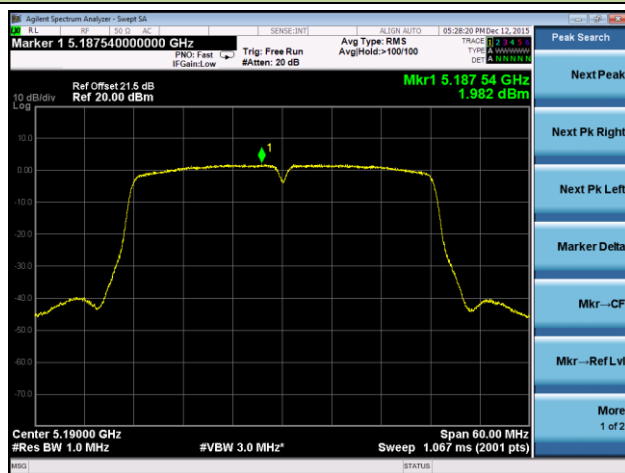
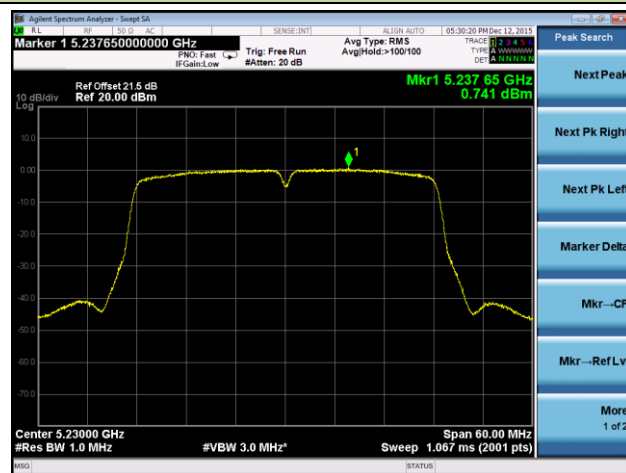


802.11ac-VHT40 Power Spectral Density - Ant 2 / Ant 0 + 1 + 2 + 3

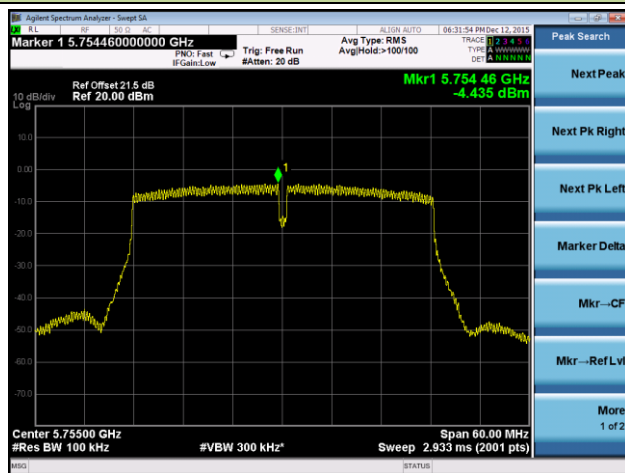
Channel 38 (5190MHz)



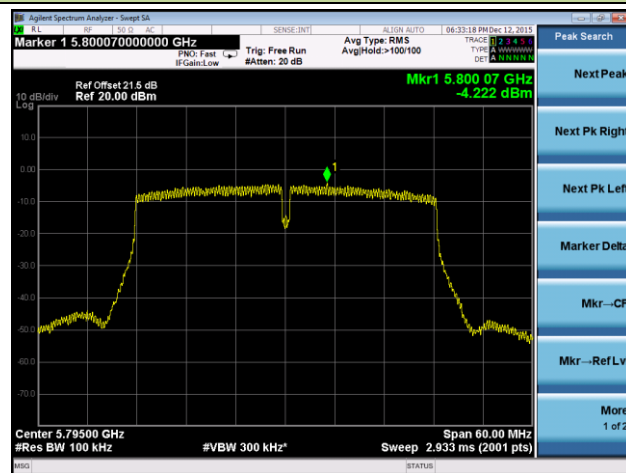
Channel 46 (5230MHz)



Channel 151 (5755MHz)

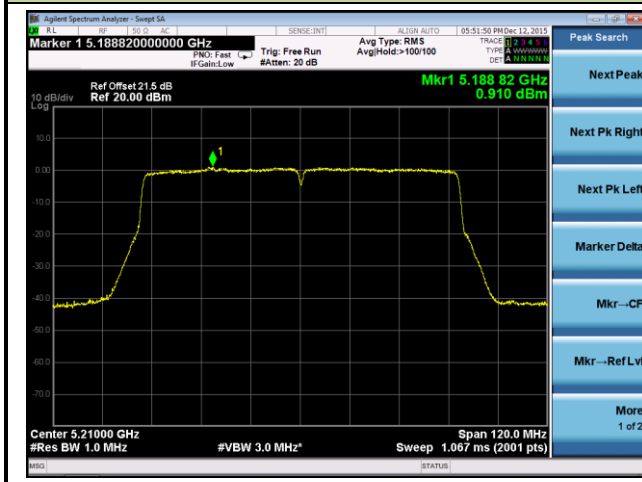


Channel 159 (5795MHz)

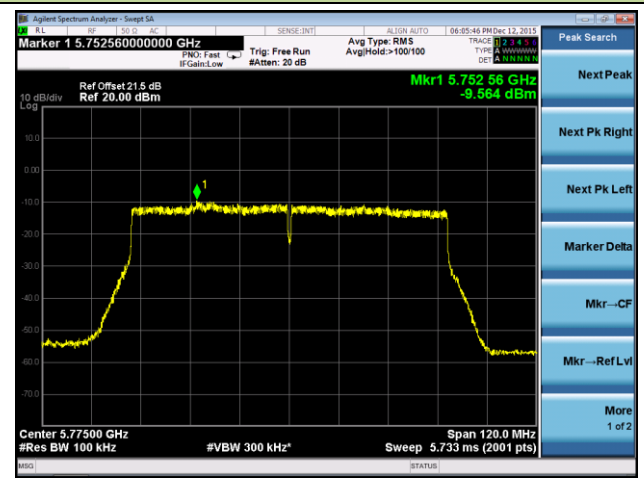


802.11ac-VHT80 Power Spectral Density - Ant 2 / Ant 0 + 1 + 2 + 3

Channel 42 (5210MHz)

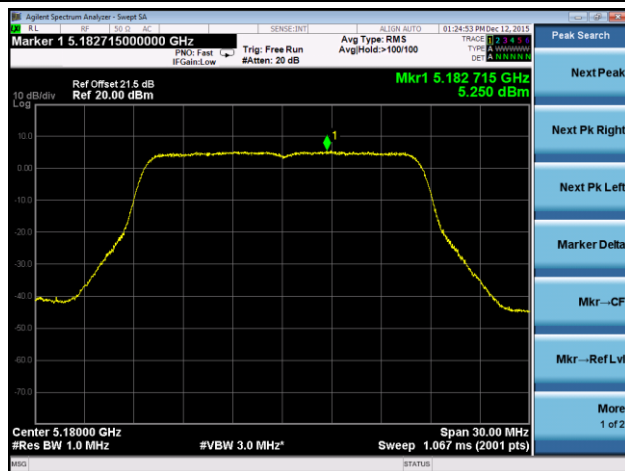


Channel 155 (5775MHz)

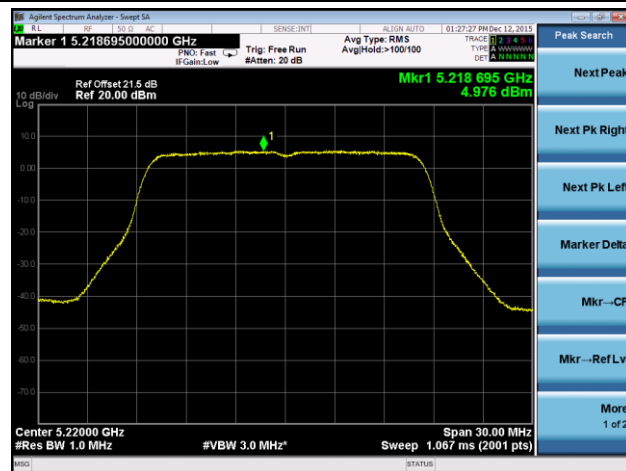


802.11a Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

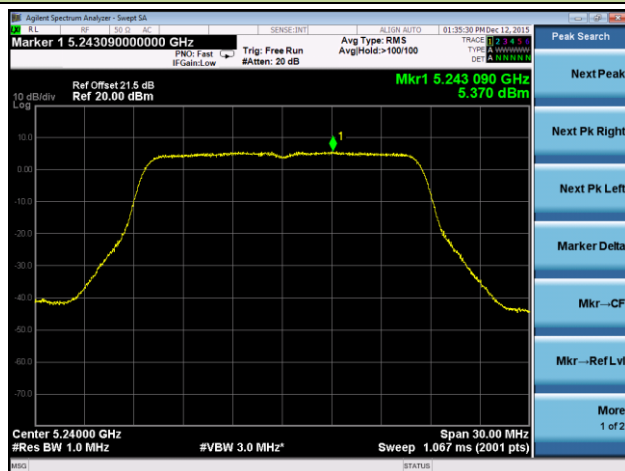
Channel 36 (5180MHz)



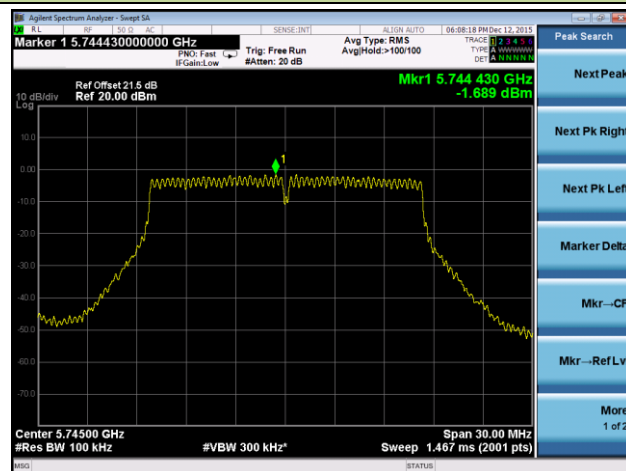
Channel 44 (5220MHz)



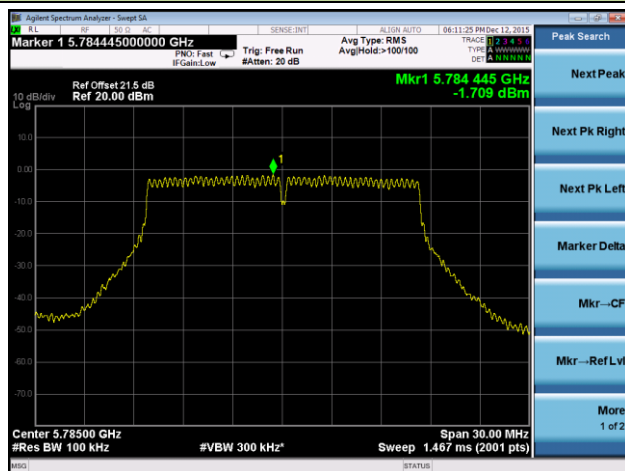
Channel 48 (5240MHz)



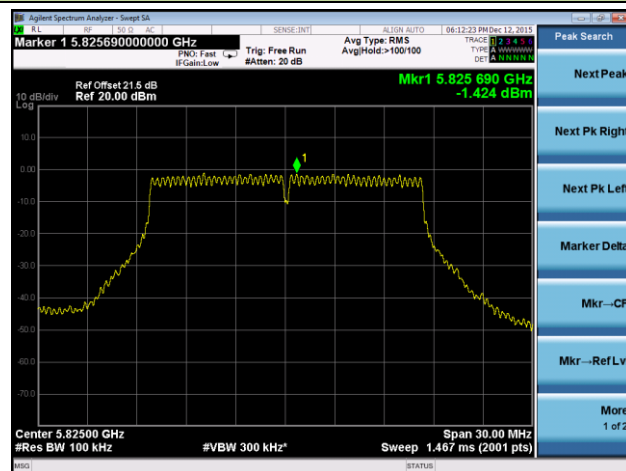
Channel 149 (5745MHz)



Channel 157 (5785MHz)

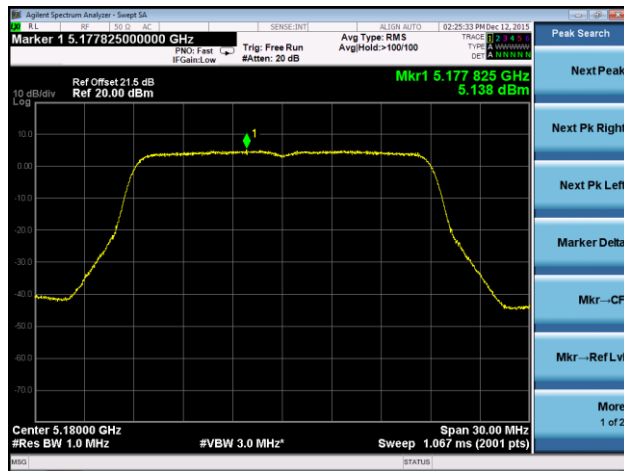


Channel 165 (5825MHz)

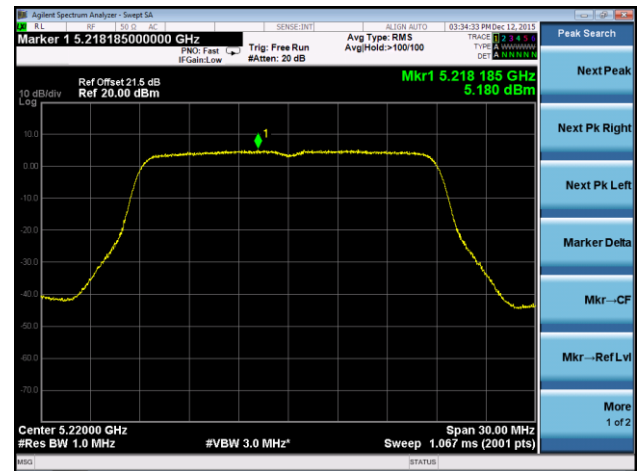


802.11n-HT20 Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

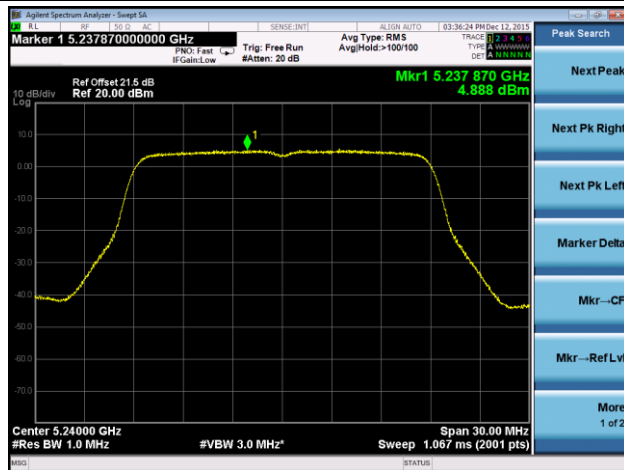
Channel 36 (5180MHz)



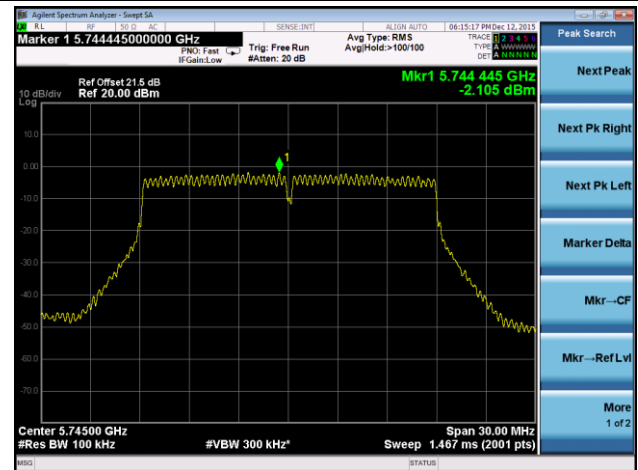
Channel 44 (5220MHz)



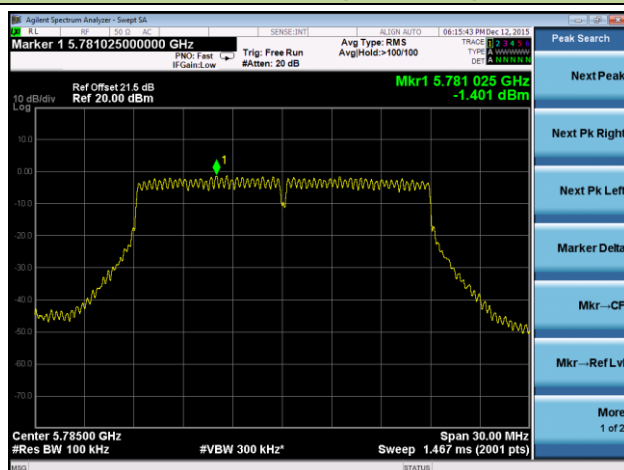
Channel 48 (5240MHz)



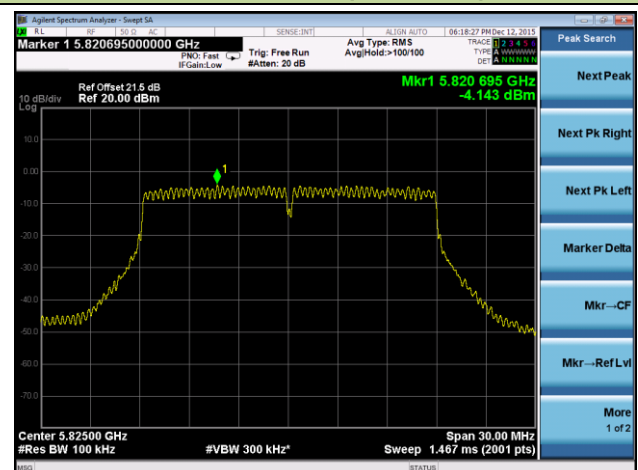
Channel 149 (5745MHz)



Channel 157 (5785MHz)

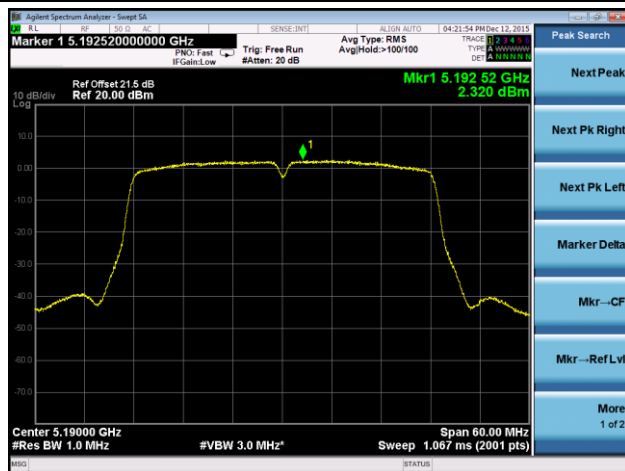


Channel 165 (5825MHz)

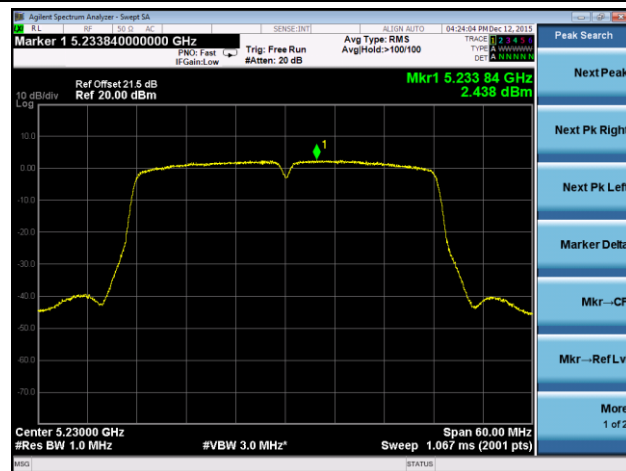


802.11n-HT40 Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

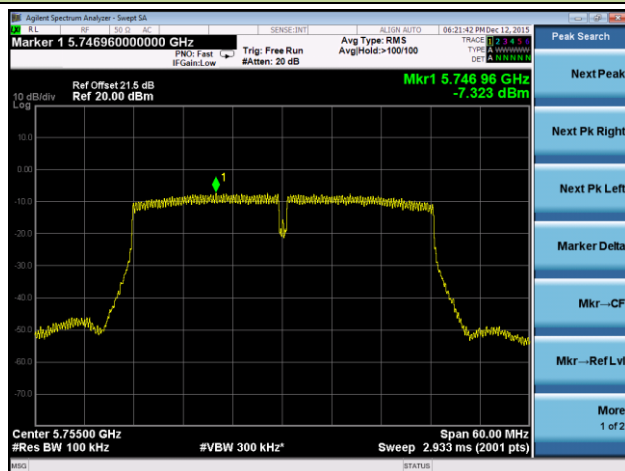
Channel 38 (5190MHz)



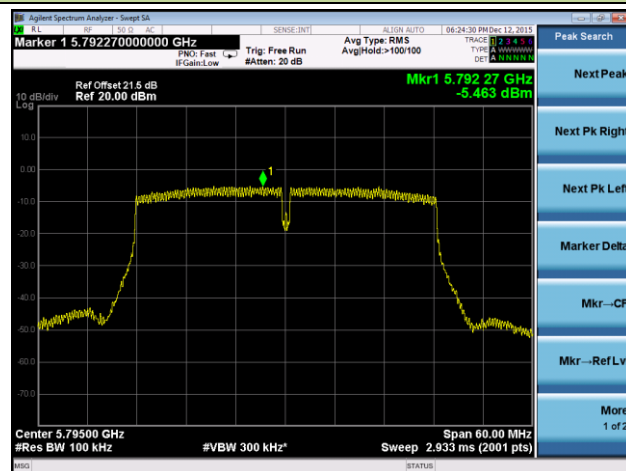
Channel 46 (5230MHz)



Channel 151 (5755MHz)

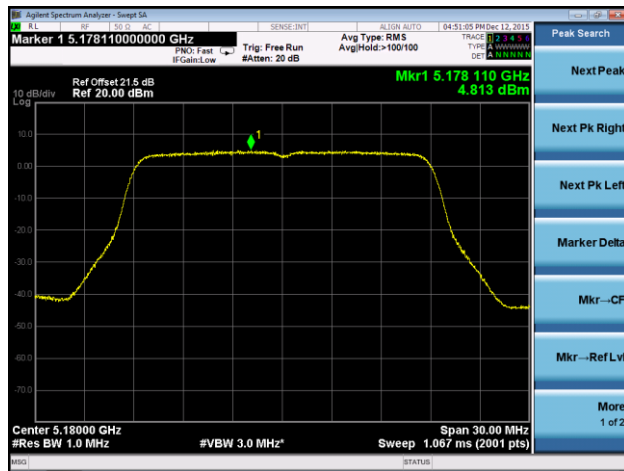


Channel 159 (5795MHz)

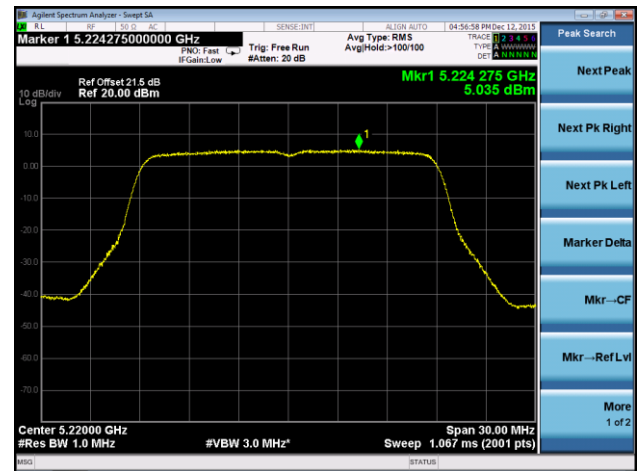


802.11ac-VHT20 Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

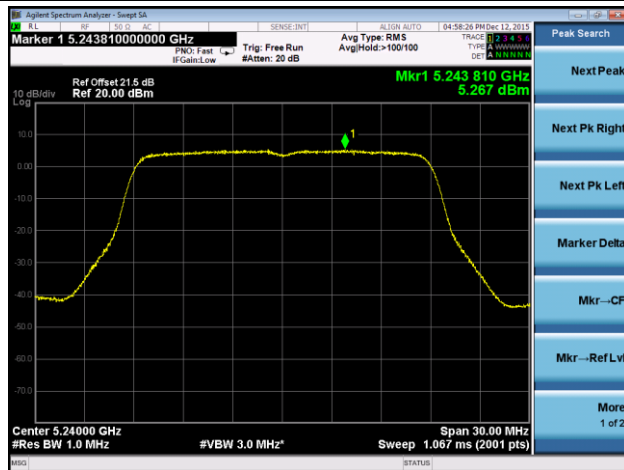
Channel 36 (5180MHz)



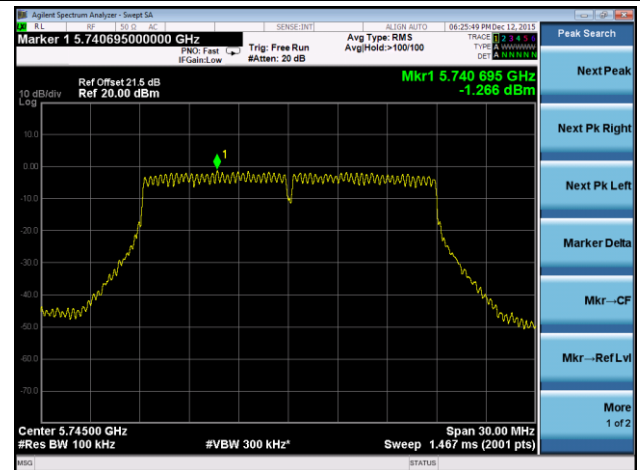
Channel 44 (5220MHz)



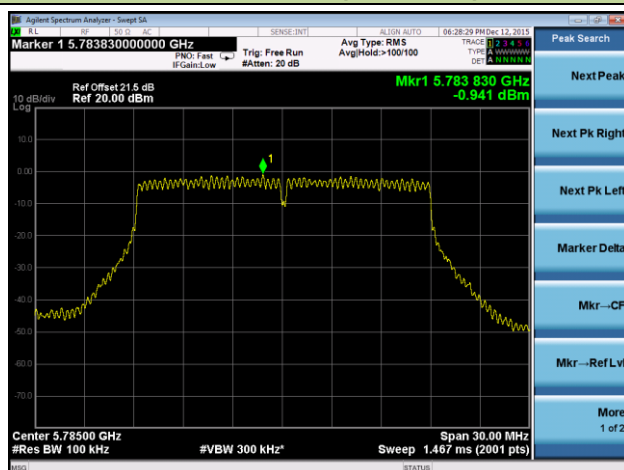
Channel 48 (5240MHz)



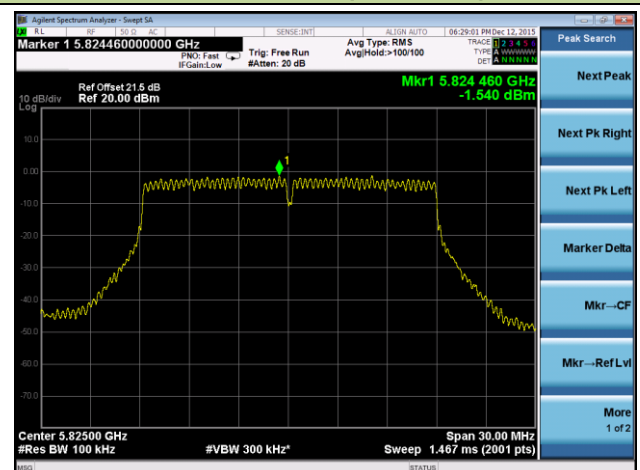
Channel 149 (5745MHz)



Channel 157 (5785MHz)

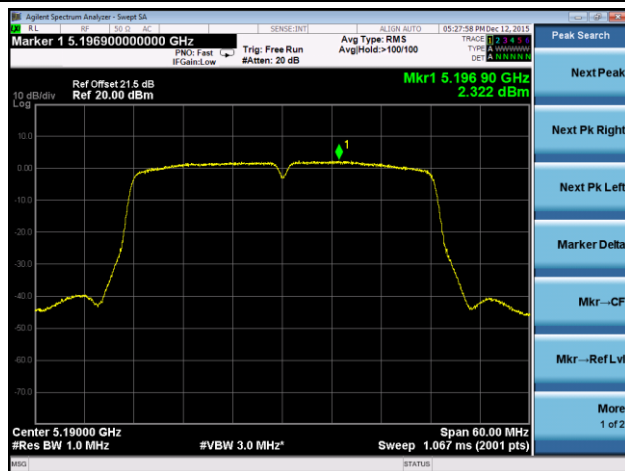


Channel 165 (5825MHz)

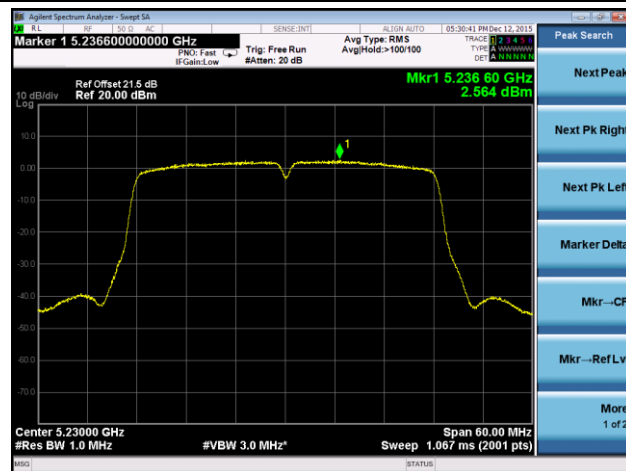


802.11ac-VHT40 Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

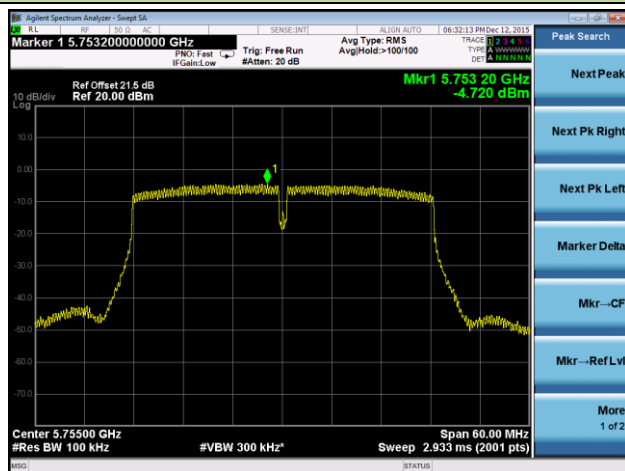
Channel 38 (5190MHz)



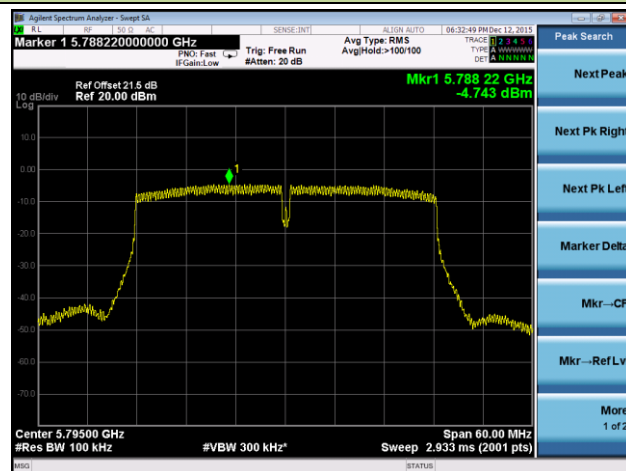
Channel 46 (5230MHz)



Channel 151 (5755MHz)

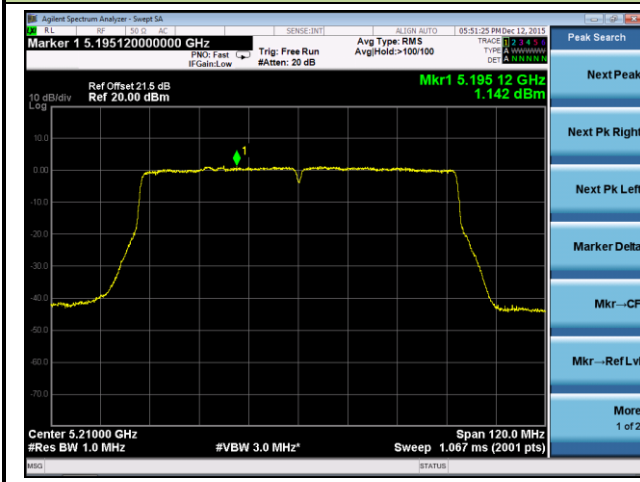


Channel 159 (5795MHz)

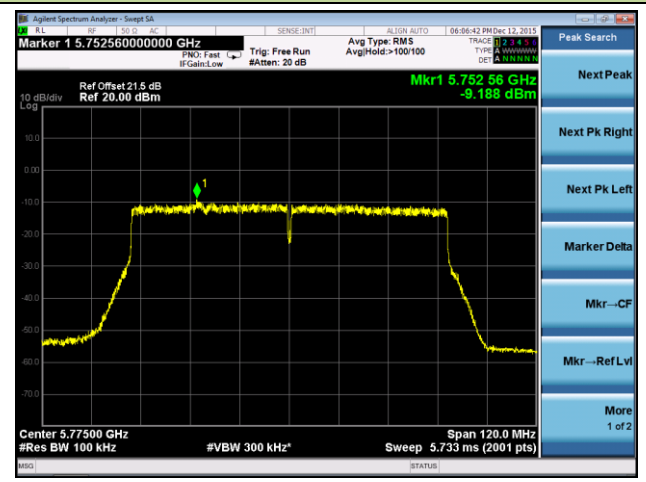


802.11ac-VHT80 Power Spectral Density - Ant 3 / Ant 0 + 1 + 2 + 3

Channel 42 (5210MHz)



Channel 155 (5775MHz)



7.7. Frequency Stability Measurement

7.7.1. Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

7.7.2. Test Procedure Used

Frequency Stability under Temperature Variations:

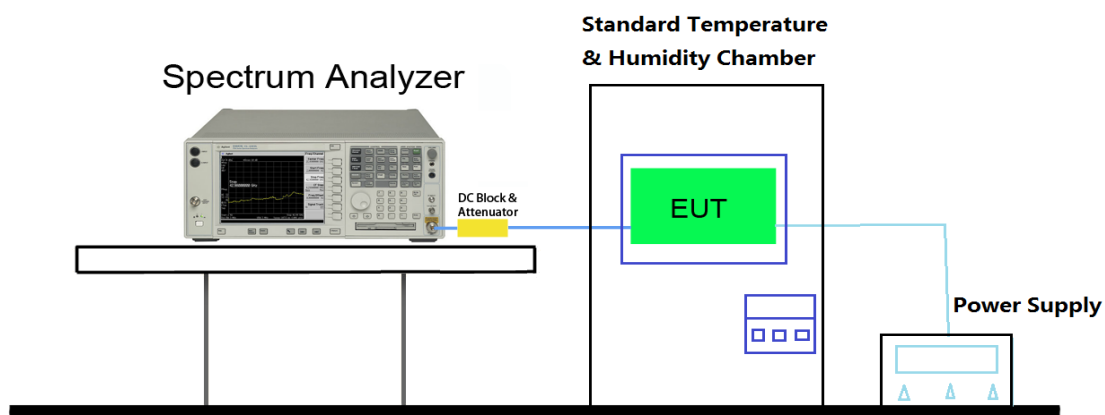
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

7.7.3. Test Setup



7.7.4. Test Result

Test Engineer	Roy Cheng	Temperature	-30 ~ 50°C
Test Time	12-05-2015	Relative Humidity	52%RH

Voltage (%)	Power (VAC)	Temp (°C)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
100%	120	- 30	5.85	4.84	2.32	3.48
		- 20	-3.61	-4.72	4.54	2.75
		- 10	4.37	4.00	2.23	-2.59
		0	4.54	-6.05	-6.41	2.68
		+ 10	-4.03	1.64	-4.11	-4.06
		+ 20 (Ref)	3.40	4.79	2.56	3.93
		+ 30	-5.90	-6.22	2.24	2.27
		+ 40	4.09	2.89	2.06	5.67
		+ 50	-4.50	2.11	-2.55	-2.52
115%	138	+ 20	3.56	3.58	3.61	3.45
85%	102	+ 20	3.59	3.29	-2.86	0.73

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} * 10⁶.

7.8. Radiated Spurious Emission Measurement

7.8.1. Test Limit

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

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [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

7.8.2. Test Procedure Used

KDB 789033 D02v01 - Section G

7.8.3. Test Setting

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

Quasi-Peak Measurements below 1GHz

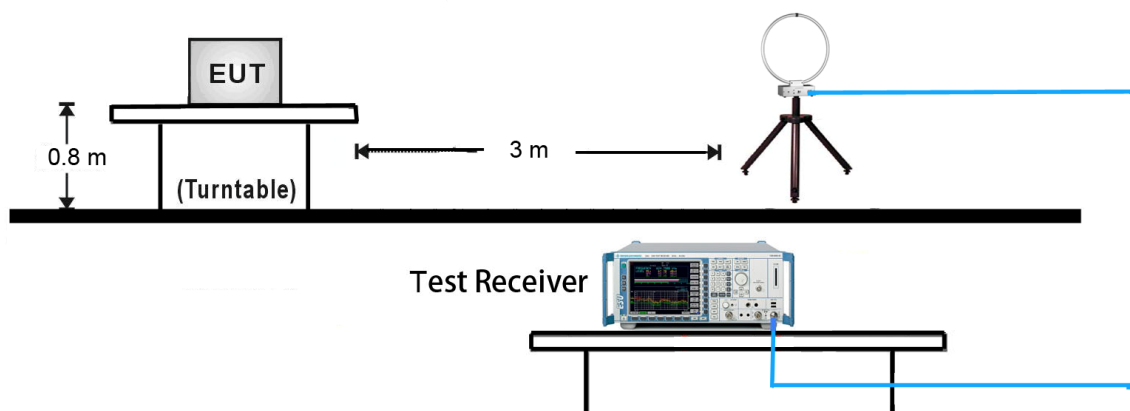
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

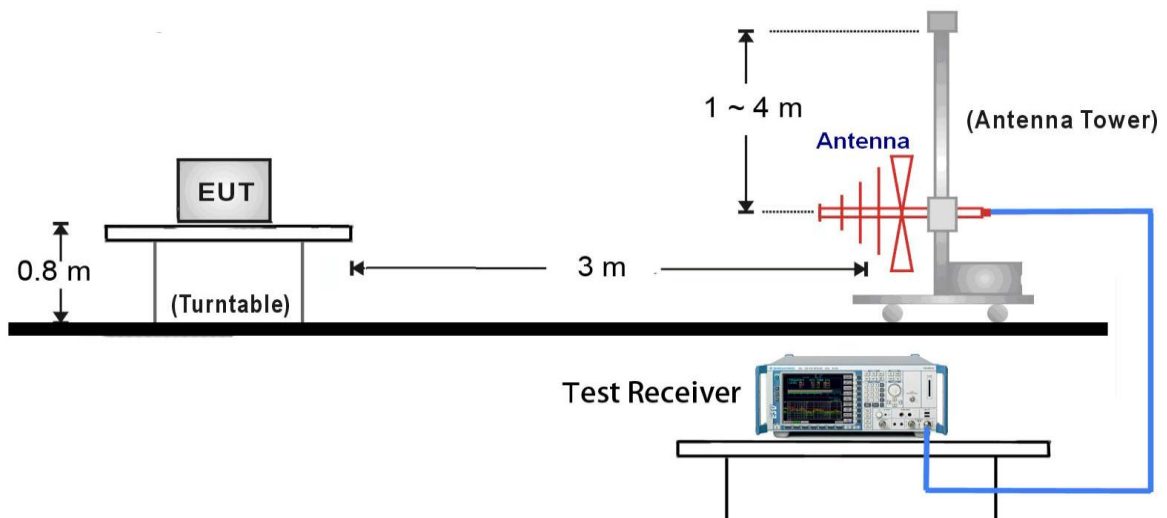
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (Average)
5. Number of measurement points = 1001 (Number of points must be $> 2 \times \text{span}/\text{RBW}$)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

7.8.4. Test Setup

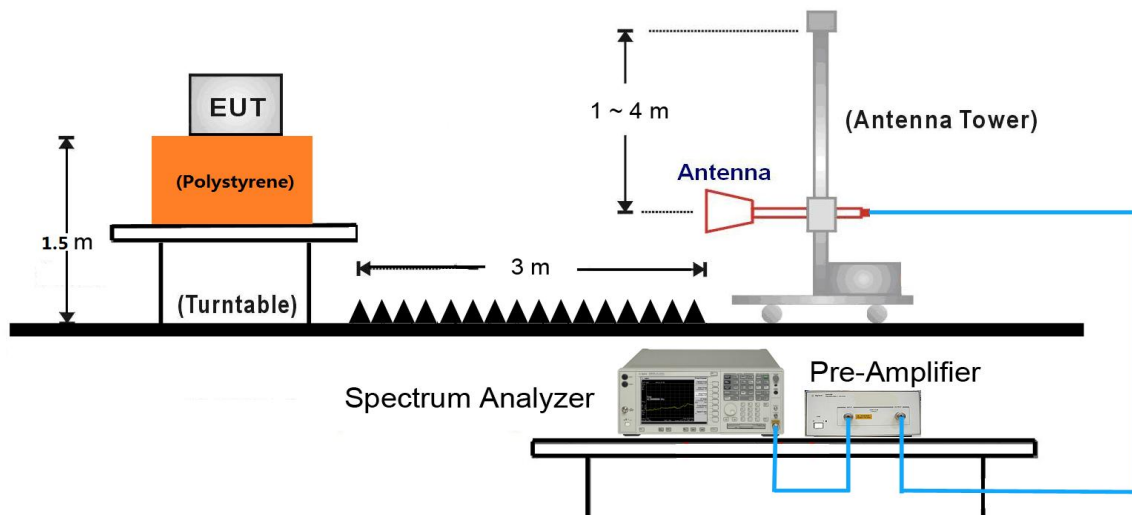
9kHz ~ 30MHz Test Setup:



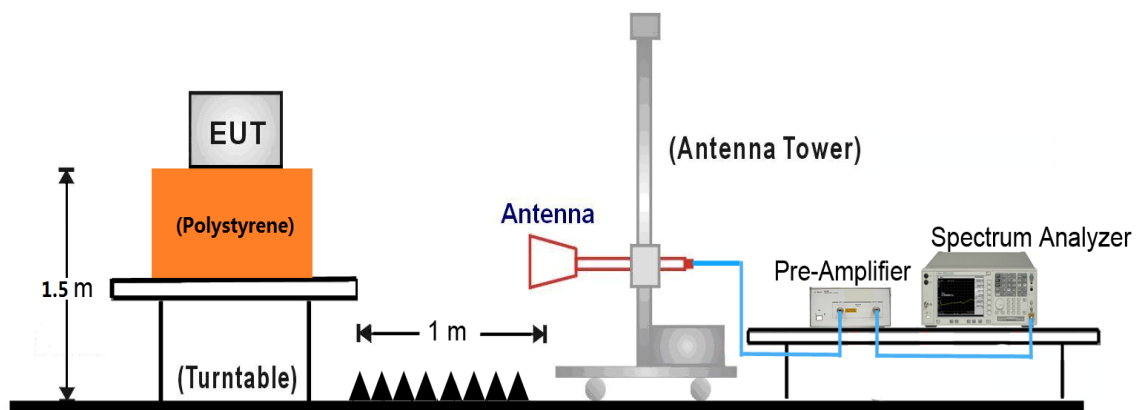
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



7.8.5. Test Result

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	36	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8624.5	34.3	8.8	43.1	68.2	-25.1	Peak	Horizontal
*	10358.5	35.9	12.2	48.1	68.2	-20.1	Peak	Horizontal
	10877.0	34.2	12.9	47.1	74.0	-26.9	Peak	Horizontal
	12126.5	34.0	11.9	45.9	74.0	-28.1	Peak	Horizontal
*	7893.5	34.4	8.3	42.7	68.2	-25.5	Peak	Vertical
*	10358.5	35.5	12.2	47.7	68.2	-20.5	Peak	Vertical
	11251.0	34.0	12.4	46.4	74.0	-27.6	Peak	Vertical
	12084.0	33.7	12.0	45.7	74.0	-28.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	44	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8658.5	33.8	8.8	42.6	68.2	-25.6	Peak	Horizontal
*	10435.0	36.1	12.0	48.1	68.2	-20.1	Peak	Horizontal
	11472.0	33.4	12.7	46.1	74.0	-27.9	Peak	Horizontal
	12237.0	33.5	11.8	45.3	74.0	-28.7	Peak	Horizontal
*	7893.5	34.7	8.3	43.0	68.2	-25.2	Peak	Vertical
*	8684.0	33.7	9.0	42.7	68.2	-25.5	Peak	Vertical
	9372.5	34.3	10.5	44.8	74.0	-29.2	Peak	Vertical
	11531.5	34.1	12.7	46.8	74.0	-27.2	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	48	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8624.5	34.5	8.8	43.3	68.2	-24.9	Peak	Horizontal
*	10477.5	34.3	12.2	46.5	68.2	-21.7	Peak	Horizontal
	11055.5	32.9	12.9	45.8	74.0	-28.2	Peak	Horizontal
	12084.0	33.8	12.0	45.8	74.0	-28.2	Peak	Horizontal
*	7808.5	35.5	8.4	43.9	68.2	-24.3	Peak	Vertical
*	8709.5	33.8	9.0	42.8	68.2	-25.4	Peak	Vertical
	9338.5	33.2	10.4	43.6	74.0	-30.4	Peak	Vertical
	10945.0	33.1	13.1	46.2	74.0	-27.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	149	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7783.0	35.7	8.3	44.0	68.2	-24.2	Peak	Horizontal
*	8735.0	34.5	8.9	43.4	68.2	-24.8	Peak	Horizontal
	9347.0	33.1	10.5	43.6	74.0	-30.4	Peak	Horizontal
	11491.9	46.2	12.8	59.0	74.0	-15.0	Peak	Horizontal
	11491.9	36.1	12.8	48.9	54.0	-5.1	Average	Horizontal
*	7825.5	34.4	8.4	42.8	68.2	-25.4	Peak	Vertical
*	8624.5	34.0	8.8	42.8	68.2	-25.4	Peak	Vertical
	9355.5	34.9	10.5	45.4	74.0	-28.6	Peak	Vertical
	11483.8	45.1	12.7	57.8	74.0	-16.2	Peak	Vertical
	11483.8	36.5	12.7	49.2	54.0	-4.8	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	157	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7885.0	34.0	8.3	42.3	68.2	-25.9	Peak	Horizontal
*	8718.0	33.5	9.0	42.5	68.2	-25.7	Peak	Horizontal
	9338.5	32.9	10.4	43.3	74.0	-30.7	Peak	Horizontal
	11574.0	46.4	12.6	59.0	74.0	-15.0	Peak	Horizontal
	11571.3	36.1	12.6	48.7	54.0	-5.3	Average	Horizontal
*	7876.5	33.5	8.4	41.9	68.2	-26.3	Peak	Vertical
*	8820.0	33.2	9.0	42.2	68.2	-26.0	Peak	Vertical
	9466.0	32.0	10.5	42.5	74.0	-31.5	Peak	Vertical
	11565.9	49.5	12.7	62.2	74.0	-11.8	Peak	Vertical
	11565.9	40.5	12.7	53.2	54.0	-0.8	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11a	Test Site:	AC1
Test Channel:	165	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7766.0	34.8	8.2	43.0	68.2	-25.2	Peak	Horizontal
*	8922.0	32.8	9.1	41.9	68.2	-26.3	Peak	Horizontal
	10732.5	32.8	12.5	45.3	74.0	-28.7	Peak	Horizontal
	11650.1	43.2	12.3	55.5	74.0	-18.5	Peak	Horizontal
	11650.1	33.1	12.3	45.4	54.0	-8.6	Average	Horizontal
*	7919.0	33.4	8.4	41.8	68.2	-26.4	Peak	Vertical
*	8973.0	33.5	9.0	42.5	68.2	-25.7	Peak	Vertical
	10902.5	32.9	13.0	45.9	74.0	-28.1	Peak	Vertical
	11650.4	46.2	12.3	58.5	74.0	-15.5	Peak	Vertical
	11650.4	36.1	12.3	48.4	54.0	-5.6	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	36	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7783.0	35.5	8.3	43.8	68.2	-24.4	Peak	Horizontal
*	8956.0	34.7	9.0	43.7	68.2	-24.5	Peak	Horizontal
	9355.5	33.6	10.5	44.1	74.0	-29.9	Peak	Horizontal
	10987.5	33.5	13.0	46.5	74.0	-27.5	Peak	Horizontal
*	7783.0	35.3	8.3	43.6	68.2	-24.6	Peak	Vertical
*	8556.5	34.9	8.6	43.5	68.2	-24.7	Peak	Vertical
	9347.0	33.9	10.5	44.4	74.0	-29.6	Peak	Vertical
	10987.5	33.5	13.0	46.5	74.0	-27.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	44	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7885.0	35.1	8.3	43.4	68.2	-24.8	Peak	Horizontal
*	8701.0	33.8	9.0	42.8	68.2	-25.4	Peak	Horizontal
	9347.0	32.9	10.5	43.4	74.0	-30.6	Peak	Horizontal
	10435.0	37.4	12.0	49.4	74.0	-24.6	Peak	Horizontal
*	8718.0	33.8	9.0	42.8	68.2	-25.4	Peak	Vertical
*	10443.5	35.0	12.0	47.0	68.2	-21.2	Peak	Vertical
	11557.0	34.1	12.7	46.8	74.0	-27.2	Peak	Vertical
	12296.5	34.0	11.6	45.6	74.0	-28.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	48	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7791.5	34.8	8.3	43.1	68.2	-25.1	Peak	Horizontal
*	8616.0	34.0	8.8	42.8	68.2	-25.4	Peak	Horizontal
	9466.0	33.4	10.5	43.9	74.0	-30.1	Peak	Horizontal
	11506.0	34.3	12.8	47.1	74.0	-26.9	Peak	Horizontal
*	7842.5	34.7	8.4	43.1	68.2	-25.1	Peak	Vertical
*	8888.0	34.4	9.2	43.6	68.2	-24.6	Peak	Vertical
	9381.0	32.8	10.5	43.3	74.0	-30.7	Peak	Vertical
	11599.5	33.8	12.6	46.4	74.0	-27.6	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	149	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7961.5	33.7	8.6	42.3	68.2	-25.9	Peak	Horizontal
*	8752.0	33.0	9.0	42.0	68.2	-26.2	Peak	Horizontal
	9406.5	32.8	10.6	43.4	74.0	-30.6	Peak	Horizontal
	11491.9	46.9	12.8	59.7	74.0	-14.3	Peak	Horizontal
	11491.9	35.0	12.8	47.8	54.0	-6.2	Average	Horizontal
*	7817.0	34.3	8.4	42.7	68.2	-25.5	Peak	Vertical
*	8633.0	34.0	8.8	42.8	68.2	-25.4	Peak	Vertical
	9347.0	33.5	10.5	44.0	74.0	-30.0	Peak	Vertical
	11491.1	45.2	12.8	58.0	74.0	-16.0	Peak	Vertical
	11491.1	33.2	12.8	46.0	54.0	-8.0	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	157	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7834.0	34.2	8.4	42.6	68.2	-25.6	Peak	Horizontal
*	8735.0	33.9	8.9	42.8	68.2	-25.4	Peak	Horizontal
	9313.0	32.3	10.4	42.7	74.0	-31.3	Peak	Horizontal
	11571.1	48.4	12.6	61.0	74.0	-13.0	Peak	Horizontal
	11571.1	36.7	12.6	49.3	54.0	-4.7	Average	Horizontal
*	7783.0	34.3	8.3	42.6	68.2	-25.6	Peak	Vertical
*	8582.0	34.5	8.6	43.1	68.2	-25.1	Peak	Vertical
	9355.5	32.8	10.5	43.3	74.0	-30.7	Peak	Vertical
	11570.6	51.2	12.6	63.8	74.0	-10.2	Peak	Vertical
	11570.6	39.2	12.6	51.8	54.0	-2.2	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT20	Test Site:	AC1
Test Channel:	165	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7825.5	34.4	8.4	42.8	68.2	-25.4	Peak	Horizontal
*	8701.0	33.6	9.0	42.6	68.2	-25.6	Peak	Horizontal
	9347.0	32.4	10.5	42.9	74.0	-31.1	Peak	Horizontal
	11650.1	45.7	12.3	58.0	74.0	-16.0	Peak	Horizontal
	11650.1	33.2	12.3	45.5	54.0	-8.5	Average	Horizontal
*	7766.0	35.3	8.2	43.5	68.2	-24.7	Peak	Vertical
*	8896.5	34.4	9.2	43.6	68.2	-24.6	Peak	Vertical
	9313.0	33.1	10.4	43.5	74.0	-30.5	Peak	Vertical
	11650.3	45.6	12.3	57.9	74.0	-16.1	Peak	Vertical
	11650.3	32.7	12.3	45.0	54.0	-9.0	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT40	Test Site:	AC1
Test Channel:	38	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8709.5	33.8	9.0	42.8	68.2	-25.4	Peak	Horizontal
*	10375.5	35.1	12.2	47.3	68.2	-20.9	Peak	Horizontal
	10962.0	32.8	13.1	45.9	74.0	-28.1	Peak	Horizontal
	11531.5	33.4	12.7	46.1	74.0	-27.9	Peak	Horizontal
*	7944.5	34.3	8.5	42.8	68.2	-25.4	Peak	Vertical
*	8650.0	33.9	8.8	42.7	68.2	-25.5	Peak	Vertical
	9338.5	33.2	10.4	43.6	74.0	-30.4	Peak	Vertical
	10953.5	32.6	13.1	45.7	74.0	-28.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT40	Test Site:	AC1
Test Channel:	46	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7817.0	34.1	8.4	42.5	68.2	-25.7	Peak	Horizontal
*	8913.5	33.6	9.1	42.7	68.2	-25.5	Peak	Horizontal
	9483.0	33.6	10.6	44.2	74.0	-29.8	Peak	Horizontal
	11565.5	33.5	12.7	46.2	74.0	-27.8	Peak	Horizontal
*	7834.0	35.1	8.4	43.5	68.2	-24.7	Peak	Vertical
*	8794.5	33.9	8.9	42.8	68.2	-25.4	Peak	Vertical
	9338.5	33.4	10.4	43.8	74.0	-30.2	Peak	Vertical
	10979.0	32.9	13.0	45.9	74.0	-28.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT40	Test Site:	AC1
Test Channel:	151	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7987.0	32.7	8.7	41.4	68.2	-26.8	Peak	Horizontal
*	8871.0	33.3	9.1	42.4	68.2	-25.8	Peak	Horizontal
	9321.5	33.1	10.4	43.5	74.0	-30.5	Peak	Horizontal
	11511.1	45.1	12.8	57.9	74.0	-16.1	Peak	Horizontal
	11511.1	33.4	12.8	46.2	54.0	-7.8	Average	Horizontal
*	8675.5	33.7	8.9	42.6	68.2	-25.6	Peak	Vertical
*	9593.5	32.7	10.9	43.6	68.2	-24.6	Peak	Vertical
	10834.5	33.1	12.7	45.8	74.0	-28.2	Peak	Vertical
	11512.7	47.5	12.8	60.3	74.0	-13.7	Peak	Vertical
	11512.7	35.9	12.8	48.7	54.0	-5.3	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11n-HT40	Test Site:	AC1
Test Channel:	159	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7876.5	33.7	8.4	42.1	68.2	-26.1	Peak	Horizontal
*	8692.5	33.1	9.0	42.1	68.2	-26.1	Peak	Horizontal
	9474.5	31.9	10.6	42.5	74.0	-31.5	Peak	Horizontal
	11590.1	45.0	12.6	57.6	74.0	-16.4	Peak	Horizontal
	11590.1	33.5	12.6	46.1	54.0	-7.9	Average	Horizontal
*	7808.5	33.4	8.4	41.8	68.2	-26.4	Peak	Vertical
*	8675.5	34.0	8.9	42.9	68.2	-25.3	Peak	Vertical
	9355.5	32.9	10.5	43.4	74.0	-30.6	Peak	Vertical
	11591.6	46.3	12.6	58.9	74.0	-15.1	Peak	Vertical
	11591.6	34.6	12.6	47.2	54.0	-6.8	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	36	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8743.5	33.2	9.0	42.2	68.2	-26.0	Peak	Horizontal
*	10358.5	35.6	12.2	47.8	68.2	-20.4	Peak	Horizontal
	11123.5	33.6	12.7	46.3	74.0	-27.7	Peak	Horizontal
	12033.0	34.0	12.0	46.0	74.0	-28.0	Peak	Horizontal
*	8582.0	34.8	8.6	43.4	68.2	-24.8	Peak	Vertical
*	9602.0	33.0	10.9	43.9	68.2	-24.3	Peak	Vertical
	11446.5	33.7	12.7	46.4	74.0	-27.6	Peak	Vertical
	12135.0	33.0	11.9	44.9	74.0	-29.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	44	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8624.5	34.2	8.8	43.0	68.2	-25.2	Peak	Horizontal
*	10435.0	34.6	12.0	46.6	68.2	-21.6	Peak	Horizontal
	11268.0	33.5	12.4	45.9	74.0	-28.1	Peak	Horizontal
	12262.5	33.8	11.7	45.5	74.0	-28.5	Peak	Horizontal
*	8879.5	33.5	9.2	42.7	68.2	-25.5	Peak	Vertical
*	10443.5	36.1	12.0	48.1	68.2	-20.1	Peak	Vertical
	11225.5	32.8	12.4	45.2	74.0	-28.8	Peak	Vertical
	11973.5	33.5	11.9	45.4	74.0	-28.6	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	48	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7834.0	34.3	8.4	42.7	68.2	-25.5	Peak	Horizontal
*	8641.5	34.2	8.8	43.0	68.2	-25.2	Peak	Horizontal
	9483.0	32.5	10.6	43.1	74.0	-30.9	Peak	Horizontal
	11523.0	34.1	12.7	46.8	74.0	-27.2	Peak	Horizontal
*	7876.5	34.0	8.4	42.4	68.2	-25.8	Peak	Vertical
*	8692.5	33.9	9.0	42.9	68.2	-25.3	Peak	Vertical
	9338.5	32.8	10.4	43.2	74.0	-30.8	Peak	Vertical
	11089.5	33.1	12.8	45.9	74.0	-28.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	149	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7783.0	35.5	8.3	43.8	68.2	-24.4	Peak	Horizontal
*	8633.0	33.6	8.8	42.4	68.2	-25.8	Peak	Horizontal
	9330.0	32.9	10.4	43.3	74.0	-30.7	Peak	Horizontal
	11490.6	45.9	12.8	58.7	74.0	-15.3	Peak	Horizontal
	11490.6	33.5	12.8	46.3	54.0	-7.7	Average	Horizontal
*	7902.0	35.0	8.3	43.3	68.2	-24.9	Peak	Vertical
*	8624.5	34.2	8.8	43.0	68.2	-25.2	Peak	Vertical
	9415.0	33.8	10.6	44.4	74.0	-29.6	Peak	Vertical
	11490.6	45.5	12.8	58.3	74.0	-15.7	Peak	Vertical
	11490.6	32.6	12.8	45.4	54.0	-8.6	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	157	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7876.5	34.4	8.4	42.8	68.2	-25.4	Peak	Horizontal
*	8820.0	33.7	9.0	42.7	68.2	-25.5	Peak	Horizontal
	9415.0	32.1	10.6	42.7	74.0	-31.3	Peak	Horizontal
	11571.3	47.0	12.6	59.6	74.0	-14.4	Peak	Horizontal
	11571.3	35.3	12.6	47.9	54.0	-6.1	Average	Horizontal
*	7961.5	33.8	8.6	42.4	68.2	-25.8	Peak	Vertical
*	8650.0	33.9	8.8	42.7	68.2	-25.5	Peak	Vertical
	9364.0	32.5	10.5	43.0	74.0	-31.0	Peak	Vertical
	11567.4	50.4	12.7	63.1	74.0	-10.9	Peak	Vertical
	11567.4	40.1	12.7	52.8	54.0	-1.2	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	165	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7766.0	34.1	8.2	42.3	68.2	-25.9	Peak	Horizontal
*	8582.0	33.9	8.6	42.5	68.2	-25.7	Peak	Horizontal
	9355.5	32.4	10.5	42.9	74.0	-31.1	Peak	Horizontal
	11650.1	43.9	12.3	56.2	74.0	-17.8	Peak	Horizontal
	11650.1	33.2	12.3	45.5	54.0	-8.5	Average	Horizontal
*	7757.5	35.2	8.1	43.3	68.2	-24.9	Peak	Vertical
*	8743.5	33.6	9.0	42.6	68.2	-25.6	Peak	Vertical
	9355.5	33.0	10.5	43.5	74.0	-30.5	Peak	Vertical
	11650.7	47.9	12.3	60.2	74.0	-13.8	Peak	Vertical
	11650.7	37.5	12.3	49.8	54.0	-4.2	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT40	Test Site:	AC1
Test Channel:	38	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7766.0	38.1	8.2	46.3	68.2	-21.9	Peak	Horizontal
*	8641.5	37.1	8.8	45.9	68.2	-22.3	Peak	Horizontal
	9304.5	34.6	10.4	45.0	74.0	-29.0	Peak	Horizontal
	10877.0	36.3	12.9	49.2	74.0	-24.8	Peak	Horizontal
*	7876.5	35.9	8.4	44.3	68.2	-23.9	Peak	Vertical
*	8633.0	36.3	8.8	45.1	68.2	-23.1	Peak	Vertical
	9330.0	34.7	10.4	45.1	74.0	-28.9	Peak	Vertical
	10945.0	35.6	13.1	48.7	74.0	-25.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT40	Test Site:	AC1
Test Channel:	46	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7834.0	36.1	8.4	44.5	68.2	-23.7	Peak	Horizontal
*	8701.0	35.9	9.0	44.9	68.2	-23.3	Peak	Horizontal
	9321.5	35.0	10.4	45.4	74.0	-28.6	Peak	Horizontal
	11030.0	35.8	13.0	48.8	74.0	-25.2	Peak	Horizontal
*	7893.5	35.9	8.3	44.2	68.2	-24.0	Peak	Vertical
*	8794.5	36.0	8.9	44.9	68.2	-23.3	Peak	Vertical
	9321.5	35.8	10.4	46.2	74.0	-27.8	Peak	Vertical
	10987.5	35.7	13.0	48.7	74.0	-25.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT40	Test Site:	AC1
Test Channel:	151	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7859.5	36.1	8.4	44.5	68.2	-23.7	Peak	Horizontal
*	8565.0	35.8	8.7	44.5	68.2	-23.7	Peak	Horizontal
	9151.5	35.4	9.8	45.2	74.0	-28.8	Peak	Horizontal
	11505.9	45.7	12.8	58.5	74.0	-15.5	Peak	Horizontal
	11505.9	33.3	12.8	46.1	54.0	-7.9	Average	Horizontal
*	7987.0	35.5	8.7	44.2	68.2	-24.0	Peak	Vertical
*	8616.0	35.9	8.8	44.7	68.2	-23.5	Peak	Vertical
	9347.0	35.3	10.5	45.8	74.0	-28.2	Peak	Vertical
	11517.7	47.4	12.8	60.2	74.0	-13.8	Peak	Vertical
	11517.7	36.3	12.8	49.1	54.0	-4.9	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT40	Test Site:	AC1
Test Channel:	159	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7825.5	35.8	8.4	44.2	68.2	-24.0	Peak	Horizontal
*	8658.5	35.2	8.8	44.0	68.2	-24.2	Peak	Horizontal
	9338.5	34.9	10.4	45.3	74.0	-28.7	Peak	Horizontal
	11593.6	46.1	12.6	58.7	74.0	-15.3	Peak	Horizontal
	11593.6	35.7	12.6	48.3	54.0	-5.7	Average	Horizontal
*	7885.0	35.3	8.3	43.6	68.2	-24.6	Peak	Vertical
*	8565.0	36.2	8.7	44.9	68.2	-23.3	Peak	Vertical
	9440.5	34.6	10.5	45.1	74.0	-28.9	Peak	Vertical
	11585.8	49.2	12.6	61.8	74.0	-12.2	Peak	Vertical
	11585.8	38.8	12.6	51.4	54.0	-2.6	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT80	Test Site:	AC1
Test Channel:	42	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7783.0	36.8	8.3	45.1	68.2	-23.1	Peak	Horizontal
*	8616.0	35.8	8.8	44.6	68.2	-23.6	Peak	Horizontal
	9338.5	34.7	10.4	45.1	74.0	-28.9	Peak	Horizontal
	10979.0	34.7	13.0	47.7	74.0	-26.3	Peak	Horizontal
*	7885.0	35.0	8.3	43.3	68.2	-24.9	Peak	Vertical
*	8786.0	35.2	8.9	44.1	68.2	-24.1	Peak	Vertical
	9364.0	35.0	10.5	45.5	74.0	-28.5	Peak	Vertical
	11030.0	35.3	13.0	48.3	74.0	-25.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

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

Test Mode:	802.11ac-VHT80	Test Site:	AC1
Test Channel:	155	Test Engineer:	Roy Cheng
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7808.5	36.2	8.4	44.6	68.2	-23.6	Peak	Horizontal
*	8556.5	35.7	8.6	44.3	68.2	-23.9	Peak	Horizontal
	9330.0	34.5	10.4	44.9	74.0	-29.1	Peak	Horizontal
	11548.5	40.0	12.7	52.7	74.0	-21.3	Peak	Horizontal
*	7817.0	36.2	8.4	44.6	68.2	-23.6	Peak	Vertical
*	8718.0	35.7	9.0	44.7	68.2	-23.5	Peak	Vertical
	9415.0	34.6	10.6	45.2	74.0	-28.8	Peak	Vertical
	11566.6	42.2	12.7	54.9	74.0	-19.1	Peak	Vertical
	11566.6	34.4	12.7	47.1	54.0	-6.9	Average	Vertical

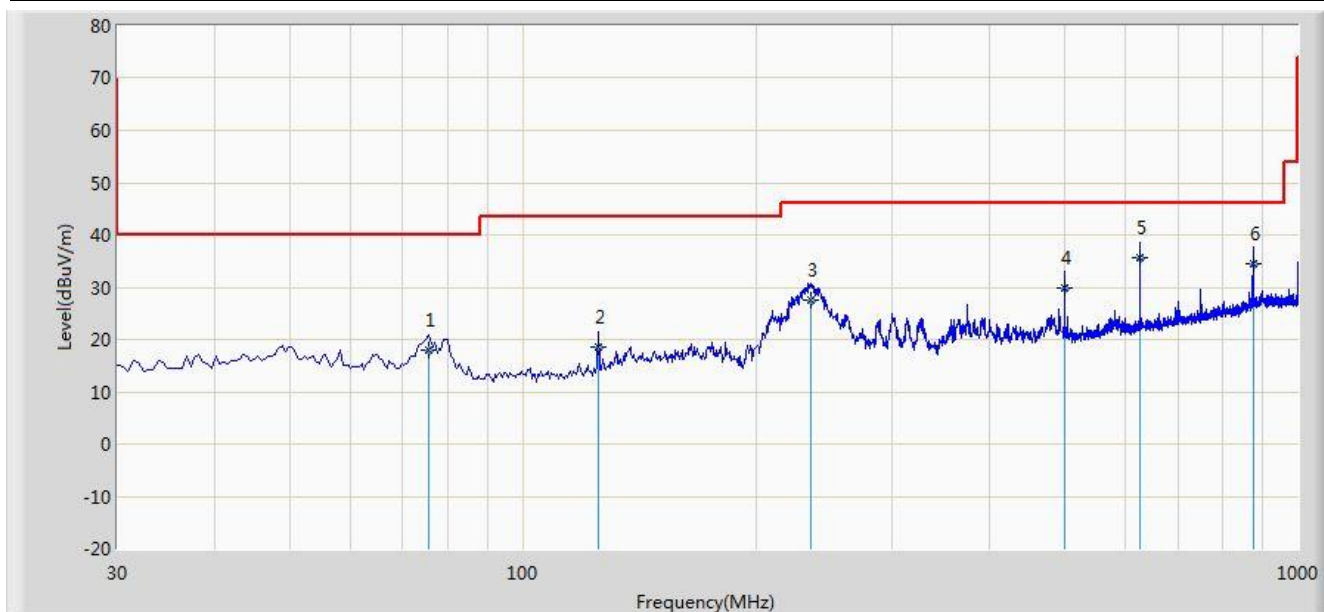
Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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: AC 1	Time: 2015/12/16 - 17:52
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Worst Mode: Transmit by 802.11n-HT20 at channel 5180MHz Ant 0 + 1 + 2 + 3	

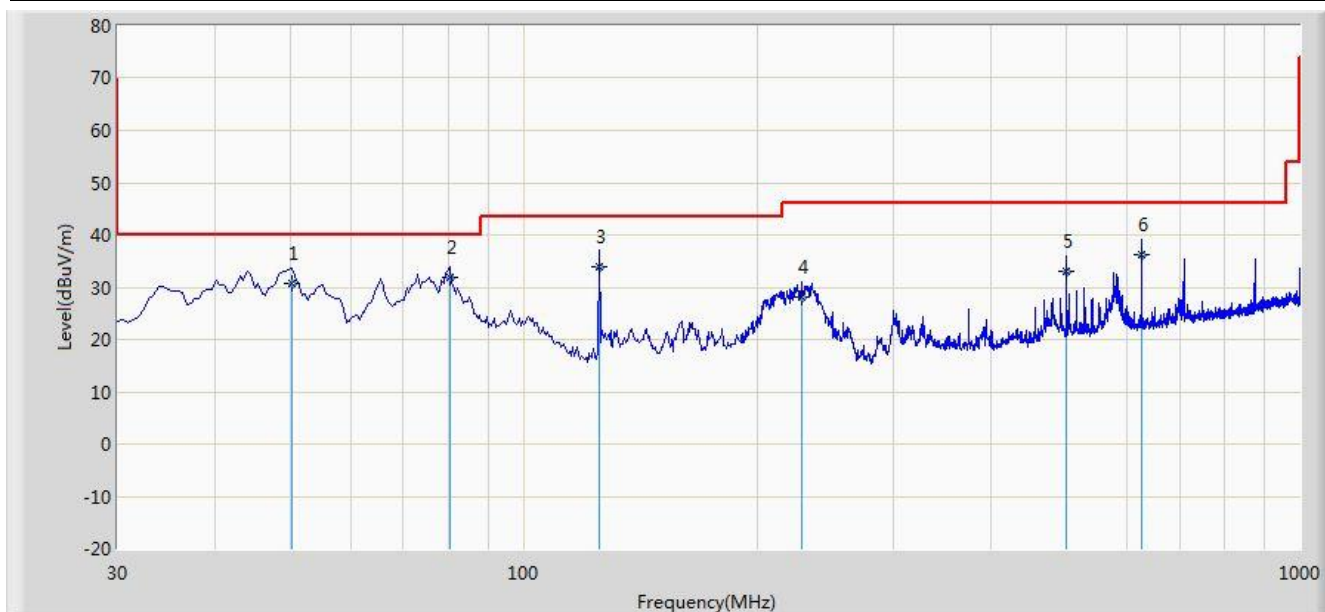


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			75.590	17.895	7.231	-22.105	40.000	10.664	QP
2			125.060	18.561	5.111	-24.939	43.500	13.450	QP
3			235.155	27.585	14.945	-18.415	46.000	12.641	QP
4			499.965	29.987	11.505	-16.013	46.000	18.482	QP
5		*	625.095	35.652	14.626	-10.348	46.000	21.026	QP
6			874.870	34.554	10.559	-11.446	46.000	23.995	QP

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

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

Site: AC 1	Time: 2015/12/16 - 17:55
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: Gateway	Power: AC 120V/60Hz
Worst Mode: Transmit by 802.11n-HT20 at channel 5180MHz Ant 0 + 1 + 2 + 3	

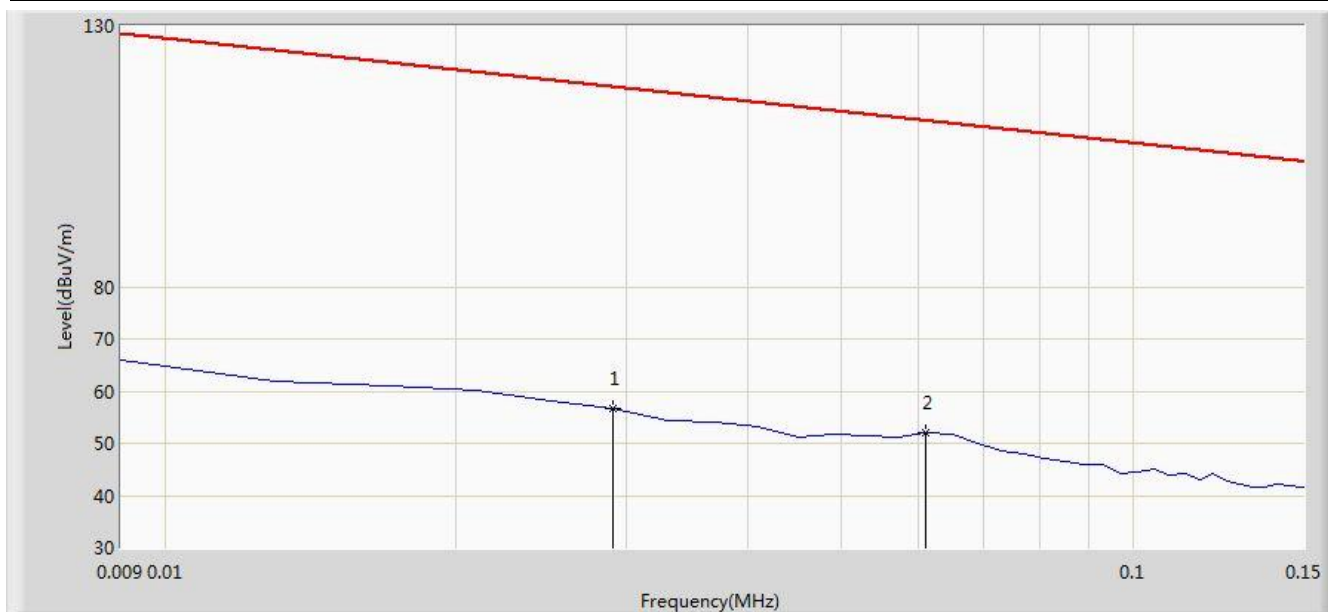


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			50.370	30.601	16.574	-9.399	40.000	14.027	QP
2		*	80.440	31.815	21.742	-8.185	40.000	10.073	QP
3			125.060	33.997	20.547	-9.503	43.500	13.450	QP
4			227.880	28.089	15.709	-17.911	46.000	12.380	QP
5			499.965	33.065	14.583	-12.935	46.000	18.482	QP
6			625.095	36.120	15.094	-9.880	46.000	21.026	QP

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

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

Site: AC1	Time: 2015/12/16 - 19:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: Gateway	Power: AC 120V/60Hz
Note: There is the ambient noise within frequency range 9kHz~30MHz.	

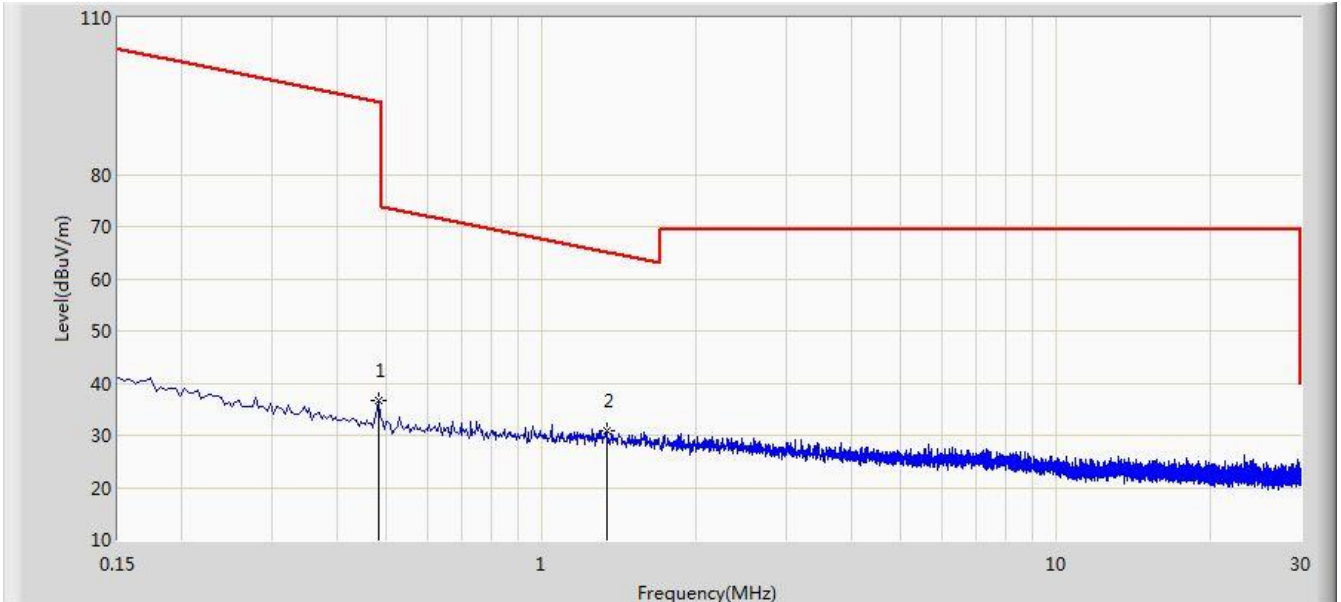


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			0.029	56.610	35.660	-61.732	118.342	21.049	PK
2		*	0.061	51.899	31.588	-59.988	111.887	20.311	PK

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

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

Site: AC1	Time: 2015/12/16 - 19:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: Gateway	Power: AC 120V/60Hz
Note: There is the ambient noise within frequency range 9kHz~30MHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			0.482	36.584	16.183	-57.359	93.943	20.401	PK
2		*	1.338	31.001	10.512	-34.098	65.099	20.489	PK

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

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

Limit@3m = 20*Log(30uV/m) + 20*Log(30m/3m) = 49.5dBμV/m (Average detector), and 69.5dBμV/m (Peak detector).

Site: AC1	Time: 2015/12/16 - 21:25
Limit: FCC_Part15.209_RE(1m)	Engineer: Roy Cheng
Probe: BBHA9170_18-40GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Note: There is the ambient noise within frequency range 18GHz~40GHz.	

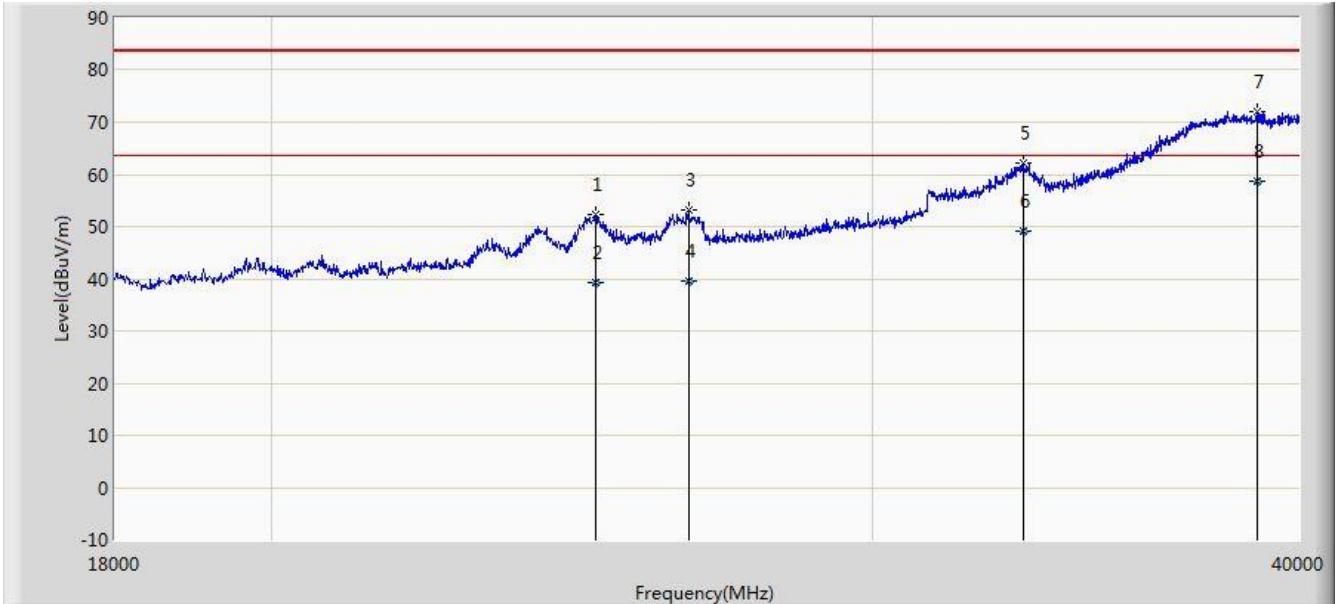


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			24864.000	51.836	37.061	-31.664	83.500	14.775	PK
2			24864.088	39.225	24.450	-24.275	63.500	14.775	AV
3			26260.988	39.469	24.050	-24.031	63.500	15.419	AV
4			26261.000	51.956	36.537	-31.544	83.500	15.419	PK
5			33180.000	61.461	39.940	-22.039	83.500	21.521	PK
6			33180.361	49.061	27.540	-14.439	63.500	21.521	AV
7		*	38437.980	58.523	31.190	-4.977	63.500	27.333	AV
8			38438.000	72.021	44.688	-11.479	83.500	27.333	PK

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

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

Site: AC1	Time: 2015/12/16 - 21:28
Limit: FCC_Part15.209_RE(1m)	Engineer: Roy Cheng
Probe: BBHA9170_18-40GHz	Polarity: Vertical
EUT: Gateway	Power: AC 120V/60Hz
Note: There is the ambient noise within frequency range 18GHz~40GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			24886.000	52.313	37.528	-31.187	83.500	14.785	PK
2			24886.970	39.234	24.449	-24.266	63.500	14.785	AV
3			26503.000	53.227	37.207	-30.273	83.500	16.020	PK
4			26503.872	39.572	23.550	-23.928	63.500	16.022	AV
5			33213.000	62.110	40.572	-21.390	83.500	21.538	PK
6			33213.984	49.098	27.560	-14.402	63.500	21.538	AV
7			38900.000	72.096	44.211	-11.404	83.500	27.885	PK
8		*	38900.755	58.705	30.820	-4.795	63.500	27.885	AV

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

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

Limit@1m = 20*Log(500uV/m) + 20*Log(3m/1m) = 63.5dBμV/m (Average detector), and 83.5dBμV/m (Peak detector).

7.9. Radiated Restricted Band Edge Measurement

7.9.1. Test Limit

For 15.205 requirement:

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

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

For 15.407(b) requirement:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725

GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

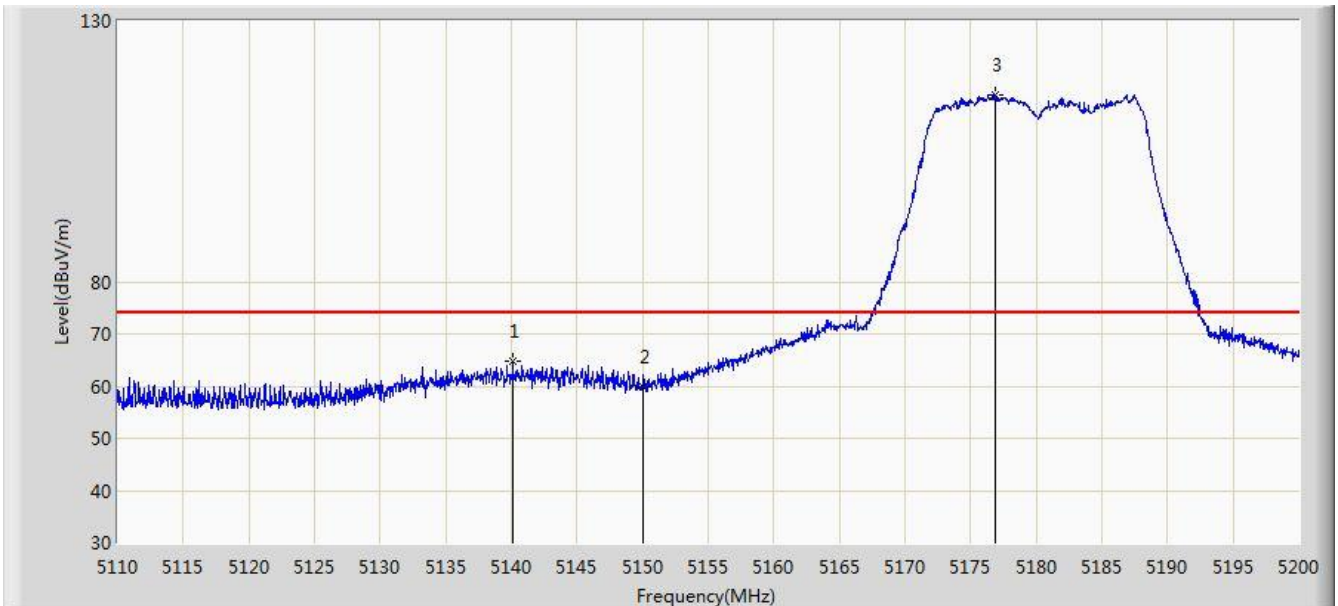
Refer to KDB 789033 D02v01 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

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

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [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

7.9.2. Test Result of Radiated Restricted Band Edge

Site: AC1	Time: 2015/12/08 - 02:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	

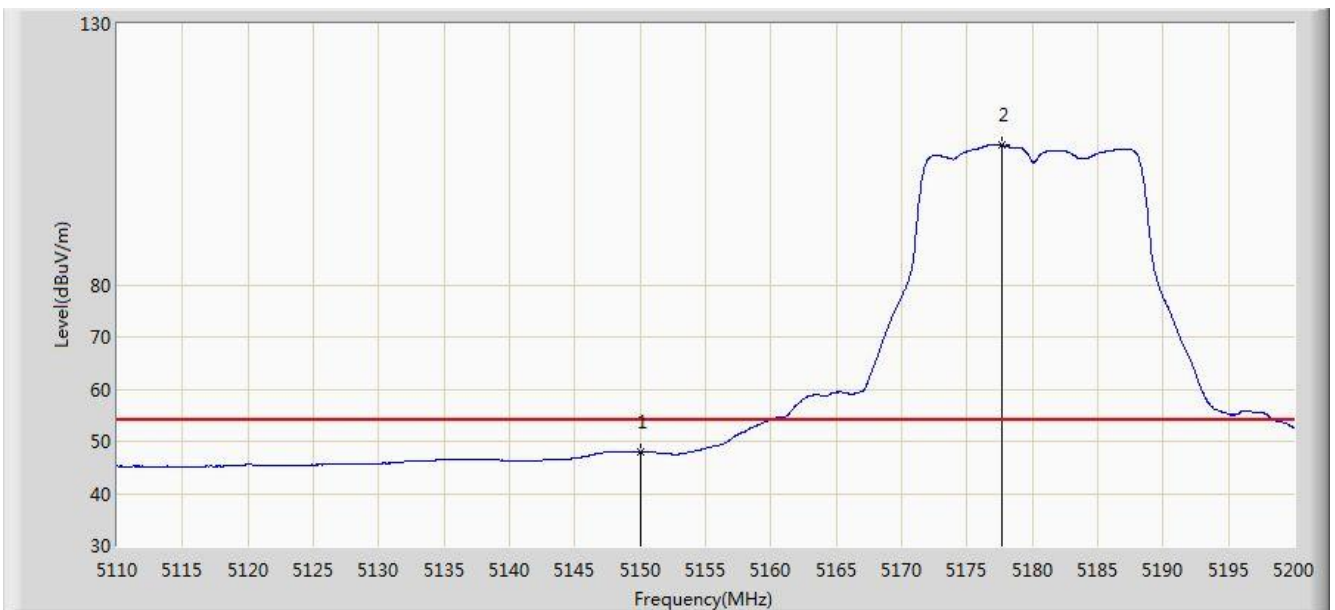


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5140.105	64.864	60.752	-9.136	74.000	4.112	PK
2			5150.000	59.997	55.876	-14.003	74.000	4.122	PK
3		*	5176.870	115.683	111.557	N/A	N/A	4.126	PK

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

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

Site: AC1	Time: 2015/12/08 - 02:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	

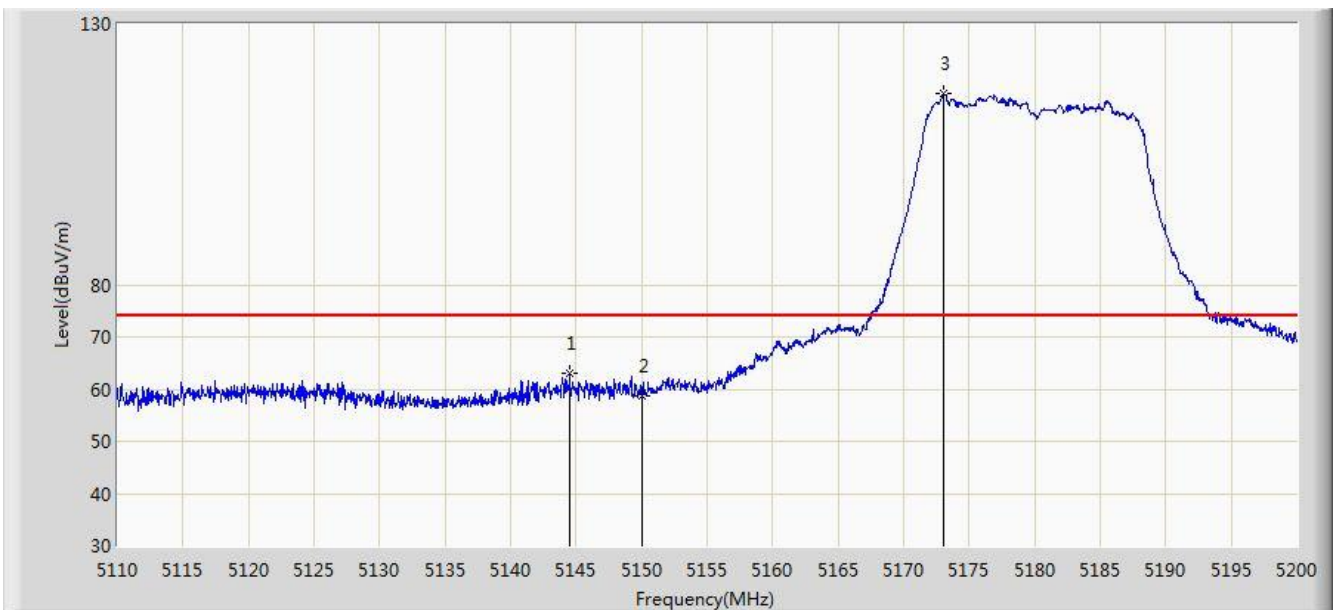


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	47.854	43.733	-6.146	54.000	4.122	AV
2		*	5177.680	106.715	102.589	N/A	N/A	4.126	AV

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

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

Site: AC1	Time: 2015/12/08 - 02:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	

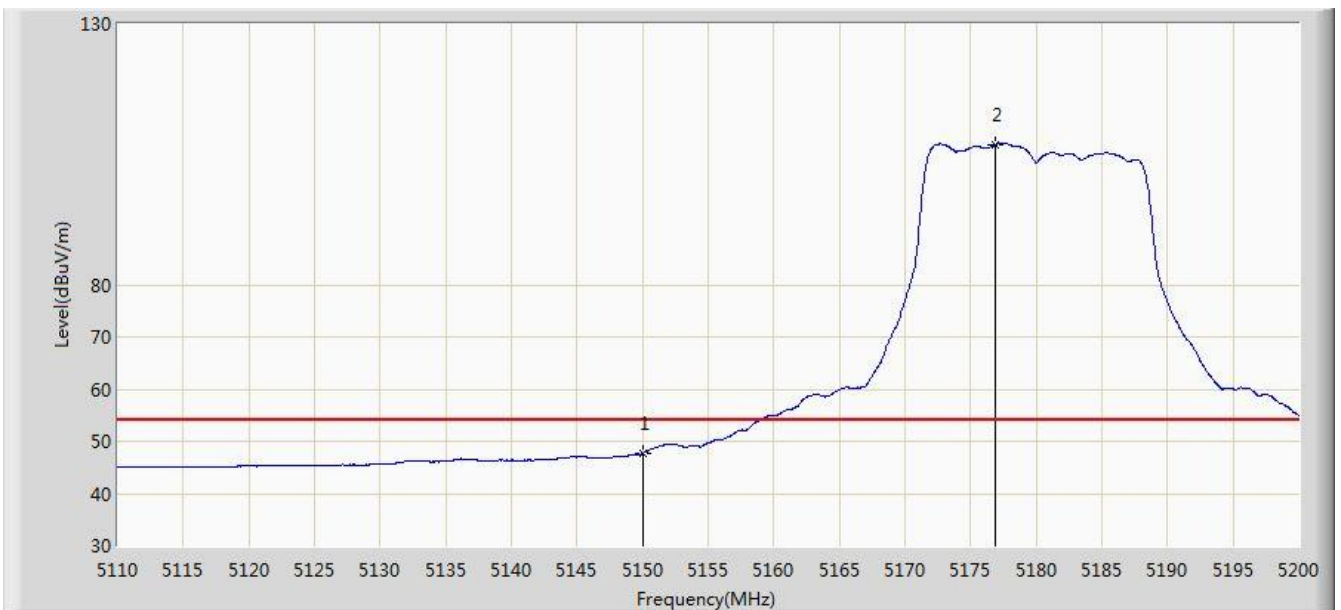


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5144.515	62.965	58.849	-11.035	74.000	4.116	PK
2			5150.000	58.556	54.435	-15.444	74.000	4.122	PK
3		*	5173.090	116.536	112.412	N/A	N/A	4.124	PK

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

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

Site: AC1	Time: 2015/12/08 - 02:35
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	

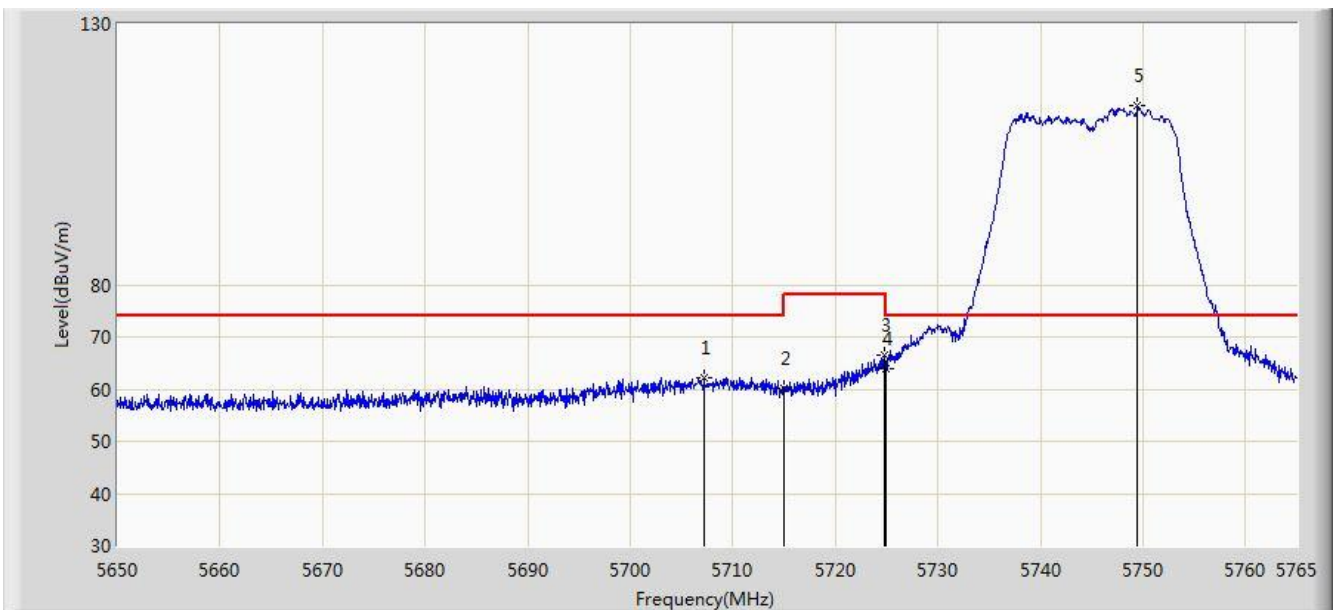


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	47.674	43.553	-6.326	54.000	4.122	AV
2		*	5176.915	106.885	102.759	N/A	N/A	4.126	AV

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

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

Site: AC1	Time: 2015/12/08 - 03:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5745MHz	

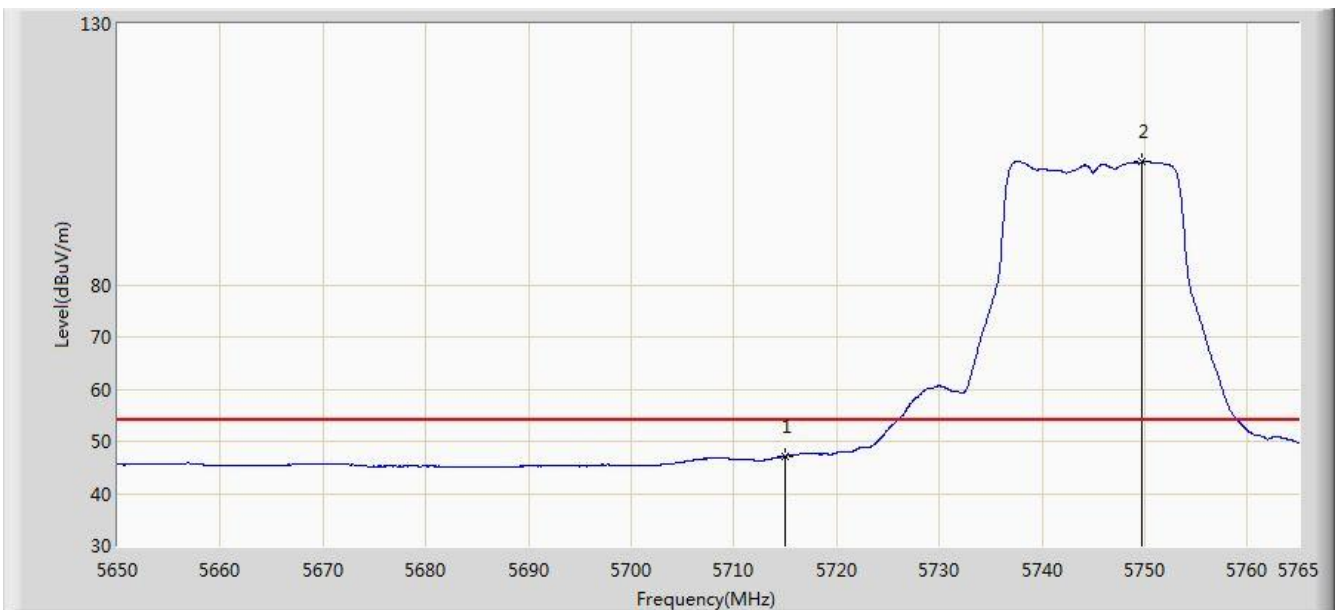


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5707.212	62.166	57.457	-11.834	74.000	4.709	PK
2			5715.000	60.232	55.438	-13.768	74.000	4.795	PK
3			5724.750	66.549	61.632	-11.651	78.200	4.916	PK
4			5725.000	63.956	59.036	-14.244	78.200	4.920	PK
5		*	5749.475	114.425	109.616	N/A	N/A	4.810	PK

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

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

Site: AC1	Time: 2015/12/08 - 03:31
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5745MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5715.000	47.199	42.405	-6.801	54.000	4.795	AV
2		*	5749.705	103.480	98.670	N/A	N/A	4.810	AV

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

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