RF MEASUREMENT REPORT

FCC ID:	2AUBBV9OTM45
Applicant:	China Starwin Science & Technology Co., Ltd
Product:	mobile satellite communication terminal
Model No.:	V9 OTM45
Trademark:	StarWin
FCC Classification:	Digital Transmission System (DTS)
FCC Rule Part(s):	Part15 Subpart C (Section 15.247)
Test Date:	August 20 ~ December 03, 2021

Reviewed By: Jame Yuan

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2107RSU044-U1	Rev. 01	Initial Report	12-30-2021	Valid

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1. General Information

1.1. Applicant

China Starwin Science & Technology Co., Ltd

Floor 3th, Building B, No. 2 Keyuannan 2nd Road, High-tech Zone, Chengdu, China

1.2. Manufacturer

China Starwin Science & Technology Co., Ltd

Floor 3th, Building B, No. 2 Keyuannan 2nd Road, High-tech Zone, Chengdu, China

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**				
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China **Laboratory Location (Suzhou - SIP)** 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
	A2LA: 3628.01		CNAS: L10551		
	FCC: CN1166		ISED: CN0001		
	VCCI:	☐R-20025	☐G-20034	☐C-20020	☐T-20020
		☐R-20141	☐G-20134	☐C-20103	☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**				
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	**Test Site – MRT Taiwan Laboratory**				
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: L3261-190725				
	FCC: 291082, TW3261		ISED: TW3261		

1.4. Product Information

Product Name	mobile satellite communication terminal
Model No.	V9 OTM45
Hardware Version	XY-V9-OTM45-202111
Software Version	XY-V9-OTM45-V1.17B
Wi-Fi Specification	802.11b/g/n
Bluetooth Version	v4.2 single mode, BLE only
Satellite Specification	Transmit: 13.75~14.50GHz Receive: 10.70~12.75GHz
GNSS Specification	GPS, BDS
Operating Temperature	-25 ~ 50 °C
Power Type	By AC Adapter
Antenna Information	Refer to section 1.5
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification Under Test

Frequency Range	2402~ 2480MHz
Channel Number	40
Data Rate	Up to 2Mbps
Type of Modulation	GFSK
Channel Spacing	2MHz
Antenna Type	Dipole Antenna
Antenna Gain	1.5dBi

Note: For other features of this EUT, test report will be issued separately.

1.6. Working Frequencies

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	--	--	--	--

2. Test Configuration

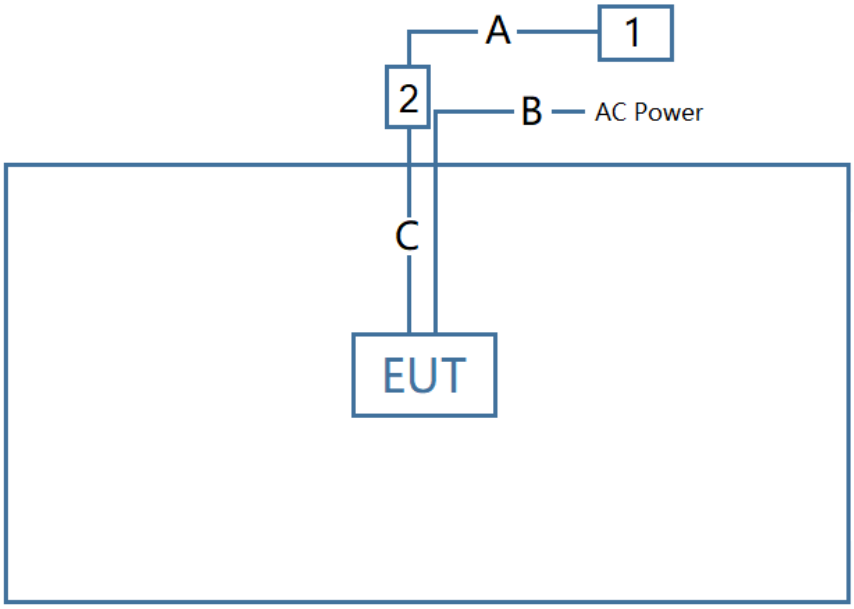
2.1. Test Mode

Mode 1: Transmit by BLE-1Mbps
Mode 2: Transmit by BLE-2Mbps

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram



Cable Type		Cable Description
A	USB Cable	Shielded, <2.0m
B	Power Cable	Non-Shielded, <3.0m
C	Serial Cable	Shielded, <2.0m

Product		Manufacturer	Model No.
1	Notebook	DELL	P62G
2	CC Debug	NA	NA

2.3. Test Software

The test utility software used during testing was “SmartRF_Studio”, and the version was “v2.6.0”

Test Mode	Test Channel (MHz)	Power Parameter Value
BLE-1Mbps	2402	Default (5)
	2440	Default (5)
	2480	Default (5)
BLE-2Mbps	2402	Default (5)
	2440	Default (5)
	2480	Default (5)

2.4. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.247
- KDB 558074 D01v05r02
- ANSI C63.10-2013

2.5. Duty Cycle

Bluetooth-LE (DTS) operation is possible in channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
BLE-1Mbps	100%
BLE-2Mbps	100%

Duty Cycle	
BLE-1Mbps	BLE-2Mbps

2.6. Test Environment Condition

Ambient Temp.	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. Antenna Requirement

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antenna of the device is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Test Equipment Calibration Date

No.	Instrument	Manufacturer	Model No.	Asset No.	Last Cali. Date	Cali. Due Date	Test Site
1	EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/1/4	WZ-AC1
2	Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2022/9/16	WZ-AC1
3	Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2022/11/12	WZ-AC1
4	TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2022/8/5	WZ-AC1
5	Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2022/4/29	WZ-AC1
6	Thermohygrometer	testo	608-H1	MRTSUE06403	1 year	2022/6/28	WZ-AC1
7	Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022/1/6	WZ-AC1
8	Thermohygrometer	testo	Testo 608-H1	MRTSUE11039	1 year	2022/11/11	WZ-AC1
9	Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2022/10/28	WZ-AC1/WZ-AC2
10	Horn Antenna	ETS	3117	MRTSUE06257	1 year	2022/9/25	WZ-AC1/WZ-AC2
11	Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2021/12/14	WZ-AC1/WZ-AC2
12	Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2022/6/8	WZ-SR2
13	Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	/	/	WZ-SR2
14	Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2022/6/28	WZ-SR2
15	Four-Line V-Network	R&S	ENV432	MRTSUE06615	1 year	2022/10/10	WZ-SR2
16	EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2022/11/1	WZ-SR2
17	USB Power Sensor	Agilent	U2021XA	MRTSUE06030	1 year	2022/10/10	WZ-SR3/WZ-SR5
18	Signal Generator	R&S	SMU200A	MRTSUE06490	1 year	2022/2/23	WZ-SR4/WZ-SR5/ WZ-SR6
19	Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2022/4/13	WZ-SR5
20	Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2022/6/28	WZ-SR5
21	Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	/	/	WZ-SR5
22	Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2022/6/24	WZ-SR5

Software	Version	Function
EMI Software	V3	EMI Test Software

5. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.15dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Dendity		Pass
15.247(d)	Band Edge / Out- of-Band Emissions		Pass
15.205, 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Remark:

1. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

6.2. 6dB Bandwidth

6.2.1.Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

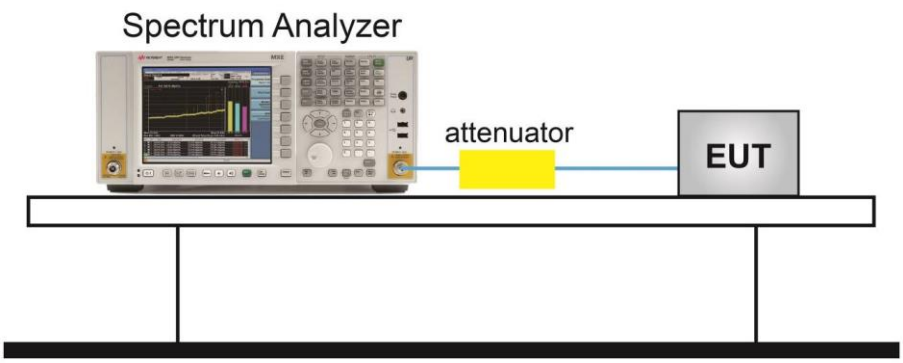
6.2.2.Test Procedure used

ANSI C63.10-2013 - Section 11.8 (6dB bandwidth)

6.2.3.Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace was allowed to stabilize

6.2.4.Test Setup



6.2.5.Test Result

Refer to Appendix A.

6.3. Output Power

6.3.1.Test Limit

The maximum out power shall be less 1 Watt (30dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3.2.Test Procedure Used

ANSI C63.10-2013 - Section 11.9.1.3 PKPM1 Peak-reading power meter method

ANSI C63.10-2013 - Section 11.9.2.3.2 Method AVGPM-G

6.3.3.Test Setting

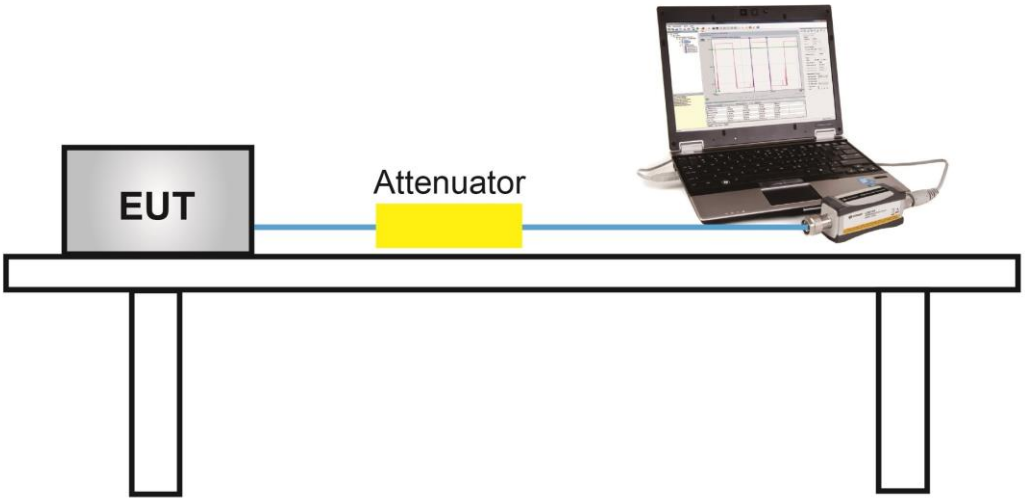
Method PKPM1 (Peak power measurement)

Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

Method AVGPM-G (Measurement using a gated RF average-reading power meter)

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.

6.3.4.Test Setup



6.3.5.Test Result

Refer to Appendix A.

6.4. Power Spectral Density

6.4.1.Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

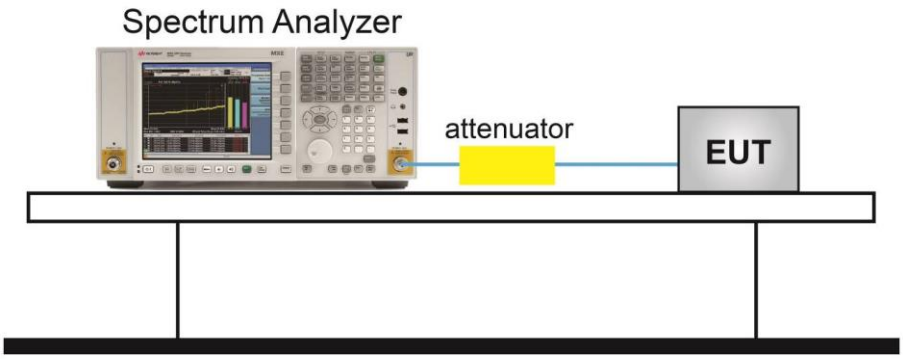
6.4.2.Test Procedure Used

ANSI C63.10-2013 - Section 11.10.2.

6.4.3.Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3kHz
4. VBW = 10kHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

6.4.4.Test Setup



6.4.5.Test Result

Refer to Appendix A.

6.5. Conducted Band Edge and Out-of-Band Emissions

6.5.1.Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

6.5.2.Test Procedure Used

ANSI C63.10-2013 - Section 11.11.2 & 11.11.3.

6.5.3.Test Setting

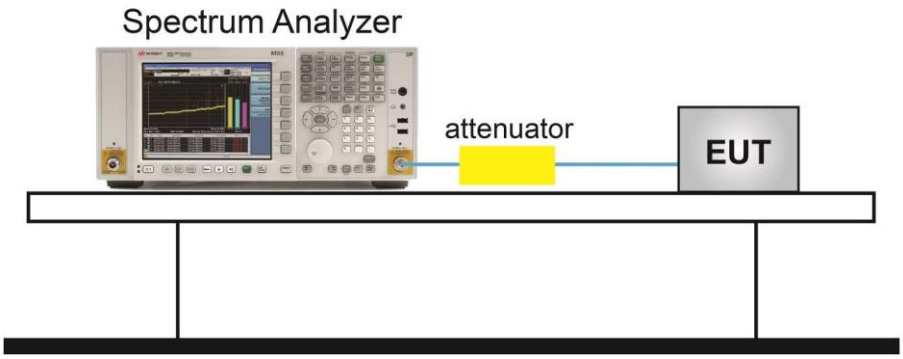
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW ≥ 3 x RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100KHz
3. VBW = 300KHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

6.5.4.Test Setup



6.5.5.Test Result

Refer to Appendix A.

6.6. Radiated Spurious Emission

6.6.1.Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.6.2.Test Procedure Used

ANSI C63.10-2013 - Section 11.11 & 11.12

ANSI C63.10-2013 Section 6.3 (General Requirements)

ANSI C63.10-2013 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10-2013 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10-2013 Section 6.6 (Standard test method above 1GHz)

6.6.3.Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. Span was set greater than 1MHz

3. RBW = as specified in Table 1

4. Detector = CISPR quasi-peak

5. Sweep time = auto couple

6. Trace was allowed to stabilize

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1MHz

3. VBW = 3MHz

4. Detector = peak

5. Sweep time = auto couple

6. Trace mode = max hold

7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1MHz

3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.

If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.

4. Detector = Peak

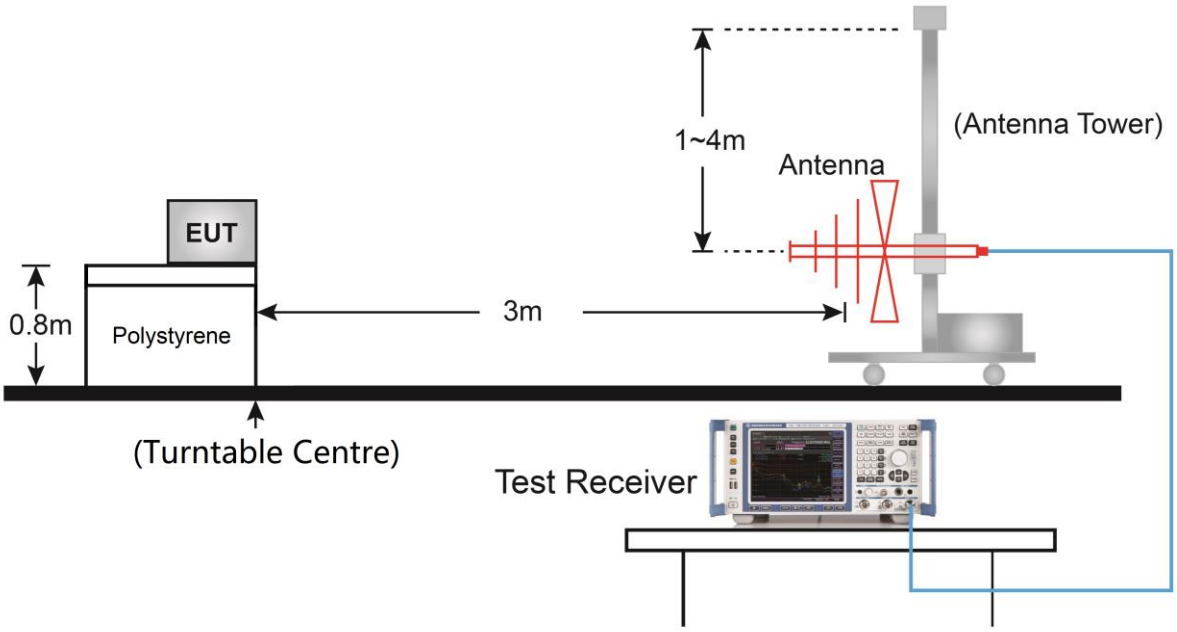
5. Sweep time = auto

6. Trace mode = max hold

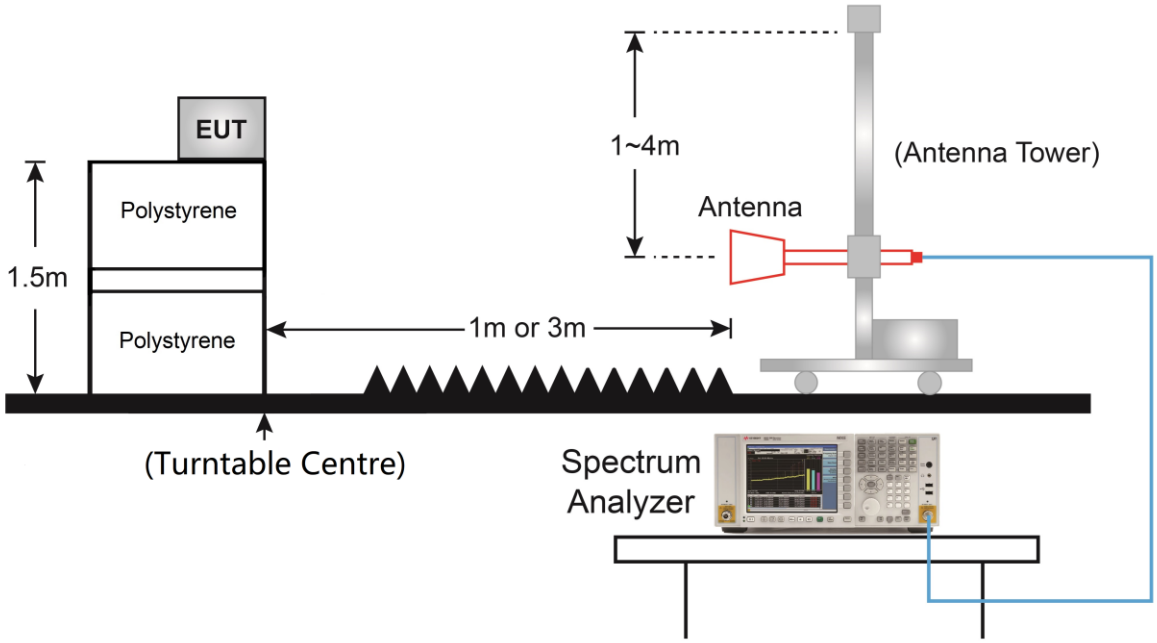
7. Trace was allowed to stabilize

6.6.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.6.5.Test Result

Refer to Appendix A.

6.7. Radiated Restricted Band Edge

6.7.1.Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1] 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
8.41425 - 8.41475	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	([2])
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2.Test Procedure Used

ANSI C63.10-2013 Section 6.3 (General Requirements)

ANSI C63.10-2013 Section 6.6 (Standard test method above 1GHz)

6.7.3.Test Setting

Peak Field Strength Measurements

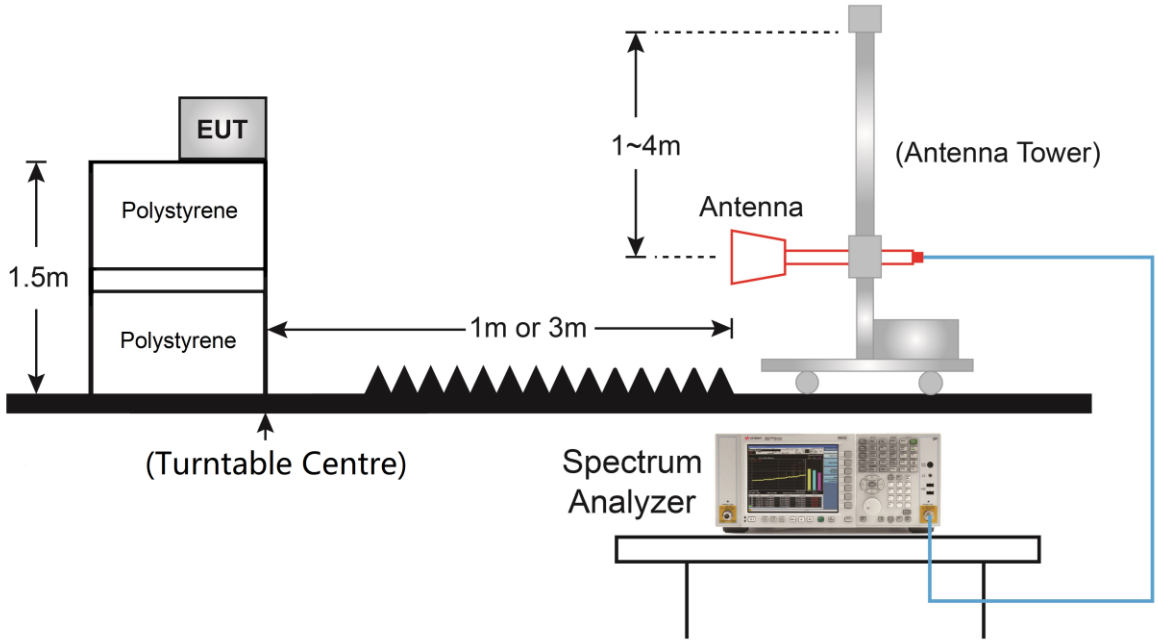
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.

   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.7.4.Test Setup



6.7.5.Test Result

Refer to Appendix A.

6.8. AC Conducted Emissions

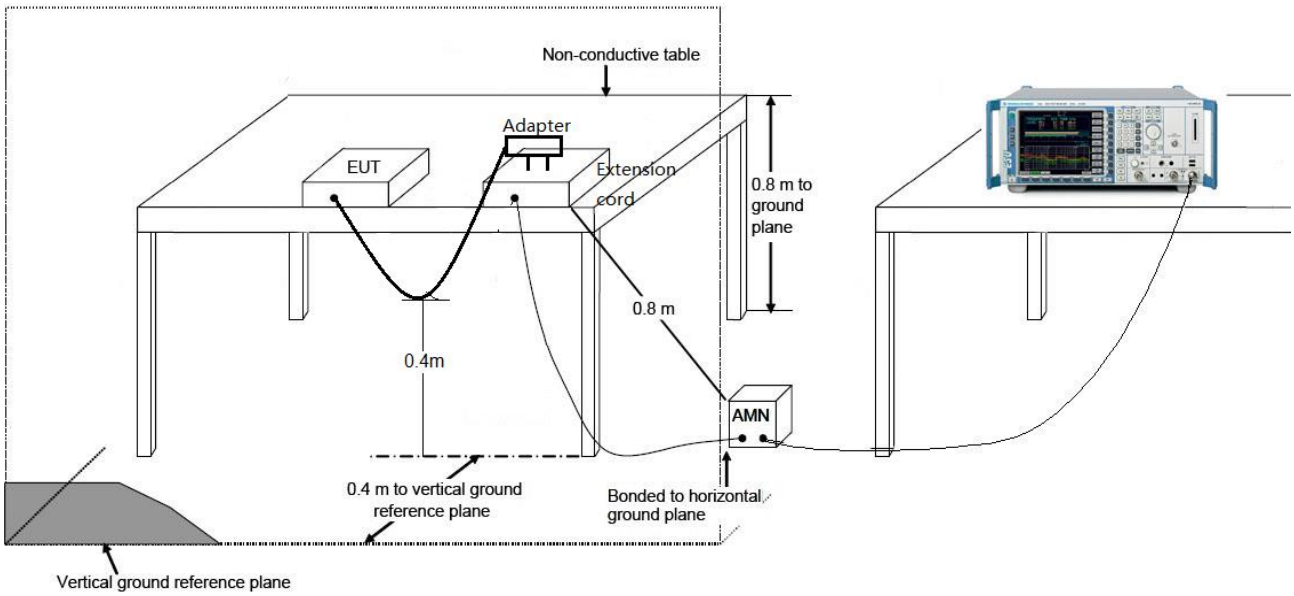
6.8.1.Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 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 0.15MHz to 0.5MHz.

6.8.2.Test Setup



6.8.3.Test Result

Refer to Appendix A.

Appendix A – Test Result

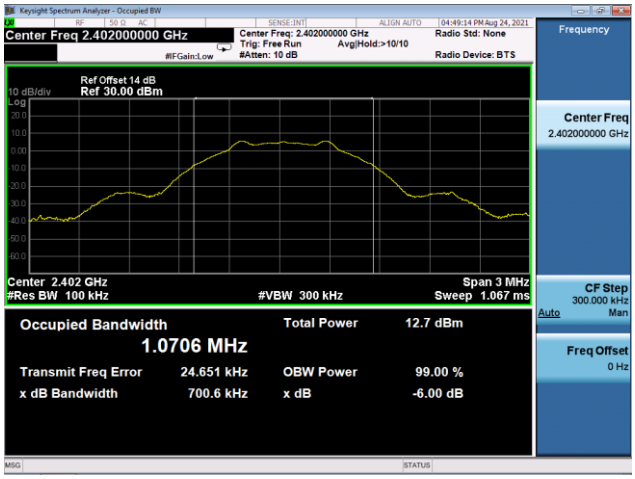
A.1 6dB Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2021/08/24		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
BLE	1Mbps	00	2402	0.701	≥ 0.5
BLE	1Mbps	19	2440	0.720	≥ 0.5
BLE	1Mbps	39	2480	0.728	≥ 0.5
BLE	2Mbps	00	2402	1.335	≥ 0.5
BLE	2Mbps	19	2440	1.425	≥ 0.5
BLE	2Mbps	39	2480	1.443	≥ 0.5

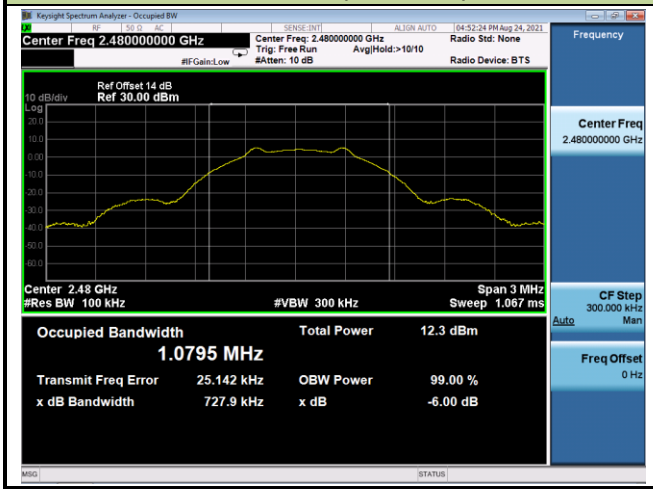
BLE-1Mbps 6dB Bandwidth

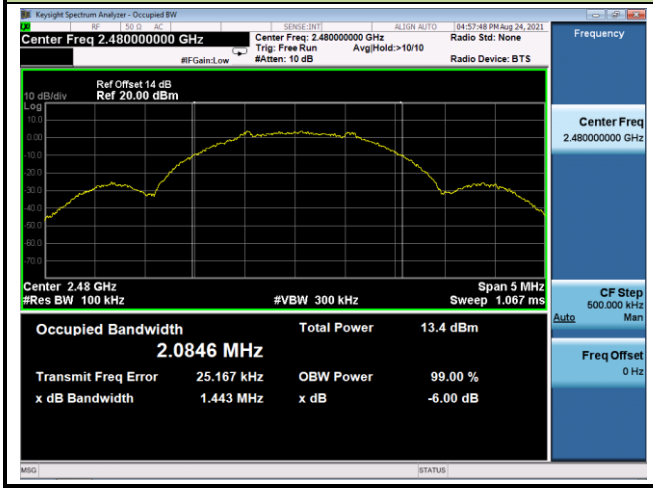
Channel 00 (2402MHz)



Channel 19 (2440MHz)

Channel 39 (2480MHz)



BLE-2Mbps 6dB Bandwidth	
Channel 00 (2402MHz)	Channel 19 (2440MHz)
Channel 39 (2480MHz)	
	

A.2 Output Power Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2021/08/20		

Test Result of Peak Output Power

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	4.86	≤ 30.00	Pass
BLE	1Mbps	19	2440	4.70	≤ 30.00	Pass
BLE	1Mbps	39	2480	4.41	≤ 30.00	Pass
BLE	2Mbps	00	2402	4.90	≤ 30.00	Pass
BLE	2Mbps	19	2440	4.71	≤ 30.00	Pass
BLE	2Mbps	39	2480	4.40	≤ 30.00	Pass

Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Average Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	4.73	≤ 30.00	Pass
BLE	1Mbps	19	2440	4.58	≤ 30.00	Pass
BLE	1Mbps	39	2480	4.27	≤ 30.00	Pass
BLE	2Mbps	00	2402	4.77	≤ 30.00	Pass
BLE	2Mbps	19	2440	4.59	≤ 30.00	Pass
BLE	2Mbps	39	2480	4.28	≤ 30.00	Pass

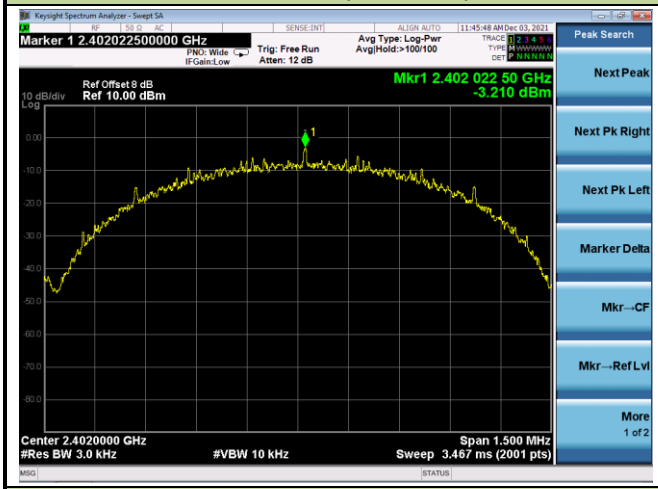
A.3 Power Spectral Density Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2021/12/03		

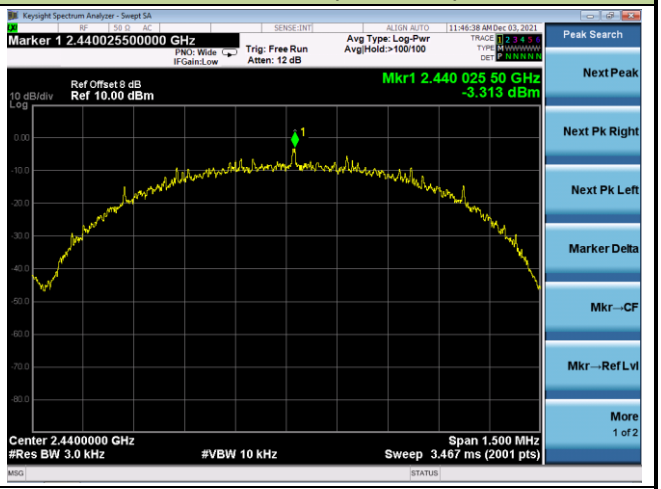
Test Mode	Data Rate	Channel No.	Frequency (MHz)	PSD Result (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE	1Mbps	00	2402	-3.21	≤ 8.00	Pass
BLE	1Mbps	19	2440	-3.31	≤ 8.00	Pass
BLE	1Mbps	39	2480	-5.81	≤ 8.00	Pass
BLE	2Mbps	00	2402	-9.02	≤ 8.00	Pass
BLE	2Mbps	19	2440	-8.45	≤ 8.00	Pass
BLE	2Mbps	39	2480	-10.53	≤ 8.00	Pass

BLE-1Mbps PSD

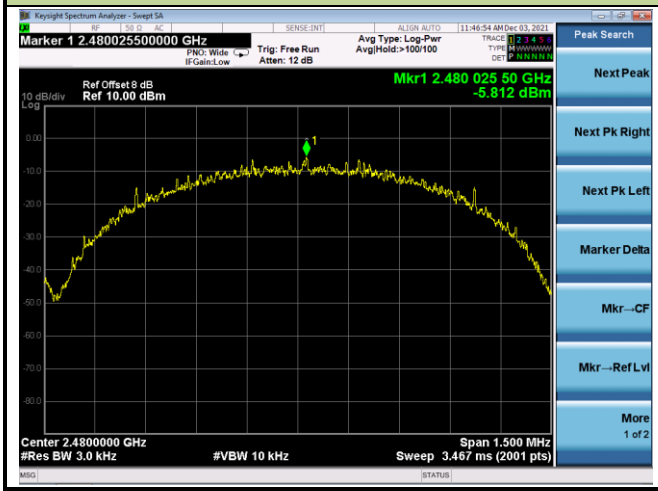
Channel 00 (2402MHz)

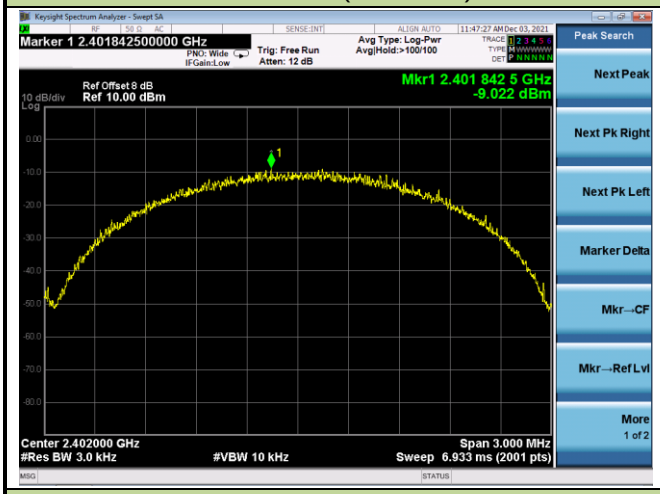
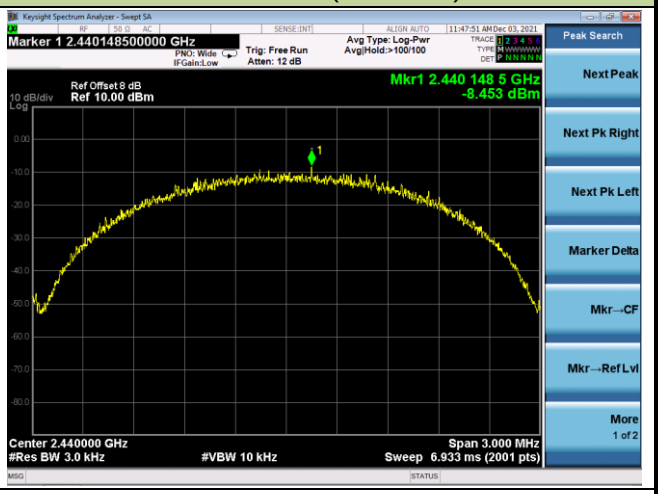
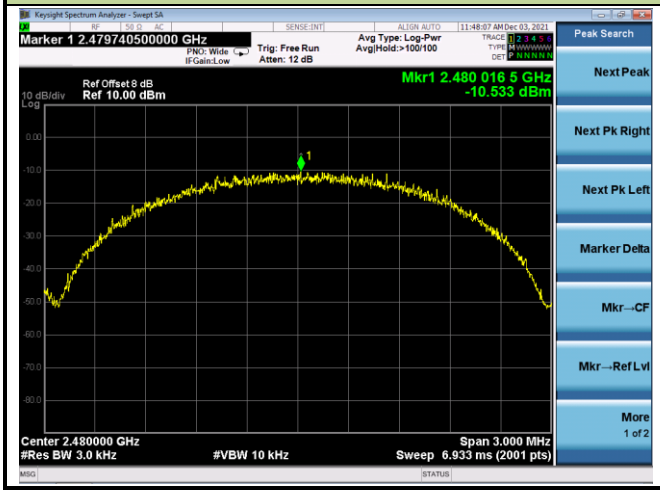


Channel 19 (2440MHz)



Channel 39 (2480MHz)

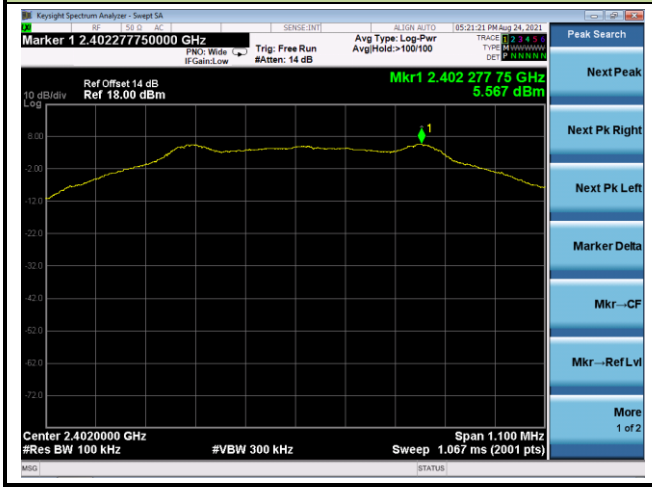


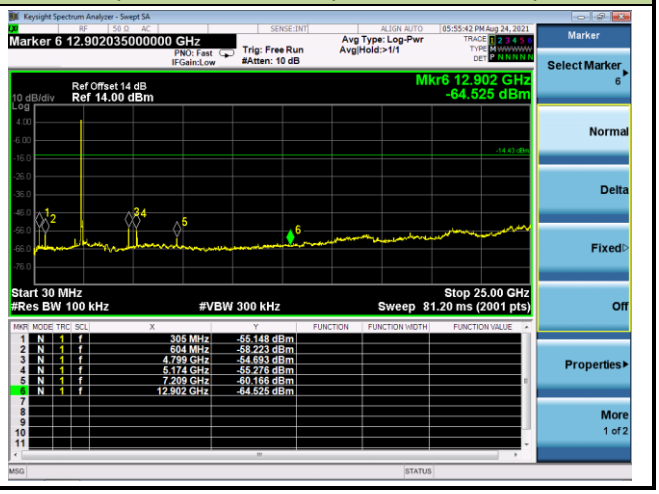
BLE-2Mbps PSD	
Channel 00 (2402MHz)	Channel 19 (2440MHz)
	
Channel 39 (2480MHz)	
	

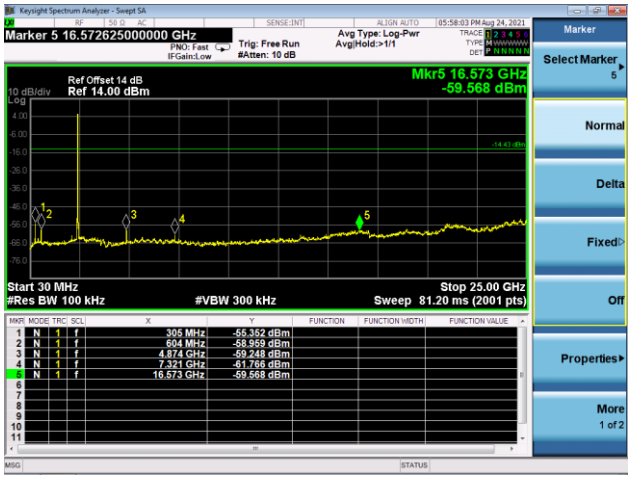
A.4 Conducted Band Edge and Out-of-Band Emissions Test Result

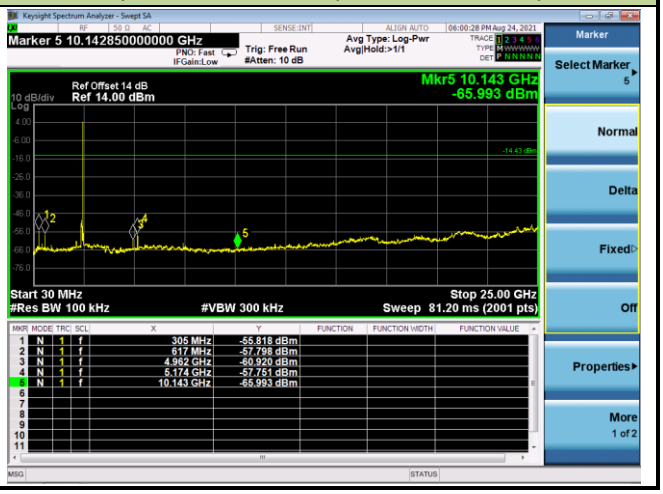
Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2021/08/24		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Limit (dBc)	Result
BLE	1Mbps	00	2402	20	Pass
BLE	1Mbps	19	2440	20	Pass
BLE	1Mbps	39	2480	20	Pass
BLE	2Mbps	00	2402	20	Pass
BLE	2Mbps	19	2440	20	Pass
BLE	2Mbps	39	2480	20	Pass

Reference Level	
	

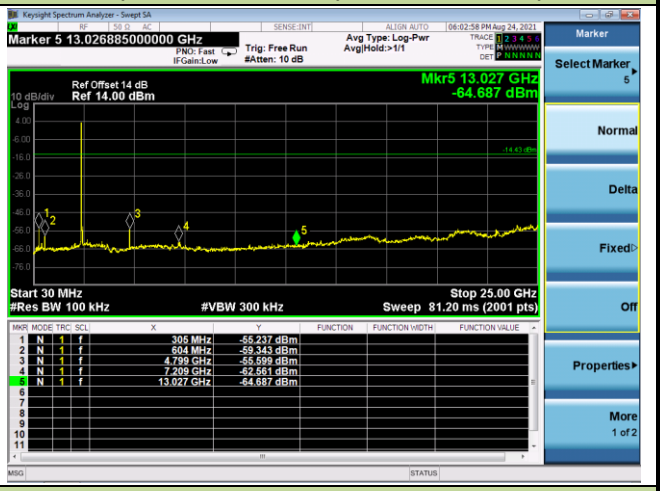
BLE-1Mbps Out-of-Band Emissions	
Channel 00 (2402MHz)	
Low Band Edge	Spurious Emission (30MHz ~ 25GHz)
	

Channel 19 (2440MHz)	
Spurious Emission (30MHz ~ 25GHz)	
	

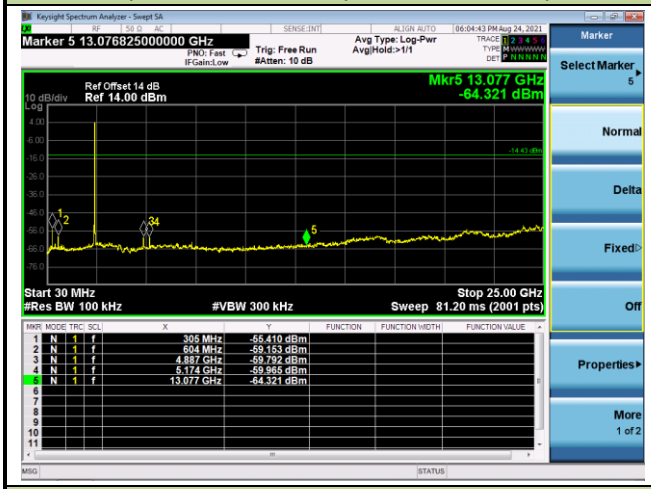
Channel 39 (2480MHz)	
High Band Edge	Spurious Emission (30MHz ~ 25GHz)
	

BLE-2Mbps Out-of-Band Emissions

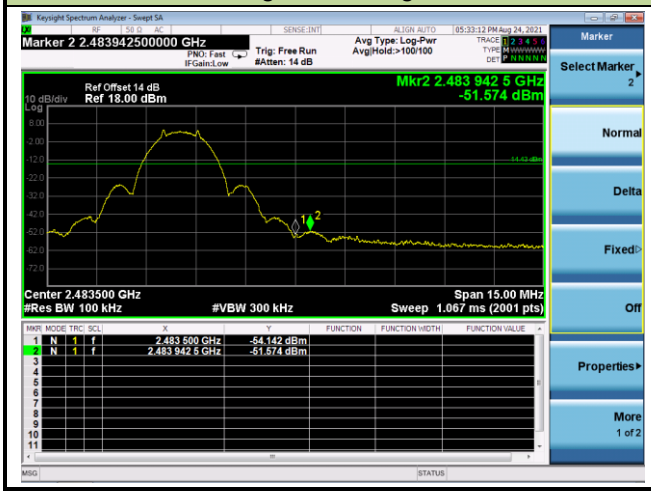
Channel 00 (2402MHz)

Low Band Edge	Spurious Emission (30MHz ~ 25GHz)
	

Channel 19 (2440MHz)

Spurious Emission (30MHz ~ 25GHz)	
	

Channel 39 (2480MHz)

High Band Edge	Spurious Emission (30MHz ~ 25GHz)
	

A.5 Radiated Spurious Emission Test Result

Test Site	WZ-AC1	Test Engineer	Tommy Tang
Test Date	2021/09/29	Test Mode	BLE-1Mbps
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4799.5	38.8	3.8	42.6	74.0	-31.4	Peak	Horizontal
	7485.5	37.1	8.9	46.0	74.0	-28.0	Peak	Horizontal
	11752.5	36.5	12.7	49.2	74.0	-24.8	Peak	Horizontal
	4808.0	40.0	3.8	43.8	74.0	-30.2	Peak	Vertical
	7434.5	36.3	8.9	45.2	74.0	-28.8	Peak	Vertical
	10936.5	35.9	13.9	49.8	74.0	-24.2	Peak	Vertical
19	4884.5	37.5	4.0	41.5	74.0	-32.5	Peak	Horizontal
	7324.0	42.7	9.2	51.9	74.0	-22.1	Peak	Horizontal
	10936.5	36.1	13.9	50.0	74.0	-24.0	Peak	Horizontal
	4876.0	40.2	4.0	44.2	74.0	-29.8	Peak	Vertical
	7315.5	42.9	9.2	52.1	74.0	-21.9	Peak	Vertical
	11531.5	37.8	13.2	51.0	74.0	-23.0	Peak	Vertical
39	4961.0	37.6	4.4	42.0	74.0	-32.0	Peak	Horizontal
	7443.0	43.0	8.9	51.9	74.0	-22.1	Peak	Horizontal
	11506.0	35.7	13.3	49.0	74.0	-25.0	Peak	Horizontal
	4961.0	37.2	4.4	41.6	74.0	-32.4	Peak	Vertical
	7443.0	41.4	8.9	50.3	74.0	-23.7	Peak	Vertical
	11582.5	37.1	13.0	50.1	74.0	-23.9	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	WZ-AC1	Test Engineer	Tommy Tang
Test Date	2021/09/29	Test Mode	BLE-2Mbps
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

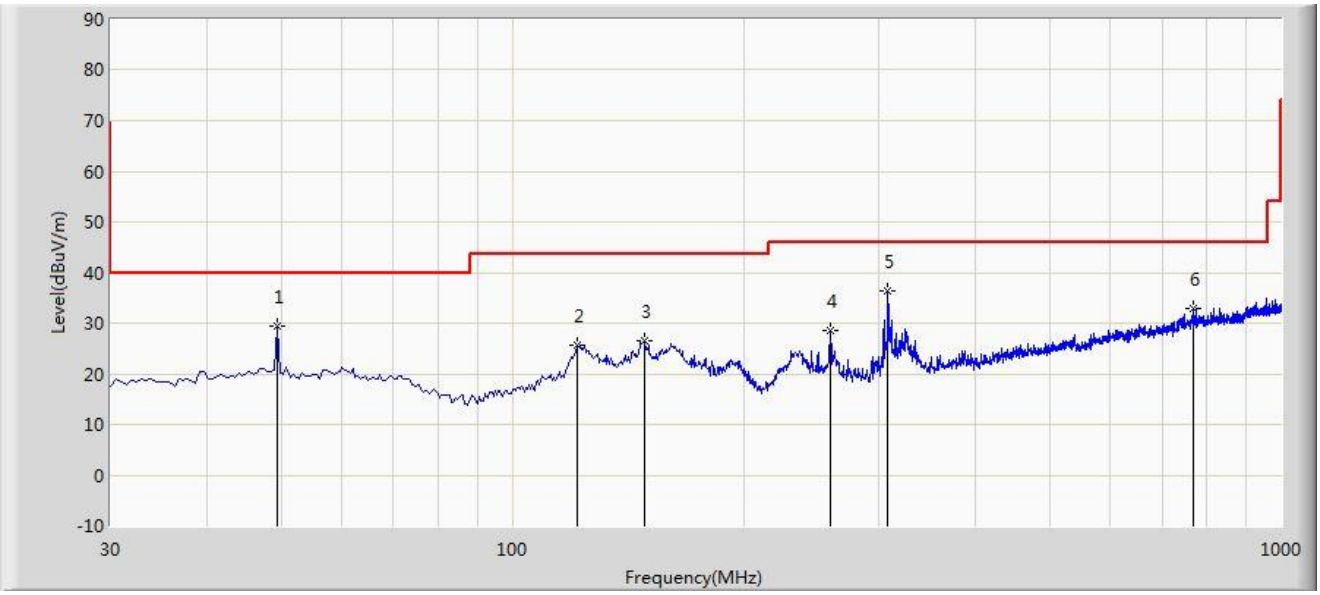
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4799.5	37.1	3.8	40.9	74.0	-33.1	Peak	Horizontal
	7332.5	35.1	9.1	44.2	74.0	-29.8	Peak	Horizontal
	11914.0	36.8	12.5	49.3	74.0	-24.7	Peak	Horizontal
	4808.0	39.5	3.8	43.3	74.0	-30.7	Peak	Vertical
	7502.5	36.9	8.9	45.8	74.0	-28.2	Peak	Vertical
	11098.0	35.7	13.5	49.2	74.0	-24.8	Peak	Vertical
19	4927.0	36.0	4.2	40.2	74.0	-33.8	Peak	Horizontal
	7324.0	42.9	9.2	52.1	74.0	-21.9	Peak	Horizontal
	10707.0	36.8	13.6	50.4	74.0	-23.6	Peak	Horizontal
	4876.0	39.1	4.0	43.1	74.0	-30.9	Peak	Vertical
	7315.5	42.1	9.2	51.3	74.0	-22.7	Peak	Vertical
	10936.5	35.3	13.9	49.2	74.0	-24.8	Peak	Vertical
39	4961.0	38.0	4.4	42.4	74.0	-31.6	Peak	Horizontal
	7434.5	40.5	8.9	49.4	74.0	-24.6	Peak	Horizontal
	10792.0	35.5	13.9	49.4	74.0	-24.6	Peak	Horizontal
	5080.0	36.9	4.8	41.7	74.0	-32.3	Peak	Vertical
	7443.0	39.9	8.9	48.8	74.0	-25.2	Peak	Vertical
	11412.5	35.6	13.3	48.9	74.0	-25.1	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Site: WZ-AC1	Time: 2021/12/02 - 14:55
Limit: FCC_Part15.209_RE(3m)	Engineer: Hyde Yu
Probe: WZ-AC1_VULB 9168 _30-1000MHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			49.400	29.460	10.810	-10.540	40.000	18.650	PK
2			121.180	25.790	10.354	-17.710	43.500	15.436	PK
3			148.340	26.561	8.541	-16.939	43.500	18.020	PK
4			258.920	28.472	11.891	-17.528	46.000	16.581	PK
5		*	307.905	36.382	17.987	-9.618	46.000	18.395	PK
6			768.170	32.754	4.483	-13.246	46.000	28.271	PK

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

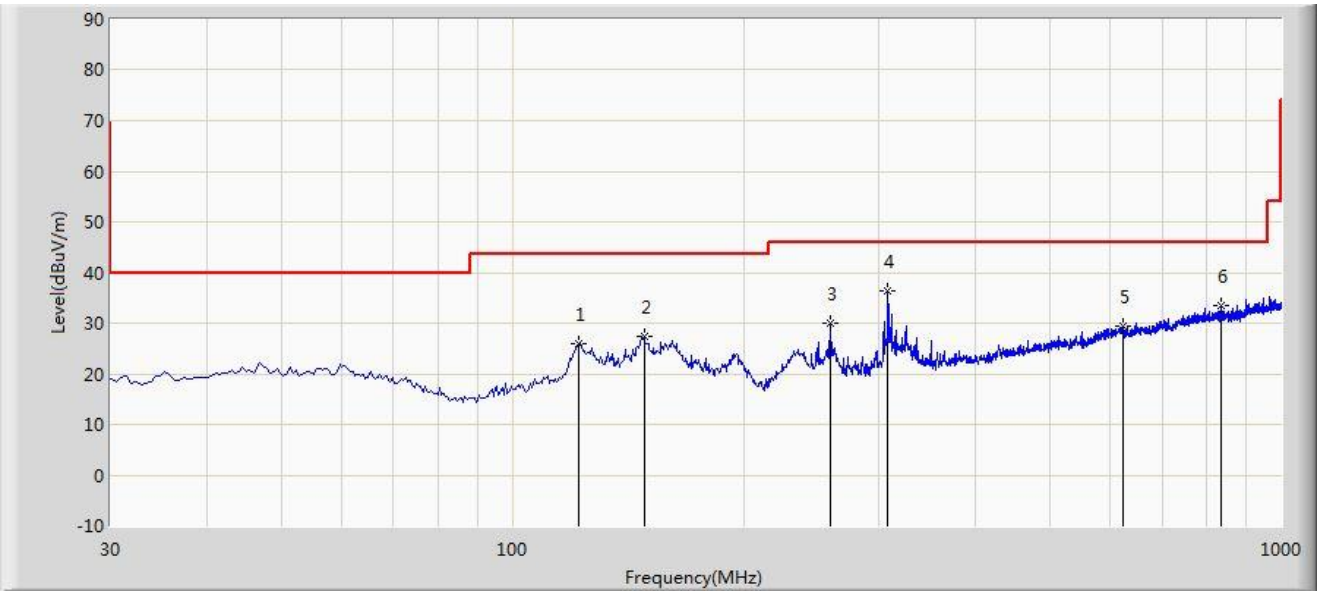
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: QP measurement was not performed when peak measure level was lower than the QP limit.

Note 3: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Note 4: The equipment only be configured to operate under its worst case situation with respect to output power.

Site: WZ-AC1	Time: 2021/12/02 - 15:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Hyde Yu
Probe: WZ-AC1_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			122.150	25.883	10.365	-17.617	43.500	15.518	PK
2			148.340	27.441	9.421	-16.059	43.500	18.020	PK
3			258.920	29.999	13.418	-16.001	46.000	16.581	PK
4		*	307.905	36.233	17.838	-9.767	46.000	18.395	PK
5			622.670	29.442	3.528	-16.558	46.000	25.914	PK
6			836.555	33.557	4.477	-12.443	46.000	29.080	PK

Note 1: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

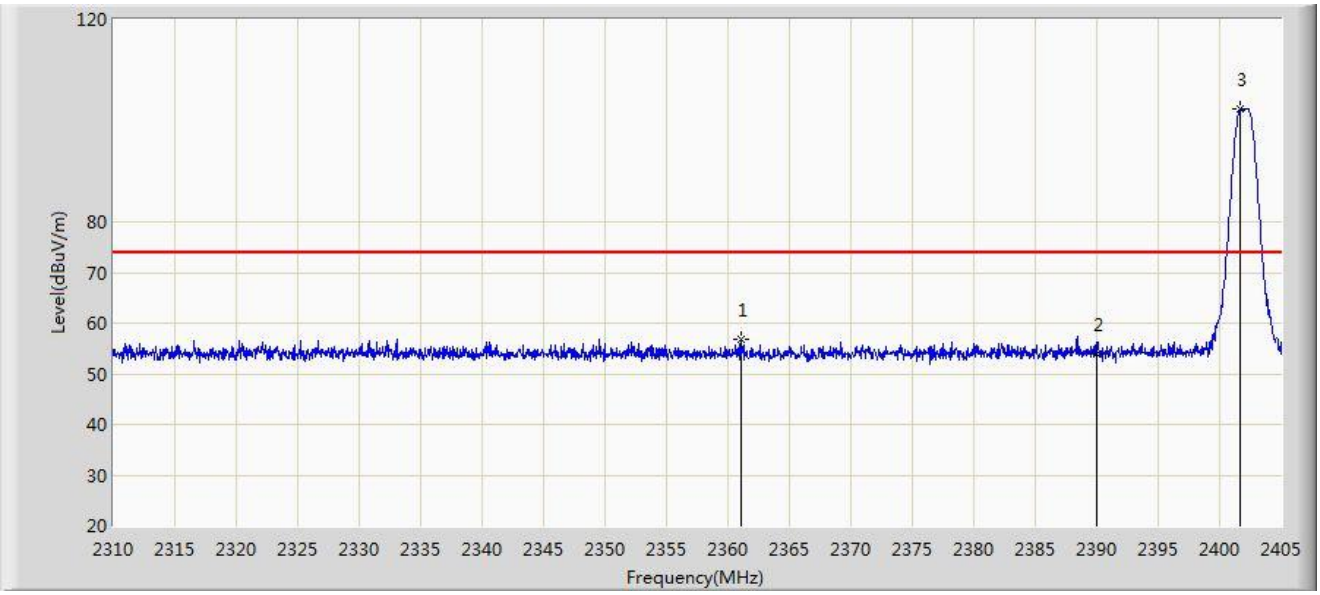
Note 2: QP measurement was not performed when peak measure level was lower than the QP limit.

Note 3: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Note 4: The equipment only be configured to operate under its worst case situation with respect to output power.

A.6 Radiated Restricted Band Edge Test Result

Site: WZ-AC1	Time: 2021/09/29 - 21:56
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2402MHz	

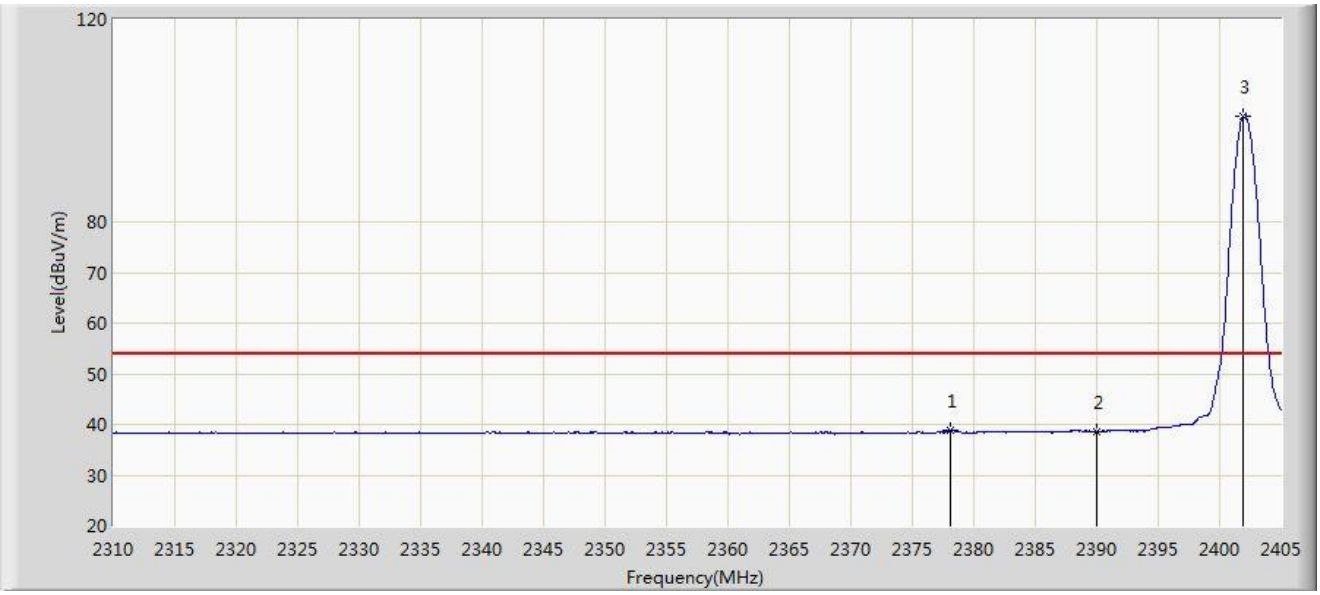


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2361.015	56.948	26.146	-17.052	74.000	30.802	PK
2			2390.000	54.028	23.212	-19.972	74.000	30.816	PK
3		*	2401.722	102.302	71.464	N/A	N/A	30.838	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2402MHz	

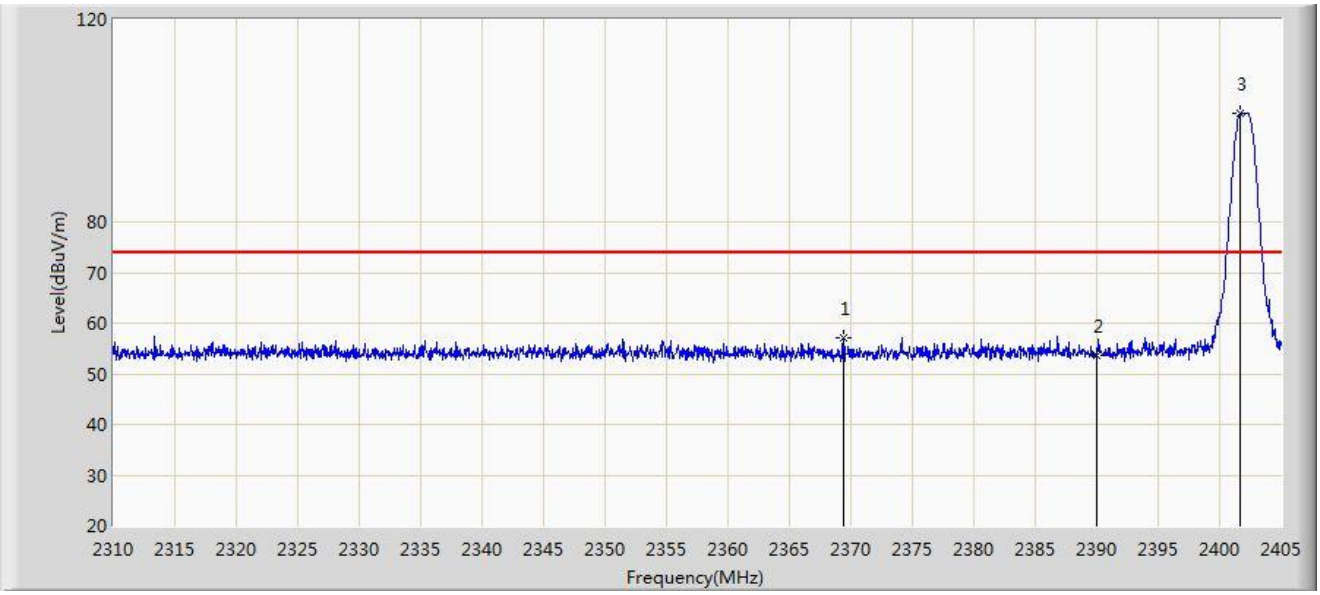


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2378.067	38.807	8.005	-15.193	54.000	30.802	AV
2			2390.000	38.484	7.668	-15.516	54.000	30.816	AV
3		*	2401.960	101.005	70.166	N/A	N/A	30.839	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2402MHz	

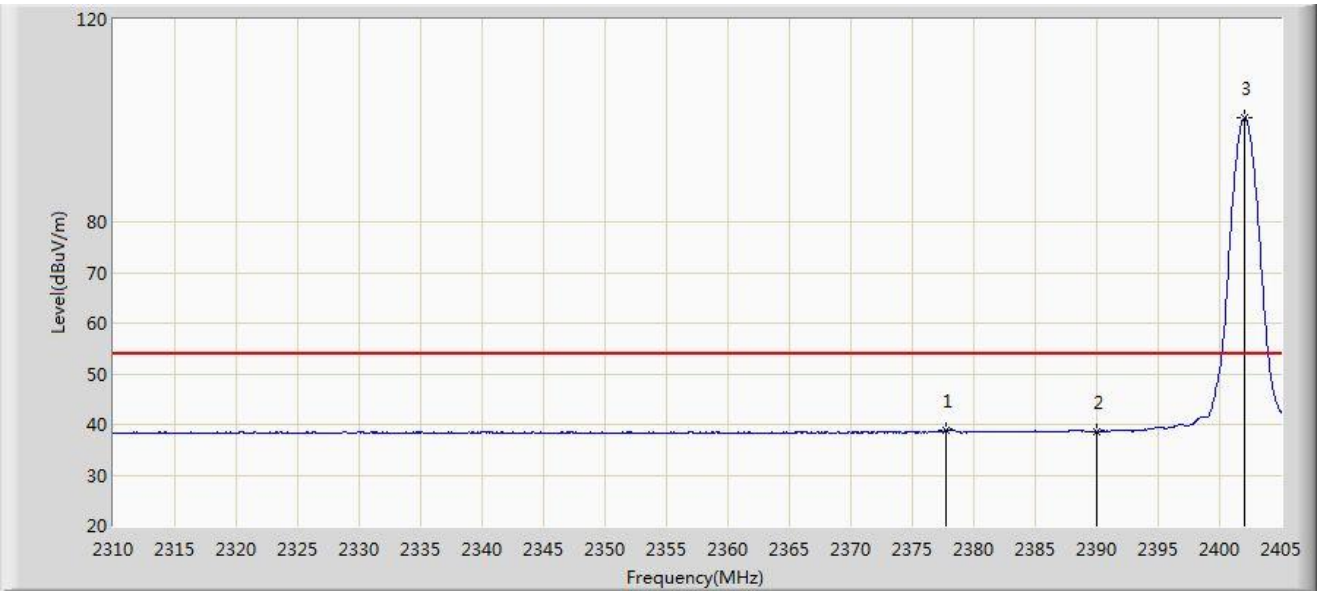


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2369.375	57.223	26.433	-16.777	74.000	30.789	PK
2			2390.000	53.669	22.853	-20.331	74.000	30.816	PK
3		*	2401.722	101.484	70.646	N/A	N/A	30.838	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2402MHz	

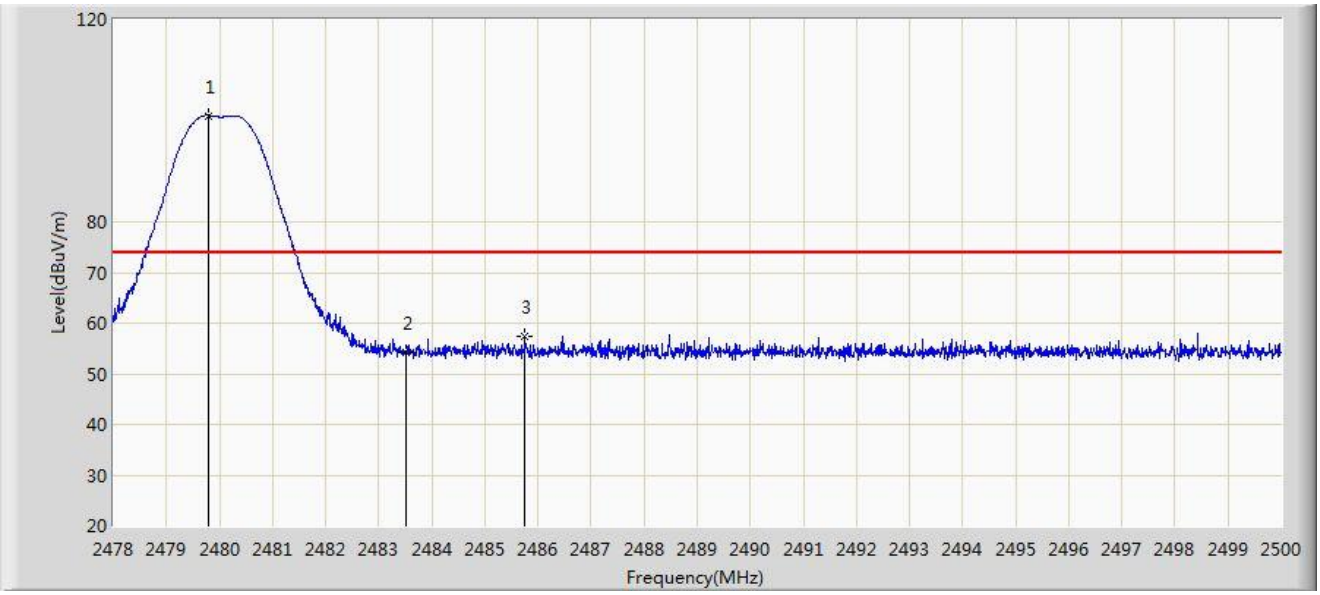


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2377.687	38.810	8.008	-15.190	54.000	30.802	AV
2			2390.000	38.570	7.754	-15.430	54.000	30.816	AV
3		*	2402.055	100.488	69.649	N/A	N/A	30.839	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2480MHz	

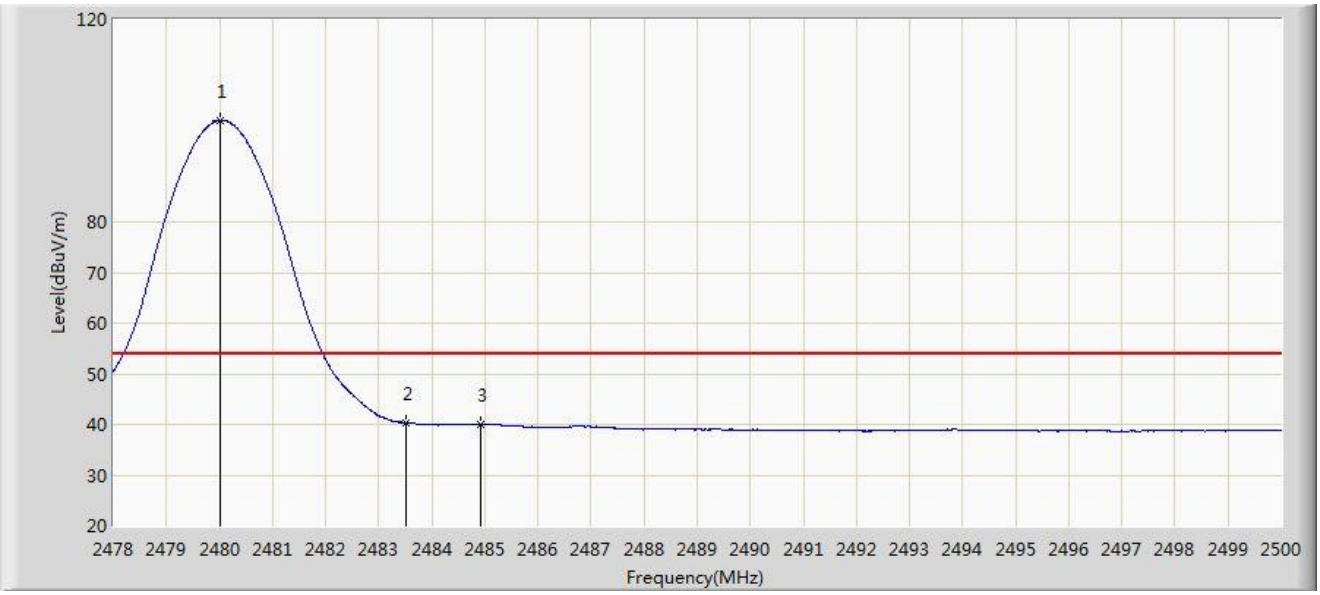


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.804	100.988	69.983	N/A	N/A	31.005	PK
2			2483.500	54.242	23.221	-19.758	74.000	31.021	PK
3			2485.755	57.520	26.490	-16.480	74.000	31.030	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2480MHz	

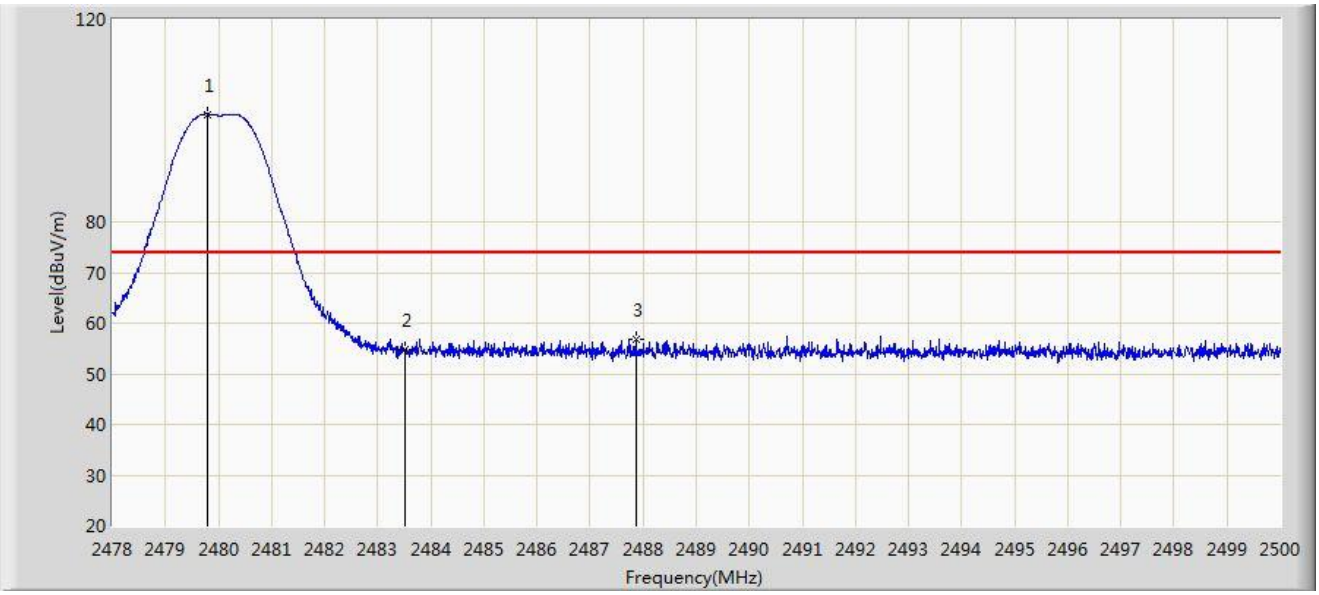


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.013	100.072	69.066	N/A	N/A	31.006	AV
2			2483.500	40.357	9.336	-13.643	54.000	31.021	AV
3			2484.930	40.056	9.029	-13.944	54.000	31.027	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2480MHz	

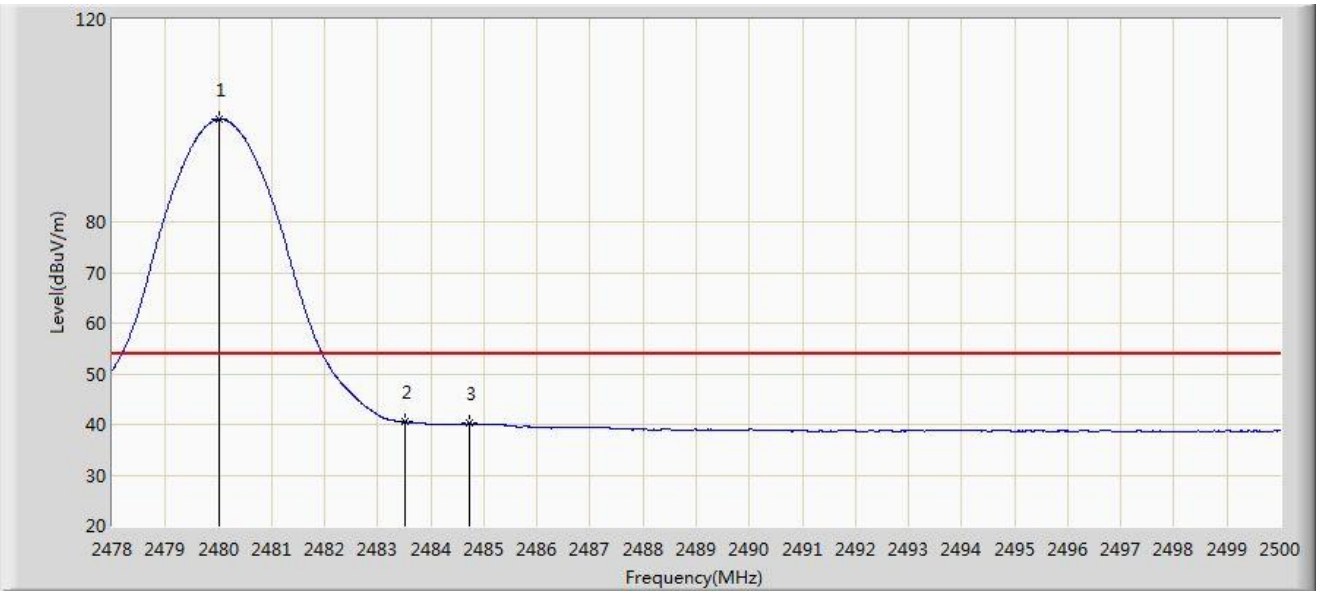


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.793	101.295	70.290	N/A	N/A	31.005	PK
2			2483.500	54.731	23.710	-19.269	74.000	31.021	PK
3			2487.856	56.690	25.651	-17.310	74.000	31.039	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1Mbps at Channel 2480MHz	

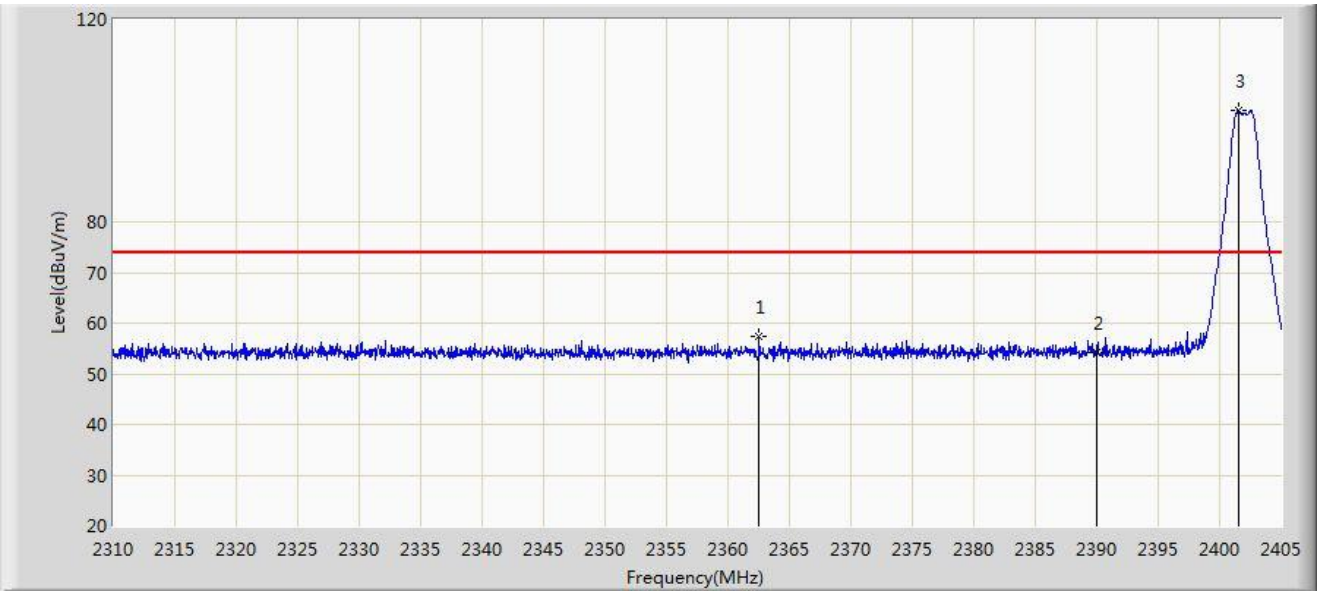


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.013	100.253	69.247	N/A	N/A	31.006	AV
2			2483.500	40.512	9.491	-13.488	54.000	31.021	AV
3			2484.732	40.166	9.140	-13.834	54.000	31.025	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	

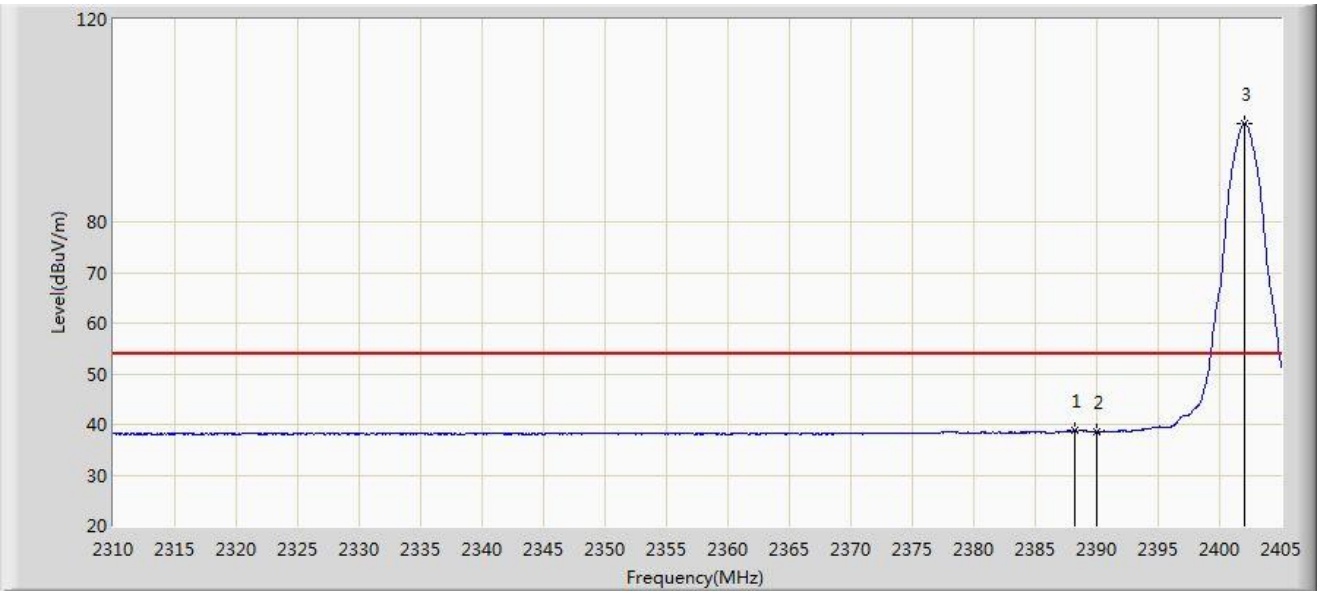


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2362.535	57.310	26.513	-16.690	74.000	30.797	PK
2			2390.000	54.233	23.417	-19.767	74.000	30.816	PK
3		*	2401.532	101.903	71.065	N/A	N/A	30.838	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	

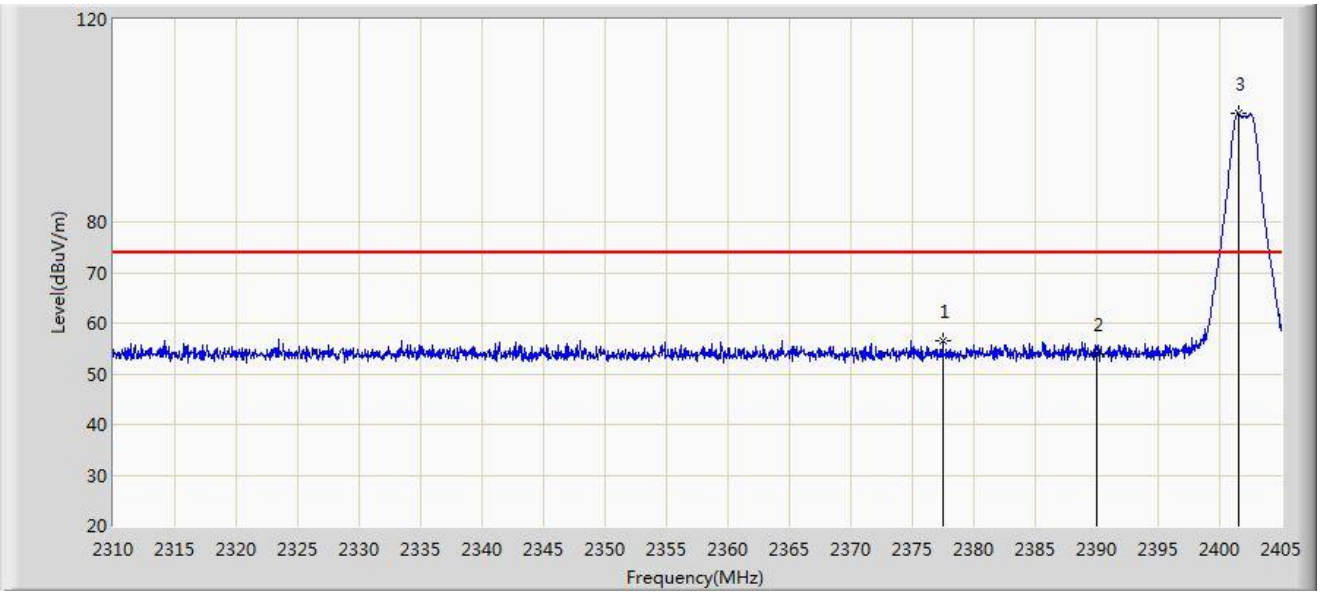


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2388.185	38.806	7.992	-15.194	54.000	30.813	AV
2			2390.000	38.560	7.744	-15.440	54.000	30.816	AV
3		*	2402.008	99.395	68.556	N/A	N/A	30.839	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	

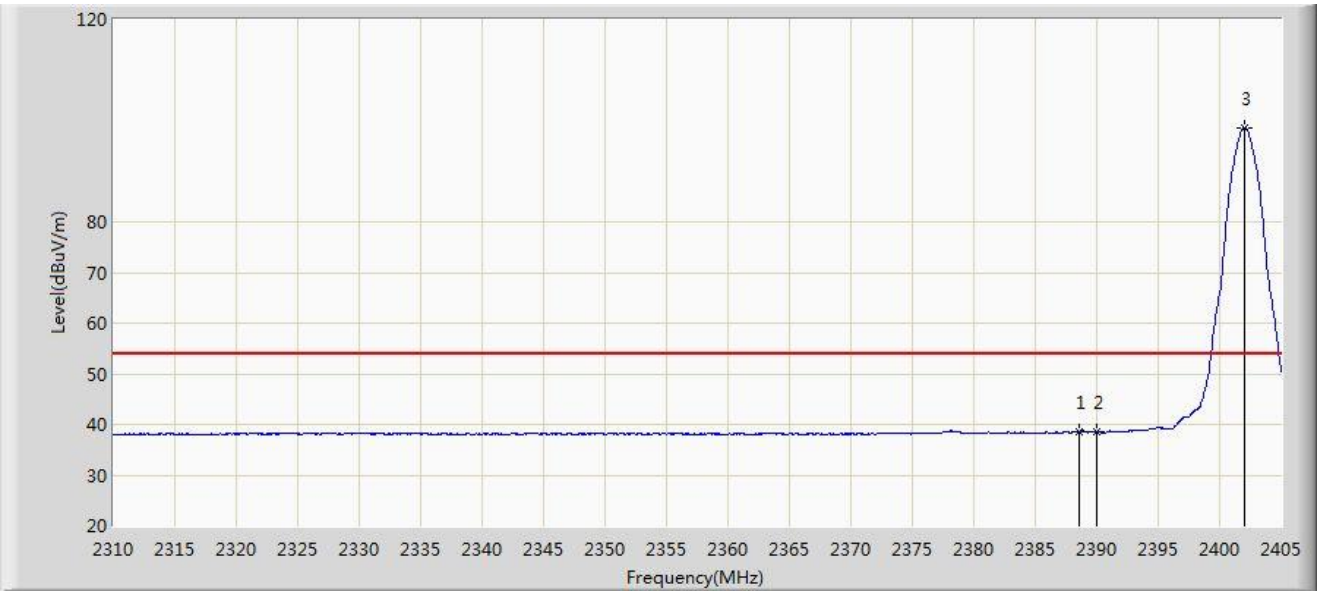


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2377.450	56.607	25.805	-17.393	74.000	30.802	PK
2			2390.000	54.011	23.195	-19.989	74.000	30.816	PK
3		*	2401.532	101.401	70.563	N/A	N/A	30.838	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:27
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	

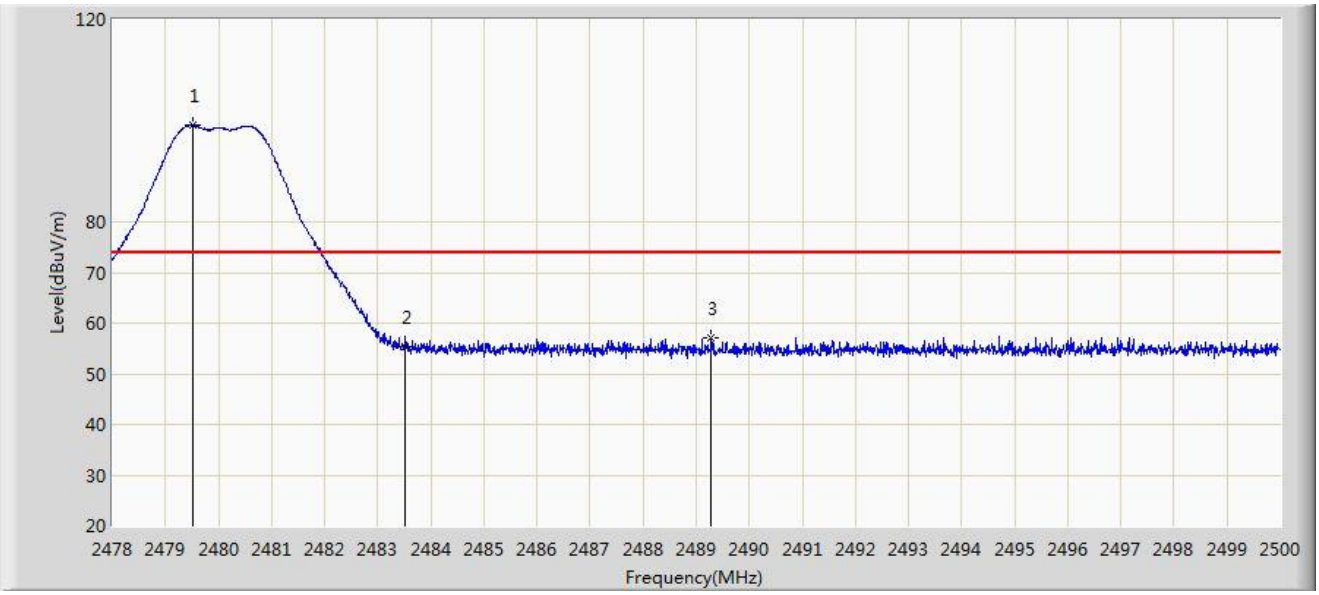


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2388.518	38.506	7.692	-15.494	54.000	30.814	AV
2			2390.000	38.610	7.794	-15.390	54.000	30.816	AV
3		*	2402.008	98.678	67.839	N/A	N/A	30.839	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2480MHz	

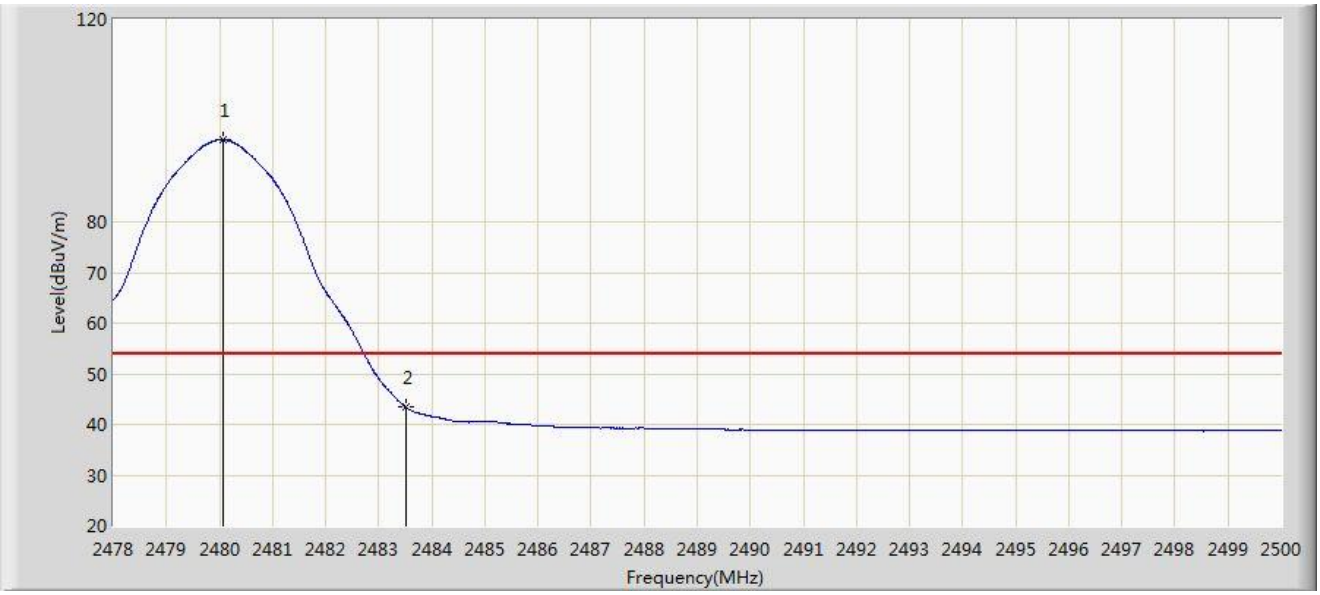


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.518	99.040	68.036	N/A	N/A	31.004	PK
2			2483.500	55.349	24.328	-18.651	74.000	31.021	PK
3			2489.286	57.123	26.078	-16.877	74.000	31.045	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2480MHz	

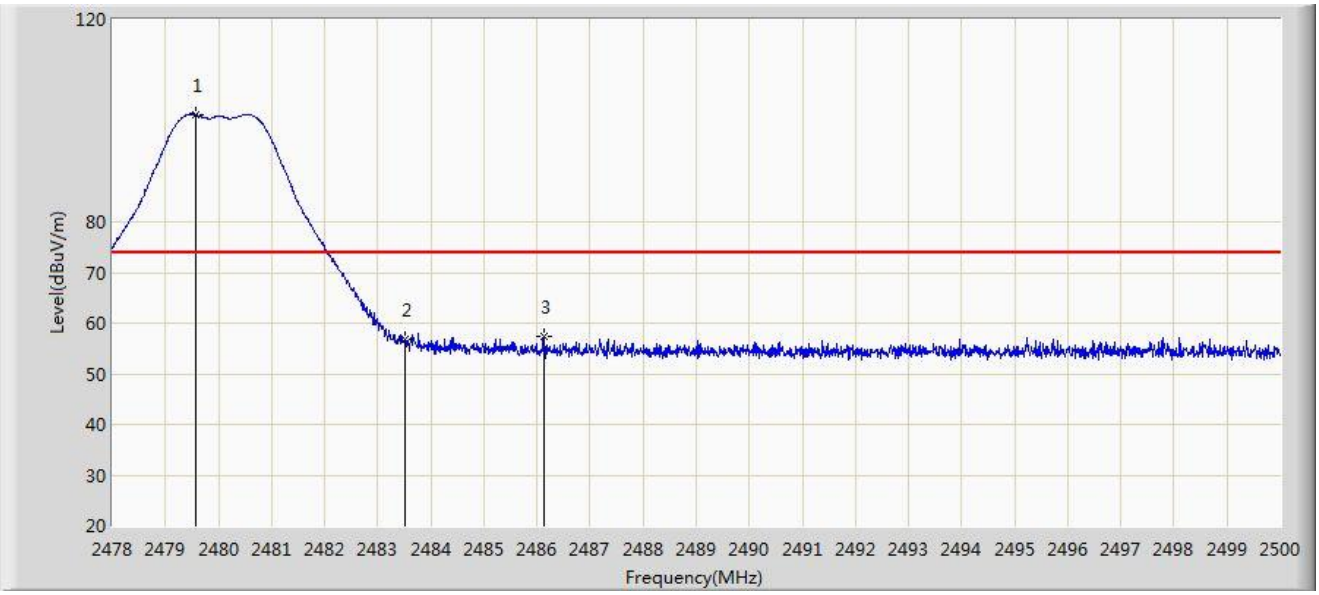


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.068	96.207	65.201	N/A	N/A	31.007	AV
2			2483.500	43.467	12.446	-10.533	54.000	31.021	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2480MHz	

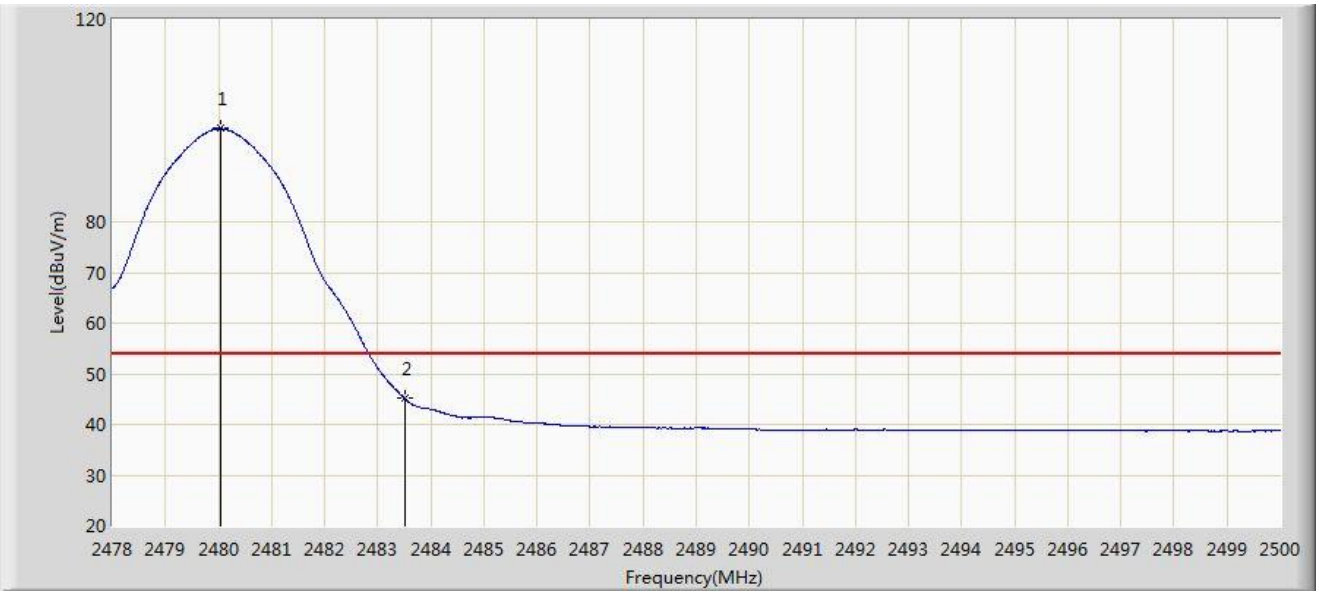


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.562	101.225	70.221	N/A	N/A	31.004	PK
2			2483.500	56.918	25.897	-17.082	74.000	31.021	PK
3			2486.129	57.435	26.403	-16.565	74.000	31.032	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: WZ-AC1	Time: 2021/09/29 - 22:37
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2480MHz	



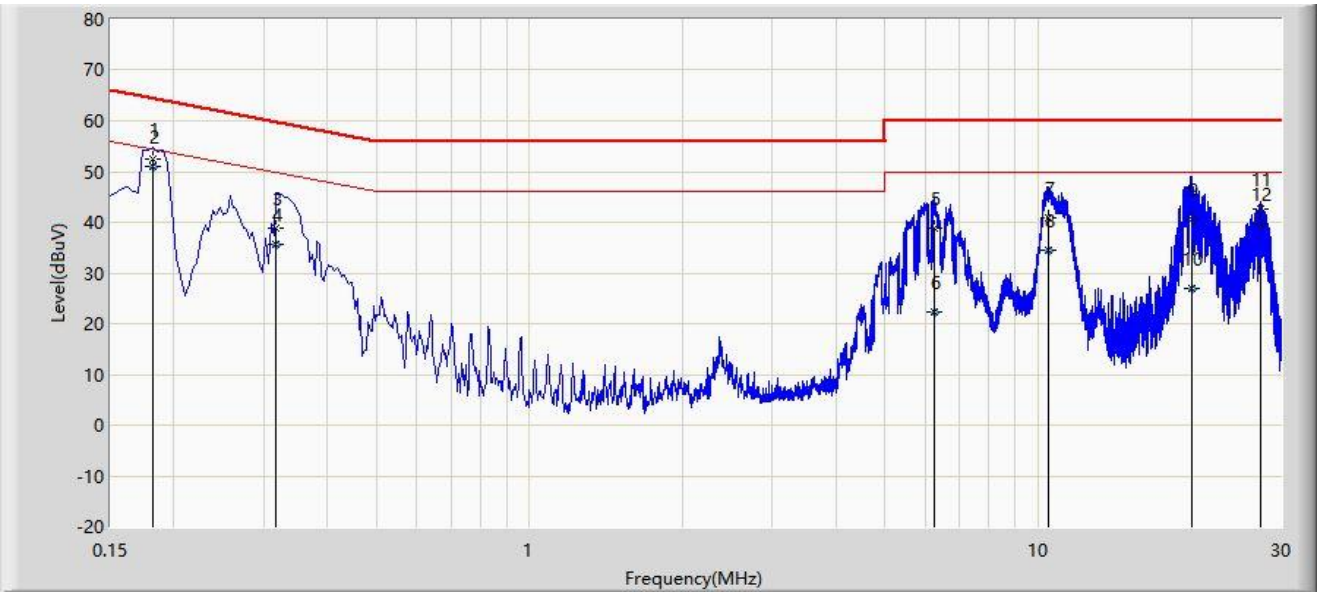
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.035	98.424	67.418	N/A	N/A	31.006	AV
2			2483.500	45.093	14.072	-8.907	54.000	31.021	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

A.7 AC Conducted Emissions Test Result

Site: WZ-SR2	Time: 2021/12/02 - 16:35
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off	Polarity: Line
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	

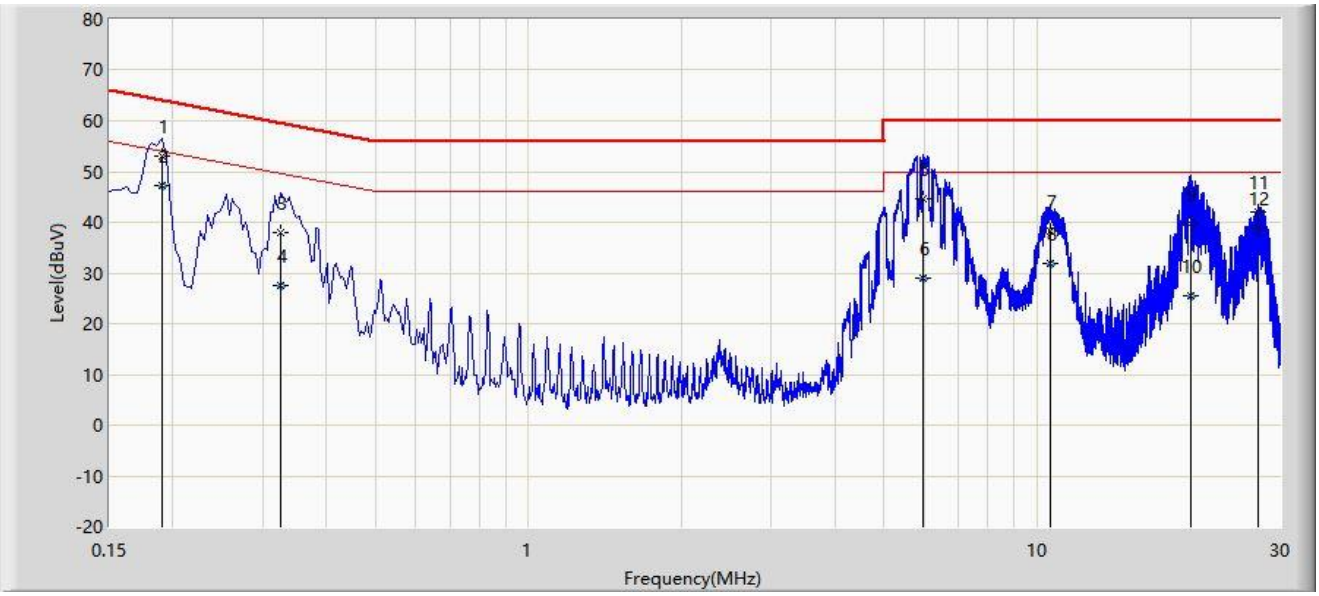


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1			0.182	52.458	42.628	-11.935	64.394	9.830	QP
2		*	0.182	51.078	41.248	-3.316	54.394	9.830	AV
3			0.318	38.974	29.141	-20.785	59.759	9.834	QP
4			0.318	35.550	25.717	-14.209	49.759	9.834	AV
5			6.226	38.978	28.581	-21.022	60.000	10.397	QP
6			6.226	22.378	11.980	-27.622	50.000	10.397	AV
7			10.498	40.815	30.299	-19.185	60.000	10.516	QP
8			10.498	34.517	24.001	-15.483	50.000	10.516	AV
9			19.990	40.637	29.877	-19.363	60.000	10.760	QP
10			19.990	27.050	16.290	-22.950	50.000	10.760	AV
11			27.402	42.635	31.740	-17.365	60.000	10.895	QP
12			27.402	39.831	28.936	-10.169	50.000	10.895	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: WZ-SR2	Time: 2021/12/02 - 16:44
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off	Polarity: Neutral
EUT: mobile satellite communication terminal	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-2Mbps at Channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1			0.190	52.927	43.115	-11.110	64.037	9.812	QP
2		*	0.190	47.346	37.534	-6.691	54.037	9.812	AV
3			0.326	37.858	28.039	-21.695	59.552	9.818	QP
4			0.326	27.641	17.823	-21.912	49.552	9.818	AV
5			5.950	44.707	34.333	-15.293	60.000	10.374	QP
6			5.950	28.861	18.487	-21.139	50.000	10.374	AV
7			10.622	38.221	27.715	-21.779	60.000	10.506	QP
8			10.622	31.869	21.363	-18.131	50.000	10.506	AV
9			19.986	39.568	28.908	-20.432	60.000	10.660	QP
10			19.986	25.454	14.794	-24.546	50.000	10.660	AV
11			27.162	42.124	31.180	-17.876	60.000	10.944	QP
12			27.162	38.702	27.758	-11.298	50.000	10.944	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Appendix B - Test Setup Photograph

Refer to “2107RSU044-UT” file.

Appendix C - EUT Photograph

Refer to “ 2107RSU044-UE” file.

The End