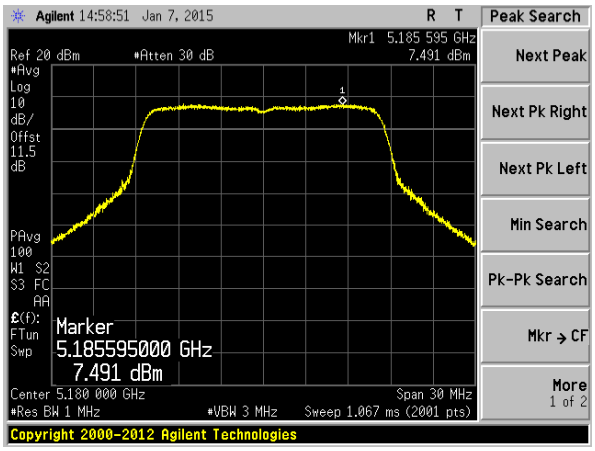
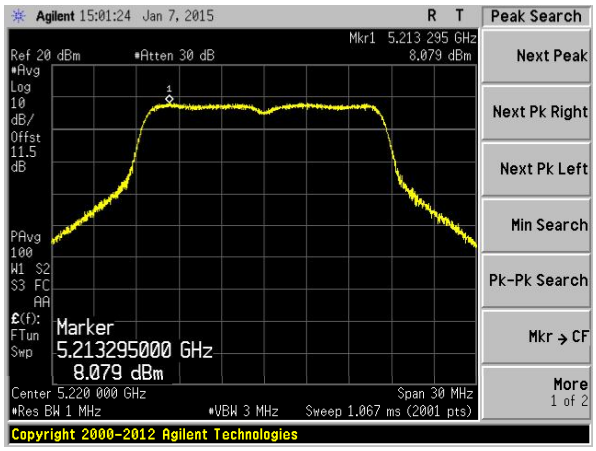
802.11a Power Spectral Density - Ant 1 / Ant 1 + 2

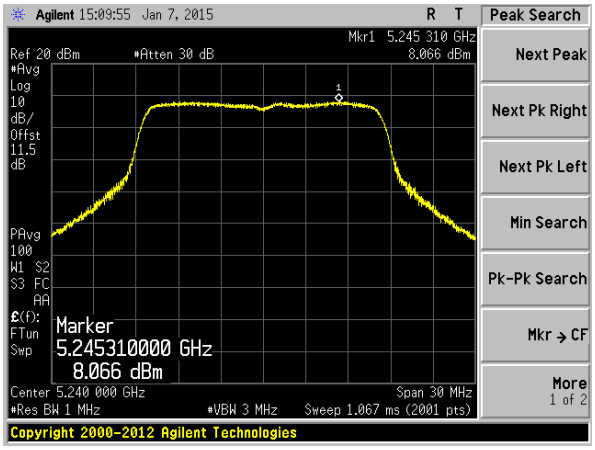
Channel 36 (5180MHz)



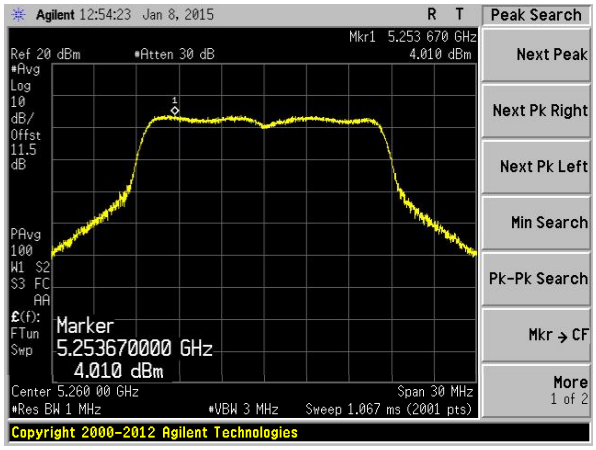
Channel 44 (5220MHz)



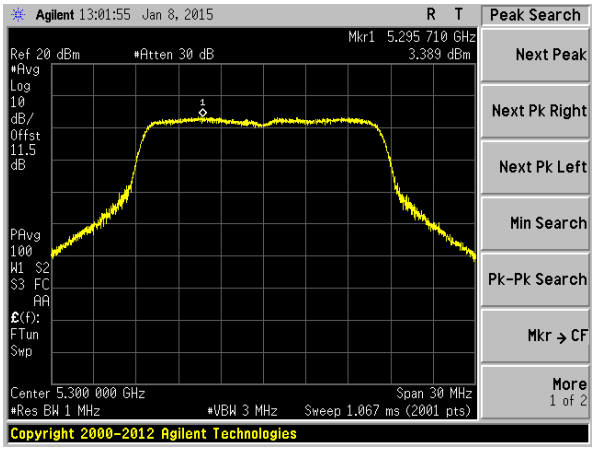
Channel 48 (5240MHz)



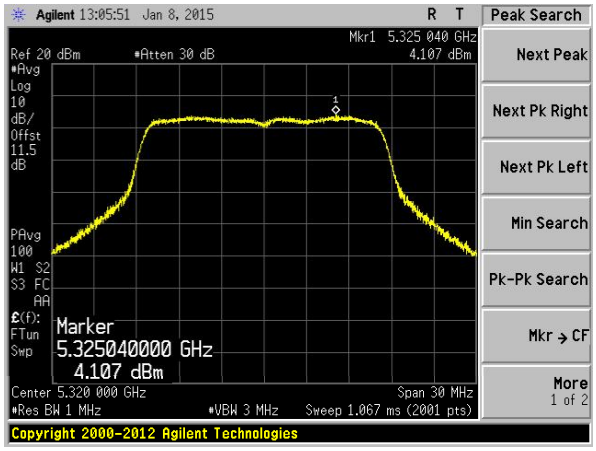
Channel 52 (5260MHz)



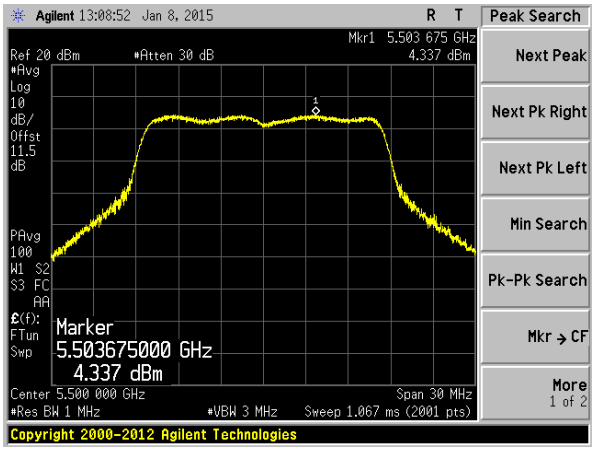
Channel 60 (5300MHz)



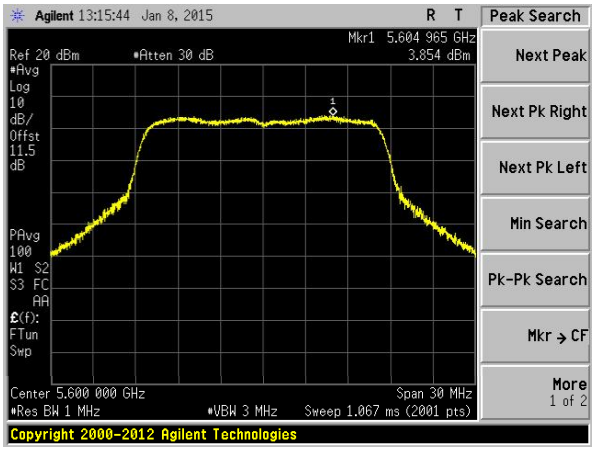
Channel 64 (5320MHz)



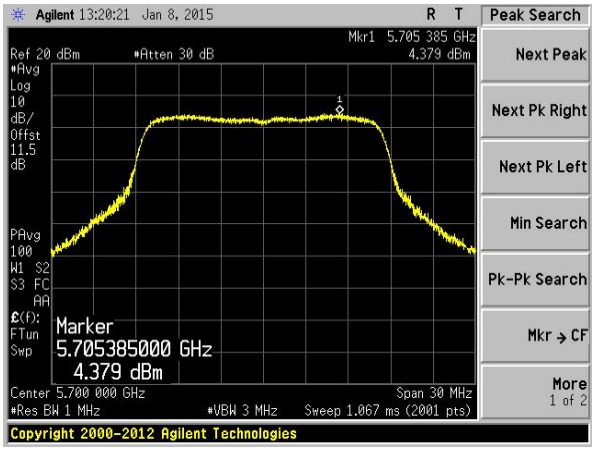
Channel 100 (5500MHz)



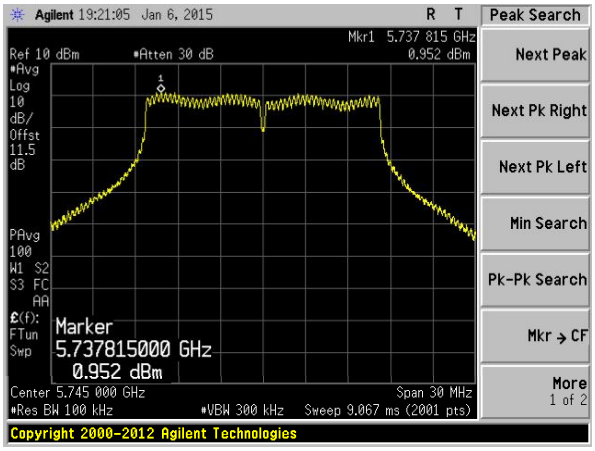
Channel 120 (5600MHz)



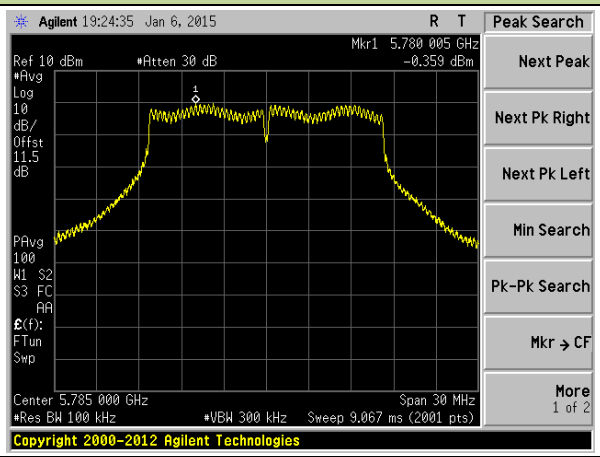
Channel 140 (5700MHz)



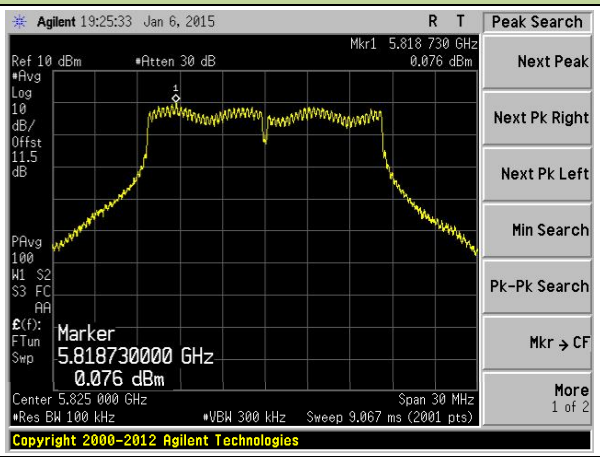
Channel 149 (5745MHz)



Channel 157 (5785MHz)

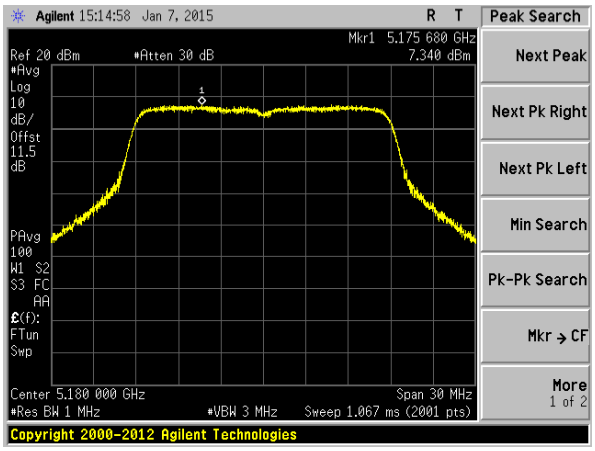


Channel 165 (5825MHz)

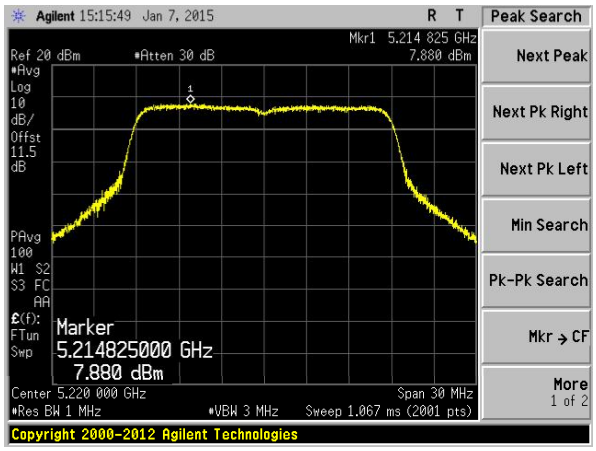


802.11n-HT20 Power Spectral Density - Ant 1 / Ant 1 + 2

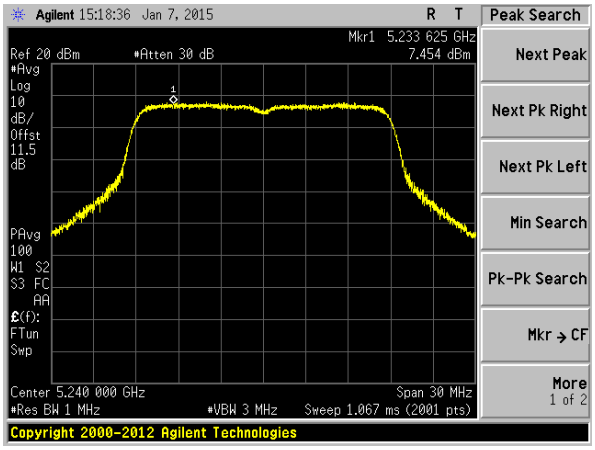
Channel 36 (5180MHz)



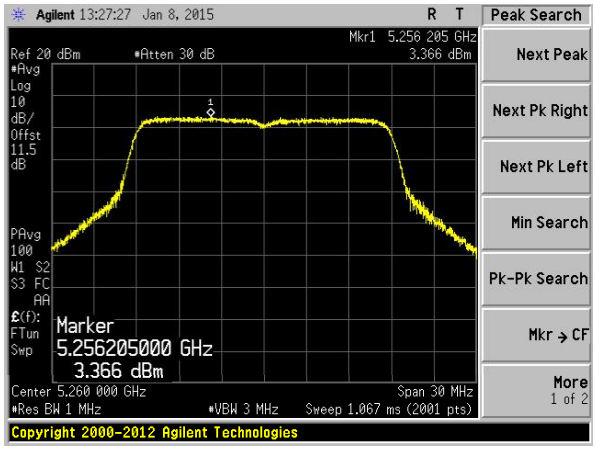
Channel 44 (5220MHz)



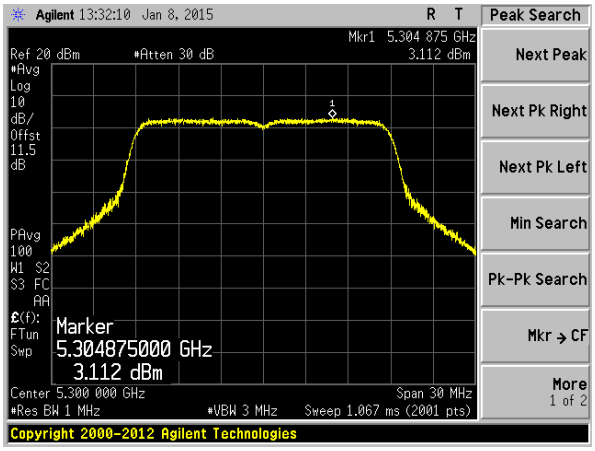
Channel 48 (5240MHz)



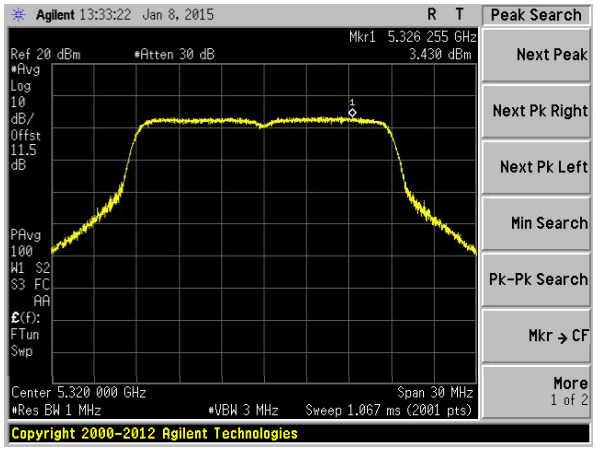
Channel 52 (5260MHz)



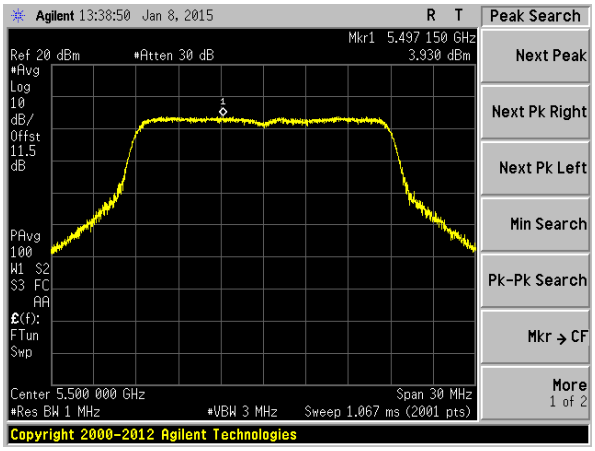
Channel 60 (5300MHz)



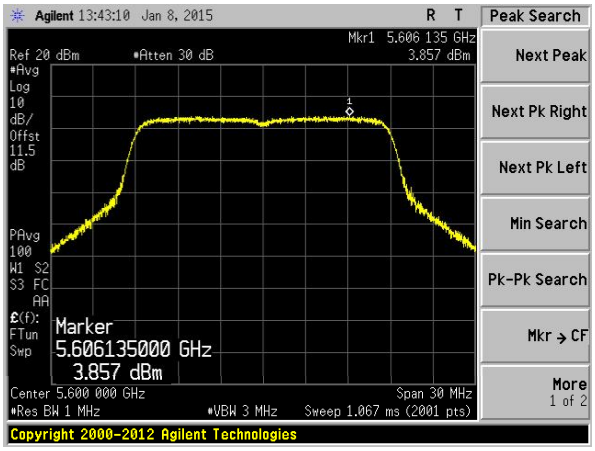
Channel 64 (5320MHz)



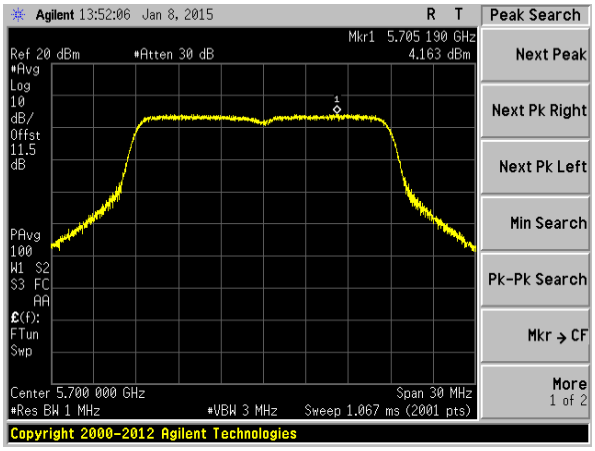
Channel 100 (5500MHz)



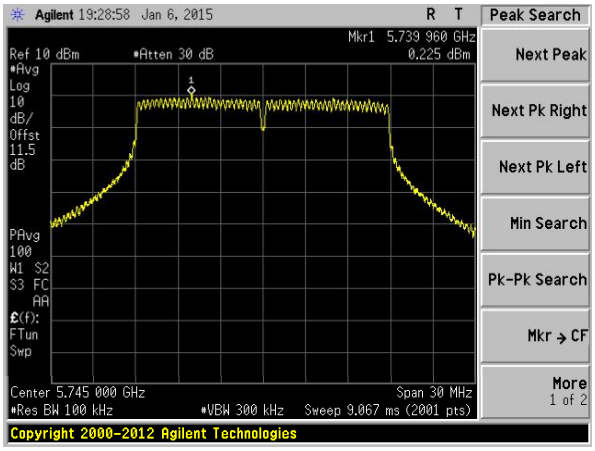
Channel 120 (5600MHz)



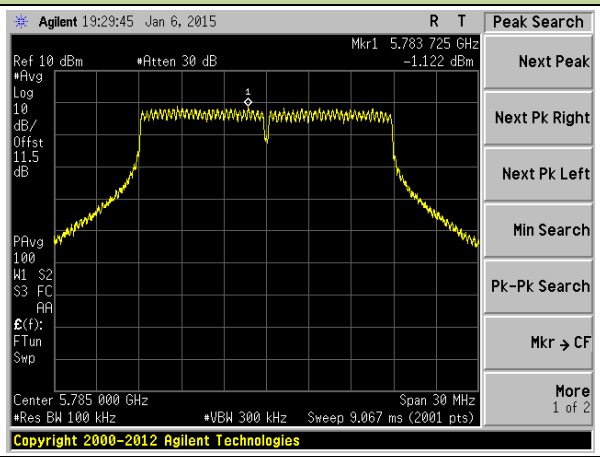
Channel 140 (5700MHz)



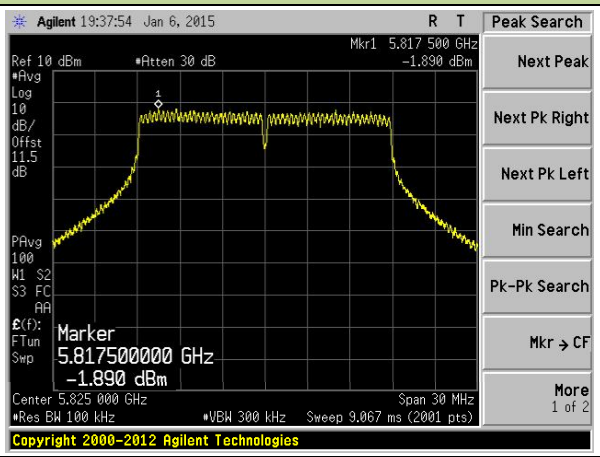
Channel 149 (5745MHz)



Channel 157 (5785MHz)

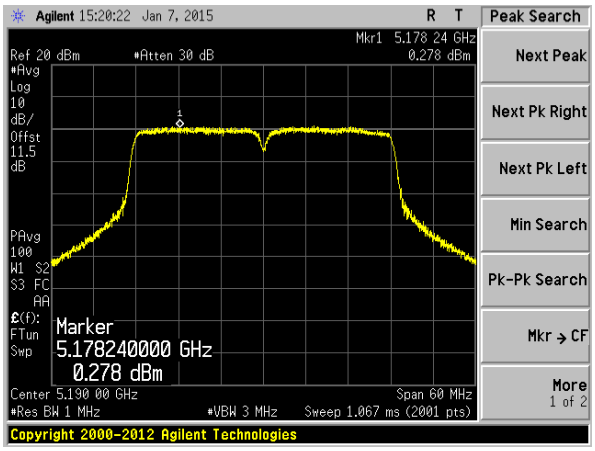


Channel 165 (5825MHz)

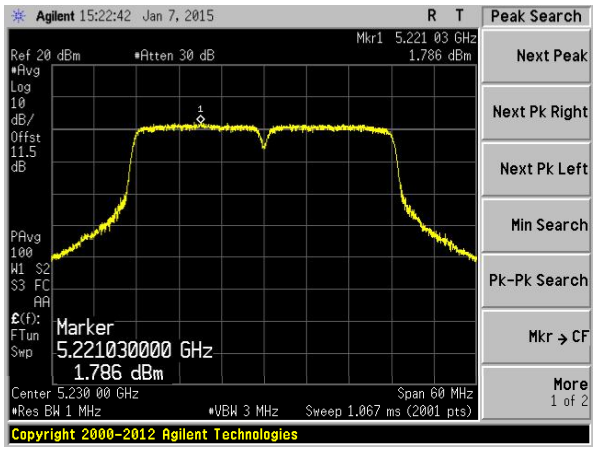


802.11n-HT40 Power Spectral Density - Ant 1 / Ant 1 + 2

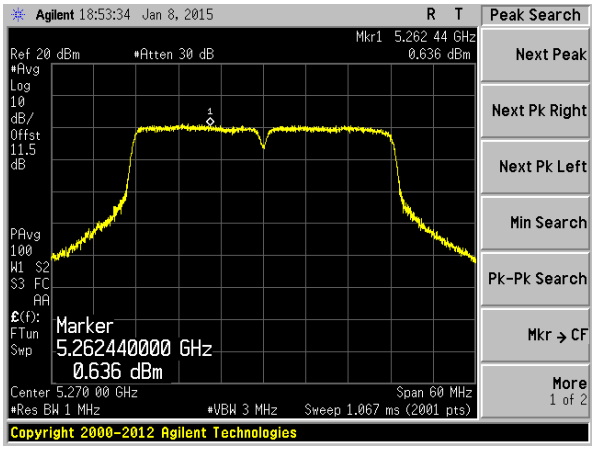
Channel 38 (5190MHz)



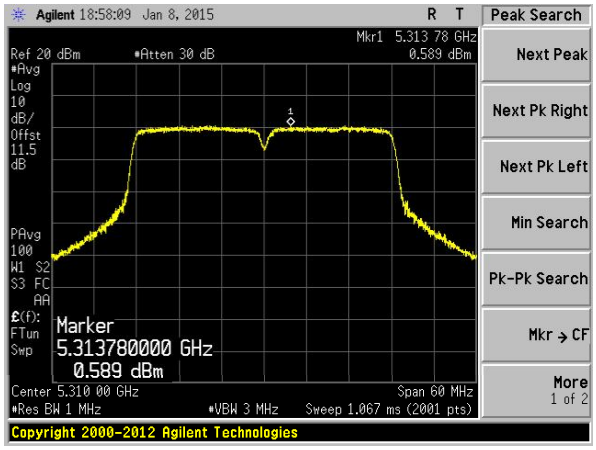
Channel 46 (5230MHz)



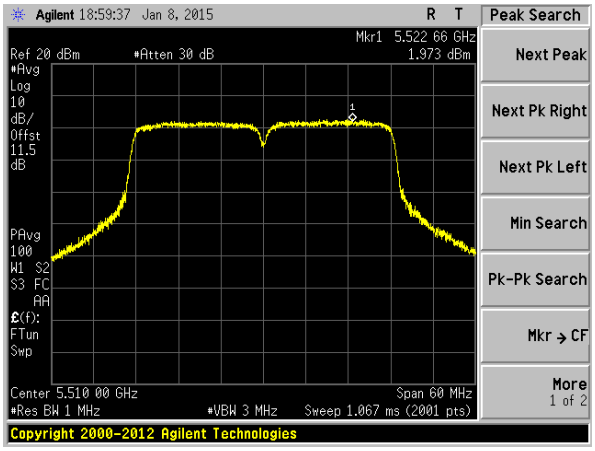
Channel 54 (5270MHz)



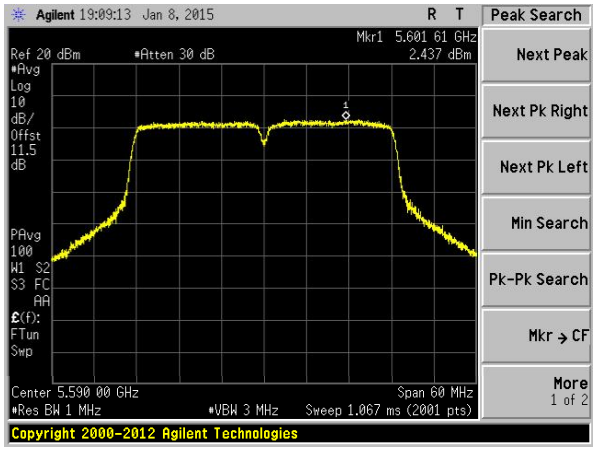
Channel 62 (5310MHz)

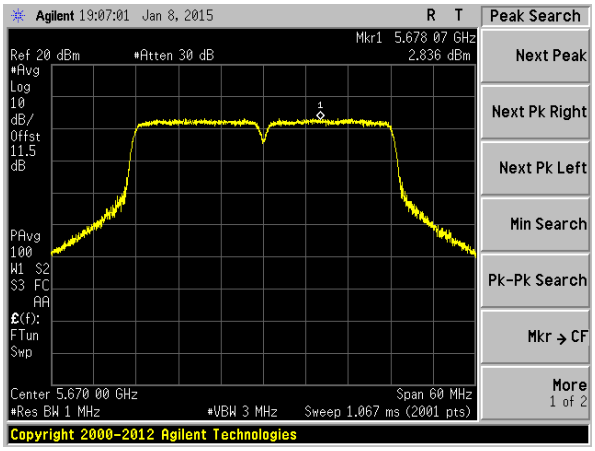
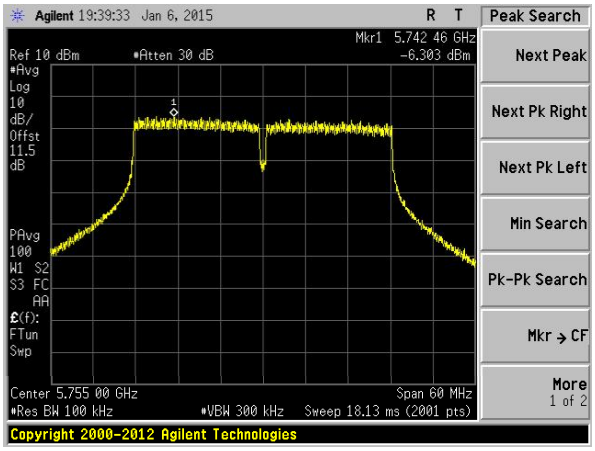
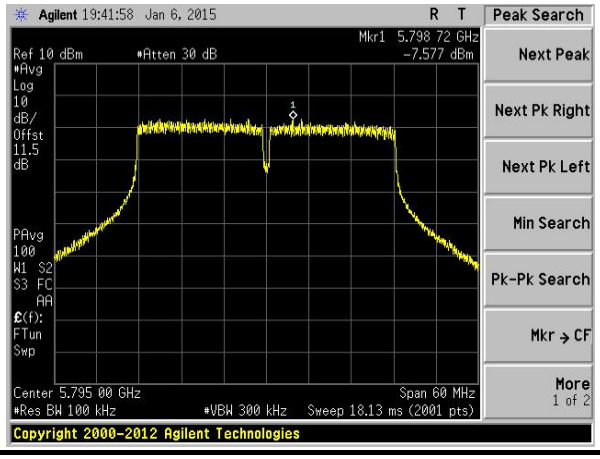


Channel 102 (5510MHz)



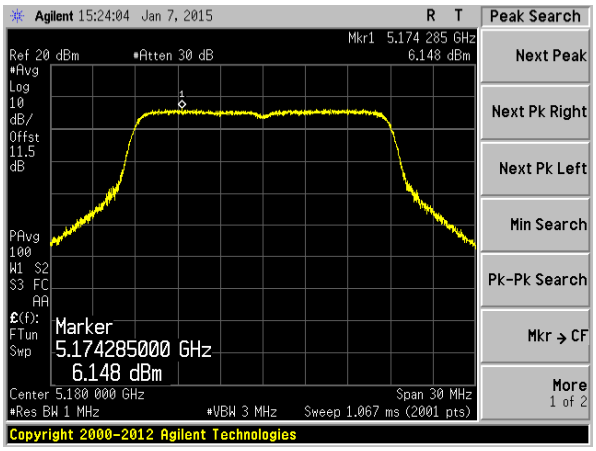
Channel 118 (5590MHz)



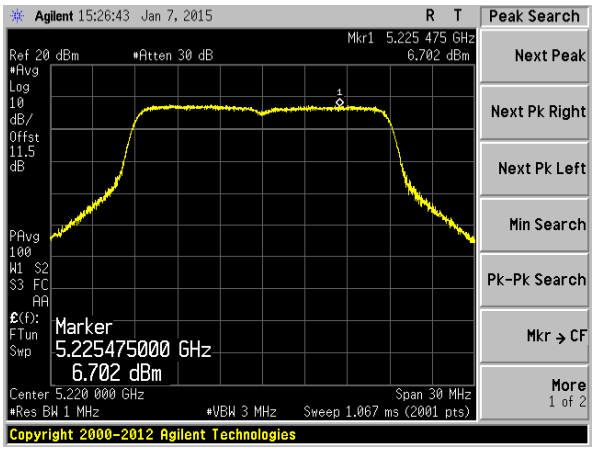
Channel 134 (5670MHz)	Channel 151 (5755MHz)
	
Channel 159 (5795MHz)	
	

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

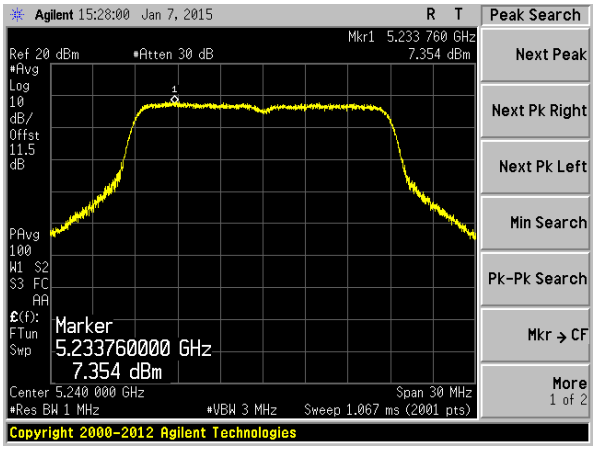
Channel 36 (5180MHz)



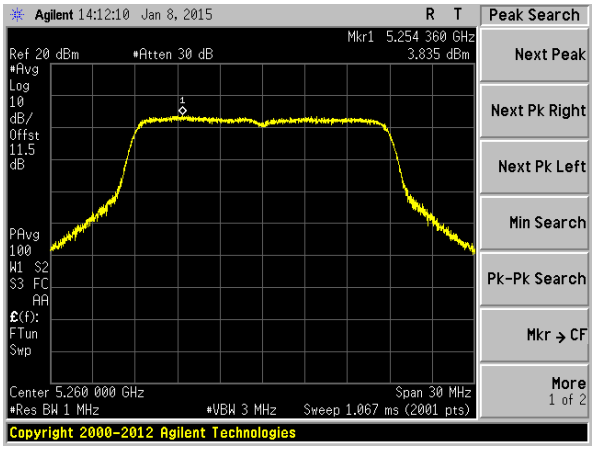
Channel 44 (5220MHz)



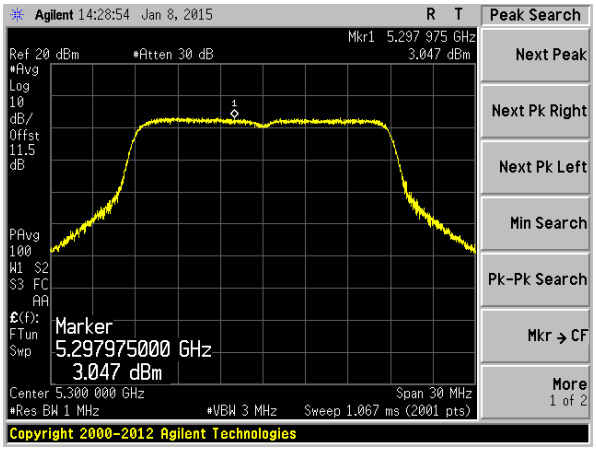
Channel 48 (5240MHz)



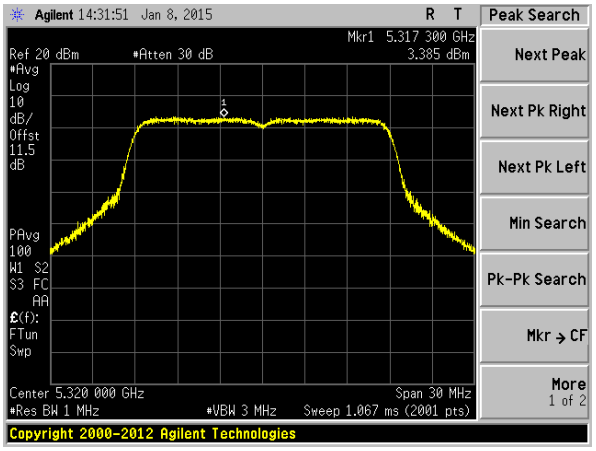
Channel 52 (5260MHz)



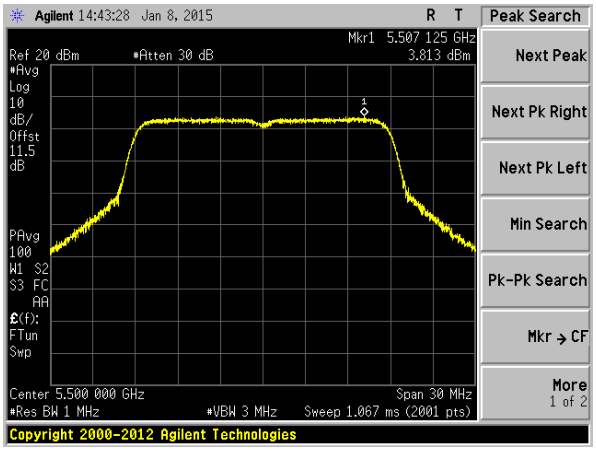
Channel 60 (5300MHz)



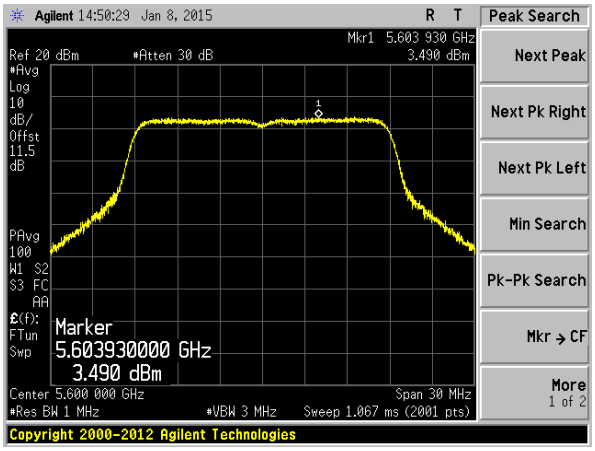
Channel 64 (5320MHz)



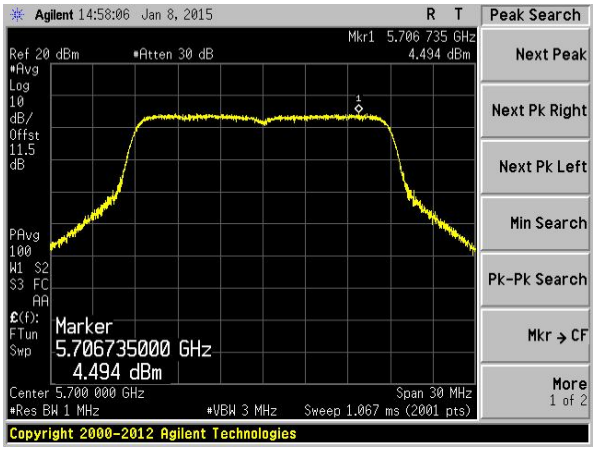
Channel 100 (5500MHz)



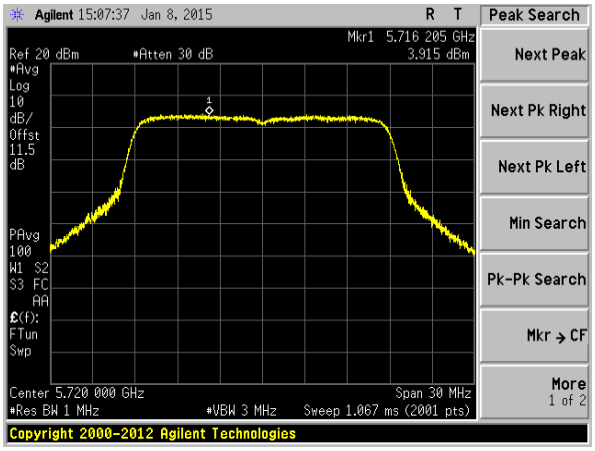
Channel 120 (5600MHz)



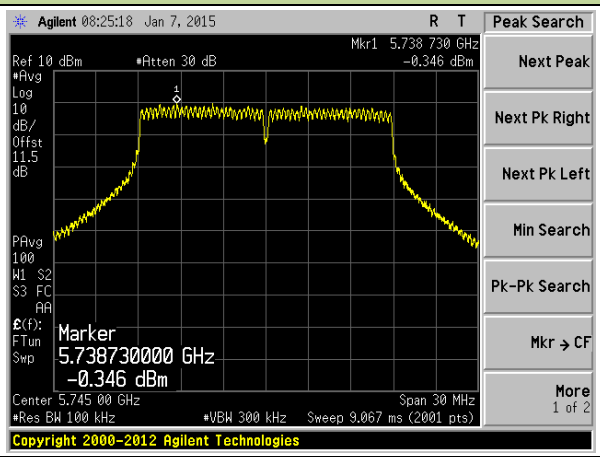
Channel 140 (5700MHz)



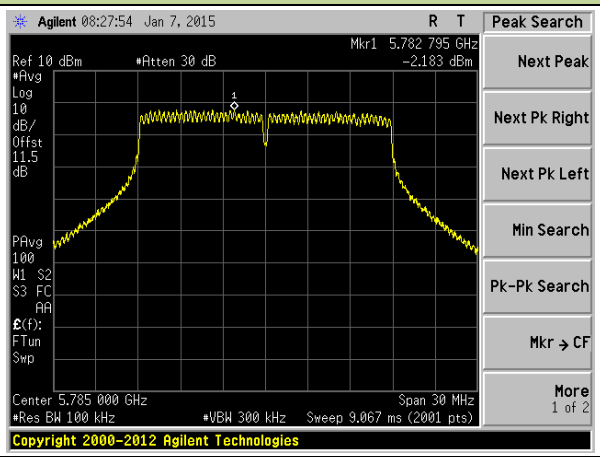
Channel 144 (5720MHz)

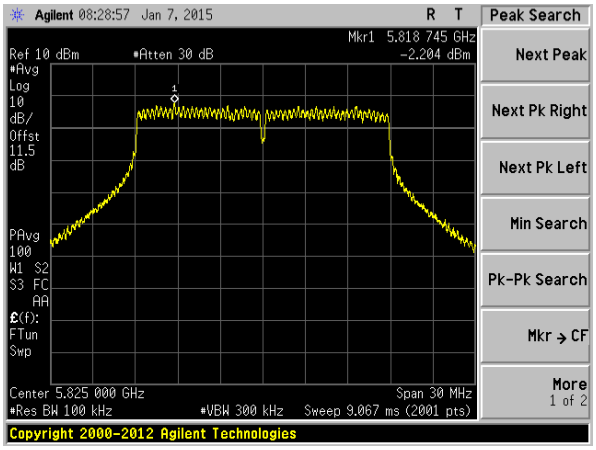


Channel 149 (5745MHz)



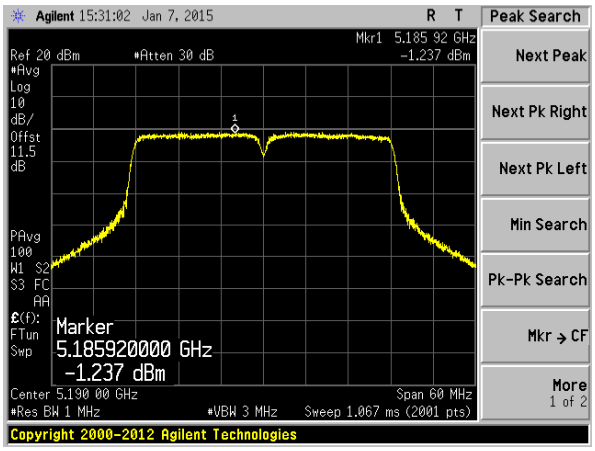
Channel 157 (5785MHz)



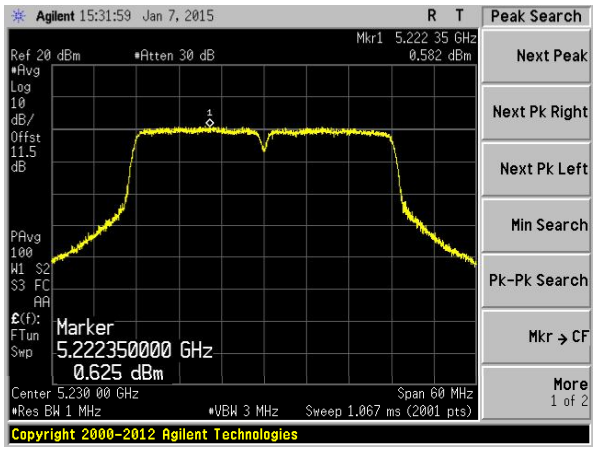
Channel 165 (5825MHz)	
	

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

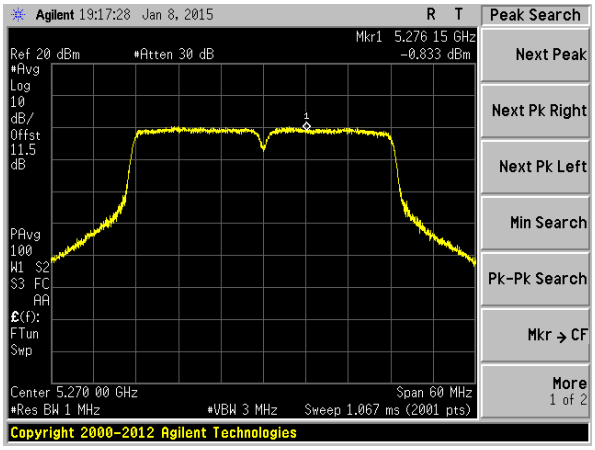
Channel 38 (5190MHz)



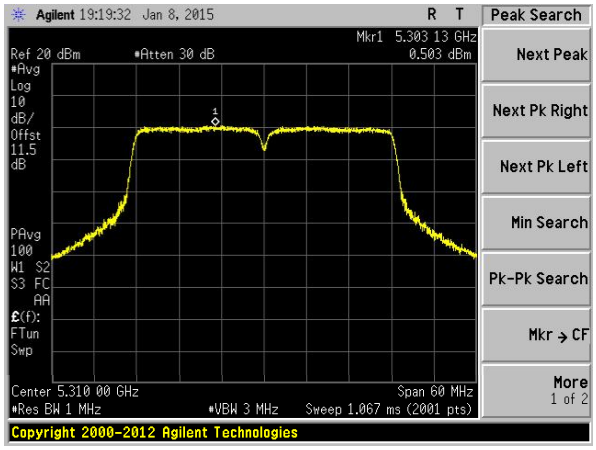
Channel 46 (5230MHz)



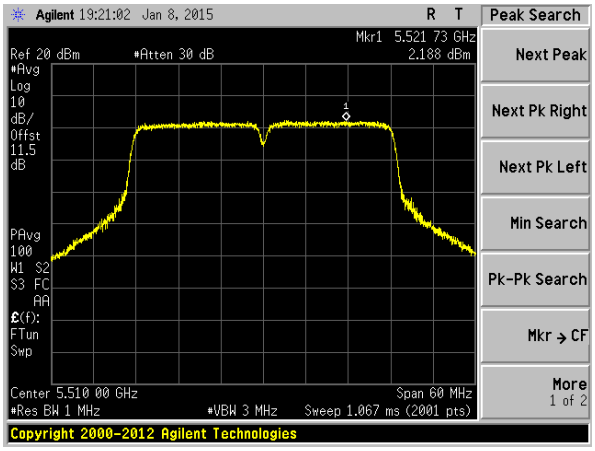
Channel 54 (5270MHz)



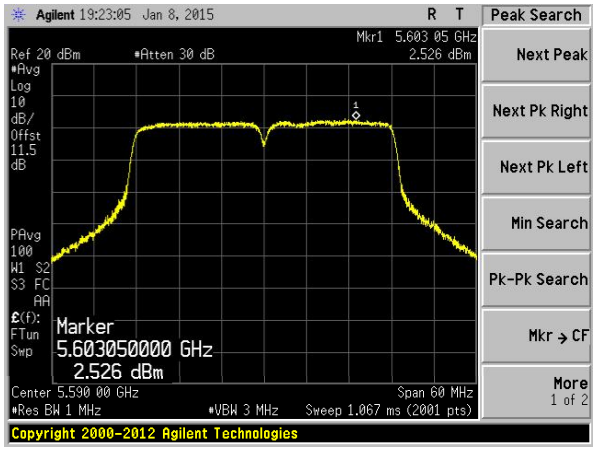
Channel 62 (5310MHz)

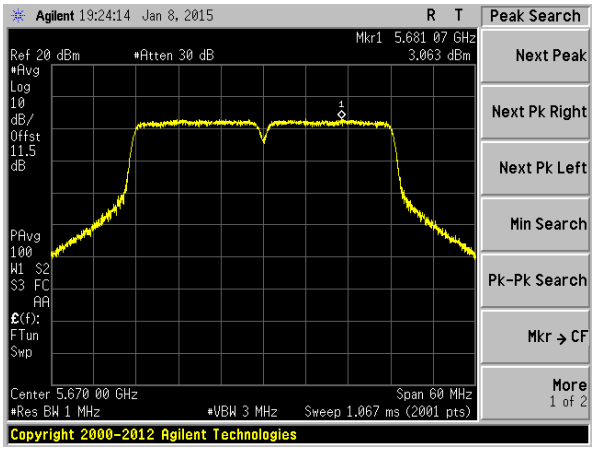
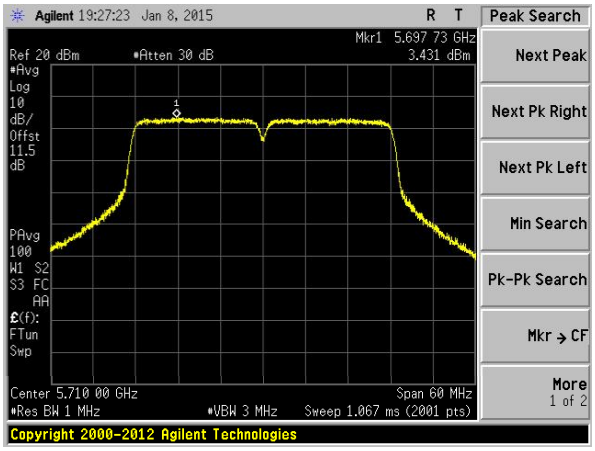
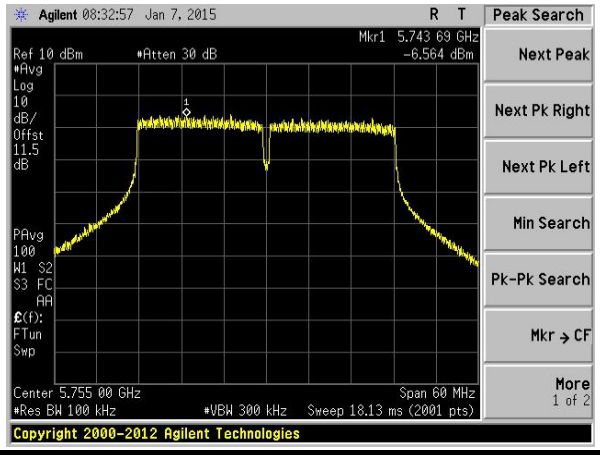
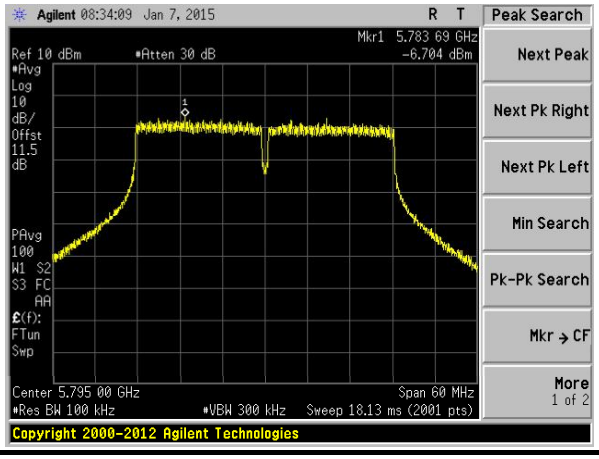


Channel 102 (5510MHz)



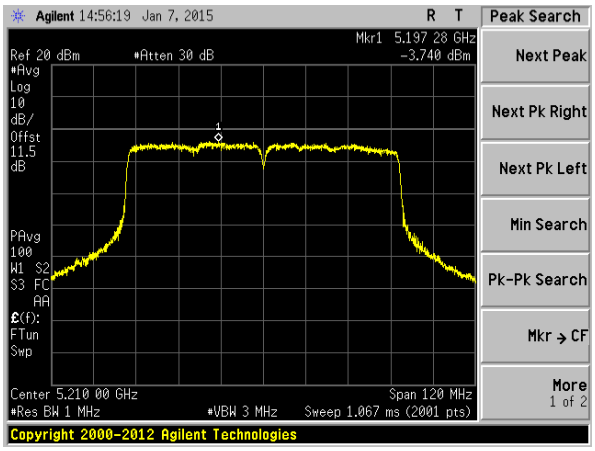
Channel 118 (5590MHz)



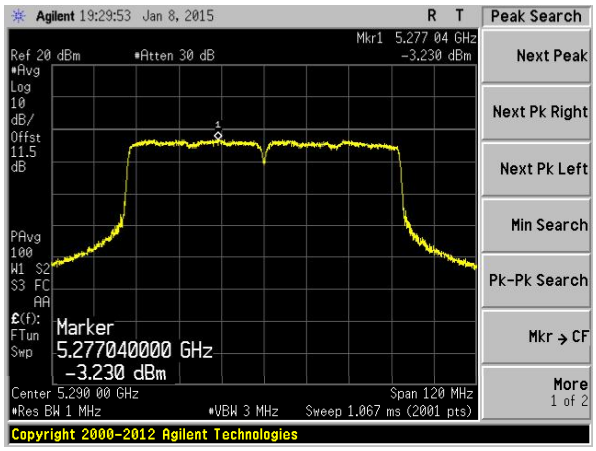
Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

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

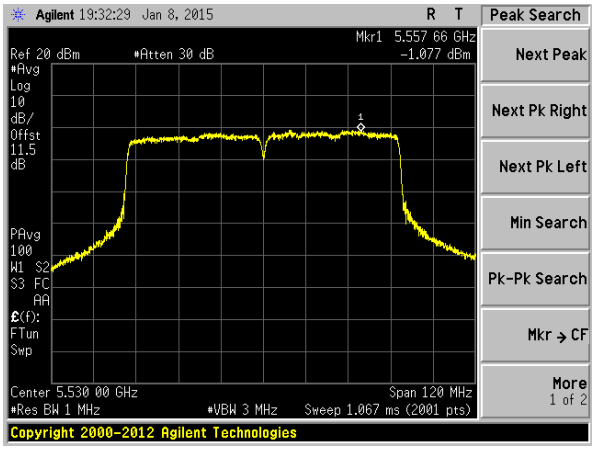
Channel 42 (5210MHz)



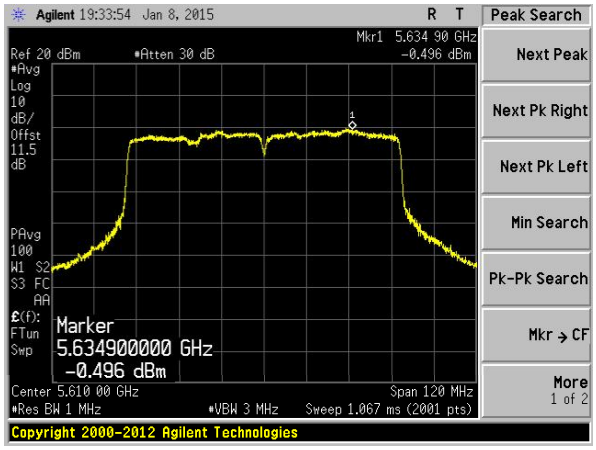
Channel 58 (5290MHz)



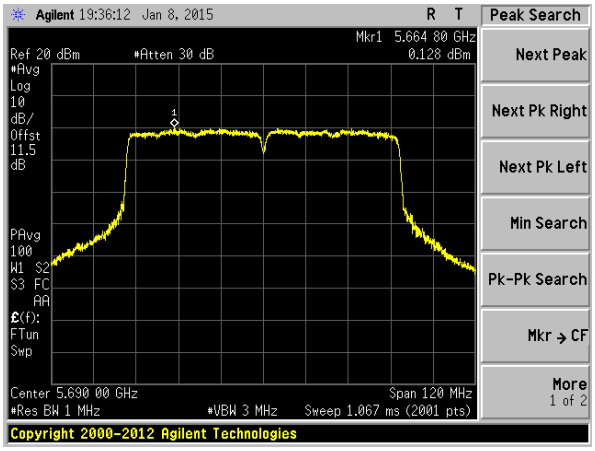
Channel 106 (5530MHz)



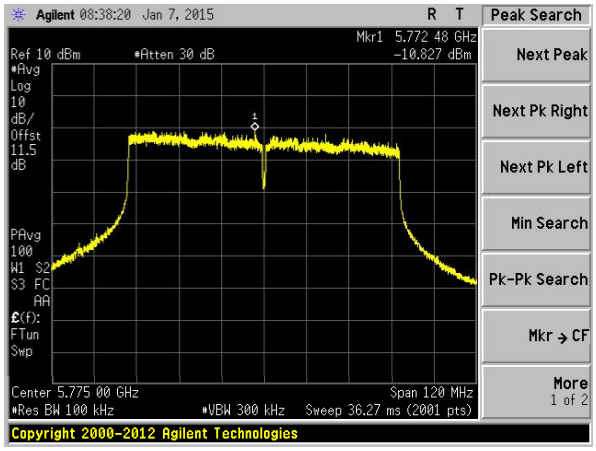
Channel 122 (5610MHz)



Channel 138 (5690MHz)

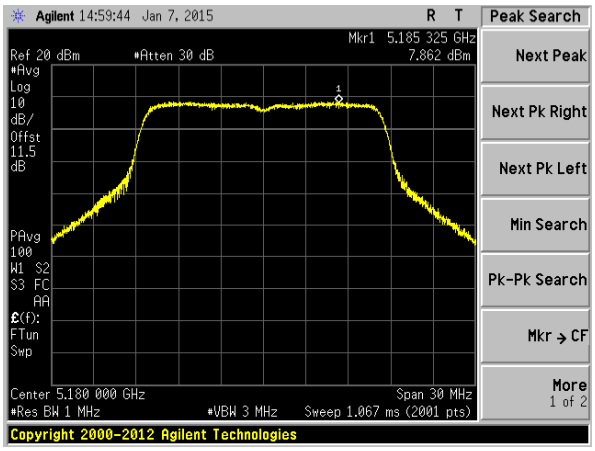


Channel 155 (5775MHz)

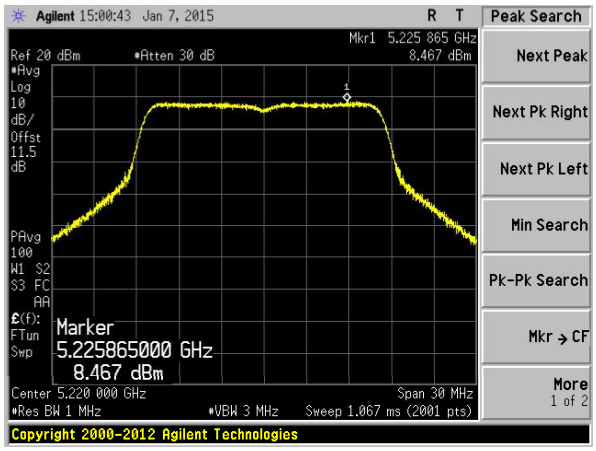


802.11a Power Spectral Density - Ant 2 / Ant 1 + 2

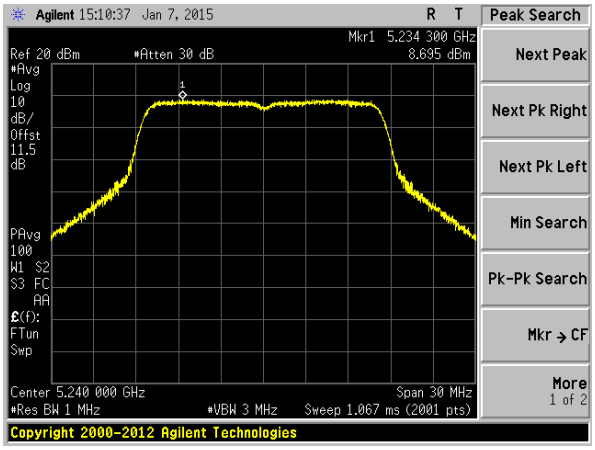
Channel 36 (5180MHz)



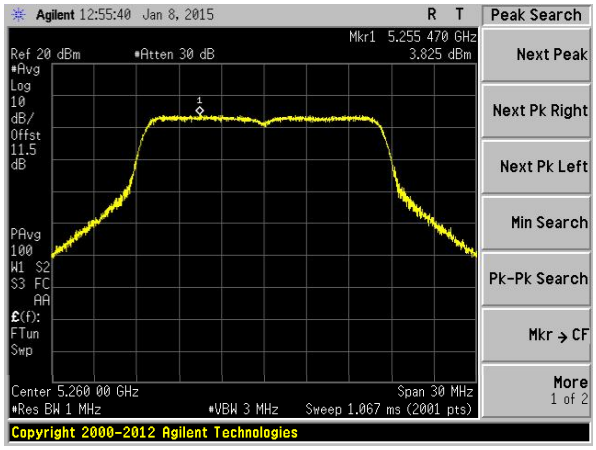
Channel 44 (5220MHz)



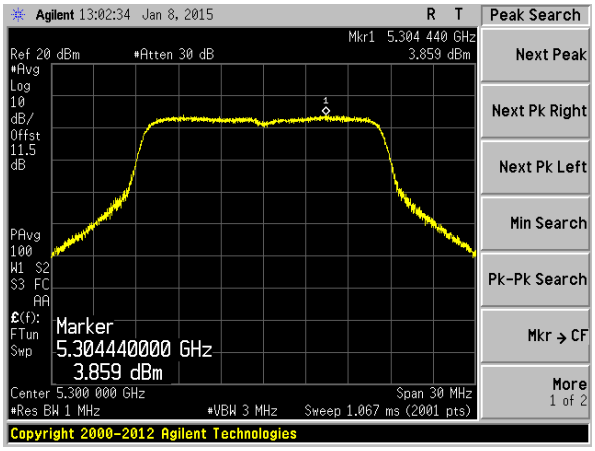
Channel 48 (5240MHz)



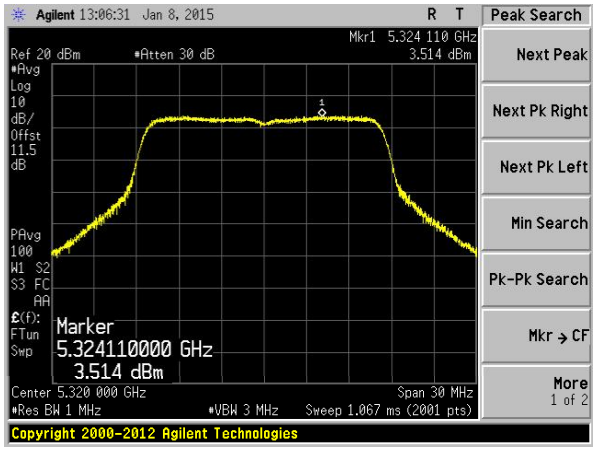
Channel 52 (5260MHz)



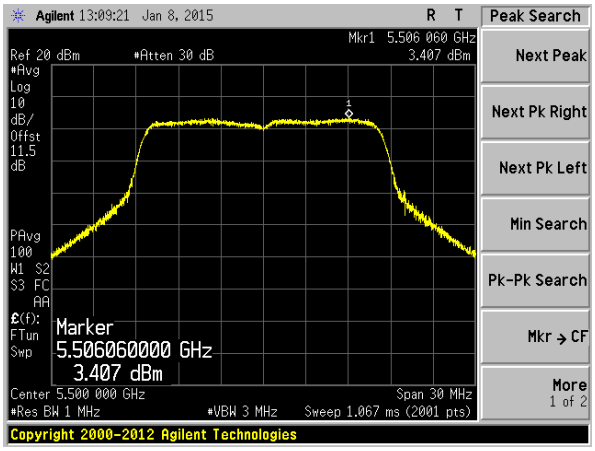
Channel 60 (5300MHz)



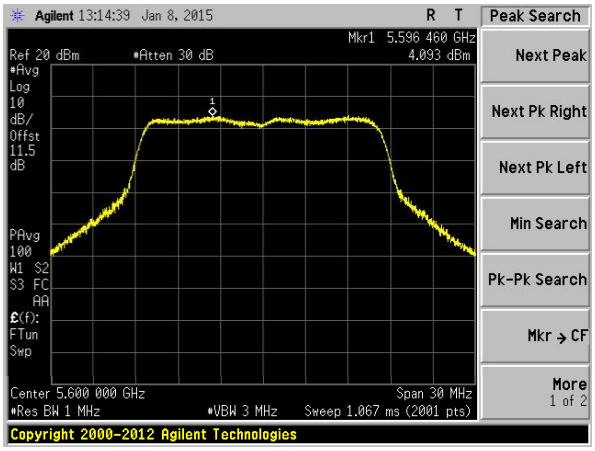
Channel 64 (5320MHz)



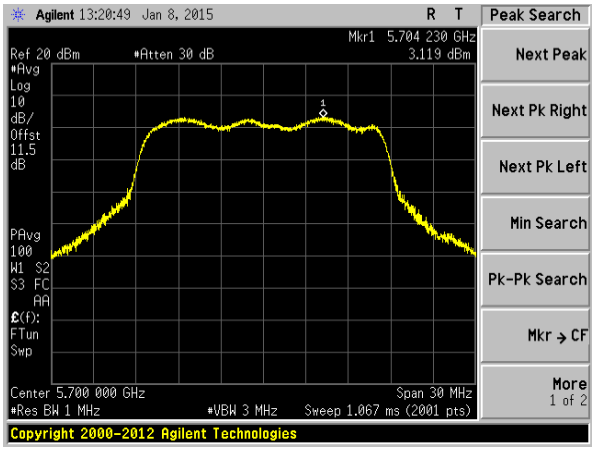
Channel 100 (5500MHz)



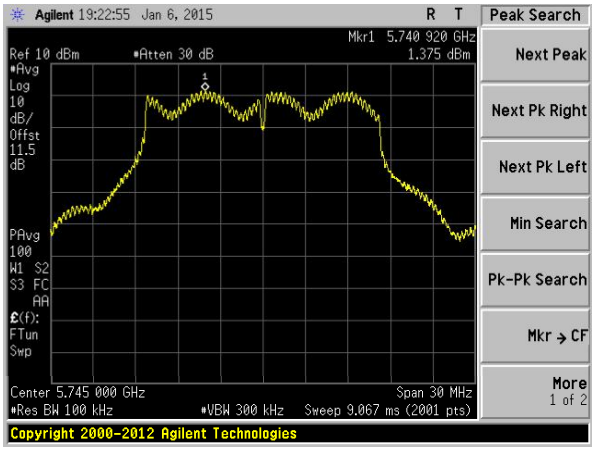
Channel 120 (5600MHz)



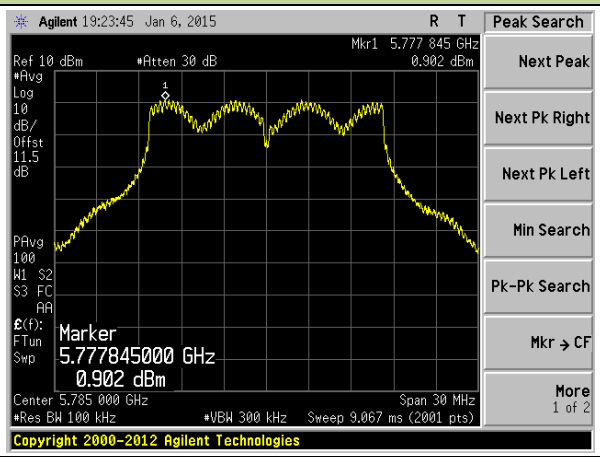
Channel 140 (5700MHz)



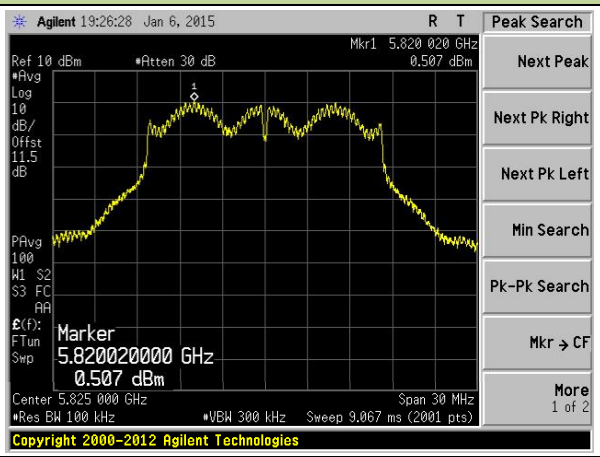
Channel 149 (5745MHz)



Channel 157 (5785MHz)

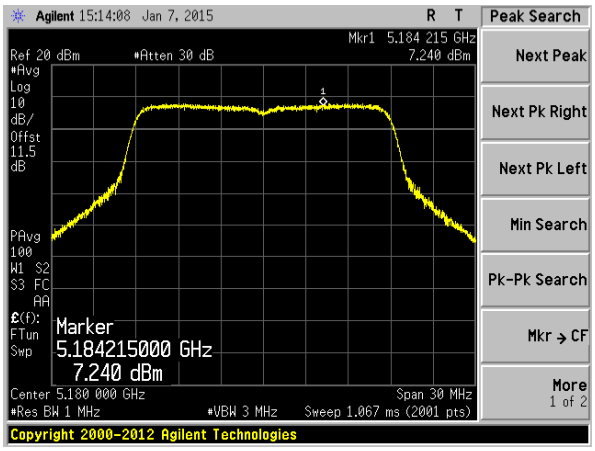


Channel 165 (5825MHz)

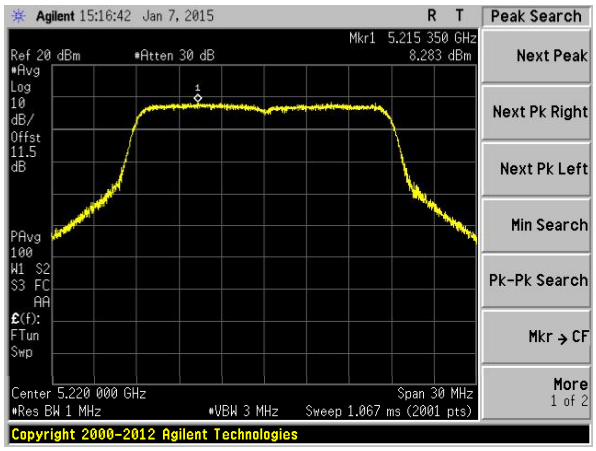


802.11n-HT20 Power Spectral Density - Ant 2 / Ant 1 + 2

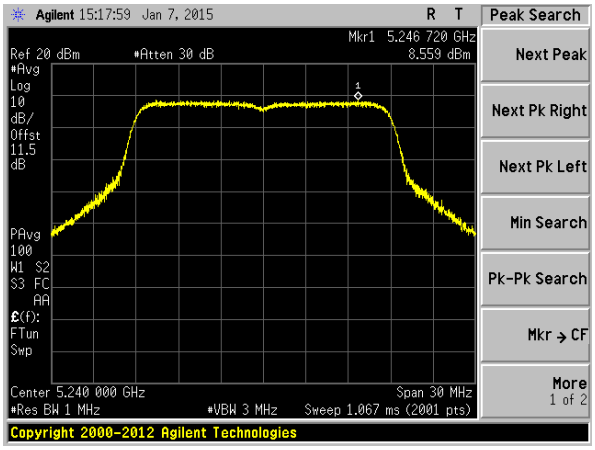
Channel 36 (5180MHz)



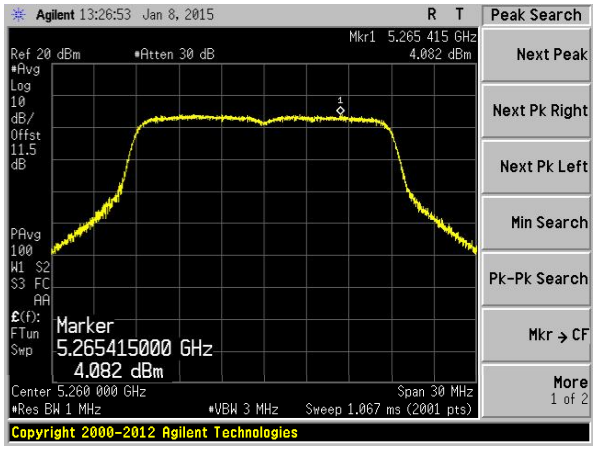
Channel 44 (5220MHz)



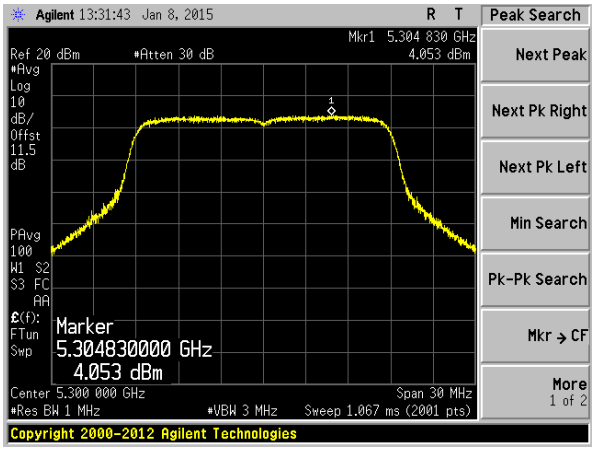
Channel 48 (5240MHz)



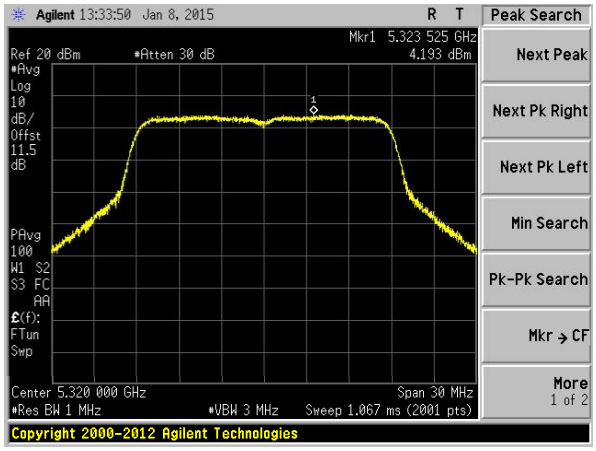
Channel 52 (5260MHz)



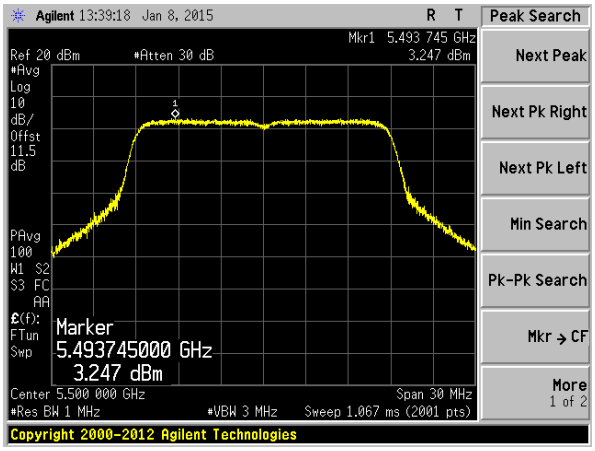
Channel 60 (5300MHz)



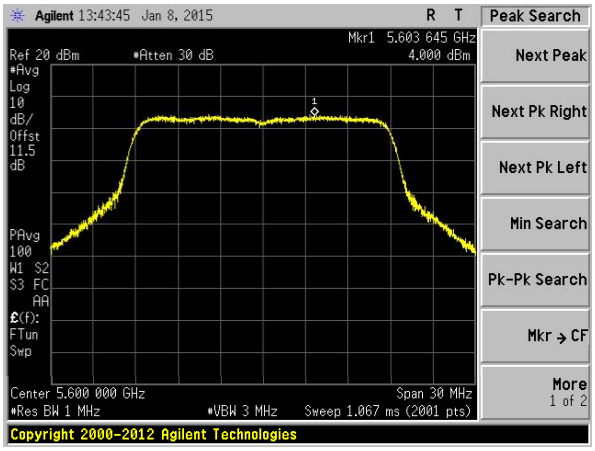
Channel 64 (5320MHz)



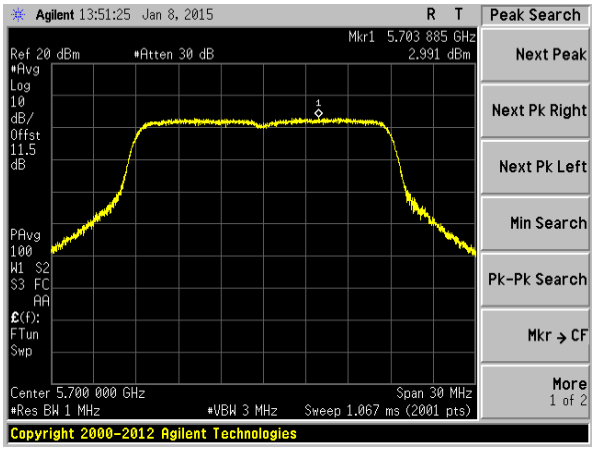
Channel 100 (5500MHz)



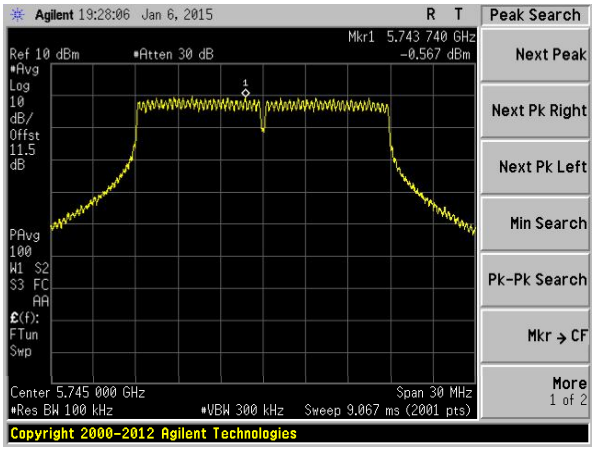
Channel 120 (5600MHz)



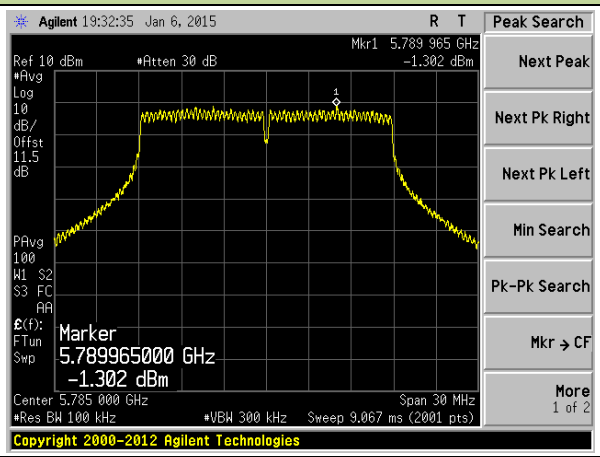
Channel 140 (5700MHz)



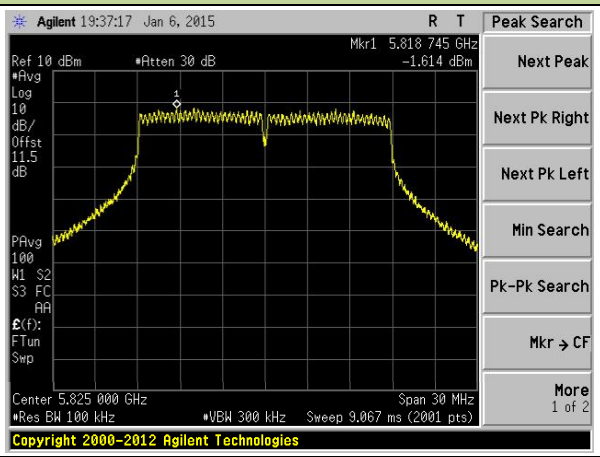
Channel 149 (5745MHz)



Channel 157 (5785MHz)

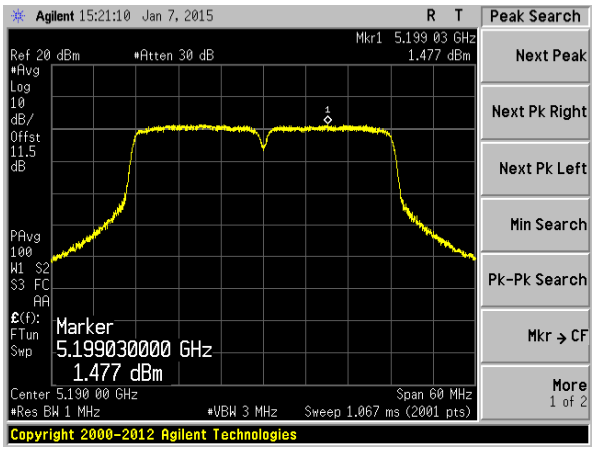


Channel 165 (5825MHz)

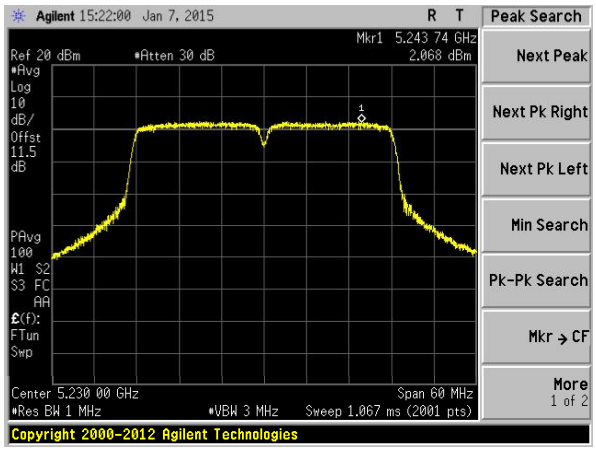


802.11n-HT40 Power Spectral Density - Ant 2 / Ant 1 + 2

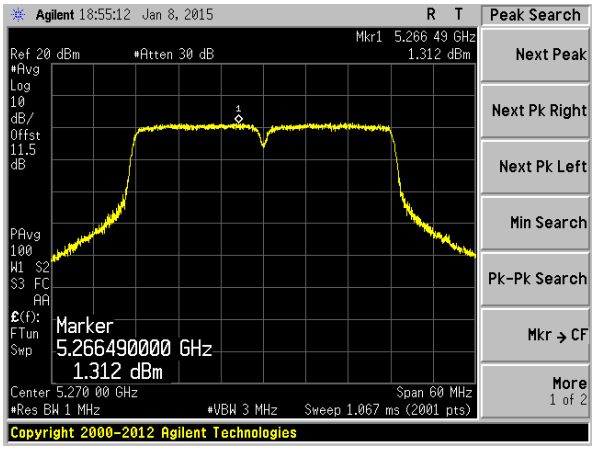
Channel 38 (5190MHz)



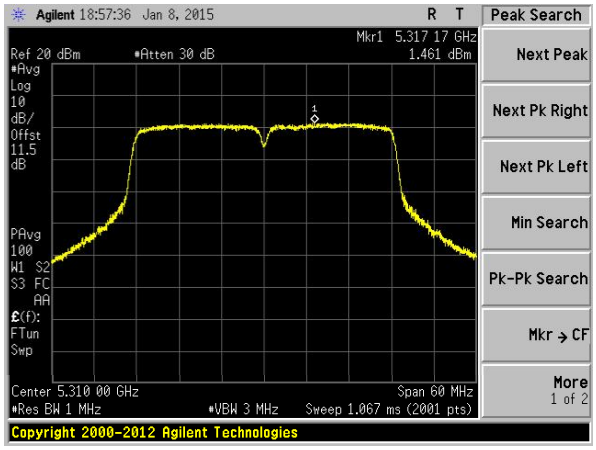
Channel 46 (5230MHz)



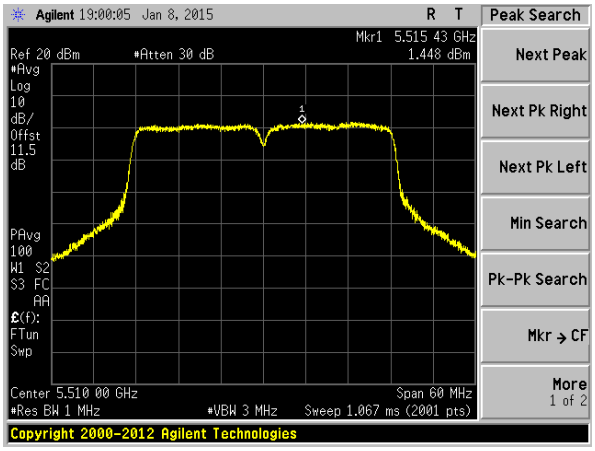
Channel 54 (5270MHz)



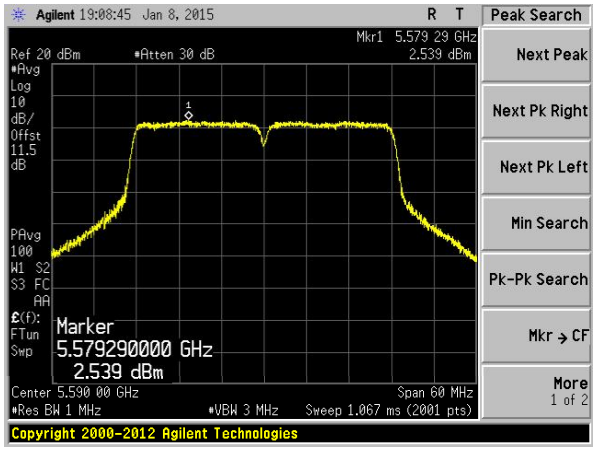
Channel 62 (5310MHz)

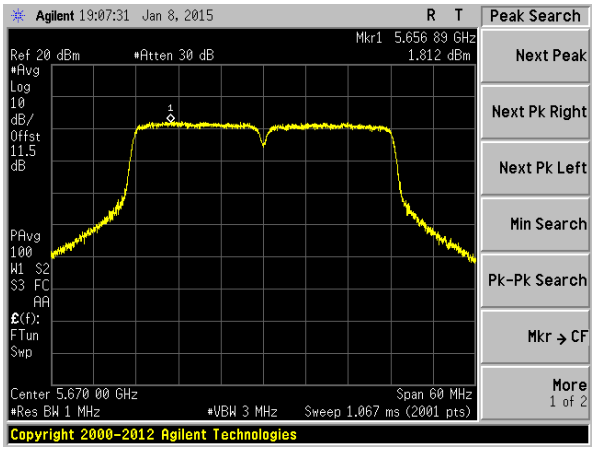
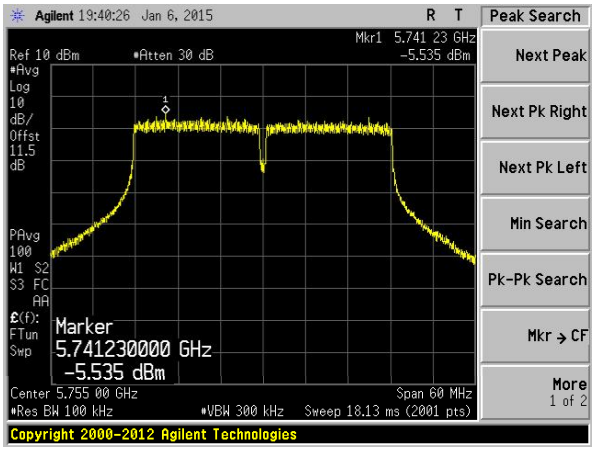
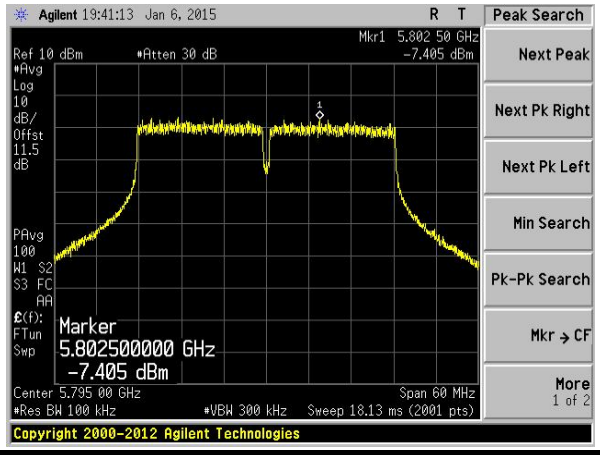


Channel 102 (5510MHz)



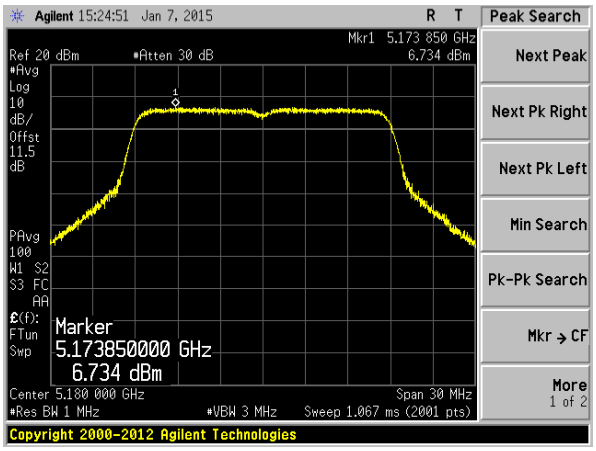
Channel 118 (5590MHz)



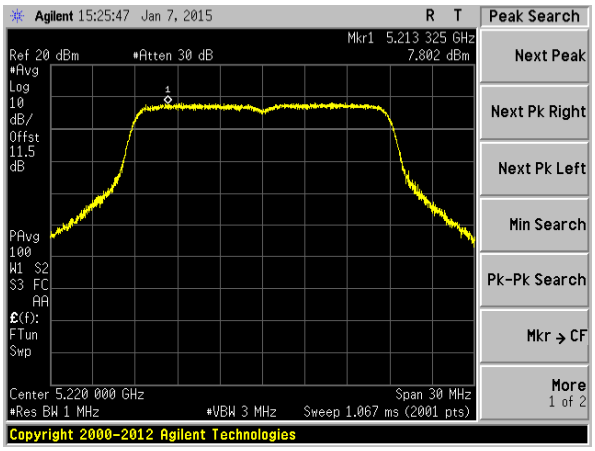
Channel 134 (5670MHz)	Channel 151 (5755MHz)
	
Channel 159 (5795MHz)	
	

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

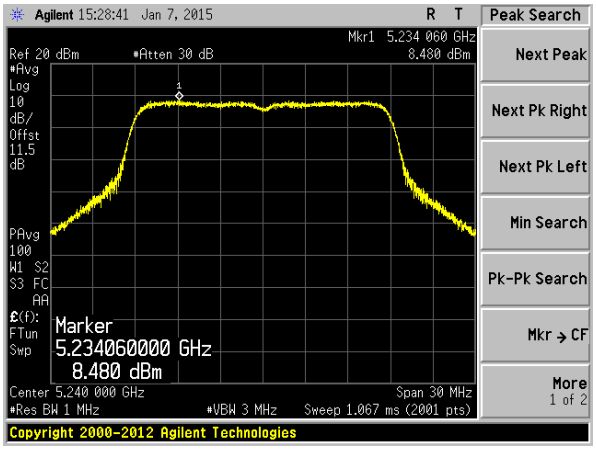
Channel 36 (5180MHz)



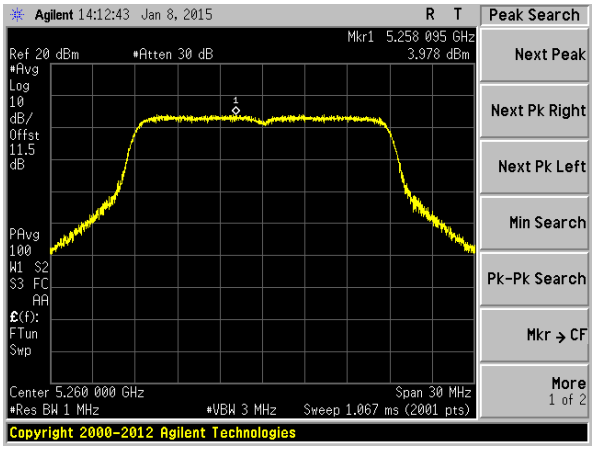
Channel 44 (5220MHz)



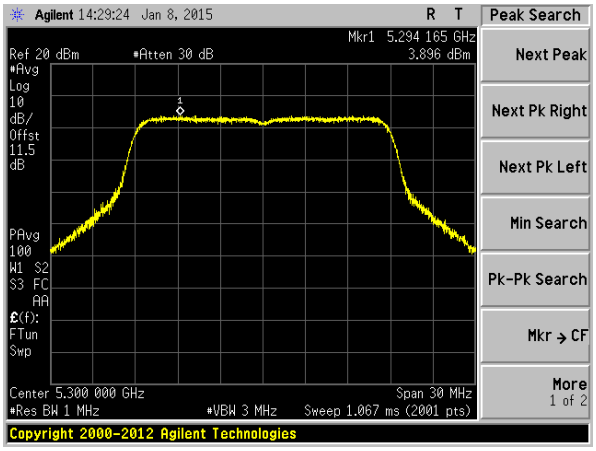
Channel 48 (5240MHz)



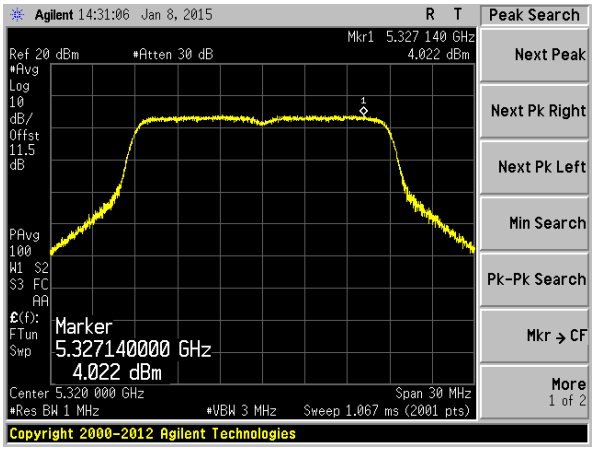
Channel 52 (5260MHz)



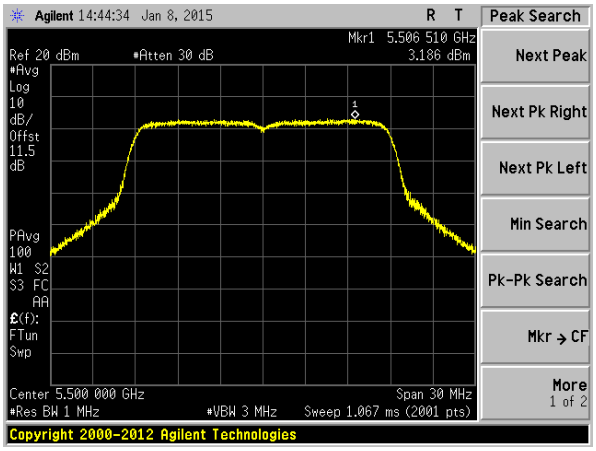
Channel 60 (5300MHz)



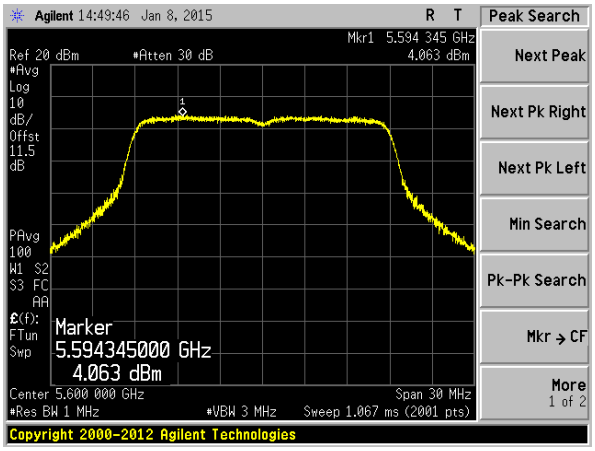
Channel 64 (5320MHz)



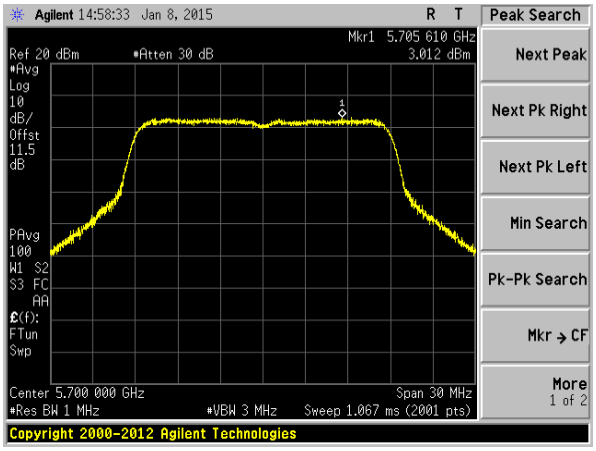
Channel 100 (5500MHz)



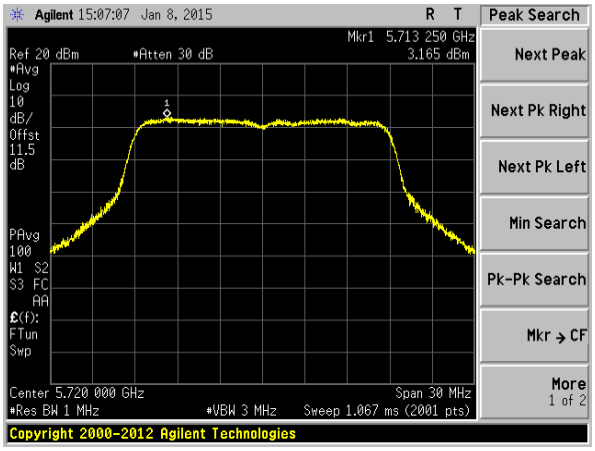
Channel 120 (5600MHz)



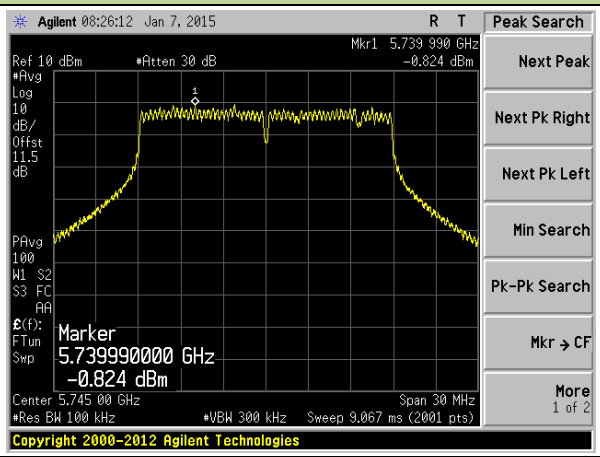
Channel 140 (5700MHz)



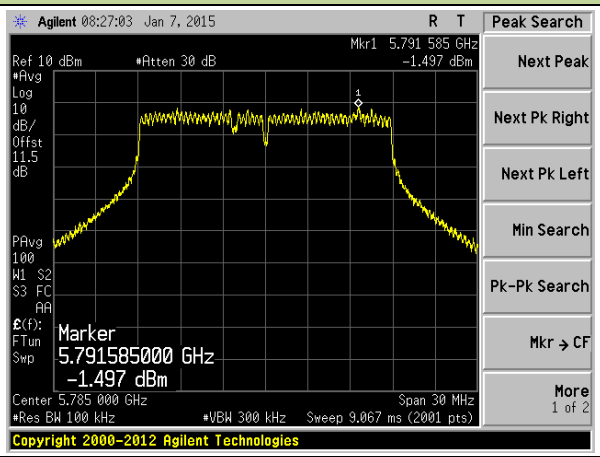
Channel 144 (5720MHz)

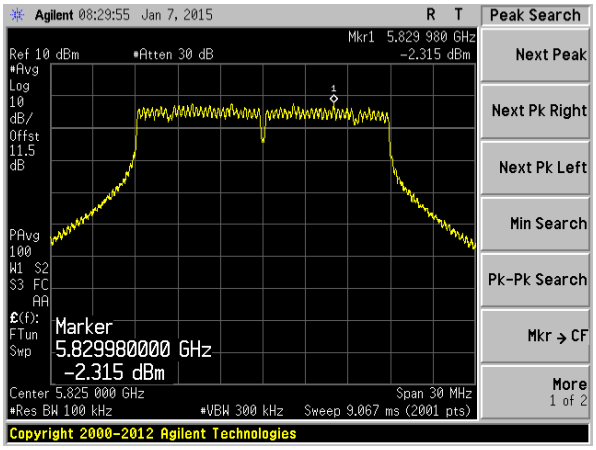


Channel 149 (5745MHz)



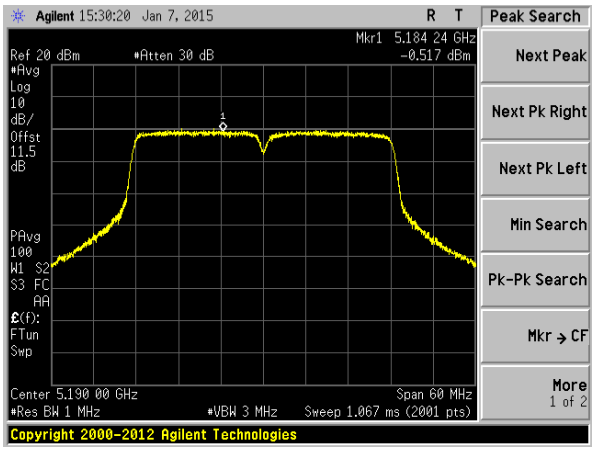
Channel 157 (5785MHz)



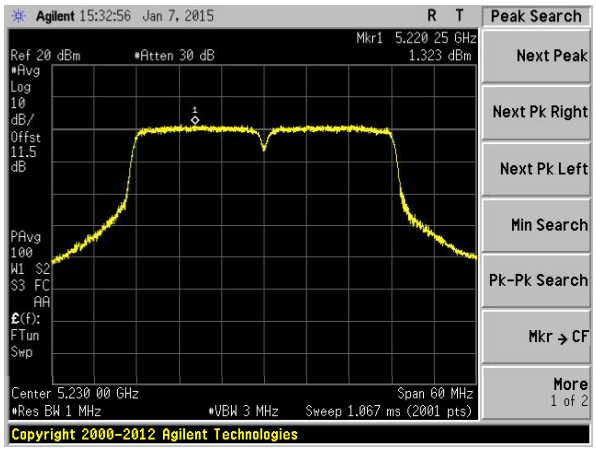
Channel 165 (5825MHz)	
	

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

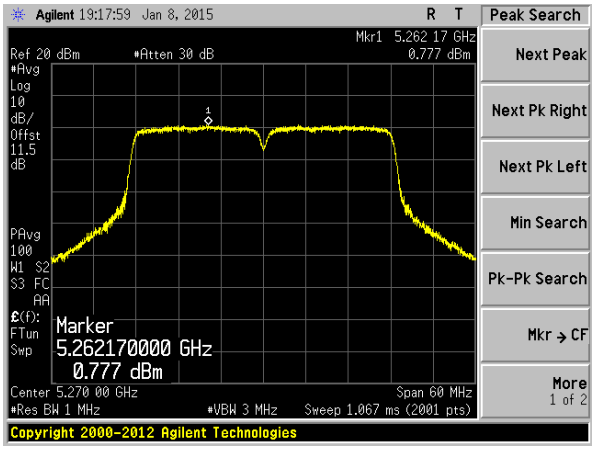
Channel 38 (5190MHz)



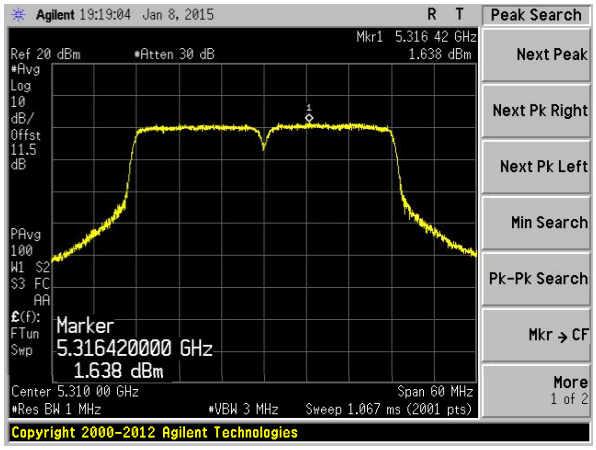
Channel 46 (5230MHz)



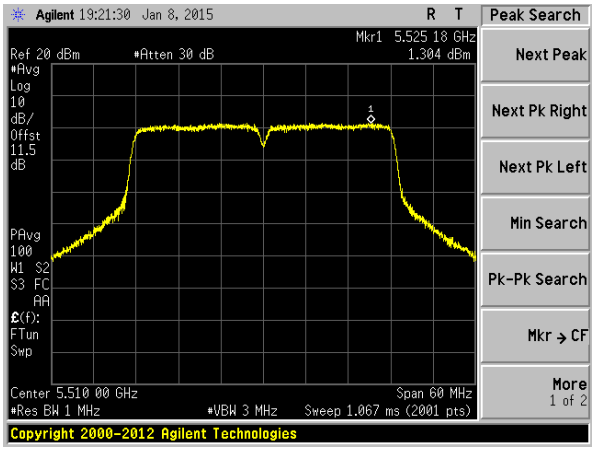
Channel 54 (5270MHz)



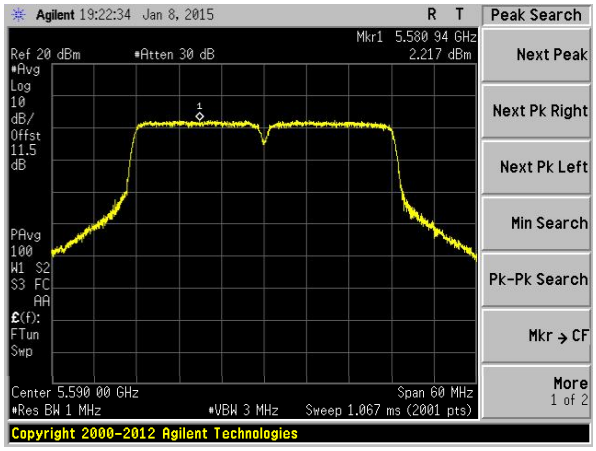
Channel 62 (5310MHz)

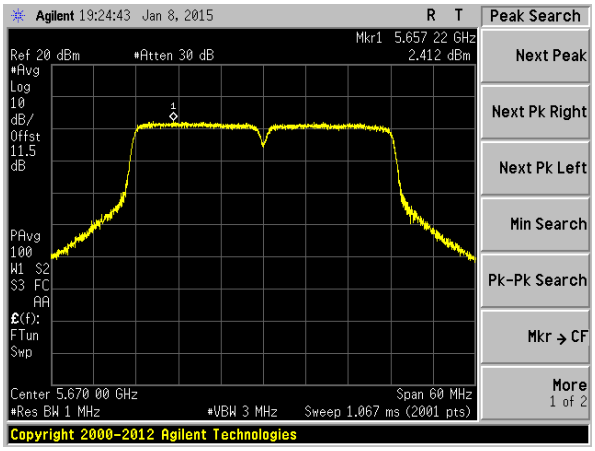
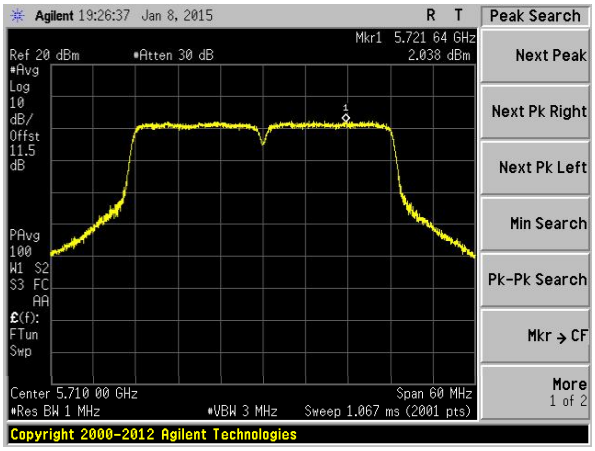
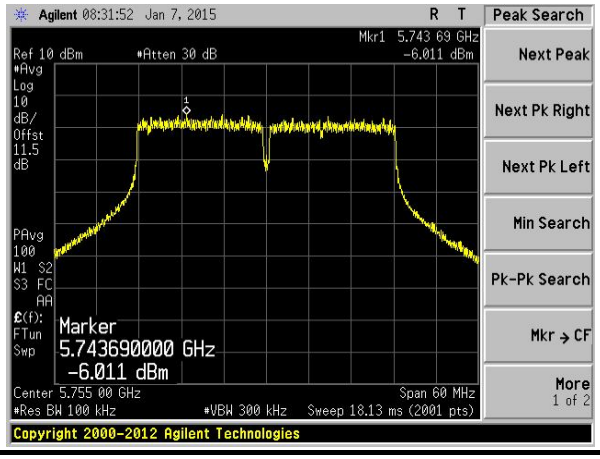
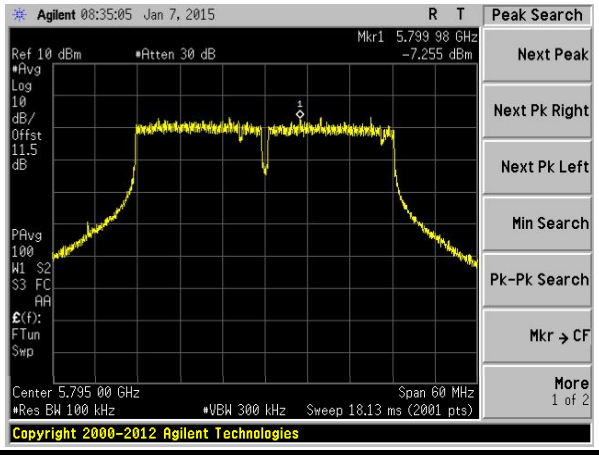


Channel 102 (5510MHz)



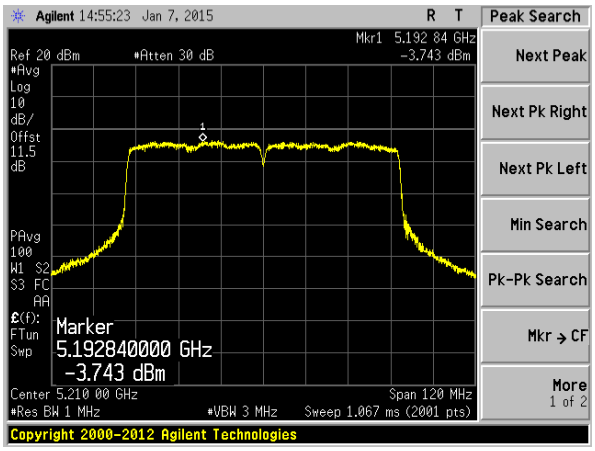
Channel 118 (5590MHz)



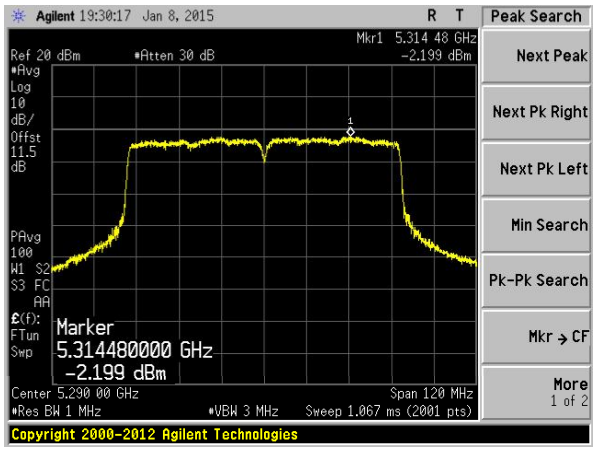
Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

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

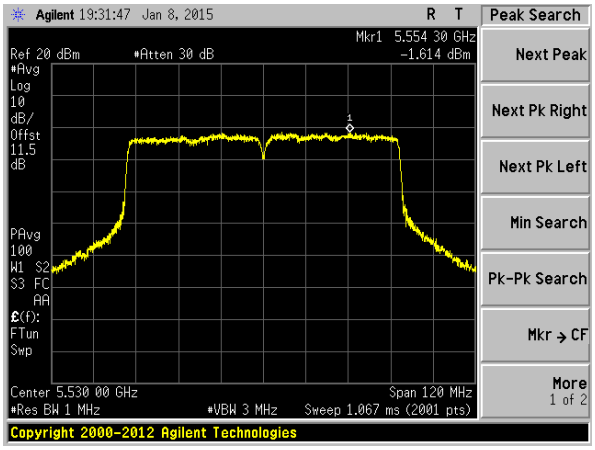
Channel 42 (5210MHz)



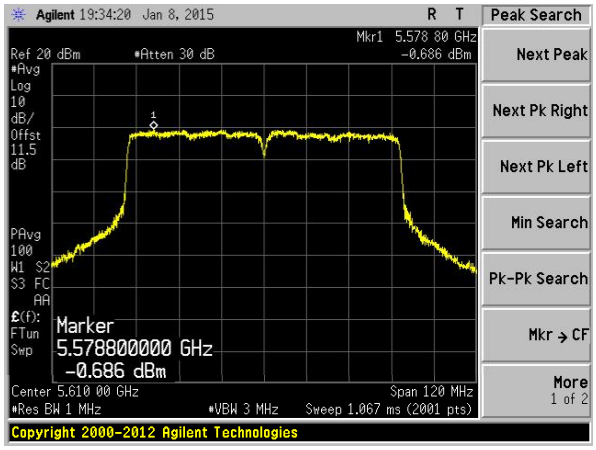
Channel 58 (5290MHz)



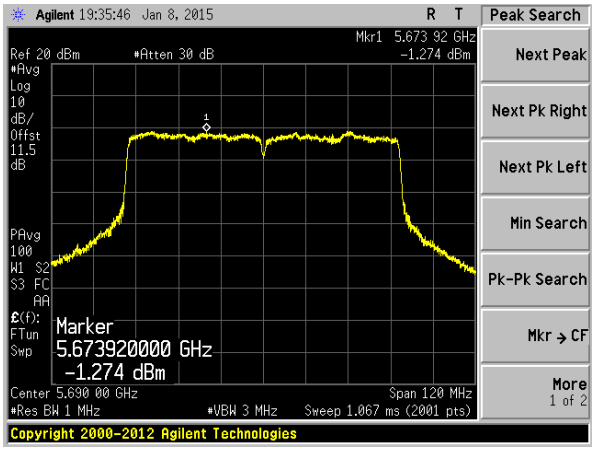
Channel 106 (5530MHz)



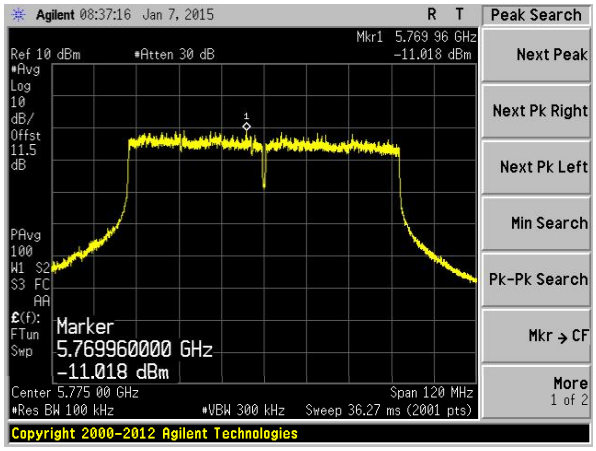
Channel 122 (5610MHz)



Channel 138 (5690MHz)



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:

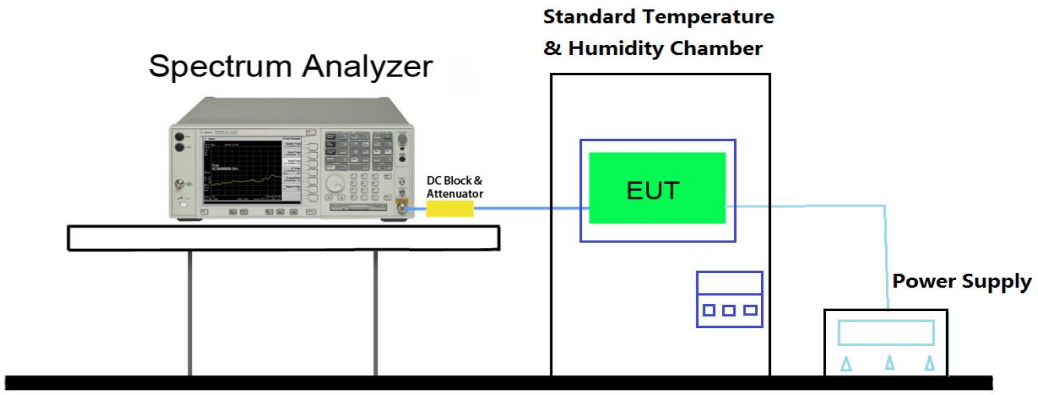
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain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

7.7.3. Test Setup



7.7.4. Test Result

Test Engineer	Milo Li	Temperature	-30 ~ 50°C
Test Time	02-16-2015	Relative Humidity	52%RH
Test Mode	802.11a - 5300MHz	Test Site	SR2

Voltage (%)	Power (VAC)	Temp (℃)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
100%	120	- 30	2.05	2.01	2.04	2.04
		- 20	2.31	2.24	2.28	2.26
		- 10	2.45	2.44	2.45	2.48
		0	2.05	2.02	2.05	2.04
		+ 10	2.24	2.21	2.22	2.17
		+ 20 (Ref)	2.49	2.44	2.49	2.52
		+ 30	2.03	2.01	2.03	2.03
		+ 40	2.26	2.20	2.24	2.23
		+ 50	2.40	2.36	2.39	2.38
115%	138	+ 20	2.39	2.36	2.38	2.37
85%	102	+ 20	2.06	2.01	2.05	2.05

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 D02v01r01 - 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

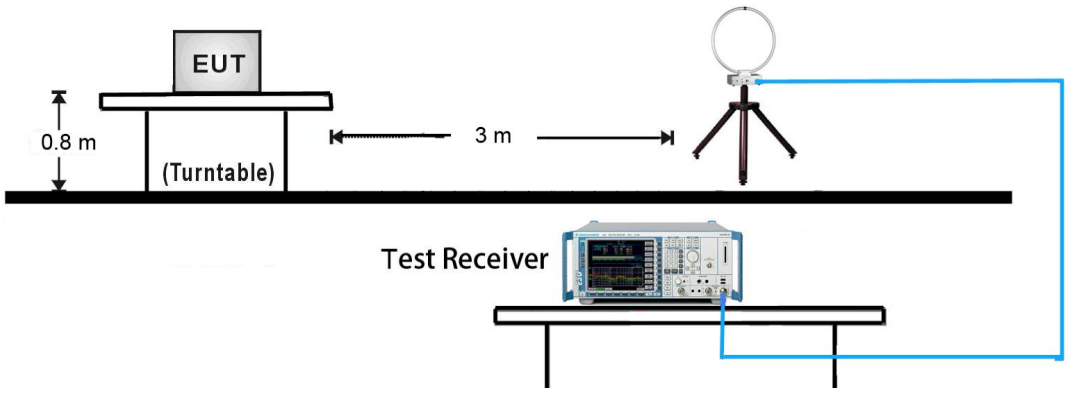
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

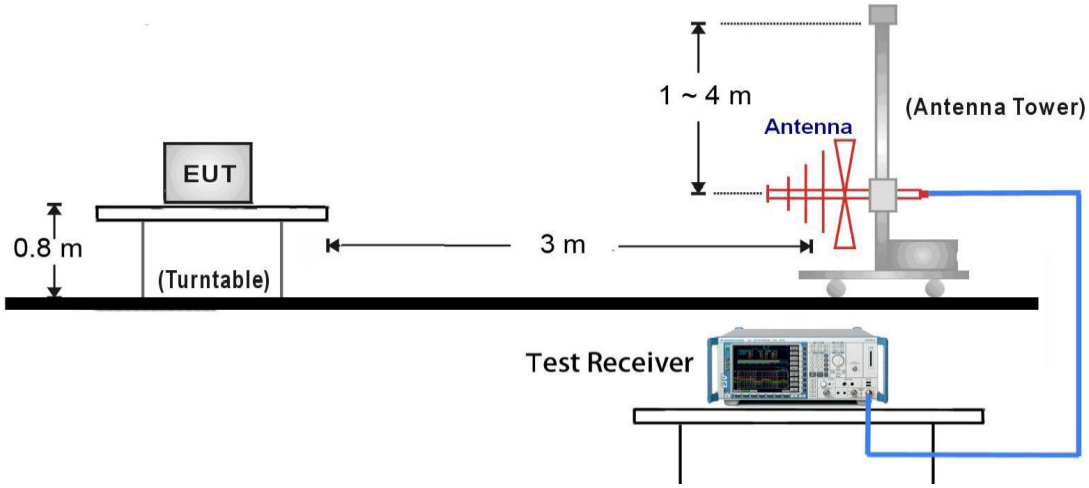
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be > 2 x span/RBW)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

7.8.4. Test Setup

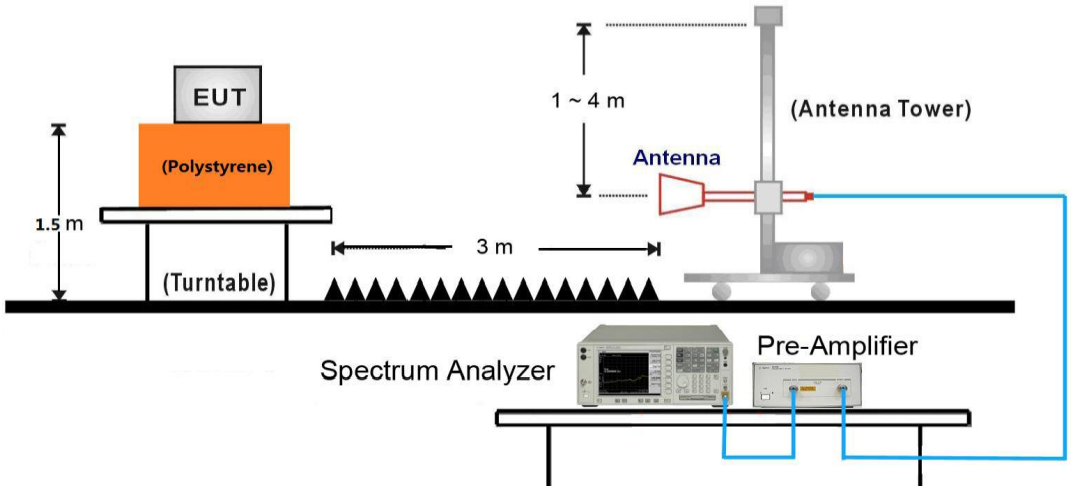
9kHz ~ 30MHz Test Setup:



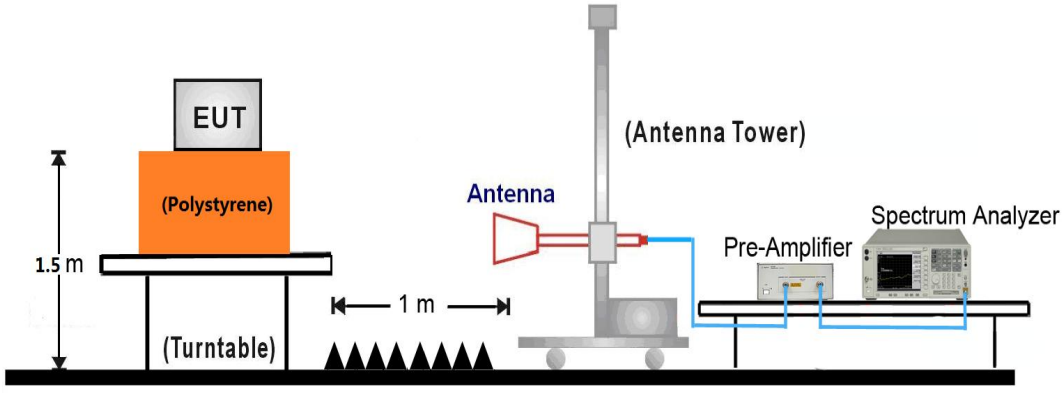
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



7.8.5. Test Result

Test Mode:	802.11a – Ant 1+2	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
*	9772.0	36.7	11.4	48.1	88.2	-40.1	Peak	Horizontal
*	10358.5	37.3	12.2	49.5	88.2	-38.7	Peak	Horizontal
	12075.5	37.4	12.0	49.4	74.0	-24.6	Peak	Horizontal
	15540.0	27.0	12.2	39.2	54.0	-14.8	Average	Horizontal
	15543.5	44.1	12.2	56.3	74.0	-17.7	Peak	Horizontal
*	9559.5	36.7	10.9	47.6	88.2	-40.6	Peak	Vertical
*	10358.5	35.8	12.2	48.0	88.2	-40.2	Peak	Vertical
	10936.5	35.9	13.0	48.9	74.0	-25.1	Peak	Vertical
	11616.5	36.4	12.5	48.9	74.0	-25.1	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 – Ant 1+2	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
*	9865.5	35.5	11.6	47.1	88.2	-41.1	Peak	Horizontal
*	10443.5	37.1	12.0	49.1	88.2	-39.1	Peak	Horizontal
	11429.5	36.6	12.6	49.2	74.0	-24.8	Peak	Horizontal
	15662.5	39.1	12.0	51.1	74.0	-22.9	Peak	Horizontal
*	9891.0	36.3	11.6	47.9	88.2	-40.3	Peak	Vertical
*	10443.5	35.9	12.0	47.9	88.2	-40.3	Peak	Vertical
	10945.0	35.6	13.1	48.7	74.0	-25.3	Peak	Vertical
	11480.5	36.0	12.7	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:	802.11a – Ant 1+2	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
*	10052.5	36.2	11.5	47.7	88.2	-40.5	Peak	Horizontal
*	10324.5	36.5	12.1	48.6	88.2	-39.6	Peak	Horizontal
	10894.0	35.8	12.9	48.7	74.0	-25.3	Peak	Horizontal
	15713.5	38.6	11.8	50.4	74.0	-23.6	Peak	Horizontal
*	9534.0	36.3	10.8	47.1	88.2	-41.1	Peak	Vertical
*	10120.5	36.0	11.6	47.6	88.2	-40.6	Peak	Vertical
	11106.5	35.8	12.8	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:	802.11a – Ant 1+2	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
*	9525.5	37.0	10.7	47.7	88.2	-40.5	Peak	Horizontal
*	10341.5	36.0	12.2	48.2	88.2	-40.0	Peak	Horizontal
	11038.5	36.1	12.9	49.0	74.0	-25.0	Peak	Horizontal
	11650.5	36.9	12.3	49.2	74.0	-24.8	Peak	Horizontal
*	9236.5	36.3	10.1	46.4	88.2	-41.8	Peak	Vertical
*	10120.5	34.0	11.6	45.6	88.2	-42.6	Peak	Vertical
	10928.0	35.2	13.0	48.2	74.0	-25.8	Peak	Vertical
	11098.0	36.8	12.8	49.6	74.0	-24.4	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:	802.11a – Ant 1+2	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
*	10197.0	36.0	11.8	47.8	88.2	-40.4	Peak	Horizontal
*	10588.0	36.8	12.4	49.2	88.2	-39.0	Peak	Horizontal
	11030.0	35.9	13.0	48.9	74.0	-25.1	Peak	Horizontal
	11582.5	36.0	12.6	48.6	74.0	-25.4	Peak	Horizontal
*	9202.5	35.3	10.1	45.4	88.2	-42.8	Peak	Vertical
*	9806.0	35.5	11.5	47.0	88.2	-41.2	Peak	Vertical
	10979.0	36.1	13.0	49.1	74.0	-24.9	Peak	Vertical
	11557.0	36.3	12.7	49.0	74.0	-25.0	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 – Ant 1+2	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
*	8709.5	36.1	9.0	45.1	88.2	-43.1	Peak	Horizontal
*	9814.5	35.6	11.6	47.2	88.2	-41.0	Peak	Horizontal
	10843.0	36.2	12.7	48.9	74.0	-25.1	Peak	Horizontal
	11693.0	36.7	12.0	48.7	74.0	-25.3	Peak	Horizontal
*	9882.5	35.5	11.6	47.1	88.2	-41.1	Peak	Vertical
*	10528.5	36.0	12.5	48.5	88.2	-39.7	Peak	Vertical
	10860.0	35.6	12.8	48.4	74.0	-25.6	Peak	Vertical
	11642.0	36.3	12.4	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:	802.11a – Ant 1+2	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
*	9219.5	37.2	10.1	47.3	88.2	-40.9	Peak	Horizontal
*	10069.5	36.3	11.5	47.8	88.2	-40.4	Peak	Horizontal
	10996.0	38.4	13.0	51.4	74.0	-22.6	Peak	Horizontal
	11591.0	36.8	12.6	49.4	74.0	-24.6	Peak	Horizontal
*	9908.0	35.5	11.6	47.1	88.2	-41.1	Peak	Vertical
*	10392.5	35.3	12.3	47.6	88.2	-40.6	Peak	Vertical
	10987.5	36.8	13.0	49.8	74.0	-24.2	Peak	Vertical
	11472.0	35.8	12.7	48.5	74.0	-25.5	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:	802.11a – Ant 1+2	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
*	9721.0	35.8	11.1	46.9	88.2	-41.3	Peak	Horizontal
*	10418.0	36.4	12.2	48.6	88.2	-39.6	Peak	Horizontal
	10809.0	36.3	12.7	49.0	74.0	-25.0	Peak	Horizontal
	11200.0	38.7	12.5	51.2	74.0	-22.8	Peak	Horizontal
*	9559.5	35.6	10.9	46.5	88.2	-41.7	Peak	Vertical
*	10171.5	36.2	11.7	47.9	88.2	-40.3	Peak	Vertical
	10919.5	35.3	13.0	48.3	74.0	-25.7	Peak	Vertical
	11582.5	36.7	12.6	49.3	74.0	-24.7	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 – Ant 1+2	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
*	9772.0	35.4	11.4	46.8	88.2	-41.4	Peak	Horizontal
*	10401.0	36.0	12.3	48.3	88.2	-39.9	Peak	Horizontal
	10953.5	35.7	13.1	48.8	74.0	-25.2	Peak	Horizontal
	11395.5	36.8	12.6	49.4	74.0	-24.6	Peak	Horizontal
*	9738.0	35.0	11.2	46.2	88.2	-42.0	Peak	Vertical
*	10163.0	35.6	11.7	47.3	88.2	-40.9	Peak	Vertical
	10647.5	36.9	12.3	49.2	74.0	-24.8	Peak	Vertical
	11557.0	35.9	12.7	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:	802.11a – Ant 1+2	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
*	9925.0	36.0	11.5	47.5	88.2	-40.7	Peak	Horizontal
*	10460.5	35.9	12.1	48.0	88.2	-40.2	Peak	Horizontal
	10928.0	35.6	13.0	48.6	74.0	-25.4	Peak	Horizontal
	11487.6	28.5	12.8	41.3	54.0	-12.7	Average	Horizontal
	11489.0	40.9	12.8	53.7	74.0	-20.3	Peak	Horizontal
*	9695.5	35.5	10.9	46.4	88.2	-41.8	Peak	Vertical
*	10503.0	35.2	12.4	47.6	88.2	-40.6	Peak	Vertical
	10953.5	35.2	13.1	48.3	74.0	-25.7	Peak	Vertical
	11489.0	36.2	12.8	49.0	74.0	-25.0	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 – Ant 1+2	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
*	8837.0	36.4	9.1	45.5	88.2	-42.7	Peak	Horizontal
*	9602.0	35.1	10.9	46.0	88.2	-42.2	Peak	Horizontal
	9959.0	36.5	11.4	47.9	74.0	-26.1	Peak	Horizontal
	11567.4	28.7	12.7	41.4	54.0	-12.6	Average	Horizontal
	11574.0	40.8	12.6	53.4	74.0	-20.6	Peak	Horizontal
*	9780.5	35.4	11.4	46.8	88.2	-41.4	Peak	Vertical
*	10248.0	34.5	11.9	46.4	88.2	-41.8	Peak	Vertical
	10868.5	35.1	12.8	47.9	74.0	-26.1	Peak	Vertical
	11565.5	36.8	12.7	49.5	74.0	-24.5	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 – Ant 1+2	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
*	9525.5	36.1	10.7	46.8	88.2	-41.4	Peak	Horizontal
*	10520.0	36.4	12.4	48.8	88.2	-39.4	Peak	Horizontal
	10758.0	36.2	12.5	48.7	74.0	-25.3	Peak	Horizontal
	11650.5	41.6	12.3	53.9	74.0	-20.1	Peak	Horizontal
	11652.3	31.6	12.3	43.9	54.0	-10.1	Average	Horizontal
*	9933.5	35.3	11.5	46.8	88.2	-41.4	Peak	Vertical
*	10384.0	34.8	12.3	47.1	88.2	-41.1	Peak	Vertical
	11021.5	35.7	13.0	48.7	74.0	-25.3	Peak	Vertical
	11650.5	39.3	12.3	51.6	74.0	-22.4	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-HT40 – Ant 1+2	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
*	8012.5	36.9	8.7	45.6	88.2	-42.6	Peak	Horizontal
*	10316.0	35.9	12.1	48.0	88.2	-40.2	Peak	Horizontal
	10979.0	35.6	13.0	48.6	74.0	-25.4	Peak	Horizontal
	11480.5	36.1	12.7	48.8	74.0	-25.2	Peak	Horizontal
*	9551.0	34.1	10.8	44.9	88.2	-43.3	Peak	Vertical
*	10001.5	35.7	11.4	47.1	88.2	-41.1	Peak	Vertical
	11021.5	35.1	13.0	48.1	74.0	-25.9	Peak	Vertical
	11531.5	35.3	12.7	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:	802.11n-HT40 – Ant 1+2	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
*	9916.5	35.3	11.5	46.8	88.2	-41.4	Peak	Horizontal
*	10350.0	35.3	12.2	47.5	88.2	-40.7	Peak	Horizontal
	10843.0	35.1	12.7	47.8	74.0	-26.2	Peak	Horizontal
	11540.0	35.3	12.7	48.0	74.0	-26.0	Peak	Horizontal
*	9755.0	35.8	11.4	47.2	88.2	-41.0	Peak	Vertical
*	10401.0	35.3	12.3	47.6	88.2	-40.6	Peak	Vertical
	10970.5	36.1	13.1	49.2	74.0	-24.8	Peak	Vertical
	11463.5	35.5	12.7	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-HT40 – Ant 1+2	Test Site:	AC1
Test Channel:	54	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	38.7	8.8	47.5	88.2	-40.7	Peak	Horizontal
*	10545.5	37.1	12.5	49.6	88.2	-38.6	Peak	Horizontal
	11098.0	37.1	12.8	49.9	74.0	-24.1	Peak	Horizontal
	11421.0	37.2	12.6	49.8	74.0	-24.2	Peak	Horizontal
*	7961.5	38.4	8.6	47.0	88.2	-41.2	Peak	Vertical
*	8956.0	38.6	9.0	47.6	88.2	-40.6	Peak	Vertical
	10885.5	36.8	12.9	49.7	74.0	-24.3	Peak	Vertical
	11531.5	36.4	12.7	49.1	74.0	-24.9	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:	802.11n-HT40 – Ant 1+2	Test Site:	AC1
Test Channel:	62	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	37.9	8.7	46.6	88.2	-41.6	Peak	Horizontal
*	9525.5	37.1	10.7	47.8	88.2	-40.4	Peak	Horizontal
	11030.0	36.9	13.0	49.9	74.0	-24.1	Peak	Horizontal
	11667.5	37.6	12.2	49.8	74.0	-24.2	Peak	Horizontal
*	8803.0	37.6	8.9	46.5	88.2	-41.7	Peak	Vertical
*	9831.5	37.1	11.6	48.7	88.2	-39.5	Peak	Vertical
	11064.0	37.4	12.8	50.2	74.0	-23.8	Peak	Vertical
	11642.0	37.1	12.4	49.5	74.0	-24.5	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-HT40 – Ant 1+2	Test Site:	AC1
Test Channel:	102	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
*	9211.0	37.6	10.1	47.7	88.2	-40.5	Peak	Horizontal
*	10273.5	36.9	12.0	48.9	88.2	-39.3	Peak	Horizontal
	11021.5	40.0	13.0	53.0	74.0	-21.0	Peak	Horizontal
	11591.0	37.0	12.6	49.6	74.0	-24.4	Peak	Horizontal
*	8684.0	38.0	9.0	47.0	88.2	-41.2	Peak	Vertical
*	9780.5	37.2	11.4	48.6	88.2	-39.6	Peak	Vertical
	11047.0	37.3	12.9	50.2	74.0	-23.8	Peak	Vertical
	11412.5	37.3	12.6	49.9	74.0	-24.1	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 – Ant 1+2	Test Site:	AC1
Test Channel:	118	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
*	8514.0	38.5	8.4	46.9	88.2	-41.3	Peak	Horizontal
*	10503.0	37.4	12.4	49.8	88.2	-38.4	Peak	Horizontal
	11174.5	39.6	12.6	52.2	74.0	-21.8	Peak	Horizontal
	11540.0	36.6	12.7	49.3	74.0	-24.7	Peak	Horizontal
*	9219.5	37.5	10.1	47.6	88.2	-40.6	Peak	Vertical
*	10188.5	37.1	11.8	48.9	88.2	-39.3	Peak	Vertical
	10979.0	36.6	13.0	49.6	74.0	-24.4	Peak	Vertical
	11480.5	37.1	12.7	49.8	74.0	-24.2	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-HT40 – Ant 1+2	Test Site:	AC1
Test Channel:	134	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
*	10027.0	37.2	11.5	48.7	88.2	-39.5	Peak	Horizontal
*	10503.0	36.6	12.4	49.0	88.2	-39.2	Peak	Horizontal
	10792.0	36.9	12.6	49.5	74.0	-24.5	Peak	Horizontal
	11338.7	29.0	12.5	41.5	54.0	-12.5	Average	Horizontal
	11344.5	42.8	12.5	55.3	74.0	-18.7	Peak	Horizontal
*	8514.0	38.4	8.4	46.8	88.2	-41.4	Peak	Vertical
*	9542.5	37.0	10.8	47.8	88.2	-40.4	Peak	Vertical
	10919.5	36.2	13.0	49.2	74.0	-24.8	Peak	Vertical
	11701.5	38.2	12.0	50.2	74.0	-23.8	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-HT40 – Ant 1+2	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
*	9899.5	35.2	11.6	46.8	88.2	-41.4	Peak	Horizontal
*	10588.0	35.8	12.4	48.2	88.2	-40.0	Peak	Horizontal
	11089.5	36.1	12.8	48.9	74.0	-25.1	Peak	Horizontal
	11540.0	35.8	12.7	48.5	74.0	-25.5	Peak	Horizontal
*	9772.0	35.3	11.4	46.7	88.2	-41.5	Peak	Vertical
*	10307.5	35.7	12.0	47.7	88.2	-40.5	Peak	Vertical
	10928.0	35.4	13.0	48.4	74.0	-25.6	Peak	Vertical
	11548.5	35.9	12.7	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-HT40 – Ant 1+2	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
*	9857.0	35.1	11.6	46.7	88.2	-41.5	Peak	Horizontal
*	10596.5	35.3	12.4	47.7	88.2	-40.5	Peak	Horizontal
	10987.5	35.1	13.0	48.1	74.0	-25.9	Peak	Horizontal
	11574.0	35.6	12.6	48.2	74.0	-25.8	Peak	Horizontal
*	9610.5	35.5	10.9	46.4	88.2	-41.8	Peak	Vertical
*	10112.0	36.0	11.6	47.6	88.2	-40.6	Peak	Vertical
	10936.5	35.0	13.0	48.0	74.0	-26.0	Peak	Vertical
	11582.5	35.3	12.6	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)