



RF MEASUREMENT REPORT

FCC ID: HD5-EDA521

Applicant: Honeywell International Inc
Honeywell Safety and Productivity Solutions

Application Type: Certification

Product: Mobile Computer

Model No.: EDA52-1

Brand Name: Honeywell

FCC Classification: Digital Transmission System (DTS)

FCC Rule Part(s): Part 15 Subpart C (Section 15.247)

Test Date: March 11, 2021 ~ January 07, 2022

Reviewed By:

Jame Yuan

Approved By:

Robin Wu



The test results relate only to the samples tested.

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

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

Revision History

Report No.	Version	Description	Issue Date	Note
2112RSU039-U3	Rev. 01	Initial Report	01-20-2022	Valid

Note: EDA52-1 is a variation on the existing EDA52-0 (FCC ID: HD5-EDA520), added one LTE chipset, any others are the same. So EDA52-1 reuse all conducted test data from test report 2102RSU043-U1, and the radiated spurious emission items were fully tested.

CONTENTS

Description	Page
1. General Information	5
1.1. Applicant	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Product Information.....	6
1.5. Radio Specification	6
1.6. Working Frequencies	7
2. Test Configuration	8
2.1. Test Mode.....	8
2.2. Test System Connection Diagram.....	8
2.3. Test Software	8
2.4. Applied Standards.....	9
2.5. Test Environment Condition	9
3. Antenna Requirements	10
4. Measuring Instrument	11
5. Measurement Uncertainty.....	13
6. Test Result.....	14
6.1. Summary	14
6.2. 6dB Bandwidth.....	15
6.2.1. Test Limit	15
6.2.2. Test Procedure used	15
6.2.3. Test Setting	15
6.2.4. Test Setup	15
6.2.5. Test Result	15
6.3. Output Power	16
6.3.1. Test Limit	16
6.3.2. Test Procedure Used	16
6.3.3. Test Setting	16
6.3.4. Test Setup	17
6.3.5. Test Result	17
6.4. Power Spectral Density.....	18
6.4.1. Test Limit	18
6.4.2. Test Procedure Used	18
6.4.3. Test Setting	18
6.4.4. Test Setup	18

6.4.5.	Test Result	19
6.5.	Conducted Band Edge and Out-of-Band Emissions	20
6.5.1.	Test Limit	20
6.5.2.	Test Procedure Used	20
6.5.3.	Test Settintg	20
6.5.4.	Test Setup	21
6.5.5.	Test Result	21
6.6.	Radiated Spurious Emission.....	22
6.6.1.	Test Limit	22
6.6.2.	Test Procedure Used	22
6.6.3.	Test Setting	22
6.6.4.	Test Setup	24
6.6.5.	Test Result	24
6.7.	Radiated Restricted Band Edge	25
6.7.1.	Test Limit	25
6.7.2.	Test Procedure Used	26
6.7.3.	Test Setting	26
6.7.4.	Test Setup	27
6.7.5.	Test Result	27
6.8.	AC Conducted Emissions	28
6.8.1.	Test Limit	28
6.8.2.	Test Setup	28
6.8.3.	Test Result	28
Appendix A – Test Result.....		29
A.1	Duty Cycle Test Result.....	29
A.2	6dB Bandwidth Test Result	30
A.3	Output Power Test Result	33
A.4	Power Spectral Density Test Result.....	35
A.5	Conducted Band Edge and Out-of-Band Emissions Test Result.....	38
A.6	Radiated Spurious Emission Test Result.....	45
A.7	Radiated Restricted Band Edge Test Result.....	50
A.8	AC Conducted Emissions Test Result	74
Appendix B – Test Setup Photograph		76
Appendix C – EUT Photograph		77

1. General Information

1.1. Applicant

Honeywell International Inc
Honeywell Safety and Productivity Solutions
9680 Old Bailes Road, Fort Mill, SC 29707 United States

1.2. Manufacturer

Honeywell International Inc
Honeywell Safety and Productivity Solutions
9680 Old Baires Road, Fort Mill, SC 29707 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 FCC: CN1166 VCCI:
	CNAS: L10551 ISED: CN0001 ☐ 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 FCC: CN1284
	CNAS: L10551 ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725 FCC: 291082, TW3261
	ISED: TW3261

1.4. Product Information

Product Name	Mobile Computer
Model No.	EDA52-1
Serial No.	Conducted Sample: 20210209Sample#01
	Radiated Sample: 21356B28C7
Wi-Fi Specification	802.11a/b/g/n/ac
Bluetooth Specification	v5.0 dual mode
NFC Specification	Active, 13.56MHz
GNSS Specification	GPS/Galileo/BDS/GLONASS
3GPP Specification	GSM 850/1900
	WCDMA Band 2/4/5
	LTE Band 2/4/5/7/12/13/17/25/26/30/38/40/41/66
Antenna Information	Refer to section 1.5
Working Voltage	3.8Vdc
Accessories	
Adapter	Model No.: ADS-12B-06 05010E
	Input Power: 100 - 240V ~ 50/60Hz, Max. 0.3A
	Output Power: 5VDC 2.0A
Rechargeable Li-ion Battery	Model No.: EDA52-BAT-US
	Capacitance: 4500mAh 17.1Wh
	Rated Voltage: 3.8V
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

Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462MHz
Channel Number	802.11b/g/n-HT20: 11
Type of Modulation	802.11b: DSSS
	802.11g/n: OFDM
Data Rate	802.11b: 1/2/5.5/11Mbps
	802.11g: 6/9/12/18/24/36/48/54Mbps
	802.11n: up to 150Mbps
Antenna Type	FPC Antenna
Antenna Gain	1.84dBi

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

1.6. Working Frequencies

802.11b/g/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

2. Test Configuration

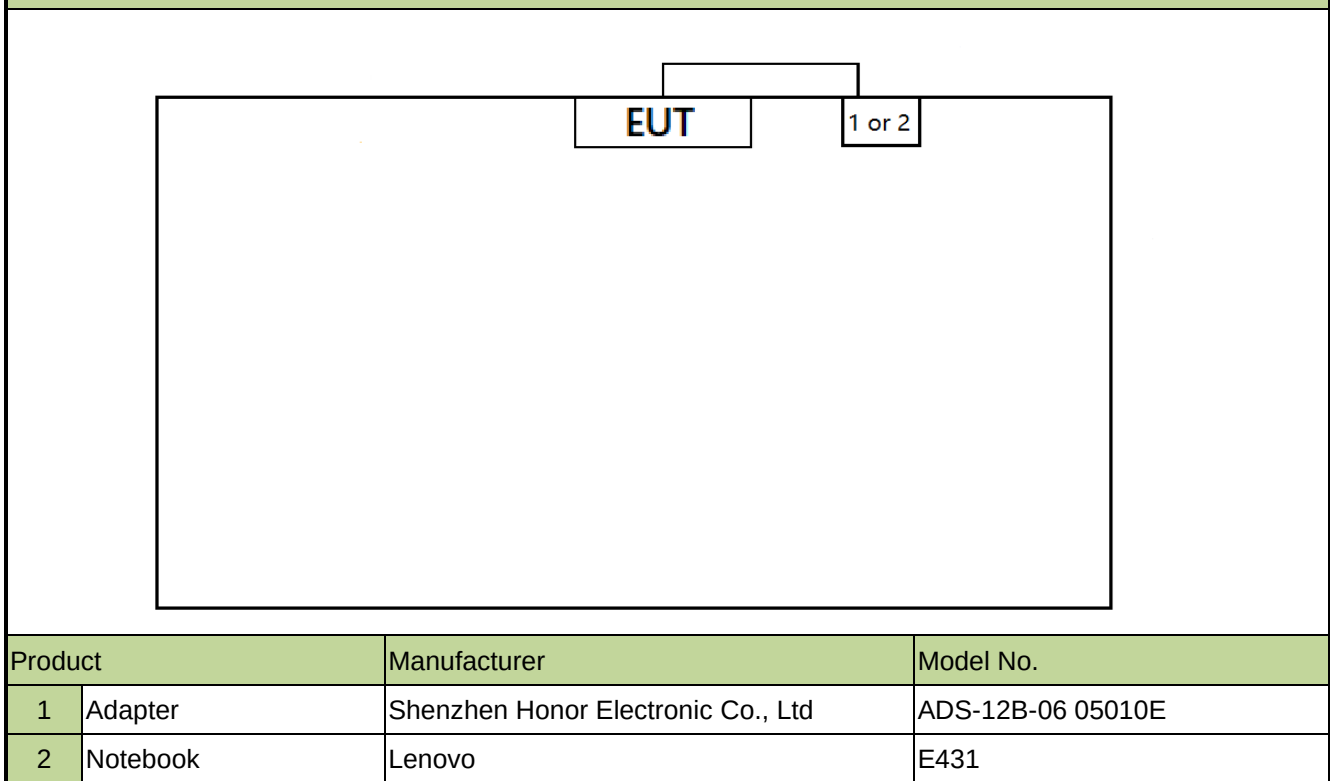
2.1. Test Mode

Mode 1: Transmit by 802.11b (1Mbps)
Mode 2: Transmit by 802.11g (6Mbps)
Mode 3: Transmit by 802.11n-HT20 (MCS0)

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



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 **Mobile Computer** 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

Conducted Test Equipment

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2021/04/14	WZ-TR3
				1 year	2022/04/13	WZ-TR3
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022/01/07	WZ-TR3
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2021/04/14	WZ-TR3
				1 year	2022/04/13	WZ-TR3
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/10/22	WZ-TR3
USB wideband power sensor	Keysight	U2021XA	MRTSUE06446	1 year	2021/08/30	WZ-TR3
USB wideband power sensor	Keysight	U2021XA	MRTSUE06447	1 year	2021/08/08	WZ-TR3
Bluetooth Test Set	Anritsu	MT8852B-042	MRTSUE06389	1 year	2021/06/11	WZ-TR3
Audio Analyzer	Agilent	U8903B	MRTSUE06143	1 year	2021/06/11	WZ-TR3
Modulation Analyzer	HP	HP8901A	MRTSUE06098	1 year	2021/09/26	WZ-TR3
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/10/20	WZ-TR3
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A	WZ-TR3
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2021/10/22	WZ-TR3
Thermal Hygrometer	testo	608-H1	MRTSUE06401	1 year	2021/07/26	WZ-TR3
Attenuator	MVE	6dB	MRTSUE06534	1 year	N/A	WZ-TR3
Attenuator	MVE	10dB	MRTSUE06543	1 year	N/A	WZ-TR3

Radiated Test Equipment

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Signal Analyzer	Agilent	N9010A	MRTSUE06195	1 year	2022/3/17	NS-AC1/NS-TR2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06292	1 year	2022/10/20	NS-AC1
Anechoic Chamber	BOOMWAVE	NS-AC1	MRTSUE06496	1 year	2022/7/24	NS-AC1
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022/3/9	SIP-AC3
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06572	1 year	2022/3/14	NS-AC1
TRILOG Antenna	Schwarzbeck	VULB 9162	MRTSUE06573	1 year	2022/6/29	NS-AC1
Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06574	1 year	2022/7/12	NS-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE06575	1 year	2022/6/27	NS-AC1
Thermohygrometer	DELI	NO.8813	MRTSUE06588	1 year	2022/6/30	NS-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06641	1 year	2022/1/12	NS-AC1

Signal Analyzer	Keysight	N9020A	MRTSUE10065	1 year	2022/1/10	NS-AC1/NS-TR2
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Software	Version	Function
EMI Software	V3	EMI Test Software

5. Measurement Uncertainty

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

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 tests, 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

6.2.1. Test Limit

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

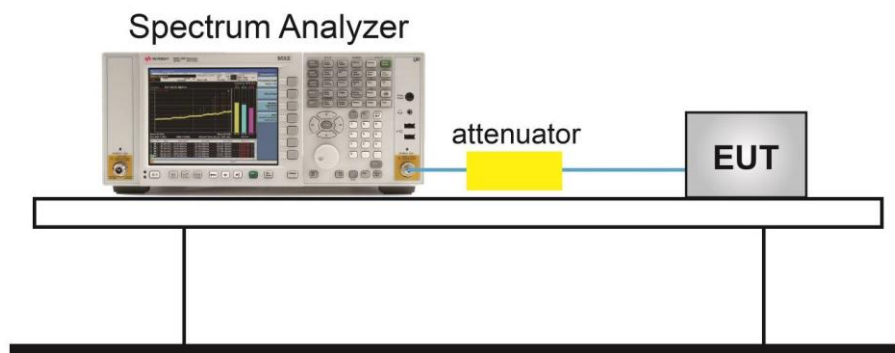
6.2.2. Test Procedure used

ANSI C63.10 - 2013 - Section 11.8

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. $VBW \geq 3 \times RBW$
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

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 Used

ANSI C63.10 - 2013 - Section 11.9.1.3

ANSI C63.10 - 2013 - Section 11.9.2.3.2

6.3.3. Test Setting

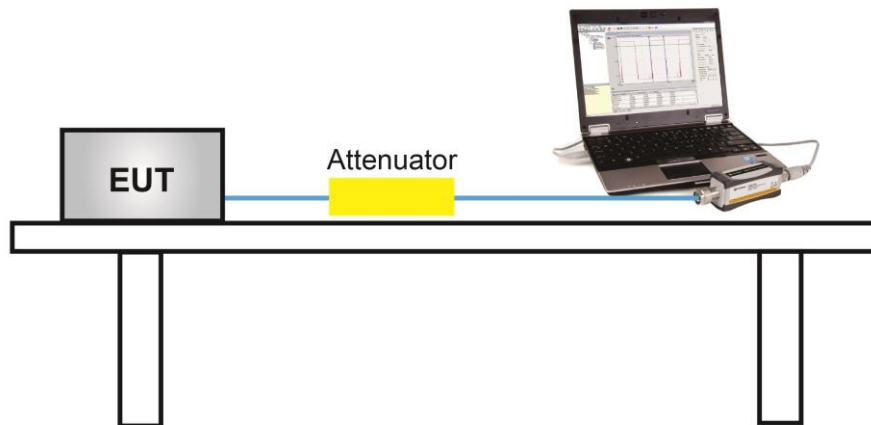
Method PKPM1 (Peak Power Measurement of Signals with DTS BW $\leq$ 50MHz)

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

6.4.1. Test Limit

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

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

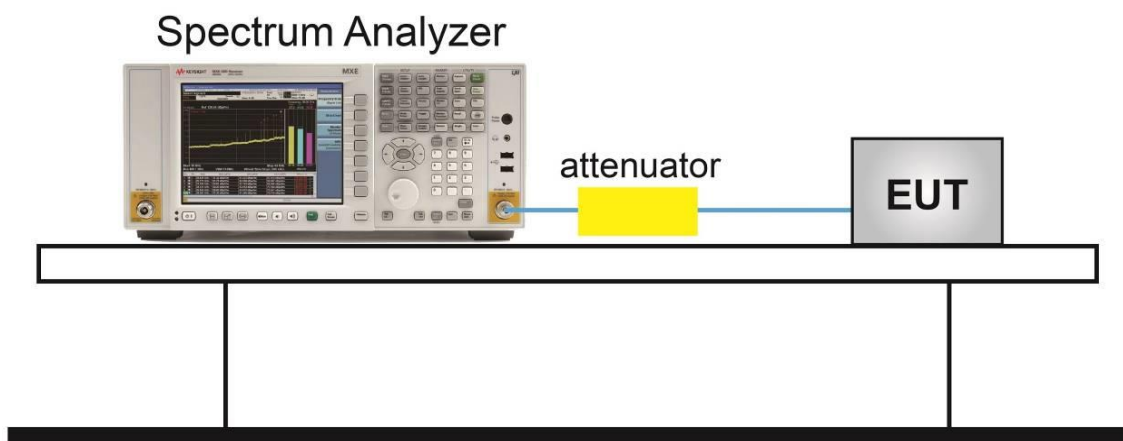
6.4.2. Test Procedure Used

ANSI C63.10 - 2013 - Section 11.10.2

6.4.3. Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the OBW
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

6.5.1. Test Limit

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

6.5.2. Test Procedure Used

ANSI C63.10-2013 - Section 11.11

6.5.3. Test Setting

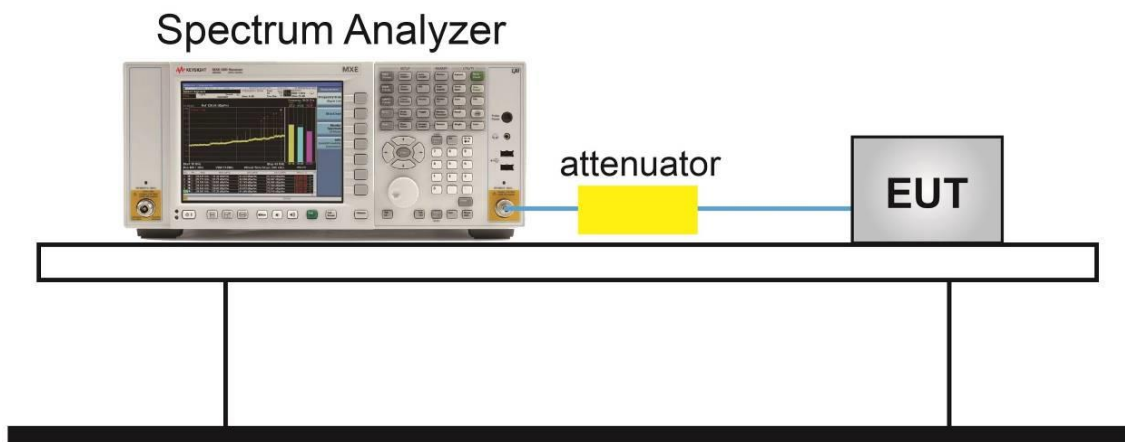
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW $\geq 3 \times$ 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

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 Used

ANSI C63.10 - 2013 - Section 11.11 & 11.12

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

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

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

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

6.6.3. Test Setting

Table 1 - RBW as a function of frequency

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

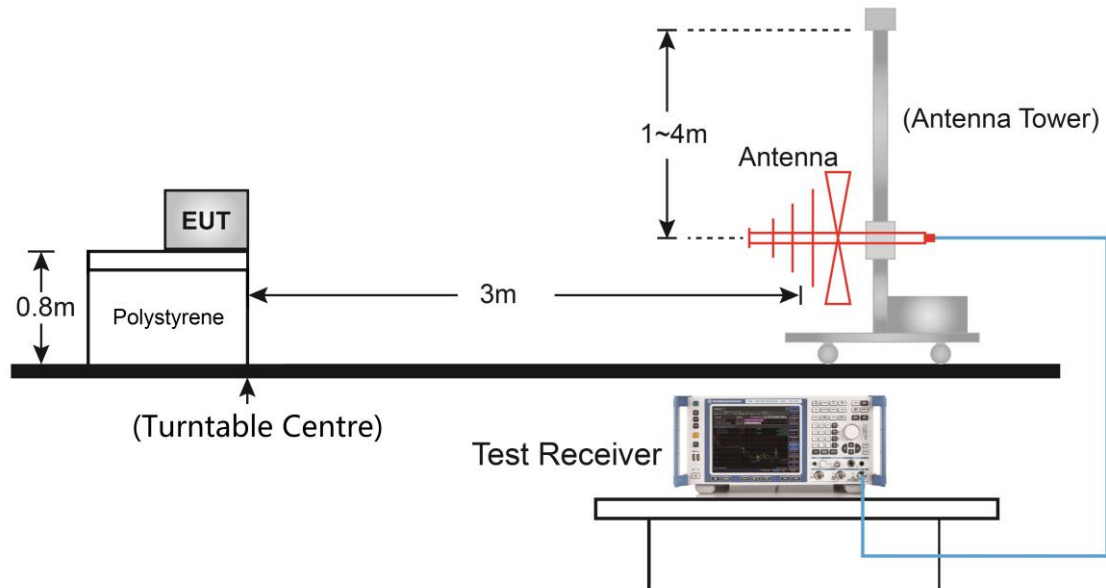
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

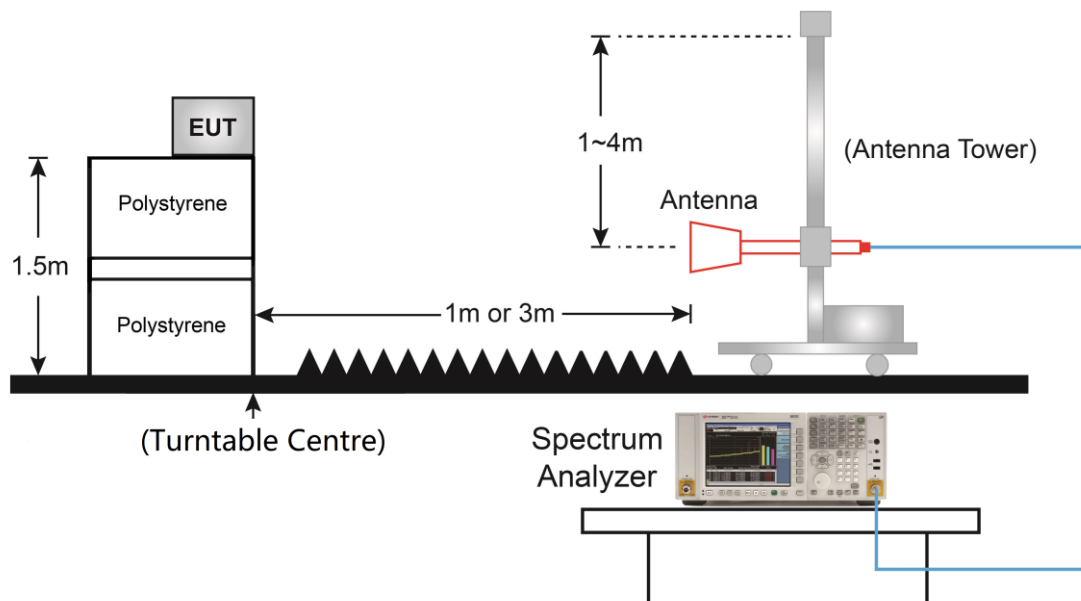
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4. 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

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 Used

ANSI C63.10-2013 Section 6.3

ANSI C63.10-2013 Section 6.6

ANSI C63.10-2013 Section 11.13

6.7.3. Test Setting

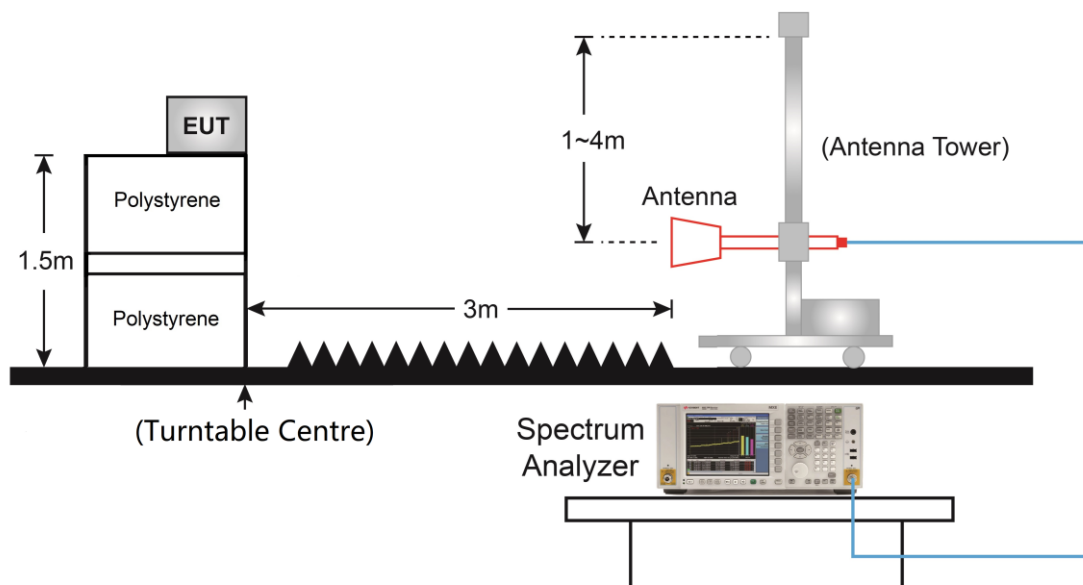
Peak Field Strength Measurements

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 $\geq 1/T$
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

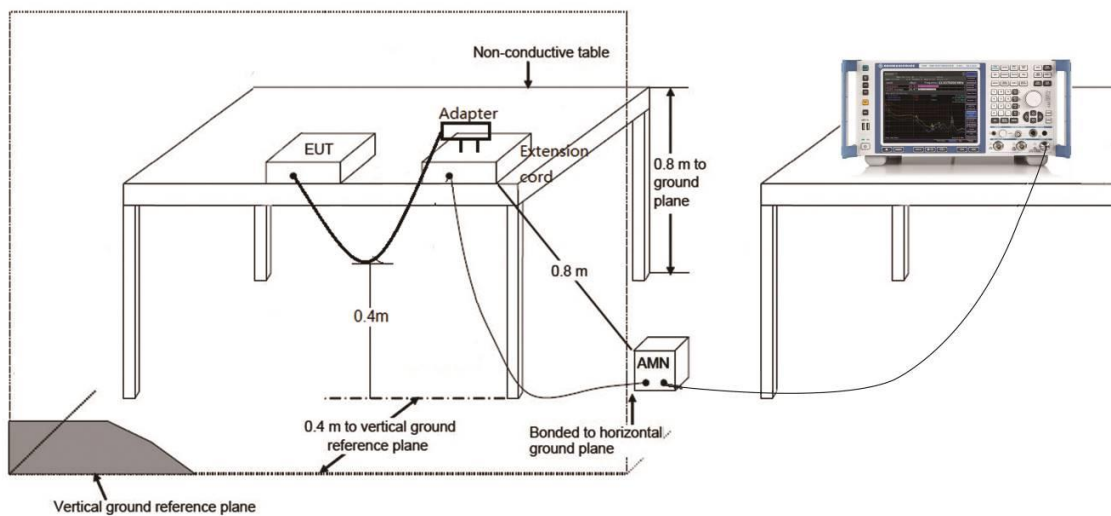
6.8.1. Test Limit

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



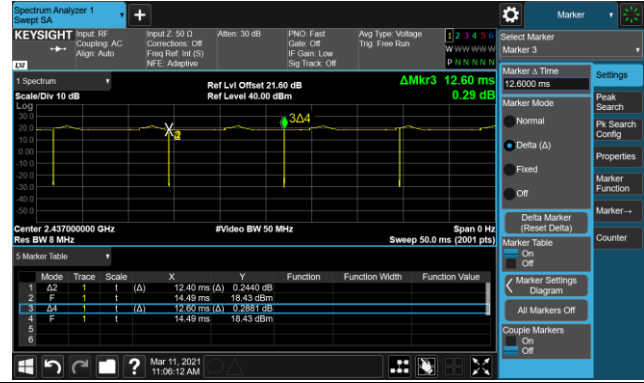
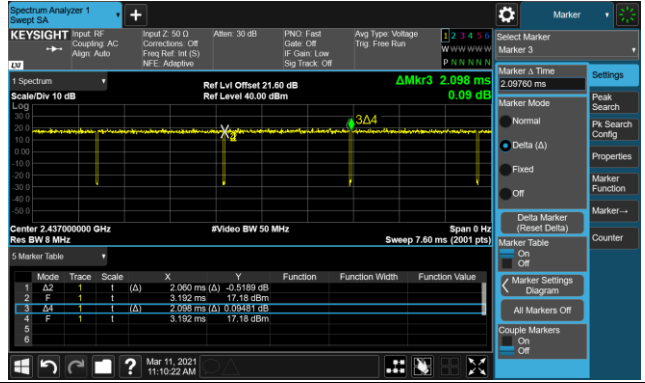
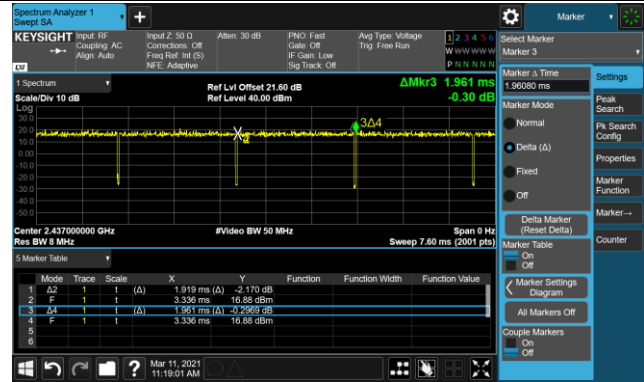
6.8.3. Test Result

Refer to Appendix A.8.

Appendix A – Test Result

A.1 Duty Cycle Test Result

Test Site	WZ-TR3	Test Engineer	Luis Yang
Test Date	2021/03/11		

Test Mode	Duty Cycle
802.11b	98.41%
802.11g	98.19%
802.11n-HT20	97.86%
Duty Cycle (T = Transmission Duration)	
802.11b (T = 12.40ms)	802.11g (T = 2.060ms)
	
802.11n-HT20 (T = 1.919ms)	
	

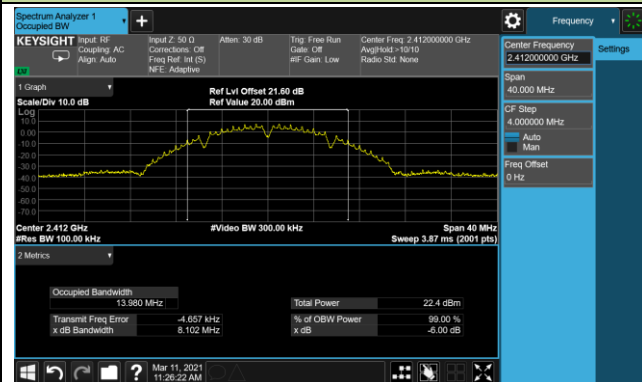
A.2 6dB Bandwidth Test Result

Test Site	WZ-TR3	Test Engineer	Luis Yang
Test Date	2021/03/11		

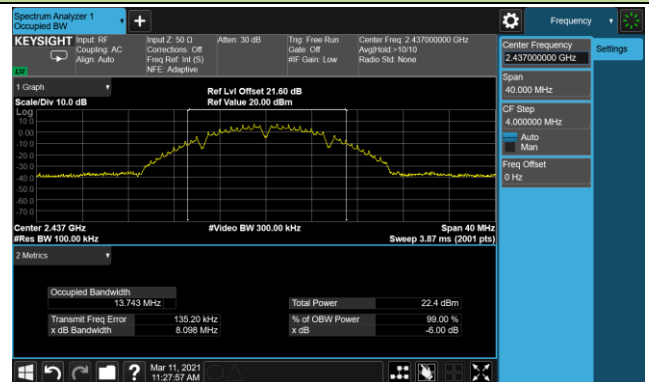
Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
11b	1Mbps	01	2412	8.10	≥ 0.5
11b	1Mbps	06	2437	8.10	≥ 0.5
11b	1Mbps	11	2462	8.10	≥ 0.5
11g	6Mbps	01	2412	15.17	≥ 0.5
11g	6Mbps	06	2437	15.46	≥ 0.5
11g	6Mbps	11	2462	15.90	≥ 0.5
11n-HT20	MCS0	01	2412	16.56	≥ 0.5
11n-HT20	MCS0	06	2437	15.14	≥ 0.5
11n-HT20	MCS0	11	2462	16.55	≥ 0.5

802.11b 6dB Bandwidth

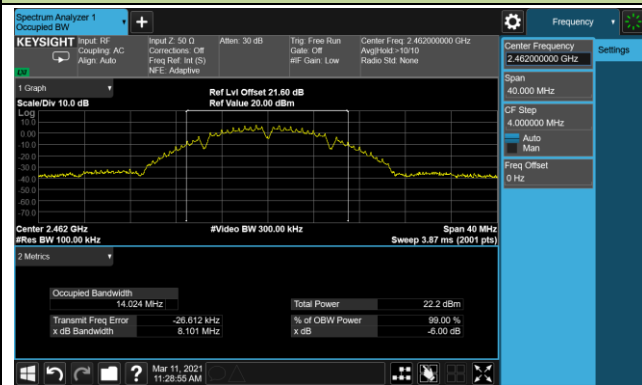
Channel 01 (2412MHz)



Channel 06 (2437MHz)

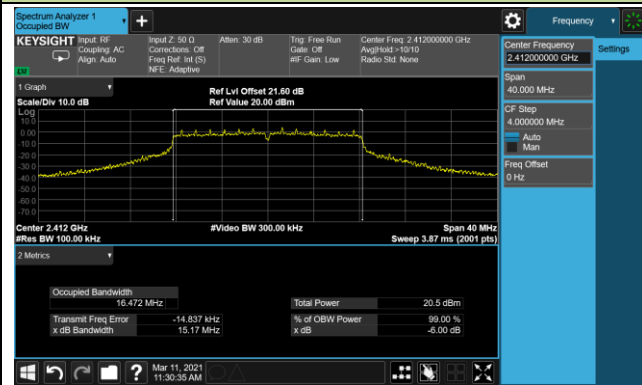


Channel 11 (2462MHz)

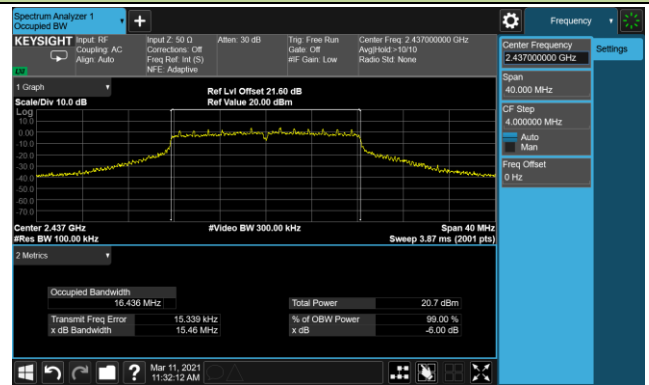


802.11g 6dB Bandwidth

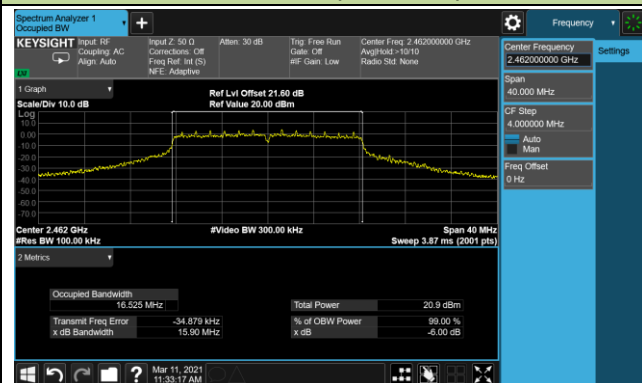
Channel 01 (2412MHz)



Channel 06 (2437MHz)

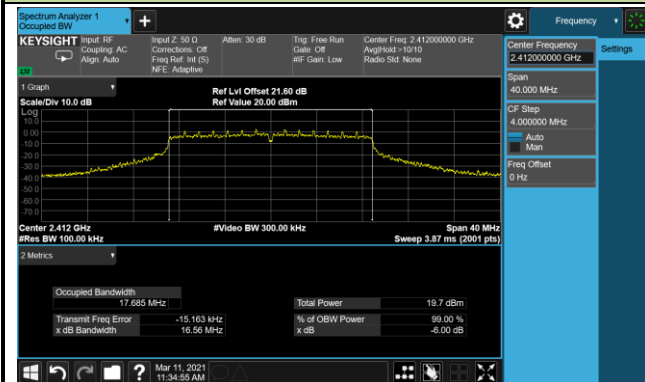


Channel 11 (2462MHz)

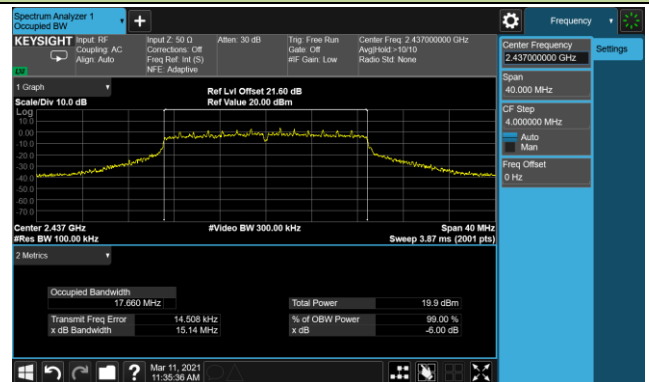


802.11n-HT20 6dB Bandwidth

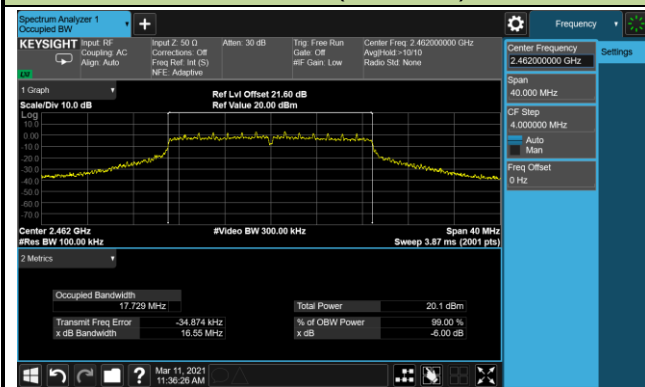
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



A.3 Output Power Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (gray marker) for final test of each channel.

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate / MCS	Average Power (dBm)
802.11b	20	6	2437	1Mbps	15.35
				5.5Mbps	15.21
				11Mbps	15.10
802.11g	20	6	2437	6Mbps	13.49
				24Mbps	13.33
				54Mbps	13.22
802.11n	20	6	2437	MCS0	12.45
				MCS3	12.32
				MCS7	12.18

Test Site	WZ-TR3	Test Engineer	Luis Yang
Test Date	2021/03/11		

Test Result of Peak Output Power

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Peak Power (dBm)	Limit (dBm)
11b	1Mbps	01	2412	17.35	≤ 30.00
11b	1Mbps	06	2437	17.64	≤ 30.00
11b	1Mbps	11	2462	17.20	≤ 30.00
11g	6Mbps	01	2412	17.77	≤ 30.00
11g	6Mbps	06	2437	17.90	≤ 30.00
11g	6Mbps	11	2462	17.99	≤ 30.00
11n-HT20	MCS0	01	2412	16.78	≤ 30.00
11n-HT20	MCS0	06	2437	17.11	≤ 30.00
11n-HT20	MCS0	11	2462	17.19	≤ 30.00

Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Limit (dBm)
11b	1Mbps	01	2412	15.23	≤ 30.00
11b	1Mbps	06	2437	15.35	≤ 30.00
11b	1Mbps	11	2462	15.05	≤ 30.00
11g	6Mbps	01	2412	13.21	≤ 30.00
11g	6Mbps	06	2437	13.49	≤ 30.00
11g	6Mbps	11	2462	13.50	≤ 30.00
11n-HT20	MCS0	01	2412	12.15	≤ 30.00
11n-HT20	MCS0	06	2437	12.45	≤ 30.00
11n-HT20	MCS0	11	2462	12.49	≤ 30.00

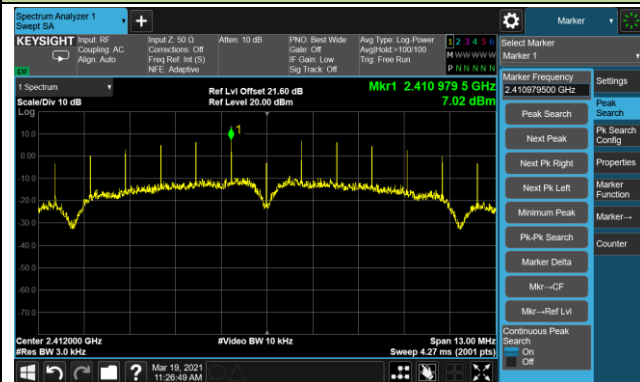
A.4 Power Spectral Density Test Result

Test Site	WZ-TR3	Test Engineer	Luis Yang
Test Date	2021/03/19		

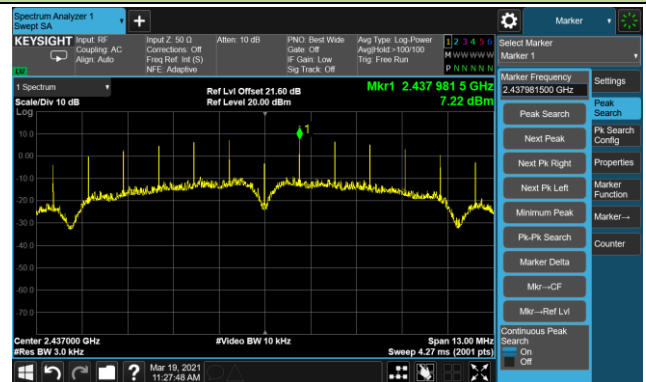
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PKPSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
11b	1Mbps	01	2412	7.02	≤ 8.00	Pass
11b	1Mbps	06	2437	7.22	≤ 8.00	Pass
11b	1Mbps	11	2462	6.78	≤ 8.00	Pass
11g	6Mbps	01	2412	-11.17	≤ 8.00	Pass
11g	6Mbps	06	2437	-10.93	≤ 8.00	Pass
11g	6Mbps	11	2462	-10.01	≤ 8.00	Pass
11n-HT20	MCS0	01	2412	-13.41	≤ 8.00	Pass
11n-HT20	MCS0	06	2437	-12.90	≤ 8.00	Pass
11n-HT20	MCS0	11	2462	-11.99	≤ 8.00	Pass

802.11b - PKPSD

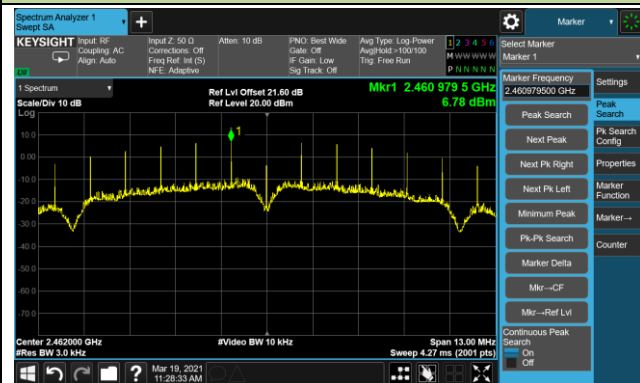
Channel 01 (2412MHz)



Channel 06 (2437MHz)

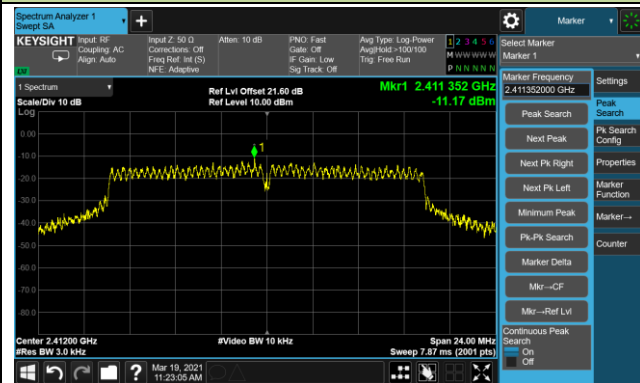


Channel 11 (2462MHz)

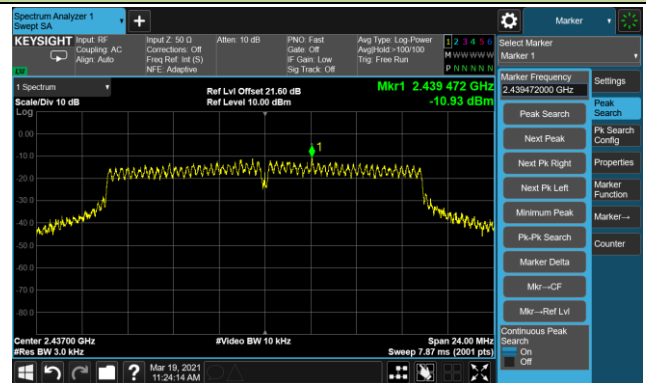


802.11g - PKPSD

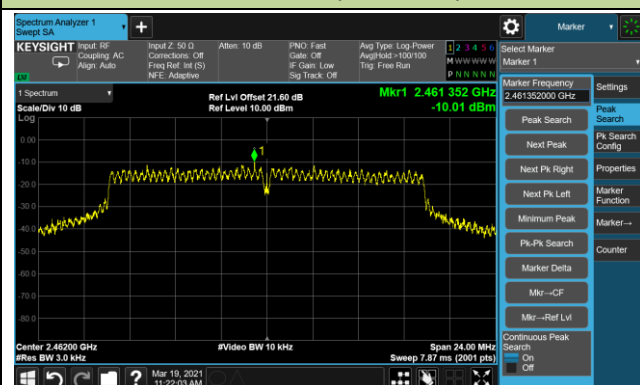
Channel 01 (2412MHz)



Channel 06 (2437MHz)

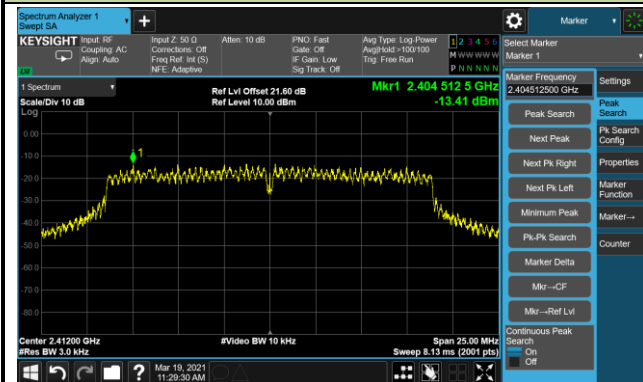


Channel 11 (2462MHz)

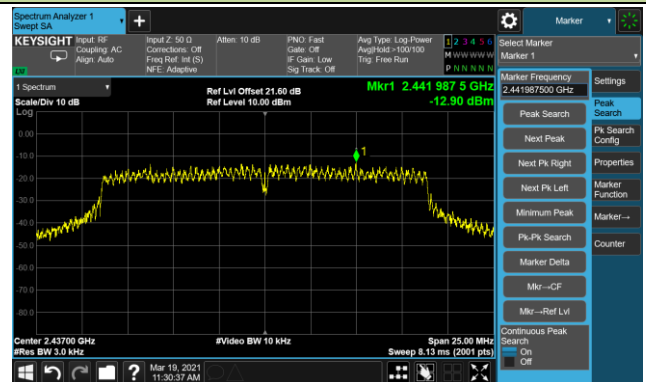


802.11n-HT20 - PKPSD

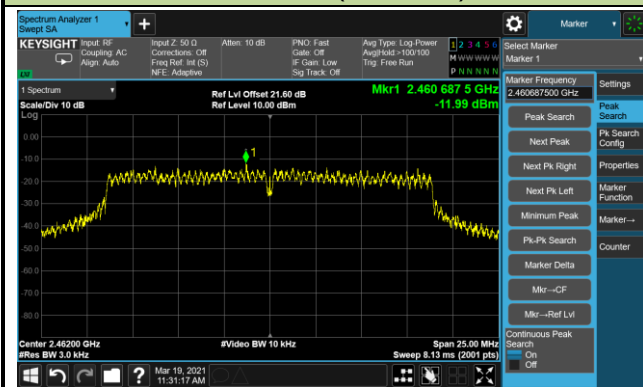
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



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

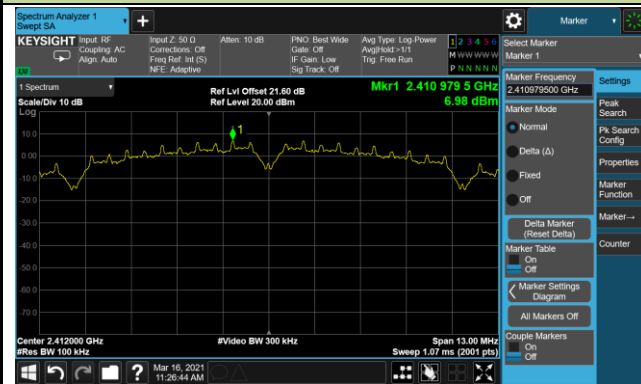
Test Site	WZ-TR3	Test Engineer	Luis Yang
Test Date	2021/03/16 ~ 2021/03/19		

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit
11b	1Mbps	01	2412	20dBc
11b	1Mbps	06	2437	20dBc
11b	1Mbps	11	2462	20dBc
11g	6Mbps	01	2412	20dBc
11g	6Mbps	06	2437	20dBc
11g	6Mbps	11	2462	20dBc
11n-HT20	MCS0	01	2412	20dBc
11n-HT20	MCS0	06	2437	20dBc
11n-HT20	MCS0	11	2462	20dBc

802.11b Out-of-Band Emissions

Channel 01 (2412MHz)

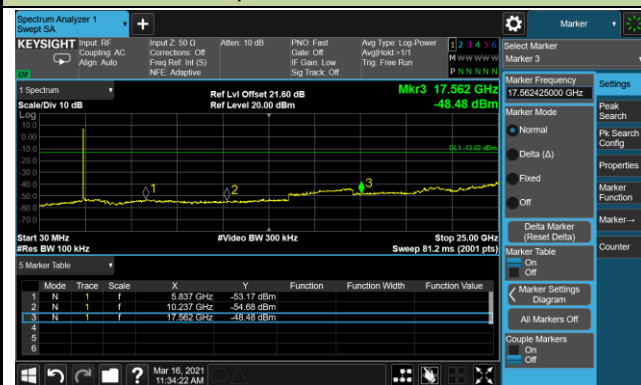
100kHz PSD Reference Level



Low Band Edge

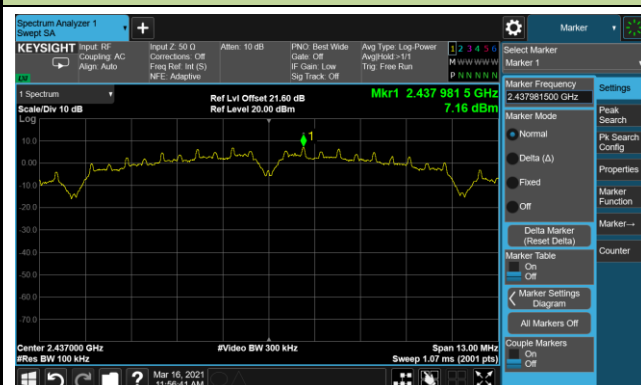


Spurious Emission

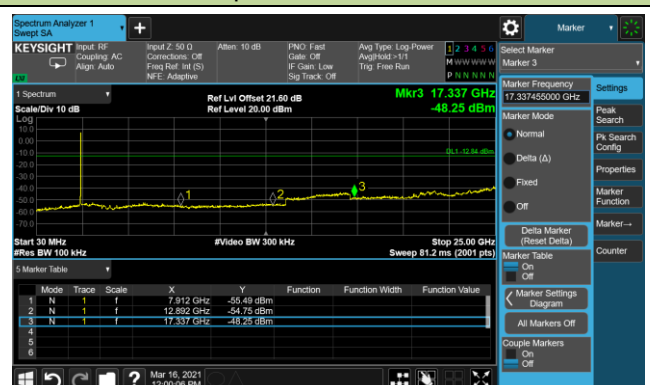


Channel 06 (2437MHz)

100kHz PSD Reference Level



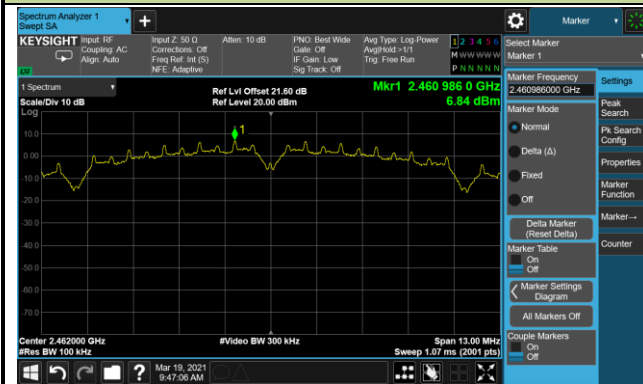
Spurious Emission



802.11b Out-of-Band Emissions

Channel 11 (2462MHz)

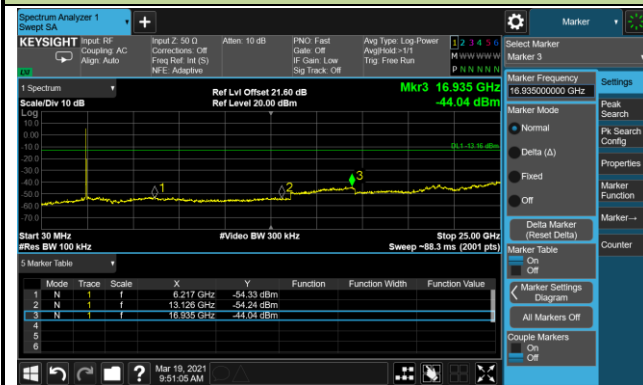
100kHz PSD Reference Level



High Band Edge



Spurious Emission



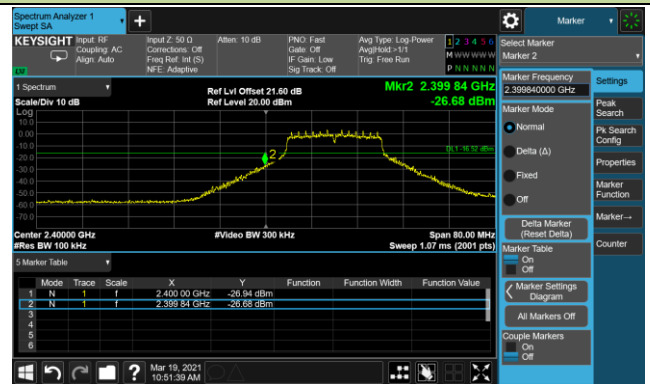
802.11g Out-of-Band Emissions

Channel 01 (2412MHz)

100kHz PSD Reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



802.11g Out-of-Band Emissions

Channel 11 (2462MHz)

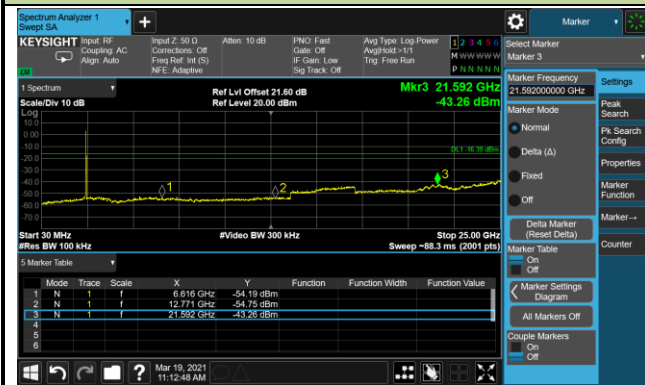
100kHz PSD Reference Level



High Band Edge



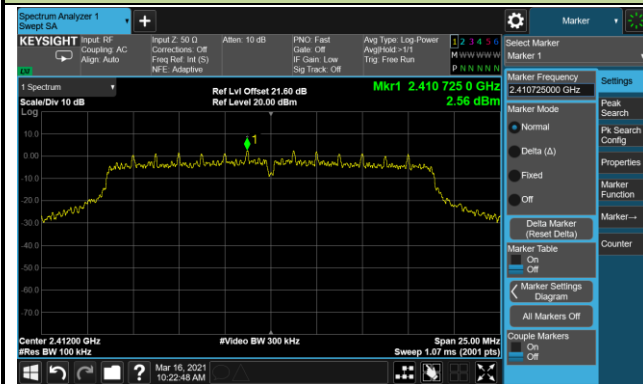
Spurious Emission



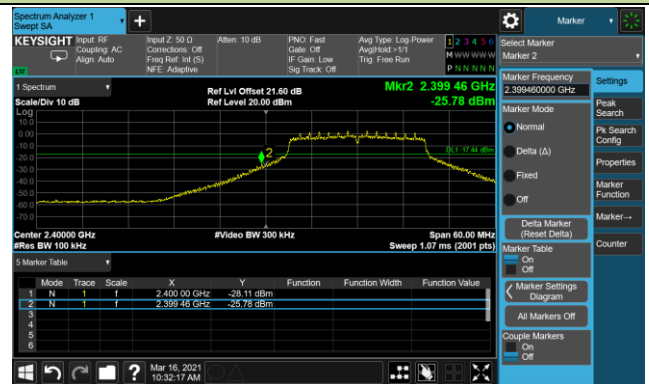
802.11n-HT20 Out-of-Band Emissions

Channel 01 (2412MHz)

100kHz PSD Reference Level



Low Band Edge

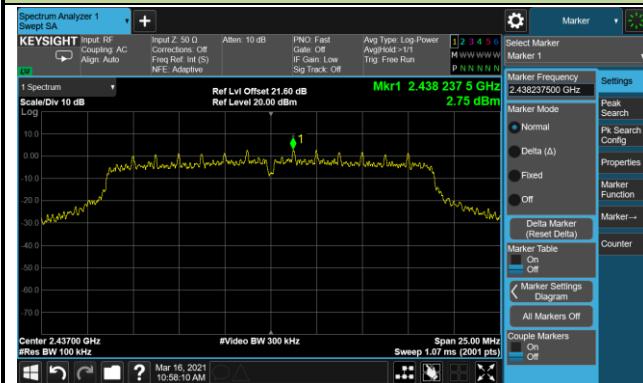


Spurious Emission



Channel 06 (2437MHz)

100kHz PSD Reference Level



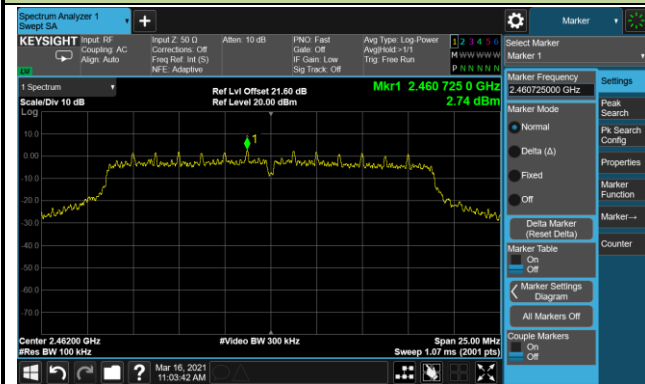
Spurious Emission



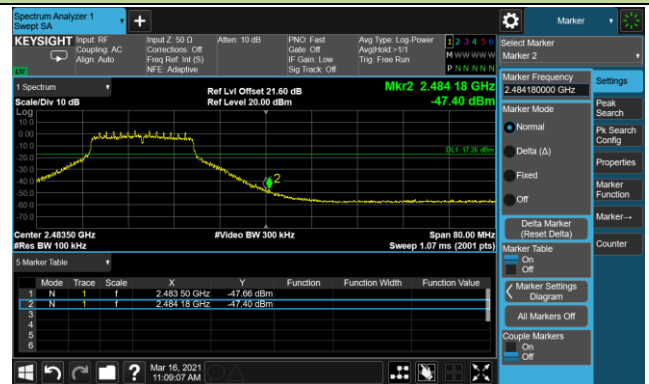
802.11n-HT20 Out-of-Band Emissions

Channel 11 (2462MHz)

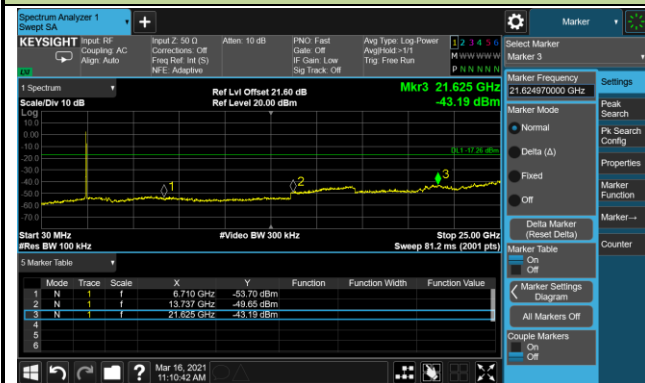
100kHz PSD Reference Level



High Band Edge



Spurious Emission



A.6 Radiated Spurious Emission Test Result

Test Site	NS-AC1	Test Engineer	Dillon Diao
Test Date	2022/01/07	Test Mode	802.11b
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	3847.5	36.2	-1.6	34.6	74.0	-39.4	Peak	Horizontal
	4748.5	33.8	1.8	35.6	74.0	-38.4	Peak	Horizontal
	8165.5	34.5	9.2	43.7	74.0	-30.3	Peak	Horizontal
	3992.0	38.8	-1.8	37.0	74.0	-37.0	Peak	Vertical
	4604.0	36.8	1.5	38.3	74.0	-35.7	Peak	Vertical
	11735.5	30.8	15.1	45.9	74.0	-28.1	Peak	Vertical
06	4340.5	39.3	-0.2	39.1	74.0	-34.9	Peak	Horizontal
	5046.0	36.2	1.9	38.1	74.0	-35.9	Peak	Horizontal
	7604.5	33.7	9.0	42.7	74.0	-31.3	Peak	Horizontal
	3881.5	38.5	-1.8	36.7	74.0	-37.3	Peak	Vertical
	4927.0	36.1	1.5	37.6	74.0	-36.4	Peak	Vertical
	8131.5	33.0	9.2	42.2	74.0	-31.8	Peak	Vertical
11	4017.5	38.1	-1.9	36.2	74.0	-37.8	Peak	Horizontal
	4646.5	34.8	1.5	36.3	74.0	-37.7	Peak	Horizontal
	7468.5	33.3	9.1	42.4	74.0	-31.6	Peak	Horizontal
	4374.5	37.4	-0.1	37.3	74.0	-36.7	Peak	Vertical
	5071.5	36.9	2.1	39.0	74.0	-35.0	Peak	Vertical
	7468.5	33.3	9.1	42.4	74.0	-31.6	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	NS-AC1	Test Engineer	Dillon Diao
Test Date	2022/01/07	Test Mode	802.11g
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4094.0	37.5	-1.3	36.2	74.0	-37.8	Peak	Horizontal
	4842.0	36.0	1.5	37.5	74.0	-36.5	Peak	Horizontal
	7366.5	32.9	9.2	42.1	74.0	-31.9	Peak	Horizontal
	4000.5	38.4	-1.8	36.6	74.0	-37.4	Peak	Vertical
	4850.5	36.1	1.5	37.6	74.0	-36.4	Peak	Vertical
	7613.0	33.9	8.8	42.7	74.0	-31.3	Peak	Vertical
06	3796.5	36.3	-1.5	34.8	74.0	-39.2	Peak	Horizontal
	4612.5	37.1	1.5	38.6	74.0	-35.4	Peak	Horizontal
	7672.5	33.6	8.8	42.4	74.0	-31.6	Peak	Horizontal
	4187.5	37.7	-0.7	37.0	74.0	-37.0	Peak	Vertical
	5029.0	35.7	2.2	37.9	74.0	-36.1	Peak	Vertical
	7451.5	34.0	9.3	43.3	74.0	-30.7	Peak	Vertical
11	4323.5	38.2	-0.2	38.0	74.0	-36.0	Peak	Horizontal
	4655.0	36.2	1.6	37.8	74.0	-36.2	Peak	Horizontal
	7553.5	32.3	8.8	41.1	74.0	-32.9	Peak	Horizontal
	3992.0	38.3	-1.8	36.5	74.0	-37.5	Peak	Vertical
	5003.5	38.0	1.9	39.9	74.0	-34.1	Peak	Vertical
	7434.5	32.6	9.4	42.0	74.0	-32.0	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	NS-AC1	Test Engineer	Dillon Diao
Test Date	2022/01/07	Test Mode	802.11n-HT20
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

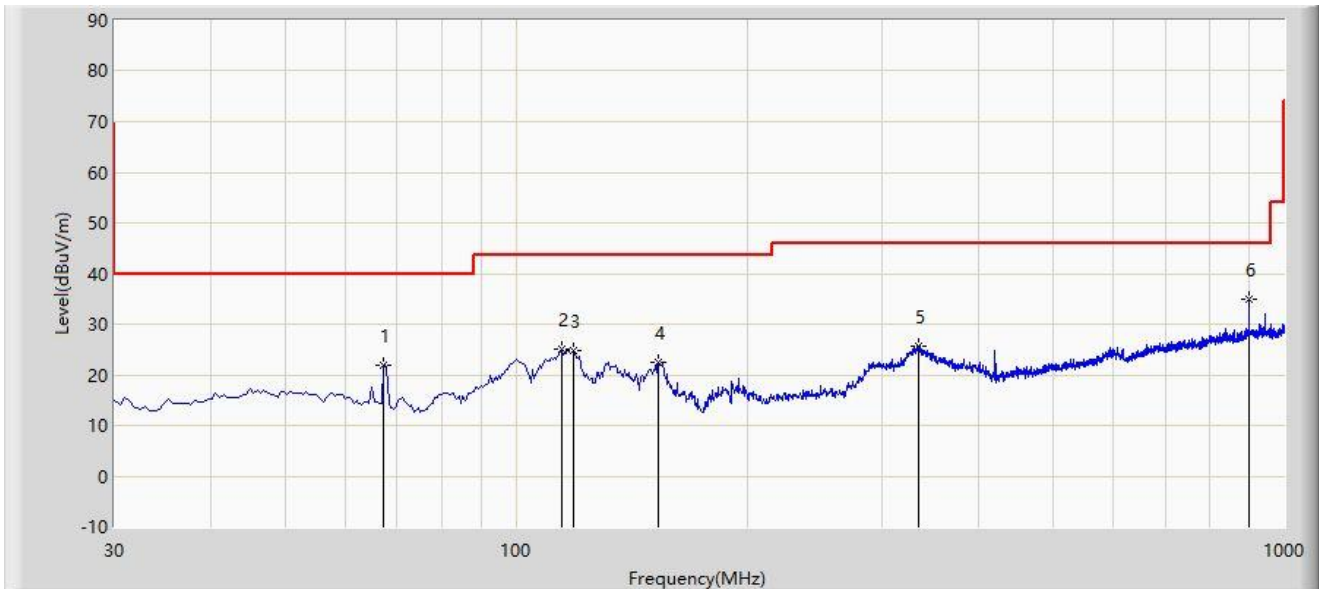
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4119.5	37.9	-1.1	36.8	74.0	-37.2	Peak	Horizontal
	4850.5	36.6	1.5	38.1	74.0	-35.9	Peak	Horizontal
	7621.5	34.1	8.7	42.8	74.0	-31.2	Peak	Horizontal
	4187.5	36.0	-0.7	35.3	74.0	-38.7	Peak	Vertical
	4604.0	36.2	1.5	37.7	74.0	-36.3	Peak	Vertical
	7434.5	34.3	9.4	43.7	74.0	-30.3	Peak	Vertical
06	3949.5	38.6	-1.8	36.8	74.0	-37.2	Peak	Horizontal
	5054.5	36.4	2.0	38.4	74.0	-35.6	Peak	Horizontal
	7545.0	33.1	8.9	42.0	74.0	-32.0	Peak	Horizontal
	3737.0	37.7	-1.5	36.2	74.0	-37.8	Peak	Vertical
	4561.5	36.1	1.0	37.1	74.0	-36.9	Peak	Vertical
	7400.5	33.8	9.3	43.1	74.0	-30.9	Peak	Vertical
11	3975.0	38.6	-1.8	36.8	74.0	-37.2	Peak	Horizontal
	4604.0	36.5	1.5	38.0	74.0	-36.0	Peak	Horizontal
	7477.0	34.7	9.0	43.7	74.0	-30.3	Peak	Horizontal
	3975.0	38.4	-1.8	36.6	74.0	-37.4	Peak	Vertical
	4850.5	35.6	1.5	37.1	74.0	-36.9	Peak	Vertical
	7443.0	32.5	9.4	41.9	74.0	-32.1	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: NS-AC1	Time: 2021/12/30 - 10:35
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_VULB9162	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			67.345	21.931	8.065	-18.069	40.000	13.867	PK
2			114.875	24.955	10.908	-18.545	43.500	14.047	PK
3			118.755	24.840	11.404	-18.660	43.500	13.436	PK
4			153.190	22.460	10.645	-21.040	43.500	11.815	PK
5			334.580	25.739	7.828	-20.261	46.000	17.911	PK
6		*	900.575	34.801	7.098	-11.199	46.000	27.703	PK

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

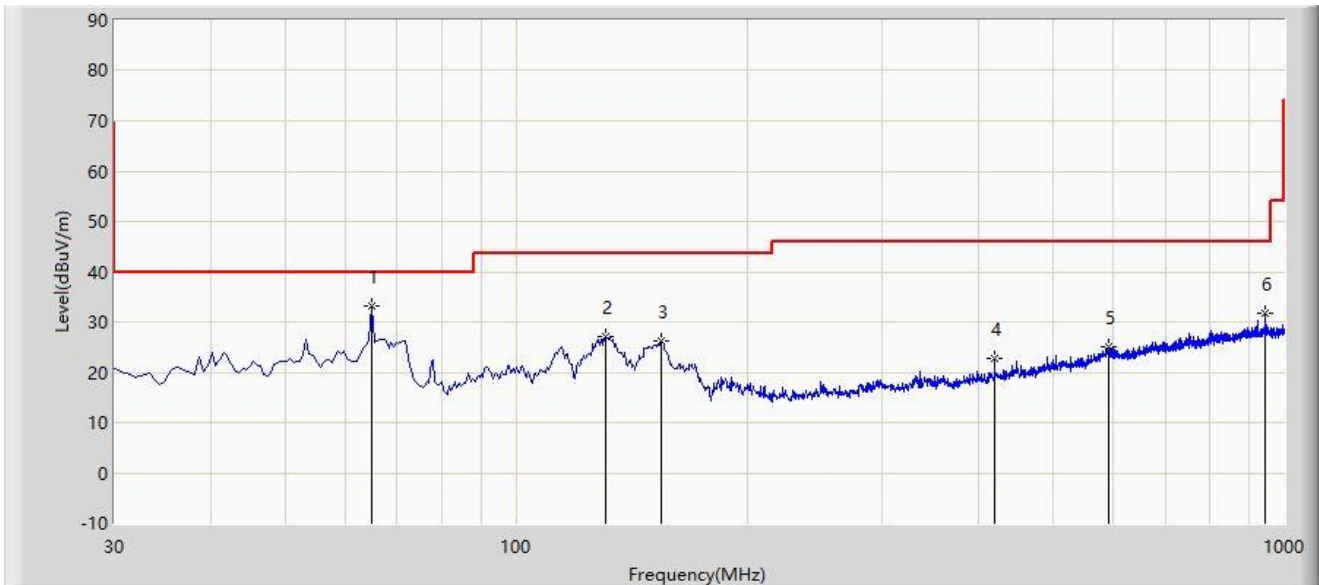
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

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: NS-AC1	Time: 2021/12/30 - 10:48
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_VULB9162	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	64.920	33.078	18.390	-6.922	40.000	14.688	PK
2			130.880	27.095	14.952	-16.405	43.500	12.142	PK
3			154.645	26.248	14.348	-17.252	43.500	11.900	PK
4			419.940	22.773	3.035	-23.227	46.000	19.738	PK
5			592.115	25.163	1.693	-20.837	46.000	23.469	PK
6			945.680	31.840	4.051	-14.160	46.000	27.789	PK

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

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

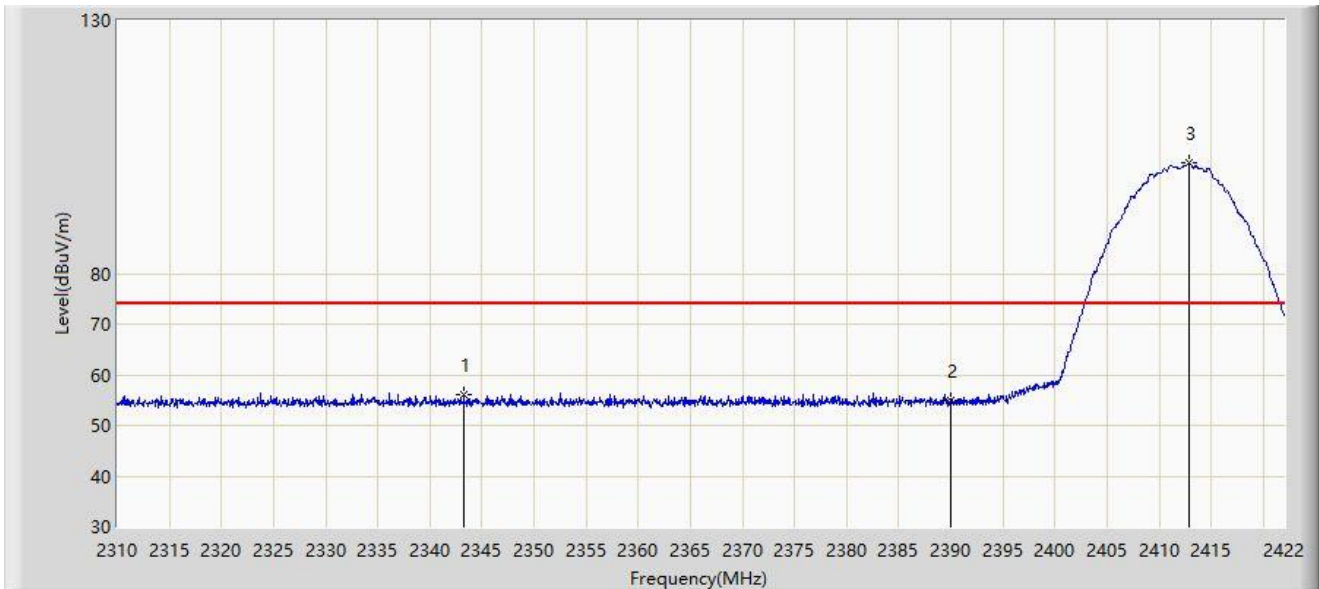
Note 2: QP measurement was not performed when peak measure level was lower than the QP limit.

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: NS-AC1	Time: 2022/01/05 - 14:00
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

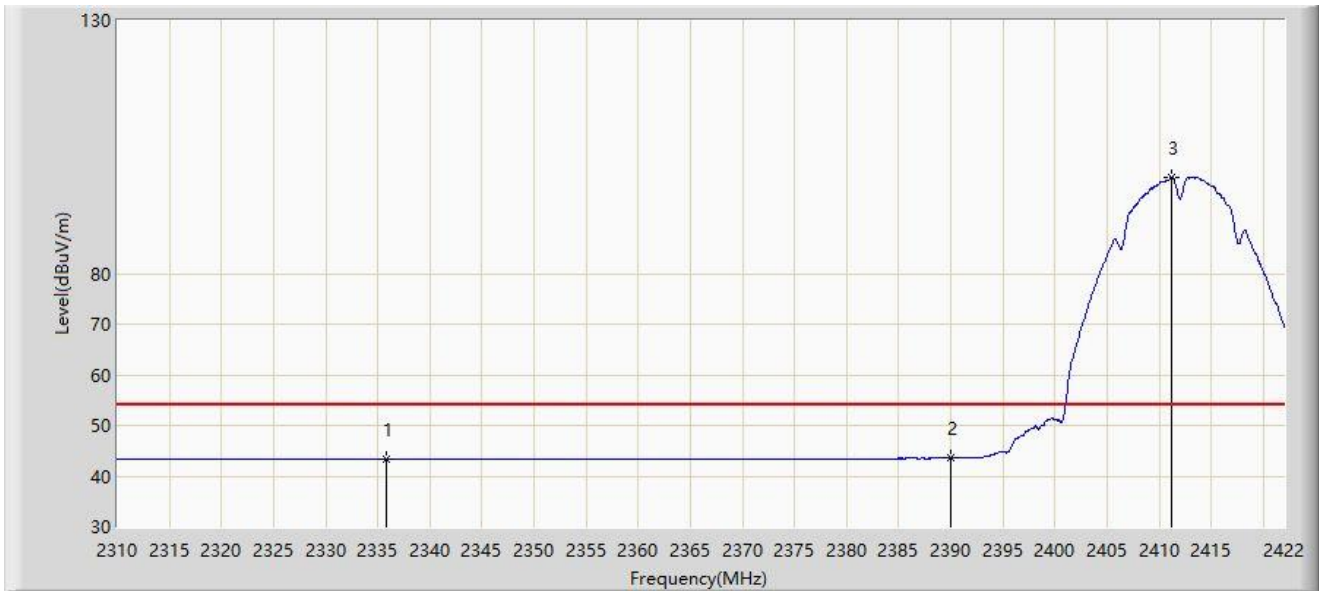


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2343.264	56.026	24.841	-17.974	74.000	31.185	PK
2			2390.000	54.940	24.037	-19.060	74.000	30.903	PK
3		*	2412.872	101.796	70.826	N/A	N/A	30.970	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:03
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

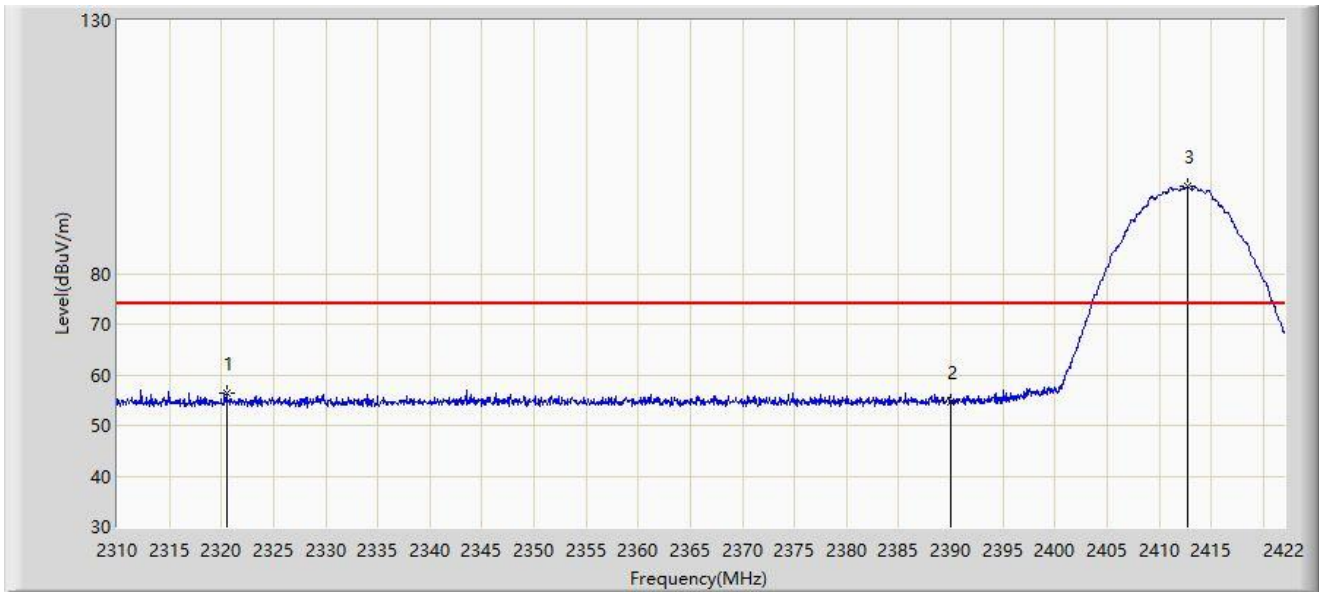


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2335.872	43.302	12.138	-10.698	54.000	31.164	AV
2			2390.000	43.509	12.606	-10.491	54.000	30.903	AV
3		*	2411.192	99.102	68.127	N/A	N/A	30.975	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:07
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2320.472	56.518	25.385	-17.482	74.000	31.133	PK
2			2390.000	54.643	23.740	-19.357	74.000	30.903	PK
3		*	2412.760	97.312	66.342	N/A	N/A	30.970	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:08
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

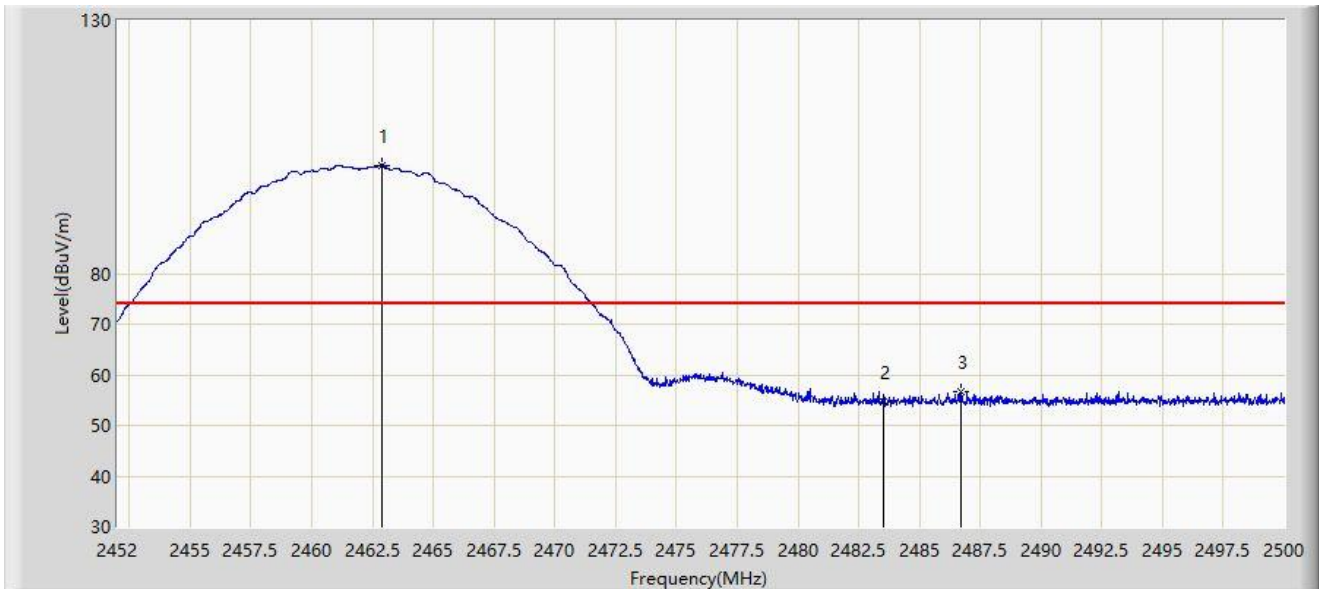


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2329.992	43.343	12.198	-10.657	54.000	31.145	AV
2			2390.000	43.513	12.610	-10.487	54.000	30.903	AV
3		*	2412.704	94.849	63.879	N/A	N/A	30.970	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:09
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	2462.872	101.436	70.558	N/A	N/A	30.878	PK
2			2483.500	54.668	23.779	-19.332	74.000	30.889	PK
3			2486.728	56.673	25.768	-17.327	74.000	30.905	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:11
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

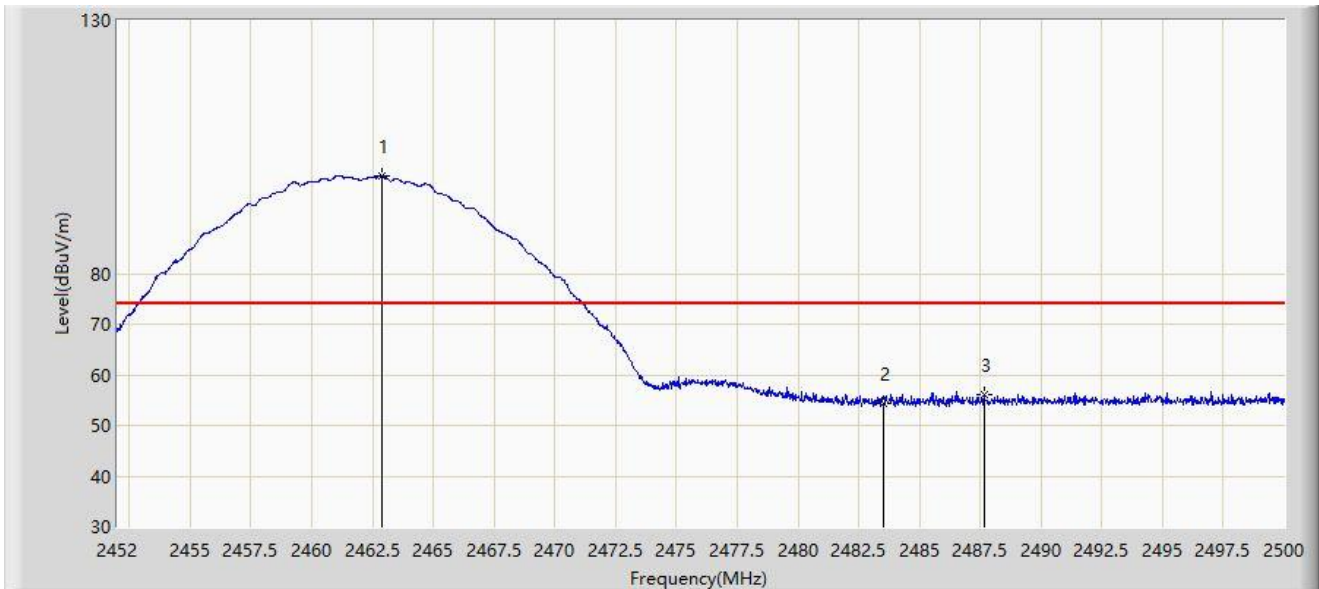


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	2461.240	91.674	60.795	N/A	N/A	30.878	AV
2			2483.500	43.505	12.616	-10.495	54.000	30.889	AV
3			2488.696	43.580	12.665	-10.420	54.000	30.915	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:12
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

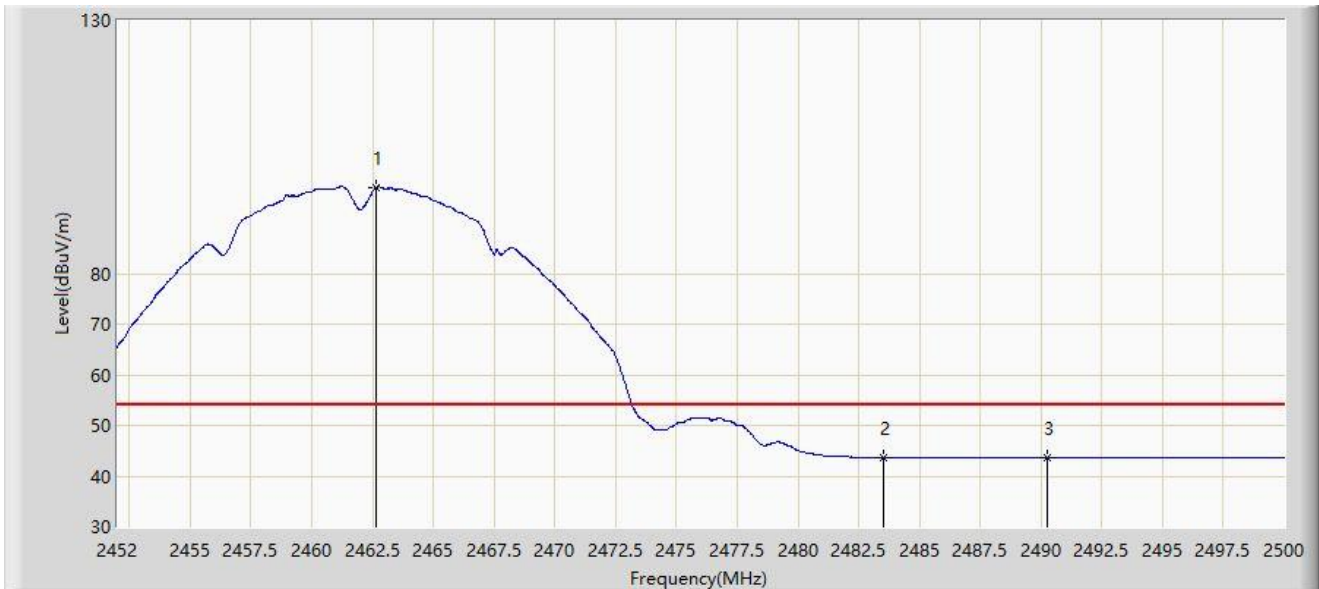


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	2462.872	99.362	68.484	N/A	N/A	30.878	PK
2			2483.500	54.487	23.598	-19.513	74.000	30.889	PK
3			2487.664	56.181	25.271	-17.819	74.000	30.910	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:13
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

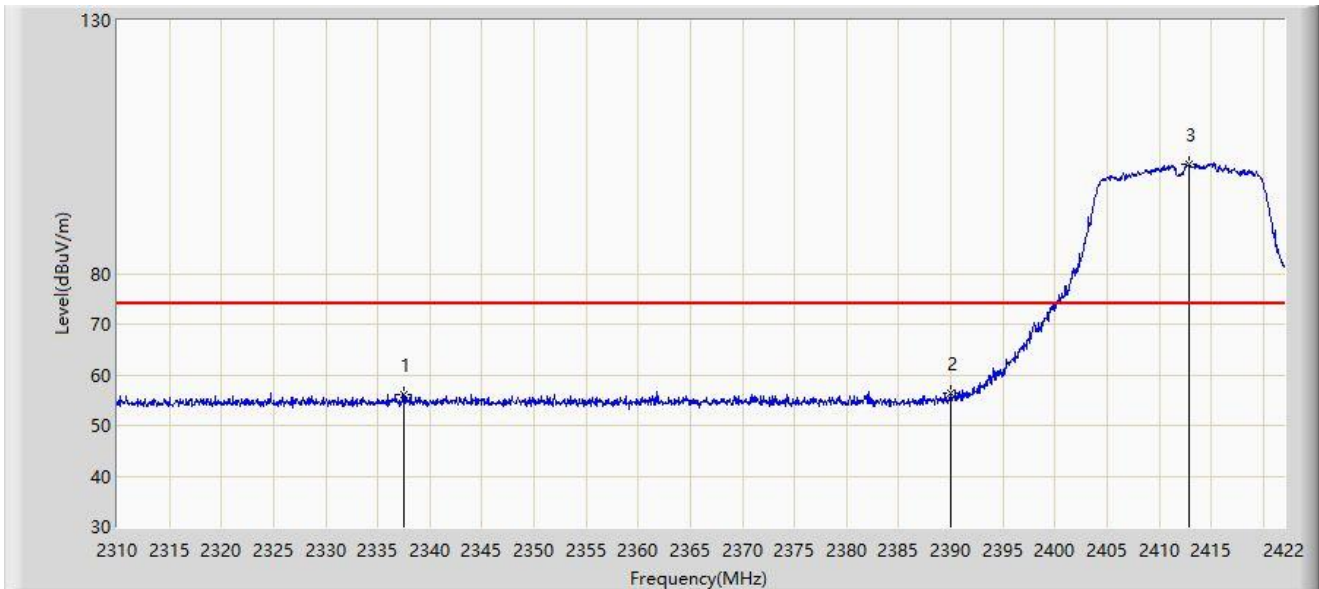


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2462.632	96.934	66.056	N/A	N/A	30.878	AV
2			2483.500	43.595	12.706	-10.405	54.000	30.889	AV
3			2490.280	43.576	12.653	-10.424	54.000	30.923	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:15
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

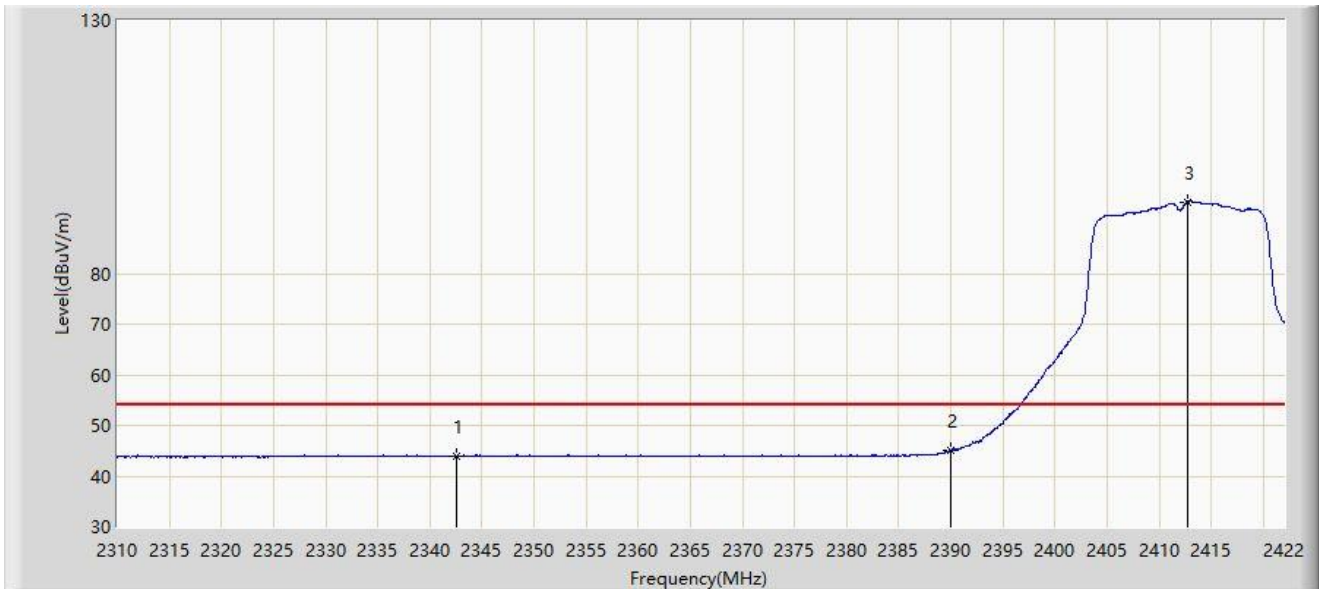


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2337.552	56.012	24.842	-17.988	74.000	31.170	PK
2			2390.000	56.327	25.424	-17.673	74.000	30.903	PK
3		*	2412.816	101.587	70.617	N/A	N/A	30.970	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:17
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

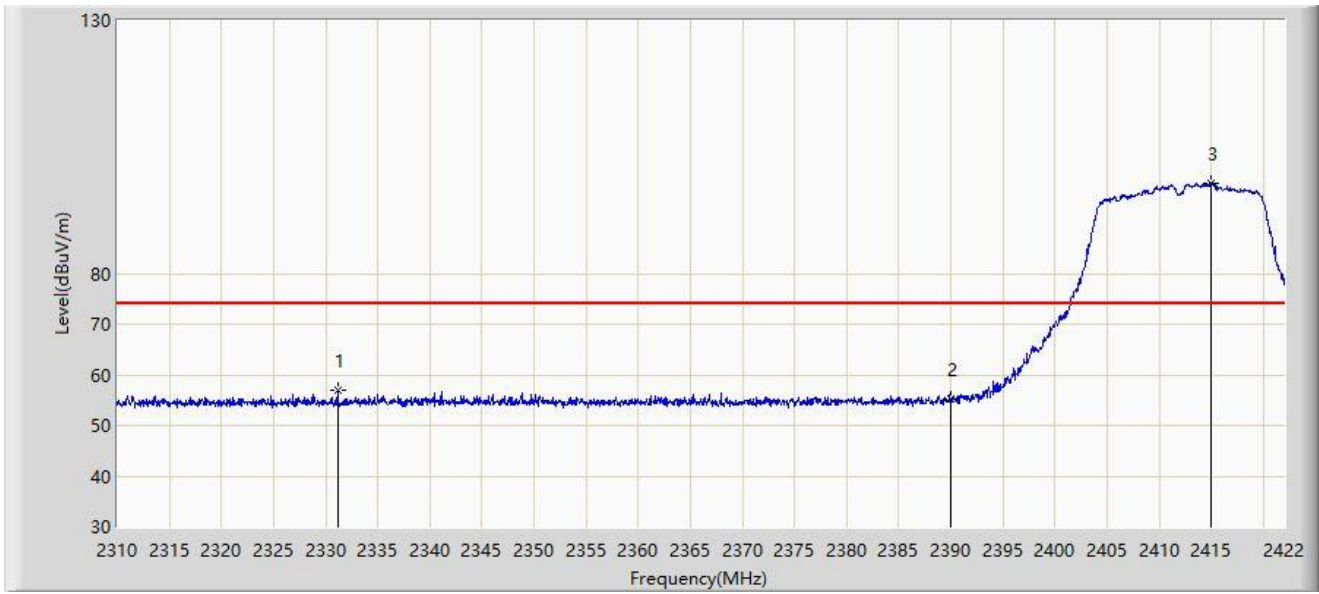


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2342.536	43.968	12.781	-10.032	54.000	31.187	AV
2			2390.000	45.015	14.112	-8.985	54.000	30.903	AV
3		*	2412.704	94.178	63.208	N/A	N/A	30.970	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:20
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

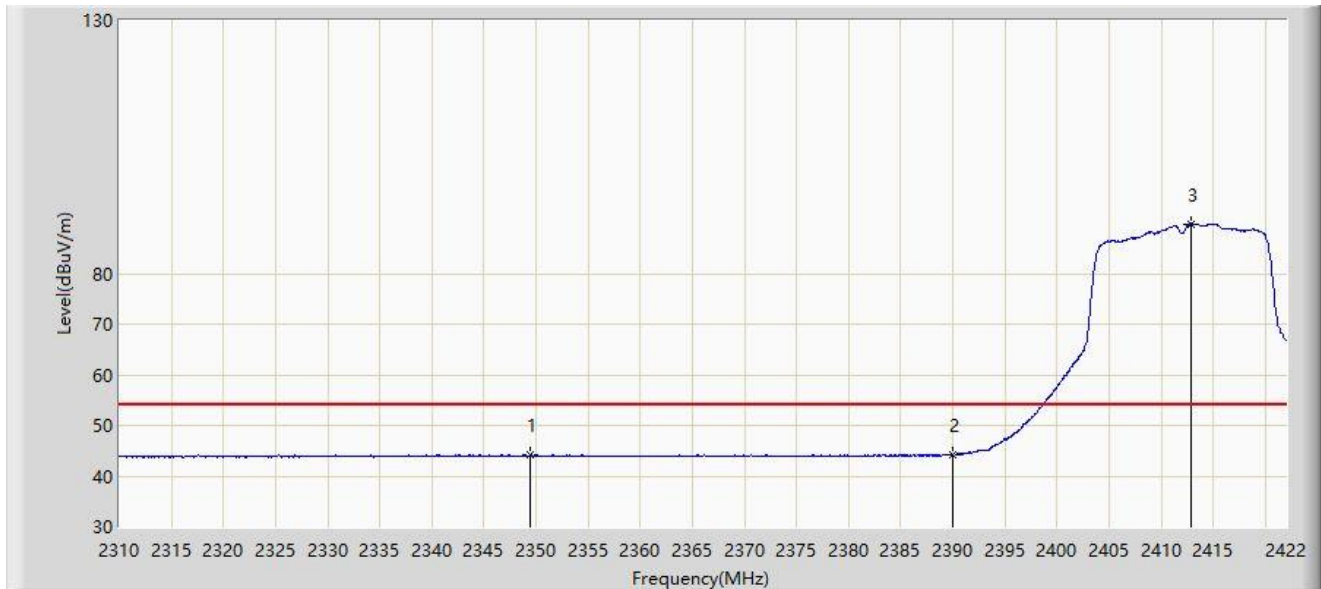


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2331.168	56.850	25.701	-17.150	74.000	31.148	PK
2			2390.000	55.086	24.183	-18.914	74.000	30.903	PK
3		*	2415.000	97.868	66.905	N/A	N/A	30.963	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:21
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

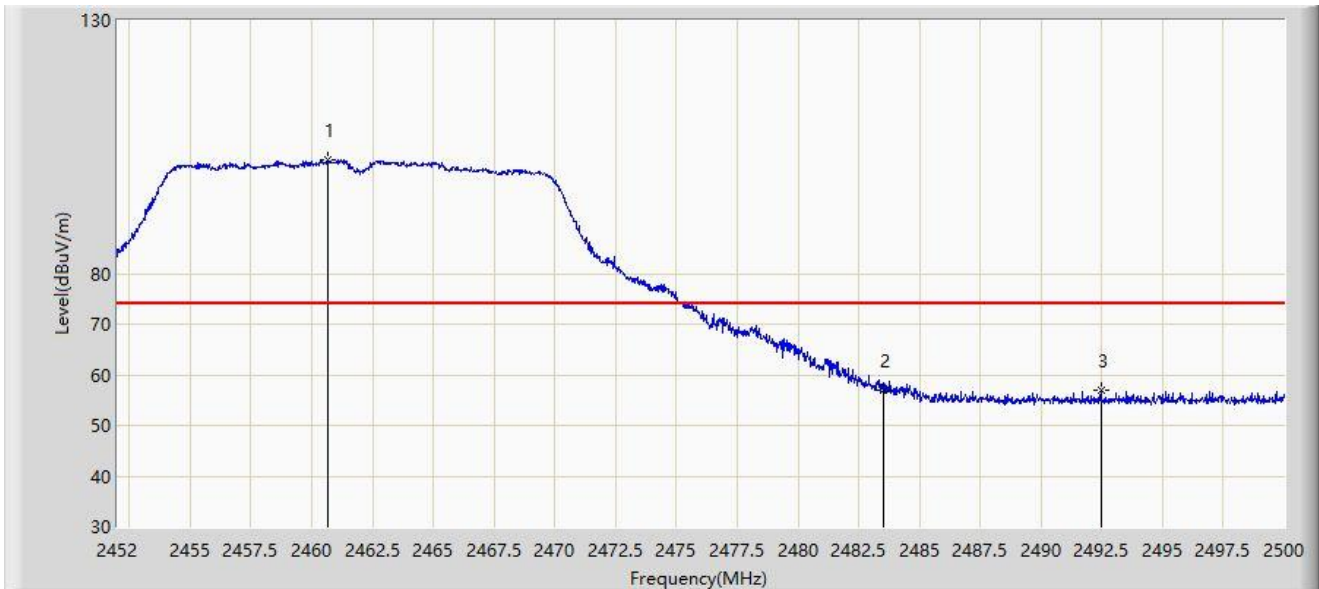


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2349.480	44.153	13.041	-9.847	54.000	31.113	AV
2			2390.000	44.261	13.358	-9.739	54.000	30.903	AV
3		*	2412.872	89.808	58.838	N/A	N/A	30.970	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:22
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2460.640	102.374	71.495	N/A	N/A	30.879	PK
2			2483.500	57.034	26.145	-16.966	74.000	30.889	PK
3			2492.464	56.926	25.992	-17.074	74.000	30.934	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:24
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2462MHz	

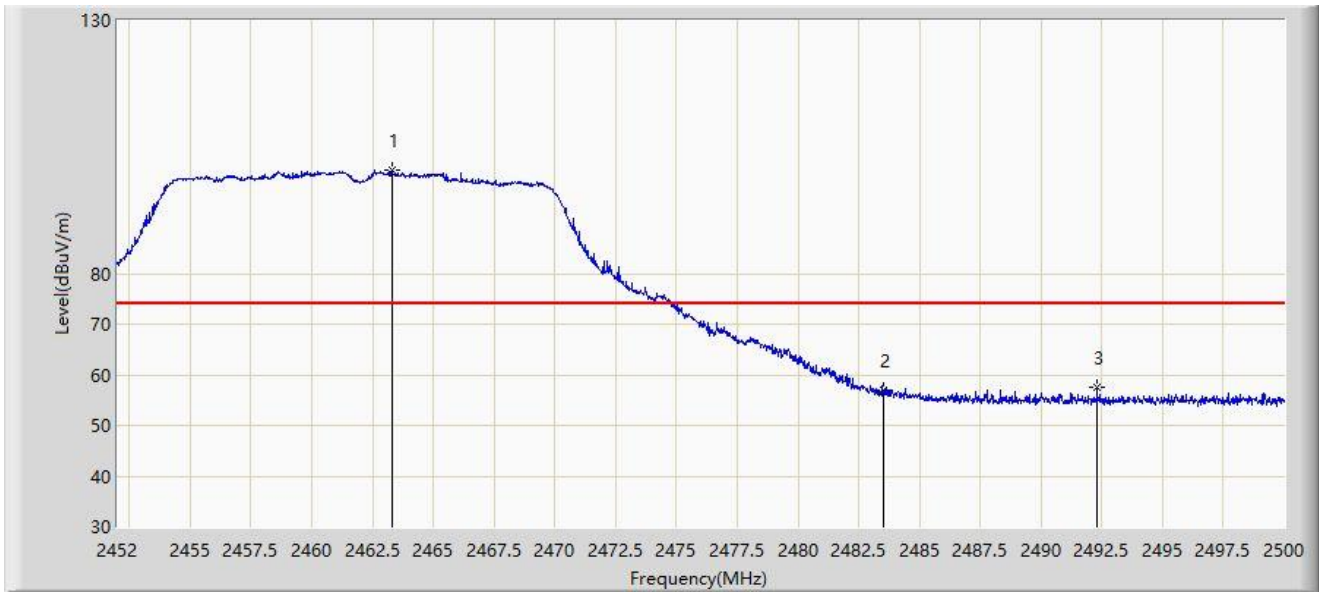


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2461.168	94.917	64.038	N/A	N/A	30.878	AV
2			2483.500	47.194	16.305	-6.806	54.000	30.889	AV
3			2484.064	46.672	15.780	-7.328	54.000	30.892	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:26
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2462MHz	

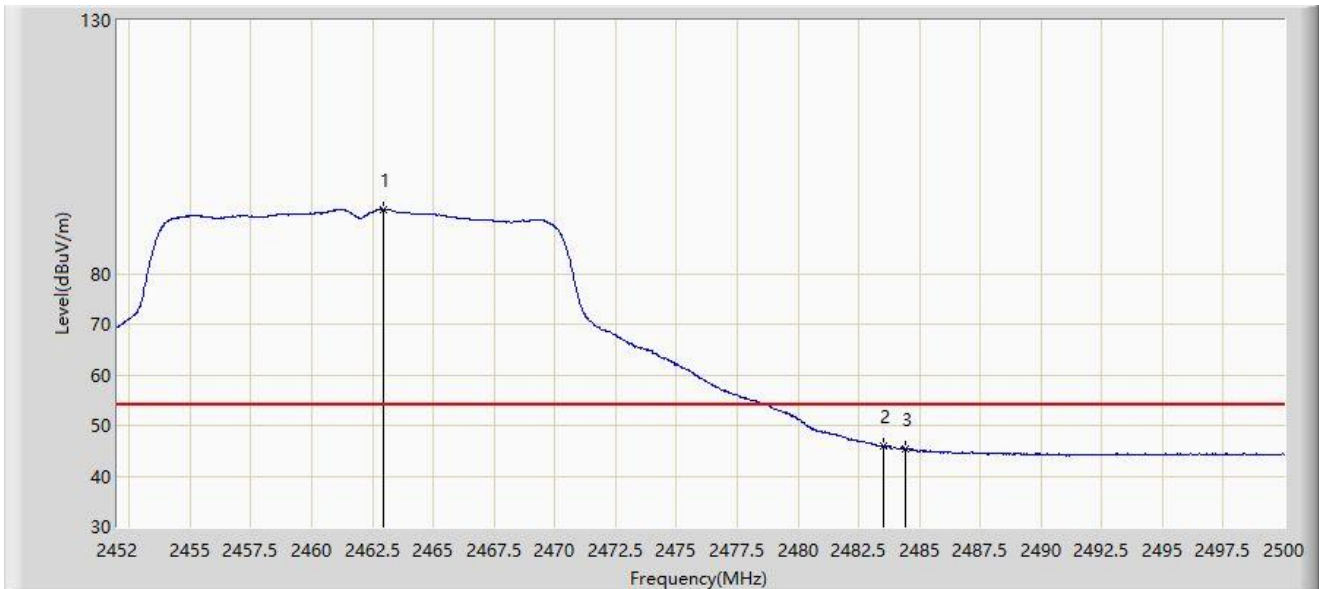


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2463.280	100.436	69.558	N/A	N/A	30.878	PK
2			2483.500	56.953	26.064	-17.047	74.000	30.889	PK
3			2492.296	57.665	26.732	-16.335	74.000	30.933	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:27
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2462MHz	

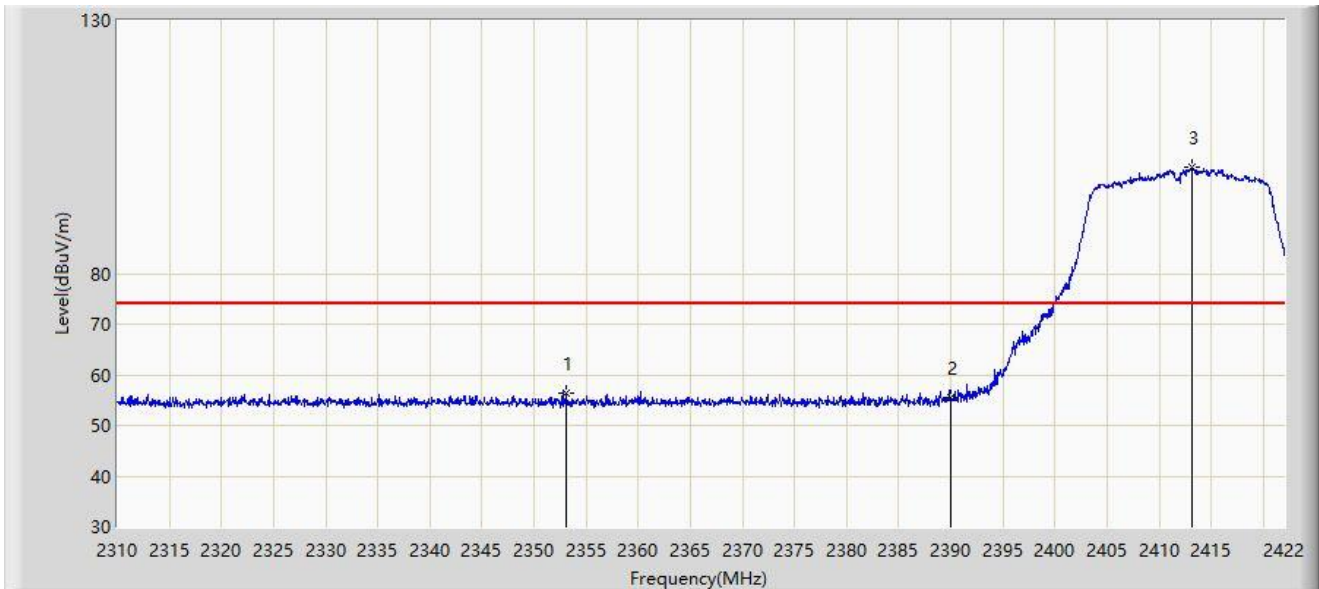


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2462.944	92.626	61.748	N/A	N/A	30.878	AV
2			2483.500	45.810	14.921	-8.190	54.000	30.889	AV
3			2484.400	45.478	14.585	-8.522	54.000	30.893	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:29
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

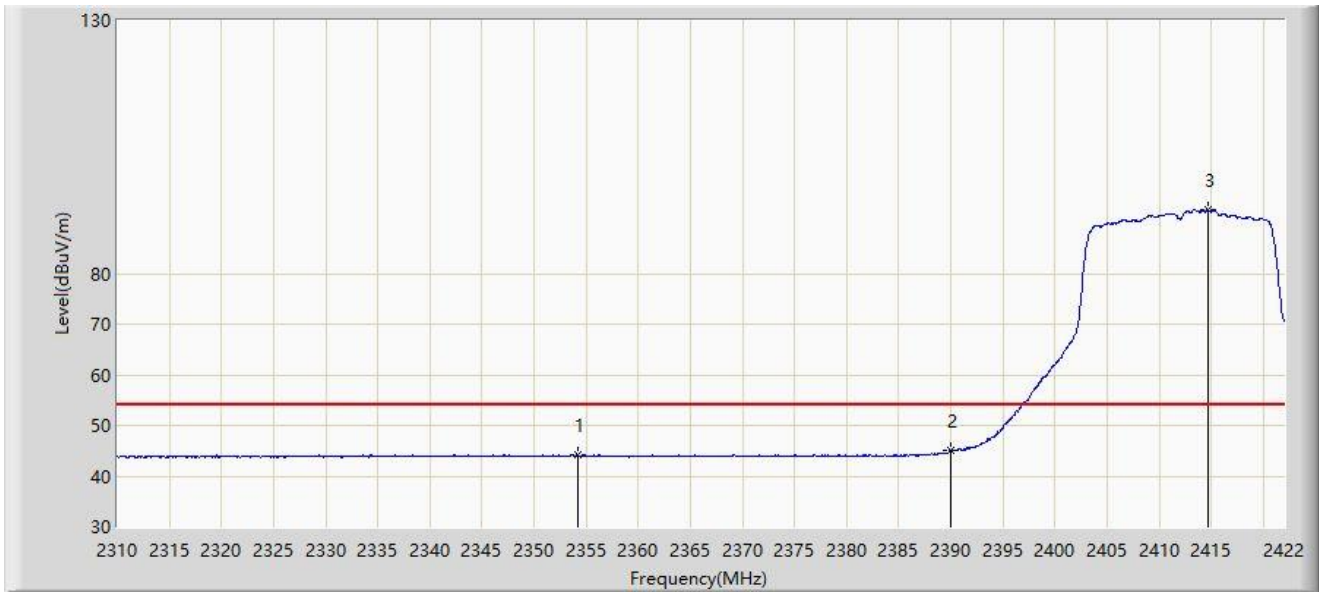


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2353.120	56.351	25.282	-17.649	74.000	31.070	PK
2			2390.000	55.469	24.566	-18.531	74.000	30.903	PK
3		*	2413.152	100.981	70.012	N/A	N/A	30.969	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:31
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

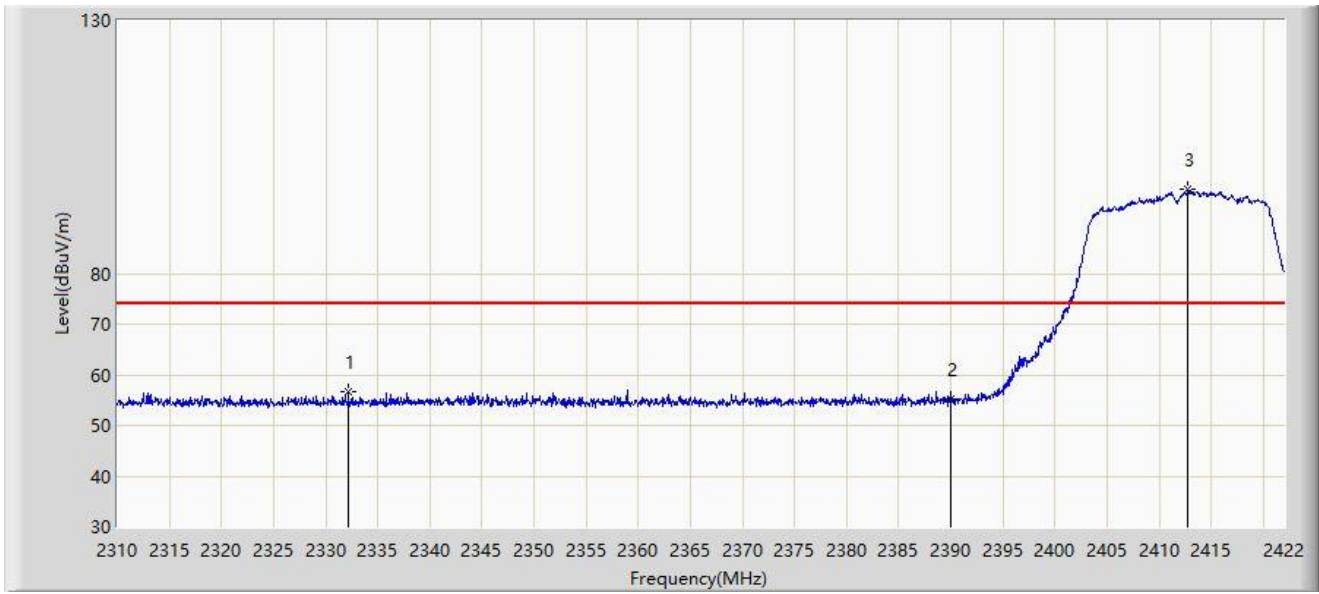


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2354.184	44.131	13.074	-9.869	54.000	31.056	AV
2			2390.000	44.994	14.091	-9.006	54.000	30.903	AV
3		*	2414.664	92.601	61.637	N/A	N/A	30.964	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:33
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

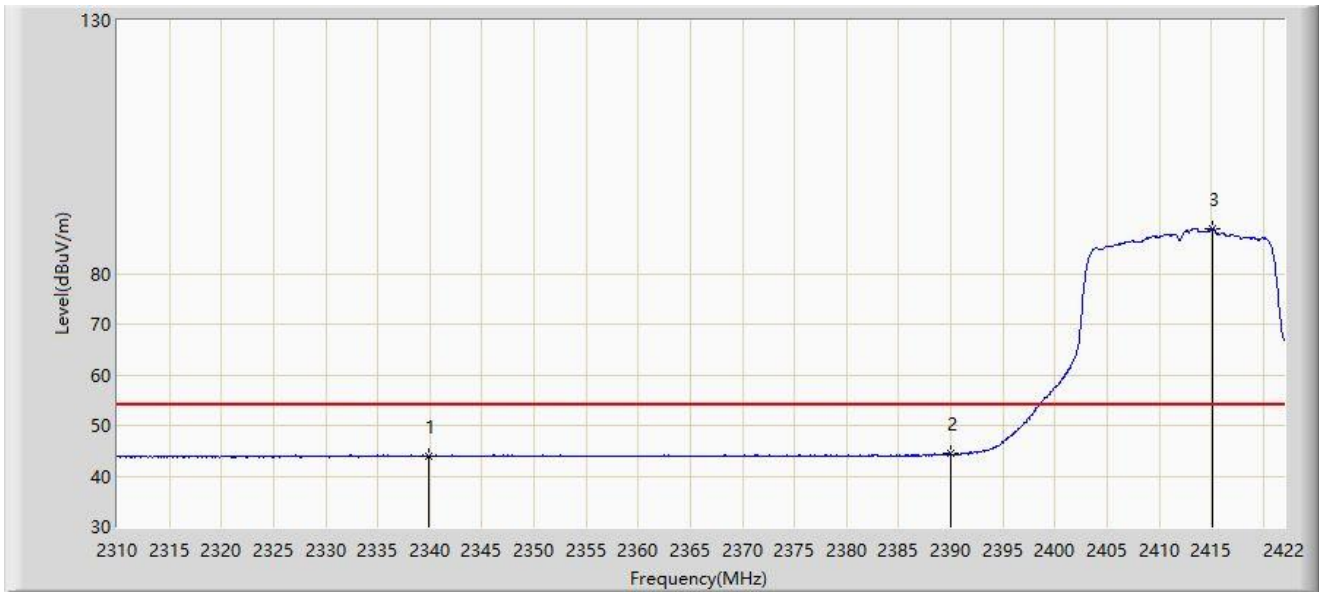


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2332.176	56.654	25.502	-17.346	74.000	31.152	PK
2			2390.000	55.319	24.416	-18.681	74.000	30.903	PK
3		*	2412.760	96.542	65.572	N/A	N/A	30.970	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:35
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

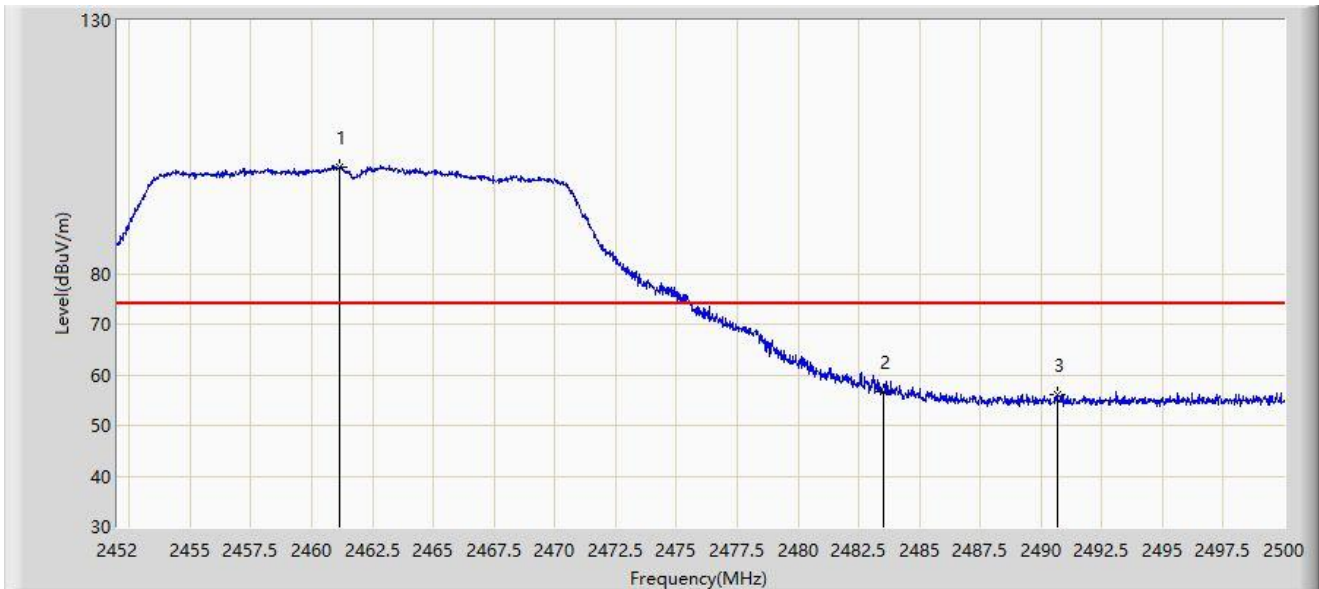


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			2339.904	43.889	12.711	-10.111	54.000	31.178	AV
2			2390.000	44.383	13.480	-9.617	54.000	30.903	AV
3		*	2415.056	88.856	57.893	N/A	N/A	30.963	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:36
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2461.120	101.049	70.170	N/A	N/A	30.879	PK
2			2483.500	56.585	25.696	-17.415	74.000	30.889	PK
3			2490.664	55.998	25.073	-18.002	74.000	30.925	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:38
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Horizontal
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

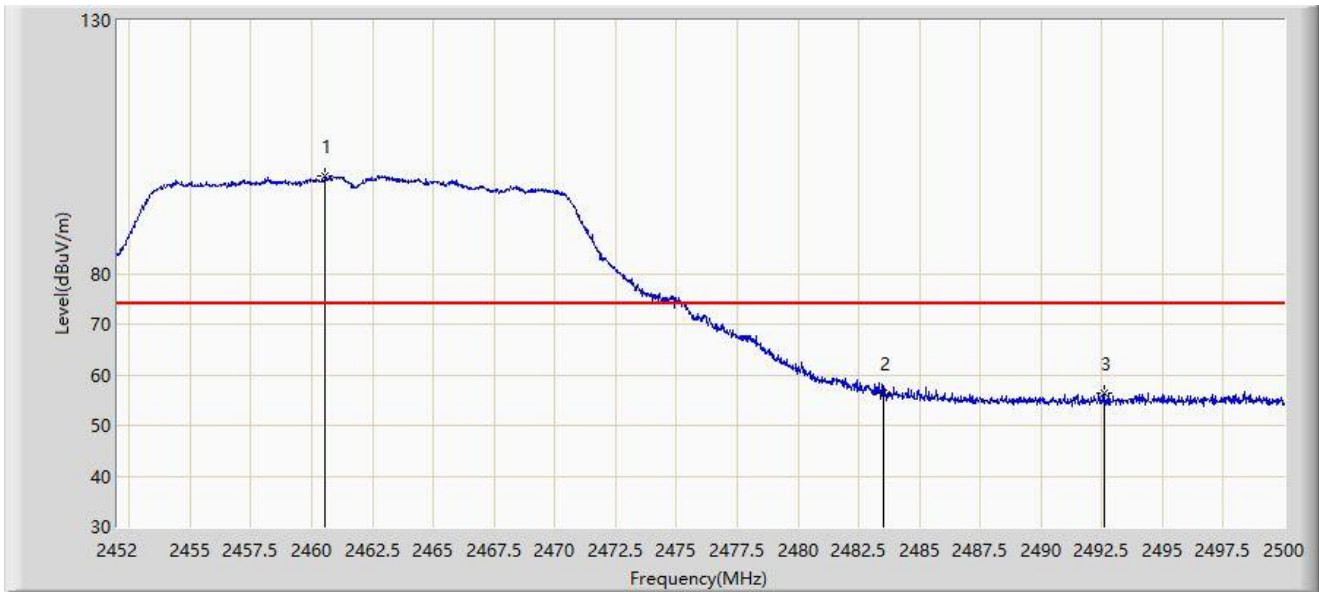


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2460.592	92.920	62.041	N/A	N/A	30.879	AV
2			2483.500	47.005	16.116	-6.995	54.000	30.889	AV
3			2489.896	44.549	13.628	-9.451	54.000	30.921	AV

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:39
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

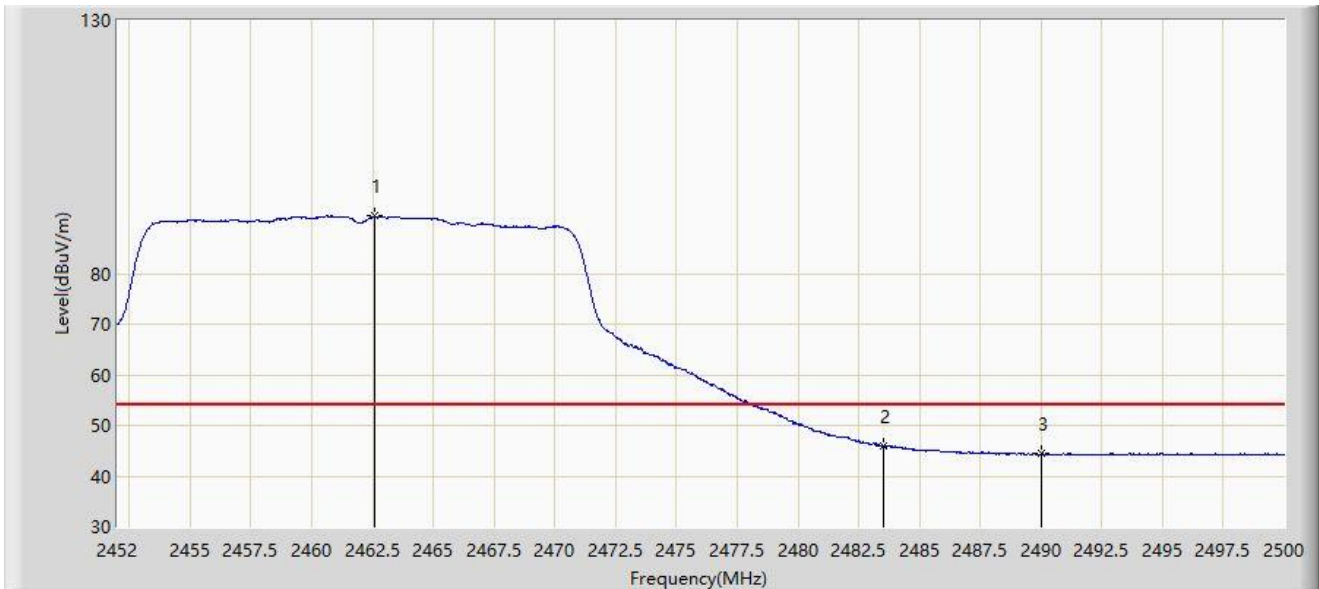


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2460.568	99.301	68.422	N/A	N/A	30.879	PK
2			2483.500	56.249	25.360	-17.751	74.000	30.889	PK
3			2492.584	56.336	25.402	-17.664	74.000	30.934	PK

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

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

Site: NS-AC1	Time: 2022/01/05 - 14:40
Limit: FCC_Part 15.209_RE(3m)	Engineer: Dillon Diao
Probe: NS-AC1_BBHA9120D	Polarity: Vertical
EUT: Mobile Computer	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	



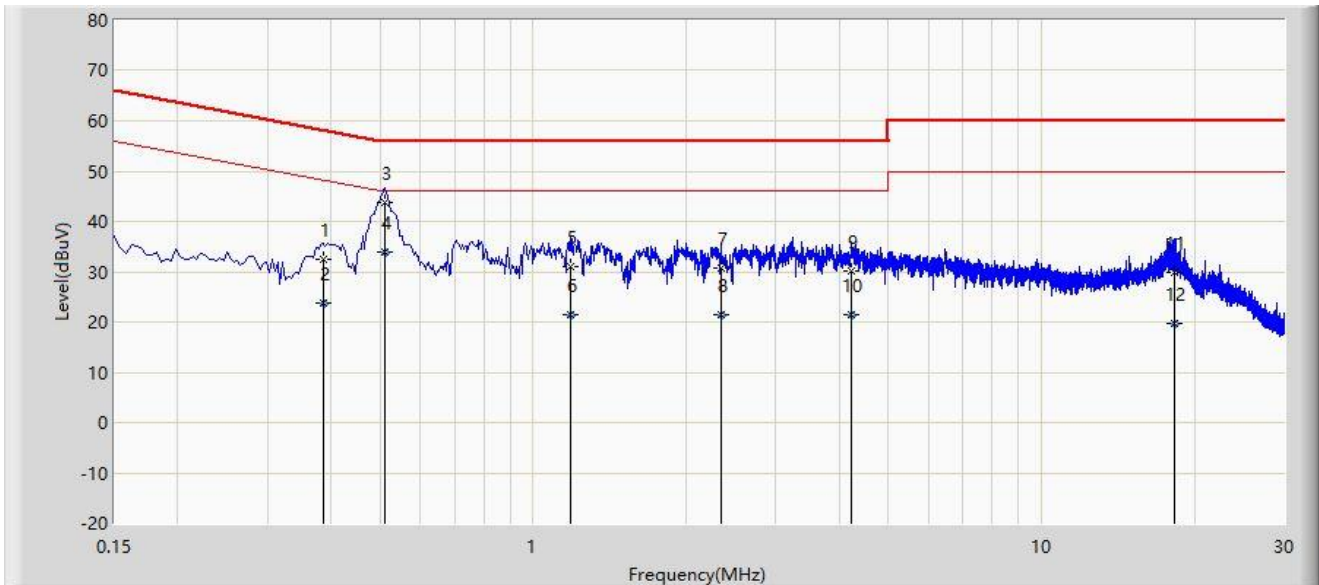
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1		*	2462.584	91.367	60.489	N/A	N/A	30.878	AV
2			2483.500	45.892	15.003	-8.108	54.000	30.889	AV
3			2490.016	44.441	13.520	-9.559	54.000	30.921	AV

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

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

A.8 AC Conducted Emissions Test Result

Site: NS-SR2	Time: 2021/12/31
Limit: FCC_Part15.207_CE_AC Power	Engineer: Summer Tang
Probe: ENV216_102493_150KHz~30MHz	Polarity: Line
EUT: Mobile Computer	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	

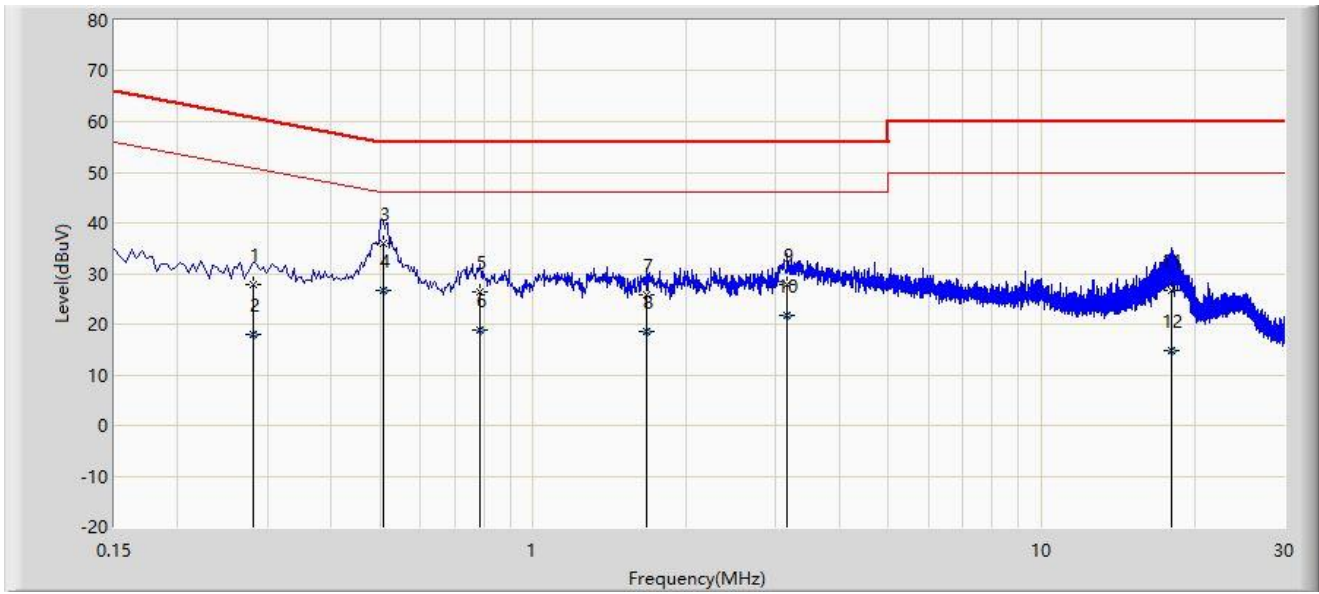


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1			0.386	32.353	22.602	-25.797	58.149	9.750	QP
2			0.386	23.708	13.958	-24.441	48.149	9.750	AV
3		*	0.510	43.892	34.196	-12.108	56.000	9.696	QP
4			0.510	33.770	24.074	-12.230	46.000	9.696	AV
5			1.186	30.902	21.168	-25.098	56.000	9.735	QP
6			1.186	21.499	11.764	-24.501	46.000	9.735	AV
7			2.338	30.681	20.909	-25.319	56.000	9.773	QP
8			2.338	21.532	11.760	-24.468	46.000	9.773	AV
9			4.238	30.108	20.260	-25.892	56.000	9.848	QP
10			4.238	21.561	11.713	-24.439	46.000	9.848	AV
11			18.314	29.815	19.700	-30.185	60.000	10.115	QP
12			18.314	19.624	9.509	-30.376	50.000	10.115	AV

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

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

Site: NS-SR2	Time: 2021/12/31
Limit: FCC_Part15.207_CE_AC Power	Engineer: Summer Tang
Probe: ENV216_102493_150KHz~30MHz	Polarity: Neutral
EUT: Mobile Computer	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1			0.282	27.887	17.898	-32.870	60.757	9.989	QP
2			0.282	17.926	7.937	-32.831	50.757	9.989	AV
3			0.506	35.864	26.230	-20.136	56.000	9.634	QP
4		*	0.506	26.575	16.941	-19.425	46.000	9.634	AV
5			0.786	26.335	16.675	-29.665	56.000	9.660	QP
6			0.786	18.983	9.323	-27.017	46.000	9.660	AV
7			1.674	25.895	16.208	-30.105	56.000	9.687	QP
8			1.674	18.617	8.930	-27.383	46.000	9.687	AV
9			3.166	27.768	18.021	-28.232	56.000	9.747	QP
10			3.166	21.772	12.025	-24.228	46.000	9.747	AV
11			18.026	26.673	16.341	-33.327	60.000	10.333	QP
12			18.026	14.821	4.489	-35.179	50.000	10.333	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 “2112RSU039-UT” file.

Appendix C – EUT Photograph

Refer to “2112RSU039-UE” file.

_____ The End _____