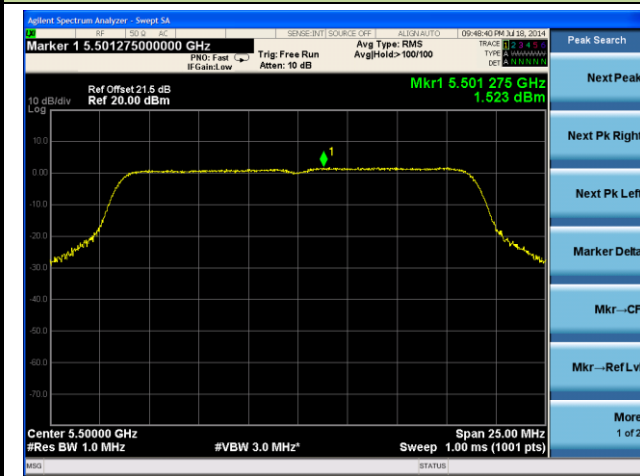
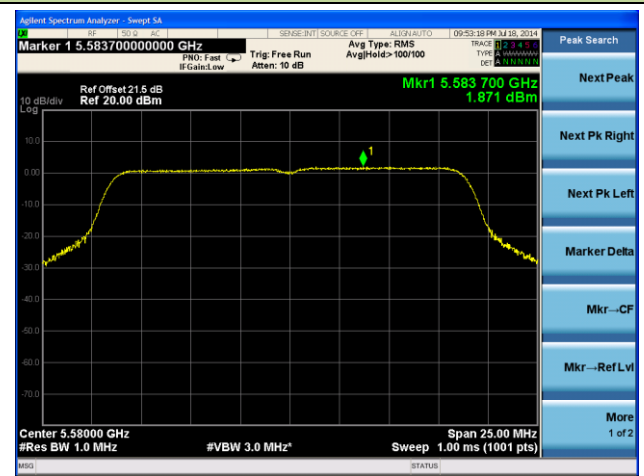


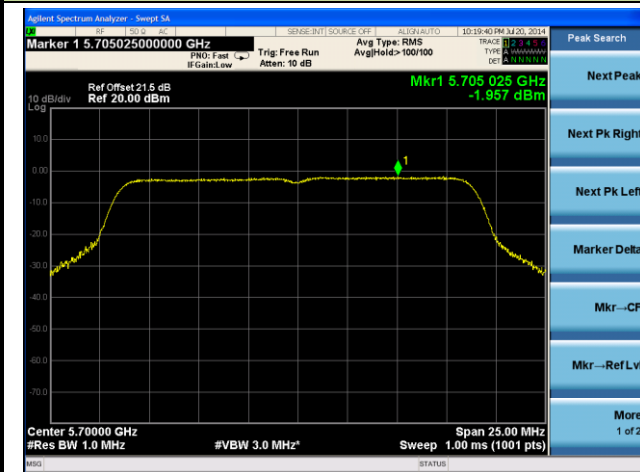
Channel 100 (5500MHz)



Channel 116 (5580MHz)

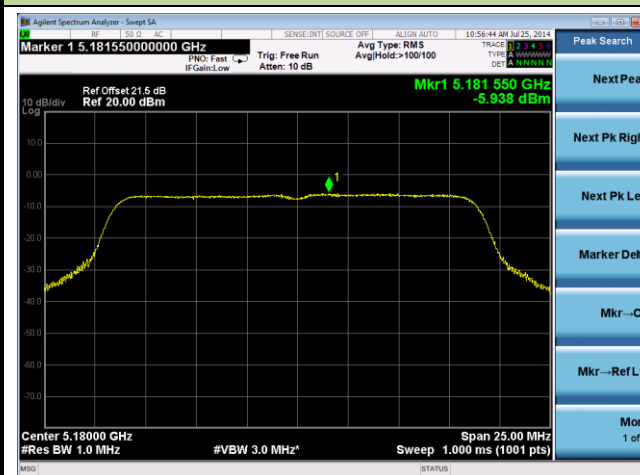


Channel 140 (5700MHz)

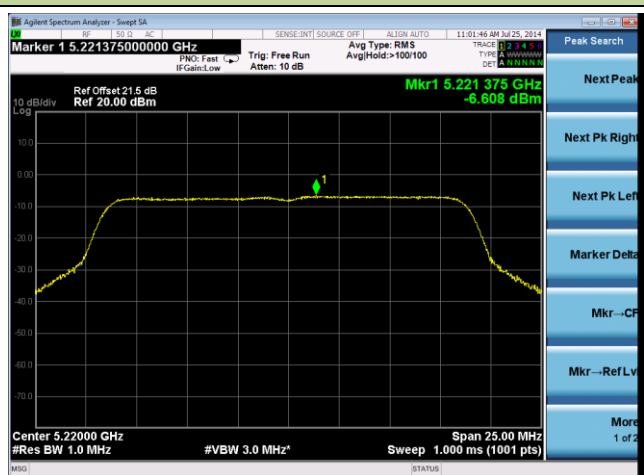


802.11ac-VHT20 PSD - Ant 2 / Ant 0 + 1 + 2 + 3, Beam Forming

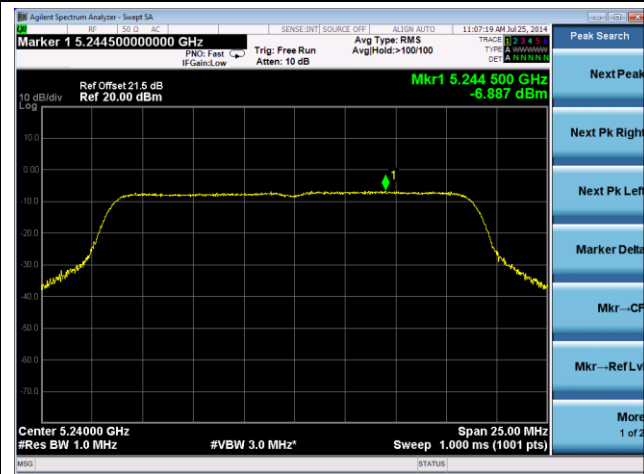
Channel 36 (5180MHz)



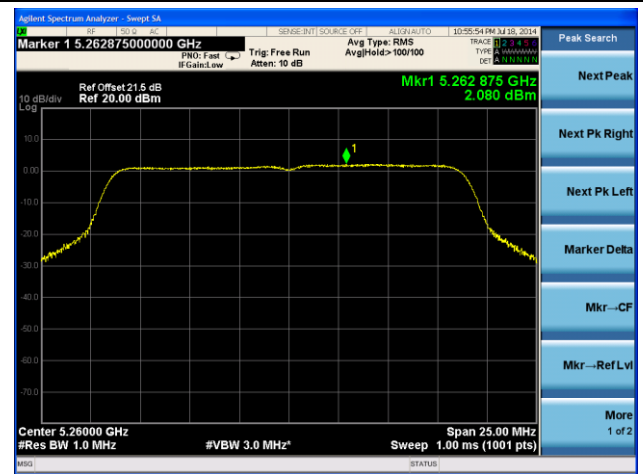
Channel 44 (5220MHz)



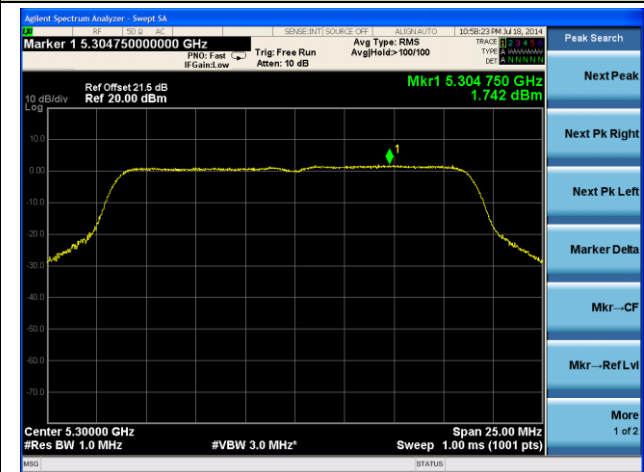
Channel 48 (5240MHz)



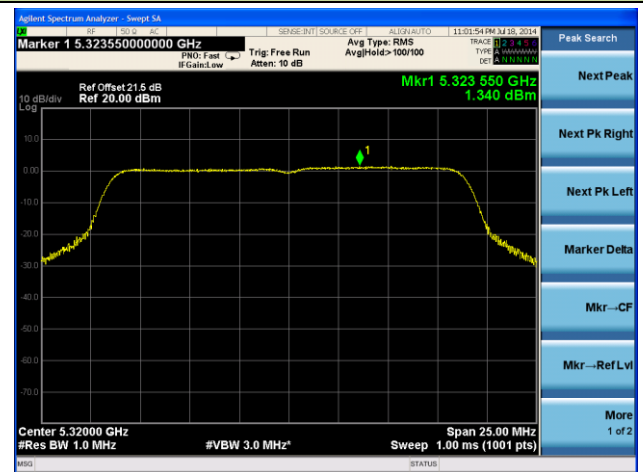
Channel 52 (5260MHz)



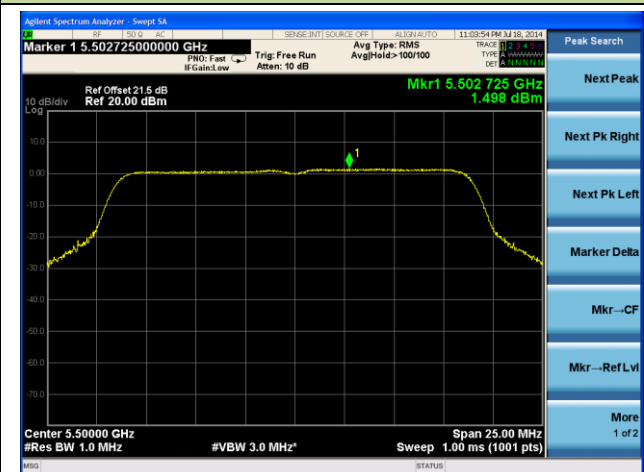
Channel 60 (5300MHz)



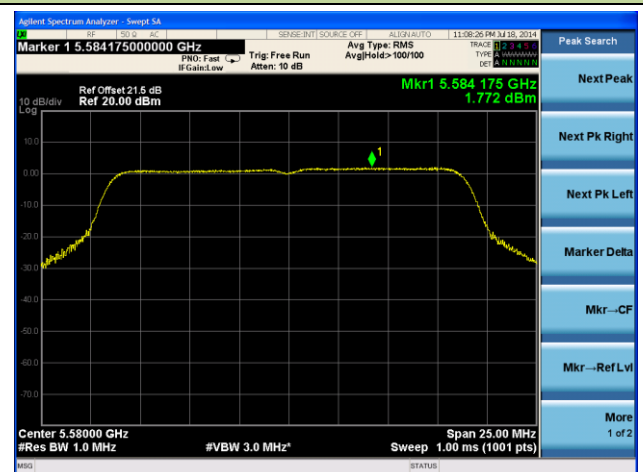
Channel 64 (5320MHz)



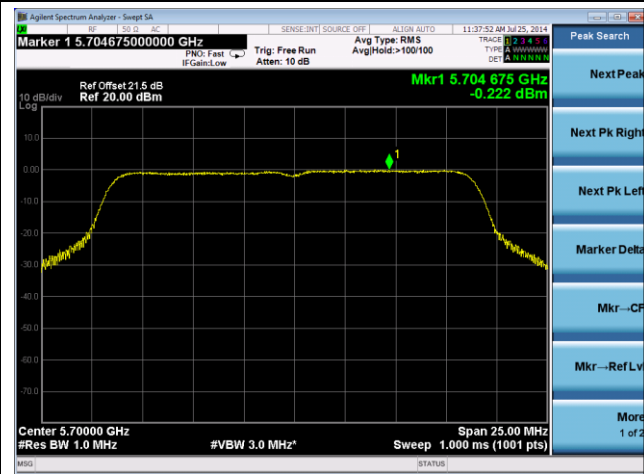
Channel 100 (5500MHz)



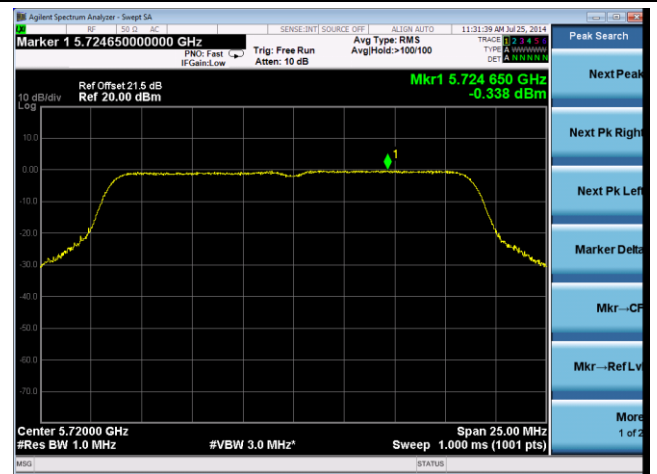
Channel 116 (5580MHz)



Channel 140 (5700MHz)

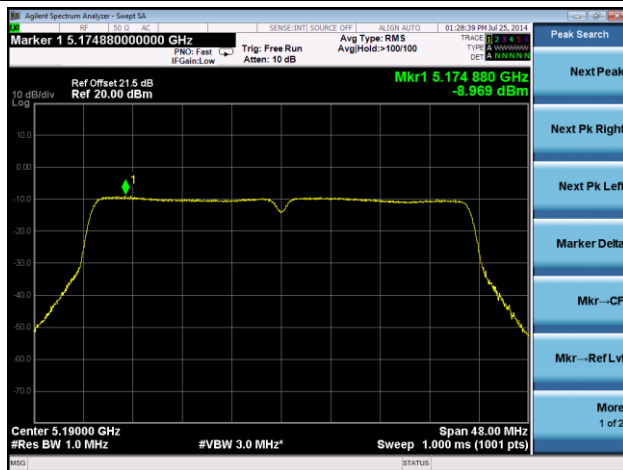


Channel 144 (5720MHz)

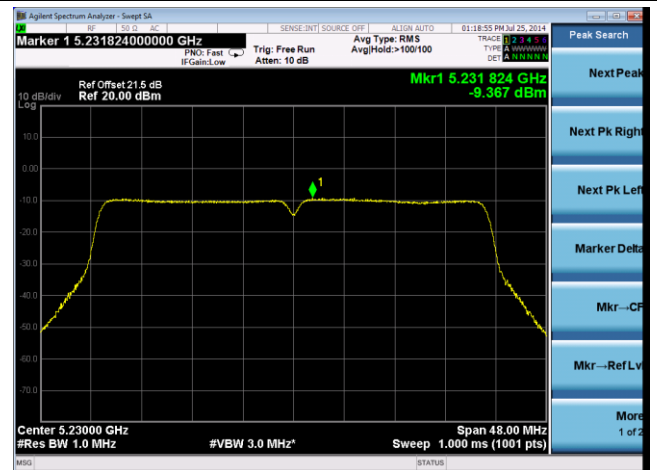


802.11n-HT40 PSD - Ant 2 / Ant 0 + 1 + 2 + 3, Beam Forming

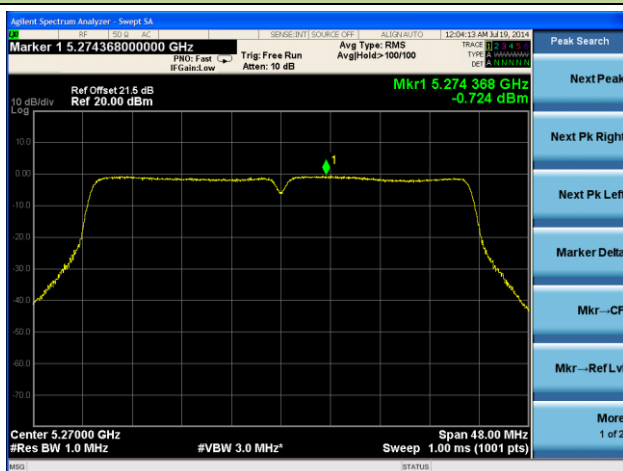
Channel 38 (5190MHz)



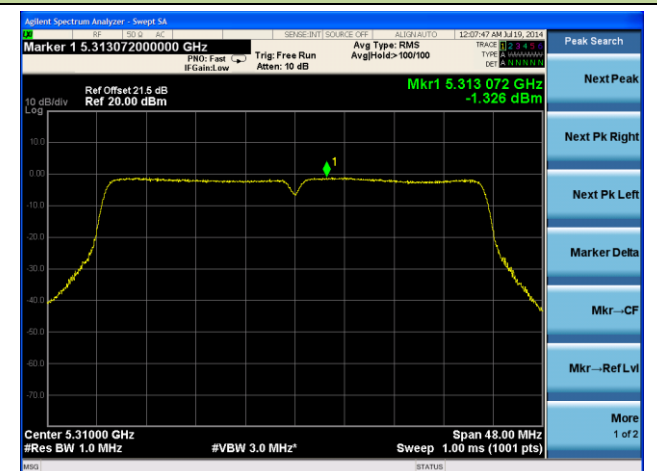
Channel 46 (5230MHz)



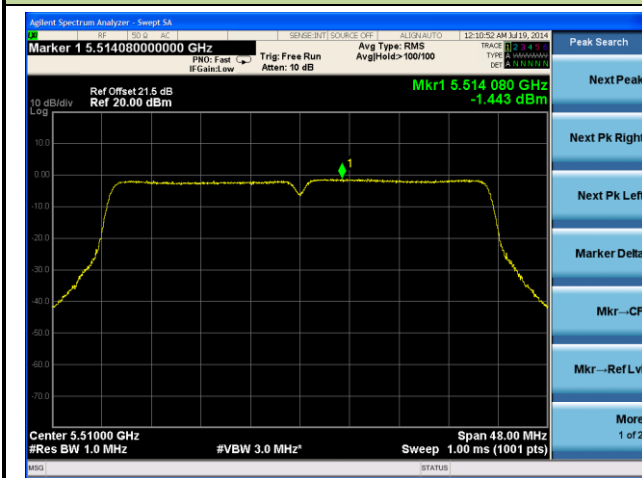
Channel 54 (5270MHz)



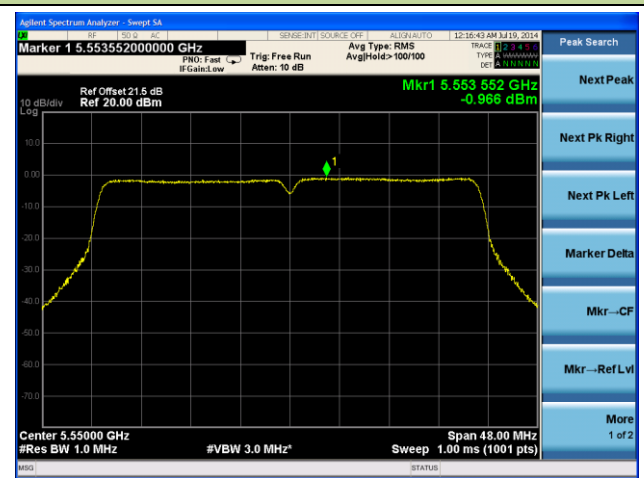
Channel 62 (5310MHz)



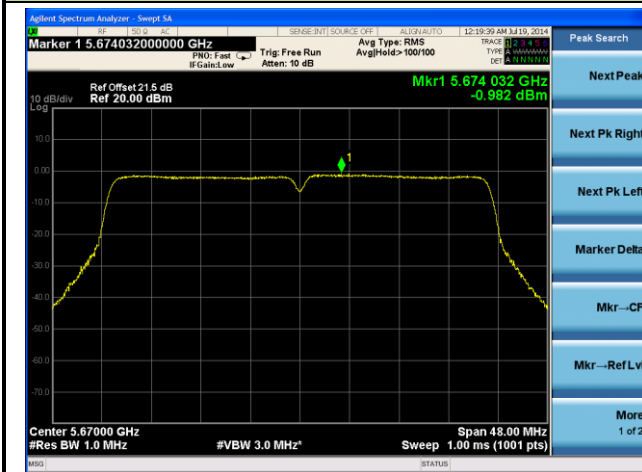
Channel 102 (5510MHz)



Channel 118 (5550MHz)

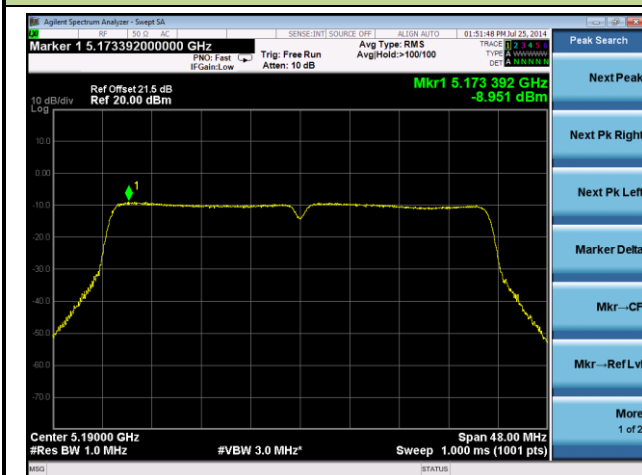


Channel 134 (5670MHz)

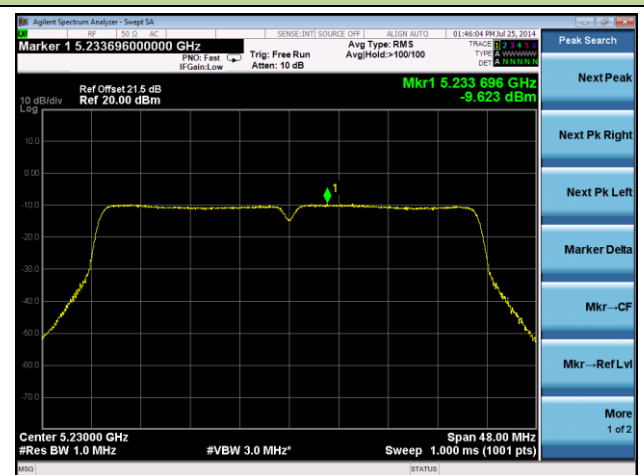


802.11ac-VHT40 PSD - Ant 2 / Ant 0 + 1 + 2 + 3, Beam Forming

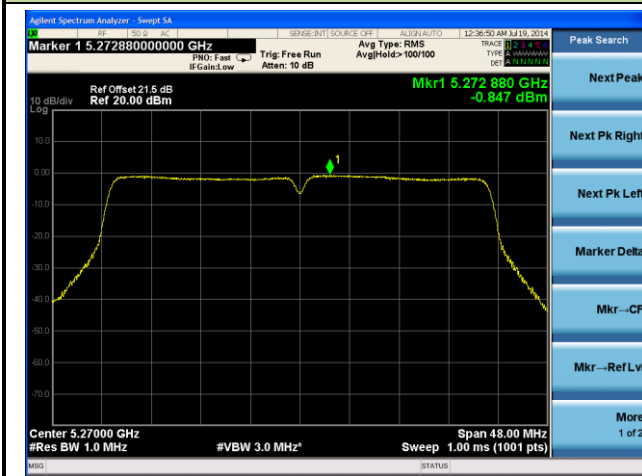
Channel 38 (5190MHz)



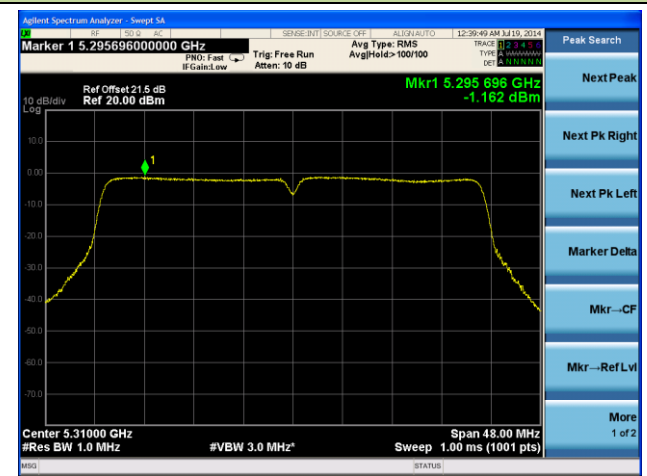
Channel 46 (5230MHz)



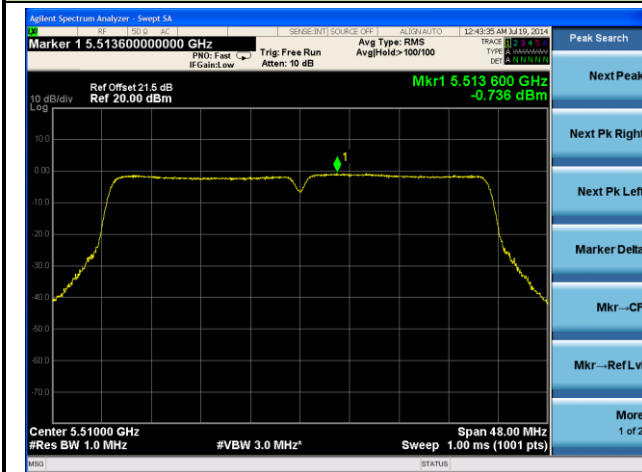
Channel 54 (5270MHz)



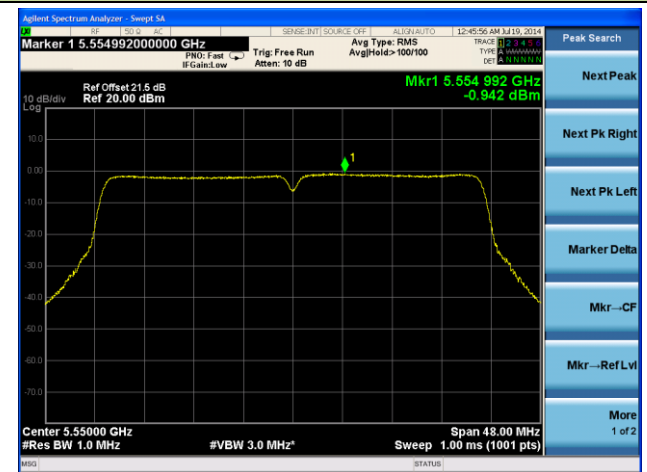
Channel 62 (5310MHz)



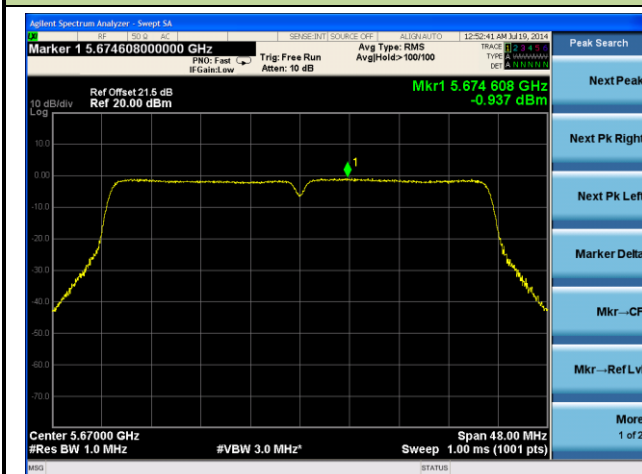
Channel 102 (5510MHz)



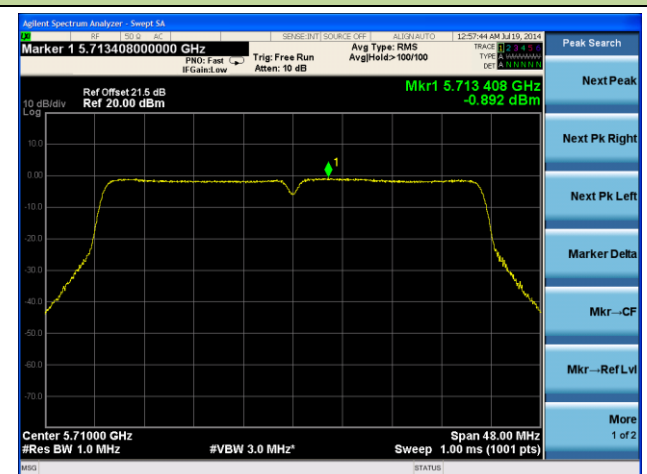
Channel 118 (5550MHz)



Channel 134 (5670MHz)



Channel 142 (5710MHz)



802.11ac-VHT80 PSD - Ant 2 / Ant 0 + 1 + 2 + 3, Beam Forming

Channel 42 (5210MHz)



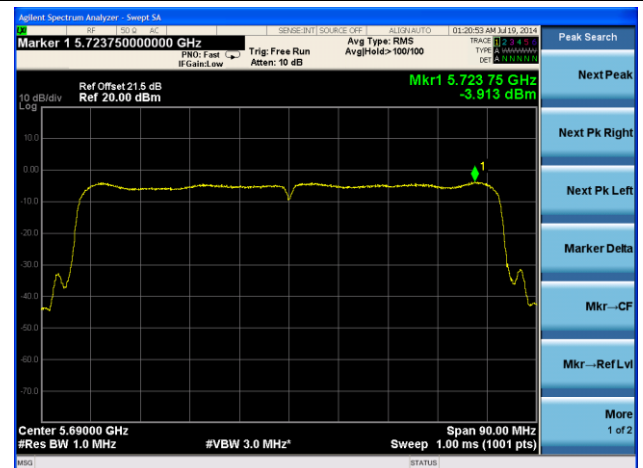
Channel 58 (5290MHz)



Channel 106 (5530MHz)

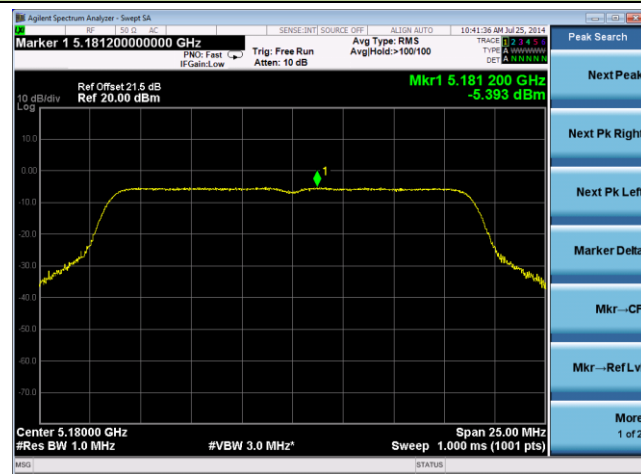


Channel 138 (5690MHz)

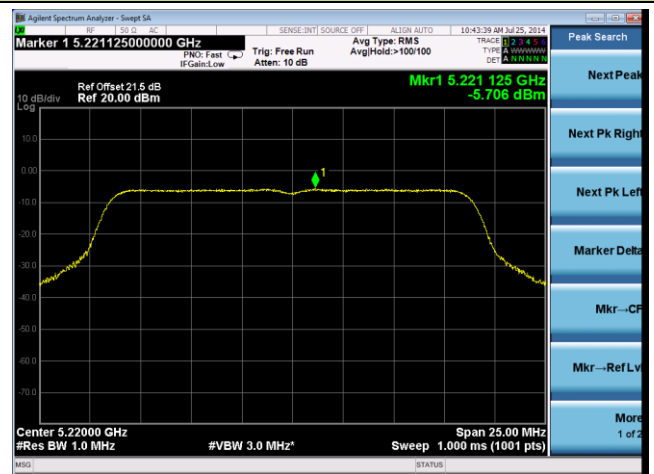


802.11n-HT20 PSD - Ant 3 / Ant 0 + 1 + 2 + 3, Beam Forming

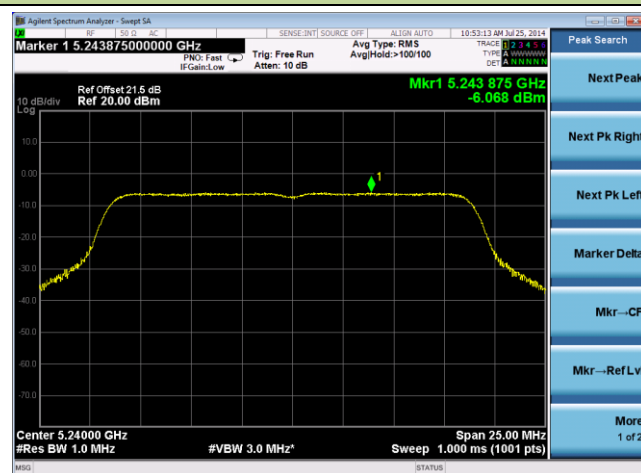
Channel 36 (5180MHz)



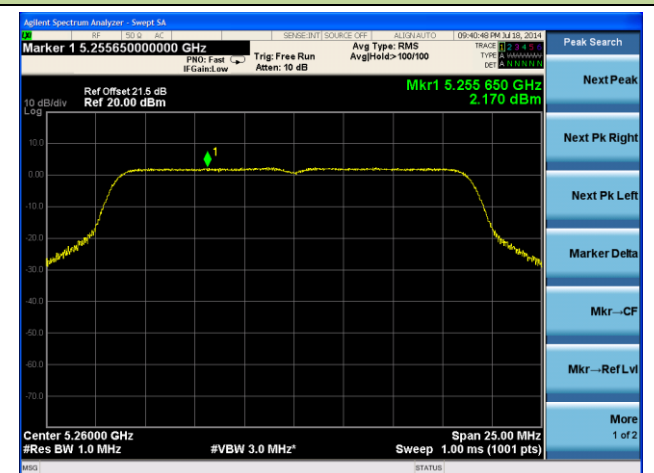
Channel 44 (5220MHz)



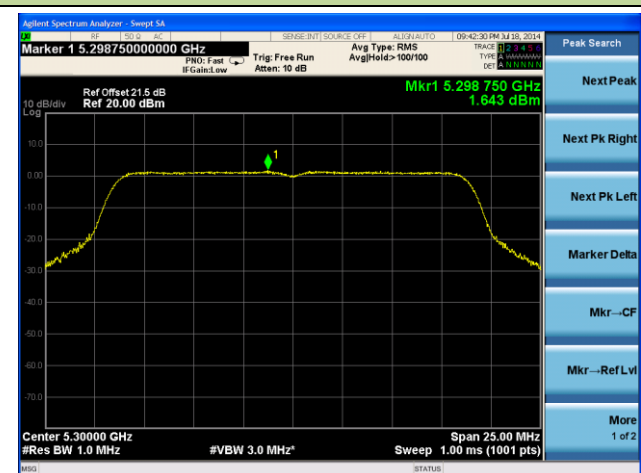
Channel 48 (5240MHz)



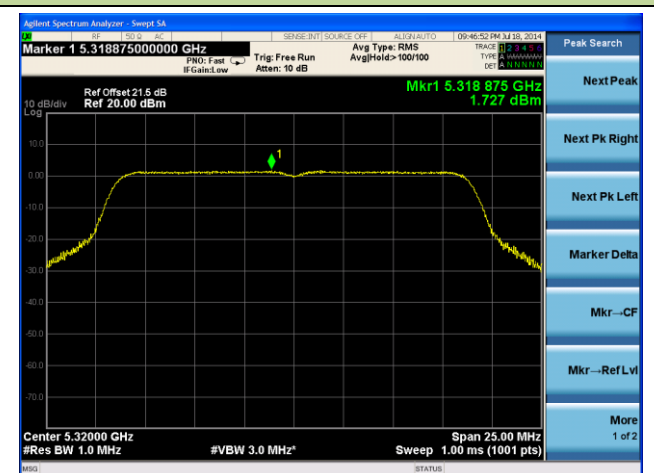
Channel 52 (5260MHz)



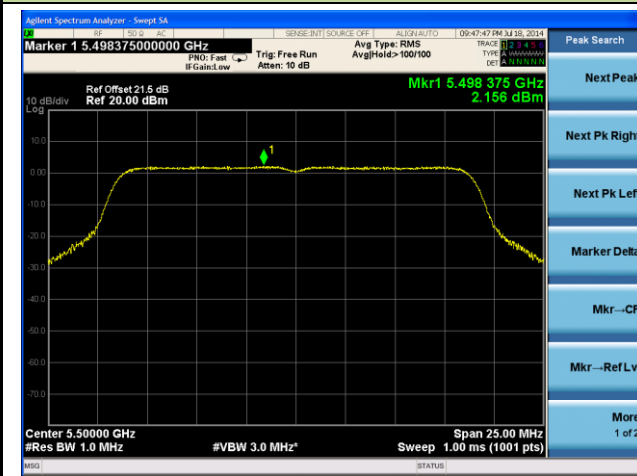
Channel 60 (5300MHz)



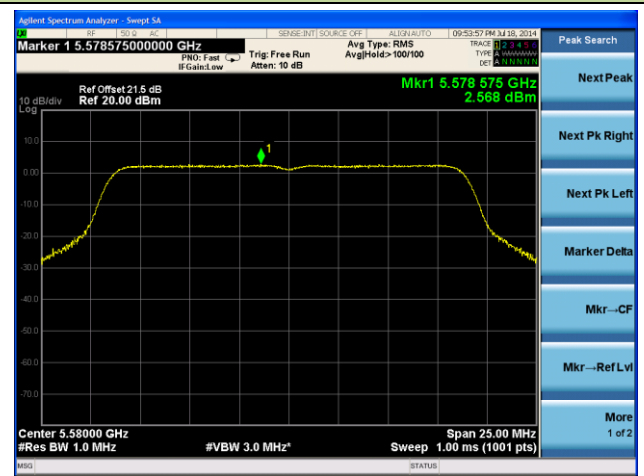
Channel 64 (5320MHz)



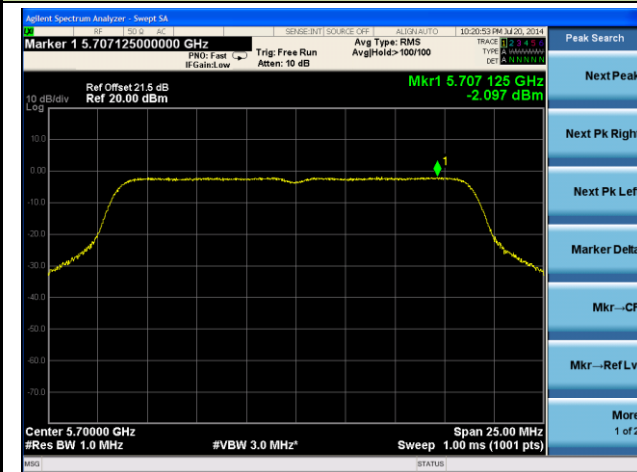
Channel 100 (5500MHz)



Channel 116 (5580MHz)

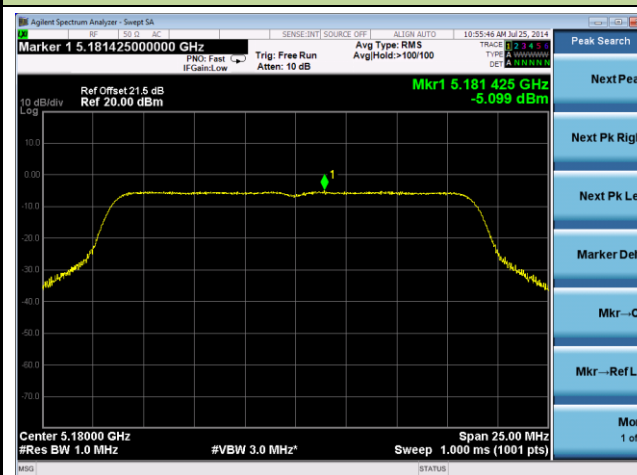


Channel 140 (5700MHz)

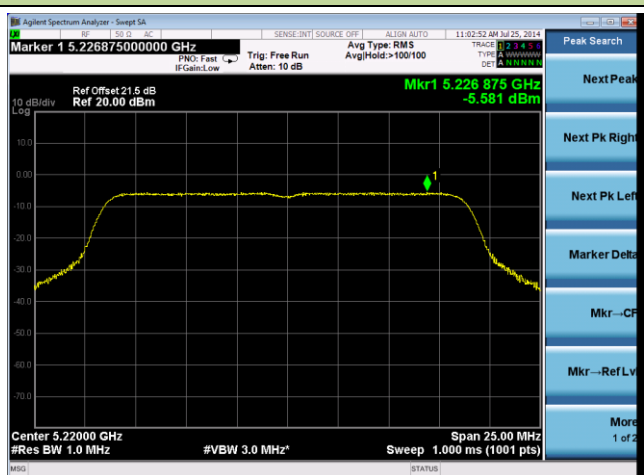


802.11ac-VHT20 PSD - Ant 3 / Ant 0 + 1 + 2 + 3, Beam Forming

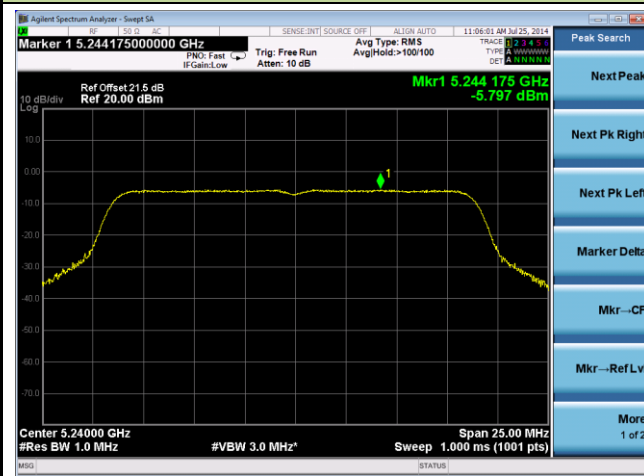
Channel 36 (5180MHz)



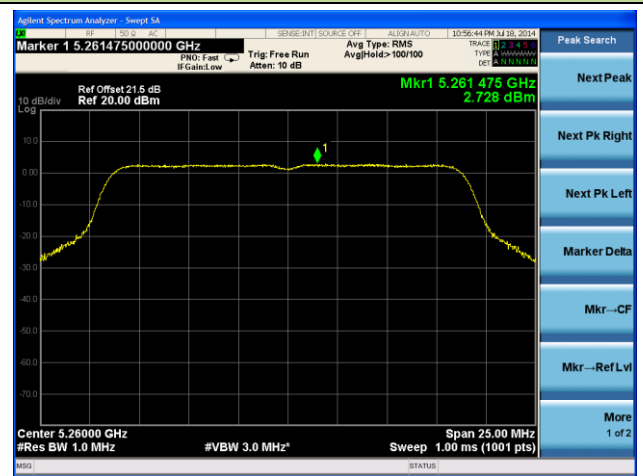
Channel 44 (5220MHz)



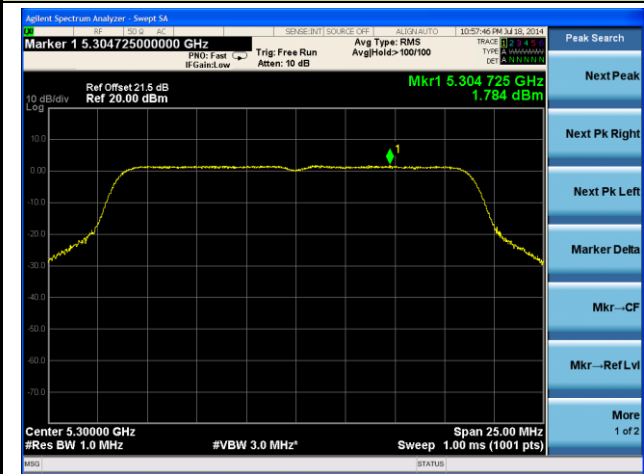
Channel 48 (5240MHz)



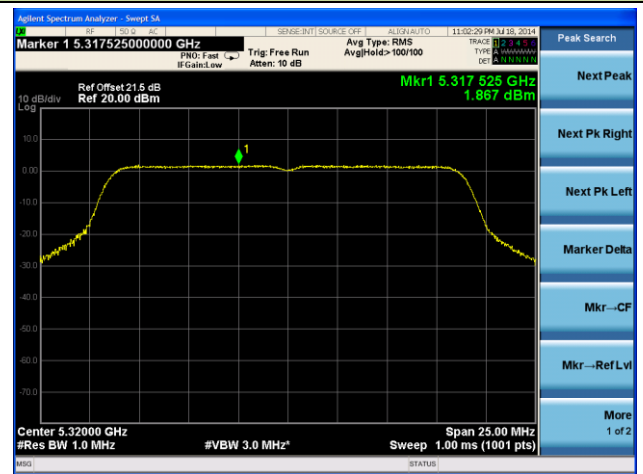
Channel 52 (5260MHz)



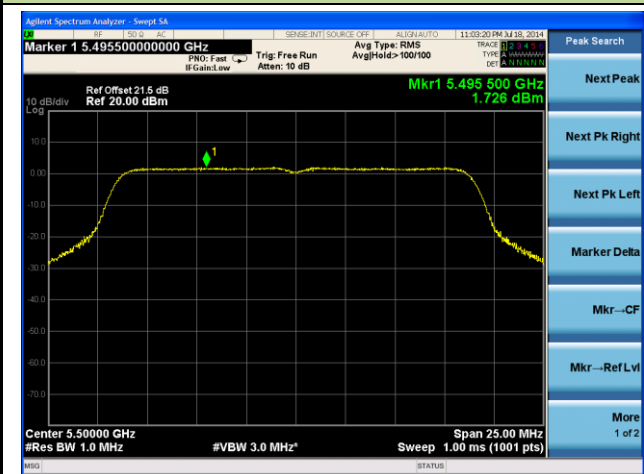
Channel 60 (5300MHz)



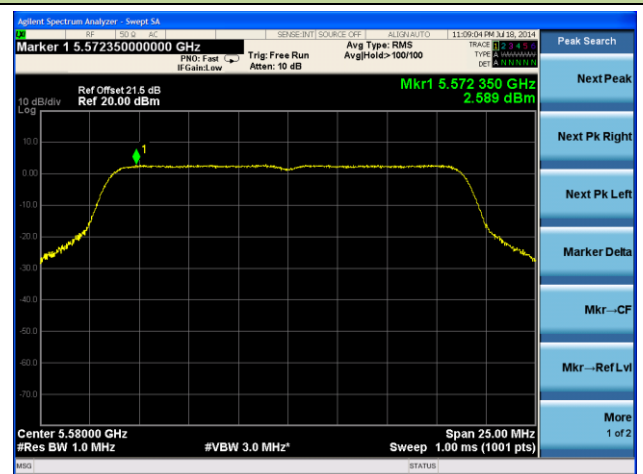
Channel 64 (5320MHz)



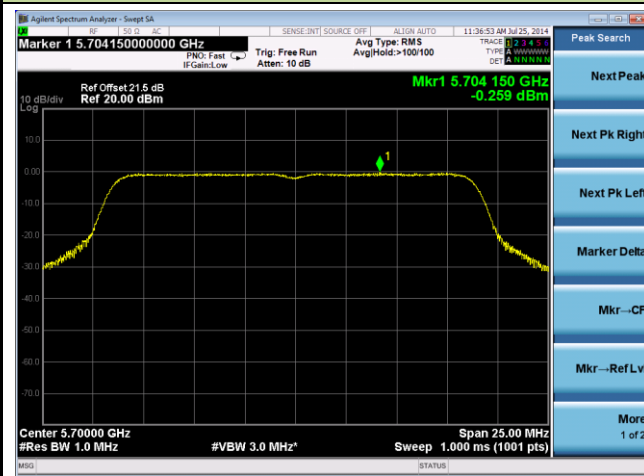
Channel 100 (5500MHz)



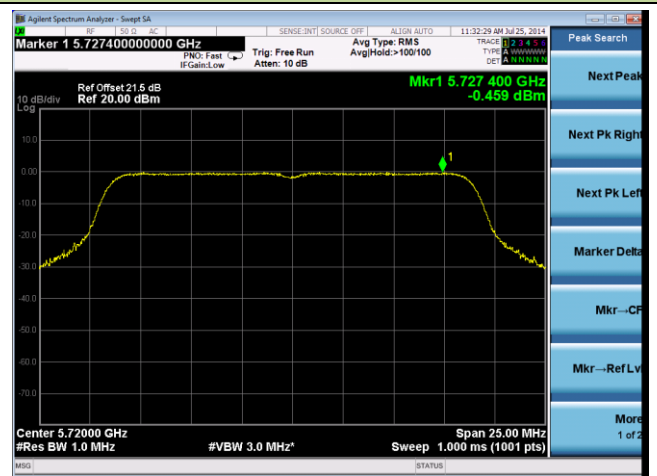
Channel 116 (5580MHz)



Channel 140 (5700MHz)

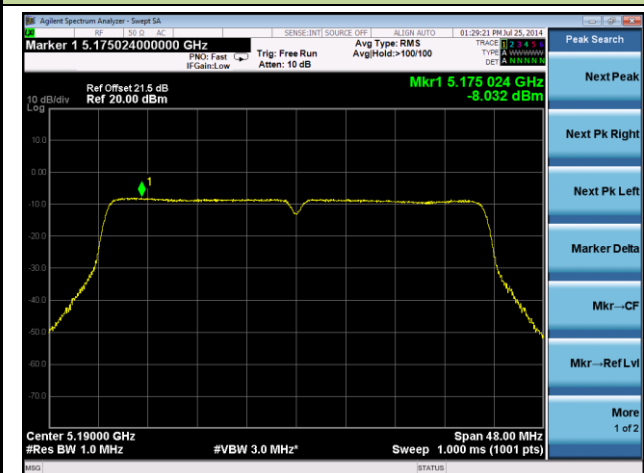


Channel 144 (5720MHz)



802.11n-HT40 PSD - Ant 3 / Ant 0 + 1 + 2 + 3, Beam Forming

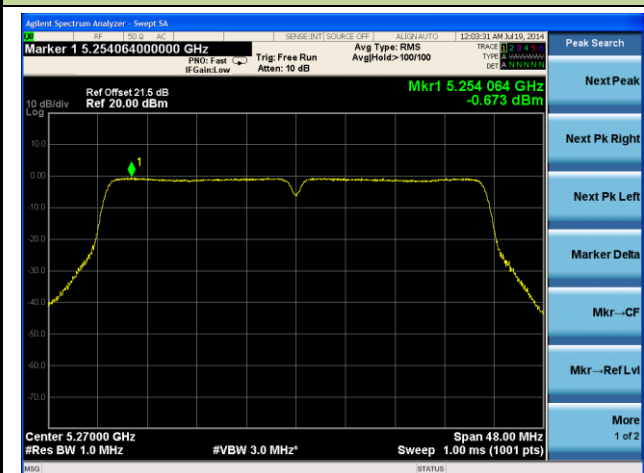
Channel 38 (5190MHz)



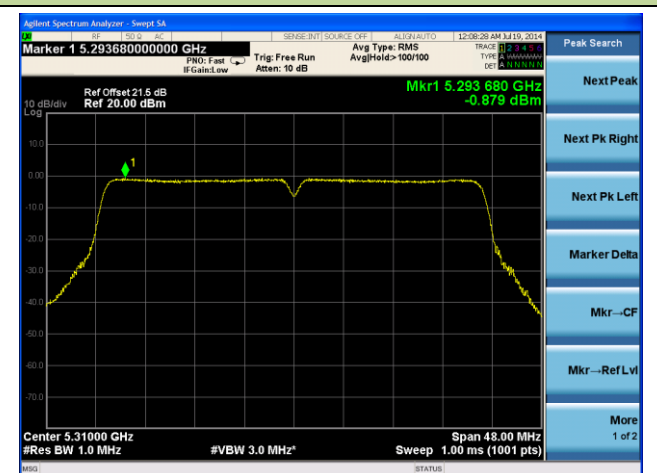
Channel 46 (5230MHz)



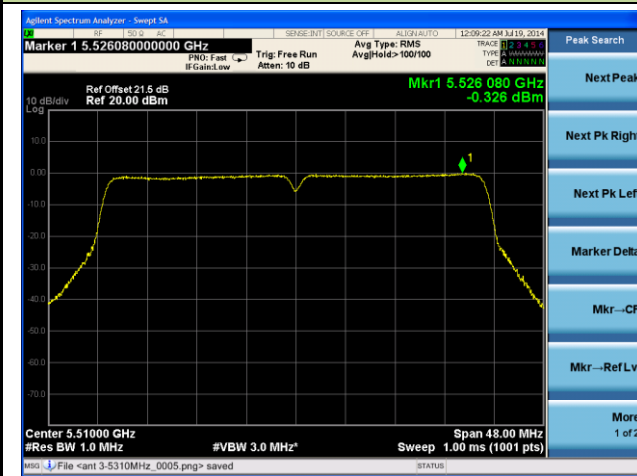
Channel 54 (5270MHz)



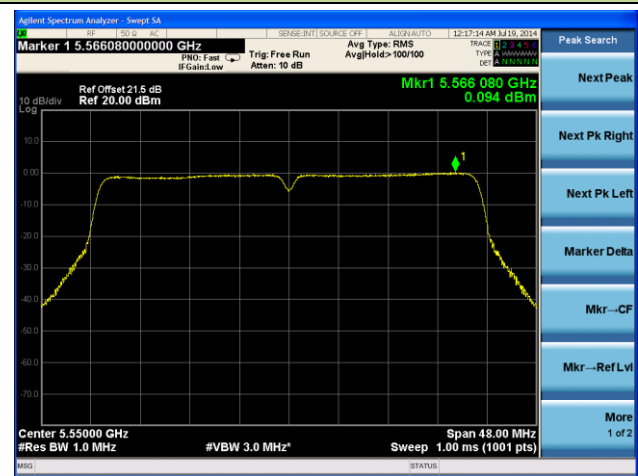
Channel 62 (5310MHz)



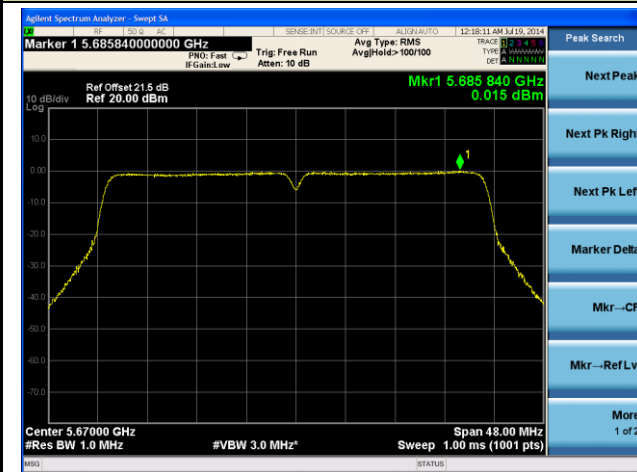
Channel 102 (5510MHz)



Channel 118 (5550MHz)

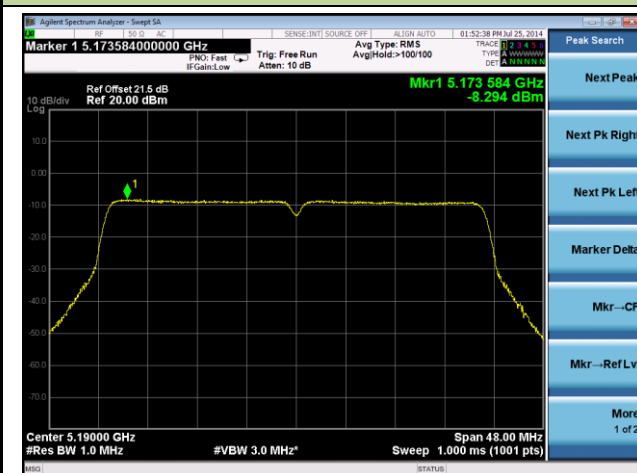


Channel 134 (5670MHz)

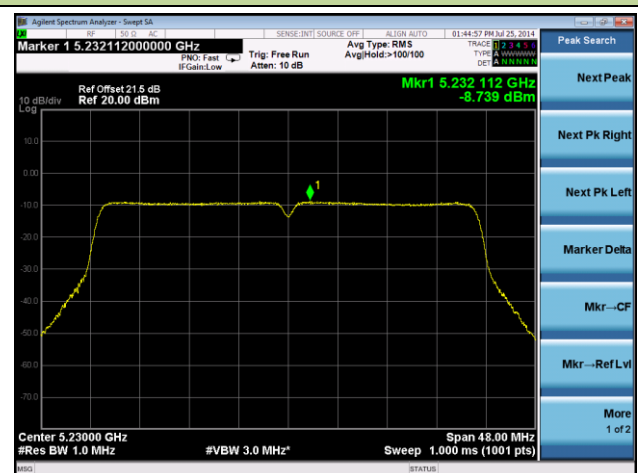


802.11ac-VHT40 PSD - Ant 3 / Ant 0 + 1 + 2 + 3, Beam Forming

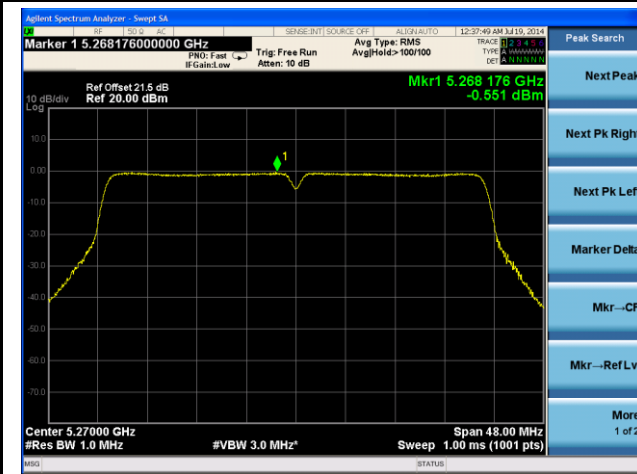
Channel 38 (5190MHz)



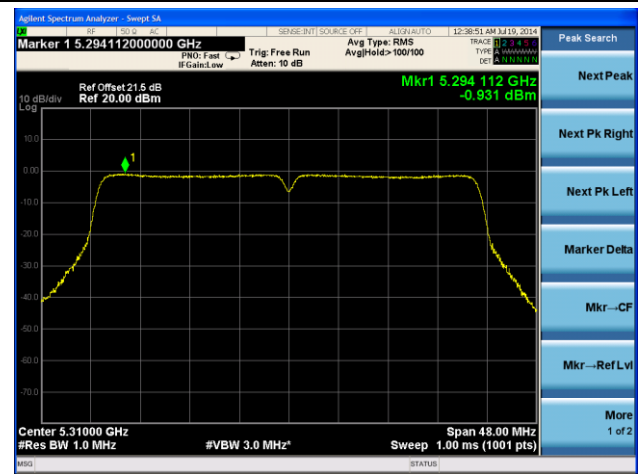
Channel 46 (5230MHz)



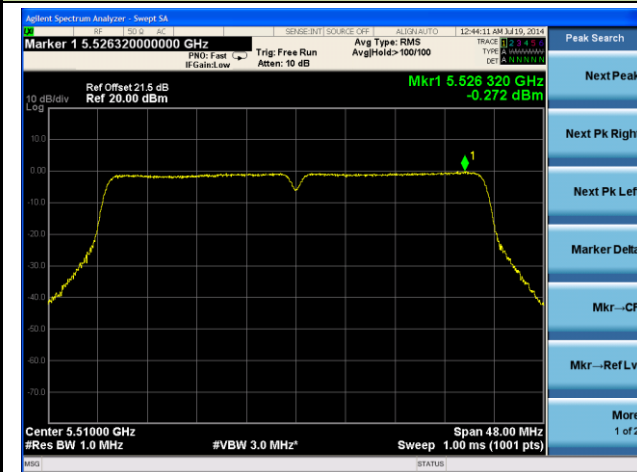
Channel 54 (5270MHz)



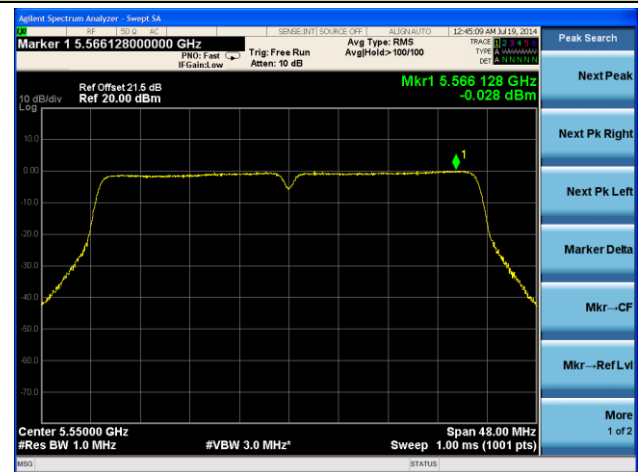
Channel 62 (5310MHz)



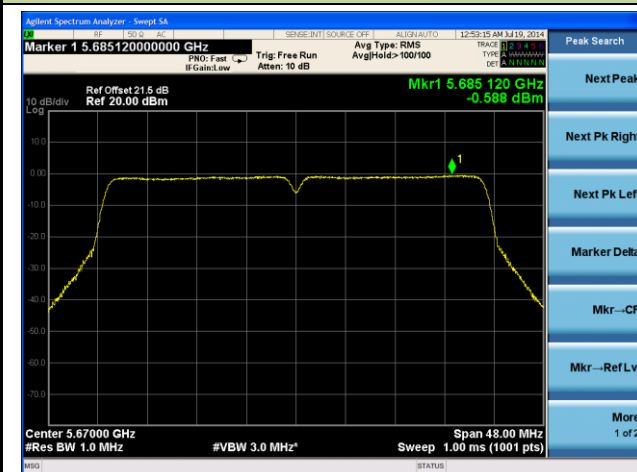
Channel 102 (5510MHz)



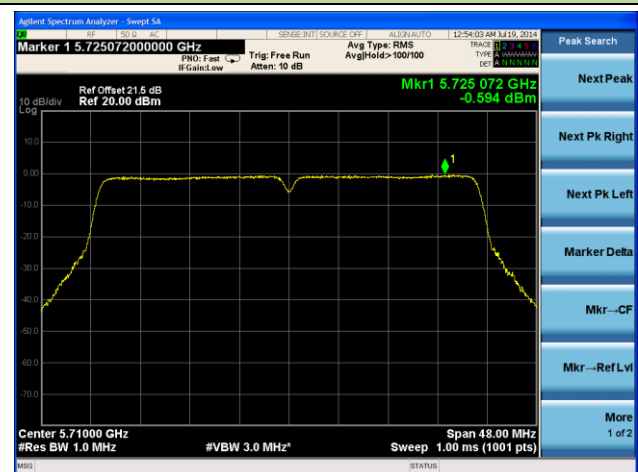
Channel 118 (5550MHz)



Channel 134 (5670MHz)



Channel 142 (5710MHz)

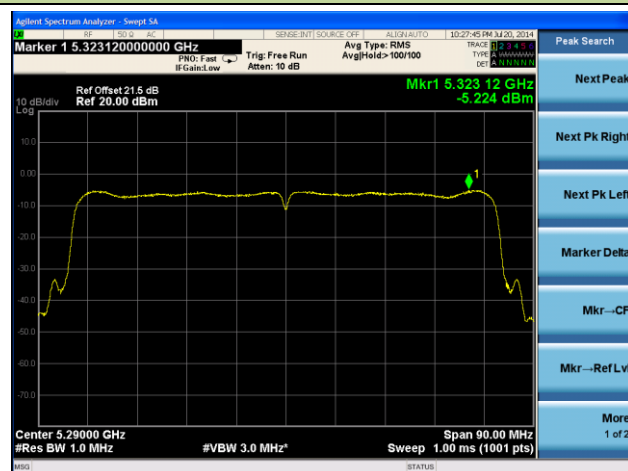


802.11ac-VHT80 PSD - Ant 3 / Ant 0 + 1 + 2 + 3, Beam Forming

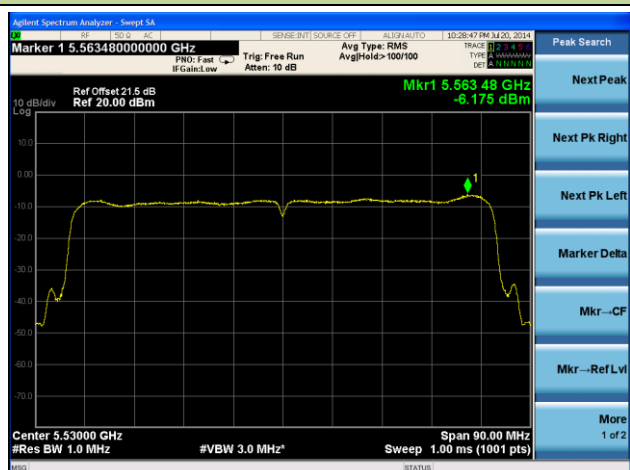
Channel 42 (5210MHz)



Channel 58 (5290MHz)



Channel 106 (5530MHz)



Channel 138 (5690MHz)



7.6. Peak Excursion Ratio Measurements §15.407(a)(6)

7.6.1. Test Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

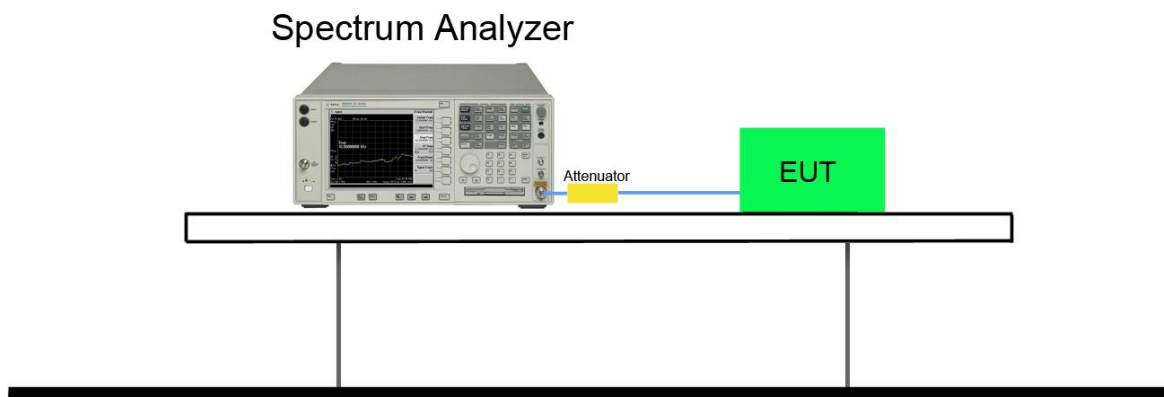
7.6.2. Test Procedure Used

KDB 789033 D01v01r04 – Section G

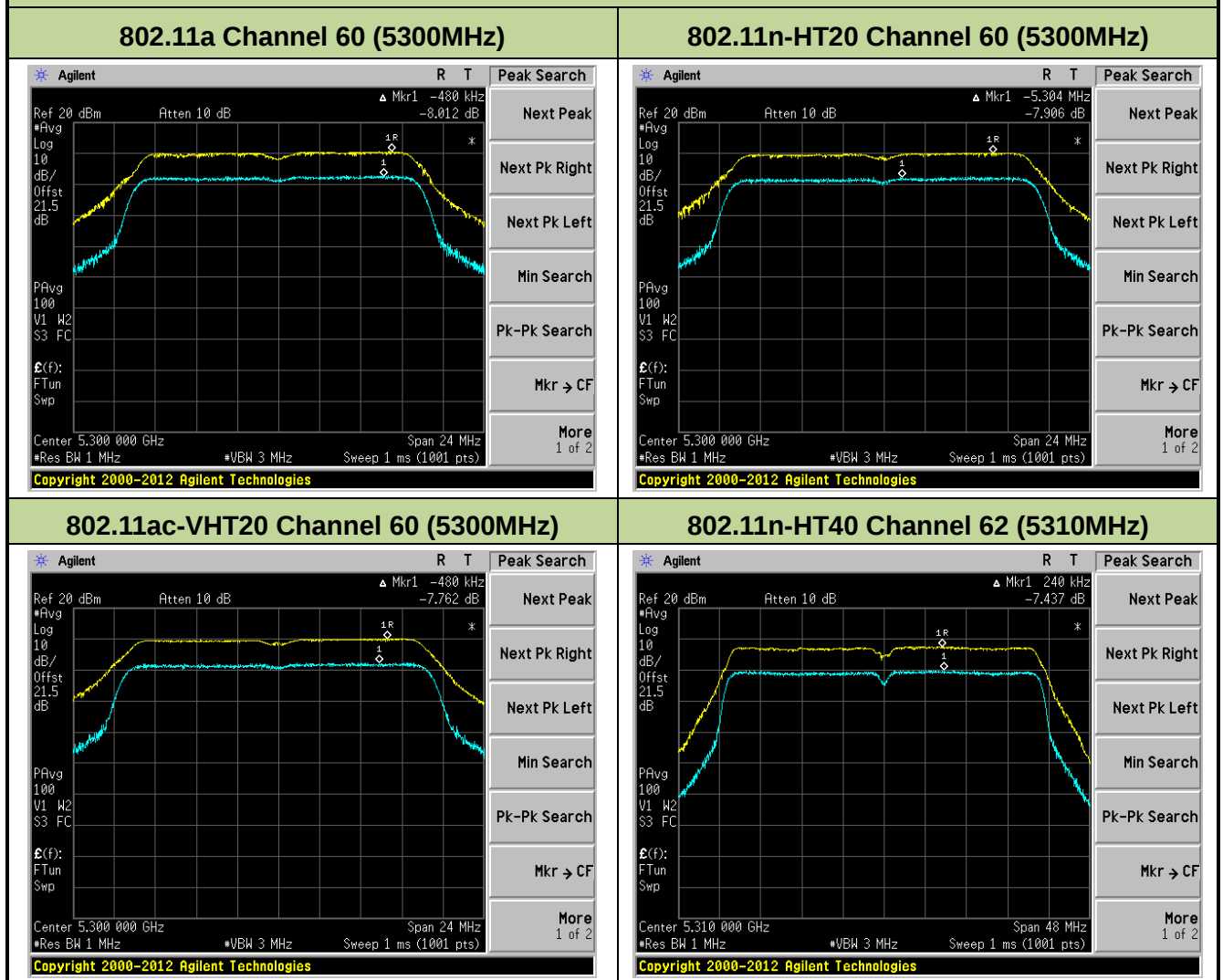
7.6.3. Test Setting

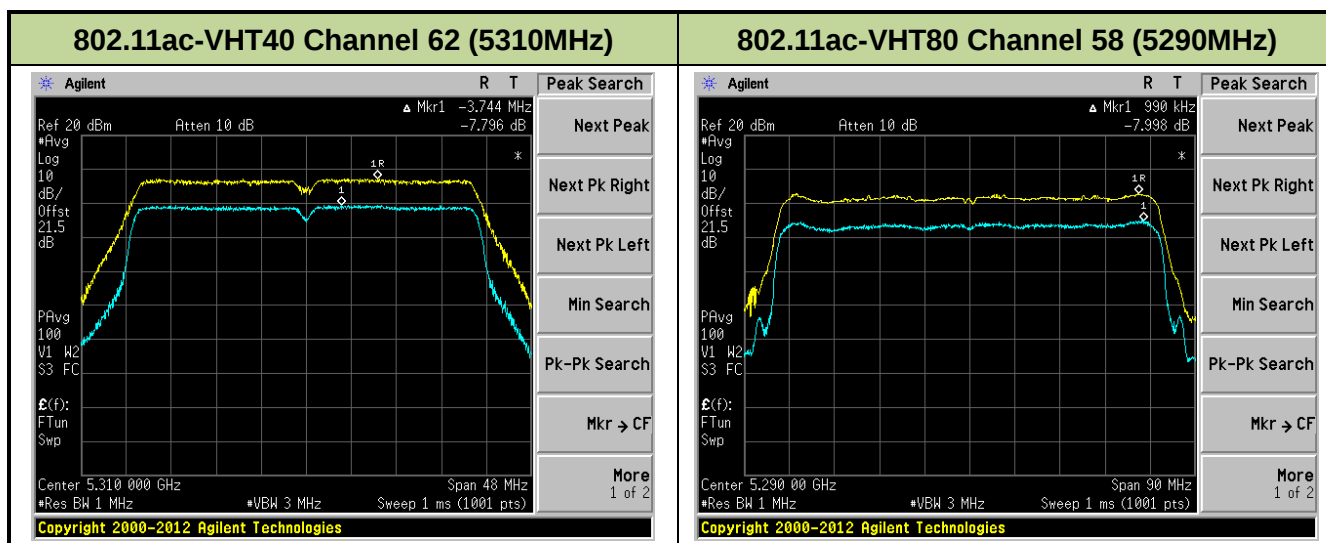
1. Analyzer was set to the center frequency of the UNII channel under investigation
 2. Span was set to encompass the entire emission bandwidth of the signal
 3. RBW = 1MHz
 4. VBW = 3MHz
 5. Detector = Peak
 6. Trace mode = max hold
 7. Trace was allowed to stabilize
 8. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.
- This level was compared to the peak power density level found from the previous section to determine the peak excursion.

7.6.4. Test Setup



Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Peak Excursion Ratio (dB)	Limit (dB)	Result
802.11a	6	60	5300	8.012	13	Pass
802.11n-HT20	6.5	60	5300	7.906	13	Pass
802.11ac-VHT20	6.5	60	5300	7.762	13	Pass
802.11n-HT40	13.5	62	5310	7.437	13	Pass
802.11ac-VHT40	13.5	62	5310	7.796	13	Pass
802.11ac-VHT80	29.3	58	5290	7.998	13	Pass





7.7. Frequency Stability Measurements §15.407(g); RSS-210[7.2.6]

7.7.1. Test Limit

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

7.7.2. Test Procedure Used

Frequency Stability Under Temperature Variations:

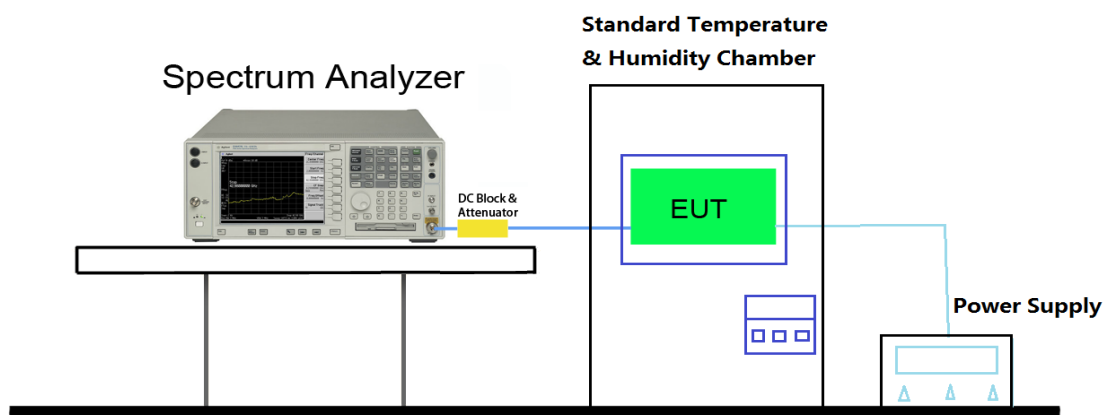
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain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

Frequency Stability Under Voltage Variations:

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

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

7.7.3. Test Setup



7.7.4. Test Result

Voltage (%)	Power (VAC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	120	+ 20 (Ref)	5300045680.830	31737.101	0.0000599
			5309993196.369	-14647.360	-0.0000276
			5290057031.295	49187.566	0.0000930
		- 10	5299988064.171	-19779.558	-0.0000373
			5310024078.459	16234.730	0.0000306
			5290036412.405	28568.676	0.0000540
		0	5300005894.852	-1948.877	-0.0000037
			5310011035.259	3191.530	0.0000060
			5289994949.504	-12894.225	-0.0000244
		+ 10	5300022672.911	14829.182	0.0000280
			5310021564.875	13721.146	0.0000258
			5289972680.301	-35163.428	-0.0000665
		+ 20	5299975680.830	-32162.899	-0.0000607
			5310043201.516	35357.787	0.0000666
			5290036124.414	28280.685	0.0000535
		+ 30	5299974722.997	-33120.732	-0.0000625
			5310025042.148	17198.419	0.0000324
			5290025162.997	17319.268	0.0000327
		+ 40	5300041958.941	34115.212	0.0000644
			5309986434.586	-21409.143	-0.0000403
			5290021321.405	13477.676	0.0000255
115%	138	+ 20	5300002767.985	-5075.744	-0.0000096
			5309998402.617	-9441.112	-0.0000178
			5290035561.274	27717.545	0.0000524
85%	102	+ 20	5300048625.193	40781.464	0.0000769
			5309996532.974	-11310.755	-0.0000213
			5289995128.334	-12715.395	-0.0000240

7.8. Radiated Spurious Emission Measurements §15.407(b)(1)(2)(3); RSS-210[A9.2]

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.

All out of band emissions appearing in a restricted band as specified in Section 7.2.2 of the RSS-Gen Issue 3 must not exceed the limits shown in Table per Section 7.2.5.

FCC Part 15 Subpart C Paragraph 15.209 & RSS-Gen Issue3 Section 7.2.5		
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

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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