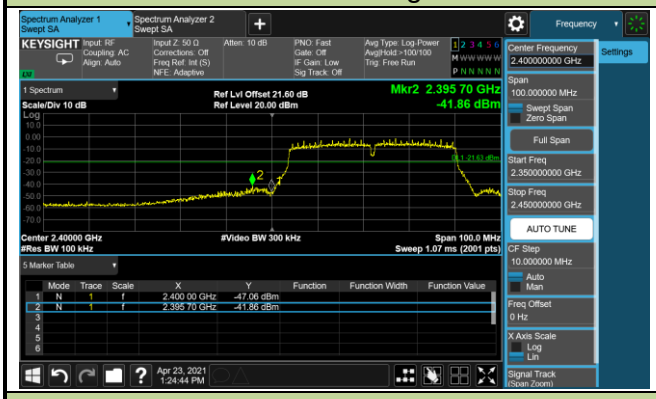
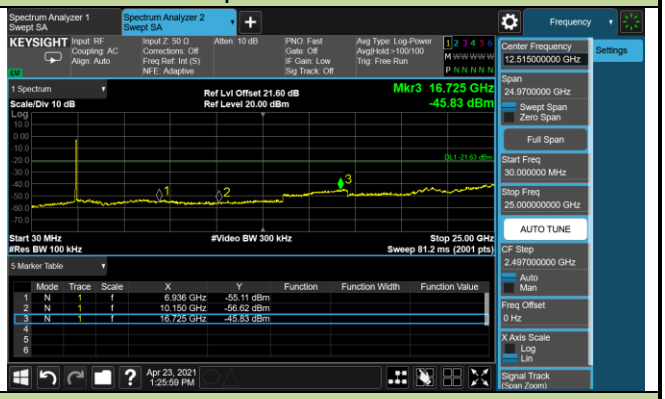
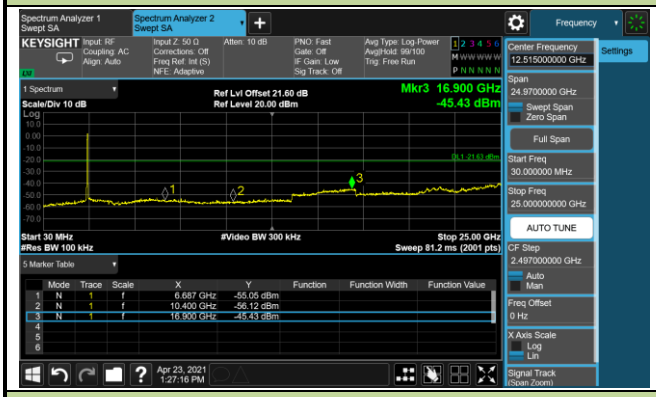
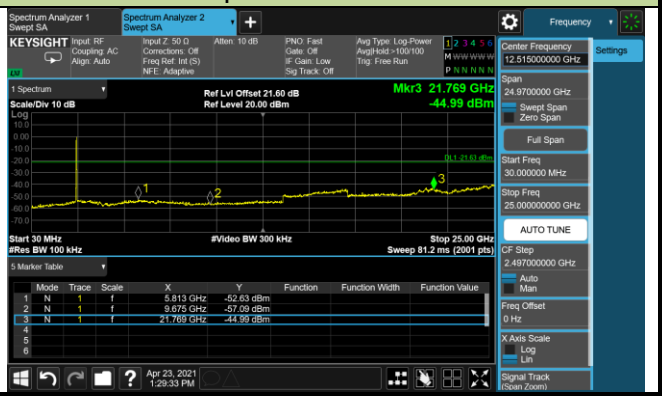
802.11n-HT40 Out-of-Band Emissions - Ant 3	
Channel 03 (2422MHz)	
Low Band Edge	Spurious Emission
	
Channel 06 (2437MHz)	
Spurious Emission	
	
Channel 09 (2452MHz)	
High Band Edge	Spurious Emission
	

5.6. Radiated Spurious Emission Measurement

5.6.1.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 15.209 Limit		
Frequency [MHz]	Field Strength [μ V/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

5.6.2.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 30MHzto 1GHz)

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

5.6.3.Test Setting

Table 1 - RBW as a function of frequency

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

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

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

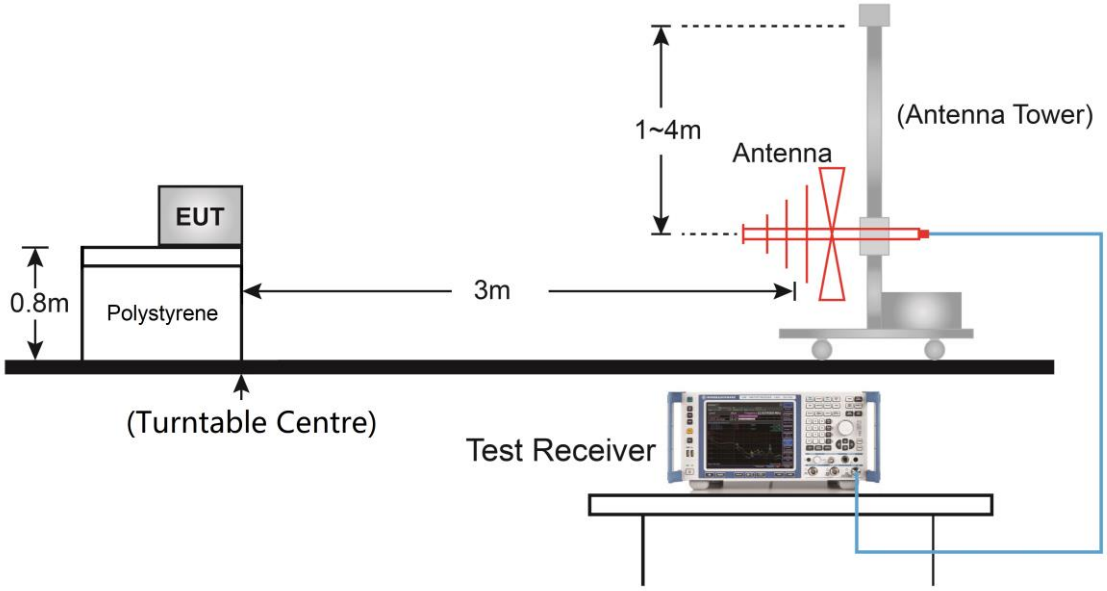
Average Measurements above 1GHz (Method VB)

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

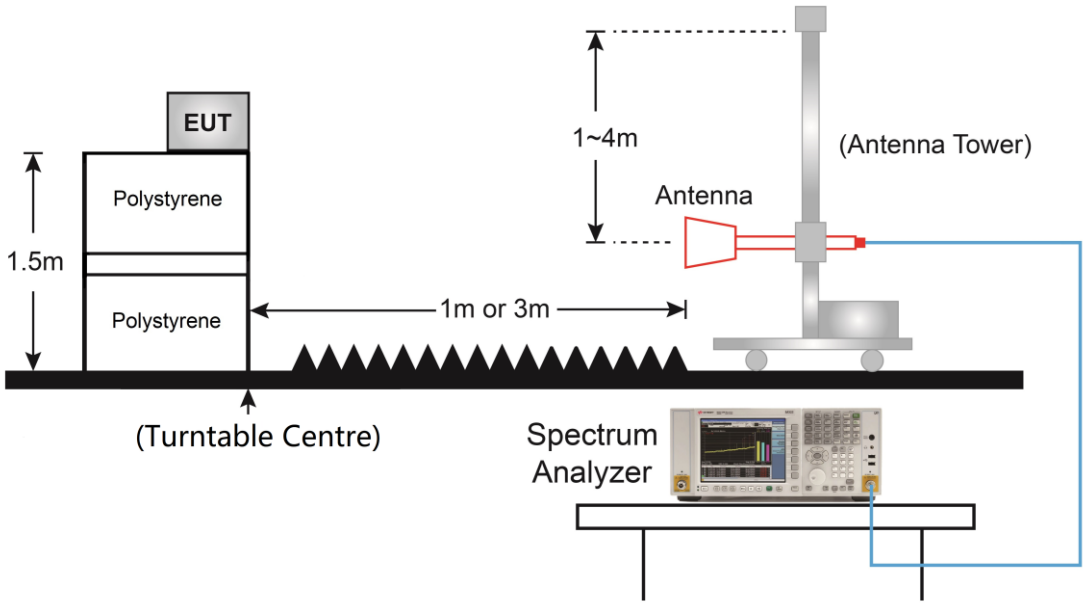
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

5.6.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.6.5.Test Result

Test Site	WZ-AC1	Test Engineer	Jason Gao
Test Date	2021/04/16		
Test Mode	802.11b - Ant 0 + 1 + 2 + 3		
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	3975.0	41.6	2.7	44.3	74.0	-29.7	Peak	Horizontal
	4825.0	45.4	4.8	50.2	74.0	-23.8	Peak	Horizontal
	7400.5	38.0	9.6	47.6	74.0	-26.4	Peak	Horizontal
	3754.0	42.2	2.0	44.3	74.0	-29.7	Peak	Vertical
	4824.1	49.0	4.8	53.8	54.0	-0.2	Average	Vertical
	4825.0	50.8	4.8	55.6	74.0	-18.4	Peak	Vertical
	5003.5	41.0	5.3	46.3	74.0	-27.7	Peak	Vertical
06	4876.0	44.3	4.9	49.2	74.0	-24.8	Peak	Horizontal
	7400.5	38.8	9.6	48.4	74.0	-25.6	Peak	Horizontal
	8386.5	38.0	10.0	48.0	74.0	-26.0	Peak	Horizontal
	4298.0	40.8	3.4	44.2	74.0	-29.8	Peak	Vertical
	4874.0	48.8	4.9	53.7	54.0	-0.3	Average	Vertical
	4876.0	51.2	4.9	56.1	74.0	-17.9	Peak	Vertical
	7400.5	39.0	9.6	48.6	74.0	-25.4	Peak	Vertical
11	4026.0	39.6	2.9	42.5	74.0	-31.5	Peak	Horizontal
	4927.0	43.8	5.4	49.2	74.0	-24.8	Peak	Horizontal
	7579.0	36.4	9.6	46.0	74.0	-28.0	Peak	Horizontal
	4221.5	40.0	3.3	43.3	74.0	-30.7	Peak	Vertical
	4924.0	48.4	5.3	53.7	54.0	-0.3	Average	Vertical
	4927.0	50.3	5.4	55.7	74.0	-18.3	Peak	Vertical
	7383.5	40.1	9.5	49.6	74.0	-24.4	Peak	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m) Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)								

Test Site	WZ-AC1	Test Engineer	Jason Gao
Test Date	2021/04/16		
Test Mode	802.11g - Ant 0 + 1 + 2 + 3		
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	4043.0	40.1	2.9	43.0	74.0	-31.0	Peak	Horizontal
	4825.0	43.2	4.8	48.0	74.0	-26.0	Peak	Horizontal
	7460.0	38.1	9.6	47.7	74.0	-26.3	Peak	Horizontal
	4034.5	40.3	3.0	43.3	74.0	-30.7	Peak	Vertical
	4825.0	48.0	4.8	52.8	74.0	-21.2	Peak	Vertical
	7468.5	36.8	9.7	46.5	74.0	-27.5	Peak	Vertical
06	3975.0	40.0	2.7	42.7	74.0	-31.3	Peak	Horizontal
	4876.0	43.4	4.9	48.3	74.0	-25.7	Peak	Horizontal
	7307.0	41.7	9.4	51.1	74.0	-22.9	Peak	Horizontal
	4876.0	47.8	4.9	52.7	74.0	-21.3	Peak	Vertical
	7307.0	49.1	9.4	58.5	74.0	-15.5	Peak	Vertical
	7307.5	38.6	9.4	48.0	54.0	-6.0	Average	Vertical
	8259.0	38.9	10.3	49.2	74.0	-24.8	Peak	Vertical
11	4026.0	39.9	2.9	42.8	74.0	-31.2	Peak	Horizontal
	4927.0	40.5	5.4	45.9	74.0	-28.1	Peak	Horizontal
	7723.5	38.9	9.6	48.5	74.0	-25.5	Peak	Horizontal
	4315.0	40.3	3.6	43.9	74.0	-30.1	Peak	Vertical
	4927.0	43.9	5.4	49.3	74.0	-24.7	Peak	Vertical
	7434.5	45.4	2.3	47.7	74.0	-26.3	Peak	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m) Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)								

Test Site	WZ-AC1	Test Engineer	Jason Gao
Test Date	2021/04/16		
Test Mode	802.11n-HT20 - Ant 0 + 1 + 2 + 3		
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	4034.5	39.7	3.0	42.7	74.0	-31.3	Peak	Horizontal
	4825.0	43.0	4.8	47.8	74.0	-26.2	Peak	Horizontal
	7417.5	37.8	9.6	47.4	74.0	-26.6	Peak	Horizontal
	4034.5	40.4	3.0	43.4	74.0	-30.6	Peak	Vertical
	4816.5	45.3	5.0	50.3	74.0	-23.7	Peak	Vertical
	7434.5	37.5	9.5	47.0	74.0	-27.0	Peak	Vertical
06	3992.0	40.7	2.5	43.2	74.0	-30.8	Peak	Horizontal
	4876.0	44.0	4.9	48.9	74.0	-25.1	Peak	Horizontal
	7307.0	43.5	9.4	52.9	74.0	-21.1	Peak	Horizontal
	3966.5	40.3	2.7	43.0	74.0	-31.0	Peak	Vertical
	4876.0	47.5	4.9	52.4	74.0	-21.6	Peak	Vertical
	7307.0	48.3	9.4	57.7	74.0	-16.3	Peak	Vertical
	7307.2	37.3	9.4	46.7	54.0	-7.3	Average	Vertical
11	4000.5	39.9	2.5	42.4	74.0	-31.6	Peak	Horizontal
	4927.0	43.6	5.4	49.0	74.0	-25.0	Peak	Horizontal
	7655.5	36.0	9.5	45.5	74.0	-28.5	Peak	Horizontal
	4918.5	44.7	5.1	49.8	74.0	-24.2	Peak	Vertical
	7400.5	38.4	9.6	48.0	74.0	-26.0	Peak	Vertical
	8284.5	37.8	10.1	47.9	74.0	-26.1	Peak	Vertical

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

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

Test Site	WZ-AC1	Test Engineer	Jason Gao
Test Date	2021/04/16		
Test Mode	802.11n-HT40 - Ant 0 + 1 + 2 + 3		
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.		

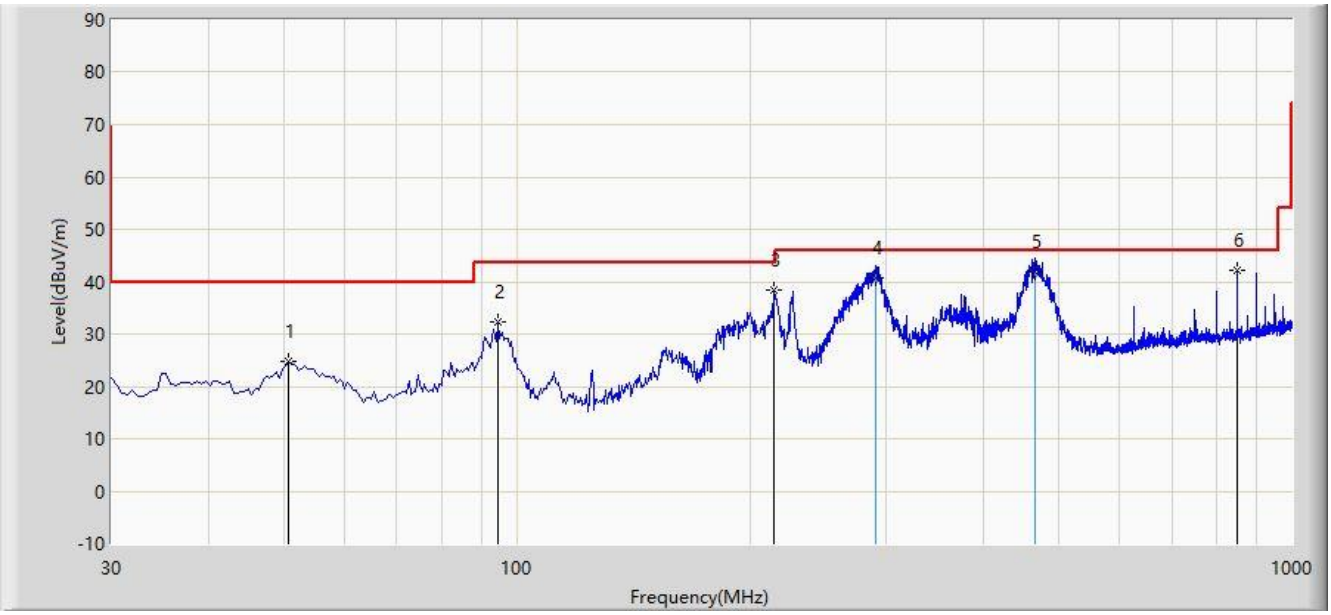
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
03	4034.5	40.0	3.0	43.0	74.0	-31.0	Peak	Horizontal
	5003.5	41.9	5.3	47.2	74.0	-26.8	Peak	Horizontal
	7358.0	39.0	9.4	48.4	74.0	-25.6	Peak	Horizontal
	3949.5	40.8	2.5	43.3	74.0	-30.7	Peak	Vertical
	4842.0	40.1	5.1	45.2	74.0	-28.8	Peak	Vertical
	7375.0	38.7	9.4	48.1	74.0	-25.9	Peak	Vertical
06	4187.5	39.8	3.0	42.8	74.0	-31.2	Peak	Horizontal
	4774.0	39.3	5.0	44.3	74.0	-29.7	Peak	Horizontal
	7451.5	37.6	9.6	47.2	74.0	-26.8	Peak	Horizontal
	4009.0	40.3	2.6	42.9	74.0	-31.1	Peak	Vertical
	4876.0	43.2	4.9	48.1	74.0	-25.9	Peak	Vertical
	7324.0	39.0	9.7	48.7	74.0	-25.3	Peak	Vertical
09	3992.0	40.4	2.5	42.9	74.0	-31.1	Peak	Horizontal
	5003.5	40.6	5.3	45.9	74.0	-28.1	Peak	Horizontal
	7681.0	37.4	9.6	47.0	74.0	-27.0	Peak	Horizontal
	4034.5	40.6	3.0	43.6	74.0	-30.4	Peak	Vertical
	5003.5	40.2	5.3	45.5	74.0	-28.5	Peak	Vertical
	7349.5	38.2	9.5	47.7	74.0	-26.3	Peak	Vertical

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

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

The Result of Radiated Emission below 1GHz:

Site: WZ-AC1	Time: 2021/07/07 - 20:37
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_VULB 9168_30-1000MHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			50.855	24.837	6.859	-15.163	40.000	17.978	PK
2			94.505	32.312	19.861	-11.188	43.500	12.452	PK
3			214.785	38.417	23.970	-5.083	43.500	14.447	PK
4			290.930	40.817	22.700	-5.183	46.000	18.117	QP
5			466.500	41.782	19.200	-4.218	46.000	22.582	QP
6		*	850.620	42.247	13.445	-3.753	46.000	28.802	PK

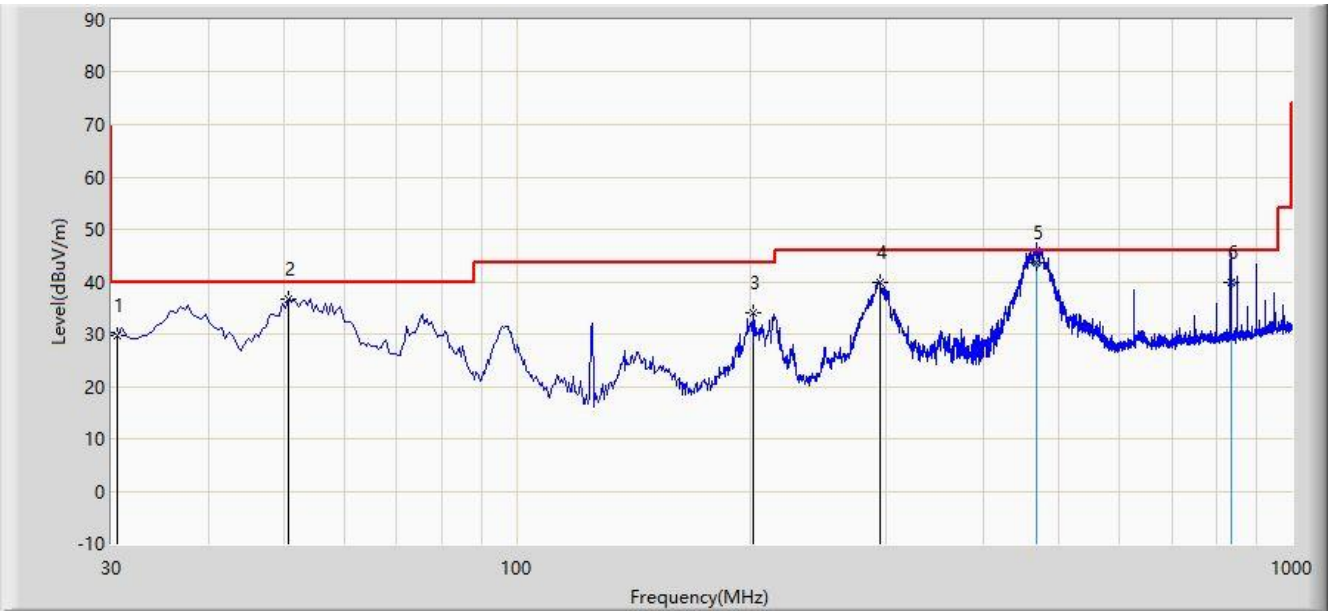
Note 1: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m)

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 ~ 30MHz, 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site: WZ-AC1	Time: 2021/07/07 - 20:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Tommy Tang
Probe: WZ-AC1_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			30.485	29.731	13.058	-10.269	40.000	16.674	PK
2			50.855	36.677	18.699	-3.323	40.000	17.978	PK
3			202.175	33.958	19.375	-9.542	43.500	14.583	PK
4			293.840	39.939	21.769	-6.061	46.000	18.170	PK
5		*	468.440	43.614	21.000	-2.386	46.000	22.614	QP
6			834.130	39.926	11.200	-6.074	46.000	28.726	QP

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 ~ 30MHz, 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.

5.7. Radiated Restricted Band Edge Measurement

5.7.1.Test Limit

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

5.7.2.Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

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

5.7.3.Test Setting

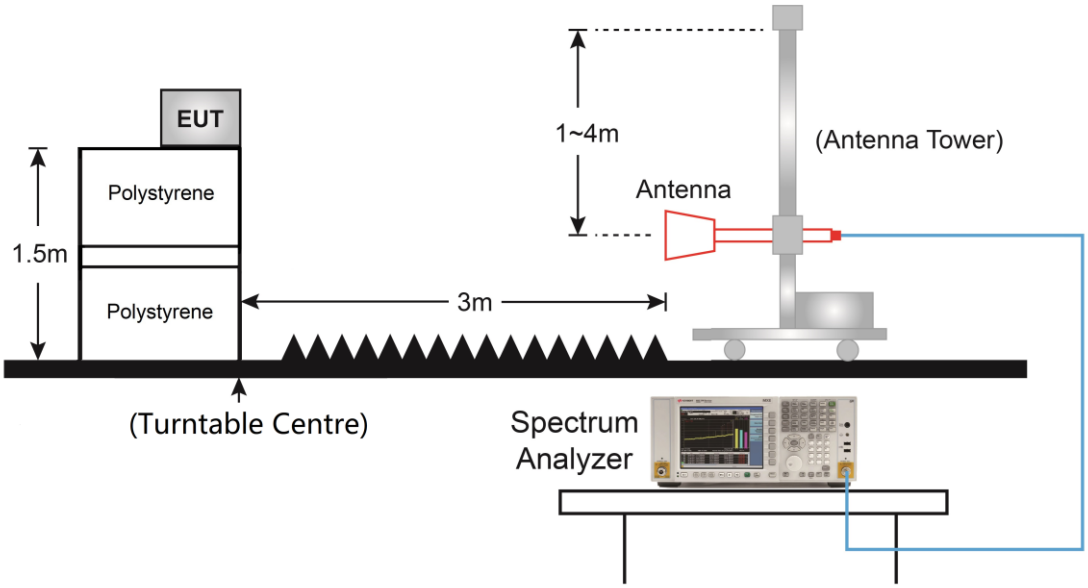
Peak Field Strength Measurements

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

Average Field Strength Measurements

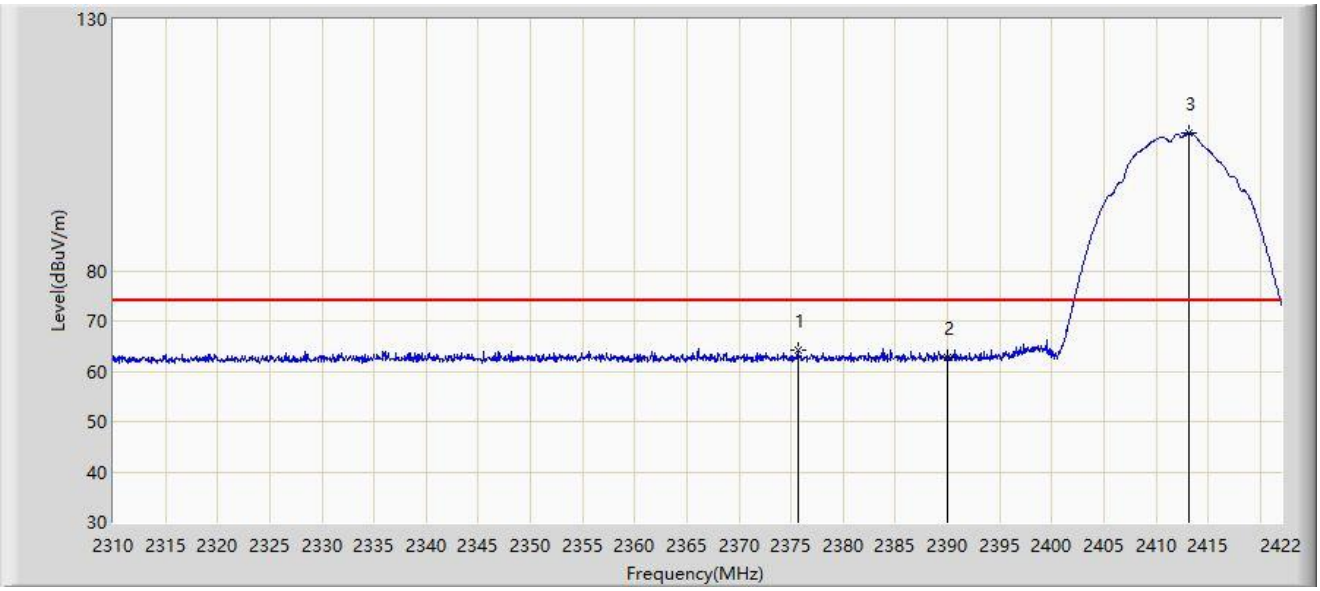
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW ≥ 1/T
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

5.7.4.Test Setup



5.7.5.Test Result

Site: WZ-AC1	Time: 2021/04/16 - 23:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

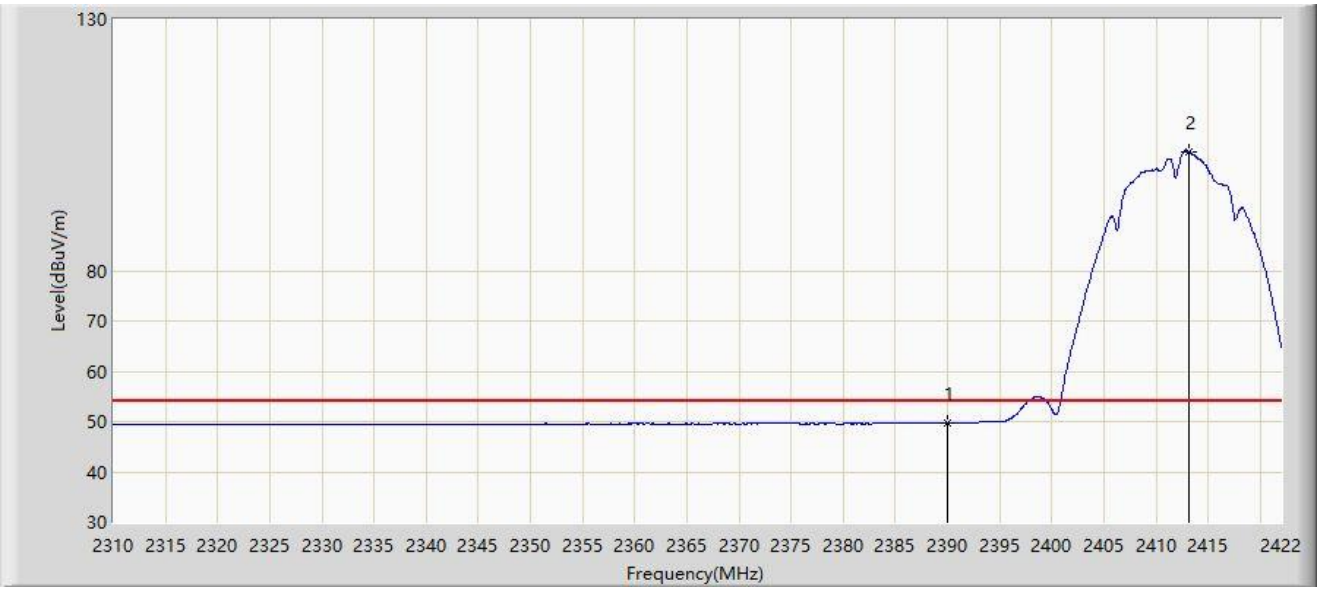


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2375.632	64.139	31.628	-9.861	74.000	32.513	PK
2			2390.000	62.789	30.257	-11.211	74.000	32.533	PK
3		*	2413.208	107.447	74.953	N/A	N/A	32.493	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

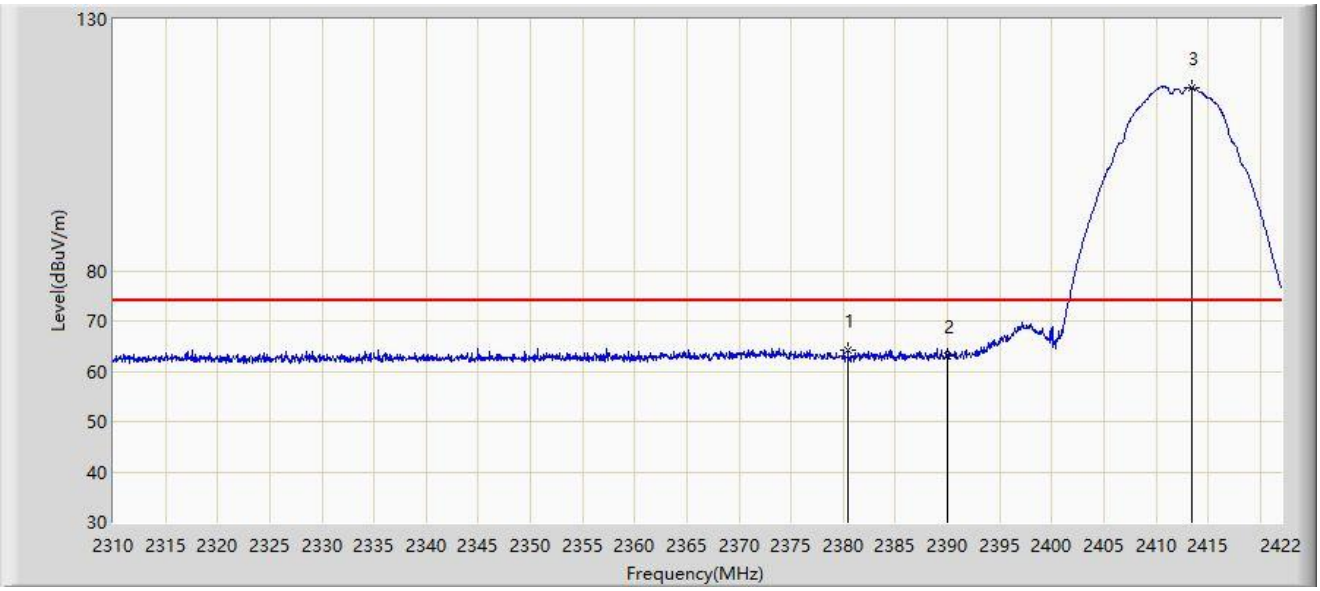


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	49.652	17.120	-4.348	54.000	32.533	AV
2		*	2413.208	103.675	71.182	N/A	N/A	32.493	AV

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:07
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

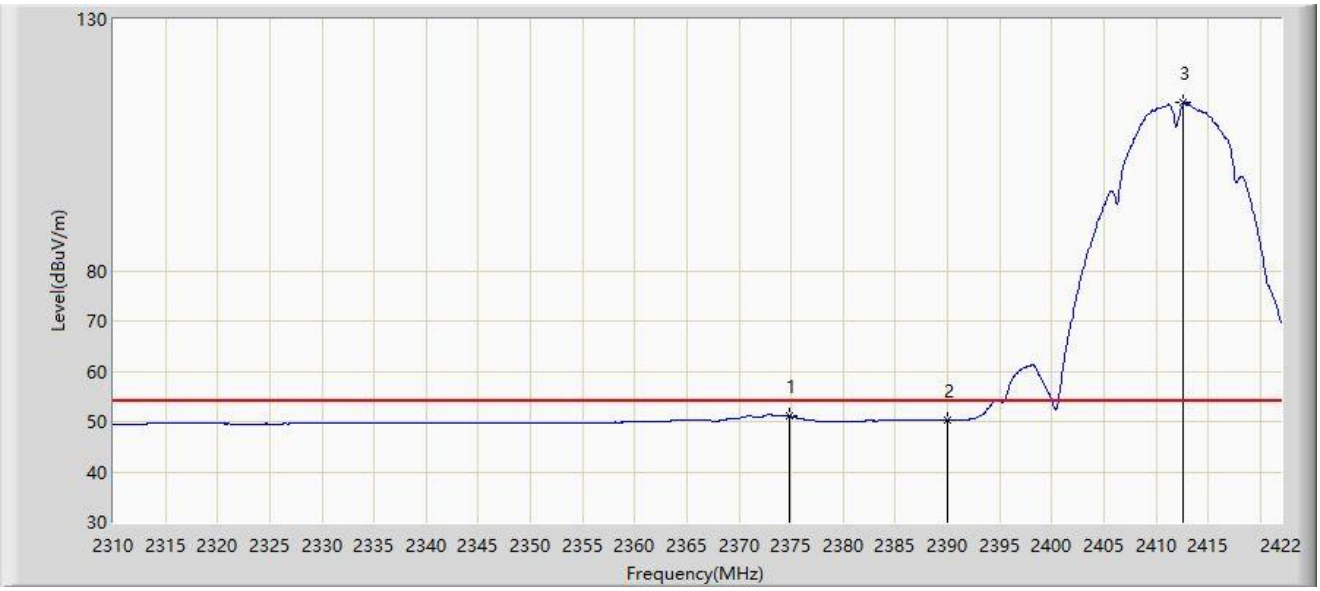


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2380.448	64.221	31.729	-9.779	74.000	32.493	PK
2			2390.000	62.913	30.380	-11.087	74.000	32.533	PK
3		*	2413.376	116.360	83.867	N/A	N/A	32.492	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz	

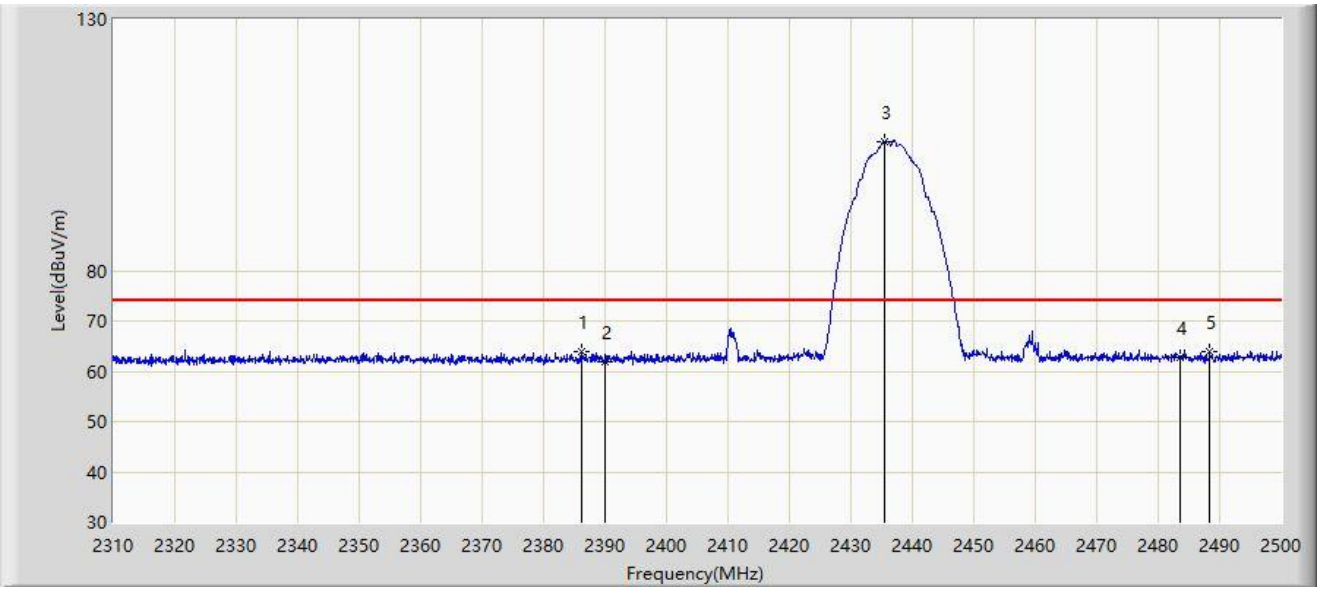


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2374.792	51.189	18.671	-2.811	54.000	32.519	AV
2			2390.000	50.316	17.783	-3.684	54.000	32.533	AV
3	X	*	2412.648	113.352	80.856	N/A	N/A	32.495	AV

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz	

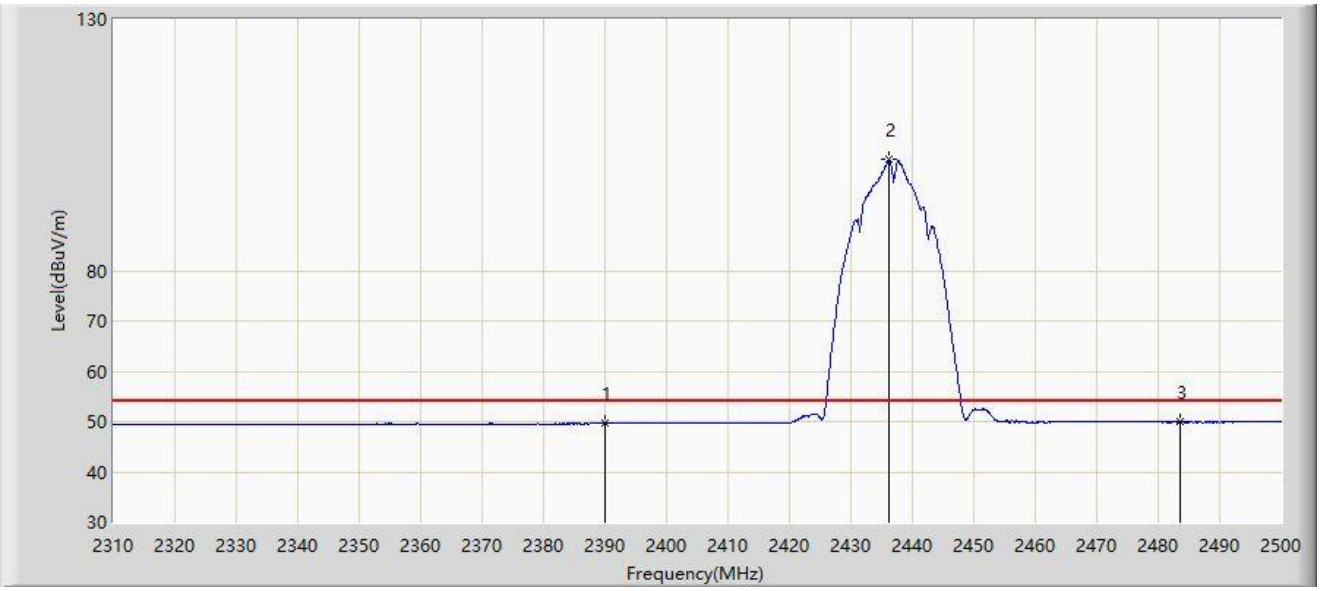


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2386.095	63.875	31.359	-10.125	74.000	32.516	PK
2			2390.000	61.983	29.451	-12.017	74.000	32.533	PK
3		*	2435.590	105.781	73.299	N/A	N/A	32.482	PK
4			2483.500	62.849	30.421	-11.151	74.000	32.429	PK
5			2488.410	63.940	31.534	-10.060	74.000	32.407	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:15
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz	

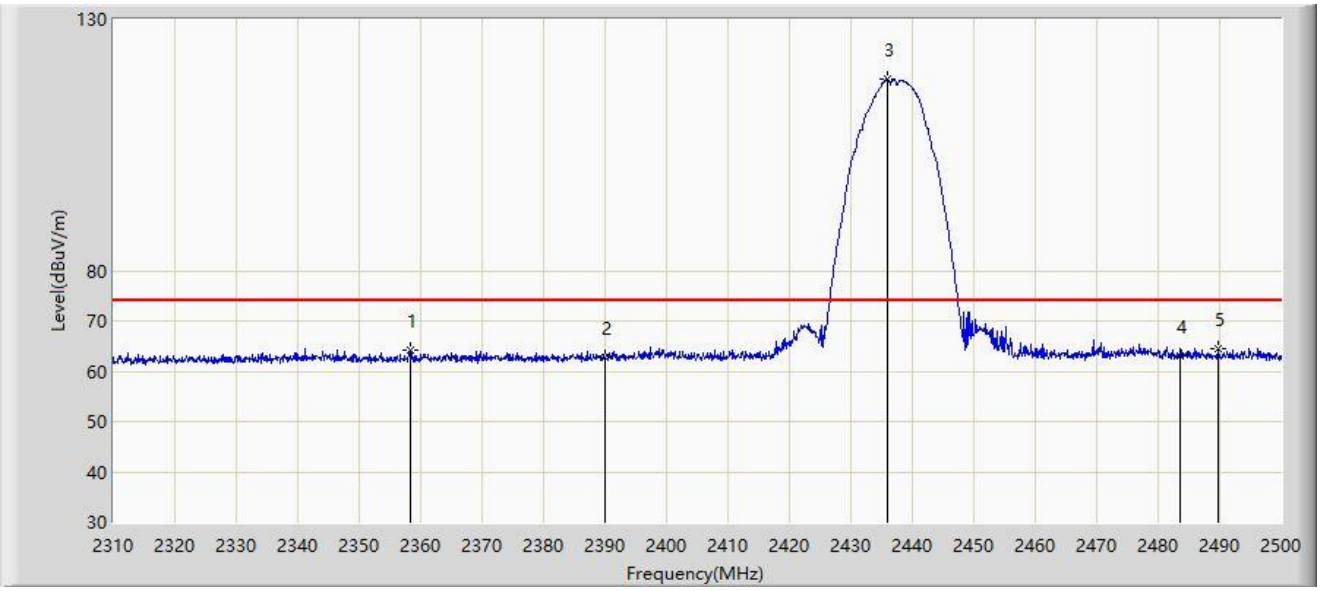


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	49.588	17.056	-4.412	54.000	32.533	AV
2		*	2436.255	102.077	69.596	N/A	N/A	32.482	AV
3			2483.500	49.882	17.454	-4.118	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz	

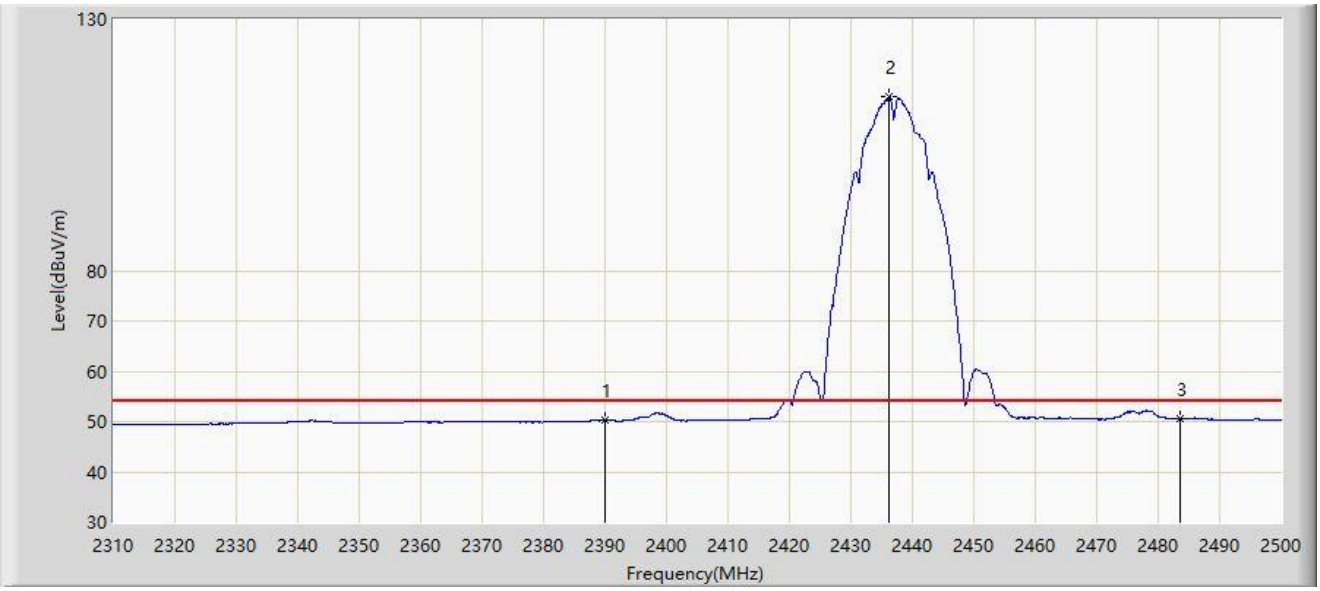


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2358.355	64.299	31.686	-9.701	74.000	32.614	PK
2			2390.000	62.630	30.097	-11.370	74.000	32.533	PK
3		*	2435.875	118.126	85.645	N/A	N/A	32.482	PK
4			2483.500	63.103	30.674	-10.897	74.000	32.429	PK
5			2489.835	64.378	31.967	-9.622	74.000	32.411	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz	

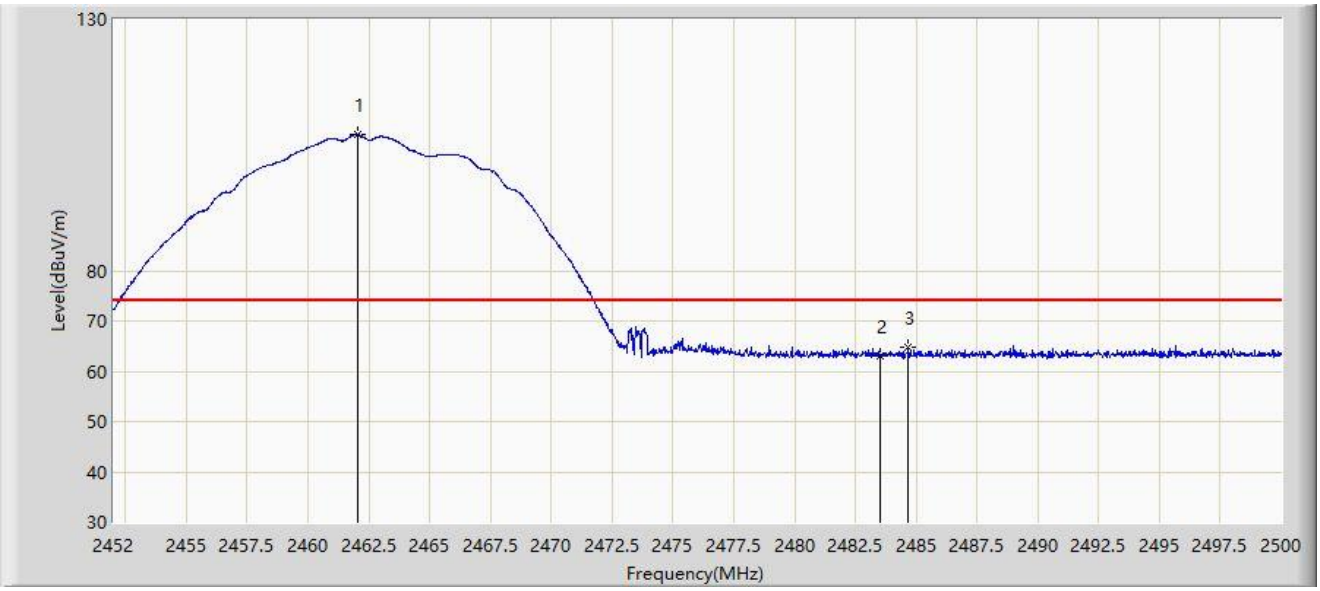


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	50.272	17.739	-3.728	54.000	32.533	AV
2		*	2436.160	114.603	82.121	N/A	N/A	32.482	AV
3			2483.500	50.592	18.164	-3.408	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

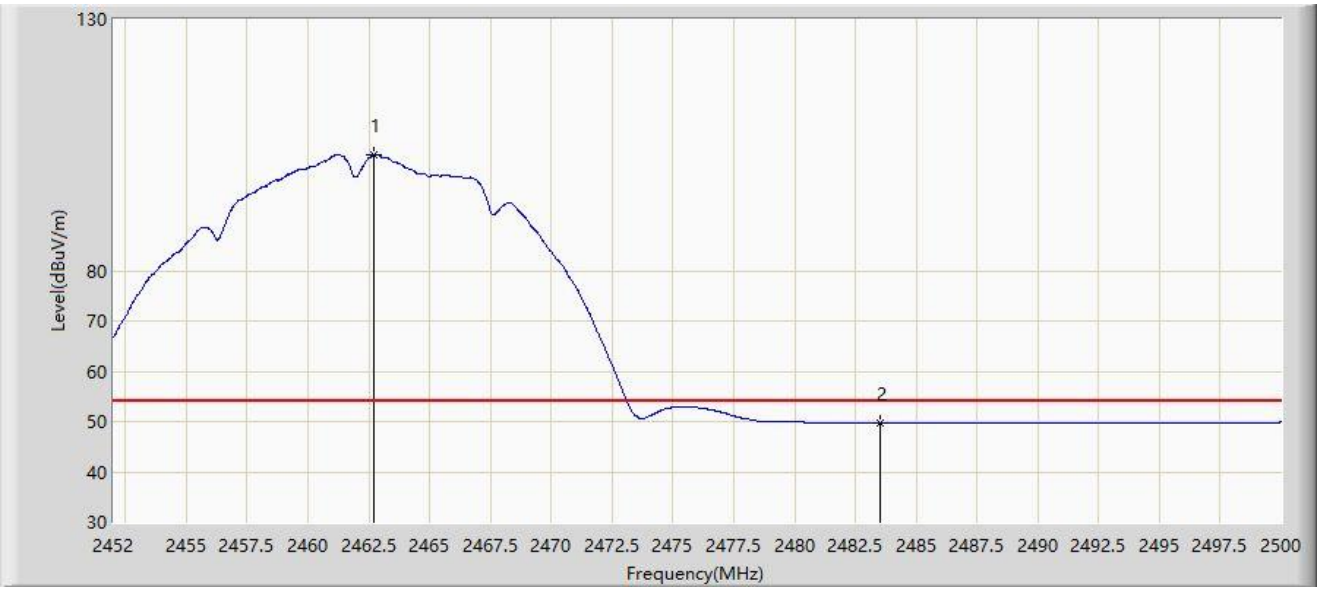


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2462.056	107.038	74.548	N/A	N/A	32.490	PK
2			2483.500	62.971	30.542	-11.029	74.000	32.429	PK
3			2484.664	64.739	32.321	-9.261	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

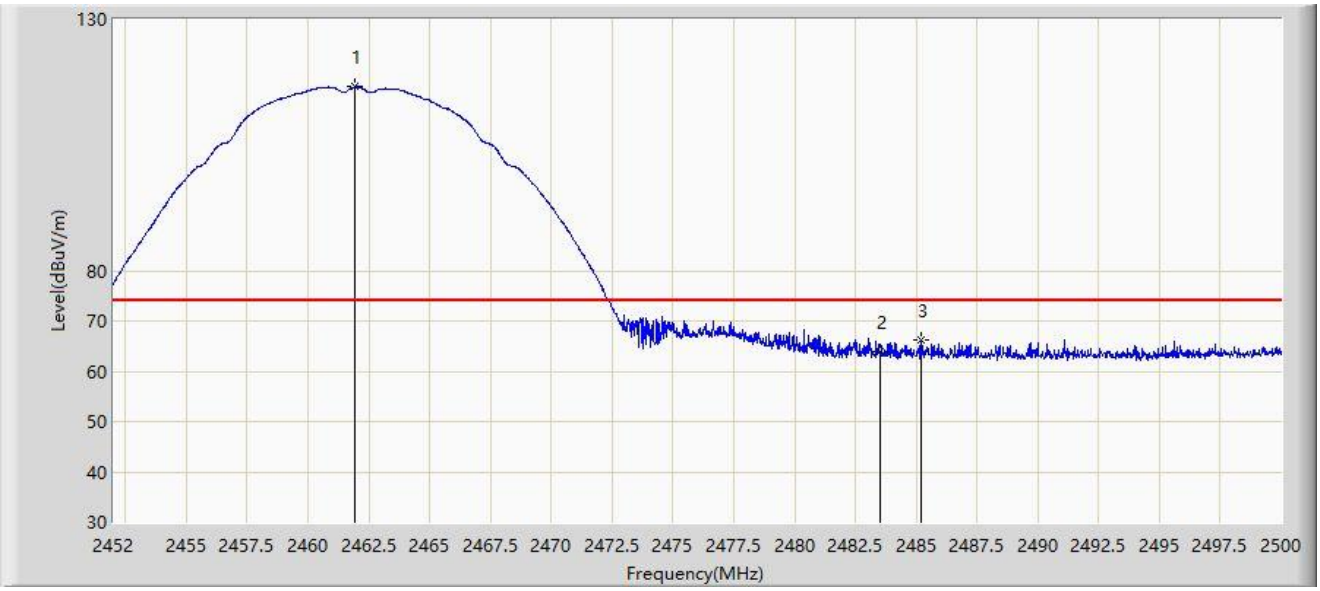


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2462.728	103.120	70.627	N/A	N/A	32.494	AV
2			2483.500	49.750	17.322	-4.250	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:44
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

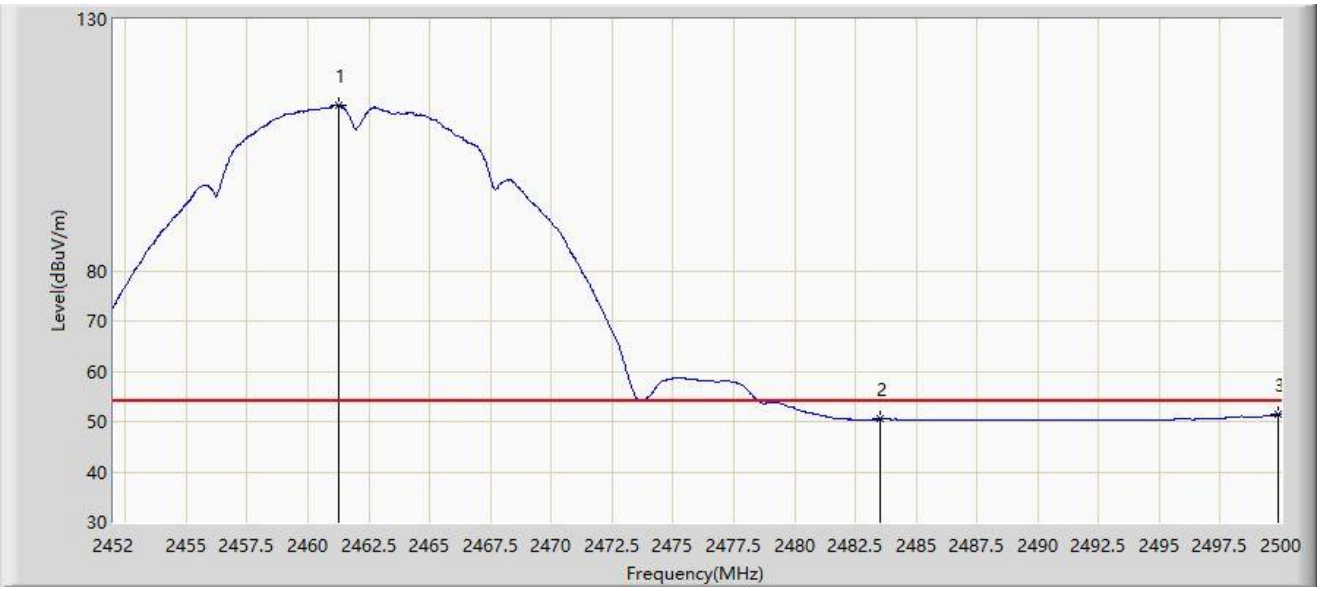


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2461.936	116.703	84.214	N/A	N/A	32.489	PK
2			2483.500	63.833	31.405	-10.167	74.000	32.429	PK
3			2485.192	66.176	33.769	-7.824	74.000	32.418	PK

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

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

Site: WZ-AC1	Time: 2021/04/16 - 23:46
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz	

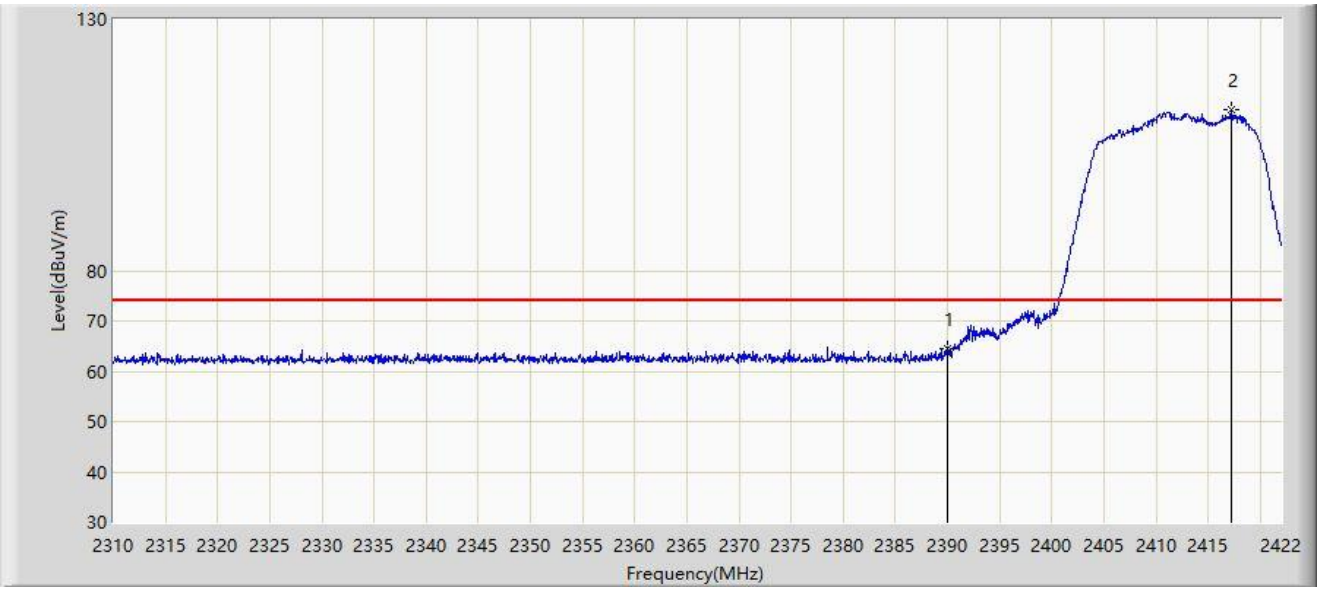


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2461.240	112.983	80.496	N/A	N/A	32.487	AV
2			2483.500	50.466	18.037	-3.534	54.000	32.429	AV
3			2499.856	51.383	18.946	-2.617	54.000	32.438	AV

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

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

Site: WZ-AC1	Time: 2021/04/14 - 01:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

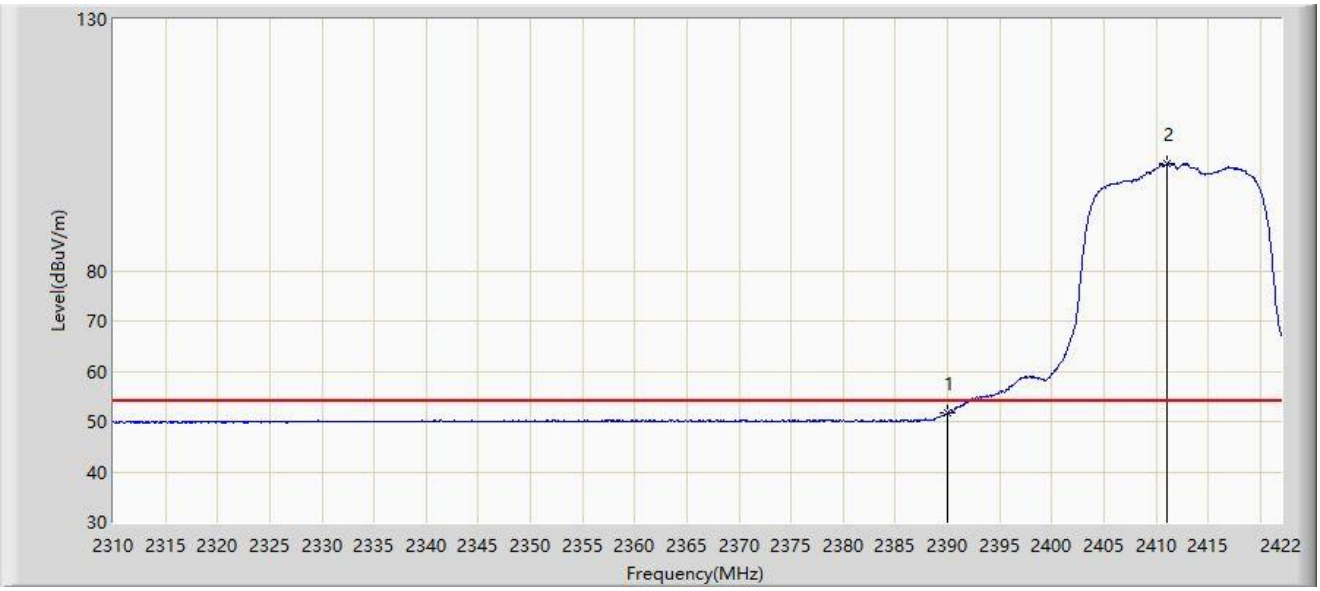


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	64.542	32.010	-9.458	74.000	32.533	PK
2		*	2417.184	112.012	79.532	N/A	N/A	32.483	PK

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

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

Site: WZ-AC1	Time: 2021/04/14 - 01:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

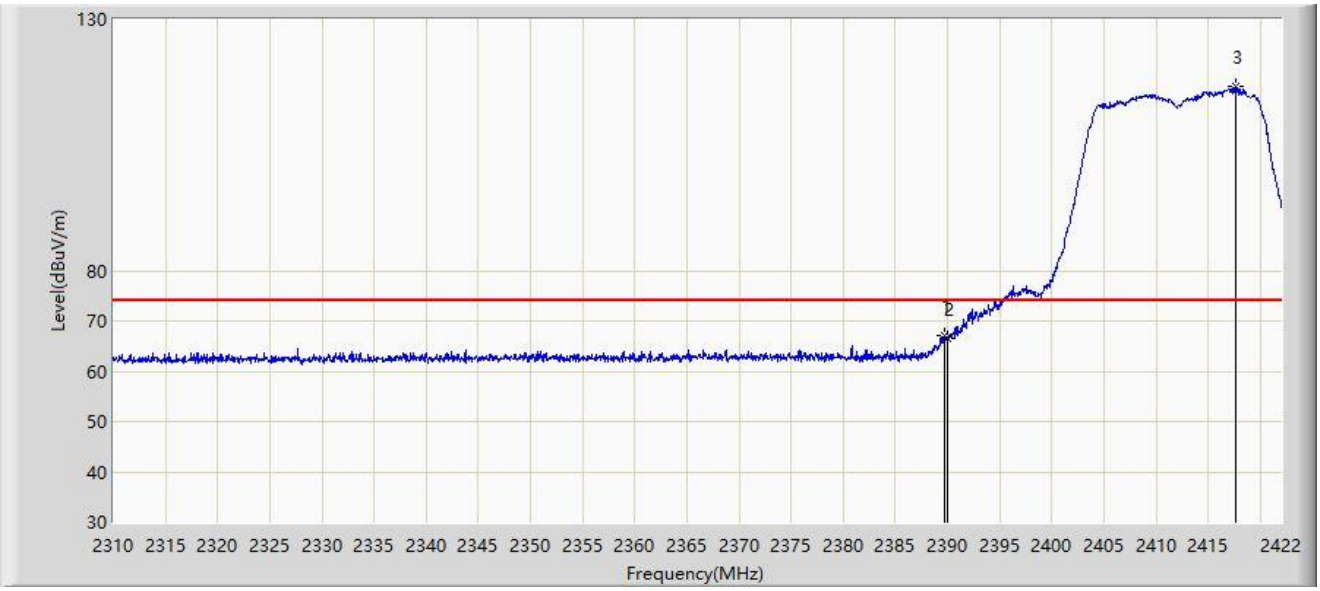


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	51.602	19.070	-2.398	54.000	32.533	AV
2		*	2411.024	101.326	68.824	N/A	N/A	32.502	AV

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

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

Site: WZ-AC1	Time: 2021/04/14 - 01:07
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

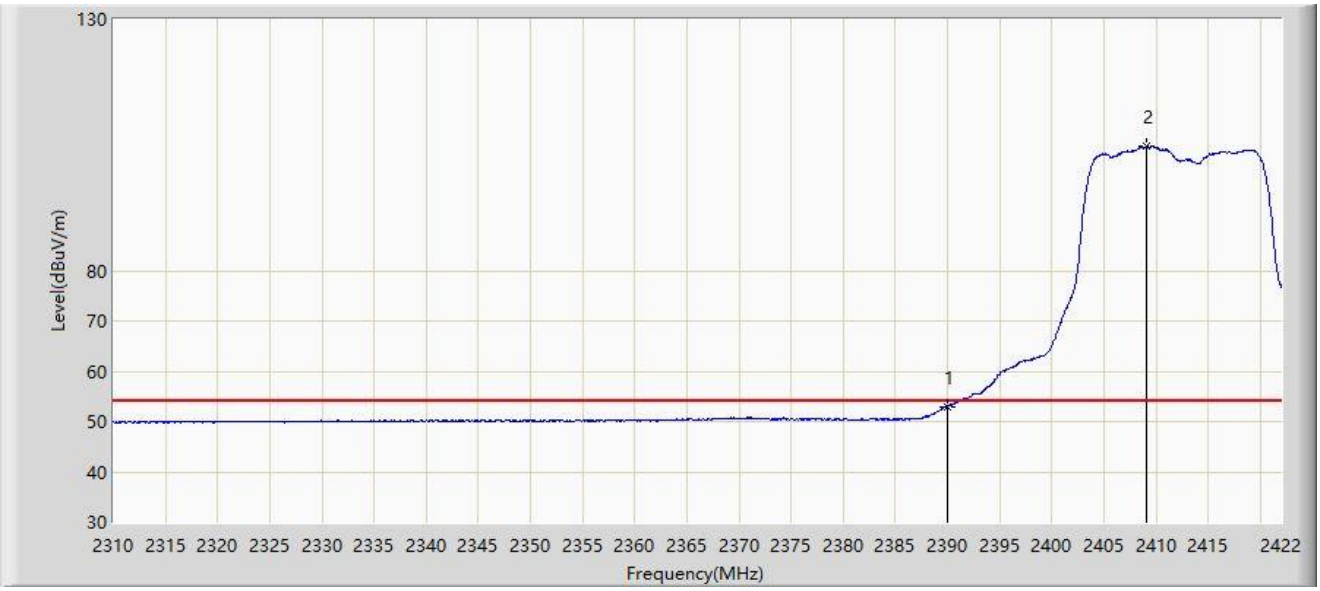


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2389.688	67.081	34.549	-6.919	74.000	32.532	PK
2			2390.000	66.593	34.060	-7.407	74.000	32.533	PK
3		*	2417.688	116.687	84.206	N/A	N/A	32.481	PK

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

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

Site: WZ-AC1	Time: 2021/04/14 - 01:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz	

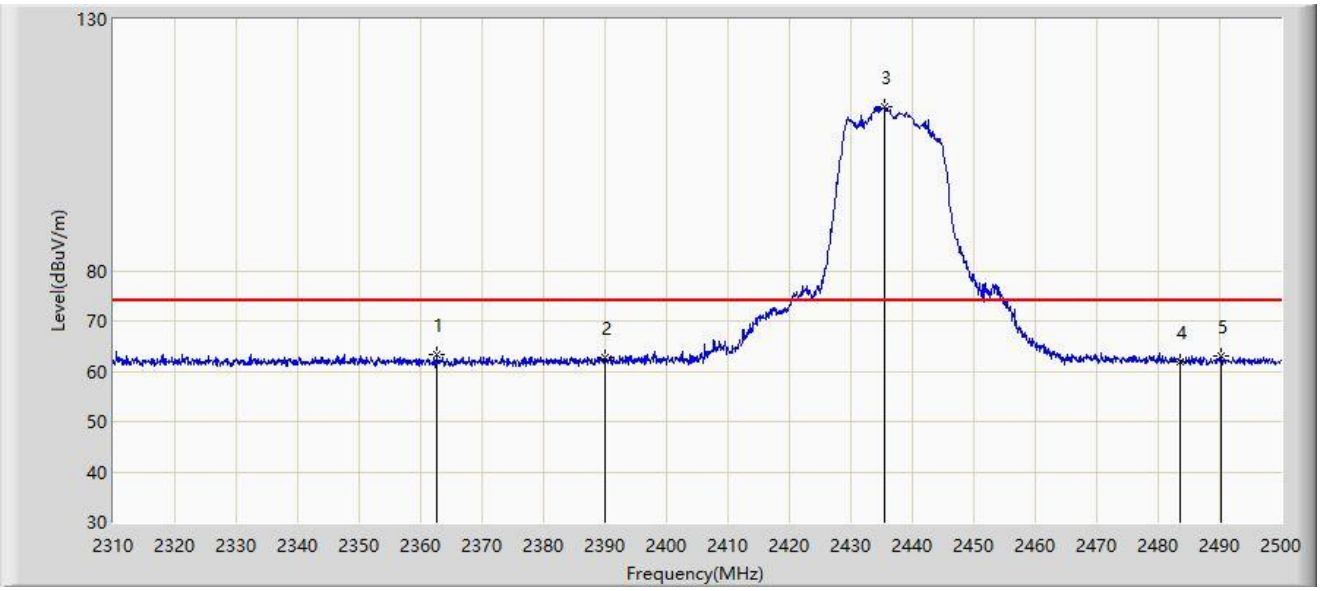


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	53.004	20.472	-0.996	54.000	32.533	AV
2		*	2409.120	104.739	72.229	N/A	N/A	32.510	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	

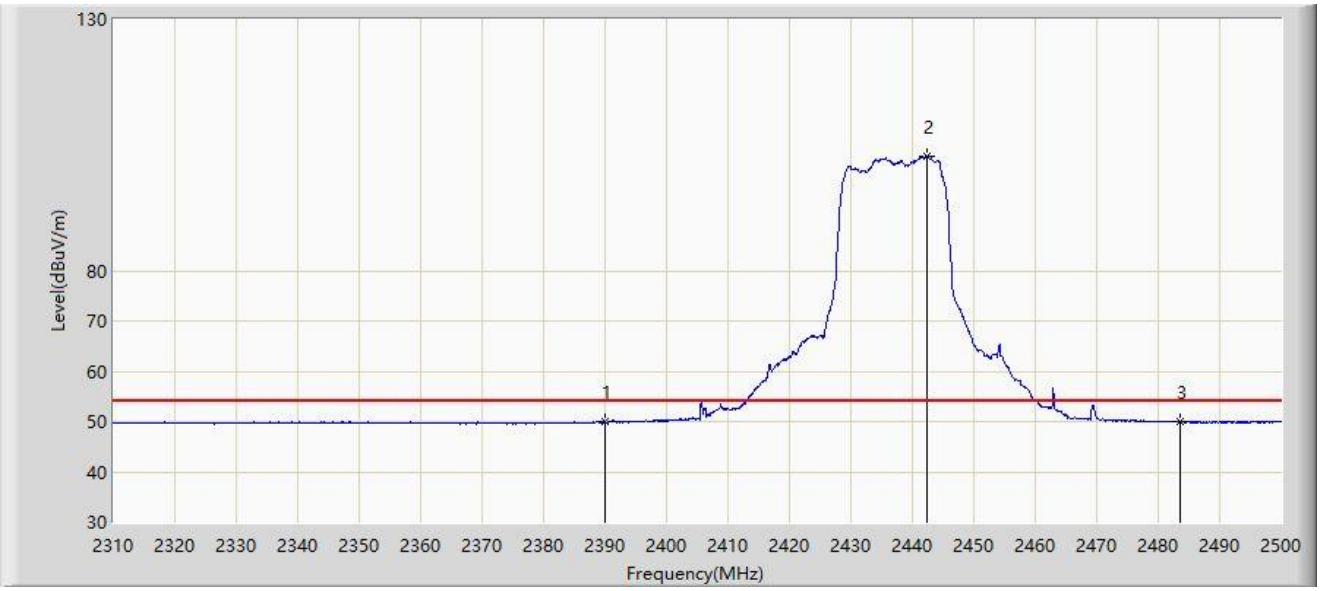


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2362.725	63.253	30.662	-10.747	74.000	32.592	PK
2			2390.000	62.724	30.191	-11.276	74.000	32.533	PK
3		*	2435.400	112.479	79.997	N/A	N/A	32.482	PK
4			2483.500	61.979	29.551	-12.021	74.000	32.429	PK
5			2490.215	63.073	30.662	-10.927	74.000	32.413	PK

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

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

Site: WZ-AC1	Time: 2021/04/14 - 01:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	

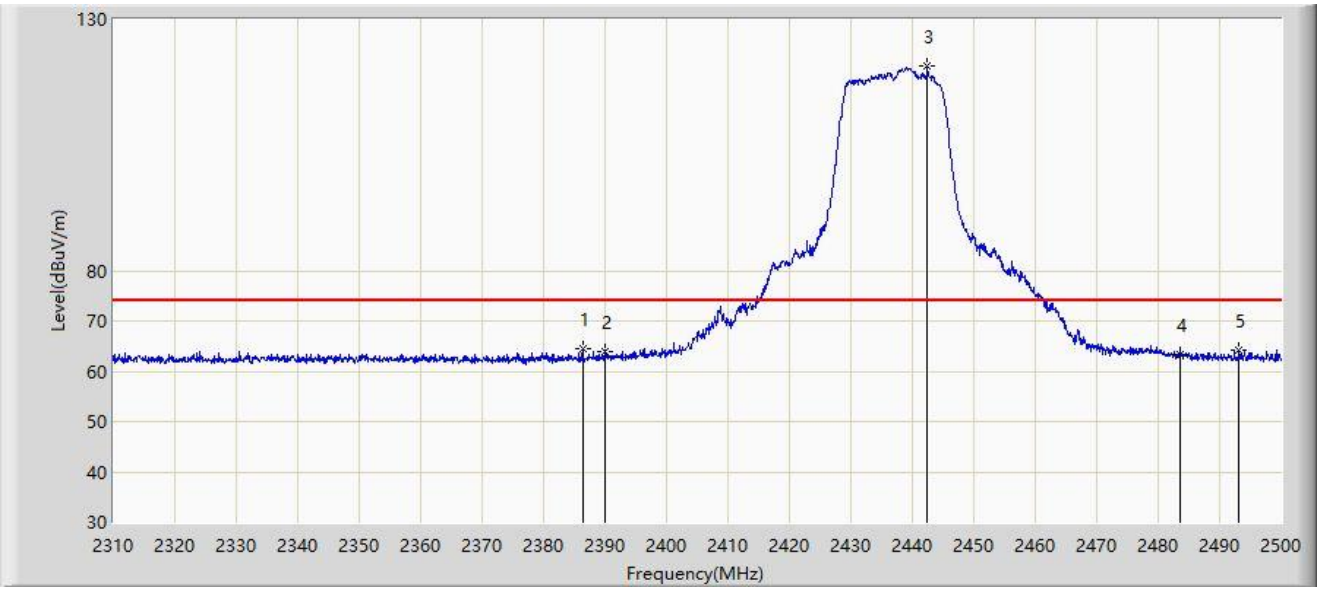


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2390.000	50.005	17.472	-3.995	54.000	32.533	AV
2		*	2442.430	102.699	70.224	N/A	N/A	32.475	AV
3			2483.500	49.903	17.475	-4.097	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	

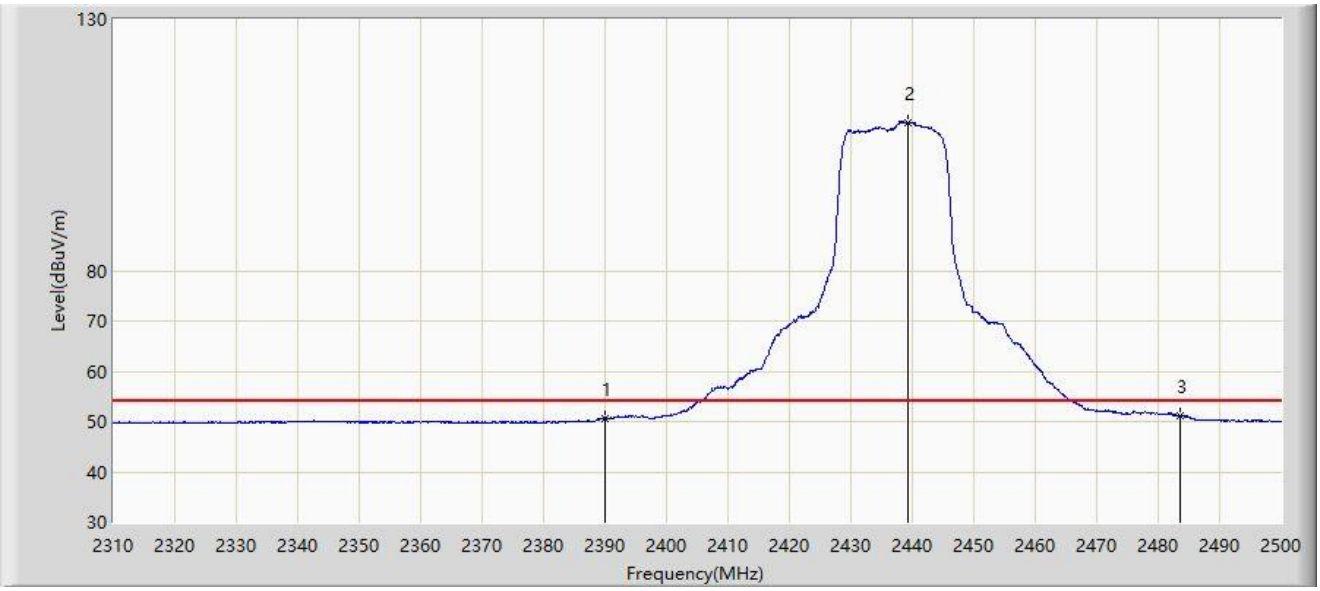


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2386.380	64.495	31.979	-9.505	74.000	32.518	PK
2			2390.000	64.048	31.515	-9.952	74.000	32.533	PK
3		*	2442.430	120.601	88.127	N/A	N/A	32.475	PK
4			2483.500	63.402	30.973	-10.598	74.000	32.429	PK
5			2493.160	64.226	31.806	-9.774	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	

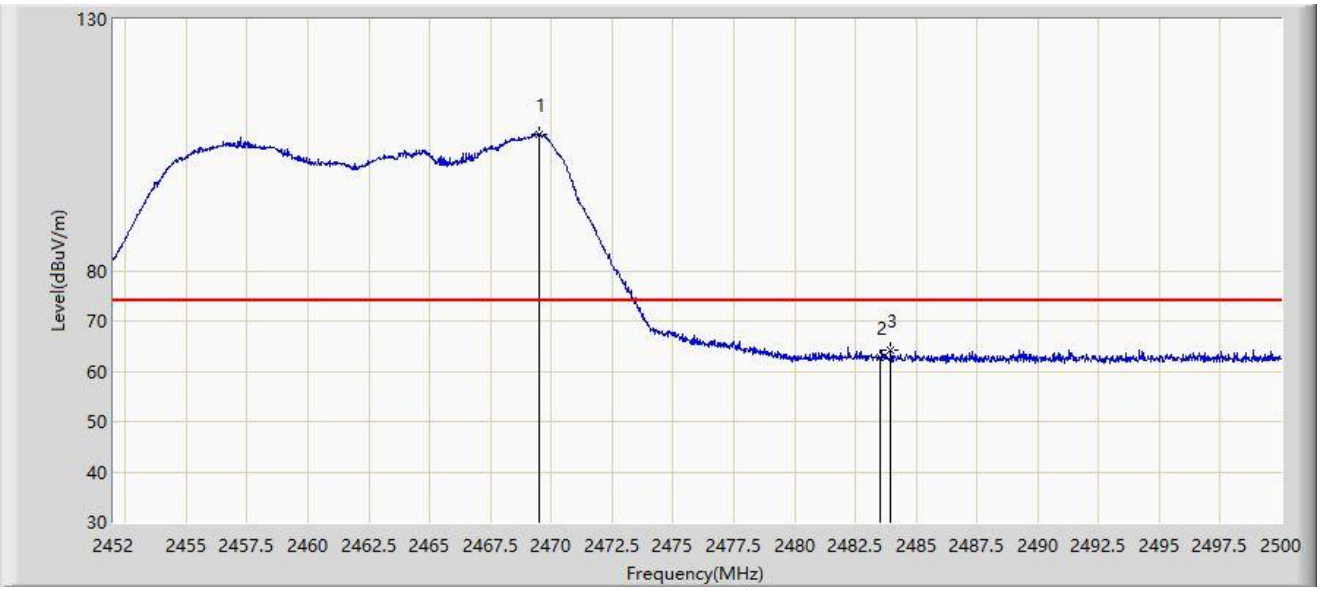


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2390.000	50.504	17.971	-3.496	54.000	32.533	AV
2		*	2439.295	109.530	77.052	N/A	N/A	32.478	AV
3			2483.500	51.121	18.693	-2.879	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:45
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

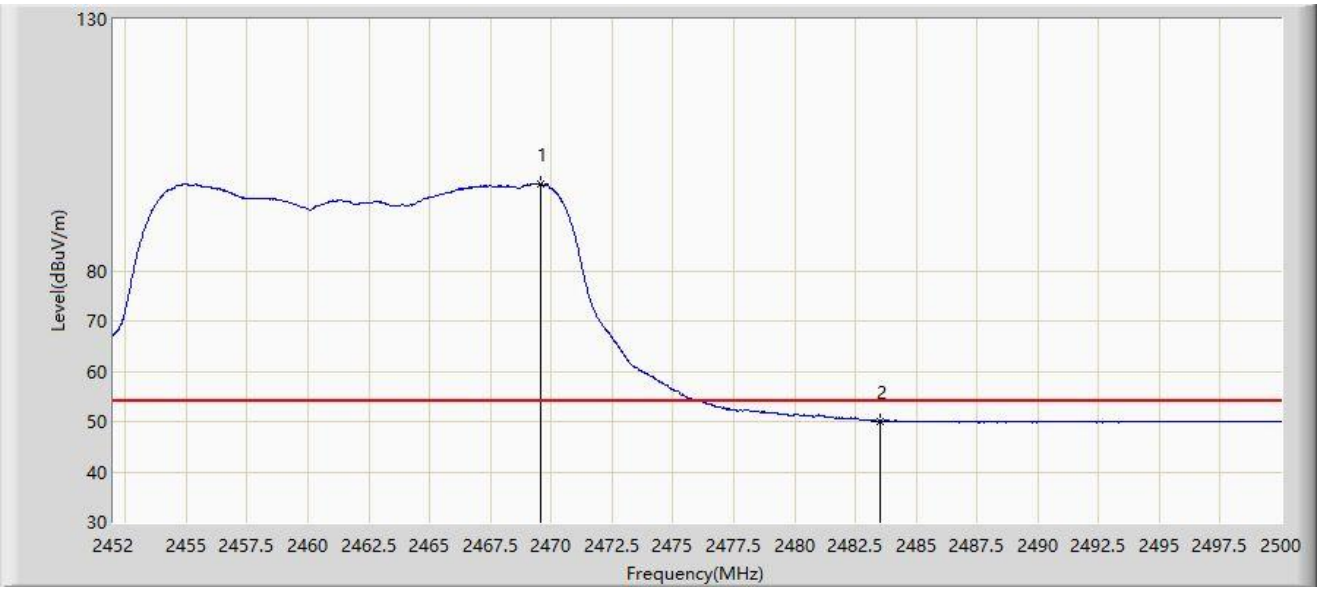


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2469.520	107.124	74.596	N/A	N/A	32.528	PK
2			2483.500	62.684	30.256	-11.316	74.000	32.429	PK
3			2483.944	64.342	31.922	-9.658	74.000	32.425	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:42
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

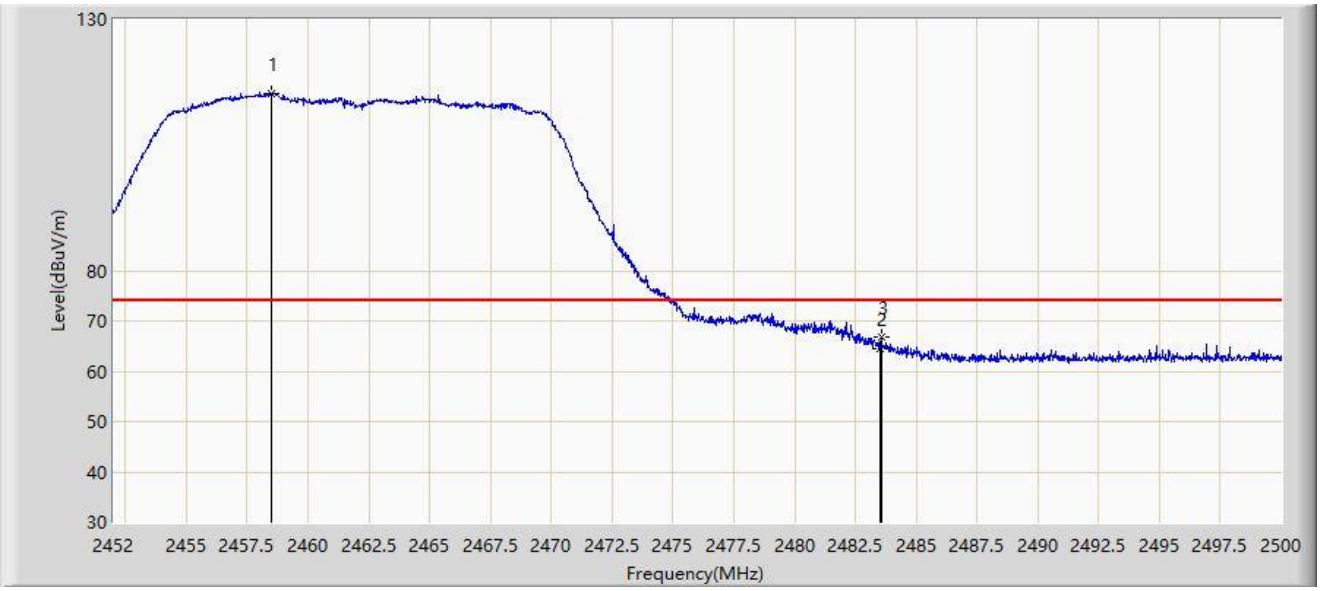


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2469.568	97.155	64.627	N/A	N/A	32.528	AV
2			2483.500	50.127	17.698	-3.873	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

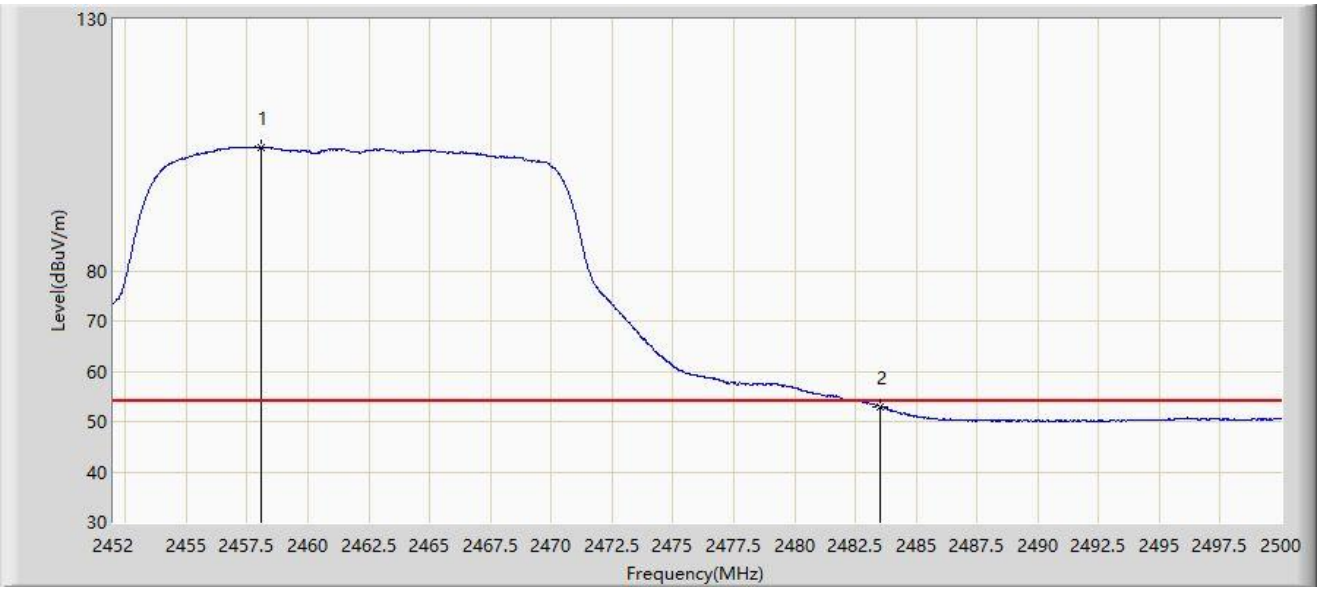


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2458.480	115.228	82.750	N/A	N/A	32.478	PK
2			2483.500	64.474	32.045	-9.526	74.000	32.429	PK
3			2483.560	66.675	34.251	-7.325	74.000	32.428	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:39
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2462MHz	

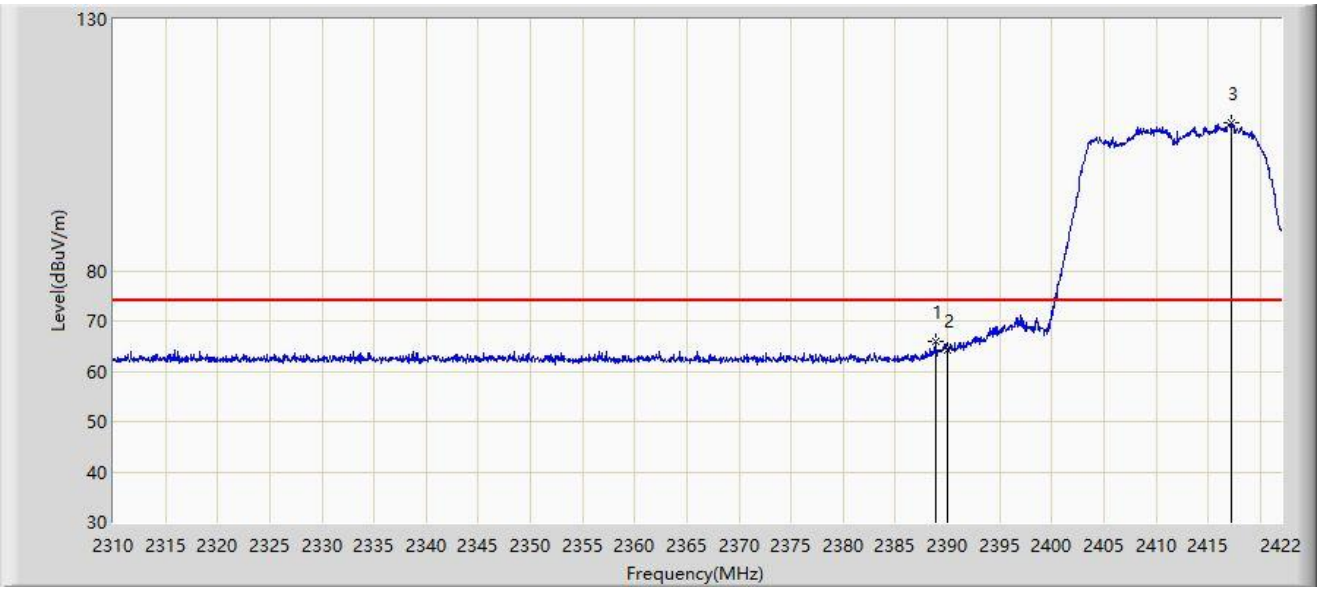


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2458.048	104.573	72.097	N/A	N/A	32.477	AV
2			2483.500	53.013	20.584	-0.987	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:01
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

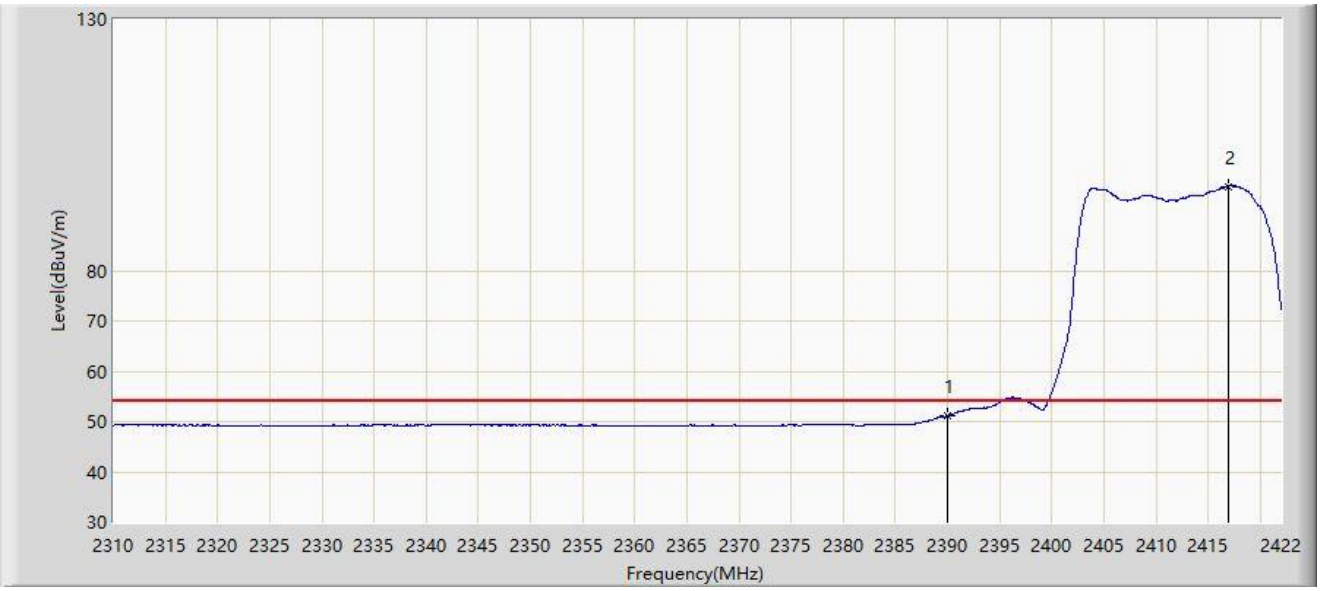


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2388.848	65.806	33.283	-8.194	74.000	32.528	PK
2			2390.000	64.201	31.668	-9.799	74.000	32.533	PK
3		*	2417.184	109.434	76.952	N/A	N/A	32.483	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

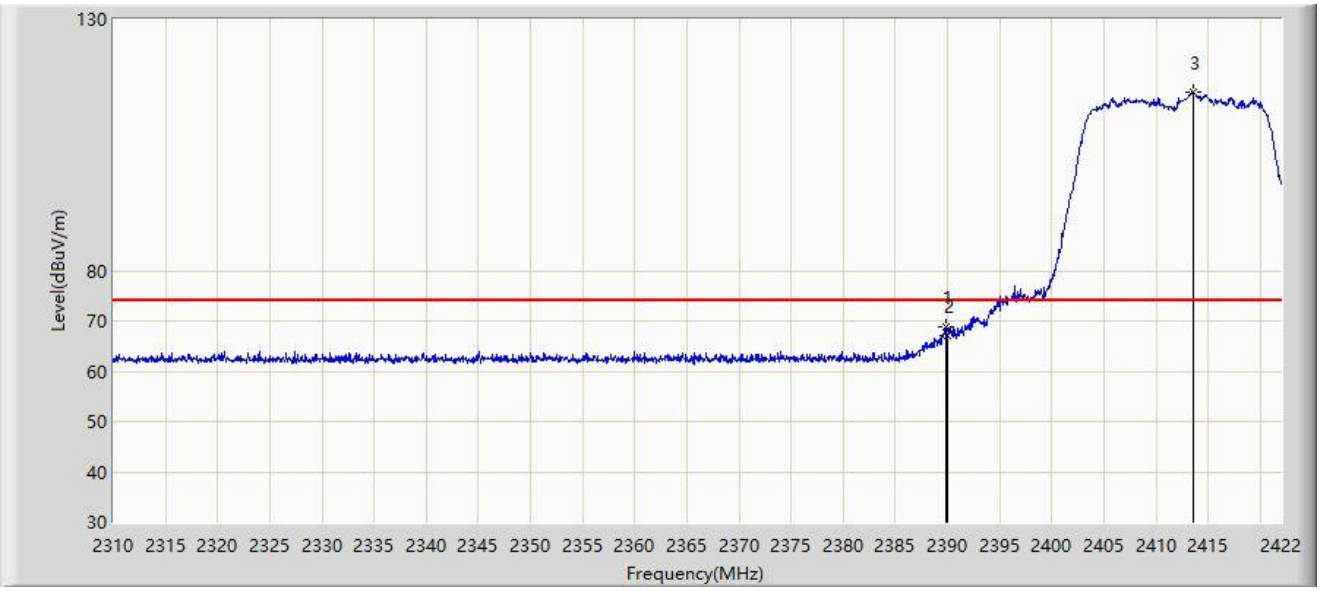


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	51.113	18.580	-2.887	54.000	32.533	AV
2		*	2416.960	96.808	64.326	N/A	N/A	32.482	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

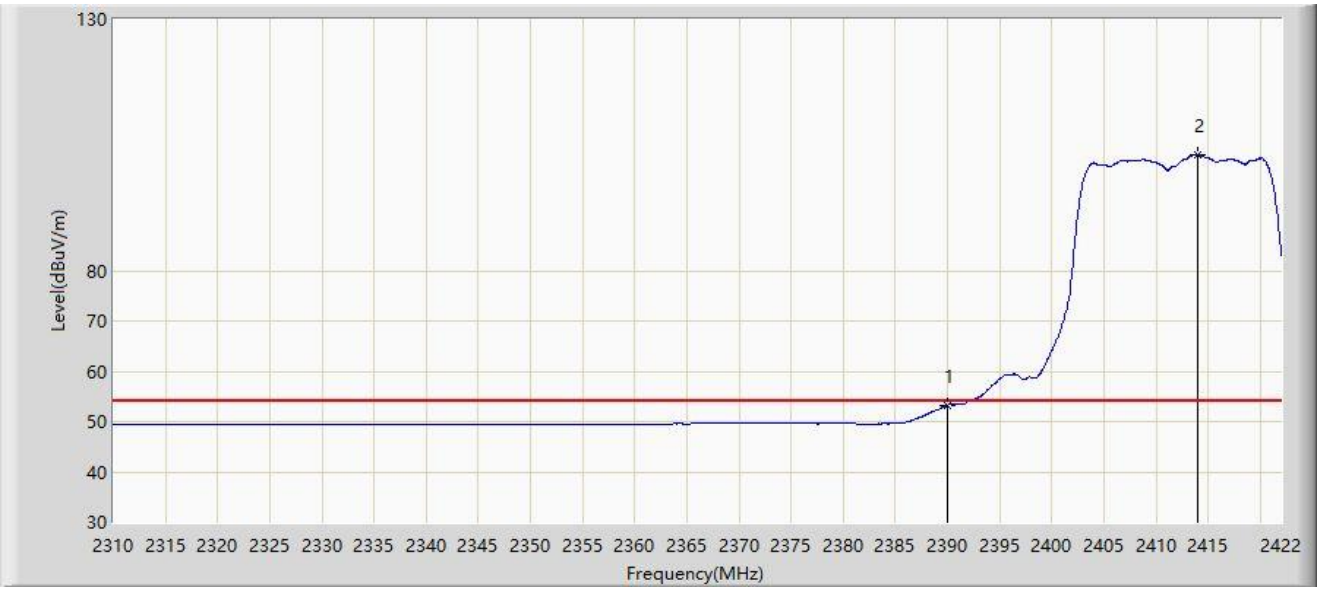


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2389.856	68.771	36.240	-5.229	74.000	32.532	PK
2			2390.000	67.007	34.474	-6.993	74.000	32.533	PK
3		*	2413.544	115.423	82.931	N/A	N/A	32.493	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 21:55
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	

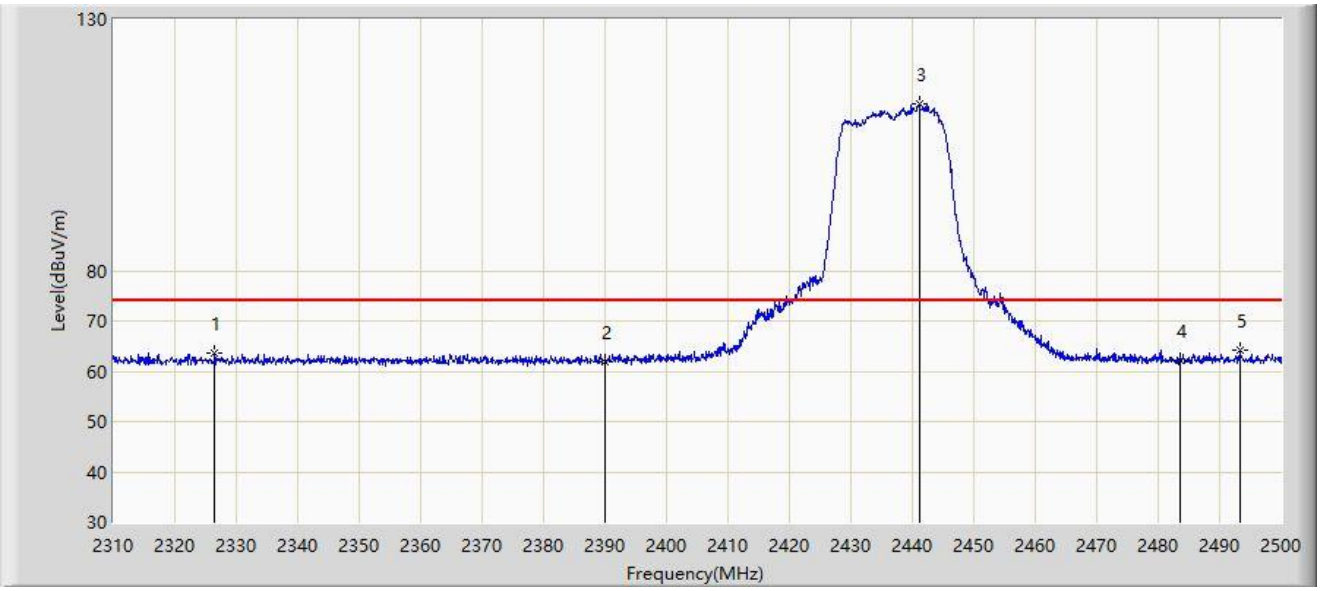


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	53.315	20.783	-0.685	54.000	32.533	AV
2		*	2413.936	102.989	70.499	N/A	N/A	32.491	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2437MHz	

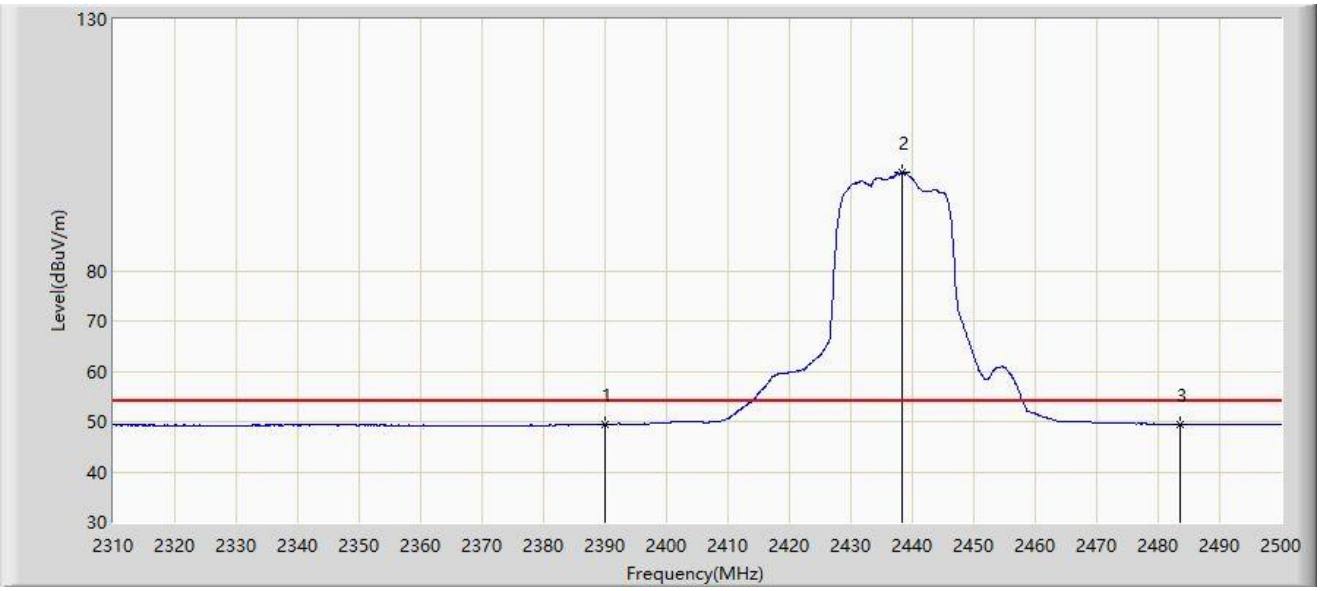


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2326.435	63.611	30.956	-10.389	74.000	32.655	PK
2			2390.000	61.980	29.448	-12.020	74.000	32.533	PK
3		*	2441.195	113.303	80.827	N/A	N/A	32.476	PK
4			2483.500	62.106	29.677	-11.894	74.000	32.429	PK
5			2493.255	64.301	31.882	-9.699	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2437MHz	

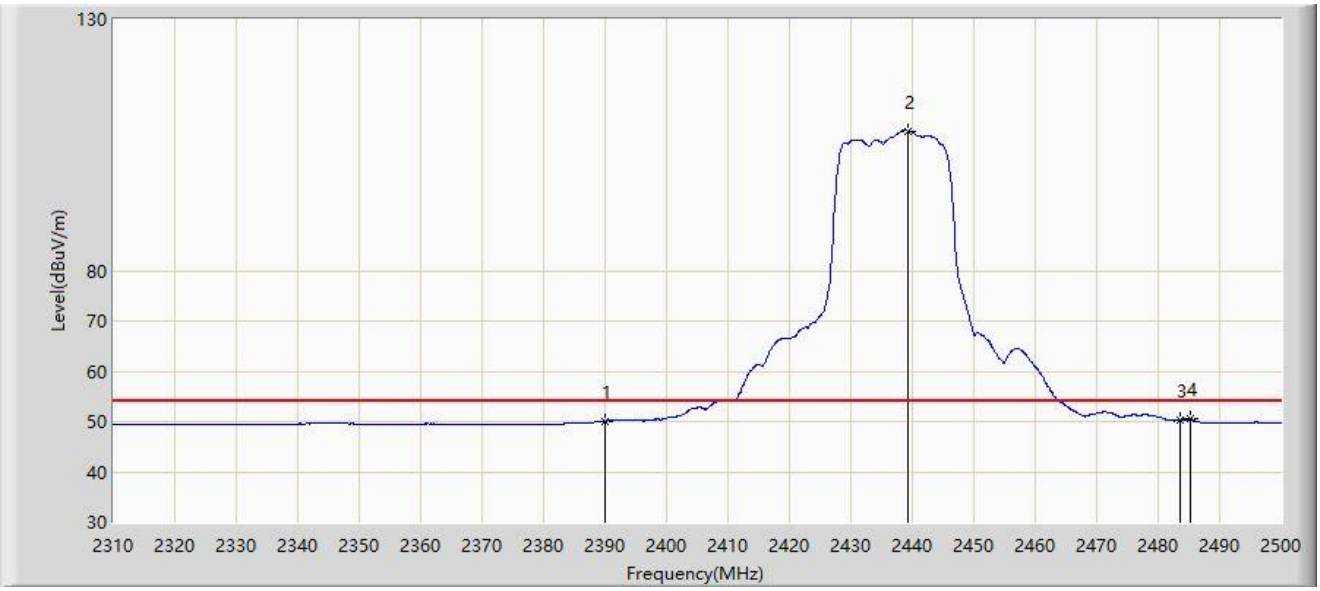


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2390.000	49.464	16.931	-4.536	54.000	32.533	AV
2		*	2438.250	99.575	67.095	N/A	N/A	32.480	AV
3			2483.500	49.406	16.978	-4.594	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:15
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2437MHz	

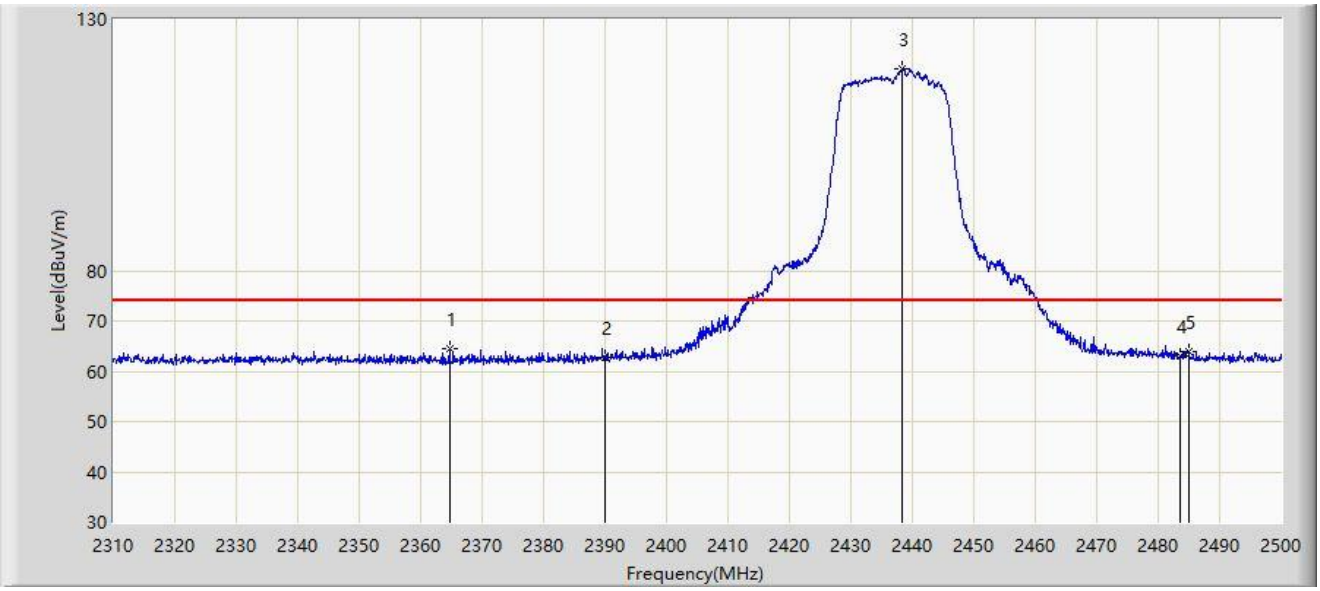


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2390.000	50.091	17.559	-3.909	54.000	32.533	AV
2		*	2439.200	107.821	75.343	N/A	N/A	32.478	AV
3			2483.500	50.312	17.884	-3.688	54.000	32.429	AV
4			2485.275	50.574	18.156	-3.426	54.000	32.418	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2437MHz	

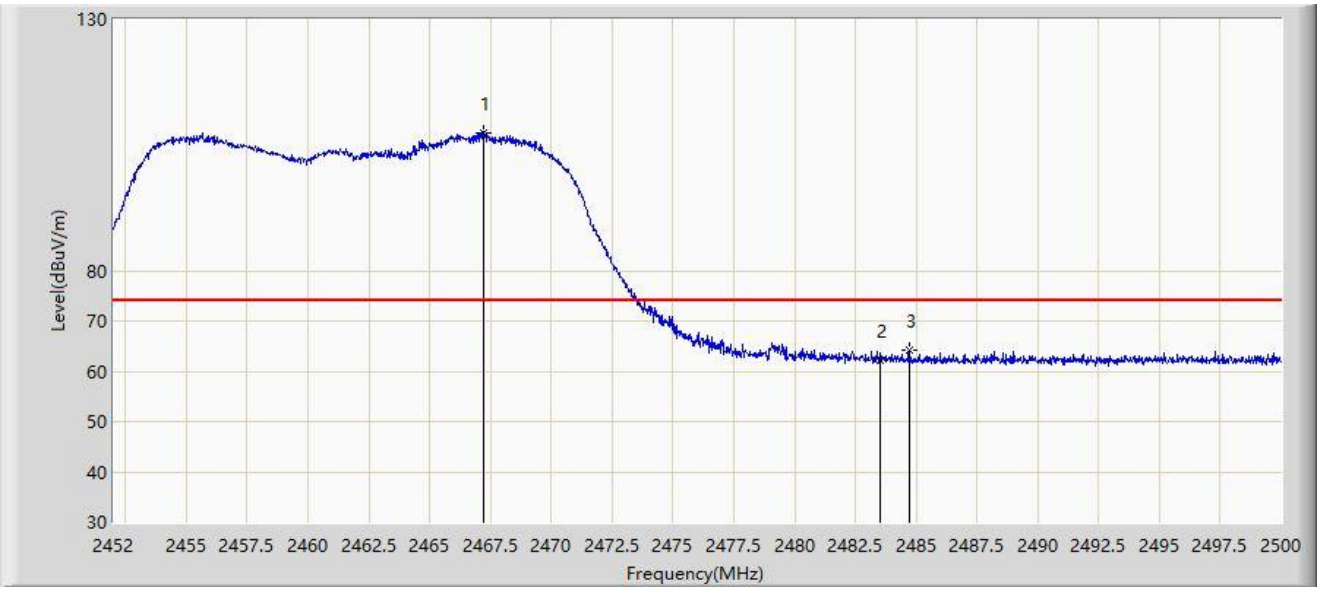


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2364.720	64.431	31.852	-9.569	74.000	32.580	PK
2			2390.000	62.896	30.364	-11.104	74.000	32.533	PK
3		*	2438.345	120.089	87.609	N/A	N/A	32.480	PK
4			2483.500	63.116	30.688	-10.884	74.000	32.429	PK
5			2484.895	63.946	31.526	-10.054	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:35
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

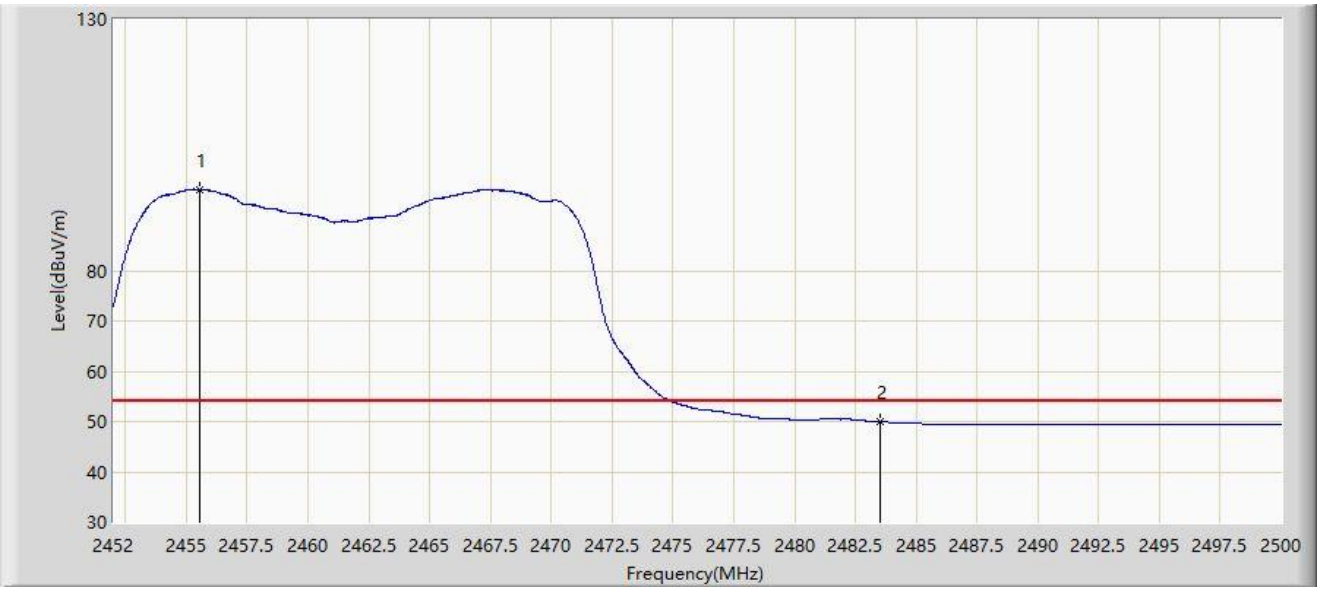


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2467.240	107.490	74.974	N/A	N/A	32.517	PK
2			2483.500	62.104	29.675	-11.896	74.000	32.429	PK
3			2484.712	64.159	31.746	-9.841	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:37
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

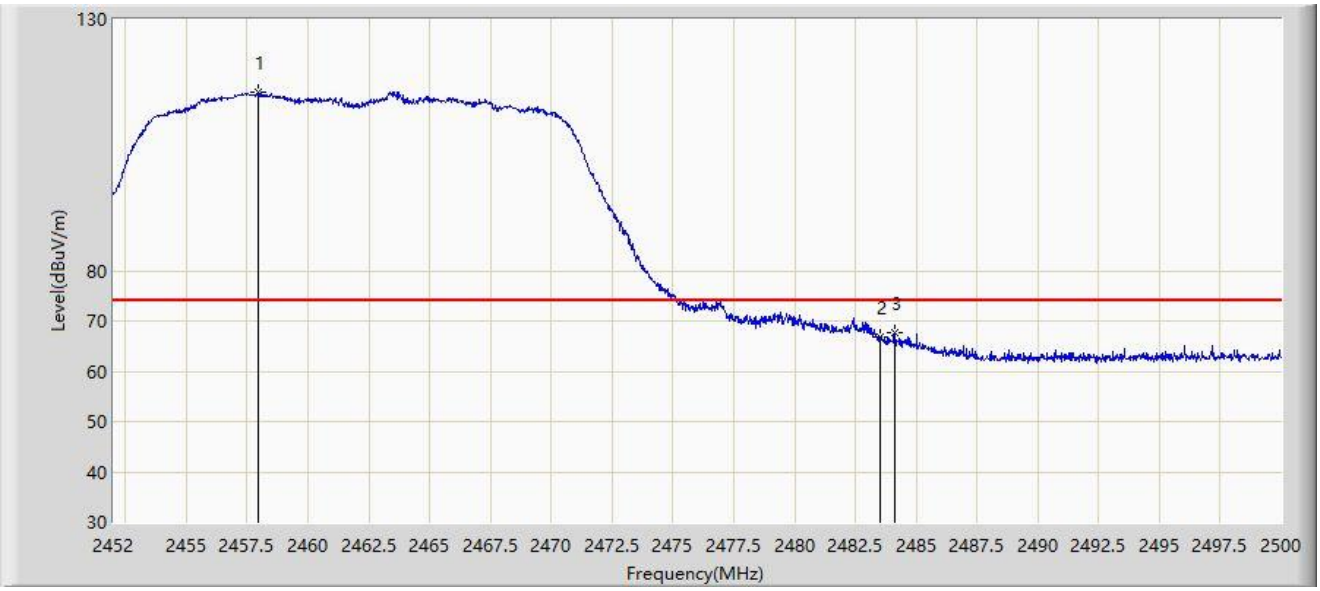


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2455.552	96.203	63.735	N/A	N/A	32.468	AV
2			2483.500	49.909	17.480	-4.091	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:33
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

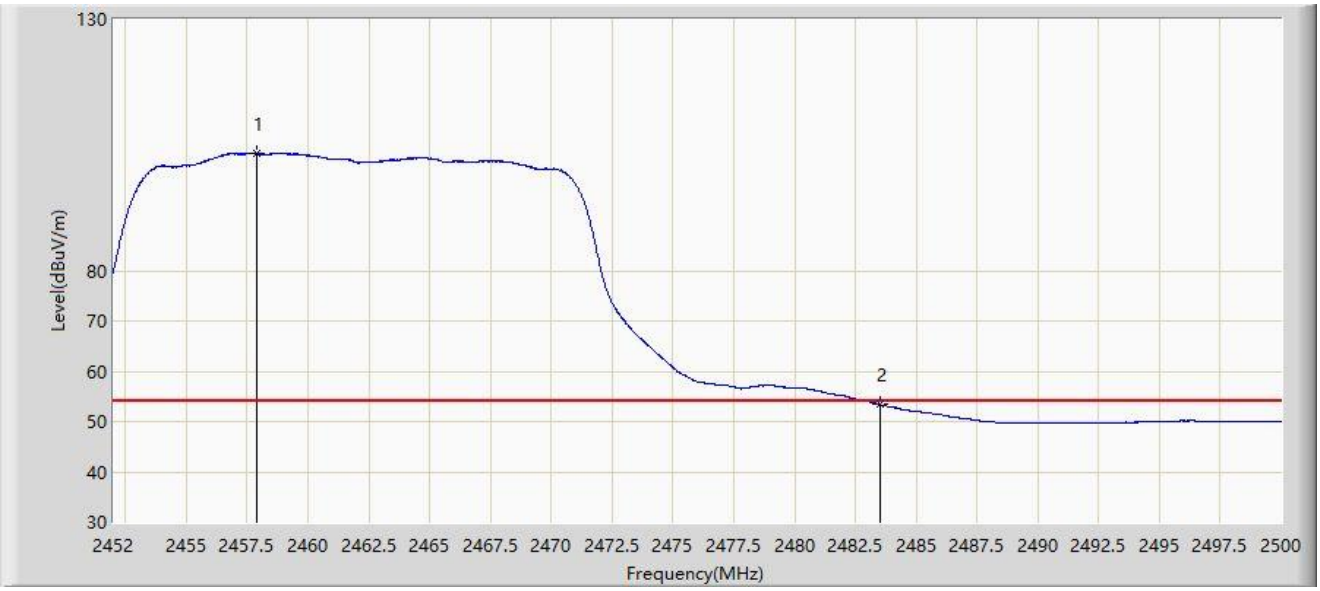


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2457.976	115.429	82.956	N/A	N/A	32.476	PK
2			2483.500	66.952	34.523	-7.048	74.000	32.429	PK
3			2484.112	67.767	35.343	-6.233	74.000	32.425	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 22:31
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 2462MHz	

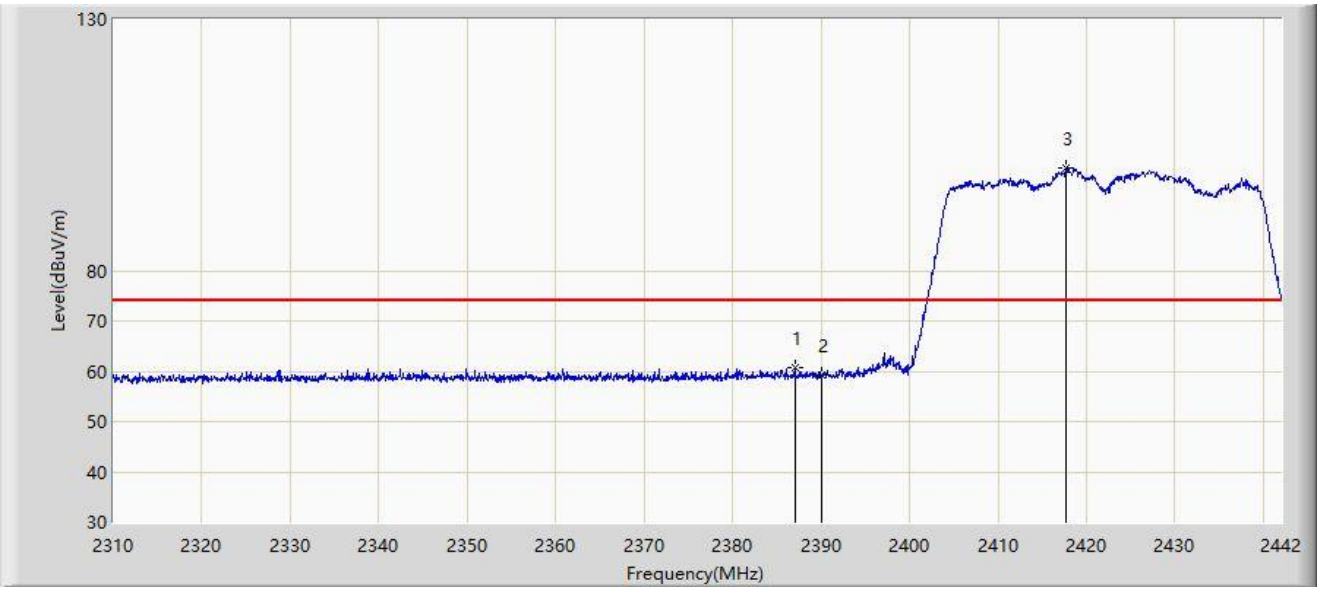


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2457.904	103.295	70.819	N/A	N/A	32.476	AV
2			2483.500	53.413	20.985	-0.587	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/24 - 11:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Buter Shi
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

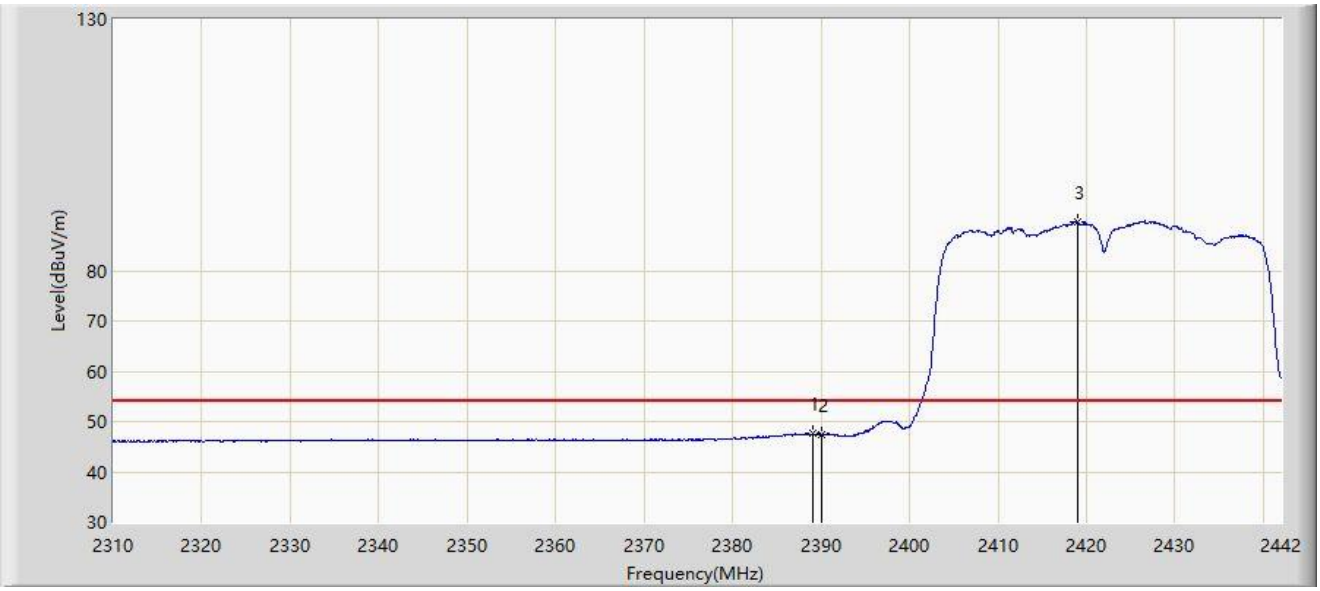


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2387.022	60.732	30.066	-13.268	74.000	30.666	PK
2			2390.000	59.151	28.487	-14.849	74.000	30.664	PK
3		*	2417.712	100.567	70.014	N/A	N/A	30.553	PK

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

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

Site: WZ-AC1	Time: 2021/04/24 - 11:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Buter Shi
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

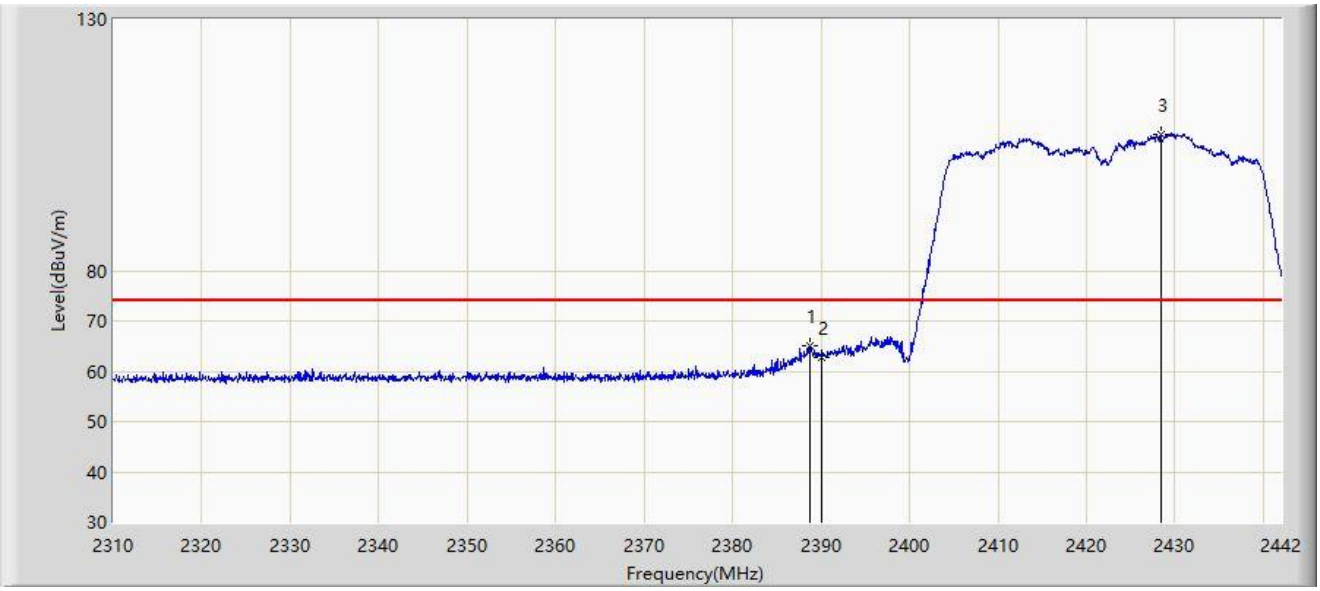


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2389.002	47.647	16.983	-6.353	54.000	30.665	AV
2			2390.000	47.331	16.667	-6.669	54.000	30.664	AV
3		*	2418.966	89.791	59.244	N/A	N/A	30.546	AV

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

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

Site: WZ-AC1	Time: 2021/04/24 - 11:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Buter Shi
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

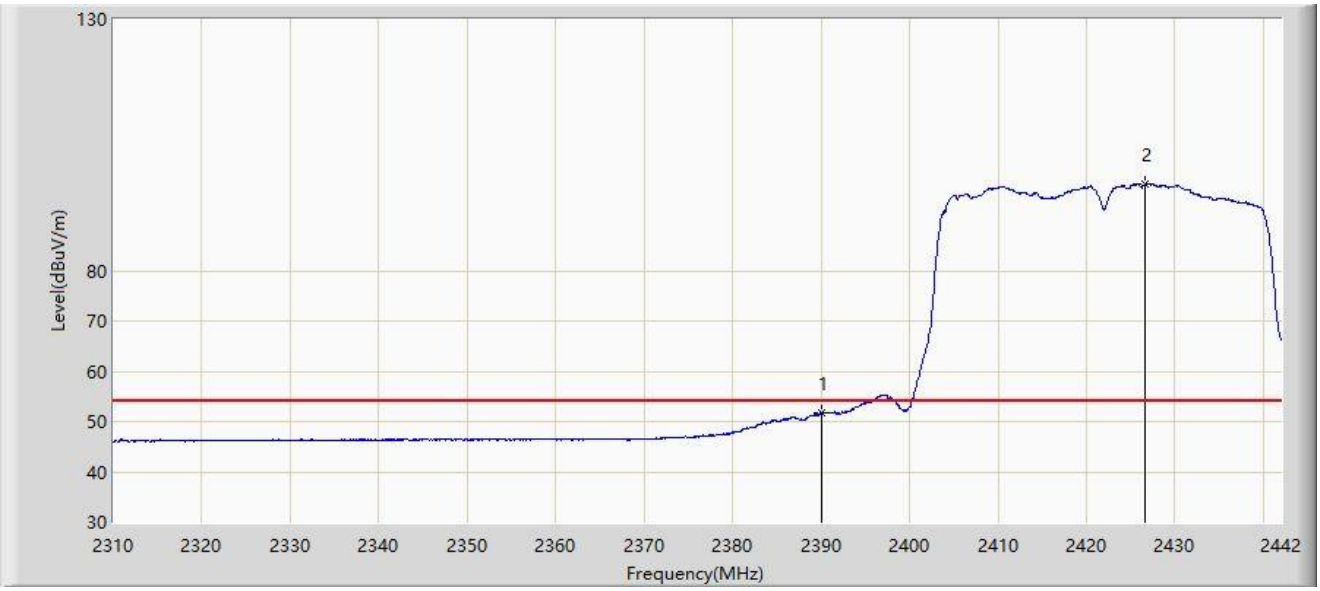


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2388.672	65.171	34.506	-8.829	74.000	30.664	PK
2			2390.000	62.755	32.091	-11.245	74.000	30.664	PK
3		*	2428.404	107.182	76.657	N/A	N/A	30.525	PK

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

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

Site: WZ-AC1	Time: 2021/04/24 - 11:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Buter Shi
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2422MHz	

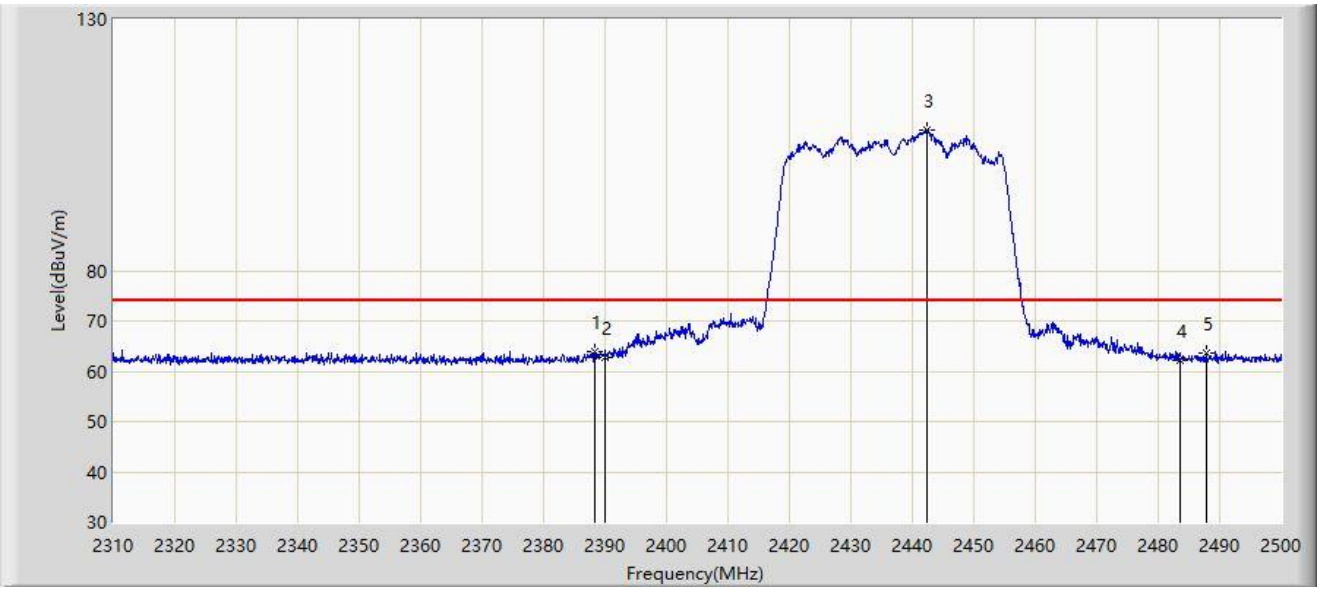


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	51.681	21.017	-2.319	54.000	30.664	AV
2		*	2426.688	97.246	66.719	N/A	N/A	30.526	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:08
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2437MHz	

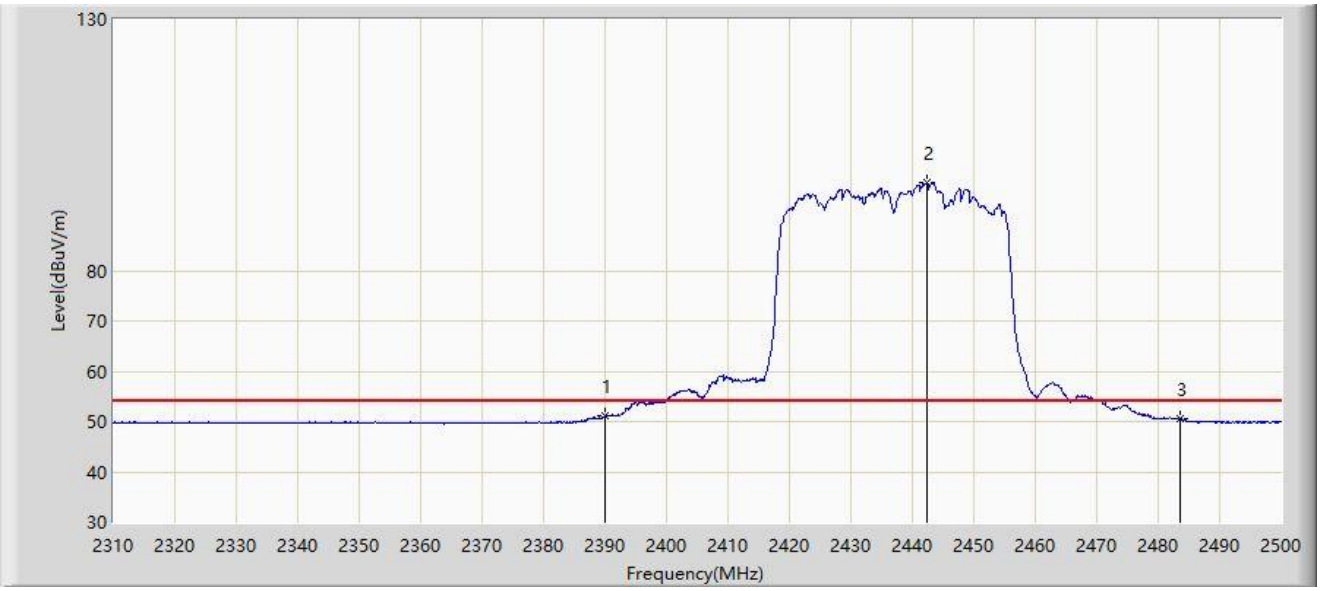


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			2388.280	63.892	31.367	-10.108	74.000	32.525	PK
2			2390.000	62.896	30.363	-11.104	74.000	32.533	PK
3		*	2442.335	108.112	75.637	N/A	N/A	32.475	PK
4			2483.500	62.234	29.805	-11.766	74.000	32.429	PK
5			2487.840	63.547	31.143	-10.453	74.000	32.404	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2437MHz	

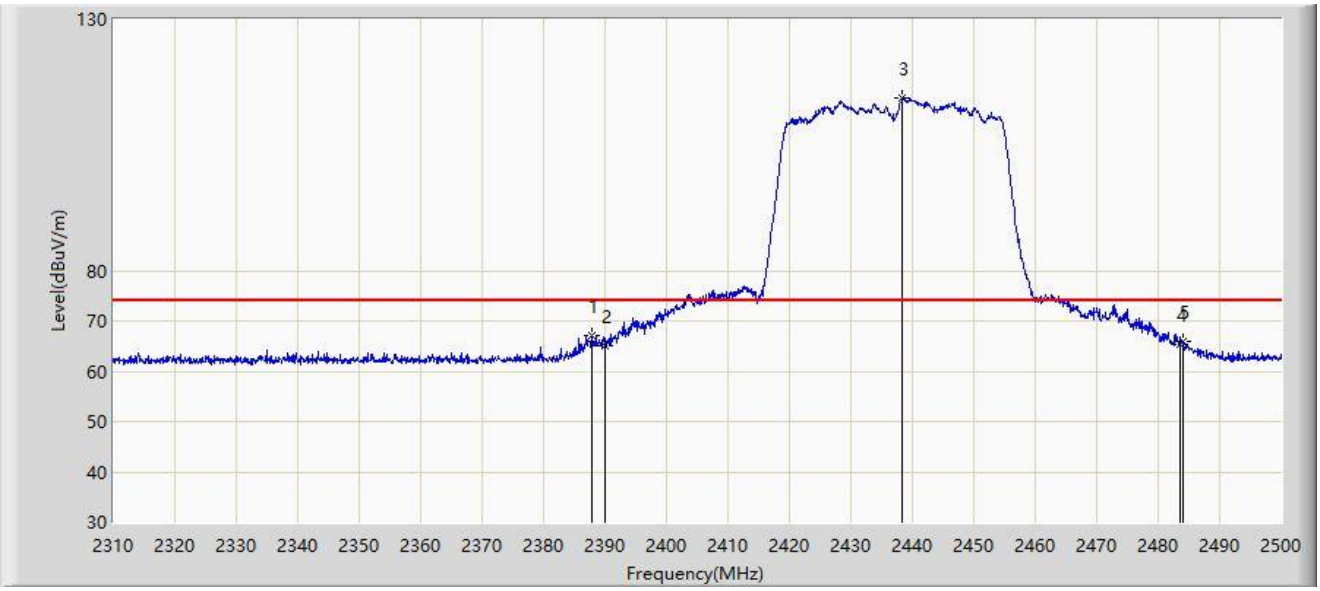


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	51.037	18.504	-2.963	54.000	32.533	AV
2		*	2442.335	97.404	64.929	N/A	N/A	32.475	AV
3			2483.500	50.502	18.073	-3.498	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2437MHz	

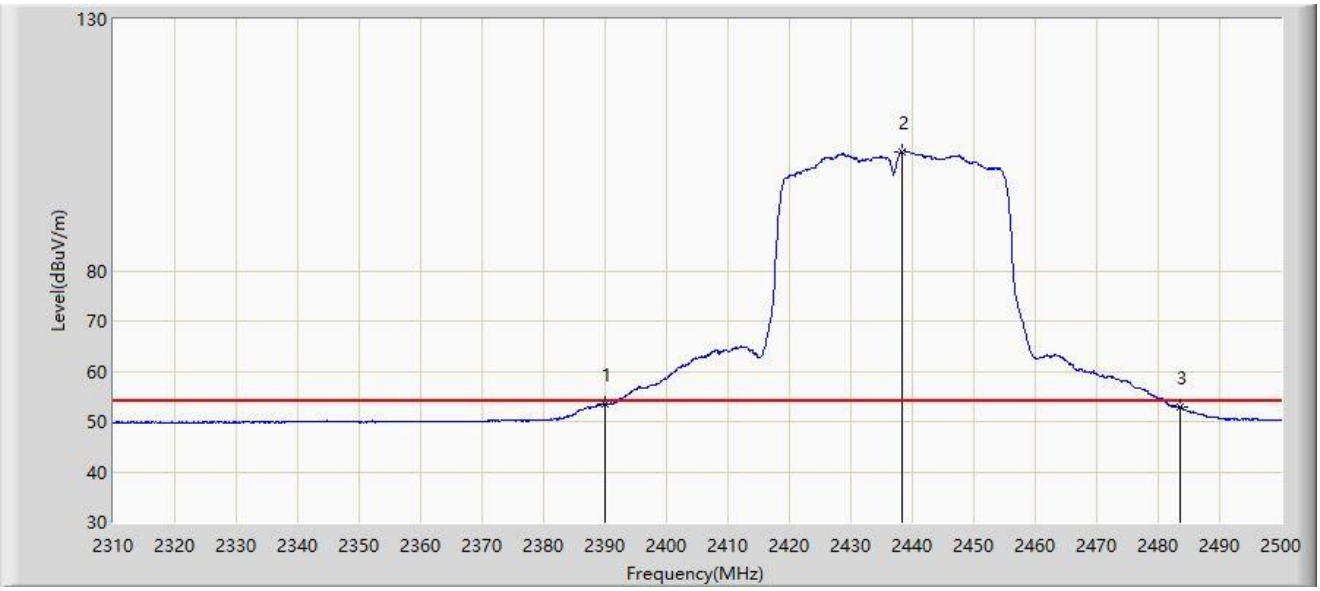


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2387.805	67.078	34.554	-6.922	74.000	32.524	PK
2			2390.000	65.077	32.544	-8.923	74.000	32.533	PK
3		*	2438.440	114.320	81.807	N/A	N/A	32.479	PK
4			2483.500	65.224	32.795	-8.776	74.000	32.429	PK
5			2484.040	65.992	33.567	-8.008	74.000	32.426	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2437MHz	

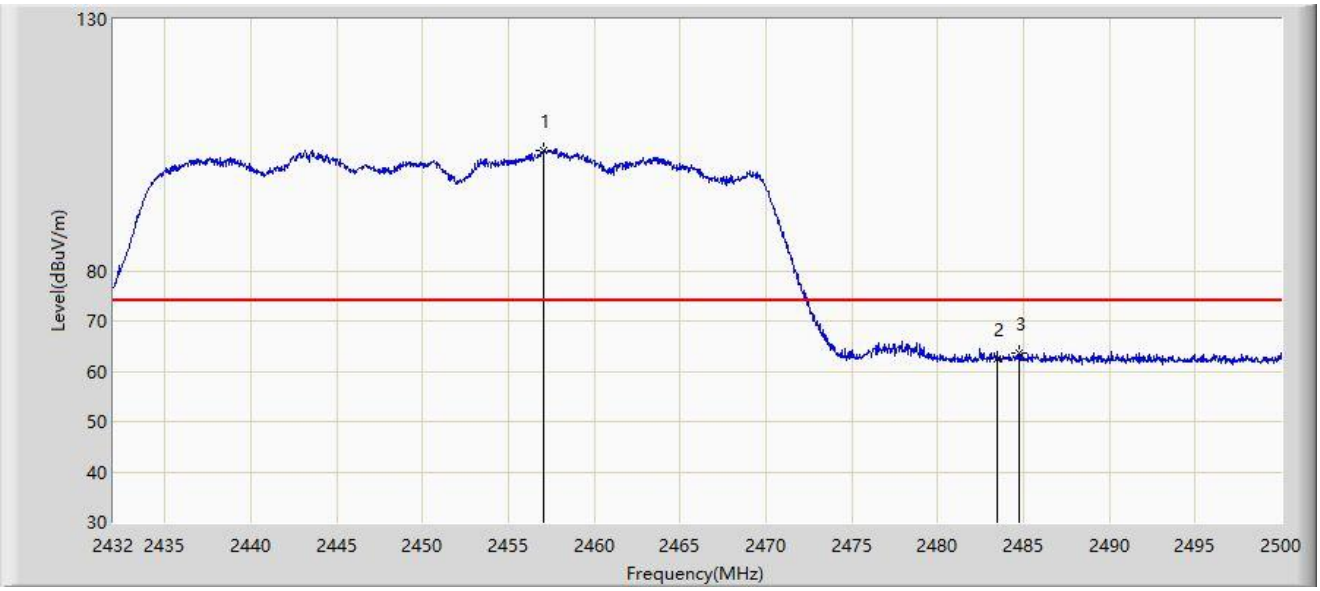


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1			2390.000	53.572	21.039	-0.428	54.000	32.533	AV
2		*	2438.250	103.678	71.198	N/A	N/A	32.480	AV
3			2483.500	52.809	20.380	-1.191	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

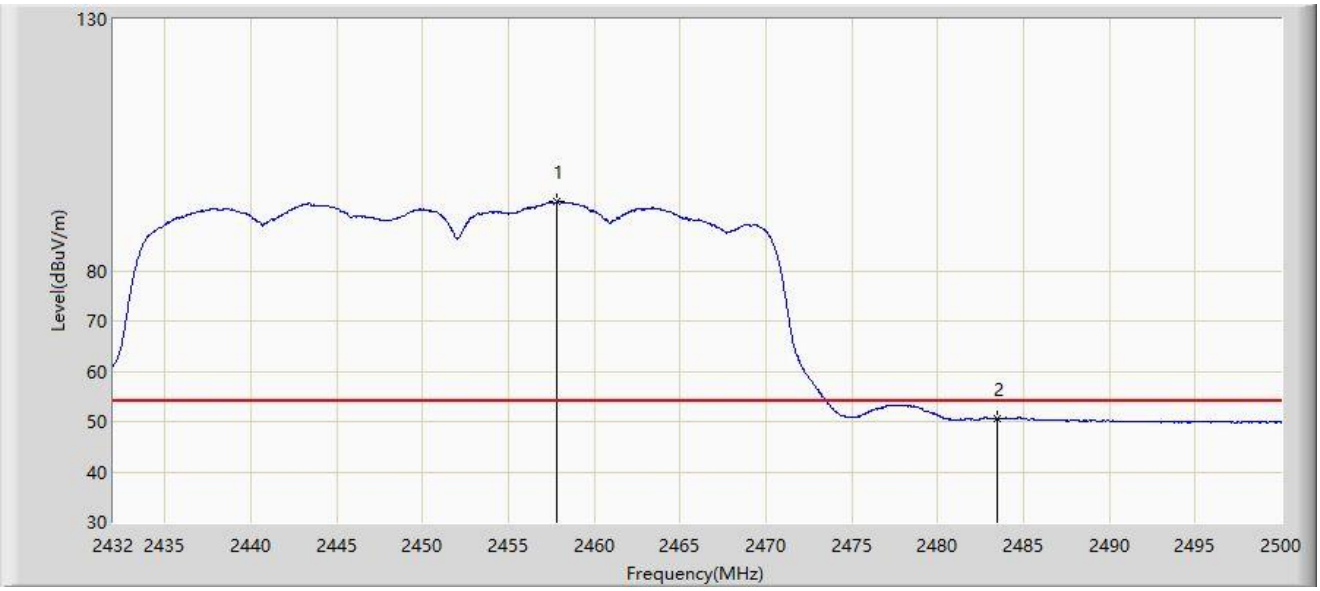


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	2457.092	104.031	71.559	N/A	N/A	32.473	PK
2			2483.500	62.561	30.132	-11.439	74.000	32.429	PK
3			2484.734	63.643	31.225	-10.357	74.000	32.421	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:35
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

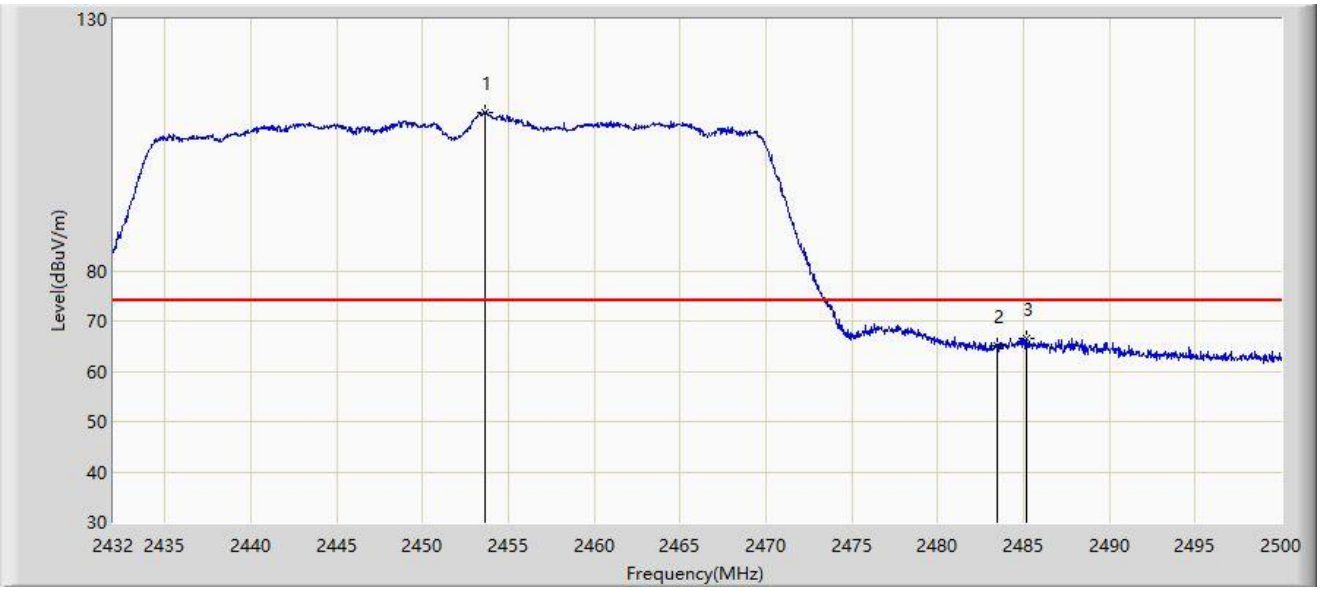


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2457.840	93.703	61.228	N/A	N/A	32.476	AV
2			2483.500	50.657	18.228	-3.343	54.000	32.429	AV

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	

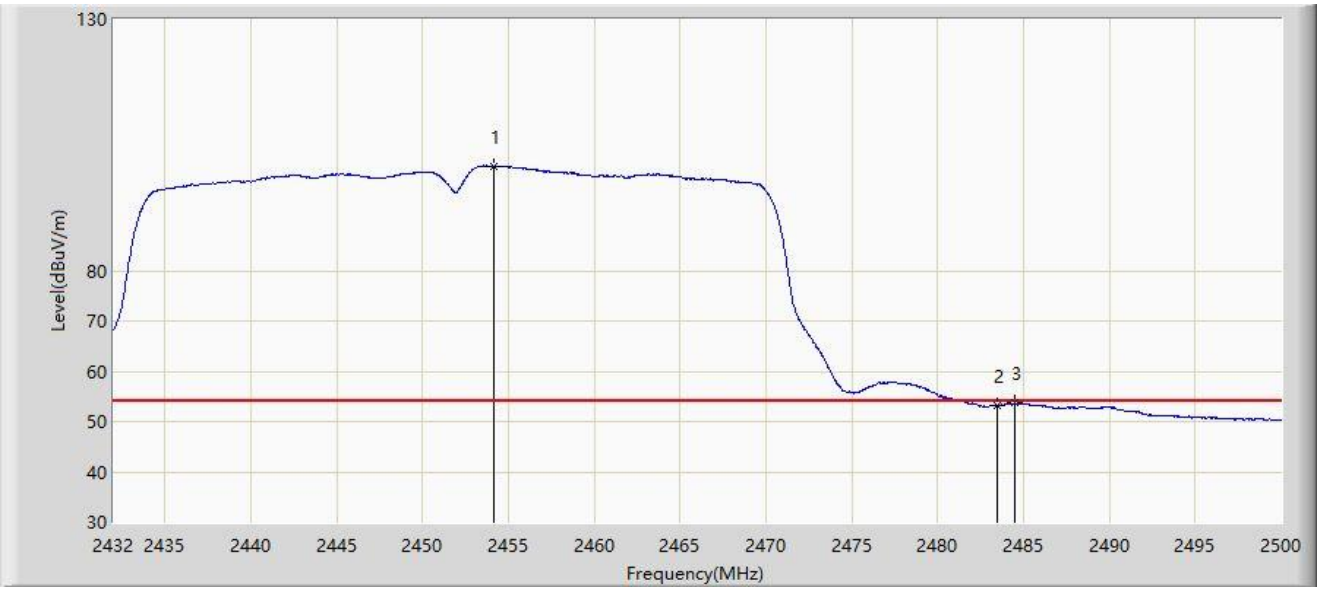


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		*	2453.658	111.429	78.968	N/A	N/A	32.461	PK
2			2483.500	65.122	32.693	-8.878	74.000	32.429	PK
3			2485.142	66.637	34.220	-7.363	74.000	32.419	PK

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

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

Site: WZ-AC1	Time: 2021/04/15 - 23:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Jason Gao
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 2452MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1		*	2454.168	100.796	68.333	N/A	N/A	32.463	AV
2			2483.500	53.213	20.785	-0.787	54.000	32.429	AV
3			2484.496	53.699	21.277	-0.301	54.000	32.422	AV

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

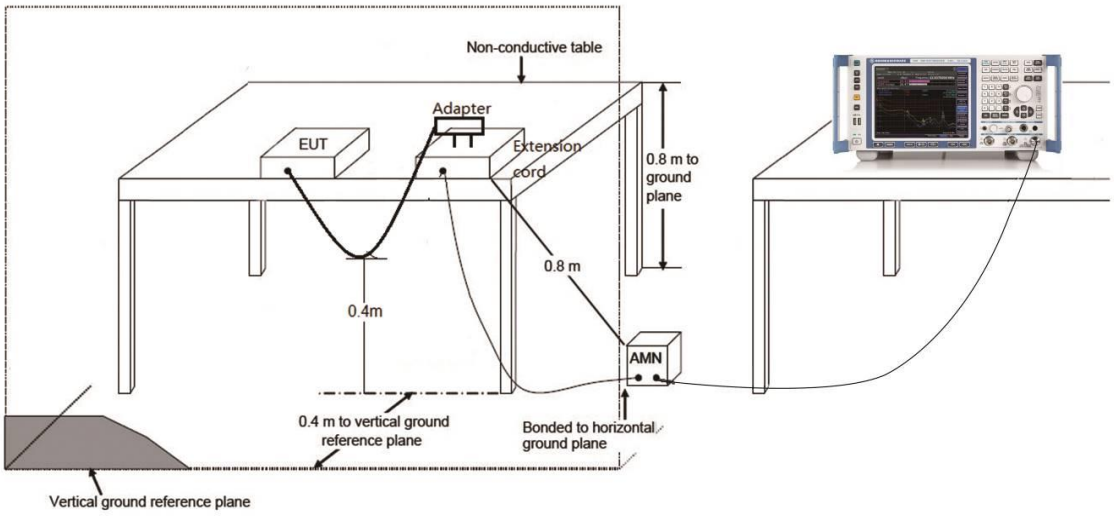
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

5.8. AC Conducted Emissions Measurement

5.8.1.Test Limit

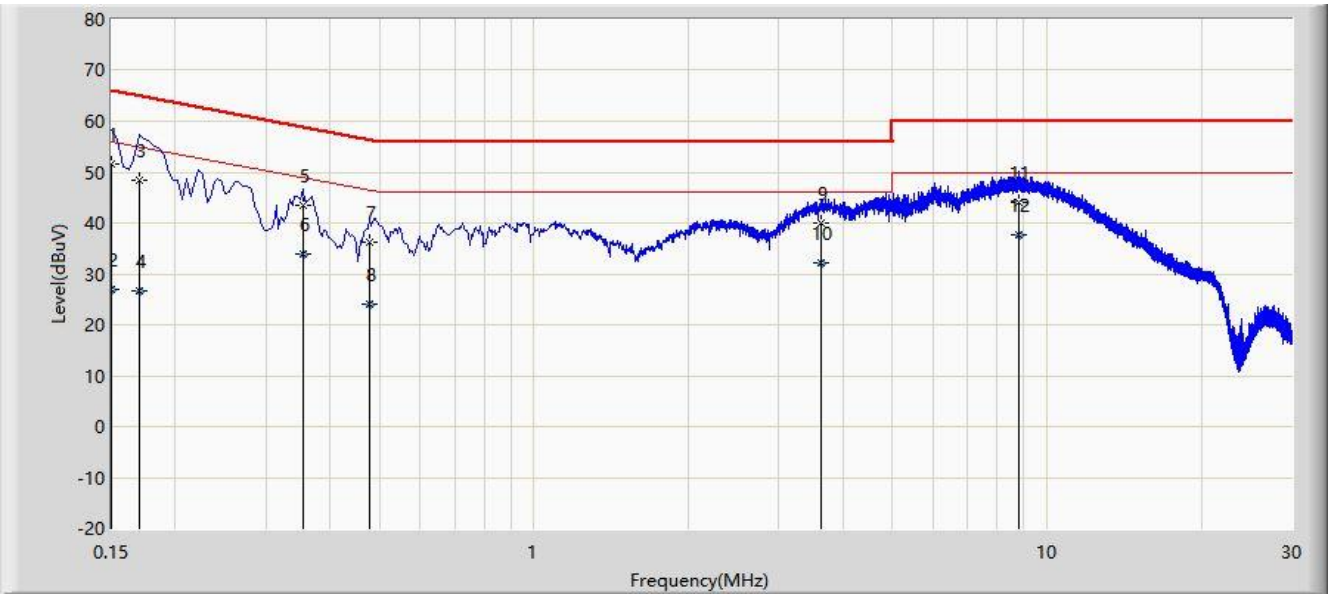
FCC Part 15.207 Limit		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 ~ 0.50	66 ~ 56	56 ~ 46
0.50 ~ 5.0	56	46
5.0 ~ 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

5.8.2.Test Setup



5.8.3.Test Result

Site: WZ-SR2	Time: 2021/05/25 - 11:38
Limit: FCC_Part15.207_CE_AC Power	Engineer: Linda Wei
Probe: ENV216_101683_Filter Off_Without Adapter	Polarity: Neutral
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	

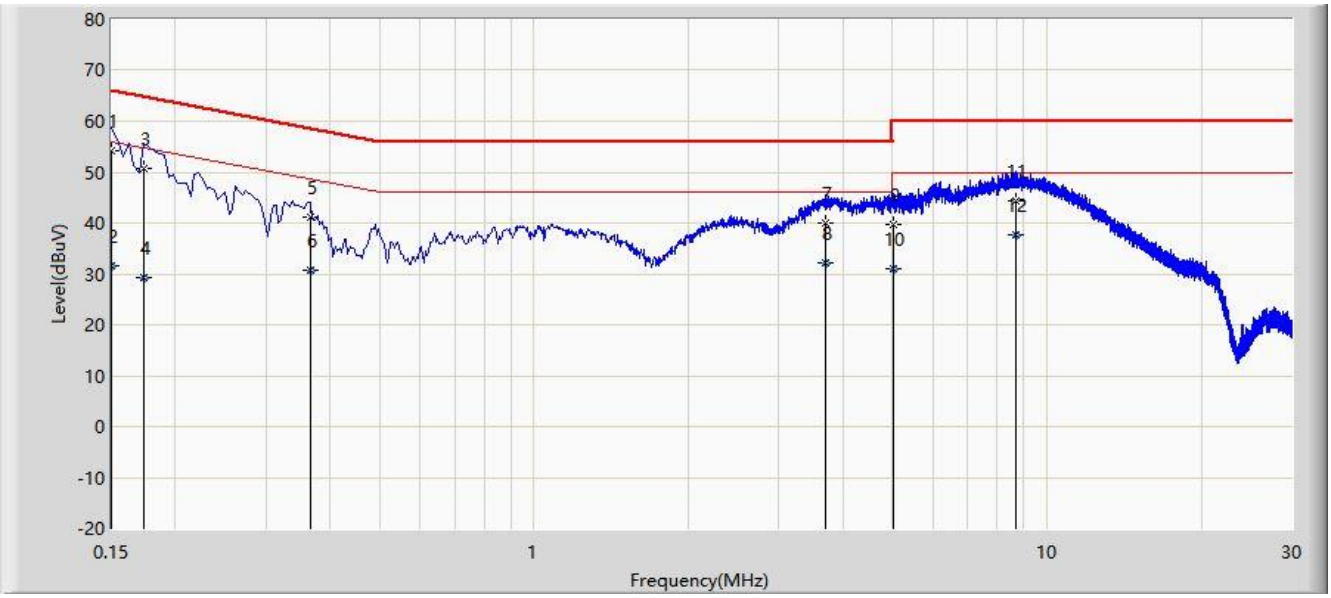


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1			0.150	51.624	41.836	-14.376	66.000	9.788	QP
2			0.150	26.887	17.099	-29.113	56.000	9.788	AV
3			0.170	48.365	38.567	-16.595	64.960	9.798	QP
4			0.170	26.664	16.866	-28.296	54.960	9.798	AV
5			0.354	43.447	33.612	-15.421	58.868	9.836	QP
6			0.354	33.843	24.007	-15.025	48.868	9.836	AV
7			0.478	36.132	26.276	-20.241	56.374	9.856	QP
8			0.478	24.036	14.180	-22.337	46.374	9.856	AV
9			3.622	39.928	29.752	-16.072	56.000	10.175	QP
10			3.622	32.031	21.855	-13.969	46.000	10.175	AV
11			8.810	44.158	33.590	-15.842	60.000	10.567	QP
12		*	8.810	37.730	27.163	-12.270	50.000	10.567	AV

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

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

Site: WZ-SR2	Time: 2021/05/25 - 11:48
Limit: FCC_Part15.207_CE_AC Power	Engineer: Linda Wei
Probe: ENV216_101683_Filter Off_Without Adapter	Polarity: Line
EUT: Dual Band 4x4 802.11ac Wave 2 Mini PCIe WiFi Module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at Channel 2437MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1		*	0.150	54.289	44.491	-11.711	66.000	9.798	QP
2			0.150	31.525	21.728	-24.475	56.000	9.798	AV
3			0.174	50.733	40.923	-14.034	64.767	9.810	QP
4			0.174	29.292	19.482	-25.475	54.767	9.810	AV
5			0.366	41.244	31.397	-17.347	58.591	9.848	QP
6			0.366	30.814	20.966	-17.778	48.591	9.848	AV
7			3.710	40.111	29.915	-15.889	56.000	10.197	QP
8			3.710	32.136	21.940	-13.864	46.000	10.197	AV
9			5.026	39.773	29.351	-20.227	60.000	10.421	QP
10			5.026	31.120	20.698	-18.880	50.000	10.421	AV
11			8.686	44.372	33.805	-15.628	60.000	10.567	QP
12			8.686	37.594	27.027	-12.406	50.000	10.567	AV

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

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

6. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with Part 15C of the FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “2103RSU077-UT” file.

Appendix B - EUT Photograph

Refer to “ 2103RSU077-UE” file.