RF MEASUREMENT REPORT

FCC ID:	2A82LSPOT-V1
Applicant:	Nova Labs, Inc.
Product:	Spot Mapper
Model No.:	Spot-US
Brand Name:	Helium
FCC Classification:	FCC Part 15 Spread Spectrum Transmitter (DSS)
FCC Rule Part(s):	Part15 Subpart C (Section 15.247)
Result:	Complies
Test Date:	2022-10-24 ~ 2022-10-25

Reviewed By: Sunny Sun

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.
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
2209RSU059-U2	Rev. 01	Initial Report	2023-01-04	Invalid
2209RSU059-U2	Rev. 02	Modify the Product Name	2023-01-06	Valid

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1. General Information

1.1. Applicant

Nova Labs, Inc.

2202 South Figueroa #408, Los Angeles, California, United States

1.2. Manufacturer

Nova Labs, Inc.

2202 South Figueroa #408, Los Angeles, California, United States

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	Spot Mapper
Model No.	Spot-US
Brand Name	Helium
Test Serial No.	20220926Sample#08
E-UTRA Band	FDD Band: 2, 4, 5, 66, 71 TDD Band: 48
NR Band	TDD Band: n41, n48
Wi-Fi Specification	802.11 b/g/n/ac/ax
Bluetooth Specification	V5.1 dual mode
Lora Specification	902 ~ 928 MHz
Operating Temperature	-20 ~ 55 °C
Integrated WWAN Modular Information	
Model No.	RM505Q-AE
FCC ID	XMR2020RM505QAE
Brand Name	Quectel
Integrated BT & Wi-Fi Modular Information	
Model No.	FG50V
FCC ID	XMR202103FG50V
Brand Name	Quectel
Integrated Lora Modular Information	
Model No.	LoRa-E5-HF
FCC ID	Z4T-LORA-E5
Brand Name	Seeed
Accessories	
Rechargeable Li-ion Battery	Model No.: QDM044 Rated Voltage: 3.8V Rated Capacity: 4000mAh/15.2Wh Limited Charge Voltage: 4.35V

Remark:

1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.
2. This device is based on certification module, FCC ID “XMR202103FG50V” to assessing the output power, radiated spurious emission.

1.5. Radio Specification under Test

Operating Frequency	2402~2480MHz
Channel Number	79
Type of modulation	GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	1Mbps, 2Mbps, 3Mbps
Antenna Information	PIFA Antenna, 2.08dBi

Note:

- 15.247(g): In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) system.
- 15.247(h): In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection/ hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.
- 15.247(h): The EUT employs Adaptive Frequency Hopping (AFH) which identifies sources of interference namely devices operating in 802.11 WLAN and excludes them from the list of available channels. The process of re-mapping reduces the number of test channels from 79 channels to a minimum number of 20 channels.

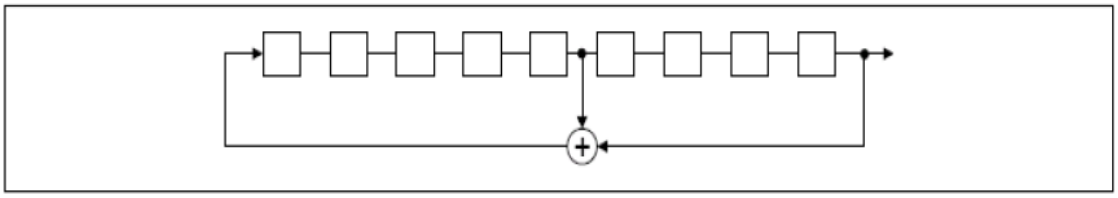
1.6. Working Frequencies

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

1.7. Pseudorandom Frequency Hopping Sequence

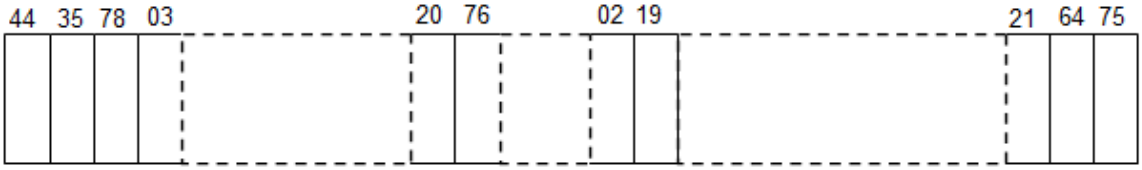
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: $2^9 - 1 = 511$ bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

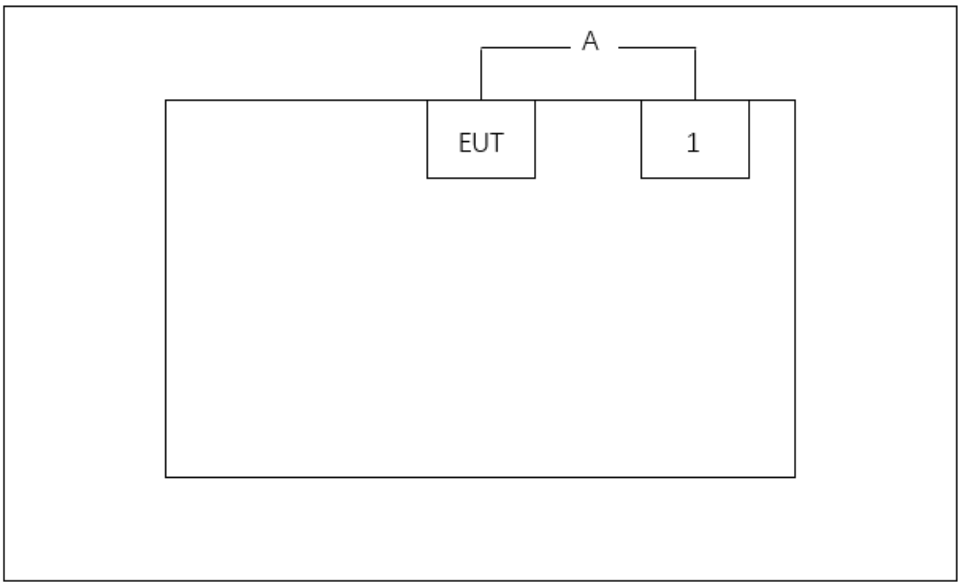
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by DH5
Mode 2: Transmit by 2DH5
Mode 3: Transmit by 3DH5

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.

Connection Diagram – Radiated Emission testing			
			
Cable Type		Cable Description	
A	USB Cable	Shielded, 1.5m	
Product		Manufacturer	Model No.
1	Notebook	Lenovo	E431

2.3. Test Software

The test utility software used during testing was “QRCT”, and the version was 4.0.00175.0.

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. Test Environment Condition

Ambient Temperature	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. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022-12-29	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2023-08-22	WZ-AC1
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2023-05-08	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2023-06-21	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2023-04-21	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE06403	1 year	2023-06-06	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022-12-29	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11039	1 year	2022-11-11	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2022-12-01	WZ-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2023-01-13	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2023-06-06	WZ-SR5
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	N/A	N/A	WZ-SR5
USB Power Sensor	Keysight	U2021XA	MRTSUE06446	1 year	2023-06-04	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2023-06-04	WZ-SR5

Software	Version	Function
EMI Software	V3.0.0	EMI Test Software
Controller_MF 7802	2.03C	RE Antenna & Turntable

5. Decision Rules and Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2.

(Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. 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.

Radiated Disturbance
The maximum measurement uncertainty is evaluated as: Horizontal: 30MHz~200MHz: 3.85dB 200MHz~1GHz: 4.36dB 1GHz~25GHz: 4.98dB Vertical: 30MHz~200MHz: 4.06dB 200MHz~1GHz: 5.28dB 1GHz~25GHz: 4.91dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.30dB

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(b)(1)	Peak Transmitter Output Power	Conducted	Pass
15.205, 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass

Notes:

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.
2. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. Output Power Measurement

6.2.1. Test Limit

For frequency hopping systems operating in the 2400-2483.5MHz band employing at least 75 non-overlapping hopping channels: 1watt (30dBm). For all other frequency hopping systems in the 2400 - 2483.5MHz band: 0.125 watt (20.97dBm).

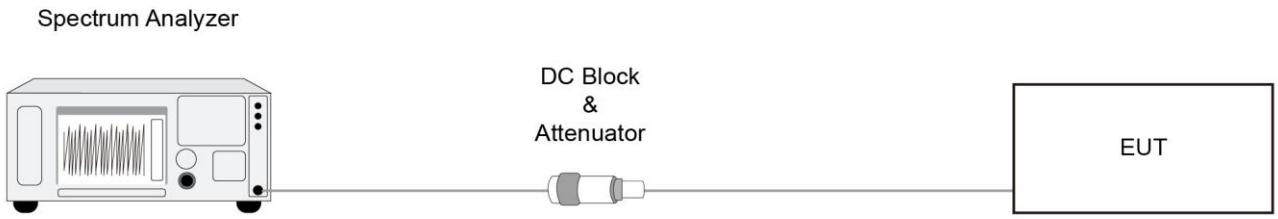
6.2.2. Test Procedure

ANSI C63.10-2013 - Section 7.8.5

6.2.3. Test Setting

1. Set RBW ≥ the 20 dB bandwidth of the emission being measured.
2. VBW ≥ RBW
3. Span = approximately five times the 20dB bandwidth, centered on a hopping channel
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize, Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power (don't forget added the external attenuation and cable loss)

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.1.

6.3. Radiated Spurious Emission Measurement

6.3.1. Test Limit

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

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/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

6.3.2. Test Procedure

ANSI C63.10 Section 6.3 (General Requirements)

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

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

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

6.3.3. 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)

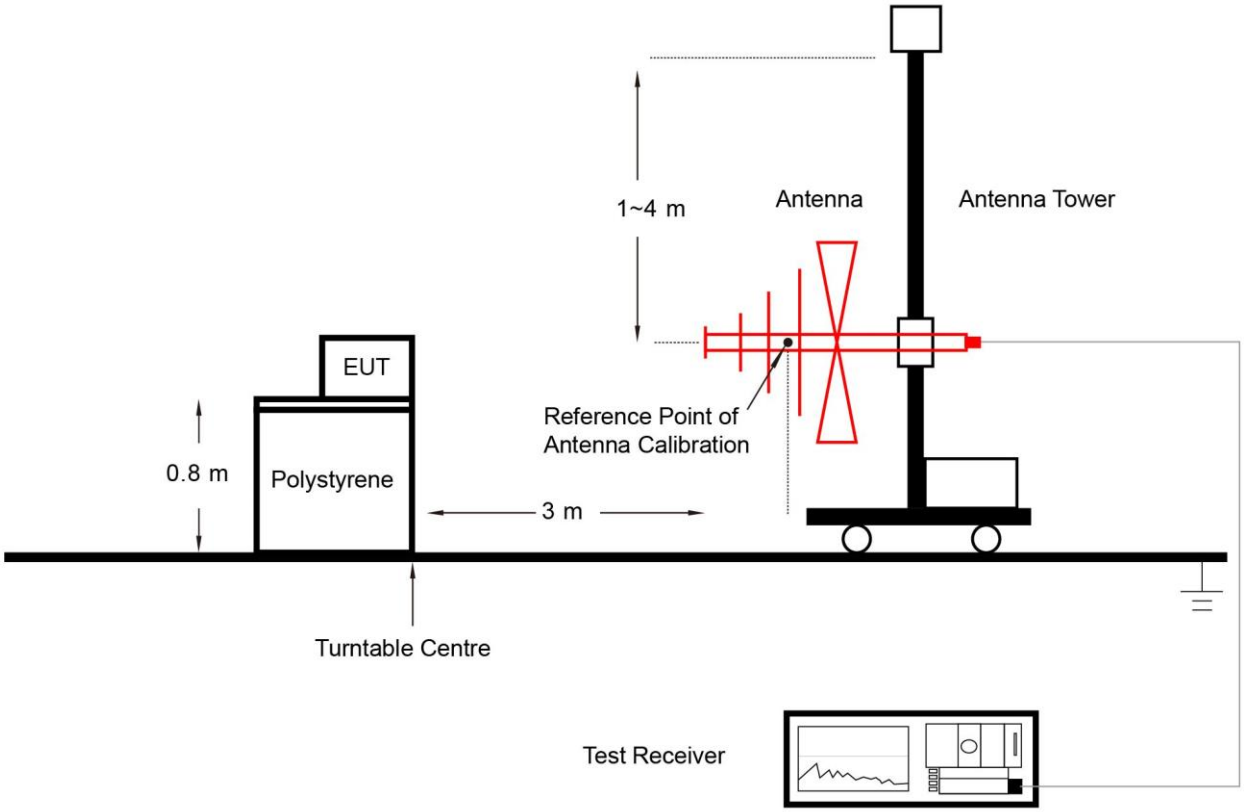
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.

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

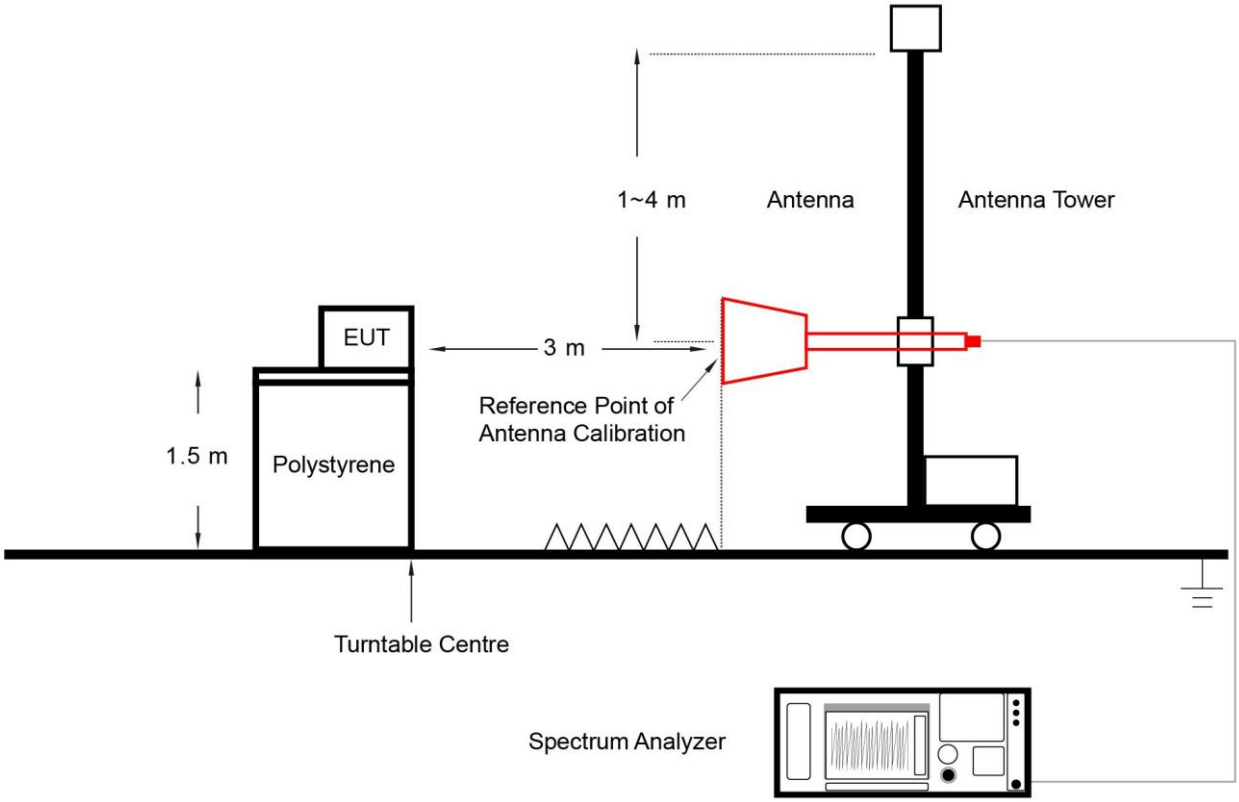
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.3.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.3.5. Test Result

Refer to Appendix A.2.

6.4. Radiated Restricted Band Edge Measurement

6.4.1. 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 - 156.525	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		
Frequency [MHz]	Field Strength [uV/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

6.4.2. Test Procedure

ANSI C63.10 Section 6.3 (General Requirements)

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

6.4.3. 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.

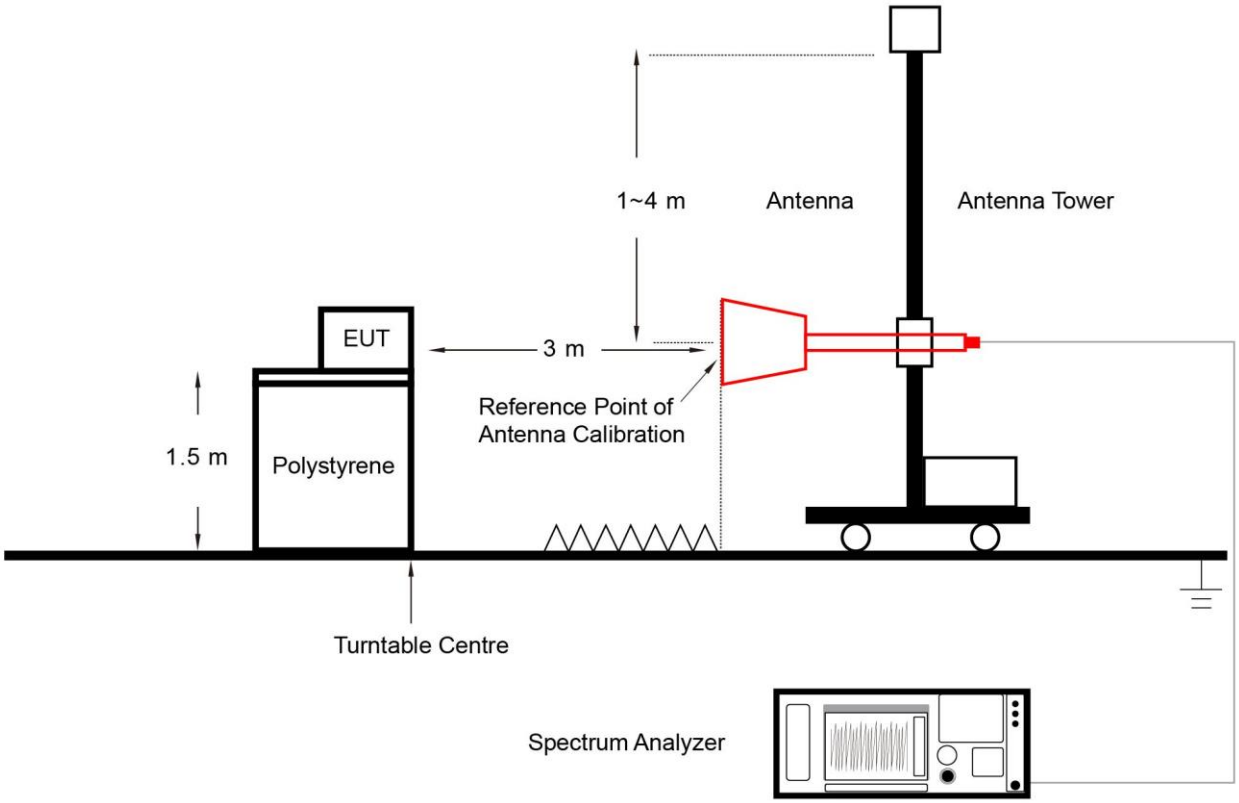
4. Detector = Peak

5. Sweep time = auto

6. Trace mode = max hold

7. Trace was allowed to stabilize

6.4.4. Test Setup



6.4.5. Test Result

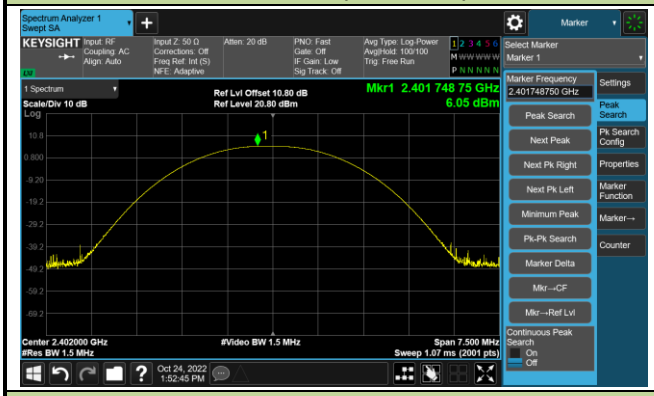
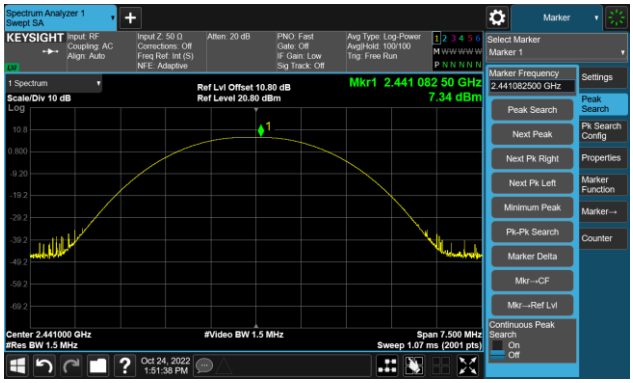
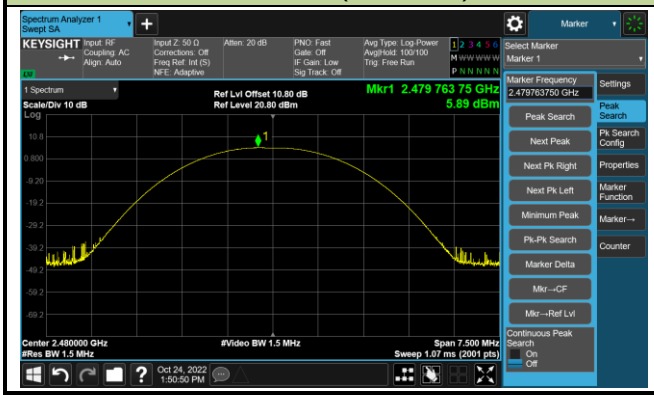
Refer to Appendix A.3.

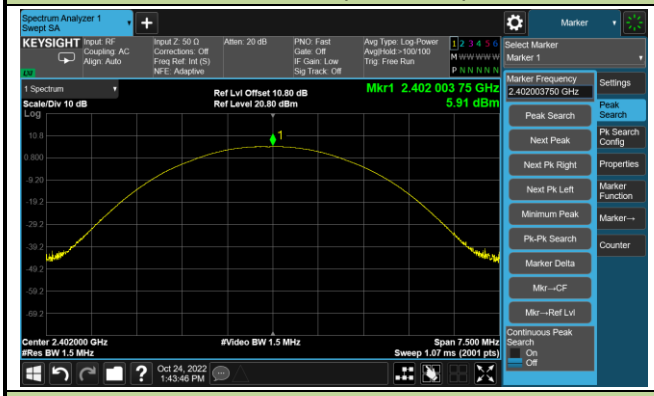
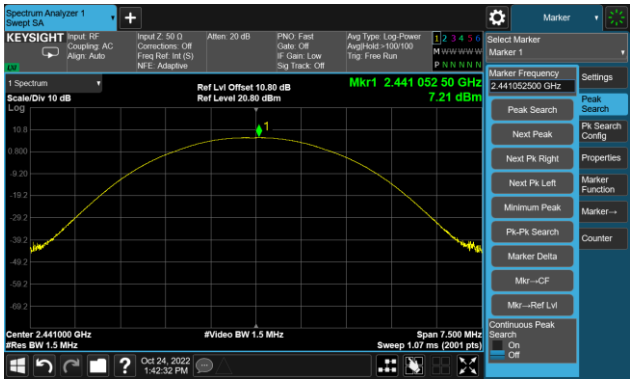
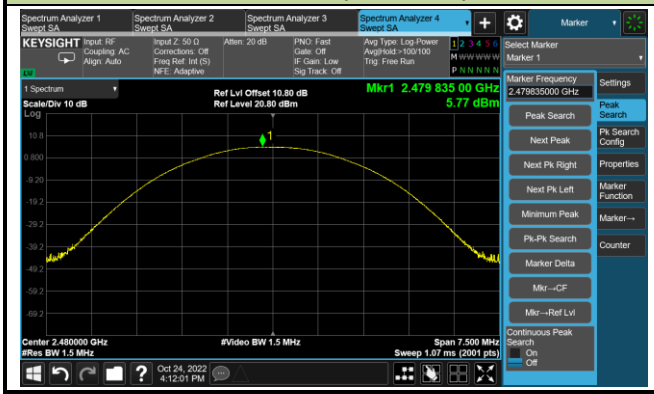
Appendix A - Test Result

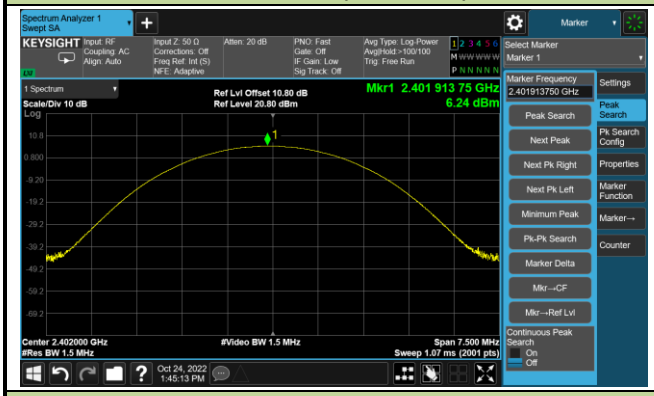
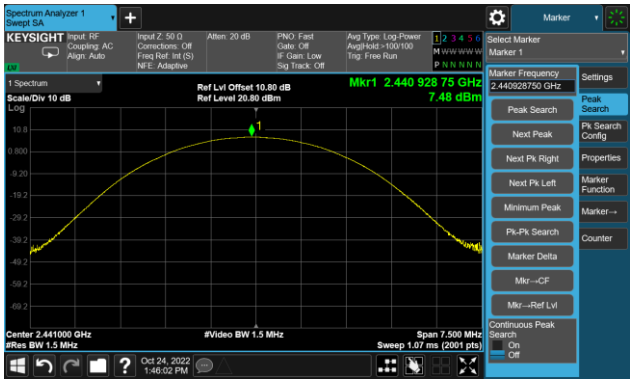
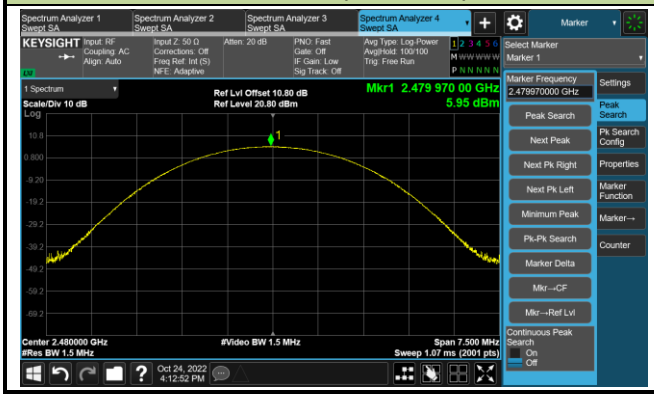
A.1 Output Power Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2022-10-24		

Test Mode	Channel No.	Frequency (MHz)	Peak Power (dBm)	Power Limit (dBm)
DH5	00	2402	6.05	≤ 20.97
DH5	39	2441	7.34	≤ 20.97
DH5	78	2480	5.89	≤ 20.97
2DH5	00	2402	5.91	≤ 20.97
2DH5	39	2441	7.21	≤ 20.97
2DH5	78	2480	5.77	≤ 20.97
3DH5	00	2402	6.24	≤ 20.97
3DH5	39	2441	7.48	≤ 20.97
3DH5	78	2480	5.95	≤ 20.97

DH5 Output Power	
Channel 00 (2402MHz)	Channel 39 (2441MHz)
	
Channel 78 (2480MHz)	
	

2DH5 Output Power	
Channel 00 (2402MHz)	Channel 39 (2441MHz)
	
Channel 78 (2480MHz)	
	

3DH5 Output Power	
Channel 00 (2402MHz)	Channel 39 (2441MHz)
	
Channel 78 (2480MHz)	
	

A.2 Radiated Spurious Emission Test Result

Test Site	WZ-AC1	Test Engineer	Edith Yu
Test Date	2022-10-24	Test Mode:	DH5
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
00	7451.5	37.3	8.2	45.5	74.0	-28.5	Peak	Horizontal
	8097.5	37.1	9.0	46.1	74.0	-27.9	Peak	Horizontal
	12322.0	38.3	12.1	50.4	74.0	-23.6	Peak	Horizontal
	7536.5	37.0	8.2	45.2	74.0	-28.8	Peak	Vertical
	8216.5	36.5	8.6	45.1	74.0	-28.9	Peak	Vertical
	11480.5	37.1	13.0	50.1	74.0	-23.9	Peak	Vertical
39	4969.5	36.9	3.1	40.0	74.0	-34.0	Peak	Horizontal
	7383.5	37.9	8.3	46.2	74.0	-27.8	Peak	Horizontal
	11497.5	36.4	13.3	49.7	74.0	-24.3	Peak	Horizontal
	4961.0	36.5	3.1	39.6	74.0	-34.4	Peak	Vertical
	8327.0	36.5	8.3	44.8	74.0	-29.2	Peak	Vertical
	10945.0	36.0	13.6	49.6	74.0	-24.4	Peak	Vertical
78	5080.0	36.5	3.5	40.0	74.0	-34.0	Peak	Horizontal
	7477.0	36.4	8.3	44.7	74.0	-29.3	Peak	Horizontal
	11412.5	36.1	12.9	49.0	74.0	-25.0	Peak	Horizontal
	5054.5	36.1	3.5	39.6	74.0	-34.4	Peak	Vertical
	8284.5	37.0	8.3	45.3	74.0	-28.7	Peak	Vertical
	11633.5	36.6	12.4	49.0	74.0	-25.0	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	Edith Yu
Test Date	2022-10-24	Test Mode:	2DH5
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
00	5080.0	37.2	3.5	40.7	74.0	-33.3	Peak	Horizontal
	8310.0	36.9	8.4	45.3	74.0	-28.7	Peak	Horizontal
	10741.0	36.4	13.6	50.0	74.0	-24.0	Peak	Horizontal
	5003.5	36.5	3.2	39.7	74.0	-34.3	Peak	Vertical
	7519.5	36.2	8.1	44.3	74.0	-29.7	Peak	Vertical
	11098.0	35.3	13.3	48.6	74.0	-25.4	Peak	Vertical
39	5046.0	36.6	3.5	40.1	74.0	-33.9	Peak	Horizontal
	7536.5	37.6	8.2	45.8	74.0	-28.2	Peak	Horizontal
	10911.0	35.8	13.4	49.2	74.0	-24.8	Peak	Horizontal
	5054.5	36.3	3.5	39.8	74.0	-34.2	Peak	Vertical
	7621.5	37.2	7.9	45.1	74.0	-28.9	Peak	Vertical
	10962.0	35.9	13.5	49.4	74.0	-24.6	Peak	Vertical
78	4884.5	36.8	2.9	39.7	74.0	-34.3	Peak	Horizontal
	7545.0	36.5	8.2	44.7	74.0	-29.3	Peak	Horizontal
	10792.0	35.3	13.6	48.9	74.0	-25.1	Peak	Horizontal
	4629.5	37.8	2.4	40.2	74.0	-33.8	Peak	Vertical
	7460.0	37.1	8.2	45.3	74.0	-28.7	Peak	Vertical
	10911.0	35.5	13.4	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)

Test Site	WZ-AC1	Test Engineer	Edith Yu
Test Date	2022-10-24	Test Mode:	3DH5
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.		

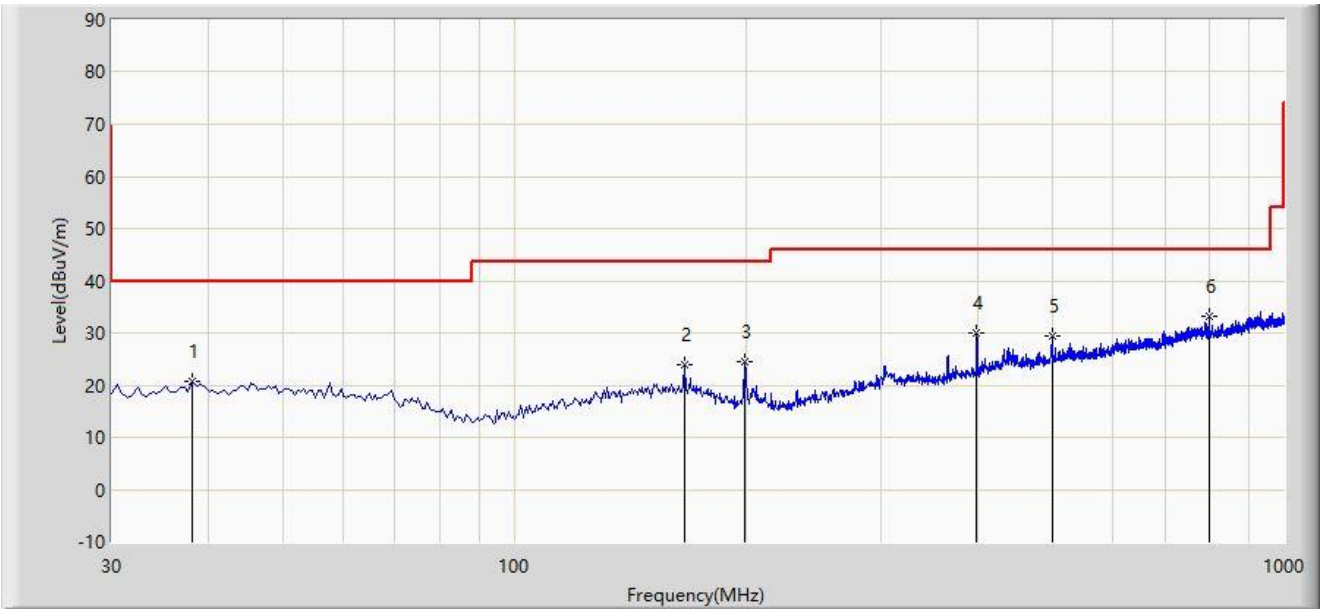
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
00	4893.0	37.5	3.0	40.5	74.0	-33.5	Peak	Horizontal
	7570.5	35.9	8.0	43.9	74.0	-30.1	Peak	Horizontal
	11540.0	36.7	12.9	49.6	74.0	-24.4	Peak	Horizontal
	5114.0	36.9	3.4	40.3	74.0	-33.7	Peak	Vertical
	8182.5	36.1	8.5	44.6	74.0	-29.4	Peak	Vertical
	11650.5	36.5	12.4	48.9	74.0	-25.1	Peak	Vertical
39	5054.5	36.2	3.5	39.7	74.0	-34.3	Peak	Horizontal
	7698.0	36.6	7.9	44.5	74.0	-29.5	Peak	Horizontal
	10860.0	35.7	13.4	49.1	74.0	-24.9	Peak	Horizontal
	4910.0	36.7	2.9	39.6	74.0	-34.4	Peak	Vertical
	7477.0	36.4	8.3	44.7	74.0	-29.3	Peak	Vertical
	10962.0	36.1	13.5	49.6	74.0	-24.4	Peak	Vertical
78	4935.5	36.6	2.9	39.5	74.0	-34.5	Peak	Horizontal
	8165.5	36.3	8.6	44.9	74.0	-29.1	Peak	Horizontal
	11497.5	35.3	13.3	48.6	74.0	-25.4	Peak	Horizontal
	4944.0	37.2	2.9	40.1	74.0	-33.9	Peak	Vertical
	8174.0	36.6	8.5	45.1	74.0	-28.9	Peak	Vertical
	11480.5	35.9	13.0	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	Test Date: 2022-10-25
Limit: FCC_Part15.209_RSE(3m)	Engineer: Edith Yu
Probe: VULB 9168_25-2000MHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2441MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		38.245	20.710	2.634	-19.290	40.000	18.076	PK
2		166.770	23.846	5.856	-19.654	43.500	17.990	PK
3		199.265	24.406	9.553	-19.094	43.500	14.853	PK
4		399.085	30.012	9.238	-15.988	46.000	20.774	PK
5		499.965	29.355	6.226	-16.645	46.000	23.129	PK
6	*	799.695	33.265	4.926	-12.735	46.000	28.339	PK

Note 1: " * ", means this data is the worst emission level.

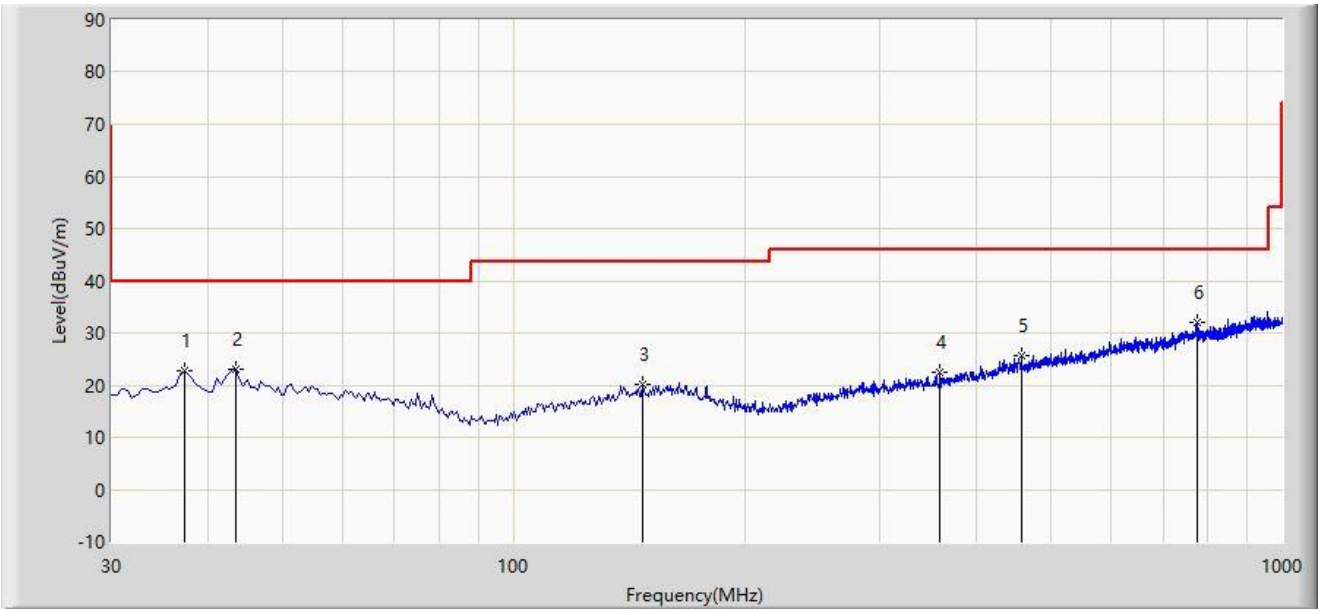
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: 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.

Site: WZ-AC1	Test Date: 2022-10-25
Limit: FCC_Part15.209_RSE(3m)	Engineer: Edith Yu
Probe: VULB 9168_25-2000MHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2441MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		37.275	22.673	4.697	-17.327	40.000	17.976	PK
2		43.580	23.091	4.719	-16.909	40.000	18.372	PK
3		147.370	20.100	2.207	-23.400	43.500	17.893	PK
4		358.830	22.366	2.699	-23.634	46.000	19.667	PK
5		458.255	25.761	3.391	-20.239	46.000	22.370	PK
6	*	773.990	31.916	3.707	-14.084	46.000	28.209	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

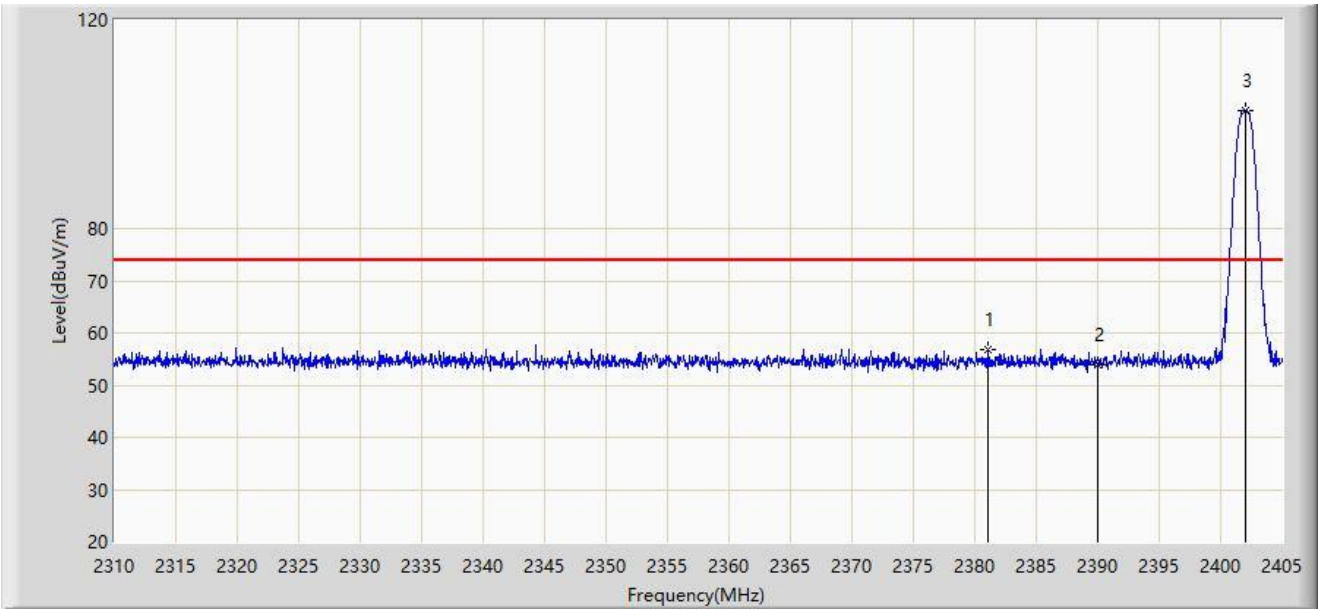
Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: 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.

A.3 Radiated Restricted Band Edge Test Result

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2402MHz	



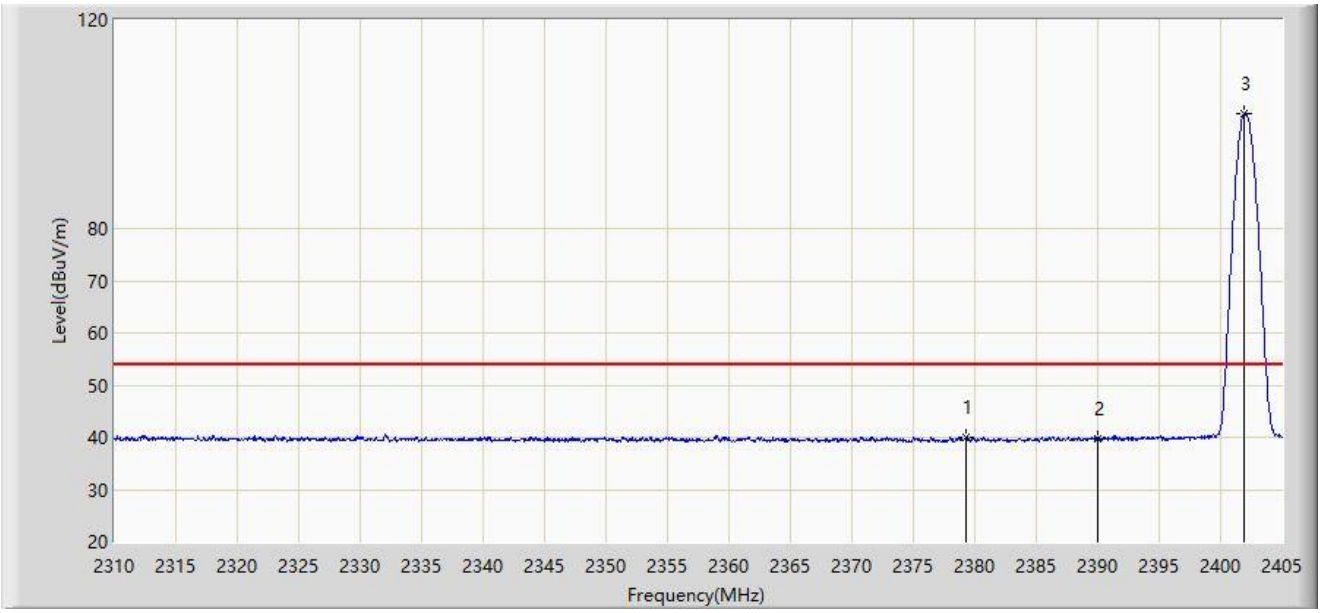
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2381.012	56.721	25.713	-17.279	74.000	31.008	PK
2		2390.000	53.990	22.998	-20.010	74.000	30.992	PK
3		2402.008	102.534	71.545	N/A	N/A	30.989	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2402MHz	



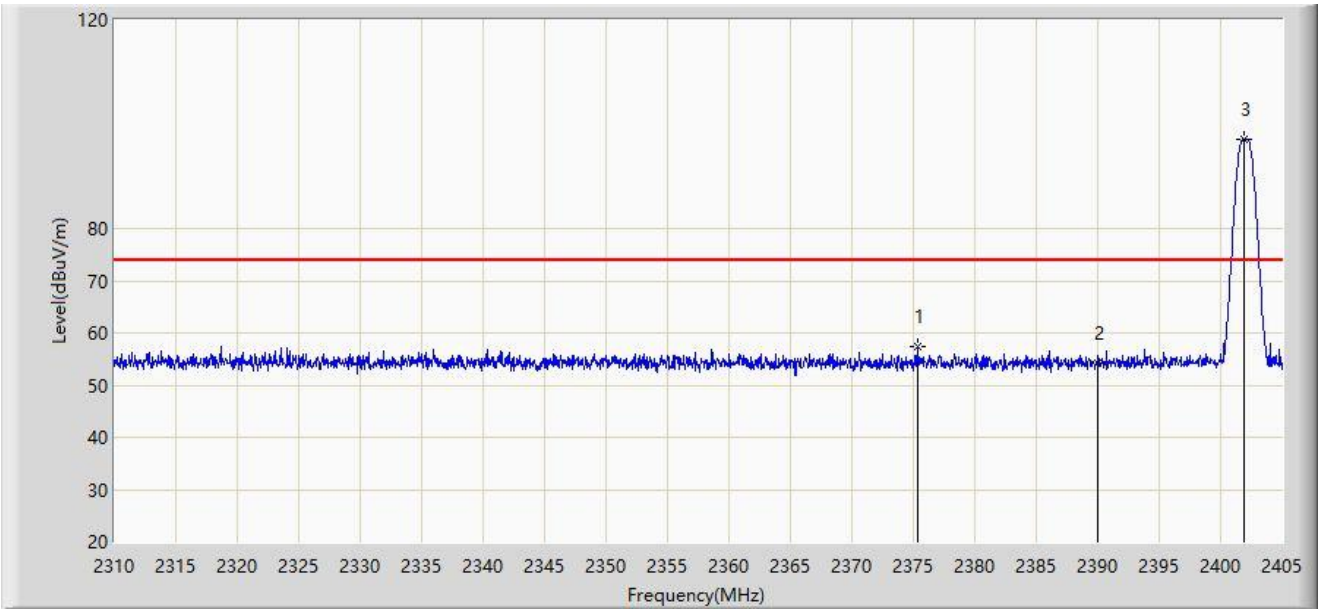
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2379.302	40.081	9.066	-13.919	54.000	31.015	AV
2		2390.000	39.713	8.721	-14.287	54.000	30.992	AV
3		2401.913	101.966	70.977	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2402MHz	



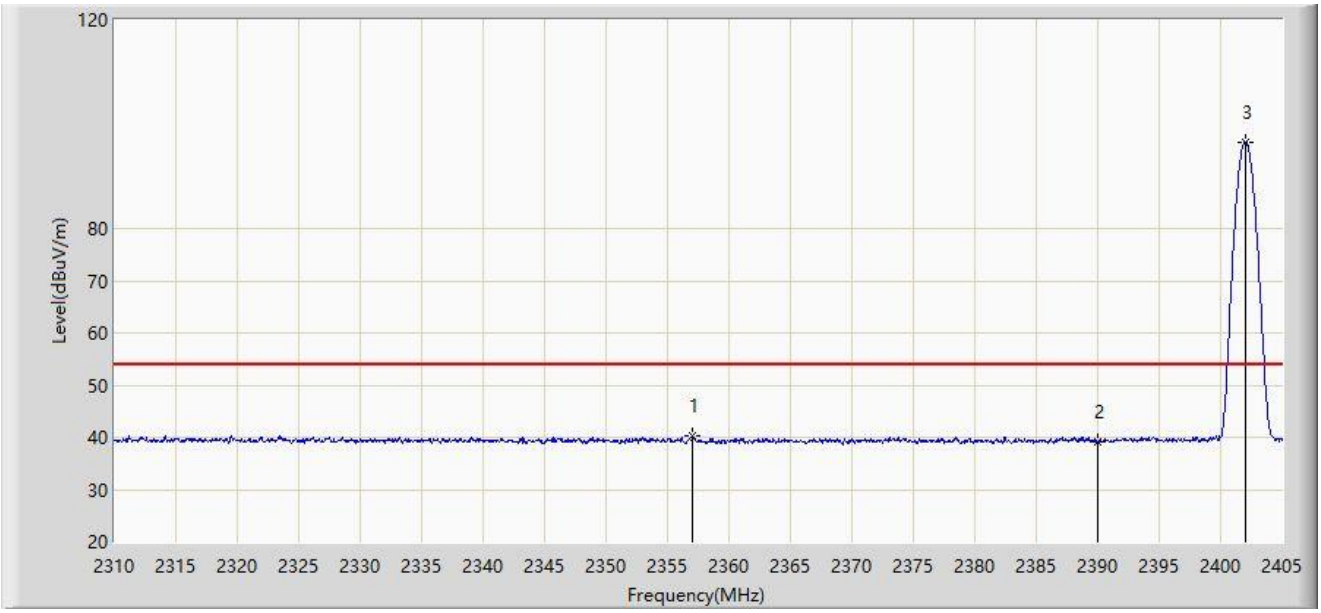
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2375.312	57.391	26.357	-16.609	74.000	31.034	PK
2		2390.000	54.261	23.269	-19.739	74.000	30.992	PK
3		2401.865	97.194	66.205	N/A	N/A	30.989	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2402MHz	



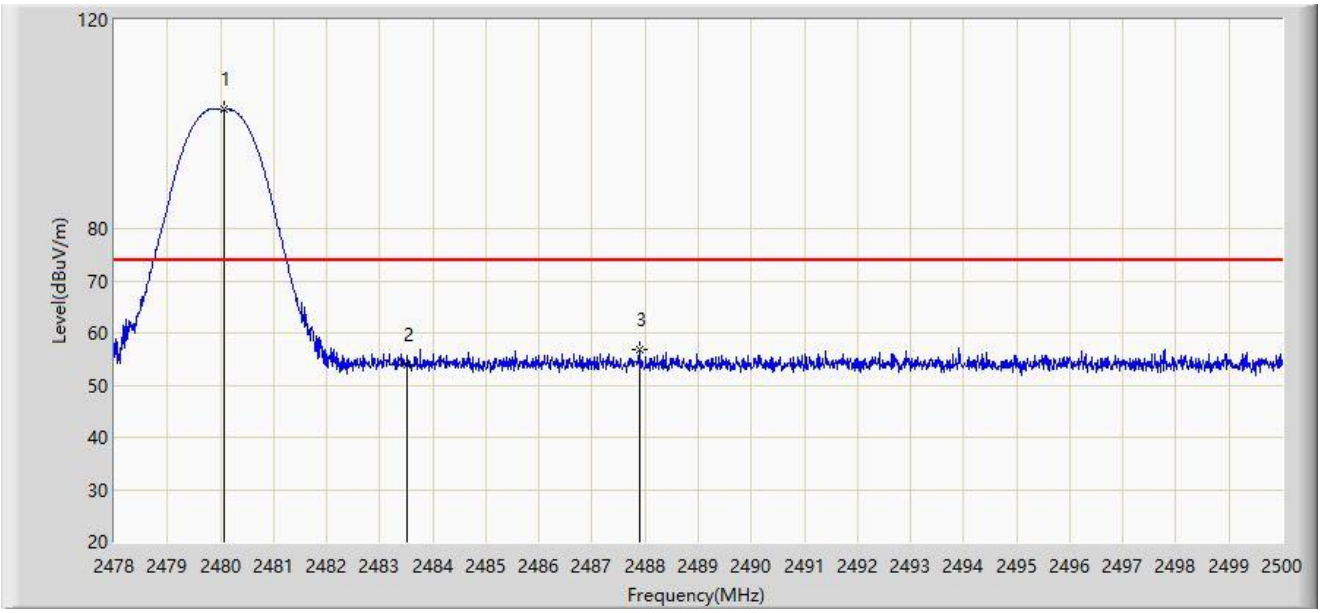
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2357.073	40.364	9.254	-13.636	54.000	31.110	AV
2		2390.000	39.071	8.079	-14.929	54.000	30.992	AV
3		2402.008	96.570	65.581	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2480MHz	



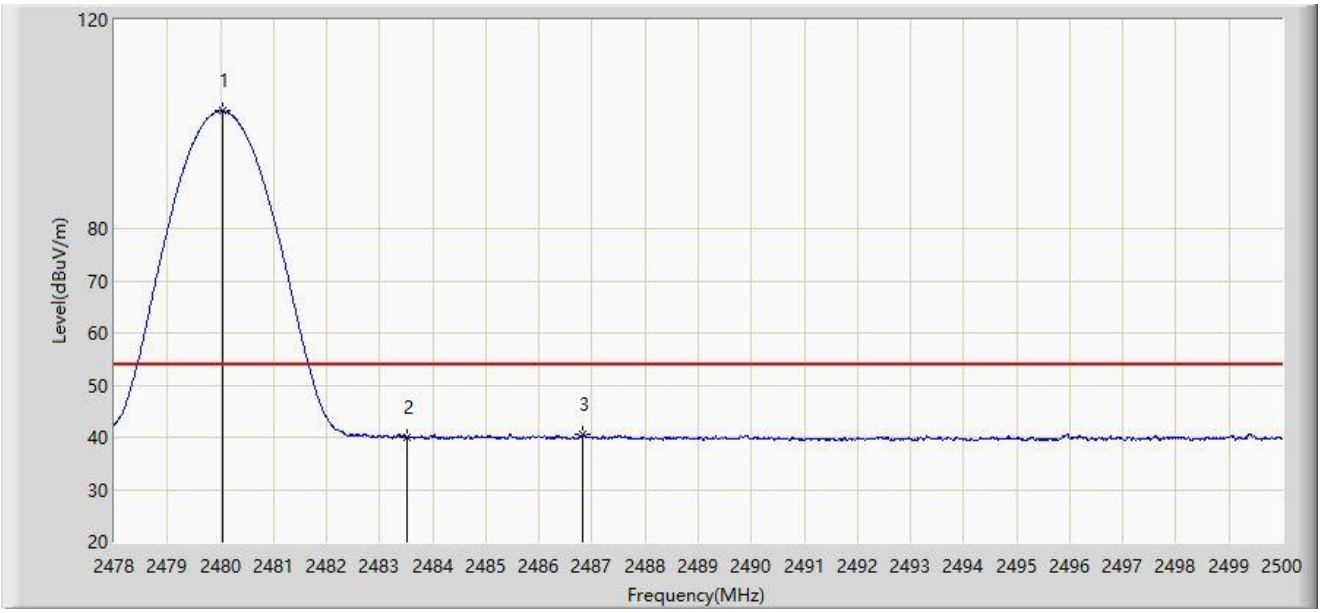
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2480.057	102.782	71.885	N/A	N/A	30.897	PK
2		2483.500	53.896	23.005	-20.104	74.000	30.892	PK
3	*	2487.889	56.751	25.867	-17.249	74.000	30.884	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2480MHz	



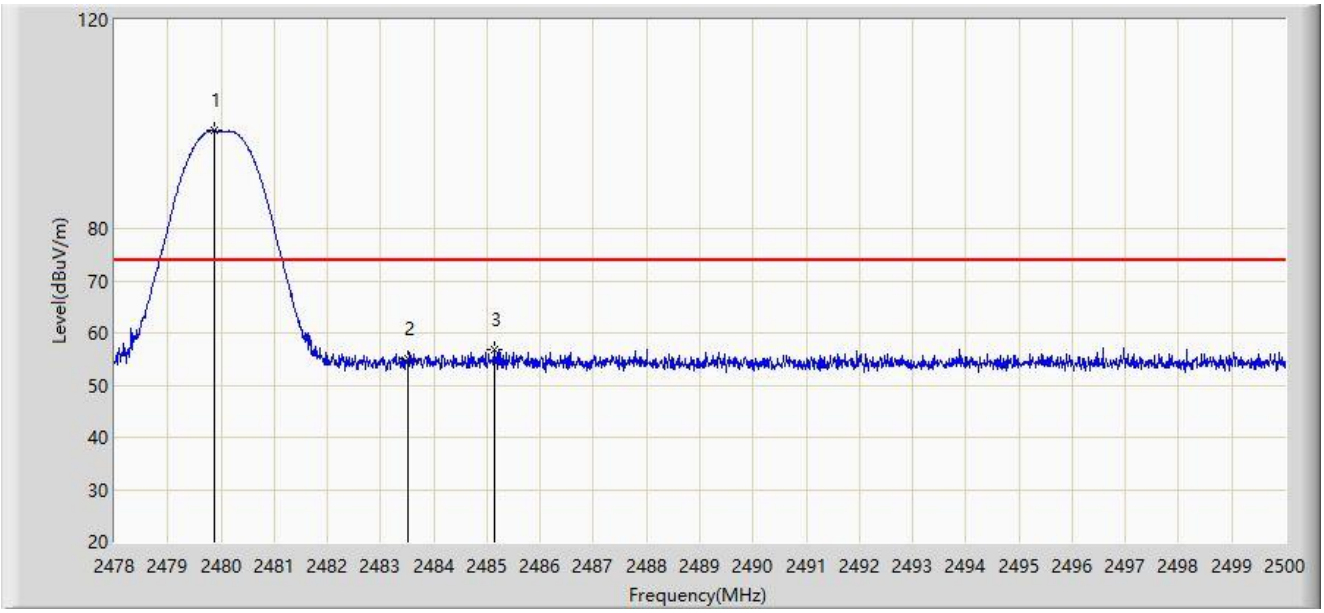
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2480.046	102.521	71.624	N/A	N/A	30.897	AV
2		2483.500	40.141	9.250	-13.859	54.000	30.892	AV
3	*	2486.833	40.491	9.605	-13.509	54.000	30.886	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2480MHz	



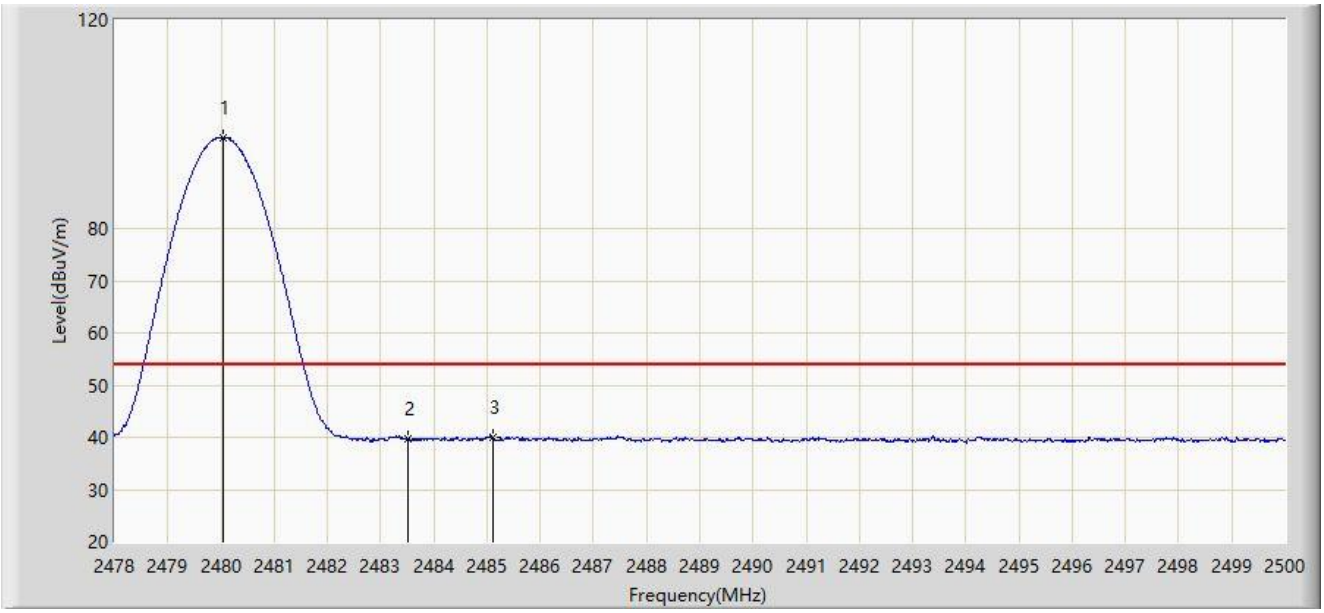
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.870	98.770	67.873	N/A	N/A	30.897	PK
2		2483.500	55.046	24.155	-18.954	74.000	30.892	PK
3	*	2485.128	56.791	25.902	-17.209	74.000	30.889	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by DH5 at 2480MHz	



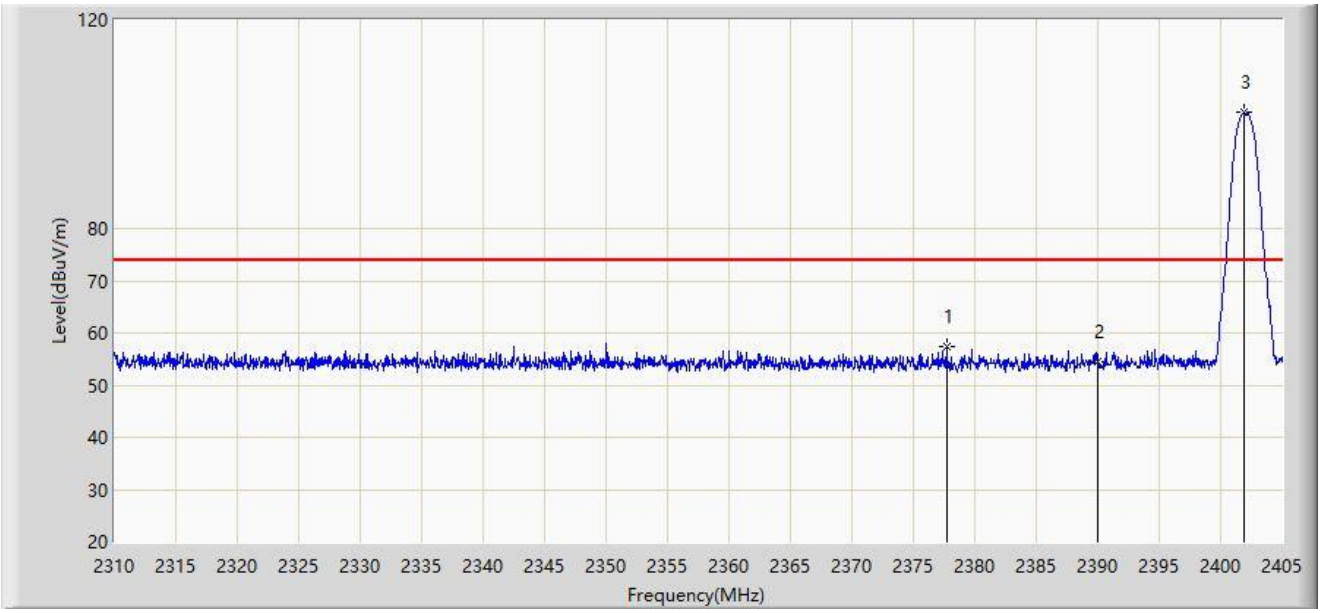
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2480.046	97.506	66.609	N/A	N/A	30.897	AV
2		2483.500	39.820	8.929	-14.180	54.000	30.892	AV
3	*	2485.117	40.063	9.174	-13.937	54.000	30.889	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2402MHz	



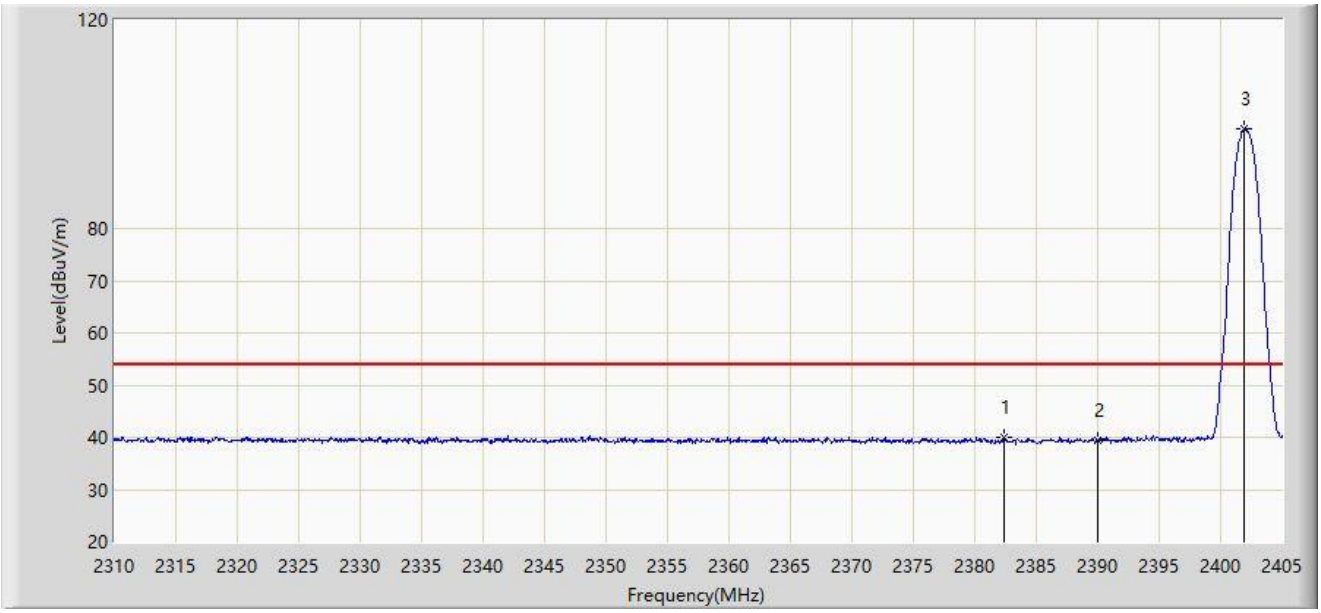
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2377.687	57.348	26.326	-16.652	74.000	31.023	PK
2		2390.000	54.557	23.565	-19.443	74.000	30.992	PK
3		2401.865	102.316	71.327	N/A	N/A	30.989	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2402MHz	



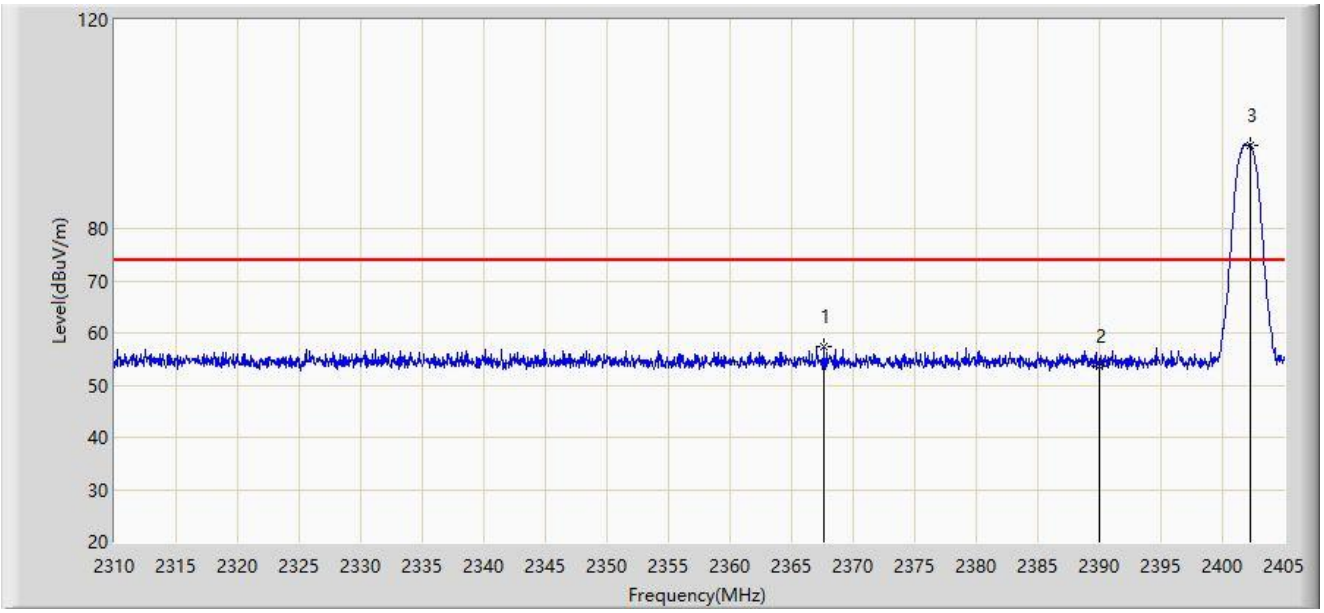
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2382.343	40.049	9.047	-13.951	54.000	31.002	AV
2		2390.000	39.295	8.303	-14.705	54.000	30.992	AV
3		2401.913	99.050	68.061	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2402MHz	



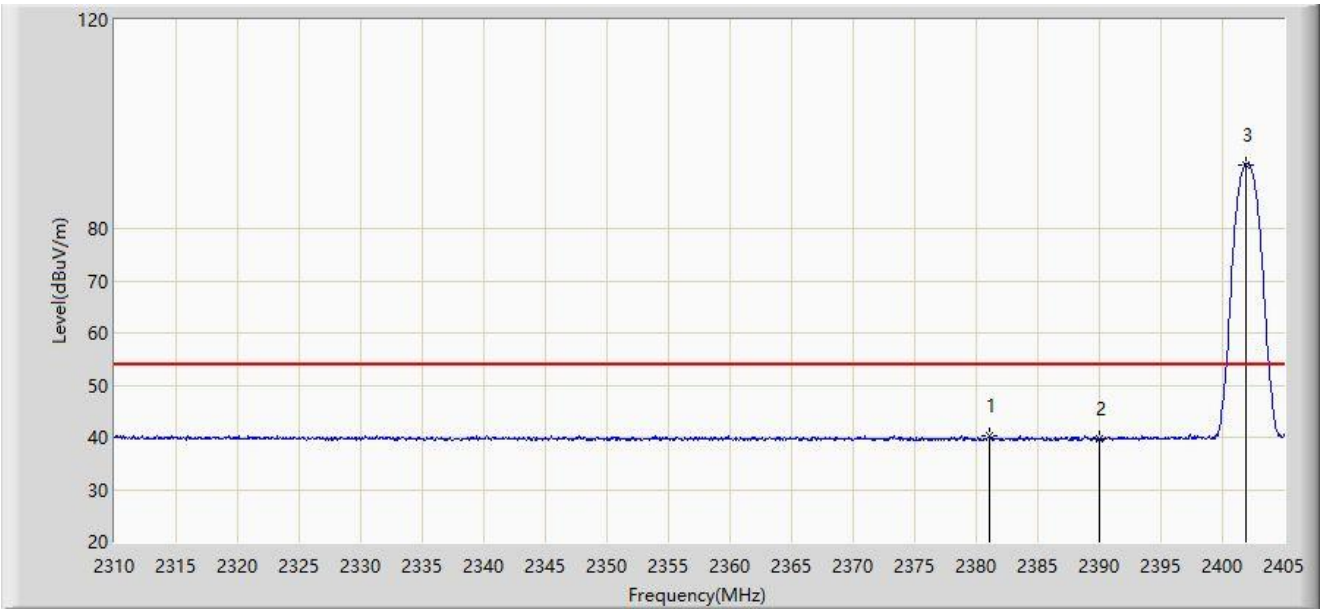
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2367.570	57.334	26.262	-16.666	74.000	31.072	PK
2		2390.000	53.716	22.724	-20.284	74.000	30.992	PK
3		2402.292	96.008	65.020	N/A	N/A	30.988	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2402MHz	



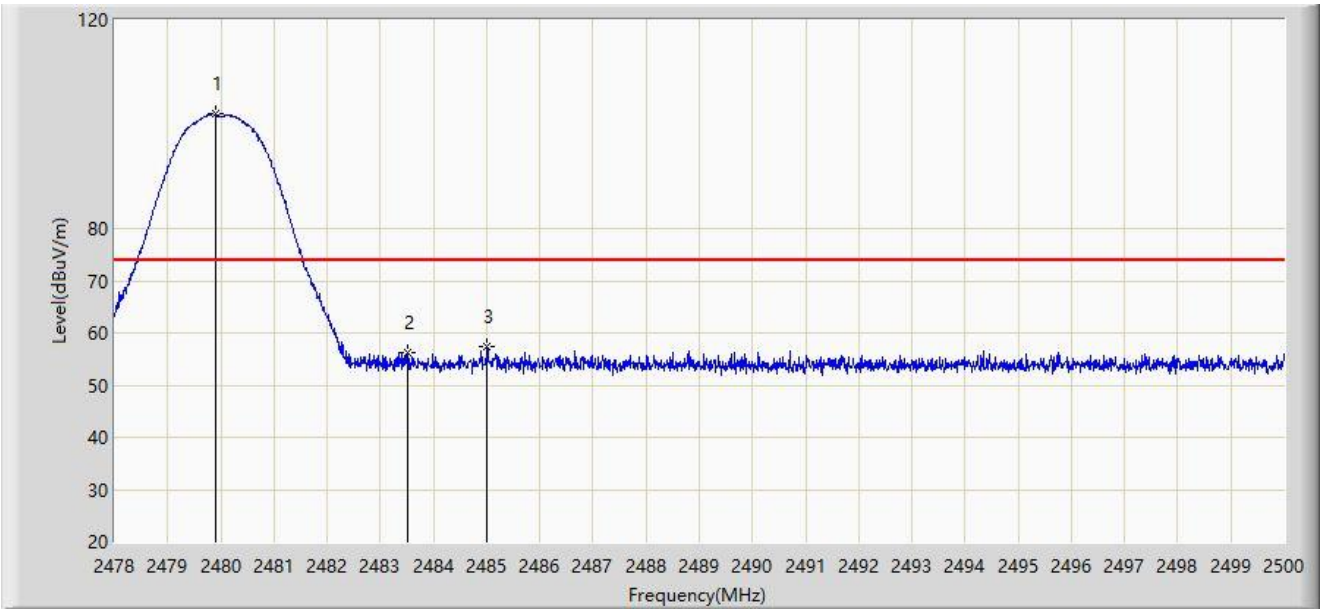
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2381.012	40.187	9.179	-13.813	54.000	31.008	AV
2		2390.000	39.588	8.596	-14.412	54.000	30.992	AV
3		2401.865	92.206	61.217	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2480MHz	



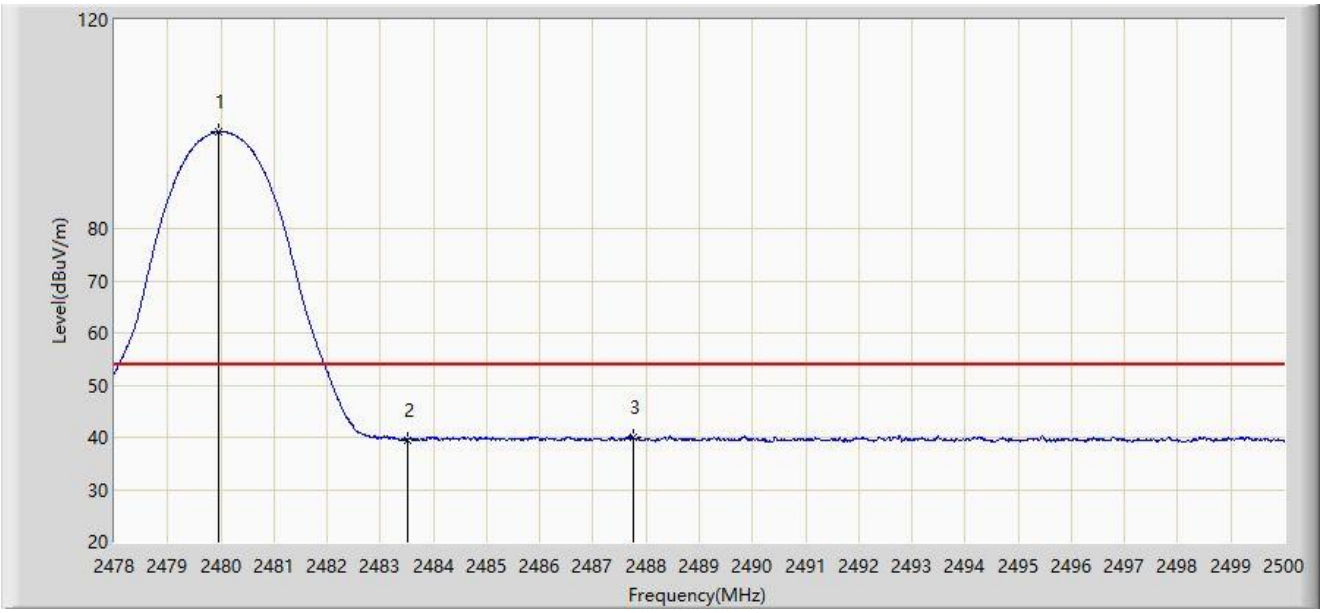
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.903	101.897	71.000	N/A	N/A	30.897	PK
2		2483.500	56.339	25.448	-17.661	74.000	30.892	PK
3	*	2485.007	57.422	26.533	-16.578	74.000	30.889	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2480MHz	



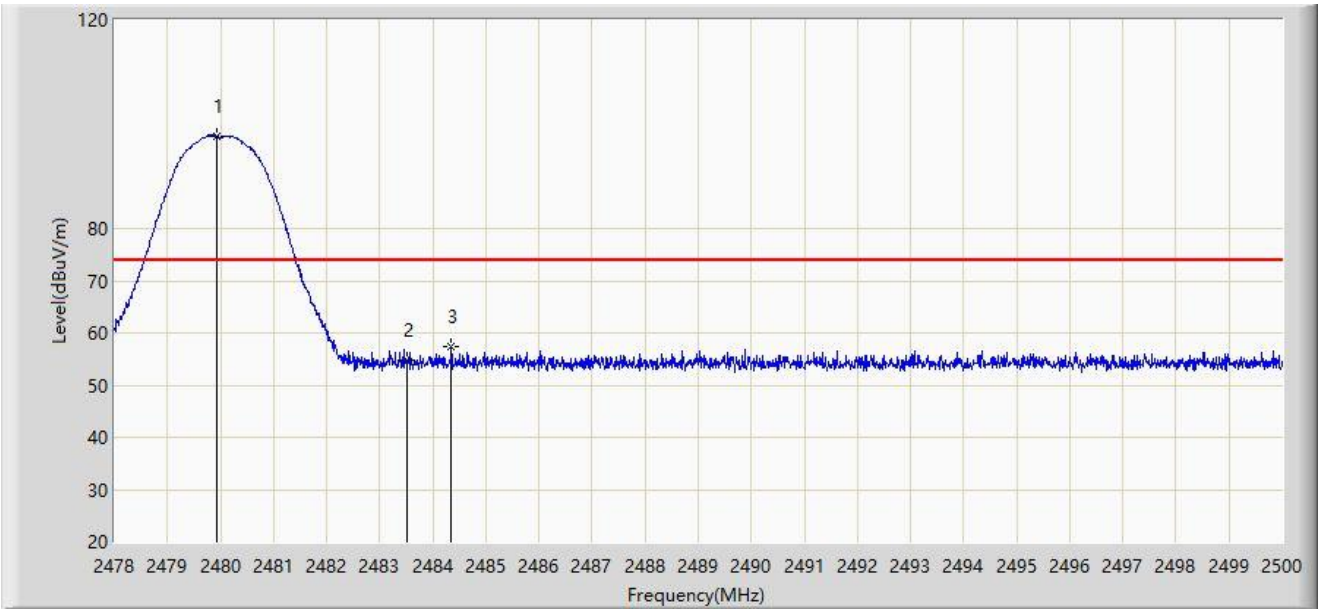
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.969	98.540	67.643	N/A	N/A	30.897	AV
2		2483.500	39.561	8.670	-14.439	54.000	30.892	AV
3	*	2487.768	40.109	9.225	-13.891	54.000	30.884	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2480MHz	



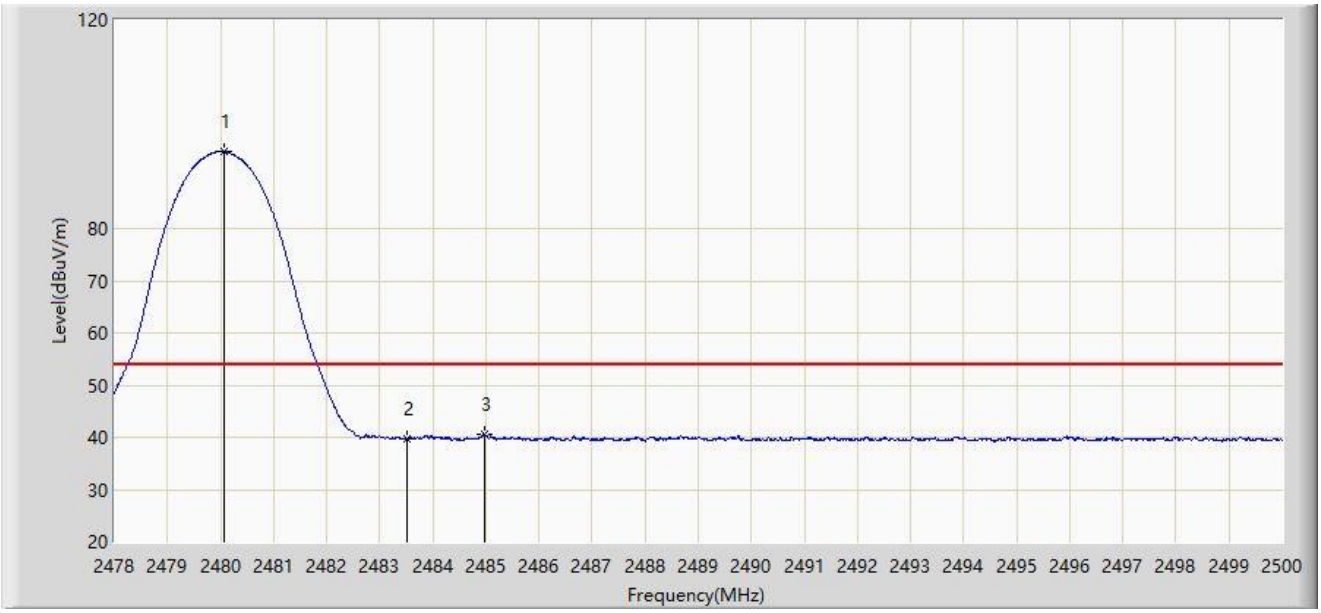
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.936	97.814	66.917	N/A	N/A	30.897	PK
2		2483.500	54.859	23.968	-19.141	74.000	30.892	PK
3	*	2484.347	57.347	26.457	-16.653	74.000	30.890	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 2DH5 at 2480MHz	



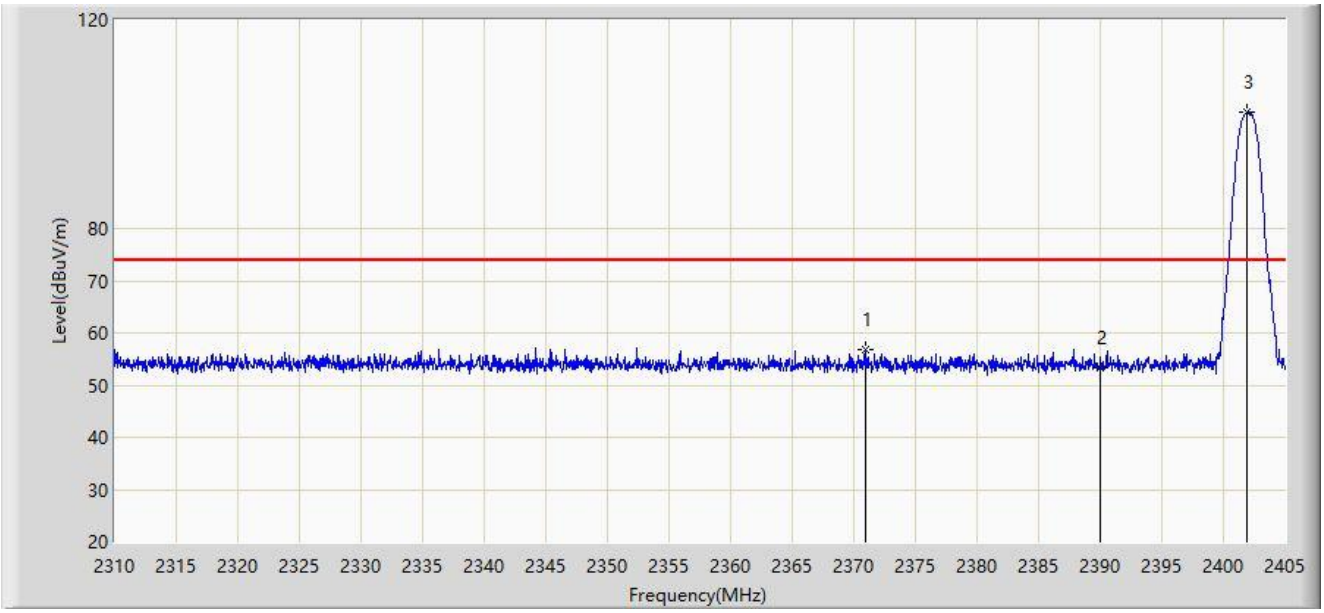
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2480.079	94.730	63.833	N/A	N/A	30.897	AV
2		2483.500	39.644	8.753	-14.356	54.000	30.892	AV
3	*	2484.963	40.629	9.740	-13.371	54.000	30.889	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2402MHz	



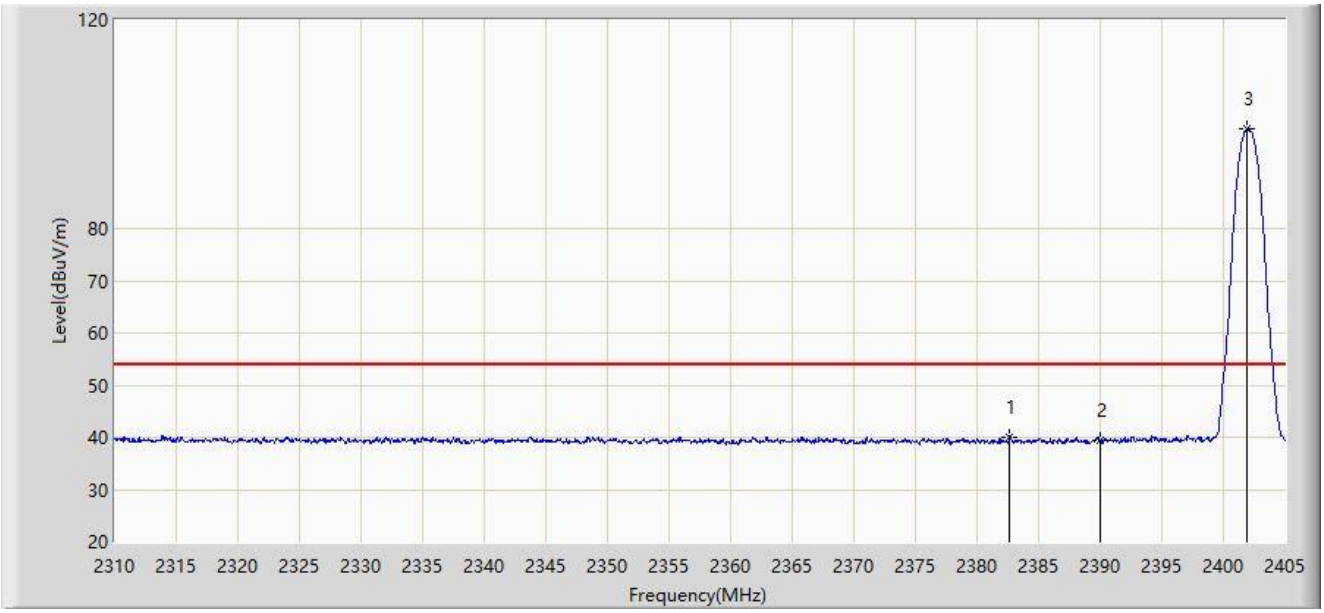
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2370.895	56.816	25.760	-17.184	74.000	31.056	PK
2		2390.000	53.398	22.406	-20.602	74.000	30.992	PK
3		2401.865	102.252	71.263	N/A	N/A	30.989	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2402MHz	



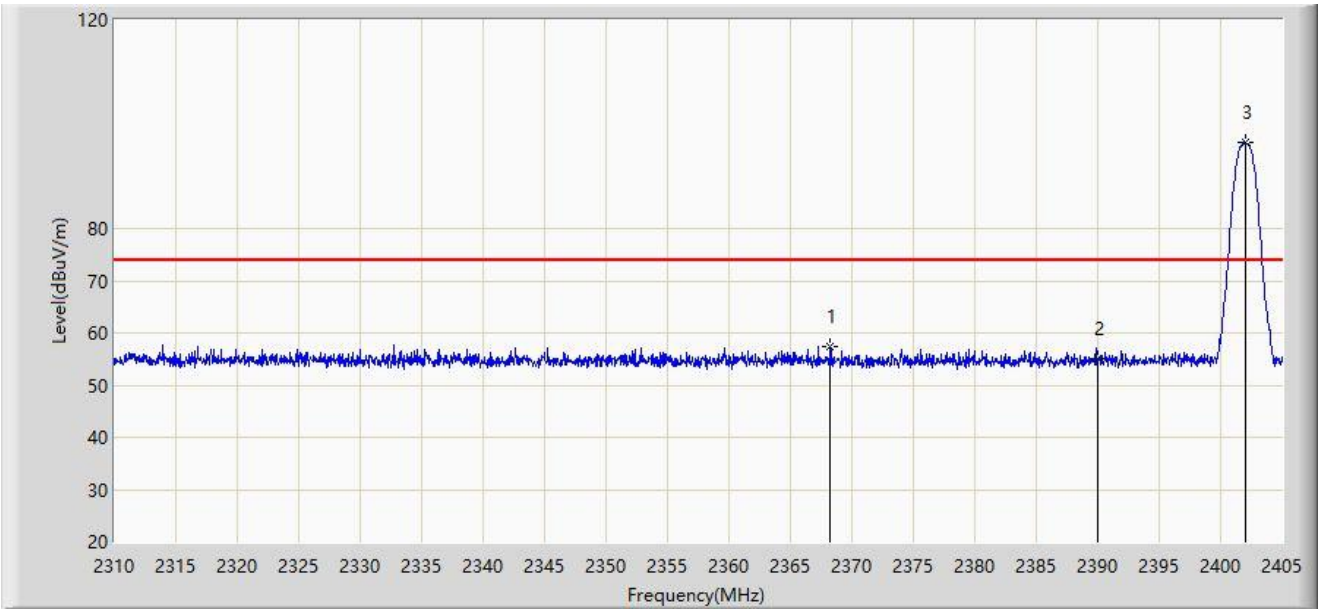
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2382.627	40.035	9.034	-13.965	54.000	31.001	AV
2		2390.000	39.323	8.331	-14.677	54.000	30.992	AV
3		2401.960	99.094	68.105	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2402MHz	



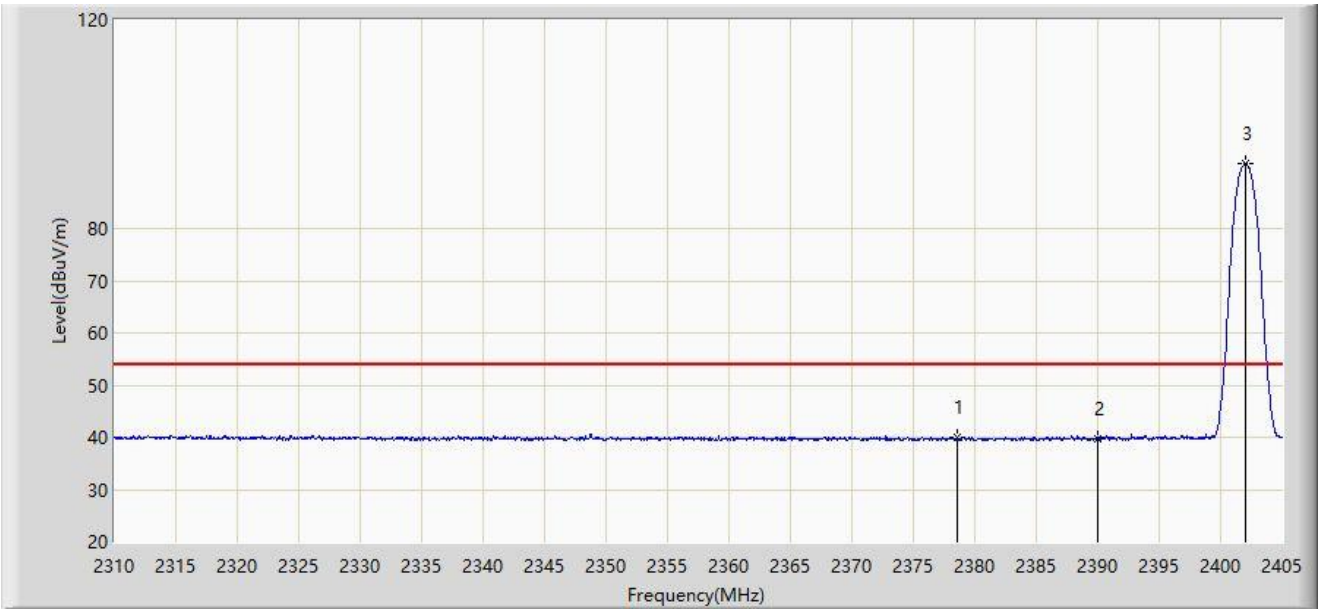
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2368.235	57.315	26.246	-16.685	74.000	31.069	PK
2		2390.000	54.954	23.962	-19.046	74.000	30.992	PK
3		2402.008	96.422	65.433	N/A	N/A	30.989	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2402MHz	



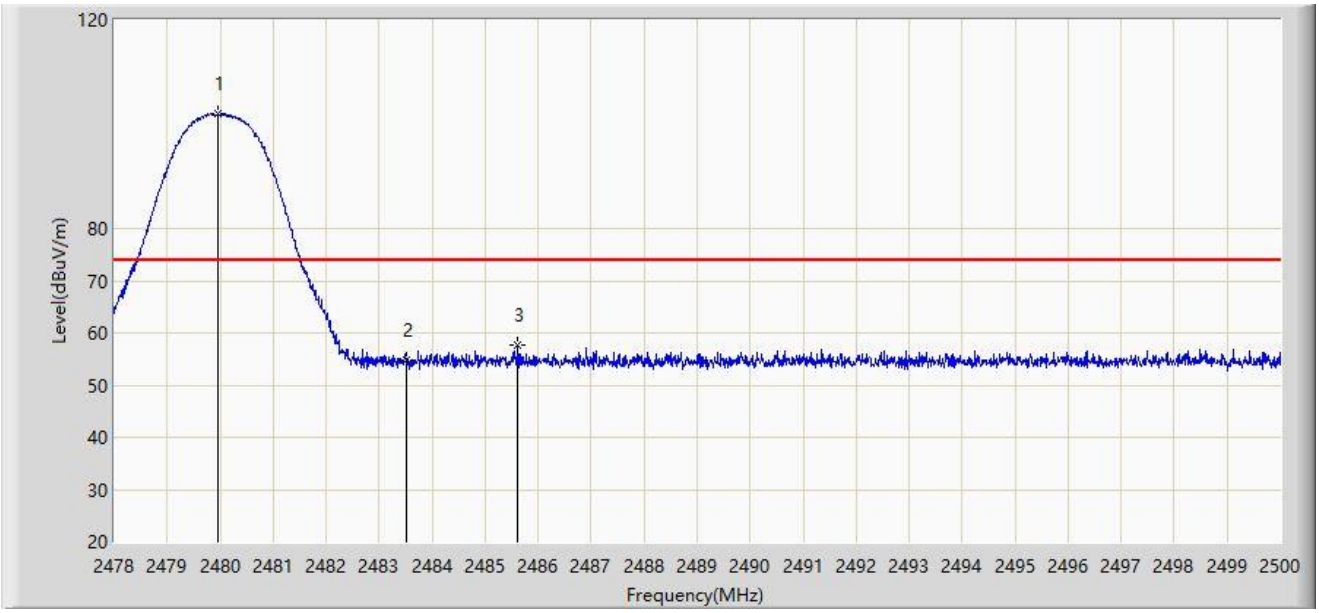
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2378.542	40.139	9.120	-13.861	54.000	31.018	AV
2		2390.000	39.843	8.851	-14.157	54.000	30.992	AV
3		2402.008	92.366	61.377	N/A	N/A	30.989	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2480MHz	



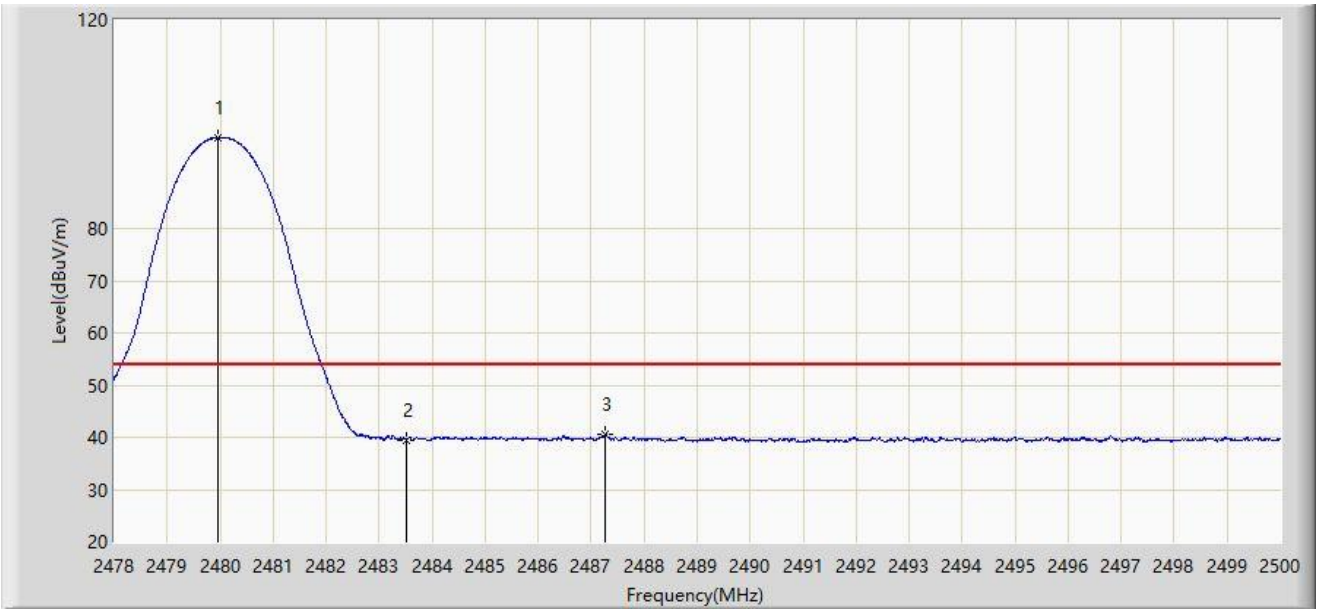
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.958	101.946	71.049	N/A	N/A	30.897	PK
2		2483.500	54.926	24.035	-19.074	74.000	30.892	PK
3	*	2485.612	57.682	26.794	-16.318	74.000	30.888	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2480MHz	



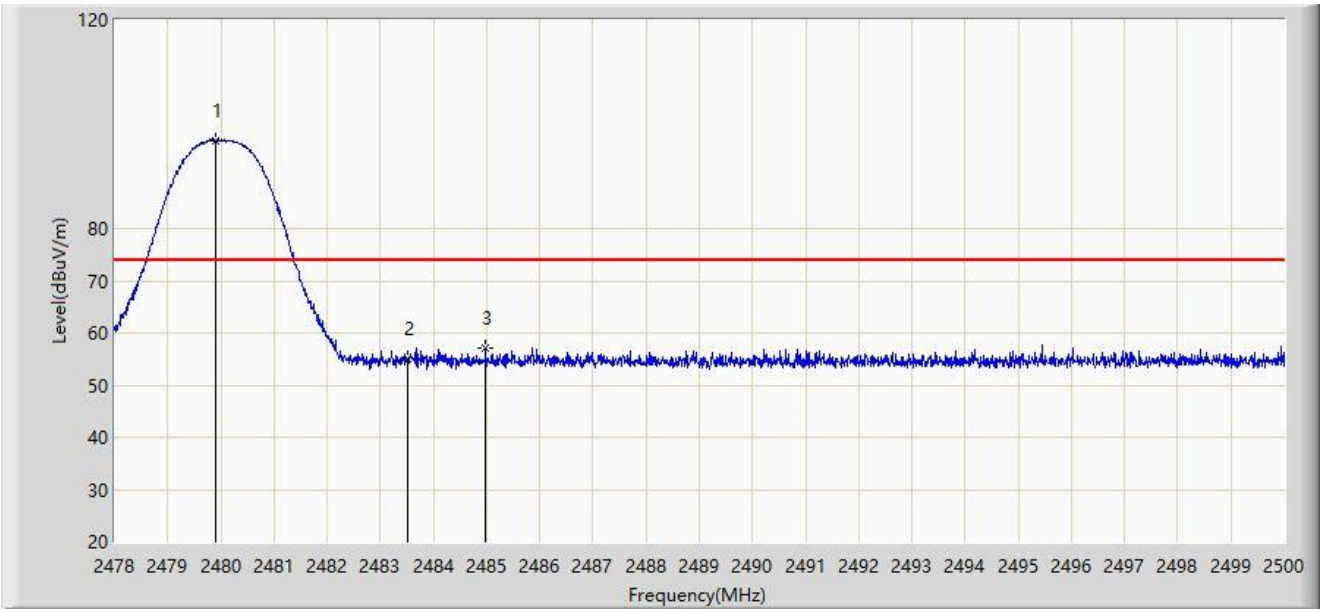
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.958	97.487	66.590	N/A	N/A	30.897	AV
2		2483.500	39.544	8.653	-14.456	54.000	30.892	AV
3	*	2487.262	40.473	9.588	-13.527	54.000	30.885	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2480MHz	



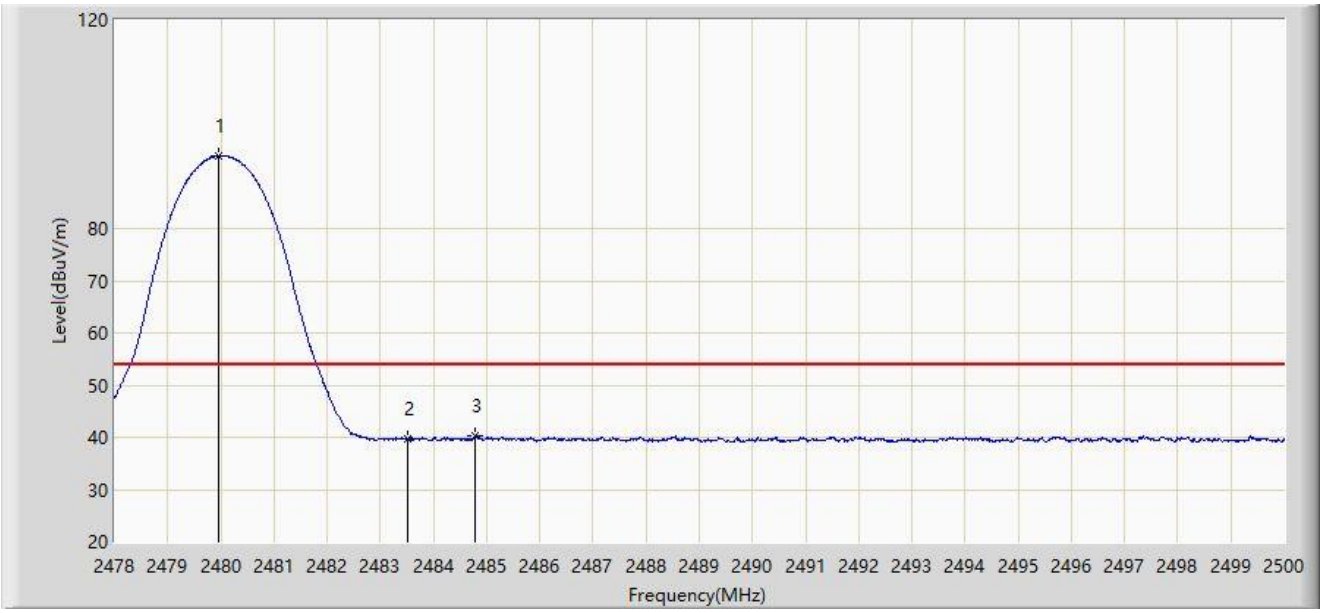
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.903	96.935	66.038	N/A	N/A	30.897	PK
2		2483.500	55.108	24.217	-18.892	74.000	30.892	PK
3	*	2484.985	57.138	26.249	-16.862	74.000	30.889	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022-10-24
Limit: FCC_2.4G_RE(3m)	Engineer: Edith Yu
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Spot Mapper	Power: By USB Cable
Test Mode: Transmit by 3DH5 at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.969	93.926	63.029	N/A	N/A	30.897	AV
2		2483.500	39.613	8.722	-14.387	54.000	30.892	AV
3	*	2484.787	40.426	9.537	-13.574	54.000	30.890	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Appendix B - Test Setup Photograph

Refer to “2209RSU059-UT” file.

Appendix C - EUT Photograph

Refer to “ 2209RSU059-UE” file.

The End