

Appendix C

RF Test Data for 5.2G WLAN (Conducted Measurement)

Product Name: Car Dash Camera

Trade Mark: VIOFO

Test Model: A129

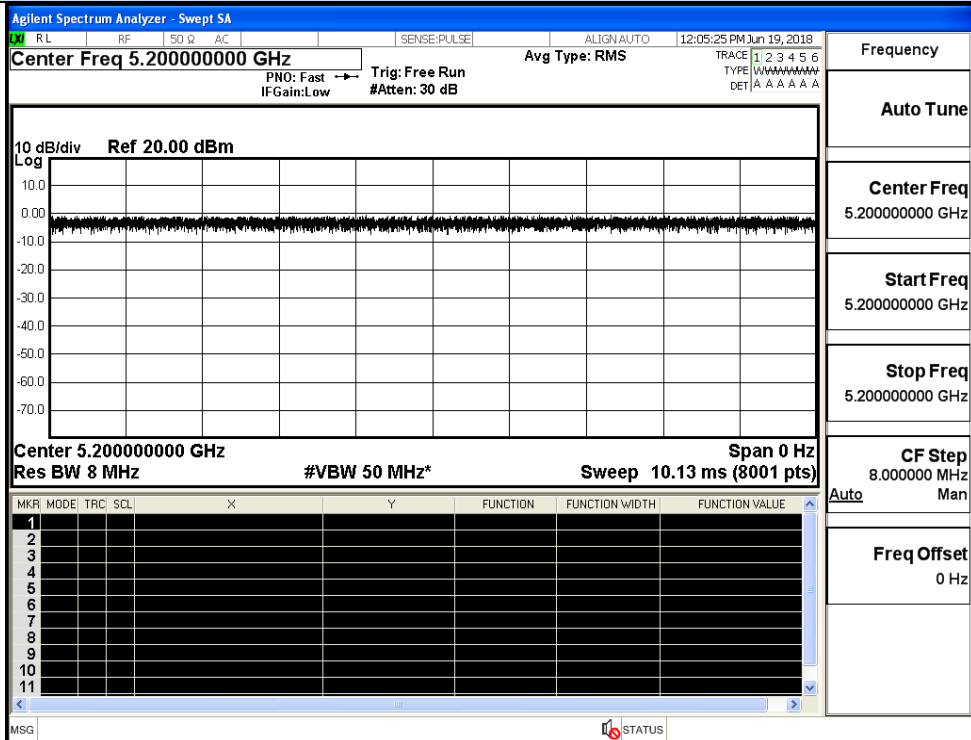
Environmental Conditions

Temperature:	22.5 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Ryan.Hu
Supervised by:	Jayden.Zhuo

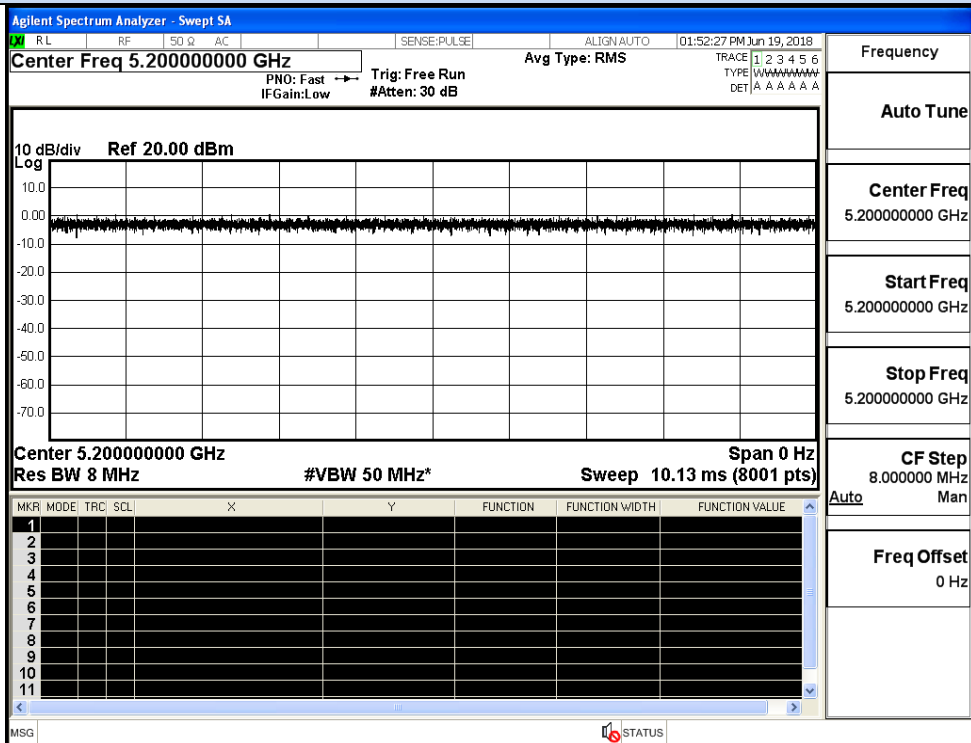
C.1 Duty Cycle

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
IEEE 802.11a	5200	100	0.00	0.01
IEEE 802.11n HT20	5200	100	0.00	0.01
IEEE 802.11n HT40	5190	100	0.00	0.01
IEEE 802.11ac VHT20	5200	100	0.00	0.01
IEEE 802.11ac VHT40	5190	100	0.00	0.01
IEEE 802.11ac VHT80	5210	100	0.00	0.01

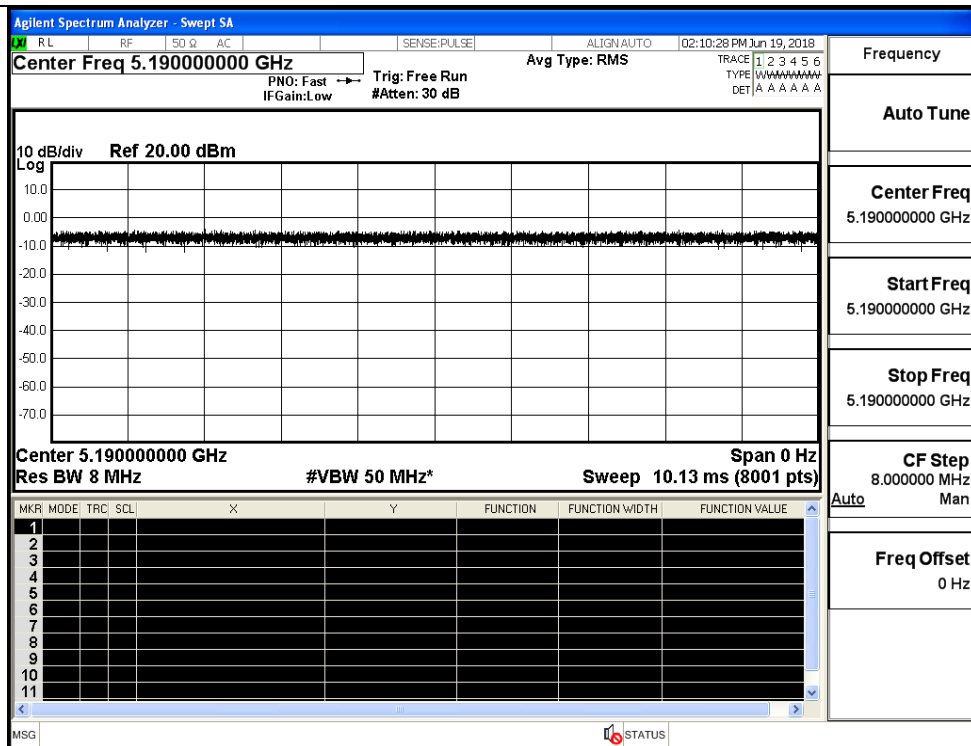
On Time and Duty Cycle



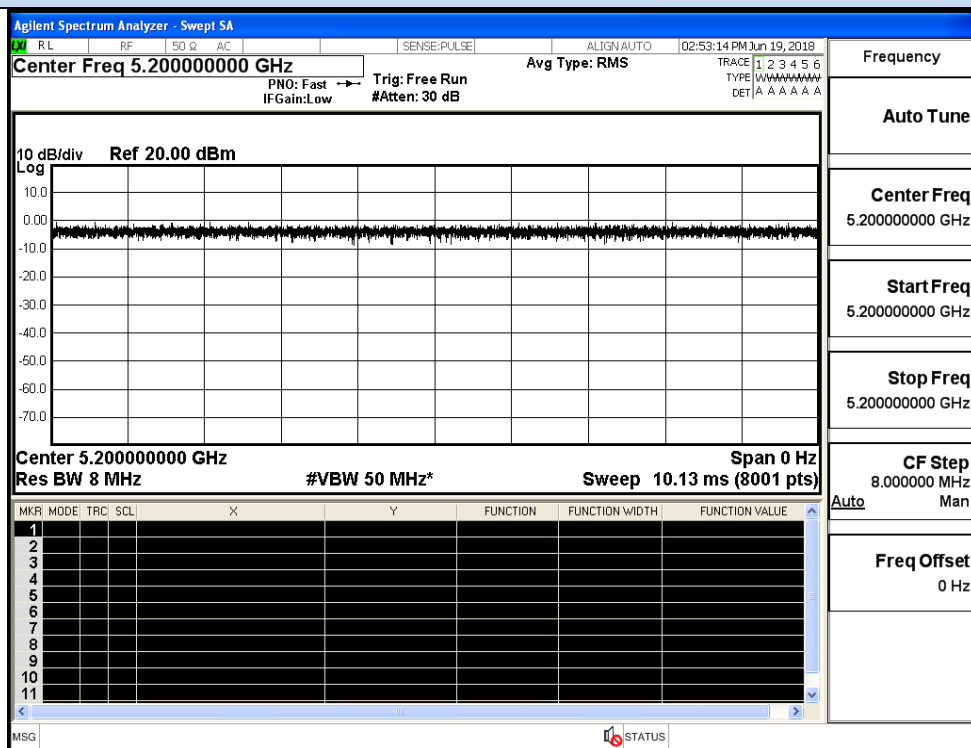
IEEE 802.11a



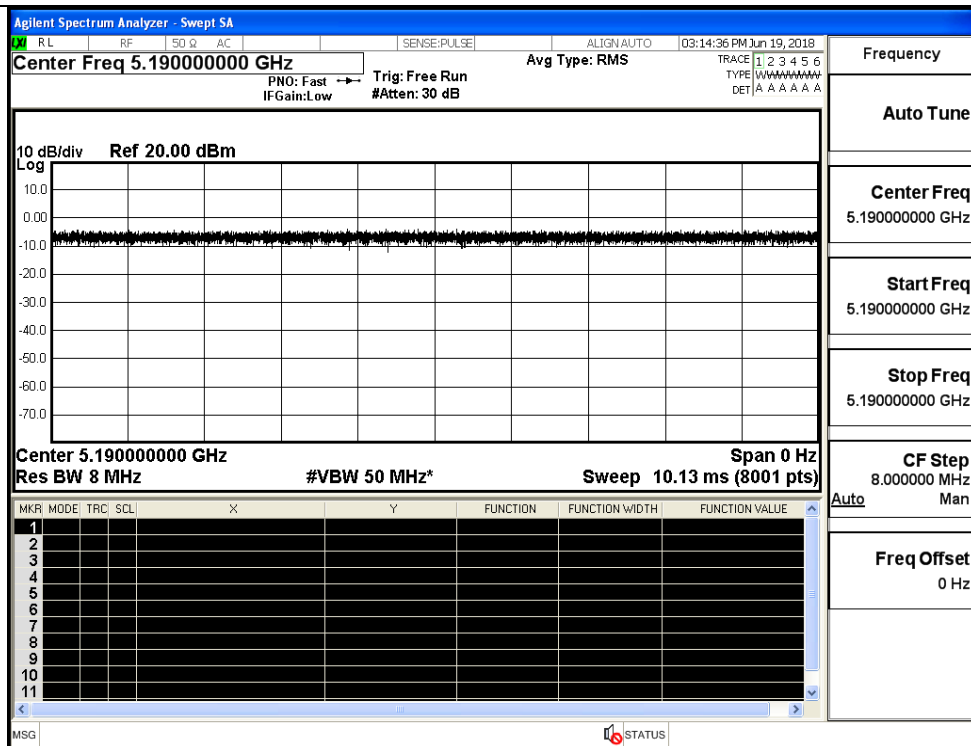
IEEE 802.11n HT20



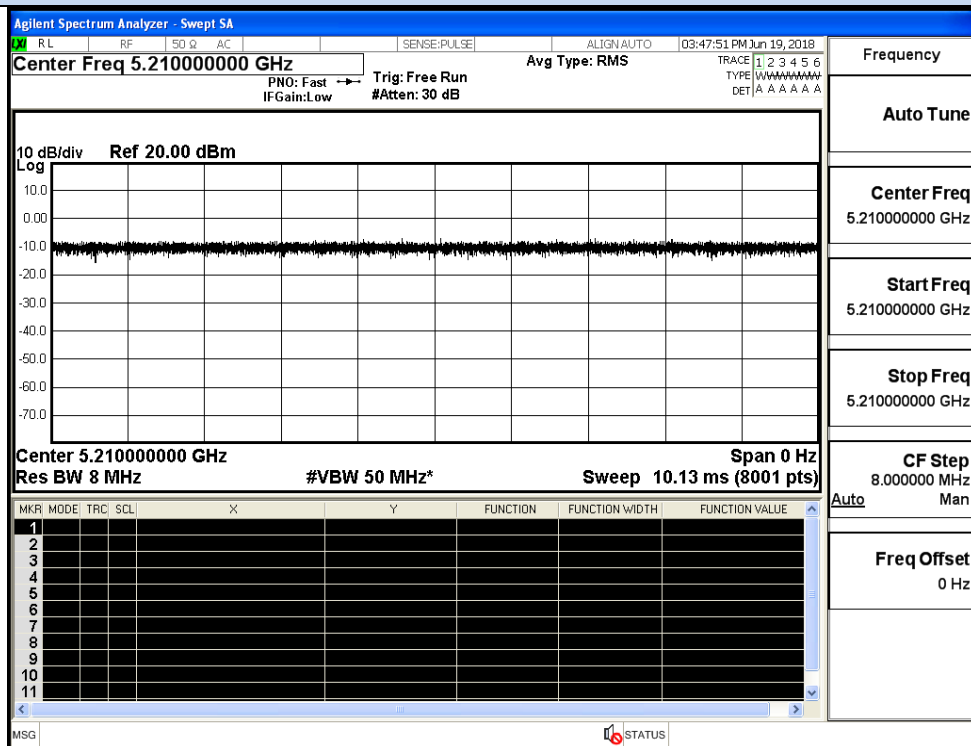
IEEE 802.11n HT40



IEEE 802.11ac VHT20



IEEE 802.11ac VHT40



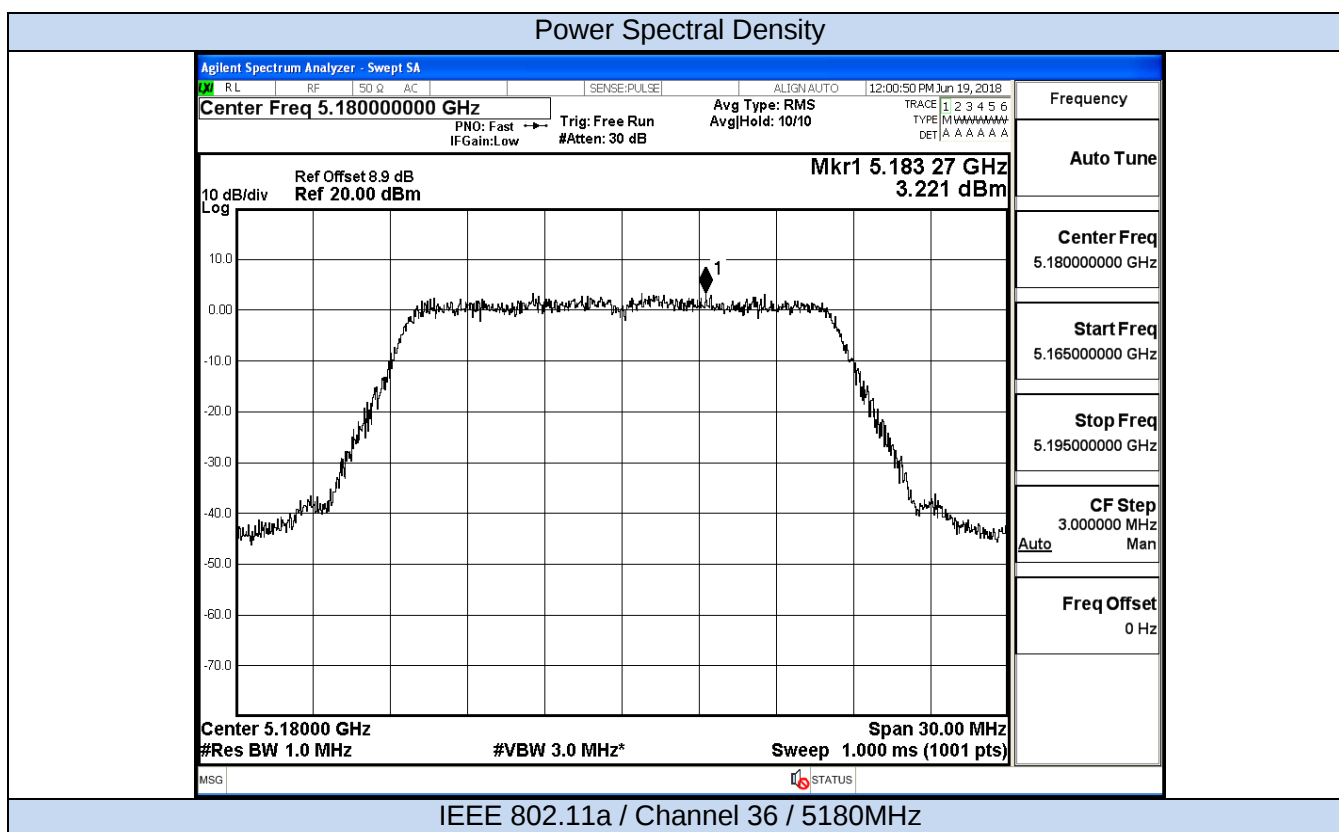
IEEE 802.11ac VHT80

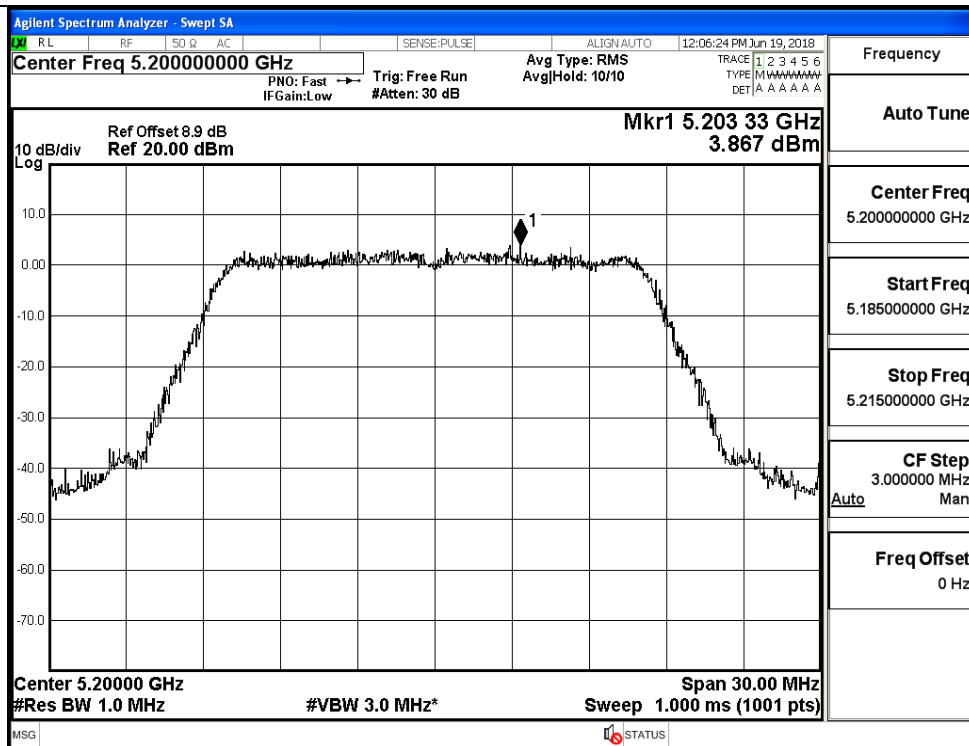
C.2 Maximum Conduct Average Output Power

Test Mode	Channel	Frequency (MHz)	Peak Conducted Power (dBm)	Duty Cycle Factor (dB)	Report Conducted Power (dBm)	Limit (dBm)
IEEE 802.11a	36	5180	13.53	0	13.53	24
	40	5200	13.55	0	13.55	
	48	5240	14.67	0	14.67	
IEEE 802.11n HT20	36	5180	13.02	0	13.02	24
	40	5200	13.89	0	13.89	
	48	5240	13.82	0	13.80	
IEEE 802.11n HT40	38	5190	13.19	0	13.19	24
	46	5230	13.53	0	13.53	
IEEE 802.11ac VHT20	36	5180	13.31	0	13.31	24
	40	5200	13.42	0	13.42	
	48	5240	13.76	0	13.76	
IEEE 802.11ac VHT40	38	5190	13.31	0	13.31	24
	46	5230	13.76	0	13.76	
IEEE 802.11ac VHT80	42	5210	13.57	0	13.57	24

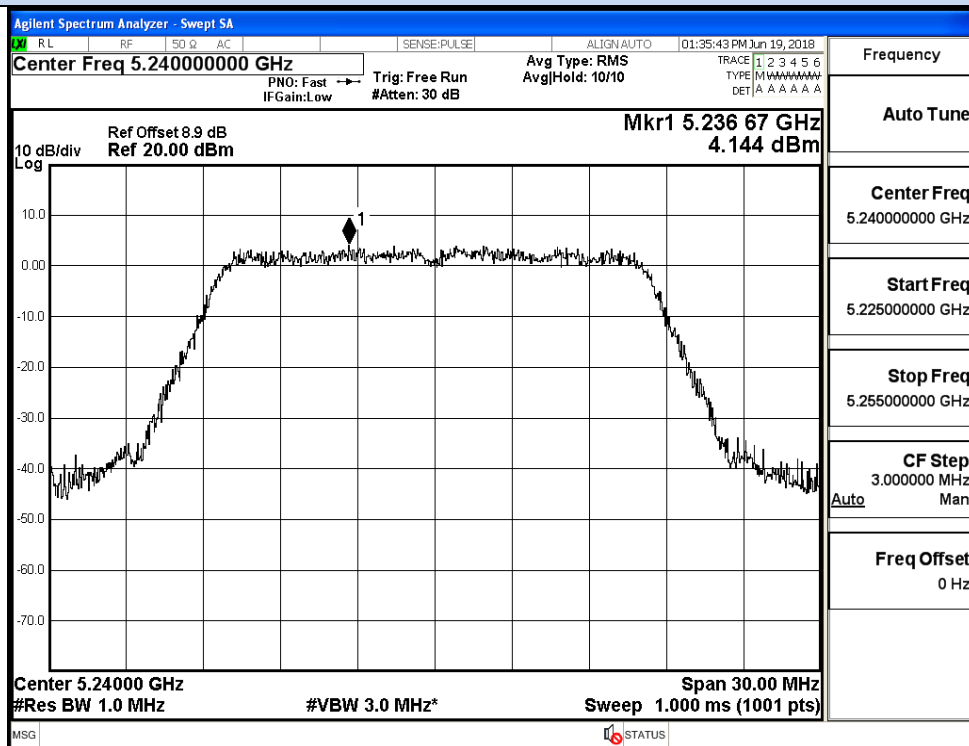
C.3 Power Spectral Density

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)
IEEE 802.11a	36	5180	3.221	0	3.22	11
	40	5200	3.867	0	3.87	
	48	5240	4.144	0	4.14	
IEEE 802.11n HT20	36	5180	2.755	0	2.76	11
	40	5200	3.725	0	3.73	
	48	5240	3.198	0	3.20	
IEEE 802.11n HT40	38	5190	-0.449	0	-0.45	11
	46	5230	-0.154	0	-0.15	
IEEE 802.11ac VHT20	36	5180	2.990	0	2.99	11
	40	5200	3.098	0	3.10	
	48	5240	3.662	0	3.66	
IEEE 802.11ac VHT40	38	5190	-0.135	0	-0.14	11
	46	5230	0.354	0	0.35	
IEEE 802.11ac VHT80	42	5210	-3.062	0	-3.06	11



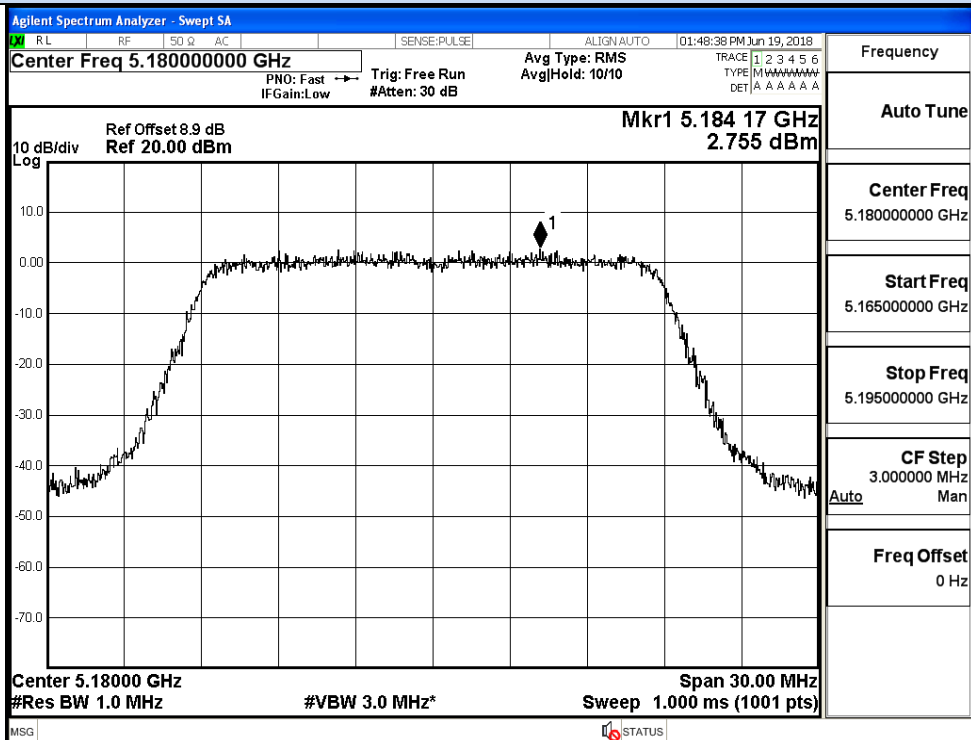


IEEE 802.11a / Channel 40 / 5200MHz

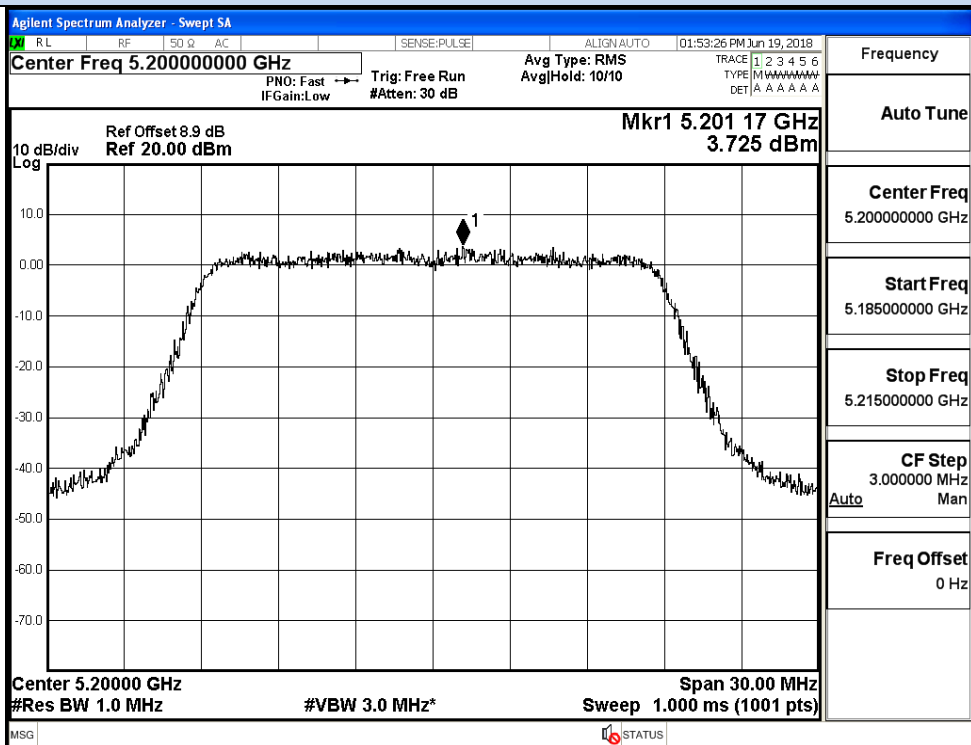


IEEE 802.11a / Channel 48 / 5240MHz

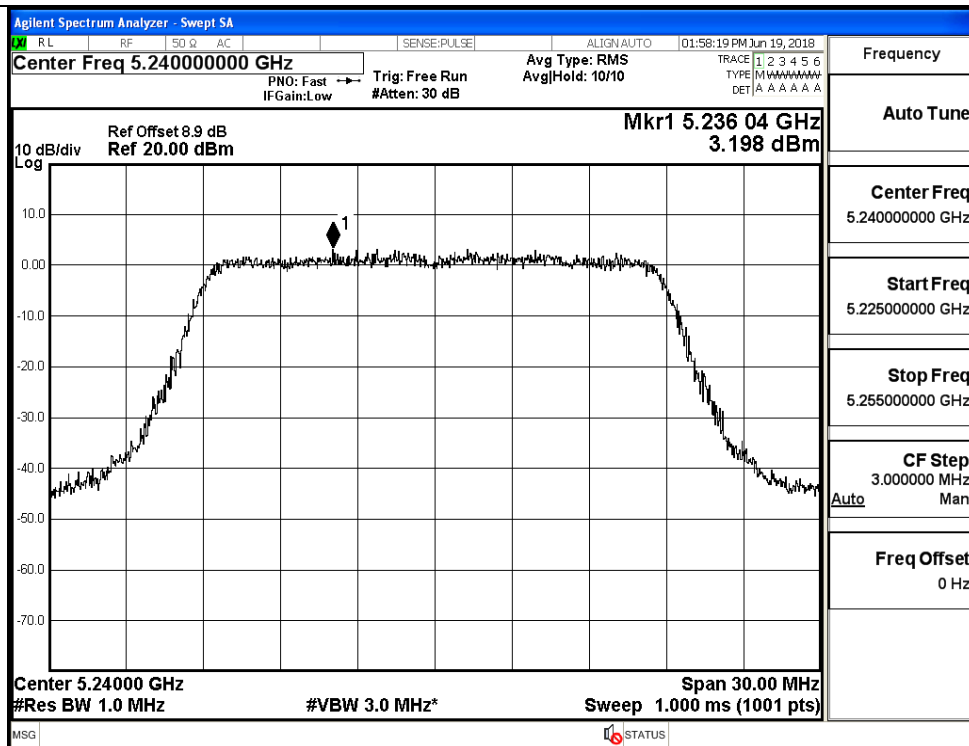
Power Spectral Density



IEEE 802.11n HT20 / Channel 36 / 5180MHz

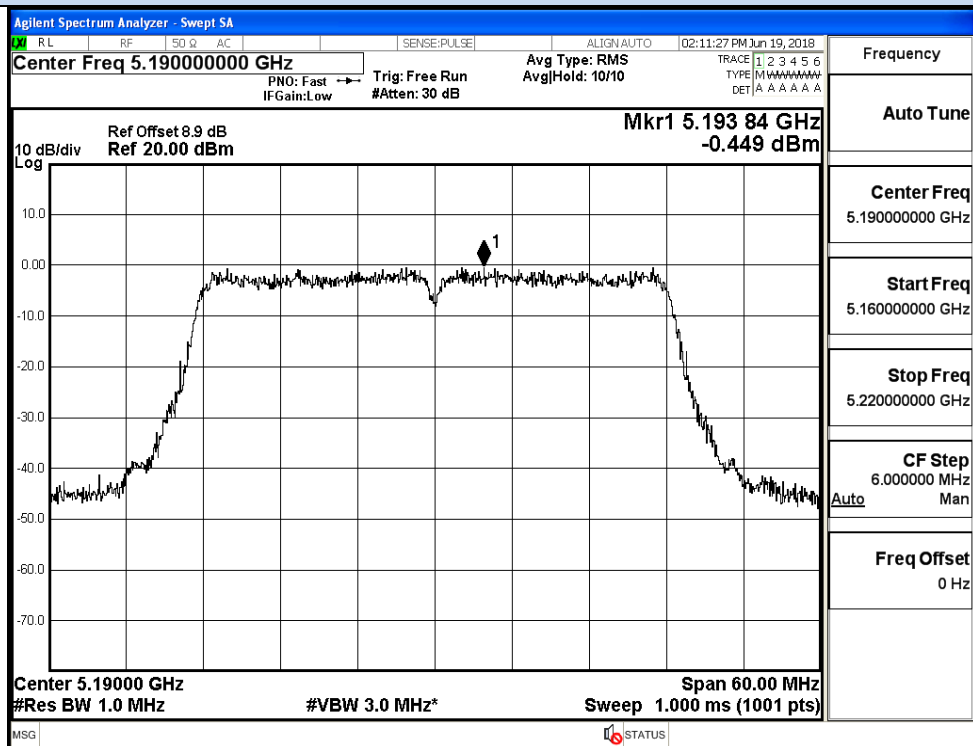


IEEE 802.11n HT20 / Channel 40 / 5200MHz

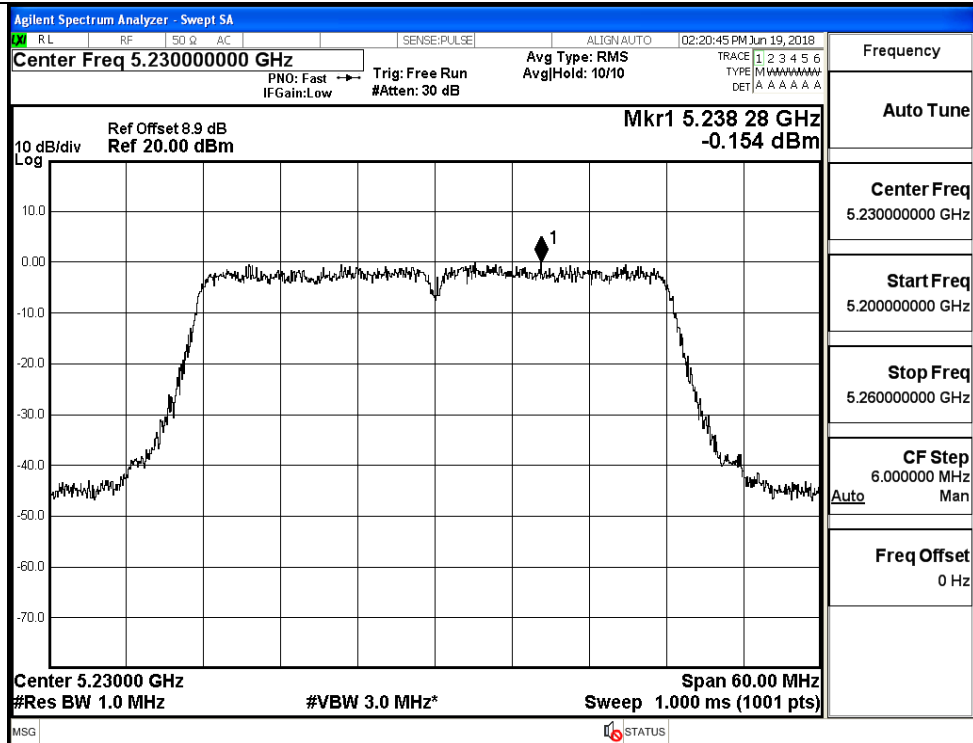


IEEE 802.11n HT20 / Channel 48 / 5240MHz

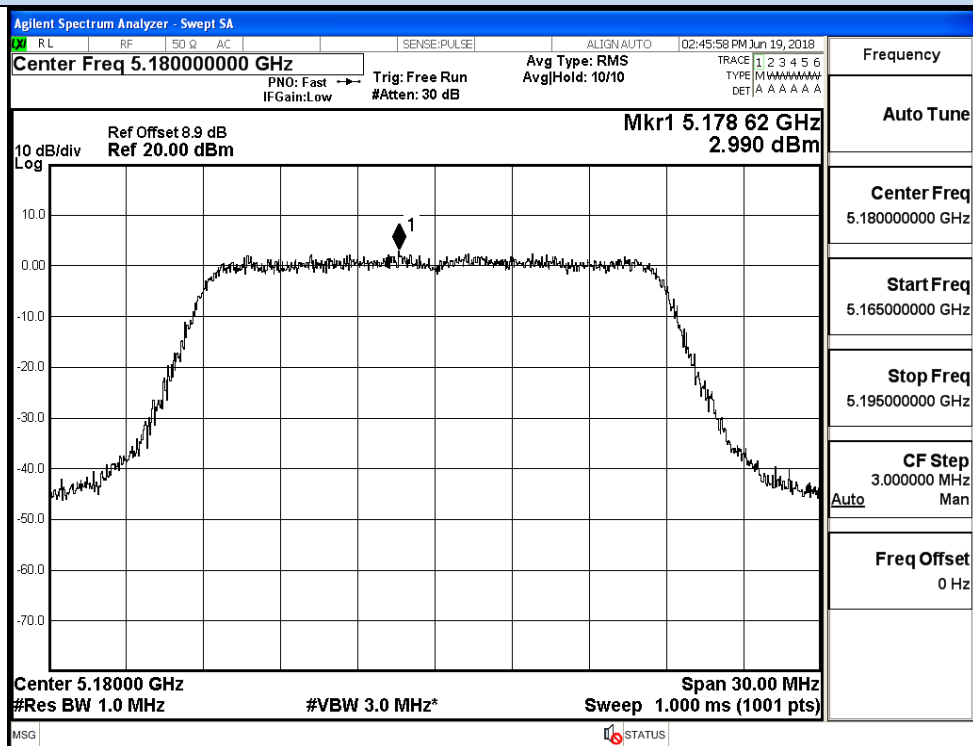
Power Spectral Density



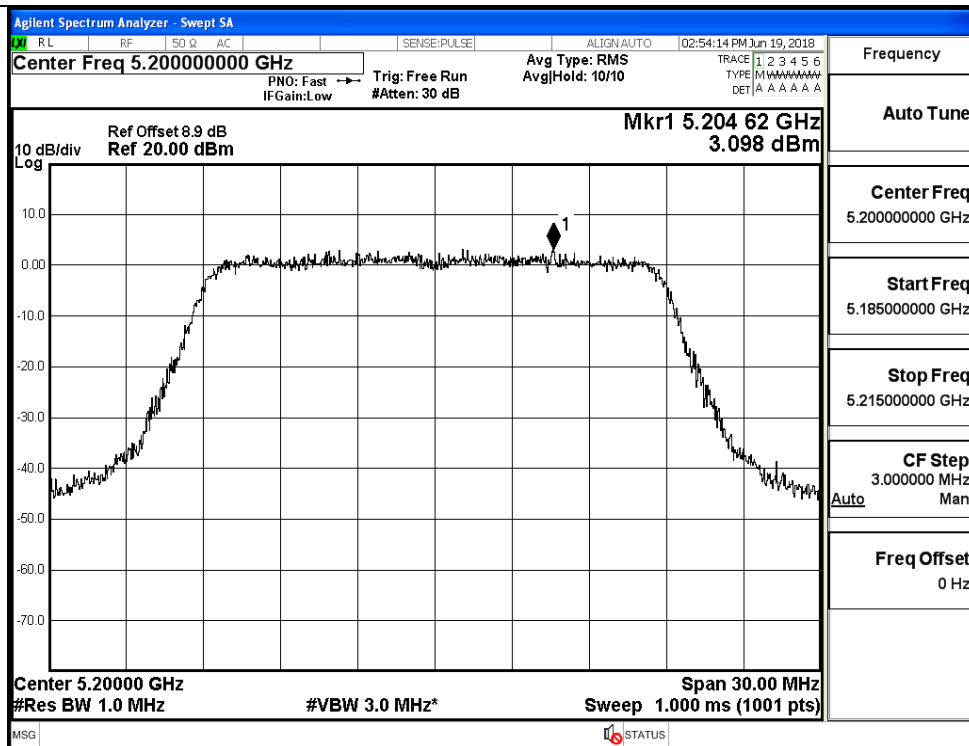
IEEE 802.11n HT40 / Channel 38 / 5190MHz



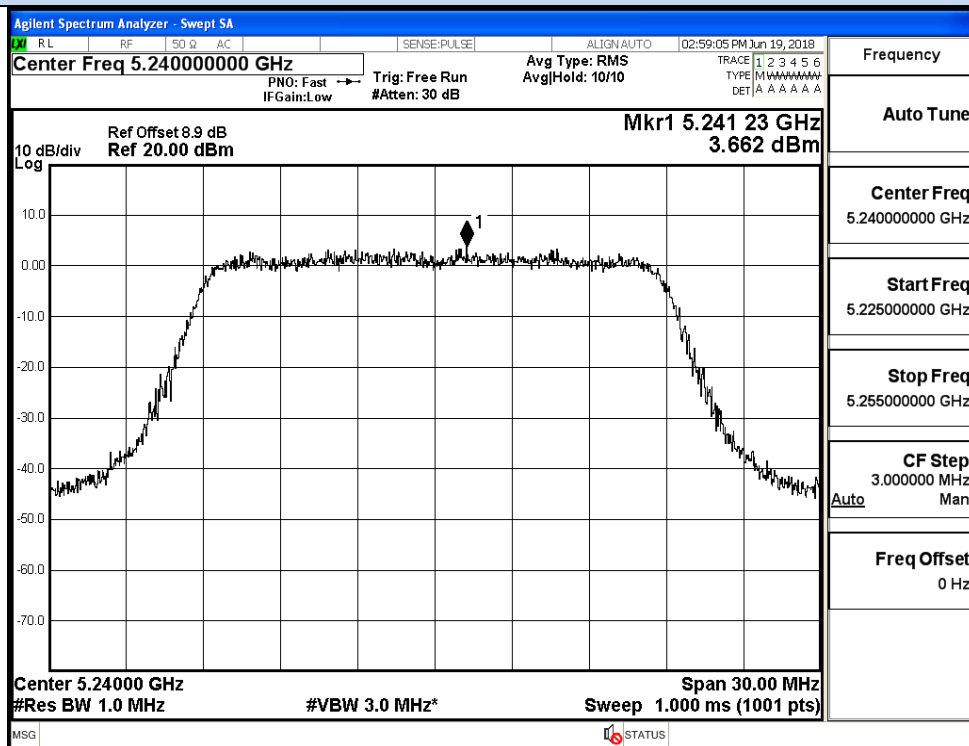
IEEE 802.11n HT40 / Channel 46 / 5230MHz



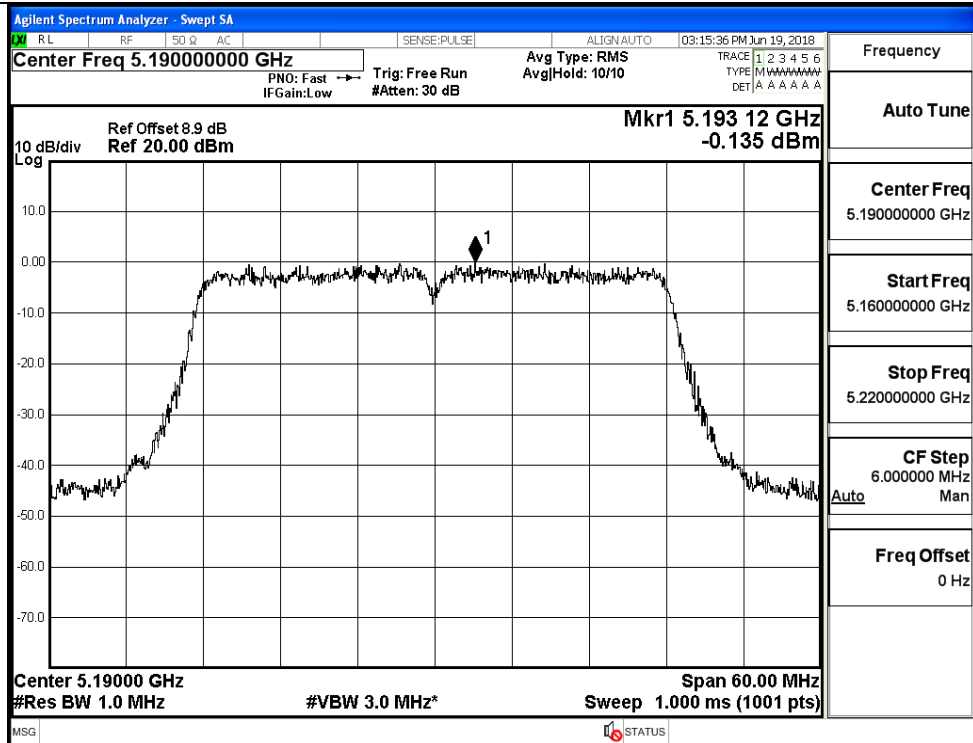
IEEE 802.11ac VHT20 / Channel 36 / 5180MHz



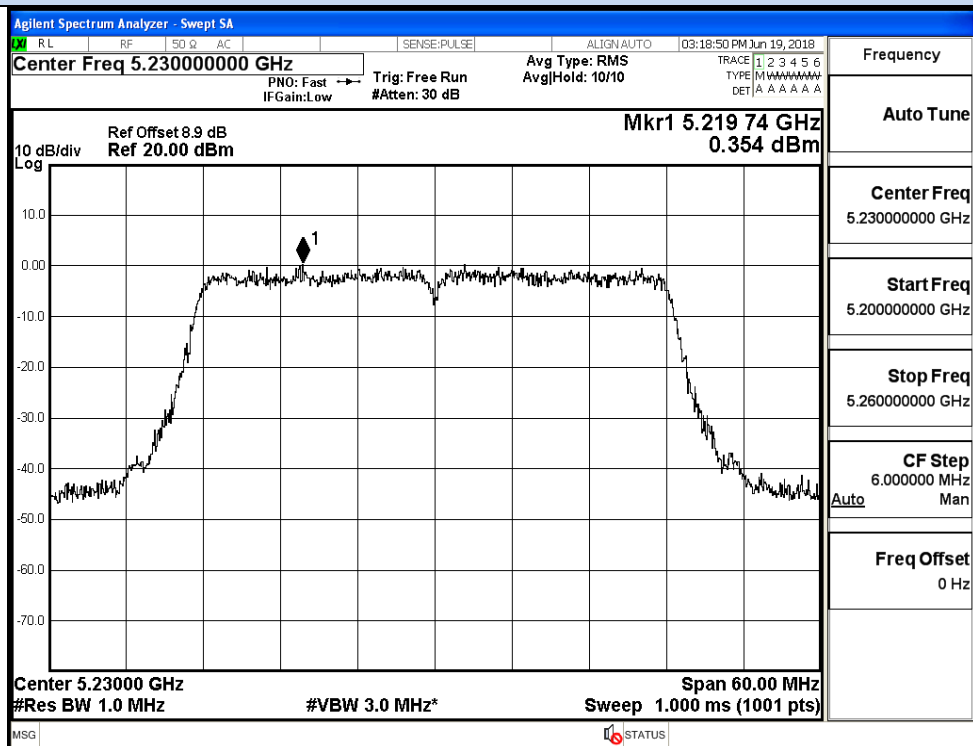
IEEE 802.11ac VHT20 / Channel 40 / 5200MHz



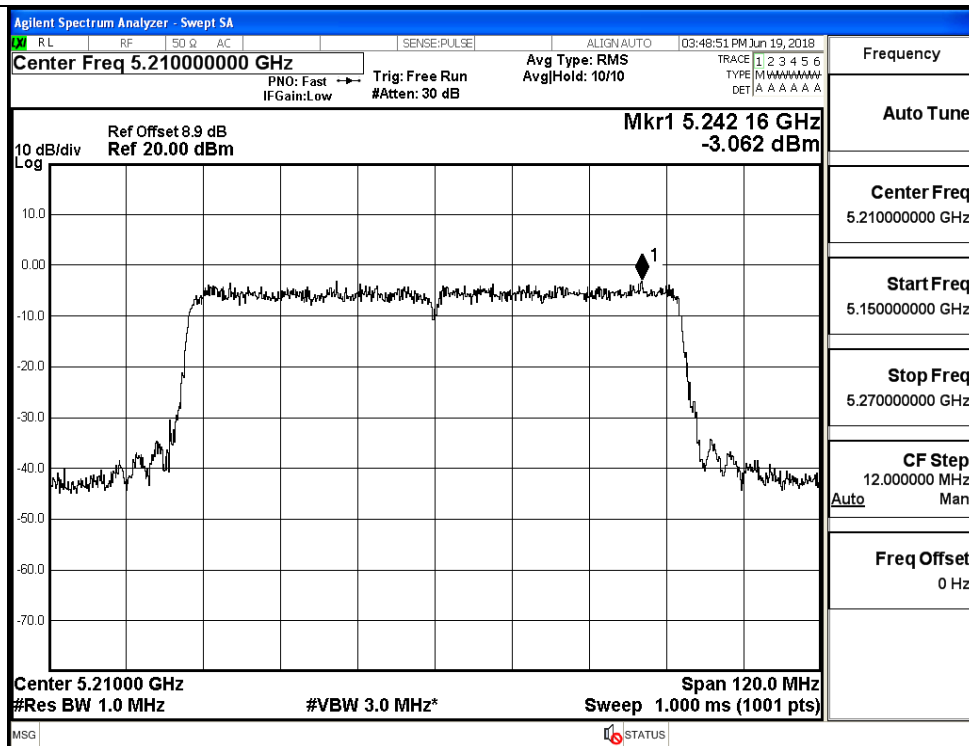
IEEE 802.11ac VHT20 / Channel 48 / 5240MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190MHz



IEEE 802.11ac VHT40 / Channel 46 / 5230MHz

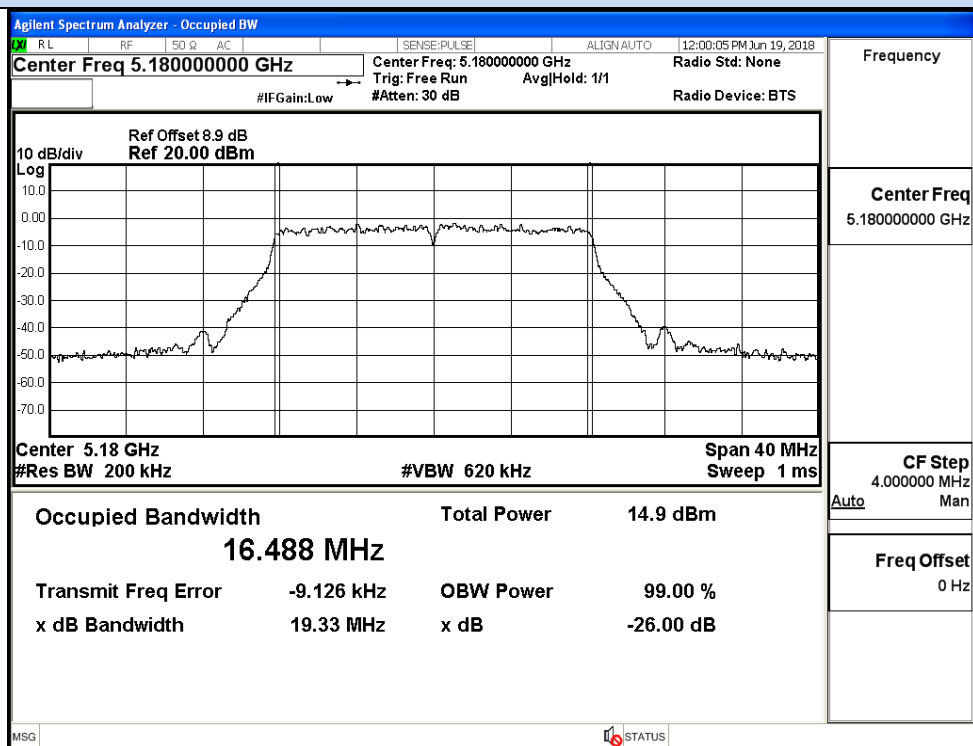


IEEE 802.11ac VHT80 / Channel 42 / 5210MHz

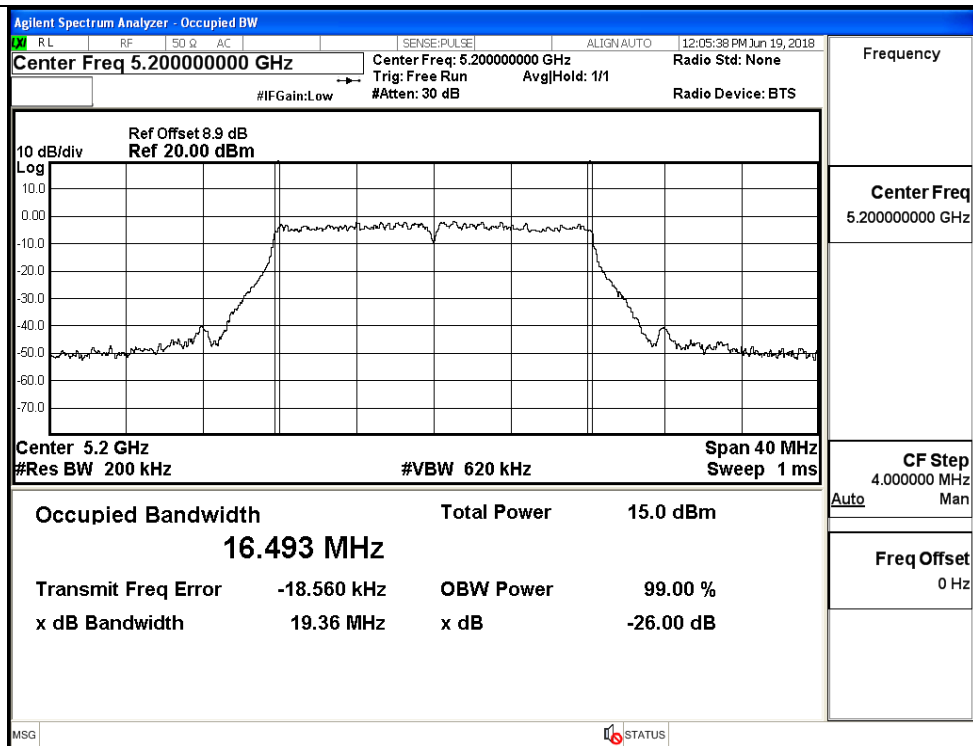
C.4 Emission Bandwidth

Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
IEEE 802.11a	36	5180	19.330	16.488	No Limit
	40	5200	19.360	16.493	
	48	5240	19.210	16.474	
IEEE 802.11n HT20	36	5180	19.890	17.554	No Limit
	40	5200	19.760	17.549	
	48	5240	19.600	17.551	
IEEE 802.11n HT40	38	5190	39.970	36.260	No Limit
	46	5230	40.070	36.233	
IEEE 802.11ac VHT20	36	5180	19.810	17.550	No Limit
	40	5200	19.660	17.547	
	48	5240	19.750	19.750	
IEEE 802.11ac VHT40	38	5190	40.010	36.213	No Limit
	46	5230	39.710	36.168	
IEEE 802.11ac VHT80	42	5210	80.940	75.489	No Limit

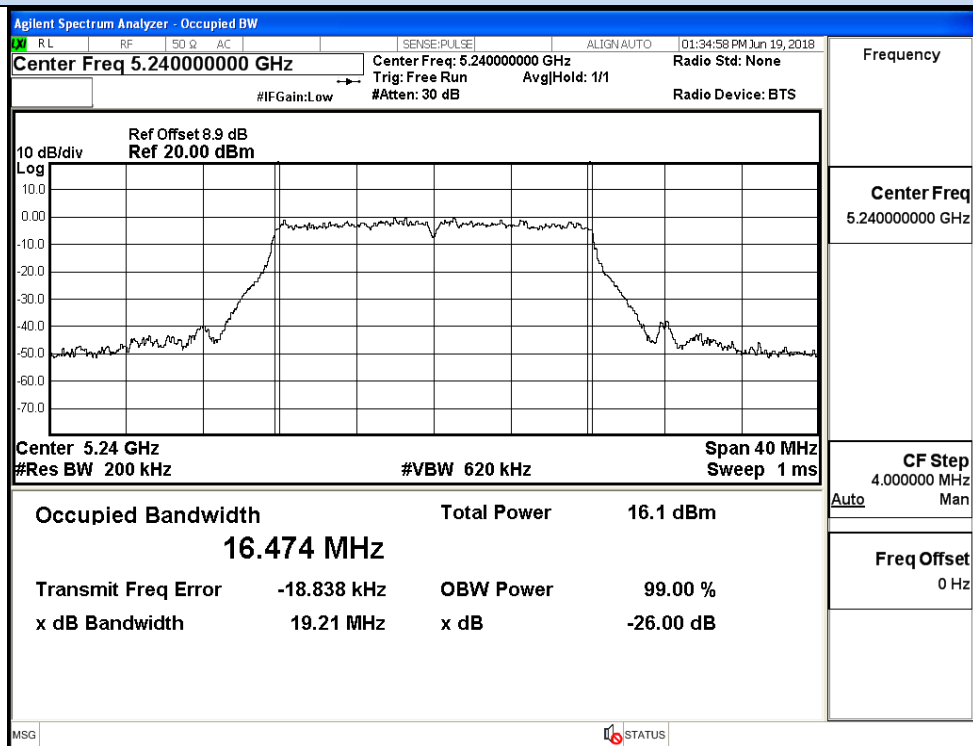
26dB Bandwidth and 99% Bandwidth



IEEE 802.11a / Channel 36 / 5180MHz

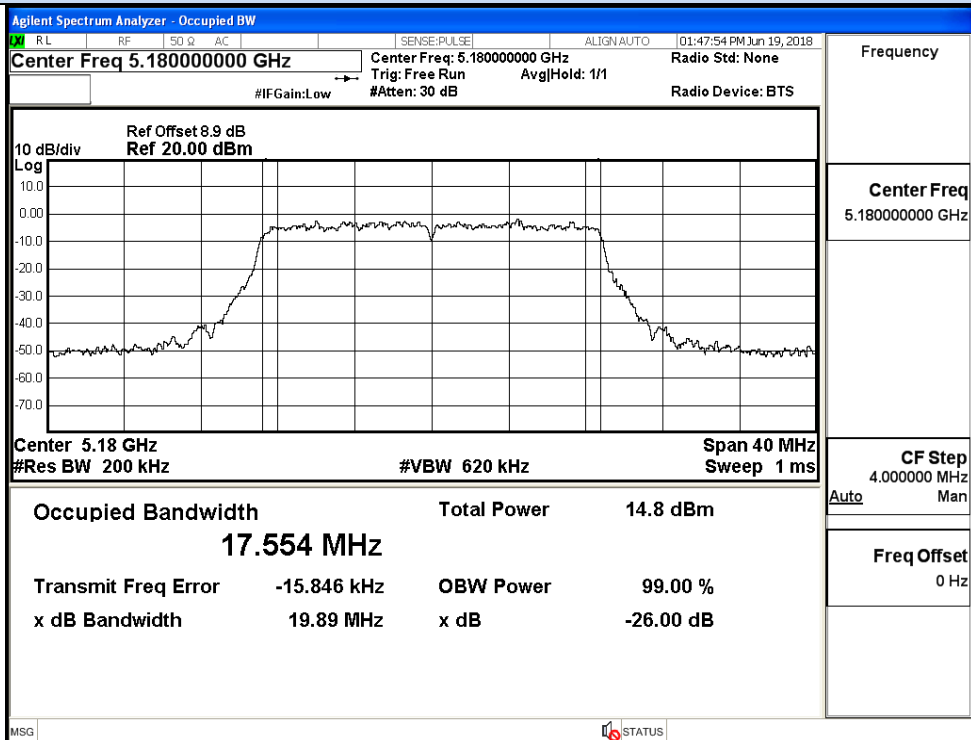


IEEE 802.11a / Channel 40 / 5200MHz

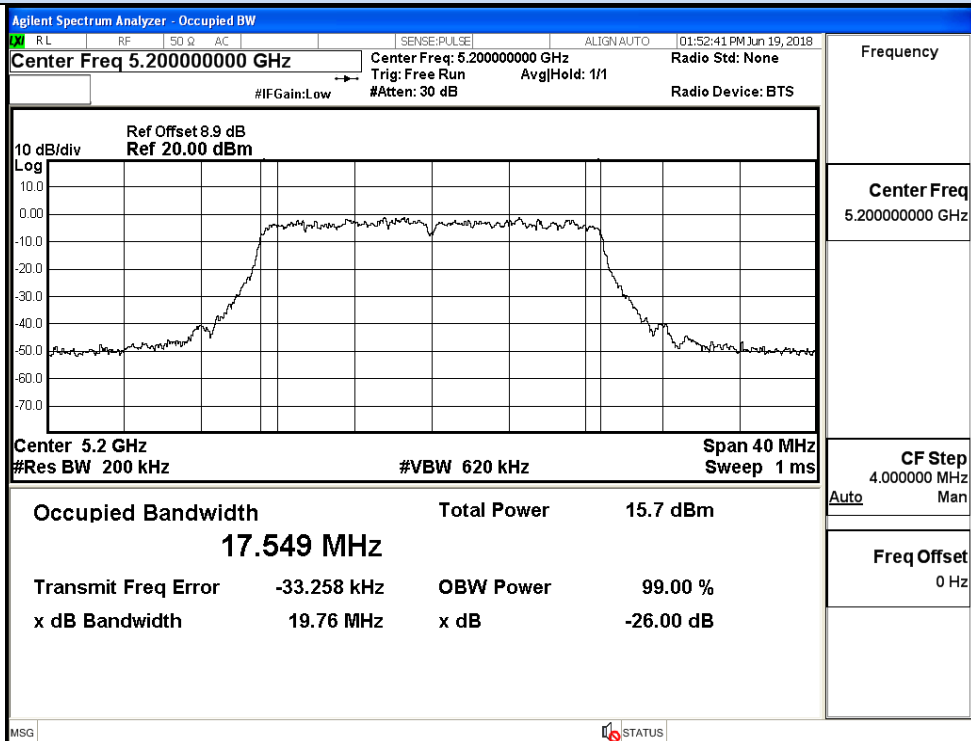


IEEE 802.11a / Channel 48 / 5240MHz

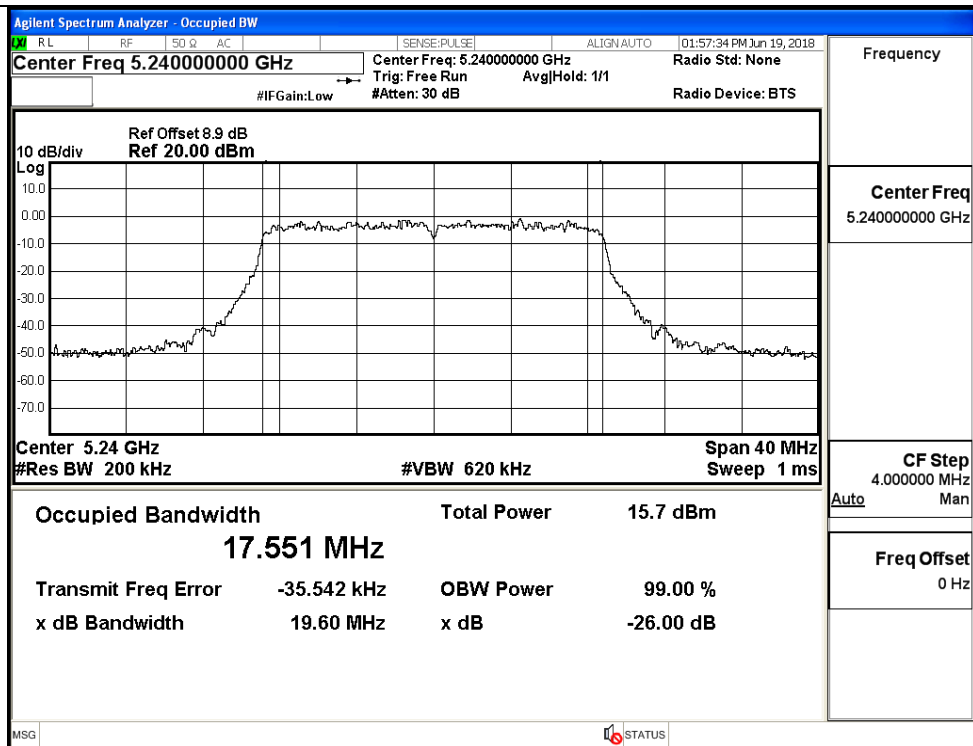
26dB Bandwidth and 99% Bandwidth



IEEE 802.11n HT20 / Channel 36 / 5180MHz

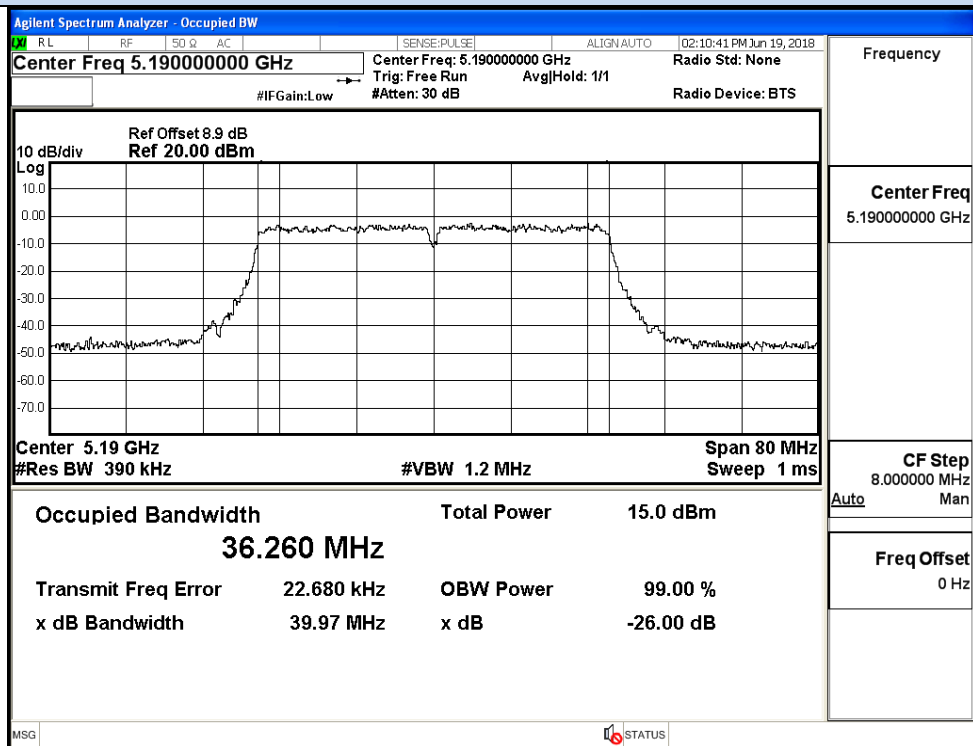


IEEE 802.11n HT20 / Channel 40 / 5200MHz

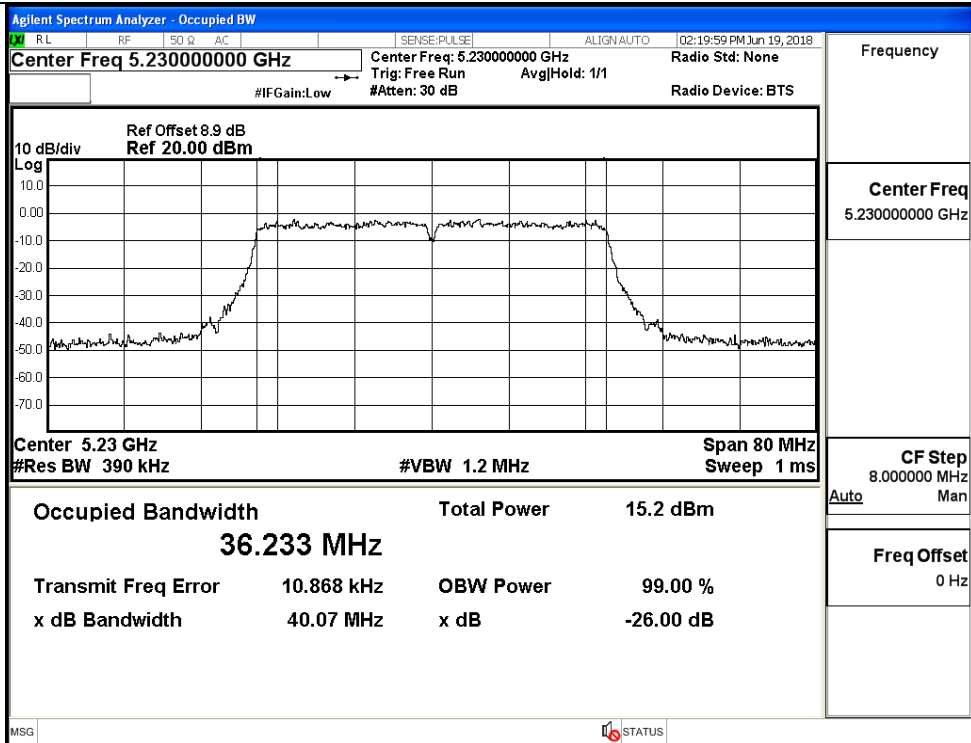


IEEE 802.11n HT20 / Channel 48 / 5240MHz

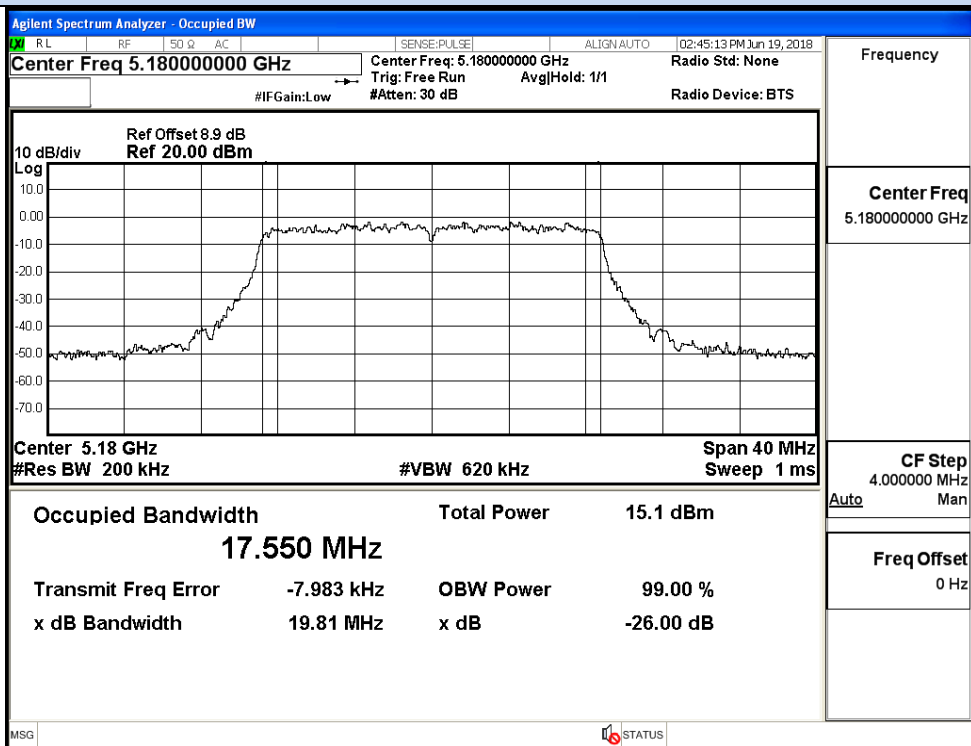
26dB Bandwidth and 99% Bandwidth



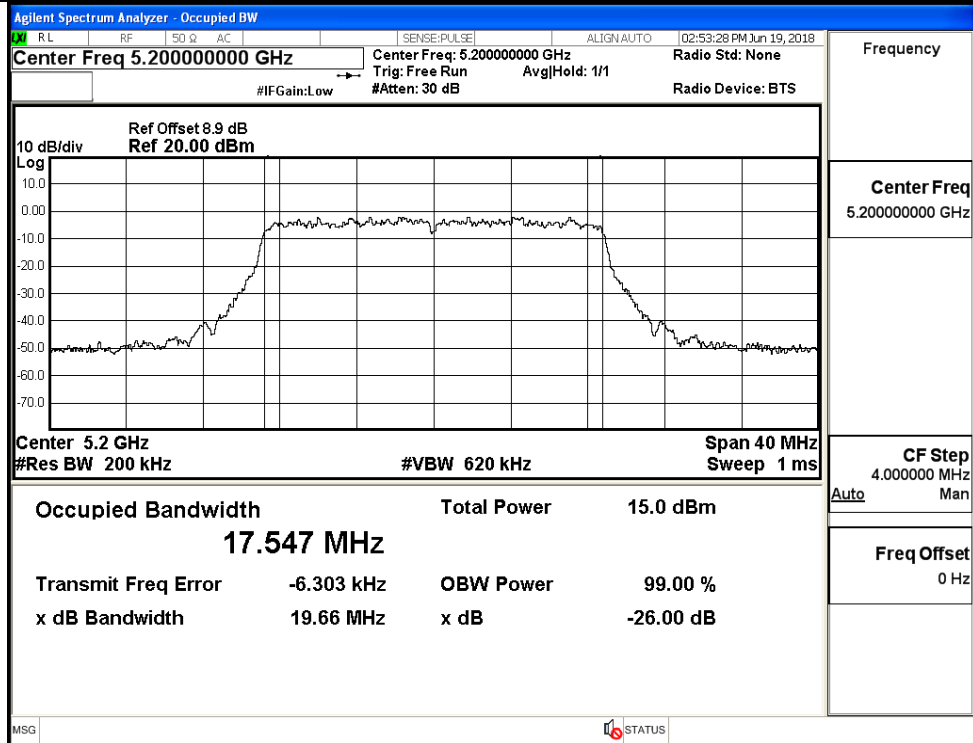
IEEE 802.11n HT40 / Channel 38 / 5190MHz



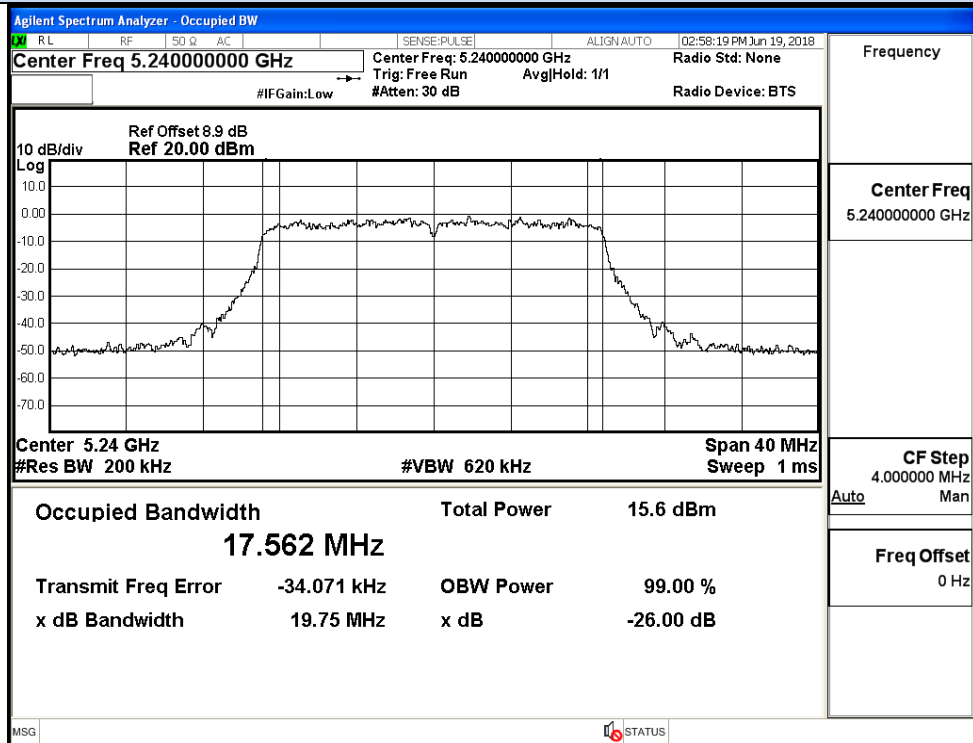
IEEE 802.11n HT40 / Channel 46 / 5230MHz



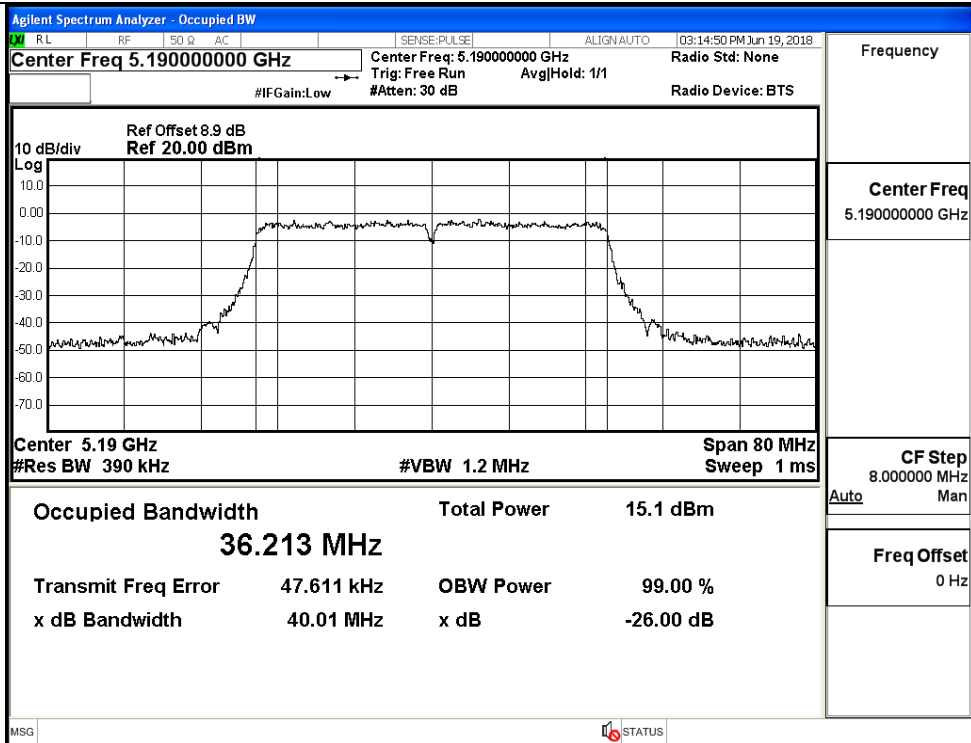
IEEE 802.11ac VHT20 / Channel 36 / 5180MHz



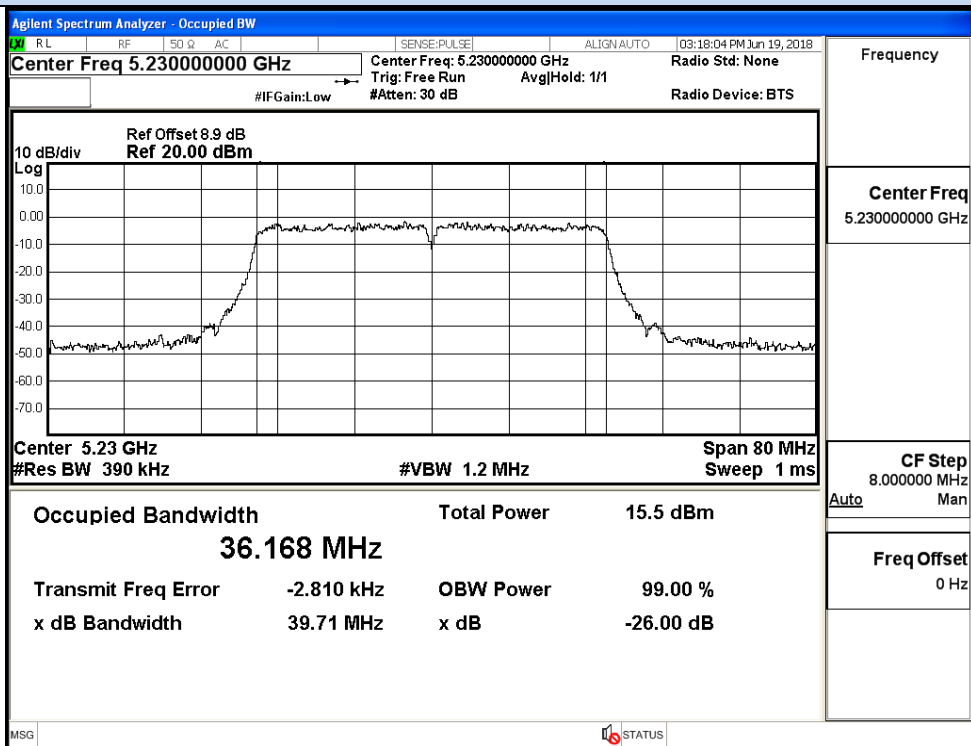
IEEE 802.11ac VHT20 / Channel 40 / 5200MHz



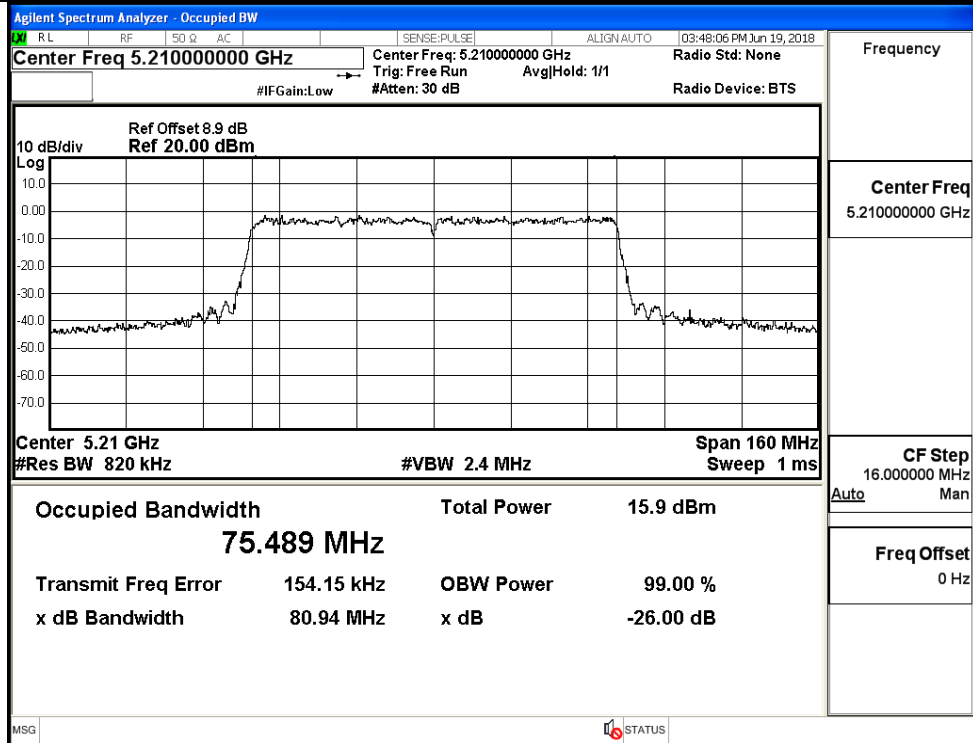
IEEE 802.11ac VHT20 / Channel 48 / 5240MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190MHz



IEEE 802.11ac VHT40 / Channel 46 / 5230MHz

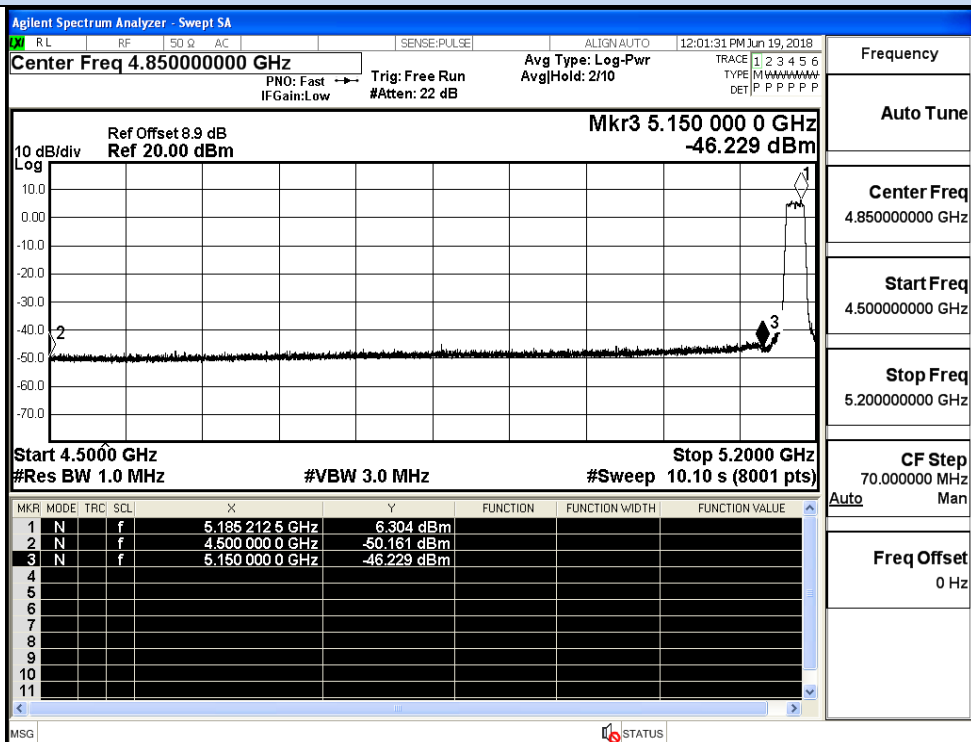


IEEE 802.11ac VHT80 / Channel 42 / 5210MHz

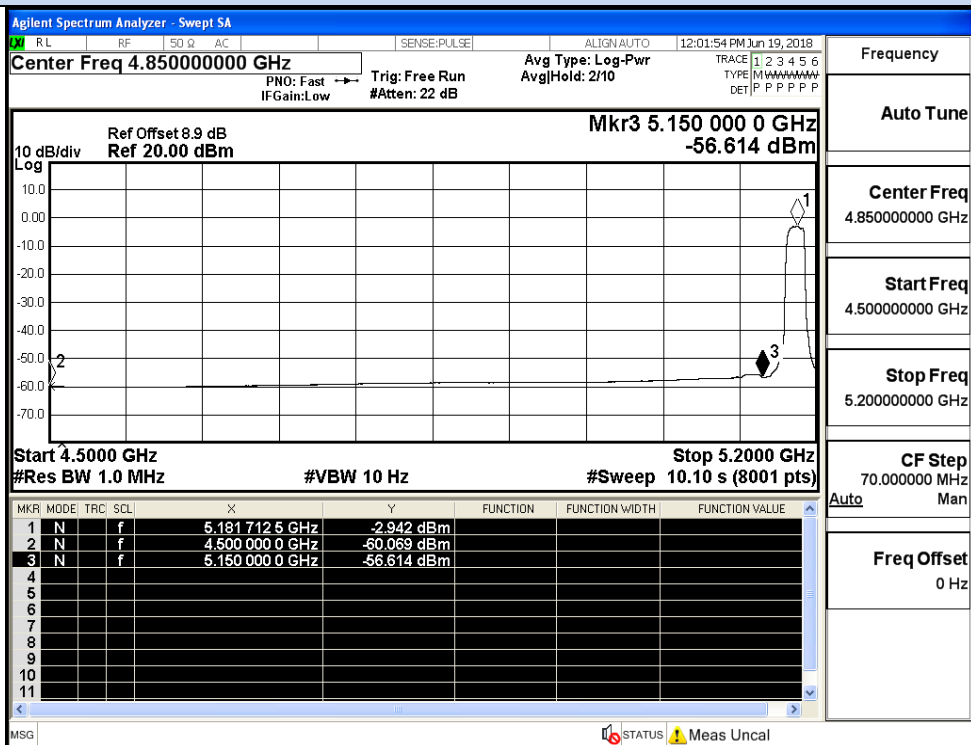
C.5 Undesirable Emissions Measurement

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)
IEEE 802.11a	36	4500.0	-50.161	5.000	0	50.067	Peak	68.20
		4500.0	-60.069	5.000	0	40.159	Average	54.00
		5150.0	-46.229	5.000	0	53.999	Peak	68.20
		5150.0	-56.614	5.000	0	43.614	Average	54.00
	48	5350.0	-48.129	5.000	0	52.099	Peak	68.20
		5350.0	-58.326	5.000	0	41.902	Average	54.00
		5460.0	-48.019	5.000	0	52.209	Peak	68.20
		5460.0	-59.198	5.000	0	41.030	Average	54.00
IEEE 802.11n HT20	36	4500.0	-50.070	5.000	0	50.158	Peak	68.20
		4500.0	-60.095	5.000	0	40.133	Average	54.00
		5150.0	-46.157	5.000	0	54.071	Peak	68.20
		5150.0	-56.618	5.000	0	43.610	Average	54.00
	48	5350.0	-47.881	5.000	0	52.347	Peak	68.20
		5350.0	-58.324	5.000	0	41.904	Average	54.00
		5460.0	-48.150	5.000	0	52.078	Peak	68.20
		5460.0	-59.090	5.000	0	41.138	Average	54.00
IEEE 802.11n HT40	38	4500.0	-50.653	5.000	0	49.575	Peak	68.20
		4500.0	-60.054	5.000	0	40.174	Average	54.00
		5150.0	-45.146	5.000	0	55.082	Peak	68.20
		5150.0	-55.587	5.000	0	44.641	Average	54.00
	46	5350.0	-47.773	5.000	0	52.455	Peak	68.20
		5350.0	-57.970	5.000	0	42.258	Average	54.00
		5460.0	-48.933	5.000	0	51.295	Peak	68.20
		5460.0	-58.761	5.000	0	41.467	Average	54.00
IEEE 802.11ac VHT20	36	4500.0	-50.093	5.000	0	50.135	Peak	68.20
		4500.0	-60.053	5.000	0	40.175	Average	54.00
		5150.0	-45.073	5.000	0	55.155	Peak	68.20
		5150.0	-56.505	5.000	0	43.723	Average	54.00
	48	5350.0	-47.746	5.000	0	52.482	Peak	68.20
		5350.0	-58.176	5.000	0	42.052	Average	54.00
		5460.0	-48.716	5.000	0	51.512	Peak	68.20
		5460.0	-59.031	5.000	0	41.197	Average	54.00
IEEE 802.11ac VHT40	38	4500.0	-49.599	5.000	0	50.629	Peak	68.20
		4500.0	-60.043	5.000	0	40.185	Average	54.00
		5150.0	-45.306	5.000	0	54.922	Peak	68.20
		5150.0	-55.566	5.000	0	44.662	Average	54.00
	46	5350.0	-47.048	5.000	0	53.180	Peak	68.20
		5350.0	-57.905	5.000	0	42.323	Average	54.00
		5460.0	-48.433	5.000	0	51.795	Peak	68.20
		5460.0	-58.775	5.000	0	41.453	Average	54.00
IEEE 802.11ac VHT80	42	4500.0	-49.856	5.000	0	50.372	Peak	68.20
		4500.0	-60.047	5.000	0	40.181	Average	54.00
		5150.0	-40.324	5.000	0	59.904	Peak	68.20
		5150.0	-50.353	5.000	0	49.875	Average	54.00
		5350.0	-46.464	5.000	0	53.764	Peak	68.20
		5350.0	-57.233	5.000	0	42.995	Average	54.00
		5460.0	-49.061	5.000	0	51.167	Peak	68.20
		5460.0	-58.277	5.000	0	41.951	Average	54.00

Undesirable Emissions Measurement

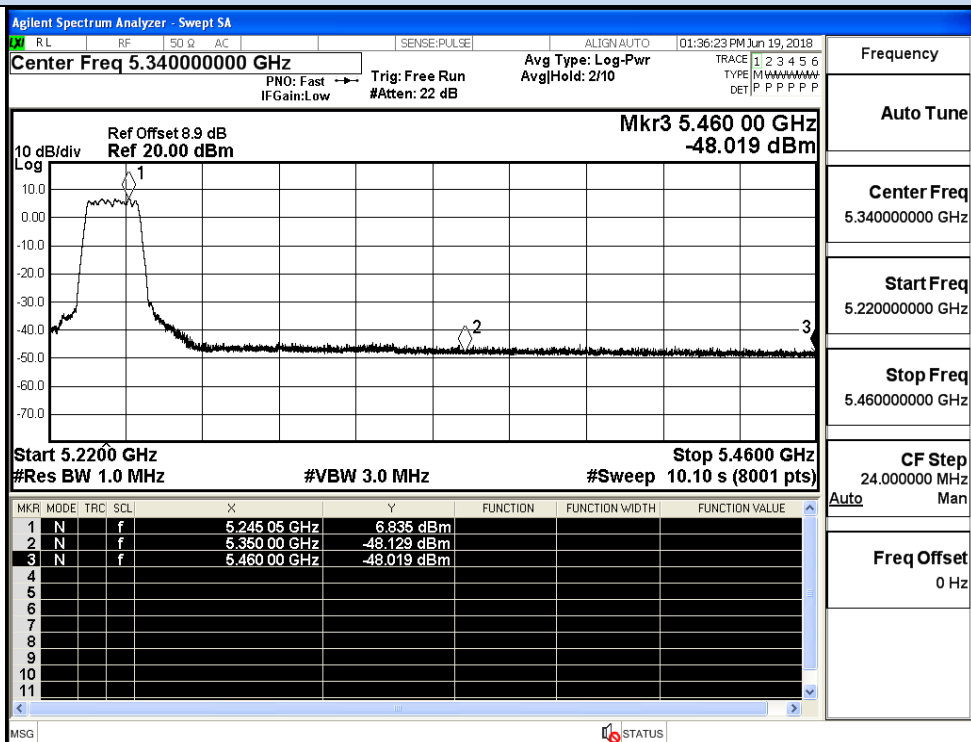


IEEE 802.11a / Channel 36 / 5180MHz / Peak

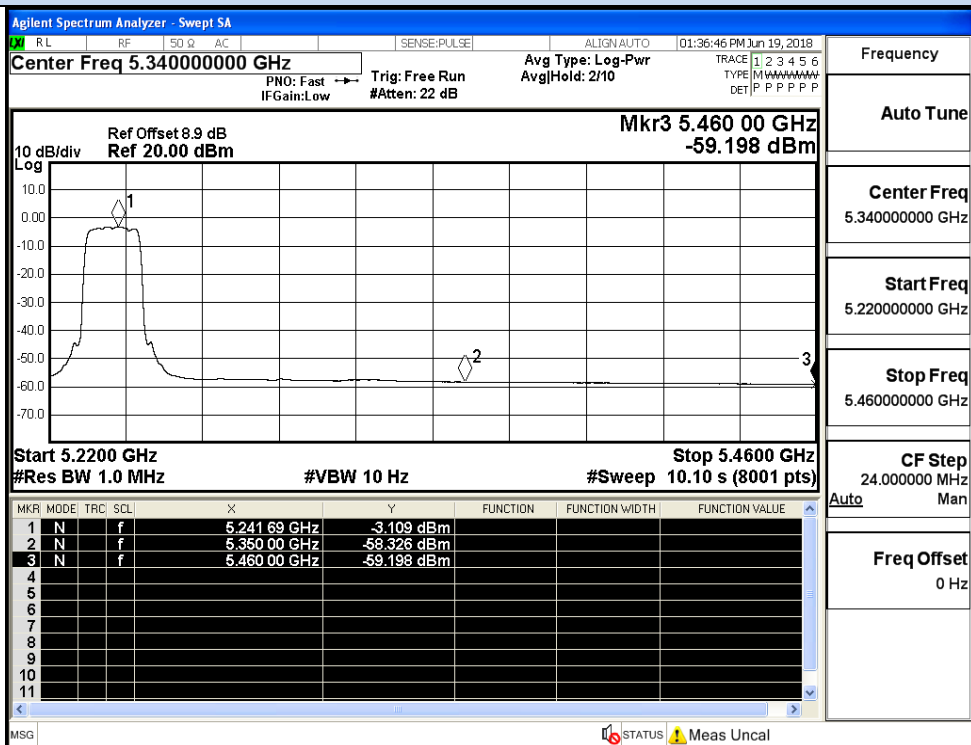


IEEE 802.11a / Channel 36 / 5180MHz / Average

Undesirable Emissions Measurement

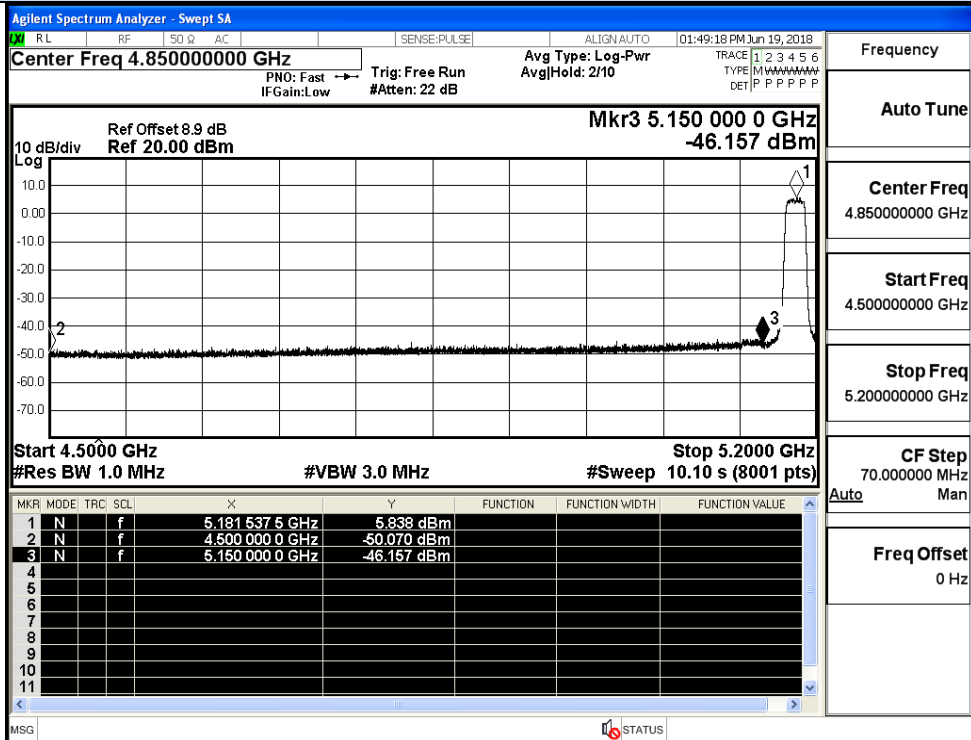


IEEE 802.11a / Channel 48 / 5240MHz / Peak

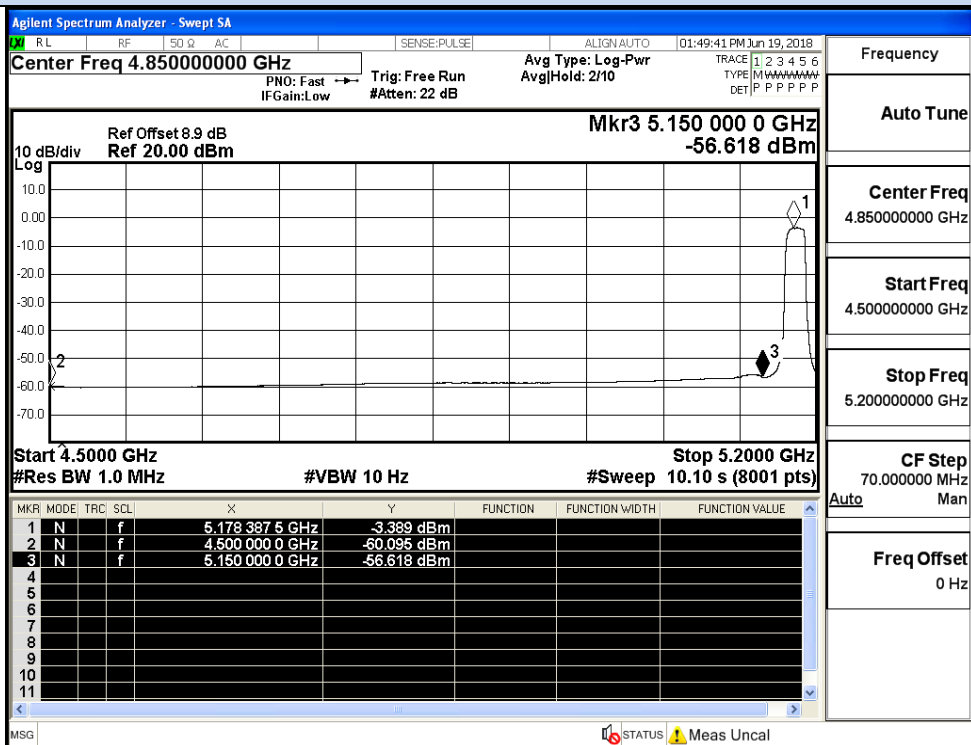


IEEE 802.11a / Channel 48 / 5240MHz / Average

Undesirable Emissions Measurement

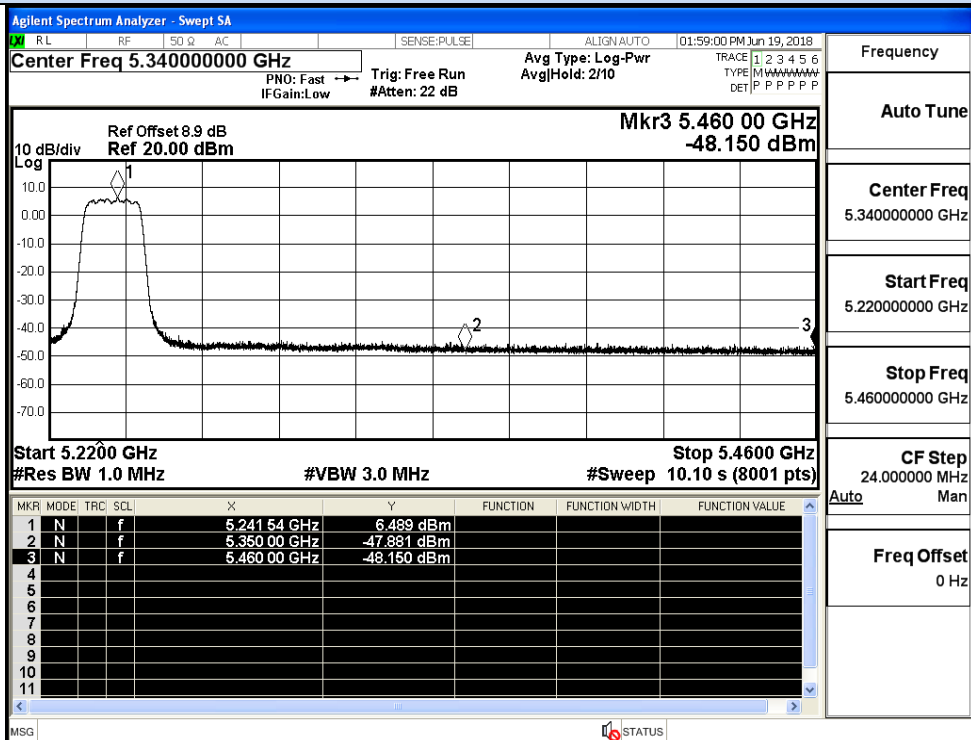


IEEE 802.11n HT20 / Channel 36 / 5180MHz / Peak

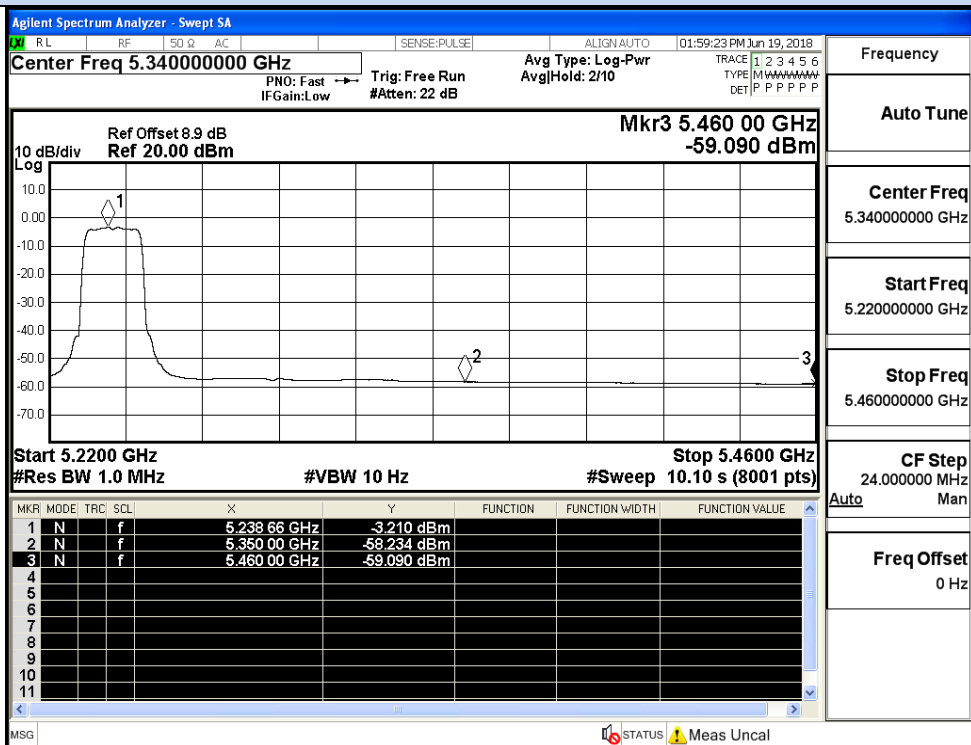


IEEE 802.11n HT20 / Channel 36 / 5180MHz / Average

Undesirable Emissions Measurement

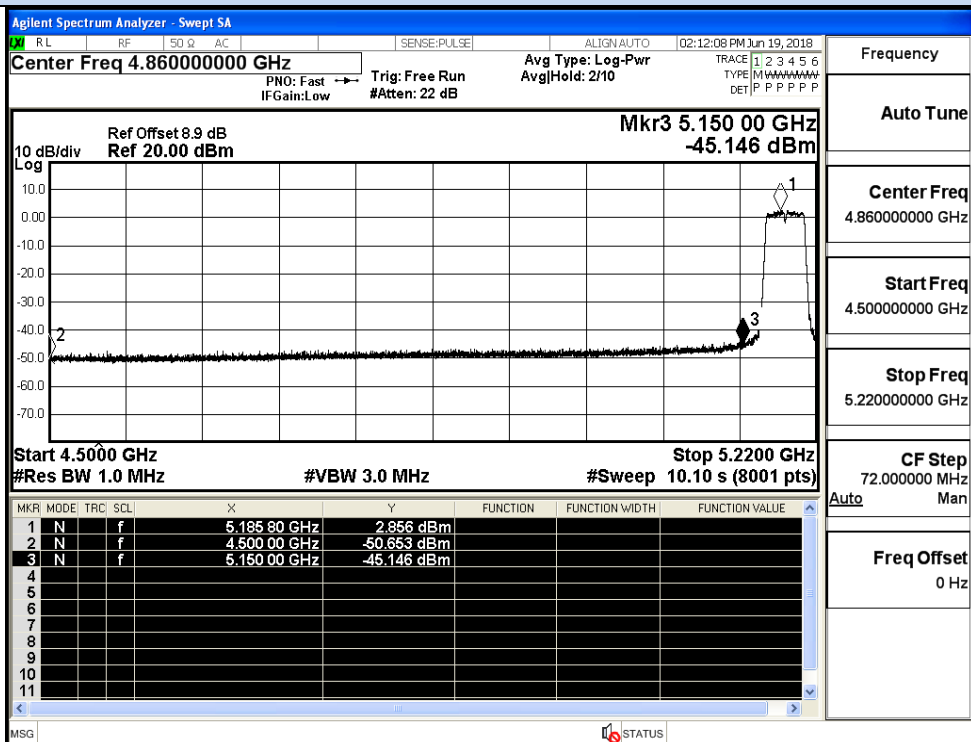


IEEE 802.11n HT20 / Channel 48 / 5240MHz / Peak

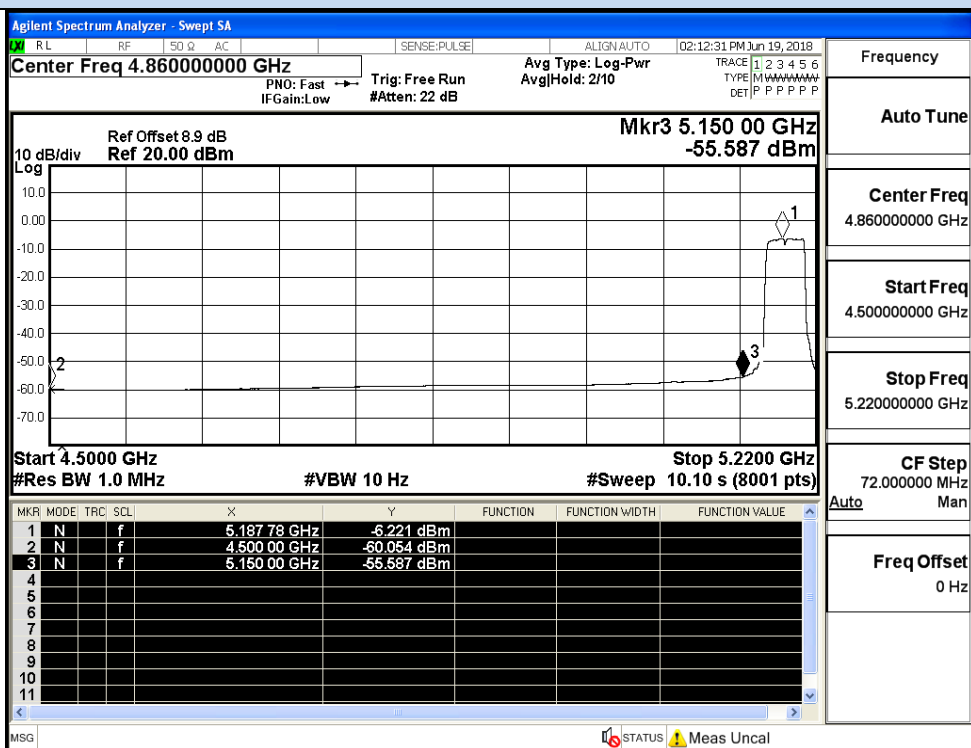


IEEE 802.11n HT20 / Channel 48 / 5240MHz / Average

Undesirable Emissions Measurement

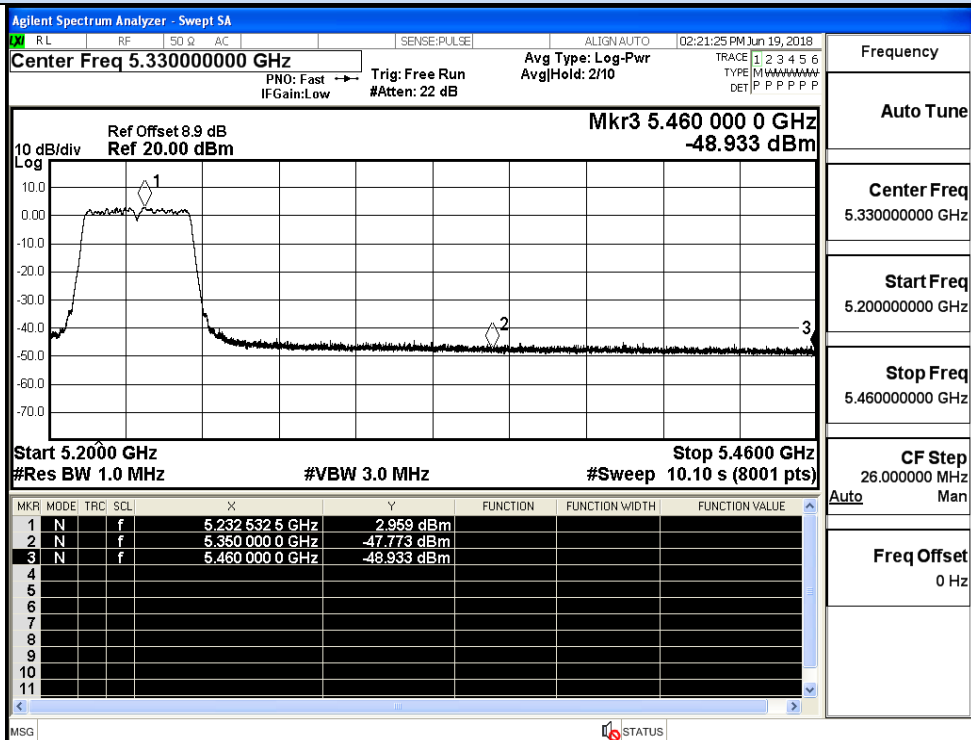


IEEE 802.11n HT40 / Channel 36 / 5180MHz / Peak

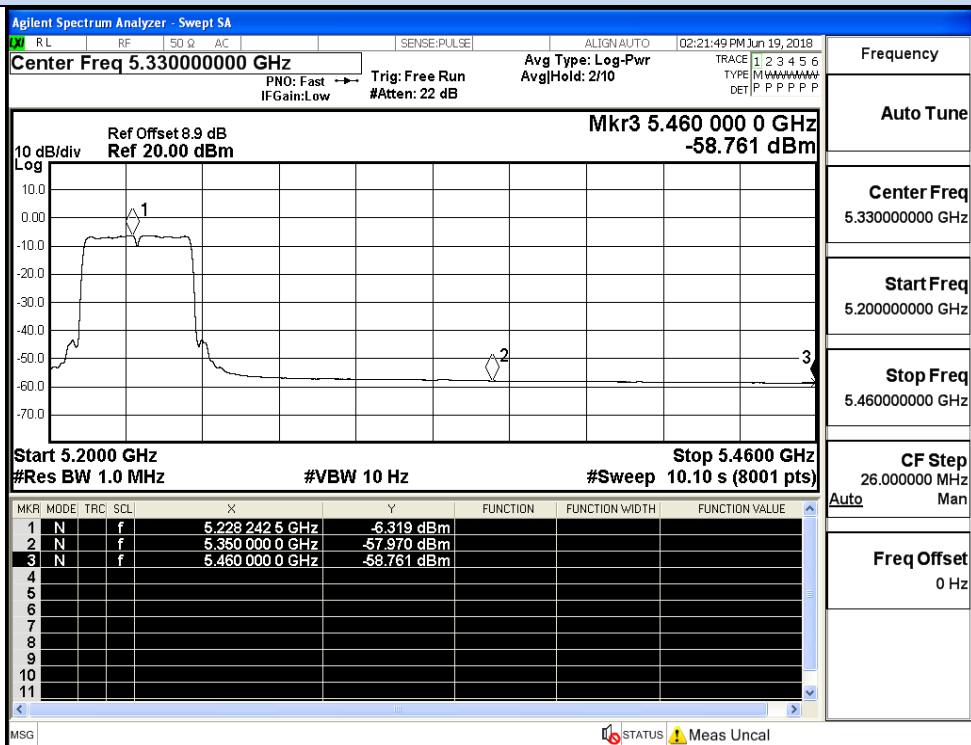


IEEE 802.11n HT40 / Channel 36 / 5180MHz / Average

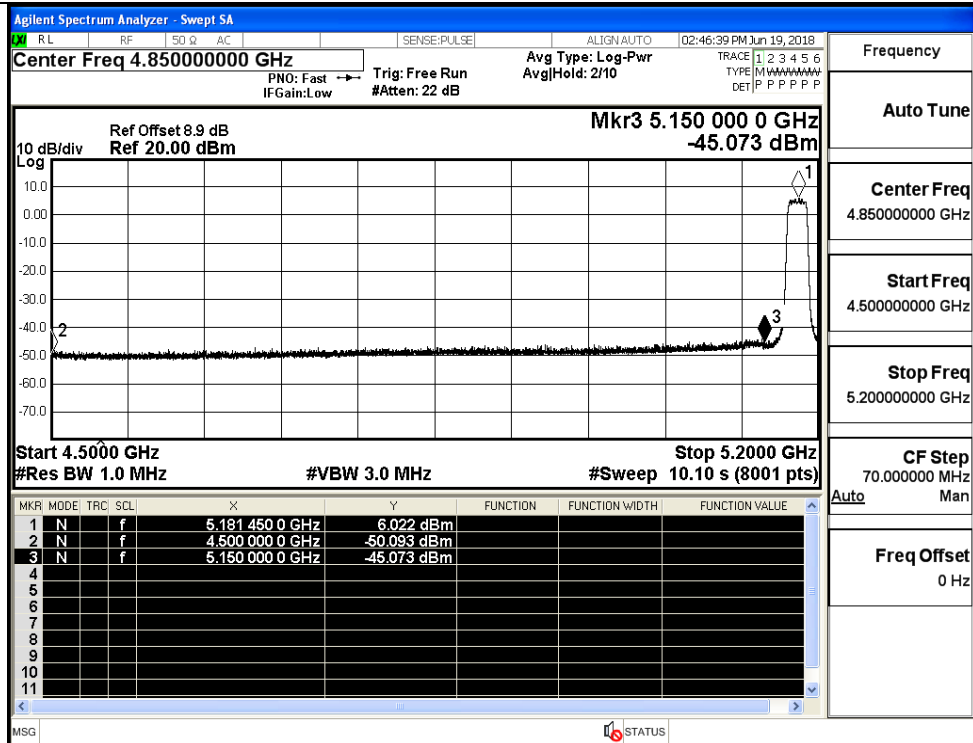
Undesirable Emissions Measurement



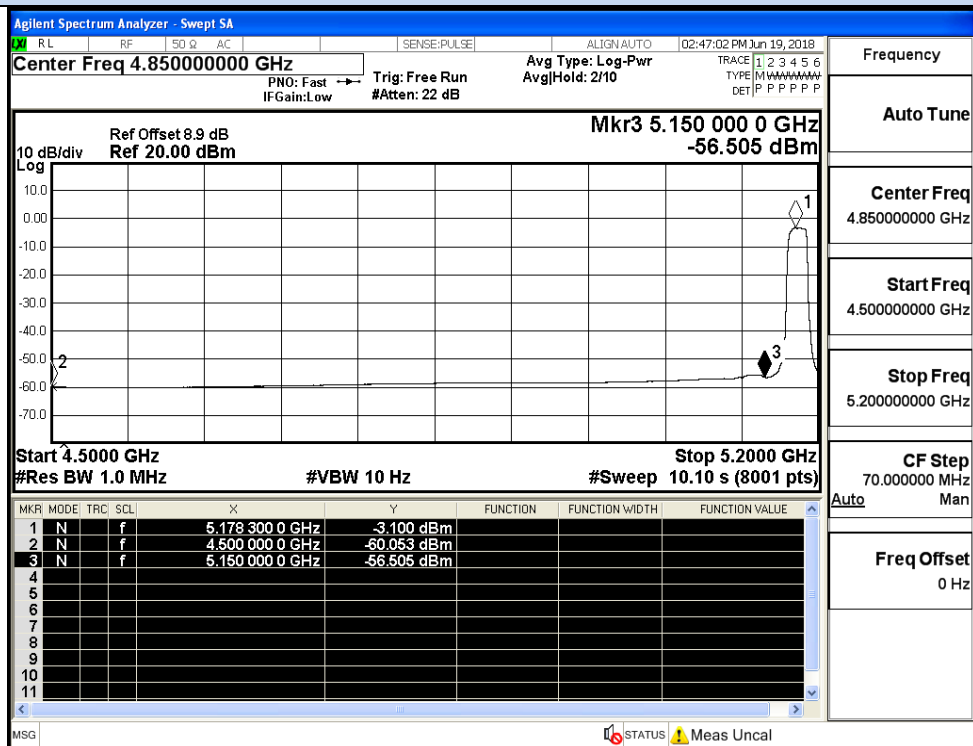
IEEE 802.11n HT40 / Channel 48 / 5230MHz / Peak



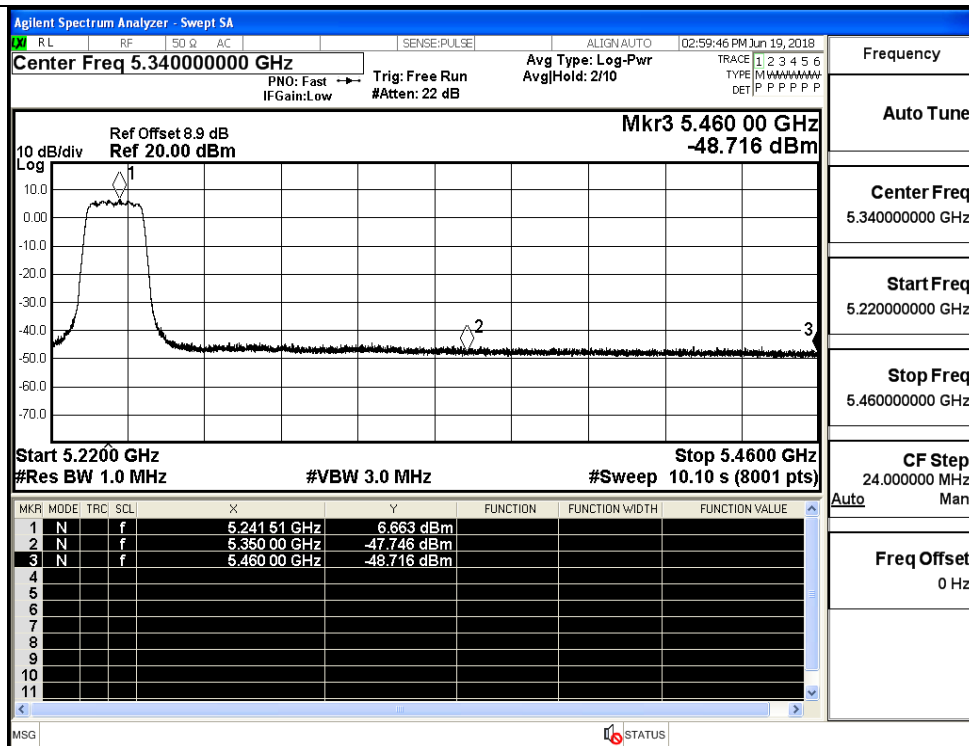
IEEE 802.11n HT40 / Channel 48 / 5230MHz / Average



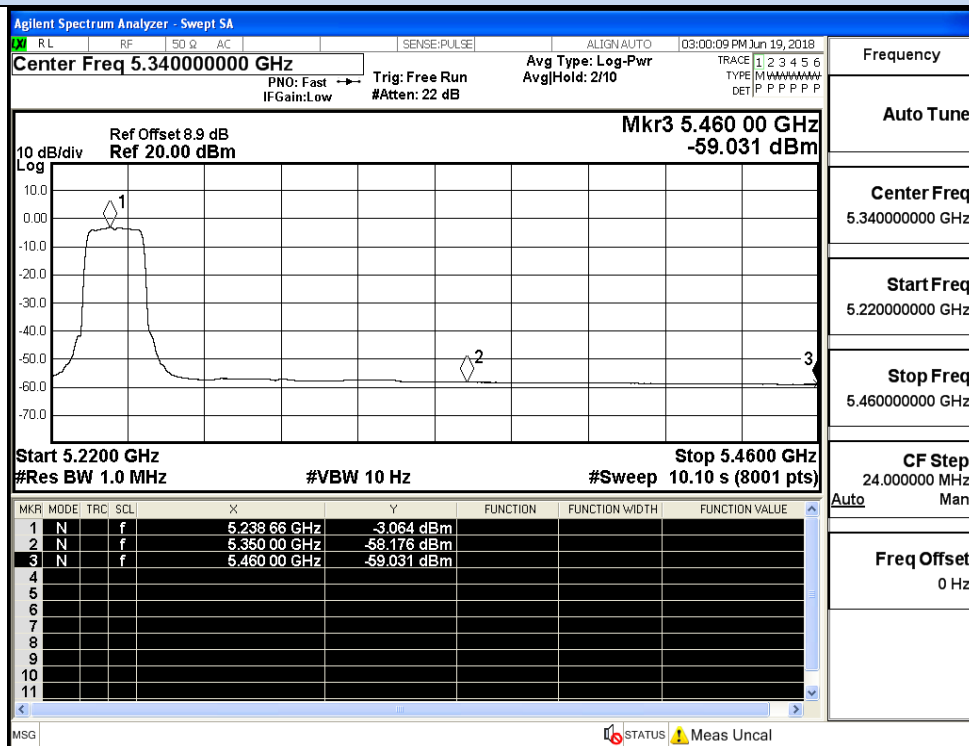
IEEE 802.11ac VHT20 / Channel 36 / 5180MHz / Peak



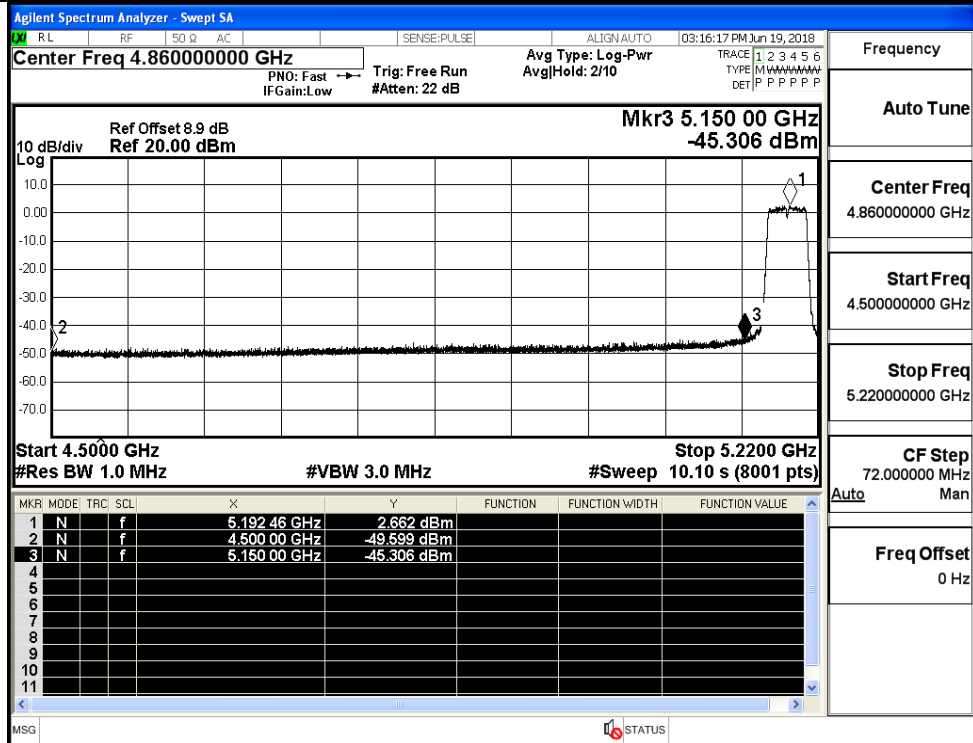
IEEE 802.11ac VHT20 / Channel 36 / 5180MHz / Average



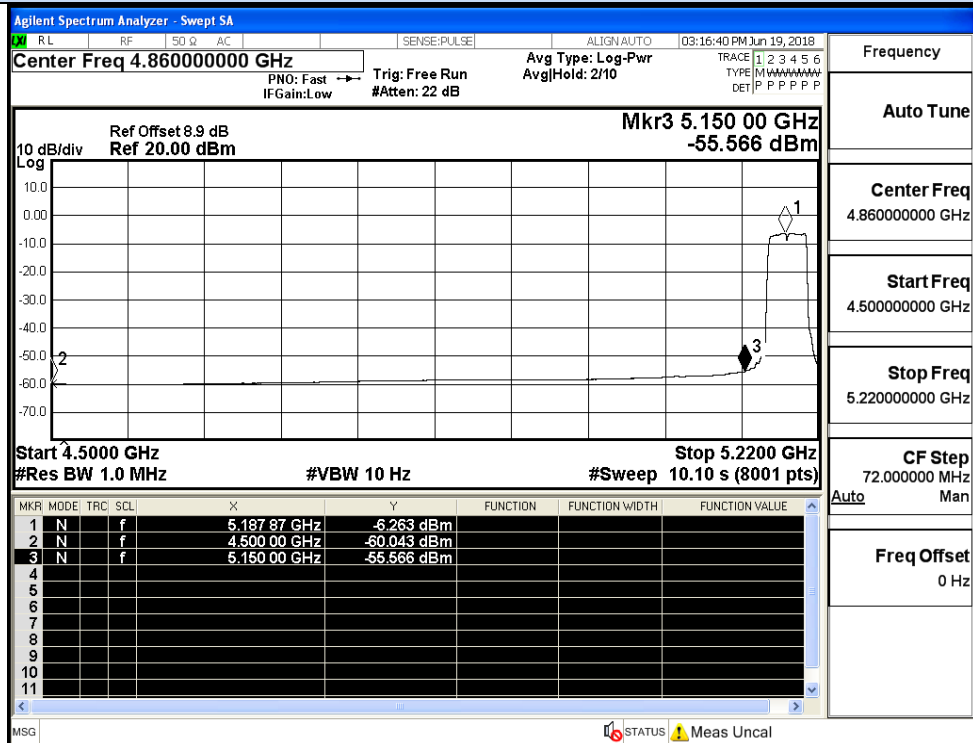
IEEE 802.11ac VHT20 / Channel 48 / 5240MHz / Peak



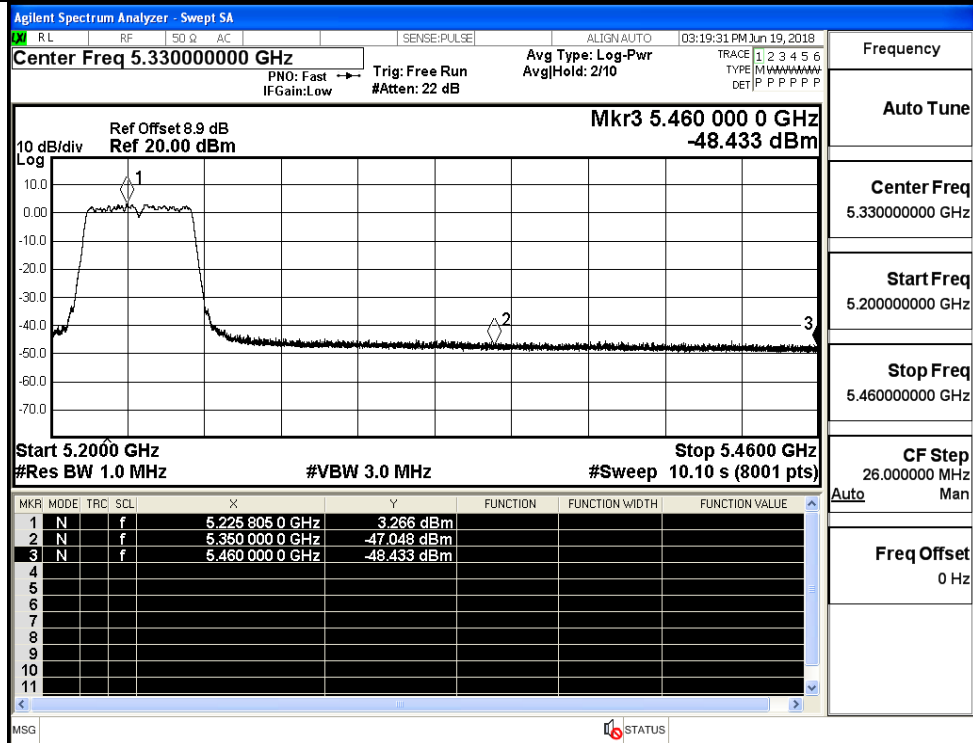
IEEE 802.11ac VHT20 / Channel 48 / 5240MHz / Average



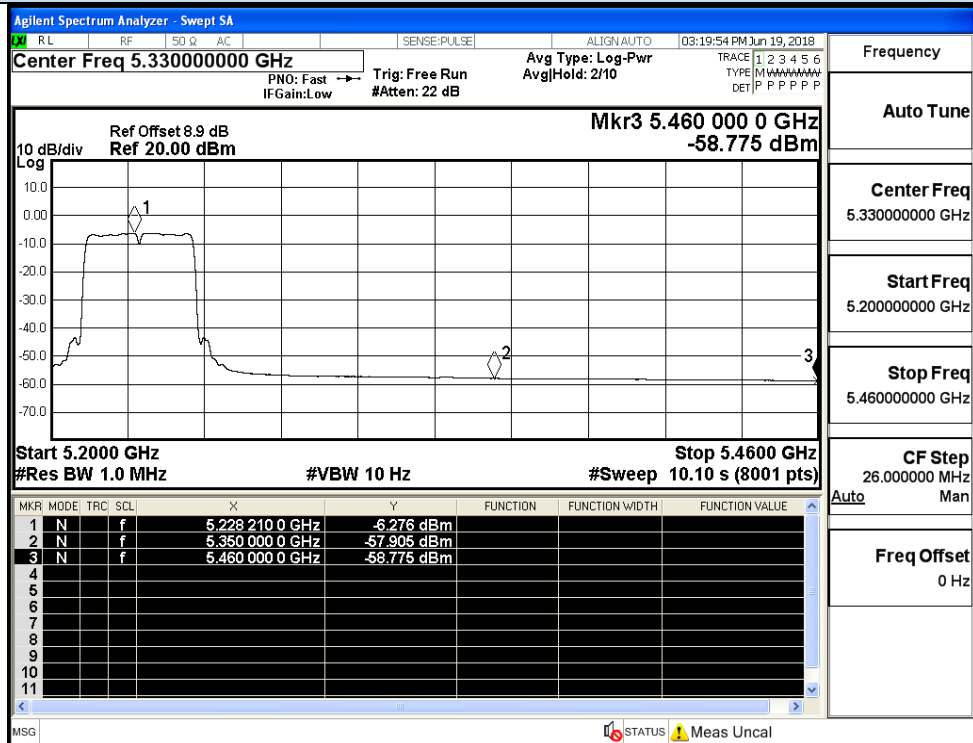
IEEE 802.11ac VHT40 / Channel 36 / 5180MHz / Peak



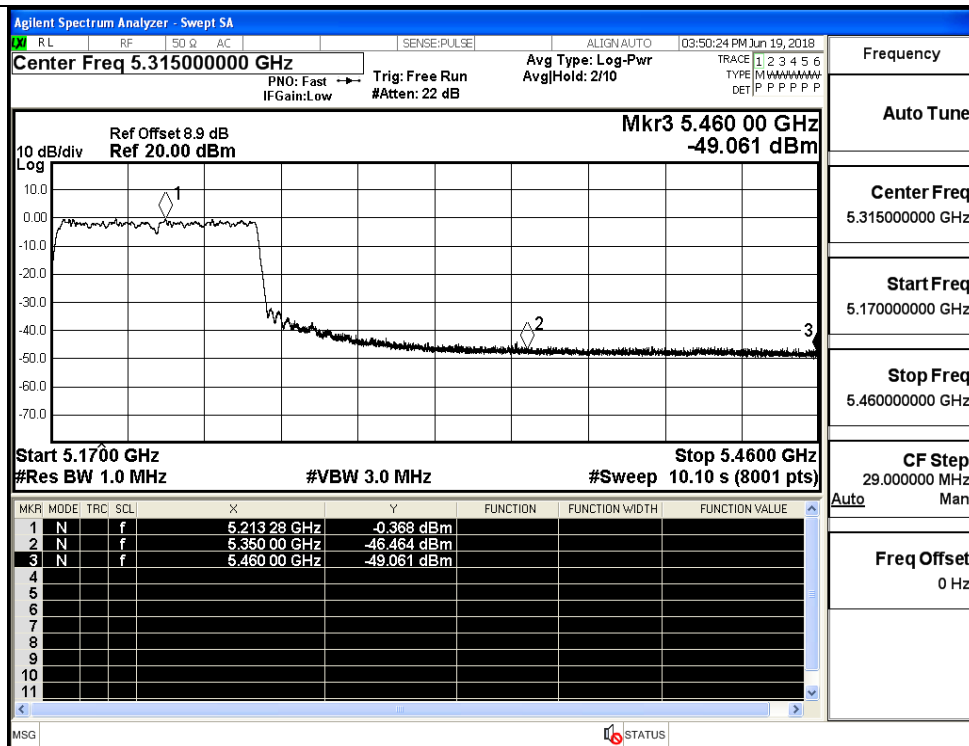
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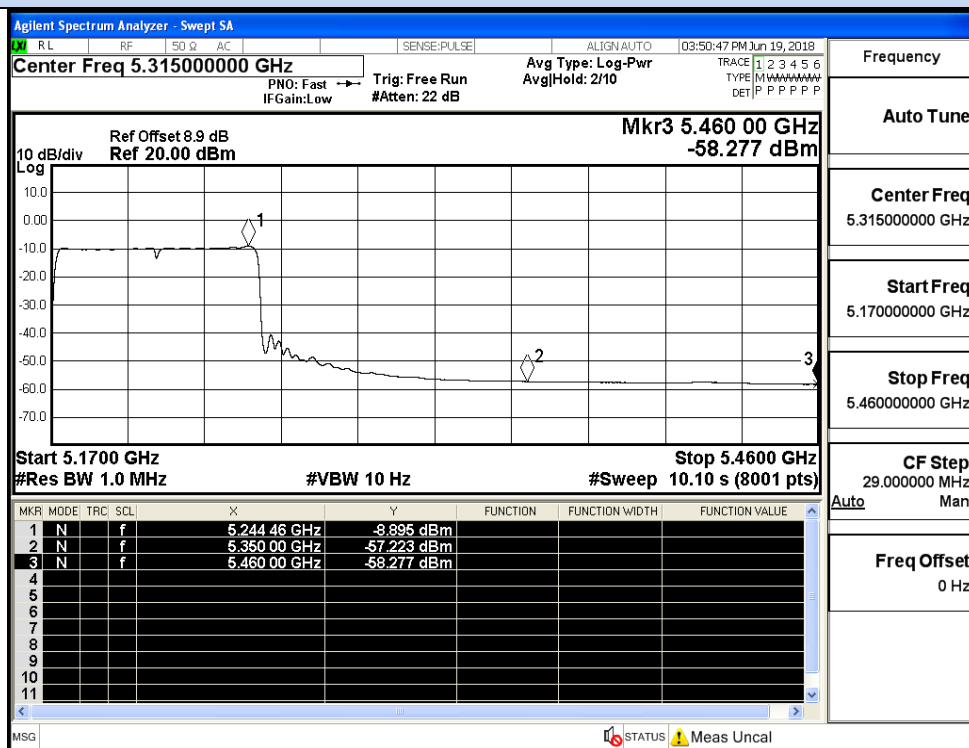
IEEE 802.11ac VHT40 / Channel 48 / 5230MHz / Peak



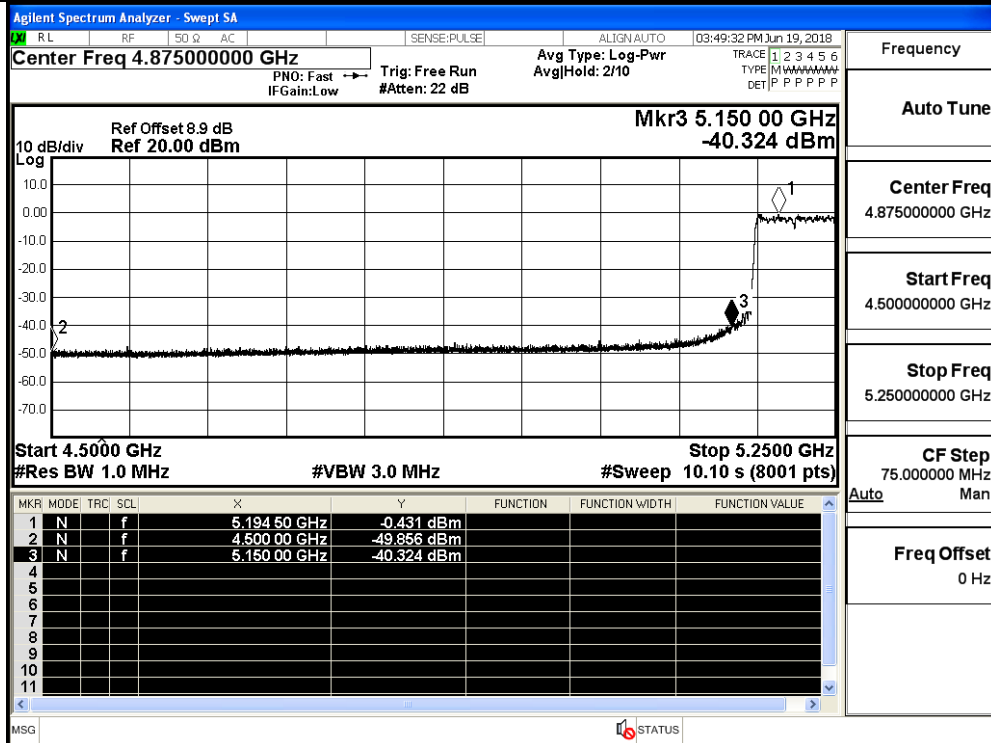
IEEE 802.11ac VHT40 / Channel 48 / 5230MHz / Average



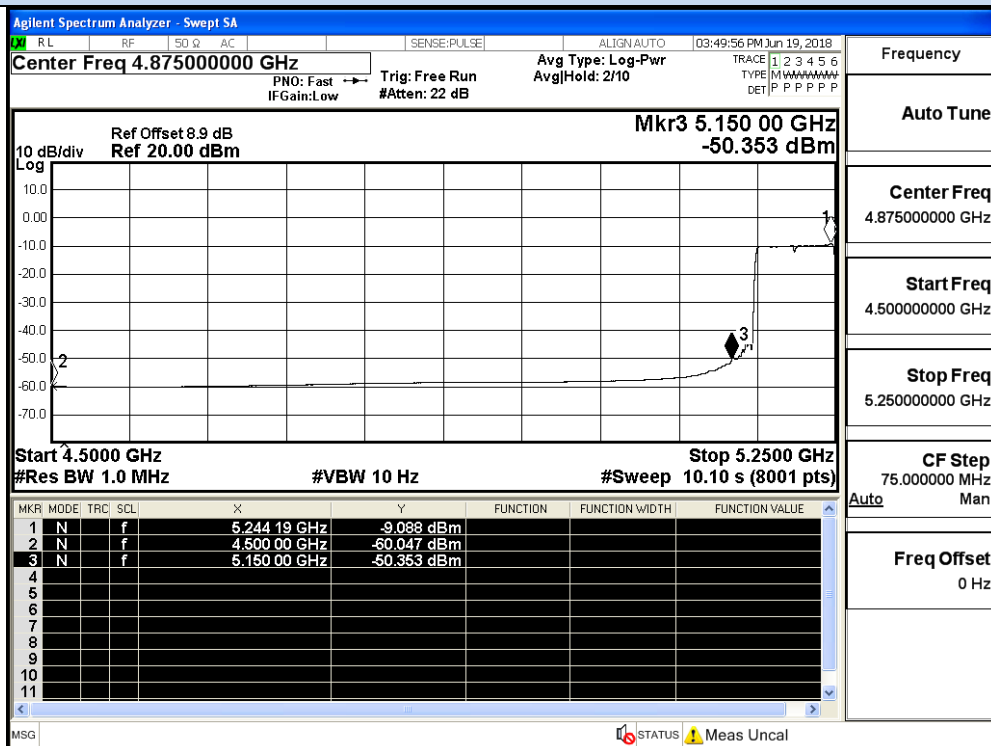
IEEE 802.11ac VHT80 / Channel 42 / 5210MHz / Peak



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



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



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