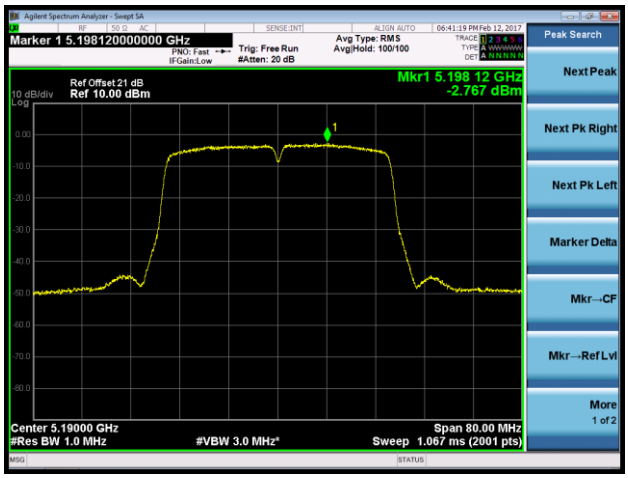
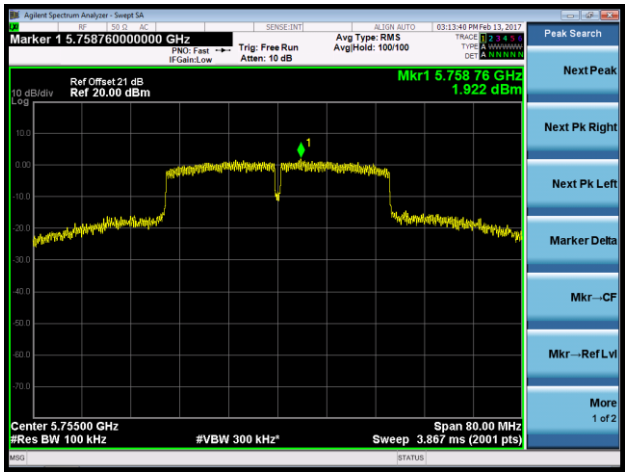
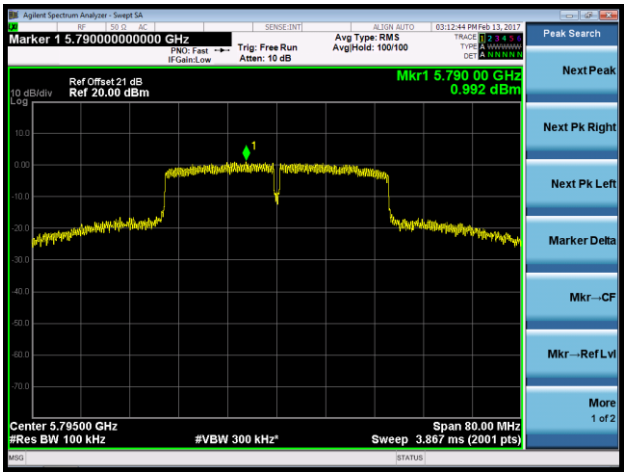
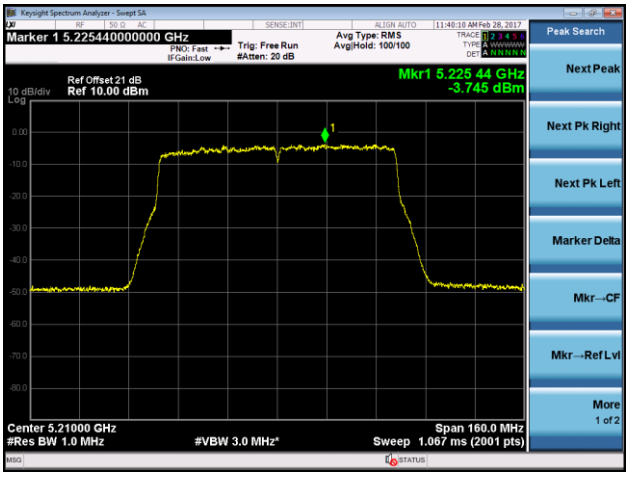
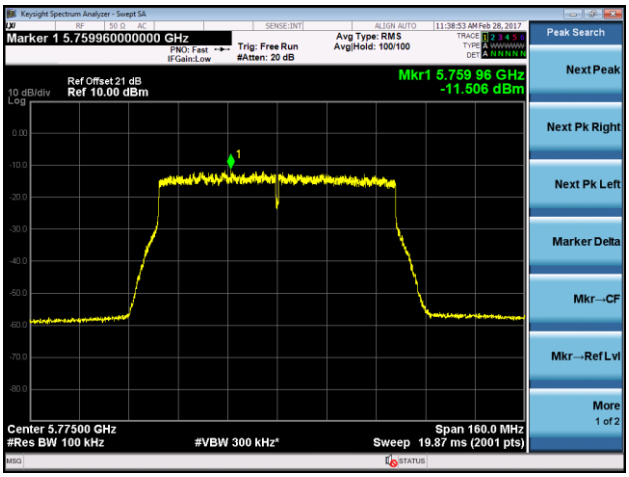
802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 38 (5190MHz)	**Channel 46 (5230MHz)**
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 42 (5210MHz)	**Channel 155 (5775MHz)**
	

802.11ac-VHT 80 + 80 Power Spectral Density - Ant 0 / Ant 0 + 1	
Channel 42 (5210MHz)	
	
802.11ac-VHT 80 + 80 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 155 (5775MHz)	
	

For Radio C Power Spectral Density Test Result

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/ MHz)	Ant 1 PSD (dBm/ MHz)	Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
11a	6	36	5180	-1.92	-1.95	95.31	1.29	≤ 12.99	Pass
11a	6	44	5220	-1.89	2.00	95.31	3.70	≤ 12.99	Pass
11a	6	48	5240	-1.36	-1.75	95.31	1.67	≤ 12.99	Pass
11n-HT20	26	36	5180	-2.06	-2.14	98.42	0.91	≤ 12.99	Pass
11n-HT20	26	44	5220	-2.02	-1.77	98.42	1.12	≤ 12.99	Pass
11n-HT20	26	48	5240	-1.79	-1.81	98.42	1.21	≤ 12.99	Pass
11n-HT40	54	38	5190	-4.59	-5.05	95.18	-1.59	≤ 12.99	Pass
11n-HT40	54	46	5230	-4.71	-4.66	95.18	-1.46	≤ 12.99	Pass
11ac-VHT20	26	36	5180	-2.07	-2.27	98.22	0.84	≤ 12.99	Pass
11ac-VHT20	26	44	5220	-2.09	-1.91	98.22	1.01	≤ 12.99	Pass
11ac-VHT20	26	48	5240	-1.99	-2.08	98.22	0.98	≤ 12.99	Pass
11ac-VHT40	54	38	5190	-4.63	-4.88	94.61	-1.50	≤ 12.99	Pass
11ac-VHT40	54	46	5230	-4.30	-4.51	94.61	-1.15	≤ 12.99	Pass
11ac-VHT80	117.2	42	5210	-7.59	-8.12	90.62	-4.41	≤ 12.99	Pass

Note 1: When EUT duty cycle ≥ 98%, the Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$.

Note 2: When EUT duty cycle < 98%, the Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ + 10*log(1/Duty Cycle).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/ MHz)	Ant 1 PSD (dBm/ MHz)	Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
11ac-VHT 80+80	29.3	42	5210	-5.04	--	92.62	-4.71	≤ 17.00	Pass

Note: When EUT duty cycle < 98%, the Total PSD (dBm/MHz) = Ant 0 PSD + 10*log(1/Duty Cycle).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/ MHz)	Ant 1 PSD (dBm/ MHz)	Duty Cycle (%)	Constant Factor	Total PSD (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Result
11a	6	149	5745	2.65	2.64	95.31	7.00	12.86	≤ 25.99	Pass
11a	6	157	5785	1.94	2.50	95.31	7.00	12.45	≤ 25.99	Pass
11a	6	165	5825	1.08	2.24	95.31	7.00	11.92	≤ 25.99	Pass
11n-HT20	26	149	5745	1.96	2.68	98.42	7.00	12.35	≤ 25.99	Pass
11n-HT20	26	157	5785	1.45	1.69	98.42	7.00	11.58	≤ 25.99	Pass
11n-HT20	26	165	5825	0.96	1.51	98.42	7.00	11.25	≤ 25.99	Pass
11n-HT40	54	151	5755	-0.79	-0.61	95.18	7.00	9.53	≤ 25.99	Pass
11n-HT40	54	159	5795	-1.67	-1.04	95.18	7.00	8.88	≤ 25.99	Pass
11ac-VHT20	26	149	5745	2.32	2.81	98.22	7.00	12.58	≤ 25.99	Pass
11ac-VHT20	26	157	5785	1.61	1.90	98.22	7.00	11.77	≤ 25.99	Pass
11ac-VHT20	26	165	5825	0.85	1.73	98.22	7.00	11.32	≤ 25.99	Pass
11ac-VHT40	54	151	5755	-0.82	-0.75	94.61	7.00	9.47	≤ 25.99	Pass
11ac-VHT40	54	159	5795	-1.65	-1.09	94.61	7.00	8.89	≤ 25.99	Pass
11ac-VHT80	117.2	155	5775	-5.63	-6.14	90.62	7.00	4.56	≤ 25.99	Pass

Note 1: When EUT duty cycle ≥ 98%, the Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ + Constant Factor.

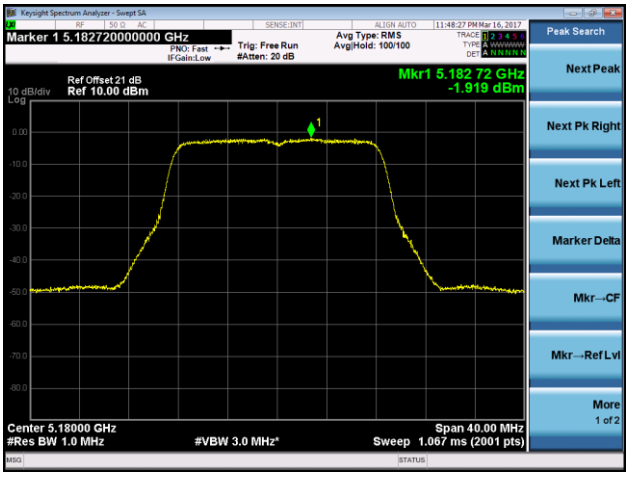
Note 2: When EUT duty cycle < 98%, the Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ + 10*log(1/Duty Cycle) + Constant Factor.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/ MHz)	Ant 1 PSD (dBm/ MHz)	Duty Cycle (%)	Constant Factor	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
11ac-VHT 80+80	29.3	155	5775	--	-13.11	92.62	7.00	-5.78	≤ 17.00	Pass

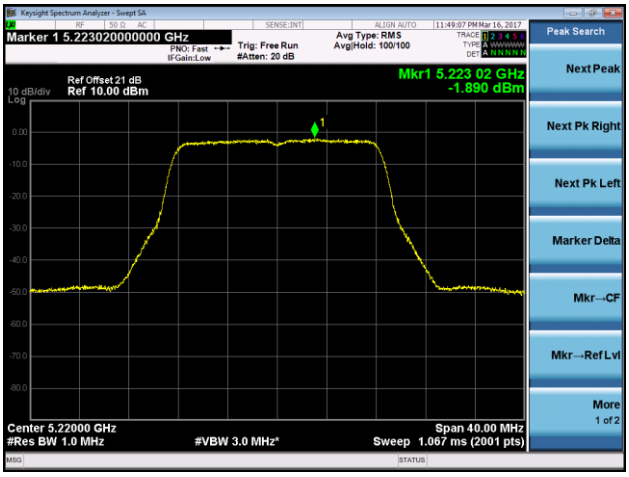
Note: When EUT duty cycle < 98%, the Total PSD (dBm/MHz) = Ant 0 PSD + 10*log(1/Duty Cycle).

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

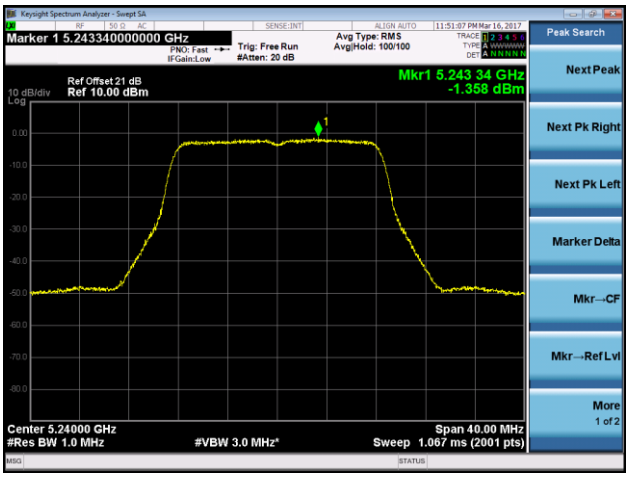
Channel 36 (5180MHz)



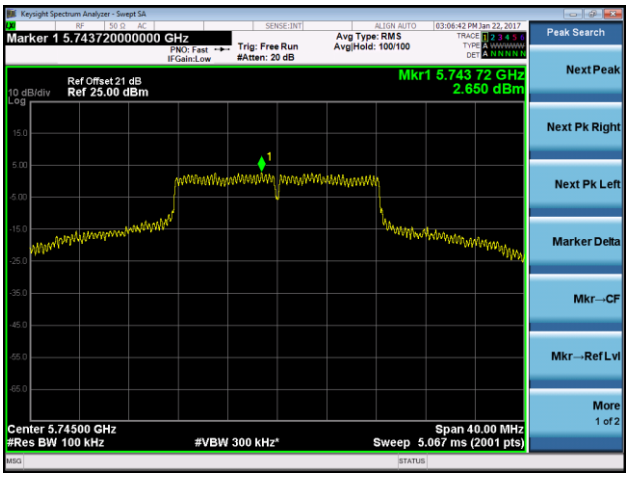
Channel 44 (5220MHz)



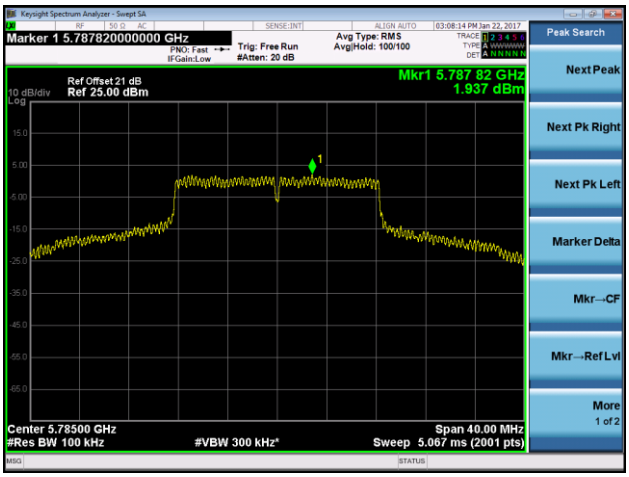
Channel 48 (5240MHz)



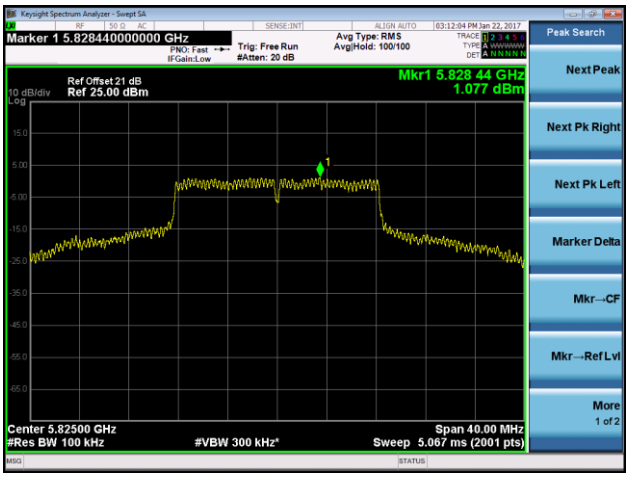
Channel 149 (5745MHz)



Channel 157 (5785MHz)

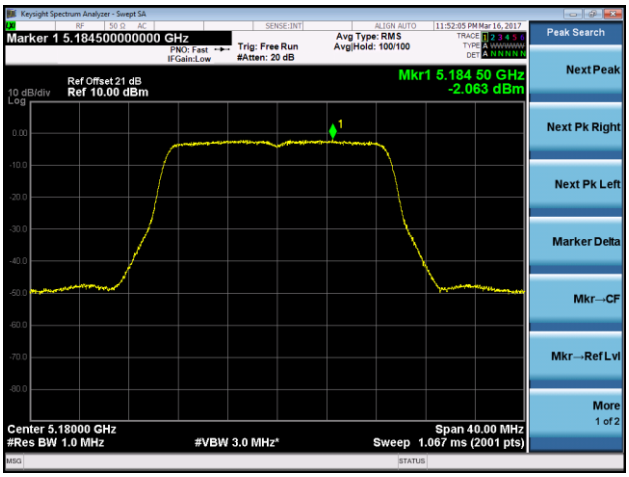


Channel 165 (5825MHz)

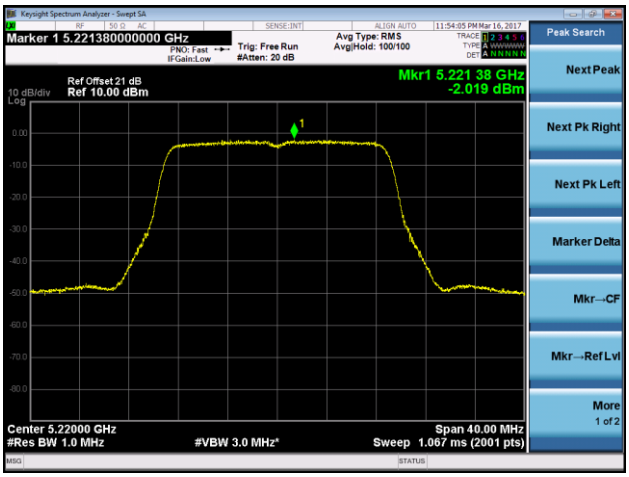


802.11n-HT20 Power Spectral Density - Ant 0 / Ant 0 + 1

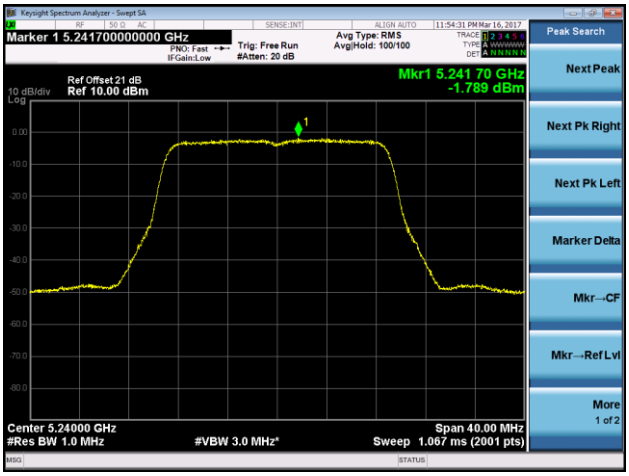
Channel 36 (5180MHz)



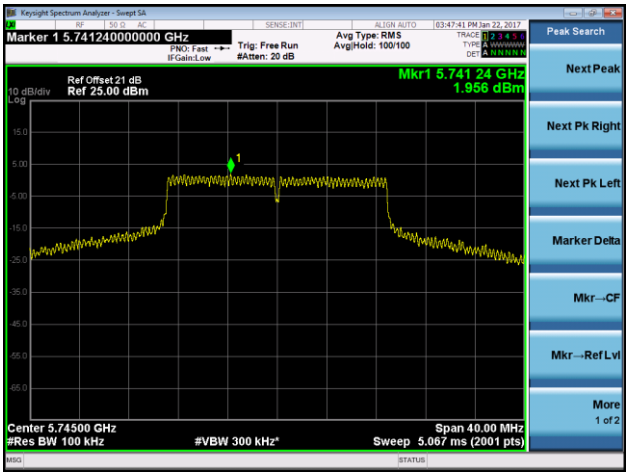
Channel 44 (5220MHz)



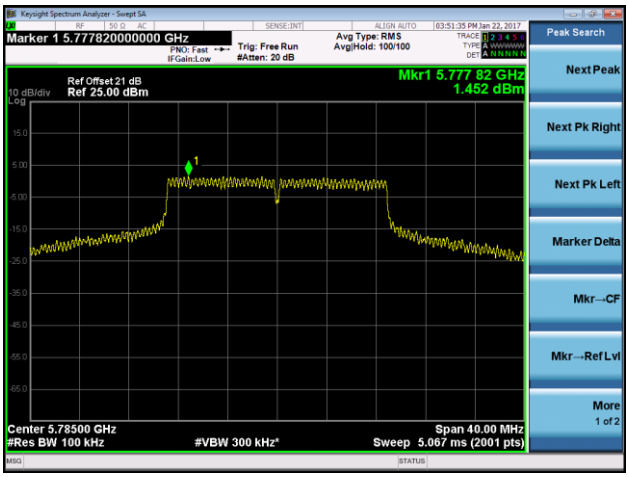
Channel 48 (5240MHz)



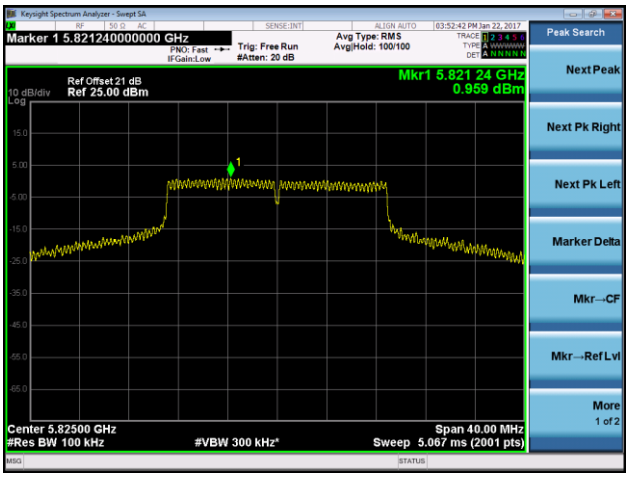
Channel 149 (5745MHz)



Channel 157 (5785MHz)

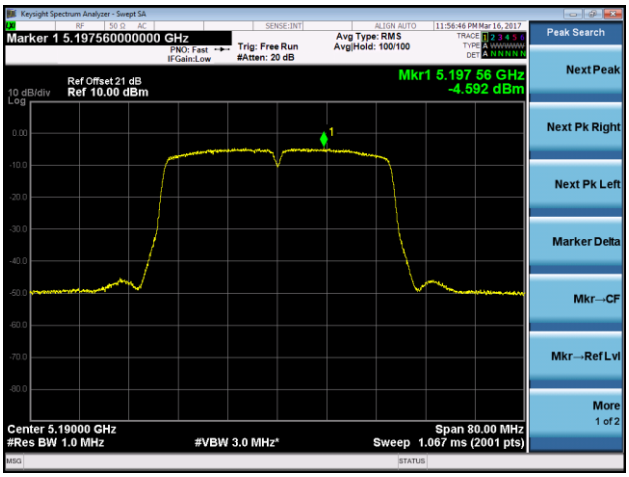


Channel 165 (5825MHz)

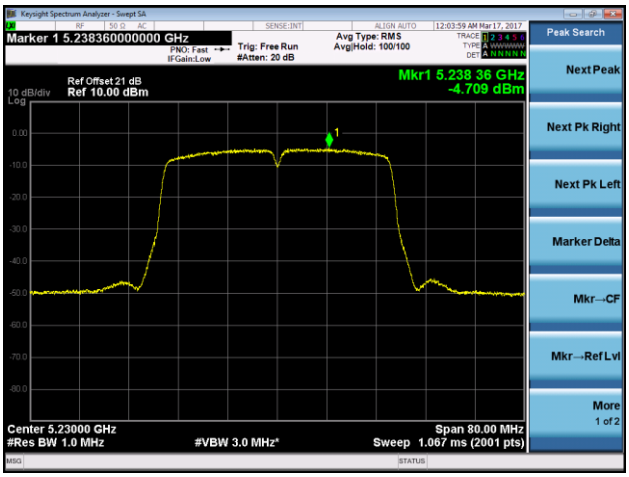


802.11n-HT40 Power Spectral Density - Ant 0 / Ant 0 + 1

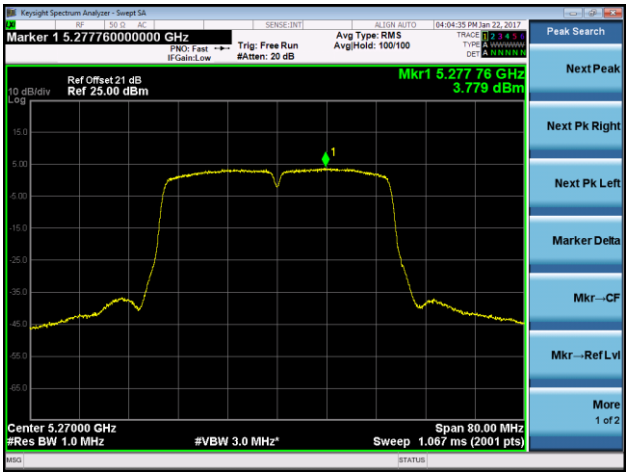
Channel 38 (5190MHz)



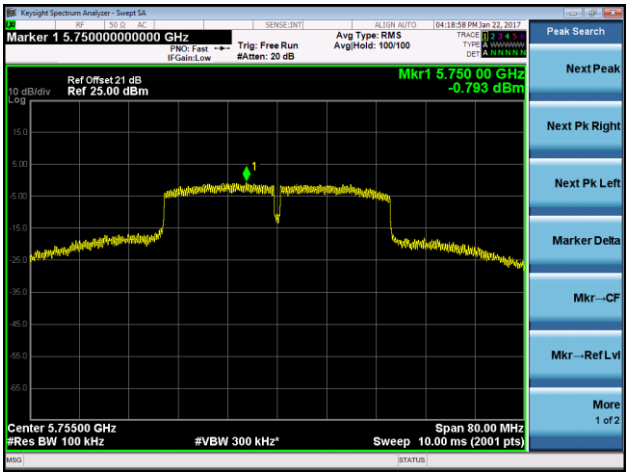
Channel 46 (5230MHz)



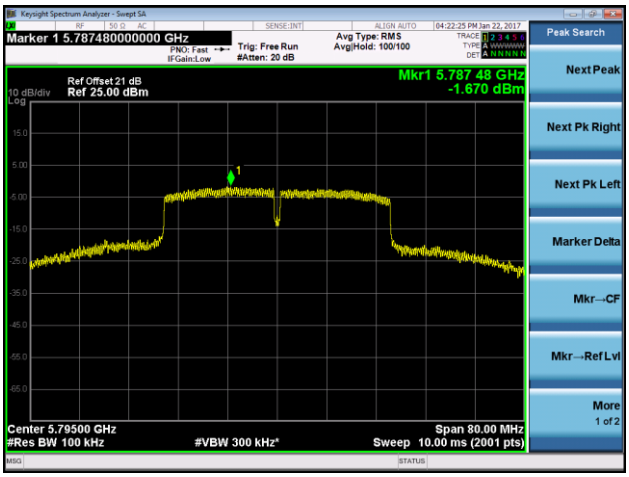
Channel 54 (5270MHz)



Channel 151 (5755MHz)

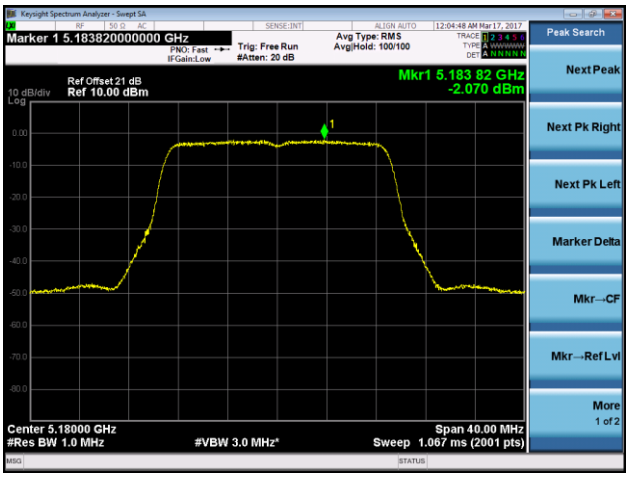


Channel 159 (5795MHz)

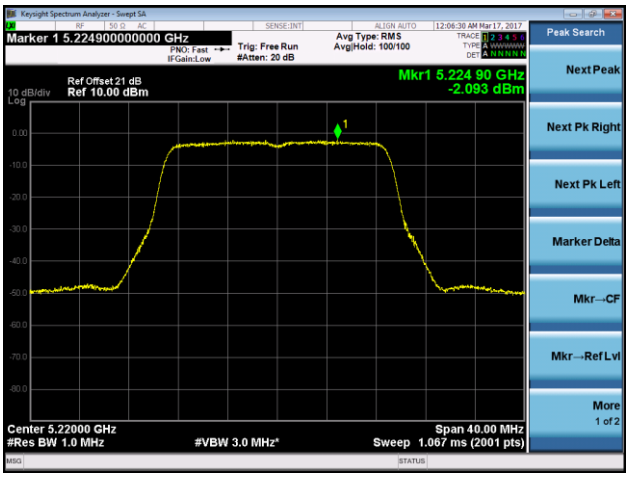


802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1

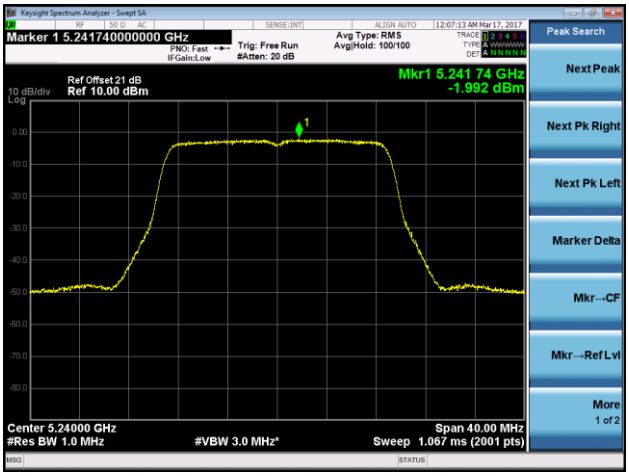
Channel 36 (5180MHz)



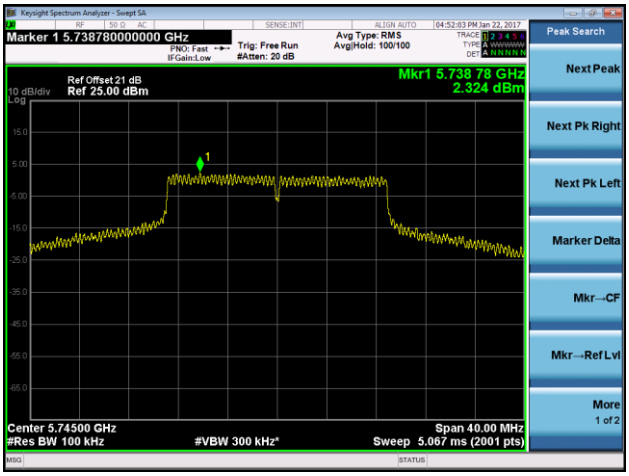
Channel 44 (5220MHz)



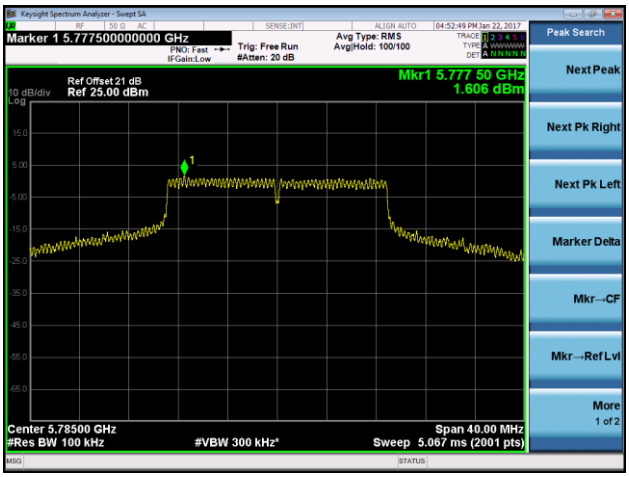
Channel 48 (5240MHz)



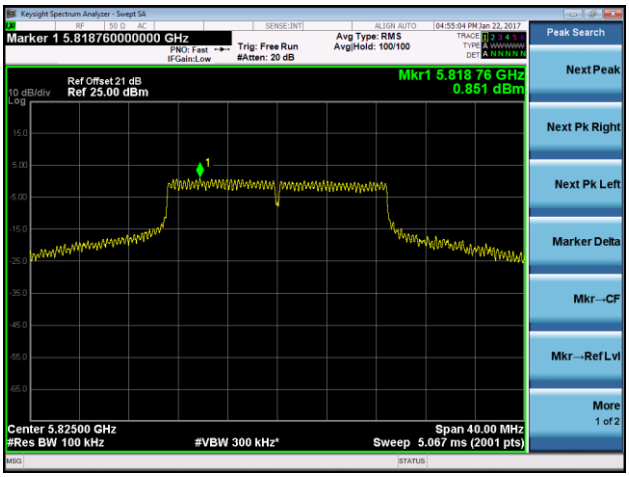
Channel 149 (5745MHz)

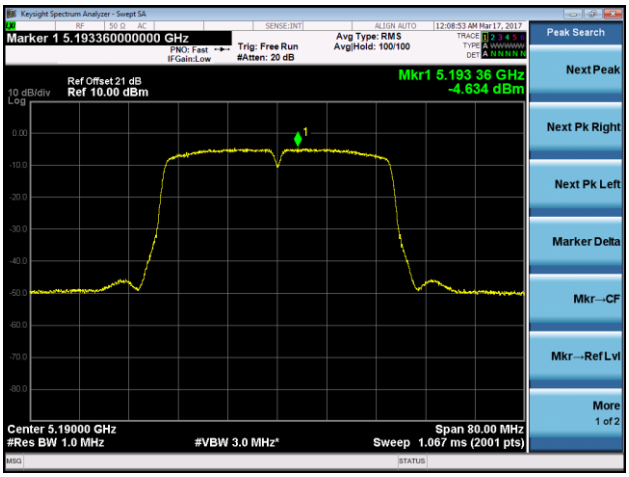
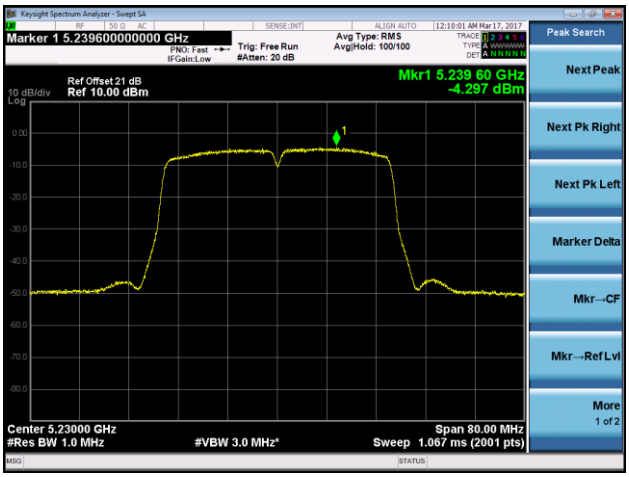
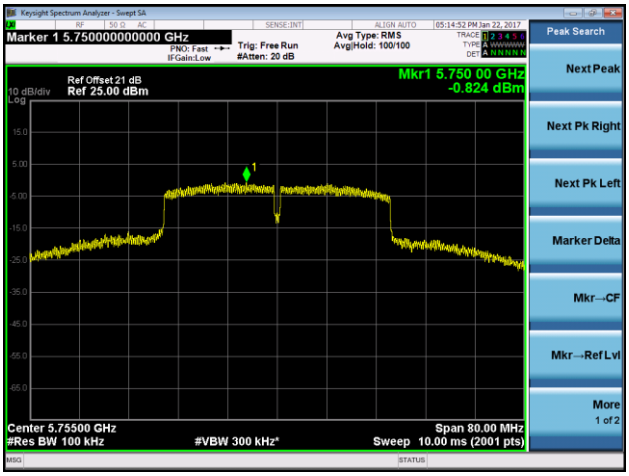
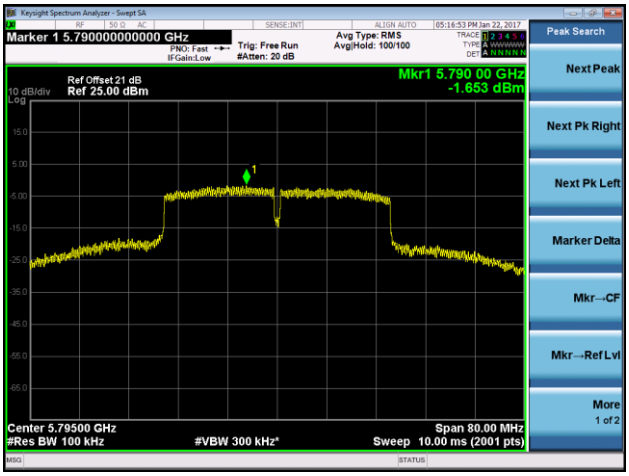


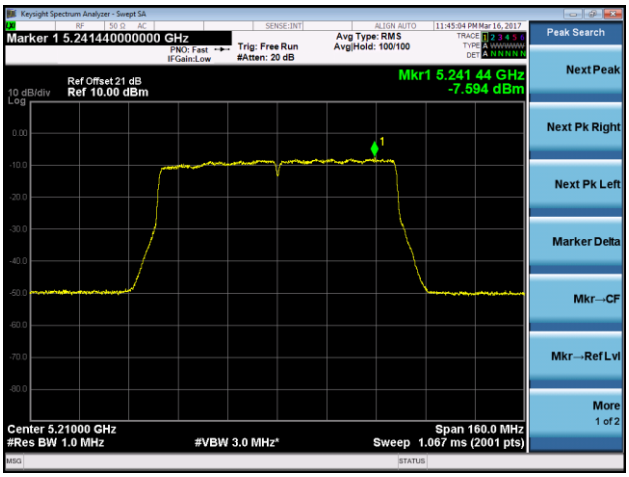
Channel 157 (5785MHz)



Channel 165 (5825MHz)

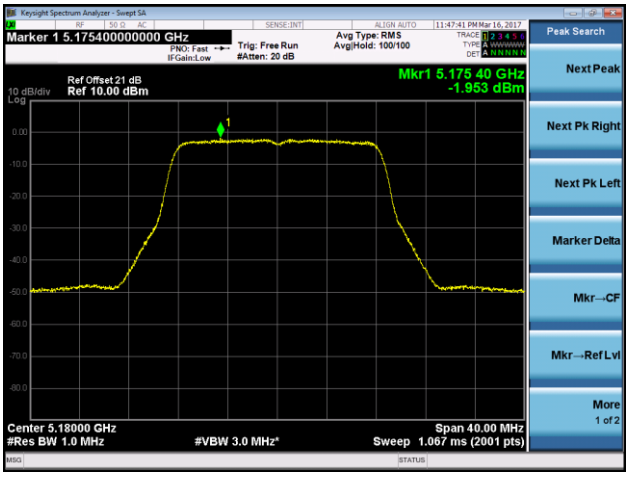


802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1	
Channel 38 (5190MHz)	**Channel 46 (5230MHz)**
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

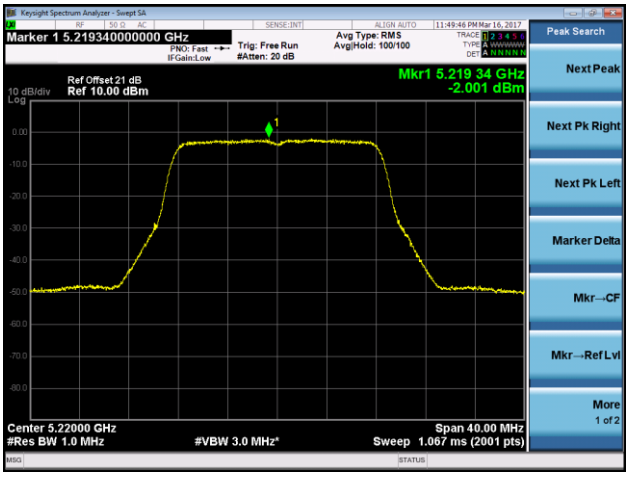
802.11ac-VHT80 Power Spectral Density - Ant 0 / Ant 0 + 1	
Channel 42 (5210MHz)	**Channel 155 (5775MHz)**
	

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

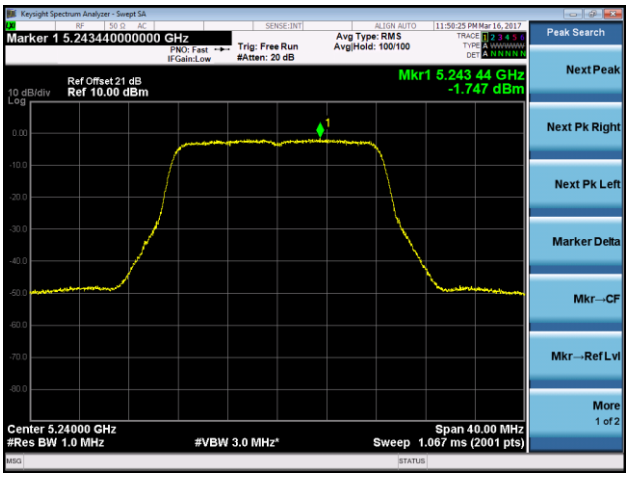
Channel 36 (5180MHz)



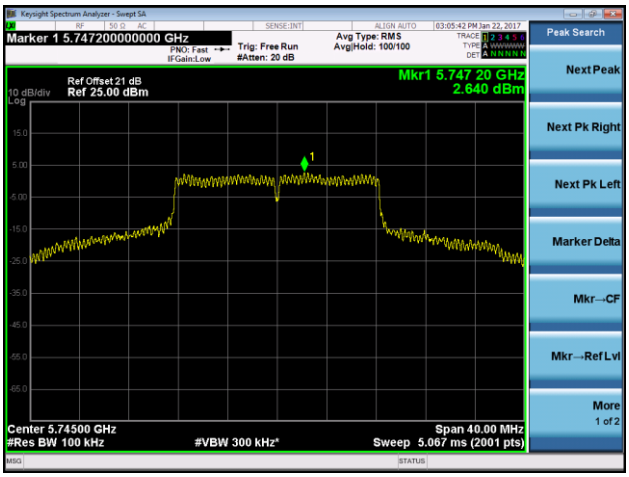
Channel 44 (5220MHz)



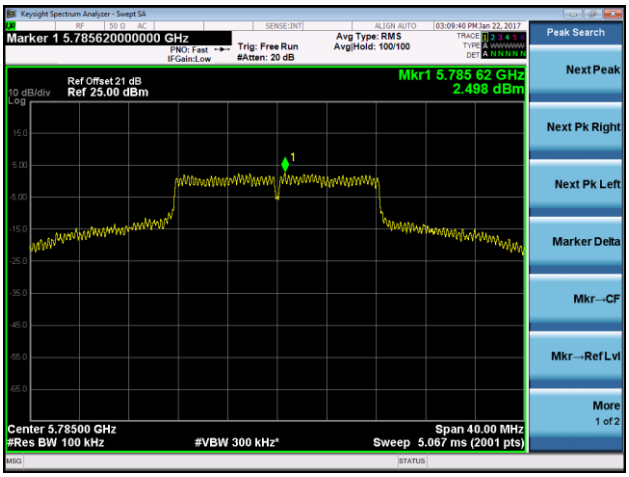
Channel 48 (5240MHz)



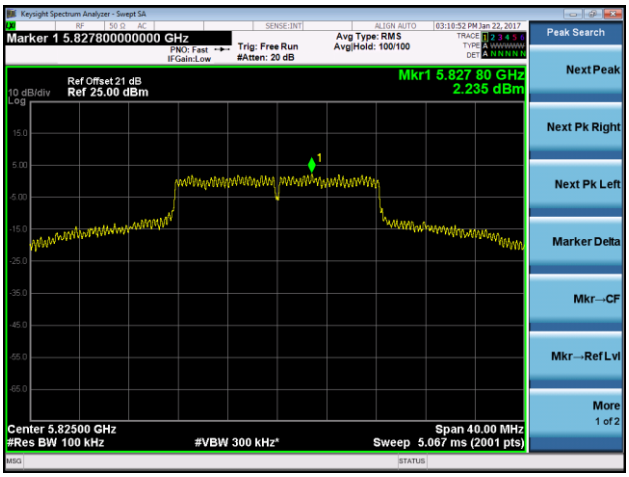
Channel 149 (5745MHz)



Channel 157 (5785MHz)

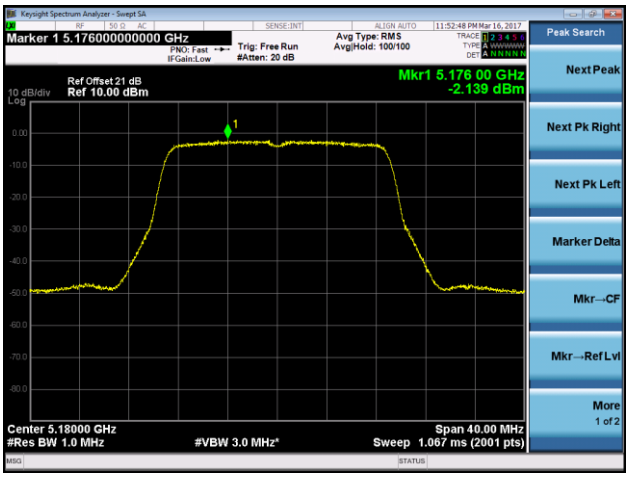


Channel 165 (5825MHz)

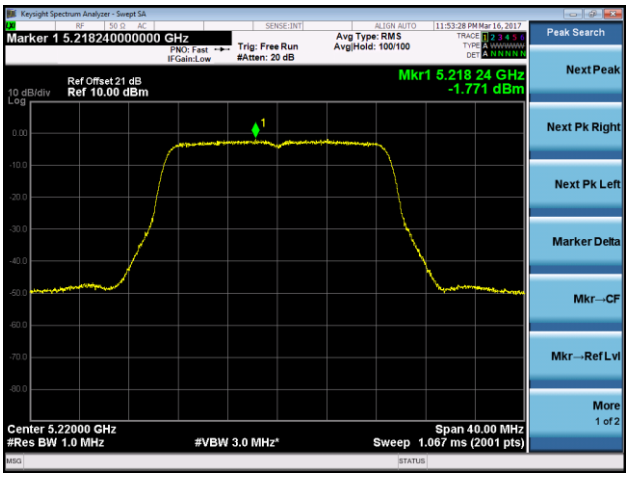


802.11n-HT20 Power Spectral Density - Ant 1 / Ant 0 + 1

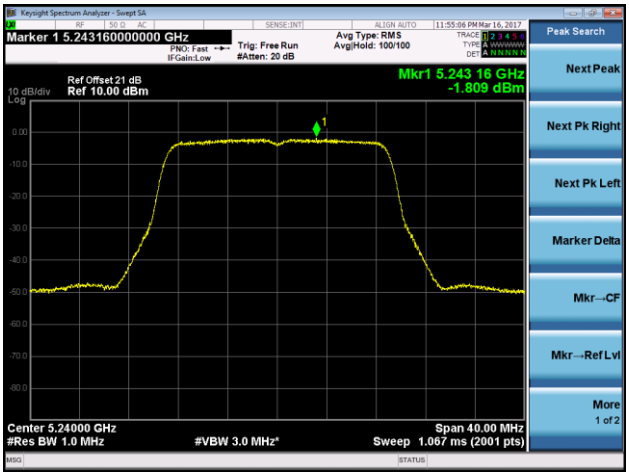
Channel 36 (5180MHz)



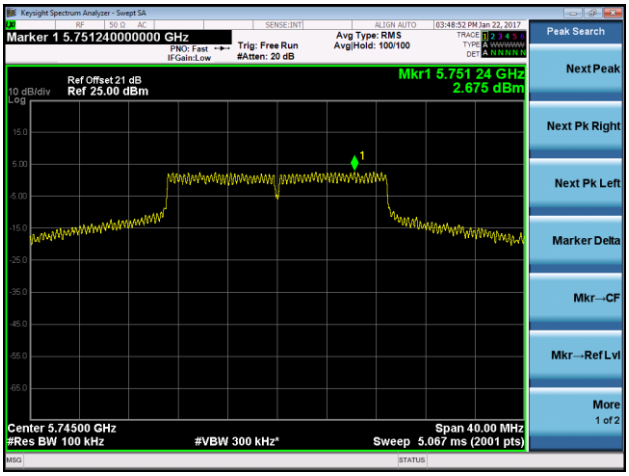
Channel 44 (5220MHz)



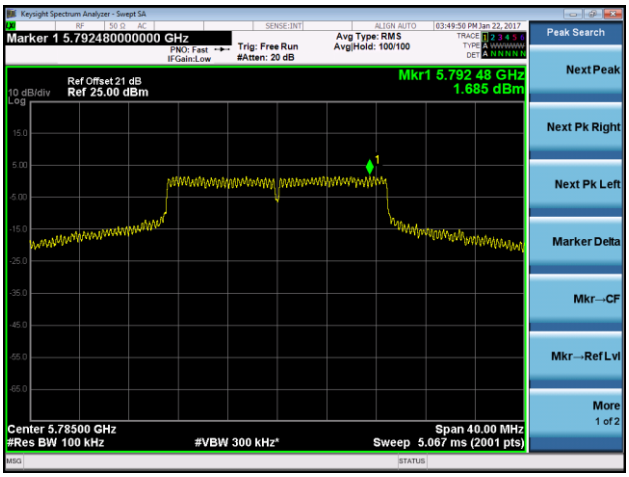
Channel 48 (5240MHz)



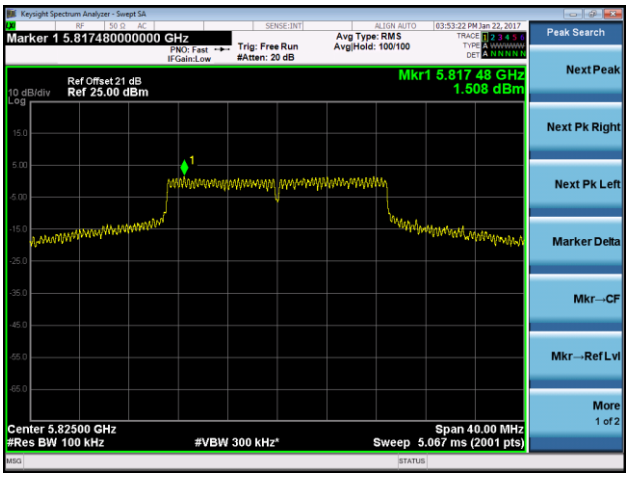
Channel 149 (5745MHz)

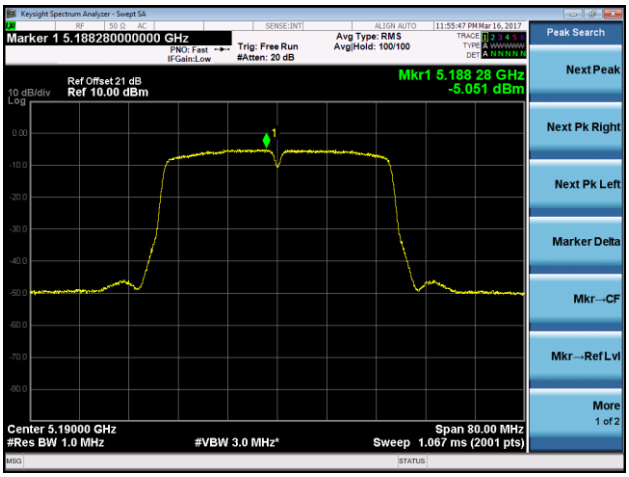
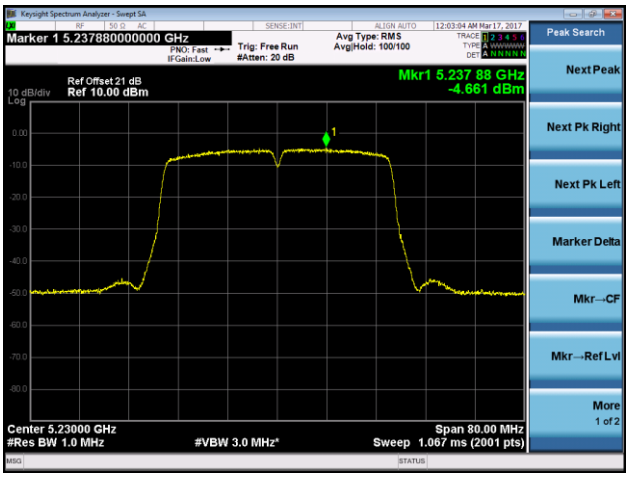
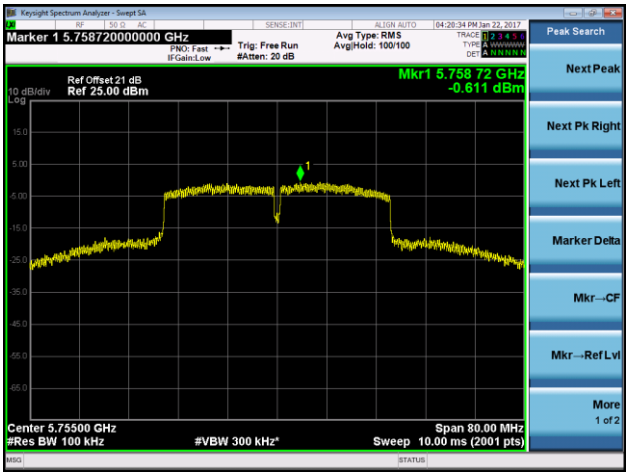
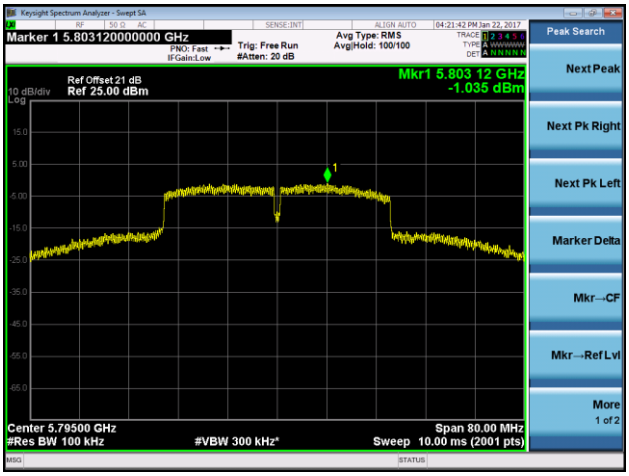


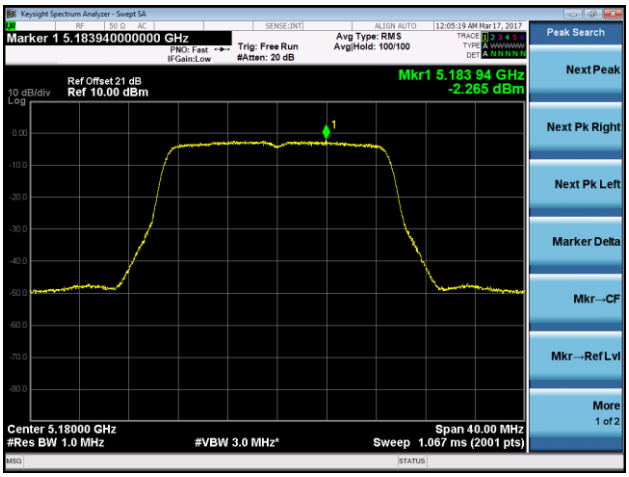
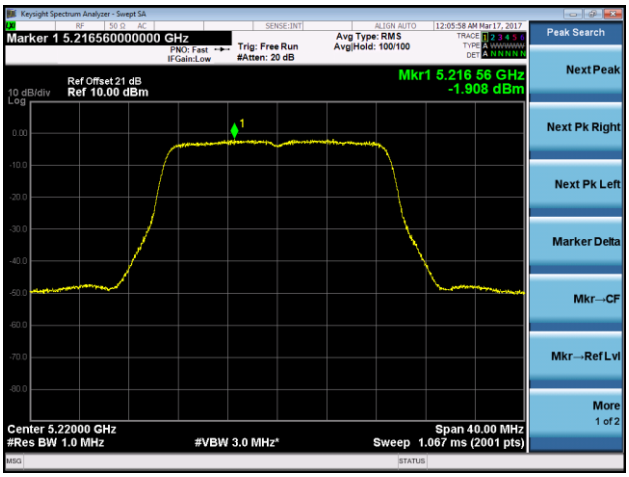
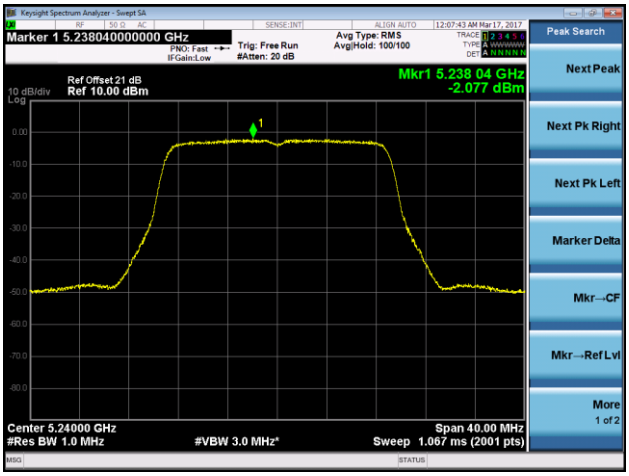
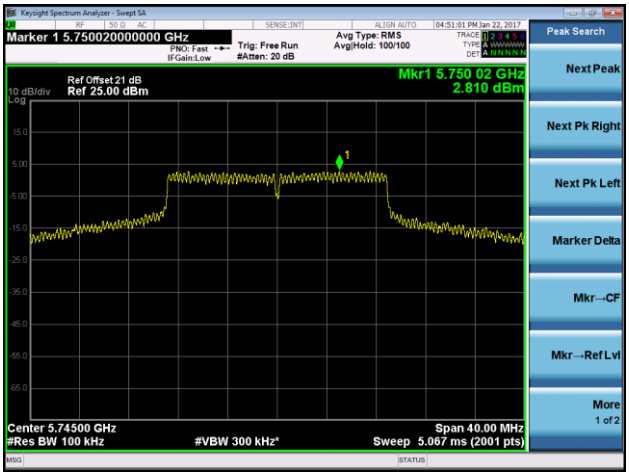
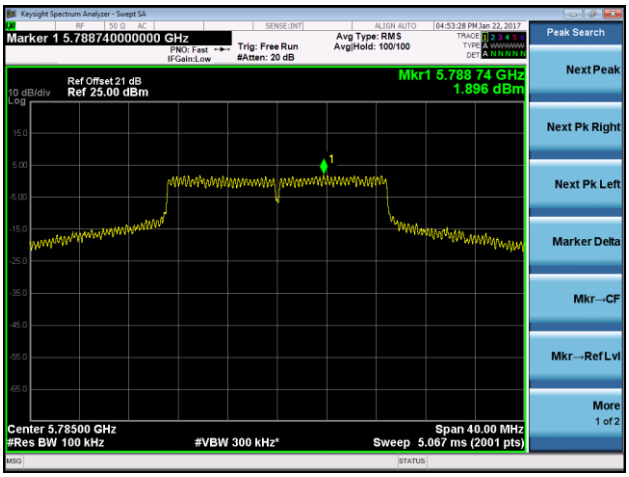
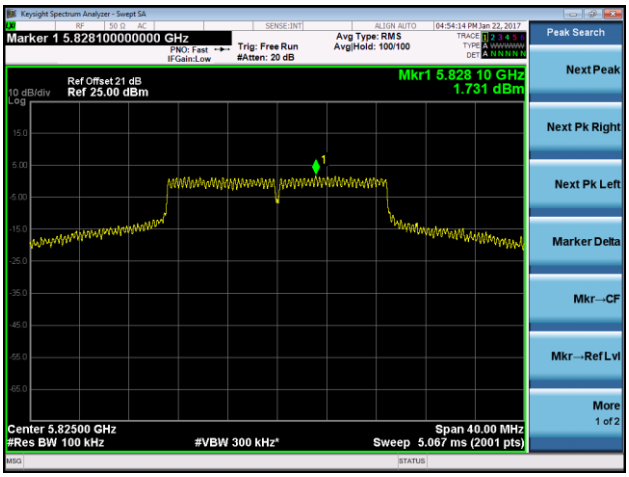
Channel 157 (5785MHz)

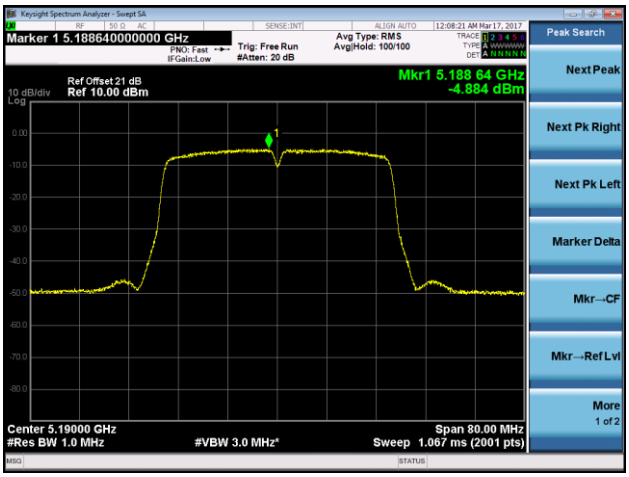
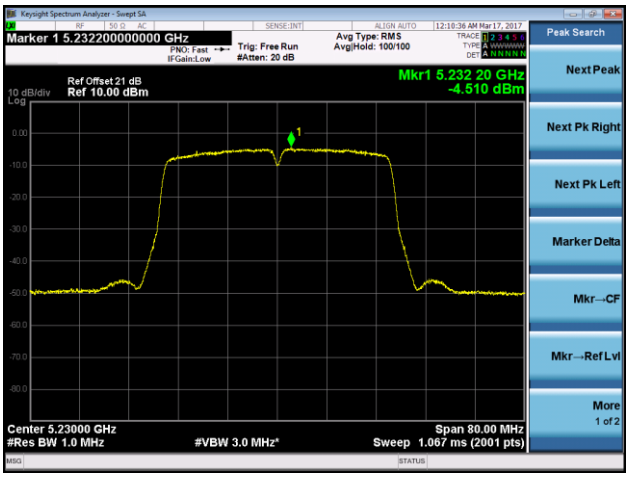
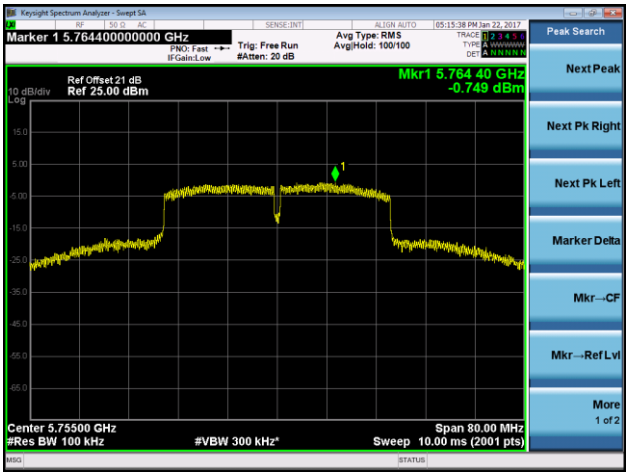
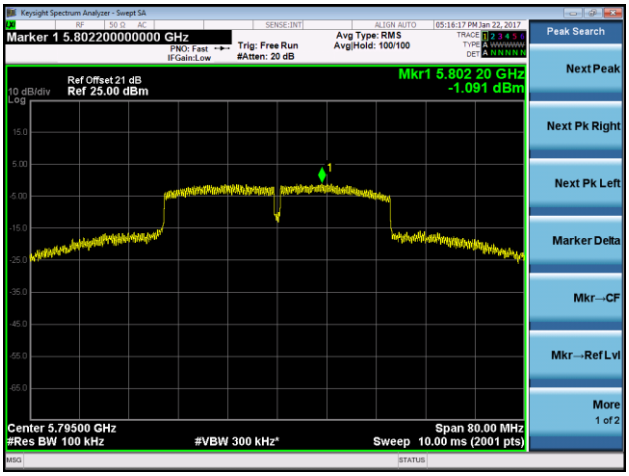


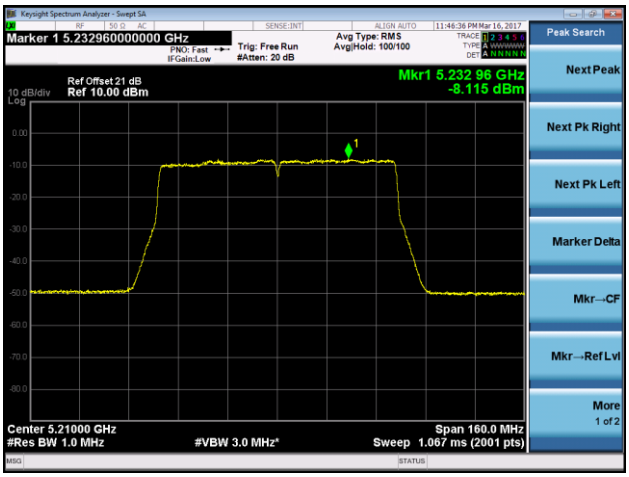
Channel 165 (5825MHz)

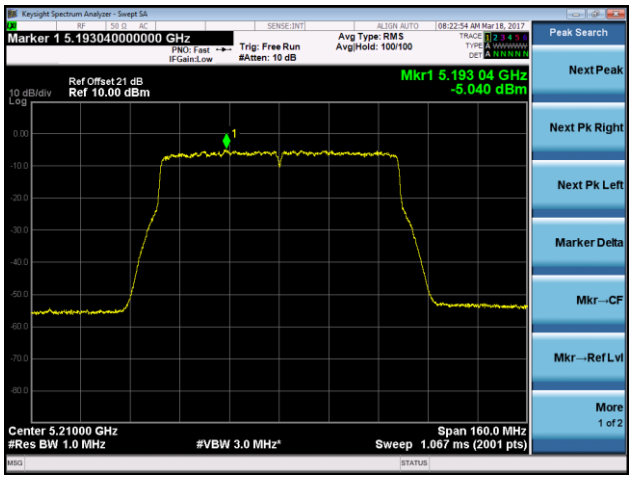
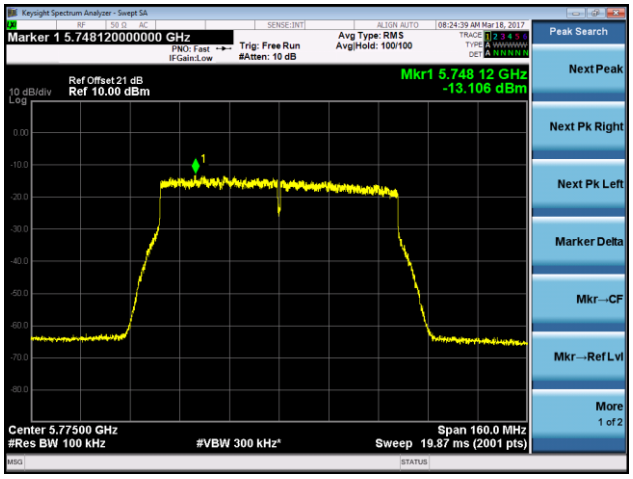


802.11n-HT40 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 38 (5190MHz)	**Channel 46 (5230MHz)**
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

802.11ac-VHT20 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 36 (5180MHz)	**Channel 44 (5220MHz)**
	
Channel 48 (5240MHz)	**Channel 149 (5745MHz)**
	
Channel 157 (5785MHz)	**Channel 165 (5825MHz)**
	

802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 38 (5190MHz)	**Channel 46 (5230MHz)**
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 0 + 1	
Channel 42 (5210MHz)	**Channel 155 (5775MHz)**
	

802.11ac-VHT 80 + 80 Power Spectral Density - Ant 0 / Ant 0 + 1	
Channel 42 (5210MHz)	
	
802.11ac-VHT 80 + 80 Power Spectral Density - Ant 1 / Ant 0 + 1	
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:

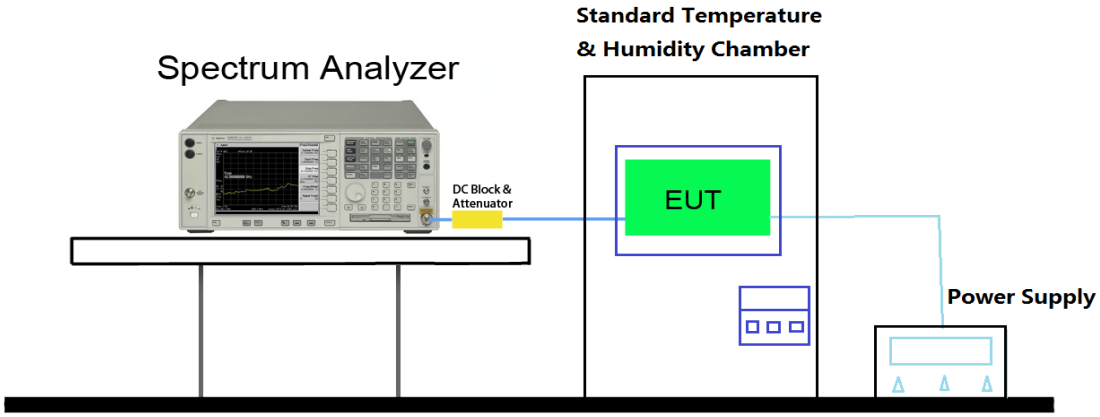
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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	Jone Zhang	Temperature	-30 ~ 50°C
Test Time	2017/02/15	Relative Humidity	52%RH

Voltage (%)	Power (VAC)	Temp (°C)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
100%	120	- 30	6.82	5.96	3.45	4.58
		- 20	-2.52	-3.53	5.72	3.67
		- 10	5.39	4.98	3.38	-1.52
		0	5.60	-5.00	-5.44	3.66
		+ 10	-2.97	2.68	-2.95	-2.92
		+ 20 (Ref)	4.56	5.86	3.65	4.85
		+ 30	-4.95	-5.26	3.47	3.28
		+ 40	5.28	4.07	3.22	6.70
		+ 50	-3.37	3.28	-1.57	-1.43
115%	138	+ 20	4.70	4.78	4.66	4.57
85%	102	+ 20	4.55	4.51	-1.81	1.80

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

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. Span was set greater than 1MHz

3. RBW = 120 kHz

4. Detector = CISPR quasi-peak

5. Sweep time = auto couple

6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1MHz

3. VBW = 3MHz

4. Detector = power average (Average)

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

6. Sweep time = auto

7. Trace was averaged over at 100 sweeps

7.8.4.Test Setup

9kHz ~ 30MHz Test Setup: