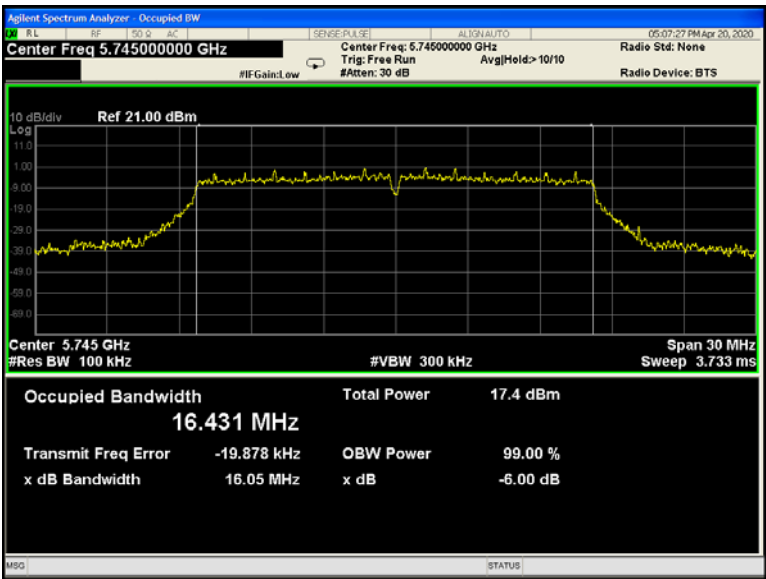
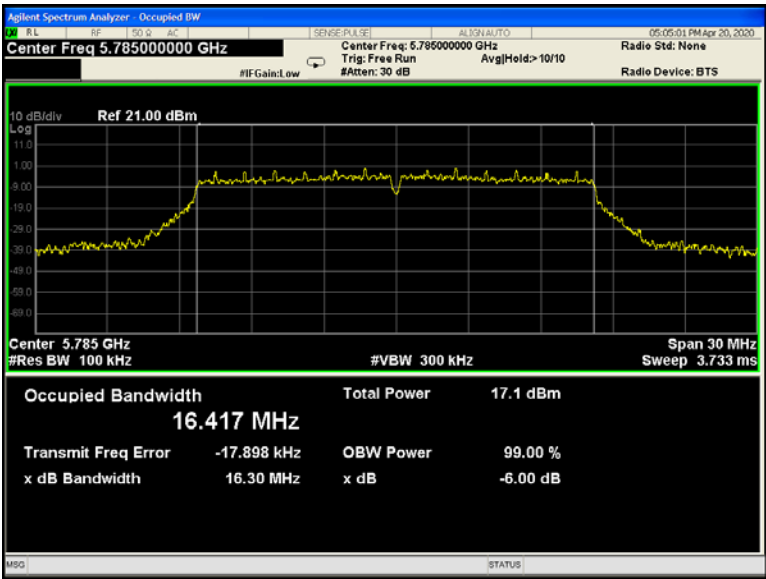


ANT 2

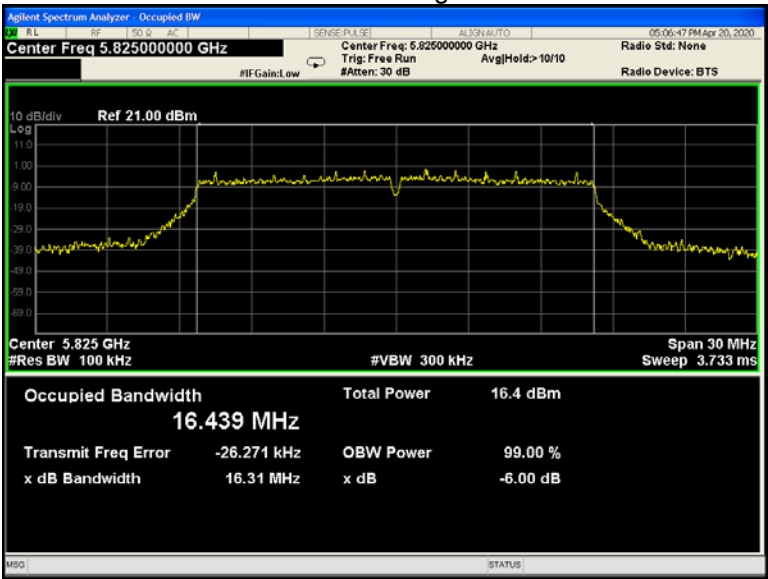
802.11a U-NII-3 Low channel



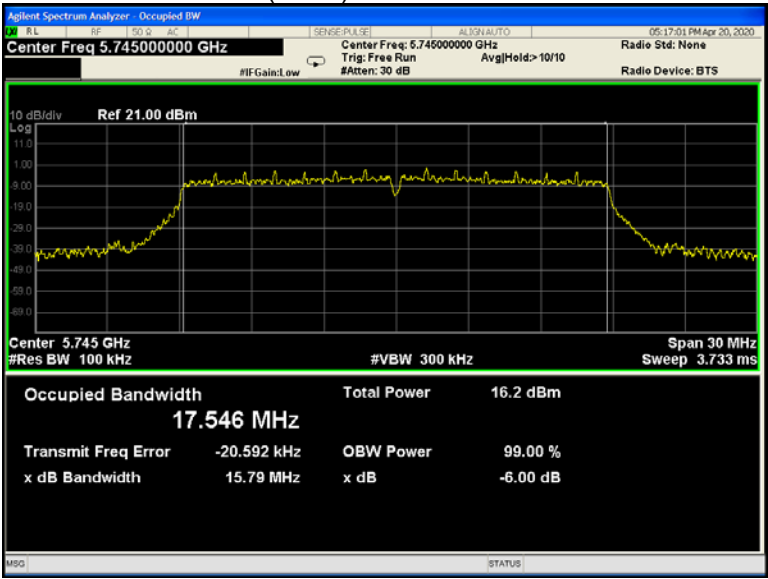
802.11a U-NII-3 Middle channel



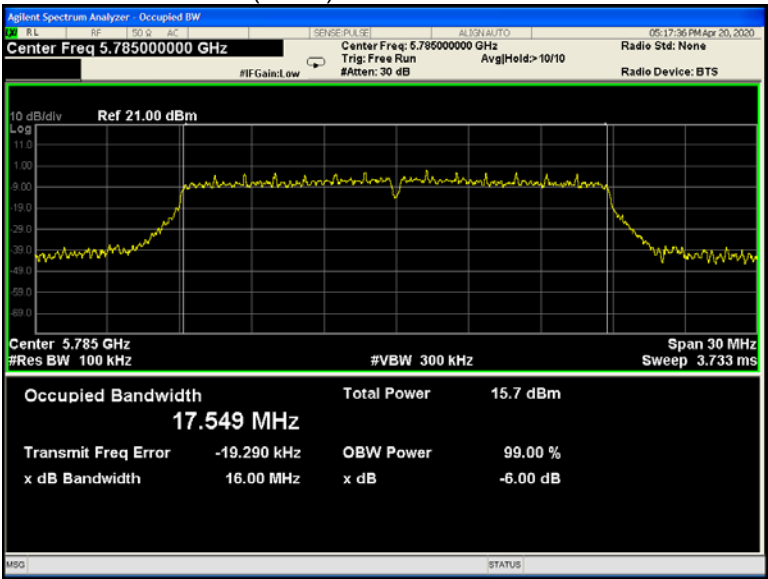
802.11a U-NII-3 High channel



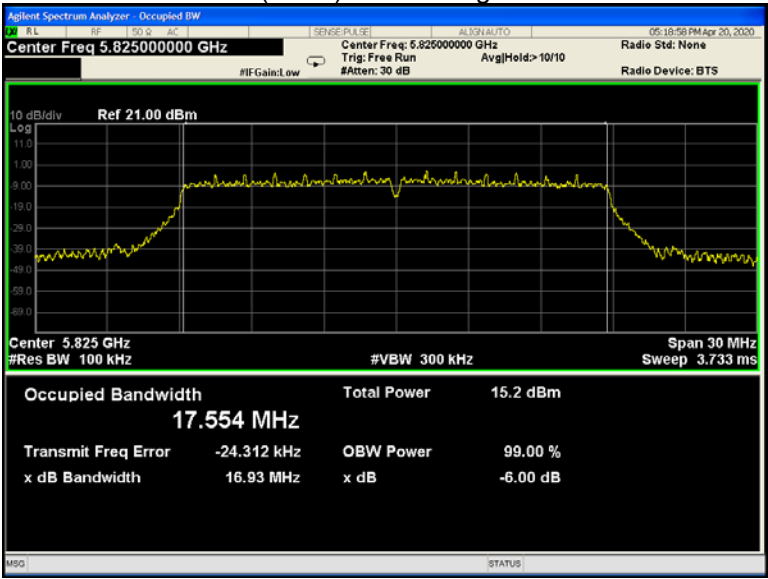
802.11n(HT20) U-NII-3 Low channel



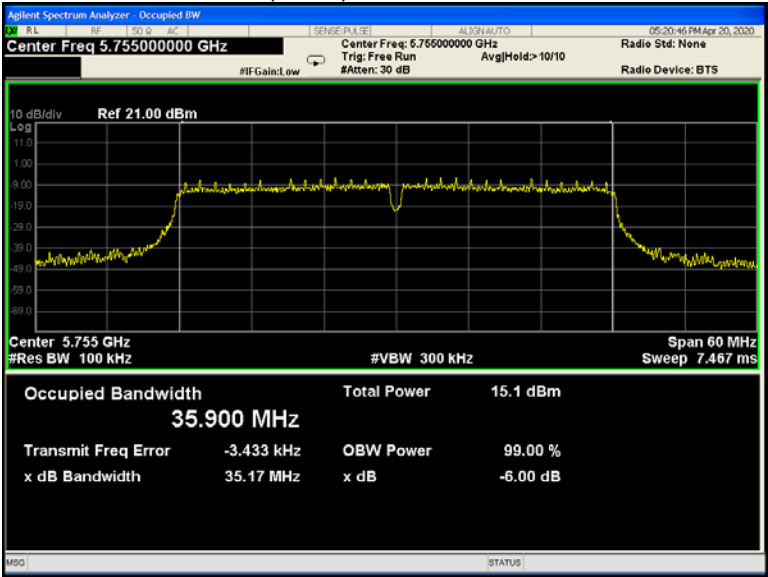
802.11n(HT20) U-NII-3 Middle channel



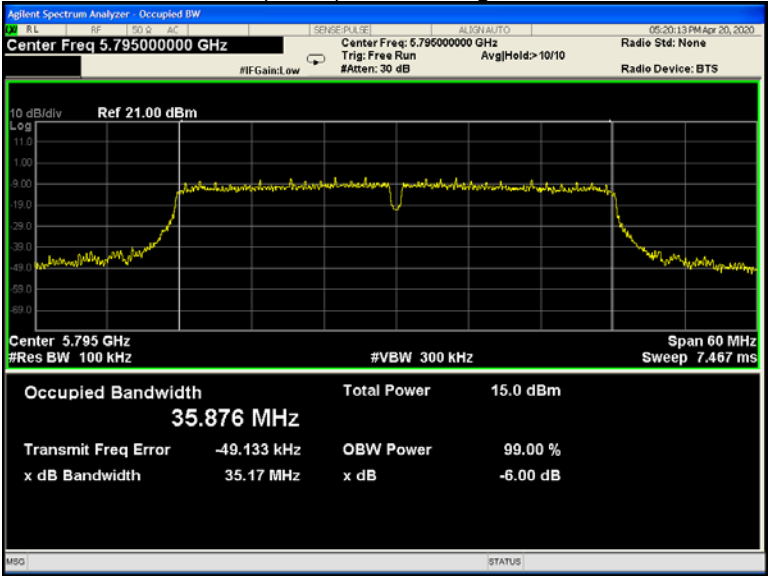
802.11n(HT20) U-NII-3 High channel



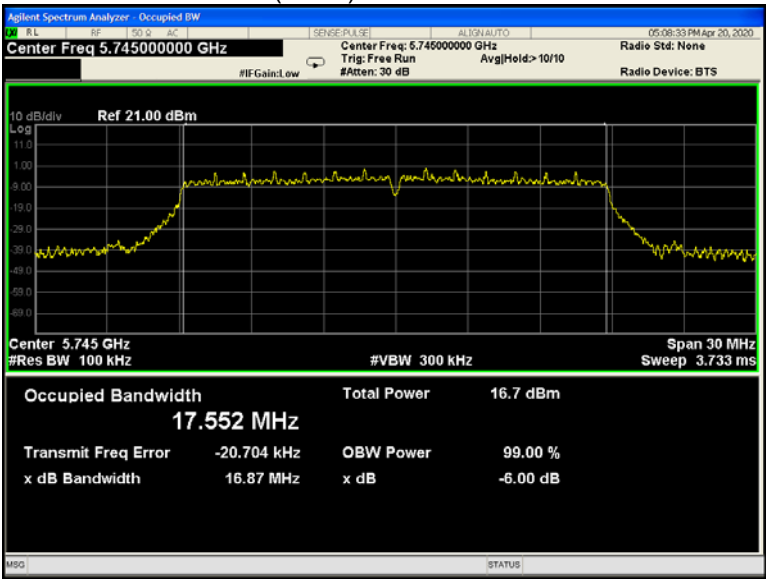
802.11n(HT40) U-NII-3 Low channel



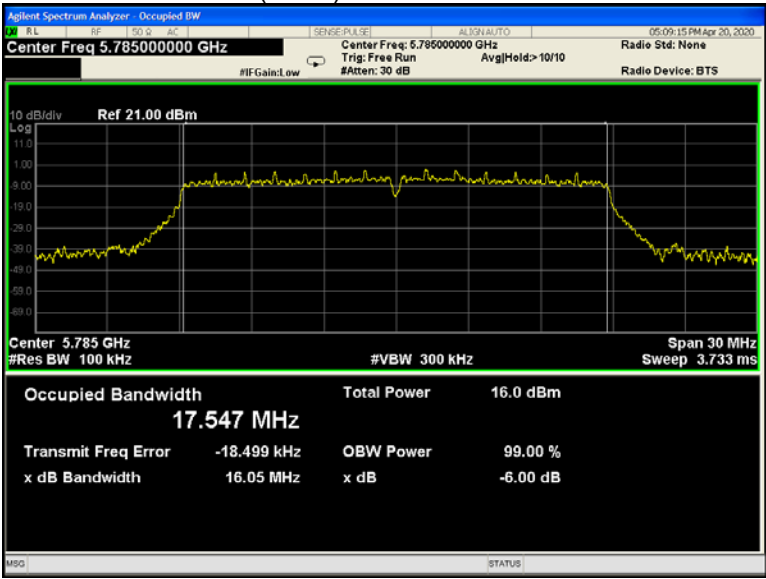
802.11n(HT40) U-NII-3 High channel



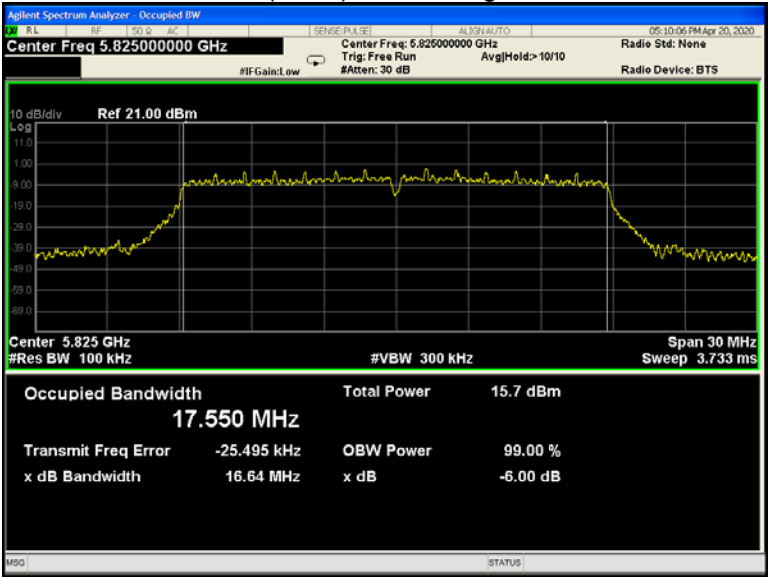
802.11ac(HT20) U-NII-3 Low channel



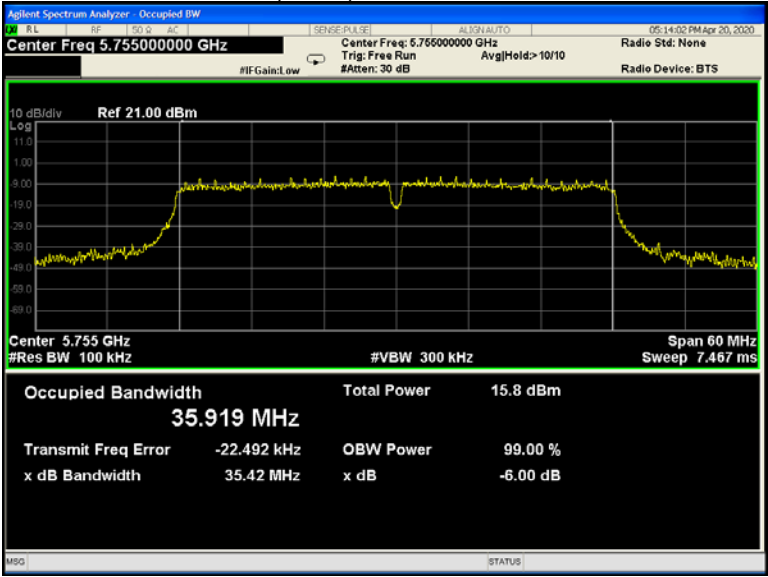
802.11ac(HT20) U-NII-3 Middle channel



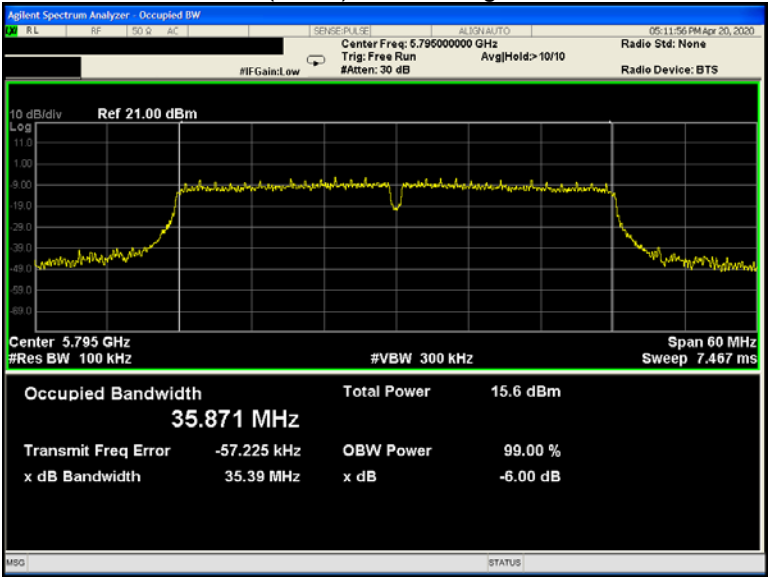
802.11ac(HT20) U-NII-3 High channel



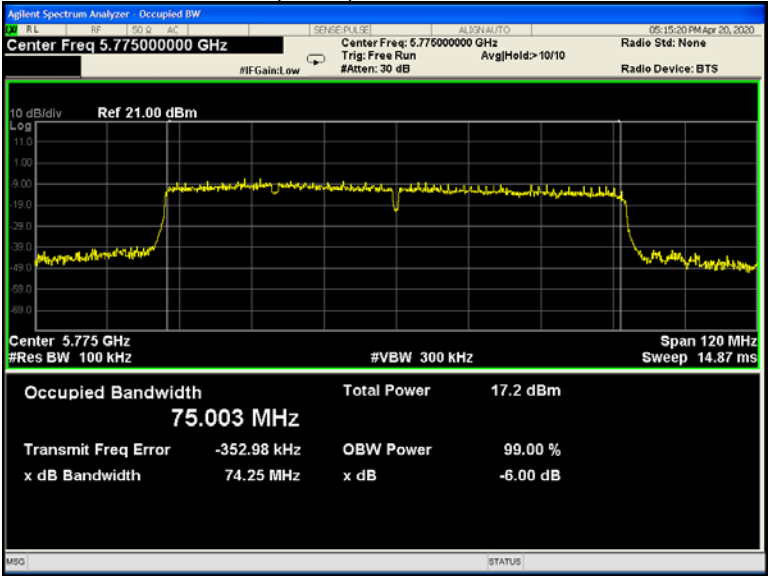
802.11ac(HT40) U-NII-3 Low channel



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



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



12 26 dB Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407 (a) KDB662911 D01 Multiple Transmitter Output v02r01
Test Method:	KDB789033 D02 General U-NII Test Procedures New Rules v02r01 Section D
Test Limit:	No restriction limits
Test Result:	PASS

12.1 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% to 5% of the OBW, VBW = 3x RBW

12.2 Test Result:

ANT 1

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	19.58	19.67	19.68	16.645	16.654	16.646
	802.11n(HT20)	20.05	20.01	20.11	17.621	17.601	17.593
	802.11n(HT40)	39.97	/	40.02	36.040	/	35.979
	802.11ac(HT20)	20.06	20.02	20.05	17.600	17.596	17.605
	802.11ac(HT40)	40.01	/	39.69	36.045	/	36.002
	802.11ac(HT80)	80.33	/	/	74.931	/	/
U-NII-3	802.11a	19.57	19.71	19.58	16.629	16.624	16.587
	802.11n(HT20)	19.96	20.02	20.01	17.612	17.604	17.584
	802.11n(HT40)	39.84	/	40.02	35.999	/	36.067
	802.11ac(HT20)	20.06	20.05	20.04	17.601	17.593	17.593
	802.11ac(HT40)	39.98	/	40.39	36.012	/	36.095
	802.11ac(HT80)	80.65	/	/	75.028	/	/

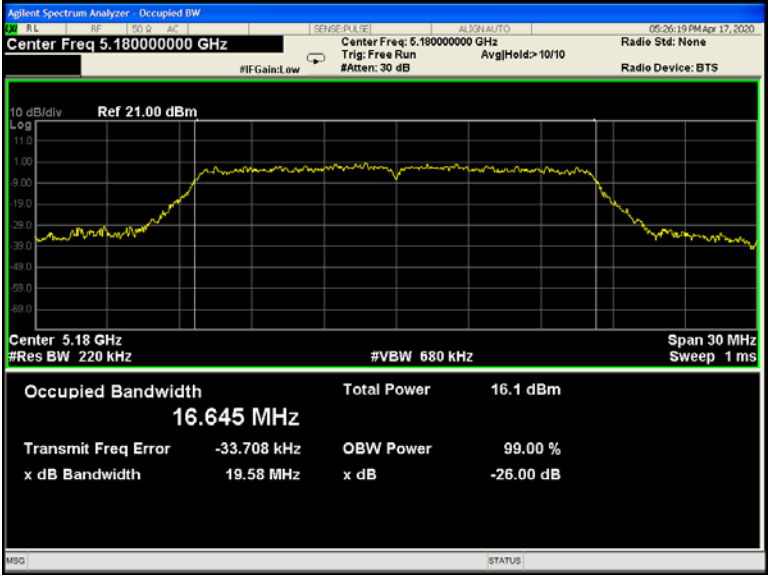
ANT 2

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	20.16	19.97	19.91	16.702	16.638	16.643
	802.11n(HT20)	20.10	20.00	19.99	17.597	17.600	17.607
	802.11n(HT40)	39.95	/	39.58	36.054	/	35.987
	802.11ac(HT20)	19.97	20.00	20.04	17.610	17.603	17.602
	802.11ac(HT40)	40.04	/	40.00	36.049	/	35.997
	802.11ac(HT80)	80.74	/	/	75.079	/	/
U-NII-3	802.11a	19.45	19.58	19.67	16.633	16.636	16.686
	802.11n(HT20)	19.96	19.91	20.11	17.588	17.594	17.607
	802.11n(HT40)	39.98	/	39.59	36.037	/	35.988
	802.11ac(HT20)	19.98	20.09	20.00	17.586	17.602	17.615
	802.11ac(HT40)	39.80	/	39.78	36.007	/	35.969
	802.11ac(HT80)	80.86	/	/	75.020	/	/

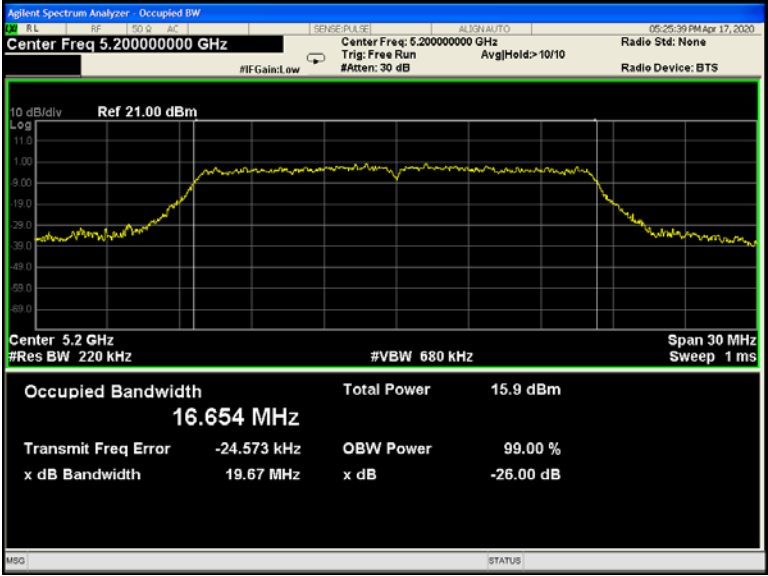
Test result plots shown as follows:

ANT 1

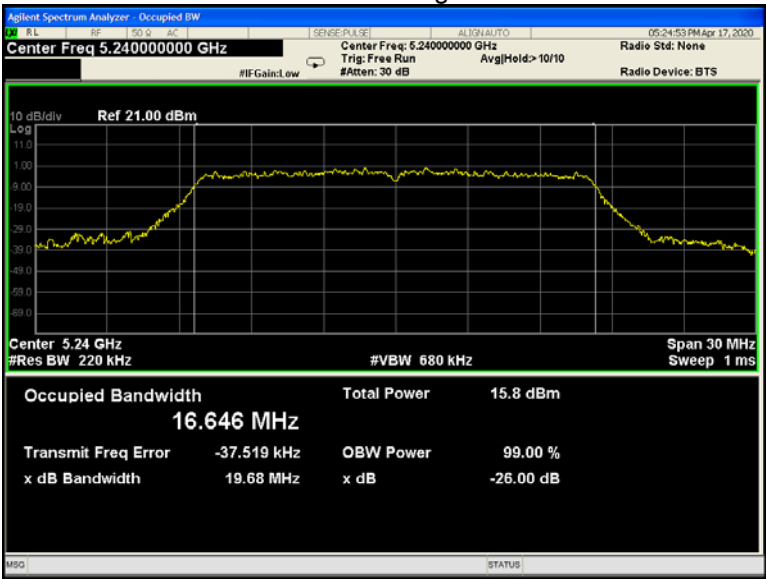
802.11a U-NII-1 Low channel



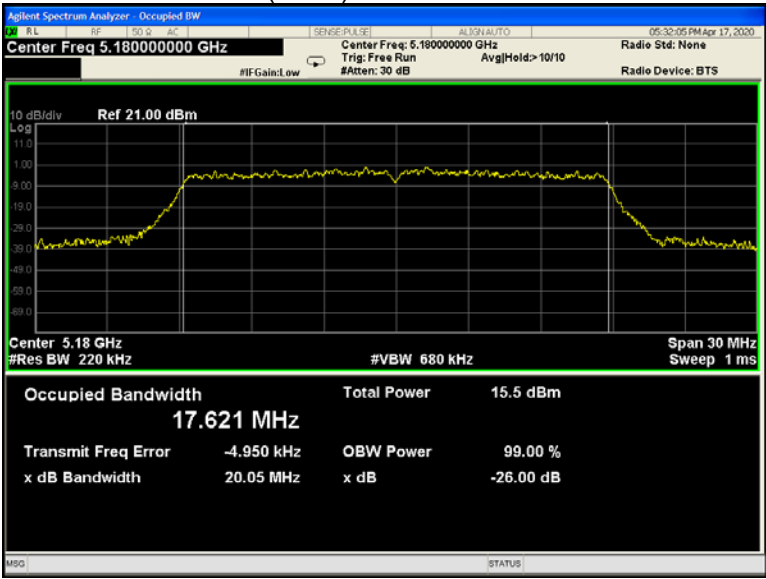
802.11a U-NII-1 Middle channel



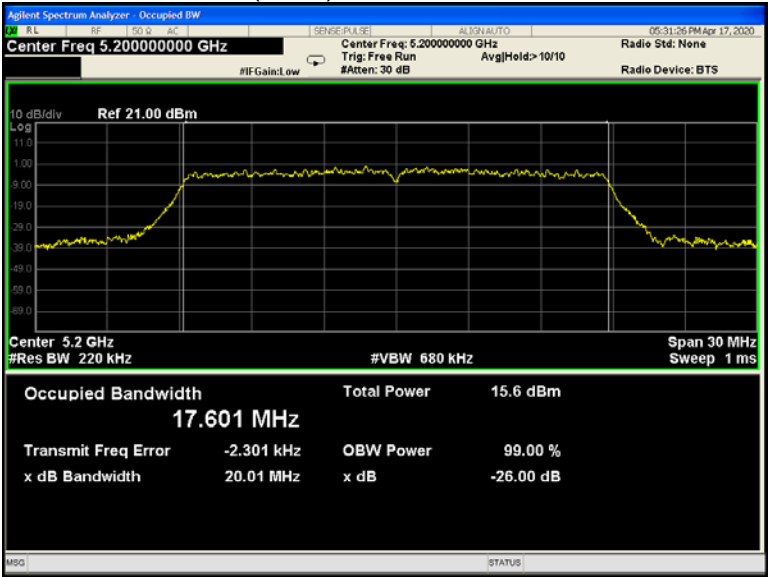
802.11a U-NII-1 High channel



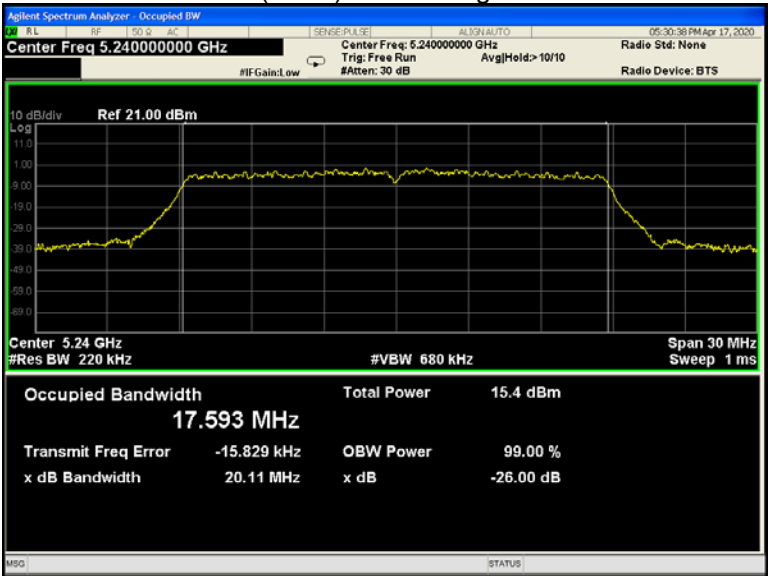
802.11n(HT20) U-NII-1 Low channel



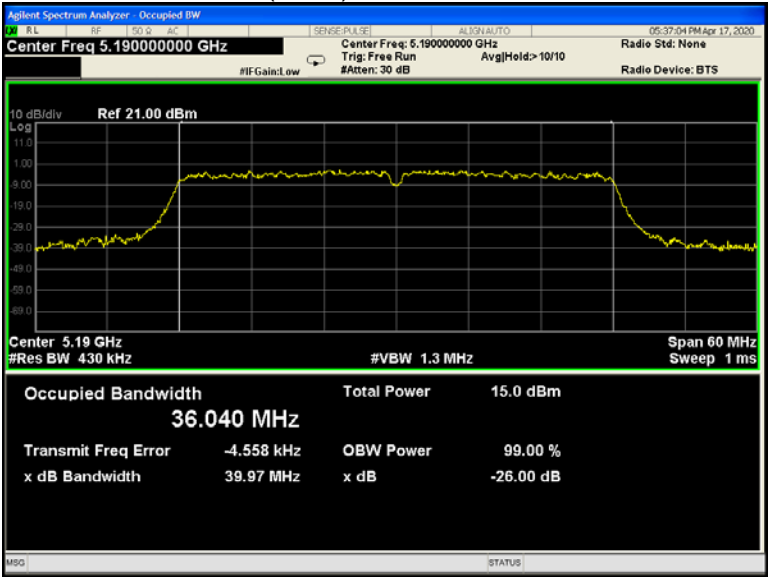
802.11n(HT20) U-NII-1 Middle channel



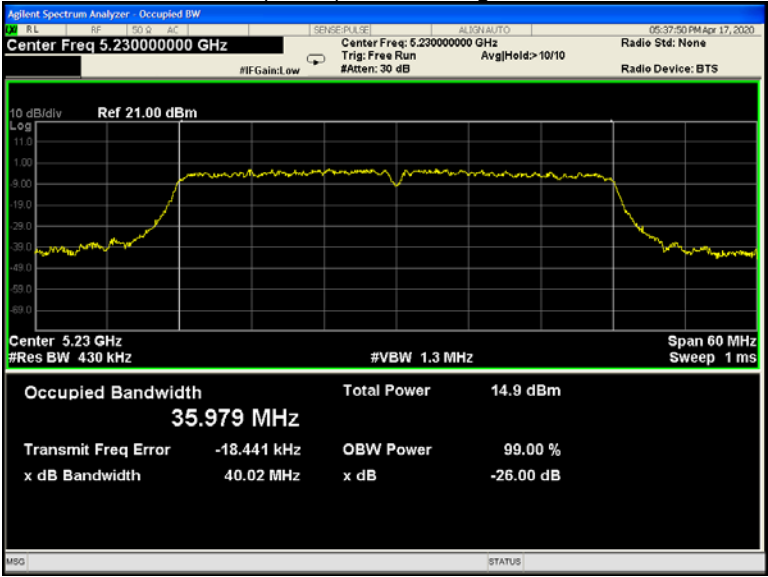
802.11n(HT20) U-NII-1 High channel



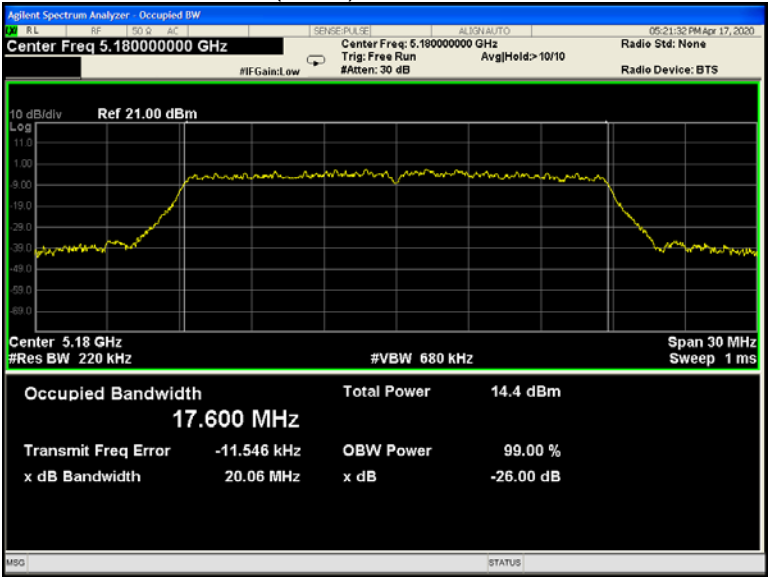
802.11n(HT40) U-NII-1 Low channel



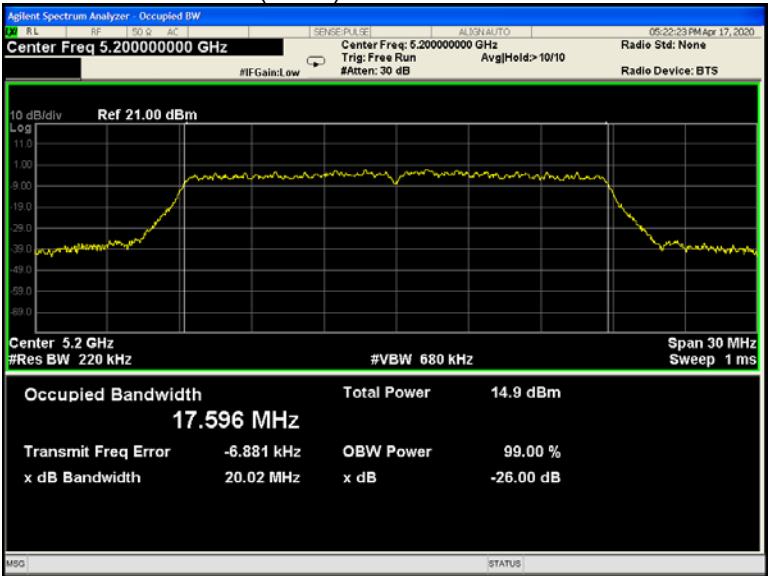
802.11n(HT40) U-NII-1 High channel



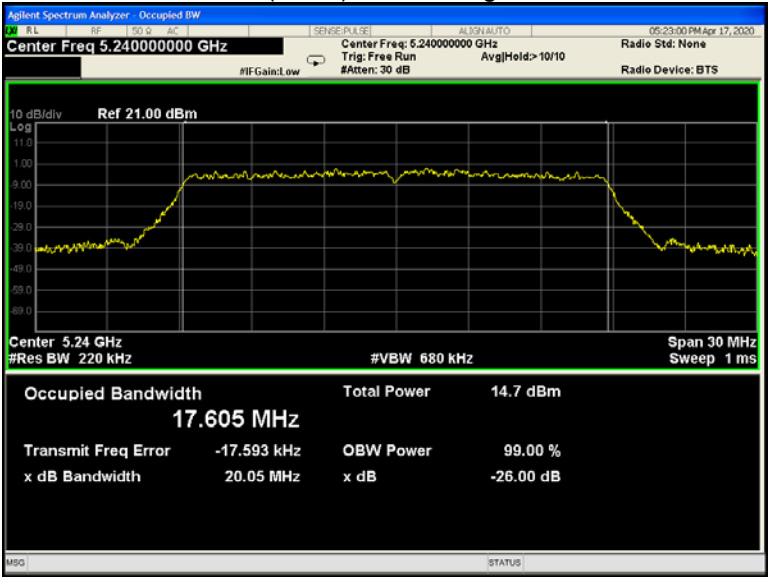
802.11ac(HT20) U-NII-1 Low channel



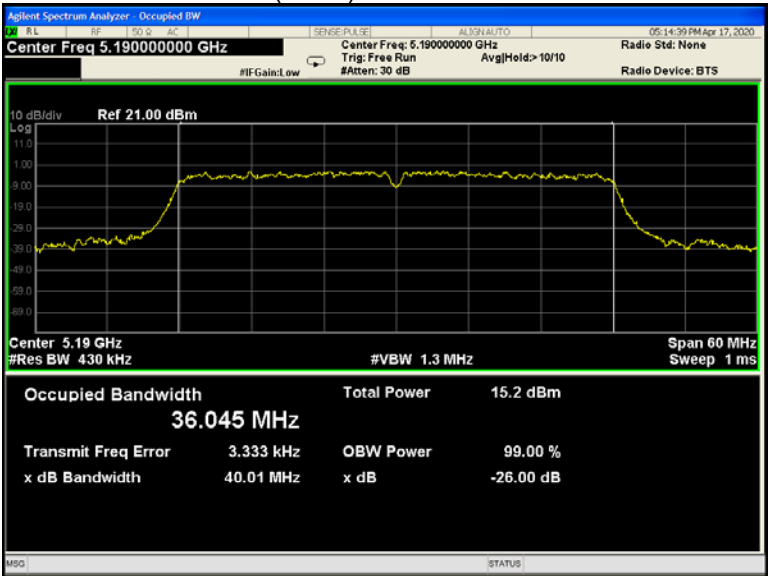
802.11ac(HT20) U-NII-1 Middle channel



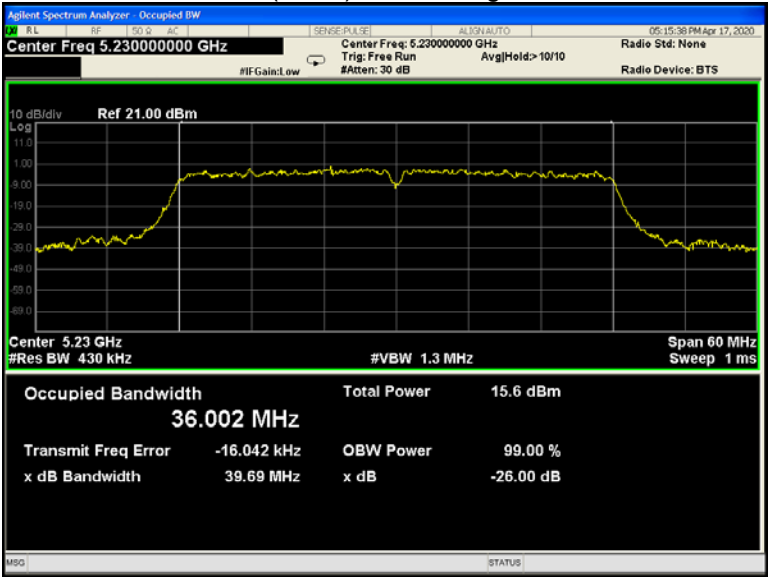
802.11ac(HT20) U-NII-1 High channel



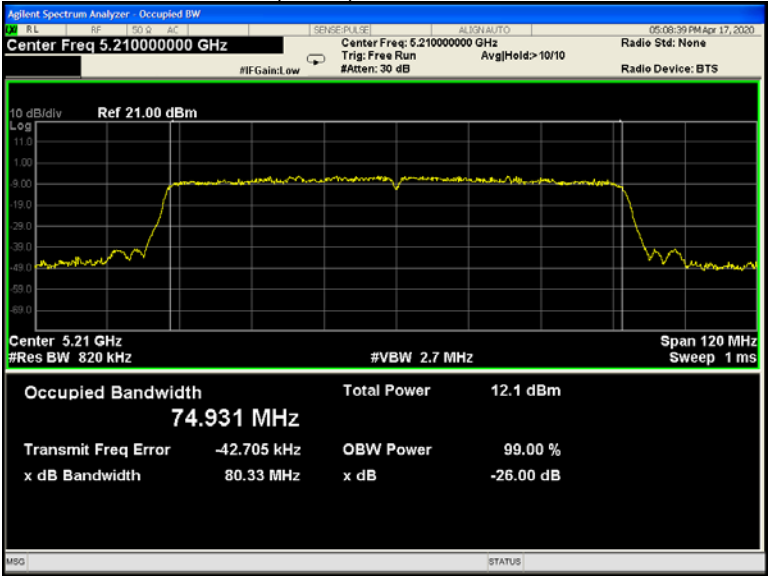
802.11ac(HT40) U-NII-1 Low channel



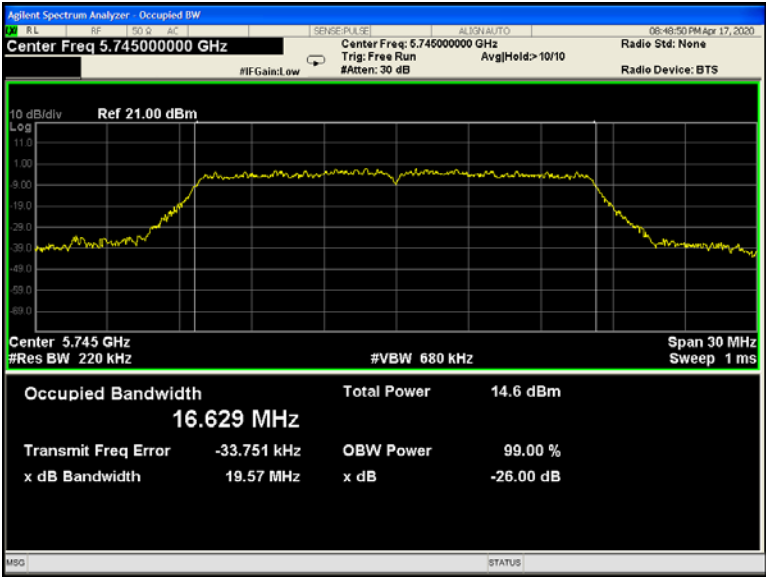
802.11 ac(HT40) U-NII-1 High channel



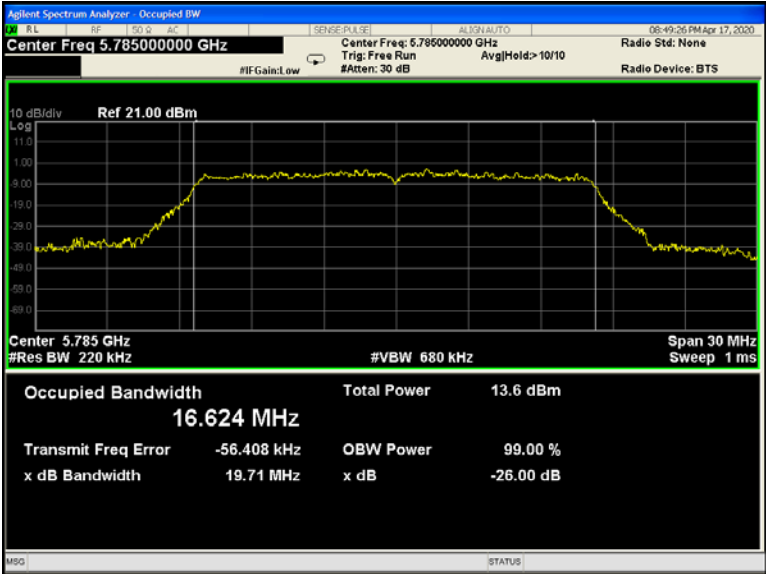
802.11ac(HT80) U-NII-1 Low channel



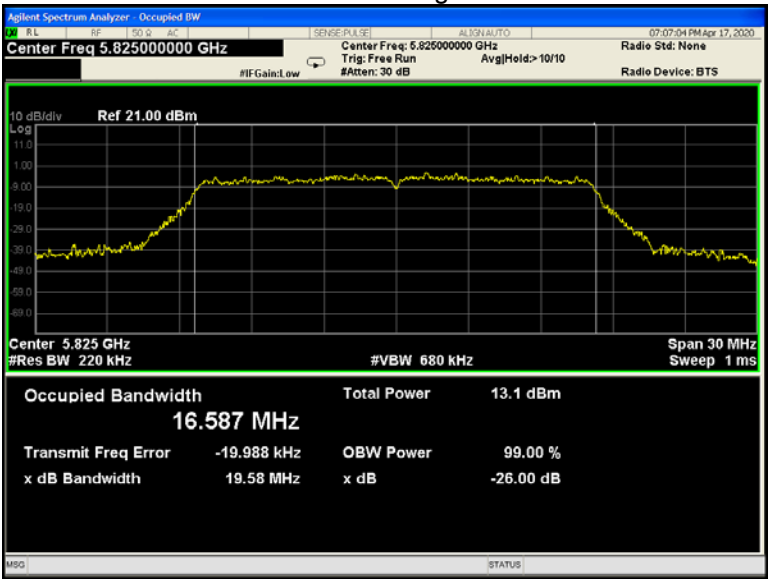
802.11a U-NII-3 Low channel



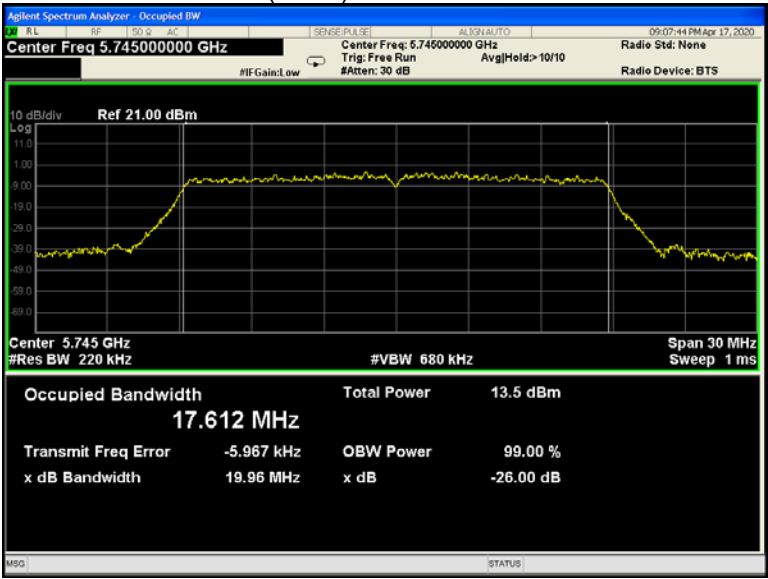
802.11a U-NII-3 Middle channel



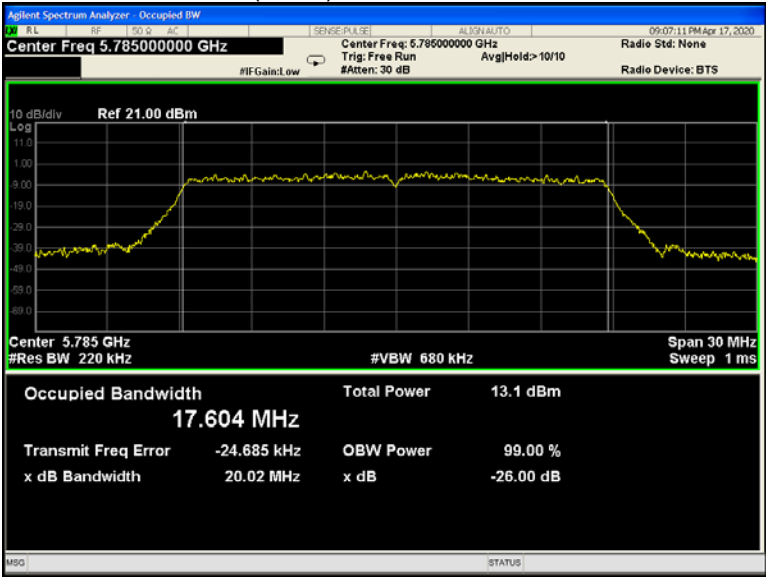
802.11a U-NII-3 High channel



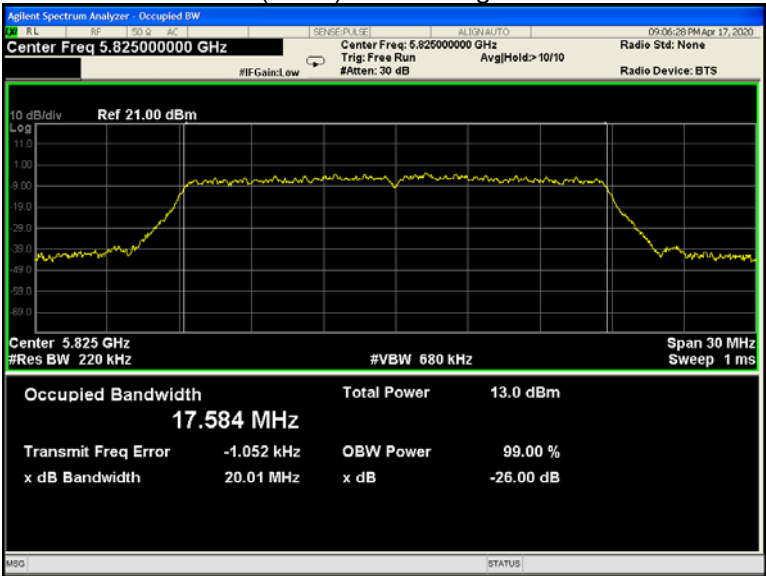
802.11n(HT20) U-NII-3 Low channel



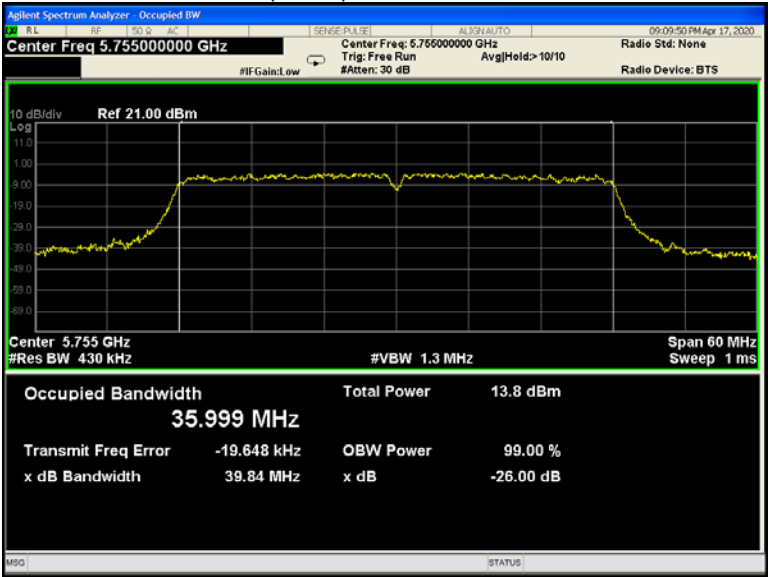
802.11n(HT20) U-NII-3 Middle channel



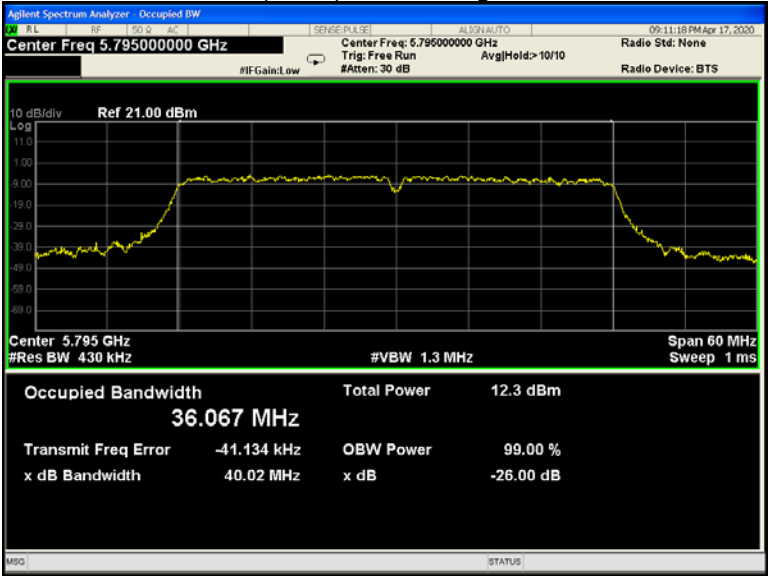
802.11n(HT20) U-NII-3 High channel



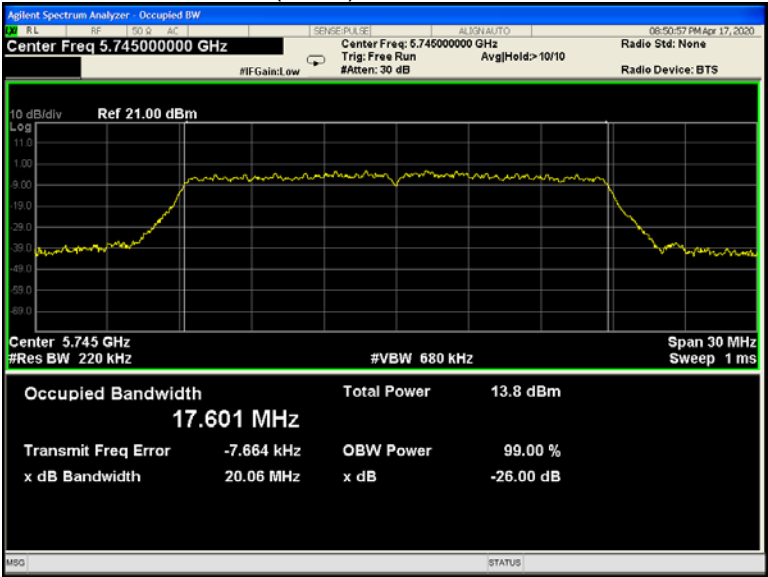
802.11n(HT40) U-NII-3 Low channel



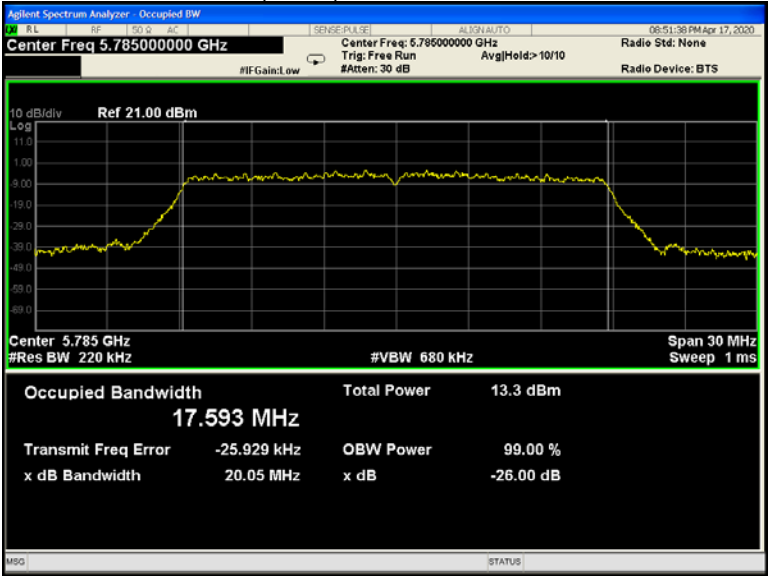
802.11n(HT40) U-NII-3 High channel



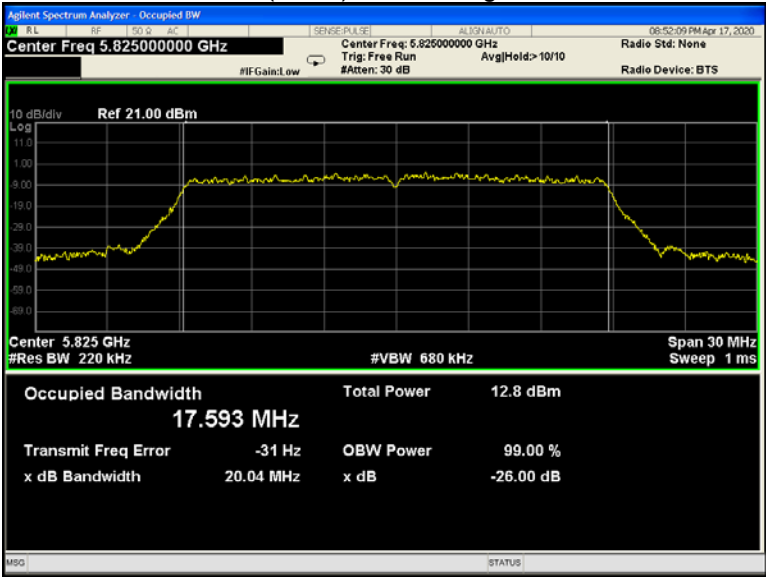
802.11ac(HT20) U-NII-3 Low channel



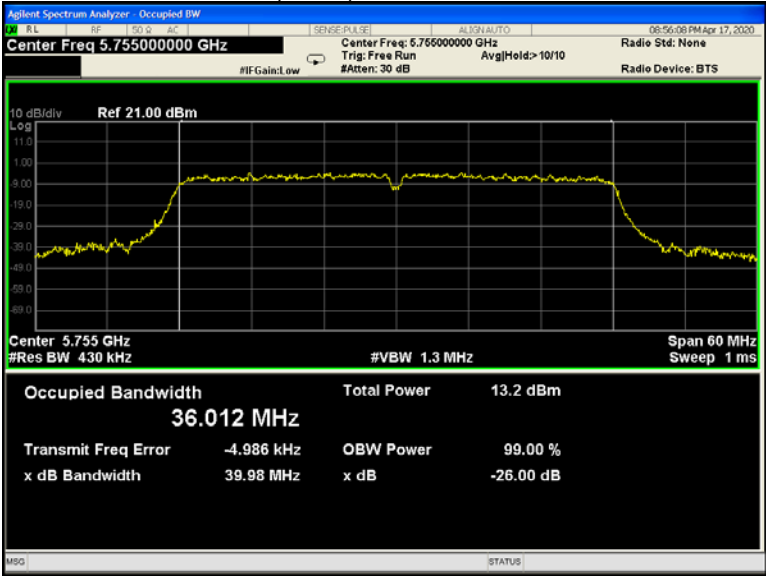
802.11ac(HT20) U-NII-3 Middle channel



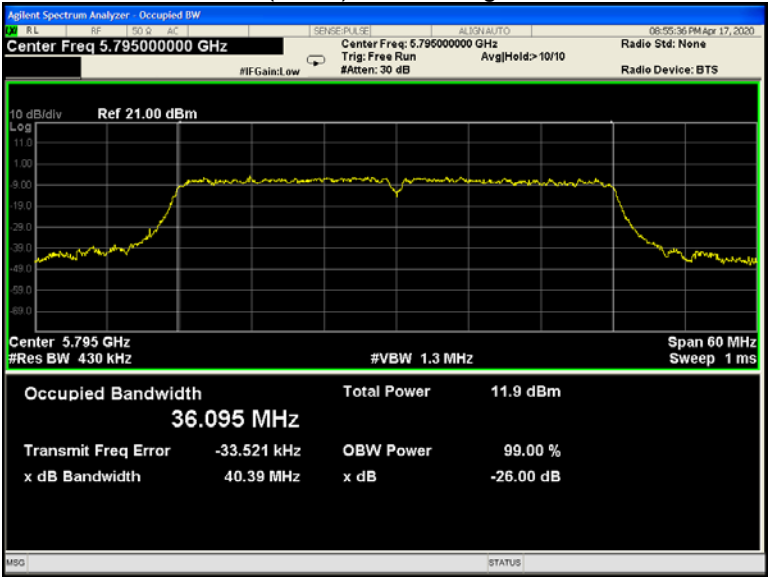
802.11ac(HT20) U-NII-3 High channel



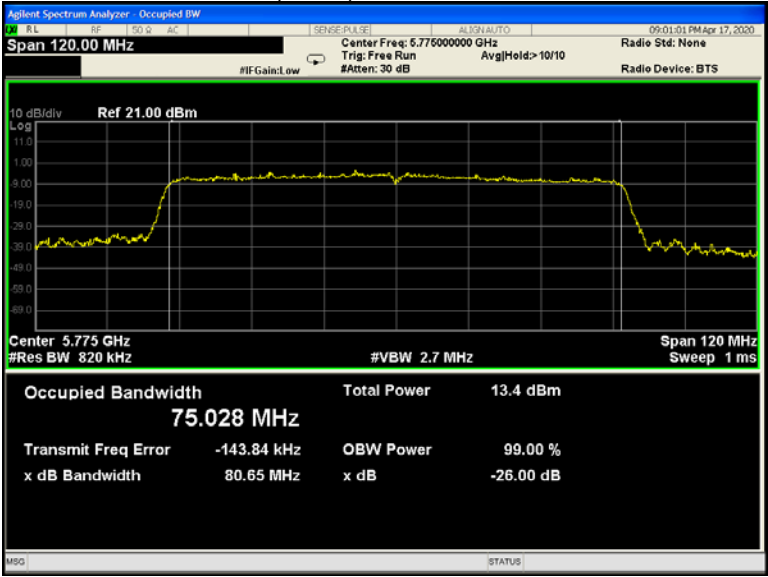
802.11ac(HT40) U-NII-3 Low channel



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

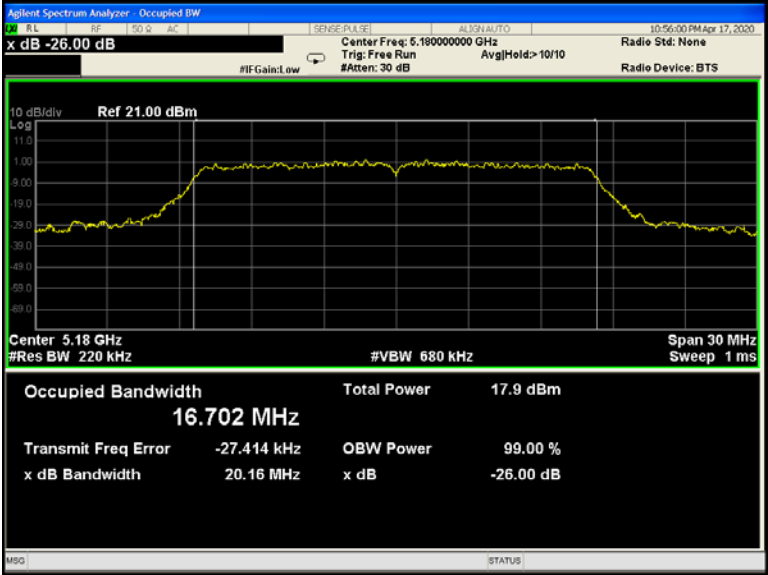


802.11ac(HT80) U-NII-3 Low channel

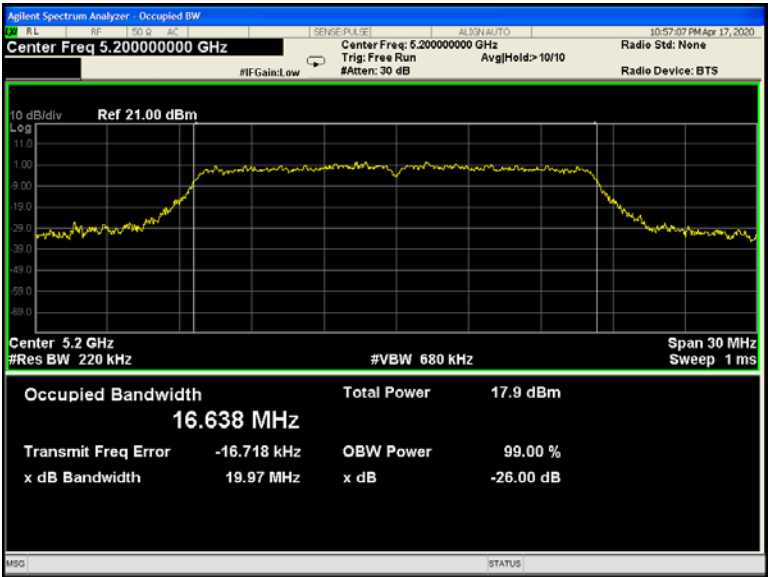


ANT 2

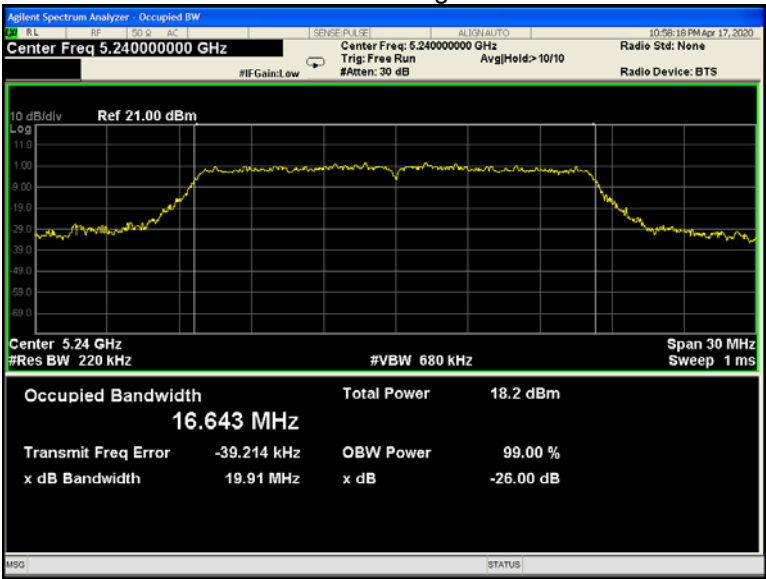
802.11a U-NII-1 Low channel



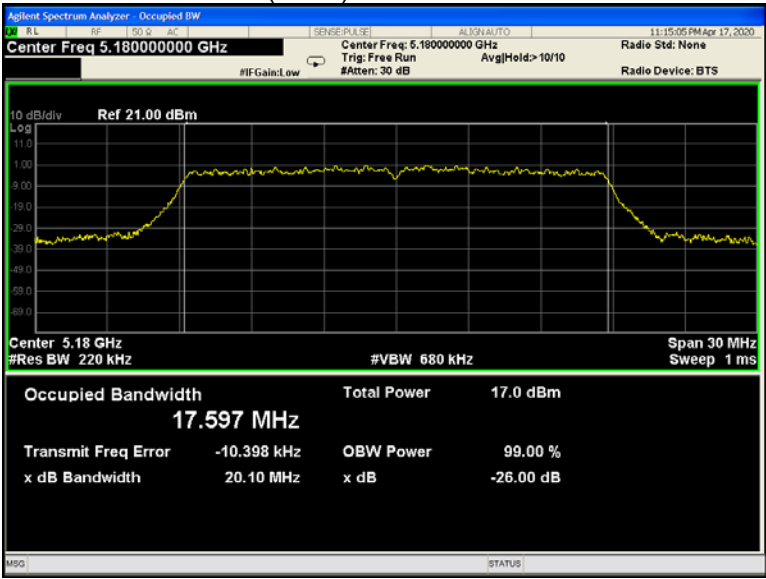
802.11a U-NII-1 Middle channel



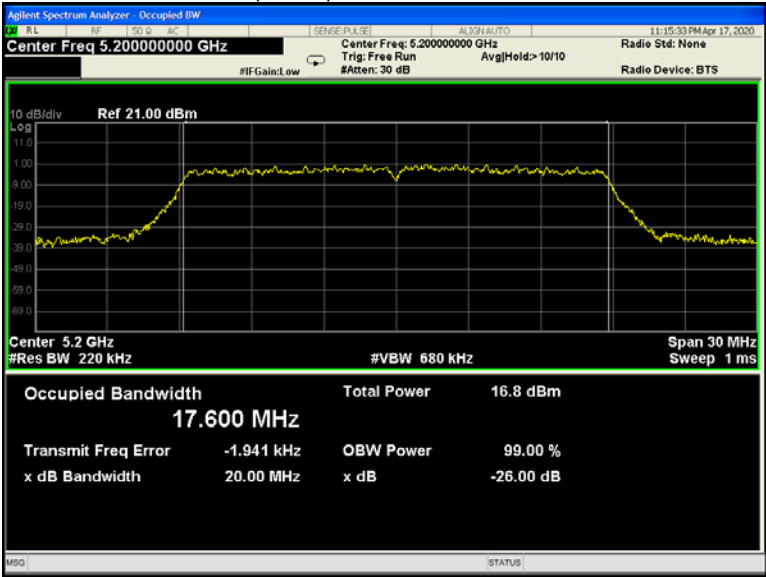
802.11a U-NII-1 High channel



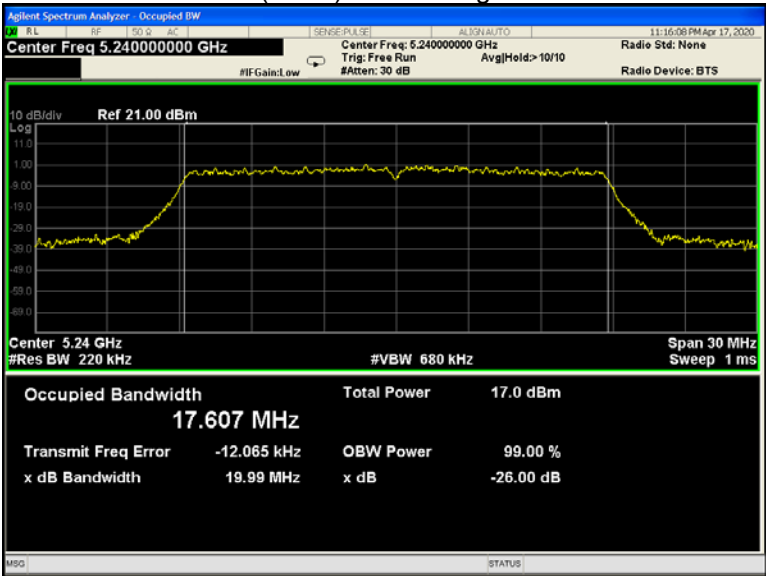
802.11n(HT20) U-NII-1 Low channel



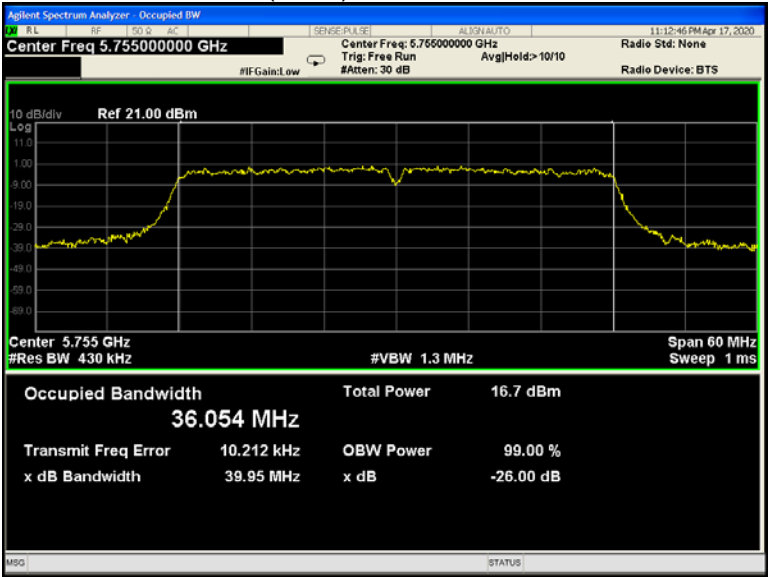
802.11n(HT20) U-NII-1 Middle channel



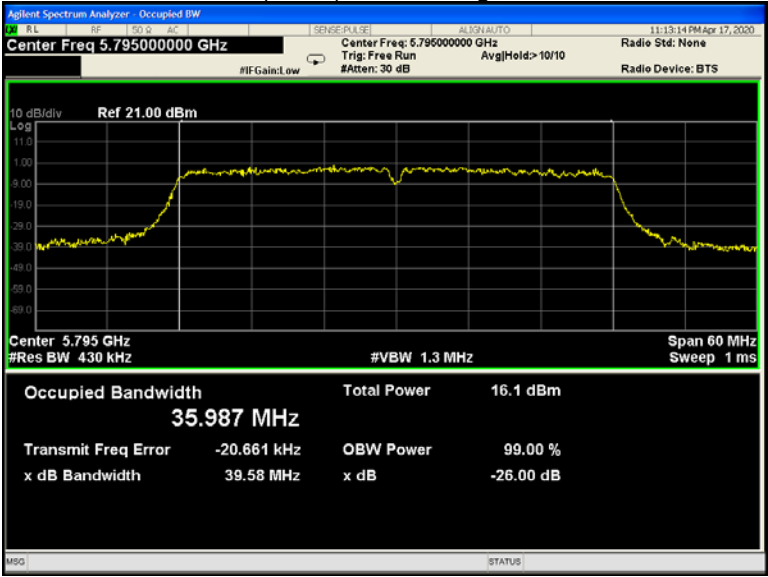
802.11n(HT20) U-NII-1 High channel



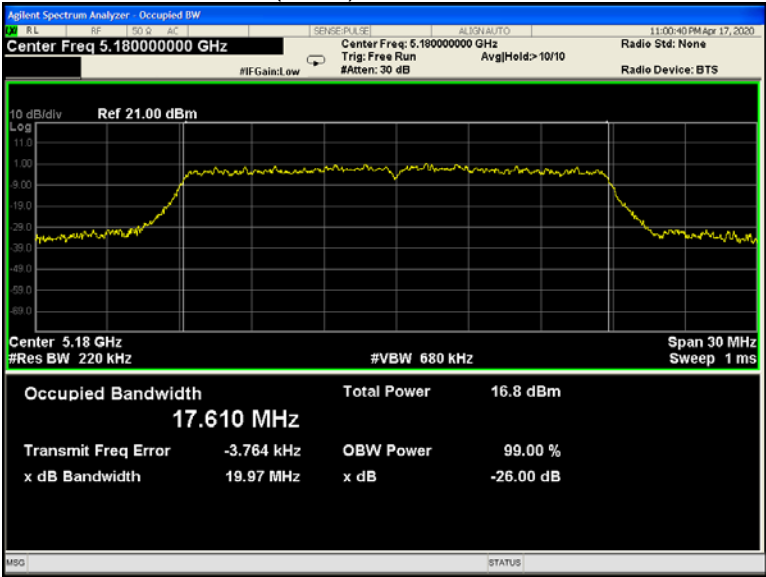
802.11n(HT40) U-NII-1 Low channel



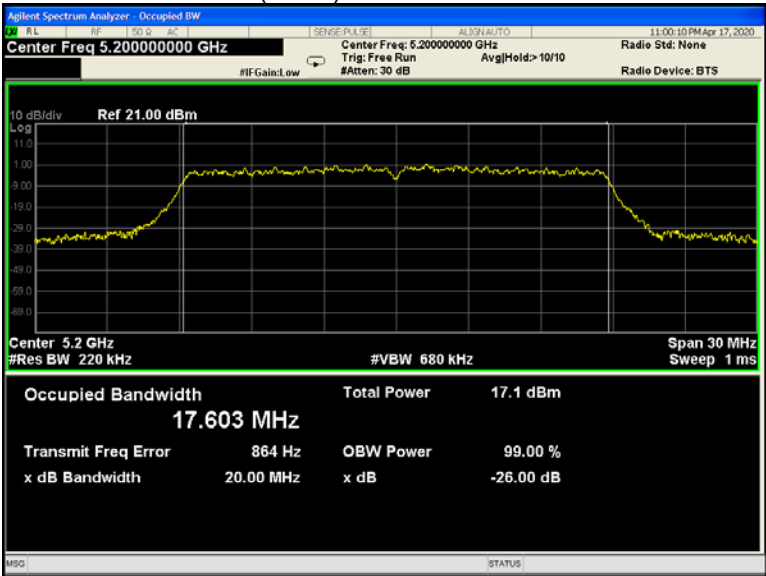
802.11n(HT40) U-NII-1 High channel



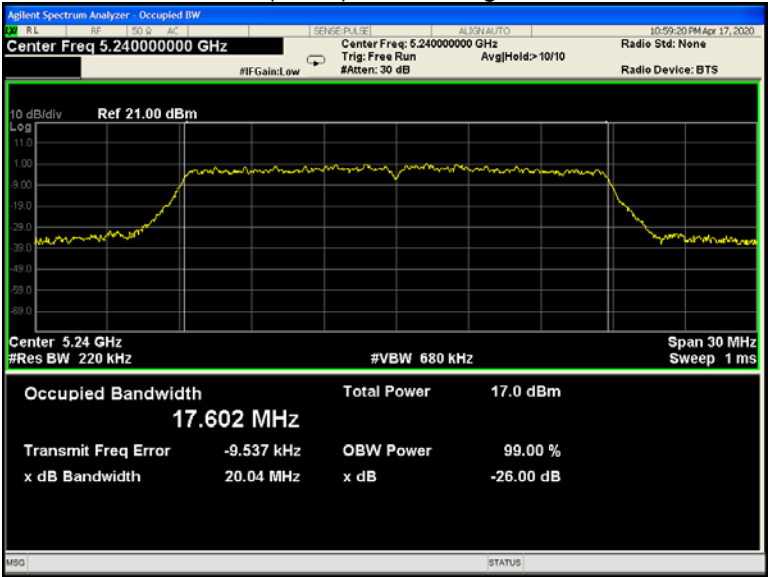
802.11ac(HT20) U-NII-1 Low channel



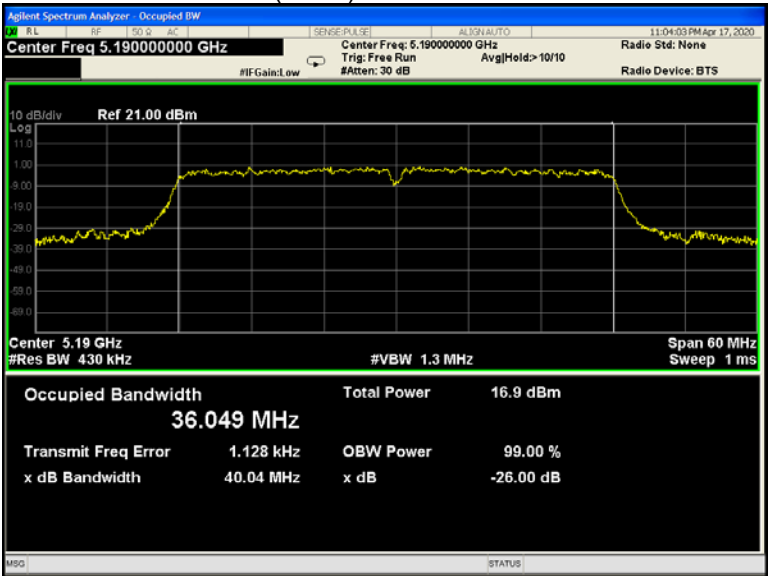
802.11ac(HT20) U-NII-1 Middle channel



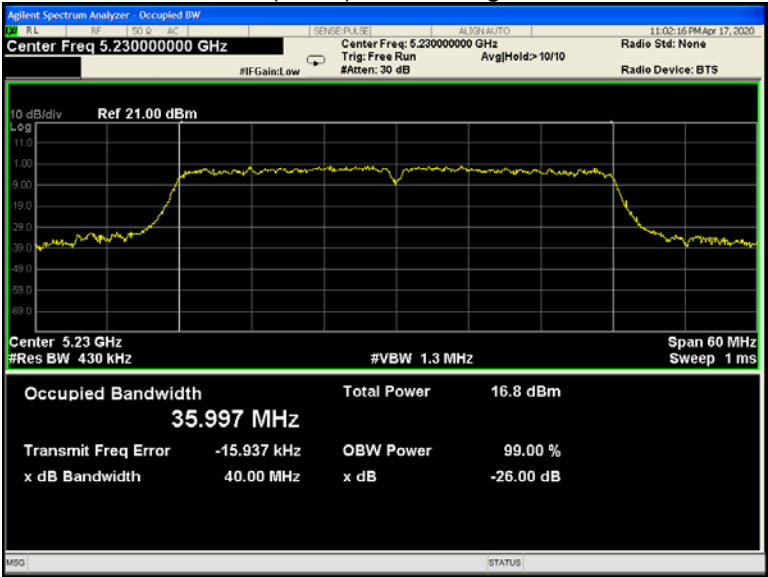
802.11ac(HT20) U-NII-1 High channel



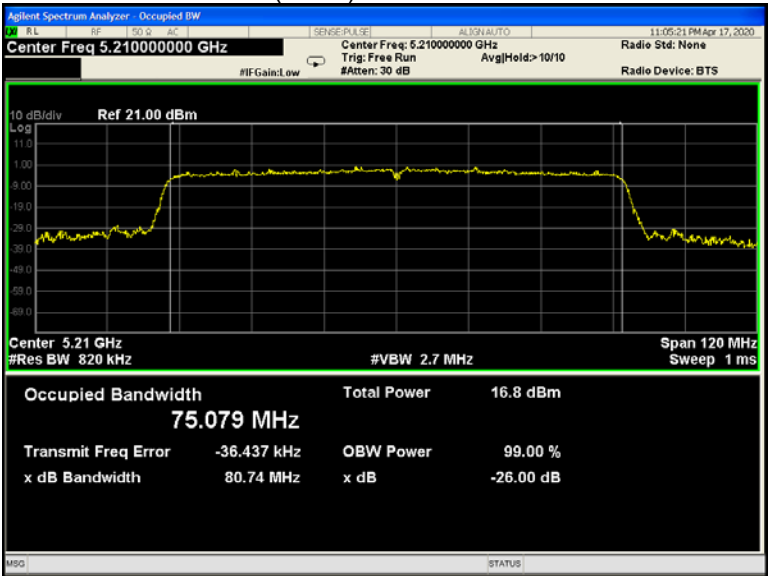
802.11ac(HT40) U-NII-1 Low channel



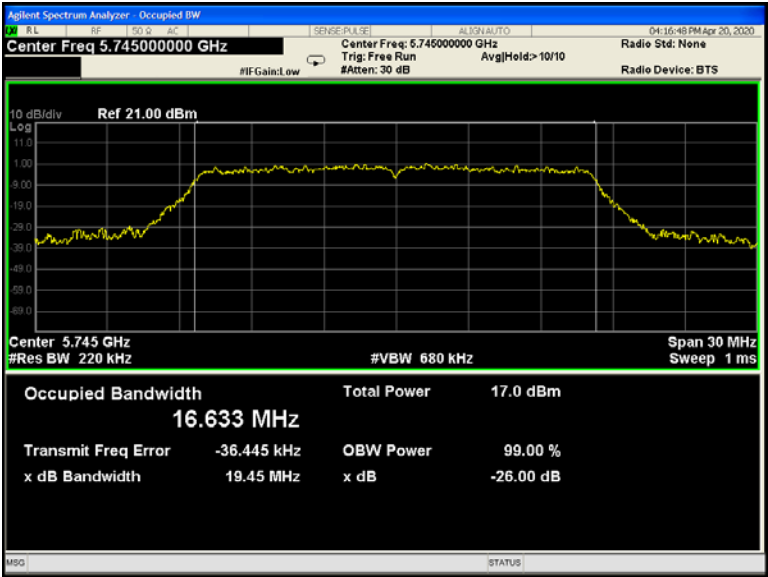
802.11 ac(HT40) U-NII-1 High channel



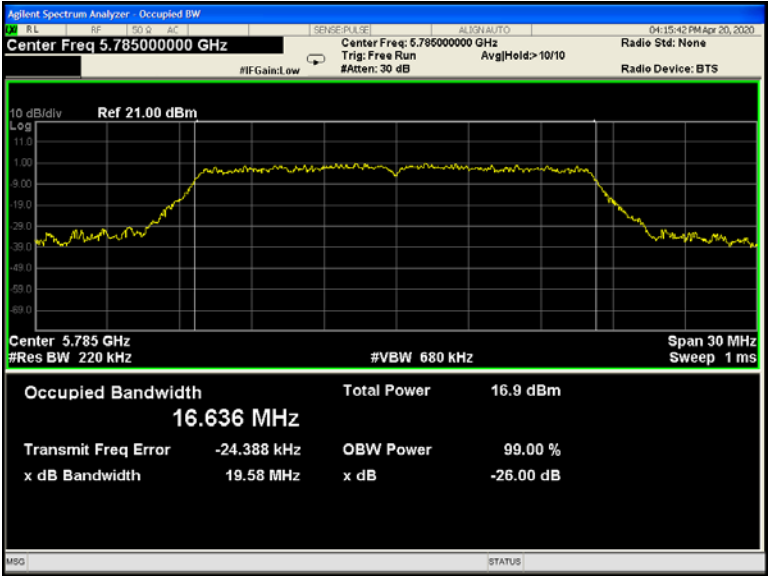
802.11ac(HT80) U-NII-1 Low channel



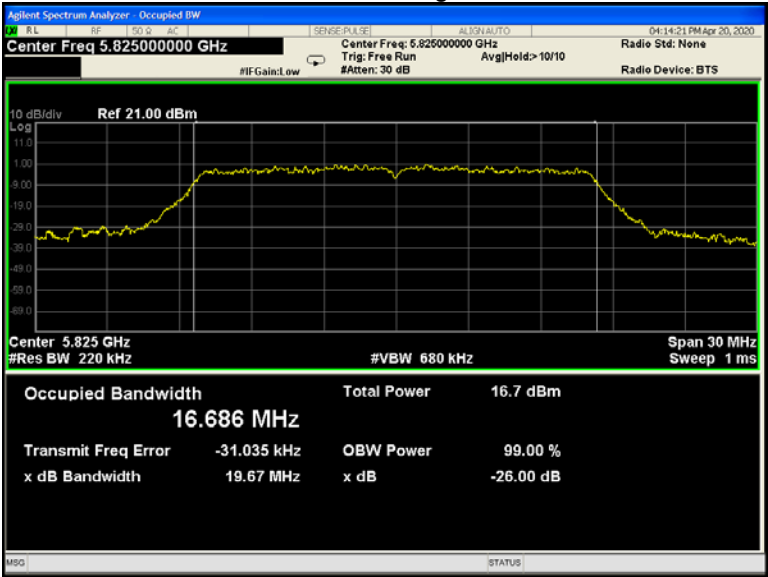
802.11a U-NII-3 Low channel



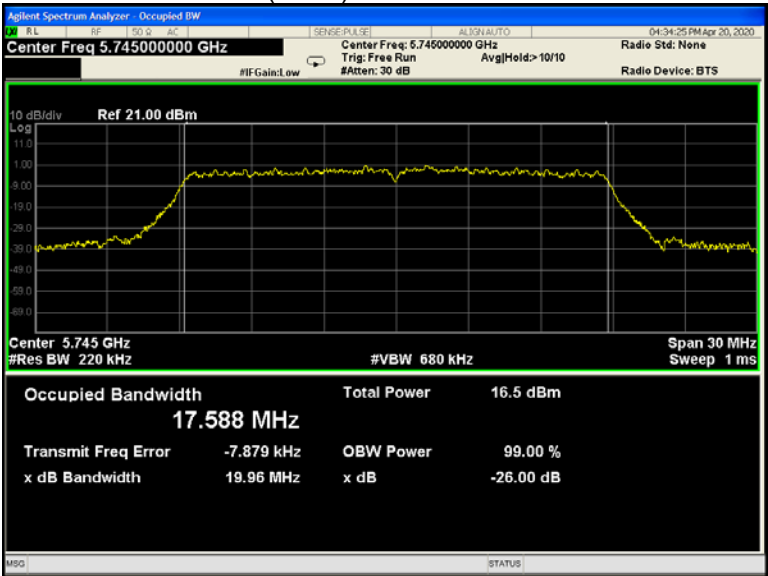
802.11a U-NII-3 Middle channel



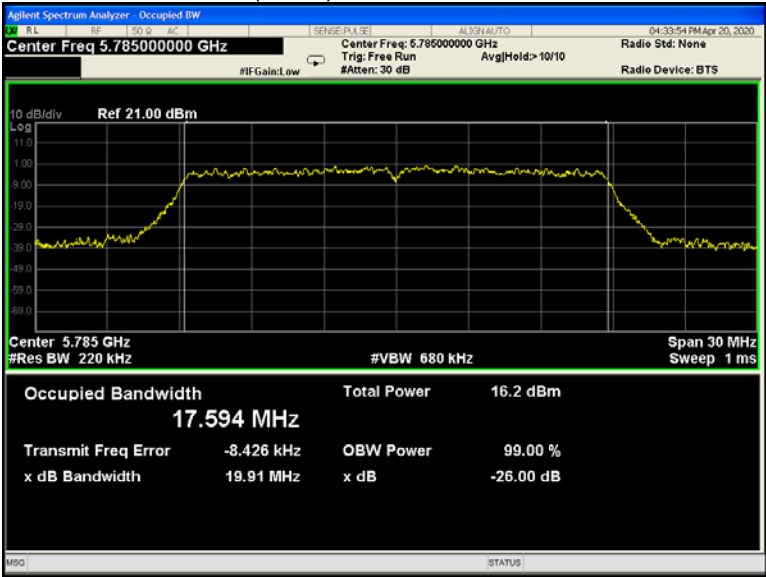
802.11a U-NII-3 High channel



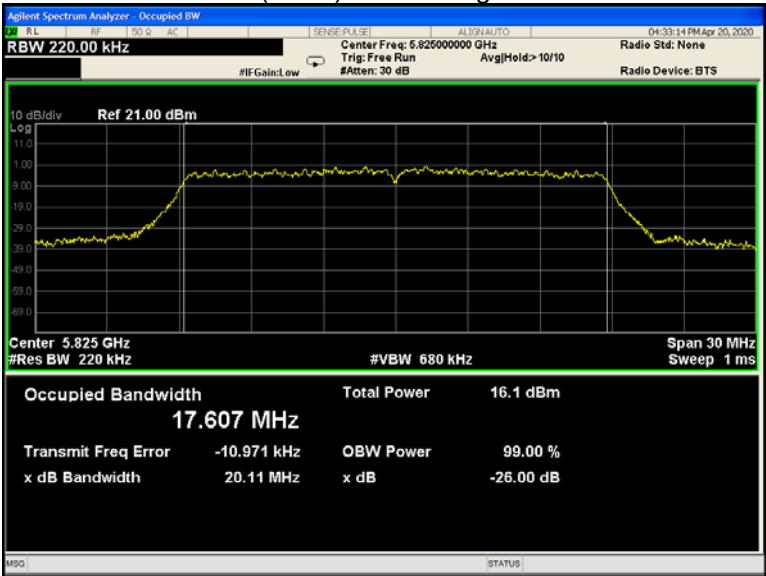
802.11n(HT20) U-NII-3 Low channel



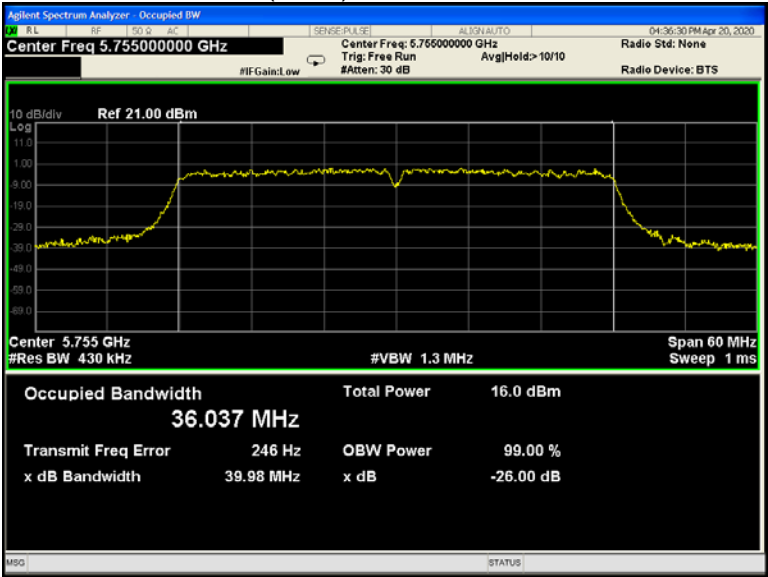
802.11n(HT20) U-NII-3 Middle channel



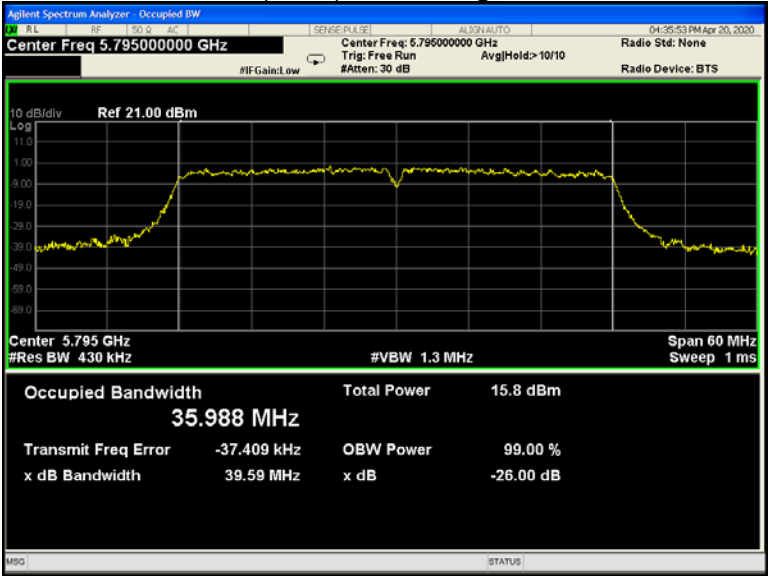
802.11n(HT20) U-NII-3 High channel



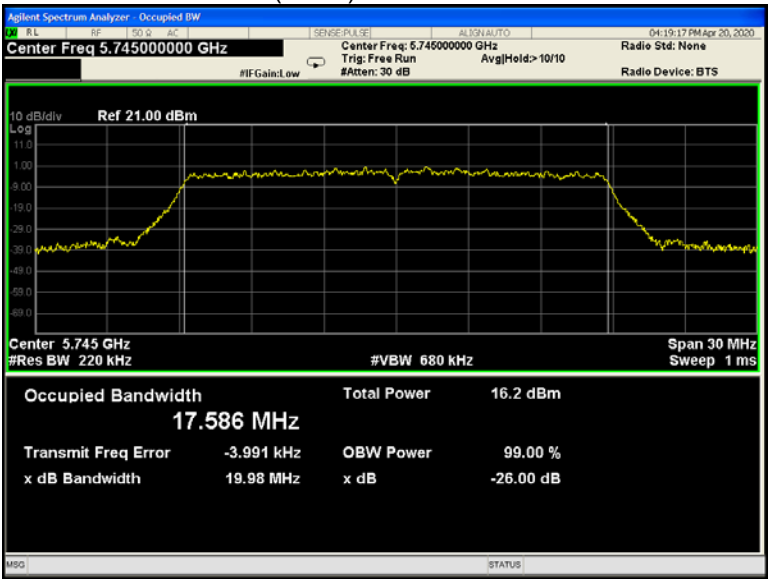
802.11n(HT40) U-NII-3 Low channel



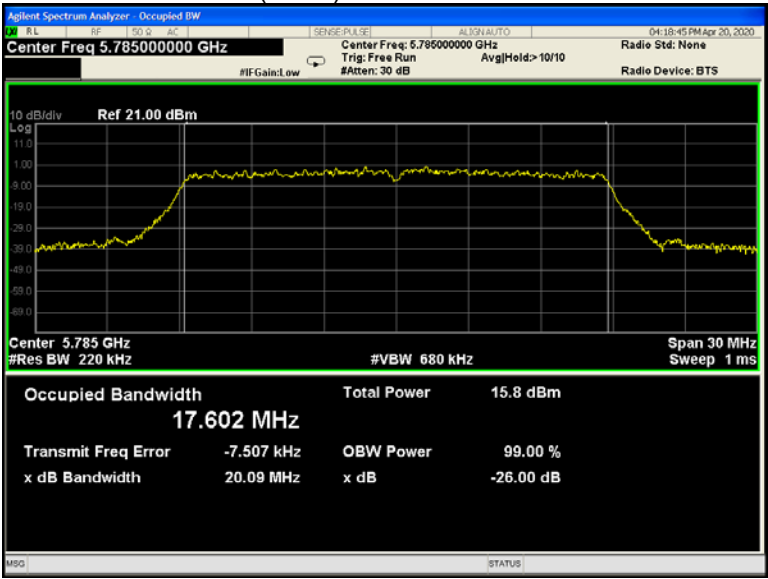
802.11n(HT40) U-NII-3 High channel



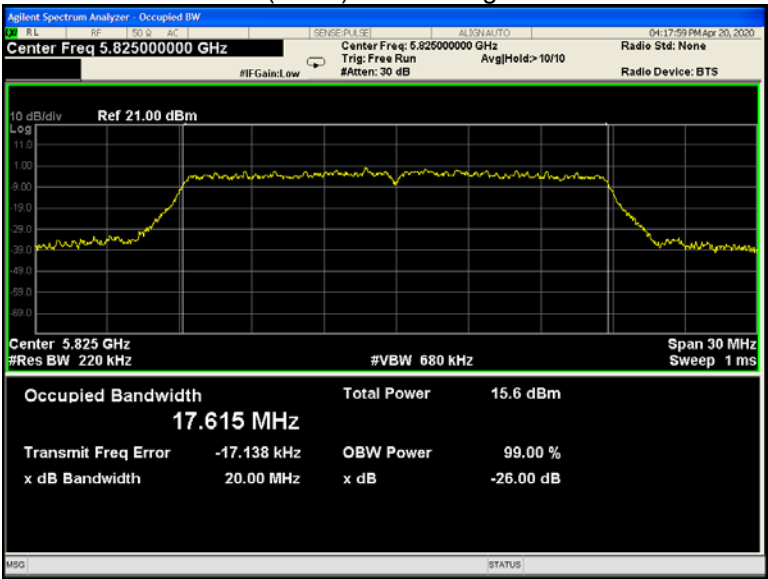
802.11ac(HT20) U-NII-3 Low channel



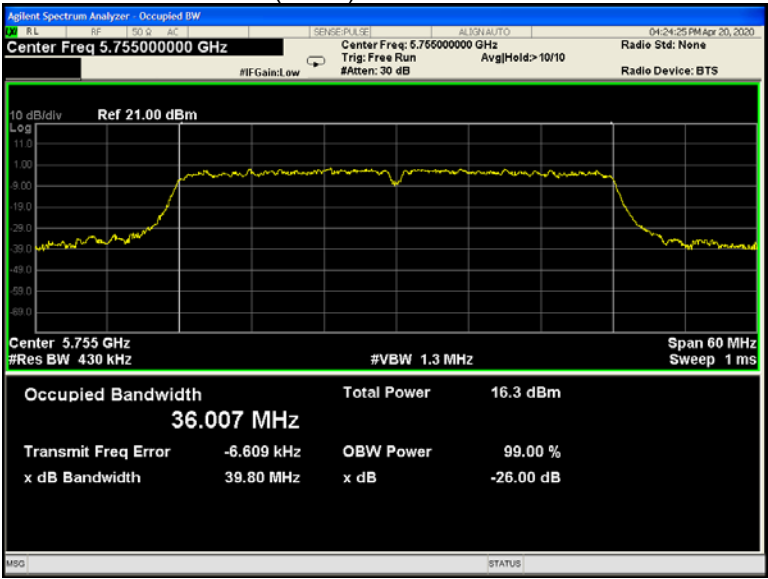
802.11ac(HT20) U-NII-3 Middle channel



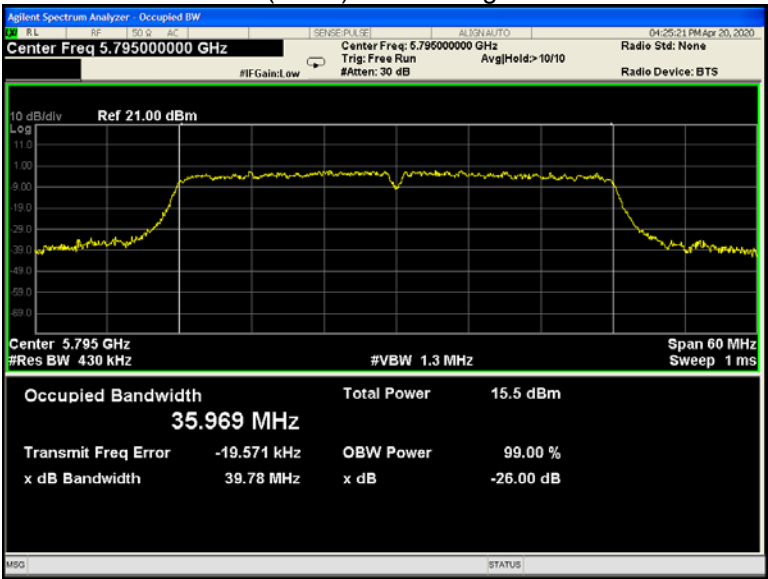
802.11ac(HT20) U-NII-3 High channel



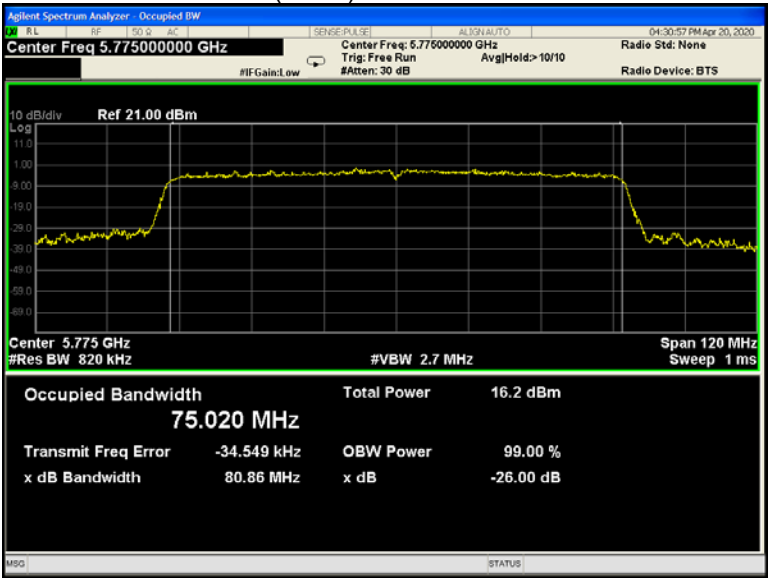
802.11ac(HT40) U-NII-3 Low channel



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



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



13 Conducted Output Power

Test Requirement:	FCC CFR47 Part 15 Section 15.407(a) KDB662911 D01 Multiple Transmitter Output v02r01
Test Method:	KDB789033 D02 General U-NII Test Procedures New Rules v02r01 Section E
Test Limit:	U-NII-1 250mW(24dBm) U-NII-3 1W(30dBm)
Test Result:	PASS Conducted output power= measurement power+10log(1/x)
Remark:	X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power

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 = 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.

13.2 Test Result :

ANT 1

Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-1	802.11a	15.76	15.95	16.08
	802.11n(HT20)	15.04	15.09	14.99
	802.11n(HT40)	14.32	/	14.70
	802.11ac(HT20)	15.05	15.11	15.32
	802.11ac(HT40)	14.99	/	15.06
	802.11ac(HT80)	15.49	/	/
U-NII-3	802.11a	13.97	12.88	13.11
	802.11n(HT20)	12.80	11.44	11.43
	802.11n(HT40)	13.15	/	11.21
	802.11ac(HT20)	13.02	12.34	11.38
	802.11ac(HT40)	13.11	/	11.23
	802.11ac(HT80)	13.19	/	/

ANT 2

Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-1	802.11a	17.06	17.19	17.75
	802.11n(HT20)	17.07	16.88	16.16
	802.11n(HT40)	16.13	/	16.22
	802.11ac(HT20)	16.04	16.16	16.36
	802.11ac(HT40)	16.21	/	15.99
	802.11ac(HT80)	16.85	/	/
U-NII-3	802.11a	16.34	16.02	16.03
	802.11n(HT20)	15.63	15.62	15.52
	802.11n(HT40)	15.74	/	15.20
	802.11ac(HT20)	15.64	15.41	15.01
	802.11ac(HT40)	15.70	/	15.14
	802.11ac(HT80)	16.50	/	/

ANT1+ ANT 2

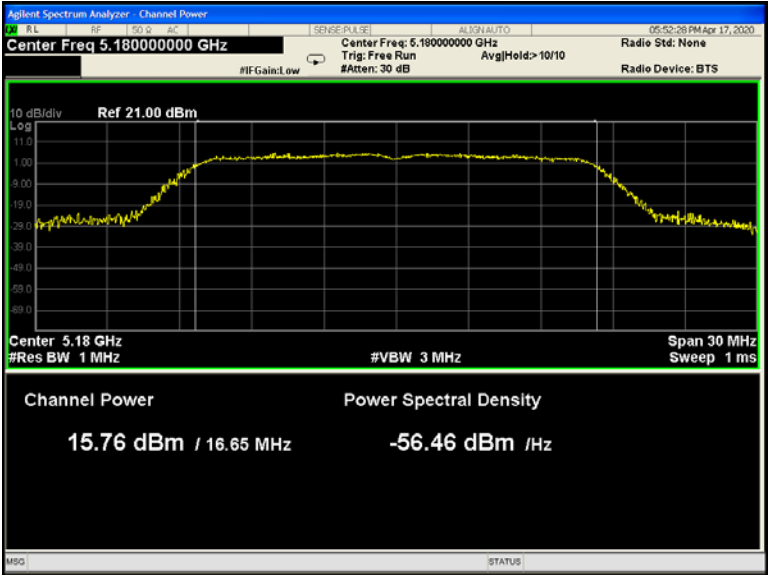
Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-1	802.11a	19.47	19.62	20.01
	802.11n(HT20)	19.18	19.09	18.62
	802.11n(HT40)	18.33	/	18.54
	802.11ac(HT20)	18.58	18.68	18.88
	802.11ac(HT40)	18.65	/	18.56
	802.11ac(HT80)	19.23	/	/
U-NII-3	802.11a	18.33	17.74	17.82
	802.11n(HT20)	17.45	17.02	16.95
	802.11n(HT40)	17.65	/	16.66
	802.11ac(HT20)	17.53	17.15	16.57
	802.11ac(HT40)	17.61	/	16.62
	802.11ac(HT80)	18.16	/	/

* 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.

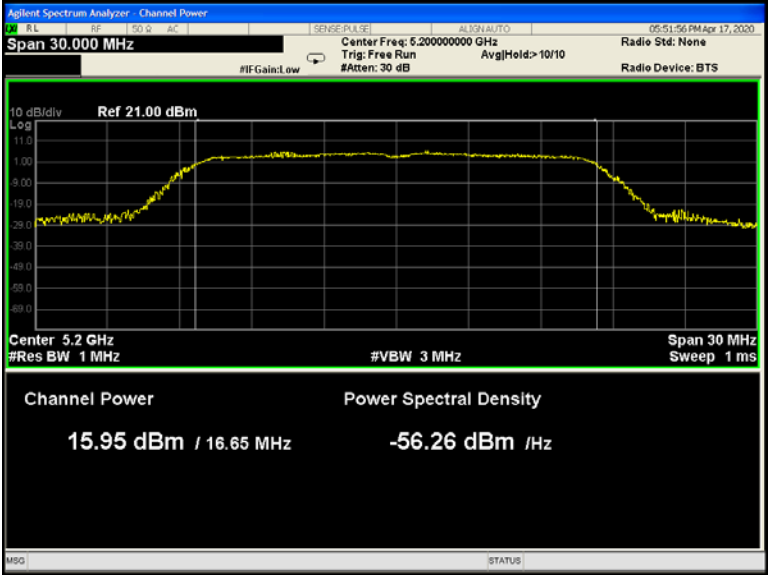
Test result plots shown as follows:

ANT 1

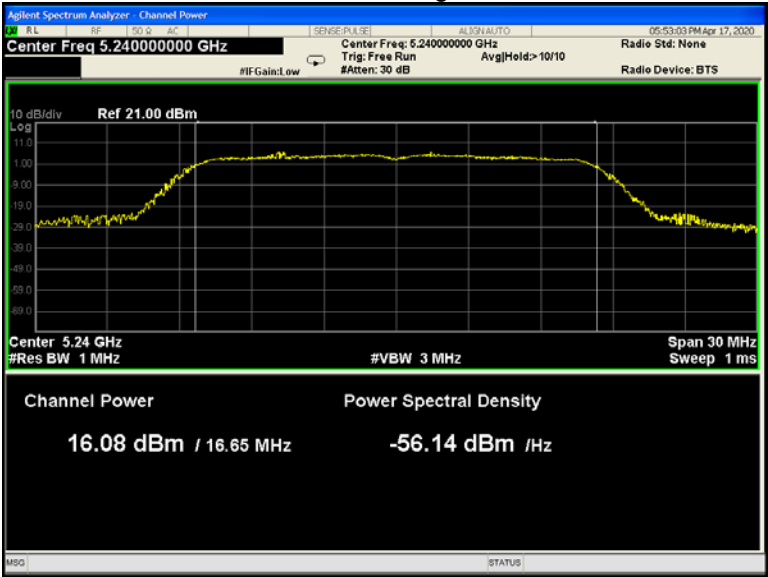
802.11a U-NII-1 Low channel



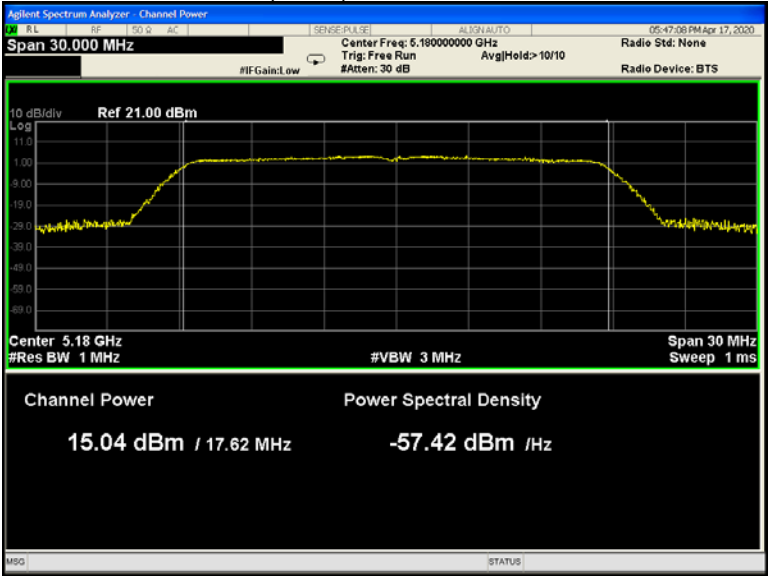
802.11a U-NII-1 Middle channel



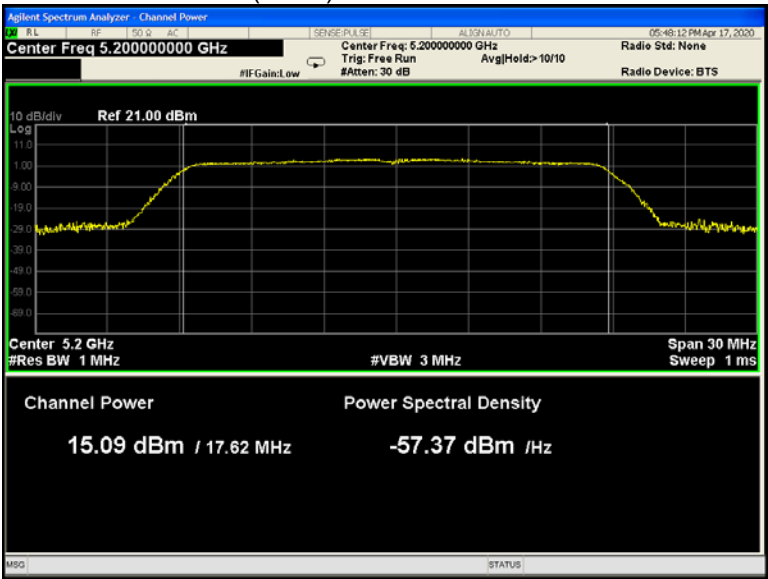
802.11a U-NII-1 High channel



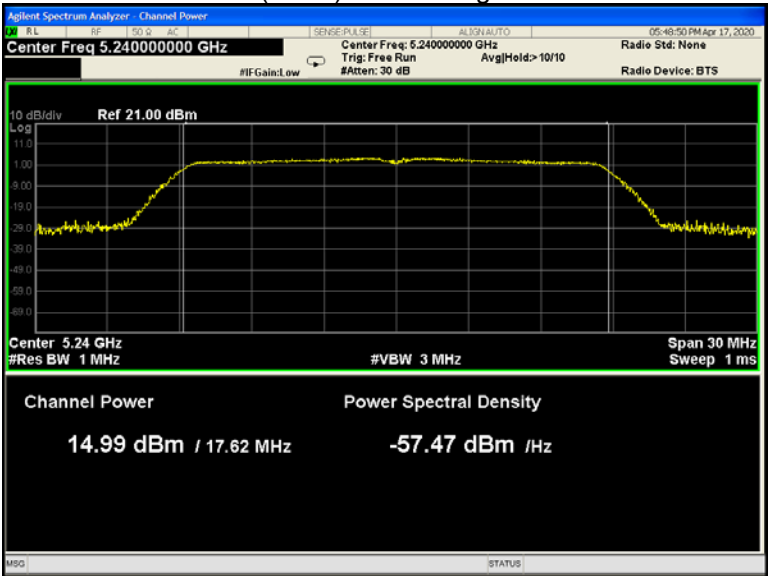
802.11n(HT20) U-NII-1 Low channel



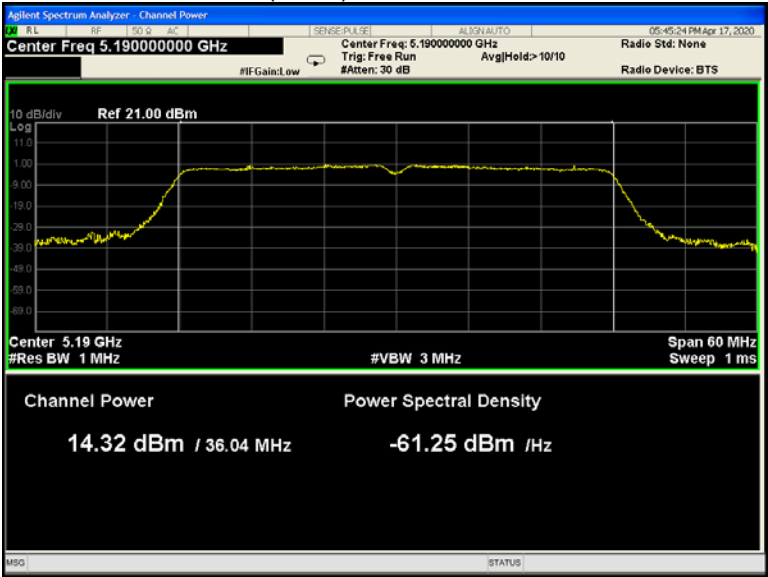
802.11n(HT20) U-NII-1 Middle channel



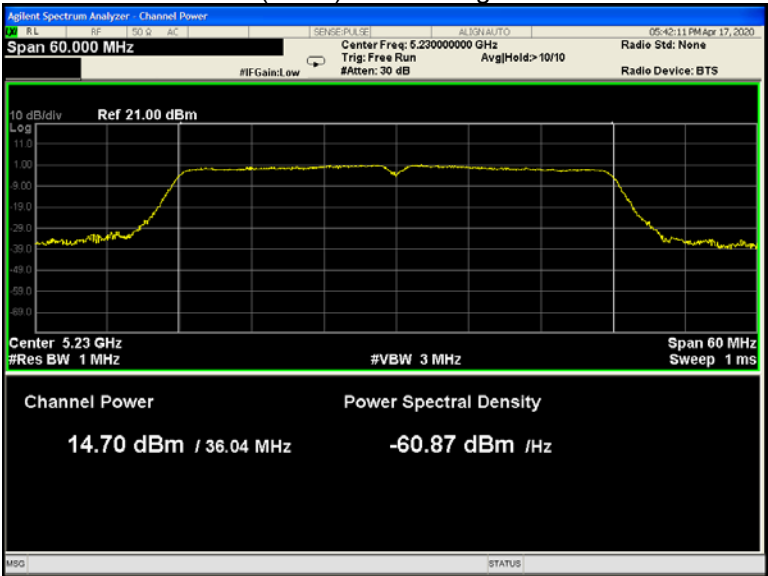
802.11n(HT20) U-NII-1 High channel



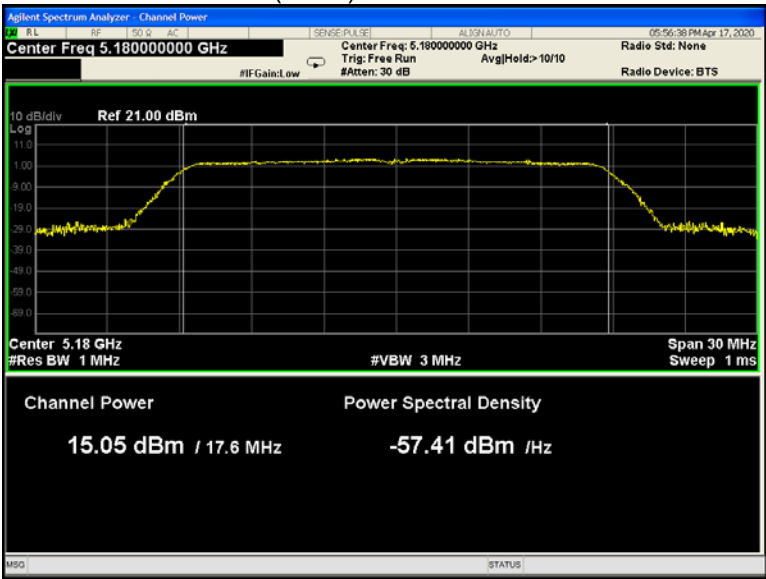
802.11n(HT40) U-NII-1 Low channel



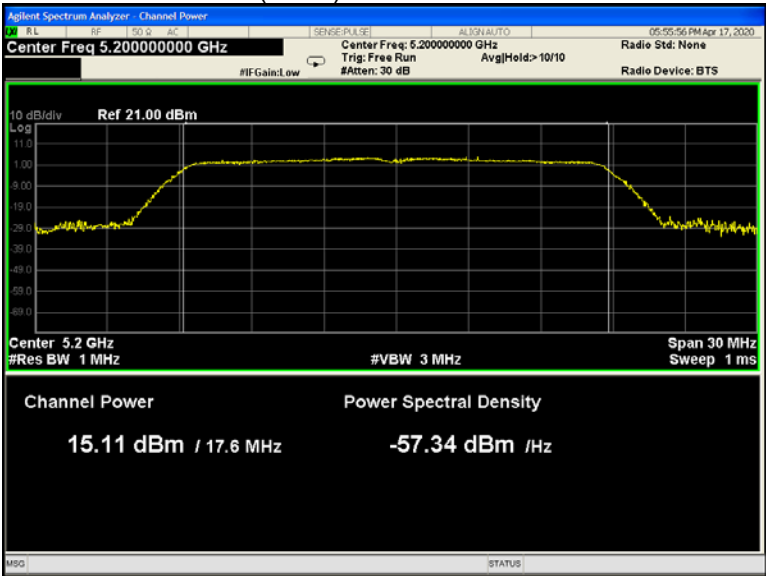
802.11n(HT40) U-NII-1 High channel



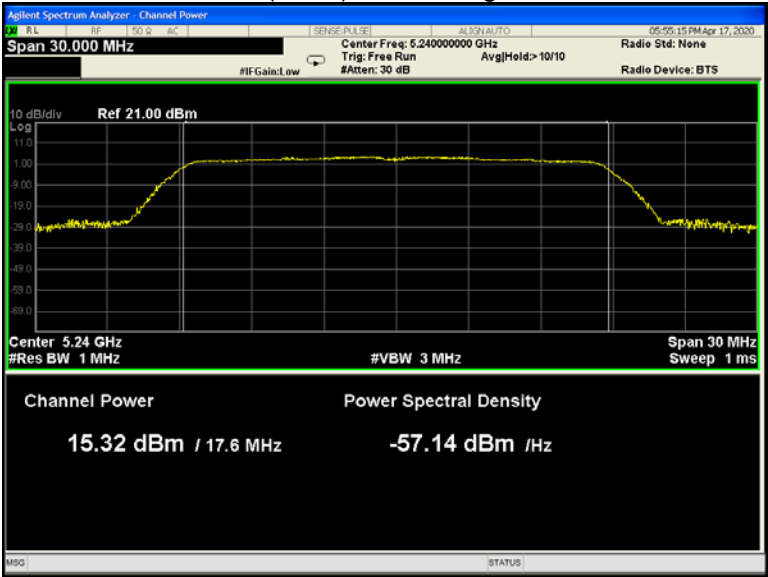
802.11ac(HT20) U-NII-1 Low channel



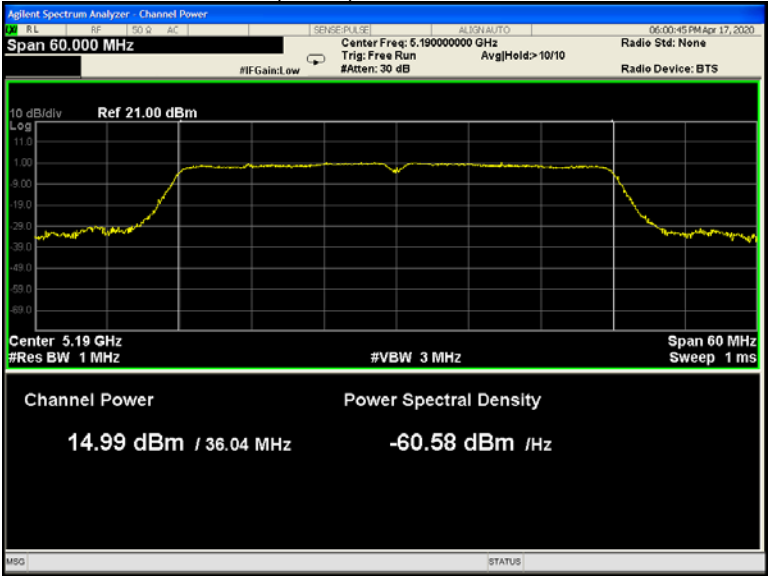
802.11ac(HT20) U-NII-1 Middle channel



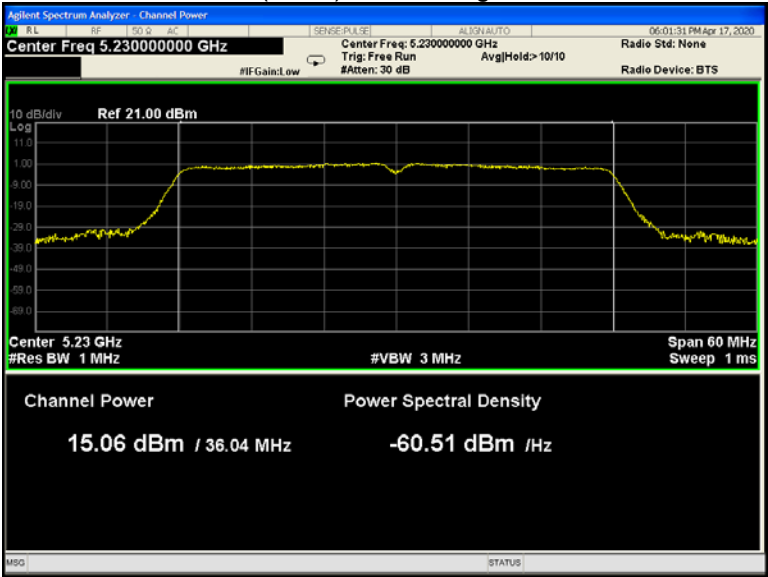
802.11ac(HT20) U-NII-1 High channel



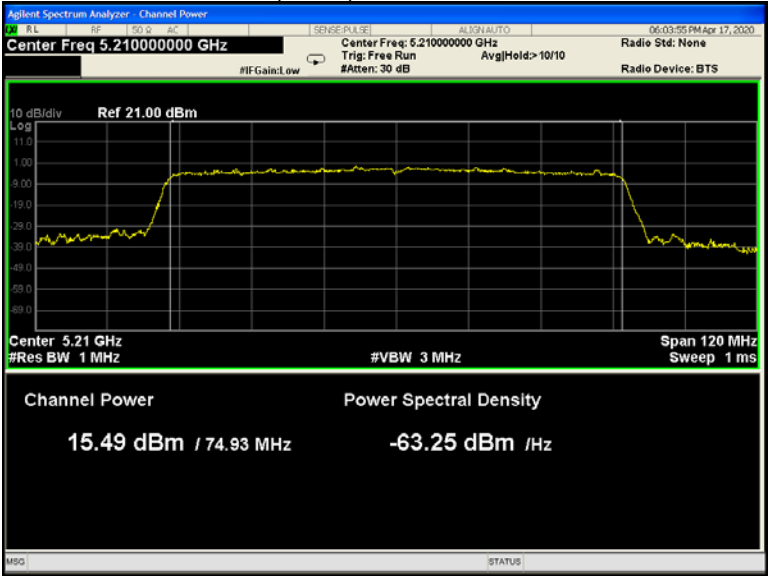
802.11ac(HT40) U-NII-1 Low channel



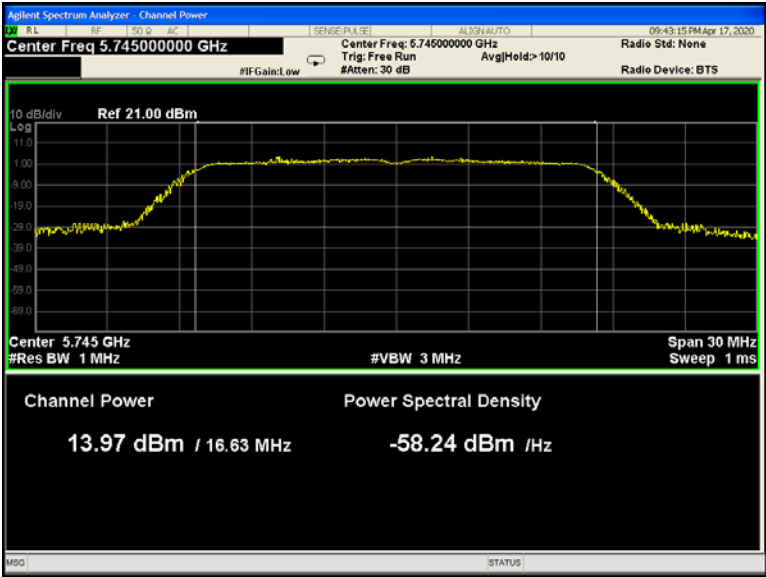
802.11n(HT40) U-NII-1 High channel



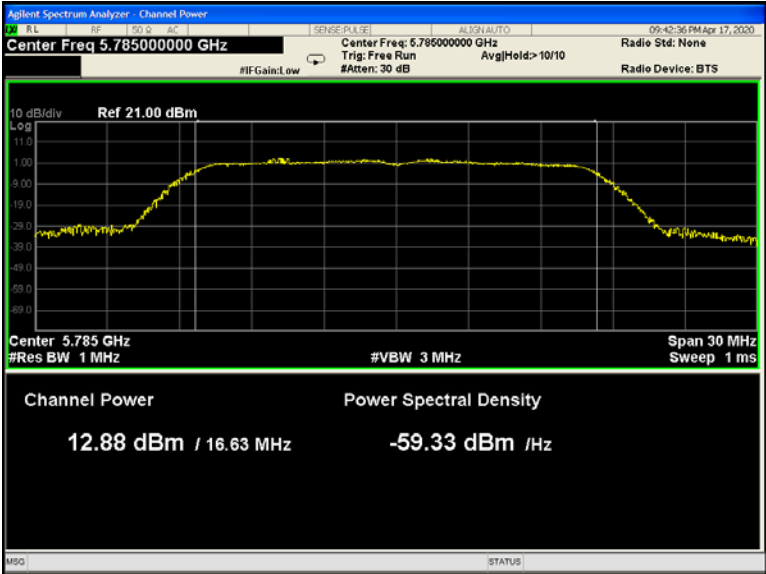
802.11ac(HT80) U-NII-1 Low channel



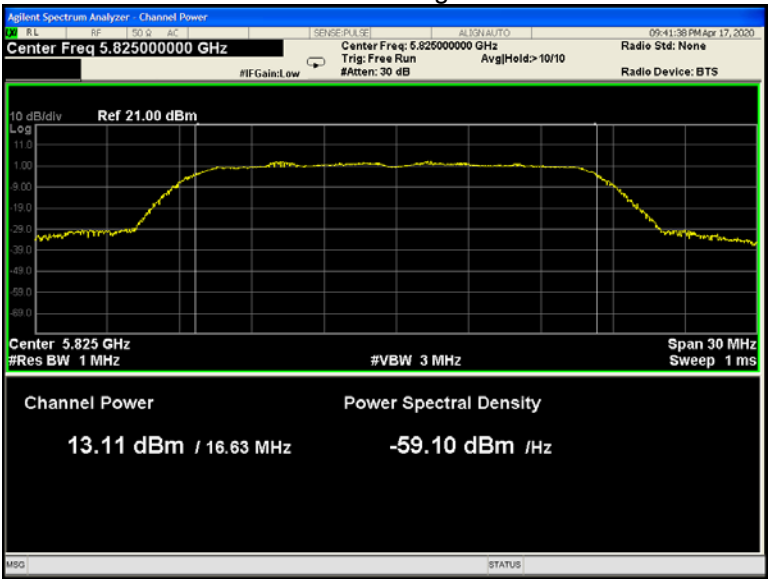
802.11a U-NII-3 Low channel



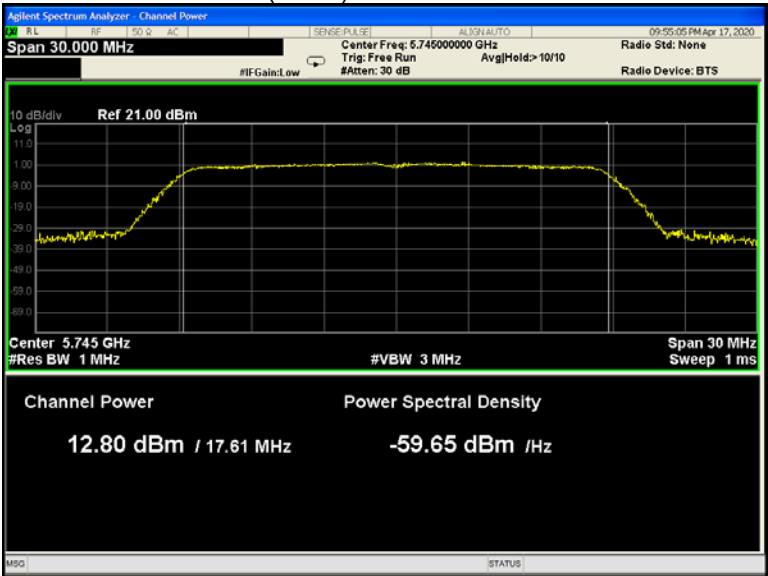
802.11a U-NII-3 Middle channel



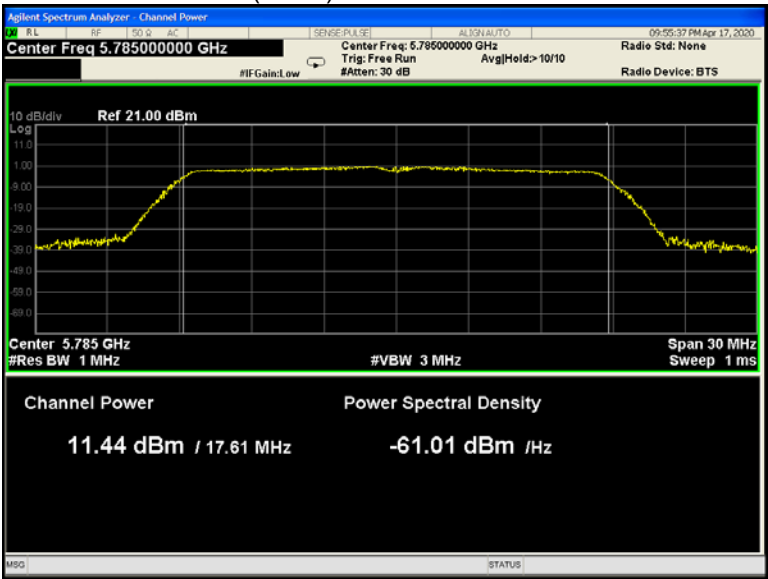
802.11a U-NII-3 High channel



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



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



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

