Test Report

FCC Part15 Subpart C & RSS-247 Issue 2

Product Name	:	EZ-BT WICED Module
Model No.	:	CYBT-213043-02
FCC ID	:	WAP3043
IC	:	7922A-3043

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

Date of Receipt	:	Jan. 11, 2019
Test Date	:	Jan. 12, 2019 ~ Feb. 19, 2019
Issued Date	:	Feb. 20, 2019
Report No.	:	1912068R-RF-US-P06V02
Report Version	:	V1.0

Test Report Certification

Issued Date: Feb. 20, 2019
Report No. : 1912068R-RF-US-P06V02

Product Name	:	EZ-BT WICED Module
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
Factory	:	Wujiang Sigmatron Electronics Co., Ltd
Address	:	386 Huahong Rd, Wujiang, Suzhou, Jiangsu, China
Model No.	:	CYBT-213043-02
FCC ID	:	WAP3043
IC	:	7922A-3043
EUT Voltage	:	DC 1.8-3.6 V
Test Voltage	:	AC120V/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C ANSI C63.10:2013; KDB 558074 D01v05 RSS-Gen Issue 5 / RSS-247 Issue 2
Test Result	:	Complied
Performed Location	:	DEKRA Testing & Certification (Suzhou) Co., Ltd. No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Designation Number: CN1199; ISED Lab Code: 4075B

Documented By : Kathy Feng

(Adm. Specialist: Kathy Feng)

Reviewed By : Frank he

(Senior Engineer: Frank He)

Approved By : Jack Zhang

(Engineer Supervisor: Jack Zhang)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1912068R-RF-US-P06V02	V1.0	Initial Issued Report	Feb. 20, 2019

1. General Information

1.1. EUT Description

Product Name	EZ-BT WICED Module
Model No.	CYBT-213043-02
EUT Voltage	DC 1.8-3.6 V
Test Voltage	AC 120V/60Hz
Bluetooth Specification	V5.0
Frequency Range	2402- 2480 MHz
Channel Number	V5.0: 40
Channel Separation	V5.0: 2MHz
Type of Modulation	V5.0: GFSK
Data Rate	LE 1M: 1Mbps, LE 2M:2Mbps
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

Note: We have evaluated both modes of LE 1M and LE 2M, the power of LE 1M mode is higher than LE 2M mode, the test data of both modes is showed in the report with test items power, band edge, emissions in restricted frequency bands; the test data of worse mode is showed with other test items.

1.2. Working Frequency of Each Channel:

Bluetooth Working Frequency of Each Channel: (For V5.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

1.3. Antenna information

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			
			☐	Stamping Antenna			
			☐	Metal plate type F antenna			
			☐	Monopole antenna			
Antenna Gain	-0.5dBi						

1.4. Mode of Operation

Test Mode
Mode 1: Transmit-1Mbps(GFSK_LE 1M)
Mode 2: Transmit-2Mbps(GFSK_LE 2M)

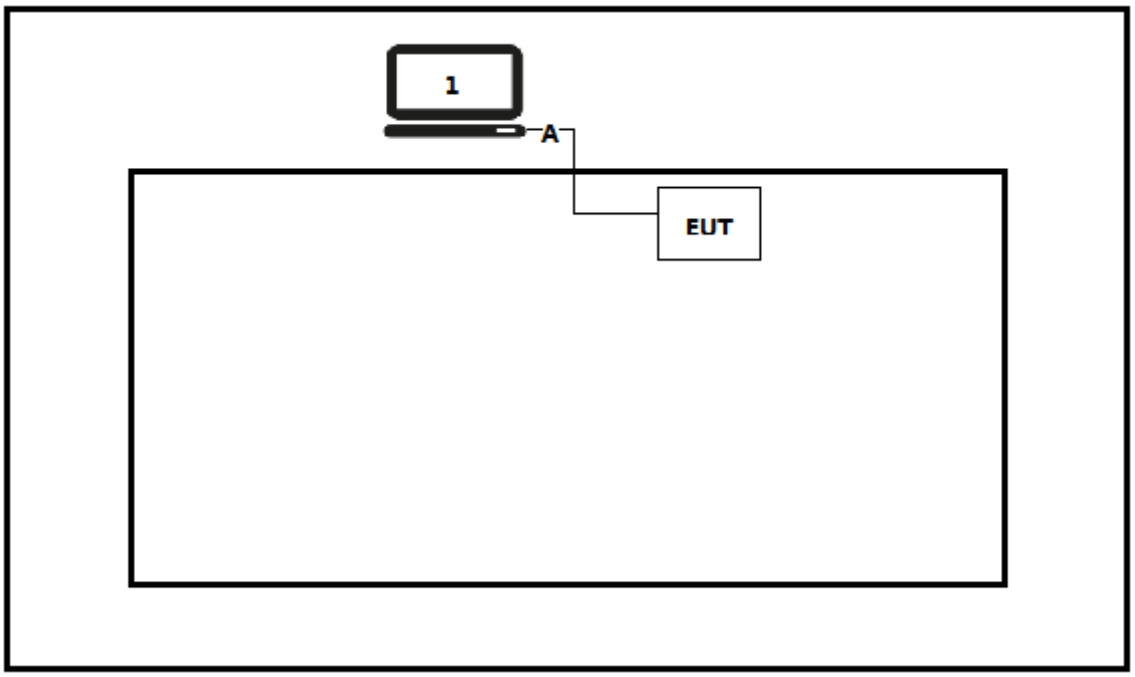
1.5. Tested System Details

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

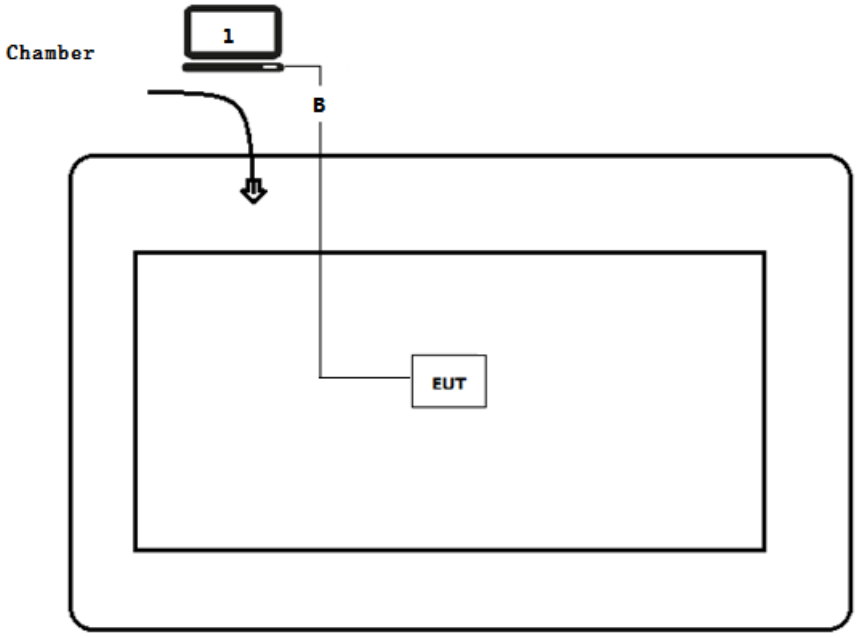
No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	2526	LV-A3285	Power by adapter
A	USB cable	N/A	N/A	N/A	Shielded,0.5m
B	USB cable	N/A	N/A	N/A	Shielded,10m

1.6. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



1.7. 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 [CyBluetool], and set the test mode and channel, then press OK to start to continue transmit.

2. Technical Test

2.1. Summary of Test Result

For FCC

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(d)	≥20dBc	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	FCC 15.209	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(2)	≥500kHz	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(3)	≤30dBm	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(e)	≤8dBm/3kHz	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	FCC 15.203	PASS

For ISED

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	RSS-Gen	PASS
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	RSS-Gen	PASS
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section A5.5	≥20dBc	PASS
Radiated Emission Band Edge	RSS-247 Issue 2 Section A5.5	RSS-247	PASS
Occupied Bandwidth	RSS-Gen Issue 5 Section 6.6 RSS-247 Issue 2 Section A5.2(1)	≥500kHz	PASS
Fundamental emission output power	RSS-247 Issue 2 Section A5.4(4)	≤30dBm	PASS
Power Spectral Density	RSS-247 Issue 2 Section A5.2(2)	≤8dBm/3kHz	PASS
Antenna Requirement	RSS-Gen Issue 5 Section 8.3	RSS-Gen Issue 5	PASS

2.2. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
LE 1M/LE 2M	00	2402 MHz	19	2440 MHz	39	2480MHz

2.3. 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

2.4. Measurement Uncertainty

Test Items	Uncertainty
AC Power Line Conducted Emission	±2.02dB
Radiated Emission	Below 1GHz ±3.8 dB
	Above 1GHz ±3.9 dB
RF Antenna Port Conducted Emission	±1.27dB
Radiated Emission Band Edge	±3.9dB
Occupied Bandwidth	±1kHz
Power Spectral Density	±1.27dB

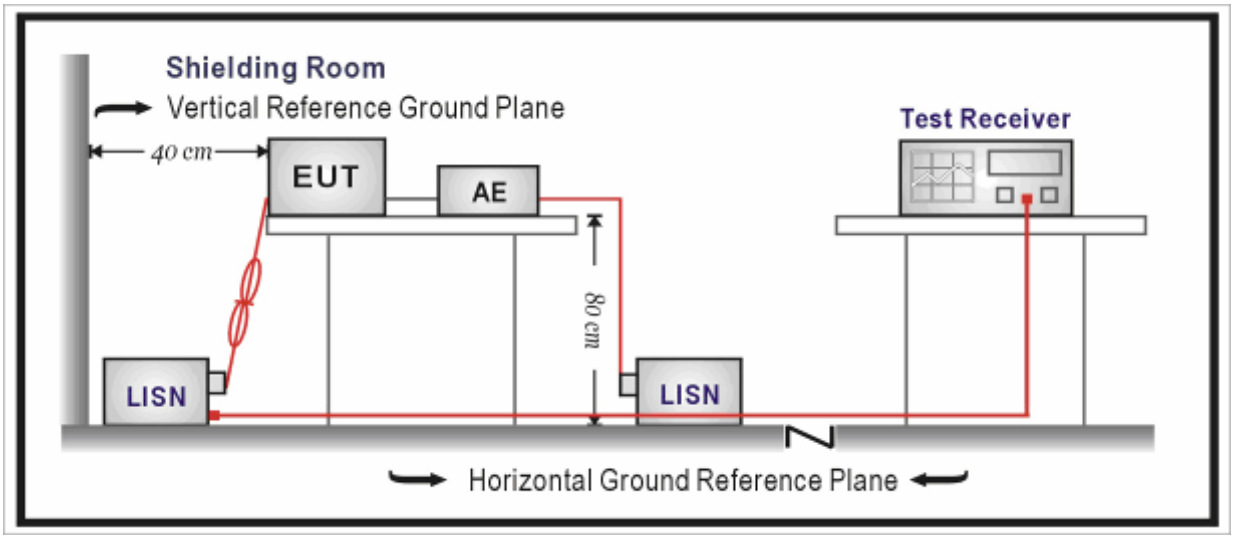
3. AC Power Line Conducted Emission

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	2018.07.16	2019.07.15
Two-Line V-Network	R&S	ENV 216	101044	2018.09.16	2019.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2018.09.16	2019.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2019.01.04	2020.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup

AC Power Line Conducted Emission test setup



3.3. Limit

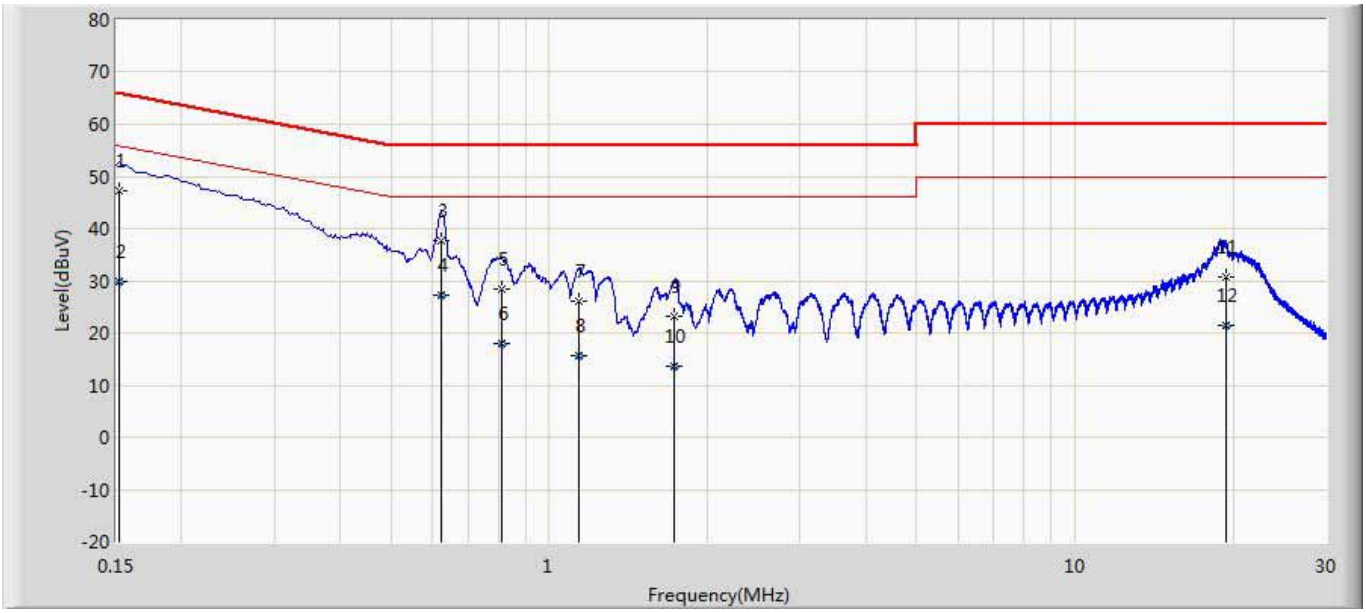
Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dB μ V)	Average(dB μ V)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5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

3.5. Test Result

Site: TR1	Time: 2019/01/23
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1	

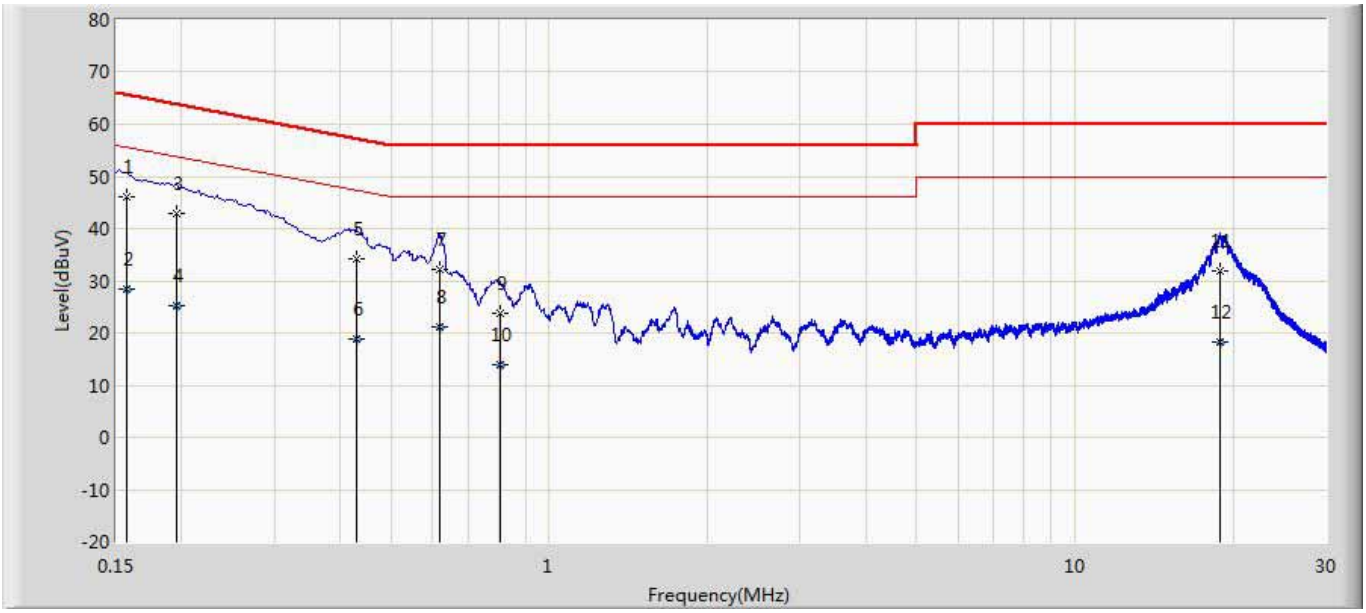


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.152	47.390	37.774	-18.486	65.876	9.588	0.029	0.000	QP
2		0.152	29.838	20.221	-26.039	55.876	9.588	0.029	0.000	AV
3	*	0.623	37.711	28.056	-18.289	56.000	9.607	0.048	0.000	QP
4		0.623	27.160	17.506	-18.840	46.000	9.607	0.048	0.000	AV
5		0.811	28.541	18.865	-27.459	56.000	9.622	0.053	0.000	QP
6		0.811	18.014	8.338	-27.986	46.000	9.622	0.053	0.000	AV
7		1.140	25.982	16.309	-30.018	56.000	9.609	0.063	0.000	QP
8		1.140	15.658	5.986	-30.342	46.000	9.609	0.063	0.000	AV
9		1.732	23.147	13.464	-32.853	56.000	9.603	0.080	0.000	QP
10		1.732	13.517	3.834	-32.483	46.000	9.603	0.080	0.000	AV
11		19.349	30.629	20.257	-29.371	60.000	10.089	0.283	0.000	QP
12		19.349	21.431	11.059	-28.569	50.000	10.089	0.283	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: 2019/01/23
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: EZ-BT WICED Module	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	*	0.157	46.228	36.649	-19.407	65.634	9.550	0.029	0.000	QP
2		0.157	28.363	18.784	-27.272	55.634	9.550	0.029	0.000	AV
3		0.195	43.039	33.499	-20.781	63.821	9.512	0.029	0.000	QP
4		0.195	25.115	15.574	-28.706	53.821	9.512	0.029	0.000	AV
5		0.429	34.058	24.405	-23.214	57.272	9.614	0.040	0.000	QP
6		0.429	18.745	9.092	-28.527	47.272	9.614	0.040	0.000	AV
7		0.618	32.273	22.599	-23.727	56.000	9.626	0.047	0.000	QP
8		0.618	21.167	11.494	-24.833	46.000	9.626	0.047	0.000	AV
9		0.807	23.738	14.086	-32.262	56.000	9.599	0.053	0.000	QP
10		0.807	13.895	4.243	-32.105	46.000	9.599	0.053	0.000	AV
11		18.892	32.003	21.662	-27.997	60.000	10.061	0.280	0.000	QP
12		18.892	18.195	7.854	-31.805	50.000	10.061	0.280	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

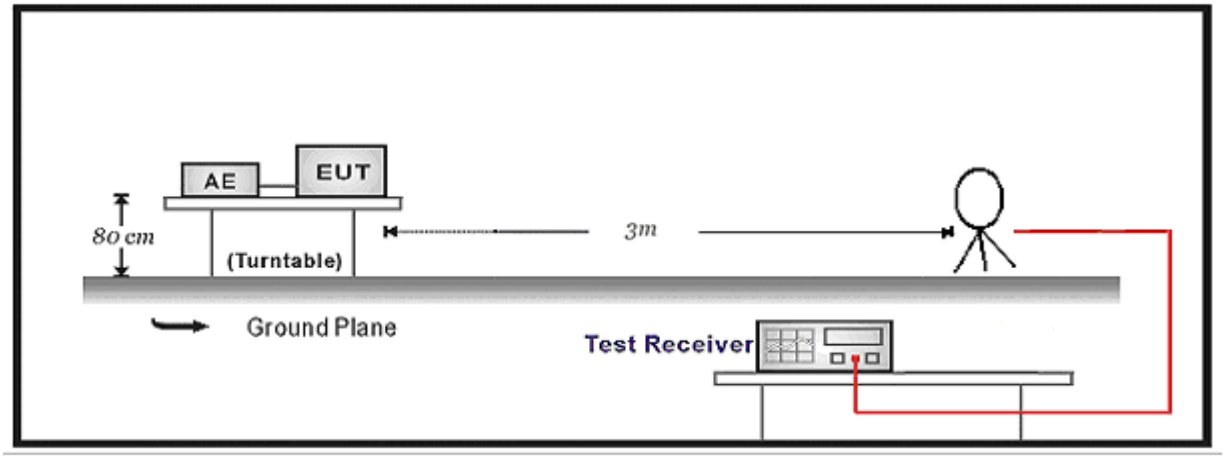
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2018.03.29	2019.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2018.11.16	2019.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2018.10.16	2019.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2018.03.02	2019.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2019.01.03	2020.01.02
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

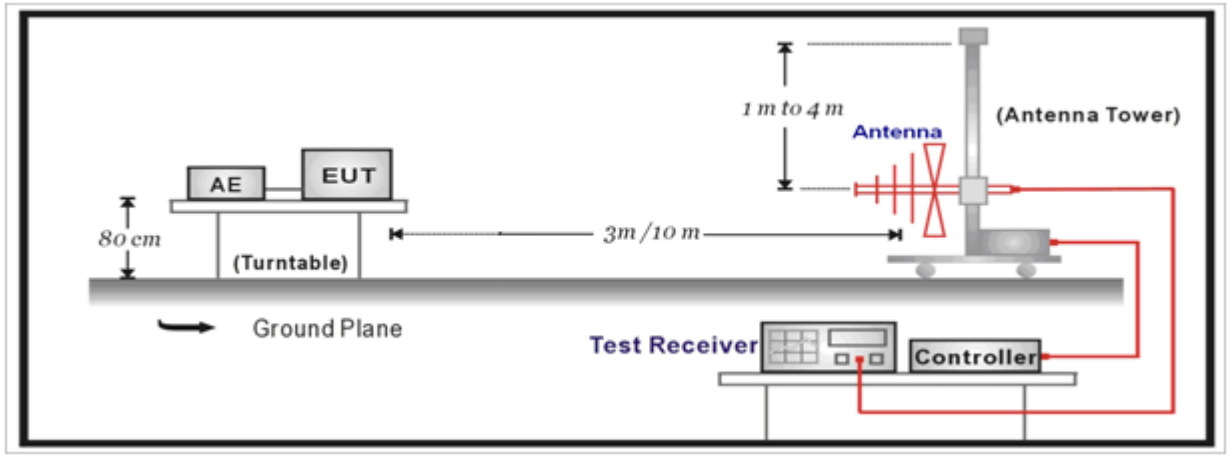
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2018.05.06	2019.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2018.05.06	2019.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2019.01.22	2020.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.11.25	2019.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	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	2018.06.10	2019.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.04	2020.01.03
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

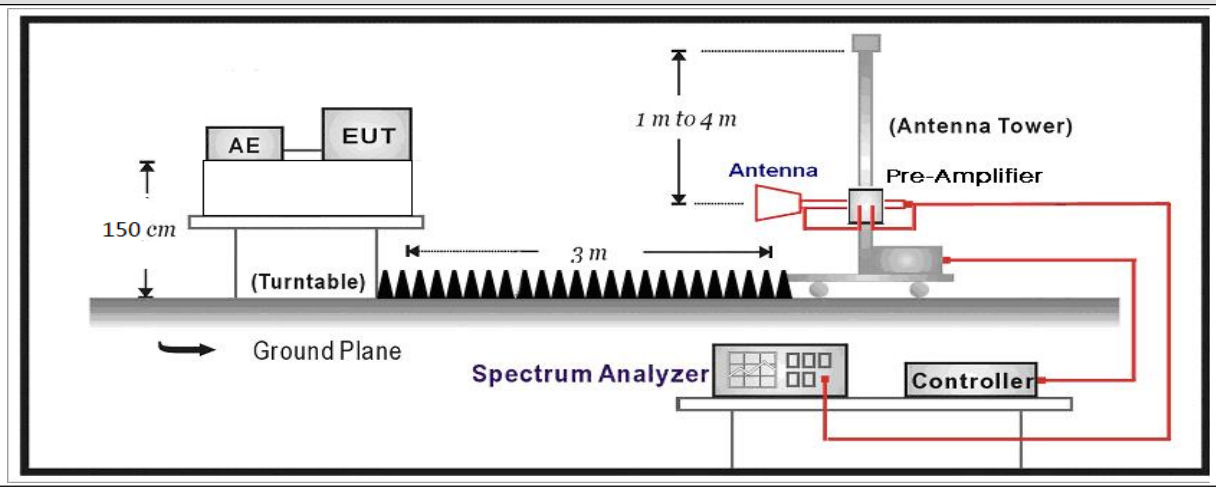
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

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

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)

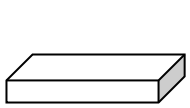
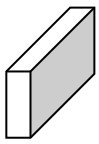
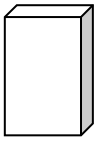
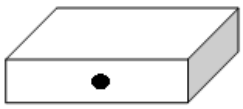
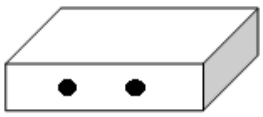
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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

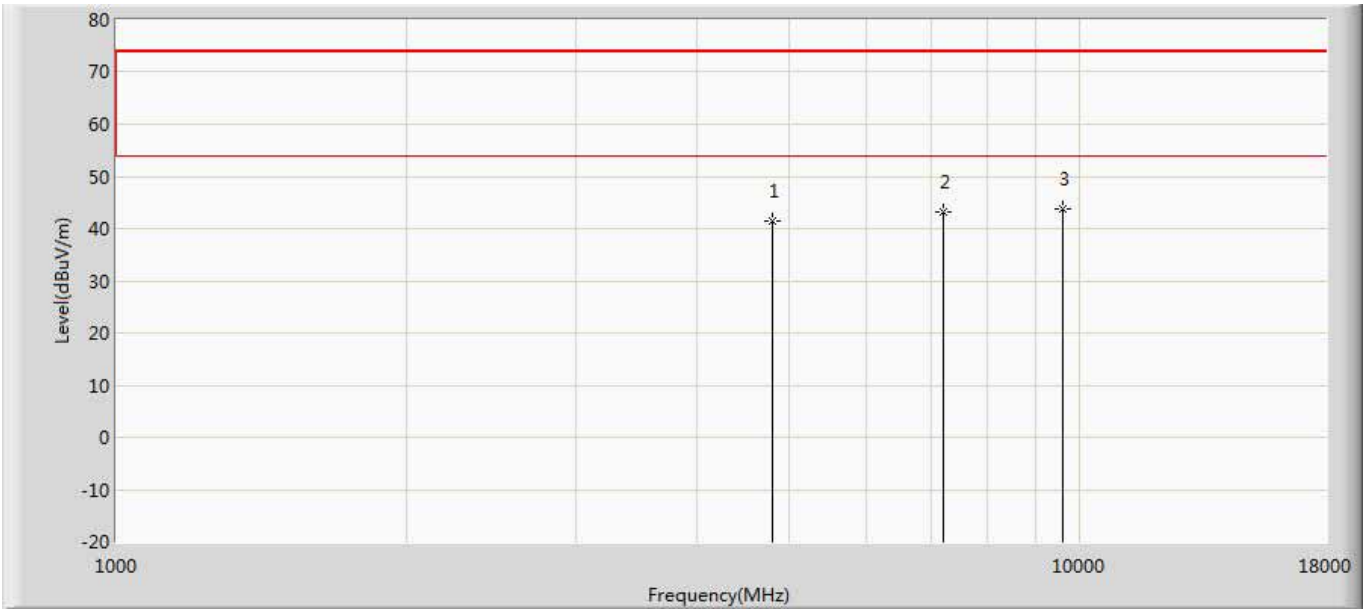
Test Method						
	References Rule				Chapter	Description
☐	ANSI C63.10				11.11	Emissions in non-restricted frequency bands
	☐	ANSI C63.10			11.11.2	Reference level measurement
	☐	ANSI C63.10			11.11.3	Emission level measurement
☒	ANSI C63.10				11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10			11.12.1	Radiated emission measurements
	☒	ANSI C63.10			11.12.2.7	Radiated spurious emission test
		☒	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
		☐	ANSI C63.10		11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10		11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☒	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Emissions in restricted frequency bands</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~2</td></tr>
<tr><td rowspan="11">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

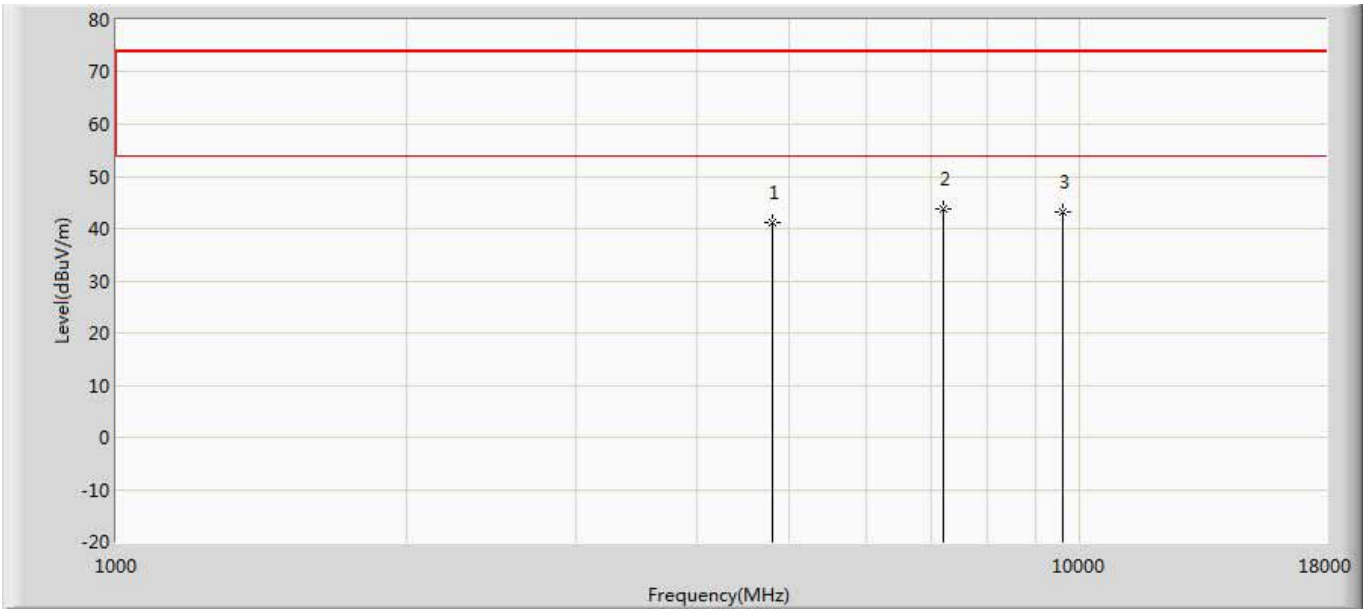
4.6. Test Result

Profile: 1912068R	Page No.: 89
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



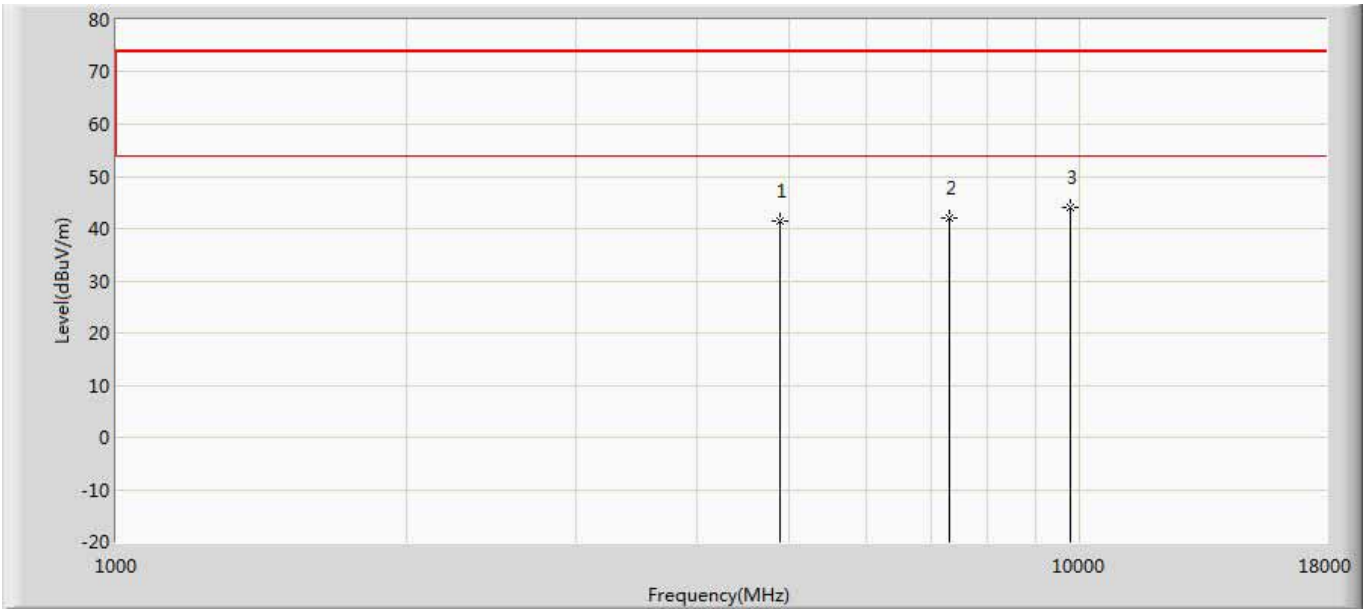
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.572	43.295	-32.428	74.000	-1.723	PK
2		7206.000	43.192	41.273	-30.808	74.000	1.919	PK
3	*	9608.000	43.774	38.875	-30.226	74.000	4.899	PK

Profile: 1912068R	Page No.: 90
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



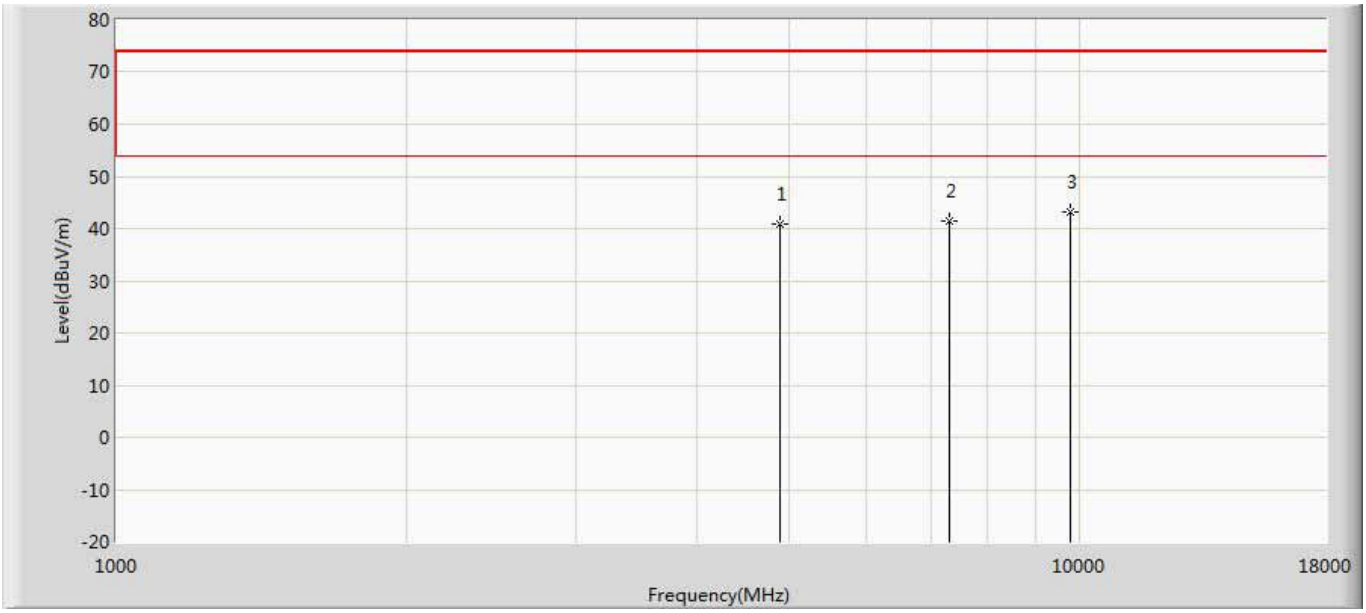
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.171	42.894	-32.829	74.000	-1.723	PK
2	*	7206.000	43.710	41.791	-30.290	74.000	1.919	PK
3		9608.000	43.286	38.387	-30.714	74.000	4.899	PK

Profile: 1912068R	Page No.: 91
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz by BLE	



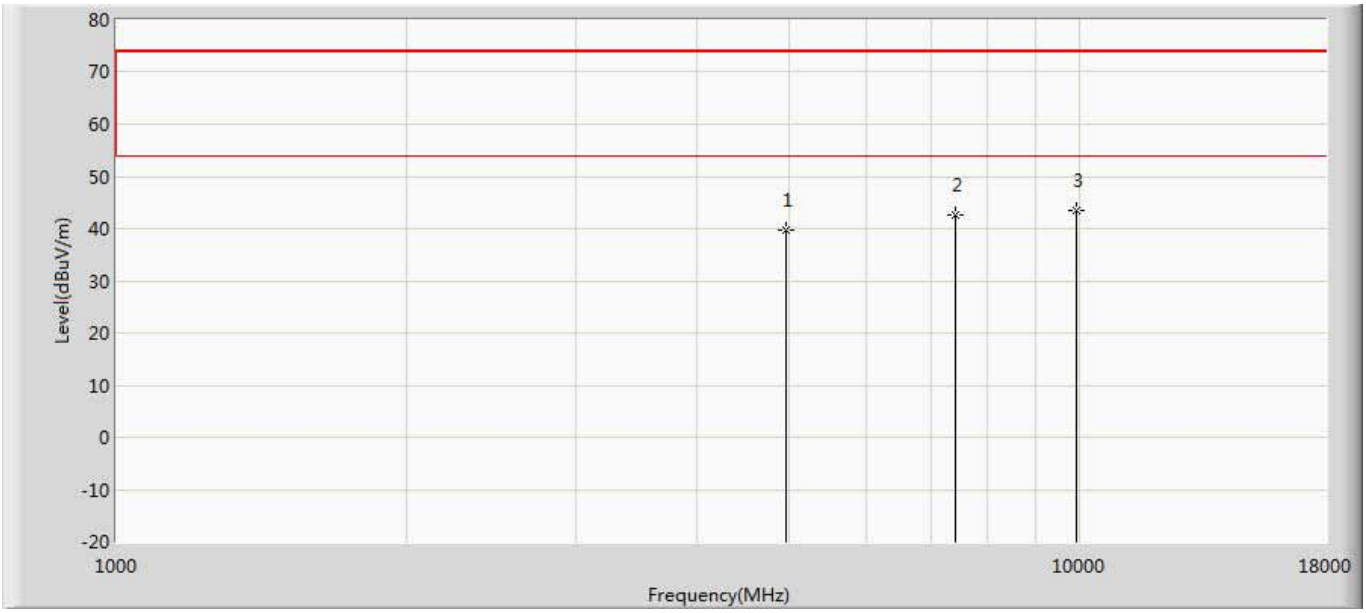
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	41.364	42.648	-32.636	74.000	-1.284	PK
2		7320.000	42.023	40.140	-31.977	74.000	1.884	PK
3	*	9760.000	43.989	38.177	-30.011	74.000	5.812	PK

Profile: 1912068R	Page No.: 92
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz by BLE	



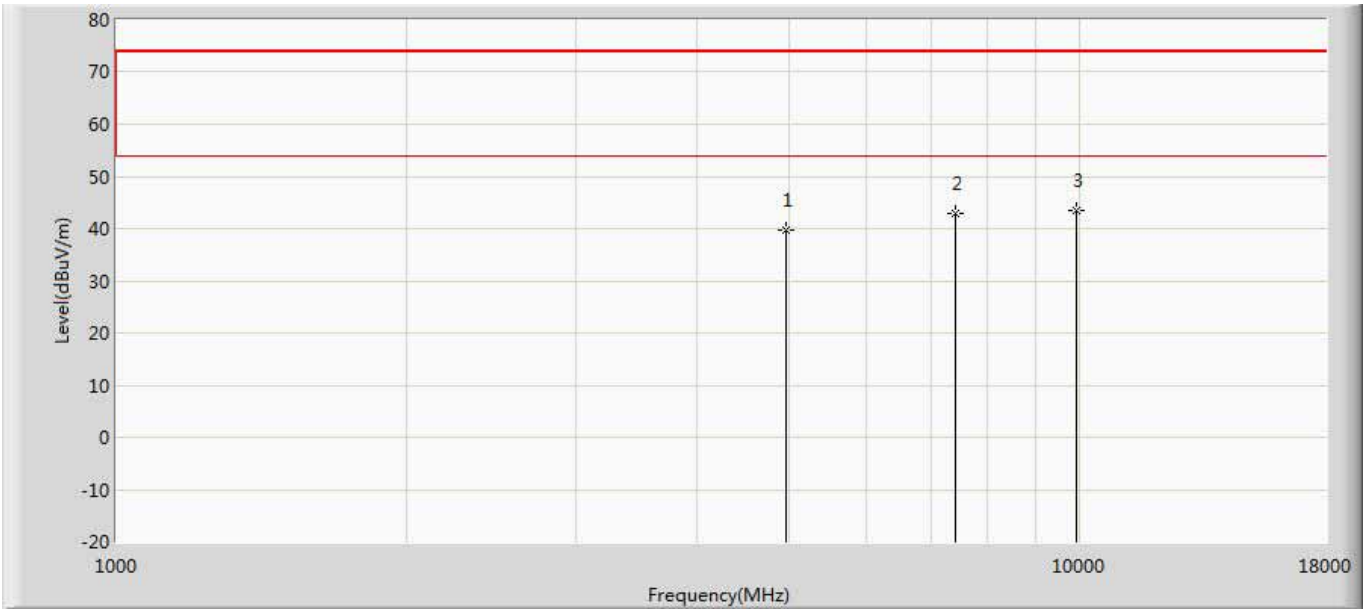
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.915	42.199	-33.085	74.000	-1.284	PK
2		7320.000	41.420	39.537	-32.580	74.000	1.884	PK
3	*	9760.000	43.303	37.491	-30.697	74.000	5.812	PK

Profile: 1912068R	Page No.: 93
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



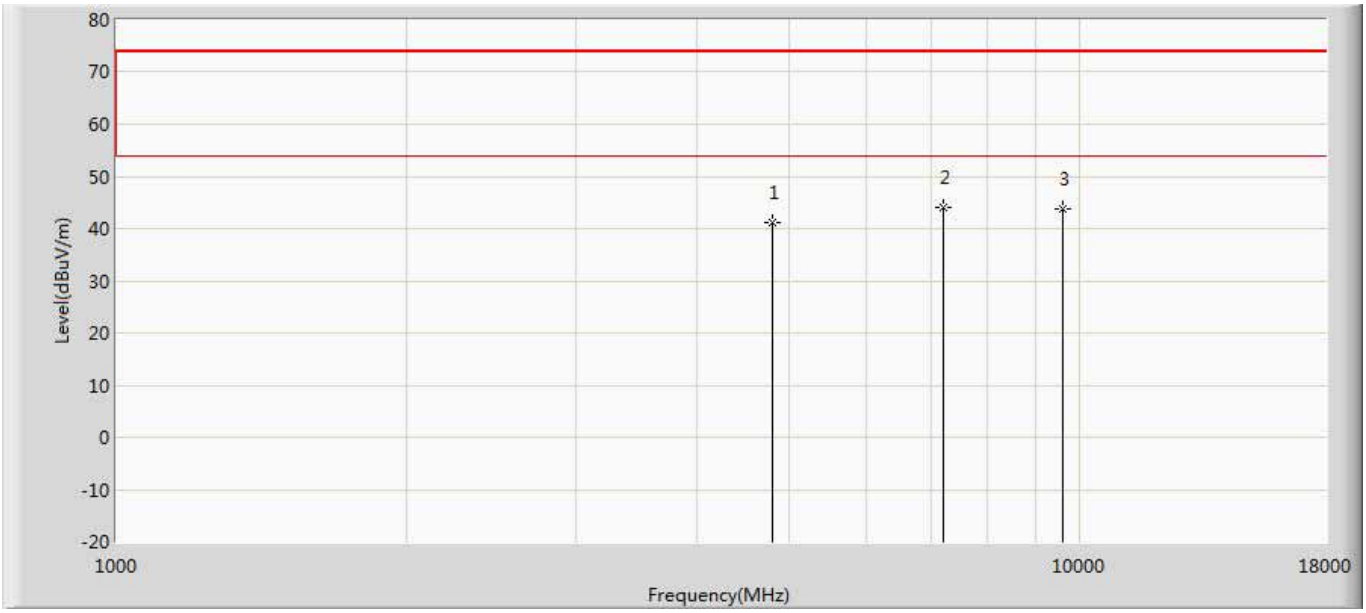
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.825	40.973	-34.175	74.000	-1.148	PK
2		7440.000	42.514	40.088	-31.486	74.000	2.426	PK
3	*	9920.000	43.524	38.270	-30.476	74.000	5.253	PK

Profile: 1912068R	Page No.: 94
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



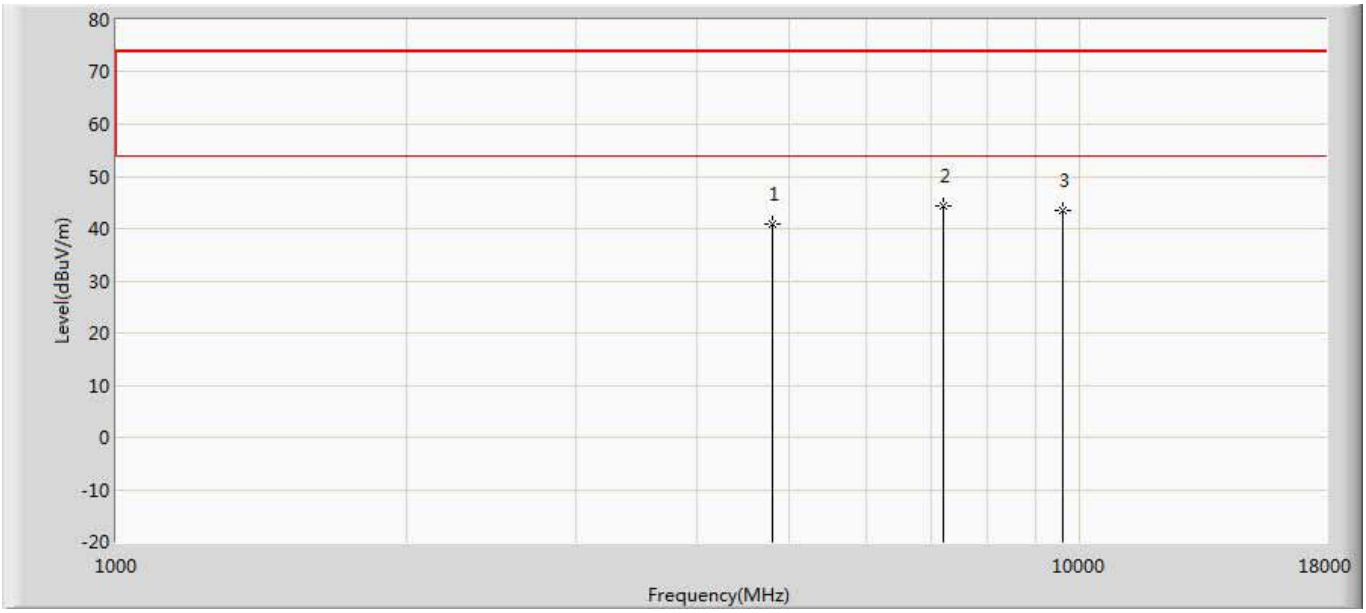
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.597	40.745	-34.403	74.000	-1.148	PK
2		7440.000	42.844	40.418	-31.156	74.000	2.426	PK
3	*	9920.000	43.430	38.176	-30.570	74.000	5.253	PK

Profile: 1912068R	Page No.: 95
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



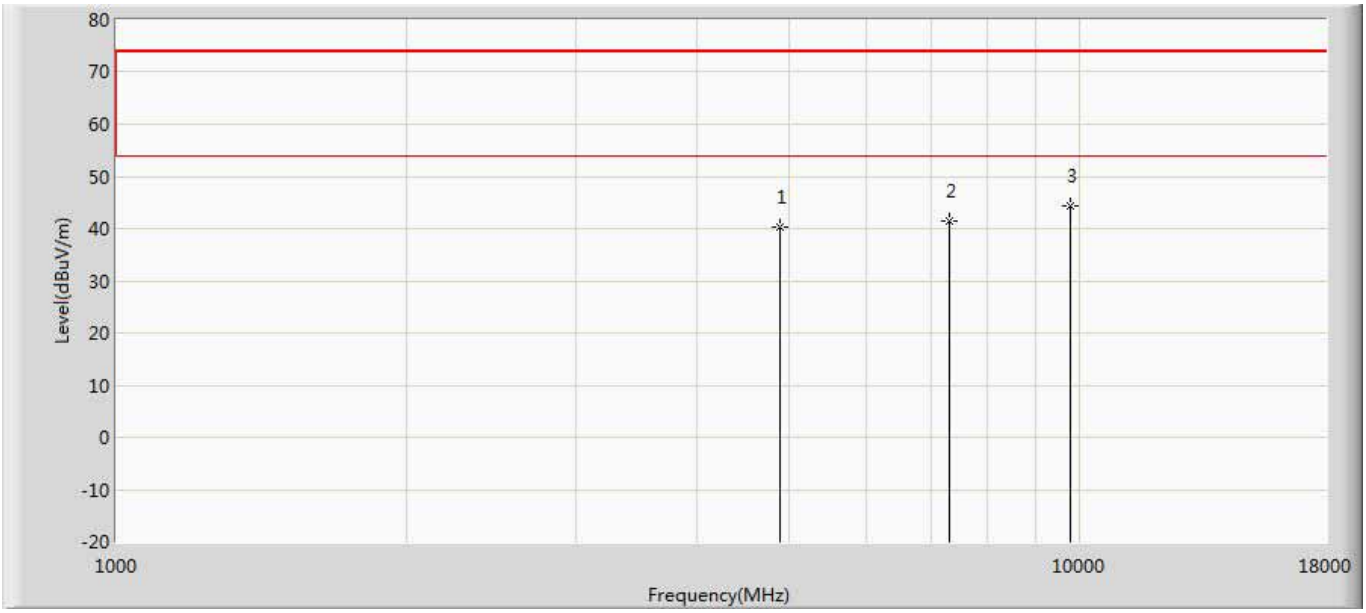
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.046	42.769	-32.954	74.000	-1.723	PK
2	*	7206.000	44.065	42.146	-29.935	74.000	1.919	PK
3		9608.000	43.775	38.876	-30.225	74.000	4.899	PK

Profile: 1912068R	Page No.: 96
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



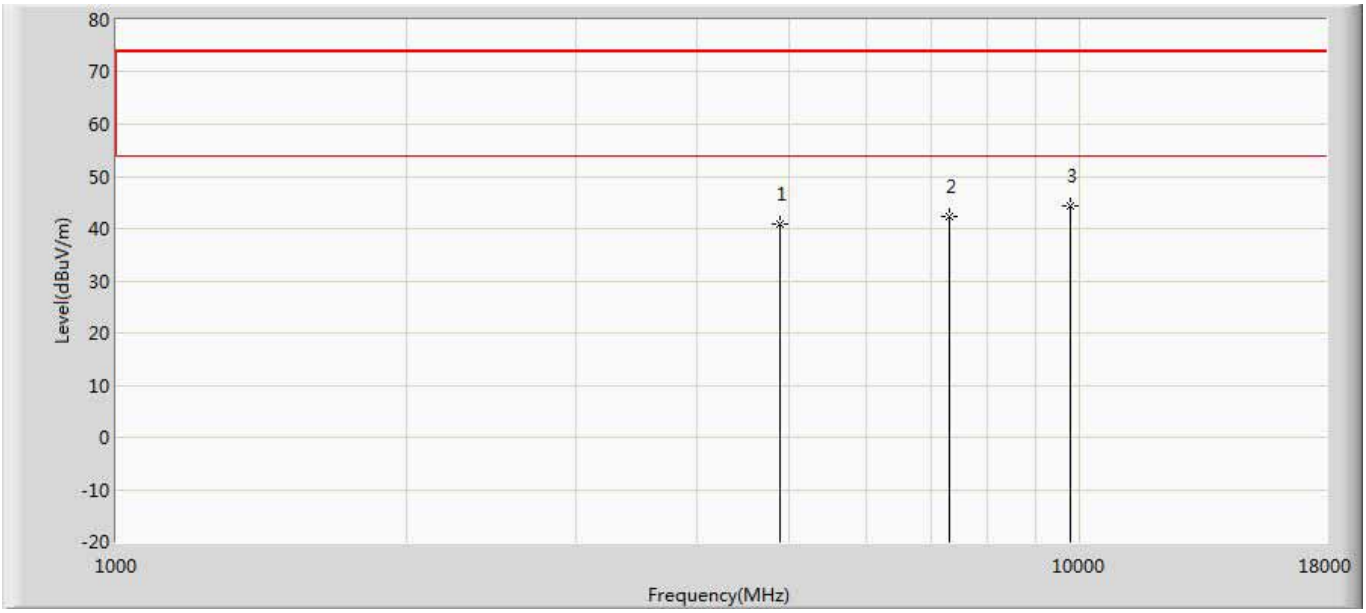
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.899	42.622	-33.101	74.000	-1.723	PK
2	*	7206.000	44.402	42.483	-29.598	74.000	1.919	PK
3		9608.000	43.474	38.575	-30.526	74.000	4.899	PK

Profile: 1912068R	Page No.: 97
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz by 2LE	



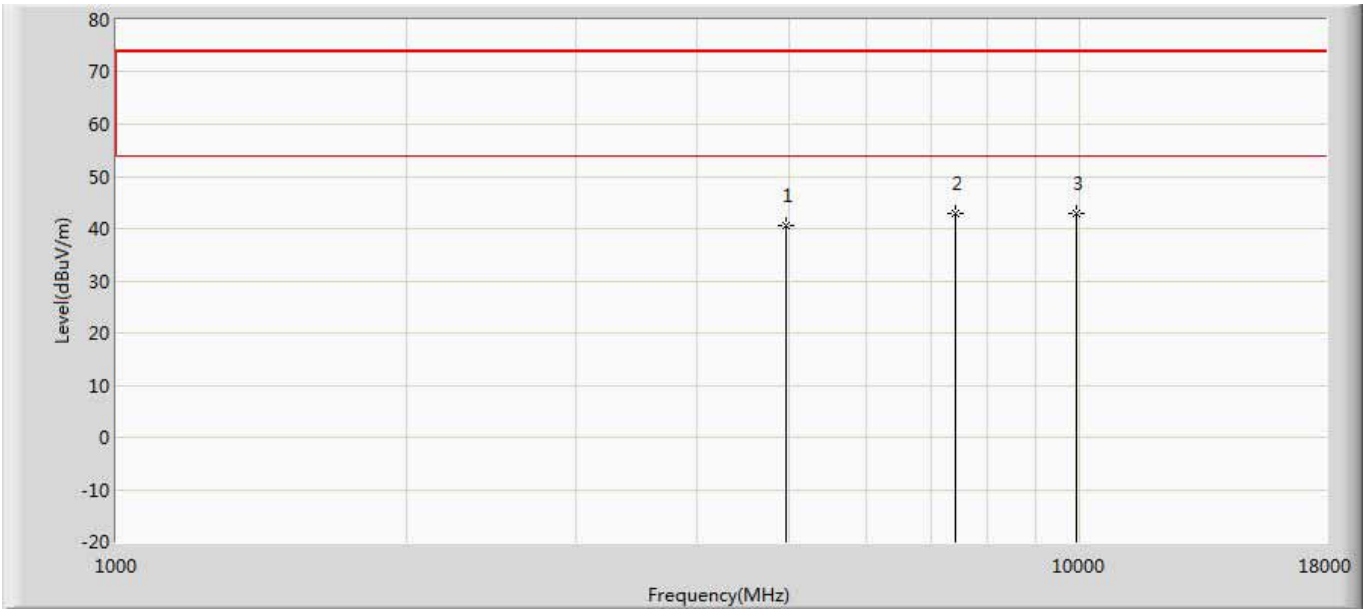
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.165	41.449	-33.835	74.000	-1.284	PK
2		7320.000	41.369	39.486	-32.631	74.000	1.884	PK
3	*	9760.000	44.373	38.561	-29.627	74.000	5.812	PK

Profile: 1912068R	Page No.: 98
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz by 2LE	



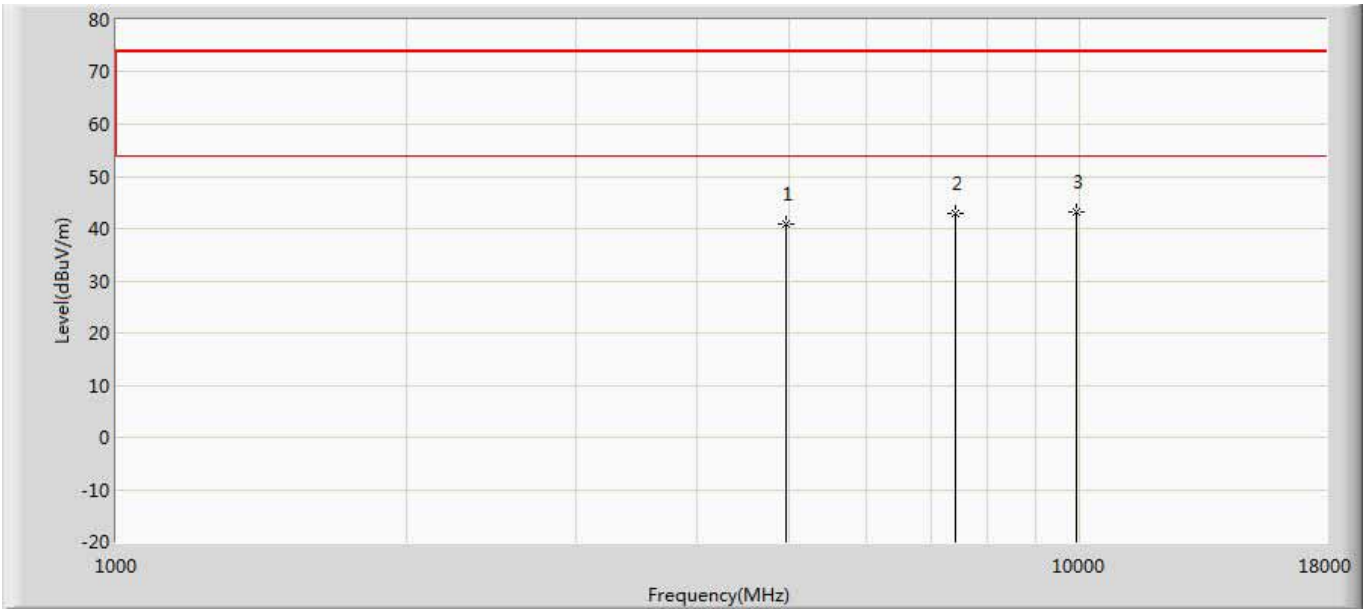
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.992	42.276	-33.008	74.000	-1.284	PK
2		7320.000	42.384	40.501	-31.616	74.000	1.884	PK
3	*	9760.000	44.211	38.399	-29.789	74.000	5.812	PK

Profile: 1912068R	Page No.: 99
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.684	41.832	-33.316	74.000	-1.148	PK
2		7440.000	42.776	40.350	-31.224	74.000	2.426	PK
3	*	9920.000	42.785	37.531	-31.215	74.000	5.253	PK

Profile: 1912068R	Page No.: 100
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 02:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



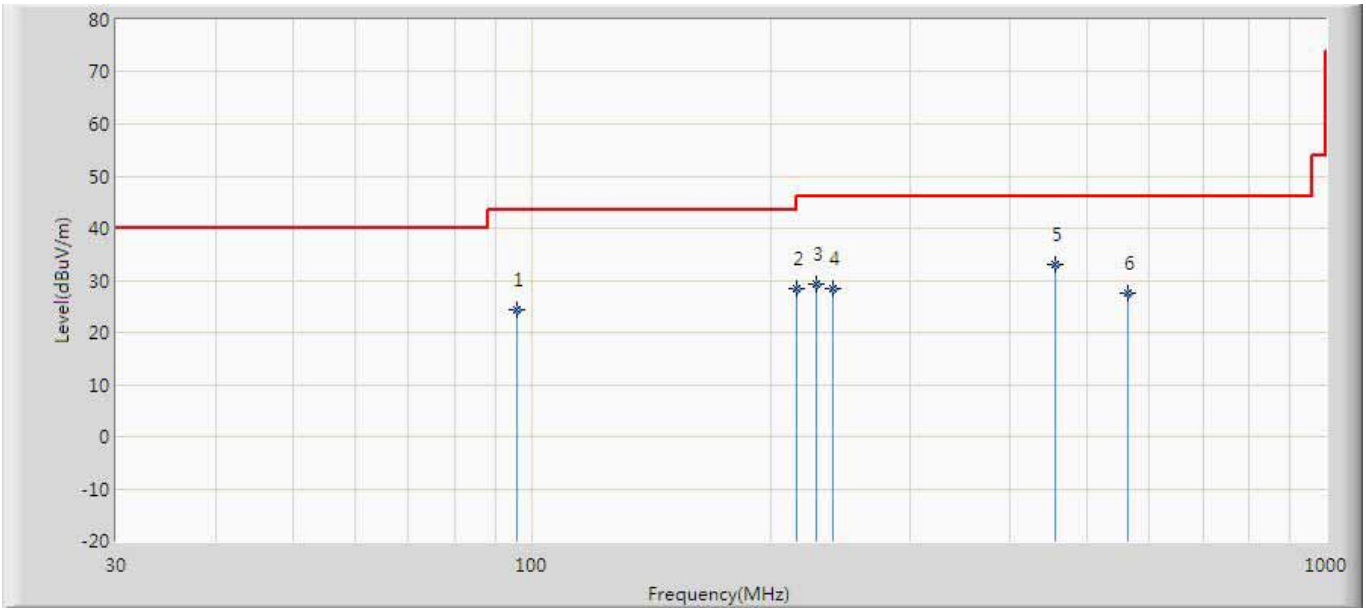
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.008	42.156	-32.992	74.000	-1.148	PK
2		7440.000	42.784	40.358	-31.216	74.000	2.426	PK
3	*	9920.000	43.192	37.938	-30.808	74.000	5.253	PK

Note:

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

The worst case of Radiated Emission below 1GHz:

Site: AC3	Time: 2019/01/22 - 23:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: 120V/60Hz
Note: Mode 1: Transmit	

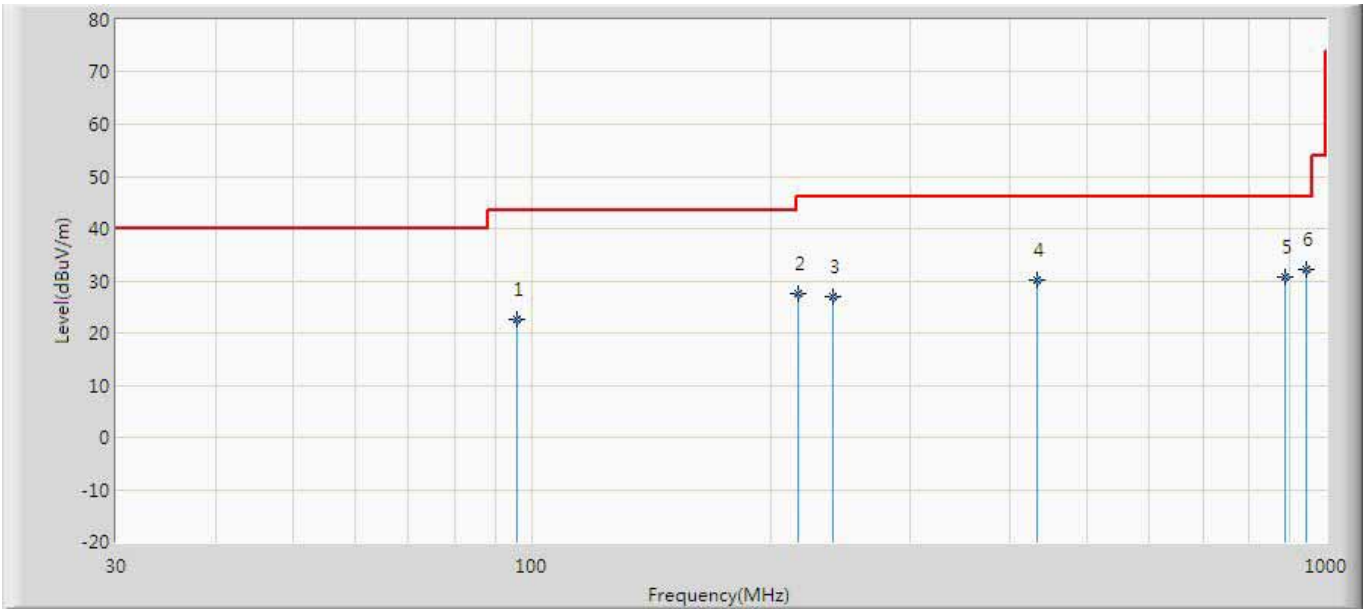


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		95.960	24.352	9.400	-19.148	43.500	14.952	QP
2		215.997	28.468	11.100	-15.032	43.500	17.367	QP
3		227.880	29.420	10.800	-16.580	46.000	18.620	QP
4		240.005	28.355	10.900	-17.645	46.000	17.455	QP
5	*	455.830	32.939	5.900	-13.061	46.000	27.039	QP
6		564.106	27.629	0.300	-18.371	46.000	27.329	QP

Note:

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

Site: AC3	Time: 2019/01/22 - 23:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: 120V/60Hz
Note: Mode 1: Transmit	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		95.960	22.682	2.200	-20.818	43.500	20.482	QP
2		216.240	27.441	4.700	-18.559	46.000	22.741	QP
3		240.005	27.050	3.800	-18.950	46.000	23.251	QP
4		432.460	30.232	5.400	-15.768	46.000	24.833	QP
5		889.662	30.651	-2.700	-15.349	46.000	33.351	QP
6	*	946.044	32.293	-2.300	-13.707	46.000	34.594	QP

Note:

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

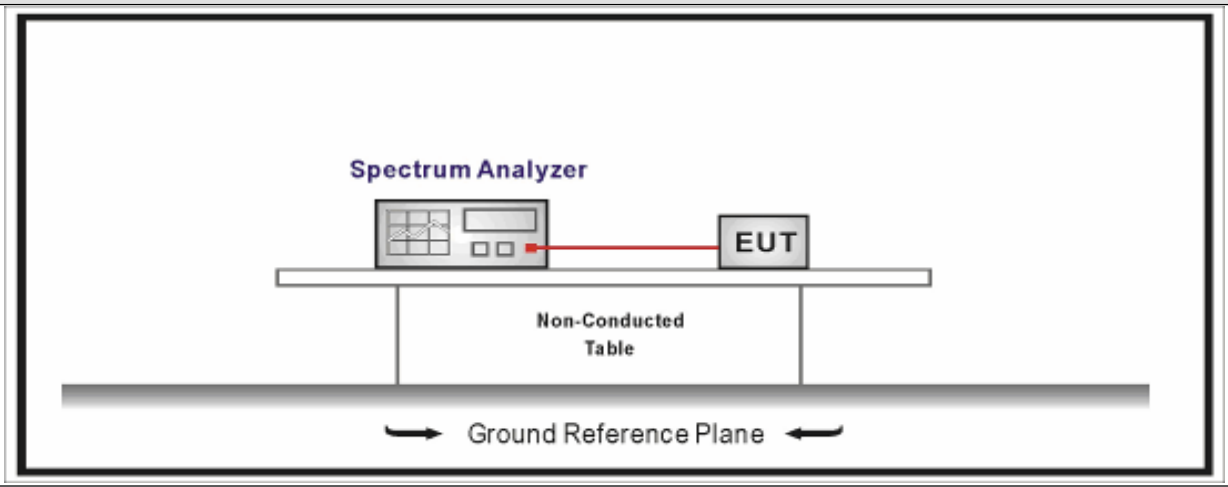
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	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 is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

Emissions in non-restricted frequency bands test setup:



5.3. 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)

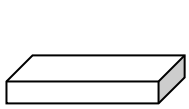
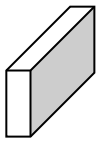
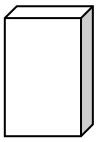
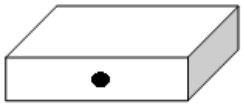
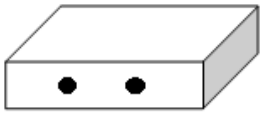
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

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).

5.4. Test Procedure

Test Method						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10			11.11.2	Reference level measurement
	☒	ANSI C63.10			11.11.3	Emission level measurement
☐	ANSI C63.10				11.12	Emissions in restricted frequency bands
	☐	ANSI C63.10			11.12.1	Radiated emission measurements
	☐	ANSI C63.10			11.12.2.7	Radiated spurious emission test
☐	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
	☒	ANSI C63.10			11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10		11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10		11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

5.5. EUT test Axis definition

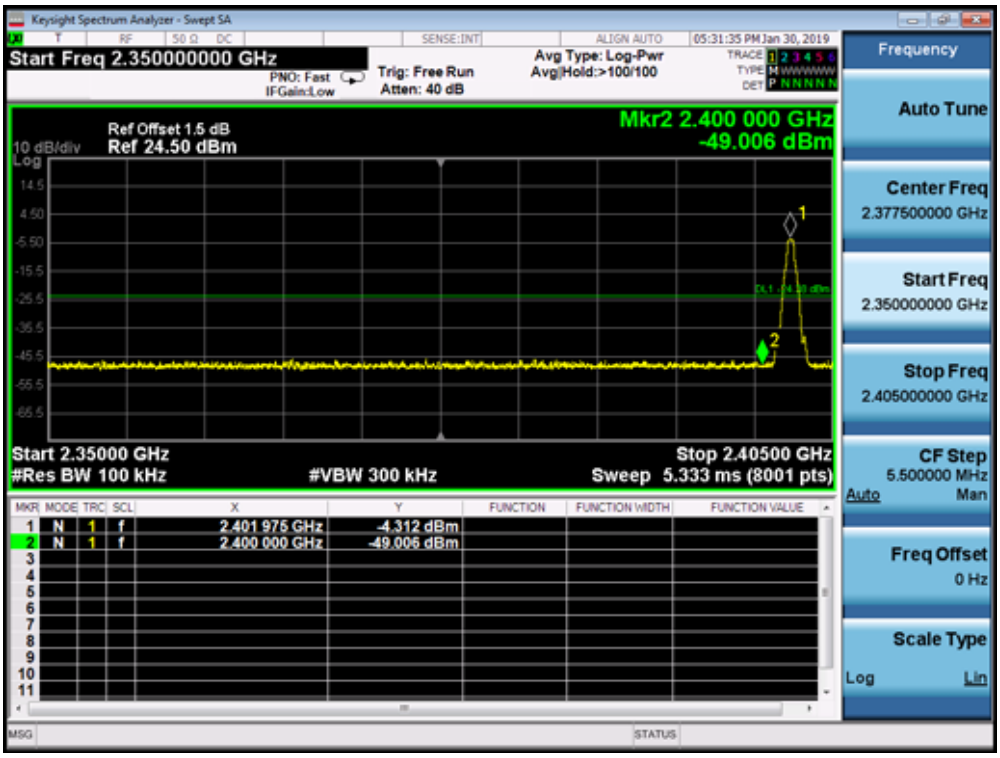
<table>
<tr><td>Item</td><td colspan="4">Emissions in non-restricted frequency bands</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

5.6. Test Result

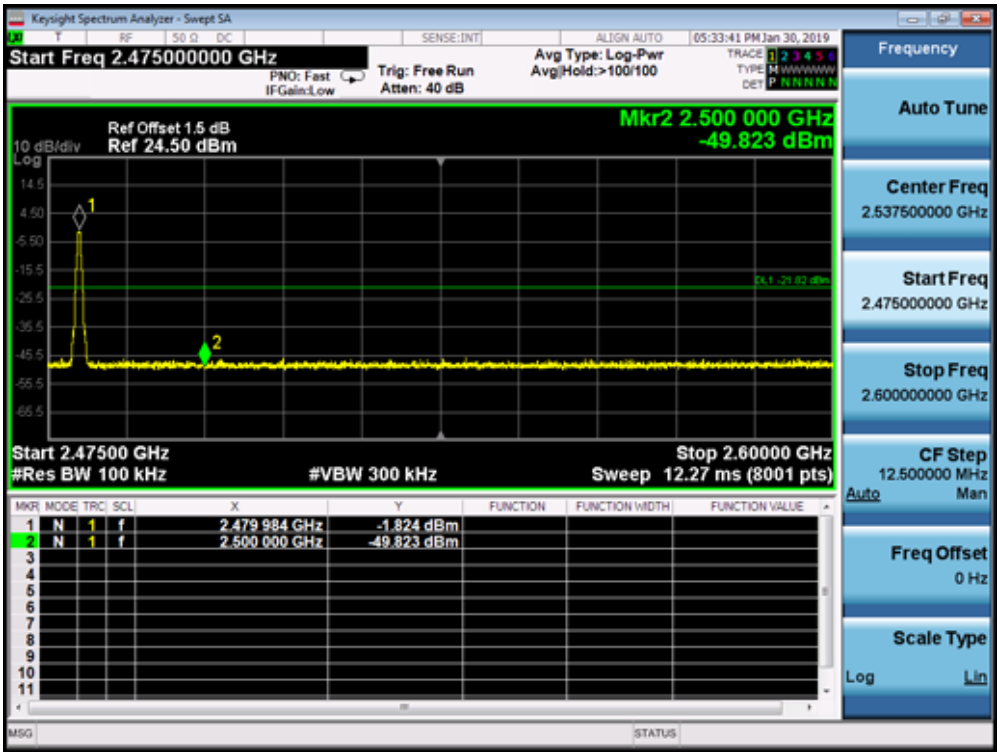
Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2019.01.30	Test Engineer	:	Simon

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	-4.312	2400.00	-49.006	44.694	>20	Pass
1	39	2480	-1.824	2500.00	-49.823	47.999	>20	Pass

Mode 1 CH00 (2402MHz)



Mode 1 CH39 (2480MHz)



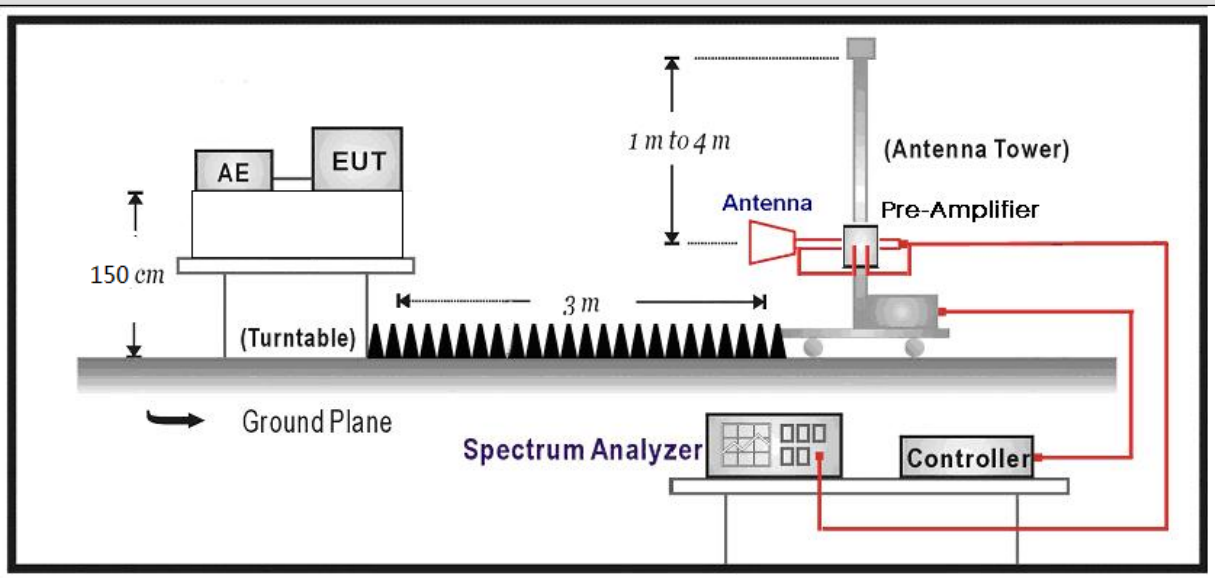
6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2018.07.16	2019.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2018.05.03	2019.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2018.07.12	2019.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.09.18	2019.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	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	2019.01.05	2020.01.04

6.2. Test Setup

Above 1GHz Test Setup:



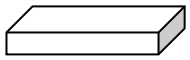
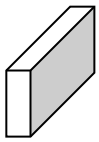
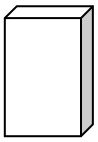
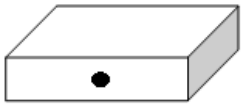
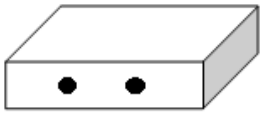
6.3. Limit

Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/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.				

6.4. Test Procedure

Test Method							
	References Rule					Chapter	Description
☒	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					11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10				11.12.1	Radiated emission measurements
	☒	ANSI C63.10				11.12.2.7	Radiated spurious emission test
☐	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
		☐	ANSI C63.10			11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10			11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10			11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10		11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10		11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☒	ANSI C63.10		11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

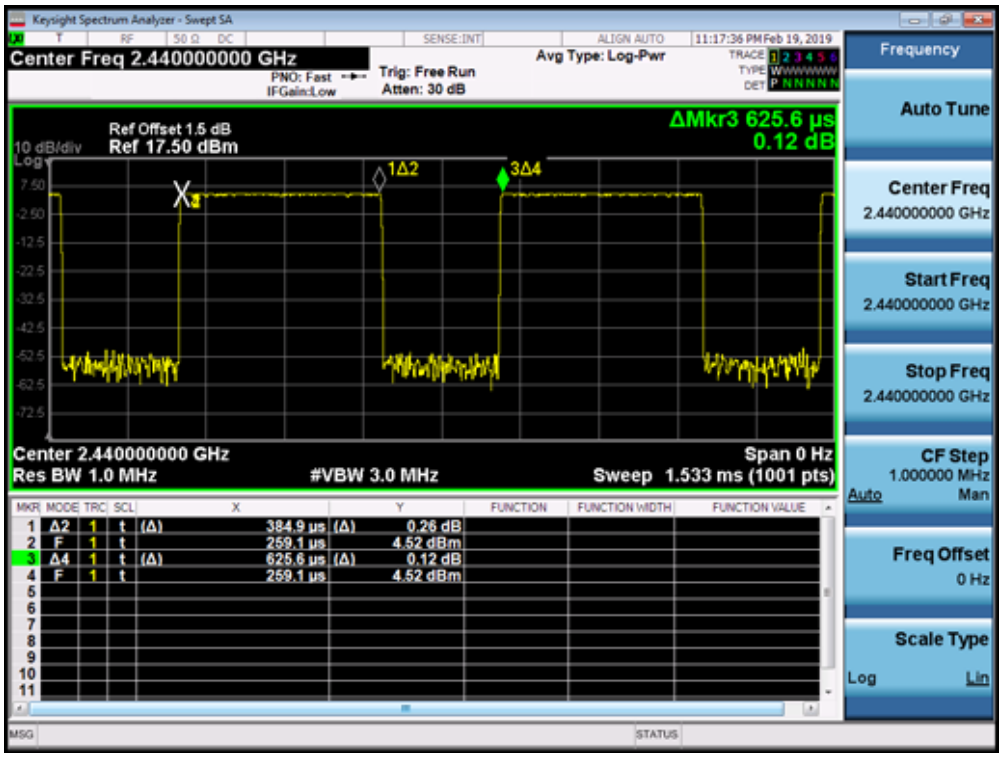
6.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Radiated Emission Band Edge</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~2</td></tr>
<tr><td rowspan="12">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Duty Cycle

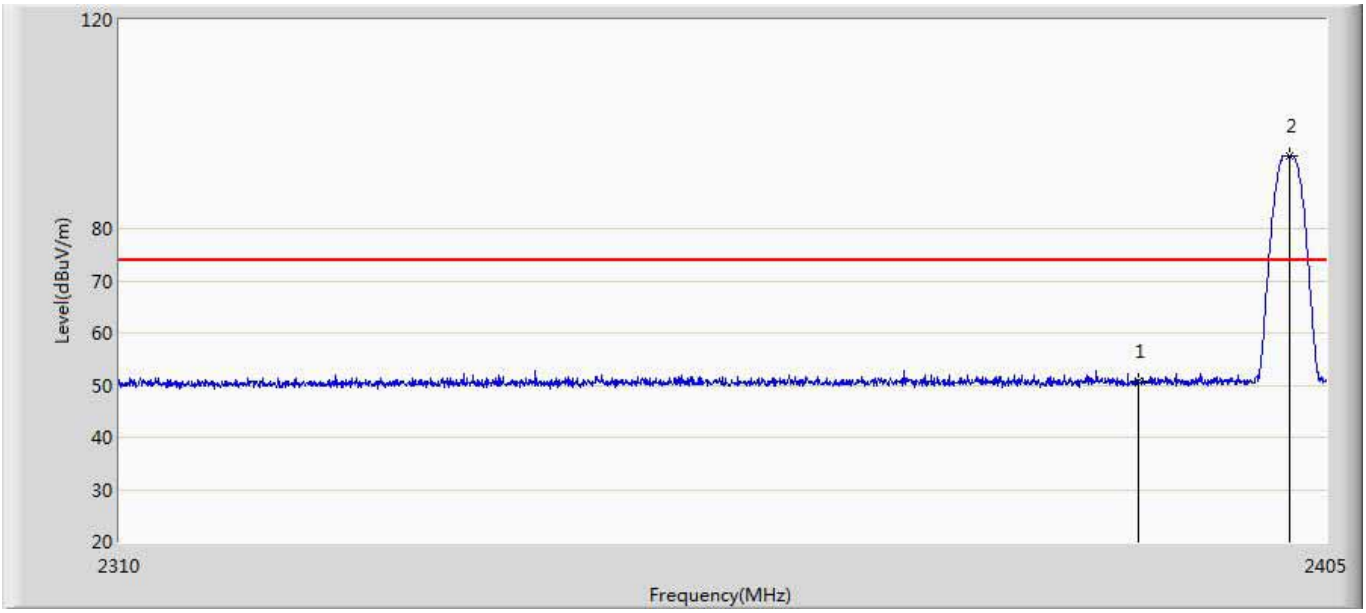
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (Hz)	Tx On + Tx Off (ms)	Duty Cycle
LE 1M	0.3849	0.2407	2700	0.6256	61.52%

LE 1M



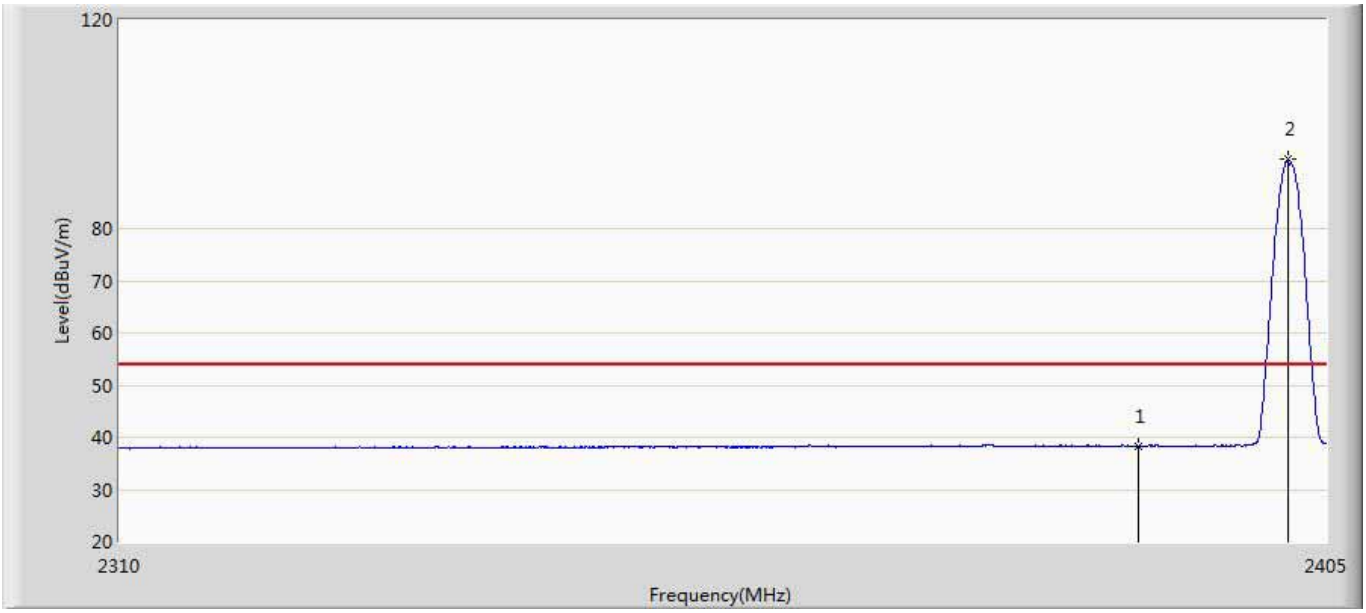
6.7. Test Result

Profile: 1912068R	Page No.: 25
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 00:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by LE 1M	



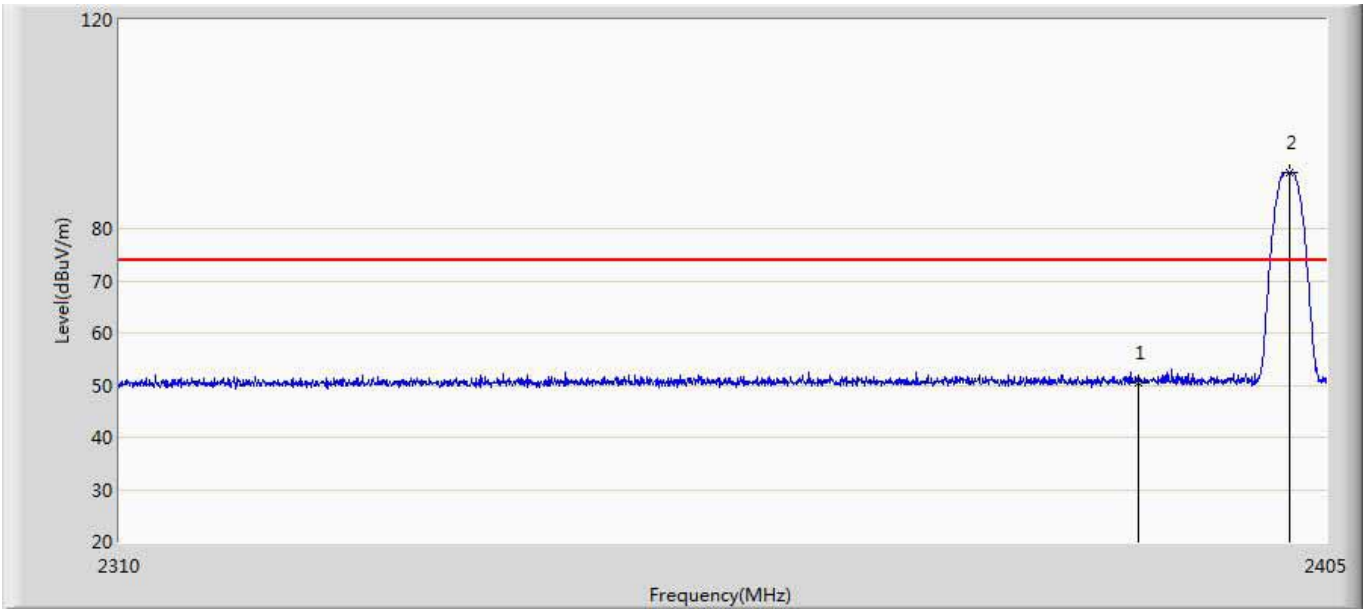
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.711	15.029	-23.289	74.000	35.682	PK
2	*	2402.055	93.836	58.123	N/A	N/A	35.712	PK

Profile: 1912068R	Page No.: 26
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 00:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by LE 1M	



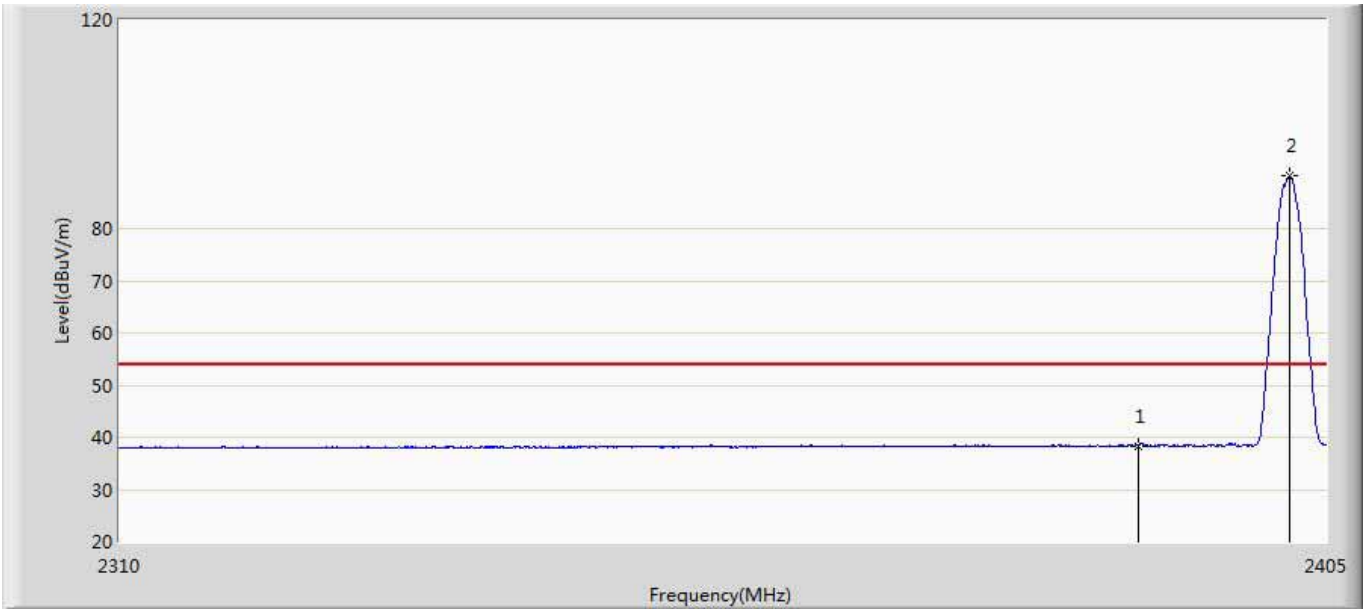
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.318	2.636	-15.682	54.000	35.682	AV
2	*	2401.913	93.221	57.509	N/A	N/A	35.712	AV

Profile: 1912068R	Page No.: 27
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by LE 1M	



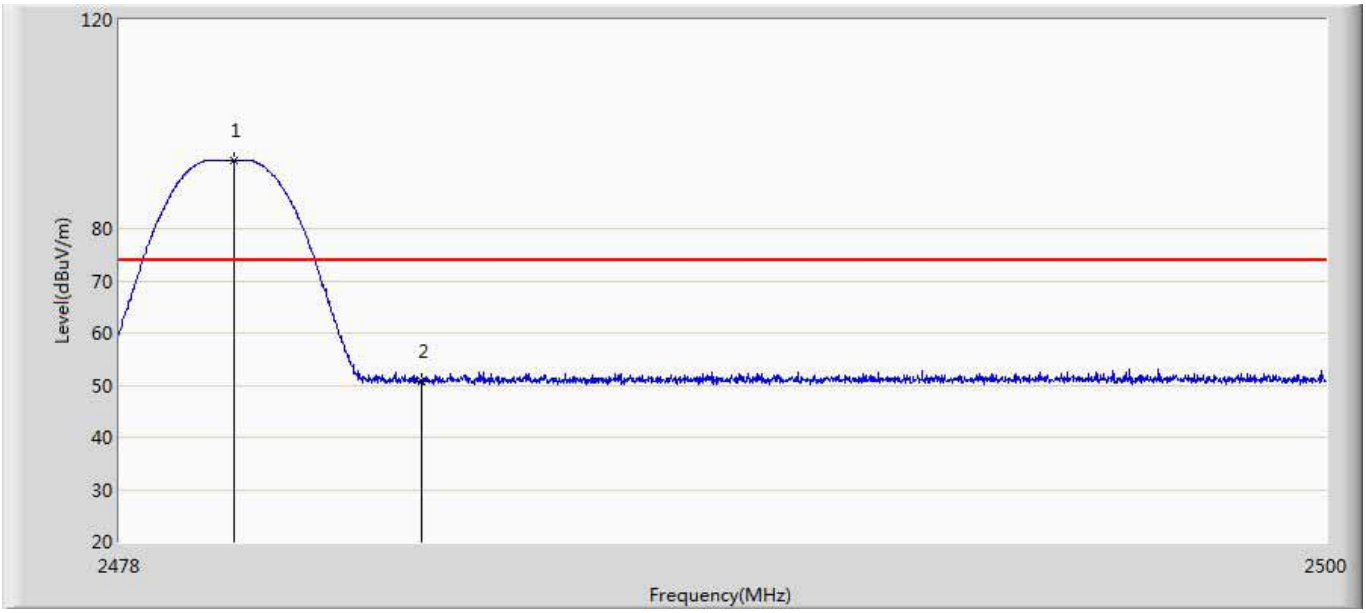
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.481	14.799	-23.519	74.000	35.682	PK
2	*	2402.055	90.688	54.975	N/A	N/A	35.712	PK

Profile: 1912068R	Page No.: 28
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by LE 1M	



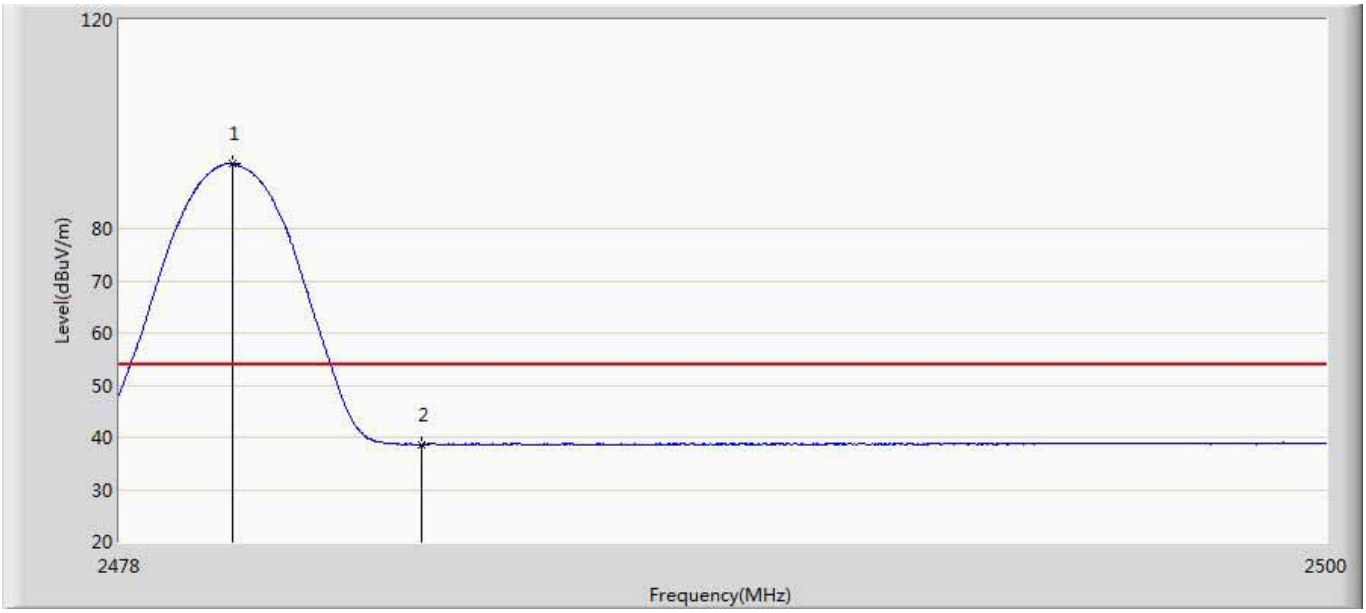
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.390	2.708	-15.610	54.000	35.682	AV
2	*	2402.055	90.010	54.297	N/A	N/A	35.712	AV

Profile: 1912068R	Page No.: 29
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by LE 1M	



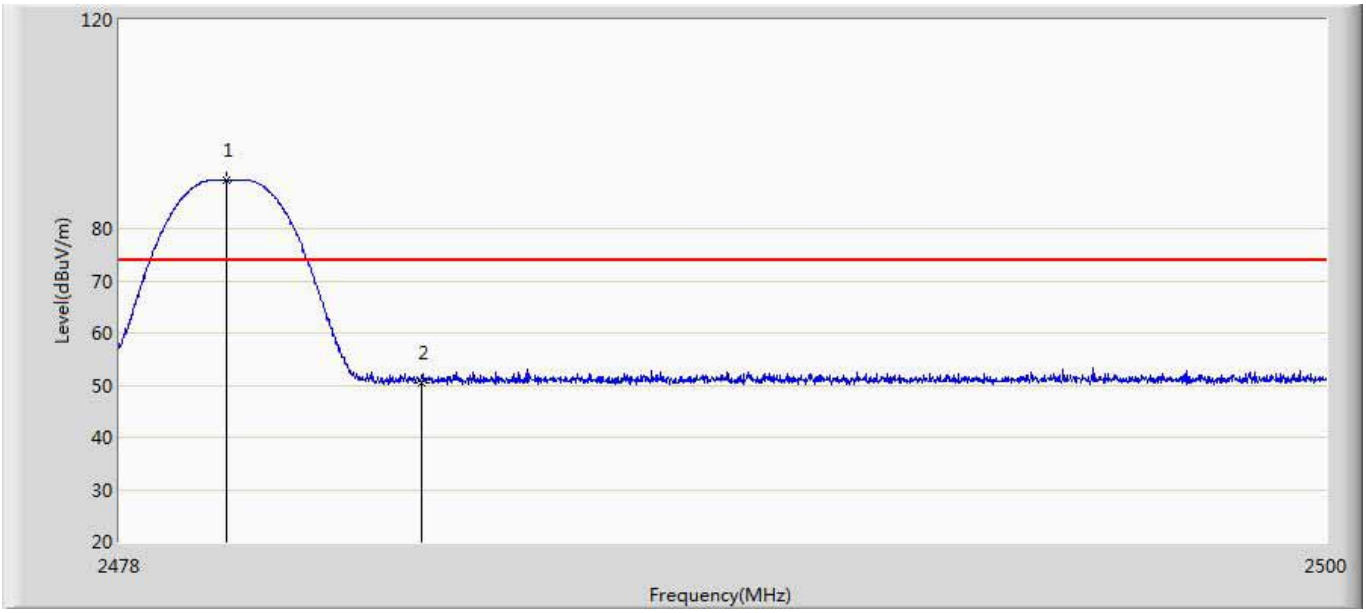
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	93.042	57.175	N/A	N/A	35.867	PK
2		2483.500	50.775	14.883	-23.225	74.000	35.891	PK

Profile: 1912068R	Page No.: 30
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by LE 1M	



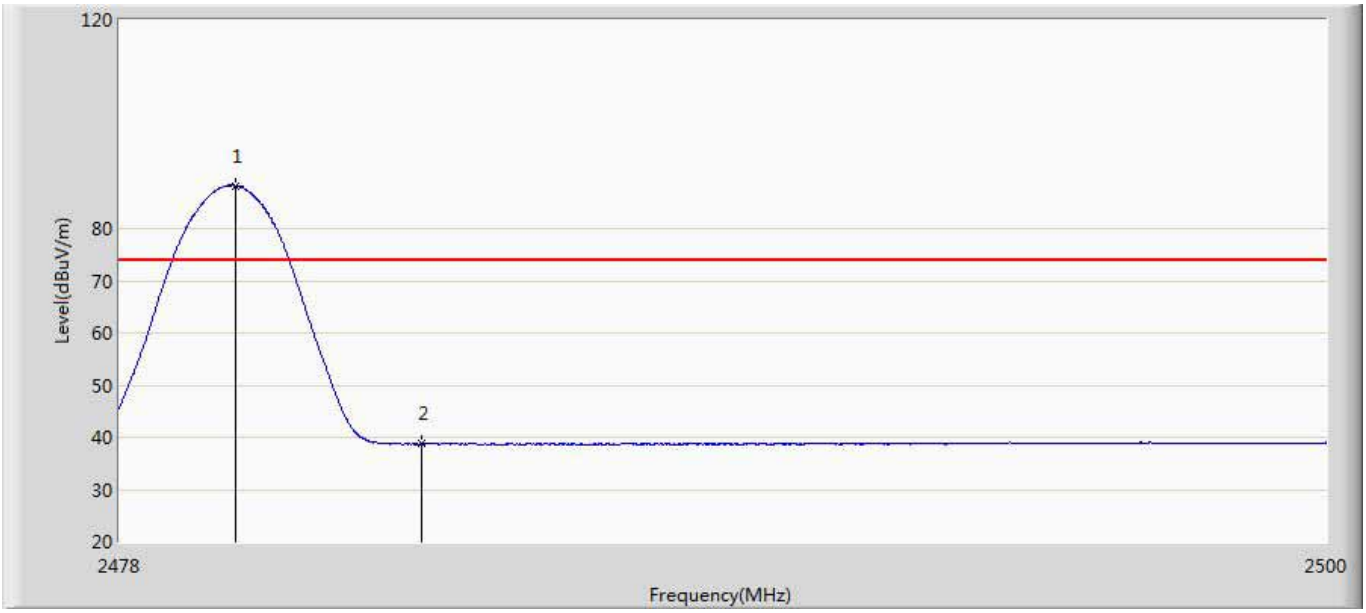
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	92.484	56.617	N/A	N/A	35.866	AV
2		2483.500	38.616	2.724	-15.384	54.000	35.891	AV

Profile: 1912068R	Page No.: 31
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by LE 1M	



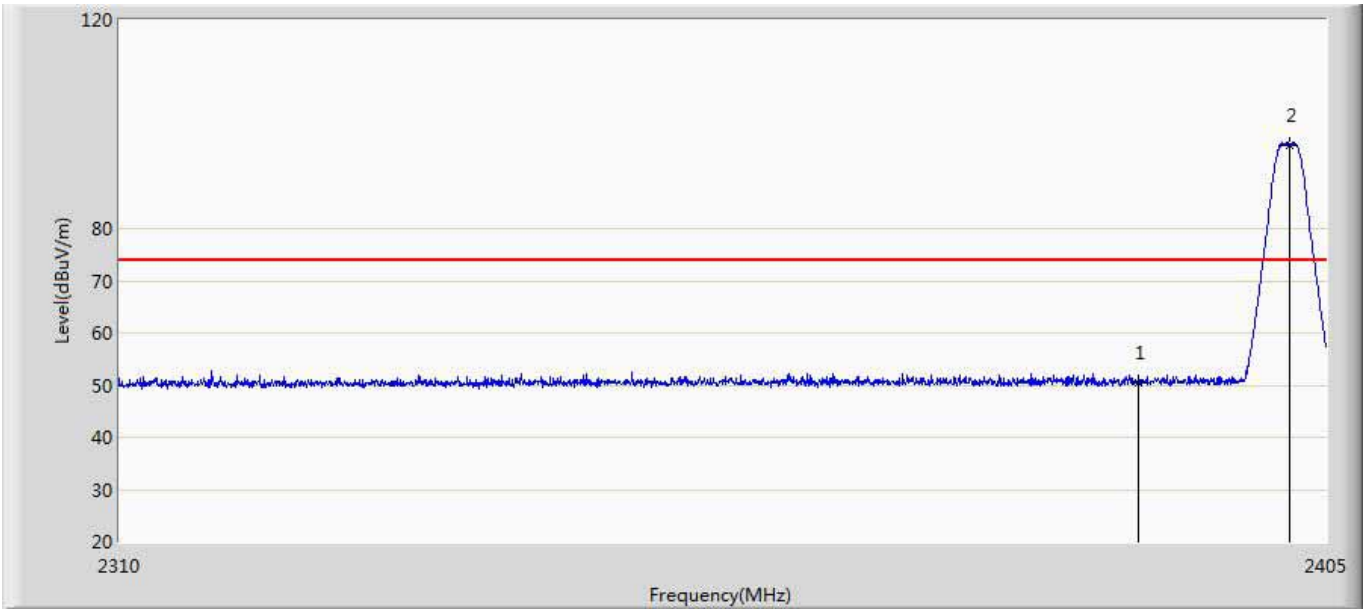
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	89.156	53.290	N/A	N/A	35.866	PK
2		2483.500	50.534	14.642	-23.466	74.000	35.891	PK

Profile: 1912068R	Page No.: 32
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by LE 1M	



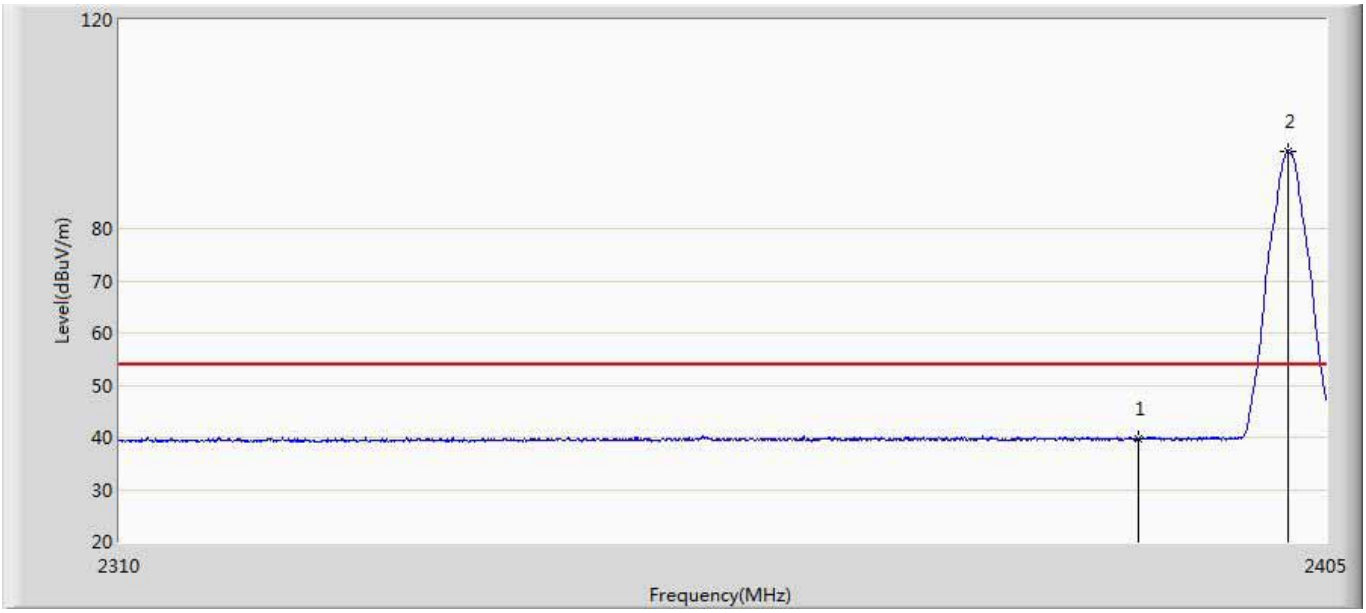
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.112	88.227	52.360	N/A	N/A	35.867	PK
2		2483.500	38.755	2.863	-35.245	74.000	35.891	PK

Profile: 1912068R	Page No.: 33
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by LE 2M	



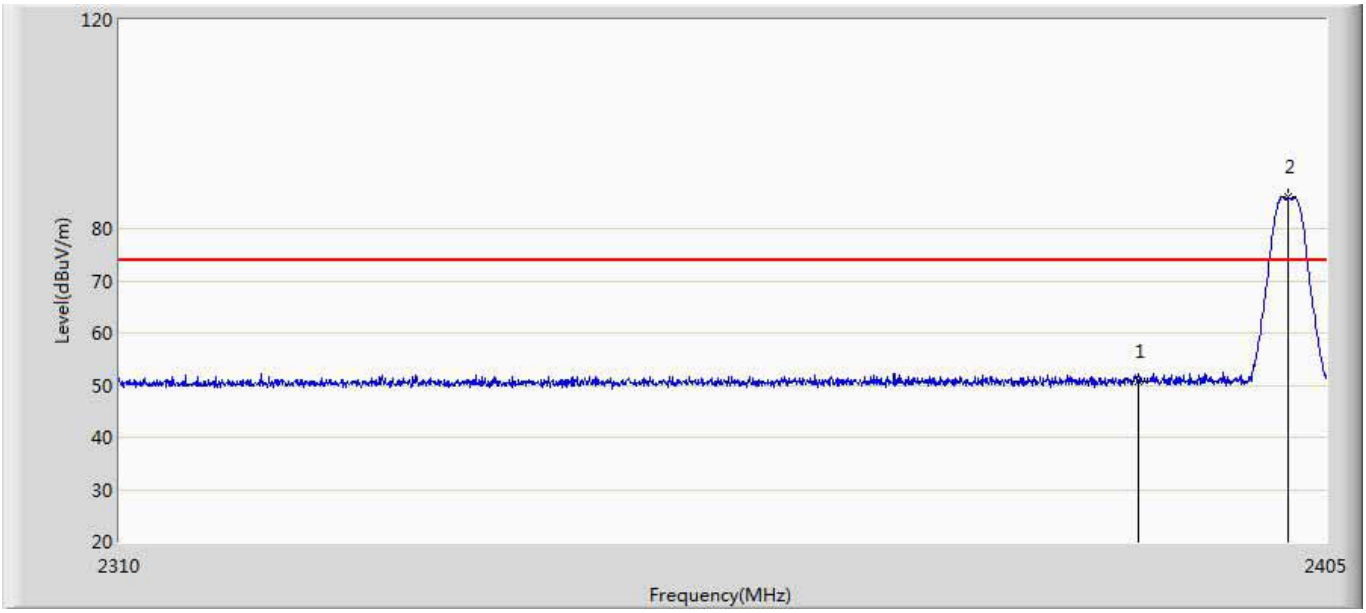
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.441	14.759	-23.559	74.000	35.682	PK
2	*	2402.055	96.067	60.354	N/A	N/A	35.712	PK

Profile: 1912068R	Page No.: 34
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by LE 2M	



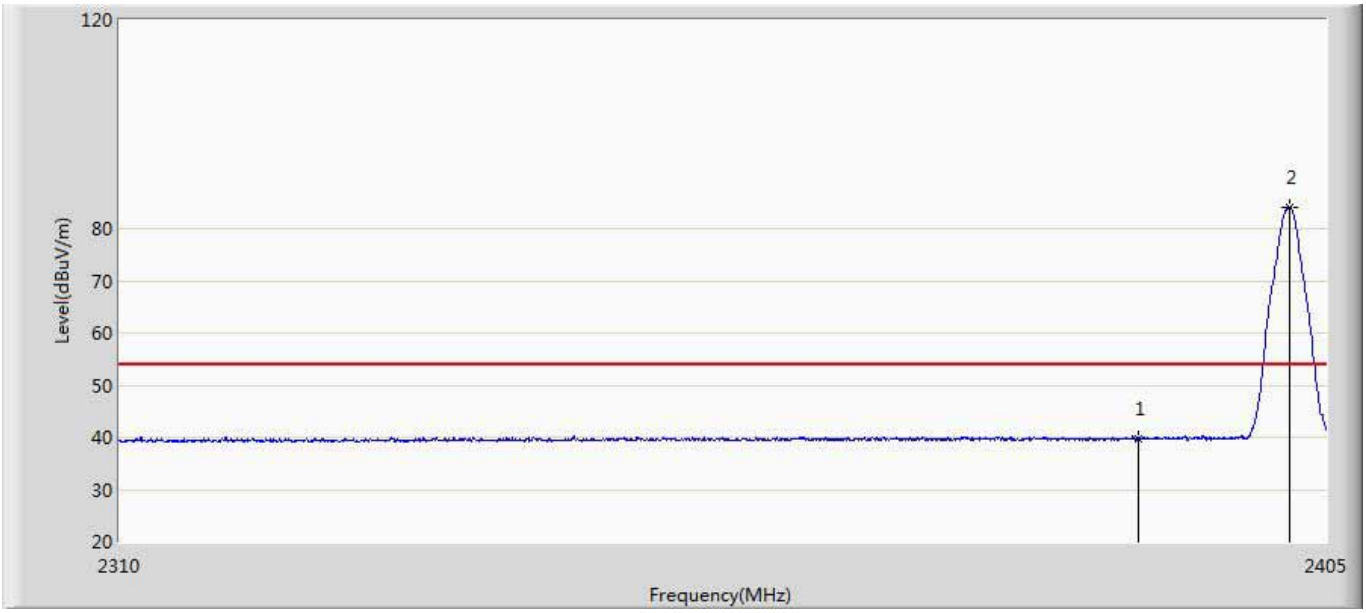
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.682	4.000	-14.318	54.000	35.682	AV
2	*	2401.913	94.886	59.174	N/A	N/A	35.712	AV

Profile: 1912068R	Page No.: 35
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by LE 2M	



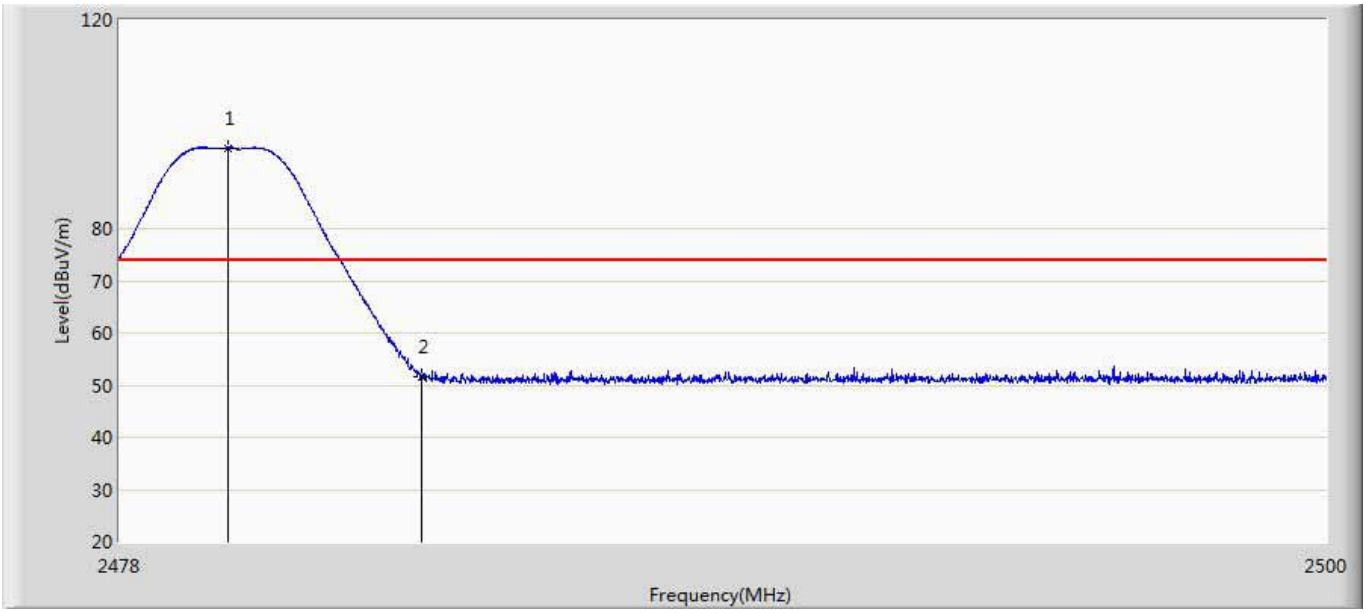
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.832	15.150	-23.168	74.000	35.682	PK
2	*	2402.008	86.063	50.350	N/A	N/A	35.712	PK

Profile: 1912068R	Page No.: 36
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by LE 2M	



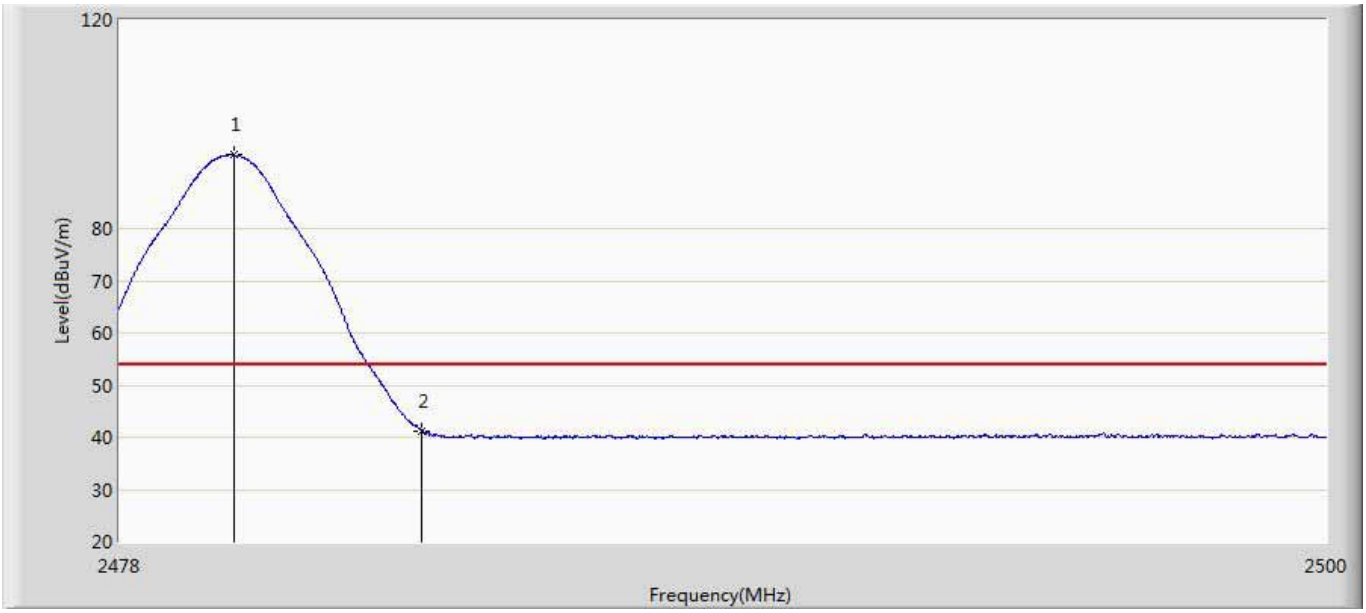
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.592	3.910	-14.408	54.000	35.682	AV
2	*	2402.055	84.145	48.432	N/A	N/A	35.712	AV

Profile: 1912068R	Page No.: 37
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by LE 2M	



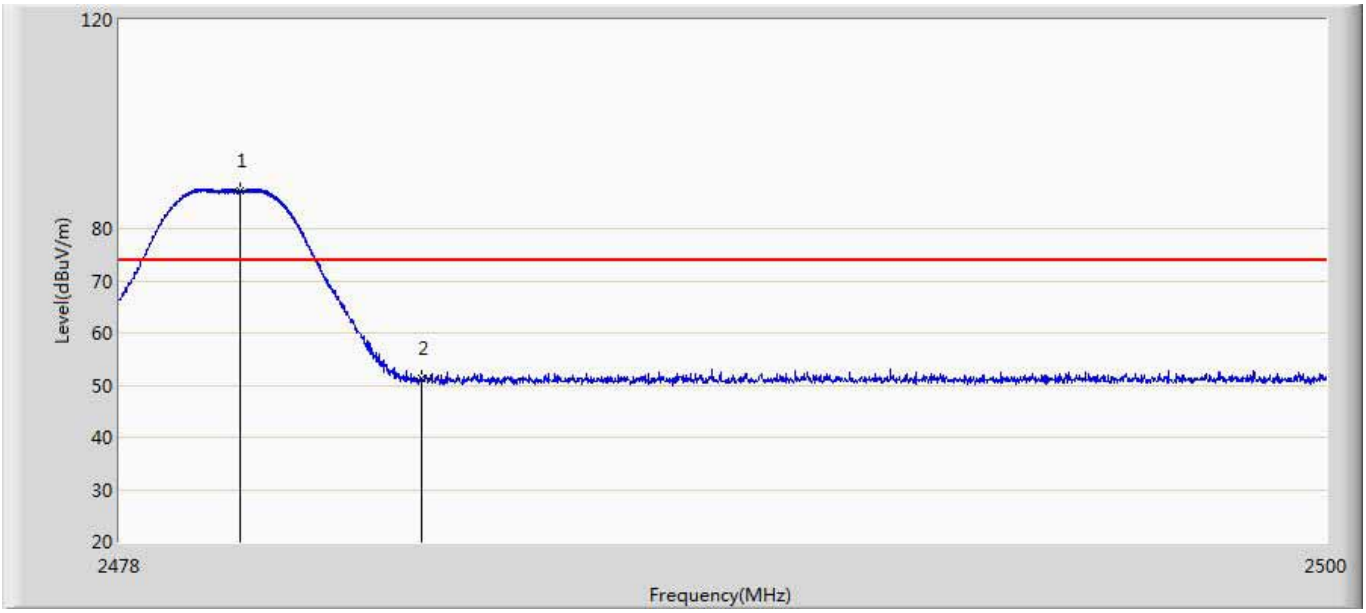
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	95.391	59.525	N/A	N/A	35.866	PK
2		2483.500	51.471	15.579	-22.529	74.000	35.891	PK

Profile: 1912068R	Page No.: 38
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by LE 2M	



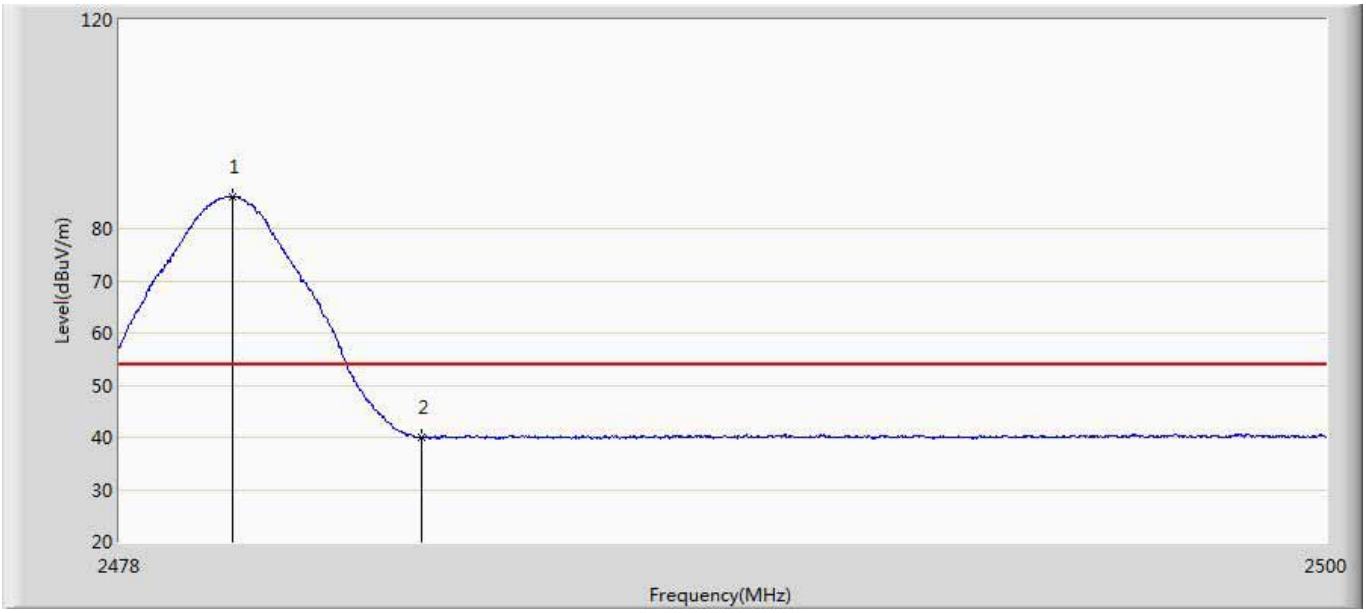
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	94.106	58.239	N/A	N/A	35.867	AV
2		2483.500	41.195	5.303	-12.805	54.000	35.891	AV

Profile: 1912068R	Page No.: 39
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by LE 2M	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.189	87.252	51.384	N/A	N/A	35.867	PK
2		2483.500	51.354	15.462	-22.646	74.000	35.891	PK

Profile: 1912068R	Page No.: 40
Engineer: Tommie	
Site: AC5	Time: 2019/01/23 - 01:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT WICED Module	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by LE 2M	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	86.166	50.299	N/A	N/A	35.866	AV
2		2483.500	39.912	4.020	-14.088	54.000	35.891	AV

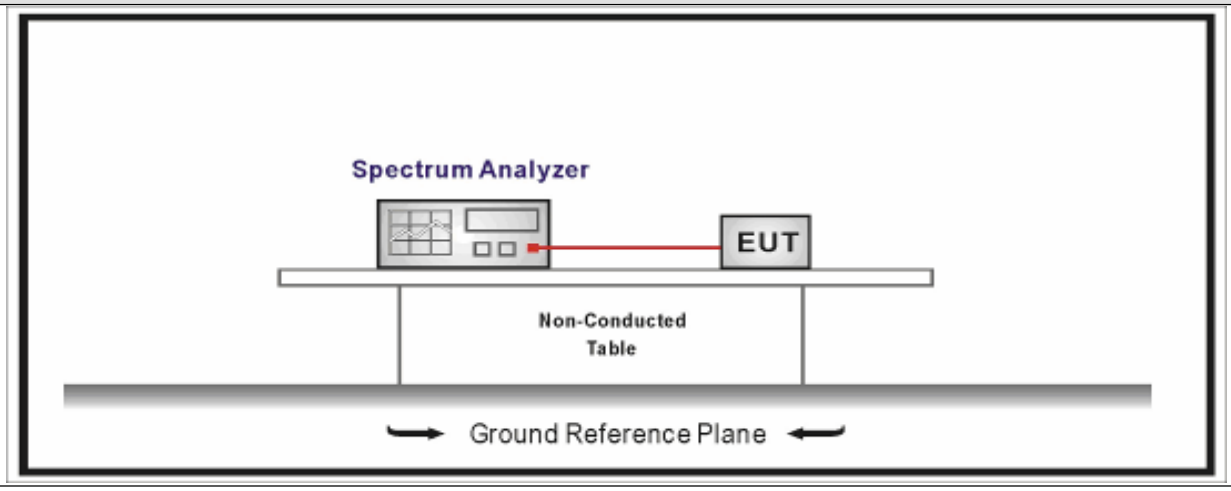
7. Occupied Bandwidth

7.1. Test Equipment

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 is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Occupied Bandwidth test setup:



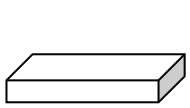
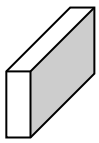
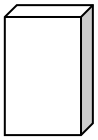
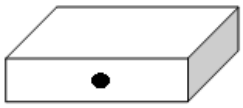
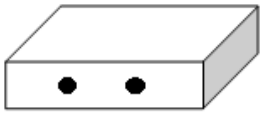
7.3. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

Test Method				
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

7.5. EUT test definition

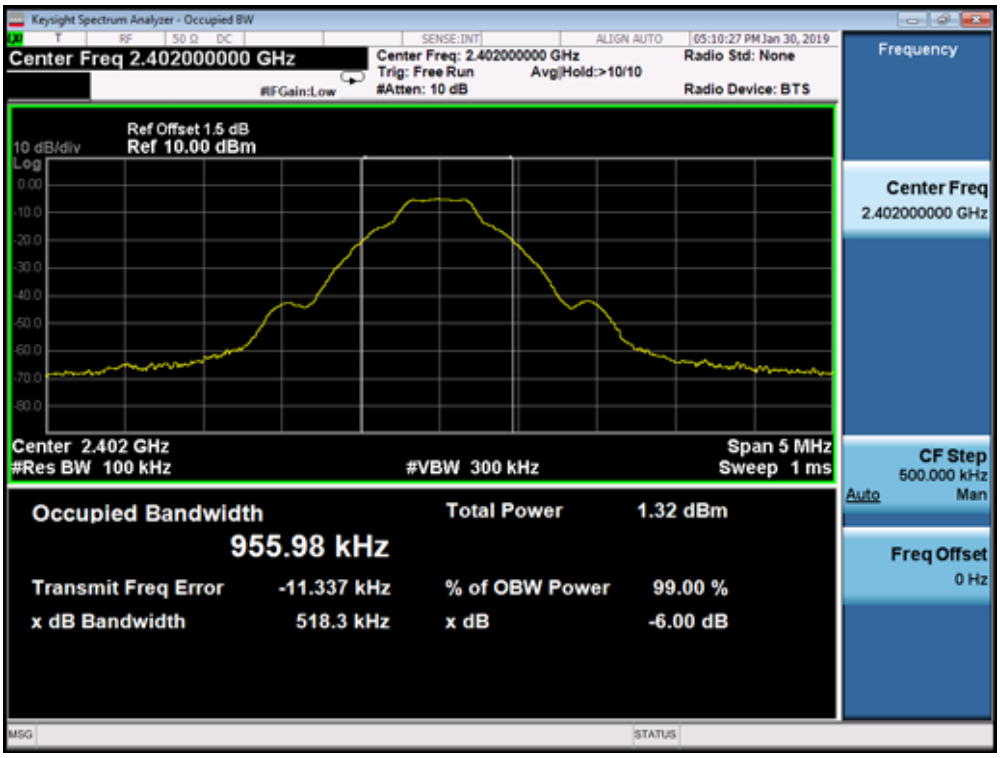
<table>
<tr><td>Item</td><td colspan="4">Occupied Bandwidth</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

7.6. Test Result

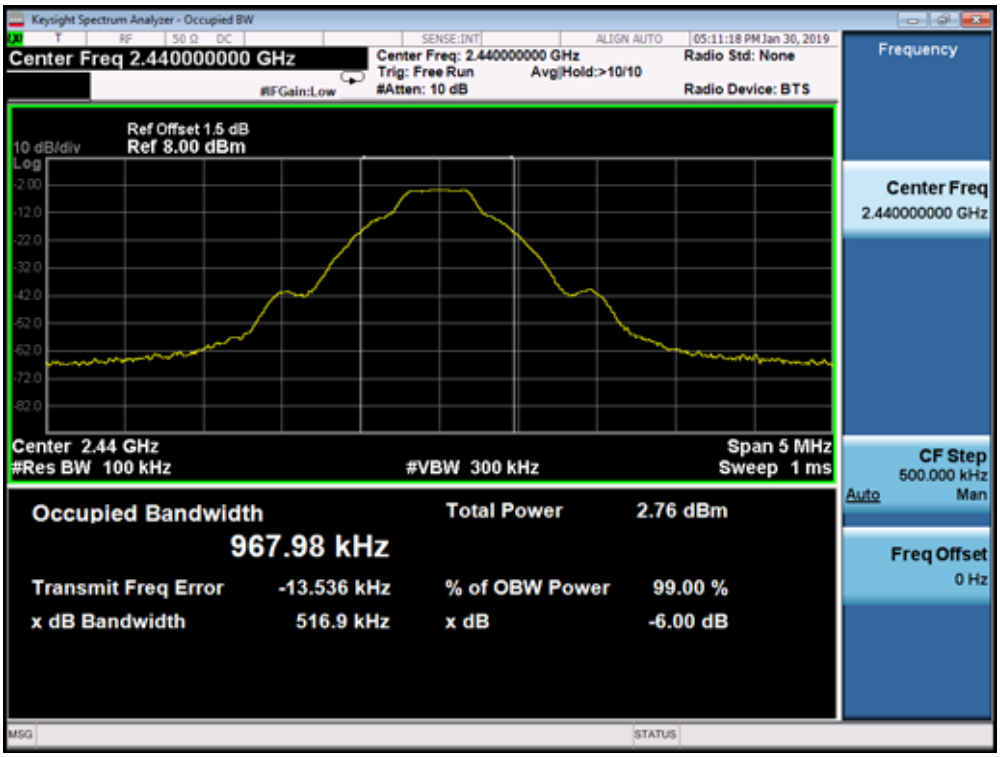
Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2019.01.30	Test Engineer	:	Simon

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402	955.98	518.3	>500	Pass
1	19	2440	967.98	516.9	>500	Pass
1	39	2480	985.70	518.9	>500	Pass

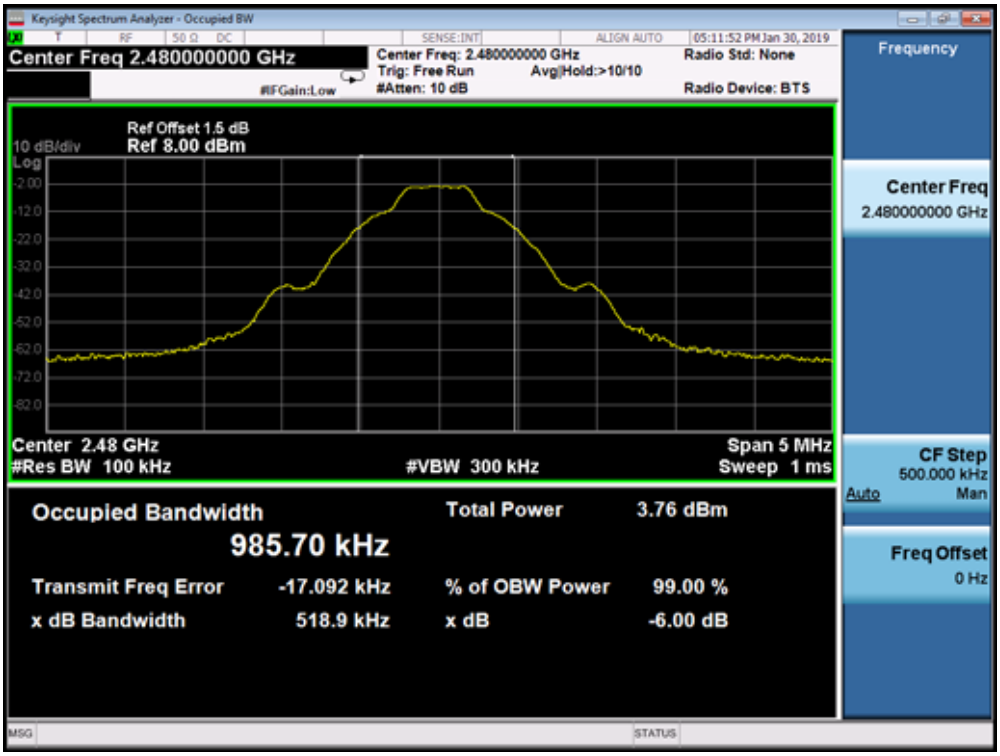
Mode 1 CH00 (2402MHz)



Mode 1 CH19 (2440MHz)



Mode 1 CH39 (2480MHz)



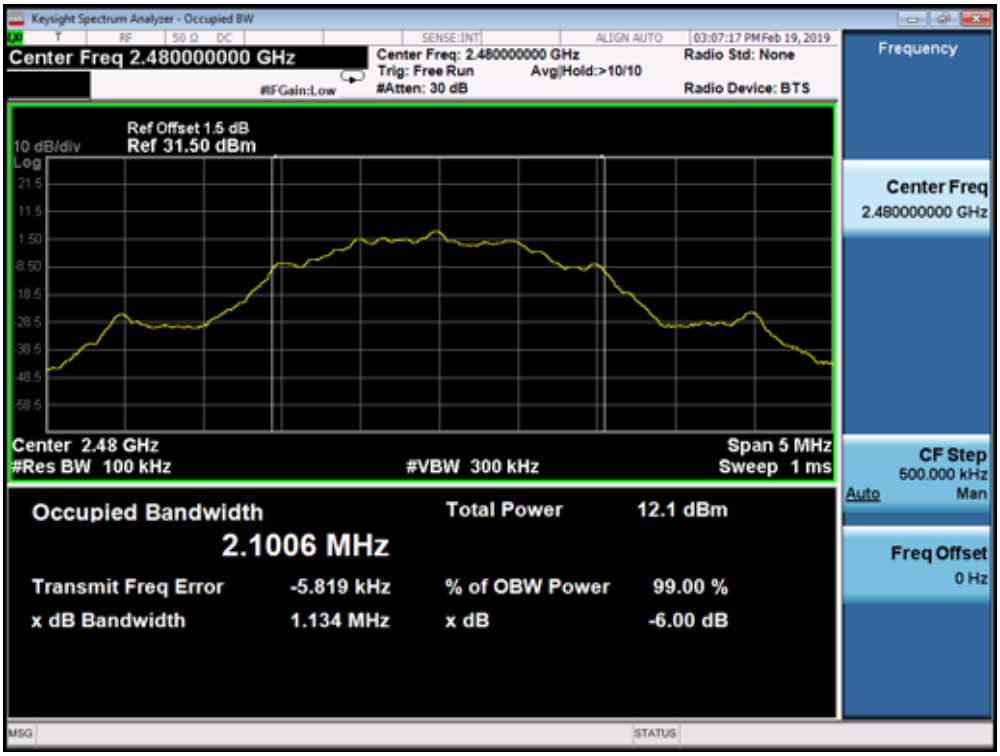
Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2019.02.19	Test Engineer	:	Simon

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
2	00	2402	2095.6	1128	>500	Pass
2	19	2440	2095.1	1123	>500	Pass
2	39	2480	2100.6	1134	>500	Pass

Mode 2 CH00 (2402MHz)

Mode 2 CH19 (2440MHz)

Mode 2 CH39 (2480MHz)



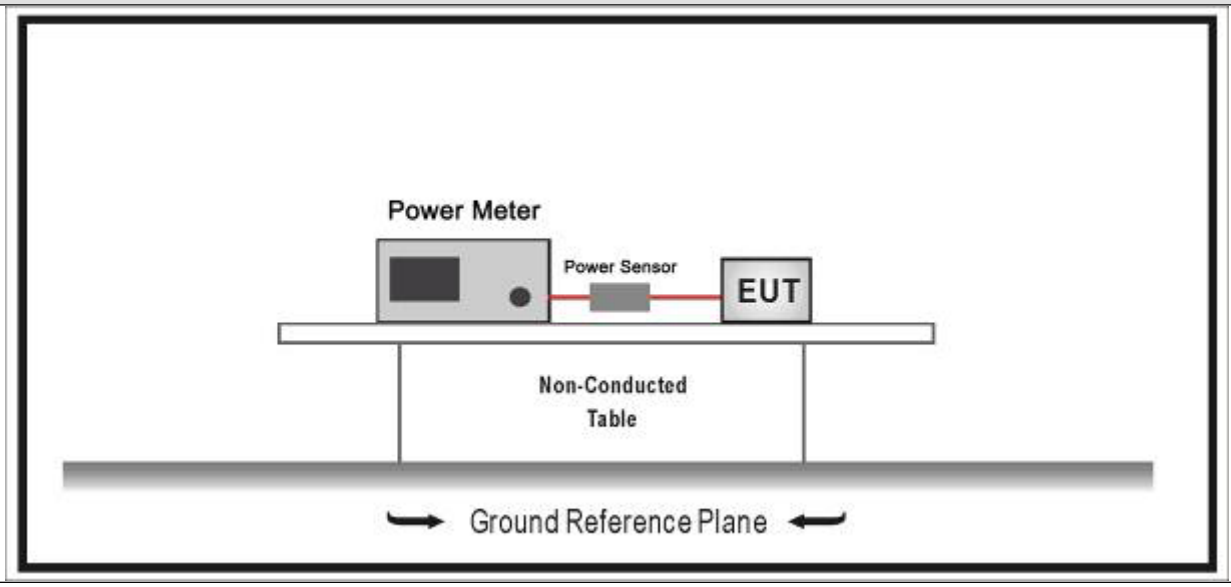
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.01.04	2020.01.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2018.10.14	2019.10.13
Power Sensor	Anritsu	MA2411B	0846014	2018.10.14	2019.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2018.04.10	2019.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Fundamental emission output power test setup



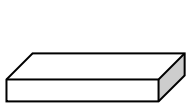
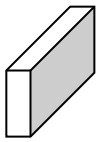
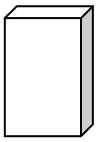
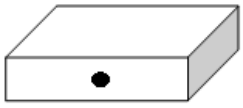
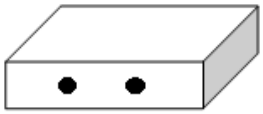
8.3. Limit

Fundamental emission output power Limit			
☒	G_{TX} ＜6dBi		P_{out}≤30dBm
☐	G_{TX} ＞6dBi		
	☐	Non-Fix point-point	P_{out}≤30-(G_{TX} -6)
	☐	Fix point-point	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Point-to-multipoint	P_{out}≤30-(G_{TX}-6)
	☐	Overlap Beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	single directional beam	P_{out}≤30-[(G_{TX}-6)]/3+8dB
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .			

8.4. Test Procedure

Fundamental emission output power Test Method						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.9	Fundamental emission output power
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10		11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10		11.9.1.2	Integrated band power method
		☒	ANSI C63.10		11.9.1.3	PKPM1 Peak power meter method
	☐	ANSI C63.10			11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle≥98%)
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle≥98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle≤98%)
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle≤98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☐	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			☐	ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

8.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Fundamental emission output power</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~2</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2019.01.30	Test Engineer	:	Simon

Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
1	00	2402	4.41	30	Pass
1	19	2440	4.27	30	Pass
1	39	2480	4.23	30	Pass

Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2019.01.30	Test Engineer	:	Simon

Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
2	00	2402	3.99	30	Pass
2	19	2440	3.95	30	Pass
2	39	2480	3.96	30	Pass

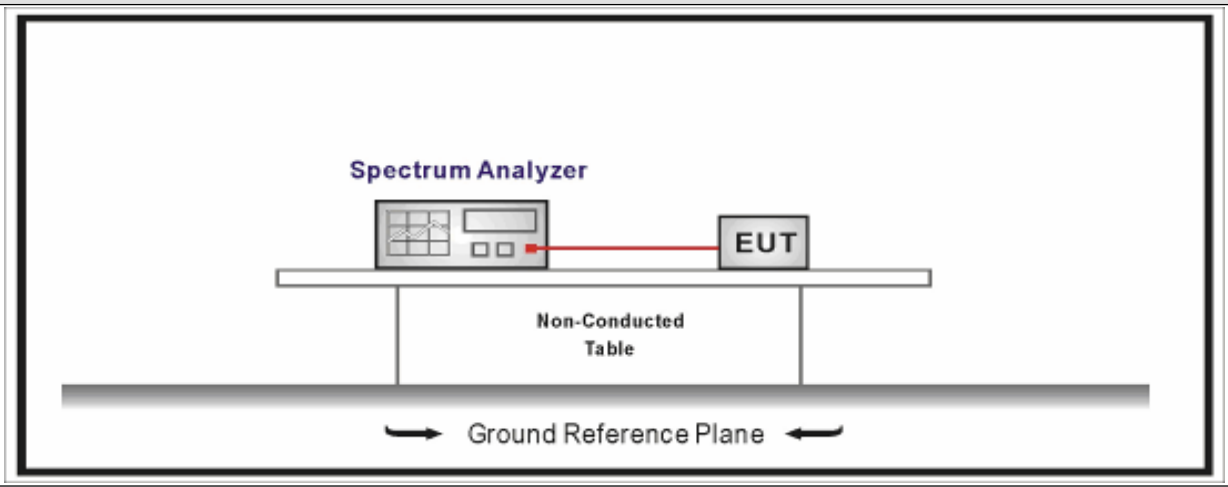
9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / 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 is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup

Power Spectral Density test setup



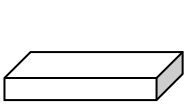
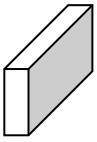
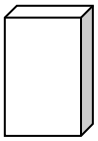
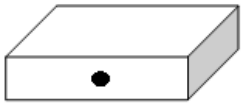
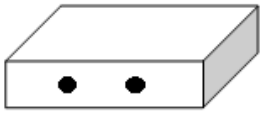
9.3. Limit

Power Spectral Density Limit
Power Spectral Density≤8dBm/3kHz

9.4. Test Procedure

Power Spectral Density Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

9.5. EUT test definition

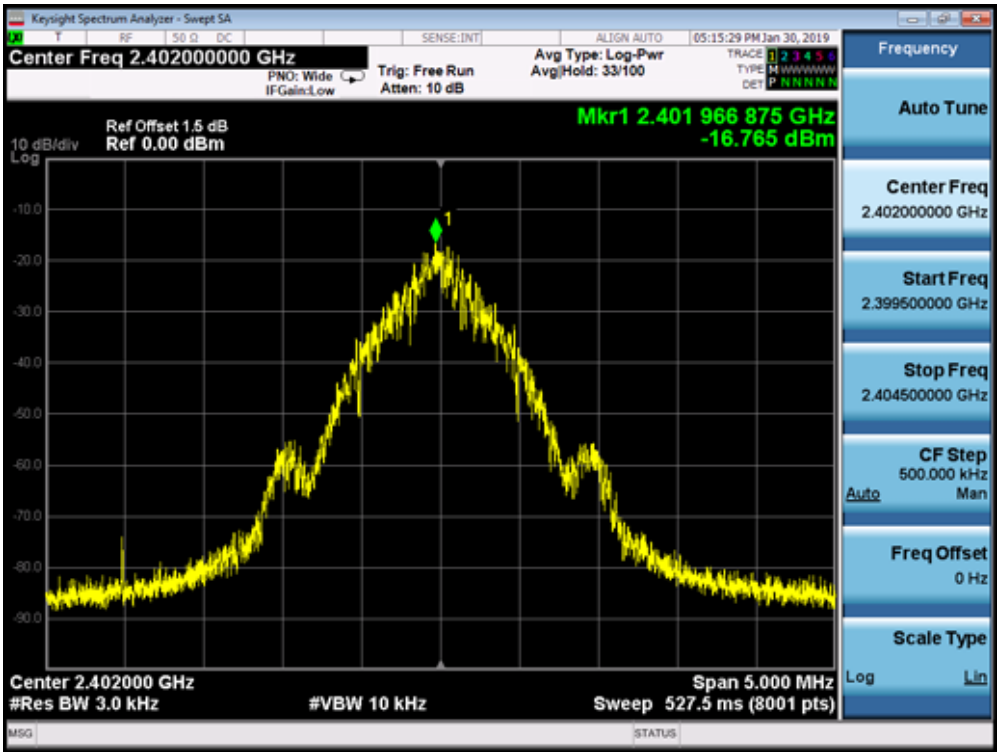
<table>
<tr><td>Item</td><td colspan="4">Power Spectral Density Test Method</td></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

9.6. Test Result

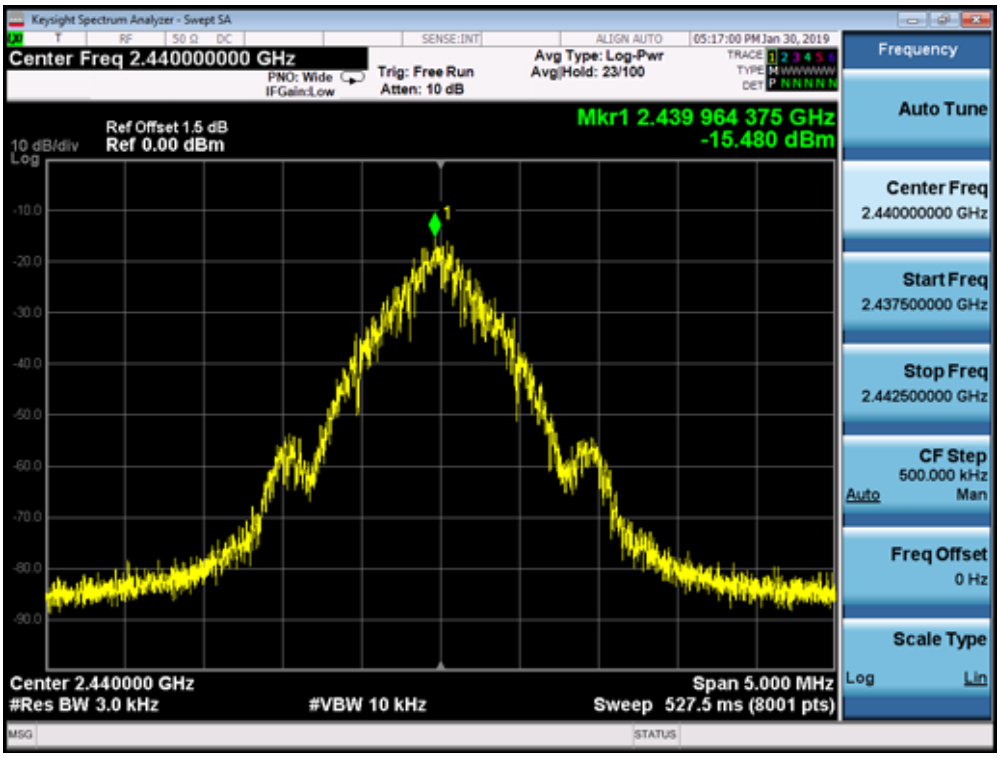
Product Name	:	EZ-BT WICED Module	Test Voltage	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2019.01.30	Test Engineer	:	Simon

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	00	2402	-16.765	-16.765	8	Pass
1	19	2440	-15.480	-15.480	8	Pass
1	39	2480	-14.601	-14.601	8	Pass

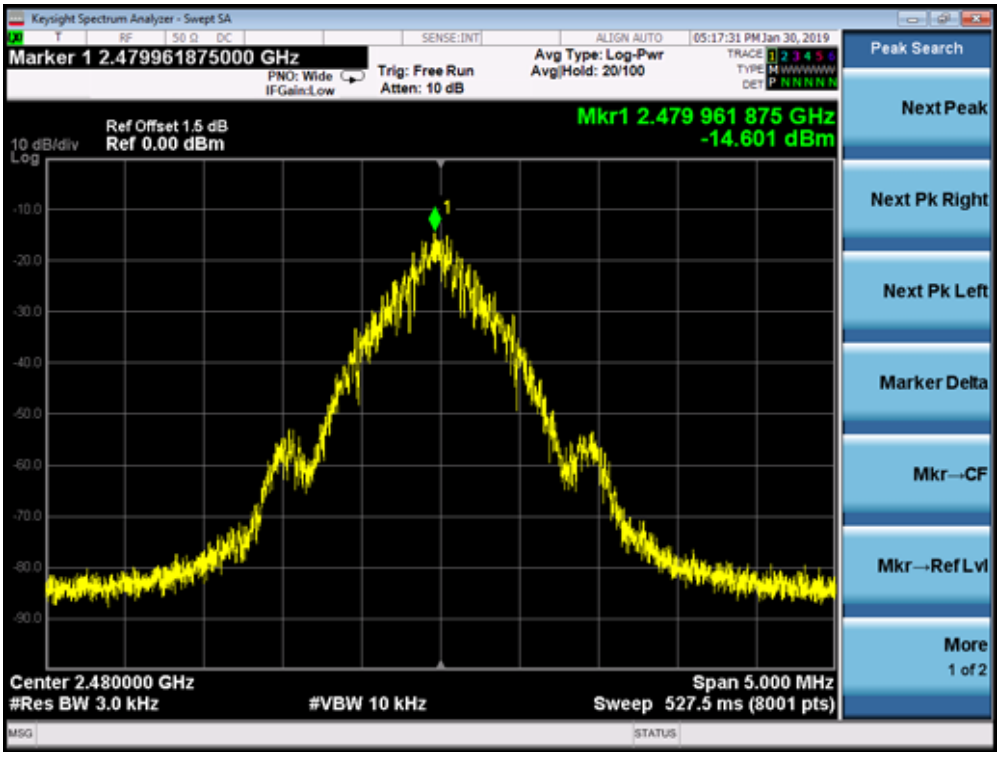
Mode 1 CH00(2402MHz)



Mode 1 CH19(2440MHz)



Mode 1 CH39(2480MHz)



10. Antenna Requirement

10.1. 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.

10.2. 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