

FCC Test Report

Product Name : MOOV HR
Trade Name : MOOV
Model No. : M1609
FCC ID. : 2ACIE-M1609

Applicant : MOOV Inc.
Address : 355 Mariposa Ave 5, Mountain View,
CA 94041, USA

Date of Receipt : Dec. 05, 2016
Issued Date : Jan. 04, 2017
Report No. : 16C0144R-RFUSP01V00-A
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Jan. 04, 2017

Report No. : 16C0144R-RFUSP01V00-A



Product Name : MOOV HR
Applicant : MOOV Inc.
Address : 355 Mariposa Ave 5, Mountain View, CA 94041, USA
Manufacturer : Hon Hai Precision Industry Co., Ltd.
Trade Name : MOOV
Model No. : M1609
FCC ID. : 2ACIE-M1609
EUT Voltage : AC 120V/60Hz (Power by PC)
DC 3.7V (Power by Battery)
Testing Voltage : AC 120V/60Hz (Power by PC)
DC 3.7V (Power by Battery)
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
Test Lab : Hsin Chu Laboratory
Test Result : Complied

The test results relate only to the samples tested.

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Revision History

Report No.	Version	Description	Issued Date
16C0144R-RFUSP01V00-A	V1.0	Initial issue of report	Jan. 04, 2017

Laboratory Information

We, **Quietek Corporation**, are an independent RF 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 specified testing scopes:

Taiwan R.O.C.	: TAF, Accreditation Number: 3024
USA	: FCC, Registration Number: 834100
Canada	: IC, Submission No: 181665 / IC Registration Number: 4075C-4

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

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TABLE OF CONTENTS

Description	Page
1. General Information	8
1.1. EUT Description	8
1.2. Test Mode	9
1.3. Tested System Details	10
1.4. Configuration of tested System	10
1.5. EUT Exercise Software	11
1.6. Test Facility	12
2. Conducted Emission.....	13
2.1. Test Equipment.....	13
2.2. Test Setup	13
2.3. Limits	13
2.4. Test Procedure	14
2.5. Test Specification.....	14
2.6. Uncertainty	14
2.7. Test Result.....	15
3. Peak Power Output	17
3.1. Test Equipment.....	17
3.2. Test Setup	17
3.3. Test procedures	17
3.4. Limits	17
3.5. Test Specification.....	17
3.6. Uncertainty	17
3.7. Test Result.....	18
4. Radiated Emission	19
4.1. Test Equipment.....	19
4.2. Test Setup	20
4.3. Limits	20
4.4. Test Procedure	21
4.5. Test Specification.....	21
4.6. Uncertainty	21
4.7. Test Result.....	22
5. RF antenna conducted test	33
5.1. Test Equipment.....	33

5.2.	Test Setup	33
5.3.	Limits	33
5.4.	Test Procedure	34
5.5.	Test Specification.....	34
5.6.	Uncertainty	34
5.7.	Test Result.....	35
6.	Radiated Emission Band Edge	39
6.1.	Test Equipment.....	39
6.2.	Test Setup	39
6.3.	Limits	39
6.4.	Test Procedure	40
6.5.	Test Specification.....	40
6.6.	Uncertainty	40
6.7.	Test Result.....	41
7.	DTS Bandwidth	53
7.1.	Test Equipment.....	53
7.2.	Test Setup	53
7.3.	Test Procedures	53
7.4.	Limits	53
7.5.	Test Specification.....	53
7.6.	Uncertainty	53
7.7.	Test Result.....	54
8.	Occupied Bandwidth.....	56
8.1.	Test Equipment.....	56
8.2.	Test Setup	56
8.3.	Test Procedures	56
8.4.	Limits	56
8.5.	Test Specification.....	56
8.6.	Uncertainty	56
8.7.	Test Result.....	57
9.	Power Density.....	59
9.1.	Test Equipment.....	59
9.2.	Test Setup	59
9.3.	Limits	59
9.4.	Test Procedures	59

9.5.	Test Specification.....	59
9.6.	Uncertainty	59
9.7.	Test Result.....	60
Attachment 1		62
	Test Setup Photograph.....	62
Attachment 2.....		66
	EUT External Photograph.....	66
Attachment 3.....		67
	EUT Internal Photograph.....	67

1. General Information

1.1. EUT Description

Product Name	MOOV HR
Trade Name	MOOV
Model Name	M1609
Frequency Range	2402~2480MHz
Channel Number	40 Channels
Type of Modulation	BLE 4.0 (GFSK)
Channel Control	Auto

Antenna Information	
Antenna Type	Soldered on PCB Antenna
Antenna Gain	3dBi

Accessories Information	
USB Cable	Non-Shielded, 0.6m

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

Note:

1. This device is a MOOV HR including BT 4.0 transmitting and receiving function.
2. Regards to the frequency band operation; the lowest 、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
3. This device is a composite device in accordance with Part 15 regulations. The function of the receiving was tested and its test report number is 16C0144R-RFUSP01V00 & 16C0144R-ITUSP01V00.

1.2. Test Mode

QuieTek has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit Mode_ Power by PC Mode 2: Transmit Mode_ Power by Battery
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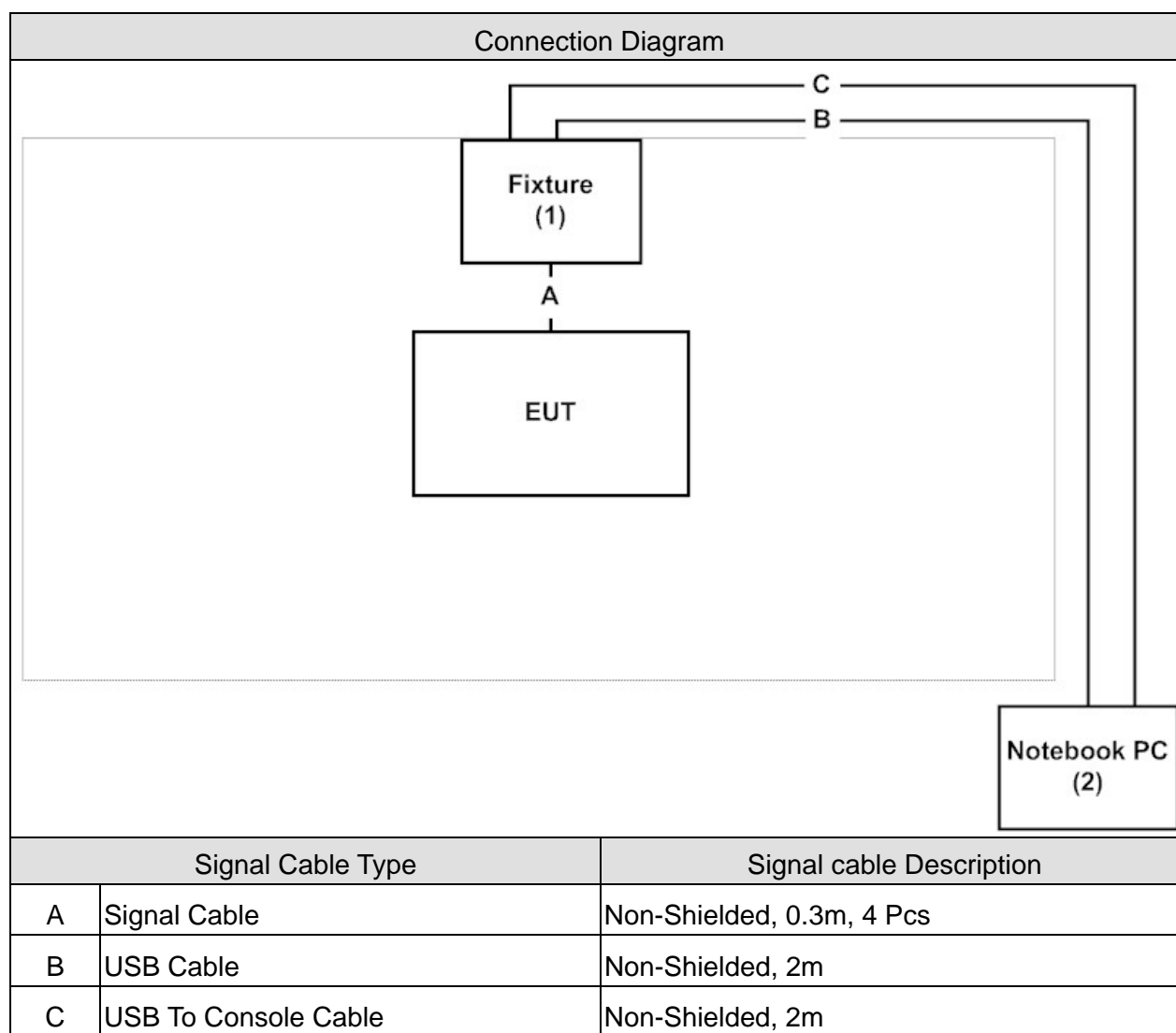
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	GFSK	00/19/39	0	Complies
Peak Power Output	GFSK	00/19/39	0	Complies
Radiated Emission	GFSK	00/19/39	0	Complies
RF antenna conducted test	GFSK	00/19/39	0	Complies
Radiated Emission Band Edge	GFSK	00/19/39	0	Complies
DTS Bandwidth	GFSK	00/19/39	0	Complies
Occupied Bandwidth	GFSK	00/19/39	0	Complies
Power Density	GFSK	00/19/39	0	Complies

1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Fixture	HON HAI	N/A	N/A	DoC	--
2 Notebook PC	ASUS	K45VD	K45VD-0343G 3110M	DoC	Non-Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.5.
2	Execute the SerialportOperator.exe on the lap top..
3	Configure the test mode, the test channel, and the data rate.
4	Press “Start TX” to start the continuous transmitting.
5	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	24 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

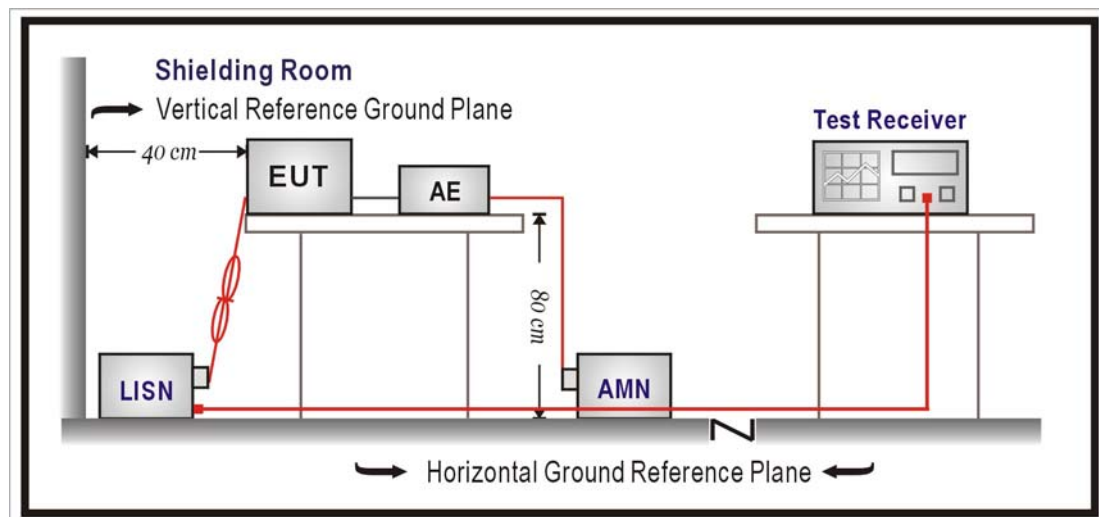
The following test equipments are used during the test:

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2017/01/20
LISN	R&S	ENV216	100092	2017/08/16
Test Receiver	R&S	ESCS 30	836858/023	2017/01/10

Note: All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

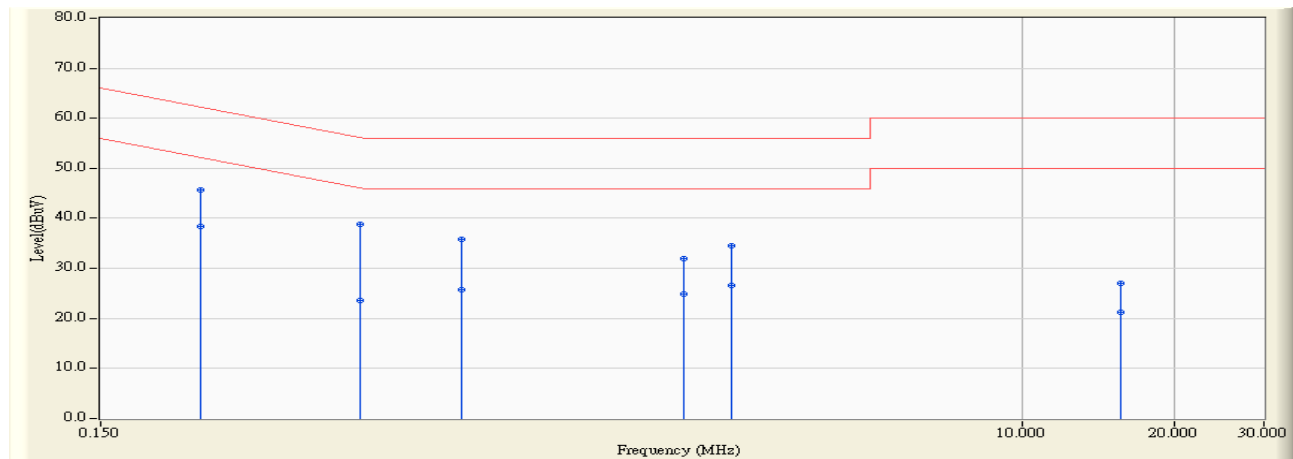
According to FCC Part 15 Subpart C Paragraph 15.207: 2015

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2-H	Time : 2016/12/27
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-H_LISN(16A)-6_0712 - Line1	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC

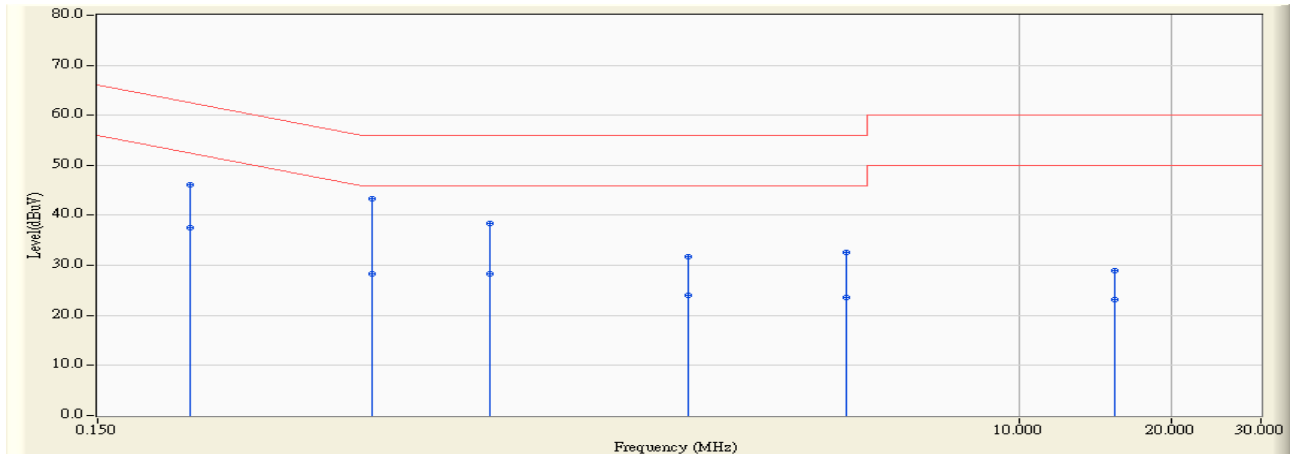


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.236	9.746	35.960	45.706	-16.532	62.238	QUASIPeAK
2	*	0.236	9.746	28.680	38.426	-13.812	52.238	AVERAGE
3		0.490	9.728	29.040	38.769	-17.402	56.170	QUASIPeAK
4		0.490	9.728	13.900	23.629	-22.542	46.170	AVERAGE
5		0.775	9.779	25.980	35.759	-20.241	56.000	QUASIPeAK
6		0.775	9.779	15.930	25.709	-20.291	46.000	AVERAGE
7		2.134	9.864	22.040	31.904	-24.096	56.000	QUASIPeAK
8		2.134	9.864	15.040	24.904	-21.096	46.000	AVERAGE
9		2.662	9.880	24.740	34.620	-21.380	56.000	QUASIPeAK
10		2.662	9.880	16.690	26.570	-19.430	46.000	AVERAGE
11		15.630	10.235	16.760	26.995	-33.005	60.000	QUASIPeAK
12		15.630	10.235	11.030	21.265	-28.735	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2-H	Time : 2016/12/27
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-H_LISN(16A)-6_0712 - Line2	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.228	9.750	36.300	46.050	-16.468	62.518	QUASIPeAK
2	0.228	9.750	27.740	37.490	-15.028	52.518	AVERAGE
3	* 0.525	9.749	33.560	43.309	-12.691	56.000	QUASIPeAK
4	0.525	9.749	18.520	28.269	-17.731	46.000	AVERAGE
5	0.896	9.804	28.600	38.404	-17.596	56.000	QUASIPeAK
6	0.896	9.804	18.520	28.324	-17.676	46.000	AVERAGE
7	2.209	9.849	21.960	31.809	-24.191	56.000	QUASIPeAK
8	2.209	9.849	14.180	24.029	-21.971	46.000	AVERAGE
9	4.533	9.850	22.660	32.510	-23.490	56.000	QUASIPeAK
10	4.533	9.850	13.820	23.670	-22.330	46.000	AVERAGE
11	15.412	10.325	18.660	28.986	-31.014	60.000	QUASIPeAK
12	15.412	10.325	12.910	23.236	-26.764	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Peak Power Output

3.1. Test Equipment

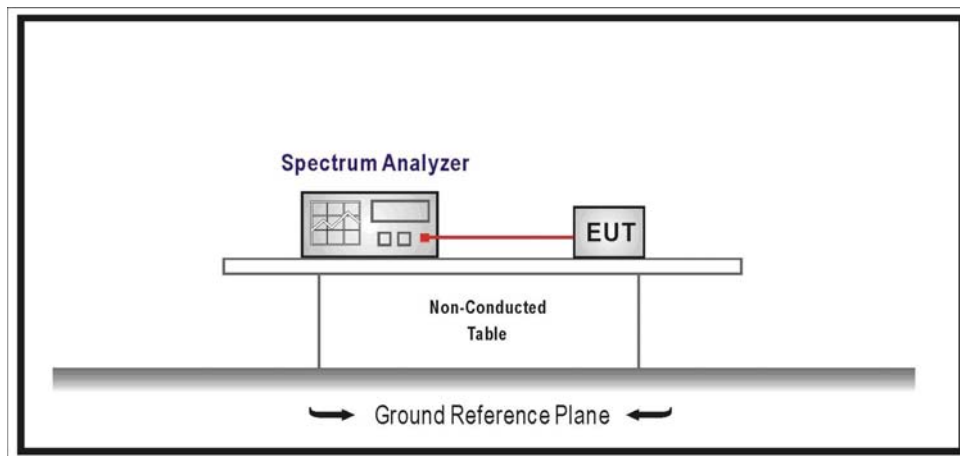
The following test equipments are used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup



3.3. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 v03r02 measurement to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.7. Test Result

Product	MOOV HR		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR10-H

BLE 4.0 (GFSK)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-1.69	≤ 30	Pass
19	2440	-2.49	≤ 30	Pass
39	2480	-3.38	≤ 30	Pass

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the test:

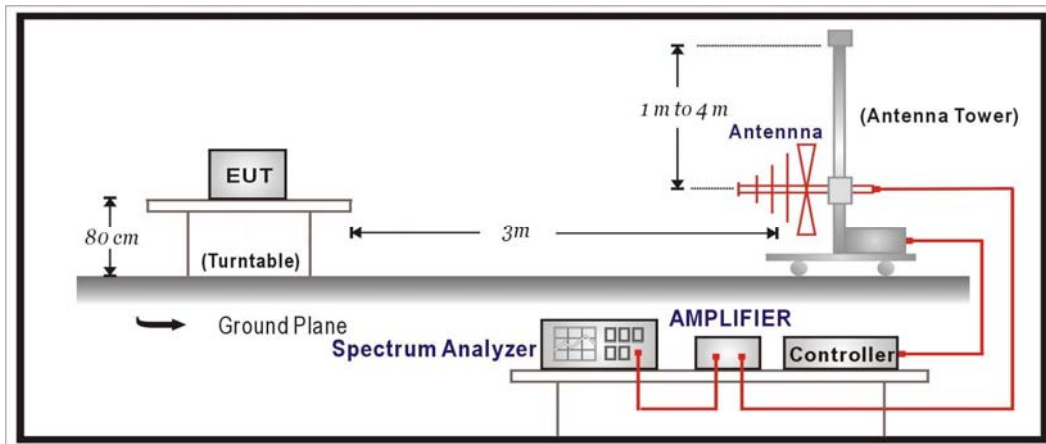
Radiated Emission / CB2-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2895	2017/08/14
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2017/01/14
Pre-Amplifier	EMCI	EMC0031835	4583/10/13	2017/01/26
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2017/12/18
Spectrum Analyzer	Agilent	E4440A	MY46187335	2017/12/21
k Type Cable	Huber+Suhner	SF 102	25623/2	2017/01/11
Horn Antenna	Schwarzbeck	BBHA 9170	203	2017/08/28
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05

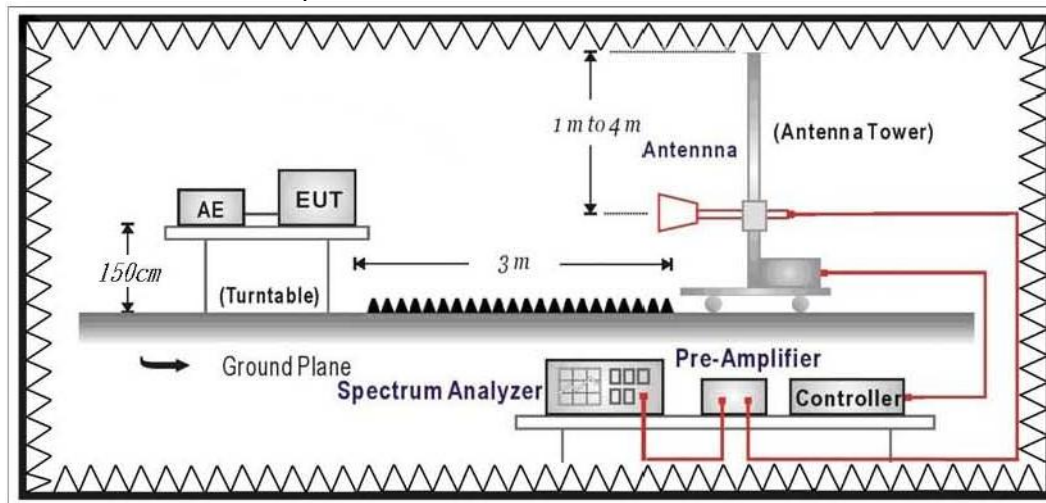
Note: All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remark: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 and 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

4.6. Uncertainty

The measurement uncertainty

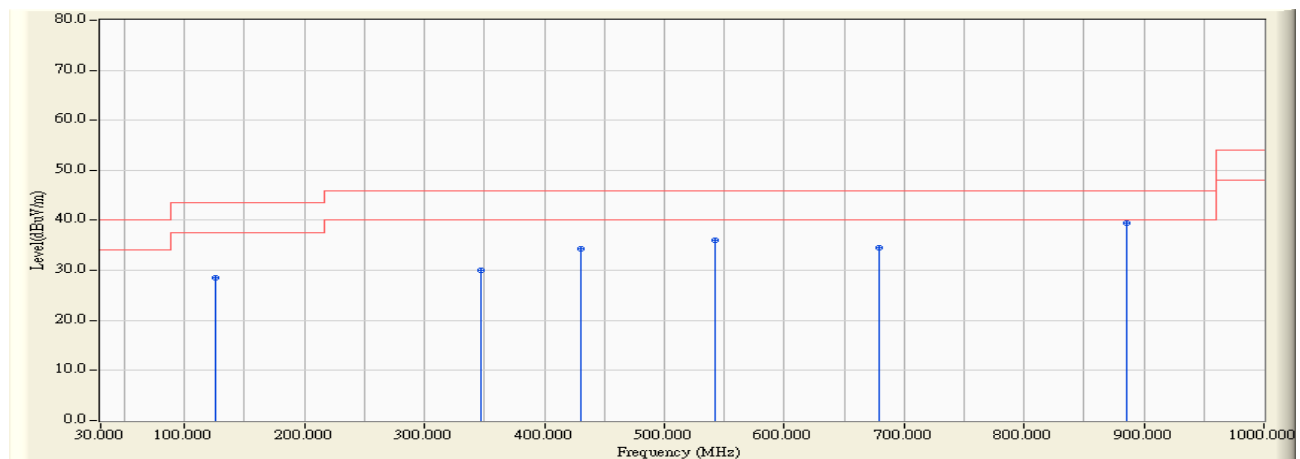
30MHz~1GHz as $\pm 3.43\text{dB}$

1GHz~26.5Ghz as $\pm 3.65\text{dB}$

4.7. Test Result

30MHz-1GHz Spurious

Site : CB2-H	Time : 2016/12/23
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_A138_30M-1GHz_1216 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

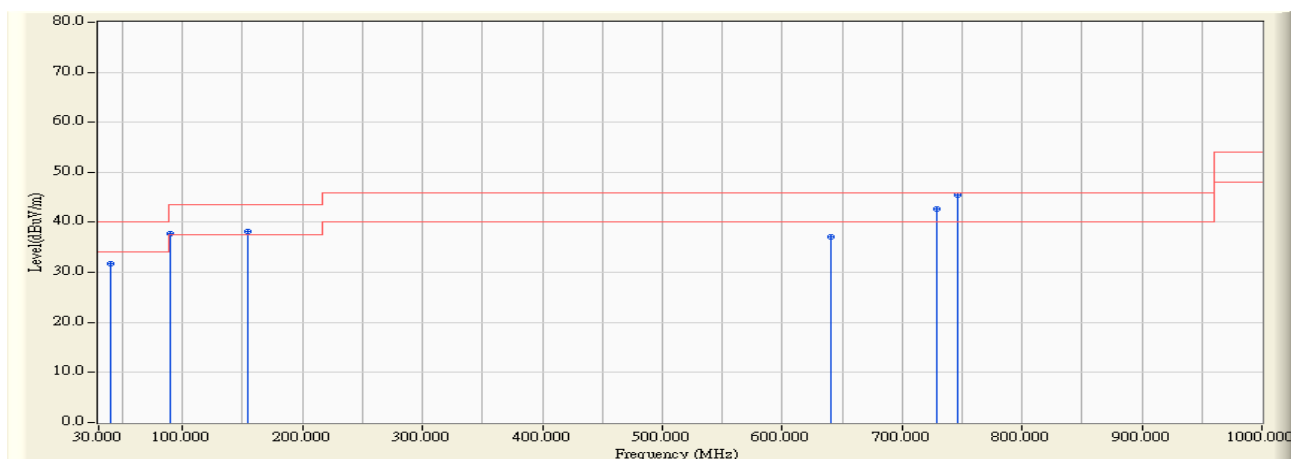


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		125.351	20.517	8.093	28.611	-14.889	43.500	QUASIPeAK
2		346.608	23.571	6.398	29.969	-16.031	46.000	QUASIPeAK
3		429.834	25.733	8.567	34.300	-11.700	46.000	QUASIPeAK
4		542.451	27.412	8.517	35.929	-10.071	46.000	QUASIPeAK
5		678.639	28.784	5.655	34.439	-11.561	46.000	QUASIPeAK
6	*	885.540	31.070	8.488	39.557	-6.443	46.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB2-H	Time : 2016/12/23
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_A138_30M-1GHz_1216 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

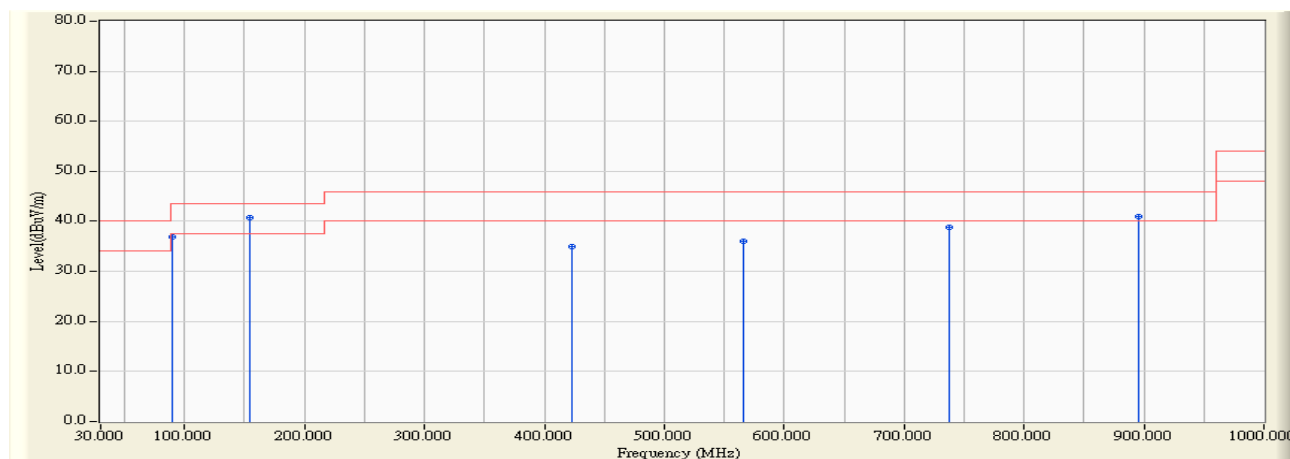


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		39.506	25.442	6.385	31.827	-8.173	40.000	QUASIPeAK
2		89.073	16.143	21.603	37.746	-5.754	43.500	QUASIPeAK
3		154.451	19.264	18.871	38.135	-5.365	43.500	QUASIPeAK
4		640.615	28.441	8.683	37.124	-8.876	46.000	QUASIPeAK
5		729.079	29.306	13.289	42.595	-3.405	46.000	QUASIPeAK
6	*	746.636	29.503	15.972	45.474	-0.526	46.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB2-H	Time : 2016/12/23
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_A138_30M-1GHz_1216 - HORIZONTAL	Power : DC 3.7V (Power By Battery)
EUT : MOOV HR	Note : Mode 2: Transmit Mode_ Power by Battery_ 802.15.1_BLE_2440MHz

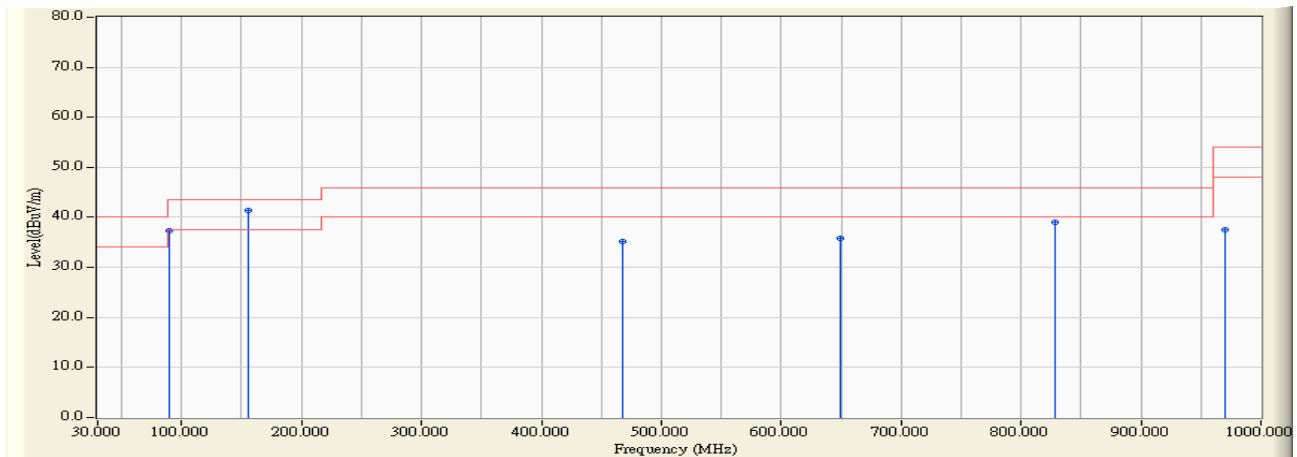


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.073	16.143	20.725	36.868	-6.632	43.500	QUASIPeAK
2	*	154.839	19.240	21.589	40.830	-2.670	43.500	QUASIPeAK
3		422.947	25.614	9.373	34.988	-11.012	46.000	QUASIPeAK
4		565.440	27.685	8.243	35.928	-10.072	46.000	QUASIPeAK
5		737.712	29.402	9.477	38.879	-7.121	46.000	QUASIPeAK
6		895.822	31.190	9.860	41.051	-4.949	46.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB2-H	Time : 2016/12/23
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_A138_30M-1GHz_1216 - VERTICAL	Power : DC 3.7V (Power By Battery)
EUT : MOOV HR	Note : Mode 2: Transmit Mode_ Power by Battery_ 802.15.1_BLE_2440MHz



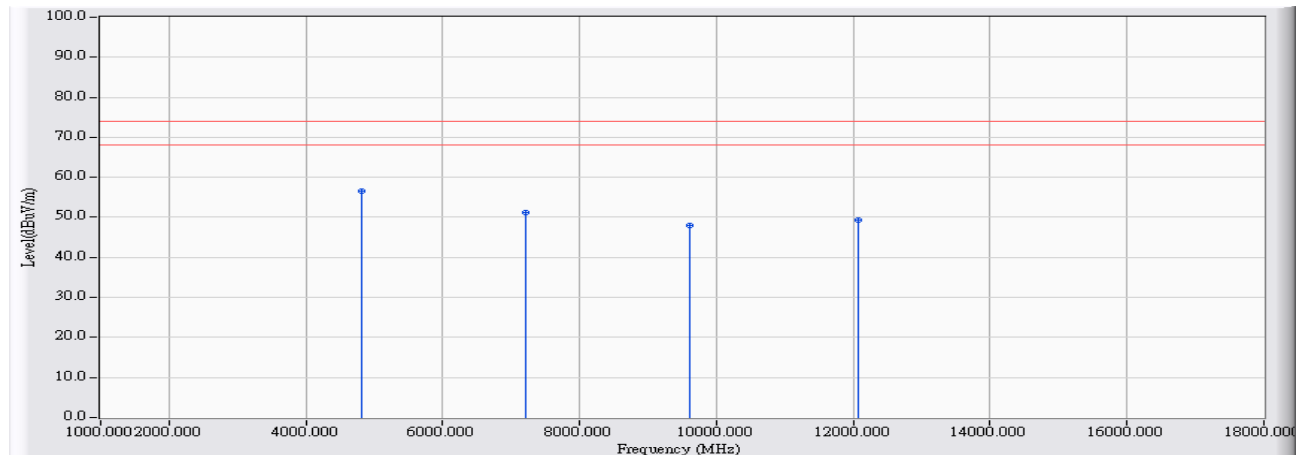
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.073	16.143	21.134	37.277	-6.223	43.500	QUASIPeAK
2	*	155.809	19.182	22.289	41.472	-2.028	43.500	QUASIPeAK
3		467.373	26.372	8.879	35.251	-10.749	46.000	QUASIPeAK
4		649.248	28.514	7.358	35.872	-10.128	46.000	QUASIPeAK
5		828.407	30.417	8.651	39.068	-6.932	46.000	QUASIPeAK
6		969.542	32.188	5.439	37.626	-16.374	54.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Above 1GHz Spurious

Site : CB2-H	Time : 2016/12/23
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2402

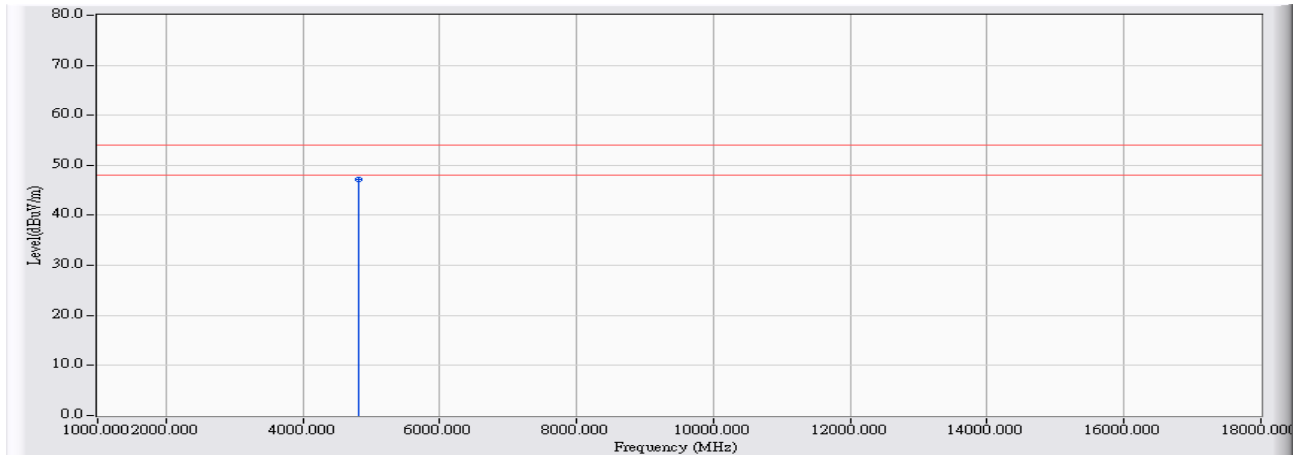


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4804.000	-0.376	56.866	56.490	-17.510	74.000	PEAK
2		7206.000	7.031	44.202	51.234	-22.766	74.000	PEAK
3		9608.000	12.053	35.833	47.887	-26.113	74.000	PEAK
4		12080.000	17.059	32.260	49.319	-24.681	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/23
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2402

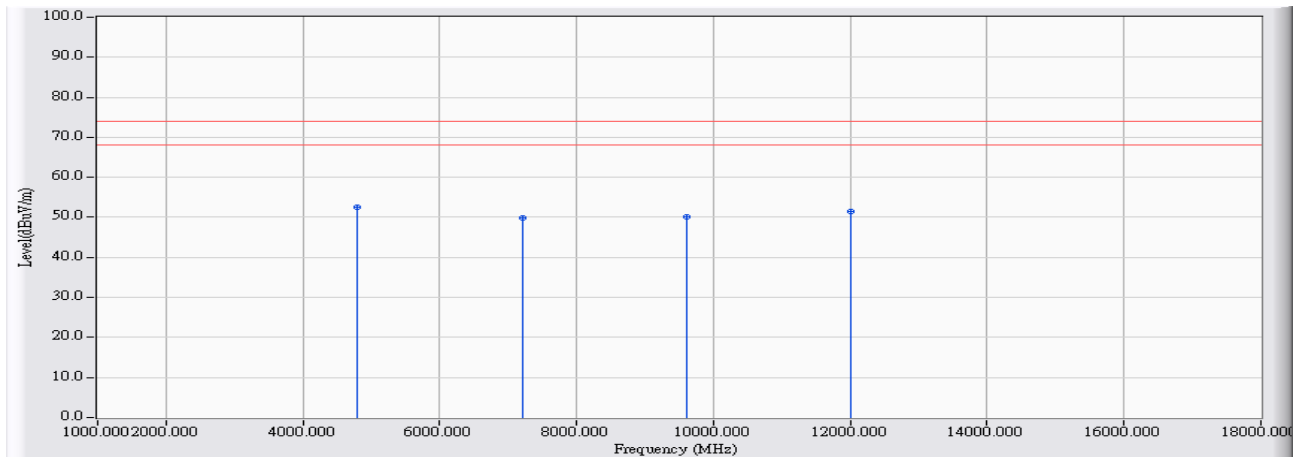


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4804.000	-0.376	47.516	47.140	-6.860	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2402

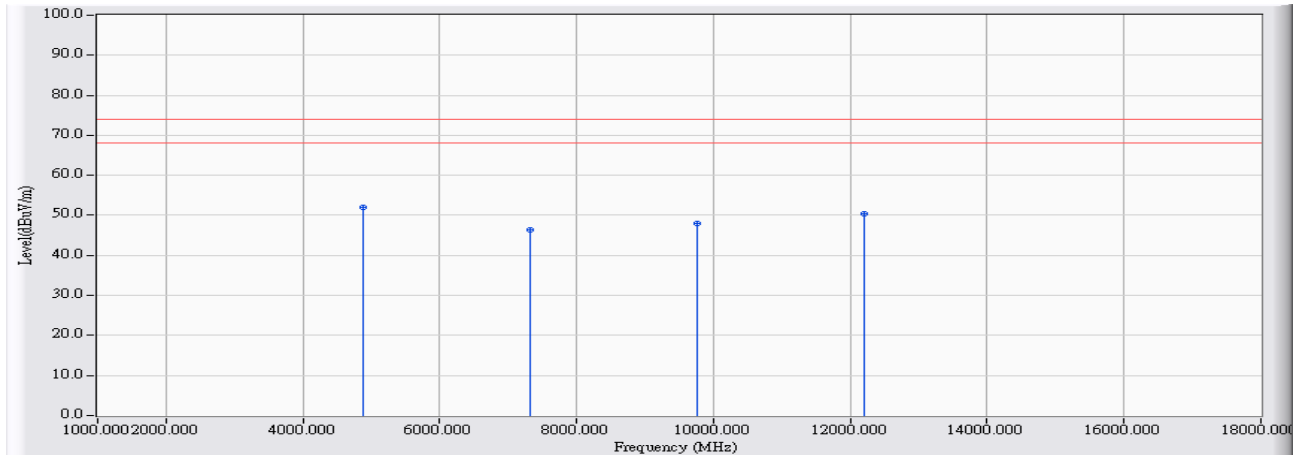


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4803.000	41.421	52.810	52.432	-21.568	74.000	PEAK
2		7205.000	7.027	42.840	49.867	-24.133	74.000	PEAK
3		9603.000	12.044	37.990	50.035	-23.965	74.000	PEAK
4		12009.000	17.183	34.380	51.563	-22.437	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2440

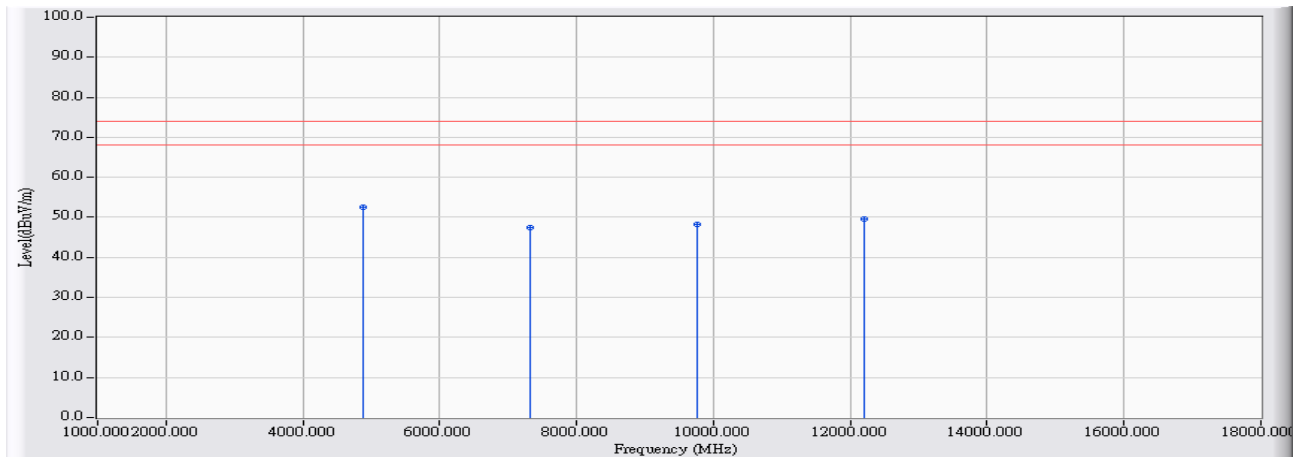


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4879.000	-0.189	52.250	52.060	-21.940	74.000	PEAK
2		7320.000	7.597	38.730	46.327	-27.673	74.000	PEAK
3		9755.000	12.287	35.760	48.047	-25.953	74.000	PEAK
4		12200.000	16.838	33.620	50.457	-23.543	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2440

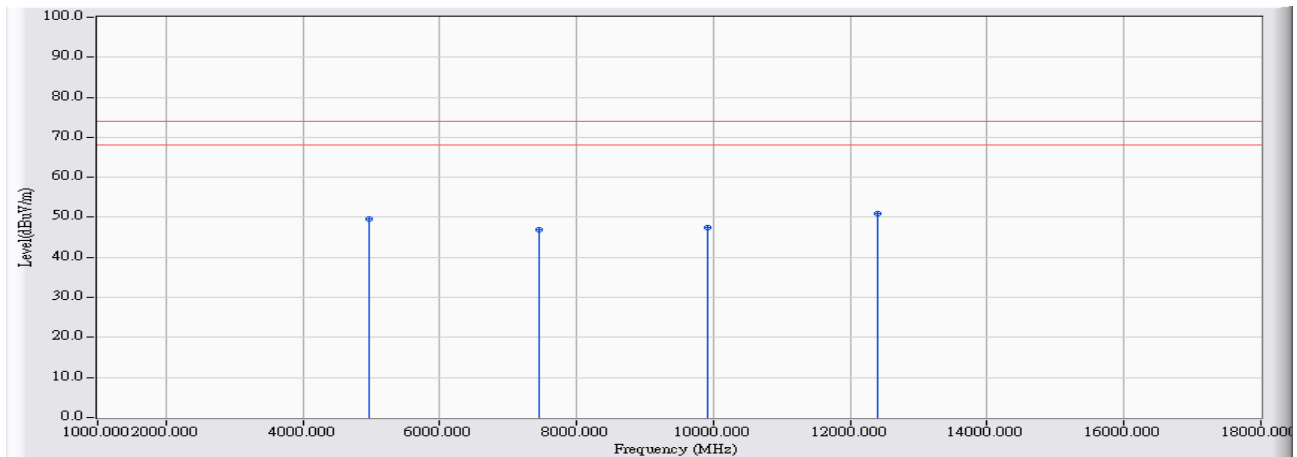


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4880.000	-0.188	52.710	52.522	-21.478	74.000	PEAK
2		7320.000	7.597	39.820	47.417	-26.583	74.000	PEAK
3		9759.000	12.293	35.870	48.163	-25.837	74.000	PEAK
4		12199.000	16.840	32.730	49.569	-24.431	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2480

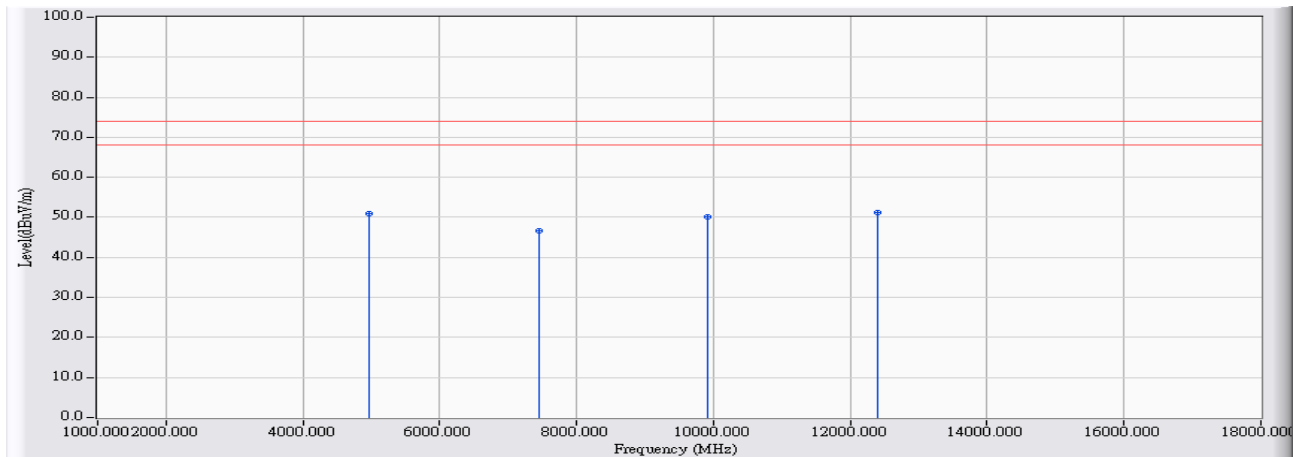


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.000	0.009	49.570	49.578	-24.422	74.000	PEAK
2		7441.000	8.205	38.750	46.956	-27.044	74.000	PEAK
3		9921.000	12.521	34.820	47.341	-26.659	74.000	PEAK
4	*	12399.000	16.420	34.580	50.999	-23.001	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2016/12/28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ BT4.0_2480



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	0.011	50.880	50.891	-23.109	74.000	PEAK
2		7444.000	8.222	38.370	46.591	-27.409	74.000	PEAK
3		9920.000	12.520	37.580	50.100	-23.900	74.000	PEAK
4	*	12401.000	16.414	34.780	51.195	-22.805	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

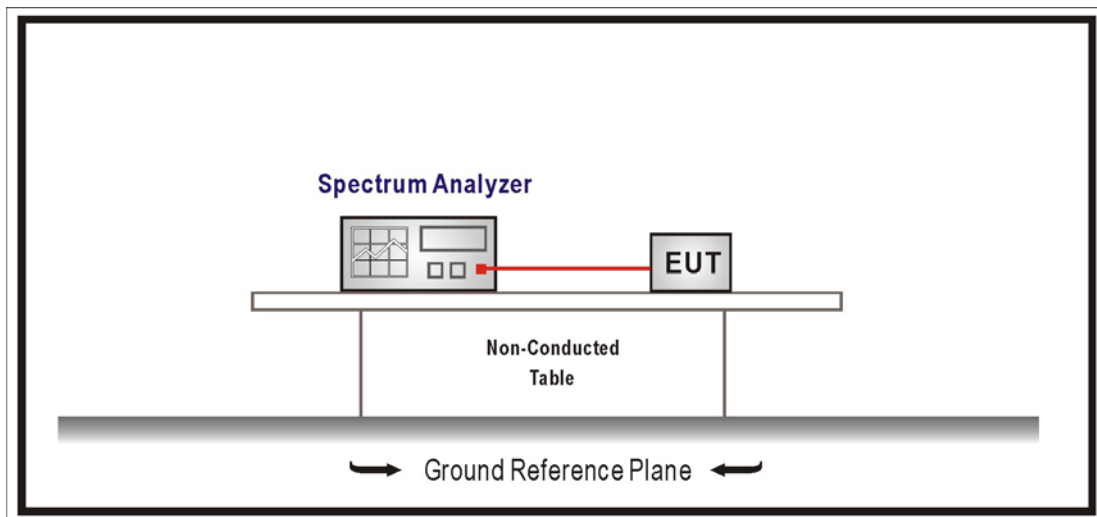
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure section 11.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

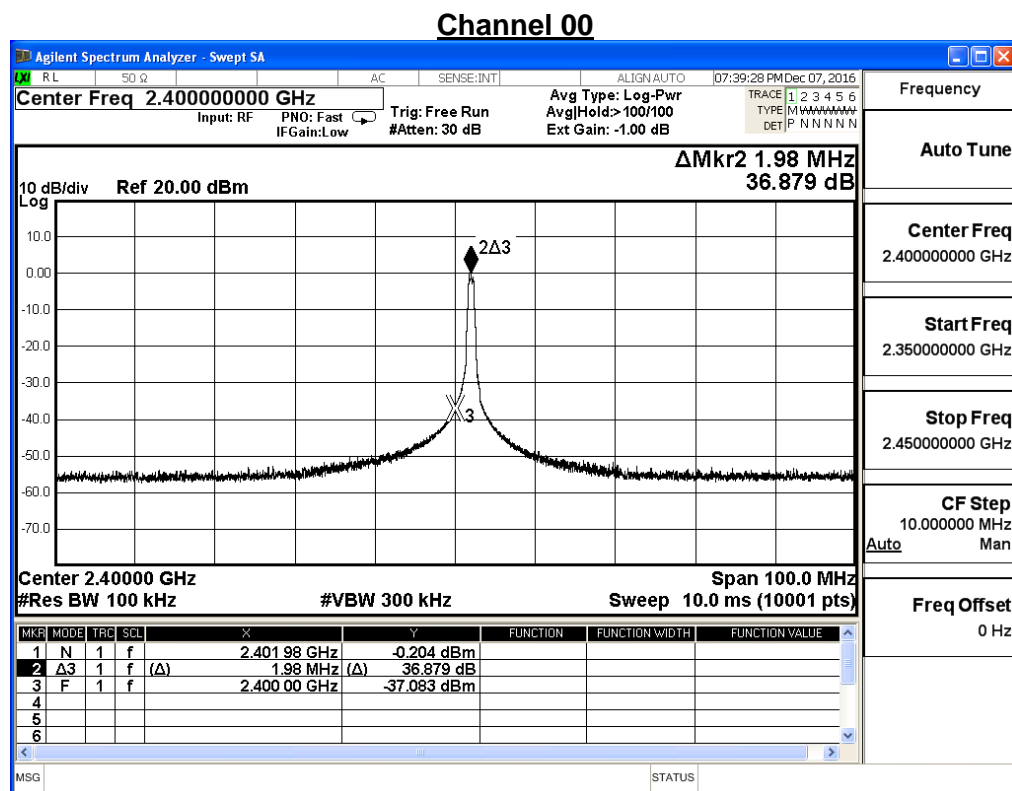
5.6. Uncertainty

Conducted is defined as $\pm 1.27\text{dB}$

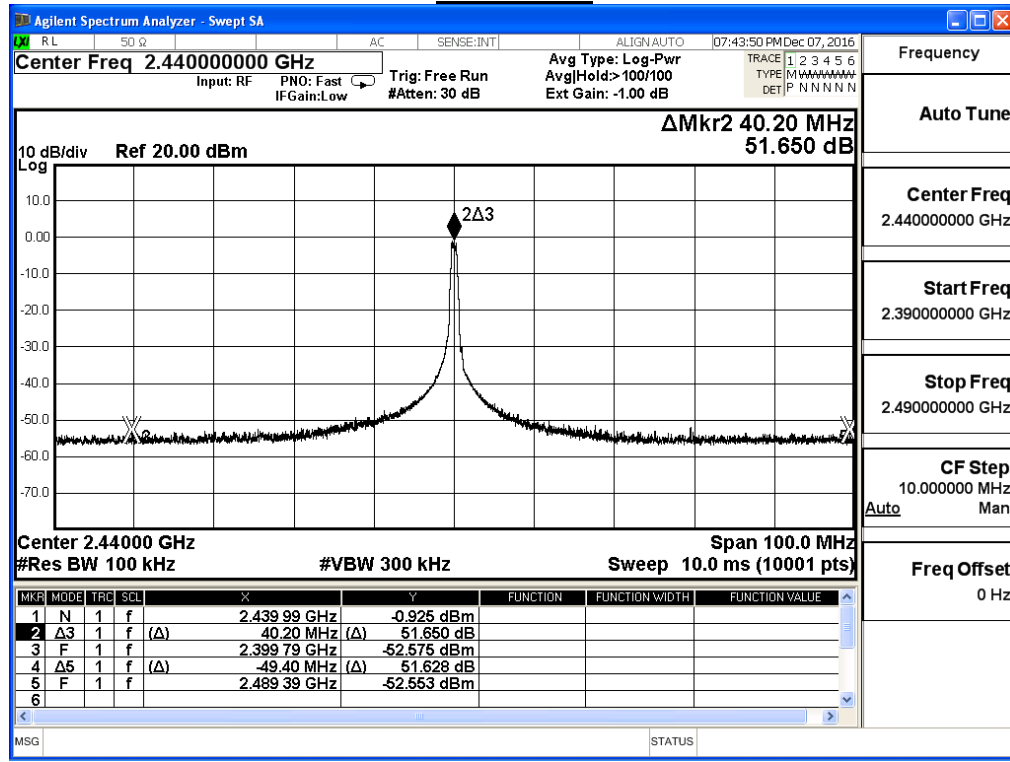
5.7. Test Result

Product	MOOV HR		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR10-H

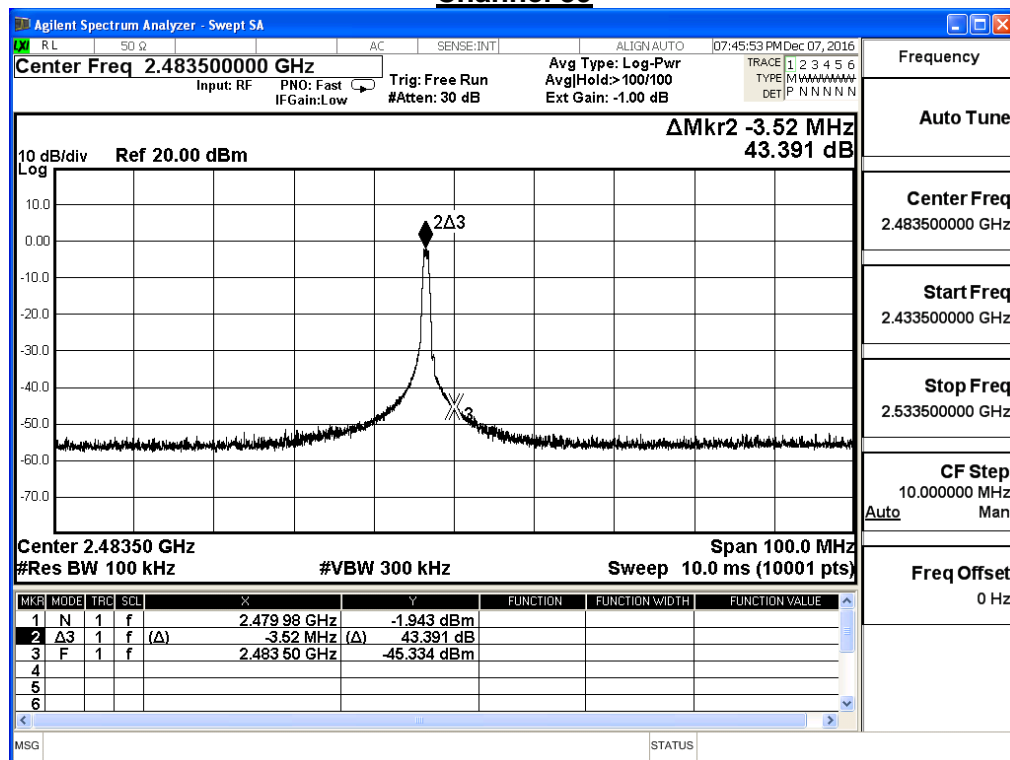
BLE 4.0 (GFSK)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	36.879	≥ 20	Pass
19	2440	51.628	≥ 20	Pass
39	2480	43.391	≥ 20	Pass



Channel 19

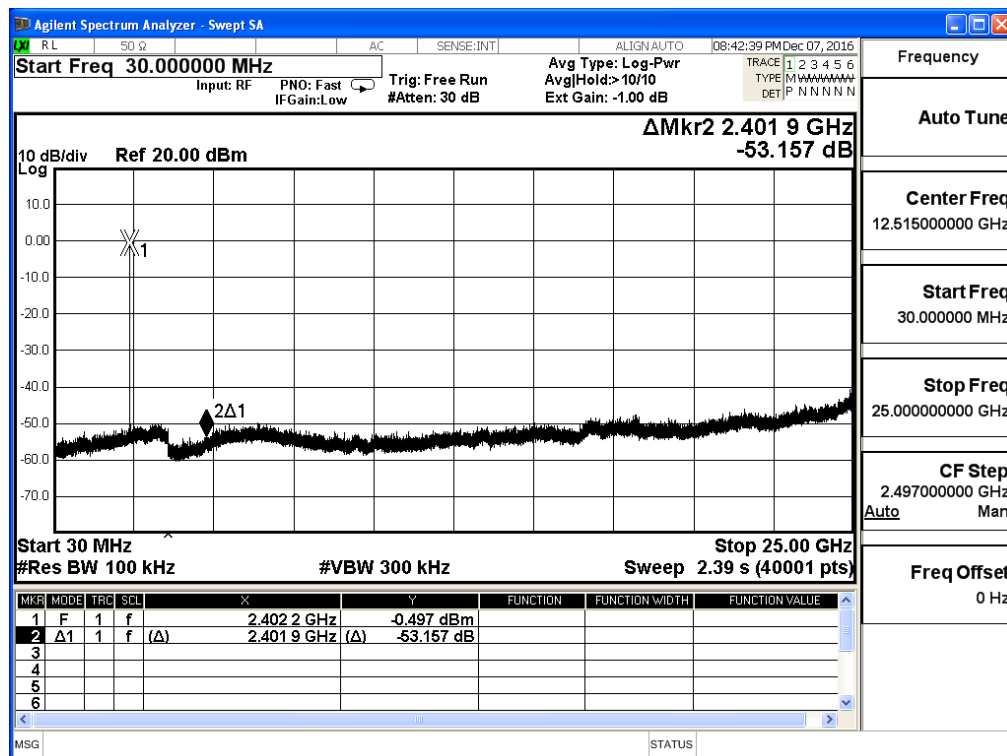


Channel 39

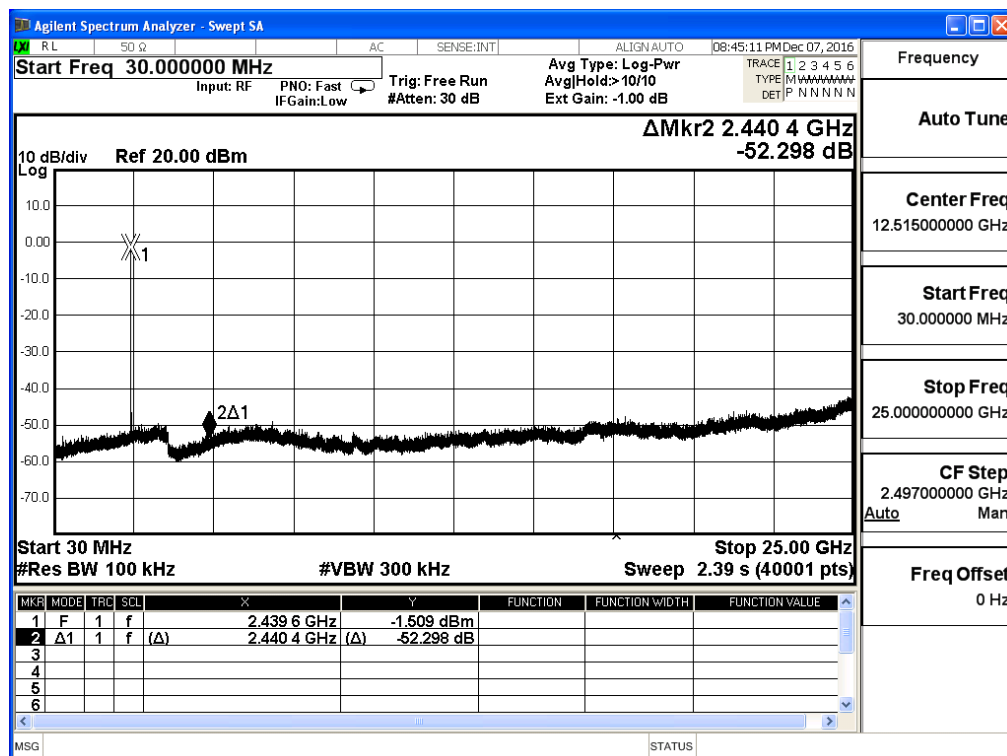


Product	MOOV HR		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR7

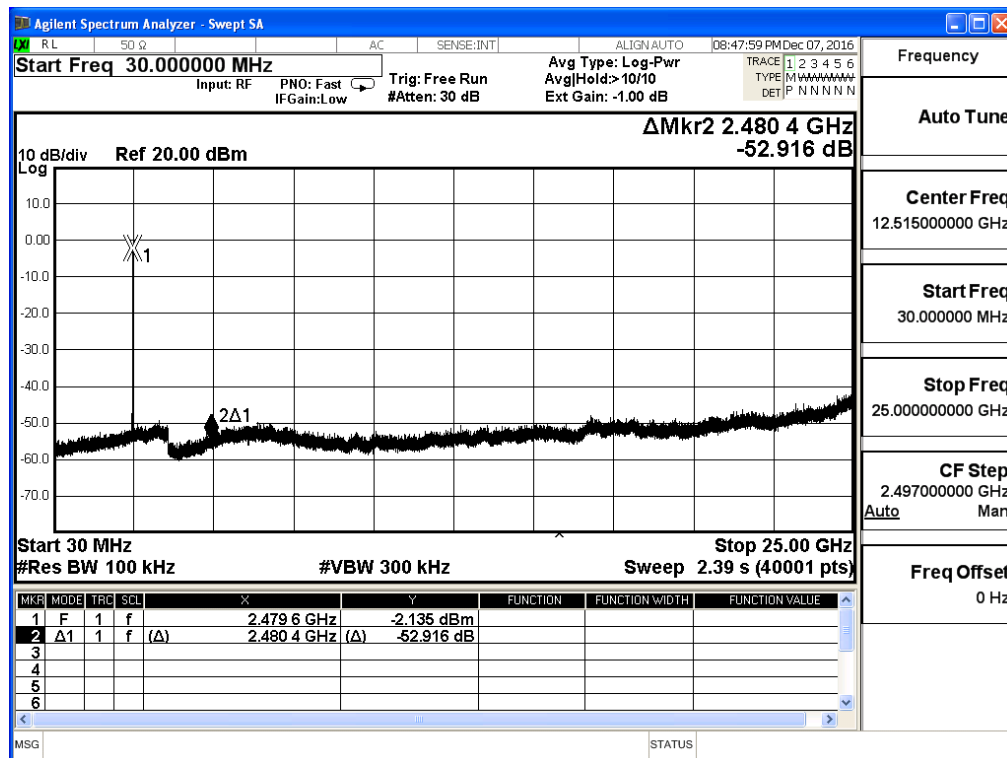
Channel 00 (30MHz-25GHz)- 2402MHz_BLE 4.0 (GFSK)



Channel 19 (30MHz-25GHz)- 2440MHz_BLE 4.0 (GFSK)



Channel 39 (30MHz-25GHz)- 2480MHz_BLE 4.0 (GFSK)



6. Radiated Emission Band Edge

6.1. Test Equipment

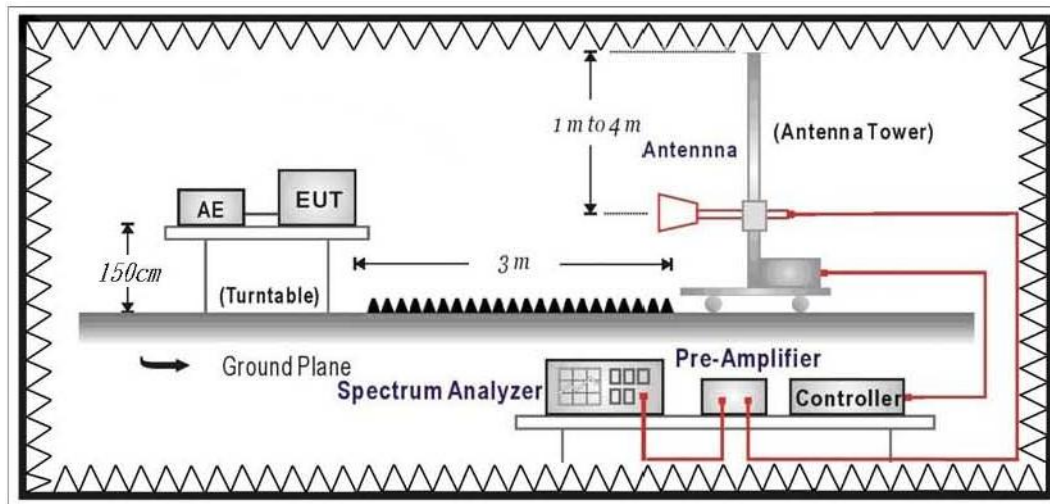
The following test equipments are used during the test:

Radiated Emission Band Edge / CB2-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/05

Note: All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

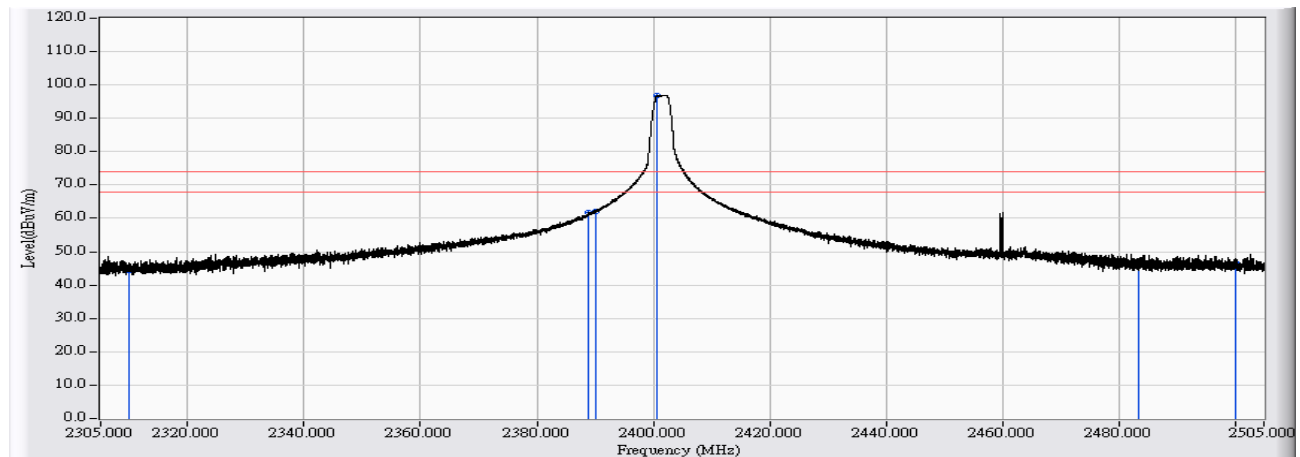
The measurement uncertainty

± 3.9 dB above 1GHz

6.7. Test Result

Radiated is defined as

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2402MHz

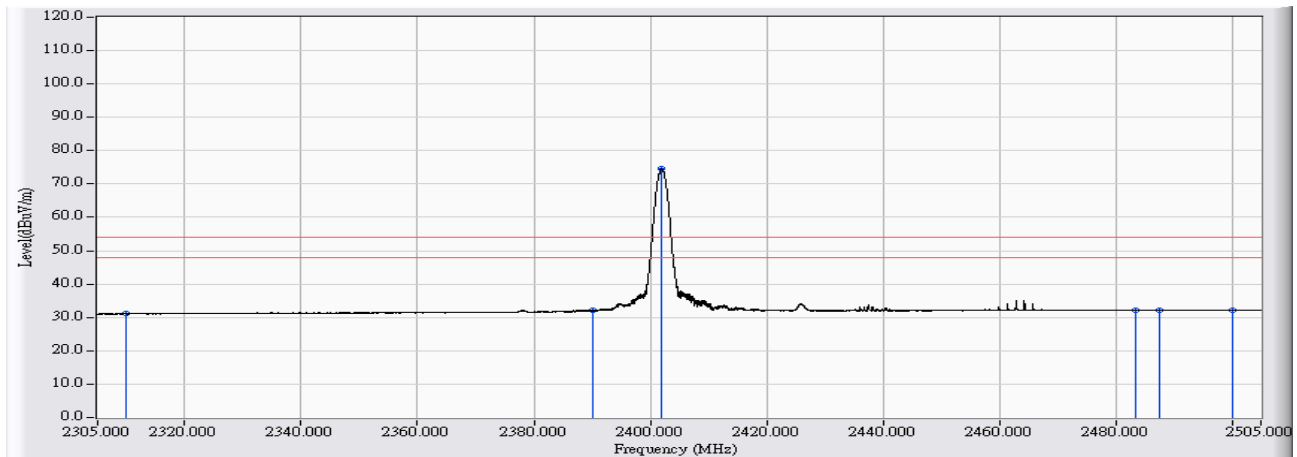


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	30.922	44.268	-29.732	74.000	PEAK
2	2388.960	13.834	47.977	61.811	-12.189	74.000	PEAK
3	2390.000	13.840	48.161	62.001	-11.999	74.000	PEAK
4	* 2400.760	13.907	83.069	96.976	22.976	74.000	PEAK
5	2483.500	14.417	31.672	46.090	-27.910	74.000	PEAK
6	2500.000	14.518	32.095	46.614	-27.386	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2402MHz

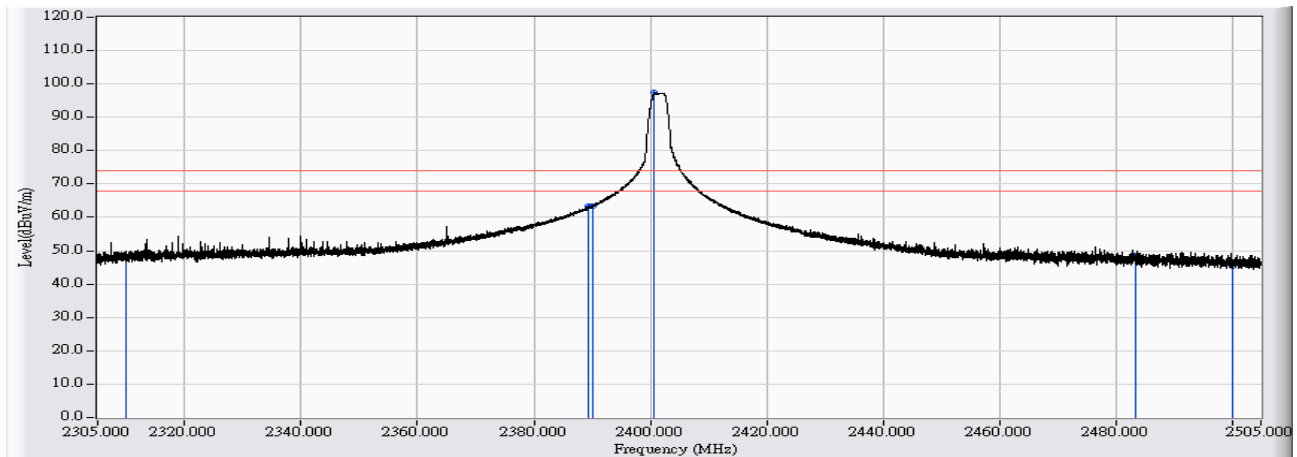


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	17.725	31.071	-22.929	54.000	AVERAGE
2	2390.000	13.840	18.305	32.145	-21.855	54.000	AVERAGE
3	* 2401.940	13.914	60.654	74.568	20.568	54.000	AVERAGE
4	2483.500	14.417	17.721	32.139	-21.861	54.000	AVERAGE
5	2487.440	14.443	17.827	32.269	-21.731	54.000	AVERAGE
6	2500.000	14.518	17.707	32.226	-21.774	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2402MHz

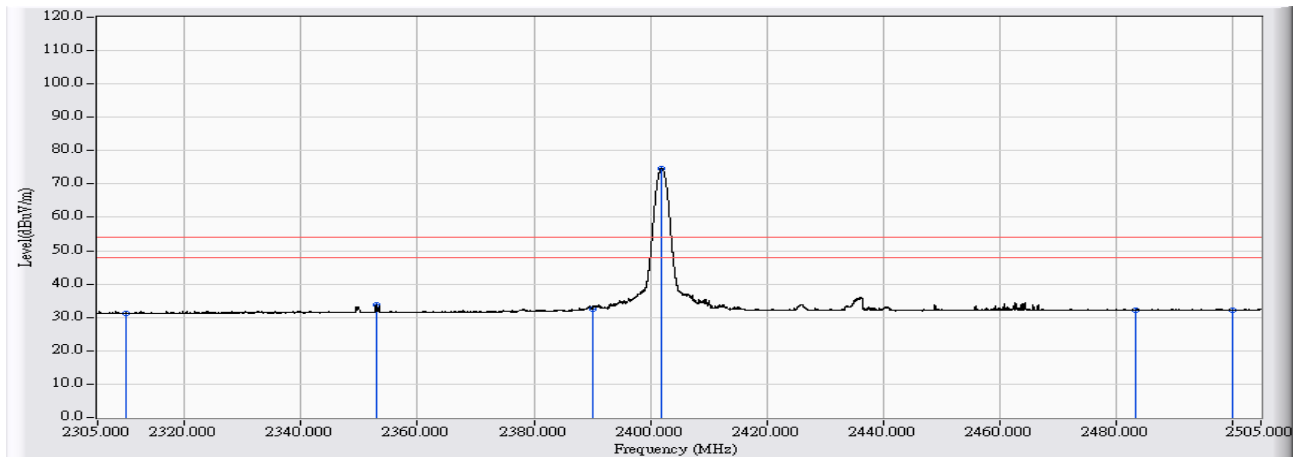


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	34.888	48.234	-25.766	74.000	PEAK
2		2389.440	13.837	49.467	63.304	-10.696	74.000	PEAK
3		2390.000	13.840	49.416	63.256	-10.744	74.000	PEAK
4	*	2400.760	13.907	83.425	97.332	23.332	74.000	PEAK
5		2483.500	14.417	34.293	48.711	-25.289	74.000	PEAK
6		2500.000	14.518	30.983	45.502	-28.498	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2402MHz

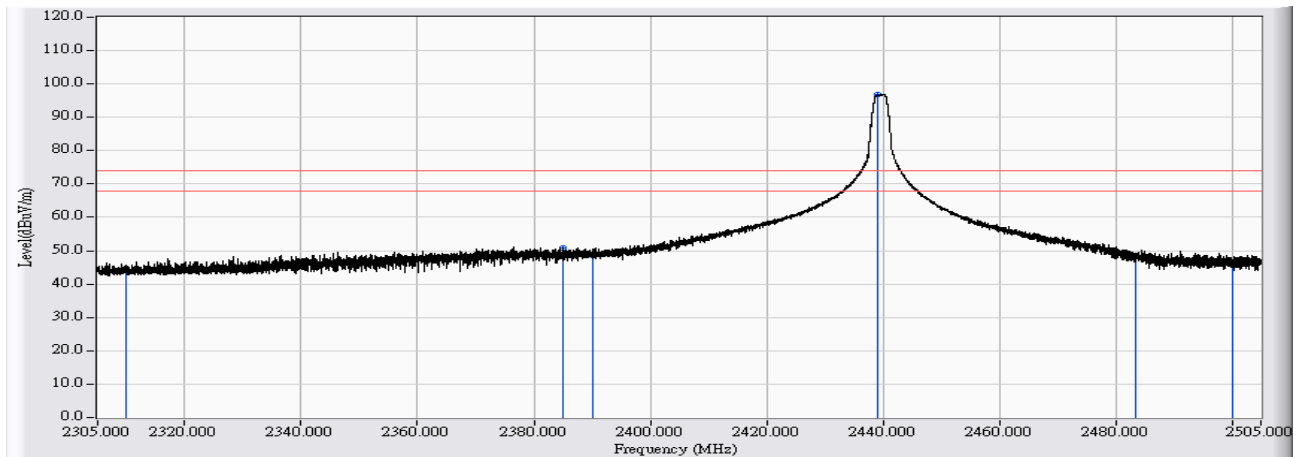


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	17.974	31.320	-22.680	54.000	AVERAGE
2	2352.840	13.611	20.250	33.861	-20.139	54.000	AVERAGE
3	2390.000	13.840	18.796	32.636	-21.364	54.000	AVERAGE
4	* 2401.980	13.914	60.880	74.794	20.794	54.000	AVERAGE
5	2483.500	14.417	17.857	32.275	-21.725	54.000	AVERAGE
6	2500.000	14.518	17.785	32.304	-21.696	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

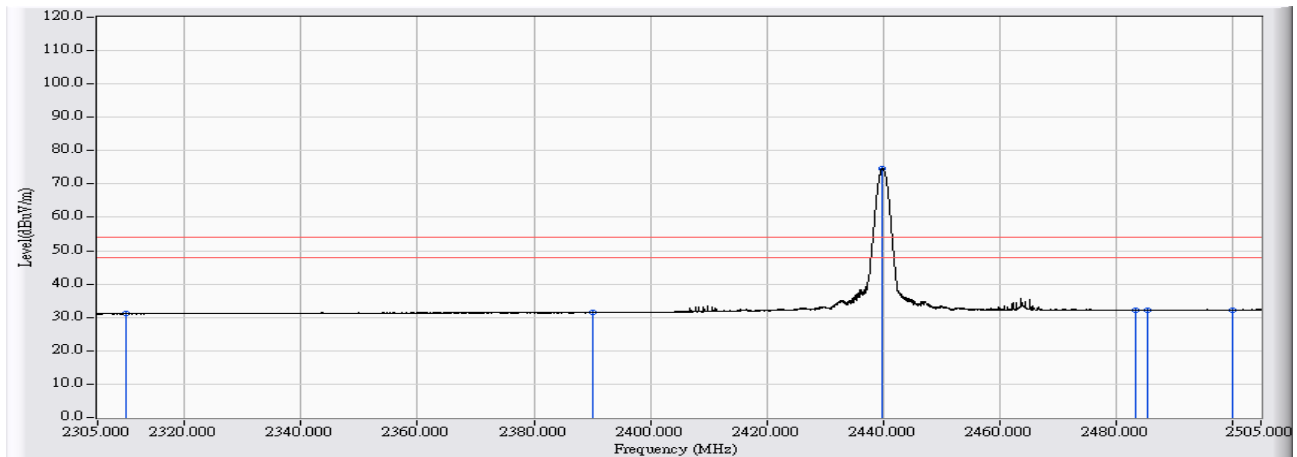


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	30.610	43.956	-30.044	74.000	PEAK
2	2385.120	13.810	36.962	50.772	-23.228	74.000	PEAK
3	2390.000	13.840	34.751	48.591	-25.409	74.000	PEAK
4	* 2439.100	14.144	82.604	96.748	22.748	74.000	PEAK
5	2483.500	14.417	33.877	48.295	-25.705	74.000	PEAK
6	2500.000	14.518	31.720	46.239	-27.761	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

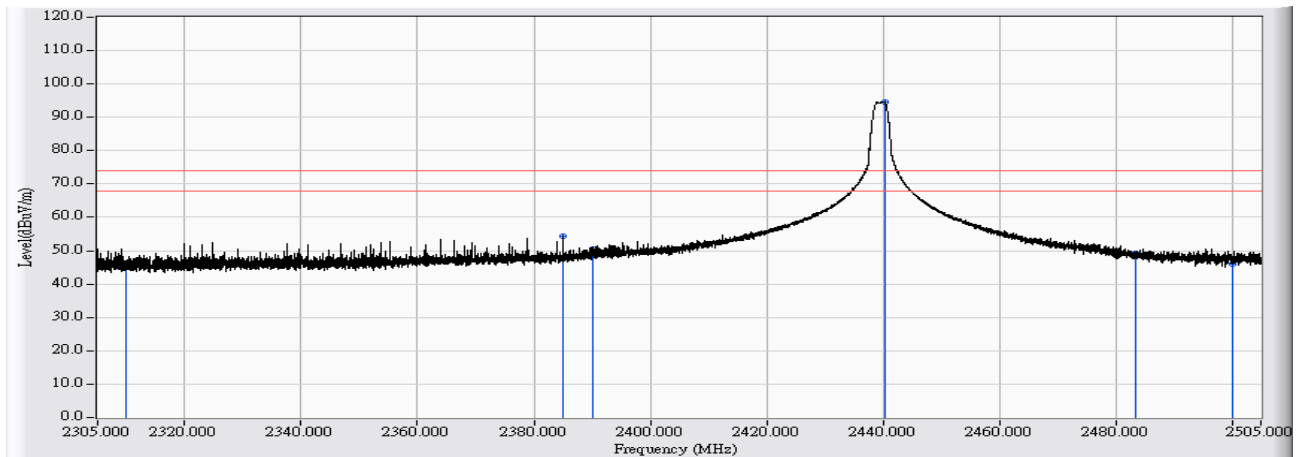


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	17.767	31.113	-22.887	54.000	AVERAGE
2	2390.000	13.840	17.629	31.469	-22.531	54.000	AVERAGE
3	* 2439.960	14.149	60.455	74.604	20.604	54.000	AVERAGE
4	2483.500	14.417	17.798	32.216	-21.784	54.000	AVERAGE
5	2485.400	14.429	17.755	32.185	-21.815	54.000	AVERAGE
6	2500.000	14.518	17.729	32.248	-21.752	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

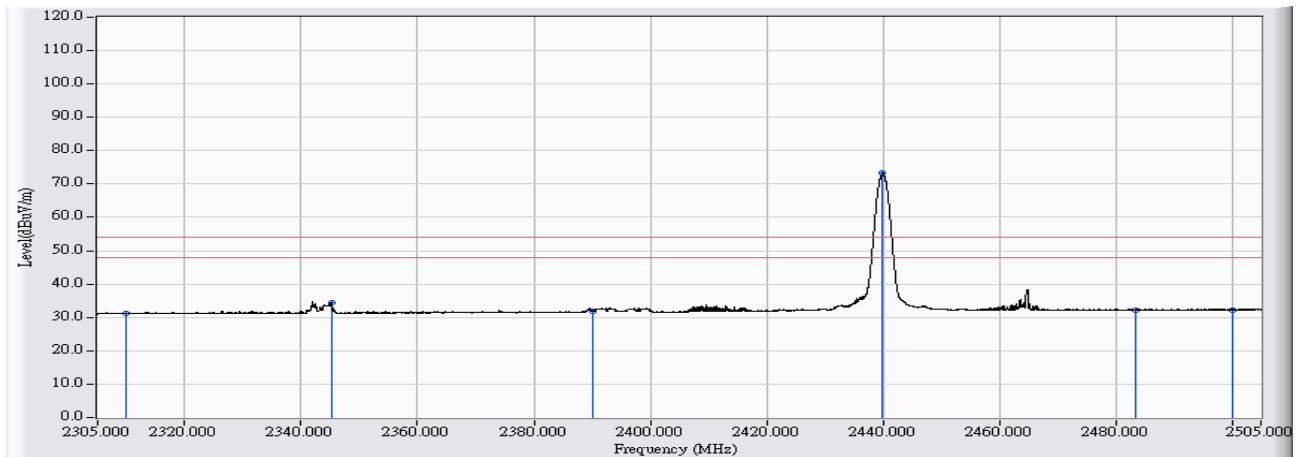


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	33.575	32.700	46.046	-27.954	74.000	PEAK
2	2385.060	33.881	40.445	54.255	-19.745	74.000	PEAK
3	2390.000	33.901	36.570	50.410	-23.590	74.000	PEAK
4	* 2440.260	34.107	80.375	94.526	20.526	74.000	PEAK
5	2483.500	34.282	34.714	49.132	-24.868	74.000	PEAK
6	2500.000	34.348	31.538	46.057	-27.943	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2440MHz

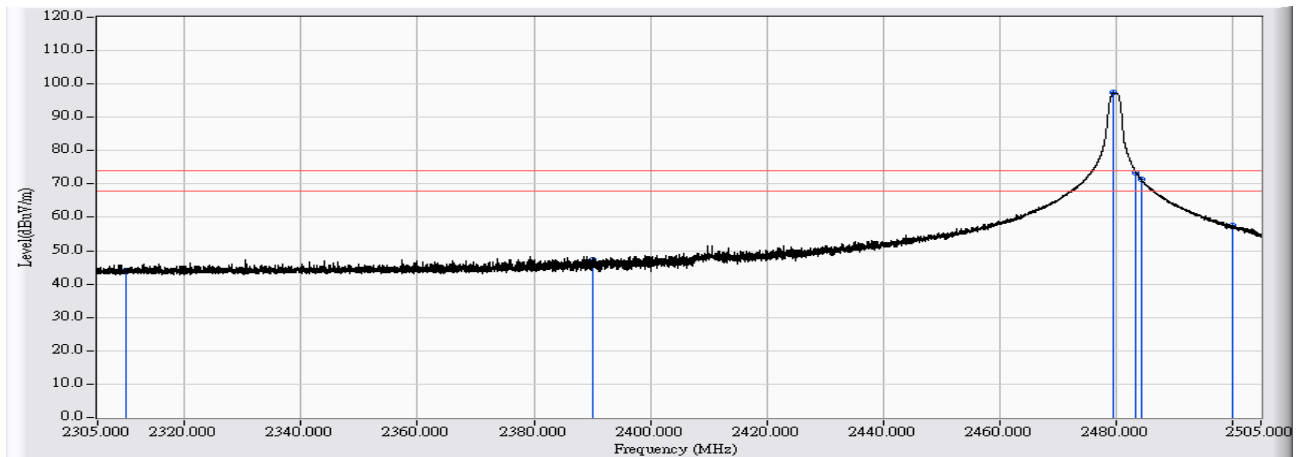


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	17.858	31.204	-22.796	54.000	AVERAGE
2		2345.140	13.563	20.762	34.325	-19.675	54.000	AVERAGE
3		2390.000	13.840	17.982	31.822	-22.178	54.000	AVERAGE
4	*	2439.960	14.149	59.325	73.474	19.474	54.000	AVERAGE
5		2483.500	14.417	17.882	32.300	-21.700	54.000	AVERAGE
6		2500.000	14.518	17.813	32.332	-21.668	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2480MHz

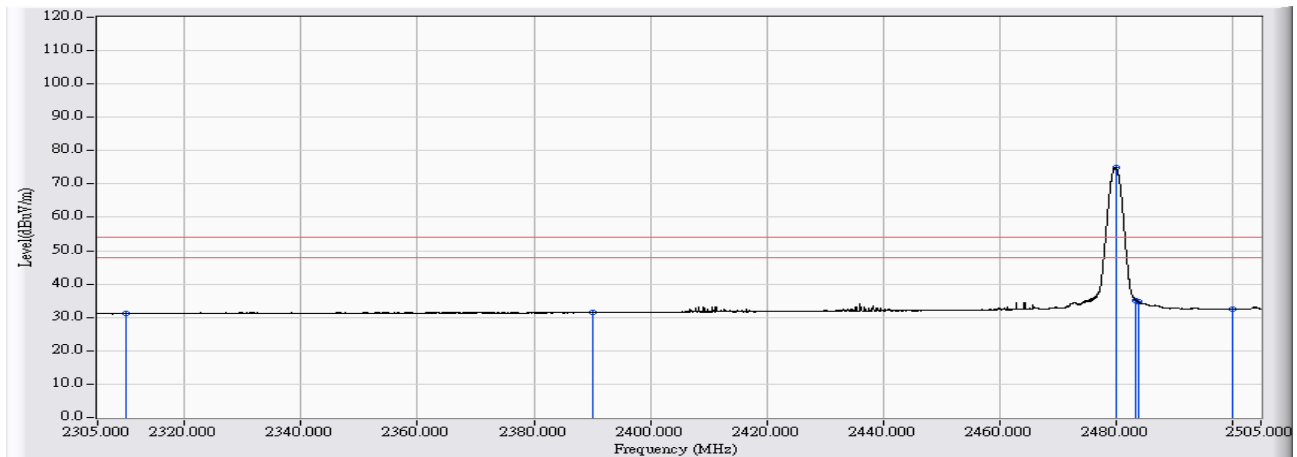


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	30.743	44.089	-29.911	74.000	PEAK
2	2390.000	13.840	33.400	47.240	-26.760	74.000	PEAK
3	* 2479.520	14.394	82.983	97.376	23.376	74.000	PEAK
4	2483.500	14.417	59.077	73.495	-0.505	74.000	PEAK
5	2484.360	14.423	56.944	71.367	-2.633	74.000	PEAK
6	2500.000	14.518	42.944	57.463	-16.537	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2480MHz

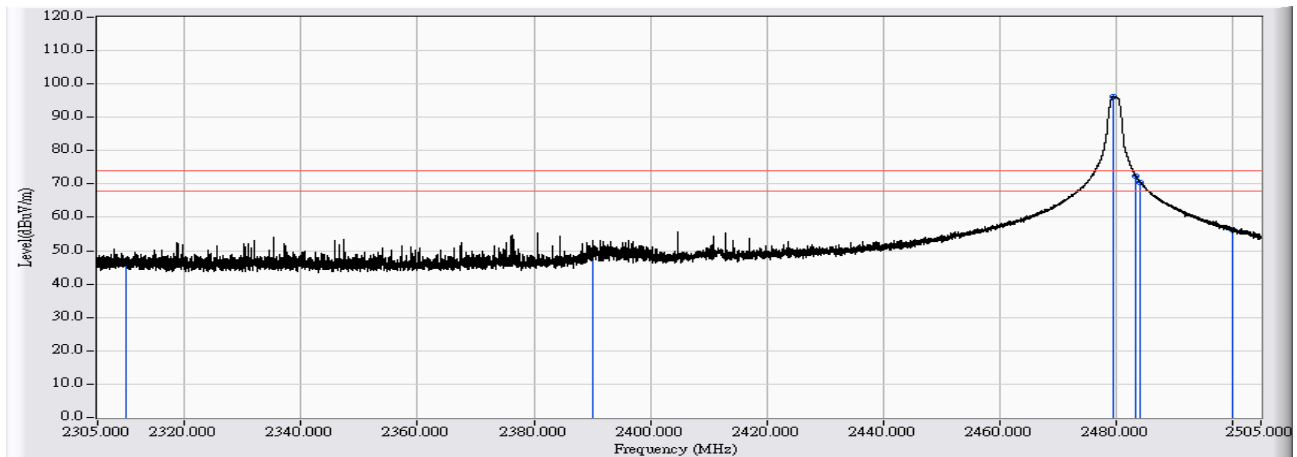


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	17.863	31.209	-22.791	54.000	AVERAGE
2	2390.000	13.840	17.663	31.503	-22.497	54.000	AVERAGE
3	* 2480.000	14.396	60.657	75.053	21.053	54.000	AVERAGE
4	2483.500	14.417	20.800	35.218	-18.782	54.000	AVERAGE
5	2483.860	14.420	20.358	34.778	-19.222	54.000	AVERAGE
6	2500.000	14.518	17.913	32.432	-21.568	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2480MHz

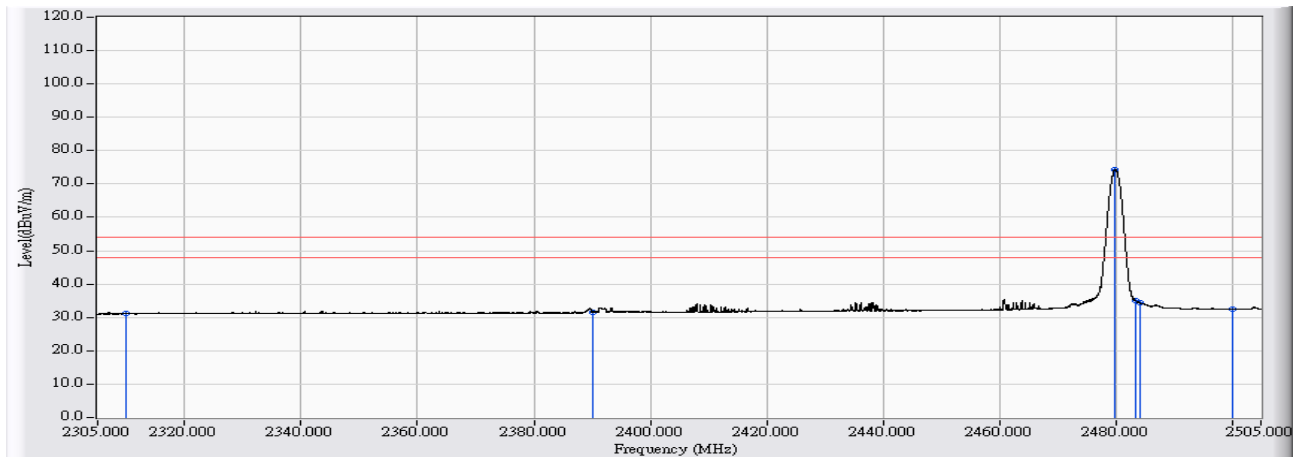


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	32.987	46.333	-27.667	74.000	PEAK
2	2390.000	13.840	36.392	50.232	-23.768	74.000	PEAK
3	* 2479.520	14.394	81.748	96.141	22.141	74.000	PEAK
4	2483.500	14.417	57.964	72.382	-1.618	74.000	PEAK
5	2484.160	14.422	56.189	70.611	-3.389	74.000	PEAK
6	2500.000	14.518	41.930	56.449	-17.551	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB2-H	Time : 2016/12/20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : MOOV HR	Note : Mode 1: Transmit Mode_ Power by PC_ 802.15.1_BLE_2480MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.346	17.759	31.105	-22.895	54.000	AVERAGE
2	2390.000	13.840	17.778	31.618	-22.382	54.000	AVERAGE
3	* 2479.920	14.396	59.842	74.238	20.238	54.000	AVERAGE
4	2483.500	14.417	20.639	35.057	-18.943	54.000	AVERAGE
5	2484.120	14.422	19.972	34.394	-19.606	54.000	AVERAGE
6	2500.000	14.518	17.882	32.401	-21.599	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

7. DTS Bandwidth

7.1. Test Equipment

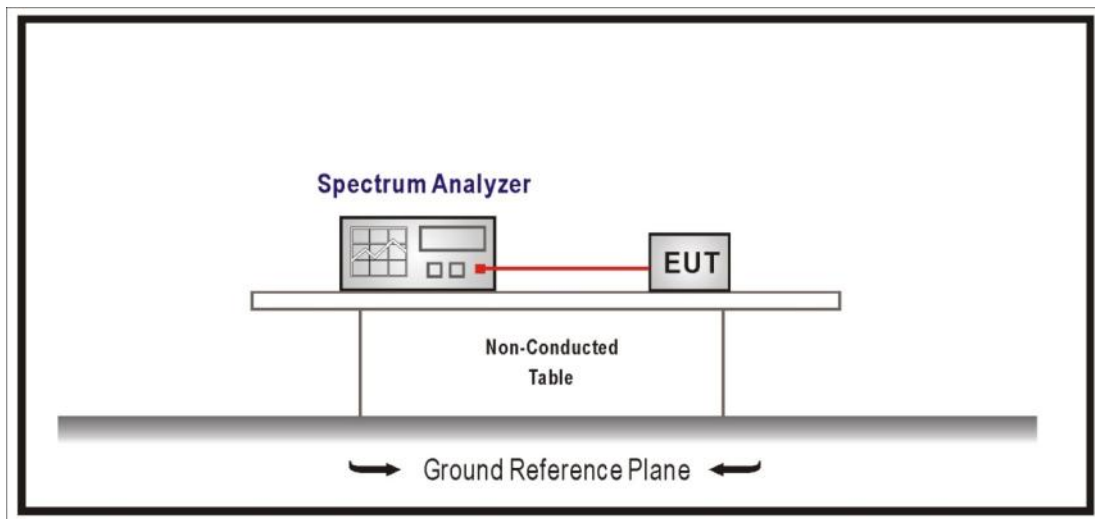
The following test equipments are used during the test:

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested procedure section 8.1 of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100KHz, Set the VBW $\geq 3 \times$ RBW, Sweep Time=Auto, Set Peak Detector.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

7.6. Uncertainty

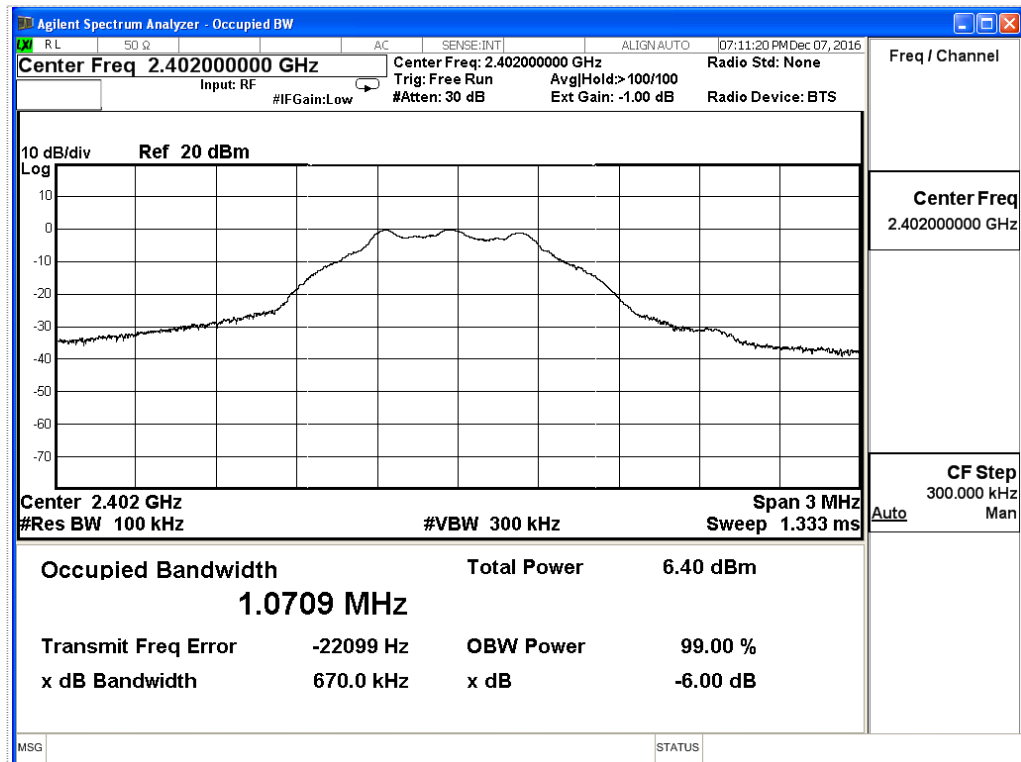
The measurement uncertainty is defined as $\pm 150\text{Hz}$

7.7. Test Result

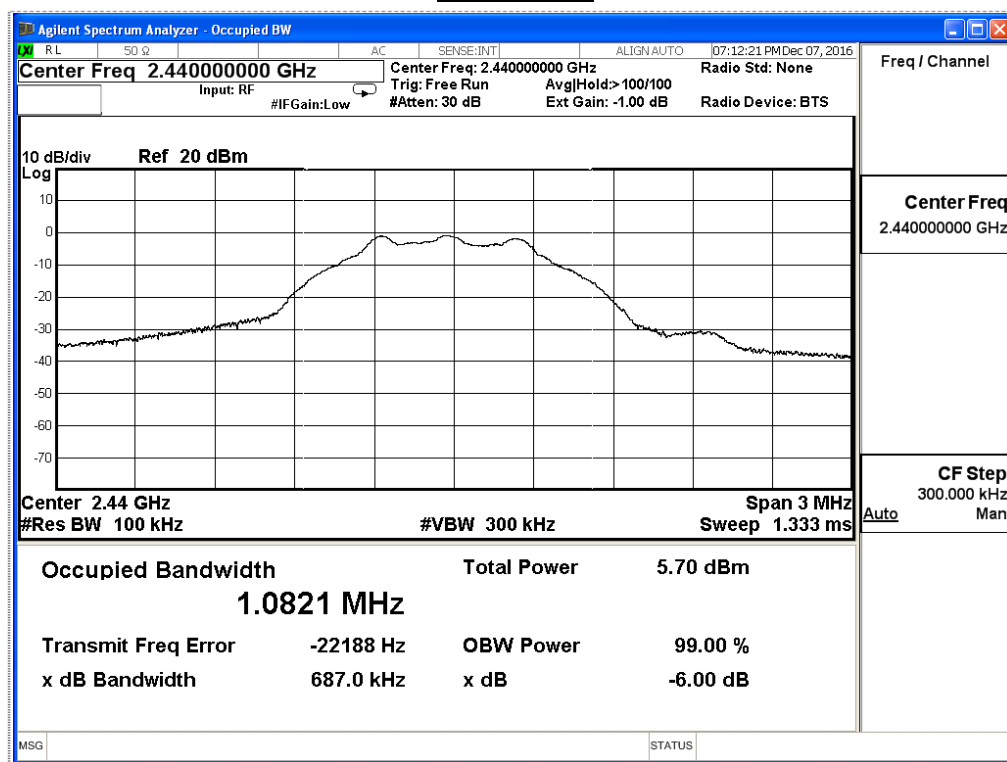
Product	MOOV HR		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR10-H

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
00	2402	0.670	≥ 0.5	Pass
19	2440	0.687	≥ 0.5	Pass
39	2480	0.706	≥ 0.5	Pass

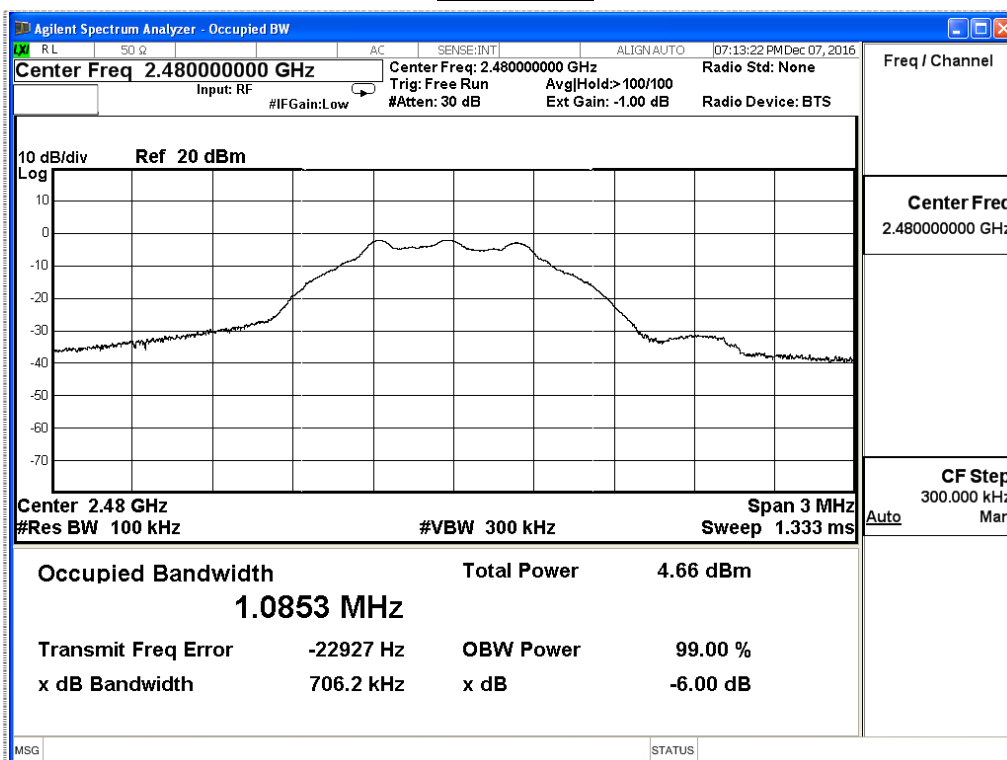
Channel 00



Channel 19



Channel 39



8. Occupied Bandwidth

8.1. Test Equipment

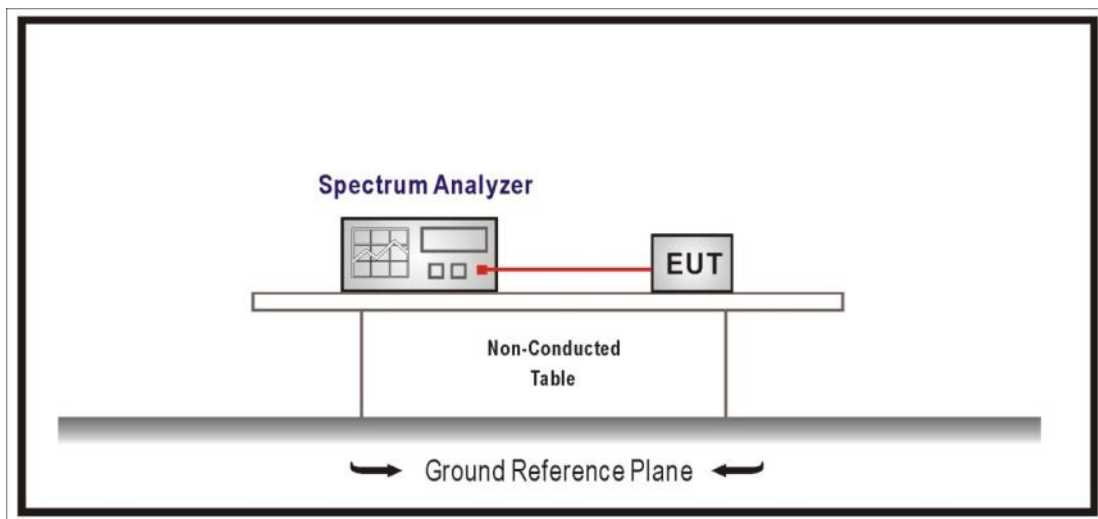
The following test equipments are used during the test:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup



8.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the OBW, Set the VBW $\geq 3 \times$ RBW, Sweep Time=Auto.

8.4. Limits

N/A

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

8.6. Uncertainty

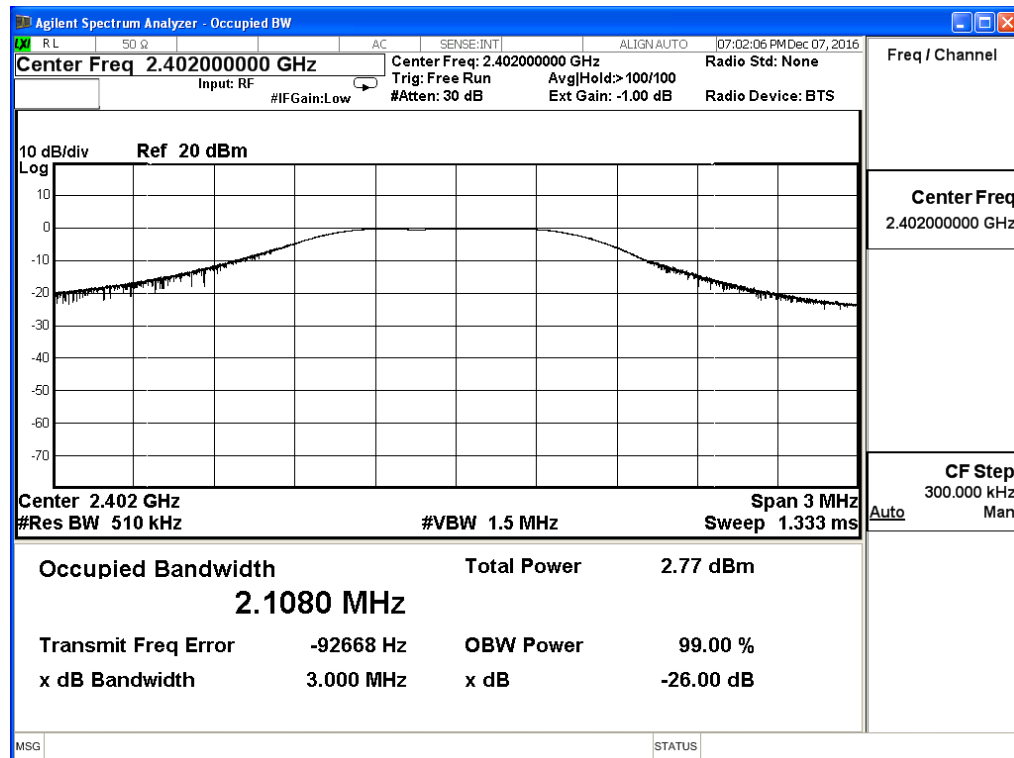
The measurement uncertainty is defined as $\pm 150\text{Hz}$

8.7. Test Result

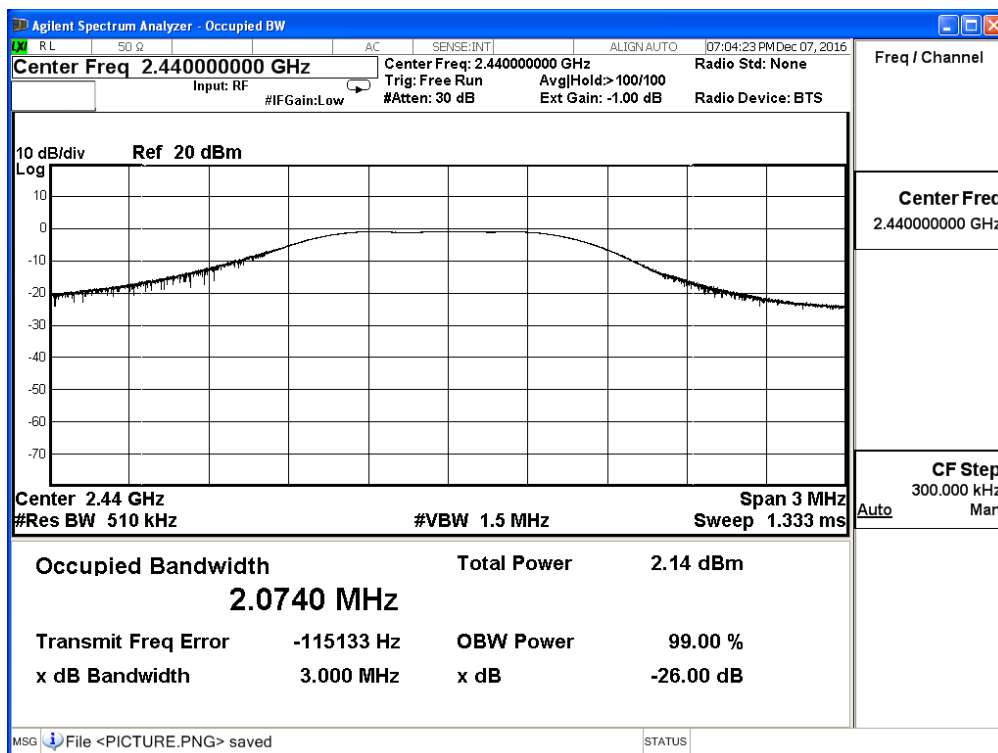
Product	MOOV HR		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR10-H

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	2.108	--	Pass
19	2440	2.074	--	Pass
39	2480	2.067	--	Pass

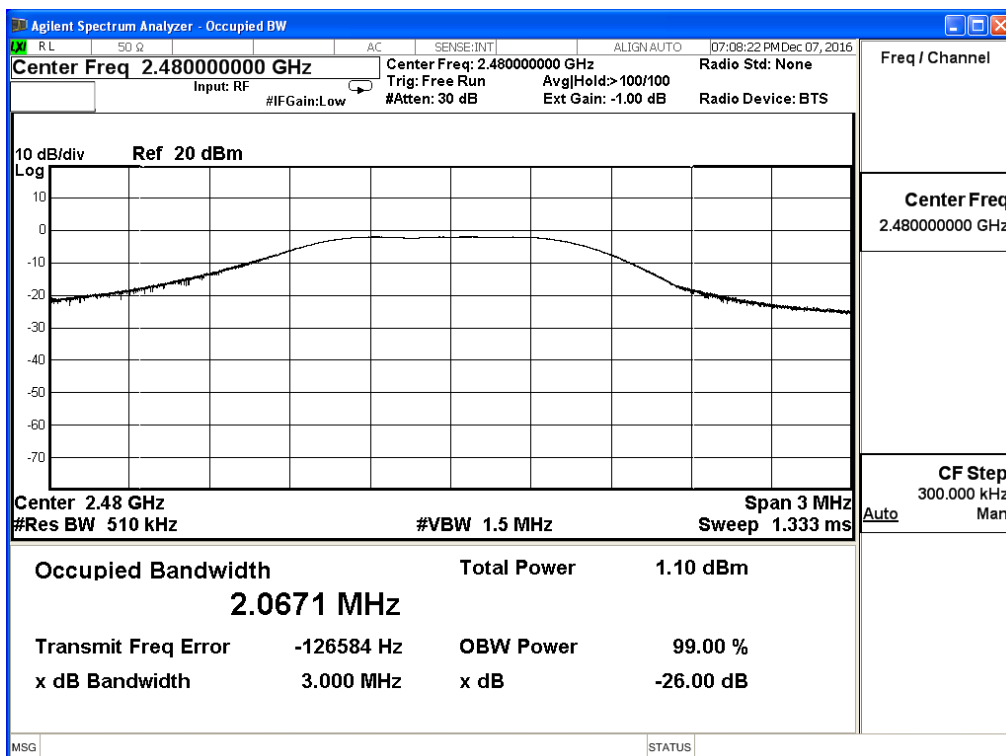
Channel 00



Channel 19



Channel 39



9. Power Density

9.1. Test Equipment

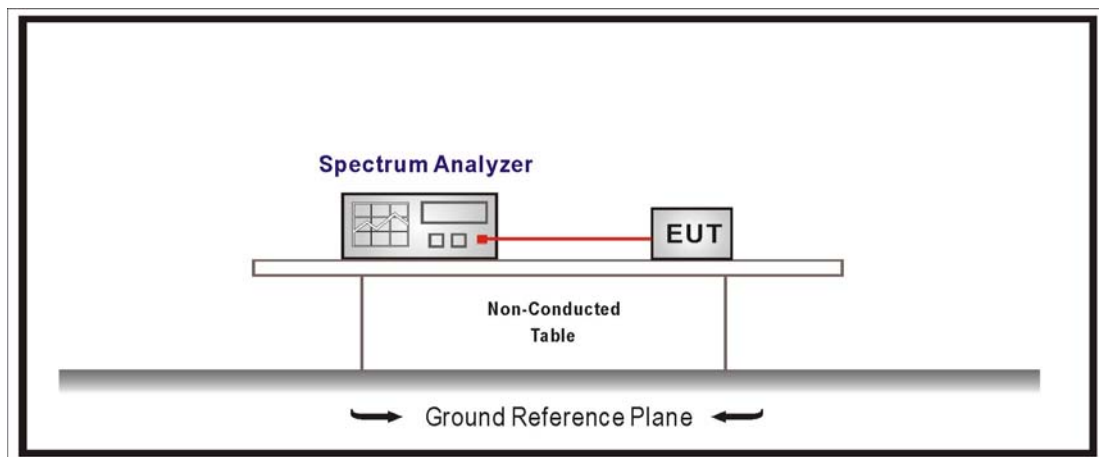
The following test equipment is used during the test:

Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

9.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure section 10.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements. Set 3KHz \leq RBW \leq 100 kHz, Set VBW \geq 3xRBW, Sweep time=Auto, Set Peak detector; The tested according to section E)c) of KDB662911 v02v01.

9.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

9.6. Uncertainty

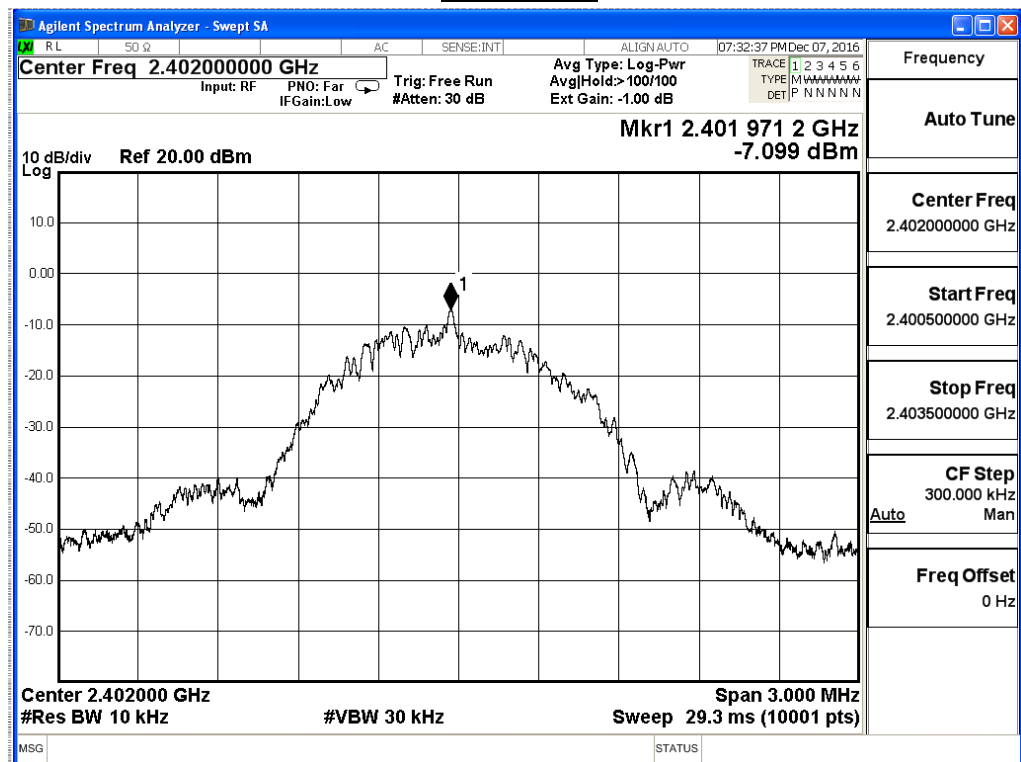
The measurement uncertainty is defined as ± 1.27 dB.

9.7. Test Result

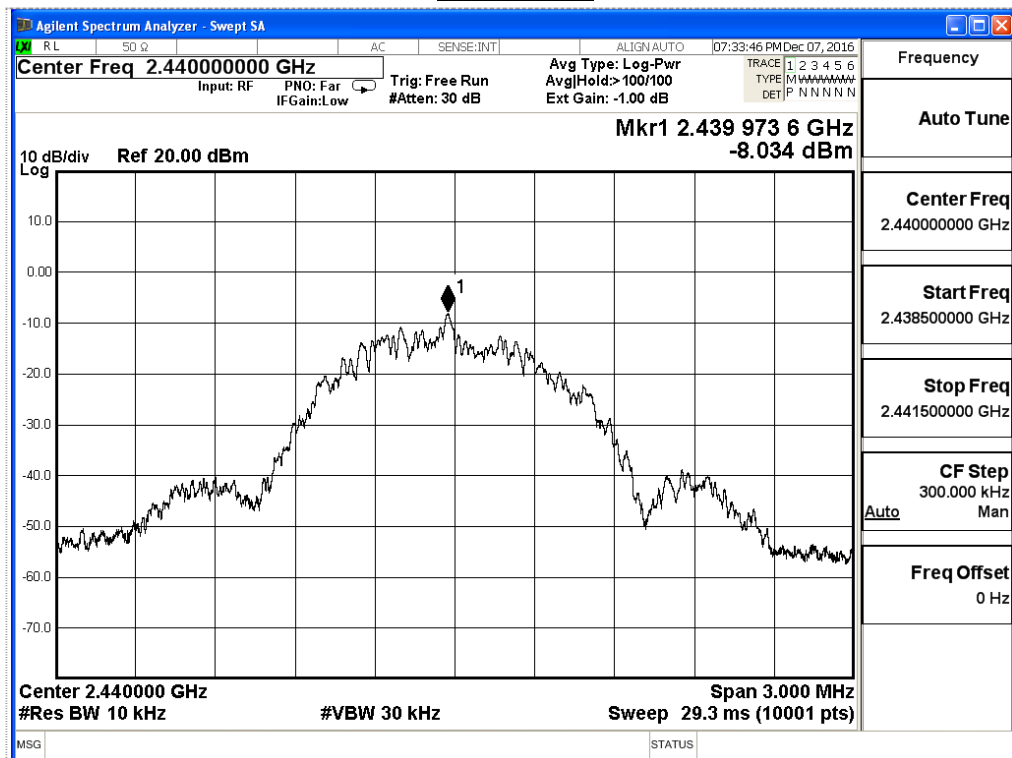
Product	MOOV HR		
Test Item	Power Density		
Test Mode	Mode 1: Transmit Mode_ Power by PC		
Date of Test	2016/12/07	Test Site	SR10-H

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-7.099	≤ 8	Pass
19	2440	-8.034	≤ 8	Pass
39	2480	-9.227	≤ 8	Pass

Channel 00



Channel 19



Channel 39

