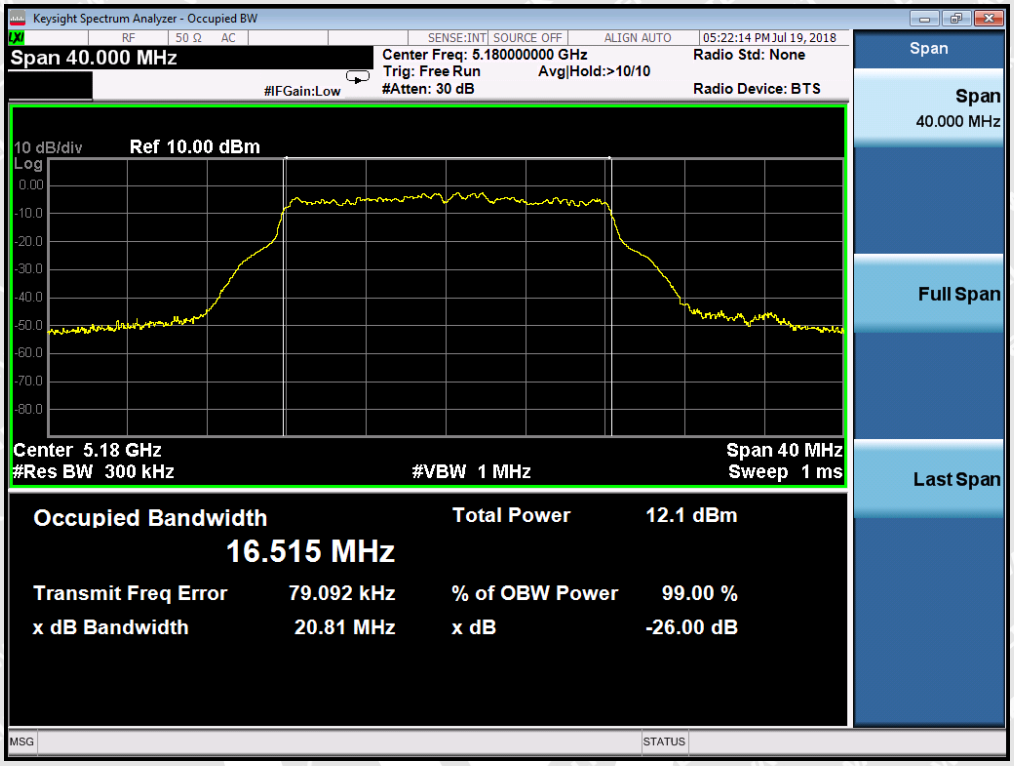
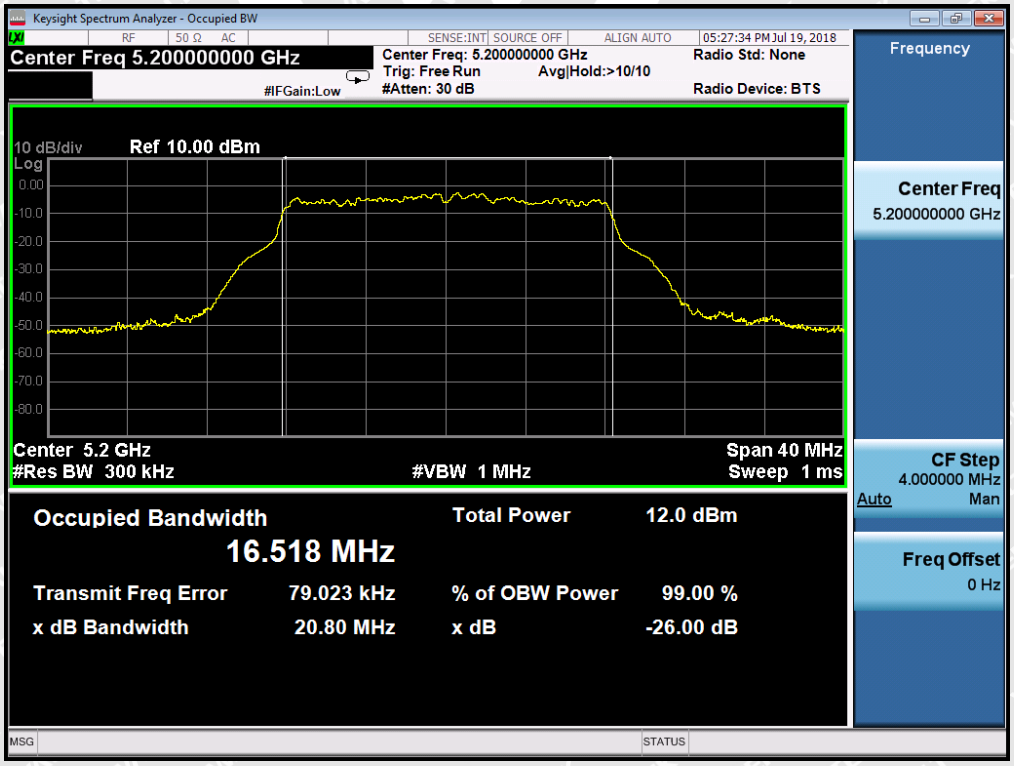
Test result plots shown as follows:

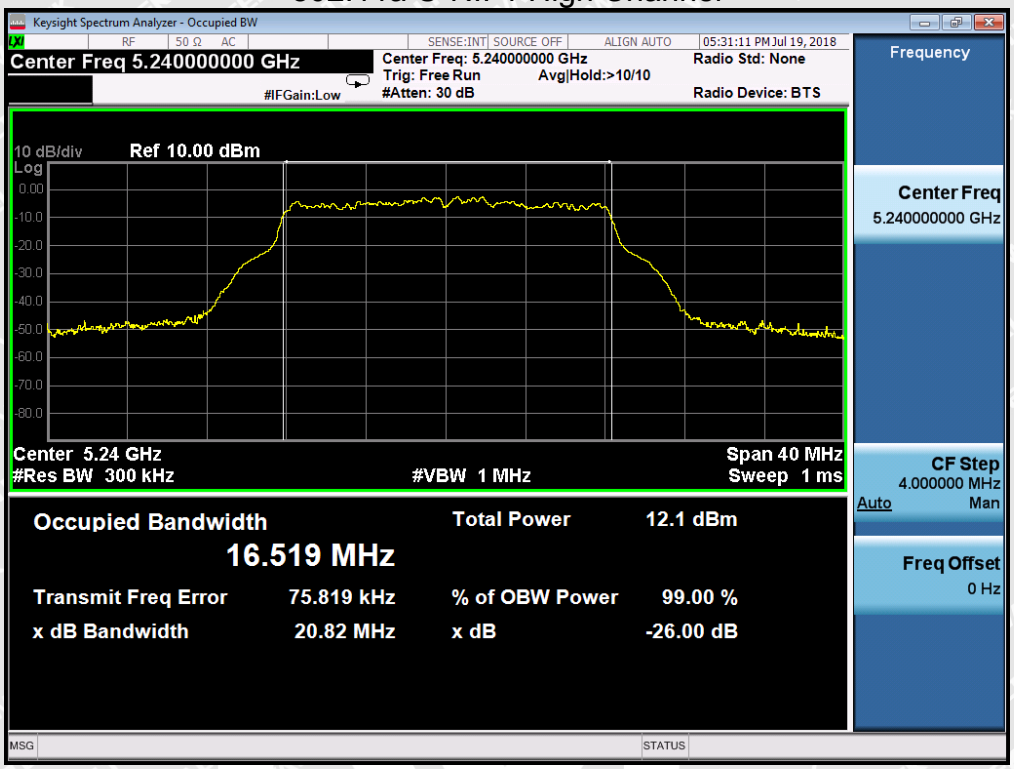
802.11a U-NII-1 Low Channel



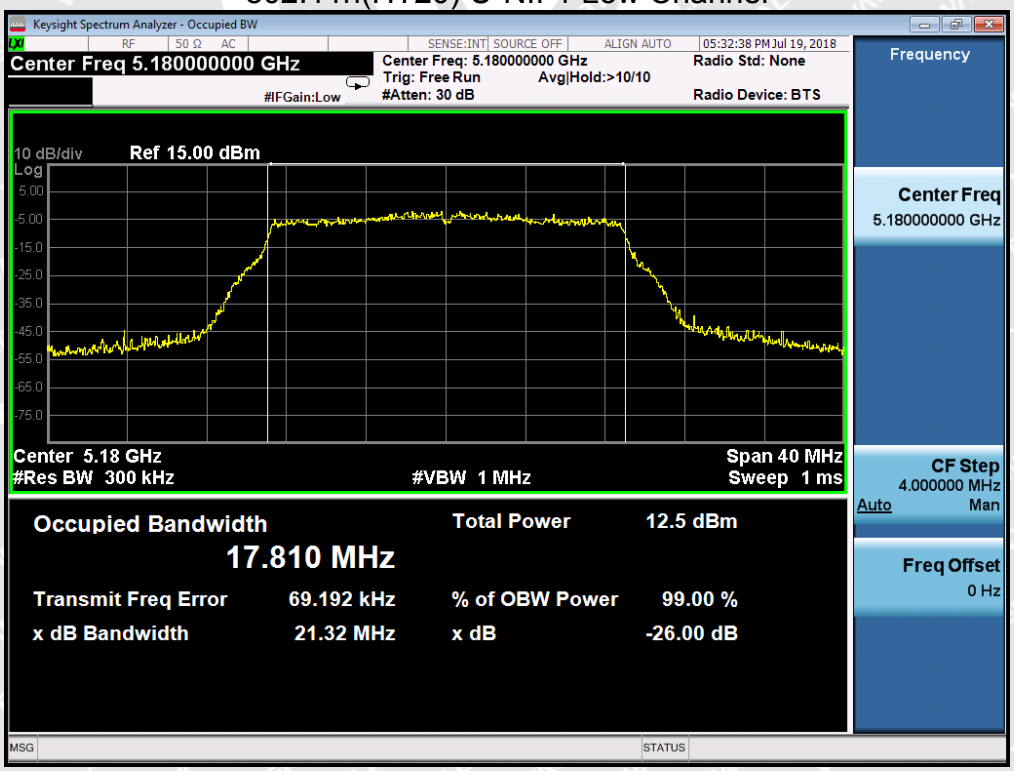
802.11a U-NII-1 Middle Channel



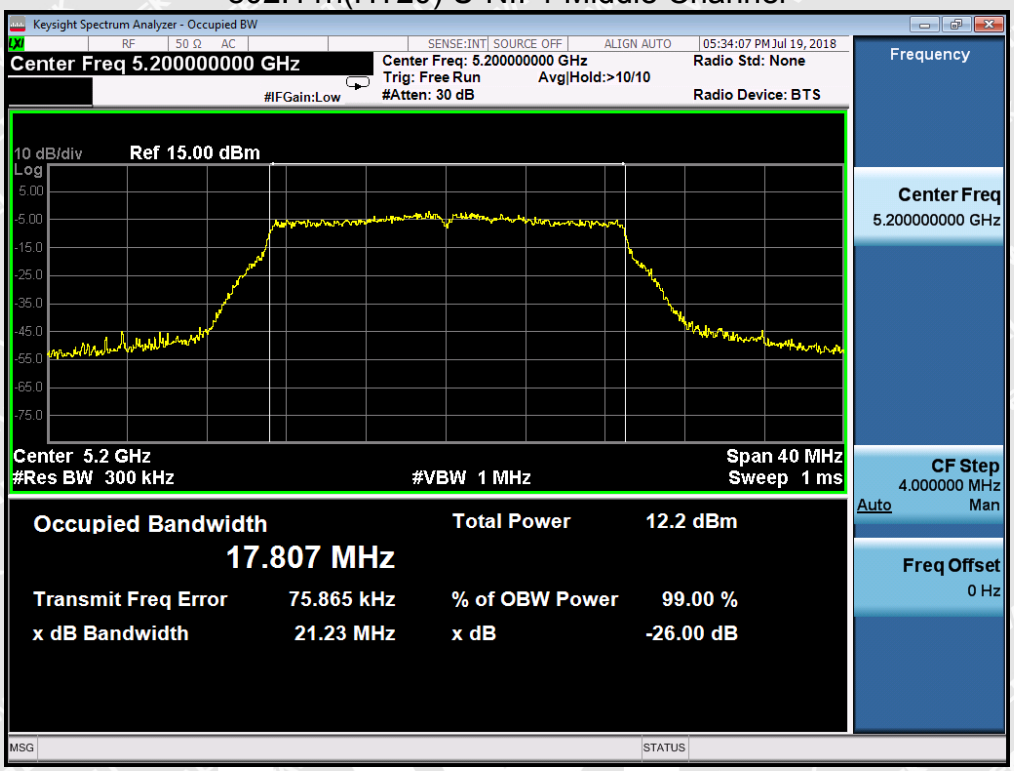
802.11a U-NII-1 High Channel



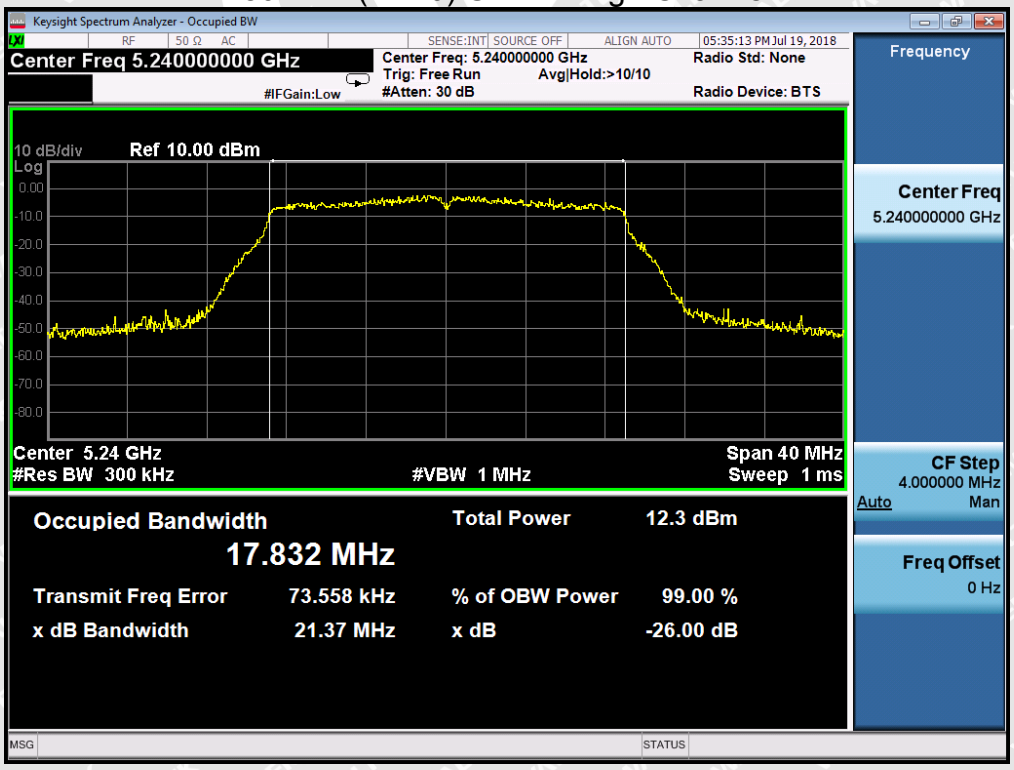
802.11n(HT20) U-NII-1 Low Channel



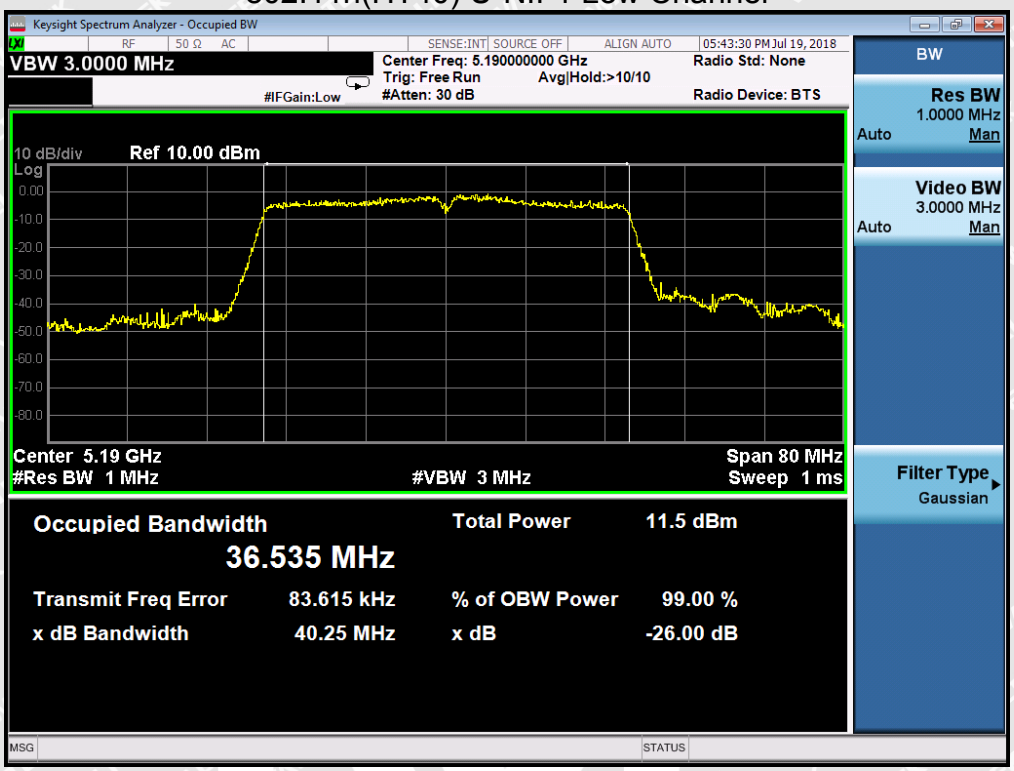
802.11n(HT20) U-NII-1 Middle Channel



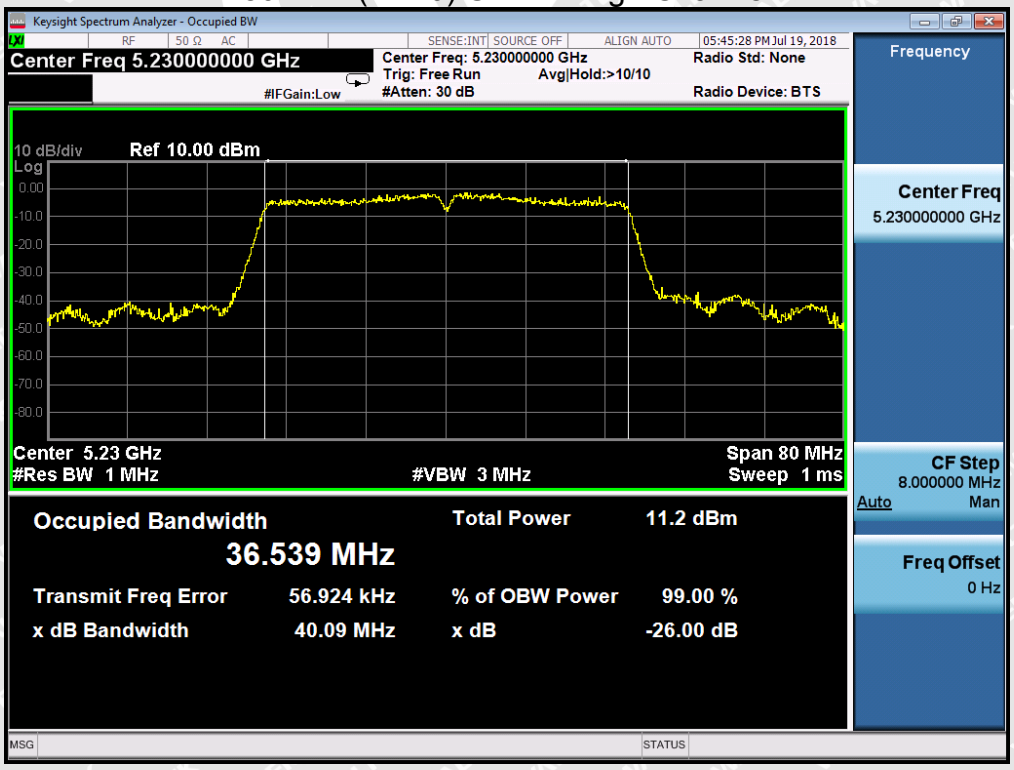
802.11n(HT20) U-NII-1 High Channel



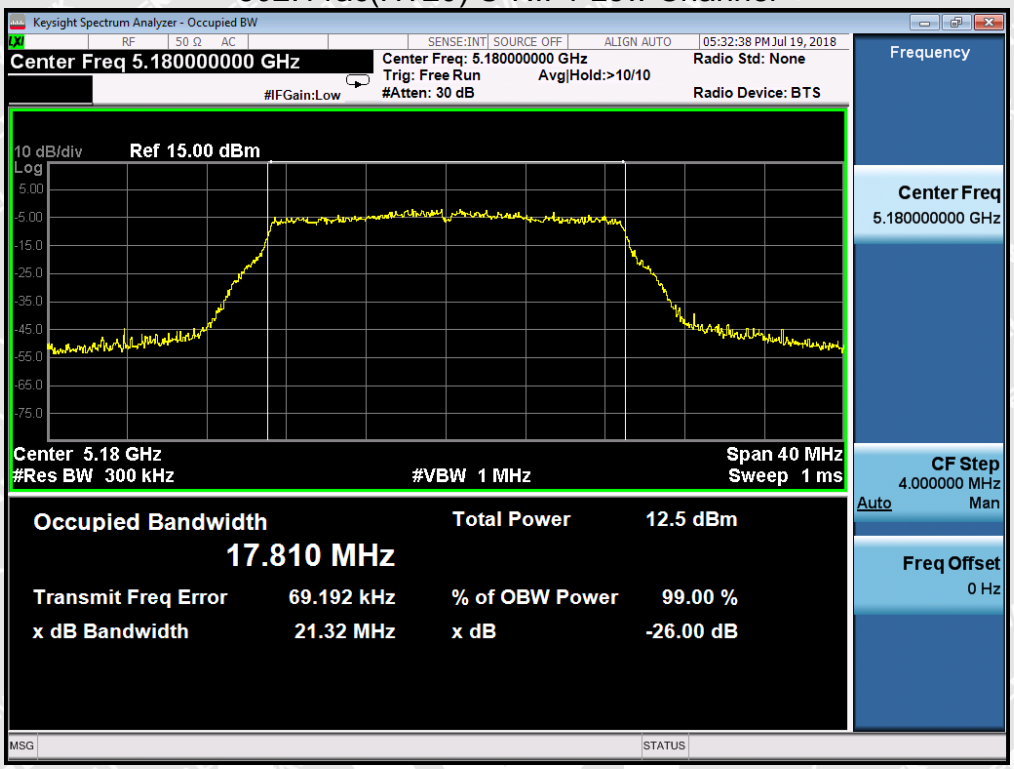
802.11n(HT40) U-NII-1 Low Channel



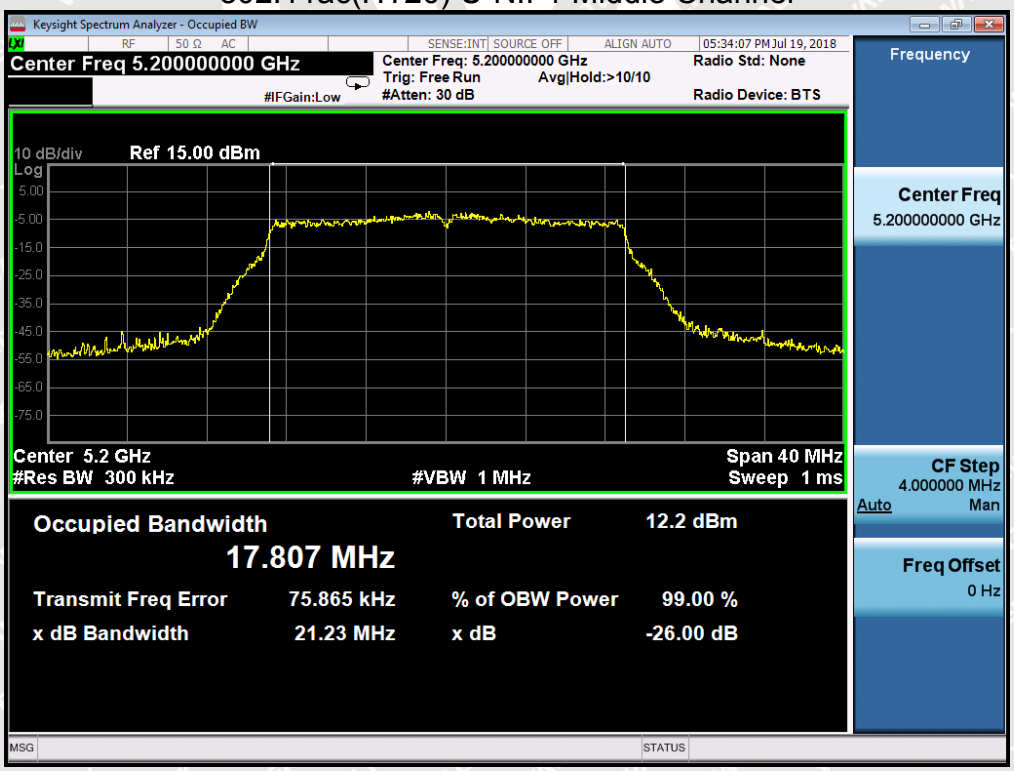
802.11n(HT40) U-NII-1 High Channel



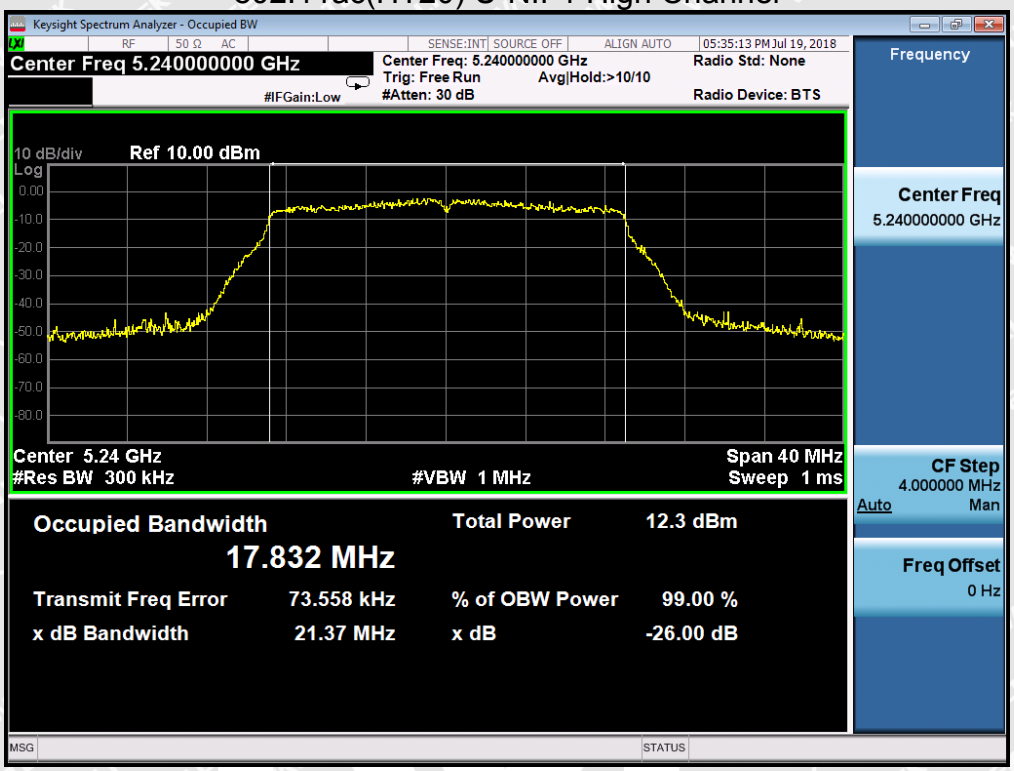
802.11ac(HT20) U-NII-1 Low Channel



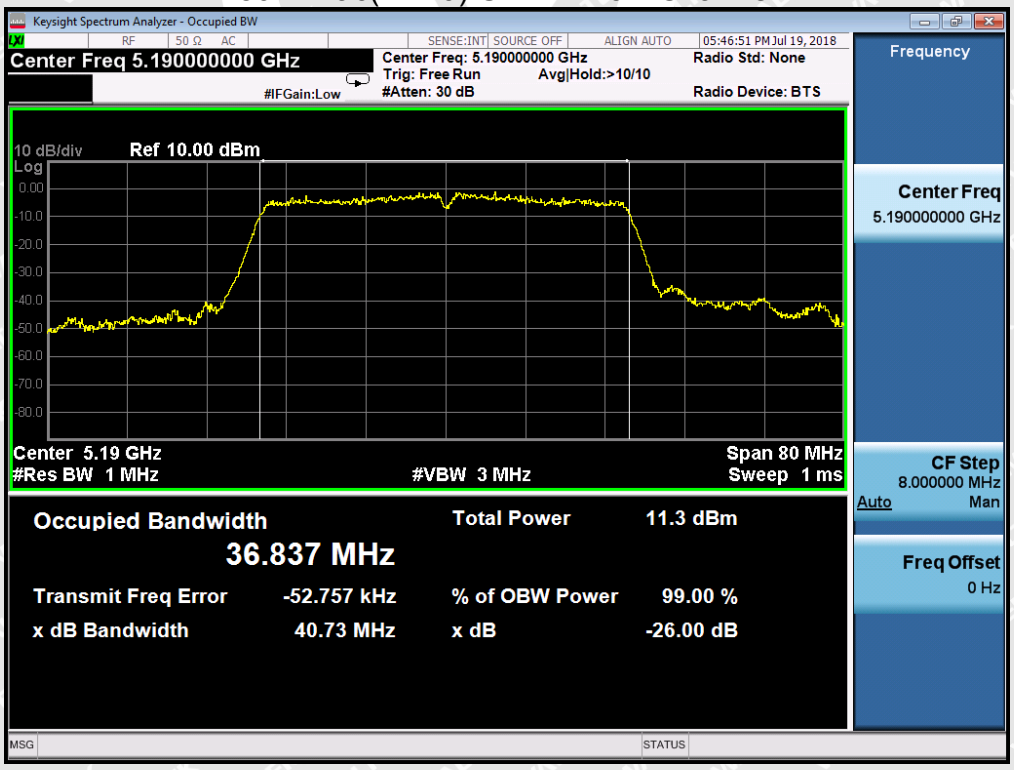
802.11ac(HT20) U-NII-1 Middle Channel



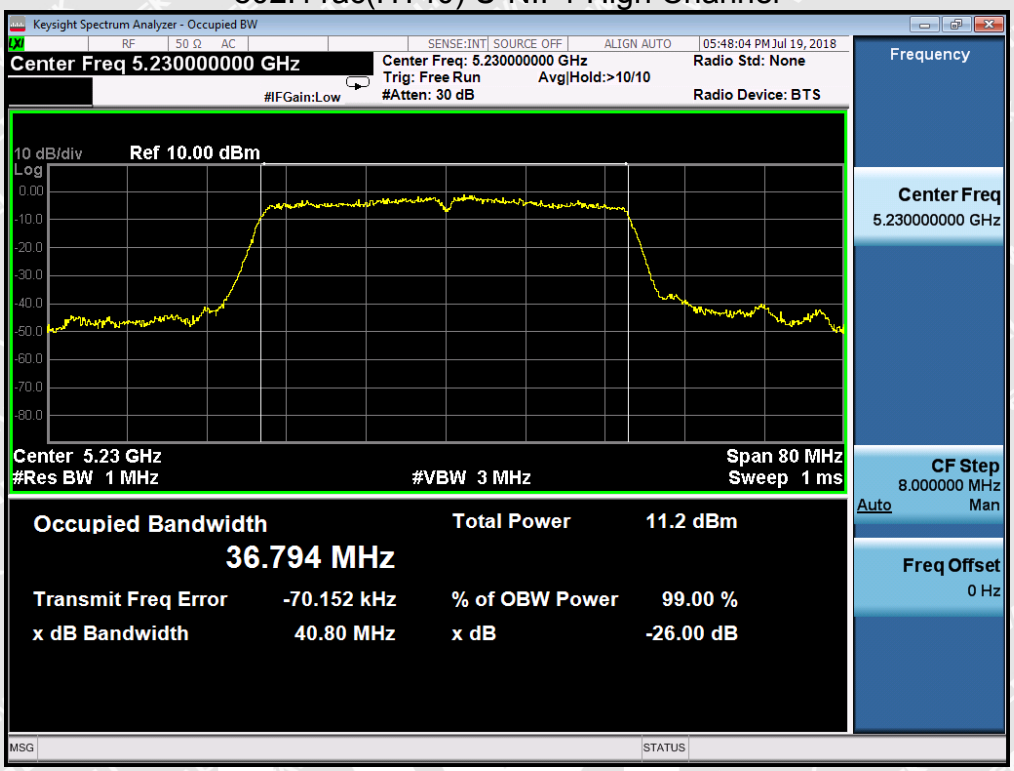
802.11ac(HT20) U-NII-1 High Channel



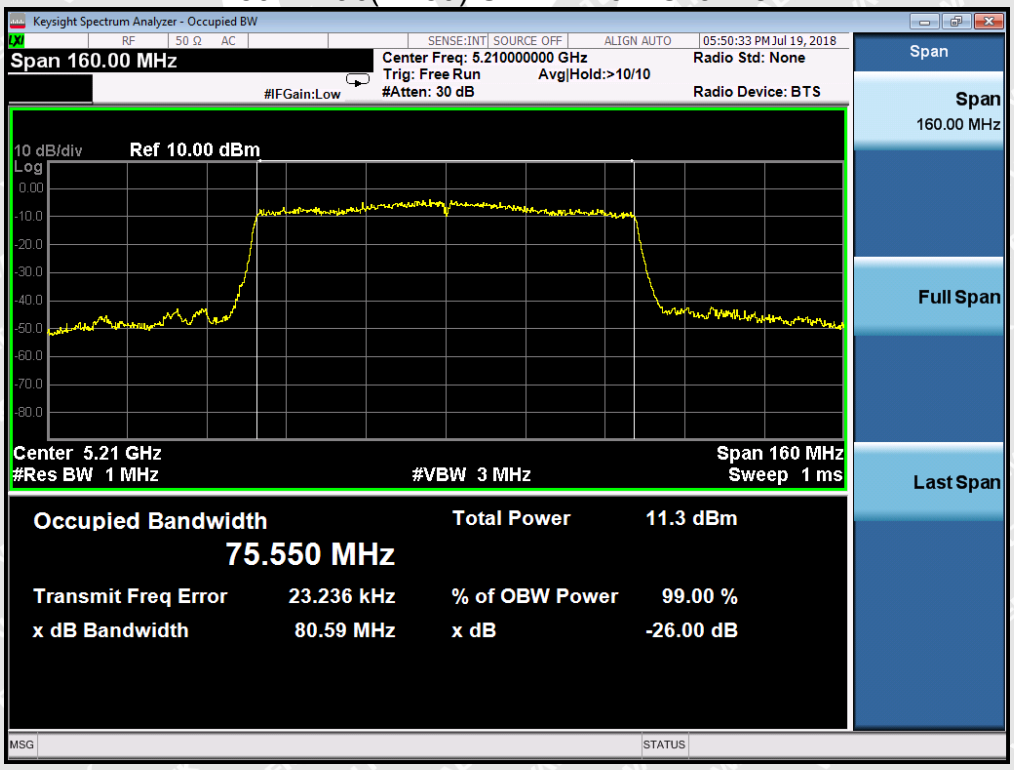
802.11ac(HT40) U-NII-1 Low Channel



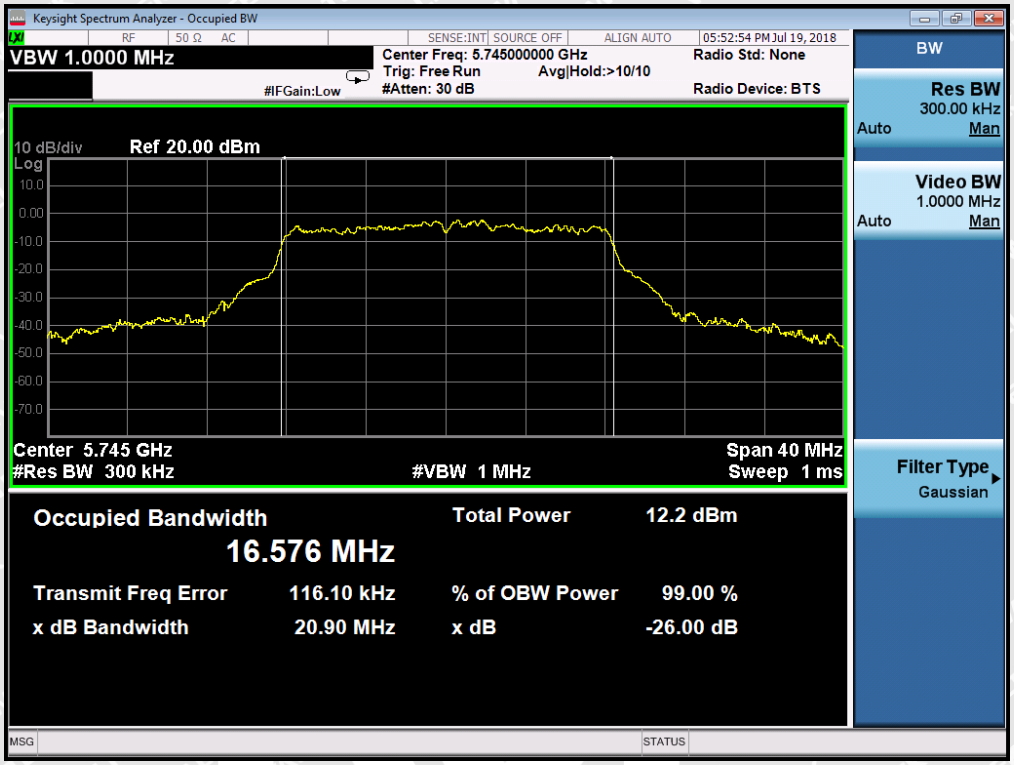
802.11ac(HT40) U-NII-1 High Channel



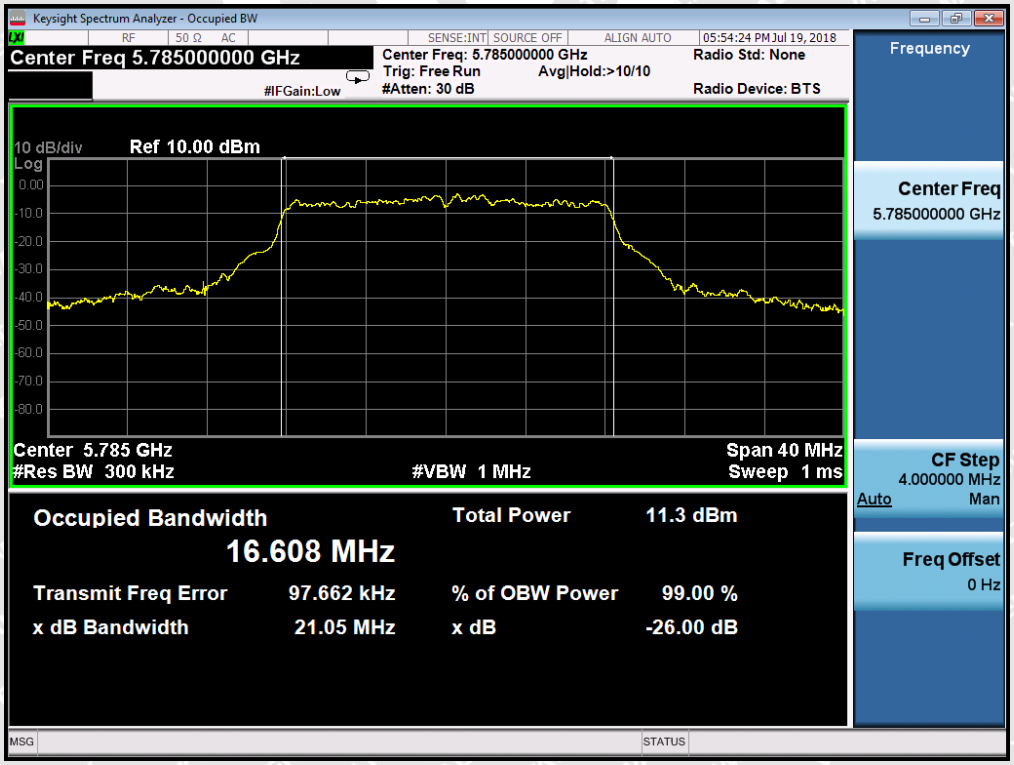
802.11ac(HT80) U-NII-1 Low Channel



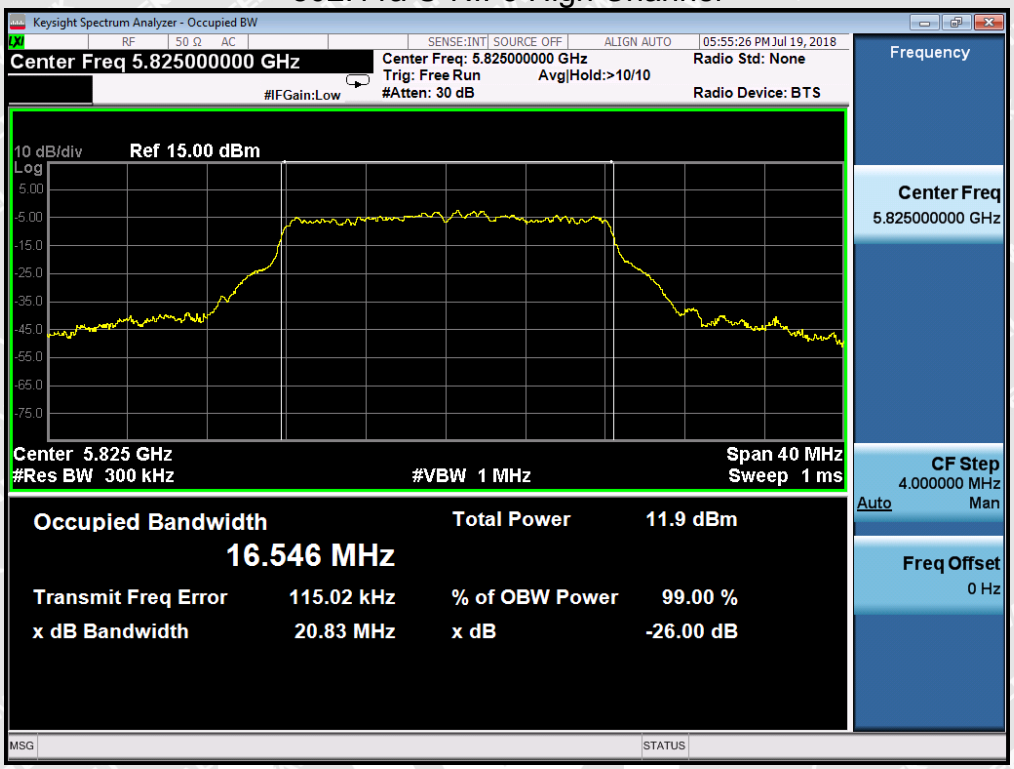
802.11a U-NII-3 Low Channel



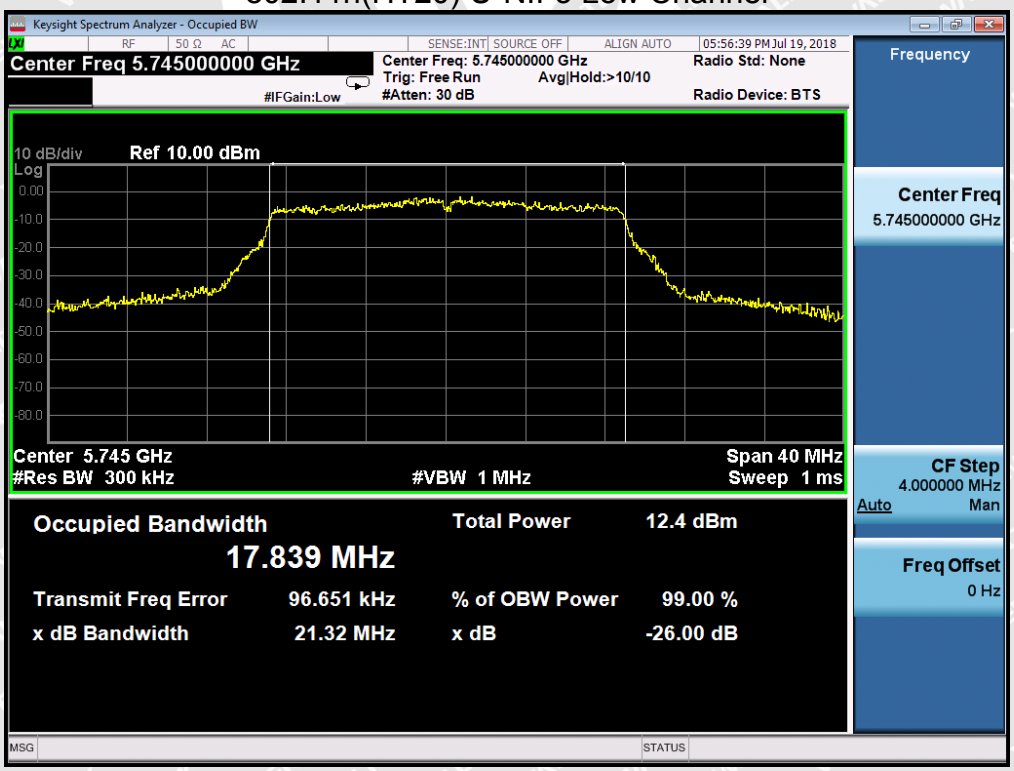
802.11a U-NII-3 Middle Channel



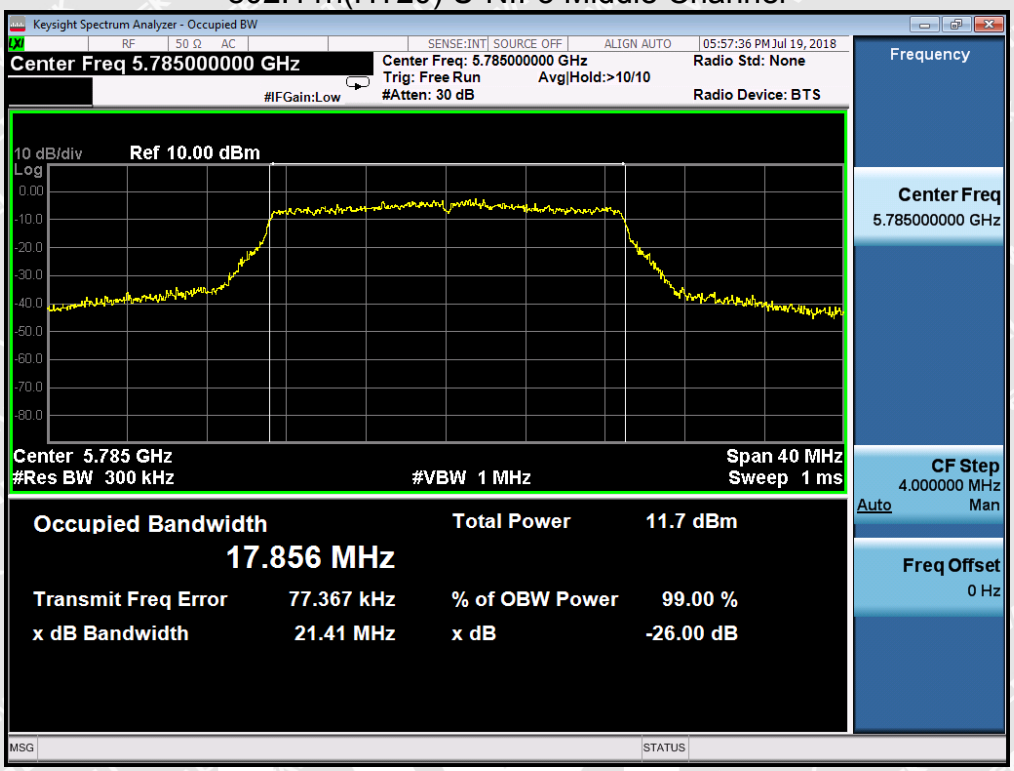
802.11a U-NII-3 High Channel



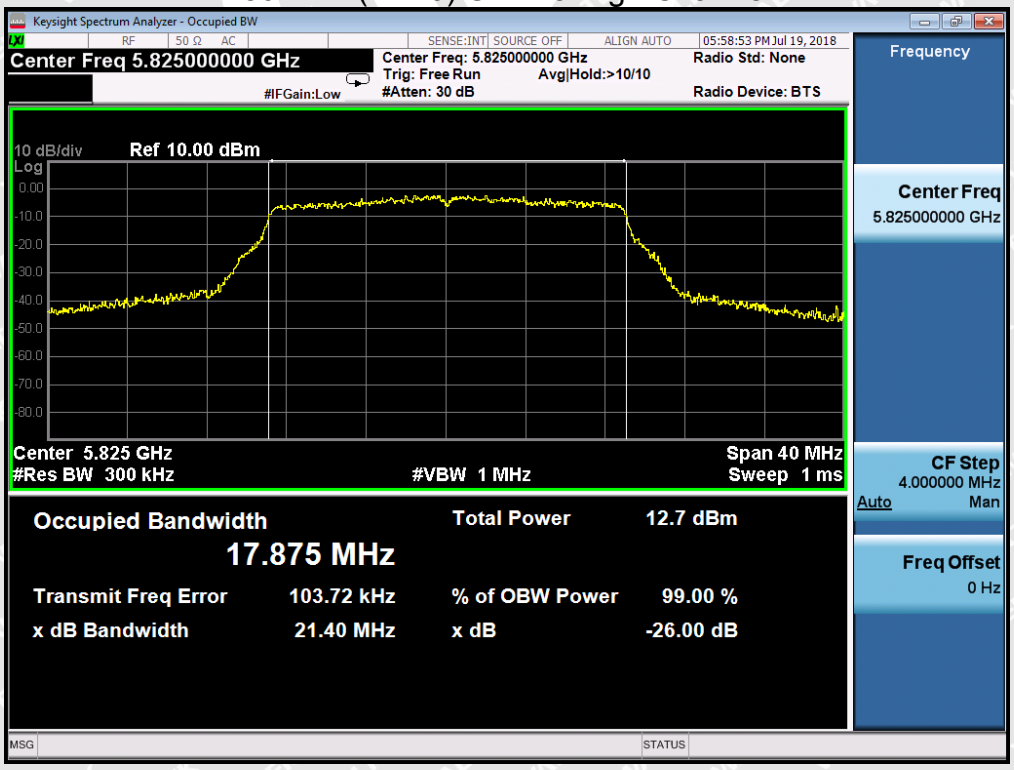
802.11n(HT20) U-NII-3 Low Channel



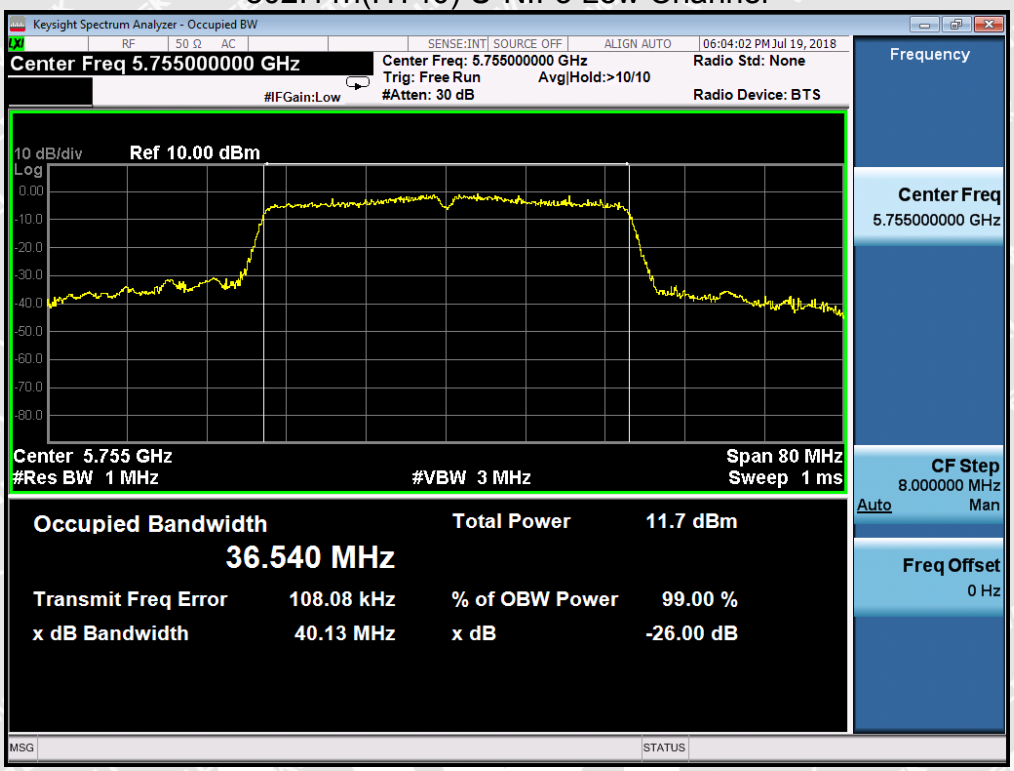
802.11n(HT20) U-NII-3 Middle Channel



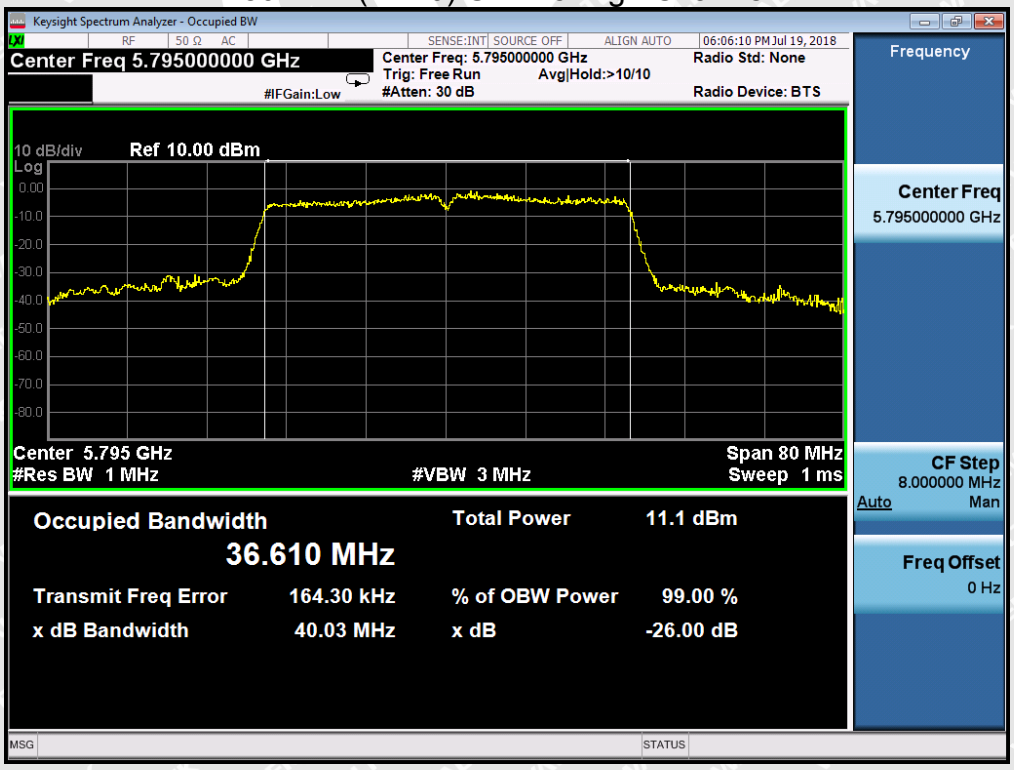
802.11n(HT20) U-NII-3 High Channel



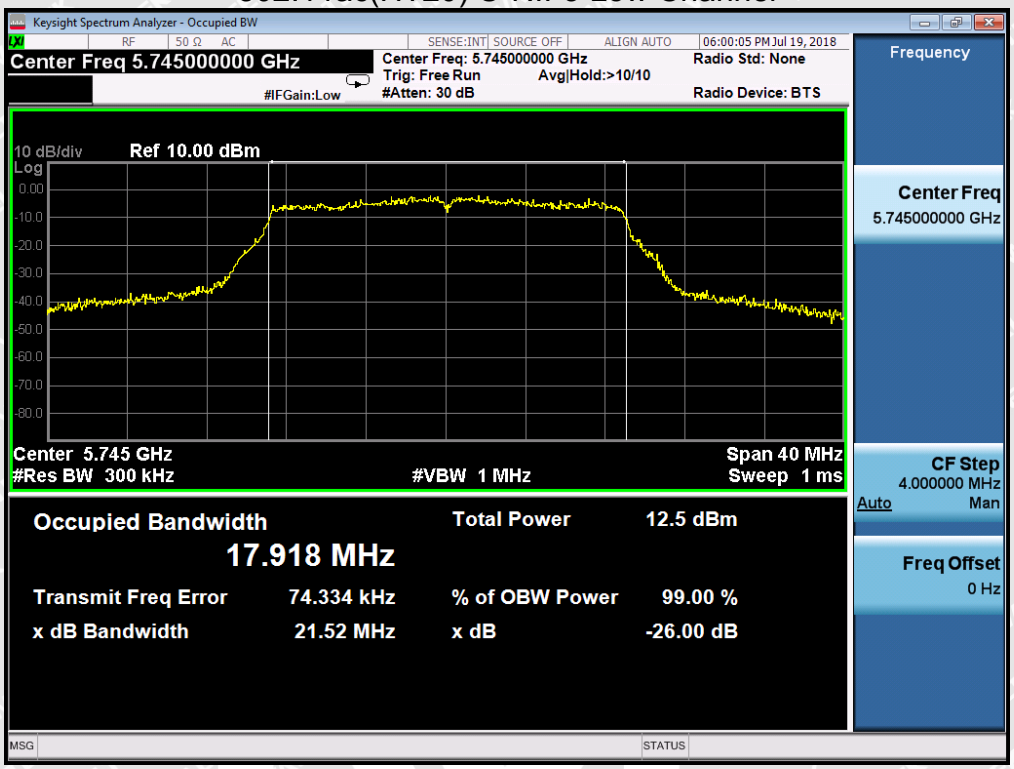
802.11n(HT40) U-NII-3 Low Channel



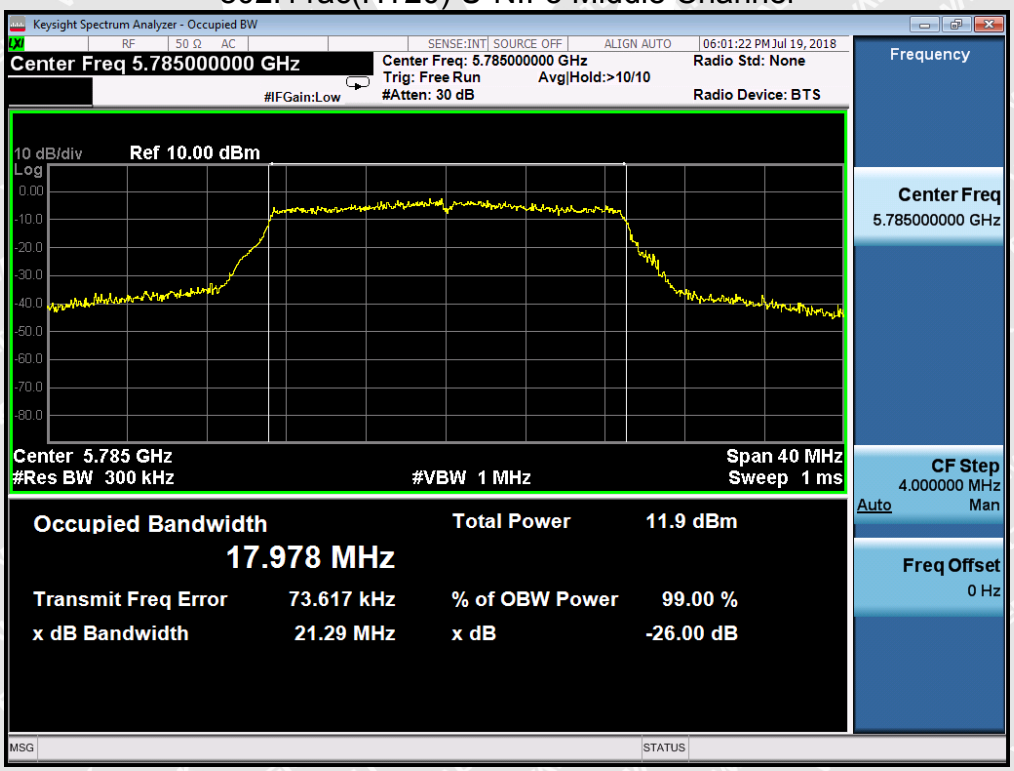
802.11n(HT40) U-NII-3 High Channel



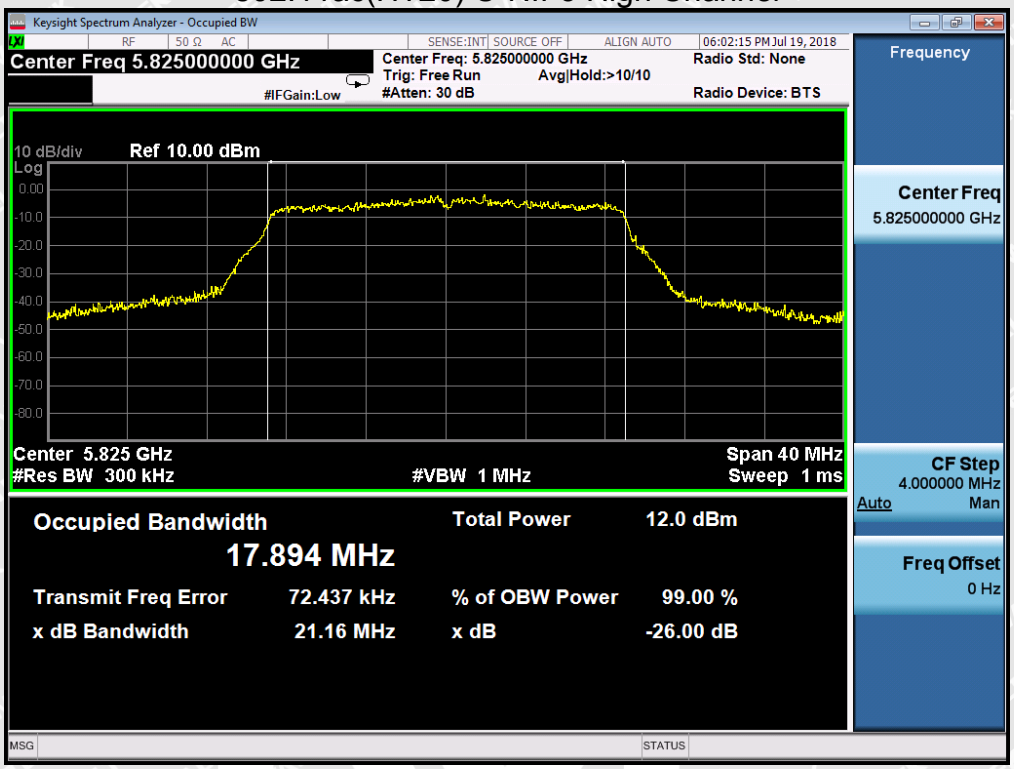
802.11ac(HT20) U-NII-3 Low Channel



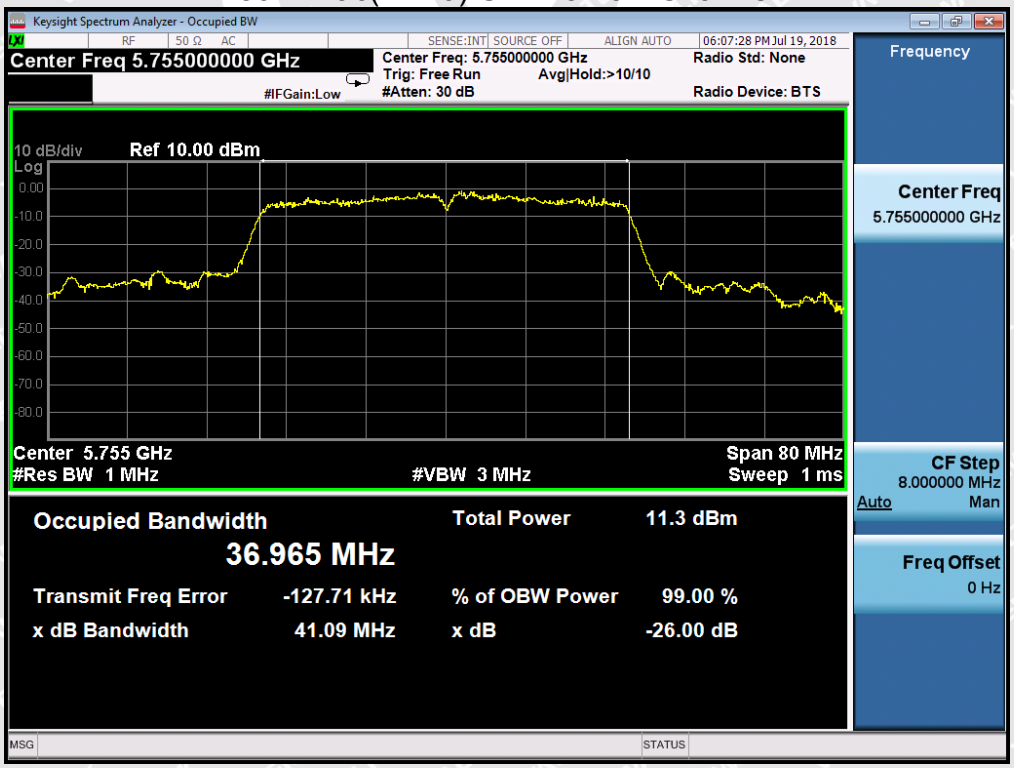
802.11ac(HT20) U-NII-3 Middle Channel



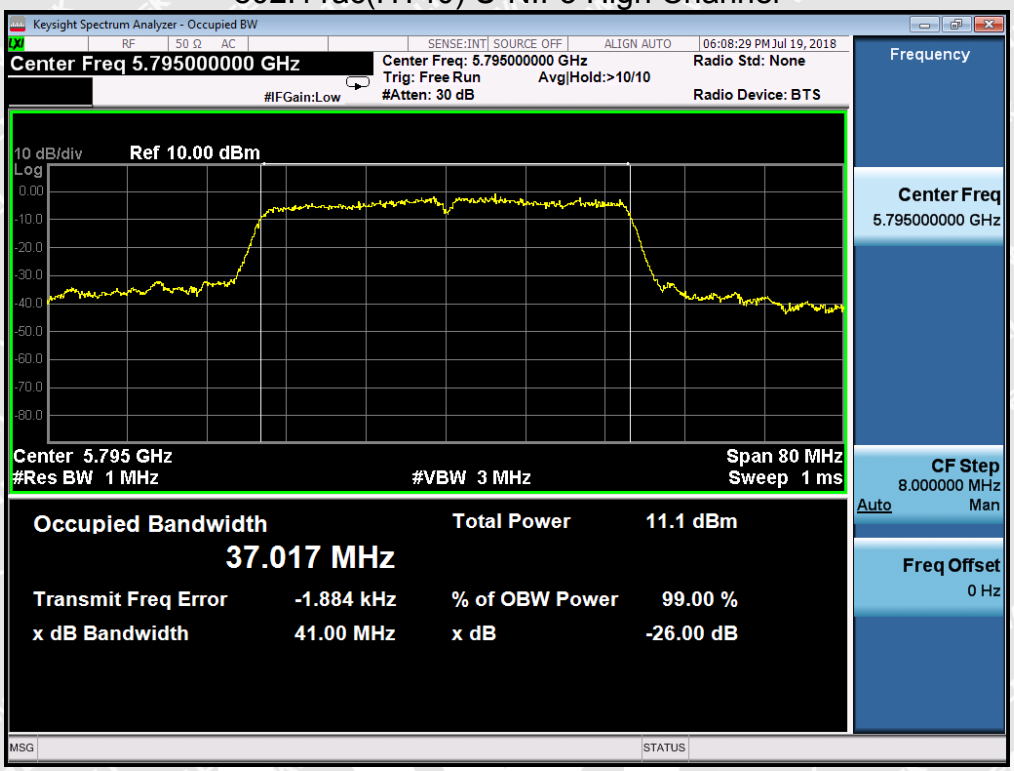
802.11ac(HT20) U-NII-3 High Channel



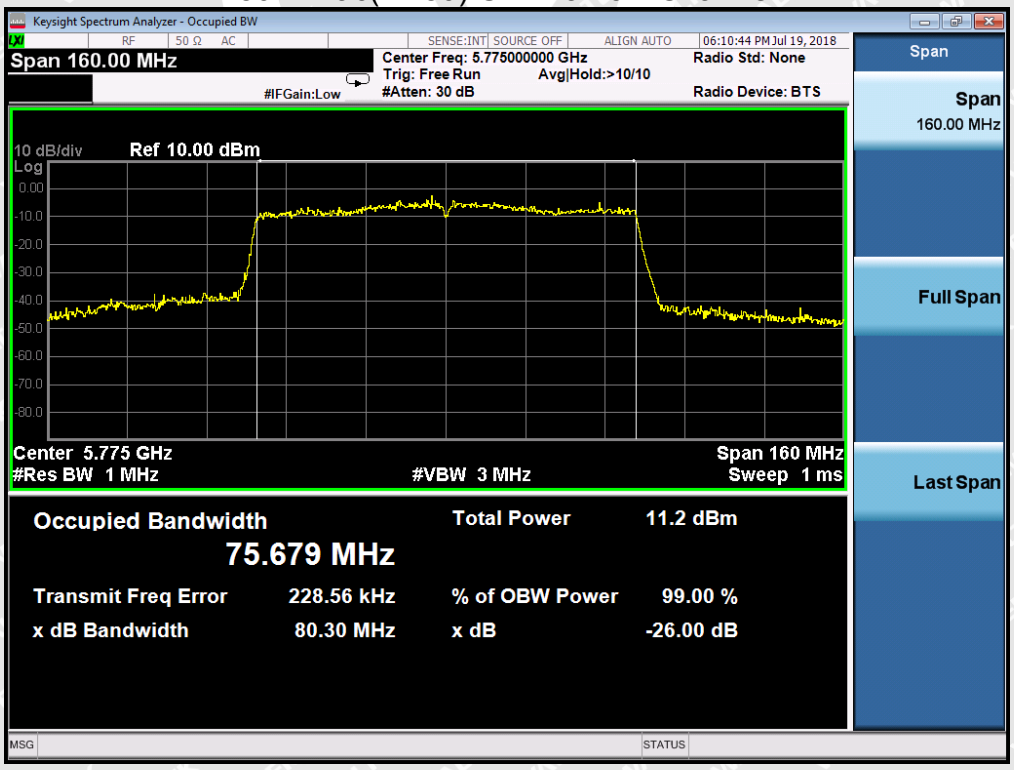
802.11ac(HT40) U-NII-3 Low Channel



802.11ac(HT40) U-NII-3 High Channel



802.11ac(HT80) U-NII-3 Low Channel



14 Conducted Output Power

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 E
Test Limit:	U-NII-1 250mW(24dBm) U-NII-3 1W(30dBm)
Test Result:	PASS
Remark:	Conducted output power= measurement power+10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power

14.1 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 = 1 MHz. VBW = 3 MHz. Sweep = auto; Detector Function = Peak, Set the span to fully encompass the DTS bandwidth.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

14.2 Test Result :

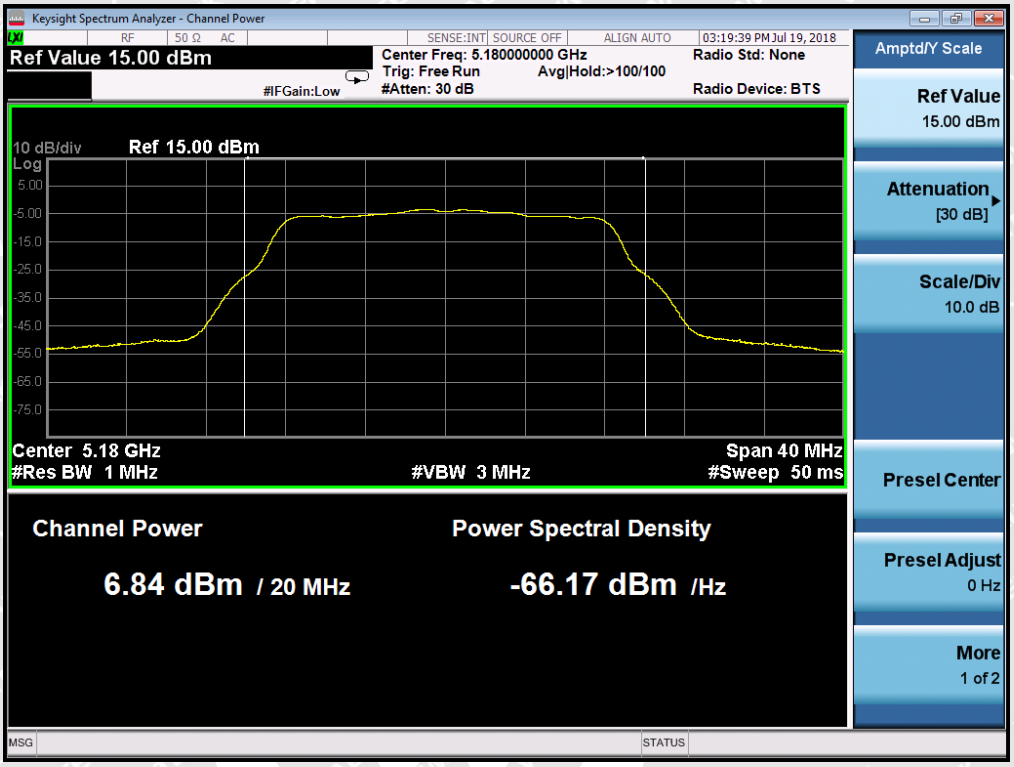
Band	Operation Mode	Channel	Conducted Output Power (dBm)
U-NII-1	802.11a	Low	5.84
		Middle	5.66
		High	5.58
	802.11n(HT20)	Low	6.11
		Middle	5.87
		High	5.78
	802.11n(HT40)	Low	5.44
		Middle	/
		High	5.30
	802.11ac(HT20)	Low	5.83
		Middle	5.63
		High	5.75
	802.11ac(HT40)	Low	5.45
		Middle	/
		High	5.33
	802.11ac(HT80)	Low	5.14
		Middle	/
		High	/
U-NII-3	802.11a	Low	5.92
		Middle	5.14
		High	5.80
	802.11n(HT20)	Low	5.88
		Middle	5.25
		High	5.73
	802.11n(HT40)	Low	5.44
		Middle	/
		High	5.38
	802.11ac(HT20)	Low	5.88
		Middle	5.21
		High	5.72
	802.11ac(HT40)	Low	5.65
		Middle	/
		High	5.30
	802.11ac(HT80)	Low	4.94
		Middle	/

		High	/

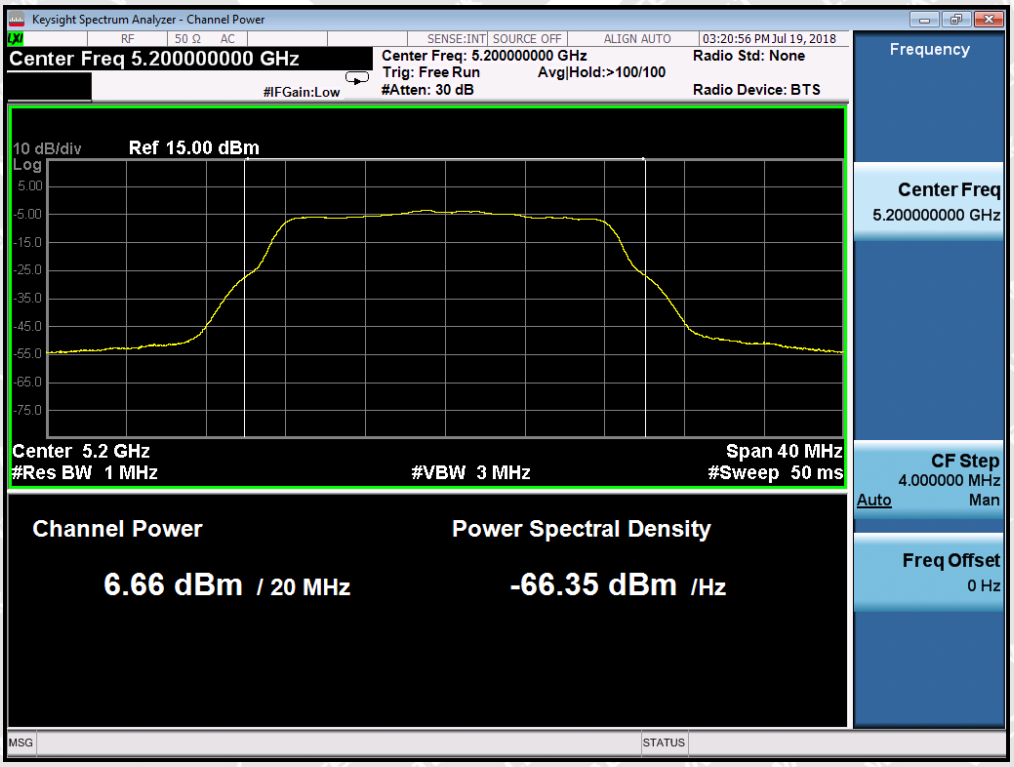
* All transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT} which is less than 6dBi. So the limit does not be reduced.

Test result plots shown as follows:

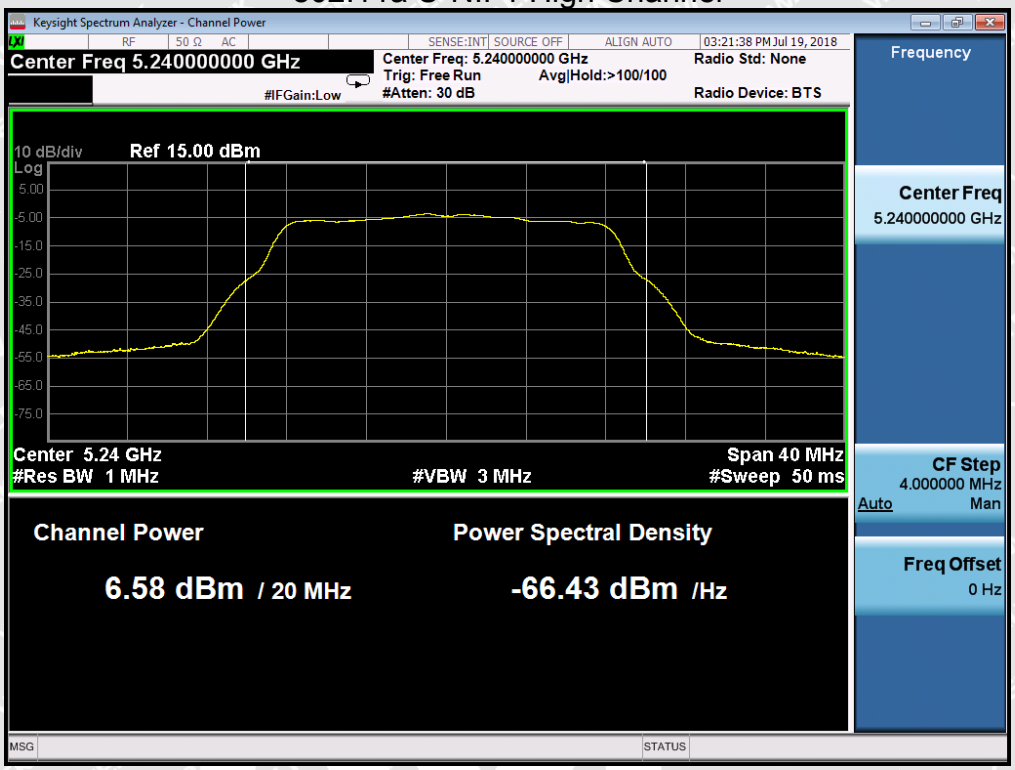
802.11a U-NII-1 Low Channel



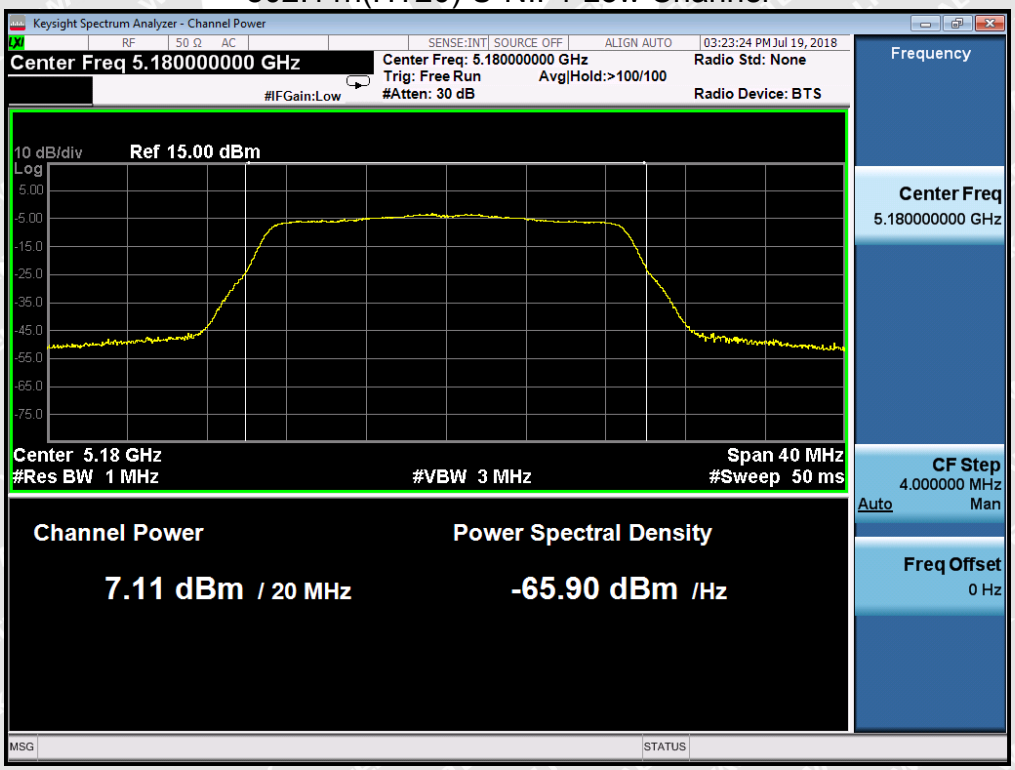
802.11a U-NII-1 Middle Channel



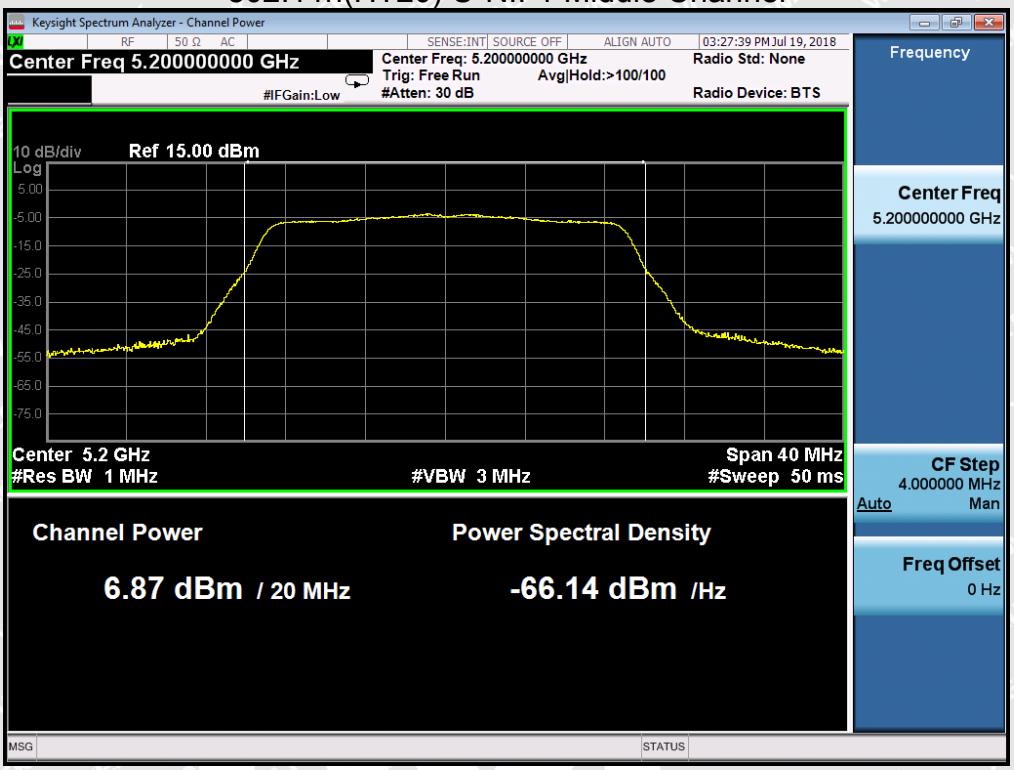
802.11a U-NII-1 High Channel



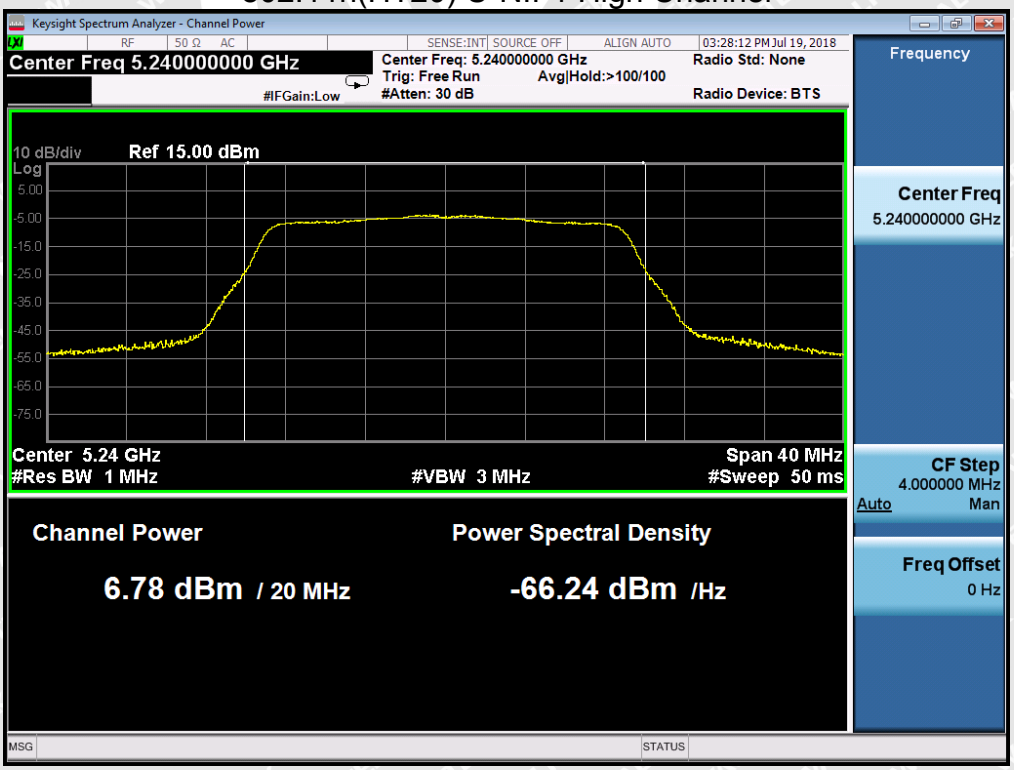
802.11n(HT20) U-NII-1 Low Channel



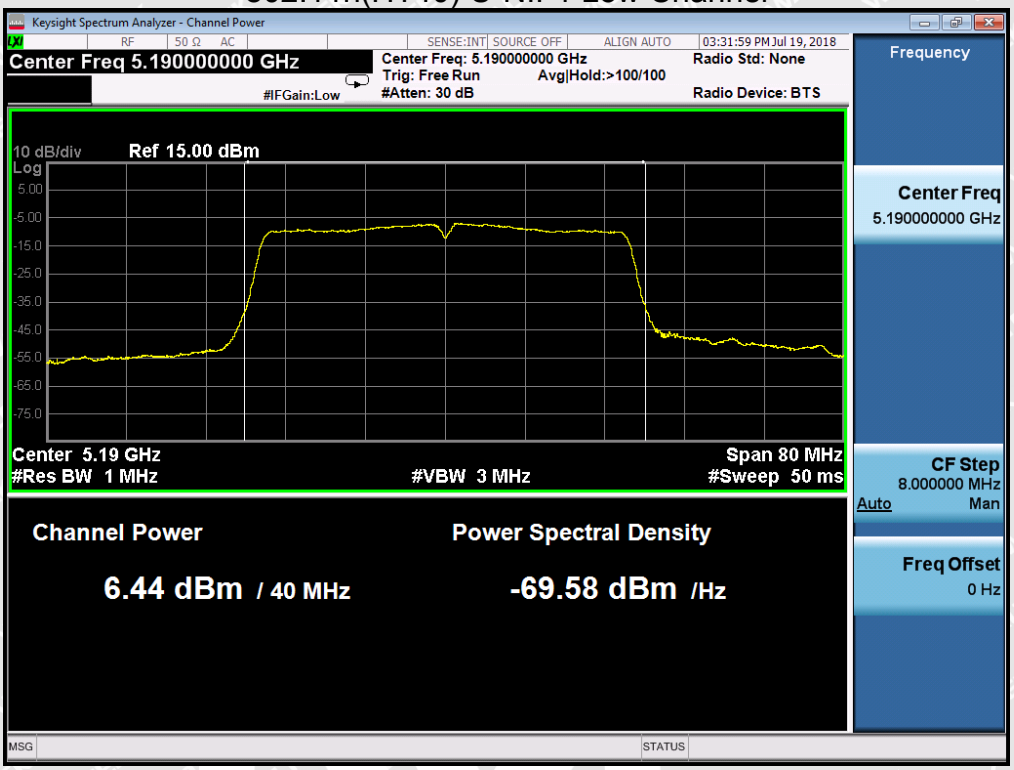
802.11n(HT20) U-NII-1 Middle Channel



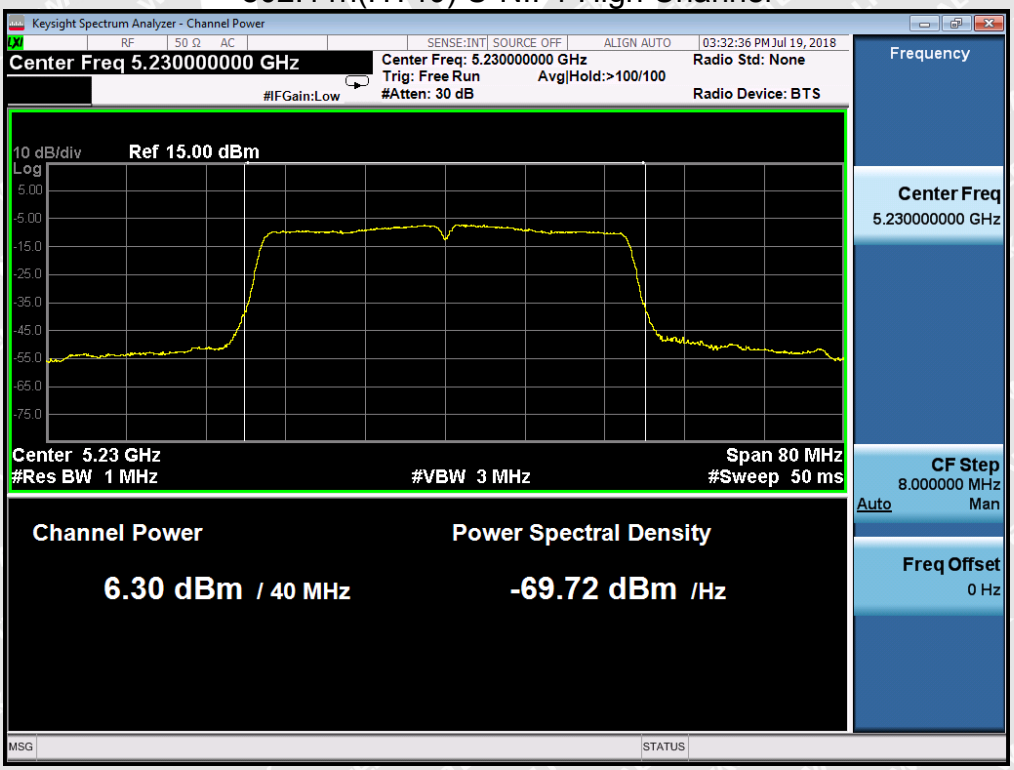
802.11n(HT20) U-NII-1 High Channel



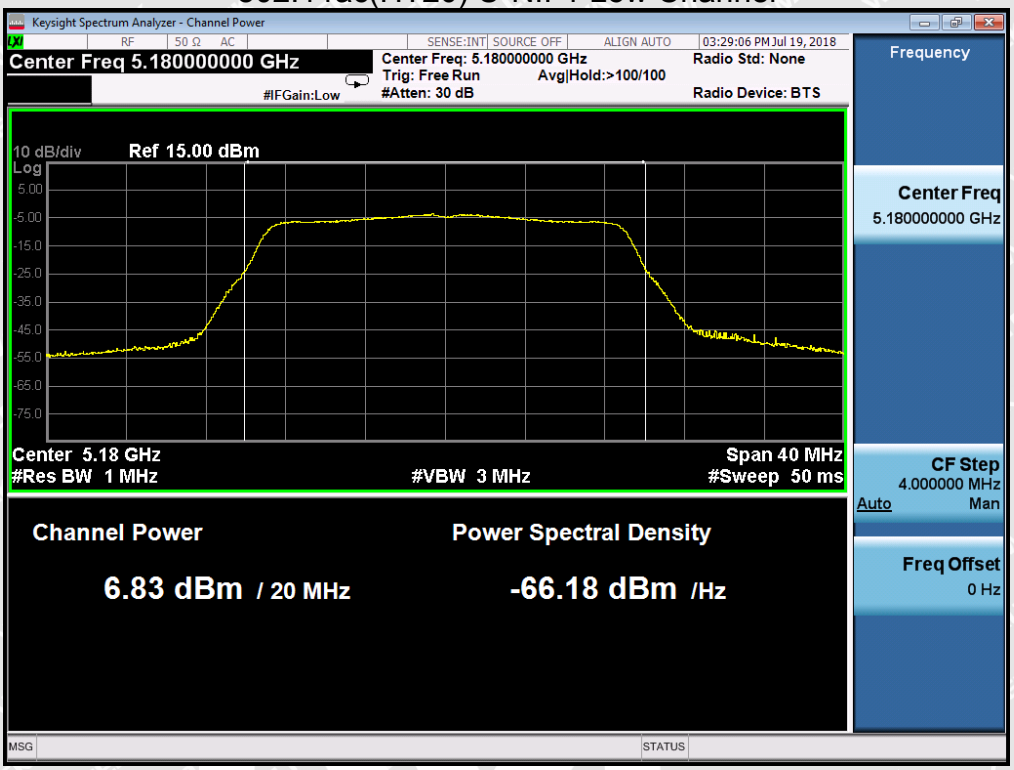
802.11n(HT40) U-NII-1 Low Channel



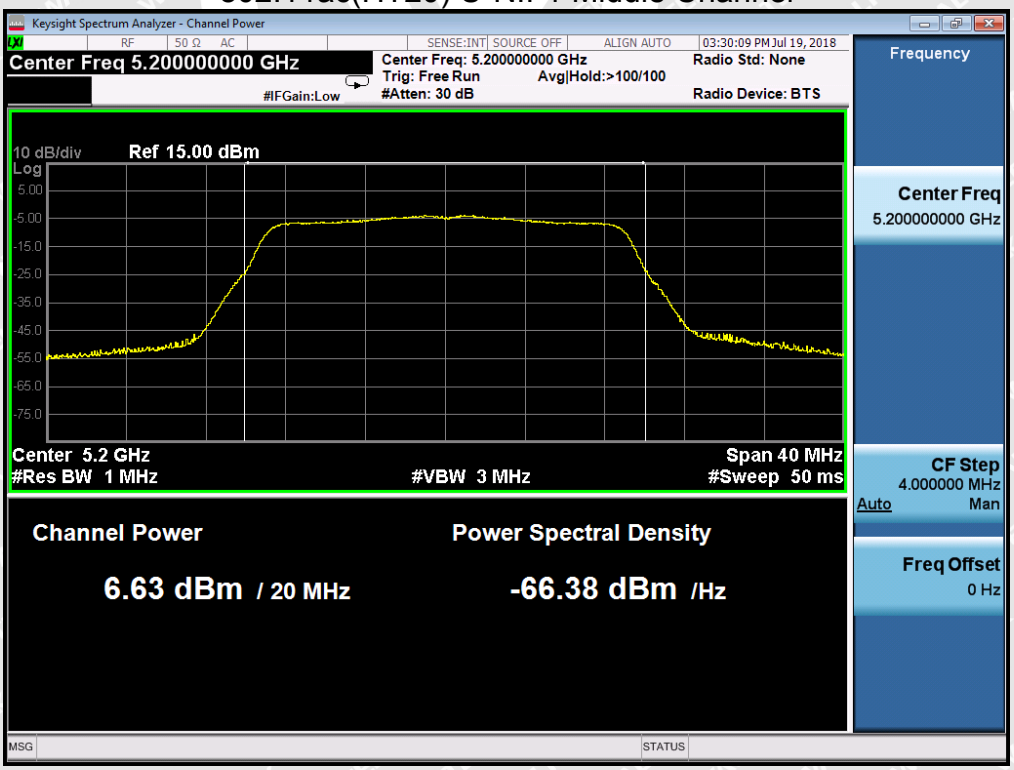
802.11n(HT40) U-NII-1 High Channel



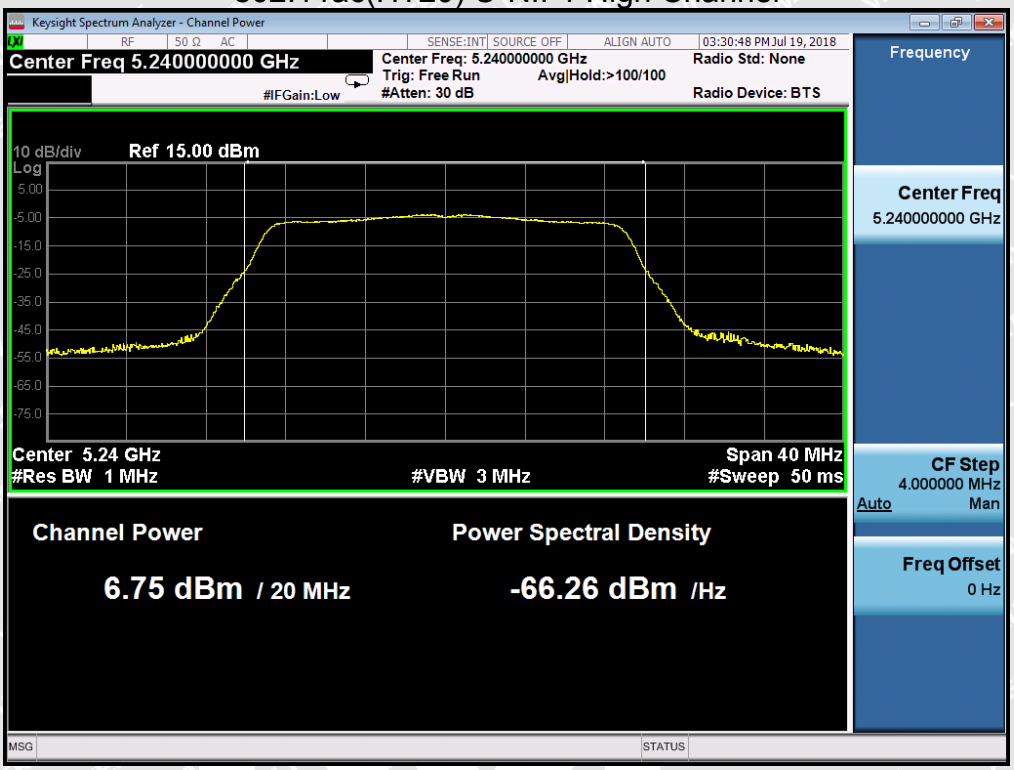
802.11ac(HT20) U-NII-1 Low Channel



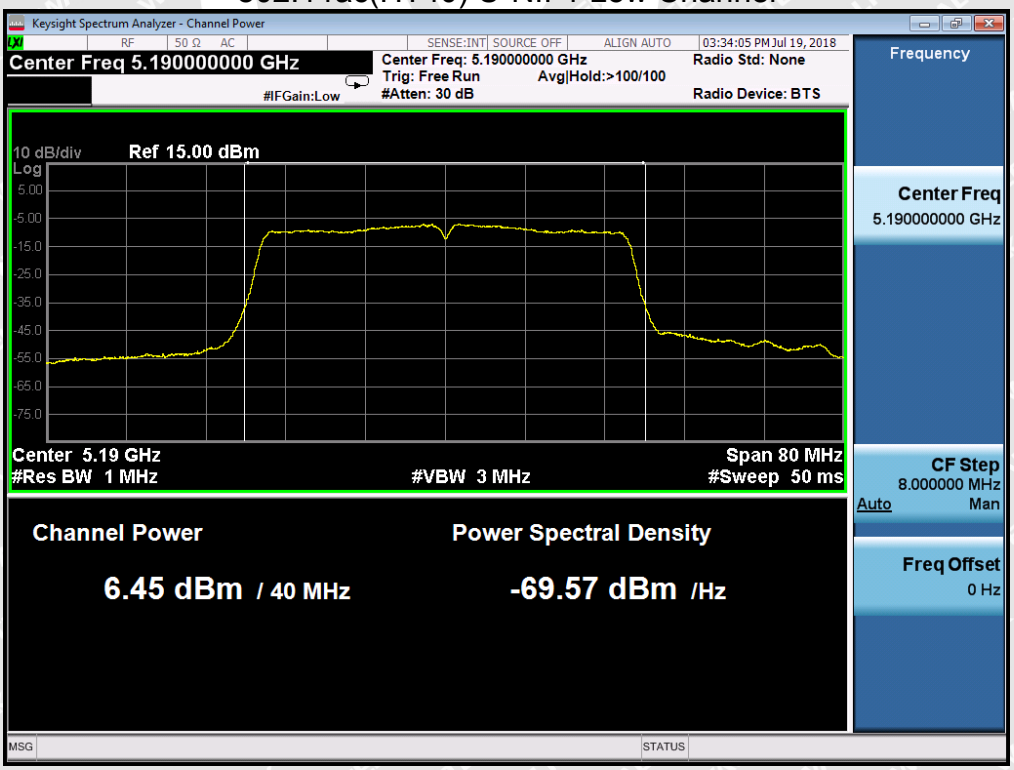
802.11ac(HT20) U-NII-1 Middle Channel



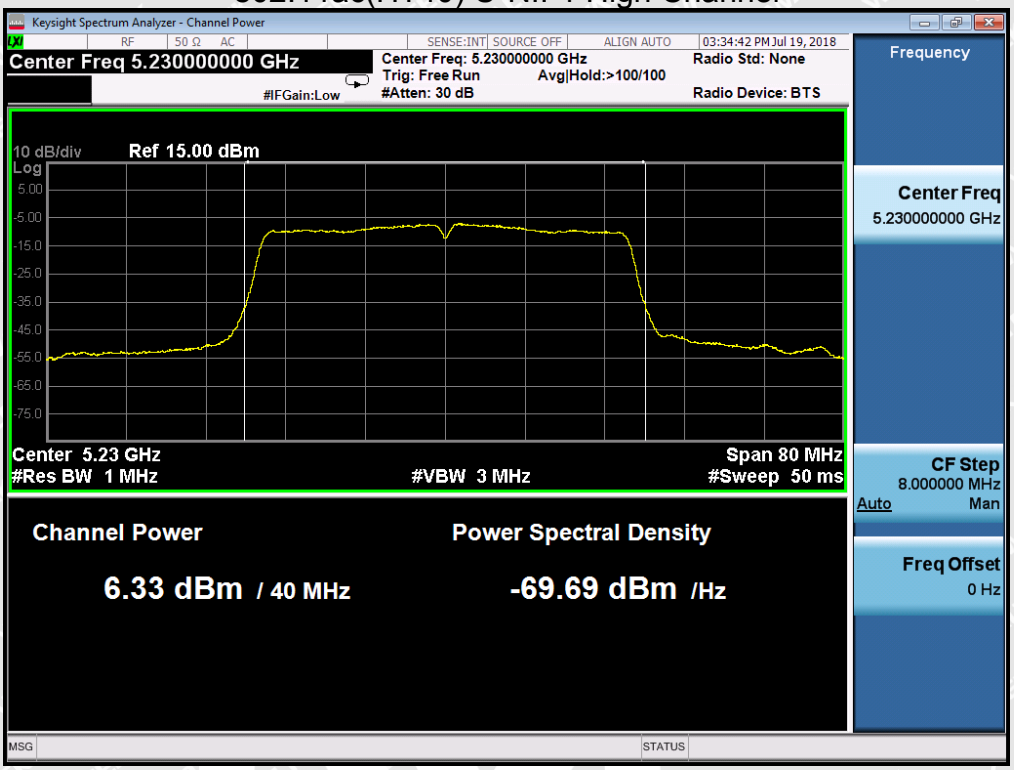
802.11ac(HT20) U-NII-1 High Channel



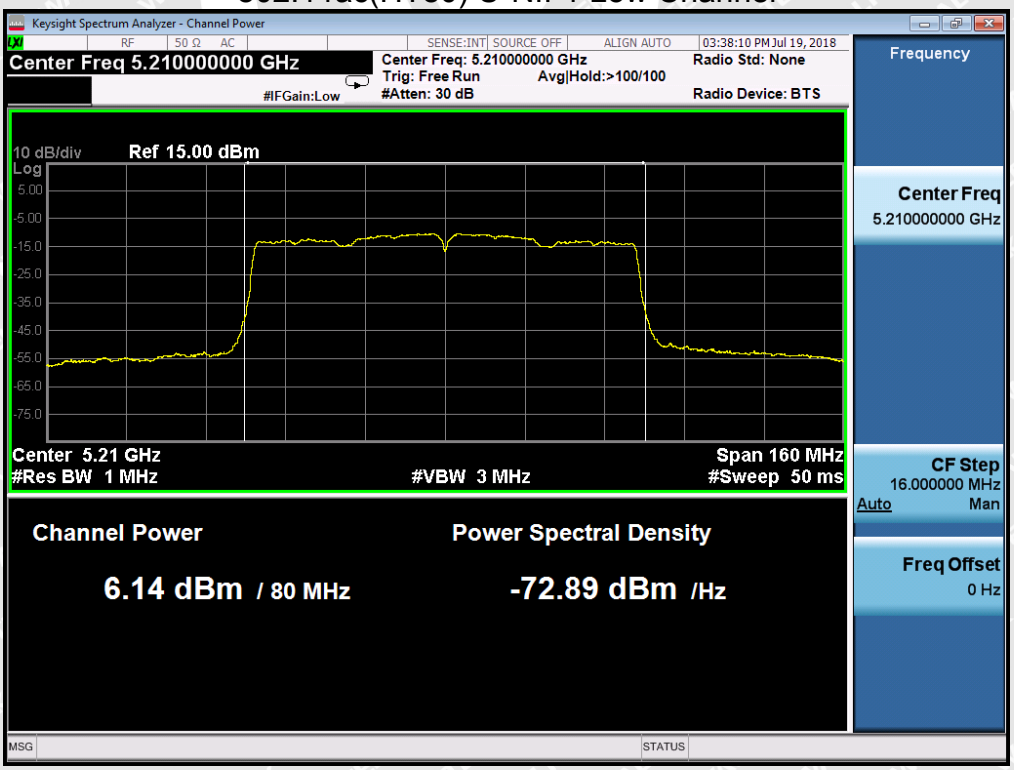
802.11ac(HT40) U-NII-1 Low Channel



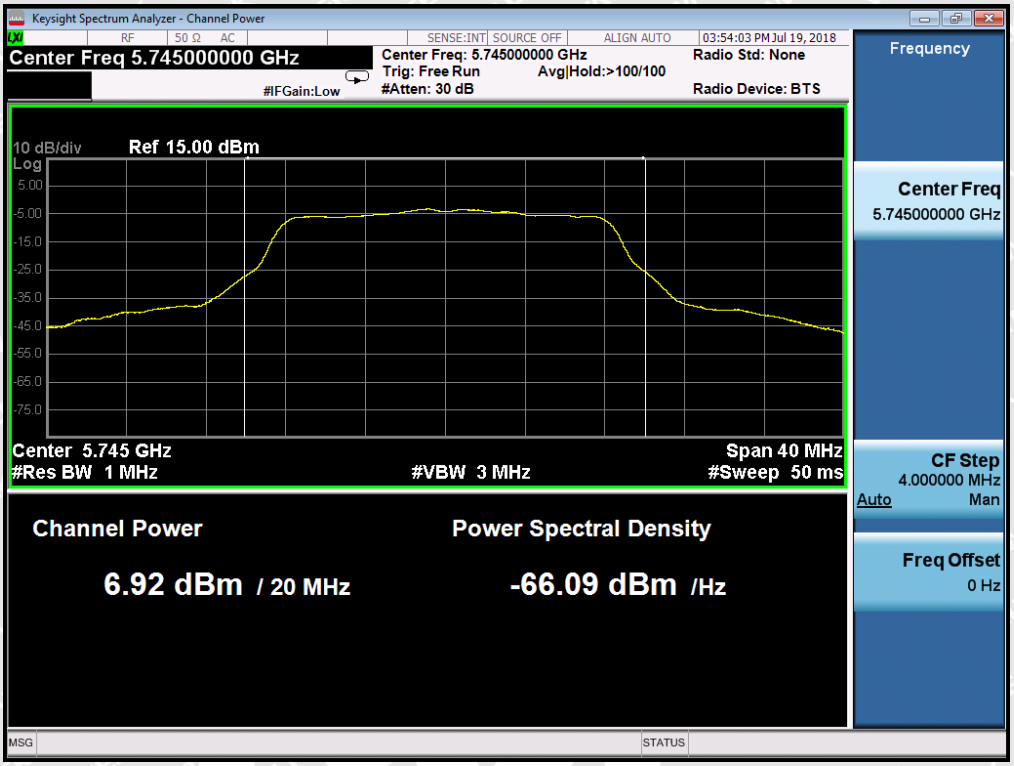
802.11ac(HT40) U-NII-1 High Channel



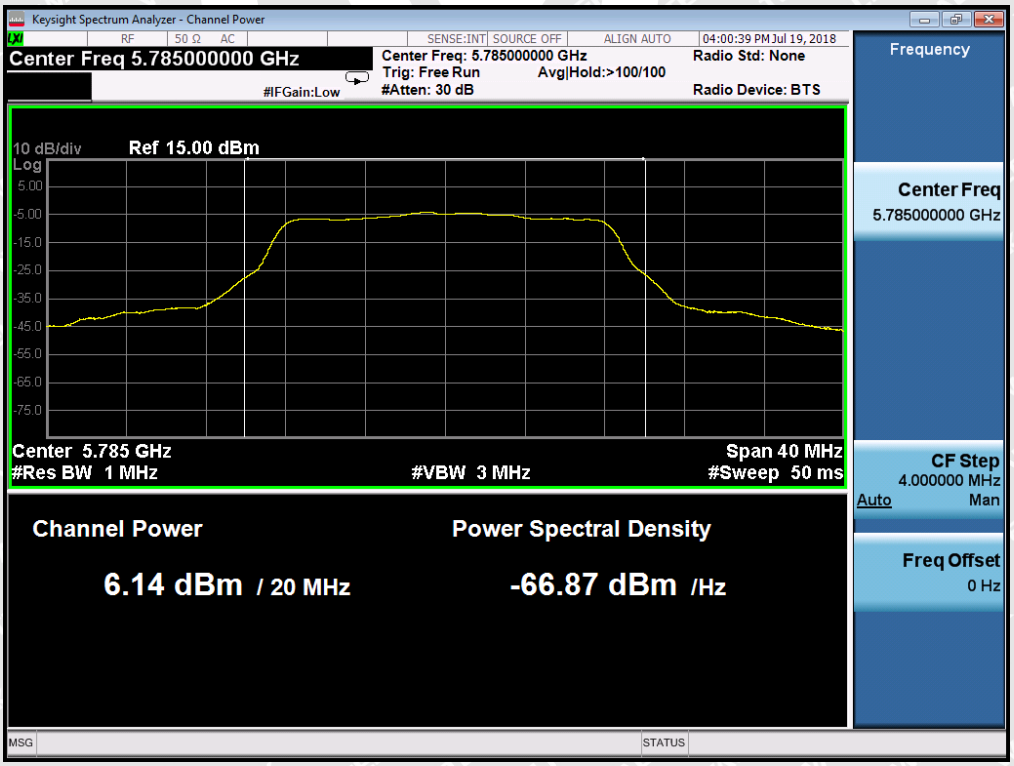
802.11ac(HT80) U-NII-1 Low Channel



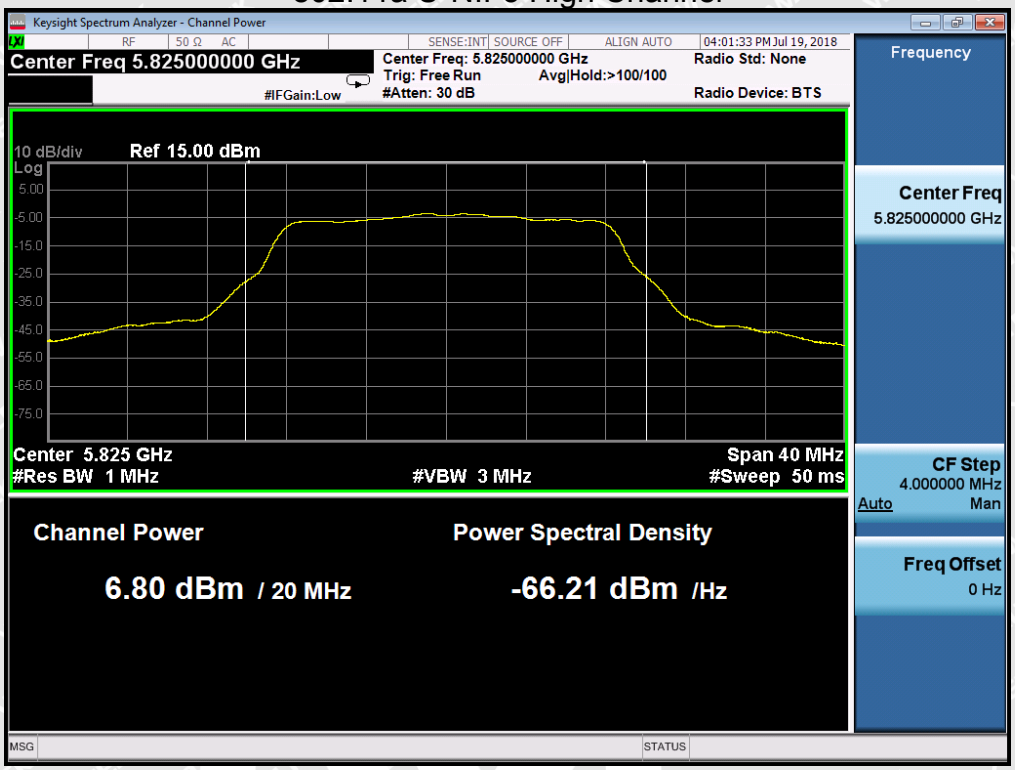
802.11a U-NII-3 Low Channel



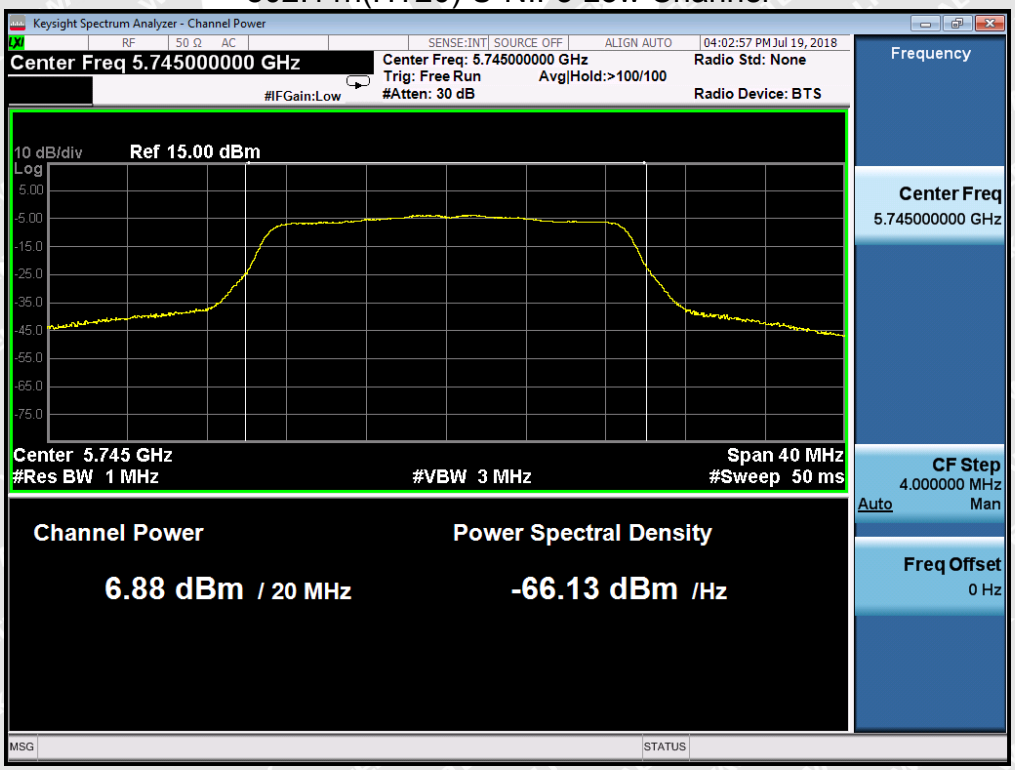
802.11a U-NII-3 Middle Channel



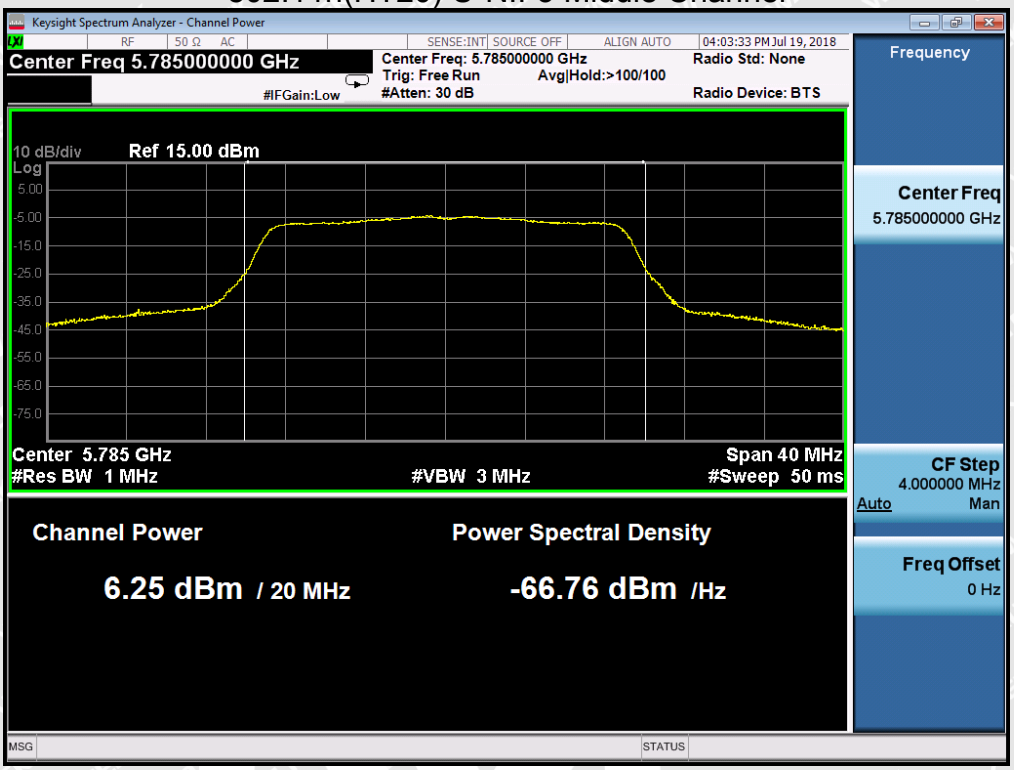
802.11a U-NII-3 High Channel



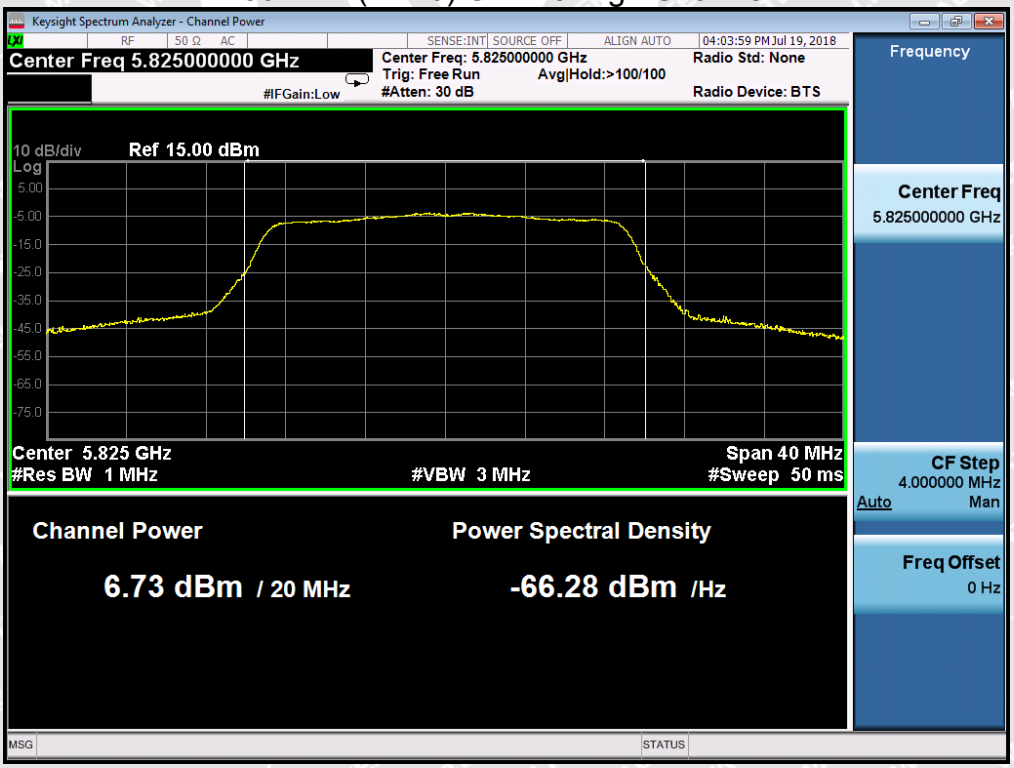
802.11n(HT20) U-NII-3 Low Channel



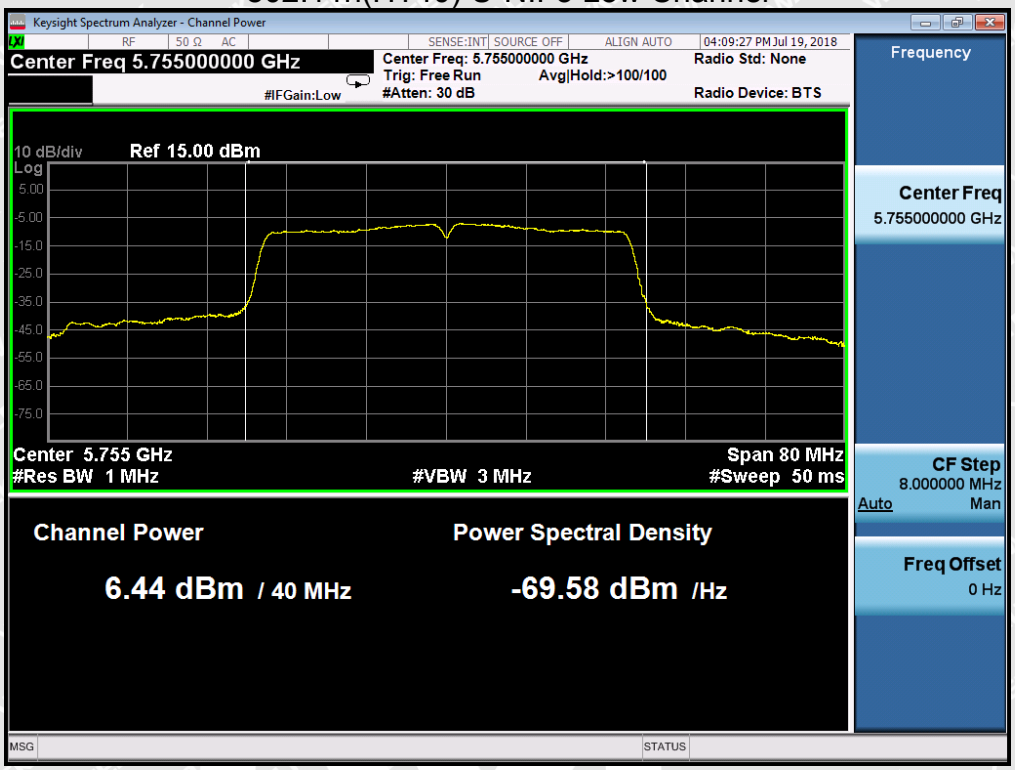
802.11n(HT20) U-NII-3 Middle Channel



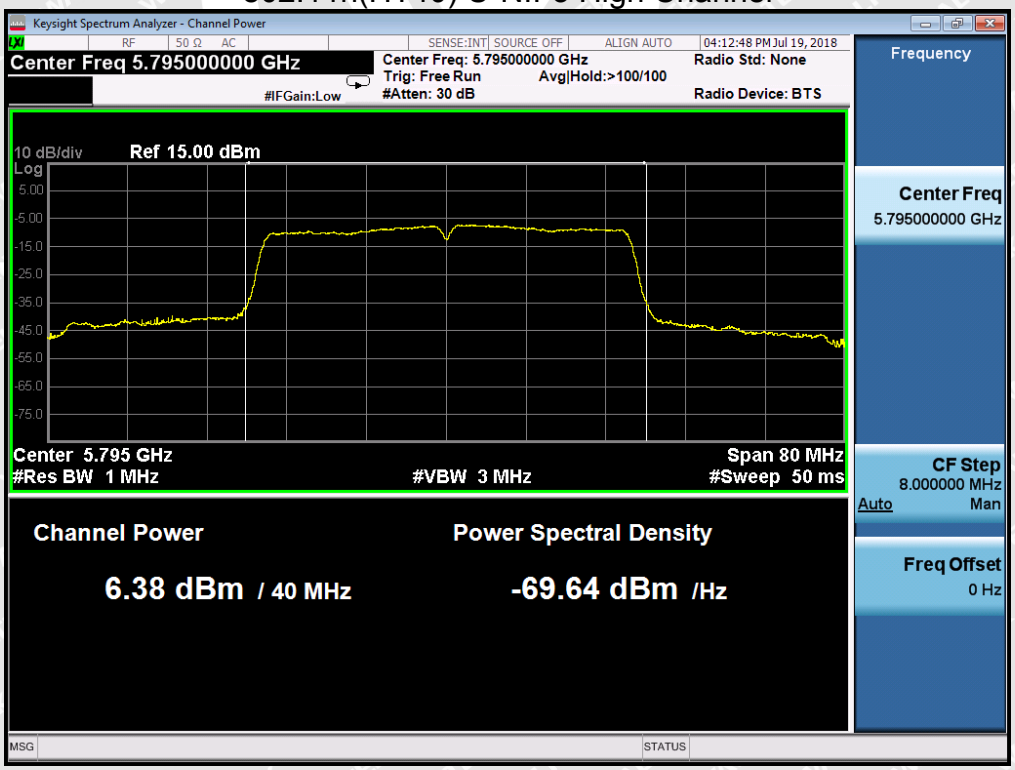
802.11n(HT20) U-NII-3 High Channel



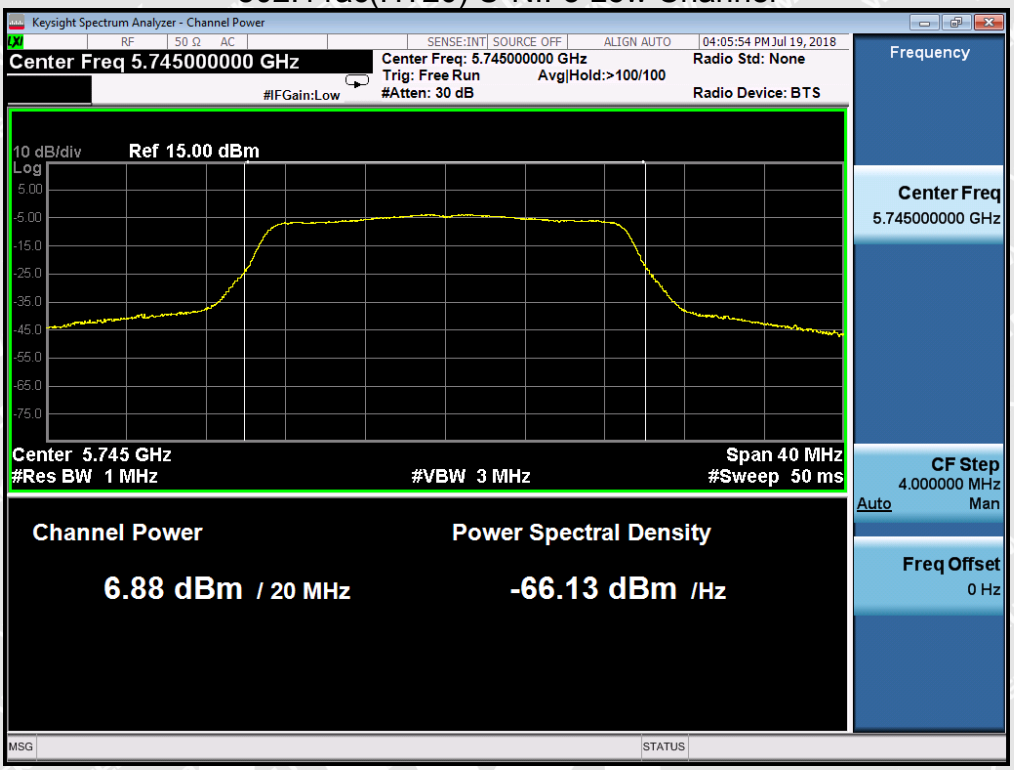
802.11n(HT40) U-NII-3 Low Channel



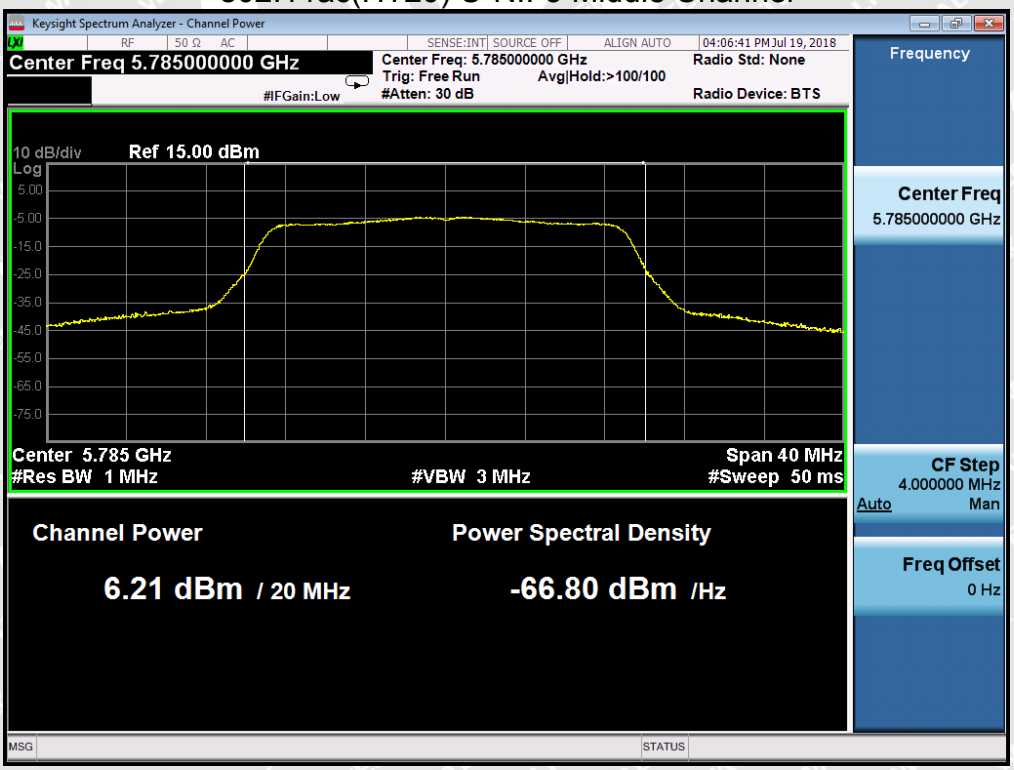
802.11n(HT40) U-NII-3 High Channel



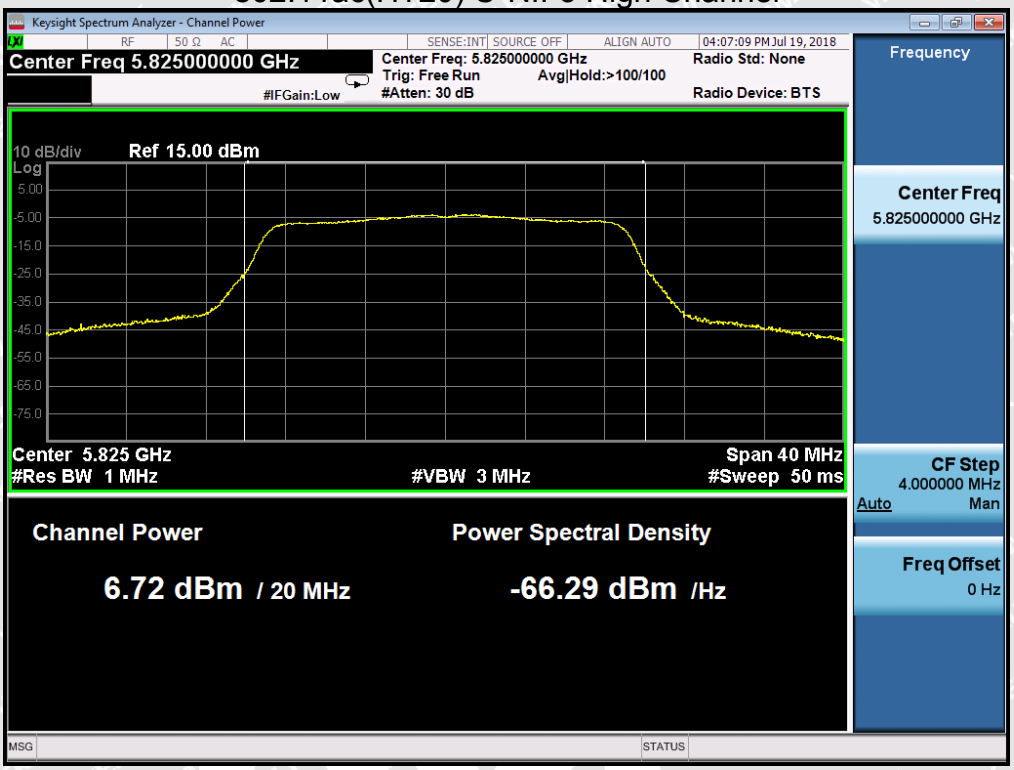
802.11ac(HT20) U-NII-3 Low Channel



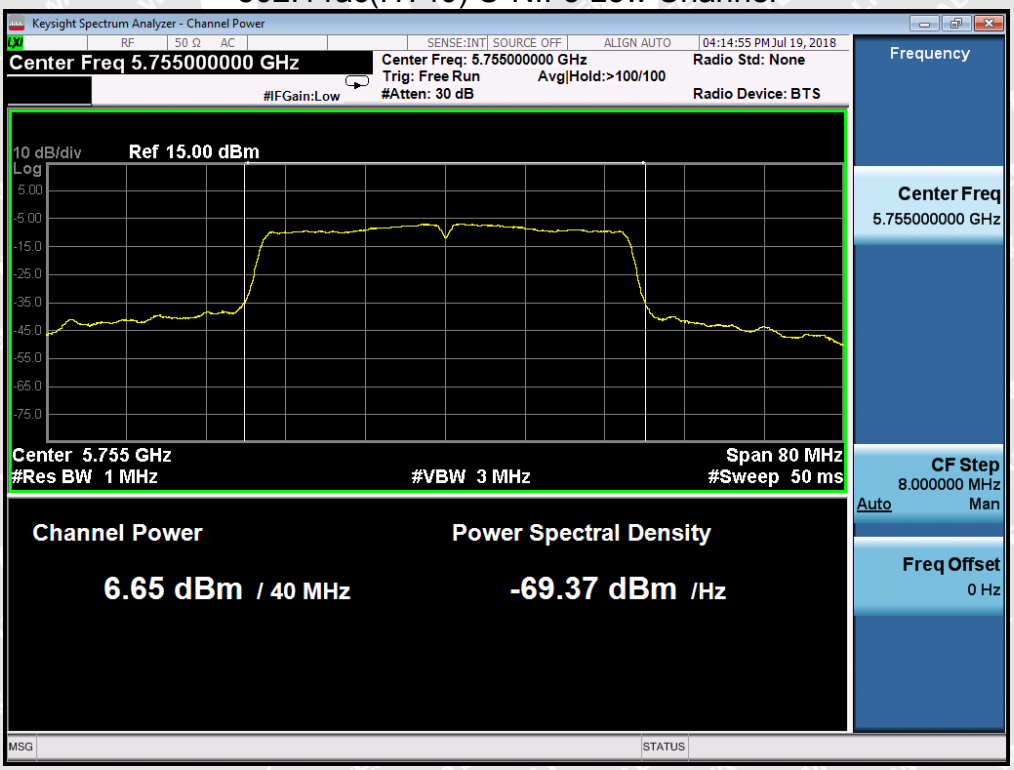
802.11ac(HT20) U-NII-3 Middle Channel



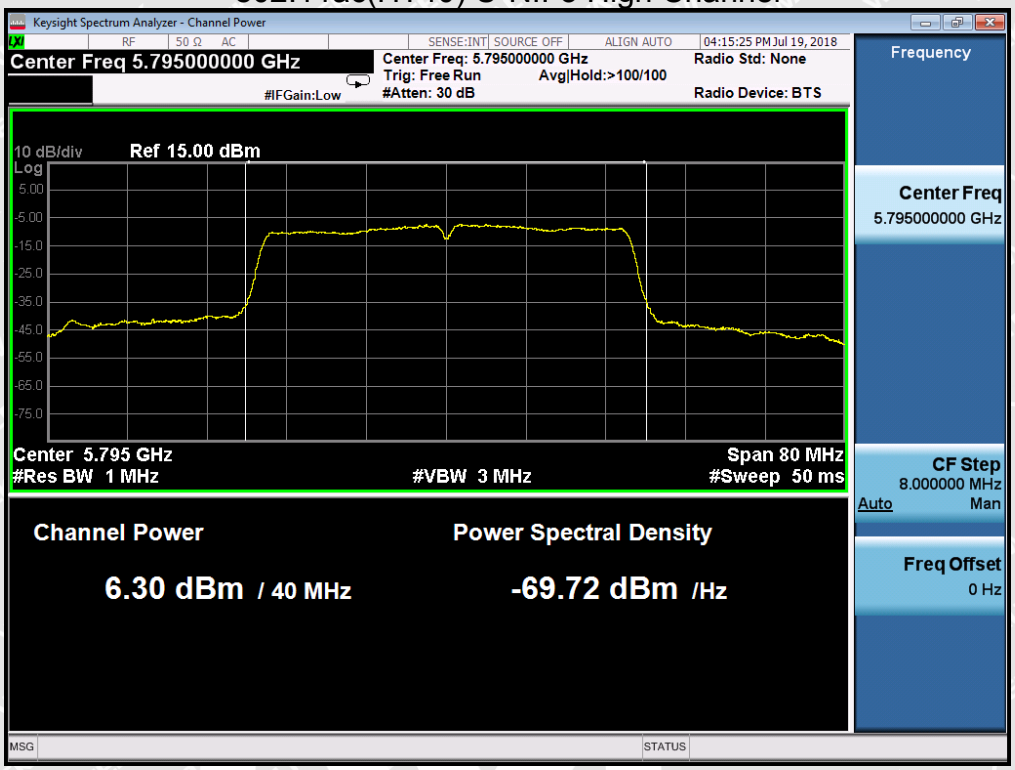
802.11ac(HT20) U-NII-3 High Channel



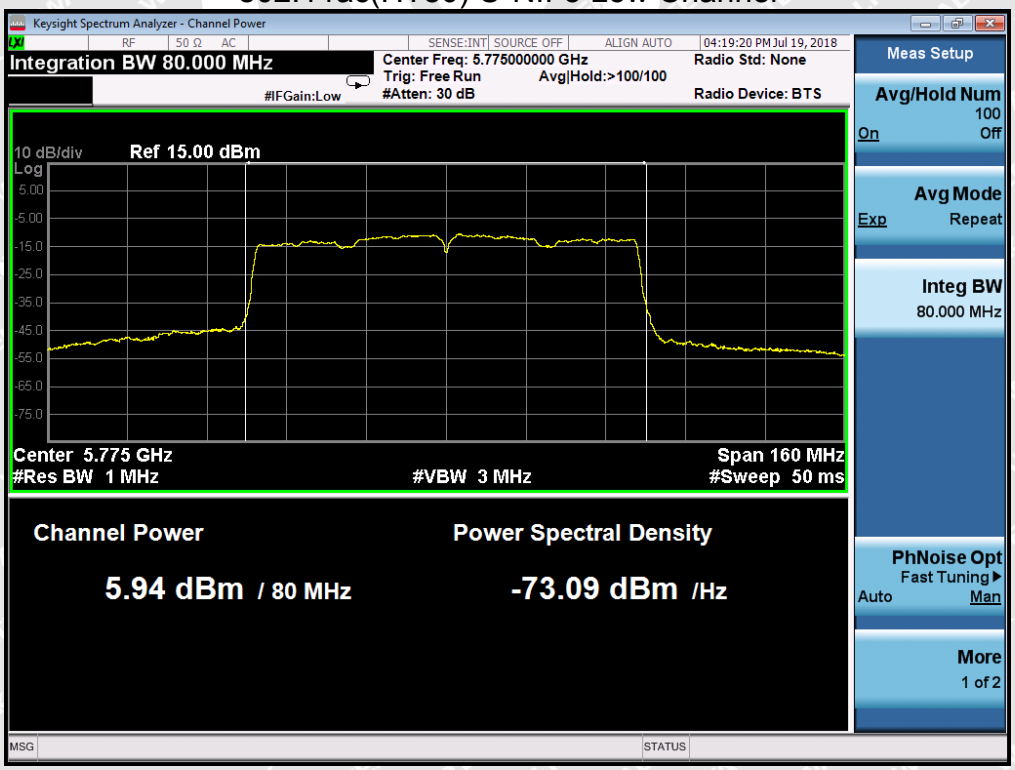
802.11ac(HT40) U-NII-3 Low Channel



802.11ac(HT40) U-NII-3 High Channel



802.11ac(HT80) U-NII-3 Low Channel



15 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:	≤11.00dBm/MHz for Operation in the U-NII-1(5150MHz-5250MHz)of mobile device ≤30.00dBm/500KHz for Operation in the U-NII-3(5725MHz-5850MHz)of device
Test Result:	PASS

15.1 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:

U-NII-1

RBW = 1MHz, VBW ⩾3* RBW Sweep = auto; Detector Function = Peak. Trace = Max hold.

U-NII-3

RBW = 510KHz, 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.

15.2 Test Result:

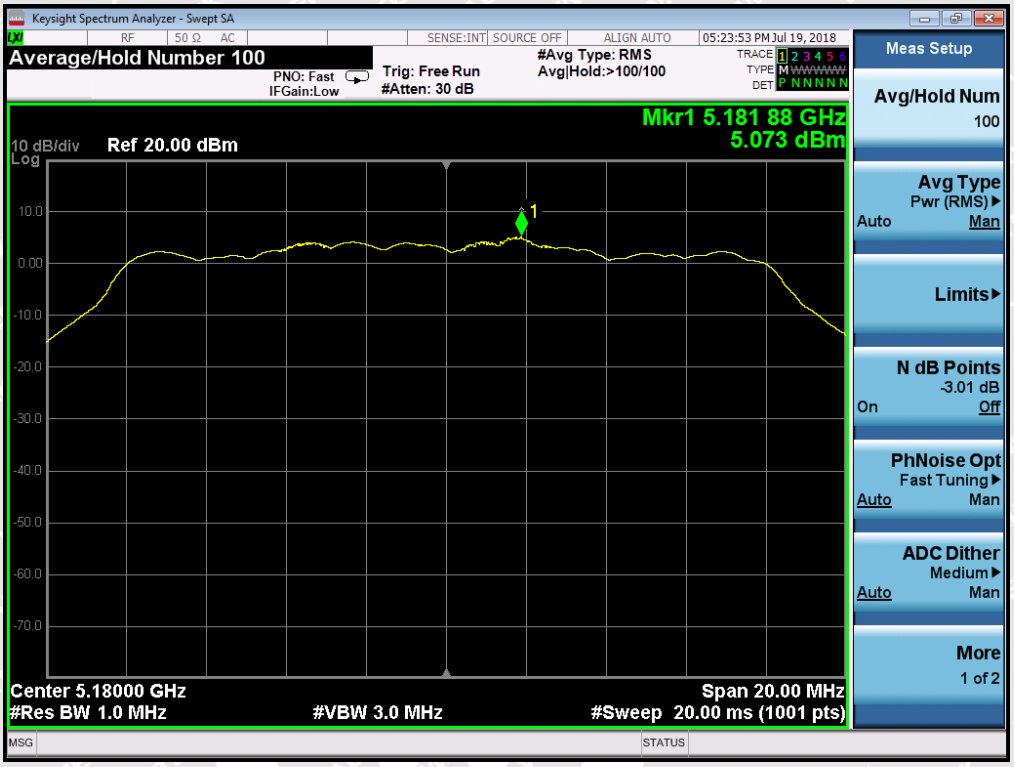
Band	Operation Mode	Channel	Power Spectral Density (dBm/MHz)
U-NII-1	802.11a	Low	5.073
		Middle	4.702
		High	4.739
	802.11n(HT20)	Low	4.873
		Middle	4.659
		High	4.656
	802.11n(HT40)	Low	1.293
		Middle	/
		High	1.192
	802.11ac(HT20)	Low	5.180
		Middle	4.775
		High	4.696
	802.11ac(HT40)	Low	1.393
		Middle	/
		High	1.119
	802.11ac(HT80)	Low	-0.56
		Middle	/
		High	/
U-NII-3	802.11a	Low	0.235
		Middle	-0.631
		High	0.317
	802.11n(HT20)	Low	1.276
		Middle	0.507
		High	1.444
	802.11n(HT40)	Low	-2.635
		Middle	/
		High	-2.376
	802.11ac(HT20)	Low	1.121
		Middle	0.605
		High	1.026
	802.11ac(HT40)	Low	-2.857
		Middle	/
		High	-2.735
	802.11ac(HT80)	Low	-6.179
		Middle	/

		High	/

* All transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT} which is less than 6dBi. So the limit does not be reduced.

Test result plots shown as follows:

802.11a U-NII-1 Low Channel



802.11a U-NII-1 Middle Channel

802.11a U-NII-1 High Channel

802.11n(HT20) U-NII-1 Low Channel

802.11n(HT20) U-NII-1 Middle Channel

802.11n(HT20) U-NII-1 High Channel

802.11n(HT40) U-NII-1 Low Channel

802.11n(HT40) U-NII-1 High Channel

802.11ac(HT20) U-NII-1 Low Channel

802.11ac(HT20) U-NII-1 Middle Channel

802.11ac(HT20) U-NII-1 High Channel

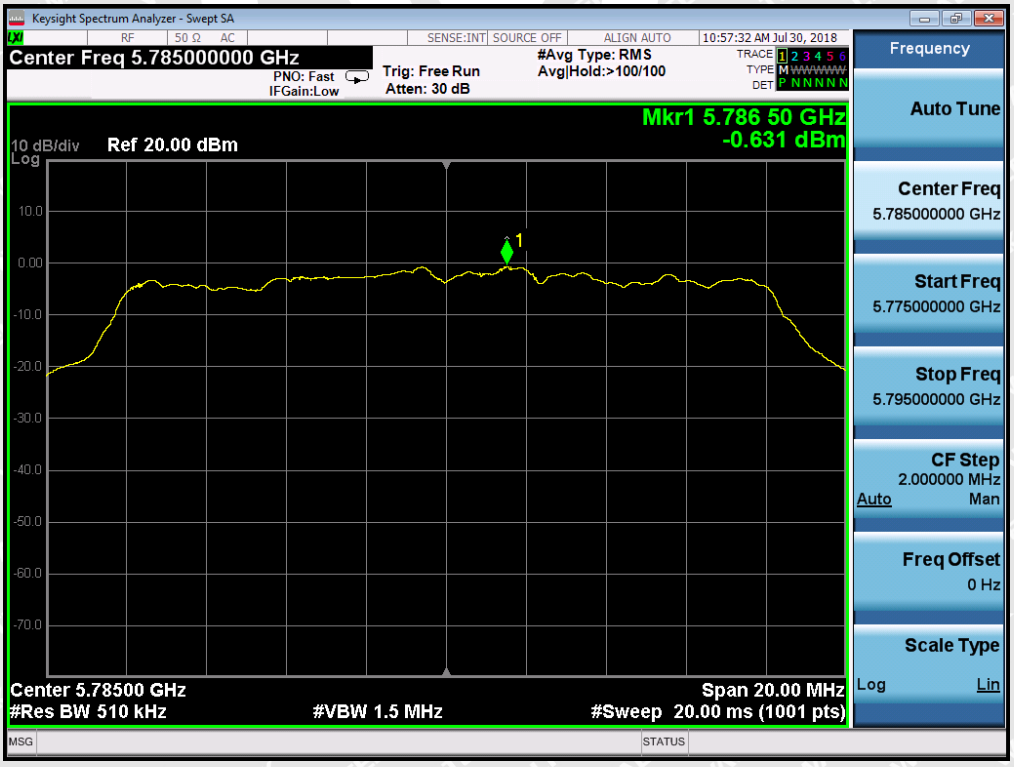
802.11ac(HT40) U-NII-1 Low Channel

802.11ac(HT40) U-NII-1 High Channel

802.11ac(HT80) U-NII-1 Low Channel

802.11a U-NII-3 Low Channel

802.11a U-NII-3 Middle Channel



802.11a U-NII-3 High Channel

802.11n(HT20) U-NII-3 Low Channel

802.11n(HT20) U-NII-3 Middle Channel

802.11n(HT20) U-NII-3 High Channel

802.11n(HT40) U-NII-3 Low Channel

802.11n(HT40) U-NII-3 High Channel

802.11ac(HT20) U-NII-3 Low Channel

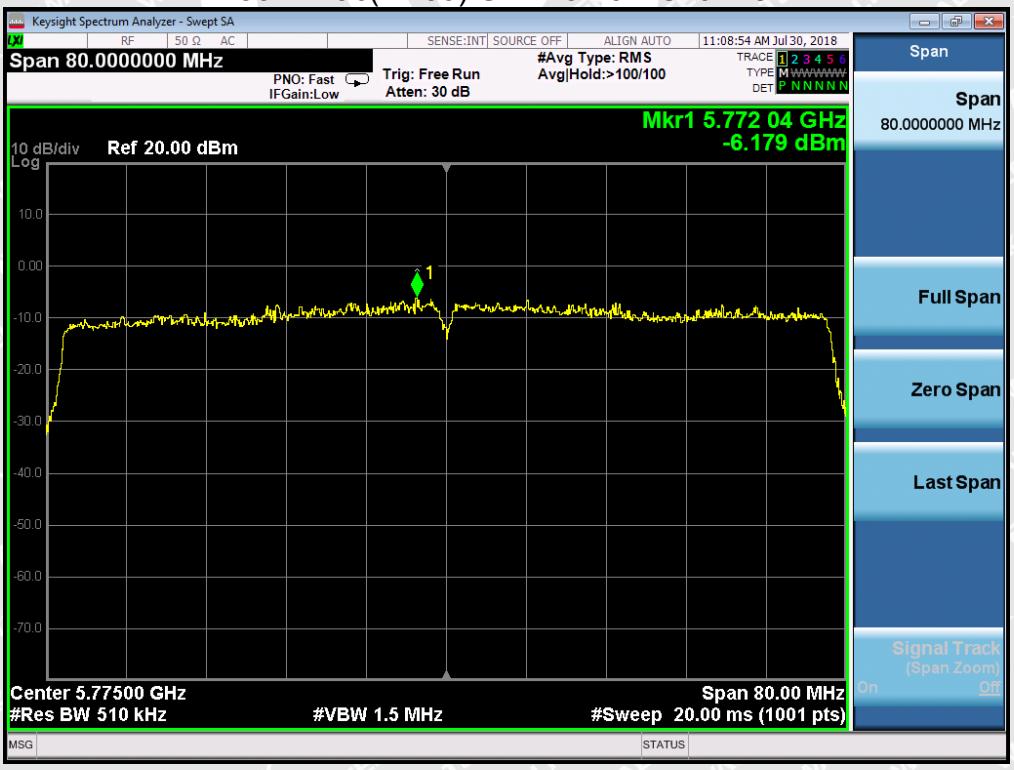
802.11ac(HT20) U-NII-3 Middle Channel

802.11ac(HT20) U-NII-3 High Channel

802.11ac(HT40) U-NII-3 Low Channel

802.11ac(HT40) U-NII-3 High Channel

802.11ac(HT80) U-NII-3 Low Channel



16 Frequency Stability

Test Requirement:	FCC CFR47 Part 15 Section 15.407(g)
Test Method:	ANSI C63.10:2013
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 users manual or 20ppm.
Test Result:	PASS

16.1 Test Procedure:

1. The transmitter output (antenna port) was connected to the spectrum analyzer. EUT have transmitted absence of unmodulation signal and fixed channelise. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and the limit is less than ±20ppm The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

2. Extreme temperature rule is 0°C~ 45°C.

16.2 Test Result:

U-NII-1 Test Frequency:5180MHz				
Temperature (℃)	Power Supply (DC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
45	DC 3.700V	49.5	0.0096	20
35		48.5	0.0094	20
30		50.5	0.0098	20
25		50.0	0.0097	20
15		49.0	0.0095	20
10		51.0	0.0098	20
0		50.0	0.0097	20
25	DC 3.145V	55.0	0.0106	20
25	DC 4.255V	58.0	0.0112	20

U-NII-3 Test Frequency:5745MHz				
Temperature (℃)	Power Supply (DC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
35	DC 3.700V	53.5	0.0093	20
30		54.0	0.0094	20
25		55.5	0.0097	20
20		54.5	0.0095	20
15		55.5	0.0097	20
10		55.0	0.0096	20
5		57.0	0.0099	20
20	DC 3.145V	54.0	0.0094	20
20	DC 4.255V	50.0	0.0087	20

17 Antenna Requirement

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

This device uses of two antennas that uses a specified coupling to the intentional radiator. Antenna connectors complied with the requirement.

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