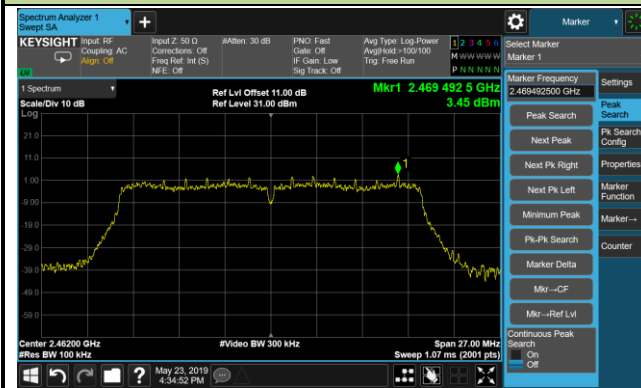


802.11n-HT20 Out-of-Band Emissions

Channel 11 (2462MHz)

100kHz PSD Reference Level



High Band Edge



Spurious Emission



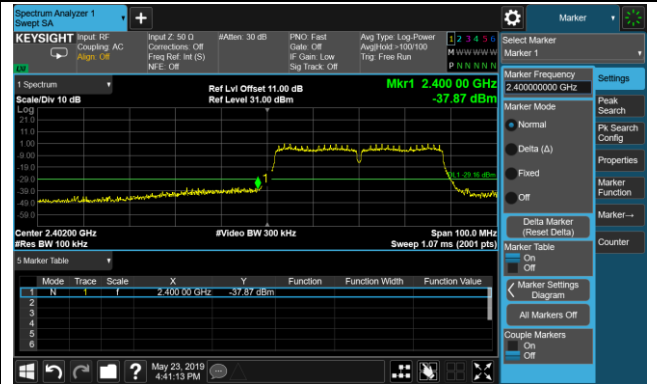
802.11n-HT40 Out-of-Band Emissions

Channel 03 (2422MHz)

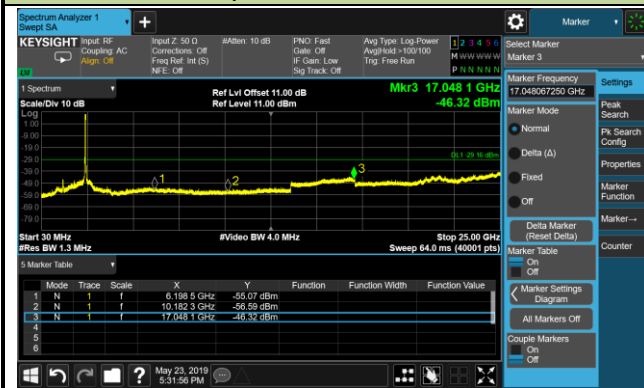
100kHz PSD Reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD Reference Level



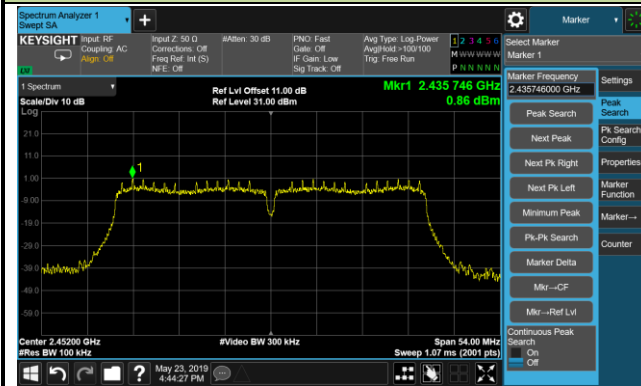
Spurious Emission



802.11n-HT40 Out-of-Band Emissions

Channel 09 (2452MHz)

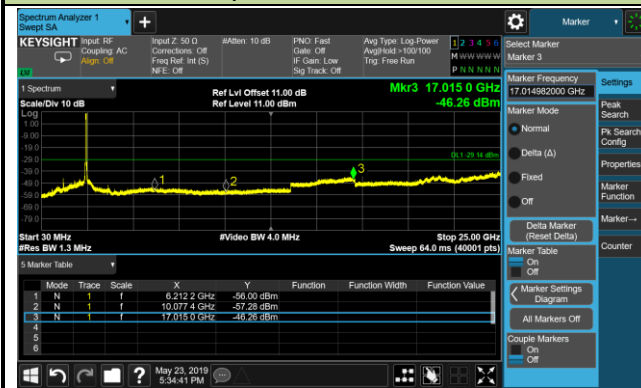
100kHz PSD Reference Level



High Band Edge



Spurious Emission



7.7. Radiated Spurious Emission Measurement

7.7.1. 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

7.7.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

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

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

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

7.7.3. 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

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 or average
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

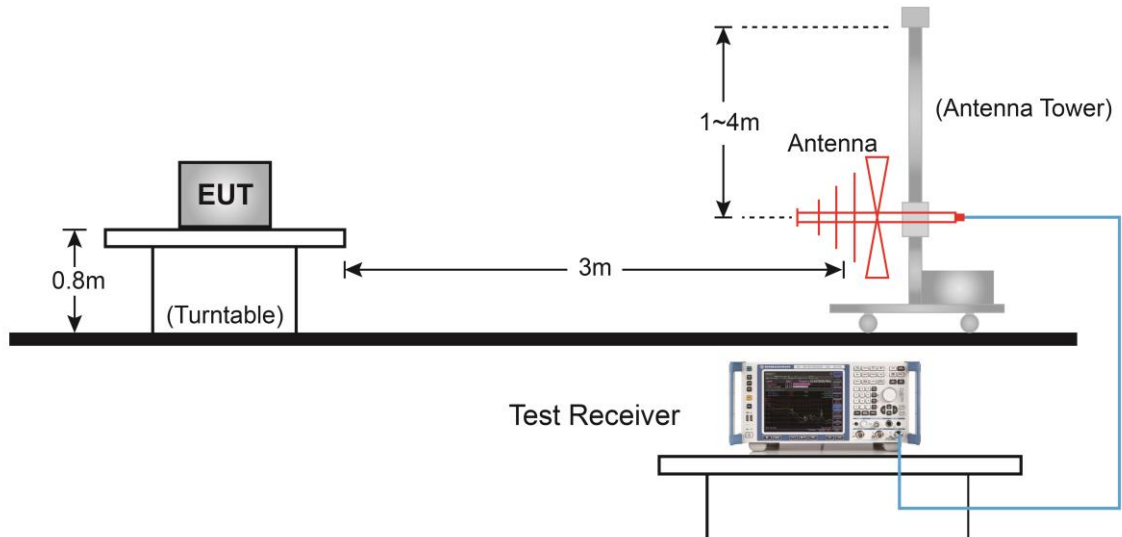
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

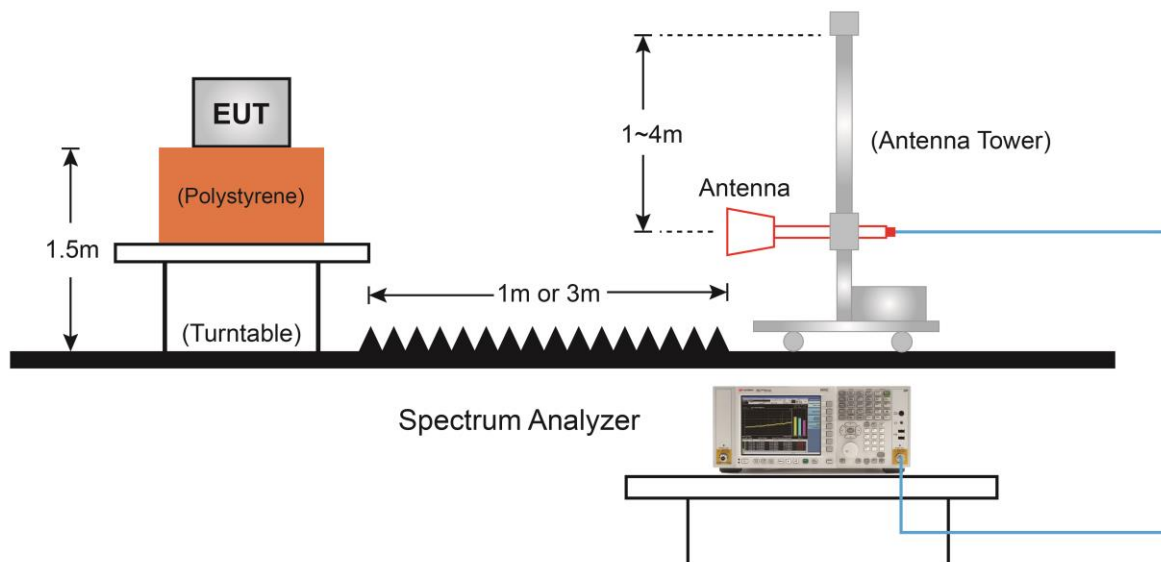
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

7.7.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



7.7.5.Test Result

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11b	Test Channel:	01
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0	40.6	3.6	44.2	74.0	-29.8	Peak	Horizontal
	7307.0	34.3	11.9	46.2	74.0	-27.8	Peak	Horizontal
*	10460.5	33.2	16.4	49.6	74.0	-24.4	Peak	Horizontal
*	16886.5	38.2	22.8	61.0	74.0	-13.0	Peak	Horizontal
	4825.0	41.0	3.6	44.6	74.0	-29.4	Peak	Vertical
	7698.0	32.5	11.3	43.8	74.0	-30.2	Peak	Vertical
*	8692.5	31.0	12.4	43.4	74.0	-30.6	Peak	Vertical
*	10044.0	31.5	14.5	46.0	74.0	-28.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (103.1dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11b	Test Channel:	06
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4876.0	36.9	3.6	40.5	74.0	-33.5	Peak	Horizontal
	7307.0	34.2	11.9	46.1	74.0	-27.9	Peak	Horizontal
*	8769.0	30.2	12.7	42.9	74.0	-31.1	Peak	Horizontal
*	10069.5	30.6	14.8	45.4	74.0	-28.6	Peak	Horizontal
	4876.0	40.1	3.6	43.7	74.0	-30.3	Peak	Vertical
	7392.0	31.1	11.6	42.7	74.0	-31.3	Peak	Vertical
*	8692.5	31.9	12.4	44.3	74.0	-29.7	Peak	Vertical
*	9840.0	33.8	14.2	48.0	74.0	-26.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (103.5dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11b	Test Channel:	11
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4927.0	38.9	3.6	42.5	74.0	-31.5	Peak	Horizontal
	7383.5	36.4	11.8	48.2	74.0	-25.8	Peak	Horizontal
*	10044.0	31.9	14.5	46.4	74.0	-27.6	Peak	Horizontal
*	17235.0	35.2	24.3	59.5	74.0	-14.5	Peak	Horizontal
	4927.0	41.9	3.6	45.5	74.0	-28.5	Peak	Vertical
	7366.5	32.5	11.9	44.4	74.0	-29.6	Peak	Vertical
*	8735.0	32.1	12.8	44.9	74.0	-29.1	Peak	Vertical
*	10044.0	31.5	14.5	46.0	74.0	-28.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (103.0dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11g	Test Channel:	01
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0	36.4	3.6	40.0	74.0	-34.0	Peak	Horizontal
	7443.0	32.1	11.8	43.9	74.0	-30.1	Peak	Horizontal
*	10052.5	31.4	14.6	46.0	76.6	-30.6	Peak	Horizontal
*	16895.0	38.1	22.7	60.8	76.6	-15.8	Peak	Horizontal
	4825.0	38.0	3.6	41.6	74.0	-32.4	Peak	Vertical
	7417.5	33.8	11.7	45.5	74.0	-28.5	Peak	Vertical
*	9593.5	35.8	13.6	49.4	76.6	-27.2	Peak	Vertical
*	12806.5	29.4	19.5	48.9	76.6	-27.7	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (106.6dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11g	Test Channel:	06
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	5029.0	36.4	3.8	40.2	74.0	-33.8	Peak	Horizontal
	8046.5	34.2	11.7	45.9	74.0	-28.1	Peak	Horizontal
*	8692.5	32.0	12.4	44.4	76.8	-32.4	Peak	Horizontal
*	9806.0	30.4	14.2	44.6	76.8	-32.2	Peak	Horizontal
	4867.5	37.2	3.5	40.7	74.0	-33.3	Peak	Vertical
	7536.5	34.1	11.7	45.8	74.0	-28.2	Peak	Vertical
*	8786.0	30.0	12.7	42.7	76.8	-34.1	Peak	Vertical
*	10137.5	32.4	15.1	47.5	76.8	-29.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.8dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11g	Test Channel:	11
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4876.0	35.1	3.6	38.7	74.0	-35.3	Peak	Horizontal
	7409.0	34.6	11.6	46.2	74.0	-27.8	Peak	Horizontal
*	8752.0	31.0	12.7	43.7	76.0	-32.3	Peak	Horizontal
*	10052.5	31.8	14.6	46.4	76.0	-29.6	Peak	Horizontal
	4918.5	39.2	3.5	42.7	74.0	-31.3	Peak	Vertical
	7553.5	34.7	11.8	46.5	74.0	-27.5	Peak	Vertical
*	10095.0	31.5	14.7	46.2	76.0	-29.8	Peak	Vertical
*	12891.5	30.0	20.4	50.4	76.0	-25.6	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (106.0dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT20	Test Channel:	01
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4901.5	36.1	3.5	39.6	74.0	-34.4	Peak	Horizontal
	7638.5	34.5	11.3	45.8	74.0	-28.2	Peak	Horizontal
*	9789.0	31.1	14.0	45.1	76.7	-31.6	Peak	Horizontal
*	16878.0	35.7	23.0	58.7	76.7	-18.0	Peak	Horizontal
	4825.0	37.8	3.6	41.4	74.0	-32.6	Peak	Vertical
	7417.5	34.1	11.7	45.8	74.0	-28.2	Peak	Vertical
*	8879.5	31.8	12.7	44.5	76.7	-32.2	Peak	Vertical
*	14642.5	33.9	22.8	56.7	76.7	-20.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.7dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT20	Test Channel:	06
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4672.0	36.4	3.1	39.5	74.0	-34.5	Peak	Horizontal
	7511.0	33.5	11.6	45.1	74.0	-28.9	Peak	Horizontal
*	8726.5	30.8	12.8	43.6	76.9	-33.3	Peak	Horizontal
*	10044.0	31.1	14.5	45.6	76.9	-31.3	Peak	Horizontal
	4876.0	36.3	3.6	39.9	74.0	-34.1	Peak	Vertical
	7477.0	33.9	11.9	45.8	74.0	-28.2	Peak	Vertical
*	8752.0	32.0	12.7	44.7	76.9	-32.2	Peak	Vertical
*	10044.0	31.2	14.5	45.7	76.9	-31.2	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.9dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT20	Test Channel:	11
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4850.5	38.0	3.4	41.4	74.0	-32.6	Peak	Horizontal
	7409.0	32.3	11.6	43.9	74.0	-30.1	Peak	Horizontal
*	10112.0	31.4	14.7	46.1	76.4	-30.3	Peak	Horizontal
*	16759.0	34.9	22.7	57.6	76.4	-18.8	Peak	Horizontal
	4927.0	38.6	3.6	42.2	74.0	-31.8	Peak	Vertical
	7553.5	34.0	11.8	45.8	74.0	-28.2	Peak	Vertical
*	8777.5	31.3	12.7	44.0	76.4	-32.4	Peak	Vertical
*	10044.0	32.1	14.5	46.6	76.4	-29.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.4dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT40	Test Channel:	03
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	5080.0	36.7	3.9	40.6	74.0	-33.4	Peak	Horizontal
	7630.0	32.4	11.2	43.6	74.0	-30.4	Peak	Horizontal
*	8692.5	31.7	12.4	44.1	74.0	-29.9	Peak	Horizontal
*	10171.5	32.8	15.1	47.9	74.0	-26.1	Peak	Horizontal
	4638.0	37.9	3.1	41.0	74.0	-33.0	Peak	Vertical
	7502.5	33.1	11.8	44.9	74.0	-29.1	Peak	Vertical
*	8786.0	32.0	12.7	44.7	74.0	-29.3	Peak	Vertical
*	10214.0	32.7	15.0	47.7	74.0	-26.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (103.2dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT40	Test Channel:	06
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4850.5	36.5	3.4	39.9	74.0	-34.1	Peak	Horizontal
	7528.0	32.2	11.6	43.8	74.0	-30.2	Peak	Horizontal
*	8896.5	32.3	12.6	44.9	74.0	-29.1	Peak	Horizontal
*	10086.5	31.1	14.7	45.8	74.0	-28.2	Peak	Horizontal
	4604.0	36.6	3.0	39.6	74.0	-34.4	Peak	Vertical
	7553.5	32.6	11.8	44.4	74.0	-29.6	Peak	Vertical
*	8803.0	32.2	12.9	45.1	74.0	-28.9	Peak	Vertical
*	9959.0	32.8	14.5	47.3	74.0	-26.7	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (103.3dBμV/m) or FCC 15.209 which is higher.

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

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

Product	Wi-Fi module	Temperature	25°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	AC1	Test Date	2019/05/24
Test Mode:	802.11n-HT40	Test Channel:	09
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.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4808.0	37.8	3.5	41.3	74.0	-32.7	Peak	Horizontal
	7545.0	33.1	11.9	45.0	74.0	-29.0	Peak	Horizontal
*	8735.0	31.8	12.8	44.6	74.0	-29.4	Peak	Horizontal
*	10120.5	31.9	15.0	46.9	74.0	-27.1	Peak	Horizontal
	4867.5	36.1	3.5	39.6	74.0	-34.4	Peak	Vertical
	7485.5	32.8	12.0	44.8	74.0	-29.2	Peak	Vertical
*	8769.0	31.1	12.7	43.8	74.0	-30.2	Peak	Vertical
*	10035.5	32.1	14.5	46.6	74.0	-27.4	Peak	Vertical

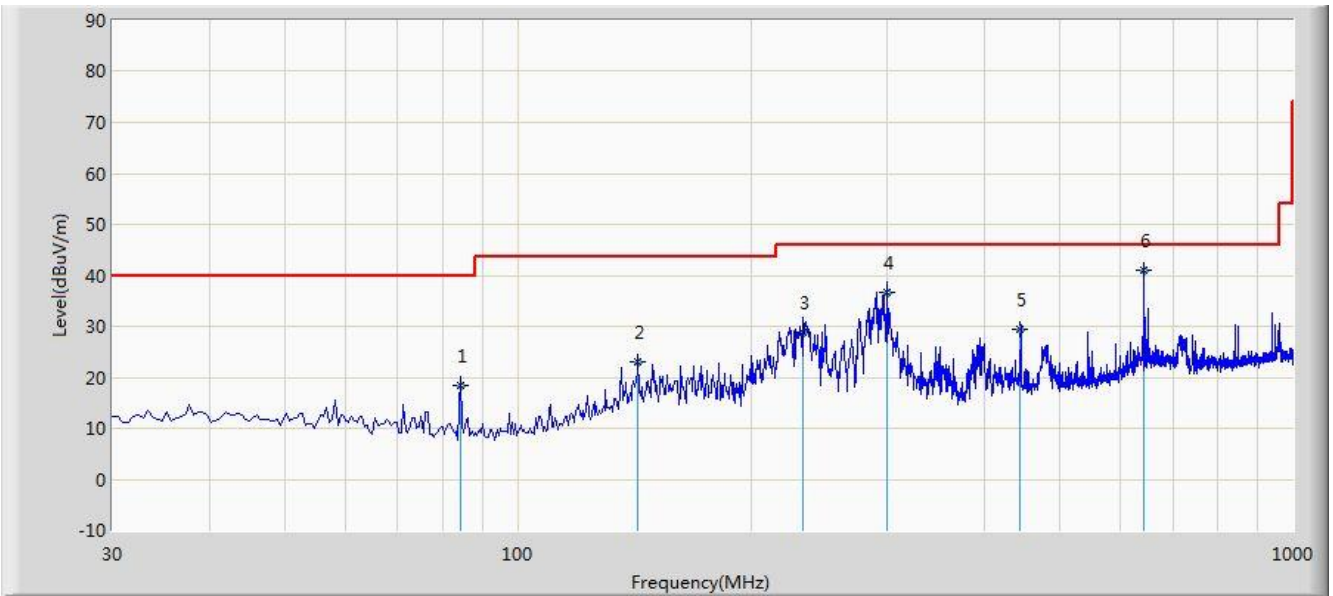
Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (103.4dBμV/m) or FCC 15.209 which is higher.

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

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

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2019/07/24 - 09:50
Limit: FCC_Part15.109_RE(3m)_Class B	Engineer: Kyrie Xie
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11b at Channel 2437MHz	



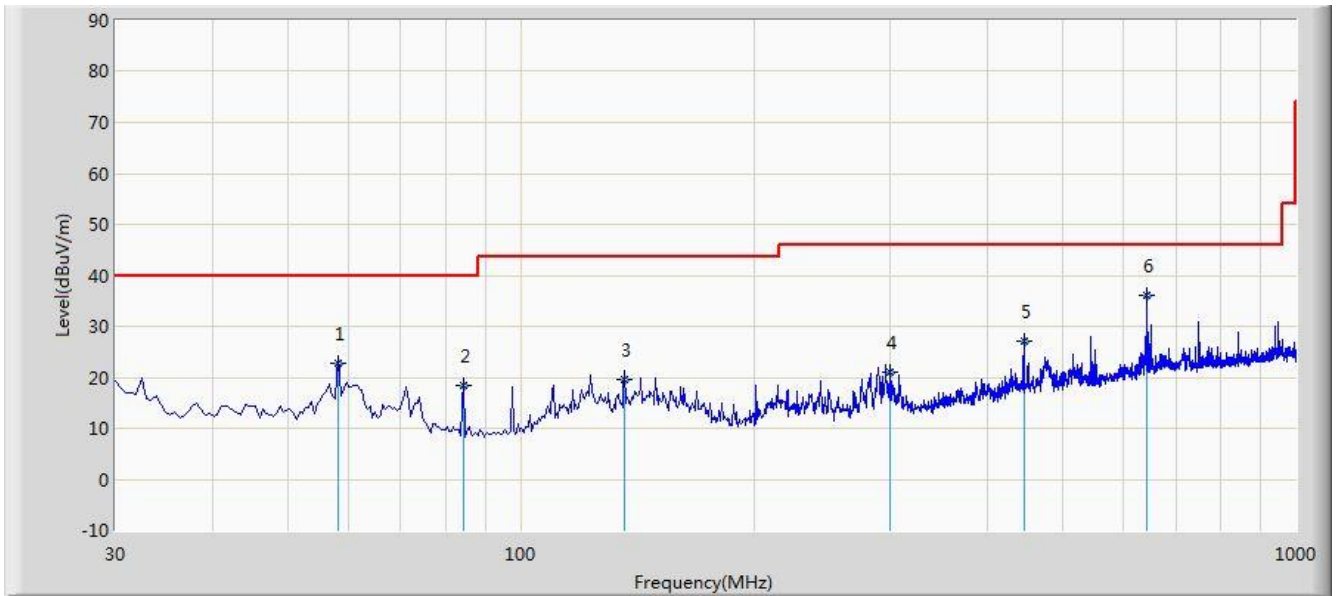
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			84.320	18.407	8.130	-21.593	40.000	10.278	QP
2			143.005	22.959	8.046	-20.541	43.500	14.913	QP
3			233.700	28.791	15.960	-17.209	46.000	12.831	QP
4			300.145	36.577	22.030	-9.423	46.000	14.547	QP
5			445.365	29.326	11.360	-16.674	46.000	17.966	QP
6		*	643.525	40.970	19.300	-5.030	46.000	21.670	QP

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

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: AC1	Time: 2019/07/24 - 09:51
Limit: FCC_Part15.109_RE(3m)_Class B	Engineer: Kyrie Xie
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11b at Channel 2437MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			58.130	22.704	9.046	-17.296	40.000	13.658	QP
2			84.320	18.407	8.130	-21.593	40.000	10.278	QP
3			136.215	19.449	5.030	-24.051	43.500	14.418	QP
4			300.104	20.907	6.360	-25.093	46.000	14.547	QP
5			445.645	26.999	9.030	-19.001	46.000	17.969	QP
6		*	643.525	36.030	14.360	-9.970	46.000	21.670	QP

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

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

7.8. Radiated Restricted Band Edge Measurement

7.8.1. 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	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

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

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

For RSS-Gen Section 8.10 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 8.10 of RSS-Gen, must also comply with the radiated emission limits specified in Section 8.9.

Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.009 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.525225	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	--
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138	--	

All out of band emissions appearing in a restricted band as specified in Section 8.10 of the RSS-Gen must not exceed the limits shown in Table per Section 8.9.

RSS-Gen Section 8.9		
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

7.8.2.Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

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

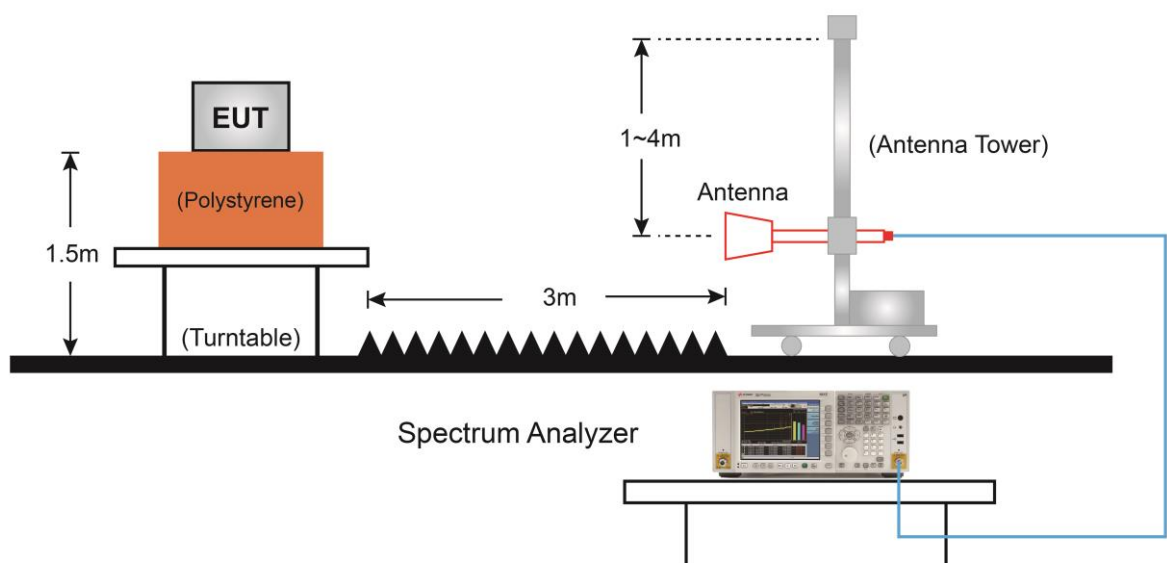
7.8.3.Test Setting

Peak Field Strength Measurements

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

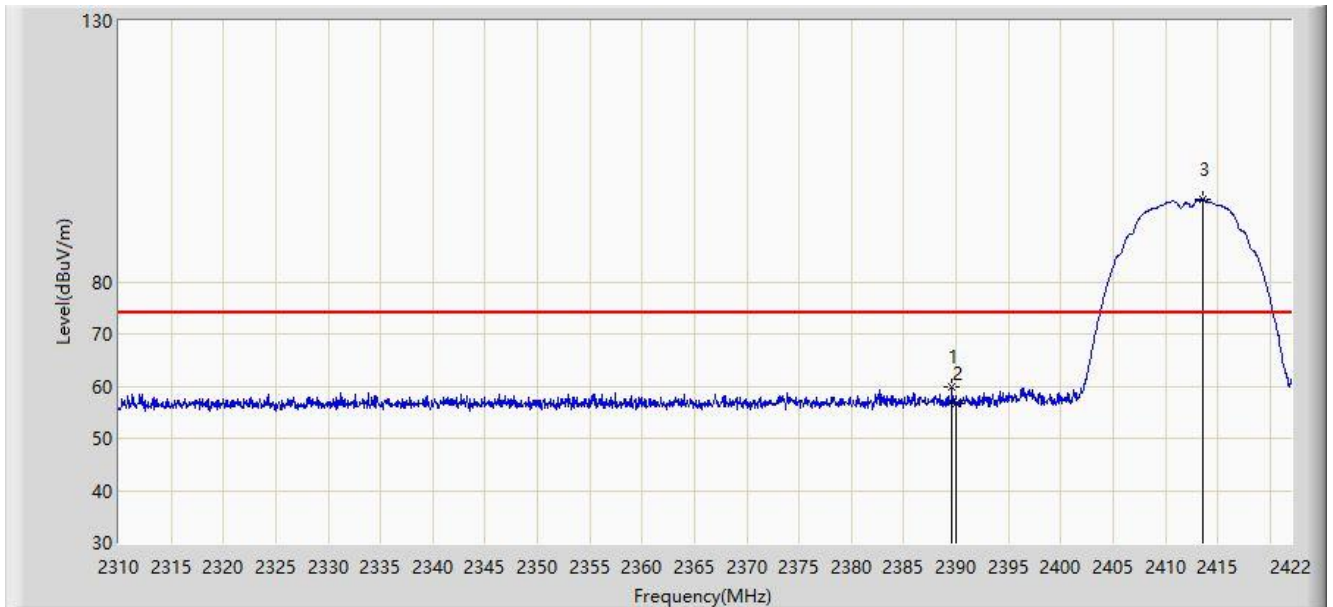
Average Measurements above 1GHz (Method VB)

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

7.8.4. Test Setup

7.8.5.Test Result

Site: AC2	Time: 2019/05/24 - 01:41
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

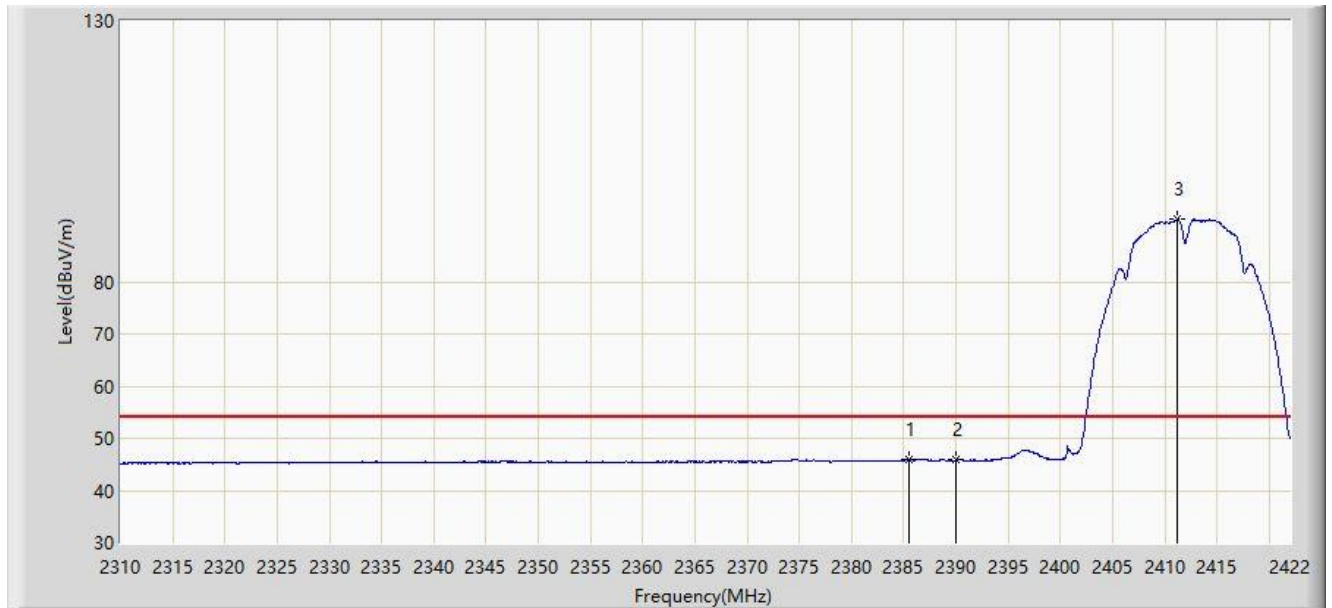


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.632	59.766	28.317	-14.234	74.000	31.449	PK
2			2390.000	56.601	25.152	-17.399	74.000	31.449	PK
3		*	2413.600	95.735	64.351	N/A	N/A	31.384	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

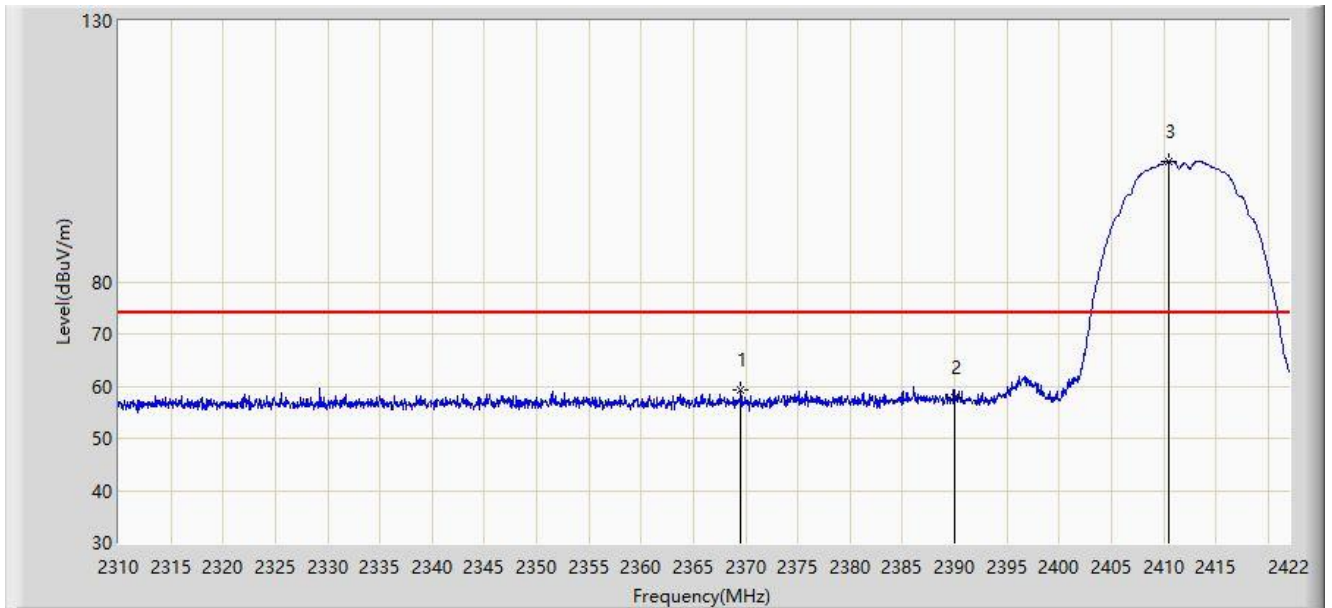


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2385.544	46.001	14.553	-7.999	54.000	31.448	AV
2			2390.000	45.916	14.467	-8.084	54.000	31.449	AV
3		*	2411.192	91.981	60.591	N/A	N/A	31.390	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

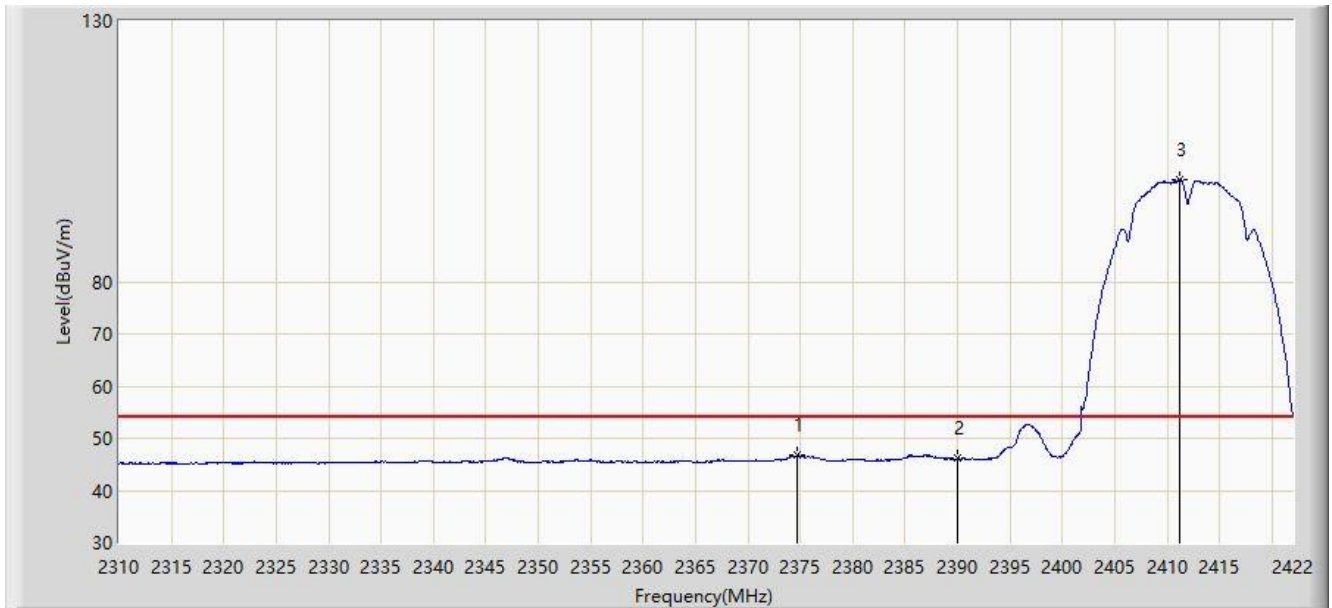


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2369.528	59.364	27.905	-14.636	74.000	31.459	PK
2			2390.000	57.881	26.432	-16.119	74.000	31.449	PK
3		*	2410.464	103.124	71.732	N/A	N/A	31.393	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

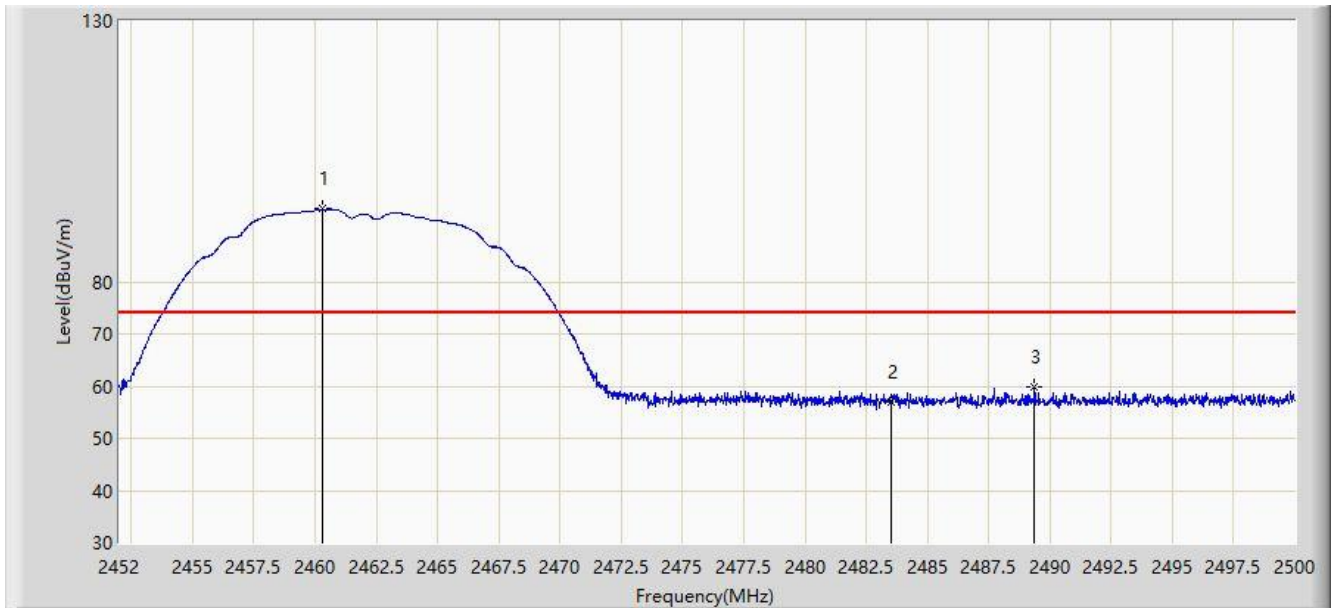


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2374.736	46.721	15.271	-7.279	54.000	31.450	AV
2			2390.000	46.093	14.644	-7.907	54.000	31.449	AV
3		*	2411.248	99.602	68.212	N/A	N/A	31.390	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
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)	Type
1		*	2460.304	93.917	62.573	N/A	N/A	31.344	PK
2			2483.500	56.834	25.431	-17.166	74.000	31.403	PK
3			2489.368	59.964	28.541	-14.036	74.000	31.422	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:33
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

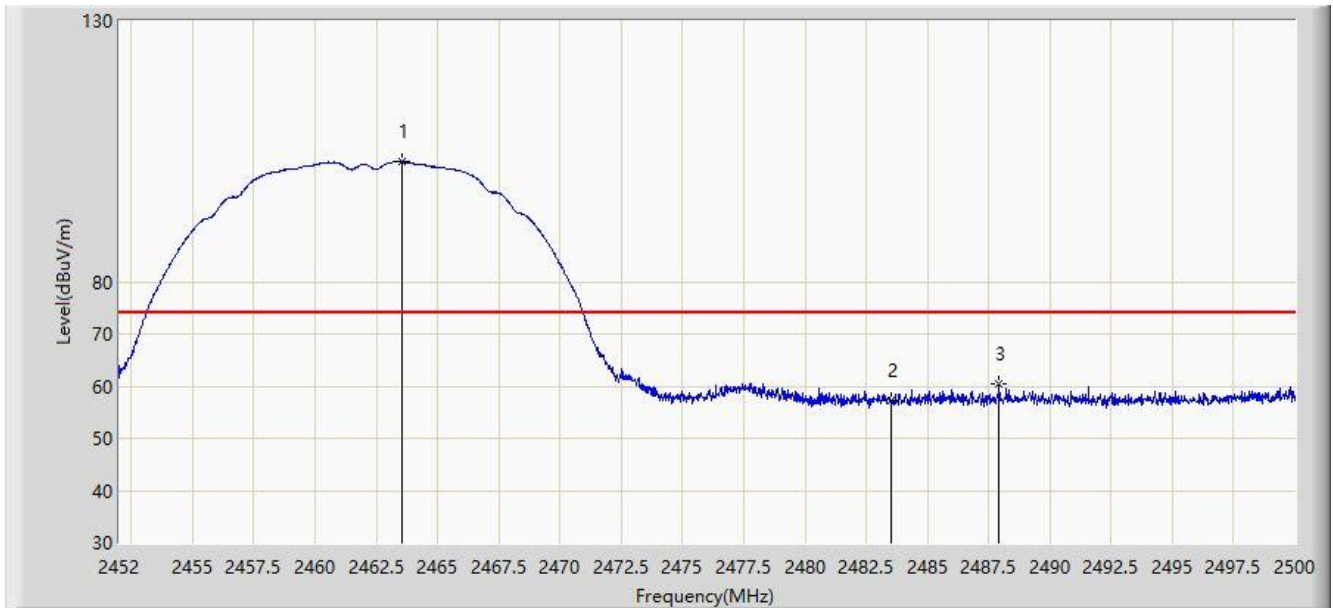


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2459.656	90.255	58.912	N/A	N/A	31.342	AV
2			2483.500	45.957	14.554	-8.043	54.000	31.403	AV
3			2488.576	46.157	14.737	-7.843	54.000	31.420	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
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)	Type
1		*	2463.520	103.032	71.683	N/A	N/A	31.349	PK
2			2483.500	57.283	25.880	-16.717	74.000	31.403	PK
3			2487.928	60.428	29.010	-13.572	74.000	31.418	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

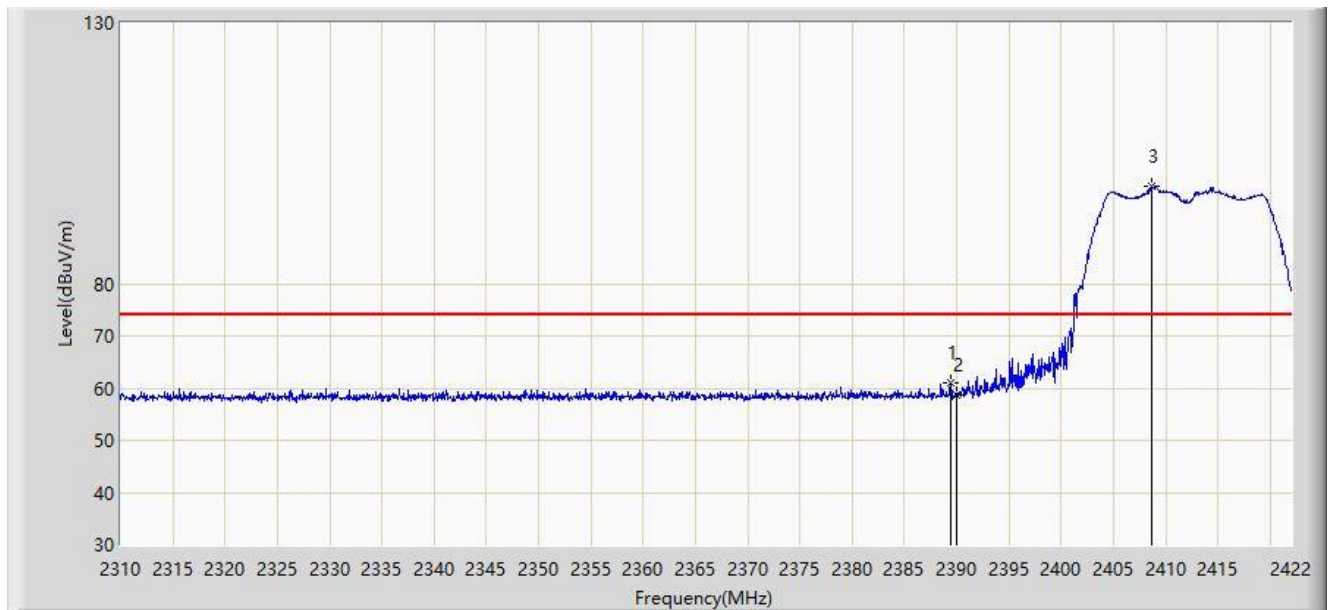


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.144	99.376	68.031	N/A	N/A	31.345	AV
2			2483.500	46.314	14.911	-7.686	54.000	31.403	AV
3			2499.352	47.042	15.592	-6.958	54.000	31.450	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

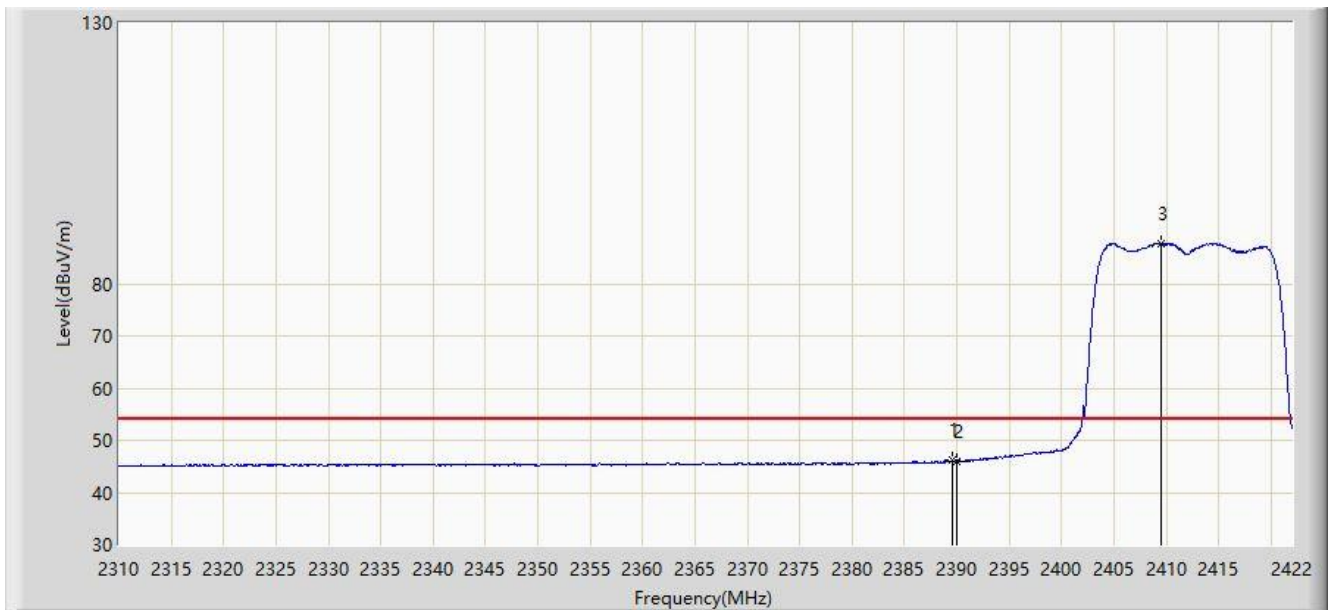


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.408	61.073	29.624	-12.927	74.000	31.448	PK
2			2390.000	58.741	27.292	-15.259	74.000	31.449	PK
3		*	2408.728	98.778	67.380	N/A	N/A	31.398	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:41
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

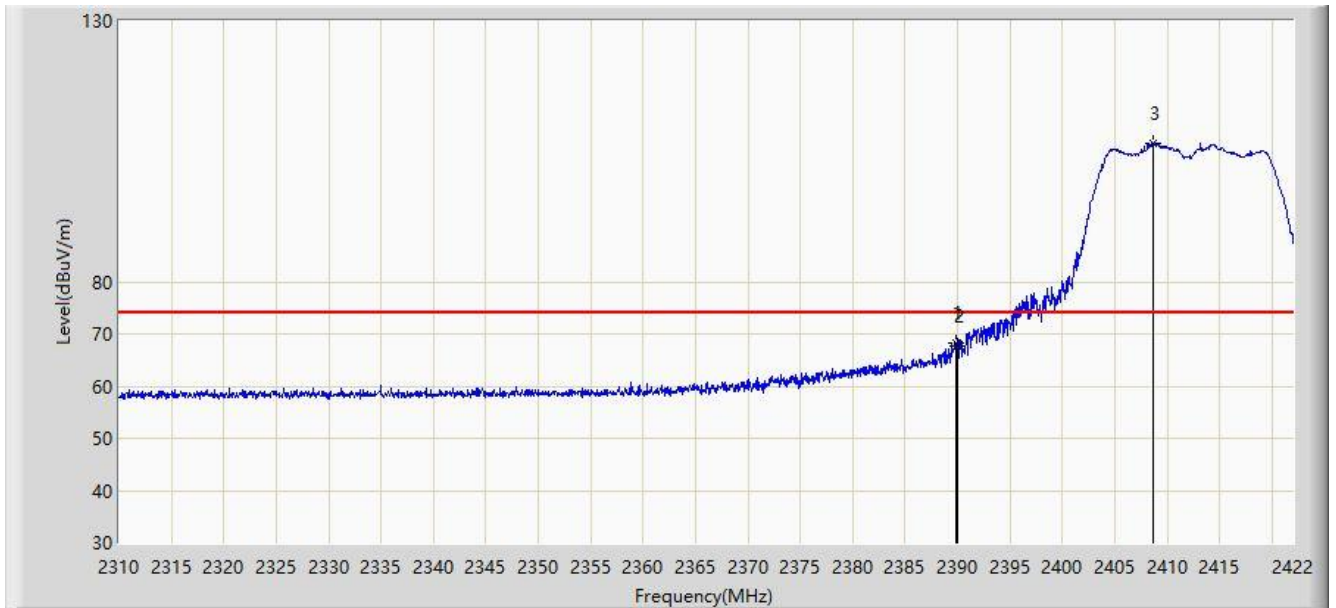


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.520	46.098	14.649	-7.902	54.000	31.449	AV
2			2390.000	45.968	14.519	-8.032	54.000	31.449	AV
3		*	2409.512	87.720	56.325	N/A	N/A	31.395	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:42
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

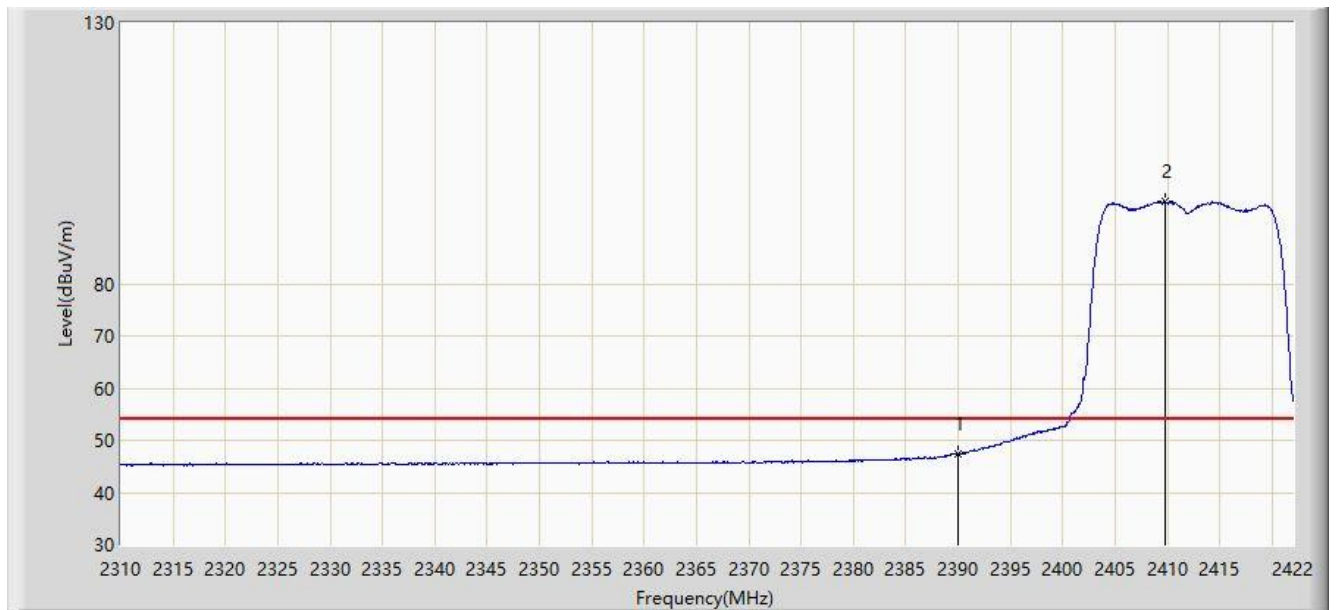


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.800	68.204	36.755	-5.796	74.000	31.448	PK
2			2390.000	67.822	36.373	-6.178	74.000	31.449	PK
3		*	2408.672	106.582	75.184	N/A	N/A	31.398	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:46
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

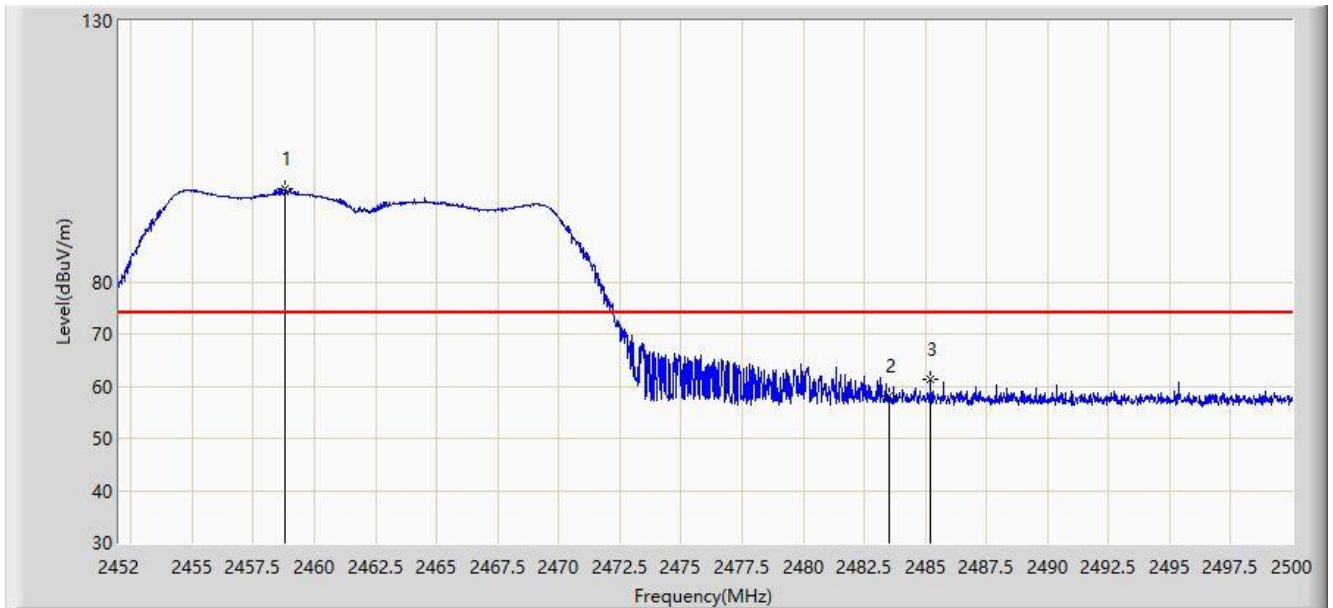


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	47.406	15.957	-6.594	54.000	31.449	AV
2		*	2409.792	95.786	64.392	N/A	N/A	31.394	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:47
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

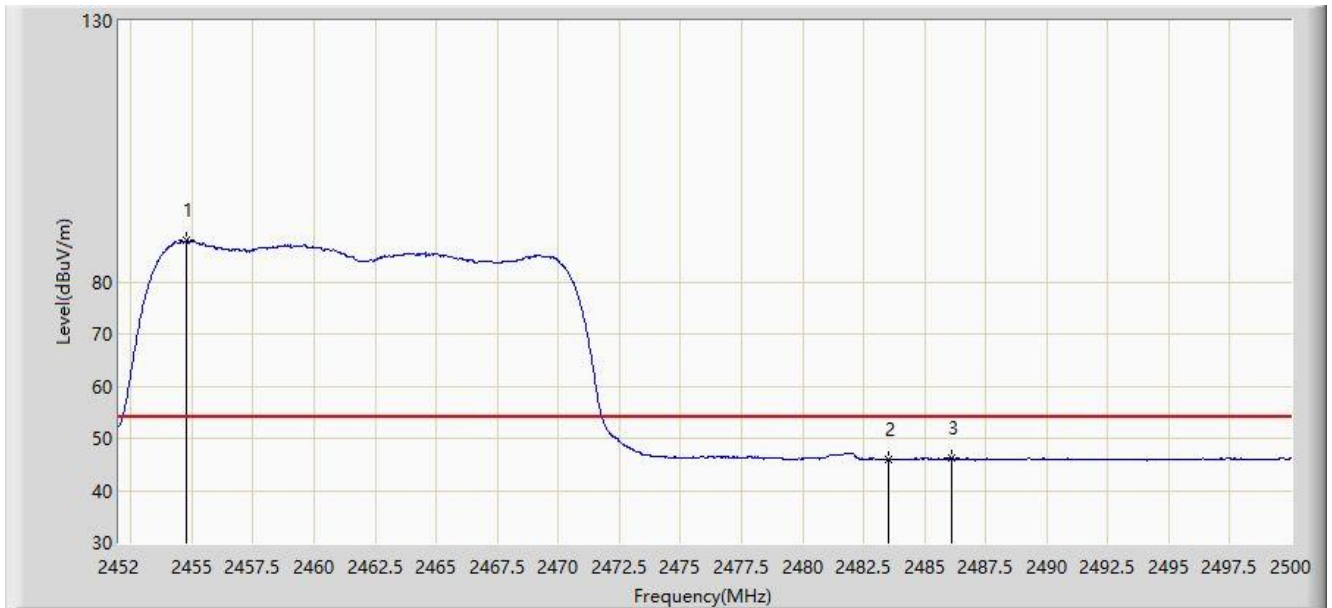


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2458.816	97.859	66.518	N/A	N/A	31.341	PK
2			2483.500	57.991	26.588	-16.009	74.000	31.403	PK
3			2485.216	61.271	29.862	-12.729	74.000	31.409	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:50
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

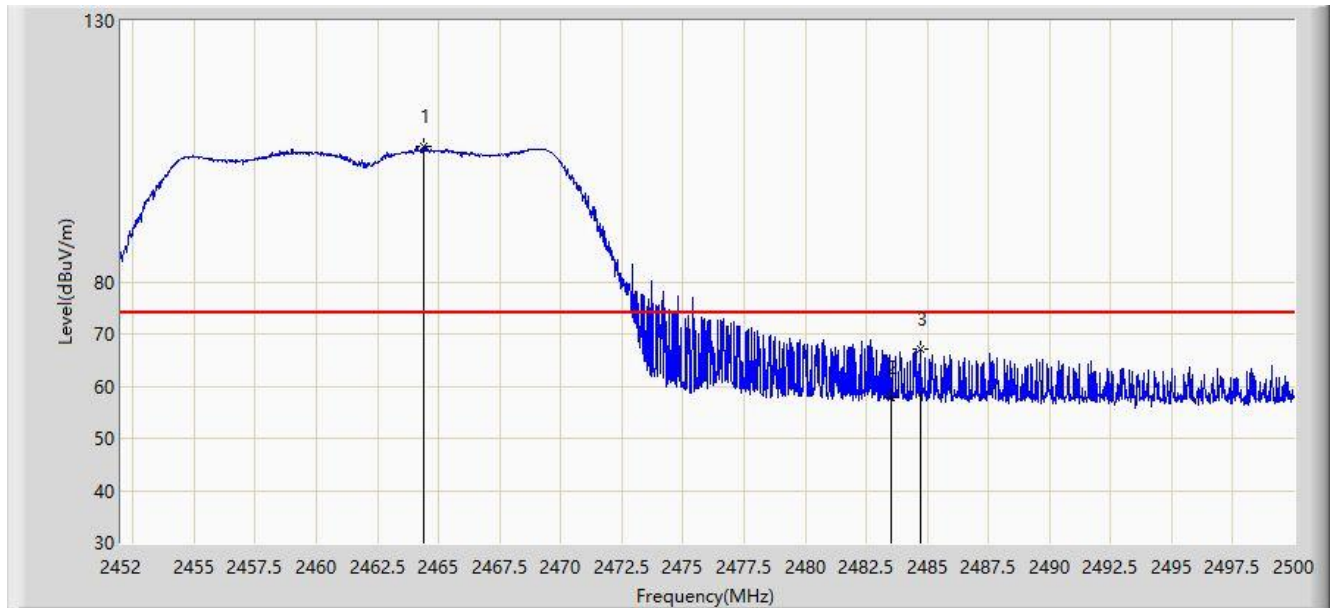


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2454.784	87.914	56.579	N/A	N/A	31.335	AV
2			2483.500	46.033	14.630	-7.967	54.000	31.403	AV
3			2486.080	46.202	14.790	-7.798	54.000	31.411	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:51
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

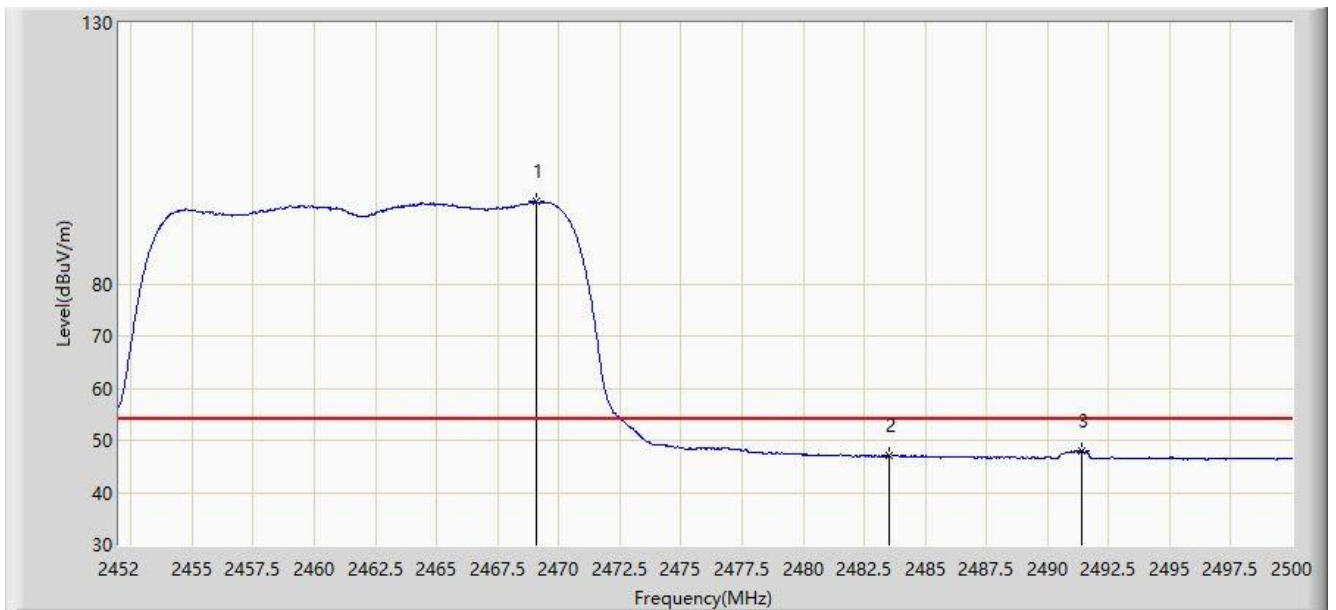


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2464.384	106.049	74.698	N/A	N/A	31.351	PK
2			2483.500	57.895	26.492	-16.105	74.000	31.403	PK
3			2484.712	67.081	35.674	-6.919	74.000	31.407	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:53
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

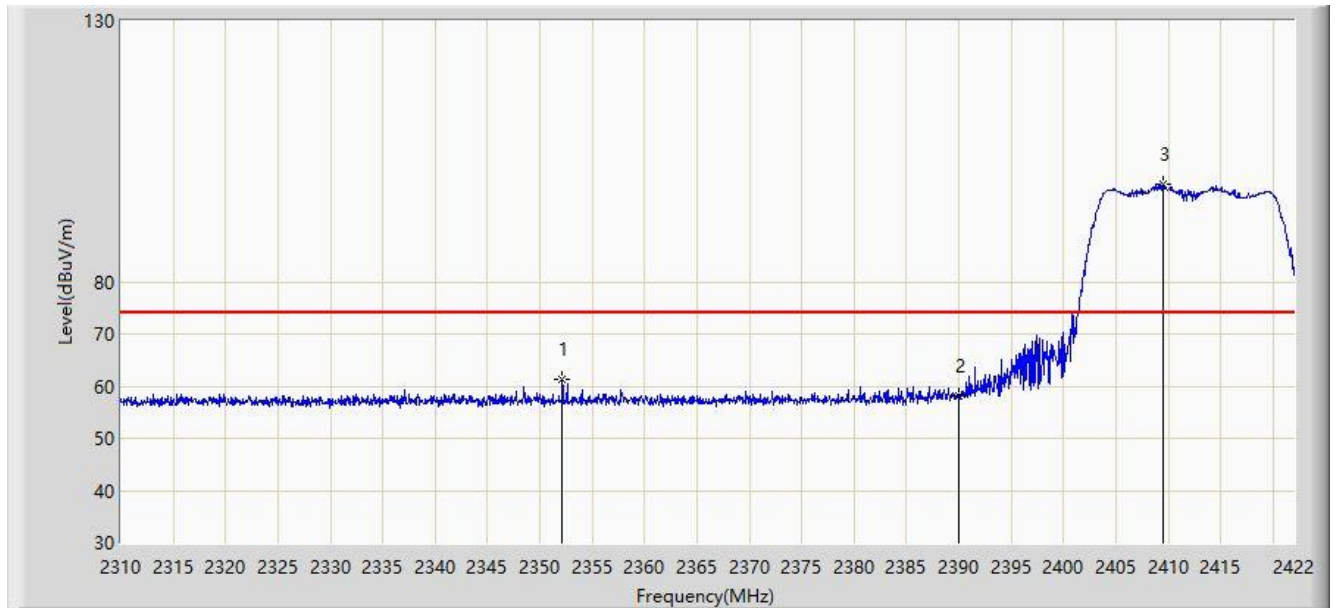


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2469.088	95.794	64.431	N/A	N/A	31.363	AV
2			2483.500	46.967	15.564	-7.033	54.000	31.403	AV
3			2491.408	47.968	16.538	-6.032	54.000	31.430	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

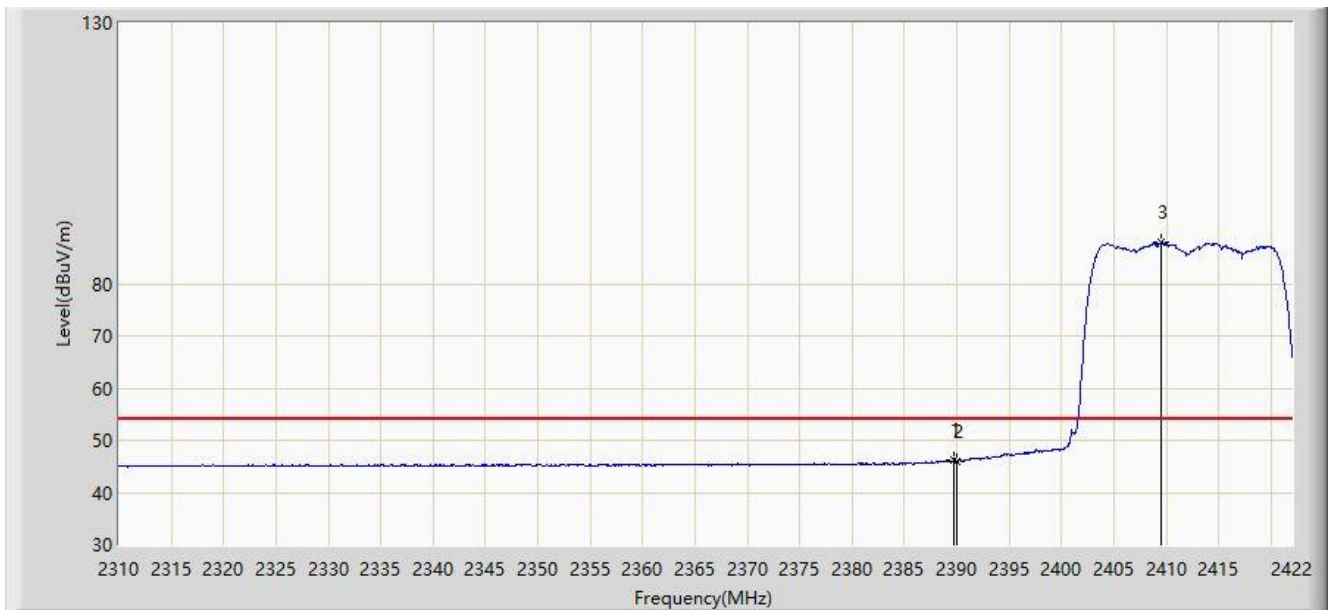


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2352.168	61.362	29.863	-12.638	74.000	31.499	PK
2			2390.000	58.033	26.584	-15.967	74.000	31.449	PK
3		*	2409.456	98.789	67.393	N/A	N/A	31.396	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:57
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

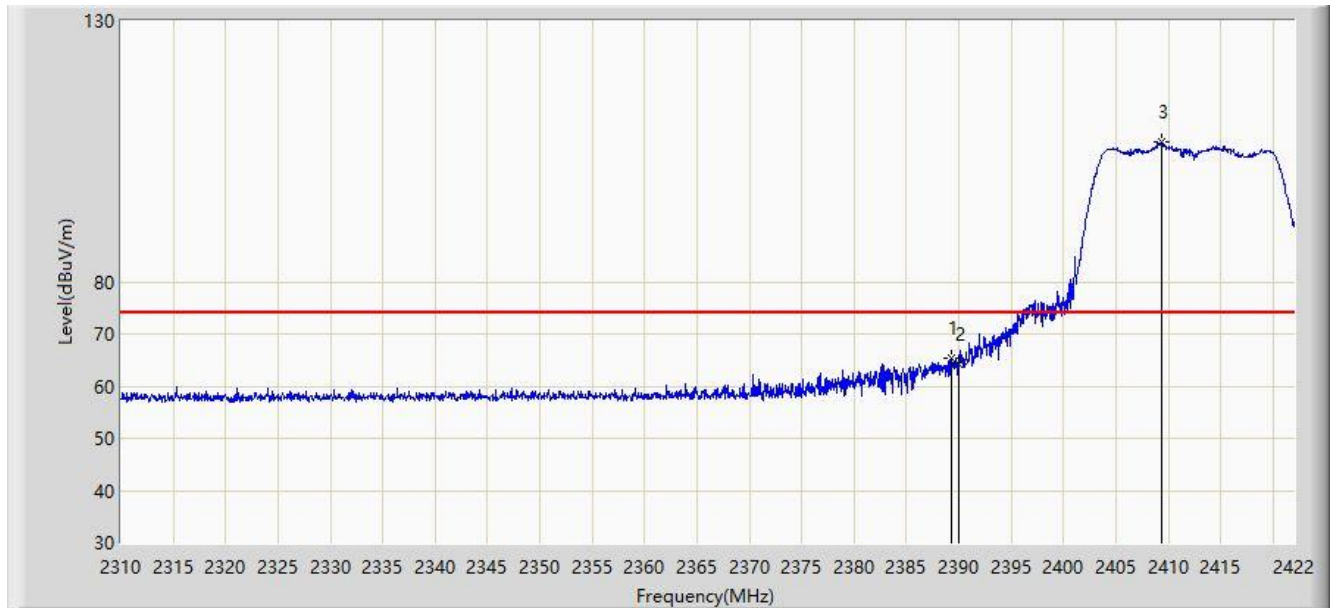


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.688	46.133	14.684	-7.867	54.000	31.449	AV
2			2390.000	45.993	14.544	-8.007	54.000	31.449	AV
3		*	2409.568	87.929	56.534	N/A	N/A	31.395	AV

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

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

Site: AC2	Time: 2019/05/24 - 02:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

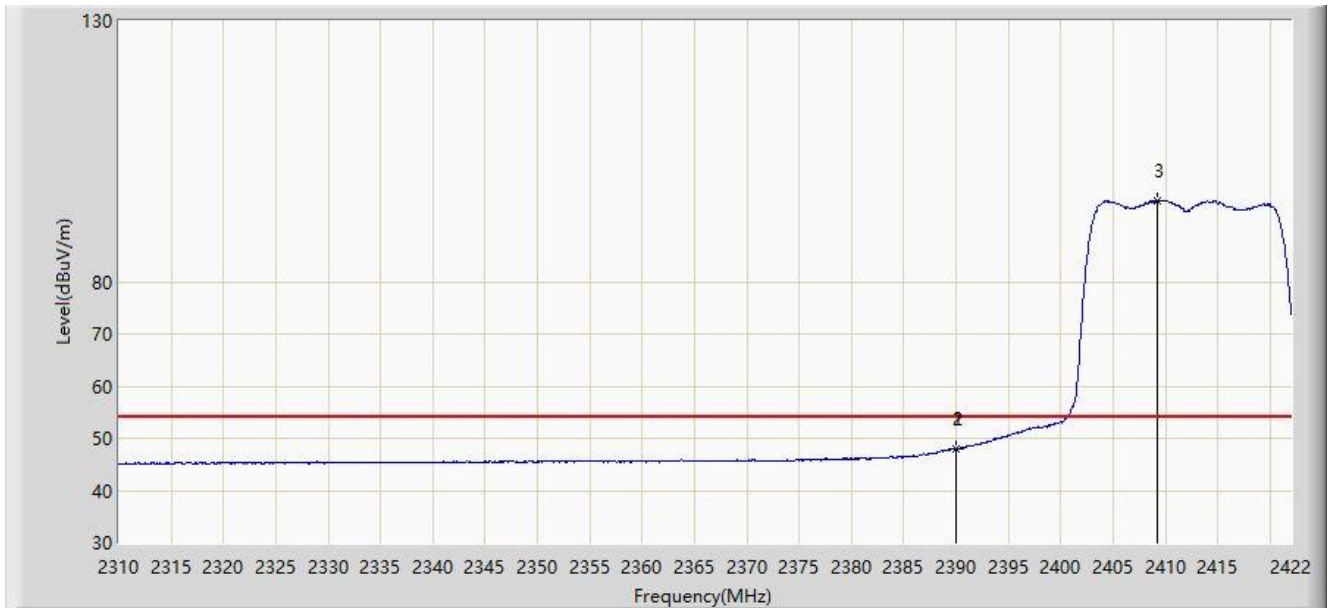


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.352	65.229	33.780	-8.771	74.000	31.448	PK
2			2390.000	64.113	32.664	-9.887	74.000	31.449	PK
3		*	2409.400	106.685	75.289	N/A	N/A	31.396	PK

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

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

Site: AC2	Time: 2019/05/24 - 02:59
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

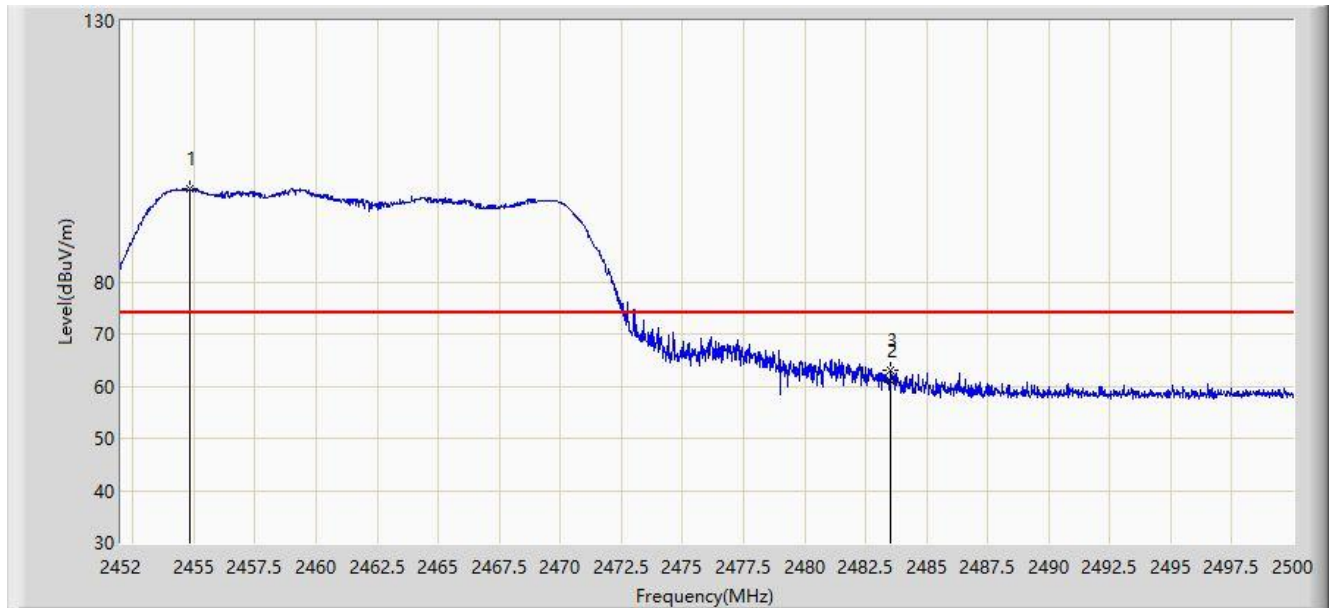


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.968	48.038	16.589	-5.962	54.000	31.449	AV
2			2390.000	48.036	16.587	-5.964	54.000	31.449	AV
3		*	2409.232	95.643	64.247	N/A	N/A	31.397	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

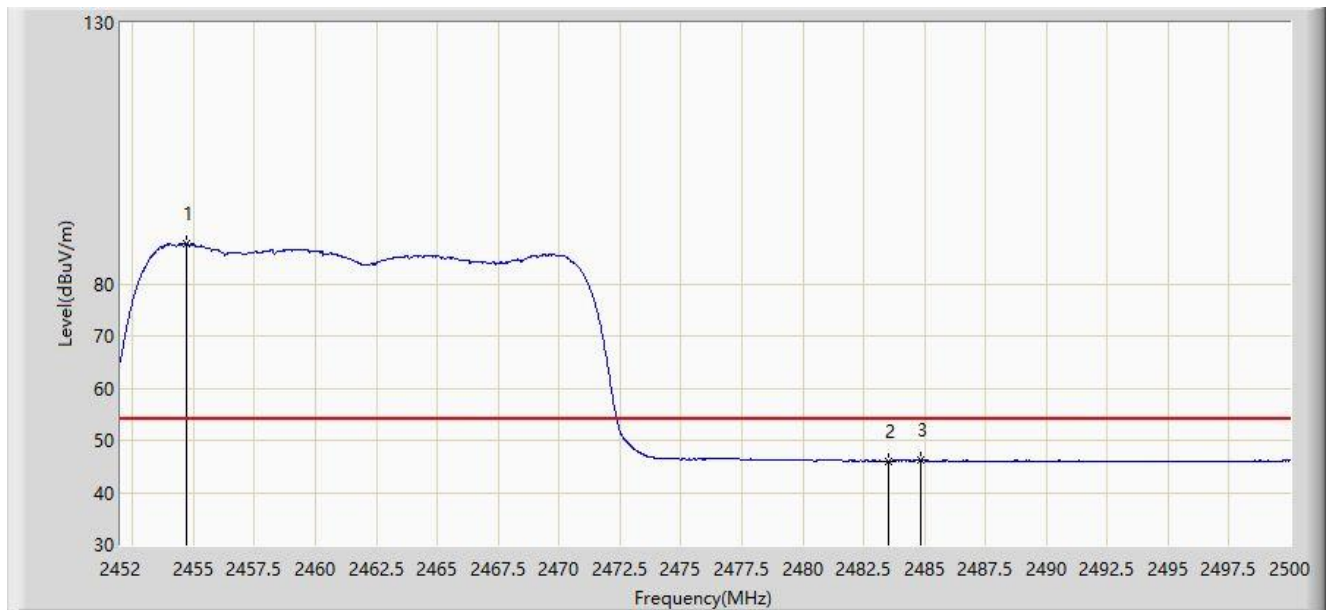


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2454.808	97.792	66.457	N/A	N/A	31.335	PK
2			2483.500	61.157	29.754	-12.843	74.000	31.403	PK
3			2483.512	63.036	31.633	-10.964	74.000	31.403	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

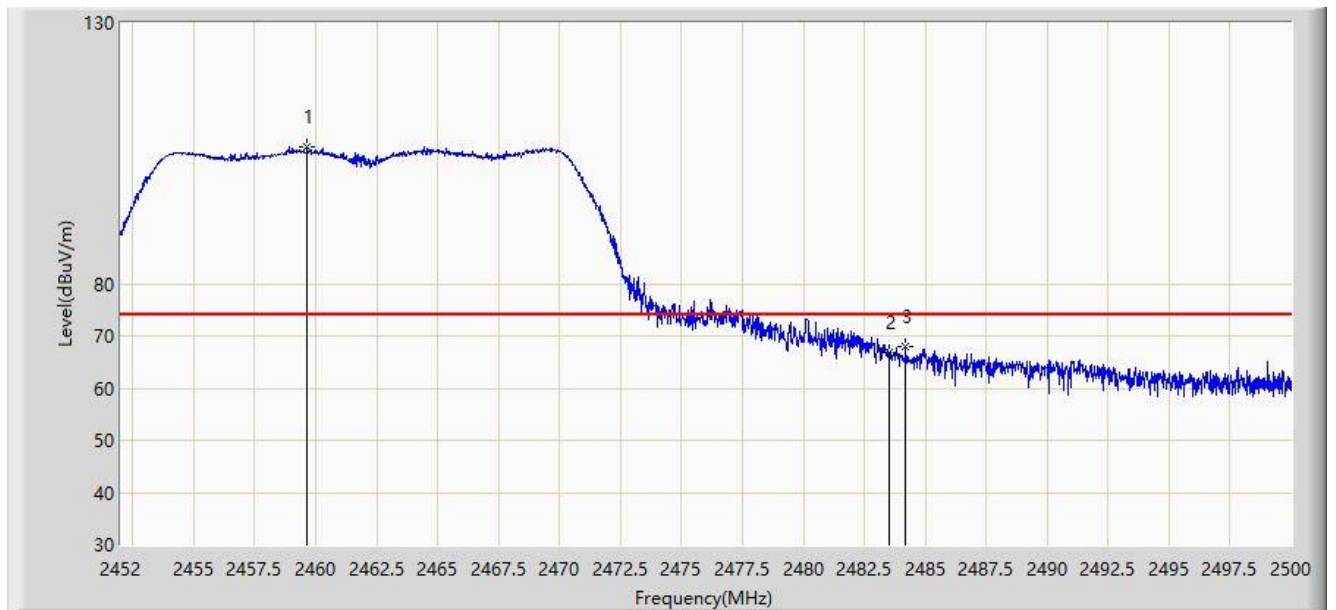


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2454.688	87.703	56.368	N/A	N/A	31.335	AV
2			2483.500	46.076	14.673	-7.924	54.000	31.403	AV
3			2484.832	46.243	14.836	-7.757	54.000	31.407	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

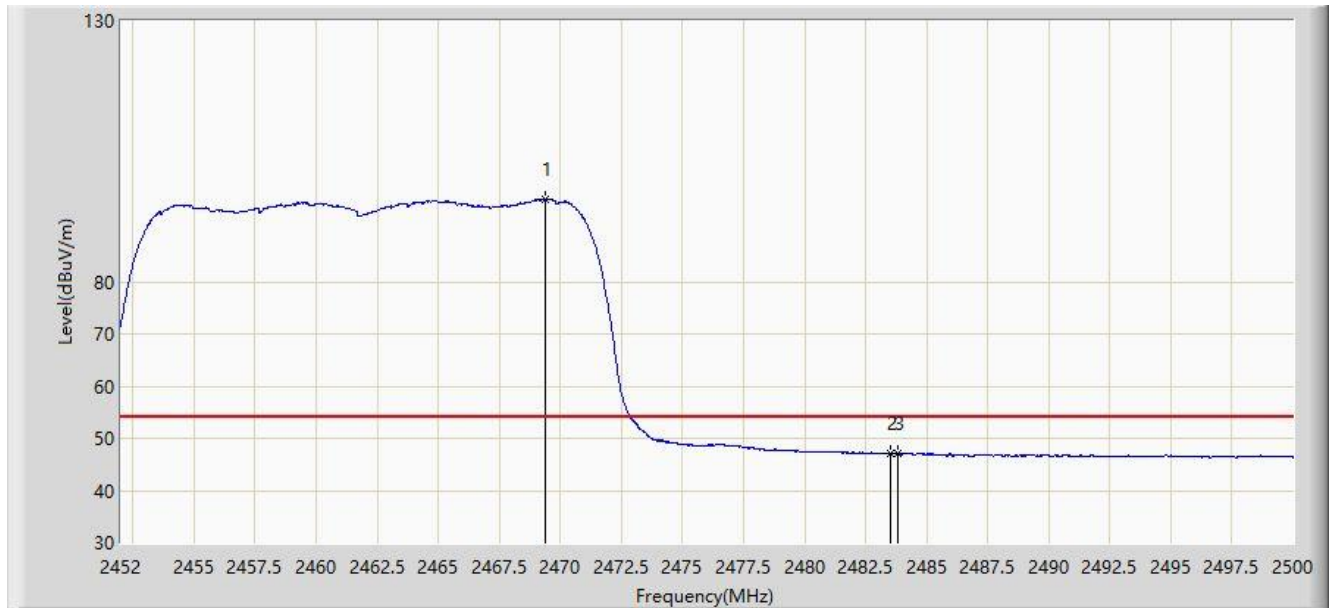


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2459.656	106.366	75.023	N/A	N/A	31.342	PK
2			2483.500	66.857	35.454	-7.143	74.000	31.403	PK
3			2484.184	67.910	36.505	-6.090	74.000	31.405	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

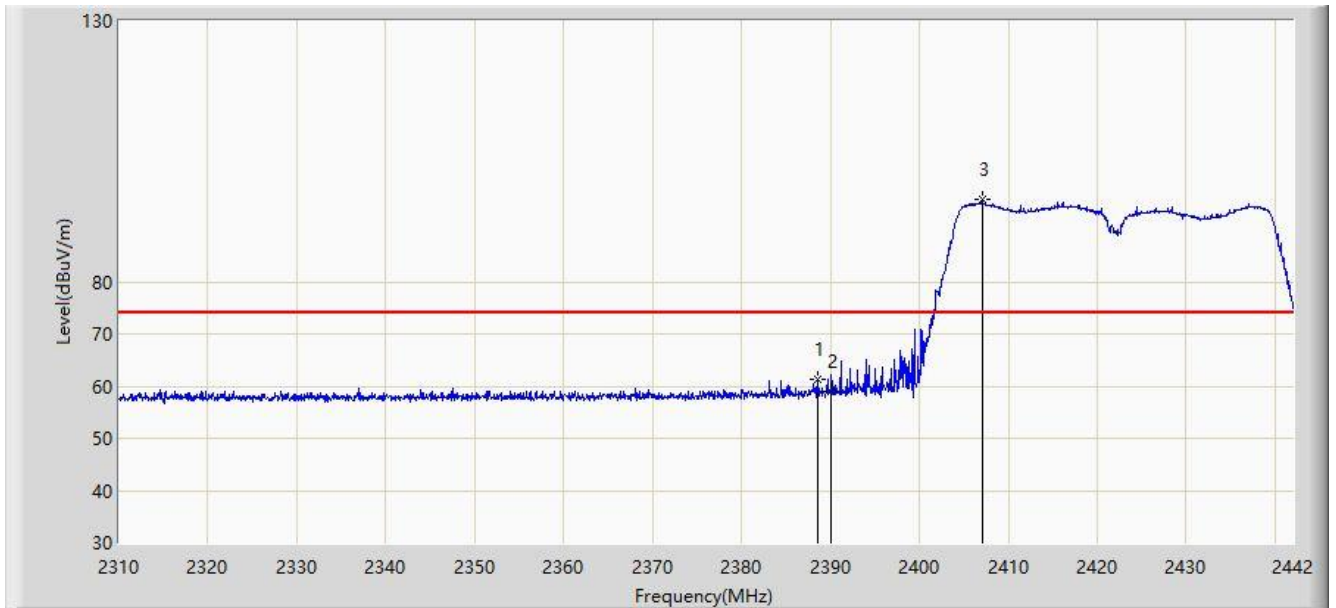


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2469.400	95.928	64.565	N/A	N/A	31.363	AV
2			2483.500	47.053	15.650	-6.947	54.000	31.403	AV
3			2483.824	47.131	15.727	-6.869	54.000	31.404	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

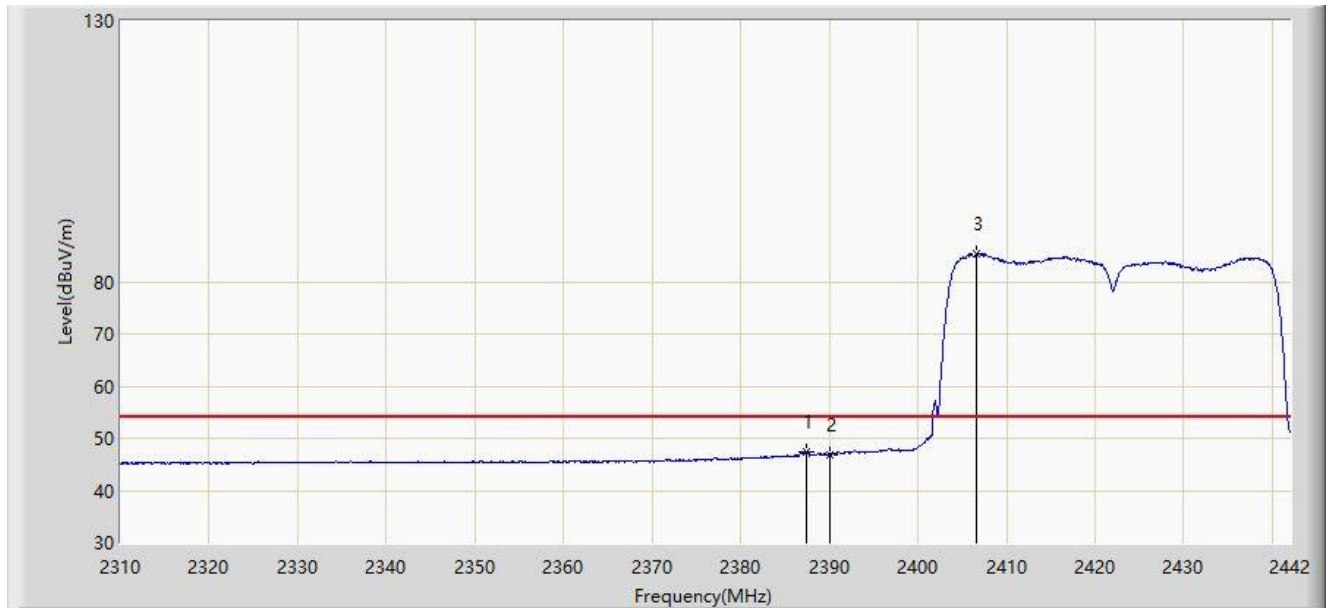


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.606	61.409	29.960	-12.591	74.000	31.448	PK
2			2390.000	58.987	27.538	-15.013	74.000	31.449	PK
3		*	2407.020	95.713	64.309	N/A	N/A	31.404	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

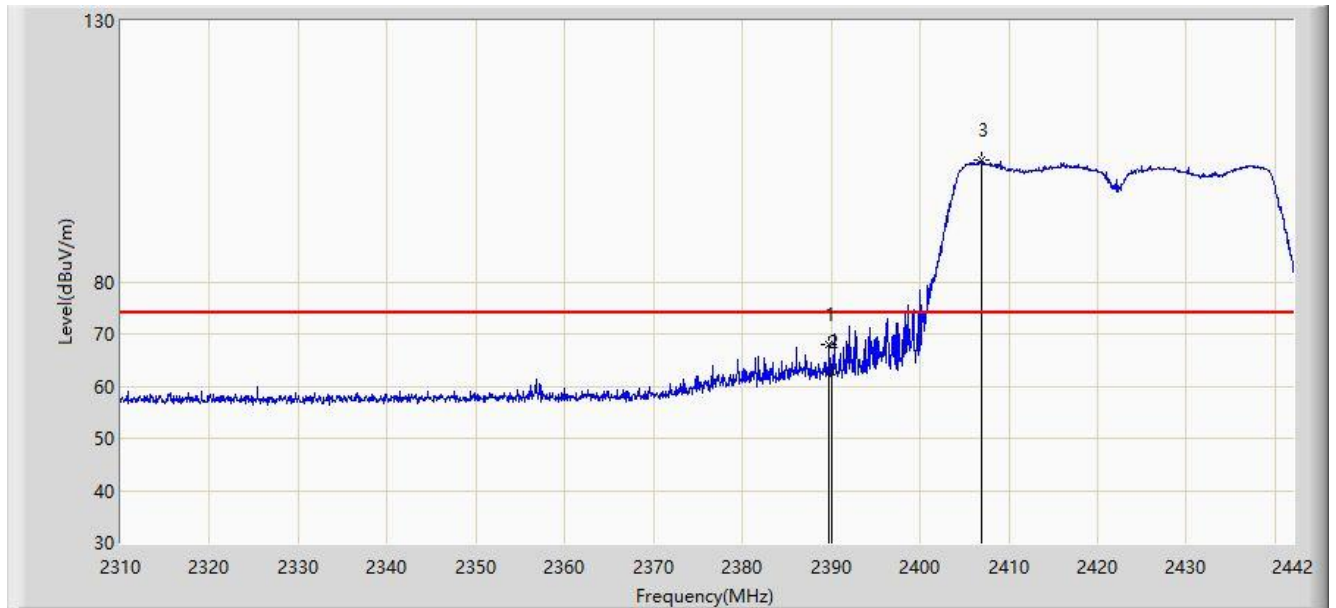


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2387.352	47.392	15.944	-6.608	54.000	31.449	AV
2			2390.000	46.940	15.491	-7.060	54.000	31.449	AV
3		*	2406.624	85.438	54.032	N/A	N/A	31.405	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

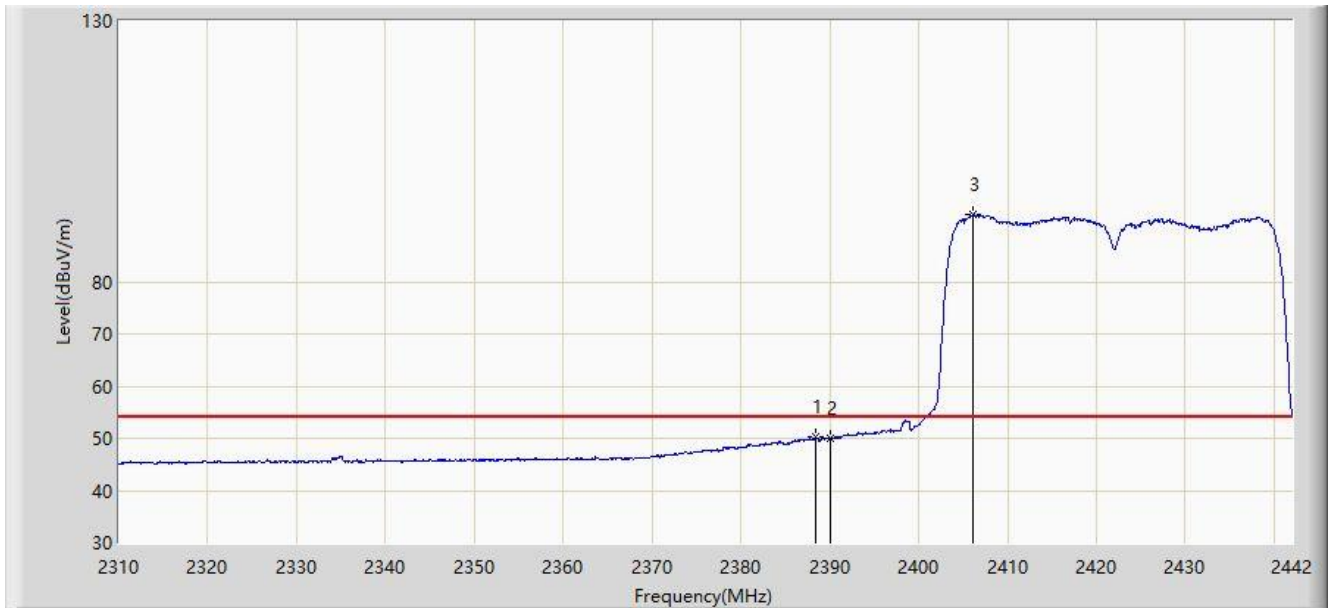


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.794	67.881	36.432	-6.119	74.000	31.448	PK
2			2390.000	62.852	31.403	-11.148	74.000	31.449	PK
3		*	2406.954	103.247	71.843	N/A	N/A	31.404	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

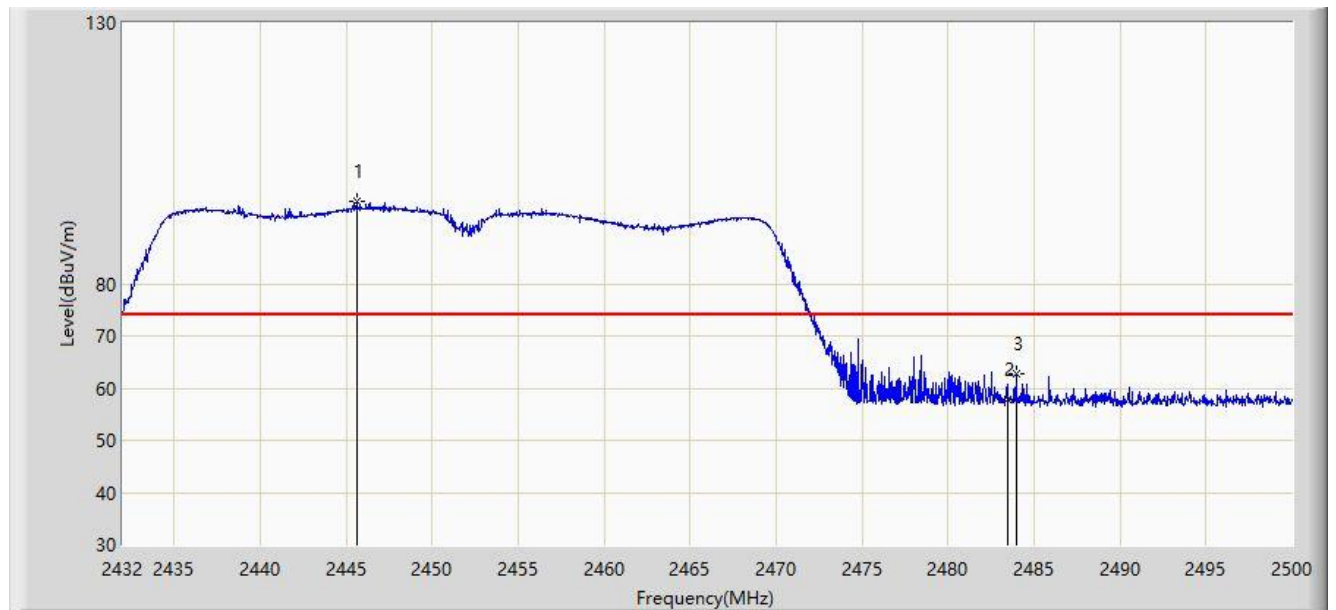


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.408	50.197	18.749	-3.803	54.000	31.449	AV
2			2390.000	50.044	18.595	-3.956	54.000	31.449	AV
3		*	2406.162	92.873	61.466	N/A	N/A	31.407	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

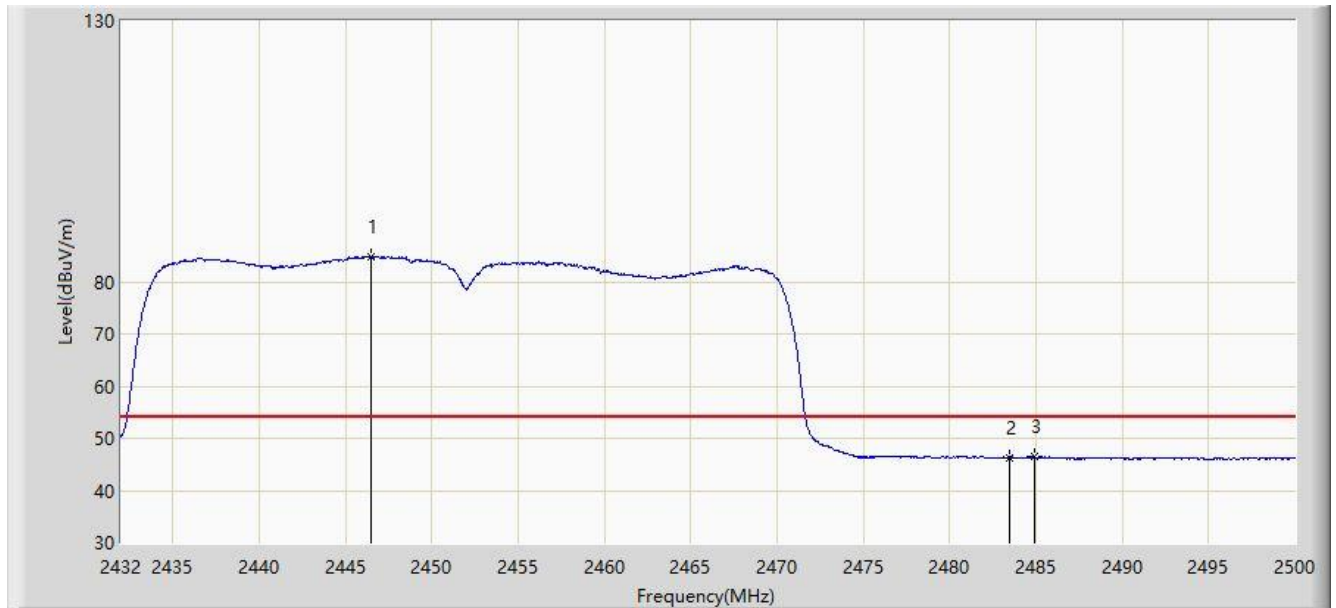


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2445.600	95.757	64.434	N/A	N/A	31.322	PK
2			2483.500	57.720	26.317	-16.280	74.000	31.403	PK
3			2483.952	62.672	31.268	-11.328	74.000	31.404	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:15
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

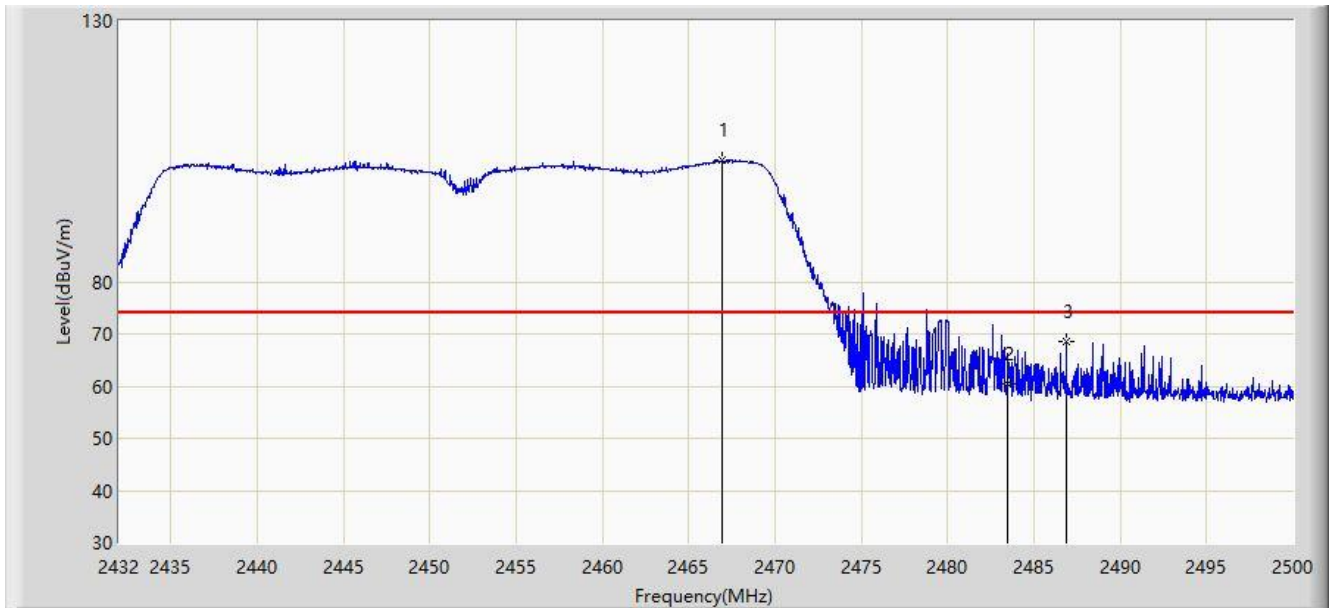


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2446.450	84.838	53.516	N/A	N/A	31.322	AV
2			2483.500	46.297	14.894	-7.703	54.000	31.403	AV
3			2484.904	46.439	15.031	-7.561	54.000	31.407	AV

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

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

Site: AC2	Time: 2019/05/24 - 03:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

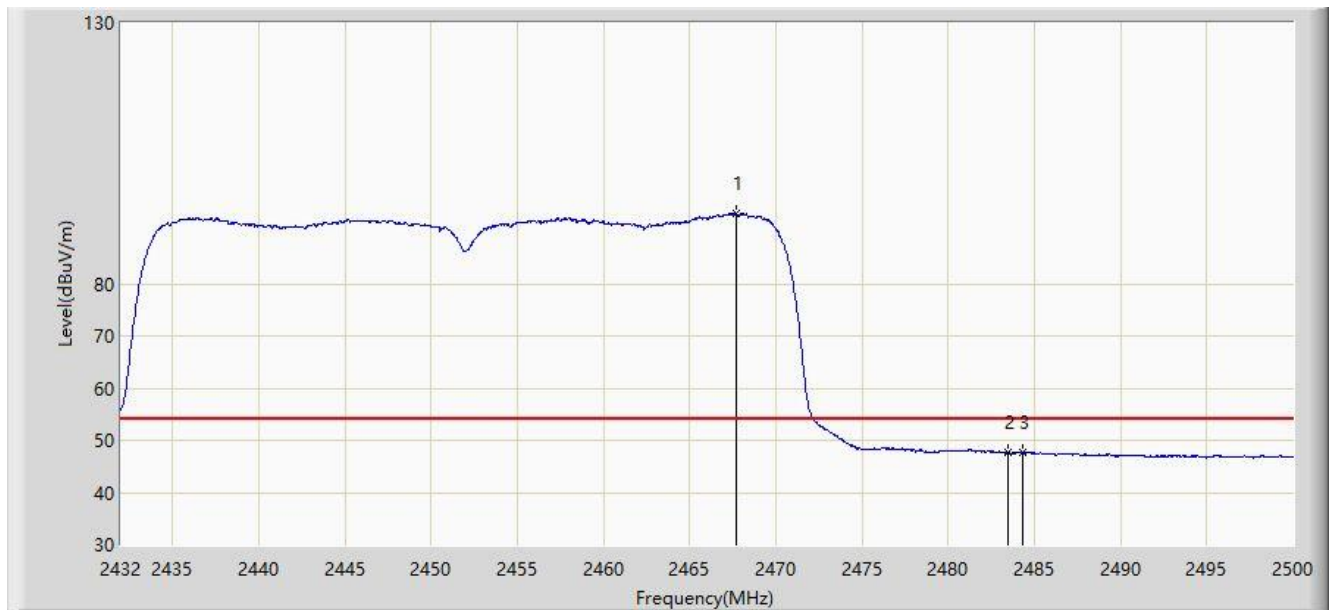


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2466.918	103.438	72.081	N/A	N/A	31.357	PK
2			2483.500	60.398	28.995	-13.602	74.000	31.403	PK
3			2486.876	68.628	37.214	-5.372	74.000	31.415	PK

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

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

Site: AC2	Time: 2019/05/24 - 03:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Snake Ni
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.700	93.381	62.022	N/A	N/A	31.359	AV
2			2483.500	47.563	16.160	-6.437	54.000	31.403	AV
3			2484.360	47.724	16.318	-6.276	54.000	31.406	AV

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

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

7.9. AC Conducted Emissions Measurement

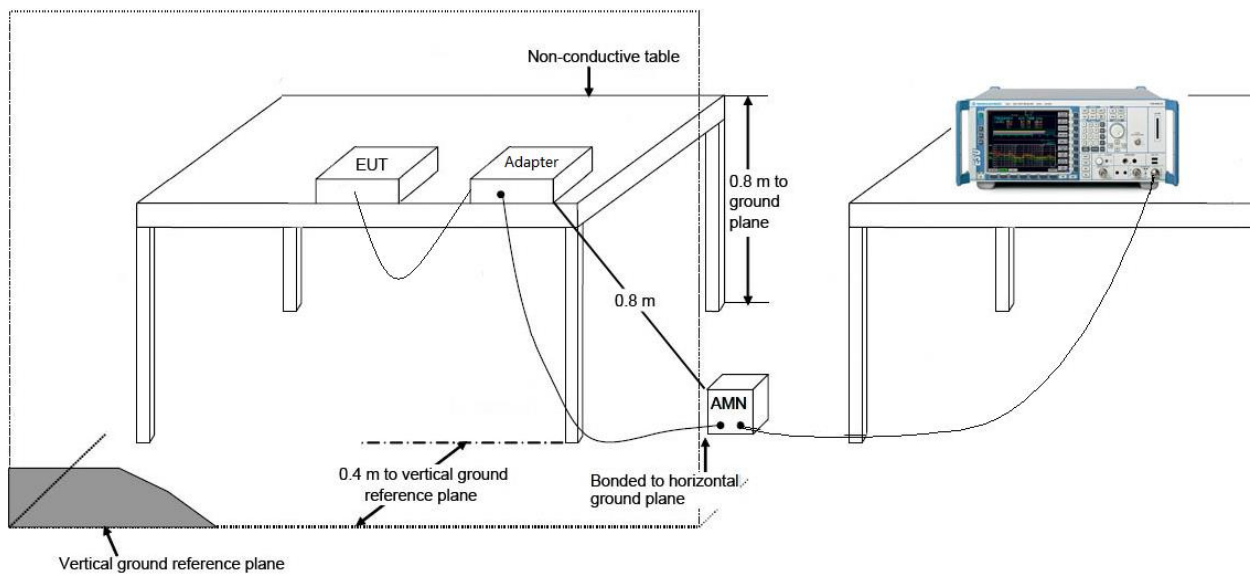
7.9.1. Test Limit

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.

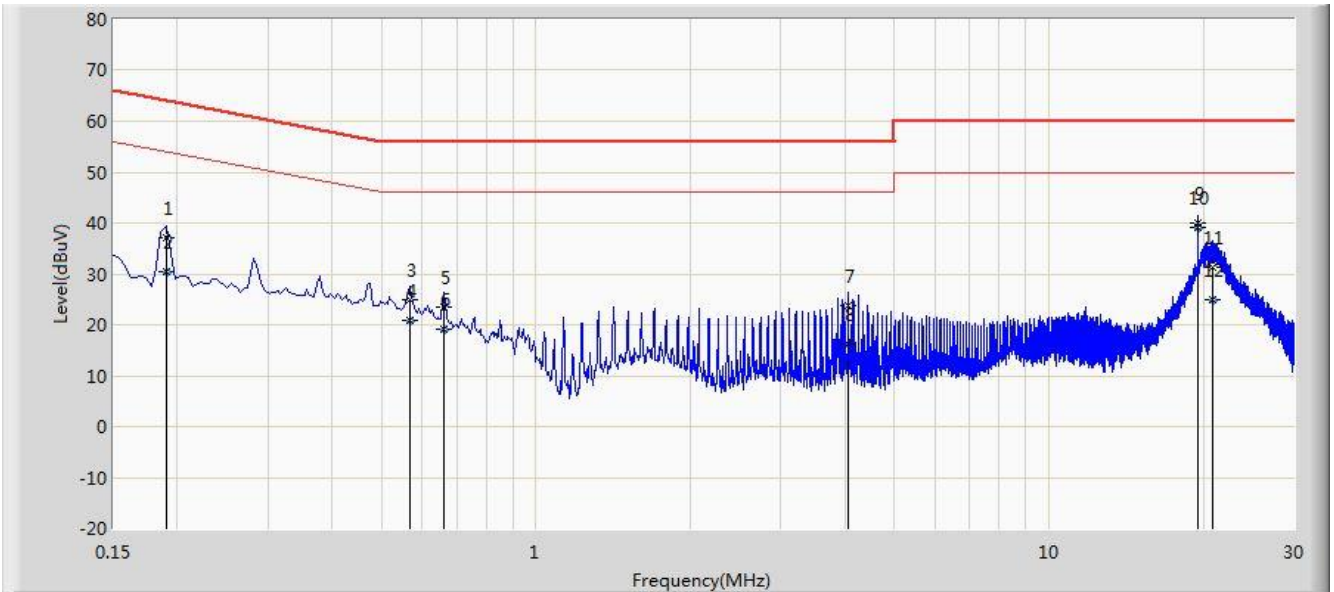
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.9.2. Test Setup



7.9.3.Test Result

Site: SR2	Time: 2019/05/28 - 13:52
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode 1	

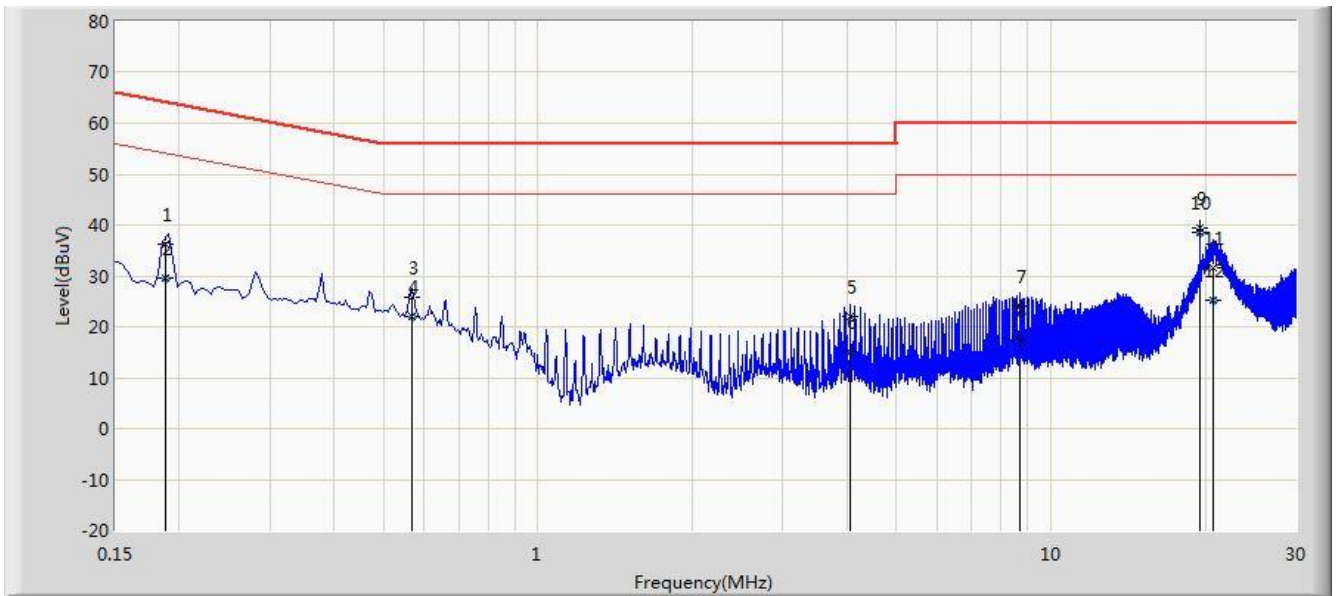


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.190	37.222	27.193	-26.815	64.037	10.029	QP
2			0.190	30.355	20.326	-23.682	54.037	10.029	AV
3			0.566	25.031	14.898	-30.969	56.000	10.132	QP
4			0.566	20.807	10.675	-25.193	46.000	10.132	AV
5			0.662	23.394	13.311	-32.606	56.000	10.083	QP
6			0.662	19.203	9.120	-26.797	46.000	10.083	AV
7			4.058	23.670	13.701	-32.330	56.000	9.968	QP
8			4.058	16.284	6.316	-29.716	46.000	9.968	AV
9			19.500	39.935	29.800	-20.065	60.000	10.135	QP
10		*	19.500	39.135	29.000	-10.865	50.000	10.135	AV
11			20.882	31.250	21.112	-28.750	60.000	10.138	QP
12			20.882	24.827	14.689	-25.173	50.000	10.138	AV

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

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

Site: SR2	Time: 2019/05/28 - 14:10
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Wi-Fi module	Power: AC 120V/60Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.188	36.131	26.100	-27.993	64.124	10.031	QP
2			0.188	29.531	19.500	-24.593	54.124	10.031	AV
3			0.566	25.659	15.510	-30.341	56.000	10.150	QP
4			0.566	22.037	11.887	-23.963	46.000	10.150	AV
5			4.058	22.132	12.156	-33.868	56.000	9.976	QP
6			4.058	15.001	5.024	-30.999	46.000	9.976	AV
7			8.686	24.116	13.921	-35.884	60.000	10.194	QP
8			8.686	17.449	7.254	-32.551	50.000	10.194	AV
9			19.500	39.367	29.200	-20.633	60.000	10.167	QP
10		*	19.500	38.567	28.400	-11.433	50.000	10.167	AV
11			20.722	31.581	21.392	-28.419	60.000	10.189	QP
12			20.722	25.155	14.966	-24.845	50.000	10.189	AV

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

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

8. CONCLUSION

The data collected relate only the item(s) tested and show that the unit is compliance with Part 15C of the FCC rules and ISED rules.

The End

Appendix A - Test Setup Photograph

Refer to “1905RSU028-UT” file.

Appendix B - EUT Photograph

Refer to "1905RSU028-UE" file.