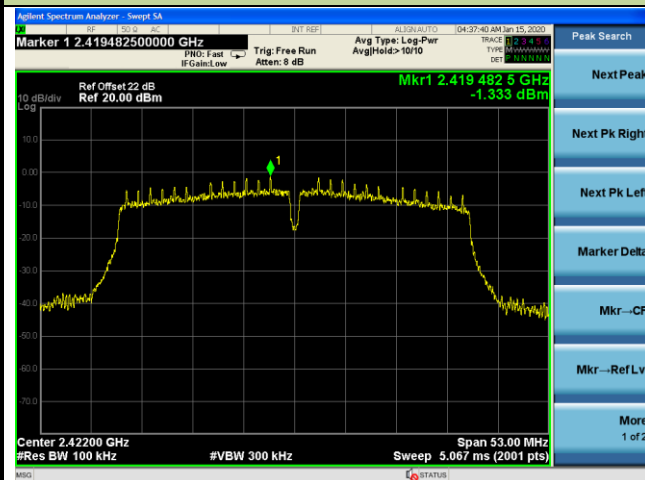


802.11n-HT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

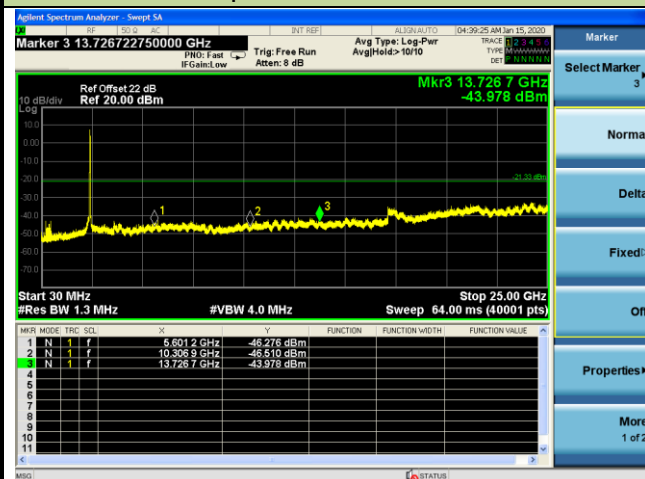
100kHz PSD reference Level



Low Band Edge



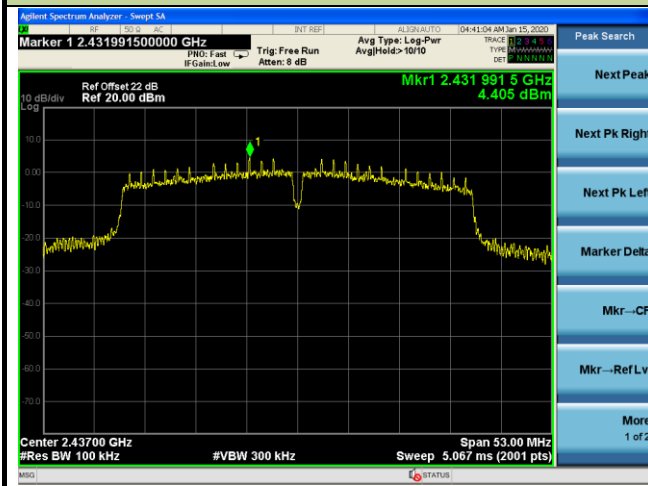
Spurious Emission



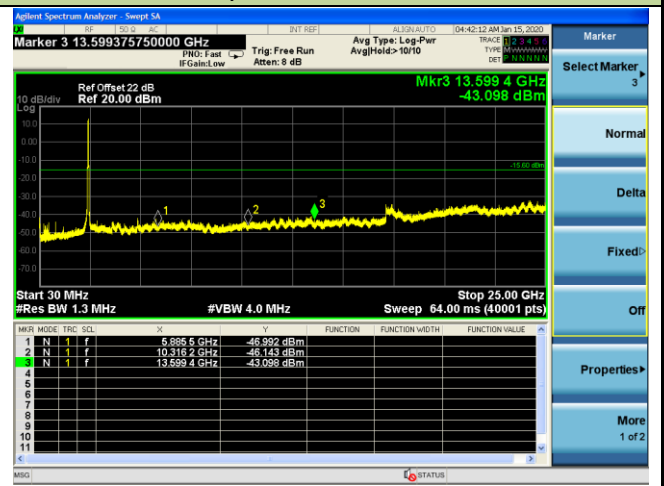
802.11n-HT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 06 (2437MHz)

100kHz PSD reference Level



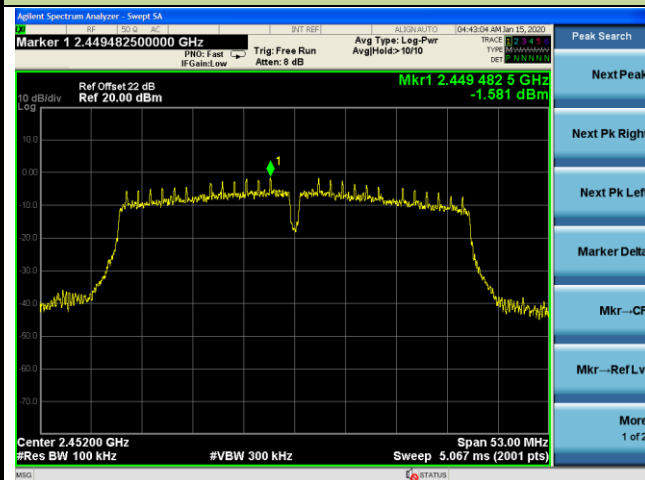
Spurious Emission



802.11n-HT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 09 (2452MHz)

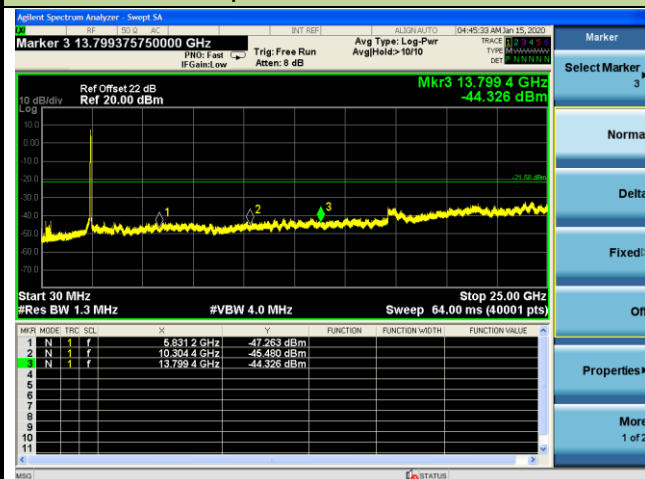
100kHz PSD reference Level



High Band Edge



Spurious Emission



7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

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

7.6.2. 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 30MHz to 1GHz)

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

7.6.3. Test Setting

Table 1 - RBW as a function of frequency

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

Quasi-Peak Measurements below 1GHz

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

Peak Measurements above 1GHz

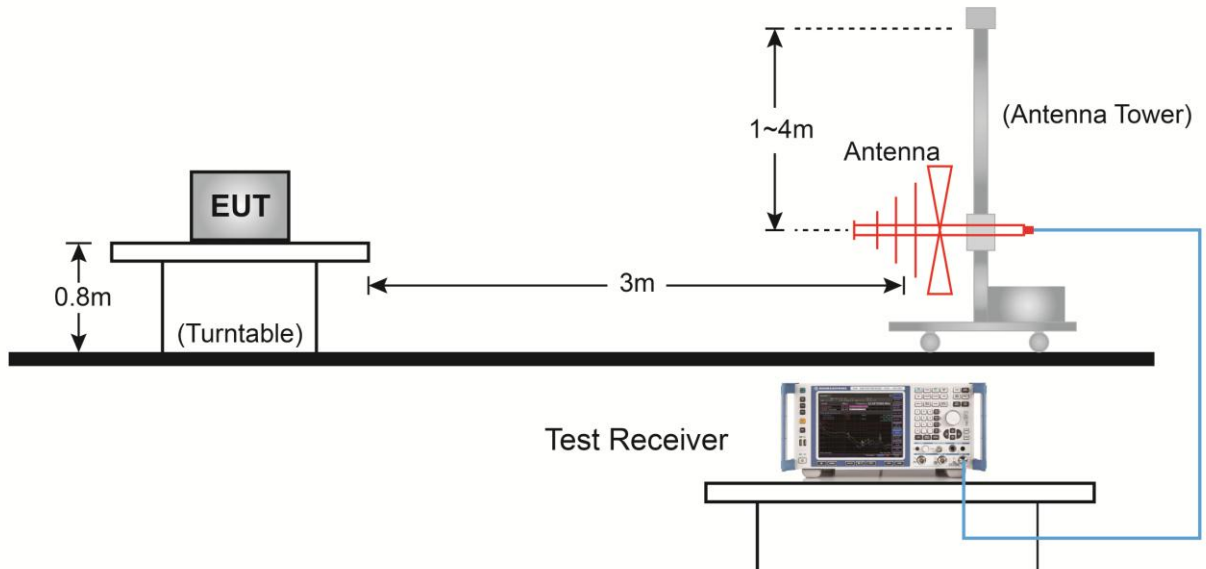
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

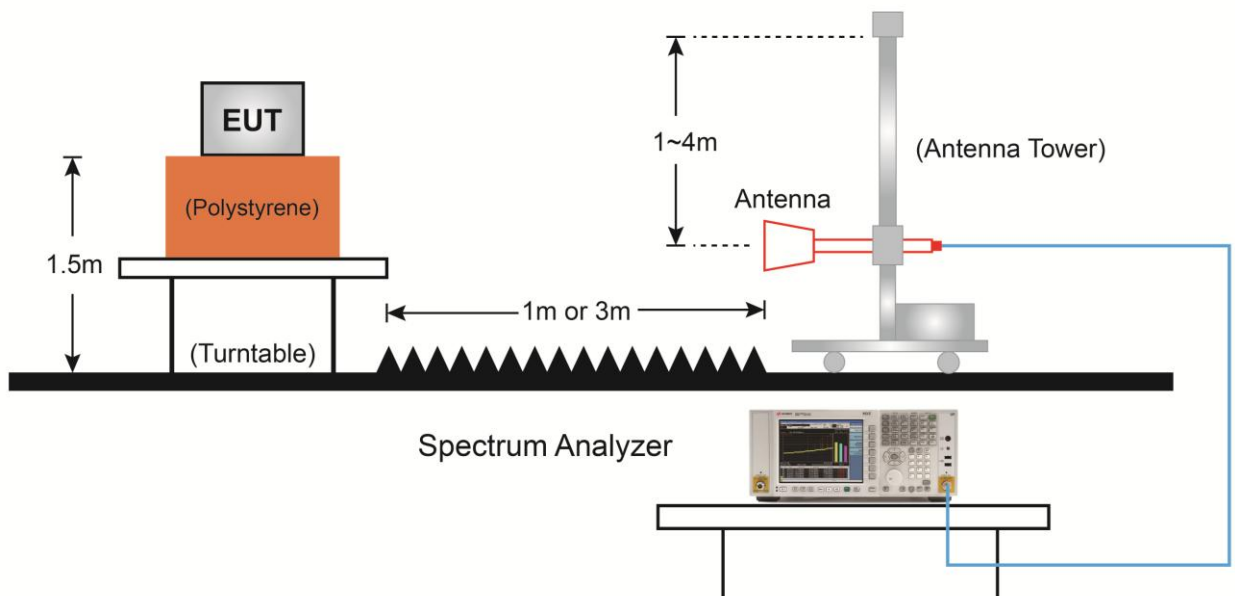
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4.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

7.6.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



7.6.5. Test Result

Product	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11b - Ant 0 + 1	Test Channel	01
Note	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
	4824.0	48.6	6.0	54.7	74.0	-19.4	Peak	Horizontal
	4824.0	46.9	6.0	53.0	54.0	-1.0	Average	Horizontal
*	6032.0	36.7	7.9	44.7	84.5	-39.8	Peak	Horizontal
	8242.0	33.3	12.2	45.5	74.0	-28.5	Peak	Horizontal
*	9644.5	35.1	16.3	51.3	84.5	-33.2	Peak	Horizontal
	4825.0	43.5	6.1	49.5	74.0	-24.5	Peak	Vertical
*	6032.0	37.5	7.9	45.5	84.5	-39.0	Peak	Vertical
	7596.0	33.6	11.8	45.4	74.0	-28.6	Peak	Vertical
*	9950.5	32.6	16.9	49.5	84.5	-35.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (104.5dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11b - Ant 0 + 1	Test Channel	06
Note	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	49.0	5.9	54.8	74.0	-19.2	Peak	Horizontal
	4874.1	47.6	5.9	53.5	54.0	-0.5	Average	Horizontal
*	6091.5	36.2	8.1	44.3	86.7	-42.4	Peak	Horizontal
	7311.0	42.8	11.7	54.5	74.0	-19.5	Peak	Horizontal
	7311.0	37.5	11.7	49.2	54.0	-4.8	Average	Horizontal
*	9746.5	37.7	16.7	54.4	86.7	-32.3	Peak	Horizontal
	4876.0	44.2	5.9	50.0	74.0	-24.0	Peak	Vertical
*	6091.5	38.5	8.1	46.6	86.7	-40.1	Peak	Vertical
	7307.0	35.3	11.7	47.0	74.0	-27.0	Peak	Vertical
*	9746.5	34.2	16.7	50.9	86.7	-35.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.7dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11b - Ant 0 + 1	Test Channel	11
Note	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	48.8	6.1	54.9	74.0	-19.1	Peak	Horizontal
	4924.5	47.2	6.1	53.3	54.0	-0.7	Average	Horizontal
*	6159.5	35.2	8.2	43.5	84.6	-41.1	Peak	Horizontal
	7383.5	40.8	11.8	52.6	74.0	-21.4	Peak	Horizontal
*	9848.5	38.0	16.9	54.9	84.6	-29.7	Peak	Horizontal
	4927.0	42.9	6.1	49.0	74.0	-25.0	Peak	Vertical
*	6151.0	38.9	8.2	47.1	84.6	-37.5	Peak	Vertical
	8165.5	33.6	12.4	46.0	74.0	-28.0	Peak	Vertical
*	9848.5	34.7	16.9	51.6	84.6	-33.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (104.6dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11g - Ant 0 + 1	Test Channel	01
Note	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	48.6	6.1	54.7	74.0	-19.3	Peak	Horizontal
	4825.2	38.5	6.1	44.5	54.0	-9.5	Average	Horizontal
*	7239.0	43.3	11.5	54.9	92.0	-37.1	Peak	Horizontal
	8157.0	33.6	12.5	46.1	74.0	-27.9	Peak	Horizontal
*	9644.5	34.2	16.3	50.4	92.0	-41.6	Peak	Horizontal
	4825.0	47.6	6.1	53.7	74.0	-20.3	Peak	Vertical
	4825.8	36.9	6.1	43.0	54.0	-11.0	Average	Vertical
*	7239.0	41.6	11.5	53.2	92.0	-38.8	Peak	Vertical
	8242.0	32.8	12.2	45.0	74.0	-29.0	Peak	Vertical
*	9644.5	33.6	16.3	49.9	92.0	-42.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (112.0dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11g - Ant 0 + 1	Test Channel	06
Note	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	53.1	5.9	59.0	74.0	-15.0	Peak	Horizontal
	4875.2	41.5	5.9	47.4	54.0	-6.6	Average	Horizontal
*	6091.5	34.8	8.1	42.9	93.6	-50.7	Peak	Horizontal
	7307.0	49.2	11.7	60.9	74.0	-13.1	Peak	Horizontal
	7310.8	37.3	11.7	48.9	54.0	-5.1	Average	Horizontal
*	9746.5	39.5	16.7	56.2	93.6	-37.4	Peak	Horizontal
	4876.0	52.1	5.9	57.9	74.0	-16.1	Peak	Vertical
	4876.2	39.7	5.9	45.5	54.0	-8.5	Average	Vertical
*	6091.5	39.1	8.1	47.2	93.6	-46.4	Peak	Vertical
	7307.0	45.0	11.7	56.7	74.0	-17.3	Peak	Vertical
	7313.3	33.8	11.6	45.4	54.0	-8.6	Average	Vertical
*	9746.5	38.4	16.7	55.1	93.6	-38.5	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (113.6BμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11g - Ant 0 + 1	Test Channel	11
Note	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	49.1	6.1	55.2	74.0	-18.8	Peak	Horizontal
	4924.2	38.9	6.1	45.0	54.0	-9.0	Average	Horizontal
*	6151.0	36.0	8.2	44.1	92.2	-48.1	Peak	Horizontal
	7383.5	44.4	11.8	56.2	74.0	-17.8	Peak	Horizontal
	7385.6	33.1	11.8	44.9	54.0	-9.1	Average	Horizontal
*	9848.5	36.5	16.9	53.4	92.2	-38.8	Peak	Horizontal
	4918.5	47.1	6.1	53.3	74.0	-20.7	Peak	Vertical
*	6151.0	38.9	8.2	47.1	92.2	-45.1	Peak	Vertical
	7383.5	41.1	11.8	52.9	74.0	-21.1	Peak	Vertical
*	9848.5	35.0	16.9	51.9	92.2	-40.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (112.2dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT20 - Ant 0 + 1	Test Channel	01
Note	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	48.7	6.1	54.8	74.0	-19.2	Peak	Horizontal
	4822.2	37.0	6.0	43.0	54.0	-11.0	Average	Horizontal
*	7230.5	44.6	11.5	56.1	90.9	-34.8	Peak	Horizontal
	8327.0	33.4	12.2	45.6	74.0	-28.4	Peak	Horizontal
*	9644.5	34.0	16.3	50.3	90.9	-40.6	Peak	Horizontal
	4825.0	49.8	6.1	55.9	74.0	-18.1	Peak	Vertical
	4822.6	35.2	6.0	41.3	54.0	-12.7	Average	Vertical
*	7239.0	40.3	11.5	51.8	90.9	-39.1	Peak	Vertical
	8174.0	33.4	12.4	45.8	74.0	-28.2	Peak	Vertical
*	9967.5	32.5	16.7	49.2	90.9	-41.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (110.9dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT20 - Ant 0 + 1	Test Channel	06
Note	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	51.5	5.9	57.3	74.0	-16.7	Peak	Horizontal
*	4872.1	40.2	5.9	46.0	54.0	-8.0	Average	Horizontal
	6091.5	34.3	8.1	42.4	92.2	-49.8	Peak	Horizontal
*	7310.9	36.4	11.6	48.1	54.0	-5.9	Average	Horizontal
	7315.5	48.5	11.6	60.1	74.0	-13.9	Peak	Horizontal
	9746.5	37.7	16.7	54.4	92.2	-37.8	Peak	Horizontal
	4876.0	49.8	5.9	55.7	74.0	-18.3	Peak	Vertical
*	4872.5	38.8	5.9	44.6	54.0	-9.4	Average	Vertical
	6091.5	37.8	8.1	45.9	92.2	-46.3	Peak	Vertical
	7307.0	44.9	11.7	56.6	74.0	-17.4	Peak	Vertical
*	7312.5	32.8	11.6	44.4	54.0	-9.6	Average	Vertical
	9746.5	37.2	16.7	53.9	92.2	-38.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (112.2dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT20 - Ant 0 + 1	Test Channel	11
Note	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
	4918.5	48.6	6.1	54.8	74.0	-19.2	Peak	Horizontal
	4922.1	41.9	1.3	43.2	54.0	-10.8	Average	Horizontal
*	6159.5	35.8	8.2	44.1	90.6	-46.5	Peak	Horizontal
	7392.0	41.3	11.8	53.1	74.0	-21.0	Peak	Horizontal
*	9848.5	36.1	16.9	52.9	90.6	-37.7	Peak	Horizontal
	4918.5	45.2	6.1	51.3	74.0	-22.7	Peak	Vertical
*	6159.5	38.1	8.2	46.3	90.6	-44.3	Peak	Vertical
	7383.5	39.4	11.8	51.2	74.0	-22.8	Peak	Vertical
*	9848.5	33.6	16.9	50.4	90.6	-40.2	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (110.6dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Channel	03
Note	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
	4842.0	44.3	5.9	50.2	74.0	-23.8	Peak	Horizontal
*	6057.5	36.0	7.8	43.8	83.9	-40.1	Peak	Horizontal
	7273.0	38.2	11.7	49.9	74.0	-24.1	Peak	Horizontal
*	9967.5	33.2	16.7	49.9	83.9	-34.0	Peak	Horizontal
	4842.0	41.5	5.9	47.4	74.0	-26.6	Peak	Vertical
*	6057.5	38.7	7.8	46.5	83.9	-37.4	Peak	Vertical
	7264.5	35.9	11.7	47.6	74.0	-26.4	Peak	Vertical
*	9967.5	32.8	16.7	49.5	83.9	-34.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (103.9dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Channel	06
Note	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
	4867.5	51.0	5.9	56.9	74.0	-17.1	Peak	Horizontal
	4875.6	41.6	5.9	47.5	54.0	-6.5	Average	Horizontal
*	6091.5	36.3	8.1	44.4	87.0	-42.6	Peak	Horizontal
	7310.9	37.7	11.6	49.4	54.0	-4.6	Average	Horizontal
	7315.5	48.5	11.6	60.1	74.0	-13.9	Peak	Horizontal
*	9746.5	37.1	16.7	53.8	87.0	-33.2	Peak	Horizontal
	4867.5	51.4	5.9	57.3	74.0	-16.7	Peak	Vertical
	4875.6	40.4	5.9	46.3	54.0	-7.7	Average	Vertical
*	6091.5	38.4	8.1	46.5	87.0	-40.5	Peak	Vertical
	7307.0	44.7	11.7	56.4	74.0	-17.6	Peak	Vertical
	7308.0	33.7	11.7	45.4	54.0	-8.6	Average	Vertical
*	9746.5	36.9	16.7	53.6	87.0	-33.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (107.0dBμV/m) or 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	RANGEXTD MVP	Temperature	25°C
Test Engineer	David Lv	Relative Humidity	52%
Test Site	AC1	Test Date	2020/01/14
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Channel	09
Note	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	45.2	6.1	51.3	74.0	-22.7	Peak	Horizontal
*	6134.0	35.2	8.1	43.3	84.6	-41.3	Peak	Horizontal
	7358.0	37.7	11.9	49.7	74.0	-24.3	Peak	Horizontal
*	9806.0	32.9	16.8	49.7	84.6	-34.9	Peak	Horizontal
	4901.5	42.3	6.1	48.4	74.0	-25.6	Peak	Vertical
*	6134.0	39.0	8.1	47.0	84.6	-37.6	Peak	Vertical
	7349.5	37.2	11.9	49.0	74.0	-25.0	Peak	Vertical
*	9959.0	32.6	16.8	49.4	84.6	-35.2	Peak	Vertical

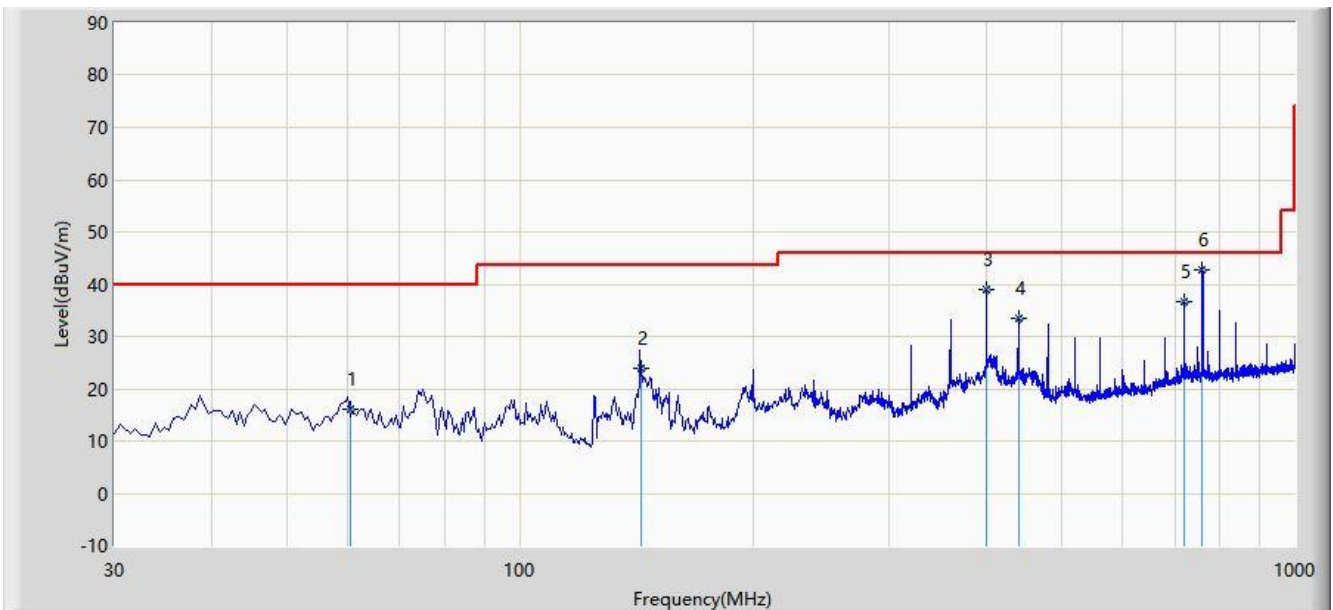
Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (104.6dBμV/m) or 15.209 which is higher.

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: 2020/01/13 - 14:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Dillon Diao
Probe: AC1_VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Worst Case Mode: There is the worst case within frequency range 30MHz~1GHz.	



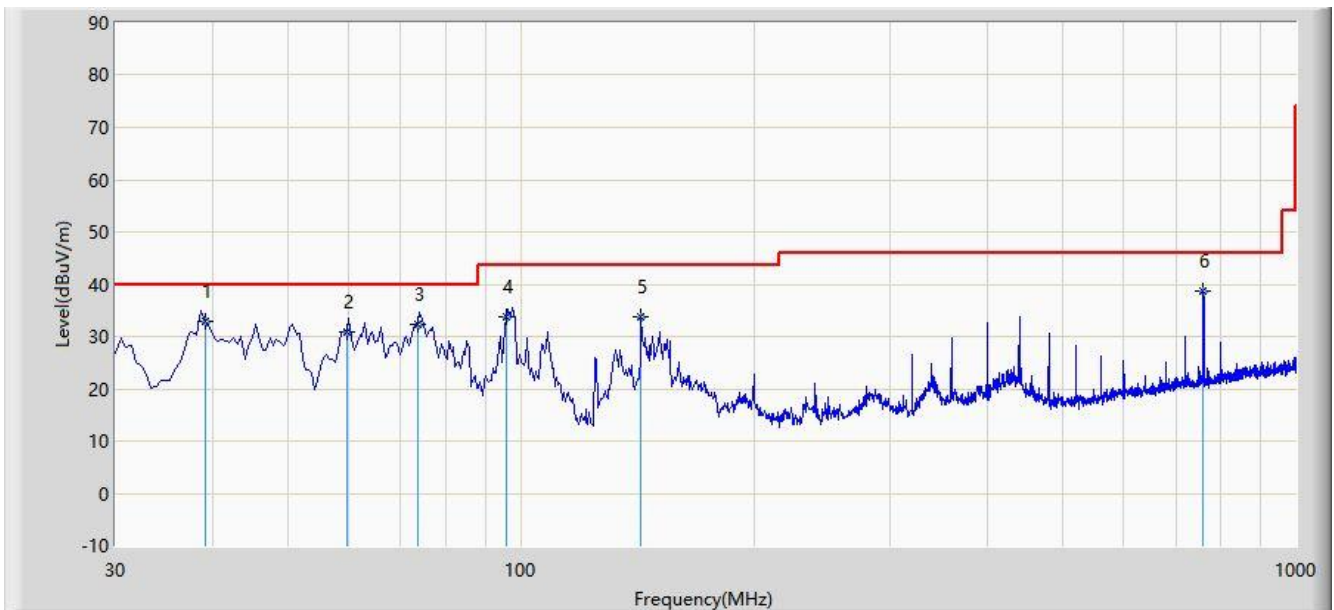
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			60.555	15.980	2.081	-24.020	40.000	13.899	QP
2			143.490	23.815	14.197	-19.685	43.500	9.619	QP
3			400.055	38.845	21.895	-7.155	46.000	16.950	QP
4			439.825	33.596	16.074	-12.404	46.000	17.522	QP
5			720.155	36.558	14.226	-9.442	46.000	22.332	QP
6		*	760.003	42.790	21.200	-3.210	46.000	21.590	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: 2020/01/13 - 14:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Dillon Diao
Probe: AC1_VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Worst Case Mode: There is the worst case within frequency range 30MHz~1GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	39.215	32.996	18.395	-7.004	40.000	14.601	QP
2			59.585	30.925	17.363	-9.075	40.000	13.562	QP
3			73.650	32.406	21.274	-7.594	40.000	11.132	QP
4			95.960	33.685	22.833	-9.815	43.500	10.851	QP
5			143.005	33.831	18.918	-9.669	43.500	14.913	QP
6			759.925	38.654	15.392	-7.346	46.000	23.261	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.

7.7. Radiated Restricted Band Edge Measurement

7.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

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

FCC Part 15 Subpart C Paragraph 15.209 Limits		
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 6.6 (Standard test method above 1GHz)

7.7.3.Test Setting

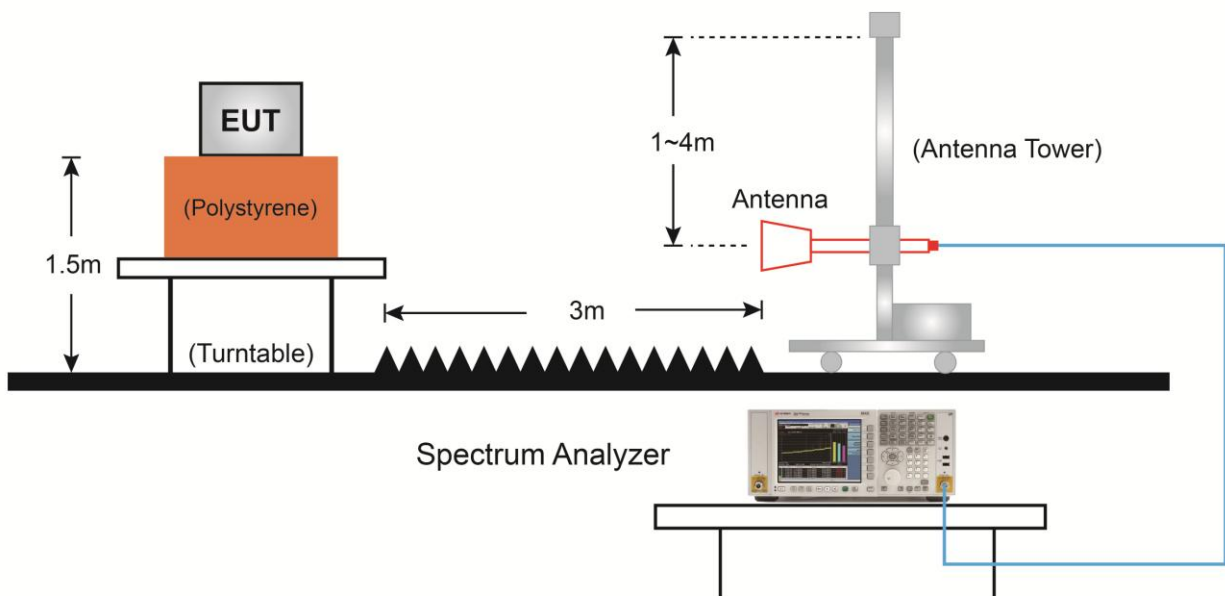
Peak Field Strength Measurements

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 Measurements above 1GHz (Method VB)

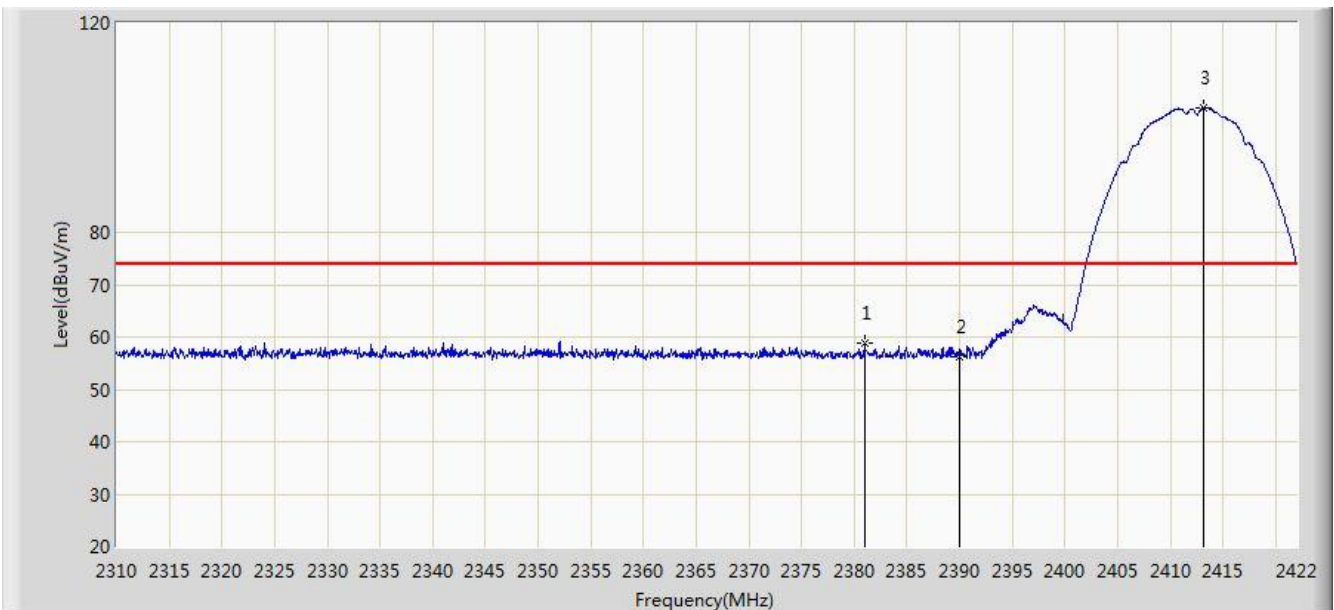
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4.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

7.7.4.Test Setup



7.7.5.Test Result

Site: AC1	Time: 2020/01/14 - 15:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2412MHz Ant 0 + 1	

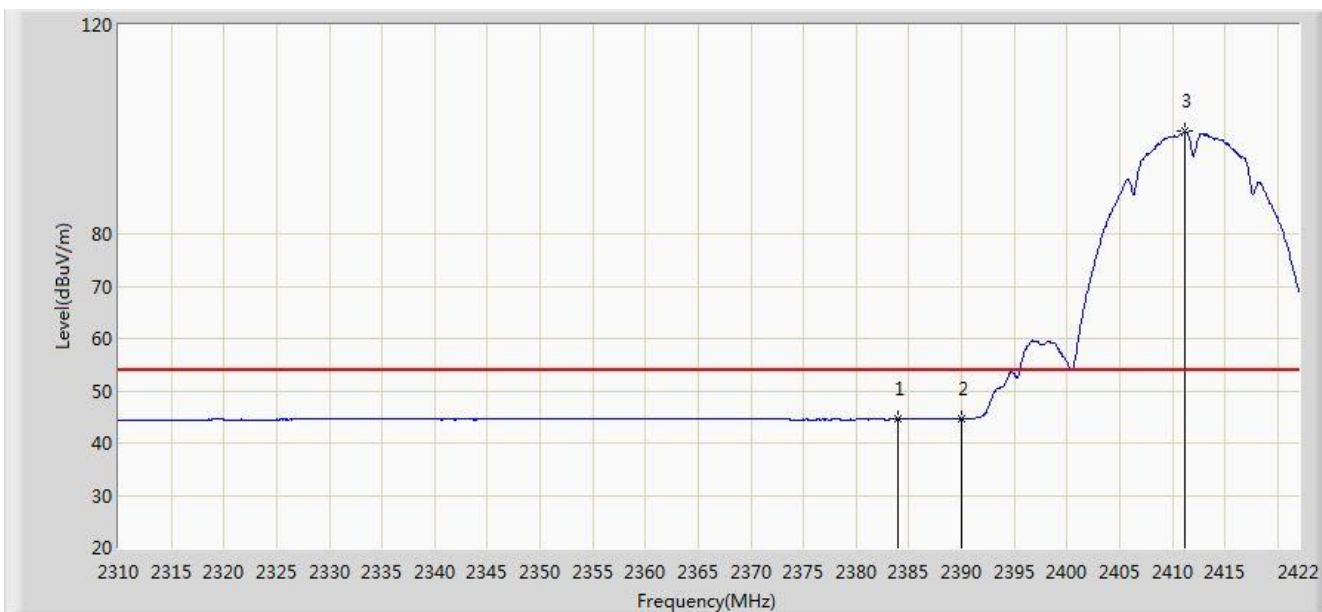


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2380.952	58.783	26.708	-15.217	74.000	32.075	PK
2			2390.000	56.370	24.298	-17.630	74.000	32.072	PK
3		*	2413.208	103.872	71.785	N/A	N/A	32.086	PK

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

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

Site: AC1	Time: 2020/01/14 - 16:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2412MHz Ant 0 + 1	

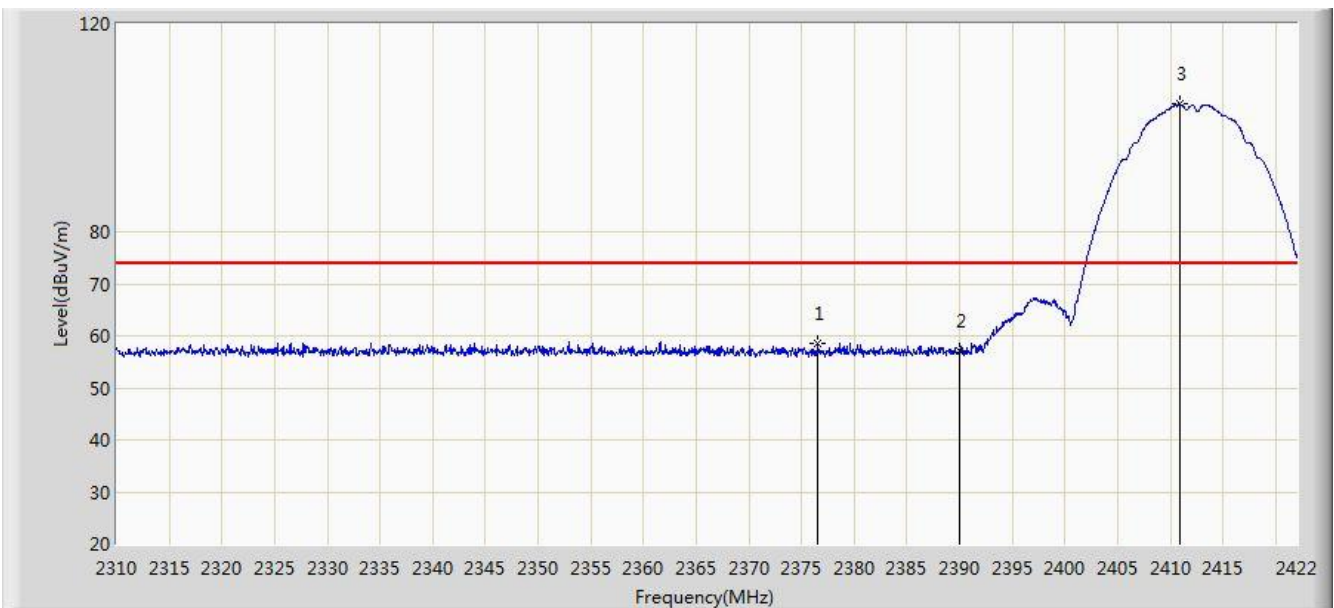


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2384.032	44.743	12.669	-9.257	54.000	32.074	AV
2			2390.000	44.600	12.528	-9.400	54.000	32.072	AV
3		*	2411.136	99.602	67.521	N/A	N/A	32.081	AV

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

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

Site: AC1	Time: 2020/01/14 - 16:05
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2412MHz Ant 0 + 1	

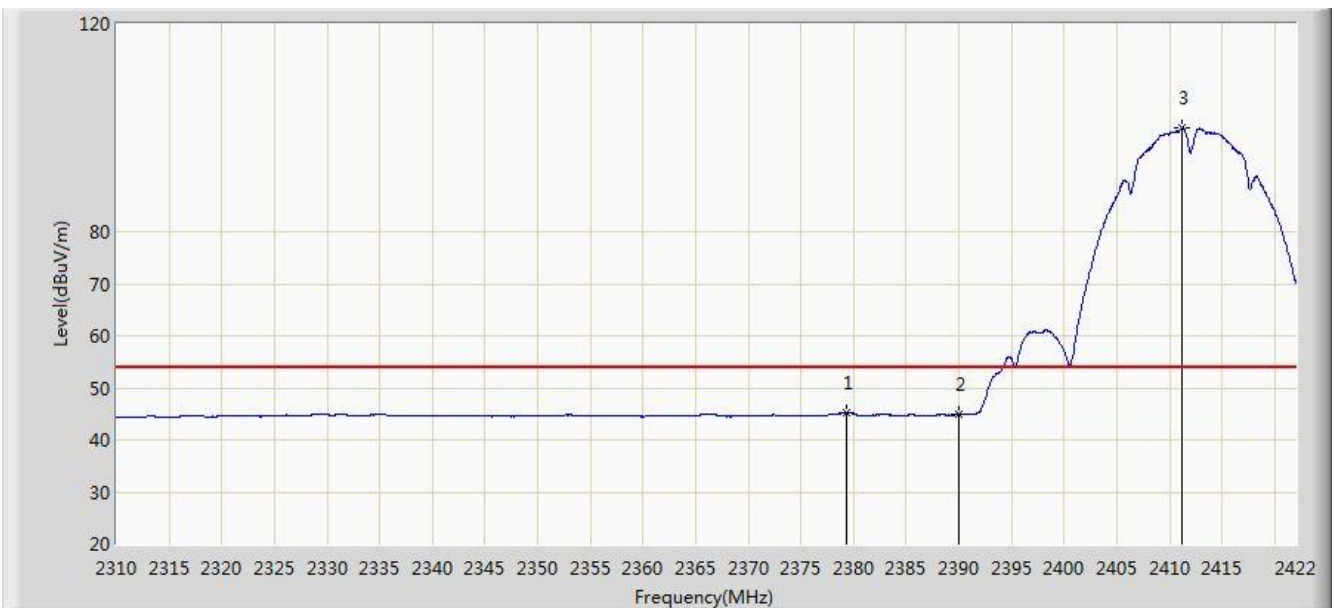


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2376.584	58.577	26.500	-15.423	74.000	32.077	PK
2			2390.000	57.196	25.124	-16.804	74.000	32.072	PK
3		*	2410.968	104.510	72.429	N/A	N/A	32.081	PK

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

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

Site: AC1	Time: 2020/01/14 - 16:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2412MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2379.272	45.273	13.198	-8.727	54.000	32.076	AV
2			2390.000	44.891	12.819	-9.109	54.000	32.072	AV
3		*	2411.192	99.923	67.842	N/A	N/A	32.082	AV

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

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

Site: AC1	Time: 2020/01/14 - 16:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.856	104.636	72.556	N/A	N/A	32.080	PK
2			2483.500	56.887	24.850	-17.113	74.000	32.037	PK
3			2490.256	58.691	26.667	-15.309	74.000	32.024	PK

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

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

Site: AC1	Time: 2020/01/14 - 16:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2462MHz Ant 0 + 1	

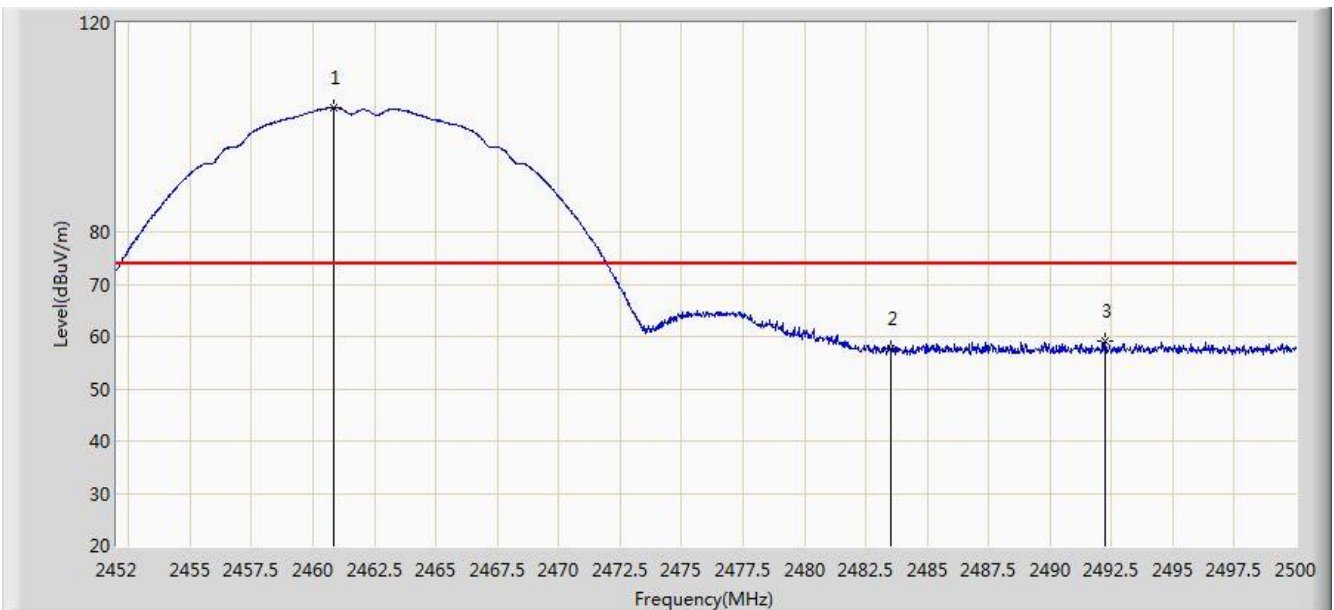


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.312	100.320	68.240	N/A	N/A	32.080	AV
2			2483.500	45.059	13.022	-8.941	54.000	32.037	AV
3			2485.384	45.116	13.083	-8.884	54.000	32.033	AV

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

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

Site: AC1	Time: 2020/01/14 - 16:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.856	103.776	71.696	N/A	N/A	32.080	PK
2			2483.500	57.667	25.630	-16.333	74.000	32.037	PK
3			2492.248	58.990	26.970	-15.010	74.000	32.020	PK

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

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

Site: AC1	Time: 2020/01/14 - 16:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11b at channel 2462MHz Ant 0 + 1	

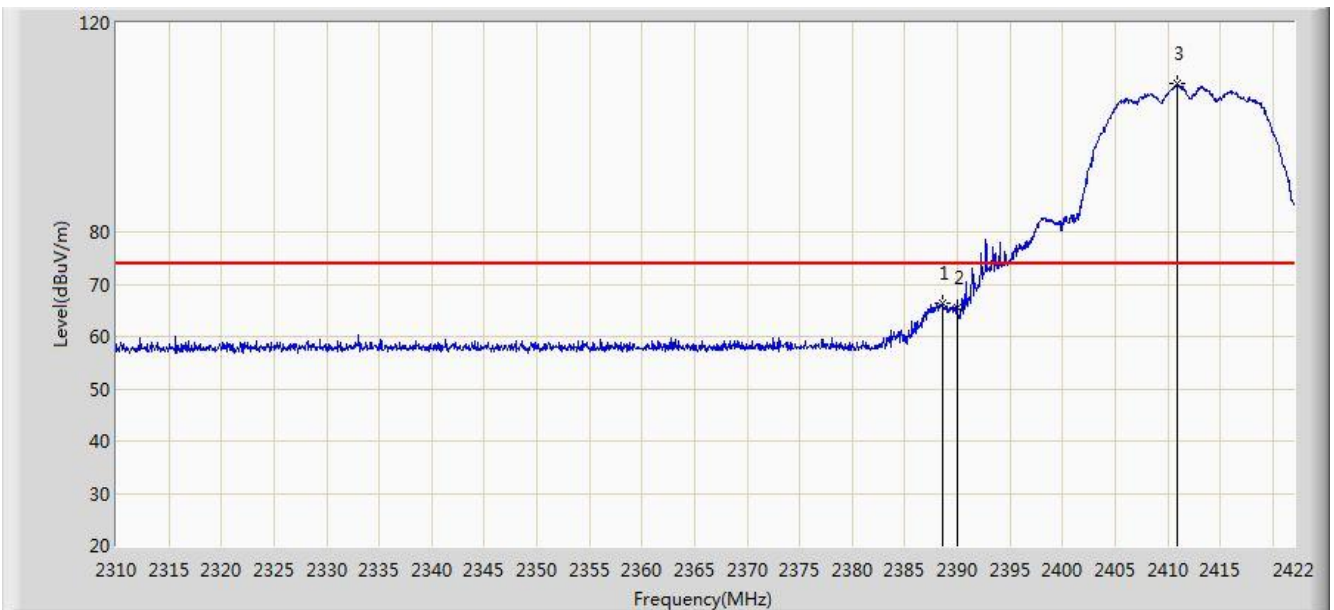


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.216	99.483	67.403	N/A	N/A	32.081	AV
2			2483.500	44.946	12.909	-9.054	54.000	32.037	AV
3			2485.648	45.096	13.063	-8.904	54.000	32.033	AV

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

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

Site: AC1	Time: 2020/01/08 - 14:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2412MHz Ant 0 + 1	

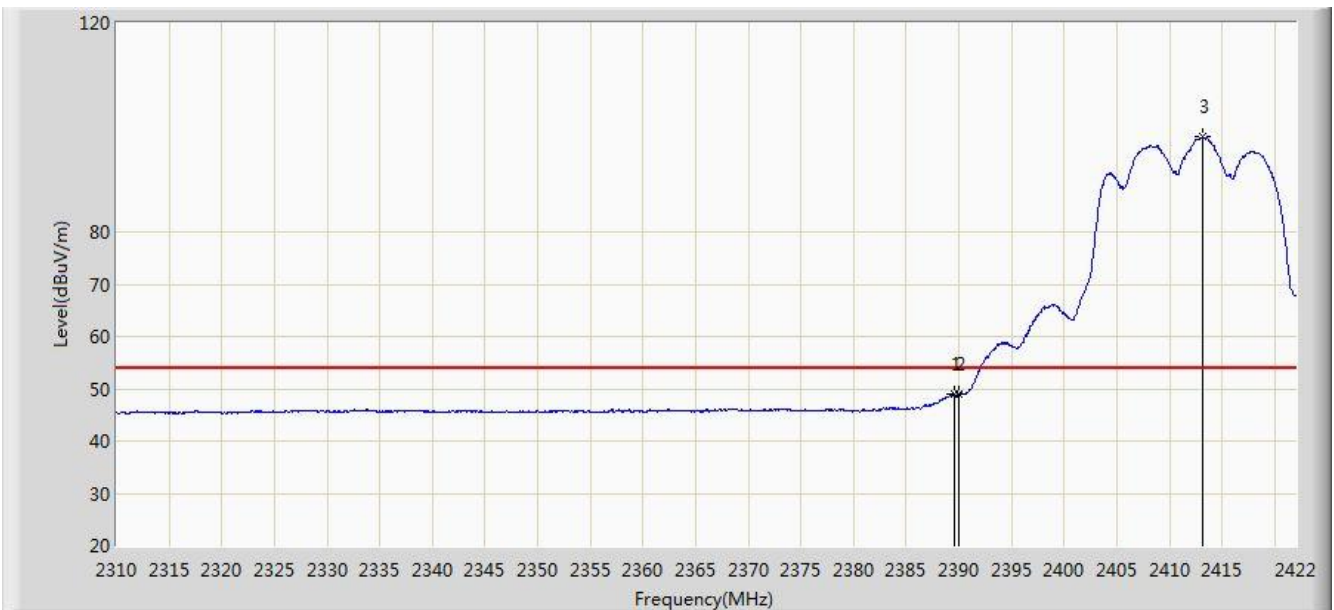


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.568	66.495	34.423	-7.505	74.000	32.072	PK
2			2390.000	65.437	33.365	-8.563	74.000	32.072	PK
3		*	2410.968	108.295	76.214	N/A	N/A	32.081	PK

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

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

Site: AC1	Time: 2020/01/08 - 14:13
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2412MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.576	48.924	16.852	-5.076	54.000	32.072	AV
2			2390.000	48.877	16.805	-5.123	54.000	32.072	AV
3		*	2413.096	98.160	66.074	N/A	N/A	32.086	AV

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

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

Site: AC1	Time: 2020/01/08 - 14:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2412MHz Ant 0 + 1	

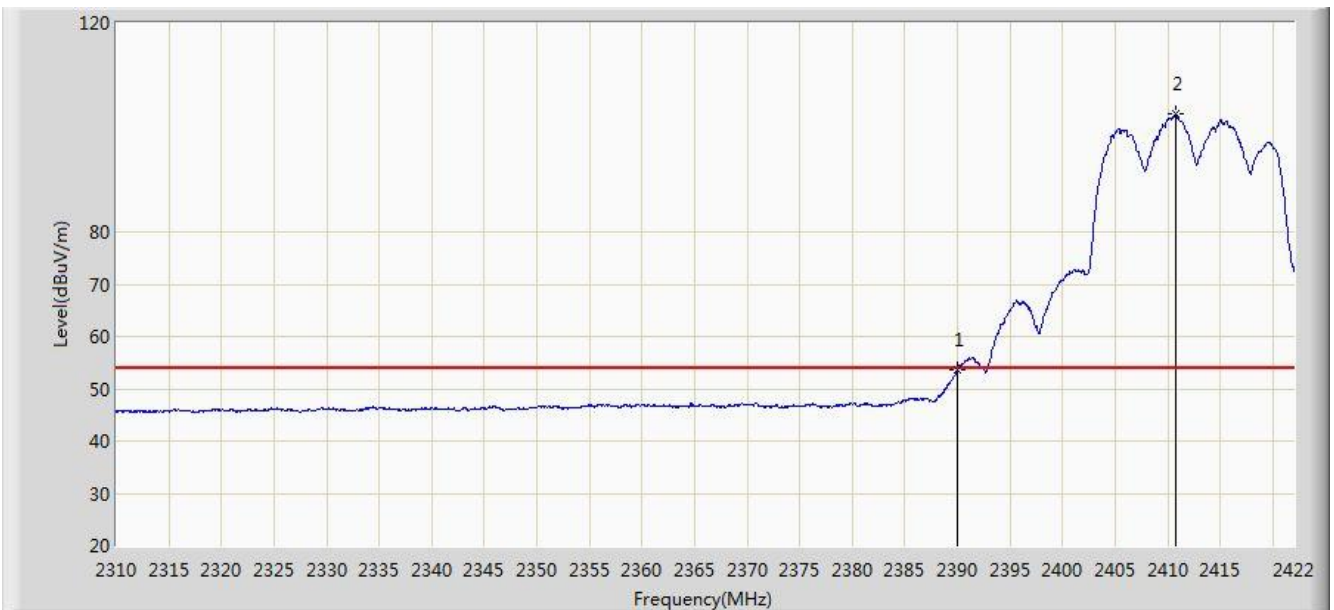


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.912	70.032	37.960	-3.968	74.000	32.072	PK
2			2390.000	67.926	35.854	-6.074	74.000	32.072	PK
3		*	2410.632	111.964	79.883	N/A	N/A	32.081	PK

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

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

Site: AC1	Time: 2020/01/08 - 14:07
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2412MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	53.558	21.486	-0.442	54.000	32.072	AV
2		*	2410.800	102.510	70.429	N/A	N/A	32.080	AV

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

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

Site: AC1	Time: 2020/01/08 - 14:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.312	110.100	78.020	N/A	N/A	32.080	PK
2			2483.500	68.722	36.685	-5.278	74.000	32.037	PK
3			2483.536	69.250	37.213	-4.750	74.000	32.037	PK

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

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

Site: AC1	Time: 2020/01/08 - 14:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.000	100.104	68.024	N/A	N/A	32.080	AV
2			2483.500	52.592	20.555	-1.408	54.000	32.037	AV

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

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

Site: AC1	Time: 2020/01/08 - 14:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2462MHz Ant 0 + 1	

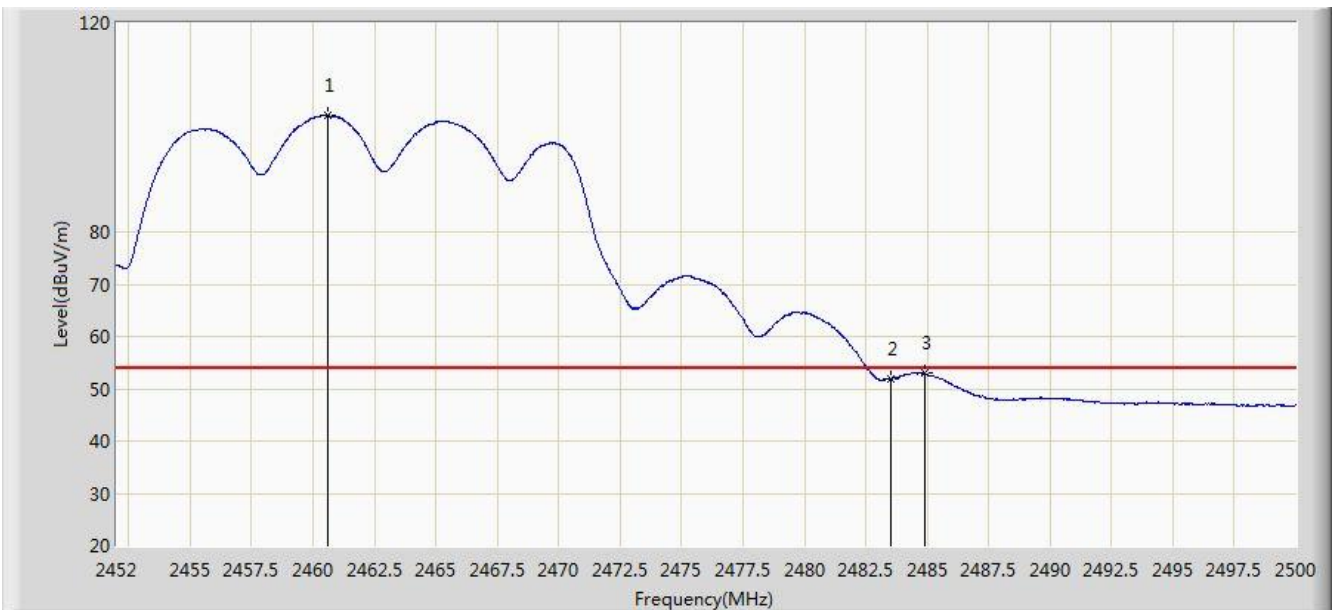


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2459.944	112.236	80.156	N/A	N/A	32.080	PK
2			2483.500	68.259	36.222	-5.741	74.000	32.037	PK
3			2484.544	71.711	39.676	-2.289	74.000	32.035	PK

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

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

Site: AC1	Time: 2020/01/08 - 14:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11g at channel 2462MHz Ant 0 + 1	

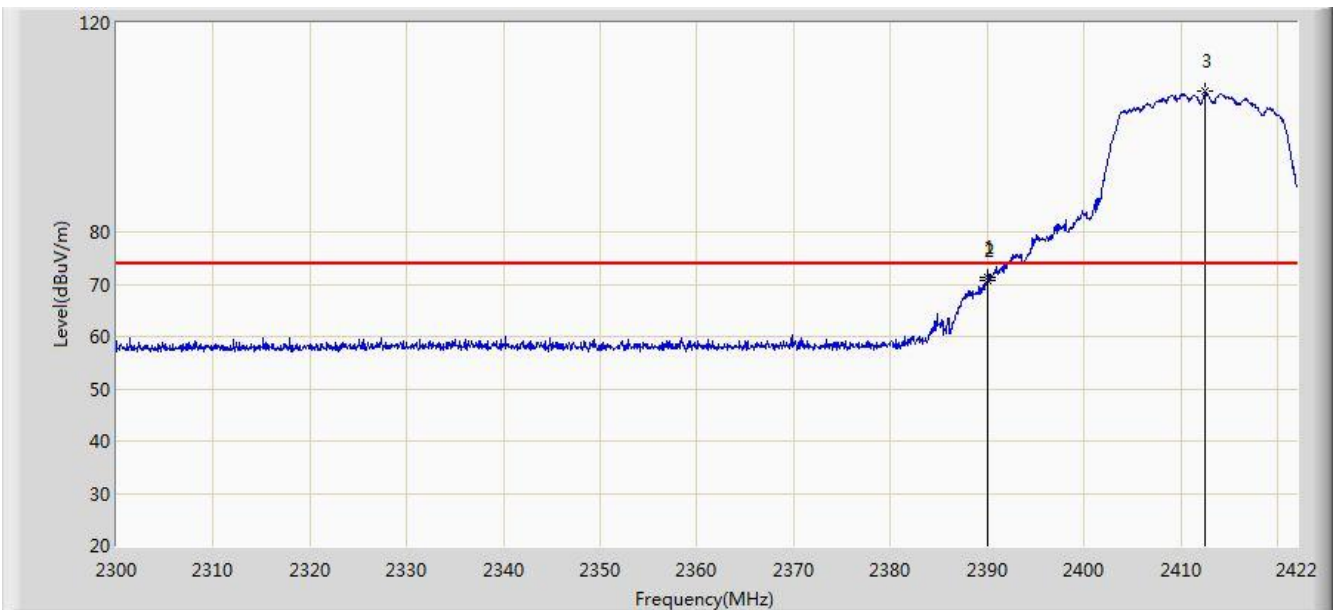


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.616	102.442	70.362	N/A	N/A	32.080	AV
2			2483.500	51.822	19.785	-2.178	54.000	32.037	AV
3			2484.880	53.058	21.024	-0.942	54.000	32.035	AV

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

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

Site: AC1	Time: 2020/01/08 - 15:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2412MHz Ant 0 + 1	

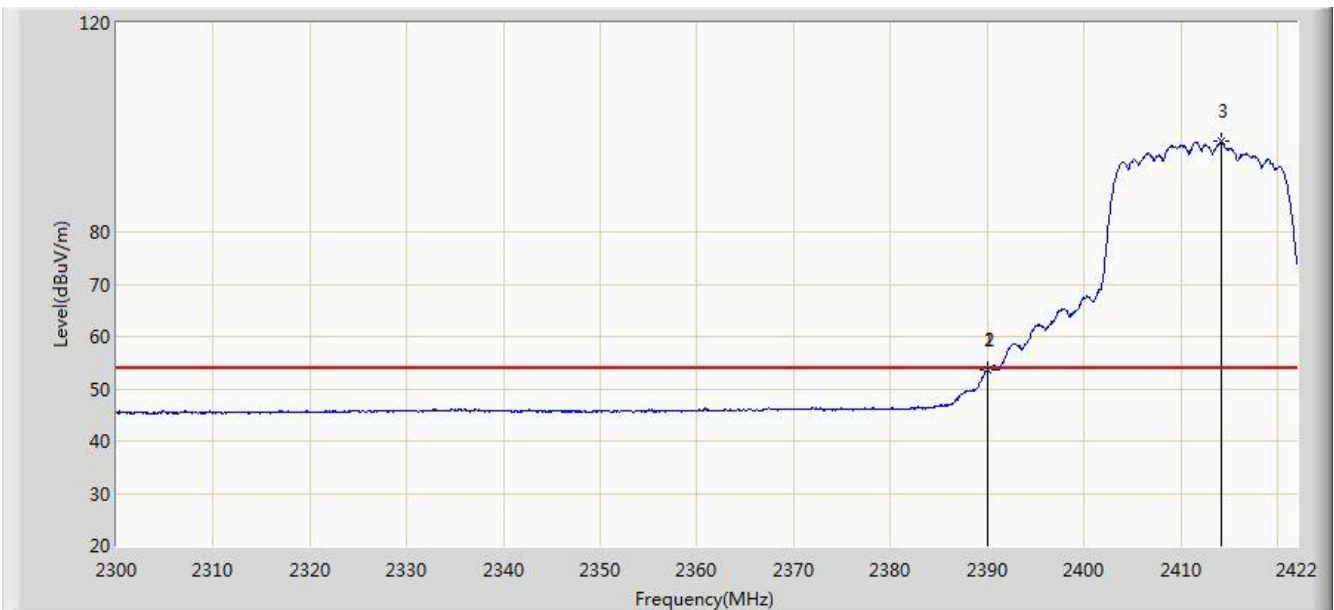


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.975	71.177	39.105	-2.823	74.000	32.072	PK
2			2390.000	70.831	38.759	-3.169	74.000	32.072	PK
3		*	2412.545	106.991	74.906	N/A	N/A	32.085	PK

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

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

Site: AC1	Time: 2020/01/08 - 15:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2412MHz Ant 0 + 1	

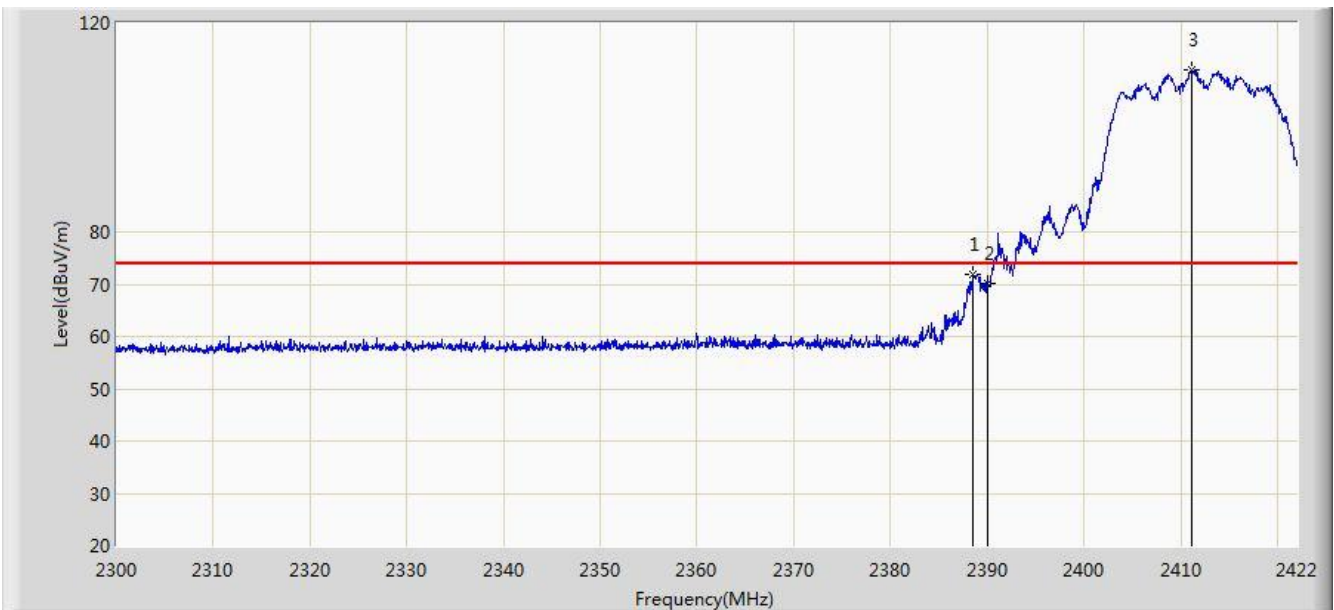


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.975	53.749	21.677	-0.251	54.000	32.072	AV
2			2390.000	53.742	21.670	-0.258	54.000	32.072	AV
3		*	2414.192	97.370	65.281	N/A	N/A	32.089	AV

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

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

Site: AC1	Time: 2020/01/08 - 15:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2412MHz Ant 0 + 1	

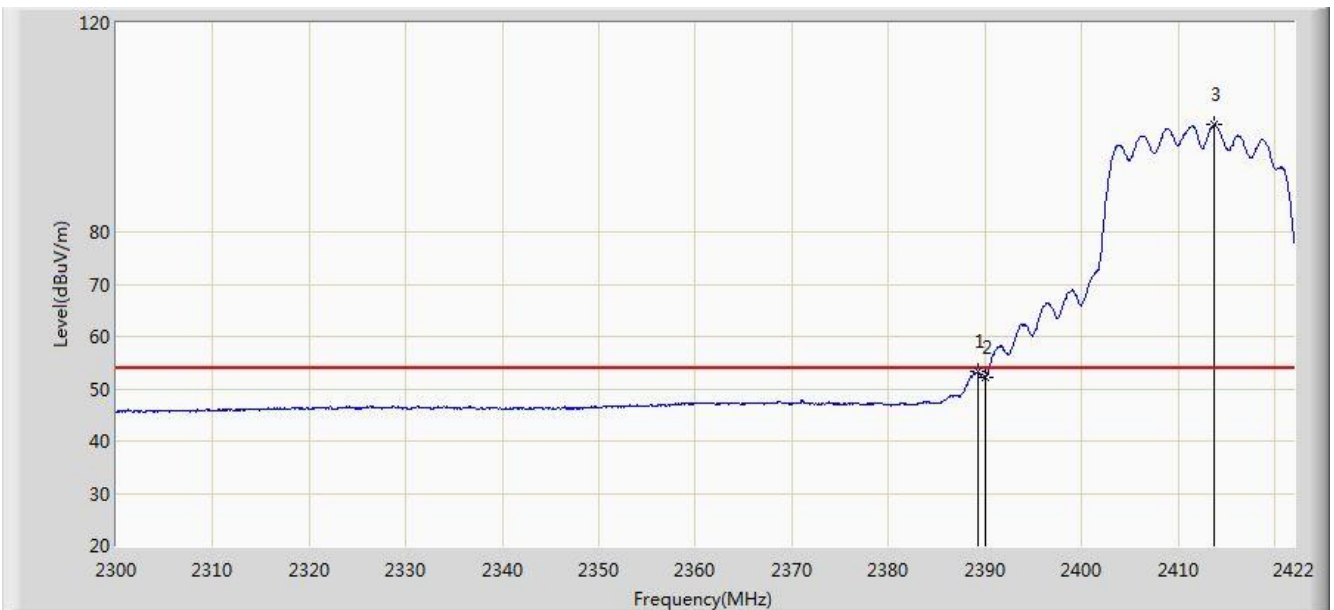


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.572	71.746	39.674	-2.254	74.000	32.072	PK
2			2390.000	70.198	38.126	-3.802	74.000	32.072	PK
3		*	2411.142	110.917	78.836	N/A	N/A	32.081	PK

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

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

Site: AC1	Time: 2020/01/08 - 15:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2412MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.243	53.251	21.179	-0.749	54.000	32.073	AV
2			2390.000	52.126	20.054	-1.874	54.000	32.072	AV
3		*	2413.765	100.450	68.362	N/A	N/A	32.089	AV

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

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

Site: AC1	Time: 2020/01/08 - 15:47
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2464.456	106.790	74.714	N/A	N/A	32.075	PK
2			2483.500	65.440	33.403	-8.560	74.000	32.037	PK
3			2484.400	68.912	36.877	-5.088	74.000	32.035	PK

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

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

Site: AC1	Time: 2020/01/08 - 15:51
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2462MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.648	96.706	64.626	N/A	N/A	32.081	AV
2			2483.500	49.820	17.783	-4.180	54.000	32.037	AV
3			2484.040	50.518	18.482	-3.482	54.000	32.036	AV

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

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

Site: AC1	Time: 2020/01/08 - 15:45
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2462MHz Ant 0 + 1	

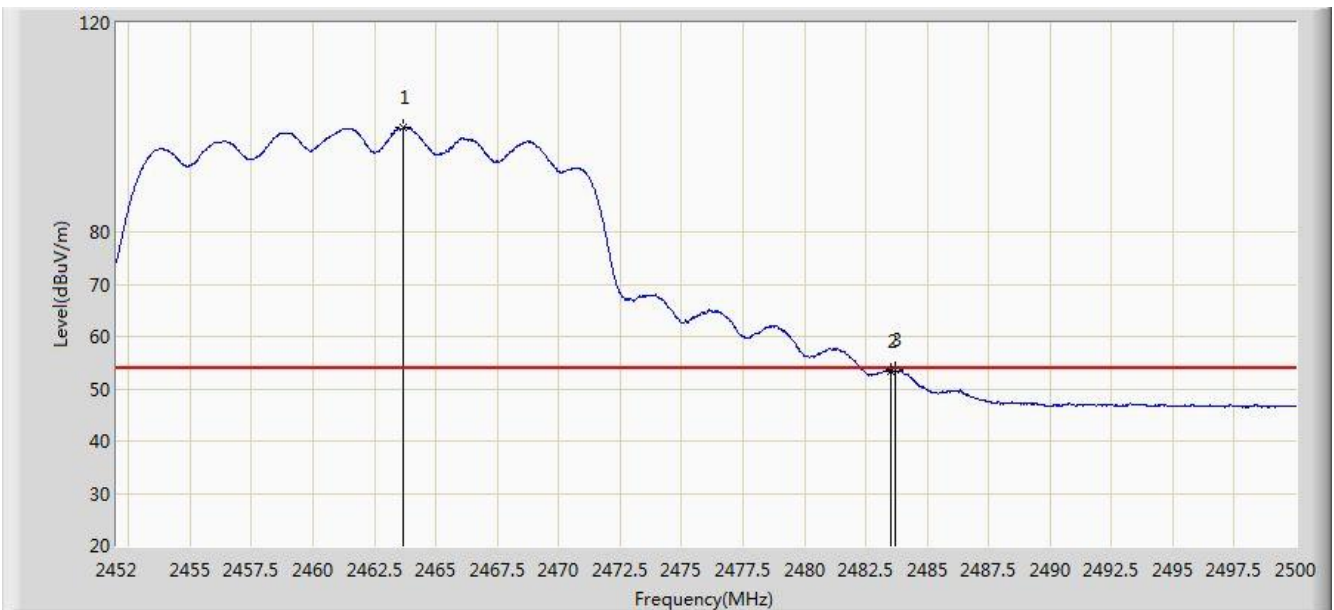


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.688	110.635	78.555	N/A	N/A	32.080	PK
2			2483.500	69.512	37.475	-4.488	74.000	32.037	PK
3			2483.608	71.045	39.008	-2.955	74.000	32.036	PK

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

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

Site: AC1	Time: 2020/01/08 - 15:43
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT20 at channel 2462MHz Ant 0 + 1	

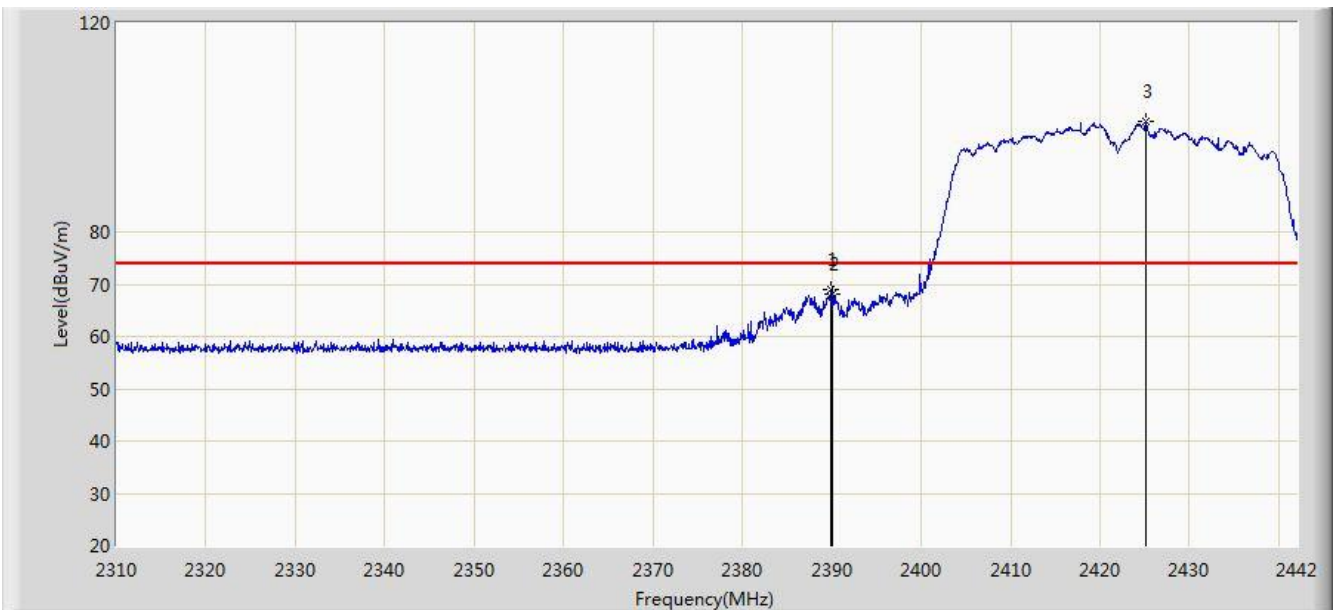


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2463.688	99.934	67.857	N/A	N/A	32.077	AV
2			2483.500	53.383	21.346	-0.617	54.000	32.037	AV
3			2483.680	53.517	21.480	-0.483	54.000	32.036	AV

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

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

Site: AC1	Time: 2020/01/08 - 18:33
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2422MHz Ant 0 + 1	

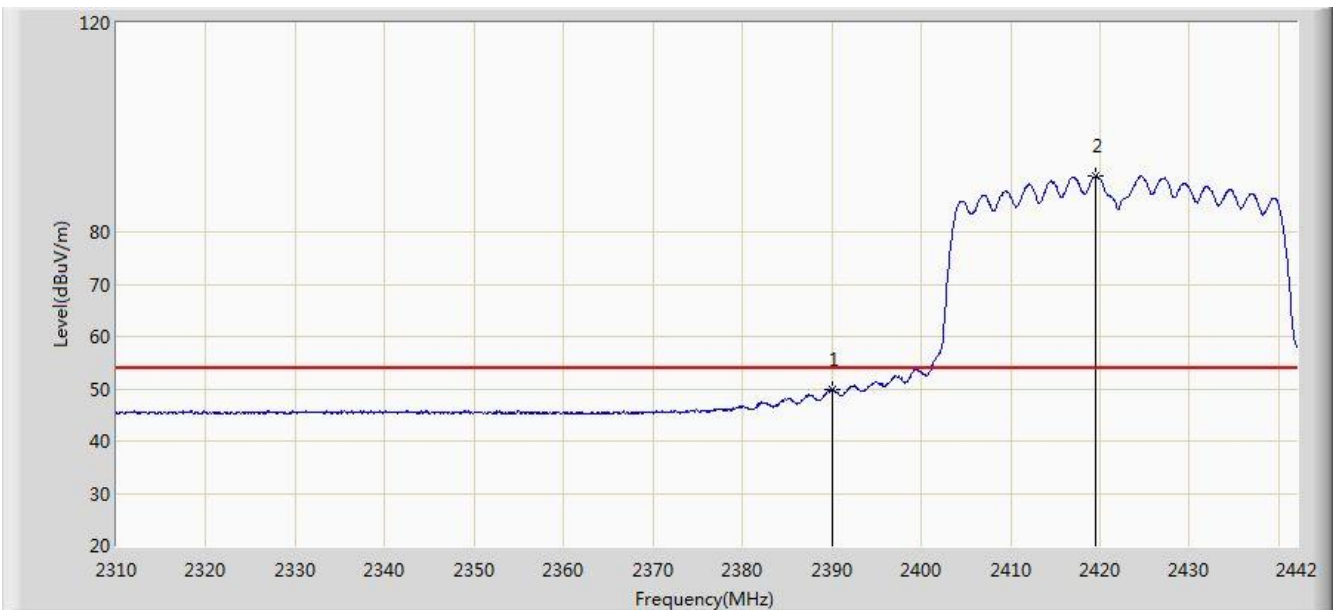


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.926	69.066	36.994	-4.934	74.000	32.072	PK
2			2390.000	68.042	35.970	-5.958	74.000	32.072	PK
3		*	2425.104	101.170	69.052	N/A	N/A	32.118	PK

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

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

Site: AC1	Time: 2020/01/08 - 18:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2422MHz Ant 0 + 1	

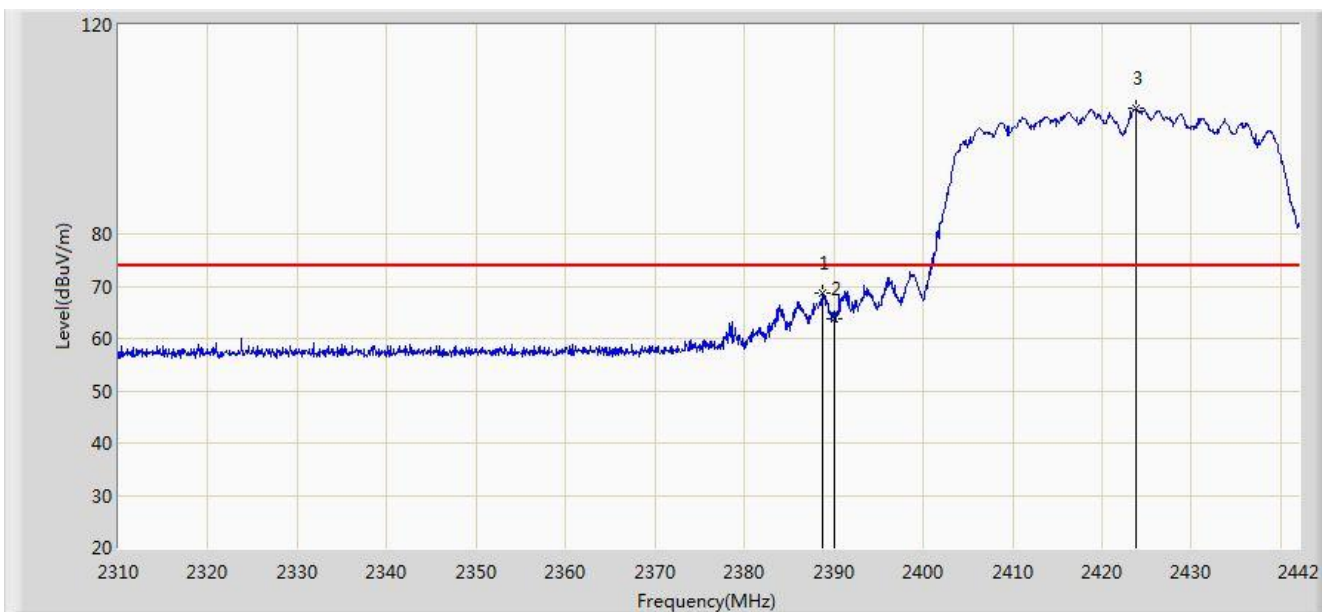


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	49.974	17.902	-4.026	54.000	32.072	AV
2		*	2419.494	90.748	58.645	N/A	N/A	32.104	AV

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

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

Site: AC1	Time: 2020/01/08 - 18:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2422MHz Ant 0 + 1	

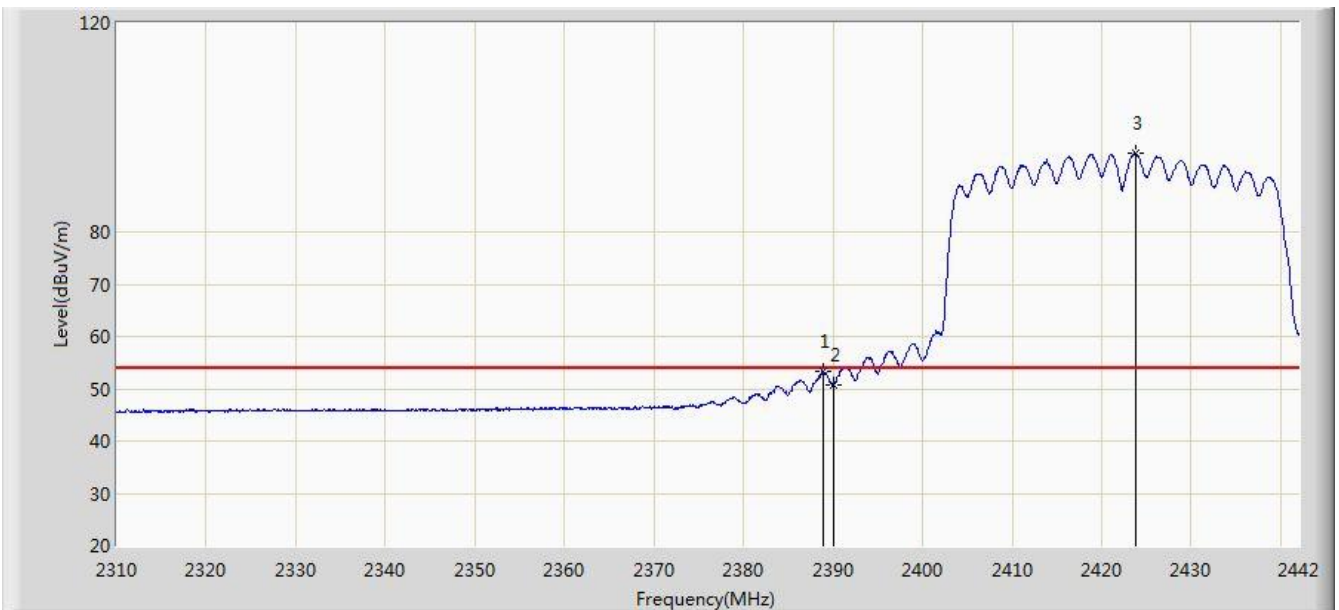


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.804	68.661	36.589	-5.339	74.000	32.073	PK
2			2390.000	63.801	31.729	-10.199	74.000	32.072	PK
3		*	2423.784	103.922	71.808	N/A	N/A	32.114	PK

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

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

Site: AC1	Time: 2020/01/08 - 18:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2422MHz Ant 0 + 1	

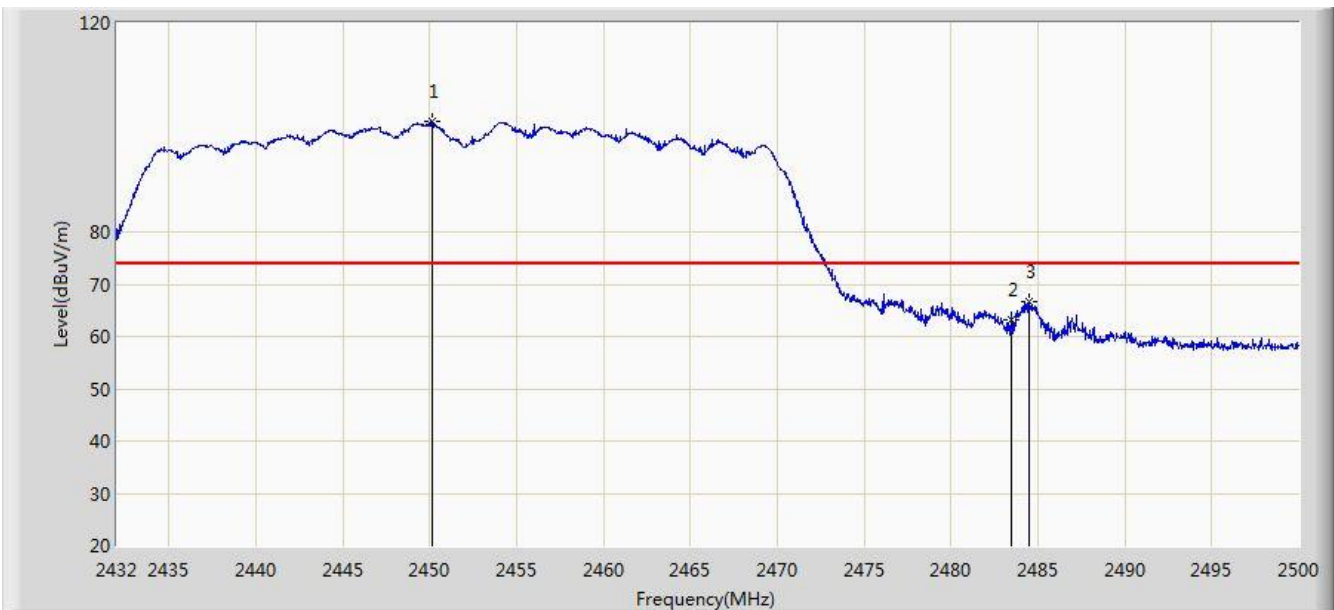


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.870	53.421	21.349	-0.579	54.000	32.072	AV
2			2390.000	50.673	18.601	-3.327	54.000	32.072	AV
3		*	2423.784	95.083	62.969	N/A	N/A	32.114	AV

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

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

Site: AC1	Time: 2020/01/08 - 19:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2452MHz Ant 0 + 1	

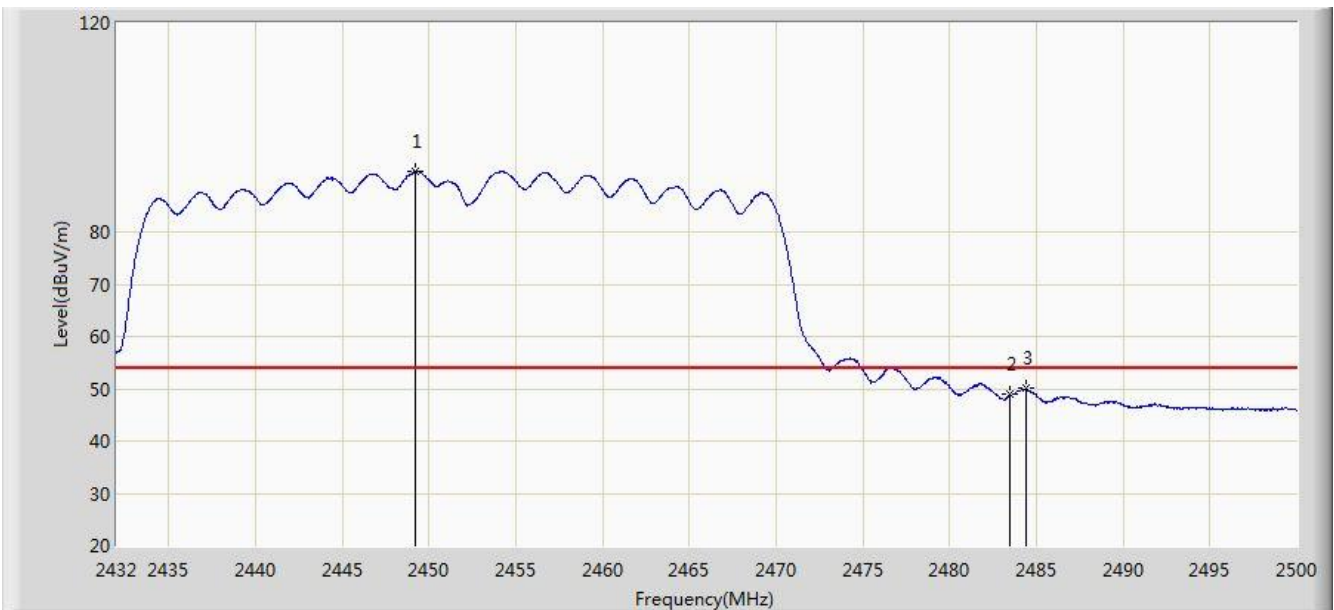


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2450.190	101.170	69.094	N/A	N/A	32.076	PK
2			2483.500	63.247	31.210	-10.753	74.000	32.037	PK
3			2484.530	66.581	34.546	-7.419	74.000	32.035	PK

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

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

Site: AC1	Time: 2020/01/08 - 19:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2452MHz Ant 0 + 1	

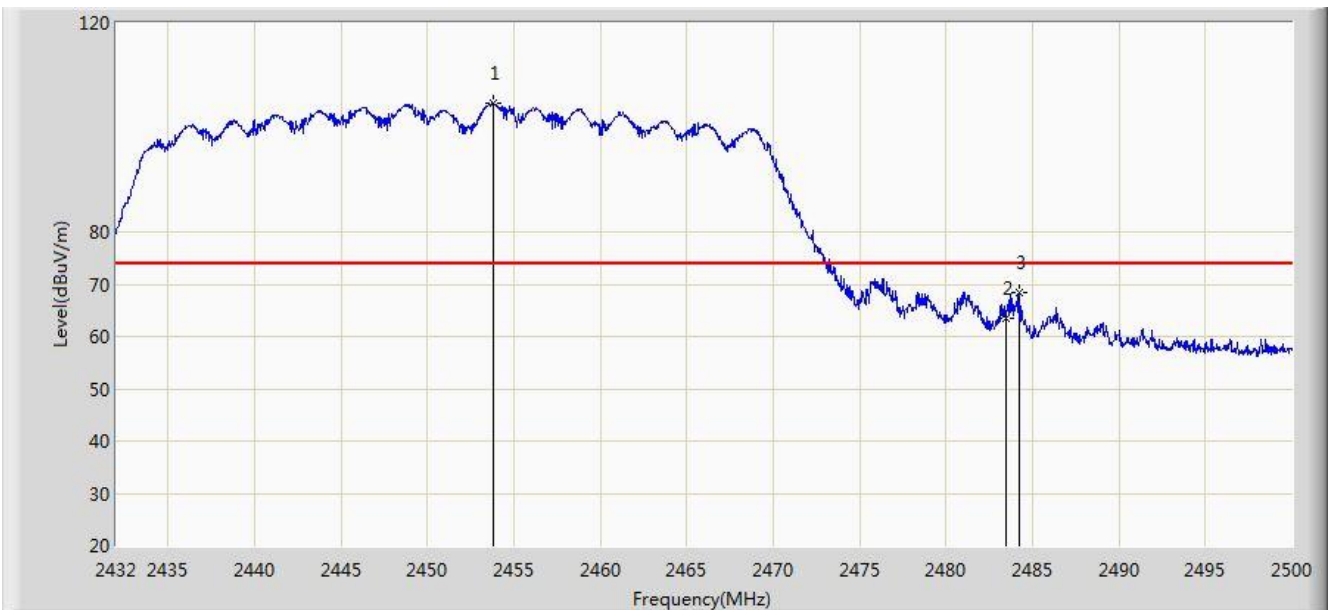


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2449.204	91.565	59.490	N/A	N/A	32.076	AV
2			2483.500	48.884	16.847	-5.116	54.000	32.037	AV
3			2484.428	50.125	18.090	-3.875	54.000	32.035	AV

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

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

Site: AC1	Time: 2020/01/08 - 19:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2452MHz Ant 0 + 1	

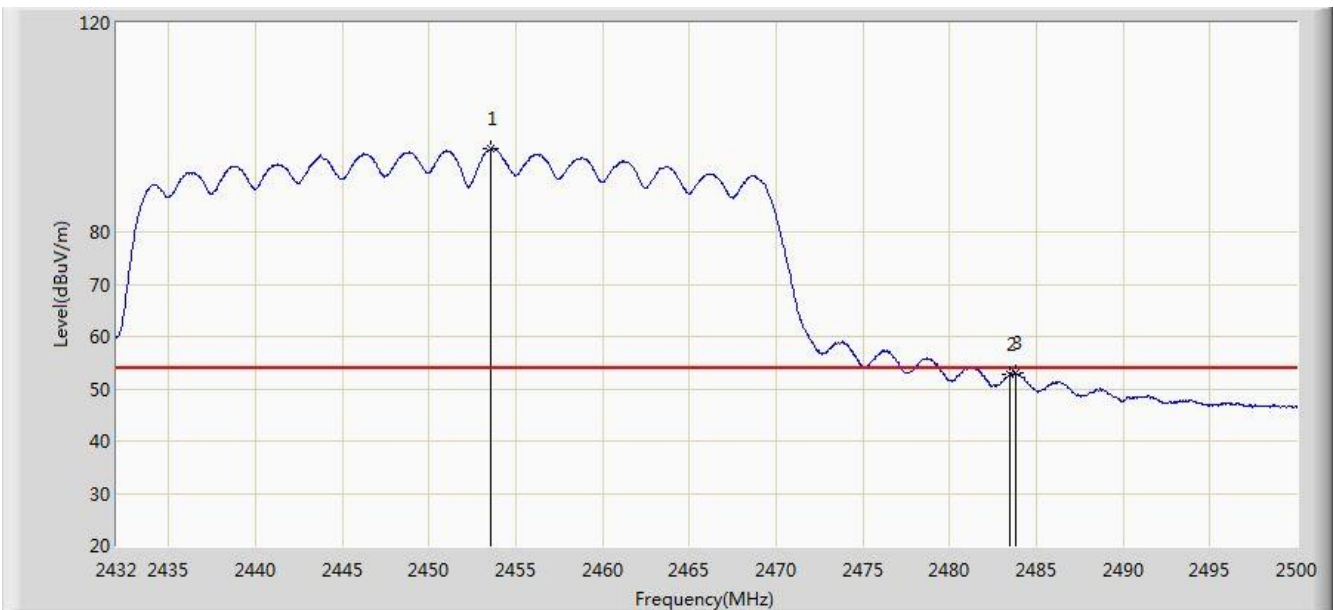


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2453.794	104.627	72.550	N/A	N/A	32.077	PK
2			2483.500	63.551	31.514	-10.449	74.000	32.037	PK
3			2484.224	68.320	36.284	-5.680	74.000	32.036	PK

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

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

Site: AC1	Time: 2020/01/08 - 19:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Note: Transmit by 802.11n-HT40 at channel 2452MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2453.556	95.931	63.854	N/A	N/A	32.077	AV
2			2483.500	52.717	20.680	-1.283	54.000	32.037	AV
3			2483.782	53.034	20.998	-0.966	54.000	32.036	AV

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

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

7.8. AC Conducted Emissions Measurement

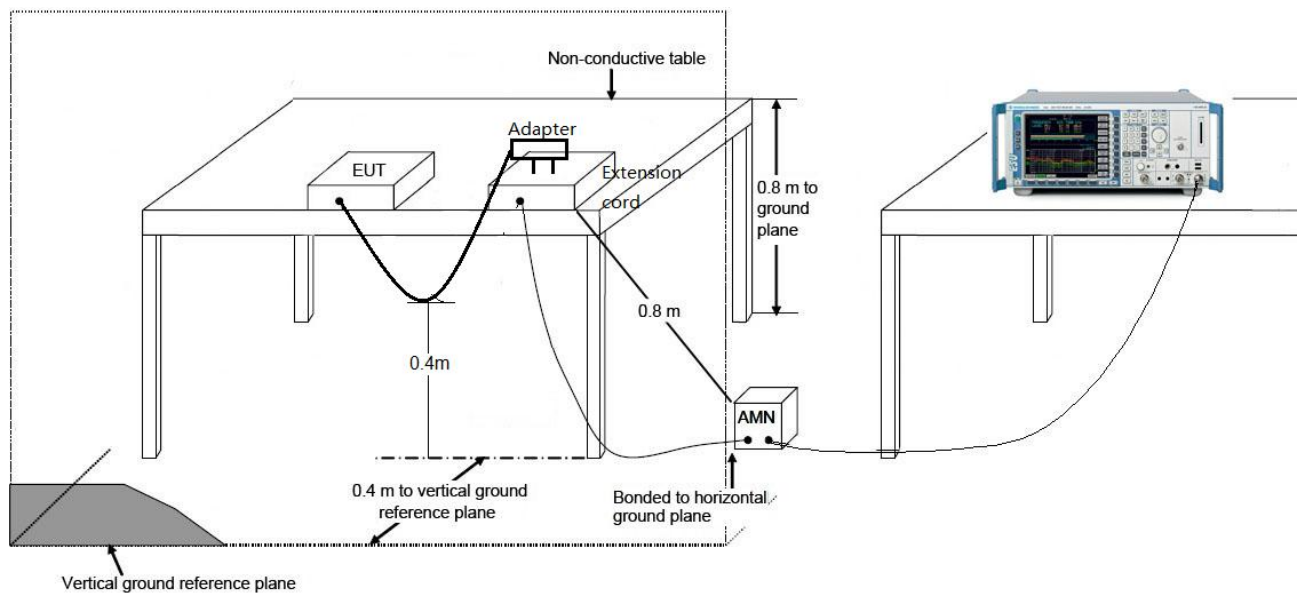
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

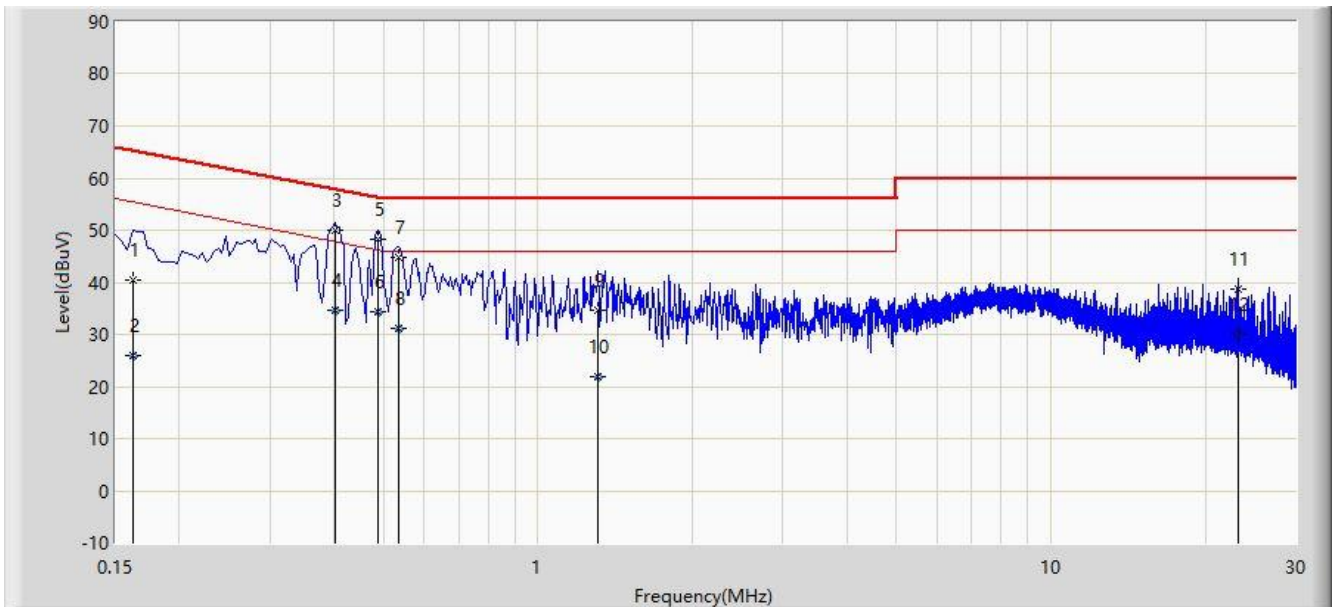
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2. Test Setup



7.8.3.Test Result

Site: SR2	Time: 2020/01/07 - 18:40
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: RANGEXTD MVP	Power: AC 120V/60Hz
Test Mode 1	

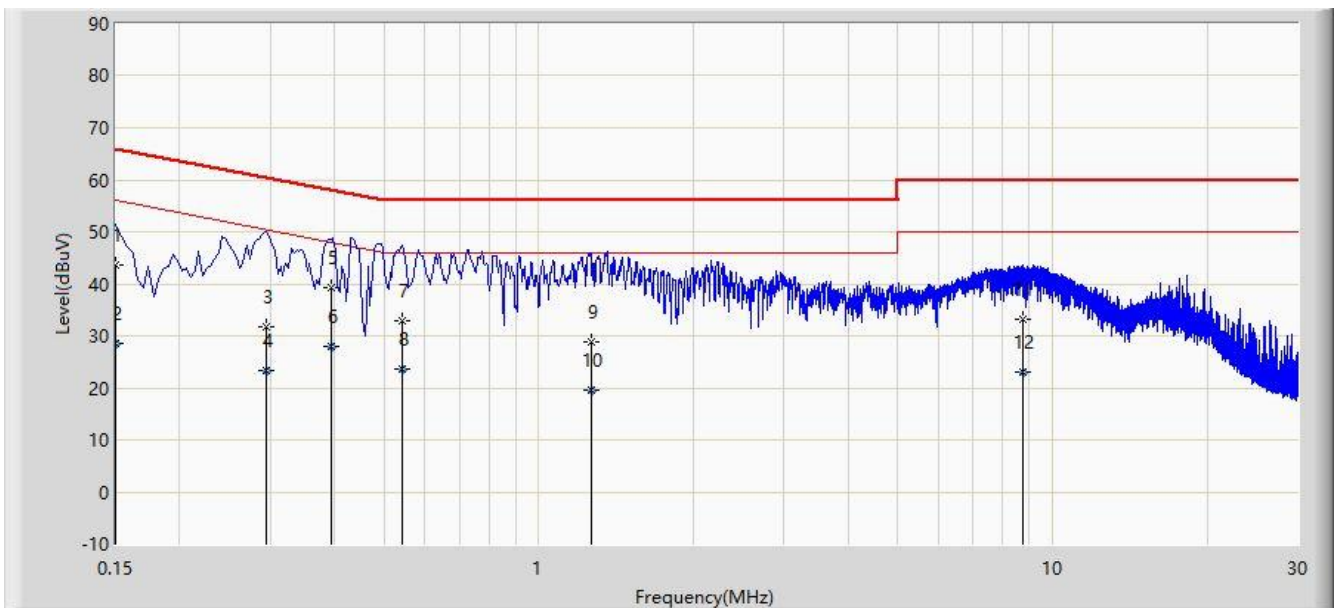


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.162	40.440	30.104	-24.921	65.361	10.336	QP
2			0.162	25.864	15.528	-29.496	55.361	10.336	AV
3		*	0.402	49.932	39.974	-7.880	57.812	9.959	QP
4			0.402	34.589	24.630	-13.223	47.812	9.959	AV
5			0.486	48.126	38.145	-8.110	56.236	9.981	QP
6			0.486	34.426	24.445	-11.810	46.236	9.981	AV
7			0.534	44.731	34.760	-11.269	56.000	9.972	QP
8			0.534	31.084	21.113	-14.916	46.000	9.972	AV
9			1.310	34.631	24.901	-21.369	56.000	9.730	QP
10			1.310	22.012	12.282	-23.988	46.000	9.730	AV
11			23.130	38.584	28.640	-21.416	60.000	9.945	QP
12			23.130	29.880	19.935	-20.120	50.000	9.945	AV

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

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

Site: SR2	Time: 2020/01/07 - 18:52
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: RANGEXTD MVP	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			0.150	43.576	30.492	-22.424	66.000	13.084	QP
2			0.150	28.460	15.376	-27.540	56.000	13.084	AV
3			0.294	31.679	21.939	-28.732	60.411	9.740	QP
4			0.294	23.302	13.562	-27.108	50.411	9.740	AV
5		*	0.394	39.313	29.364	-18.666	57.979	9.949	QP
6			0.394	27.865	17.915	-20.114	47.979	9.949	AV
7			0.542	32.830	22.862	-23.170	56.000	9.969	QP
8			0.542	23.556	13.588	-22.444	46.000	9.969	AV
9			1.262	28.764	19.029	-27.236	56.000	9.735	QP
10			1.262	19.435	9.700	-26.565	46.000	9.735	AV
11			8.726	33.048	23.253	-26.952	60.000	9.795	QP
12			8.726	22.964	13.169	-27.036	50.000	9.795	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 device is in compliance with Part 15C of the FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “2001RSU020-UT” file.

Appendix B - EUT Photograph

Refer to “ 2001RSU020-UE” file.