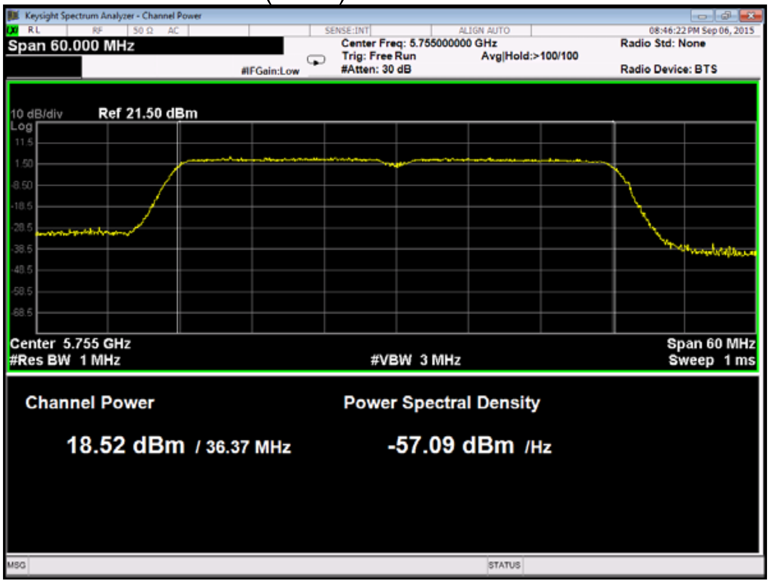
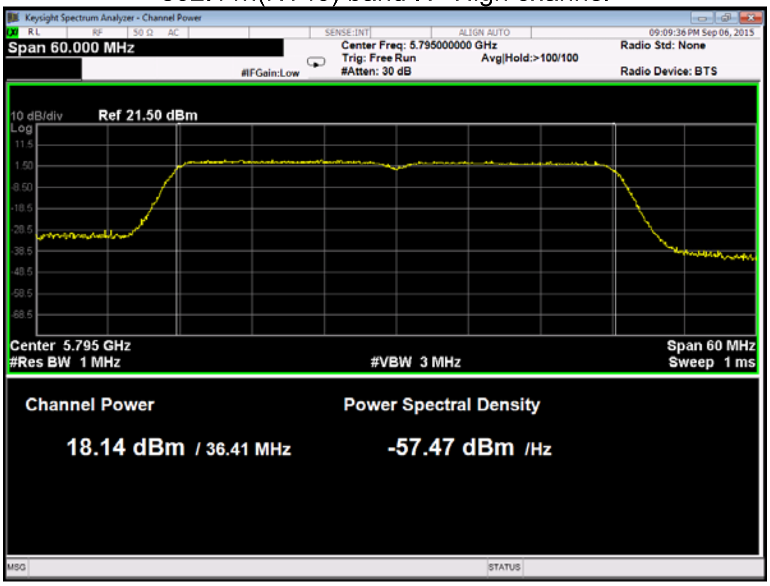
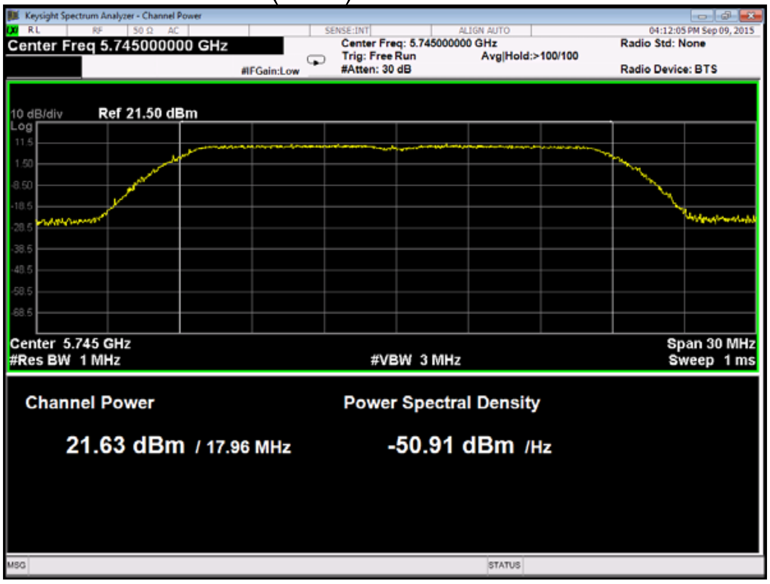
802.11n(HT40) band IV Low channel



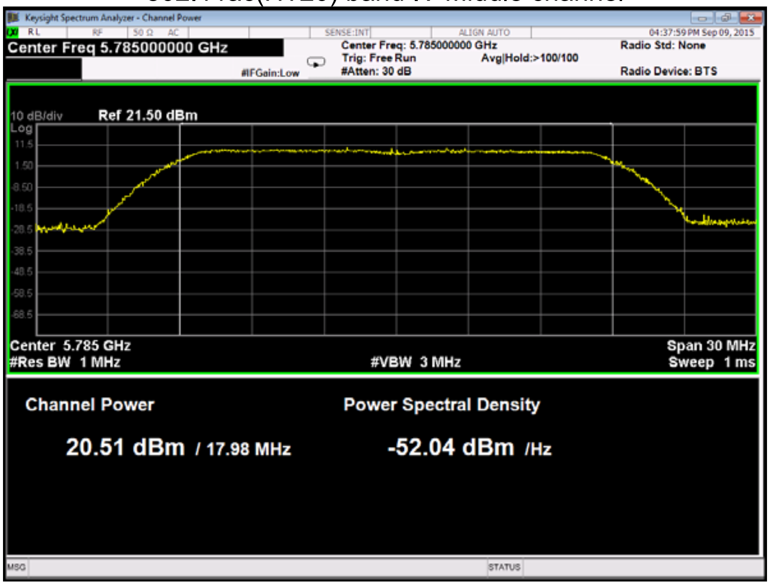
802.11n(HT40) band IV High channel



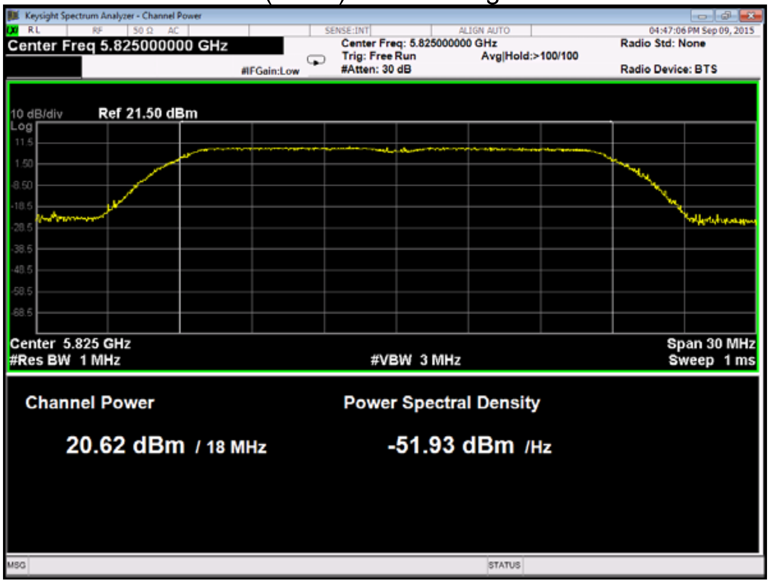
802.11ac(HT20) band IV Low channel



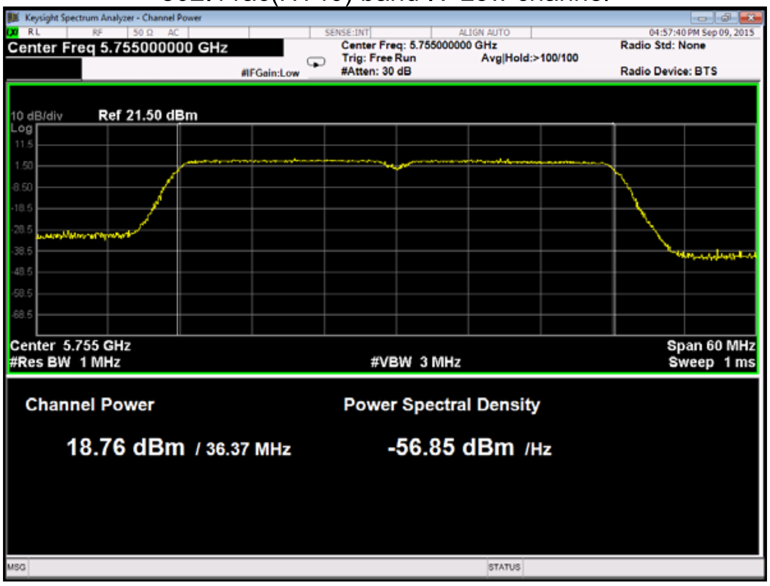
802.11ac(HT20) band IV Middle channel



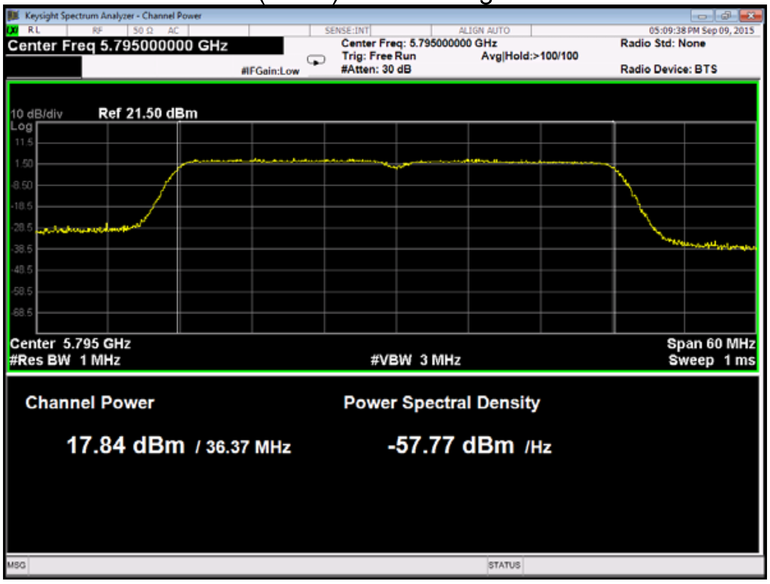
802.11ac(HT20) band IV High channel



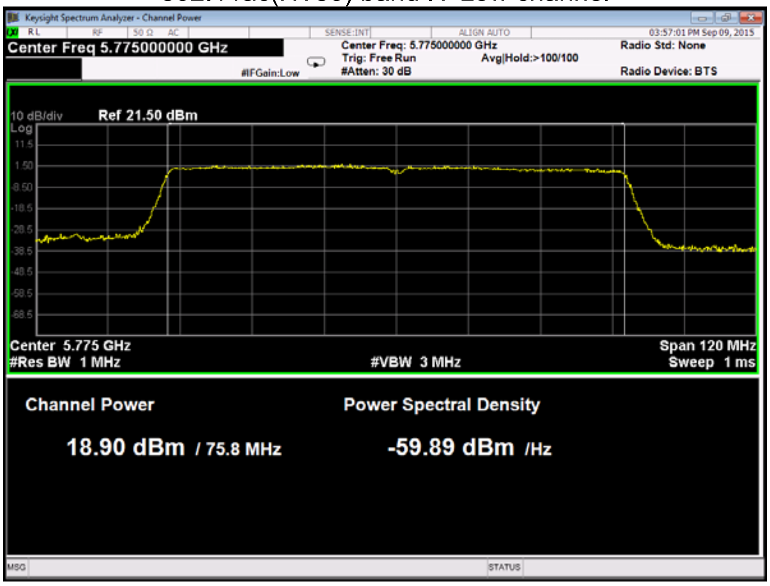
802.11ac(HT40) band IV Low channel



802.11n(HT40) band IV High channel

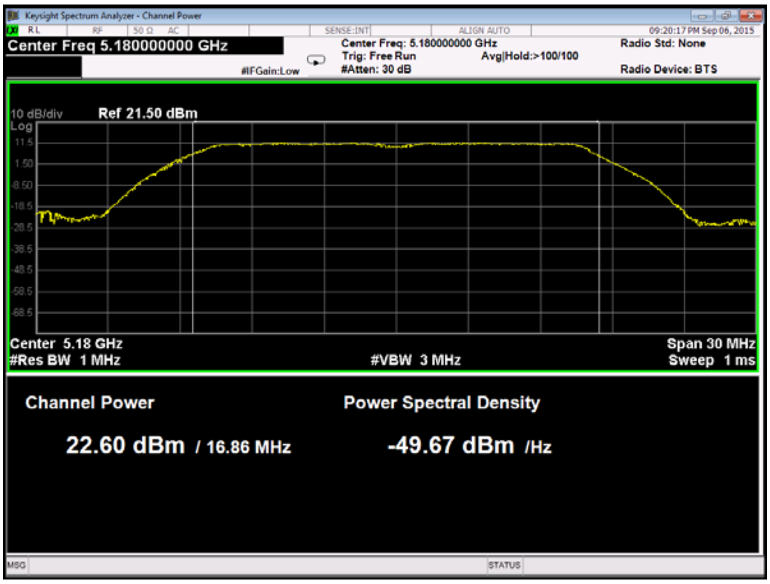


802.11ac(HT80) band IV Low channel

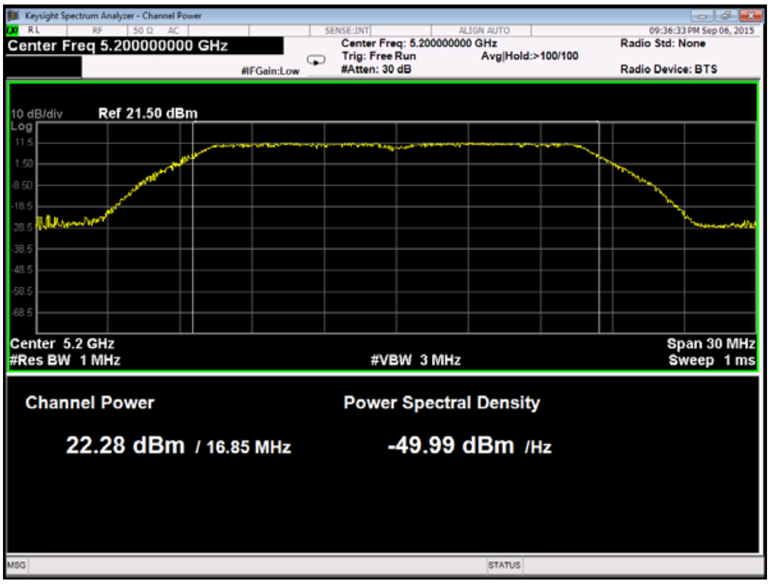


ANT1

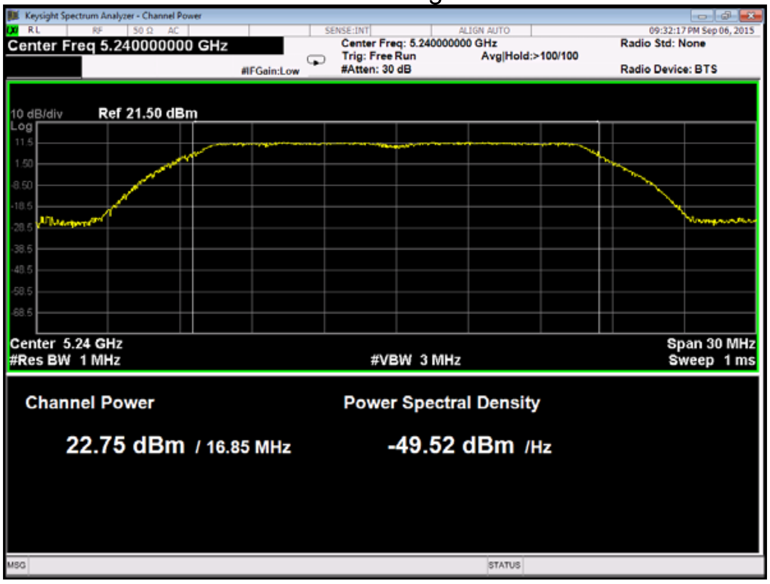
802.11a band I Low channel



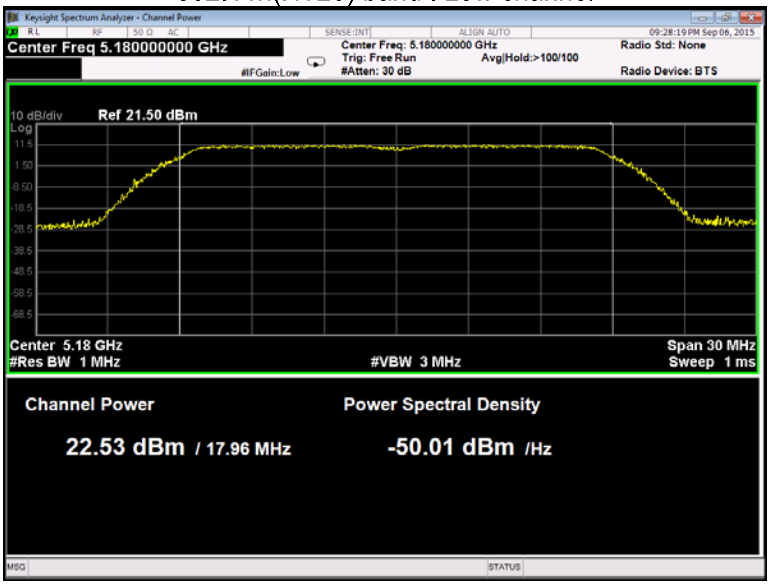
802.11a band I Middle channel



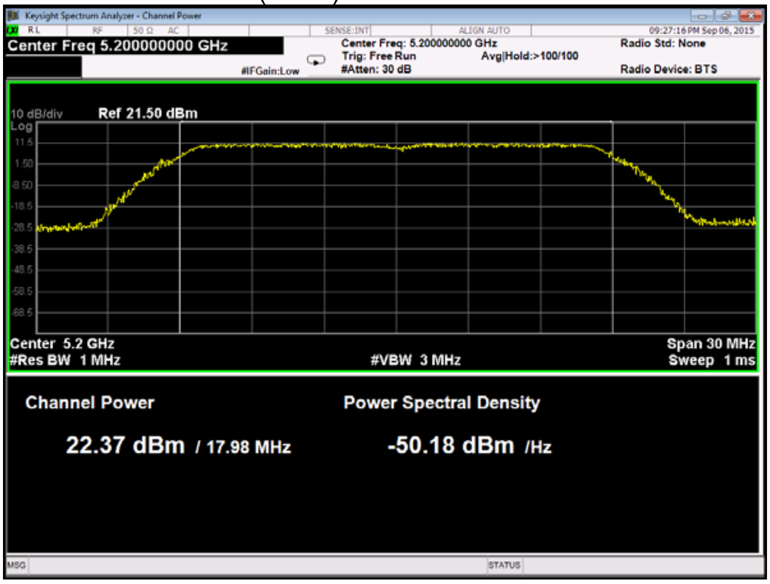
802.11a band I High channel



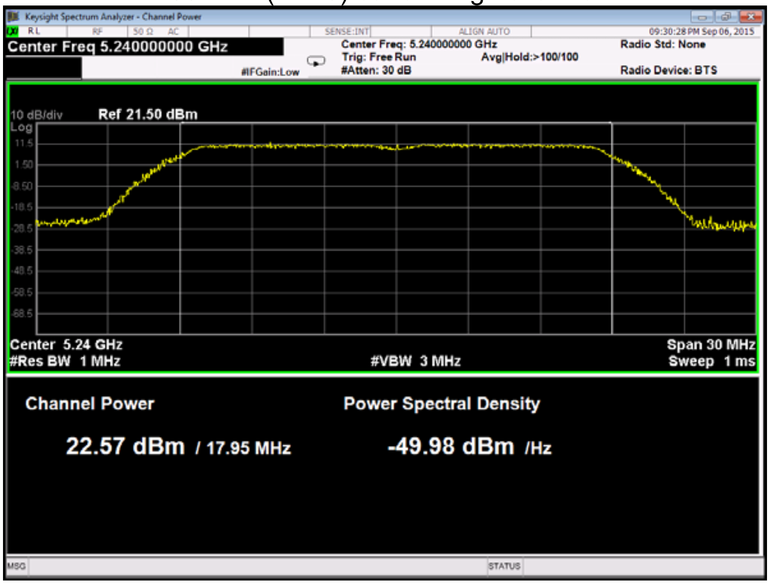
802.11n(HT20) band I Low channel



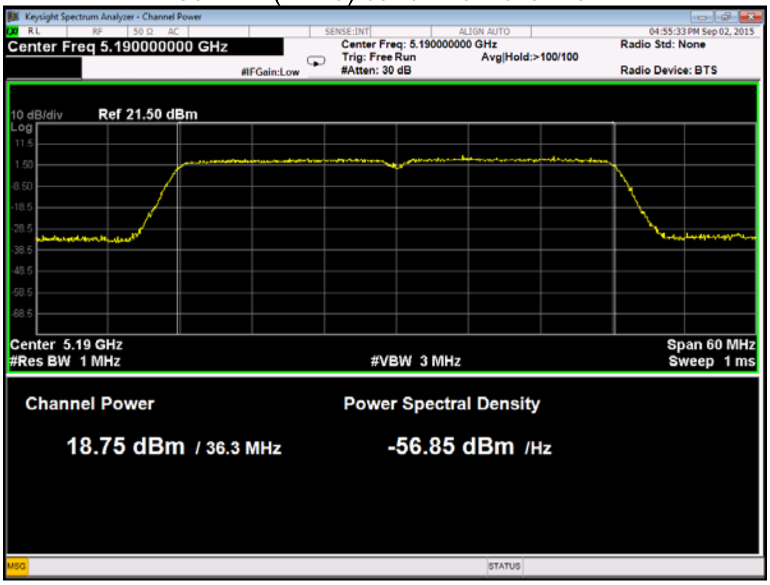
802.11n(HT20) band I Middle channel



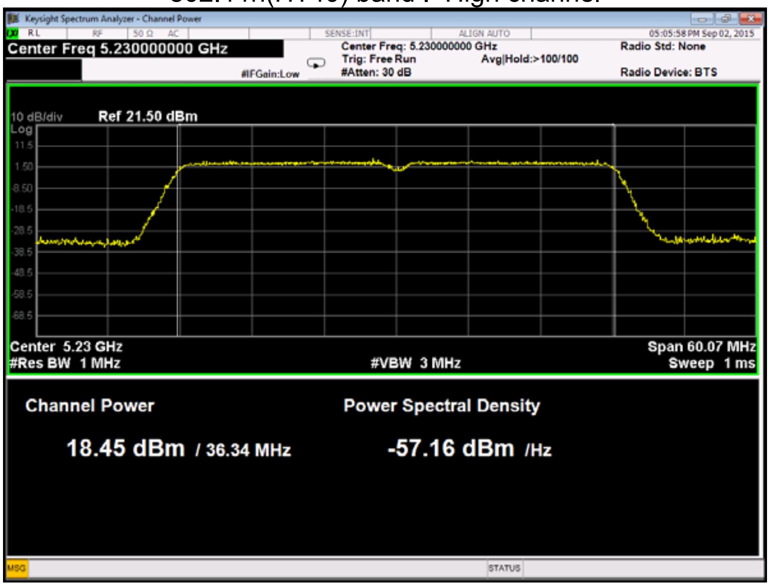
802.11n(HT20) band I High channel



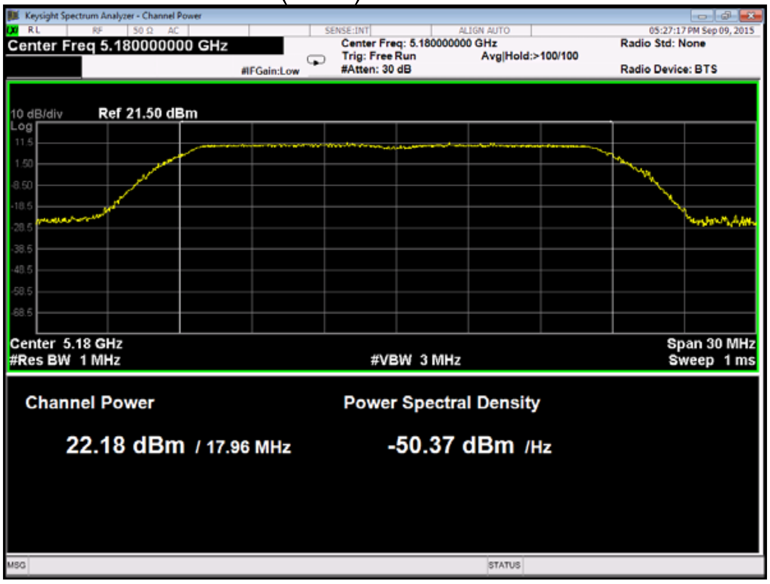
802.11n(HT40) band I Low channel



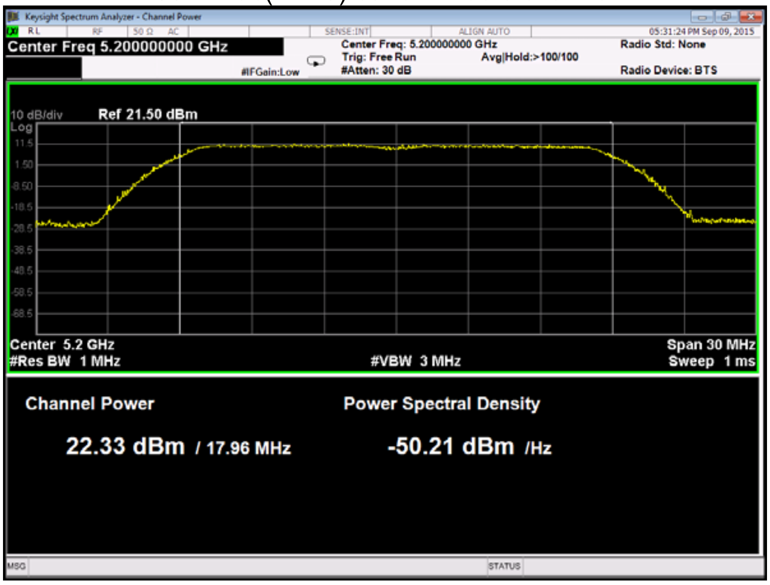
802.11n(HT40) band I High channel



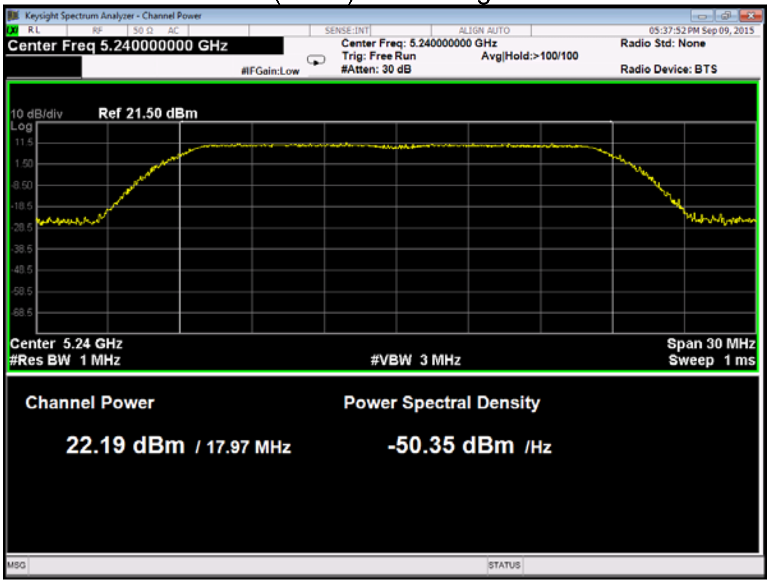
802.11ac(HT20) band I Low channel



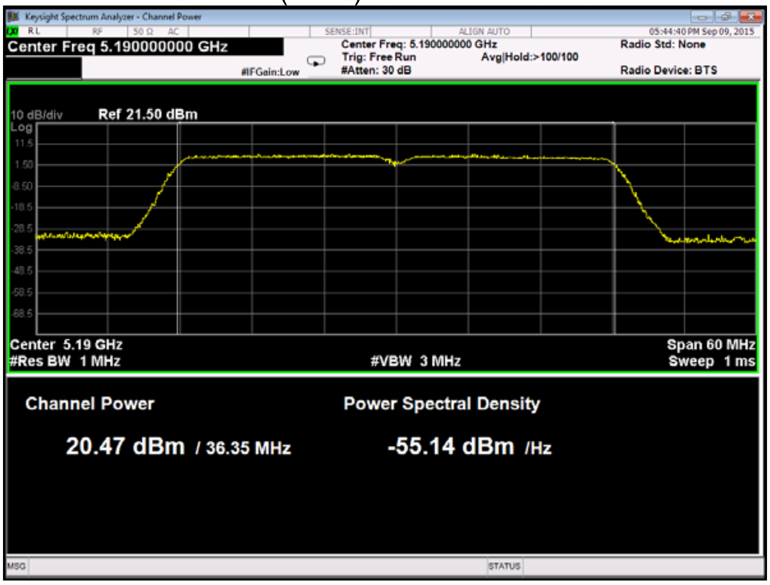
802.11ac(HT20) band I Middle channel



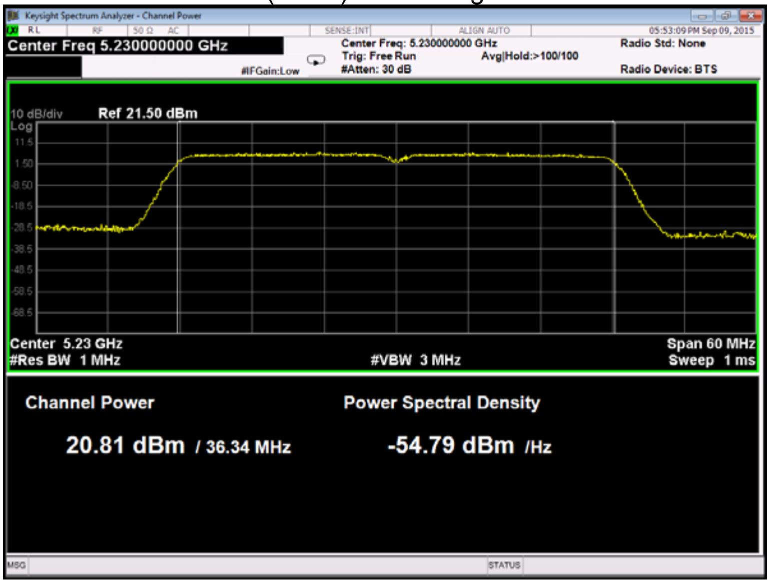
802.11ac(HT20) band I High channel



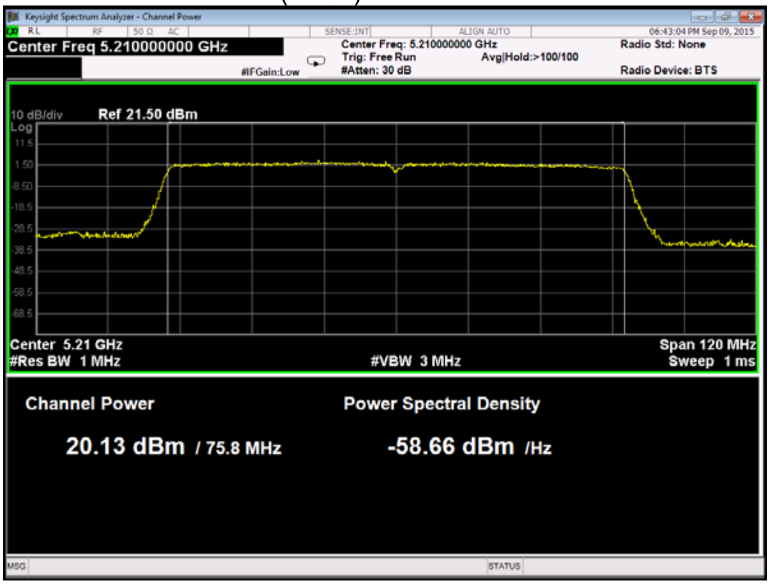
802.11ac(HT40) band I Low channel



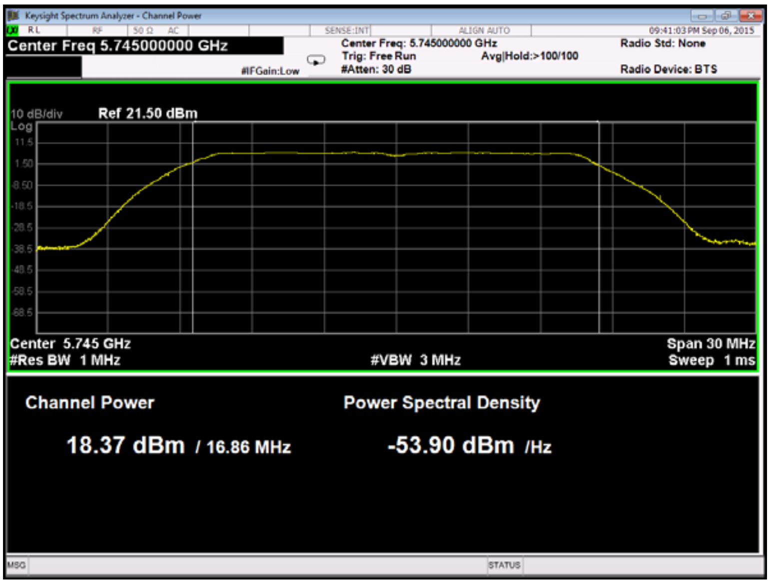
802.11n(HT40) band I High channel



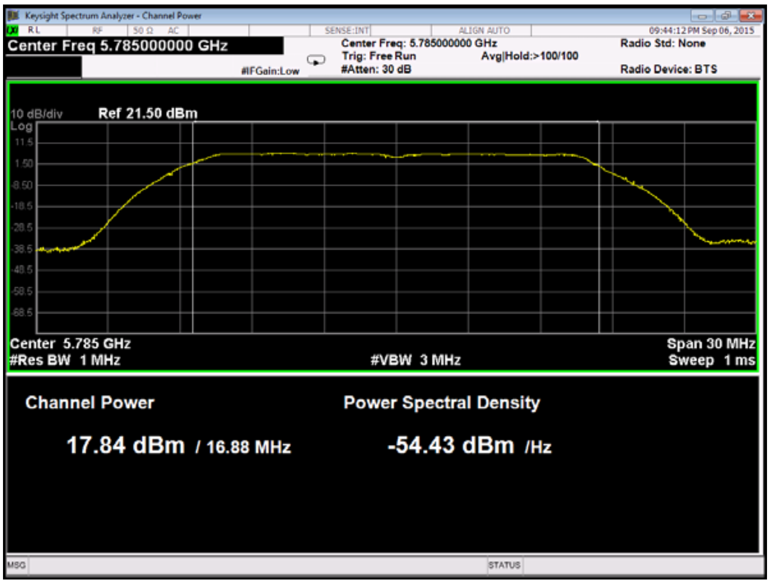
802.11ac(HT80) band I Low channel



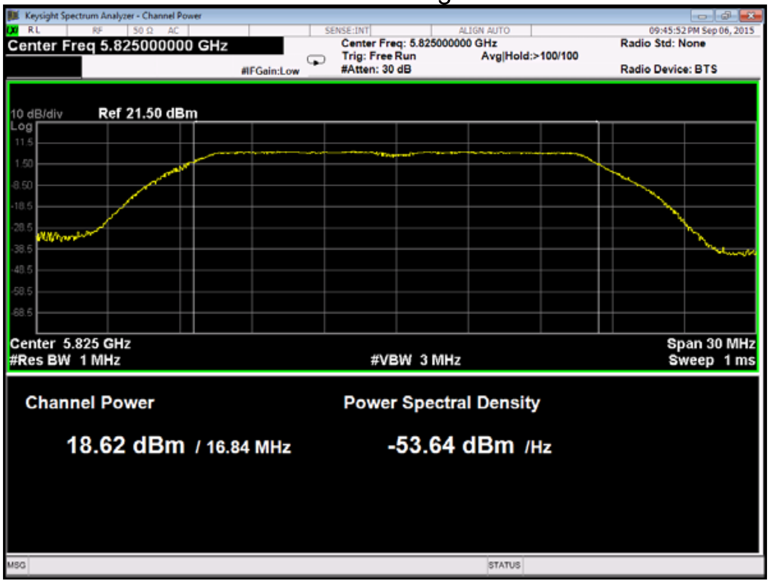
802.11a band IV Low channel



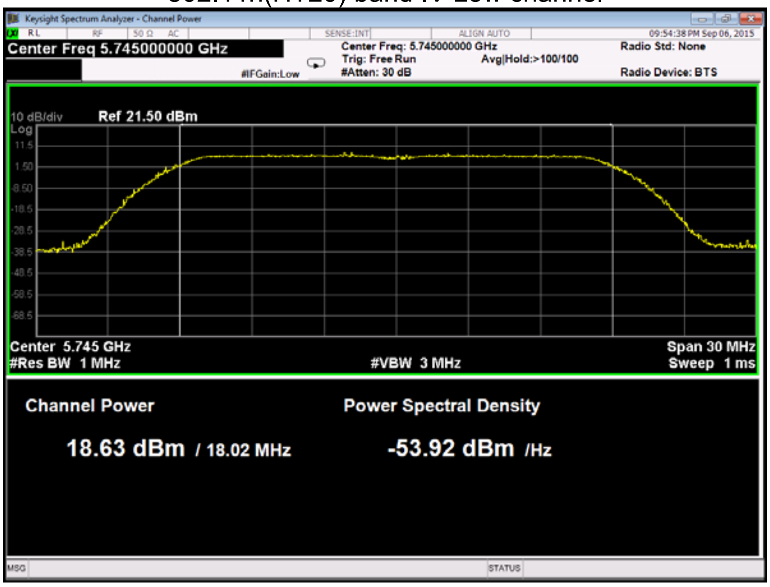
802.11a band IV Middle channel



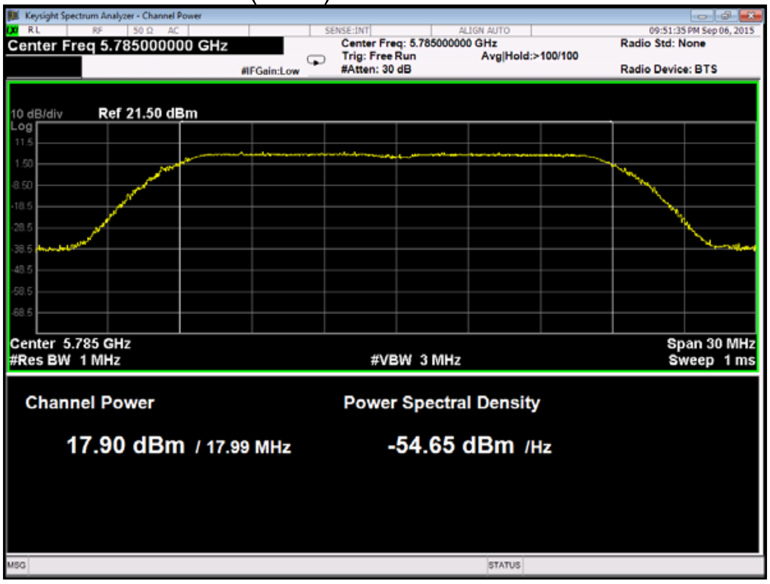
802.11a band IV High channel



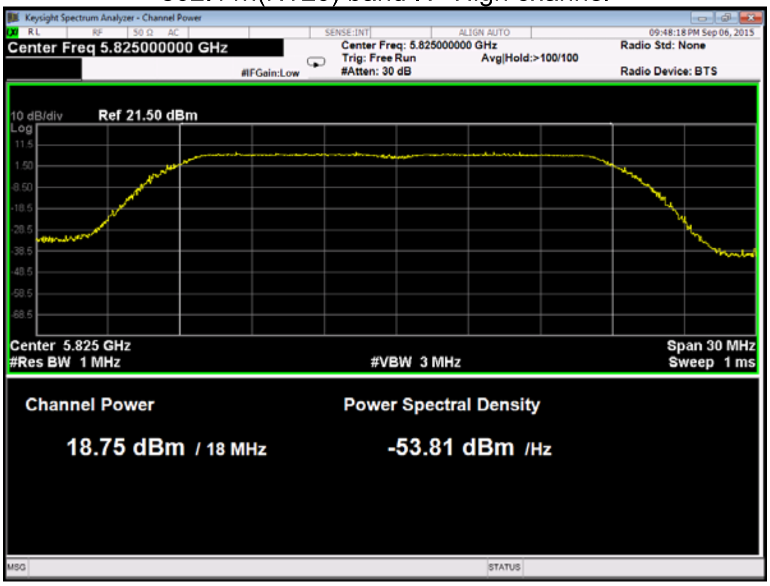
802.11n(HT20) band IV Low channel



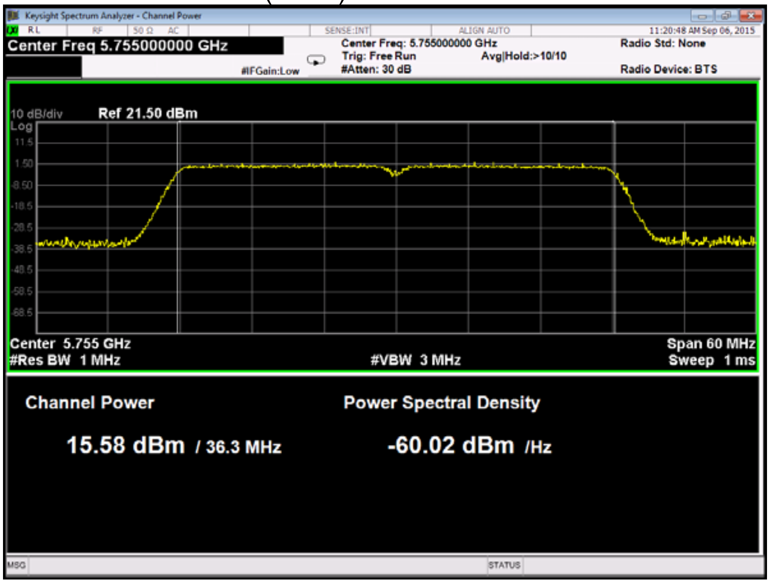
802.11n(HT20) band IV Middle channel



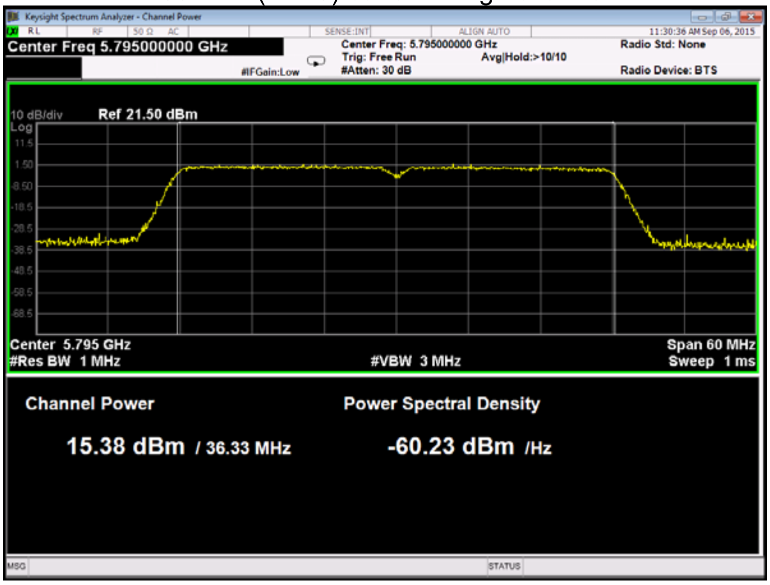
802.11n(HT20) band IV High channel



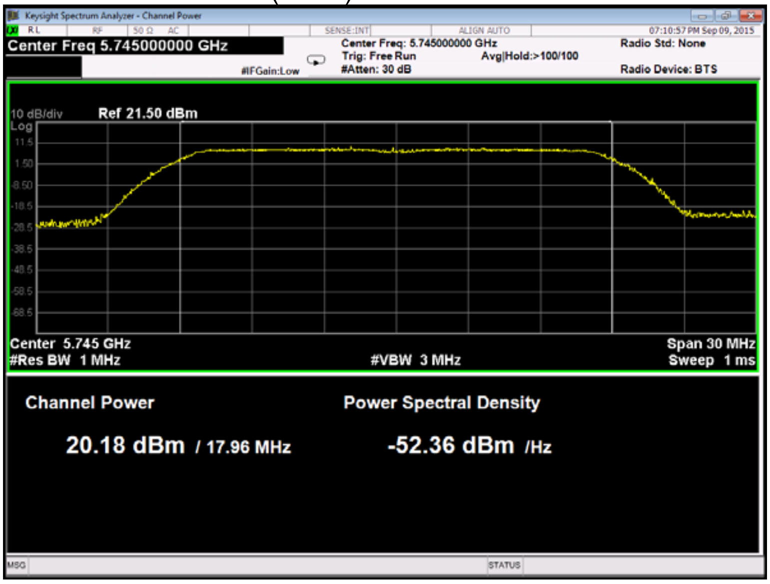
802.11n(HT40) band IV Low channel



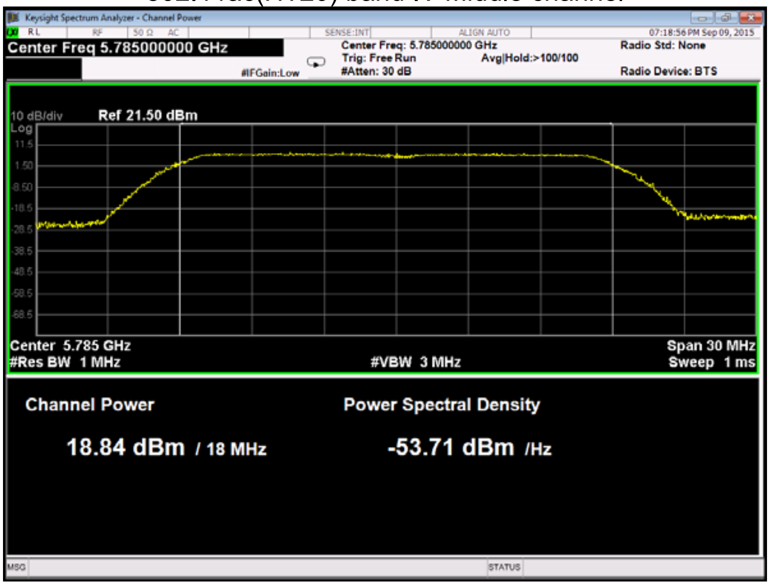
802.11n(HT40) band IV High channel



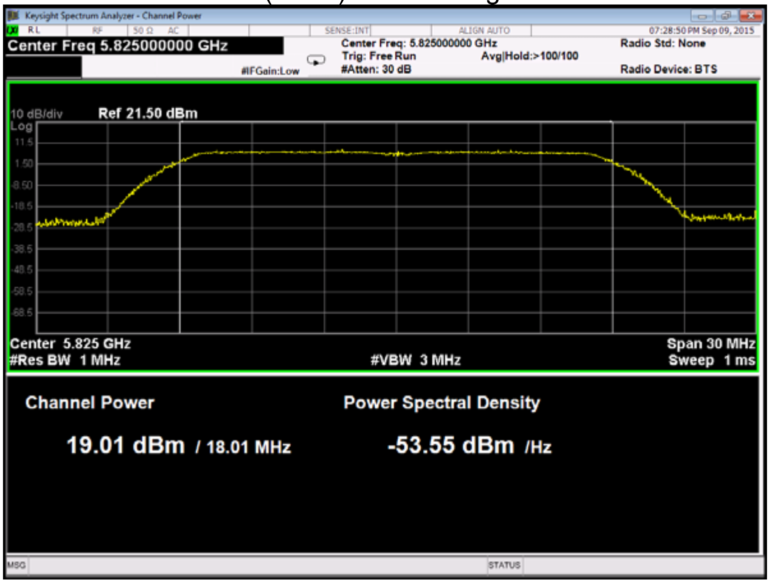
802.11ac(HT20) band IV Low channel



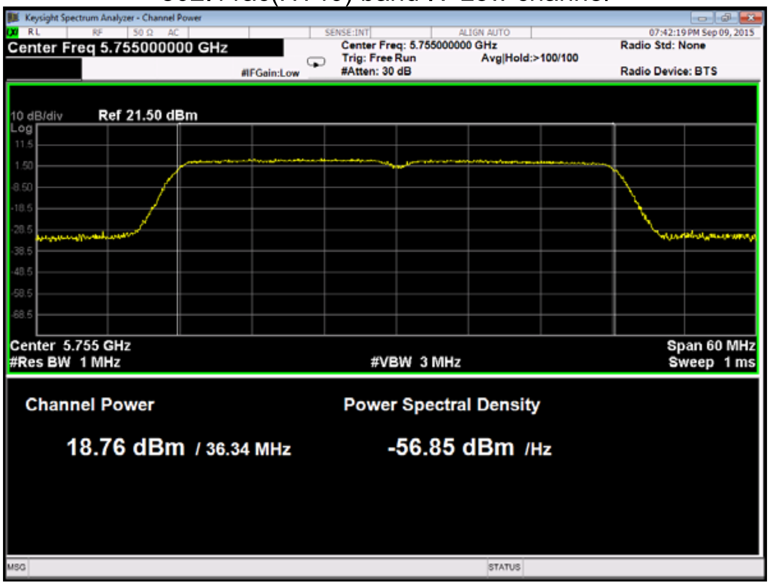
802.11ac(HT20) band IV Middle channel



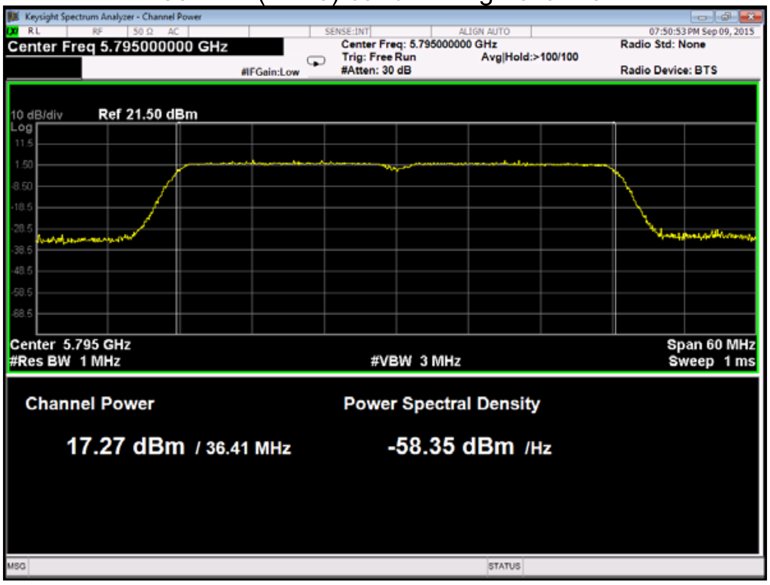
802.11ac(HT20) band IV High channel



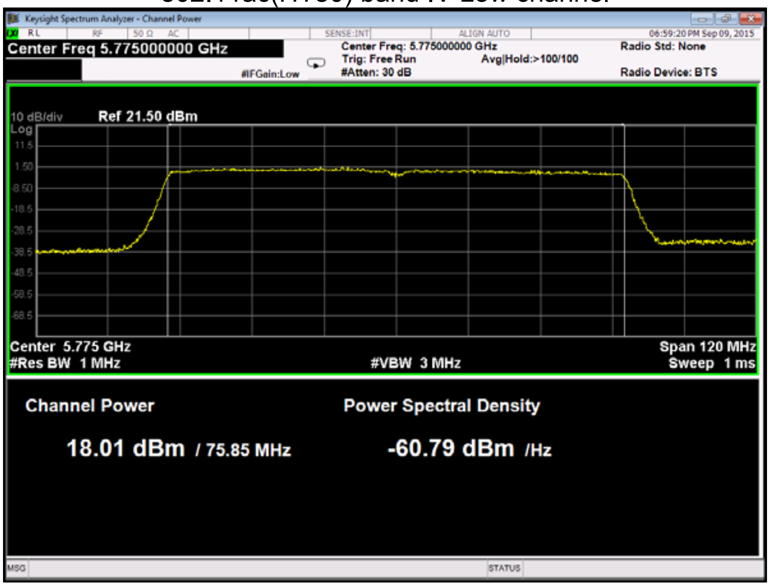
802.11ac(HT40) band IV Low channel



802.11n(HT40) band IV High channel



802.11ac(HT80) band IV Low channel



13 Power Spectral density

Test Requirement:	FCC CFR47 Part 15 Section 15.407(a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01, Section F
Test Limit:	≤17.00dBm/MHz for Operation in the band I(5150MHz-5250MHz)of device ≤30.00dBm/500KHz for Operation in the band IV(5725MHz-5850MHz)of device
Test Result:	PASS

13.1 Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 510kHz/1MHz. VBW ⩾3 RBW Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

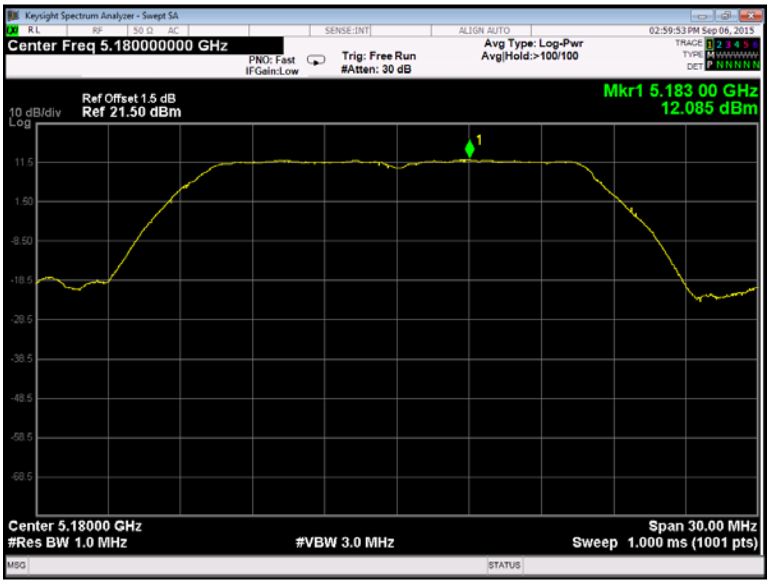
13.2 Test Result:

Band	Operation mode	CH	Power Spectral Density (dBm/MHz)		
			ANT0	ANT1	Total
Band I	802.11a	Low	12.085	12.702	/
		Middle	11.984	13.086	/
		High	12.279	12.207	/
	802.11n(HT20)	Low	12.187	12.661	15.441
		Middle	12.277	12.982	15.654
		High	12.094	13.274	15.734
	802.11n(HT40)	Low	7.880	7.608	10.756
		Middle	/	/	/
		High	8.297	7.521	10.937
	802.11ac(HT20)	Low	8.790	11.579	13.415
		Middle	9.269	11.294	13.409
		High	9.701	11.791	13.881
	802.11ac(HT40)	Low	6.719	6.602	9.671
		Middle	/	/	/
		High	7.039	7.355	10.210
	802.11ac(HT80)	Low	3.612	3.888	6.762
		Middle	/	/	
		High	/	/	/
0Band IV	802.11a	Low	10.862	11.409	14.15
		Middle	10.192	10.053	13.13
		High	9.530	9.404	12.48
	802.11n(HT20)	Low	11.872	11.451	14.68
		Middle	10.866	10.906	13.90
		High	9.833	9.845	12.85
	802.11n(HT40)	Low	5.087	5.260	8.18
		Middle	/	/	/
		High	4.341	4.601	7.48
	802.11ac(HT20)	Low	10.900	10.703	13.81
		Middle	10.458	10.602	13.54
		High	10.149	10.329	13.25
	802.11ac(HT40)	Low	4.980	4.820	7.91
		Middle	/	/	/
		High	4.329	4.383	7.37
	802.11ac(HT80)	Low	1.731	1.328	4.54
		Middle	/	/	
		High	/	/	/
	Limit		≤17.00dBm/MHz		

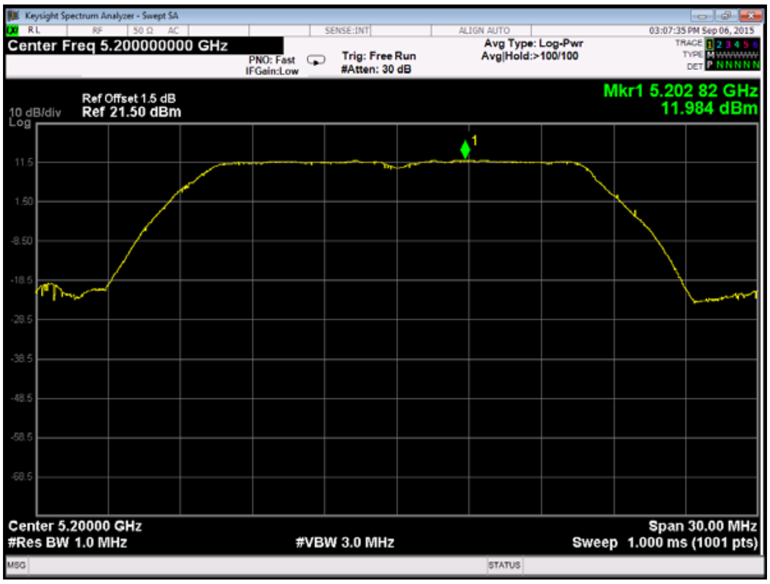
Test result plots shown as follows:

ANT0

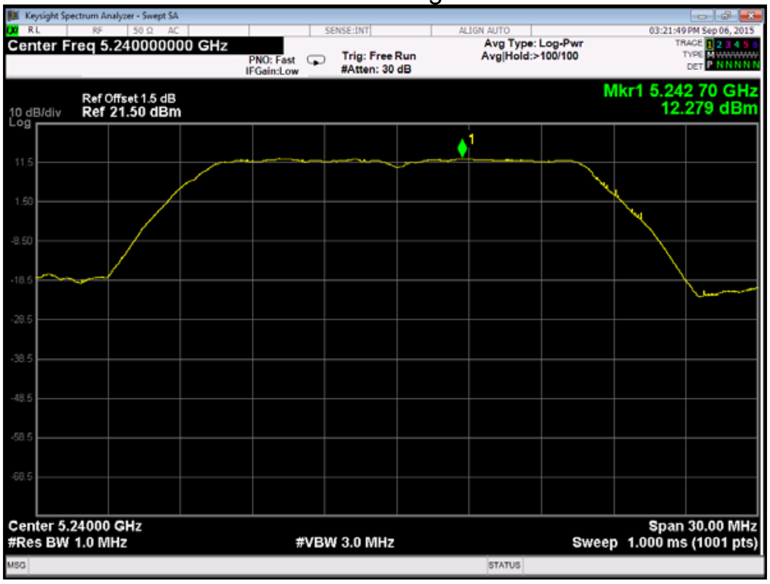
802.11a band I Low channel



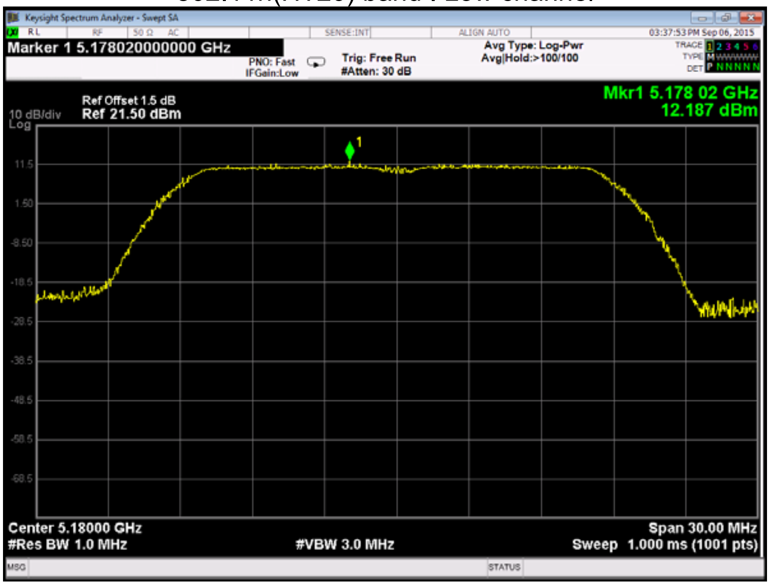
802.11a band I Middle channel



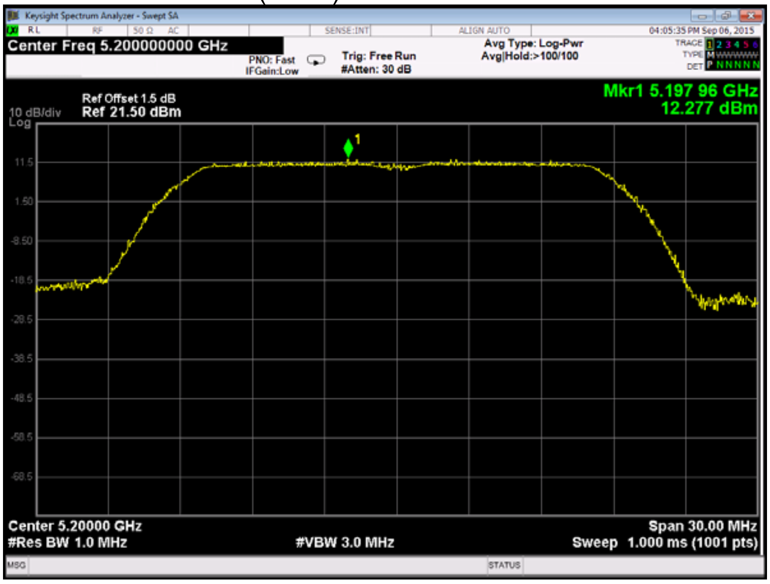
802.11a band I High channel



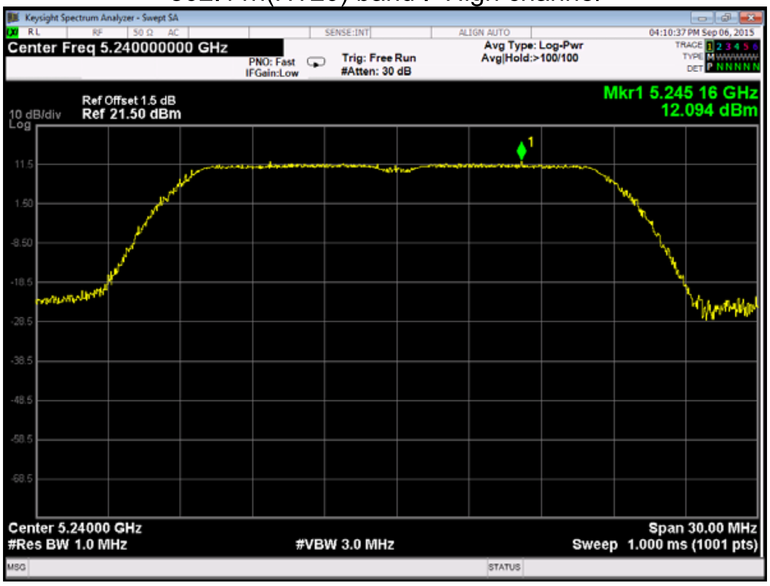
802.11n(HT20) band I Low channel



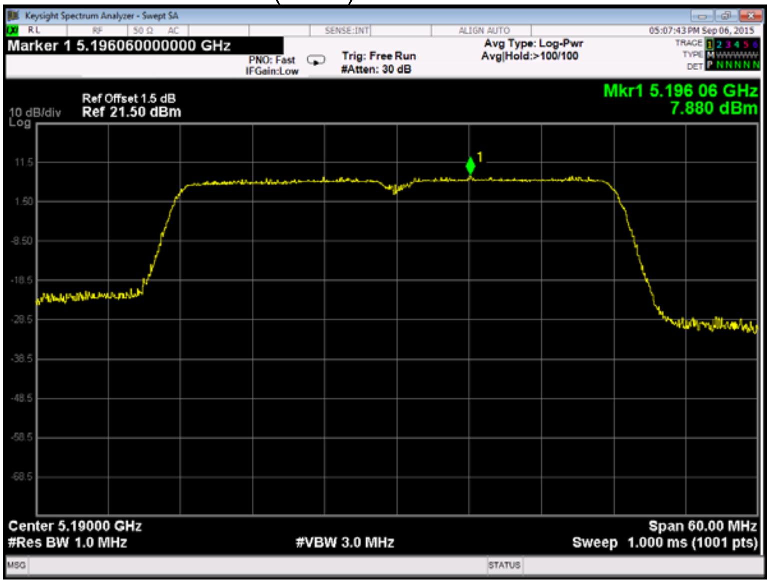
802.11n(HT20) band I Middle channel



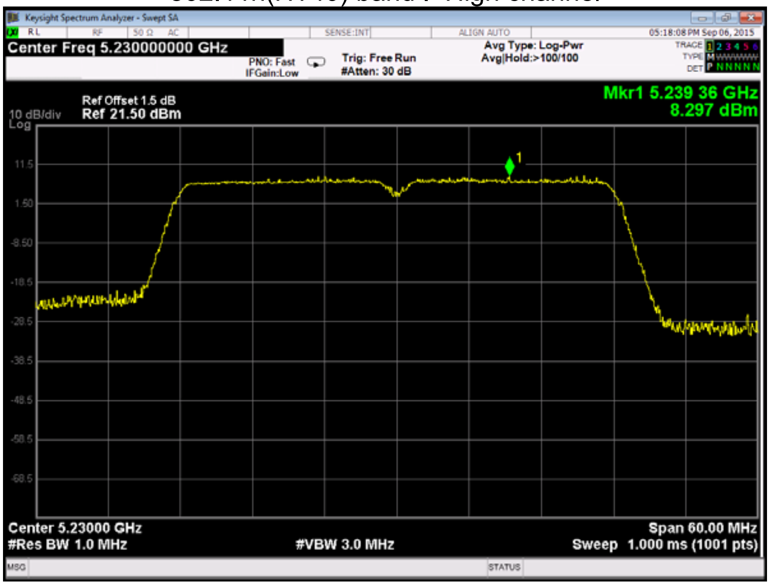
802.11n(HT20) band I High channel



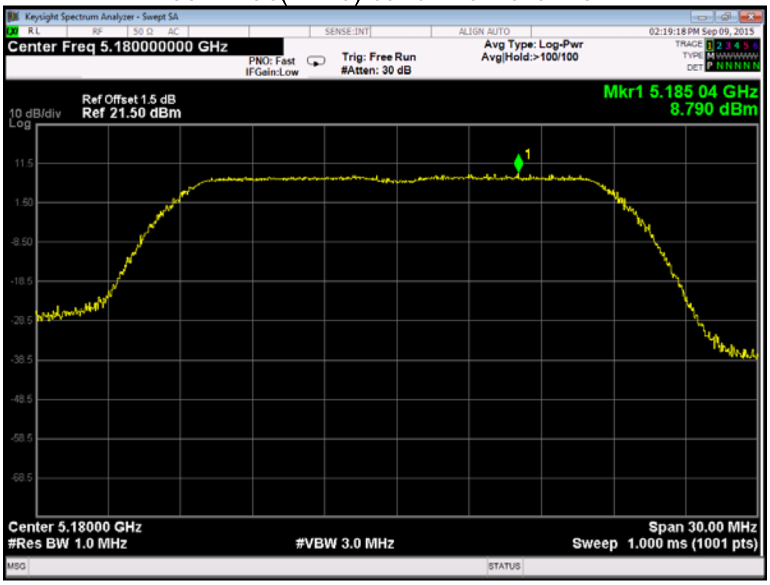
802.11n(HT40) band I Low channel



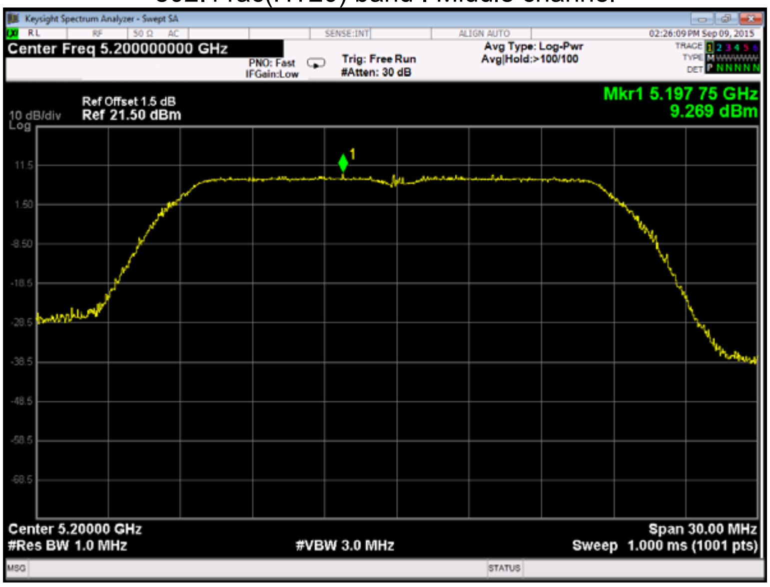
802.11n(HT40) band I High channel



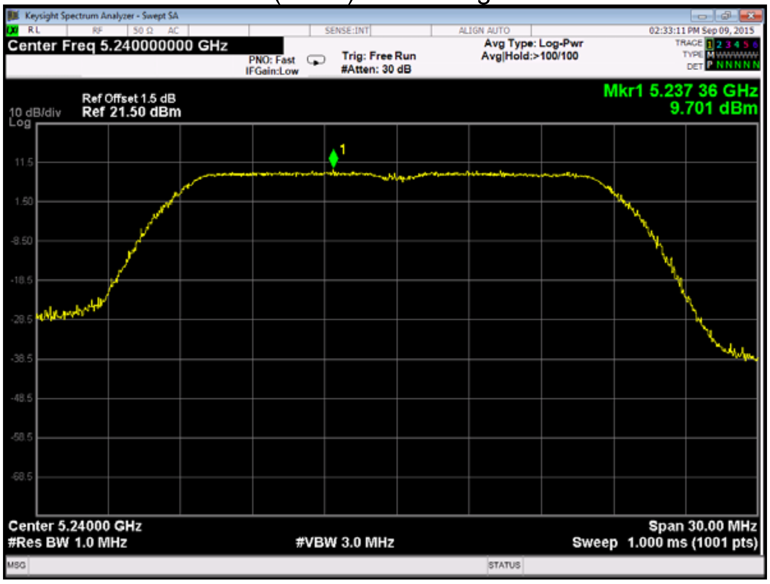
802.11ac(HT20) band I Low channel



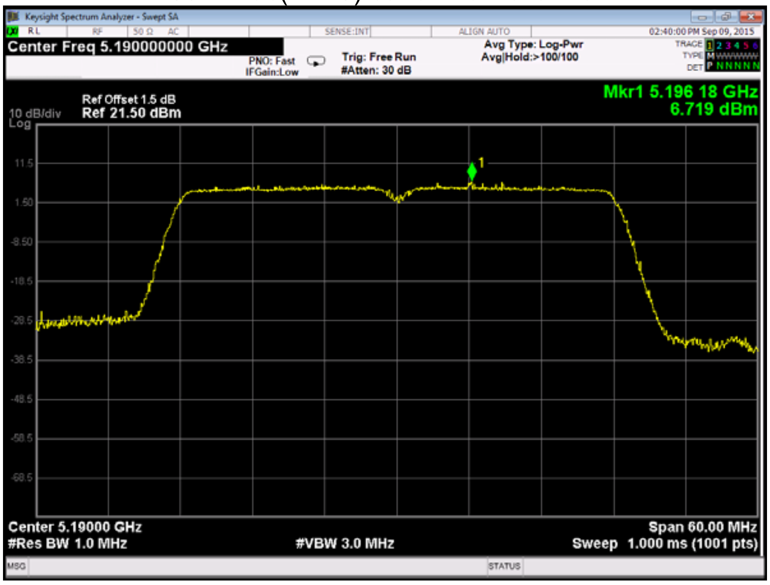
802.11ac(HT20) band I Middle channel



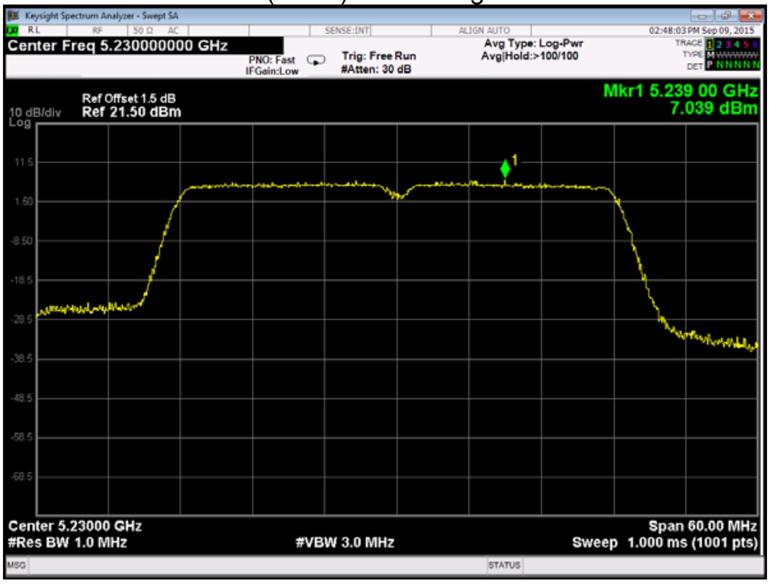
802.11ac(HT20) band I High channel



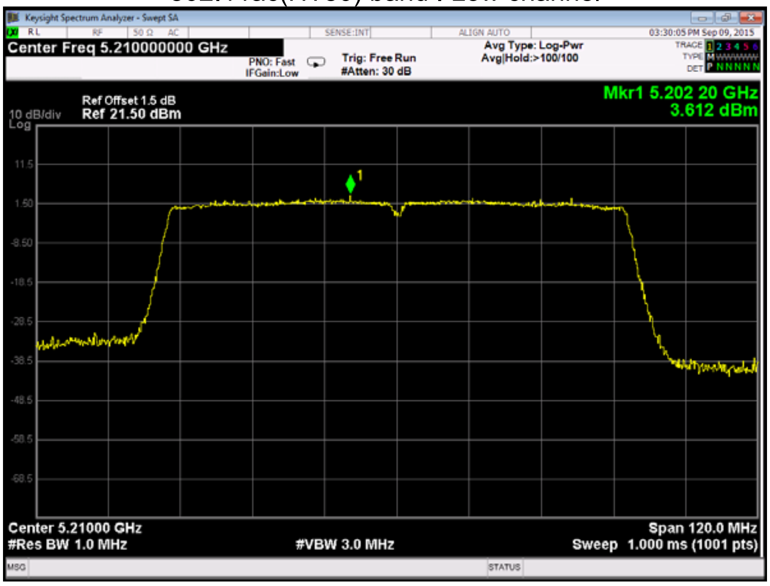
802.11ac(HT40) band I Low channel



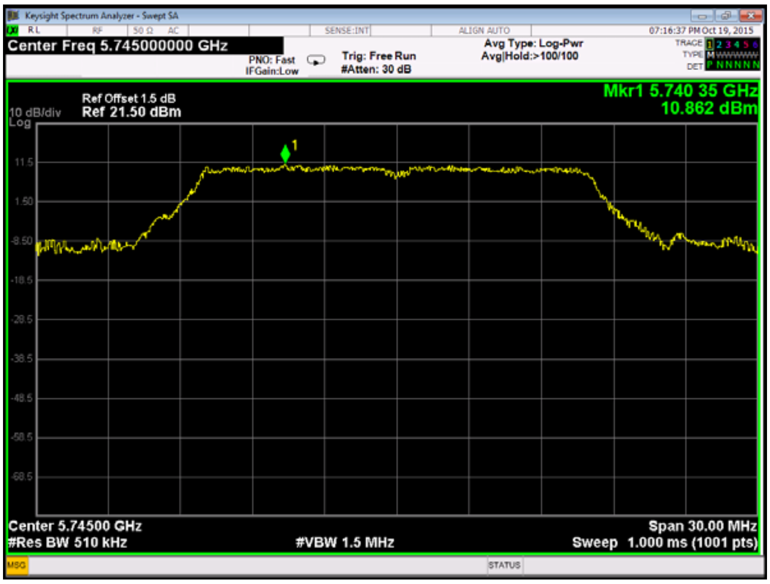
802.11n(HT40) band I High channel



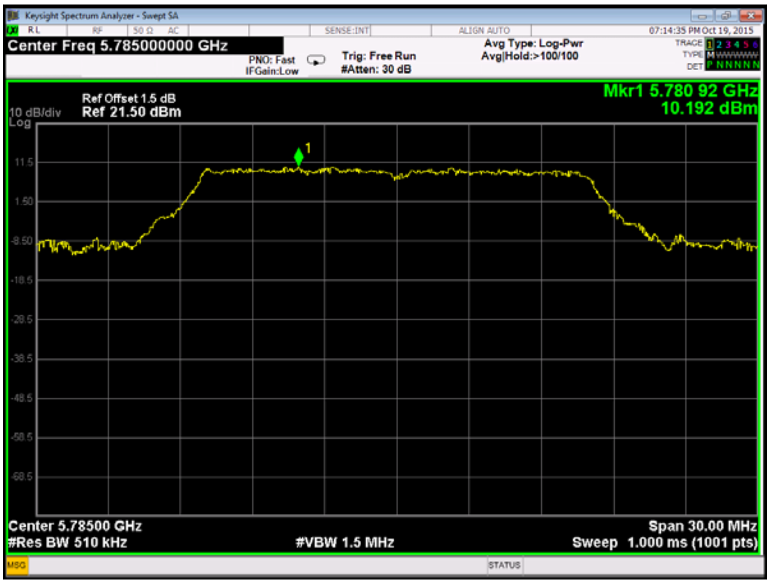
802.11ac(HT80) band I Low channel



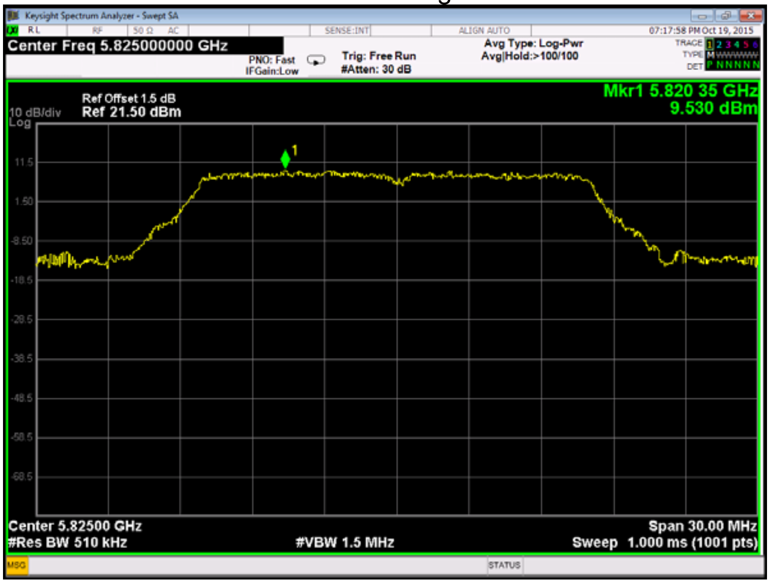
802.11a band IV Low channel



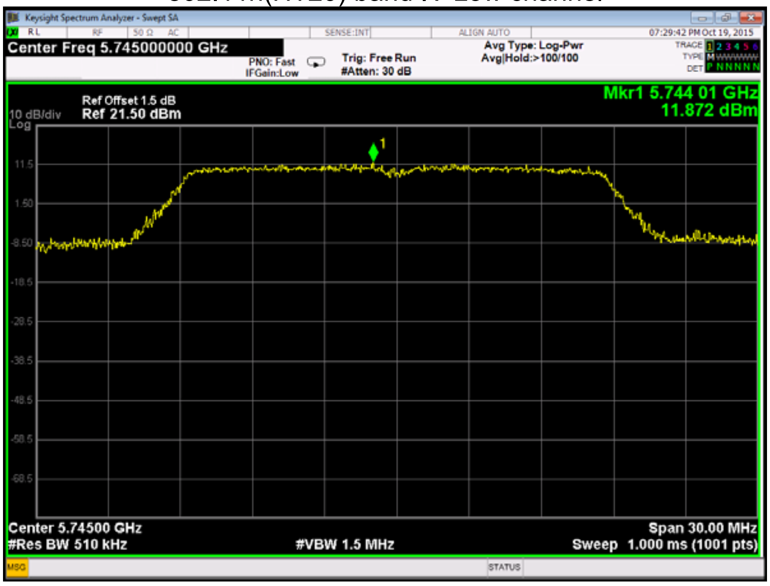
802.11a band IV Middle channel



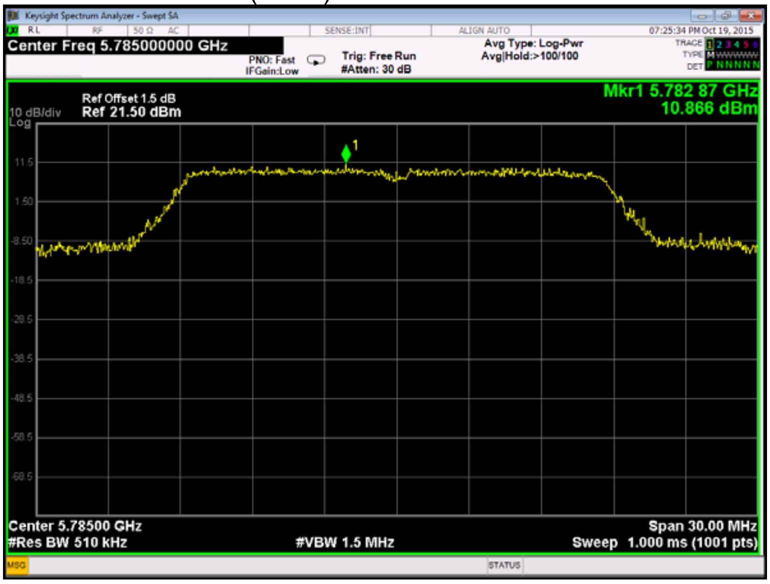
802.11a band IV High channel



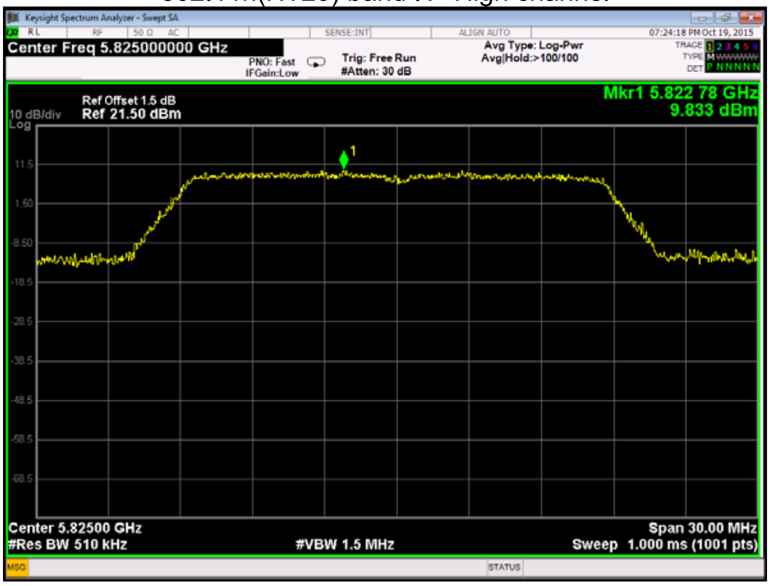
802.11n(HT20) band IV Low channel



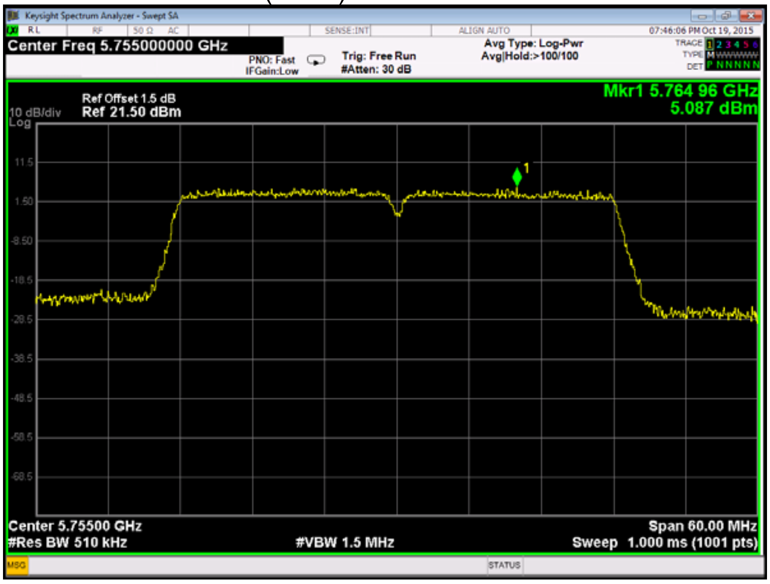
802.11n(HT20) band IV Middle channel



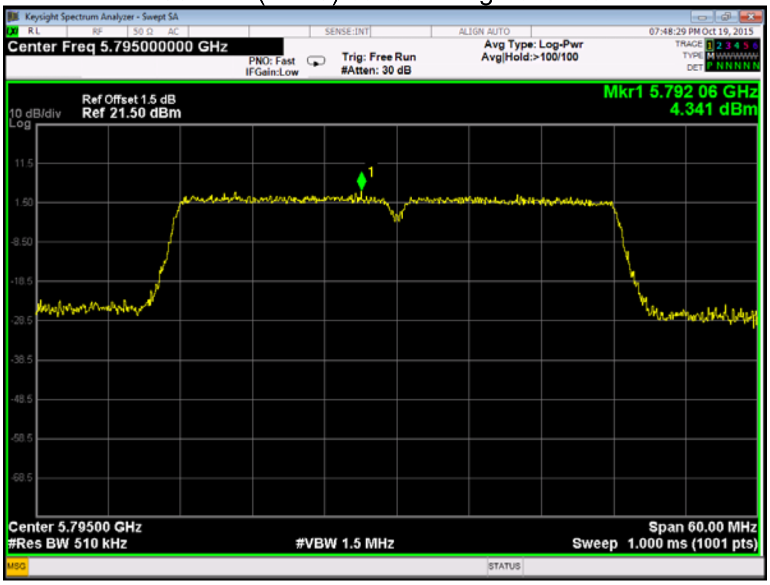
802.11n(HT20) band IV High channel



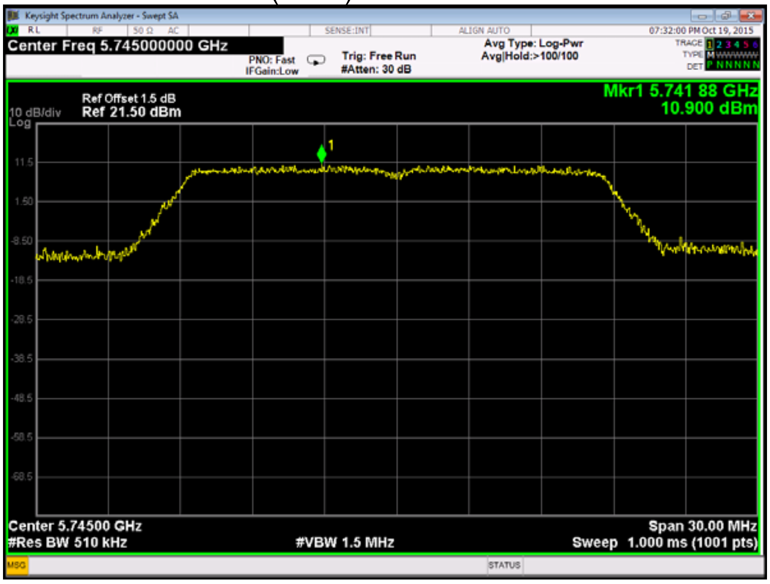
802.11n(HT40) band IV Low channel



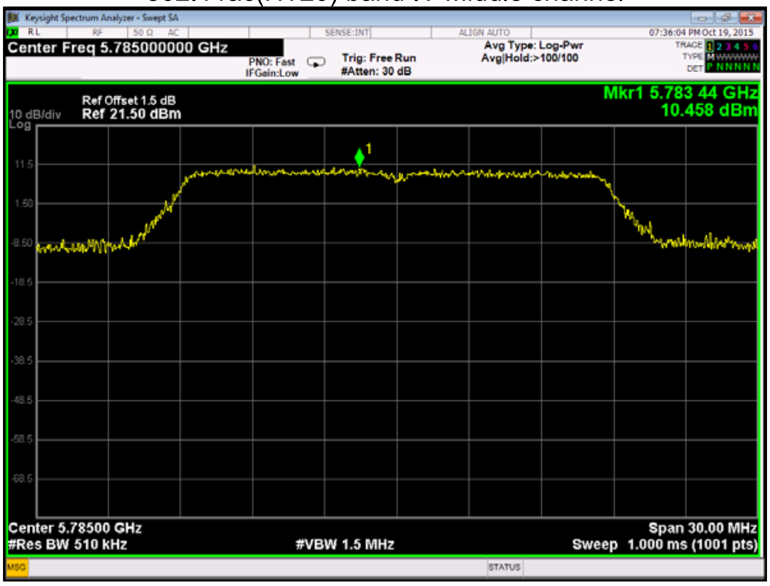
802.11n(HT40) band IV High channel



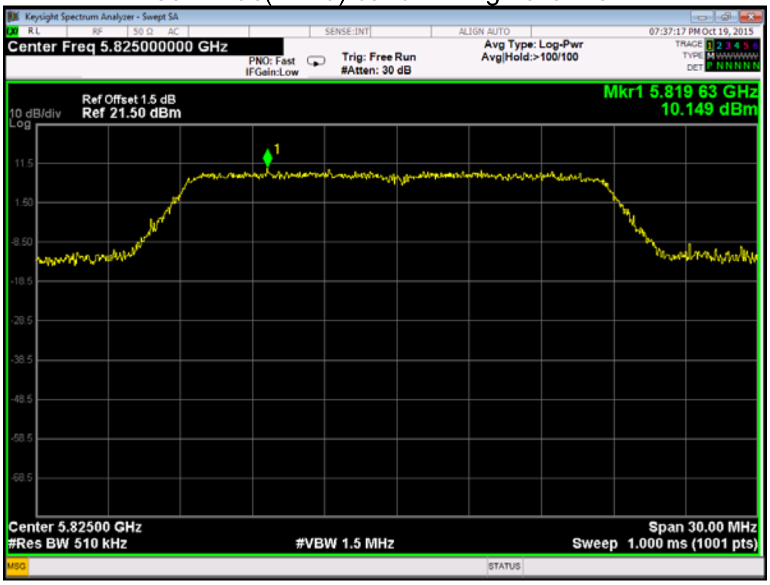
802.11ac(HT20) band IV Low channel



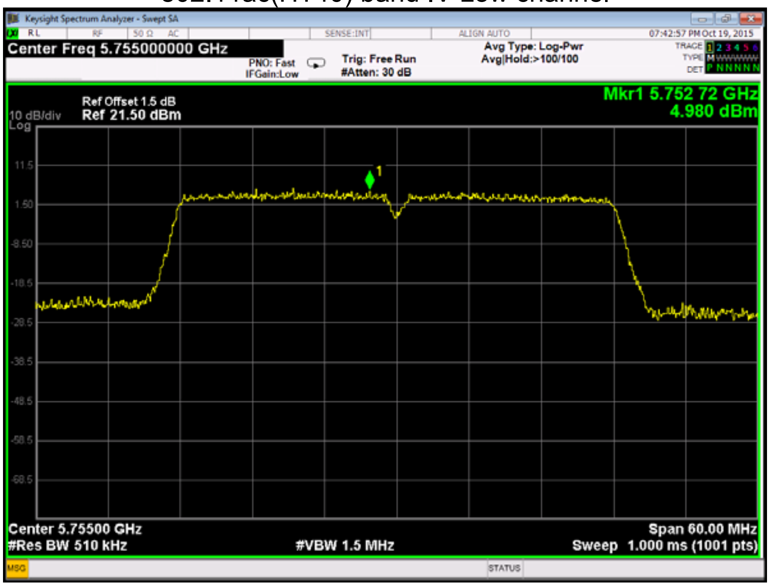
802.11ac(HT20) band IV Middle channel



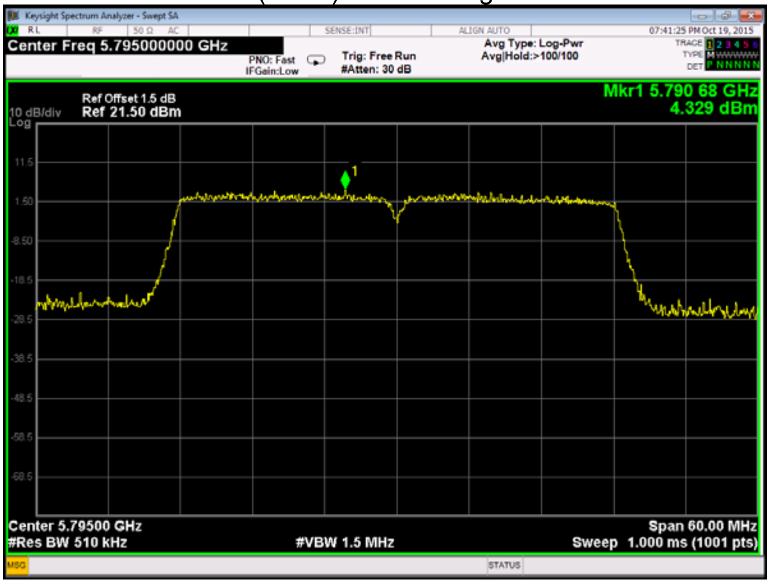
802.11ac(HT20) band IV High channel



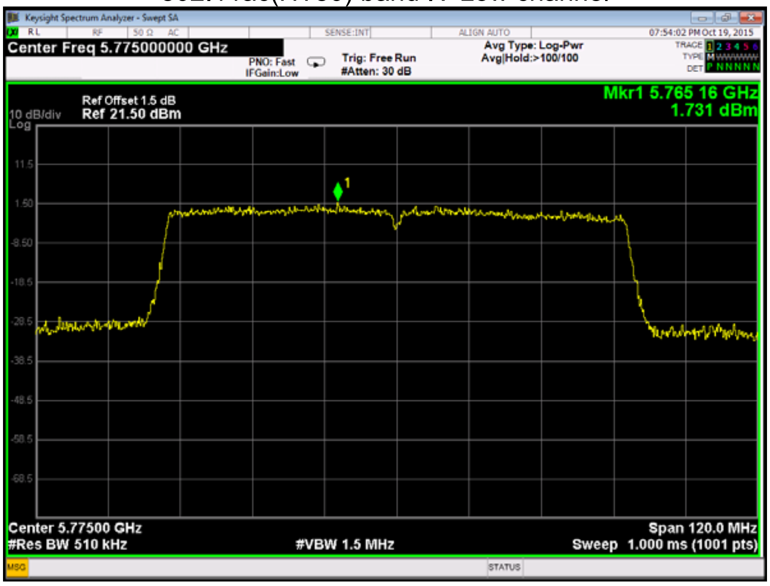
802.11ac(HT40) band IV Low channel



802.11n(HT40) band IV High channel

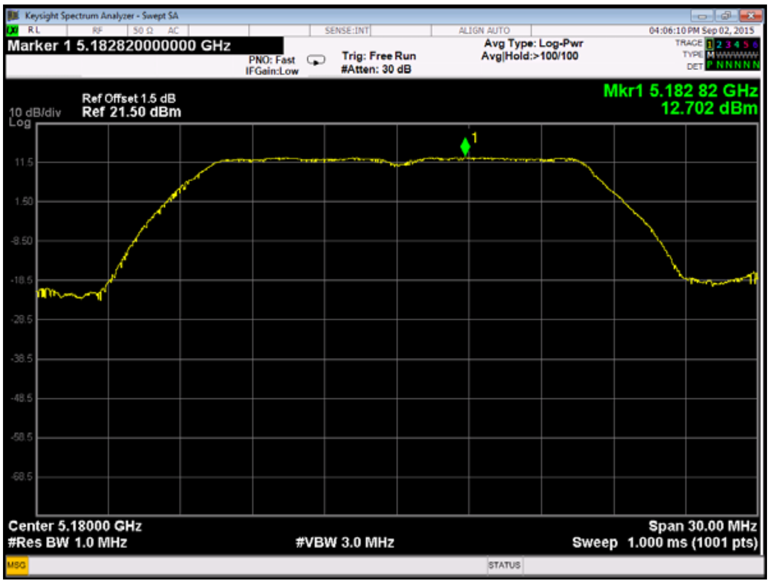


802.11ac(HT80) band IV Low channel

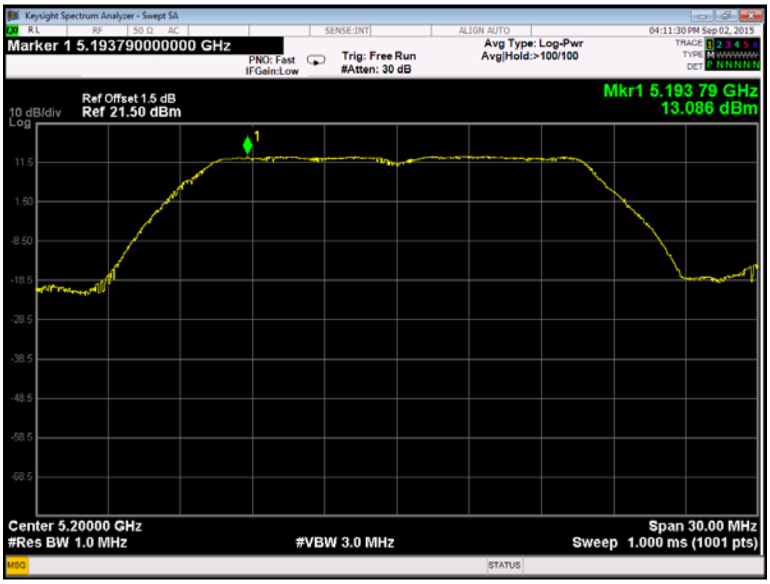


ANT 1

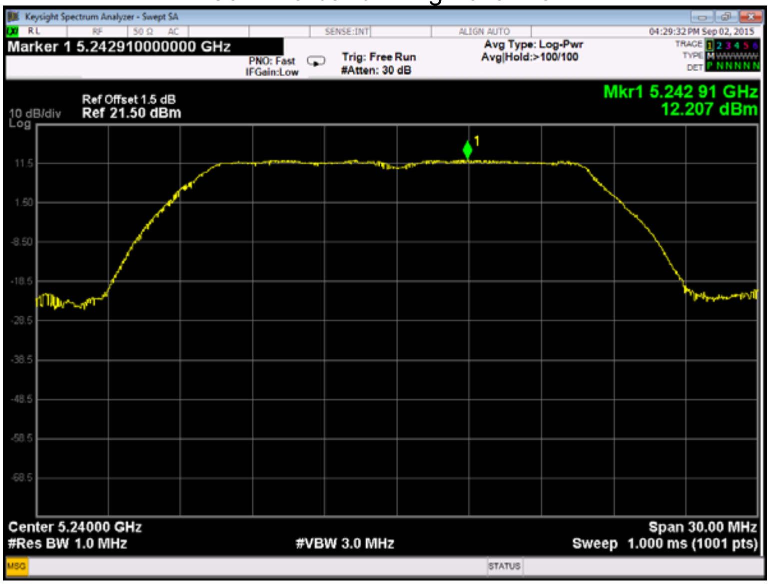
802.11a band I Low channel



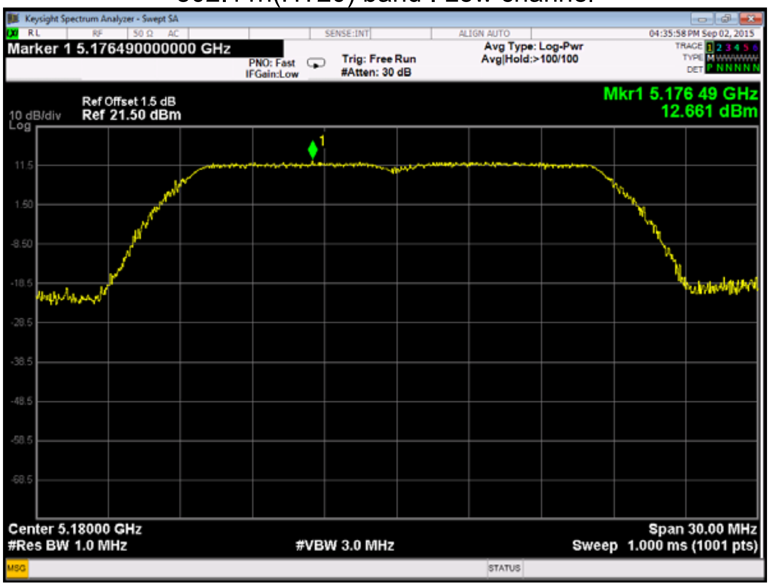
802.11a band I Middle channel



802.11a band I High channel



802.11n(HT20) band I Low channel



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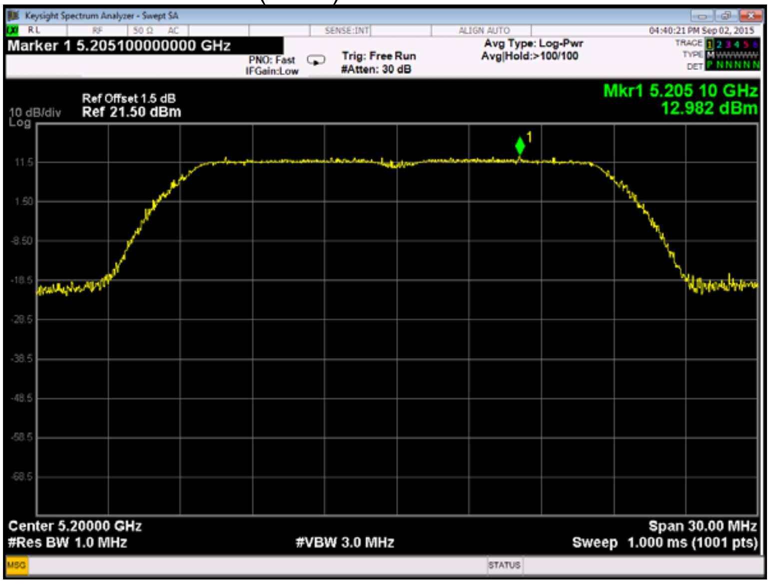

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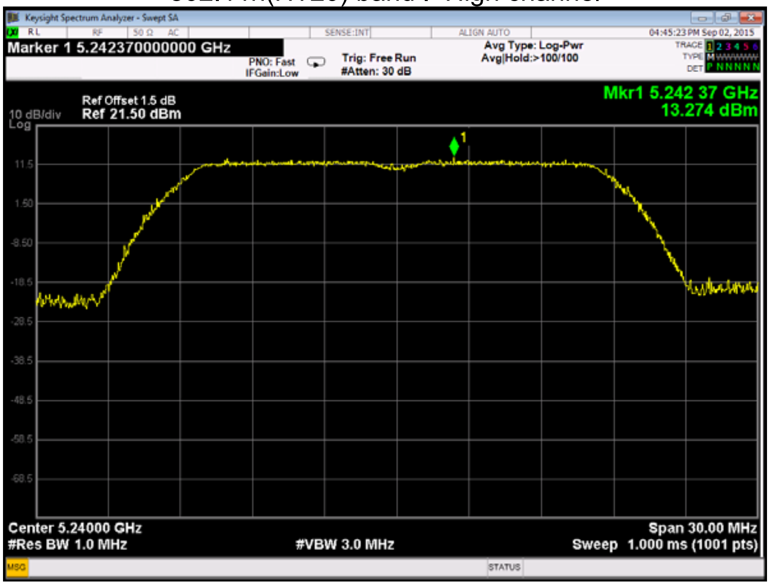
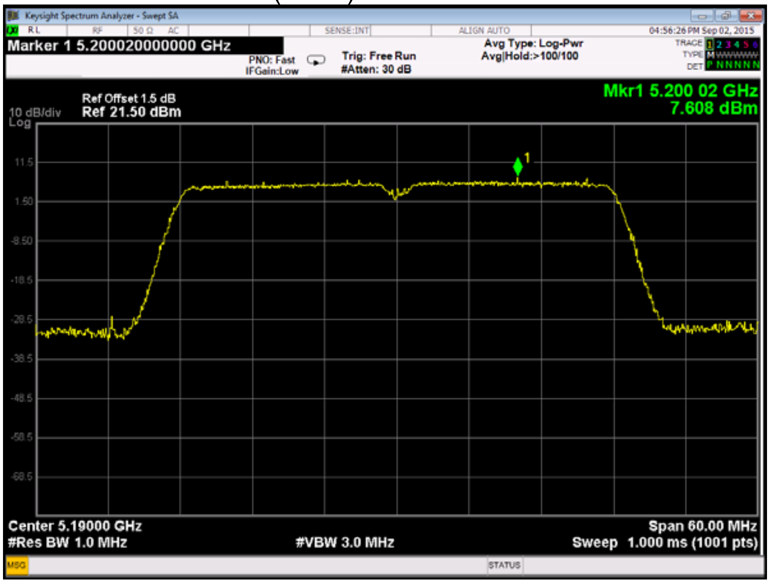
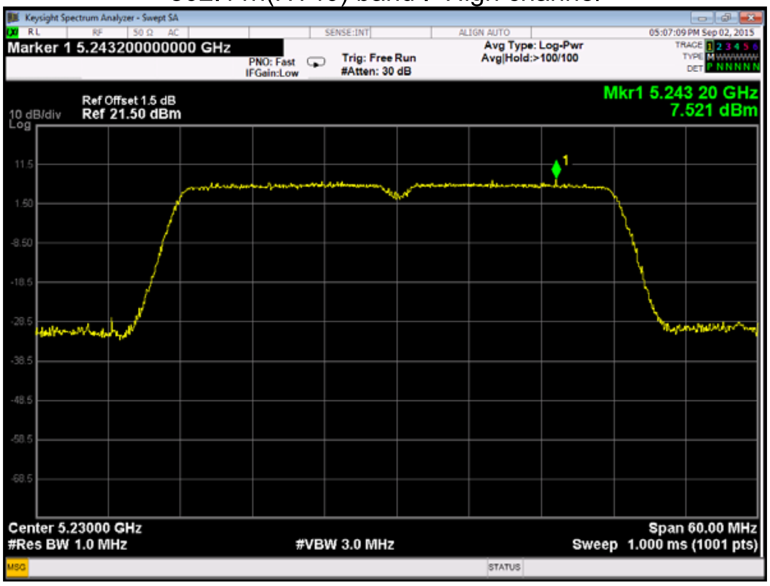


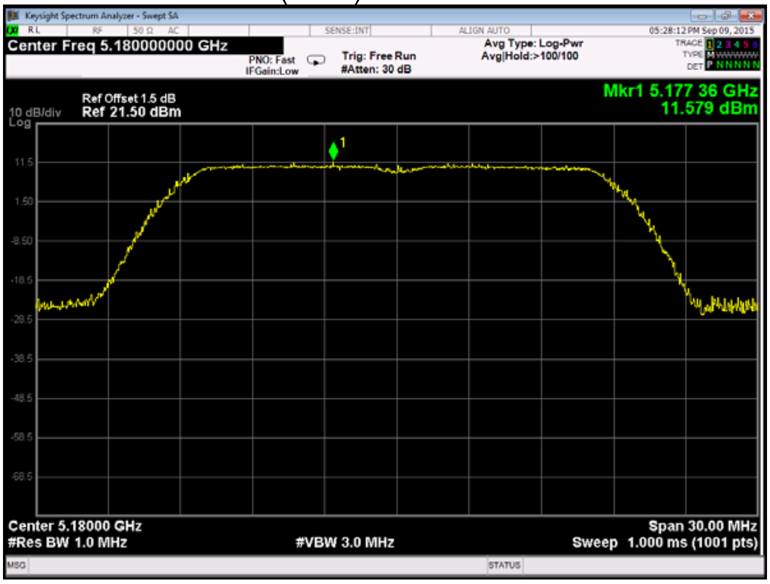
802.11n(HT40) band I Low channel



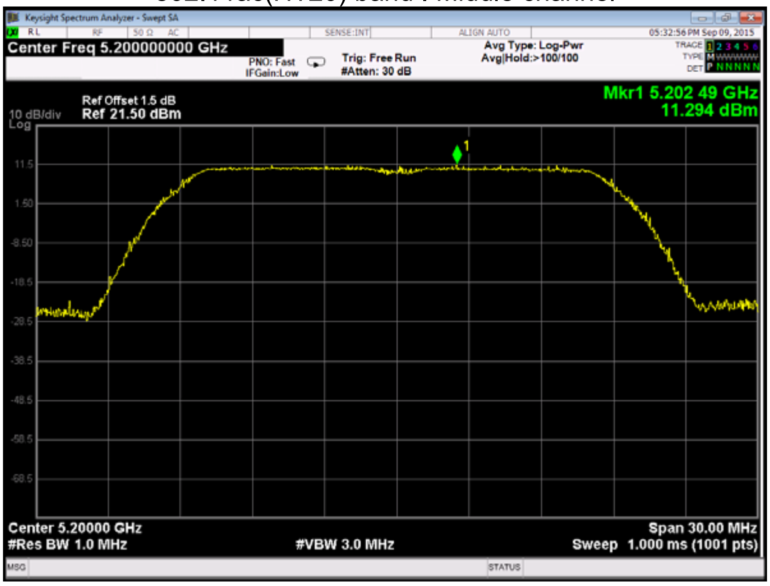
802.11n(HT40) band I High channel



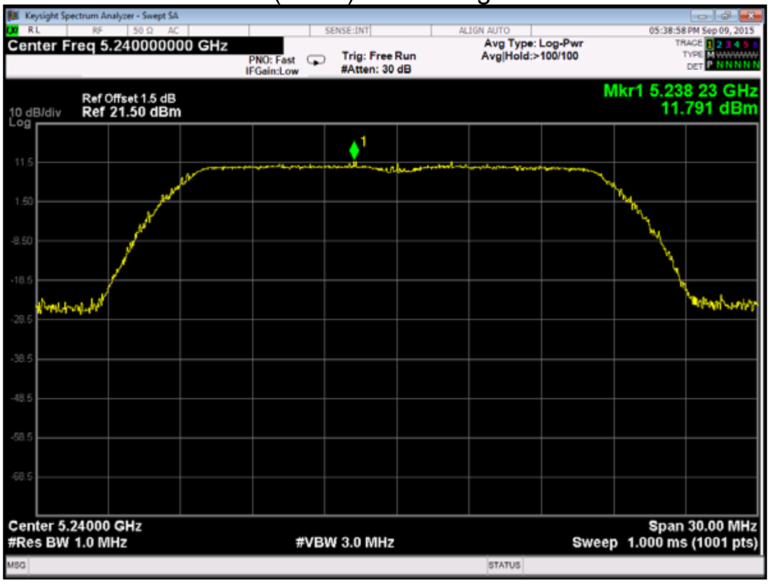
802.11ac(HT20) band I Low channel



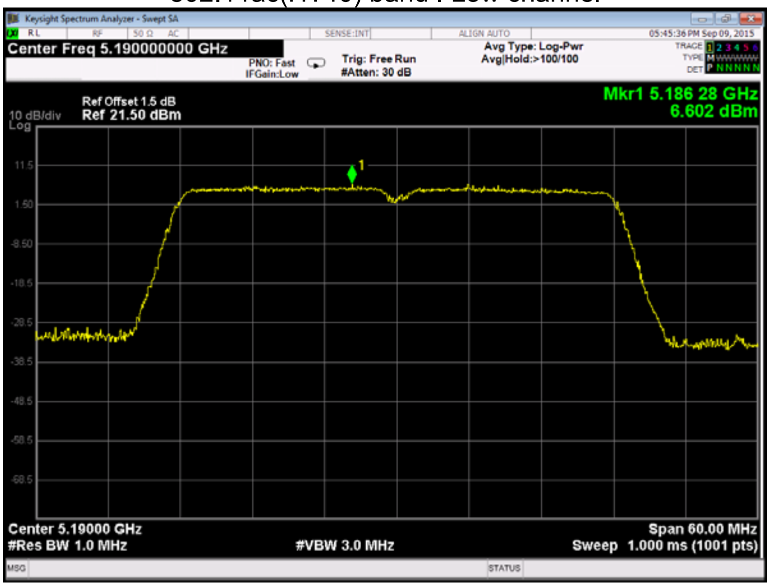
802.11ac(HT20) band I Middle channel



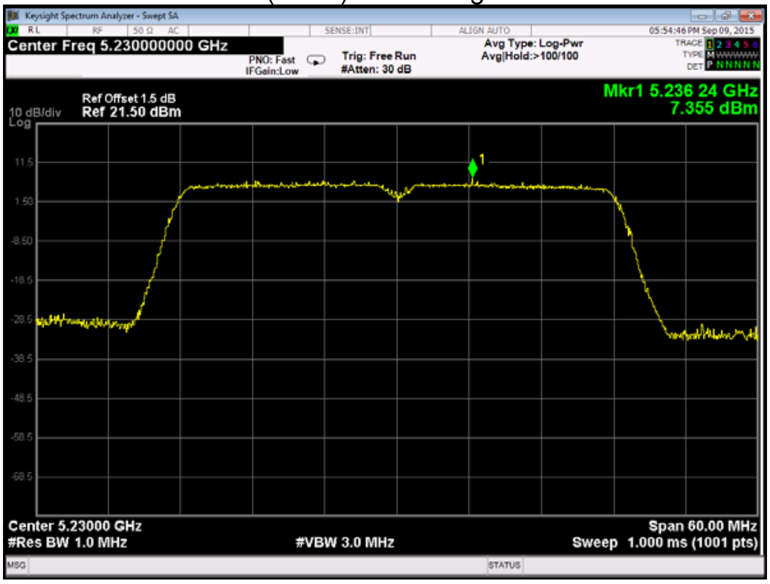
802.11ac(HT20) band I High channel



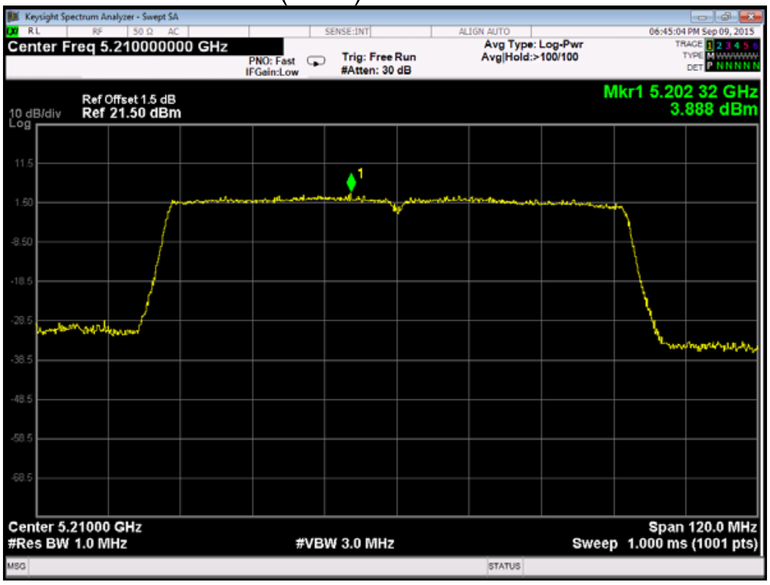
802.11ac(HT40) band I Low channel



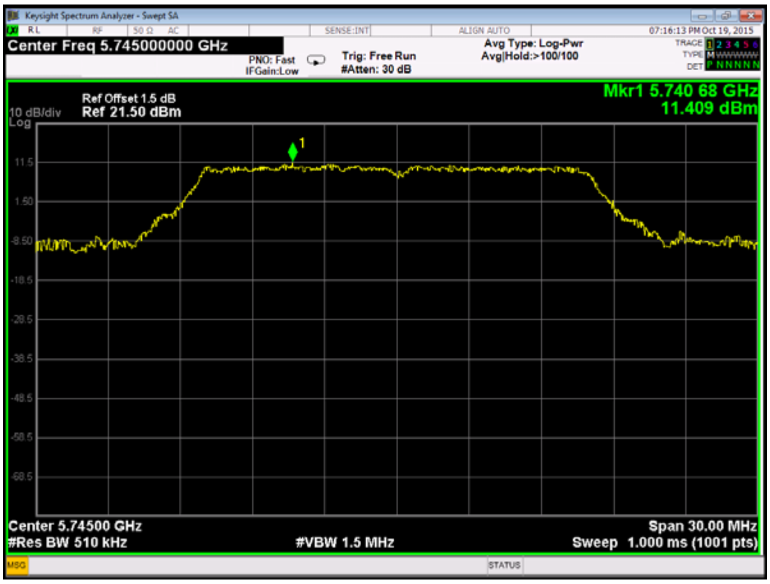
802.11n(HT40) band I High channel



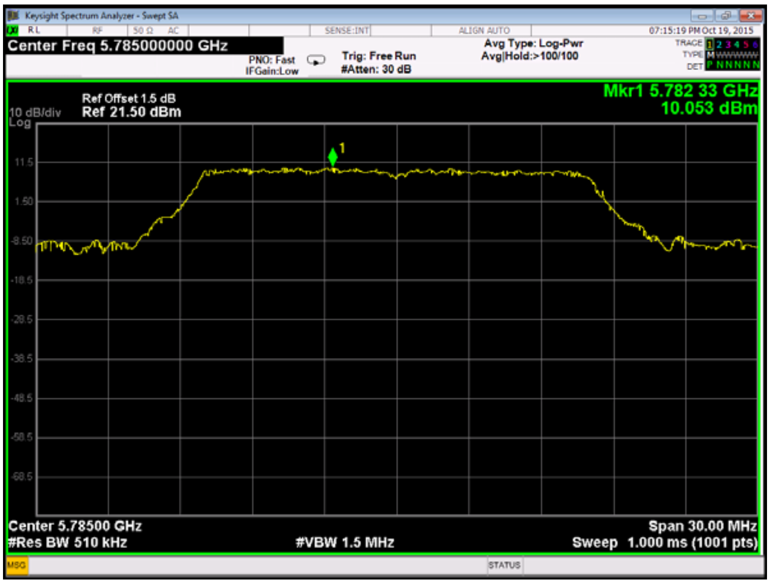
802.11ac(HT80) band I Low channel



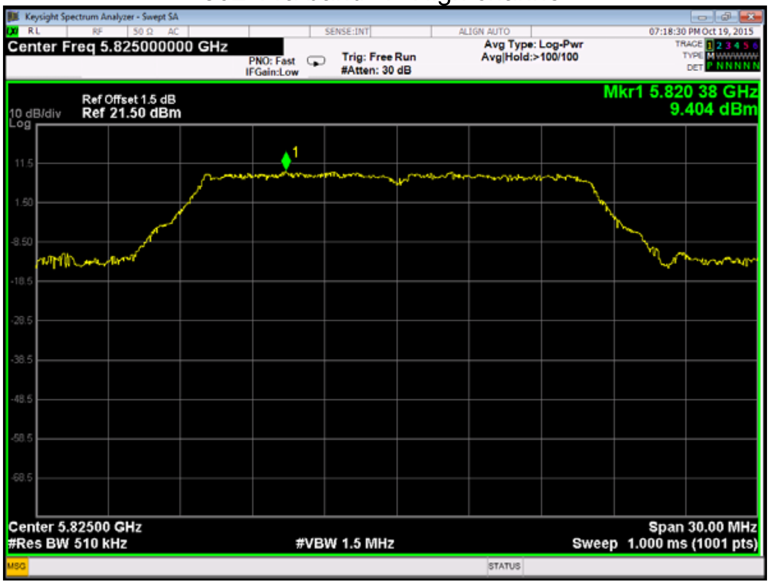
802.11a band IV Low channel



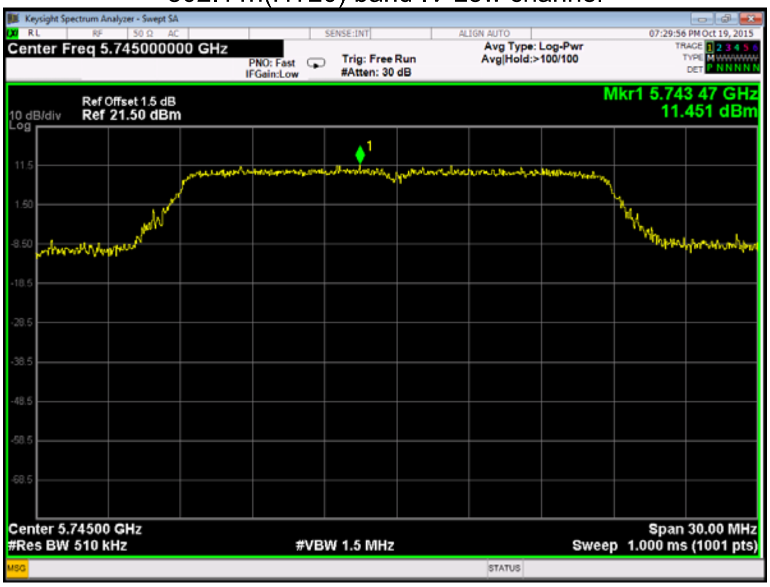
802.11a band IV Middle channel



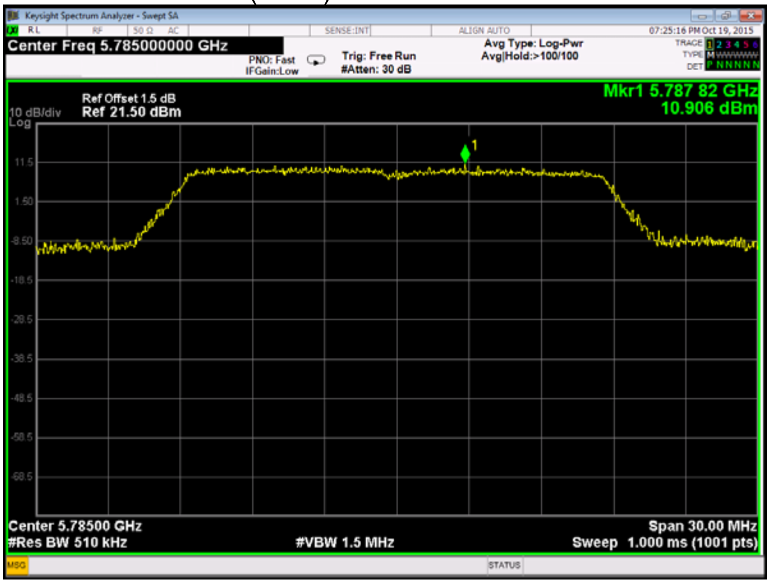
802.11a band IV High channel



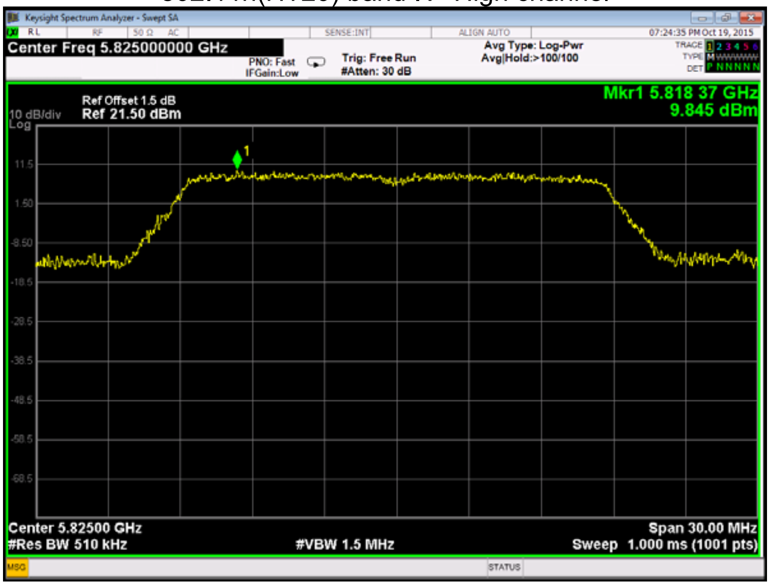
802.11n(HT20) band IV Low channel



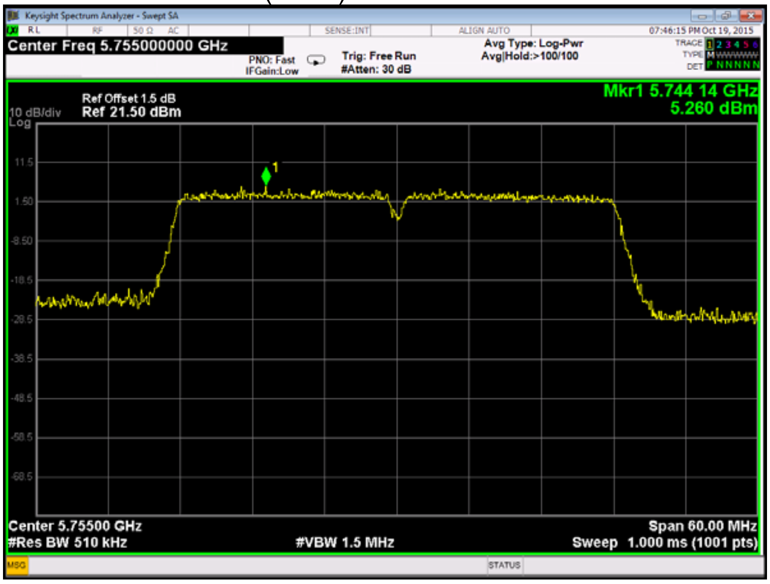
802.11n(HT20) band IV Middle channel



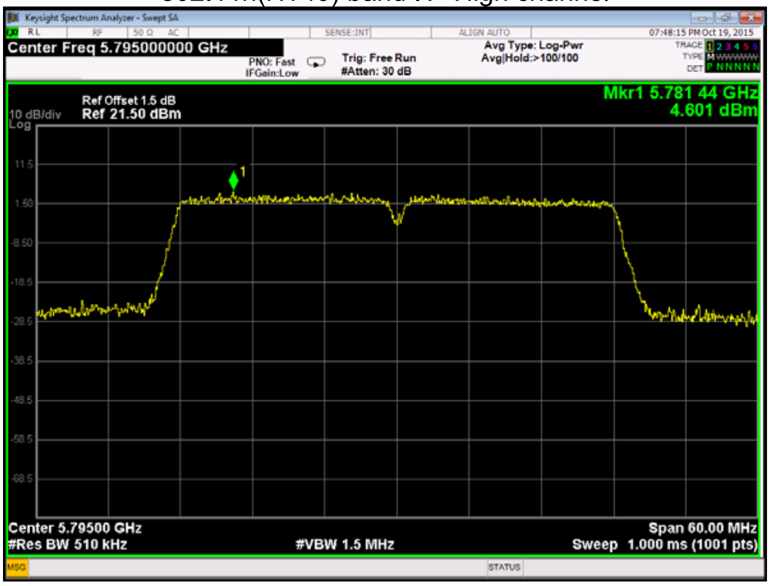
802.11n(HT20) band IV High channel



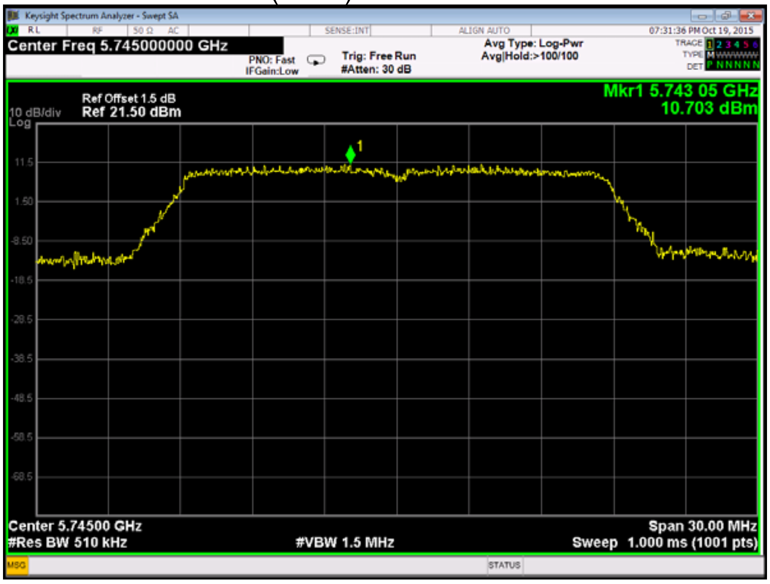
802.11n(HT40) band IV Low channel



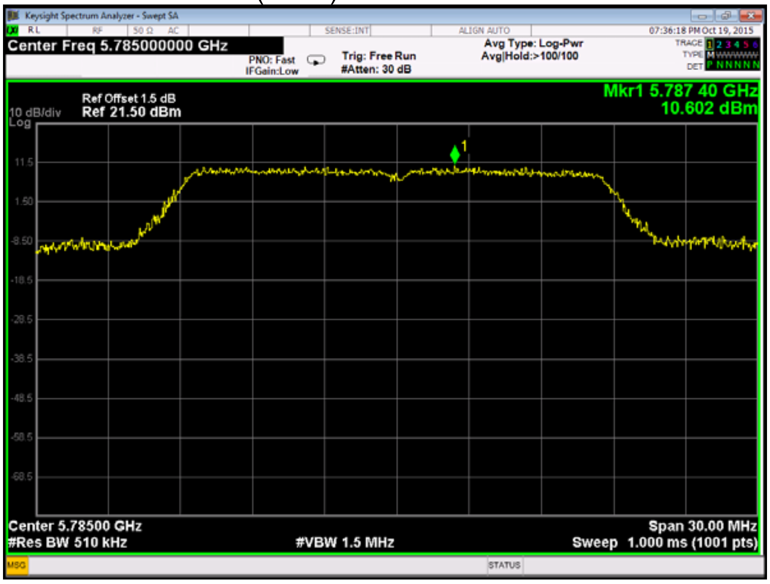
802.11n(HT40) band IV High channel



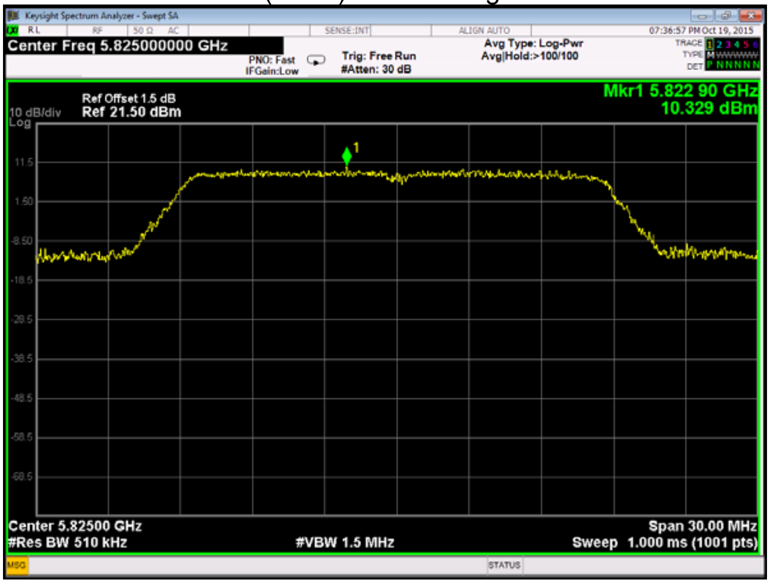
802.11ac(HT20) band IV Low channel



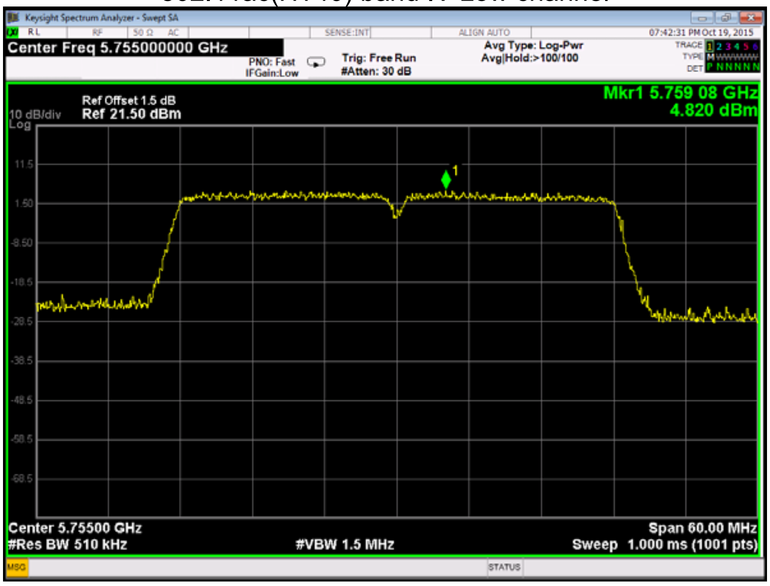
802.11ac(HT20) band IV Middle channel



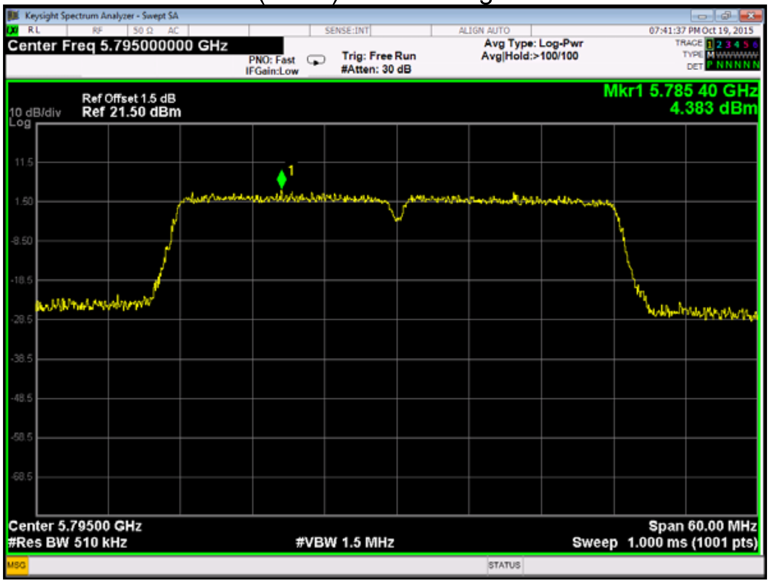
802.11ac(HT20) band IV High channel



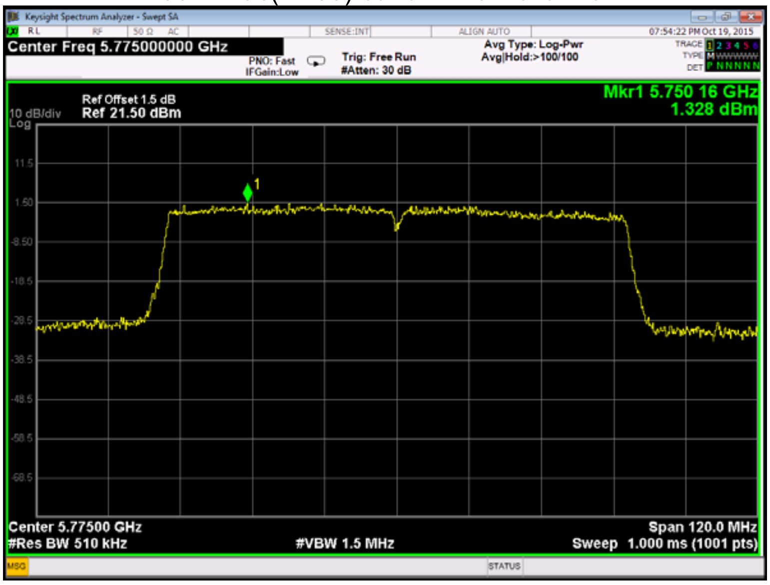
802.11ac(HT40) band IV Low channel



802.11n(HT40) band IV High channel



802.11ac(HT80) band IV Low channel



14 Antenna Requirement

According to the FCC Part 15 Paragraph 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. This product has an internal integrated antenna fulfill the requirement of this section.

15 RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part 2.1091

15.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

15.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

15.3 MPE Calculation Method

E (V/m) $= \frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) $= \frac{E^2}{377}$

E = Electric field (V/m)
P = Peak RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to

Pd $= \frac{30 \times P \times G}{377 \times d^2}$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

5.2G

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
2.80	1.905	25.85	384.59	0.145787	1

5.8G

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
4.50	2.818	24.12	258.23	0.144784	1

======End of Report======