

Appendix C

RF Test Data for 5.8G WLAN (Conducted Measurement)

Product Name: Mini 802.11ac Wireless USB Adapter

Trade Mark: N/A

Test Model: U0633

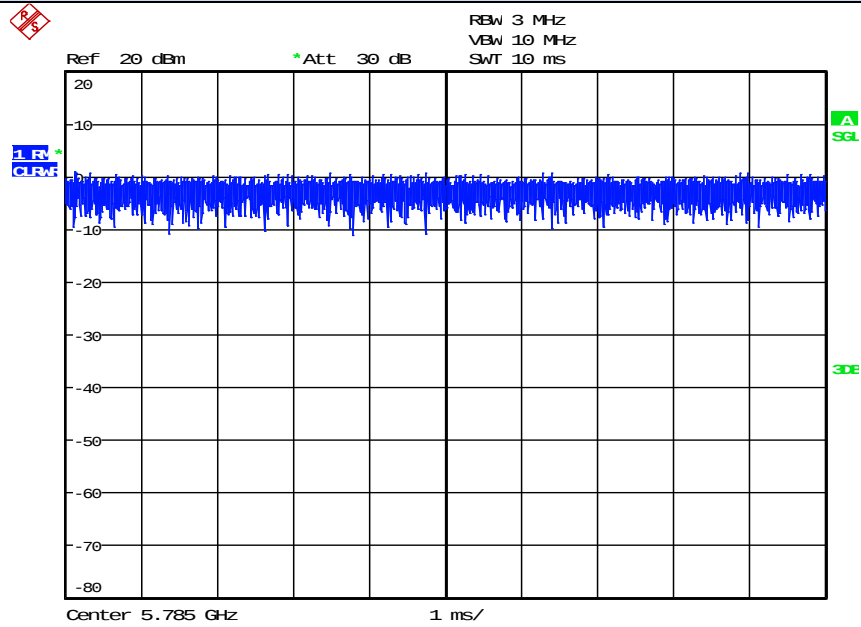
Environmental Conditions

Temperature:	22.5 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

D.1 Duty Cycle

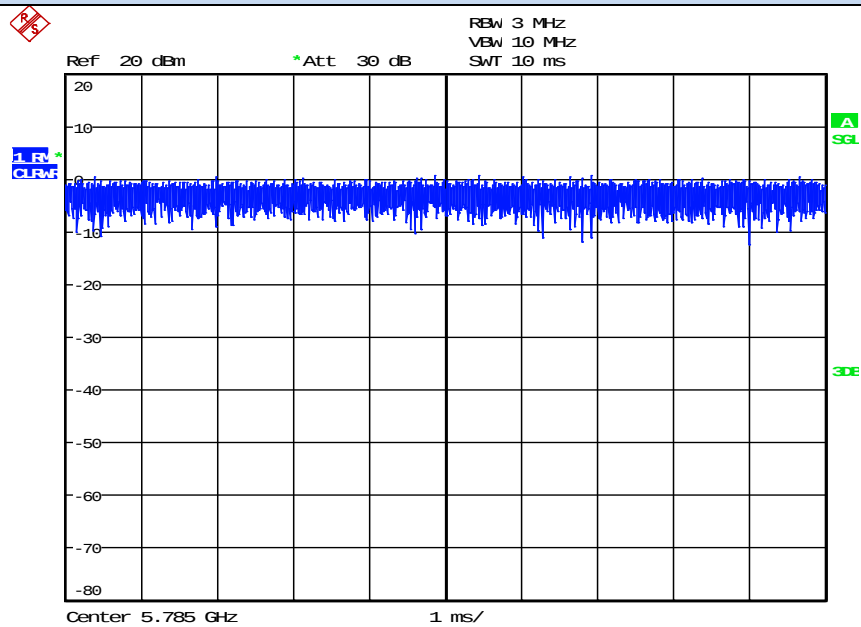
Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5785	100	0.00	0.01
11N20 SISO	5785	100	0.00	0.01
11N40 SISO	5755	100	0.00	0.01
11AC20 SISO	5785	100	0.00	0.01
11AC40 SISO	5755	100	0.00	0.01
11AC80 SISO	5775	100	0.00	0.01

On Time and Duty Cycle



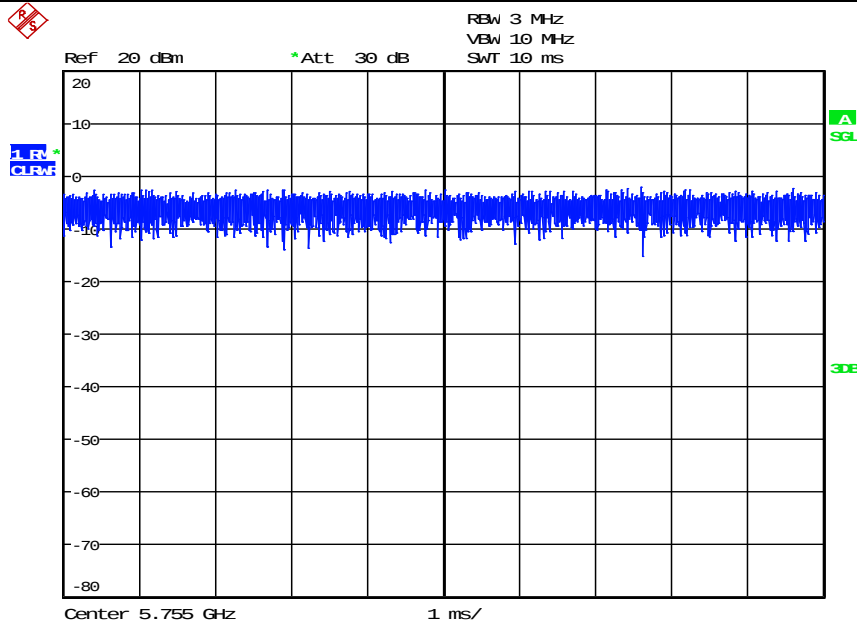
Date: 17.SEP.2019 14:14:39

IEEE 802.11a



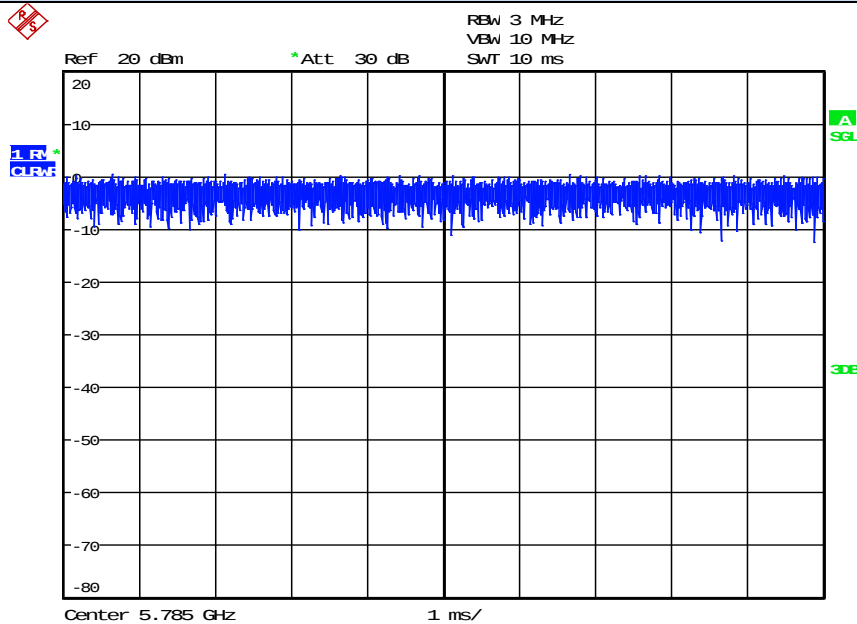
Date: 17.SEP.2019 14:38:42

IEEE 802.11n HT20



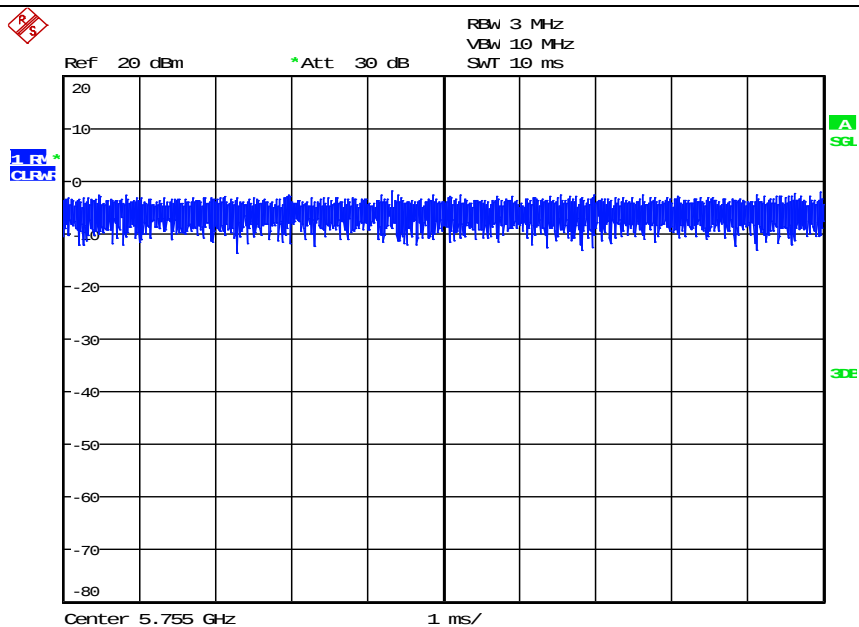
Date: 17.SEP.2019 14:51:55

IEEE 802.11n HT40



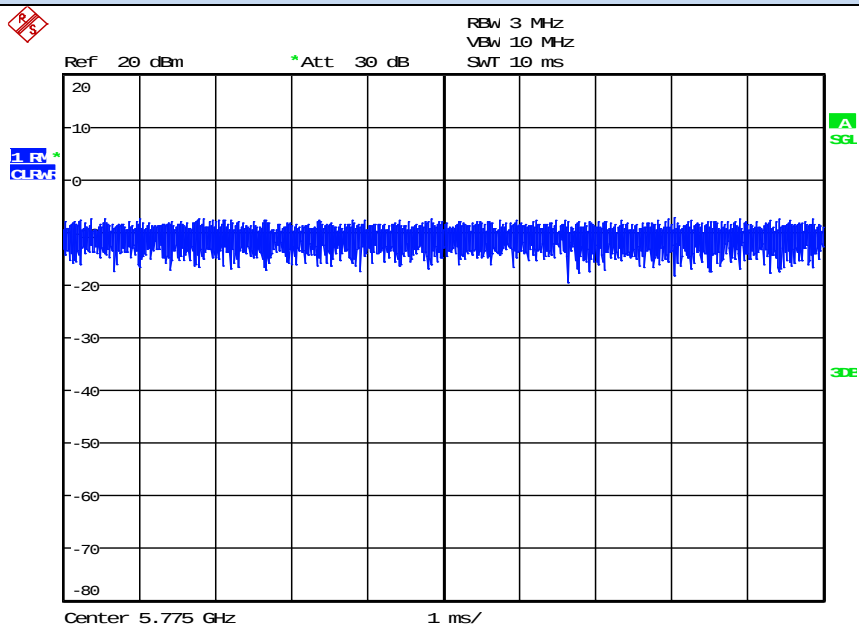
Date: 17.SEP.2019 15:30:00

IEEE 802.11AC20



Date: 17.SEP.2019 15:42:09

IEEE 802.11AC40



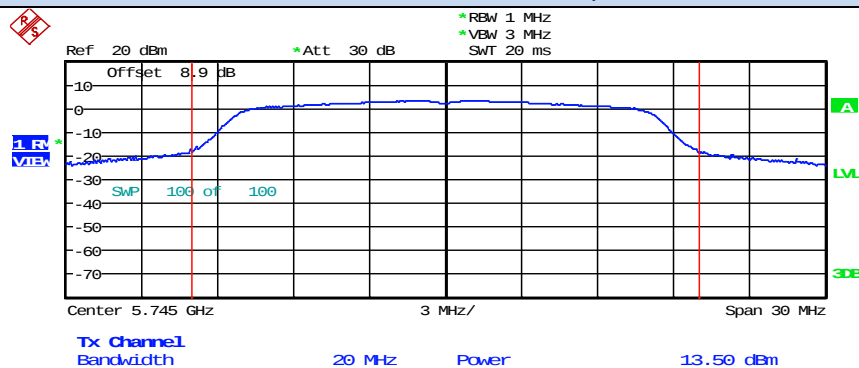
Date: 17.SEP.2019 16:07:55

IEEE 802.11AC80

D.2 Maximum Conduct Output Power

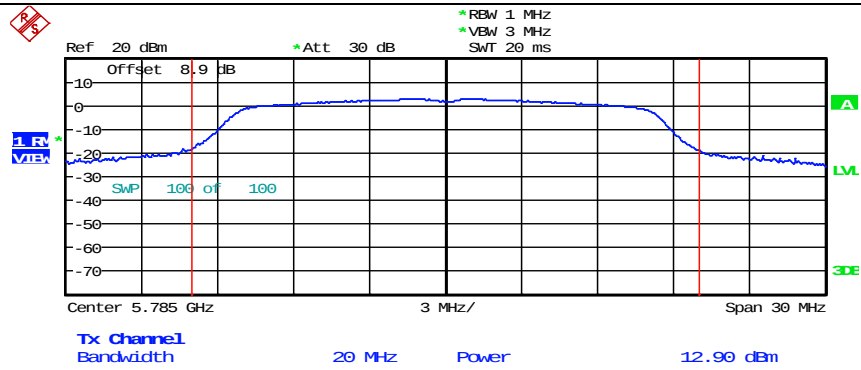
Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11A	149	5745	13.5	0	13.5	30	Pass
	157	5785	12.9	0	12.9		Pass
	165	5825	12.25	0	12.25		Pass
11N20 SISO	149	5745	13.39	0	13.39	30	Pass
	157	5785	12.81	0	12.81		Pass
	165	5825	12.06	0	12.06		Pass
11N40 SISO	151	5755	13.6	0	13.6	30	Pass
	159	5795	12.27	0	12.27		Pass
11AC20 SISO	149	5745	13.15	0	13.15	30	Pass
	157	5785	12.96	0	12.96		Pass
	165	5825	12.22	0	12.22		Pass
11AC40 SISO	151	5755	13.65	0	13.65	30	Pass
	159	5795	13.03	0	13.03		Pass
11AC80 SISO	155	5775	11.99	0	11.99	30	Pass

Maximum Conducted Output Power



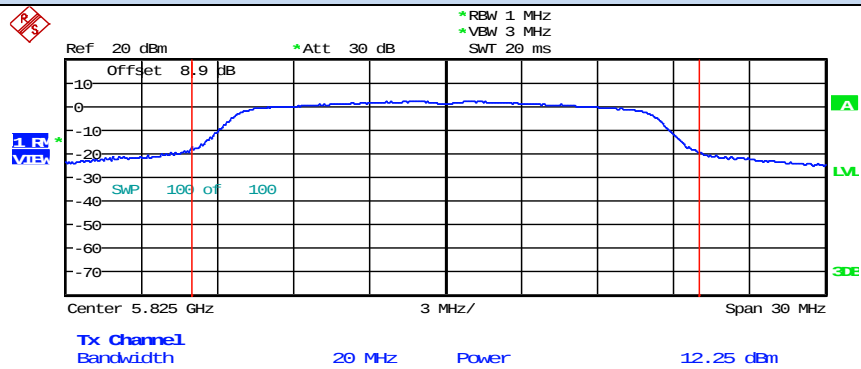
Date: 17.SEP.2019 14:05:06

IEEE 802.11a / Channel 149 / 5745MHz



Date: 17.SEP.2019 14:15:29

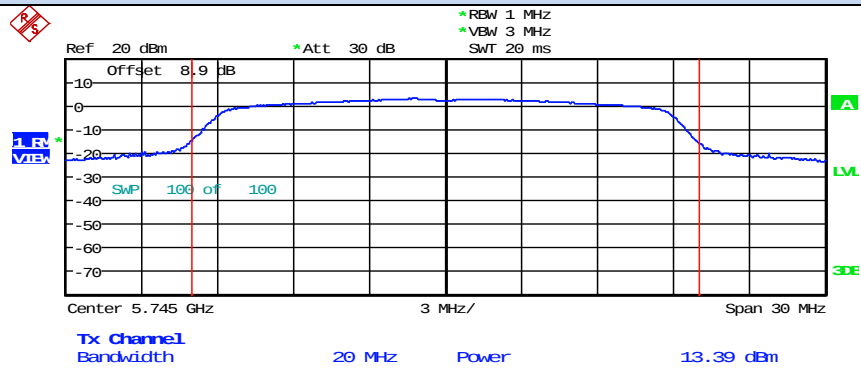
IEEE 802.11a / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:16:54

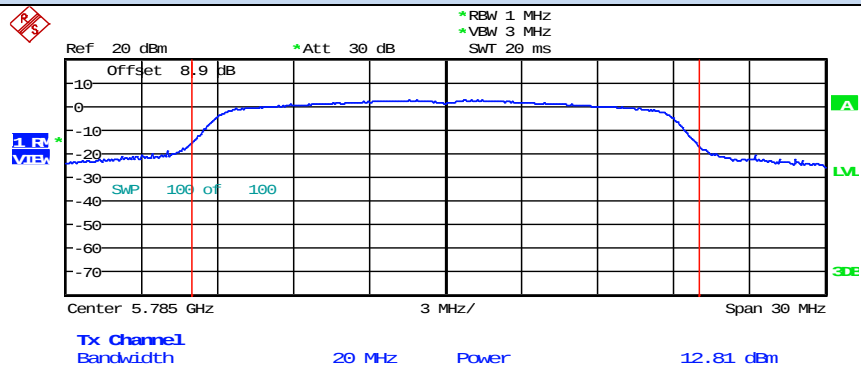
IEEE 802.11a / Channel 165 / 5825MHz

Maximum Conducted Output Power



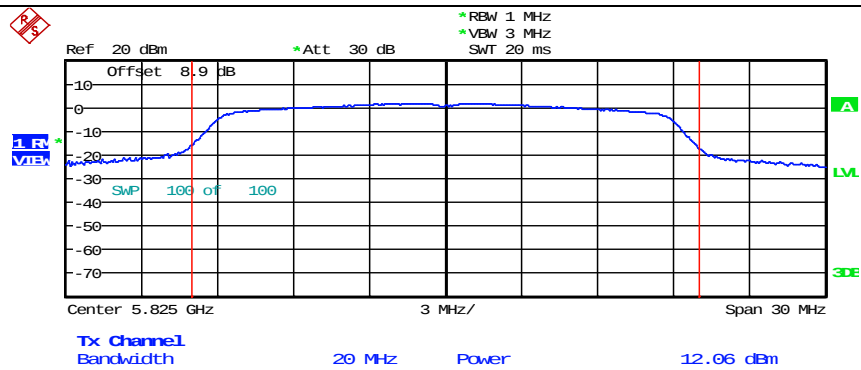
Date: 17.SEP.2019 14:34:12

IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 17.SEP.2019 14:39:32

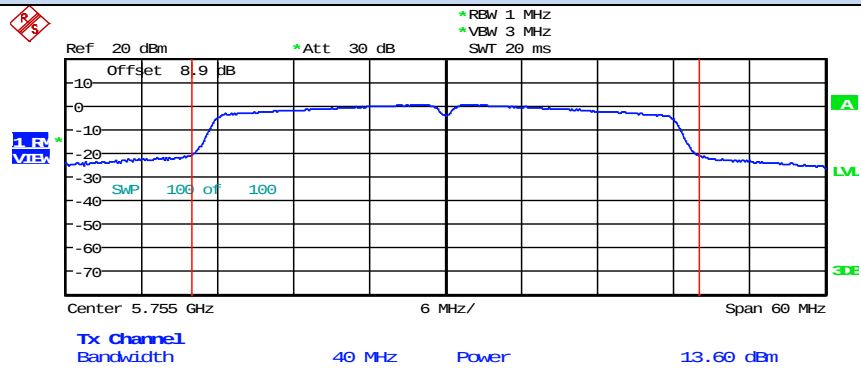
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:40:58

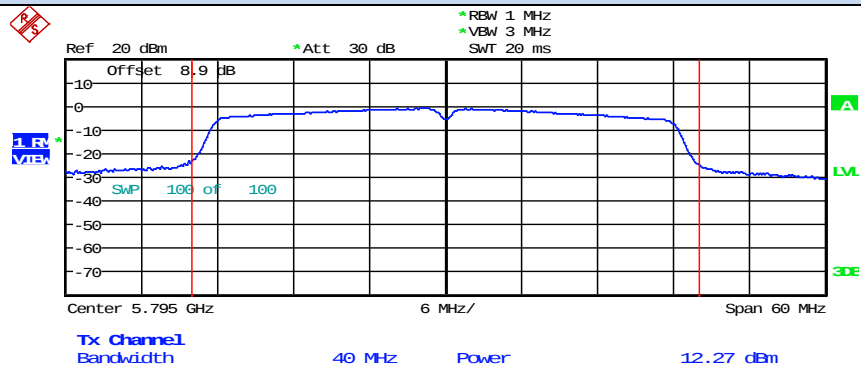
IEEE 802.11n20 / Channel 165 / 5825MHz

Maximum Conducted Output Power



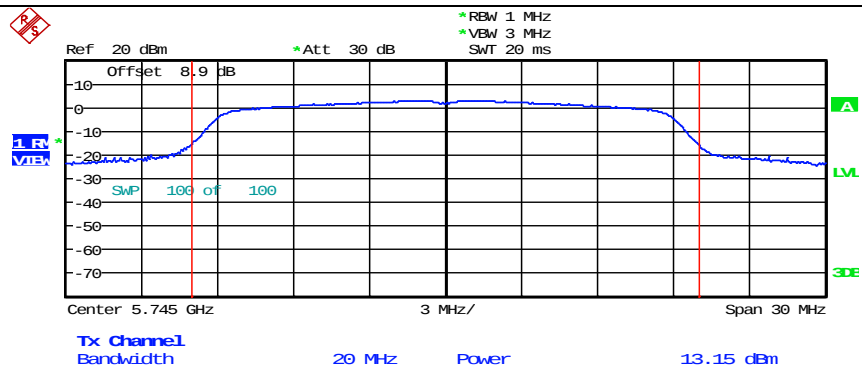
Date: 17.SEP.2019 14:52:45

IEEE 802.11n40 / Channel 151 / 5755MHz



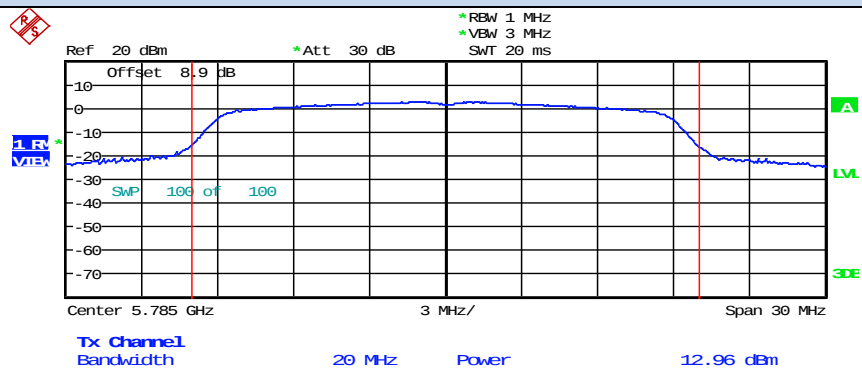
Date: 17.SEP.2019 15:10:02

IEEE 802.11n40 / Channel 159 / 5795MHz



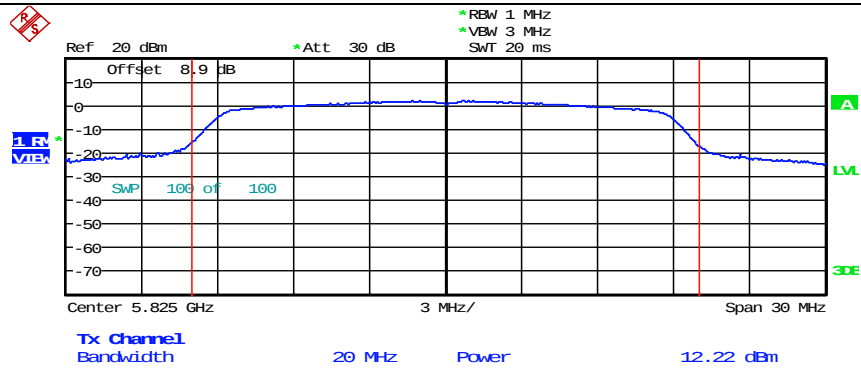
Date: 17.SEP.2019 15:25:26

IEEE 802.11ac20 / Channel 149 / 5745MHz



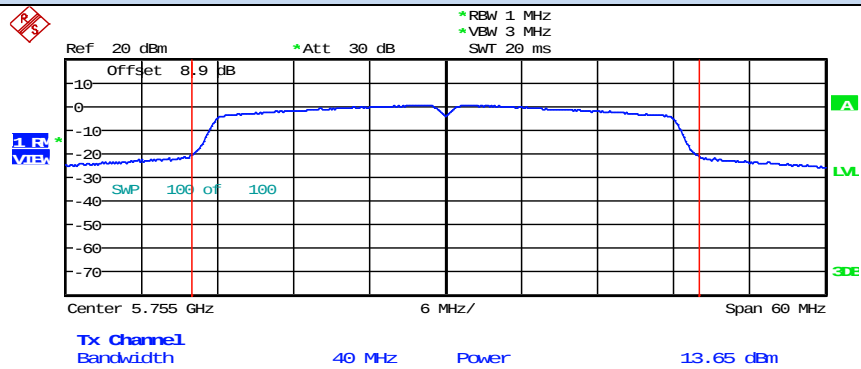
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IEEE 802.11ac20 / Channel 157 / 5785MHz



Date: 17.SEP.2019 15:32:14

IEEE 802.11ac20 / Channel 165/ 5825MHz



Date: 17.SEP.2019 15:42:59

IEEE 802.11ac40 / Channel 151 / 5755MHz



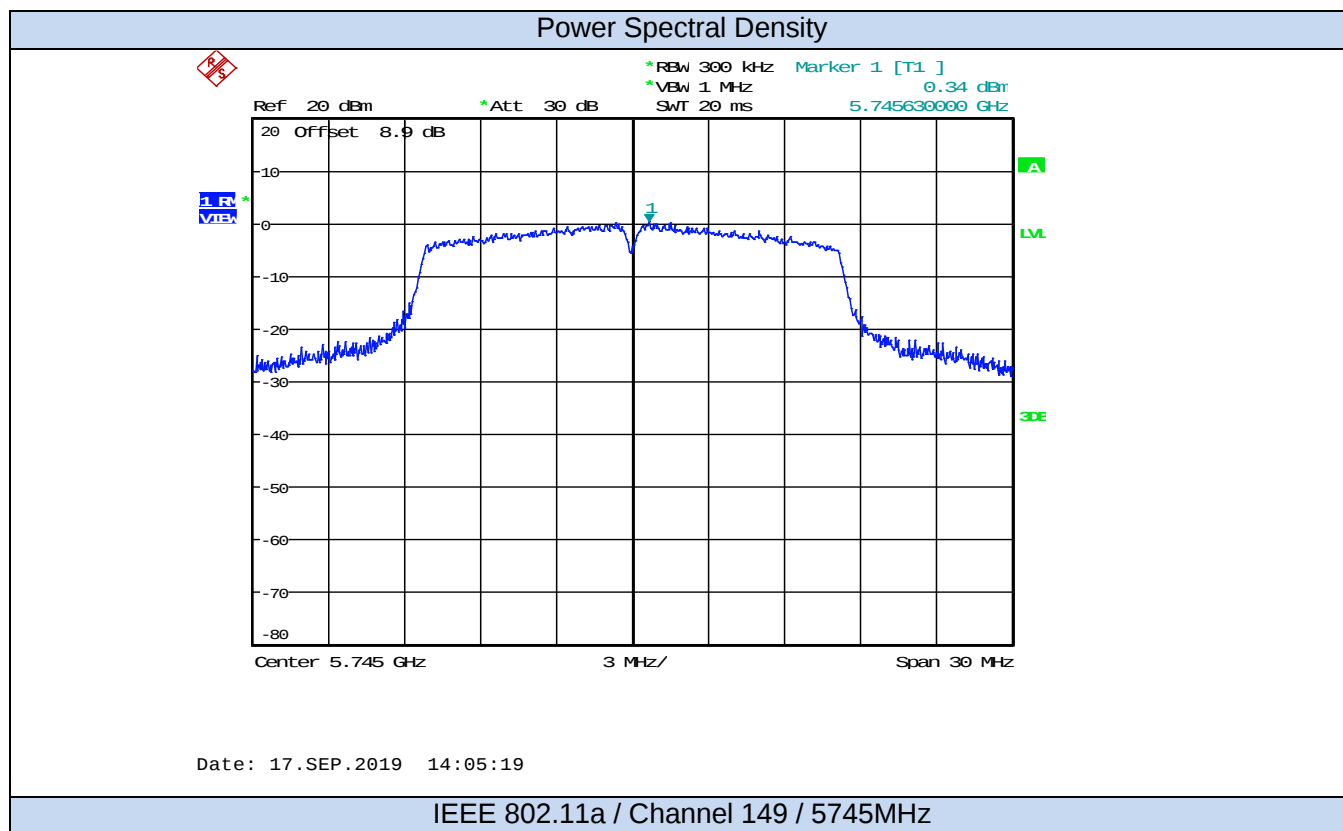
IEEE 802.11ac40 / Channel 159 / 5795MHz

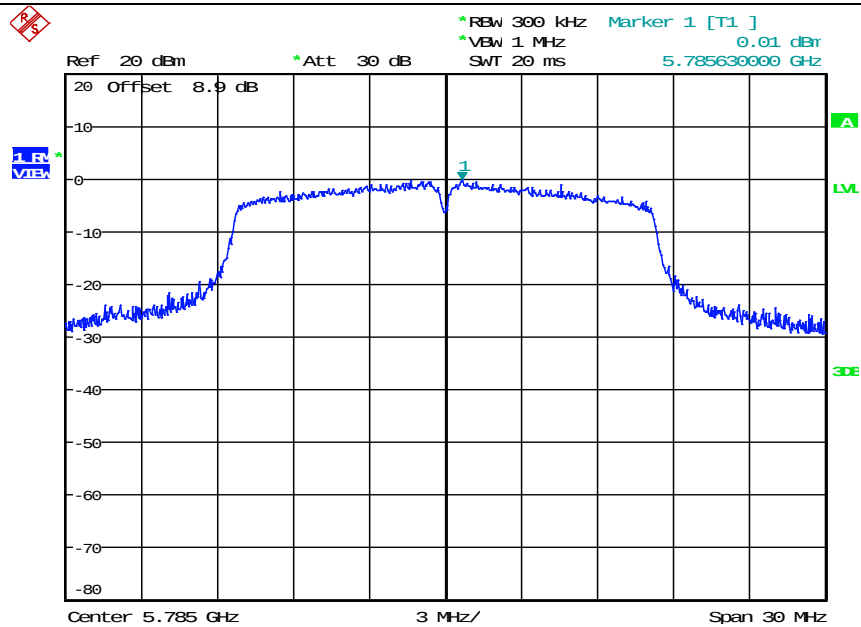


IEEE 802.11ac80 / Channel 155 / 5775MHz

D.3 Power Spectral Density

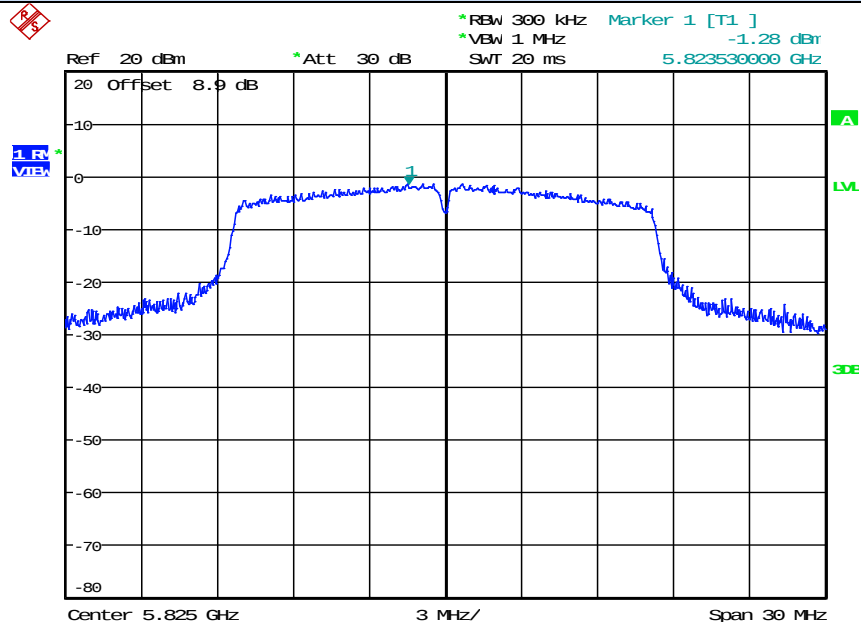
Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
11A	149	5745	0.34	0	2.22	2.56	30	Pass
	157	5785	0.01	0	2.22	2.23		Pass
	165	5825	-1.28	0	2.22	0.94		Pass
11N20 SISO	149	5745	-0.09	0	2.22	2.13	30	Pass
	157	5785	-0.99	0	2.22	1.23		Pass
	165	5825	-1.68	0	2.22	0.54		Pass
11N40 SISO	151	5755	-2.38	0	2.22	-0.16	30	Pass
	159	5795	-4.09	0	2.22	-1.87		Pass
11AC20 SISO	149	5745	-0.23	0	2.22	1.99	30	Pass
	157	5785	-0.62	0	2.22	1.60		Pass
	165	5825	-1.11	0	2.22	1.11		Pass
11AC40 SISO	151	5755	-2.98	0	2.22	-0.76	30	Pass
	159	5795	-3.46	0	2.22	-1.24		Pass
11AC80 SISO	155	5775	-7.63	0	2.22	-5.41	30	Pass





Date: 17.SEP.2019 14:15:42

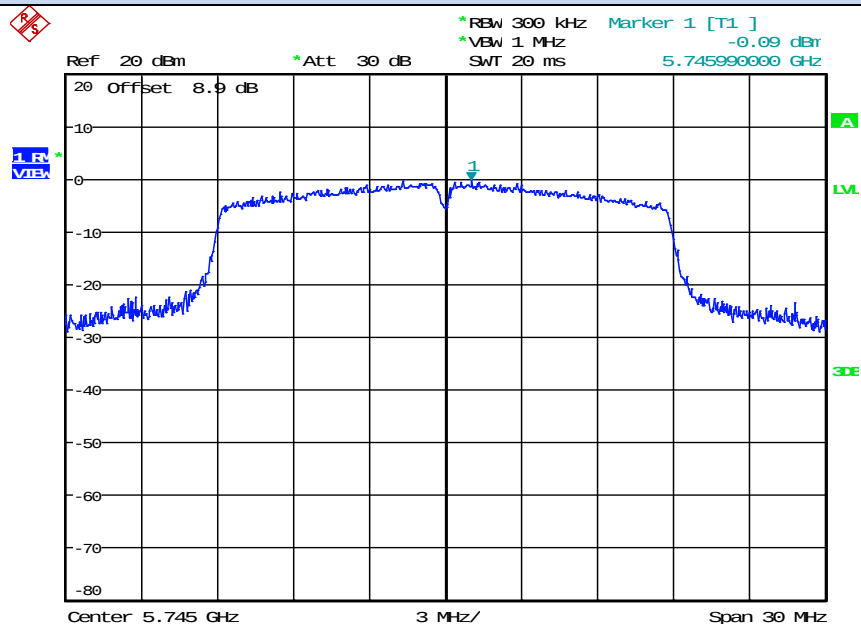
IEEE 802.11na / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:17:08

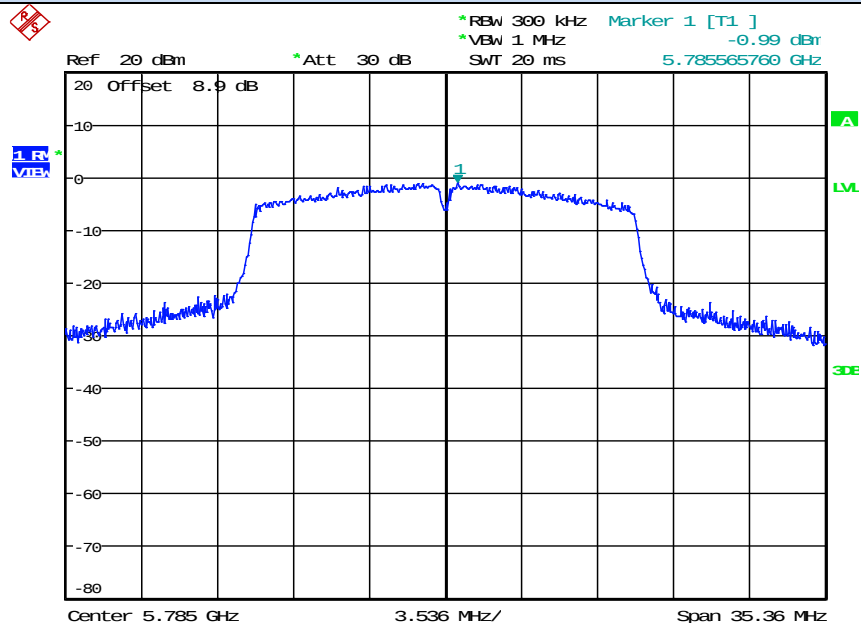
IEEE 802.11na / Channel 165 / 5825MHz

Power Spectral Density



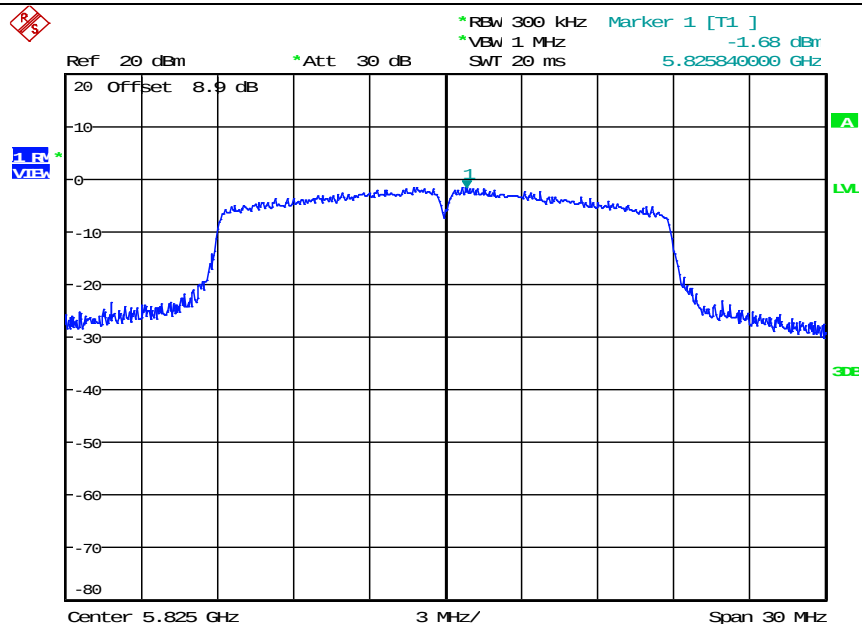
Date: 17.SEP.2019 14:34:26

IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 17.SEP.2019 14:39:46

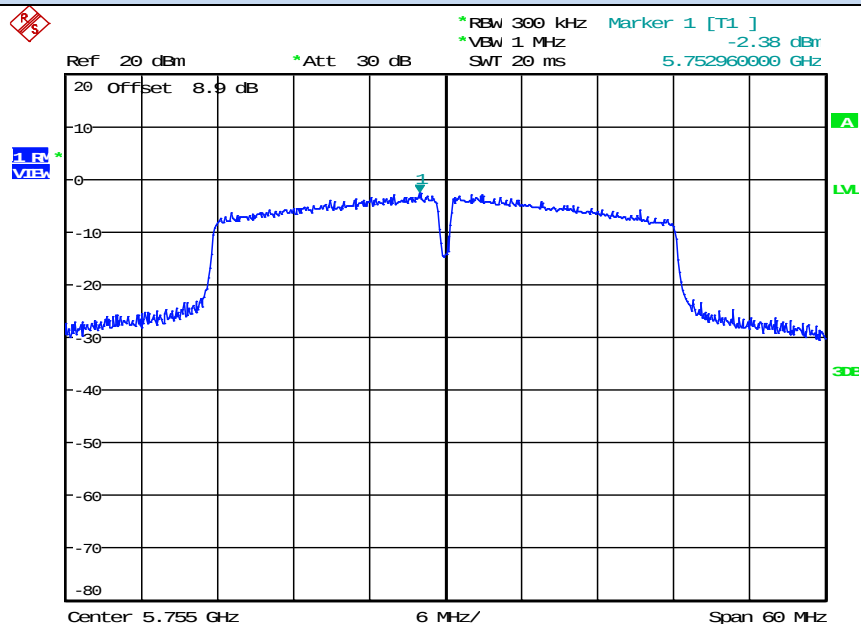
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:41:12

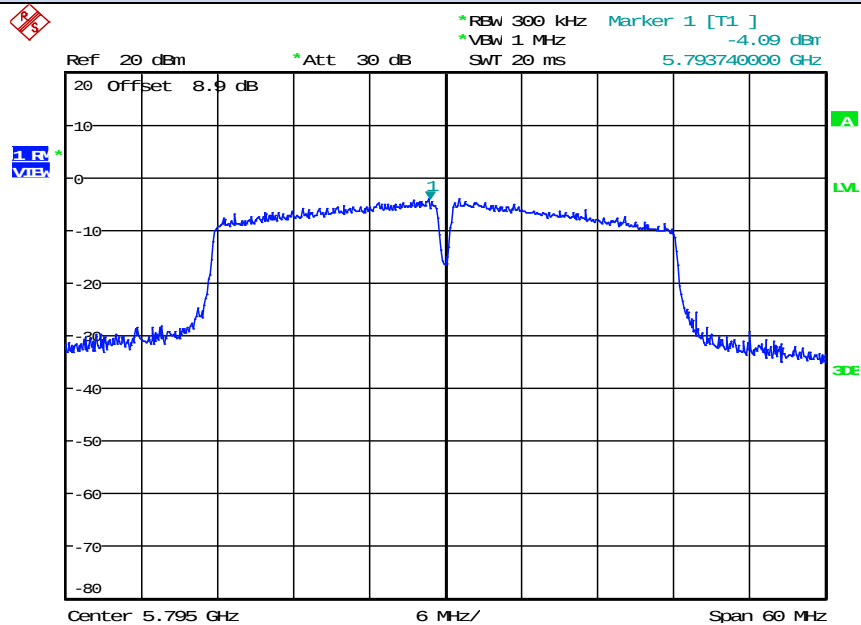
IEEE 802.11n20 / Channel 165 / 5825MHz

Power Spectral Density



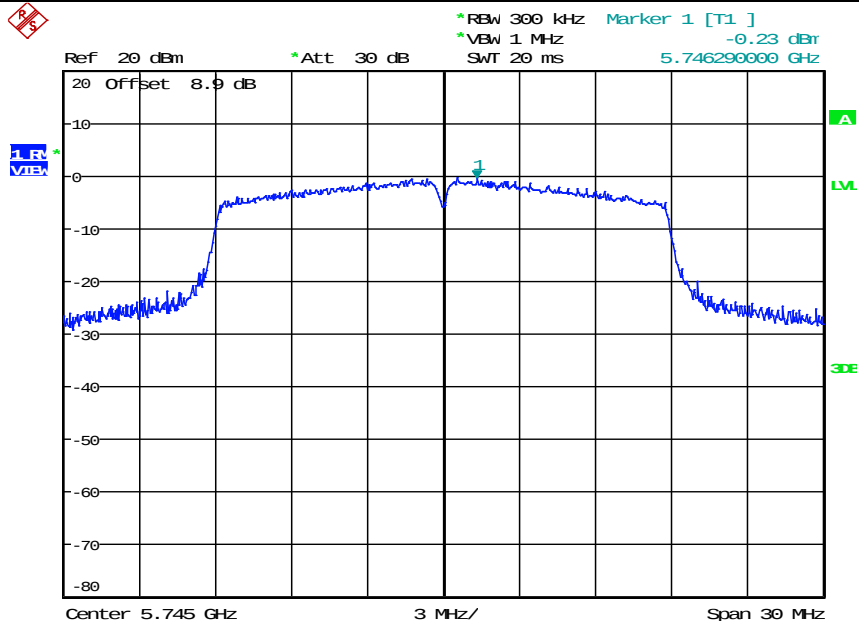
Date: 17.SEP.2019 14:52:58

IEEE 802.11n40 / Channel 151 / 5755MHz



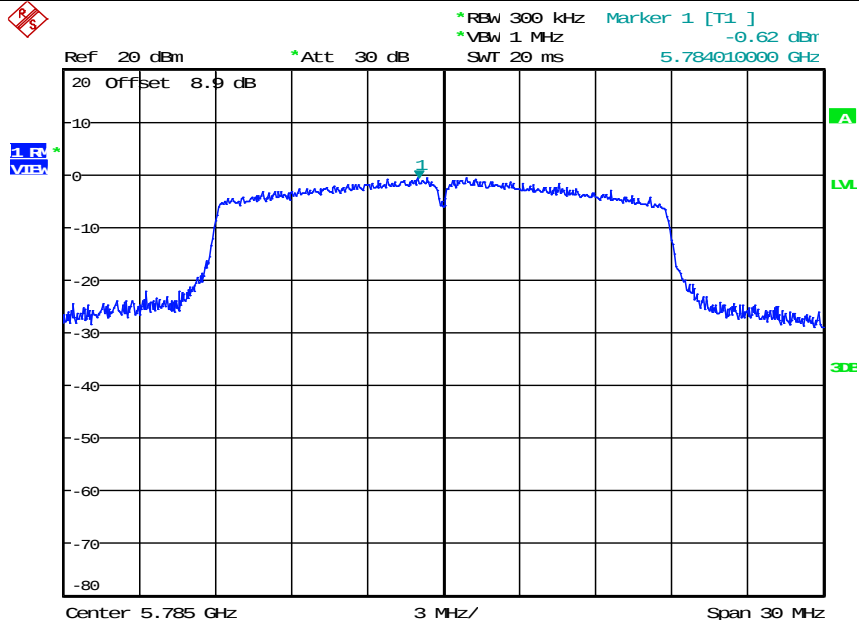
Date: 17.SEP.2019 15:10:16

IEEE 802.11n40 / Channel 159 / 5795MHz



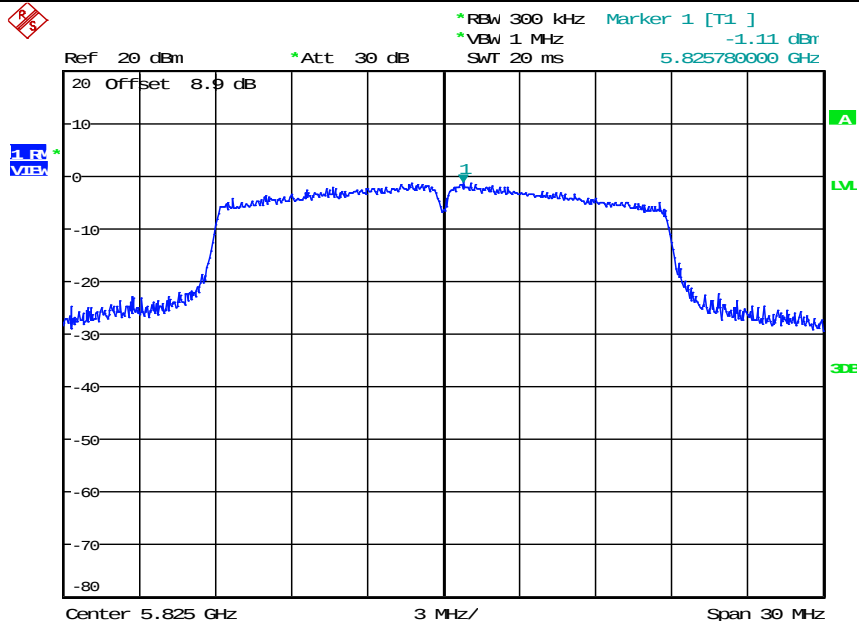
Date: 17.SEP.2019 15:25:39

IEEE 802.11ac20 / Channel 149 / 5745MHz



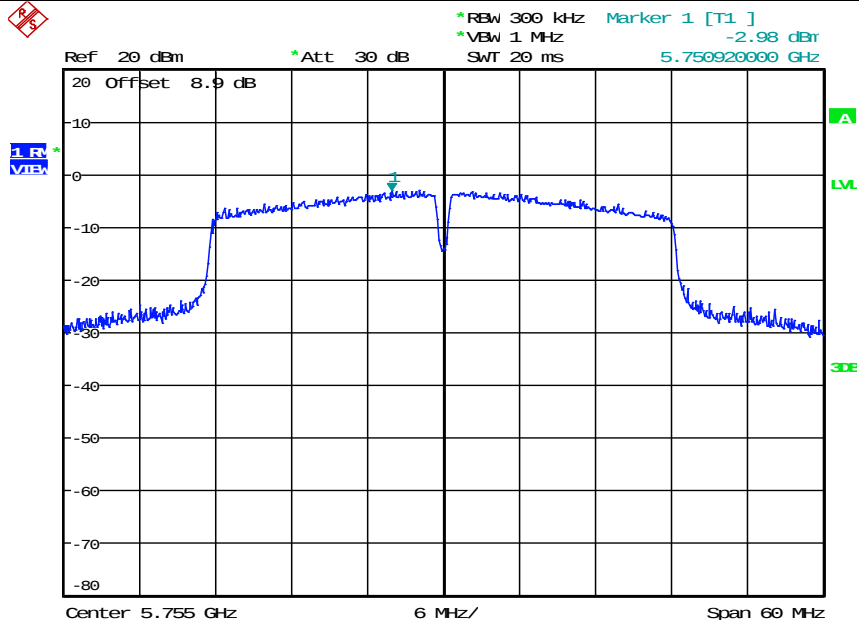
Date: 17.SEP.2019 15:31:04

IEEE 802.11ac20 / Channel 157 / 5785MHz



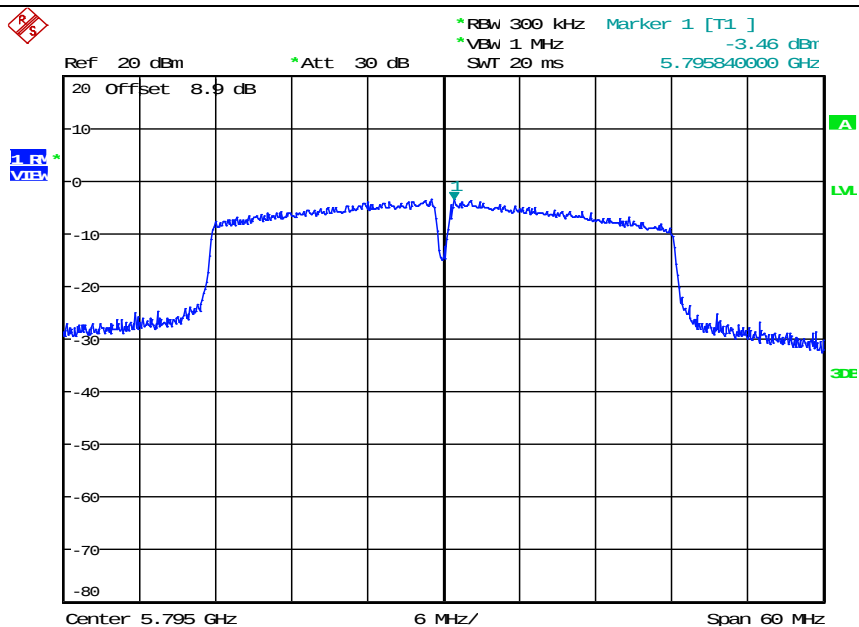
Date: 17.SEP.2019 15:32:27

IEEE 802.11ac20 / Channel 165 / 5825MHz



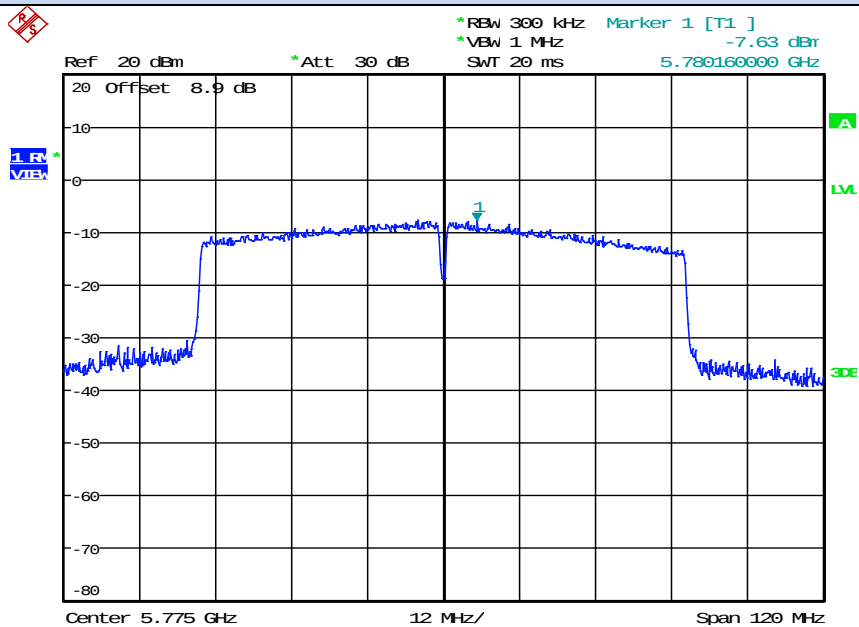
Date: 17.SEP.2019 15:43:12

IEEE 802.11ac40 / Channel 151 / 5755MHz



Date: 17.SEP.2019 15:52:37

IEEE 802.11ac40 / Channel 159 / 5795MHz

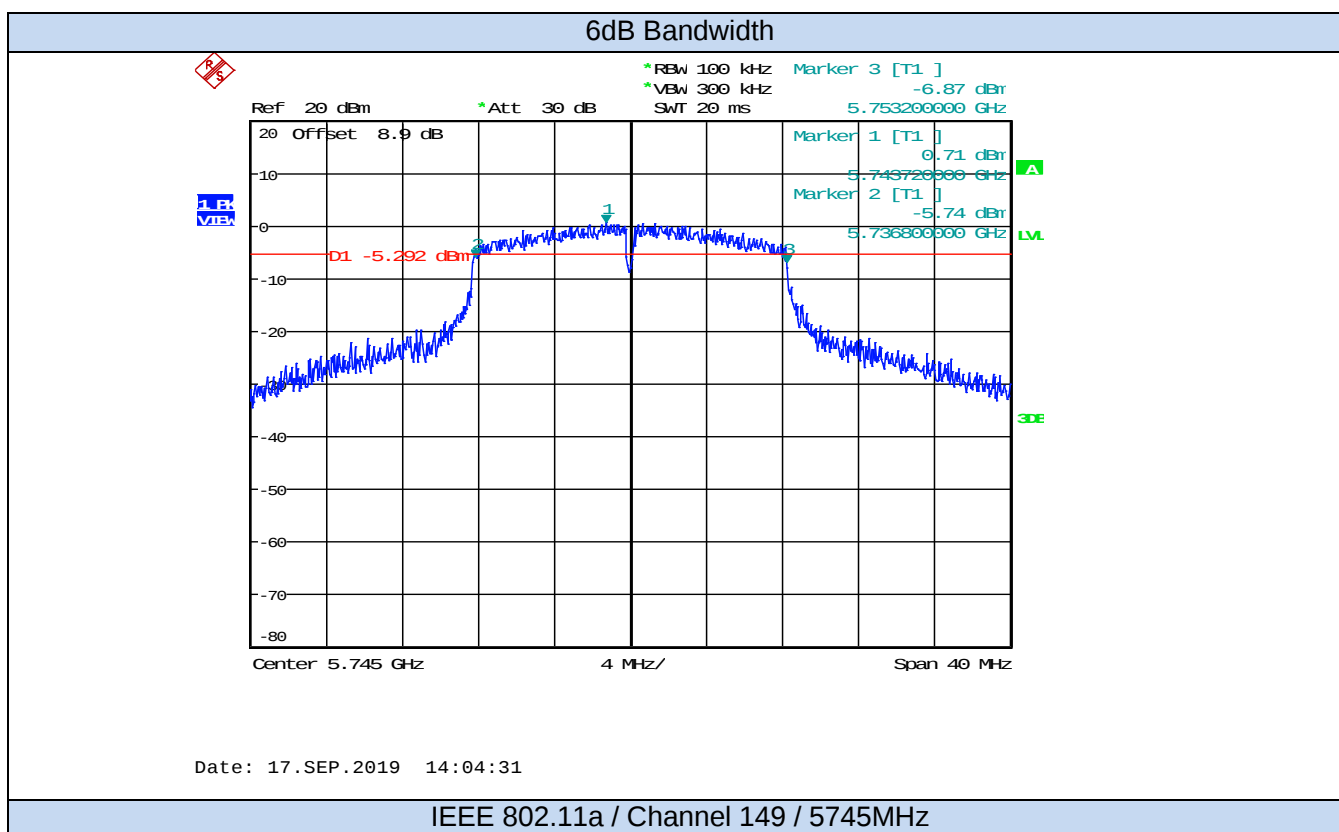


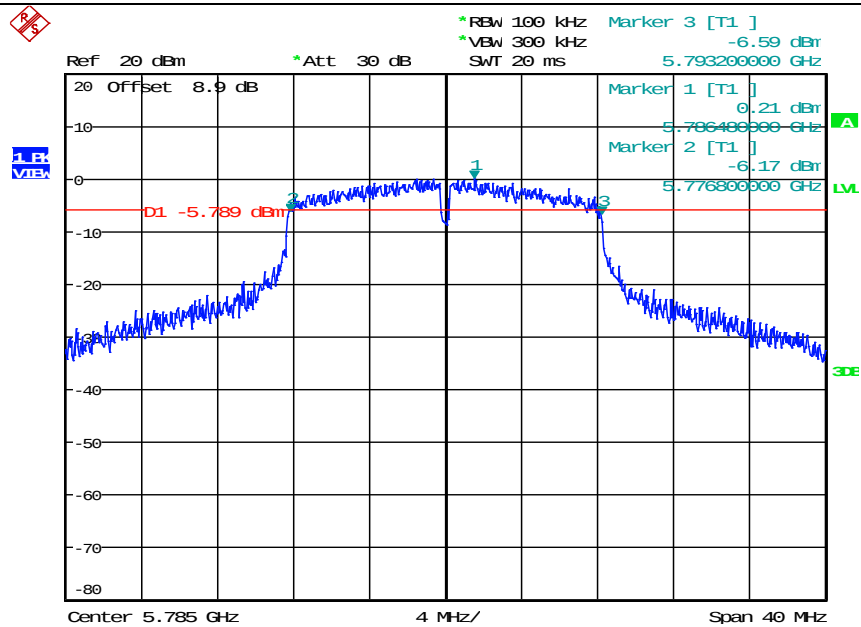
Date: 17.SEP.2019 16:08:59

IEEE 802.11ac80 / Channel 155/ 5775MHz

D.4 Emission Bandwidth

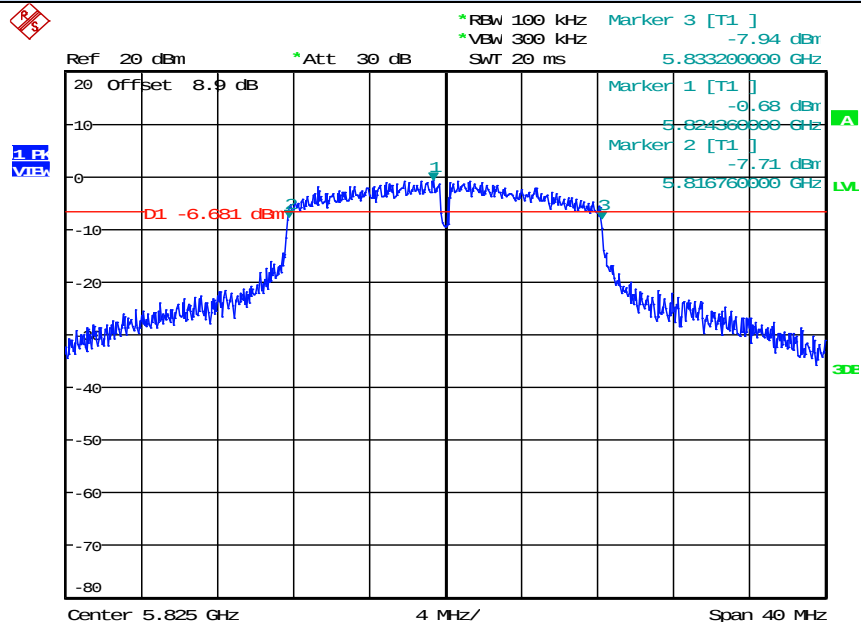
Test Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
11A	149	5745	16.400	>=0.5	Pass
	157	5785	16.400		Pass
	165	5825	16.440		Pass
11N20 SISO	149	5745	17.640	>=0.5	Pass
	157	5785	17.680		Pass
	165	5825	17.640		Pass
11N40 SISO	151	5755	35.840	>=0.5	Pass
	159	5795	35.840		Pass
11AC20S ISO	149	5745	17.680	>=0.5	Pass
	157	5785	17.640		Pass
	165	5825	17.640		Pass
11AC40S ISO	151	5755	36.480	>=0.5	Pass
	159	5795	36.480		Pass
11AC80S ISO	155	5775	75.680	>=0.5	Pass





Date: 17.SEP.2019 14:14:54

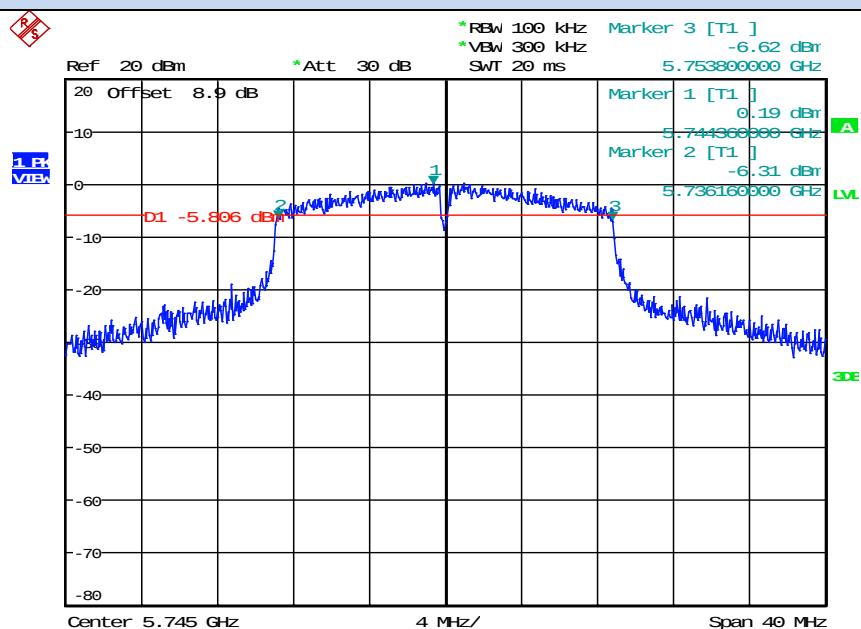
IEEE 802.11a / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:16:19

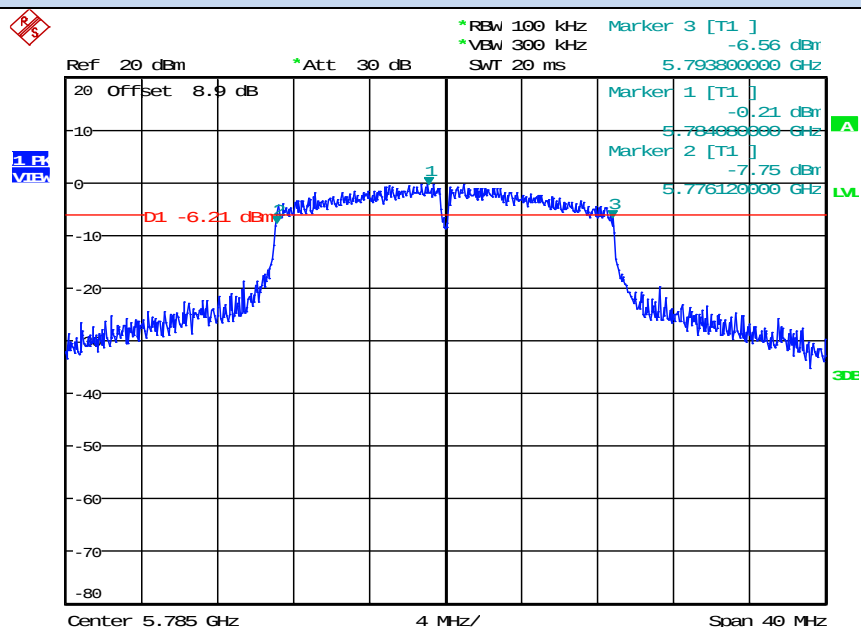
IEEE 802.11a / Channel 165 / 5825MHz

6dB Bandwidth



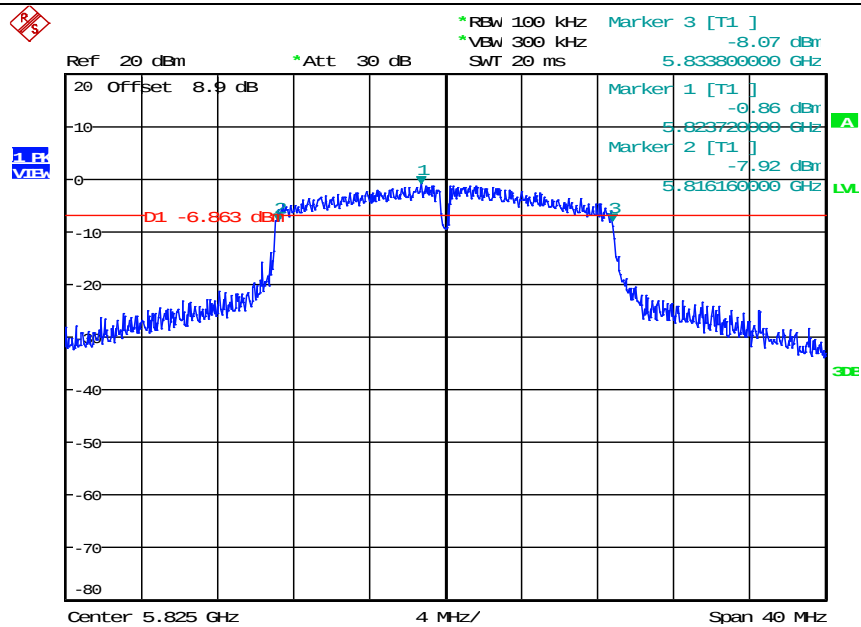
Date: 17.SEP.2019 14:33:18

IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 17.SEP.2019 14:38:57

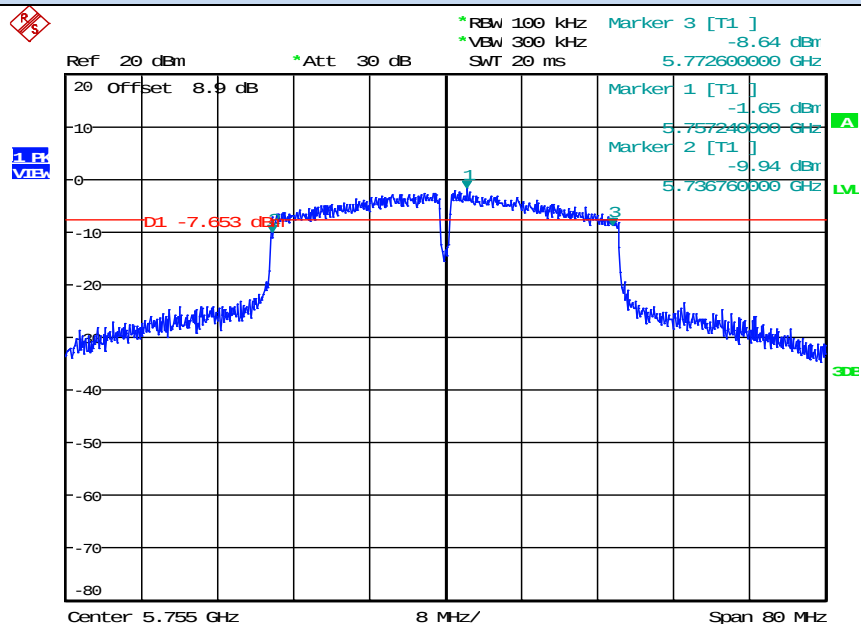
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 17.SEP.2019 14:40:23

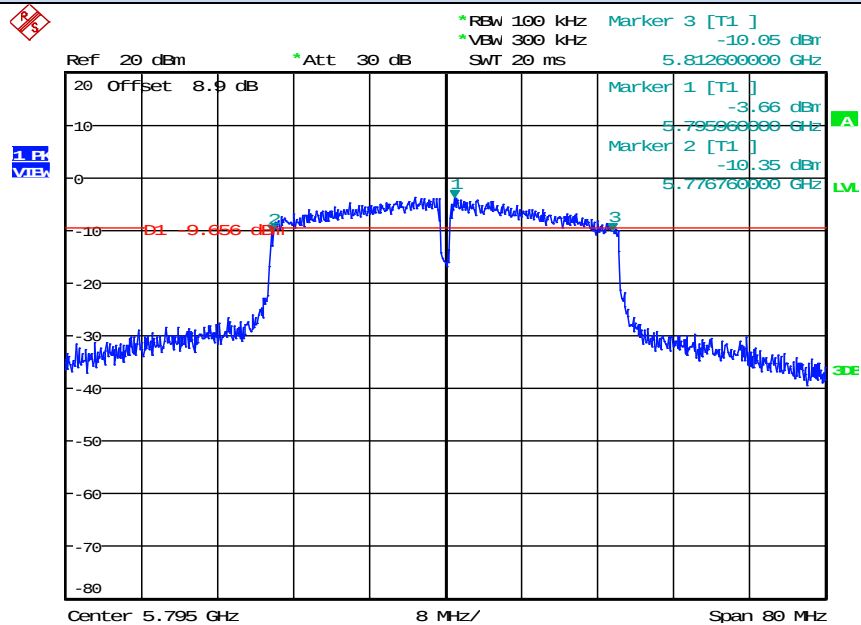
IEEE 802.11n20 / Channel 165 / 5825MHz

26dB Bandwidth



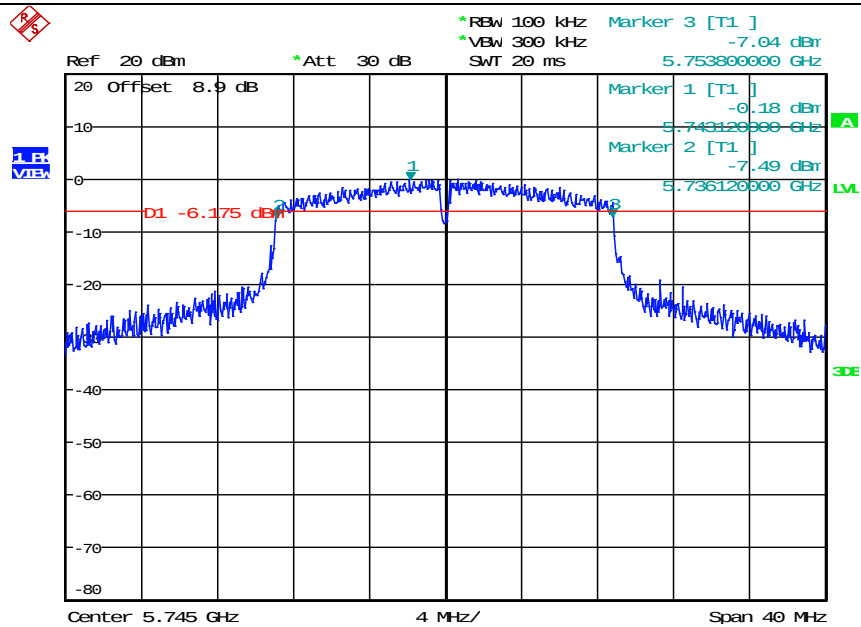
Date: 17.SEP.2019 14:52:10

IEEE 802.11n40 / Channel 151 / 5755MHz



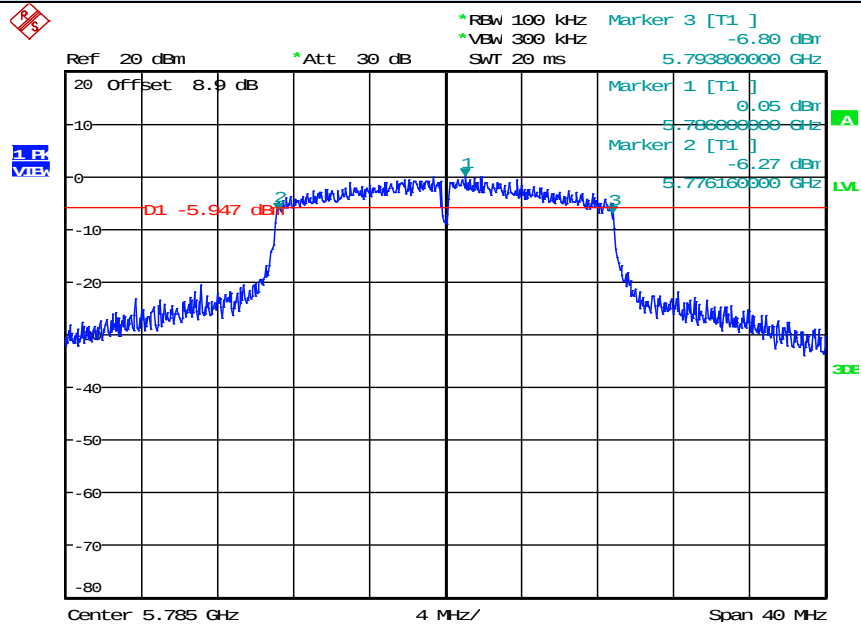
Date: 17.SEP.2019 15:09:28

IEEE 802.11n40 / Channel 159 / 5795MHz



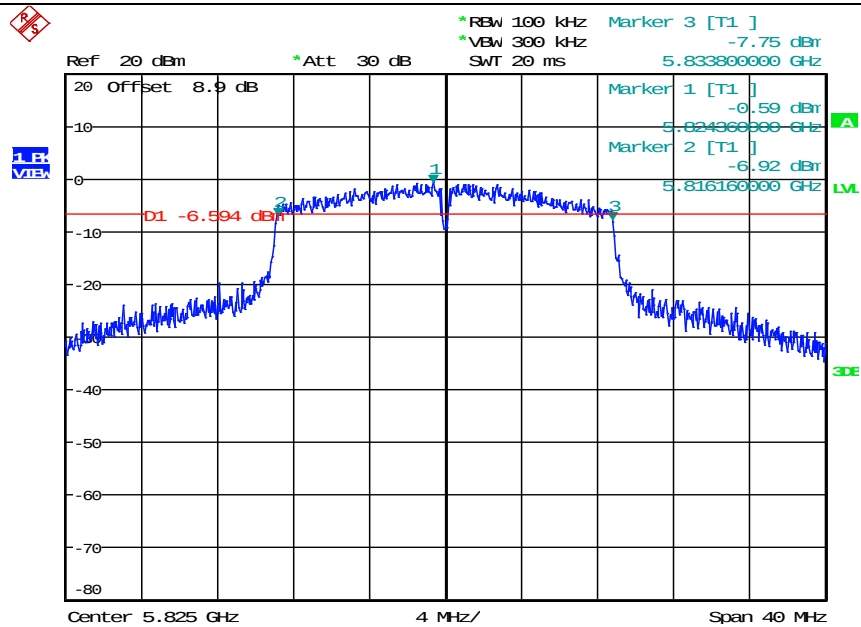
Date: 17.SEP.2019 15:24:51

IEEE 802.11ac20 / Channel 149 / 5745MHz



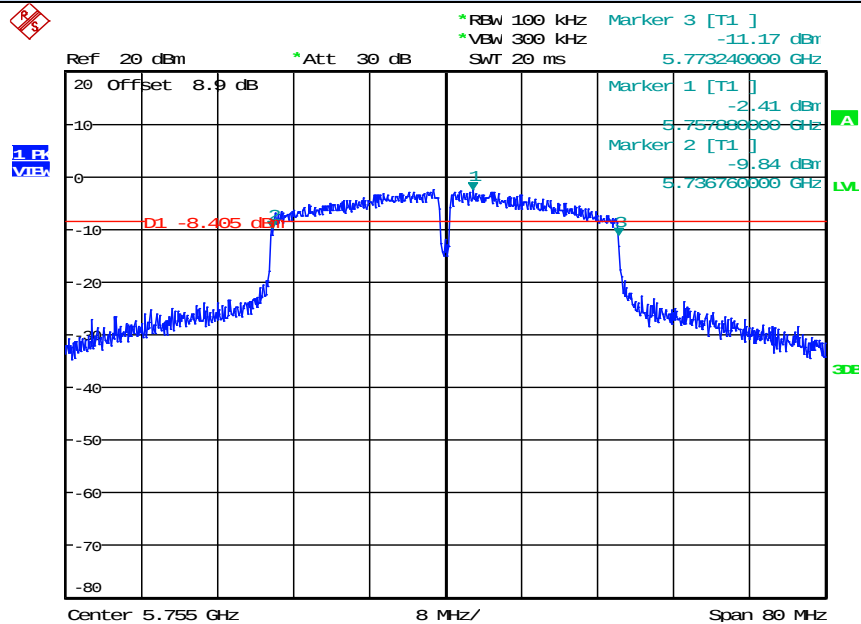
Date: 17.SEP.2019 15:30:16

IEEE 802.11ac20 / Channel 157/ 5785MHz



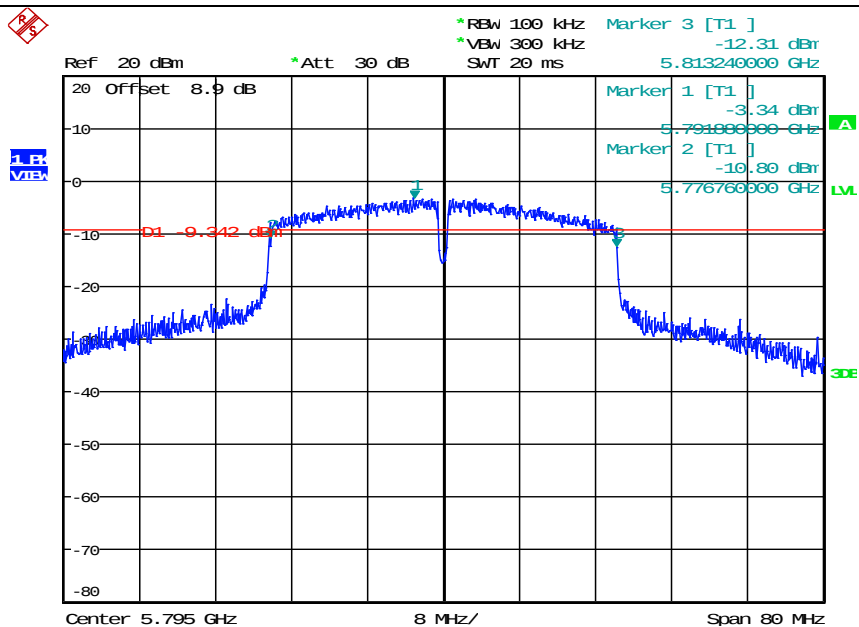
Date: 17.SEP.2019 15:31:39

IEEE 802.11ac20 / Channel 165 / 5825MHz



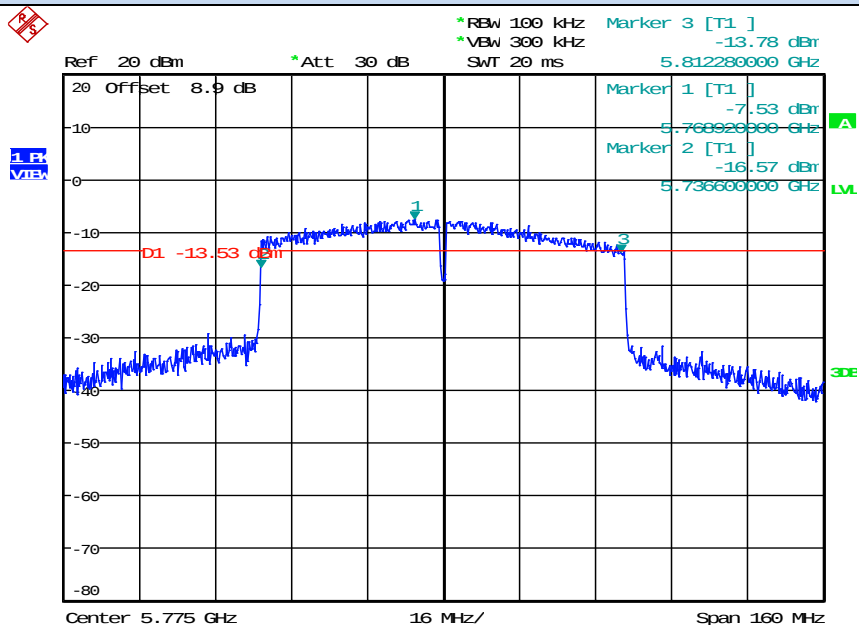
Date: 17.SEP.2019 15:42:24

IEEE 802.11ac40 / Channel 151 / 5755MHz



Date: 17.SEP.2019 15:51:46

IEEE 802.11ac40 / Channel 159 / 5795MHz



Date: 17.SEP.2019 16:08:11

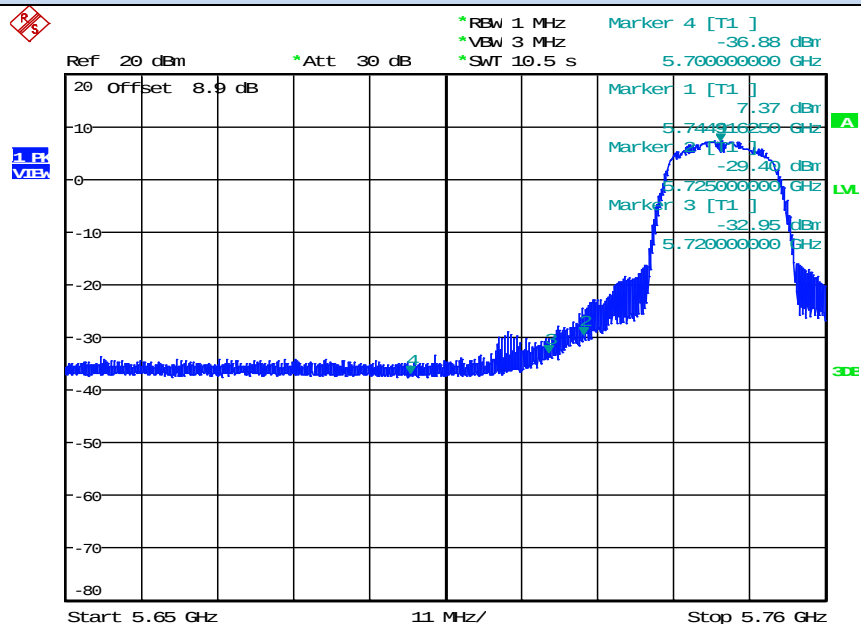
IEEE 802.11ac80 / Channel 155 / 5775MHz

D.5 Undesirable Emissions Measurement

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Detector	Limit (dBm/MHz)	Verdict
11A	149	5700.0	-36.88	2.00	-34.88	Peak	10	Pass
		5700.0	-48.18	2.00	-46.18	Average	10	Pass
		5720.0	-32.95	2.00	-30.95	Peak	15.6	Pass
		5720.0	-47.74	2.00	-45.74	Average	15.6	Pass
		5725.0	-29.40	2.00	-27.40	Peak	27.0	Pass
		5725.0	-47.24	2.00	-45.24	Average	27.0	Pass
	165	5850.0	-33.62	2.00	-31.62	Peak	27.0	Pass
		5850.0	-47.38	2.00	-45.38	Average	27.0	Pass
		5855.0	-35.79	2.00	-33.79	Peak	15.6	Pass
		5855.0	-47.77	2.00	-45.77	Average	15.6	Pass
		5875.0	-37.44	2.00	-35.44	Peak	10	Pass
11N20 SISO	149	5700.0	-48.00	2.00	-46.00	Average	10	Pass
		5700.0	-36.32	2.00	-34.32	Peak	10	Pass
		5700.0	-47.80	2.00	-45.80	Average	10	Pass
		5720.0	-32.00	2.00	-30.00	Peak	15.6	Pass
		5720.0	-48.24	2.00	-46.24	Average	15.6	Pass
		5725.0	-29.57	2.00	-27.57	Peak	27.0	Pass
	165	5725.0	-47.31	2.00	-45.31	Average	27.0	Pass
		5850.0	-33.76	2.00	-31.76	Peak	27.0	Pass
		5850.0	-47.46	2.00	-45.46	Average	27.0	Pass
		5855.0	-35.28	2.00	-33.28	Peak	15.6	Pass
		5855.0	-47.89	2.00	-45.89	Average	15.6	Pass
		5875.0	-36.78	2.00	-34.78	Peak	10	Pass
		5875.0	-48.01	2.00	-46.01	Average	10	Pass

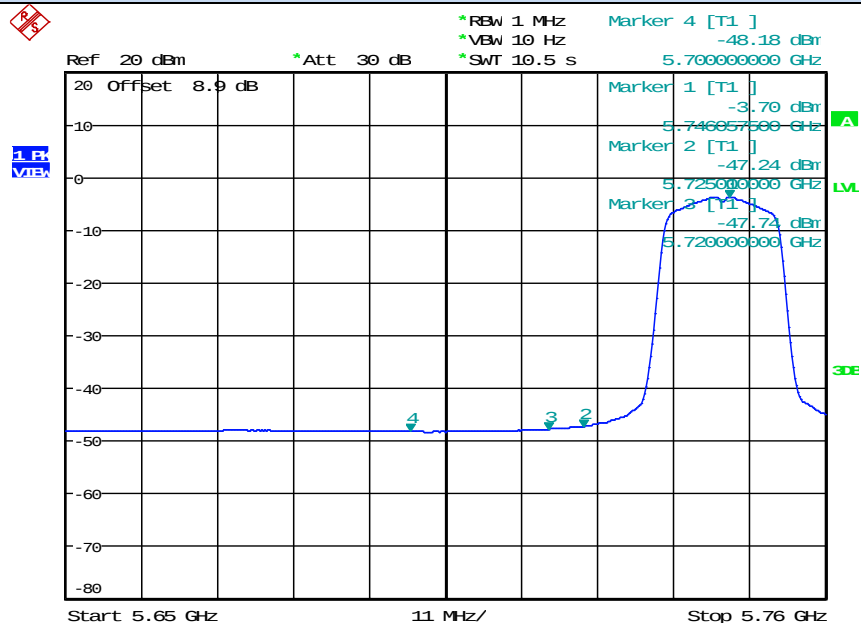
Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Detector	Limit (dBm/MHz)	Verdict
11N40 SISO	151	5700.0	-36.13	2.00	-34.13	Peak	10	Pass
		5700.0	-47.79	2.00	-45.79	Average	10	Pass
		5720.0	-29.74	2.00	-27.74	Peak	15.6	Pass
		5720.0	-46.43	2.00	-44.43	Average	15.6	Pass
		5725.0	-30.16	2.00	-28.16	Peak	27.0	Pass
		5725.0	-45.47	2.00	-43.47	Average	27.0	Pass
	159	5850.0	-32.94	2.00	-30.94	Peak	27.0	Pass
		5850.0	-45.08	2.00	-43.08	Average	27.0	Pass
		5855.0	-33.19	2.00	-31.19	Peak	15.6	Pass
		5855.0	-46.00	2.00	-44.00	Average	15.6	Pass
		5875.0	-36.08	2.00	-34.08	Peak	10	Pass
		5875.0	-47.53	2.00	-45.53	Average	10	Pass
11AC20 SISO	149	5700.0	-34.84	2.00	-32.84	Peak	10	Pass
		5700.0	-48.00	2.00	-46.00	Average	10	Pass
		5720.0	-31.79	2.00	-29.79	Peak	15.6	Pass
		5720.0	-48.27	2.00	-46.27	Average	15.6	Pass
		5725.0	-30.39	2.00	-28.39	Peak	27.0	Pass
		5725.0	-47.75	2.00	-45.75	Average	27.0	Pass
	165	5850.0	-32.23	2.00	-30.23	Peak	27.0	Pass
		5850.0	-47.29	2.00	-45.29	Average	27.0	Pass
		5855.0	-34.35	2.00	-32.35	Peak	15.6	Pass
		5855.0	-47.83	2.00	-45.83	Average	15.6	Pass
		5875.0	-36.28	2.00	-34.28	Peak	10	Pass
		5875.0	-48.04	2.00	-46.04	Average	10	Pass
11AC40 SISO	151	5700.0	-36.65	2.00	-34.65	Peak	10	Pass
		5700.0	-48.04	2.00	-46.04	Average	10	Pass
		5720.0	-33.22	2.00	-31.22	Peak	15.6	Pass
		5720.0	-47.73	2.00	-45.73	Average	15.6	Pass
		5725.0	-31.27	2.00	-29.27	Peak	27.0	Pass
		5725.0	-47.12	2.00	-45.12	Average	27.0	Pass
	159	5850.0	-31.49	2.00	-29.49	Peak	27.0	Pass
		5850.0	-43.42	2.00	-41.42	Average	27.0	Pass
		5855.0	-32.47	2.00	-30.47	Peak	15.6	Pass
		5855.0	-44.51	2.00	-42.51	Average	15.6	Pass
		5875.0	-34.34	2.00	-32.34	Peak	10	Pass
		5875.0	-47.03	2.00	-45.03	Average	10	Pass
11AC80 SISO	155	5725.0	-30.82	2.00	-28.82	Peak	27.0	Pass
		5720.0	-29.81	2.00	-27.81	Peak	15.6	Pass
		5700.0	-33.26	2.00	-31.26	Peak	10	Pass
		5725.0	-46.89	2.00	-44.89	Average	27.0	Pass
		5720.0	-47.46	2.00	-45.46	Average	15.6	Pass
		5700.0	-47.66	2.00	-45.66	Average	10	Pass
		5850.0	-33.88	2.00	-31.88	Peak	27.0	Pass
		5855.0	-35.93	2.00	-33.93	Peak	15.6	Pass
		5875.0	-36.39	2.00	-34.39	Peak	10	Pass
		5850.0	-47.72	2.00	-45.72	Average	27.0	Pass
		5855.0	-47.87	2.00	-45.87	Average	15.6	Pass
		5875.0	-47.91	2.00	-45.91	Average	10	Pass

Undesirable Emissions Measurement



Date: 17.SEP.2019 14:13:27

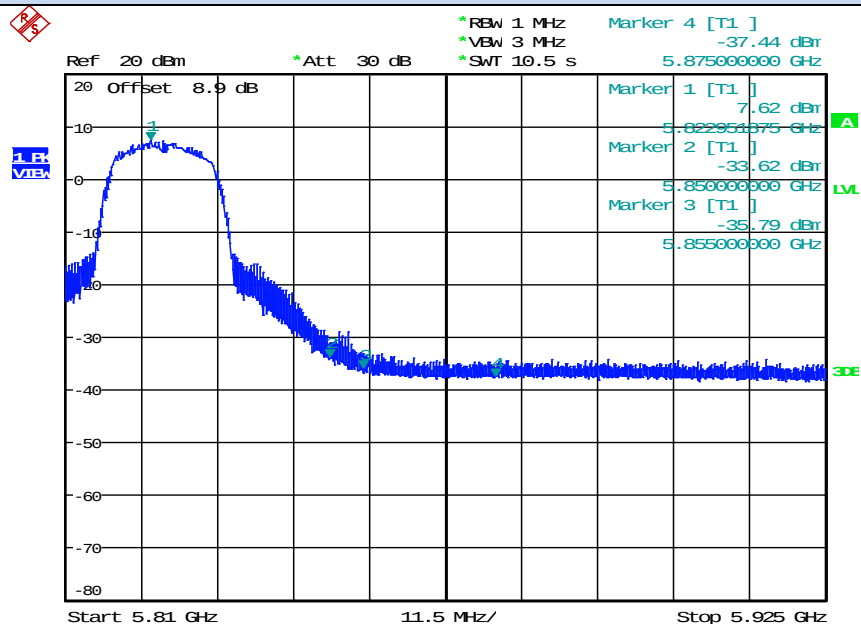
IEEE 802.11a / Channel 149 / 5745MHz / Peak



Date: 17.SEP.2019 14:14:06

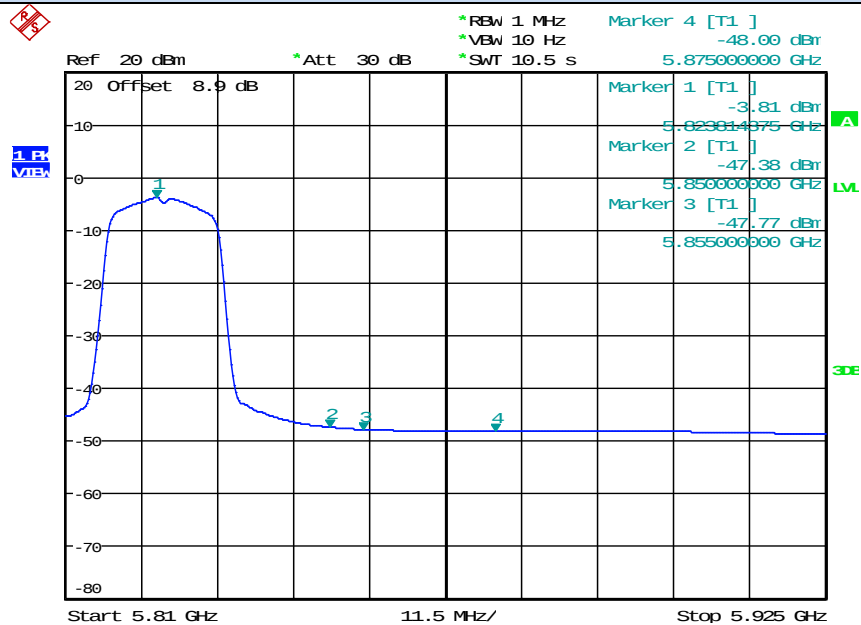
IEEE 802.11a / Channel 148 / 5745MHz / Average

Undesirable Emissions Measurement



Date: 17.SEP.2019 14:21:09

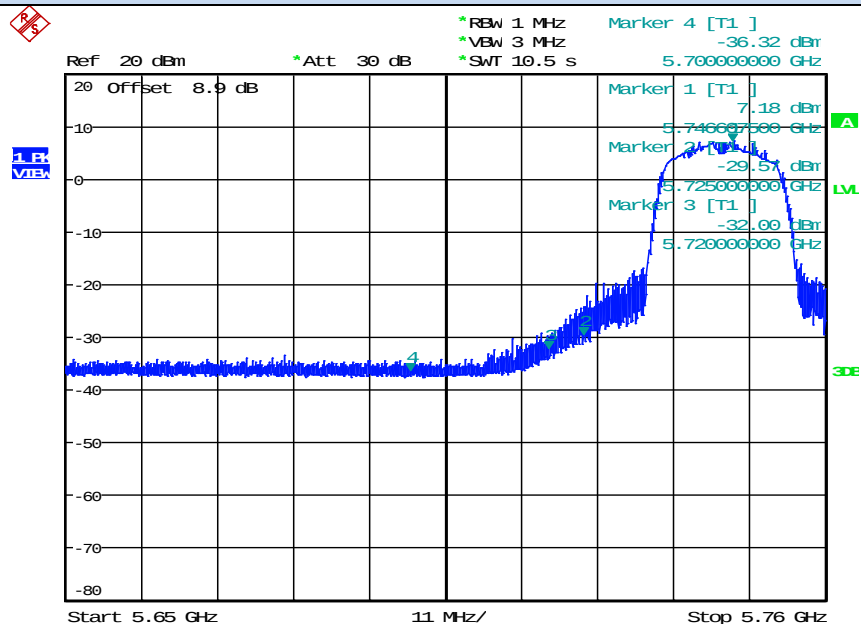
IEEE 802.11a / Channel 165 / 5825MHz / Peak



Date: 17.SEP.2019 14:21:56

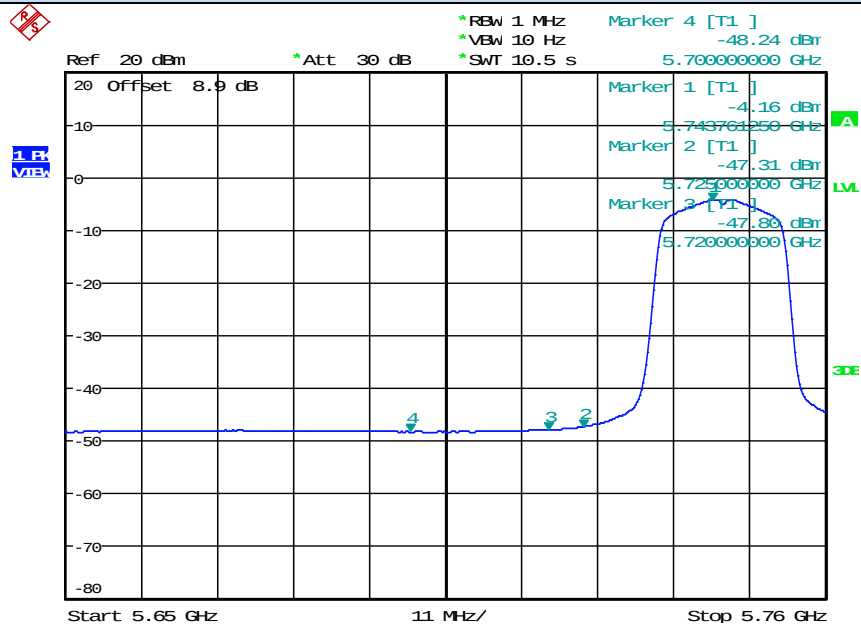
IEEE 802.11a / Channel 165 / 5825MHz / Average

Undesirable Emissions Measurement



Date: 17.SEP.2019 14:37:33

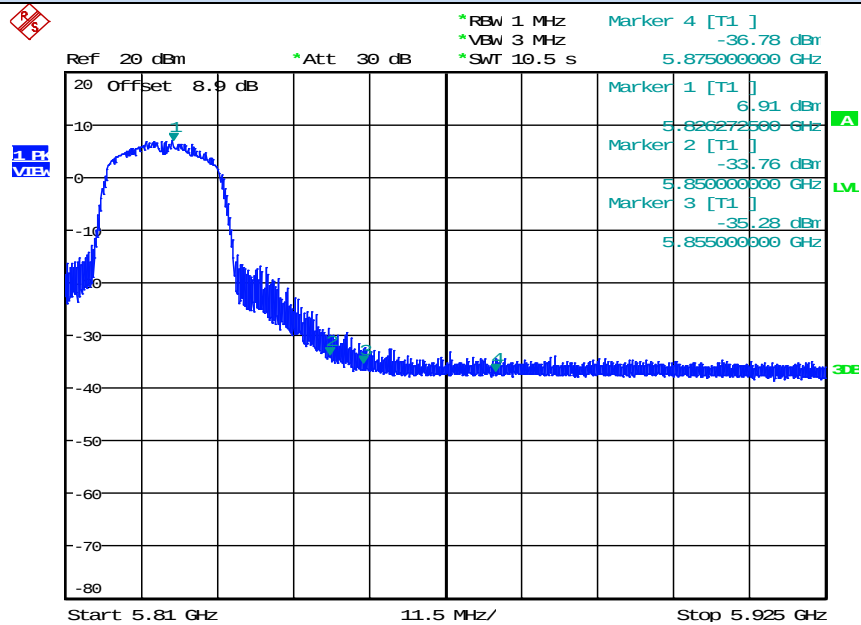
IEEE 802.11n20 / Channel 149 / 5745MHz / Peak



Date: 17.SEP.2019 14:38:10

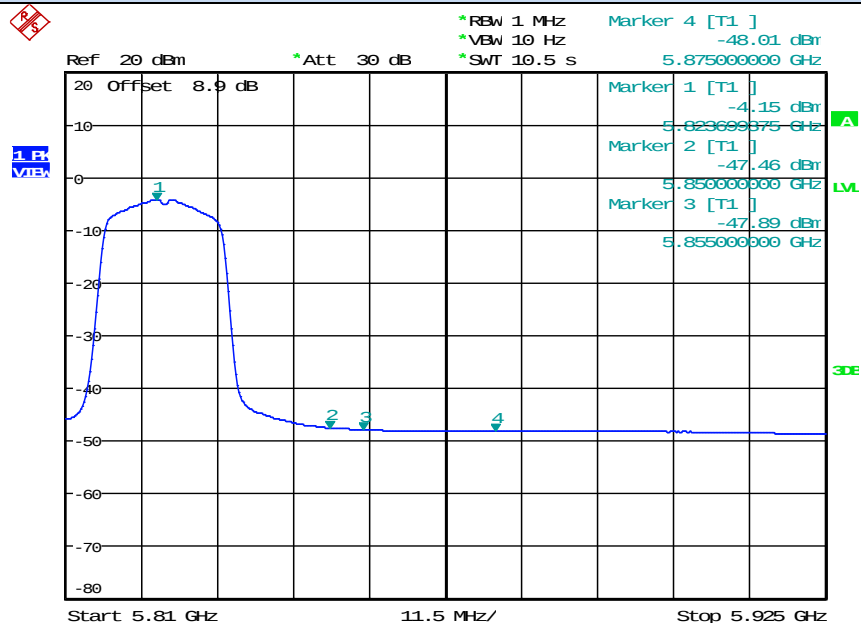
IEEE 802.11n20 / Channel 149 / 5745MHz / Average

Undesirable Emissions Measurement



Date: 17.SEP.2019 14:43:32

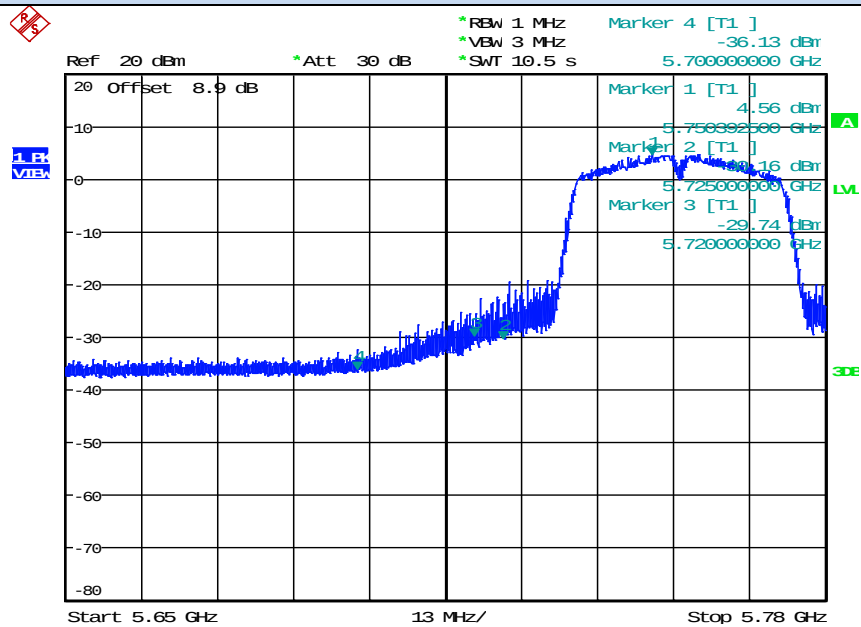
IEEE 802.11n20 / Channel 165 / 5825MHz / Peak



Date: 17.SEP.2019 14:44:24

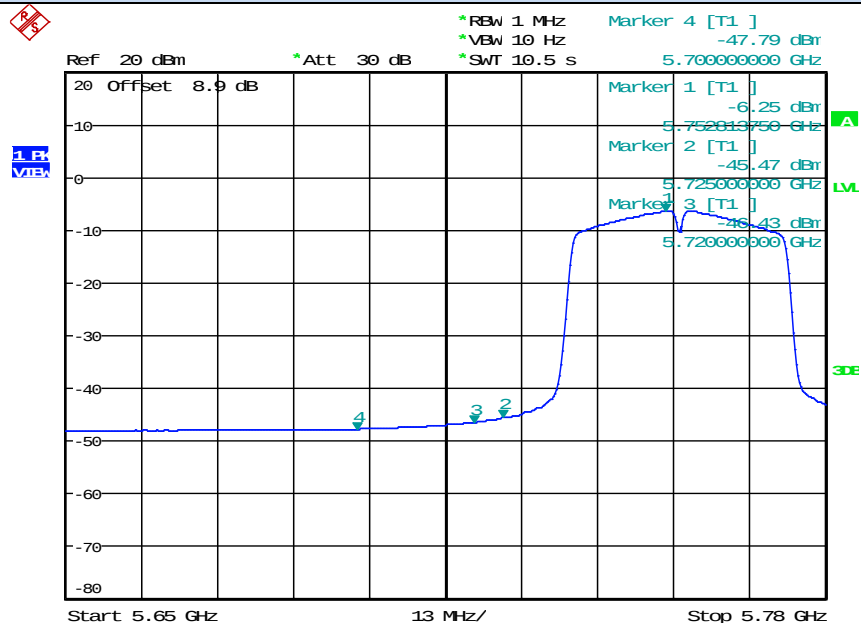
IEEE 802.11n20 / Channel 165 / 5825MHz / Average

Undesirable Emissions Measurement



Date: 17.SEP.2019 15:08:02

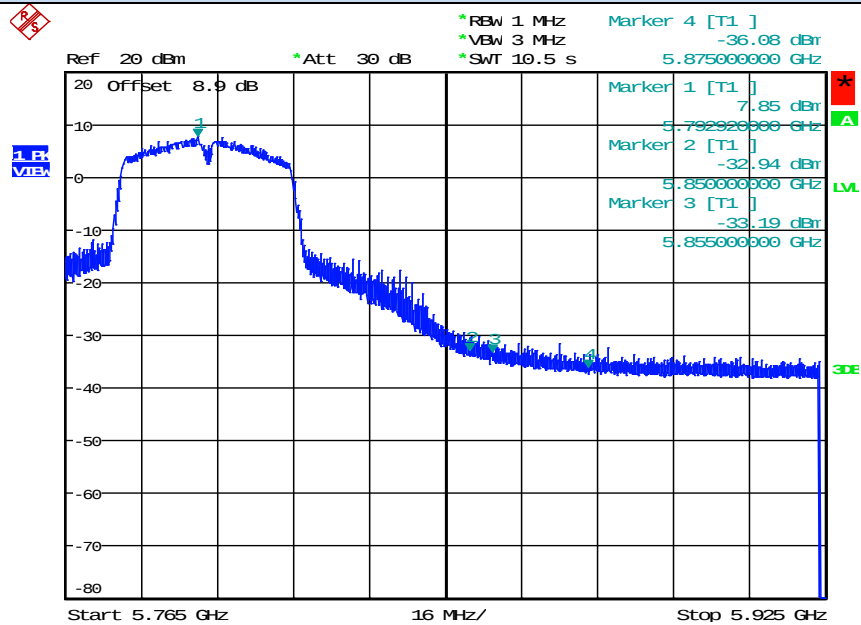
IEEE 802.11n40 / Channel 151 / 5755MHz / Peak



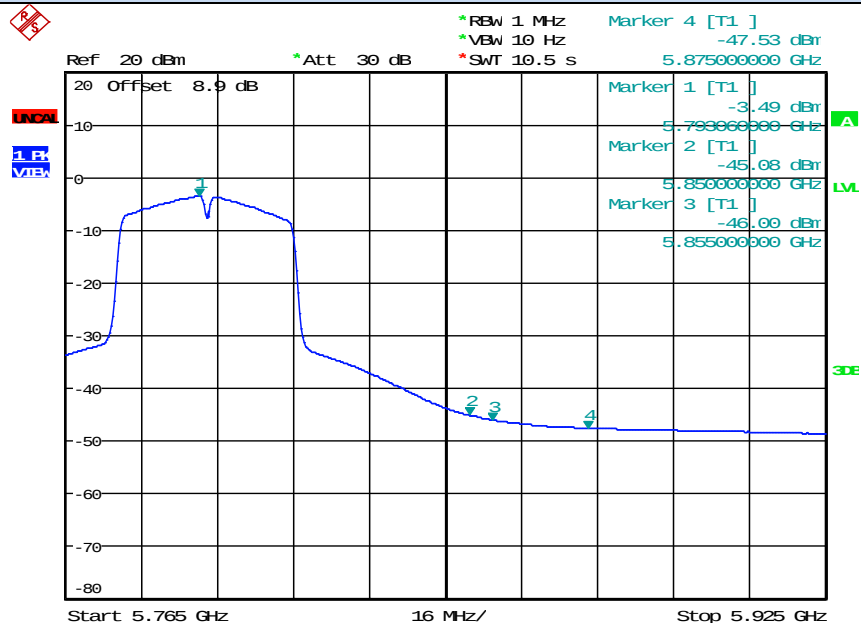
Date: 17.SEP.2019 15:08:40

IEEE 802.11n40 / Channel 151 / 5755MHz / Average

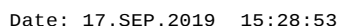
Undesirable Emissions Measurement



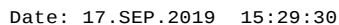
IEEE 802.11n40 / Channel 159 / 5795MHz / Peak



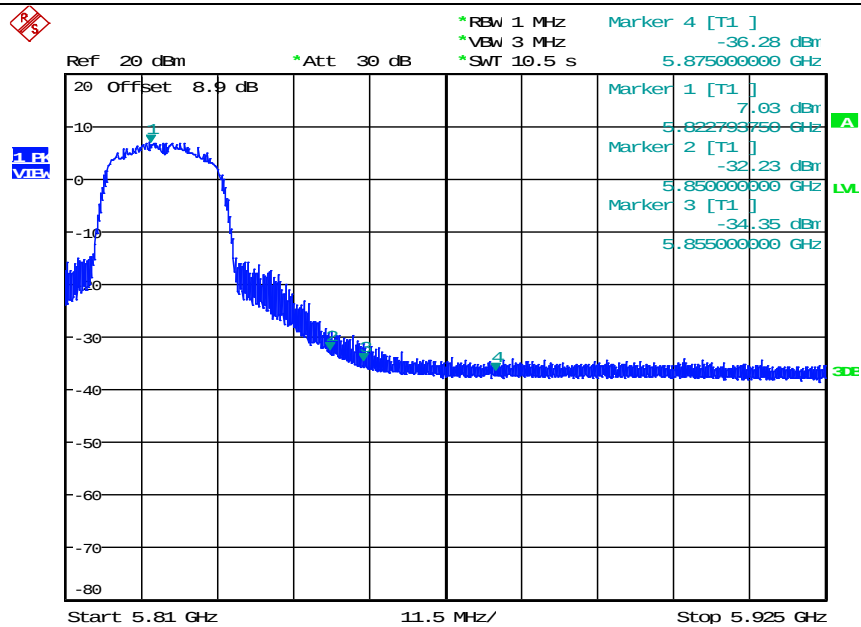
IEEE 802.11n40 / Channel 159 / 5795MHz / Average



IEEE 802.11ac20 / Channel 149 / 5745MHz / Peak

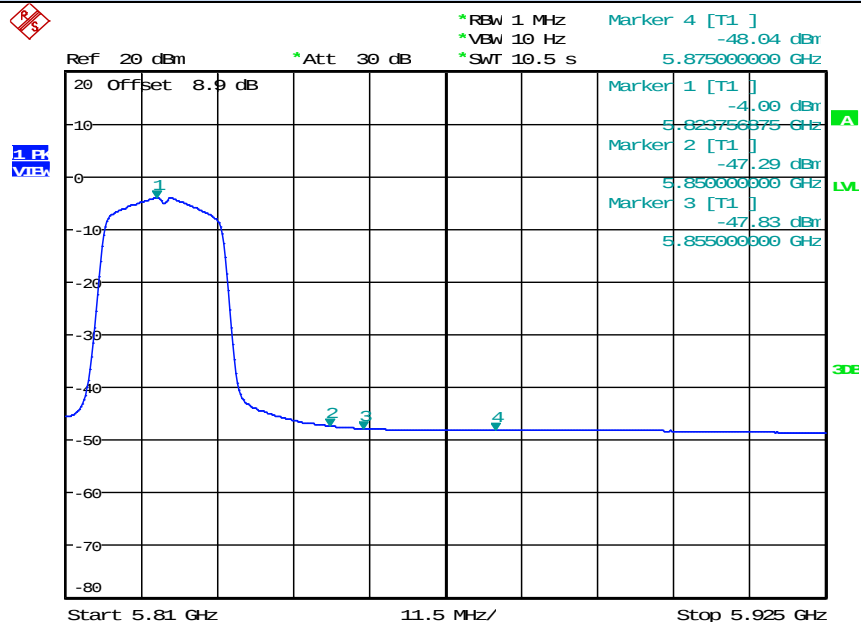


IEEE 802.11ac20 / Channel 149 / 5745MHz / Average



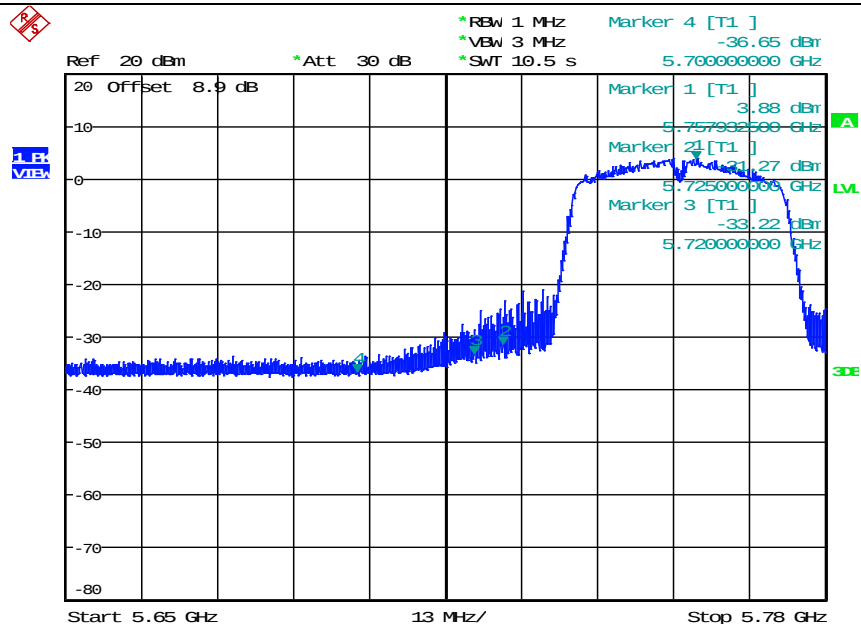
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IEEE 802.11ac20 / Channel 165 / 5825MHz / Peak



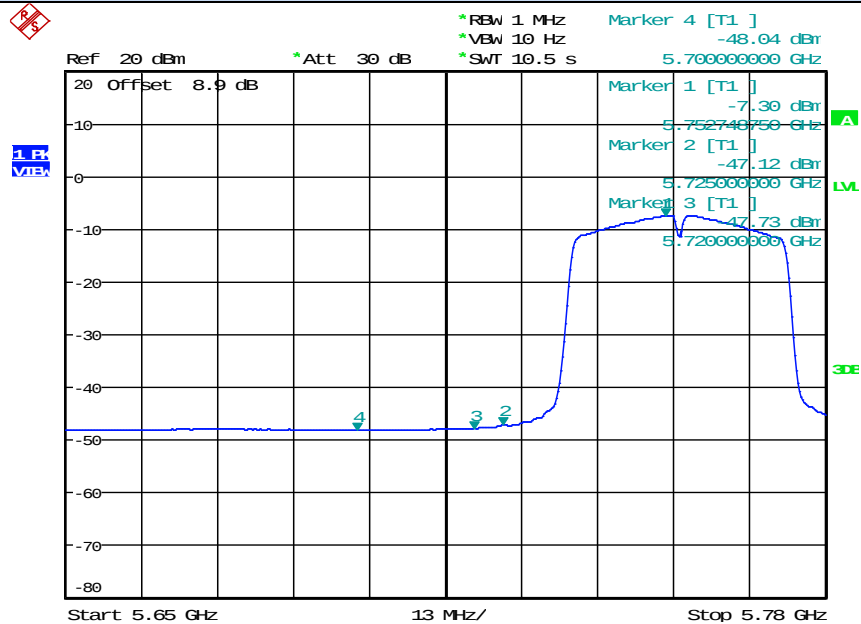
Date: 17.SEP.2019 15:34:56

IEEE 802.11ac20 / Channel 165 / 5825MHz / Average



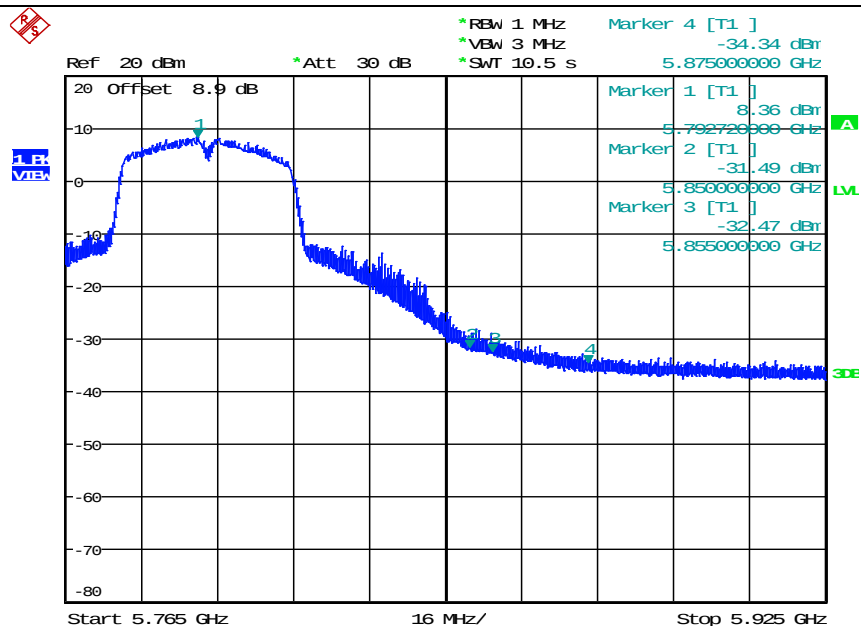
Date: 17.SEP.2019 15:50:26

IEEE 802.11ac40 / Channel 151 / 5755MHz / Peak



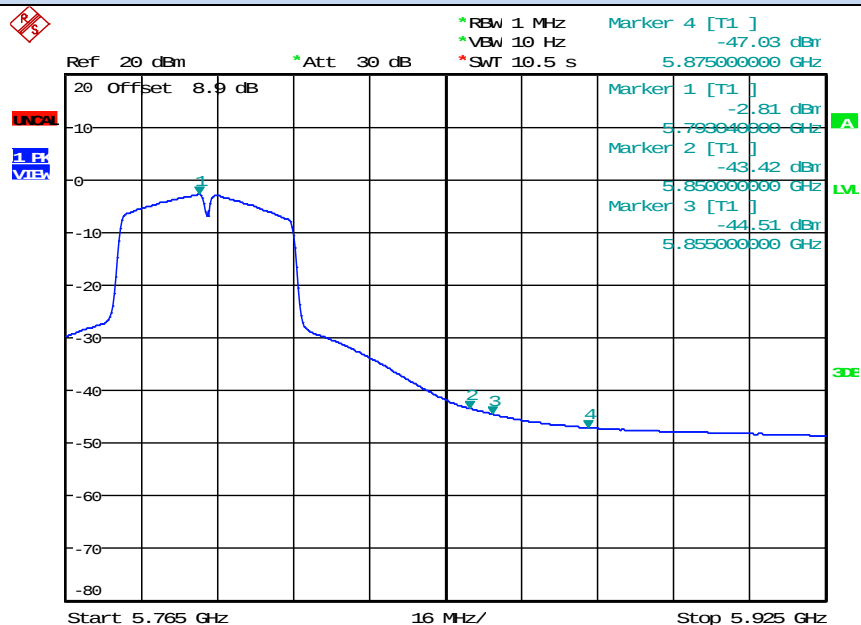
Date: 17.SEP.2019 15:51:05

IEEE 802.11ac40 / Channel 151 / 5755MHz / Average



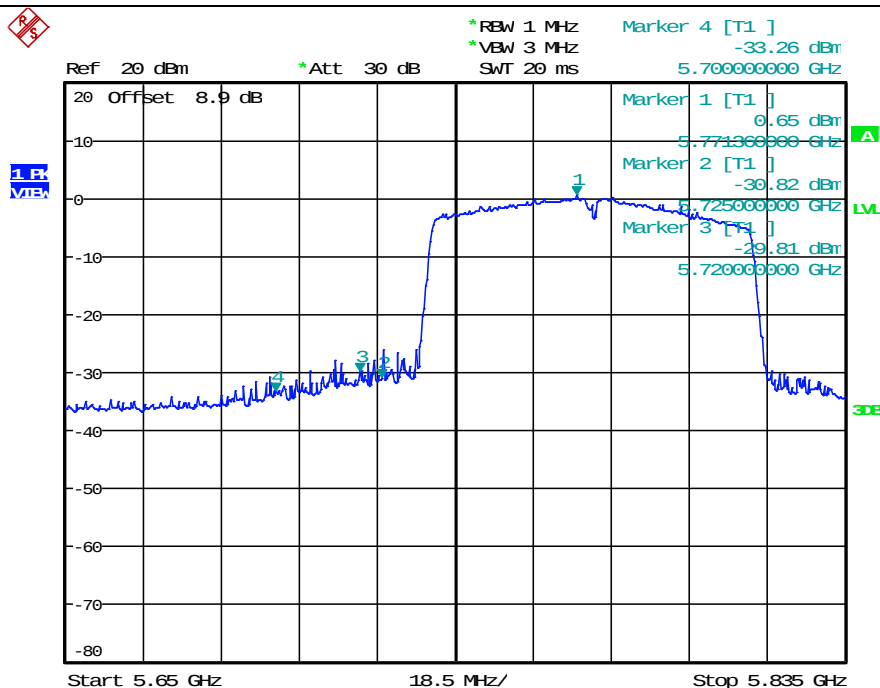
Date: 17.SEP.2019 15:55:48

IEEE 802.11ac40 / Channel 159 / 5795MHz / Peak



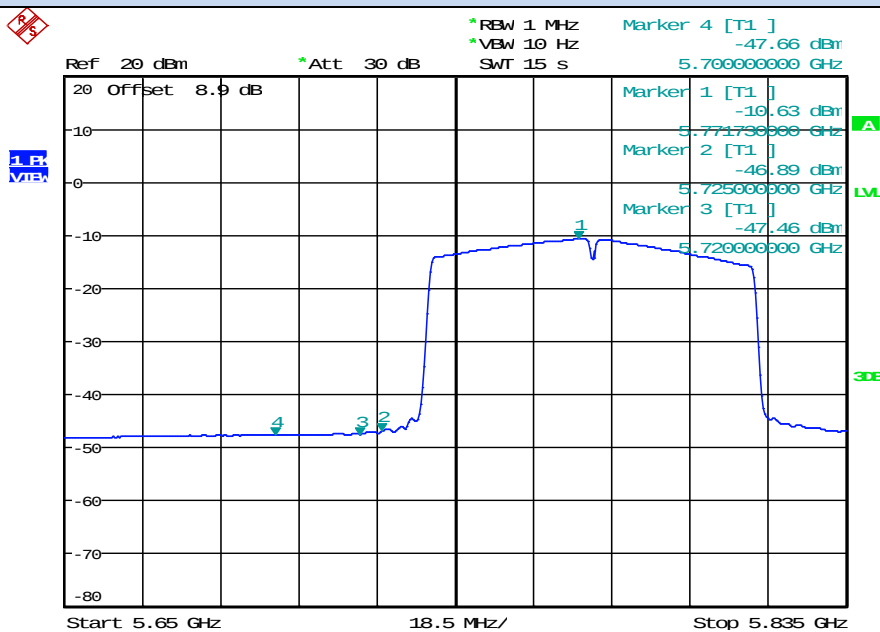
Date: 17.SEP.2019 15:56:26

IEEE 802.11ac40 / Channel 159 / 5795MHz / Average



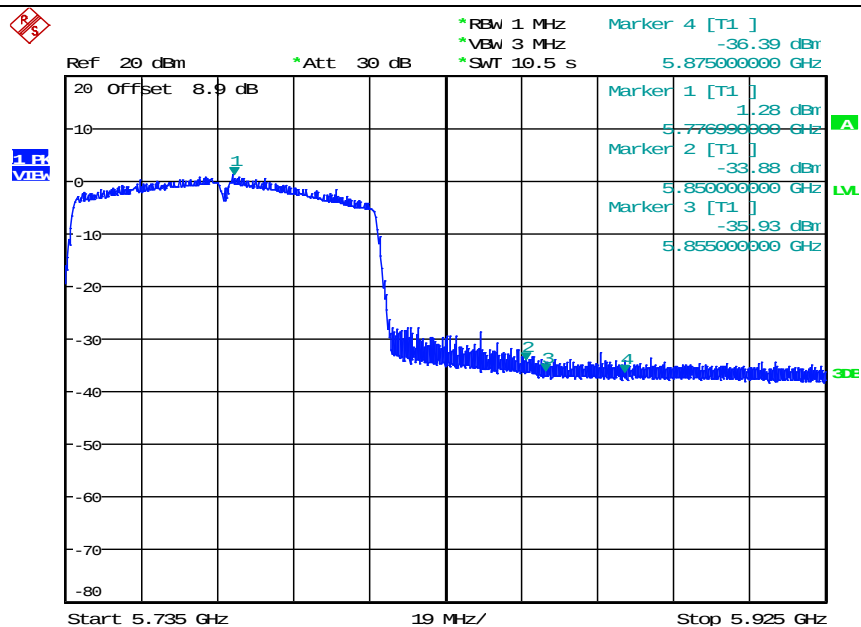
Date: 17.SEP.2019 16:10:32

IEEE 802.11ac80 / Channel 155 / 5775MHz / Peak



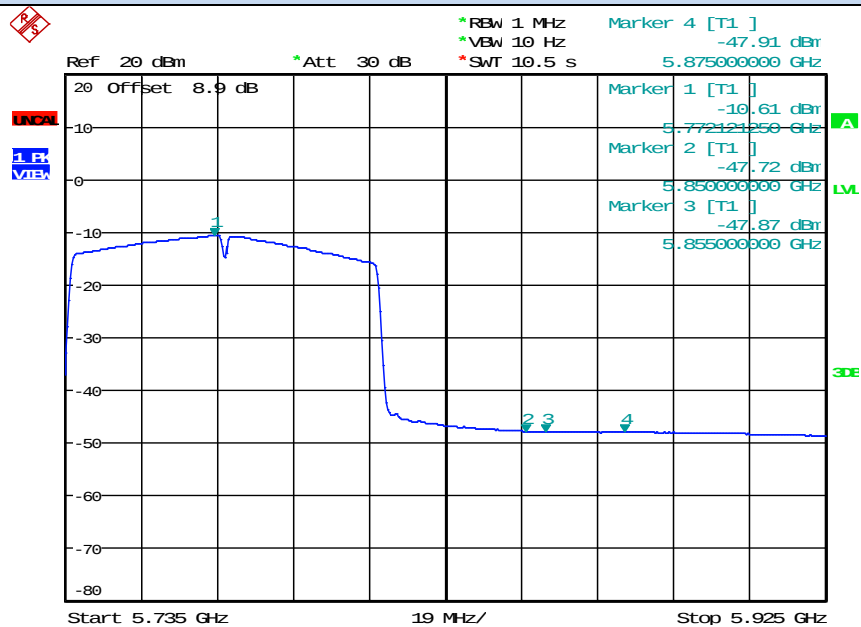
Date: 17.SEP.2019 16:11:16

IEEE 802.11ac80 / Channel 155 / 5775MHz / Average



Date: 17.SEP.2019 16:12:03

IEEE 802.11ac80 / Channel 155/ 5775MHz / Peak



Date: 17.SEP.2019 16:12:42

IEEE 802.11ac80 / Channel 155 / 5775MHz / Average