RF MEASUREMENT REPORT

FCC ID:	LNQAPI7220
Applicant:	Actiontec Electronics Inc
Product:	Wi-Fi Access Point
Model No.:	API7220
Brand Name:	Actiontec
FCC Classification:	Digital Transmission System (DTS)
FCC Rule Part(s):	Part 15 Subpart C (Section 15.247)
Result:	Complies
Test Date:	2021-11-09 ~ 2022-04-18

Reviewed By: Kevin Guo

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2109RSU006-U2	Rev. 01	Initial Report	2022-07-14	Valid

CONTENTS

1. General Information

1.1. Applicant

Actiontec Electronics Inc

2445 Augustine Drive Suite 501, Santa Clara, California 95054, United States

1.2. Manufacturer

Actiontec Electronics Inc

2445 Augustine Drive Suite 501, Santa Clara, California 95054, 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	Wi-Fi Access Point
Model No.	API7220
Serial No.	WIFI21700294
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Bluetooth Specification	V5.0, Single mode only (LE)
Antenna Information	Refer to section 1.7
Power Type	AC-DC Adapter or PoE Adapter
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

Bluetooth Frequency	2402 ~ 2480MHz
Channel Number	40
Type of modulation	GFSK
Data Rate	1Mbps & 2Mbps

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	--	--	--	--

1.7. Antenna Details

Antenna Type	Frequency (MHz)	TX Path	Antenna Gain (dBi)		Directional Gain (dBi)	
			Ant 0	Ant 1	Correlated	Uncorrelated
Wi-Fi Antenna						
PIFA	2412 ~ 2462	2	3.1	4.3	6.47	3.46
	5150 ~ 5250	2	4.1	5.1	7.62	4.63
	5250 ~ 5350	2	3.9	4.8	7.37	4.37
	5470 ~ 5725	2	4.3	5.6	7.89	4.91
	5725 ~ 5850	2	3.3	4.0	6.67	3.66
Bluetooth Antenna						
PIFA	2402 ~ 2480	1	-0.6		--	

Remark:

1. The antenna gain and directional gain refer to manufacturer's antenna specification.
2. The device supports CDD Mode and STBC mode, details refer to the table as below.
3. CDD signals are correlated, the directional gain as follows,
   For power measurements: Array Gain = 0 dB for $N_{ANT} \leq 4$, the directional gain = max antenna gain + array gain
   For power spectral density (PSD) measurements: the max directional gain (each frequency) = 10 $\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$
4. STBC signals are uncorrelated, the directional gain as follows,
   the max directional gain (each frequency) = 10 $\log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}]$
5. Details refer to the antenna specification.

Test Mode	T_X Paths	CDD Mode	STBC Mode
Wi-Fi 2.4G			
802.11b/g	2	√	X
802.11n/ax	2	X	√
Wi-Fi 5G			
802.11a	2	√	X
802.11n/ac/ax	2	X	√

Remark: "√" means "Support", "X" means "Not support".

2. Test Configuration

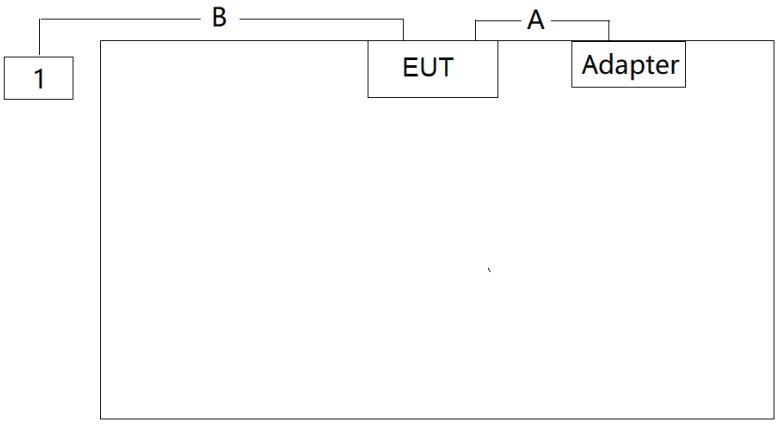
2.1. Test Mode

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 – Radiated Emission testing & AC Conducted Emissions



No.	Cable Type	Cable Spec.	Length
A	Power Cable	Non-Shielded	1.8m
B	LAN Cable	Non-Shielded	>10 m
No.	Product	Manufacturer	Model No.
1	Notebook	Lenovo	E495

Note: Adapter is provided by manufacturer for test only, it will not be sold with product, the model name of adapter is CDS036-W120U.

2.3. Test Software

The test utility software used during testing was “QRCT”, and the version was 3.0.268.0.

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 Requirements

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
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021-12-24	SIP-AC1
				1 year	2022-12-23	SIP-AC1
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2021-11-09	SIP-AC1
				1 year	2022-11-08	SIP-AC1
Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2022-08-05	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2021-11-25	SIP-AC1
				1 year	2022-11-02	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06620	1 year	2021-12-03	SIP-AC1
				1 year	2022-11-28	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2022-08-26	SIP-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022-01-29	SIP-AC3
				1 year	2022-12-29	SIP-AC3
Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2022-01-14	SIP-AC1/SIP-AC3
				1 year	2023-01-13	SIP-AC1/SIP-AC3
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022-03-15	SIP-AC1/SIP-AC3
				1 year	2023-03-14	SIP-AC1/SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022-06-24	SIP-AC1/SIP-AC3
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2022-06-08	SIP-AC3
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06598	1 year	2021-11-26	SIP-AC3
				1 year	2022-11-09	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2021-11-25	SIP-AC3
				1 year	2022-11-02	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2021-12-03	SIP-AC3
				1 year	2022-11-28	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2022-01-14	SIP-AC3
				1 year	2023-01-13	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2022-08-26	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2021-12-24	SIP-AC3
				1 year	2022-12-23	SIP-AC3
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2022-06-01	SIP-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2022-06-01	SIP-SR2
Four-Line V-Network	R&S	ENV432	MRTSUE06614	1 year	2021-10-20	SIP-SR2
				1 year	2022-10-10	SIP-SR2
Thermohygrometer	testo	608-H1	MRTSUE06621	1 year	2021-12-03	SIP-SR2
				1 year	2022-11-28	SIP-SR2

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Shielding Room	MIX-BEP	SIP-SR2	MRTSUE06949	N/A	N/A	SIP-SR2
Thermohygrometer	testo	Testo 608-H1	MRTSUE11022	1 year	2021-11-06	SIP-TR1
				1 year	2022-11-02	SIP-TR1
USB Power Sensor	Keysight	U2021XA	MRTSUE06595	1 year	2022-09-07	SIP-TR1
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2022-09-07	SIP-TR1
Attenuator	MVE	MVE2213	MRTSUE11055	1 year	2022-06-09	SIP-TR1
Attenuator	MVE	MVE2213	MRTSUE11056	1 year	2022-06-09	SIP-TR1

Note: N/A means that it's not applicable.

Software	Version	Function
EMI Software	V3.0.0	EMI Test Software
Agilent Power Panel	V 3.9	Power
Controller_MF 7802BS	1.02	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.

AC 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 Density		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.
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. 6dB Bandwidth Measurement

6.2.1. Test Limit

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

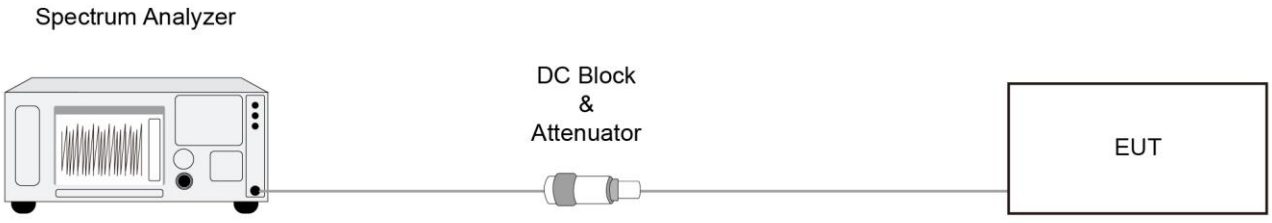
6.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.8

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 to stabilize

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Output Power Measurement

6.3.1. Test Limit

The maximum output 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

ANSI C63.10 - 2013 - Section 11.9.1.3

ANSI C63.10 - 2013 - Section 11.9.2.3.2

6.3.3. Test Setting

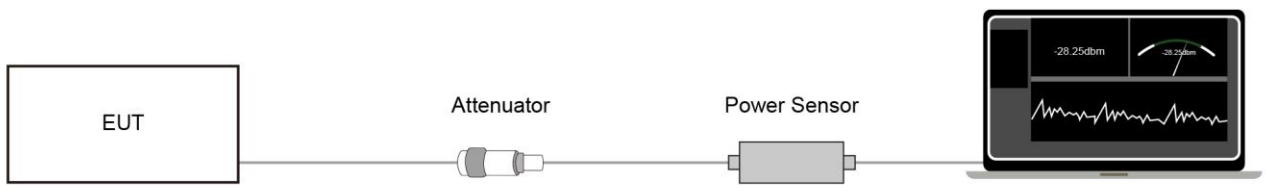
Method PKPM1 (Peak Power Measurement of Signals with DTS BW ≤ 50MHz)

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.

Average Power Measurement

Average 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 power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

6.3.4. Test Setup



6.3.5. Test Result

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

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.

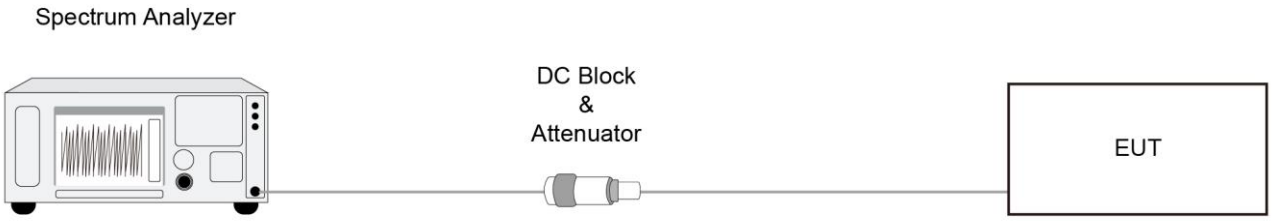
6.4.2. Test Procedure

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.4.

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

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

ANSI C63.10-2013 - Section 11.11

6.5.3. Test Settitng

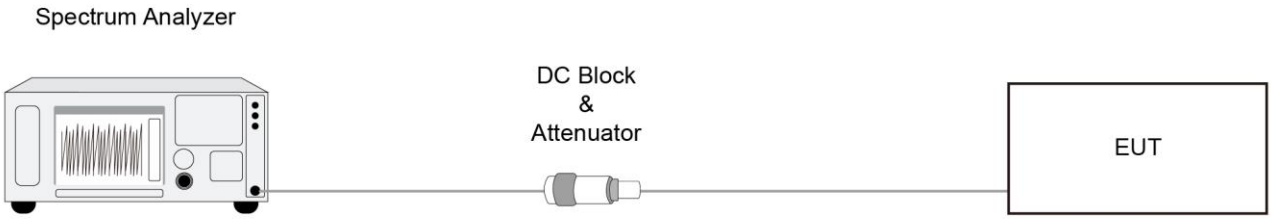
Reference level measurement

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.5.

6.6. Radiated Spurious Emission Measurement

6.6.1. 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

6.6.2. Test Procedure

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
> 1000MHz	1MHz

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

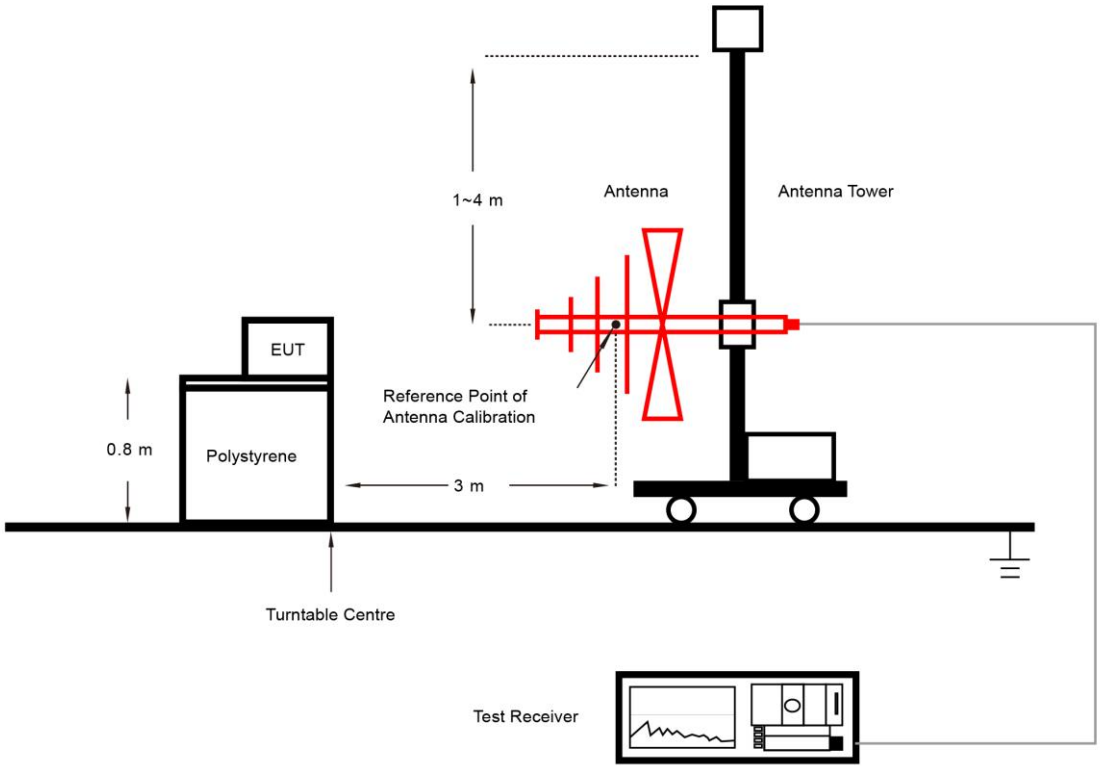
5. Sweep time = auto

6. Trace mode = max hold

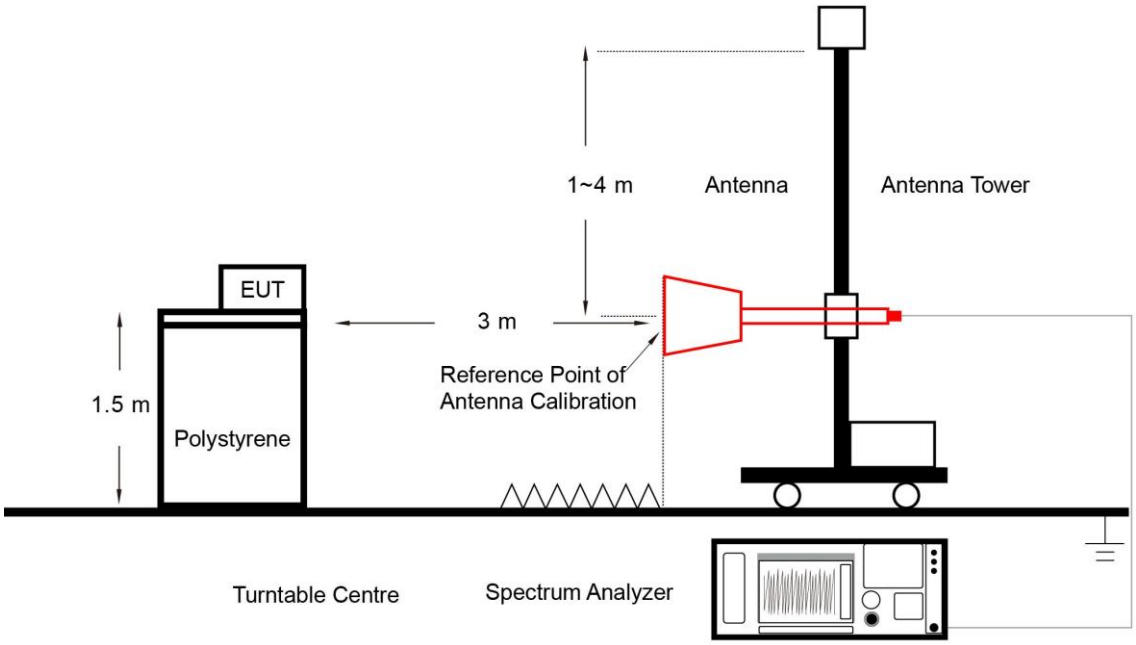
7. Trace was allowed to stabilize

6.6.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.6.5. Test Result

Refer to Appendix A.6.

6.7. Radiated Restricted Band Edge Measurement

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		
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

6.7.2. Test Procedure

ANSI C63.10-2013 Section 6.3 & 6.6 & 11.13

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

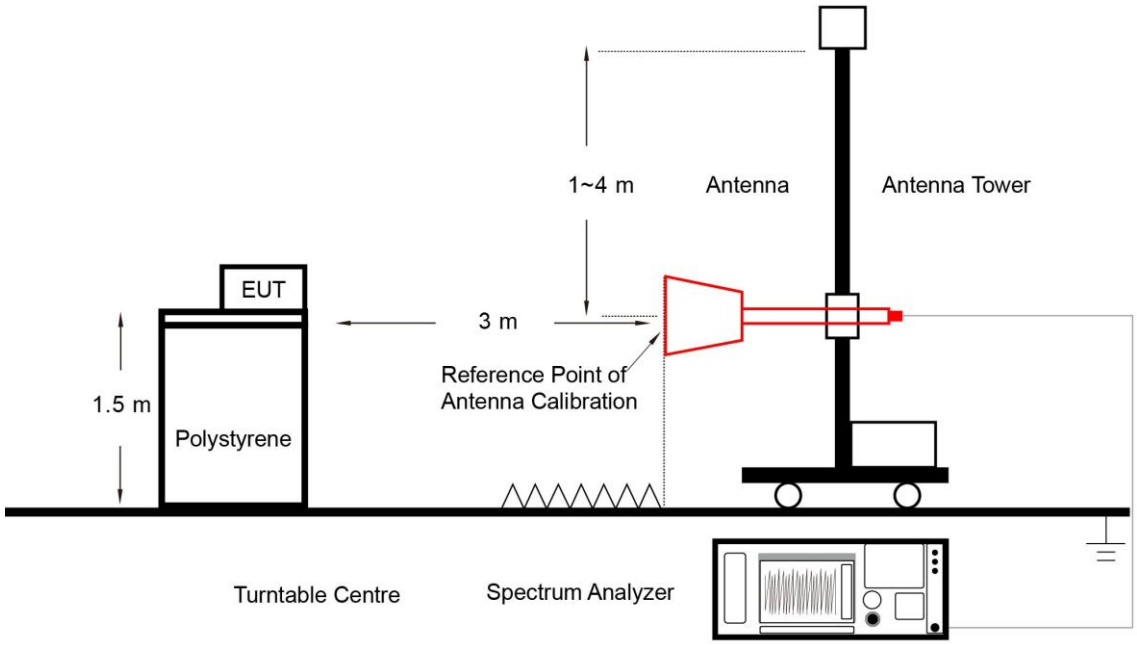
Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW ≥ 1/T
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to

"Voltage" regardless of the display mode

5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup



6.7.5. Test Result

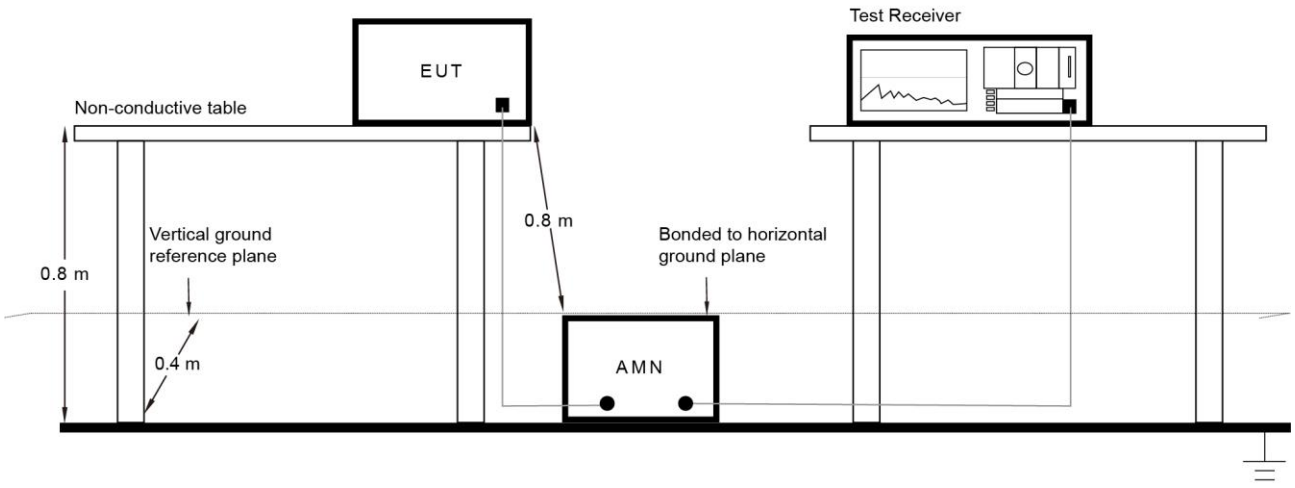
Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
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



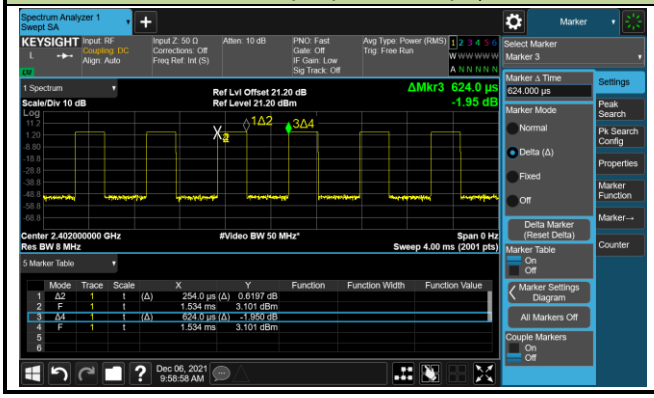
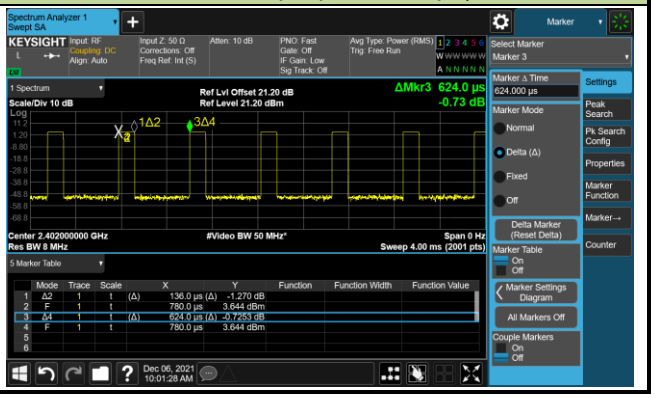
6.8.3. Test Result

Refer to Appendix A.8.

Appendix A - Test Result

A.1 Duty Cycle Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2021/12/06		

Test Mode	Duty Cycle
BLE-1Mbps	40.71%
BLE-2Mbps	21.79%
Duty Cycle (T = Transmission Duration)	
BLE-1Mbps (T = 254.0μs)	BLE-2Mbps (T = 136.0μs)
	

A.2 6dB Bandwidth Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2021/12/06		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
BLE	1Mbps	00	2402	0.683	≥ 0.5
BLE	1Mbps	19	2440	0.684	≥ 0.5
BLE	1Mbps	39	2480	0.681	≥ 0.5
BLE	2Mbps	00	2402	1.165	≥ 0.5
BLE	2Mbps	19	2440	1.158	≥ 0.5
BLE	2Mbps	39	2480	1.162	≥ 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.3 Output Power Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2022/01/11		

Test Result of Peak Output Power

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	4.65	≤ 30.00	Pass
BLE	1Mbps	19	2440	1.51	≤ 30.00	Pass
BLE	1Mbps	39	2480	1.84	≤ 30.00	Pass
BLE	2Mbps	00	2402	4.59	≤ 30.00	Pass
BLE	2Mbps	19	2440	1.64	≤ 30.00	Pass
BLE	2Mbps	39	2480	1.72	≤ 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	3.71	≤ 30.00	Pass
BLE	1Mbps	19	2440	-0.38	≤ 30.00	Pass
BLE	1Mbps	39	2480	-0.32	≤ 30.00	Pass
BLE	2Mbps	00	2402	3.65	≤ 30.00	Pass
BLE	2Mbps	19	2440	-0.33	≤ 30.00	Pass
BLE	2Mbps	39	2480	-0.31	≤ 30.00	Pass

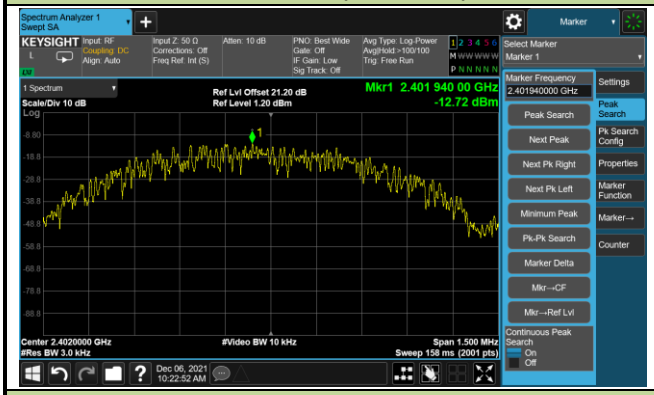
A.4 Power Spectral Density Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2021/12/06		

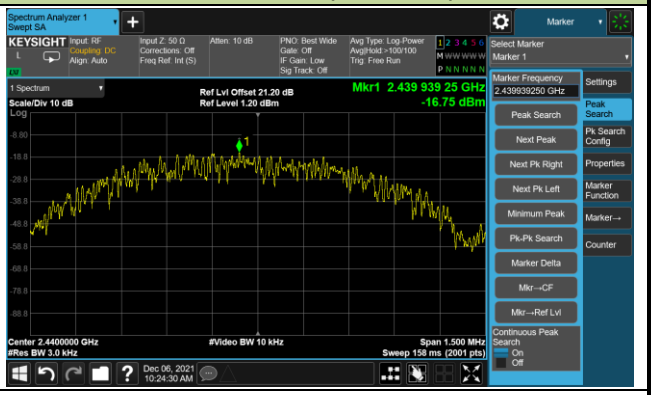
Test Mode	Data Rate	Channel No.	Frequency (MHz)	PSD Result (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
BLE	1Mbps	00	2402	-12.72	≤ 8.00	Pass
BLE	1Mbps	19	2440	-16.75	≤ 8.00	Pass
BLE	1Mbps	39	2480	-16.93	≤ 8.00	Pass
BLE	2Mbps	00	2402	-14.07	≤ 8.00	Pass
BLE	2Mbps	19	2440	-18.16	≤ 8.00	Pass
BLE	2Mbps	39	2480	-18.31	≤ 8.00	Pass

BLE-1Mbps PSD

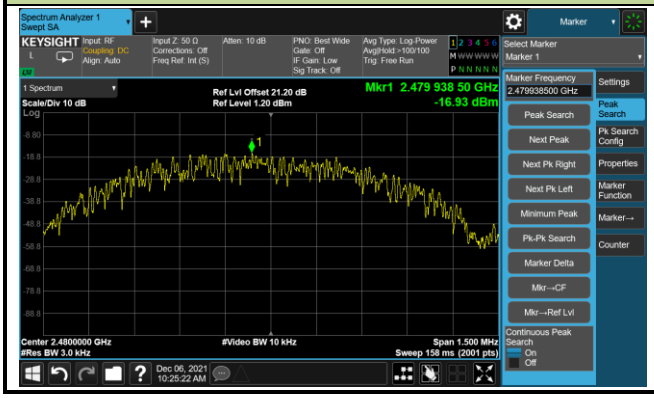
Channel 00 (2402MHz)

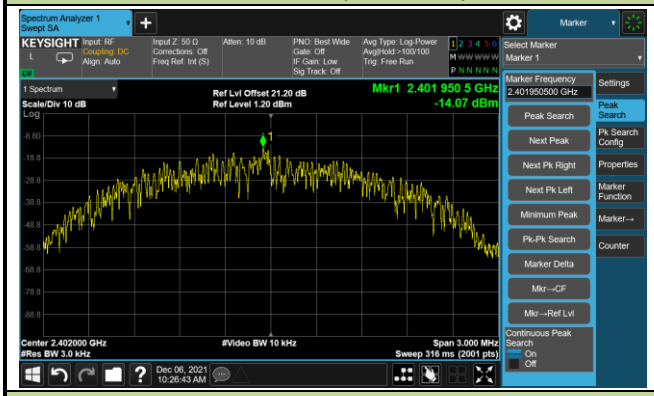
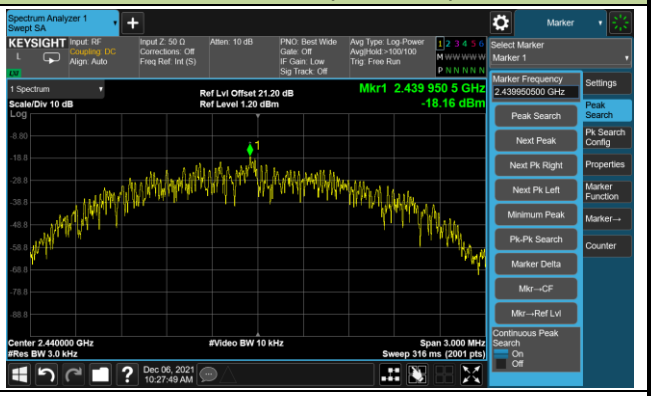
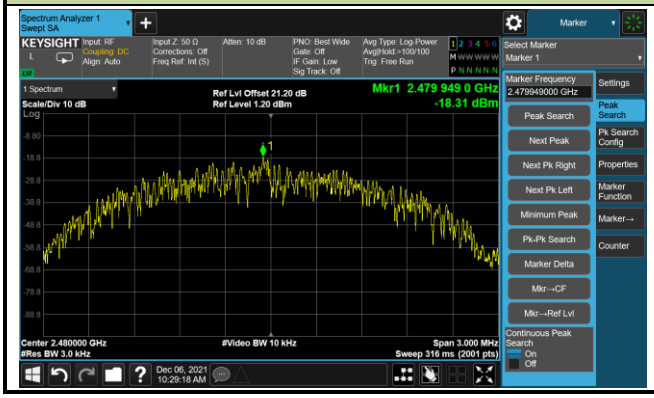


Channel 19 (2440MHz)



Channel 39 (2480MHz)

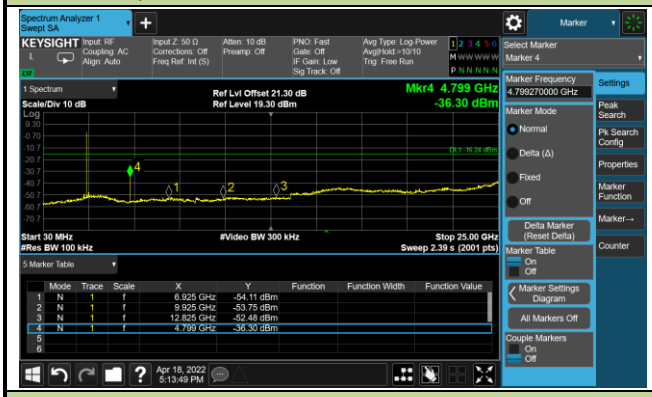
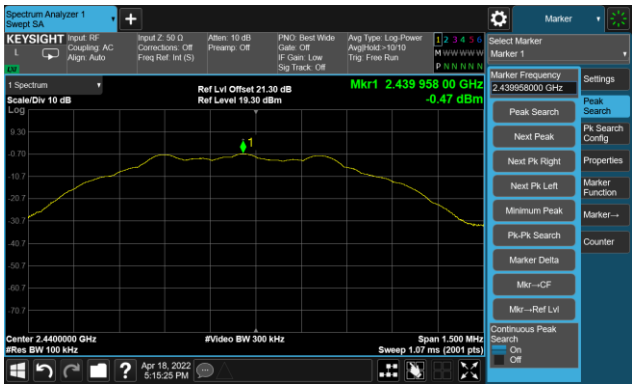


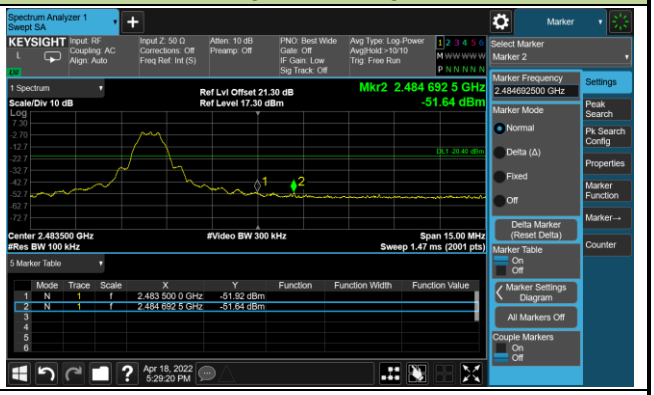
BLE-2Mbps PSD	
Channel 00 (2402MHz)	Channel 19 (2440MHz)
	
Channel 39 (2480MHz)	
	

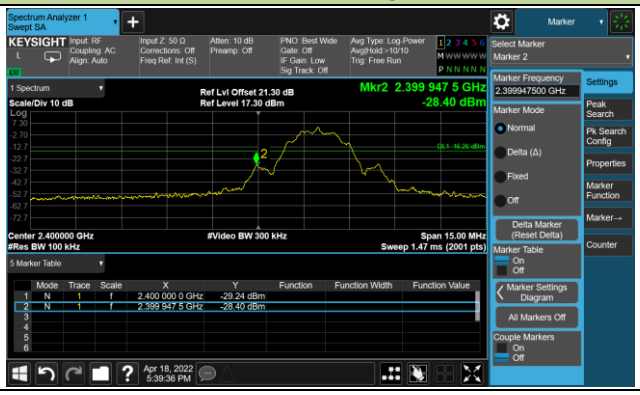
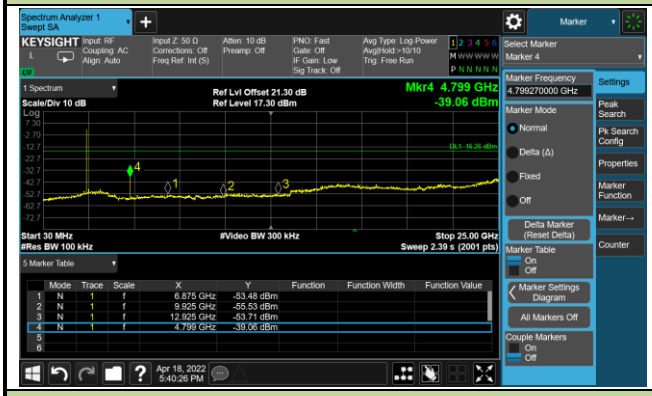
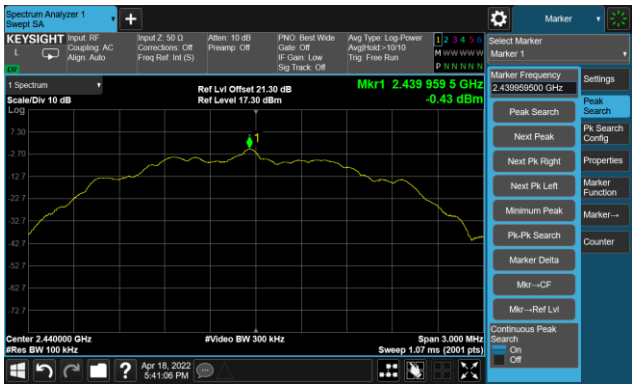
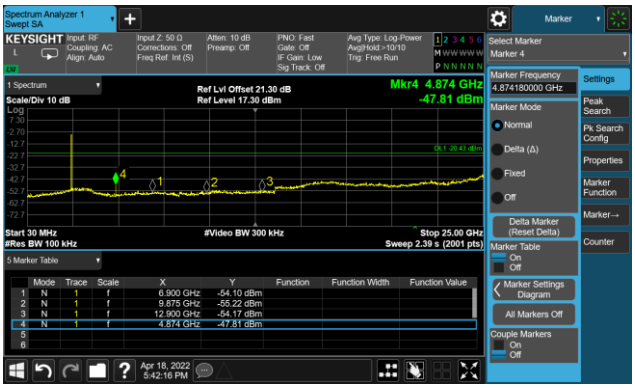
A.5 Conducted Band Edge and Out-of-Band Emissions Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2022/04/18		

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

BLE-1Mbps Out-of-Band Emissions	
Channel 00 (2402MHz)	
Reference Level	Low Band Edge
	
Spurious Emission 30MHz ~ 25GHz	
	
Channel 19 (2440MHz)	
Reference Level	Spurious Emission 30MHz ~ 25GHz
	

BLE-1Mbps Out-of-Band Emissions	
Channel 39 (2480MHz)	
Reference Level	High Band Edge
	
Spurious Emission 30MHz ~ 25GHz	
	

BLE-2Mbps Out-of-Band Emissions	
Channel 00 (2402MHz)	
Reference Level	Low Band Edge
	
Spurious Emission 30MHz ~ 25GHz	
	
Channel 19 (2440MHz)	
Reference Level	Spurious Emission 30MHz ~ 25GHz
	

BLE-2Mbps Out-of-Band Emissions	
Channel 39 (2480MHz)	
Reference Level	High Band Edge
	
Spurious Emission 30MHz ~ 25GHz	
	

A.6 Radiated Spurious Emission Test Result

Test Site	SIP-AC1	Test Engineer	Allen Zou
Test Date	2021/11/11	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
00	4808.0	59.4	-10.7	48.7	74.0	-25.3	Peak	Horizontal
	11982.0	48.1	-3.9	44.2	74.0	-29.8	Peak	Horizontal
	15756.0	45.1	2.8	47.9	74.0	-26.1	Peak	Horizontal
	4799.5	54.7	-10.7	44.0	74.0	-30.0	Peak	Vertical
	12160.5	48.0	-3.8	44.2	74.0	-29.8	Peak	Vertical
	15773.0	44.9	3.0	47.9	74.0	-26.1	Peak	Vertical
19	4876.0	55.4	-10.4	45.0	74.0	-29.0	Peak	Horizontal
	12432.5	48.7	-3.7	45.0	74.0	-29.0	Peak	Horizontal
	16002.5	45.6	2.4	48.0	74.0	-26.0	Peak	Horizontal
	4884.5	52.6	-10.4	42.2	74.0	-31.8	Peak	Vertical
	12092.5	48.3	-4.0	44.3	74.0	-29.7	Peak	Vertical
	15628.5	46.3	1.7	48.0	74.0	-26.0	Peak	Vertical
39	4961.0	58.6	-10.3	48.3	74.0	-25.7	Peak	Horizontal
	8267.5	49.6	-6.0	43.6	74.0	-30.4	Peak	Horizontal
	12398.5	48.1	-3.6	44.5	74.0	-29.5	Peak	Horizontal
	4961.0	57.2	-10.3	46.9	74.0	-27.1	Peak	Vertical
	8386.5	48.7	-6.0	42.7	74.0	-31.3	Peak	Vertical
	11429.5	48.6	-4.8	43.8	74.0	-30.2	Peak	Vertical

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

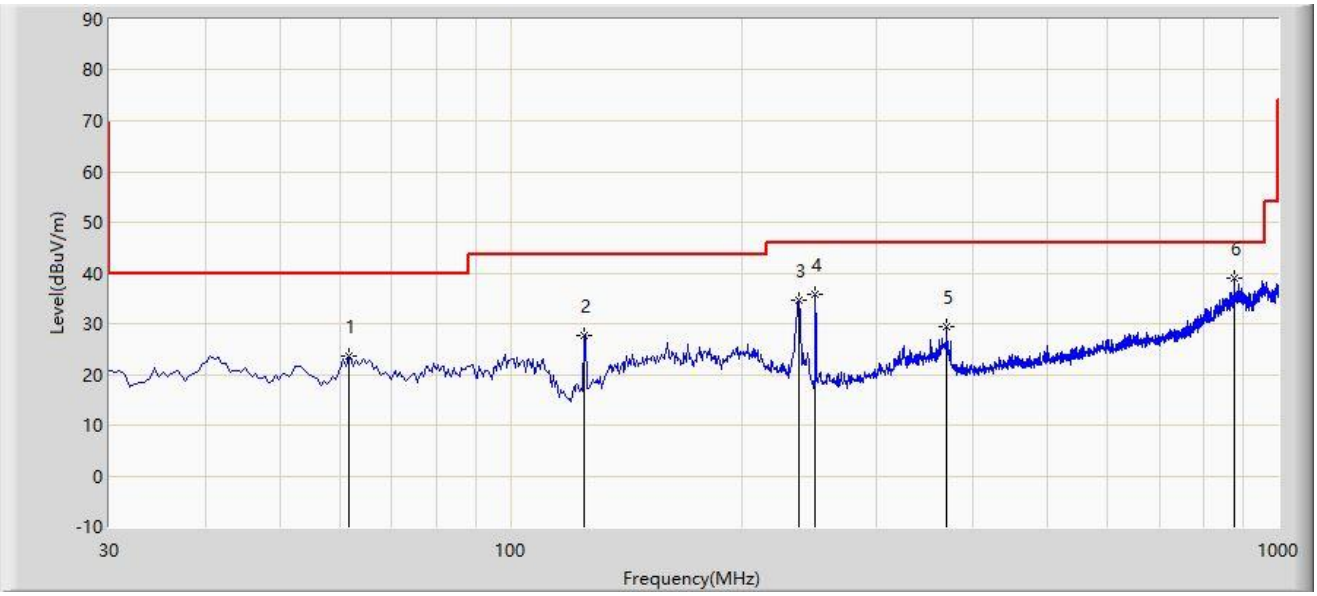
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Allen Zou
Test Date	2021/11/10~2021/11/11	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
00	4799.5	57.5	-10.7	46.8	74.0	-27.2	Peak	Horizontal
	7596.0	50.3	-7.2	43.1	74.0	-30.9	Peak	Horizontal
	11599.5	49.3	-4.7	44.6	74.0	-29.4	Peak	Horizontal
	4825.0	51.4	-10.6	40.8	74.0	-33.2	Peak	Vertical
	8310.0	49.6	-6.2	43.4	74.0	-30.6	Peak	Vertical
	11548.5	49.3	-4.6	44.7	74.0	-29.3	Peak	Vertical
19	4884.5	55.3	-10.4	44.9	74.0	-29.1	Peak	Horizontal
	10843.0	49.3	-5.5	43.8	74.0	-30.2	Peak	Horizontal
	12475.0	47.8	-3.6	44.2	74.0	-29.8	Peak	Horizontal
	4876.0	54.7	-10.4	44.3	74.0	-29.7	Peak	Vertical
	10843.0	49.4	-5.5	43.9	74.0	-30.1	Peak	Vertical
	12067.0	47.9	-3.9	44.0	74.0	-30.0	Peak	Vertical
39	4961.0	57.3	-10.3	47.0	74.0	-27.0	Peak	Horizontal
	8199.5	48.1	-6.2	41.9	74.0	-32.1	Peak	Horizontal
	12271.0	48.3	-3.6	44.7	74.0	-29.3	Peak	Horizontal
	4961.0	55.8	-10.3	45.5	74.0	-28.5	Peak	Vertical
	8497.0	50.1	-6.2	43.9	74.0	-30.1	Peak	Vertical
	12228.5	48.5	-3.9	44.6	74.0	-29.4	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 Worse Case Result of Radiated Emission below 1GHz:

Site: SIP-AC3	Time: 2021/11/12
Limit: FCC_Part15.209_RSE(3m)	Engineer: Kyrie Xie
Probe: SIP-AC3_VULB 9168 _30-1000MHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1M at channel 2440MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			61.525	23.767	6.738	-16.233	40.000	17.029	PK
2			124.575	27.791	11.507	-15.709	43.500	16.284	PK
3			237.095	34.557	18.136	-11.443	46.000	16.422	PK
4			249.705	35.829	18.942	-10.171	46.000	16.886	PK
5			370.470	29.322	8.985	-16.678	46.000	20.337	PK
6		*	875.355	38.875	9.856	-7.125	46.000	29.019	PK

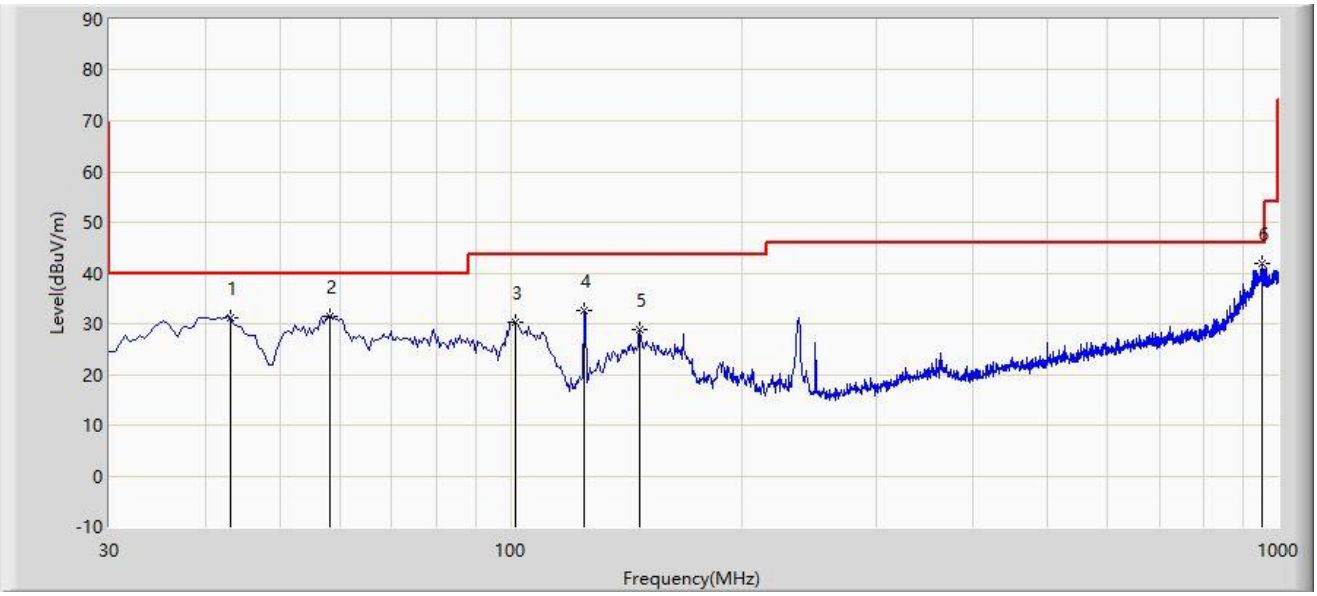
Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

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.

Site: SIP-AC3	Time: 2021/11/12
Limit: FCC_Part15.209_RSE(3m)	Engineer: Kyrie Xie
Probe: SIP-AC3_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit by BLE-1M at channel 2440MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			43.095	31.292	13.135	-8.708	40.000	18.157	PK
2			58.130	31.337	13.904	-8.663	40.000	17.433	PK
3			101.295	30.339	16.619	-13.161	43.500	13.720	PK
4			124.575	32.477	16.193	-11.023	43.500	16.284	PK
5			147.370	28.698	10.551	-14.802	43.500	18.147	PK
6		*	951.015	41.814	11.646	-4.186	46.000	30.168	PK

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

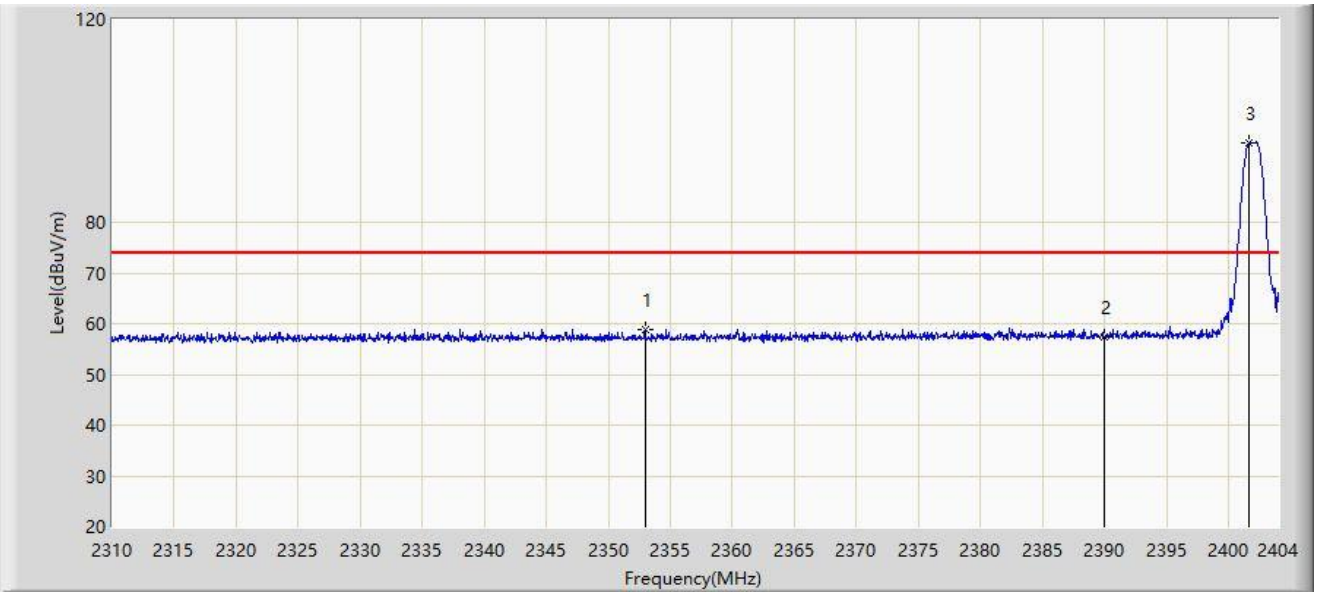
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

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.

A.7 Radiated Restricted Band Edge Test Result

Site: SIP-AC1	Time: 2021/11/09 - 23:47
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	

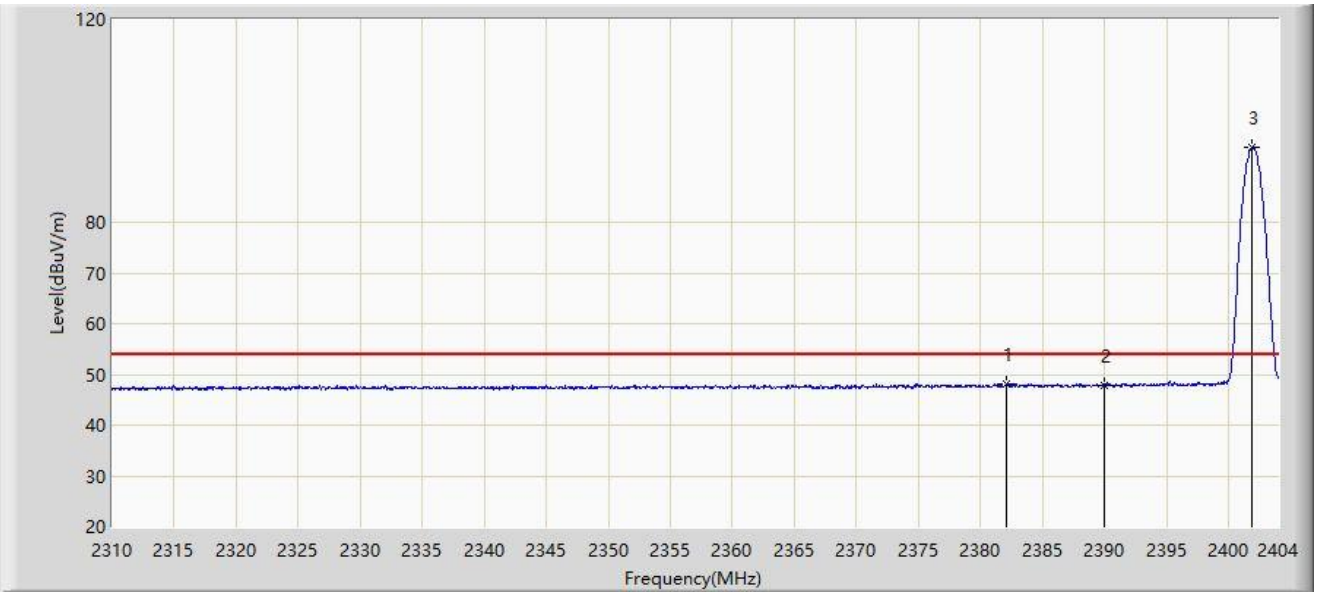


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2352.958	58.933	27.677	-15.067	74.000	31.256	PK
2			2390.000	57.483	26.112	-16.517	74.000	31.371	PK
3		*	2401.697	95.632	64.219	N/A	N/A	31.414	PK

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

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

Site: SIP-AC1	Time: 2021/11/09 - 23:59
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	

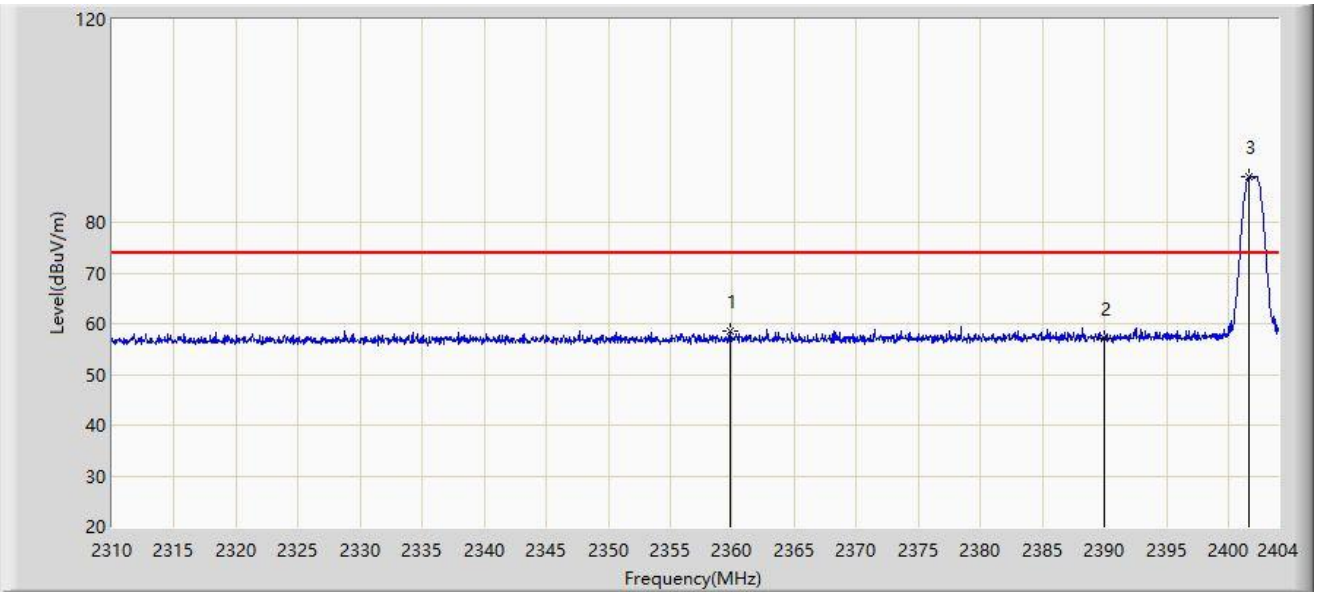


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2382.051	48.127	16.778	-5.873	54.000	31.348	AV
2			2390.000	47.707	16.336	-6.293	54.000	31.371	AV
3		*	2401.885	94.733	63.319	N/A	N/A	31.414	AV

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

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

Site: SIP-AC1	Time: 2021/11/09 - 23:54
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	

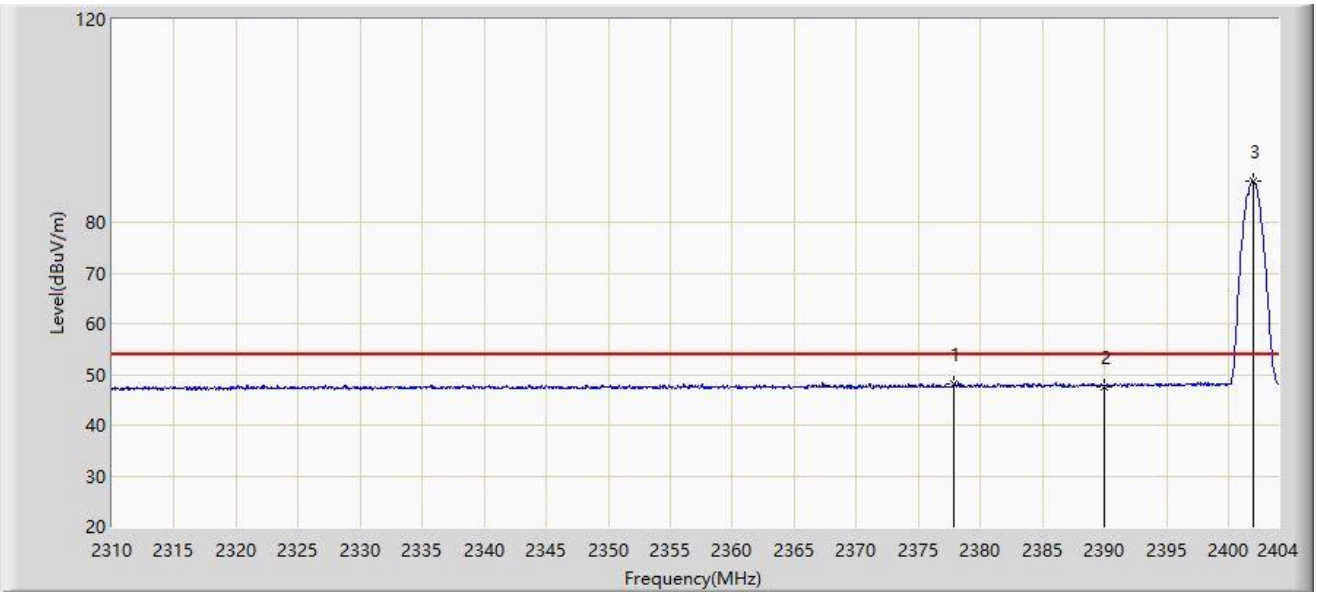


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2359.773	58.573	27.291	-15.427	74.000	31.283	PK
2			2390.000	57.201	25.830	-16.799	74.000	31.371	PK
3		*	2401.697	89.128	57.715	N/A	N/A	31.414	PK

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

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

Site: SIP-AC1	Time: 2021/11/09 - 23:57
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	

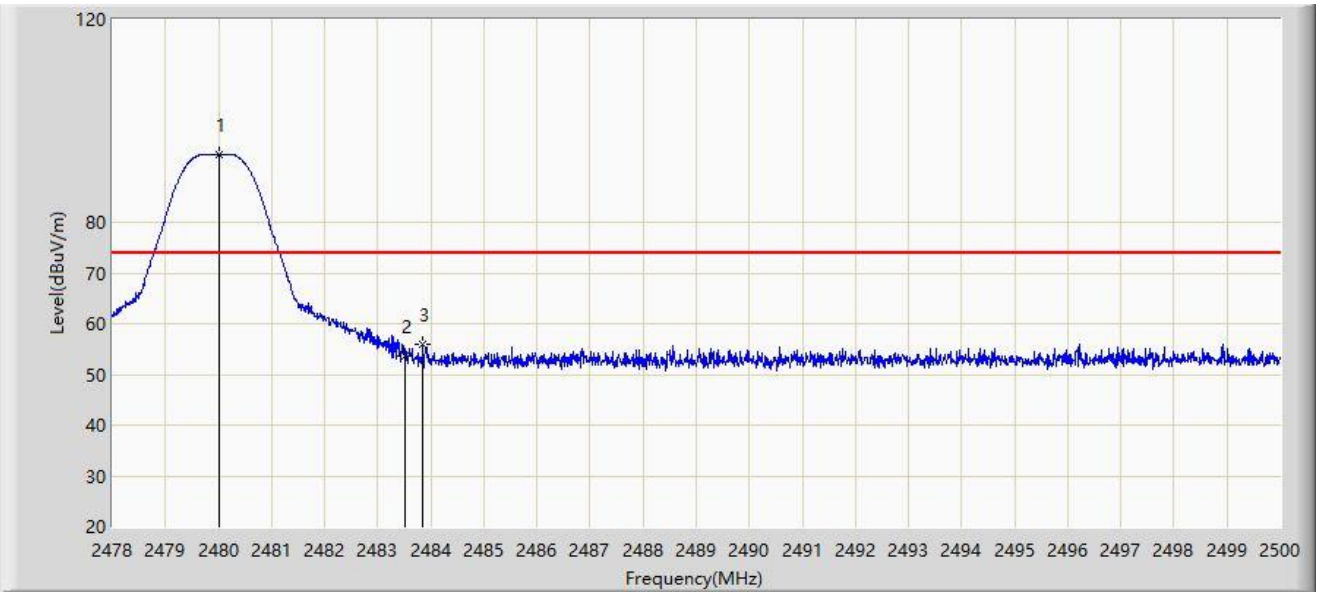


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2377.868	48.111	16.774	-5.889	54.000	31.337	AV
2			2390.000	47.630	16.259	-6.370	54.000	31.371	AV
3		*	2402.026	88.188	56.773	N/A	N/A	31.415	AV

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

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

Site: SIP-AC1	Time: 2021/11/11 - 16:18
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-1M	

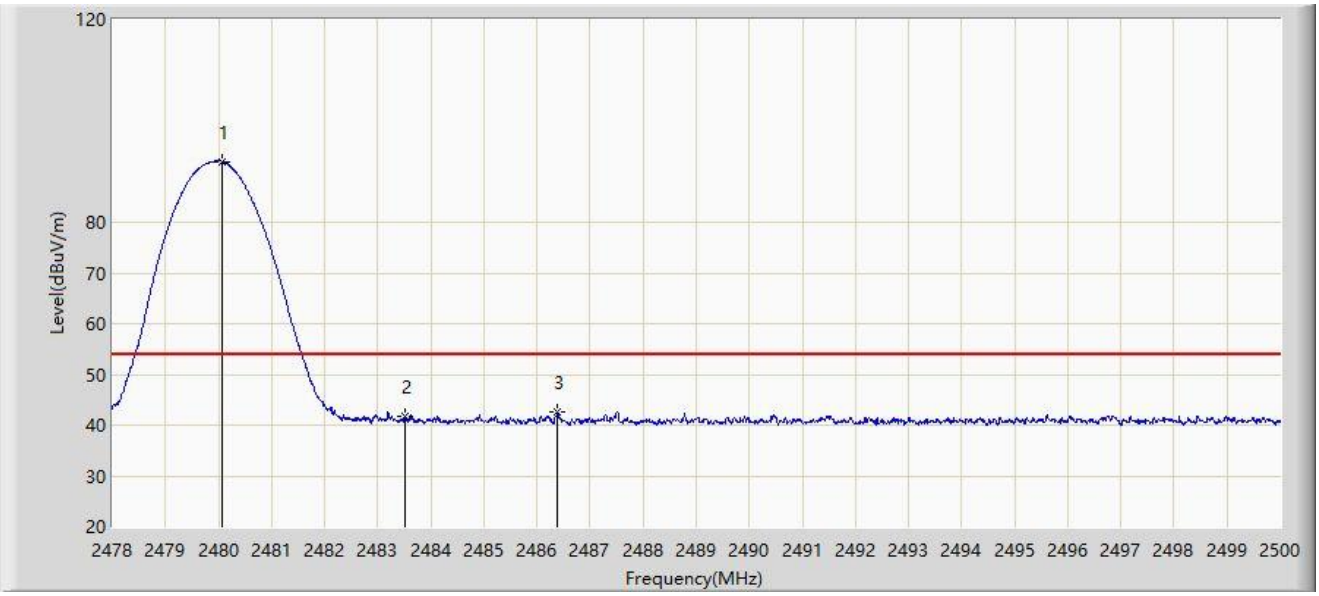


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.002	93.322	61.680	N/A	N/A	31.643	PK
2			2483.500	53.747	22.092	-20.253	74.000	31.654	PK
3			2483.852	55.944	24.288	-18.056	74.000	31.656	PK

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

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

Site: SIP-AC1	Time: 2021/11/11 - 16:22
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-1M	

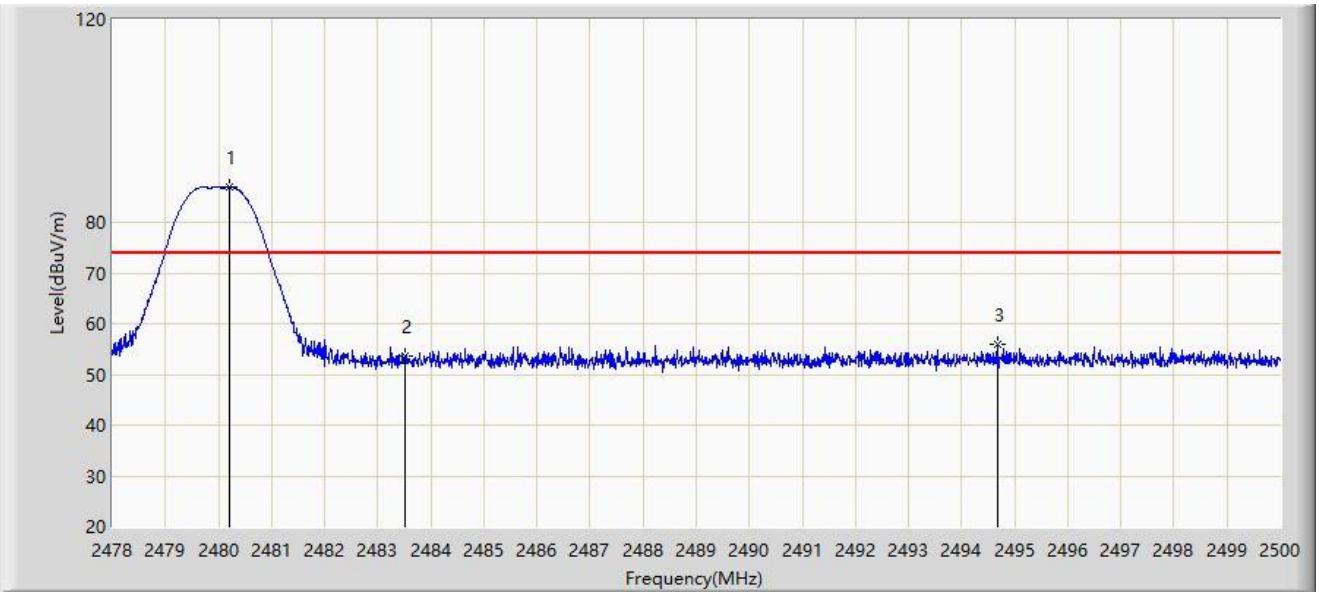


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.079	91.928	60.285	N/A	N/A	31.643	AV
2			2483.500	41.708	10.053	-12.292	54.000	31.654	AV
3			2486.393	42.527	10.862	-11.473	54.000	31.665	AV

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

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

Site: SIP-AC1	Time: 2021/11/11 - 16:23
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-1M	

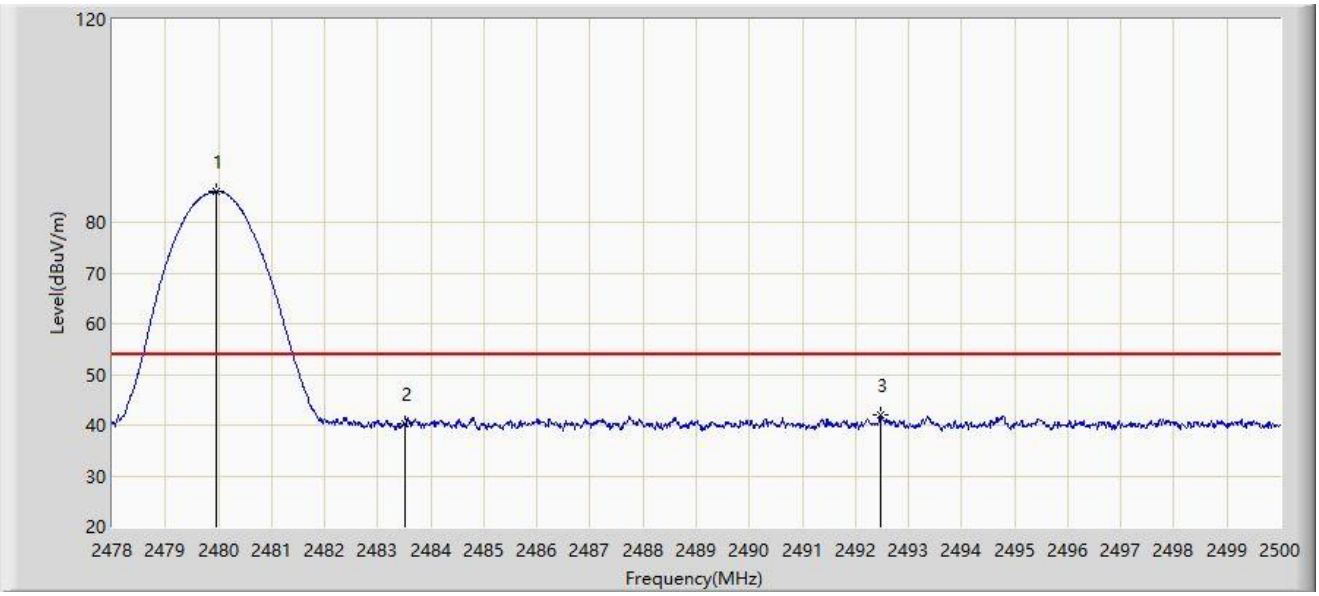


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.211	86.963	55.320	N/A	N/A	31.643	PK
2			2483.500	53.524	21.869	-20.476	74.000	31.654	PK
3			2494.676	55.919	24.226	-18.081	74.000	31.693	PK

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

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

Site: SIP-AC1	Time: 2021/11/11 - 16:27
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-1M	

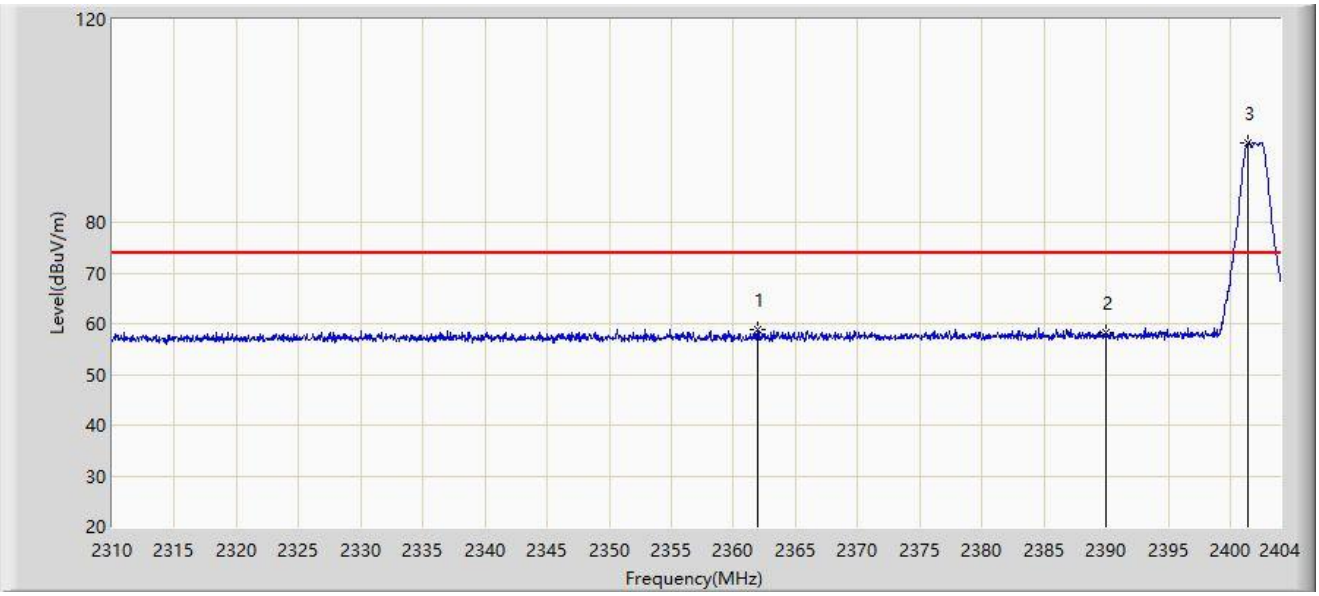


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.969	86.059	54.417	N/A	N/A	31.643	AV
2			2483.500	40.395	8.740	-13.605	54.000	31.654	AV
3			2492.476	41.960	10.274	-12.040	54.000	31.685	AV

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

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

Site: SIP-AC1	Time: 2021/11/10 - 00:28
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-2M	

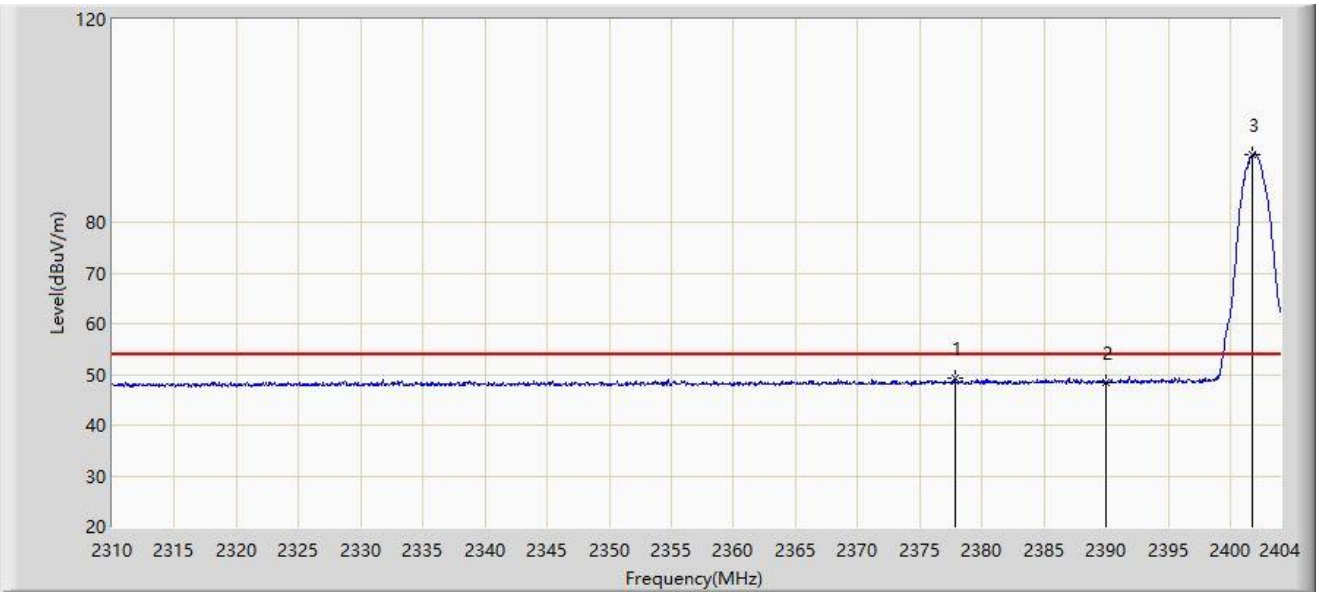


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2361.982	58.887	27.598	-15.113	74.000	31.289	PK
2			2390.000	58.216	26.845	-15.784	74.000	31.371	PK
3		*	2401.462	95.639	64.227	N/A	N/A	31.412	PK

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

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

Site: SIP-AC1	Time: 2021/11/10 - 00:34
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-2M	

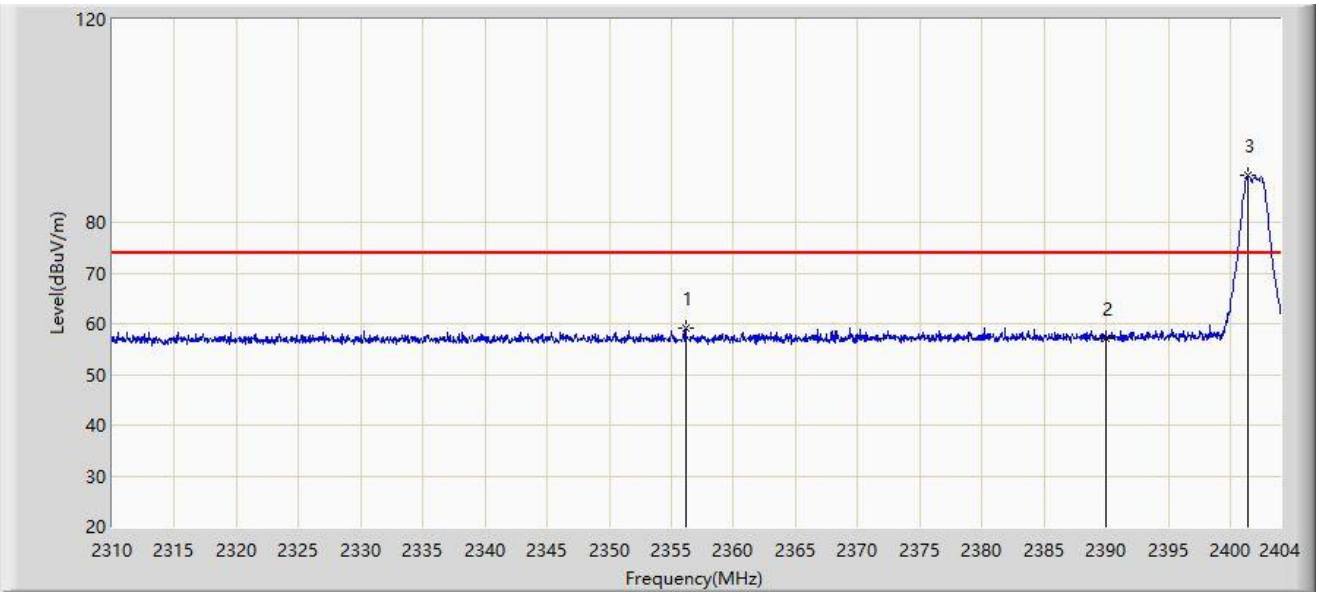


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2377.821	49.339	18.003	-4.661	54.000	31.337	AV
2			2390.000	48.352	16.981	-5.648	54.000	31.371	AV
3		*	2401.744	93.203	61.789	N/A	N/A	31.414	AV

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

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

Site: SIP-AC1	Time: 2021/11/10 - 00:31
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-2M	

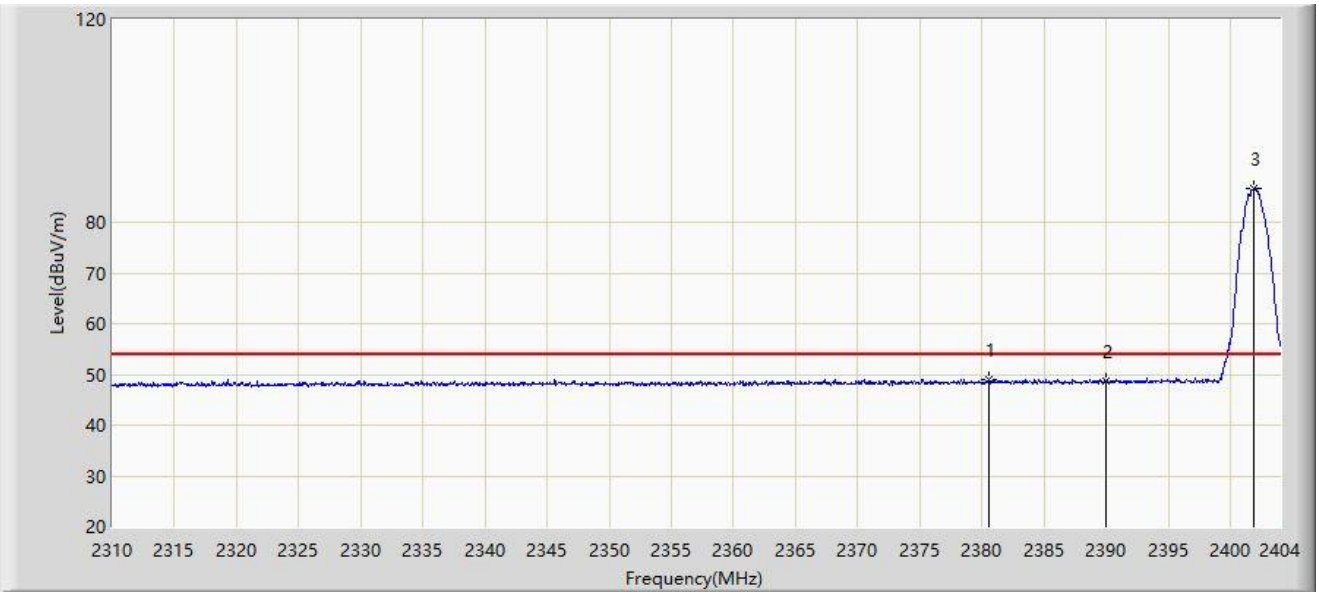


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2356.154	59.126	27.858	-14.874	74.000	31.268	PK
2			2390.000	57.197	25.826	-16.803	74.000	31.371	PK
3		*	2401.462	89.162	57.750	N/A	N/A	31.412	PK

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

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

Site: SIP-AC1	Time: 2021/11/10 - 00:32
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-2M	

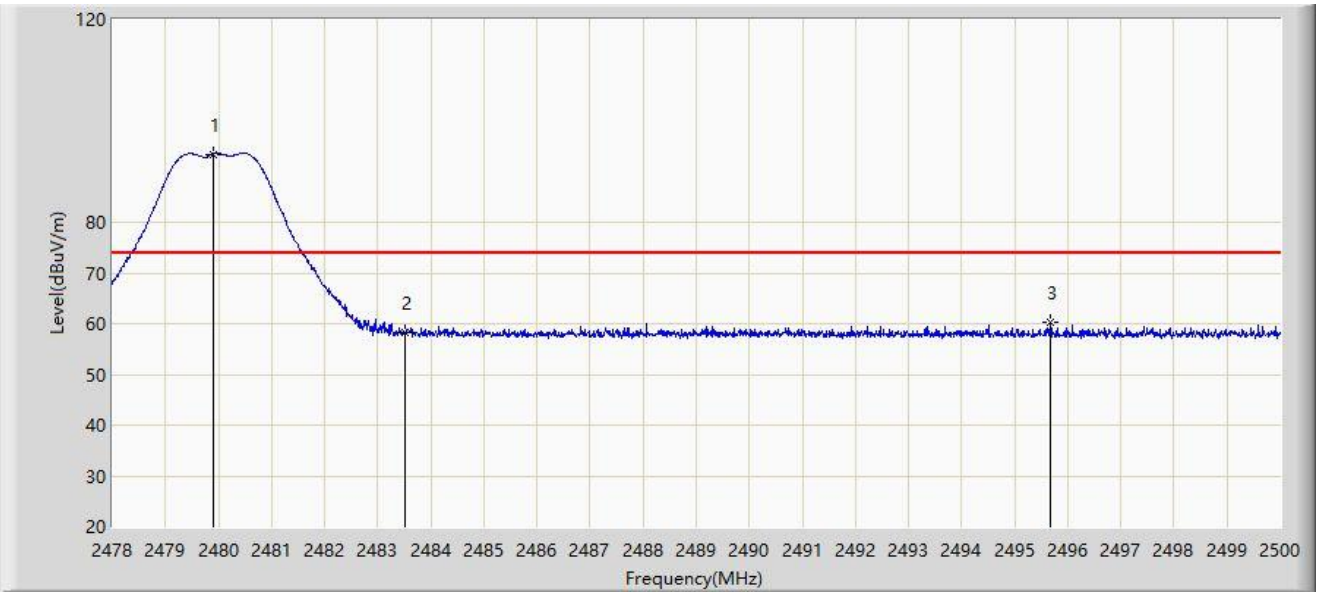


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2380.547	49.042	17.698	-4.958	54.000	31.344	AV
2			2390.000	48.623	17.252	-5.377	54.000	31.371	AV
3		*	2401.932	86.771	55.357	N/A	N/A	31.415	AV

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

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

Site: SIP-AC1	Time: 2021/11/10 - 11:03
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-2M	

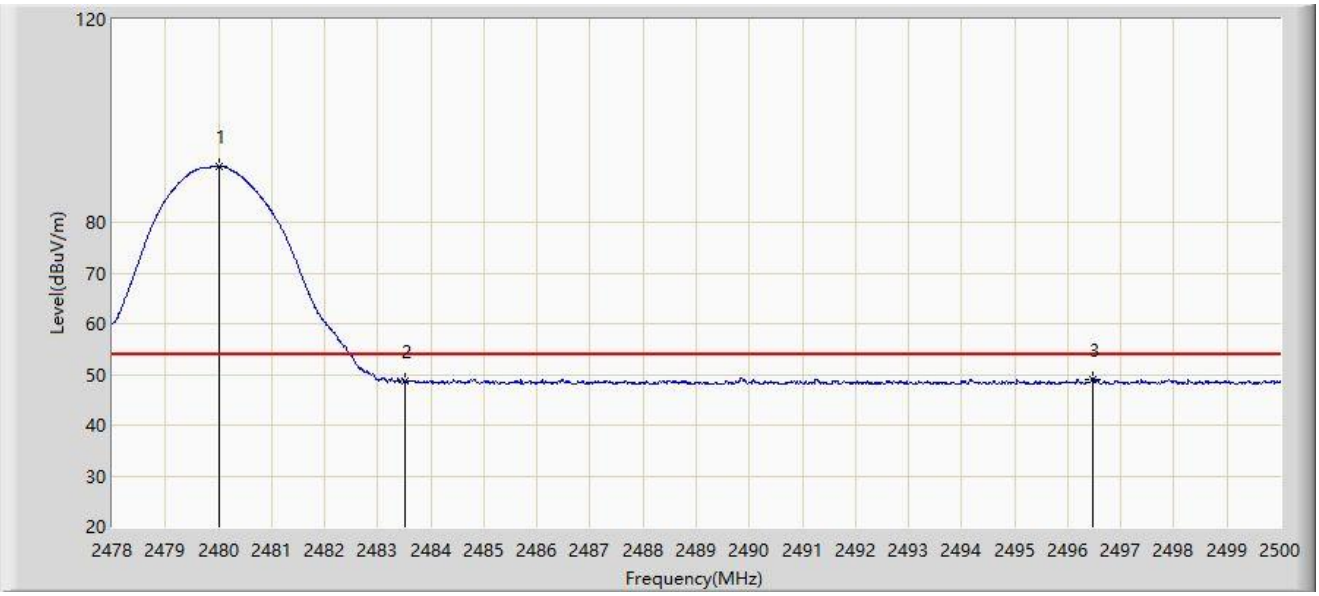


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2479.892	93.461	61.819	N/A	N/A	31.642	PK
2			2483.500	58.283	26.628	-15.717	74.000	31.654	PK
3			2495.677	60.372	28.675	-13.628	74.000	31.697	PK

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

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

Site: SIP-AC1	Time: 2021/11/10 - 11:08
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-2M	

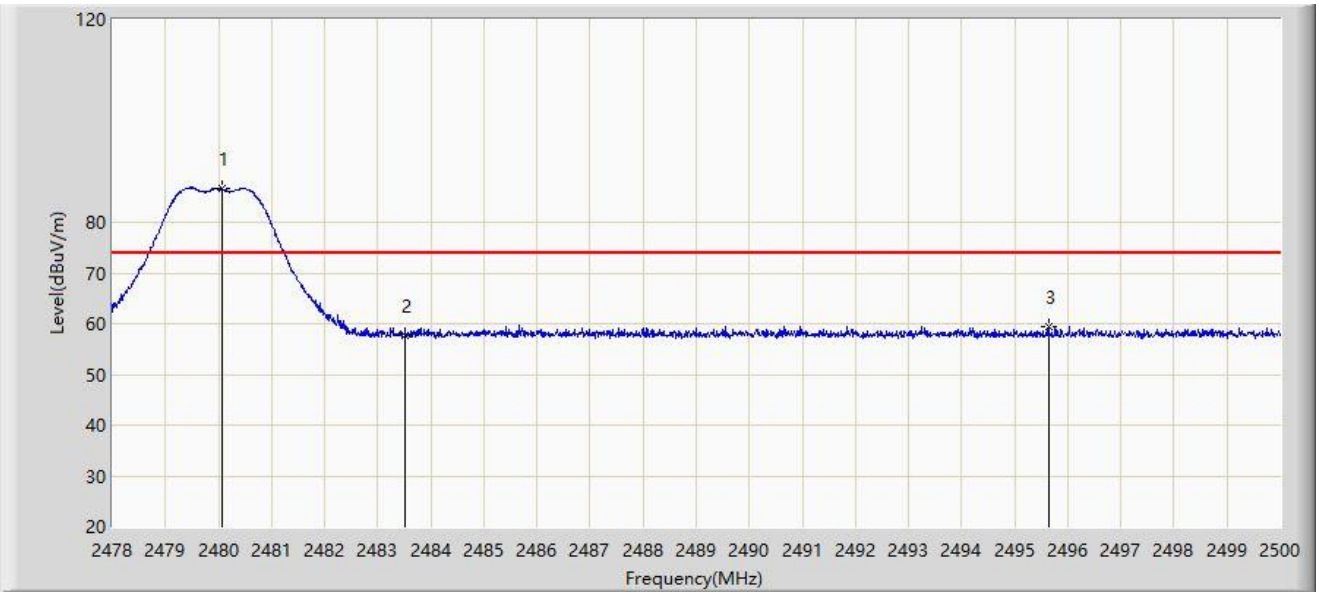


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.002	91.118	59.476	N/A	N/A	31.643	AV
2			2483.500	48.669	17.014	-5.331	54.000	31.654	AV
3			2496.458	49.095	17.396	-4.905	54.000	31.699	AV

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

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

Site: SIP-AC1	Time: 2021/11/10 - 11:09
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-2M	

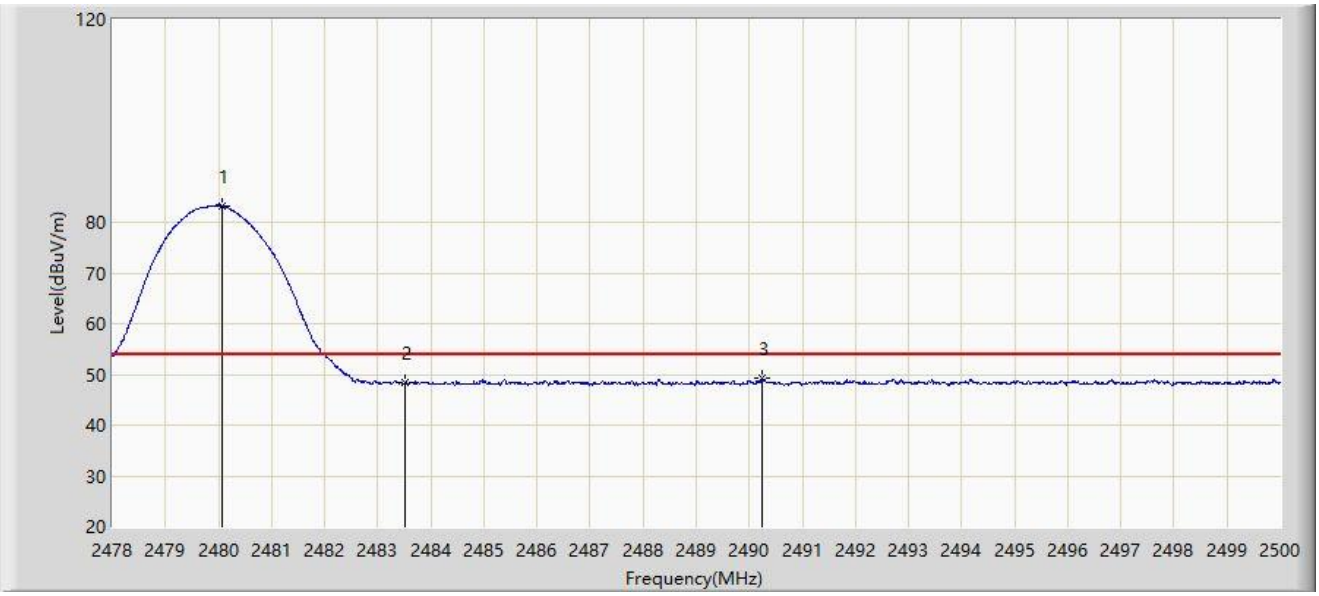


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.068	86.635	54.992	N/A	N/A	31.643	PK
2			2483.500	57.640	25.985	-16.360	74.000	31.654	PK
3			2495.633	59.557	27.860	-14.443	74.000	31.697	PK

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

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

Site: SIP-AC1	Time: 2021/11/10 - 11:14
Limit: FCC_2.4G_RE(3m)	Engineer: Edward Zhang
Probe: SIP-AC1_HF907_102862_1-18GHz	Polarity: Vertical
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2480MHz by BLE-2M	



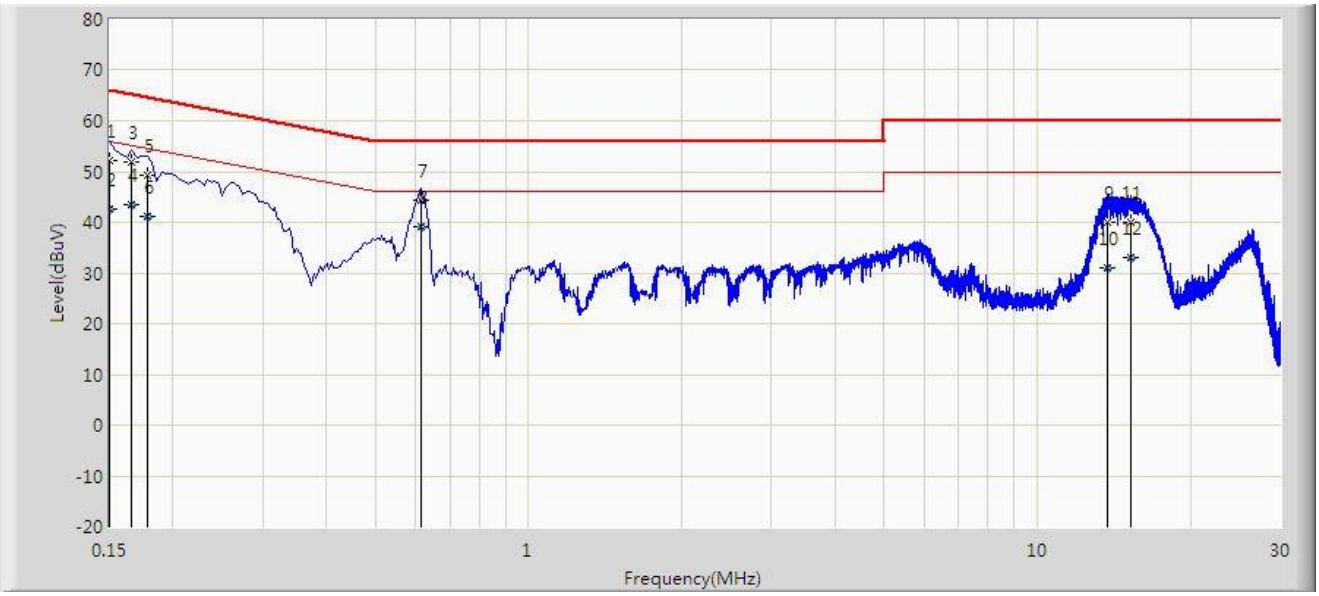
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2480.079	83.248	51.605	N/A	N/A	31.643	AV
2			2483.500	48.336	16.681	-5.664	54.000	31.654	AV
3			2490.232	49.148	17.470	-4.852	54.000	31.678	AV

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

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

A.8 AC Conducted Emissions Test Result

Site: SIP-SR2	Time: 2021/12/23
Limit: FCC_Part15.207_CE_AC Power	Engineer: Barry Wu
Probe: SIP-SR2-ENV216_101684_E	Polarity: Line
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	

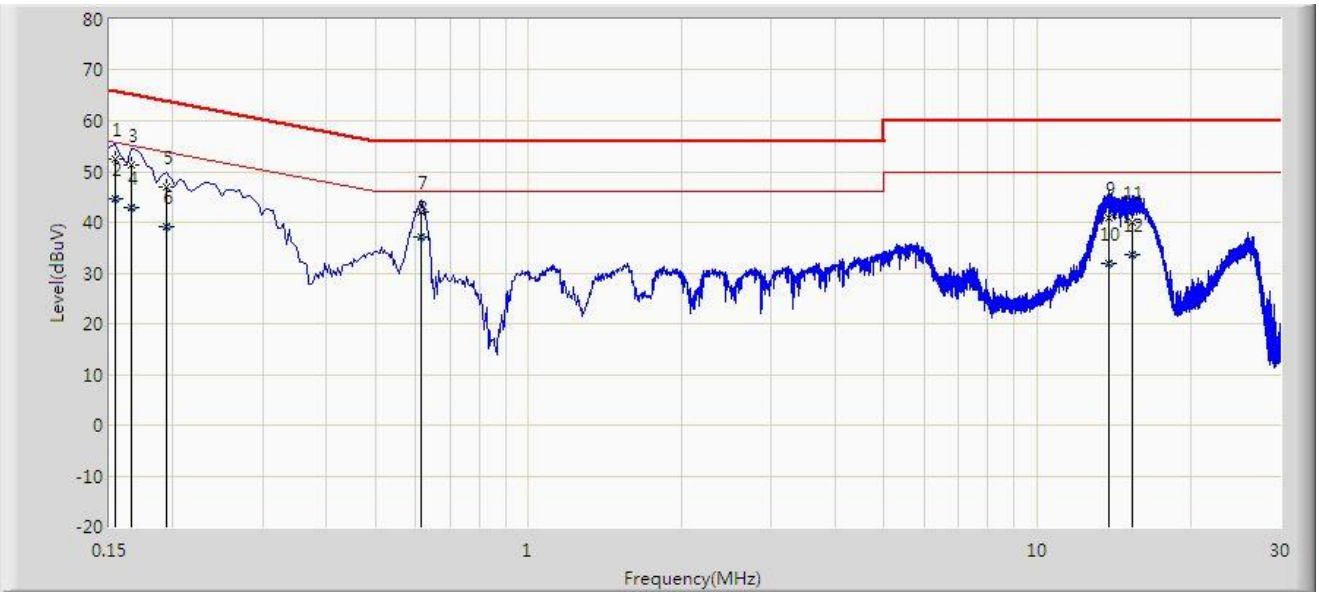


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1			0.150	52.240	42.504	-13.760	66.000	9.736	QP
2			0.150	42.513	32.778	-13.487	56.000	9.736	AV
3			0.166	52.013	42.278	-13.145	65.158	9.735	QP
4			0.166	43.544	33.809	-11.614	55.158	9.735	AV
5			0.178	49.303	39.568	-15.275	64.578	9.735	QP
6			0.178	41.114	31.379	-13.465	54.578	9.735	AV
7			0.614	44.260	34.425	-11.740	56.000	9.834	QP
8		*	0.614	39.268	29.433	-6.732	46.000	9.834	AV
9			13.746	40.035	28.336	-19.965	60.000	11.699	QP
10			13.746	31.155	19.456	-18.845	50.000	11.699	AV
11			15.222	40.074	28.046	-19.926	60.000	12.028	QP
12			15.222	33.159	21.132	-16.841	50.000	12.028	AV

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

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

Site: SIP-SR2	Time: 2021/12/23
Limit: FCC_Part15.207_CE_AC Power	Engineer: Barry Wu
Probe: SIP-SR2-ENV216_101684_E	Polarity: Neutral
EUT: Wi-Fi Access Point	Power: AC 120V/60Hz
Test Mode: Transmit at 2402MHz by BLE-1M	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1			0.154	52.530	42.791	-13.252	65.781	9.739	QP
2			0.154	44.566	34.827	-11.215	55.781	9.739	AV
3			0.166	51.317	41.581	-13.841	65.158	9.737	QP
4			0.166	42.992	33.255	-12.167	55.158	9.737	AV
5			0.194	46.888	37.137	-16.976	63.864	9.751	QP
6			0.194	39.180	29.430	-14.683	53.864	9.751	AV
7			0.614	42.097	32.271	-13.903	56.000	9.825	QP
8		*	0.614	37.057	27.232	-8.943	46.000	9.825	AV
9			13.782	40.954	29.265	-19.046	60.000	11.688	QP
10			13.782	31.947	20.258	-18.053	50.000	11.688	AV
11			15.406	40.076	28.051	-19.924	60.000	12.025	QP
12			15.406	33.595	21.570	-16.405	50.000	12.025	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 “2109RSU006-UT” file.

Appendix C - EUT Photograph

Refer to “2109RSU006-UE” file.

The End