

## Appendix B

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

Product Name: Mini 802.11ac Wireless USB Adapter

Trade Mark: N/A

Test Model: 0611

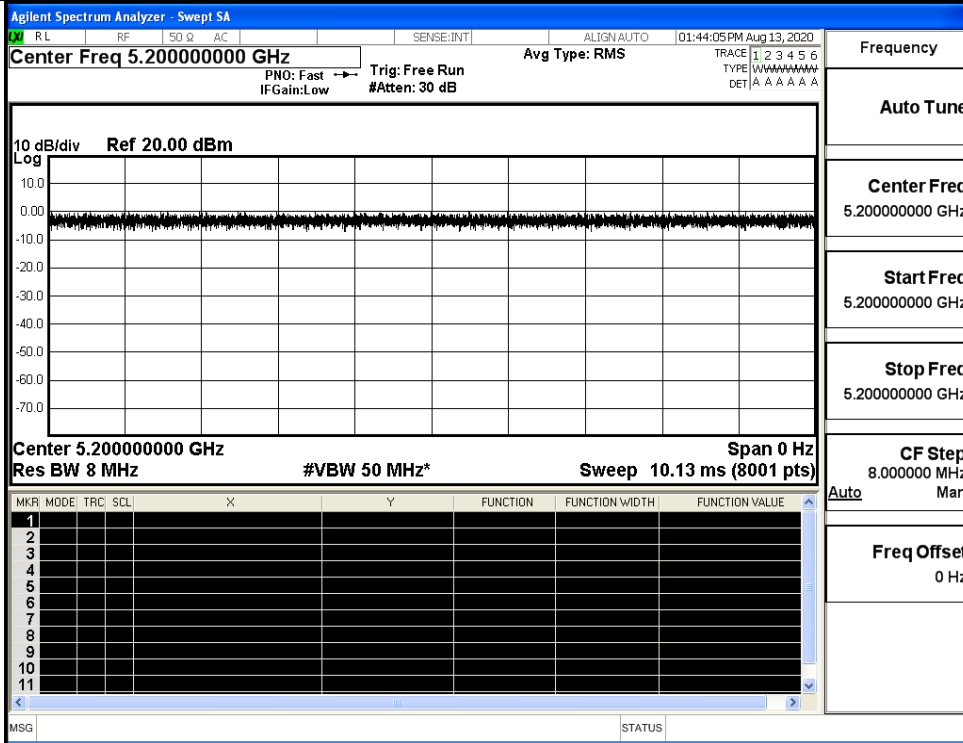
#### Environmental Conditions

Temperature:	24.2 ° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	DIAAMOND.LU
Supervised by:	Tom.Liu

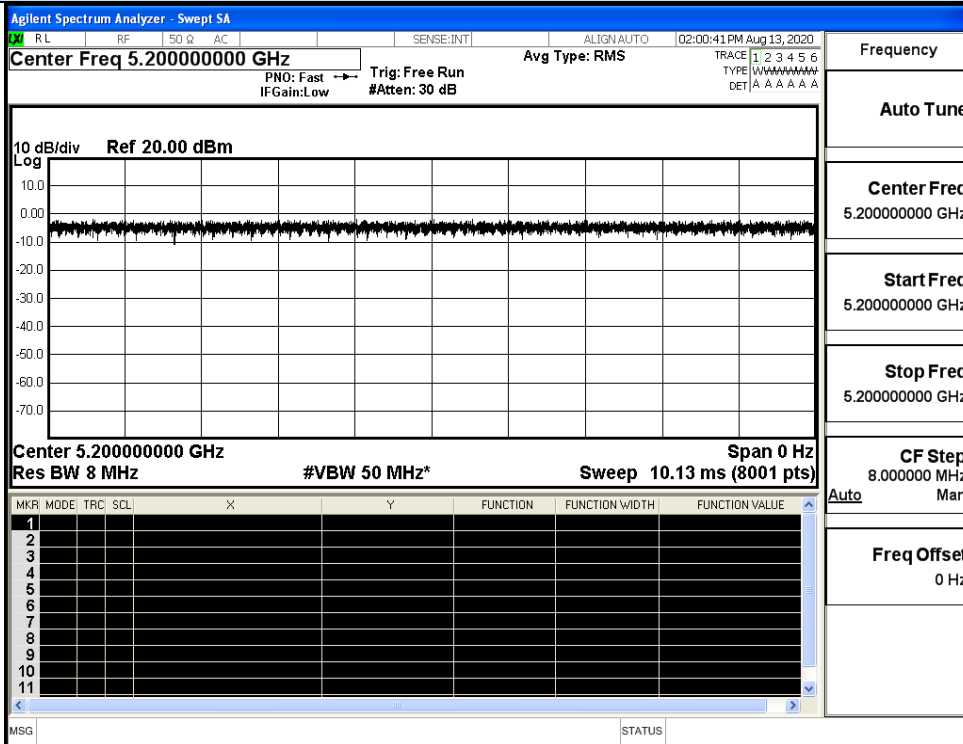
#### B.1 Duty Cycle

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

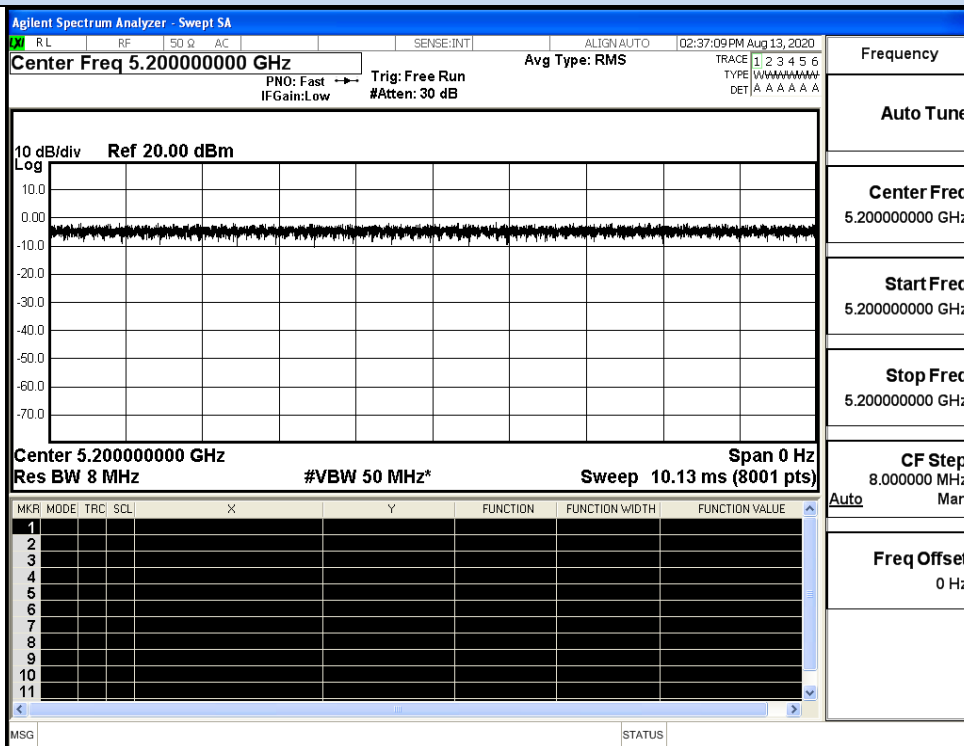
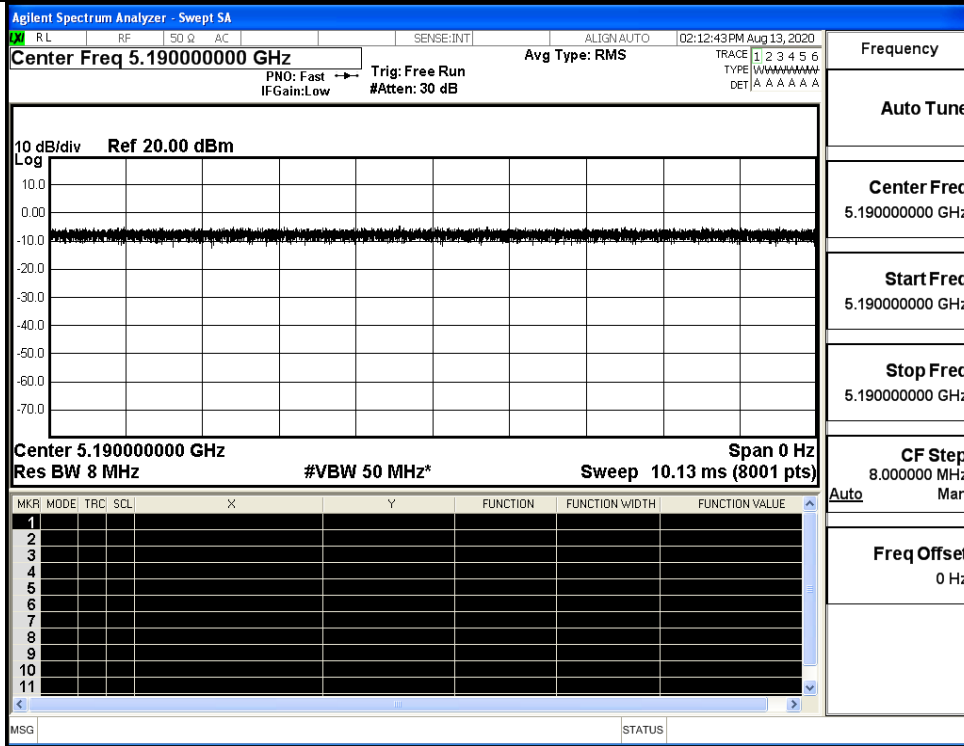
On Time and Duty Cycle

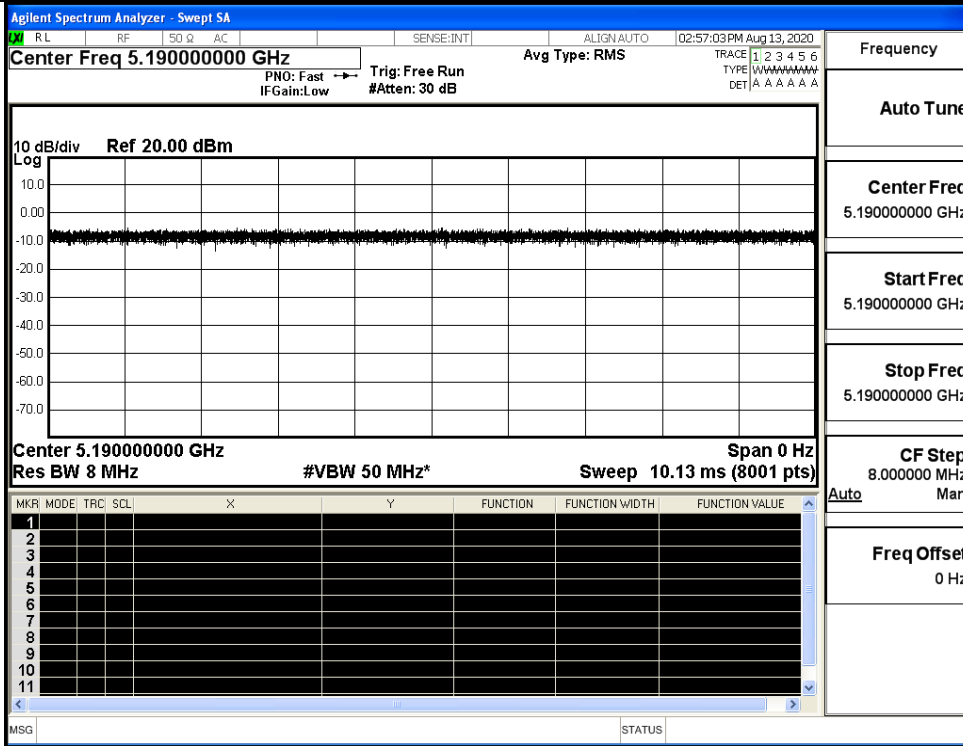


IEEE 802.11a

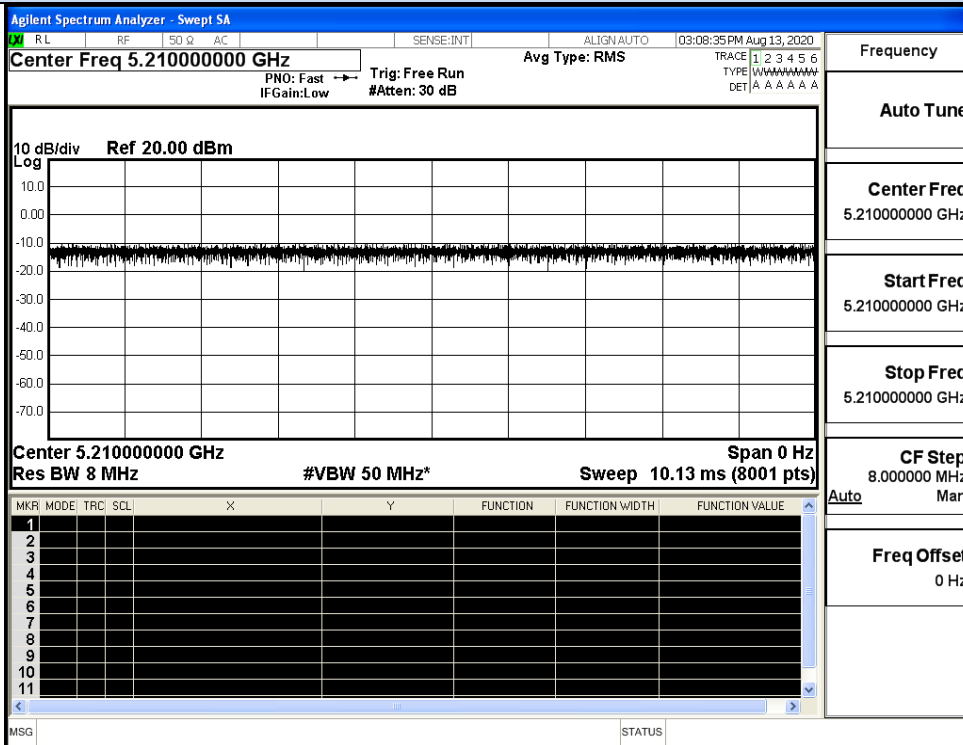


IEEE 802.11n HT20





IEEE 802.11 AC40



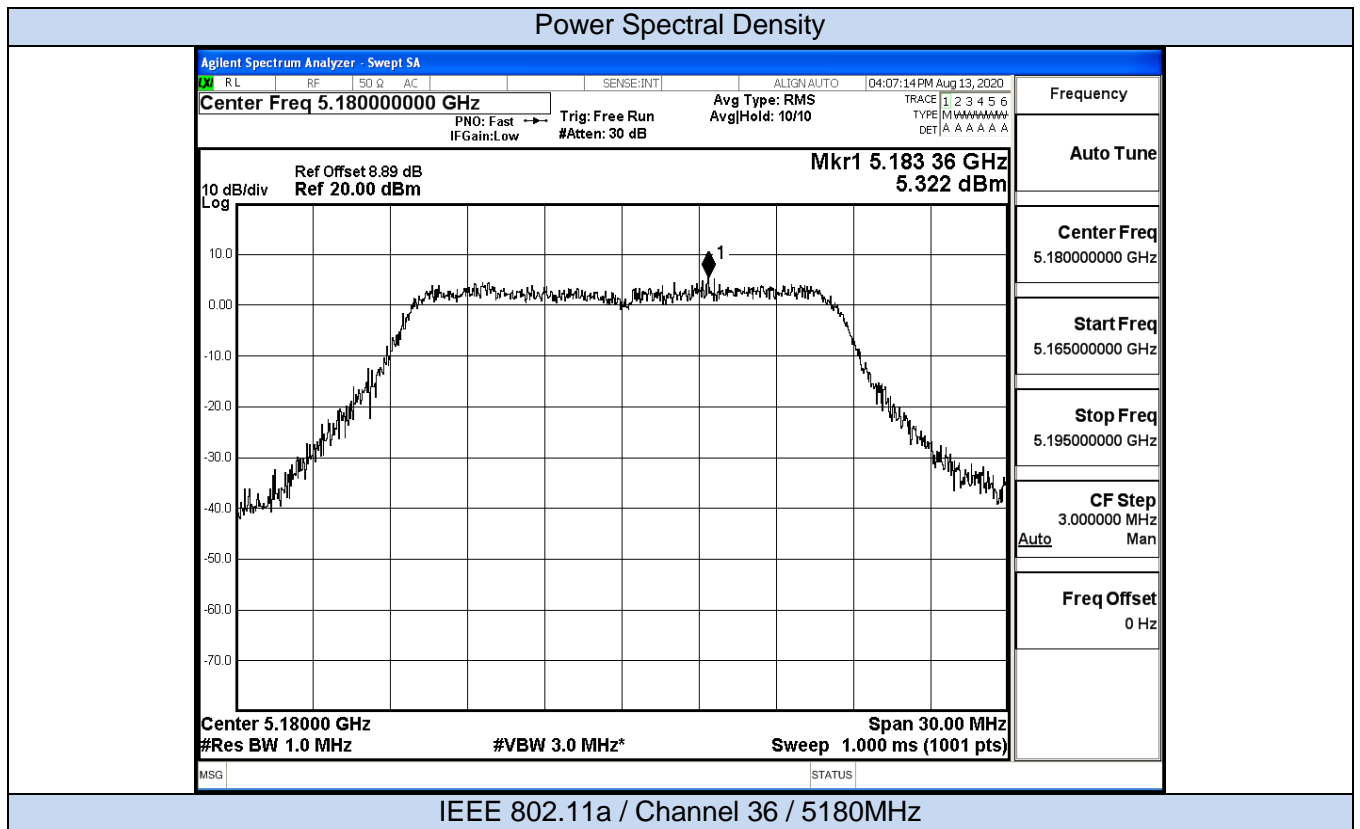
IEEE 802.11 AC80

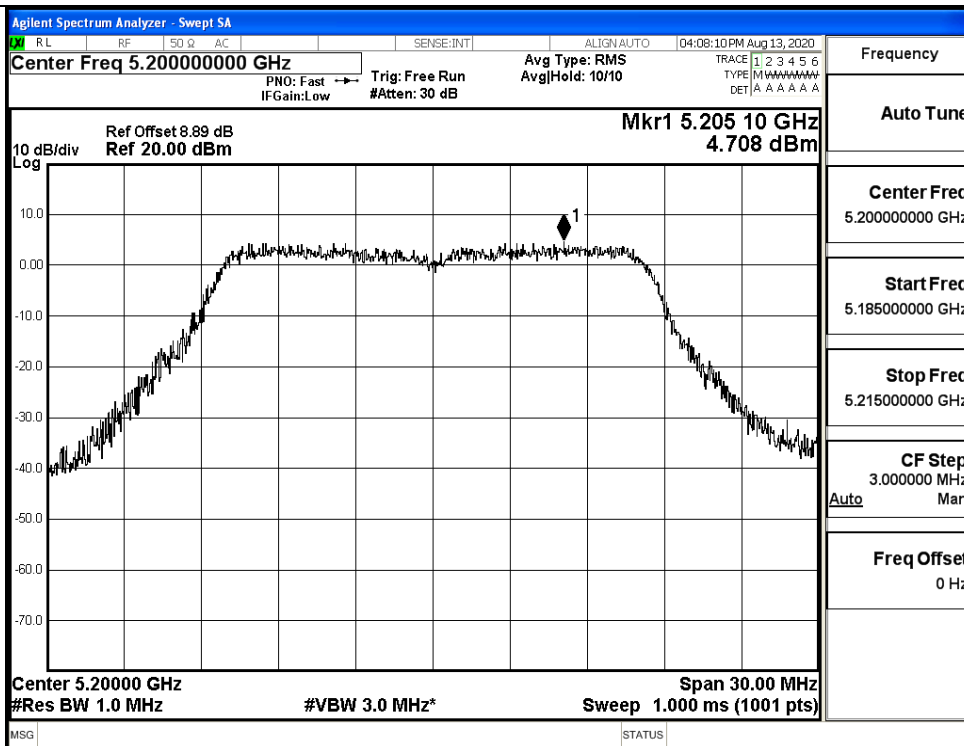
**B.2 Maximum Conduct Output Power**

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor (dB)	Report Conducted Power (dBm)	Limit (dBm)	Verdict
11A	36	5180	15.26	0	15.26	24	Pass
	40	5200	15.1	0	15.1		Pass
	48	5240	15.03	0	15.03		Pass
11N20 SISO	36	5180	15.32	0	15.32	24	Pass
	40	5200	15.5	0	15.5		Pass
	48	5240	15.54	0	15.54		Pass
11N40 SISO	38	5190	15.92	0	<b>15.92</b>	24	Pass
	46	5230	15.43	0	15.43		Pass
11AC20 SISO	36	5180	15.57	0	15.57	24	Pass
	40	5200	15.05	0	15.05		Pass
	48	5240	15.66	0	15.66		Pass
11AC40 SISO	38	5190	15.86	0	15.86	24	Pass
	46	5230	15.83	0	15.83		Pass
11AC80 SISO	42	5210	15.61	0	15.61	24	Pass

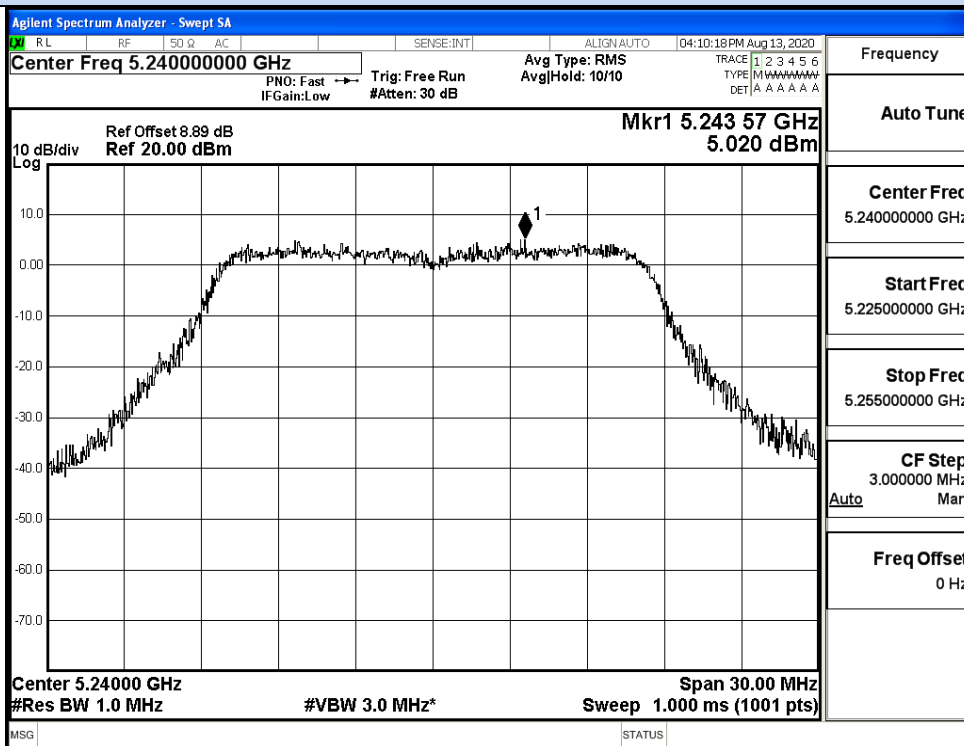
### B.3 Power Spectral Density

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	36	5180	5.32	0	5.32	11	Pass
	40	5200	4.71	0	4.71		Pass
	48	5240	5.02	0	5.02		Pass
11N20 SISO	36	5180	5.31	0	5.31	11	Pass
	40	5200	5.28	0	5.28		Pass
	48	5240	5.16	0	5.16		Pass
11N40 SISO	38	5190	2.16	0	2.16	11	Pass
	46	5230	1.64	0	1.64		Pass
11AC20 SISO	36	5180	4.73	0	4.73	11	Pass
	40	5200	4.57	0	4.57		Pass
	48	5240	4.99	0	4.99		Pass
11AC40 SISO	38	5190	1.81	0	1.81	11	Pass
	46	5230	1.71	0	1.71		Pass
11AC80 SISO	42	5210	-1.00	0	-1.00	11	Pass



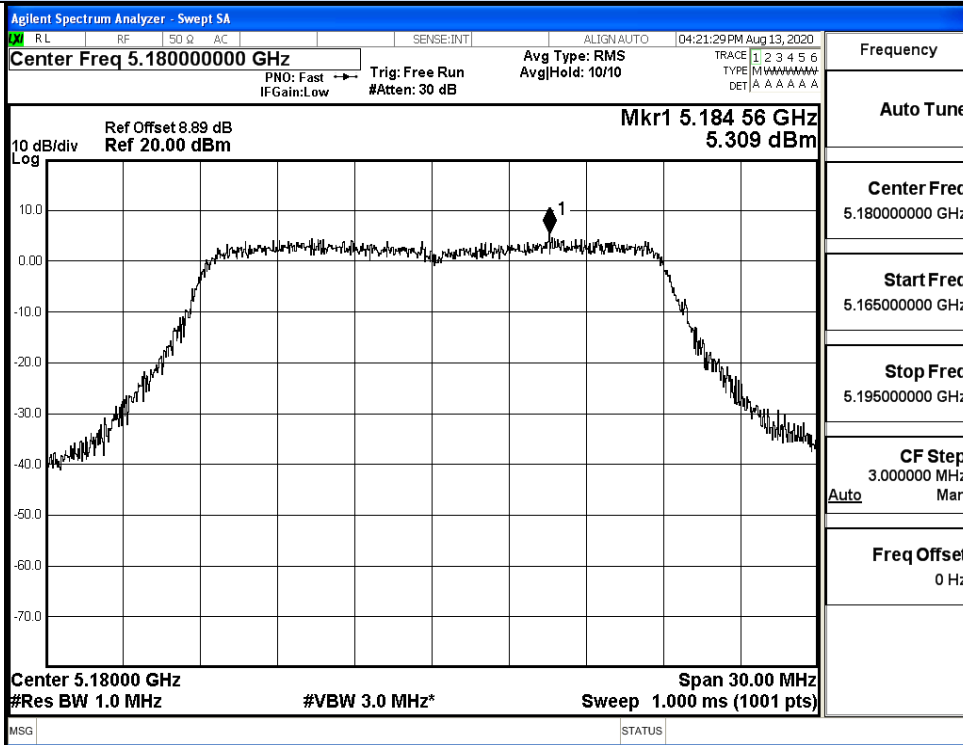


IEEE 802.11a / Channel 40 / 5200MHz

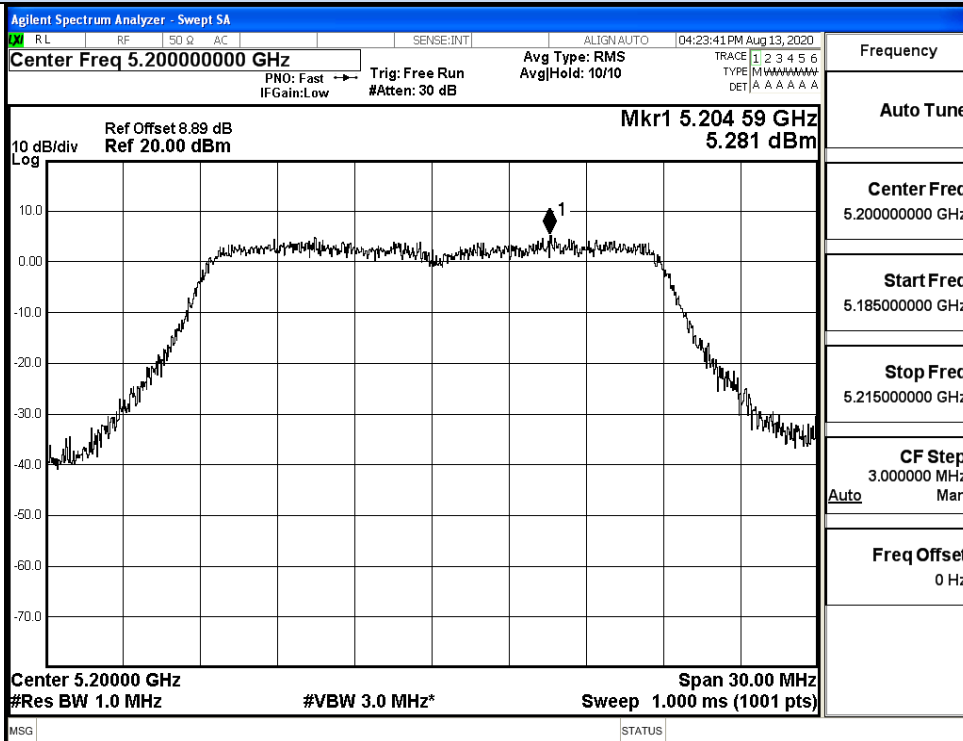


IEEE 802.11a / Channel 48 / 5240MHz

Power Spectral Density

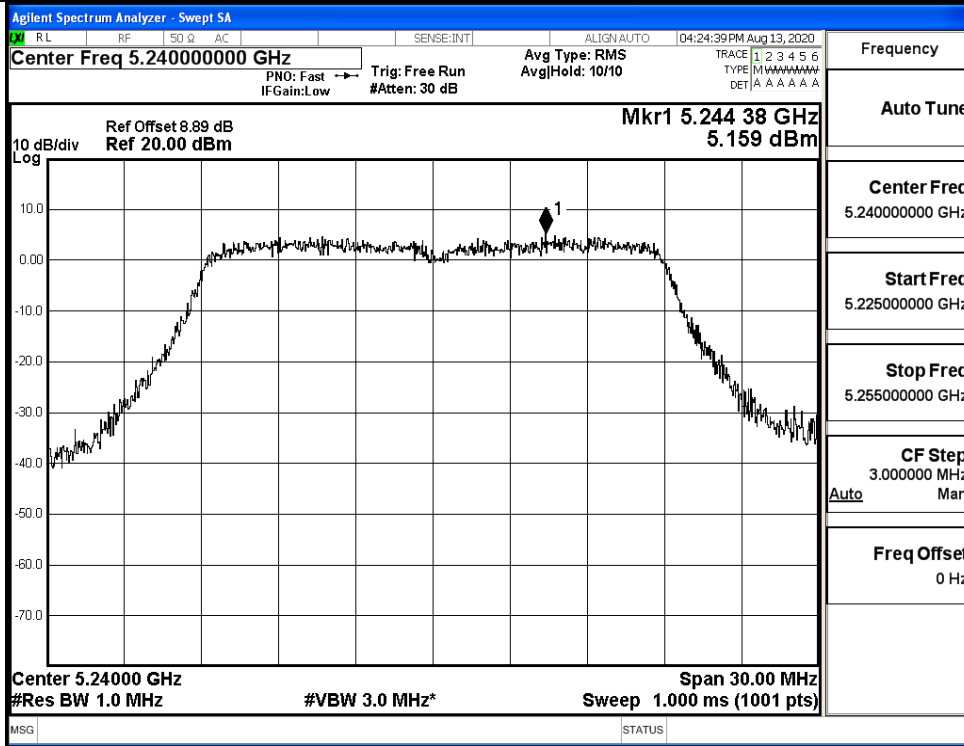


IEEE 802.11n20 / Channel 36 / 5180MHz



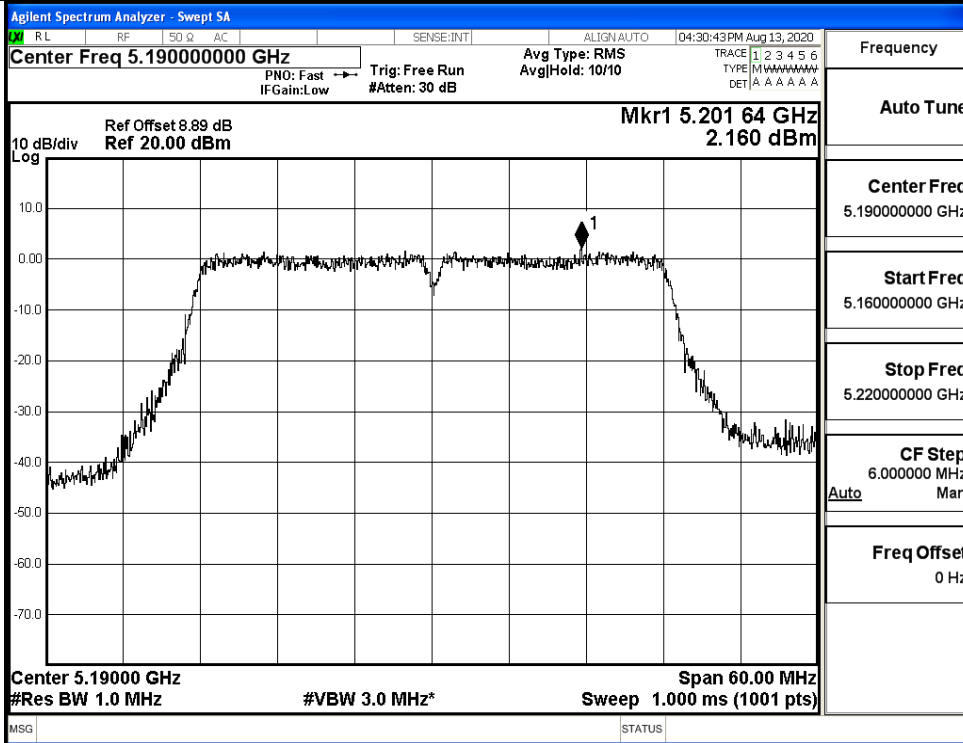
IEEE 802.11n20 / Channel 40 / 5200MHz



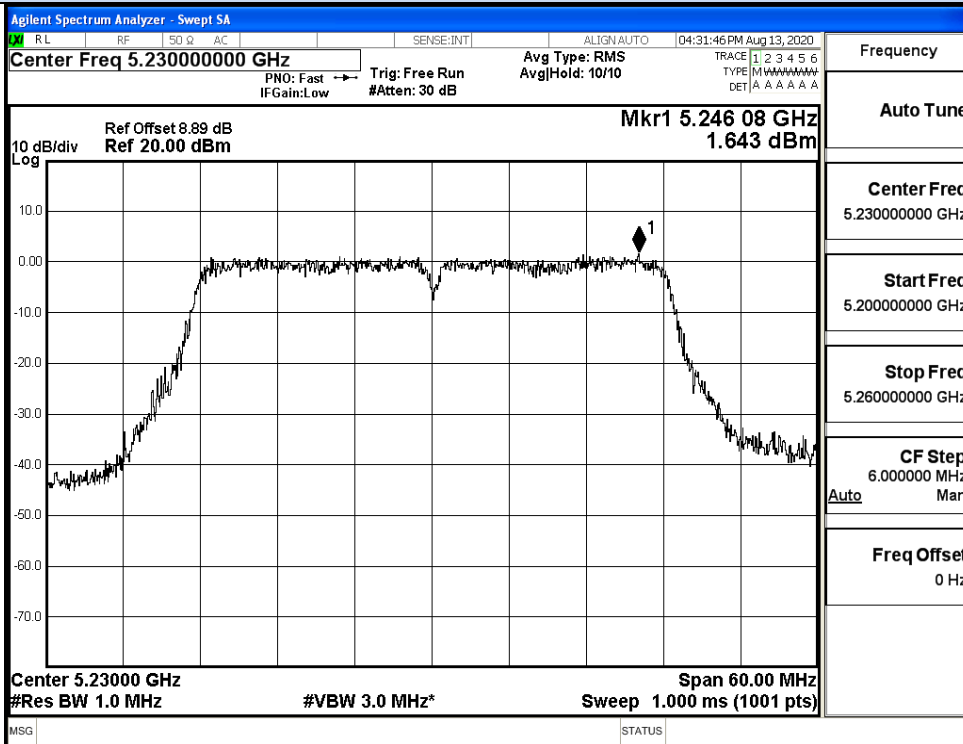


IEEE 802.11n20 / Channel 48 / 5240MHz

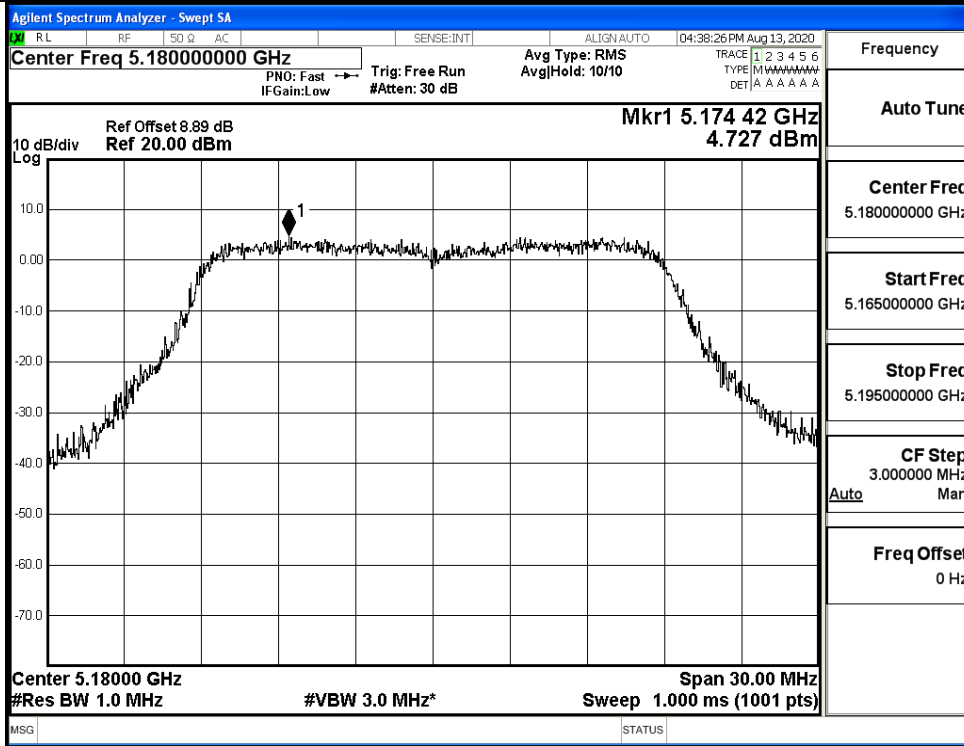
### Power Spectral Density



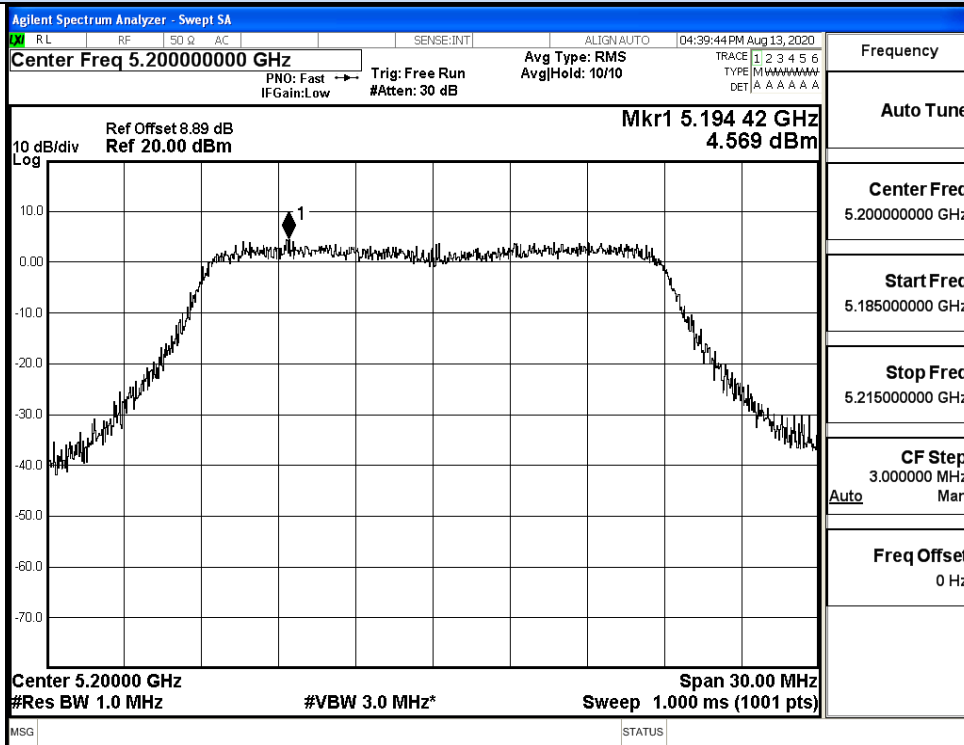
### IEEE 802.11n40 / Channel 38 / 5190MHz



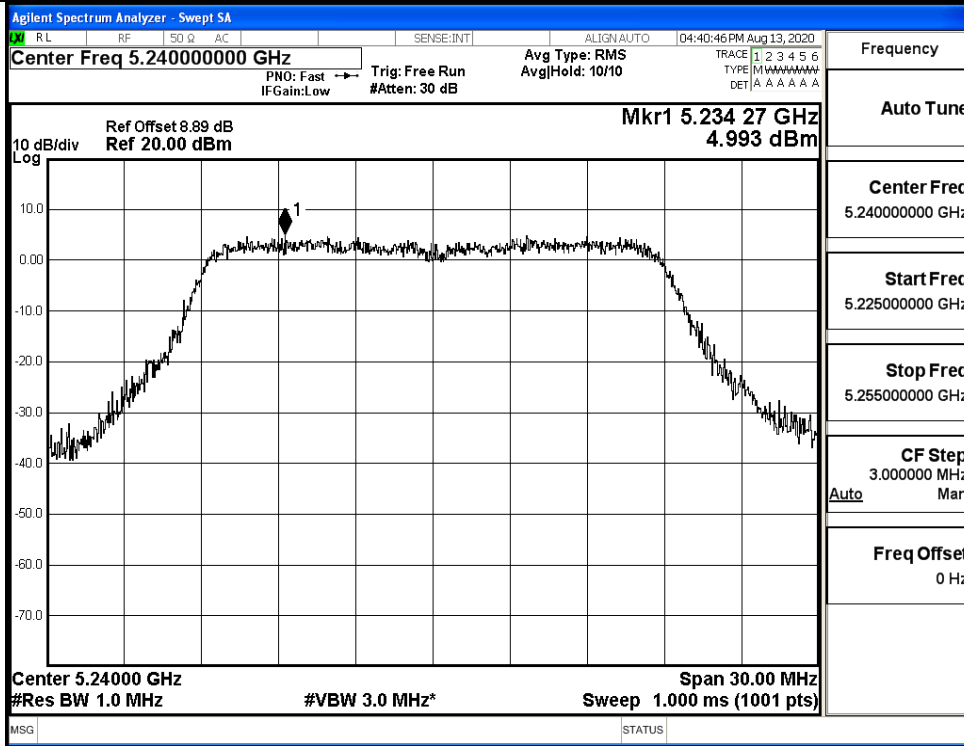
### IEEE 802.11n40 / Channel 46 / 5230MHz



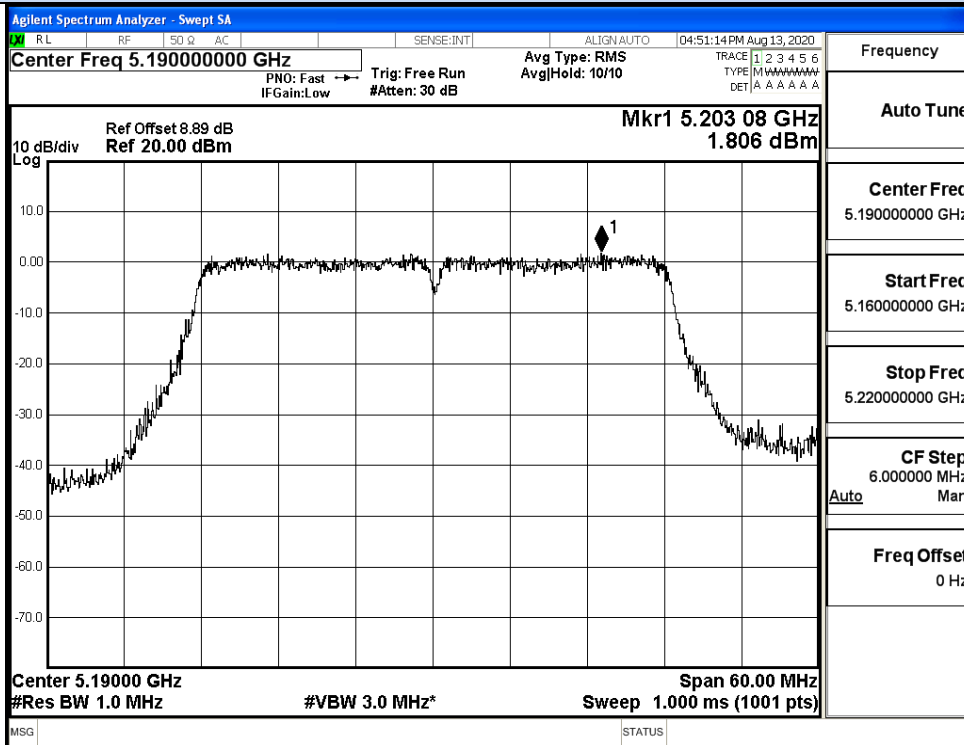
IEEE 802.11ac20 / Channel 36 / 5180MHz



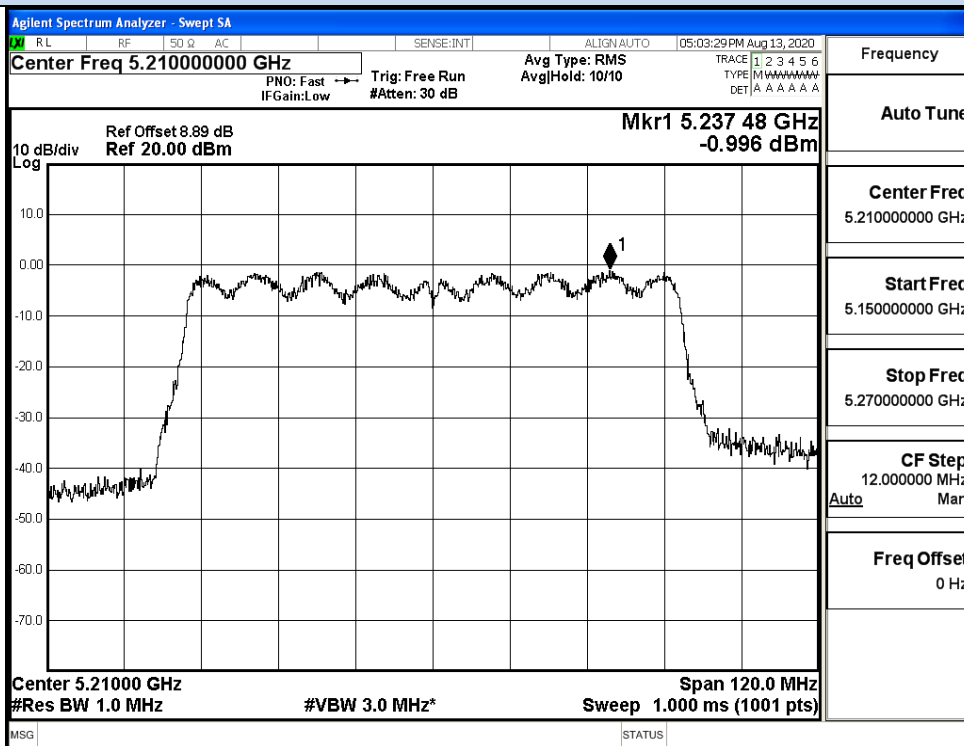
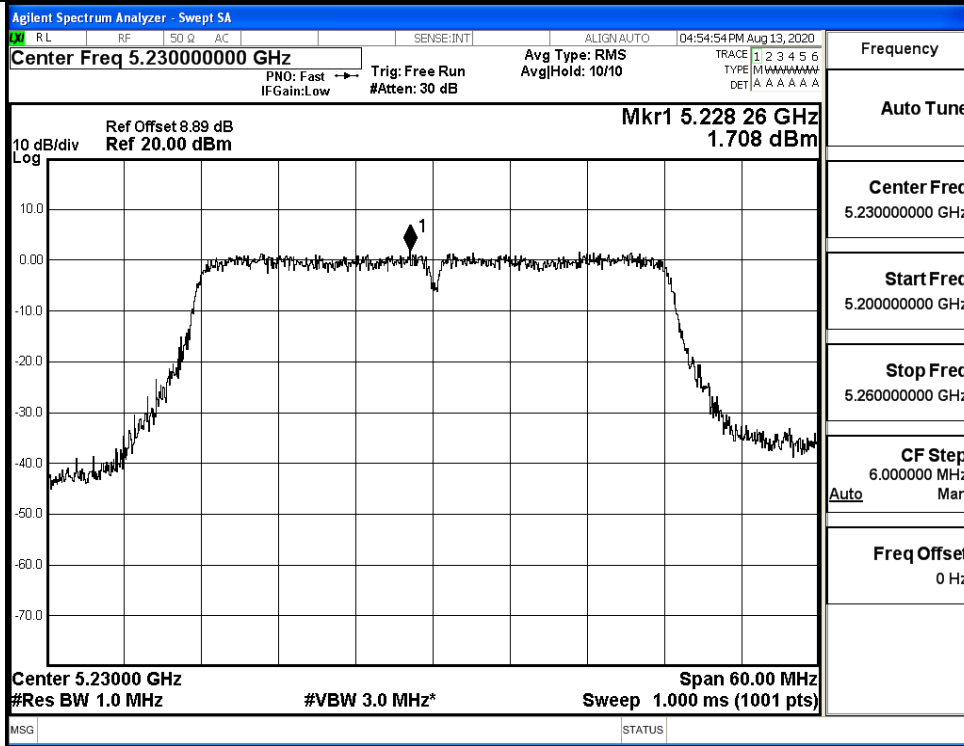
IEEE 802.11ac20 / Channel 40 / 5200MHz



IEEE 802.11ac20 / Channel 48 / 5240MHz

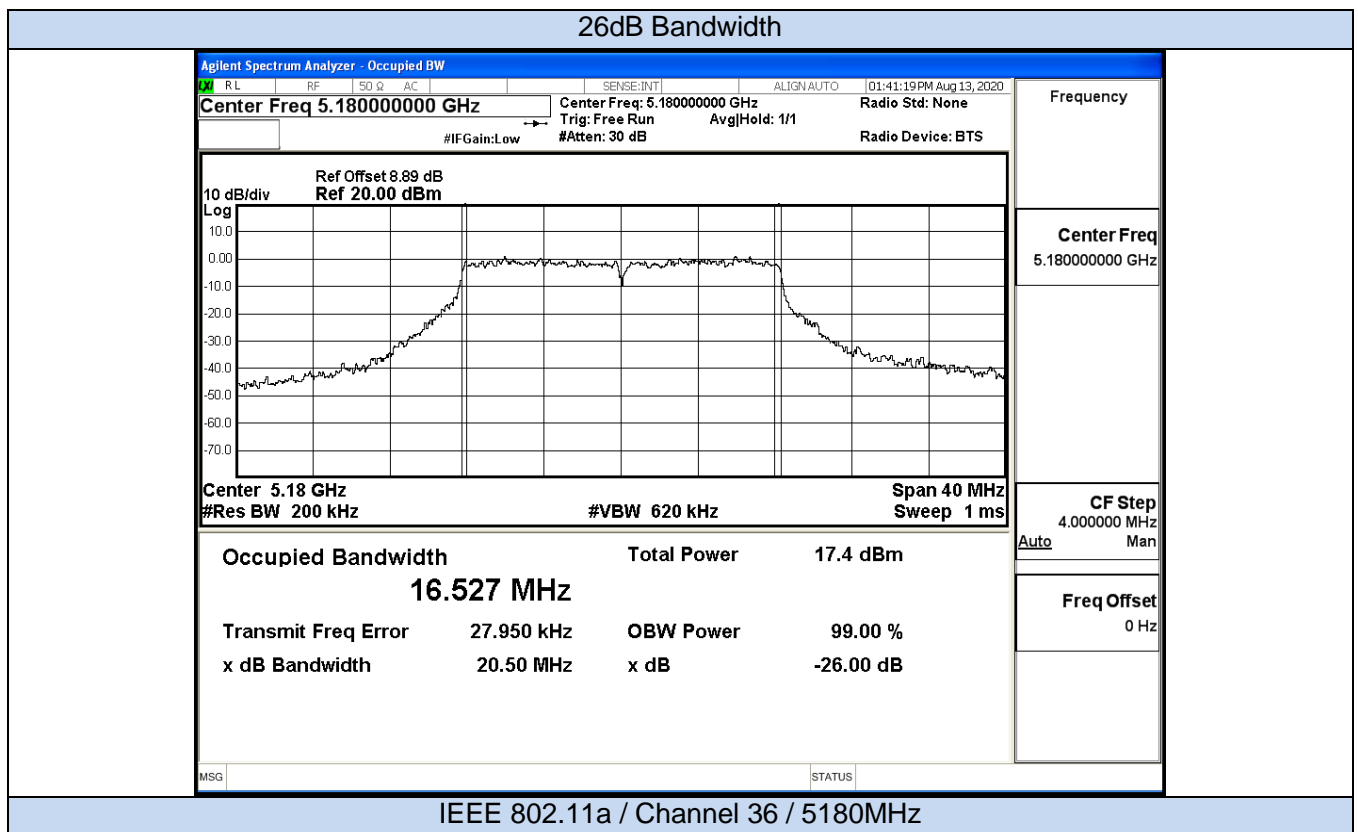


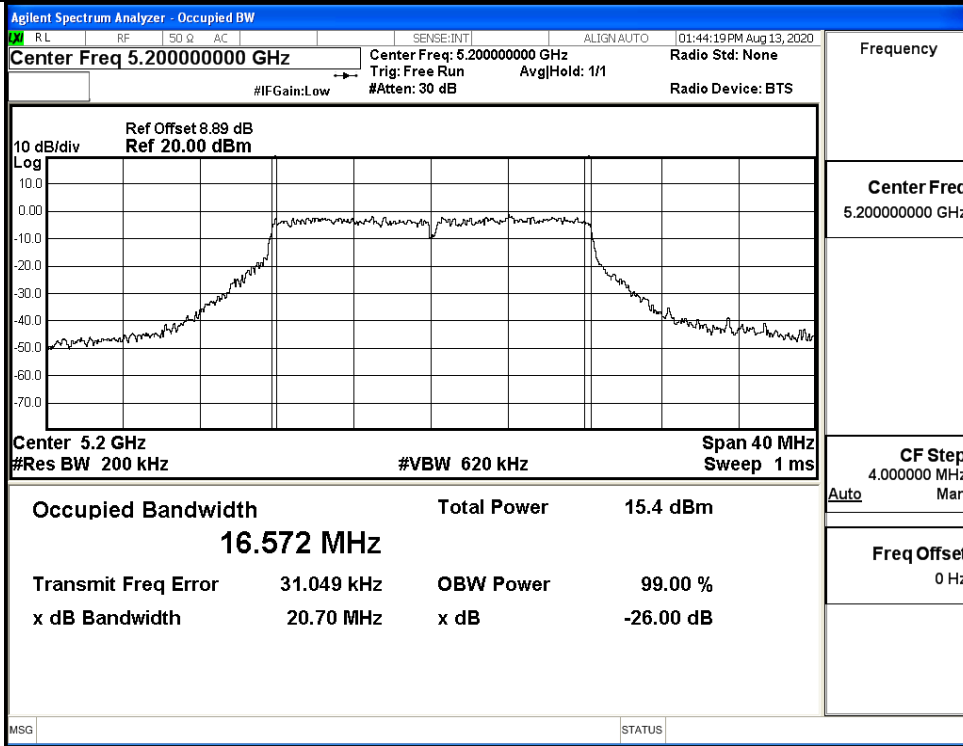
IEEE 802.11ac40 / Channel 38 / 5190MHz



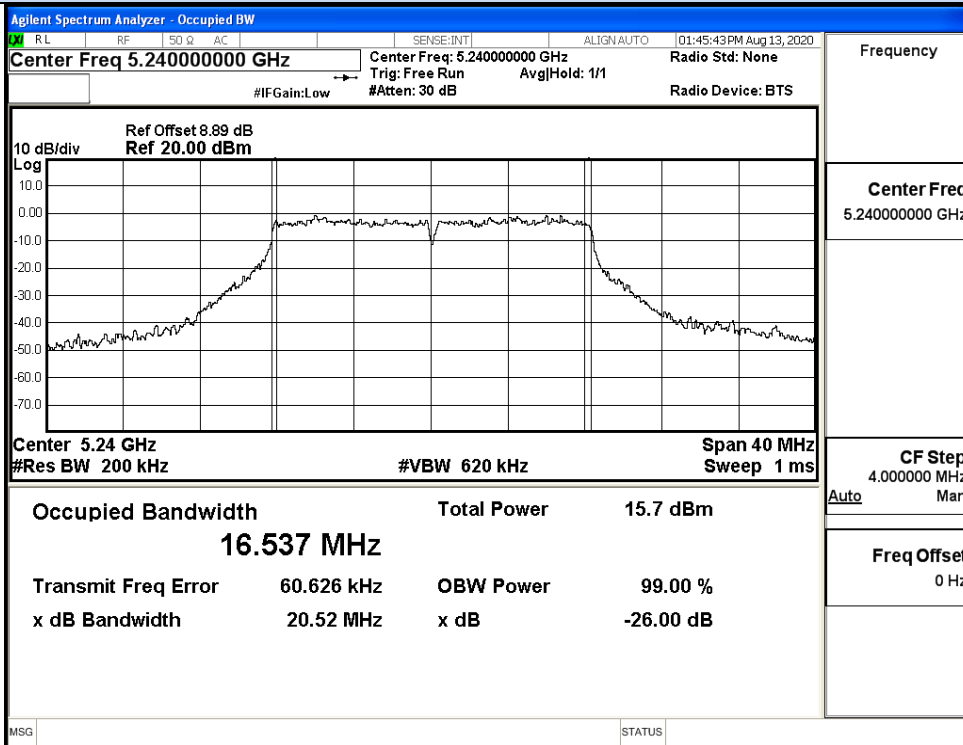
### B.4 Emission Bandwidth

Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Verdict
11A	36	5180	20.50	16.503	No Limit	Pass
	40	5200	20.70	16.535		Pass
	48	5240	20.52	16.520		Pass
11N20 SISO	36	5180	20.41	17.675	No Limit	Pass
	40	5200	20.65	17.635		Pass
	48	5240	20.46	17.670		Pass
11N40 SISO	38	5190	41.32	36.217	No Limit	Pass
	46	5230	41.08	36.215		Pass
11AC20 SISO	36	5180	20.44	17.654	No Limi	Pass
	40	5200	20.31	17.675		Pass
	48	5240	20.41	17.642		Pass
11AC40 SISO	38	5190	41.34	36.228	No Limi	Pass
	46	5230	41.56	36.206		Pass
11AC80 SISO	42	5210	82.82	75.705	No Limi	Pass



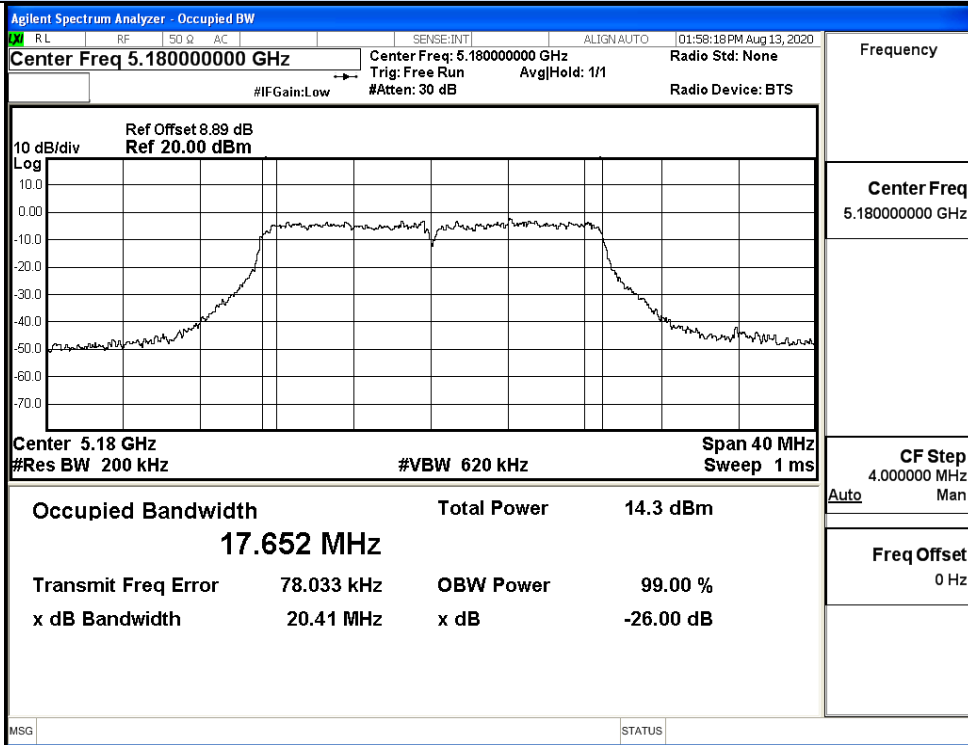


IEEE 802.11a / Channel 40 / 5200MHz

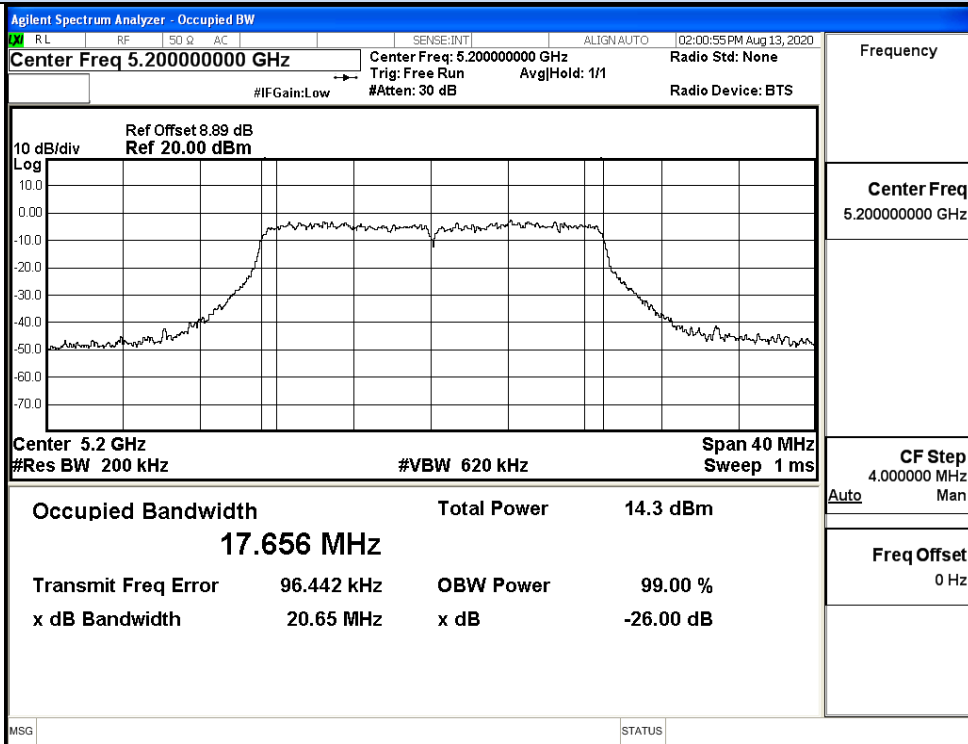


IEEE 802.11a / Channel 48 / 5240MHz

26dB Bandwidth

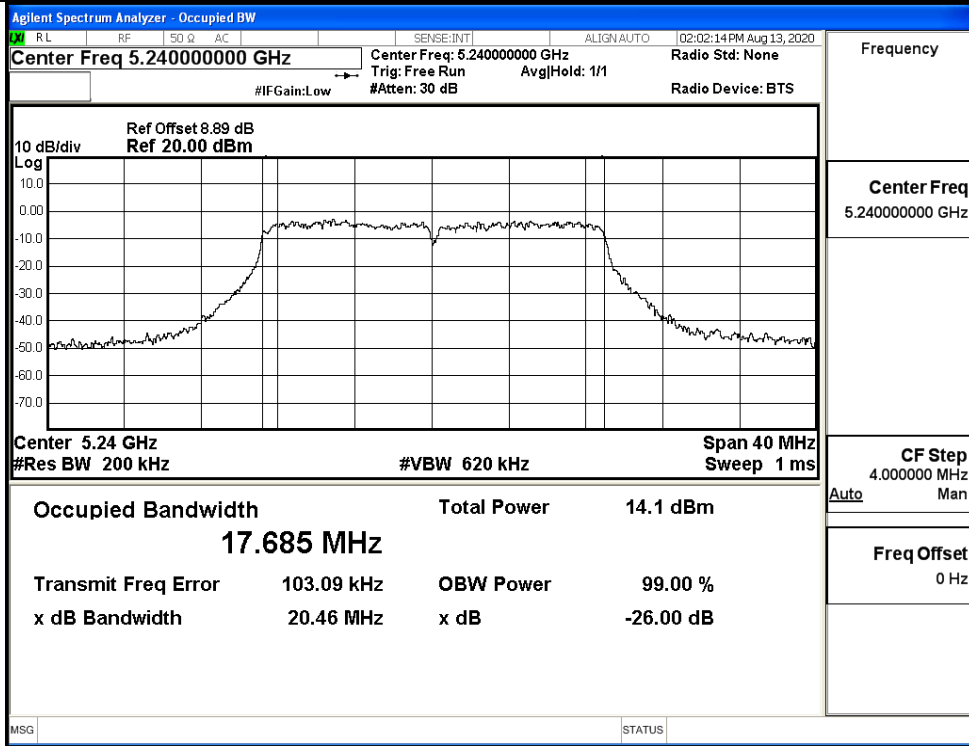


IEEE 802.11n20 / Channel 36 / 5180MHz



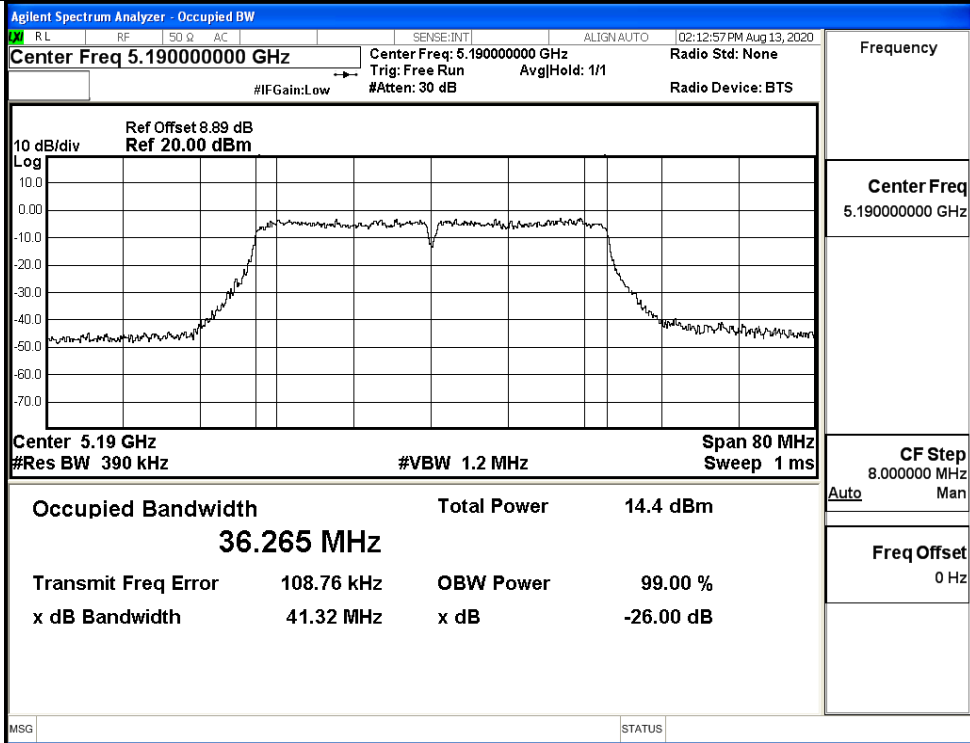
IEEE 802.11n20 / Channel 40 / 5200MHz



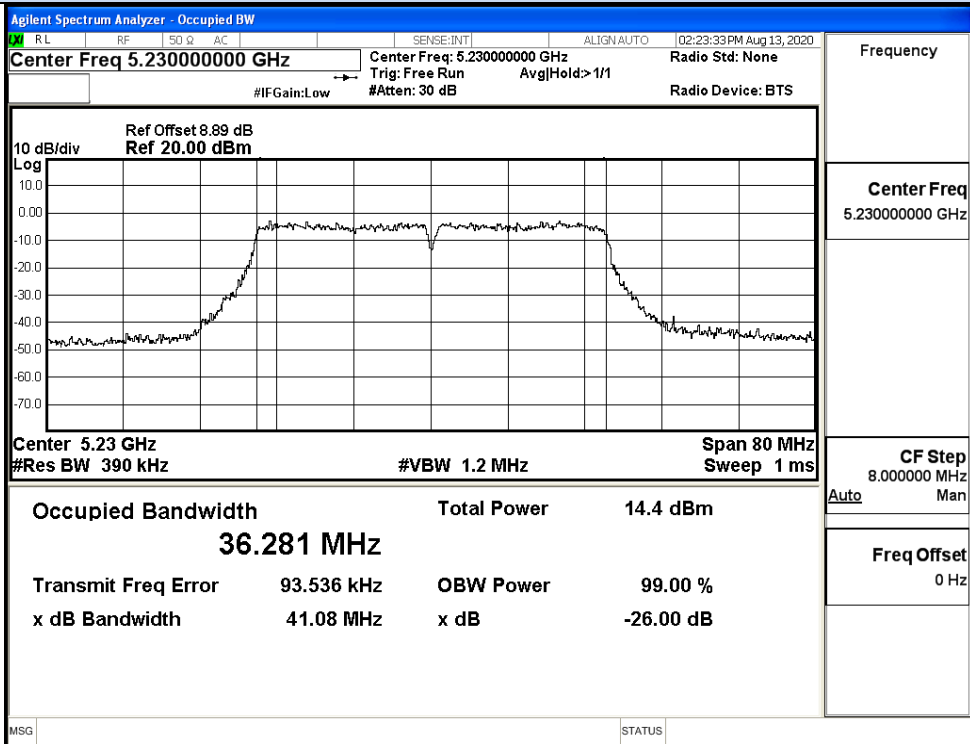


IEEE 802.11n20 / Channel 48 / 5240MHz

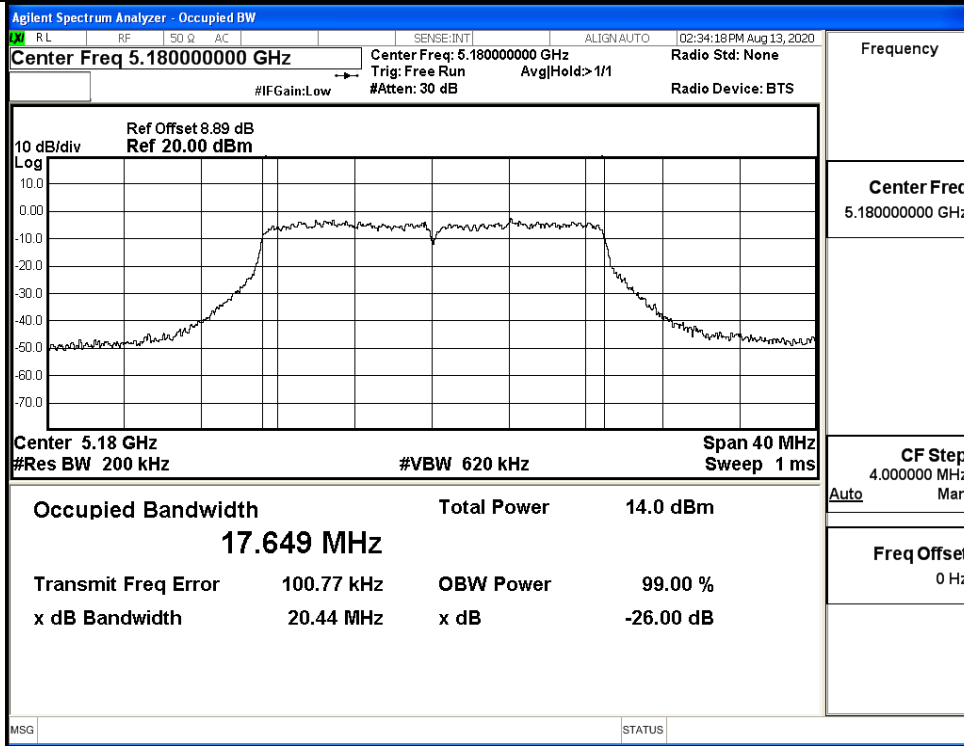
26dB Bandwidth



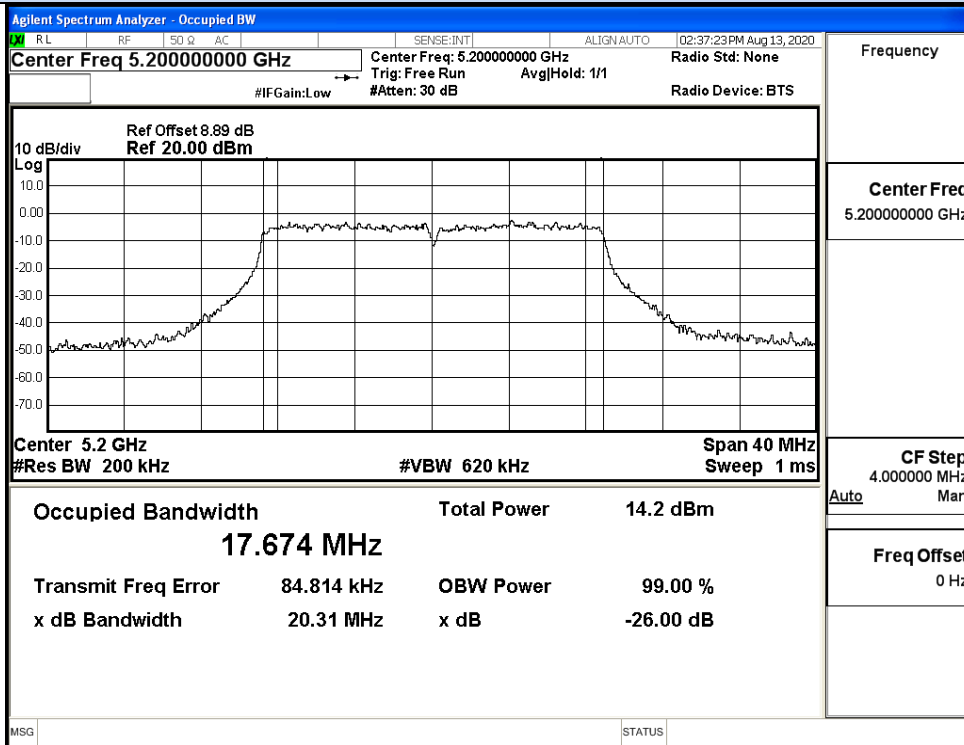
IEEE 802.11n40 / Channel 38 / 5190MHz



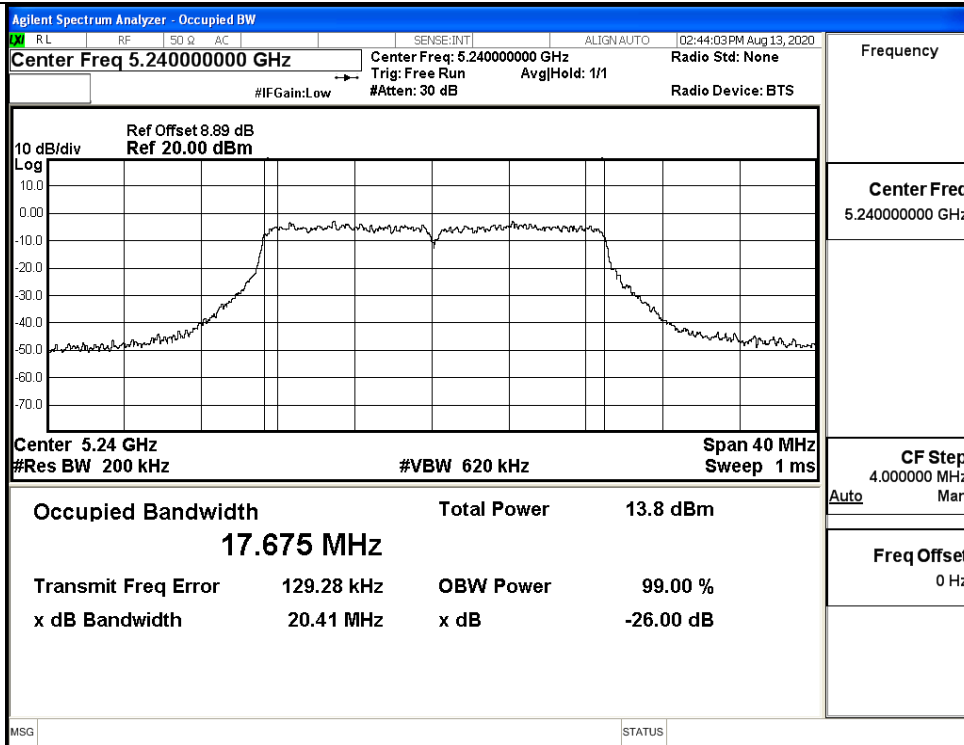
IEEE 802.11n40 / Channel 46 / 5230MHz



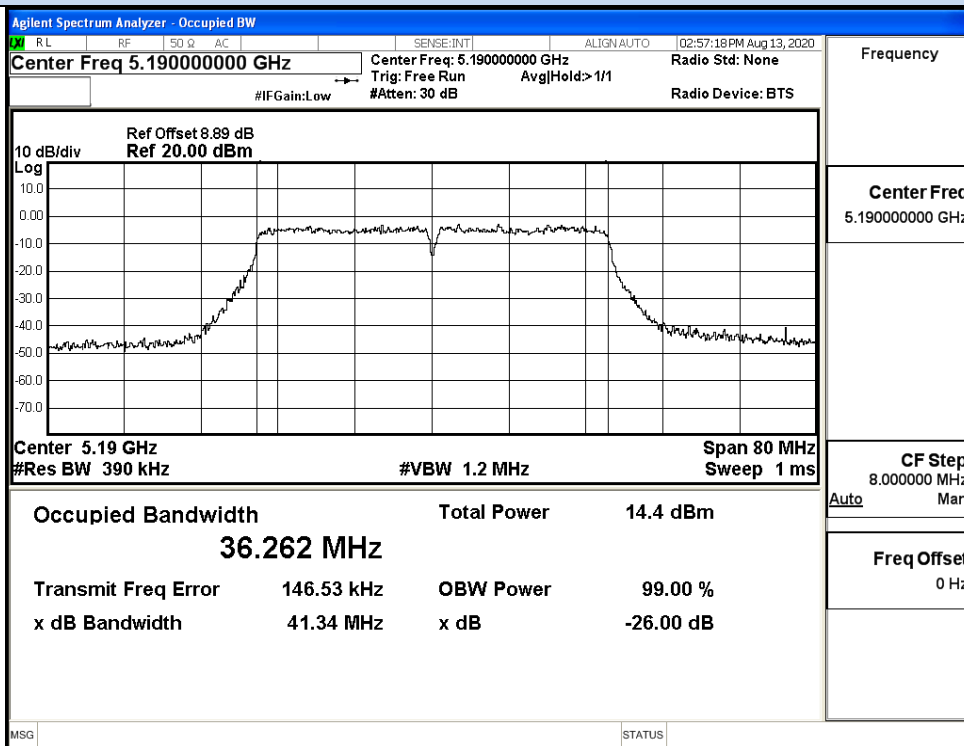
IEEE 802.11ac20 / Channel 36 / 5180MHz



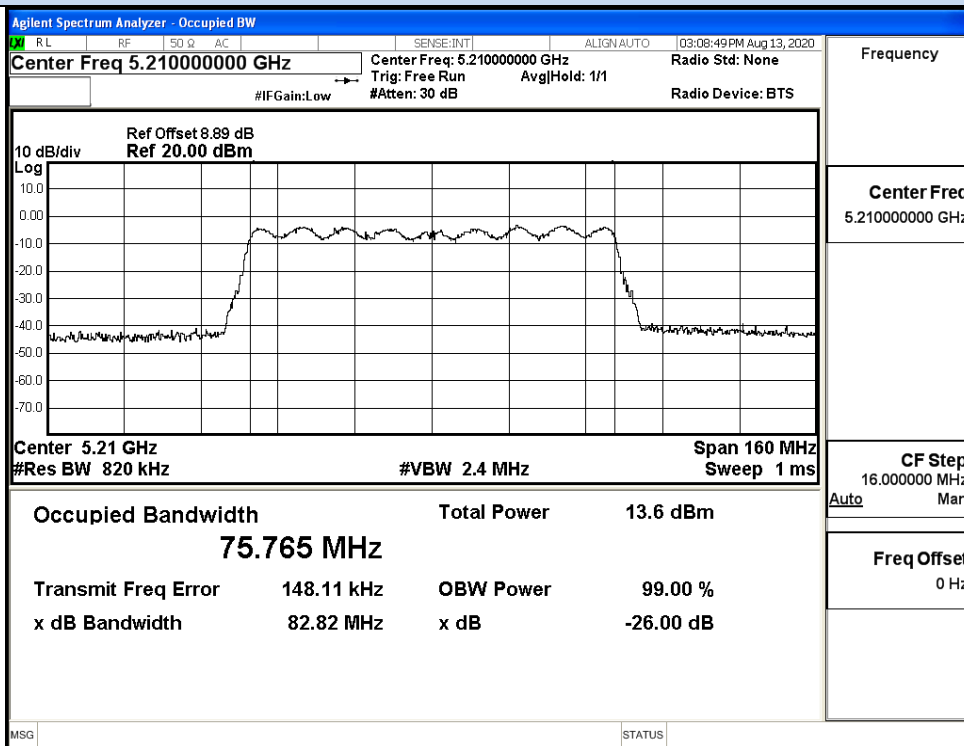
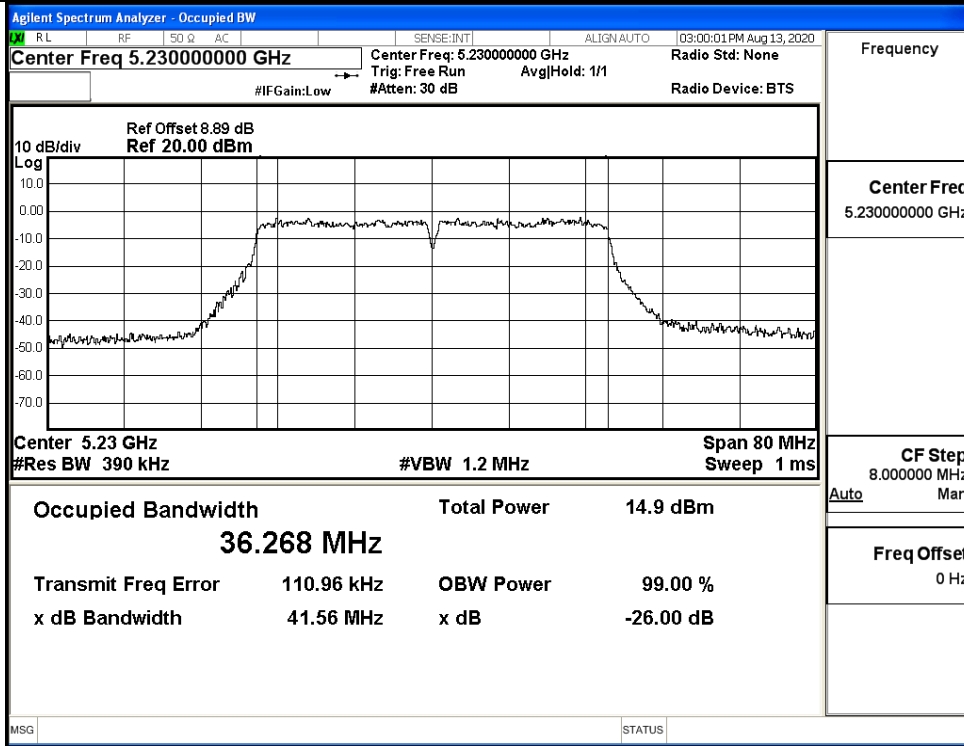
IEEE 802.11ac20 / Channel 40 / 5200MHz



IEEE 802.11ac20 / Channel 48 / 5240MHz



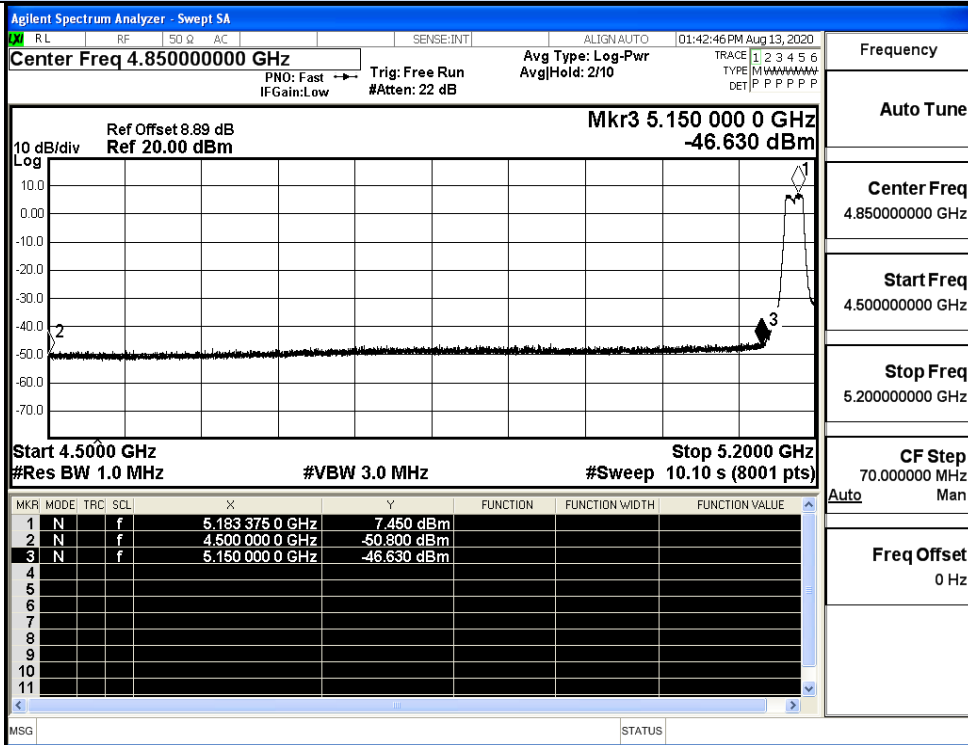
IEEE 802.11ac40 / Channel 38 / 5190MHz



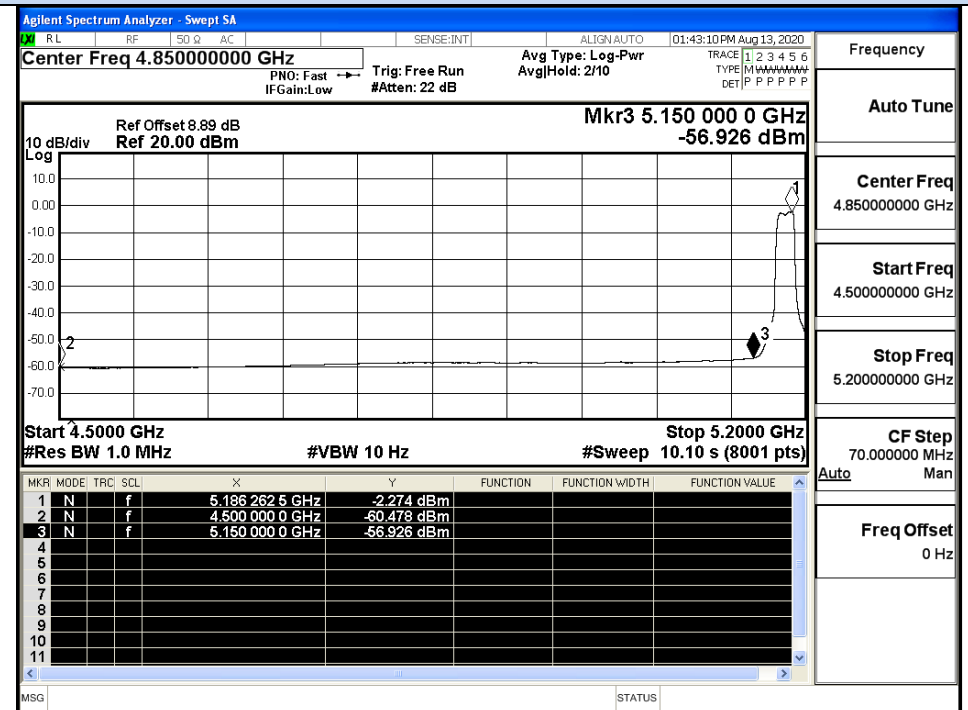
## B.5 Undesirable Emissions Measurement

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)	Verdict
11A	36	4500.0	-50.80	2.00	0	46.43	Peak	74.00	Pass
		4500.0	-60.48	2.00	0	36.75	Average	54.00	Pass
		5150.0	-46.63	2.00	0	50.60	Peak	74.00	Pass
		5150.0	-56.93	2.00	0	40.30	Average	54.00	Pass
	48	5350.0	-47.75	2.00	0	49.48	Peak	74.00	Pass
		5350.0	-58.51	2.00	0	38.72	Average	54.00	Pass
		5460.0	-48.48	2.00	0	48.75	Peak	74.00	Pass
		5460.0	-58.95	2.00	0	38.28	Average	54.00	Pass
11N2 0 SISO	36	4500.0	-50.57	2.00	0	46.66	Peak	74.00	Pass
		4500.0	-60.41	2.00	0	36.82	Average	54.00	Pass
		5150.0	-47.44	2.00	0	49.79	Peak	74.00	Pass
		5150.0	-57.47	2.00	0	39.76	Average	54.00	Pass
	48	5350.0	-47.34	2.00	0	49.89	Peak	74.00	Pass
		5350.0	-58.65	2.00	0	38.58	Average	54.00	Pass
		5460.0	-48.08	2.00	0	49.15	Peak	74.00	Pass
		5460.0	-58.98	2.00	0	38.25	Average	54.00	Pass
11N4 0 SISO	38	4500.0	-50.39	2.00	0	46.84	Peak	74.00	Pass
		4500.0	-60.40	2.00	0	36.83	Average	54.00	Pass
		5150.0	-46.64	2.00	0	50.59	Peak	74.00	Pass
		5150.0	-56.86	2.00	0	40.37	Average	54.00	Pass
	46	5350.0	-48.10	2.00	0	49.13	Peak	74.00	Pass
		5350.0	-58.29	2.00	0	38.94	Average	54.00	Pass
		5460.0	-48.07	2.00	0	49.16	Peak	74.00	Pass
		5460.0	-58.64	2.00	0	38.59	Average	54.00	Pass
11A C20 SIS O	36	4500.0	-49.86	2.00	0	47.37	Peak	74.00	Pass
		4500.0	-60.36	2.00	0	36.87	Average	54.00	Pass
		5150.0	-47.42	2.00	0	49.81	Peak	74.00	Pass
		5150.0	-57.52	2.00	0	39.71	Average	54.00	Pass
	48	4500.0	-49.86	2.00	0	47.37	Peak	74.00	Pass
		4500.0	-60.36	2.00	0	36.87	Average	54.00	Pass
		5150.0	-47.42	2.00	0	49.81	Peak	74.00	Pass
		5150.0	-57.52	2.00	0	39.71	Average	54.00	Pass
11A C40 SIS O	38	4500.0	-51.13	2.00	0	46.10	Peak	74.00	Pass
		4500.0	-60.46	2.00	0	36.77	Average	54.00	Pass
		5150.0	-45.55	2.00	0	51.68	Peak	74.00	Pass
		5150.0	-56.78	2.00	0	40.45	Average	54.00	Pass
	46	5350.0	-48.46	2.00	0	48.77	Peak	74.00	Pass
		5350.0	-58.35	2.00	0	38.88	Average	54.00	Pass
		5460.0	-48.72	2.00	0	48.51	Peak	74.00	Pass
		5460.0	-58.70	2.00	0	38.53	Average	54.00	Pass
11A C80 SIS O	42	4500.0	-50.26	2.00	0	46.97	Peak	74.00	Pass
		4500.0	-59.68	2.00	0	37.55	Average	54.00	Pass
		5150.0	-46.33	2.00	0	50.90	Peak	74.00	Pass
		5150.0	-56.24	2.00	0	40.99	Average	54.00	Pass
		5460.0	-48.10	2.00	0	49.13	Peak	74.00	Pass
		5460.0	-57.83	2.00	0	39.40	Average	54.00	Pass
		5350.0	-49.11	2.00	0	48.12	Peak	74.00	Pass
		5350.0	-58.28	2.00	0	38.95	Average	54.00	Pass

Undesirable Emissions Measurement

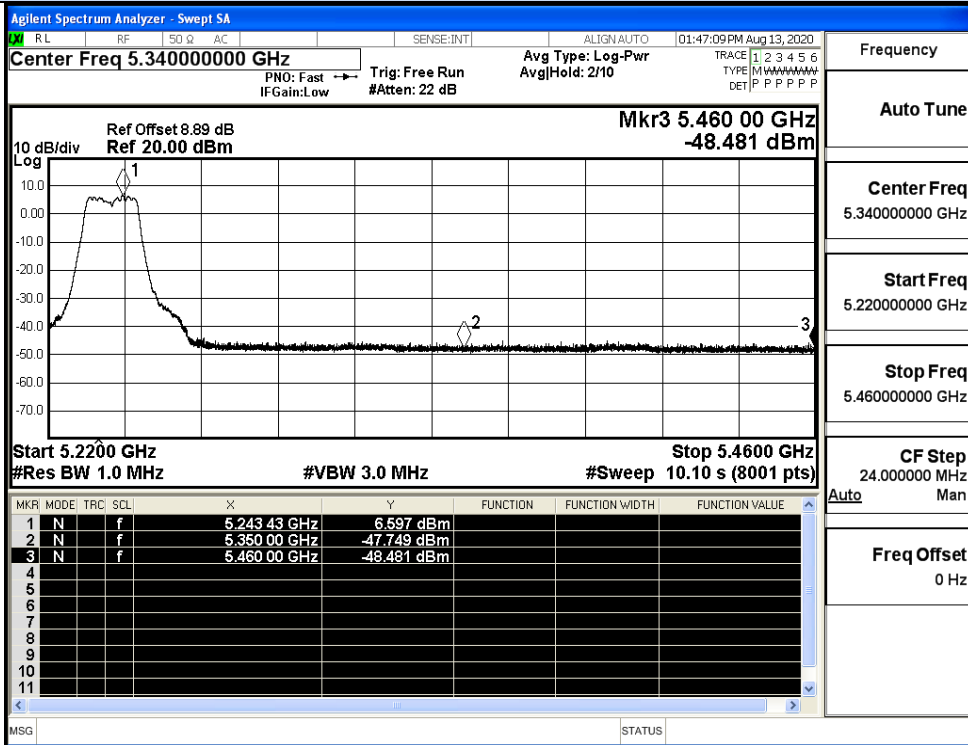


IEEE 802.11a / Channel 36 / 5180MHz / Peak

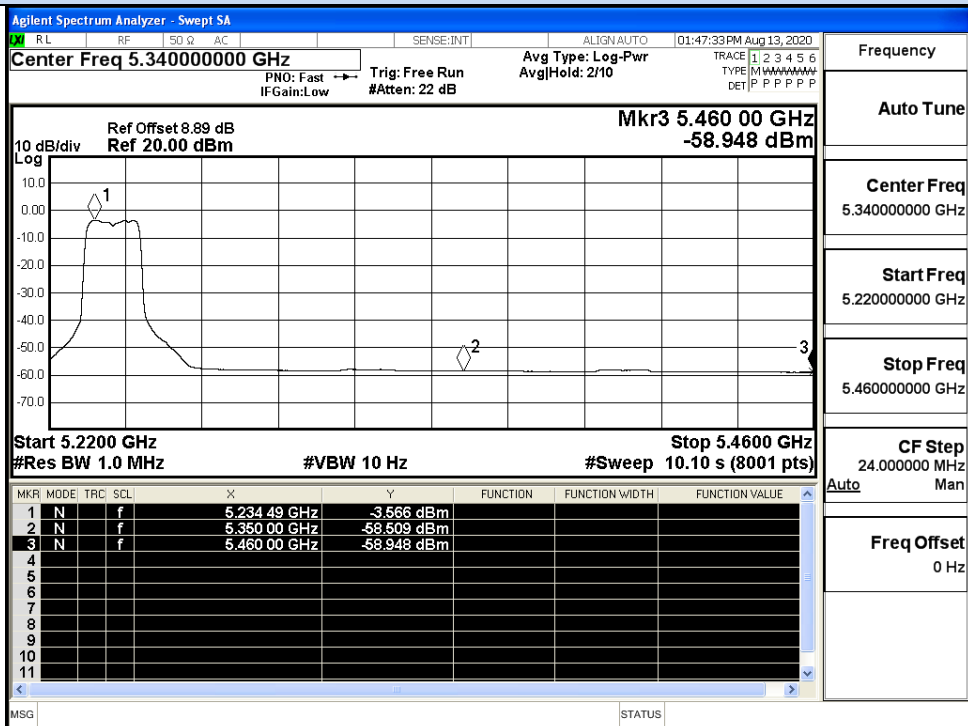


IEEE 802.11a / Channel 36 / 5180MHz / Average

Undesirable Emissions Measurement



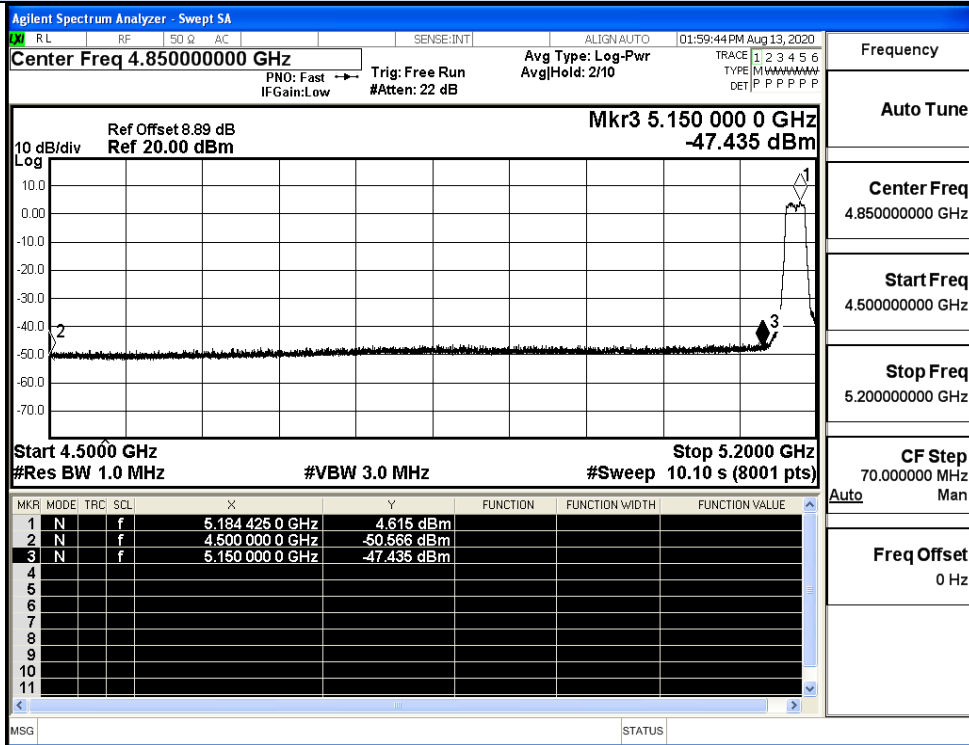
IEEE 802.11a / Channel 48 / 5240MHz / Peak



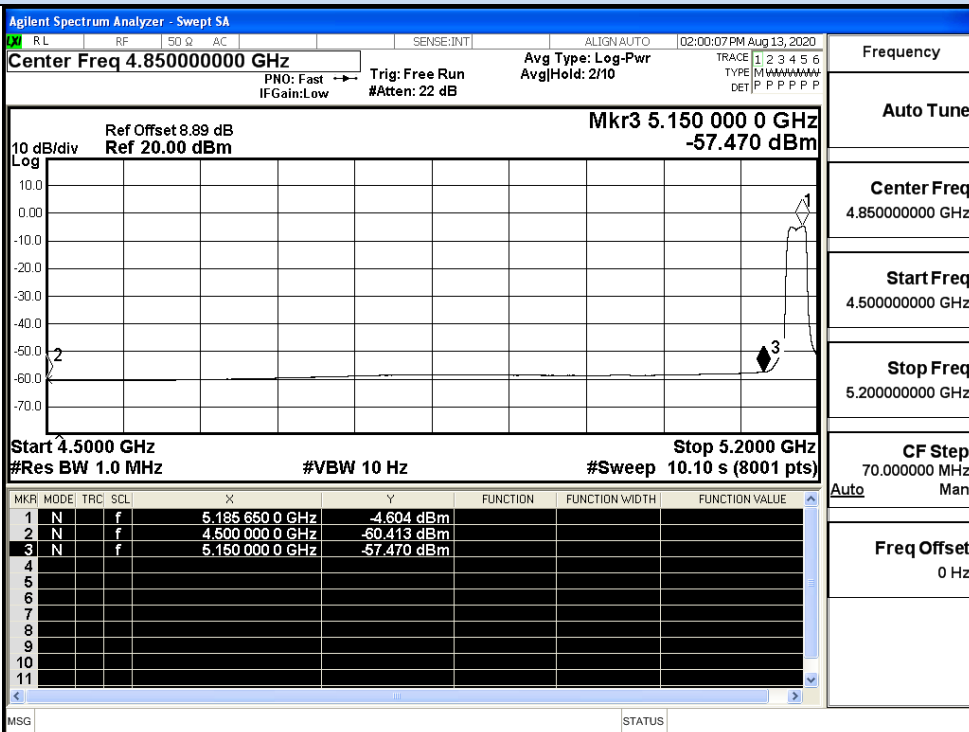
IEEE 802.11a / Channel 48 / 5240MHz / Average



Undesirable Emissions Measurement

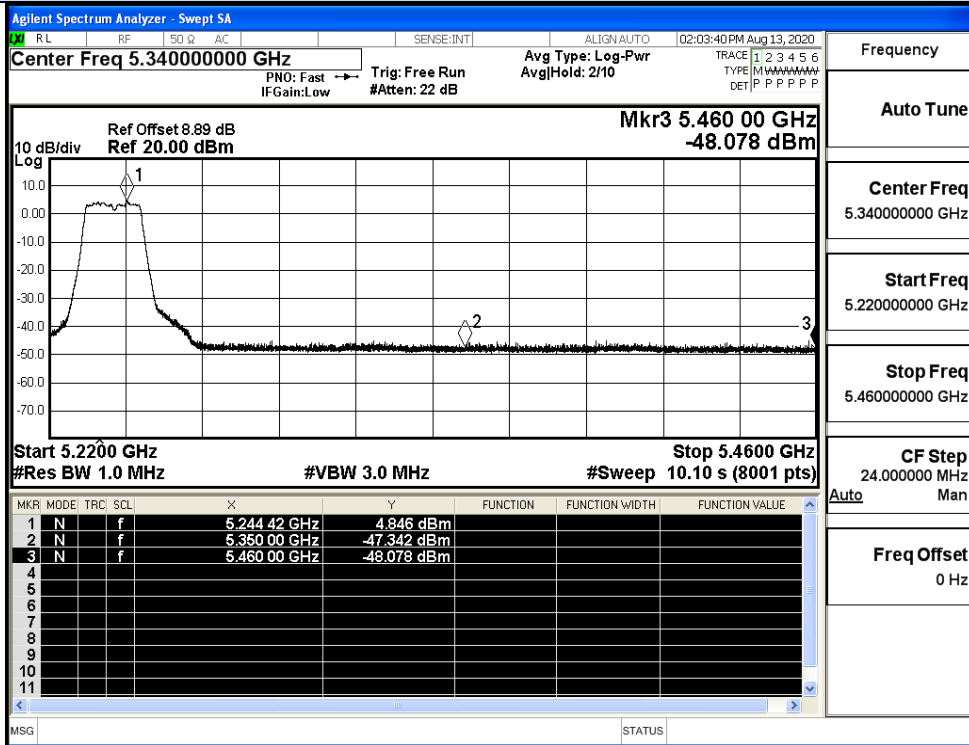


IEEE 802.11n20 / Channel 36 / 5180MHz / Peak

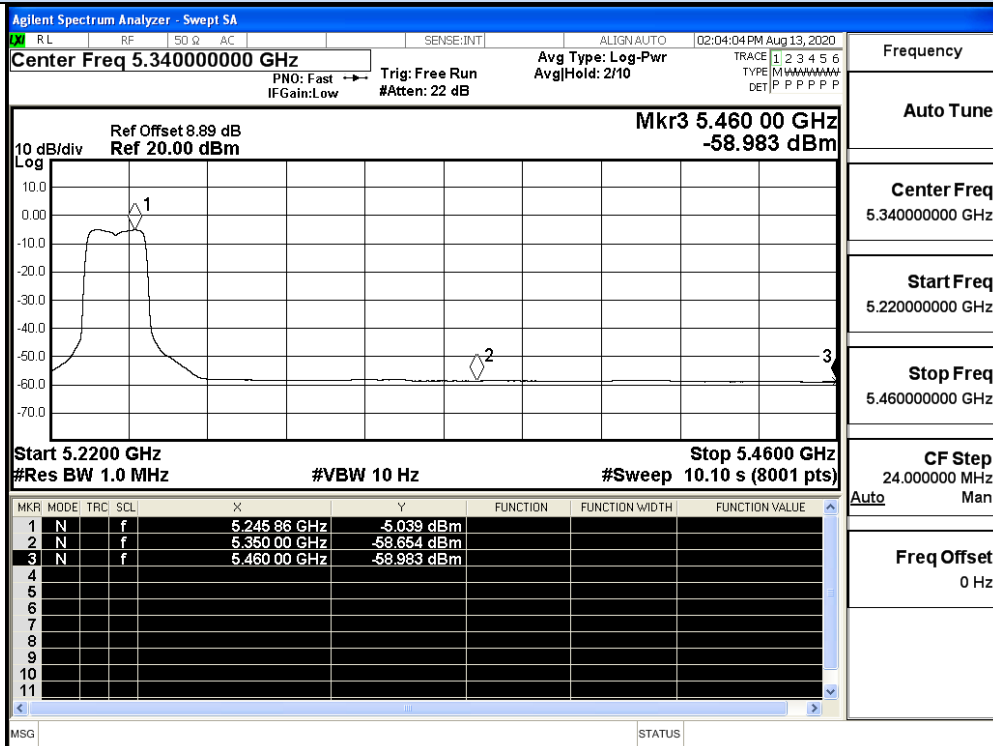


IEEE 802.11n20 / Channel 36 / 5180MHz / Average

Undesirable Emissions Measurement

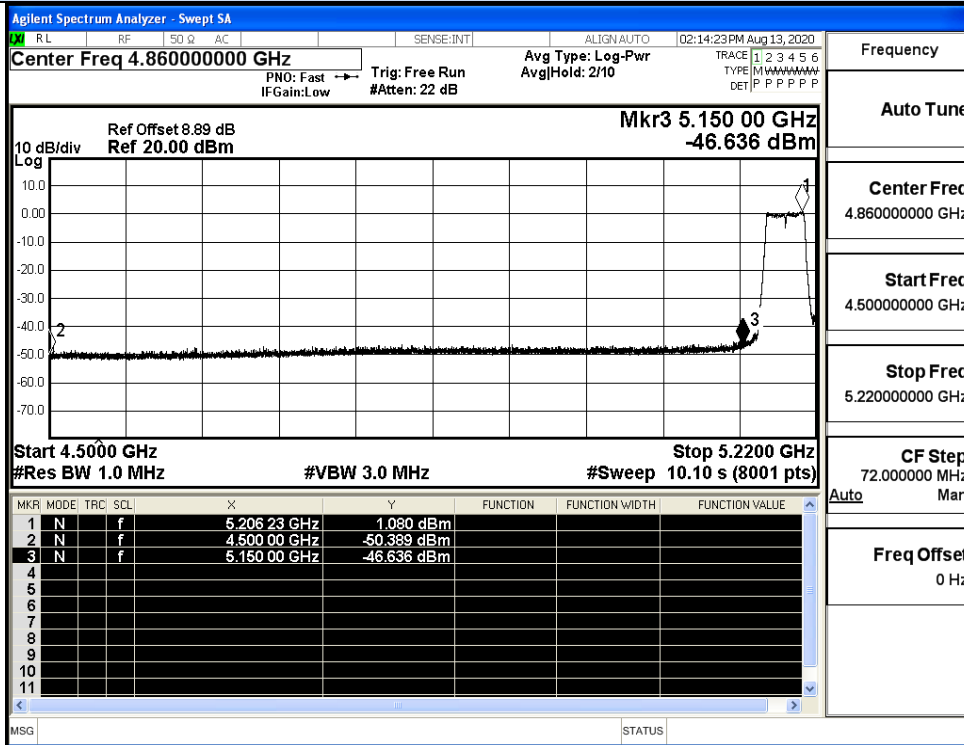


IEEE 802.11n20 / Channel 48 / 5240MHz / Peak

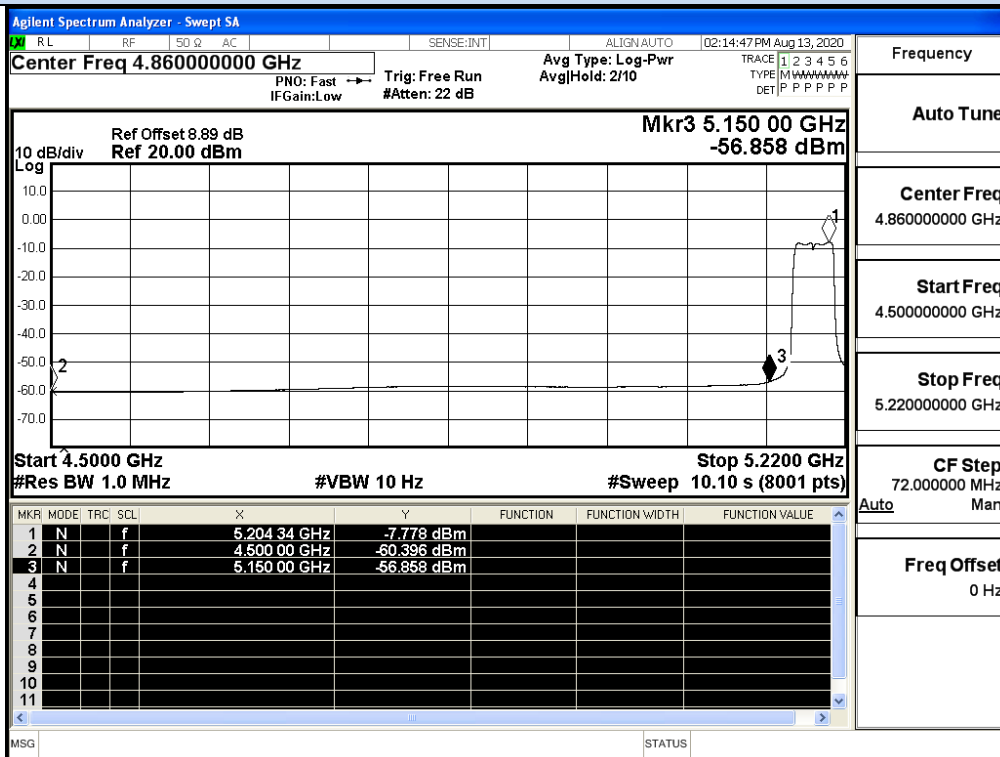


IEEE 802.11n20 / Channel 48 / 5240MHz / Average

Undesirable Emissions Measurement

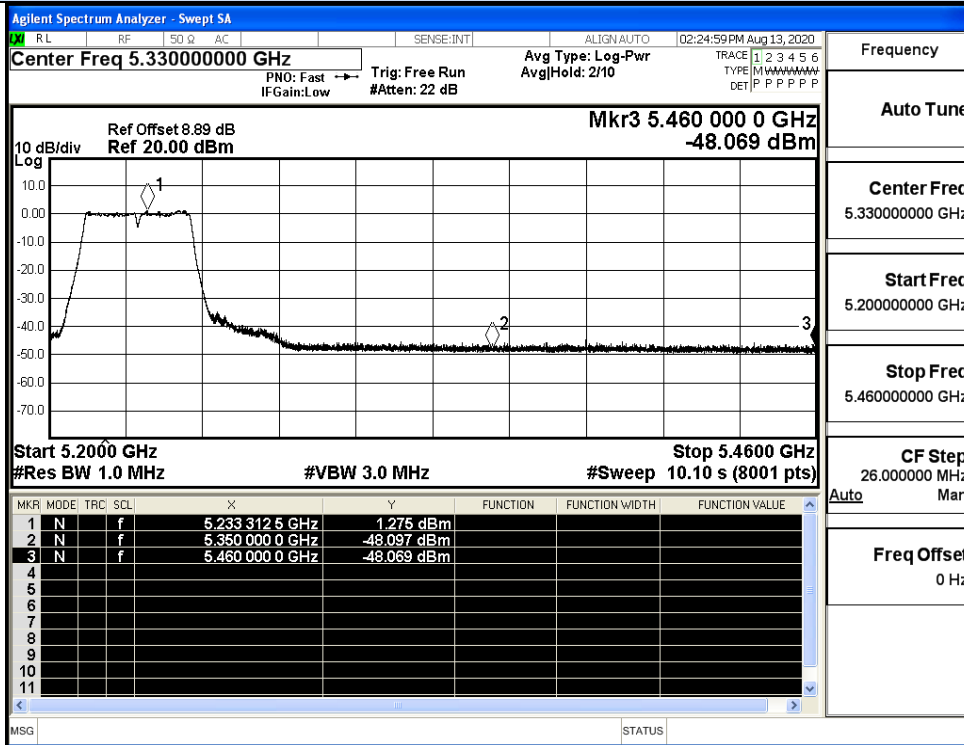


IEEE 802.11n40 / Channel 38 / 5190MHz / Peak

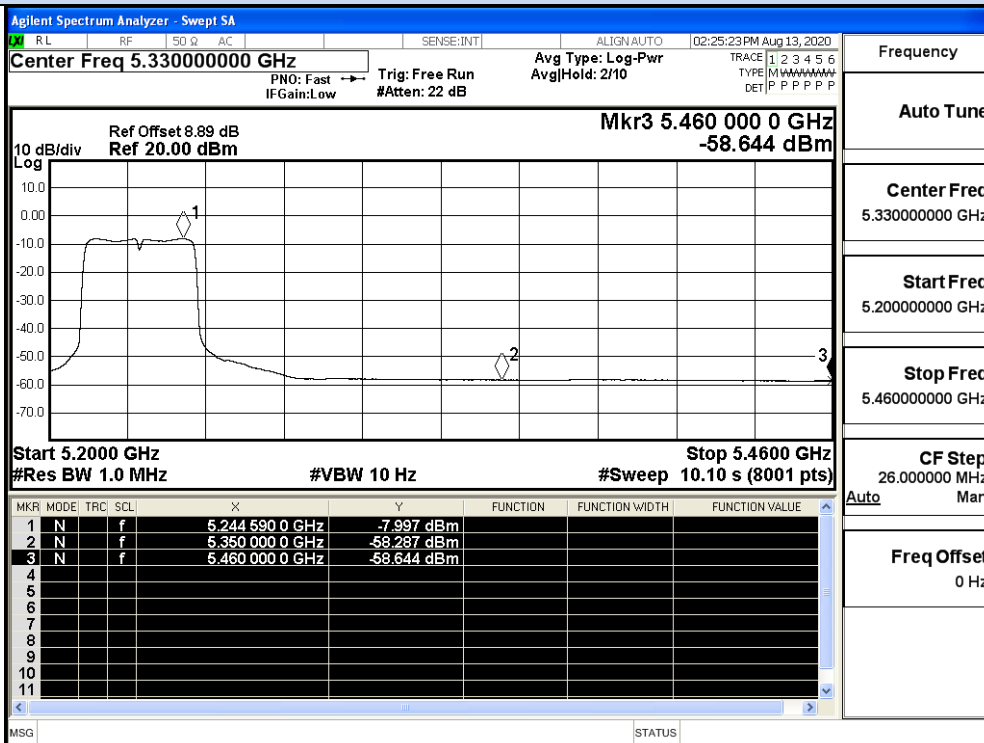


IEEE 802.11n40 / Channel 38 / 5190MHz / Average

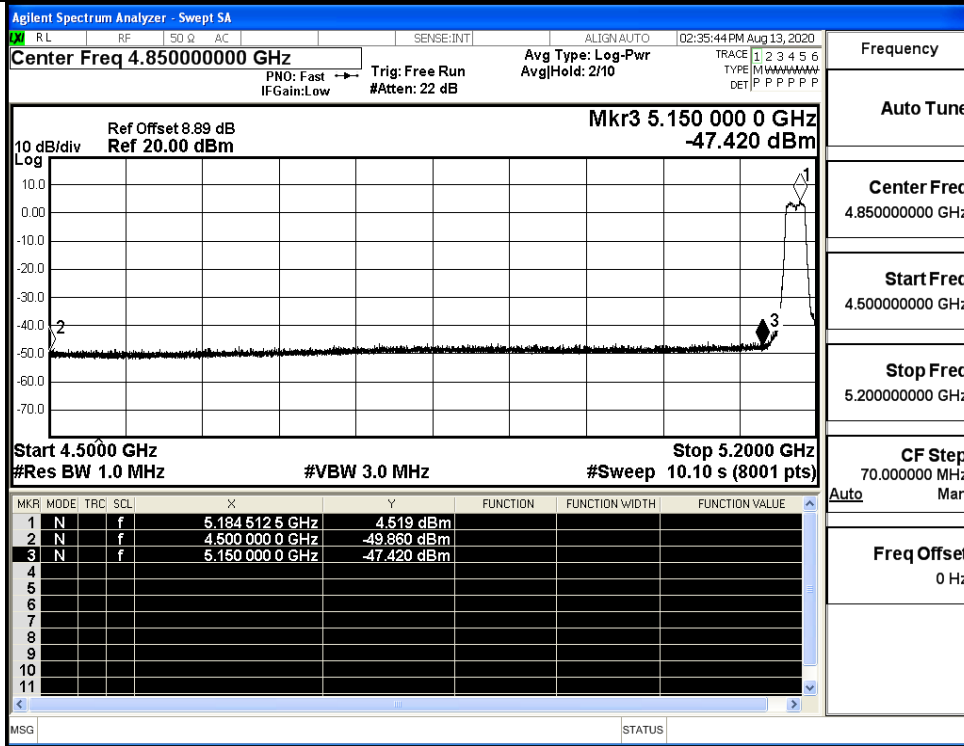
Undesirable Emissions Measurement



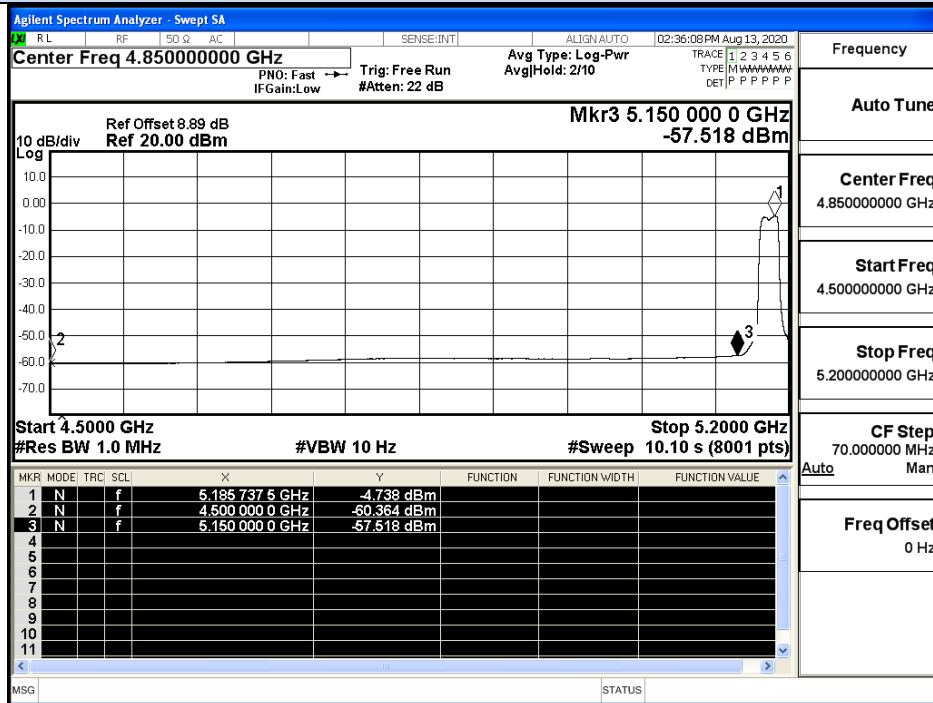
IEEE 802.11n40 / Channel 48 / 5230MHz / Peak



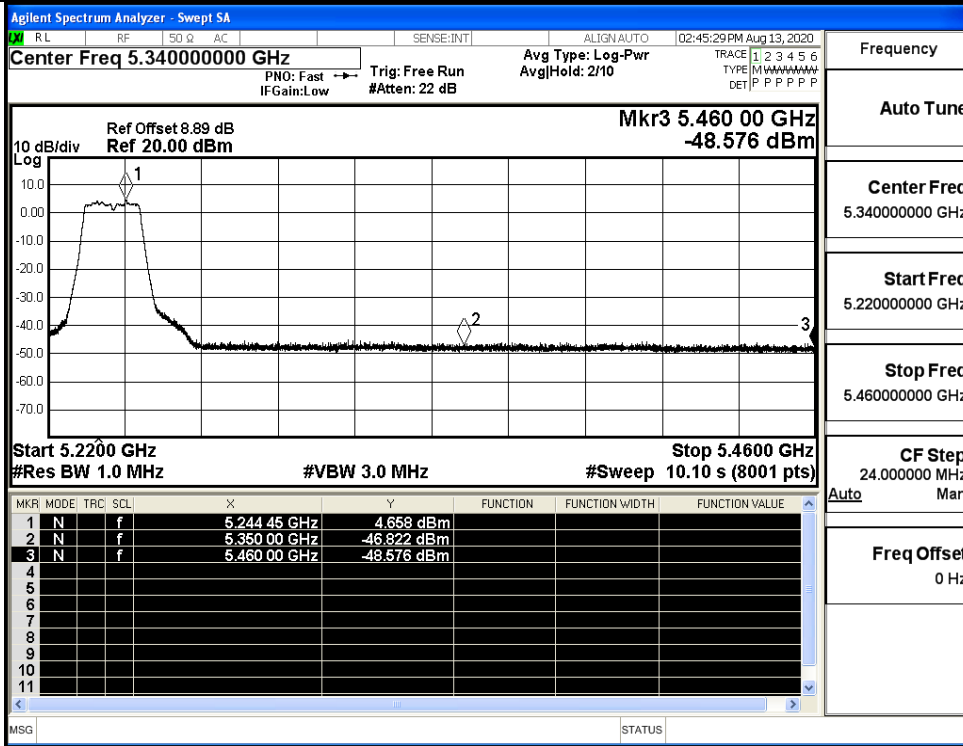
IEEE 802.11n40 / Channel 48 / 5230MHz / Average



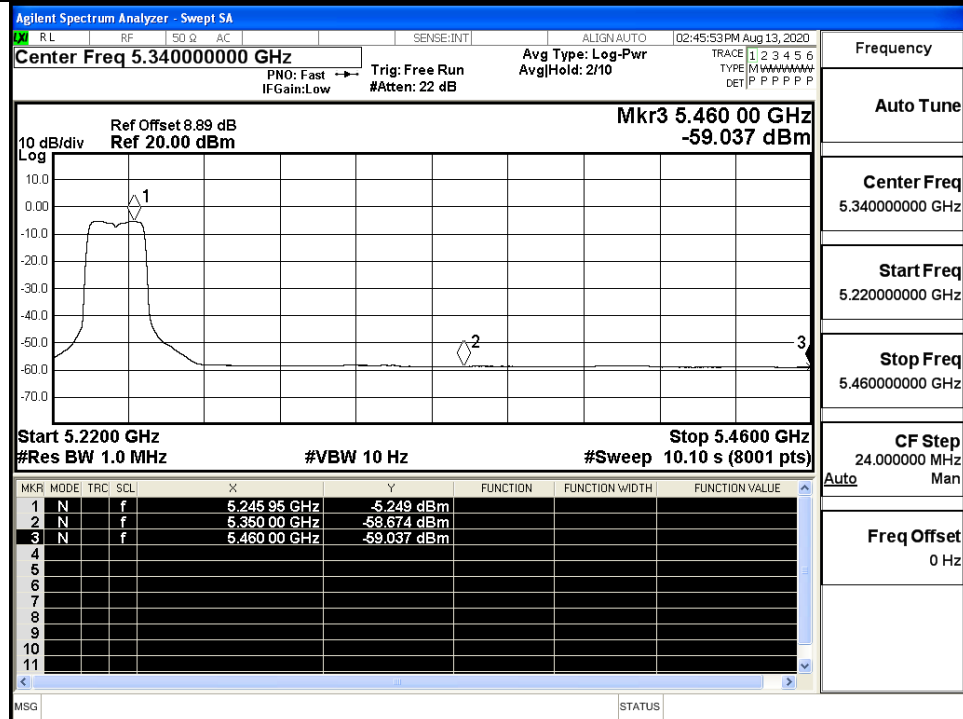
IEEE 802.11ac20 / Channel 36 / 5180MHz / Peak



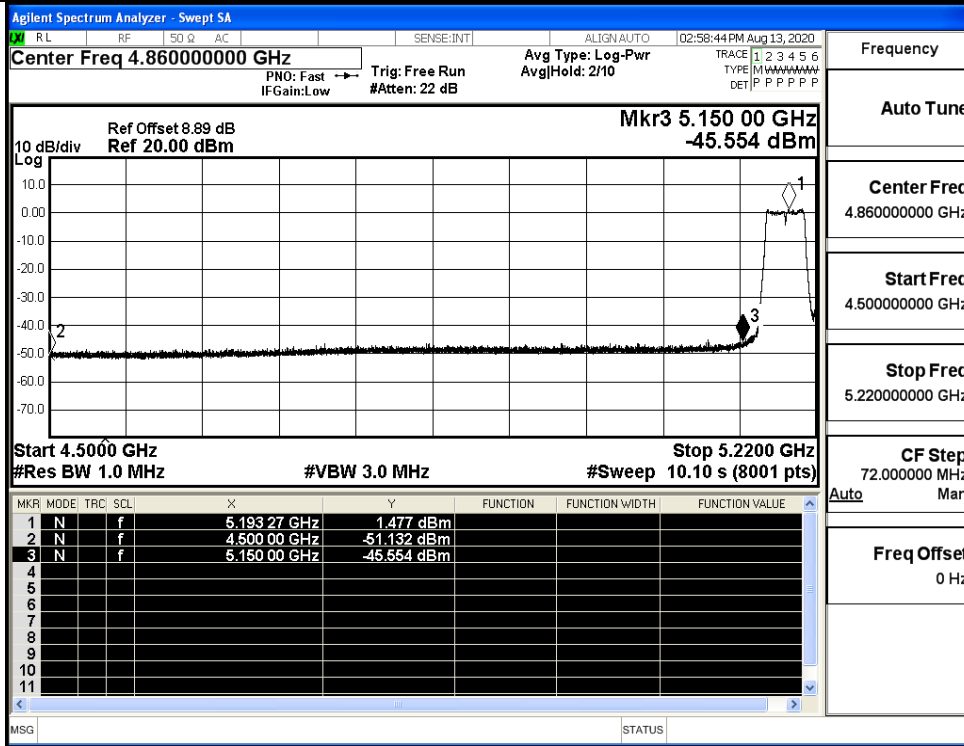
IEEE 802.11ac20 / Channel 36 / 5180MHz / Average



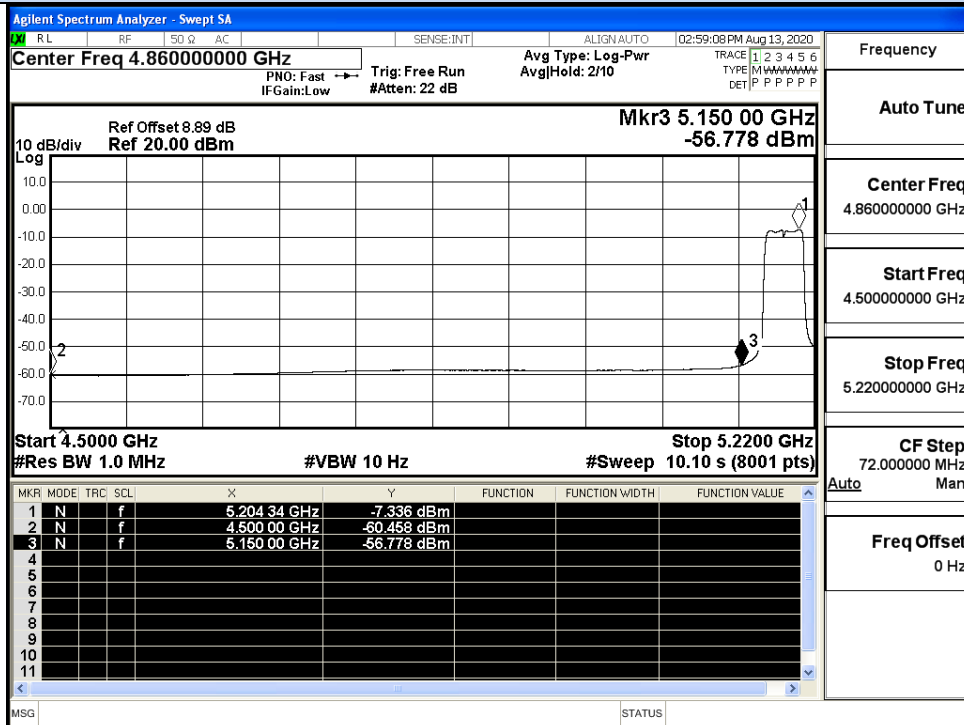
IEEE 802.11ac20 / Channel 48 / 5240MHz / Peak



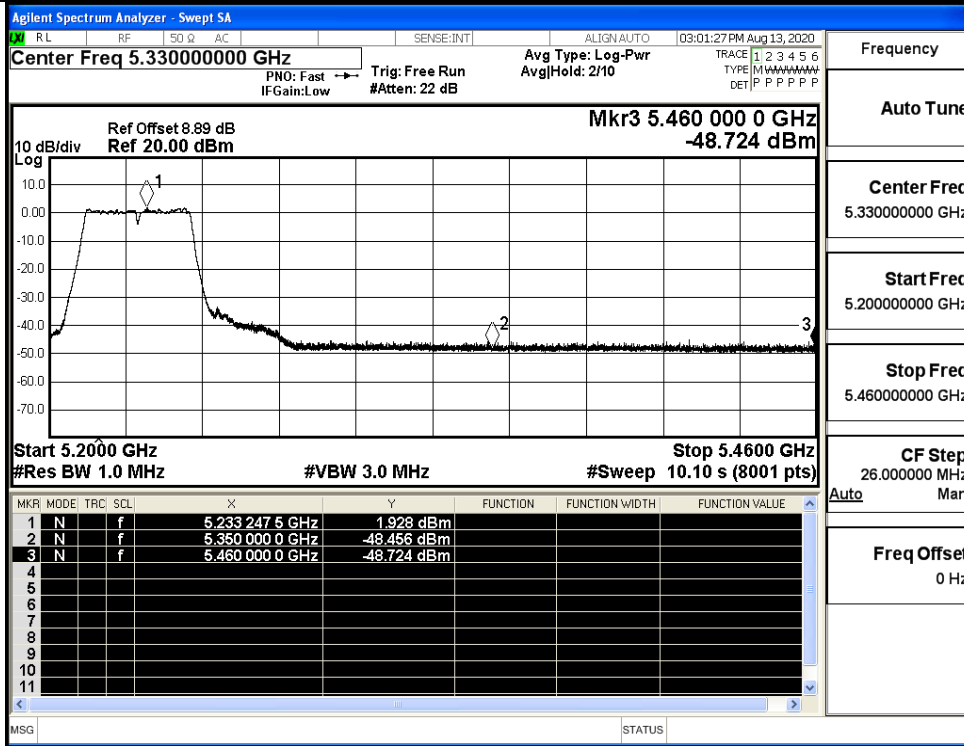
IEEE 802.11ac20 / Channel 48 / 5240MHz / Average



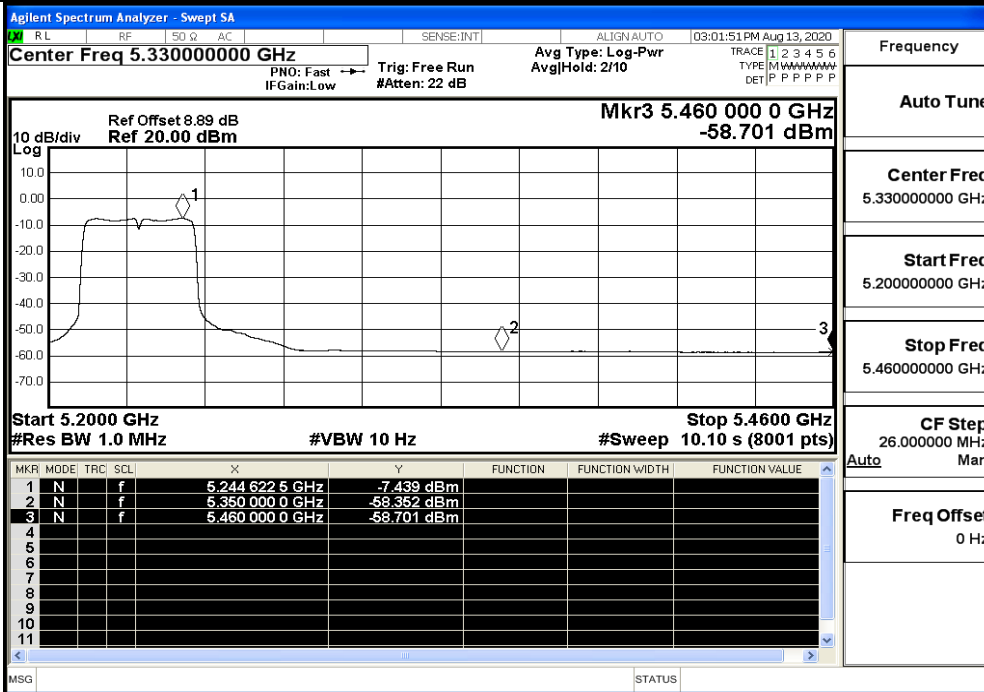
IEEE 802.11ac40 / Channel 38 / 5190MHz / Peak



IEEE 802.11ac40 / Channel 38 / 5190MHz / Average

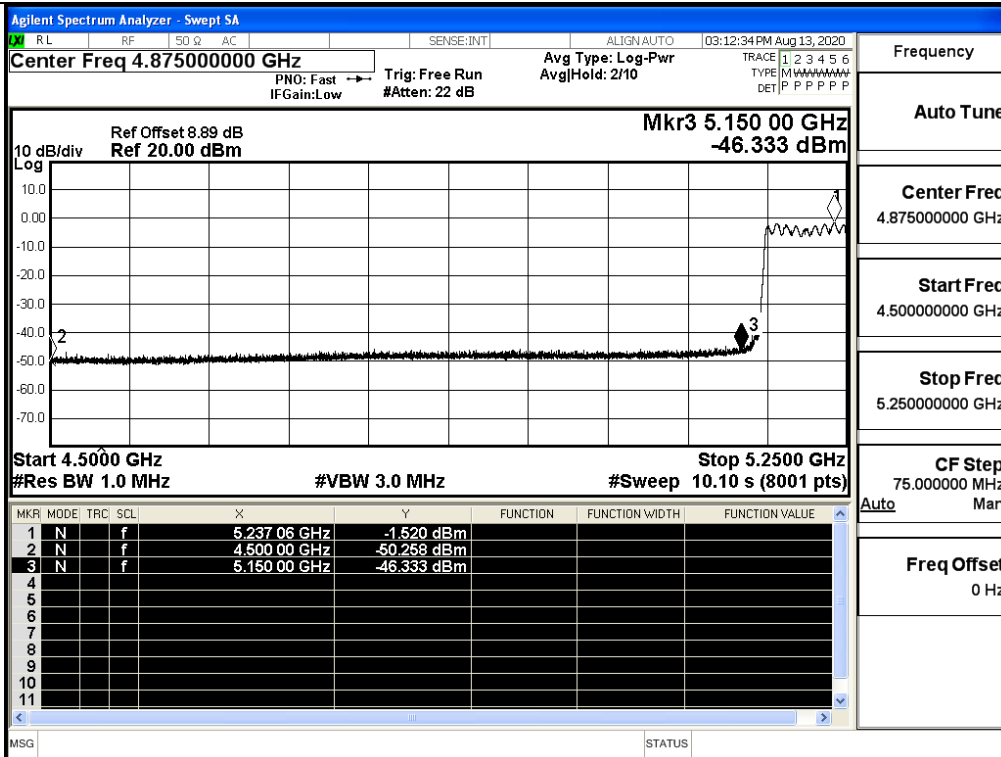


IEEE 802.11ac40 / Channel 48 / 5230MHz / Peak



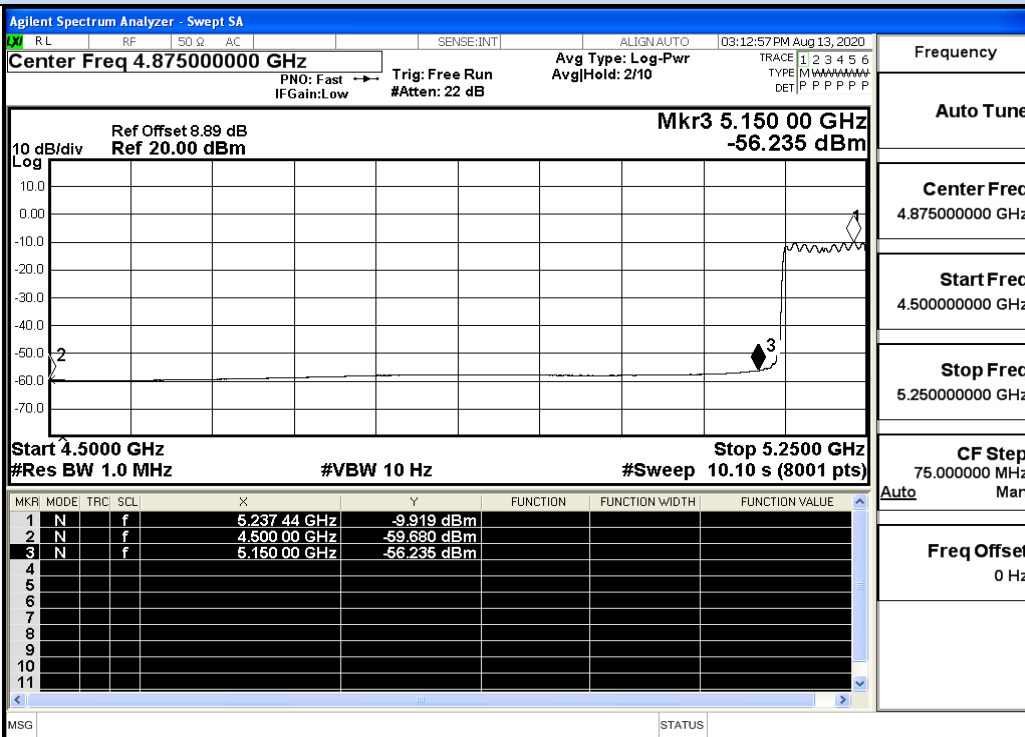
IEEE 802.11ac40 / Channel 48 / 5230MHz / Average





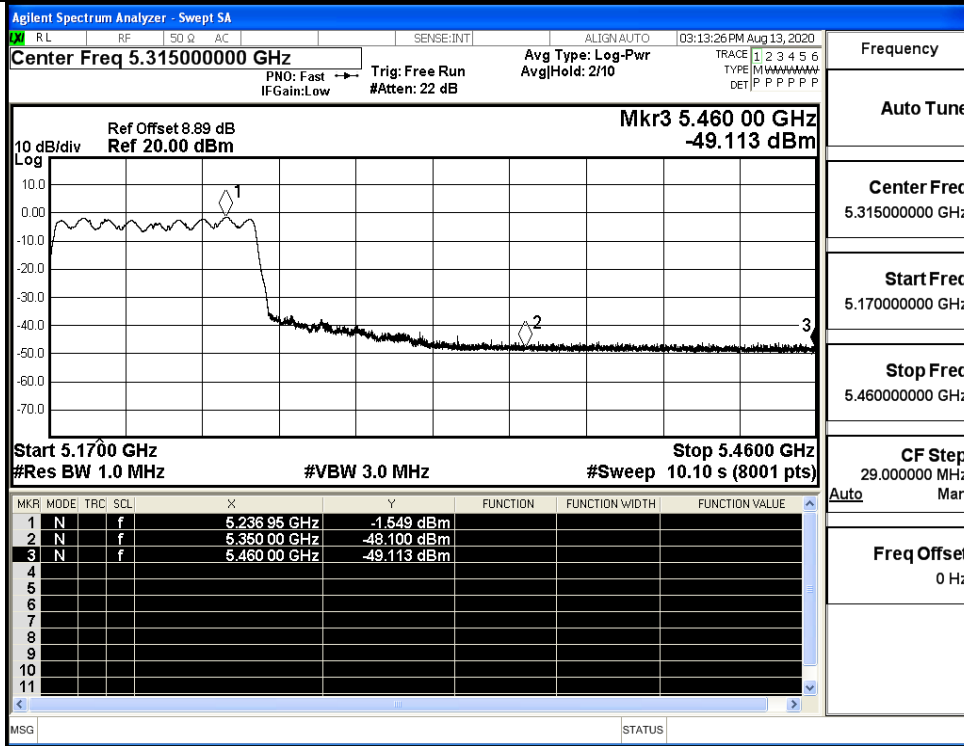
Frequency	
Auto Tune	
Center Freq	4.875000000 GHz
Start Freq	4.500000000 GHz
Stop Freq	5.250000000 GHz
CF Step	75.000000 MHz
Auto	Man
Freq Offset	0 Hz

IEEE 802.11ac80 / Channel 42 / 5210MHz / Peak

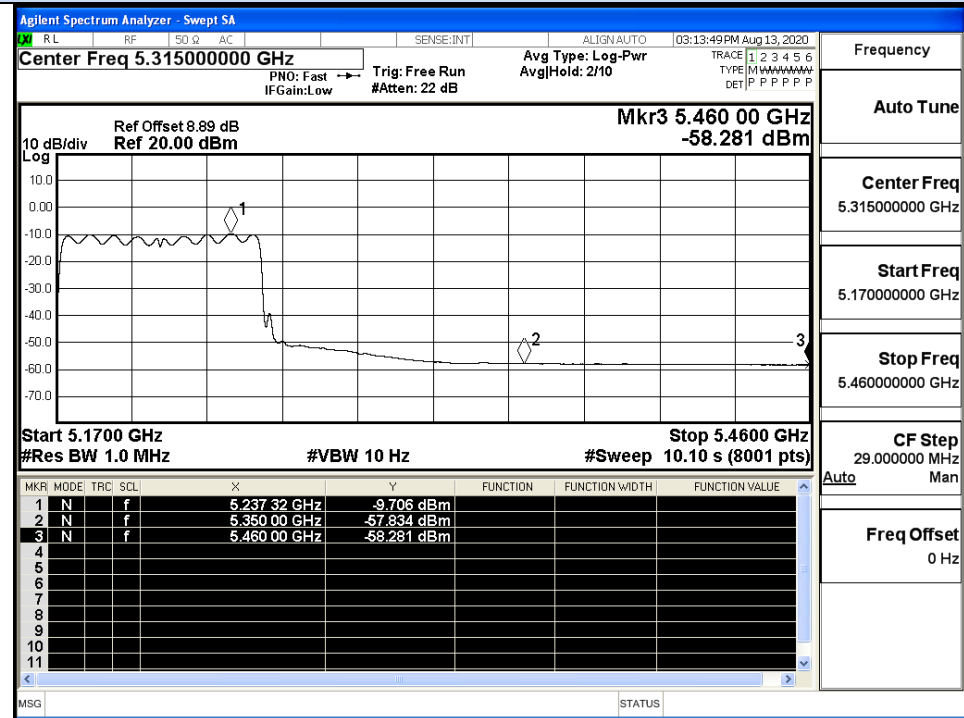


Frequency	
Auto Tune	
Center Freq	4.875000000 GHz
Start Freq	4.500000000 GHz
Stop Freq	5.250000000 GHz
CF Step	75.000000 MHz
Auto	Man
Freq Offset	0 Hz

IEEE 802.11ac80 / Channel 42 / 5210MHz / Average



IEEE 802.11ac80 / Channel 42 / 5210MHz / Peak



IEEE 802.11ac80 / Channel 42 / 5210MHz / Average