Test Report

FCC Part15 Subpart C

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio
Model No.	:	CY8CKIT-143A , CY5676A
FCC ID	:	WAP-CY5676A
IC	:	7922A-CY5676A

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

Date of Receipt	:	May. 18, 2016
Test Date	:	May. 19, 2016~ May 30, 2016
Issued Date	:	May. 31, 2016
Report No.	:	1652071R-RF-US-P06V01
Report Version	:	V1.0

Test Report Certification

Issued Date : May. 31, 2016
Report No. : 1652071R-RF-US-P06V01

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio
Applicant	:	Cypress Semiconductor
Address	:	198 Champion Ct, San Jose, California 95134 United States
Manufacturer	:	Wujiang Sigmatron Electronics Co., Ltd
Address	:	386 Huahong Rd, Wujiang, Suzhou, Jiangsu, China
Model No.	:	CY8CKIT-143A , CY5676A
FCC ID	:	WAP-CY5676A
IC	:	7922A-CY5676A
EUT Voltage	:	DC 1.9V to 5.5V
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C: 2015 ANSI C63.4:2014; ANSI C63.10:2013; KDB 558074 D01v03r05 Industry Canada RSS-Gen Issue 4 / RSS-247 Issue 1
Test Result	:	Complied
Performed Location	:	Quietek Corporation - Suzhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392; IC Lab Code: 4075B

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(Senior Engineer: Jack Zhang)

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

Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
USA	**:**	**FCC**
Japan	**:**	**VCCI**
China	**:**	**CNAS**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://www.quietek.com/english/about/certificates.aspx?bval=5
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1652071R-RF-US-P06V01	V1.0	Initial Issued Report	May. 31, 2016

1. General Information

1.1. EUT Description

Product Name	BLE 256KB Module with Bluetooth 4.2 Radio
Model No.	CY8CKIT-143A
Working Voltage	DC 1.9V to 5.5V
Bluetooth Specification	V4.2
Frequency Range	2402- 2480 MHz
Channel Number	V4.2: 40
Channel Separation	V4.2: 2MHz
Type of Modulation	V4.2: GFSK
Data Rate	V4.2: 1Mbps(GFSK)
Model No.	CY5676A
Working Voltage	DC 1.9V~5.5V
Bluetooth Specification	V4.2
Frequency Range	2402- 2480 MHz
Channel Number	V4.2: 40
Channel Separation	V4.2: 2MHz
Type of Modulation	V4.2: GFSK
Data Rate	V4.2: 1Mbps(GFSK)
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

Note: 1. Modules CY8CKIT-143A and CY5676A have the same PCB, periphery parts and the encapsulation of the main chip.

2. The difference of two modules is BLE chip part number.

3. Both of the models were tested, and only the worst data are showed in the report.

1.2. Working Frequency of Each Channel:

Bluetooth Working Frequency of Each Channel: (For BLE)							
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

Model No.	N/A						
Antenna manufacturer	N//A						
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX	
Antenna technology	☒	SISO					
	☐	MIMO	☐	Basic			
			☐	CDD			
			☐	Beam-forming			
Antenna Type	☐	External	☐	Dipole			
	☒	Internal	☐	PIFA			
			☒	PCB			
			☐	Ceramic Chip Antenna			
			☐	Metal plate type F antenna			
Antenna Gain	1.6dBi						

1.4. Mode of Operation

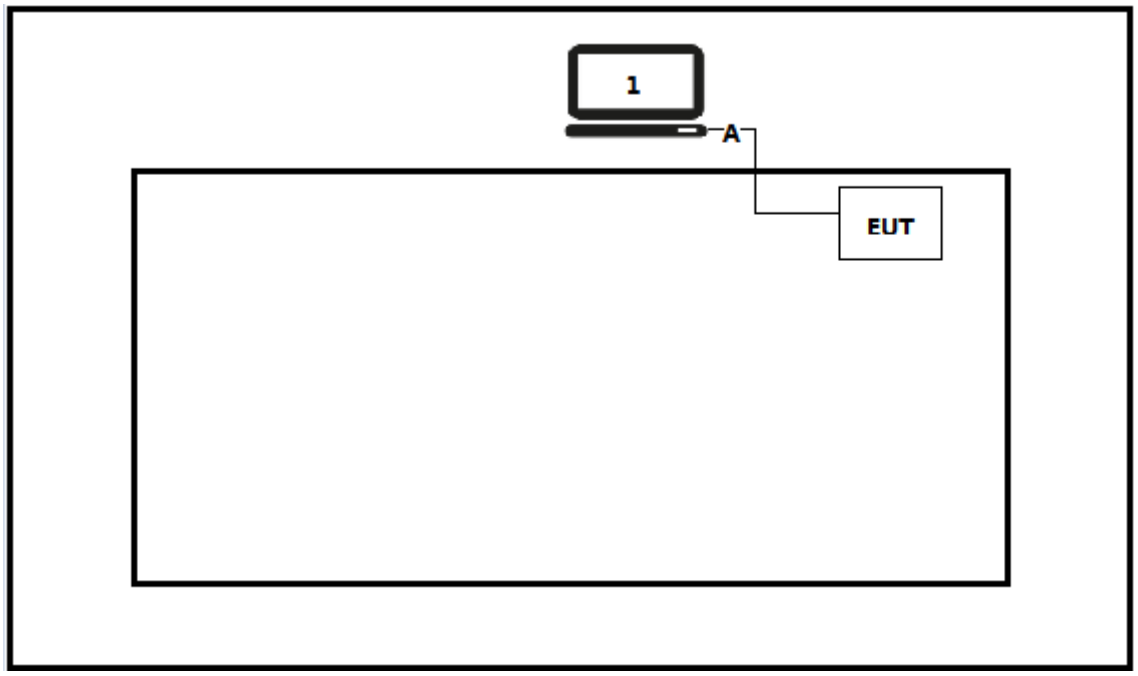
Test Mode
Mode 1: Transmit-1Mbps(GFSK_BLE)

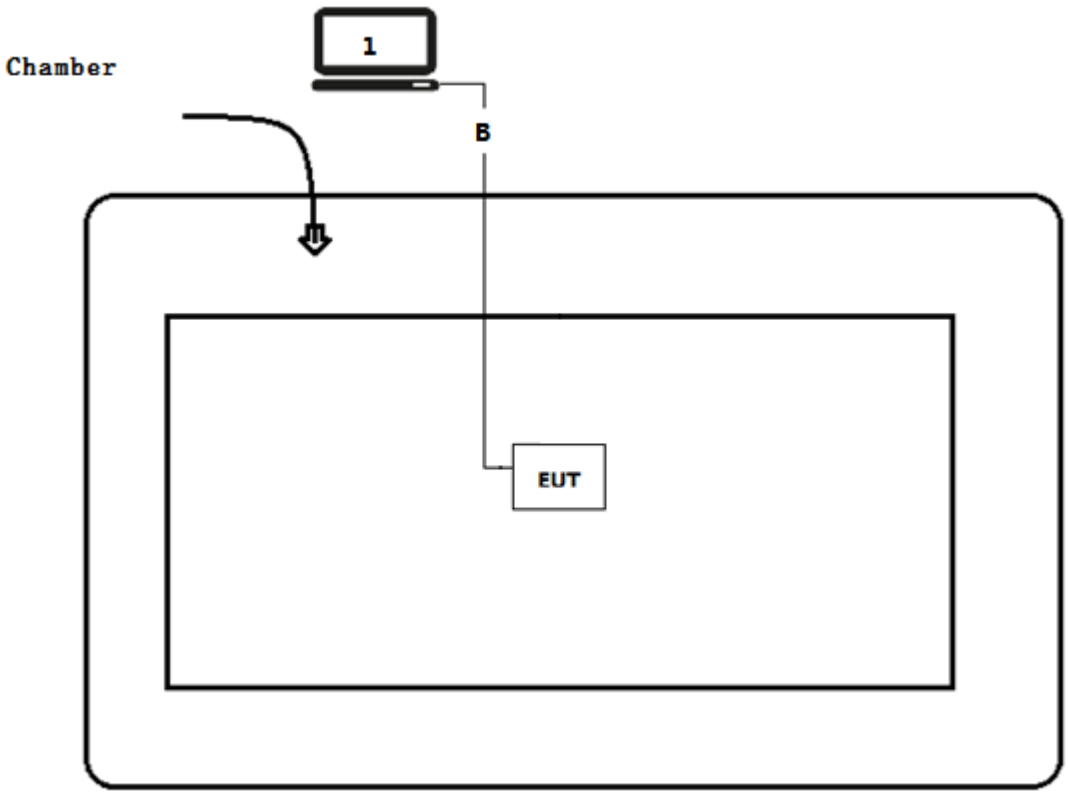
1.5. Tested System Details

The types for all equipments, 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

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 the RF test software, and set the test mode and channel, then press OK to start continue receive.

2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Worst case mode	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	Mode 1	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	Mode 1	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(d)	Mode 1	≥20dBc	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	Mode 1	FCC 15.209	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(2)	Mode 1	≥500kHz	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(3)	Mode 1	≤30dBm	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(e)	Mode 1	≤8dBm/3kHz	PASS

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

2.2. Test Frequency configuration:

Bluetooth Working Frequency of Each Channel: (For BLE)							
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
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32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

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

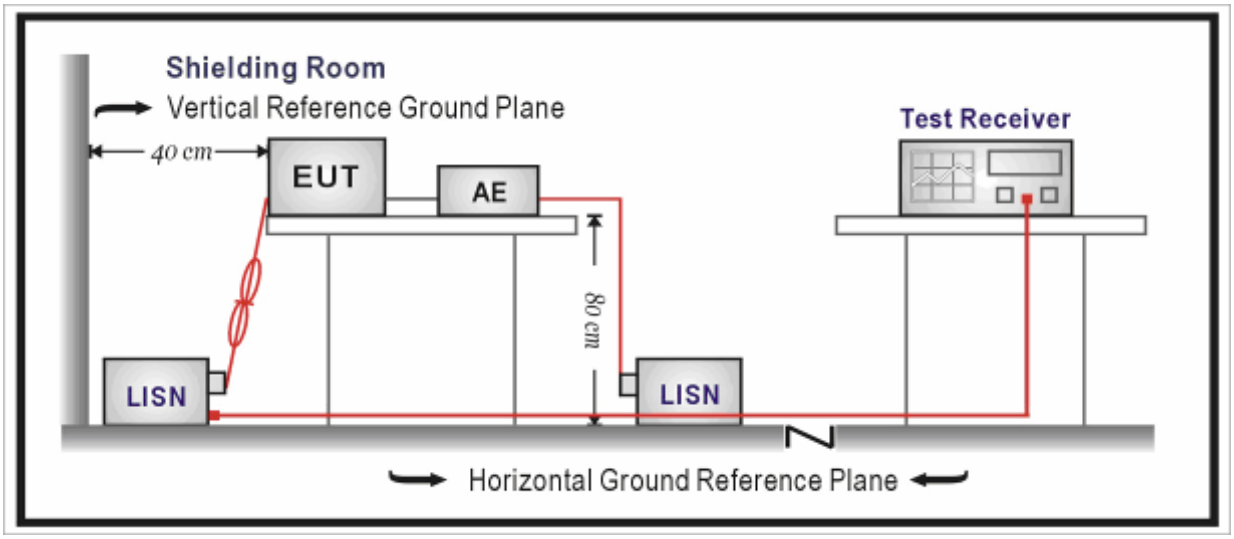
3. AC Power Line Conducted Emission

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	100726	2016.03.05	2017.03.04
Two-Line V-Network	R&S	ENV216	100043	2016.03.29	2017.03.28
Two-Line V-Network	R&S	ENV216	100044	2015.09.17	2016.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2016.03.02	2017.03.01
50ohm Termination	SHX	TF2	07081401	2015.09.17	2016.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup

AC Power Line Conducted Emission test setup



3.3. Limit

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

3.4. Test Procedure

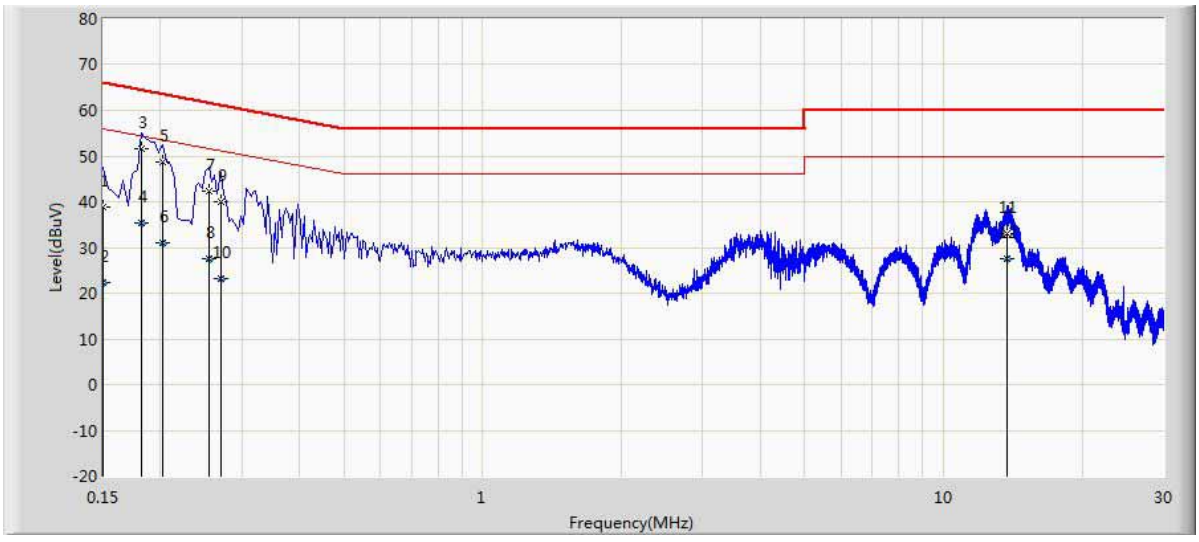
Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Polarity	:	Line
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 1

No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Detector
1	0.150	38.957	29.336	-27.043	66.000	9.621	QP
2	0.150	22.413	12.793	-33.587	56.000	9.621	AV
3	0.182	51.552	41.933	-12.842	64.394	9.619	QP
4	0.182	35.276	25.657	-19.118	54.394	9.619	AV
5	0.202	48.785	39.162	-14.743	63.528	9.622	QP
6	0.202	30.969	21.347	-22.559	53.528	9.622	AV
7	0.254	42.179	32.558	-19.446	61.625	9.621	QP
8	0.254	27.436	17.815	-24.189	51.625	9.621	AV
9	0.270	39.901	30.278	-21.217	61.118	9.623	QP
10	0.270	23.304	13.681	-27.814	51.118	9.623	AV
11	13.734	32.972	23.083	-27.028	60.000	9.889	QP
12	13.734	27.560	17.671	-22.440	50.000	9.889	AV

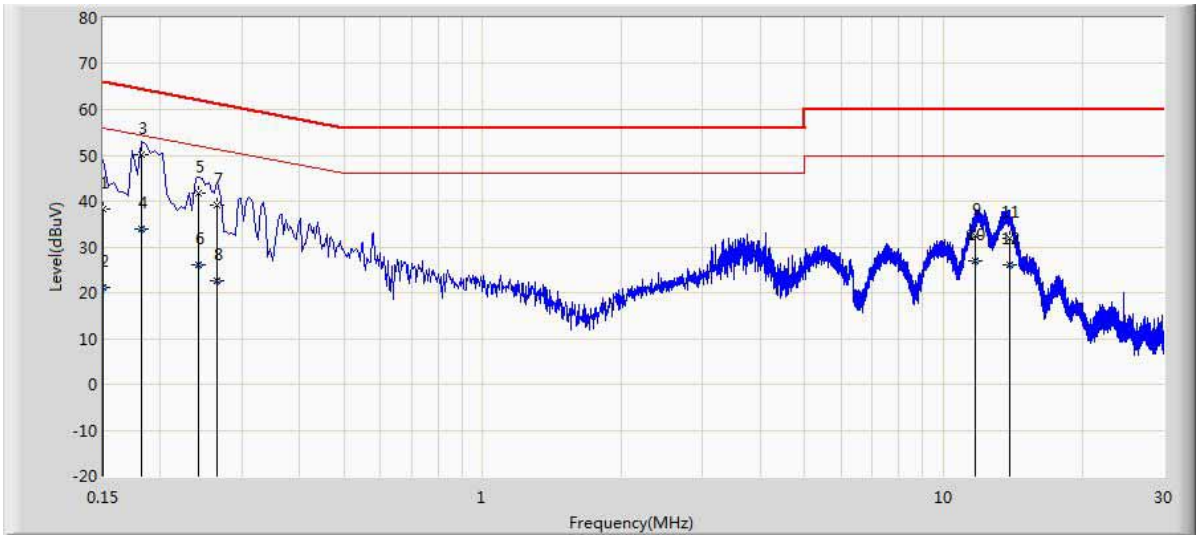
Polarity: Line



Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Polarity	:	Neutral
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 1

No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Detector
1	0.150	38.181	28.580	-27.819	66.000	9.601	QP
2	0.150	21.234	11.633	-34.766	56.000	9.601	AV
3	0.182	50.235	40.636	-14.159	64.394	9.599	QP
4	0.182	34.034	24.435	-20.360	54.394	9.599	AV
5	0.242	41.666	32.065	-20.361	62.027	9.601	QP
6	0.242	25.985	16.384	-26.042	52.027	9.601	AV
7	0.266	39.217	29.612	-22.025	61.242	9.606	QP
8	0.266	22.485	12.880	-28.756	51.242	9.606	AV
9	11.730	32.366	22.499	-27.634	60.000	9.867	QP
10	11.730	26.875	17.008	-23.125	50.000	9.867	AV
11	13.890	31.787	21.894	-28.213	60.000	9.893	QP
12	13.890	26.169	16.276	-23.831	50.000	9.893	AV

Polarity: Neutral



4. Emissions in restricted frequency bands

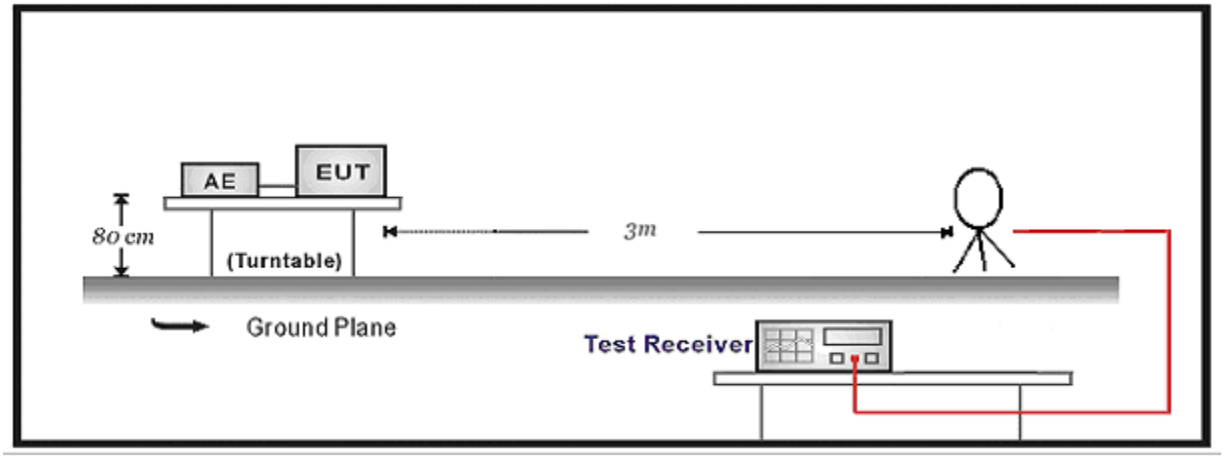
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.05	2017.03.04
Loop Antenna	R&S	HFH2-Z2	833799/003	2015.11.16	2016.11.17
Bilog Chainenna	Teseq GmbH	CBL6112D	27611	2015.10.16	2016.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

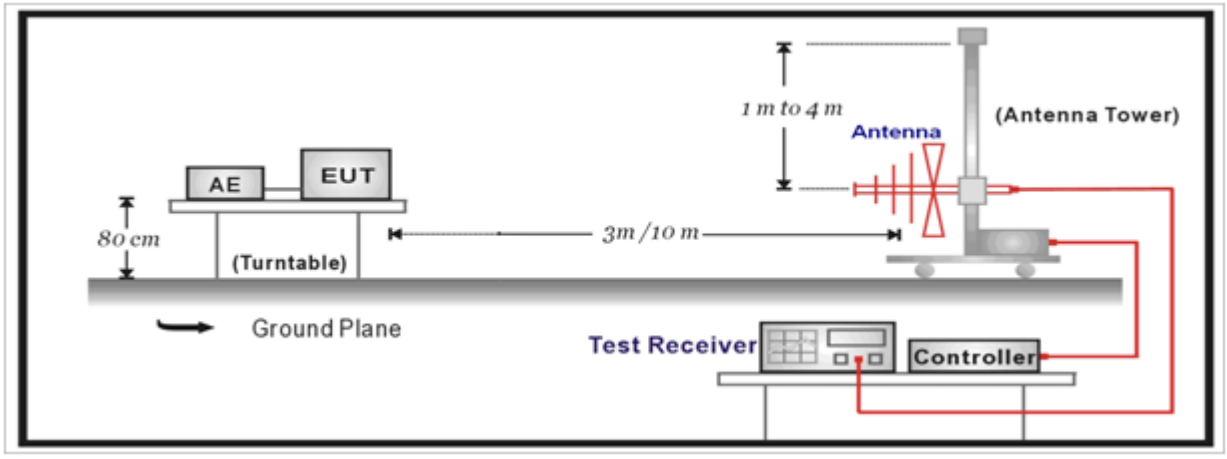
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2015.06.10	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

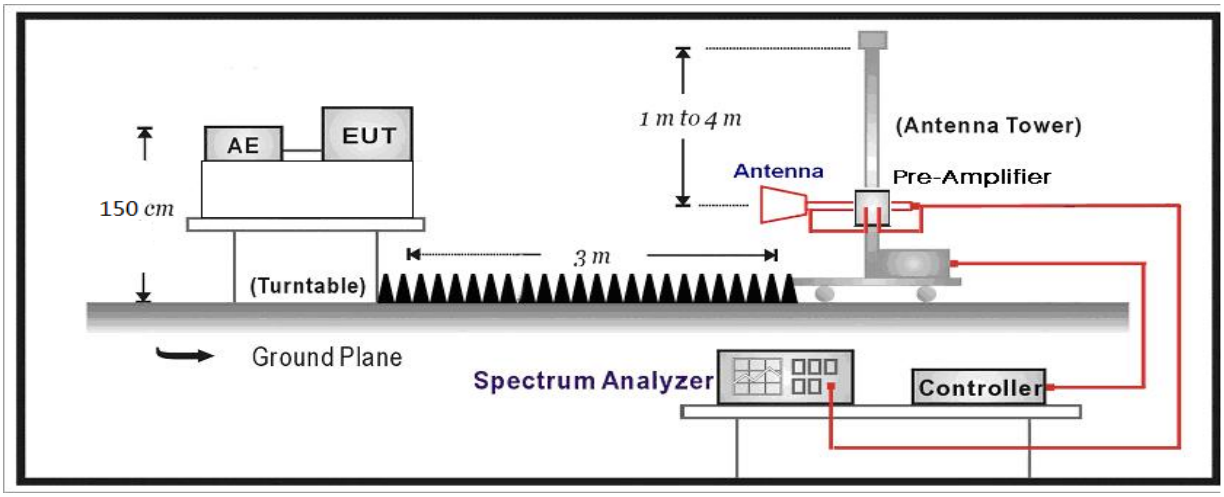
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

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			

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)

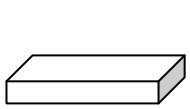
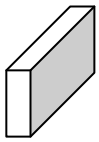
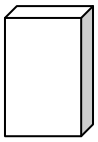
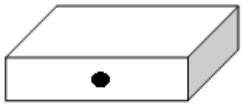
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

4.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Emissions in non-restricted frequency bands</td></tr>
<tr><td rowspan="2">Device Category</td><td>☐</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☒</td><td colspan="3">Mobile position use</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 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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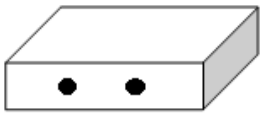
<tr><td rowspan="2"></td><td colspan="3">  </td></tr>
<tr><td>Worst Chain ☐</td><td colspan="2">Worst Chain ☐</td></tr>
<tr><td>☐</td><td>Chain 0</td><td>Chain 1</td><td>Chain 2</td></tr>
<tr><td rowspan="2"></td><td colspan="3">  </td></tr>
<tr><td>Worst Chain ☐</td><td>Worst Chain ☐</td><td>Worst Chain ☐</td></tr>
</table>

4.6. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	AC-5

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dB μV/m)	Reading Level (dBV/m)	Over Limit (dB)	Limit (dB μV/m)	Factor (dB)	Detector
Ant 0	0	H	4804.000	48.461	40.480	-5.539	54(Note3)	7.981	PK
		H	7206.000	45.907	33.103	-8.093	54(Note3)	12.803	PK
		H	9608.000	46.197	30.128	-7.803	54(Note3)	16.069	PK
		V	4804.000	47.434	39.453	-6.566	54(Note3)	7.981	PK
		V	7206.000	44.801	31.997	-9.199	54(Note3)	12.803	PK
		V	9608.000	46.762	30.693	-7.238	54(Note3)	16.069	PK
	19	H	4880.000	48.024	39.840	-5.976	54(Note3)	8.184	PK
		H	7320.000	48.506	35.628	-5.494	54(Note3)	12.878	PK
		H	9760.000	46.325	30.244	-7.675	54(Note3)	16.081	PK
		V	4880.000	47.161	38.977	-6.839	54(Note3)	8.184	PK
		V	7320.000	44.899	32.021	-9.101	54(Note3)	12.878	PK
		V	9760.000	46.410	30.329	-7.590	54(Note3)	16.081	PK
	39	H	4960.000	46.968	38.429	-7.032	54(Note3)	8.539	PK
		H	7440.000	53.525	40.305	-0.475	54(Note3)	13.219	PK
		H	9920.000	46.513	30.450	-7.487	54(Note3)	16.062	PK
		V	4960.000	46.435	37.896	-7.565	54(Note3)	8.539	PK
		V	7440.000	47.058	33.838	-6.942	54(Note3)	13.219	PK
		V	9920.000	46.025	29.962	-7.975	54(Note3)	16.062	PK

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

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

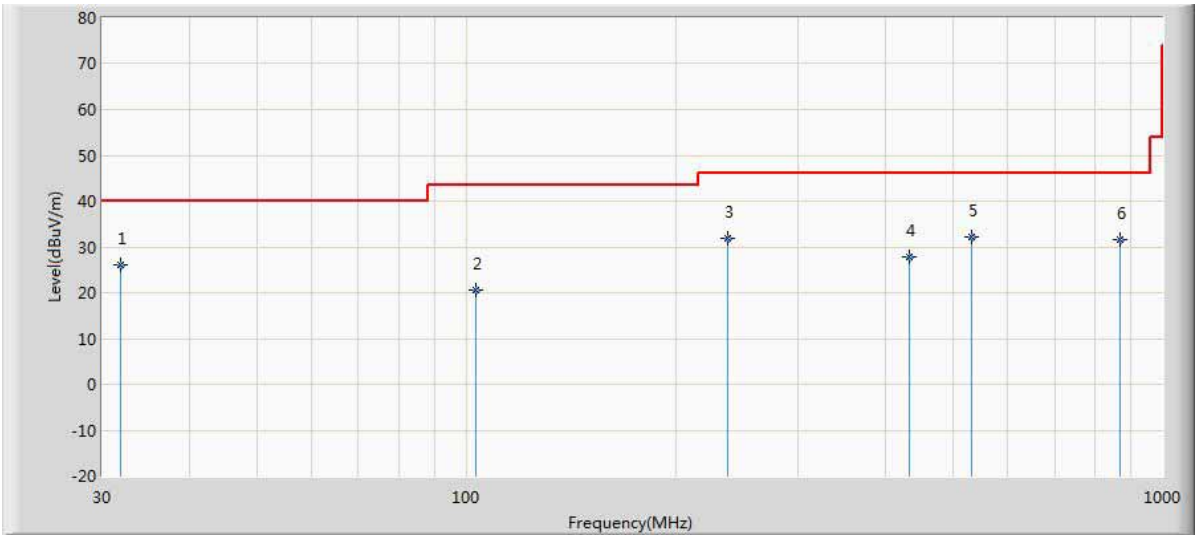
Note: 3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Note: 4. The RBW set up, see Clause 6.6.

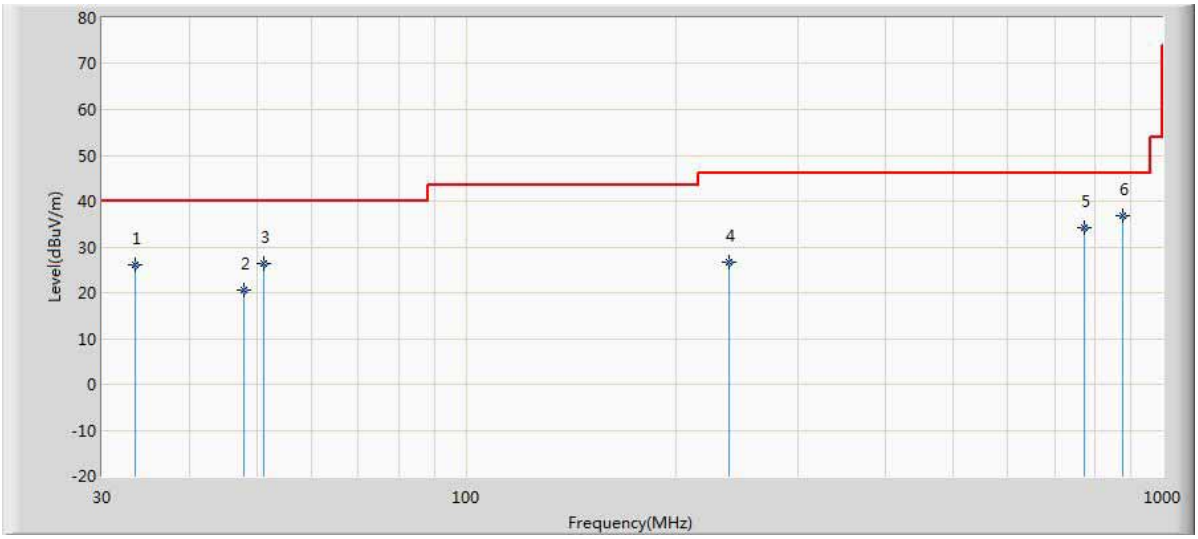
The worst case of Radiated Emission below 1GHz:

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dB μ V/m)	Factor (dB)	Measure Level (dB μ V/m)	Limit (dB μ V/m)	Over Limit (dB)	Detector
Ant 0	0	H	31.834	-0.656	26.884	26.227	40.000	-13.773	QP
		H	103.075	4.182	16.478	20.659	43.500	-22.841	QP
		H	237.959	14.200	17.728	31.928	46.000	-14.072	QP
		H	432.117	1.218	26.541	27.759	46.000	-18.241	QP
		H	531.798	5.392	26.763	32.155	46.000	-13.845	QP
		H	867.874	-0.330	31.857	31.527	46.000	-14.473	QP
		V	33.444	3.136	22.993	26.129	40.000	-13.871	QP
		V	47.986	2.706	18.019	20.724	40.000	-19.276	QP
		V	51.169	8.500	17.940	26.439	40.000	-13.561	QP
		V	238.038	3.619	23.080	26.699	46.000	-19.301	QP
		V	771.779	1.994	32.348	34.342	46.000	-11.658	QP
		V	878.274	4.045	32.836	36.880	46.000	-9.120	QP
Note 1: The worst case of Radiated Emission below 1GHz									

Polarity: Horizontal



Polarity: Vertical



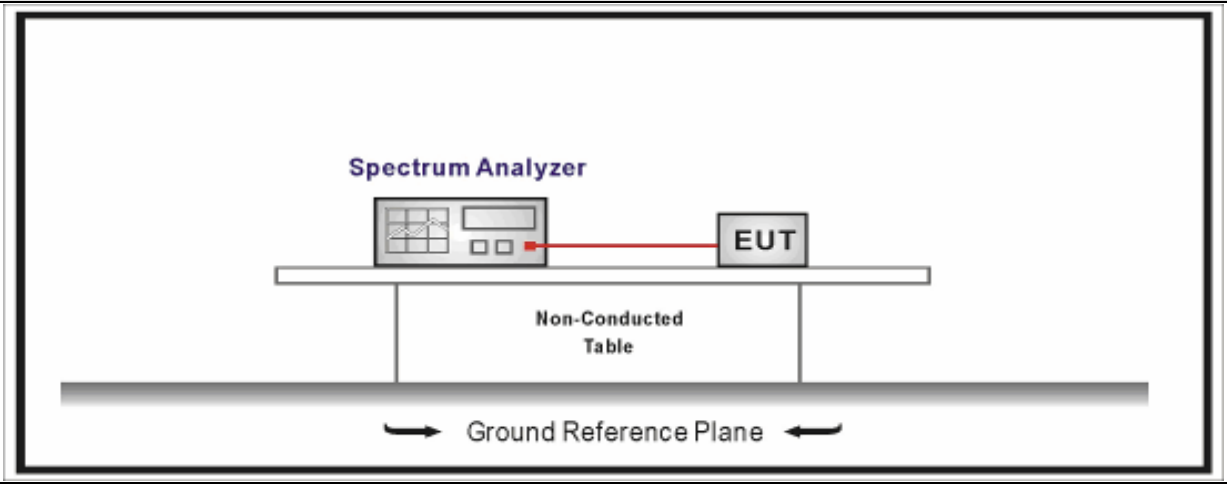
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

Occupied Bandwidth 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)

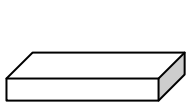
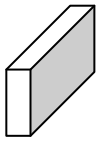
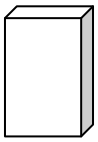
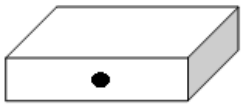
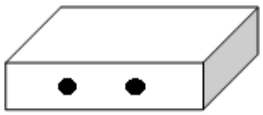
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

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="2">Device Category</td><td>☐</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☒</td><td colspan="3">Mobile position use</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 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td colspan="2">Chain 1</td></tr>
<tr><td rowspan="2"></td><td colspan="3">  </td></tr>
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<tr><td rowspan="2"></td><td colspan="3">  </td></tr>
<tr><td>Worst Chain ☐</td><td>Worst Chain ☐</td><td>Worst Chain ☐</td></tr>
</table>

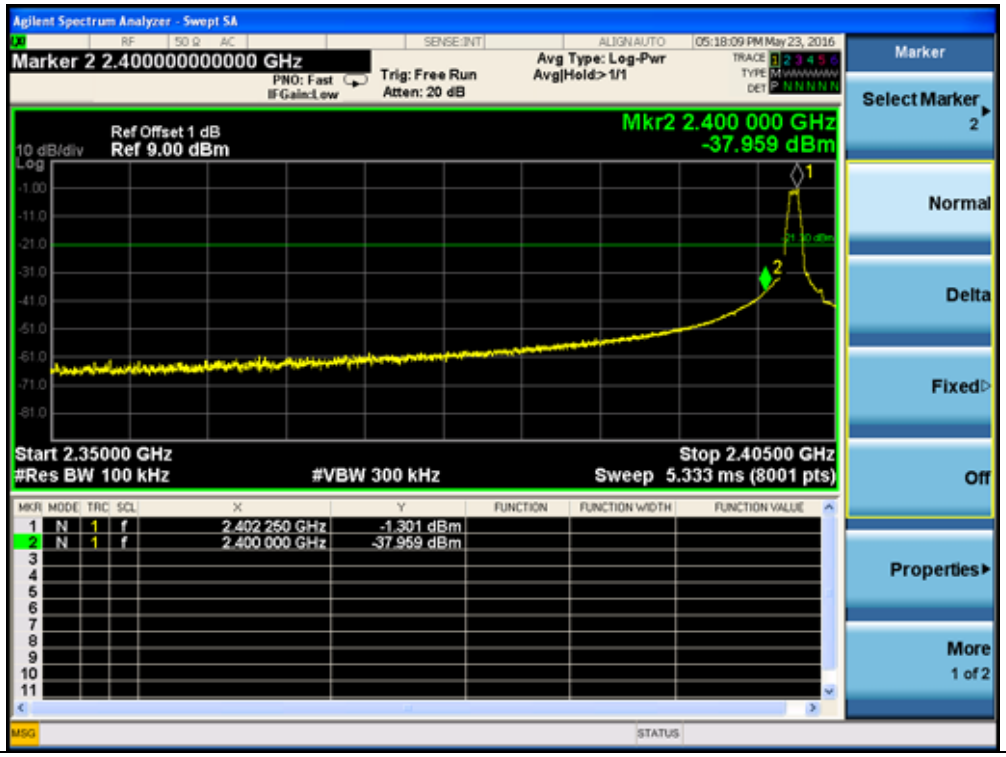
5.6. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

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	-1.301	2400.00	-37.959	36.658	>20	Pass
1	39	2480	1.494	2500	-56.940	55.446	>20	Pass

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

Mode 1 CH39 (2480MHz)

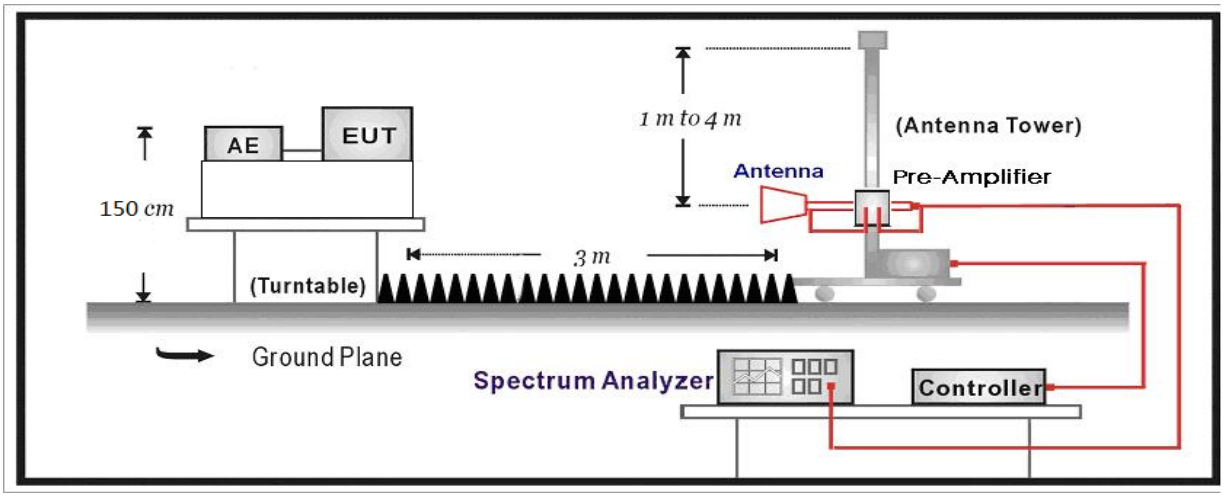


6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2015.06.10	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

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
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6.5. EUT test definition

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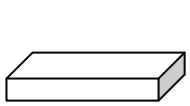
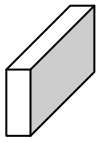
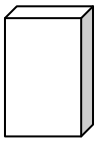
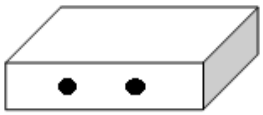
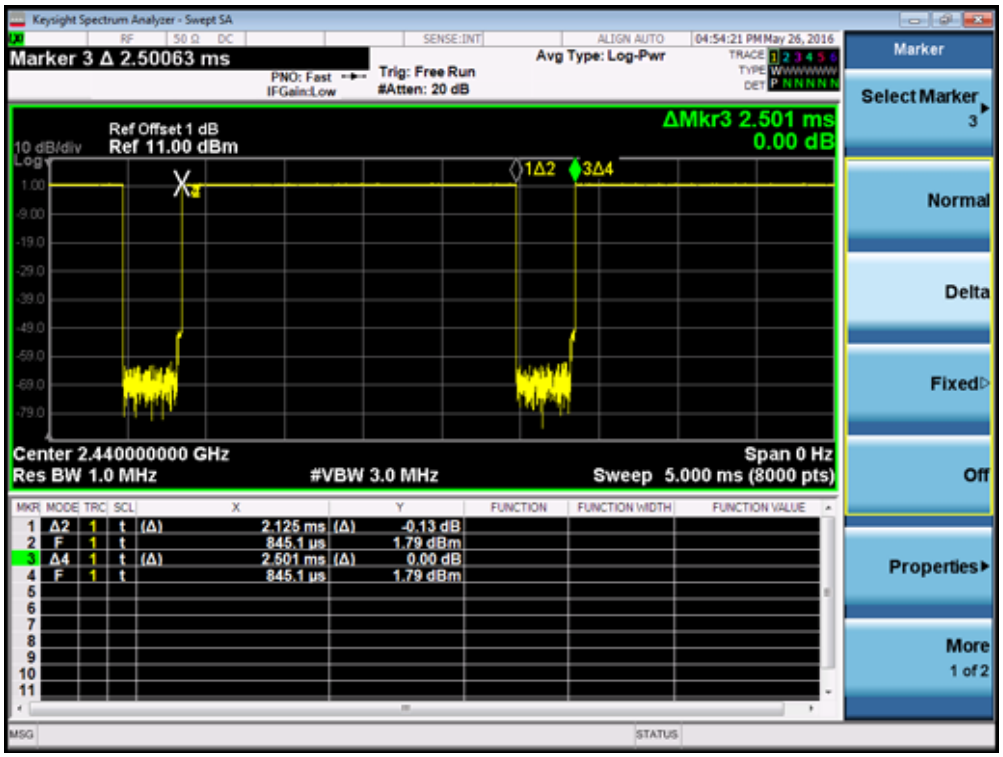
<tr><td rowspan="11">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td colspan="2">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td>Chain 1</td><td>Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Duty Cycle

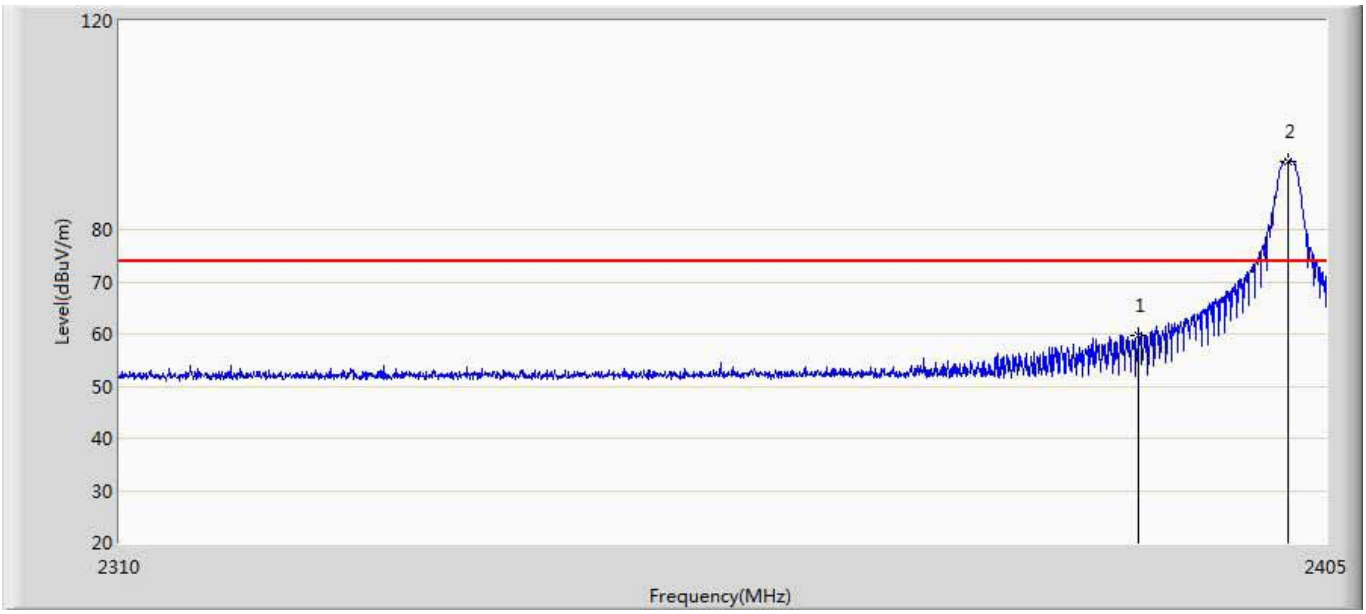
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (kHz)	Tx On + Tx Off (ms)	Duty Cycle
BLE	2.125	0.376	0.47	2.501	85.0%

BLE



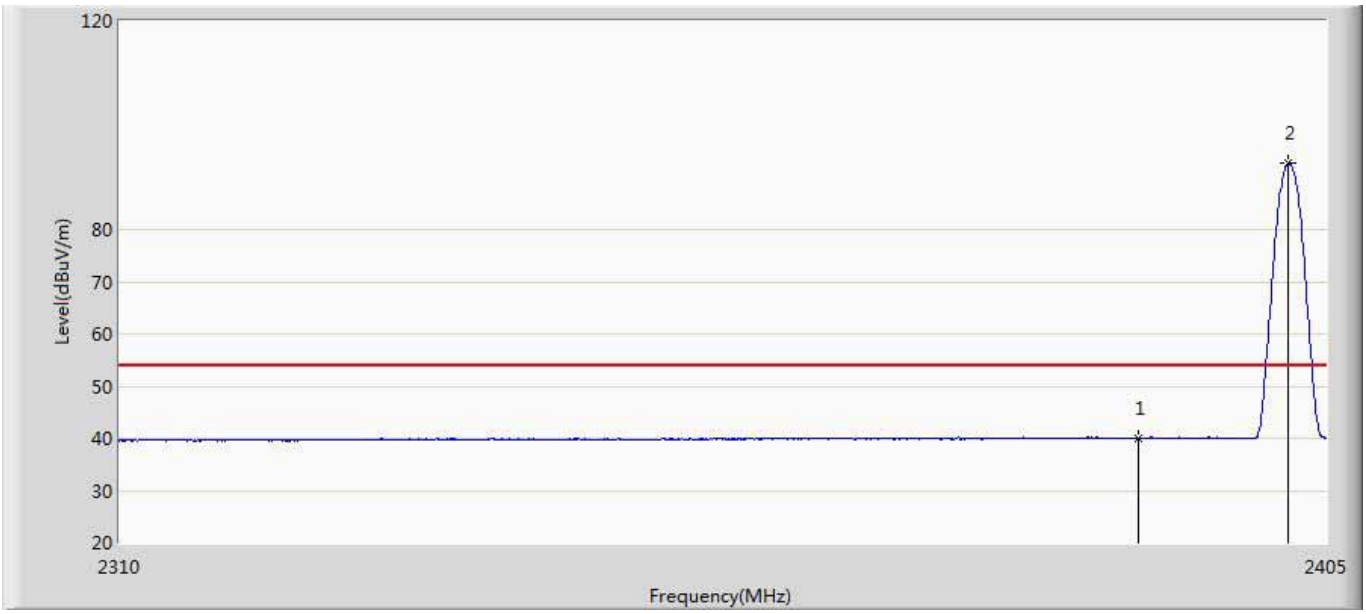
6.7 Test Result

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2402Mhz by BLE	



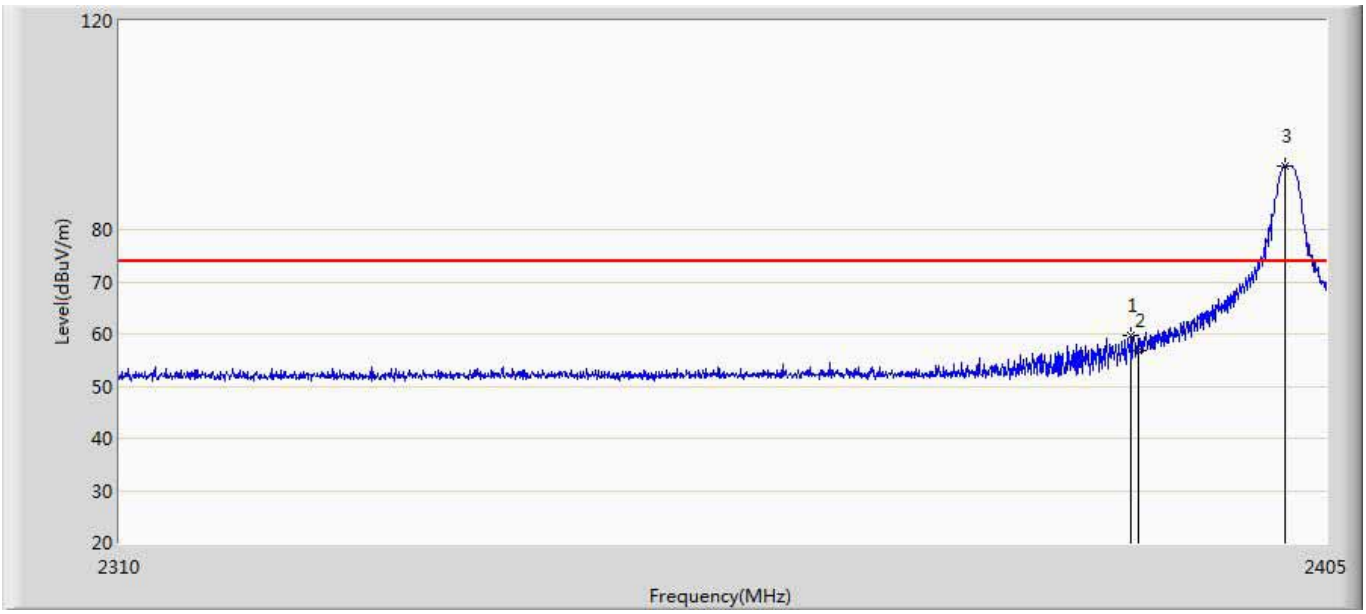
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.780	22.425	-14.220	74.000	37.355	PK
2	*	2401.913	93.142	55.800	N/A	N/A	37.342	PK

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2402Mhz by BLE	



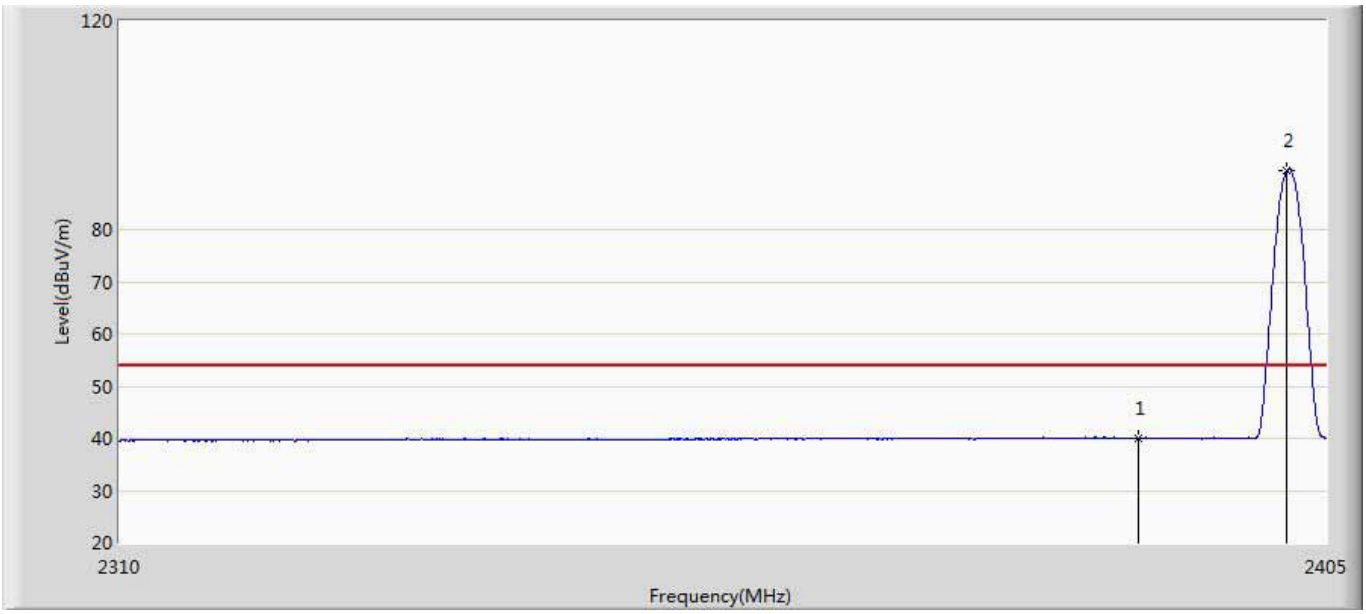
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.074	2.719	-13.926	54.000	37.355	AV
2	*	2402.008	92.842	55.500	N/A	N/A	37.341	AV

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2402Mhz by BLE	



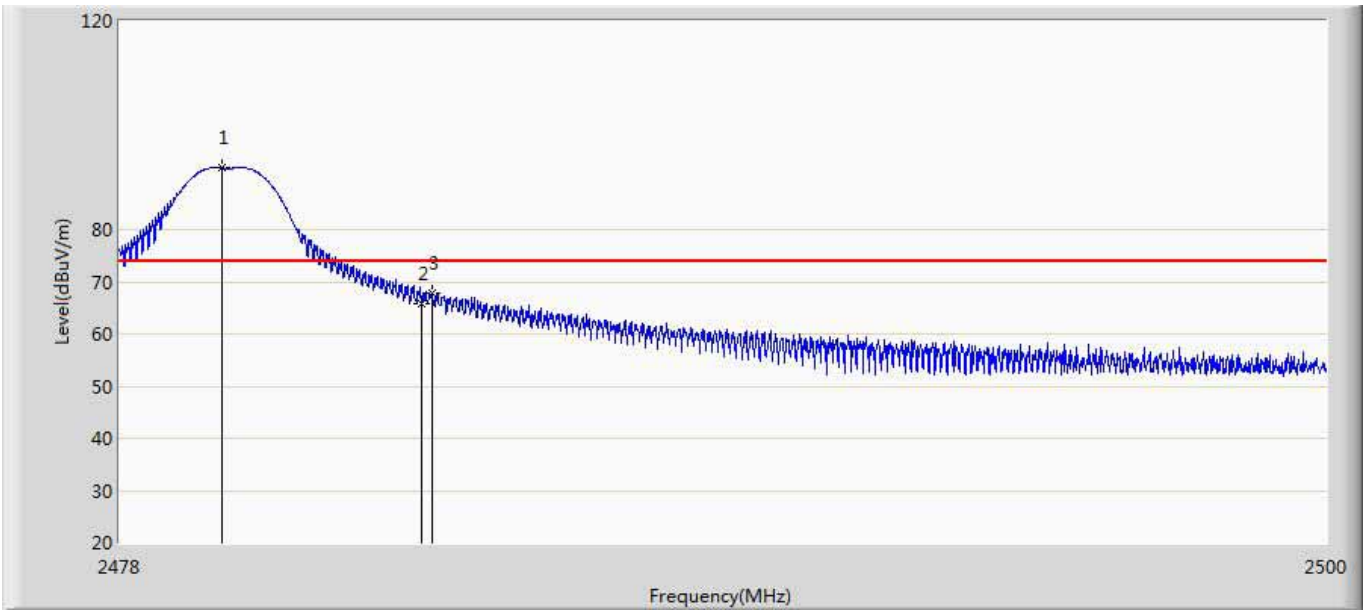
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.325	59.759	22.403	-14.241	74.000	37.355	PK
2		2390.000	56.890	19.535	-17.110	74.000	37.355	PK
3	*	2401.722	92.213	54.871	N/A	N/A	37.342	PK

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2402Mhz by BLE	



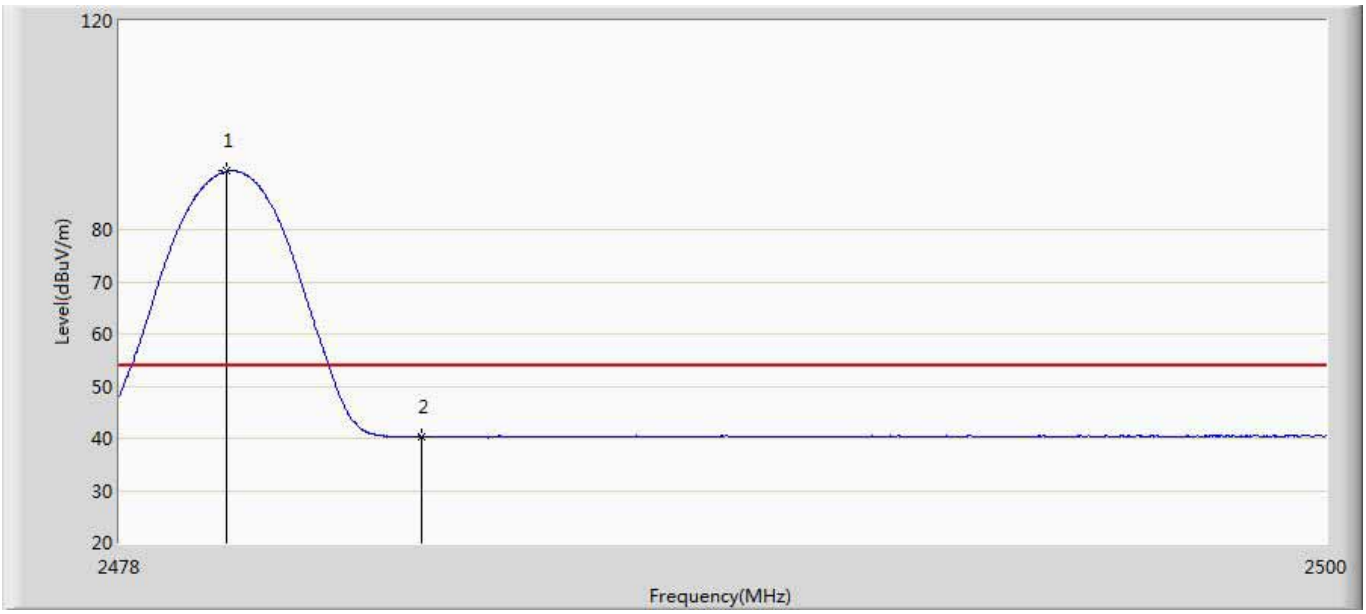
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.032	2.677	-13.968	54.000	37.355	AV
2	*	2401.865	91.342	54.000	N/A	N/A	37.342	AV

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2480Mhz by BLE	



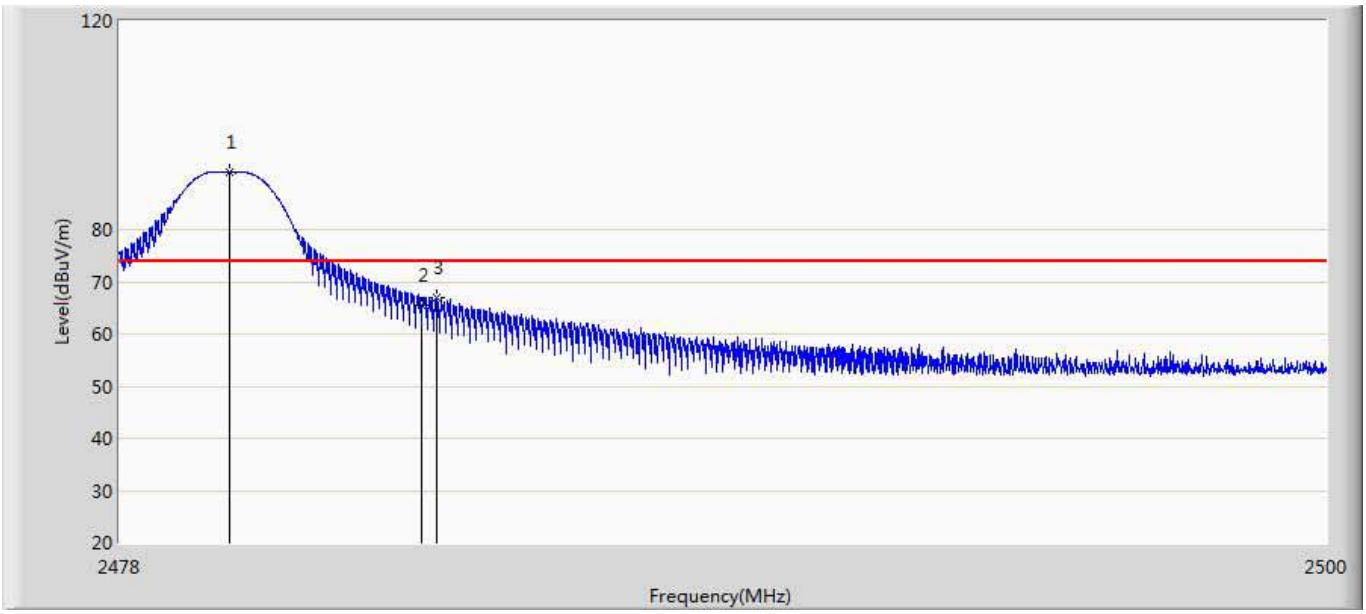
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.870	91.771	54.286	N/A	N/A	37.485	PK
2		2483.500	65.915	28.404	-8.085	74.000	37.511	PK
3		2483.687	67.901	30.388	-6.099	74.000	37.513	PK

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2480Mhz by BLE	



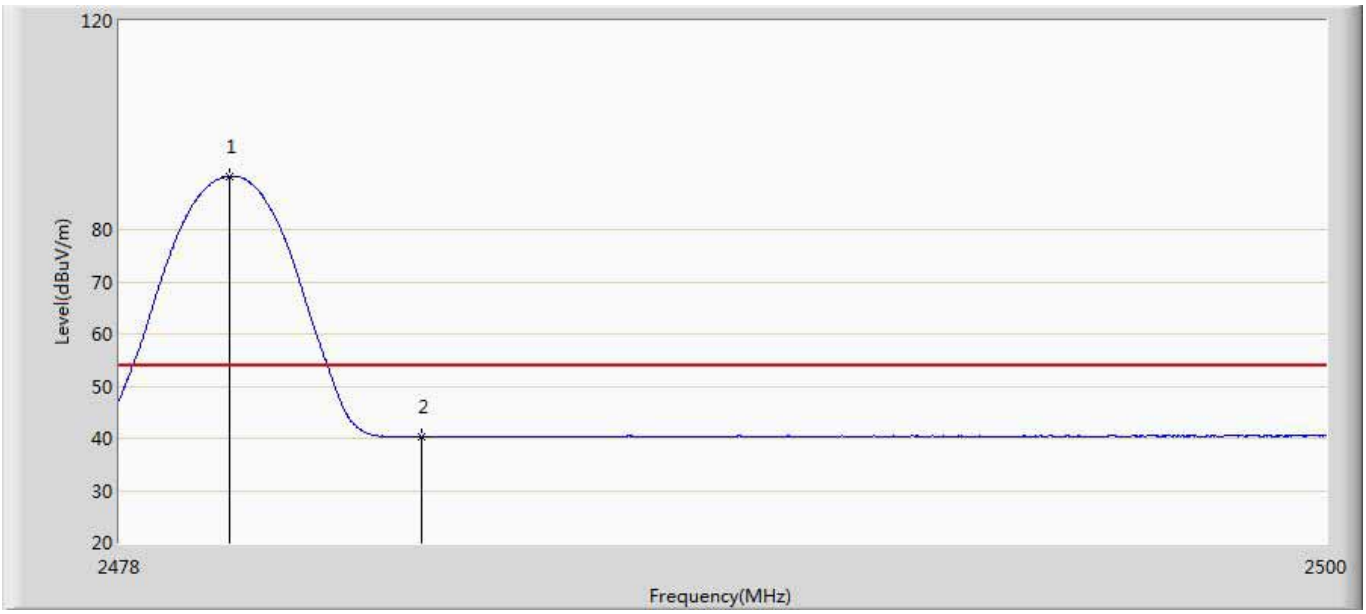
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	91.166	53.680	N/A	N/A	37.486	AV
2		2483.500	40.305	2.794	-13.695	54.000	37.511	AV

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2480Mhz by BLE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.002	90.994	53.508	N/A	N/A	37.486	PK
2		2483.500	65.416	27.905	-8.584	74.000	37.511	PK
3		2483.764	66.951	29.438	-7.049	74.000	37.514	PK

Engineer: Scott	
Site: AC5	Time: 2016/05/24 - 10:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:BLE 256KB Module with Bluetooth 4.2 Radio	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2480Mhz by BLE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	90.265	52.779	N/A	N/A	37.486	AV
2		2483.500	40.176	2.665	-13.824	54.000	37.511	AV

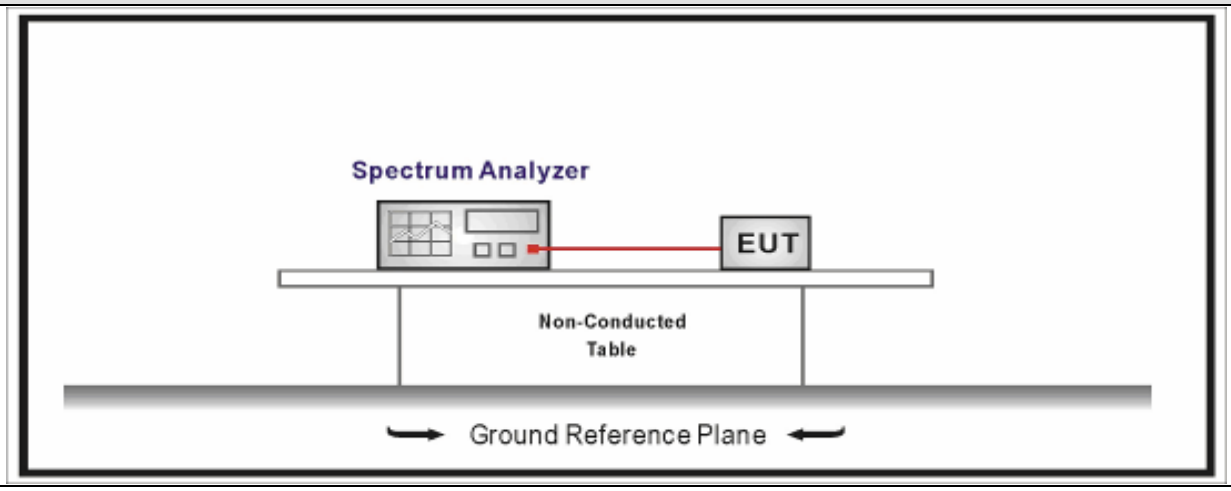
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Occupied Bandwidth test setup:



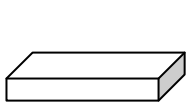
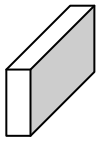
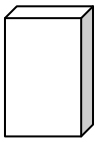
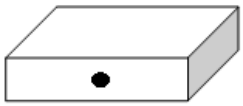
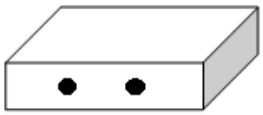
7.3. Limit

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="2">Device Category</td><td>☐</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☒</td><td colspan="3">Mobile position use</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 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td colspan="2">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td>Chain 1</td><td>Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

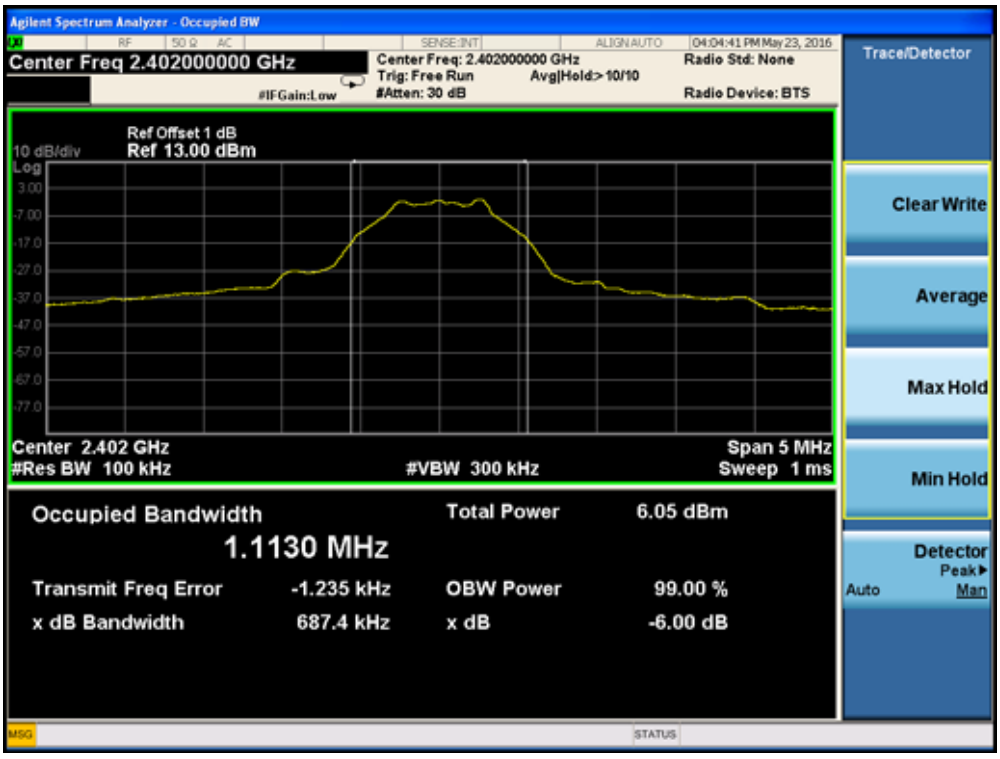
7.6. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Test Power	:	AC 120V/60Hz
Test Site	:	TR-8			

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402	1113.0	687.4	>500	Pass
1	19	2440	1110.1	695.0	>500	Pass
1	39	2480	1107.2	692.2	>500	Pass

Note : The worst case of Occupied Bandwidth as below:

Mode 1 CH00 (2402MHz)



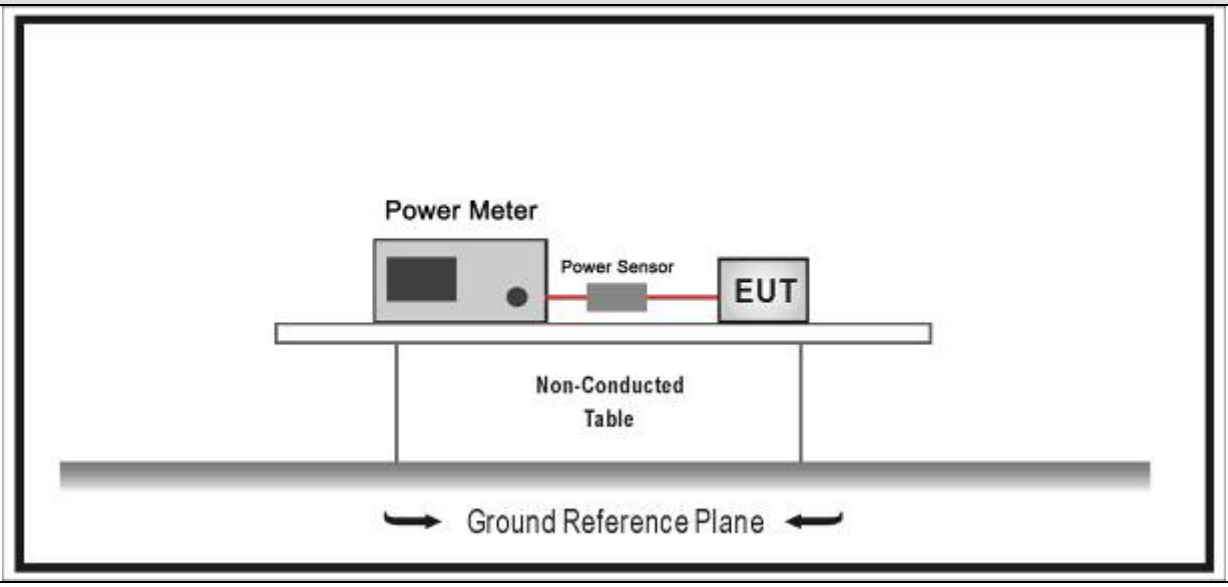
8. Fundamental emission output power

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	2016.01.04	2017.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2015.11.11	2016.11.10
Power Sensor	Anritsu	MA2411B	0846014	2015.11.11	2016.11.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Fundamental emission output power test setup



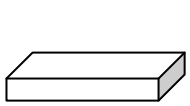
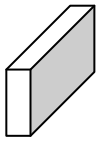
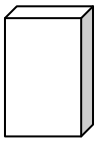
8.3. Limit

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="2">Device Category</td><td>☐</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☒</td><td colspan="3">Mobile position use</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>
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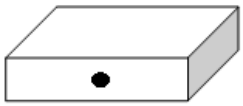
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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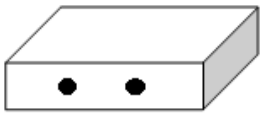
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td>Chain 1</td><td>Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
1	00	2402	-0.42	30	Pass
1	19	2440	2.44	30	Pass
1	39	2480	2.22	30	Pass

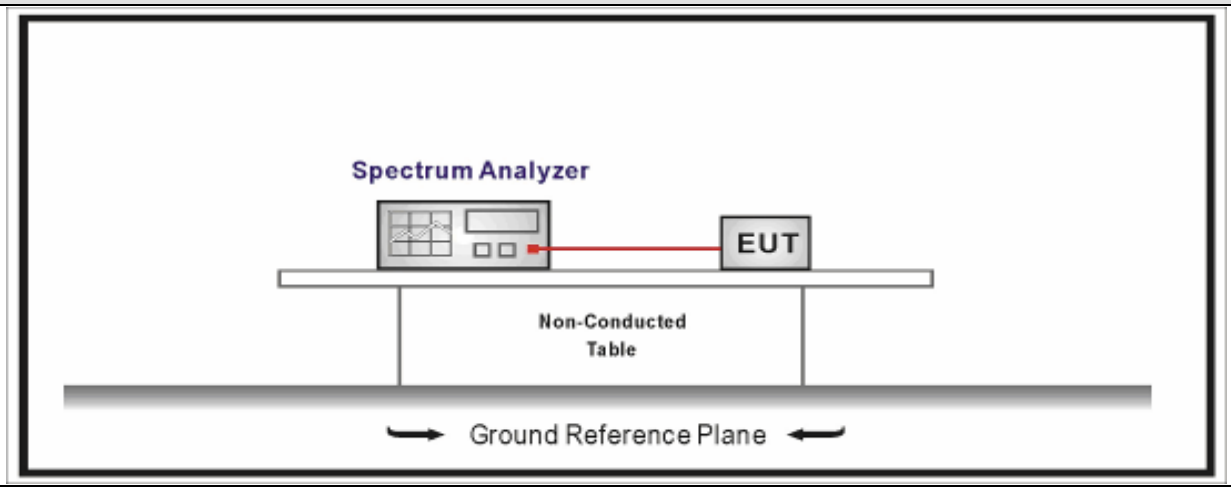
9. Power Spectral Density

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	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10
Note: All equipments are 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="2">Device Category</td><td>☐</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☒</td><td colspan="3">Mobile position use</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>
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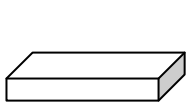
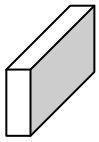
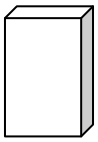
<tr><td>  </td><td>  </td><td>  </td></tr>
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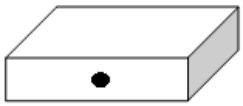
<tr><td></td><td colspan="3">  </td></tr>
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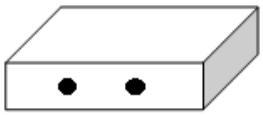
<tr><td></td><td colspan="3">  </td></tr>
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</table>

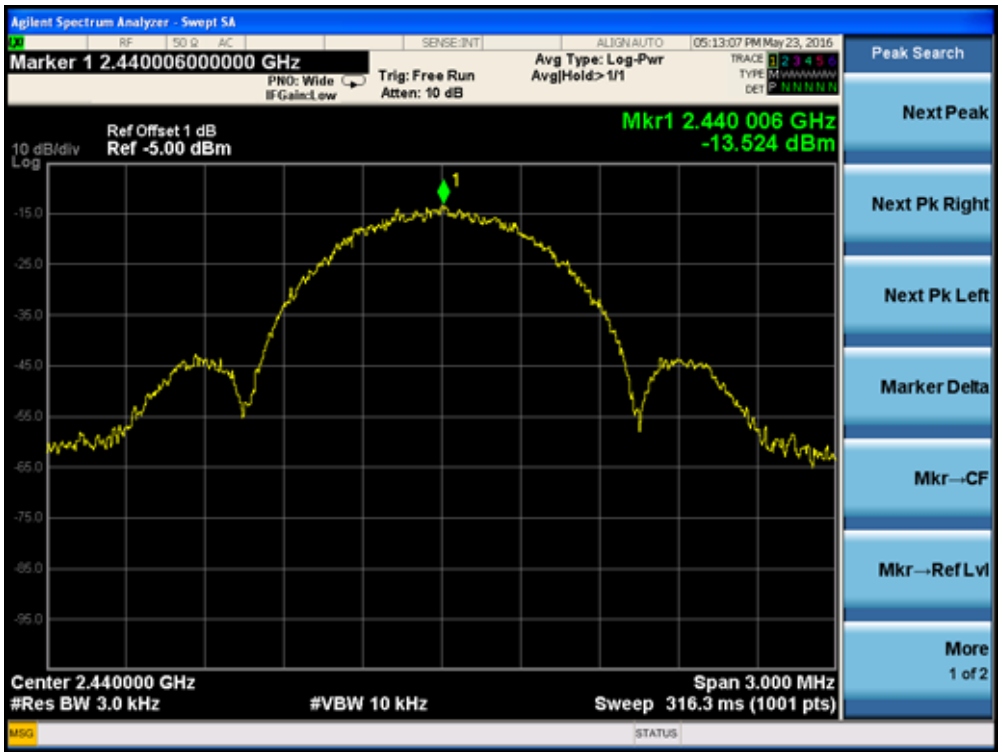
9.6. Test Result

Product Name	:	BLE 256KB Module with Bluetooth 4.2 Radio	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz) Ant 0	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	00	2402	-16.647	-16.647	8	Pass
1	19	2440	-13.524	-13.524	8	Pass
1	39	2480	-14.260	-14.260	8	Pass

Note : The worst case of Power Spectral Density as below:

Mode 1 CH19(2440MHz)



The End