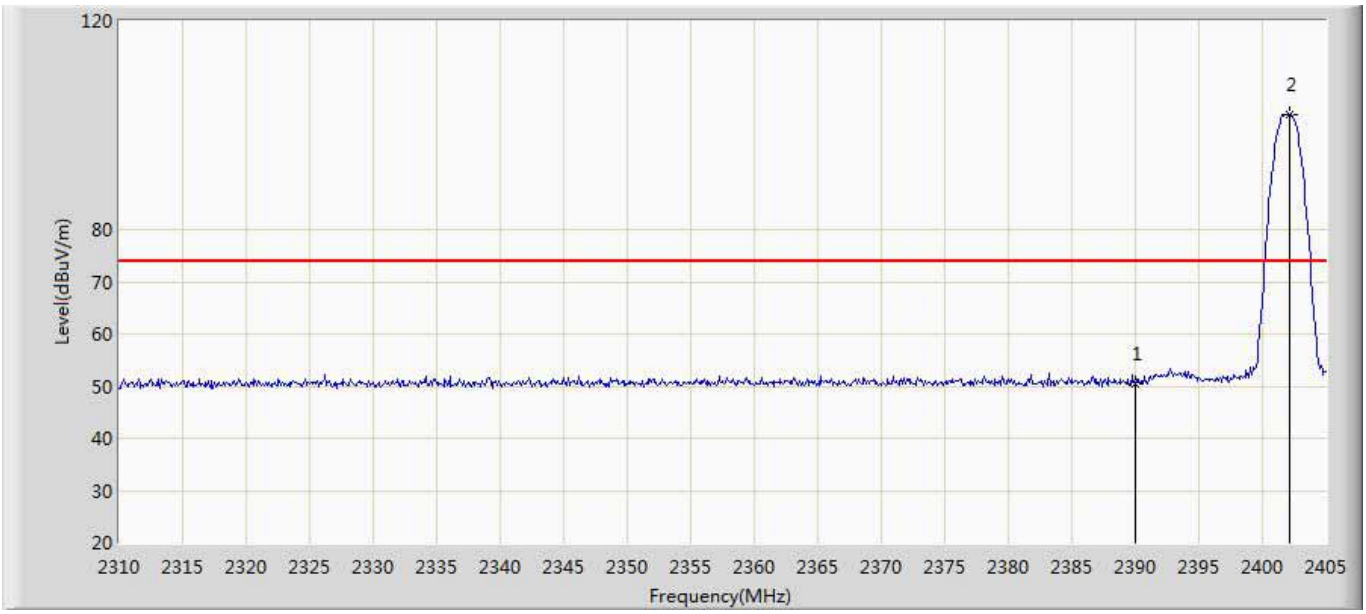
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.952	16.270	-22.048	74.000	35.682	PK
2	*	2401.960	111.293	75.580	N/A	74.000	35.712	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.952	21.110	-32.890	54.000	-30.842	AV
2	*	2401.960	111.293	80.451	N/A	54.000	-30.842	AV

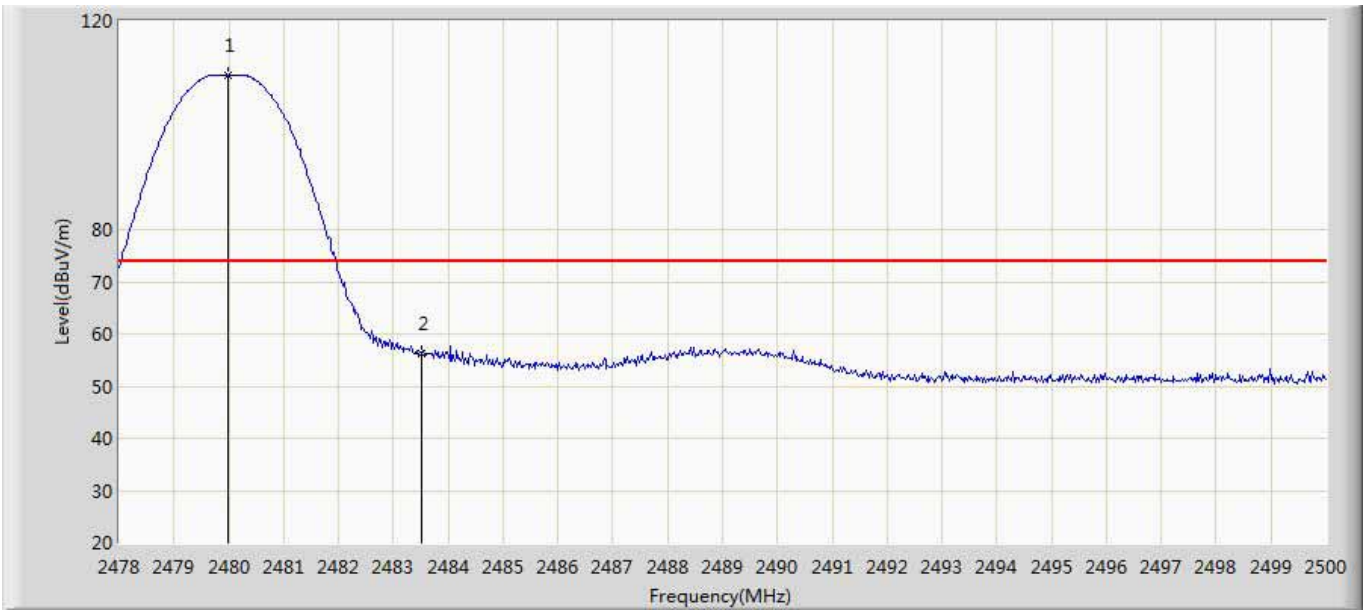
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.536	14.854	-23.464	74.000	35.682	PK
2	*	2402.150	101.948	66.235	N/A	74.000	35.713	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.536	19.694	-34.306	54.000	-30.842	AV
2	*	2402.150	101.948	71.106	N/A	54.000	-30.842	AV

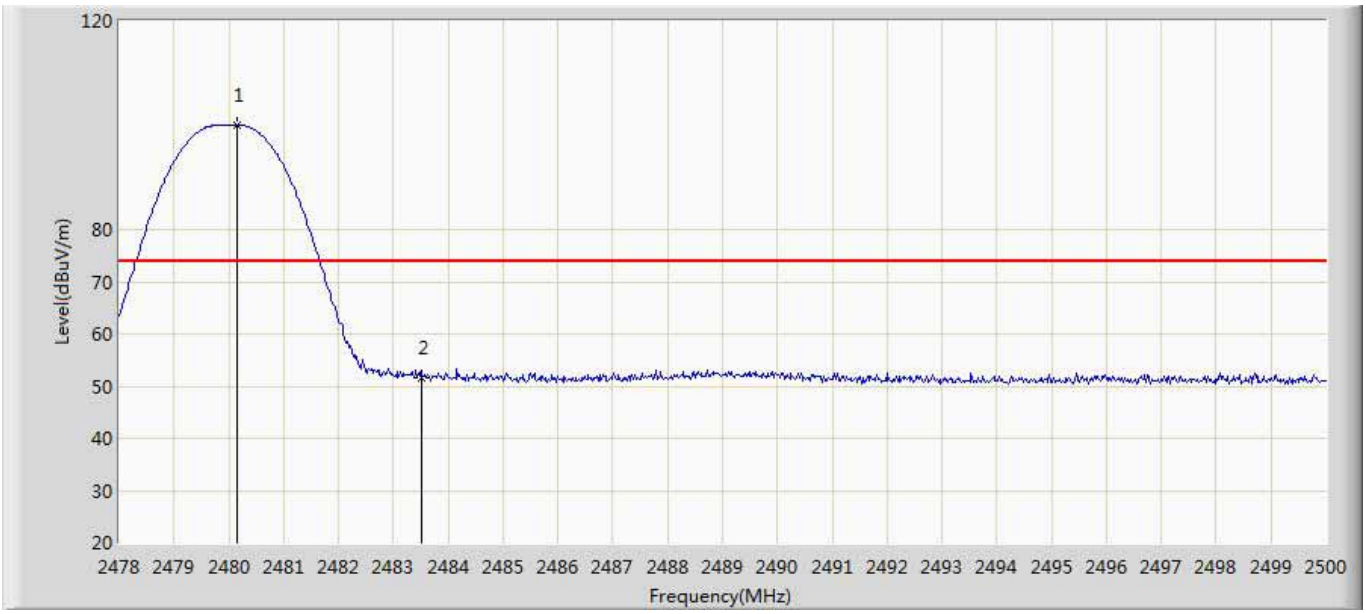
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	109.626	73.760	N/A	74.000	35.866	PK
2		2483.500	56.202	20.310	-17.798	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2479.980	109.626	78.784	N/A	54.000	-30.842	AV
2	*	2483.500	56.202	25.360	-28.640	54.000	-30.842	AV

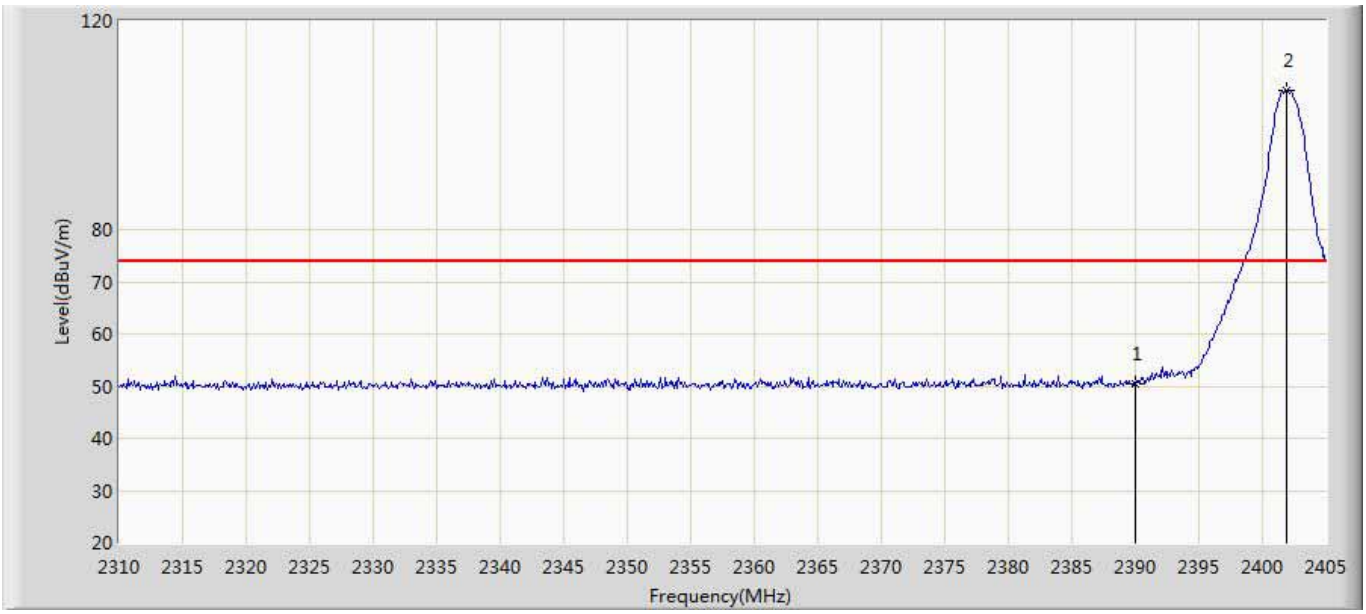
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.156	99.995	64.128	N/A	74.000	35.867	PK
2		2483.500	51.683	15.791	-22.317	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2480.156	99.995	69.153	N/A	54.000	-30.842	AV
2	*	2483.500	51.683	20.841	-33.159	54.000	-30.842	AV

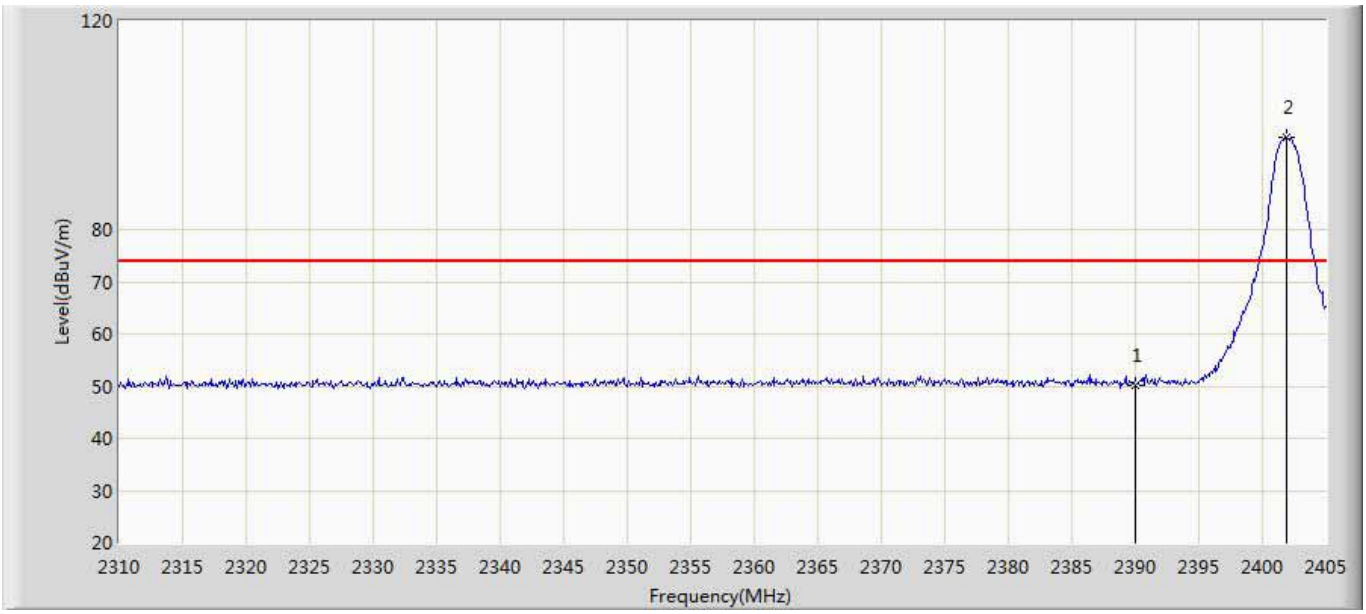
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.442	14.760	-23.558	74.000	35.682	PK
2	*	2401.960	106.562	70.849	N/A	74.000	35.712	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.442	19.600	-34.400	54.000	-30.842	AV
2	*	2401.960	106.562	75.720	N/A	54.000	-30.842	AV

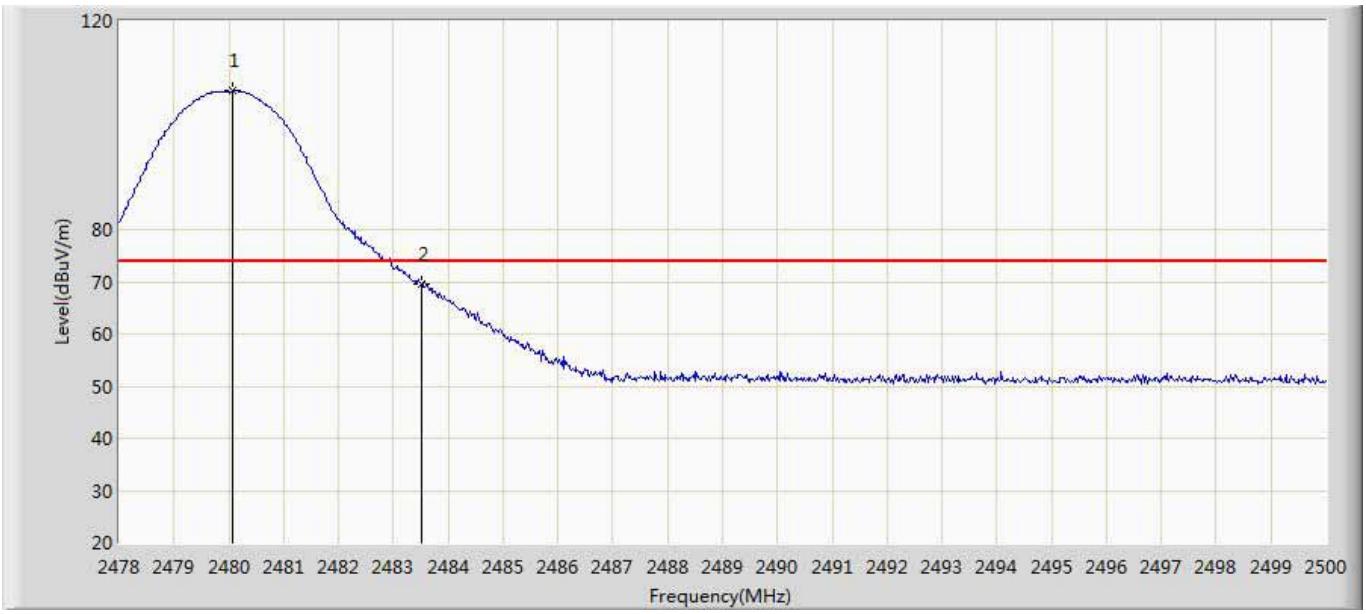
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.209	14.527	-23.791	74.000	35.682	PK
2	*	2401.960	97.702	61.989	N/A	74.000	35.712	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.209	19.367	-34.633	54.000	-30.842	AV
2	*	2401.960	97.702	66.860	N/A	54.000	-30.842	AV

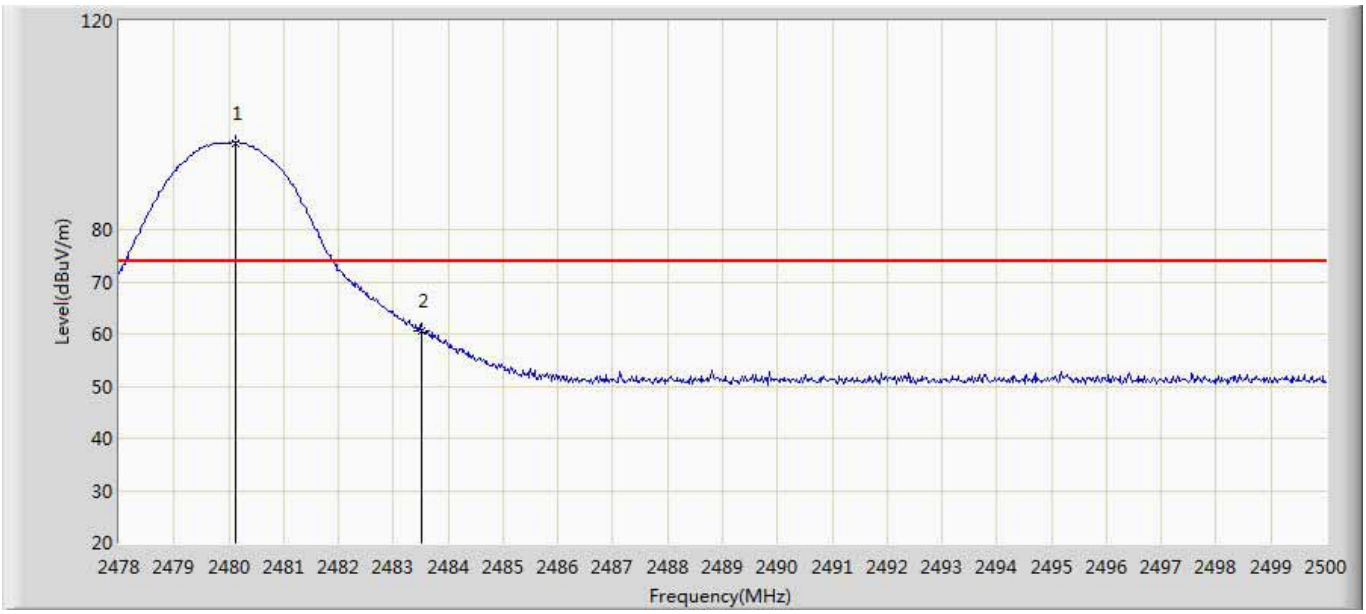
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.068	106.542	70.675	N/A	74.000	35.867	PK
2		2483.500	69.477	33.585	-4.523	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2480.068	106.542	75.700	N/A	54.000	-30.842	AV
2	*	2483.500	69.477	38.635	-15.365	54.000	-30.842	AV

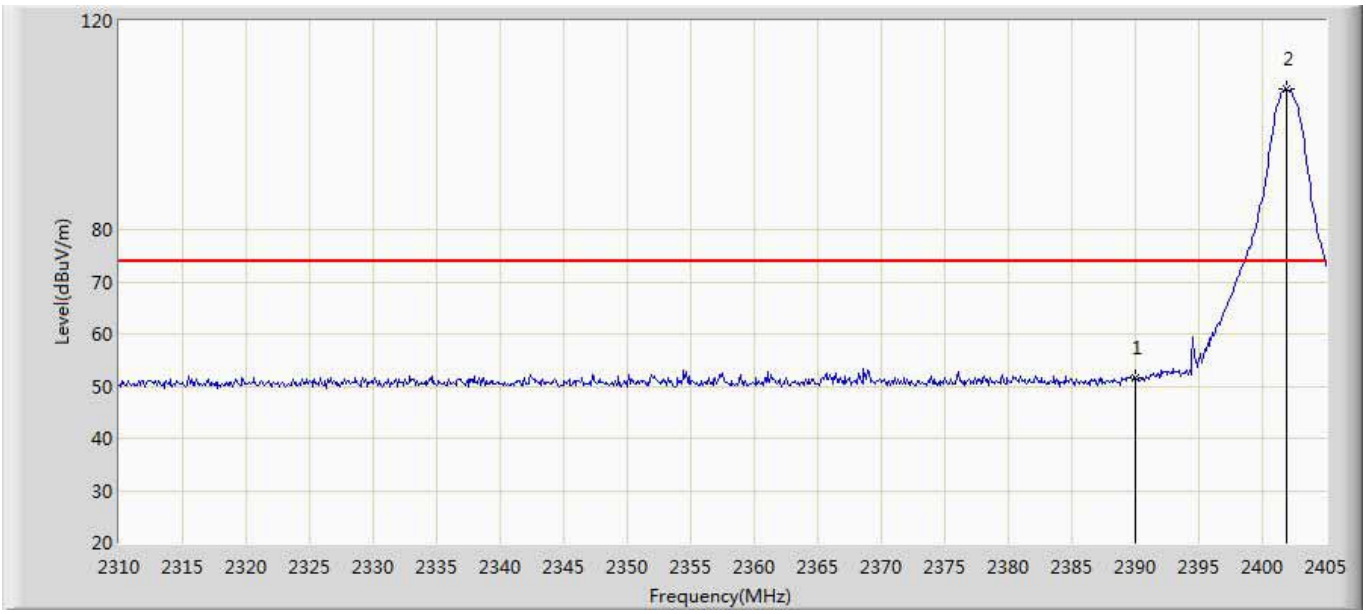
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.134	96.650	60.783	N/A	74.000	35.867	PK
2		2483.500	60.517	24.625	-13.483	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2480.134	96.650	65.808	N/A	54.000	-30.842	AV
2	*	2483.500	60.517	29.675	-24.325	54.000	-30.842	AV

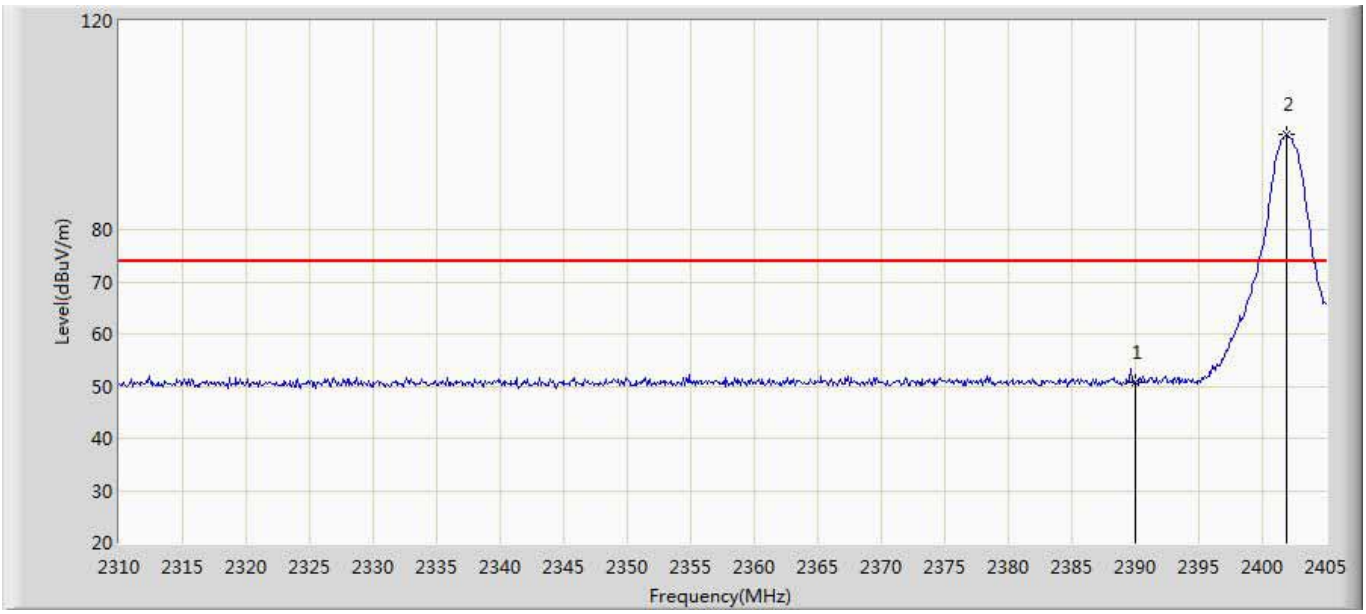
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.650	15.968	-22.350	74.000	35.682	PK
2	*	2401.960	107.063	71.350	N/A	74.000	35.712	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.650	20.808	-33.192	54.000	-30.842	AV
2	*	2401.960	107.063	76.221	N/A	54.000	-30.842	AV

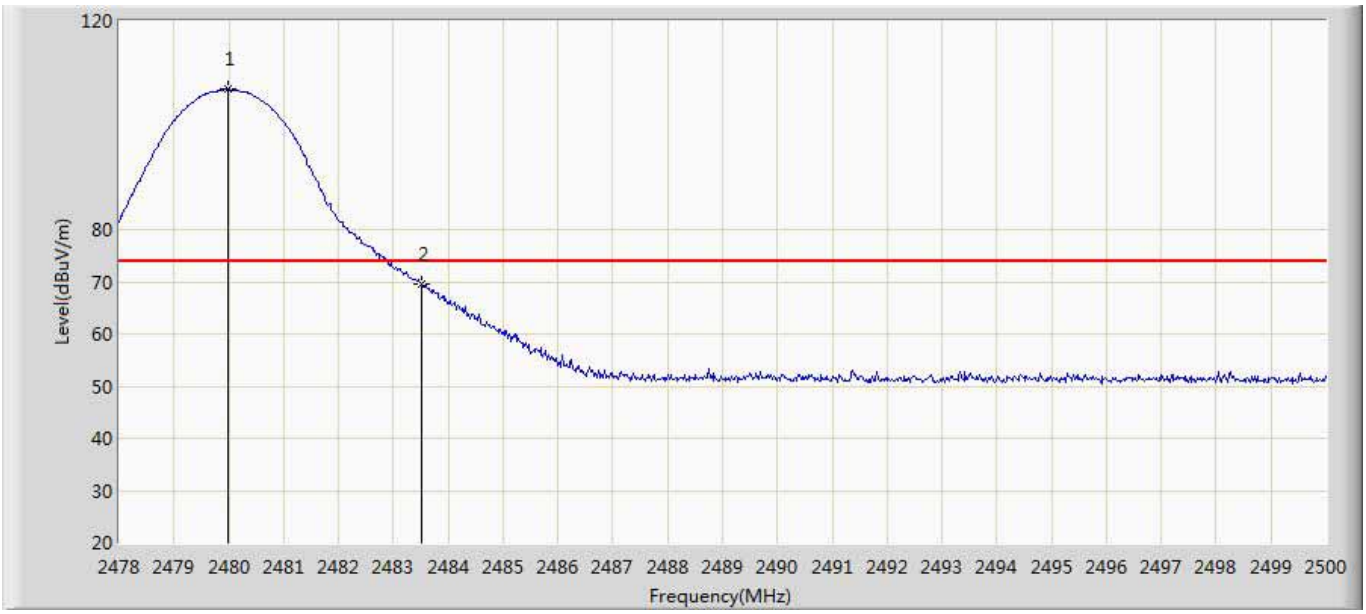
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.756	15.074	-23.244	74.000	35.682	PK
2	*	2401.960	98.213	62.500	N/A	74.000	35.712	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.756	19.914	-34.086	54.000	-30.842	AV
2	*	2401.960	98.213	67.371	N/A	54.000	-30.842	AV

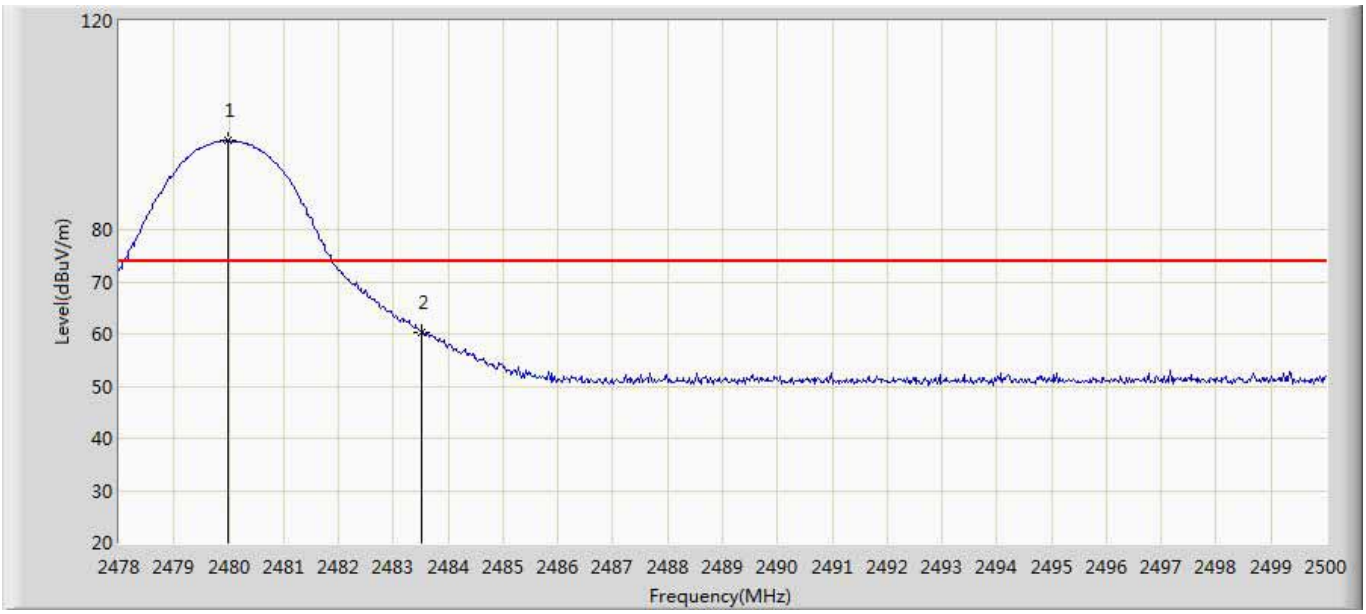
Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED XR Module with Mesh	Power: 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	106.846	70.980	N/A	74.000	35.866	PK
2		2483.500	69.424	33.532	-4.576	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2479.980	106.846	76.004	N/A	54.000	-30.842	AV
2	*	2483.500	69.424	38.582	-15.418	54.000	-30.842	AV

Engineer: Slark	
Site: AC5	Time: 2018/04/16 - 14:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED XR Module with Mesh	Power: 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	*	2479.980	97.072	61.206	N/A	74.000	35.866	PK
2		2483.500	60.315	24.423	-13.685	74.000	35.891	PK

No	Mark	Frequency (MHz)	PK Level (dBuV/m)	AV Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2479.980	97.072	66.230	N/A	54.000	-30.842	AV
2	*	2483.500	60.315	29.473	-24.527	54.000	-30.842	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