Appendix D

RF Test Data for 5.5G WLAN (Conducted Measurement)

Product Name: Mini 802.11ac Wireless USB Adapter

Trade Mark: N/A

Test Model: 0611

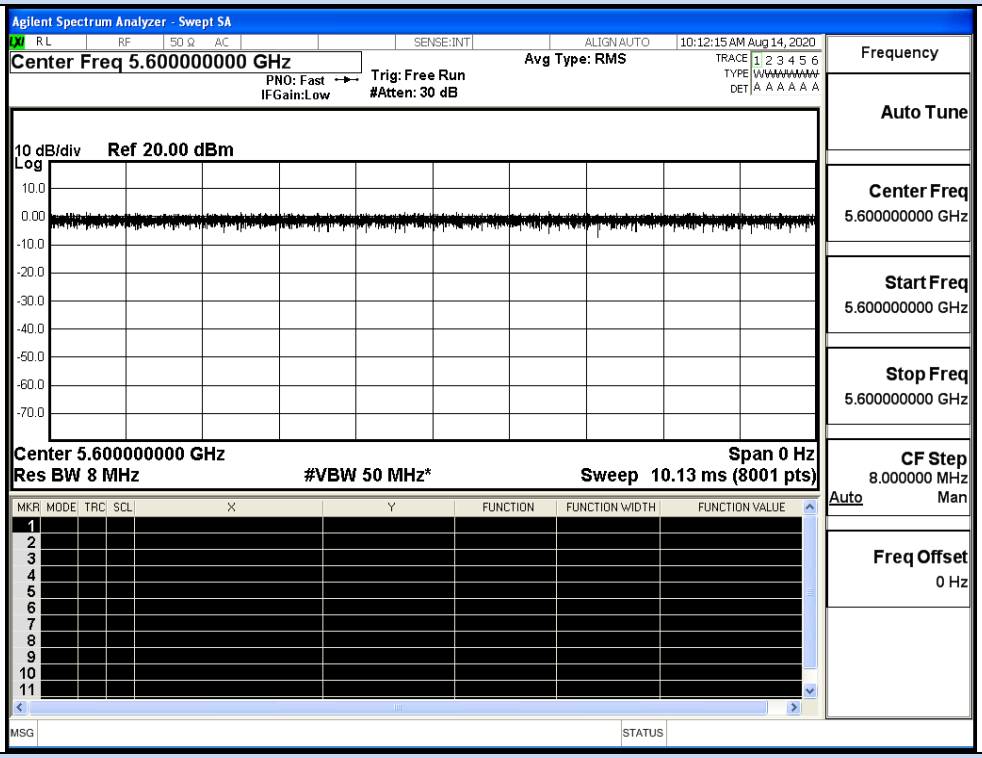
Environmental Conditions

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

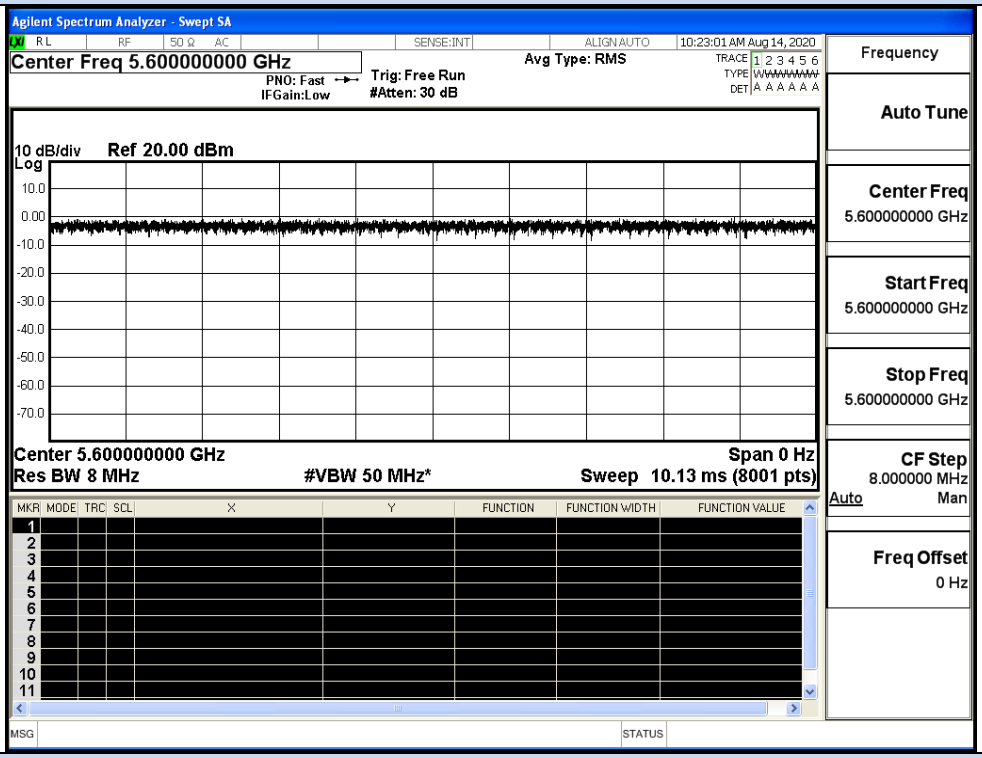
D.1 Duty Cycle

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5600	100	0.00	0.01
11N20 SISO	5600	100	0.00	0.01
11N40 SISO	5590	100	0.00	0.01
11AC20 SISO	5600	100	0.00	0.01
11AC40 SISO	5590	100	0.00	0.01
11AC80 SISO	5610	100	0.00	0.01

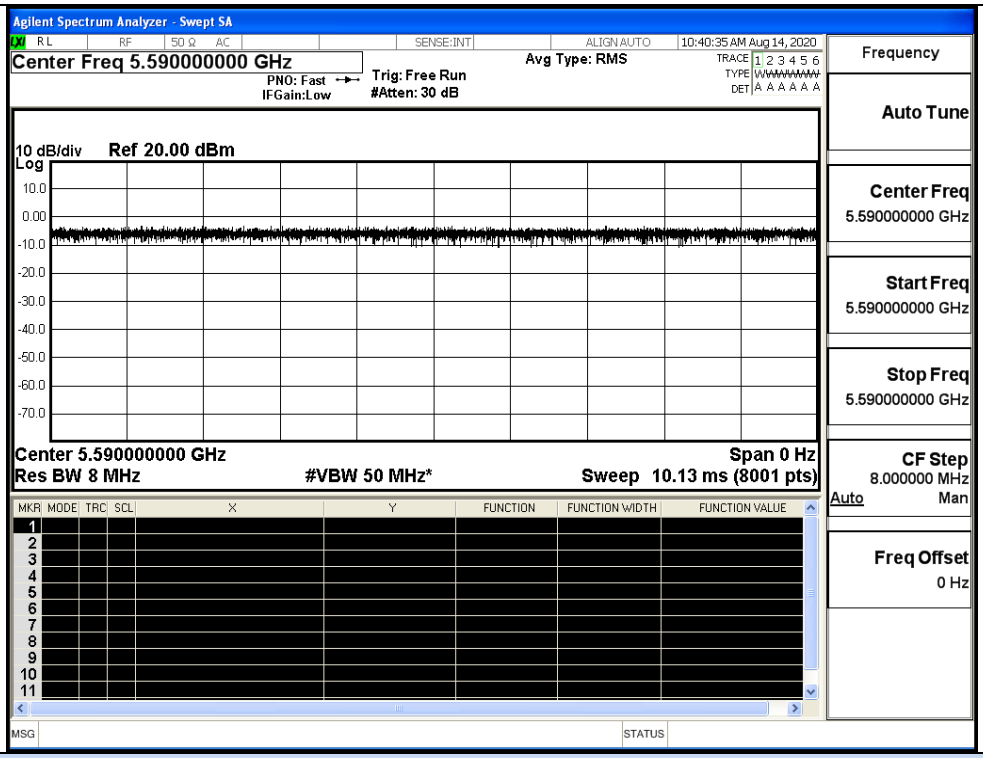
On Time and Duty Cycle



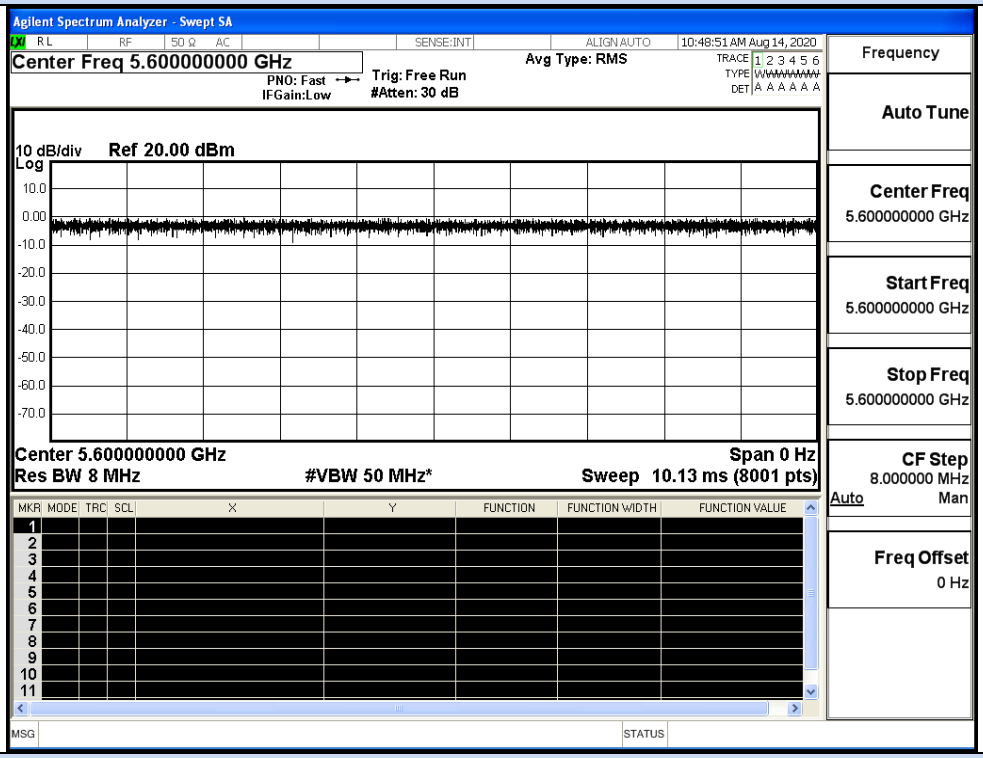
IEEE 802.11a



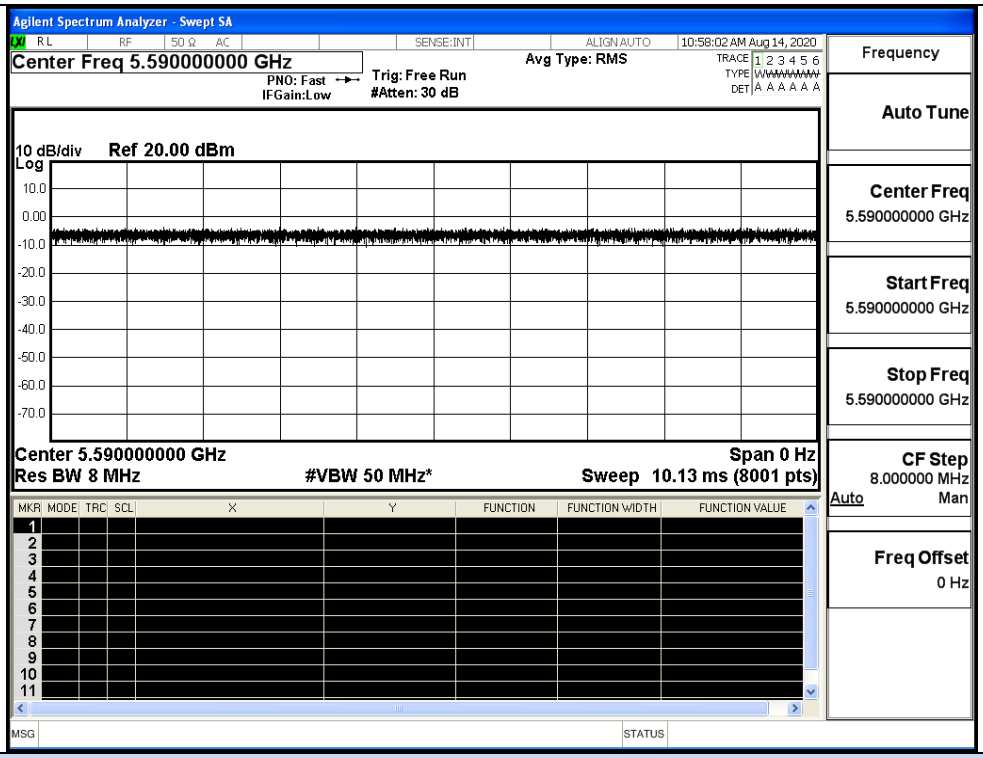
IEEE 802.11n HT20



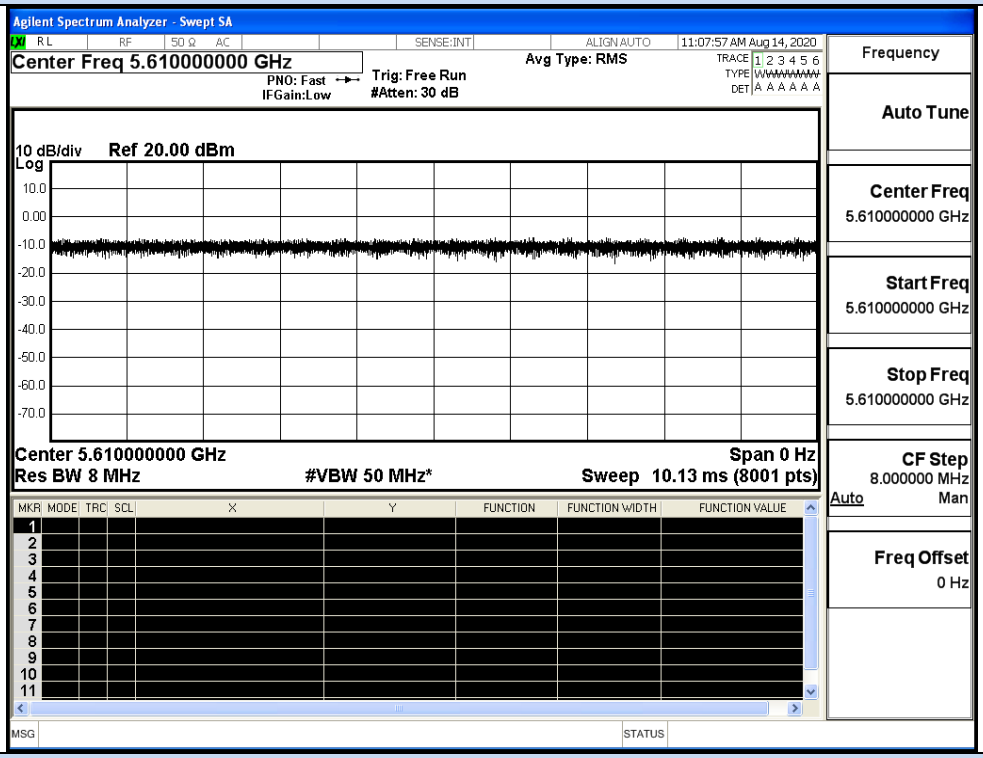
IEEE 802.11n HT40



IEEE 802.11AC20



IEEE 802.11AC40

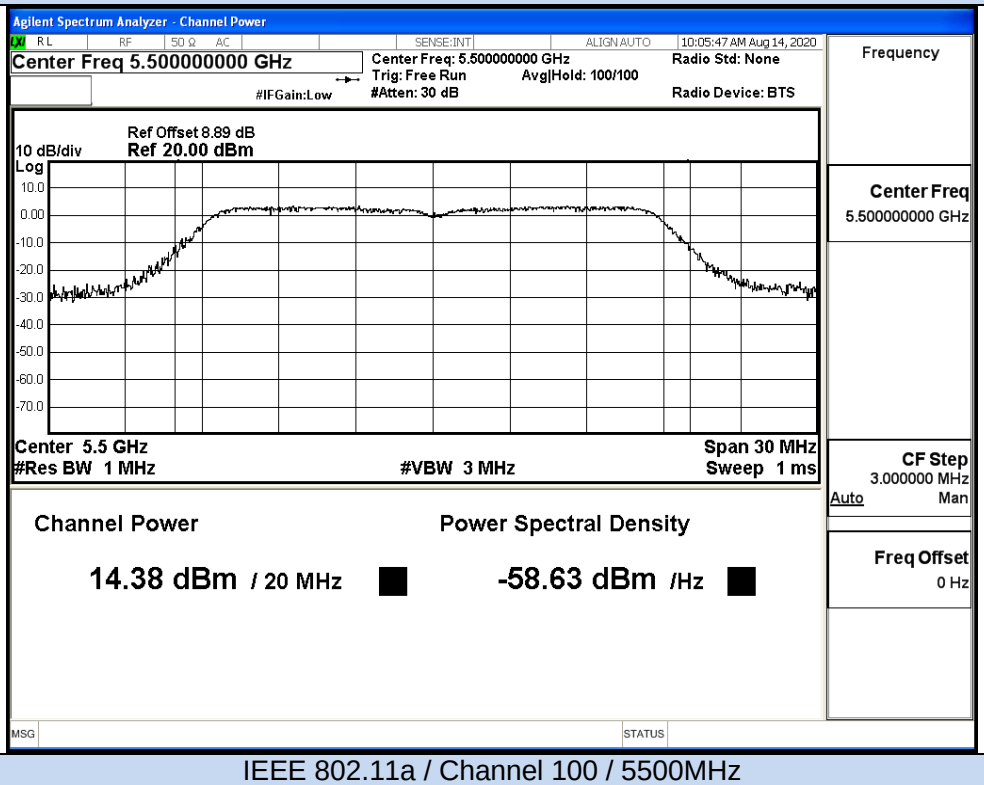


IEEE 802.11AC80

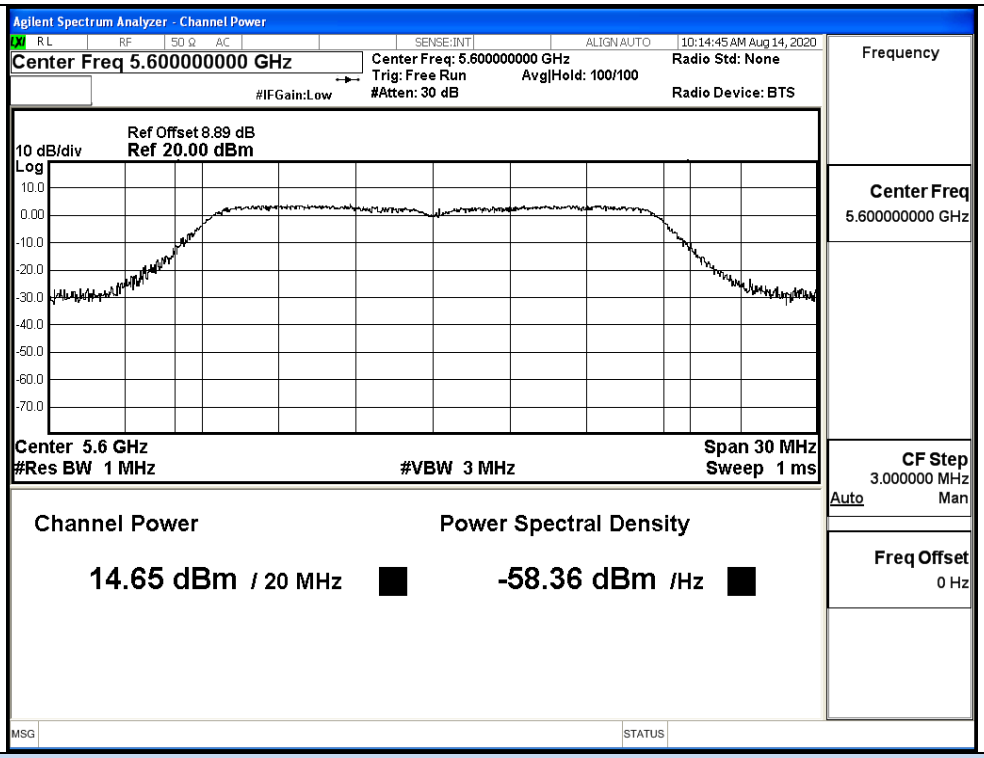
D.2 Maximum Conduct Output Power

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11A	100	5500	14.38	0	14.38	24	Pass
	120	5600	14.65	0	14.65		Pass
	140	5700	15.34	0	15.34		Pass
11N20 SISO	100	5500	14.11	0	14.11	24	Pass
	120	5600	14.37	0	14.37		Pass
	140	5700	15.28	0	15.28		Pass
11N40 SISO	102	5510	15.16	0	15.16	24	Pass
	118	5590	14.36	0	14.36		Pass
	134	5670	15.02	0	15.02		Pass
11ac20 SISO	100	5500	14.14	0	14.14	24	Pass
	120	5600	14.19	0	14.19		Pass
	140	5700	15.35	0	15.35		Pass
11ac40 SISO	102	5510	14.78	0	14.78	24	Pass
	118	5590	14.39	0	14.39		Pass
	134	5670	14.94	0	14.94		Pass
11ac80 SISO	106	5530	14.91	0	14.91	24	Pass
	122	5610	14.78	0	14.78		Pass

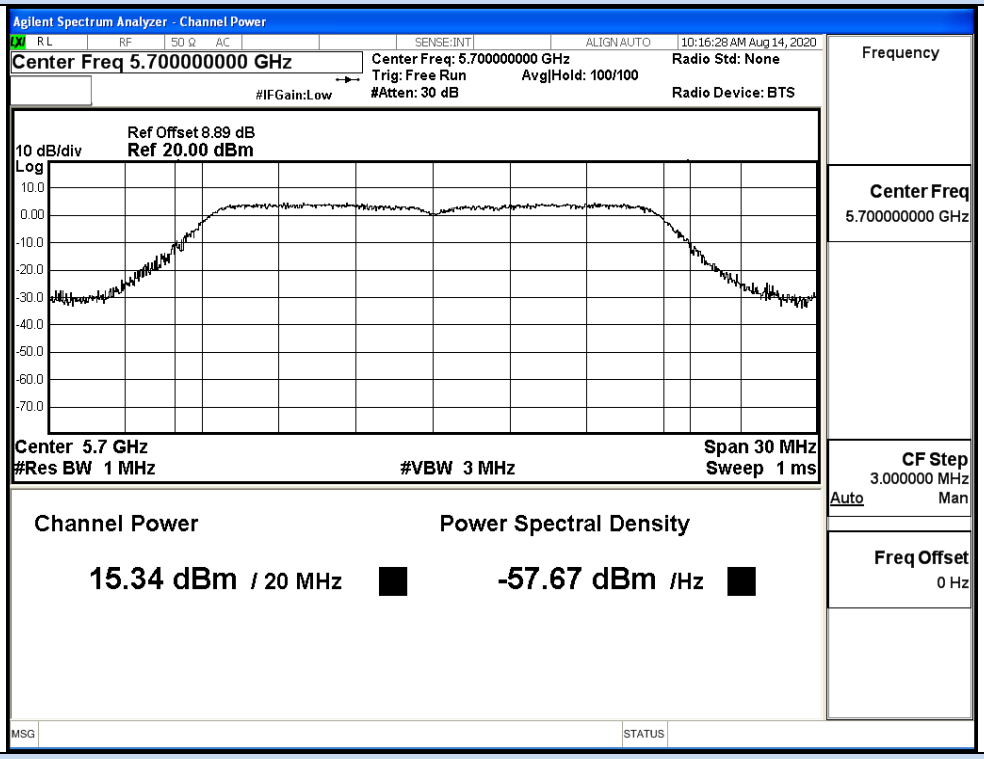
Maximum Conducted Output Power



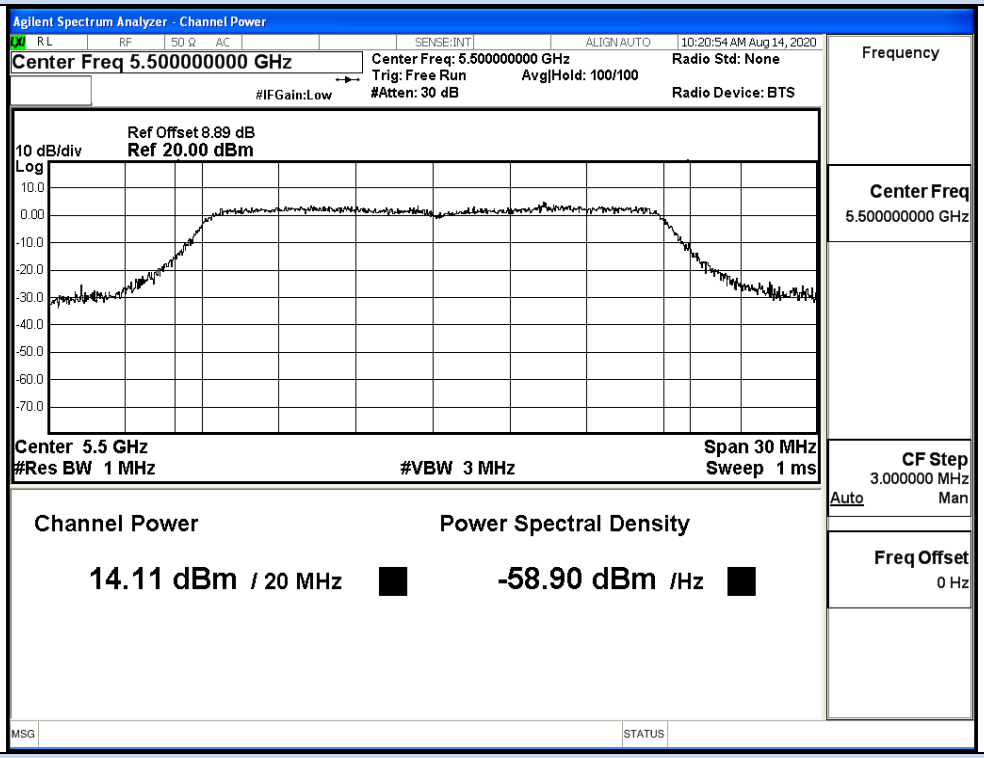
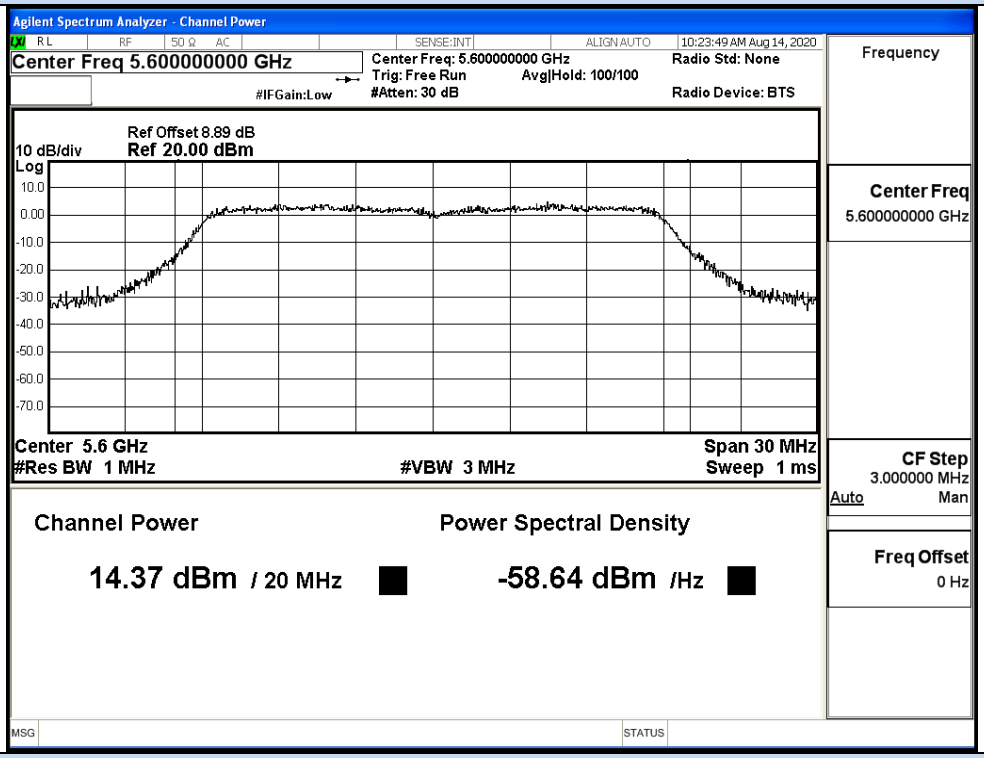
IEEE 802.11a / Channel 100 / 5500MHz

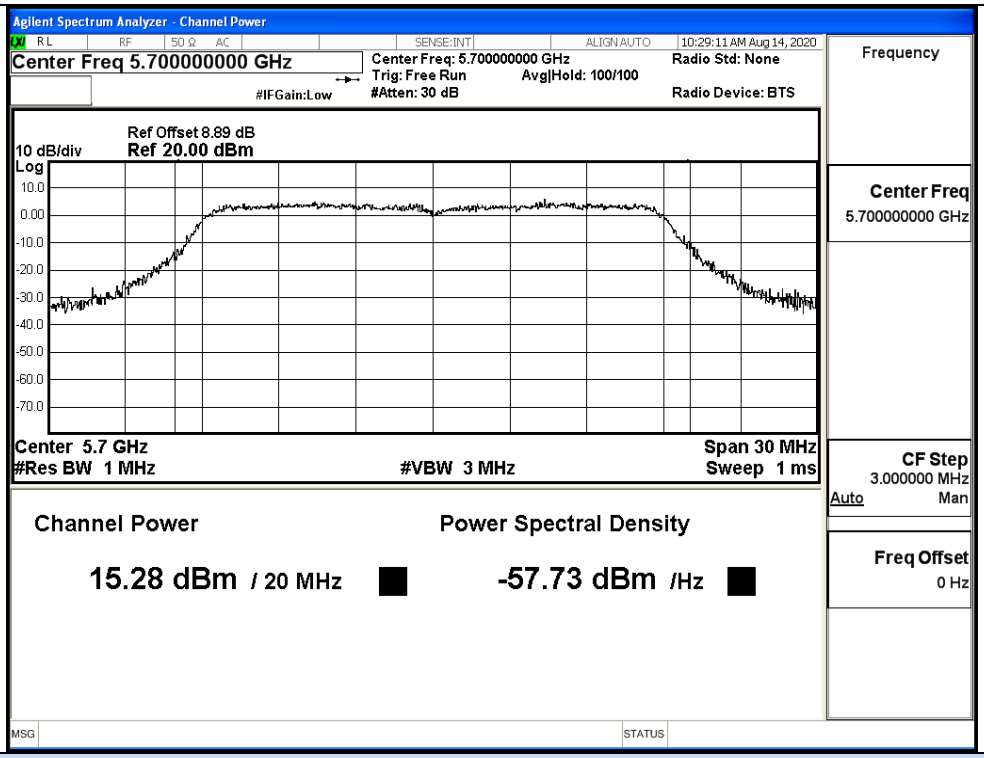


IEEE 802.11a / Channel 120 / 5600MHz

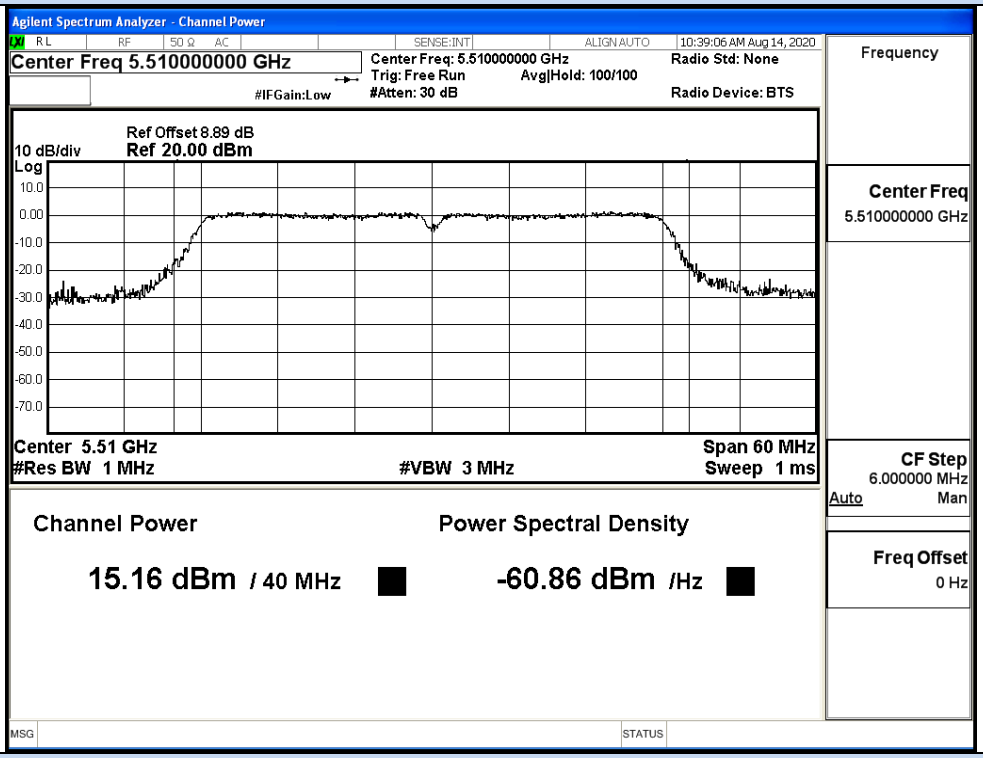
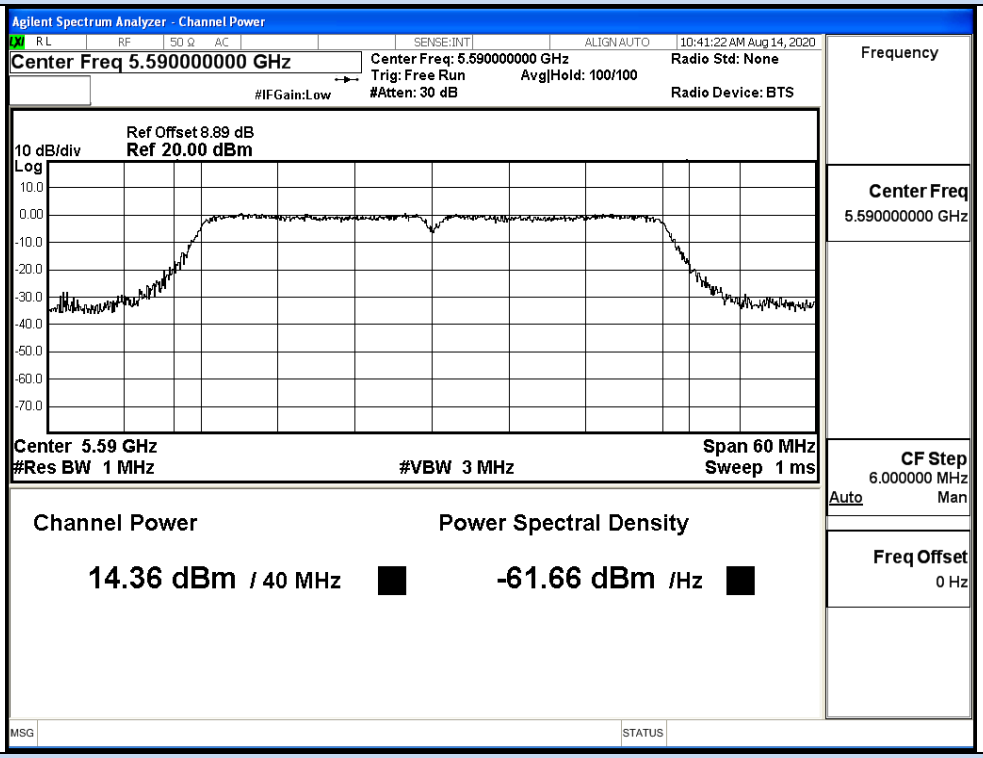


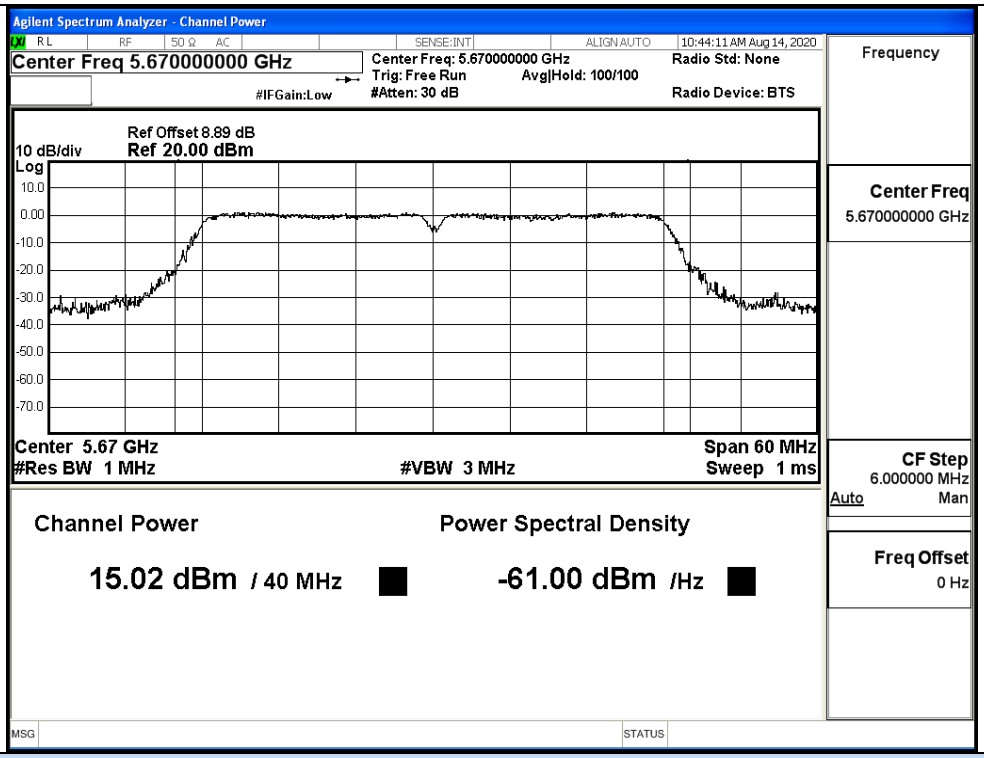
IEEE 802.11a / Channel 140 / 5700MHz

Maximum Conducted Output Power

IEEE 802.11n20 / Channel 100 / 5500MHz

IEEE 802.11n20 / Channel 120 / 5600MHz

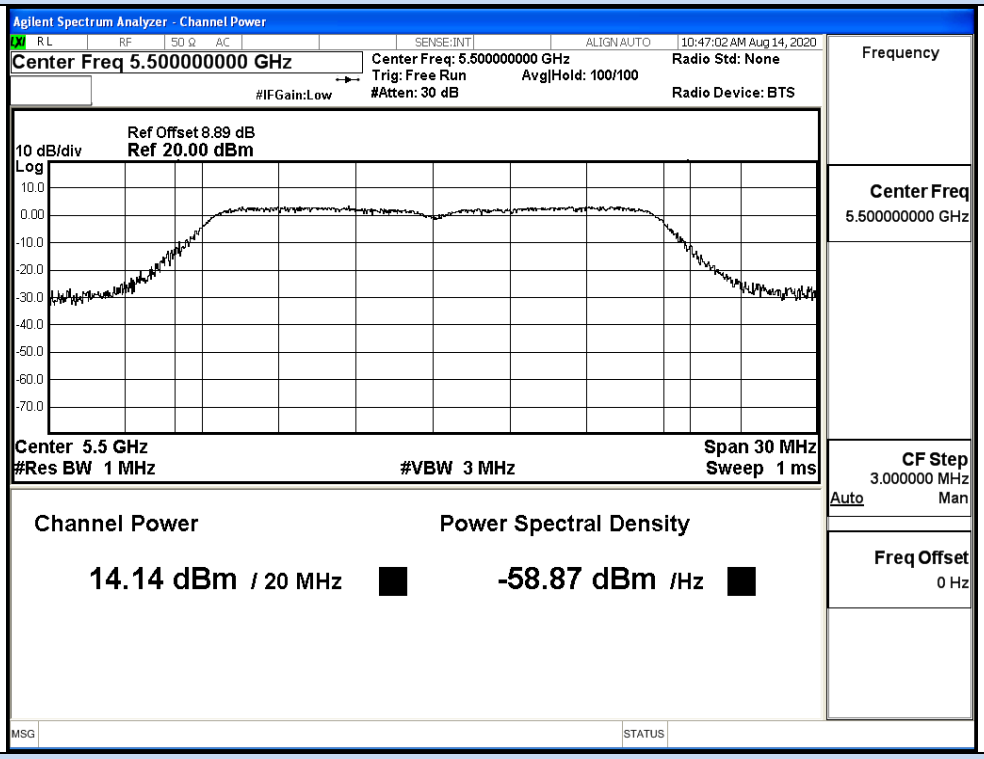


IEEE 802.11n20 / Channel 140 / 5700MHz

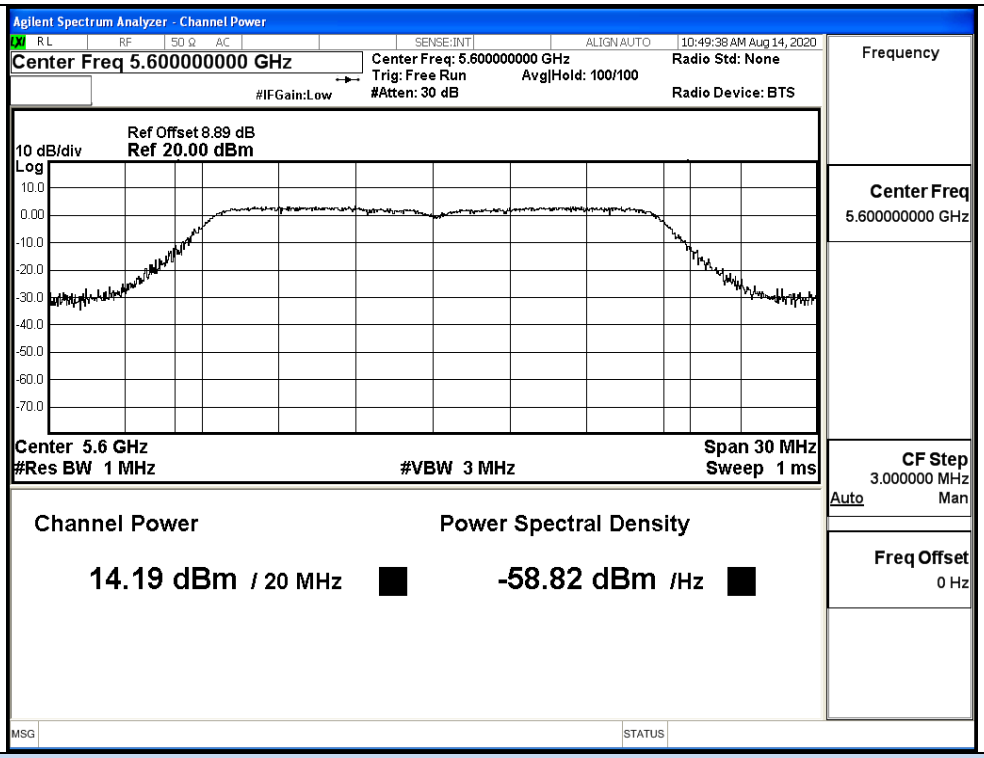
Maximum Conducted Output Power

IEEE 802.11n40 / Channel 102 / 5510MHz

IEEE 802.11n40 / Channel 118 / 5590MHz



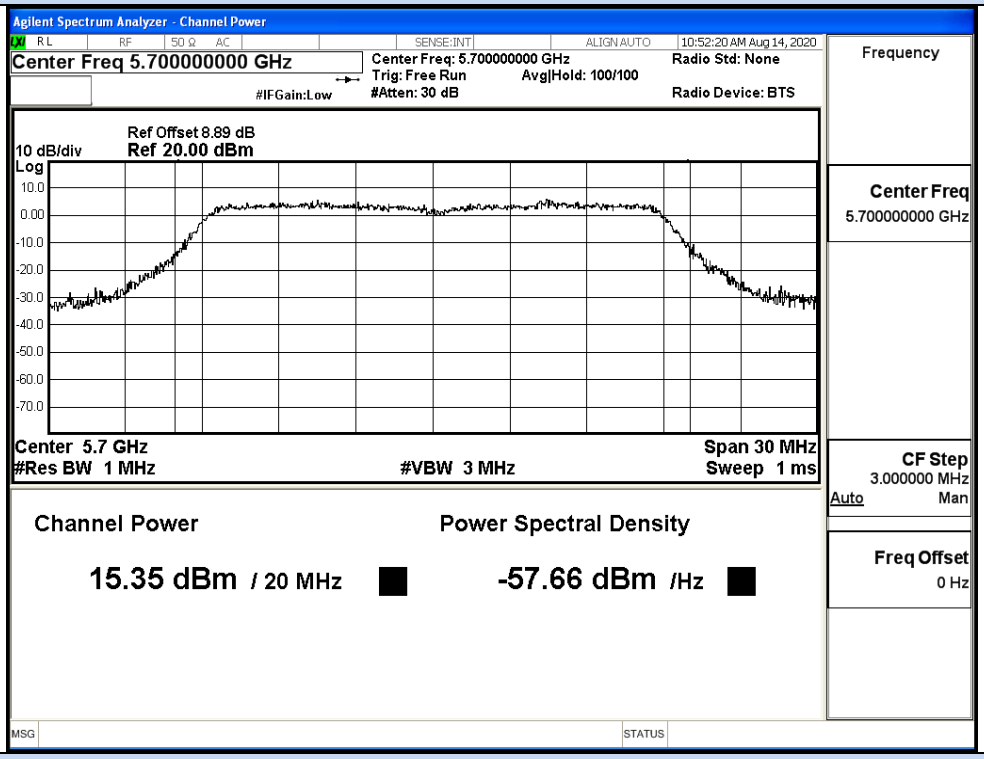
IEEE 802.11n40 / Channel 134 / 5670MHz



IEEE 802.11ac20 / Channel 100 / 5500MHz

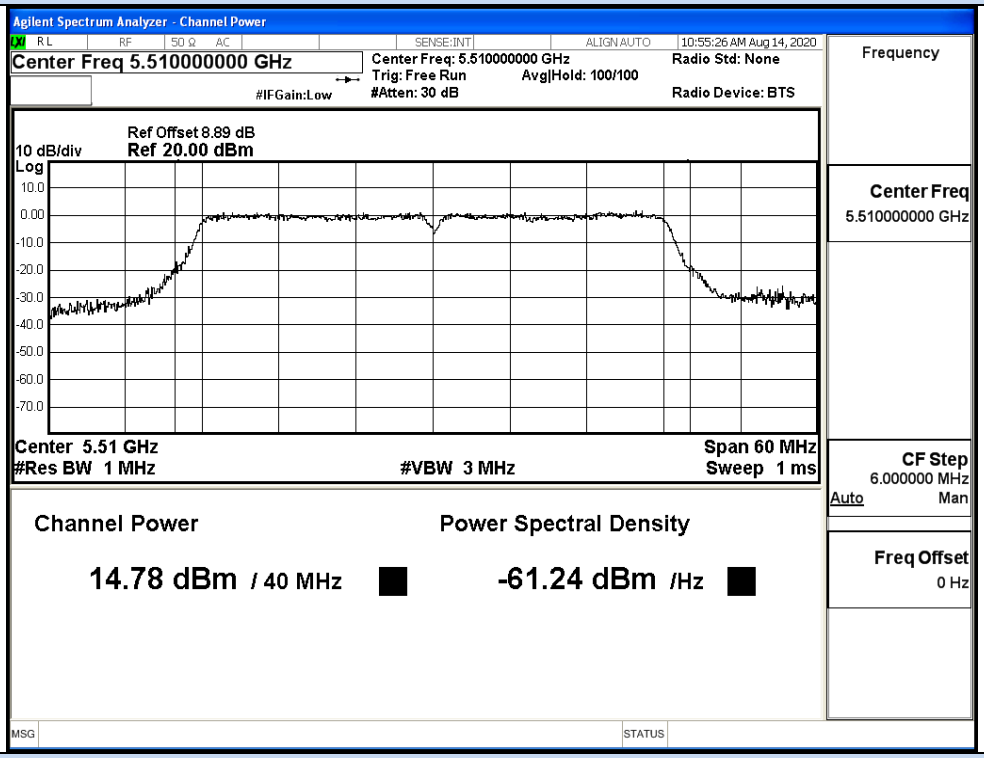


IEEE 802.11ac20 / Channel 120 / 5600MHz

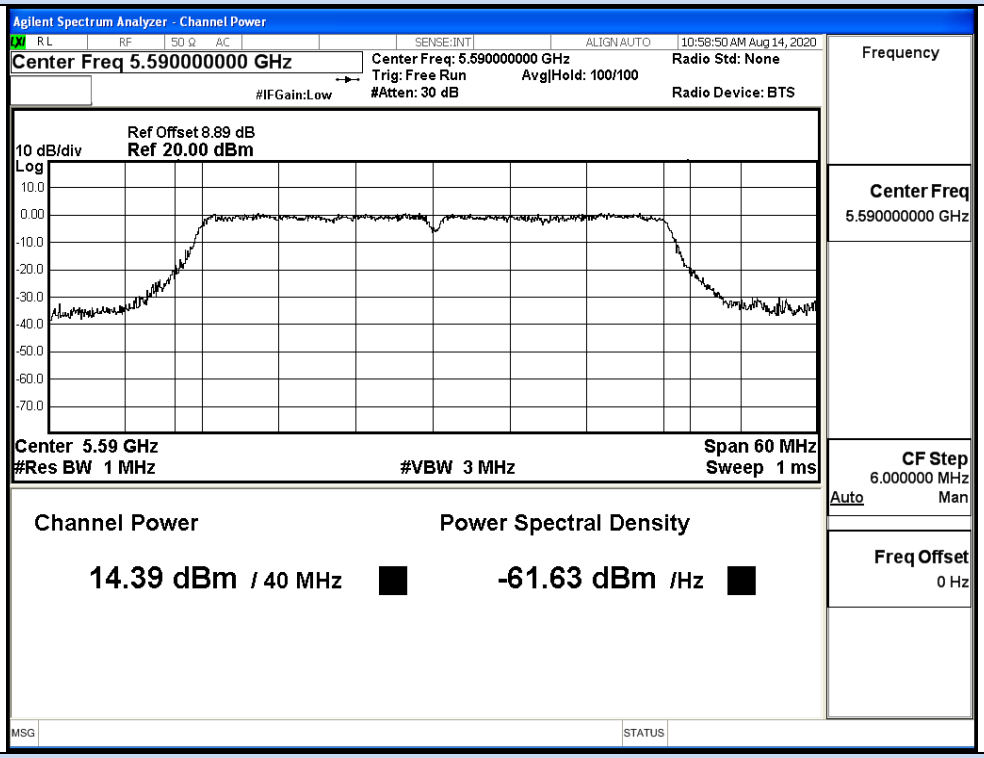


IEEE 802.11ac20 / Channel 140 / 5700MHz

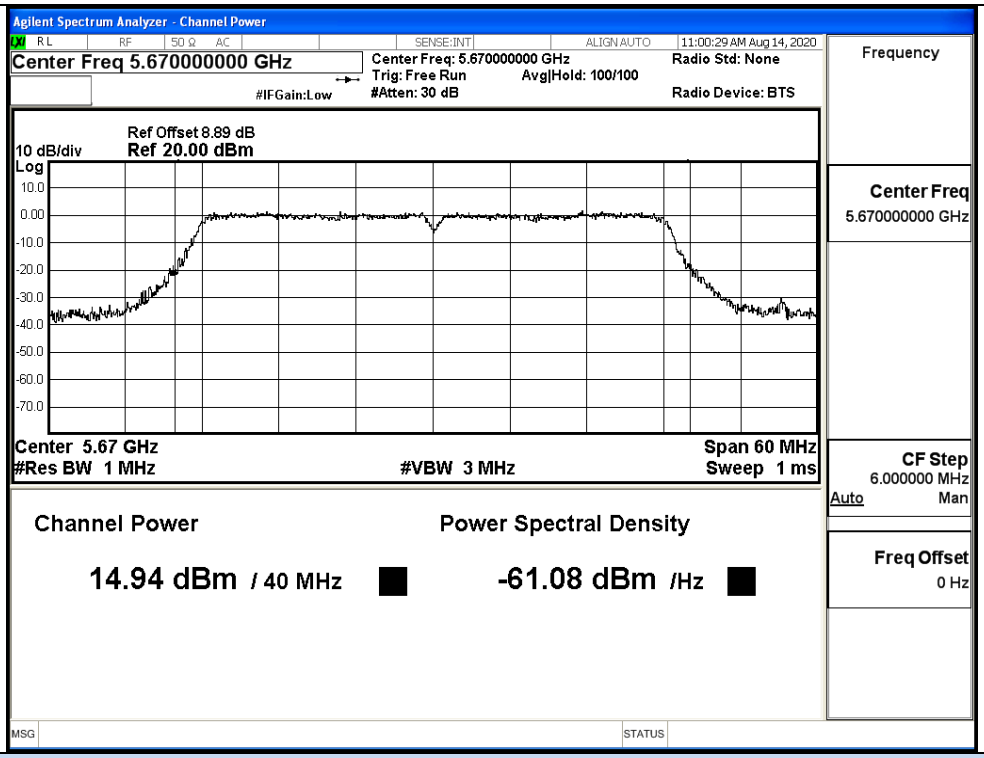
Maximum Conducted Output Power



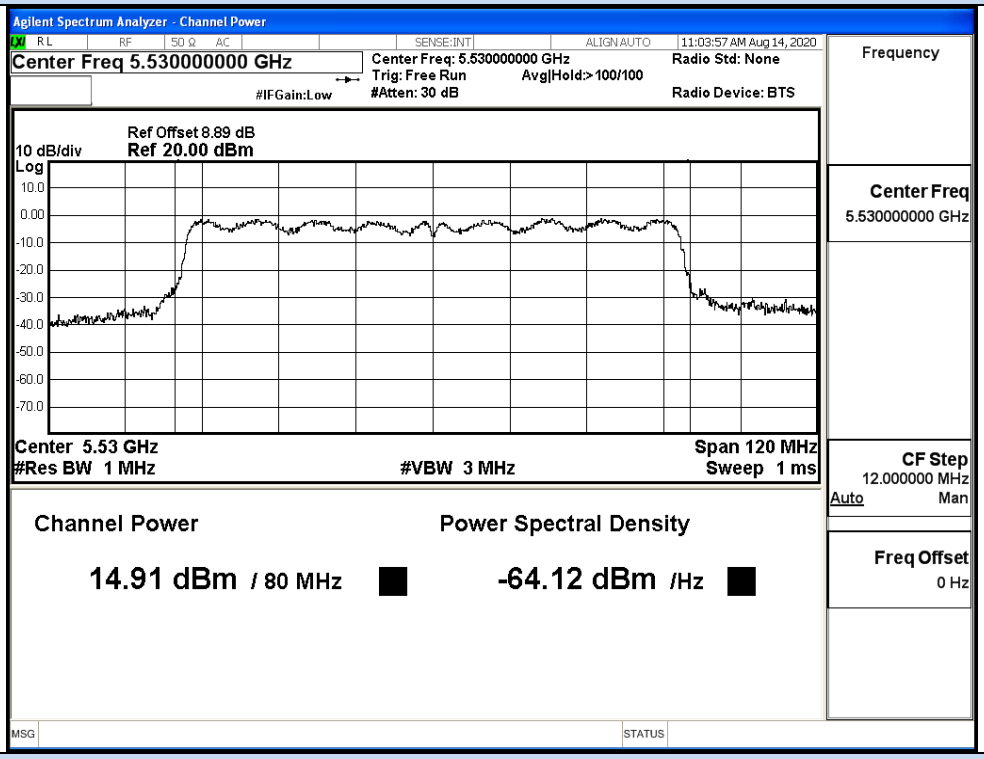
IEEE 802.11ac40 / Channel 102 / 5510MHz



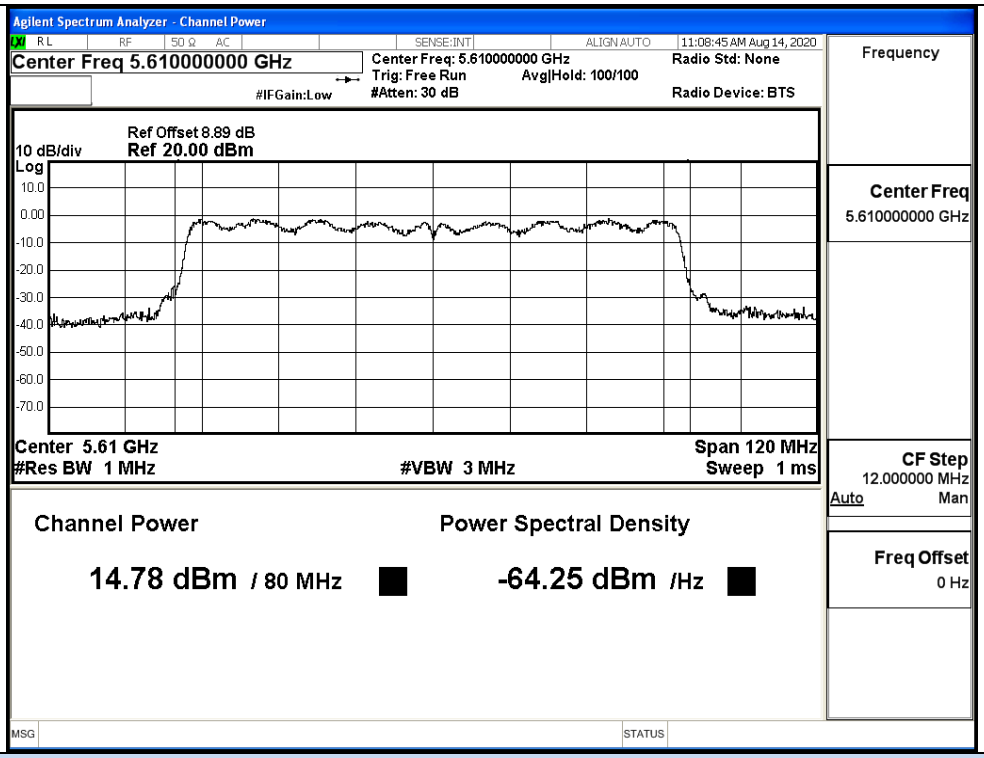
IEEE 802.11ac40 / Channel 118 / 5590MHz



IEEE 802.11ac40 / Channel 134 / 5670MHz



IEEE 802.11ac80 / Channel 106 / 5530MHz

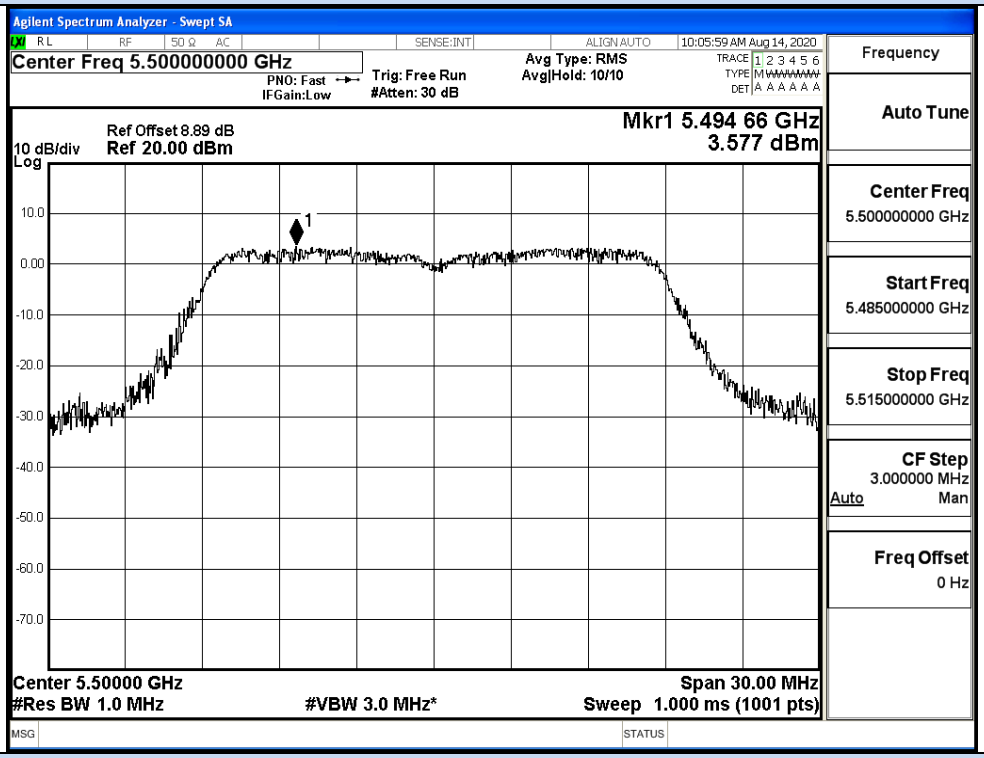


IEEE 802.11ac80 / Channel 122 / 5610MHz

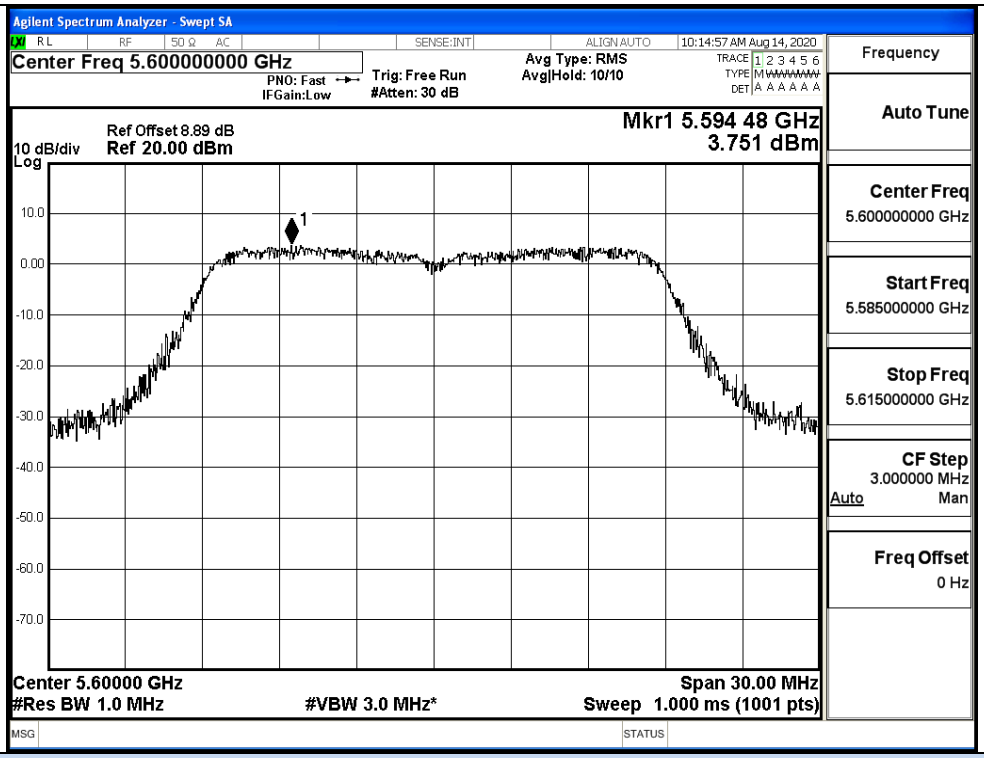
D.3 Power Spectral Density

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor(dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	100	5500	3.58	0	3.58	11	Pass
	120	5600	3.75	0	3.75		Pass
	140	5700	4.33	0	4.33		Pass
11N20 SISO	100	5500	4.15	0	4.15	11	Pass
	120	5600	4.77	0	4.77		Pass
	140	5700	5.70	0	5.70		Pass
11N40 SISO	102	5510	1.10	0	1.10	11	Pass
	118	5590	0.16	0	0.16		Pass
	134	5670	1.05	0	1.05		Pass
11AC20 SISO	100	5500	2.92	0	2.92	11	Pass
	120	5600	3.24	0	3.24		Pass
	140	5700	5.05	0	5.05		Pass
11AC40 SISO	102	5510	1.10	0	1.10	11	Pass
	118	5590	0.77	0	0.77		Pass
	134	5670	1.24	0	1.24		Pass
11AC80 SISO	106	5530	-1.32	0	-1.32	11	Pass
	122	5610	-1.07	0	-1.07		Pass

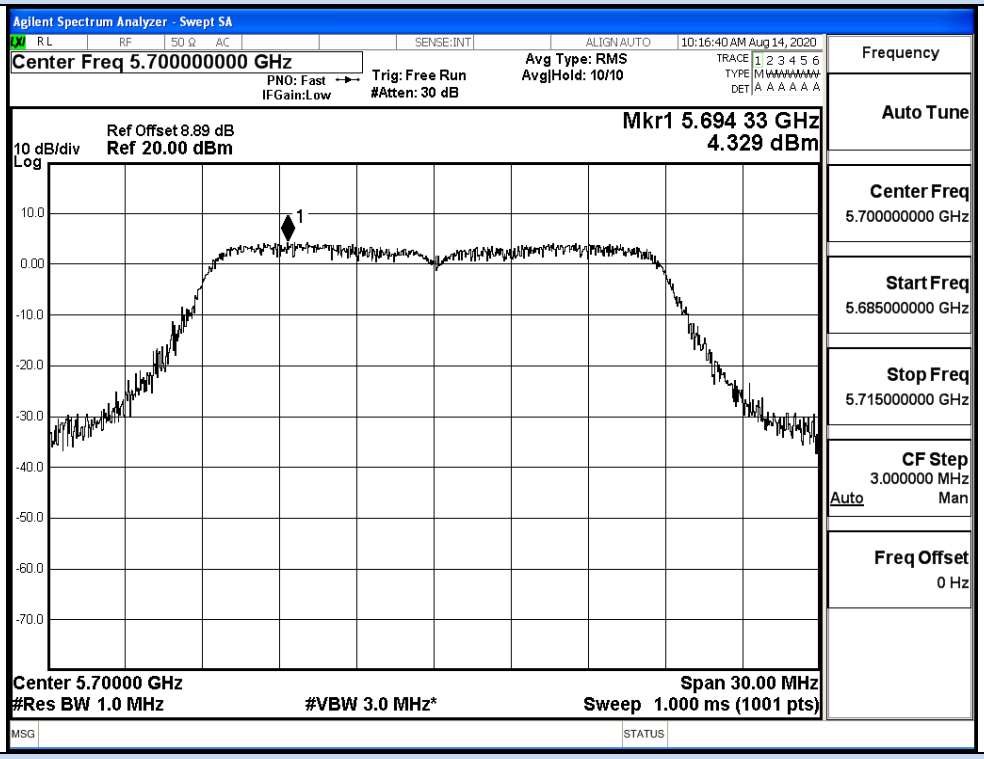
Power Spectral Density



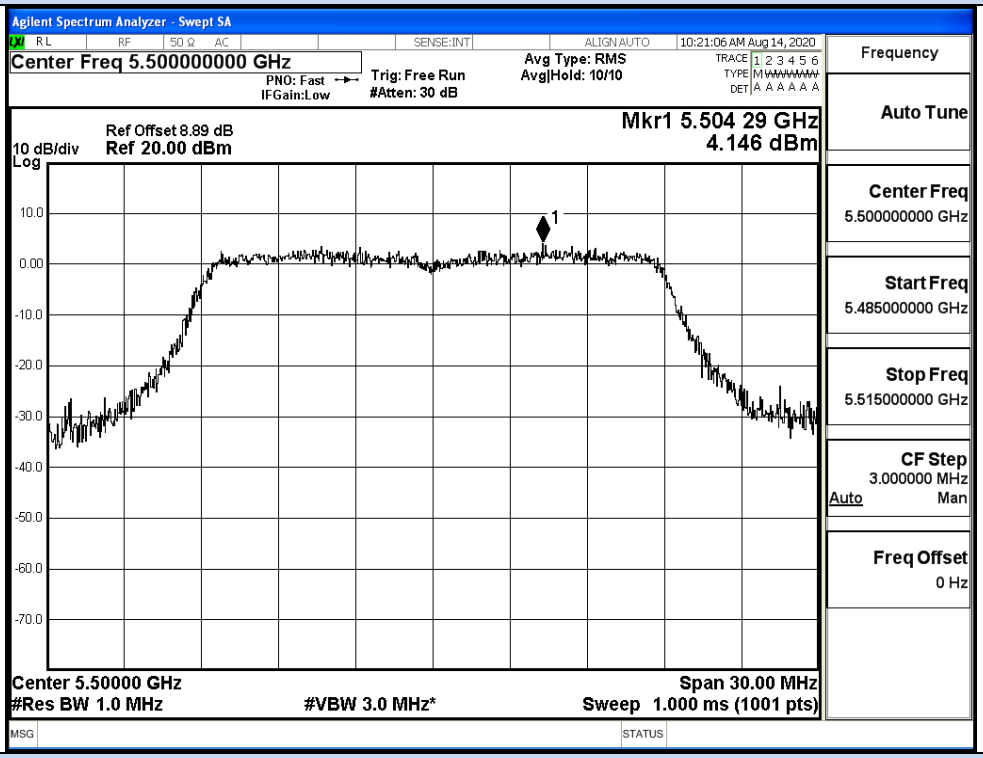
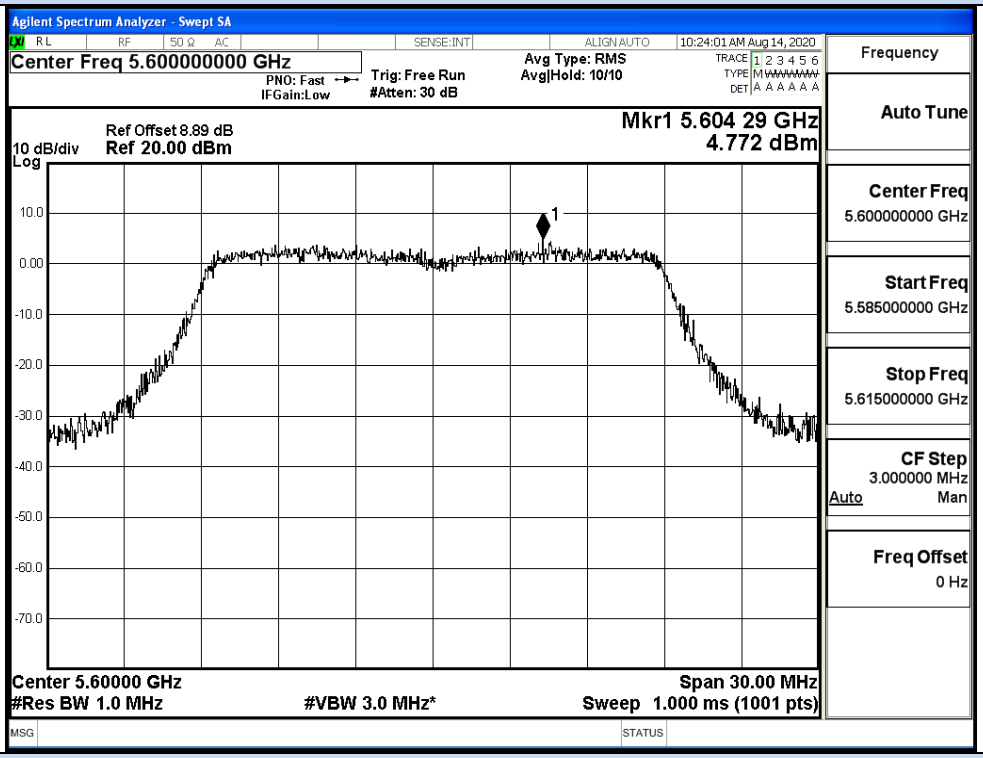
IEEE 802.11a / Channel 100 / 5500MHz

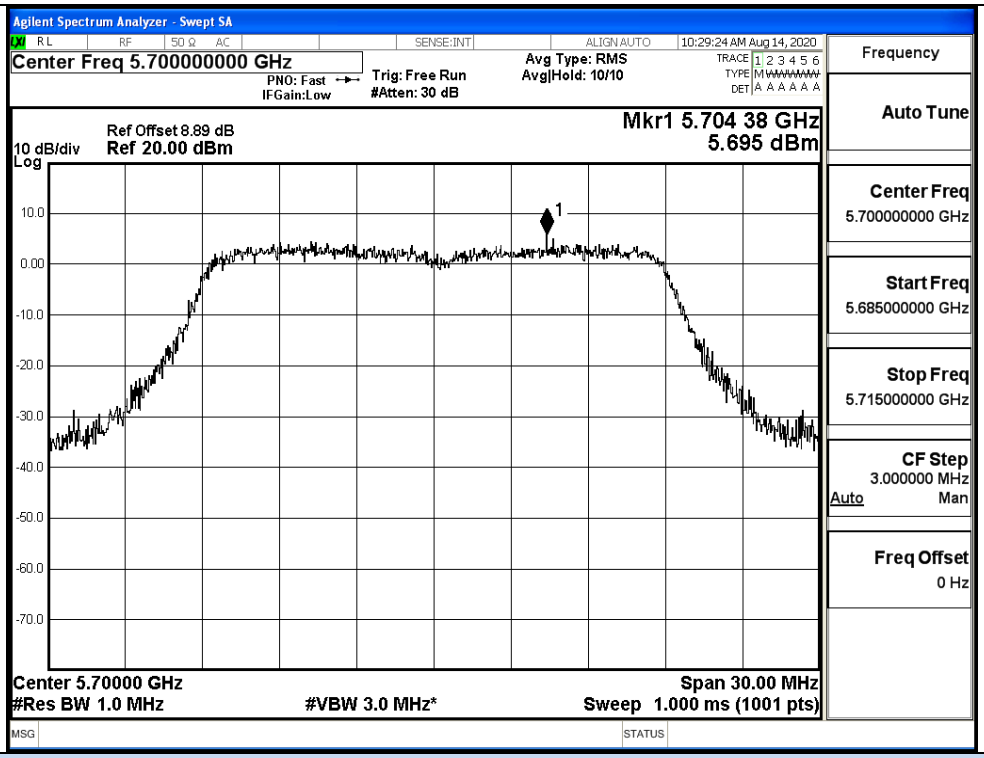


IEEE 802.11a / Channel 120 / 5600MHz

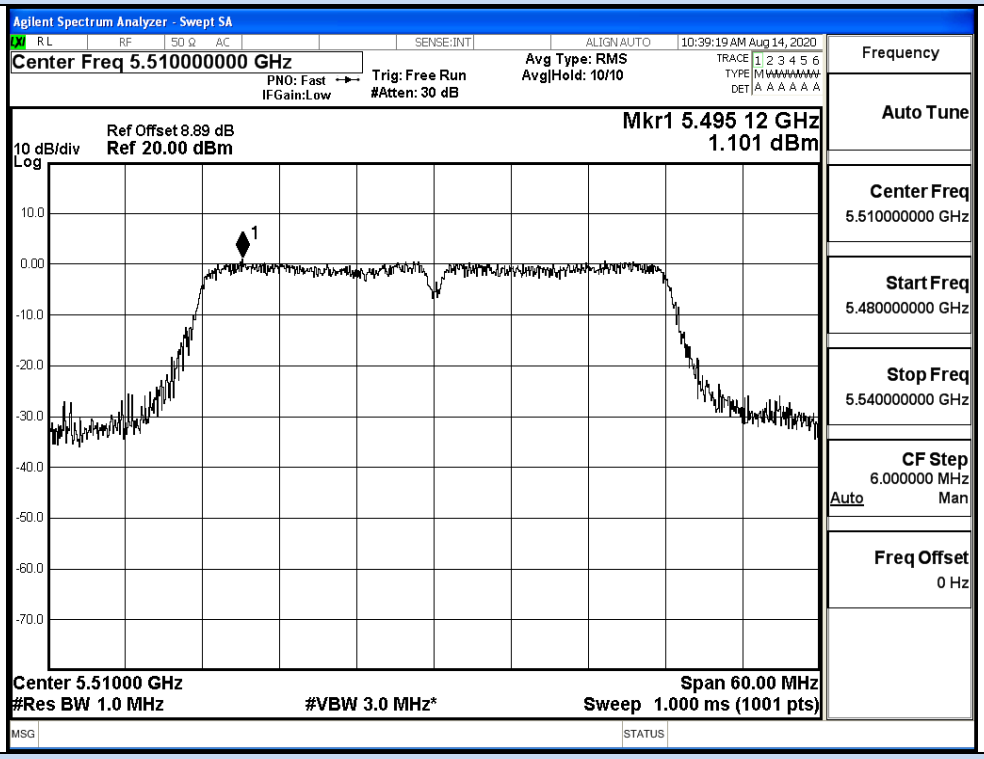


IEEE 802.11a / Channel 140 / 5700MHz

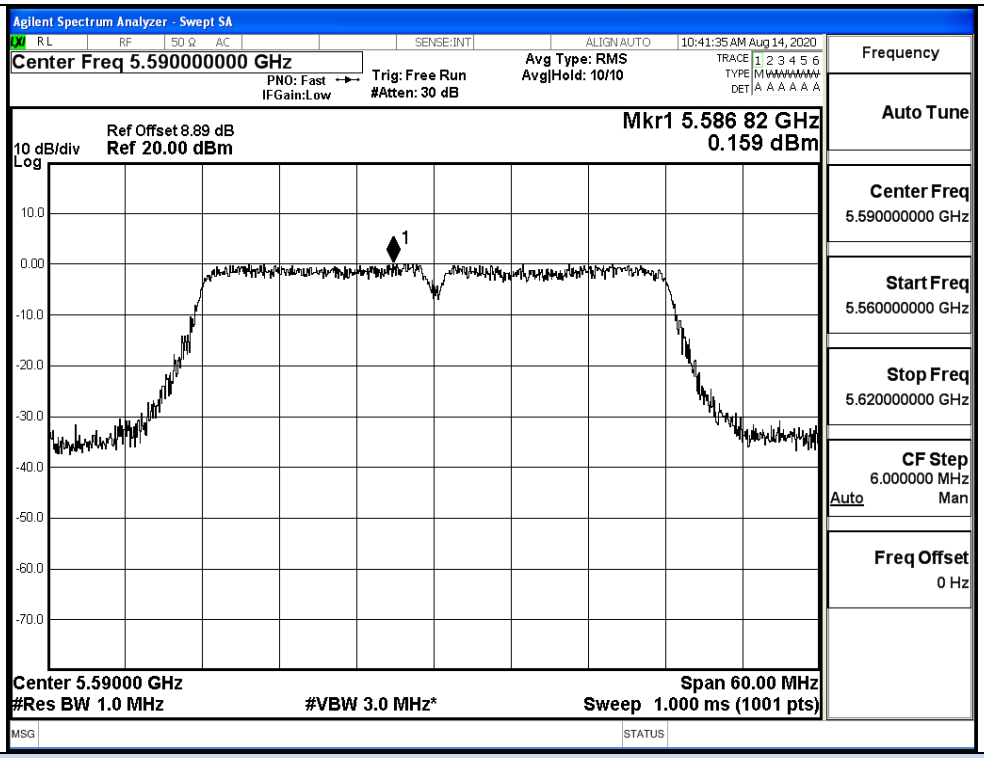
Power Spectral Density

IEEE 802.11n20 / Channel 100 / 5500MHz

IEEE 802.11n20 / Channel 120 / 5600MHz



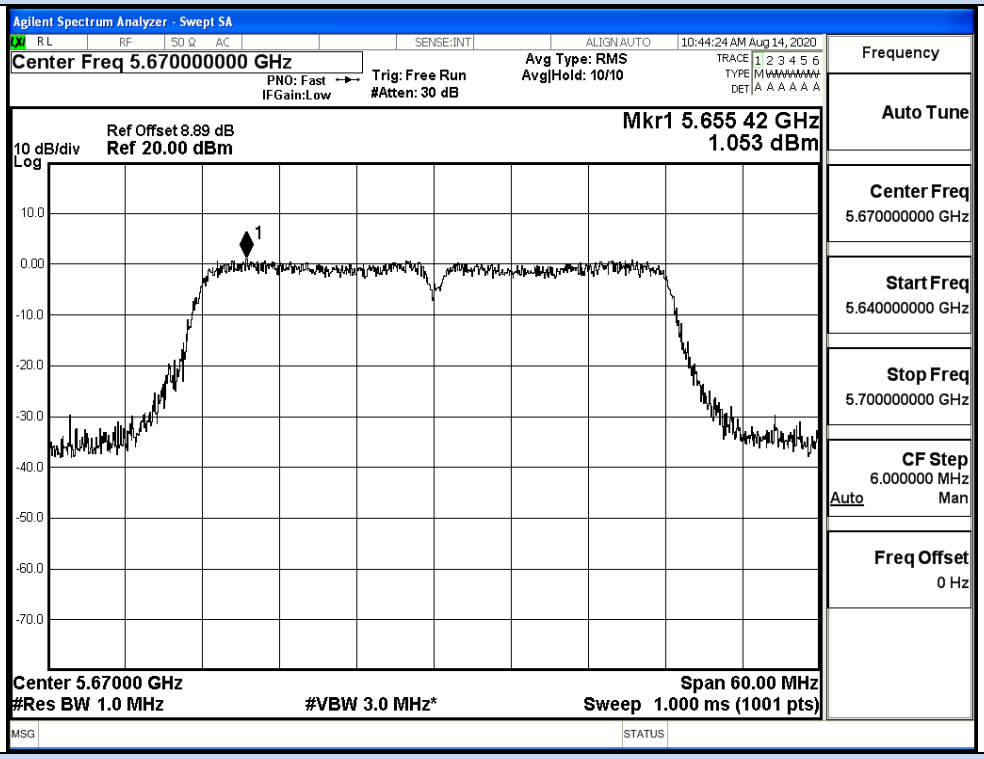
IEEE 802.11n20 / Channel 140 / 5700MHz



IEEE 802.11n40 / Channel 102 / 5510MHz

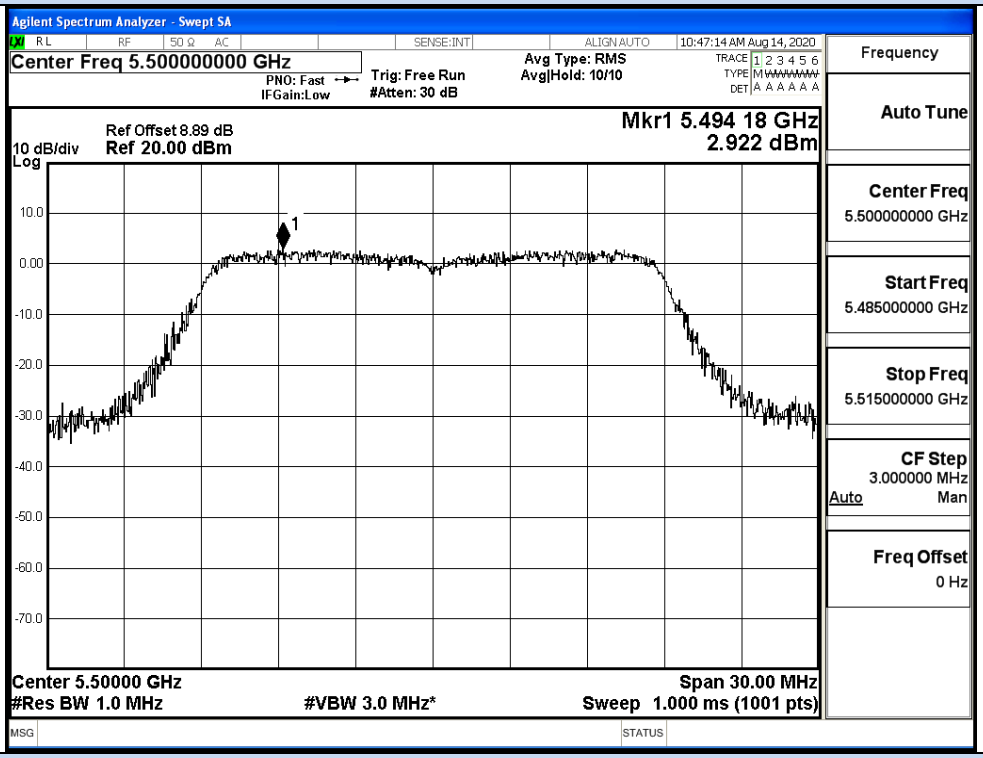


IEEE 802.11n40 / Channel 118 / 5590MHz

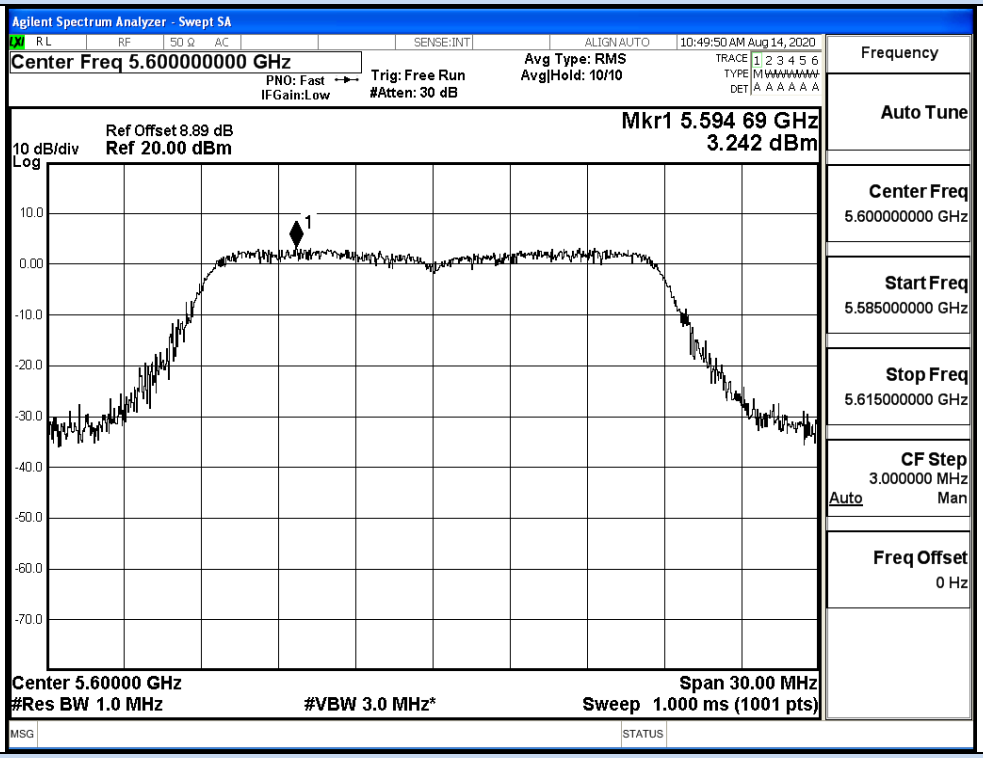


IEEE 802.11n40 / Channel 134 / 5670MHz

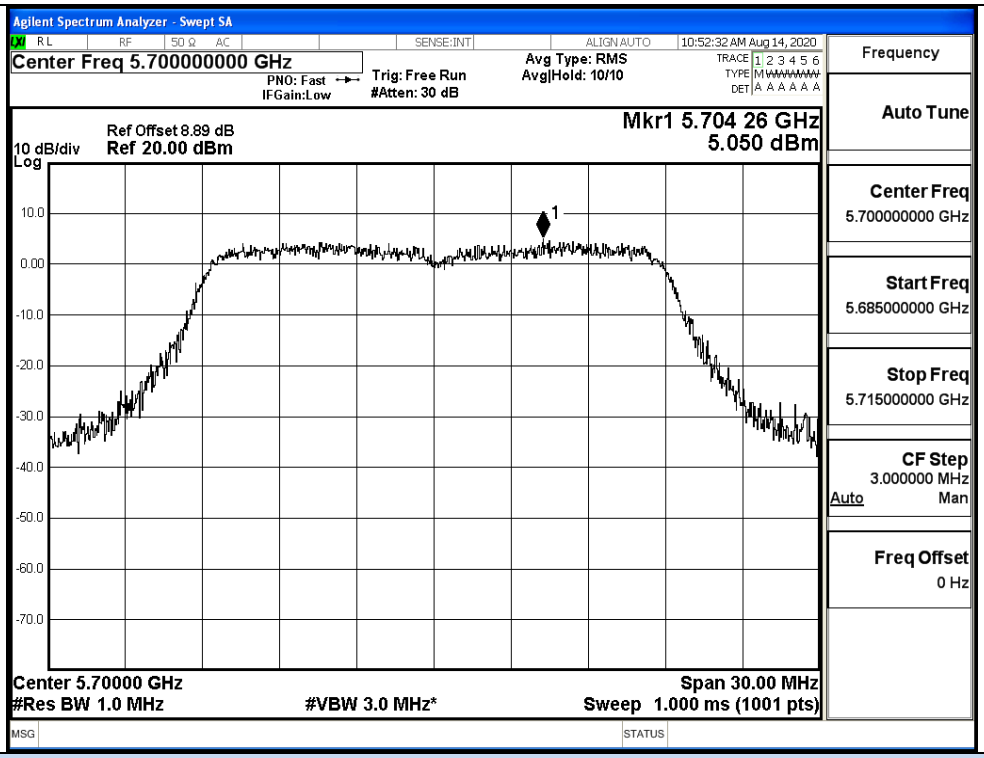
Power Spectral Density



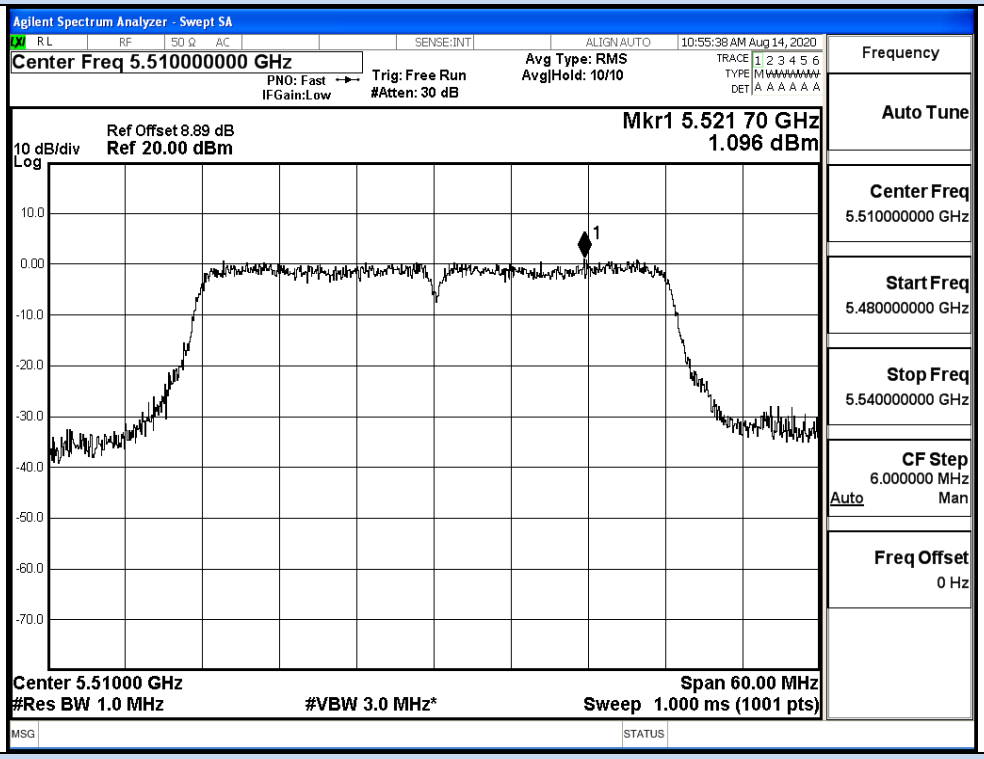
IEEE 802.11ac20 / Channel 100 / 5500MHz



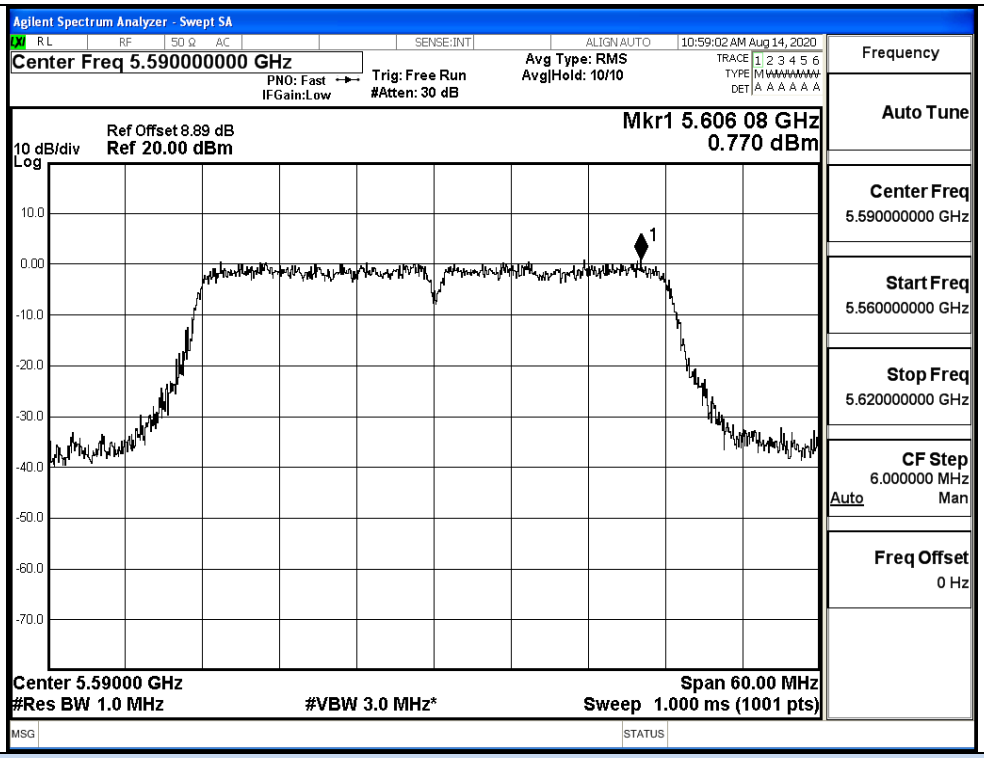
IEEE 802.11ac20 / Channel 120 / 5600MHz



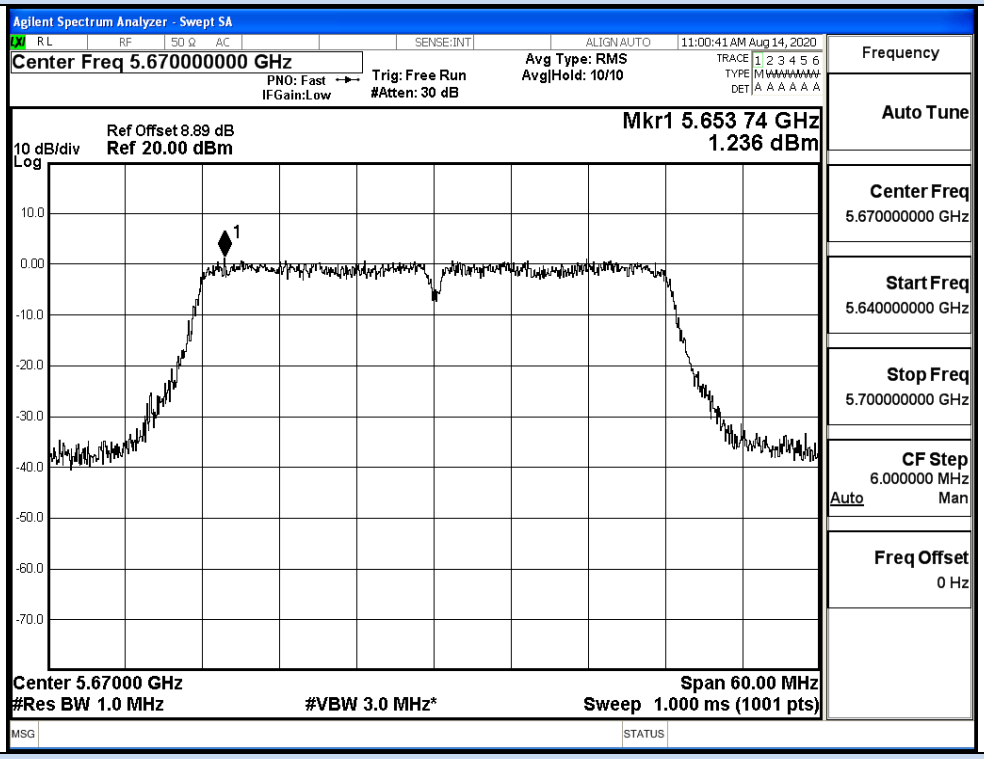
IEEE 802.11ac20 / Channel 140 / 5700MHz



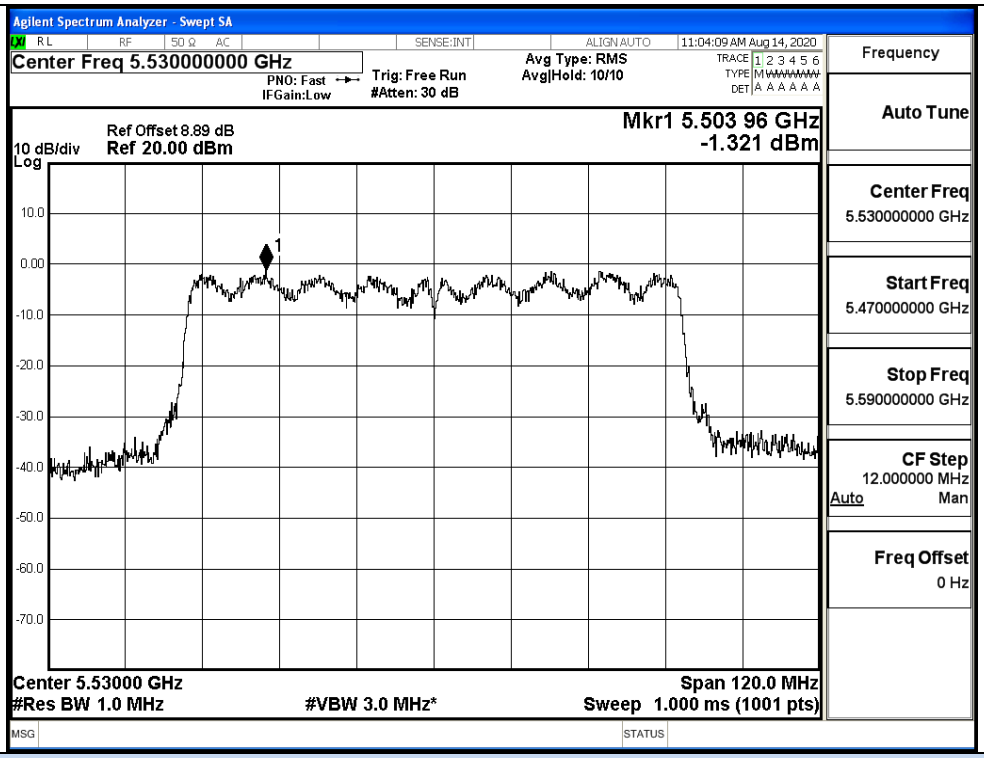
IEEE 802.11ac40 / Channel 102 / 5510MHz



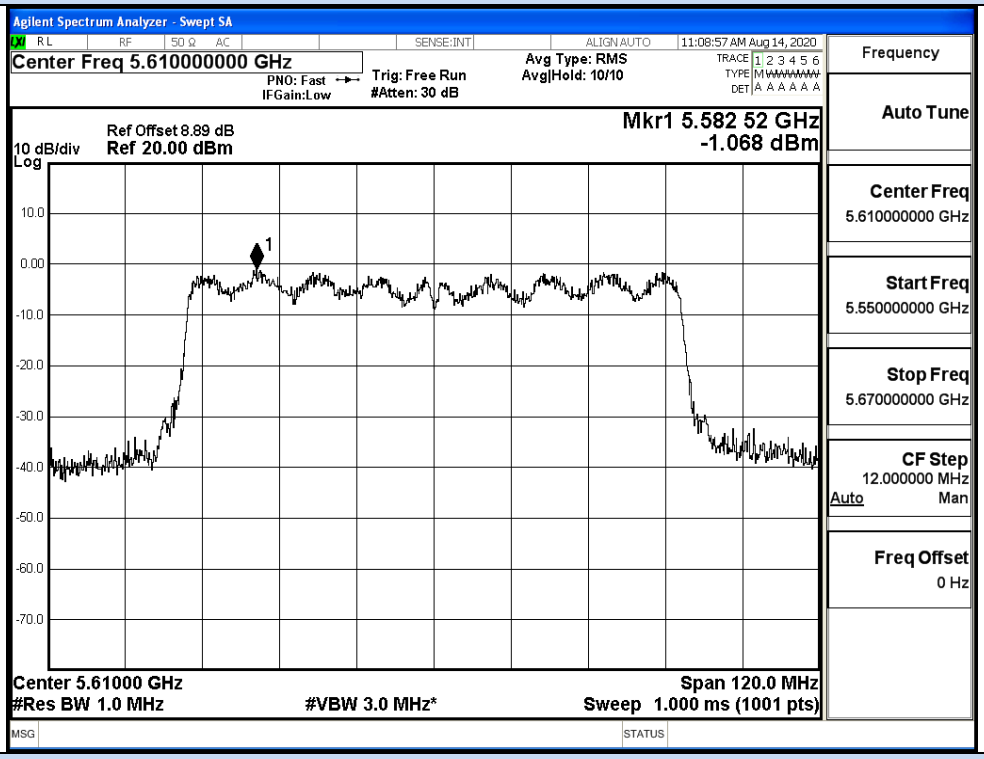
IEEE 802.11ac40 / Channel 118 / 5590MHz



IEEE 802.11ac40 / Channel 134 / 5670MHz



IEEE 802.11ac80 / Channel 106 / 5530MHz

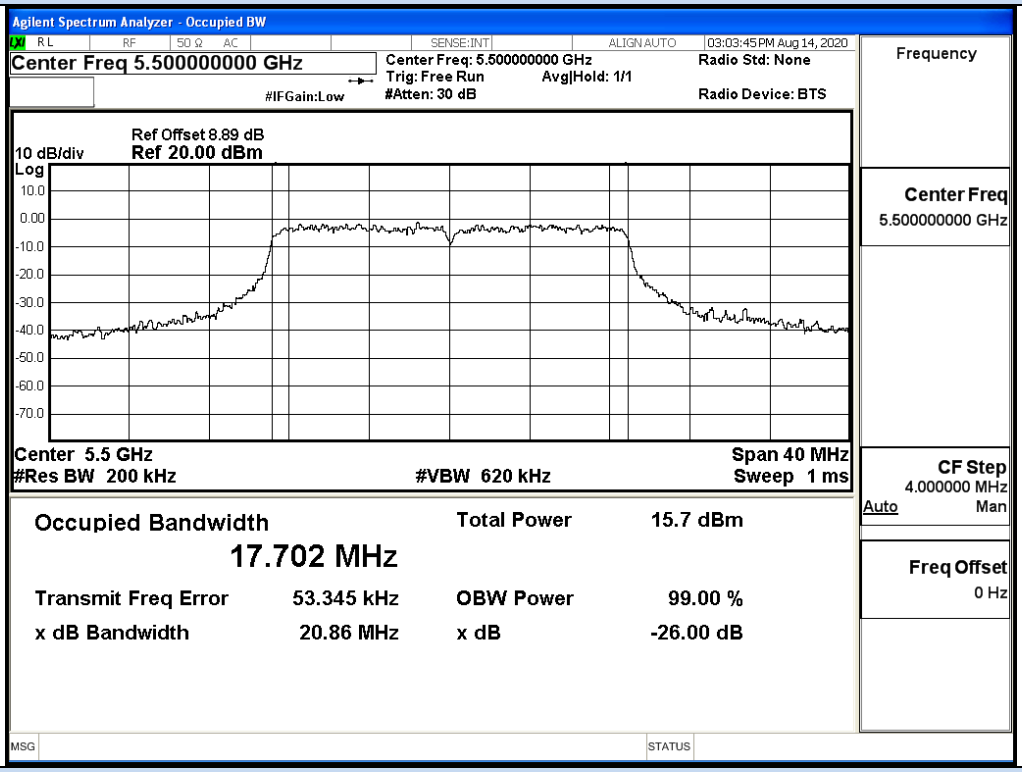


IEEE 802.11ac80 / Channel 122 / 5610MHz

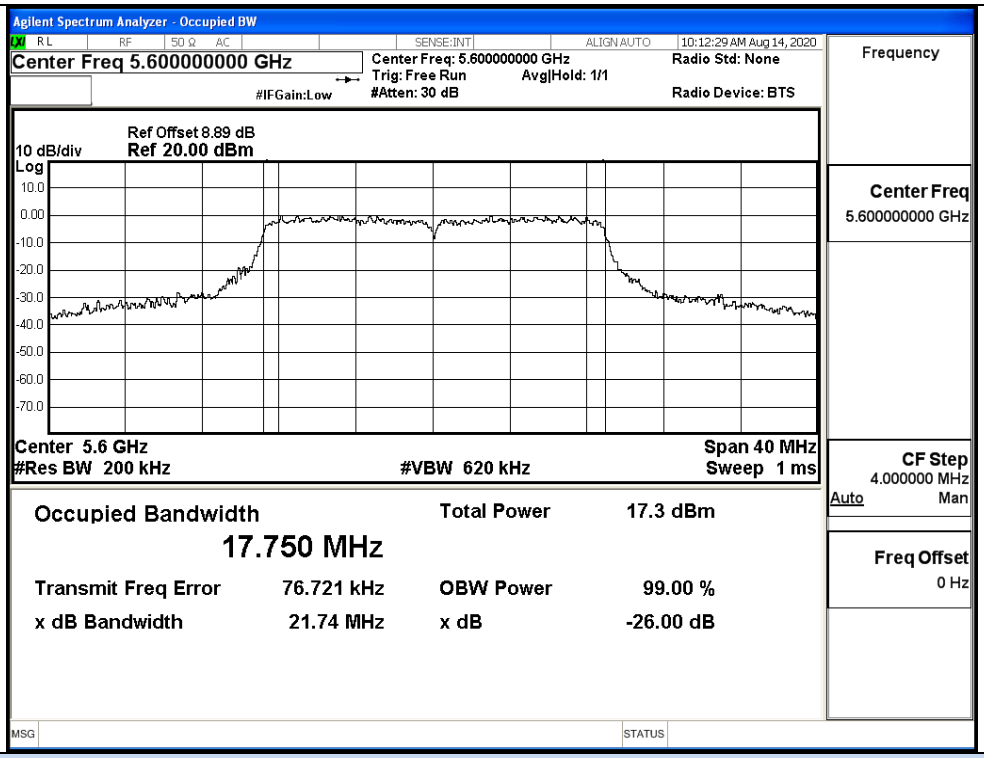
D.4 Emission Bandwidth

Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
11A	100	5500	20.81	No Limit	Pass
	120	5600	21.74		Pass
	140	5700	21.50		Pass
11N20 SISO	100	5500	20.80	No Limit	Pass
	120	5600	20.72		Pass
	140	5700	20.64		Pass
11N40 SISO	102	5510	42.00	No Limit	Pass
	118	5590	41.16		Pass
	134	5670	42.03		Pass
11AC20 SISO	100	5500	21.68	No Limit	Pass
	120	5600	21.44		Pass
	140	5700	20.79		Pass
11AC40 SISO	102	5510	41.62	No Limit	Pass
	118	5590	41.42		Pass
	134	5670	41.62		Pass
11AC80 SISO	106	5530	82.83	No Limit	Pass
	122	5610	80.49		Pass

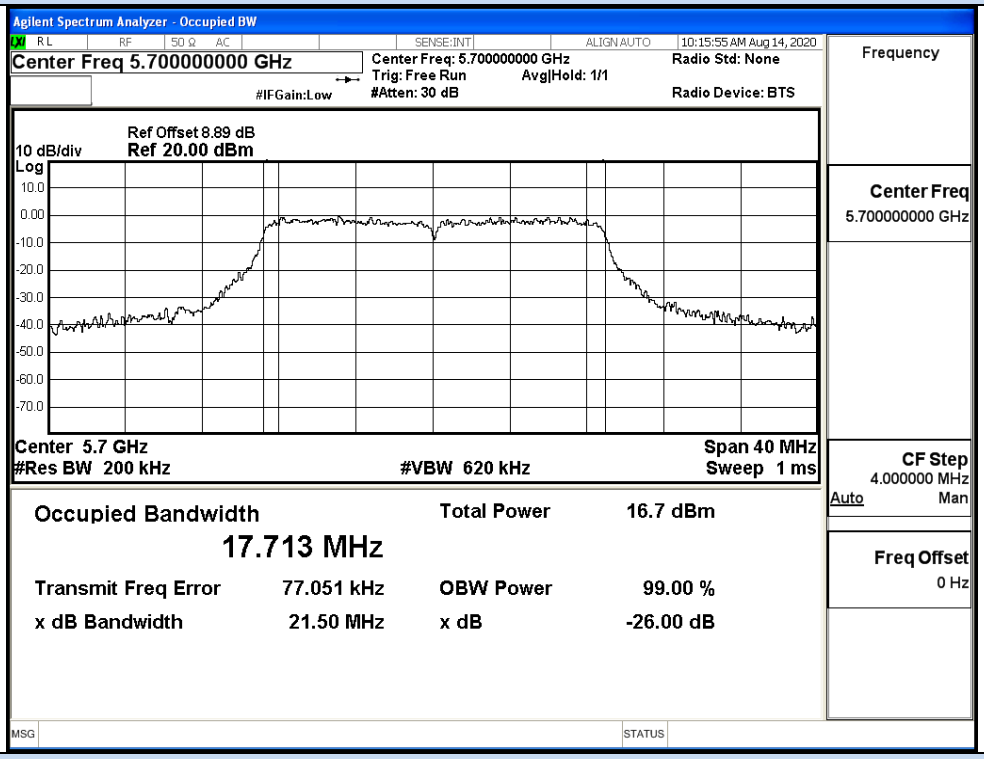
26dB Bandwidth



IEEE 802.11a / Channel 100 / 5500MHz

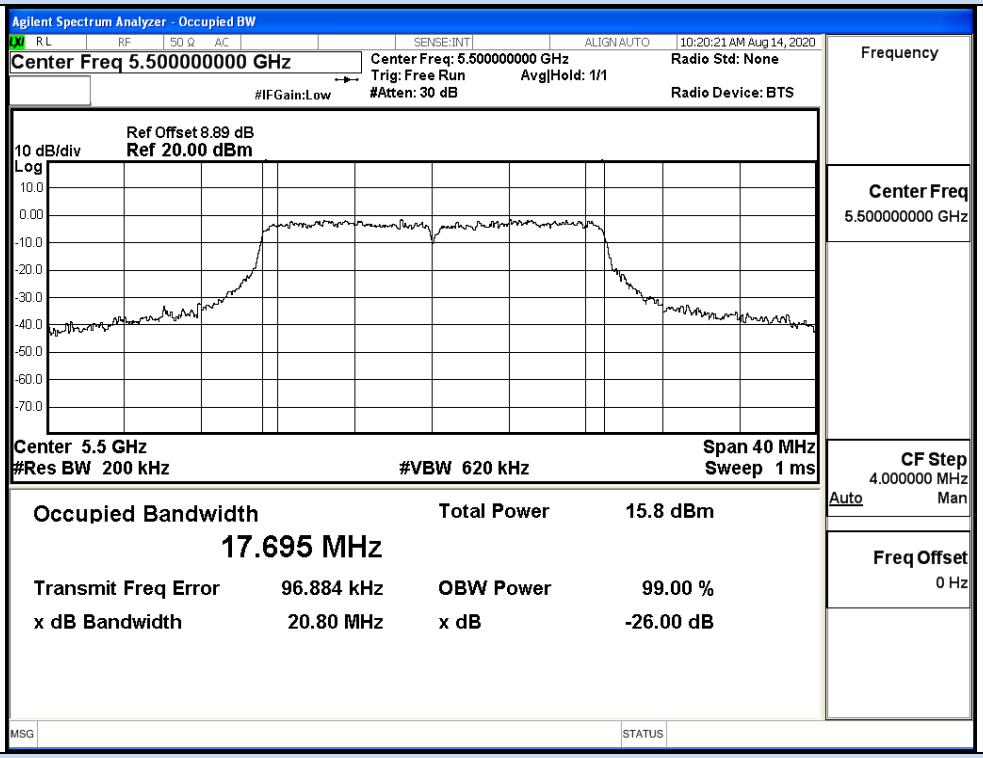


IEEE 802.11a / Channel 120 / 5600MHz

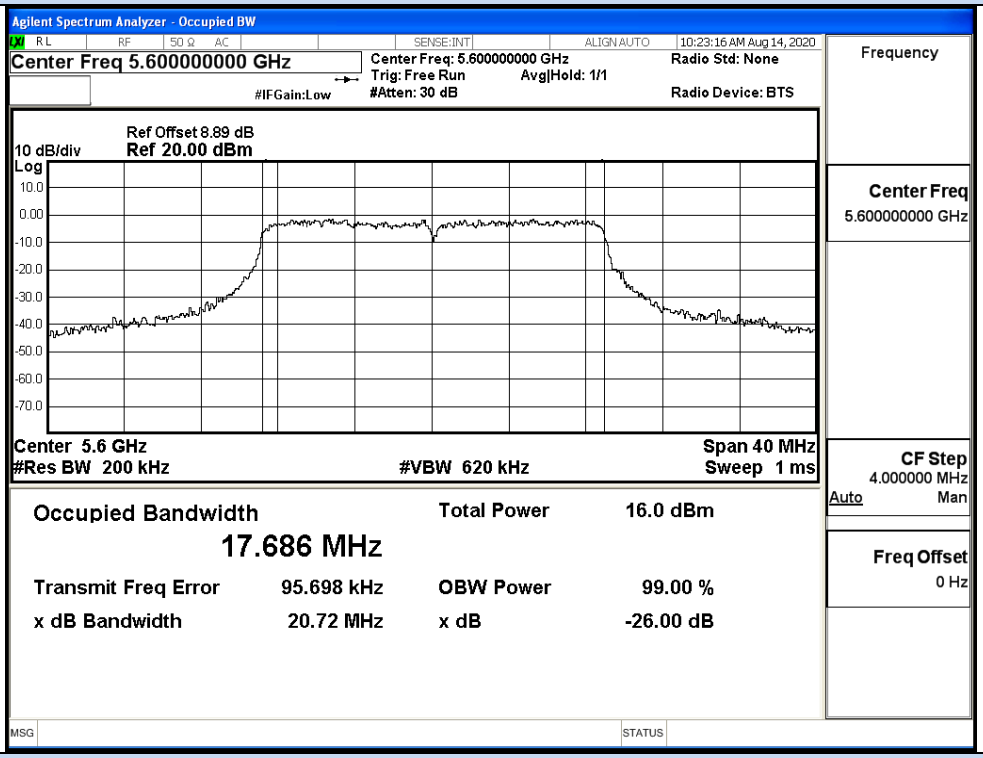


IEEE 802.11a / Channel 140 / 5700MHz

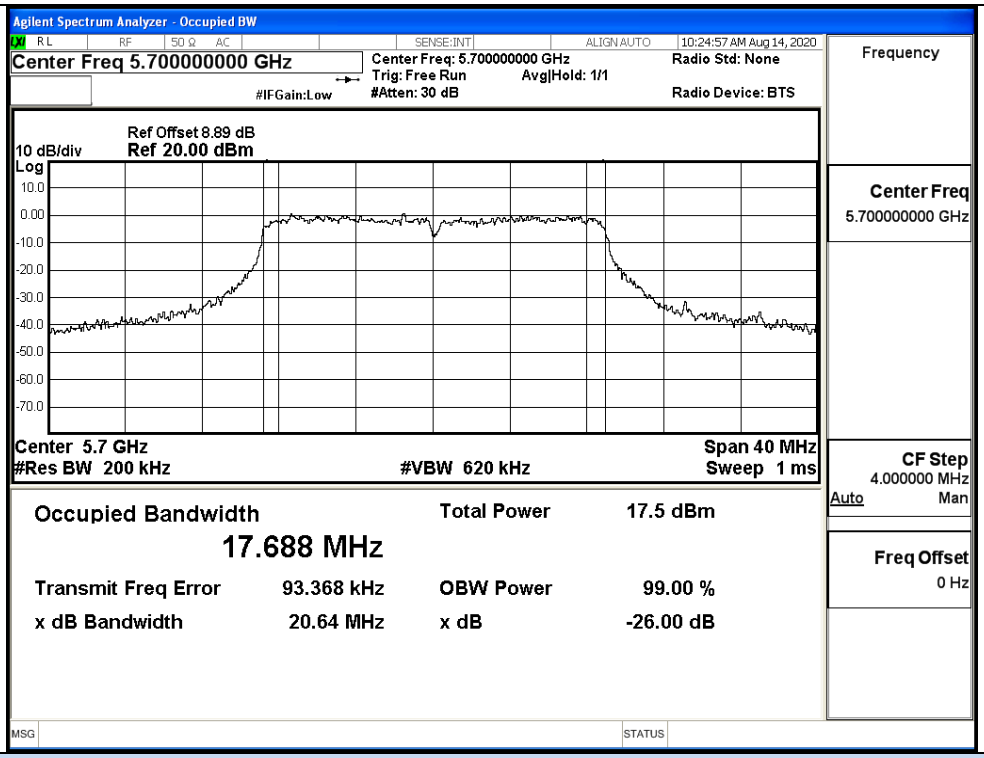
26dB Bandwidth



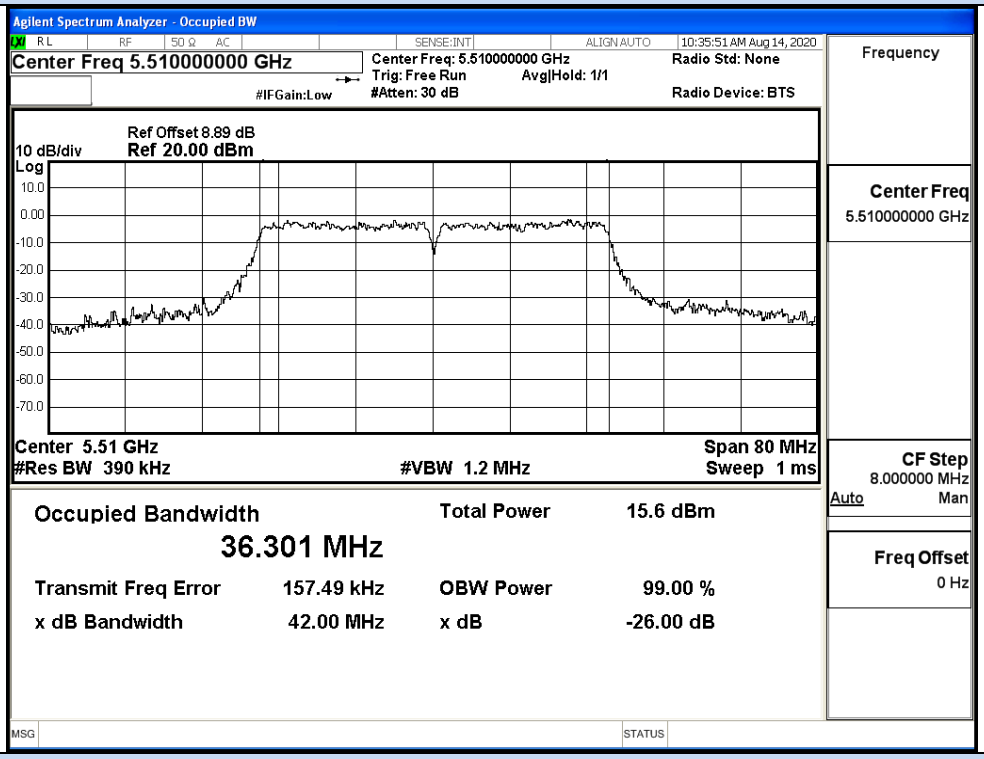
IEEE 802.11n20 / Channel 100 / 5500MHz



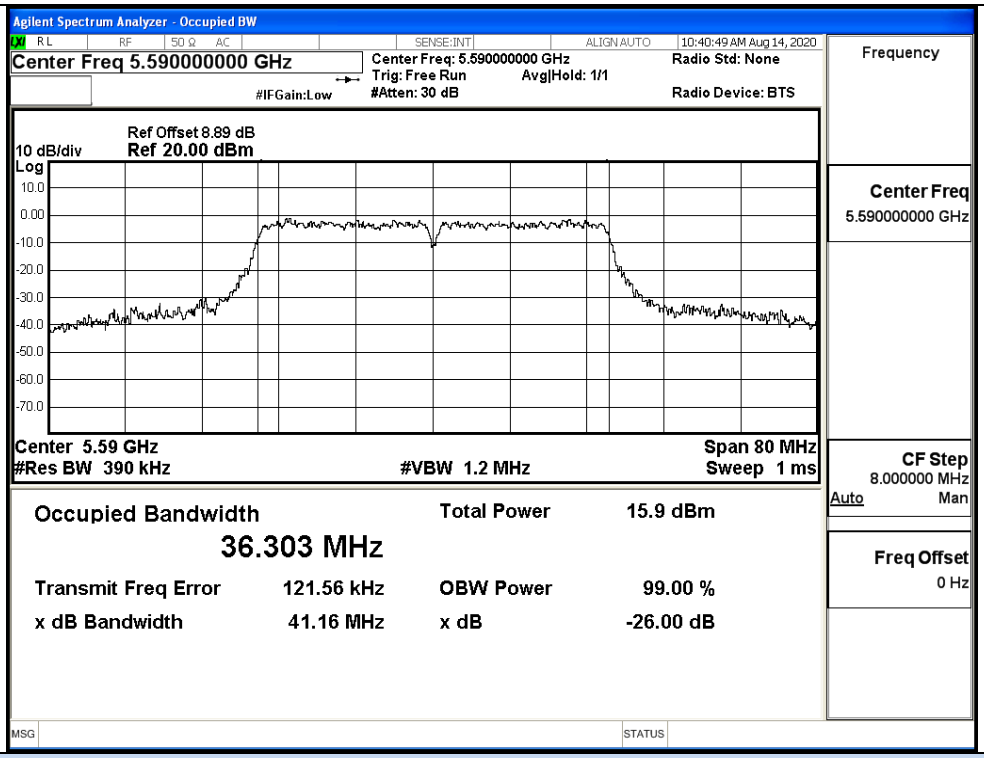
IEEE 802.11n20 / Channel 120 / 5600MHz



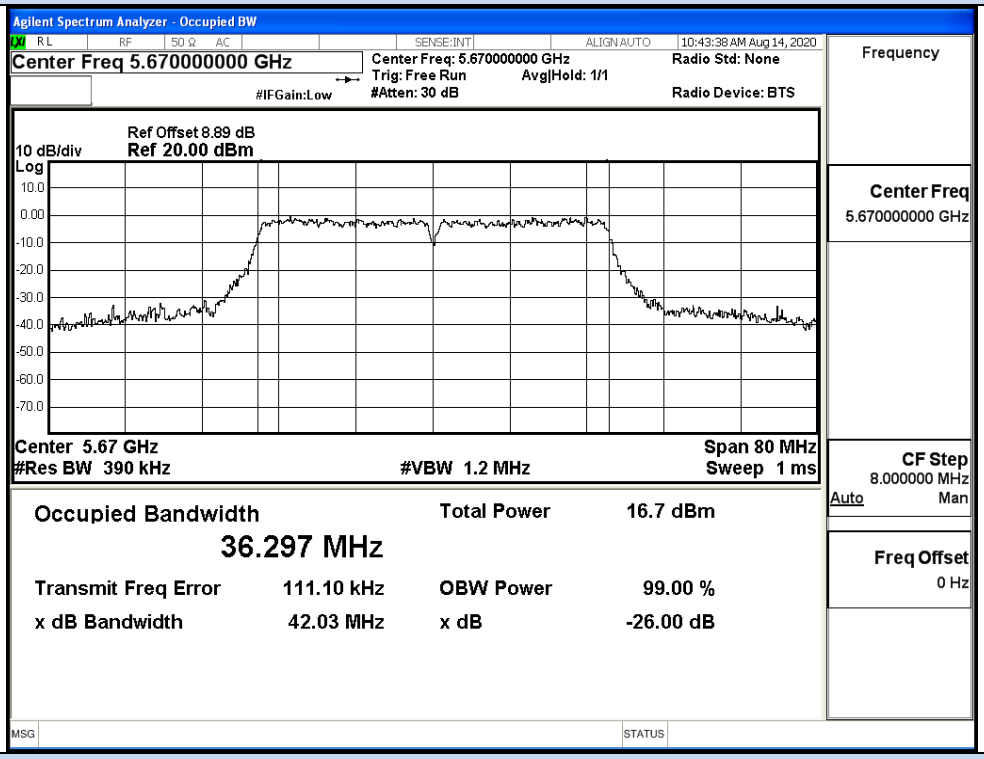
IEEE 802.11n20 / Channel 140 / 5700MHz



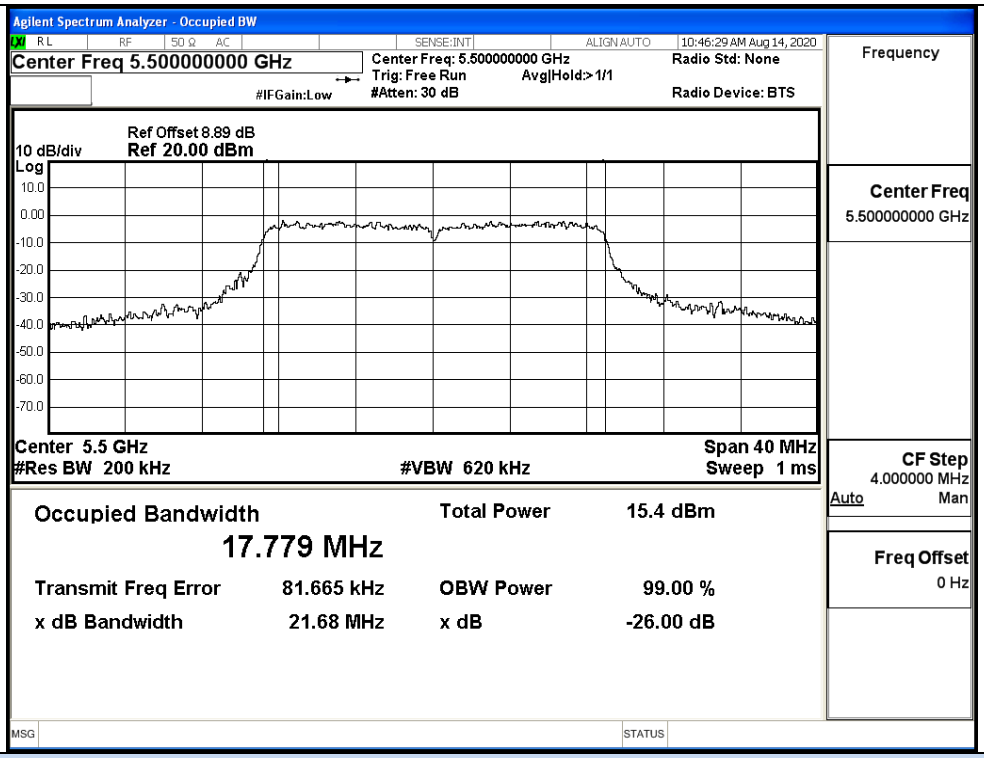
IEEE 802.11n40 / Channel 102 / 5510MHz



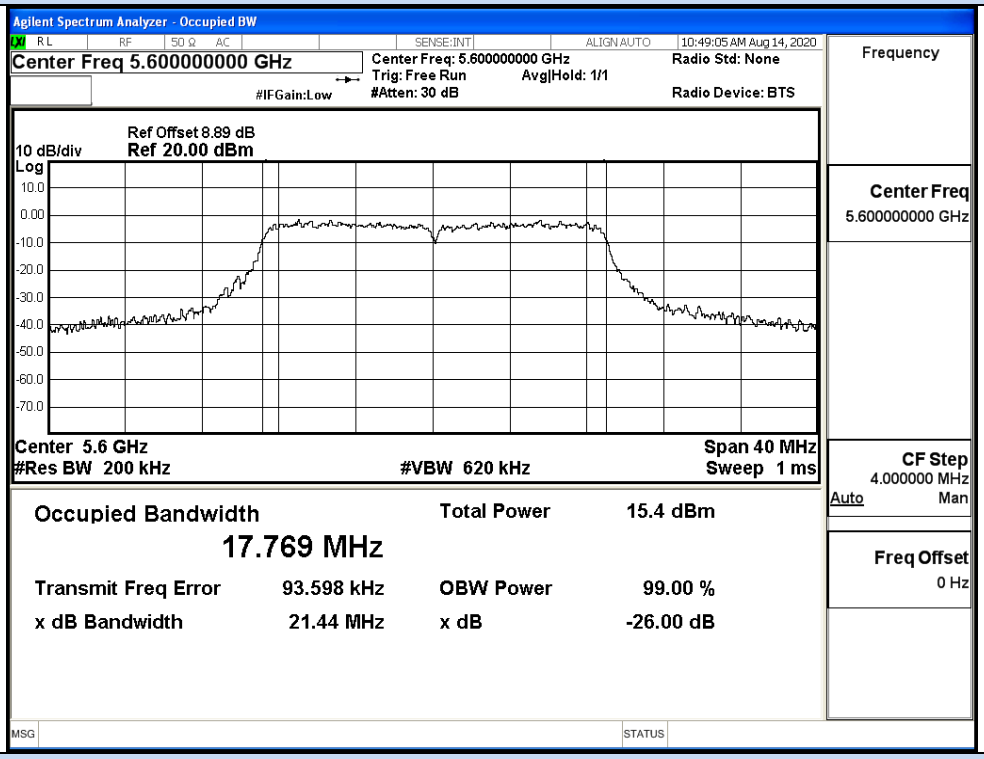
IEEE 802.11n40 / Channel 118 / 5590MHz



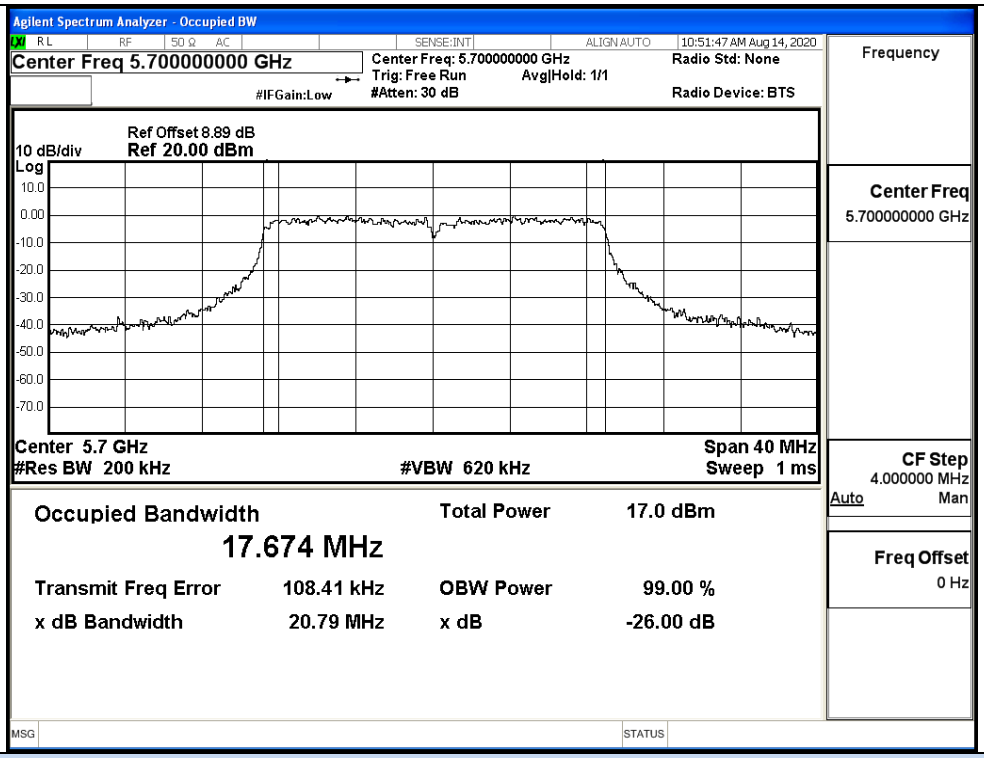
IEEE 802.11n40 / Channel 134 / 5670MHz



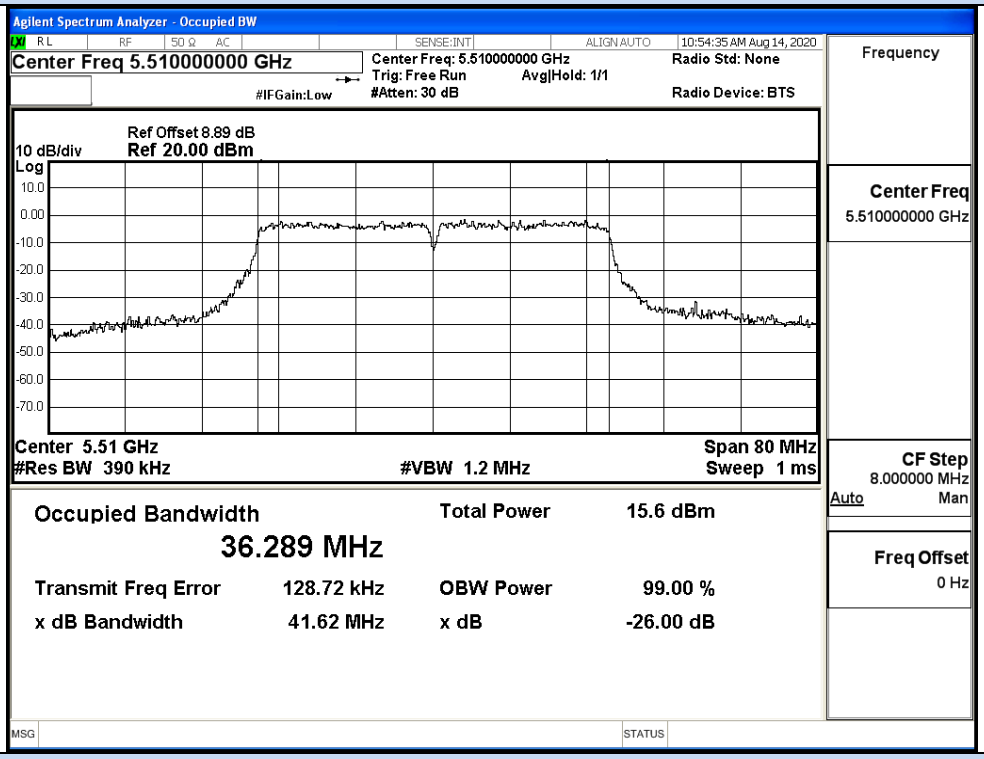
IEEE 802.11ac20 / Channel 100 / 5500MHz



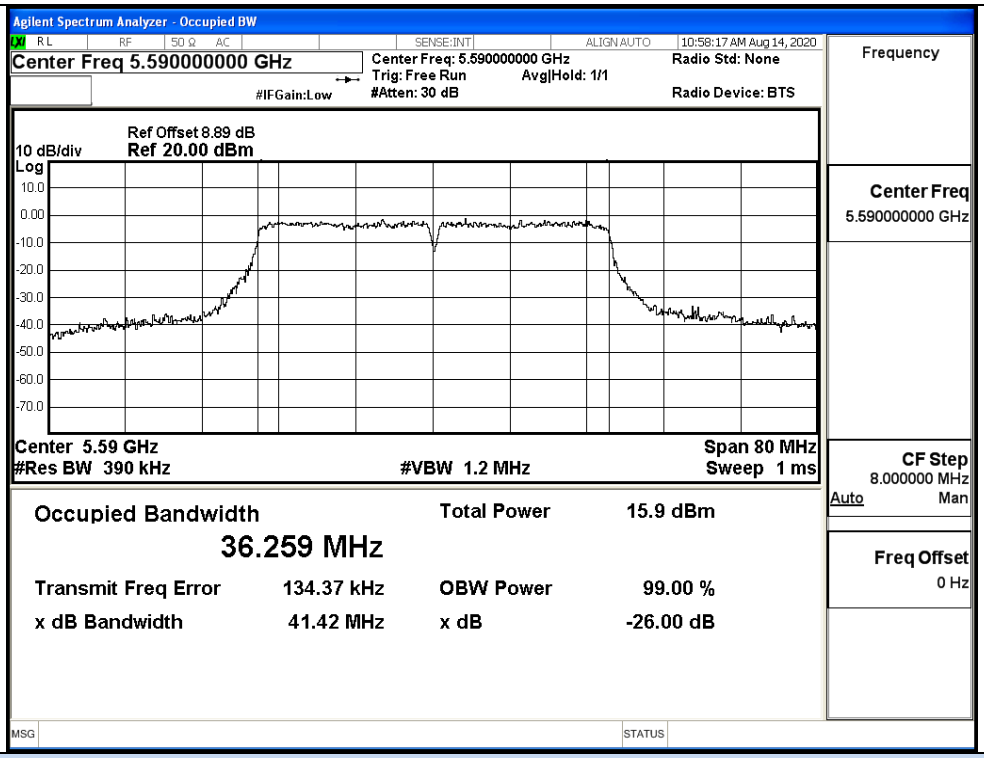
IEEE 802.11ac20 / Channel 120 / 5600MHz



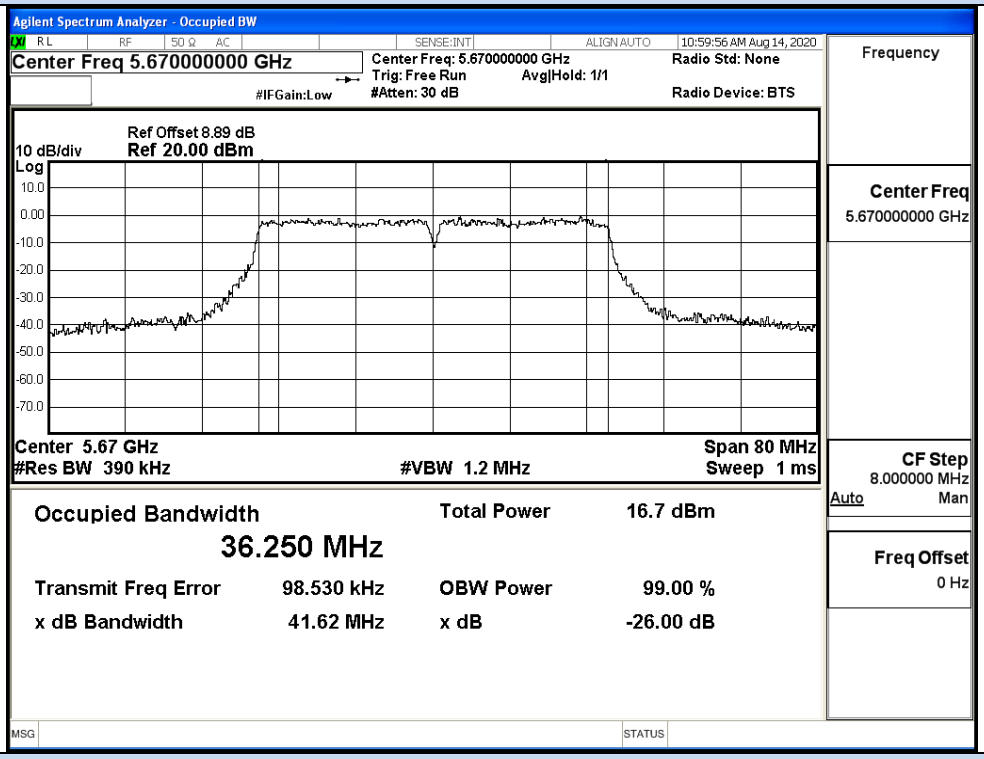
IEEE 802.11ac20 / Channel 140 / 5700MHz



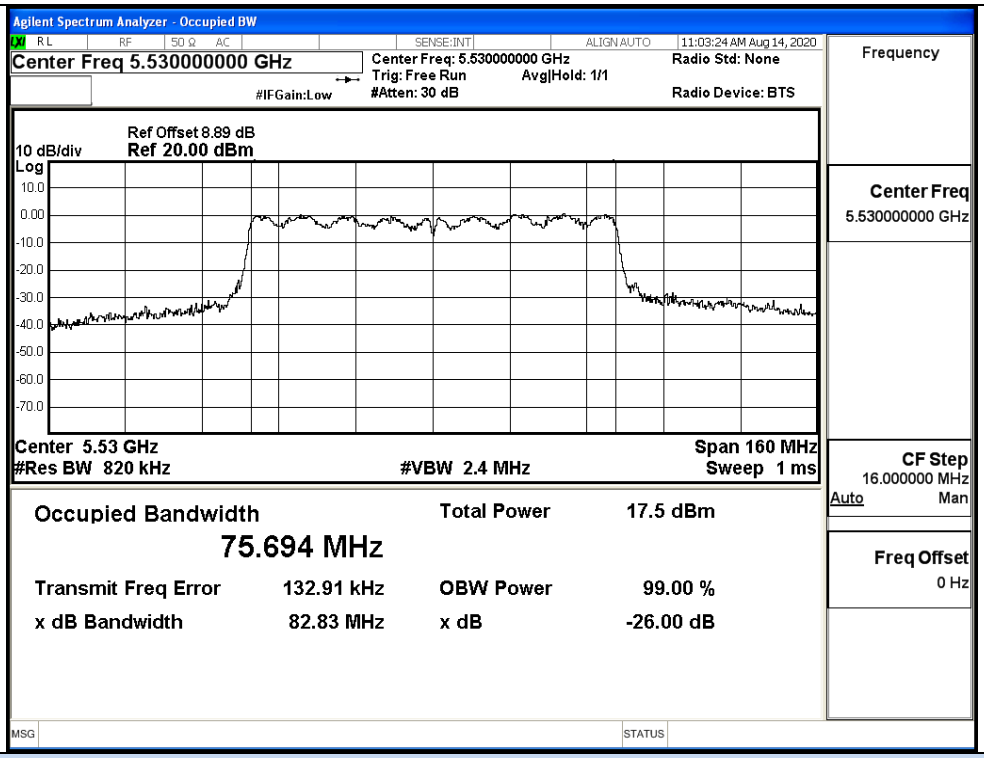
IEEE 802.11ac40 / Channel 102 / 5510MHz



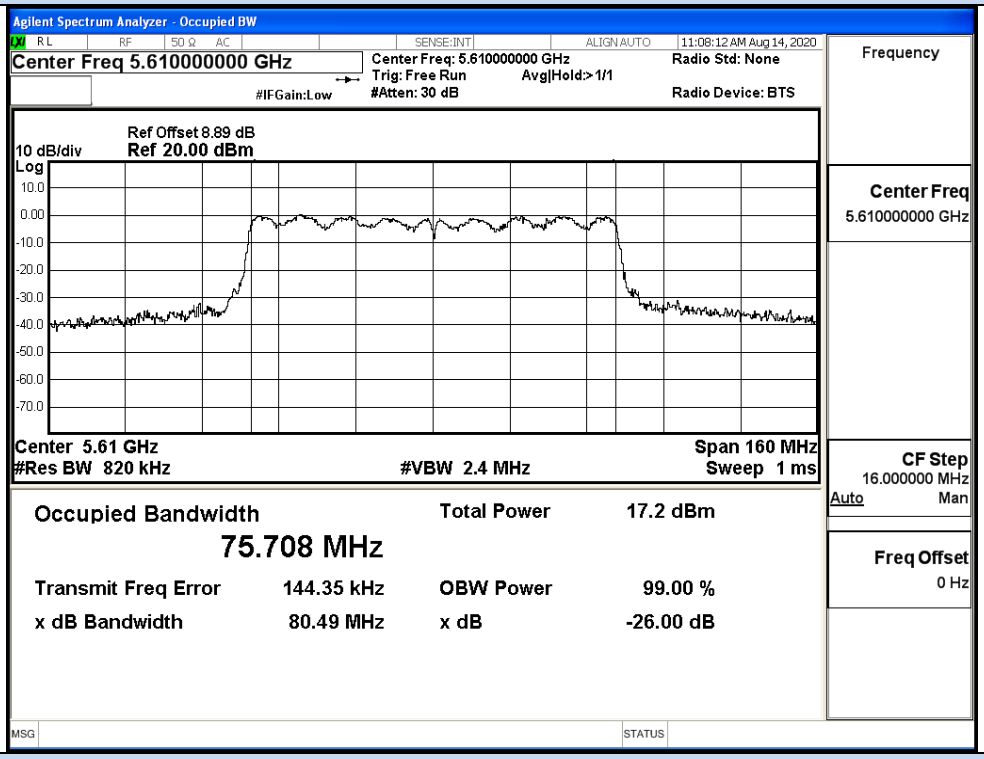
IEEE 802.11ac40 / Channel 118 / 5590MHz



IEEE 802.11ac40 / Channel 134 / 5670MHz



IEEE 802.11ac80 / Channel 106 / 5530MHz

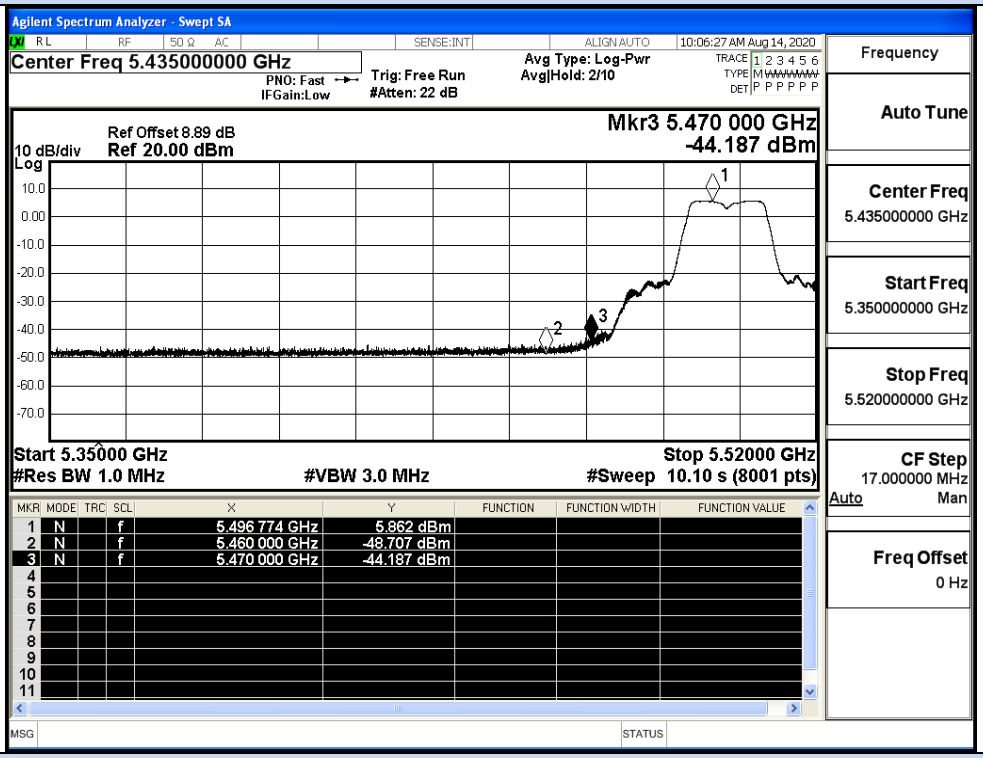


IEEE 802.11ac80 / Channel 122 / 5610MHz

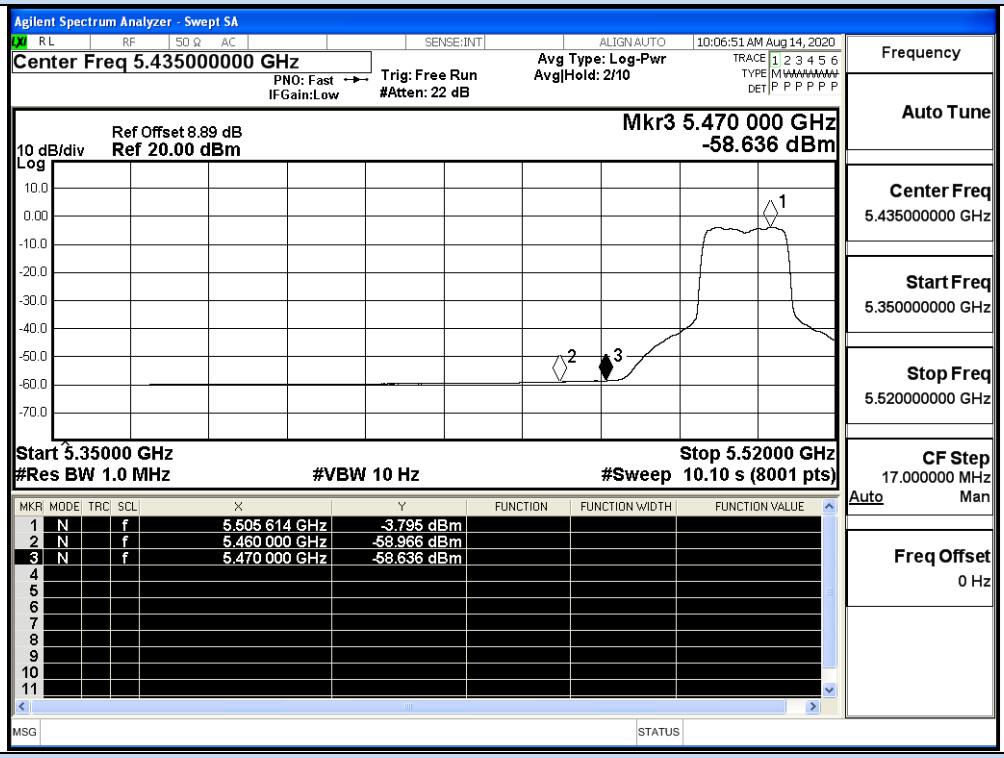
D.5 Undesirable Emissions Measurement

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	100	5460.0	-48.71	2.00	0	48.52	Peak	68.20	Pass
		5460.0	-58.97	2.00	0	38.26	Average	54.00	Pass
		5470.0	-44.19	2.00	0	53.04	Peak	68.20	Pass
		5470.0	-58.64	2.00	0	38.59	Average	54.00	Pass
	140	5725.0	-39.87	2.00	0	57.36	Peak	68.20	Pass
		5725.0	-55.02	2.00	0	42.21	Average	54.00	Pass
		5735.0	-46.53	2.00	0	50.70	Peak	68.20	Pass
		5735.0	-57.48	2.00	0	39.75	Average	54.00	Pass
11N20 SISO	100	5460.0	-47.62	2.00	0	49.61	Peak	68.20	Pass
		5460.0	-59.05	2.00	0	38.18	Average	54.00	Pass
		5470.0	-47.86	2.00	0	49.37	Peak	68.20	Pass
		5470.0	-58.80	2.00	0	38.43	Average	54.00	Pass
	140	5725.0	-43.15	2.00	0	54.08	Peak	68.20	Pass
		5725.0	-55.67	2.00	0	41.56	Average	54.00	Pass
		5735.0	-47.47	2.00	0	49.76	Peak	68.20	Pass
		5735.0	-57.53	2.00	0	39.70	Average	54.00	Pass
11N40 SISO	102	5460.0	-41.74	2.00	0	55.49	Peak	68.20	Pass
		5460.0	-57.08	2.00	0	40.15	Average	54.00	Pass
		5470.0	-34.83	2.00	0	62.40	Peak	68.20	Pass
		5470.0	-50.46	2.00	0	46.77	Average	54.00	Pass
	134	5725.0	-47.93	2.00	0	49.30	Peak	68.20	Pass
		5725.0	-56.98	2.00	0	40.25	Average	54.00	Pass
		5735.0	-47.44	2.00	0	49.79	Peak	68.20	Pass
		5735.0	-57.13	2.00	0	40.10	Average	54.00	Pass
11AC20 SISO	100	5460.0	-47.21	2.00	0	50.02	Peak	68.20	Pass
		5460.0	-59.02	2.00	0	38.21	Average	54.00	Pass
		5470.0	-46.62	2.00	0	50.61	Peak	68.20	Pass
		5470.0	-58.76	2.00	0	38.47	Average	54.00	Pass
	140	5725.0	-41.36	2.00	0	55.87	Peak	68.20	Pass
		5725.0	-55.33	2.00	0	41.90	Average	54.00	Pass
		5735.0	-46.69	2.00	0	50.54	Peak	68.20	Pass
		5735.0	-57.55	2.00	0	39.68	Average	54.00	Pass
11AC40 SISO	102	5460.0	-39.04	2.00	0	58.19	Peak	68.20	Pass
		5460.0	-57.02	2.00	0	40.21	Average	54.00	Pass
		5470.0	-36.28	2.00	0	60.95	Peak	68.20	Pass
		5470.0	-50.33	2.00	0	46.90	Average	54.00	Pass
	134	5725.0	-47.86	2.00	0	49.37	Peak	68.20	Pass
		5725.0	-57.12	2.00	0	40.11	Average	54.00	Pass
		5735.0	-48.14	2.00	0	49.09	Peak	68.20	Pass
		5735.0	-57.20	2.00	0	40.03	Average	54.00	Pass
11AC80 SISO	106	5460.0	-36.89	2.00	0	60.34	Peak	68.20	Pass
		5460.0	-50.99	2.00	0	46.24	Average	54.00	Pass
		5470.0	-35.74	2.00	0	61.49	Peak	68.20	Pass
		5470.0	-48.92	2.00	0	48.31	Average	54.00	Pass

Undesirable Emissions Measurement

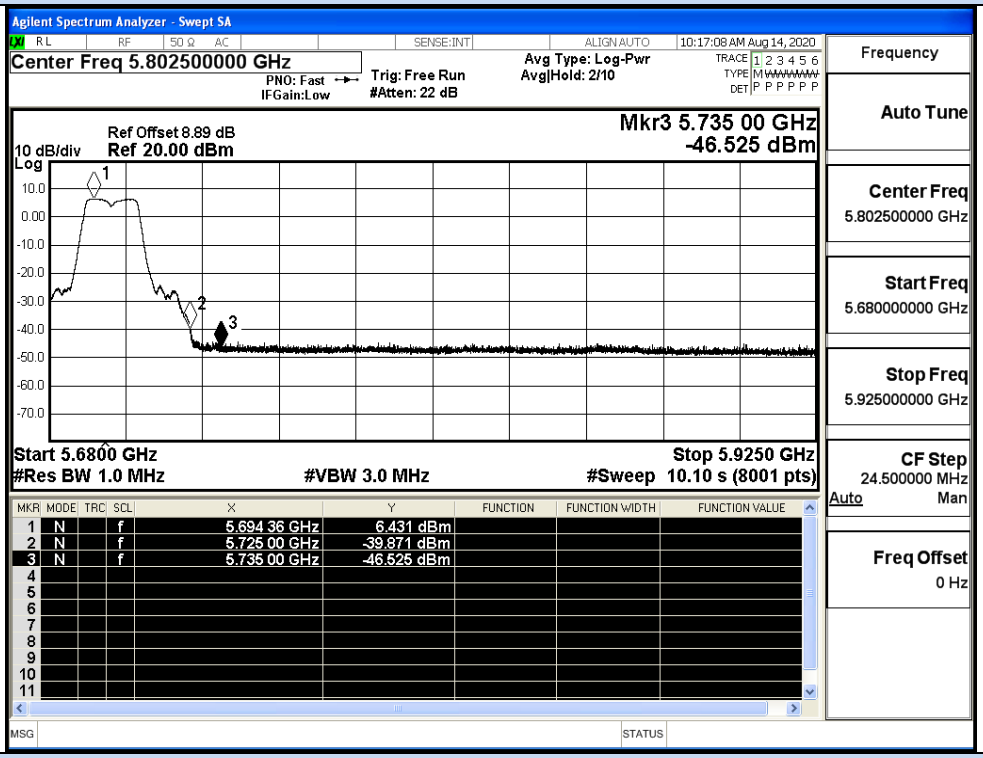


IEEE 802.11a / Channel 100 / 5500MHz / Peak

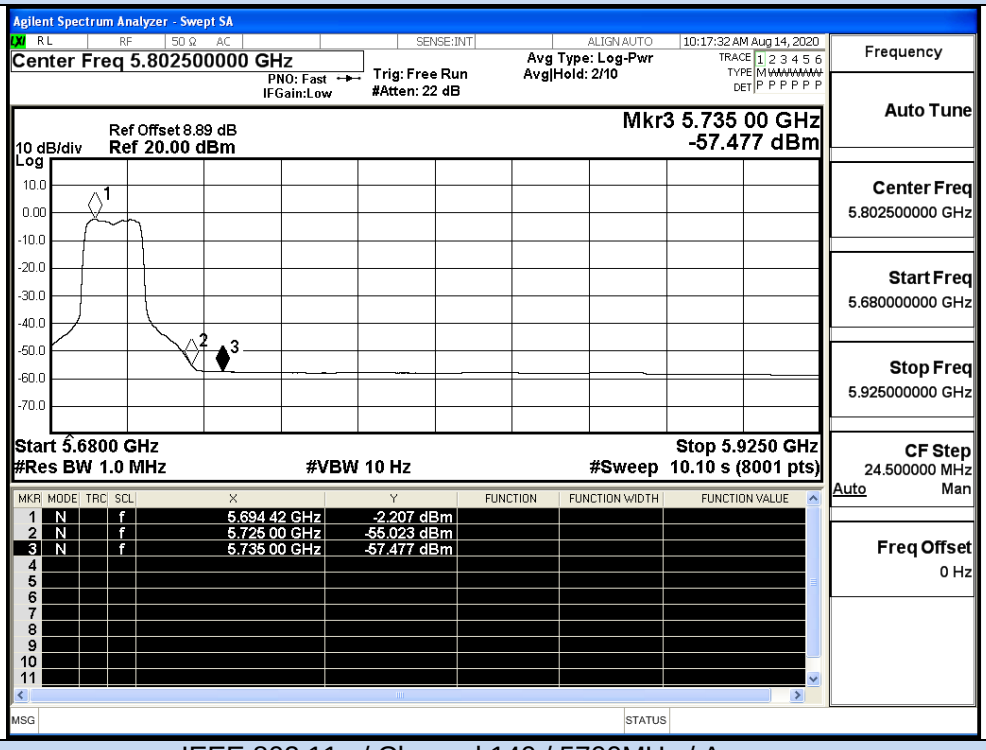


IEEE 802.11a / Channel 100 / 5500MHz / Average

Undesirable Emissions Measurement

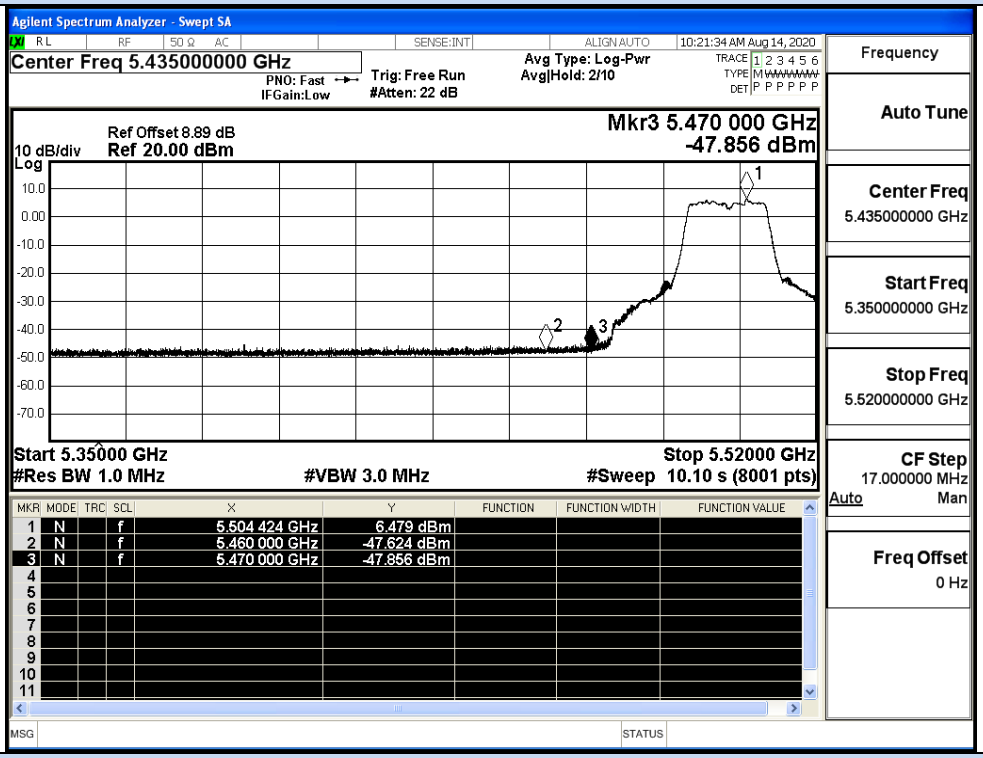


IEEE 802.11a / Channel 140 / 5700MHz / Peak

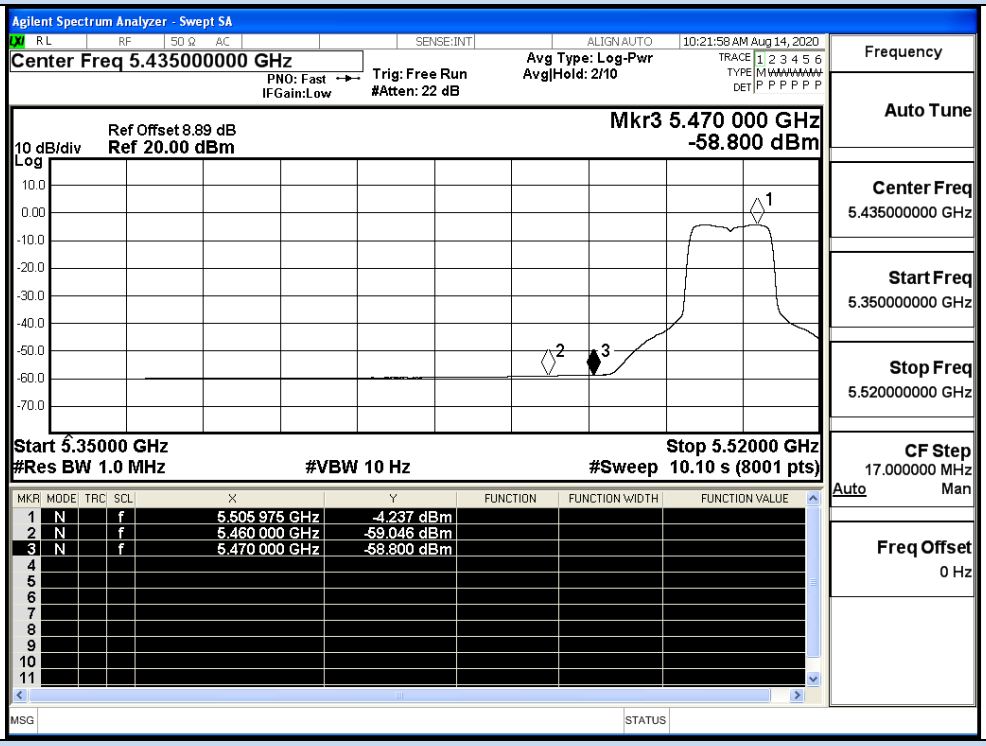


IEEE 802.11a / Channel 140 / 5700MHz / Average

Undesirable Emissions Measurement

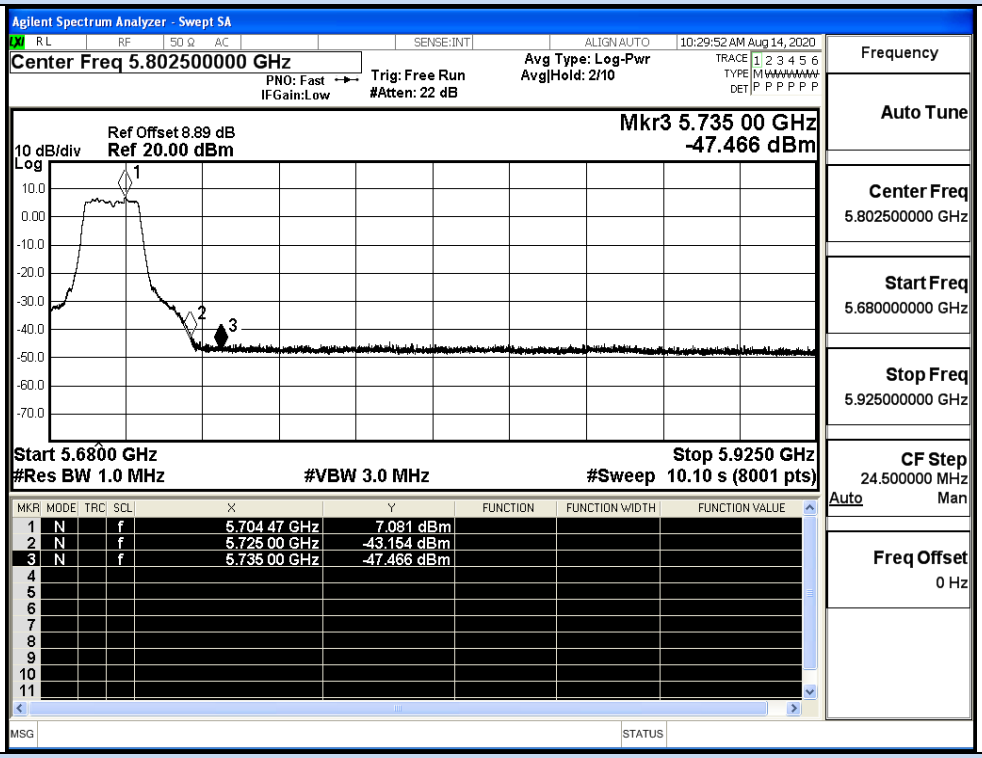


IEEE 802.11n20 / Channel 100 / 5500MHz / Peak

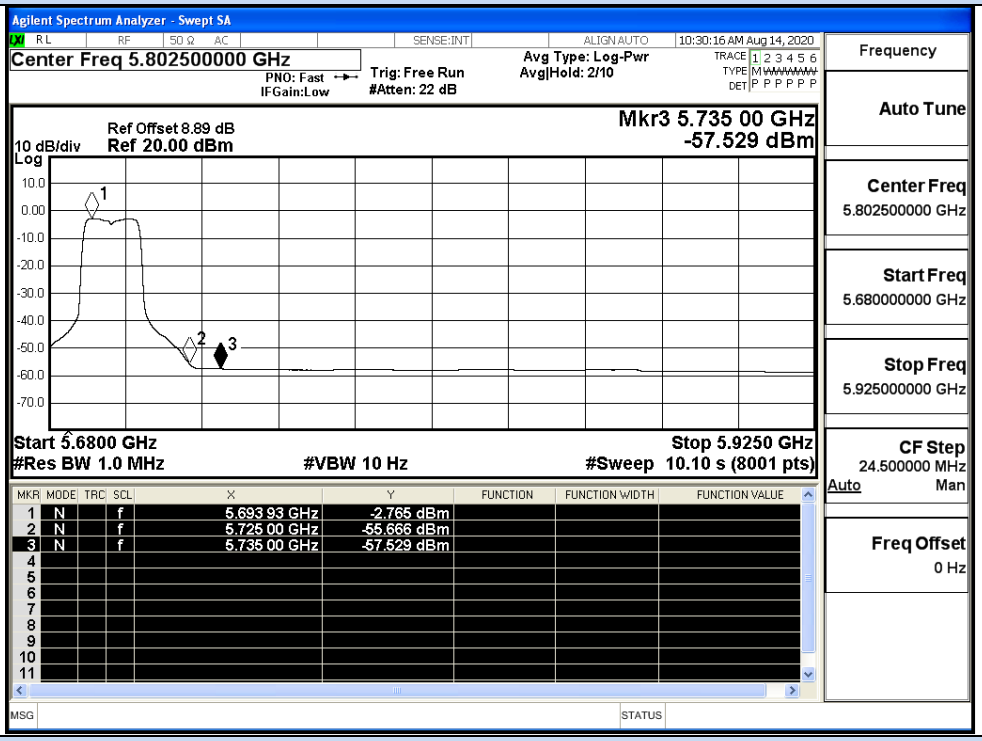


IEEE 802.11n20 / Channel 100 / 5500MHz / Average

Undesirable Emissions Measurement

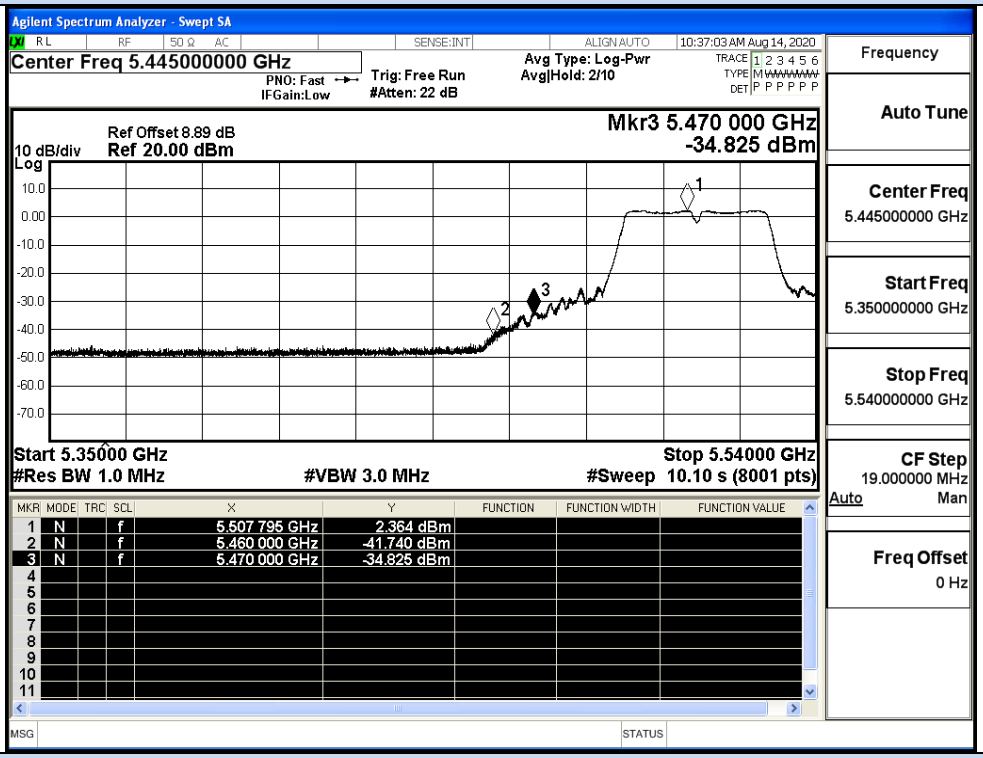


IEEE 802.11n20 / Channel 140 / 5700MHz / Peak

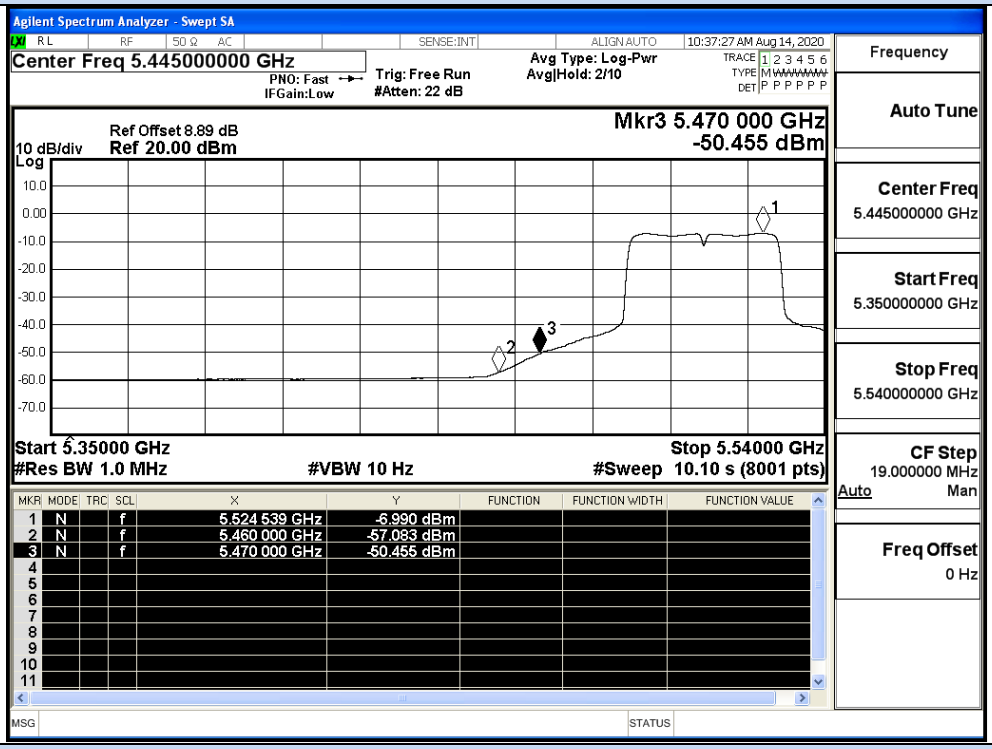


IEEE 802.11n20 / Channel 140 / 5700MHz / Average

Undesirable Emissions Measurement

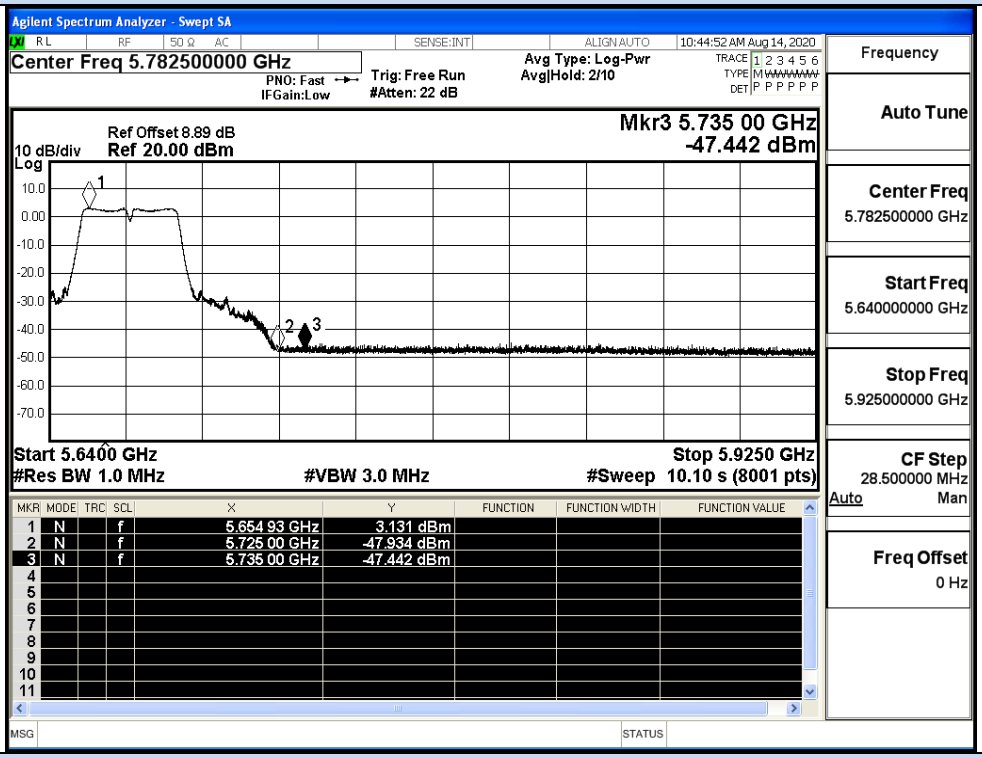


IEEE 802.11n40 / Channel 102 / 5510MHz / Peak

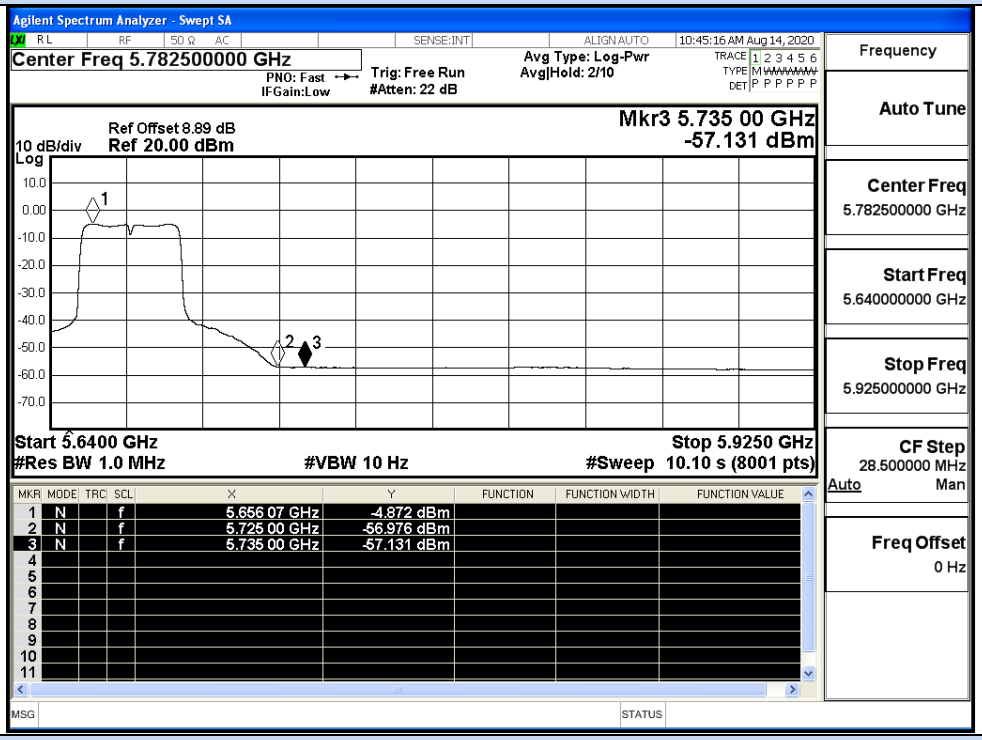


IEEE 802.11n40 / Channel 102 / 5510MHz / Average

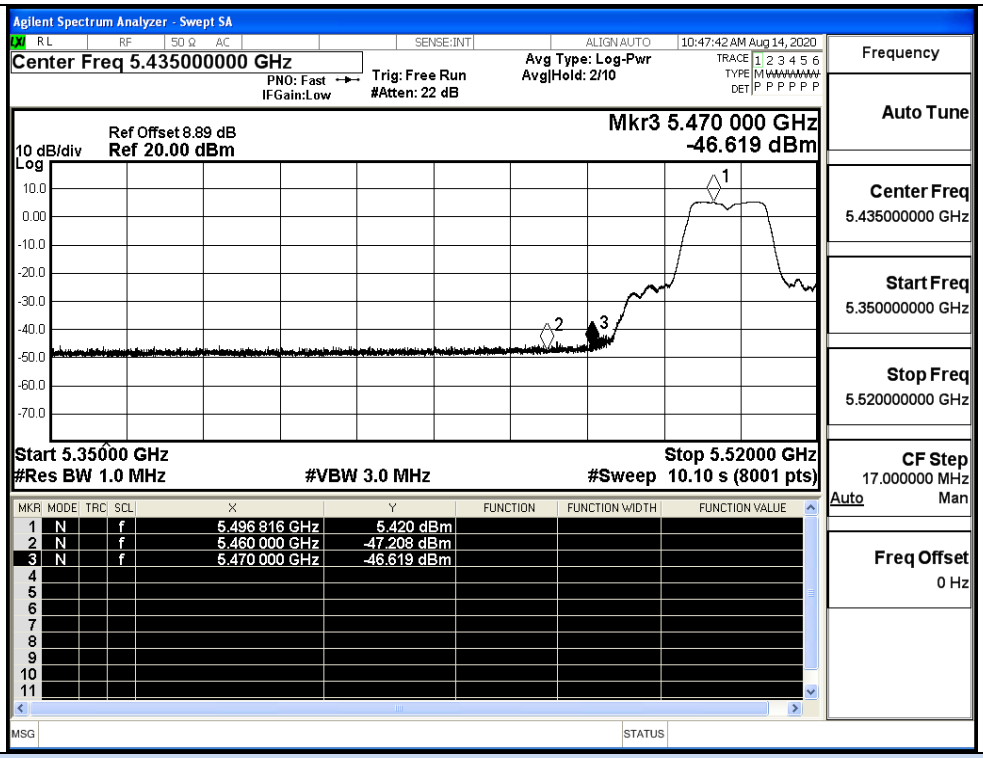
Undesirable Emissions Measurement



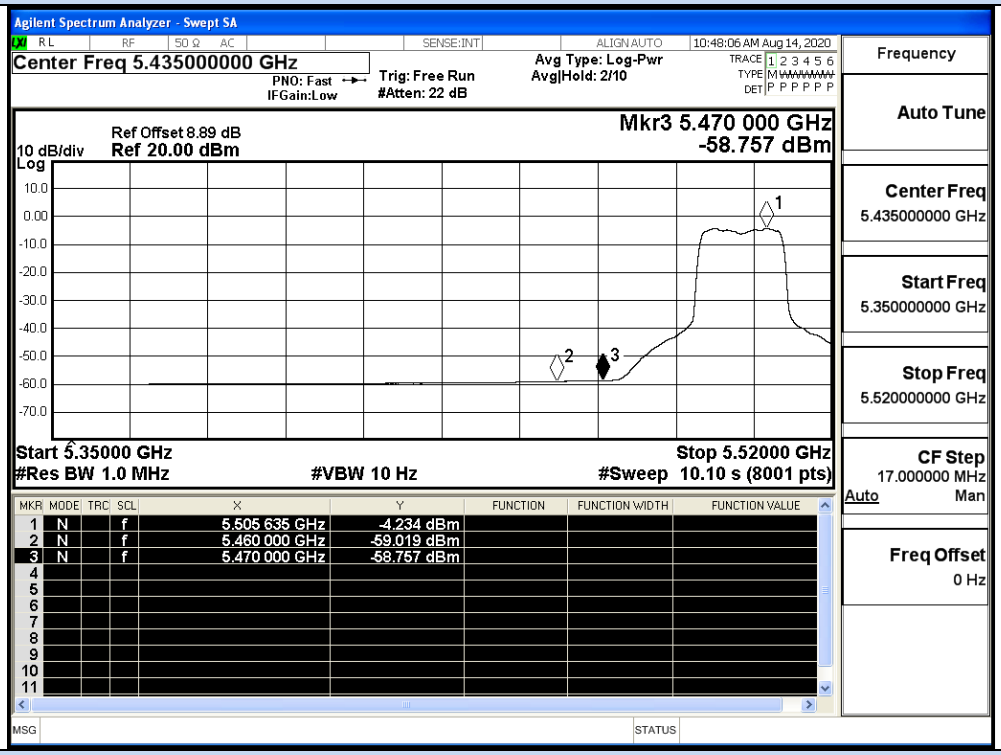
IEEE 802.11n40 / Channel 134 / 5670MHz / Peak



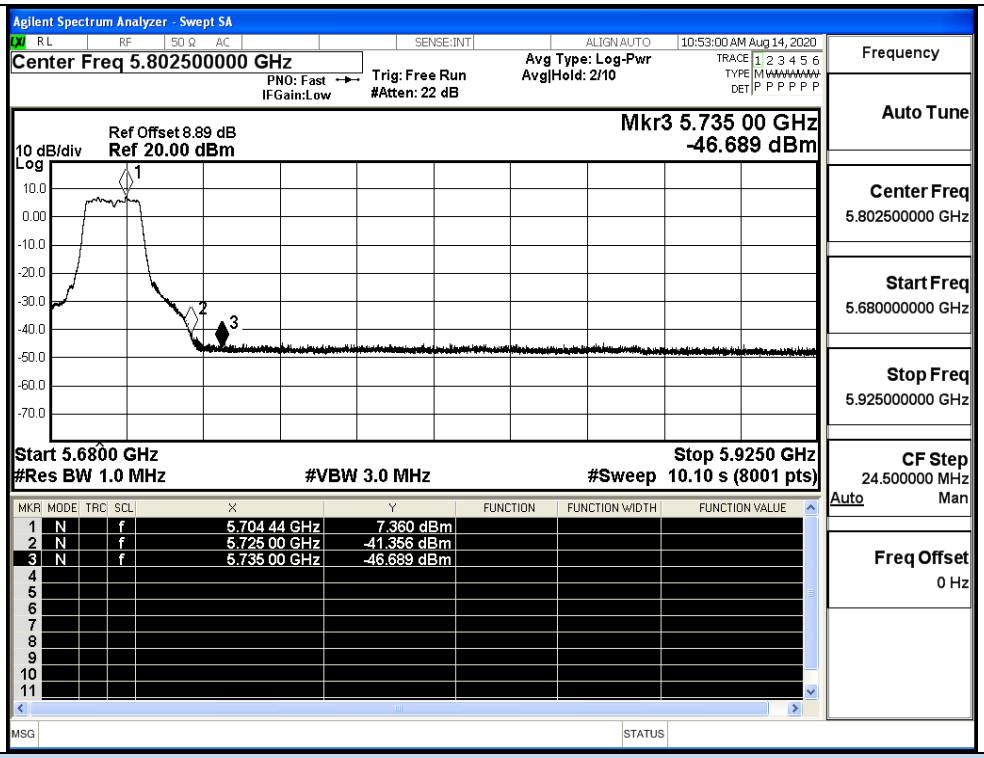
IEEE 802.11n40 / Channel 134 / 5670MHz / Average



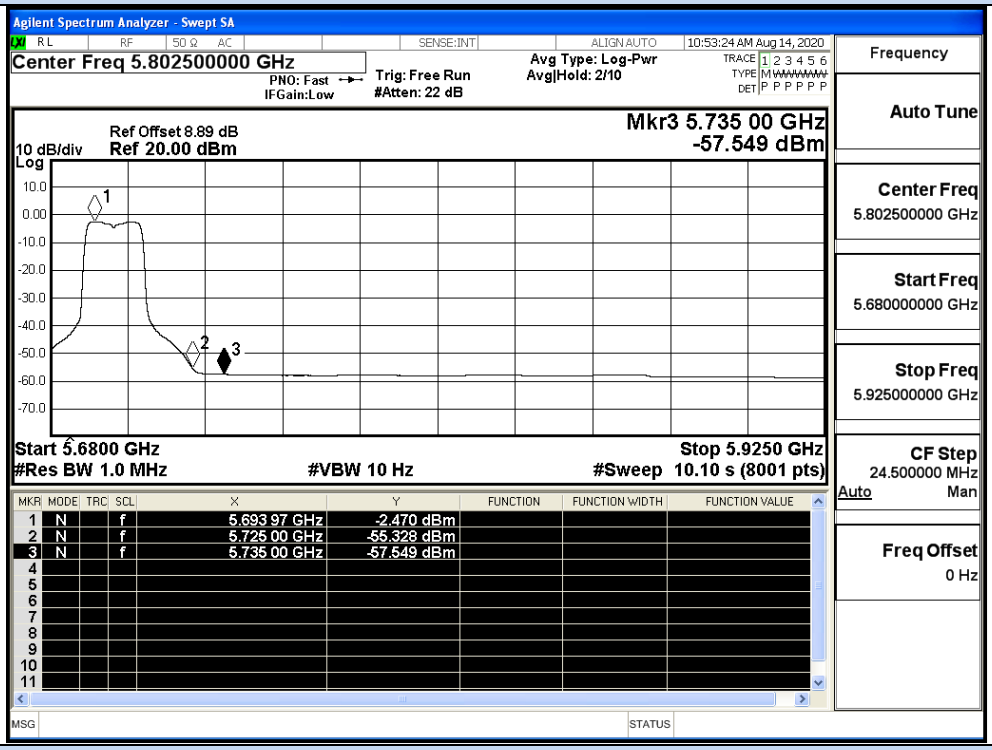
IEEE 802.11ac20 / Channel 100 / 5500MHz / Peak



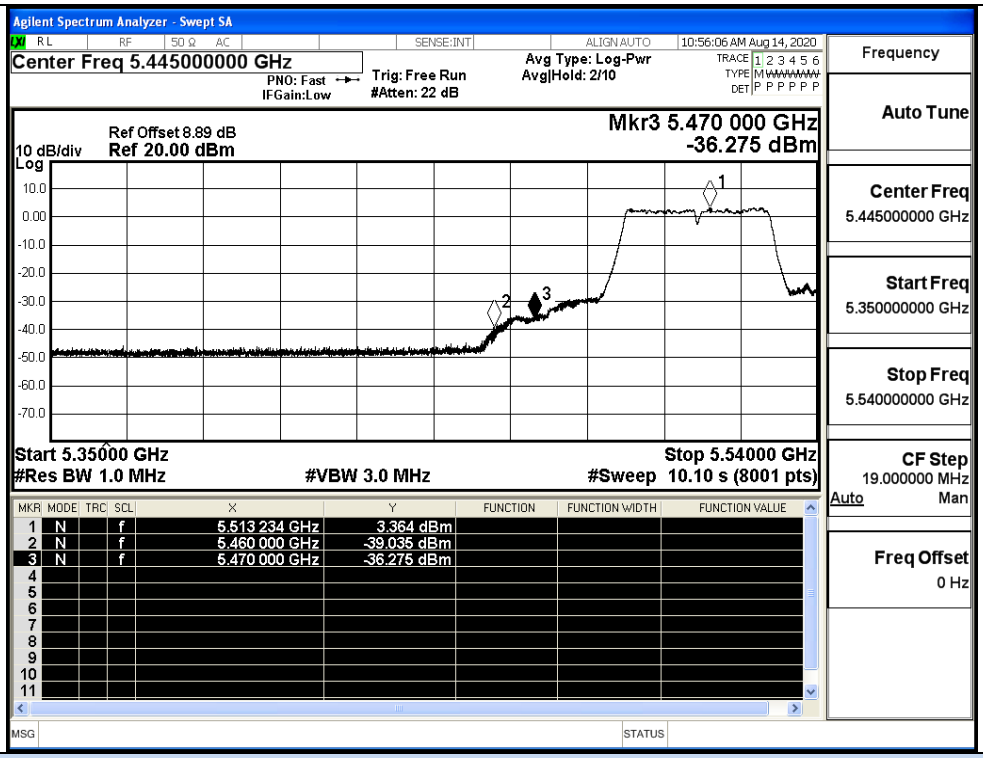
IEEE 802.11ac20 / Channel 100 / 5500MHz / Average



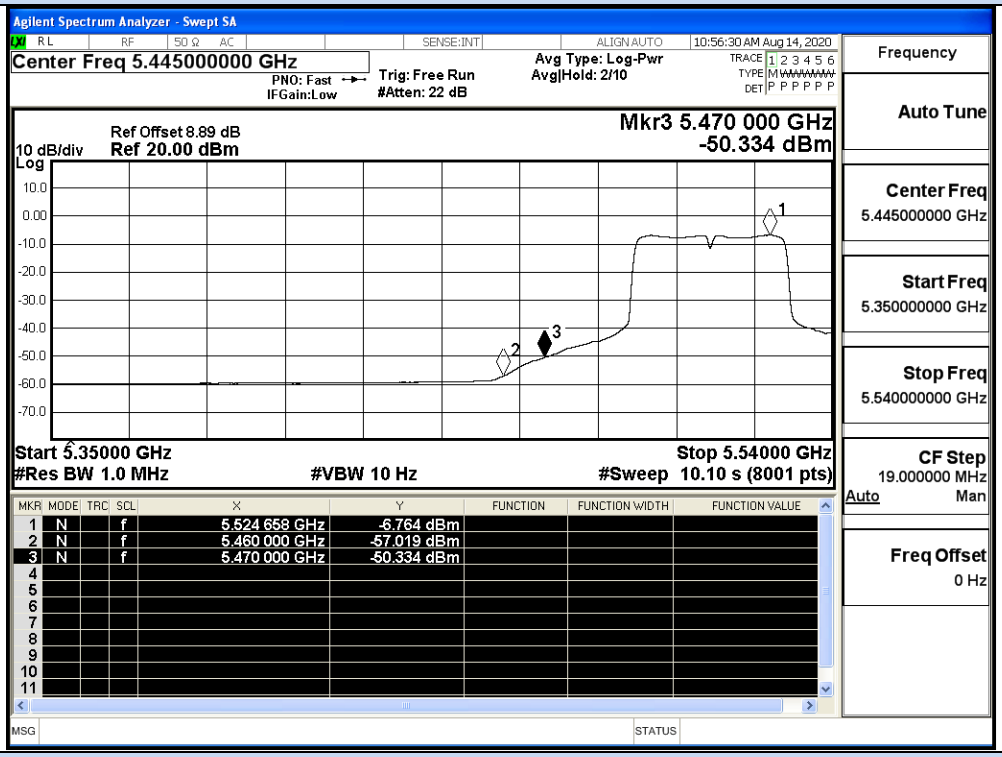
IEEE 802.11ac20 / Channel 140 / 5700MHz / Peak



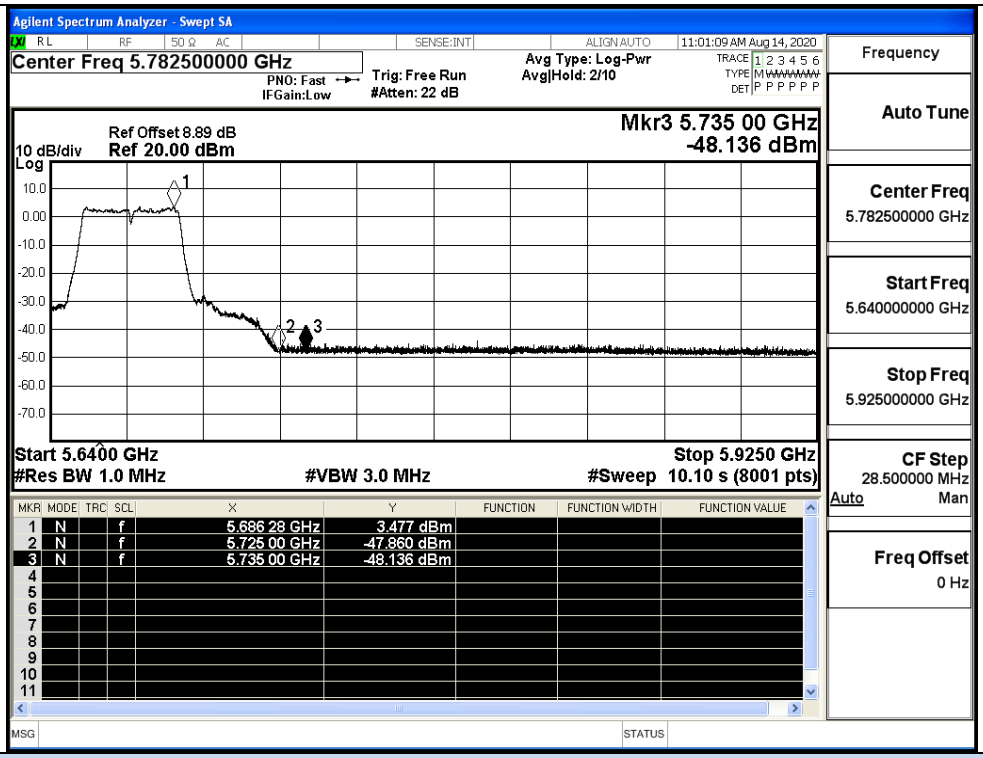
IEEE 802.11ac20 / Channel 140 / 5700MHz / Average



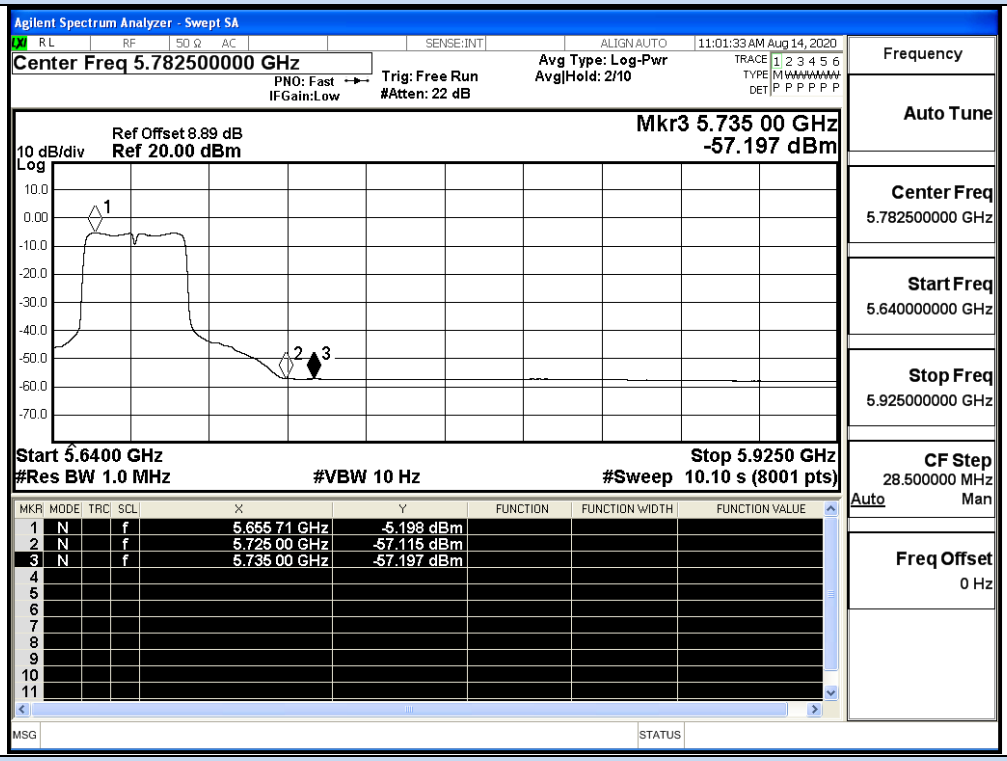
IEEE 802.11ac40 / Channel 102/ 5510MHz / Peak



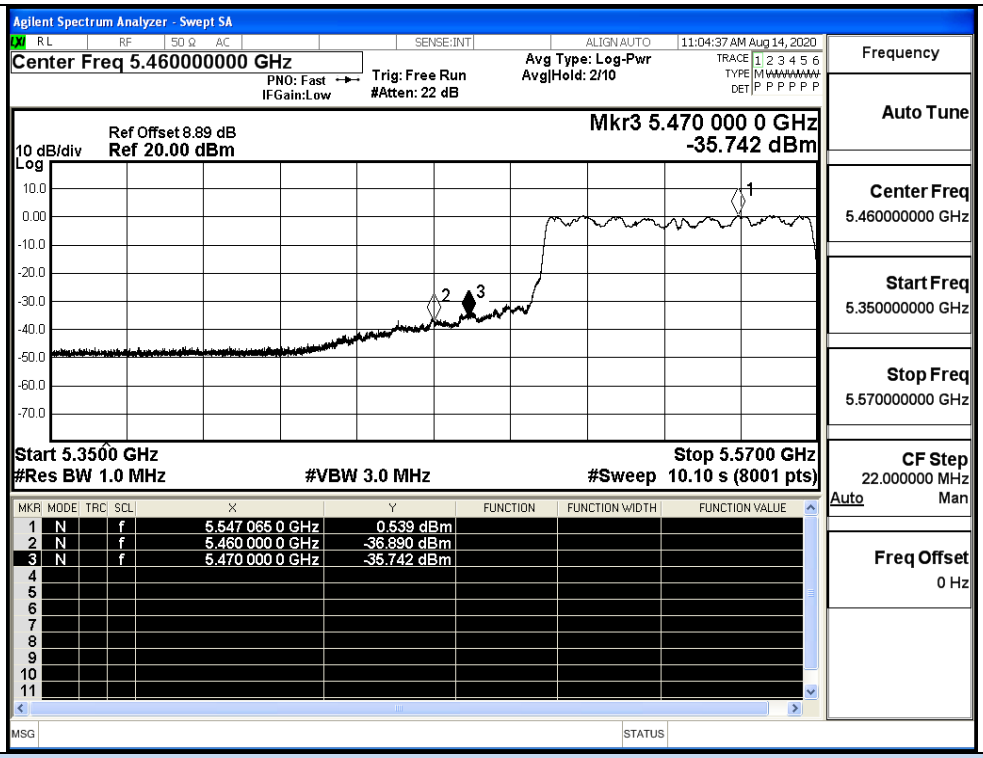
IEEE 802.11ac40 / Channel 102 / 5510MHz / Average



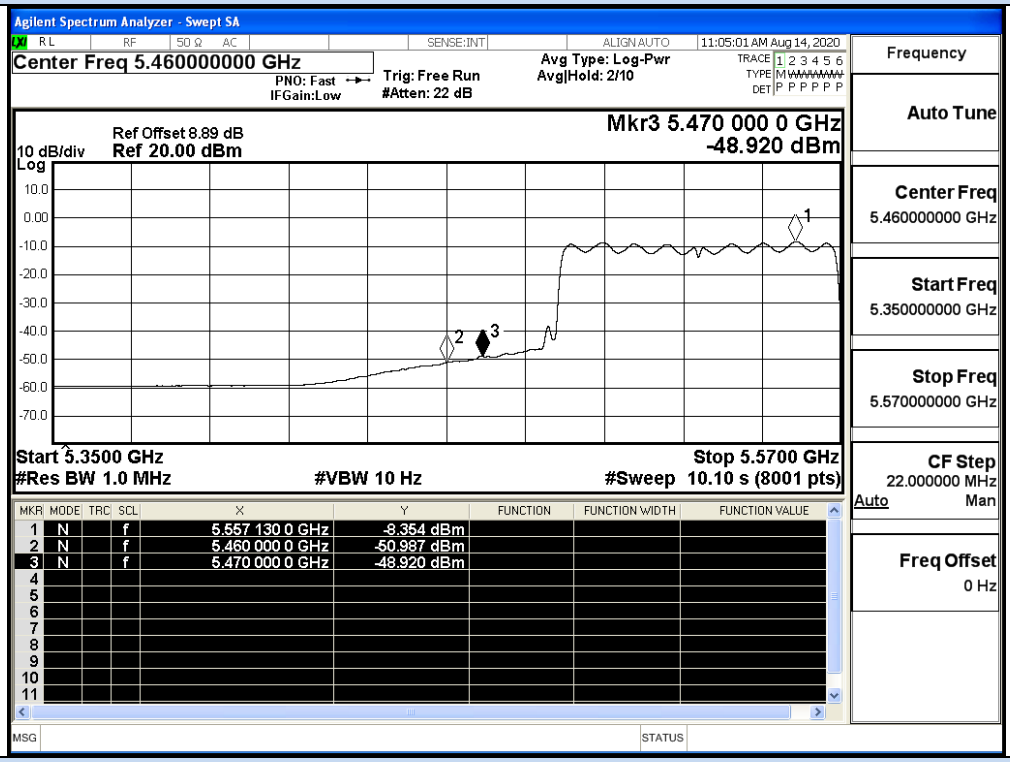
IEEE 802.11ac40 / Channel 134/ 5670MHz / Peak



IEEE 802.11ac40 / Channel 134 / 5670MHz / Average



IEEE 802.11ac80 / Channel 106 / 5530MHz / Peak



IEEE 802.11ac80 / Channel 106 / 5530MHz / Average