Appendix B
RF Test Data for 5.8G WLAN (Conducted Measurement)
Product Name: 5GHz Wireless Video Transmission System
Trade Mark: DwarfConnection
Test Model: DC-LINK-CLR2

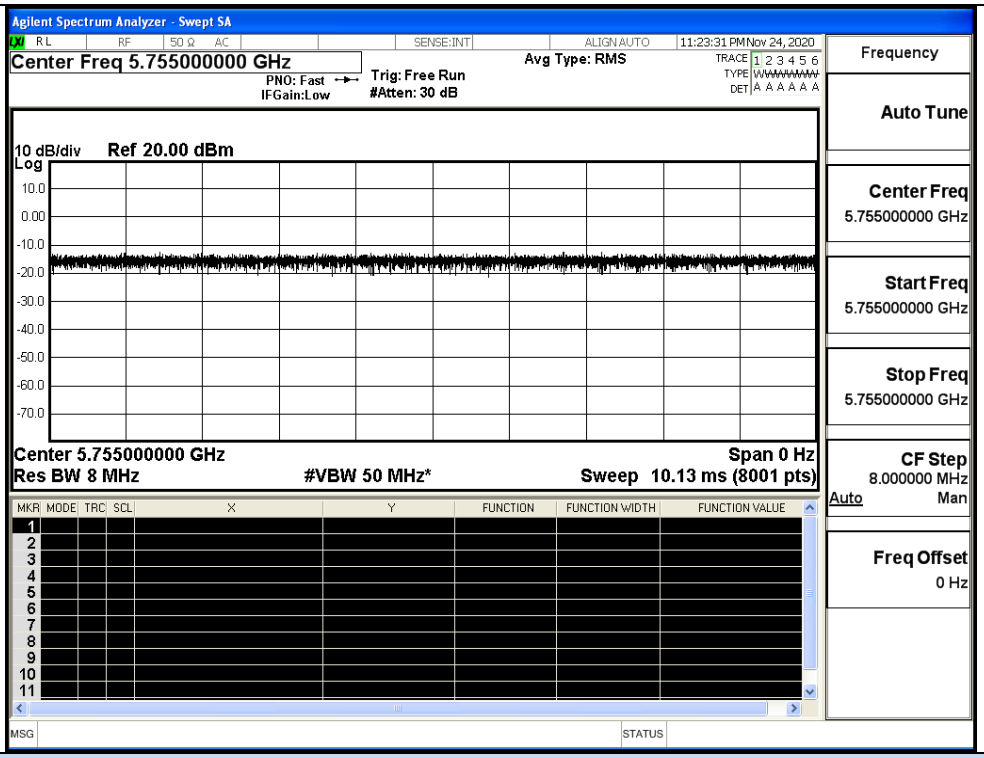
Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

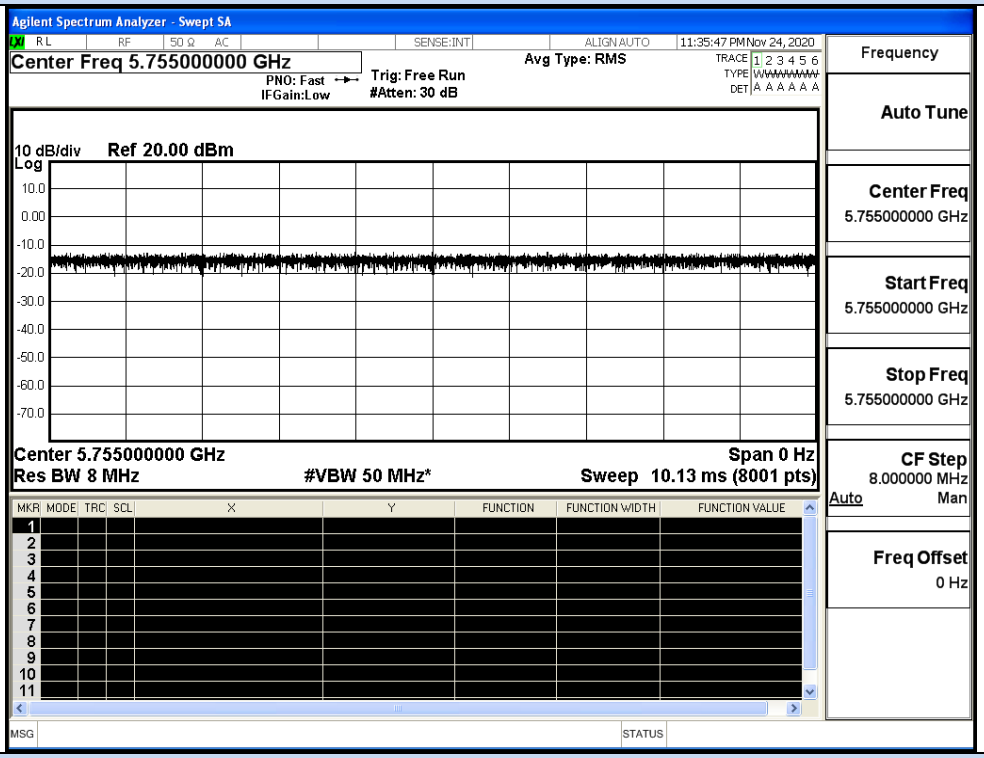
B.1 Duty Cycle

Ant0

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11N40 SISO	5755	100	0.00	0.01
11AC40 SISO	5755	100	0.00	0.01



IEEE 802.11n HT40

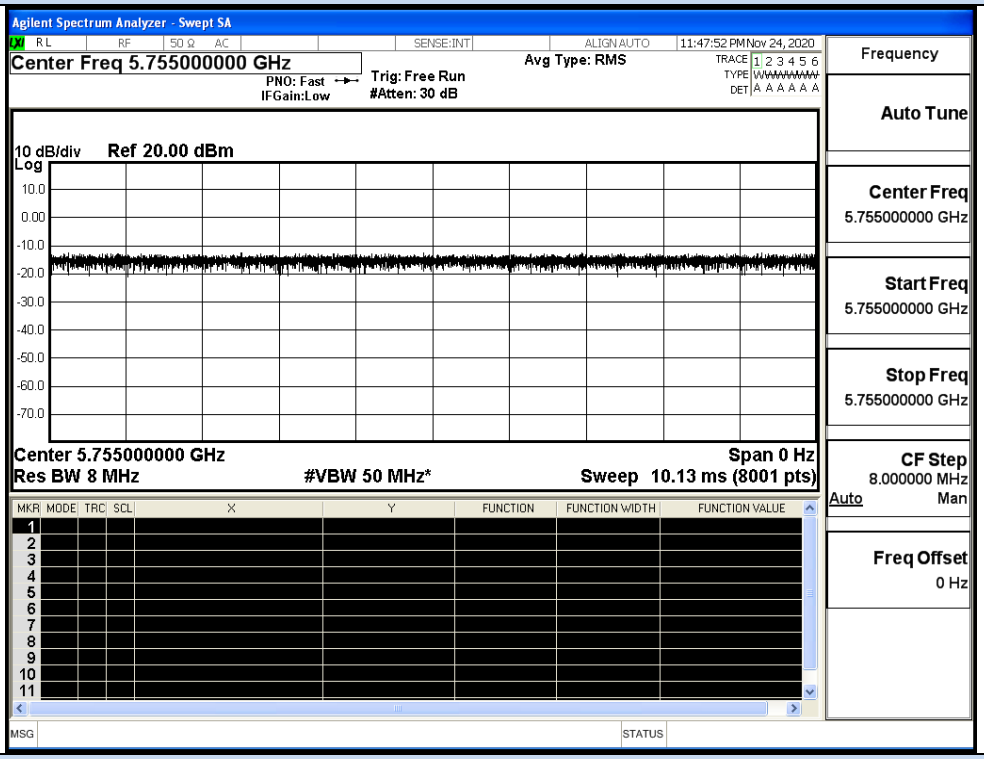


IEEE 802.11AC40

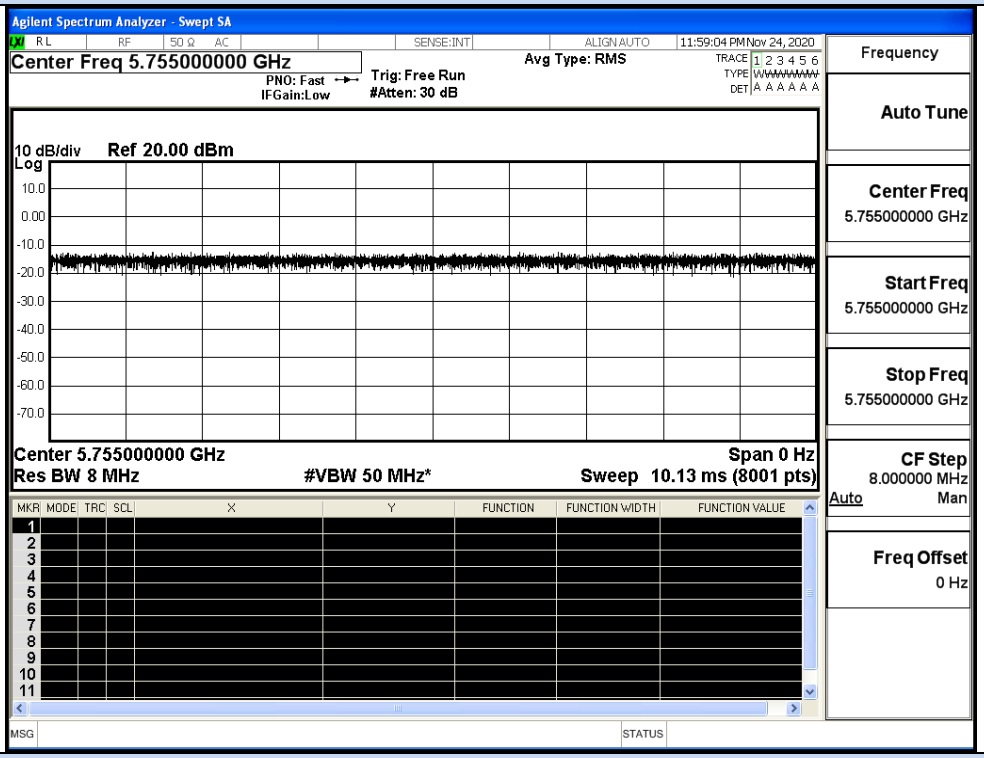
Ant1

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11N40 SISO	5755	100	0.00	0.01
11AC40 SISO	5755	100	0.00	0.01

IEEE 802.11n HT20



IEEE 802.11n HT40



IEEE 802.11AC40

B.2 Maximum Conduct Output Power

Ant0

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11N40 SISO	151	5755	6.62	0	6.62	30	Pass
	159	5795	6.37	0	6.37		Pass
11AC40 SISO	151	5755	6.30	0	6.30	30	Pass
	159	5795	6.84	0	6.84		Pass

Ant1

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11N40 SISO	151	5755	6.62	0	6.62	30	Pass
	159	5795	6.47	0	6.47		Pass
11AC40 SISO	151	5755	6.17	0	6.17	30	Pass
	159	5795	6.85	0	6.85		Pass

Ant0+Ant1

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)			Duty Cycle Factor(dB)	Report Conducted Power(dBm)			Limit (dBm)	Verdict
			Ant0	Ant1	SUM		Ant0	Ant1	SUM		
11N40 SISO	151	5755	6.62	6.62	9.63	0	6.62	6.62	9.63	29.49	Pass
	159	5795	6.37	6.47	9.43	0	6.37	6.47	9.43		Pass
11AC40 SISO	151	5755	6.30	6.17	9.25	0	6.30	6.17	9.25	29.49	Pass
	159	5795	6.84	6.85	9.86	0	6.84	6.85	9.86		Pass

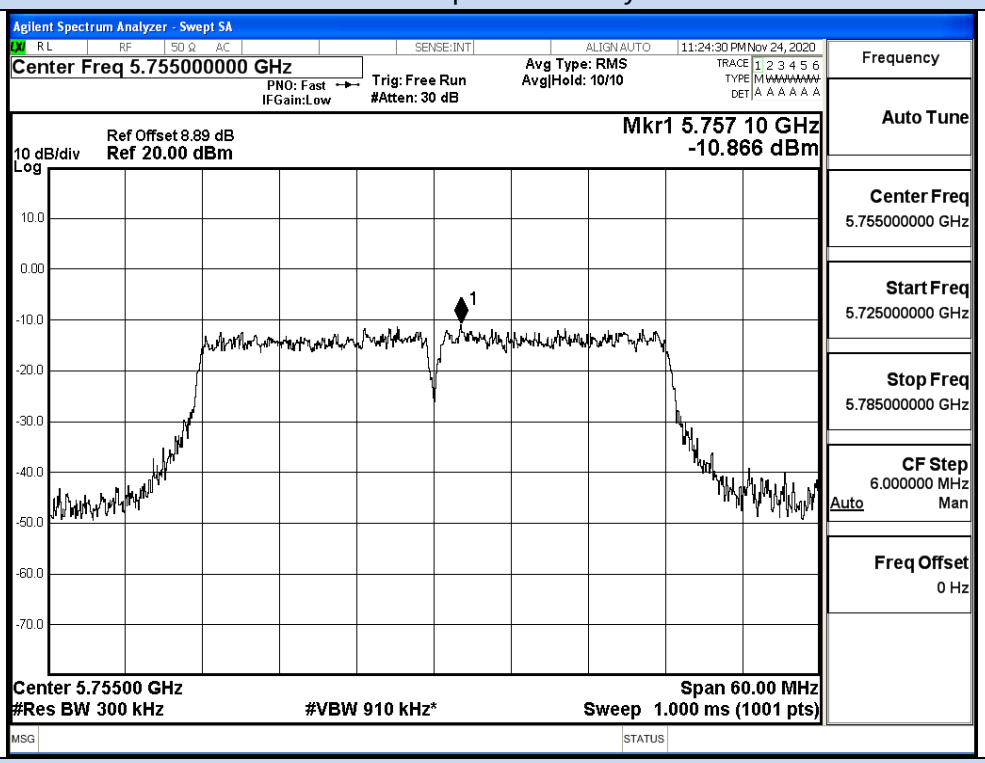
Directional gain=3.5dBi+10 log (2) = 6.51dBi > 6dBi, So the Conducted Power limit shall be reduced to 30-(6.51-6) = 29.49

B.3 Power Spectral Density

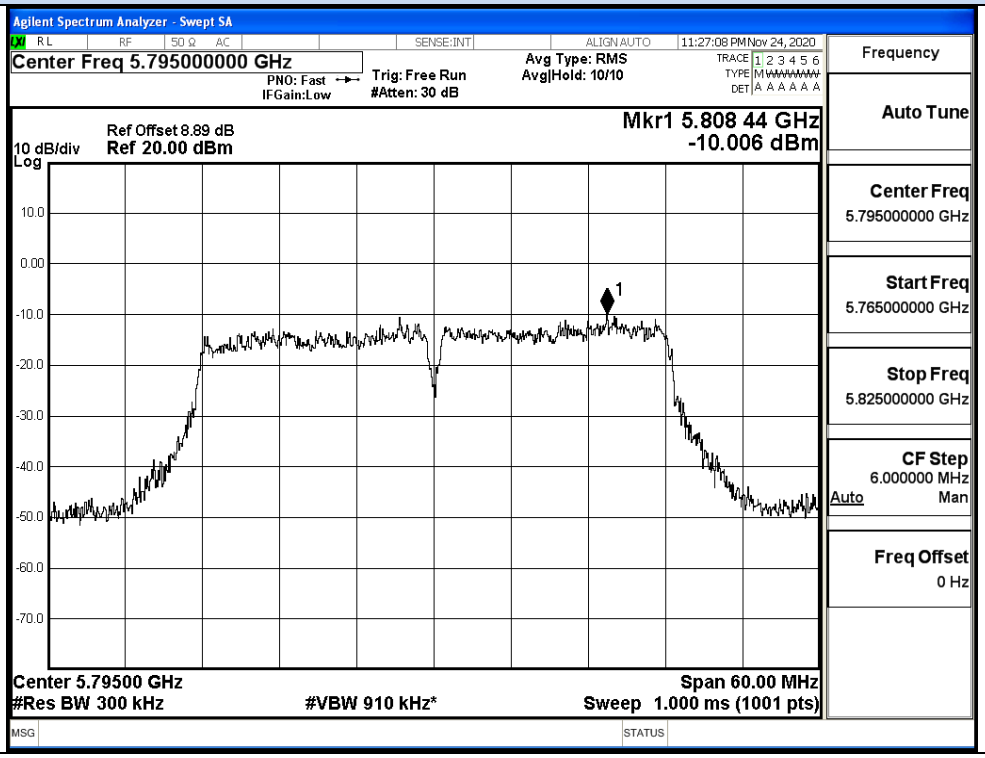
Ant0

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
11N40 SISO	151	5755	-10.87	0	2.218	-8.65	30	Pass
	159	5795	-10.01	0	2.218	-7.79		Pass
11AC40 SISO	151	5755	-11.01	0	2.218	-8.79	30	Pass
	159	5795	-10.61	0	2.218	-8.39		Pass

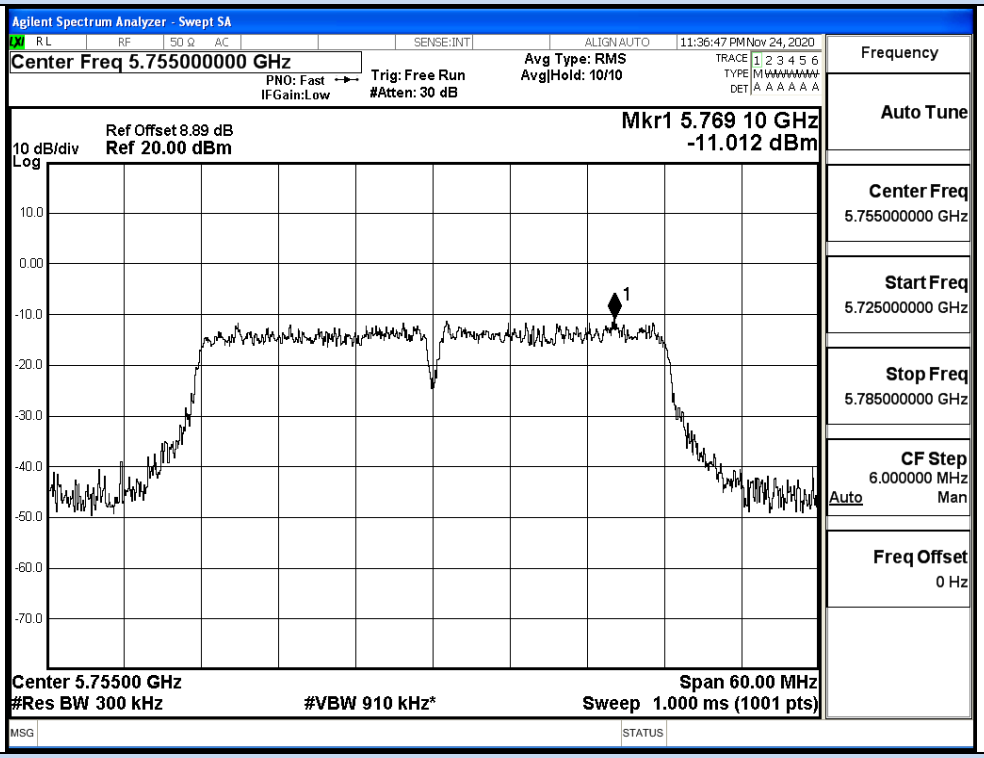
Power Spectral Density



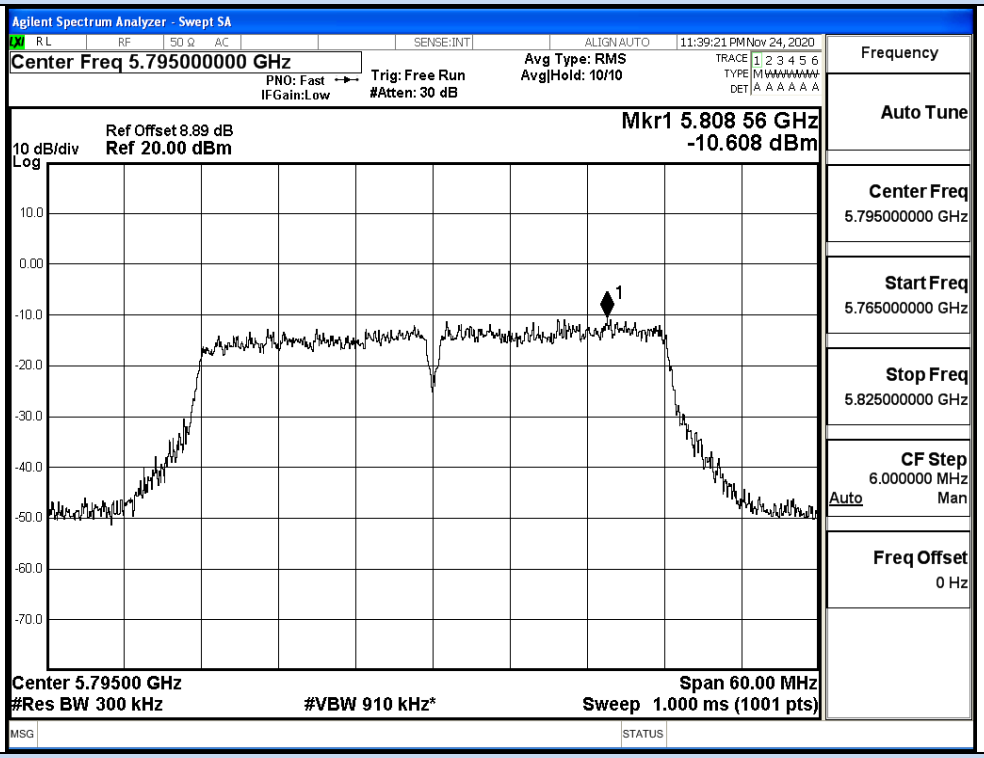
IEEE 802.11n40 / Channel 151 / 5755MHz



IEEE 802.11n40 / Channel 159 / 5795MHz



IEEE 802.11ac40 / Channel 151 / 5755MHz

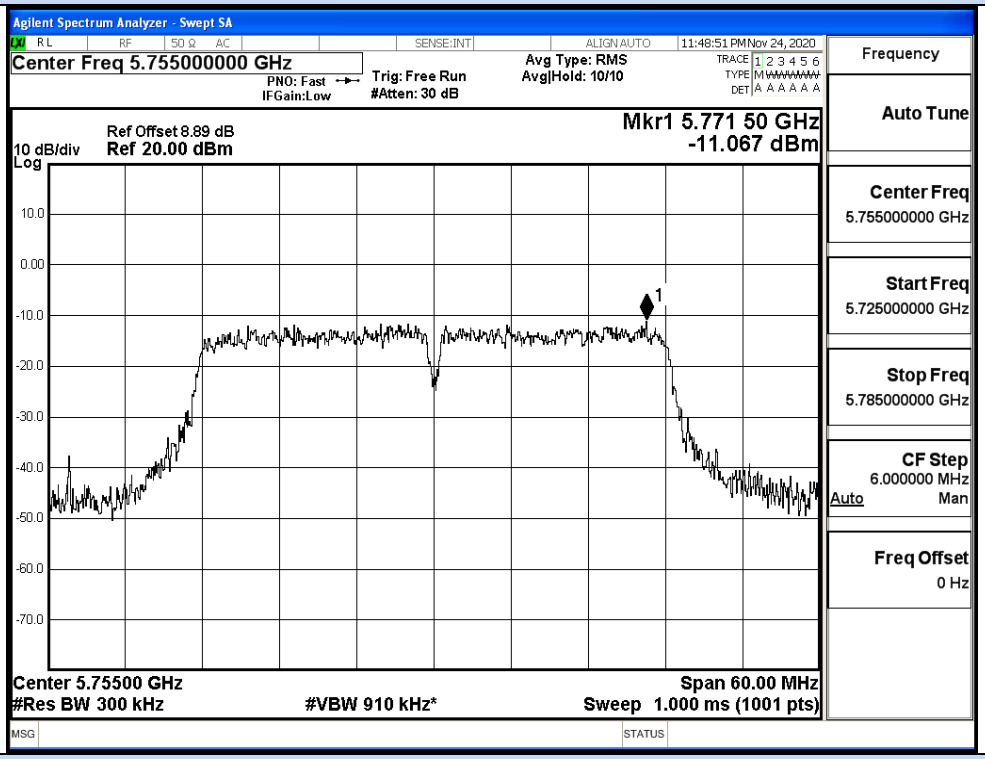


IEEE 802.11ac40 / Channel 159 / 5795MHz

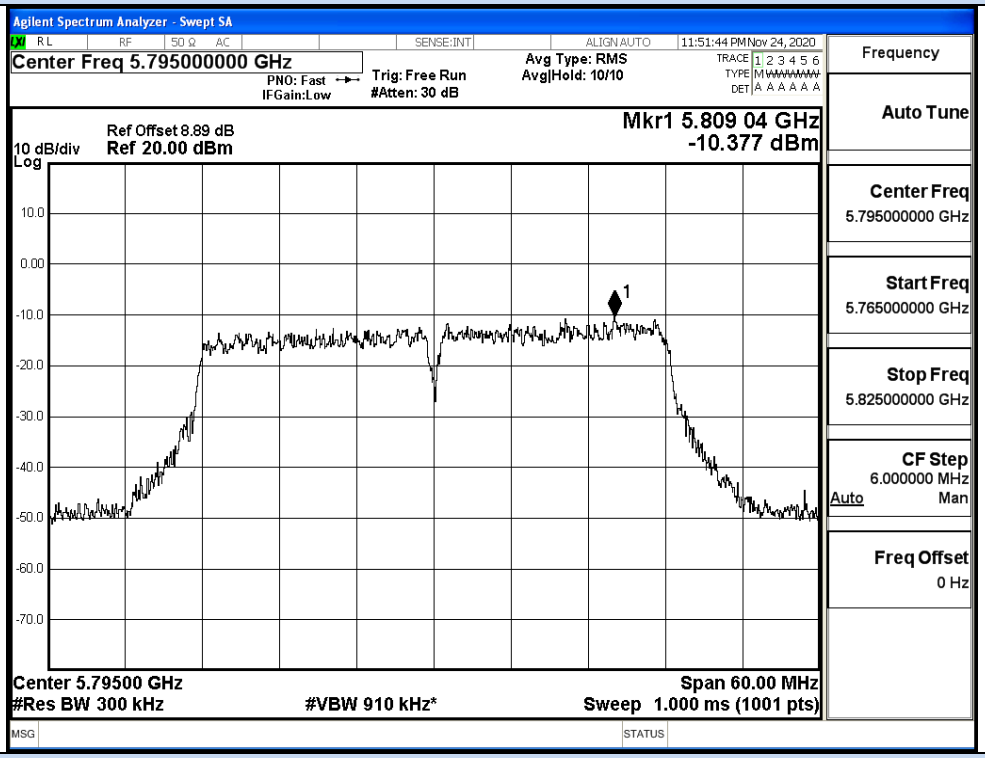
Ant1

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
11N40 SISO	151	5755	-11.07	0	2.218	-8.85	30	Pass
	159	5795	-10.38	0	2.218	-8.16		Pass
11AC40 SISO	151	5755	-11.18	0	2.218	-8.96	30	Pass
	159	5795	-10.24	0	2.218	-8.02		Pass

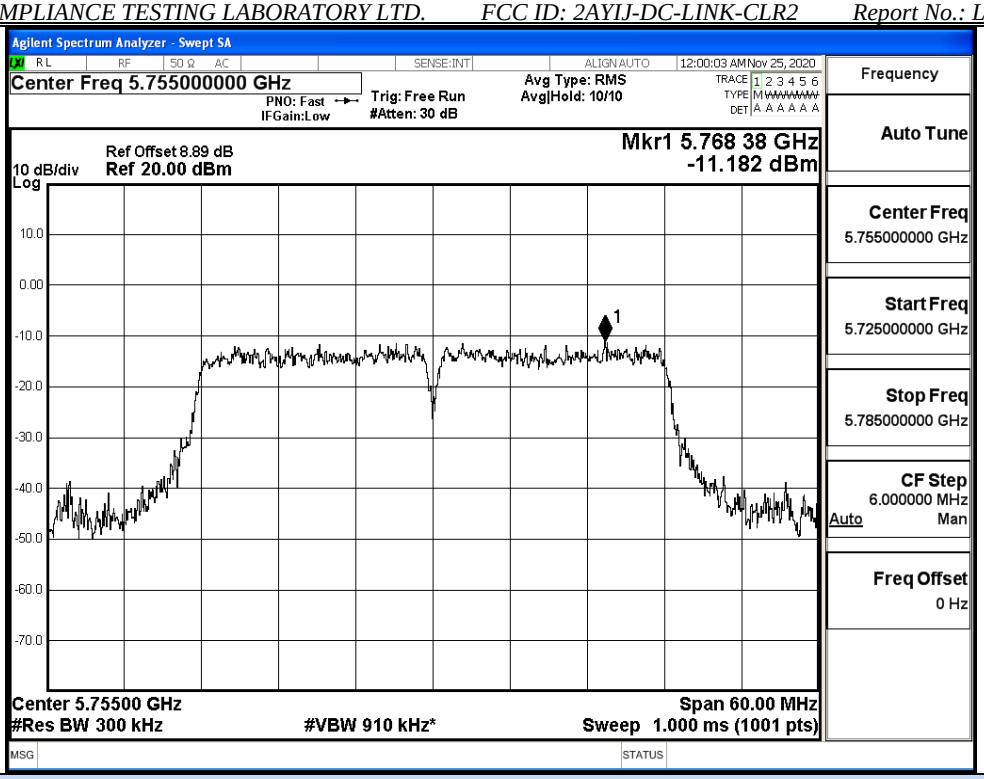
Power Spectral Density



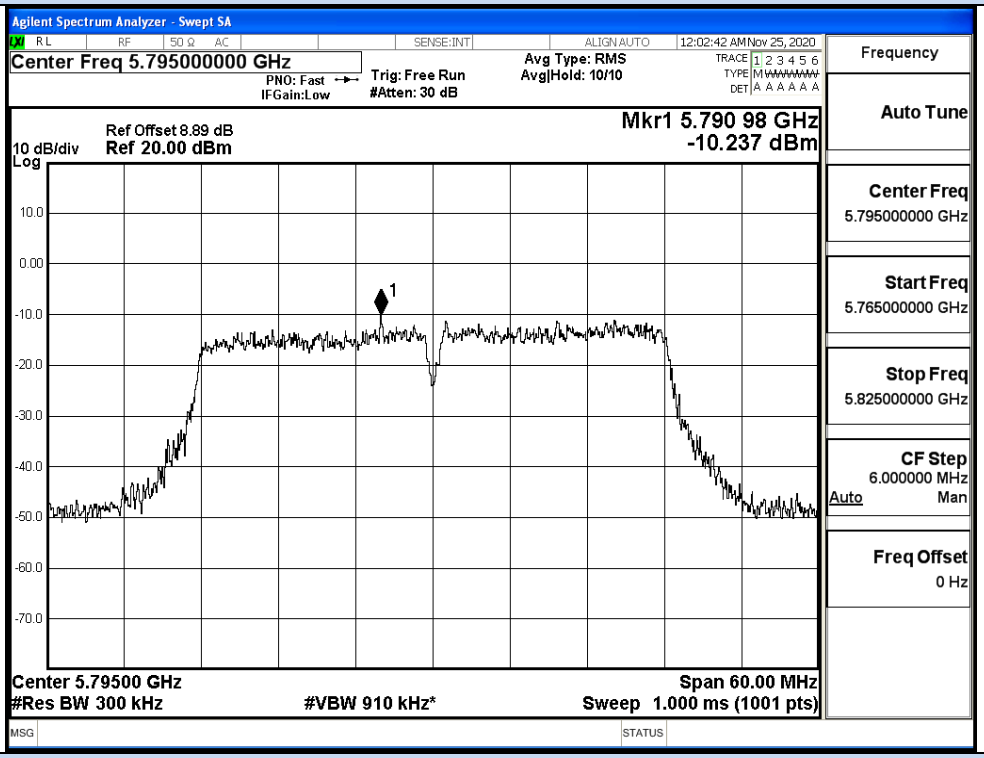
IEEE 802.11n40 / Channel 151 / 5755MHz



IEEE 802.11n40 / Channel 159 / 5795MHz



IEEE 802.11ac40 / Channel 151 / 5755MHz



IEEE 802.11ac40 / Channel 159 / 5795MHz

Ant0+Ant1

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)			Duty Cycle Factor(dB)	RBW Factor (dB)	Report Power Density (dBm/MHz)			Limit (dBm/MHz)	Verdict
			Ant0	Ant1	sum			Ant0	Ant1	sum		
11N40	151	5755	-10.87	-11.07	-7.96	0	2.218	-8.65	-8.85	-5.74	29.49	Pass
	159	5795	-10.01	-10.38	-7.18	0	2.218	-7.79	-8.16	-4.96		Pass
11AC40 SISO	151	5755	-11.01	-11.18	-8.08	0	2.218	-8.79	-8.96	-5.86	29.49	Pass
	159	5795	-10.61	-10.24	-7.41	0	2.218	-8.39	-8.02	-5.19		Pass

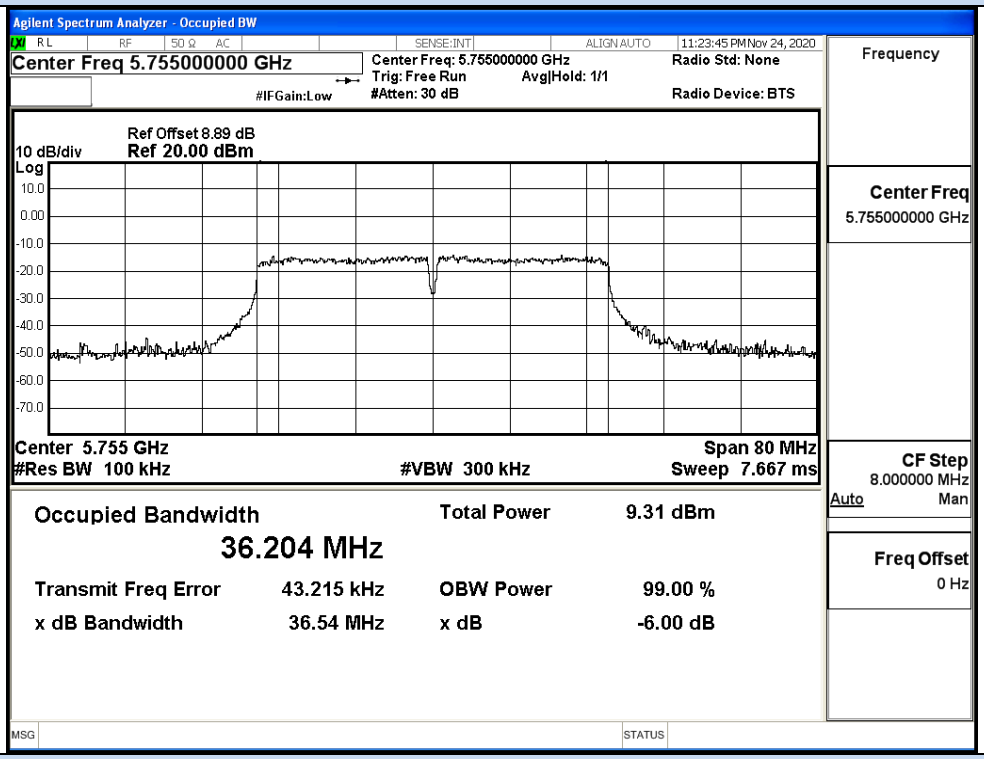
Directional gain=3.5dBi+10 log (2) = 6.51dBi > 6dBi, So the Conducted Power limit shall be reduced to 30-(6.51-6) = 29.49

B.4 Emission Bandwidth

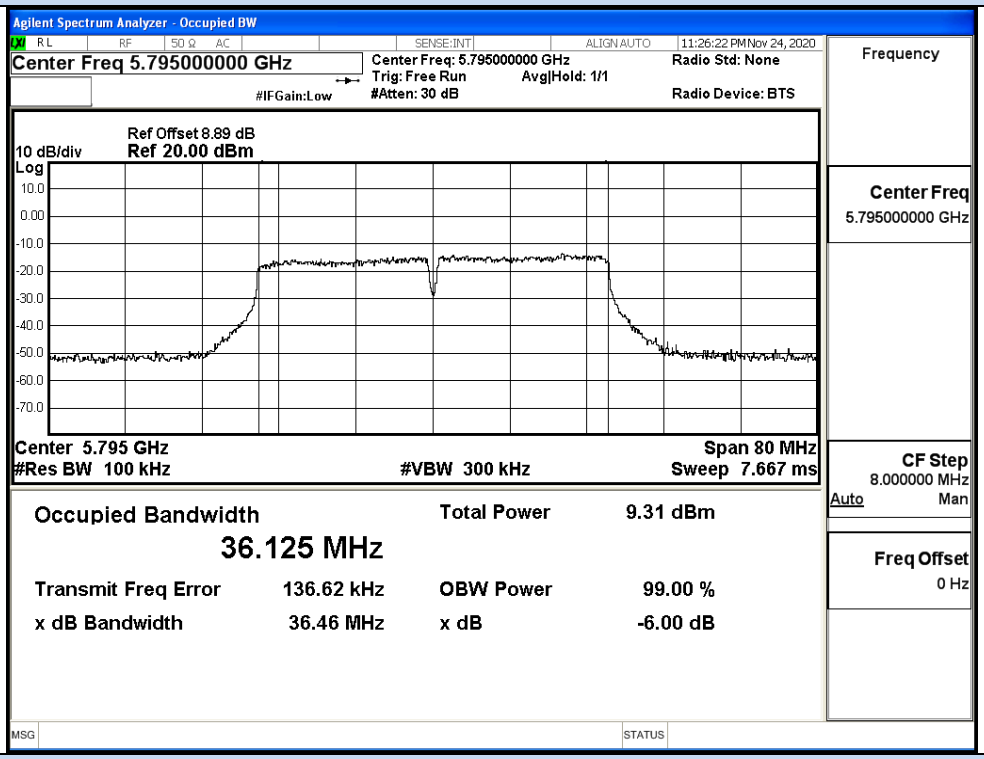
Ant0

Test Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
11N40 SISO	151	5755	36.54	>=0.5	Pass
	159	5795	36.46		Pass
11AC40S ISO	151	5755	36.55	>=0.5	Pass
	159	5795	36.50		Pass

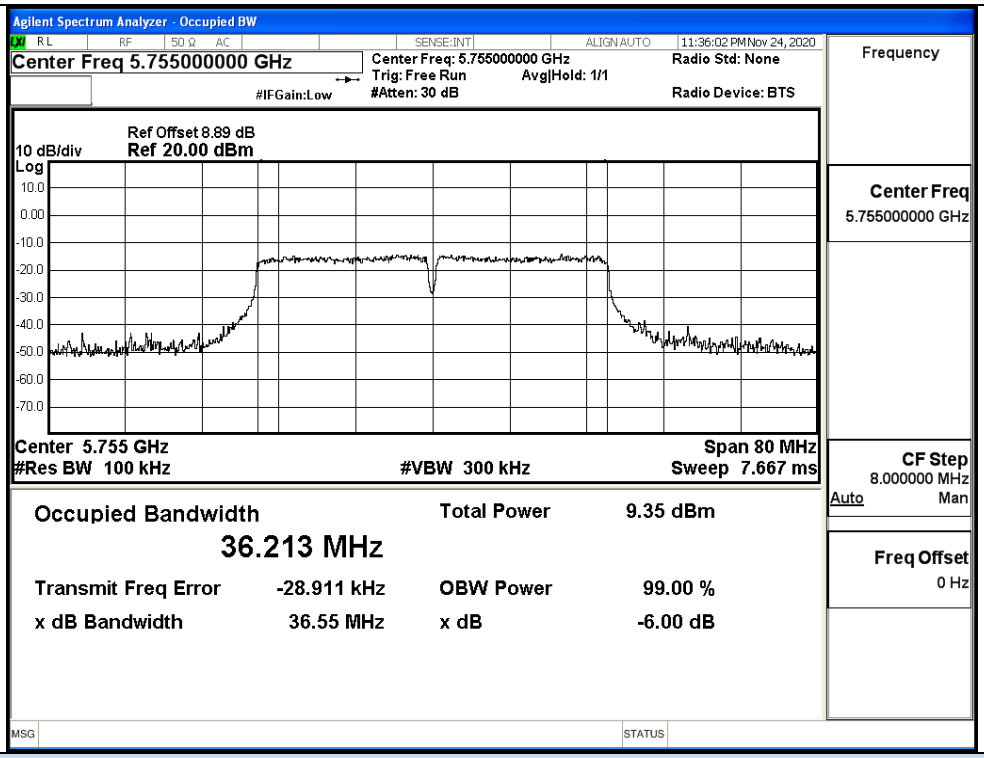
26dB Bandwidth



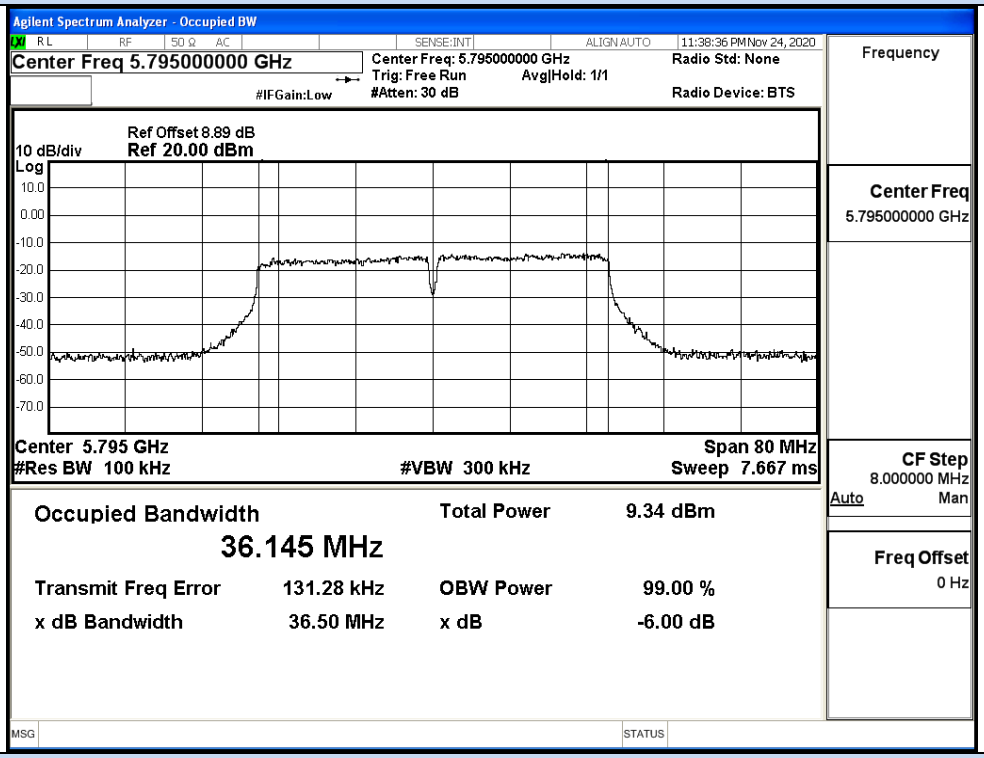
IEEE 802.11n40 / Channel 151 / 5755MHz



IEEE 802.11n40 / Channel 159 / 5795MHz



IEEE 802.11ac40 / Channel 151 / 5755MHz

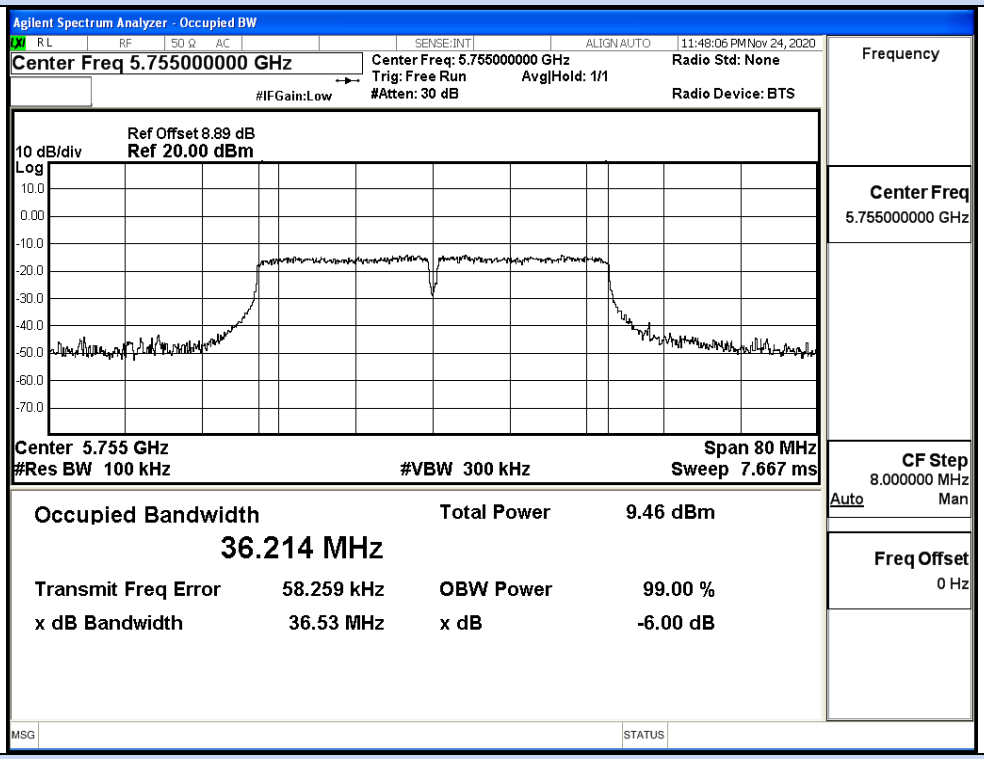


IEEE 802.11ac40 / Channel 159 / 5795MHz

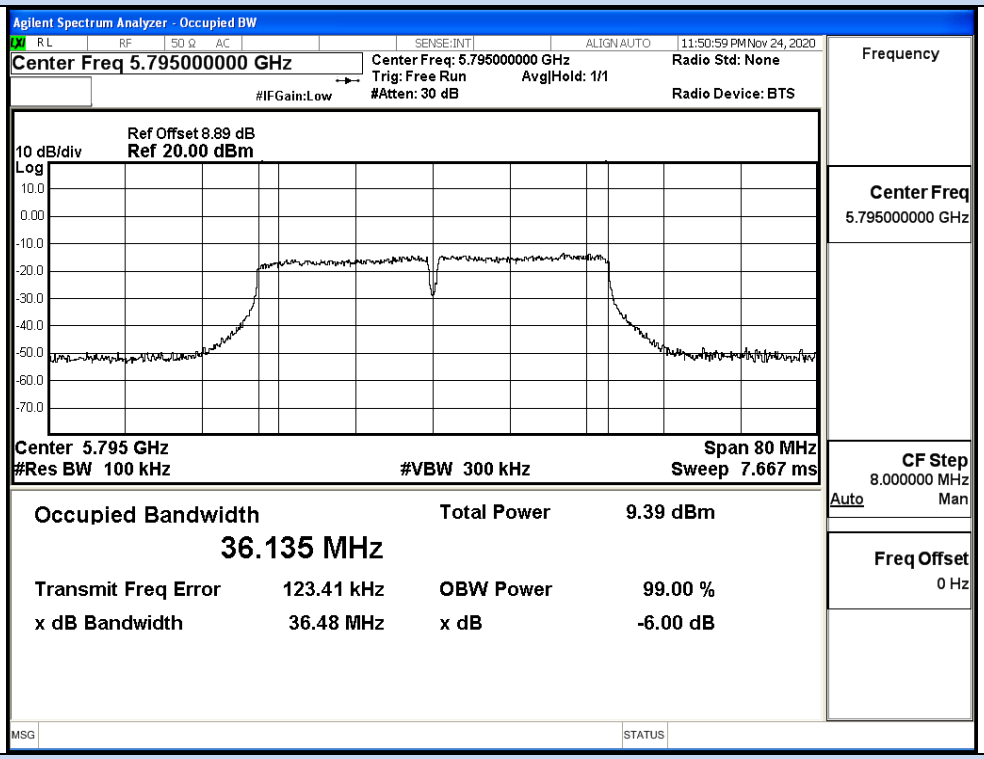
Ant1

Test Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
11N40 SISO	151	5755	36.53	>=0.5	Pass
	159	5795	36.48		Pass
11AC40S ISO	151	5755	36.55	>=0.5	Pass
	159	5795	36.50		Pass

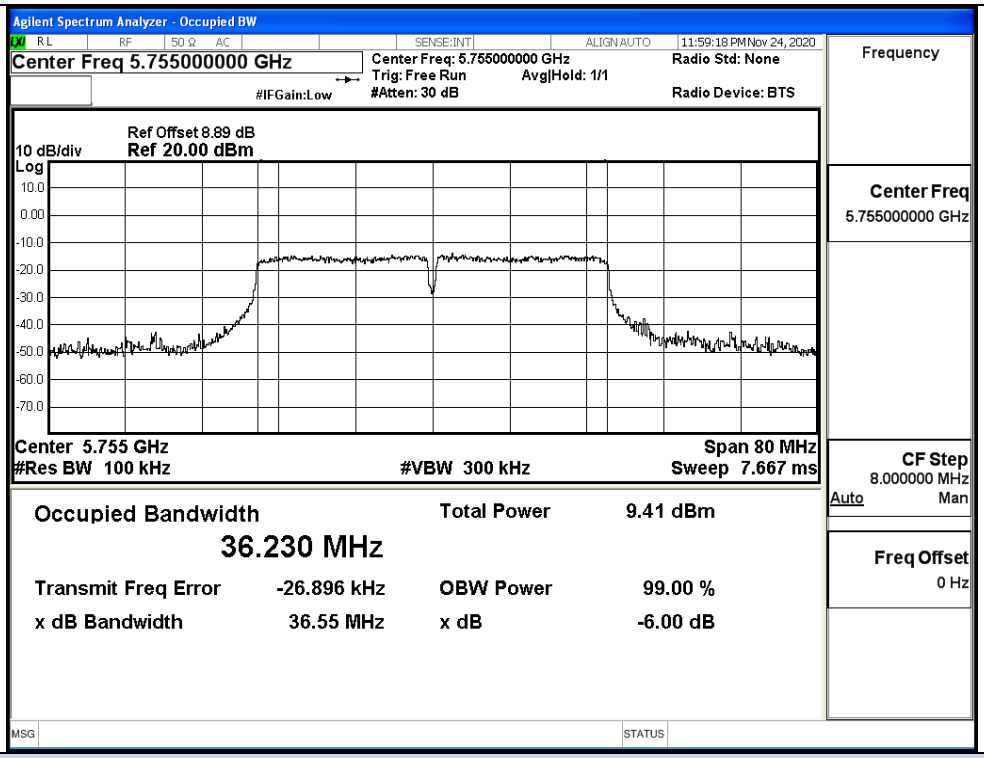
26dB Bandwidth



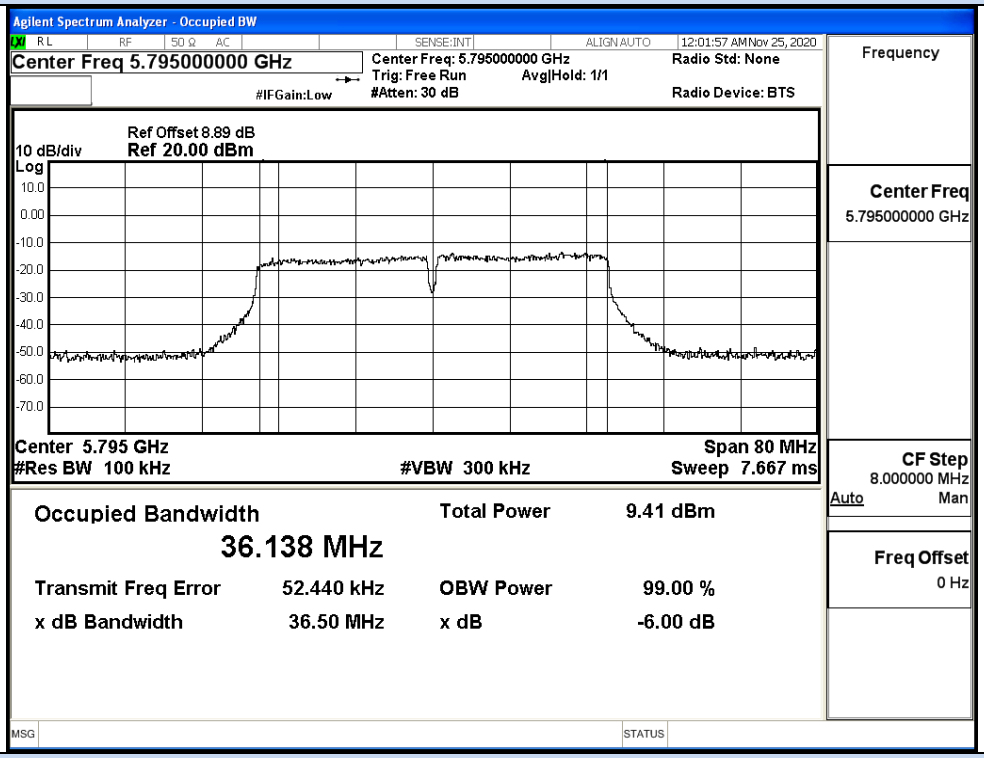
IEEE 802.11n40 / Channel 151 / 5755MHz



IEEE 802.11n40 / Channel 159 / 5795MHz



IEEE 802.11ac40 / Channel 151 / 5755MHz



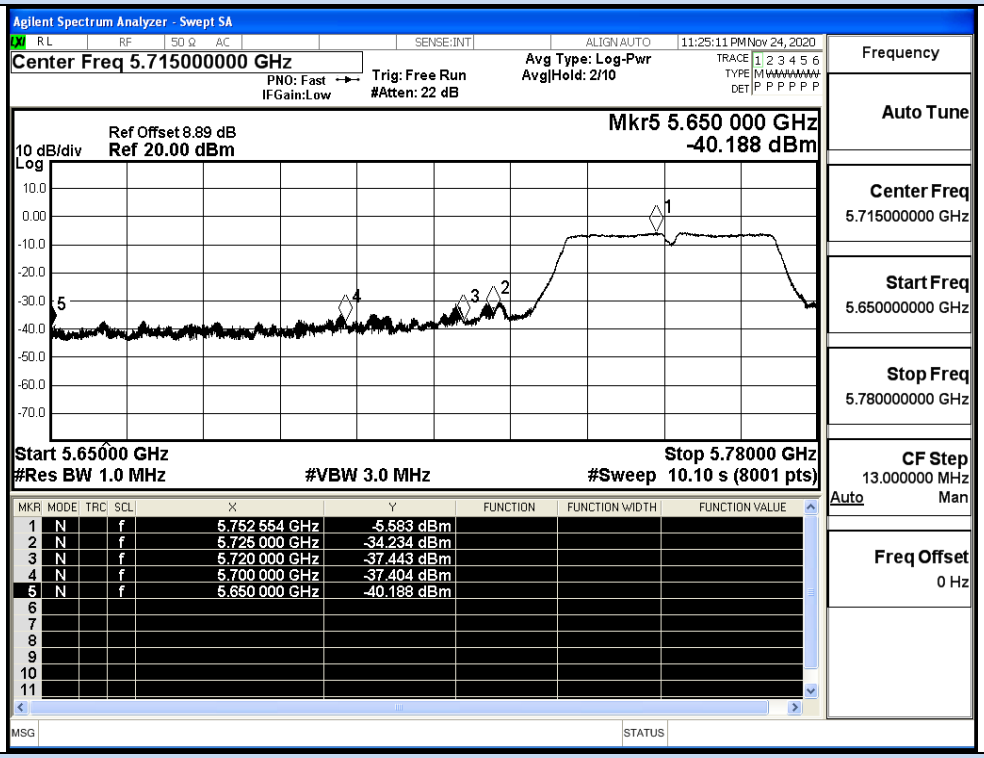
IEEE 802.11ac40 / Channel 159 / 5795MHz

B.5 Undesirable Emissions Measurement

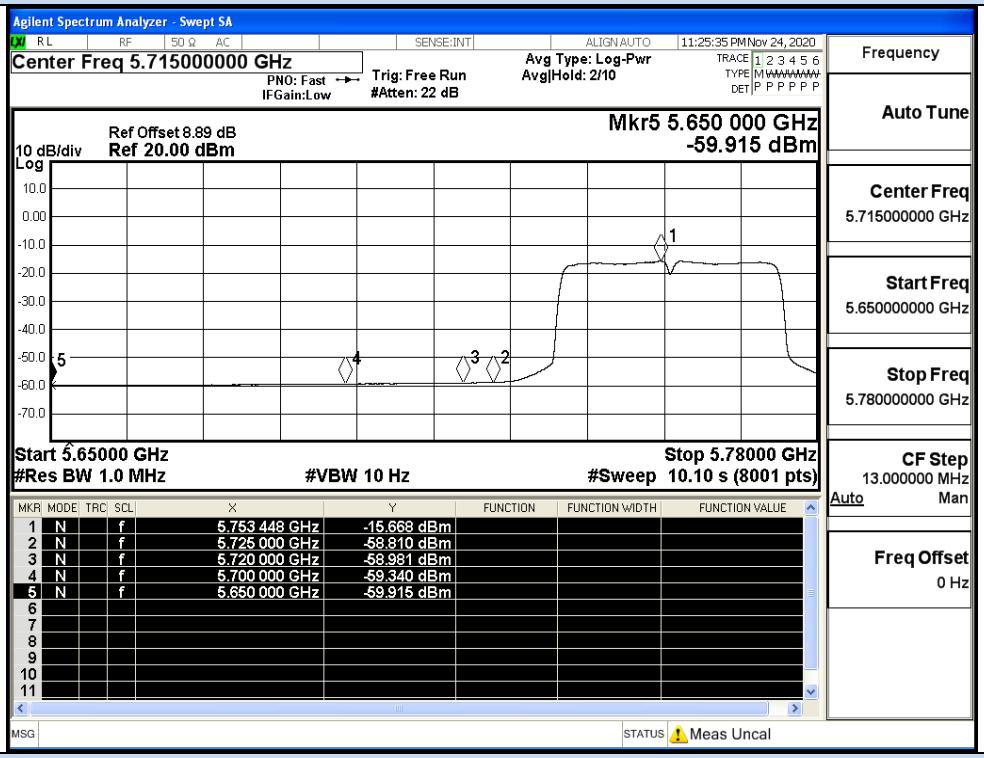
Ant0

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Detector	Limit (dBm/MHz)	Verdict
11N40 SISO	151	5650.0	-40.19	3.5	-36.69	Peak	-27.0	Pass
		5650.0	-59.92	3.5	-56.42	Average	-27.0	Pass
		5700.0	-37.40	3.5	-33.9	Peak	10	Pass
		5700.0	-59.34	3.5	-55.84	Average	10	Pass
		5720.0	-37.44	3.5	-33.94	Peak	15.6	Pass
		5720.0	-58.98	3.5	-55.48	Average	15.6	Pass
		5725.0	-34.23	3.5	-30.73	Peak	27.0	Pass
		5725.0	-58.81	3.5	-55.31	Average	27.0	Pass
	159	5850.0	-46.81	3.5	-43.31	Peak	27.0	Pass
		5850.0	-59.13	3.5	-55.63	Average	27.0	Pass
		5855.0	-47.60	3.5	-44.1	Peak	15.6	Pass
		5855.0	-59.38	3.5	-55.88	Average	15.6	Pass
		5875.0	-48.65	3.5	-45.15	Peak	10	Pass
		5875.0	-59.83	3.5	-56.33	Average	10	Pass
		5925.0	-48.70	3.5	-45.2	Peak	-27.0	Pass
		5925.0	-60.25	3.5	-56.75	Average	-27.0	Pass
11AC40 SISO	151	5650.0	-39.69	3.5	-36.19	Peak	-27.0	Pass
		5650.0	-59.89	3.5	-56.39	Average	-27.0	Pass
		5700.0	-37.90	3.5	-34.4	Peak	10	Pass
		5700.0	-59.34	3.5	-55.84	Average	10	Pass
		5720.0	-37.25	3.5	-33.75	Peak	15.6	Pass
		5720.0	-58.99	3.5	-55.49	Average	15.6	Pass
		5725.0	-35.26	3.5	-31.76	Peak	27.0	Pass
		5725.0	-58.87	3.5	-55.37	Average	27.0	Pass
	159	5850.0	-47.77	3.5	-44.27	Peak	27.0	Pass
		5850.0	-59.15	3.5	-55.65	Average	27.0	Pass
		5855.0	-47.65	3.5	-44.15	Peak	15.6	Pass
		5855.0	-59.41	3.5	-55.91	Average	15.6	Pass
		5875.0	-48.45	3.5	-44.95	Peak	10	Pass
		5875.0	-59.82	3.5	-56.32	Average	10	Pass
		5925.0	-48.31	3.5	-44.81	Peak	-27.0	Pass
		5925.0	-60.27	3.5	-56.77	Average	-27.0	Pass

Undesirable Emissions Measurement

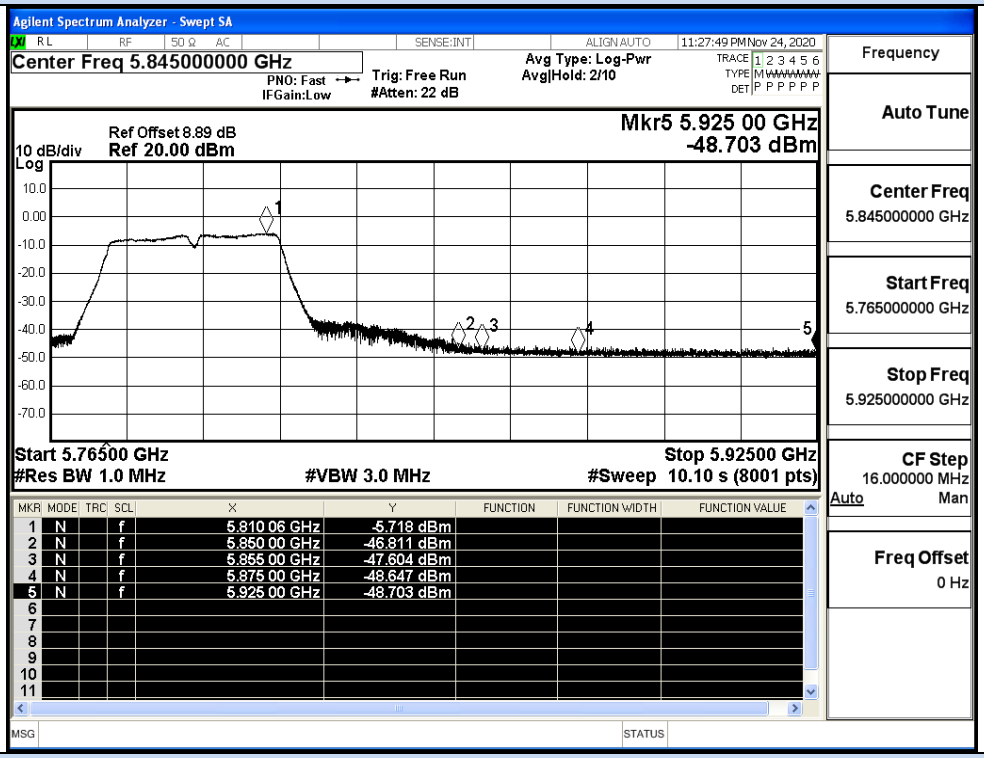


IEEE 802.11n40 / Channel 151 / 5755MHz / Peak

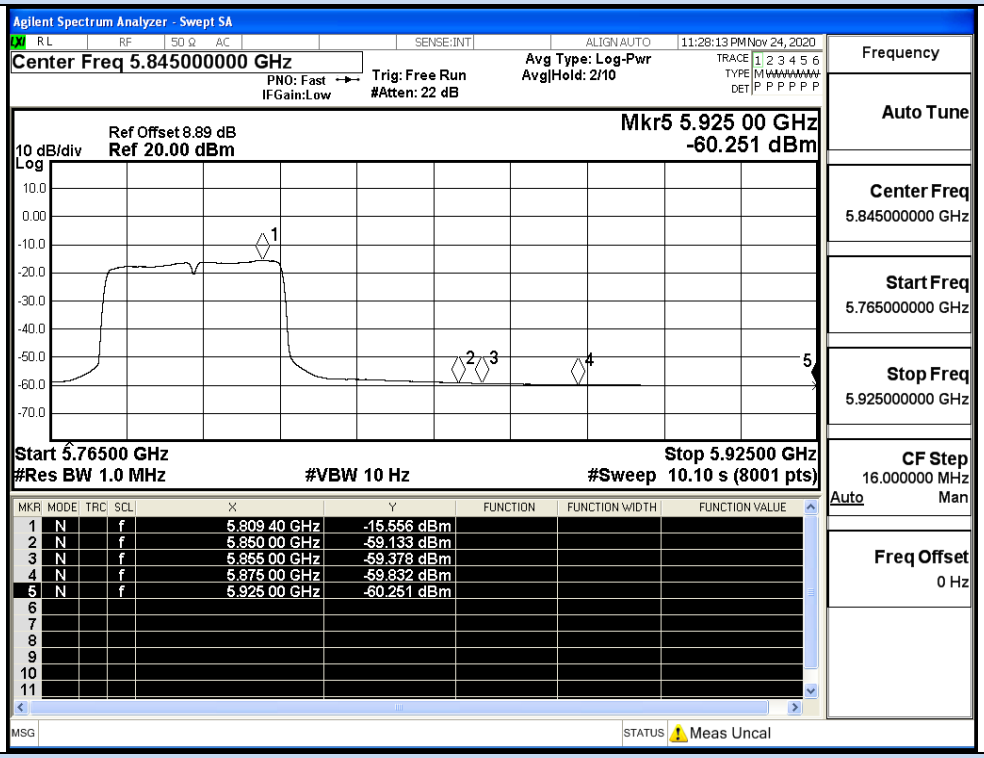


IEEE 802.11n40 / Channel 151 / 5755MHz / Average

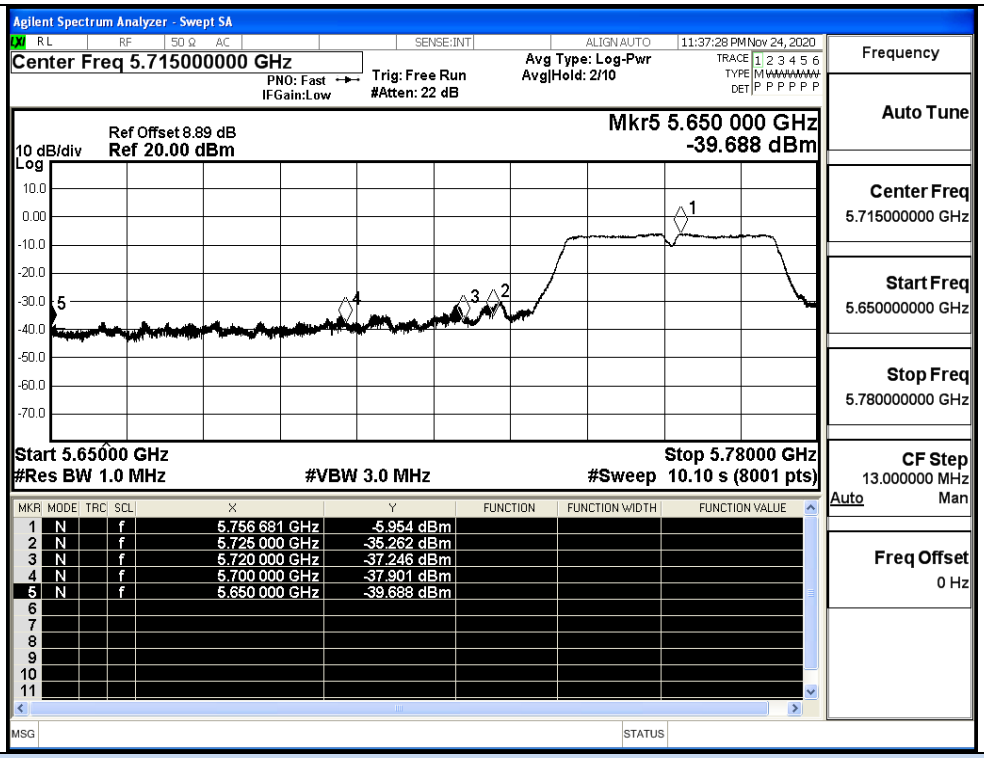
Undesirable Emissions Measurement



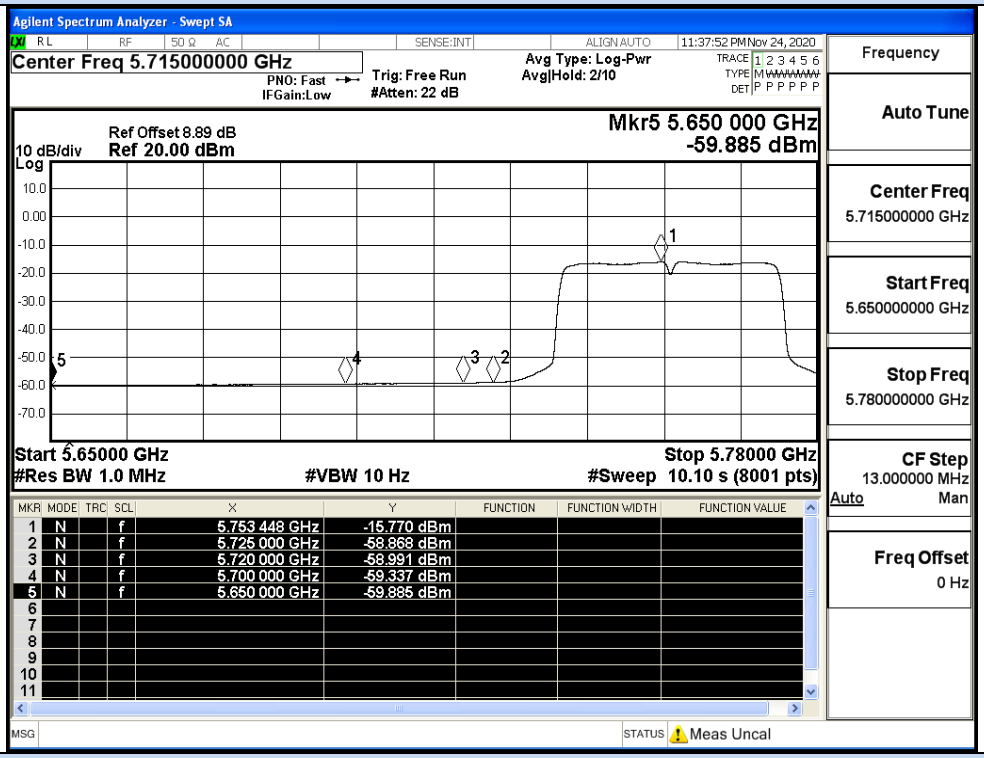
IEEE 802.11n40 / Channel 159 / 5795MHz / Peak



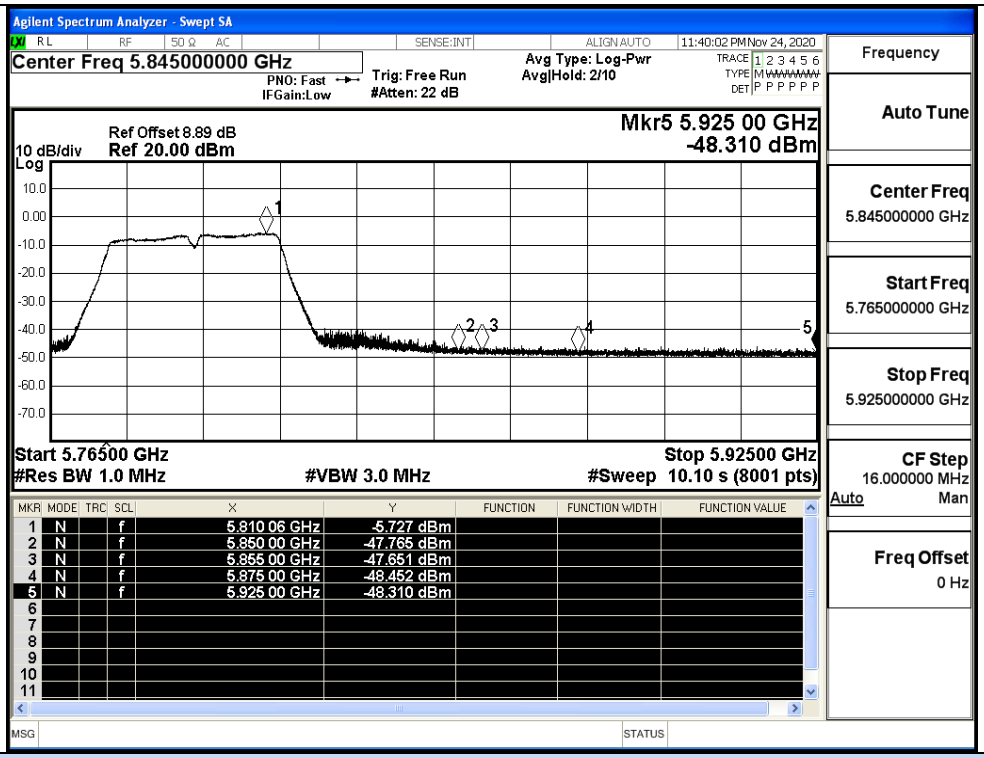
IEEE 802.11n40 / Channel 159 / 5795MHz / Average



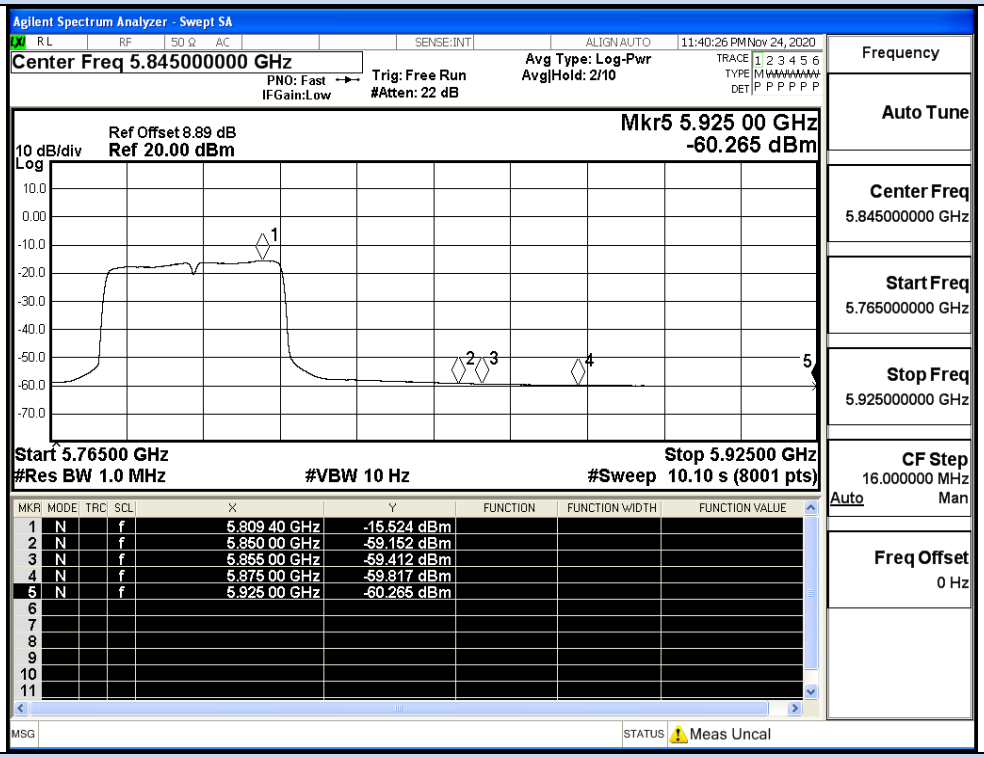
IEEE 802.11ac40 / Channel 151 / 5755MHz / Peak



IEEE 802.11ac40 / Channel 151 / 5755MHz / Average



IEEE 802.11ac40 / Channel 159 / 5795MHz / Peak

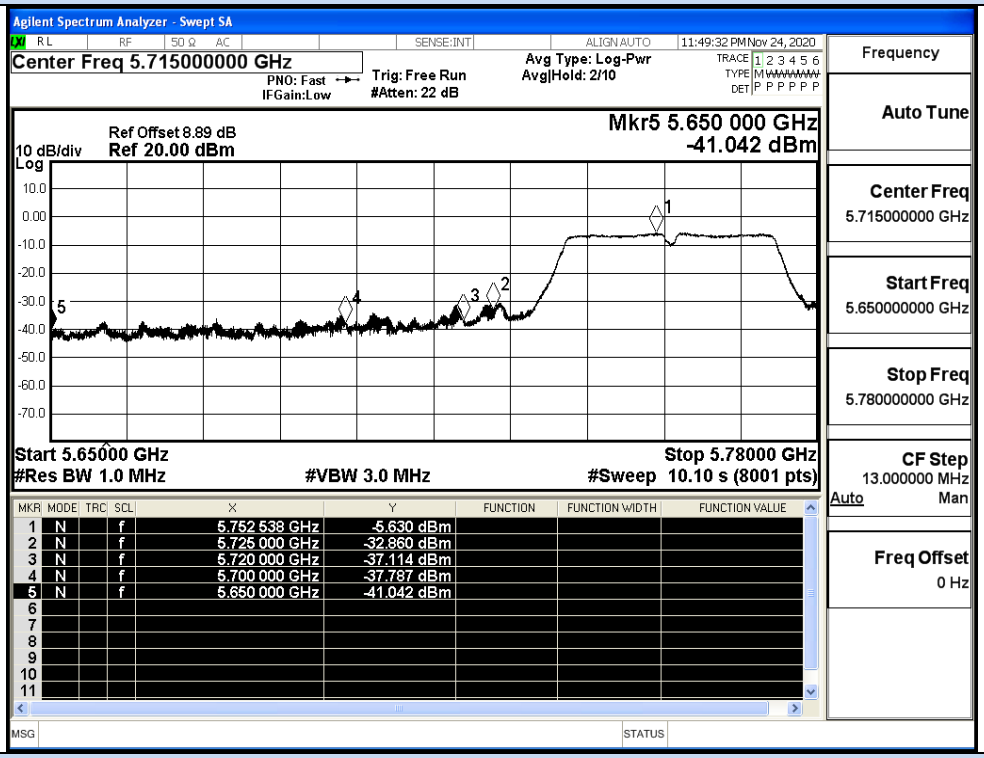


IEEE 802.11ac40 / Channel 159 / 5795MHz / Average

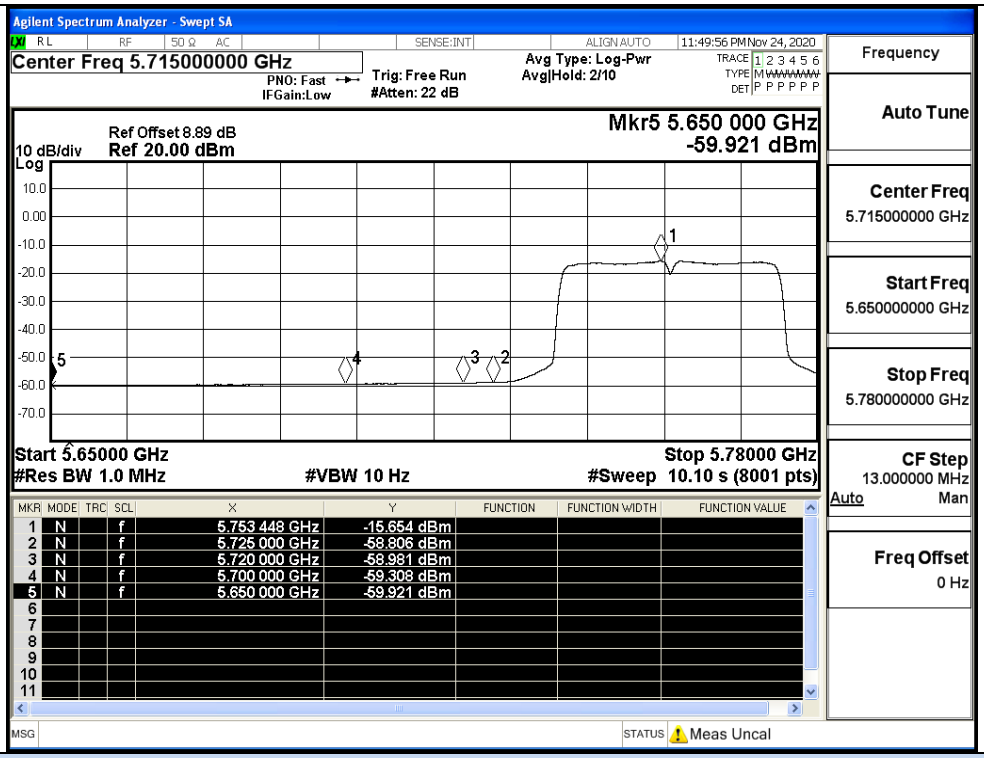
Ant1

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Detector	Limit (dBm/MHz)	Verdict
11N40 SISO	151	5650.0	-41.04	3.5	-37.54	Peak	-27.0	Pass
		5650.0	-59.92	3.5	-56.42	Average	-27.0	Pass
		5700.0	-37.79	3.5	-34.29	Peak	10	Pass
		5700.0	-59.31	3.5	-55.81	Average	10	Pass
		5720.0	-37.11	3.5	-33.61	Peak	15.6	Pass
		5720.0	-58.98	3.5	-55.48	Average	15.6	Pass
		5725.0	-32.86	3.5	-29.36	Peak	27.0	Pass
		5725.0	-58.81	3.5	-55.31	Average	27.0	Pass
	159	5850.0	-47.68	3.5	-44.18	Peak	27.0	Pass
		5850.0	-59.11	3.5	-55.61	Average	27.0	Pass
		5855.0	-47.52	3.5	-44.02	Peak	15.6	Pass
		5855.0	-59.41	3.5	-55.91	Average	15.6	Pass
		5875.0	-48.46	3.5	-44.96	Peak	10	Pass
		5875.0	-59.82	3.5	-56.32	Average	10	Pass
		5925.0	-49.16	3.5	-45.66	Peak	-27.0	Pass
		5925.0	-60.31	3.5	-56.81	Average	-27.0	Pass
11AC40 SISO	151	5650.0	-39.35	3.5	-35.85	Peak	-27.0	Pass
		5650.0	-59.88	3.5	-56.38	Average	-27.0	Pass
		5700.0	-37.57	3.5	-34.07	Peak	10	Pass
		5700.0	-59.34	3.5	-55.84	Average	10	Pass
		5720.0	-37.79	3.5	-34.29	Peak	15.6	Pass
		5720.0	-58.97	3.5	-55.47	Average	15.6	Pass
		5725.0	-33.35	3.5	-29.85	Peak	27.0	Pass
		5725.0	-58.73	3.5	-55.23	Average	27.0	Pass
	159	5850.0	-47.29	3.5	-43.79	Peak	27.0	Pass
		5850.0	-59.12	3.5	-55.62	Average	27.0	Pass
		5855.0	-47.55	3.5	-44.05	Peak	15.6	Pass
		5855.0	-59.42	3.5	-55.92	Average	15.6	Pass
		5875.0	-48.43	3.5	-44.93	Peak	10	Pass
		5875.0	-59.84	3.5	-56.34	Average	10	Pass
		5925.0	-48.75	3.5	-45.25	Peak	-27.0	Pass
		5925.0	-60.26	3.5	-56.76	Average	-27.0	Pass

Undesirable Emissions Measurement

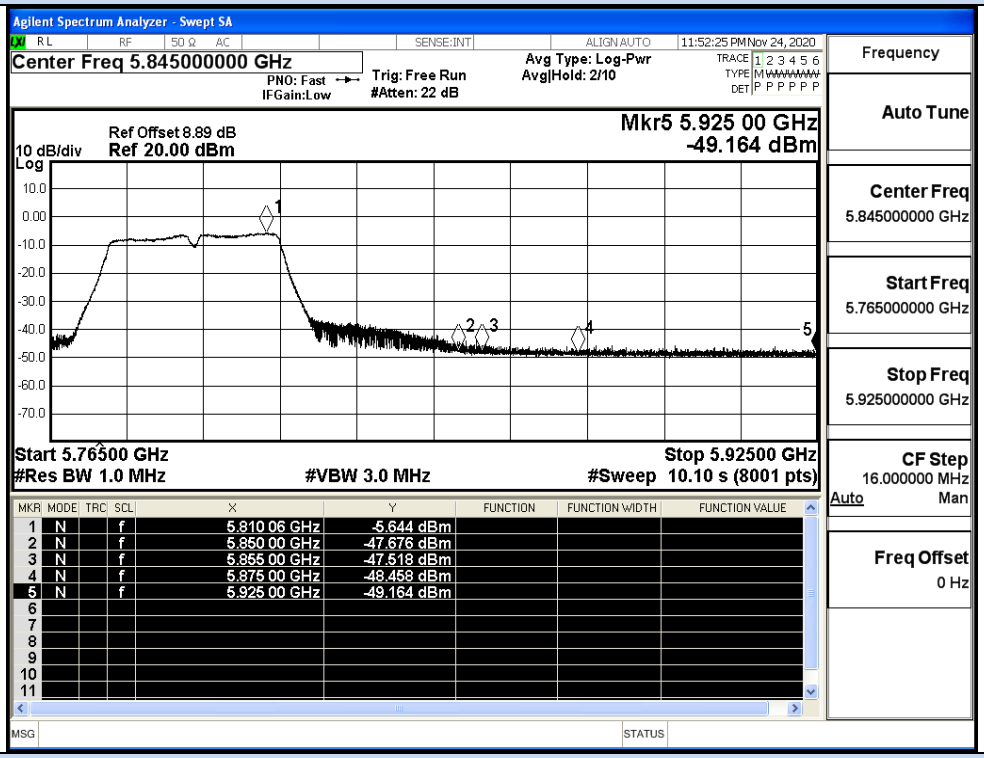


IEEE 802.11n40 / Channel 151 / 5755MHz / Peak

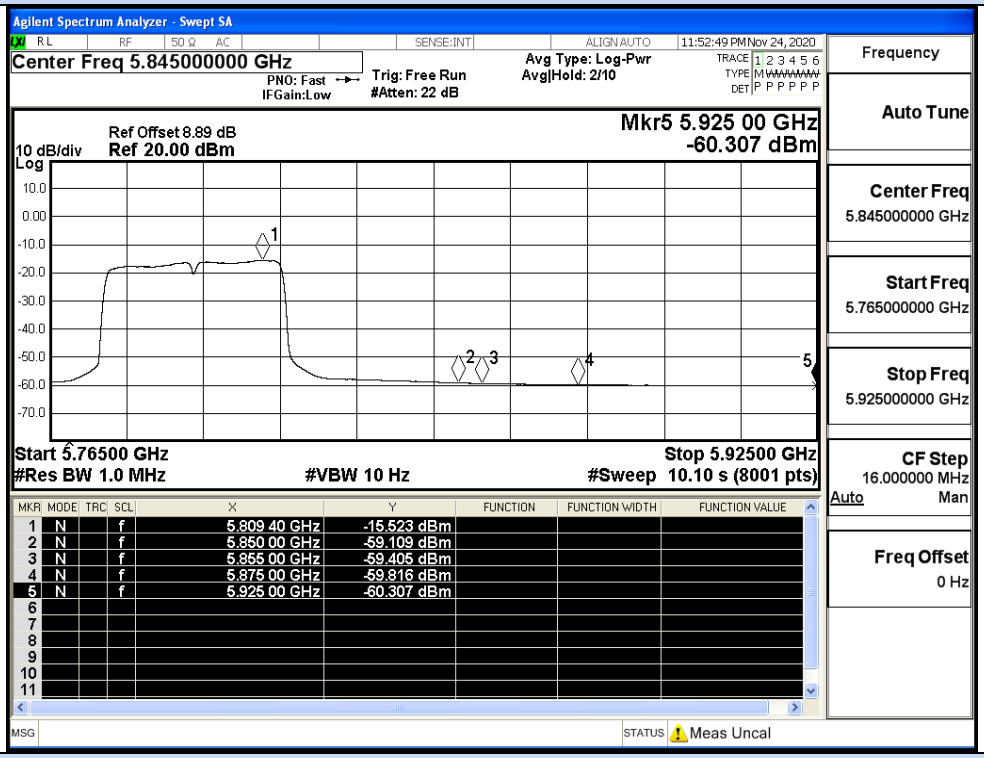


IEEE 802.11n40 / Channel 151 / 5755MHz / Average

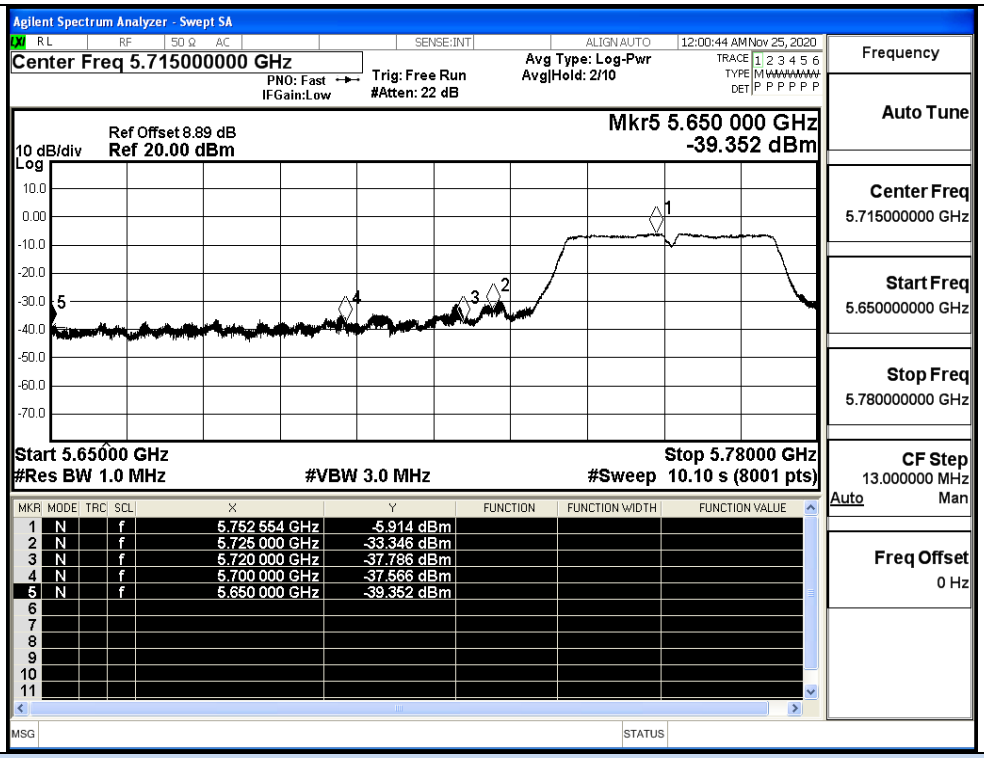
Undesirable Emissions Measurement



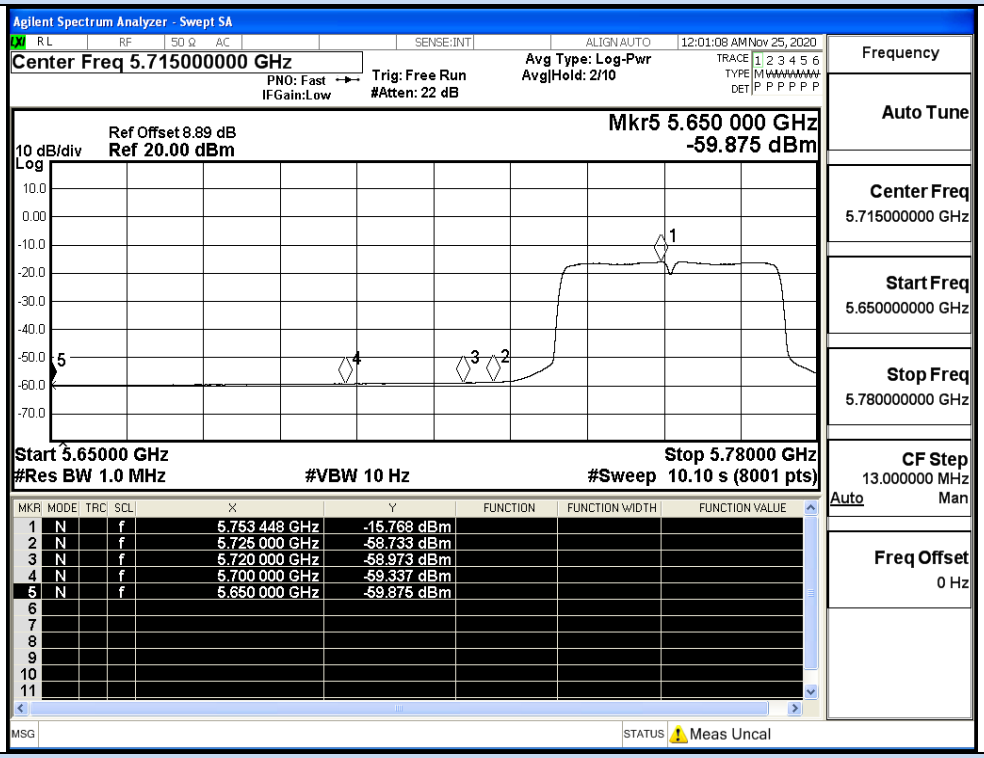
IEEE 802.11n40 / Channel 159 / 5795MHz / Peak



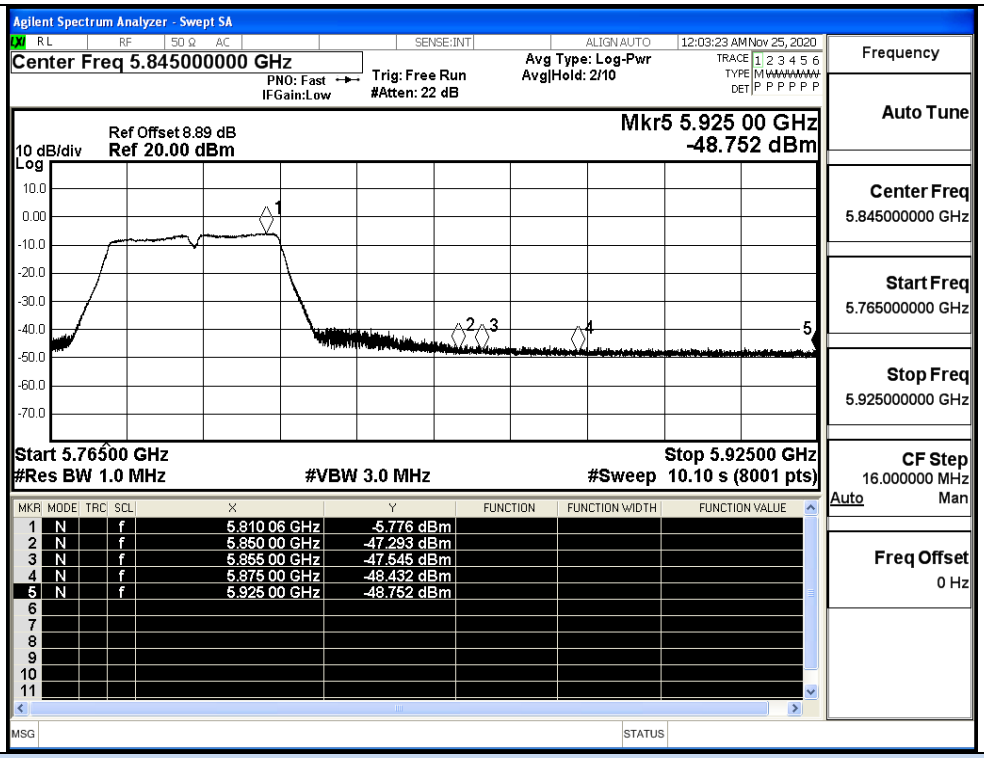
IEEE 802.11n40 / Channel 159 / 5795MHz / Average



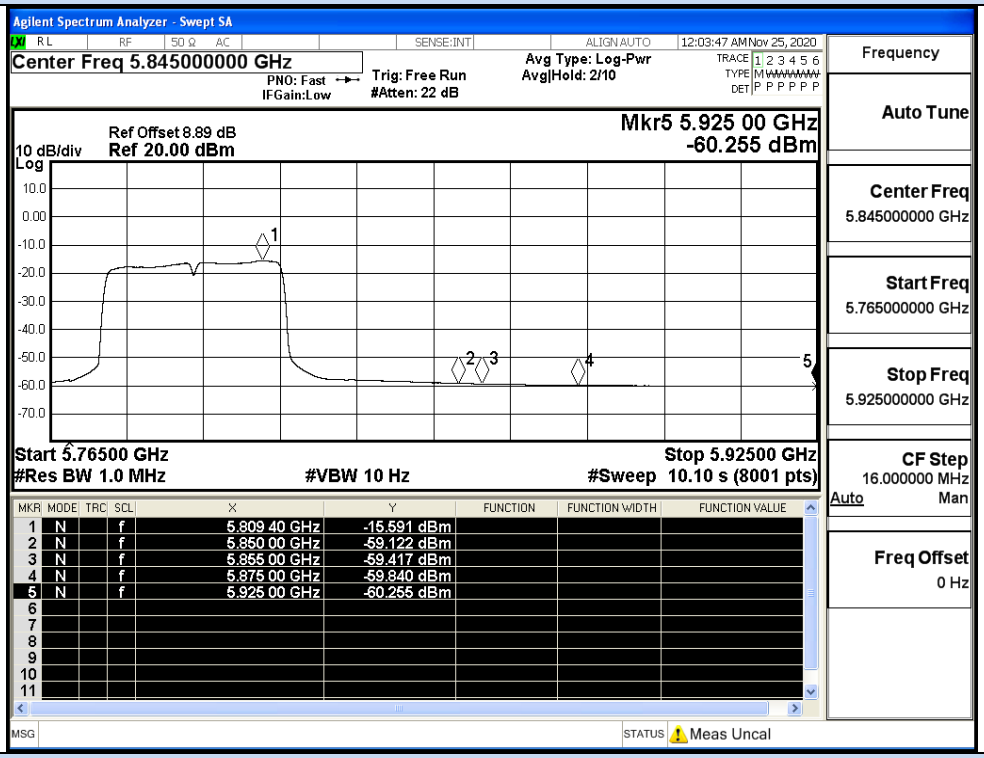
IEEE 802.11ac40 / Channel 151 / 5755MHz / Peak



IEEE 802.11ac40 / Channel 151 / 5755MHz / Average



IEEE 802.11ac40 / Channel 159 / 5795MHz / Peak



IEEE 802.11ac40 / Channel 159 / 5795MHz / Average

Ant0+Ant1

Test Mode	Channel	Frequency (MHz)	ANT 0 Conducted Power (dBm)	ANT 1 Conducted Power (dBm)	ANT 0-1 Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Detector	Limit (dBm/MHz)	Verdict
11N40 SISO	151	5650.0	-40.19	-41.04	-37.58	6.51	-31.07	Peak	-27.0	Pass
		5650.0	-59.92	-59.92	-56.91	6.51	-50.40	Average	-27.0	Pass
		5700.0	-37.40	-37.79	-34.58	6.51	-28.07	Peak	10	Pass
		5700.0	-59.34	-59.31	-56.31	6.51	-49.80	Average	10	Pass
		5720.0	-37.44	-37.11	-34.26	6.51	-27.75	Peak	15.6	Pass
		5720.0	-58.98	-58.98	-55.97	6.51	-49.46	Average	15.6	Pass
		5725.0	-34.23	-32.86	-30.48	6.51	-23.97	Peak	27.0	Pass
		5725.0	-58.81	-58.81	-55.80	6.51	-49.29	Average	27.0	Pass
	159	5850.0	-46.81	-47.68	-44.21	6.51	-37.70	Peak	27.0	Pass
		5850.0	-59.13	-59.11	-56.11	6.51	-49.60	Average	27.0	Pass
		5855.0	-47.60	-47.52	-44.55	6.51	-38.04	Peak	15.6	Pass
		5855.0	-59.38	-59.41	-56.38	6.51	-49.87	Average	15.6	Pass
		5875.0	-48.65	-48.46	-45.54	6.51	-39.03	Peak	10	Pass
		5875.0	-59.83	-59.82	-56.81	6.51	-50.30	Average	10	Pass
		5925.0	-48.70	-49.16	-45.91	6.51	-39.4	Peak	-27.0	Pass
		5925.0	-60.25	-60.31	-57.27	6.51	-50.76	Average	-27.0	Pass
11AC40 SISO	151	5650.0	-39.69	-39.35	-36.51	6.51	-30.00	Peak	-27.0	Pass
		5650.0	-59.89	-59.88	-56.87	6.51	-50.36	Average	-27.0	Pass
		5700.0	-37.90	-37.57	-34.72	6.51	-28.21	Peak	10	Pass
		5700.0	-59.34	-59.34	-56.33	6.51	-49.82	Average	10	Pass
		5720.0	-37.25	-37.79	-34.50	6.51	-27.99	Peak	15.6	Pass
		5720.0	-58.99	-58.97	-55.97	6.51	-49.46	Average	15.6	Pass
		5725.0	-35.26	-33.35	-31.19	6.51	-24.68	Peak	27.0	Pass
		5725.0	-58.87	-58.73	-55.79	6.51	-49.28	Average	27.0	Pass
	159	5850.0	-47.77	-47.29	-44.51	6.51	-38.00	Peak	27.0	Pass
		5850.0	-59.15	-59.12	-56.12	6.51	-49.61	Average	27.0	Pass
		5855.0	-47.65	-47.55	-44.59	6.51	-38.08	Peak	15.6	Pass
		5855.0	-59.41	-59.42	-56.40	6.51	-49.89	Average	15.6	Pass
		5875.0	-48.45	-48.43	-45.43	6.51	-38.92	Peak	10	Pass
		5875.0	-59.82	-59.84	-56.82	6.51	-50.31	Average	10	Pass
		5925.0	-48.31	-48.75	-45.51	6.51	-3900	Peak	-27.0	Pass
		5925.0	-60.27	-60.26	-57.25	6.51	-50.74	Average	-27.0	Pass

EIRP(dBm/MHz)= Conducted Power (dBm) + Antenna Gain (dBi)

The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 3.5dBi, whichever is greater

Directional gain=3.5dBi+10 log (2) = 6.51dBi