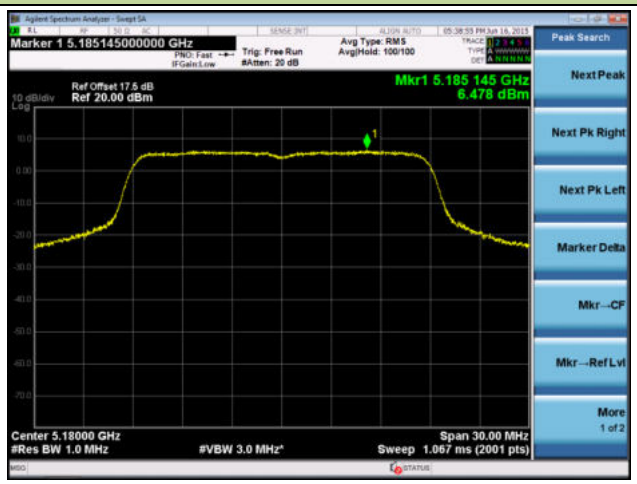
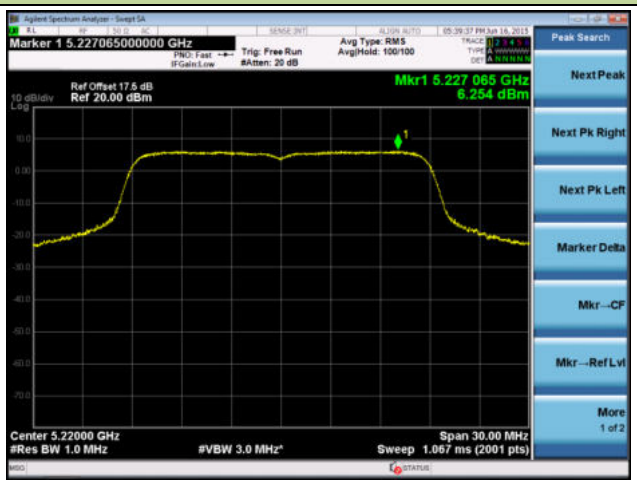
802.11ac-VHT20 Power Spectral Density - Ant 1 / Ant 0 + 1

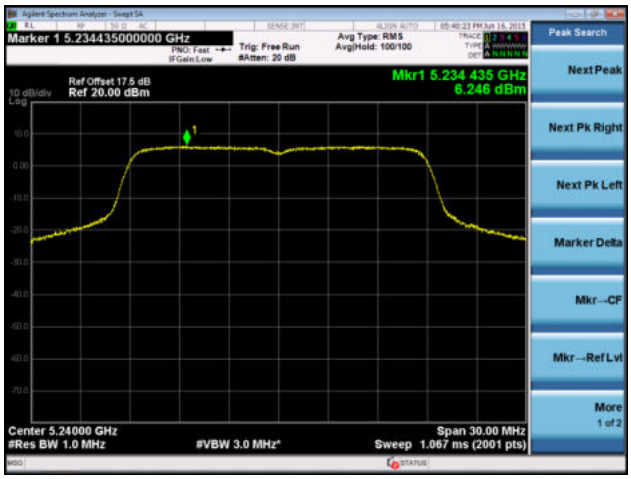
Channel 36 (5180MHz)



Channel 44 (5220MHz)

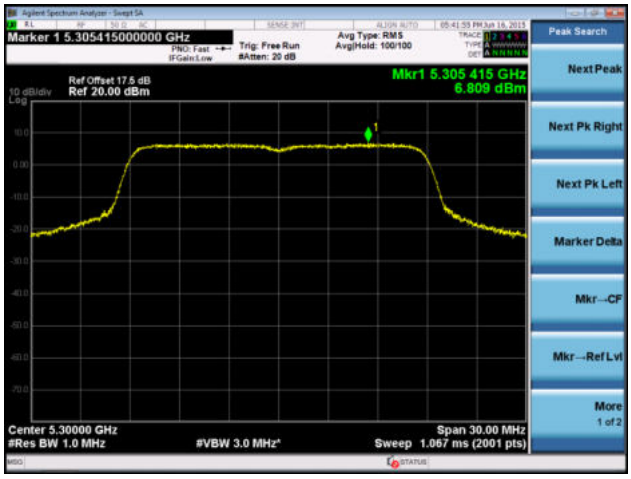


Channel 48 (5240MHz)

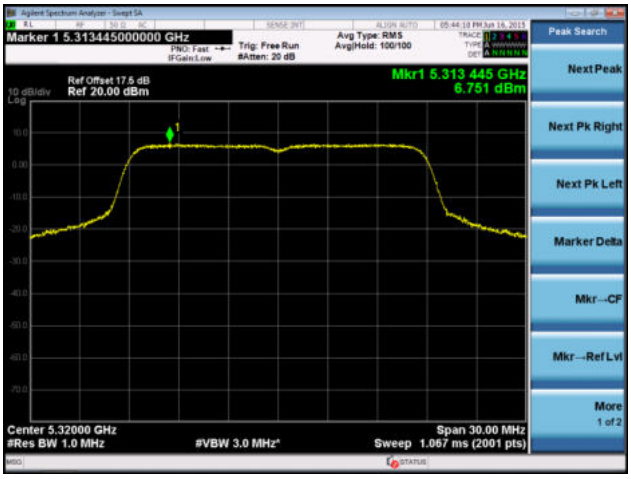


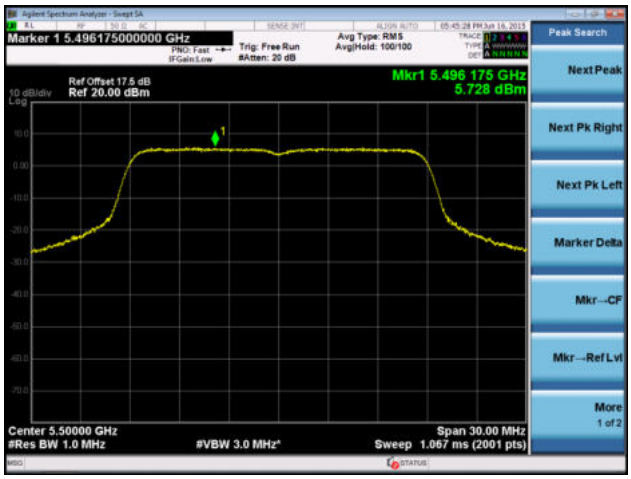
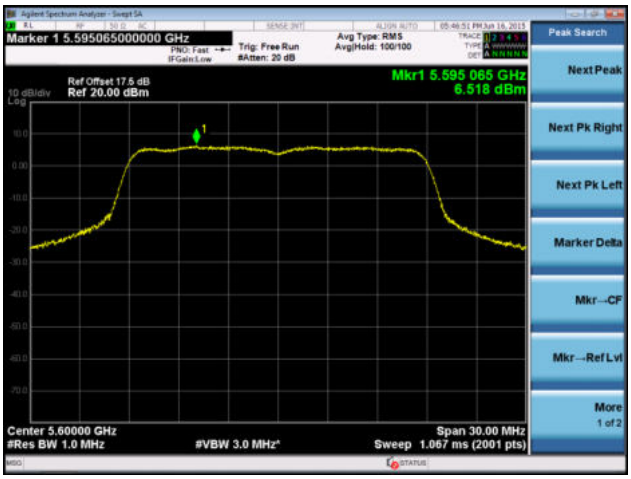
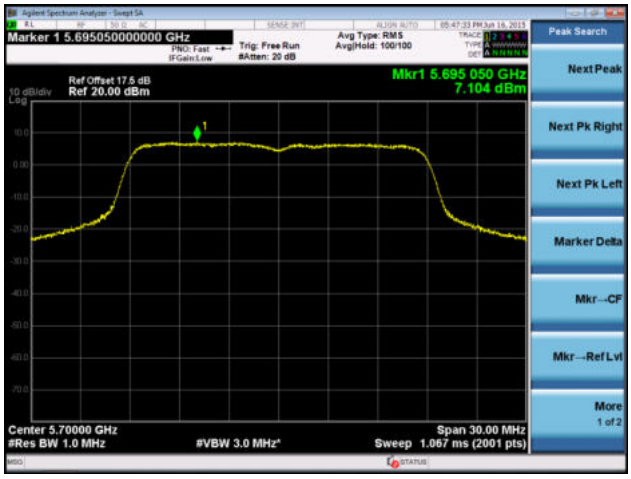
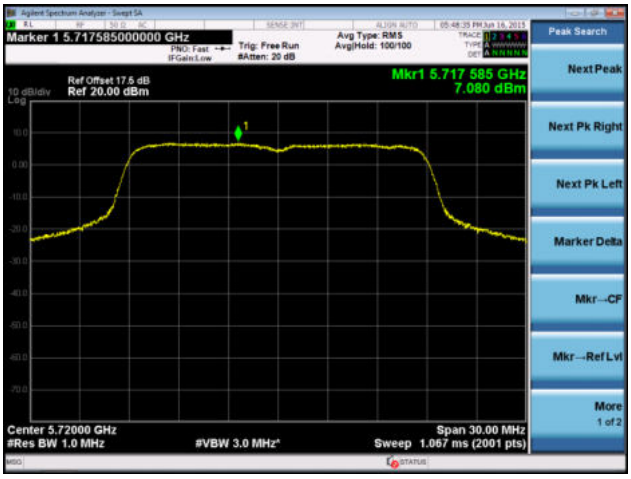
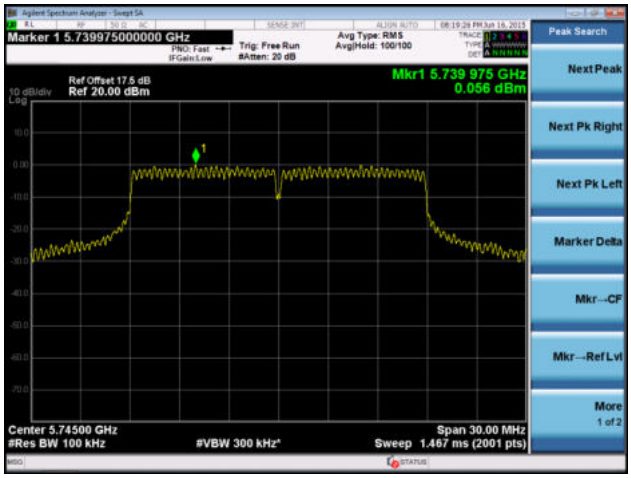
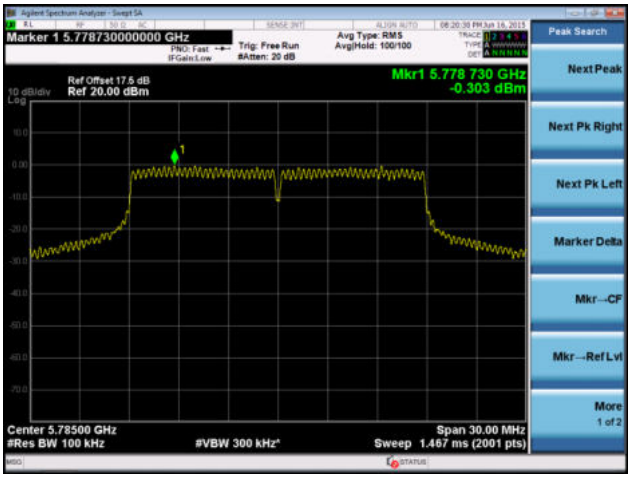
Channel 52 (5260MHz)

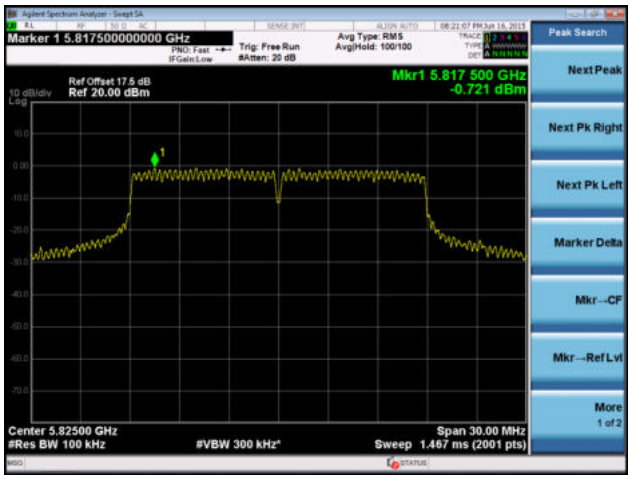
Channel 60 (5300MHz)



Channel 64 (5320MHz)

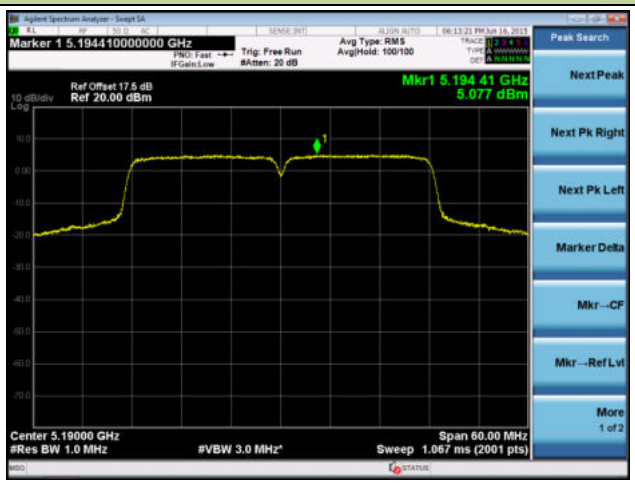


Channel 100 (5500MHz)	Channel 120 (5600MHz)
	
Channel 140 (5700MHz)	**Channel 144 (5720MHz)**
	
Channel 149 (5745MHz)	**Channel 157 (5785MHz)**
	

Channel 165 (5825MHz)	
	

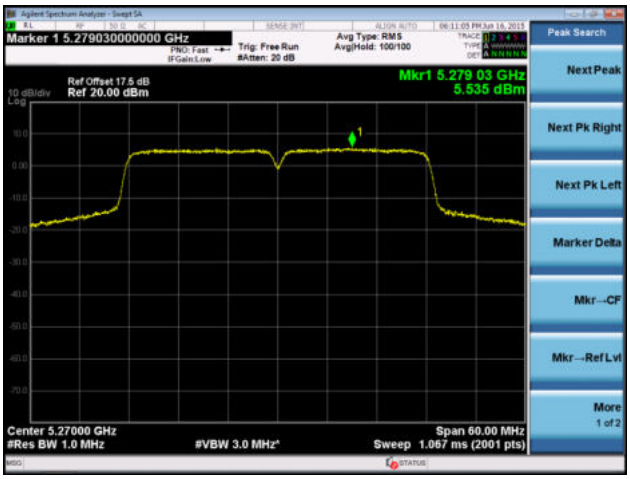
802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1

Channel 38 (5190MHz)

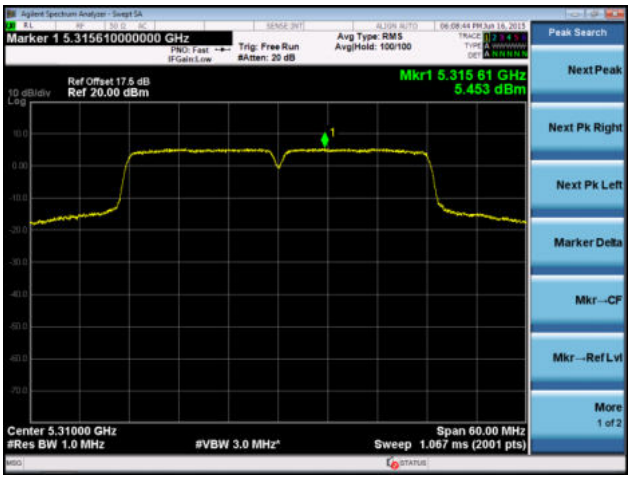


Channel 46 (5230MHz)

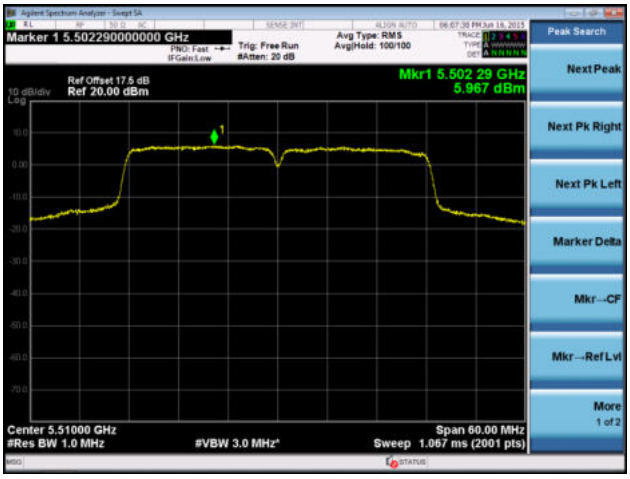
Channel 54 (5270MHz)



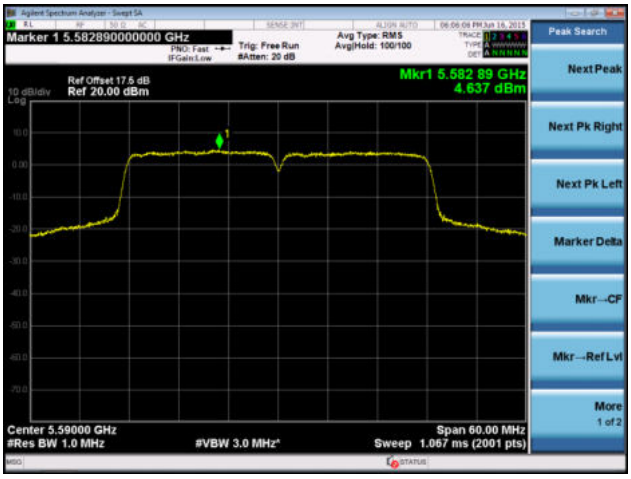
Channel 62 (5310MHz)

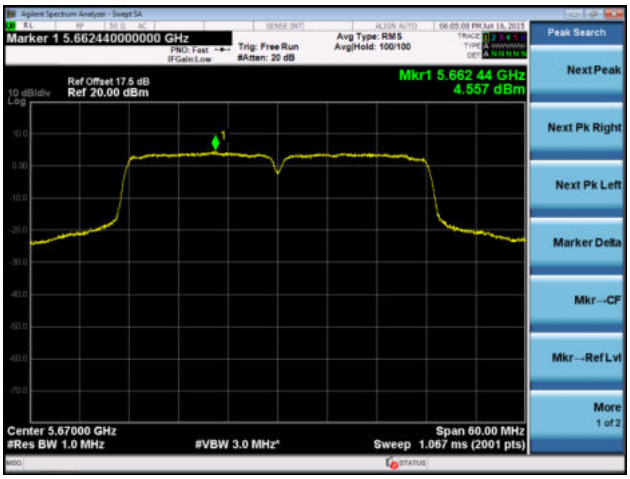
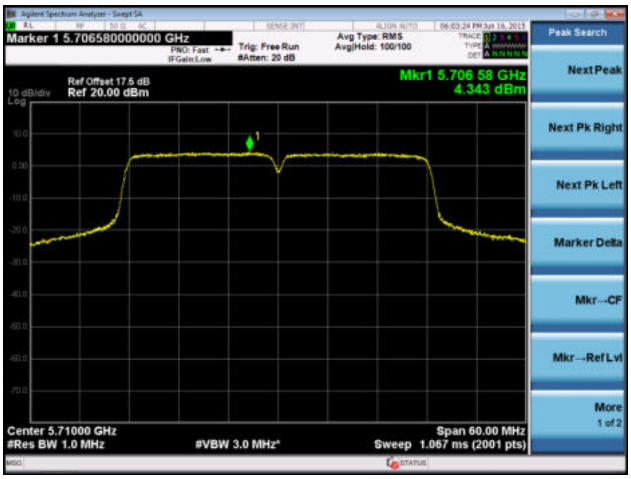
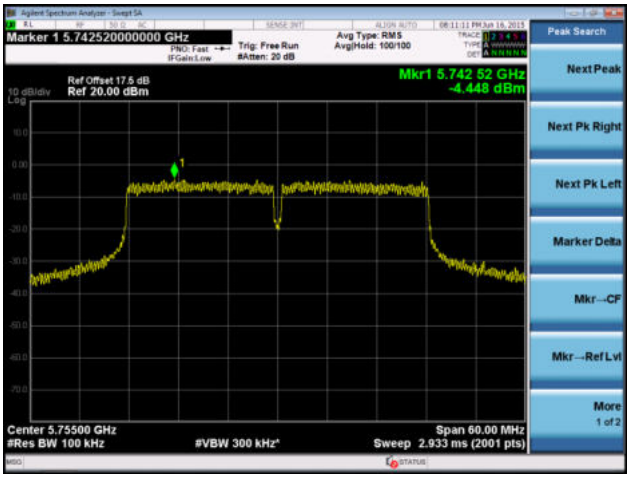
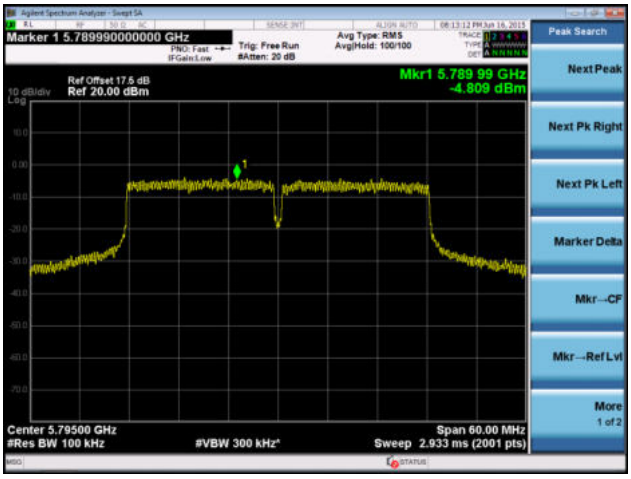


Channel 102 (5510MHz)



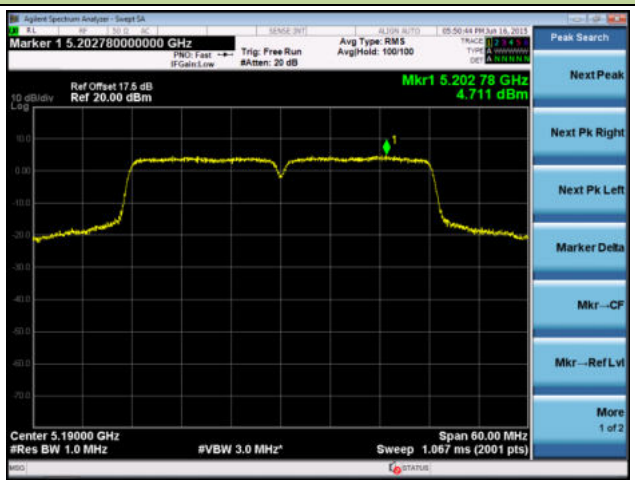
Channel 118 (5590MHz)



Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

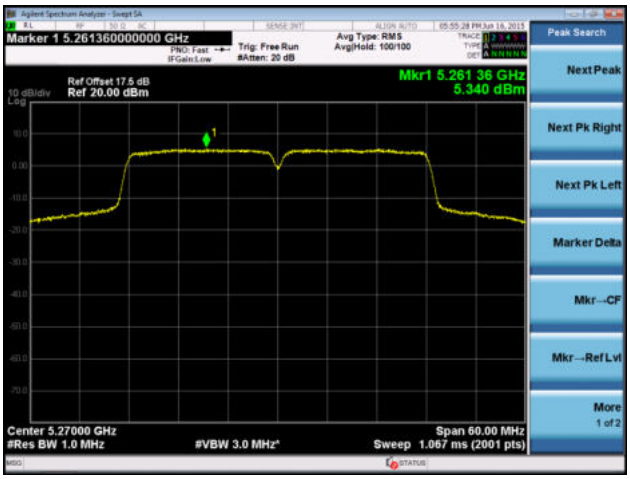
802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 0 + 1

Channel 38 (5190MHz)



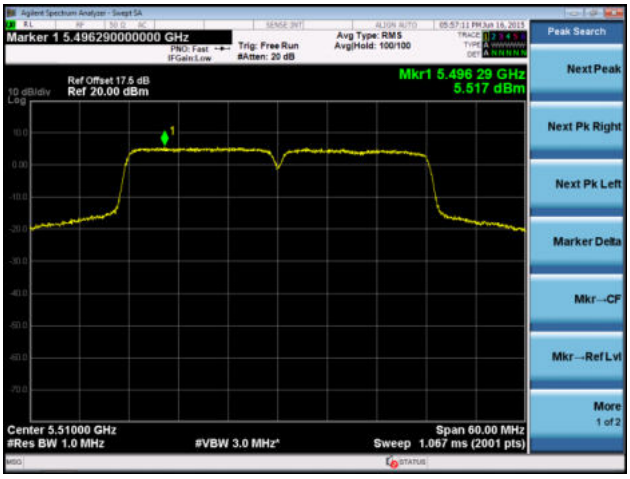
Channel 46 (5230MHz)

Channel 54 (5270MHz)

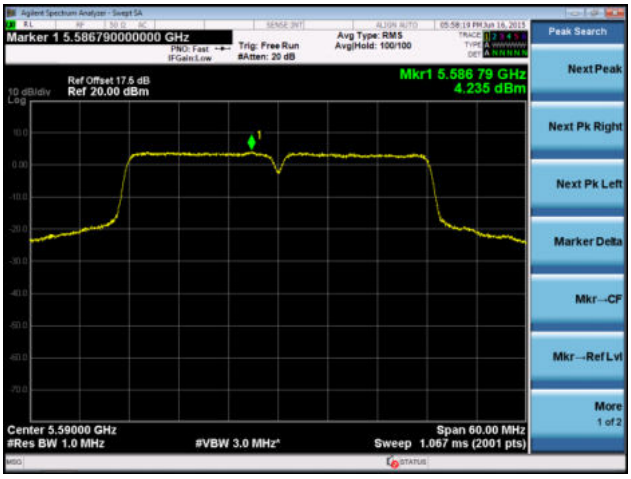


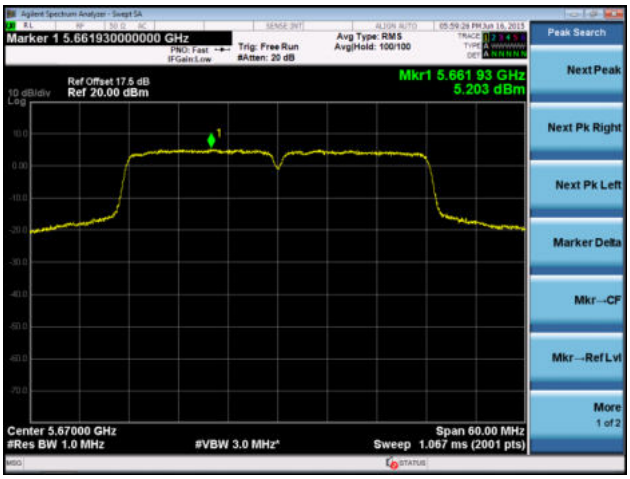
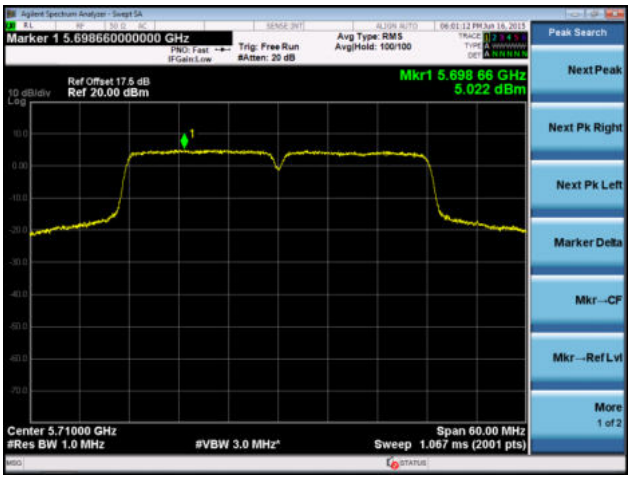
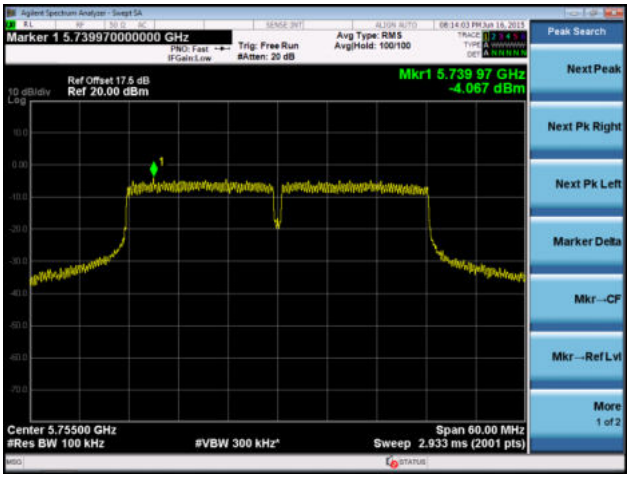
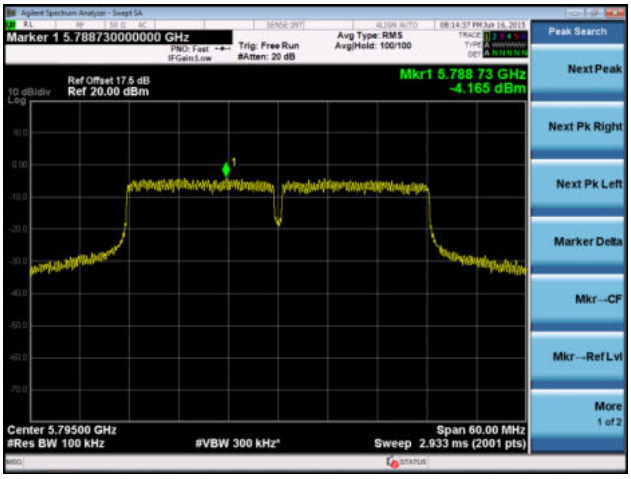
Channel 62 (5310MHz)

Channel 102 (5510MHz)



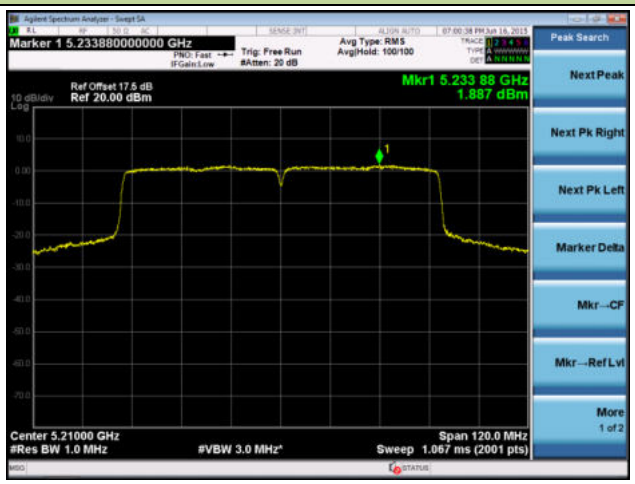
Channel 118 (5590MHz)



Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151(5755MHz)	**Channel 159 (5795MHz)**
	

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

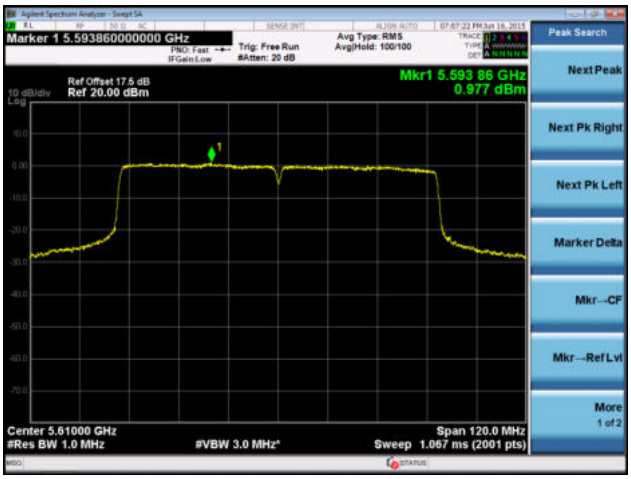
Channel 42 (5210MHz)



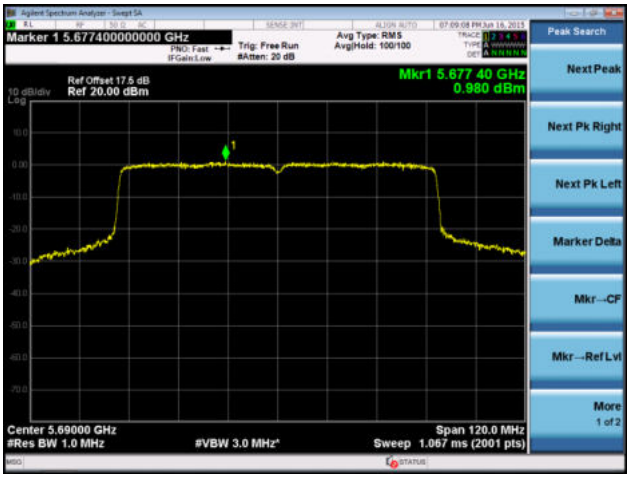
Channel 58 (5290MHz)

Channel 106 (5530MHz)

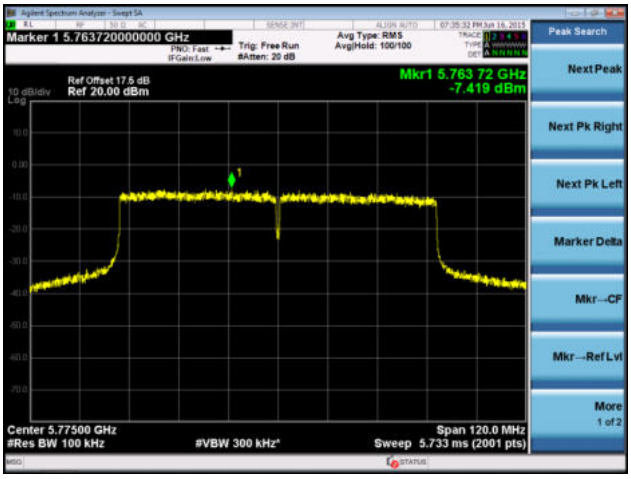
Channel 122 (5610MHz)



Channel 138 (5690MHz)

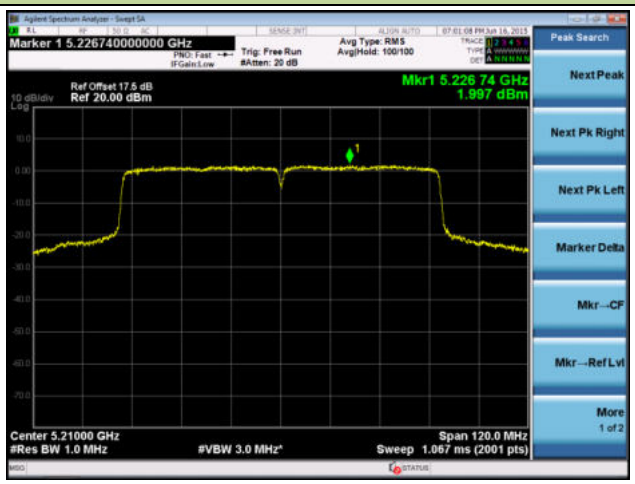


Channel 155 (5775MHz)



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

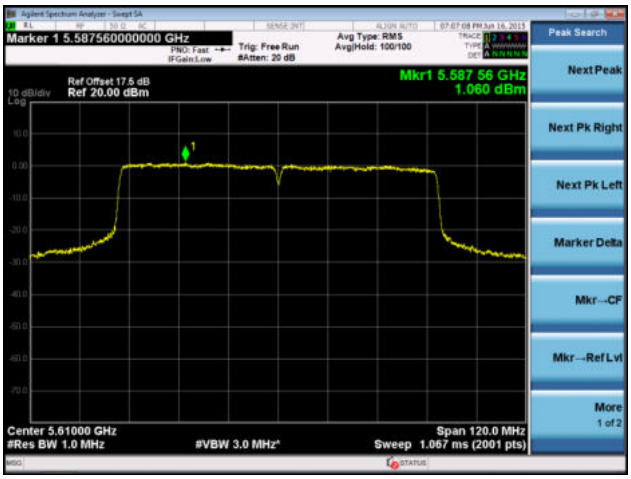
Channel 42 (5210MHz)



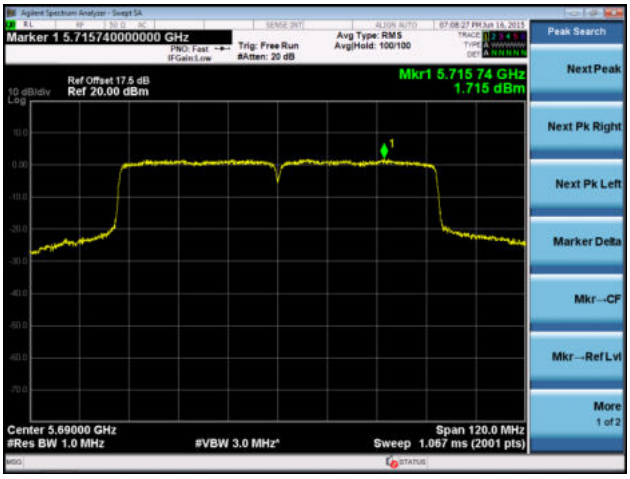
Channel 58 (5290MHz)

Channel 106 (5530MHz)

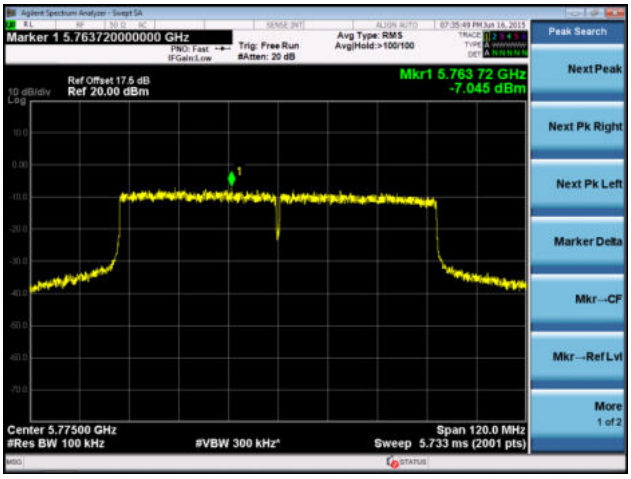
Channel 122 (5610MHz)



Channel 138 (5690MHz)



Channel 155 (5755MHz)



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:

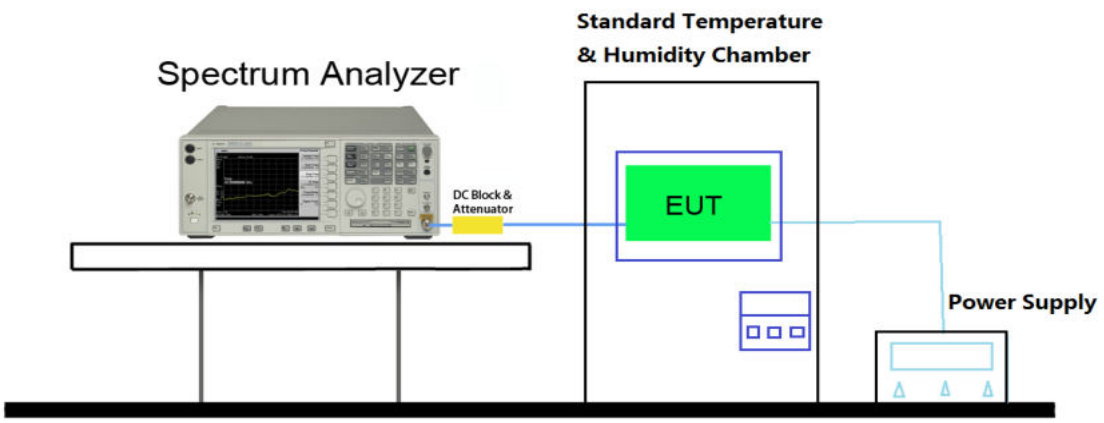
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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 (±15%) and endpoint, record the maximum frequency change.

7.7.3. Test Setup



7.7.4. Test Result

Test Engineer	Milo Li	Temperature	-20 ~ 50°C
Test Time	04-15-2015	Relative Humidity	52%RH

Voltage (%)	Power (VAC)	Temp (℃)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
100%	120	- 20	-1.52	-1.81	-1.73	-1.72
		- 10	-1.53	-1.84	-1.74	-1.72
		0	-1.15	-1.00	-1.02	-0.34
		+ 10	-0.32	-0.54	-0.35	0.37
		+ 20 (Ref)	0.16	-0.69	-0.48	0.15
		+ 30	-1.51	-1.54	-1.52	-1.61
		+ 40	-1.52	-1.83	-1.74	-1.72
		+ 50	-1.22	-1.73	-1.96	-1.73
115%	138	+ 20	-1.56	-1.78	-1.82	-1.64
85%	102	+ 20	-1.52	-1.25	-0.96	-0.62

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) – Declared Frequency (Hz)] / Declared Frequency (Hz)} $*10^6$.

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

8. Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

Test Mode	Duty Cycle	Factor (1/Duty Cycle)
802.11a	96.9%	1.03
802.11n-HT20	94.4%	1.06
802.11n-HT40	85.8%	1.17
802.11ac-VHT20	95.0%	1.05
802.11ac-VHT40	93.5%	1.07
802.11ac-VHT80	80.0%	1.25

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 (RMS)

5. Number of measurement points = 1001 (Number of points must be > 2 x span/RBW)

6. Sweep time = auto

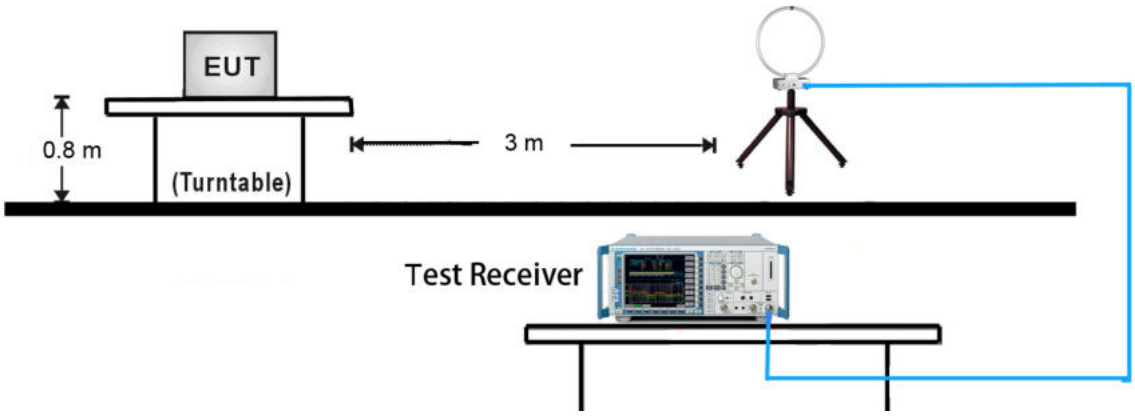
7. Trace was averaged over at 100 sweeps

8. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

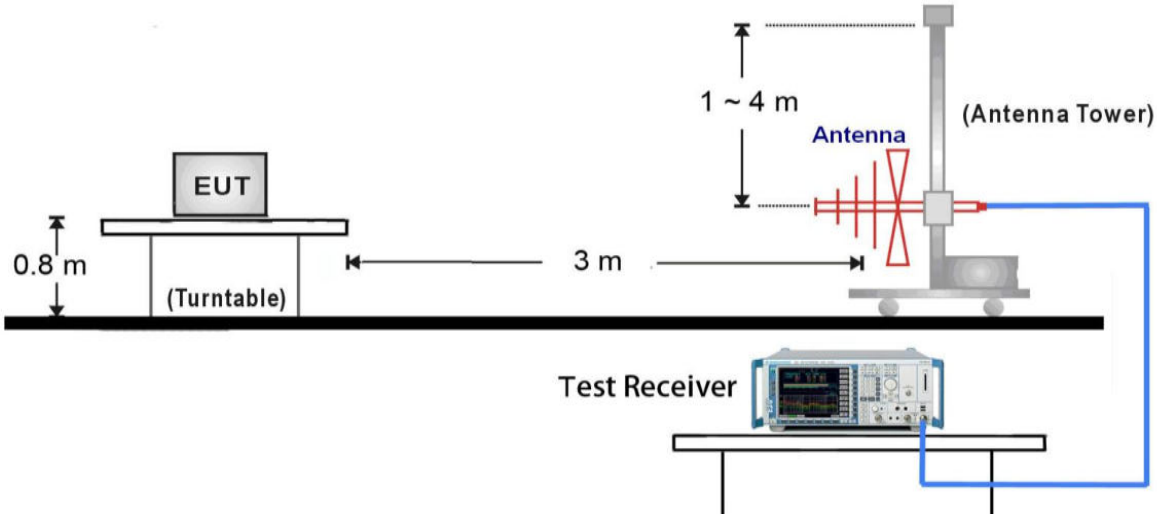
Test Mode	Duty Cycle	Factor (1/Duty Cycle)	Sweep Traces (100* Factor)
802.11a	96.9%	1.03	103
802.11n-HT20	94.4%	1.06	106
802.11n-HT40	85.8%	1.17	117
802.11ac-VHT20	95.0%	1.05	105
802.11ac-VHT40	93.5%	1.07	107
802.11ac-VHT80	80.0%	1.25	125

7.8.4. Test Setup

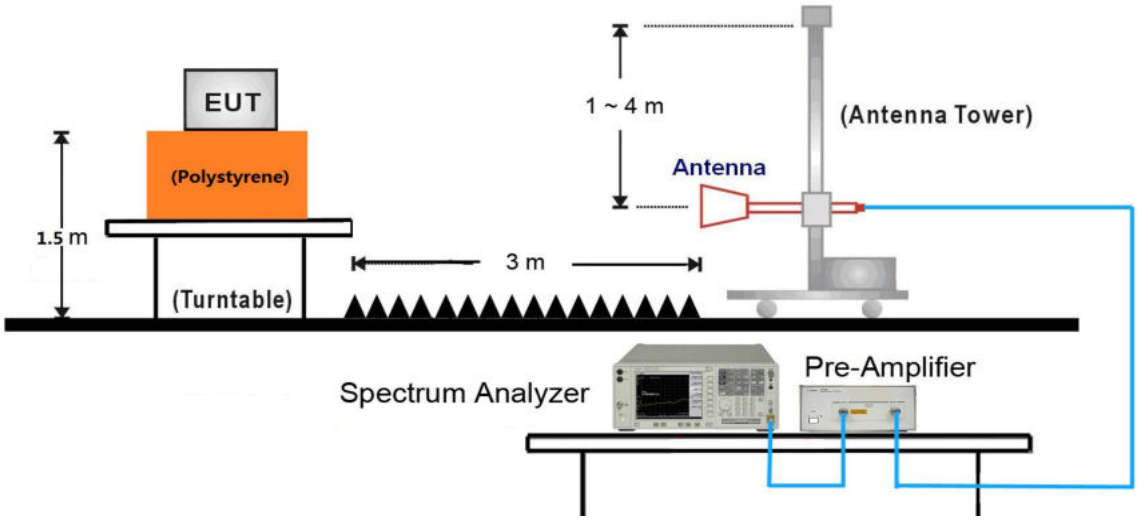
9kHz ~ 30MHz Test Setup:



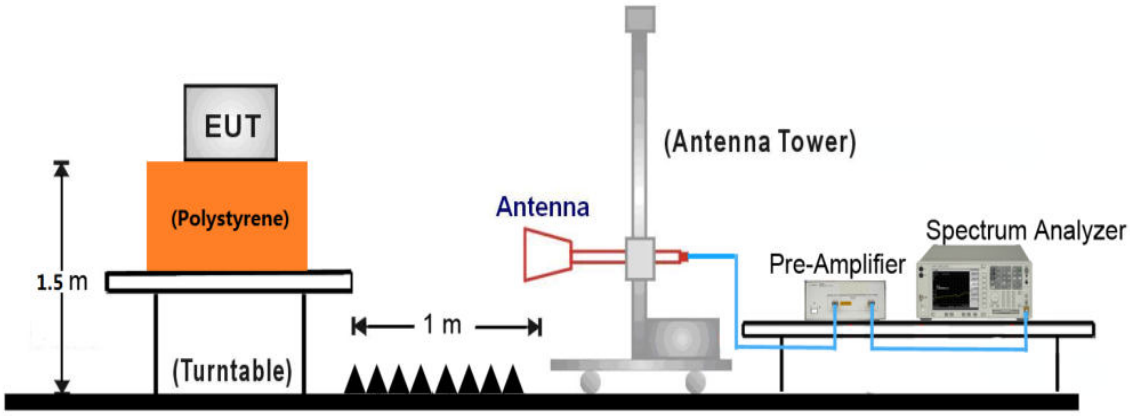
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



7.8.5. Test Result

Dipole Antenna 1#

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
*	7160.5	7.7	37.4	45.1	68.2	-23.2	Peak	Horizontal
*	7934.0	8.6	35.4	44.0	68.2	-24.3	Peak	Horizontal
	8384.5	8.2	37.4	45.6	74.0	-28.5	Peak	Horizontal
	10552.0	12.4	36.3	48.7	74.0	-25.4	Peak	Horizontal
*	7058.5	7.5	36.5	44.0	68.2	-24.3	Peak	Vertical
*	7772.5	8.4	37.0	45.4	68.2	-22.9	Peak	Vertical
	9124.0	9.9	35.6	45.5	74.0	-28.6	Peak	Vertical
	9396.0	10.4	36.7	47.1	74.0	-27.0	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
*	7050.0	7.4	36.3	43.7	68.2	-24.5	Peak	Horizontal
*	7789.5	8.3	35.5	43.8	68.2	-24.4	Peak	Horizontal
	9438.5	10.5	37.0	47.5	74.0	-26.5	Peak	Horizontal
	10807.0	12.7	35.4	48.1	74.0	-25.9	Peak	Horizontal
*	7186.0	7.7	35.9	43.6	68.2	-24.6	Peak	Vertical
*	7730.0	8.2	36.1	44.3	68.2	-23.9	Peak	Vertical
	9260.0	10.3	35.9	46.2	74.0	-27.8	Peak	Vertical
	10926.0	12.9	35.4	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:	802.11a	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
*	7101.0	7.6	35.9	43.5	68.2	-24.7	Peak	Horizontal
*	7874.5	8.4	36.6	45.0	68.2	-23.2	Peak	Horizontal
	9047.5	9.2	36.3	45.5	74.0	-28.5	Peak	Horizontal
	10560.5	12.3	36.2	48.5	74.0	-25.5	Peak	Horizontal
*	7101.0	7.6	36.0	43.6	68.2	-24.6	Peak	Vertical
*	7713.0	8.1	35.8	43.9	68.2	-24.3	Peak	Vertical
	9132.5	9.9	35.8	45.7	74.0	-28.3	Peak	Vertical
	10994.0	12.8	36.4	49.2	74.0	-24.8	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:	52	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
*	6956.5	6.9	39.4	46.3	68.2	-21.9	Peak	Horizontal
*	7908.5	8.6	36.5	45.1	68.2	-23.1	Peak	Horizontal
	8214.5	8.1	36.2	44.3	74.0	-29.7	Peak	Horizontal
	9319.5	10.5	34.8	45.3	74.0	-28.7	Peak	Horizontal
*	6956.5	6.9	38.0	44.9	68.2	-23.3	Peak	Vertical
*	7934.0	8.7	35.3	44.0	68.2	-24.2	Peak	Vertical
	9362.0	10.6	35.6	46.2	74.0	-27.8	Peak	Vertical
	10747.5	12.6	35.3	47.9	74.0	-26.1	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:	802.11a	Test Site:	AC1
Test Channel:	60	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
*	6990.5	6.9	34.7	41.6	68.2	-26.6	Peak	Horizontal
*	7925.5	8.6	36.0	44.6	68.2	-23.6	Peak	Horizontal
	9124.0	9.9	34.4	44.3	74.0	-29.7	Peak	Horizontal
	11019.5	12.7	35.0	47.7	74.0	-26.3	Peak	Horizontal
*	6948.0	6.8	36.7	43.5	68.2	-24.7	Peak	Vertical
*	7781.0	8.3	36.0	44.3	68.2	-23.9	Peak	Vertical
	9362.0	10.5	34.1	44.6	74.0	-29.4	Peak	Vertical
	10560.5	12.3	35.7	48.0	74.0	-26.0	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:	64	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
*	7135.0	7.7	36.1	43.8	68.2	-24.4	Peak	Horizontal
*	7908.5	8.5	36.4	44.9	68.2	-23.3	Peak	Horizontal
	9413.0	10.4	35.3	45.7	74.0	-28.3	Peak	Horizontal
	11555.0	12.4	36.2	48.6	74.0	-25.4	Peak	Horizontal
*	7152.0	7.7	35.9	43.6	68.2	-24.6	Peak	Vertical
*	7806.5	8.3	36.1	44.4	68.2	-23.8	Peak	Vertical
	9387.5	10.4	34.9	45.3	74.0	-28.7	Peak	Vertical
	11410.5	12.6	35.8	48.4	74.0	-25.6	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:	802.11a	Test Site:	AC1
Test Channel:	100	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
*	7101.0	7.7	35.4	43.1	68.2	-25.1	Peak	Horizontal
*	7823.5	8.4	36.3	44.7	68.2	-23.5	Peak	Horizontal
	9387.5	10.5	34.9	45.4	74.0	-28.6	Peak	Horizontal
	11028.0	12.9	35.3	48.2	74.0	-25.8	Peak	Horizontal
*	7152.0	7.8	35.2	43.0	68.2	-25.2	Peak	Vertical
*	7900.0	8.6	35.7	44.3	68.2	-23.9	Peak	Vertical
	9090.0	9.8	34.7	44.5	74.0	-29.5	Peak	Vertical
	10994.0	12.9	35.9	48.8	74.0	-25.2	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:	120	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
*	7118.0	7.6	36.4	44.0	68.2	-24.3	Peak	Horizontal
*	7798.0	8.3	36.6	44.9	68.2	-23.4	Peak	Horizontal
	8129.5	8.2	36.0	44.2	74.0	-29.9	Peak	Horizontal
	10951.5	12.9	35.6	48.5	74.0	-25.6	Peak	Horizontal
*	7092.5	7.6	35.8	43.4	68.2	-24.9	Peak	Vertical
*	7747.0	8.3	36.5	44.8	68.2	-23.5	Peak	Vertical
	9404.5	10.4	36.3	46.7	74.0	-27.4	Peak	Vertical
	10730.5	12.5	35.7	48.2	74.0	-25.9	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:	140	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
*	7084.0	7.5	35.1	42.6	68.2	-25.6	Peak	Horizontal
*	7857.5	8.2	35.9	44.1	68.2	-24.1	Peak	Horizontal
	9090.0	9.6	34.4	44.0	74.0	-30.0	Peak	Horizontal
	10815.5	12.6	35.3	47.9	74.0	-26.1	Peak	Horizontal
*	7075.5	7.5	35.8	43.3	68.2	-24.9	Peak	Vertical
*	7789.5	8.2	34.9	43.1	68.2	-25.1	Peak	Vertical
	9141.0	9.9	35.2	45.1	74.0	-28.9	Peak	Vertical
	10722.0	12.3	35.1	47.4	74.0	-26.6	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:	802.11a	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
*	7101.0	7.6	36.2	43.8	68.2	-24.4	Peak	Horizontal
*	7925.5	8.6	35.6	44.2	68.2	-24.0	Peak	Horizontal
	9285.5	10.3	33.7	44.0	74.0	-30.0	Peak	Horizontal
	11240.5	12.4	37.1	49.5	74.0	-24.5	Peak	Horizontal
*	7186.0	7.7	36.2	43.9	68.2	-24.3	Peak	Vertical
*	7789.5	8.3	35.8	44.1	68.2	-24.1	Peak	Vertical
	9311.0	10.4	34.9	45.3	74.0	-28.7	Peak	Vertical
	10900.5	13.0	35.2	48.2	74.0	-25.8	Peak	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
*	7118.0	7.7	34.5	42.2	68.2	-26.0	Peak	Horizontal
*	7738.5	8.3	36.1	44.4	68.2	-23.8	Peak	Horizontal
	9081.5	9.7	34.4	44.1	74.0	-29.9	Peak	Horizontal
	10926.0	13.0	35.1	48.1	74.0	-25.9	Peak	Horizontal
*	7050.0	7.5	35.9	43.4	68.2	-24.8	Peak	Vertical
*	7798.0	8.4	35.5	43.9	68.2	-24.3	Peak	Vertical
	9132.5	10.0	34.2	44.2	74.0	-29.8	Peak	Vertical
	10815.5	12.8	35.1	47.9	74.0	-26.1	Peak	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
*	7118.0	7.7	35.6	43.3	68.2	-24.9	Peak	Horizontal
*	7806.5	8.4	36.1	44.5	68.2	-23.7	Peak	Horizontal
	9387.5	10.5	36.9	47.4	74.0	-26.6	Peak	Horizontal
	10977.0	13.0	35.8	48.8	74.0	-25.2	Peak	Horizontal
*	7033.0	7.3	37.1	44.4	68.2	-23.8	Peak	Vertical
*	7781.0	8.4	35.6	44.0	68.2	-24.2	Peak	Vertical
	8129.5	8.3	37.3	45.6	74.0	-28.4	Peak	Vertical
	10960.0	13.0	35.7	48.7	74.0	-25.3	Peak	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
*	7135.0	7.8	35.6	43.4	68.2	-24.8	Peak	Horizontal
*	7764.0	8.4	36.0	44.4	68.2	-23.8	Peak	Horizontal
	8248.5	8.0	36.3	44.3	74.0	-29.7	Peak	Horizontal
	10960.0	13.0	35.0	48.0	74.0	-26.0	Peak	Horizontal
*	7186.0	7.8	34.7	42.5	68.2	-25.7	Peak	Vertical
*	7874.5	8.5	36.8	45.3	68.2	-22.9	Peak	Vertical
	8112.5	8.4	35.1	43.5	74.0	-30.5	Peak	Vertical
	10764.5	12.7	35.1	47.8	74.0	-26.2	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:	802.11n-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
*	7041.5	36.8	6.6	43.4	68.2	-24.8	Peak	Horizontal
*	7789.5	35.2	7.6	42.8	68.2	-25.4	Peak	Horizontal
	8189.0	35.5	7.3	42.8	74.0	-31.2	Peak	Horizontal
	11393.5	37.7	11.9	49.6	74.0	-24.4	Peak	Horizontal
*	7186.0	36.9	7.0	43.9	68.2	-24.3	Peak	Vertical
*	7781.0	37.1	7.6	44.7	68.2	-23.5	Peak	Vertical
	8248.5	36.7	7.2	43.9	74.0	-30.1	Peak	Vertical
	10739.0	36.4	11.8	48.2	74.0	-25.8	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:	802.11n-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
*	7135.0	35.9	7.0	42.9	68.2	-25.3	Peak	Horizontal
*	7849.0	36.7	7.5	44.2	68.2	-24.0	Peak	Horizontal
	8240.0	36.6	7.2	43.8	74.0	-30.2	Peak	Horizontal
	10722.0	36.4	11.7	48.1	74.0	-25.9	Peak	Horizontal
*	7789.5	36.0	7.6	43.6	68.2	-24.6	Peak	Vertical
*	8716.0	34.9	8.1	43.0	68.2	-25.2	Peak	Vertical
	9370.5	34.6	9.8	44.4	74.0	-29.6	Peak	Vertical
	11223.5	36.2	11.6	47.8	74.0	-26.2	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:	802.11n-HT20	Test Site:	AC1
Test Channel:	52	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
*	7118.0	36.6	6.9	43.5	68.2	-24.7	Peak	Horizontal
*	7713.0	36.7	7.4	44.1	68.2	-24.1	Peak	Horizontal
	9285.5	35.4	9.6	45.0	74.0	-29.0	Peak	Horizontal
	11223.5	36.7	11.6	48.3	74.0	-25.7	Peak	Horizontal
*	7169.0	36.0	7.0	43.0	68.2	-25.2	Peak	Vertical
*	7832.0	36.6	7.5	44.1	68.2	-24.1	Peak	Vertical
	9413.0	36.8	9.7	46.5	74.0	-27.5	Peak	Vertical
	10892.0	36.4	12.3	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:	802.11n-HT20	Test Site:	AC1
Test Channel:	60	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
*	6956.5	40.3	6.1	46.4	68.2	-21.9	Peak	Horizontal
*	7798.0	36.9	7.6	44.5	68.2	-23.8	Peak	Horizontal
	9098.5	35.3	9.0	44.3	74.0	-29.8	Peak	Horizontal
	11079.0	36.4	11.9	48.3	74.0	-25.8	Peak	Horizontal
*	6956.5	38.0	6.1	44.1	68.2	-24.2	Peak	Vertical
*	7874.5	36.8	7.7	44.5	68.2	-23.8	Peak	Vertical
	8410.0	35.9	7.4	43.3	74.0	-30.8	Peak	Vertical
	11402.0	36.6	11.9	48.5	74.0	-25.6	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:	64	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
*	7101.0	36.2	6.9	43.1	68.2	-25.1	Peak	Horizontal
*	7781.0	36.0	7.6	43.6	68.2	-24.6	Peak	Horizontal
	8393.0	36.7	7.4	44.1	74.0	-29.9	Peak	Horizontal
	10790.0	35.5	11.9	47.4	74.0	-26.6	Peak	Horizontal
*	6990.5	35.7	6.2	41.9	68.2	-26.3	Peak	Vertical
*	7832.0	37.6	7.5	45.1	68.2	-23.1	Peak	Vertical
	9285.5	35.3	9.6	44.9	74.0	-29.1	Peak	Vertical
	10943.0	36.4	12.2	48.6	74.0	-25.4	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:	100	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
*	7126.5	36.1	7.0	43.1	68.2	-25.1	Peak	Horizontal
*	7925.5	35.8	7.9	43.7	68.2	-24.5	Peak	Horizontal
	9328.0	35.0	9.7	44.7	74.0	-29.3	Peak	Horizontal
	10866.5	36.5	12.2	48.7	74.0	-25.3	Peak	Horizontal
*	7118.0	36.2	6.9	43.1	68.2	-25.1	Peak	Vertical
*	7849.0	36.7	7.5	44.2	68.2	-24.0	Peak	Vertical
	9413.0	35.5	9.7	45.2	74.0	-28.8	Peak	Vertical
	10994.0	35.9	12.1	48.0	74.0	-26.0	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:	120	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
*	7126.5	36.1	7.0	43.1	68.2	-25.1	Peak	Horizontal
*	7917.0	36.2	7.8	44.0	68.2	-24.2	Peak	Horizontal
	9124.0	35.6	9.2	44.8	74.0	-29.2	Peak	Horizontal
	10985.5	35.7	12.1	47.8	74.0	-26.2	Peak	Horizontal
*	7160.5	36.1	7.0	43.1	68.2	-25.1	Peak	Vertical
*	7823.5	37.4	7.6	45.0	68.2	-23.2	Peak	Vertical
	9387.5	36.2	9.7	45.9	74.0	-28.1	Peak	Vertical
	10994.0	35.7	12.1	47.8	74.0	-26.2	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:	802.11n-HT20	Test Site:	AC1
Test Channel:	140	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
*	7126.5	36.7	7.0	43.7	68.2	-24.5	Peak	Horizontal
*	7721.5	36.8	7.4	44.2	68.2	-24.0	Peak	Horizontal
	8002.0	37.0	8.0	45.0	74.0	-29.0	Peak	Horizontal
	10849.5	35.8	12.2	48.0	74.0	-26.0	Peak	Horizontal
*	7109.5	36.6	6.9	43.5	68.2	-24.7	Peak	Vertical
*	7900.0	36.0	7.8	43.8	68.2	-24.4	Peak	Vertical
	9251.5	36.1	9.6	45.7	74.0	-28.3	Peak	Vertical
	11079.0	36.5	11.9	48.4	74.0	-25.6	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)