

## Appendix A

### RF Test Data for 5.2G WLAN (Conducted Measurement)

Product Name: Wireless Extender

Trade Mark: N/A

Test Model: LKV388mini

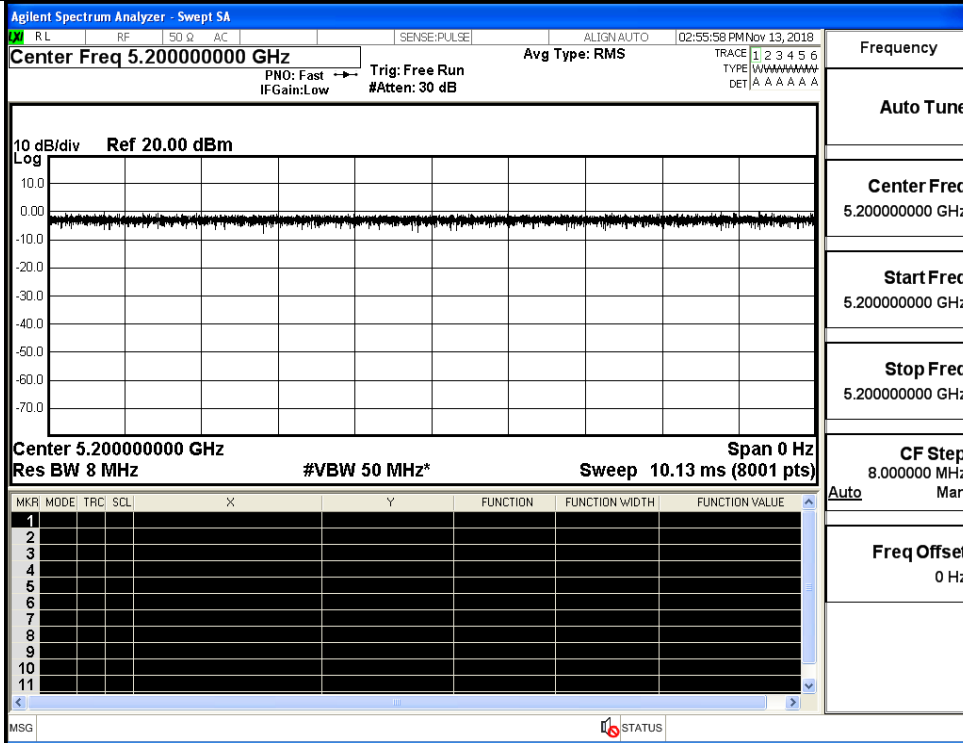
#### Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

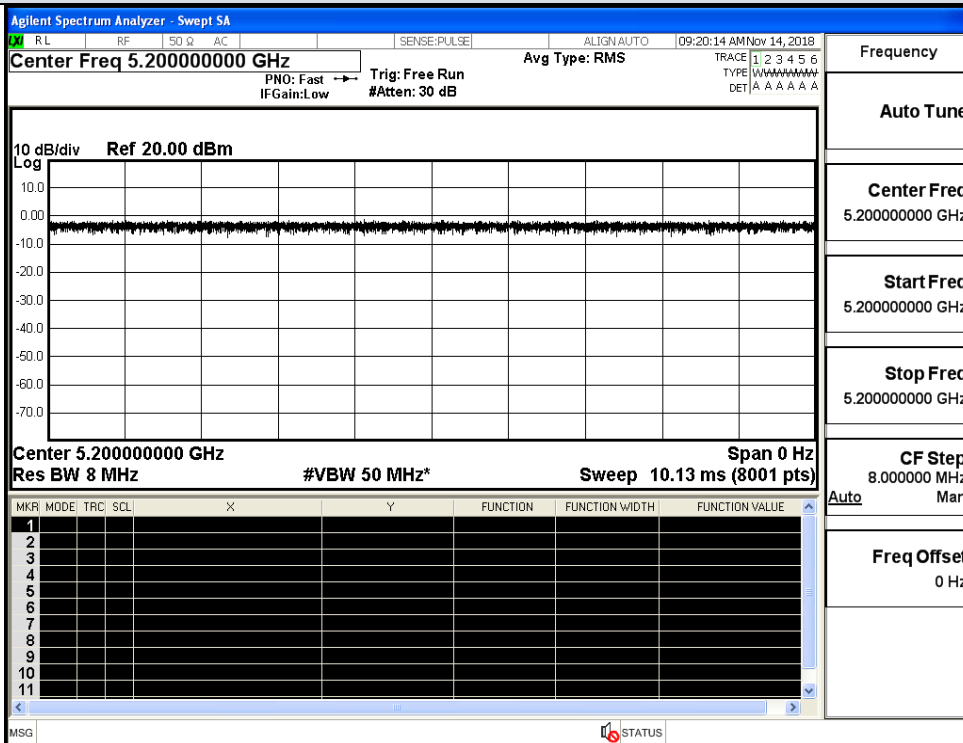
#### A.1 Duty Cycle

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5200	100	0.00	0.01
11N20 SISO	5200	100	0.00	0.01
11N40 SISO	5190	100	0.00	0.01
11AC20 SISO	5200	100	0.00	0.01
11AC40 SISO	5190	100	0.00	0.01
11AC80 SISO	5210	100	0.00	0.01

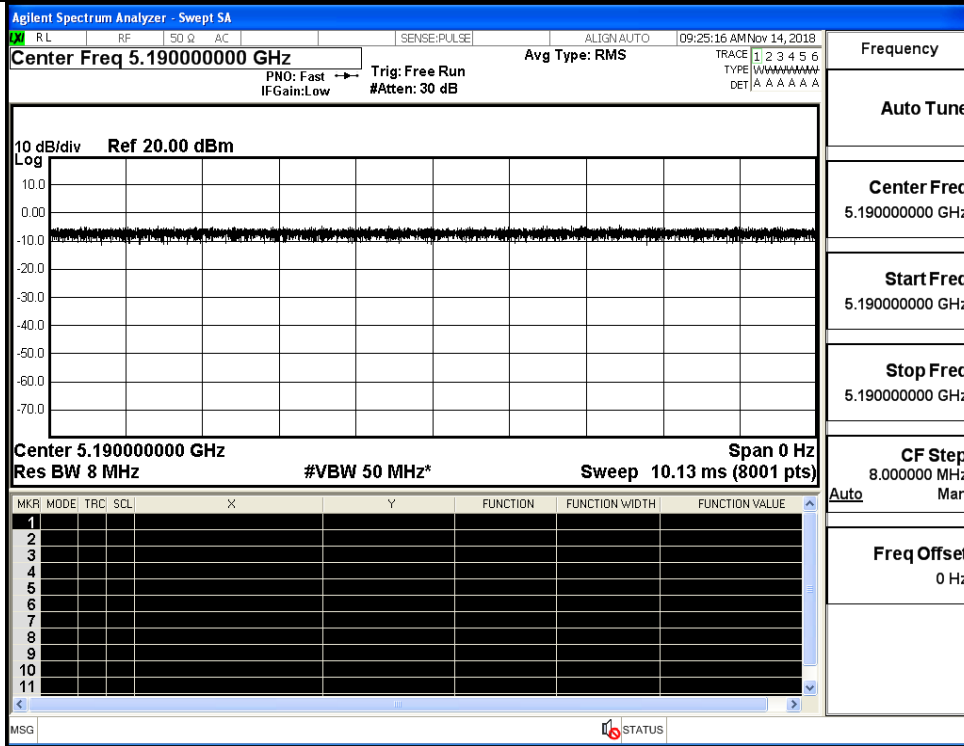
On Time and Duty Cycle



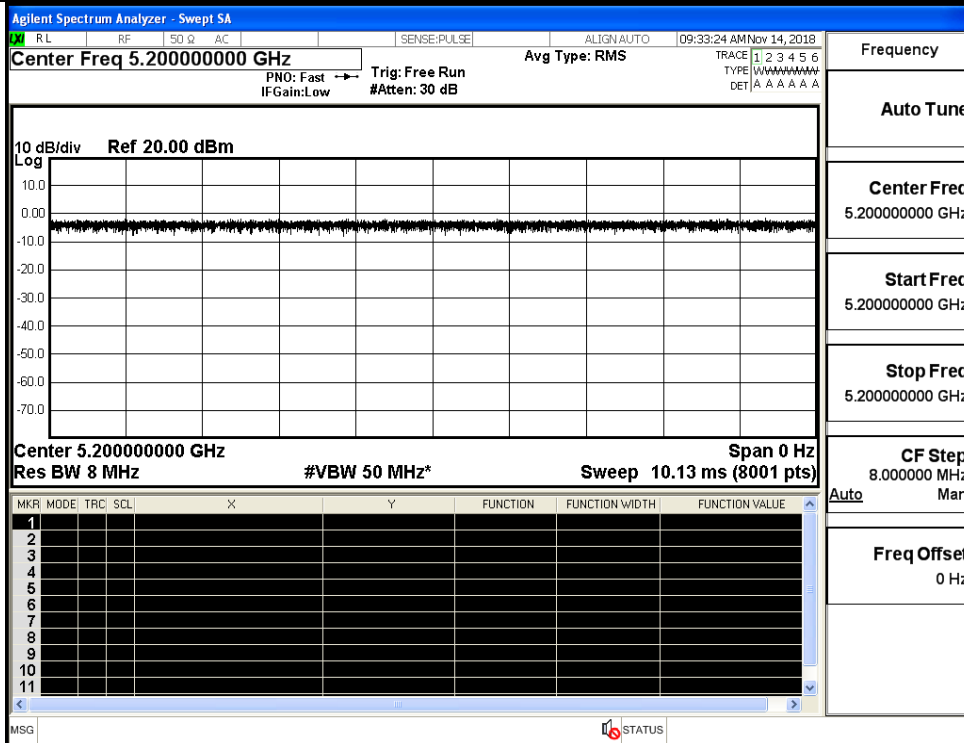
IEEE 802.11a



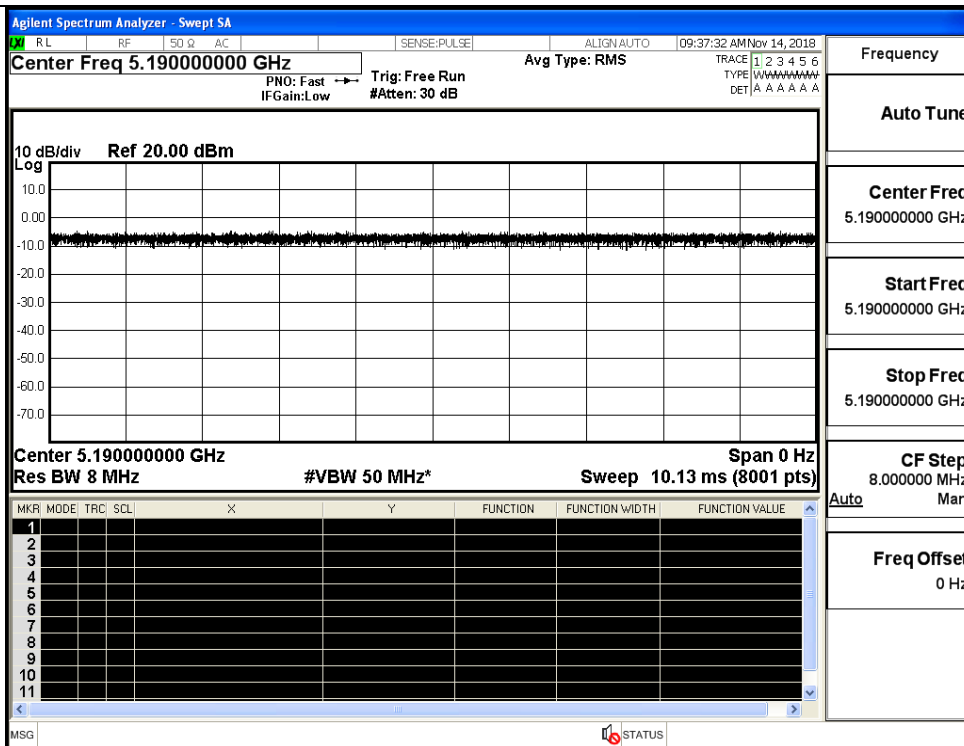
IEEE 802.11n HT20



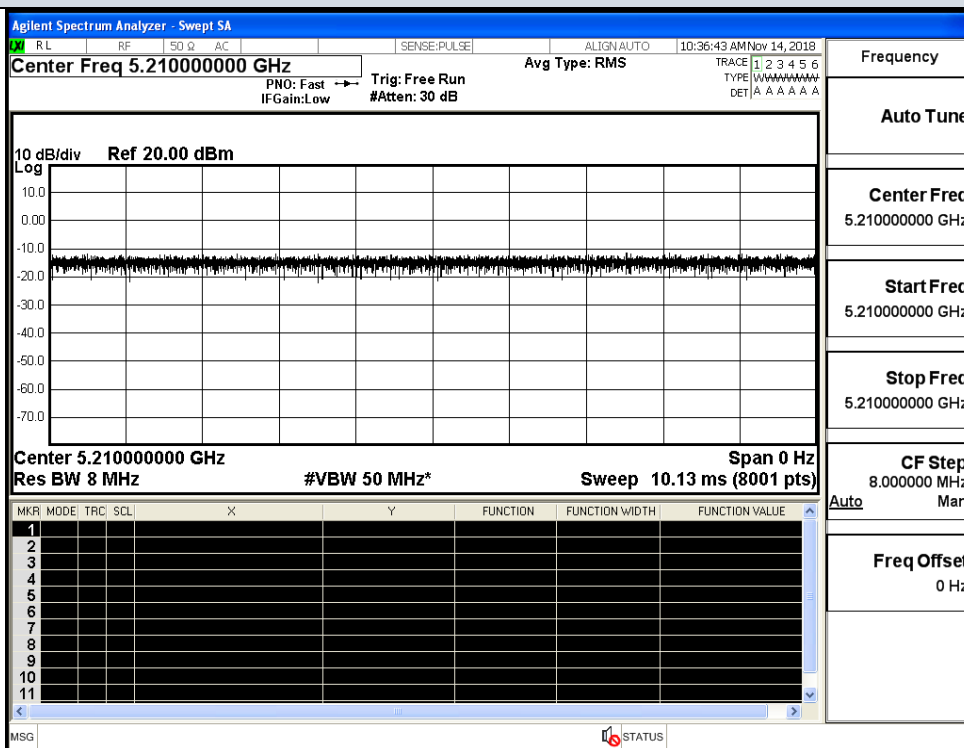
IEEE 802.11n HT40



IEEE 802.11ac VHT20



IEEE 802.11 ac VHT40



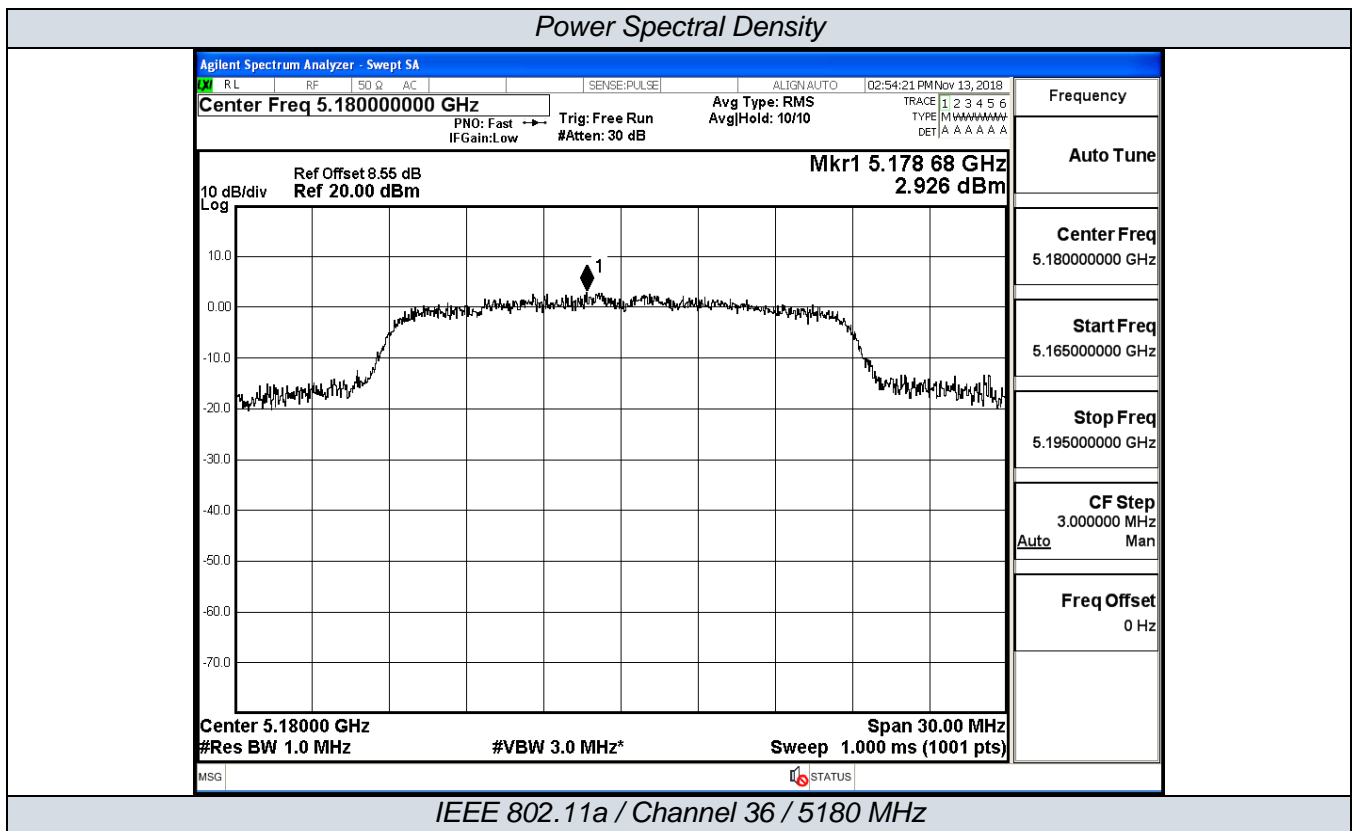
IEEE 802.11 ac VHT80

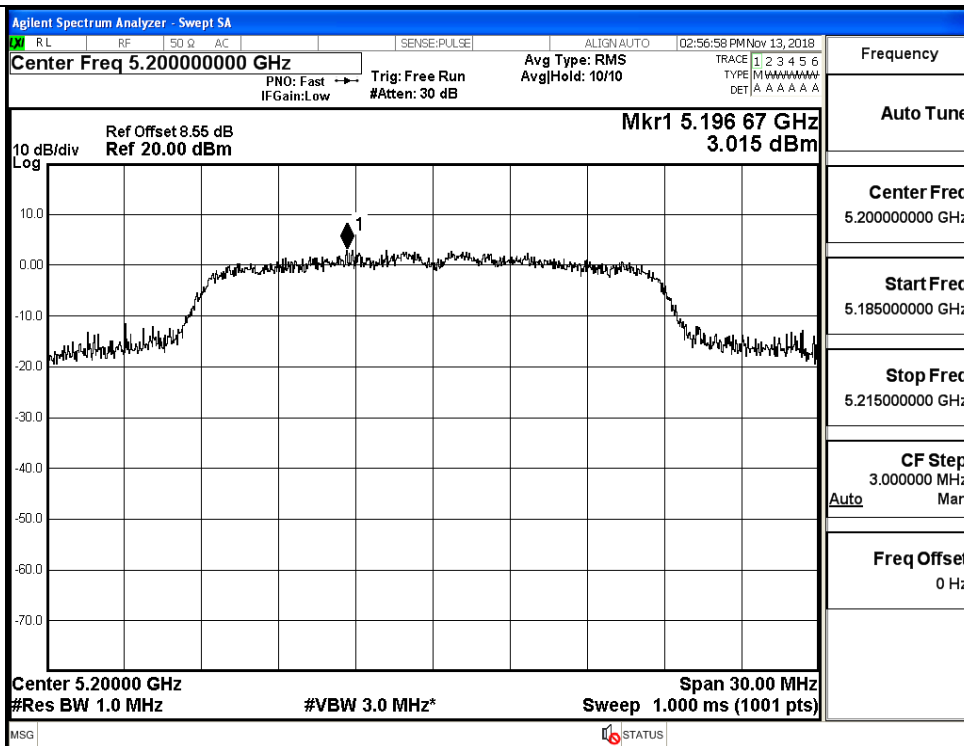
**A.2 Maximum Conduct Output Power**

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor (dB)	Report Conducted Power (dBm)	Limit (dBm)
11A	36	5180	12.50	0	12.50	24
	40	5200	12.99	0	12.99	
	48	5240	12.67	0	12.67	
11N20 SISO	36	5180	12.44	0	12.44	24
	40	5200	12.04	0	12.04	
	48	5240	11.65	0	11.65	
11N40 SISO	38	5190	12.35	0	12.35	24
	46	5230	12.09	0	12.09	
11AC20 SISO	36	5180	11.88	0	11.88	24
	40	5200	11.67	0	11.67	
	48	5240	11.41	0	11.41	
11AC40 SISO	38	5190	12.21	0	12.21	24
	46	5230	12.01	0	12.01	
11AC80 SISO	42	5210	9.11	0	9.11	24

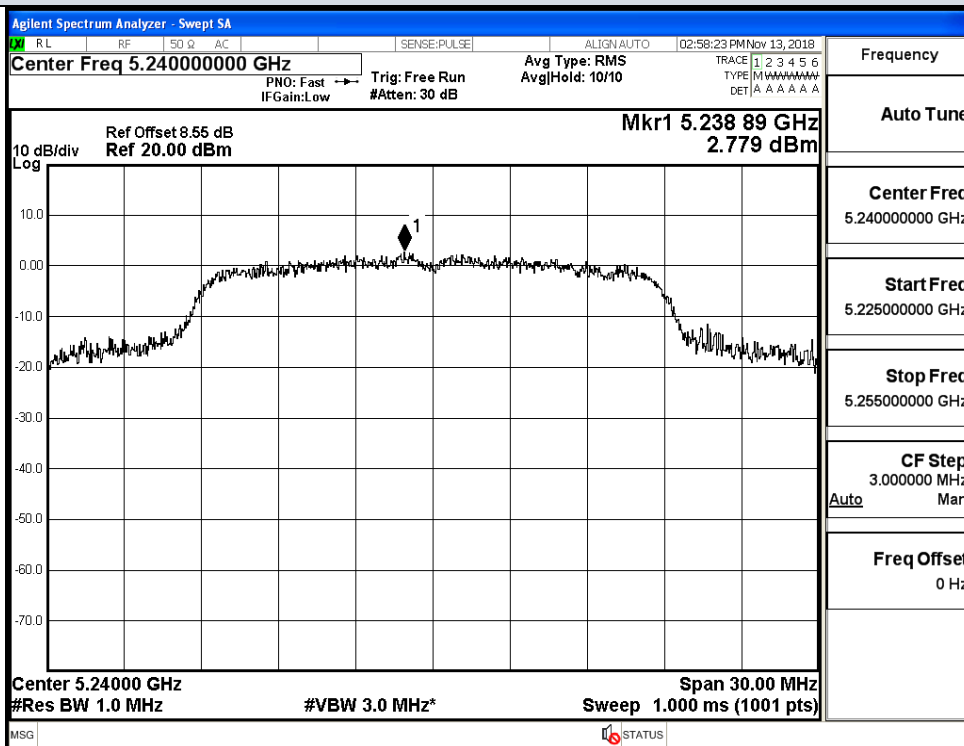
### A.3 Power Spectral Density

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)
11A	36	5180	2.926	0	2.926	11
	40	5200	3.015	0	3.015	
	48	5240	2.779	0	2.779	
11N20 SISO	36	5180	2.641	0	2.641	11
	40	5200	2.651	0	2.651	
	48	5240	1.930	0	1.930	
11N40 SISO	38	5190	-0.506	0	-0.506	11
	46	5230	-0.785	0	-0.785	
11AC20 SISO	36	5180	1.822	0	1.822	11
	40	5200	2.107	0	2.107	
	48	5240	1.716	0	1.716	
11AC40 SISO	38	5190	0.170	0	0.170	11
	46	5230	-0.419	0	-0.419	
11AC80 SISO	42	5210	-7.477	0	-7.477	11



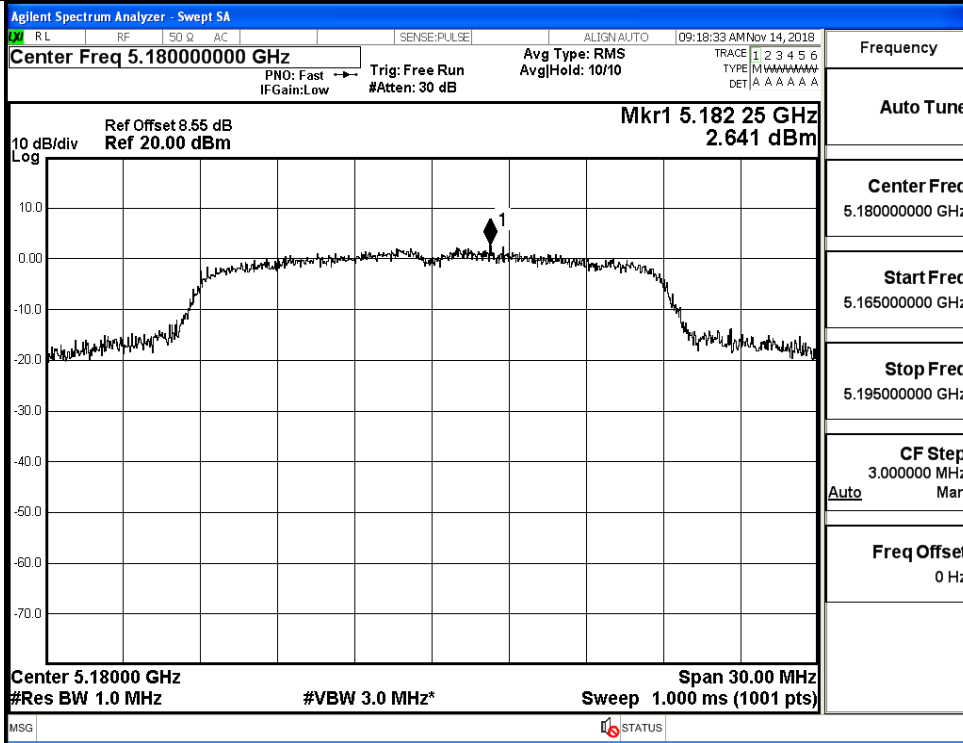


IEEE 802.11a / Channel 40 / 5200 MHz

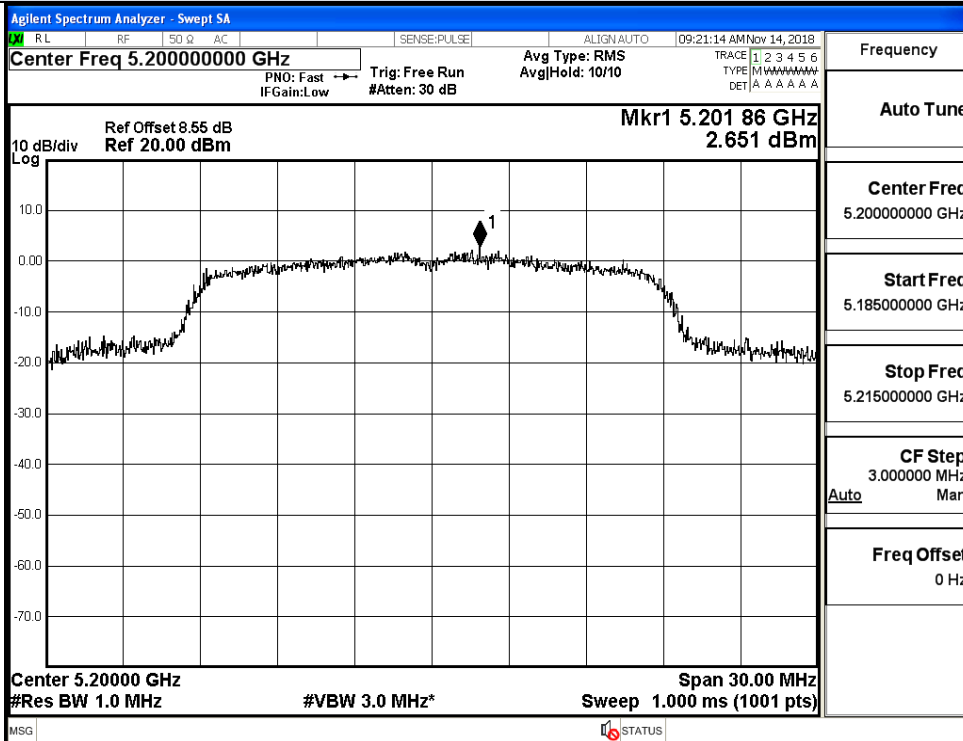


IEEE 802.11a / Channel 48 / 5240 MHz

Power Spectral Density

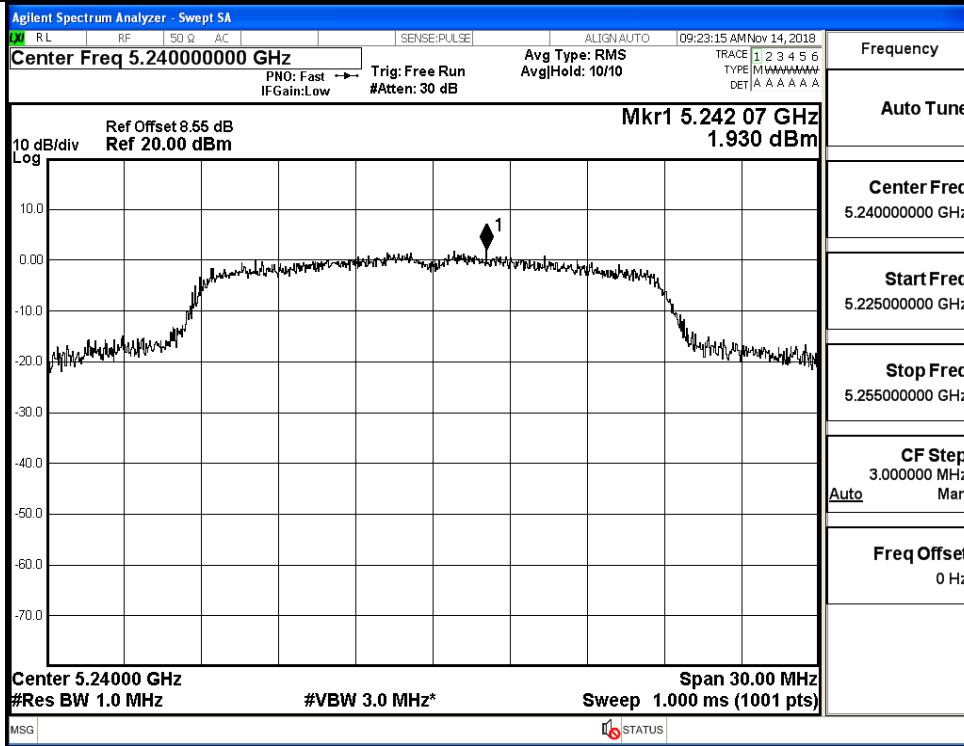


IEEE 802.11n HT20 / Channel 36 / 5180 MHz



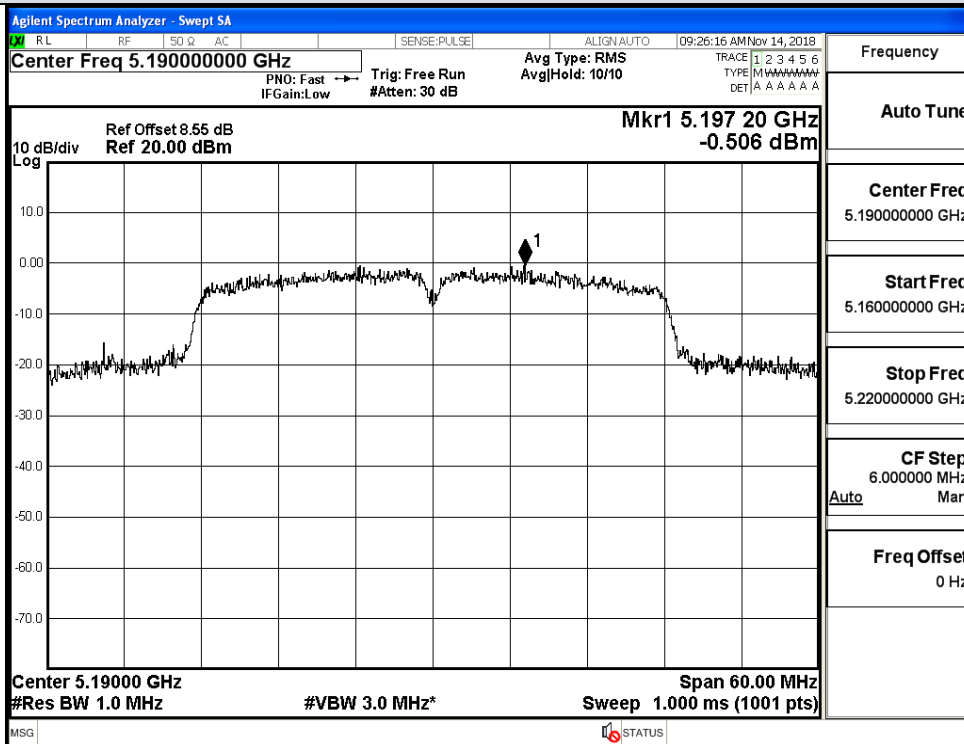
IEEE 802.11n HT20 / Channel 40 / 5200 MHz



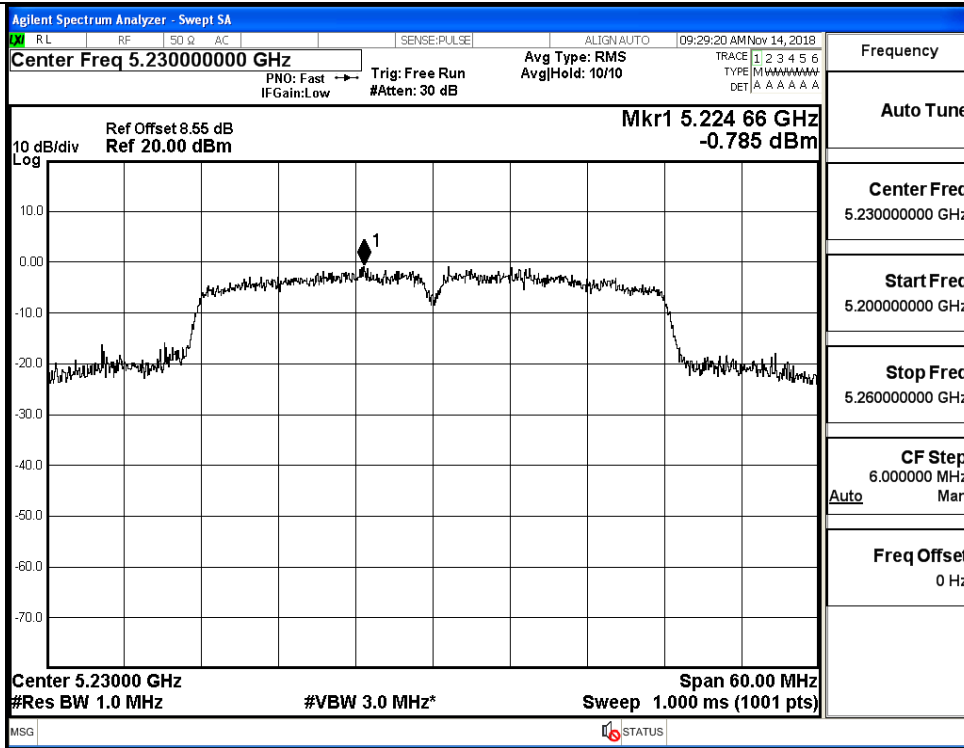


IEEE 802.11n HT20 / Channel 48 / 5240 MHz

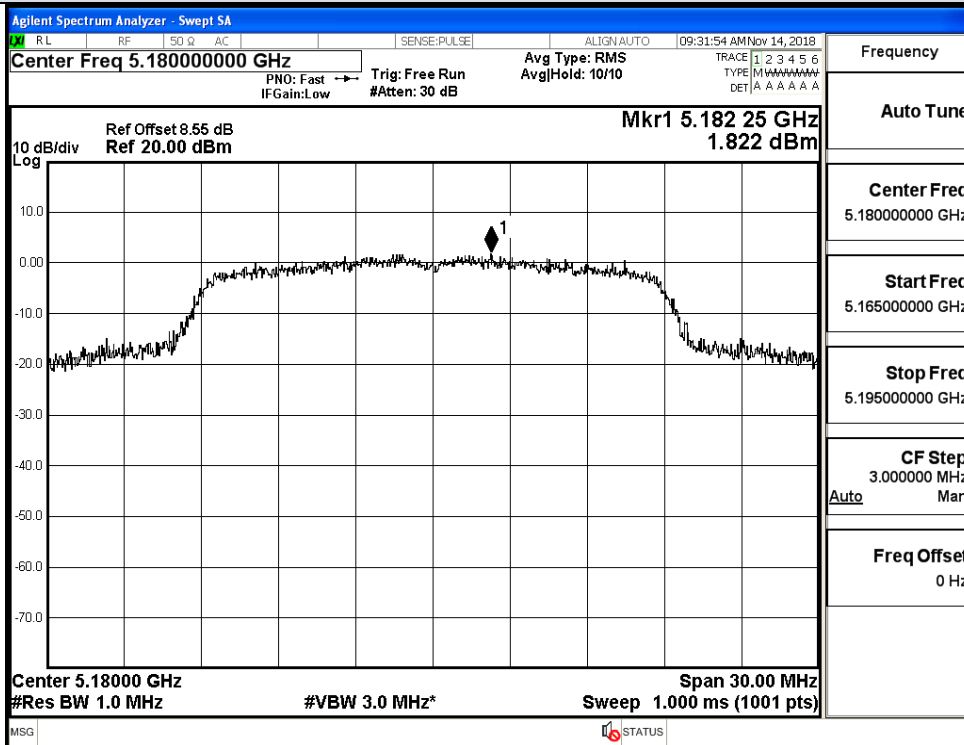
Power Spectral Density



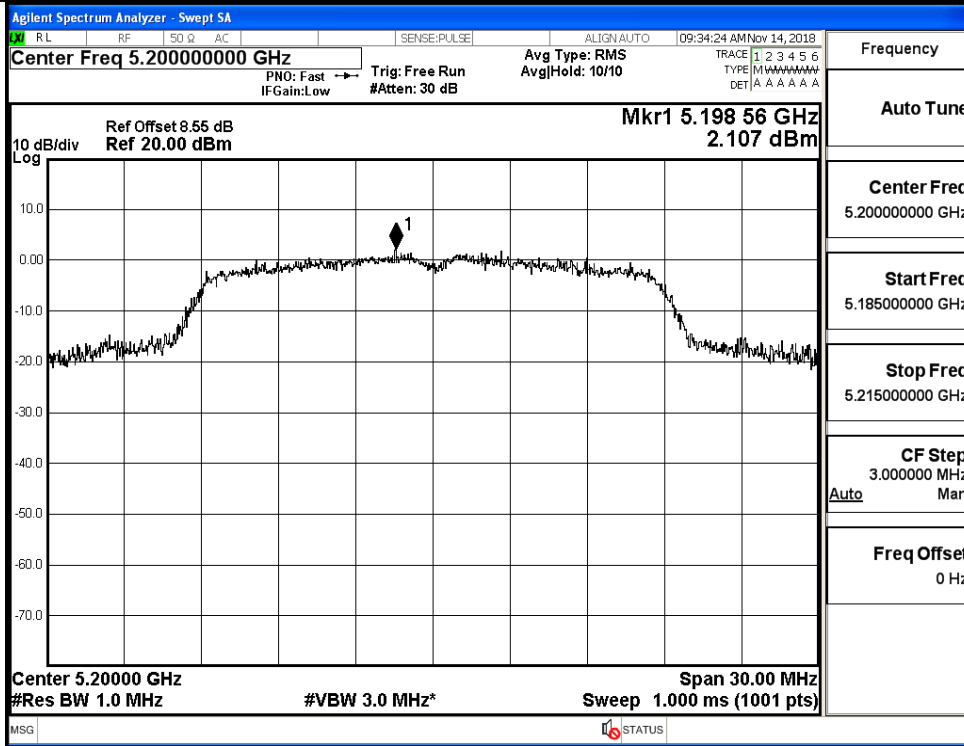
IEEE 802.11n HT40 / Channel 38 / 5190 MHz



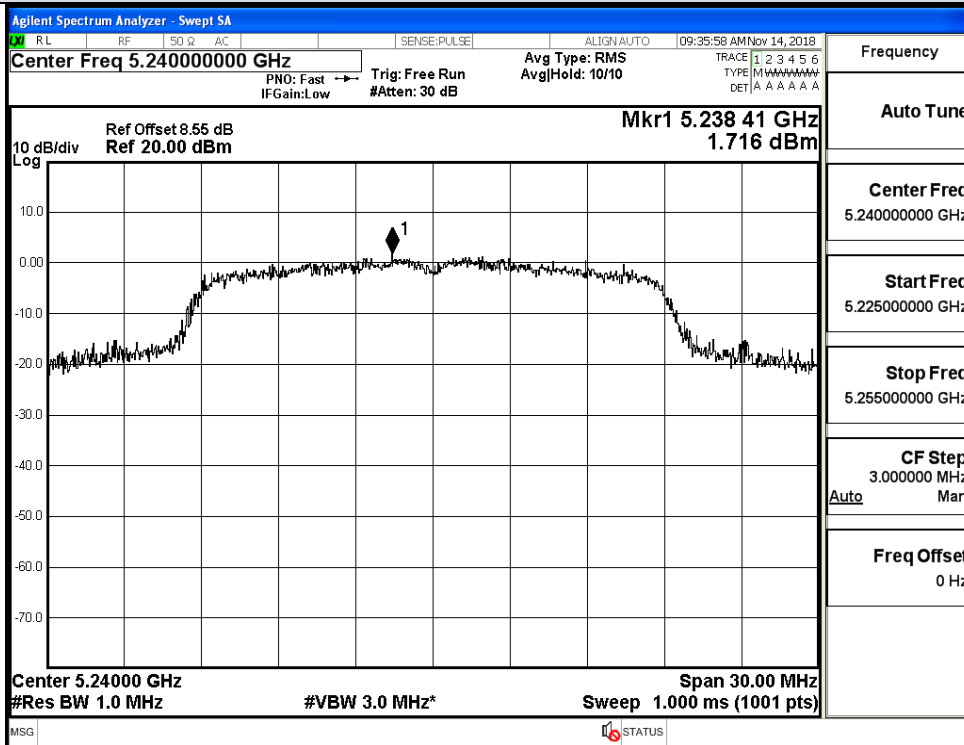
IEEE 802.11n HT40 / Channel 46 / 5230 MHz



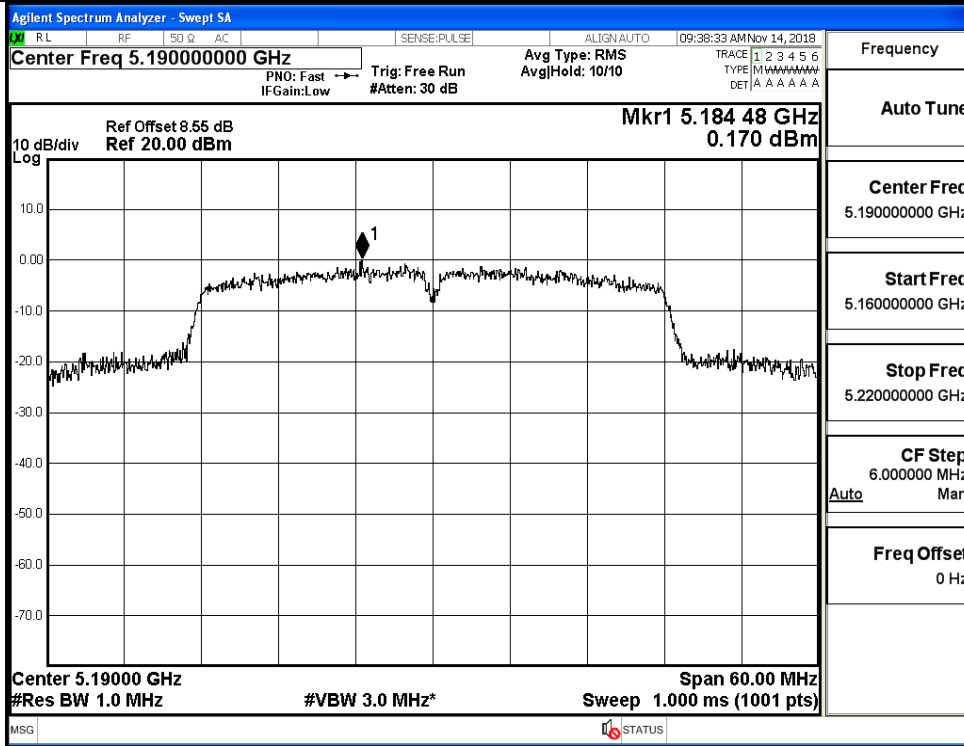
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz



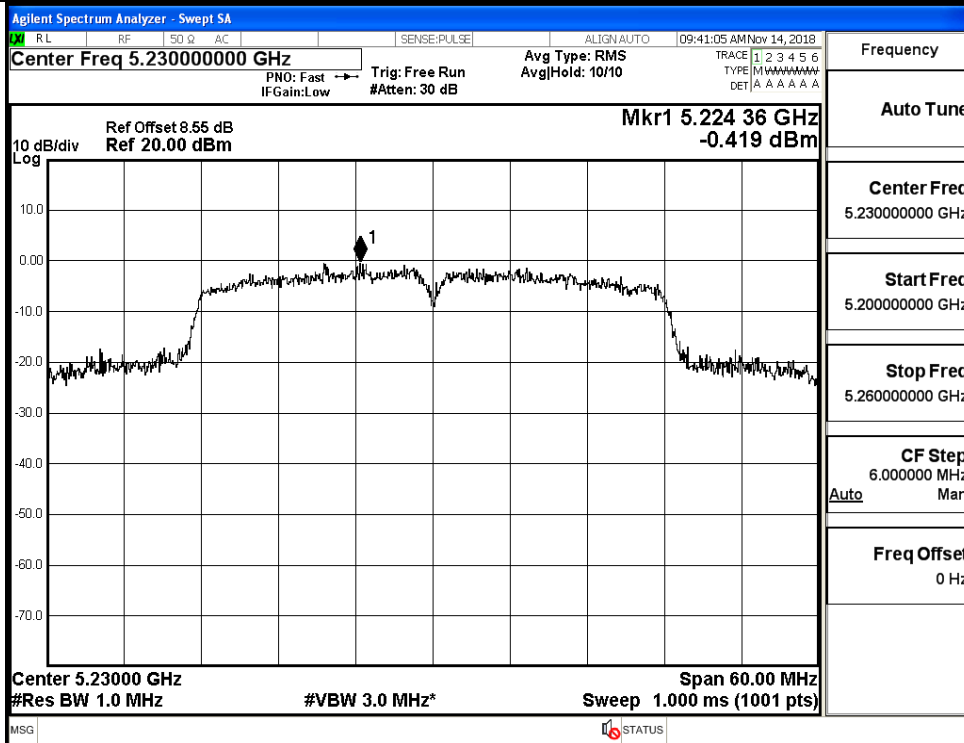
IEEE 802.11ac VHT20 / Channel 40 / 5200 MHz



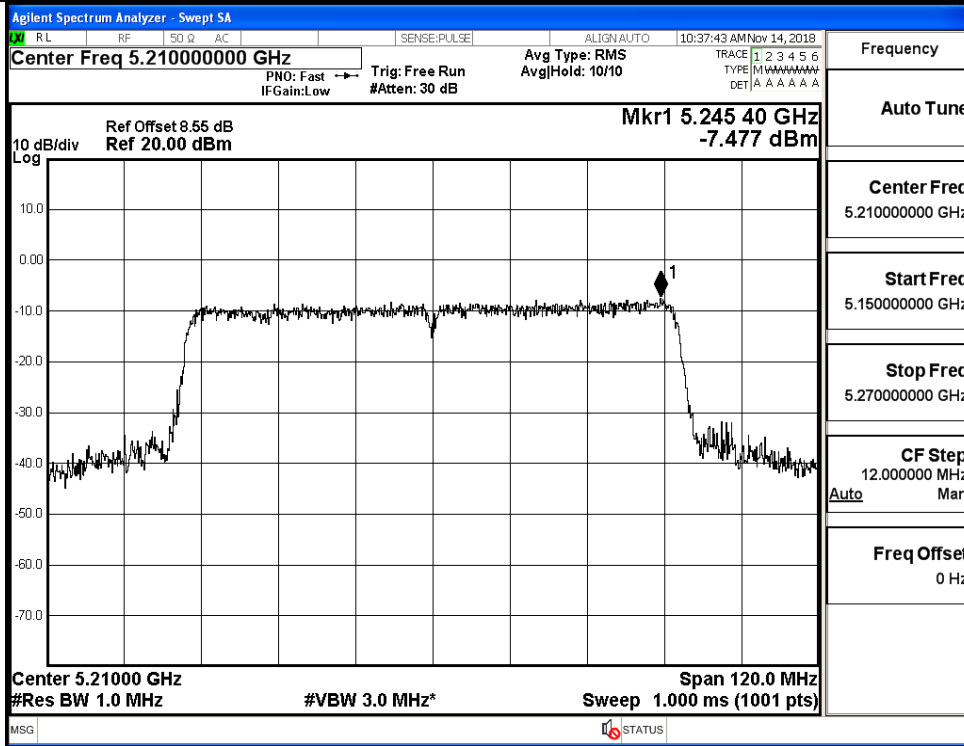
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz



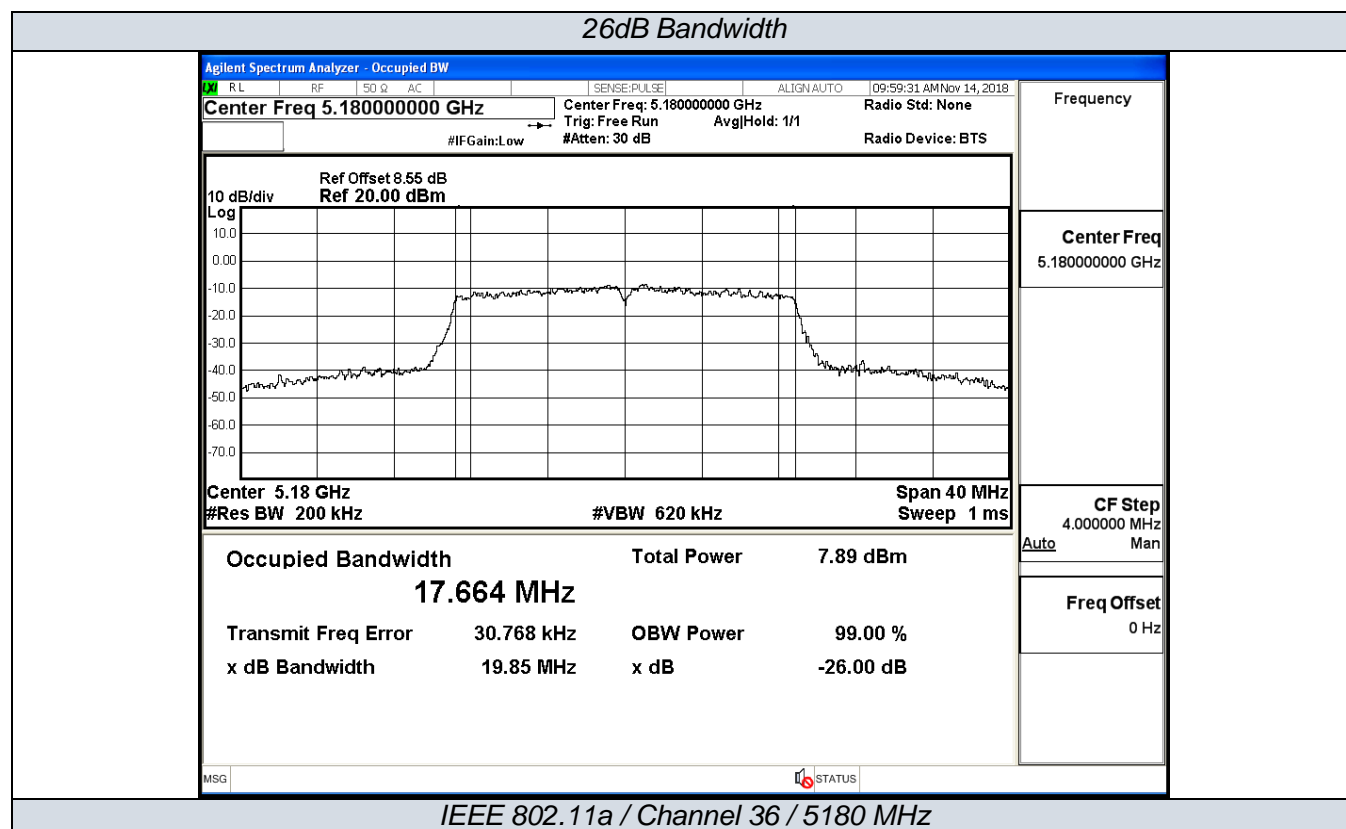
IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz

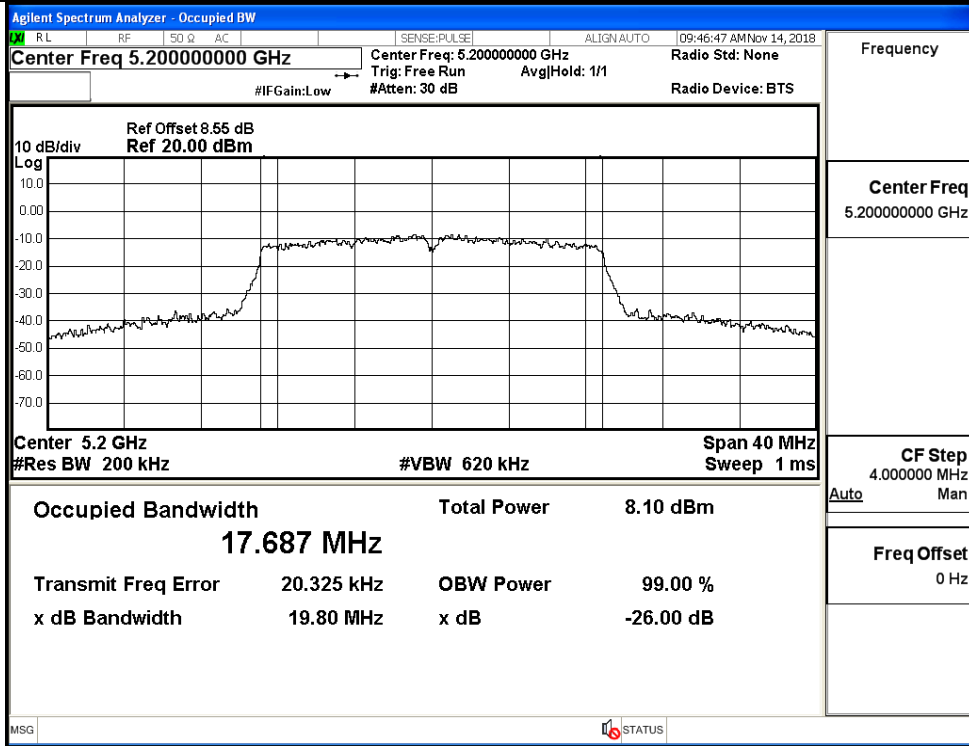


IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz

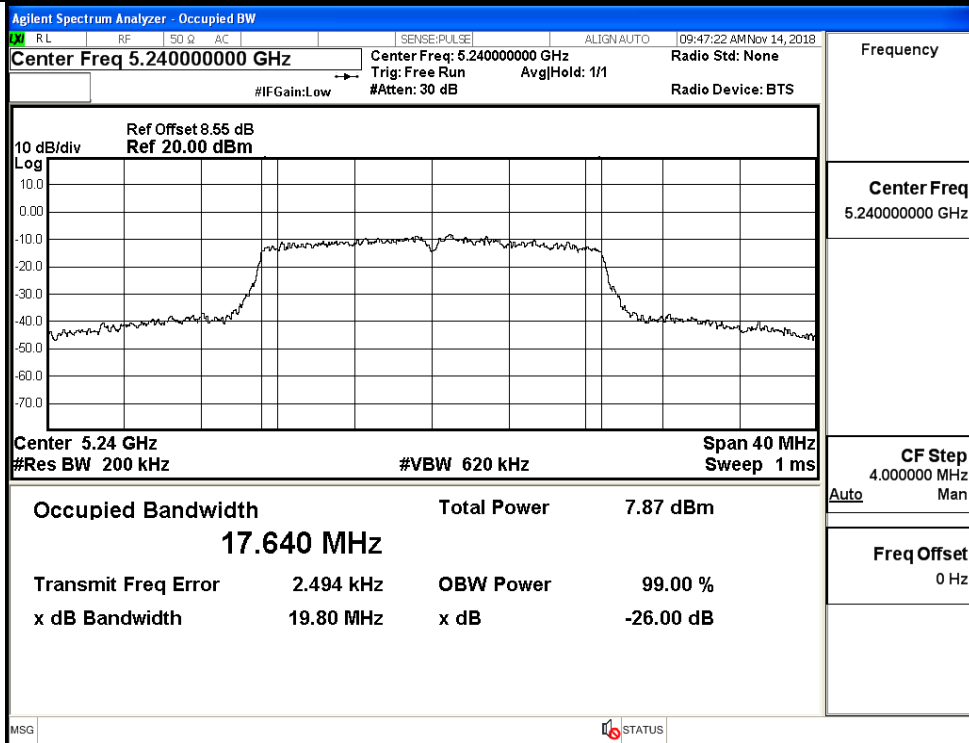
### A.4 Emission Bandwidth

Test Mode	Channel	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)
11A	36	5180	17.664	19.820	No Limit
	40	5200	17.687	19.800	
	48	5240	17.640	19.800	
11N20 SISO	36	5180	17.640	19.620	No Limit
	40	5200	17.677	19.770	
	48	5240	17.658	19.840	
11N40 SISO	38	5190	35.963	39.450	No Limit
	46	5230	36.034	39.410	
11AC20 SISO	36	5180	17.618	19.940	No Limit
	40	5200	17.667	19.700	
	48	5240	17.672	19.690	
11AC40 SISO	38	5190	36.052	39.410	No Limit
	46	5230	35.915	39.540	
11AC80 SISO	42	5210	75.688	91.110	No Limit



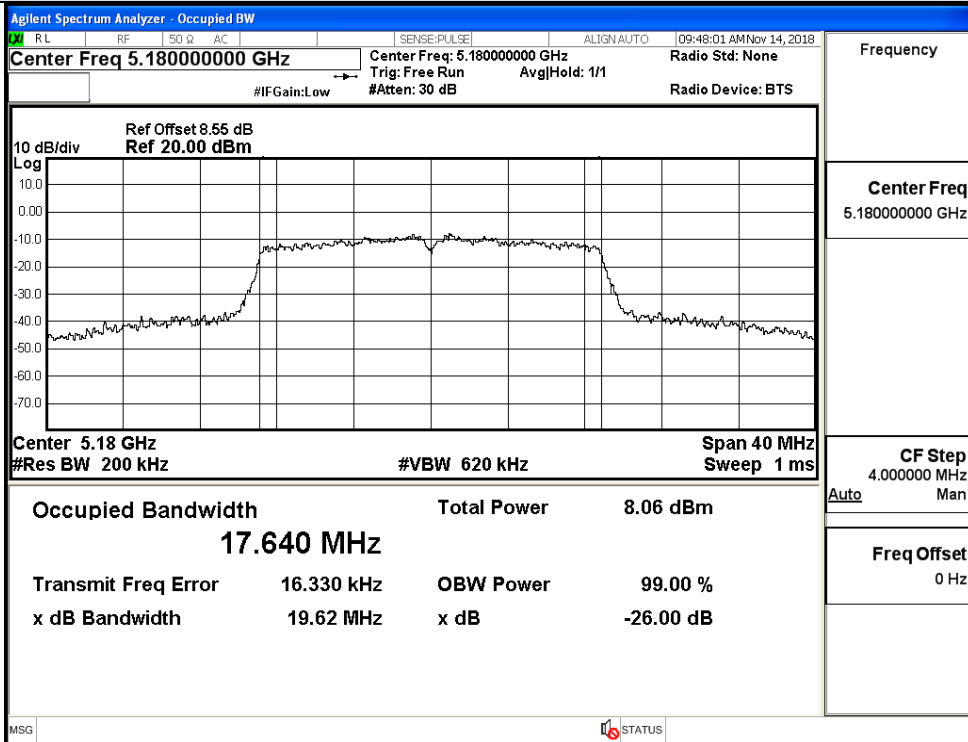


IEEE 802.11a / Channel 40 / 5200 MHz

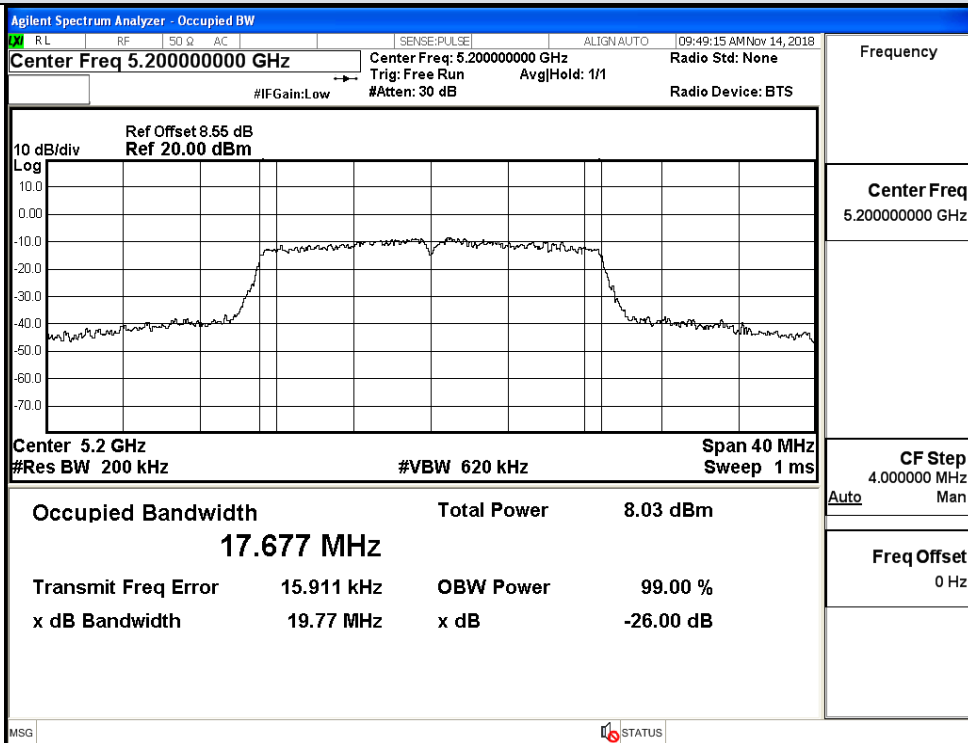


IEEE 802.11a / Channel 48 / 5240 MHz

26dB Bandwidth

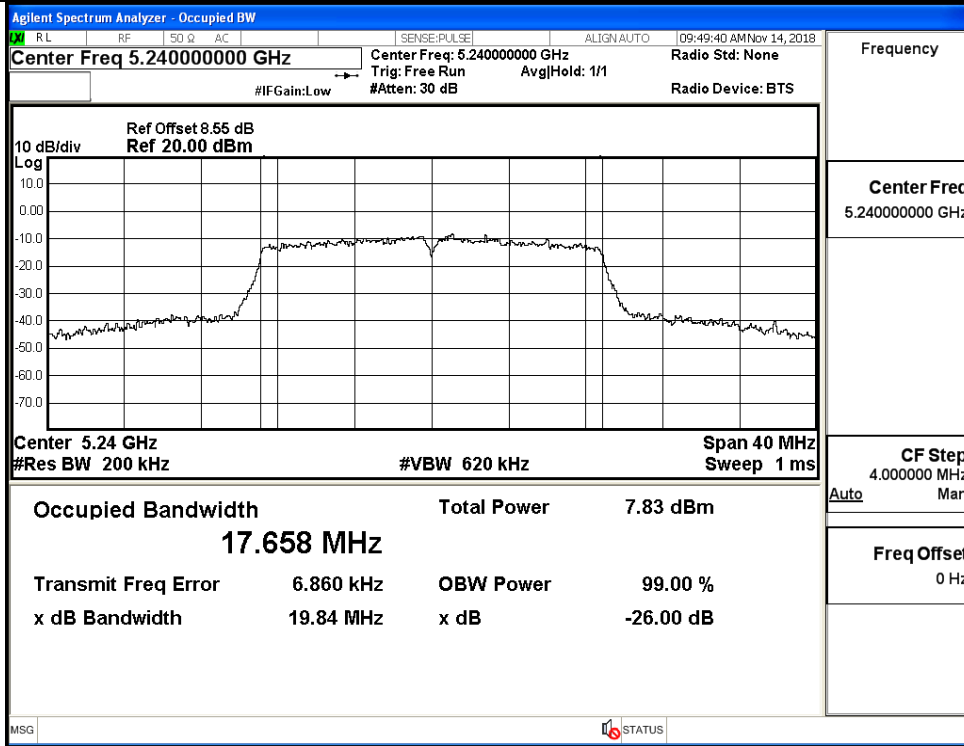


IEEE 802.11n HT20 / Channel 36 / 5180 MHz



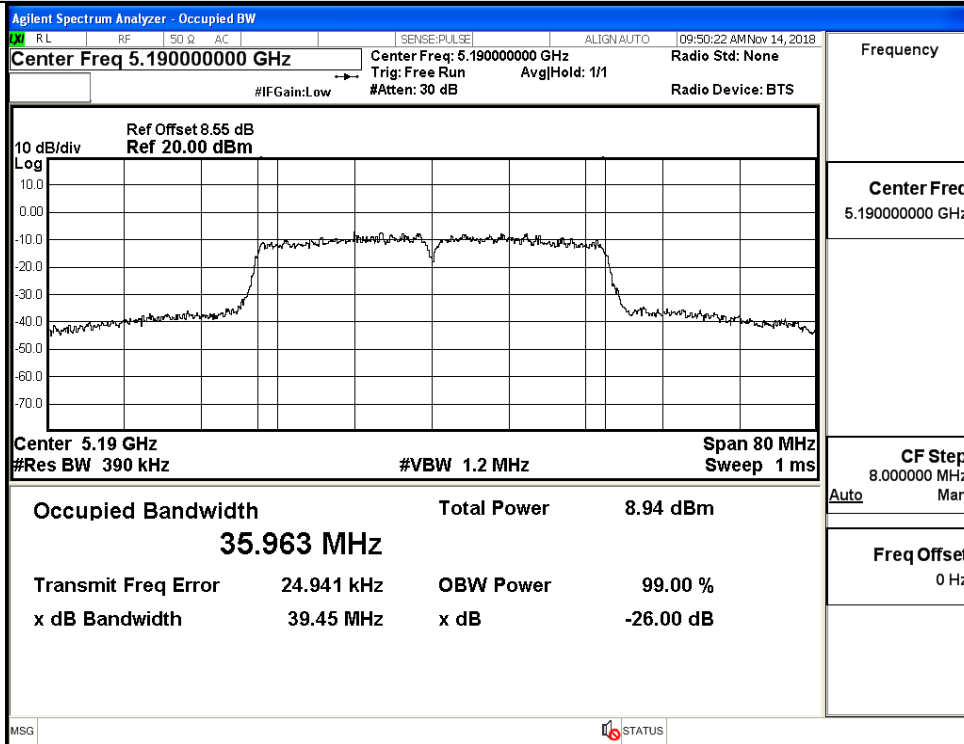
IEEE 802.11n HT20 / Channel 40 / 5200 MHz



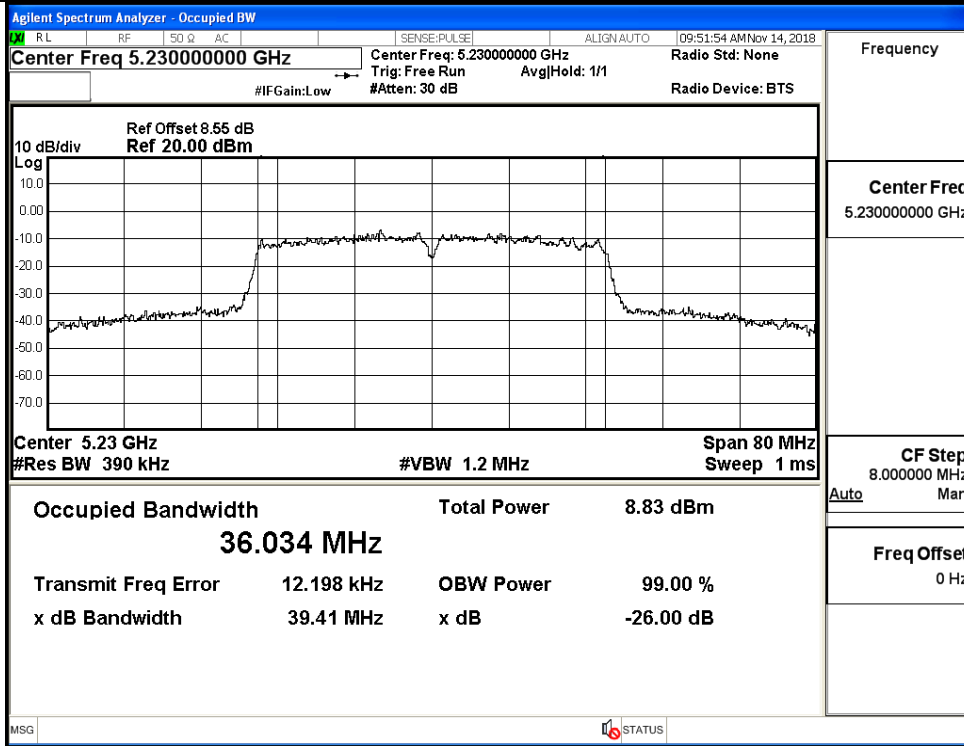


IEEE 802.11n HT20 / Channel 48 / 5240 MHz

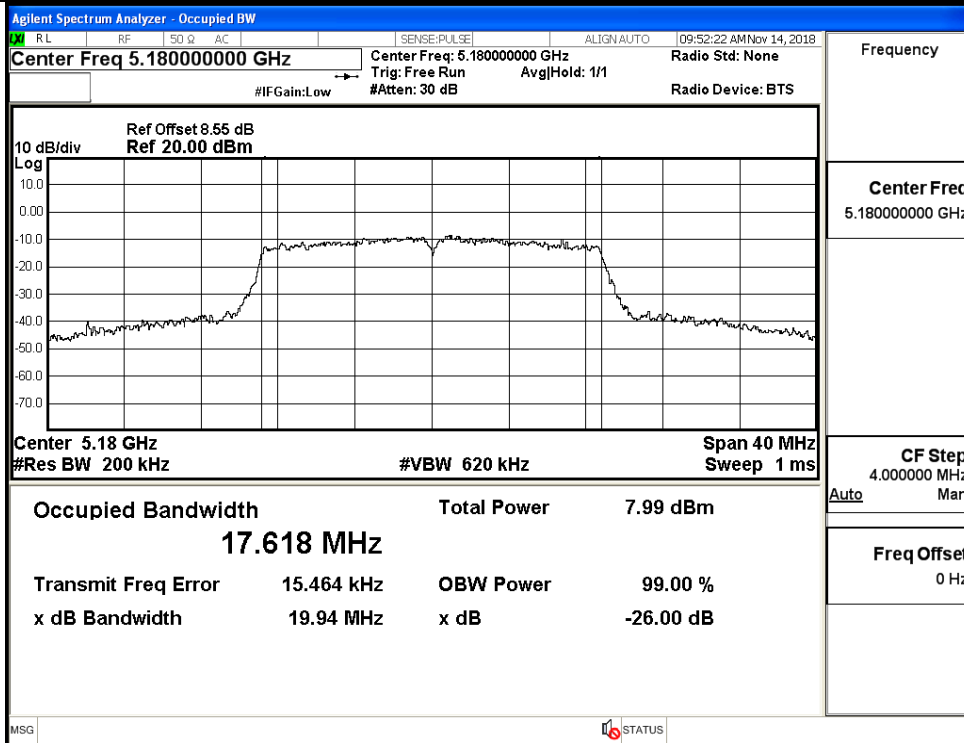
26dB Bandwidth



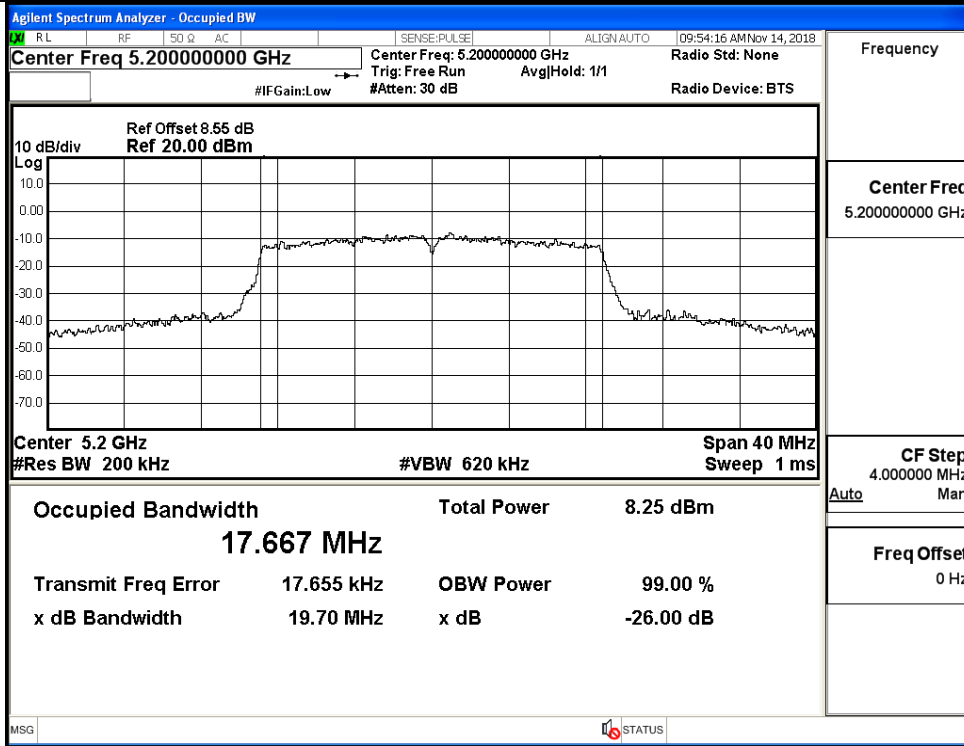
IEEE 802.11n HT40 / Channel 38 / 5190 MHz



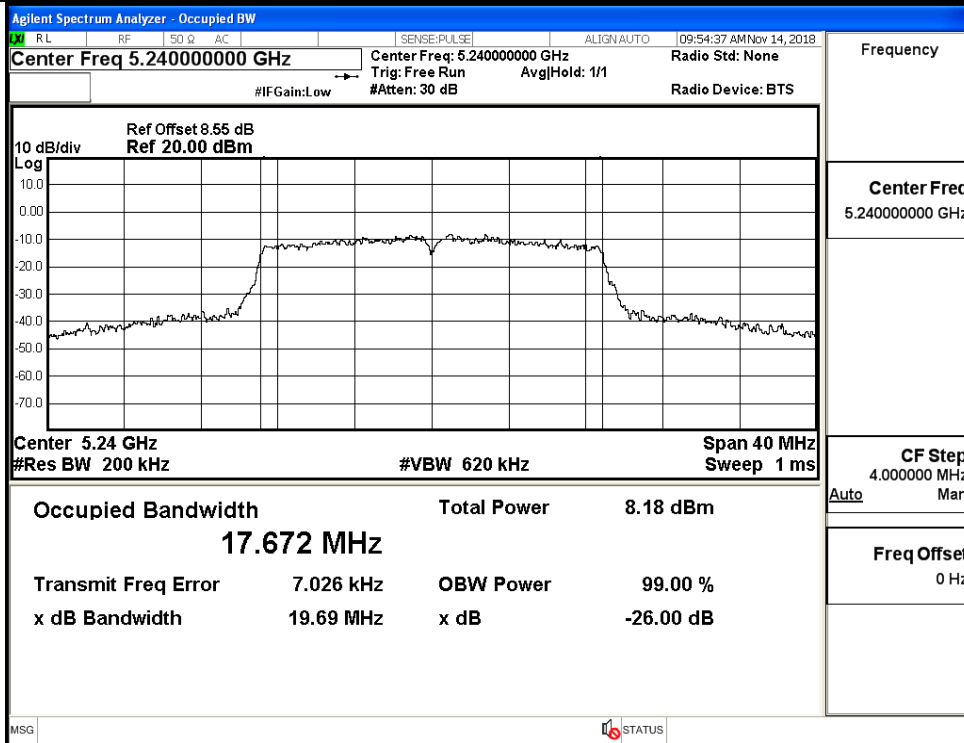
IEEE 802.11n HT40 / Channel 46 / 5230 MHz



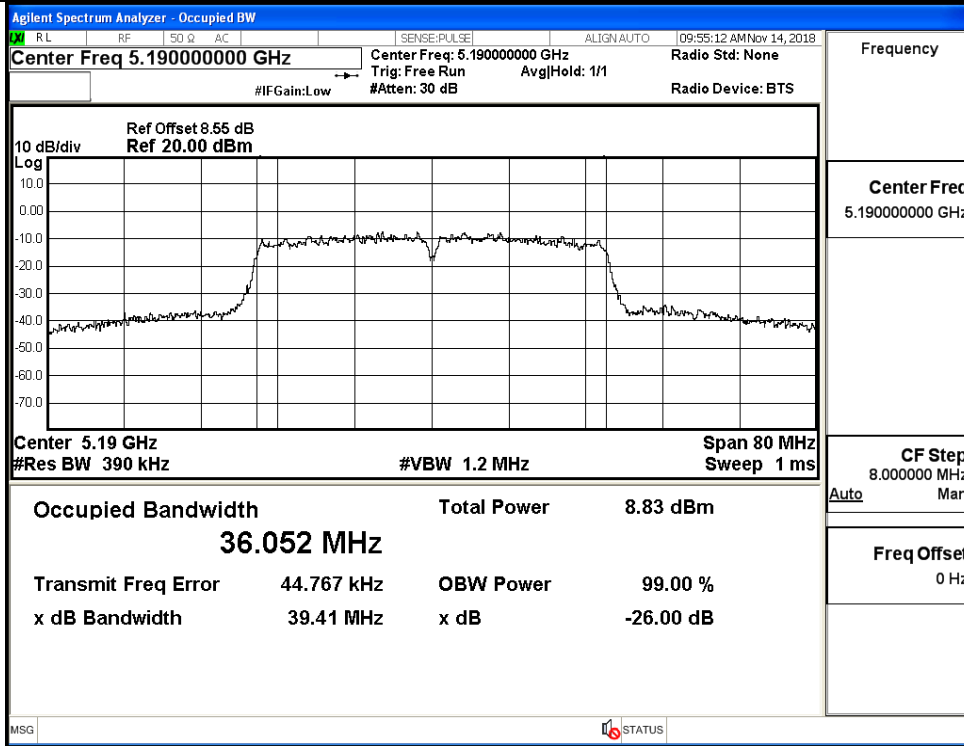
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz



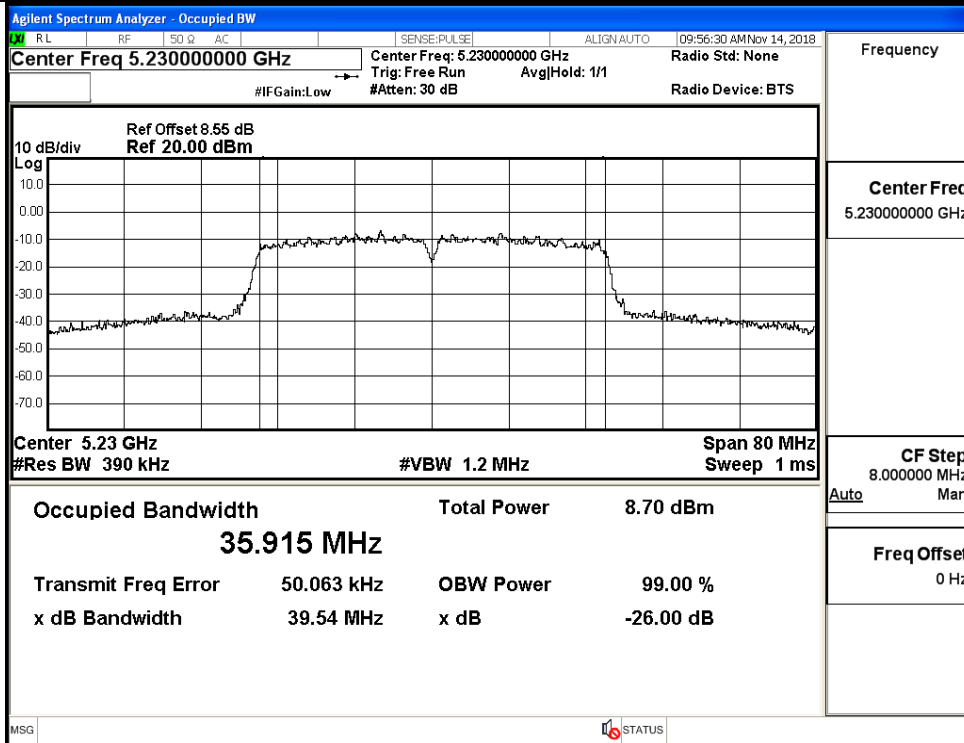
IEEE 802.11ac VHT20 / Channel 40 / 5200 MHz



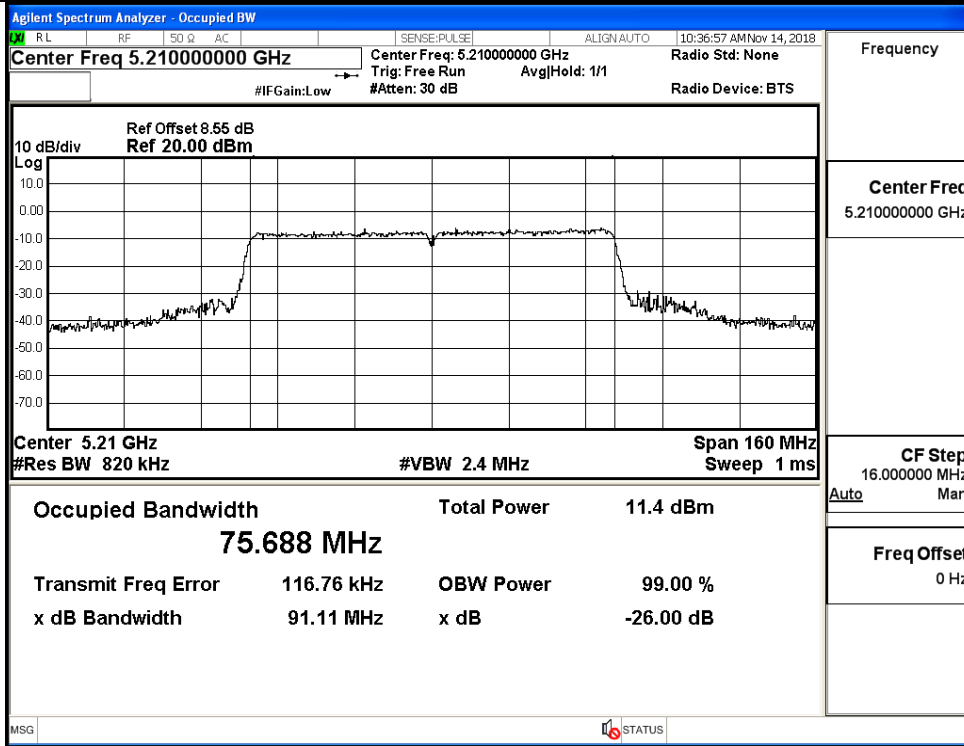
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz



IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz



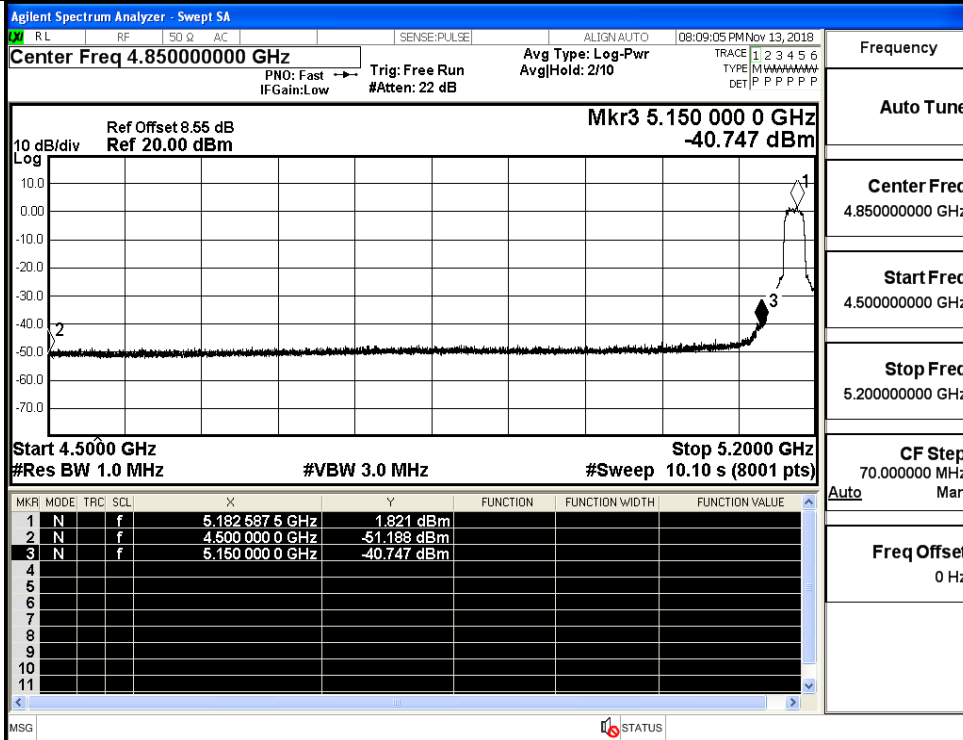
IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz

## A.5 Undesirable Emissions Measurement

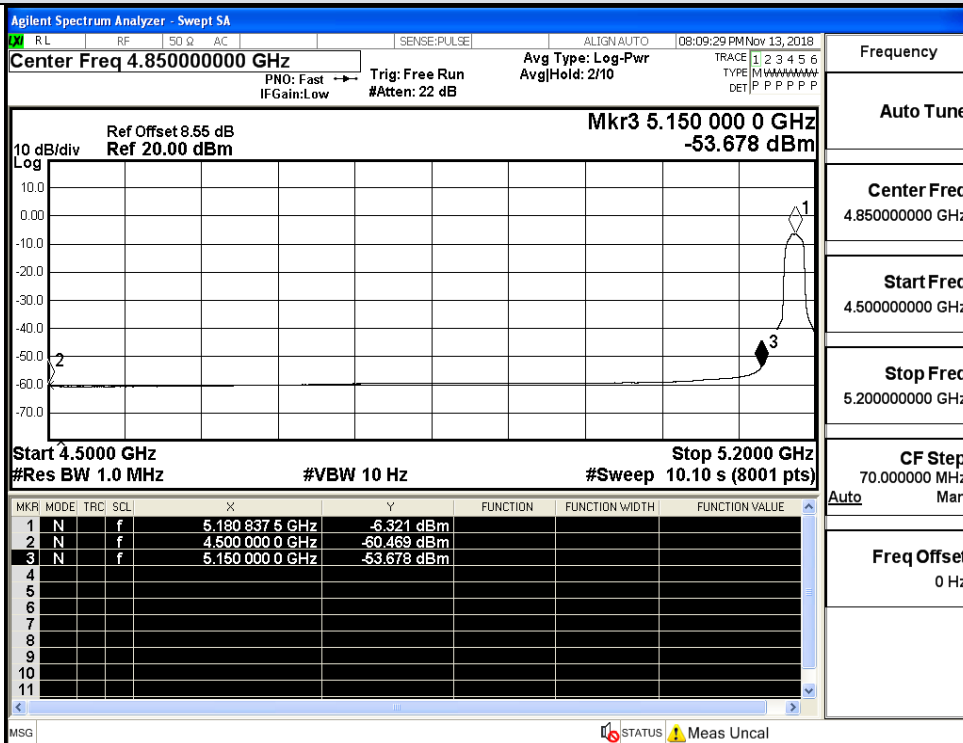
Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Ground Reflection Factor (dB)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBuV/m)
11A	36	4500.0	-51.188	2.00	0	46.040	Peak	68.20
		4500.0	-60.469	2.00	0	36.759	Average	54.00
		5150.0	-40.747	2.00	0	56.481	Peak	68.20
		5150.0	-53.678	2.00	0	43.550	Average	54.00
	48	5350.0	-49.219	2.00	0	48.009	Peak	68.20
		5350.0	-60.261	2.00	0	36.967	Average	54.00
		5460.0	-50.016	2.00	0	47.212	Peak	68.20
		5460.0	-60.740	2.00	0	36.488	Average	54.00
11N20 SISO	36	4500.0	-49.926	2.00	0	47.302	Peak	68.20
		4500.0	-60.573	2.00	0	36.655	Average	54.00
		5150.0	-44.158	2.00	0	53.070	Peak	68.20
		5150.0	-55.979	2.00	0	41.249	Average	54.00
	48	5350.0	-49.825	2.00	0	47.403	Peak	68.20
		5350.0	-60.232	2.00	0	36.996	Average	54.00
		5460.0	-50.170	2.00	0	47.058	Peak	68.20
		5460.0	-60.825	2.00	0	36.403	Average	54.00
11N40 SISO	38	4500.0	-50.431	2.00	0	46.797	Peak	68.20
		4500.0	-60.560	2.00	0	36.668	Average	54.00
		5150.0	-37.662	2.00	0	59.566	Peak	68.20
		5150.0	-48.970	2.00	0	48.258	Average	54.00
	46	5350.0	-50.218	2.00	0	47.010	Peak	68.20
		5350.0	-59.740	2.00	0	37.488	Average	54.00
		5460.0	-50.647	2.00	0	46.581	Peak	68.20
		5460.0	-60.558	2.00	0	36.670	Average	54.00
11AC20 SISO	36	4500.0	-50.052	2.00	0	47.176	Peak	68.20
		4500.0	-60.525	2.00	0	36.703	Average	54.00
		5150.0	-46.269	2.00	0	50.959	Peak	68.20
		5150.0	-56.395	2.00	0	40.833	Average	54.00
	48	4500.0	-49.854	2.00	0	47.374	Peak	68.20
		4500.0	-60.206	2.00	0	37.022	Average	54.00
		5150.0	-50.826	2.00	0	46.402	Peak	68.20
		5150.0	-60.826	2.00	0	36.402	Average	54.00
11AC40 SISO	38	4500.0	-49.970	2.00	0	47.258	Peak	68.20
		4500.0	-60.561	2.00	0	36.667	Average	54.00
		5150.0	-36.759	2.00	0	60.469	Peak	68.20
		5150.0	-48.868	2.00	0	48.360	Average	54.00
	46	5350.0	-48.807	2.00	0	48.421	Peak	68.20
		5350.0	-59.768	2.00	0	37.460	Average	54.00
		5460.0	-50.751	2.00	0	46.477	Peak	68.20
		5460.0	-60.254	2.00	0	36.974	Average	54.00
11AC80 SISO	42	4500.0	-47.767	2.00	0	49.461	Peak	68.20
		5150.0	-58.956	2.00	0	38.272	Average	54.00
		4500.0	-48.730	2.00	0	48.498	Peak	68.20
		5150.0	-59.802	2.00	0	37.426	Average	54.00
		5350.0	-49.614	2.00	0	47.614	Peak	68.20

		5460.0	-60.538	2.00	0	36.690	Average	54.00
		5350.0	-38.152	2.00	0	59.076	Peak	68.20
		5460.0	-49.627	2.00	0	47.601	Average	54.00

Undesirable Emissions Measurement



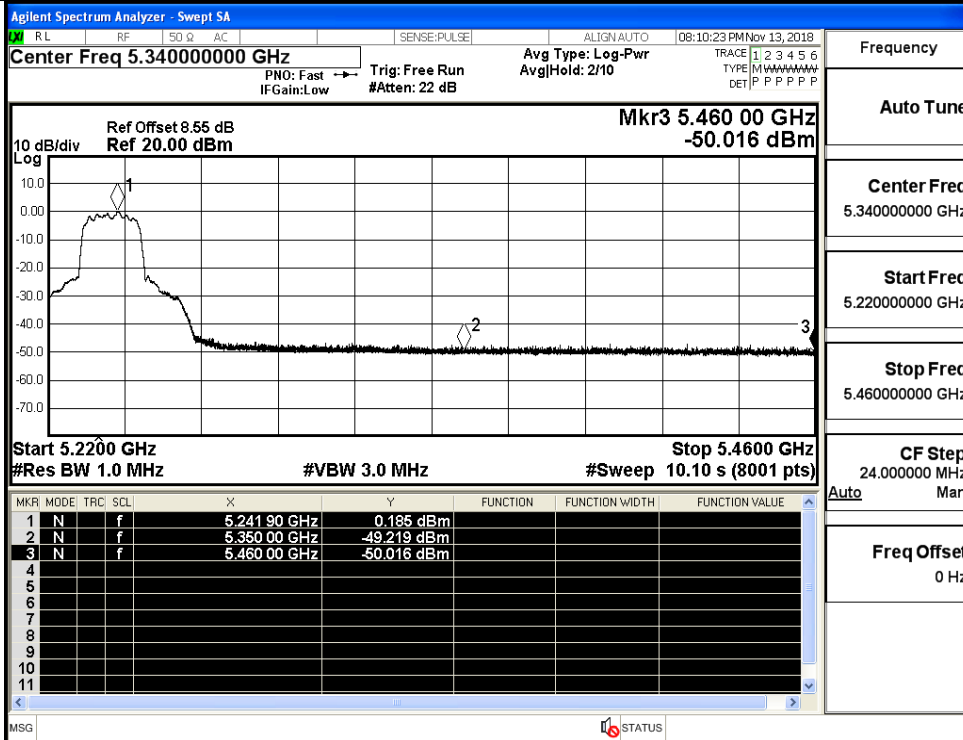
IEEE 802.11a / Channel 36 / 5180 MHz / Peak



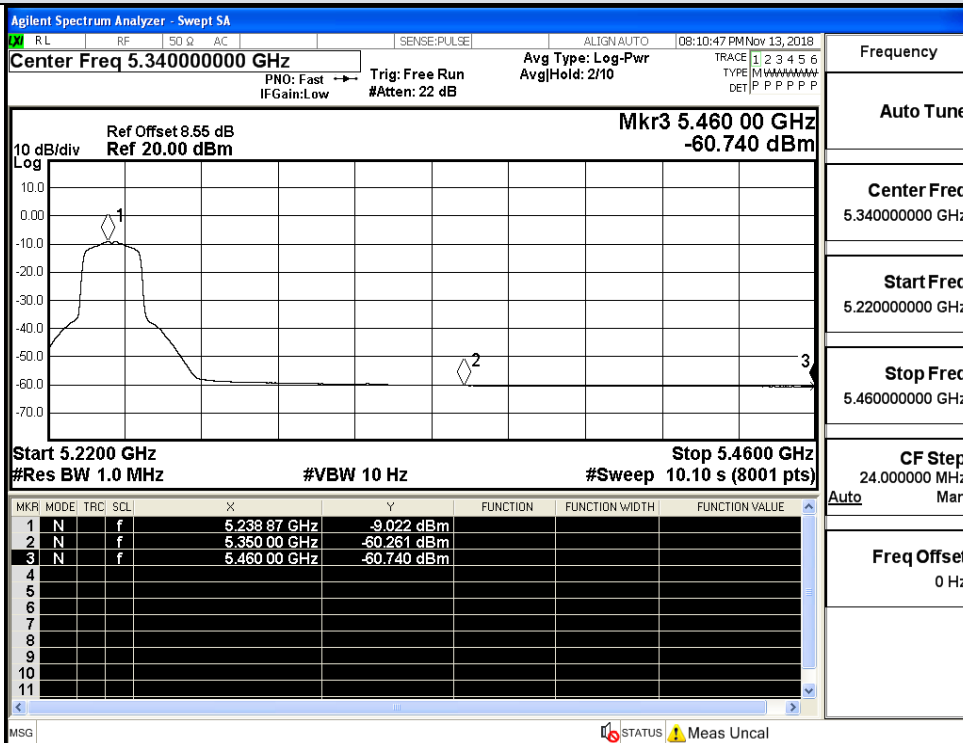
IEEE 802.11a / Channel 36 / 5180 MHz / Average



Undesirable Emissions Measurement

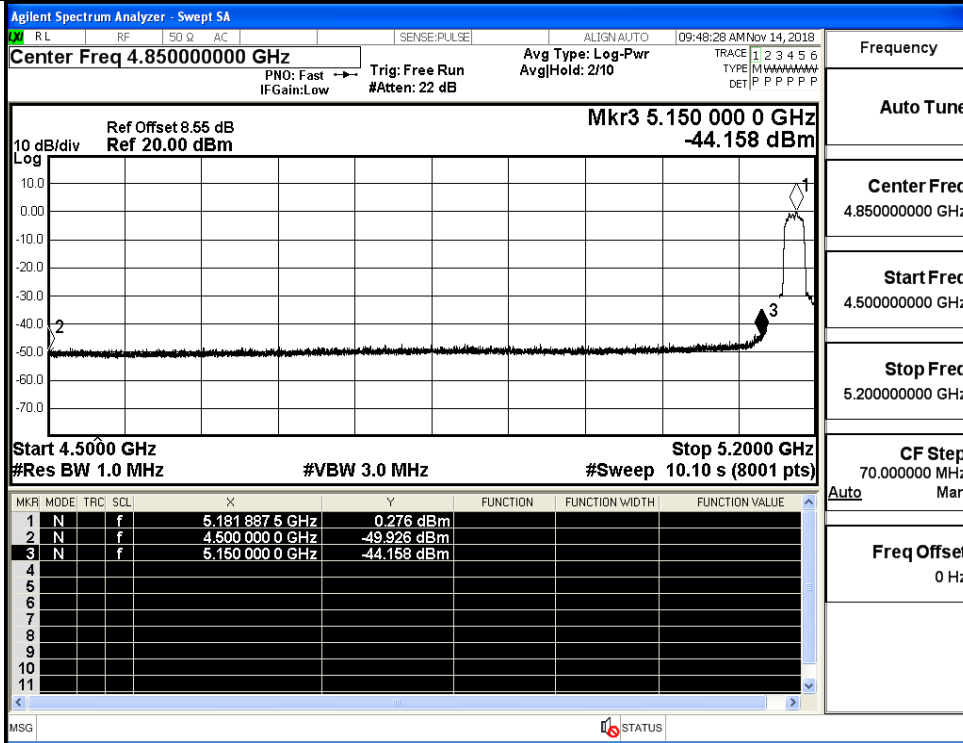


IEEE 802.11a / Channel 48 / 5240 MHz / Peak

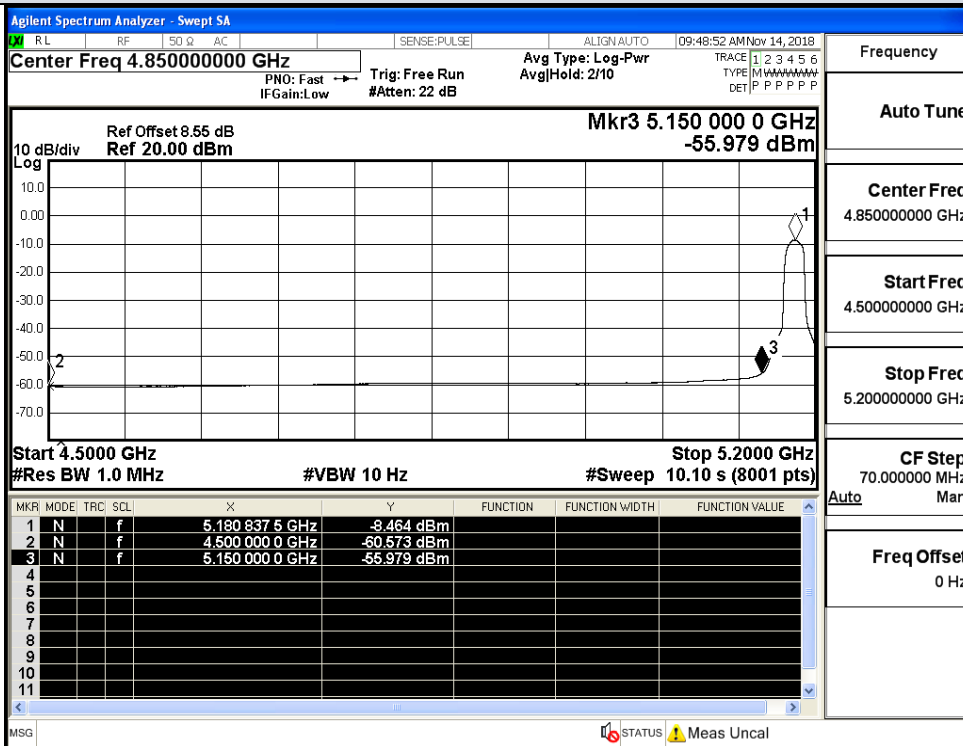


IEEE 802.11a / Channel 48 / 5240 MHz / Average

Undesirable Emissions Measurement

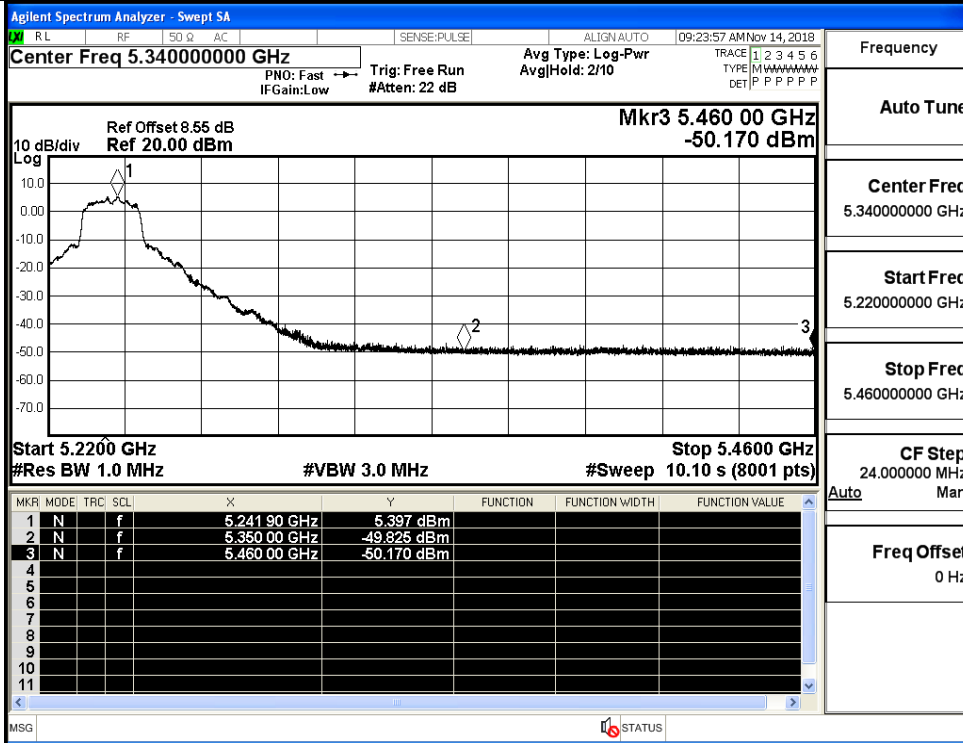


IEEE 802.11n HT20 / Channel 36 / 5180 MHz / Peak

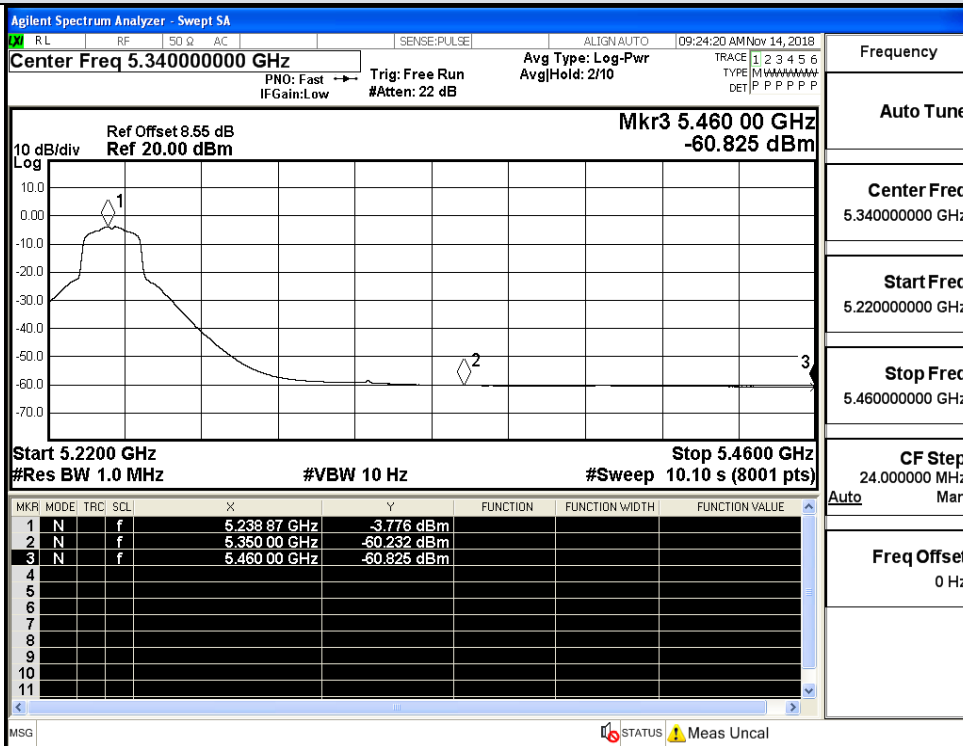


IEEE 802.11n HT20 / Channel 36 / 5180 MHz / Average

Undesirable Emissions Measurement

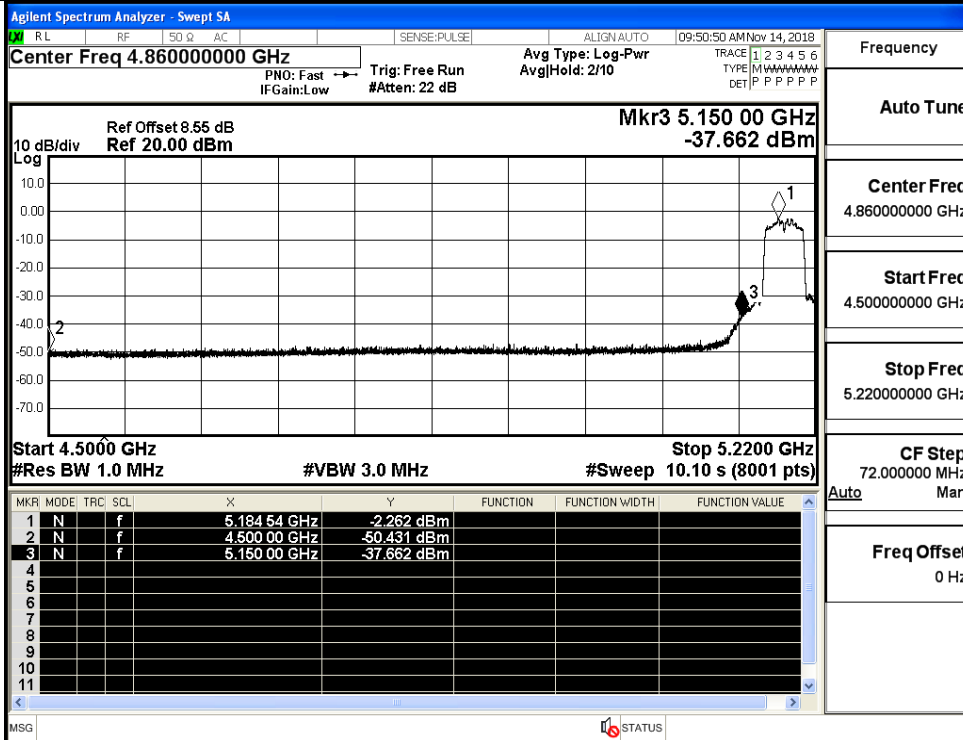


IEEE 802.11n HT20 / Channel 48 / 5240 MHz / Peak

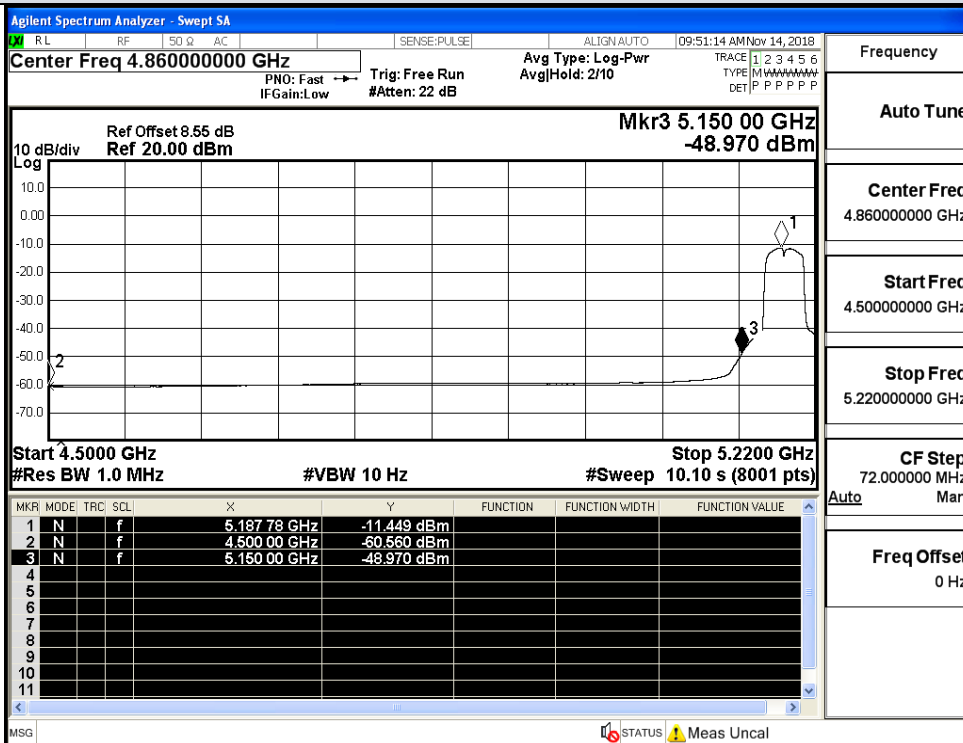


IEEE 802.11n HT20 / Channel 48 / 5240 MHz / Average

Undesirable Emissions Measurement

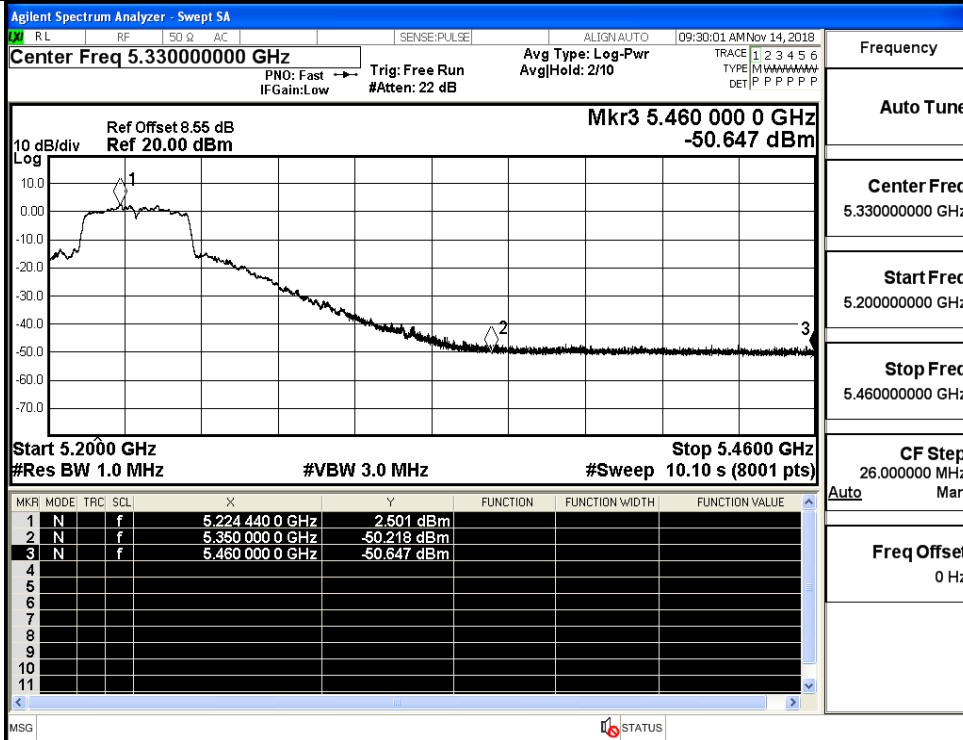


IEEE 802.11n HT40 / Channel 38 / 5190 MHz / Peak

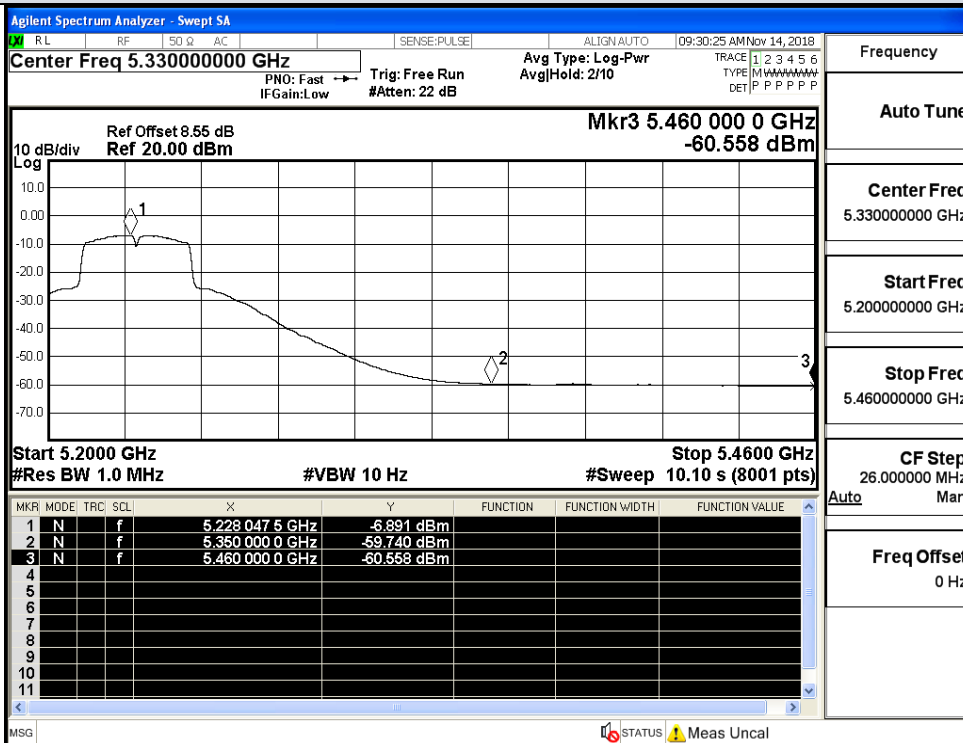


IEEE 802.11n HT40 / Channel 38 / 5190 MHz / Average

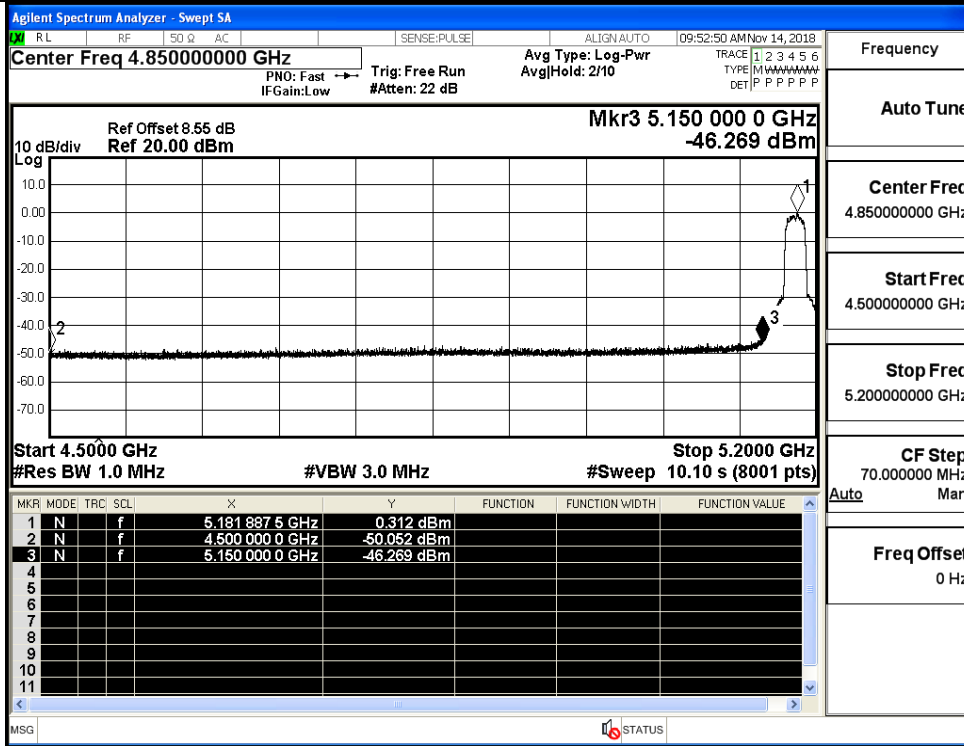
Undesirable Emissions Measurement



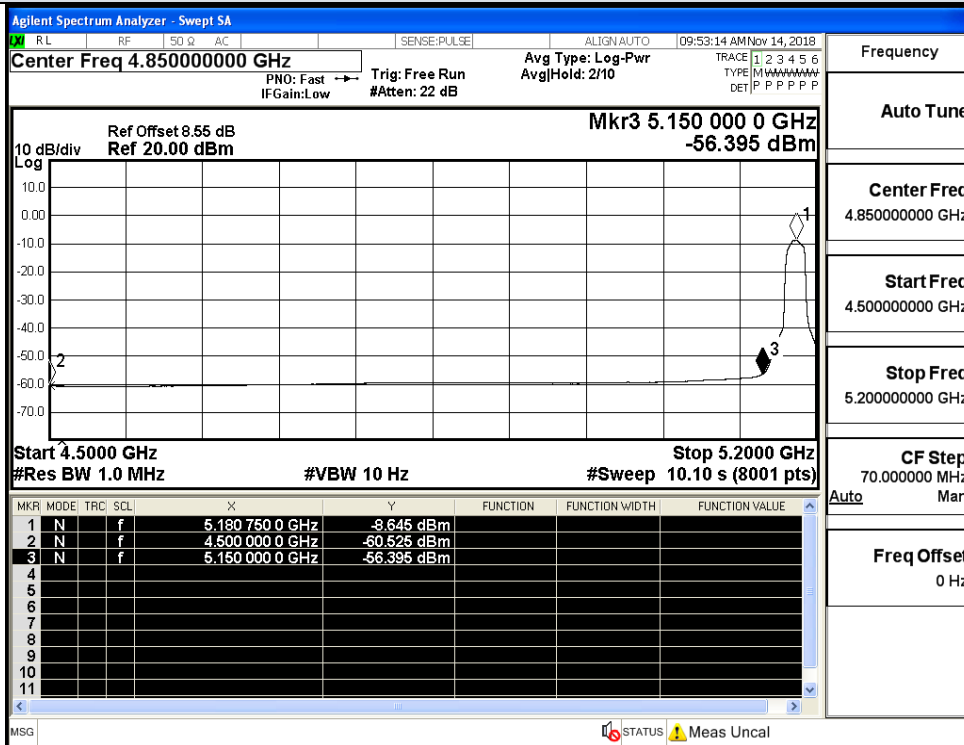
IEEE 802.11n HT40 / Channel 46 / 5230 MHz / Peak



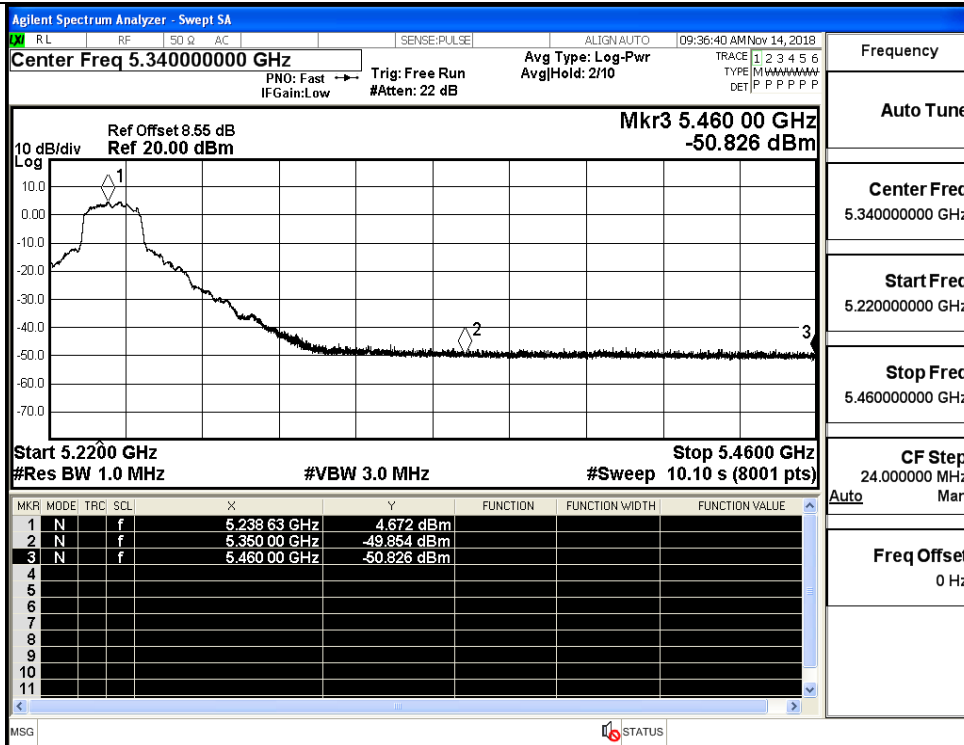
IEEE 802.11n HT40 / Channel 46 / 5230 MHz / Average



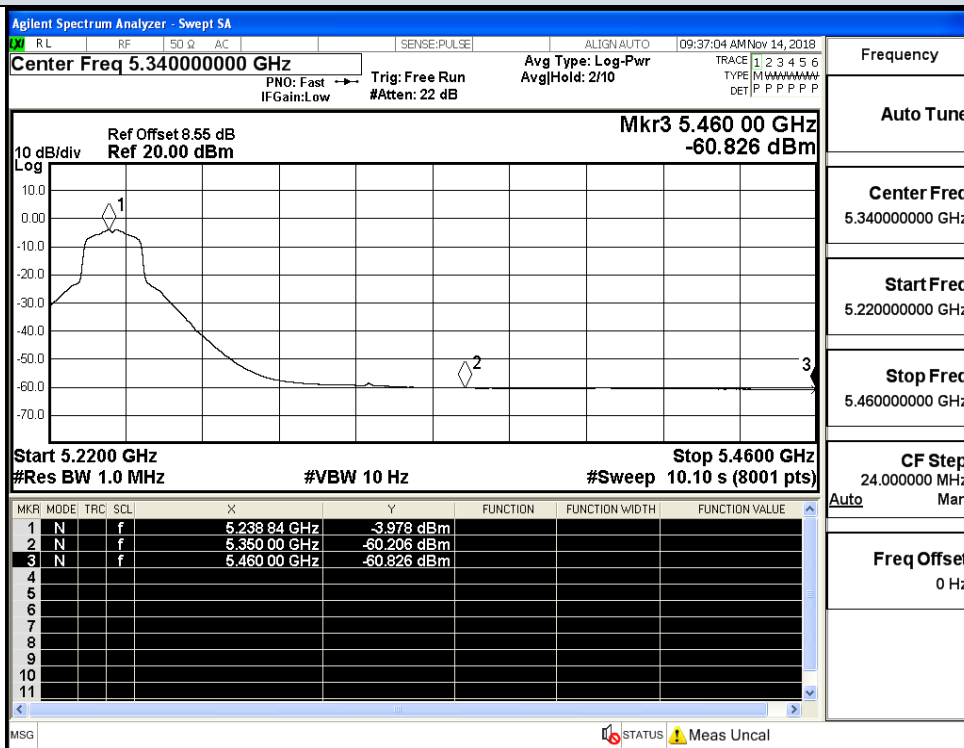
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz / Peak



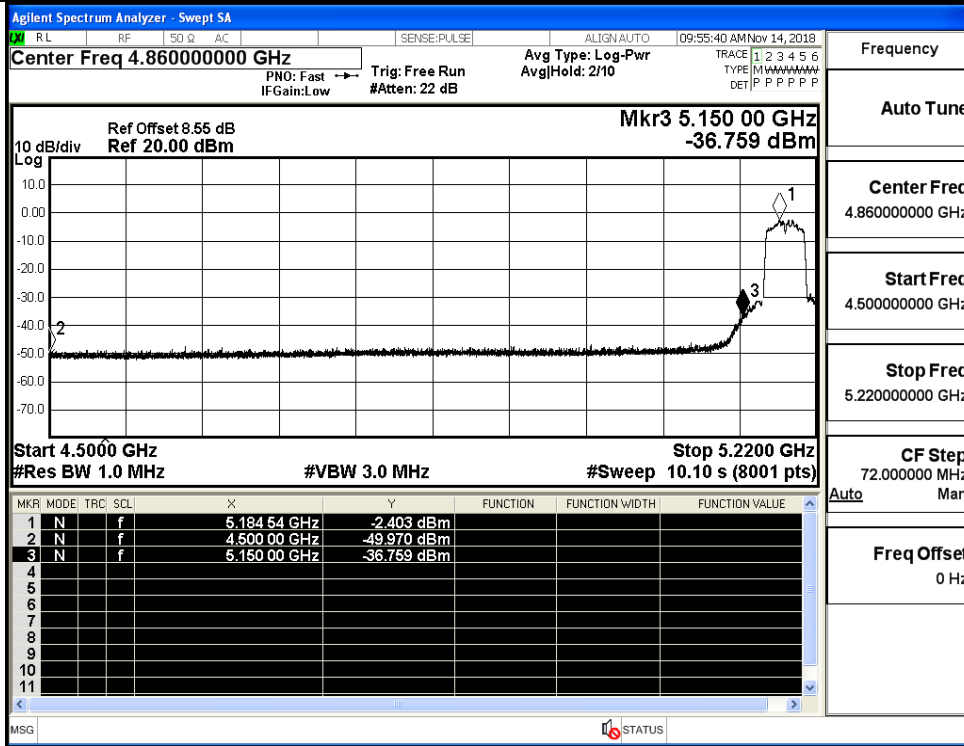
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz / Average



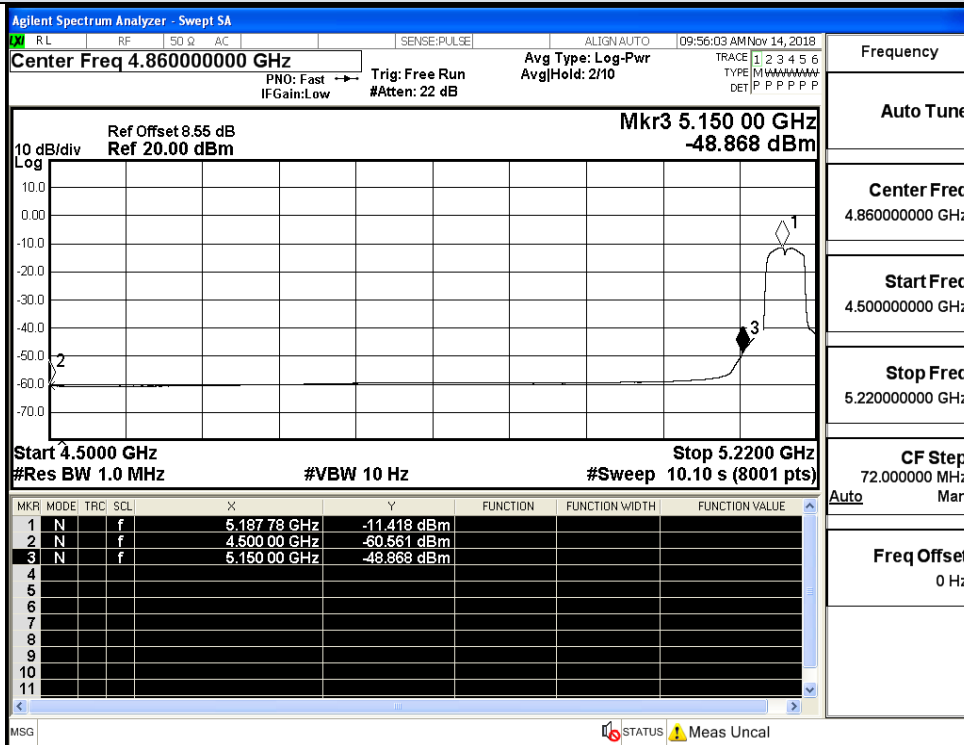
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz / Peak



IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz / Average

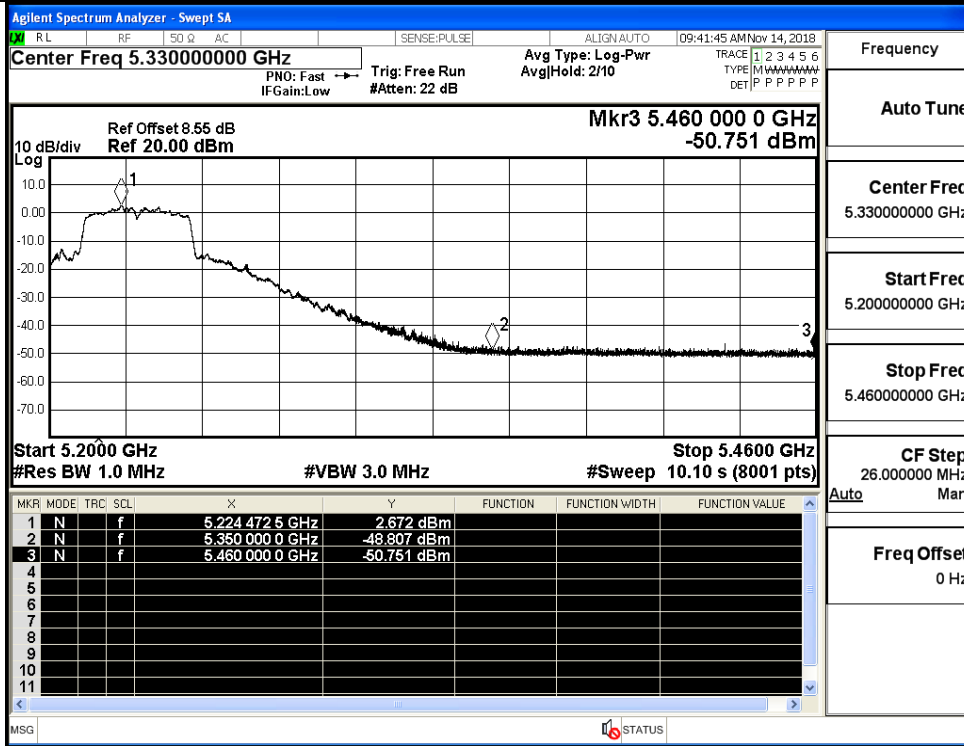


IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz / Peak

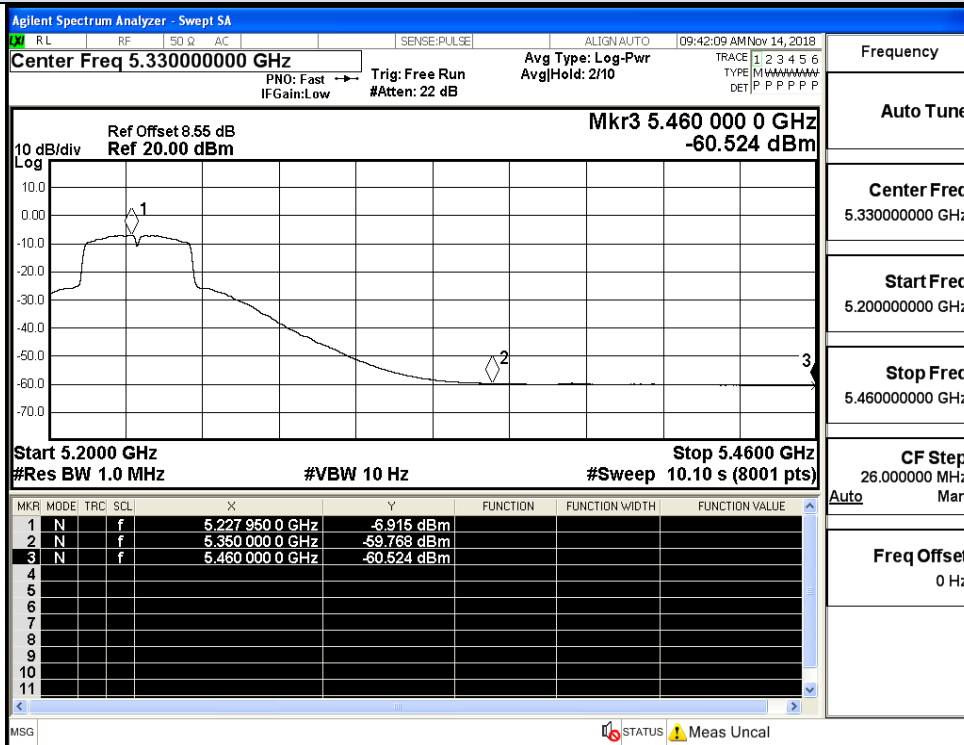


IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz / Average

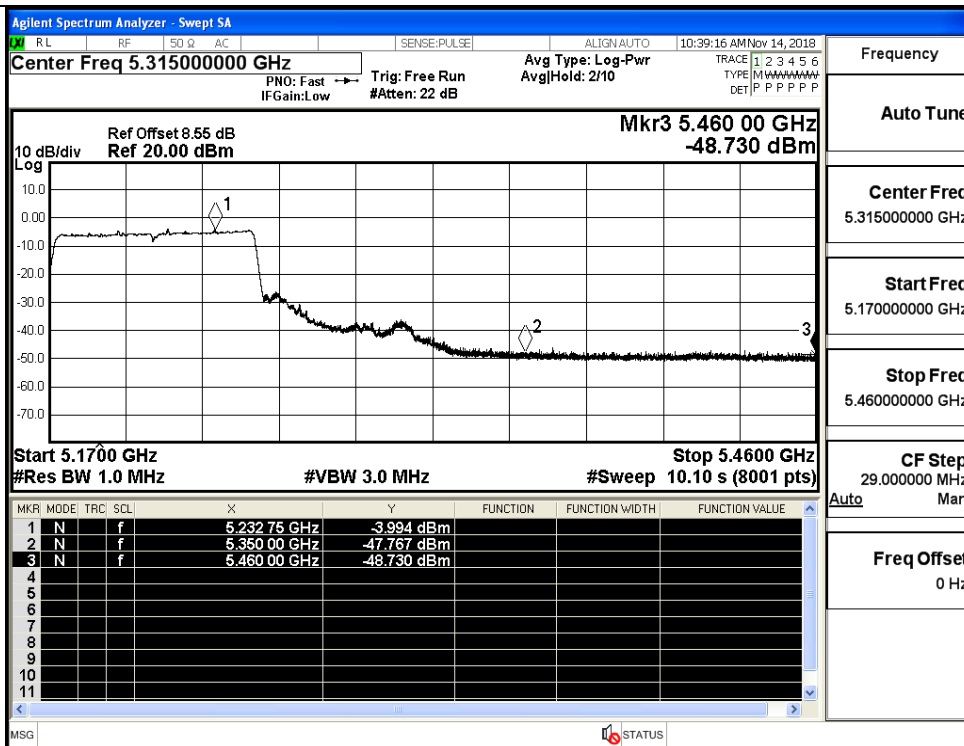




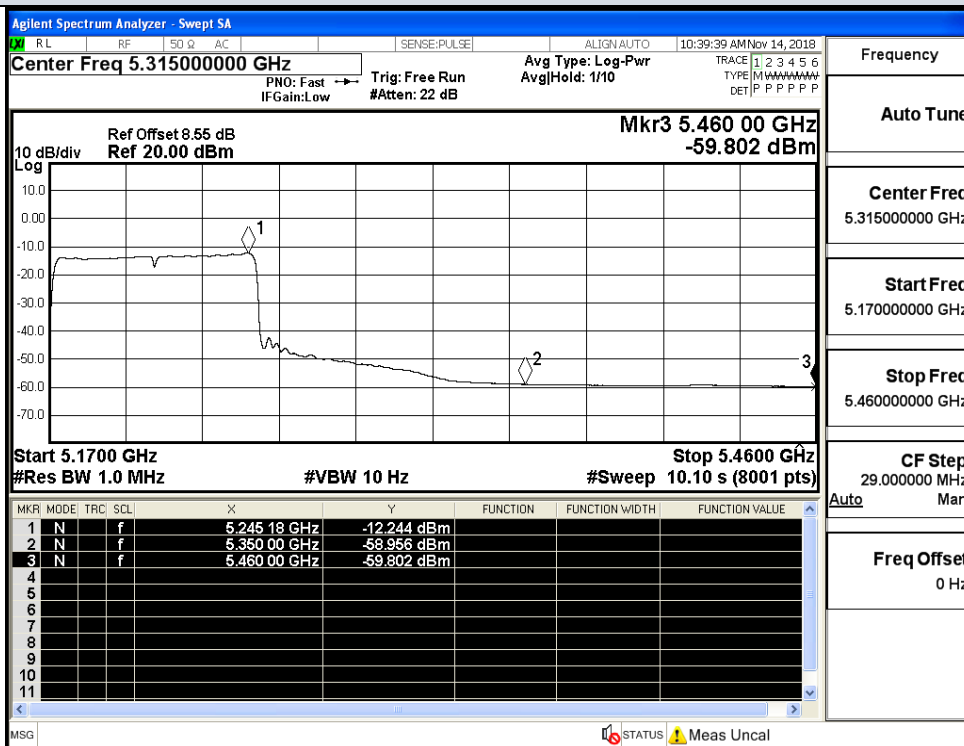
IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz / Peak



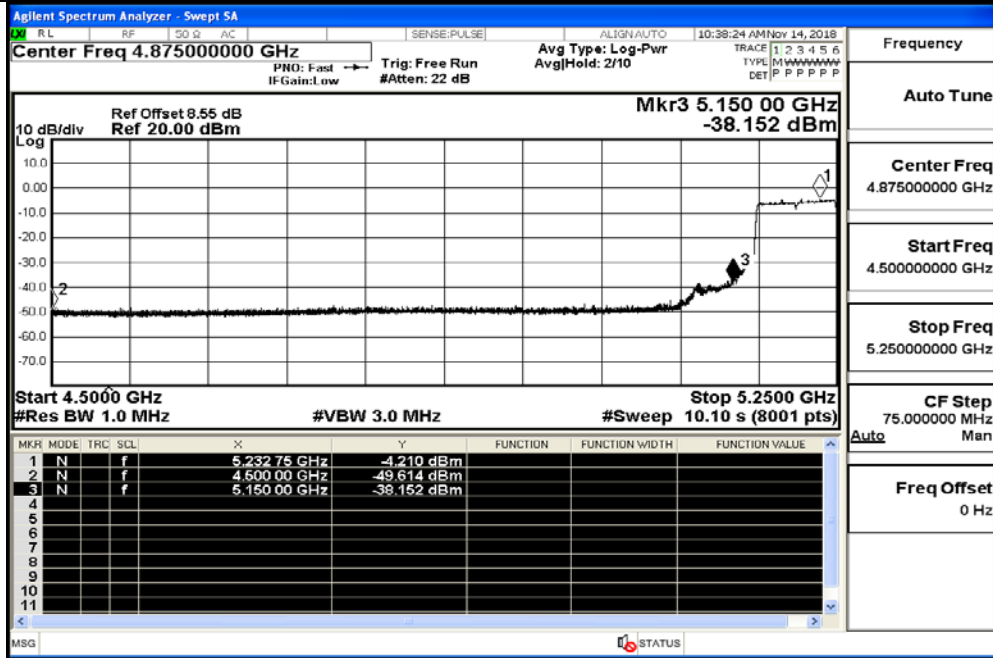
IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz / Average



IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Peak

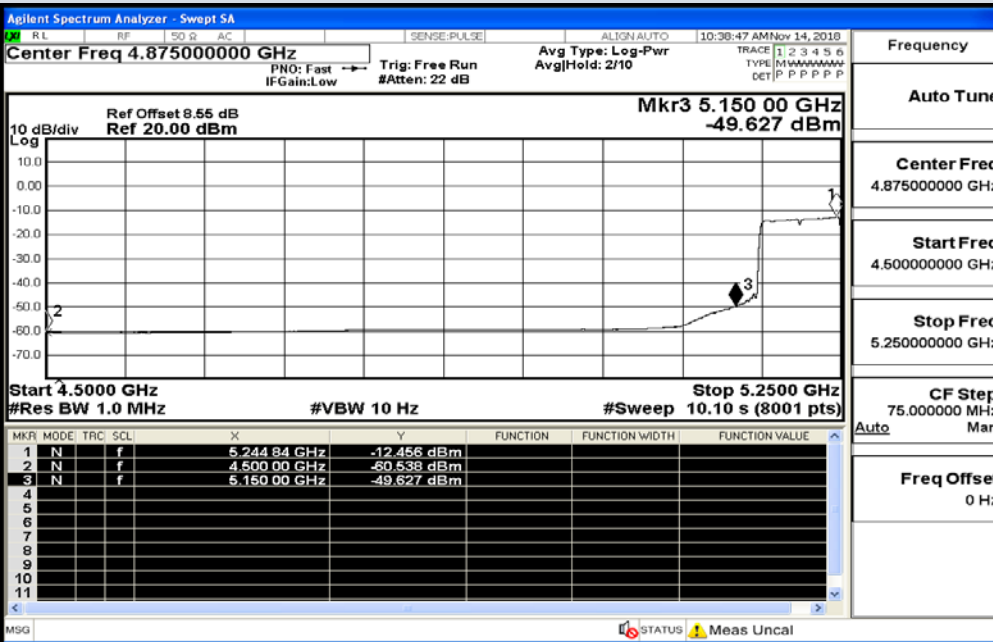


IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Average



Frequency	
Auto Tune	
Center Freq	4.875000000 GHz
Start Freq	4.500000000 GHz
Stop Freq	5.250000000 GHz
CF Step	75.000000 MHz
Auto	Man
Freq Offset	0 Hz

IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Peak



Frequency	
Auto Tune	
Center Freq	4.875000000 GHz
Start Freq	4.500000000 GHz
Stop Freq	5.250000000 GHz
CF Step	75.000000 MHz
Auto	Man
Freq Offset	0 Hz

IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Average