

## Appendix I

### RF Test Data for 5.5G WLAN (Conducted Measurement)

Product Name: Smart shopping cart

Trade Mark: Caper

Test Model: Caper-V010.1

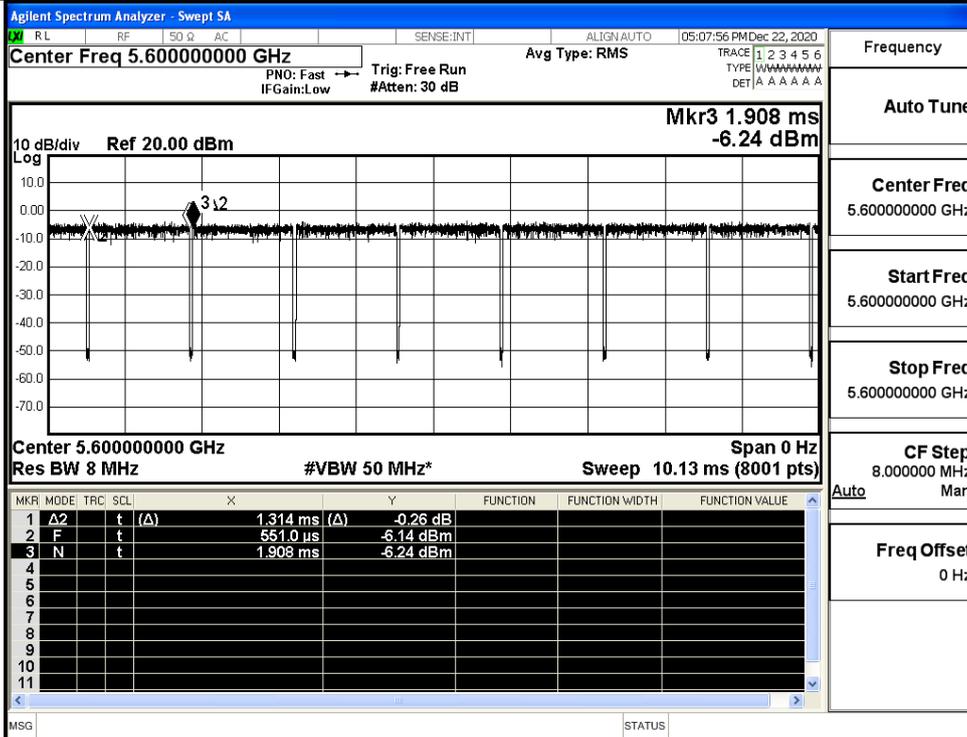
#### Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	CRAL FU
Supervised by:	Li Huan

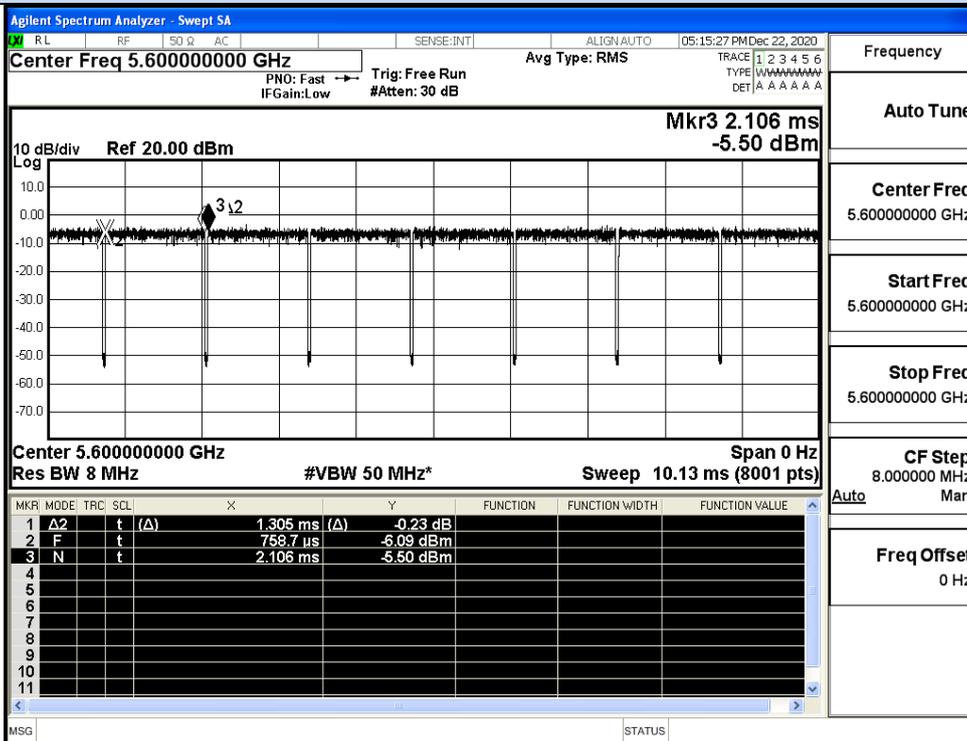
#### I.1 Duty Cycle

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5600	96.83	0.14	0.01
11N20 SISO	5600	96.8	0.14	0.01
11N40 SISO	5590	93.74	0.28	0.01
11AC20 SISO	5600	96.92	0.14	0.01
11AC40 SISO	5590	93.99	0.27	0.01
11AC80 SISO	5610	88.5	0.53	0.01

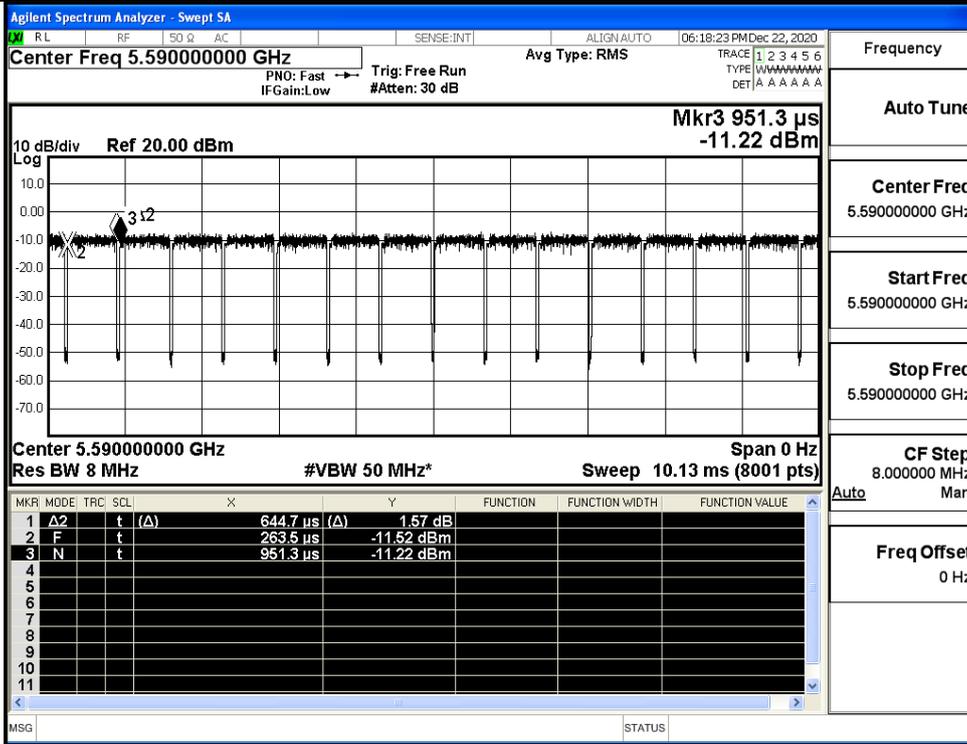
On Time and Duty Cycle



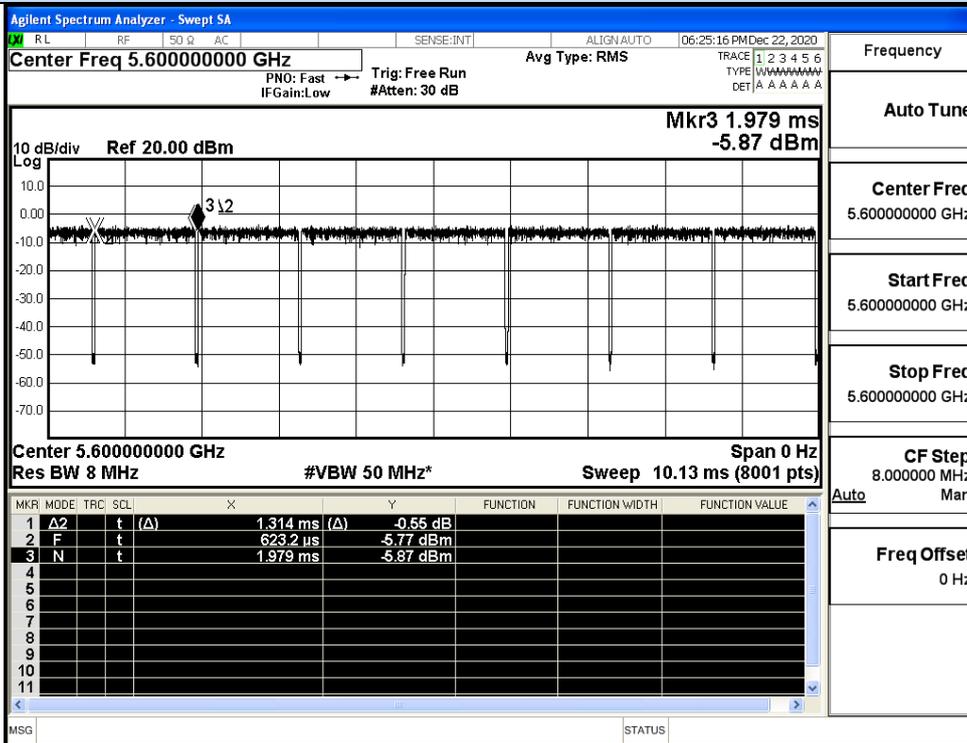
IEEE 802.11a



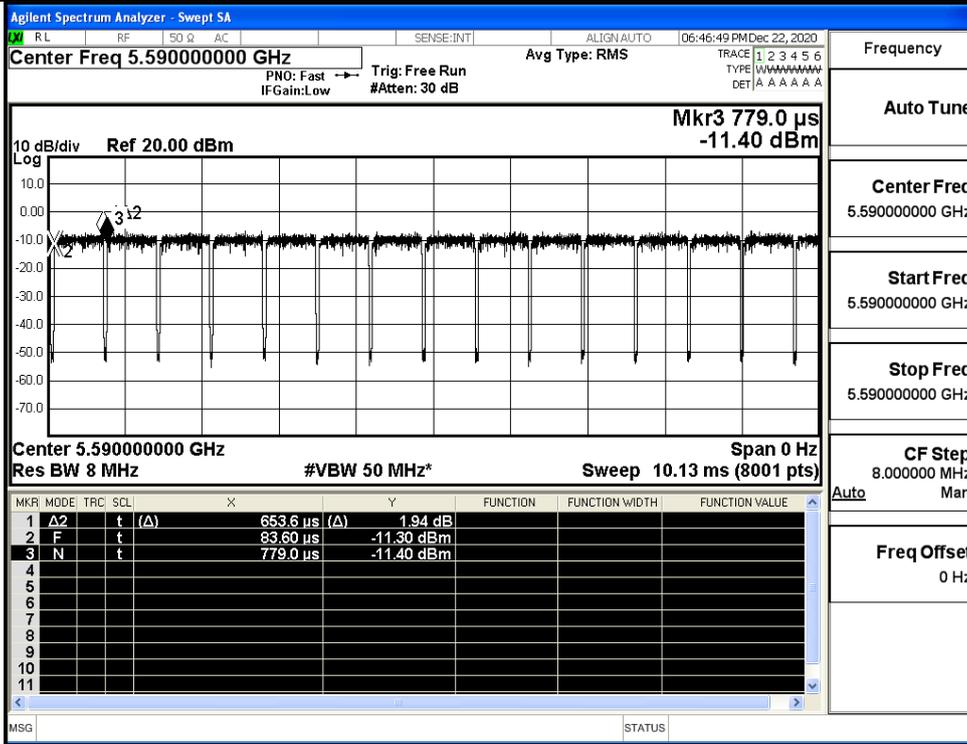
IEEE 802.11n HT20



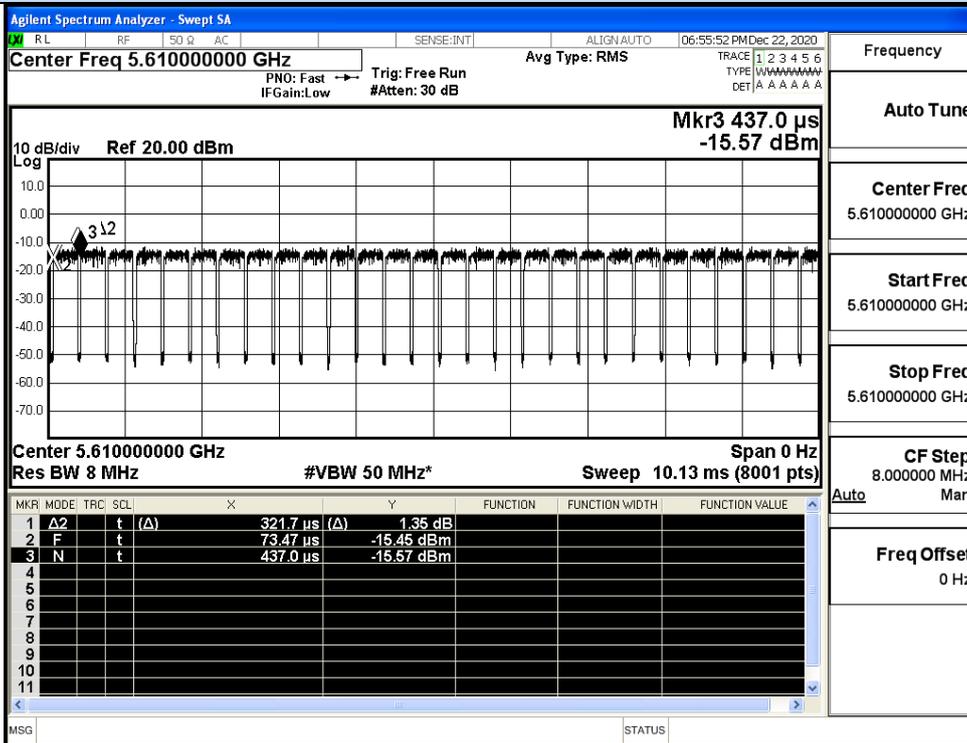
IEEE 802.11n HT40



IEEE 802.11AC20



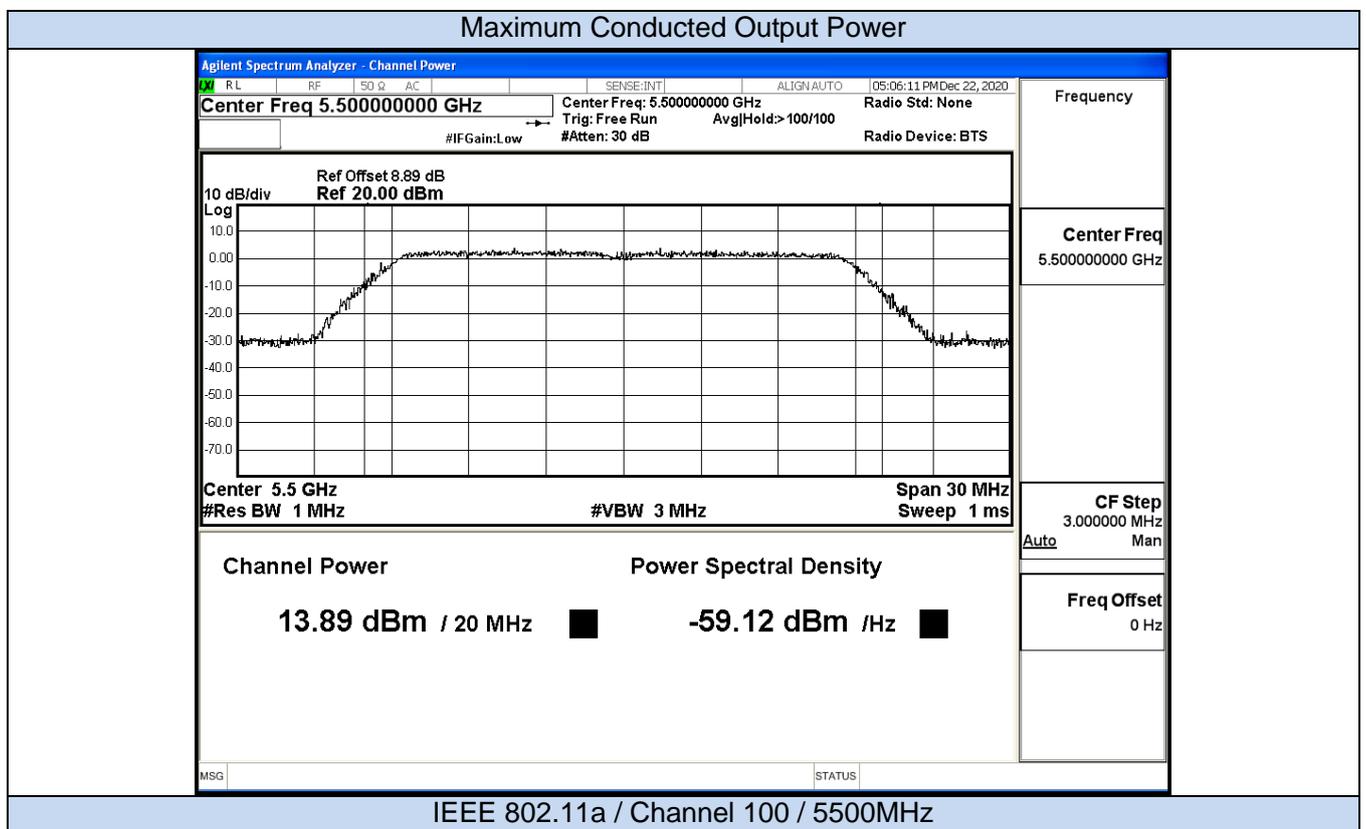
IEEE 802.11AC40

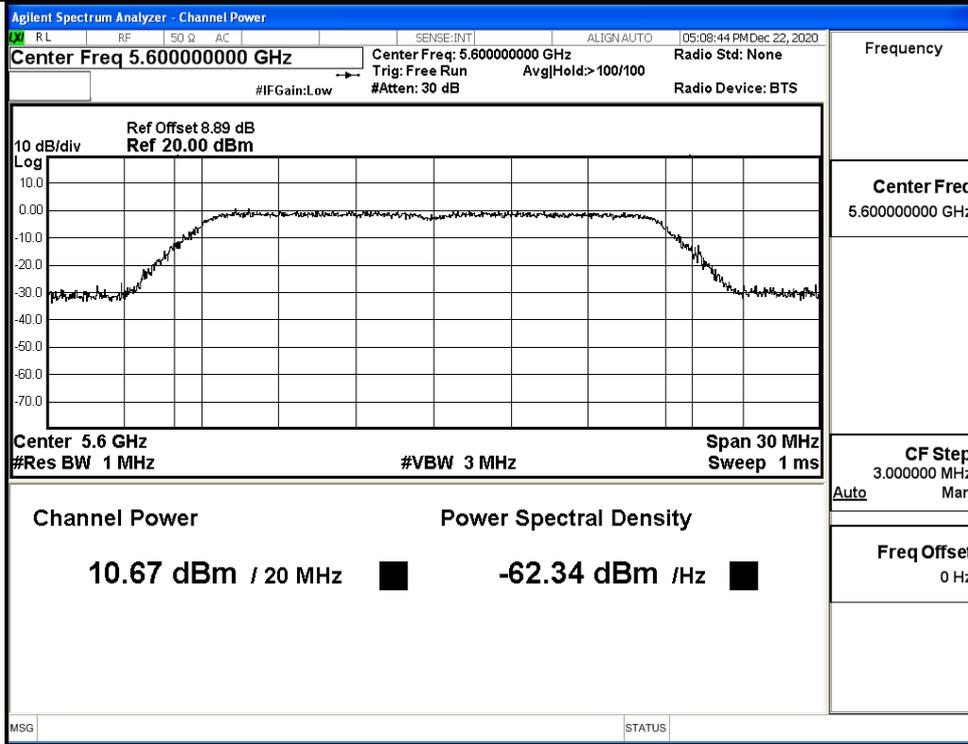


IEEE 802.11AC80

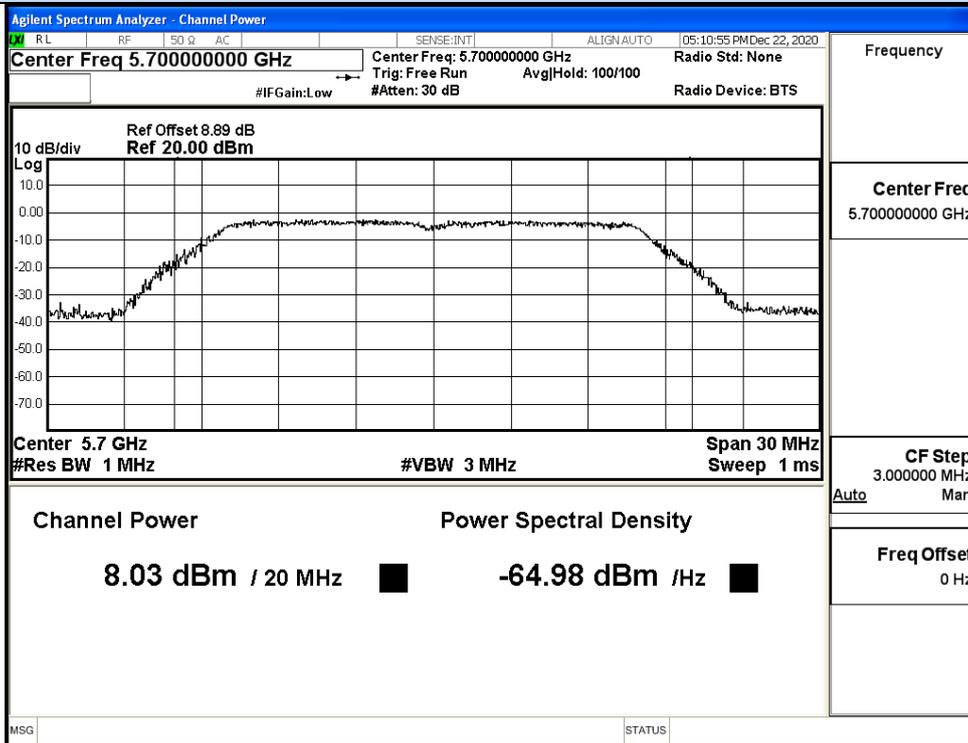
### I.2 Maximum Conduct Output Power

Test Mode	Channel I	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11A	100	5500	13.89	0.14	14.03	24	Pass
	120	5600	10.67	0.14	10.81		Pass
	140	5700	8.03	0.14	8.16		Pass
11N20 SISO	100	5500	13.72	0.14	13.86	24	Pass
	120	5600	10.74	0.14	10.88		Pass
	140	5700	7.58	0.14	7.72		Pass
11N40 SISO	149	5510	13.41	0.28	13.68	24	Pass
	157	5590	10.66	0.28	10.94		Pass
	165	5670	9.05	0.28	9.32		Pass
11ac20 SISO	100	5500	13.9	0.14	14.04	24	Pass
	120	5600	10.66	0.14	10.8		Pass
	140	5700	7.78	0.14	7.92		Pass
11ac40 SISO	149	5510	13.5	0.27	13.77	24	Pass
	157	5590	10.76	0.27	11.03		Pass
	165	5670	9.13	0.27	9.4		Pass
11ac80 SISO	106	5530	11.92	0.53	12.47	24	Pass
	122	5610	9.76	0.53	10.29		Pass
	138	5690	8.15	0.53	8.68		Pass



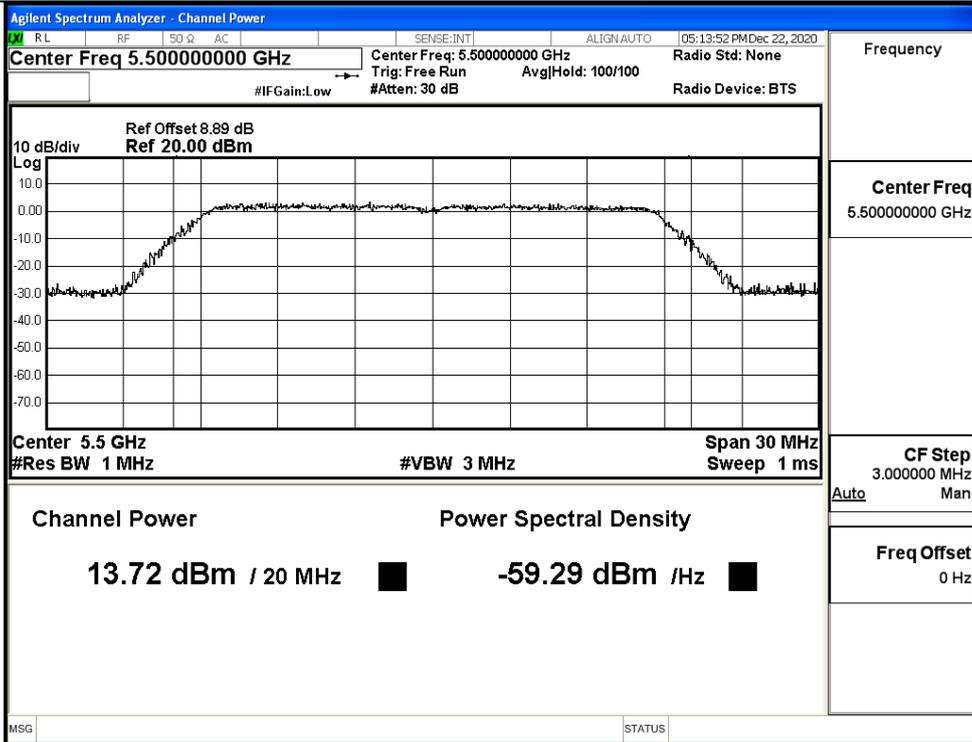


IEEE 802.11a / Channel 120 / 5600MHz

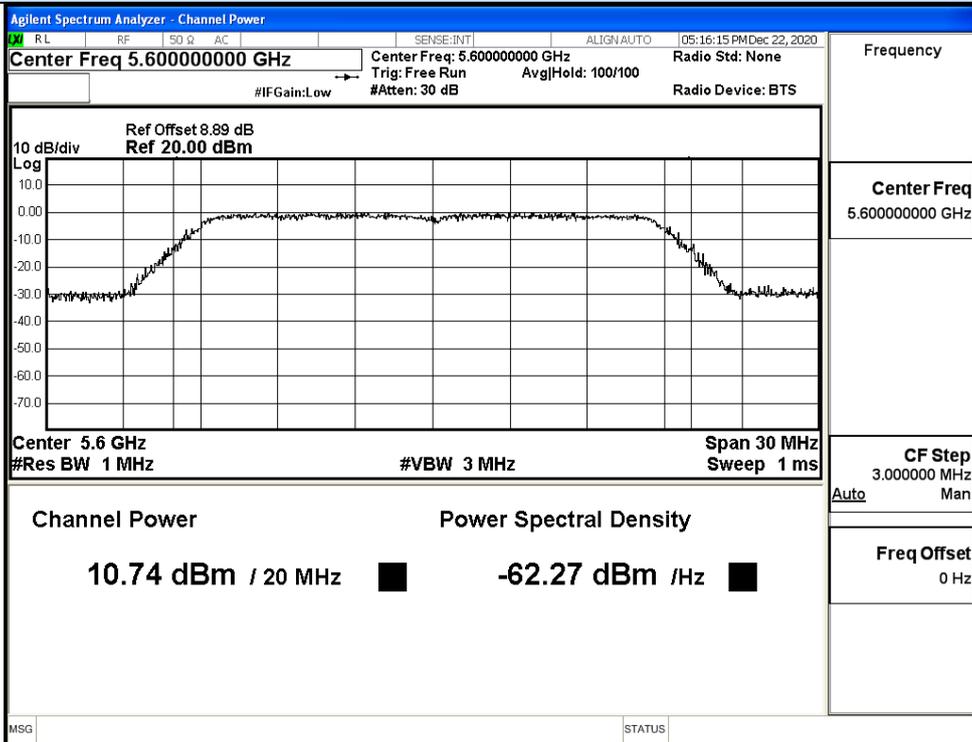


IEEE 802.11a / Channel 140 / 5700MHz

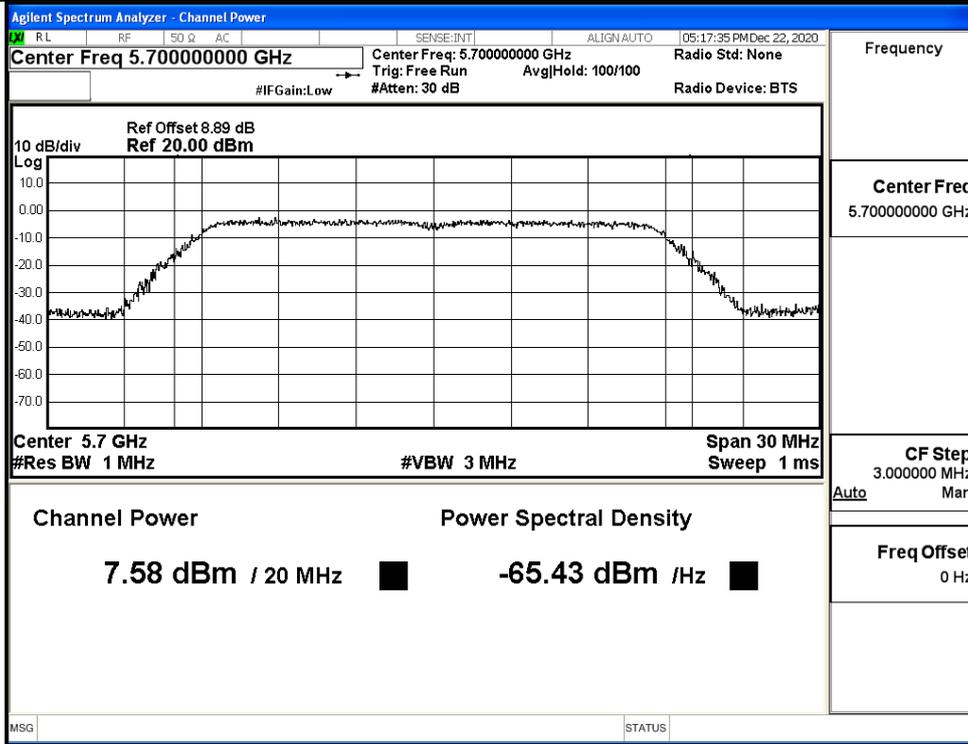
### Maximum Conducted Output Power



### IEEE 802.11n20 / Channel 100 / 5500MHz

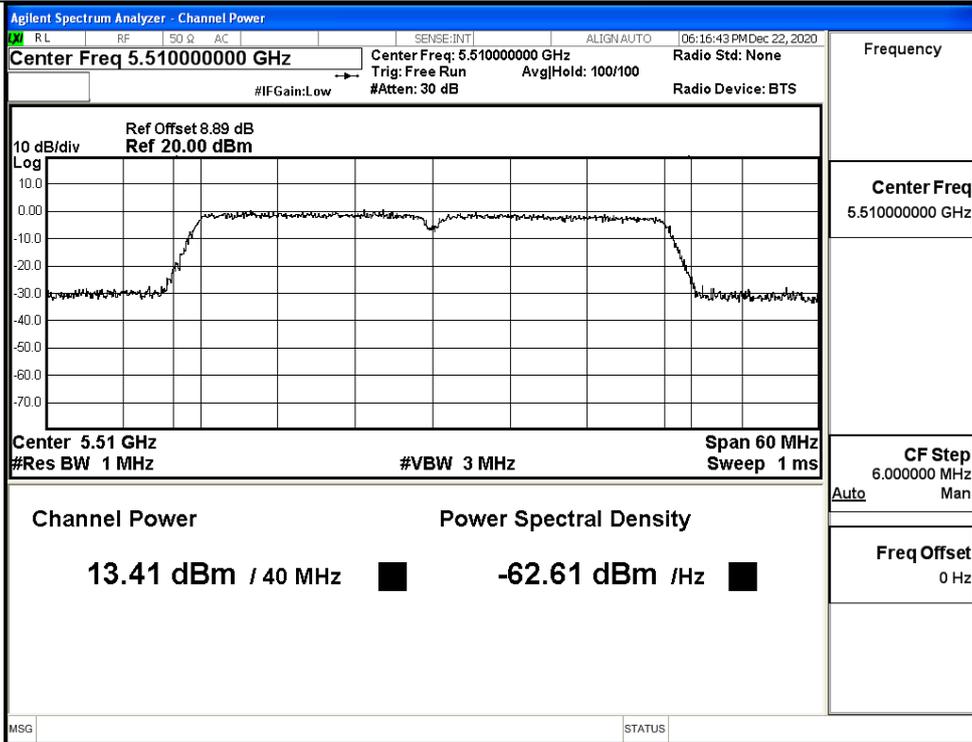


### IEEE 802.11n20 / Channel 120 / 5600MHz

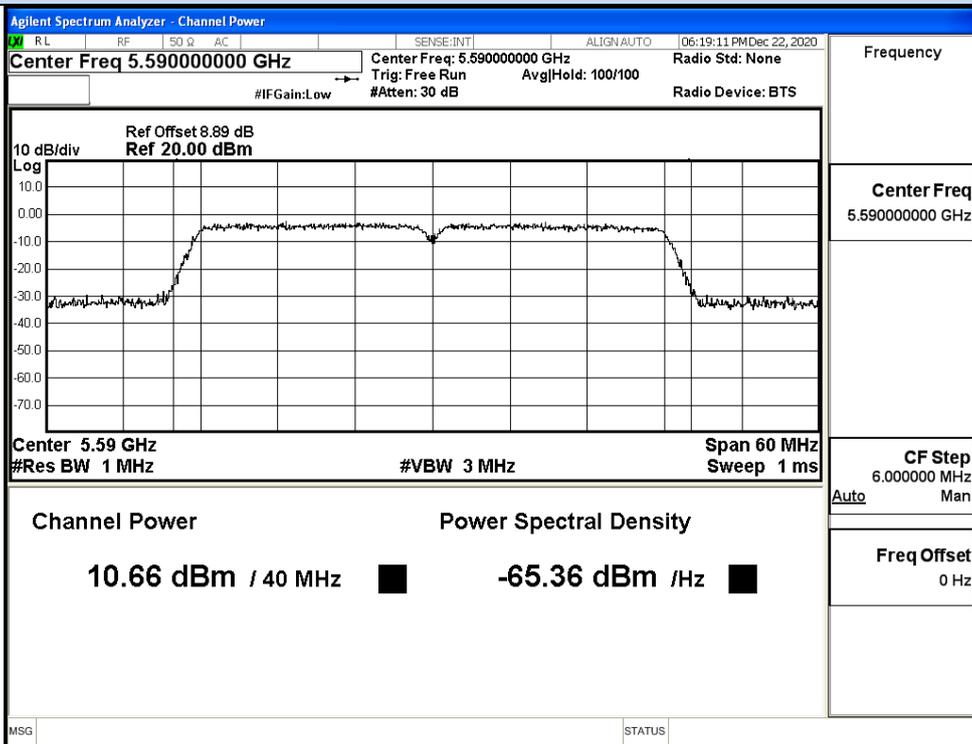


IEEE 802.11n20 / Channel 140 / 5700MHz

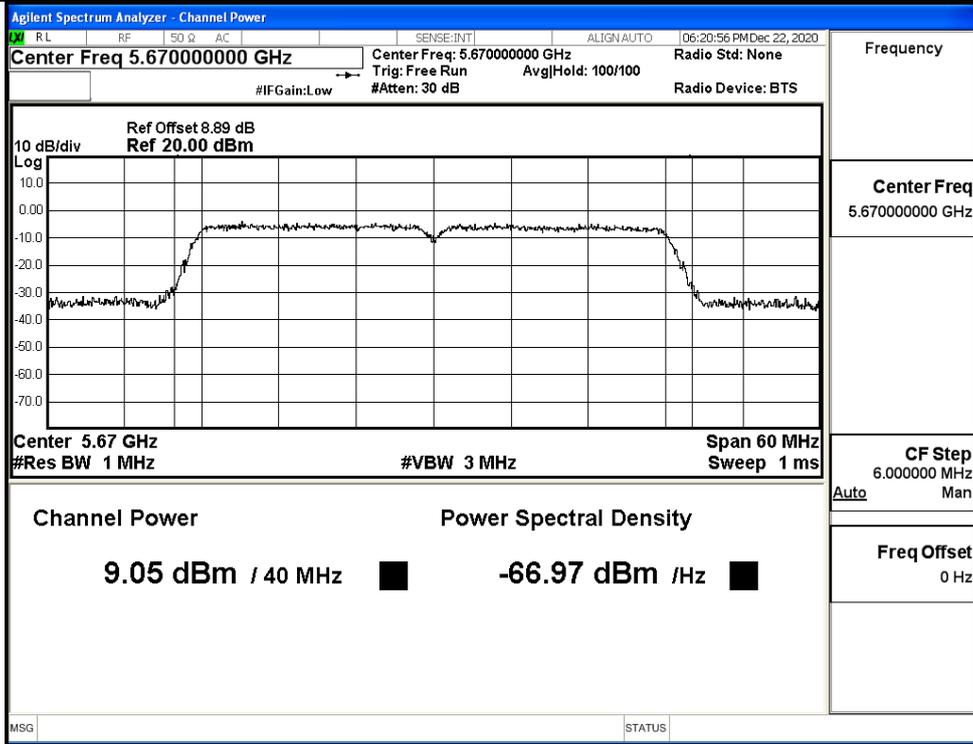
Maximum Conducted Output Power



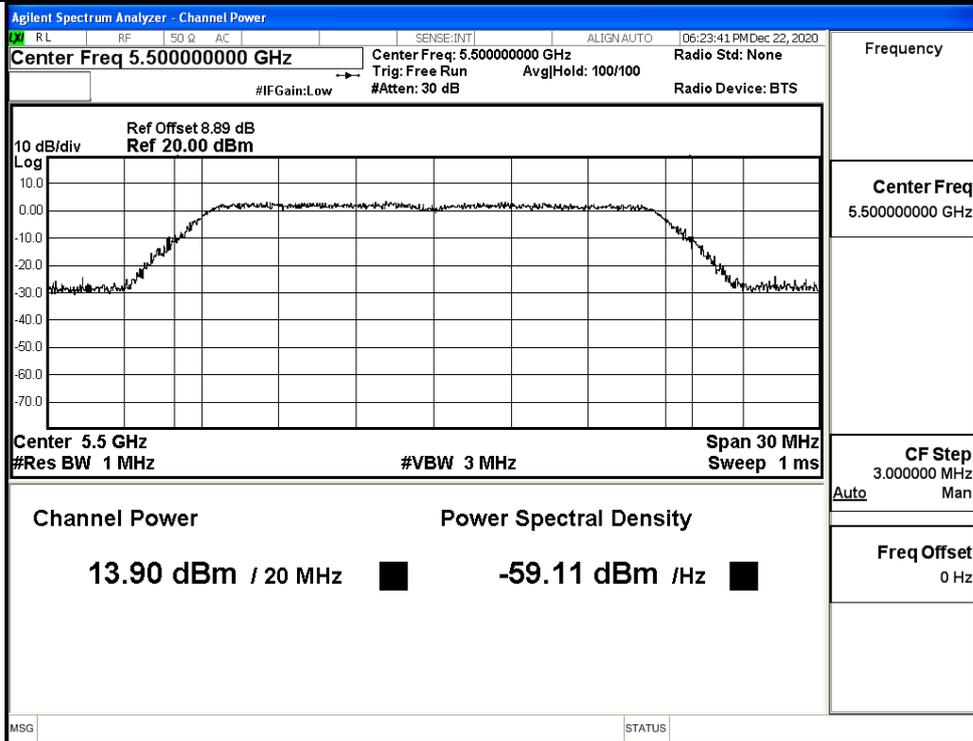
IEEE 802.11n40 / Channel 102 / 5510MHz



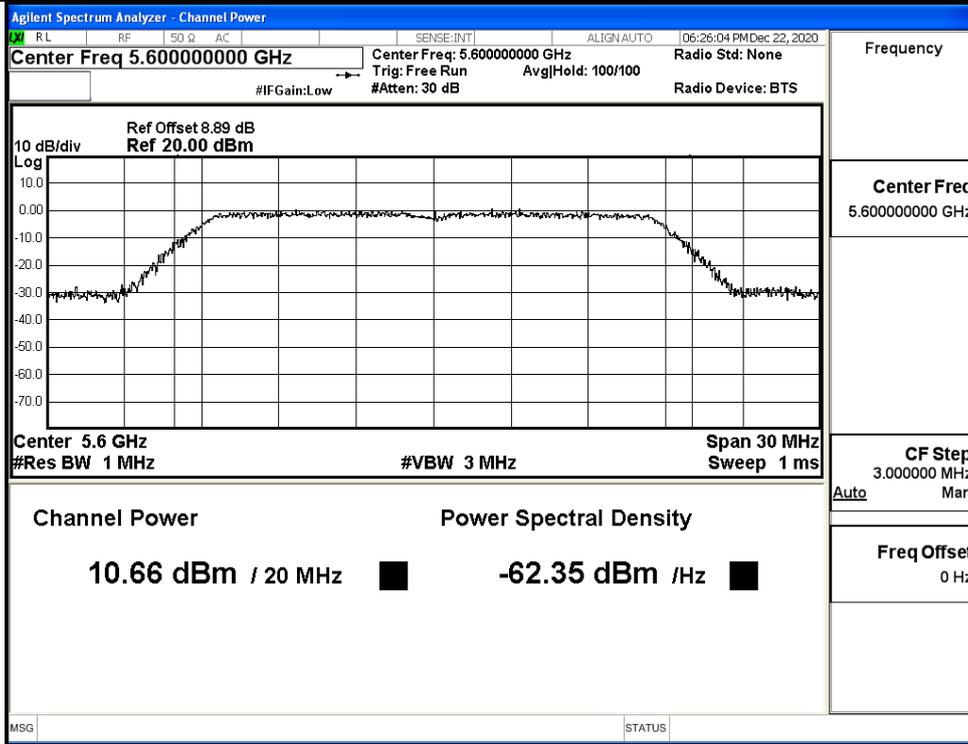
IEEE 802.11n40 / Channel 118 / 5590MHz



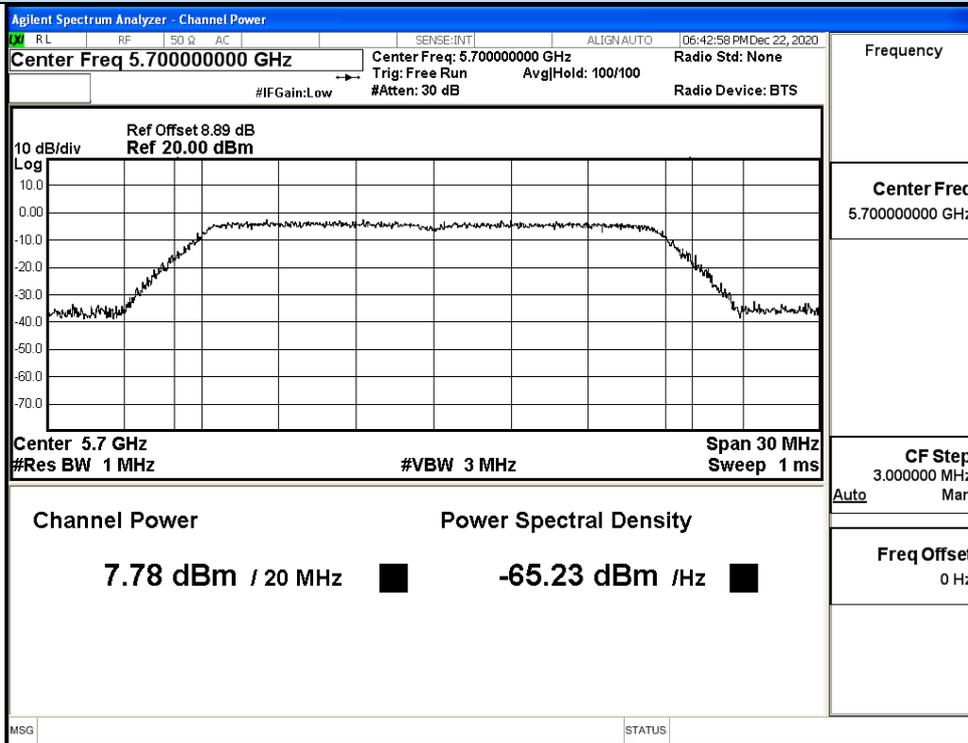
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IEEE 802.11ac20 / Channel 100 / 5500MHz

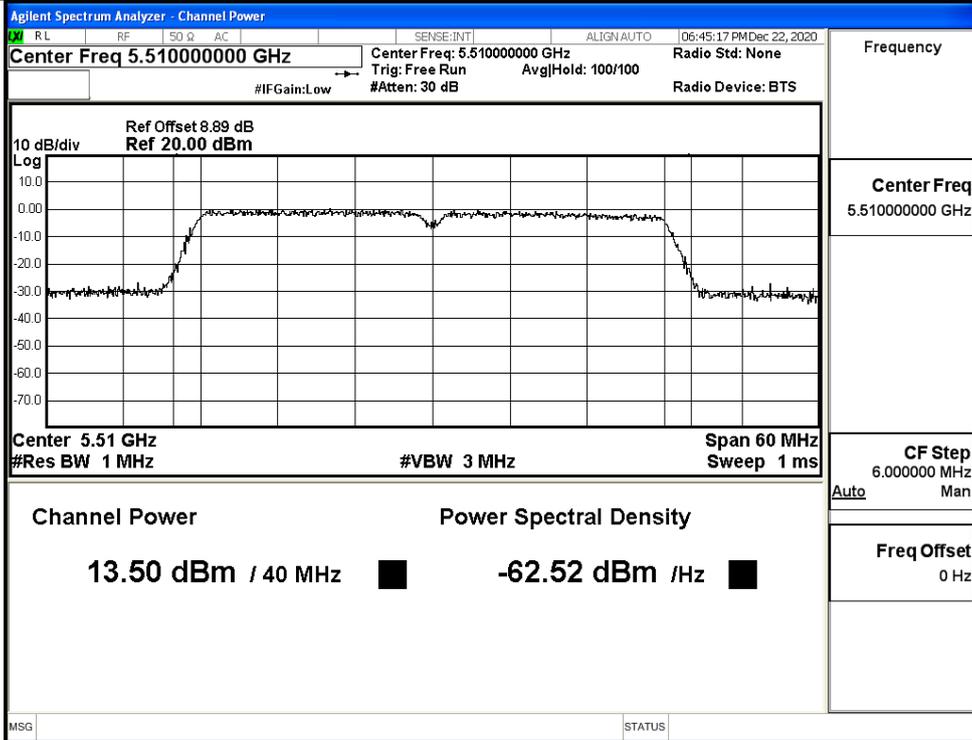


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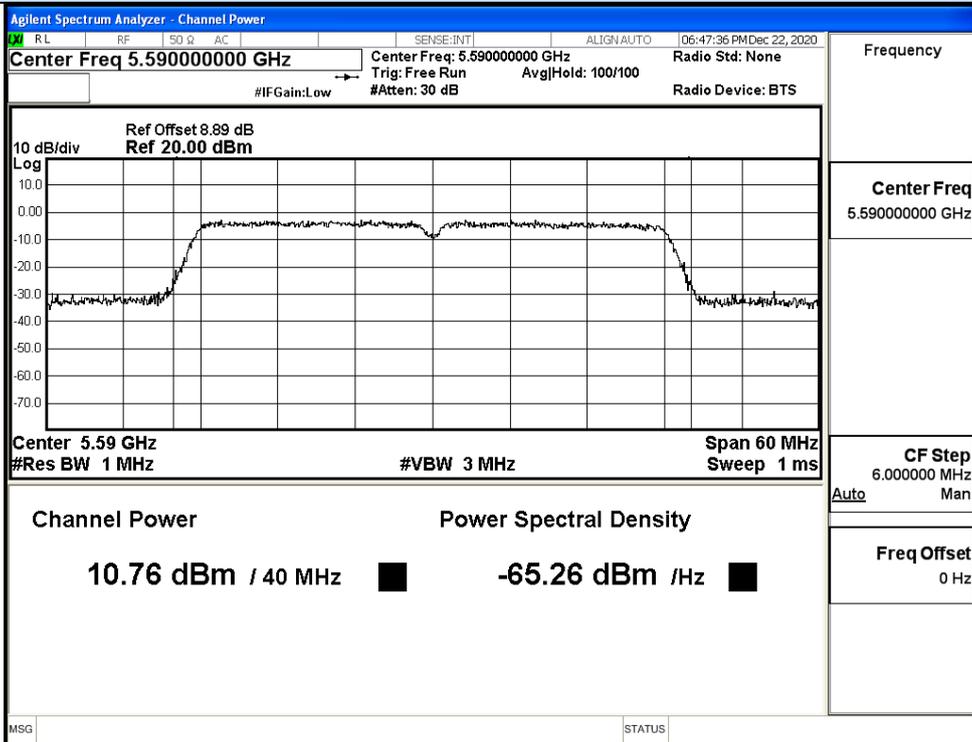


IEEE 802.11ac20 / Channel 140 / 5700MHz

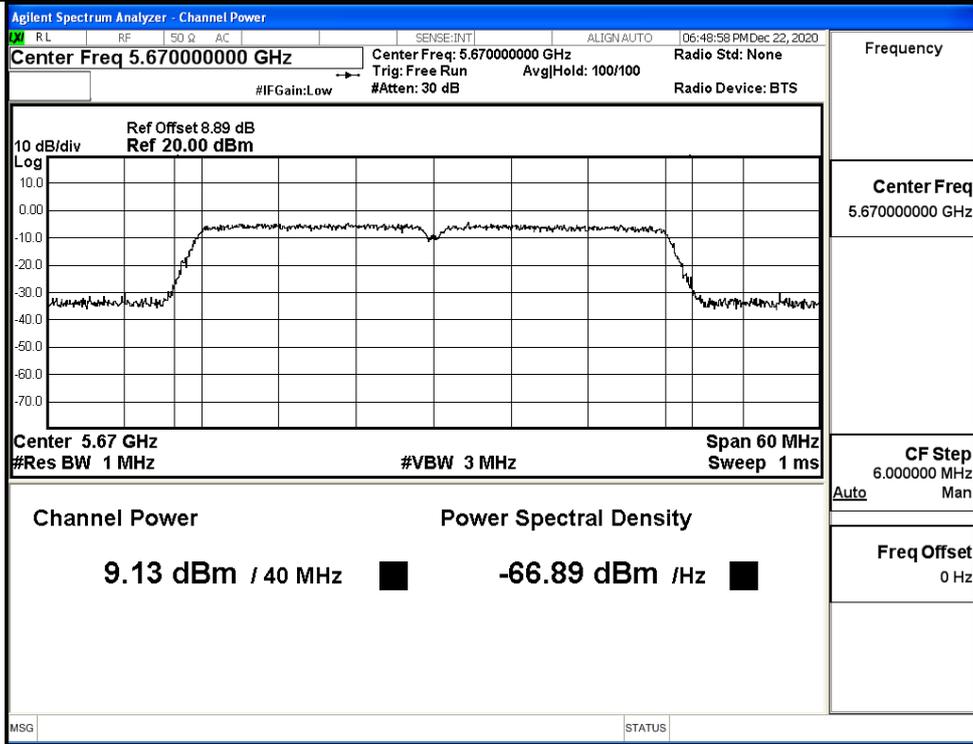
### Maximum Conducted Output Power



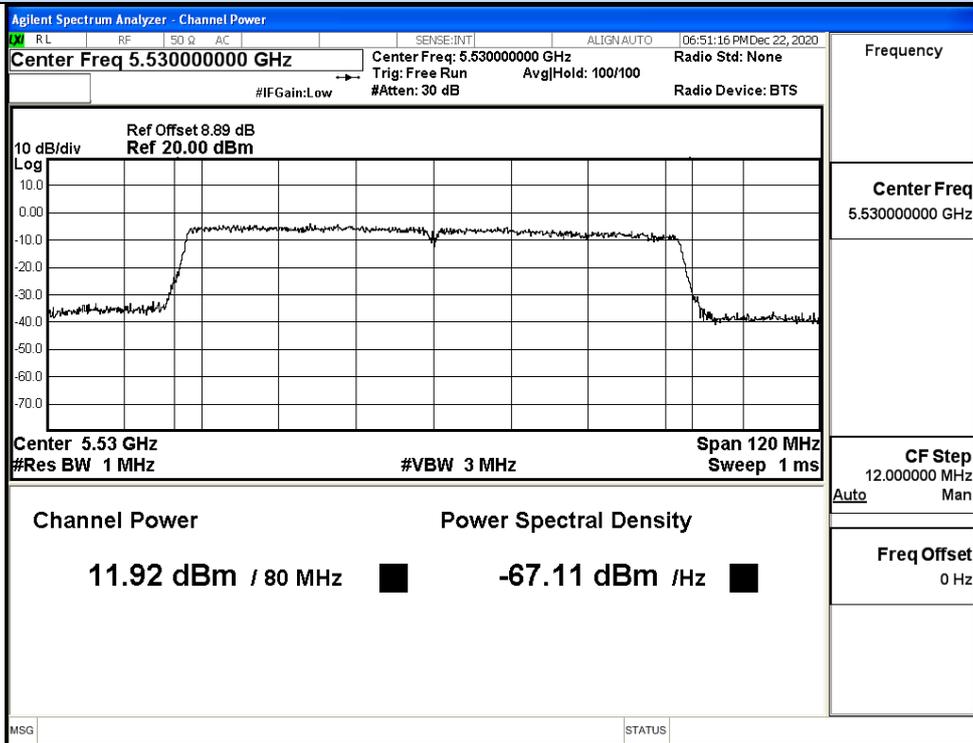
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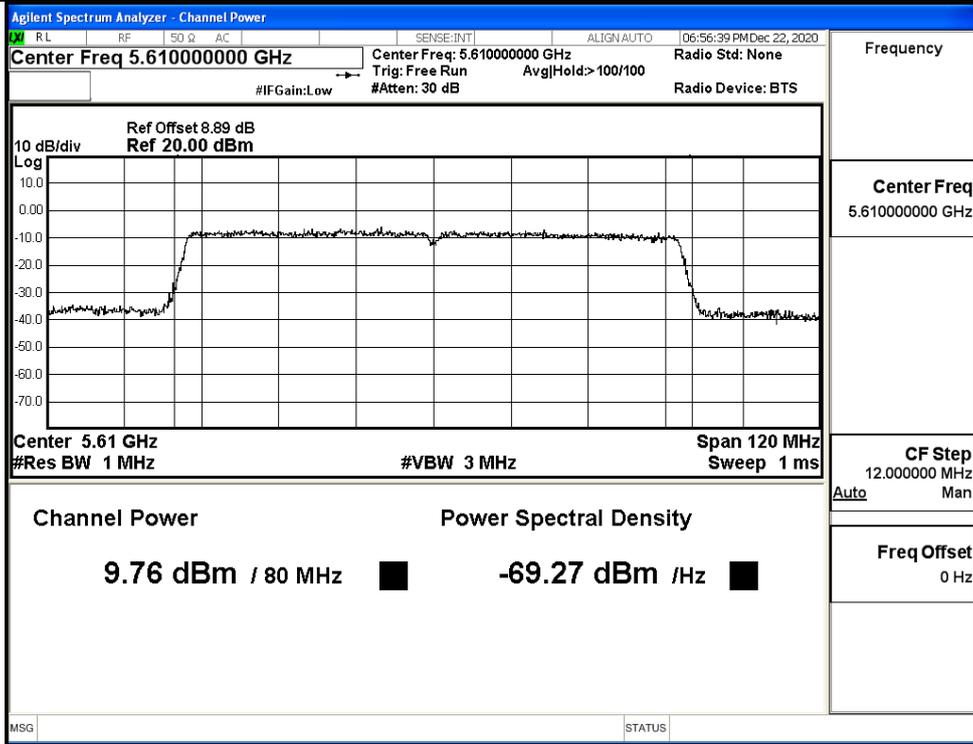
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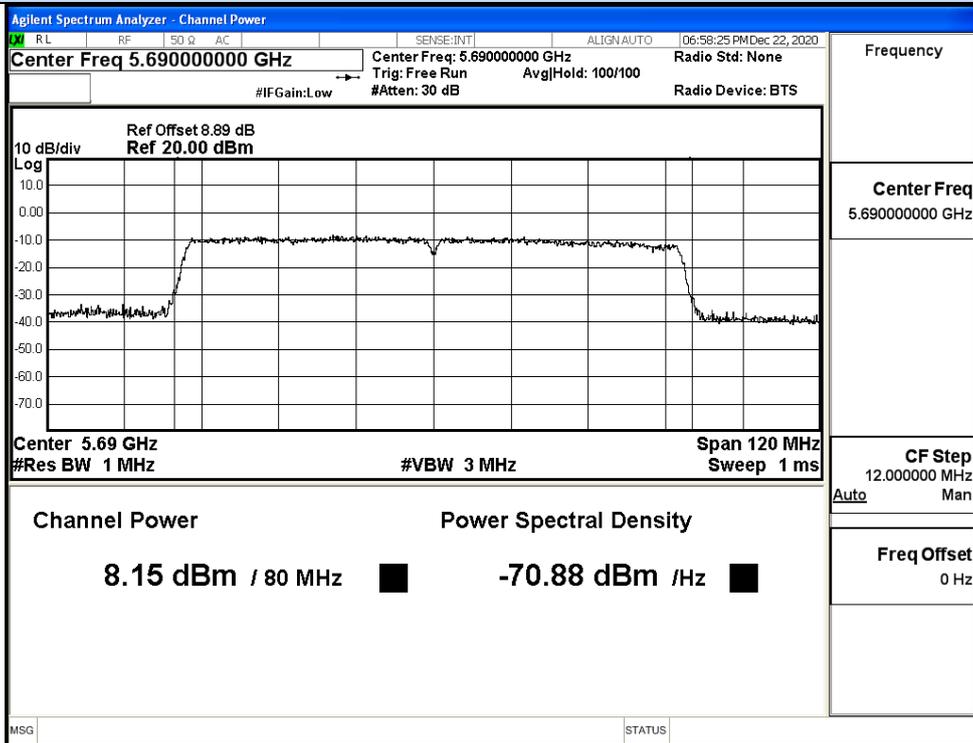
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IEEE 802.11ac80 / Channel 106 / 5530MHz



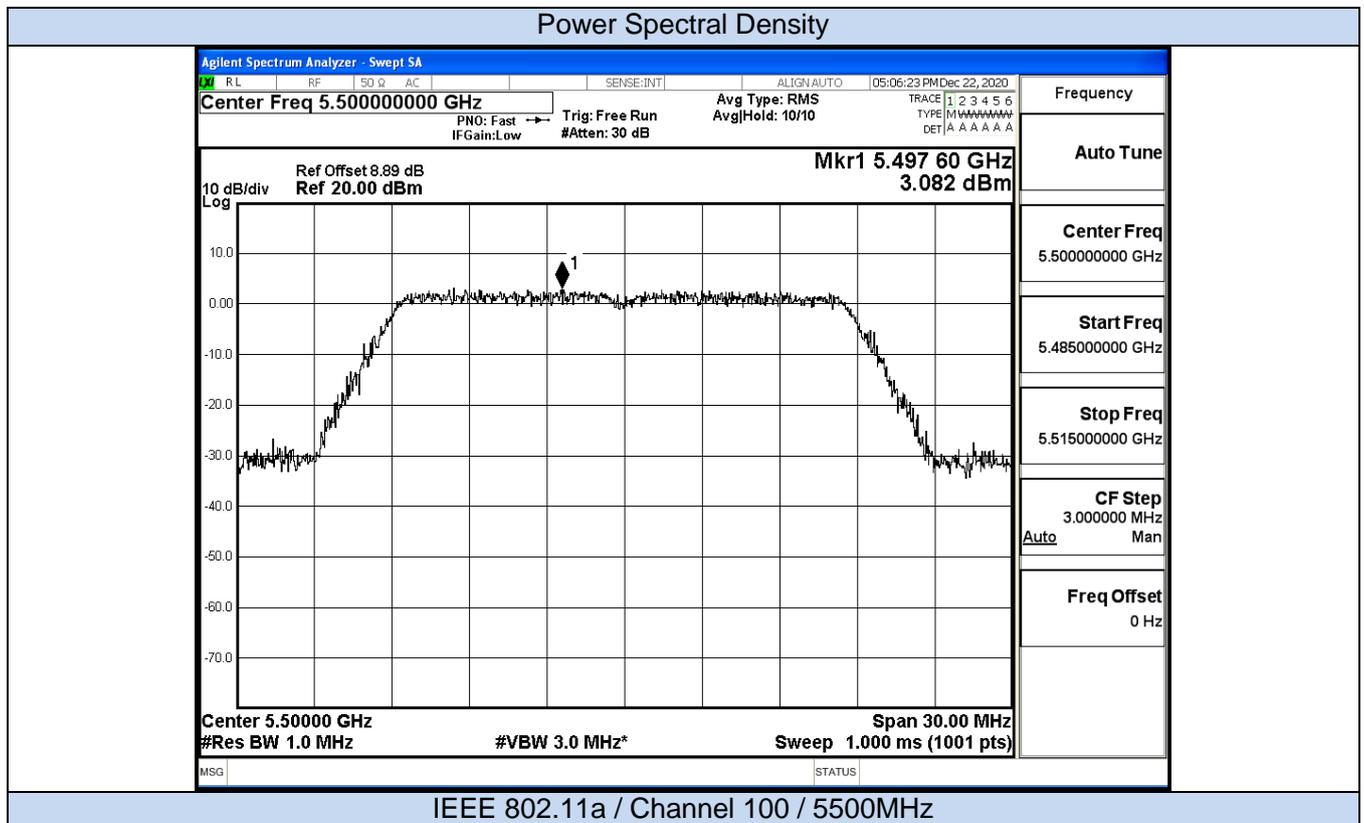
IEEE 802.11ac80 / Channel 122 / 5610MHz

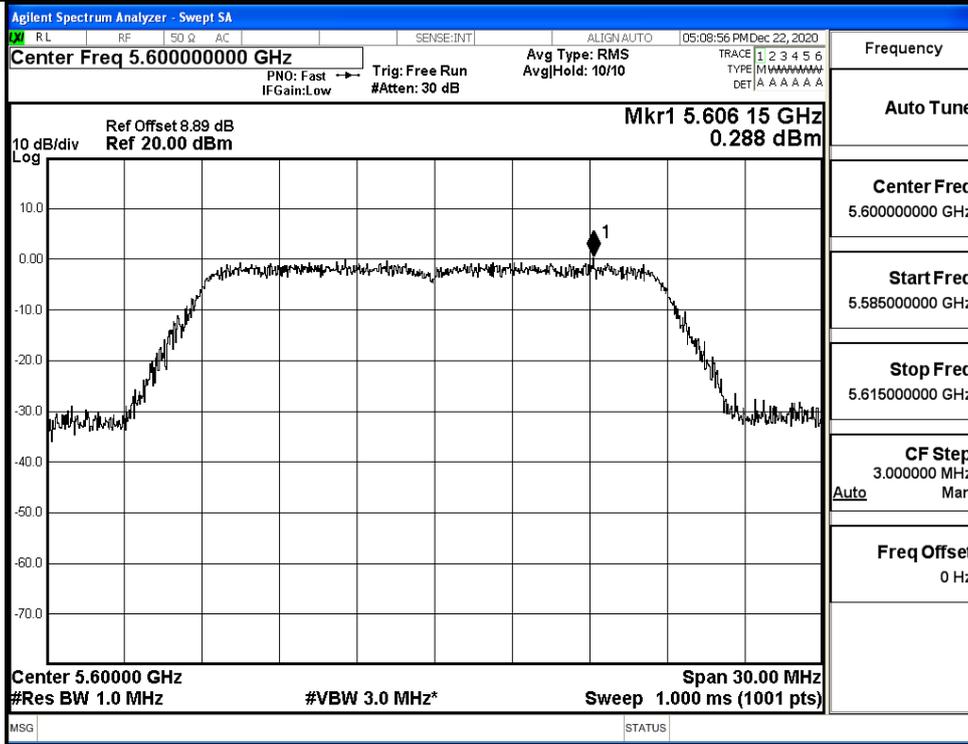


IEEE 802.11ac80 / Channel 138 / 5690MHz

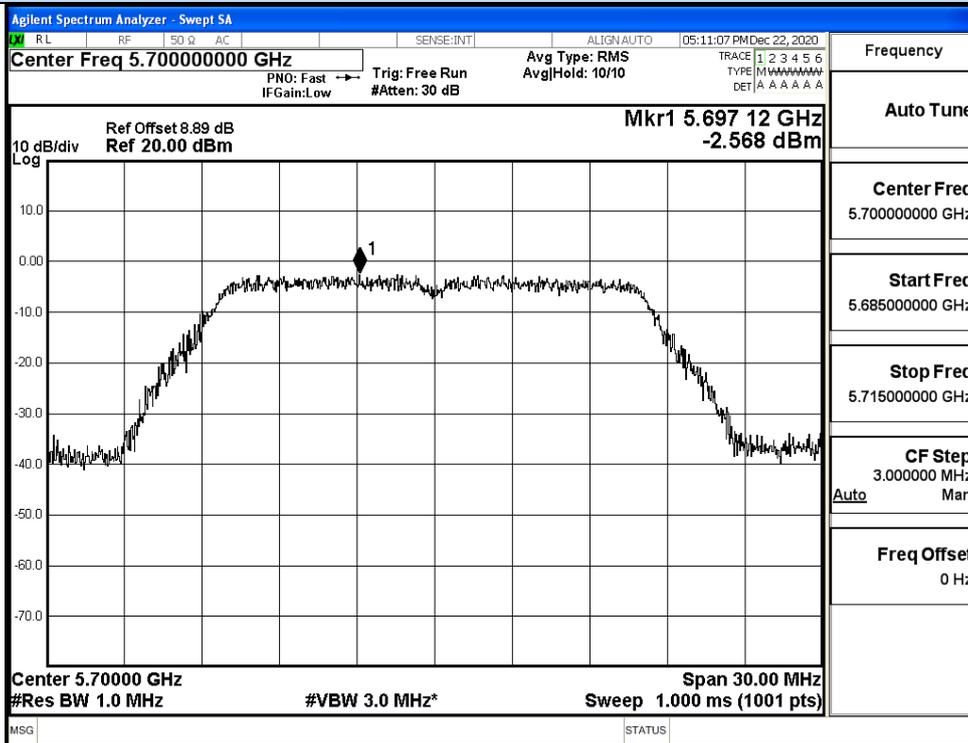
### I.3 Power Spectral Density

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	3.08	0.14	3.22	11	Pass
	120	5600	0.29	0.14	0.43		Pass
	140	5700	-2.57	0.14	-2.43		Pass
11N20 SISO	100	5500	3.34	0.14	3.48	11	Pass
	120	5600	0.04	0.14	0.18		Pass
	140	5700	-3.23	0.14	-3.09		Pass
11N40 SISO	102	5510	0.17	0.28	0.45	11	Pass
	118	5590	-3.47	0.28	-3.19		Pass
	134	5670	-3.31	0.28	-3.03		Pass
11AC20 SISO	100	5500	2.88	0.14	3.02	11	Pass
	120	5600	-0.29	0.14	-0.15		Pass
	140	5700	-2.90	0.14	-2.76		Pass
11AC40 SISO	102	5510	0.65	0.27	0.92	11	Pass
	118	5590	-2.73	0.27	-2.46		Pass
	134	5670	-3.54	0.27	-3.27		Pass
11AC80 SISO	106	5530	-4.76	0.53	-4.23	11	Pass
	122	5610	-6.84	0.53	-6.31		Pass
	138	5690	-8.26	0.53	-7.73		Pass



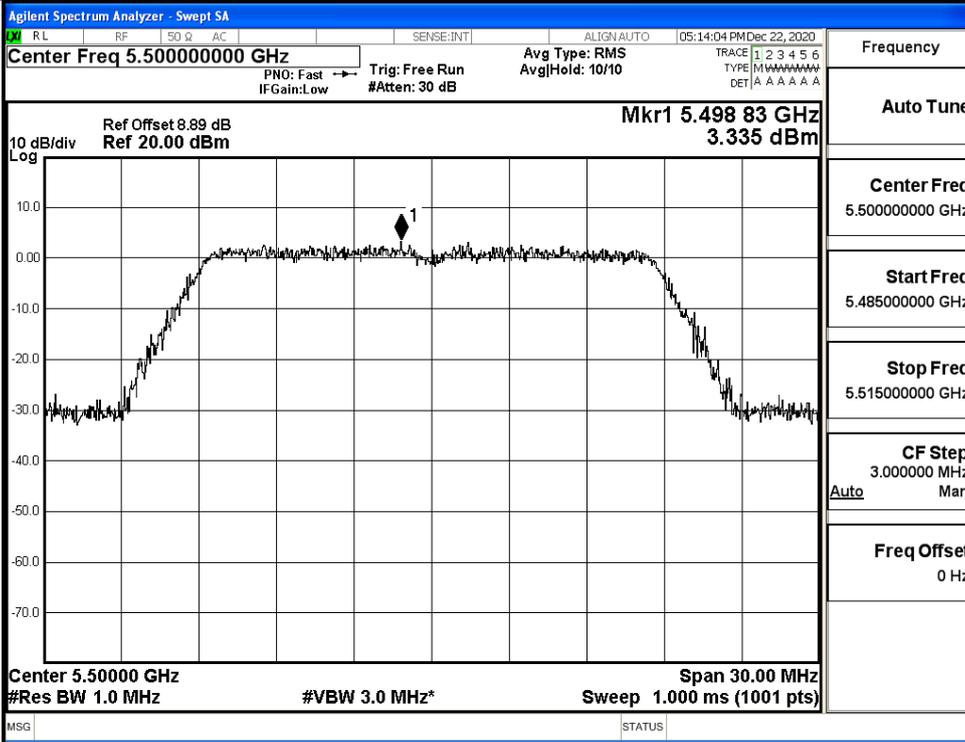


IEEE 802.11a / Channel 120 / 5600MHz

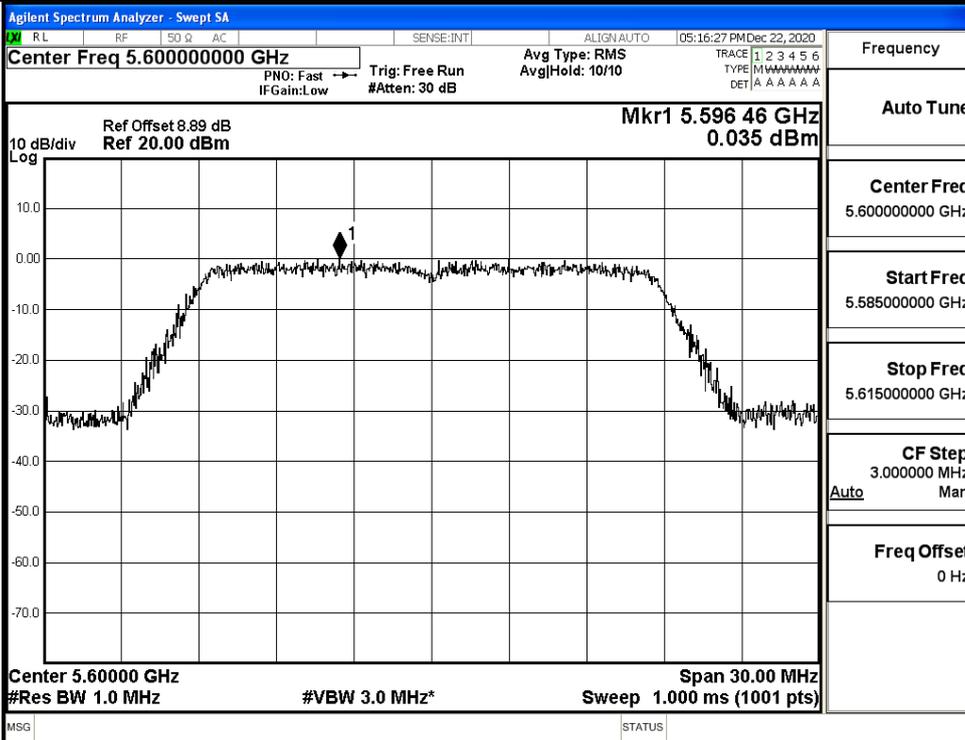


IEEE 802.11a / Channel 140 / 5700MHz

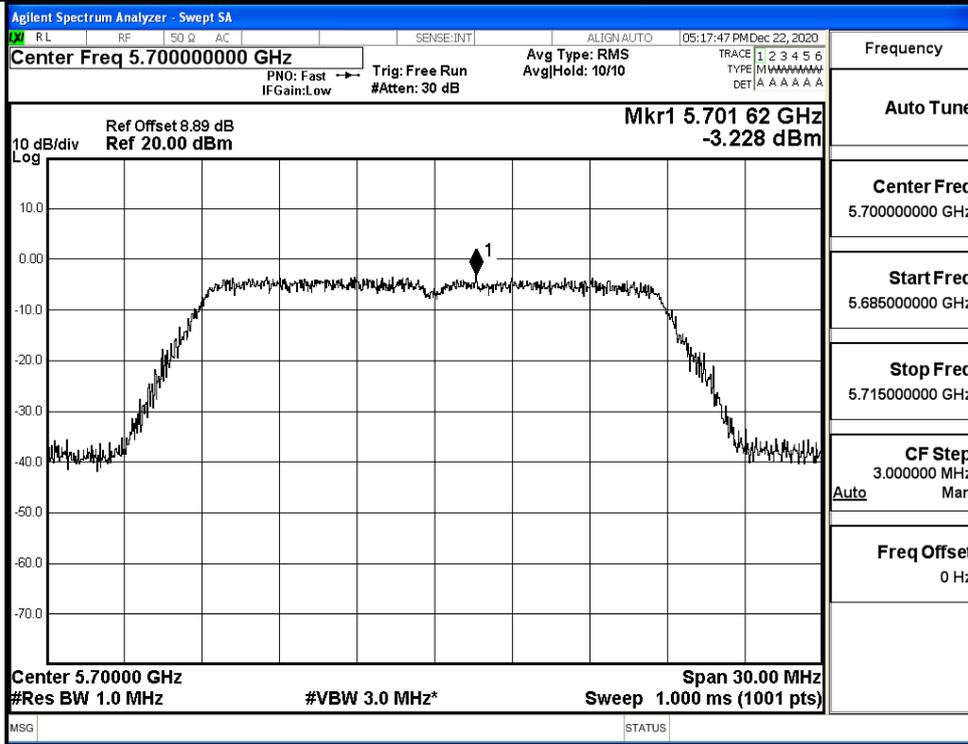
Power Spectral Density



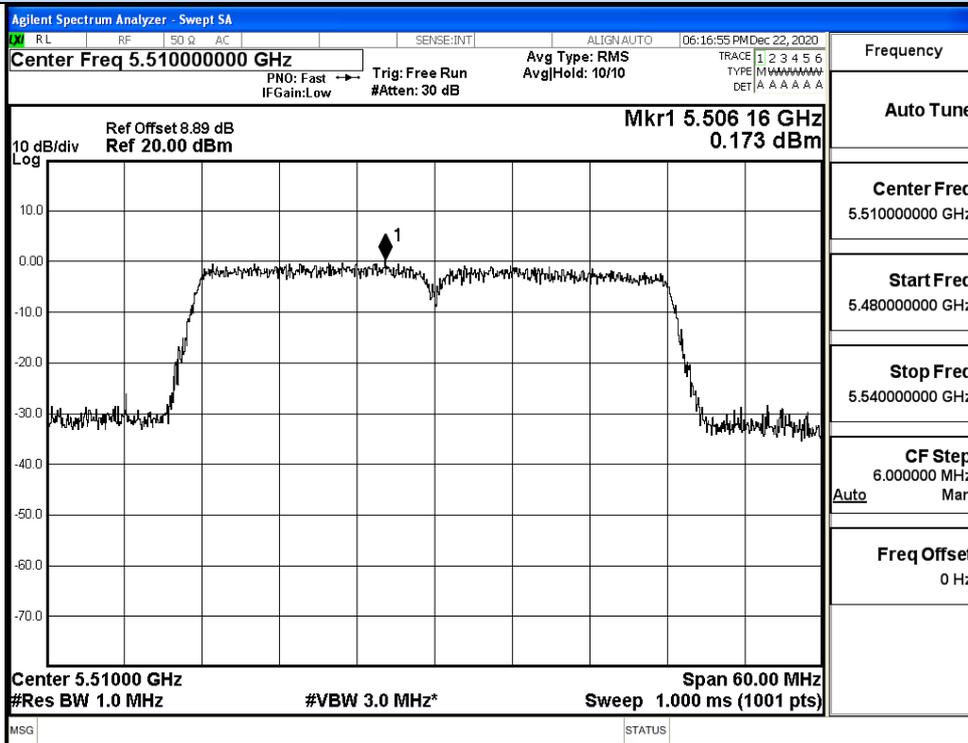
IEEE 802.11n20 / Channel 100 / 5500MHz



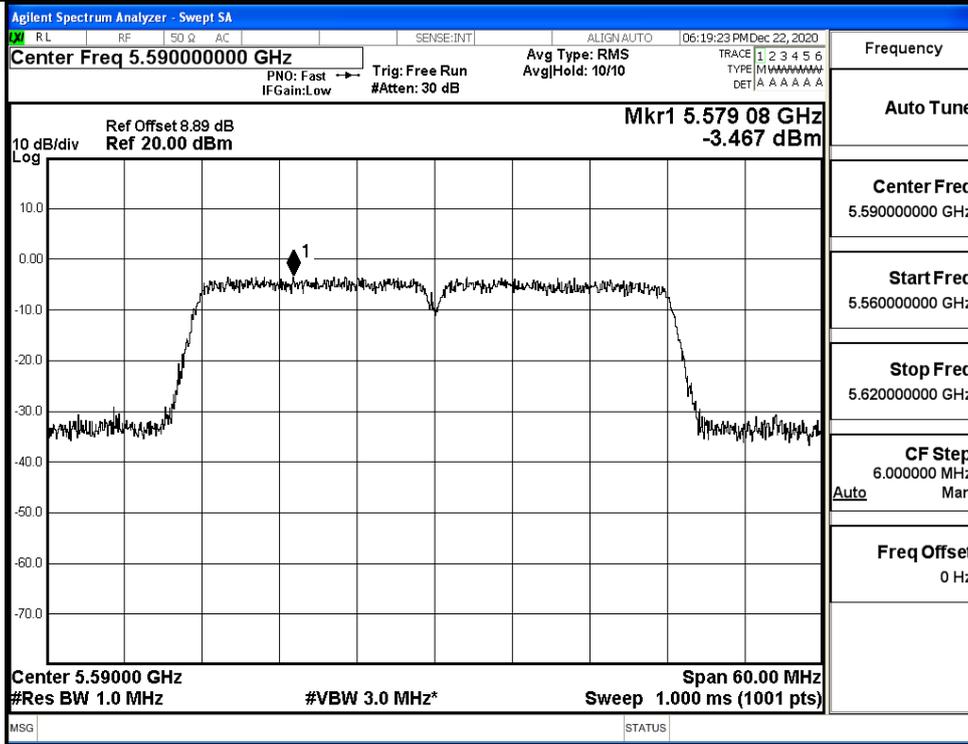
IEEE 802.11n20 / Channel 120 / 5600MHz



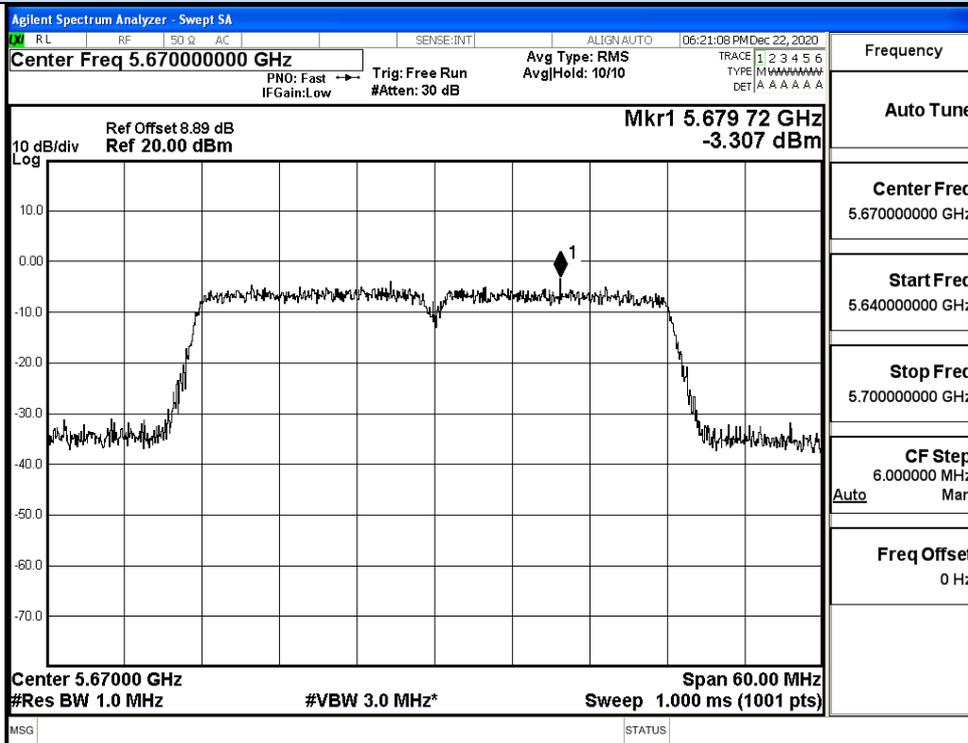
IEEE 802.11n20 / Channel 140 / 5700MHz



IEEE 802.11n40 / Channel 102 / 5510MHz

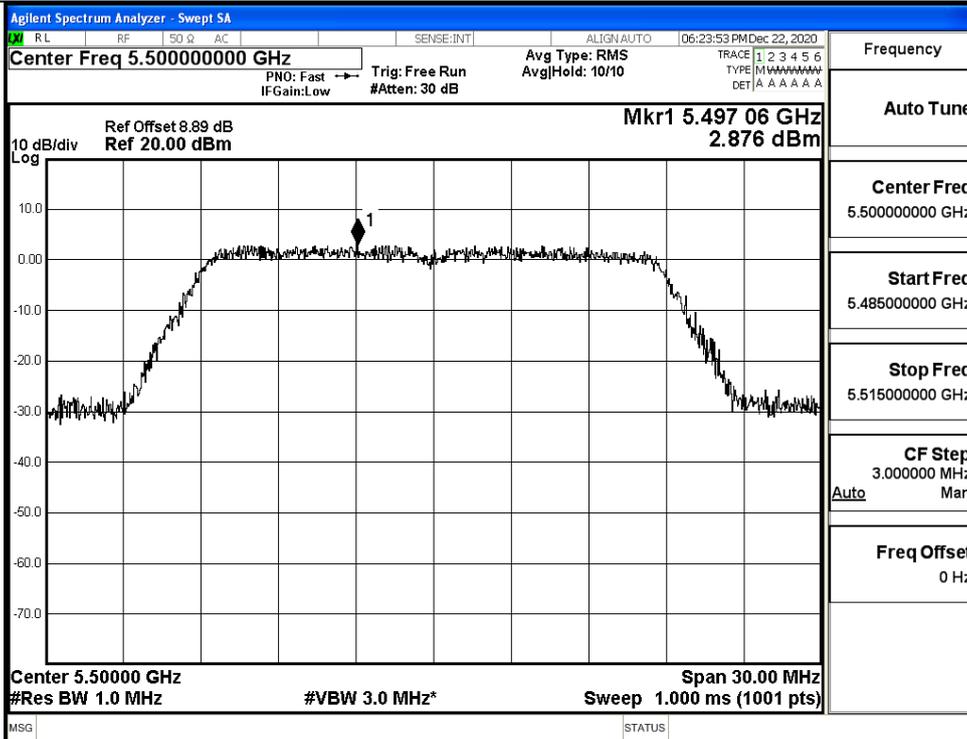


IEEE 802.11n40 / Channel 118 / 5590MHz

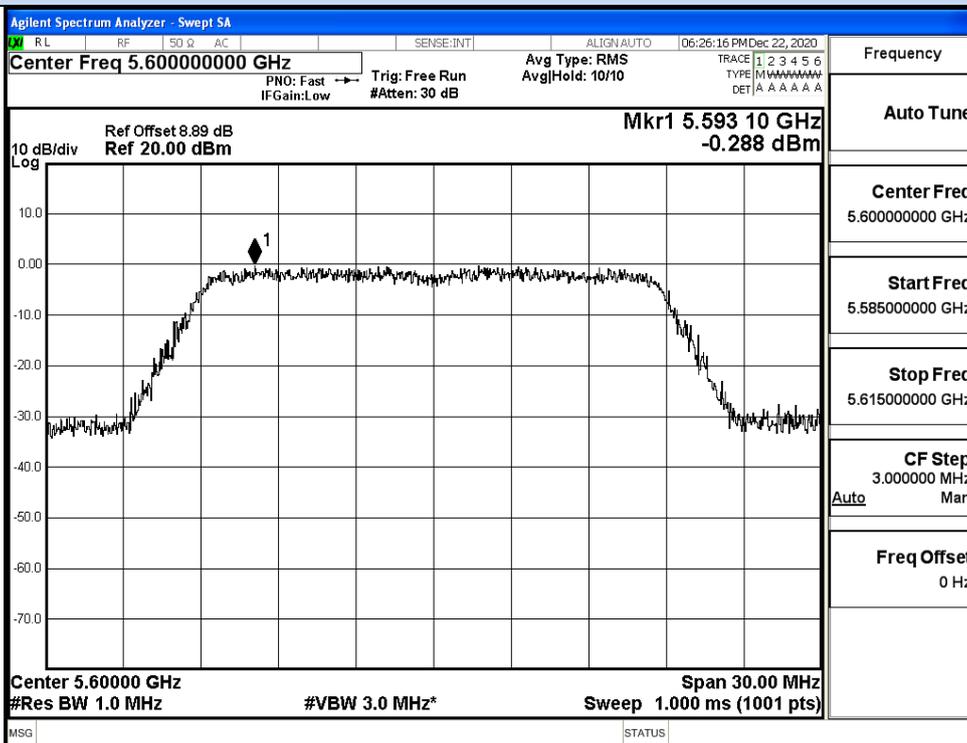


IEEE 802.11n40 / Channel 134 / 5670MHz

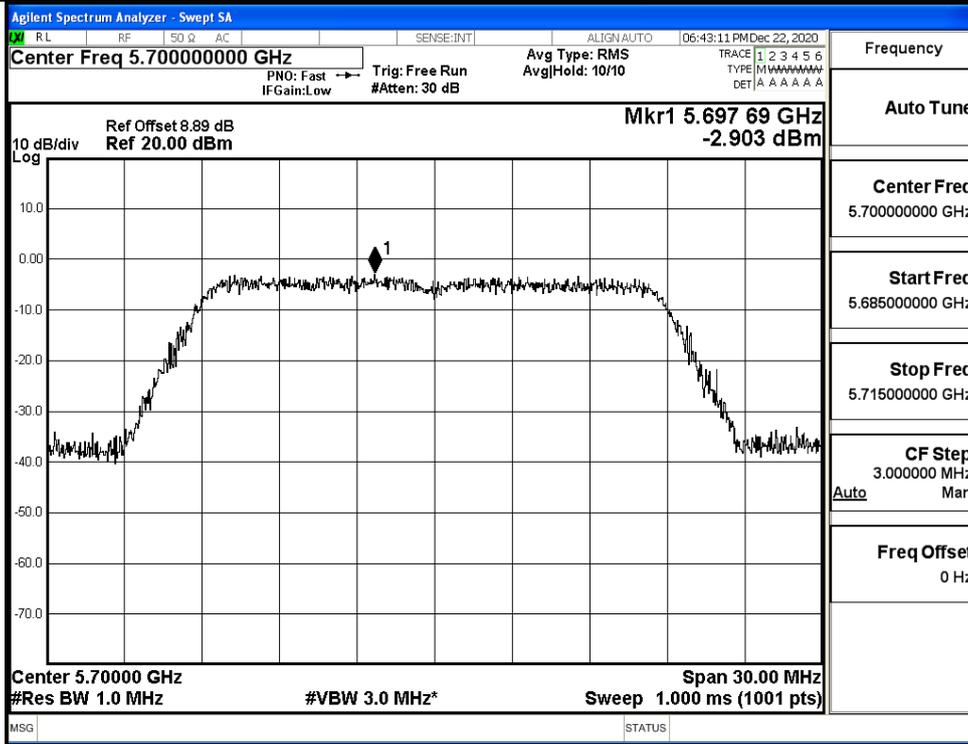
Power Spectral Density



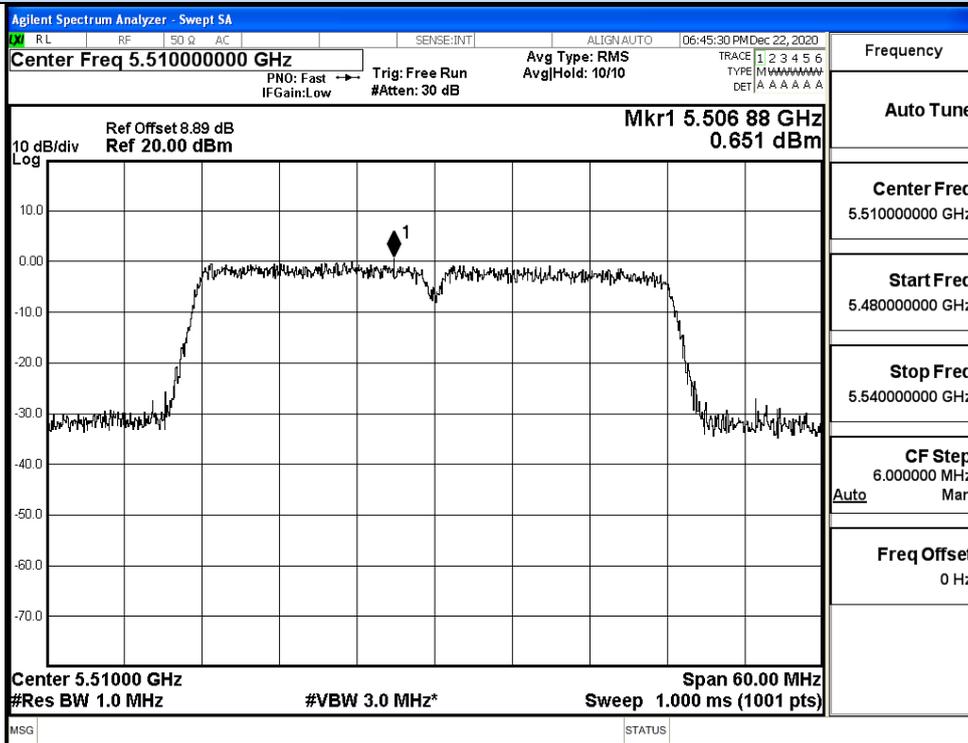
IEEE 802.11ac20 / Channel 100 / 5500MHz



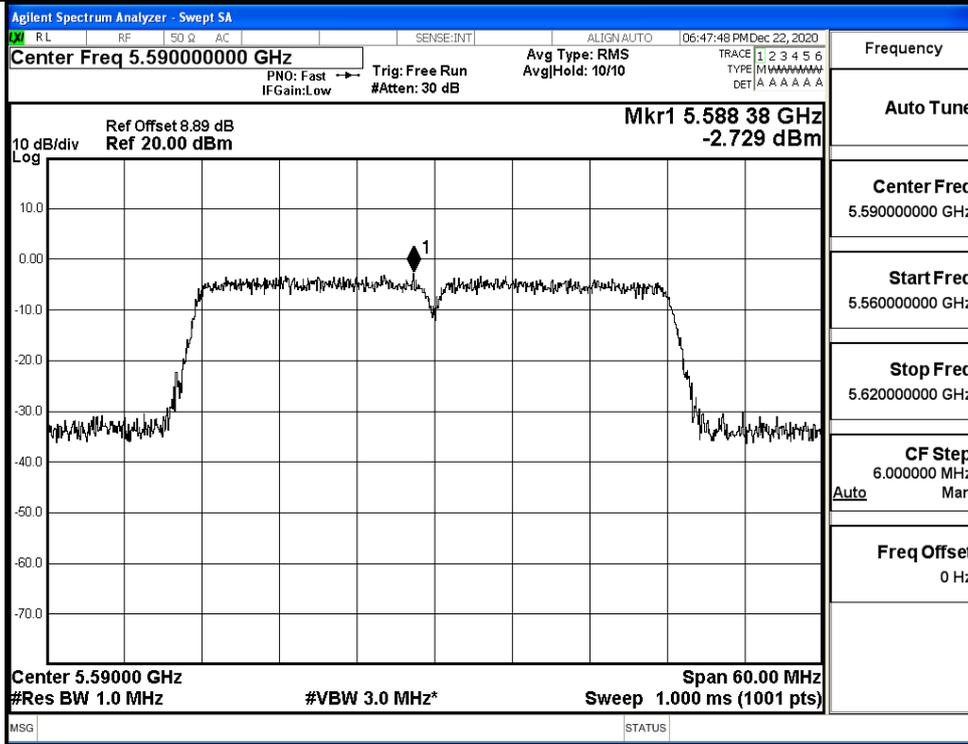
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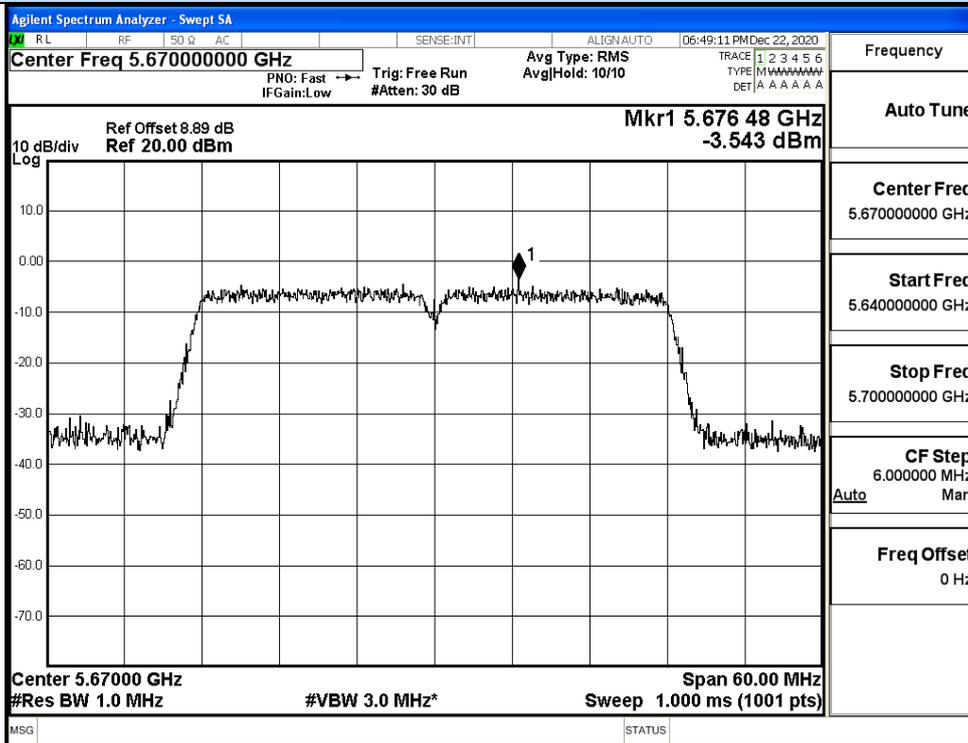
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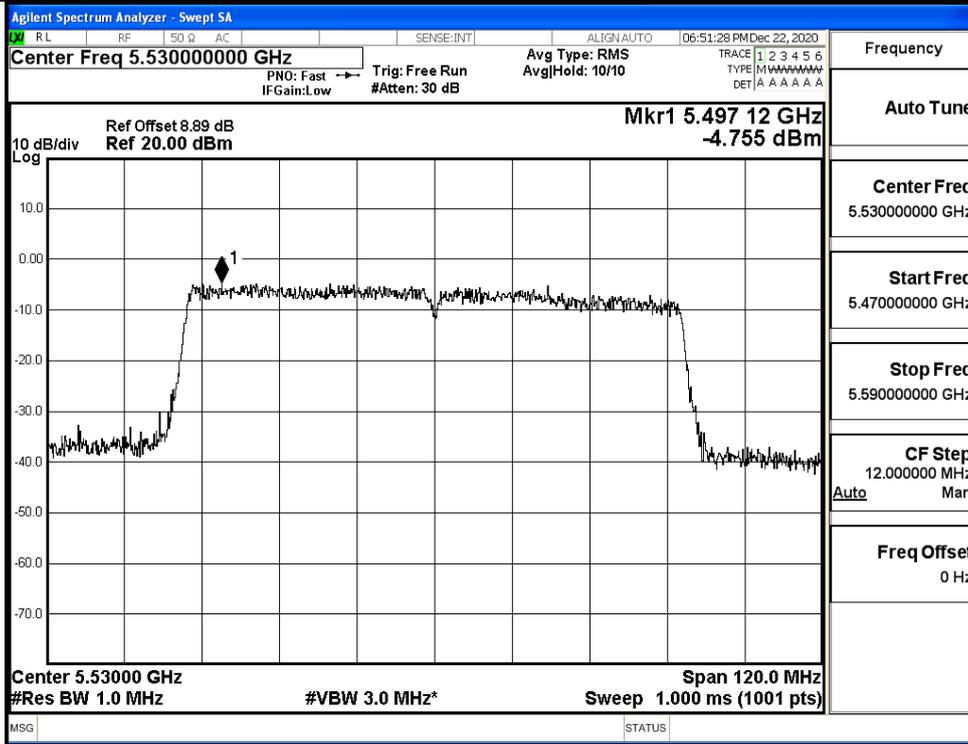
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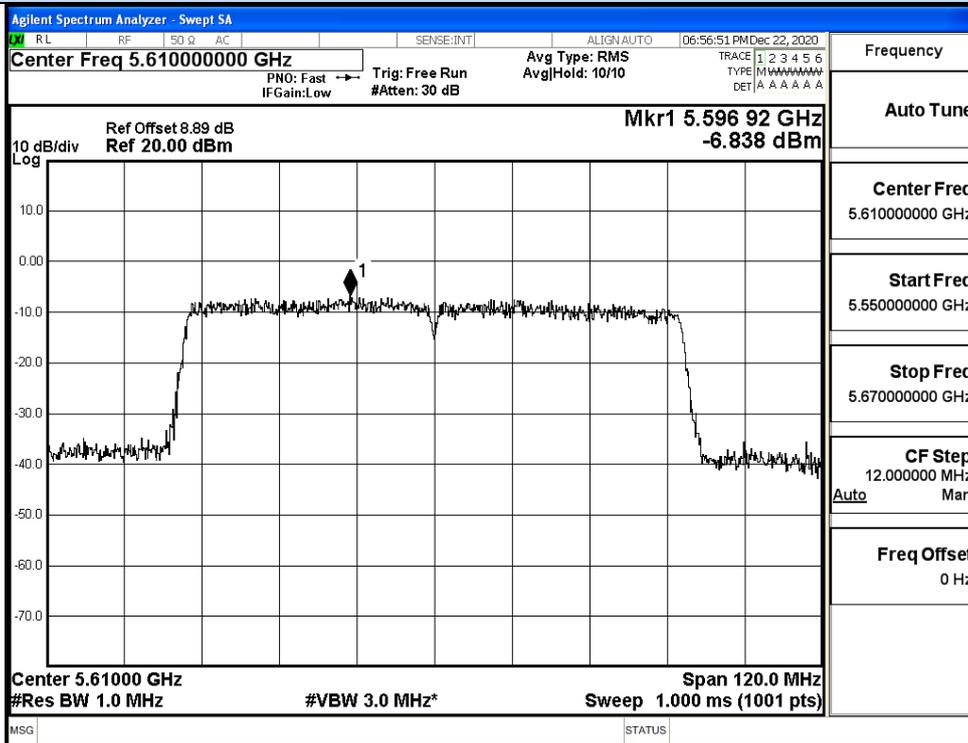
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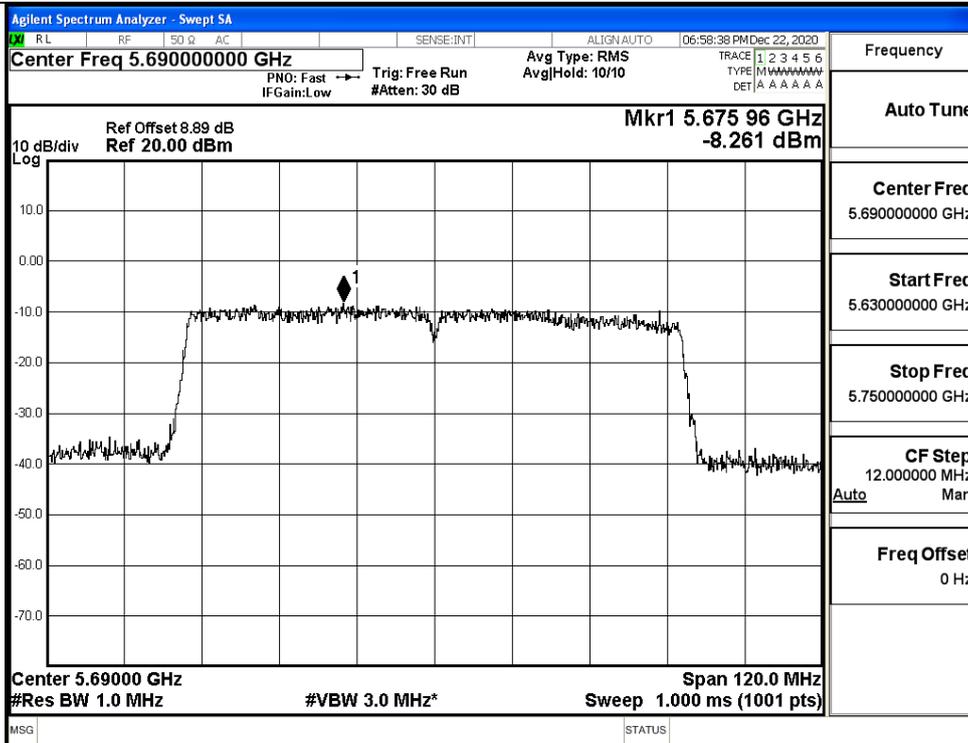
IEEE 802.11ac40 / Channel 134 / 5670MHz



IEEE 802.11ac80 / Channel 106 / 5530MHz



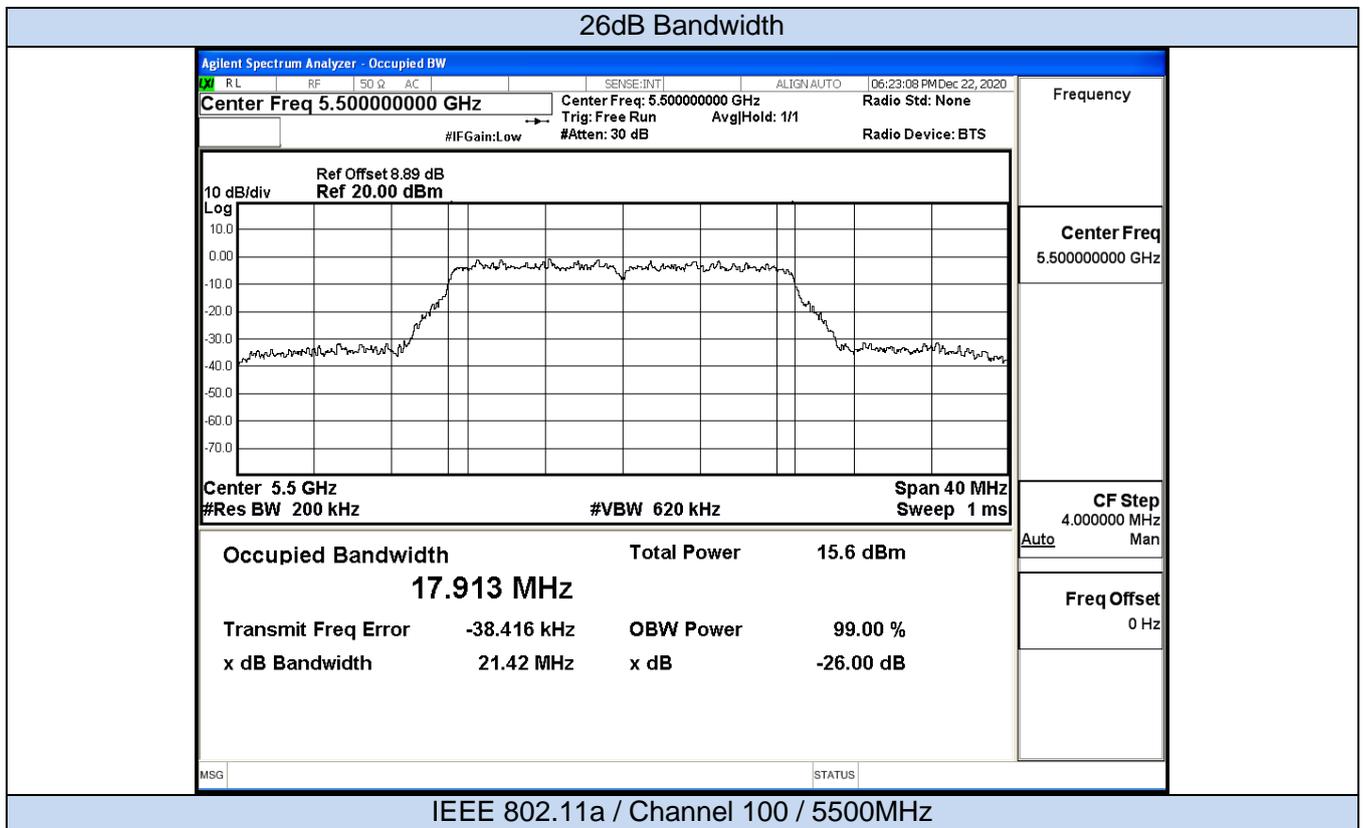
IEEE 802.11ac80 / Channel 122 / 5610MHz

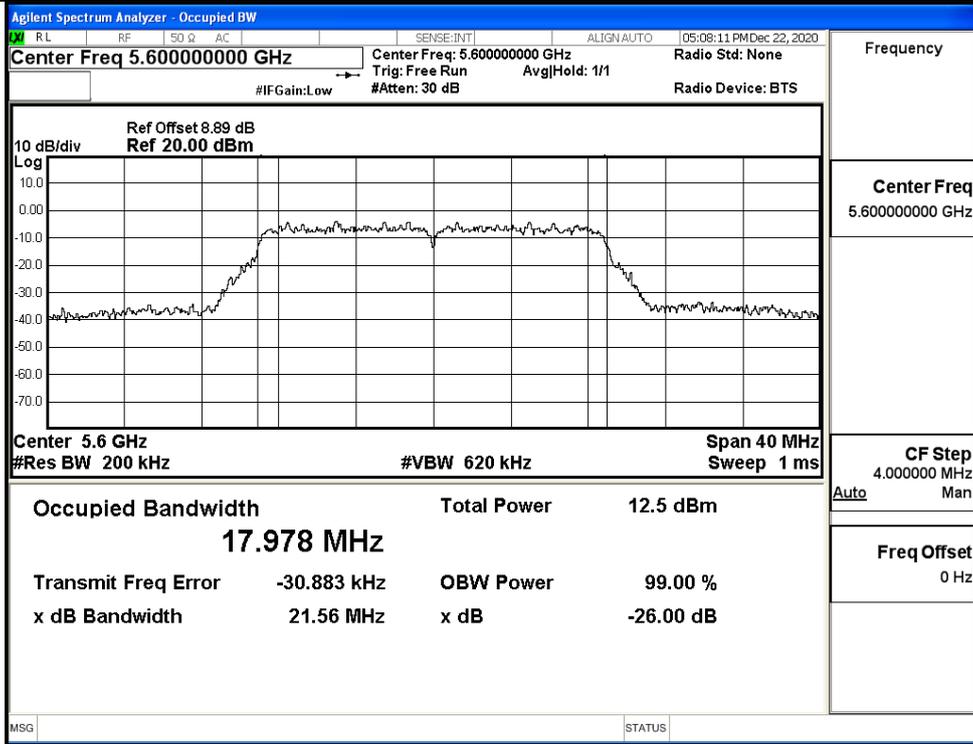


IEEE 802.11ac80 / Channel 138 / 5690MHz

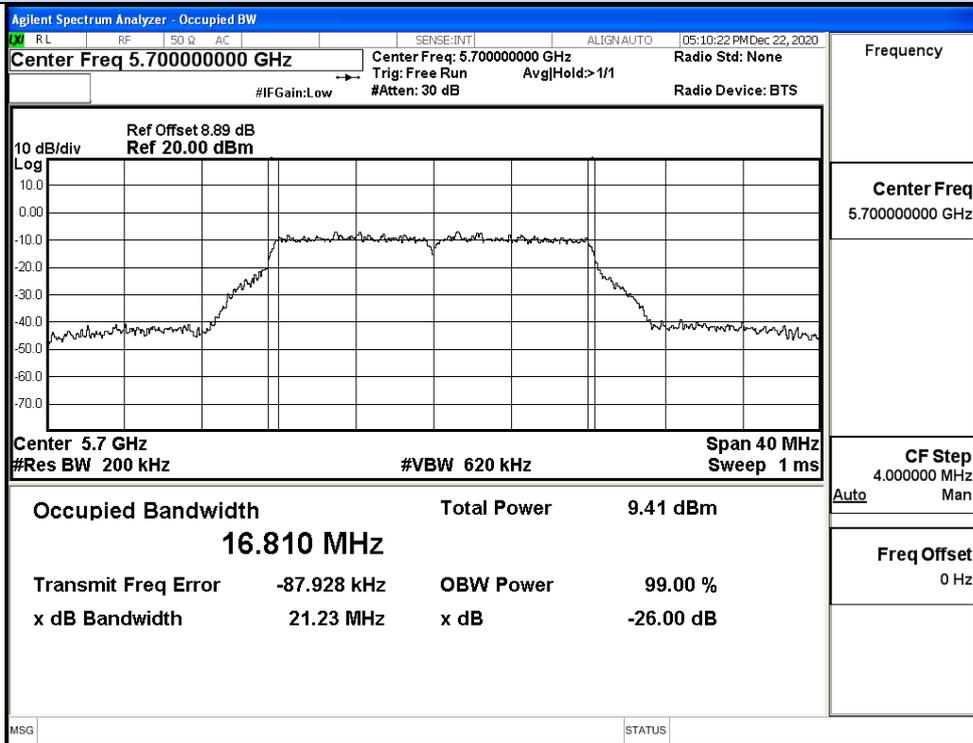
**I.4 Emission Bandwidth**

Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
11A	100	5500	21.42	No Limit	Pass
	120	5600	21.56		Pass
	140	5700	21.23		Pass
11N20 SISO	100	5500	21.40	No Limit	Pass
	120	5600	21.31		Pass
	140	5700	21.38		Pass
11N40 SISO	102	5510	40.15	No Limit	Pass
	118	5590	40.42		Pass
	134	5670	40.02		Pass
11AC20 SISO	100	5500	21.42	No Limit	Pass
	120	5600	21.70		Pass
	140	5700	21.54		Pass
11AC40 SISO	102	5510	39.95	No Limit	Pass
	118	5590	40.17		Pass
	134	5670	39.99		Pass
11AC80 SISO	106	5530	81.58	No Limit	Pass
	122	5610	82.03		Pass
	138	5690	81.33		Pass



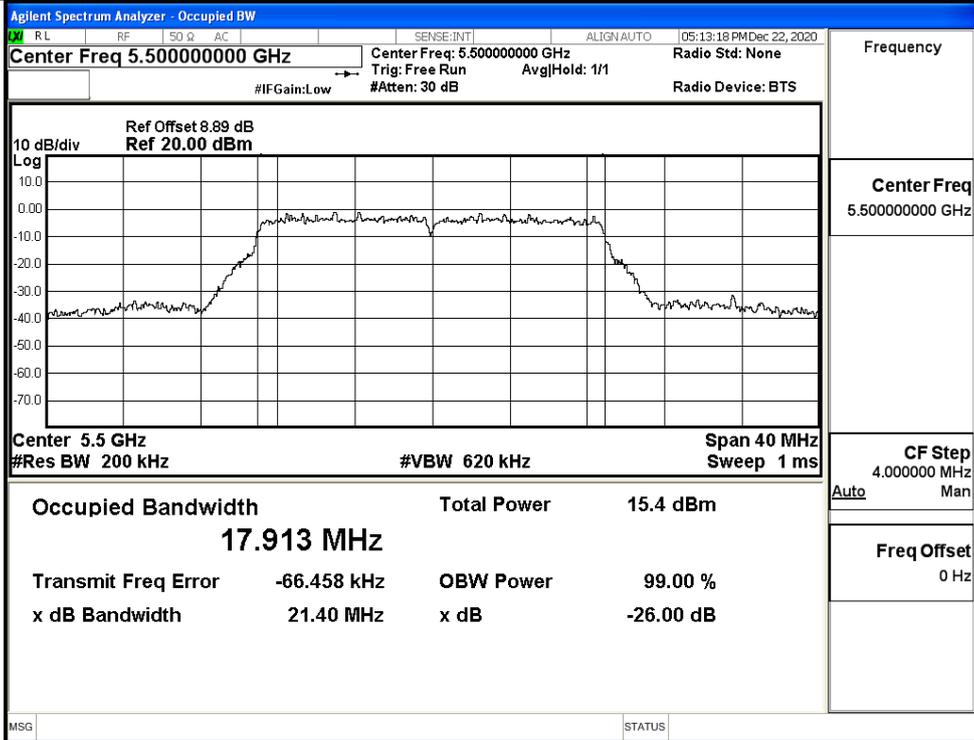


IEEE 802.11a / Channel 120 / 5600MHz

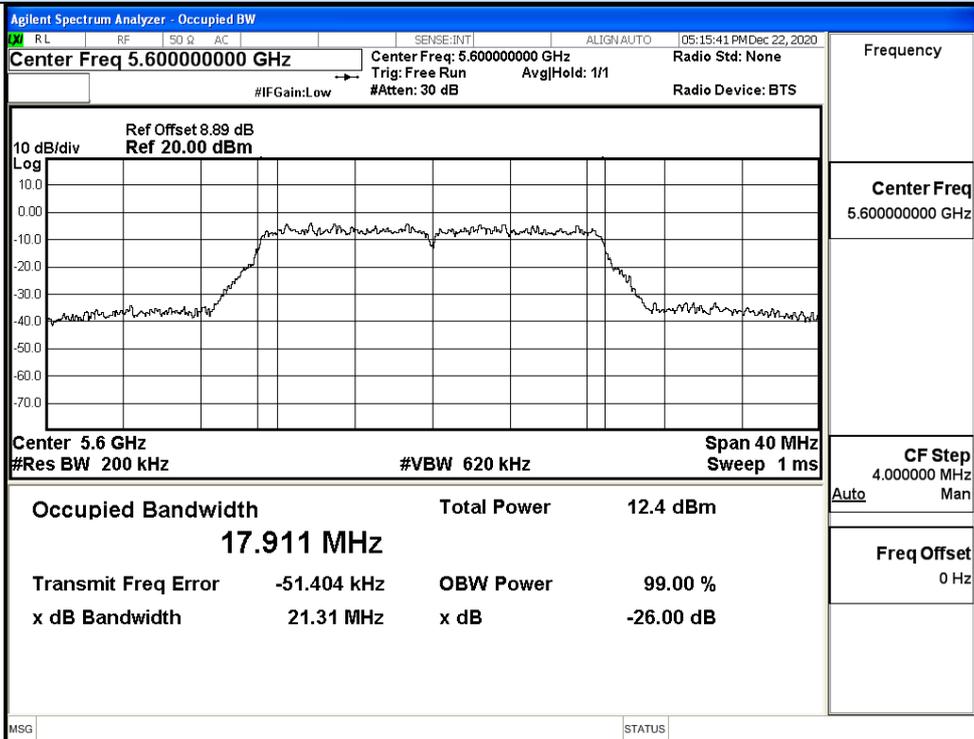


IEEE 802.11a / Channel 140 / 5700MHz

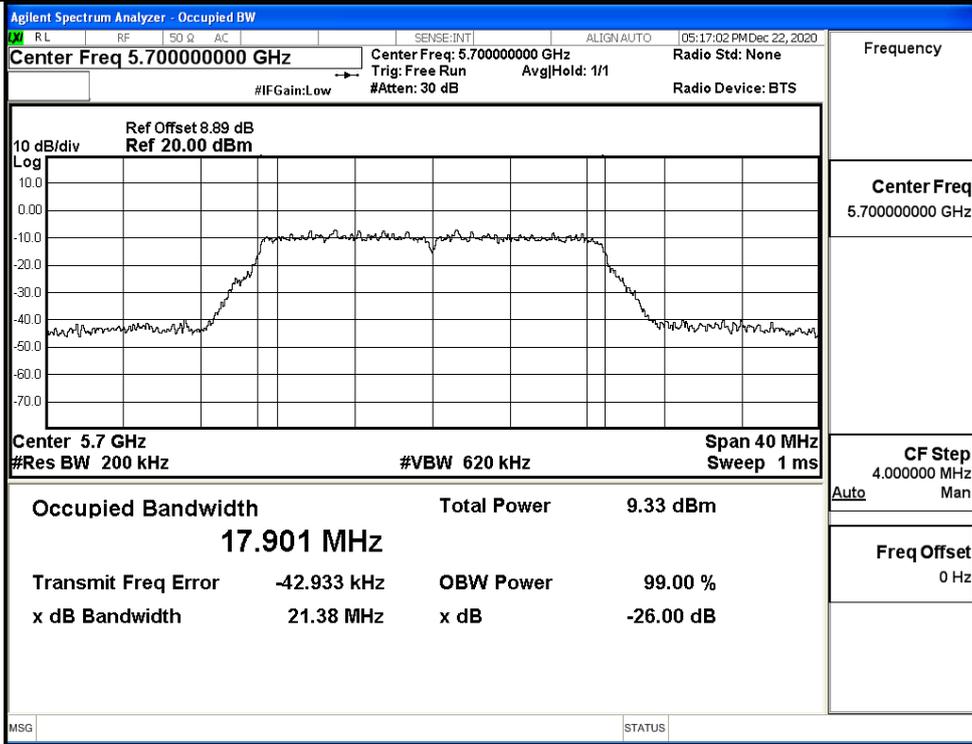
26dB Bandwidth



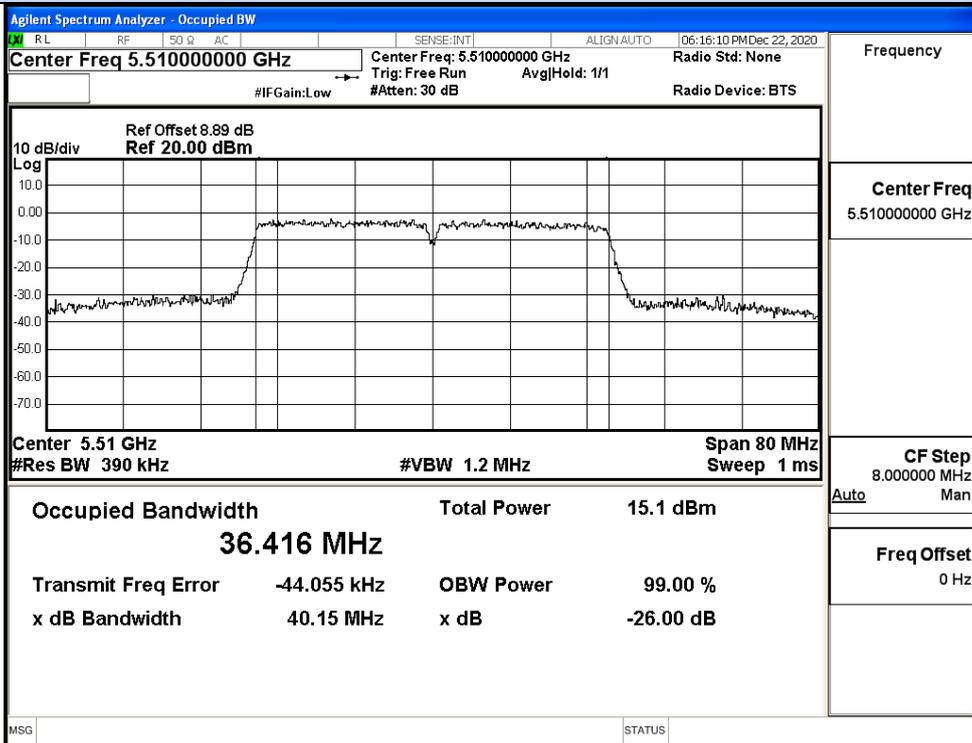
IEEE 802.11n20 / Channel 100 / 5500MHz



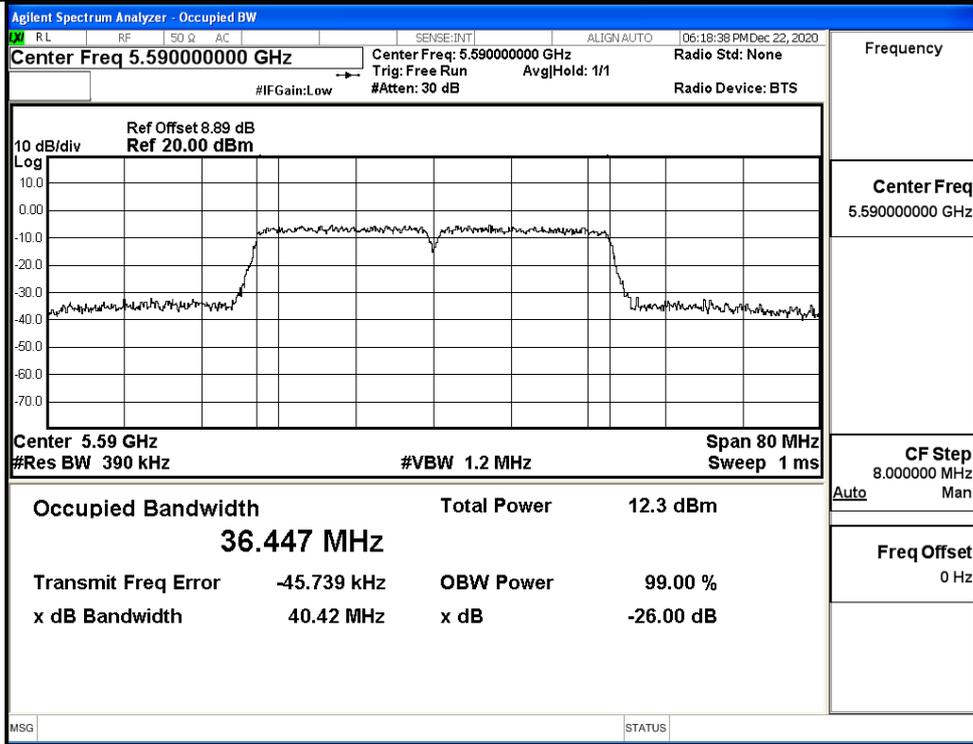
IEEE 802.11n20 / Channel 120 / 5600MHz



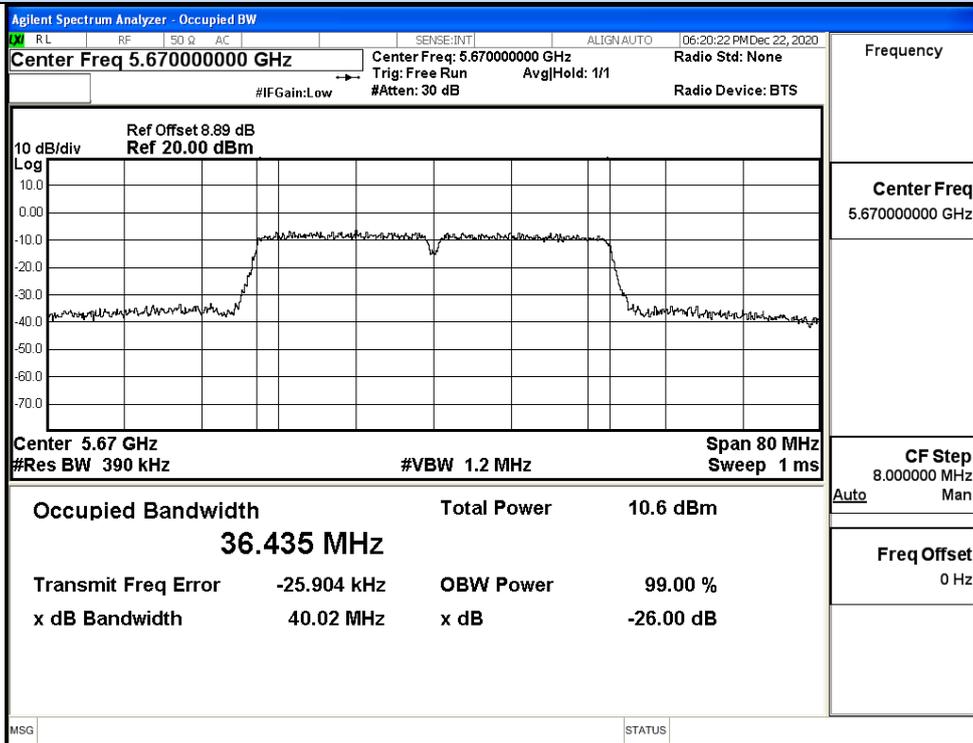
IEEE 802.11n20 / Channel 140 / 5700MHz



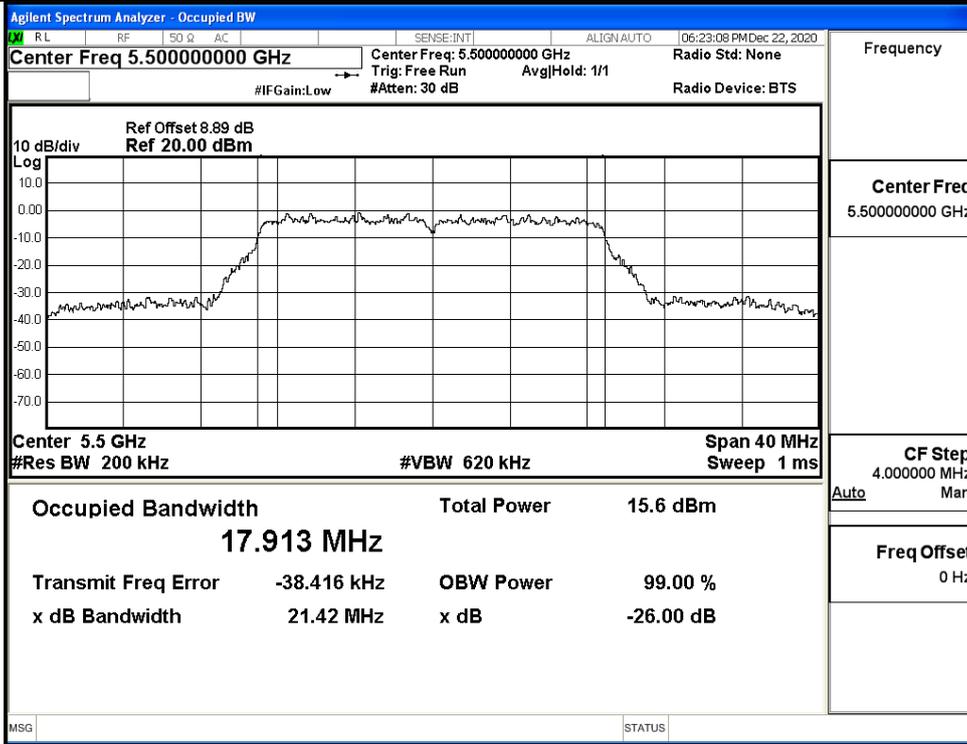
IEEE 802.11n40 / Channel 102 / 5510MHz



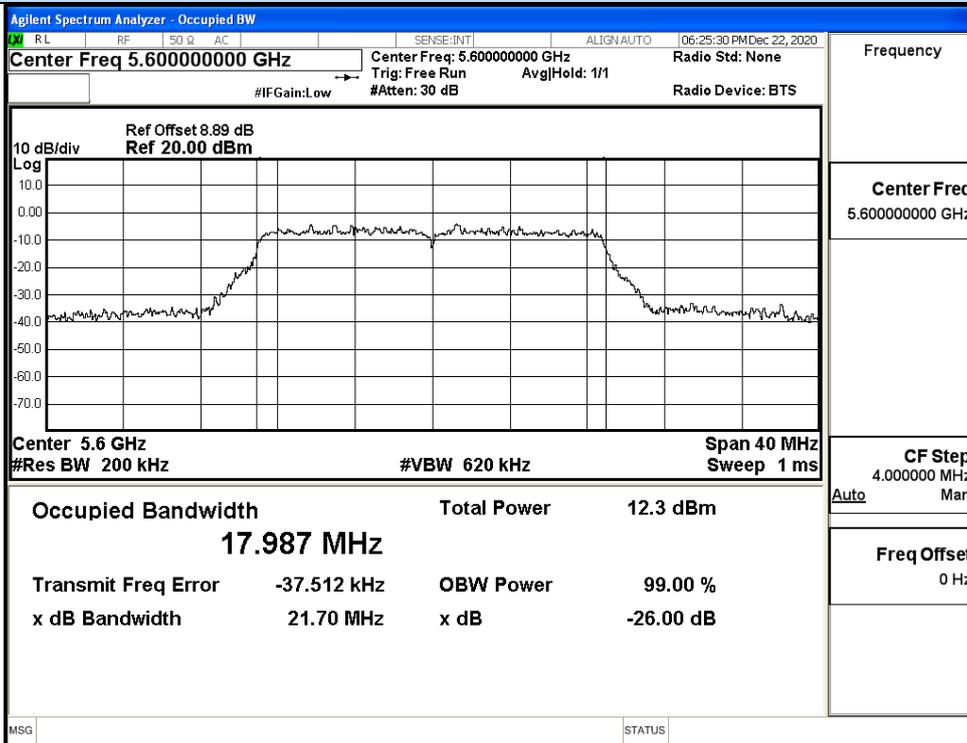
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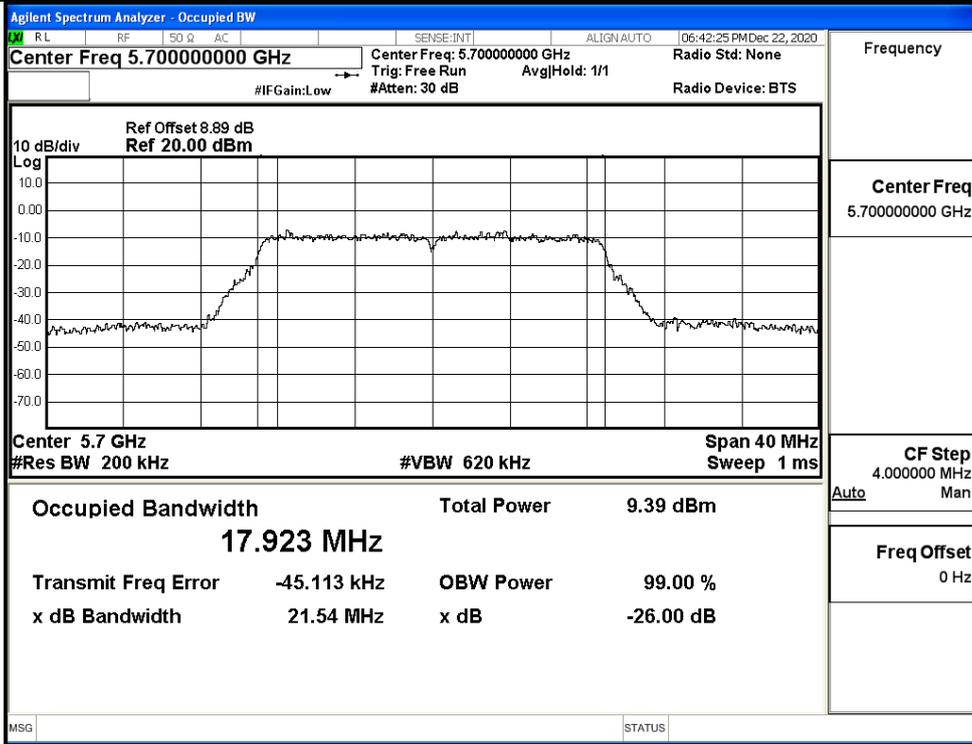
IEEE 802.11n40 / Channel 134 / 5670MHz



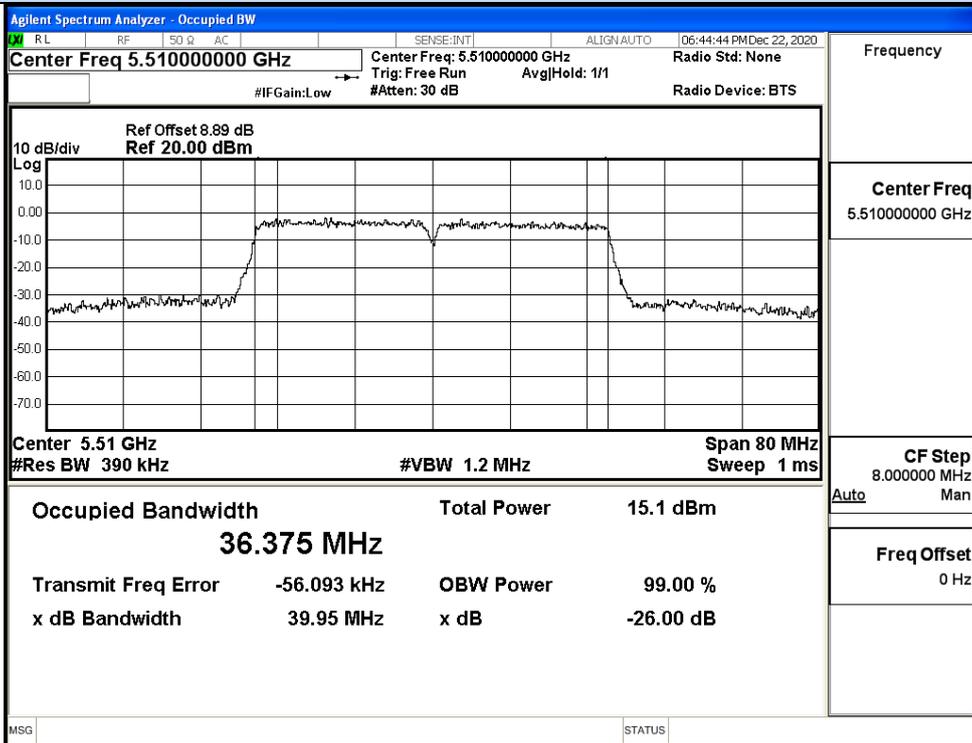
IEEE 802.11ac20 / Channel 100 / 5500MHz



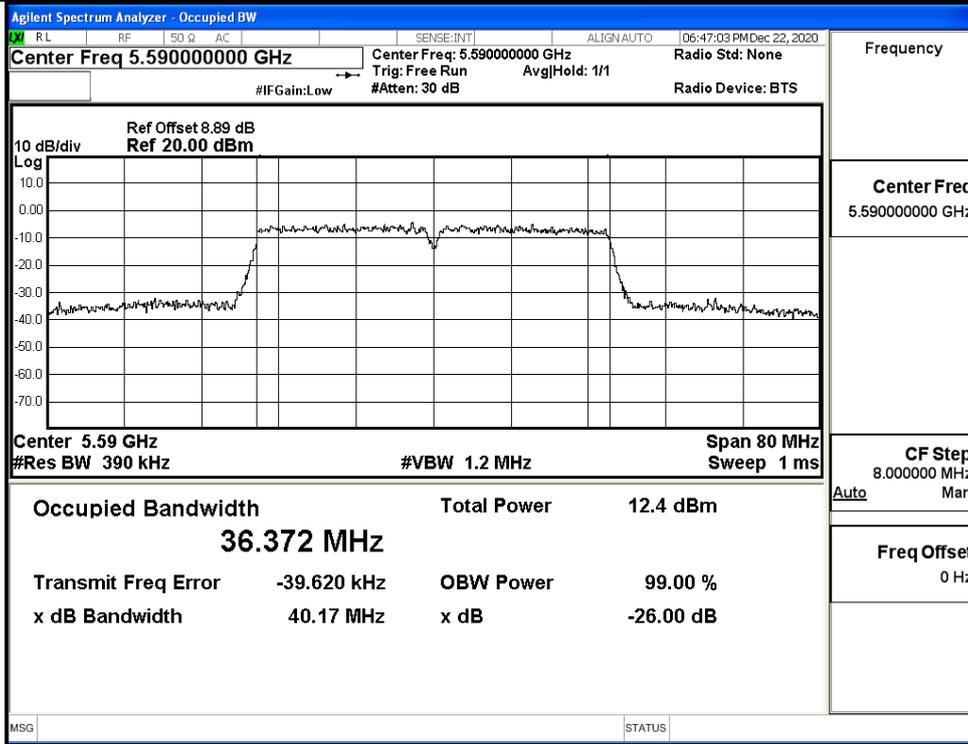
IEEE 802.11ac20 / Channel 120 / 5600MHz



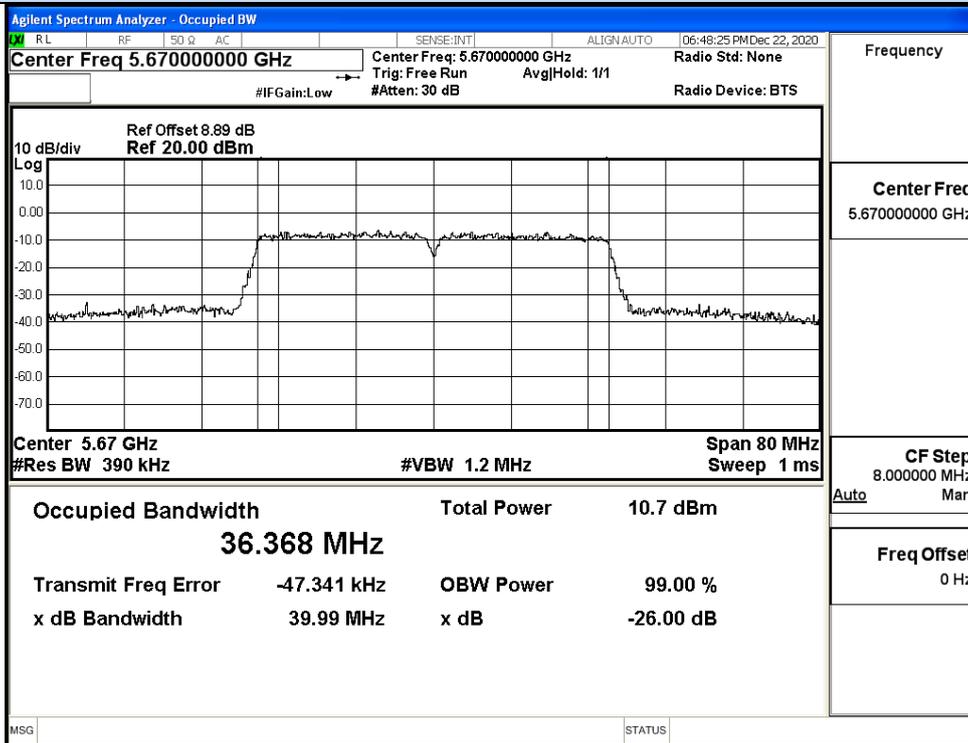
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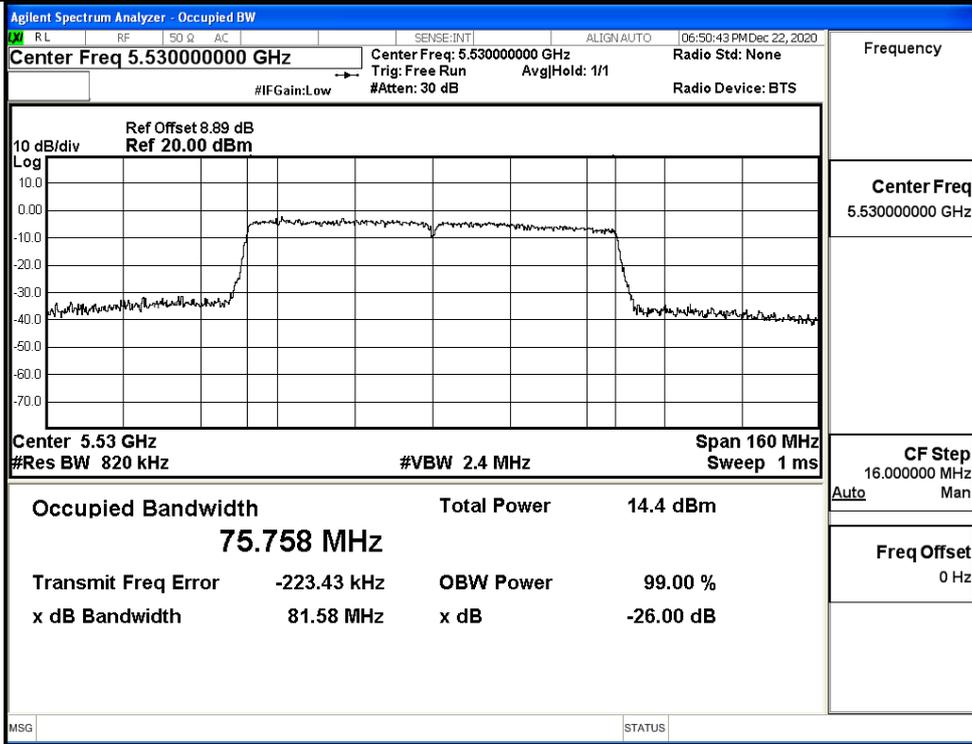
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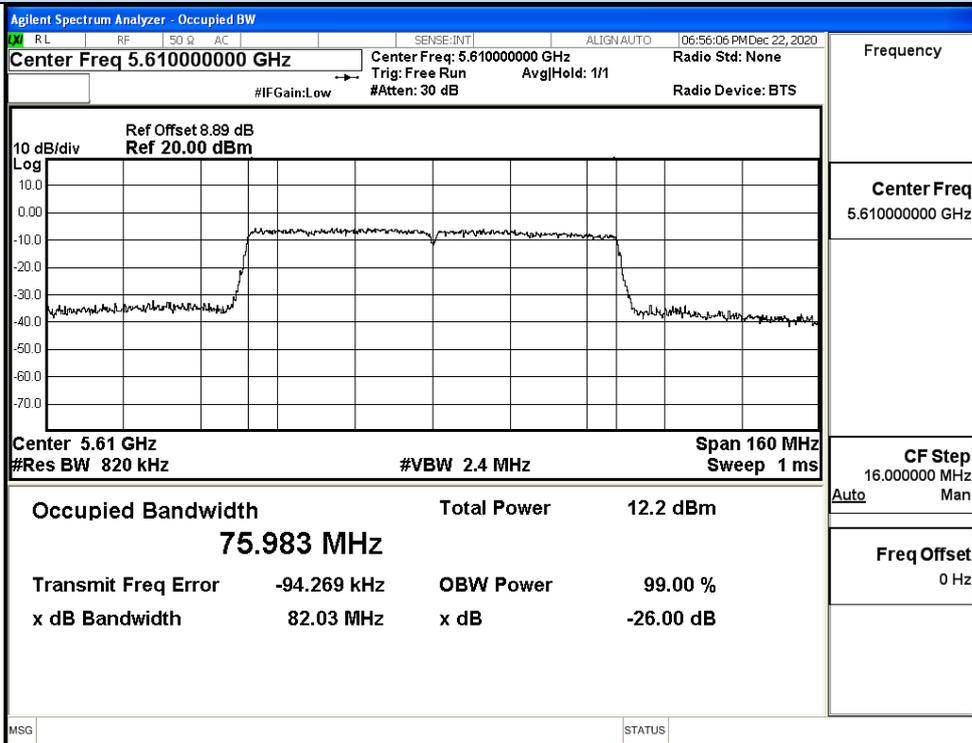
IEEE 802.11ac40 / Channel 118 / 5590MHz



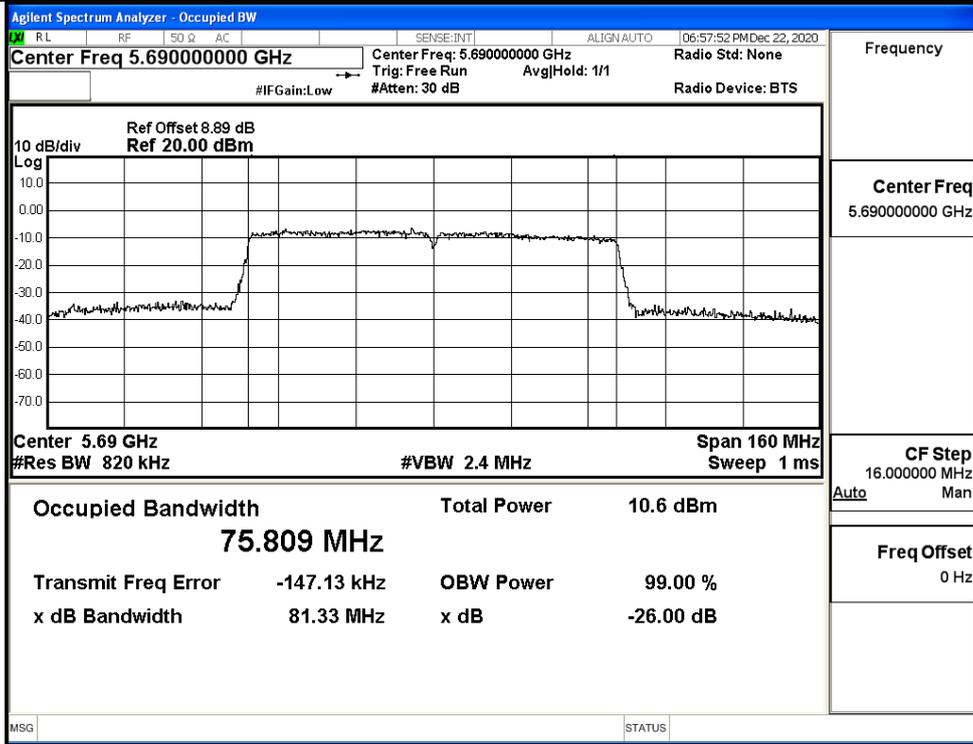
IEEE 802.11ac40 / Channel 134 / 5670MHz



IEEE 802.11ac80 / Channel 106 / 5530MHz



IEEE 802.11ac80 / Channel 122 / 5610MHz

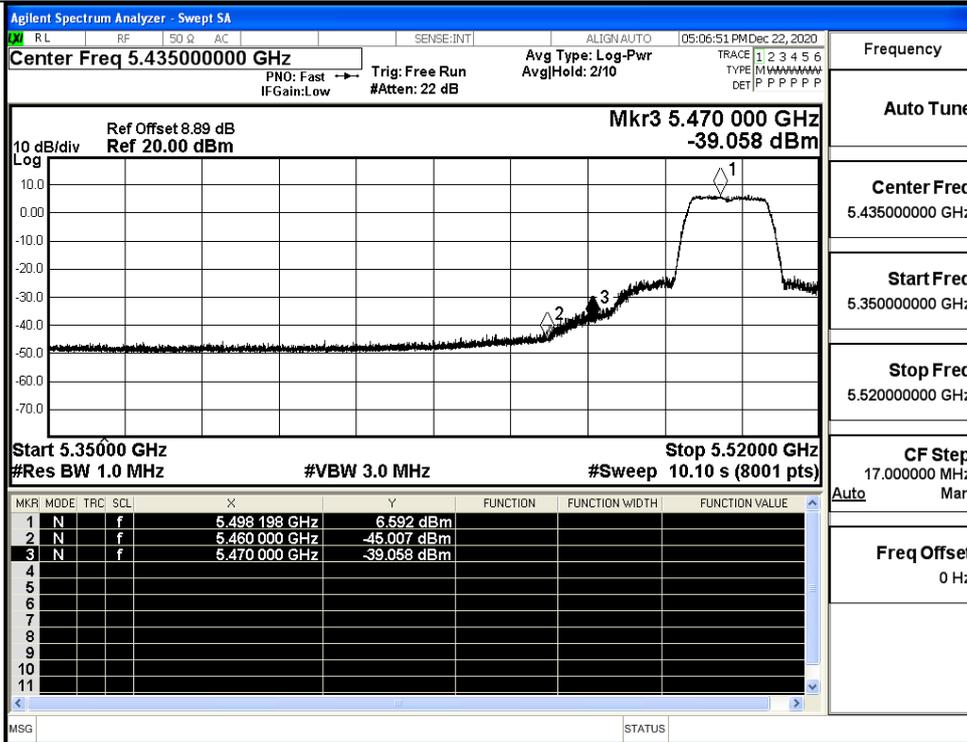


IEEE 802.11ac80 / Channel 138 / 5690MHz

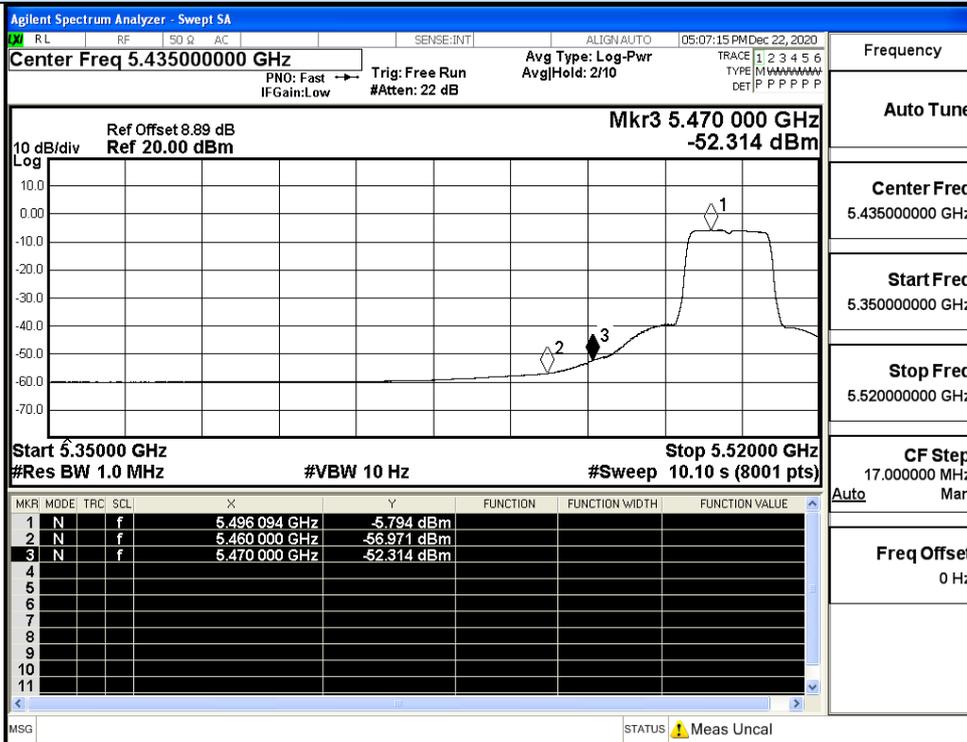
**I.5 Undesirable Emissions Measurement**

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	-45.01	2.00	0	50.22	Peak	68.20	Pass
		5460.0	-56.97	2.00	0	38.26	Average	54.00	Pass
		5470.0	-39.06	2.00	0	56.17	Peak	68.20	Pass
		5470.0	-52.31	2.00	0	42.91	Average	54.00	Pass
	140	5725.0	-43.09	2.00	0	52.14	Peak	68.20	Pass
		5725.0	-56.03	2.00	0	39.20	Average	54.00	Pass
		5735.0	-46.99	2.00	0	48.24	Peak	68.20	Pass
		5735.0	-57.94	2.00	0	37.28	Average	54.00	Pass
11N2 0 SISO	100	5460.0	-44.02	2.00	0	51.21	Peak	68.20	Pass
		5460.0	-56.81	2.00	0	38.42	Average	54.00	Pass
		5470.0	-38.04	2.00	0	57.19	Peak	68.20	Pass
		5470.0	-52.57	2.00	0	42.66	Average	54.00	Pass
	140	5725.0	-42.80	2.00	0	52.43	Peak	68.20	Pass
		5725.0	-55.24	2.00	0	39.99	Average	54.00	Pass
		5735.0	-47.31	2.00	0	47.92	Peak	68.20	Pass
		5735.0	-58.06	2.00	0	37.16	Average	54.00	Pass
11N4 0 SISO	102	5460.0	-32.52	2.00	0	62.71	Peak	68.20	Pass
		5460.0	-48.78	2.00	0	46.45	Average	54.00	Pass
		5470.0	-29.16	2.00	0	66.07	Peak	68.20	Pass
		5470.0	-43.17	2.00	0	52.05	Average	54.00	Pass
	134	5725.0	-46.33	2.00	0	48.90	Peak	68.20	Pass
		5725.0	-56.62	2.00	0	38.61	Average	54.00	Pass
		5735.0	-47.05	2.00	0	48.18	Peak	68.20	Pass
		5735.0	-57.31	2.00	0	37.92	Average	54.00	Pass
11A C20 SIS O	100	5460.0	-43.57	2.00	0	51.66	Peak	68.20	Pass
		5460.0	-56.09	2.00	0	39.14	Average	54.00	Pass
		5470.0	-38.60	2.00	0	56.63	Peak	68.20	Pass
		5470.0	-52.21	2.00	0	43.02	Average	54.00	Pass
	140	5725.0	-41.61	2.00	0	53.61	Peak	68.20	Pass
		5725.0	-54.90	2.00	0	40.32	Average	54.00	Pass
		5735.0	-46.61	2.00	0	48.62	Peak	68.20	Pass
		5735.0	-58.20	2.00	0	37.02	Average	54.00	Pass
11A C40 SIS O	102	5460.0	-34.18	2.00	0	61.05	Peak	68.20	Pass
		5460.0	-49.12	2.00	0	46.11	Average	54.00	Pass
		5470.0	-28.54	2.00	0	66.69	Peak	68.20	Pass
		5470.0	-43.40	2.00	0	51.83	Average	54.00	Pass
	134	5725.0	-46.96	2.00	0	48.27	Peak	68.20	Pass
		5725.0	-56.59	2.00	0	38.64	Average	54.00	Pass
		5735.0	-46.88	2.00	0	48.35	Peak	68.20	Pass
		5735.0	-57.28	2.00	0	37.94	Average	54.00	Pass
11A C80 SIS O	106	5460.0	-32.34	2.00	0	62.89	Peak	68.20	Pass
		5460.0	-46.10	2.00	0	49.13	Average	54.00	Pass
		5470.0	-35.05	2.00	0	60.18	Peak	68.20	Pass
		5470.0	-47.09	2.00	0	48.14	Average	54.00	Pass
	138	5725.0	-57.98	2.00	0	37.25	Peak	68.20	Pass
		5725.0	-68.75	2.00	0	26.48	Average	54.00	Pass
		5735.0	-58.06	2.00	0	37.17	Peak	68.20	Pass
		5735.0	-68.74	2.00	0	26.49	Average	54.00	Pass

Undesirable Emissions Measurement

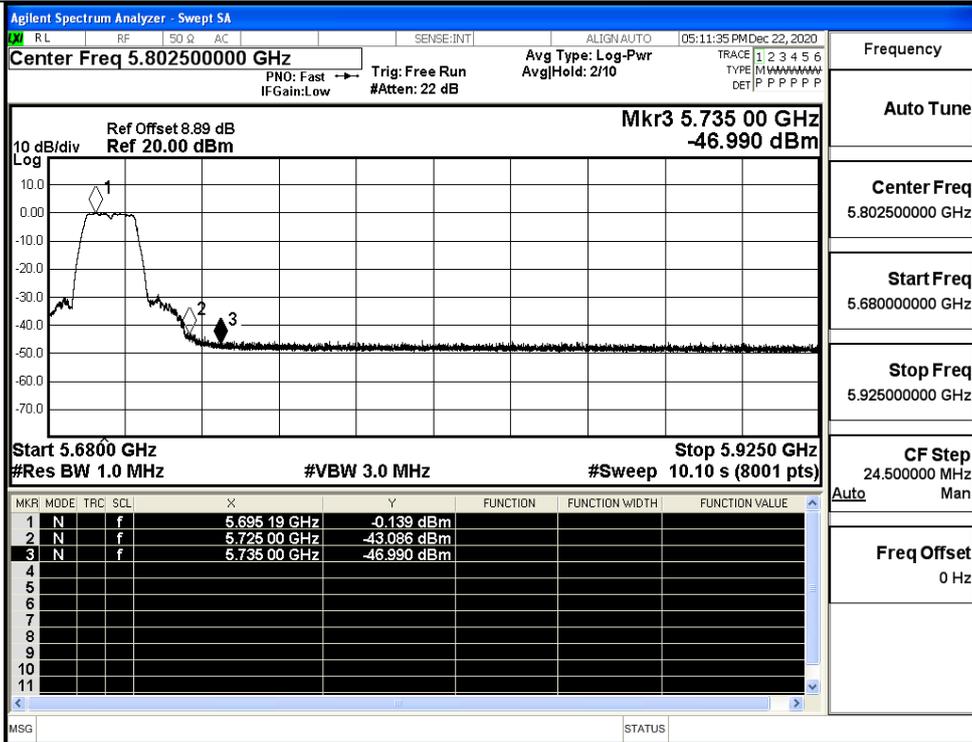


IEEE 802.11a / Channel 100 / 5500MHz / Peak

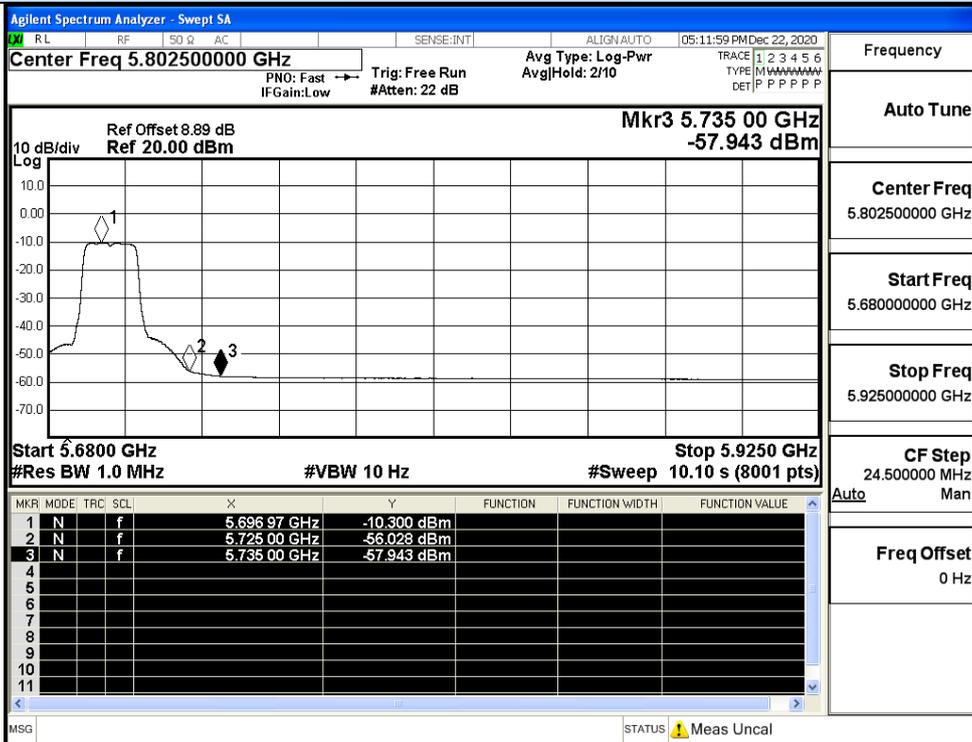


IEEE 802.11a / Channel 100 / 5500MHz / Average

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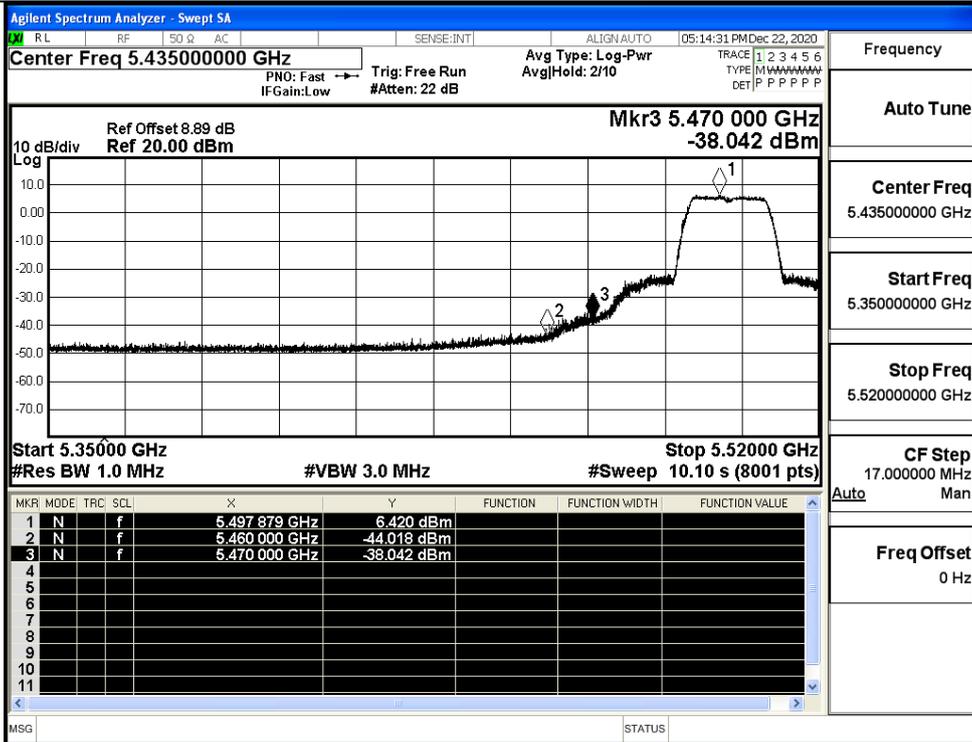


IEEE 802.11a / Channel 140 / 5700MHz / Peak

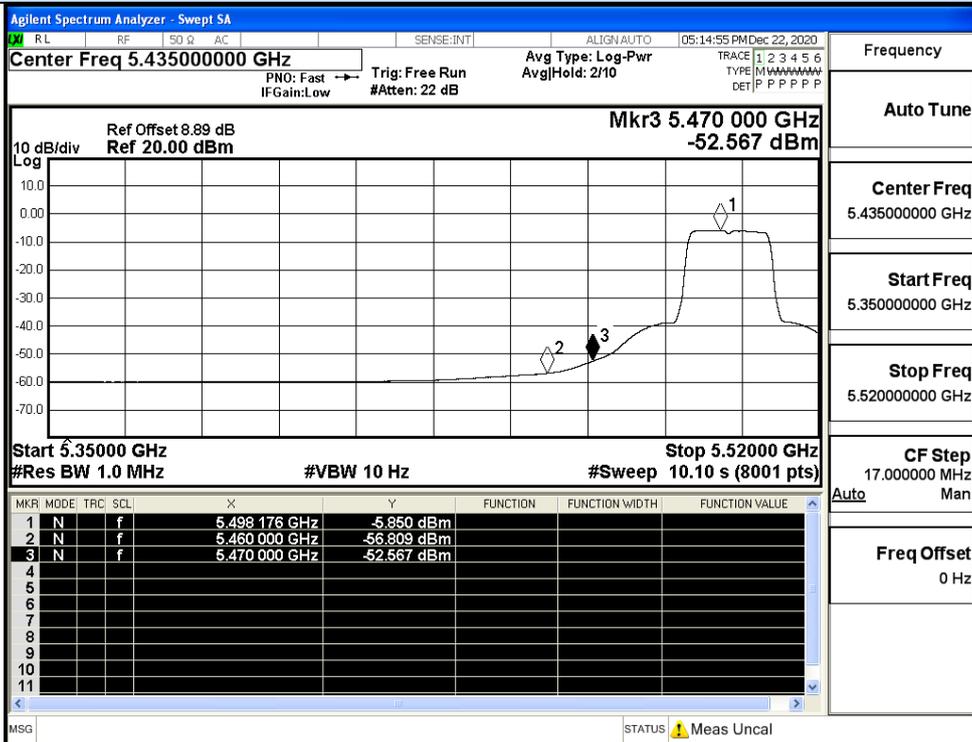


IEEE 802.11a / Channel 140 / 5700MHz / Average

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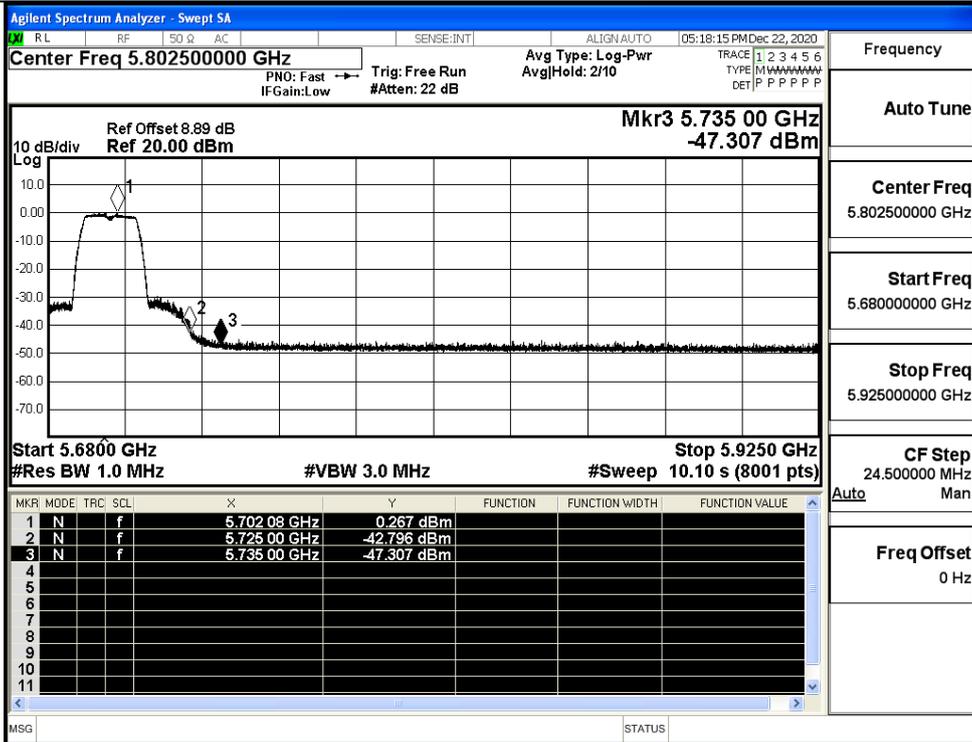


IEEE 802.11n20 / Channel 100 / 5500MHz / Peak

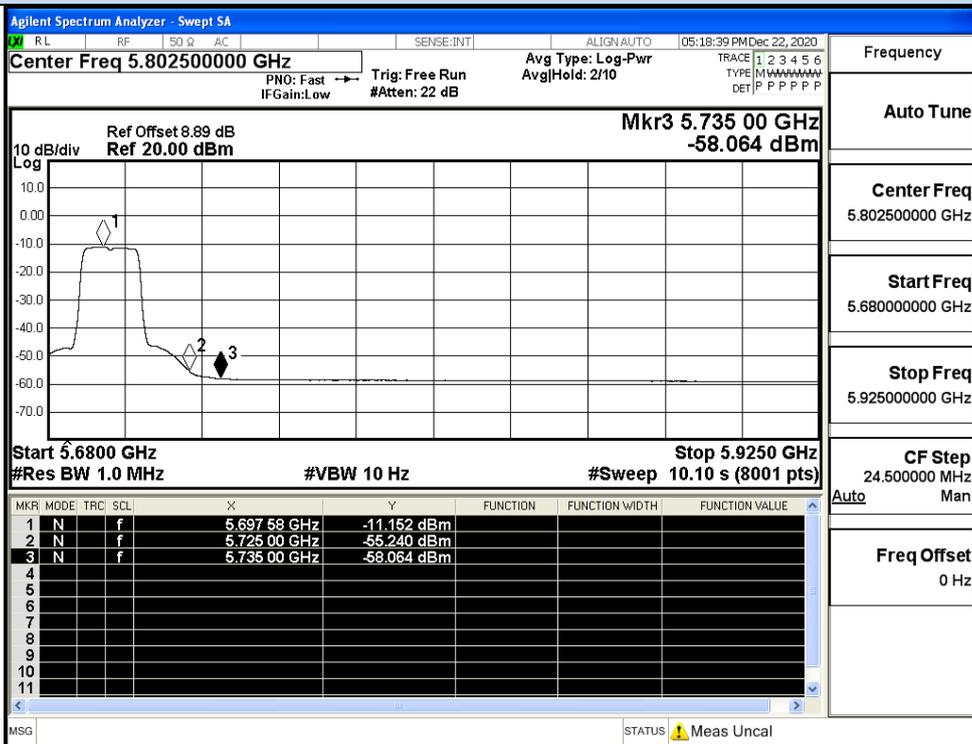


IEEE 802.11n20 / Channel 100 / 5500MHz / Average

Undesirable Emissions Measurement

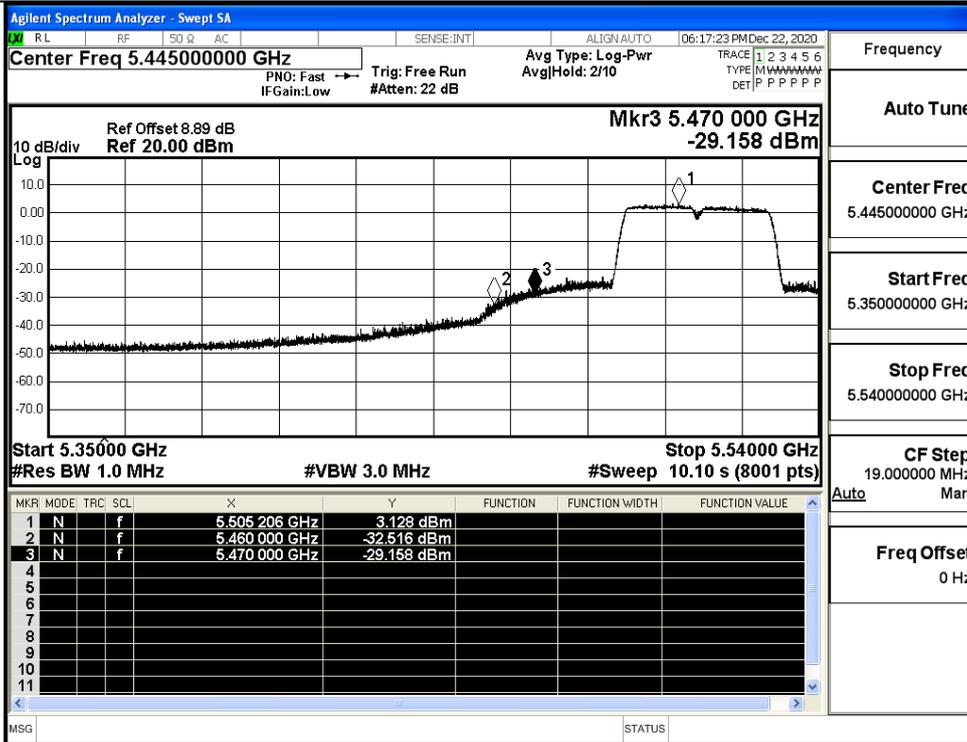


IEEE 802.11n20 / Channel 140 / 5700MHz / Peak

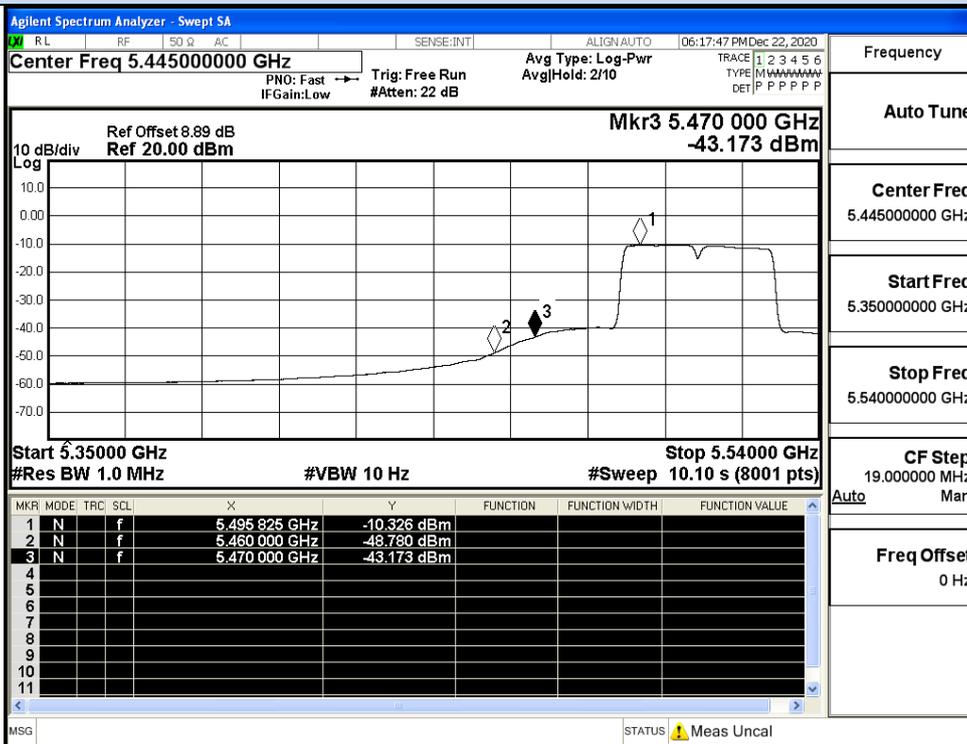


IEEE 802.11n20 / Channel 140 / 5700MHz / Average

Undesirable Emissions Measurement

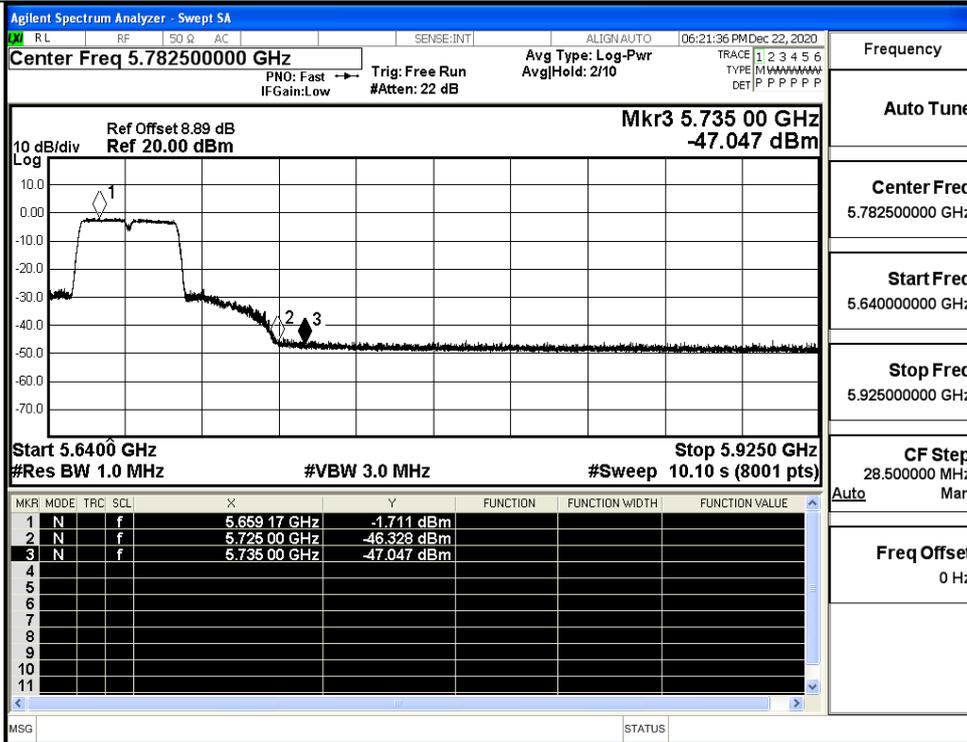


IEEE 802.11n40 / Channel 102 / 5510MHz / Peak

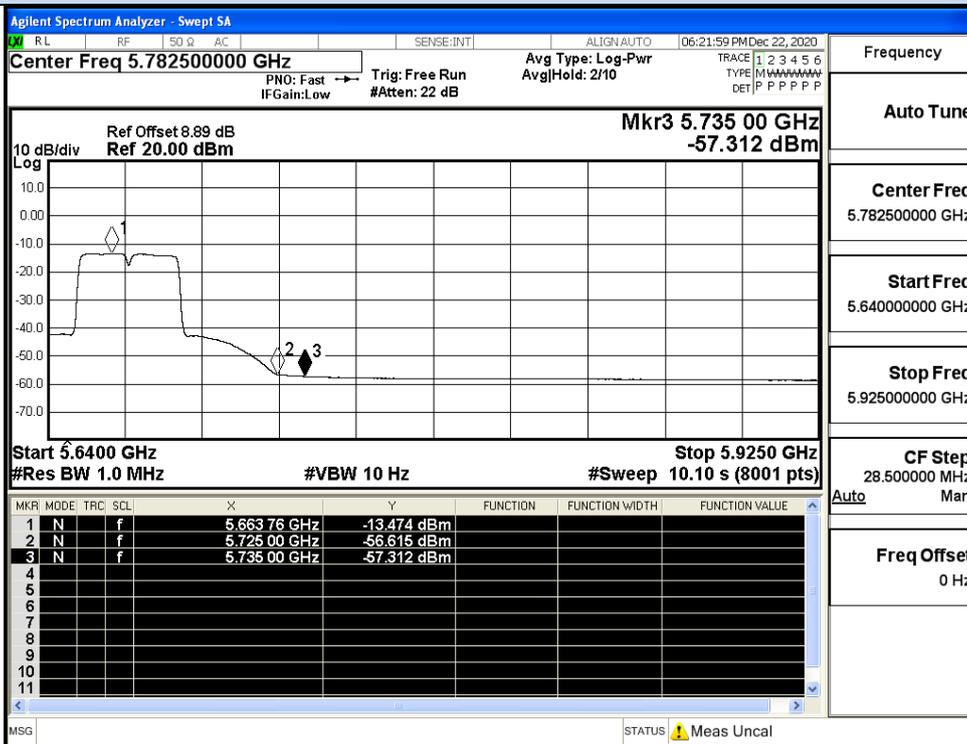


IEEE 802.11n40 / Channel 102 / 5510MHz / Average

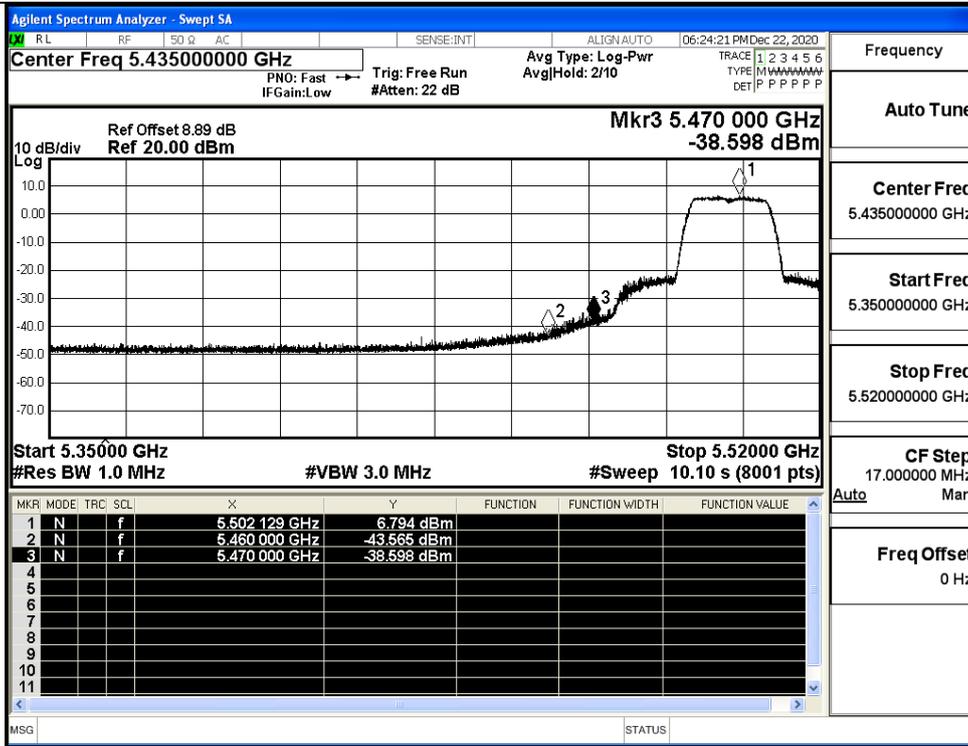
Undesirable Emissions Measurement



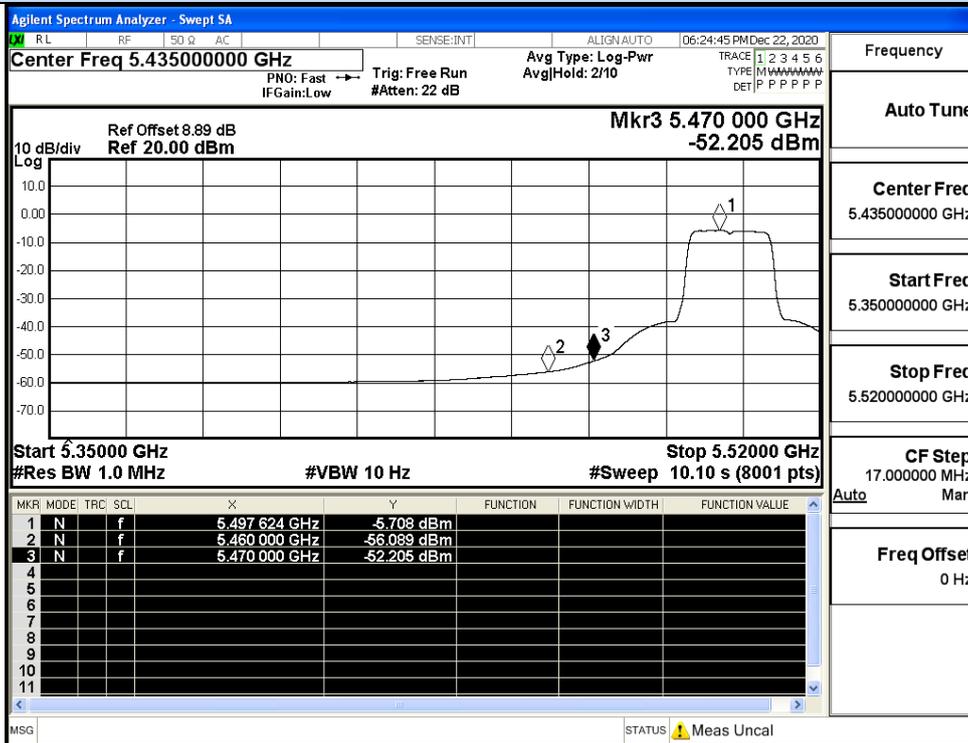
IEEE 802.11n40 / Channel 134 / 5670MHz / Peak



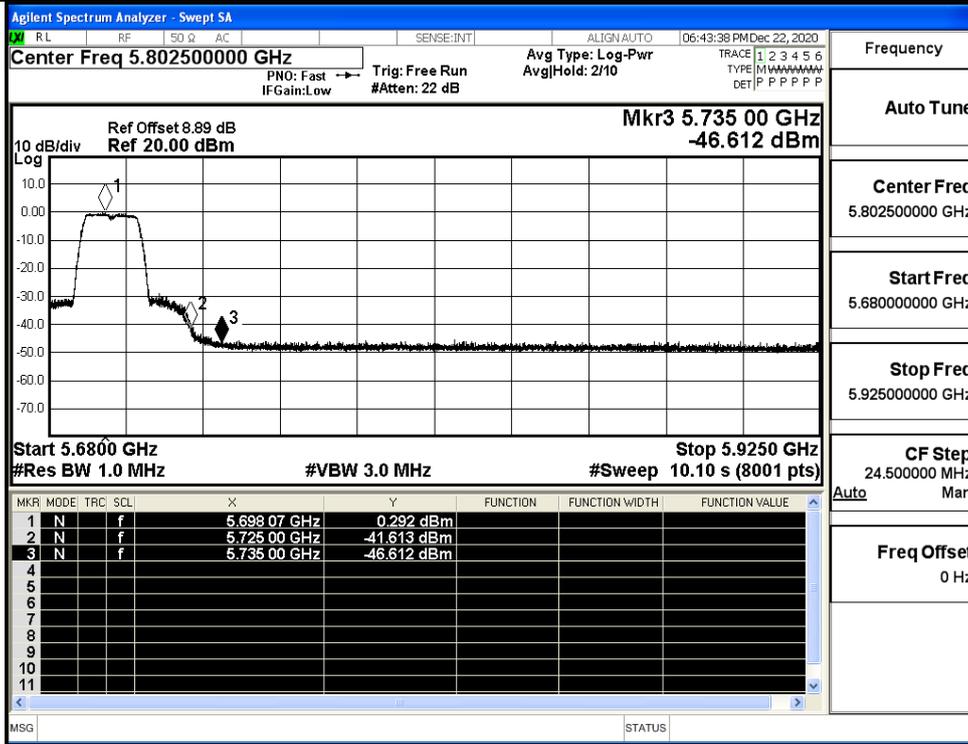
IEEE 802.11n40 / Channel 134 / 5670MHz / Average



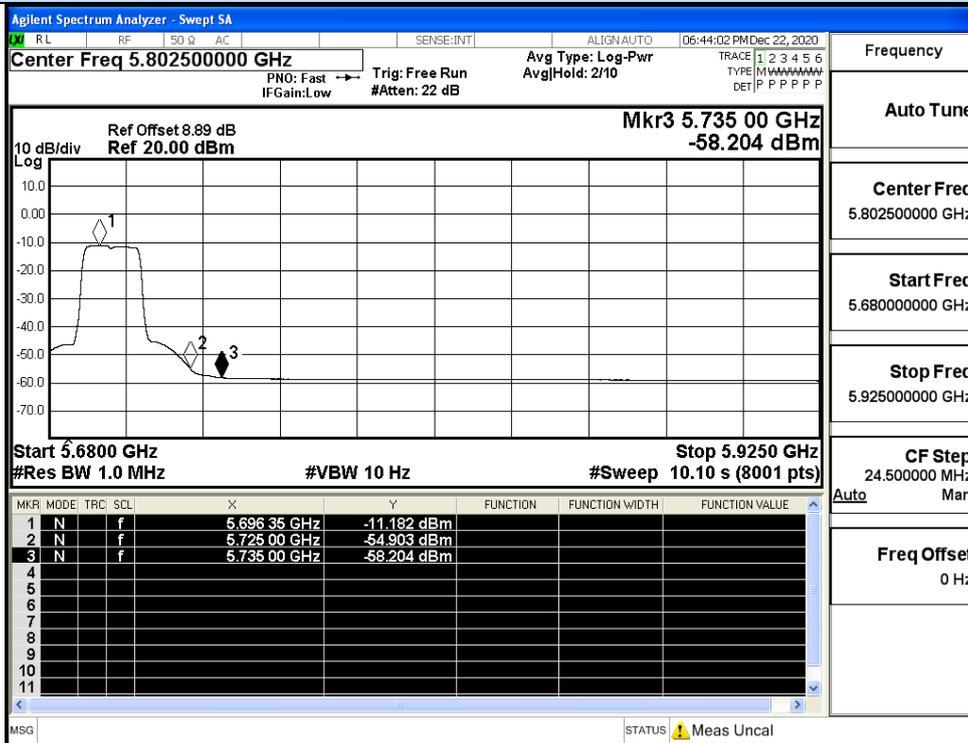
IEEE 802.11ac20 / Channel 100 / 5500MHz / Peak



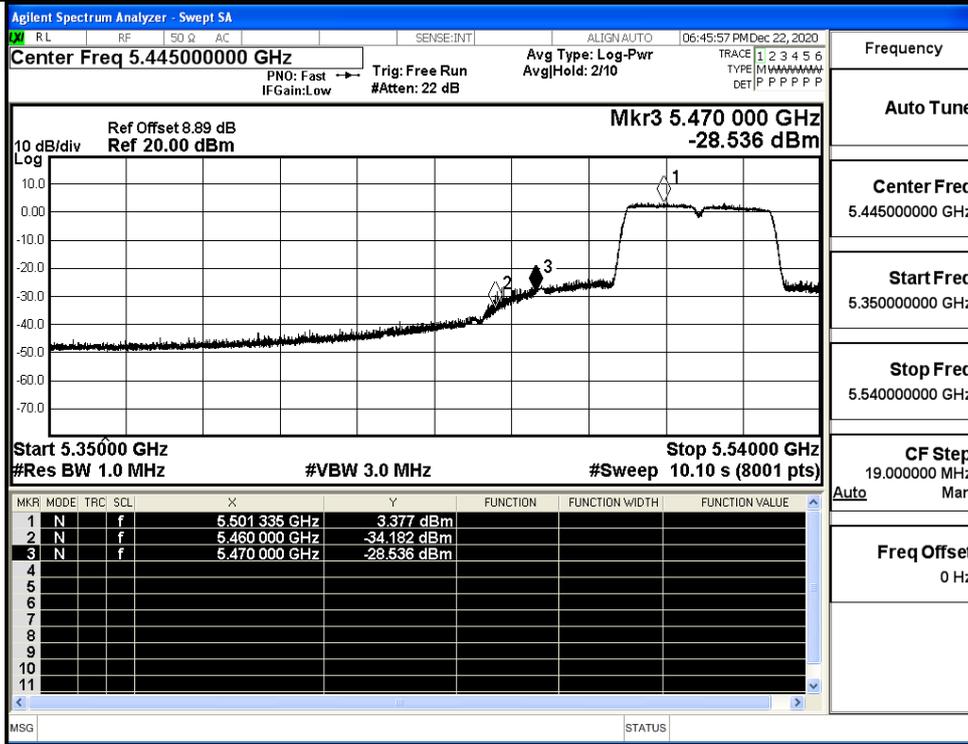
IEEE 802.11ac20 / Channel 100 / 5500MHz / Average



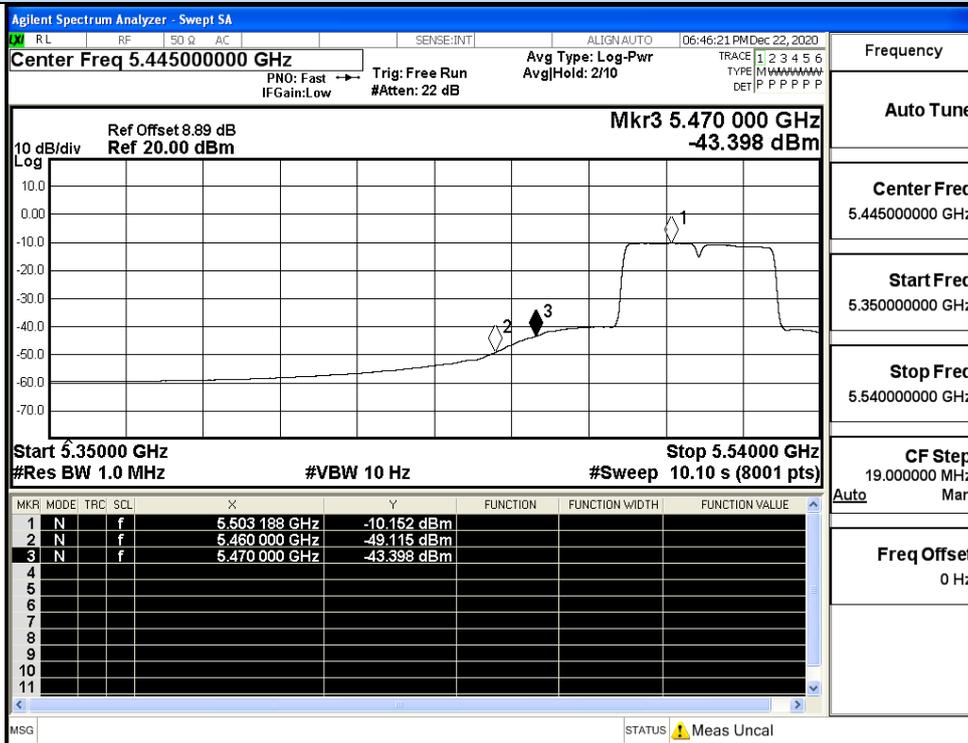
IEEE 802.11ac20 / Channel 140 / 5700MHz / Peak



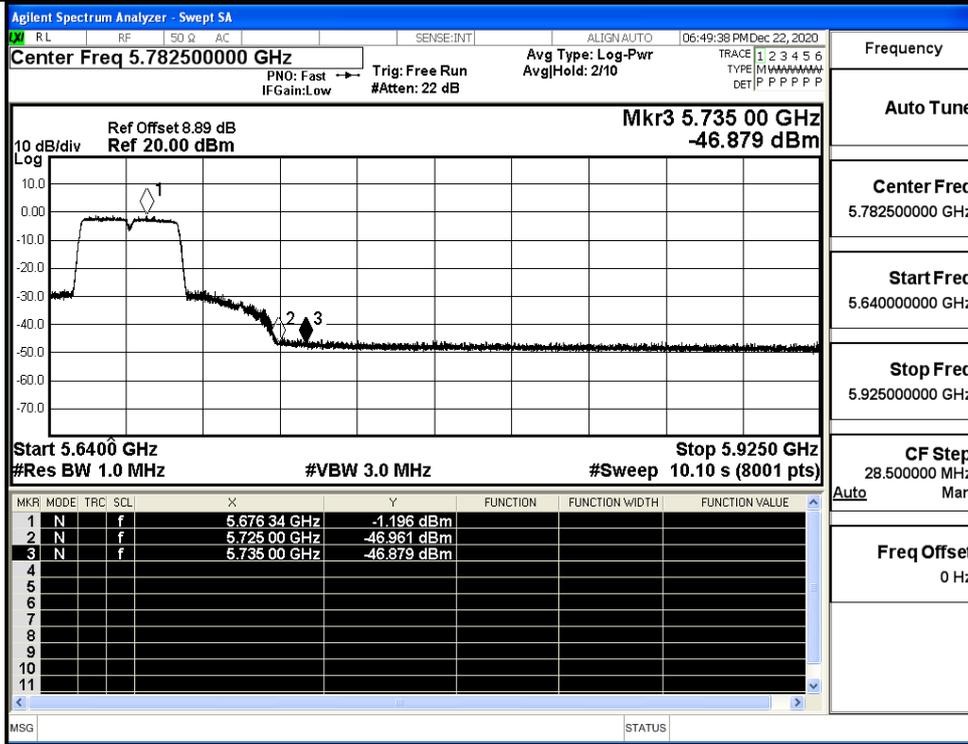
IEEE 802.11ac20 / Channel 140 / 5700MHz / Average



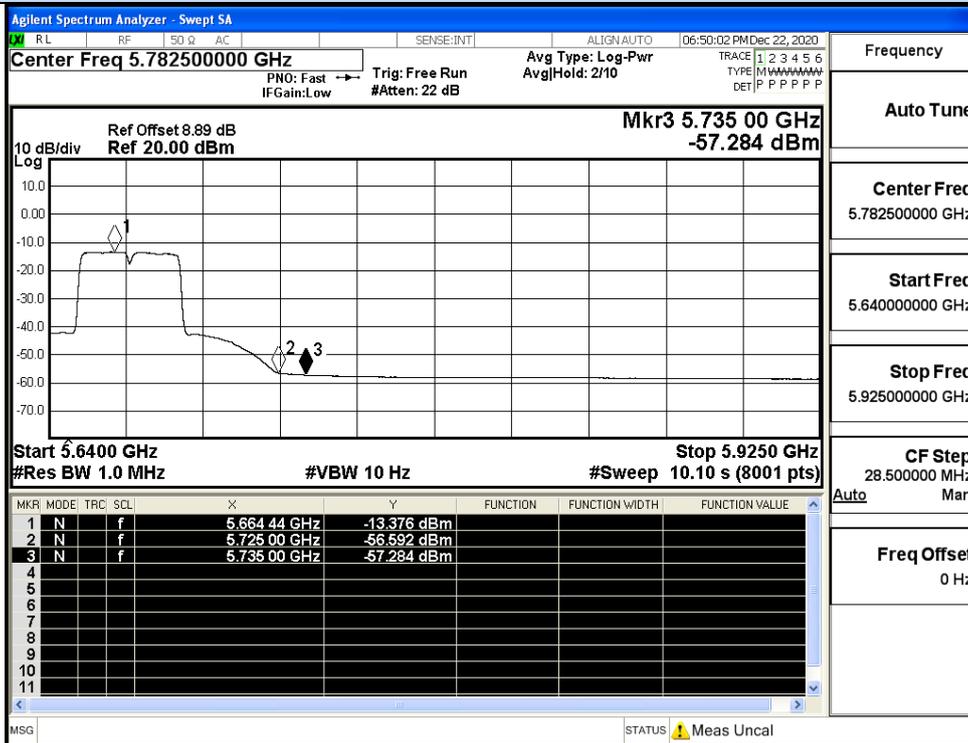
IEEE 802.11ac40 / Channel 102 / 5510MHz / Peak



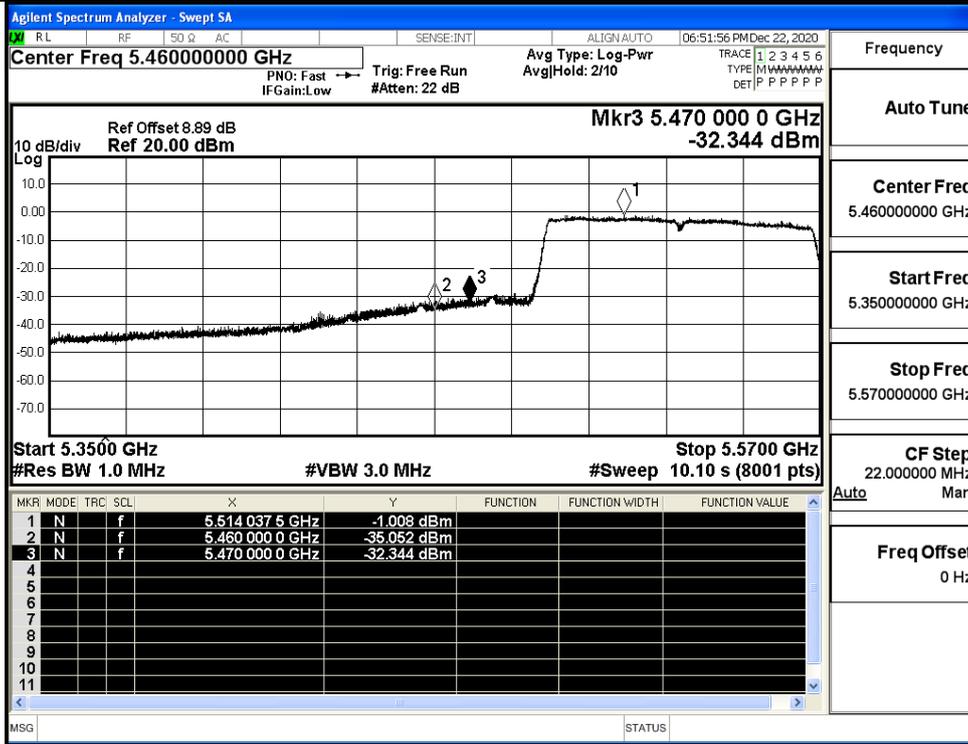
IEEE 802.11ac40 / Channel 102 / 5510MHz / Average



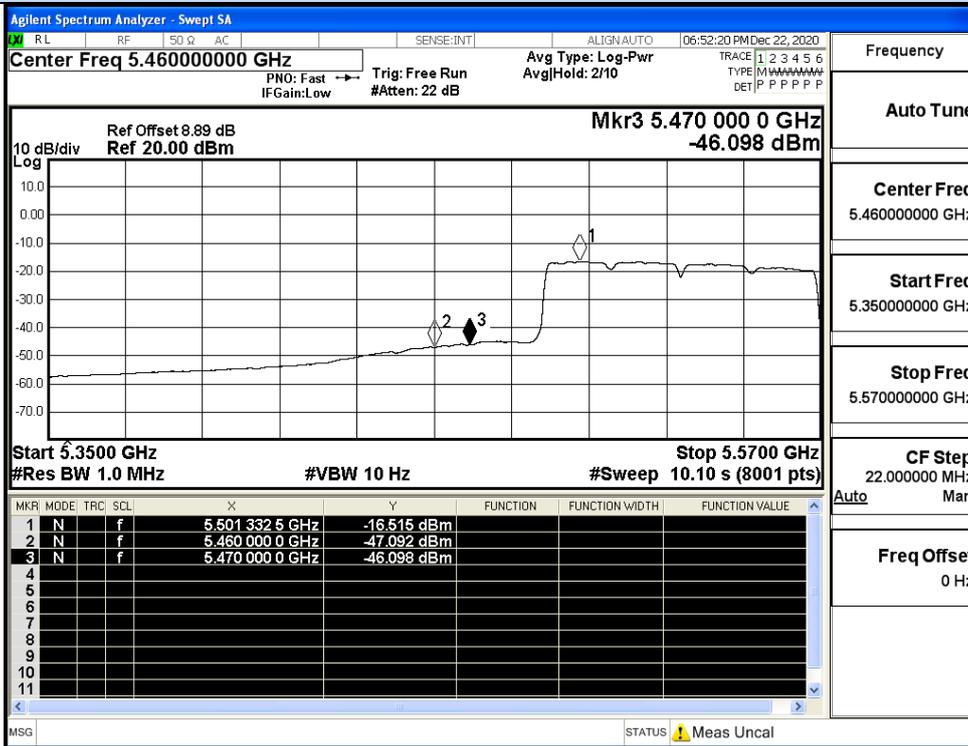
IEEE 802.11ac40 / Channel 134/ 5670MHz / Peak



IEEE 802.11ac40 / Channel 134 / 5670MHz / Average



IEEE 802.11ac80 / Channel 106 / 5530MHz / Peak



IEEE 802.11ac80 / Channel 106 / 5530MHz / Average

