



Test Report

FCC Part15 Subpart C& RSS-247 Issue 2

Product Name : EZ-BT Module
Model No. : CYBT-243053-02
FCC ID : WAP3053
IC : 7922A-3053

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

Date of Receipt : Jul. 04, 2019
Test Date : Jul. 04, 2019 ~ Aug. 06, 2019
Issued Date : Aug. 08, 2019
Report No. : 1972038R-RF-US-P06V03
Report Version : V1.0

The test results presented in this report relate only to the object tested.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements

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Test Report Certification

Issued Date : Aug. 08, 2019

Report No. : 1972038R-RF-US-P06V03



Product Name : EZ-BT 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-243053-02
FCC ID : WAP3053
IC : 7922A-3053
EUT Voltage : DC 2.6-3.6 V
Test Voltage : DC 3.3V
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
KDB 558074 D01v05
ANSI C63.10: 2013
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 CAB identifier: CN0040

Documented By

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(Adm. Specialist: Kathy Feng)

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Approved By

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(Engineering Supervisor: Jack Zhang)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1972038R-RF-US-P06V03	V1.0	Initial Issued Report	Aug. 08, 2019

1. General Information

1.1. EUT Description

Product Name	EZ-BT Module
Model No.	CYBT-243053-02
EUT Voltage	DC 2.6-3.6 V
Test Voltage	DC 3.3V
Bluetooth Specification	V3.0
Frequency Range	2402- 2480 MHz
Channel Number	V3.0: 79
Channel Separation	V3.0: 1MHz
Type of Modulation	V3.0: GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	V3.0: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps(8DPSK)
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

Bluetooth Working Frequency of Each Channel: (For V3.0)

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

1.2 Antenna information

Antenna manufacturer	N/A					
Antenna Delivery	☒	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					

1.3 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.

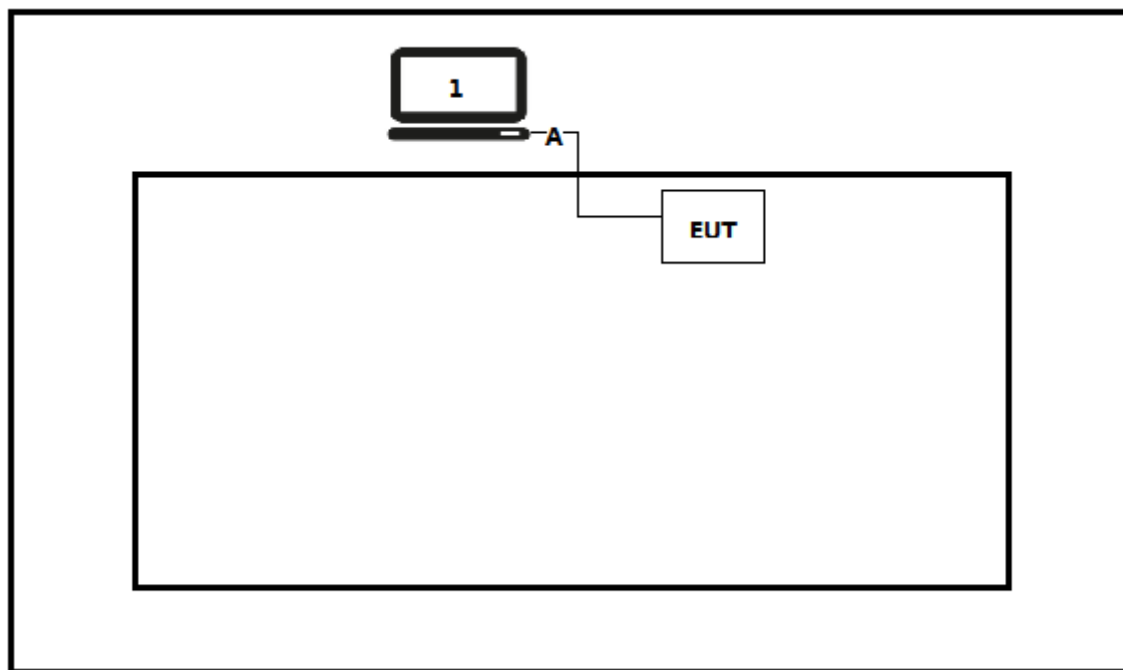
1.4 Tested System Details

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

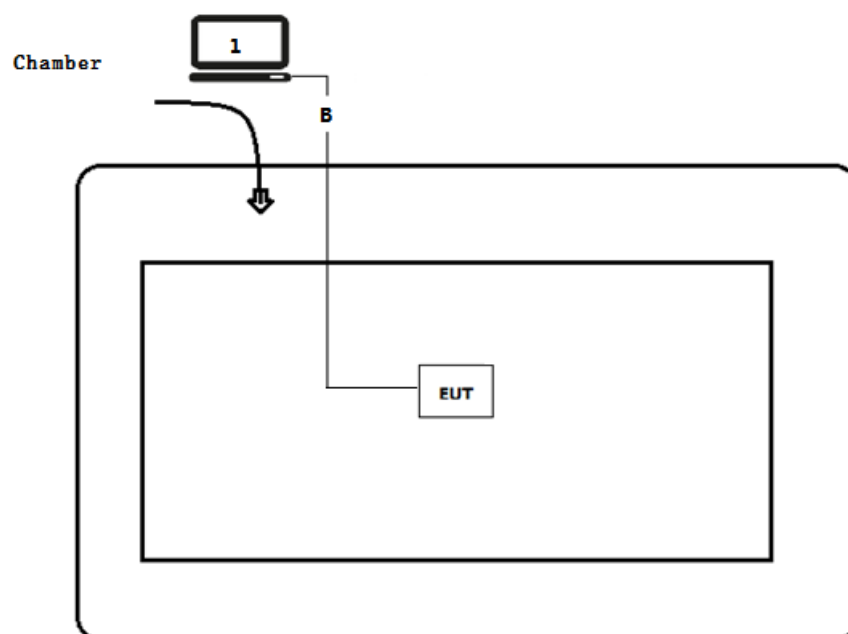
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	2526	LV-A3285	Power by adapter
A	USB Cable	N/A	N/A	N/A	Shield, 0.5m
B	USB Cable	N/A	N/A	N/A	Shield, 10m

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 5 Section 8.8	Yes	No
Radiated Emission	RSS-Gen Issue 5 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 5 Section 8.10	Yes	No
Antenna Requirement	RSS-Gen Issue 5 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

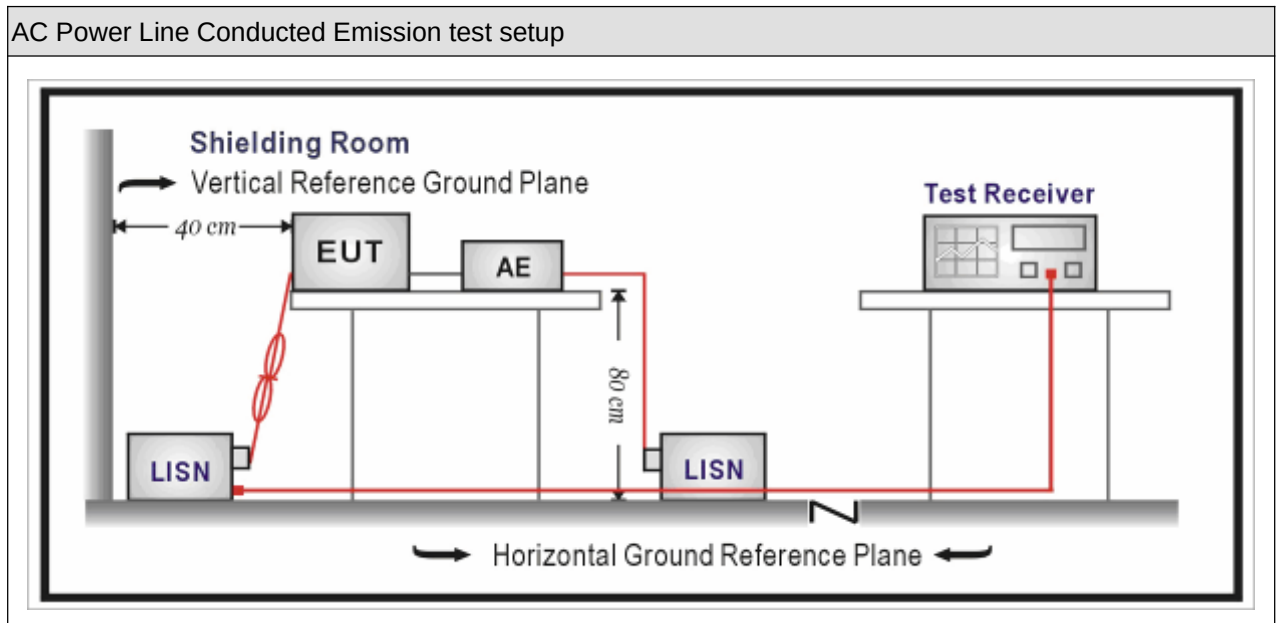
3. Conducted Emission

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	2019.03.05	2020.03.04
Two-Line V-Network	R&S	ENV 216	101189	2018.11.14	2019.11.13
Two-Line V-Network	R&S	ENV 216	101044	2018.09.15	2019.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2018.09.15	2019.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2019.01.05	2020.01.04
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A

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

3.2. Test Setup



3.3. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (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

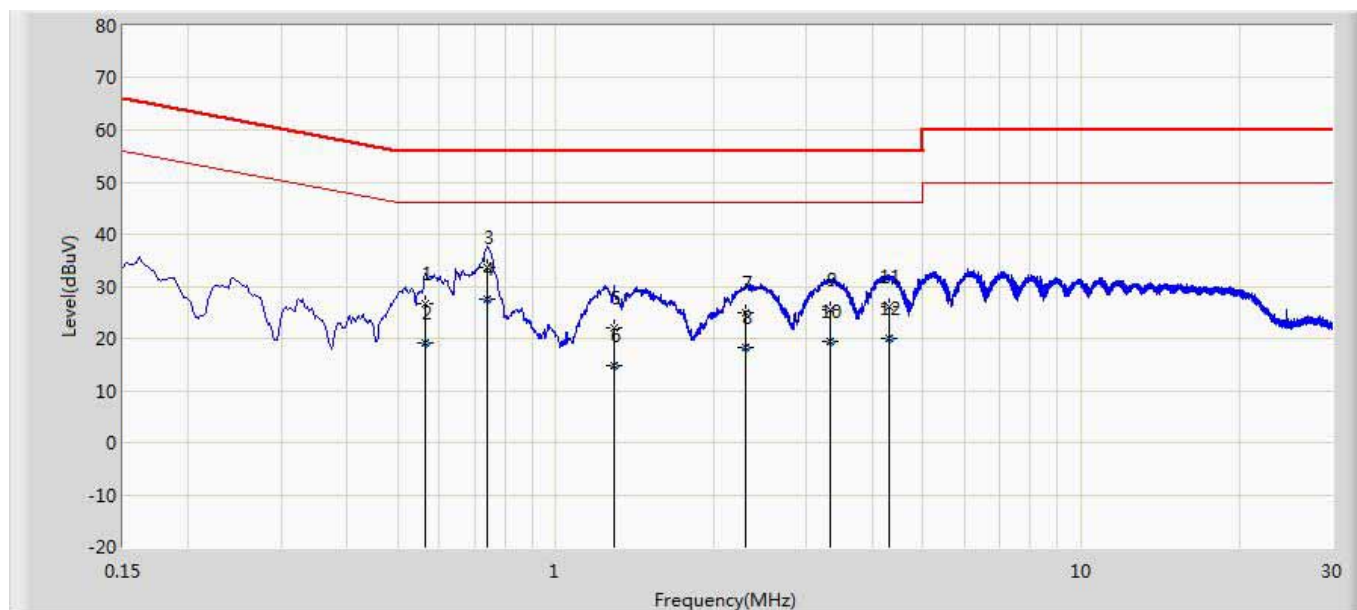
Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer: Lynee	
Site: TR1	Time: 2019/07/24
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1	

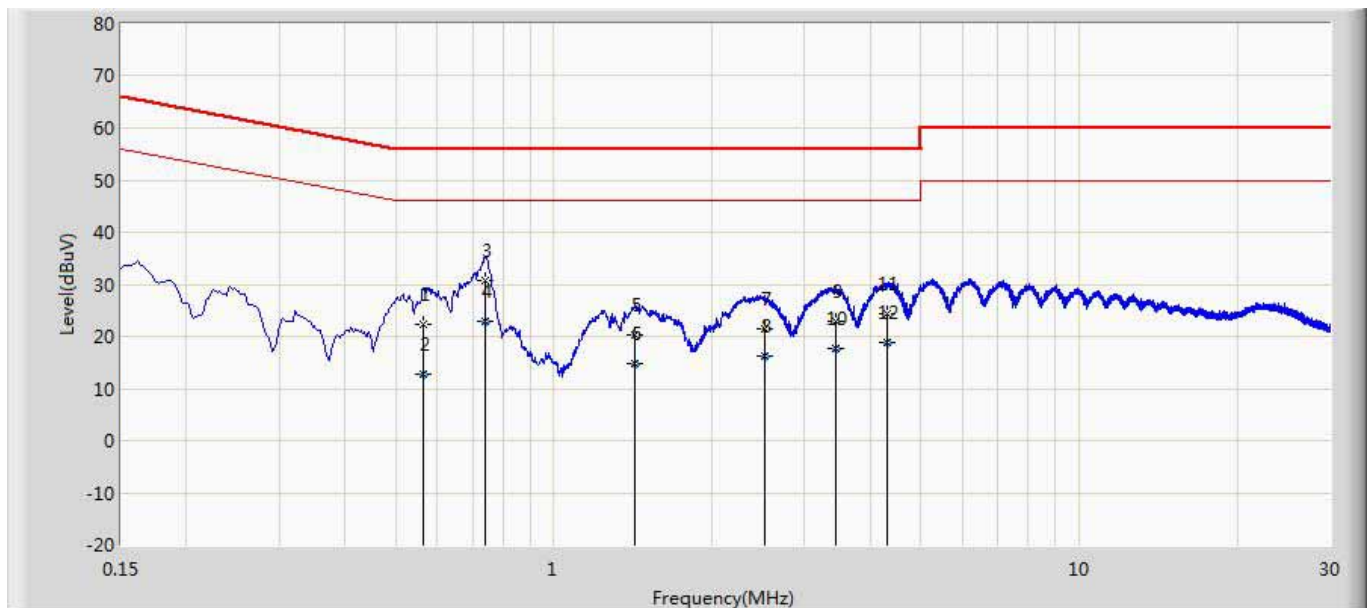


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.564	26.663	17.018	-29.337	56.000	9.600	0.045	0.000	QP
2		0.564	19.094	9.449	-26.906	46.000	9.600	0.045	0.000	AV
3		0.740	33.555	23.903	-22.445	56.000	9.601	0.051	0.000	QP
4	*	0.740	27.552	17.900	-18.448	46.000	9.601	0.051	0.000	AV
5		1.291	22.097	12.419	-33.903	56.000	9.610	0.068	0.000	QP
6		1.291	14.678	5.000	-31.322	46.000	9.610	0.068	0.000	AV
7		2.294	24.940	15.231	-31.060	56.000	9.615	0.094	0.000	QP
8		2.294	18.382	8.673	-27.618	46.000	9.615	0.094	0.000	AV
9		3.327	25.455	15.708	-30.545	56.000	9.632	0.115	0.000	QP
10		3.327	19.296	9.549	-26.704	46.000	9.632	0.115	0.000	AV
11		4.295	26.032	16.252	-29.968	56.000	9.648	0.132	0.000	QP
12		4.295	20.126	10.346	-25.874	46.000	9.648	0.132	0.000	AV

Note:

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

Engineer: Lynee	
Site: TR1	Time: 2019/07/24
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: EZ-BT Module	Power: DC 3.3V
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		0.564	22.261	12.626	-33.739	56.000	9.590	0.045	0.000	QP
2		0.564	12.884	3.249	-33.116	46.000	9.590	0.045	0.000	AV
3		0.742	30.704	21.063	-25.296	56.000	9.590	0.051	0.000	QP
4	*	0.742	22.995	13.354	-23.005	46.000	9.590	0.051	0.000	AV
5		1.421	20.227	10.558	-35.773	56.000	9.598	0.072	0.000	QP
6		1.421	14.642	4.972	-31.358	46.000	9.598	0.072	0.000	AV
7		2.515	21.582	11.867	-34.418	56.000	9.617	0.098	0.000	QP
8		2.515	16.180	6.465	-29.820	46.000	9.617	0.098	0.000	AV
9		3.449	22.988	13.242	-33.012	56.000	9.629	0.118	0.000	QP
10		3.449	17.656	7.910	-28.344	46.000	9.629	0.118	0.000	AV
11		4.303	24.491	14.718	-31.509	56.000	9.641	0.132	0.000	QP
12		4.303	18.933	9.160	-27.067	46.000	9.641	0.132	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

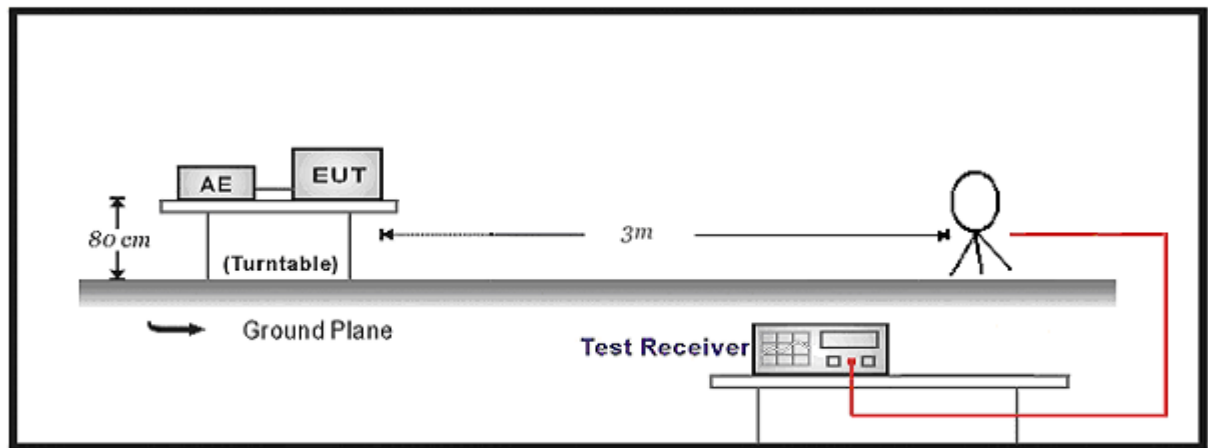
4.1. Test Equipment

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

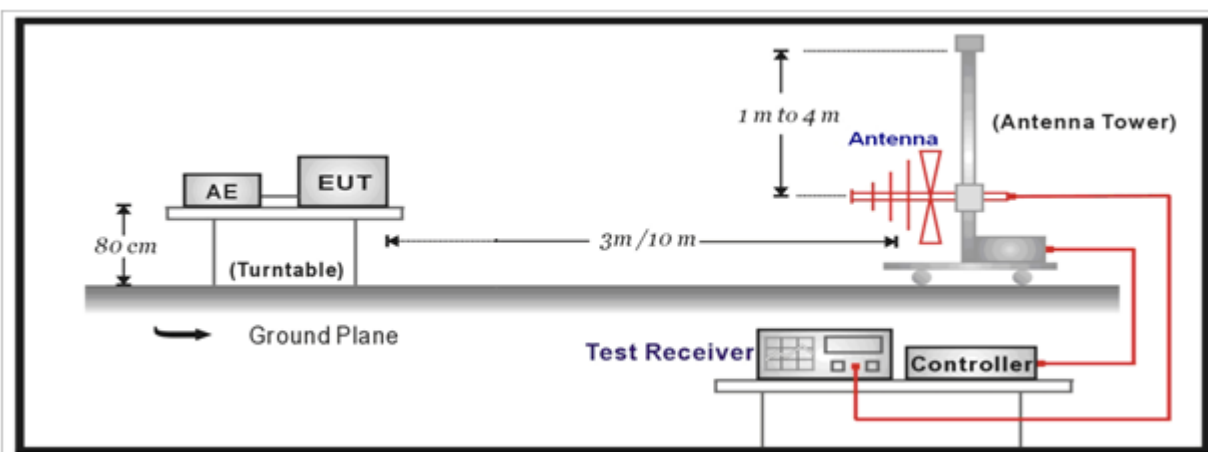
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2019.05.06	2020.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2019.05.06	2020.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2019.01.22	2020.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.11.25	2019.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2019.03.02	2020.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2019.06.10	2020.06.09
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

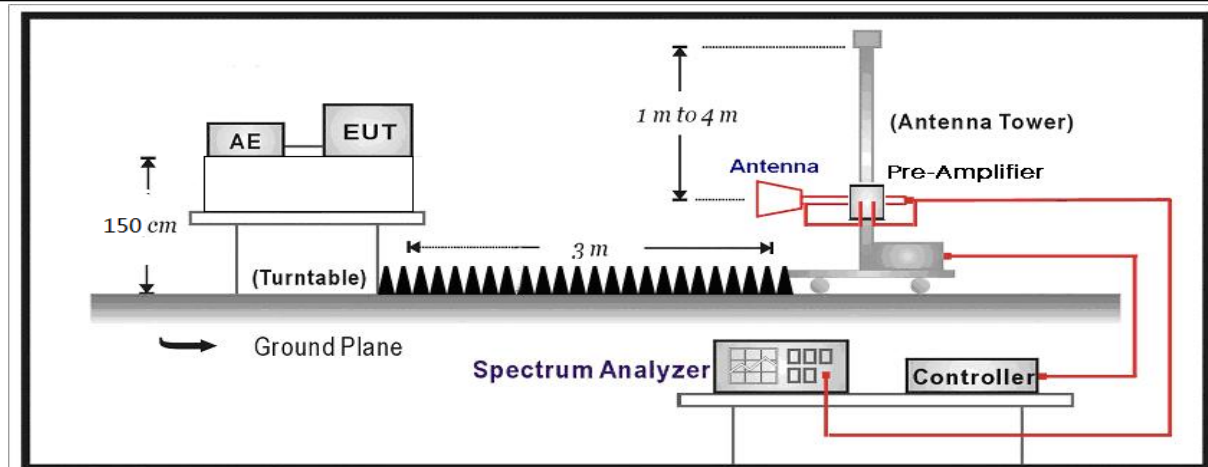
Below 30MHz Test Setup:



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	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

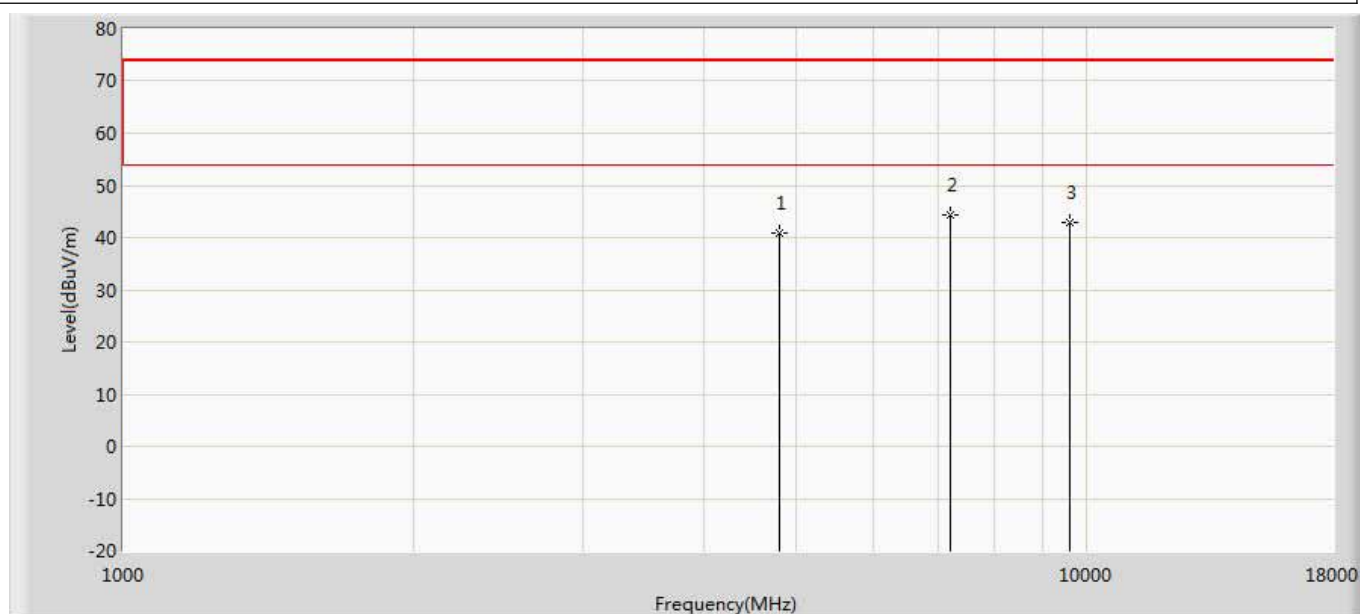
Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed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

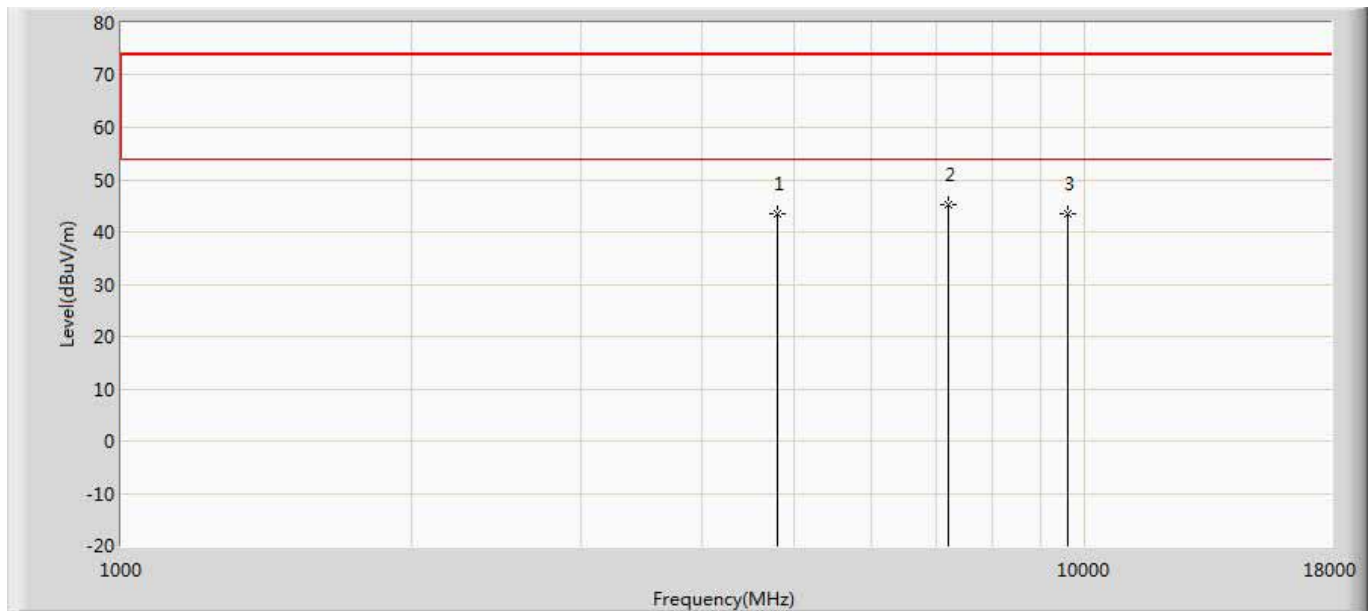
4.6. Test Result

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1: Transmit at 2402MHz by DH5	



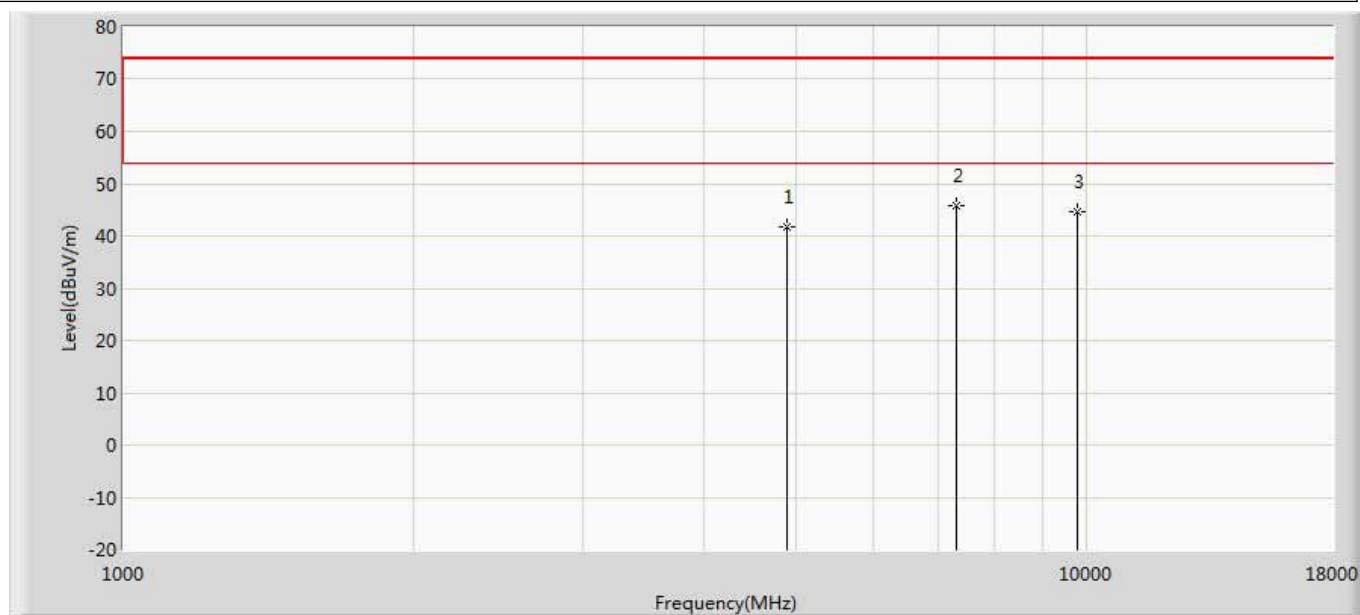
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.000	36.483	-33.000	74.000	4.517	PK
2	*	7206.000	44.365	36.818	-29.635	74.000	7.547	PK
3		9608.000	42.867	33.685	-31.133	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2402MHz by DH5	



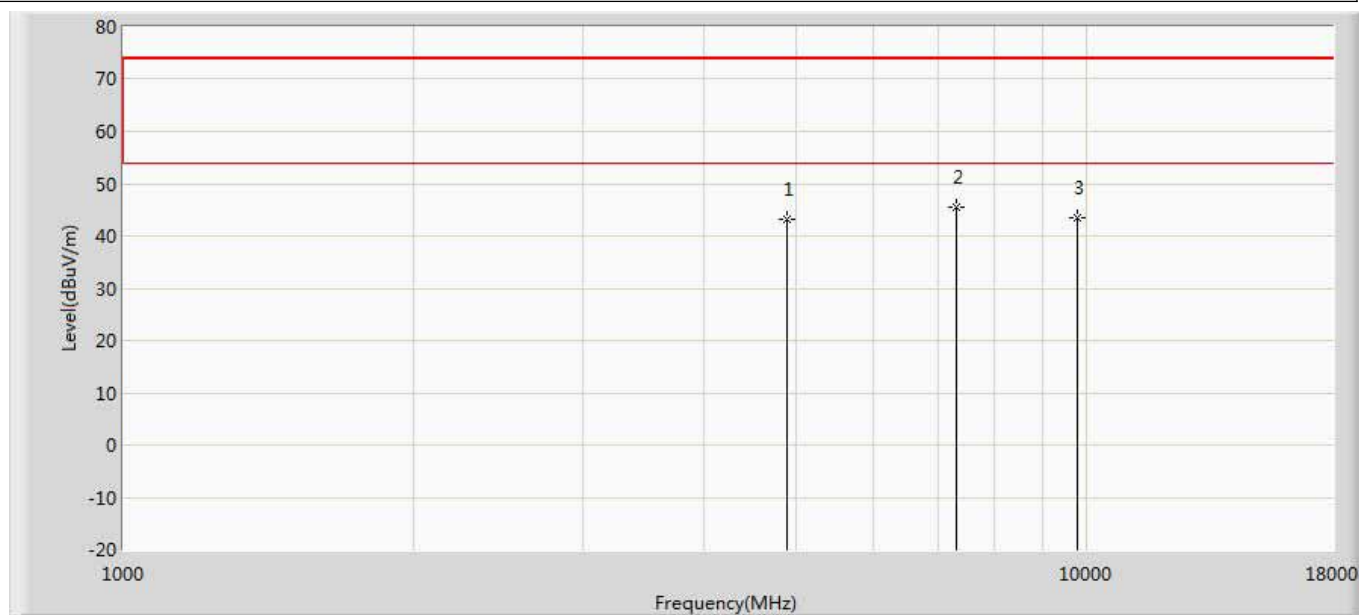
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	43.360	38.843	-30.640	74.000	4.517	PK
2	*	7206.000	45.227	37.680	-28.773	74.000	7.547	PK
3		9608.000	43.408	34.226	-30.592	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2441MHz by DH5	



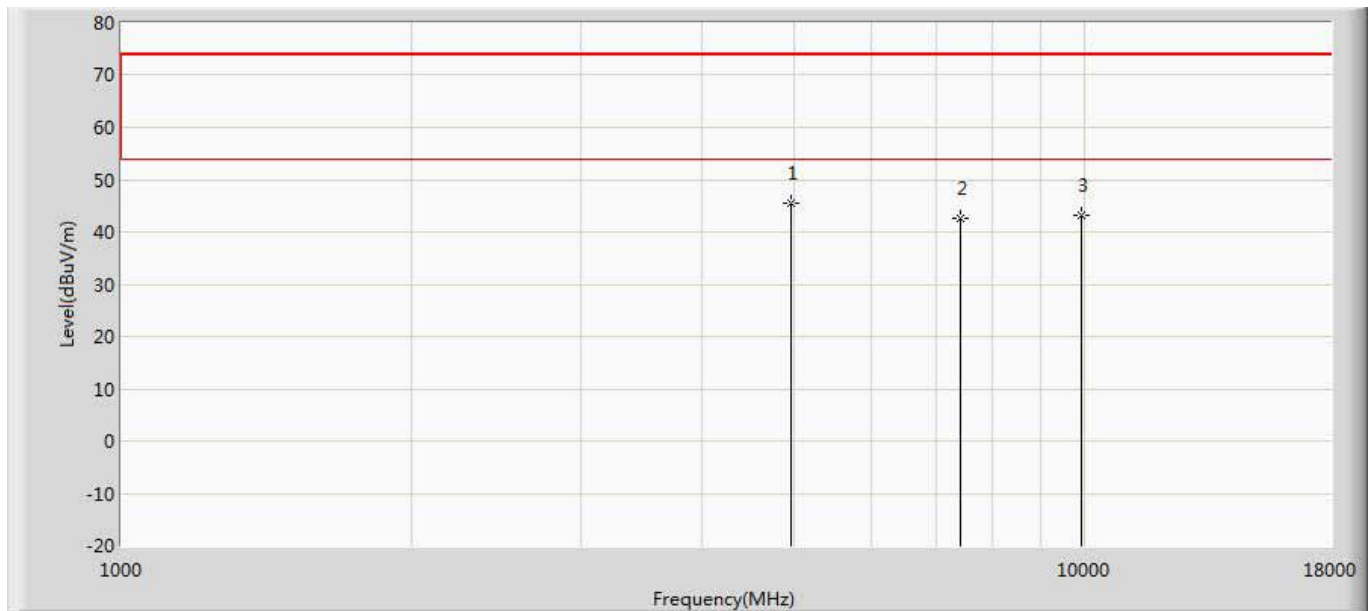
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	41.714	36.968	-32.286	74.000	4.746	PK
2	*	7323.000	45.689	37.999	-28.311	74.000	7.690	PK
3		9764.000	44.500	34.408	-29.500	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2441MHz by DH5	



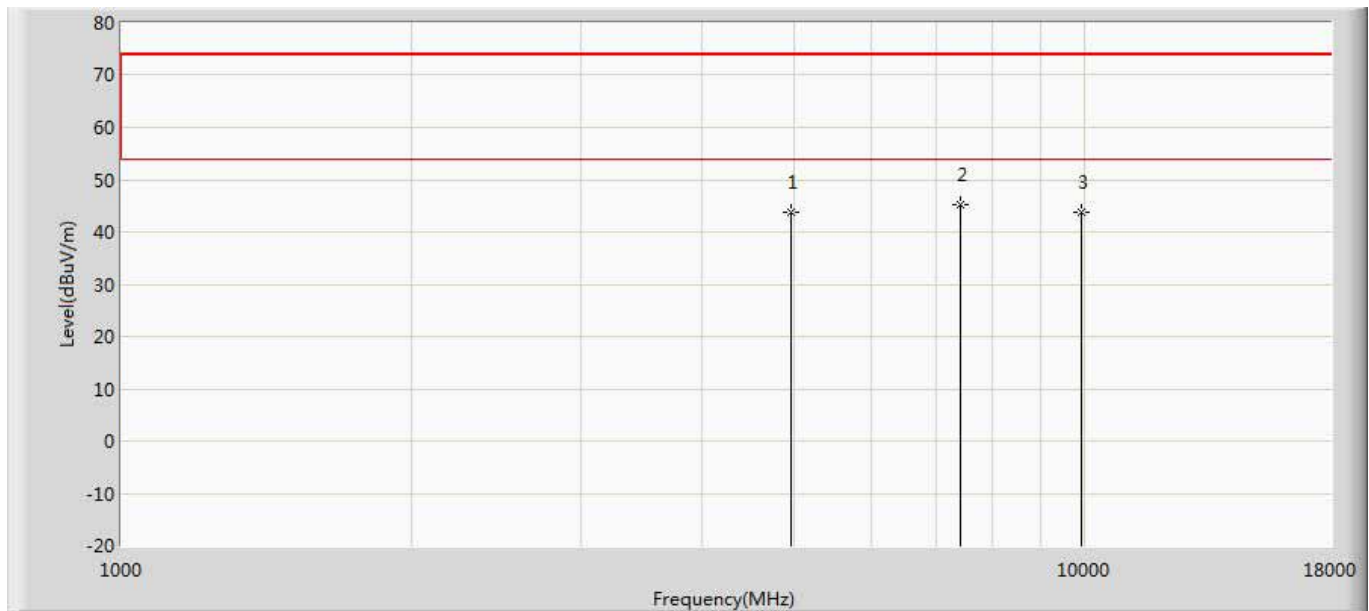
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	43.115	38.369	-30.885	74.000	4.746	PK
2	*	7323.000	45.525	37.835	-28.475	74.000	7.690	PK
3		9764.000	43.414	33.322	-30.586	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2480MHz by DH5	



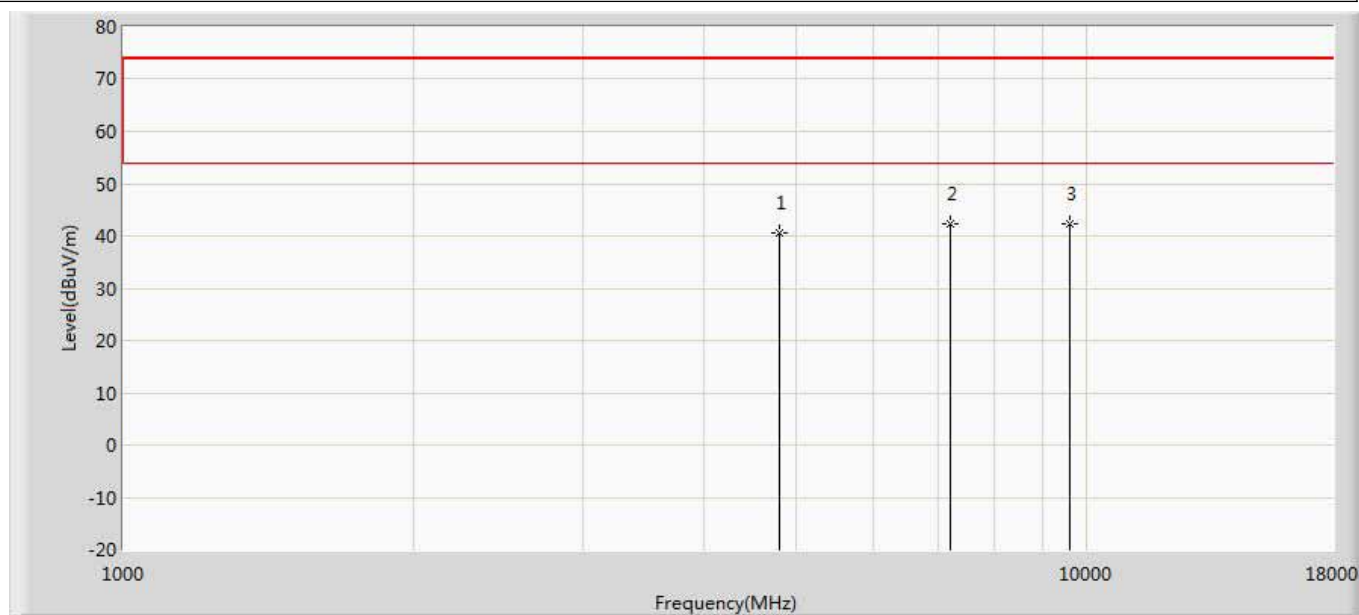
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4960.000	45.569	40.649	-28.431	74.000	4.920	PK
2		7440.000	42.753	35.038	-31.247	74.000	7.715	PK
3		9920.000	43.068	33.121	-30.932	74.000	9.946	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2480MHz by DH5	



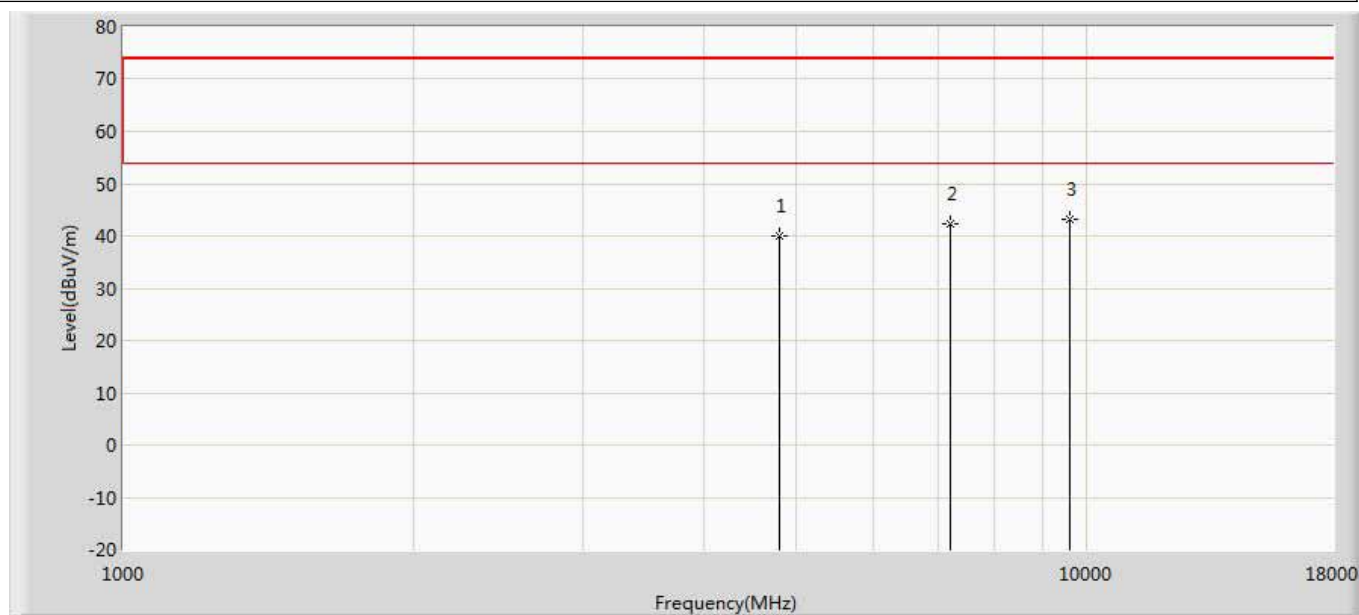
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	43.861	38.941	-30.139	74.000	4.920	PK
2	*	7440.000	45.331	37.616	-28.669	74.000	7.715	PK
3		9920.000	43.905	33.958	-30.095	74.000	9.946	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



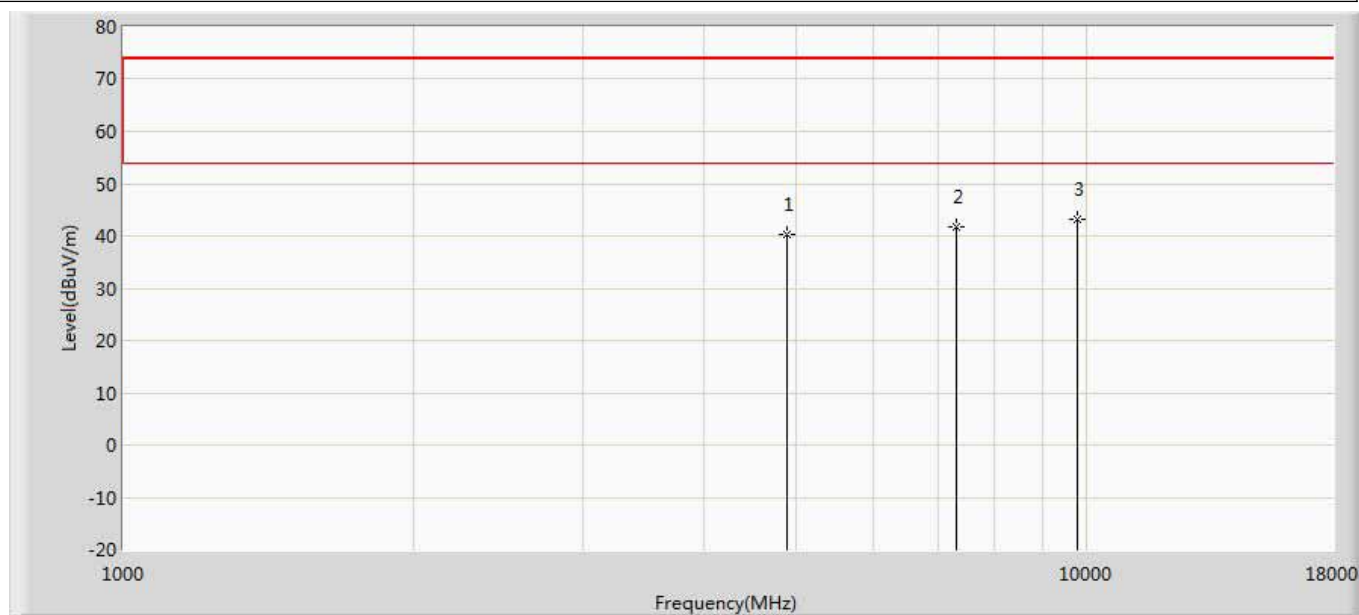
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.586	36.069	-33.414	74.000	4.517	PK
2		7206.000	42.203	34.656	-31.797	74.000	7.547	PK
3	*	9608.000	42.442	33.260	-31.558	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



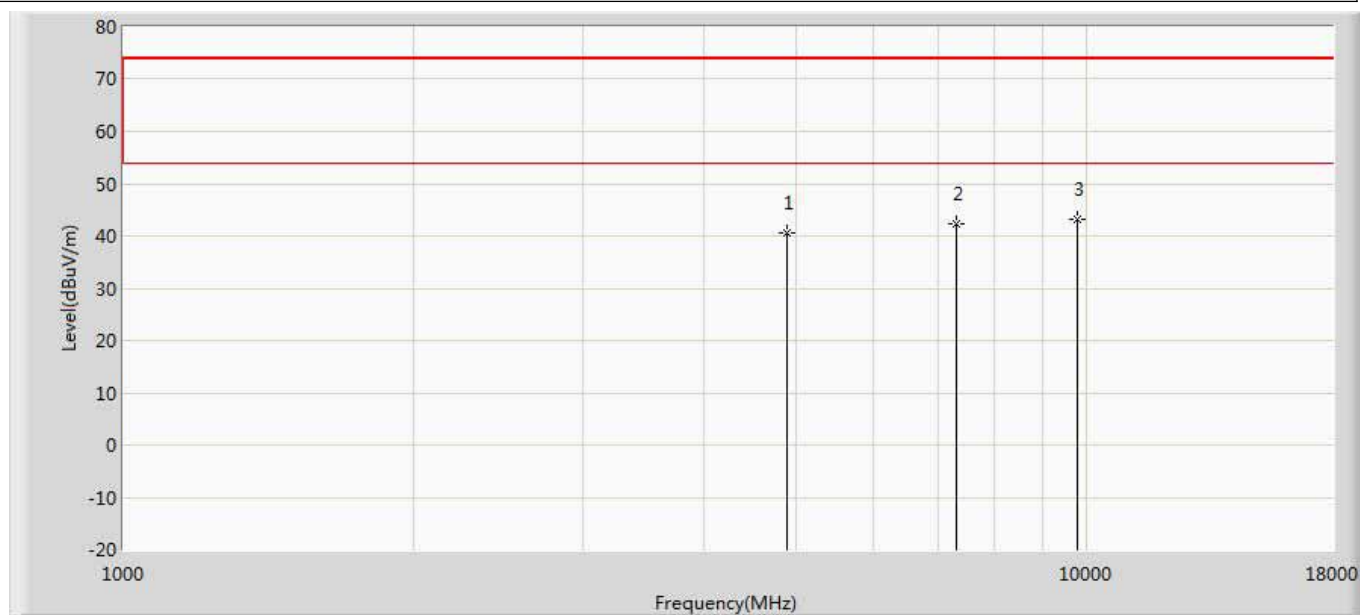
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.950	35.433	-34.050	74.000	4.517	PK
2		7206.000	42.313	34.766	-31.687	74.000	7.547	PK
3	*	9608.000	43.171	33.989	-30.829	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2441MHz by 2DH5	



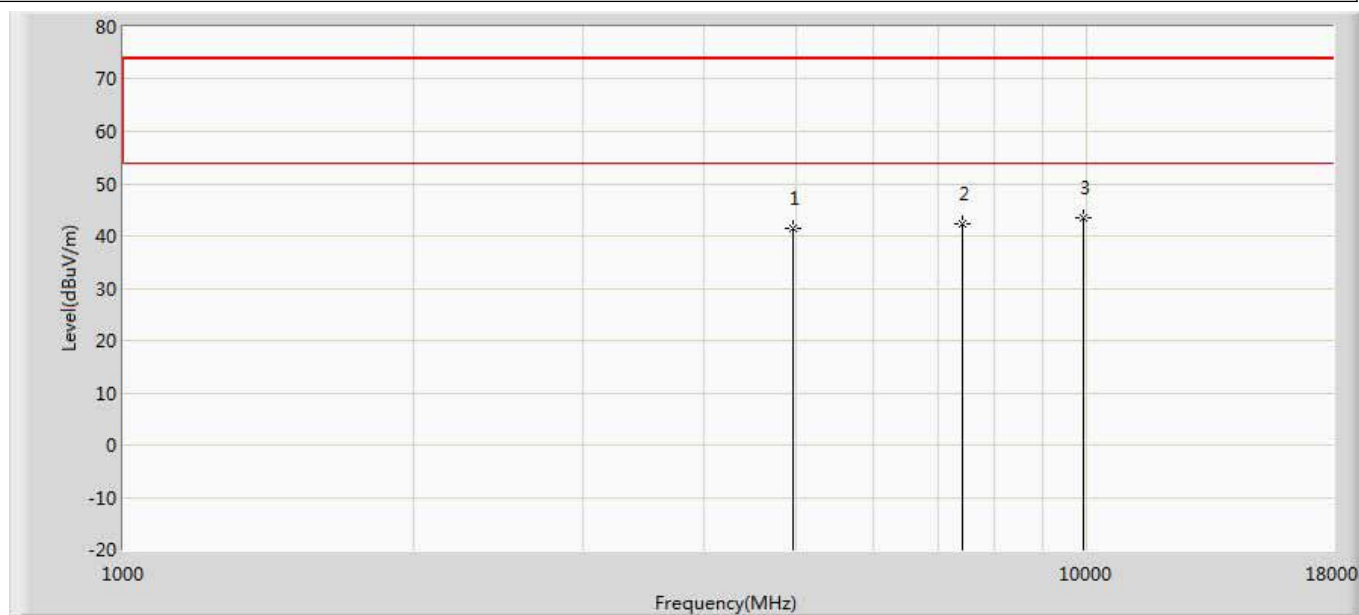
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.394	35.648	-33.606	74.000	4.746	PK
2		7323.000	41.808	34.118	-32.192	74.000	7.690	PK
3	*	9764.000	43.294	33.202	-30.706	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2441MHz by 2DH5	



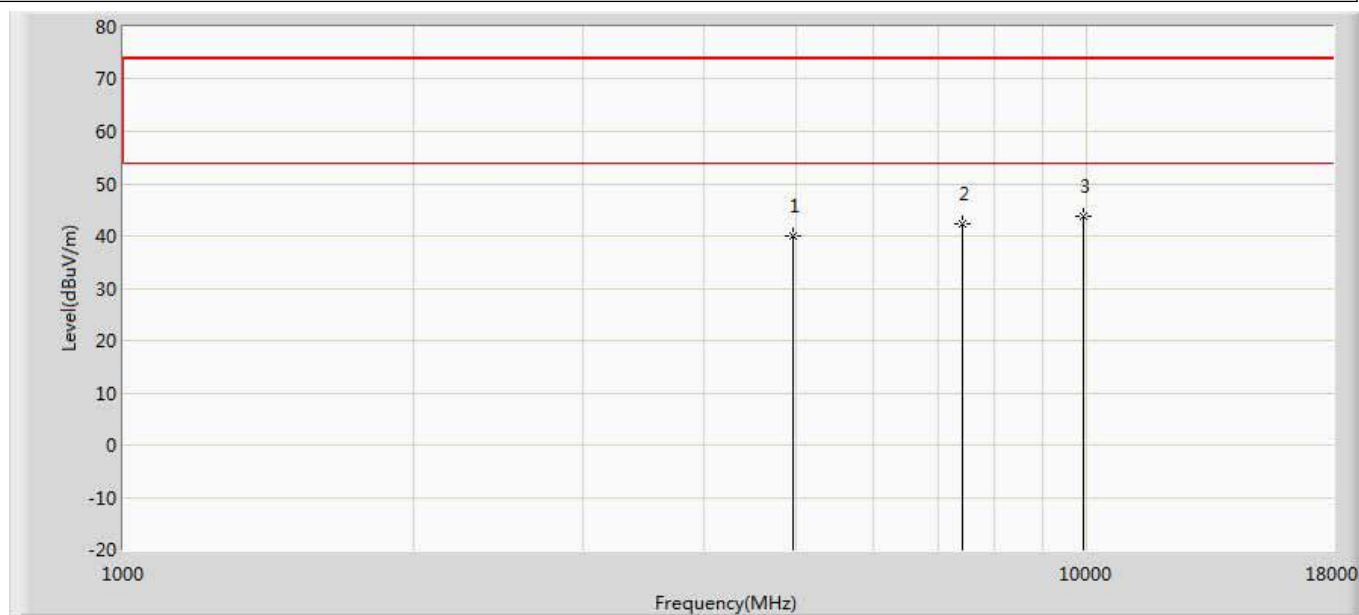
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.700	35.954	-33.300	74.000	4.746	PK
2		7323.000	42.304	34.614	-31.696	74.000	7.690	PK
3	*	9764.000	43.317	33.225	-30.683	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



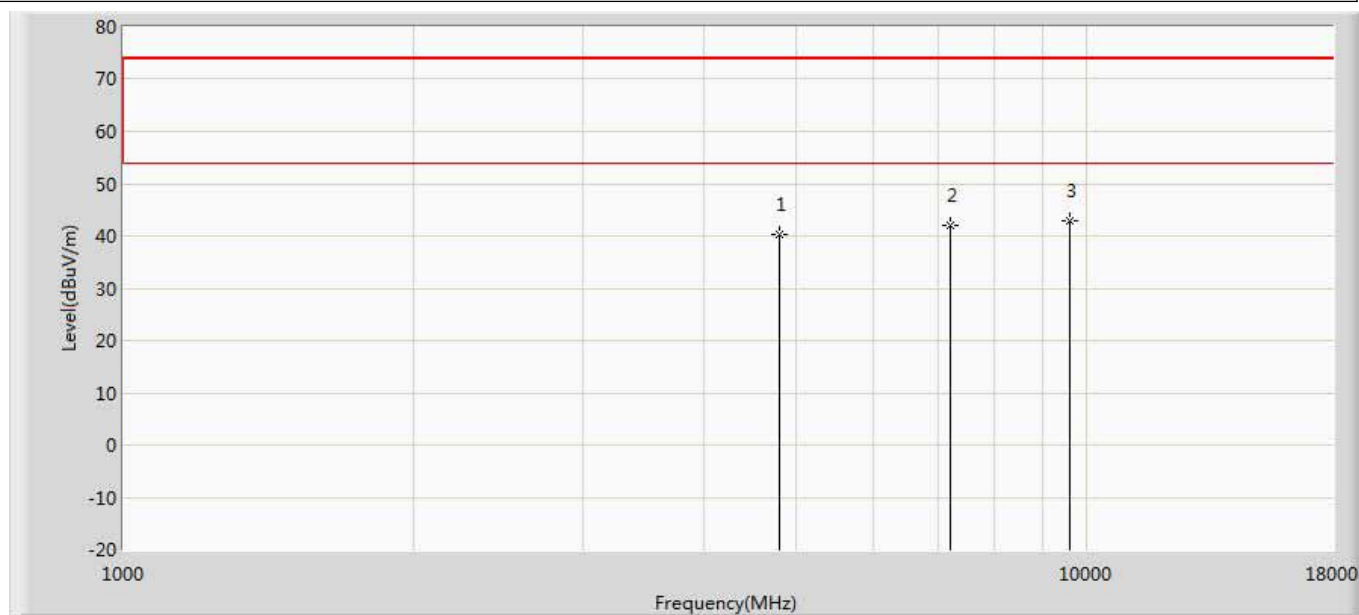
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.325	36.405	-32.675	74.000	4.920	PK
2		7440.000	42.430	34.715	-31.570	74.000	7.715	PK
3	*	9920.000	43.538	33.591	-30.462	74.000	9.946	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



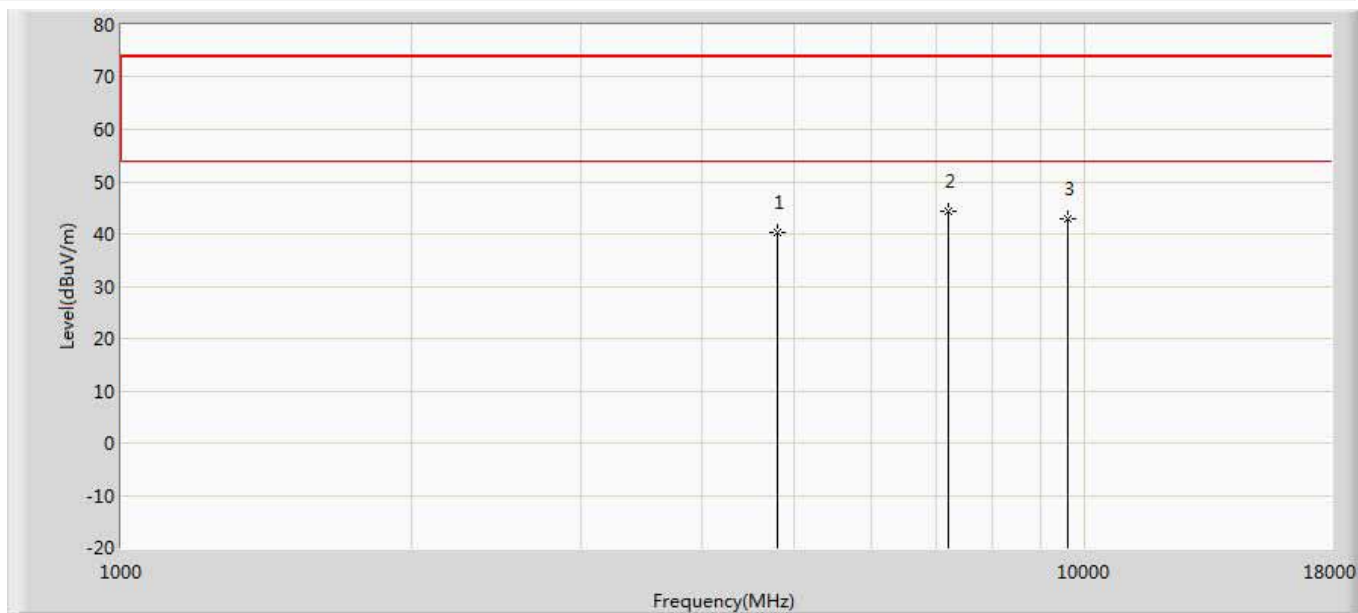
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.032	35.112	-33.968	74.000	4.920	PK
2		7440.000	42.175	34.460	-31.825	74.000	7.715	PK
3	*	9920.000	43.873	33.926	-30.127	74.000	9.946	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



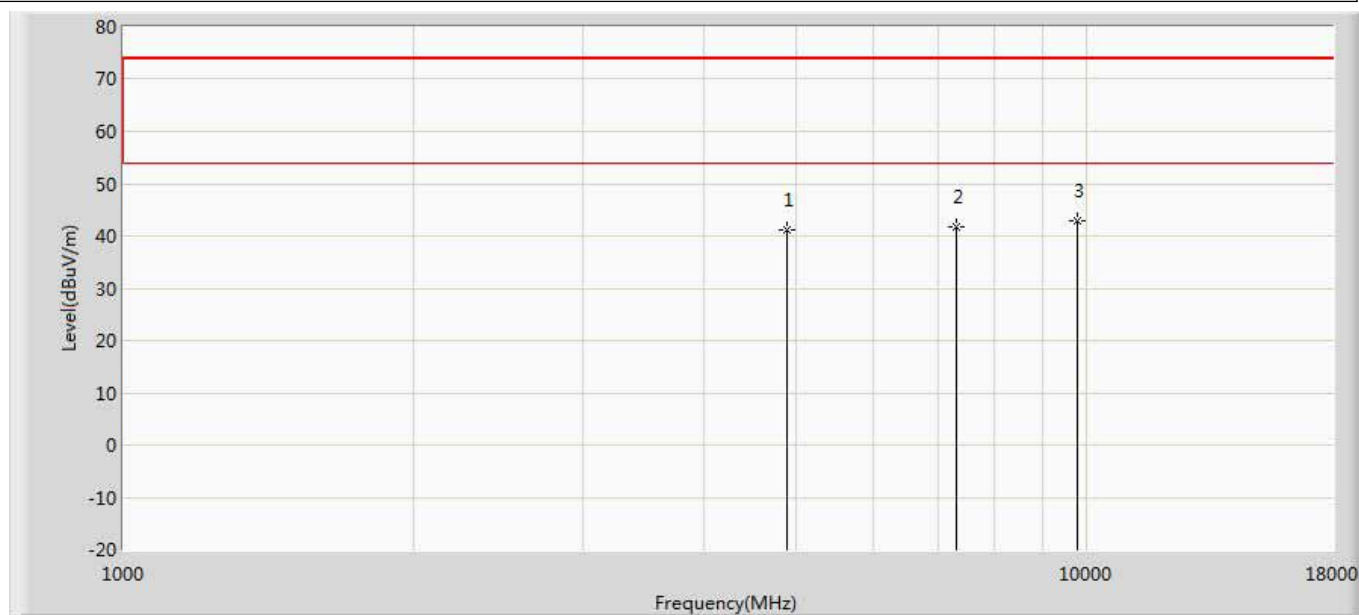
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.262	35.745	-33.738	74.000	4.517	PK
2		7206.000	41.901	34.354	-32.099	74.000	7.547	PK
3	*	9608.000	42.807	33.625	-31.193	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



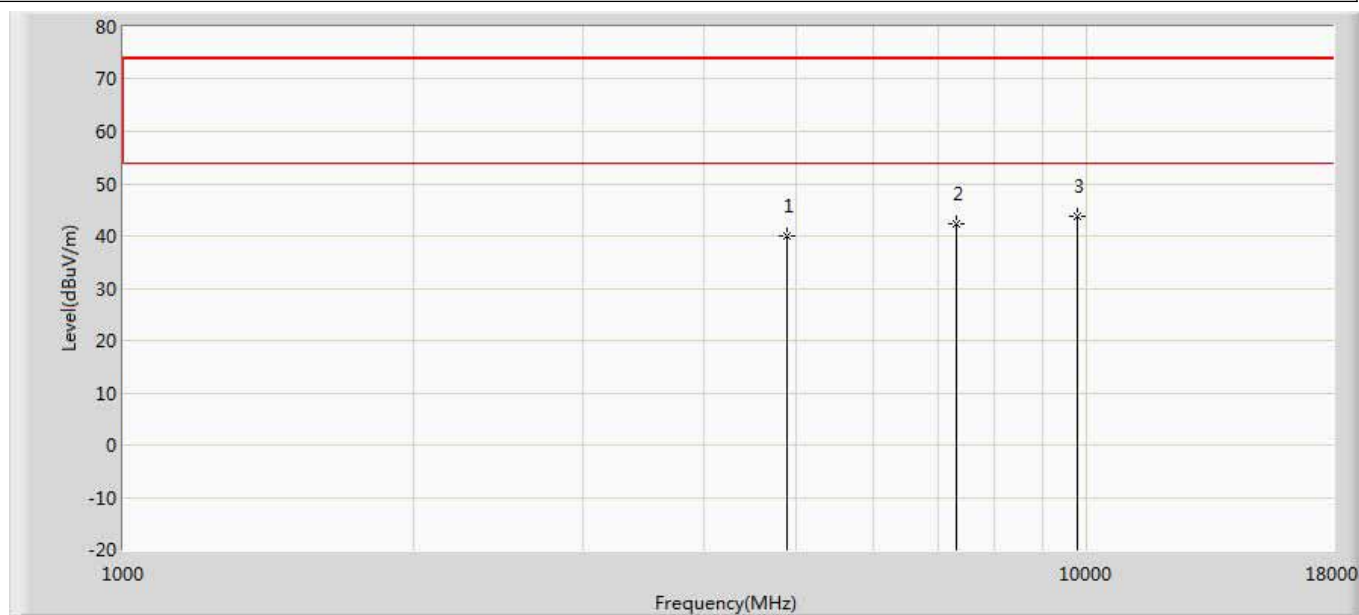
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.225	35.708	-33.775	74.000	4.517	PK
2	*	7206.000	44.263	36.716	-29.737	74.000	7.547	PK
3		9608.000	42.853	33.671	-31.147	74.000	9.182	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2441MHz by 3DH5	



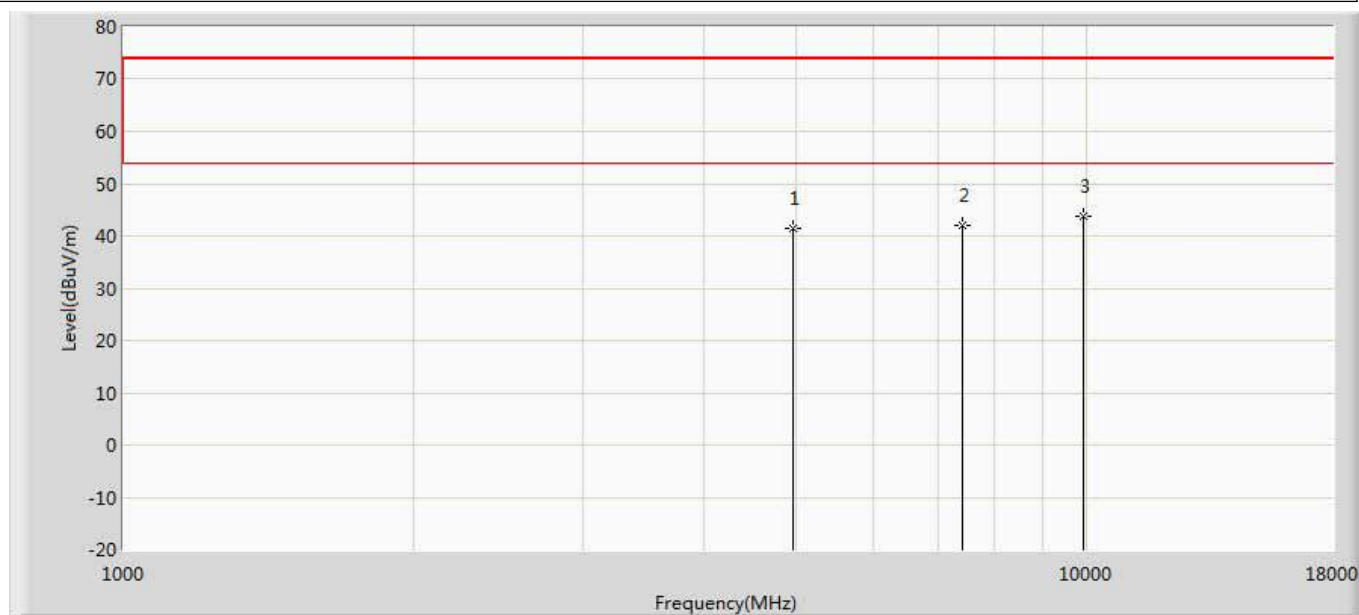
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	41.199	36.453	-32.801	74.000	4.746	PK
2		7323.000	41.647	33.957	-32.353	74.000	7.690	PK
3	*	9764.000	42.932	32.840	-31.068	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2441MHz by 3DH5	



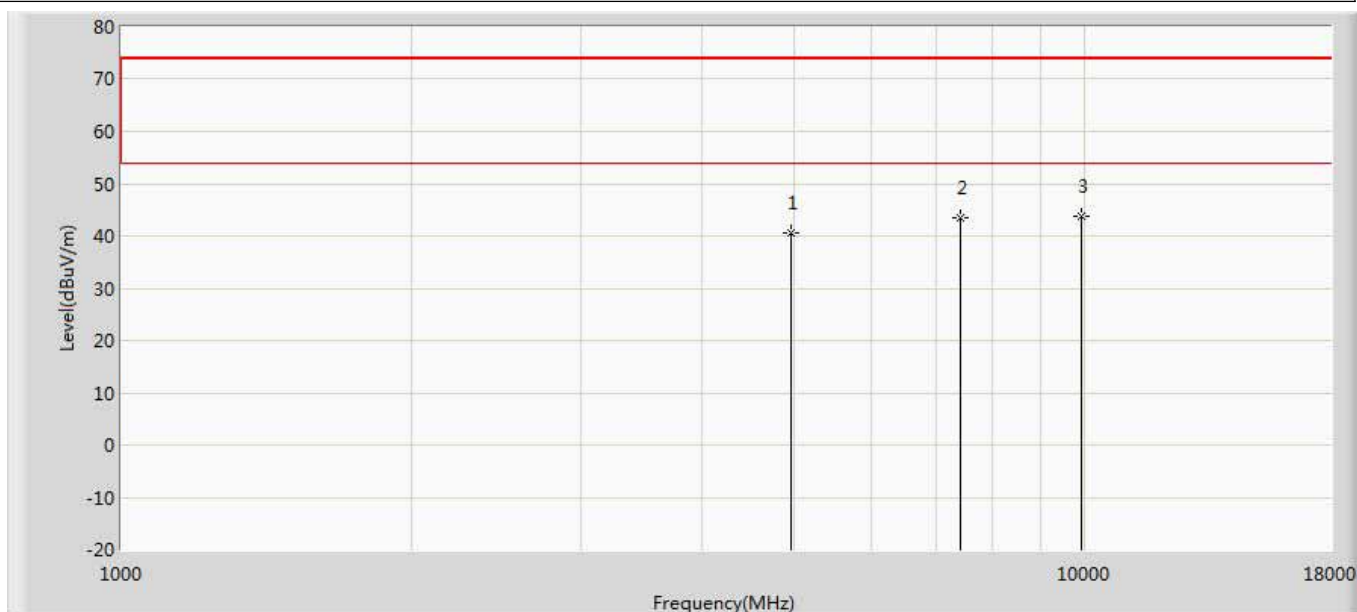
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	40.092	35.346	-33.908	74.000	4.746	PK
2		7323.000	42.434	34.744	-31.566	74.000	7.690	PK
3	*	9764.000	43.877	33.785	-30.123	74.000	10.092	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.368	36.448	-32.632	74.000	4.920	PK
2		7440.000	42.043	34.328	-31.957	74.000	7.715	PK
3	*	9920.000	43.869	33.922	-30.131	74.000	9.946	PK

Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 22:14
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



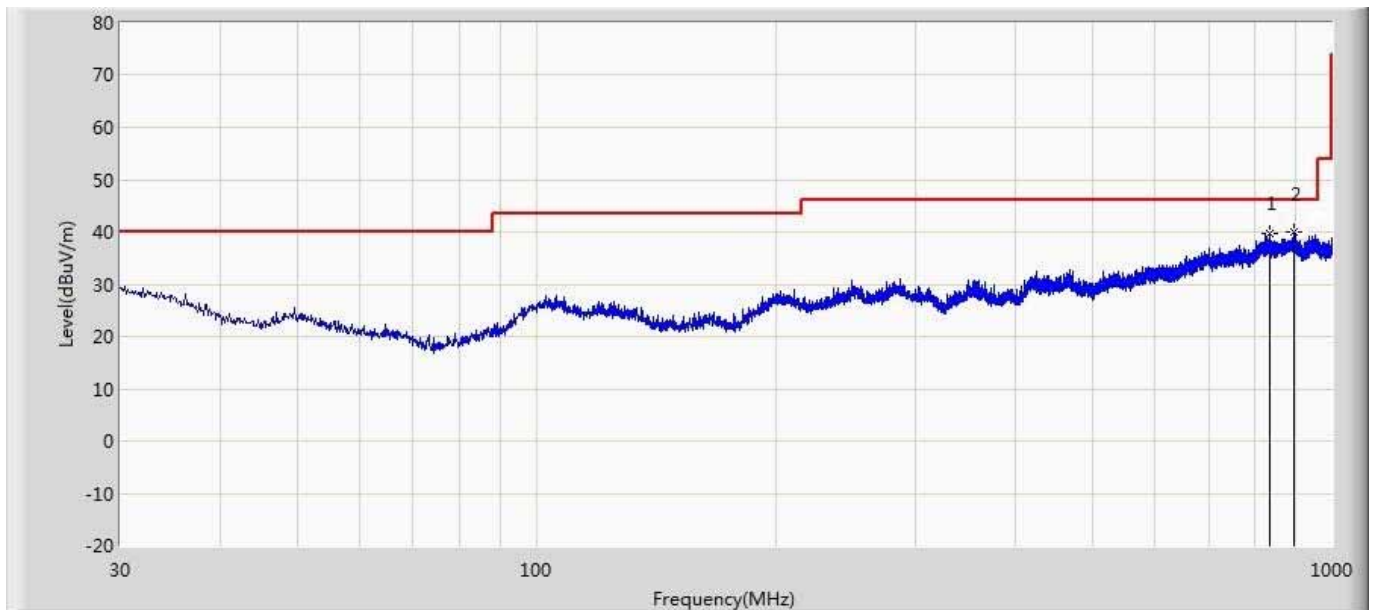
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.549	35.629	-33.451	74.000	4.920	PK
2		7440.000	43.482	35.767	-30.518	74.000	7.715	PK
3	*	9920.000	43.630	33.683	-30.370	74.000	9.946	PK

Note:

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

The worst case of Radiated Emission below 1GHz:

Engineer: Tim.Cao	
Site: AC2	Time: 2019/08/05 - 14:10
Limit: FCC_Part15.247_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1	

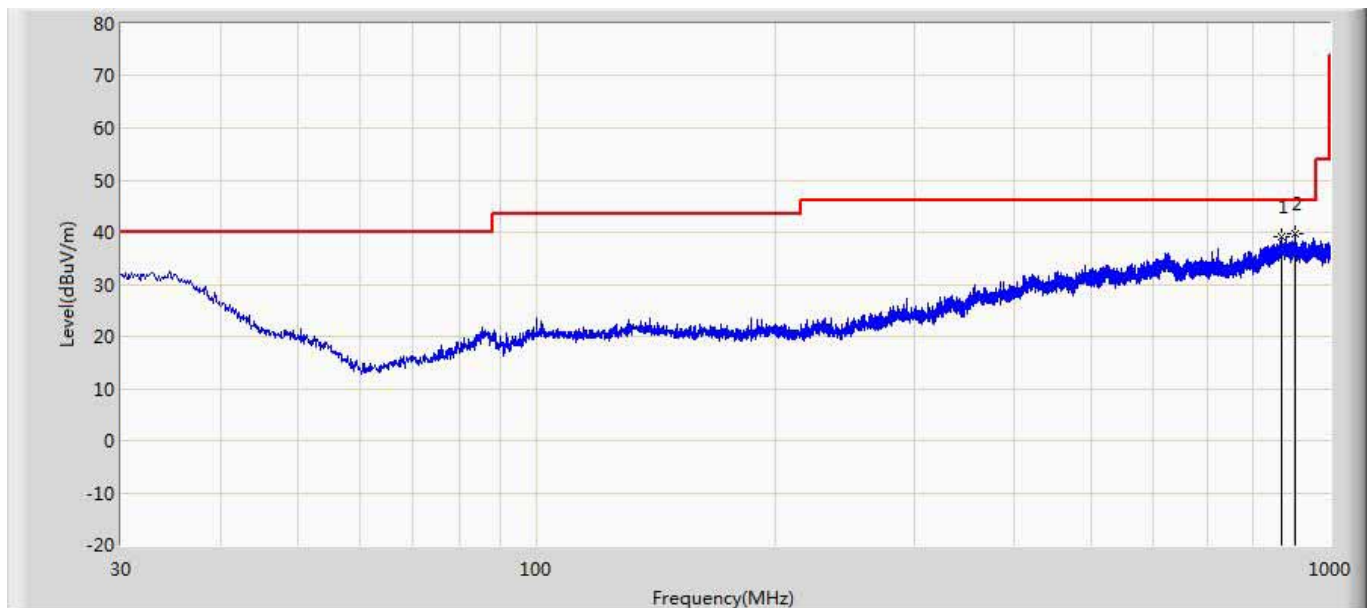


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		834.979	39.623	6.580	-6.377	46.000	23.949	9.094	0.000	0	0	PK
2	*	898.029	39.489	6.107	-6.511	46.000	24.137	9.245	0.000	0	0	PK

Note:

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

Engineer: Tim.Cao	
Site: AC2	Time: 2019/08/05 - 14:11
Limit: FCC_Part15.247_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		868.323	39.204	6.180	-6.796	46.000	23.850	9.174	0.000	0	0	PK
2	*	903.970	39.584	6.319	-6.416	46.000	24.007	9.258	0.000	0	0	PK

Note:

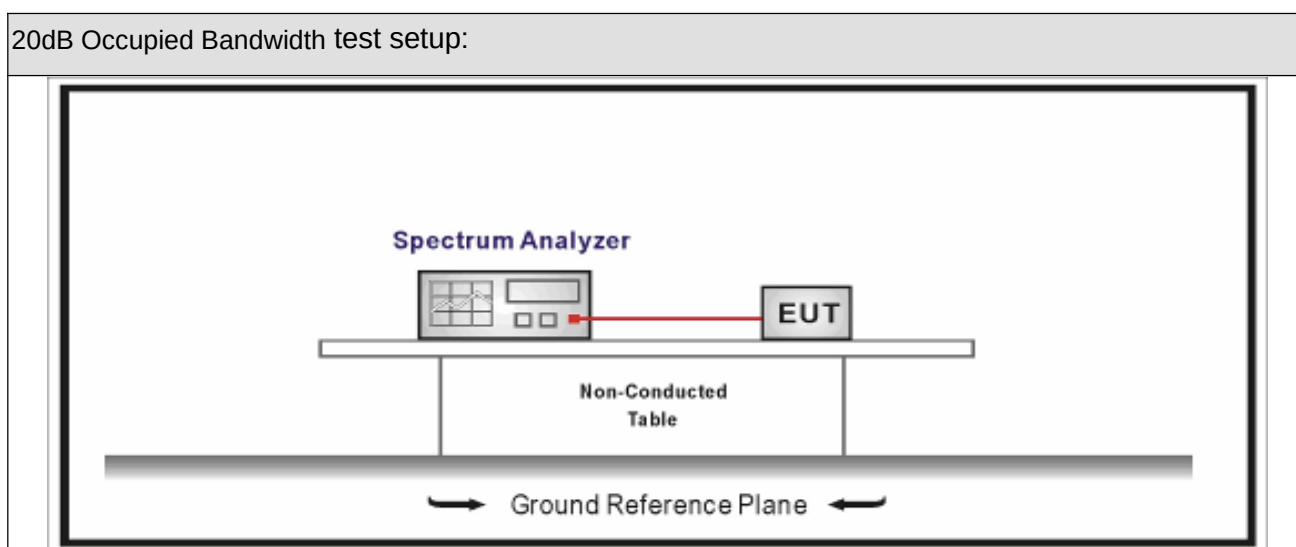
1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

5. 20dB Bandwidth

5.1 Test Equipment

20dB Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2 Test Setup



5.3 Limit

Carrier Frequency Separation	
☒	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
☒	ANSI C63.10	6.9.2	Occupied bandwidth tests

5.5 Uncertainty

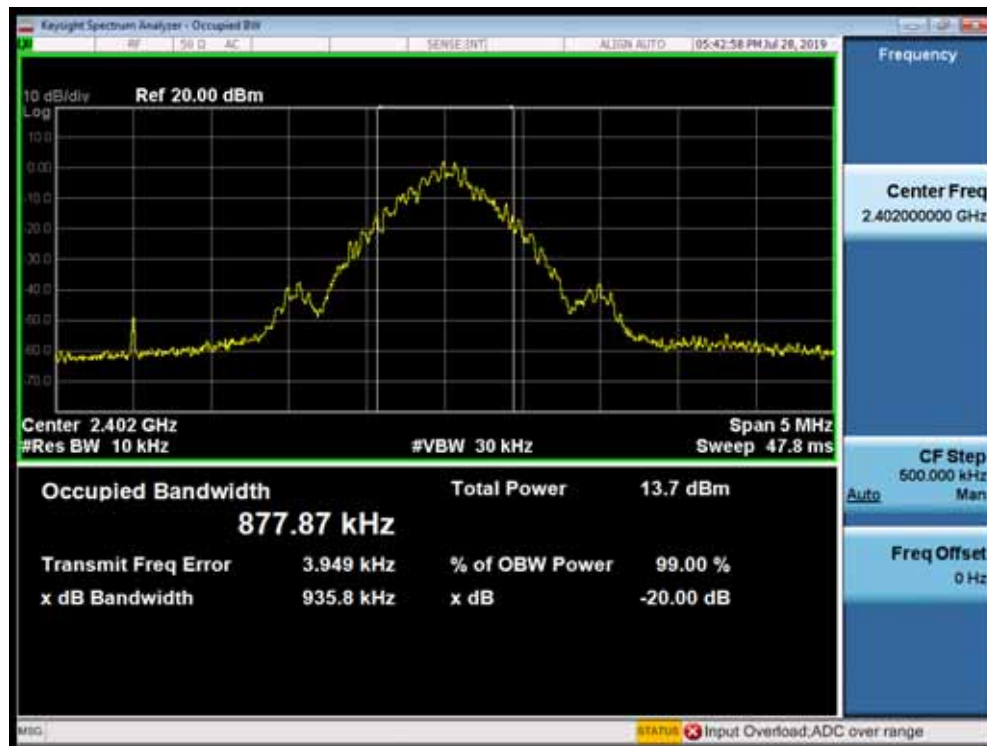
The measurement uncertainty is defined as ± 1 kHz

5.6 Test Result

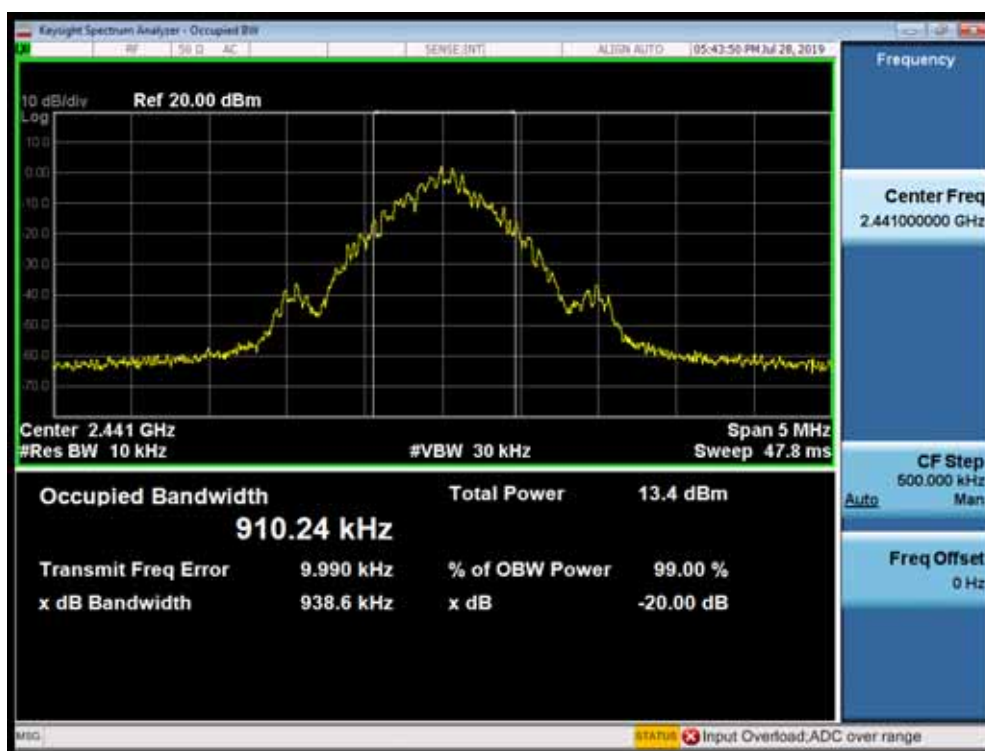
Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	935.8	877.87
39	2441	938.6	910.24
78	2480	947.6	927.78

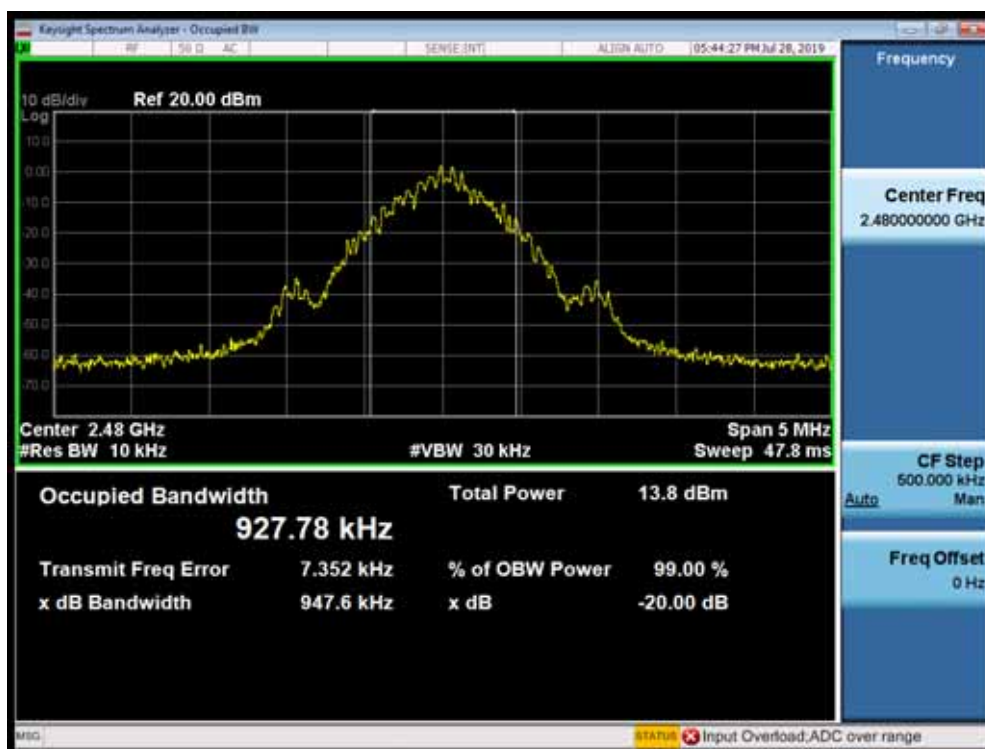
Channel 00 (2402MHz)



Channel 39 (2441MHz)



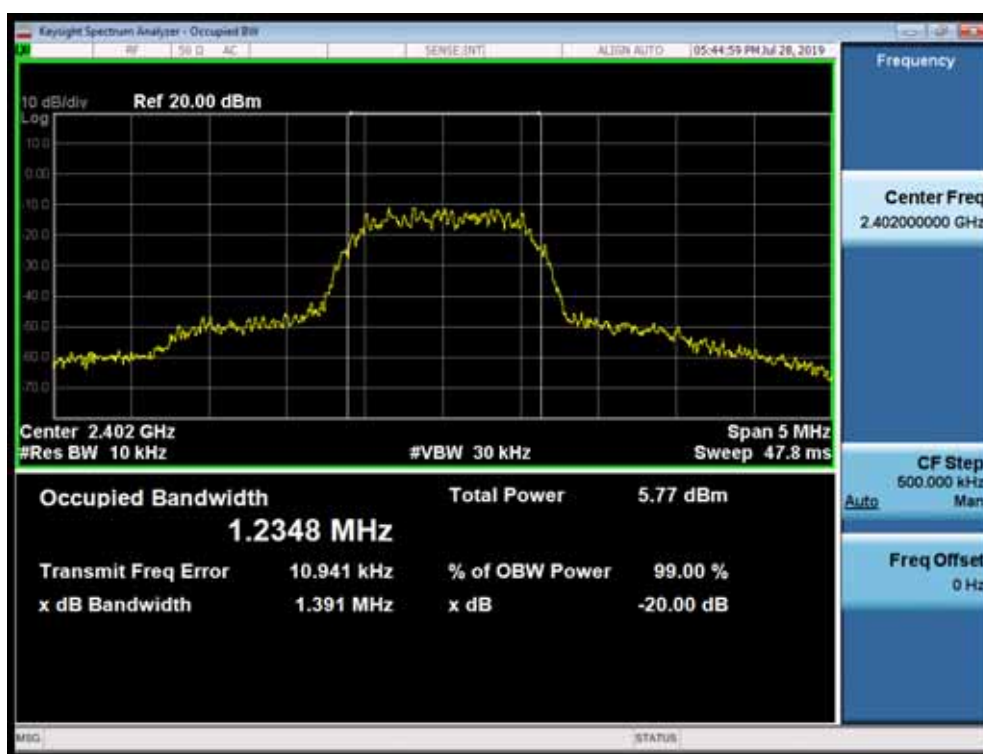
Channel 78 (2480MHz)



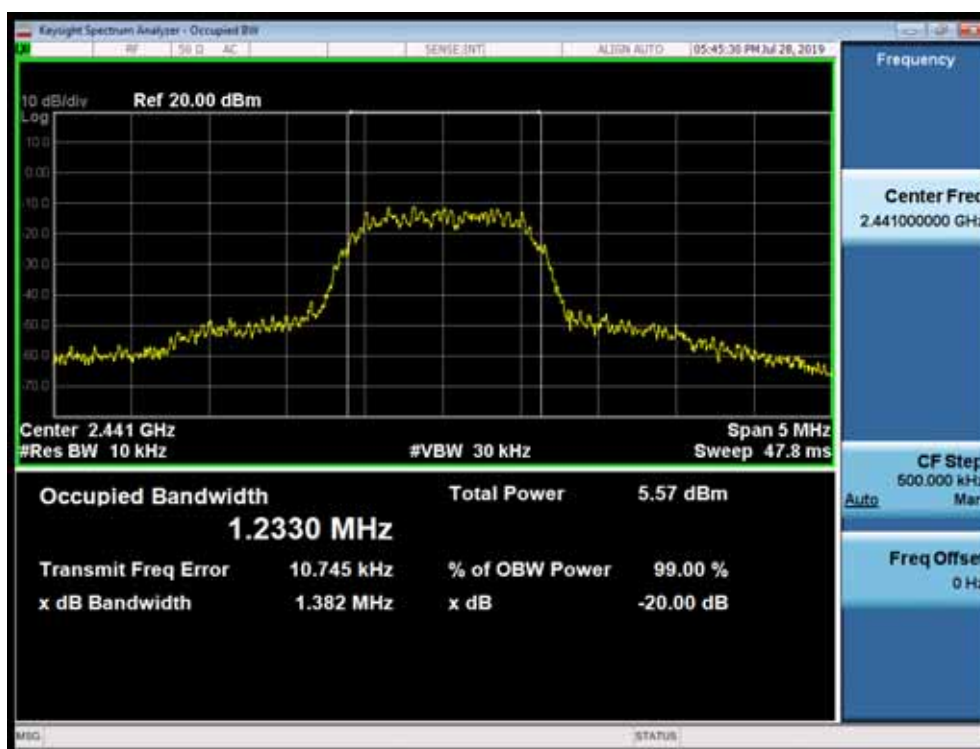
Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1391	1234.8
39	2441	1382	1233
78	2480	1412	1274.9

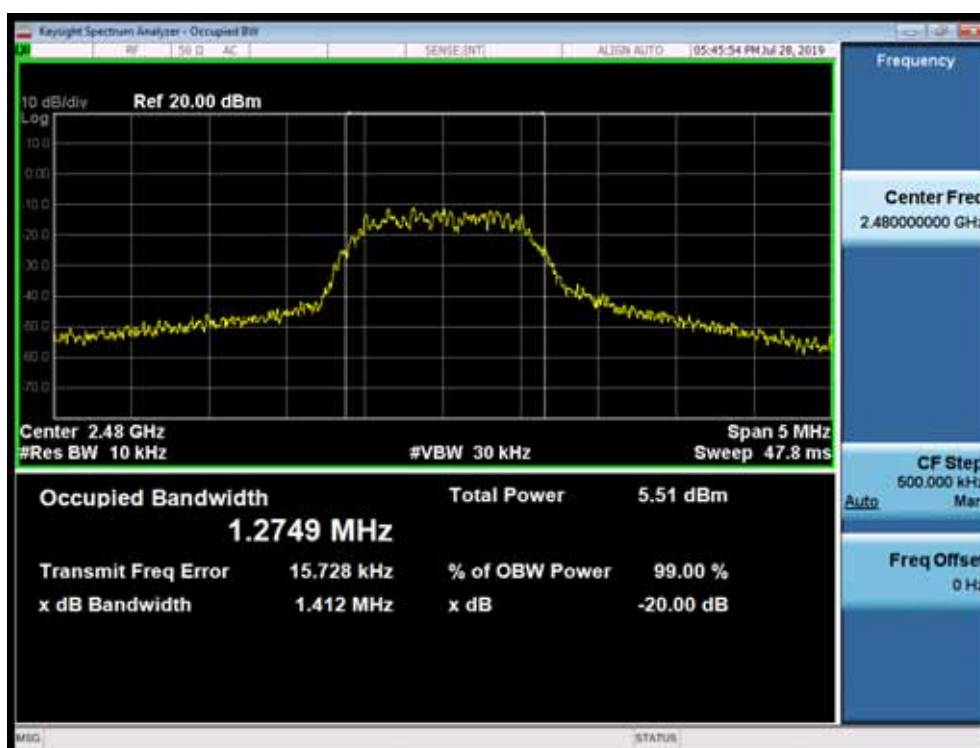
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



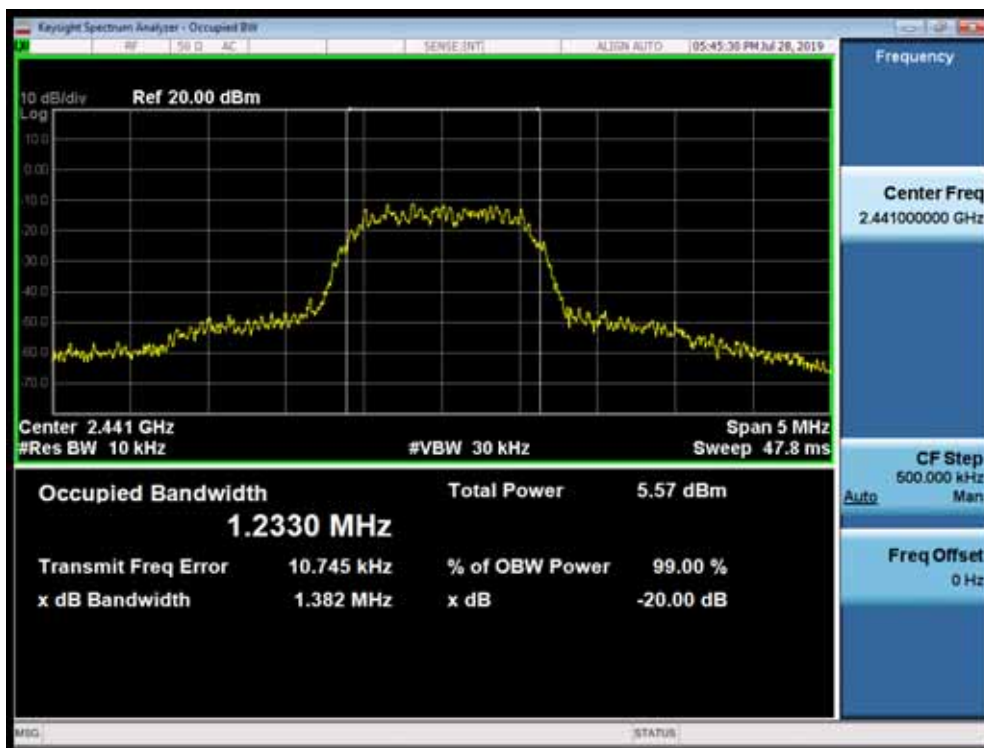
Product Name	: EZ-BT Module	Power	: DC 3.3V
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
00	2402	1395	1309
39	2441	1382	1233
78	2480	1412	1274.9

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



6. Carrier Frequency Separation

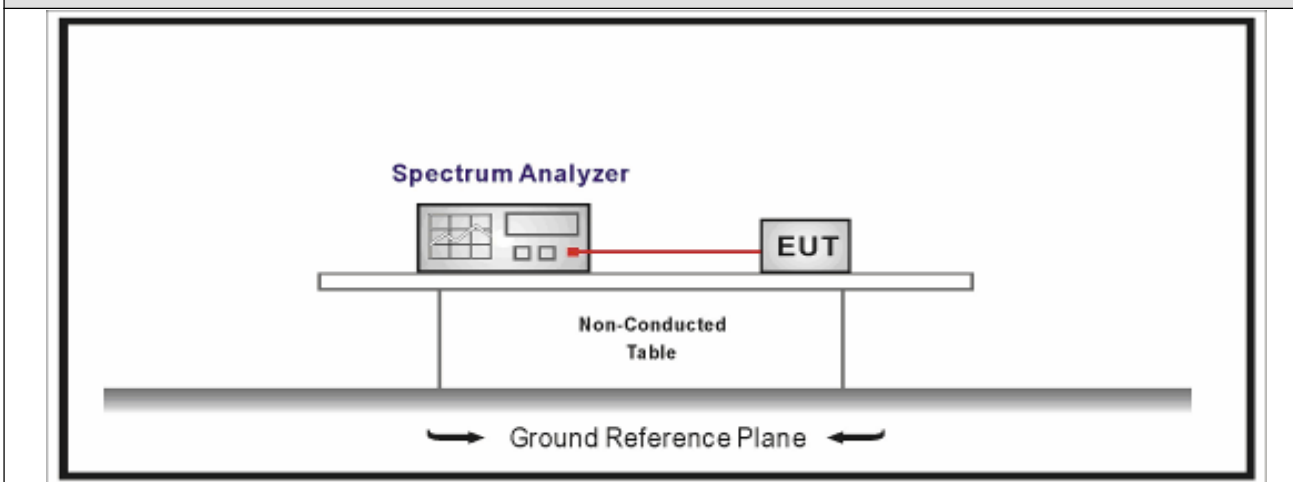
6.1. Test Equipment

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

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

6.2. Test Setup

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

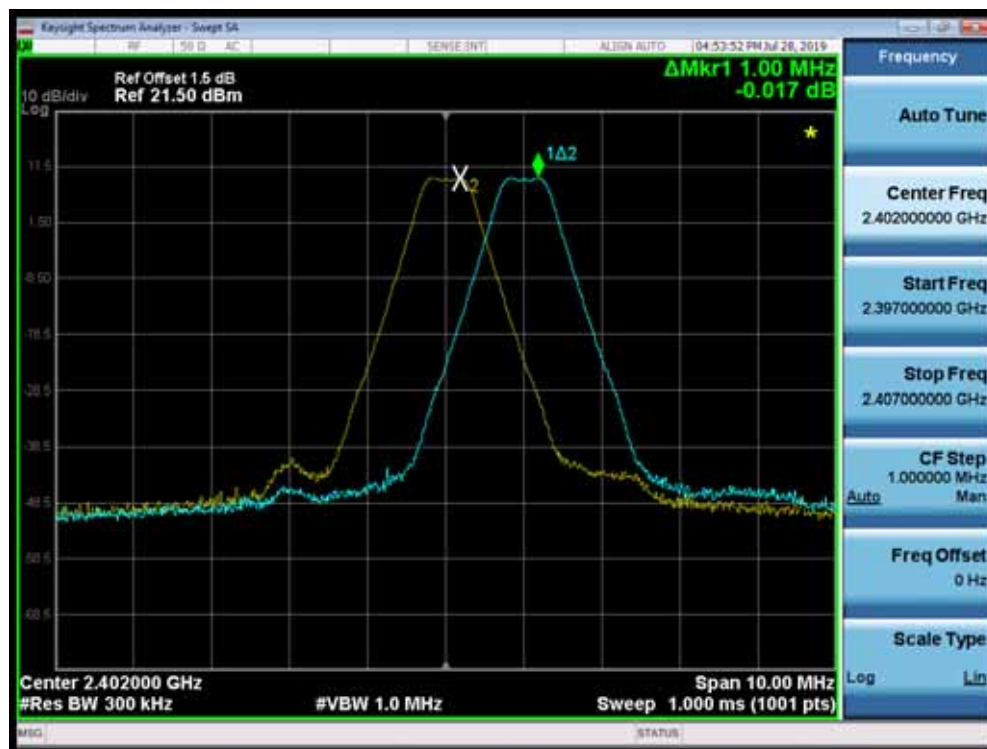
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

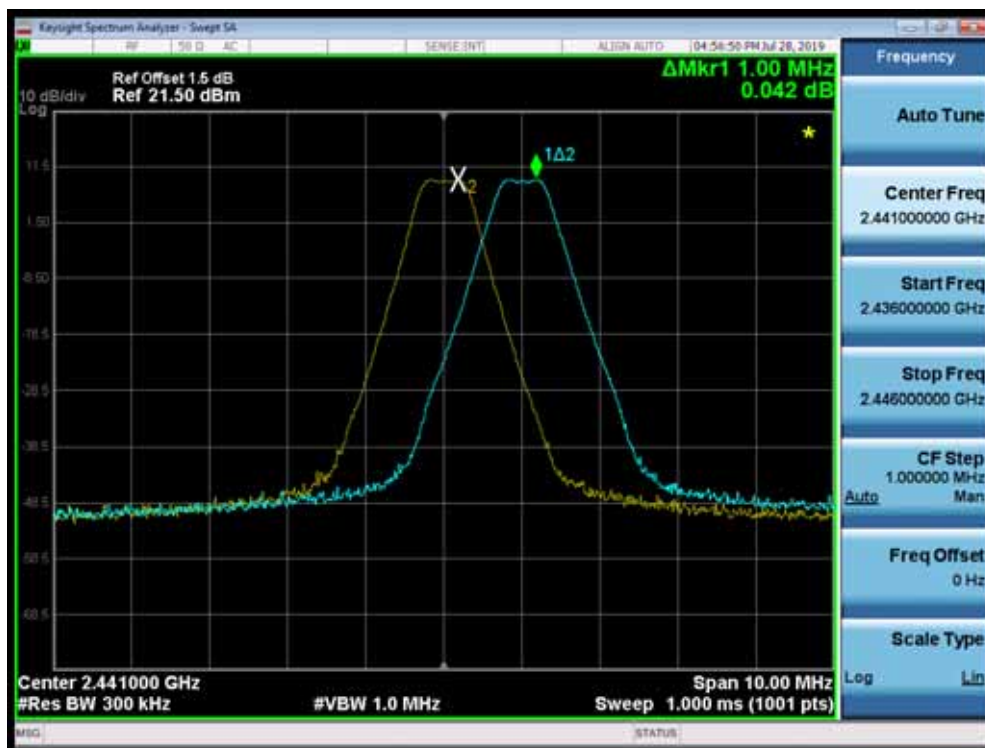
Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Simon

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	623.9	Pass
39	2441	1000	625.7	Pass
78	2480	1000	631.7	Pass

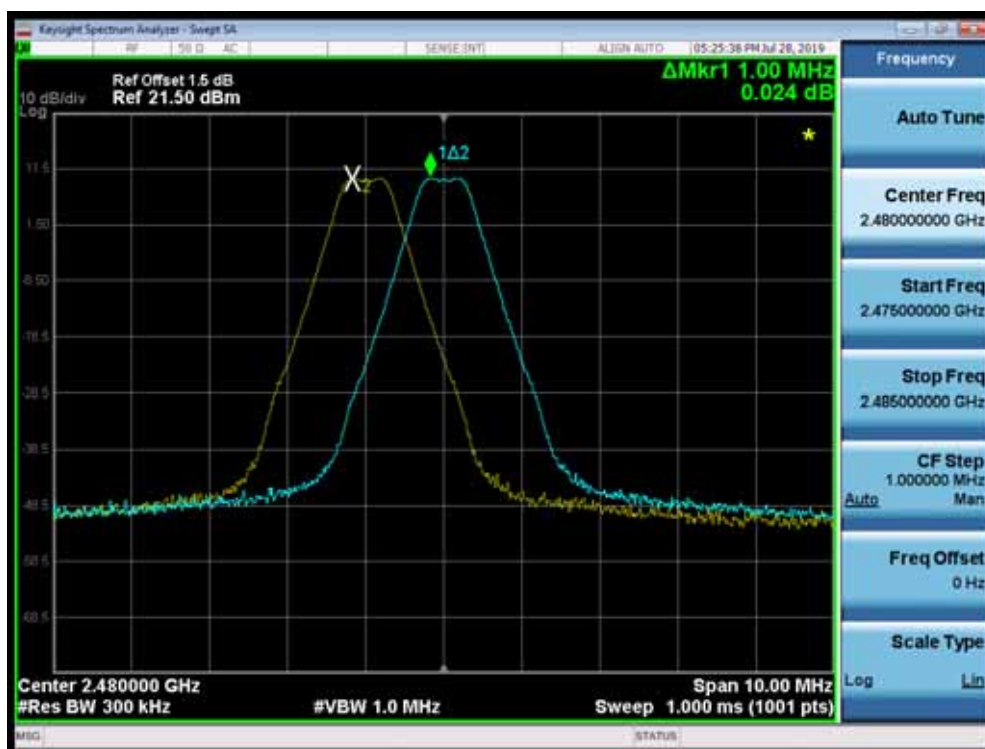
Channel 00 (2402MHz)



Channel 39 (2441MHz)



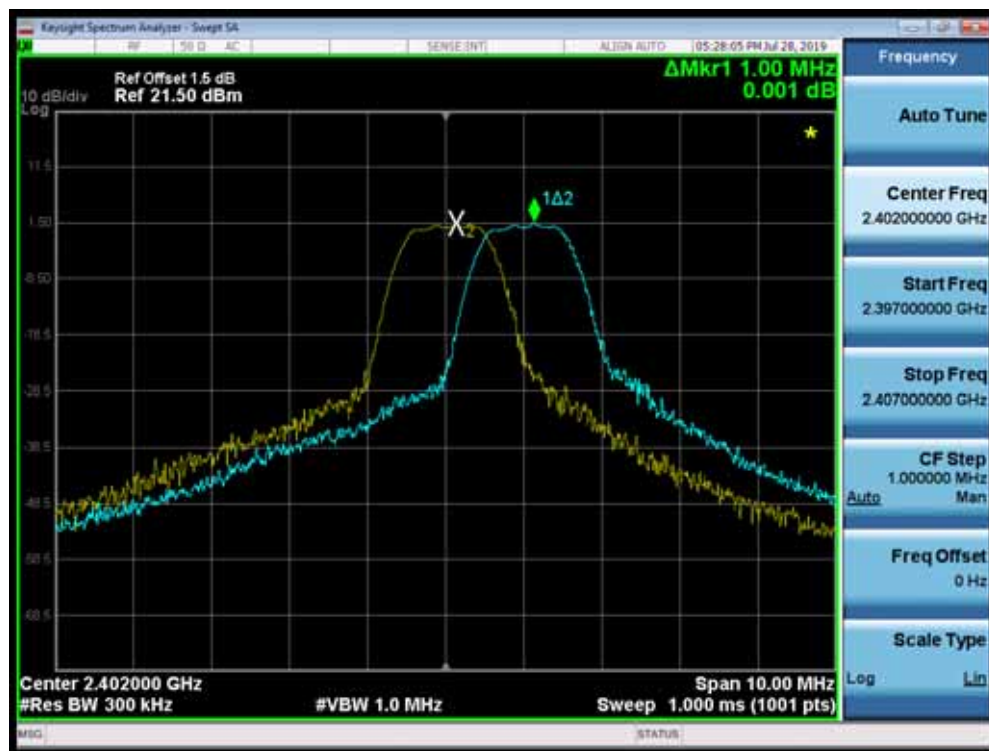
Channel 78 (2480MHz)



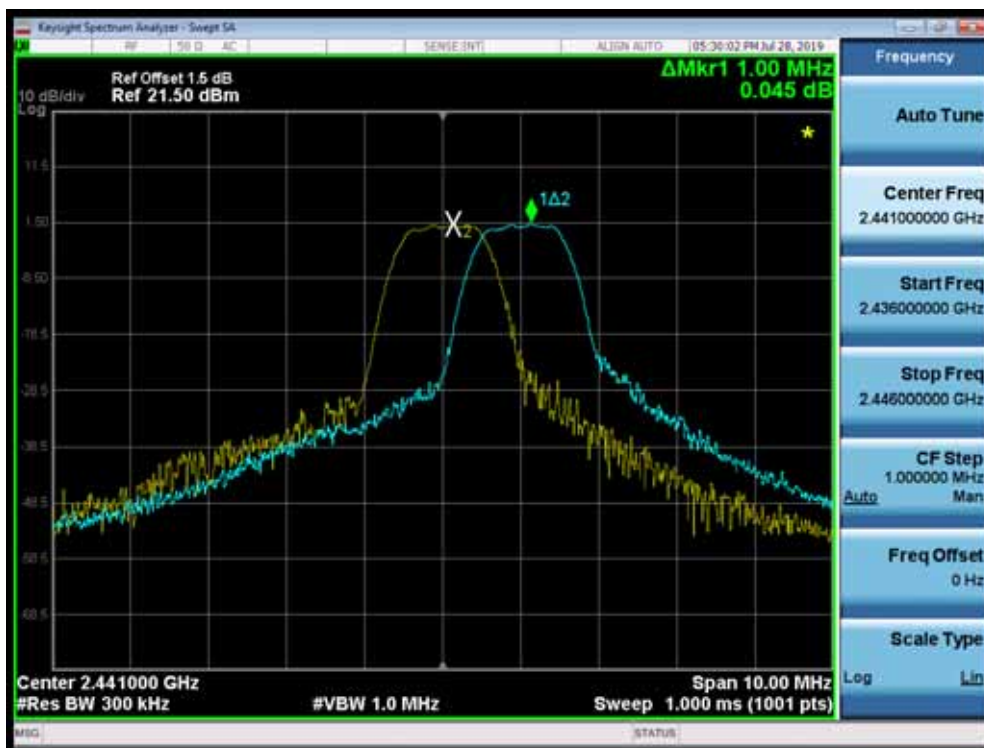
Product Name	: EZ-BT Module	Power	: DC 3.3V
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	927.3	Pass
39	2441	1000	921.3	Pass
78	2480	1000	941.3	Pass

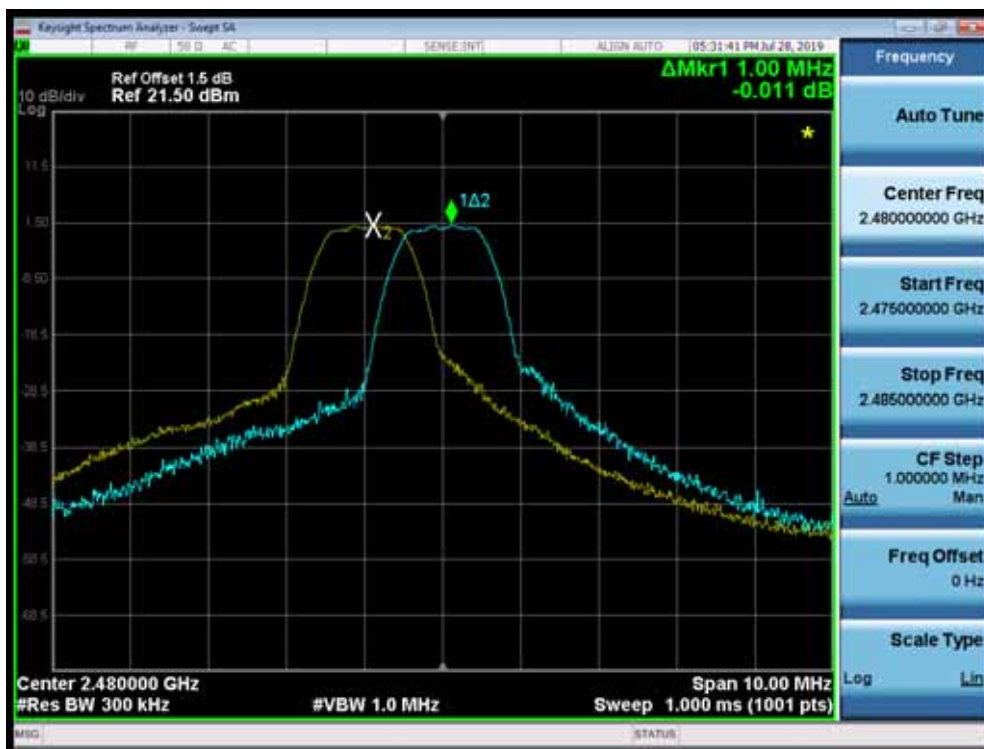
Channel 00 (2402MHz)



Channel 39 (2441MHz)



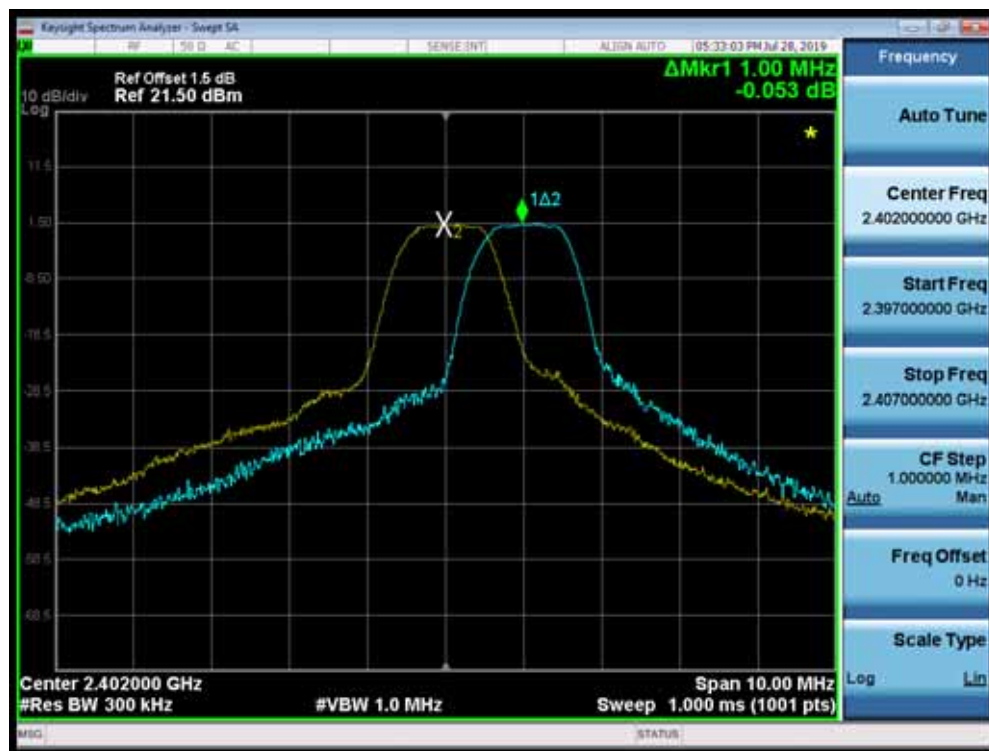
Channel 78 (2480MHz)



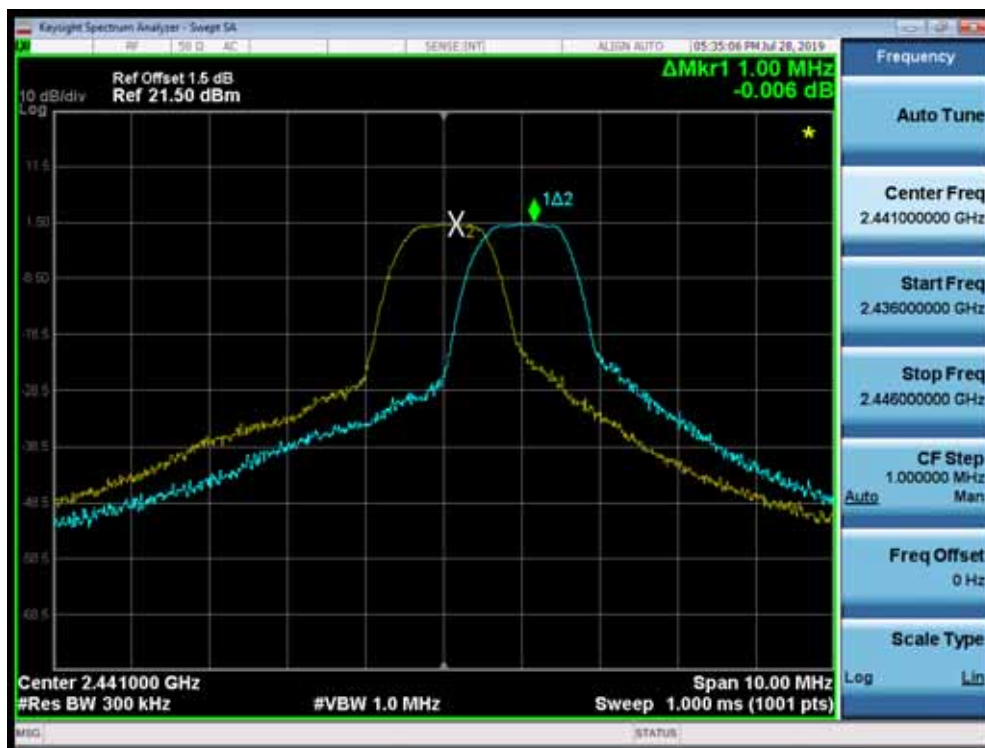
Product Name	: EZ-BT Module	Power	: DC 3.3V
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	930.0	Pass
39	2441	1000	921.3	Pass
78	2480	1000	941.3	Pass

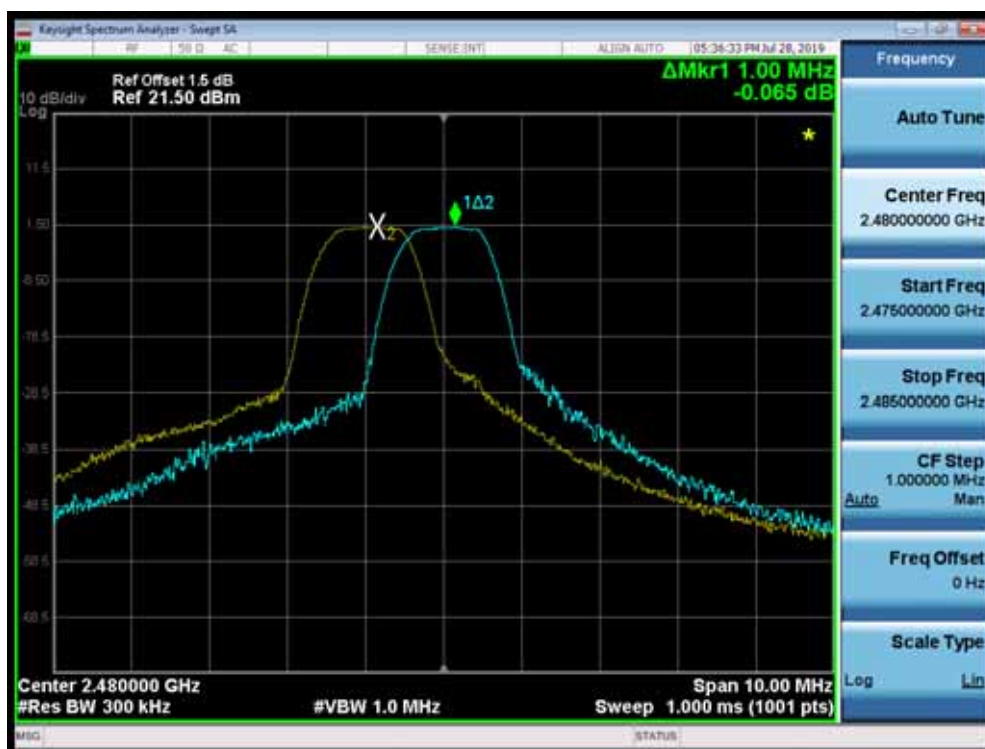
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)

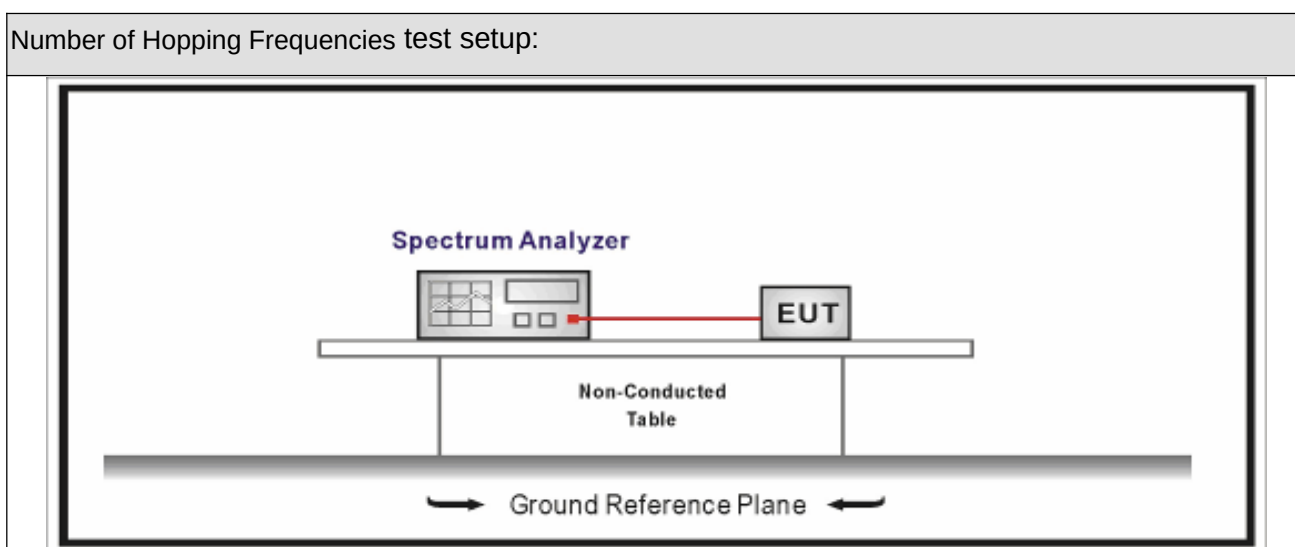


7. Number of Hopping Frequencies

7.1. Test Equipment

Number of Hopping Frequencies / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



7.3. Limit

Carrier Frequency Separation	
☒	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

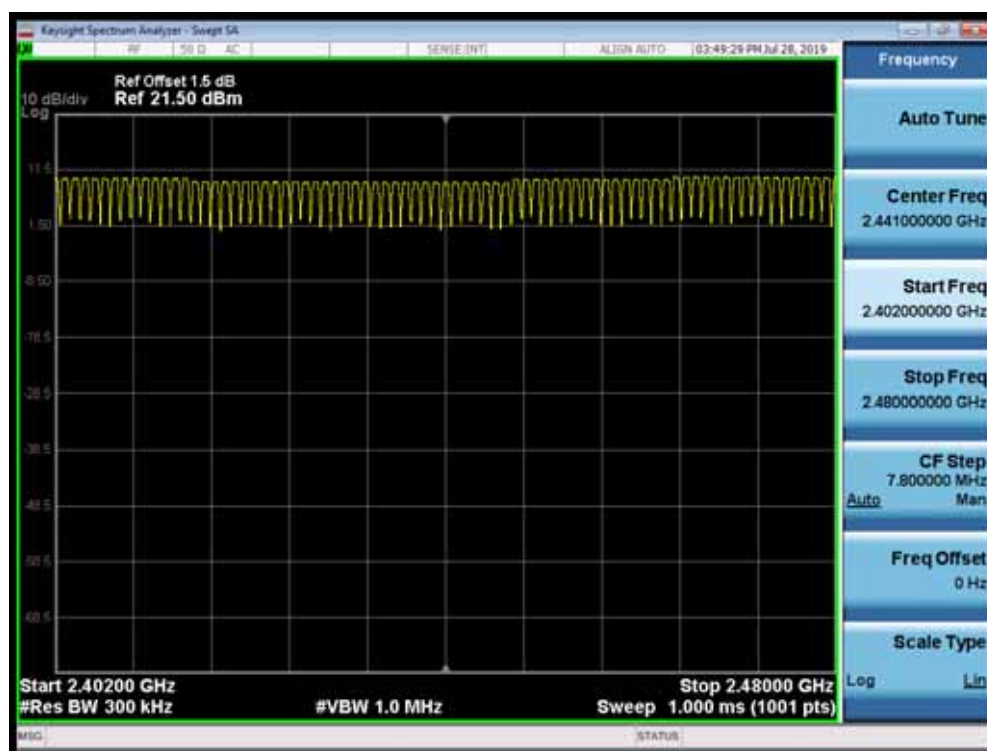
The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

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

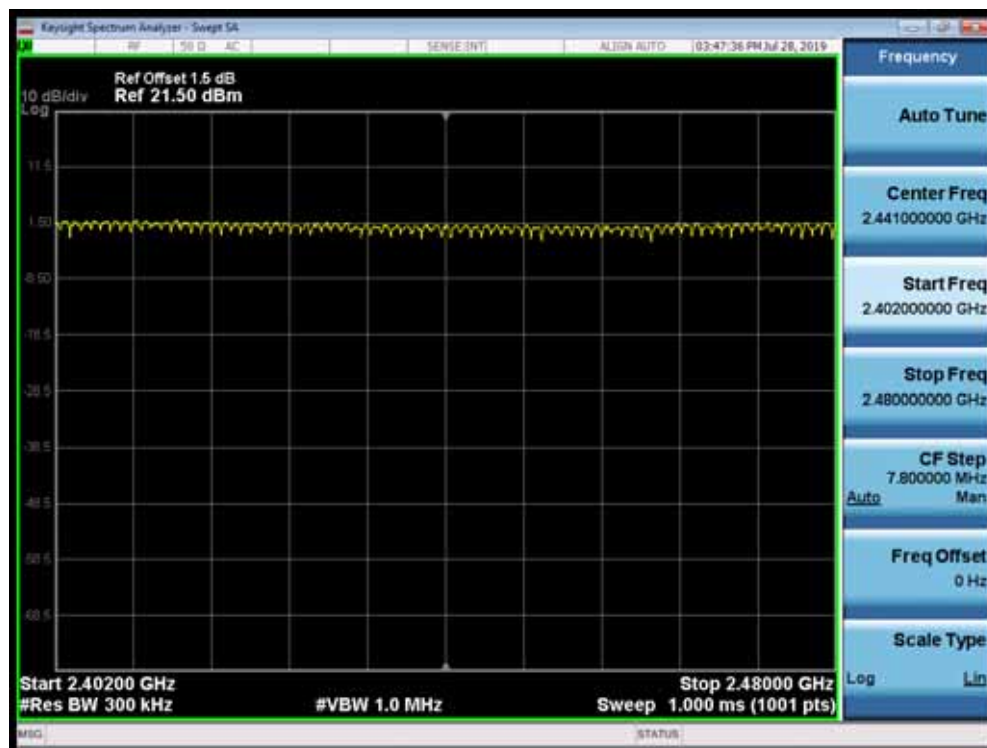
2402 - 2480MHz



Product Name	: EZ-BT Module	Power	: DC 3.3V
Test Mode	: Mode 2	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

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

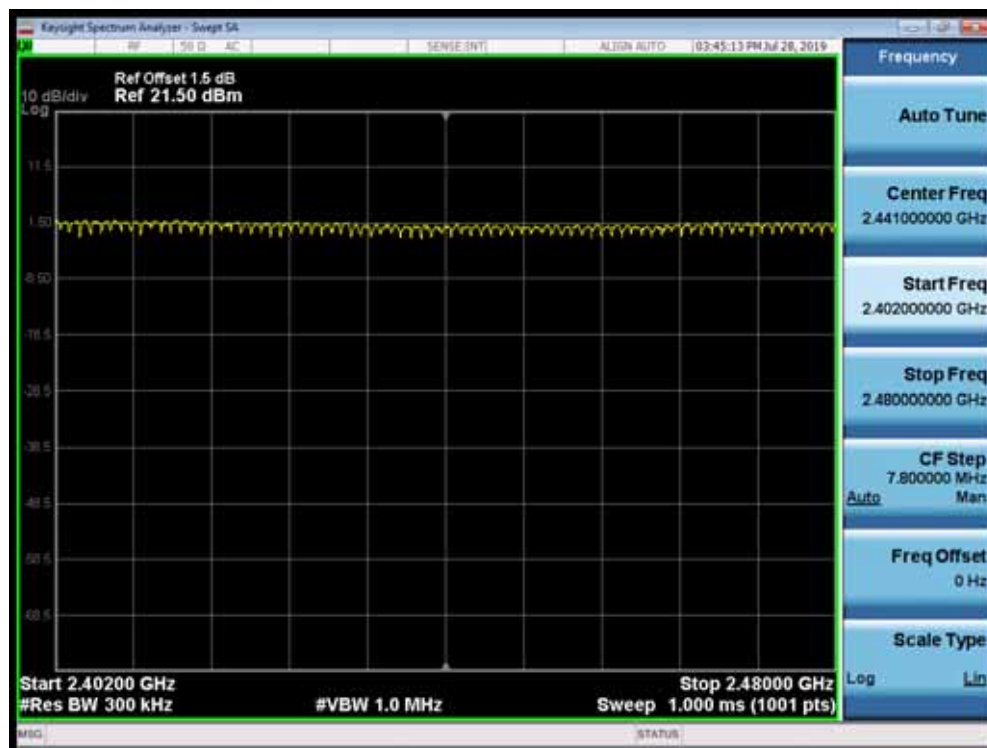
2402 - 2480 MHz



Product Name	: EZ-BT Module	Power	: DC 3.3V
Test Mode	: Mode 3	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

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

2402 - 2480 MHz

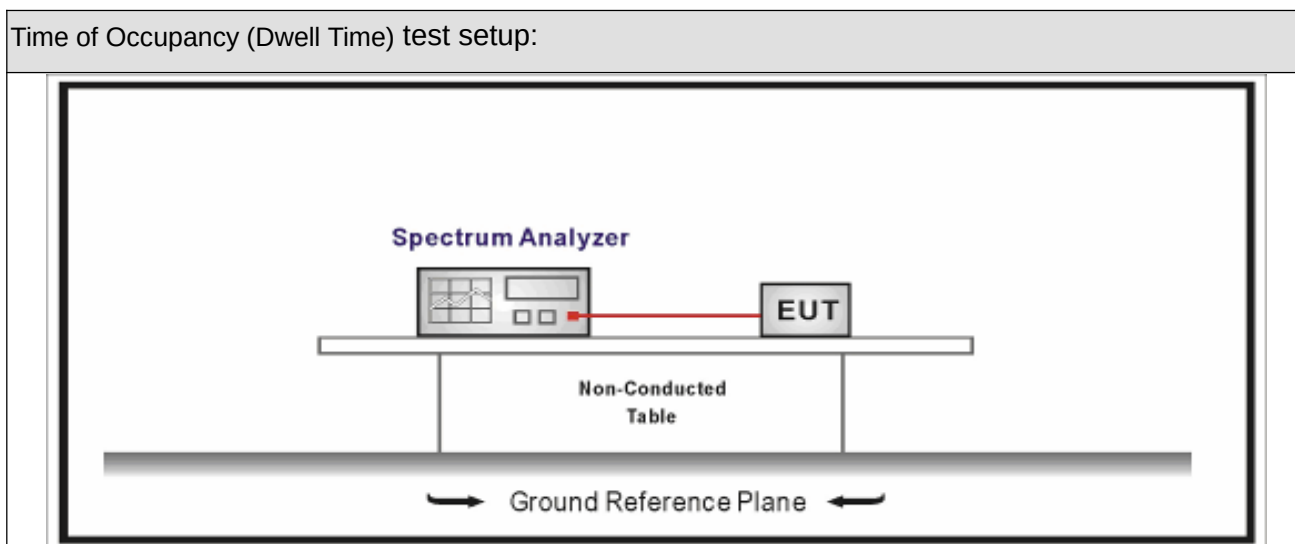


8. Time of Occupancy (Dwell Time)

8.1. Test Equipment

Time of Occupancy (Dwell Time) / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup



8.3. Limit

Time of Occupancy (Dwell Time)	
☒	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 Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1(GFSK_DH1)	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

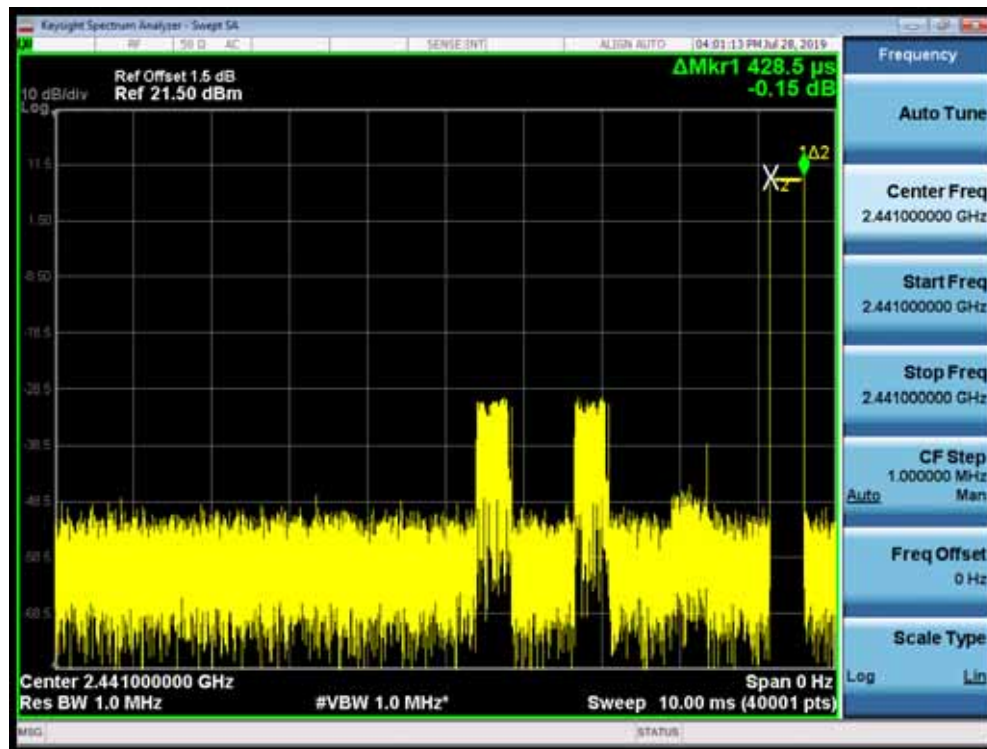
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	137.12	< 400	Pass

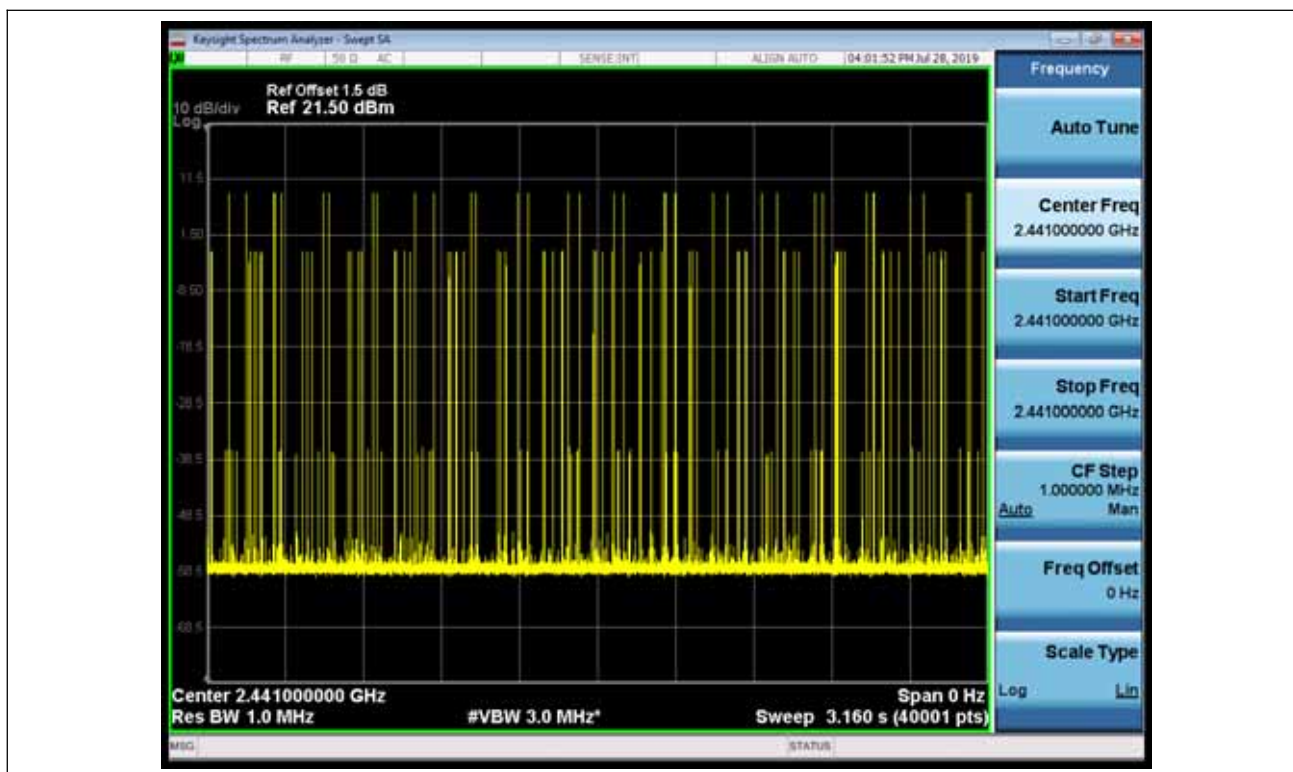
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$

Note2: Time of Occupancy = $0.4285 \times 32 \times 31.6 / 3.16 = 137.12 \text{ ms}$

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

Channel 39 (2441MHz) - (DH1)





Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1(GFSK_DH3)	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

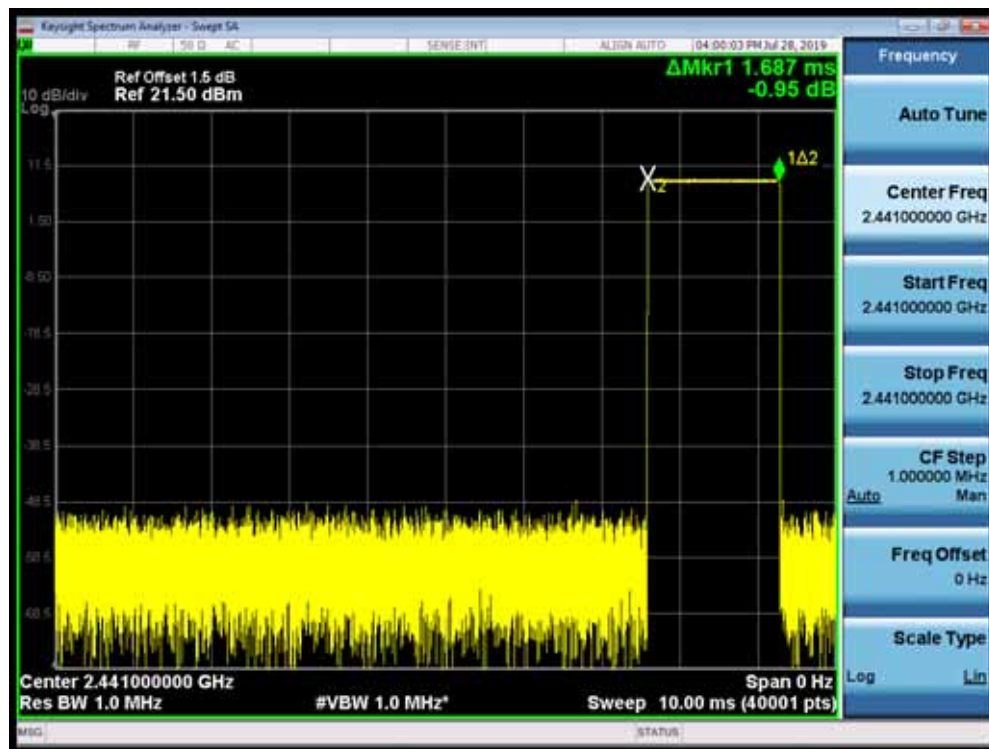
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	320.53	< 400	Pass

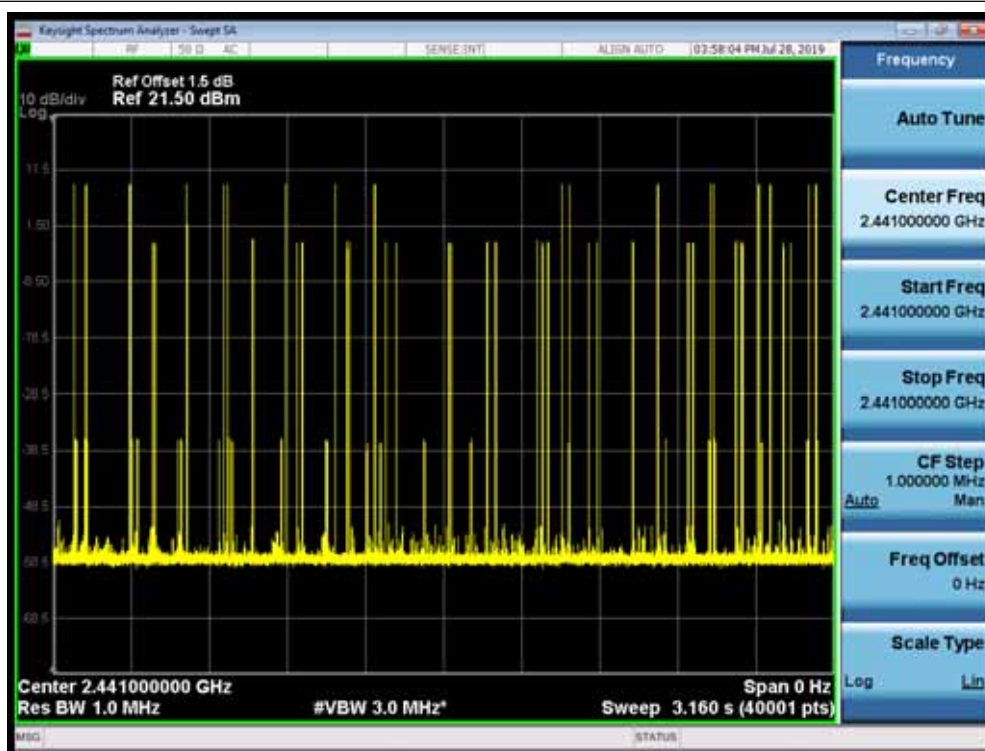
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$

Note2: Time of Occupancy = $1.687 \times 19 \times 31.6 / 3.16 = 320.53 \text{ ms}$

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

Channel 39 (2441MHz) - (DH3)





Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1(GFSK_DH5)	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

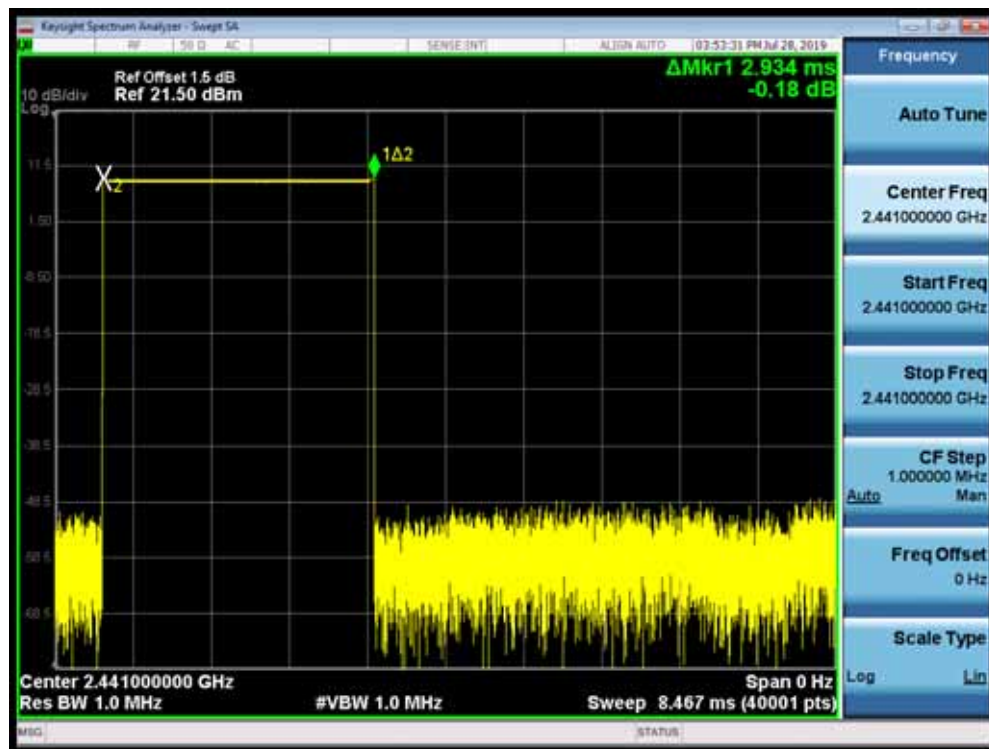
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	232.48	< 400	Pass

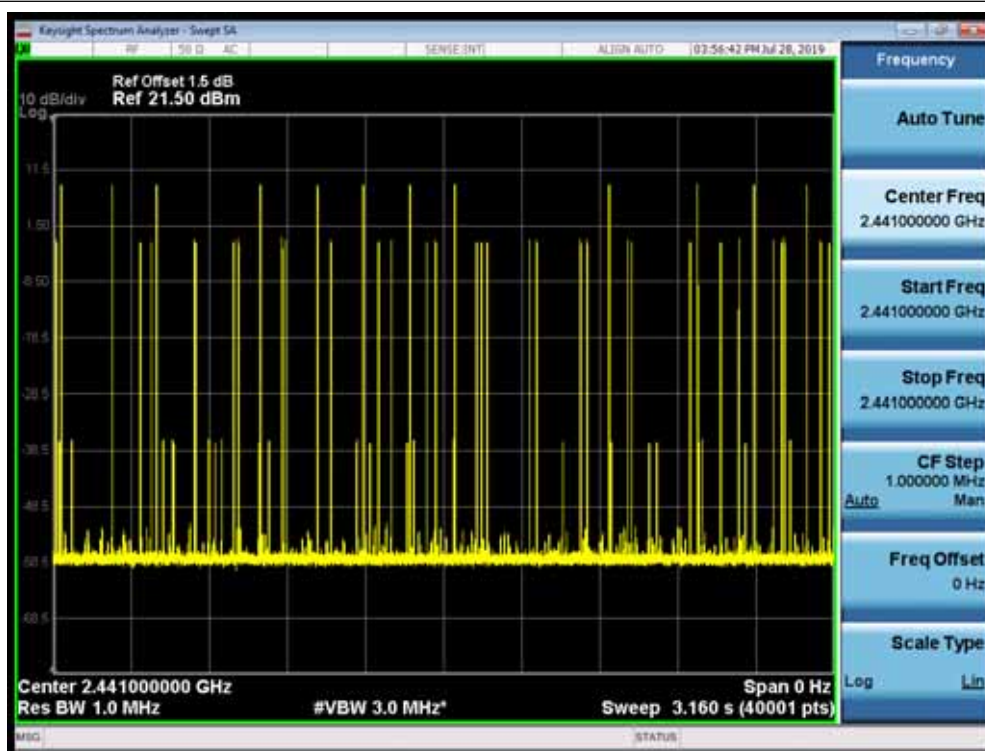
Note1: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$

Note2: Time of Occupancy = $2.906 \times 8 \times 31.6 / 3.16 = 232.48 \text{ ms}$

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

Channel 39 (2441MHz) - (DH5)





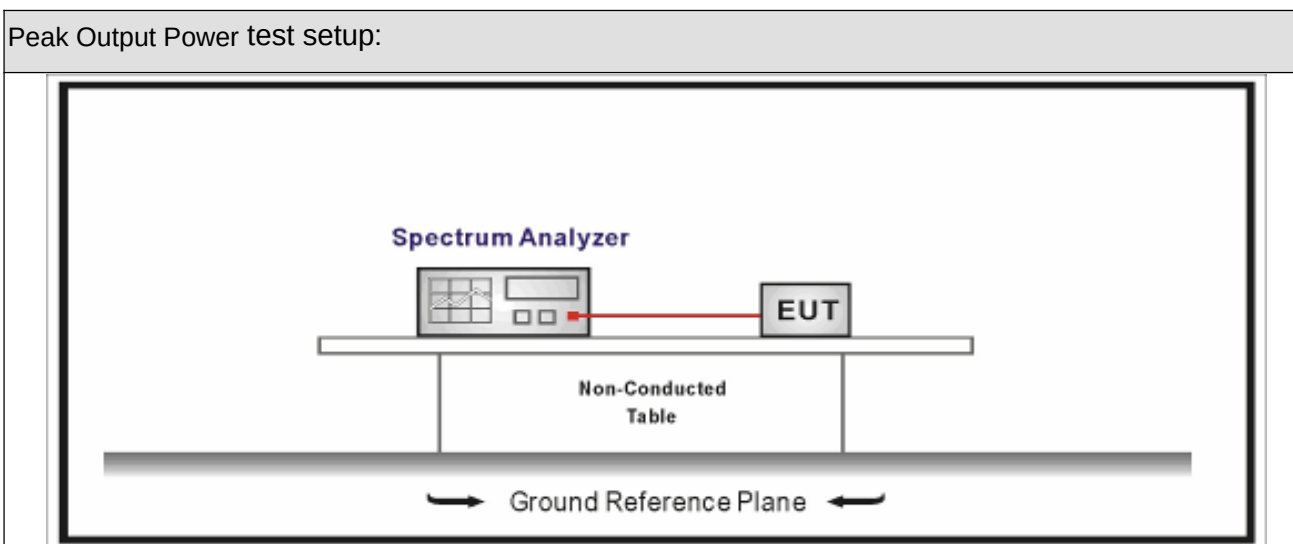
Note: The packet time of AFH mode is same as normal mode, due to the packet time of AFH mode multiply with lesser factor is dwell time of $0.4 \times 20 = 8S$, the dwell time of AFH mode comply with the limit.

9. Peak Output Power

9.1. Test Equipment

Peak Output Power / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



9.3. Limit

Peak Output Power	
☐	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 Module	Test Voltage	:	DC 3.3V
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2019.07.31	Test Engineer	:	Tim

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	8.28	21.00	Pass
39	2441	8.43	21.00	Pass
78	2480	8.23	21.00	Pass

Product Name	:	EZ-BT Module	Test Voltage	:	DC 3.3V
Test Mode	:	Mode 2	Test Site	:	TR-8
Test Date	:	2019.07.31	Test Engineer	:	Simon

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	3.11	21.00	Pass
39	2441	3.16	21.00	Pass
78	2480	3.09	21.00	Pass

Product Name	:	EZ-BT Module	Test Voltage	:	DC 3.3V
Test Mode	:	Mode 3	Test Site	:	TR-8
Test Date	:	2019.07.31	Test Engineer	:	Tim

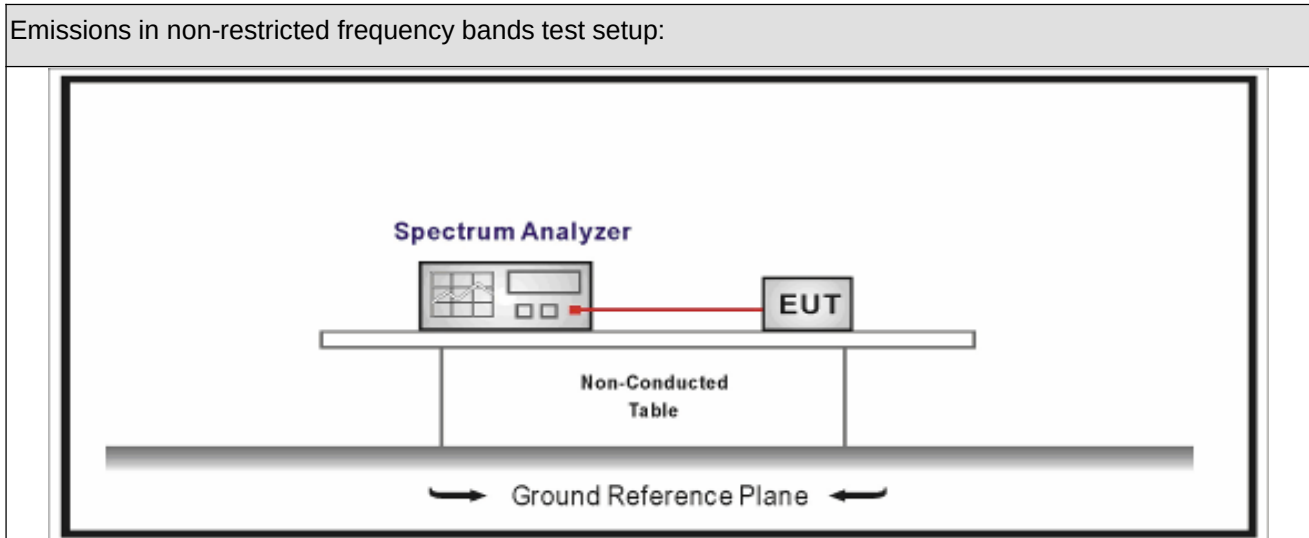
Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
00	2402	3.47	21.00	Pass
39	2441	3.42	21.00	Pass
78	2480	2.98	21.00	Pass

10. Emissions in non-restricted frequency bands

10.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

10.2. Test Setup



10.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
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

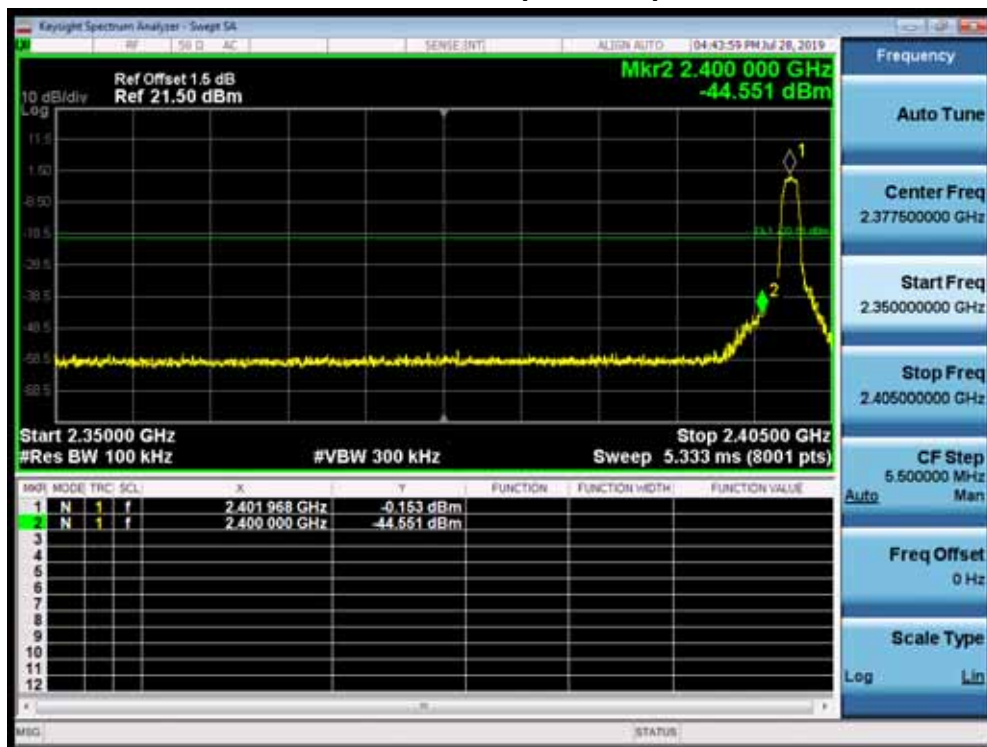
Product Name	: EZ-BT Module	Test Voltage	: DC 3.3V
Test Mode	: Mode 1~4	Test Site	: TR-8
Test Date	: 2019.07.28	Test Engineer	: Tim

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	9.186	2400.00	-44.676	53.862	>20	Pass
1	78	2480	9.446	2500.00	-59.573	69.019	>20	Pass
2	00	2402	-6.958	2400.00	-43.788	36.830	>20	Pass
2	78	2480	-5.984	2500.00	-58.434	52.450	>20	Pass
3	00	2402	-0.153	2400.00	-44.551	44.398	>20	Pass
3	78	2480	-0.401	2500.00	-59.169	58.768	>20	Pass
4	00~78	00~78	0.649	2400.00	-48.555	49.204	>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)



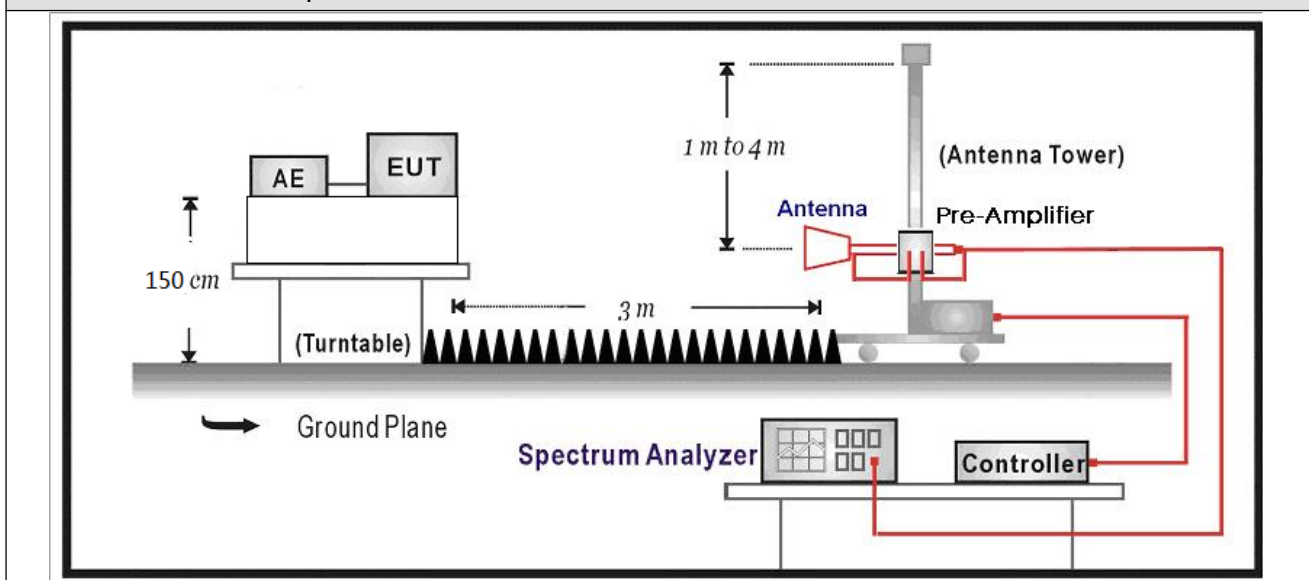
11. Radiated Emission Band Edge

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	2019.07.16	2020.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2019.05.03	2020.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2019.07.12	2020.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2018.09.18	2019.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.02.28	2020.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.02.28	2020.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.05	2020.01.04

11.2. Test Setup

Above 1GHz Test Setup:



11.3. Limit

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

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

11.4. Test Procedure

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

11.5. Uncertainty

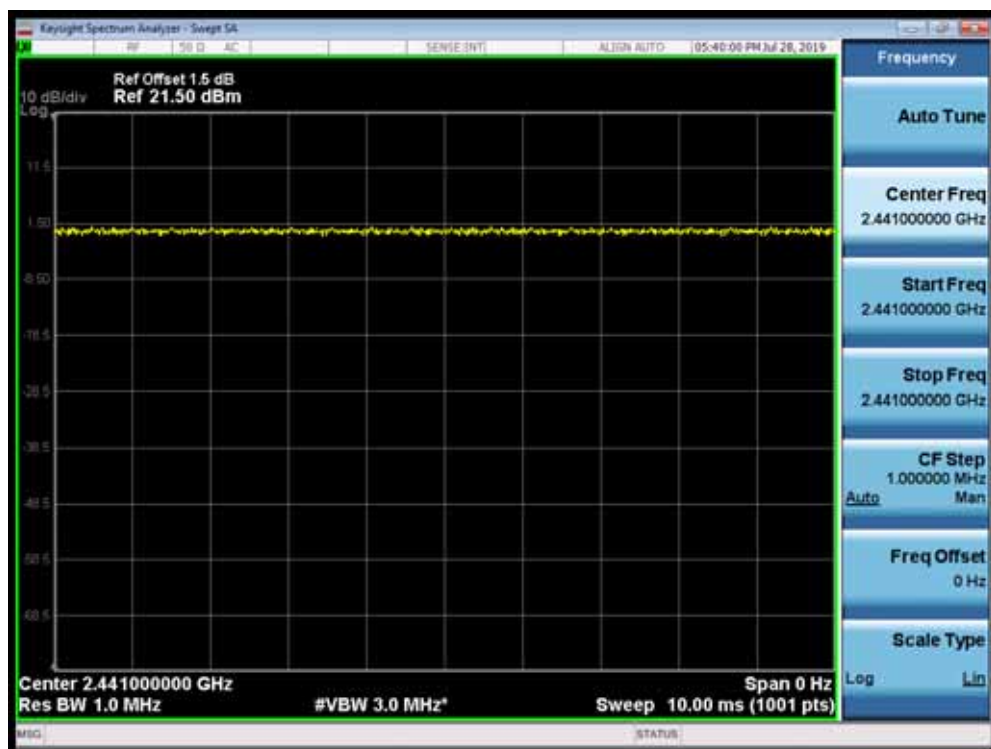
The measurement uncertainty above 1G is defined as ± 3.9 dB

below 1G is defined as ± 3.8 dB

11.6. Duty Cycle

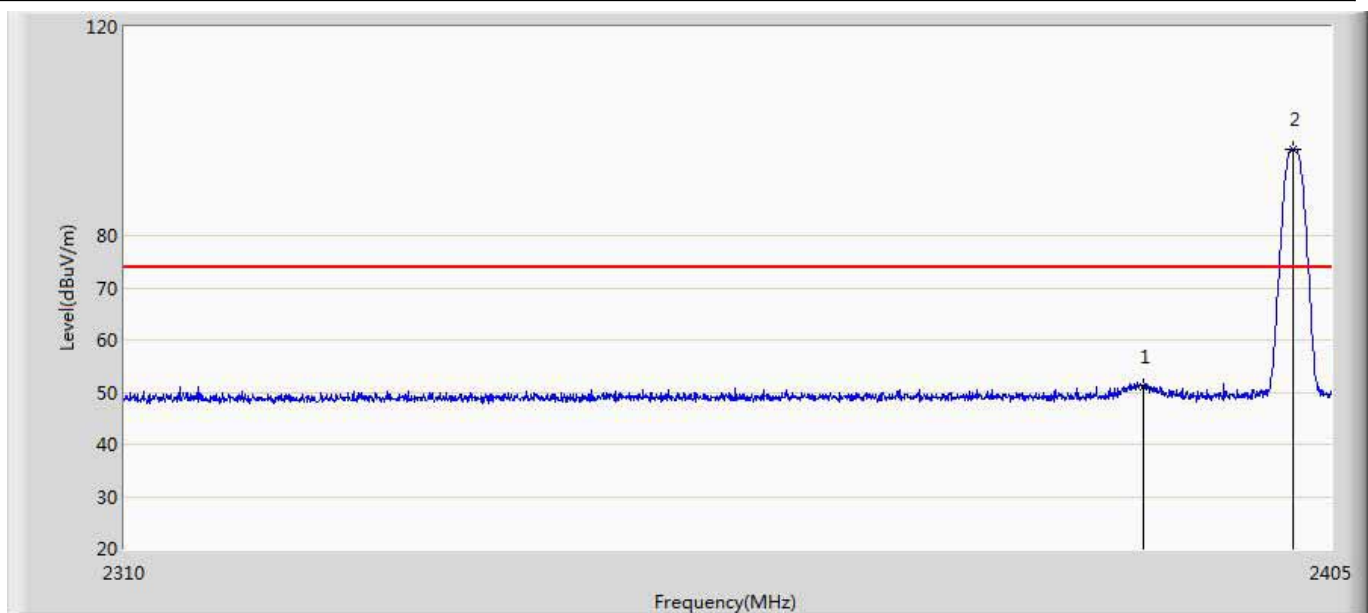
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (Hz)	Tx On + Tx Off (ms)	Duty Cycle
DH5	N/A	N/A	10	N/A	100%

DH5



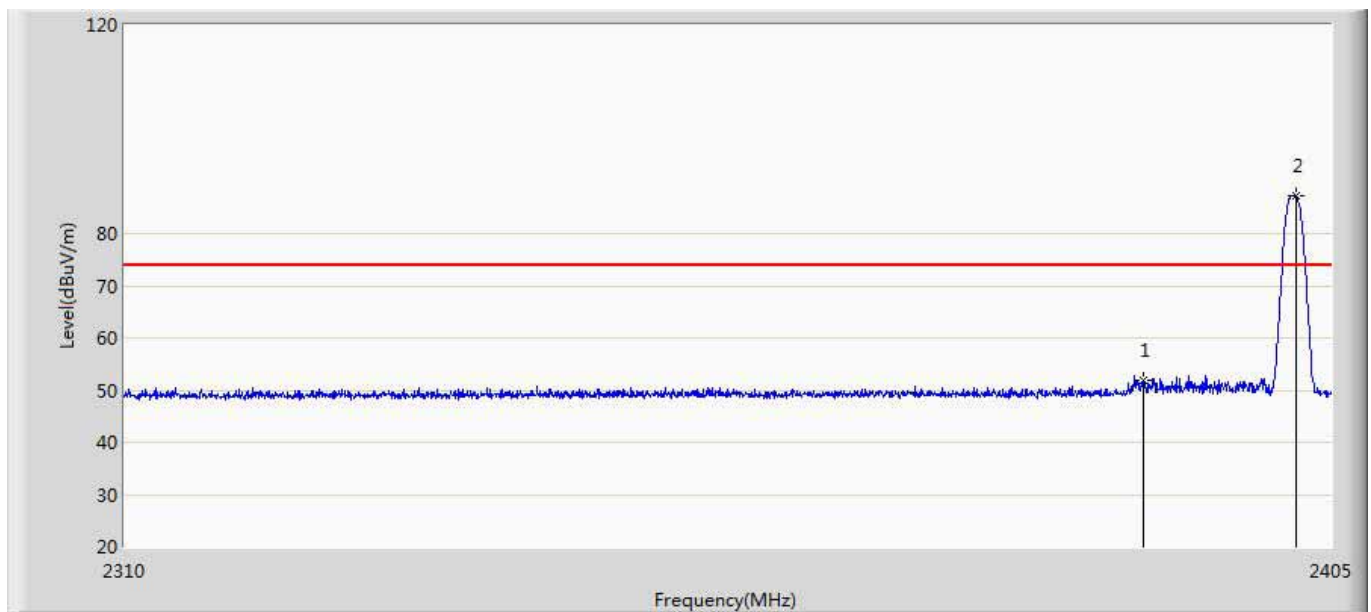
11.7. Test Result

Profile: 1972038R	Page No.: 1
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 00:18
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2402MHz by DH5	



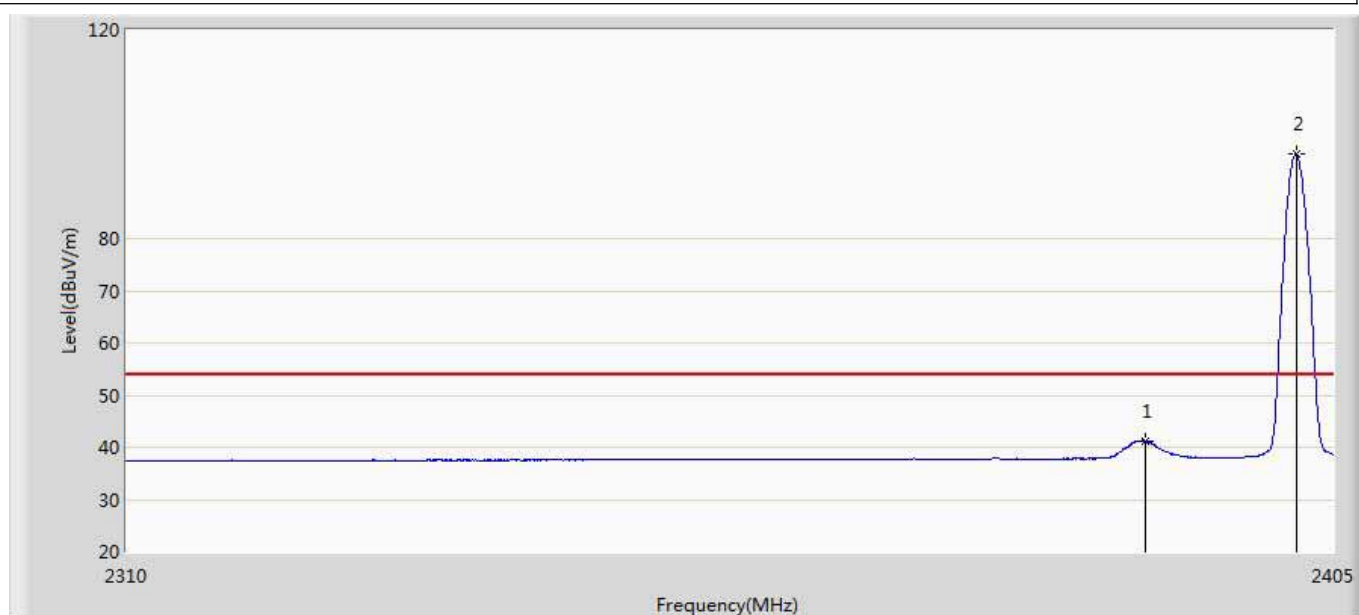
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.075	15.393	-22.925	74.000	35.682	PK
2	*	2401.913	96.464	60.752	22.464	74.000	35.712	PK

Profile: 1972038R	Page No.: 2
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 00:35
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2402MHz by DH5	



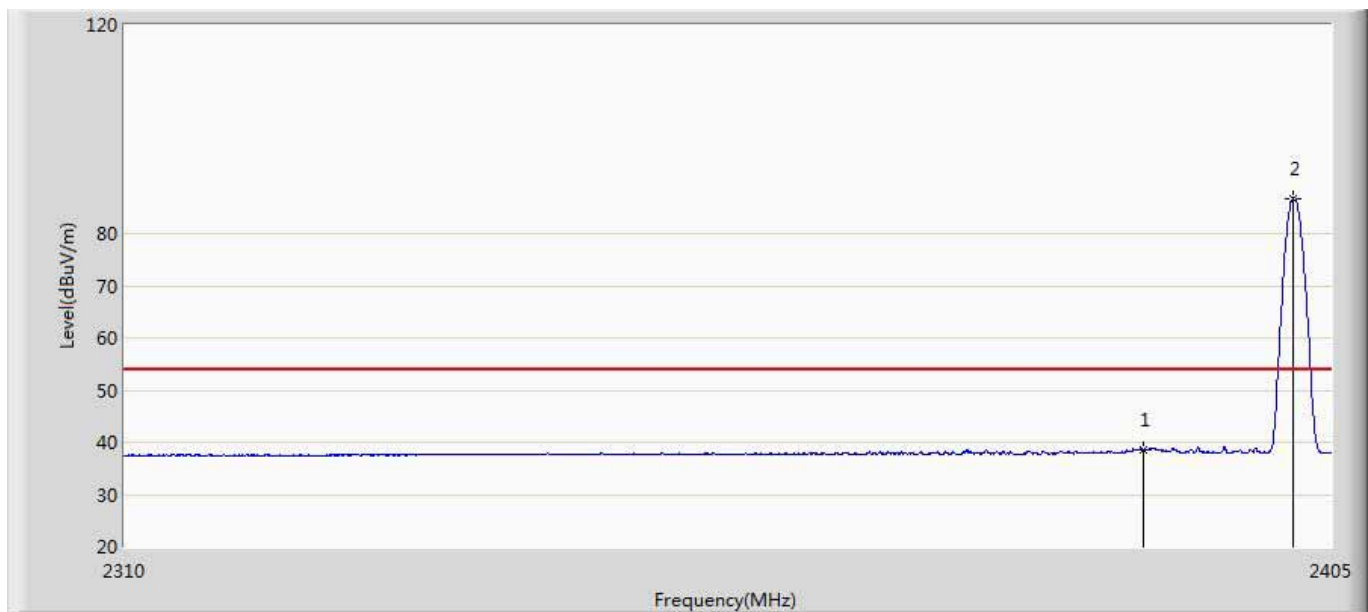
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.922	16.240	-22.078	74.000	35.682	PK
2	*	2402.198	87.165	51.452	13.165	74.000	35.714	PK

Profile: 1972038R	Page No.: 3
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 00:38
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1: Transmit at 2402MHz by DH5	



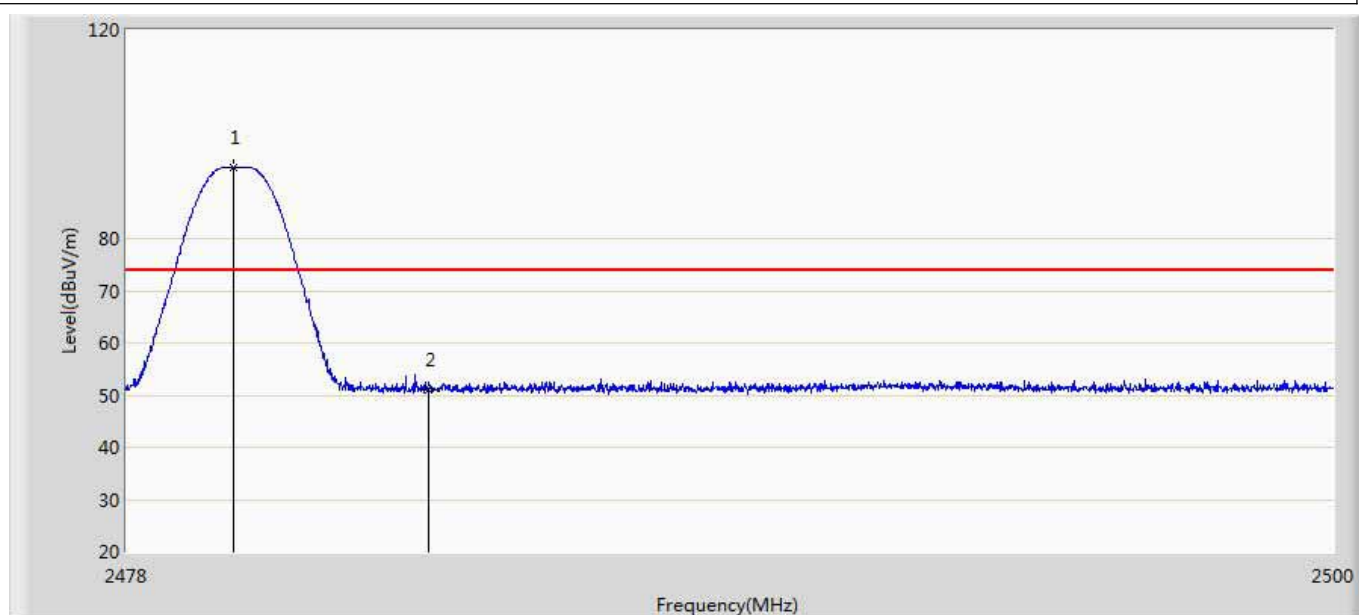
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.177	5.495	-12.823	54.000	35.682	AV
2	*	2402.055	96.146	60.433	42.146	54.000	35.712	AV

Profile: 1972038R	Page No.: 4
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 00:42
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1: Transmit at 2402MHz by DH5	



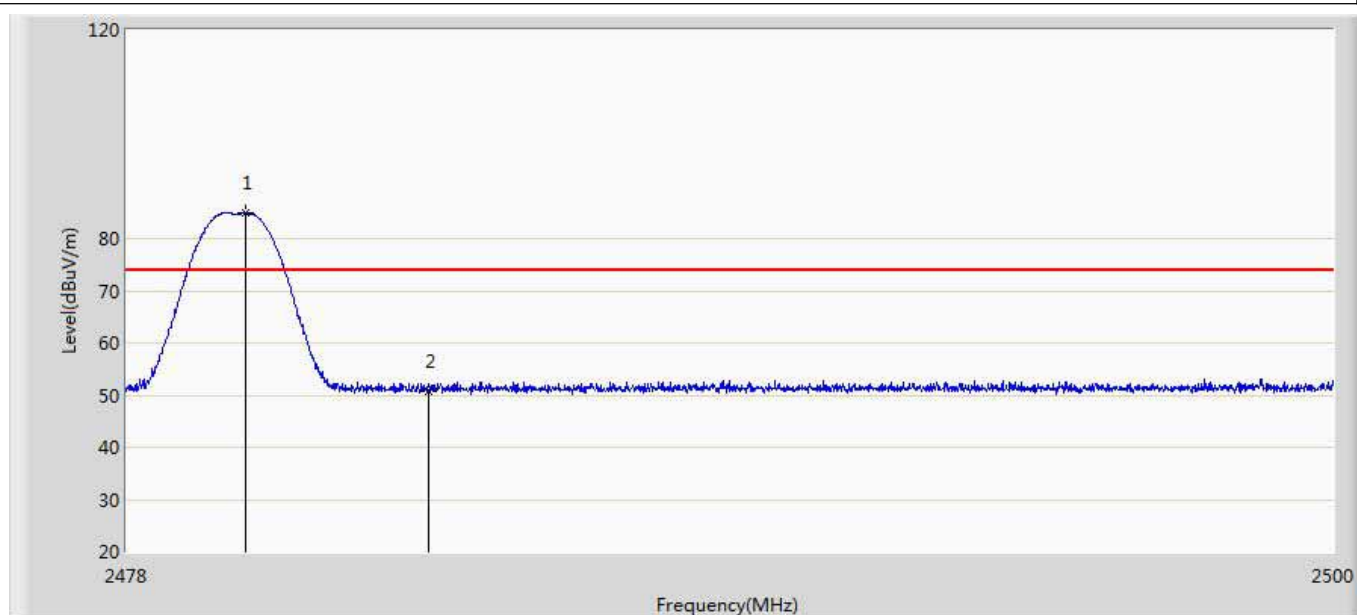
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.570	2.888	-15.430	54.000	35.682	AV
2	*	2401.913	86.690	50.978	32.690	54.000	35.712	AV

Profile: 1972038R	Page No.: 5
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:13
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2480MHz by DH5	



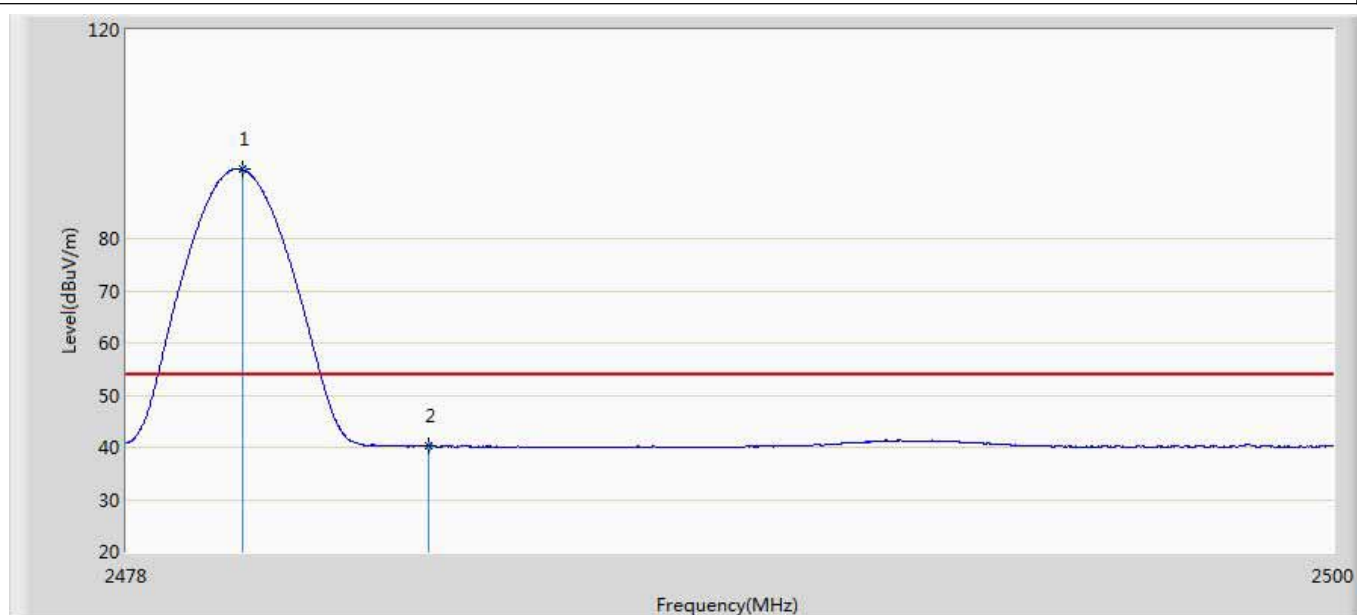
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	93.571	57.705	19.571	74.000	35.866	PK
2		2483.500	51.001	15.109	-22.999	74.000	35.891	PK

Profile: 1972038R	Page No.: 6
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:15
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1:Transmit at 2480MHz by DH5	



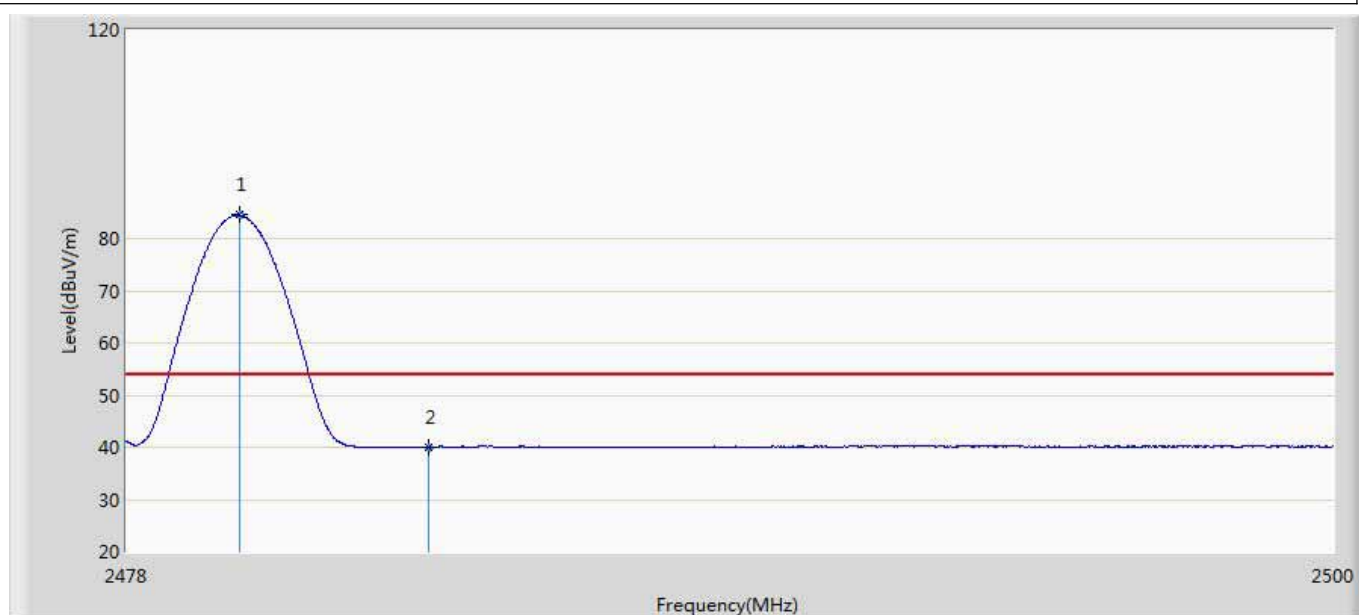
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.178	84.819	48.951	10.819	74.000	35.867	PK
2		2483.500	50.712	14.820	-23.288	74.000	35.891	PK

Profile: 1972038R	Page No.: 7
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:17
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1: Transmit at 2480MHz by DH5	



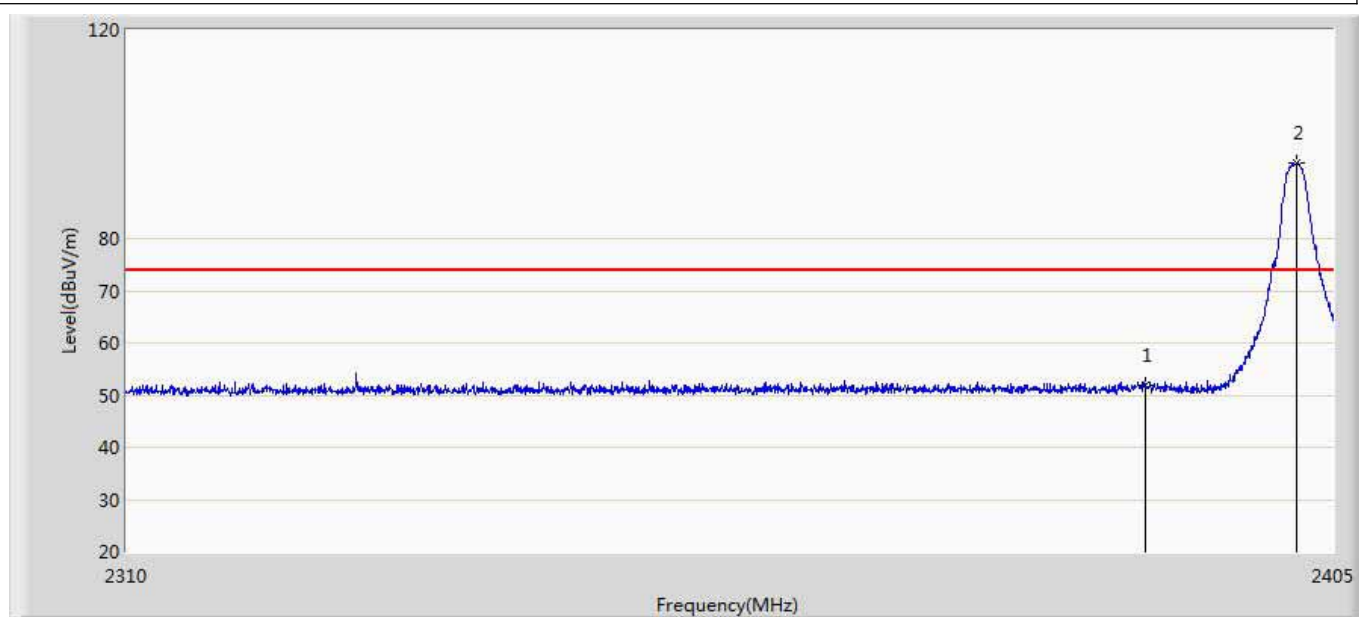
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.112	93.212	57.345	19.212	74.000	35.867	PK
2		2483.500	40.215	4.323	-33.785	74.000	35.891	PK

Profile: 1972038R	Page No.: 8
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:28
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 1: Transmit at 2480MHz by DH5	



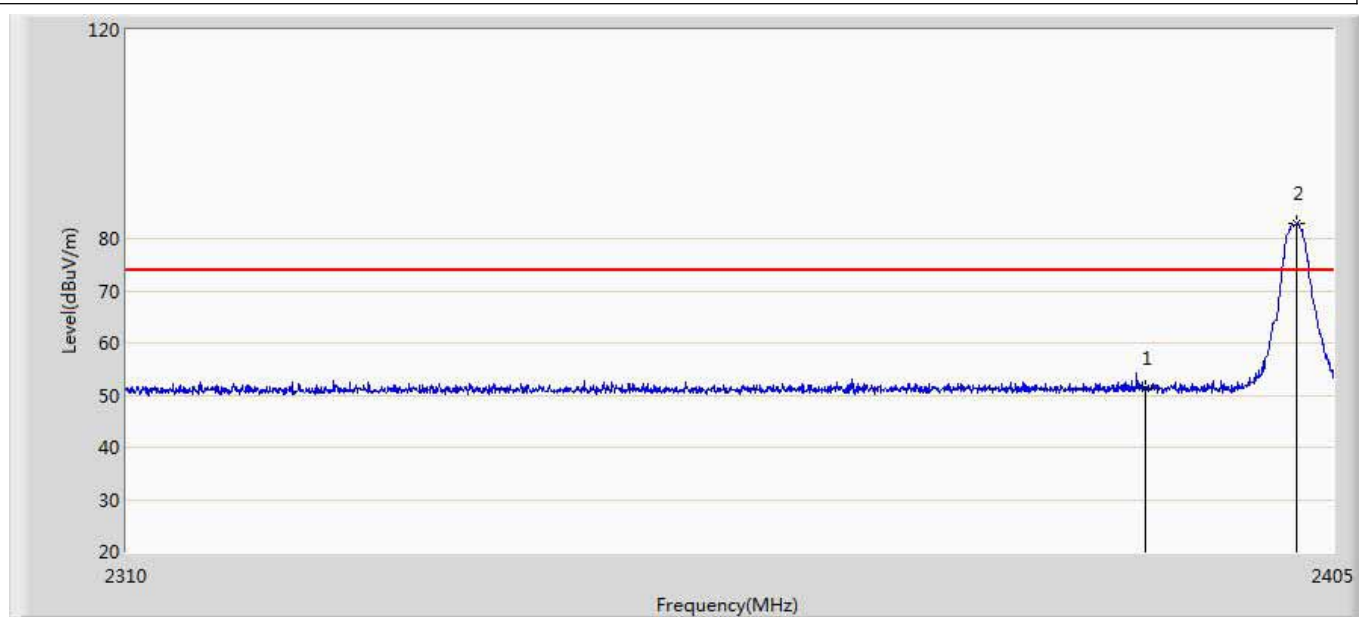
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	84.496	48.629	10.496	74.000	35.866	PK
2		2483.500	40.038	4.146	-33.962	74.000	35.891	PK

Profile: 1972038R	Page No.: 9
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:30
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



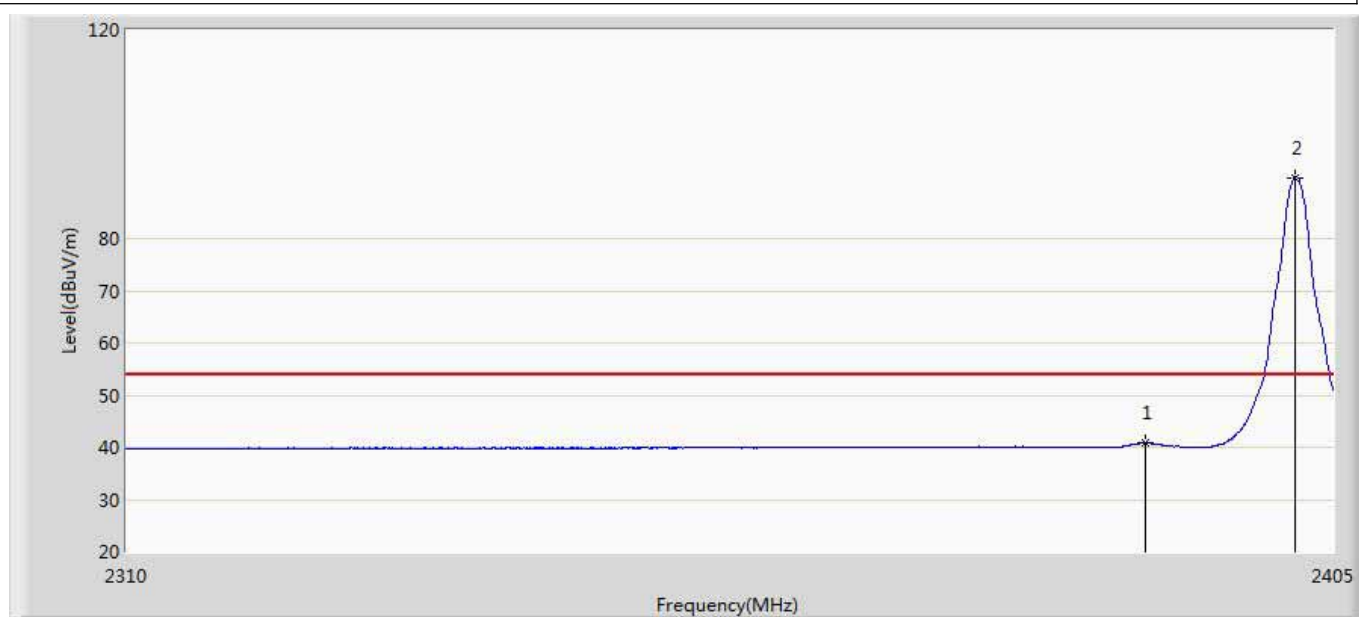
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.792	16.110	-22.208	74.000	35.682	PK
2	*	2402.055	94.399	58.686	20.399	74.000	35.712	PK

Profile: 1972038R	Page No.: 10
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:32
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



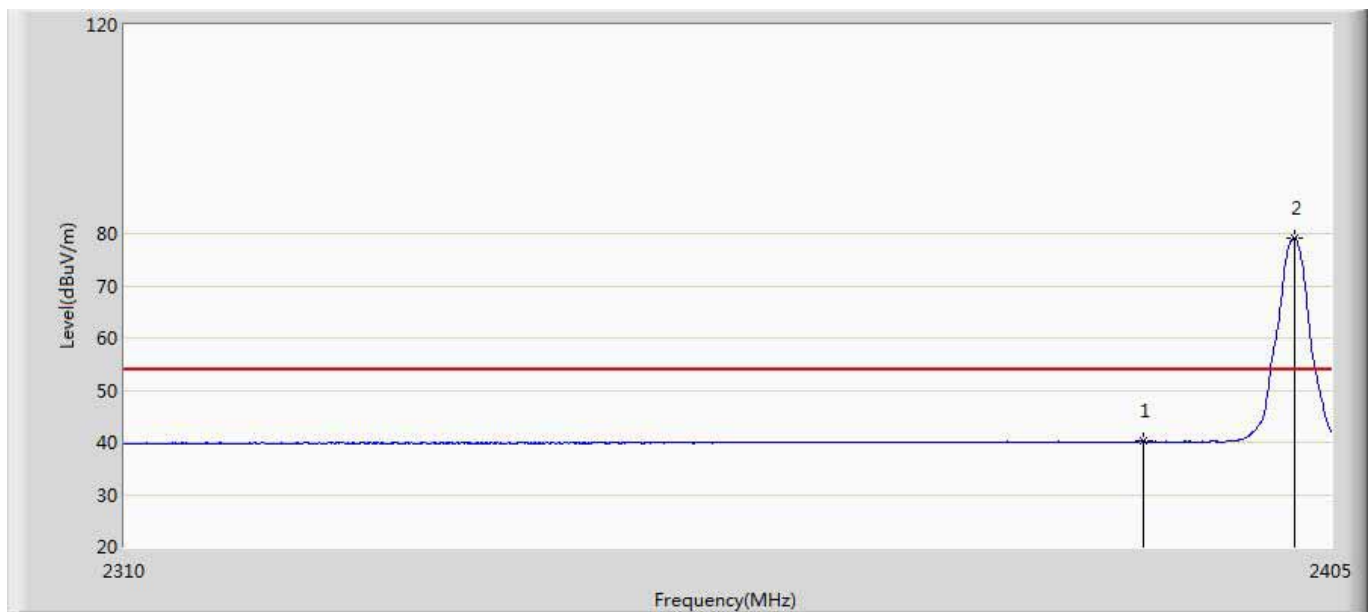
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.171	15.489	-22.829	74.000	35.682	PK
2	*	2402.103	82.925	47.212	8.925	74.000	35.713	PK

Profile: 1972038R	Page No.: 11
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:34
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



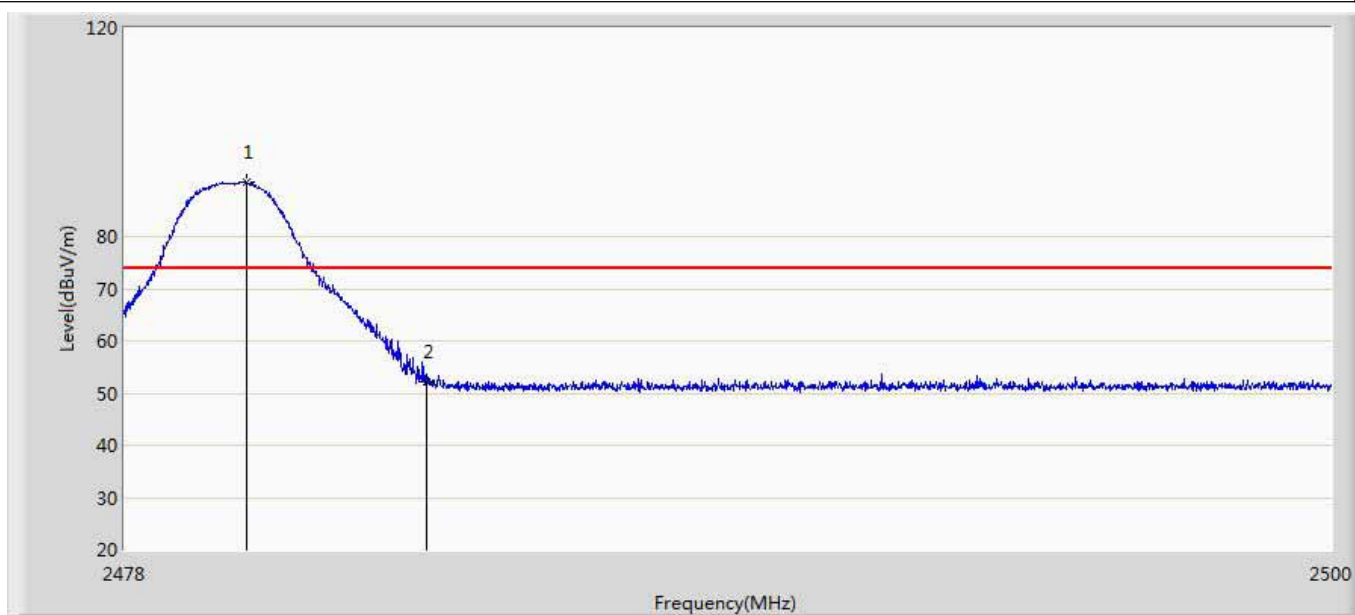
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.842	5.160	-13.158	54.000	35.682	AV
2	*	2401.913	91.665	55.953	37.665	54.000	35.712	AV

Profile: 1972038R	Page No.: 12
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:37
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



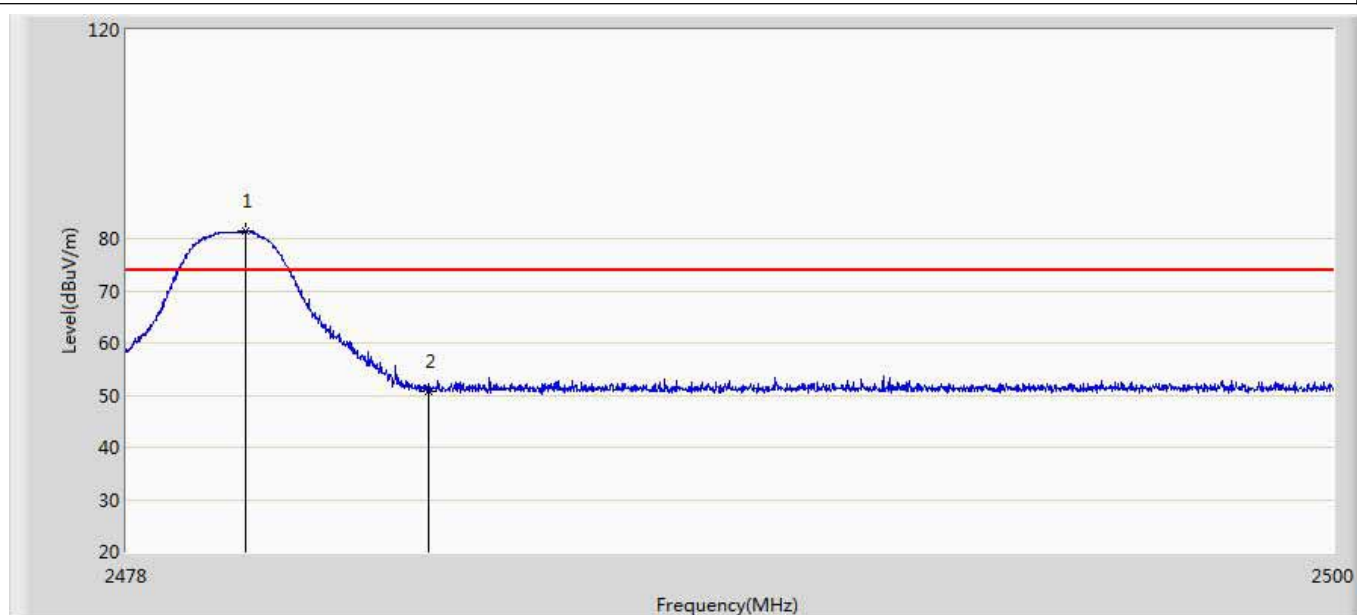
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.157	4.475	-13.843	54.000	35.682	AV
2	*	2402.055	79.209	43.496	25.209	54.000	35.712	AV

Profile: 1972038R	Page No.: 13
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:39
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



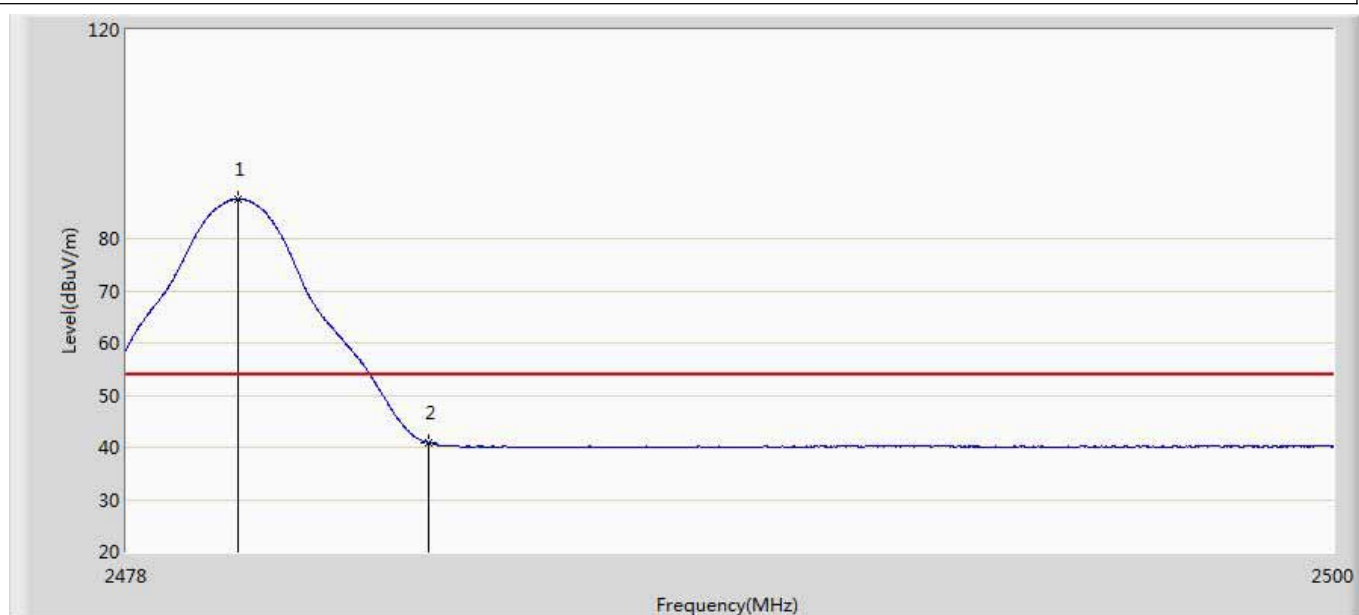
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.222	90.379	54.511	16.379	74.000	35.868	PK
2		2483.500	52.247	16.355	-21.753	74.000	35.891	PK

Profile: 1972038R	Page No.: 14
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:42
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



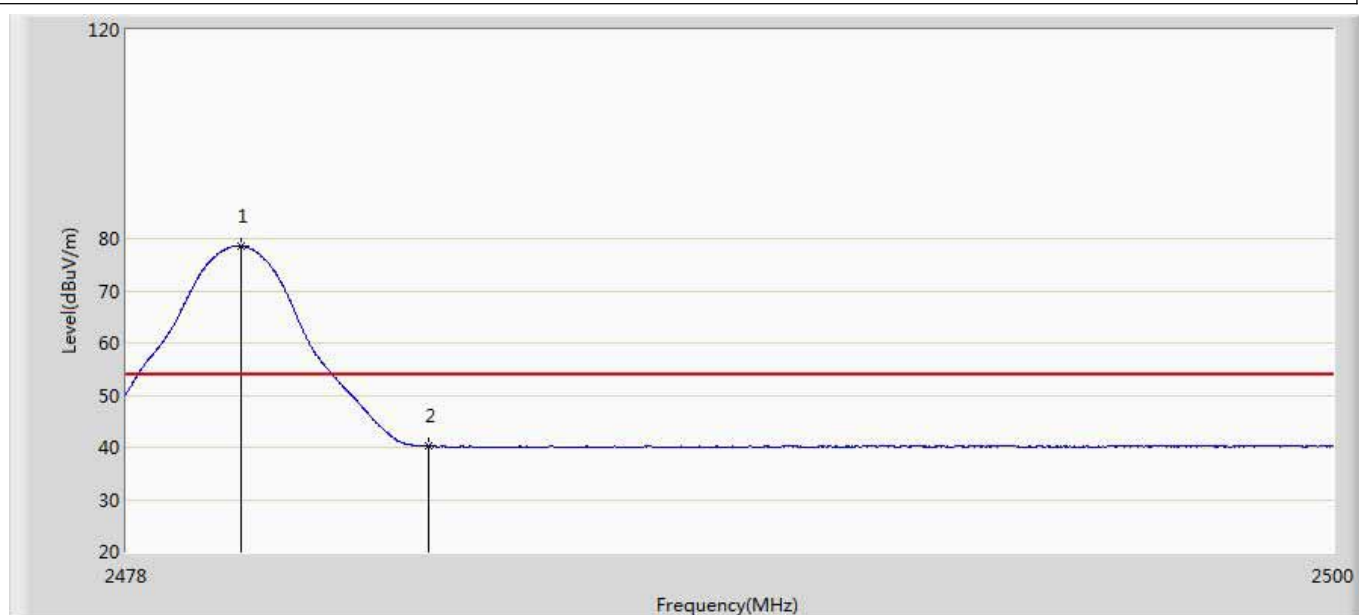
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.156	81.445	45.578	7.445	74.000	35.867	PK
2		2483.500	50.637	14.745	-23.363	74.000	35.891	PK

Profile: 1972038R	Page No.: 15
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:43
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



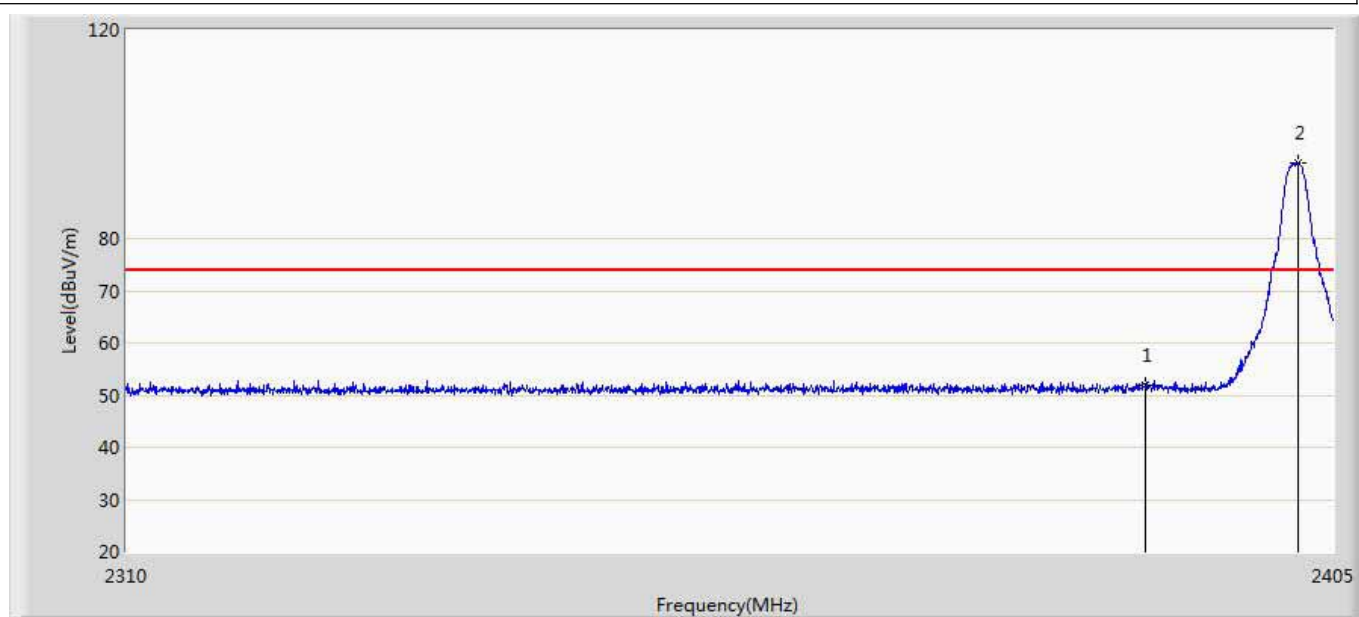
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.035	87.550	51.683	33.550	54.000	35.866	AV
2		2483.500	40.821	4.929	-13.179	54.000	35.891	AV

Profile: 1972038R	Page No.: 16
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:45
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



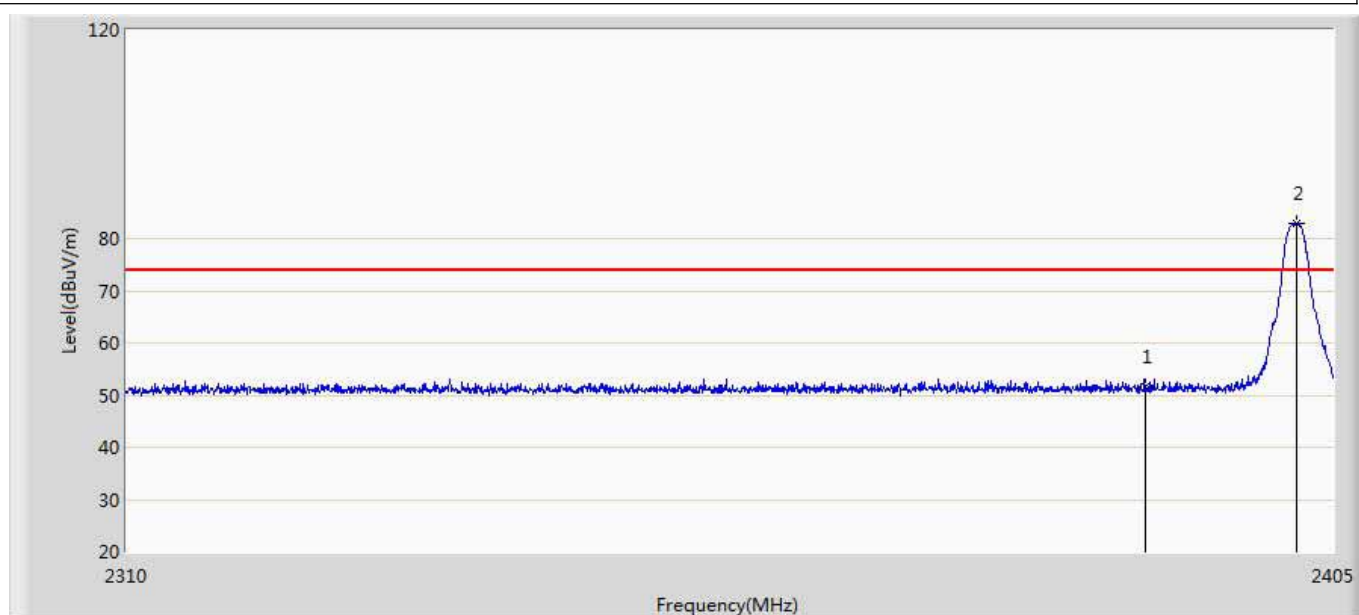
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	78.575	42.708	24.575	54.000	35.867	AV
2		2483.500	40.191	4.299	-13.809	54.000	35.891	AV

Profile: 1972038R	Page No.: 17
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:47
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



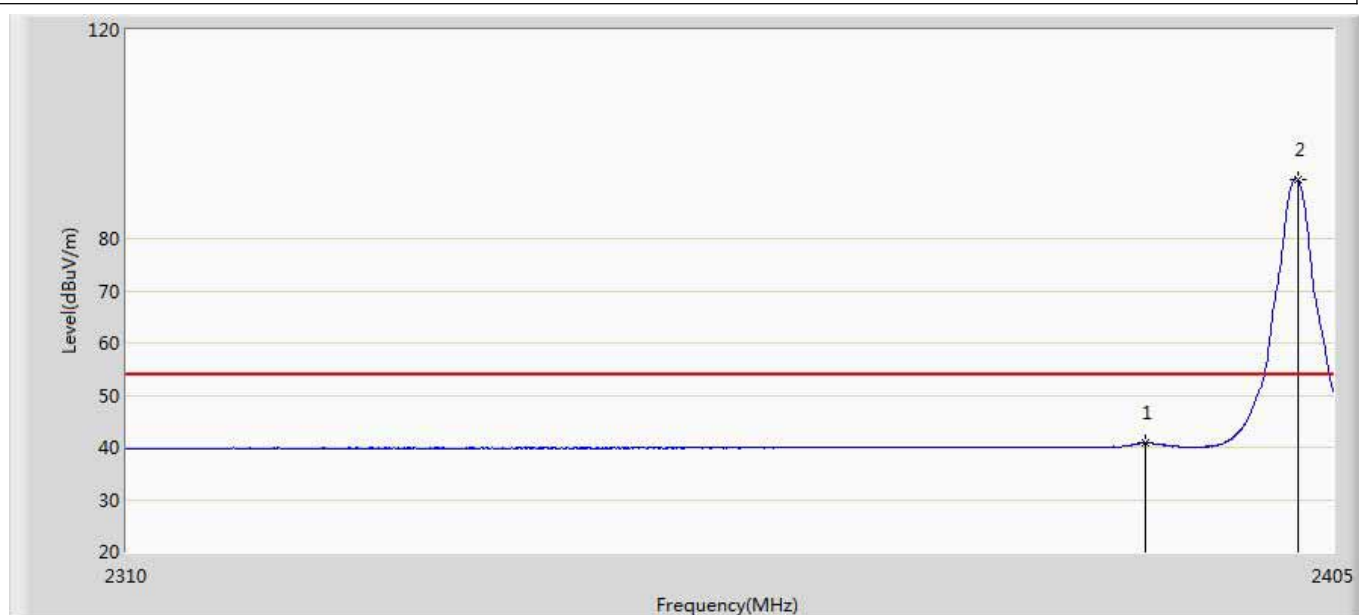
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.807	16.125	-22.193	74.000	35.682	PK
2	*	2402.198	94.470	58.757	20.470	74.000	35.714	PK

Profile: 1972038R	Page No.: 18
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:50
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



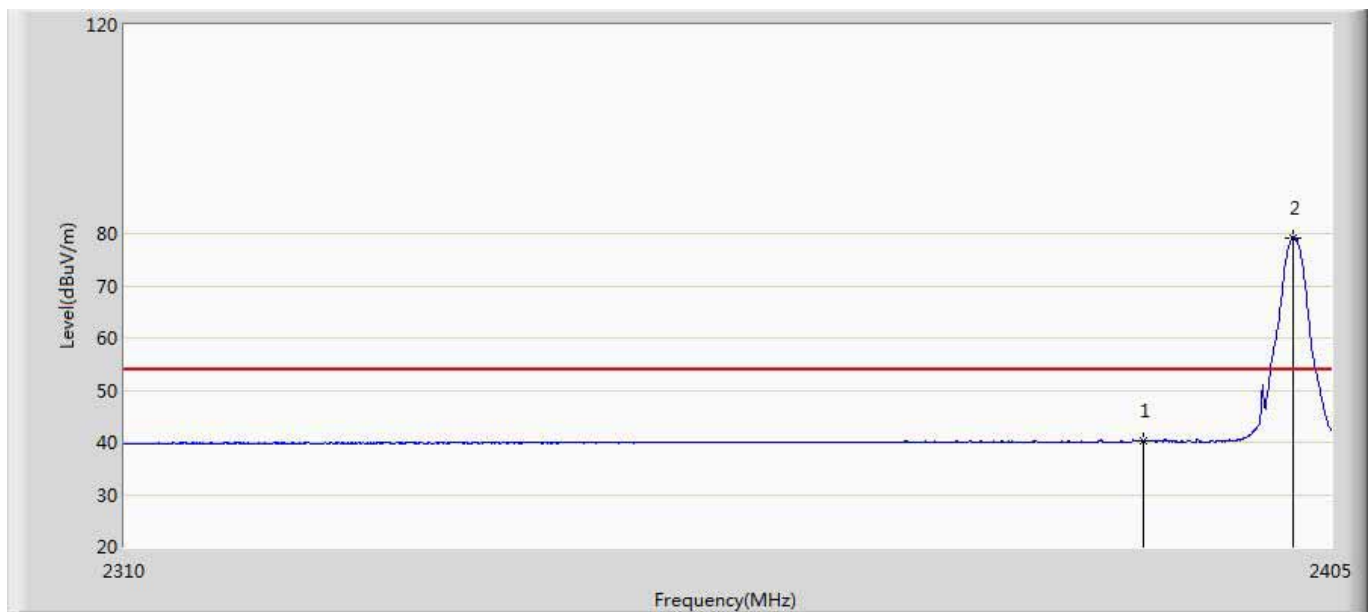
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.518	15.836	-22.482	74.000	35.682	PK
2	*	2402.103	82.952	47.239	8.952	74.000	35.713	PK

Profile: 1972038R	Page No.: 19
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:51
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



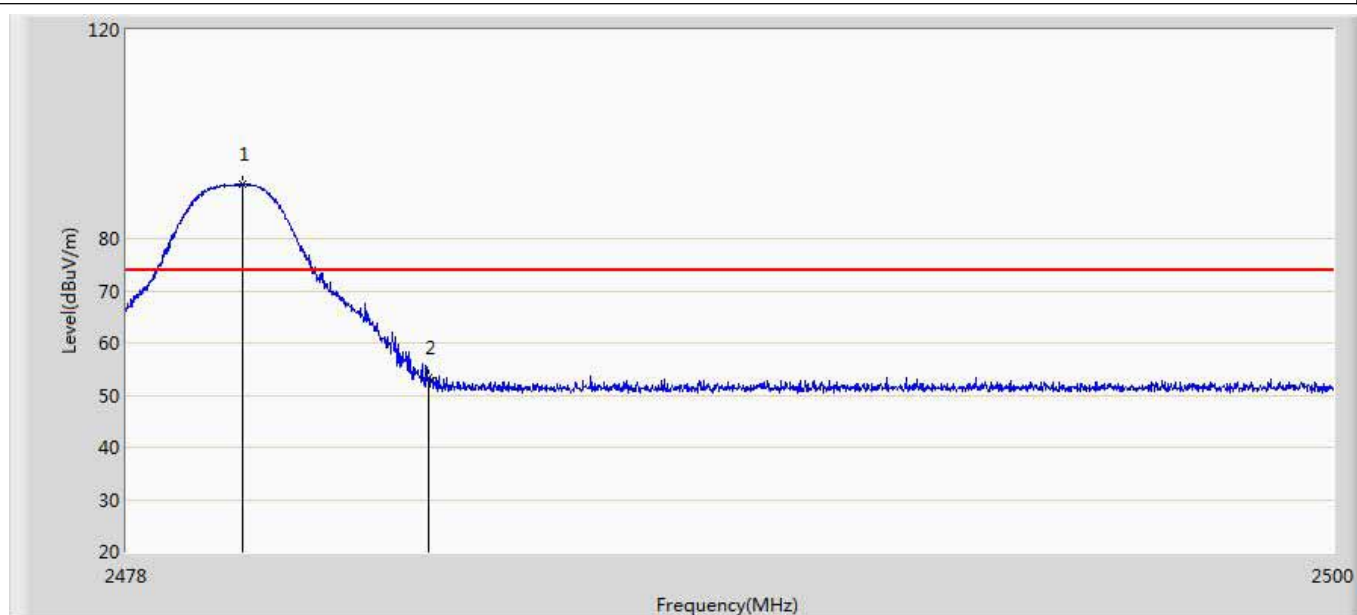
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.809	5.127	-13.191	54.000	35.682	AV
2	*	2402.198	91.333	55.620	37.333	54.000	35.714	AV

Profile: 1972038R	Page No.: 20
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:53
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



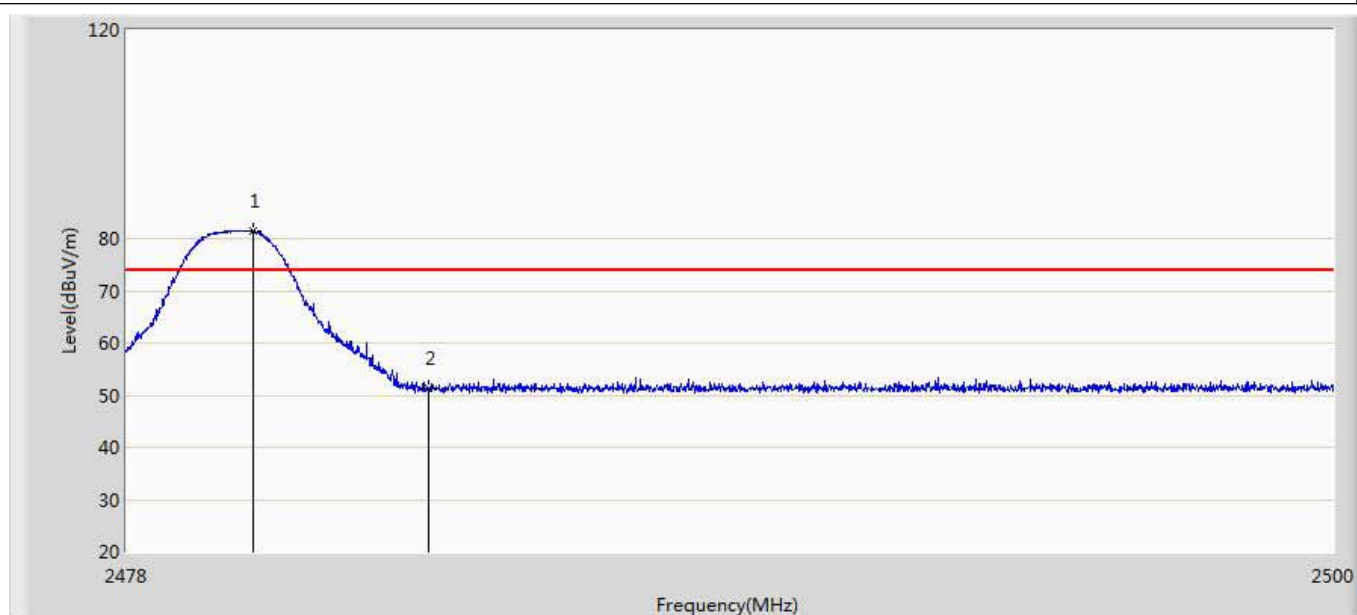
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.176	4.494	-13.824	54.000	35.682	AV
2	*	2401.913	79.164	43.452	25.164	54.000	35.712	AV

Profile: 1972038R	Page No.: 21
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:55
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



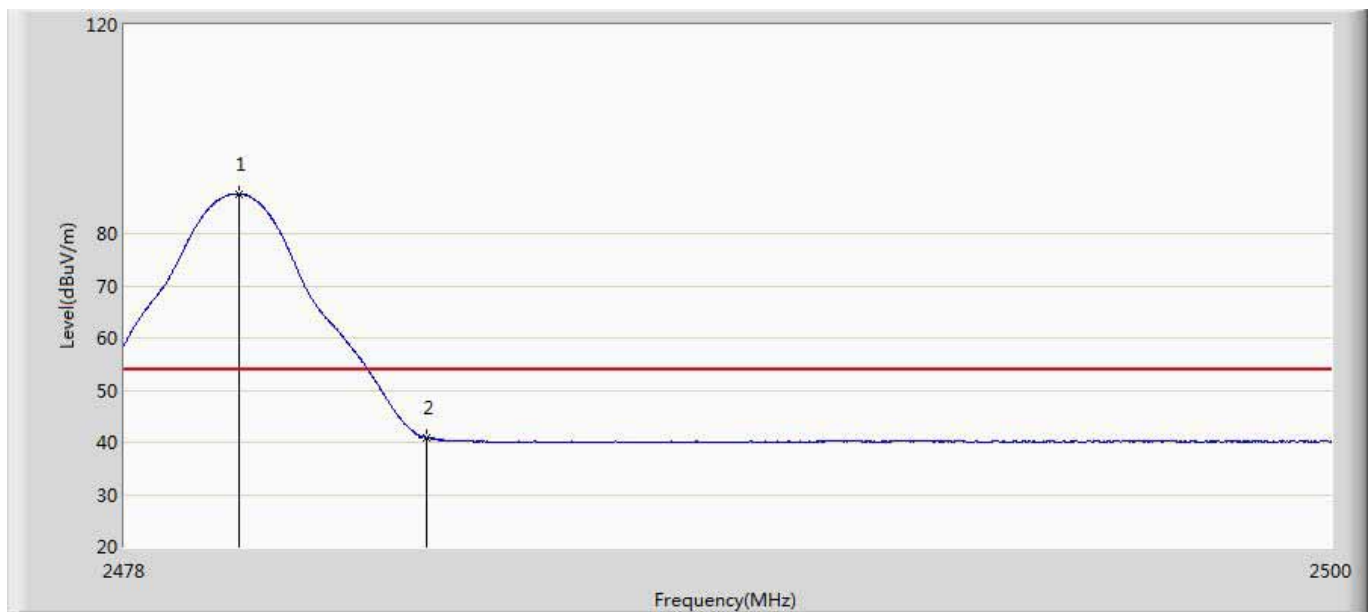
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.112	90.356	54.489	16.356	74.000	35.867	PK
2		2483.500	53.451	17.559	-20.549	74.000	35.891	PK

Profile: 1972038R	Page No.: 22
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 19:58
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



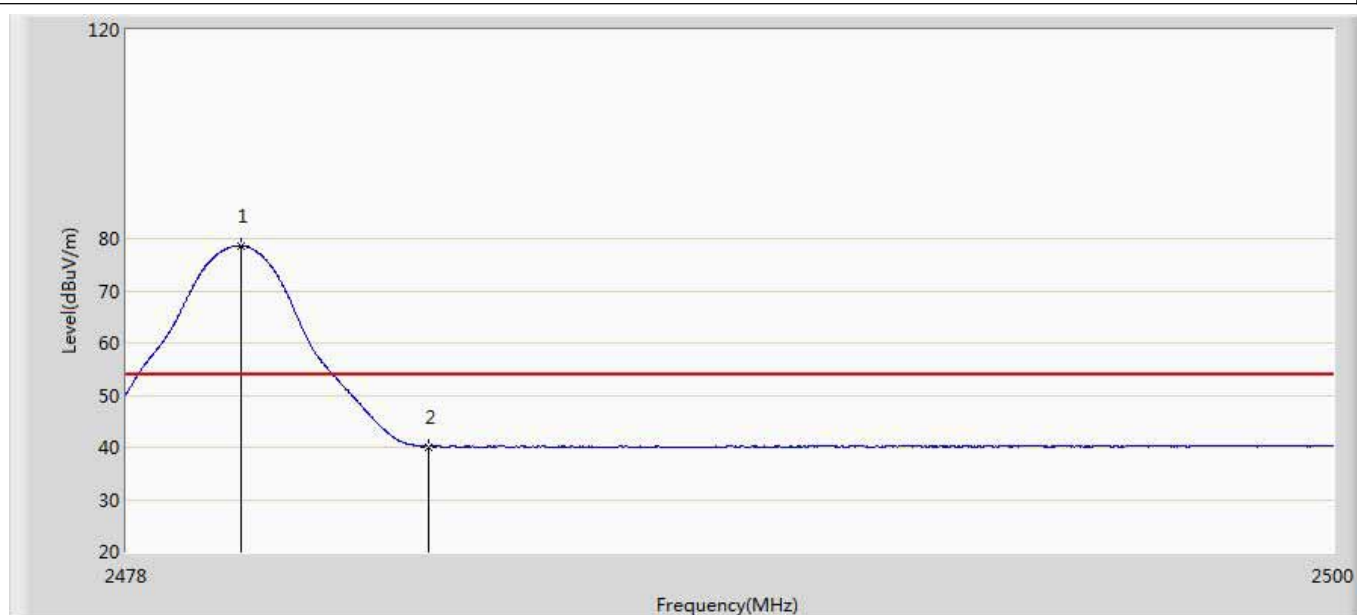
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.299	81.372	45.503	7.372	74.000	35.869	PK
2		2483.500	51.307	15.415	-22.693	74.000	35.891	PK

Profile: 1972038R	Page No.: 23
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 20:00
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	87.585	51.718	33.585	54.000	35.867	AV
2		2483.500	40.934	5.042	-13.066	54.000	35.891	AV

Profile: 1972038R	Page No.: 24
Engineer: Tongben	
Site: AC5	Time: 2019/08/02 - 20:02
Limit: FCC_Part15.247_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: EZ-BT Module	Power: DC 3.3V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	78.627	42.760	24.627	54.000	35.867	AV
2		2483.500	40.126	4.234	-13.874	54.000	35.891	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 _____