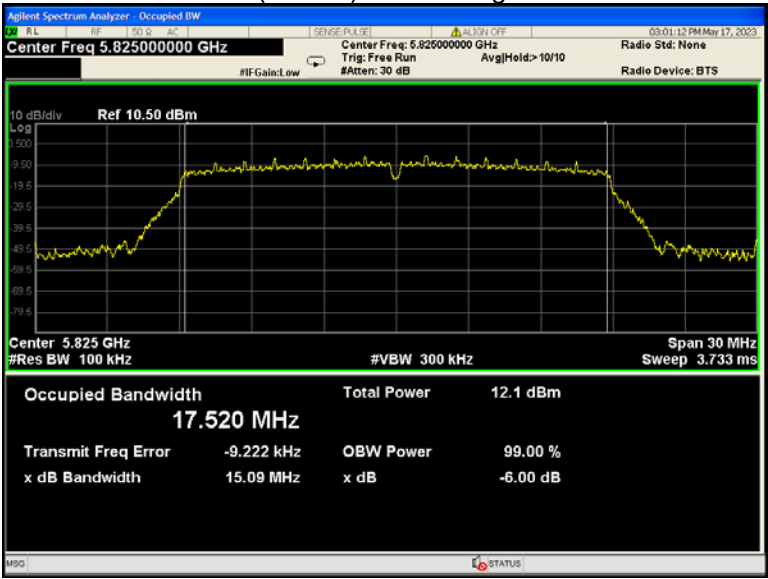
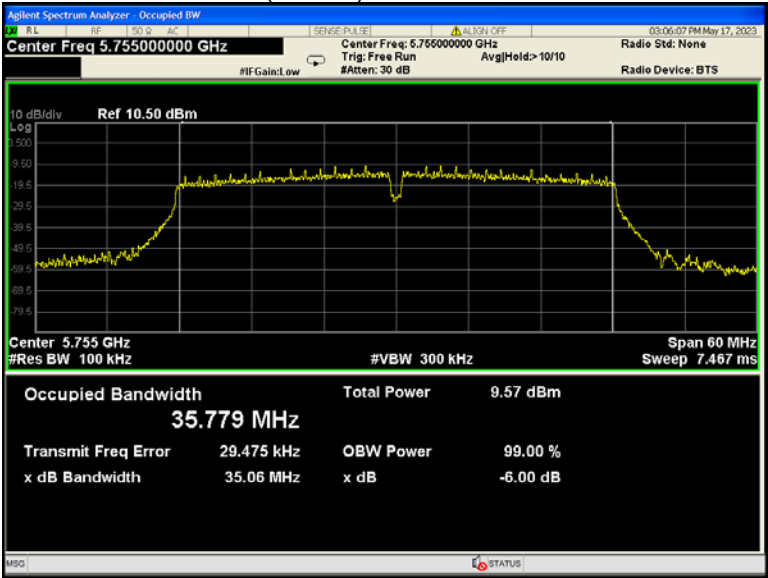


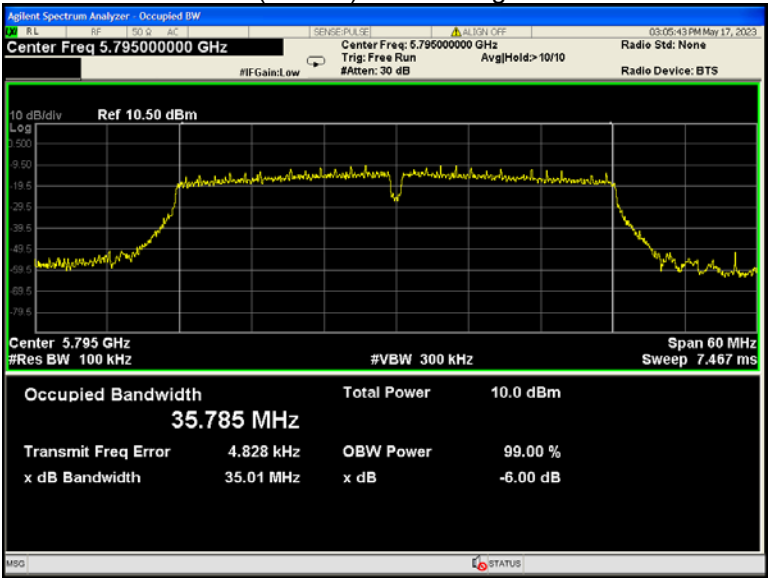
802.11ac(VHT20) U-NII-3 High channel



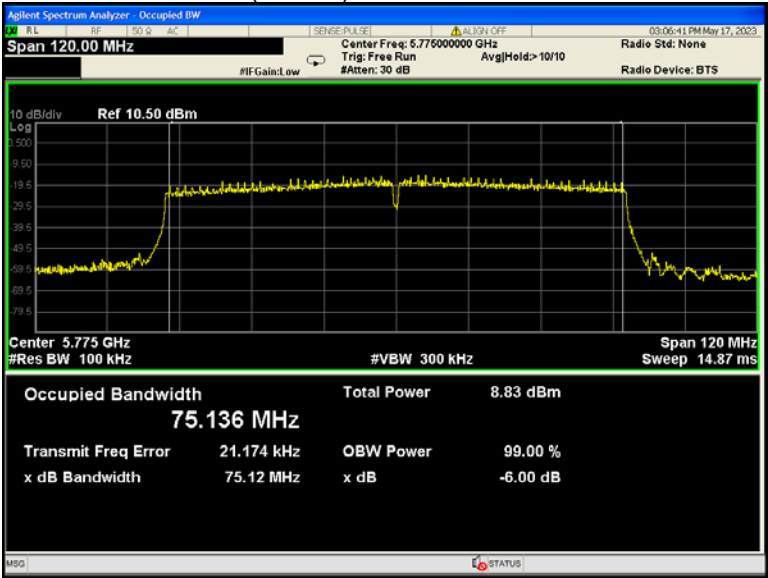
802.11ac(VHT40) U-NII-3 Low channel



802.11ac(VHT40) U-NII-3 High channel



802.11ac(VHT80) U-NII-3 Middle channel



12 26 dB Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC 47CFR 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 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

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	20.40	19.89	19.85	16.460	16.415	16.439
	802.11n(HT20)	20.01	20.31	20.18	17.553	17.597	17.584
	802.11n(HT40)	40.33	/	40.00	35.965	/	35.946
	802.11ac(VHT20)	20.04	20.09	20.02	17.545	17.539	17.529
	802.11ac(VHT40)	40.30	/	40.20	35.958	/	35.890
	802.11ac(VHT80)	/	80.31	/	/	75.302	/

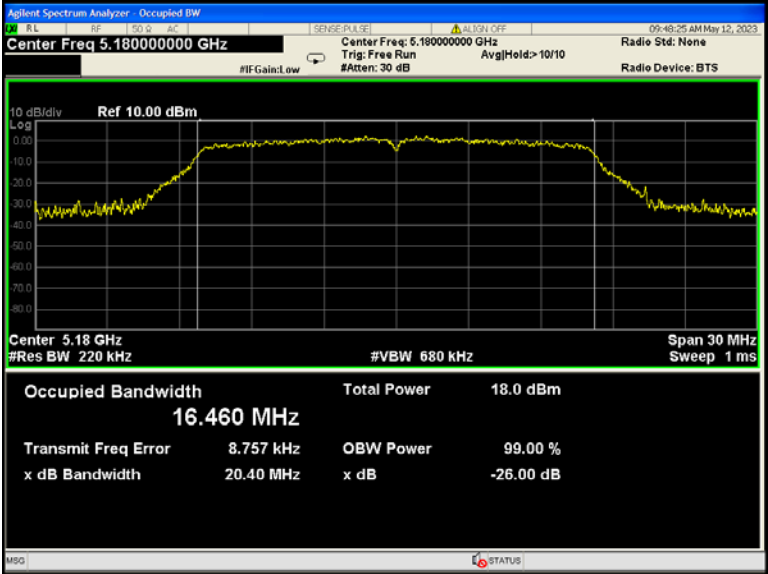
Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-2A	802.11a	19.75	19.82	19.87	16.409	16.443	16.415
	802.11n(HT20)	20.11	20.13	20.23	17.524	17.538	17.535
	802.11n(HT40)	40.18	/	40.12	35.919	/	35.965
	802.11ac(VHT20)	20.19	20.12	20.31	17.528	17.548	17.551
	802.11ac(VHT40)	40.33	/	40.20	35.973	/	35.959
	802.11ac(VHT80)	/	80.42	/	/	75.190	/

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-2C	802.11a	19.85	19.69	19.88	16.449	16.381	16.425
	802.11n(HT20)	19.99	20.15	20.22	17.553	17.525	17.570
	802.11n(HT40)	40.08	40.45	40.07	35.908	35.949	35.980
	802.11ac(VHT20)	20.12	20.02	20.12	17.538	17.552	17.538
	802.11ac(VHT40)	40.39	39.91	39.94	35.953	35.925	35.920
	802.11ac(VHT80)	80.57	80.21	/	75.232	75.180	/

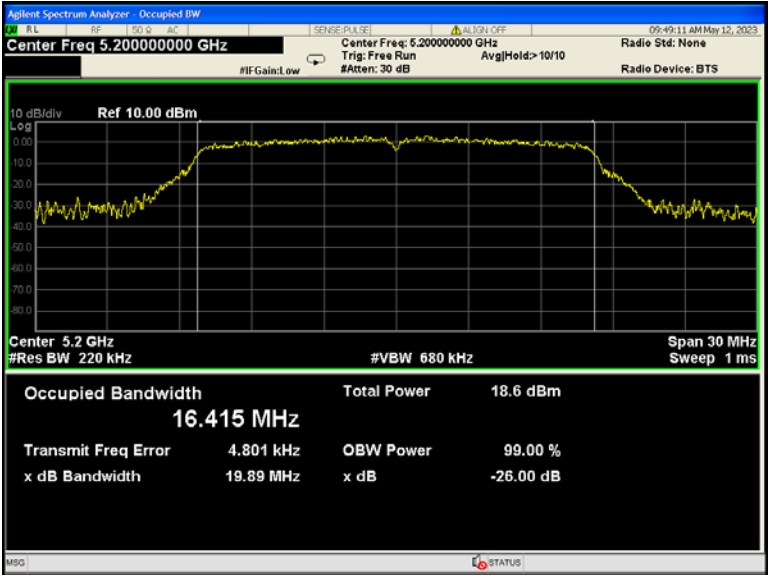
Band	Operation mode	99% Bandwidth (MHz)		
		Low	Middle	High
U-NII-3	802.11a	16.402	16.398	16.404
	802.11n(HT20)	17.541	17.559	17.568
	802.11n(HT40)	35.959	/	35.912
	802.11ac(VHT20)	17.571	17.540	17.554
	802.11ac(VHT40)	35.963	/	35.929
	802.11ac(VHT80)	/	75.319	/

Test result plots shown as follows:

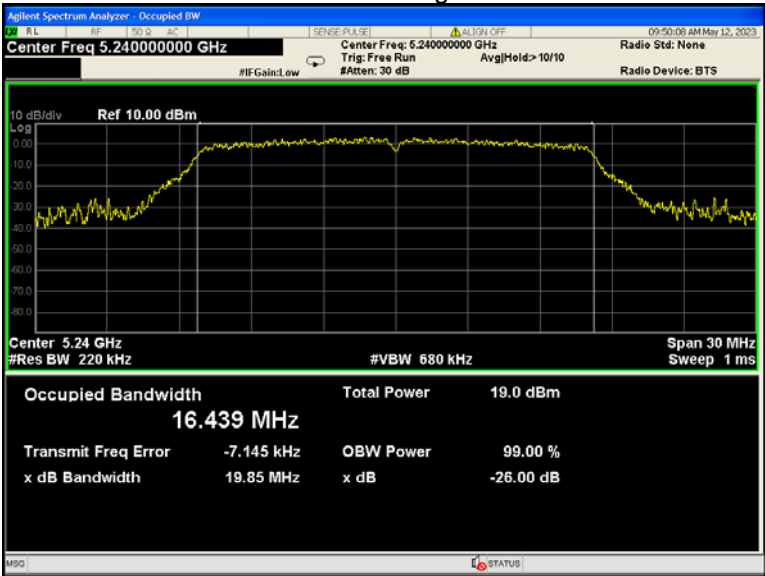
26dB &99dB Bandwidth
802.11a U-NII-1 Low channel



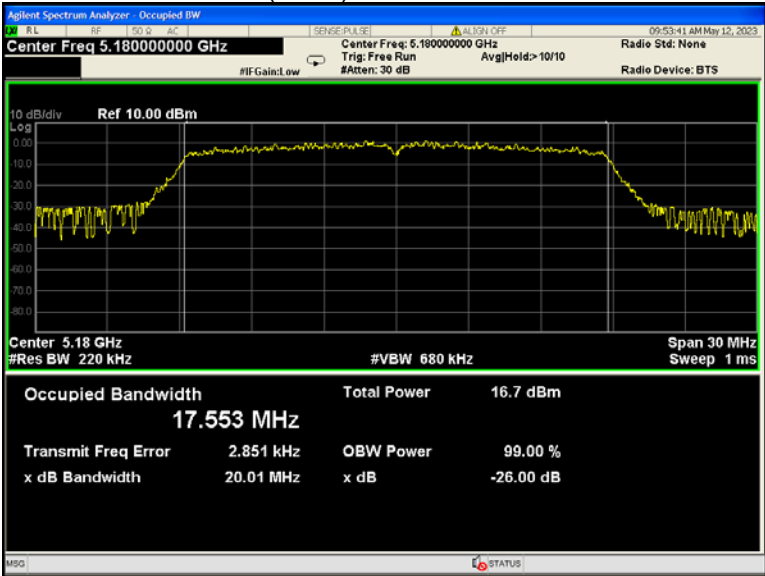
802.11a U-NII-1 Middle channel



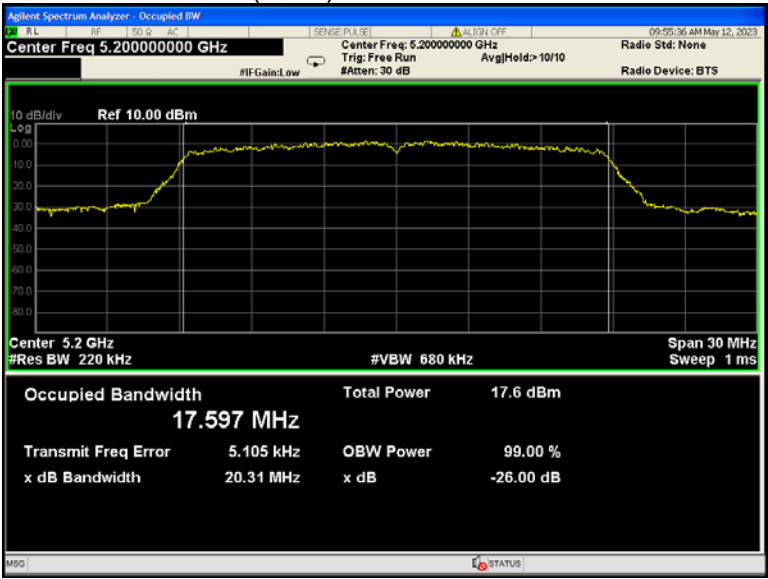
802.11a U-NII-1 High channel



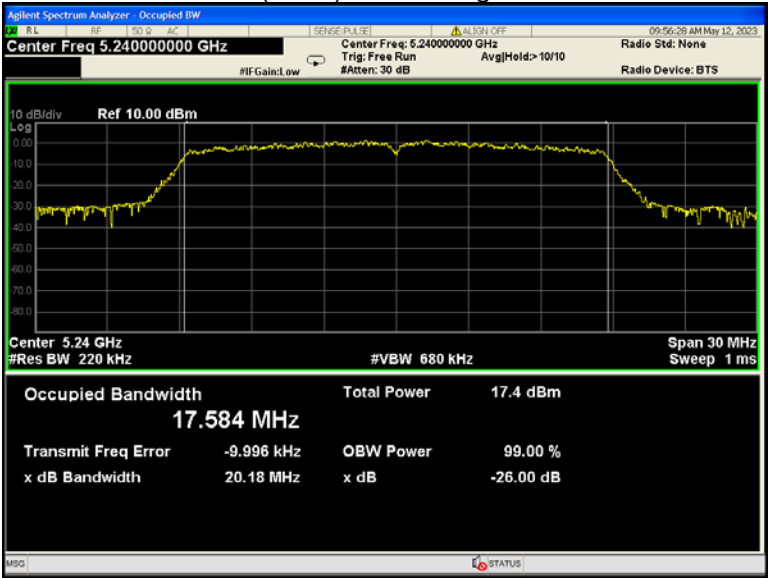
802.11n(HT20) U-NII-1 Low channel



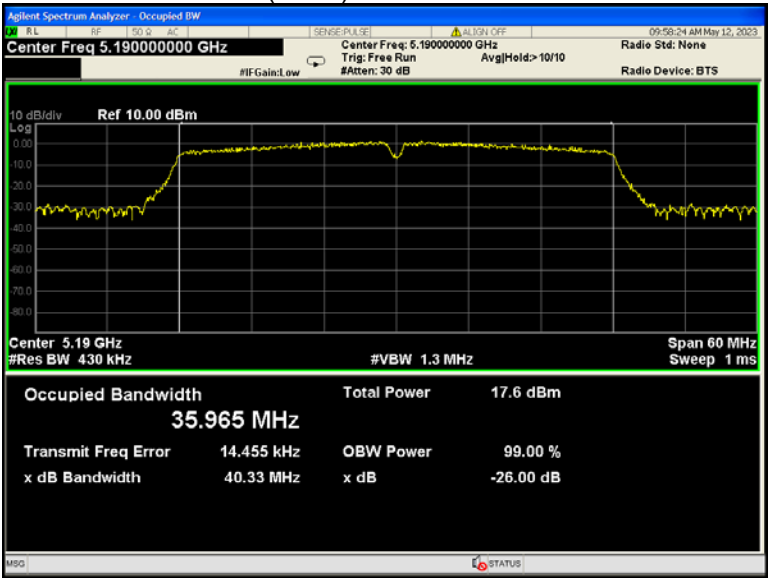
802.11n(HT20) U-NII-1 Middle channel



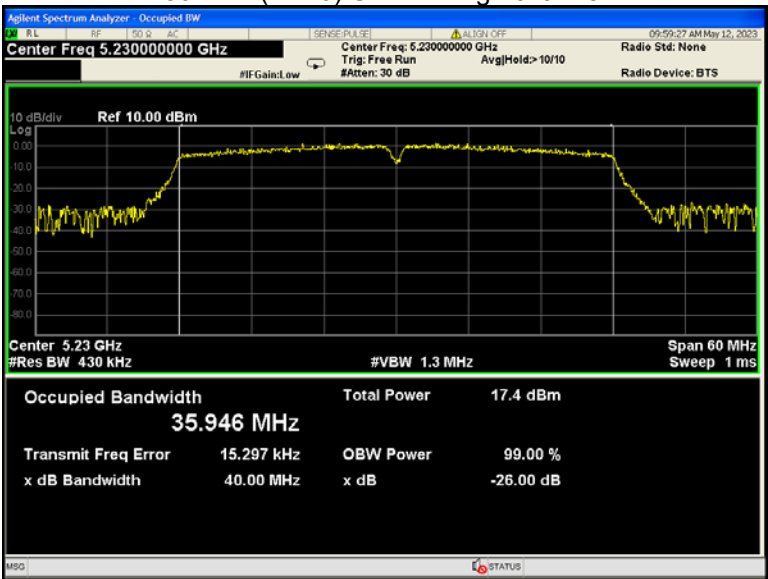
802.11n(HT20) U-NII-1 High channel



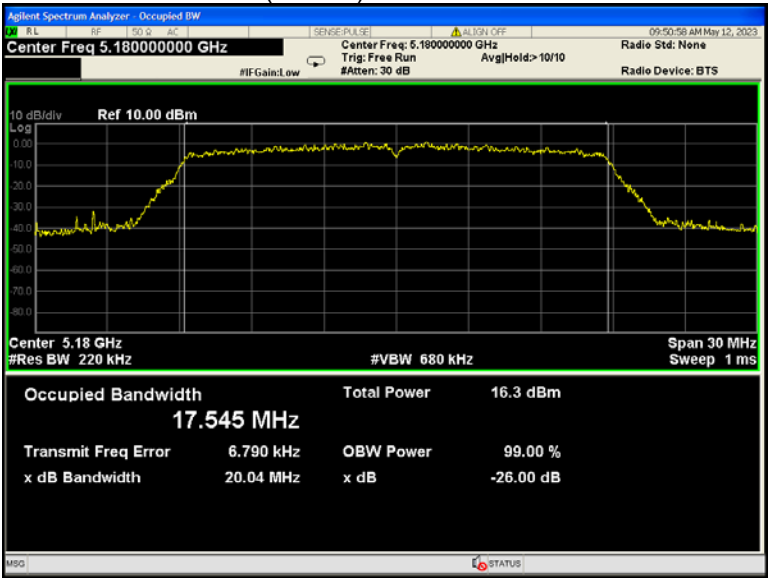
802.11n(HT40) U-NII-1 Low channel



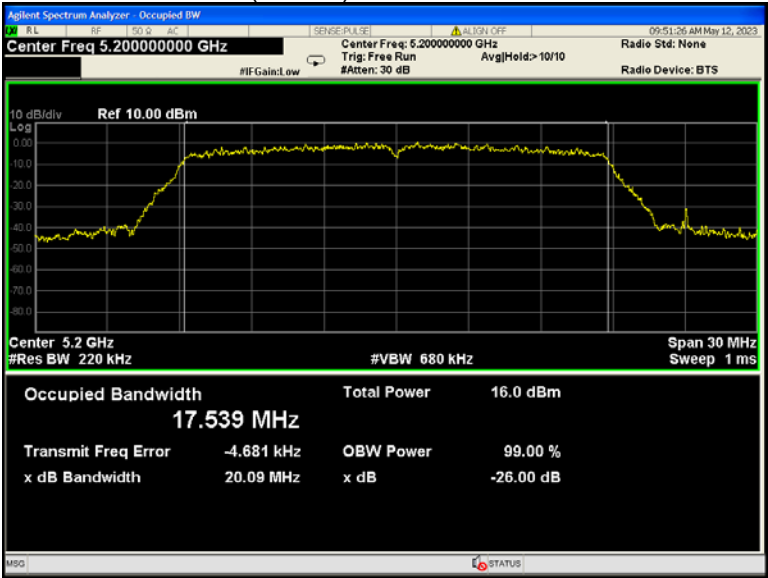
802.11n(HT40) U-NII-1 High channel



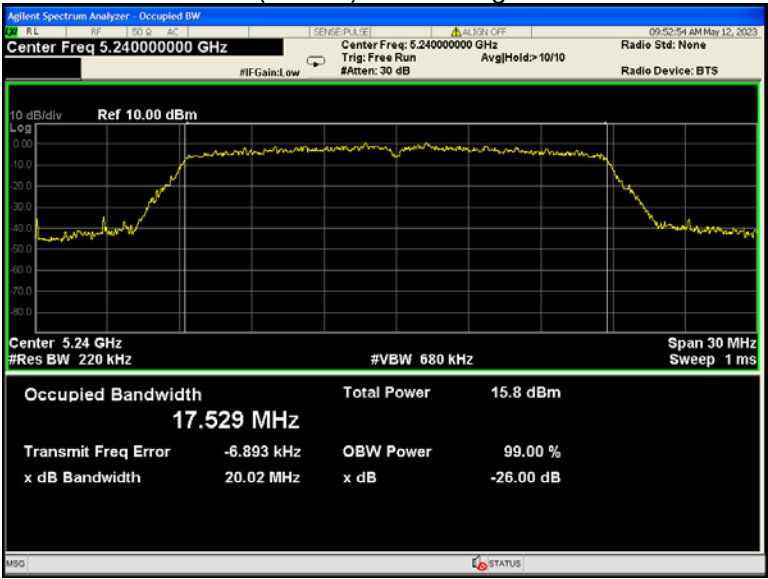
802.11ac(VHT20) U-NII-1 Low channel



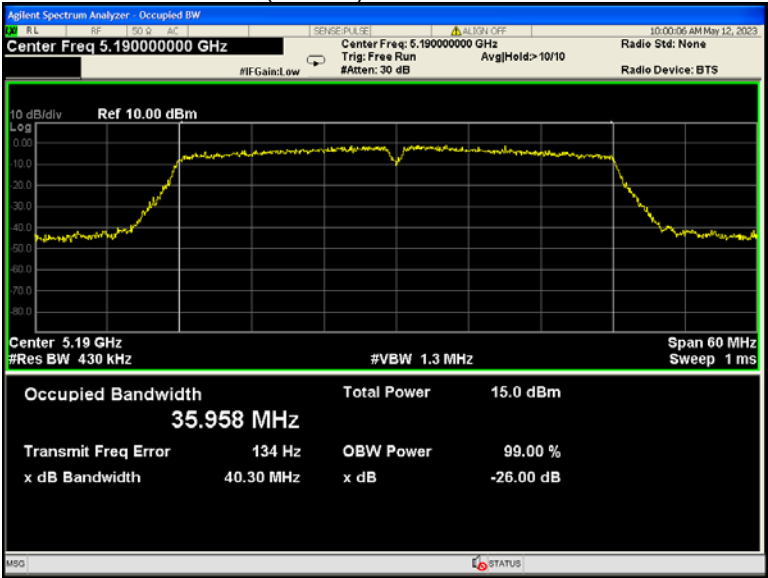
802.11ac(VHT20) U-NII-1 Middle channel



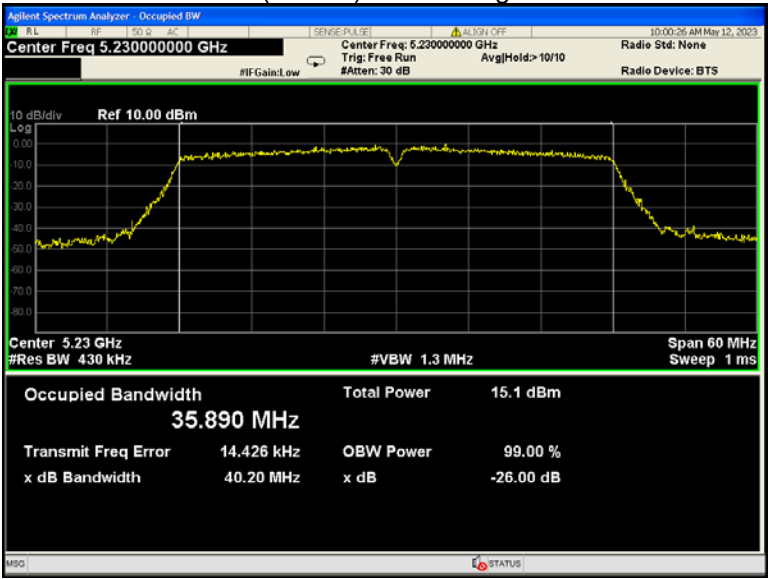
802.11ac(VHT20) U-NII-1 High channel



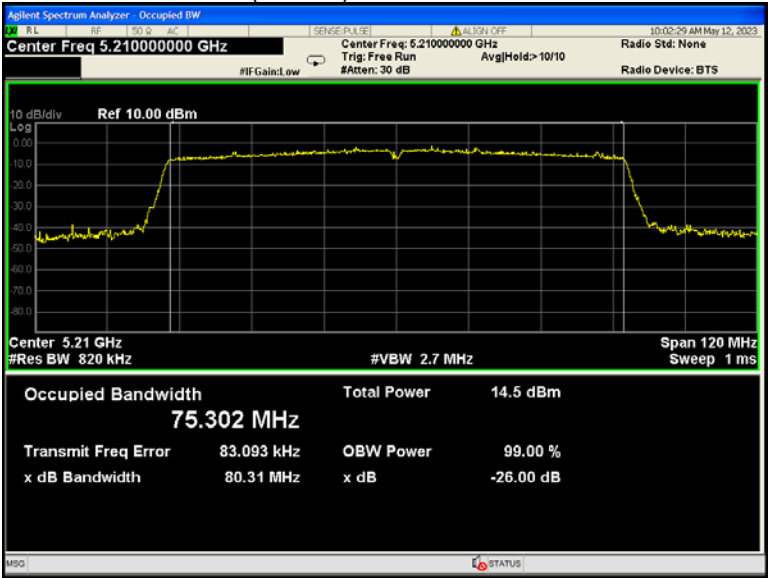
802.11ac(VHT40) U-NII-1 Low channel



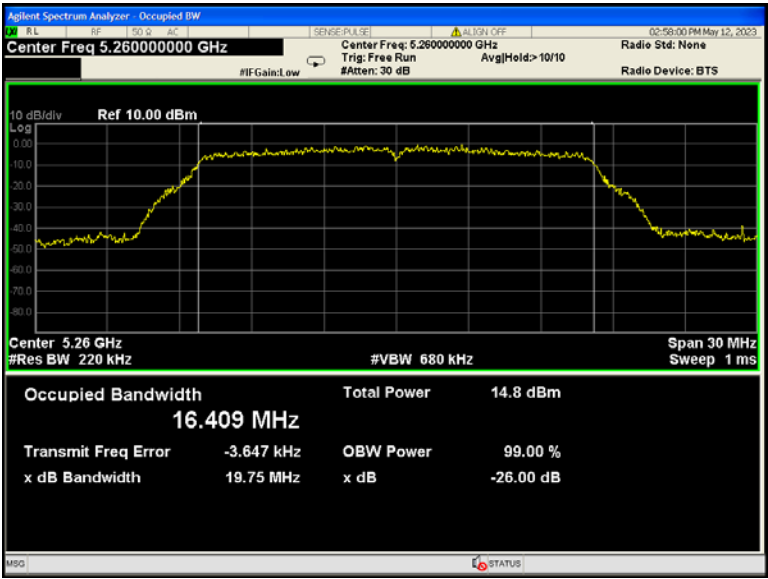
802.11ac(VHT40) U-NII-1 High channel



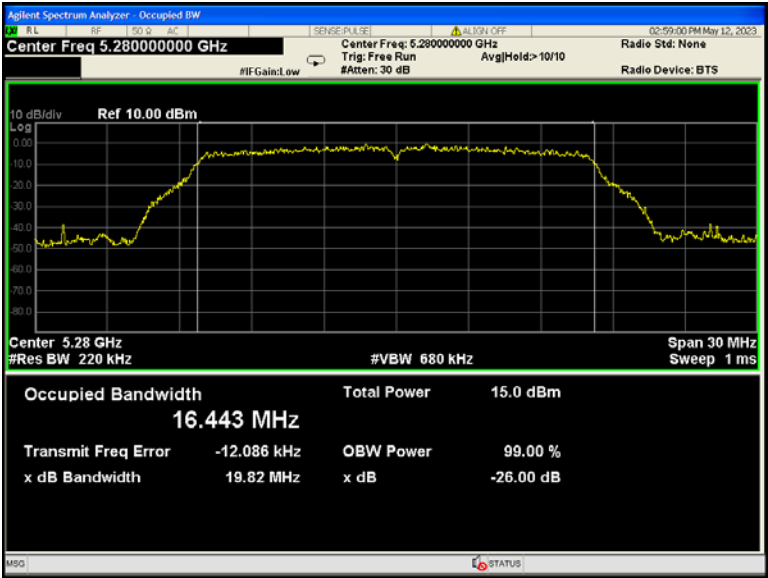
802.11ac(VHT80) U-NII-1 Middle channel



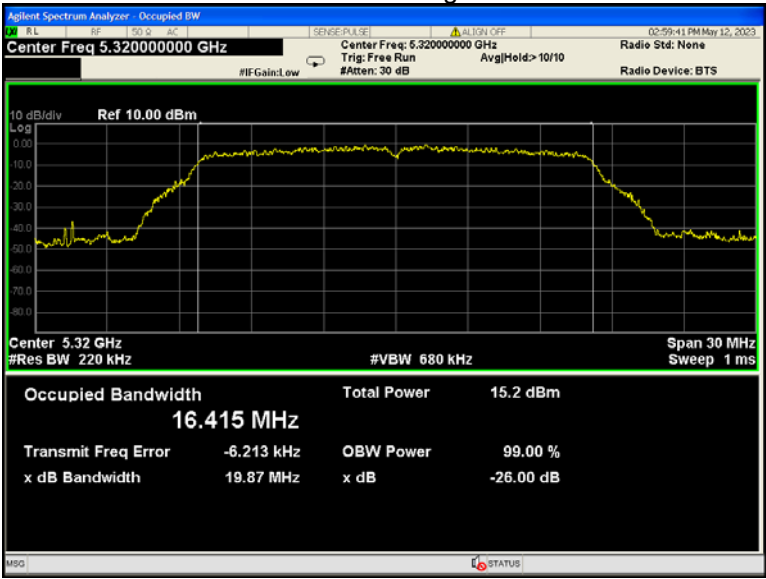
802.11a U-NII-2A Low channel



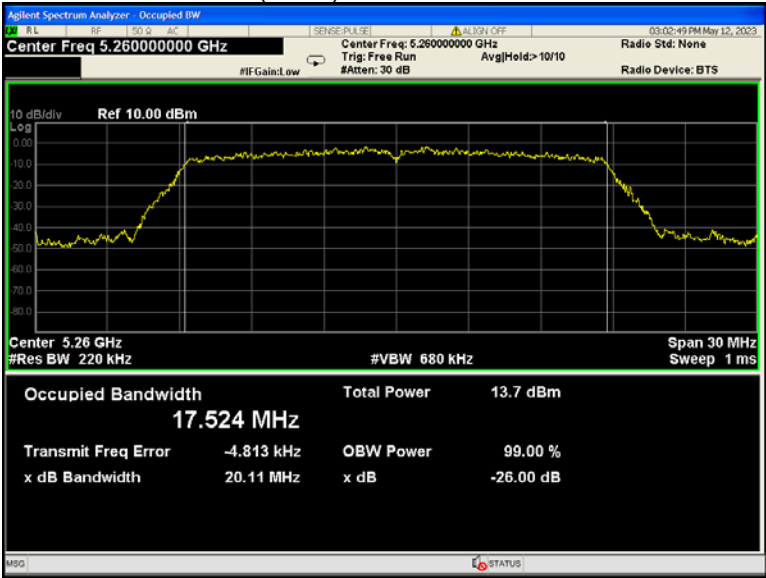
802.11a U-NII-2A Middle channel



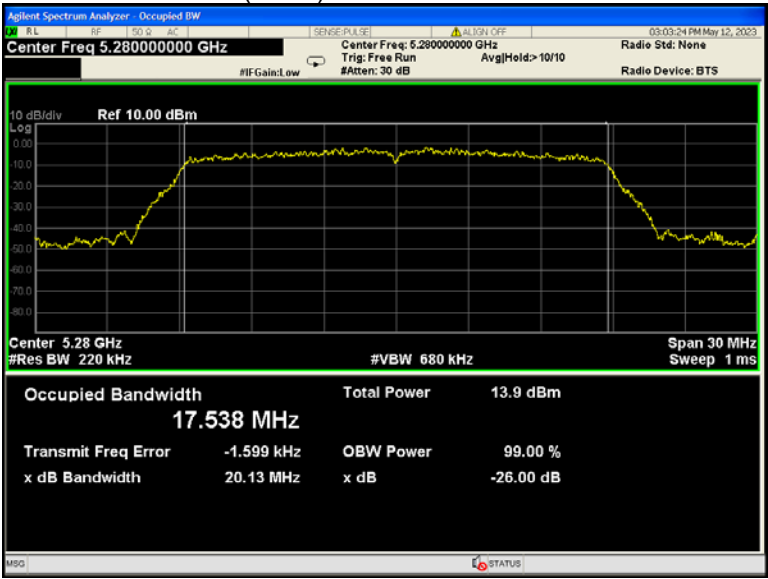
802.11a U-NII-2A High channel



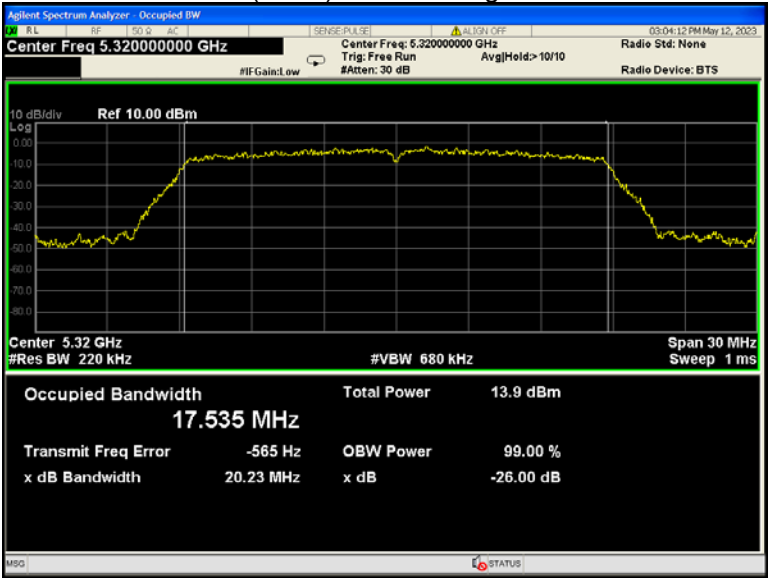
802.11n(HT20) U-NII-2A Low channel



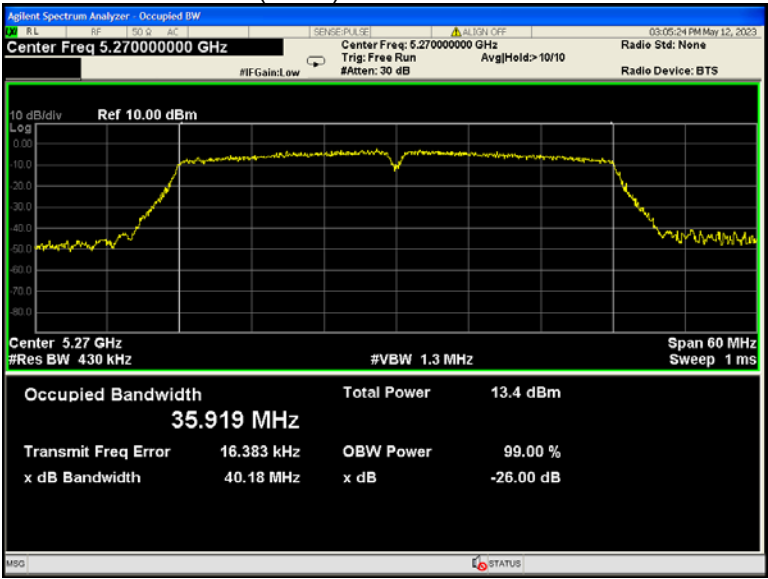
802.11n(HT20) U-NII-2A Middle channel



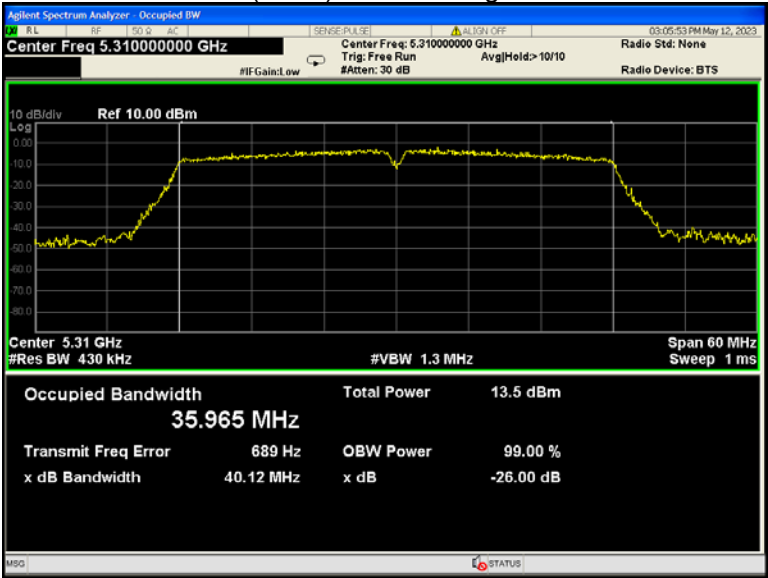
802.11n(HT20) U-NII-2A High channel



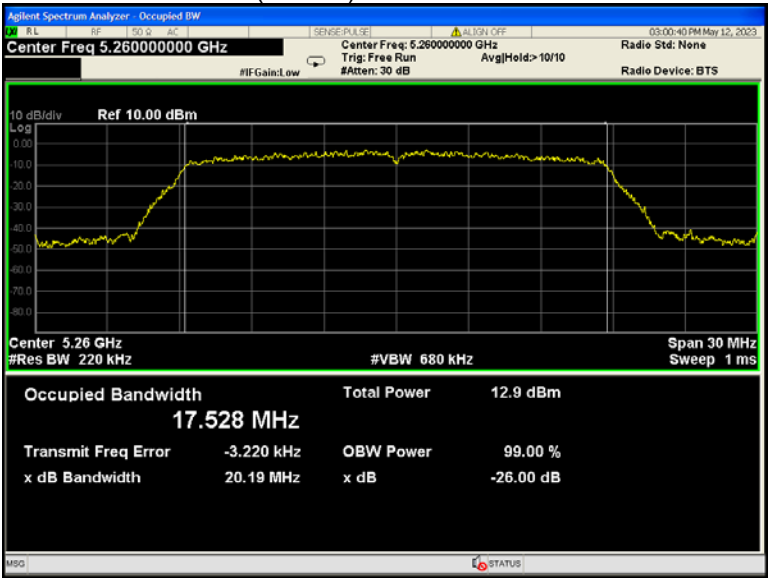
802.11n(HT40) U-NII-2A Low channel



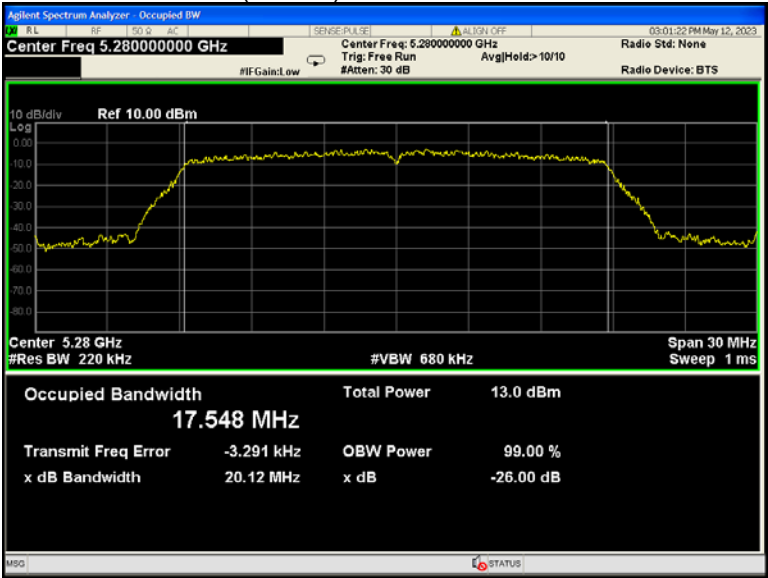
802.11n(HT40) U-NII-2A High channel



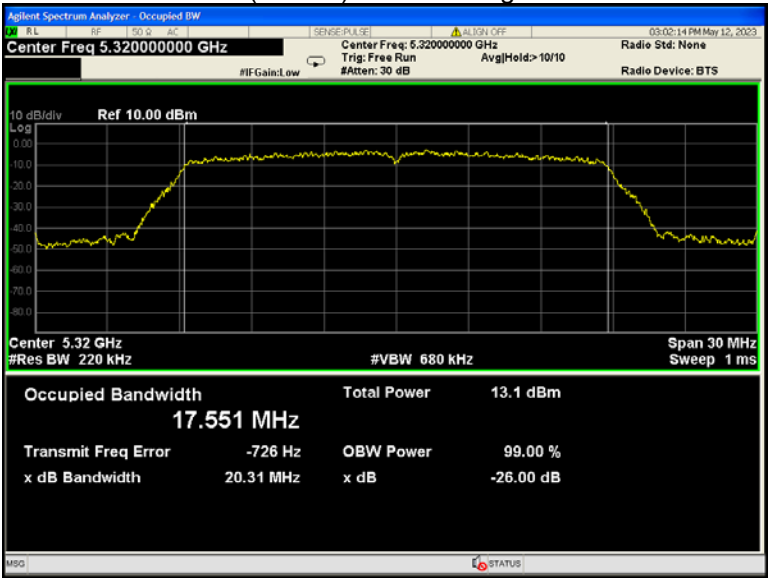
802.11ac(VHT20) U-NII-2A Low channel



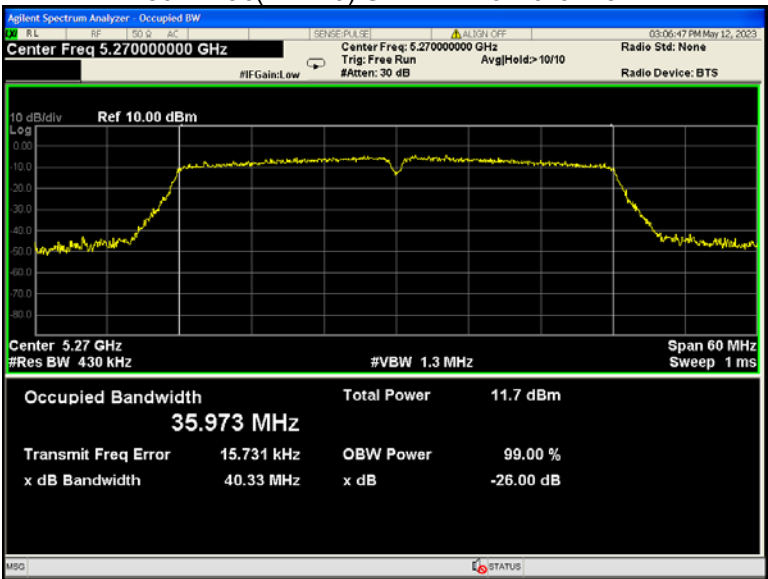
802.11ac(VHT20) U-NII-2A Middle channel



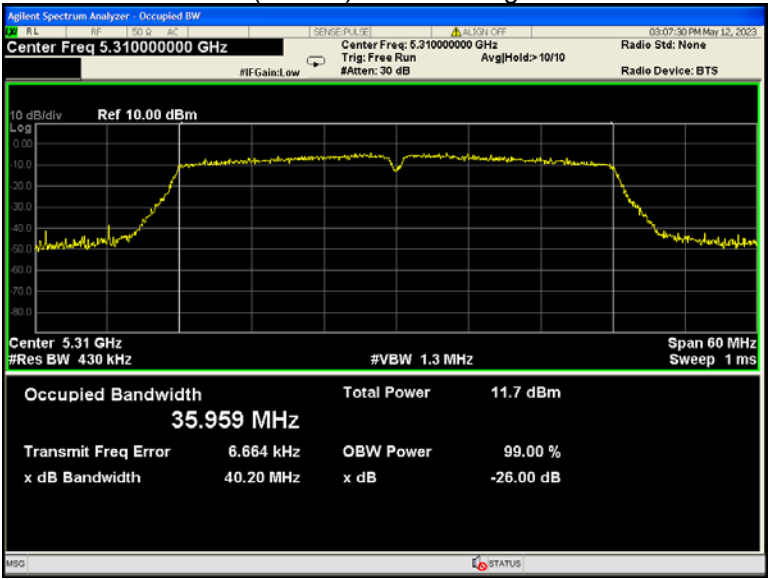
802.11ac(VHT20) U-NII-2A High channel



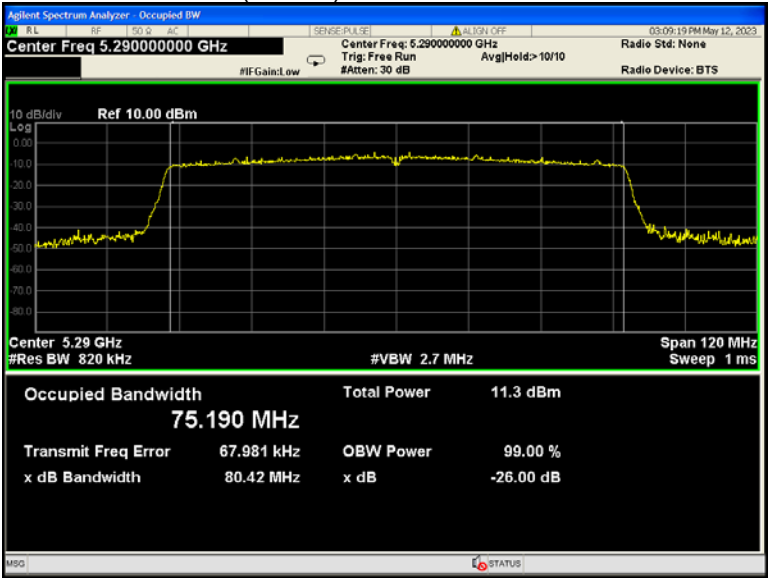
802.11ac(VHT40) U-NII-2A Low channel



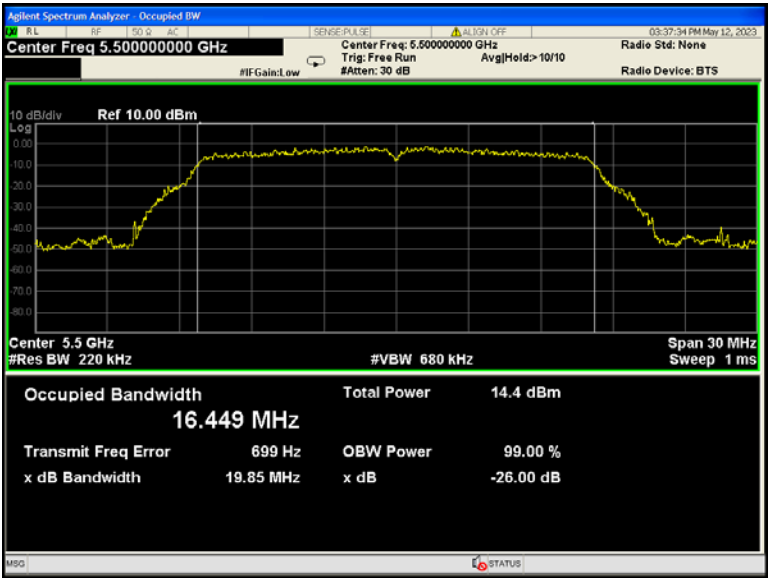
802.11ac(VHT40) U-NII-2A High channel



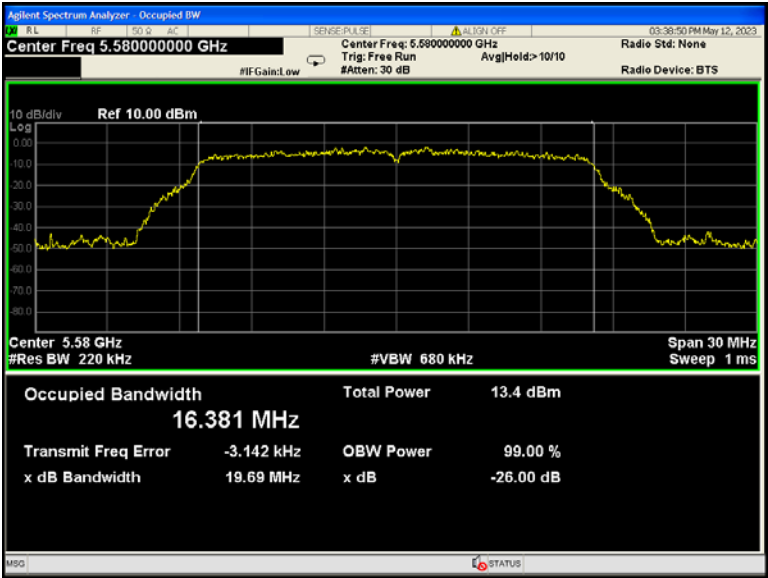
802.11ac(VHT80) U-NII-2A Middle channel



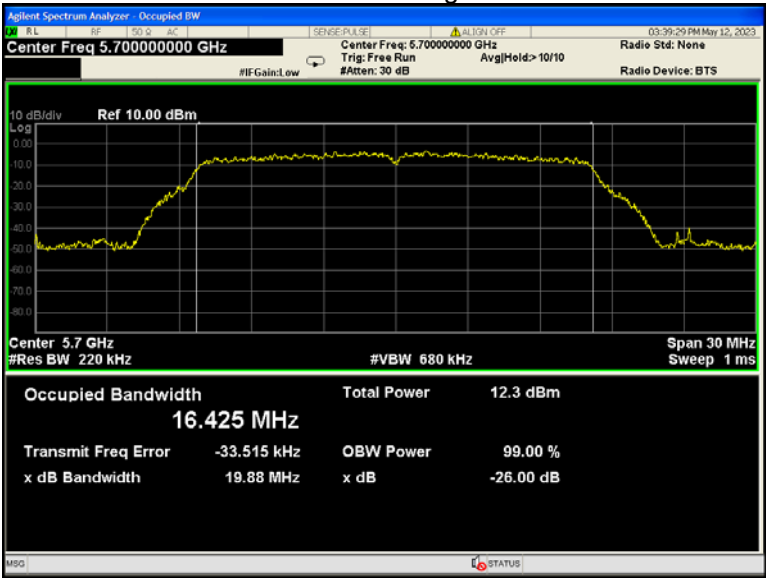
802.11a U-NII-2C Low channel



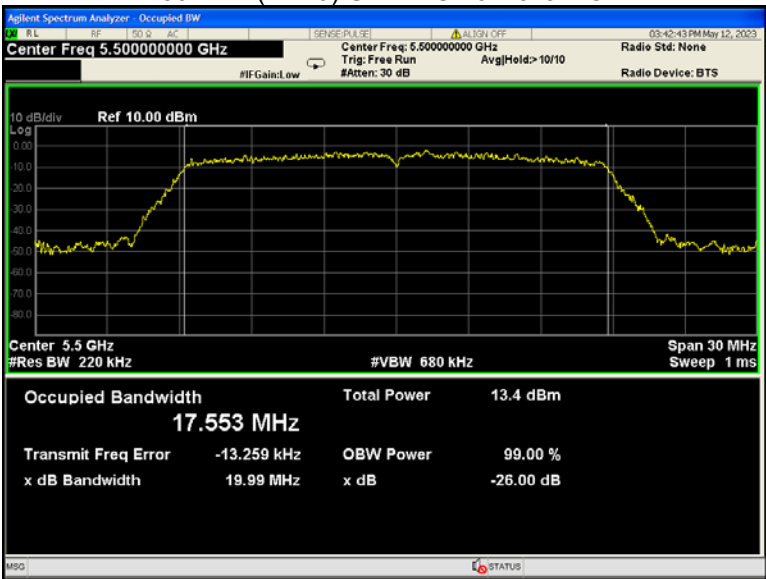
802.11a U-NII-2C Middle channel



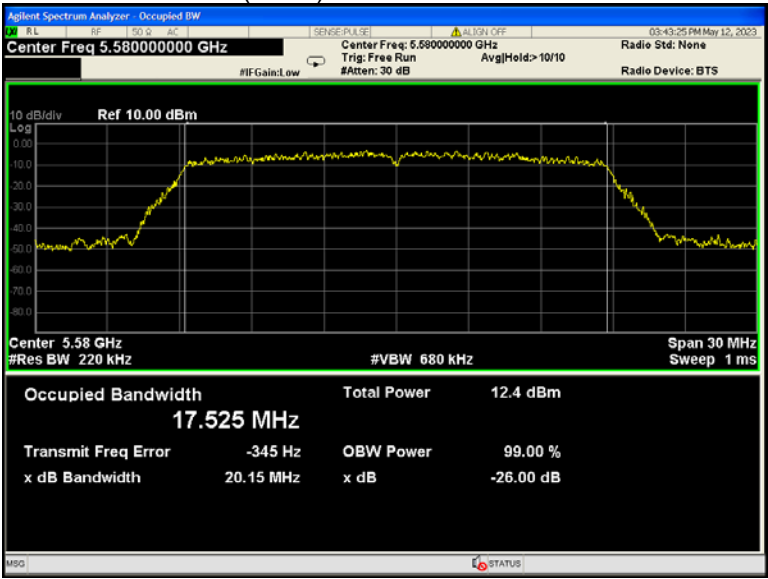
802.11a U-NII-2C High channel



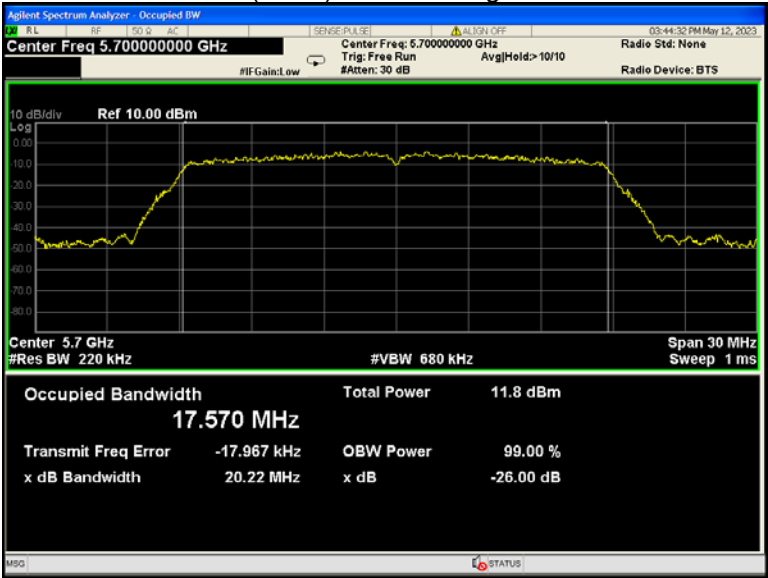
802.11n(HT20) U-NII-2C Low channel



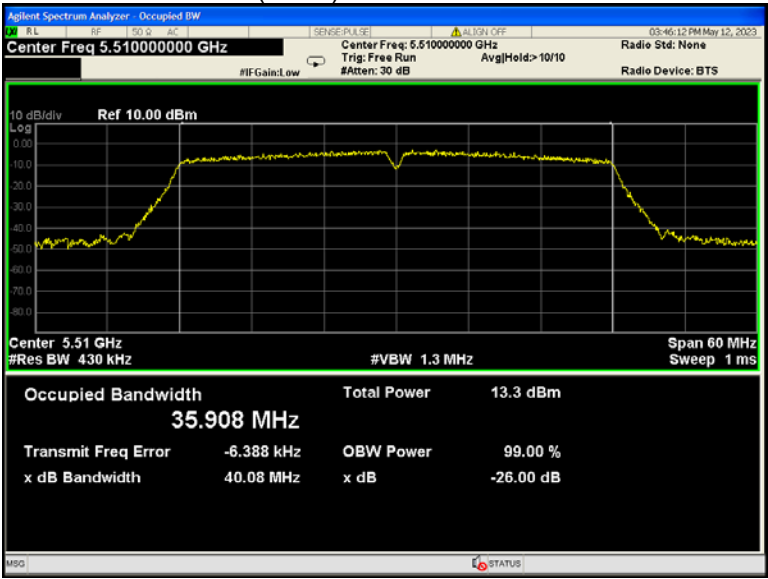
802.11n(HT20) U-NII-2C Middle channel



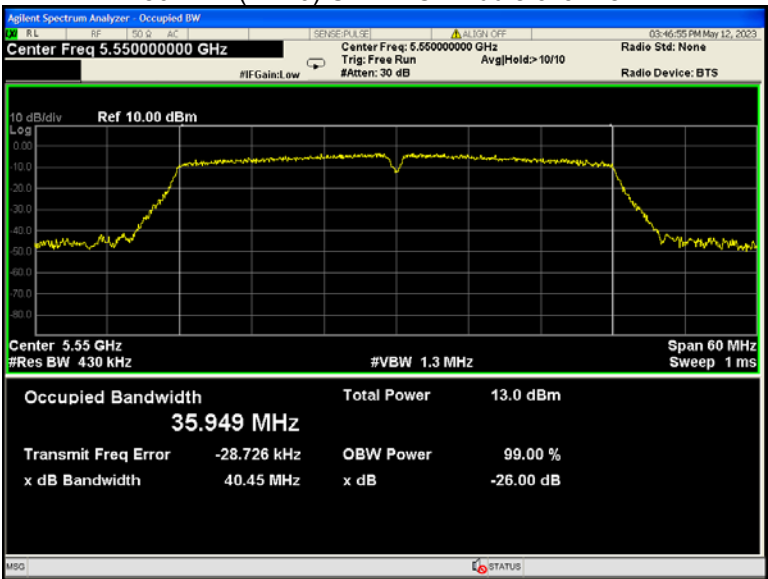
802.11n(HT20) U-NII-2C High channel



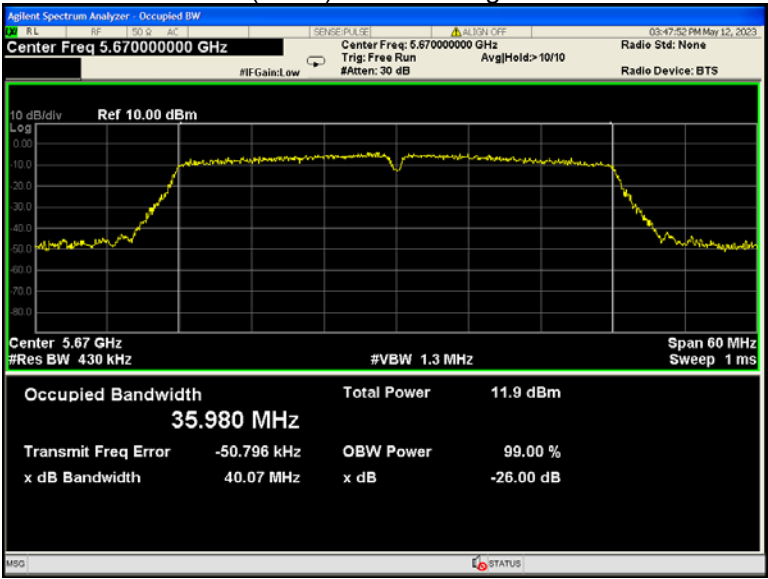
802.11n(HT40) U-NII-2C Low channel



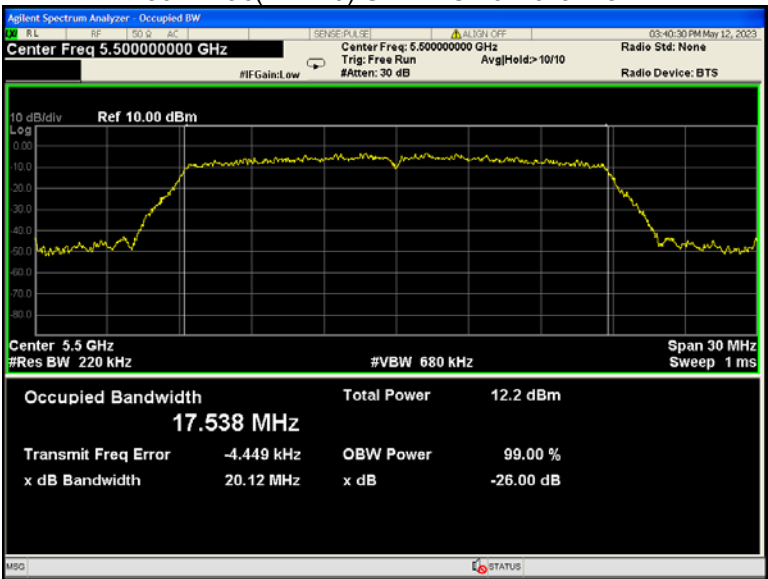
802.11n(HT40) U-NII-2C Middle channel



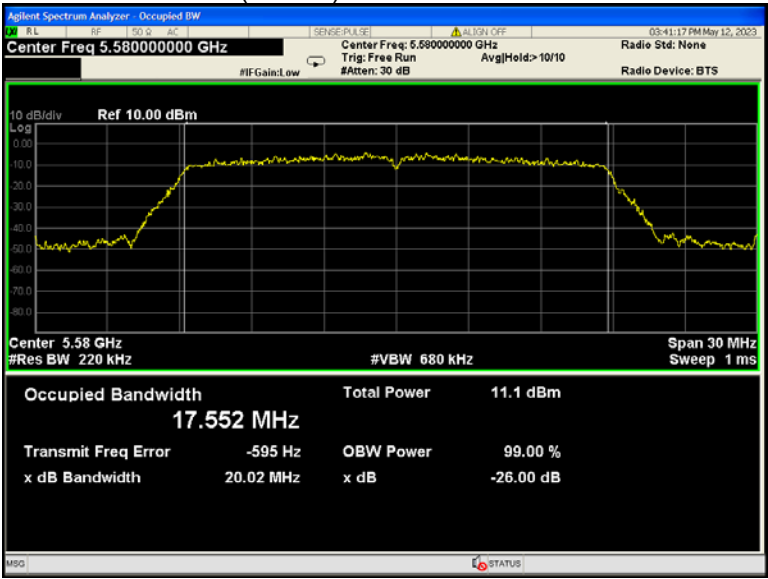
802.11n(HT40) U-NII-2C High channel



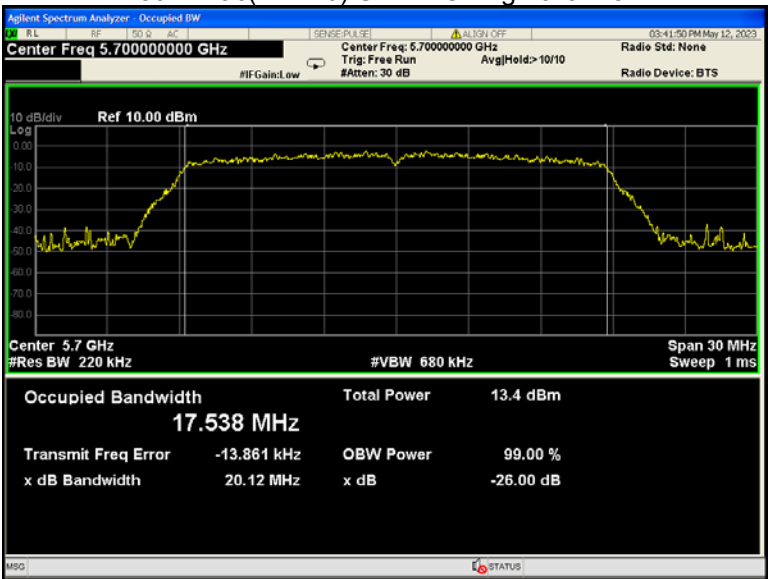
802.11ac(VHT20) U-NII-2C Low channel



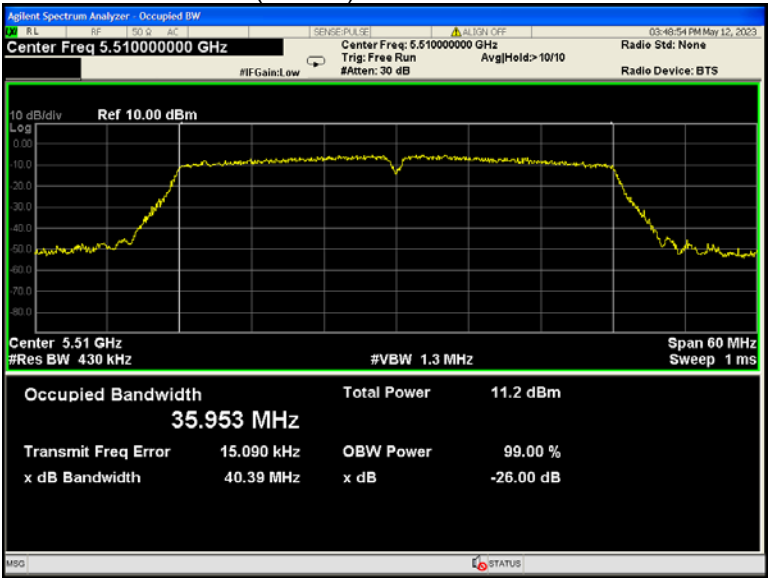
802.11ac(VHT20) U-NII-2C Middle channel



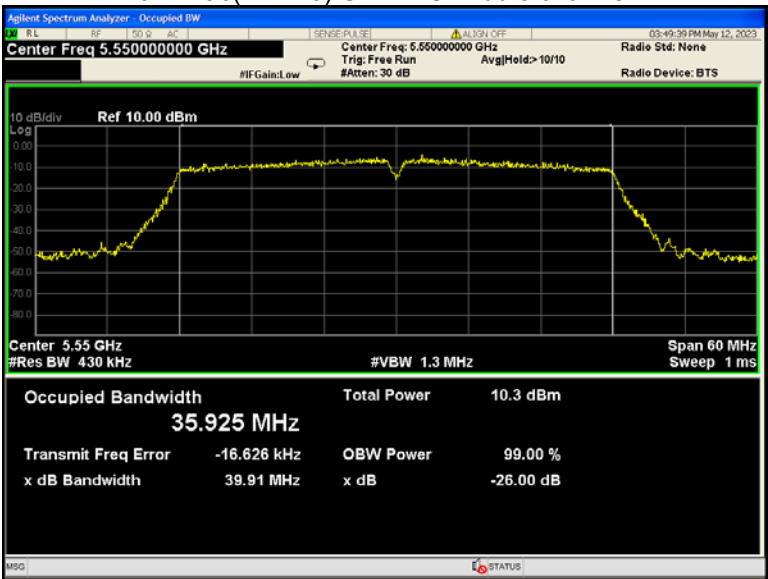
802.11ac(VHT20) U-NII-2C High channel



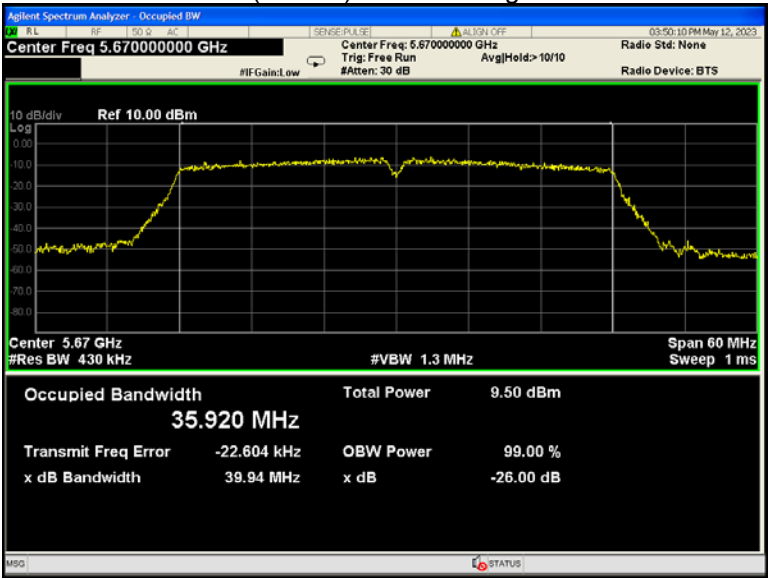
802.11ac(VHT40) U-NII-2C Low channel



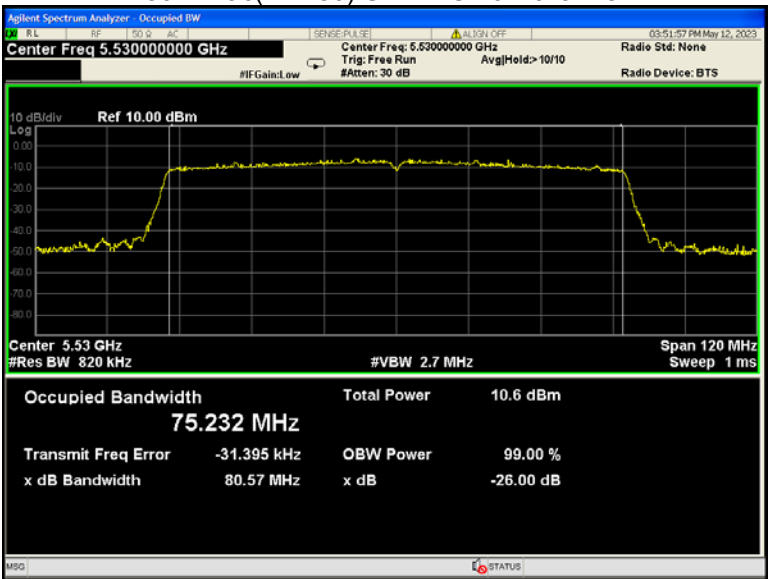
02.11ac(VHT40) U-NII-2C Middle channel



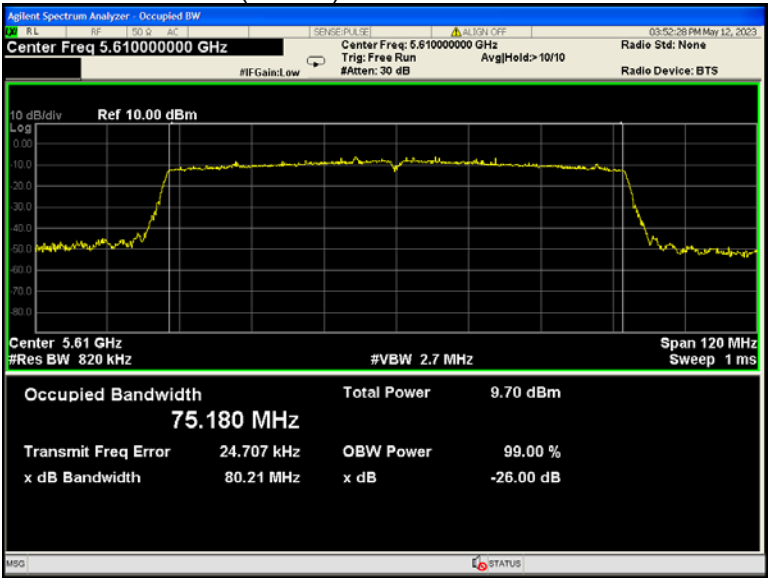
802.11ac(VHT40) U-NII-2C High channel



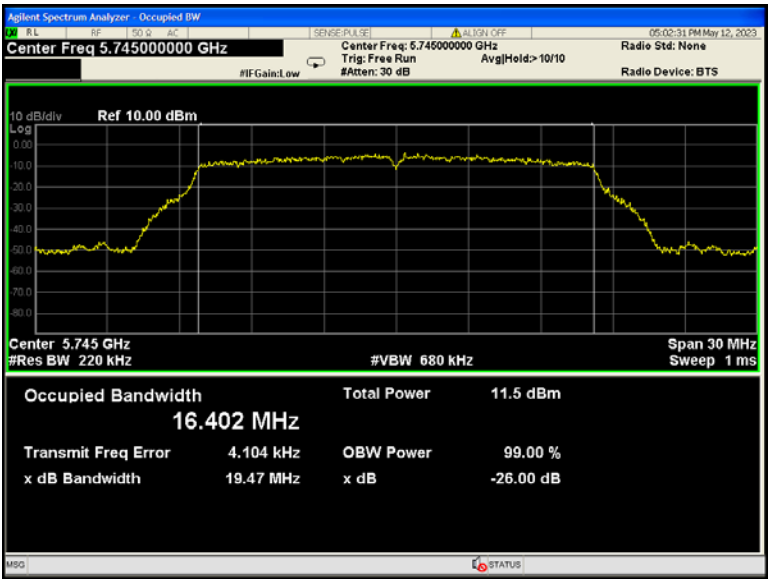
802.11ac(VHT80) U-NII-2C Low channel



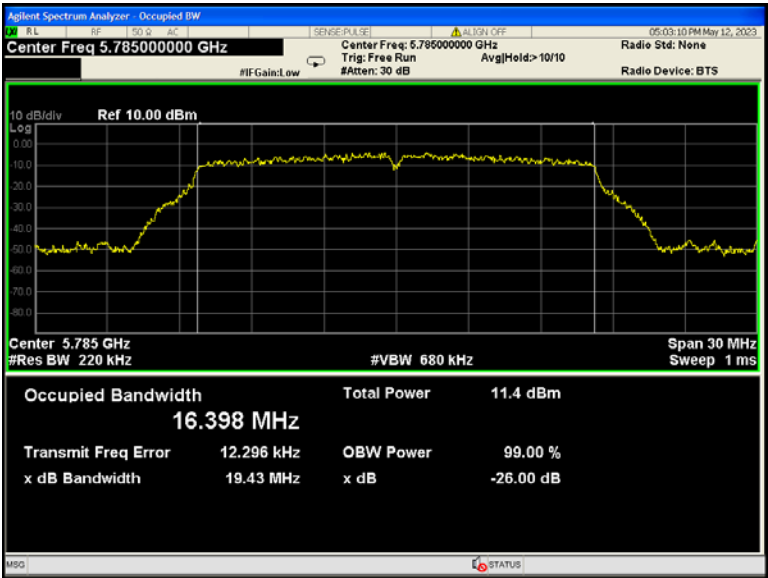
802.11ac(VHT80) U-NII-2C Middle channel



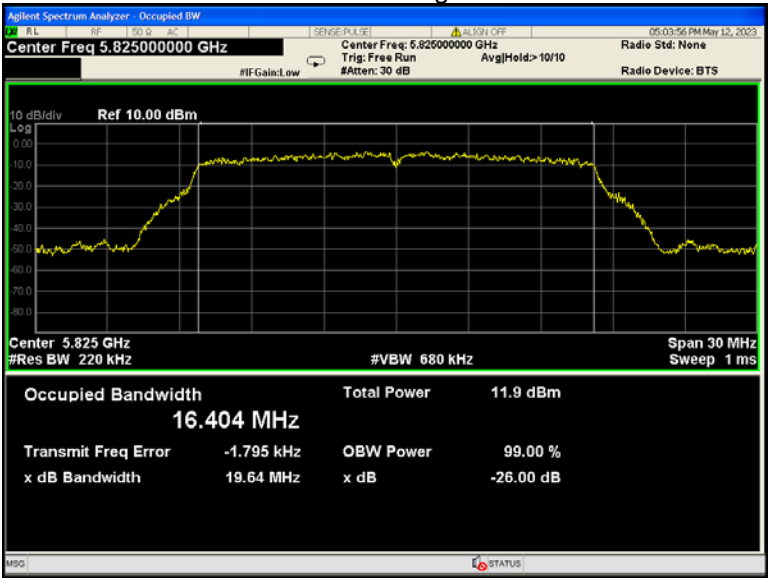
99% Occupied Bandwidth
802.11a U-NII-3 Low channel



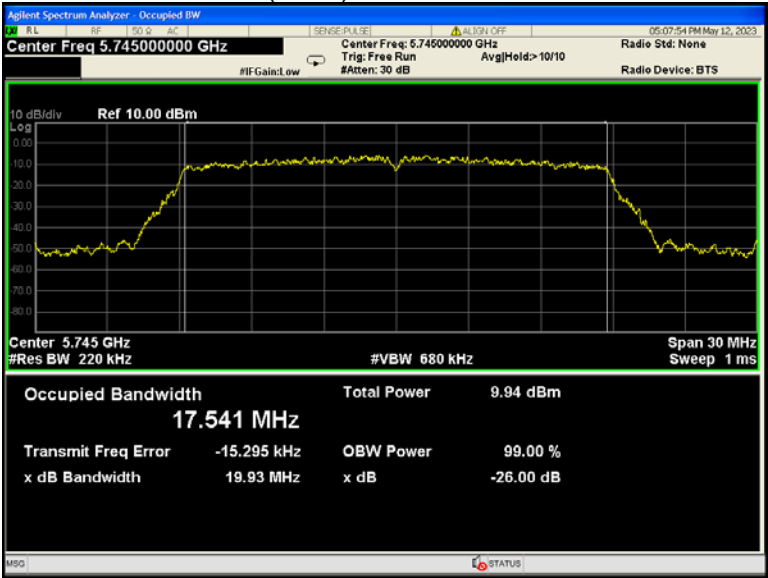
802.11a U-NII-3 Middle channel



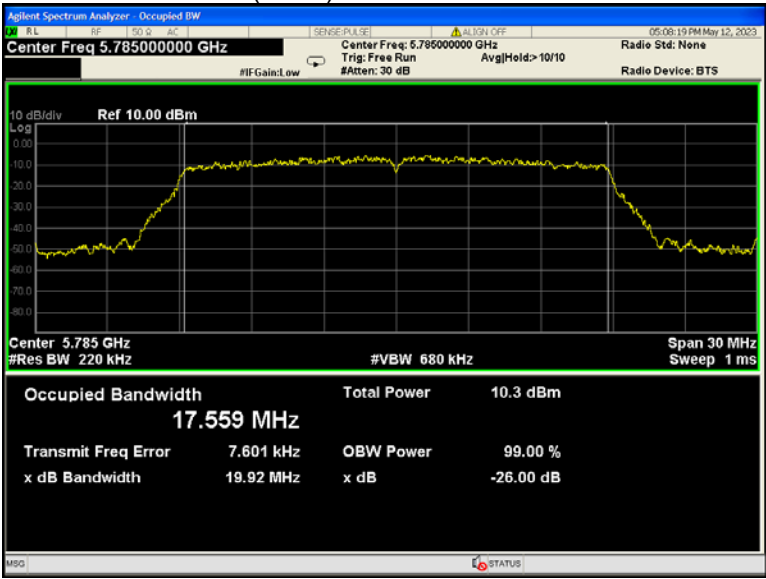
802.11a U-NII-3 High channel



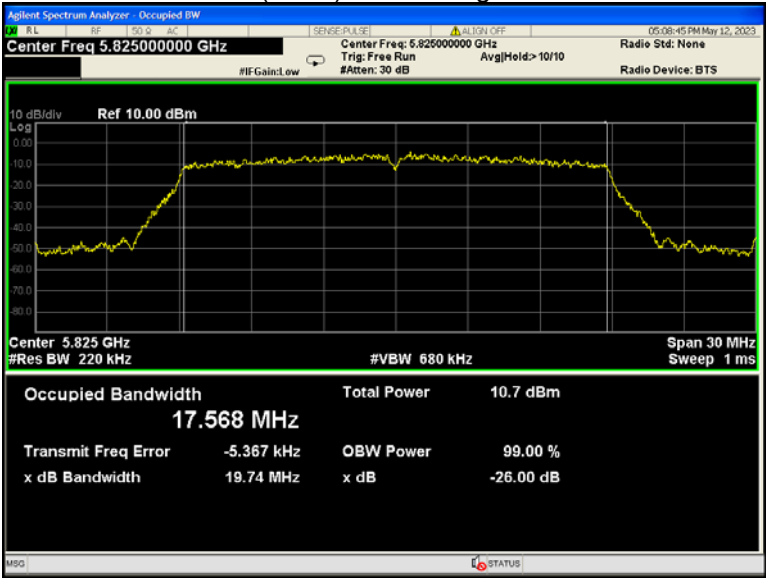
802.11n(HT20) U-NII-3 Low channel



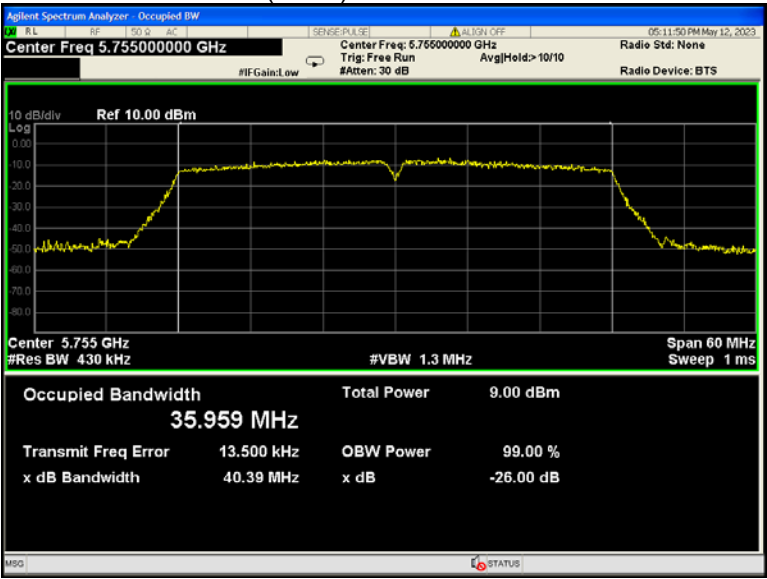
802.11n(HT20) U-NII-3 Middle channel



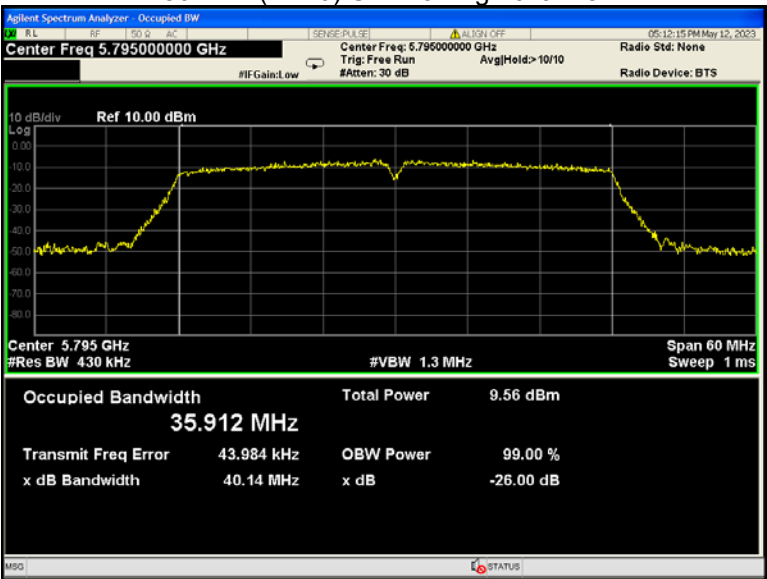
802.11n(HT20) U-NII-3 High channel



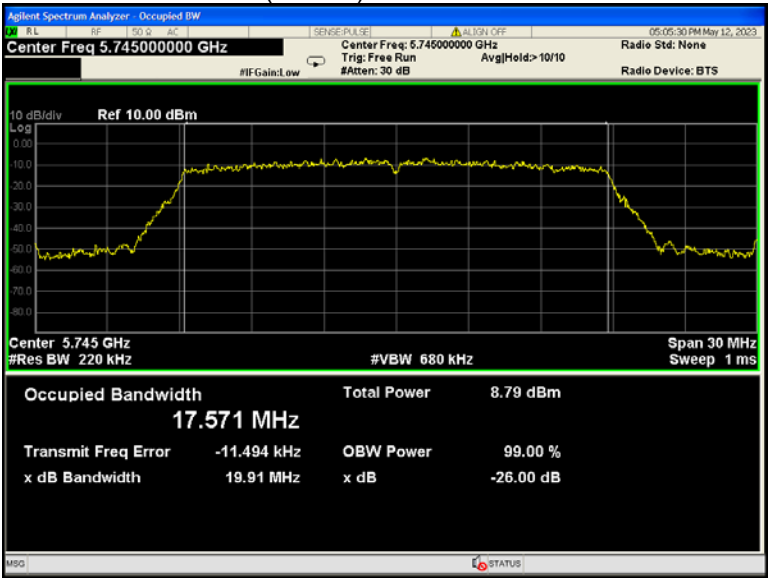
802.11n(HT40) U-NII-3 Low channel



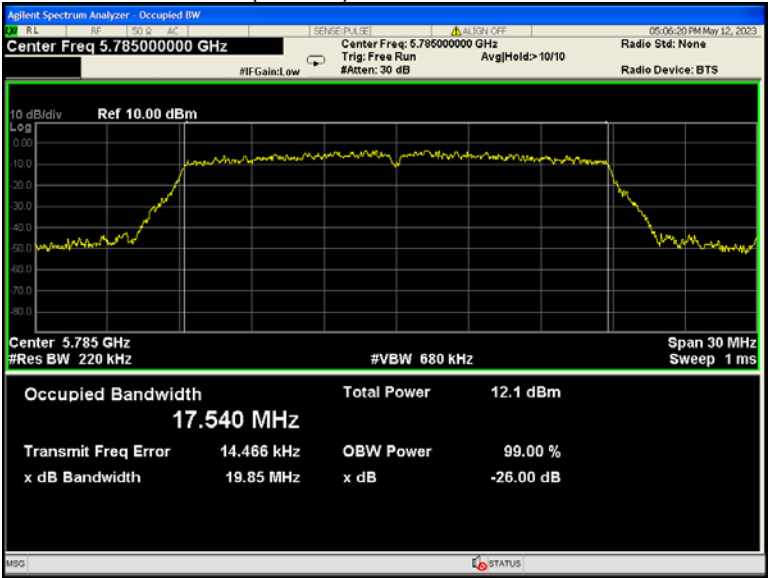
802.11n(HT40) U-NII-3 High channel



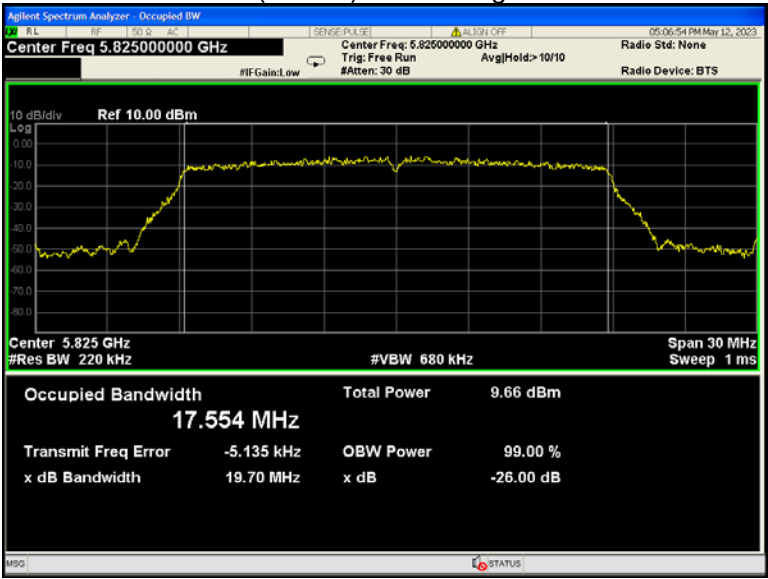
802.11ac(VHT20) U-NII-3 Low channel



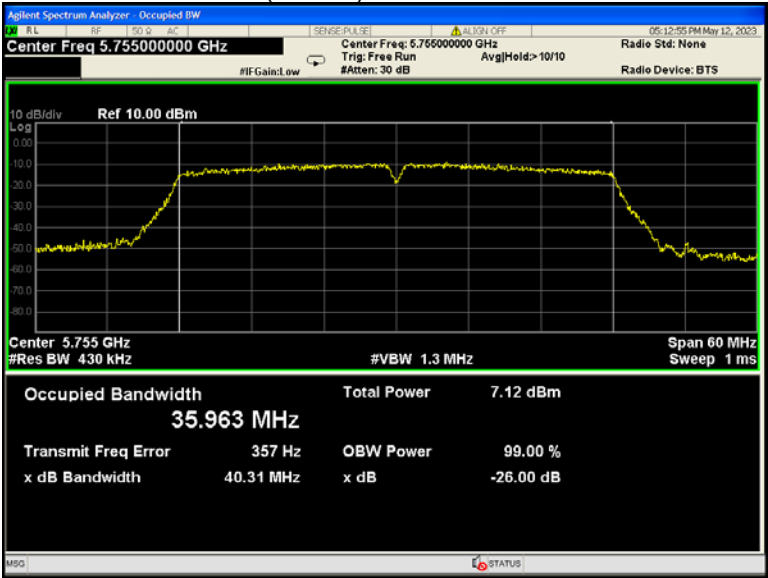
802.11ac(VHT20) U-NII-3 Middle channel



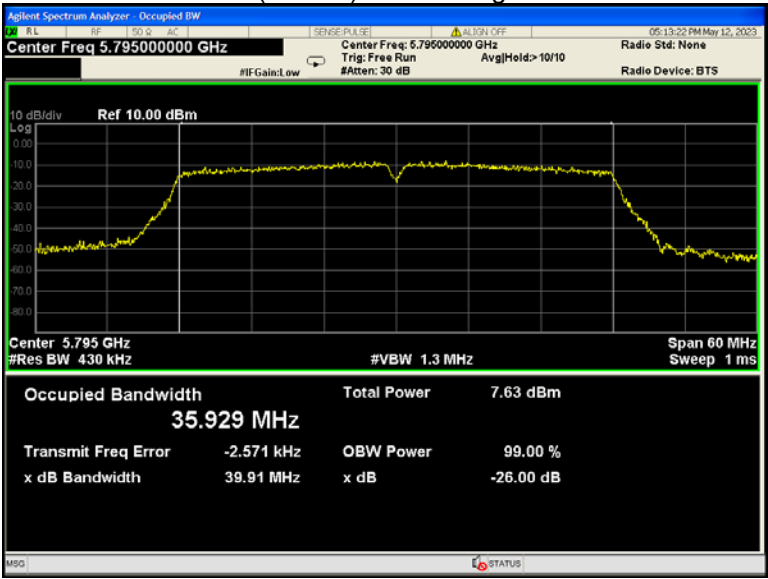
802.11ac(VHT20) U-NII-3 High channel



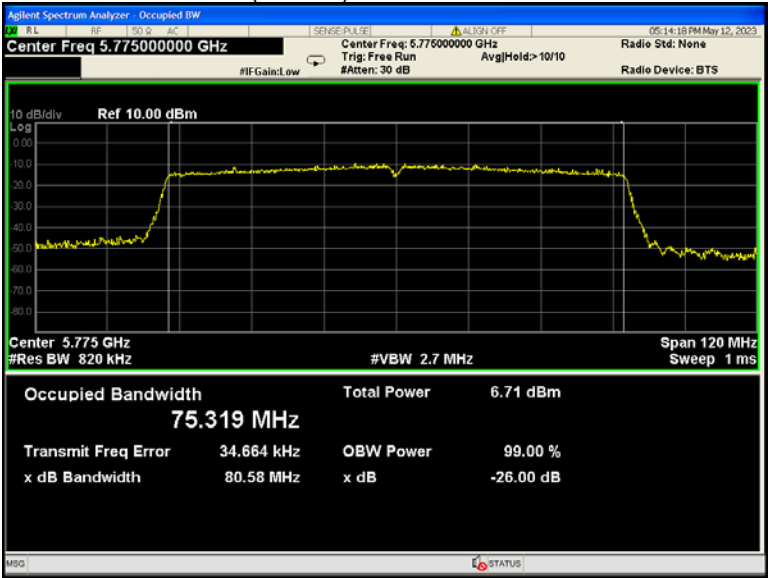
802.11ac(VHT40) U-NII-3 Low channel



802.11ac(VHT40) U-NII-3 High channel



802.11ac(VHT80) U-NII-3 Middle channel



13 Conducted Output Power

Test Requirement:	FCC 47CFR 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-2A 250mW(24dBm) U-NII-2C 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

Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-1	802.11a	13.38	13.65	13.95
	802.11n(HT20)	12.09	12.32	12.57
	802.11n(HT40)	12.37	/	12.69
	802.11ac(VHT20)	11.13	11.30	11.89
	802.11ac(VHT40)	10.38	/	10.79
	802.11ac(VHT80)	/	10.48	/

Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-2A	802.11a	13.82	13.99	14.06
	802.11n(HT20)	12.72	12.79	12.84
	802.11n(HT40)	12.83	/	12.90
	802.11ac(VHT20)	11.74	11.82	11.89
	802.11ac(VHT40)	11.02	/	11.11
	802.11ac(VHT80)	/	10.98	/

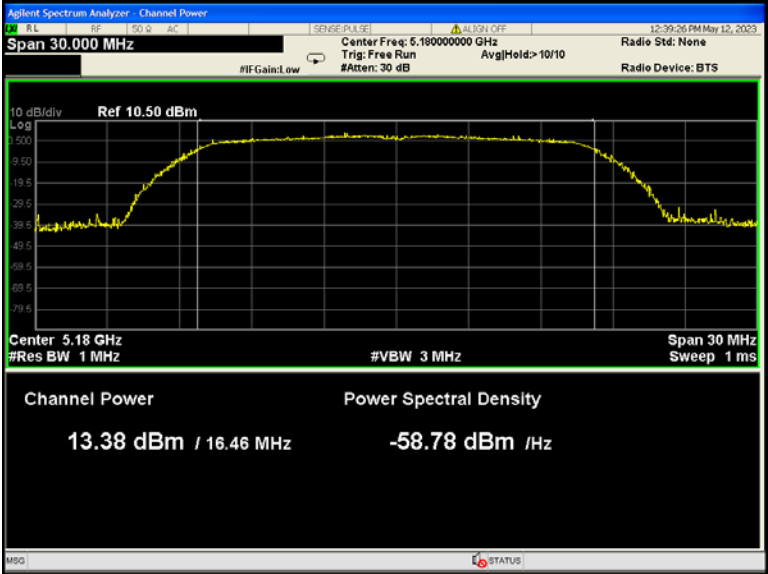
Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-2C	802.11a	12.94	11.53	11.26
	802.11n(HT20)	11.65	10.70	9.62
	802.11n(HT40)	11.54	10.79	9.55
	802.11ac(VHT20)	10.72	9.21	8.70
	802.11ac(VHT40)	10.50	9.22	8.20
	802.11ac(VHT80)	8.97	7.93	

Band	Operation mode	Conducted Output Power (dBm)		
		Low	Middle	High
U-NII-3	802.11a	10.03	10.20	10.61
	802.11n(HT20)	8.65	9.05	9.43
	802.11n(HT40)	9.24	/	9.66
	802.11ac(VHT20)	7.53	8.00	8.46
	802.11ac(VHT40)	7.20	/	8.29
	802.11ac(VHT80)	/	7.71	/

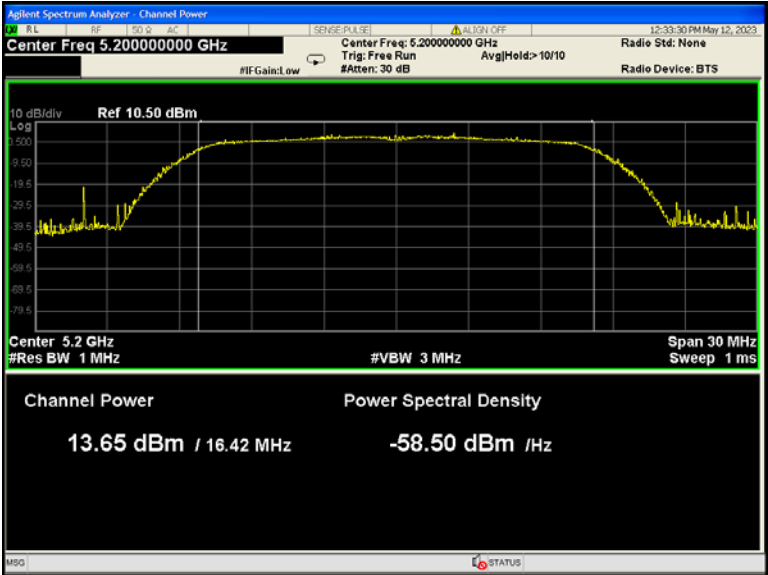
* All transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT} which is less than 6dBi. So the limit does not be reduced.

Test result plots shown as follows:

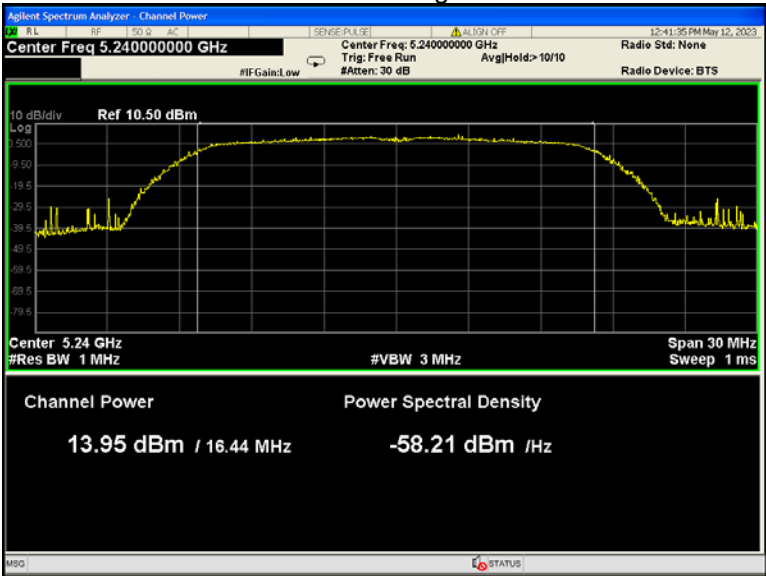
802.11a U-NII-1 Low channel



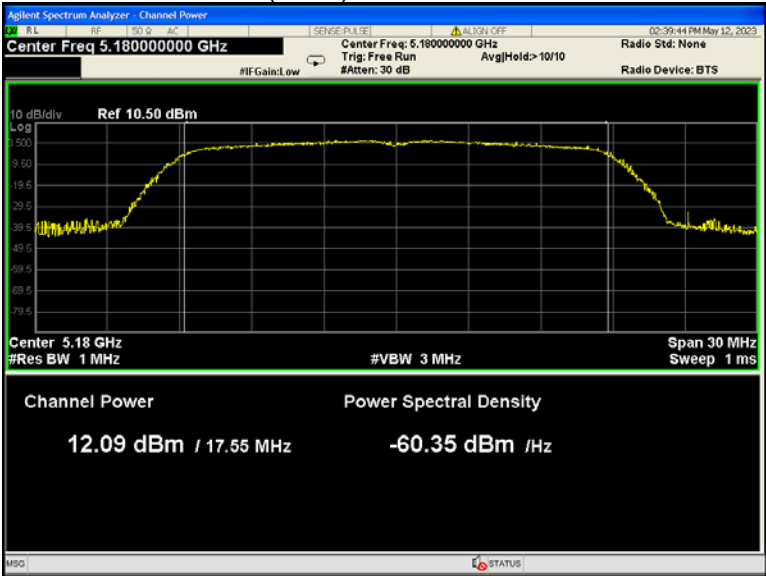
802.11a U-NII-1 Middle channel



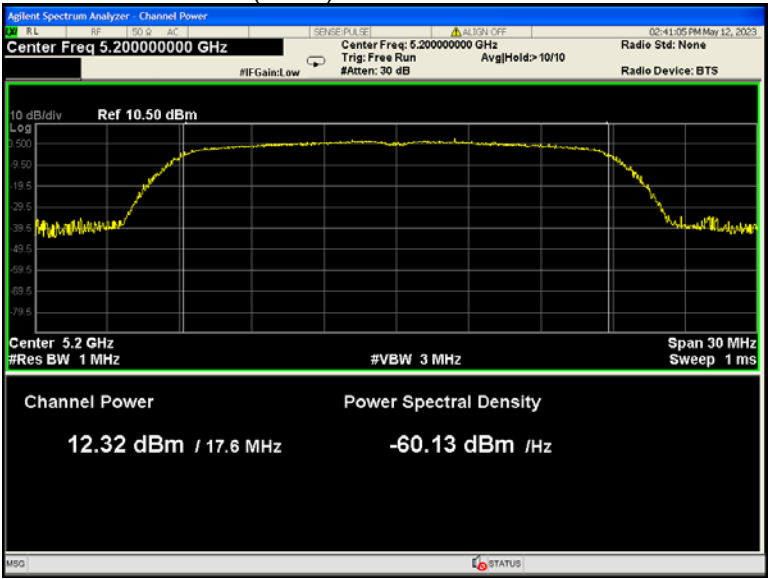
802.11a U-NII-1 High channel



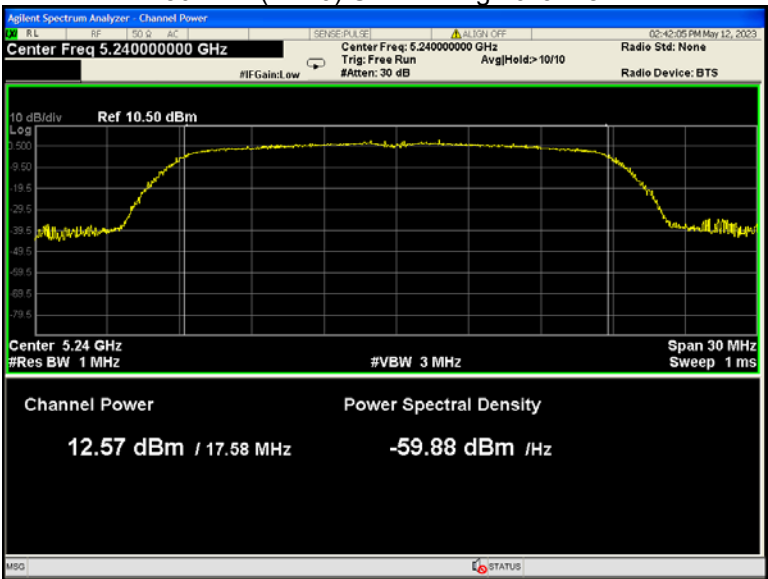
802.11n(HT20) U-NII-1 Low channel



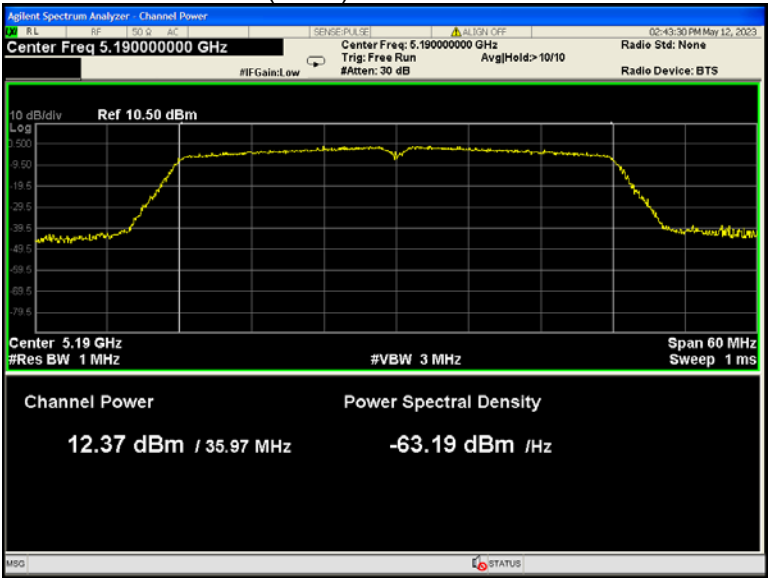
802.11n(HT20) U-NII-1 Middle channel



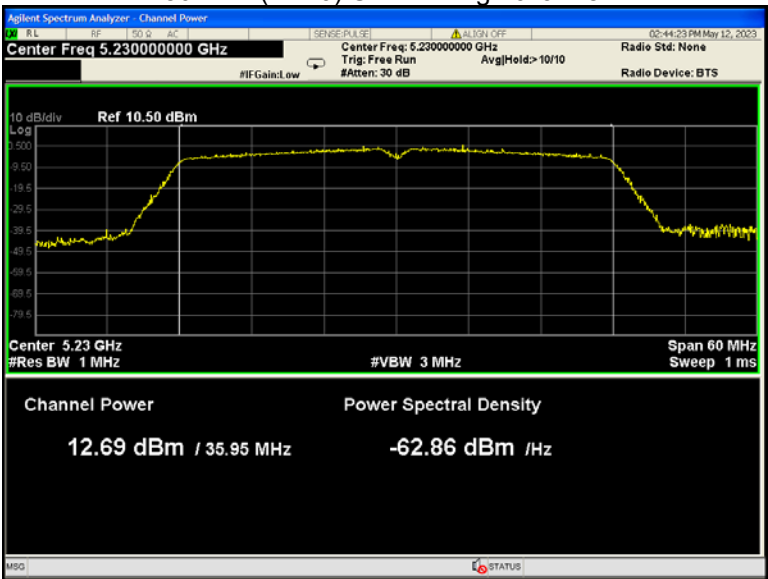
802.11n(HT20) U-NII-1 High channel



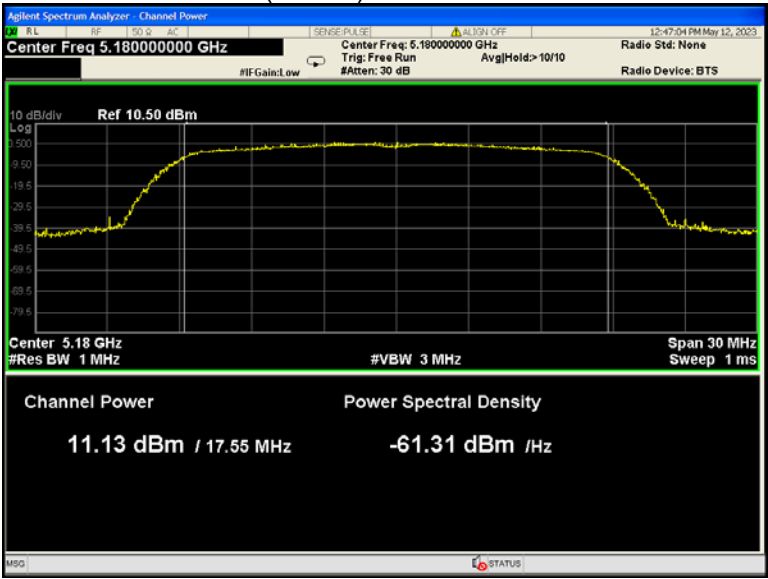
802.11n(HT40) U-NII-1 Low channel



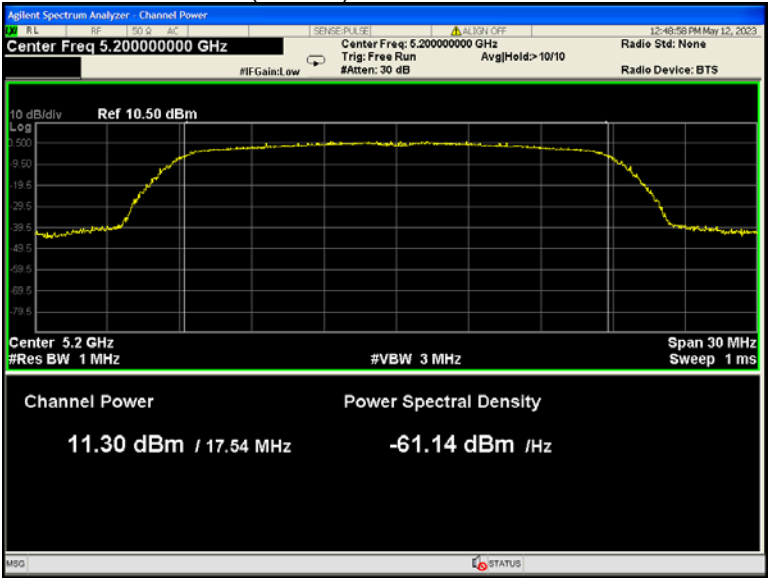
802.11n(HT40) U-NII-1 High channel



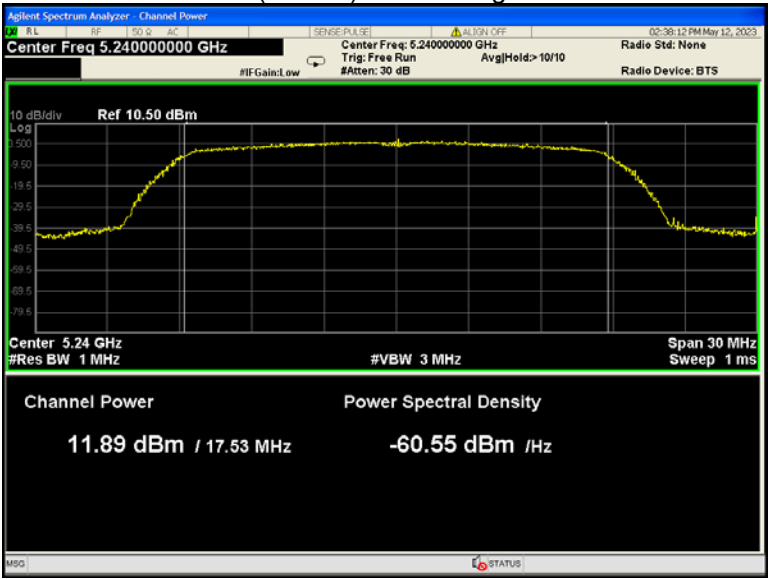
802.11ac(VHT20) U-NII-1 Low channel



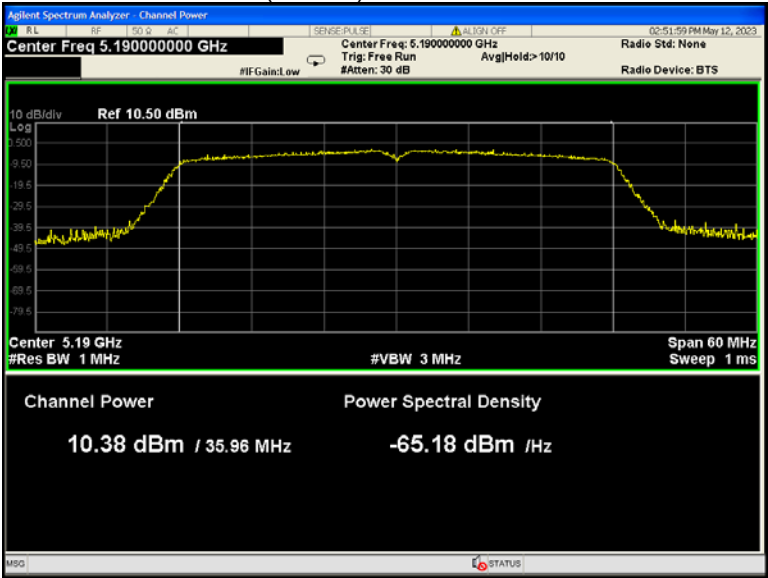
802.11ac(VHT20) U-NII-1 Middle channel



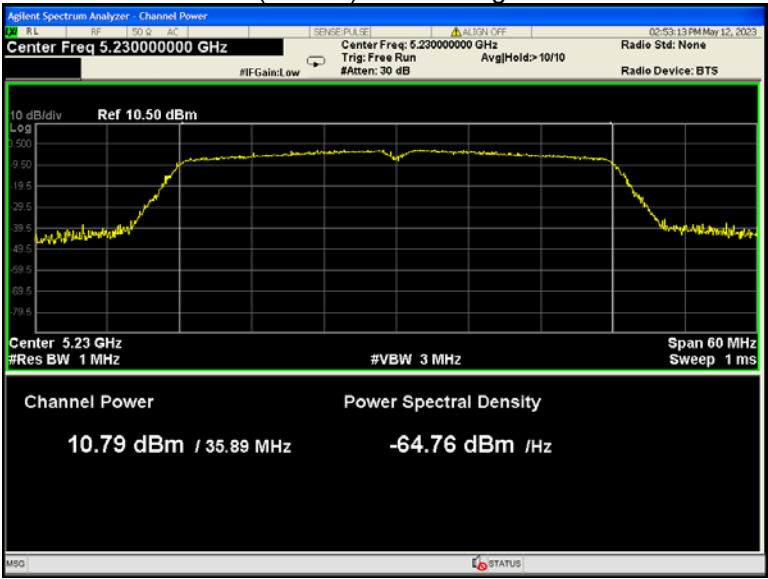
802.11ac(VHT20) U-NII-1 High channel



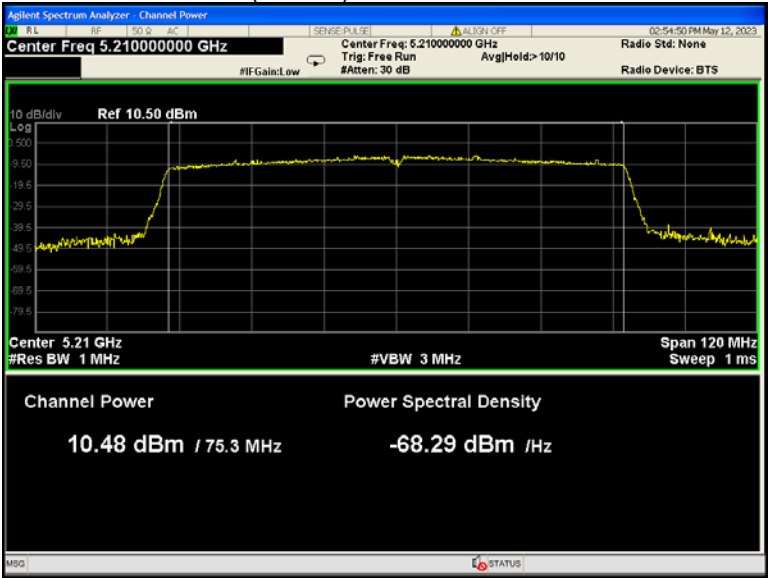
802.11ac(VHT40) U-NII-1 Low channel



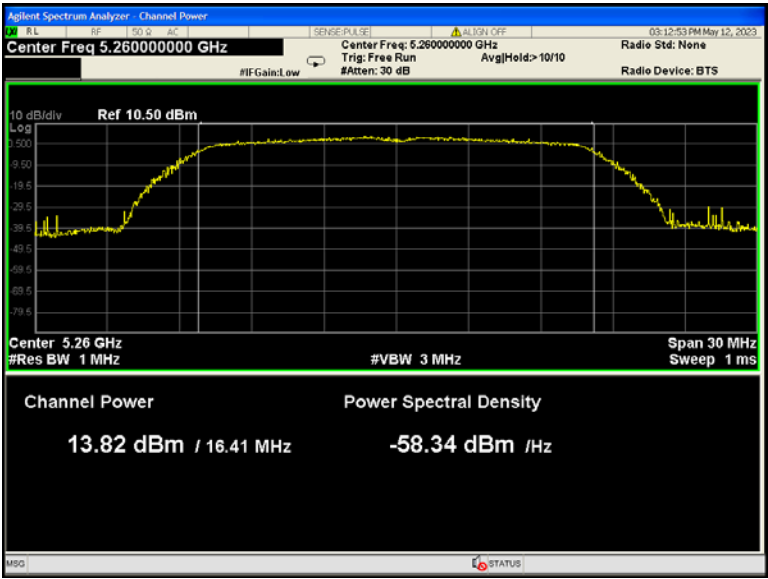
802.11ac(VHT40) U-NII-1 High channel



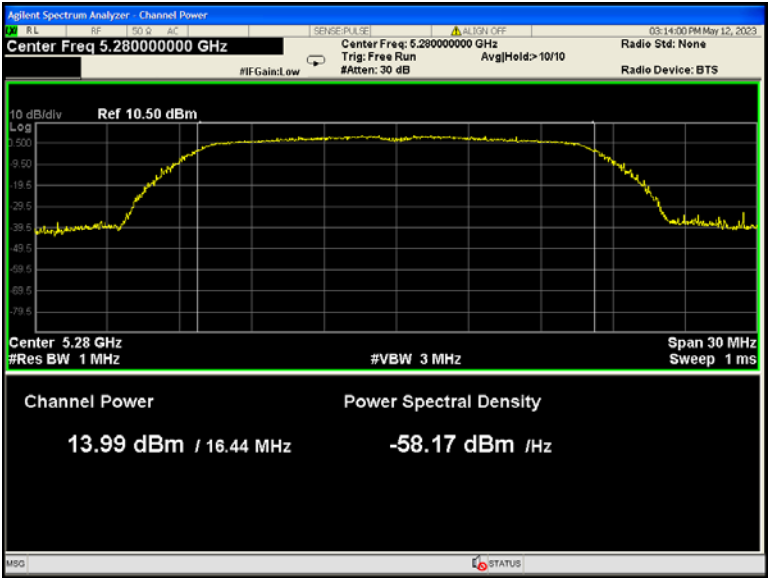
802.11ac(VHT80) U-NII-1 Middle channel



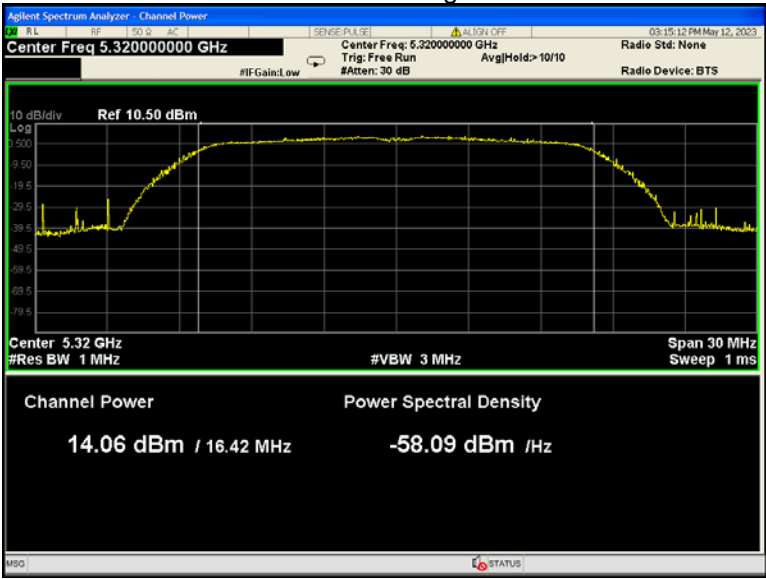
802.11a U-NII-2A Low channel



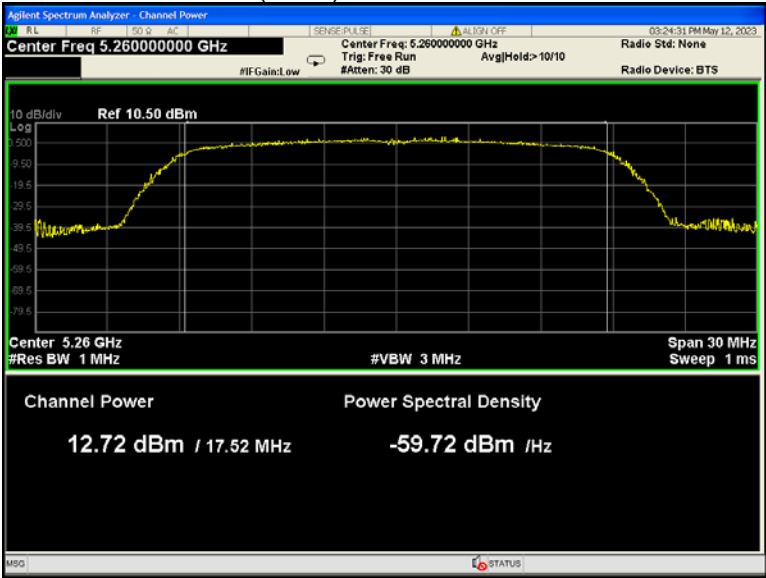
802.11a U-NII-2A Middle channel



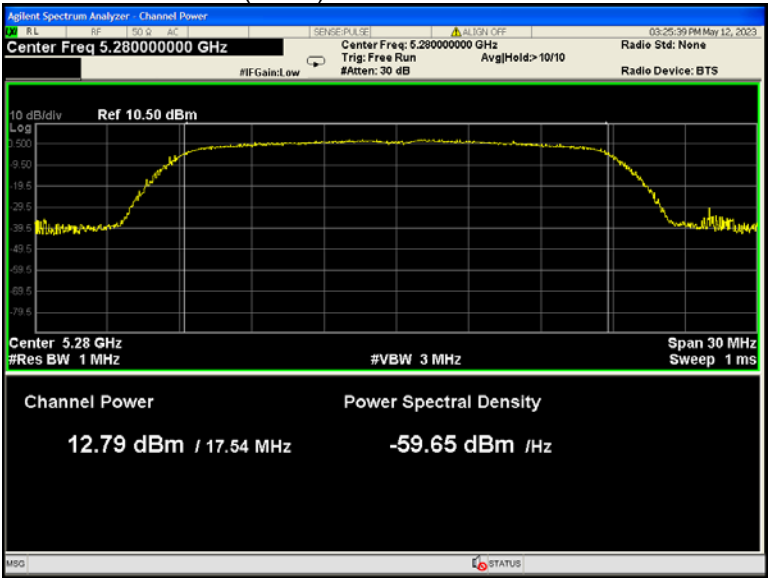
802.11a U-NII-2A High channel



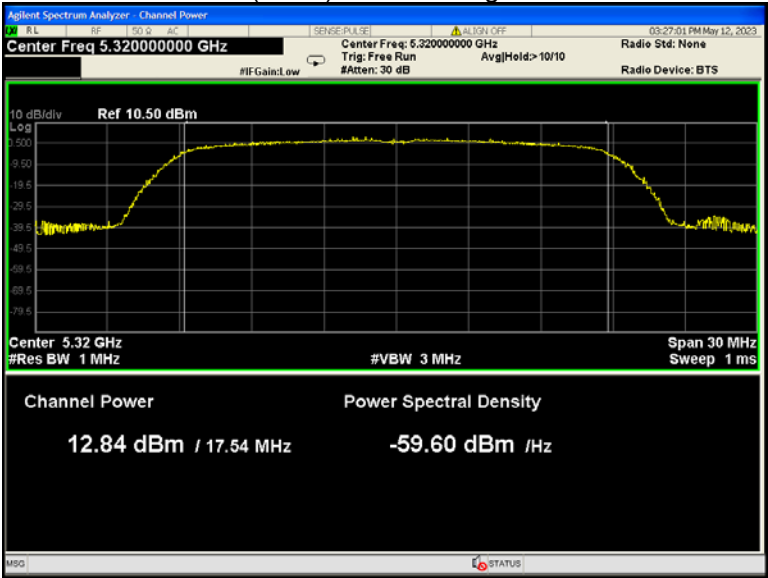
802.11n(HT20) U-NII-2A Low channel



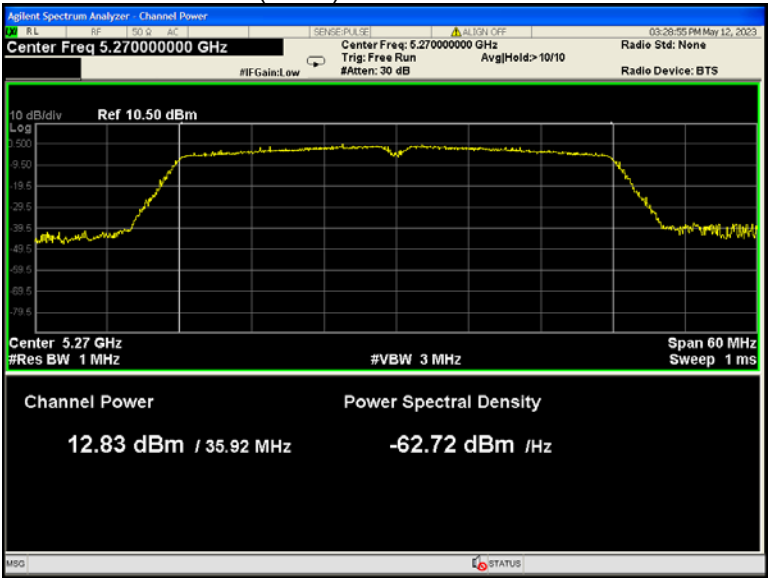
802.11n(HT20) U-NII-2A Middle channel



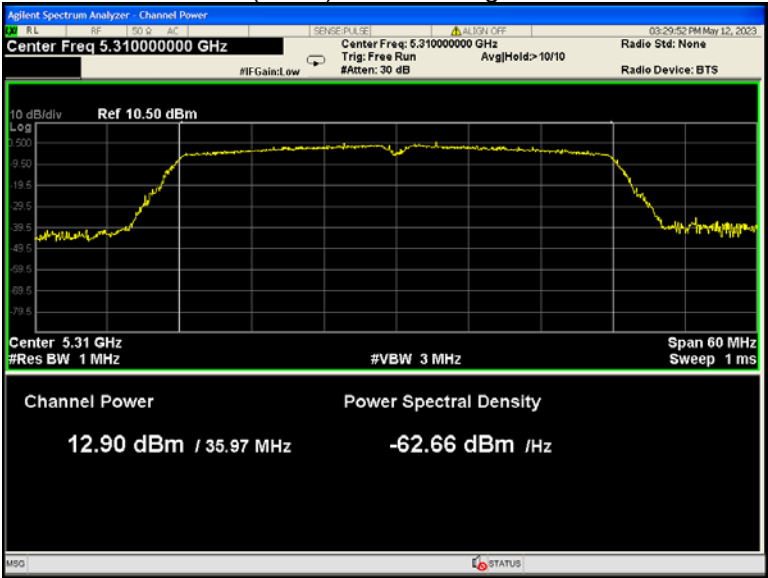
802.11n(HT20) U-NII-2A High channel



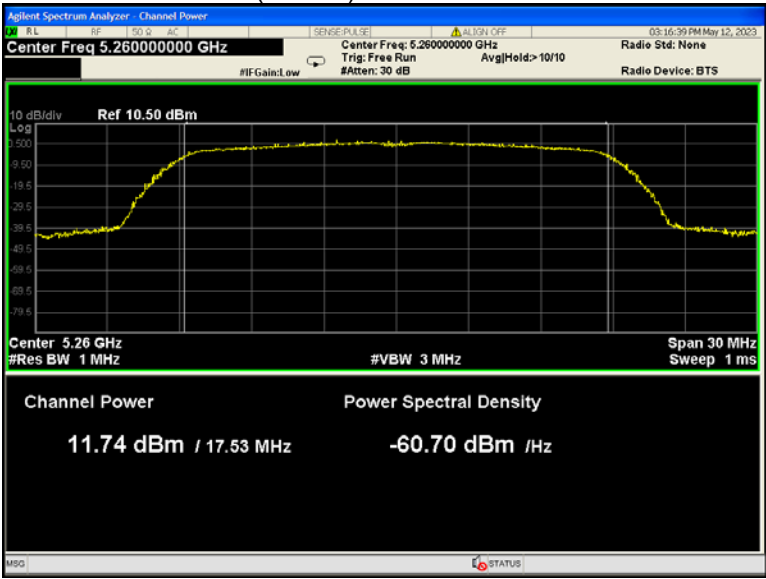
802.11n(HT40) U-NII-2A Low channel



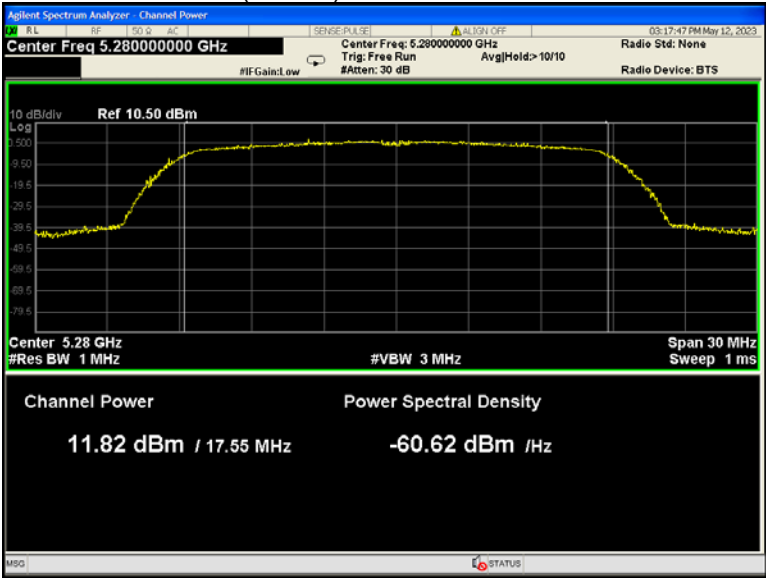
802.11n(HT40) U-NII-2A High channel



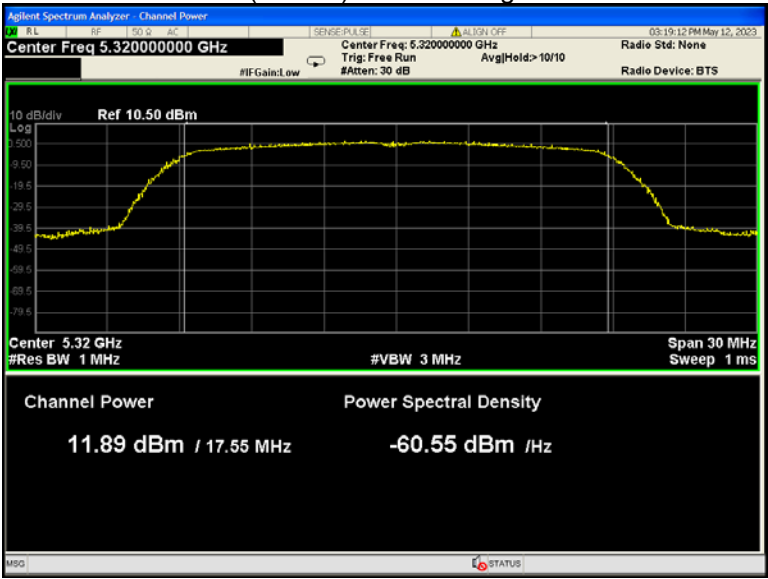
802.11ac(VHT20) U-NII-2A Low channel



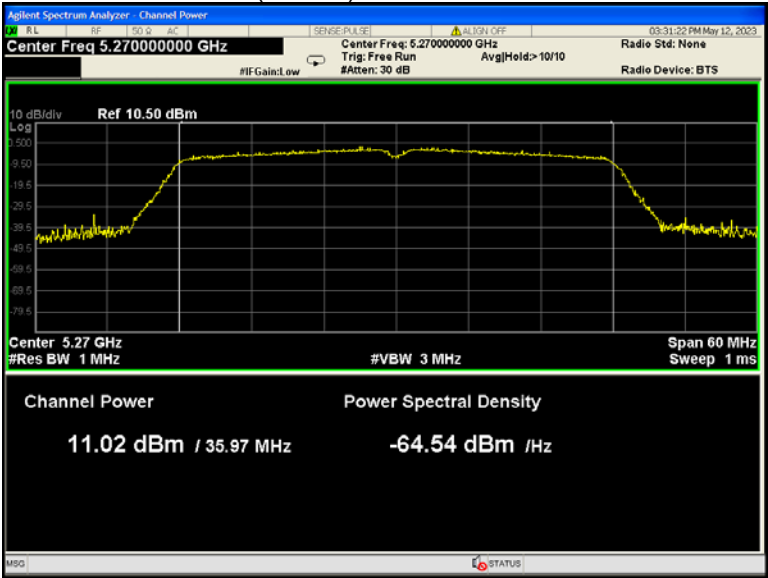
802.11ac(VHT20) U-NII-2A Middle channel



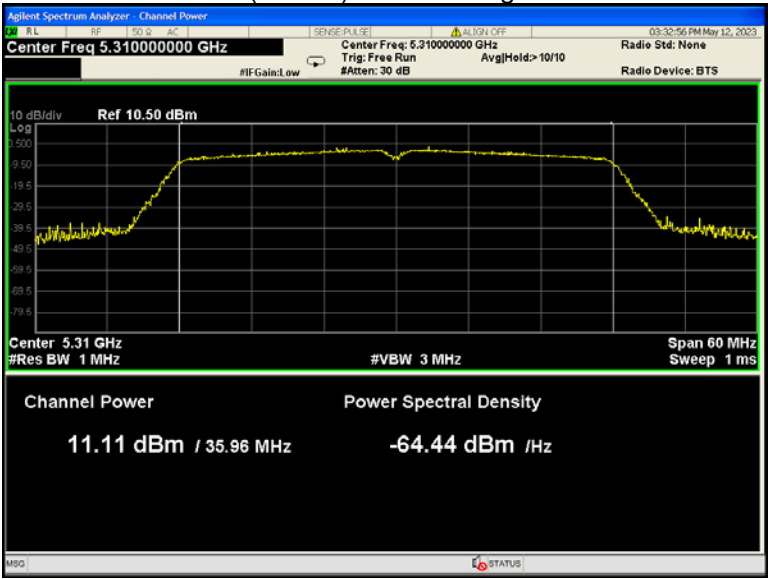
802.11ac(VHT20) U-NII-2A High channel



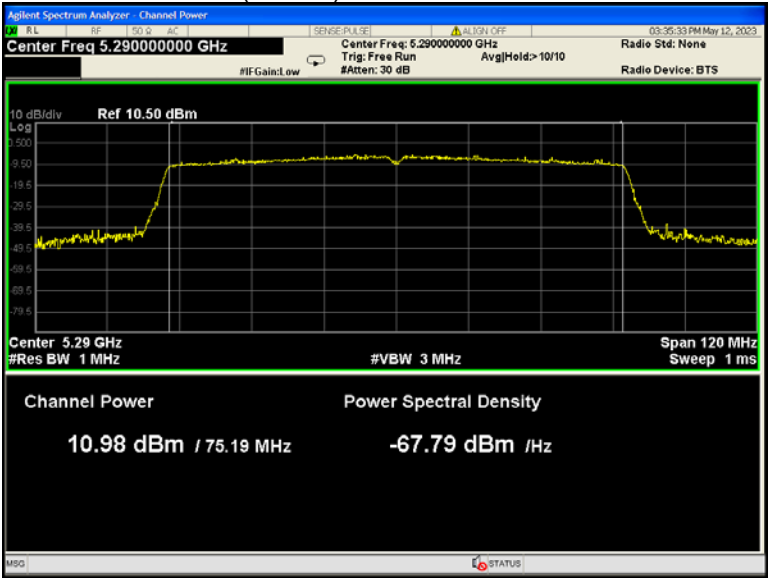
802.11ac(VHT40) U-NII-2A Low channel



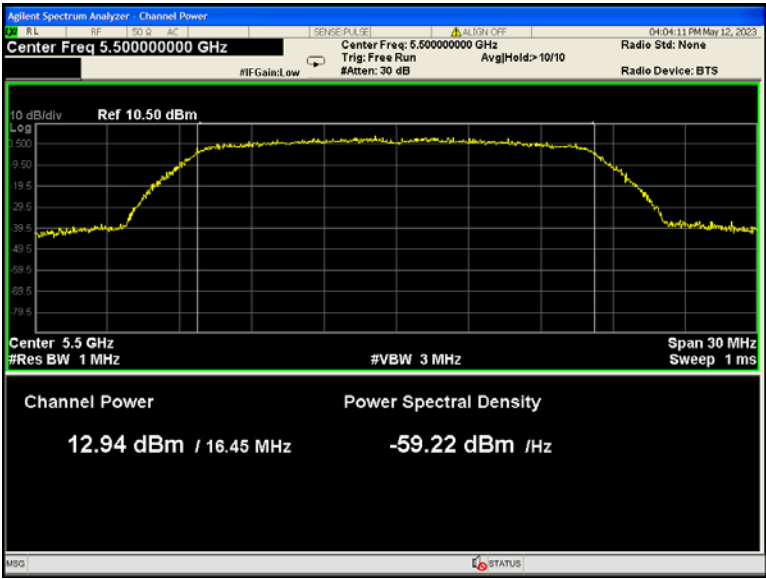
802.11ac(VHT40) U-NII-2A High channel



802.11ac(VHT80) U-NII-2A Middle channel



802.11a U-NII-2C Low channel



802.11a U-NII-2C Middle channel

