

Appendix E

RF Test Data for 5.8G WLAN (Conducted Measurement)

Product Name: IPTV Set-Top Box

Trade Mark: N/A

Test Model: SML-5051W

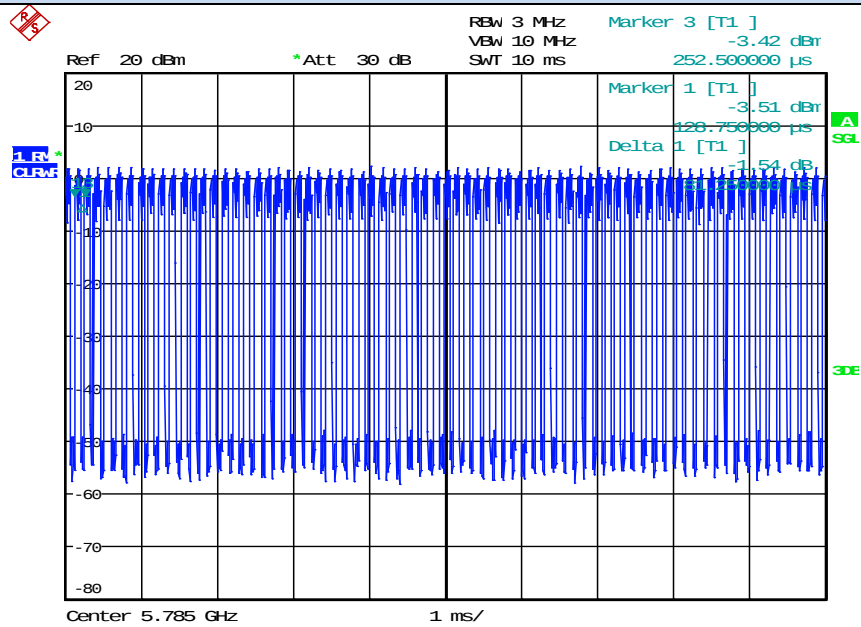
Environmental Conditions

Temperature:	24.8 ° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

D.1 Duty Cycle

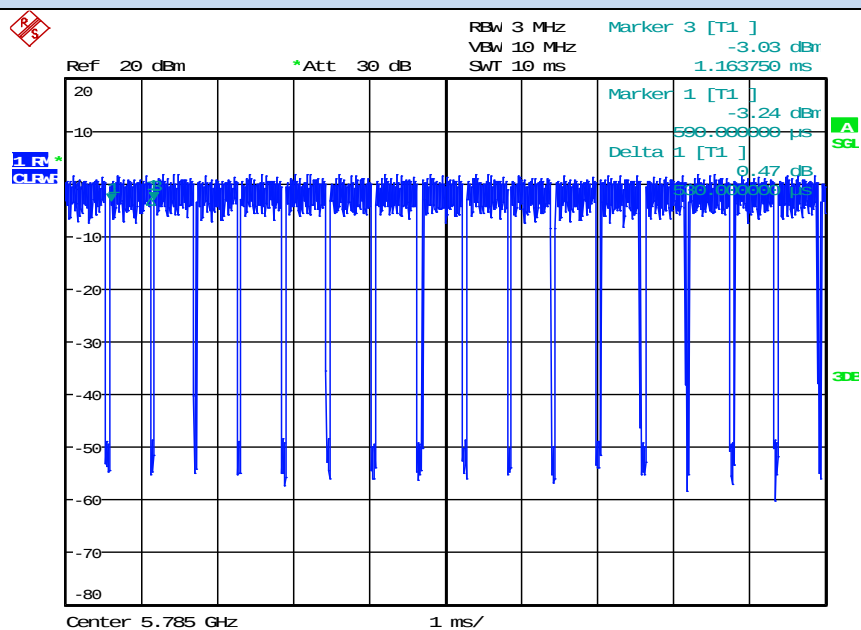
Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5785	65.66	1.83	0.01
11N20 SISO	5785	92.37	0.34	0.01
11N40 SISO	5755	81.65	0.88	0.01
11AC20 SISO	5785	88.22	0.54	0.01
11AC40 SISO	5755	81.92	0.87	0.01
11AC80 SISO	5775	73.91	1.31	0.01

On Time and Duty Cycle



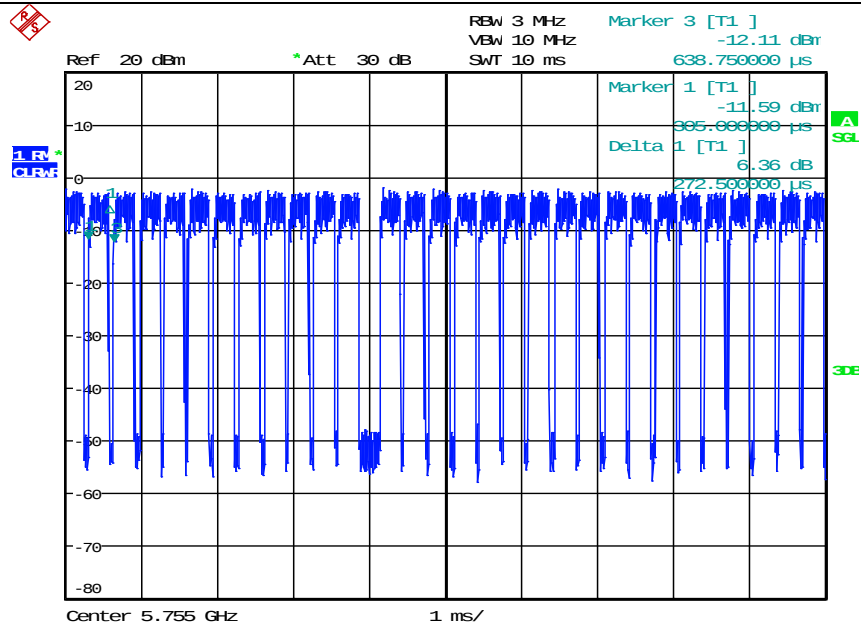
Date: 26.AUG.2019 20:34:09

IEEE 802.11a



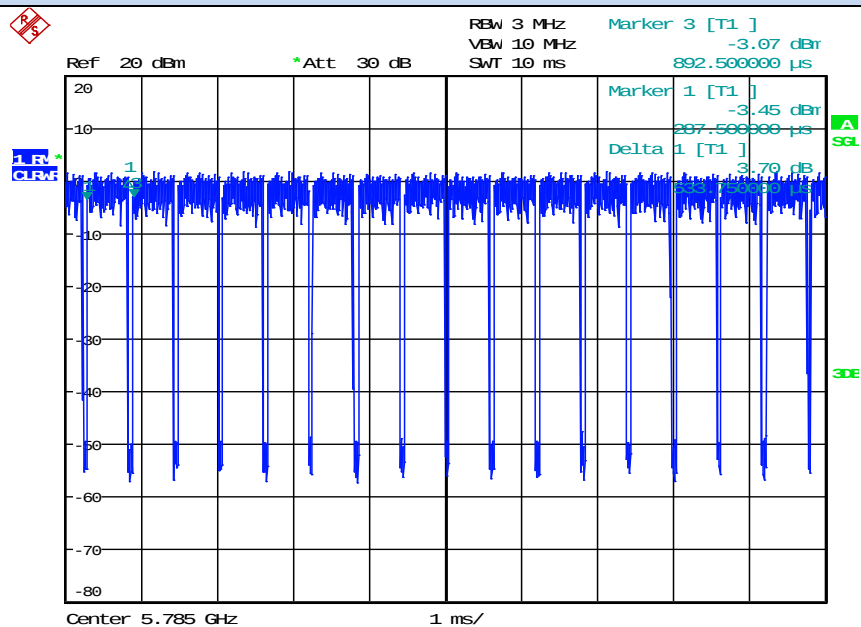
Date: 27.AUG.2019 09:46:32

IEEE 802.11n HT20



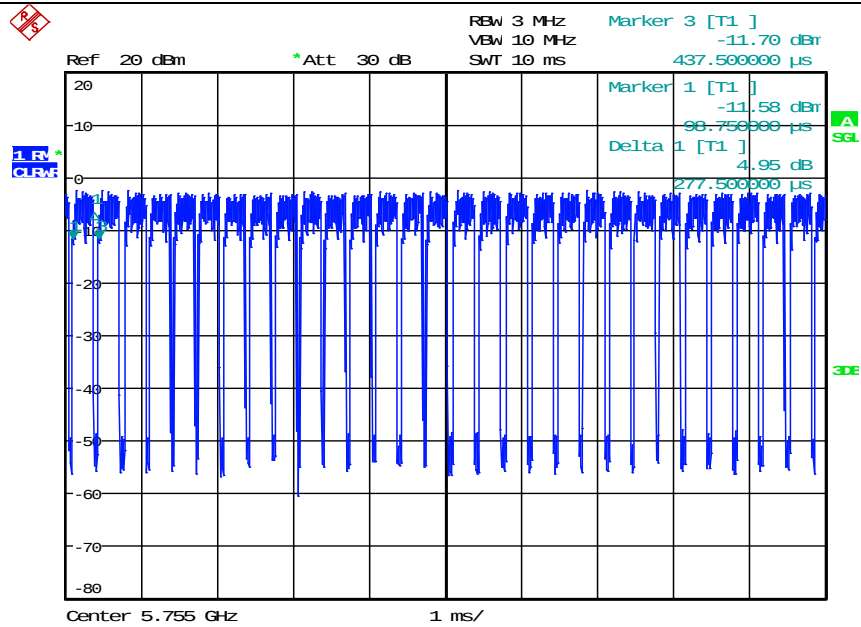
Date: 27.AUG.2019 10:00:48

IEEE 802.11n HT40



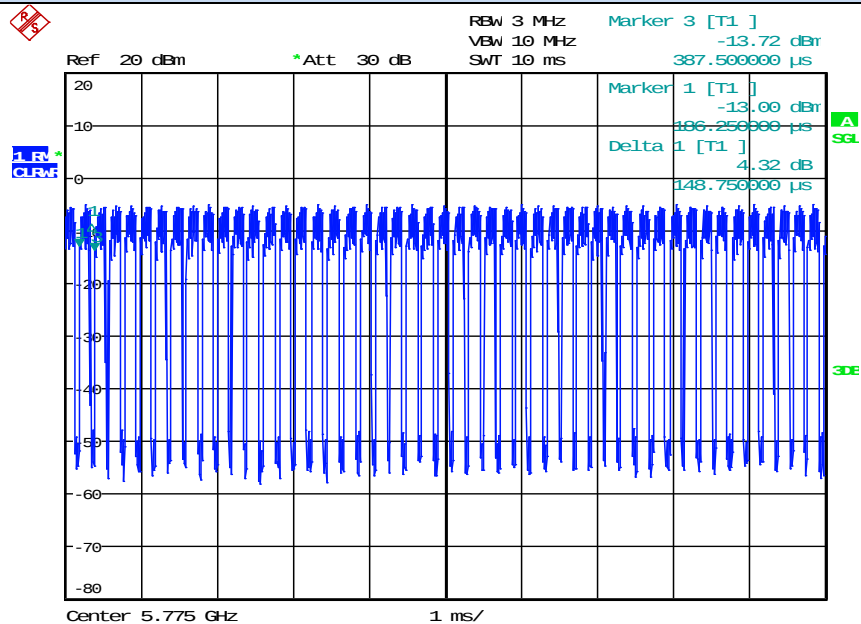
Date: 27.AUG.2019 10:20:53

IEEE 802.11AC20



Date: 27.AUG.2019 10:34:27

IEEE 802.11AC40



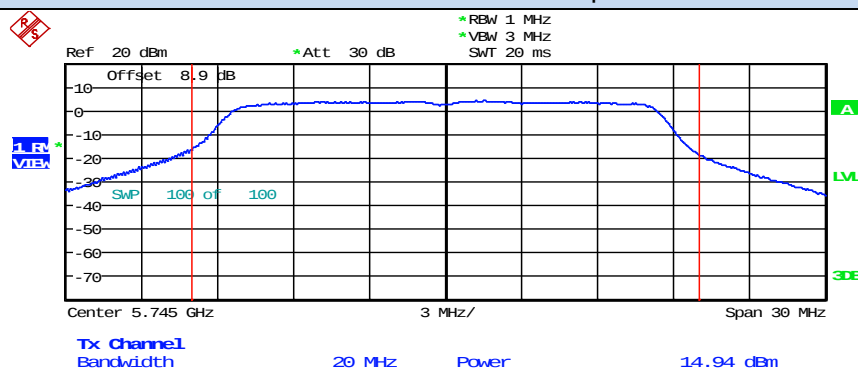
Date: 27.AUG.2019 10:56:49

IEEE 802.11AC80

D.2 Maximum Conduct Output Power

Test Mode	Channel	Frequency (MHz)	Report Conducted Power(dBm)	Antenna Gain(dBI)	E.I.R.P. power(dBm)	E.I.R.P. Limit (dBm)	Verdict
11A	149	5745	14.94	3	17.77	22.49	Pass
	157	5785	15.03	3	19.86	22.97	Pass
	165	5825	15.04	3	19.87	22.98	Pass
11N20 SISO	149	5745	15.41	3	18.9	22.76	Pass
	157	5785	15.63	3	18.97	22.78	Pass
	165	5825	15.54	3	18.89	22.76	Pass
11N40 SISO	151	5755	14.95	3	18.83	22.78	Pass
	159	5795	15.35	3	18.99	22.92	Pass
11AC20 SISO	149	5745	15.19	3	19.60	22.84	Pass
	157	5785	15.71	3	19.25	22.79	Pass
	165	5825	15.7	3	19.04	22.78	Pass
11AC40 SISO	151	5755	14.94	3	17.81	22.50	Pass
	159	5795	15.18	3	18.93	22.77	Pass
11AC80 SISO	155	5775	15.06	3	19.37	22.87	Pass

Maximum Conducted Output Power



Date: 26.AUG.2019 20:31:11

IEEE 802.11a / Channel 149 / 5745MHz

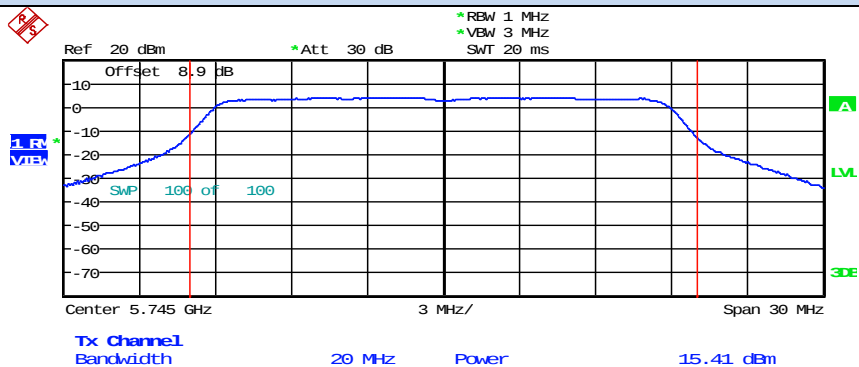


IEEE 802.11a / Channel 157 / 5785MHz



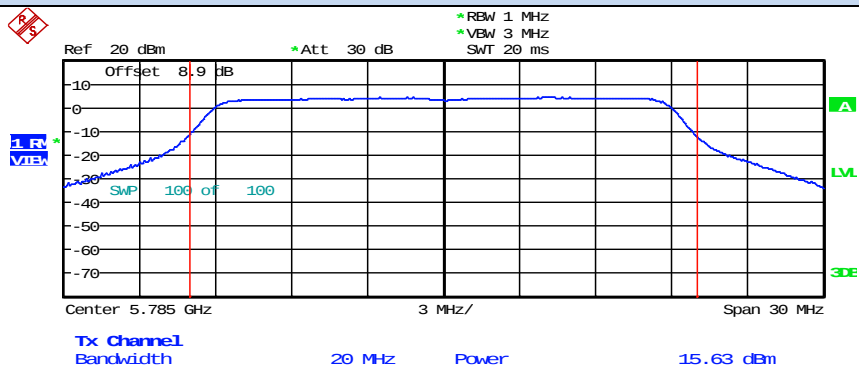
IEEE 802.11a / Channel 165 / 5825MHz

Maximum Conducted Output Power



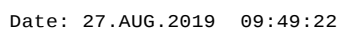
Date: 27.AUG.2019 09:43:55

IEEE 802.11n20 / Channel 149 / 5745MHz

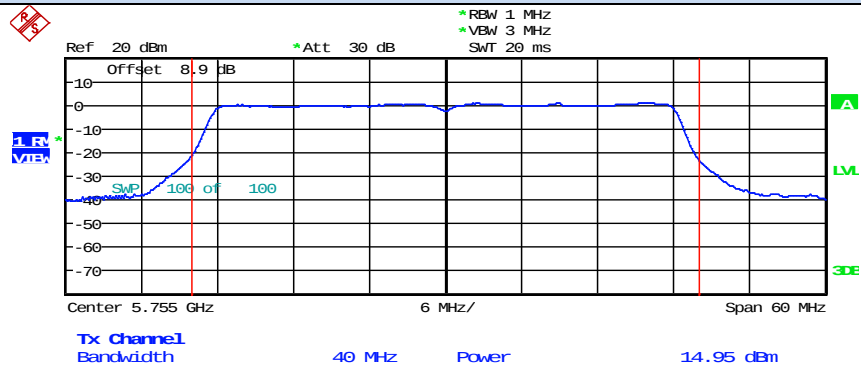


Date: 27.AUG.2019 09:47:22

IEEE 802.11n20 / Channel 157 / 5785MHz

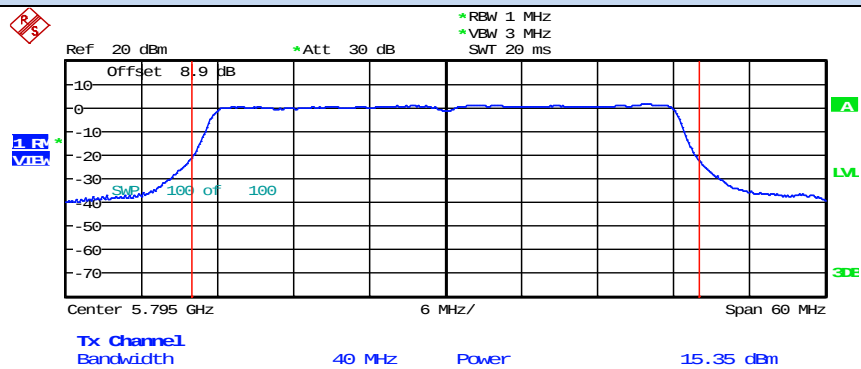


Maximum Conducted Output Power



Date: 27.AUG.2019 10:01:38

IEEE 802.11n40 / Channel 151 / 5755MHz



Date: 27.AUG.2019 10:05:32

IEEE 802.11n40 / Channel 159 / 5795MHz



IEEE 802.11ac20 / Channel 149 / 5745MHz



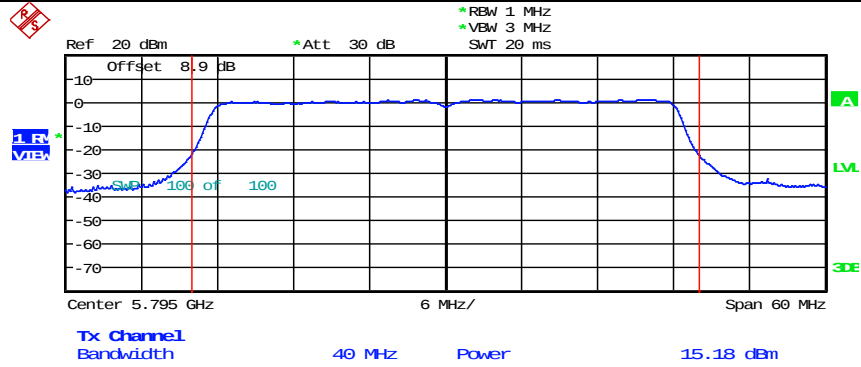
IEEE 802.11ac20 / Channel 157 / 5785MHz



IEEE 802.11ac20 / Channel 165/ 5825MHz

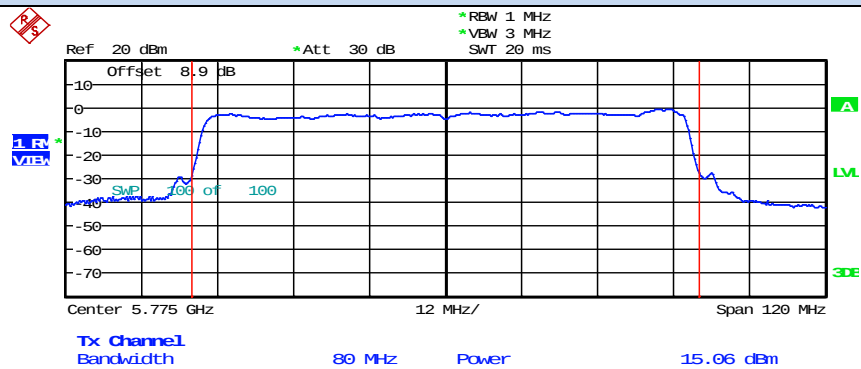


IEEE 802.11ac40 / Channel 151 / 5755MHz



Date: 27.AUG.2019 10:39:08

IEEE 802.11ac40 / Channel 159 / 5795MHz

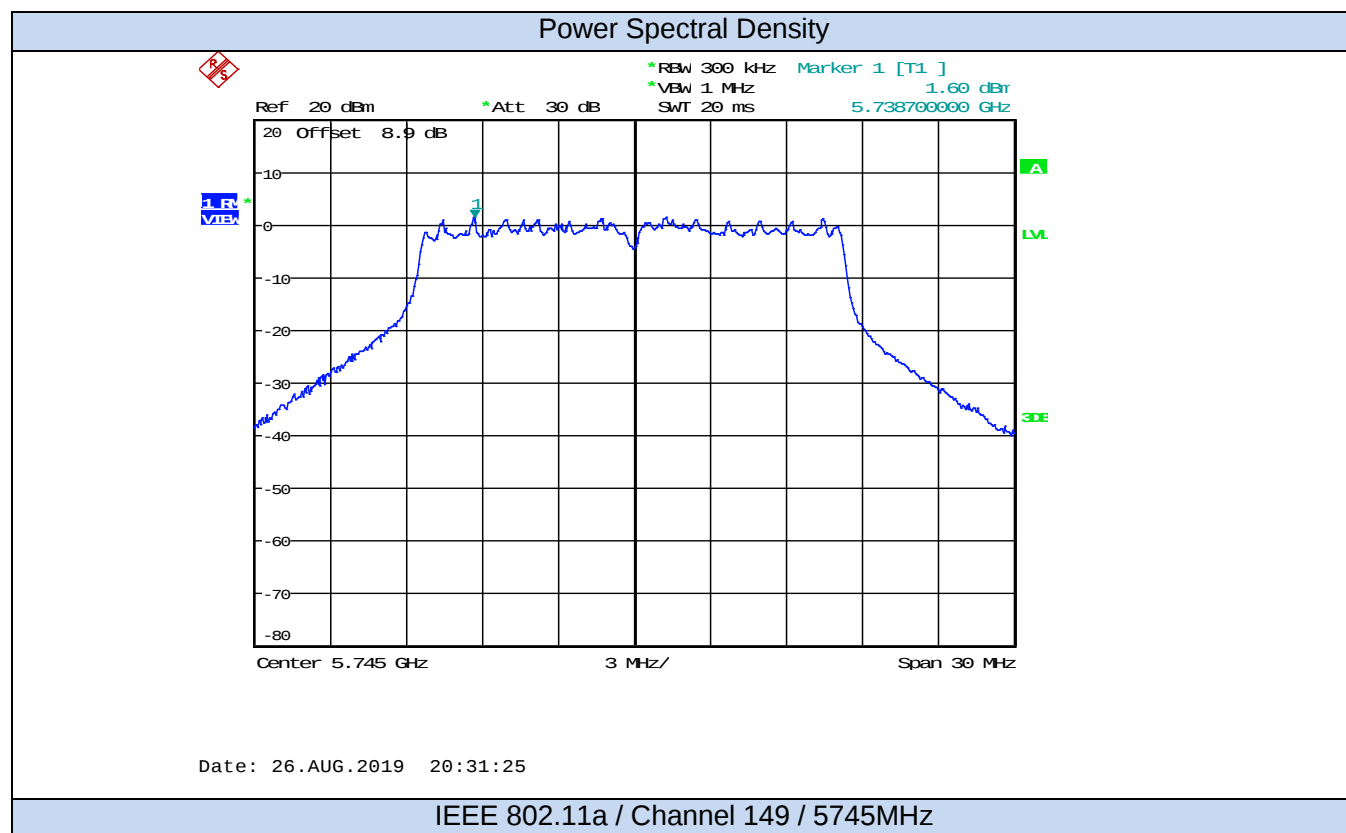


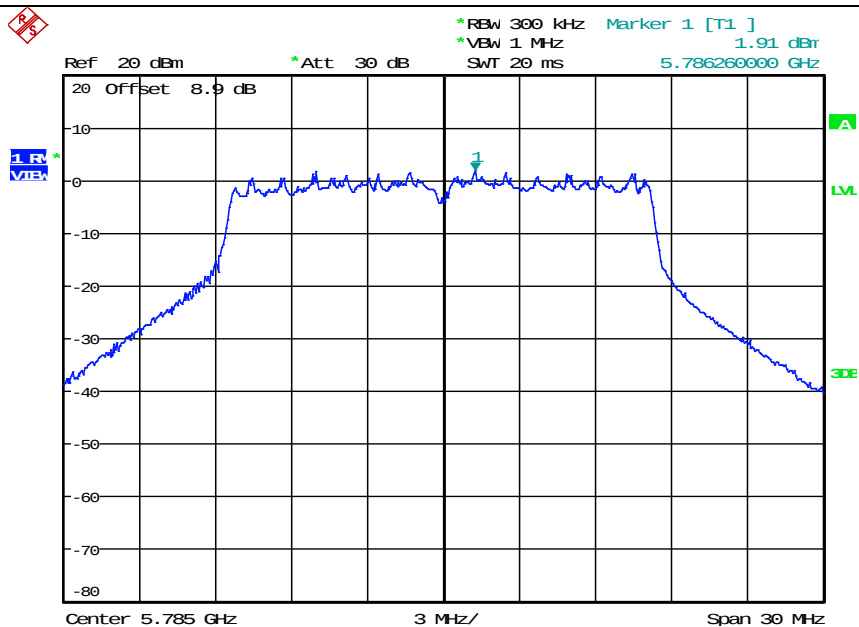
Date: 27.AUG.2019 10:57:39

IEEE 802.11ac80 / Channel 155 / 5775MHz

D.3 Power Spectral Density

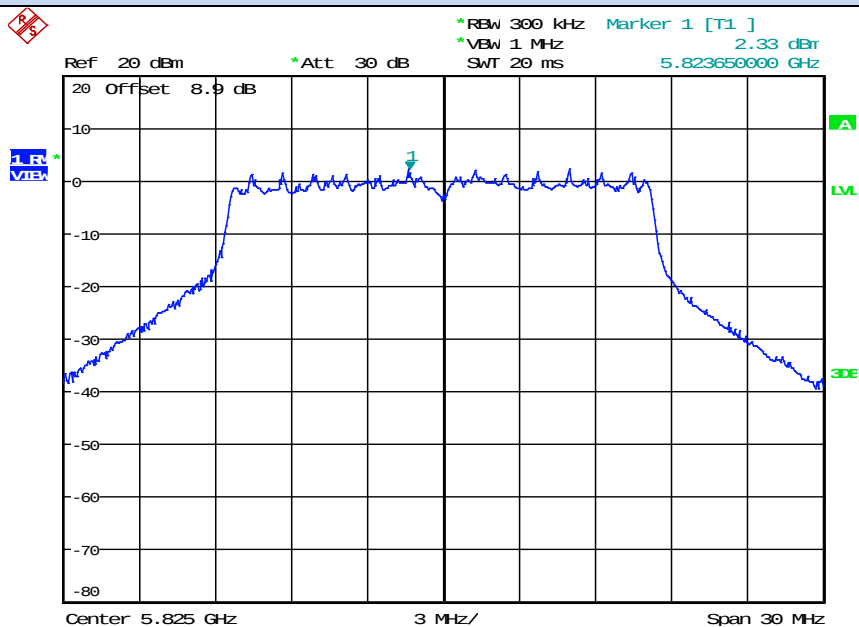
Test Mode	Channel	Frequency (MHz)	Power Density (dBm/300KHz)	Duty Cycle Factor (dB)	RBW Factor (dB)	Report Power Density (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
11A	149	5745	1.60	0	2.218	3.43	30	Pass
	157	5785	1.91	0	2.218	3.74		Pass
	165	5825	2.33	0	2.218	4.16		Pass
11N20 SISO	149	5745	1.24	0	2.218	1.73	30	Pass
	157	5785	1.57	0	2.218	1.91		Pass
	165	5825	2.45	0	2.218	2.80		Pass
11N40 SISO	151	5755	-1.25	0	2.218	-0.37	30	Pass
	159	5795	-0.40	0	2.218	0.24		Pass
11AC20 SISO	149	5745	1.14	0	2.218	1.55	30	Pass
	157	5785	1.97	0	2.218	2.51		Pass
	165	5825	2.41	0	2.218	2.75		Pass
11AC40 SISO	151	5755	-1.19	0	2.218	-0.32	30	Pass
	159	5795	-0.64	0	2.218	0.11		Pass
11AC80 SISO	155	5775	-3.29	0	2.218	-1.98	30	Pass





Date: 26.AUG.2019 20:35:28

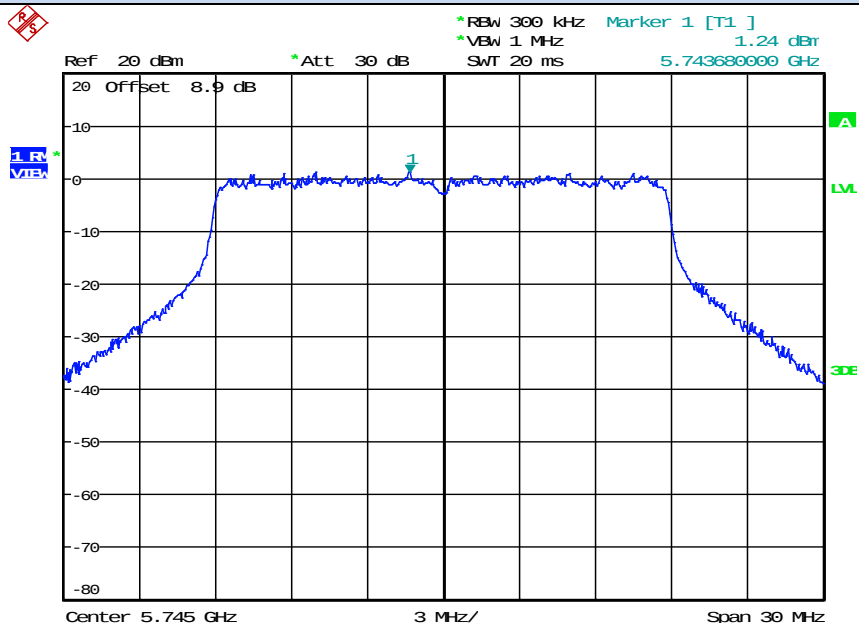
IEEE 802.11na / Channel 157 / 5785MHz



Date: 26.AUG.2019 20:37:11

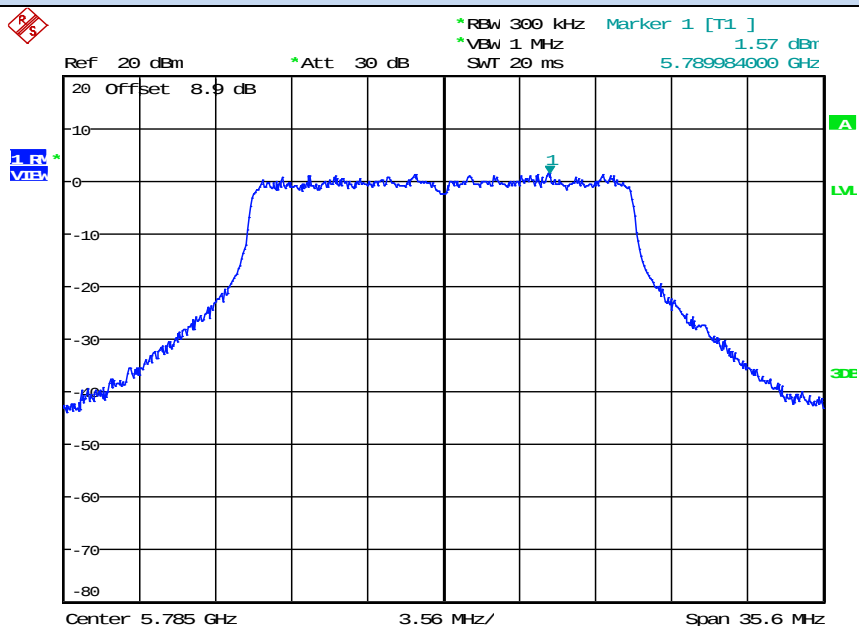
IEEE 802.11na / Channel 165 / 5825MHz

Power Spectral Density



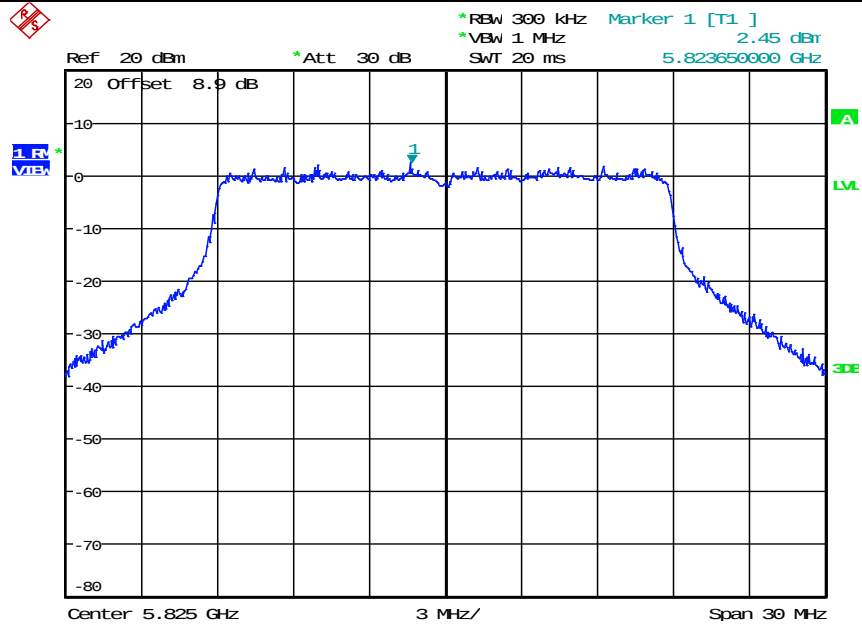
Date: 27.AUG.2019 09:44:08

IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 27.AUG.2019 09:47:36

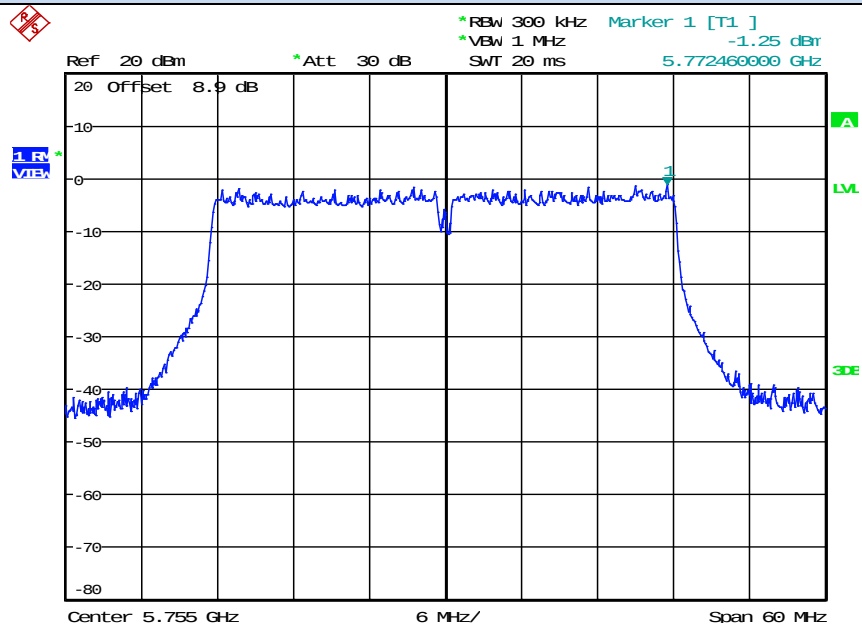
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 27.AUG.2019 09:49:35

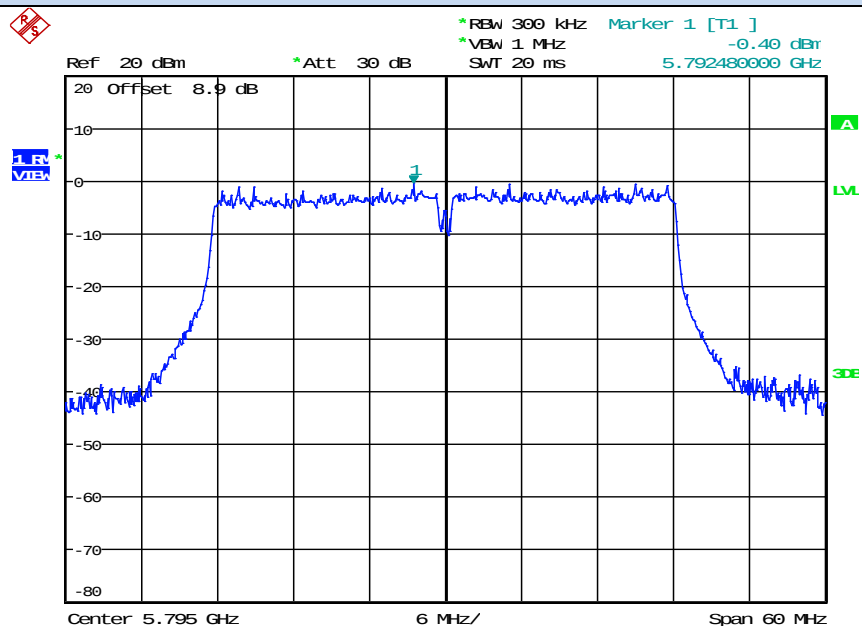
IEEE 802.11n20 / Channel 165 / 5825MHz

Power Spectral Density



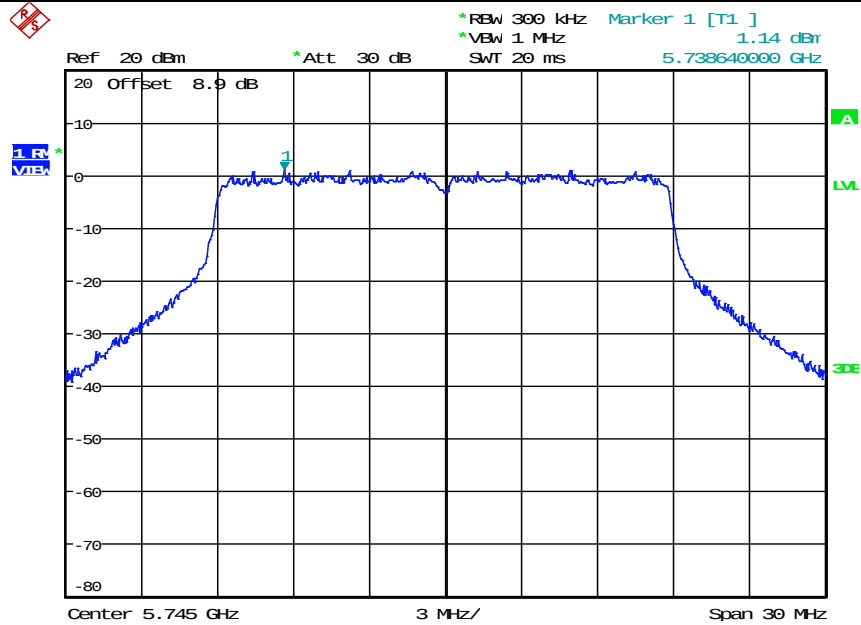
Date: 27.AUG.2019 10:01:51

IEEE 802.11n40 / Channel 151 / 5755MHz



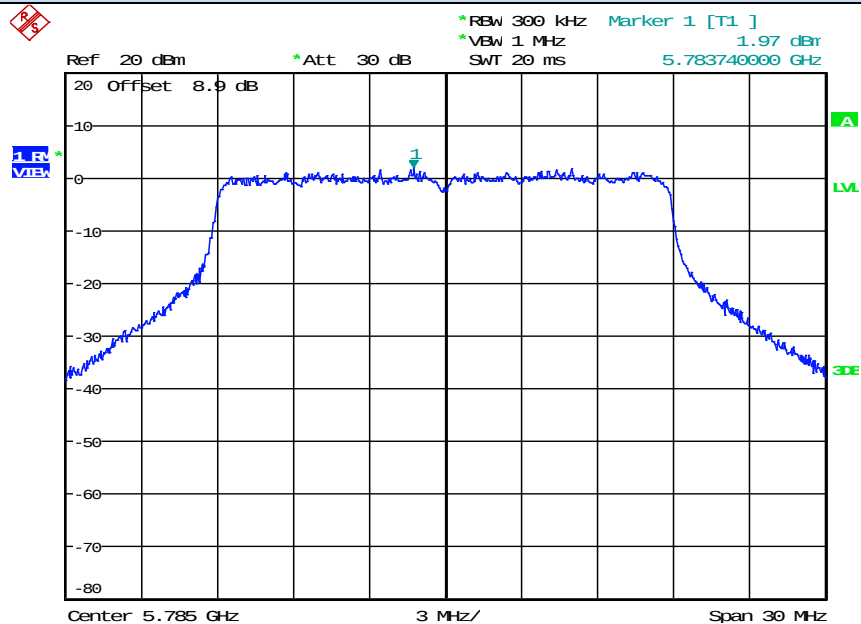
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IEEE 802.11n40 / Channel 159 / 5795MHz



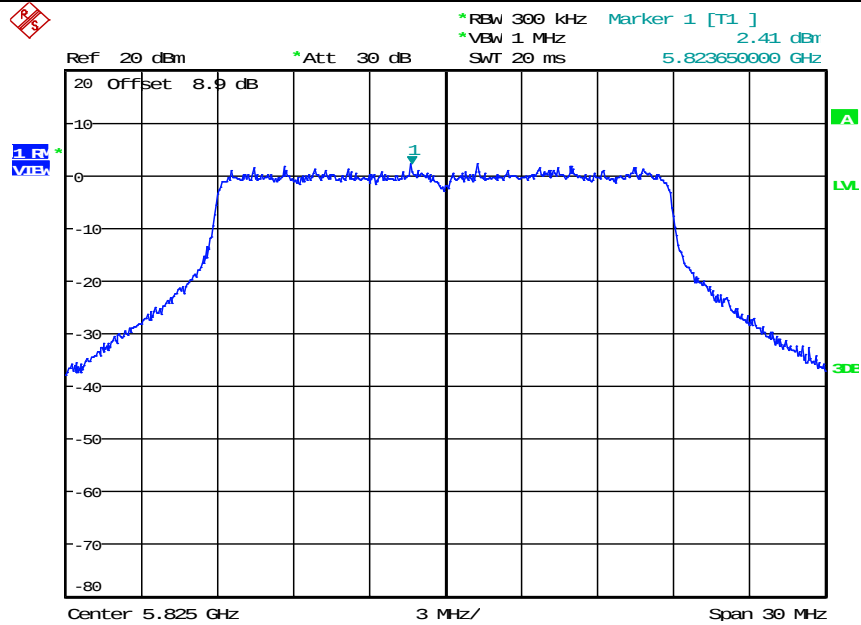
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IEEE 802.11ac20 / Channel 149 / 5745MHz



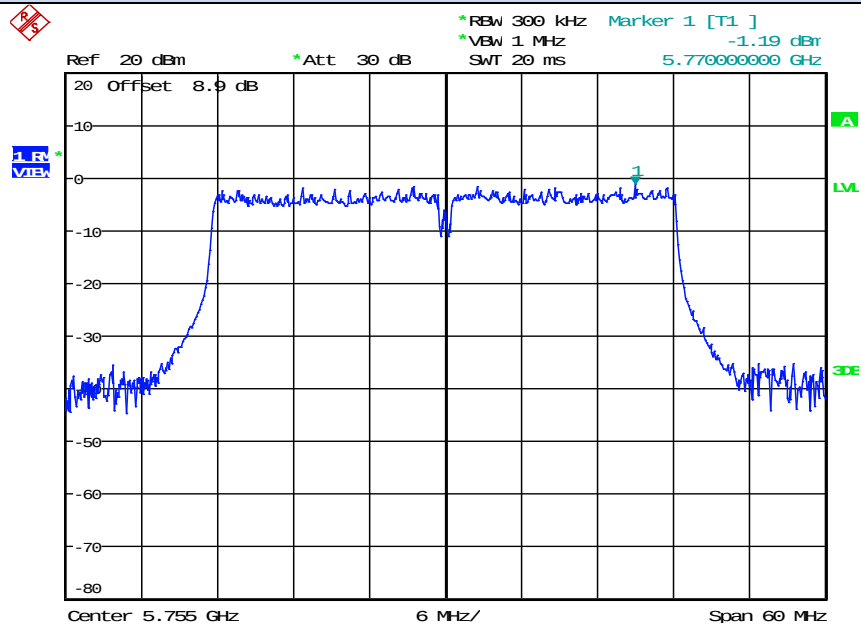
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IEEE 802.11ac20 / Channel 157 / 5785MHz



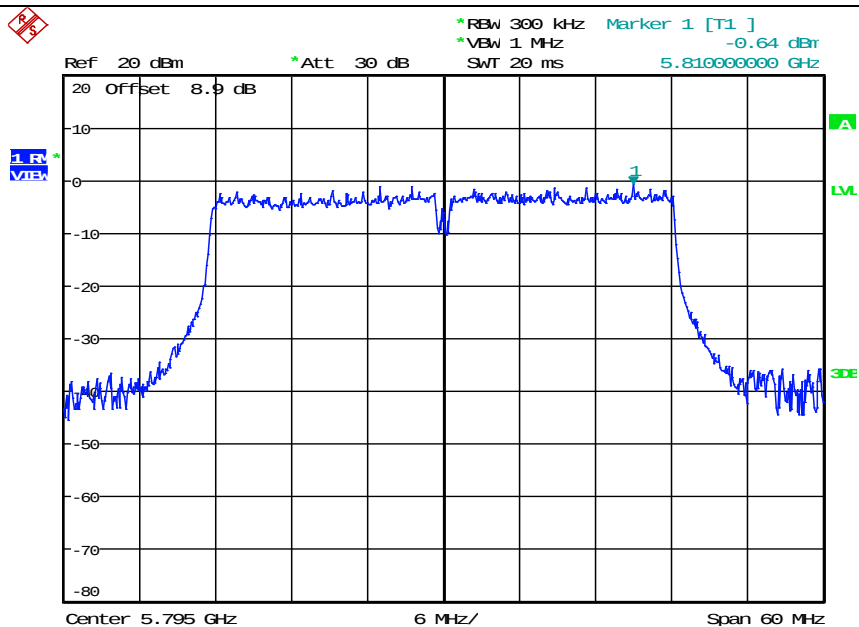
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IEEE 802.11ac20 / Channel 165 / 5825MHz



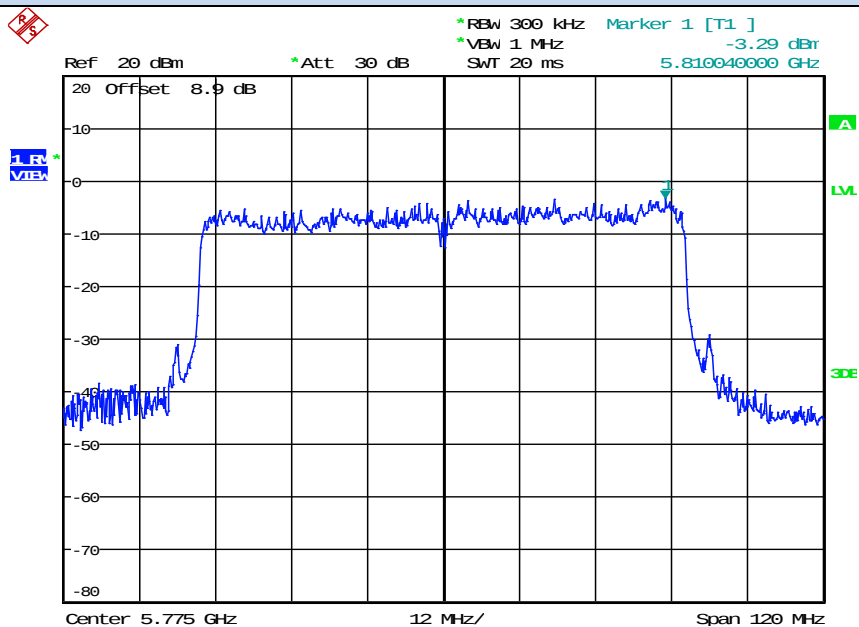
Date: 27.AUG.2019 10:35:30

IEEE 802.11ac40 / Channel 151 / 5755MHz



Date: 27.AUG.2019 10:39:21

IEEE 802.11ac40 / Channel 159 / 5795MHz

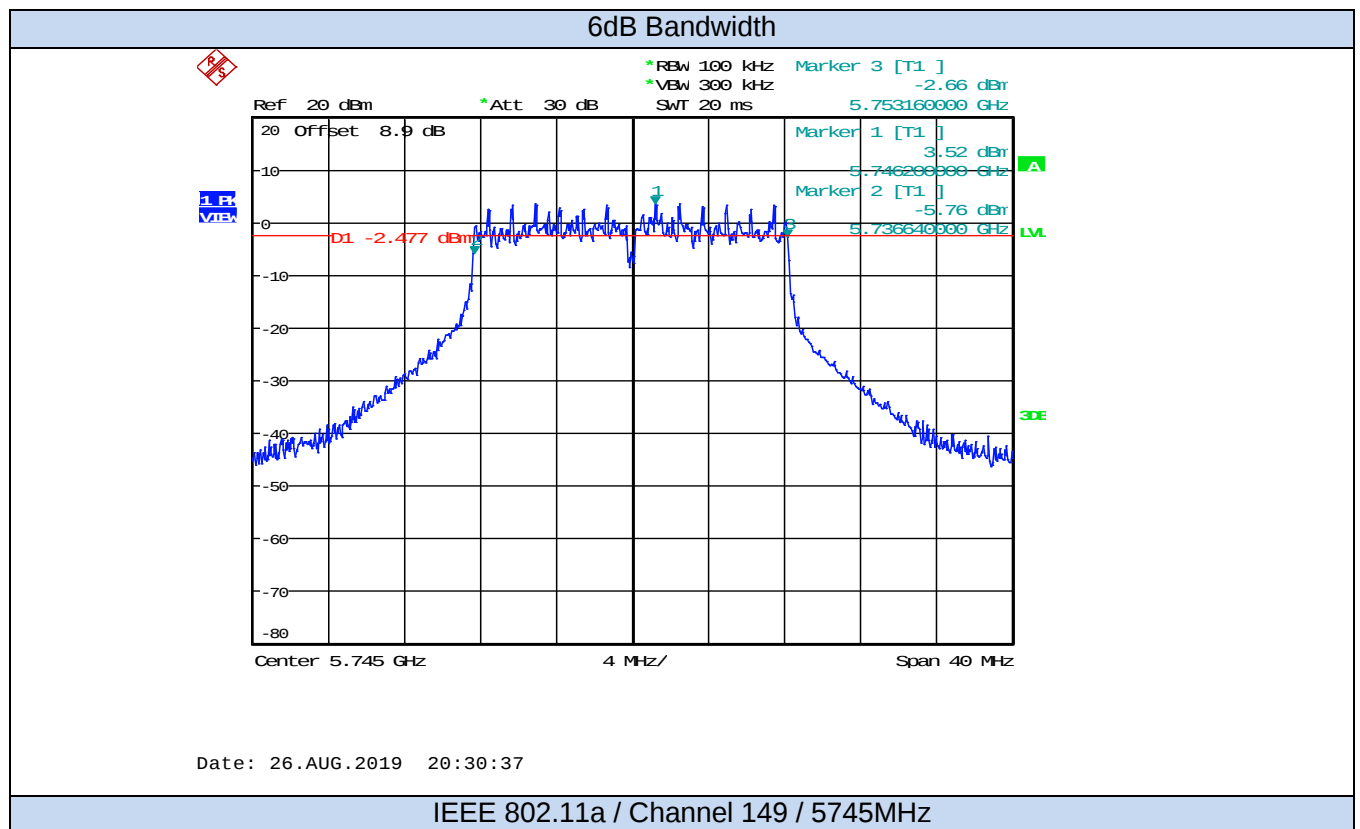


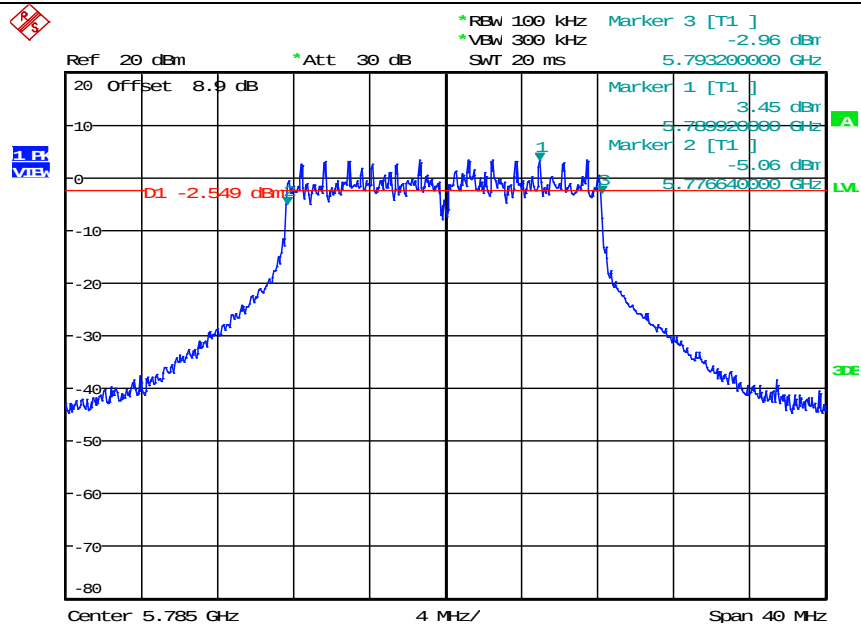
Date: 27.AUG.2019 10:57:52

IEEE 802.11ac80 / Channel 155/ 5775MHz

D.4 Emission Bandwidth

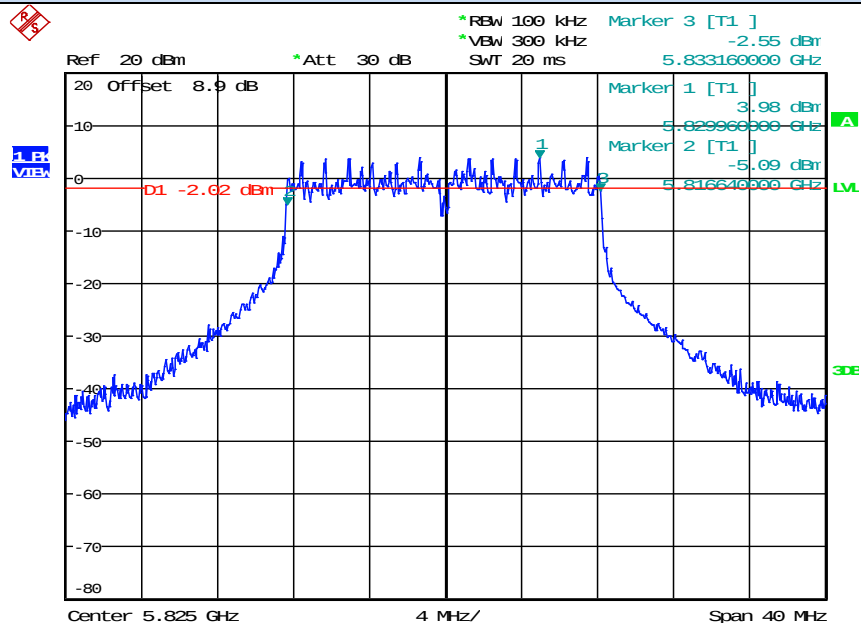
Test Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Verdict
11A	149	5745	16.520	16.715	>=0.5	Pass
	157	5785	16.560	16.720		Pass
	165	5825	16.520	16.740		Pass
11N20 SISO	149	5745	17.800	17.885	>=0.5	Pass
	157	5785	17.800	17.905		Pass
	165	5825	17.760	17.905		Pass
11N40 SISO	151	5755	36.480	36.280	>=0.5	Pass
	159	5795	36.560	36.260		Pass
11AC20S ISO	149	5745	17.800	17.890	>=0.5	Pass
	157	5785	17.760	17.925		Pass
	165	5825	17.800	17.915		Pass
11AC40S ISO	151	5755	36.560	36.270	>=0.5	Pass
	159	5795	36.560	36.260		Pass
11AC80S ISO	155	5775	75.360	75.560	>=0.5	Pass





Date: 26.AUG.2019 20:34:38

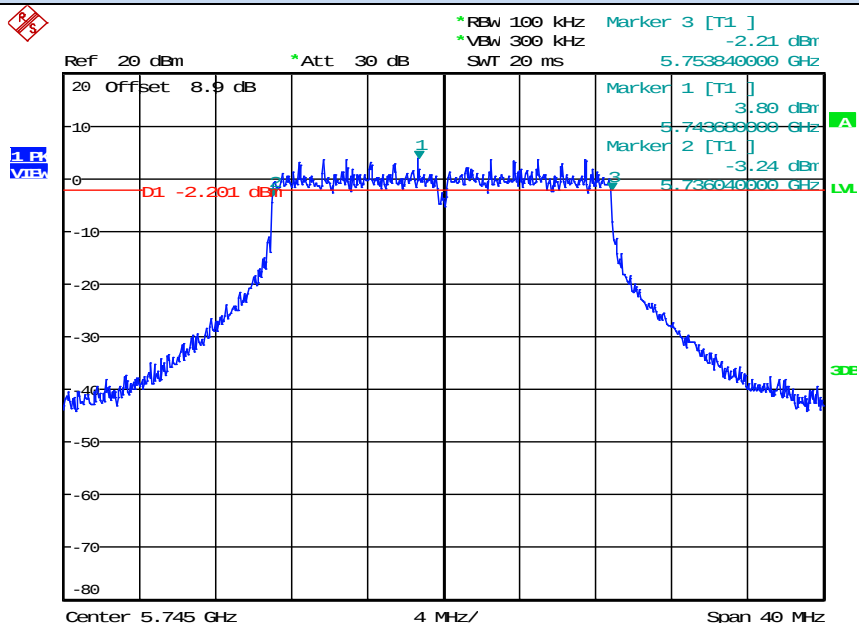
IEEE 802.11a / Channel 157 / 5785MHz



Date: 26.AUG.2019 20:36:23

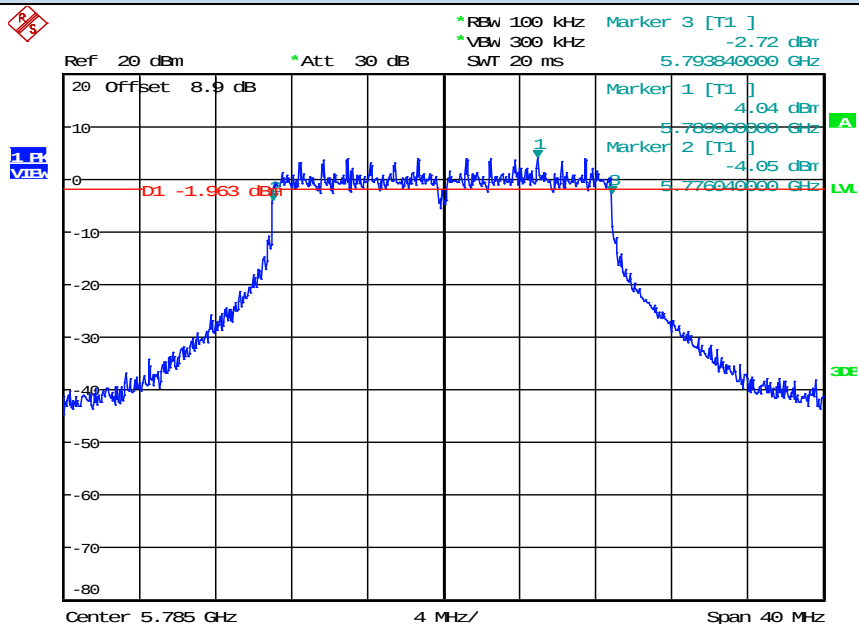
IEEE 802.11a / Channel 165 / 5825MHz

6dB Bandwidth



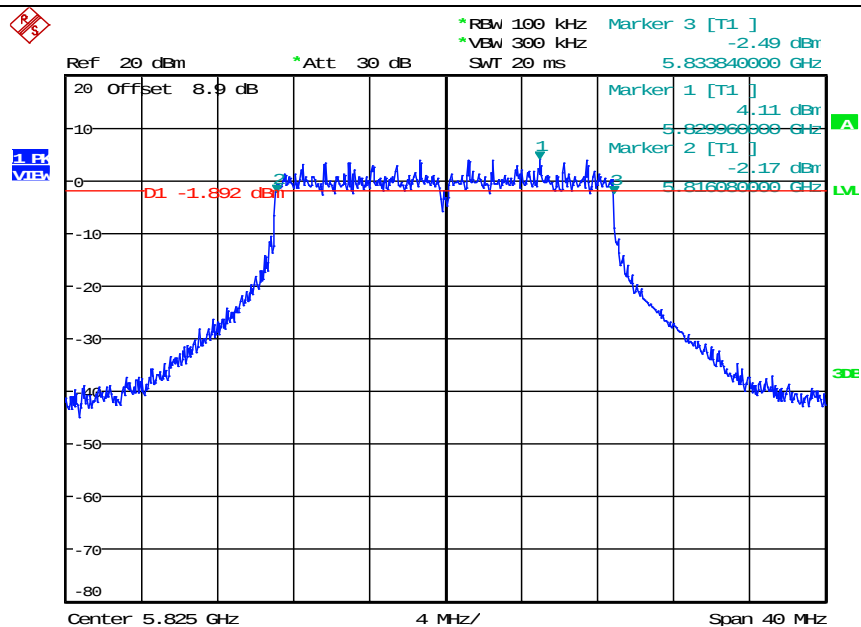
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IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 27.AUG.2019 09:46:48

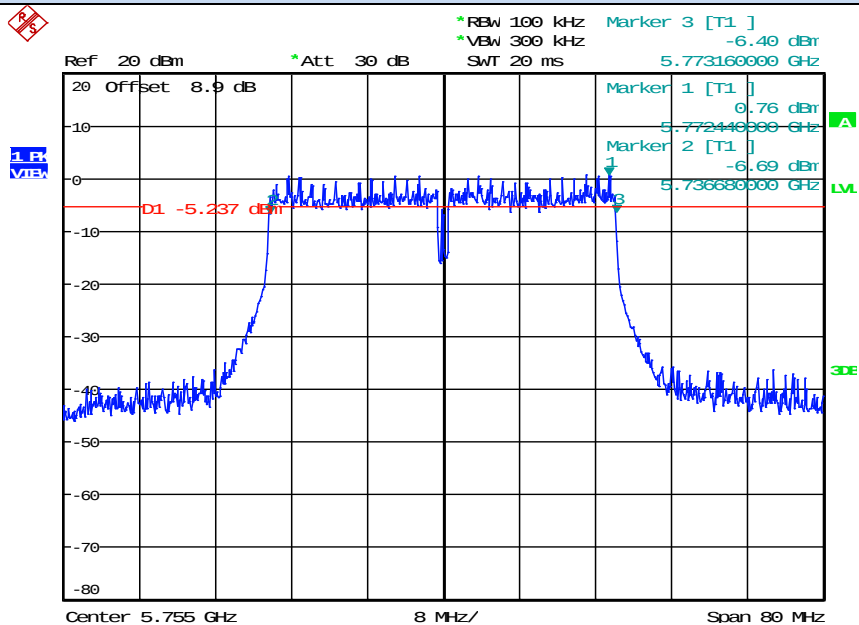
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 27.AUG.2019 09:48:47

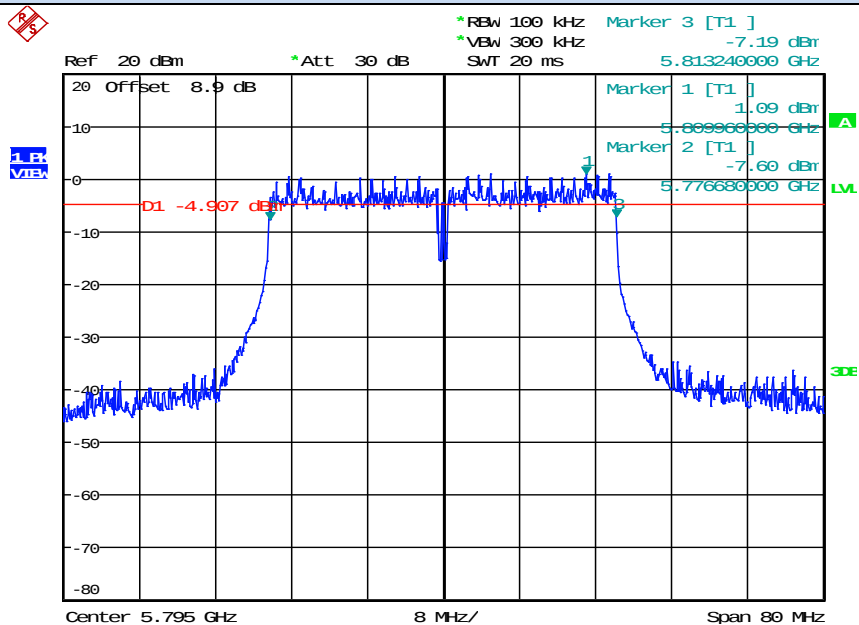
IEEE 802.11n20 / Channel 165 / 5825MHz

6dB Bandwidth



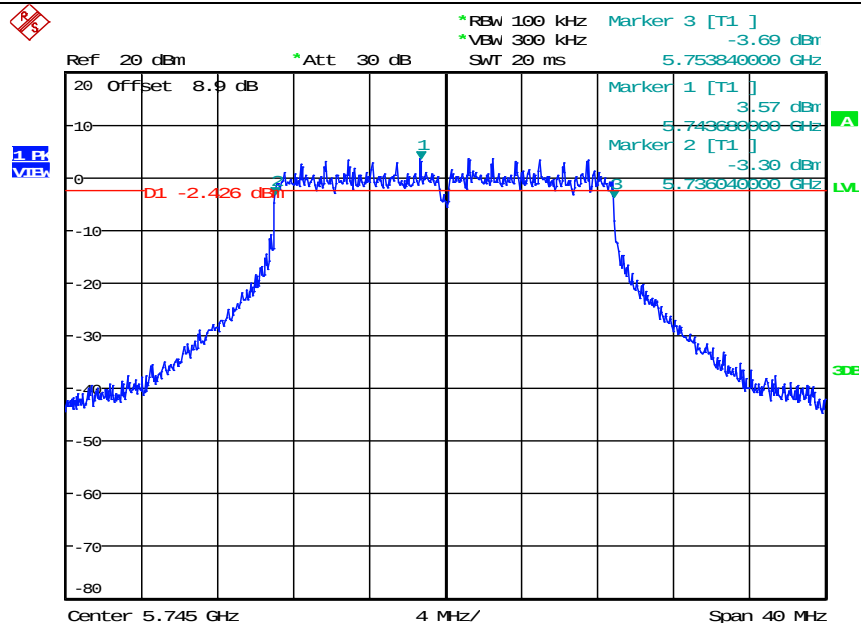
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IEEE 802.11n40 / Channel 151 / 5755MHz



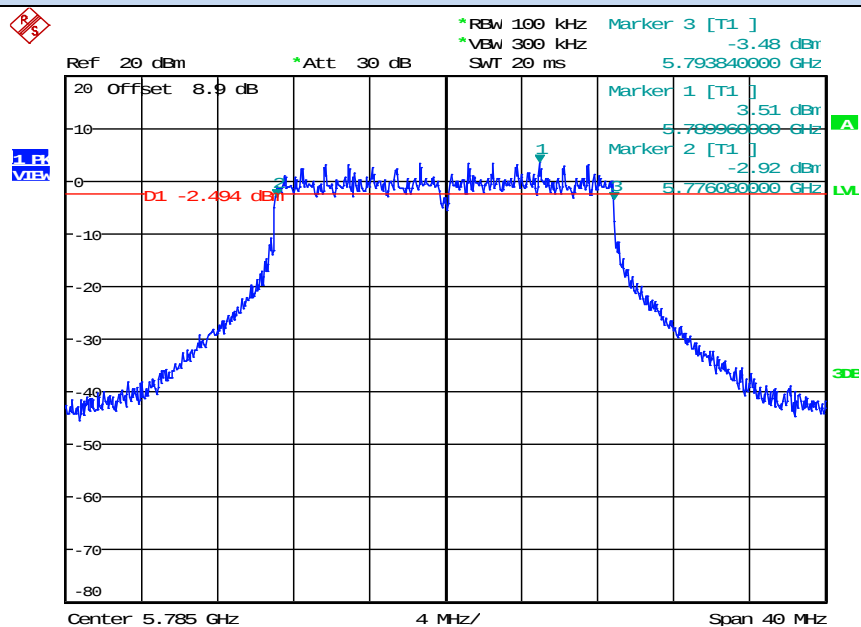
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IEEE 802.11n40 / Channel 159 / 5795MHz



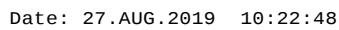
Date: 27.AUG.2019 10:17:26

IEEE 802.11ac20 / Channel 149 / 5745MHz



Date: 27.AUG.2019 10:21:09

IEEE 802.11ac20 / Channel 157/ 5785MHz



*RBW 100 kHz
 *VBW 300 kHz
 *Att 30 dB
 SWT 20 ms

Marker 3 [T1]
 -7.02 dBm
 5.773240000 GHz

Marker 1 [T1]
 0.59 dBm
 5.758688000 GHz

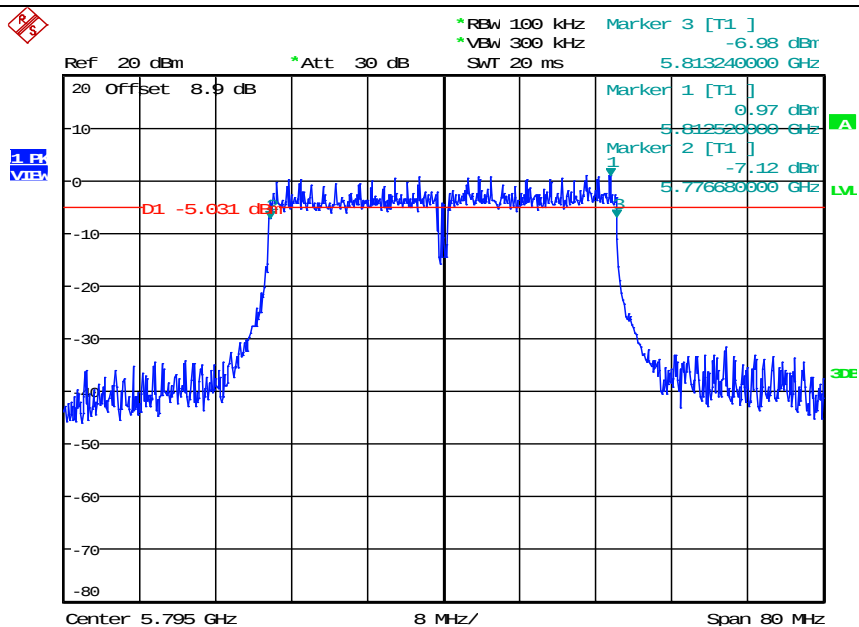
Marker 2 [T1]
 -6.15 dBm
 5.736688000 GHz

Offset 8.9 dB
 D1 -5.405 dBm

Center 5.755 GHz
 8 MHz/
 Span 80 MHz

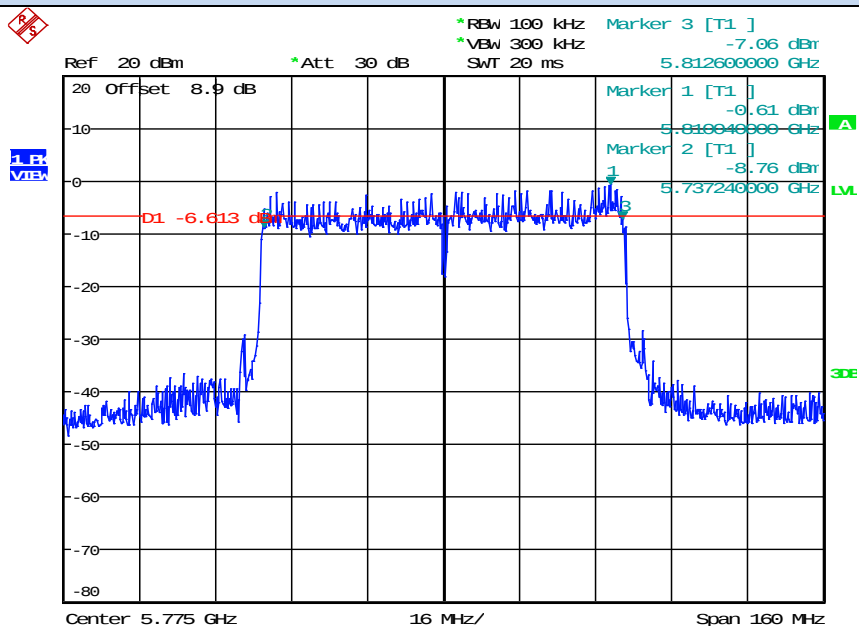
Date: 27.AUG.2019 10:34:42

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Date: 27.AUG.2019 10:38:33

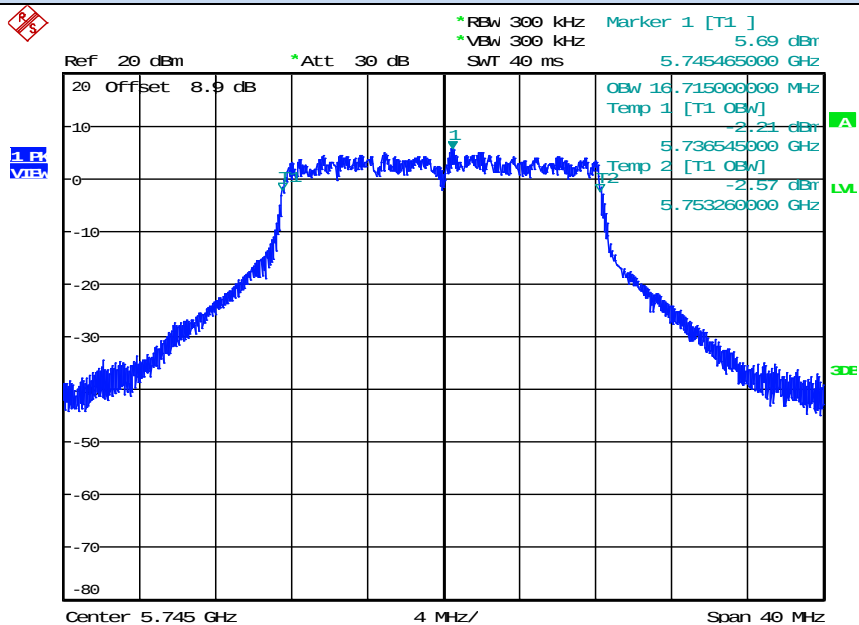
IEEE 802.11ac40 / Channel 159 / 5795MHz



Date: 27.AUG.2019 10:57:04

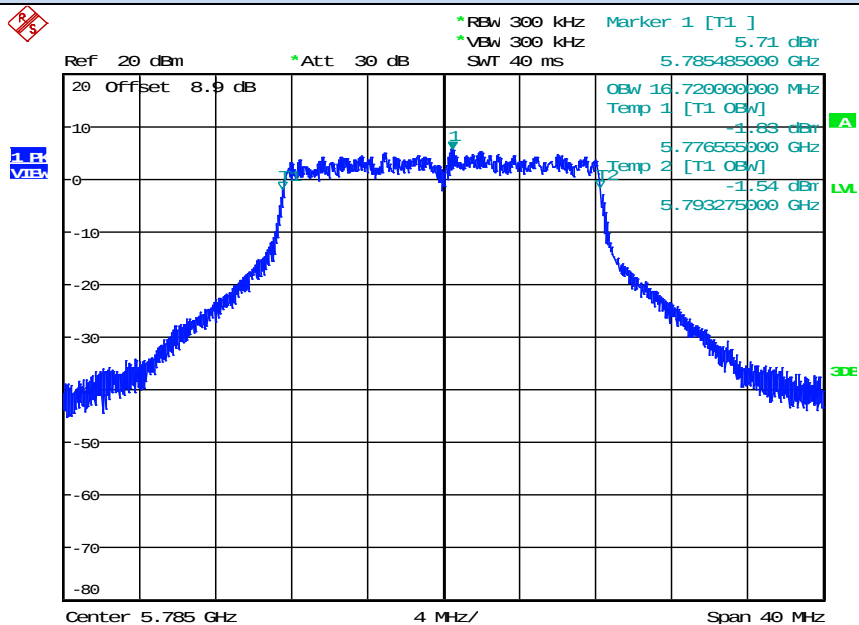
IEEE 802.11ac80 / Channel 155 / 5775MHz

99% Occupied Bandwidth



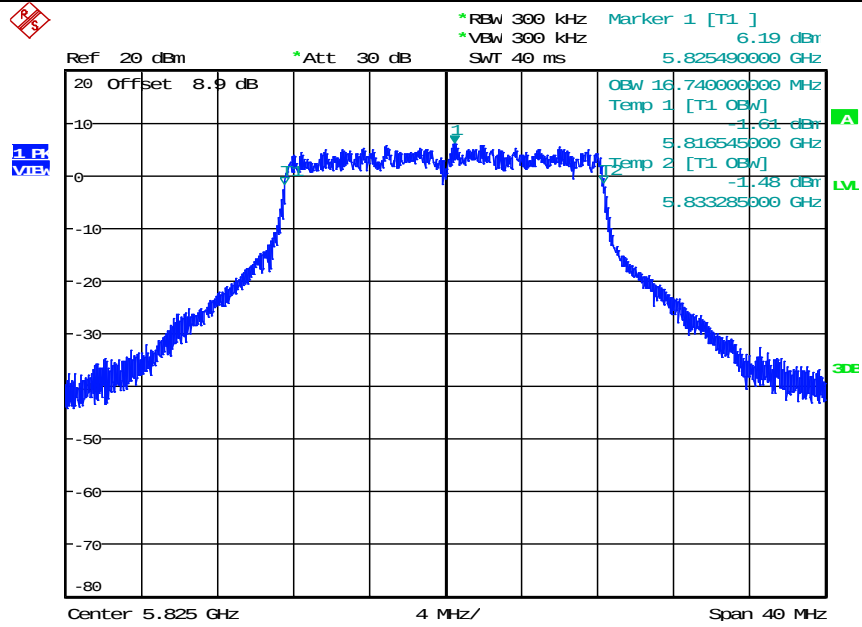
Date: 27.AUG.2019 11:07:03

IEEE 802.11a / Channel 149 / 5745MHz



Date: 27.AUG.2019 11:07:50

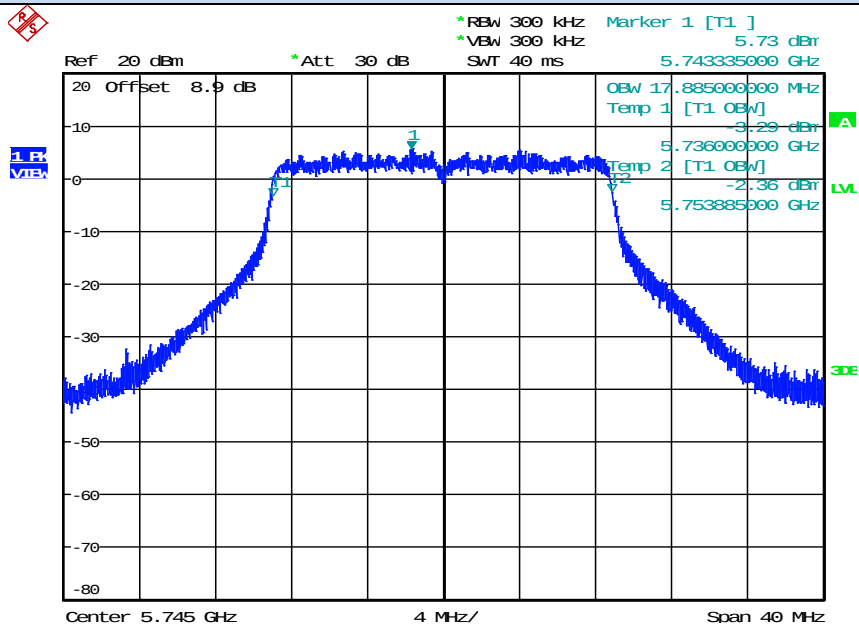
IEEE 802.11a / Channel 157 / 5785MHz



Date: 27.AUG.2019 11:08:28

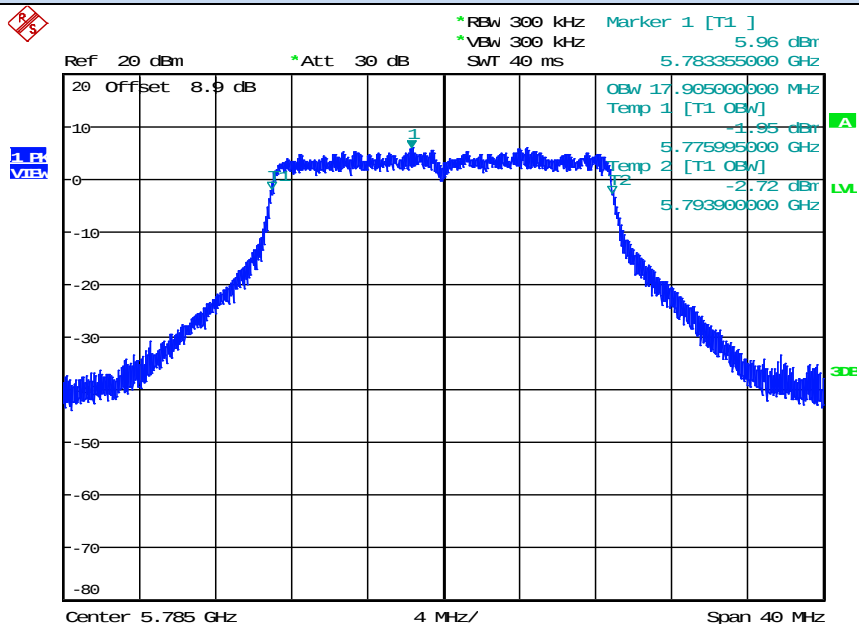
IEEE 802.11a / Channel 165 / 5825MHz

99% Occupied Bandwidth



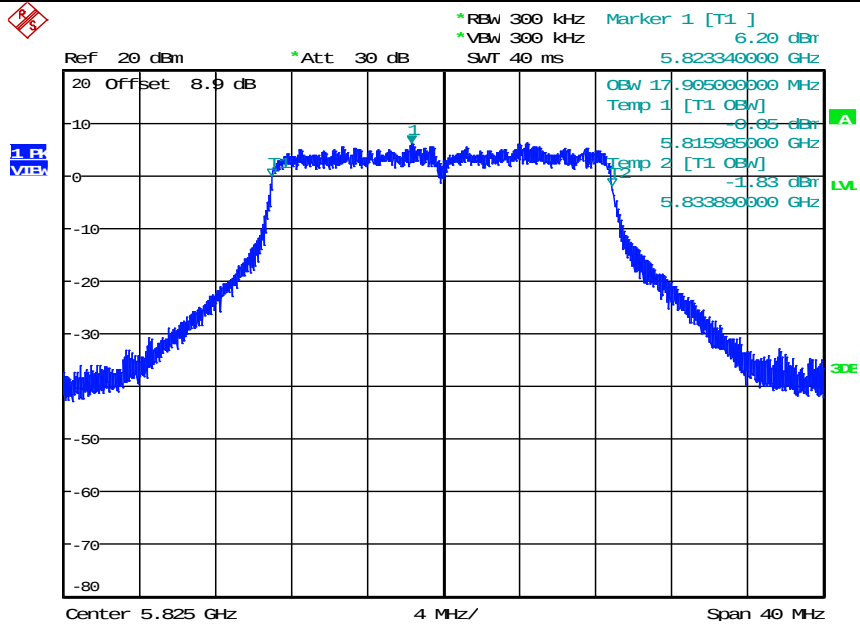
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IEEE 802.11n20 / Channel 149 / 5745MHz



Date: 27.AUG.2019 11:12:15

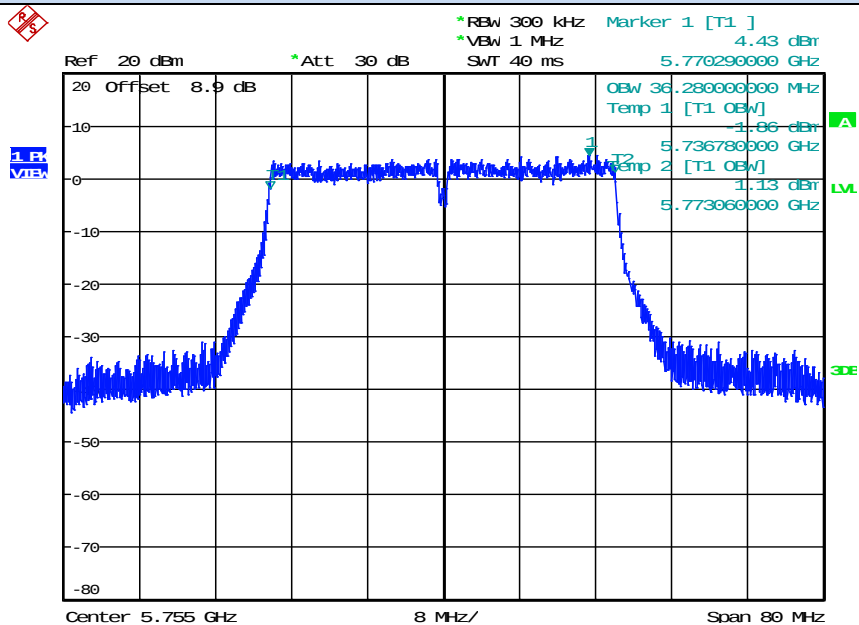
IEEE 802.11n20 / Channel 157 / 5785MHz



Date: 27.AUG.2019 11:12:55

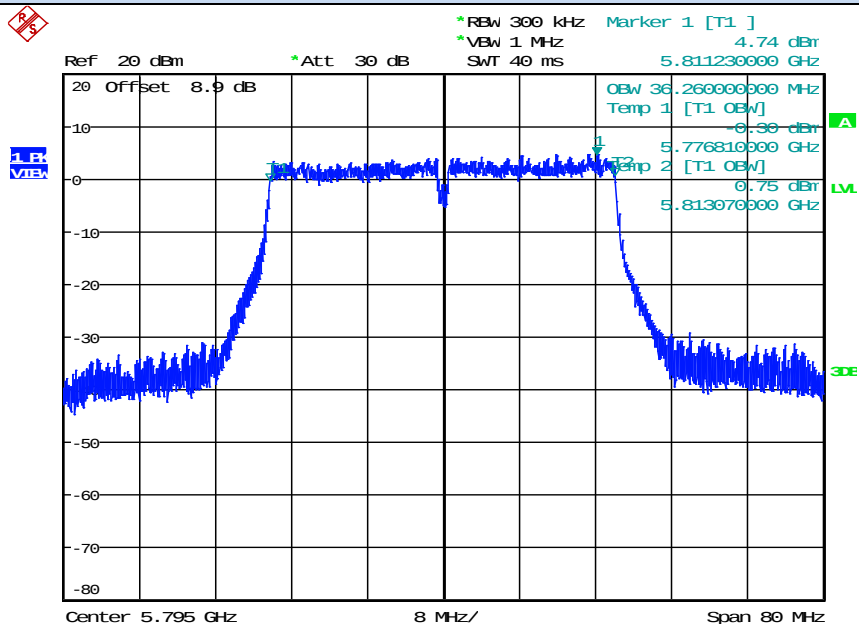
IEEE 802.11n20 / Channel 165 / 5825MHz

99% Occupied Bandwidth



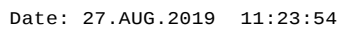
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IEEE 802.11n40 / Channel 151 / 5755MHz



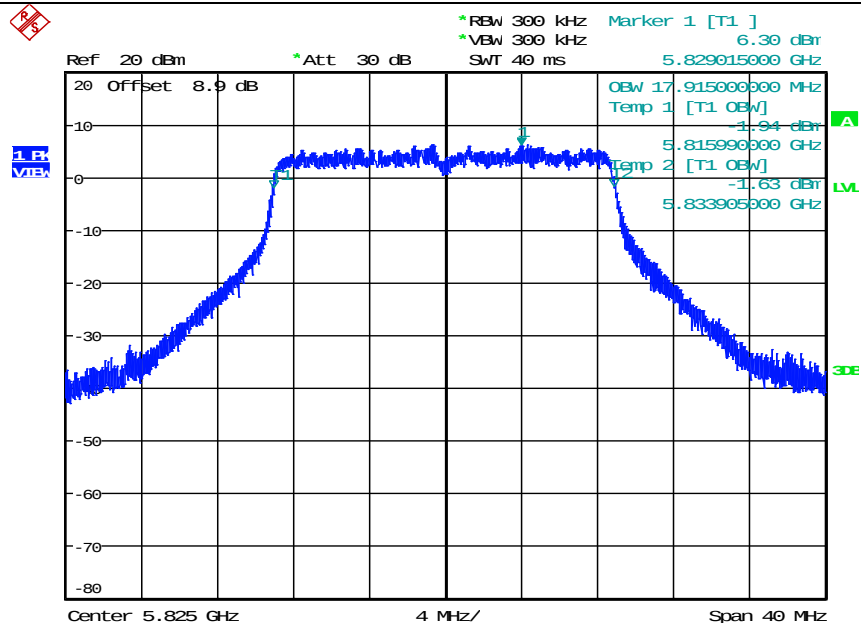
Date: 27.AUG.2019 11:19:48

IEEE 802.11n40 / Channel 159 / 5795MHz



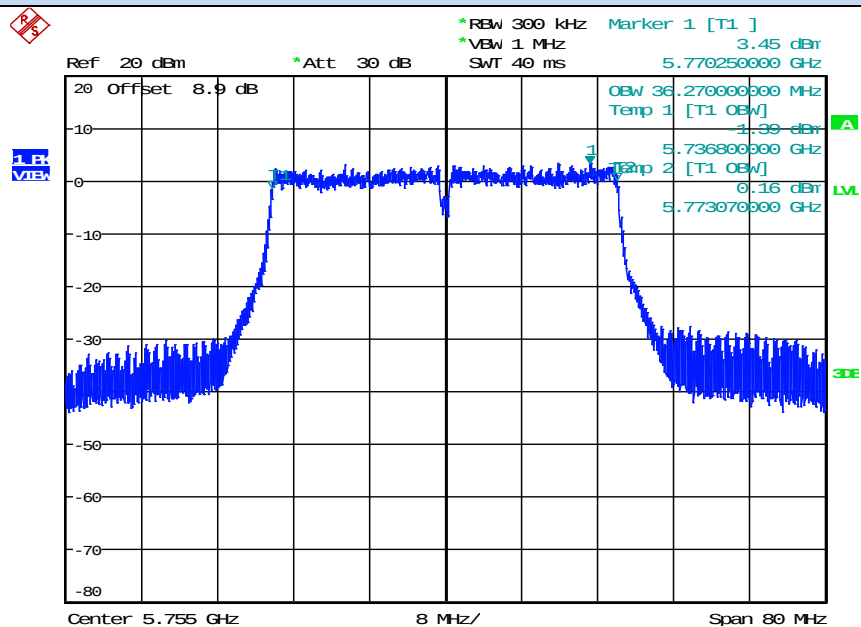
Date: 27.AUG.2019 11:24:37

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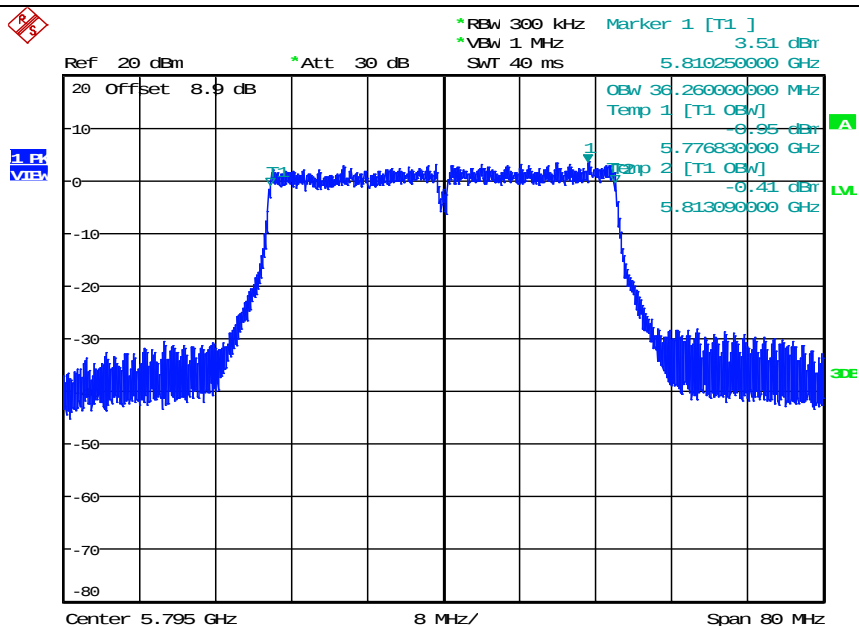
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IEEE 802.11ac20 / Channel 165 / 5825MHz



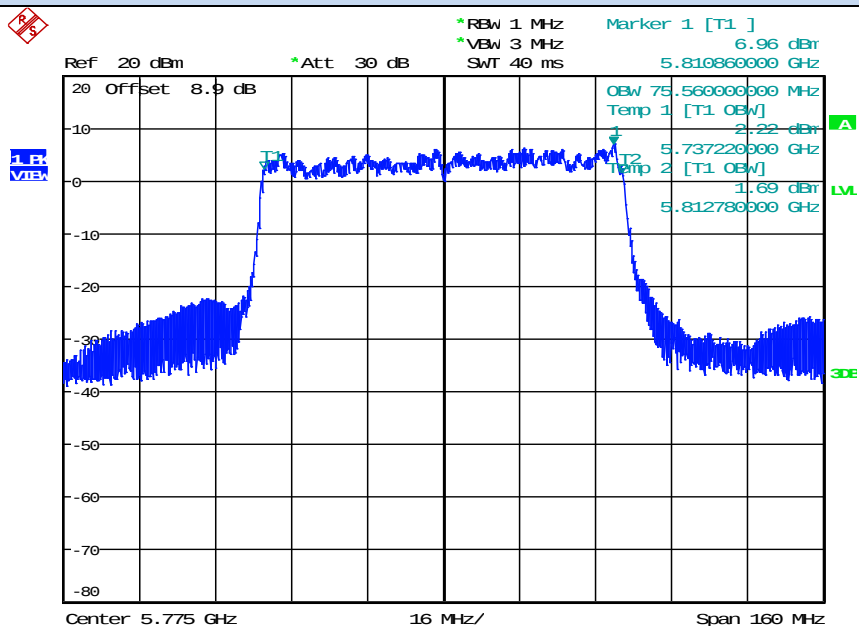
Date: 27.AUG.2019 11:28:05

IEEE 802.11ac40 / Channel 151 / 5755MHz



Date: 27.AUG.2019 11:29:11

IEEE 802.11ac40 / Channel 159 / 5795MHz



Date: 27.AUG.2019 11:31:02

IEEE 802.11ac80 / Channel 155 / 5775MHz

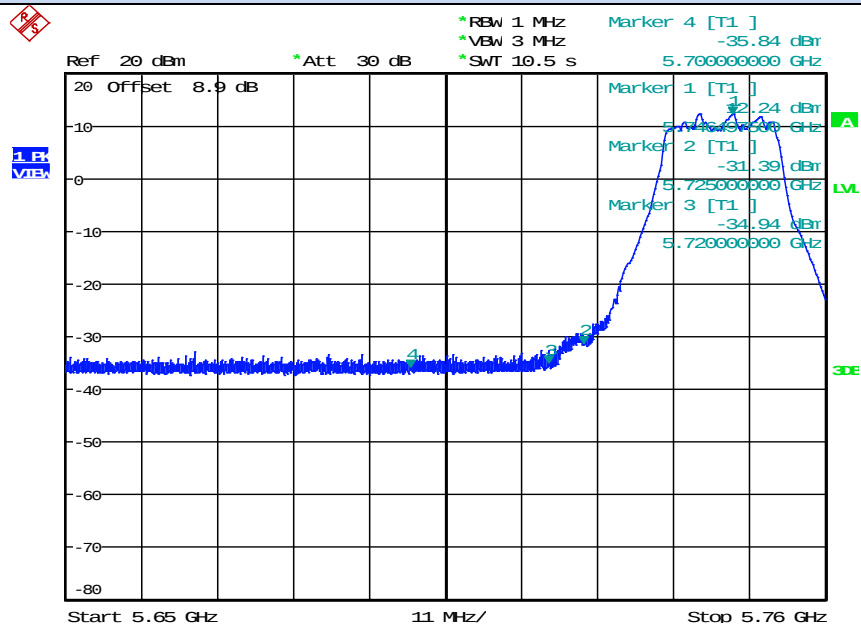
D.5 Undesirable Emissions Measurement

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBm/MHz)	Verdict
11A	149	5650.0	/	3.00	/	Peak	68.2	Pass
		5650.0	/	3.00	/	Average	48.2	Pass
		5700.0	-35.84	3.00	73.84	Peak	105.2	Pass
		5700.0	-47.83	3.00	55.83	Average	85.2	Pass
		5720.0	-34.94	3.00	62.94	Peak	110.8	Pass
		5720.0	-47.58	3.00	55.58	Average	90.8	Pass
		5725.0	-31.39	3.00	89.39	Peak	122.2	Pass
	165	5725.0	-46.61	3.00	64.61	Average	102.2	Pass
		5850.0	-34.84	3.00	82.84	Peak	122.2	Pass
		5850.0	-47.16	3.00	75.16	Average	102.2	Pass
		5855.0	-34.91	3.00	62.91	Peak	110.8	Pass
		5855.0	-47.39	3.00	55.39	Average	90.8	Pass
		5875.0	-36.21	3.00	44.21	Peak	105.2	Pass
		5875.0	-47.50	3.00	75.50	Average	85.2	Pass
11N20 SISO	149	5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass
		5650.0	/	3.00	/	Peak	68.2	Pass
		5650.0	/	3.00	/	Average	48.2	Pass
		5700.0	-35.03	3.00	83.03	Peak	105.2	Pass
		5700.0	-46.77	3.00	54.77	Average	85.2	Pass
		5720.0	-34.42	3.00	72.42	Peak	110.8	Pass
	165	5720.0	-47.45	3.00	45.45	Average	90.8	Pass
		5725.0	-31.11	3.00	89.11	Peak	122.2	Pass
		5725.0	-45.22	3.00	63.22	Average	102.2	Pass
		5850.0	-31.40	3.00	89.40	Peak	122.2	Pass
		5850.0	-46.14	3.00	74.14	Average	102.2	Pass
		5855.0	-34.18	3.00	82.18	Peak	110.8	Pass
		5855.0	-46.64	3.00	54.64	Average	90.8	Pass
	165	5875.0	-34.93	3.00	82.93	Peak	105.2	Pass
		5875.0	-47.07	3.00	55.07	Average	85.2	Pass
		5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBm/MHz)	Verdict
11N40 SISO	151	5650.0	/	3.00	/	Peak	68.2	Pass
		5650.0	/	3.00	/	Average	48.2	Pass
		5700.0	-35.11	3.00	83.11	Peak	105.2	Pass
		5700.0	-47.52	3.00	45.52	Average	85.2	Pass
		5720.0	-27.55	3.00	75.55	Peak	110.8	Pass
		5720.0	-35.19	3.00	63.19	Average	90.8	Pass
		5725.0	-34.94	3.00	95.68	Peak	122.2	Pass
	159	5725.0	-31.39	3.00	62.93	Average	102.2	Pass
		5850.0	-34.71	3.00	72.71	Peak	122.2	Pass
		5850.0	-47.19	3.00	55.19	Average	102.2	Pass
		5855.0	-35.39	3.00	83.39	Peak	110.8	Pass
		5855.0	-47.39	3.00	55.39	Average	90.8	Pass
		5875.0	-36.18	3.00	74.18	Peak	105.2	Pass
		5875.0	-47.35	3.00	55.35	Average	85.2	Pass
11AC2 0 SISO	149	5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass
		5650.0	/	3.00	/	Peak	68.2	Pass
		5650.0	/	3.00	/	Average	48.2	Pass
		5700.0	-36.20	3.00	84.20	Peak	105.2	Pass
		5700.0	-47.01	3.00	45.01	Average	85.2	Pass
		5720.0	-34.66	3.00	72.66	Peak	110.8	Pass
	165	5720.0	-47.57	3.00	45.57	Average	90.8	Pass
		5725.0	-29.19	3.00	87.19	Peak	122.2	Pass
		5725.0	-45.24	3.00	63.24	Average	102.2	Pass
		5850.0	-29.57	3.00	87.57	Peak	122.2	Pass
		5850.0	-46.23	3.00	44.23	Average	102.2	Pass
		5855.0	-34.22	3.00	72.22	Peak	110.8	Pass
		5855.0	-46.73	3.00	44.73	Average	90.8	Pass
11AC4 0 SISO	151	5875.0	-34.09	3.00	82.09	Peak	105.2	Pass
		5875.0	-47.19	3.00	65.19	Average	85.2	Pass
		5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass
		5650.0	/	3.00	/	Peak	68.2	Pass
		5650.0	/	3.00	/	Average	48.2	Pass
		5700.0	-34.49	3.00	82.49	Peak	105.2	Pass
	159	5700.0	-47.85	3.00	45.85	Average	85.2	Pass
		5720.0	-33.56	3.00	71.56	Peak	110.8	Pass
		5720.0	-46.59	3.00	54.59	Average	90.8	Pass
		5725.0	-31.48	3.00	89.48	Peak	122.2	Pass
		5725.0	-46.35	3.00	64.35	Average	102.2	Pass
		5850.0	-33.82	3.00	71.82	Peak	122.2	Pass
		5850.0	-47.26	3.00	55.26	Average	102.2	Pass
11AC8 0 SISO	155	5855.0	-35.16	3.00	83.16	Peak	110.8	Pass
		5855.0	-47.36	3.00	45.36	Average	90.8	Pass
		5875.0	-35.57	3.00	83.57	Peak	105.2	Pass
		5875.0	-47.35	3.00	45.35	Average	85.2	Pass
		5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass
		5725.0	-30.18	3.00	88.18	Peak	122.2	Pass
		5725.0	-30.57	3.00	58.57	Average	102.2	Pass
11AC8 0 SISO	155	5720.0	/	3.00	/	Peak	110.8	Pass
		5720.0	/	3.00	/	Average	90.8	Pass
		5700.0	-47.48	3.00	75.48	Peak	105.2	Pass
		5700.0	-47.42	3.00	45.42	Average	85.2	Pass
		5650.0	-47.44	3.00	55.44	Peak	68.2	Pass

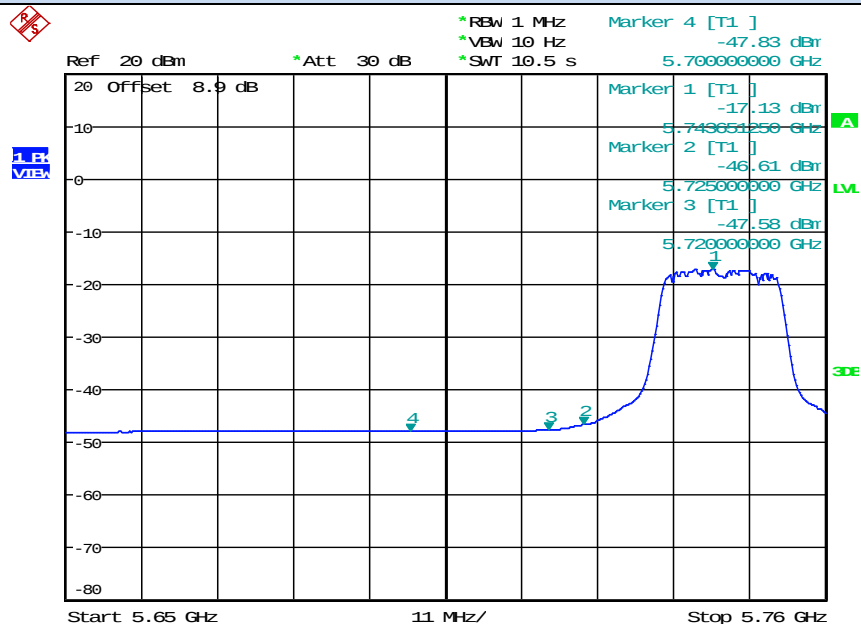
		5650.0	/	3.00	/	Average	48.2	Pass
		5850.0	-30.18	3.00	88.18	Peak	122.2	Pass
		5850.0	-30.57	3.00	58.57	Average	102.2	Pass
		5855.0	/	3.00	/	Peak	110.8	Pass
		5855.0	/	3.00	/	Average	90.8	Pass
		5875.0	-47.48	3.00	85.48	Peak	105.2	Pass
		5875.0	-47.42	3.00	55.42	Average	85.2	Pass
		5925.0	/	3.00	/	Peak	68.2	Pass
		5925.0	/	3.00	/	Average	48.2	Pass

Undesirable Emissions Measurement



Date: 26.AUG.2019 20:32:34

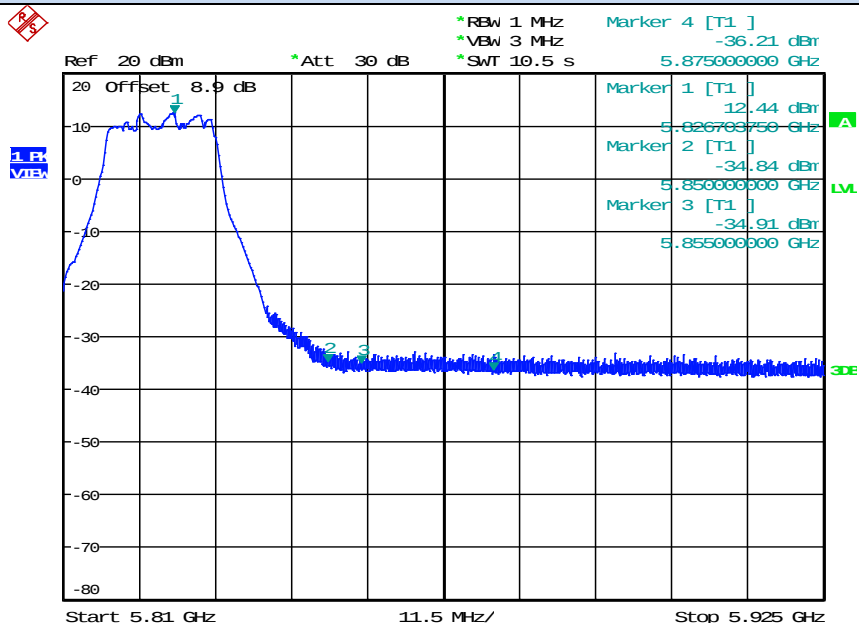
IEEE 802.11a / Channel 149 / 5745MHz / Peak



Date: 26.AUG.2019 20:33:10

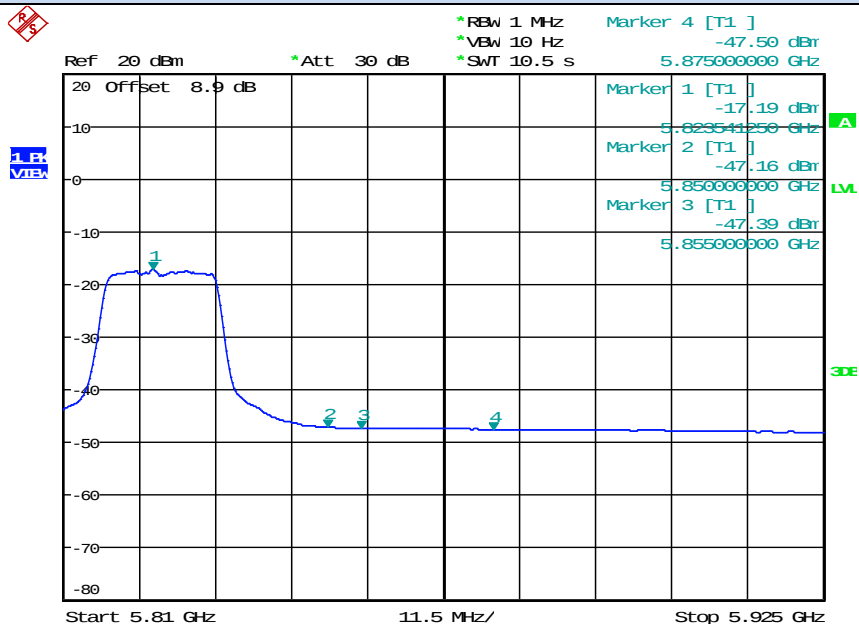
IEEE 802.11a / Channel 148 / 5745MHz / Average

Undesirable Emissions Measurement



Date: 26.AUG.2019 20:38:10

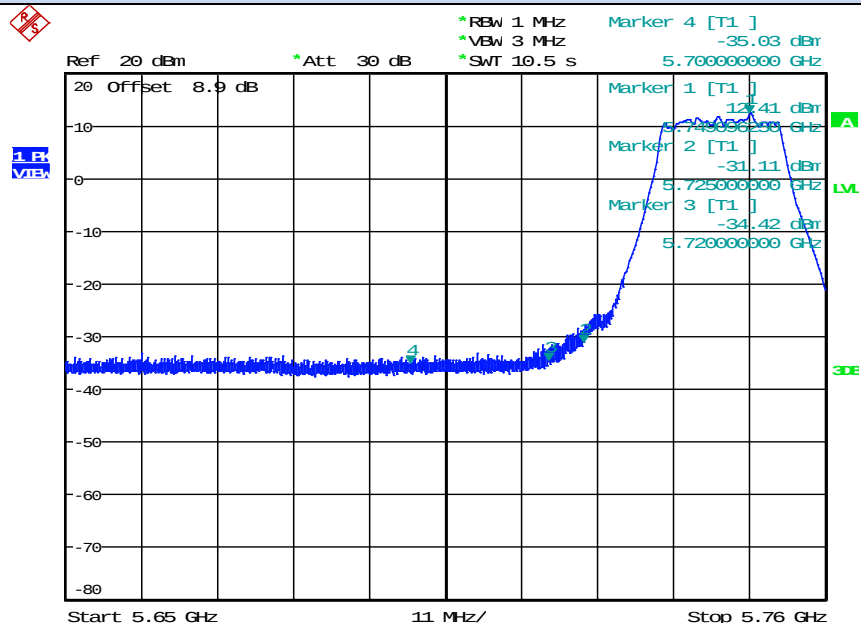
IEEE 802.11a / Channel 165 / 5825MHz / Peak



Date: 26.AUG.2019 20:38:46

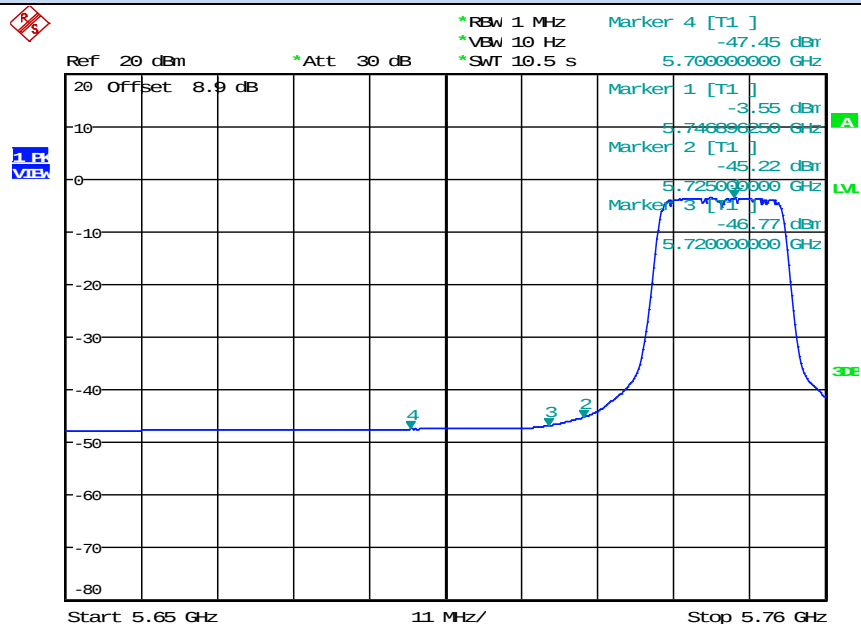
IEEE 802.11a / Channel 165 / 5825MHz / Average

Undesirable Emissions Measurement



Date: 27.AUG.2019 09:45:09

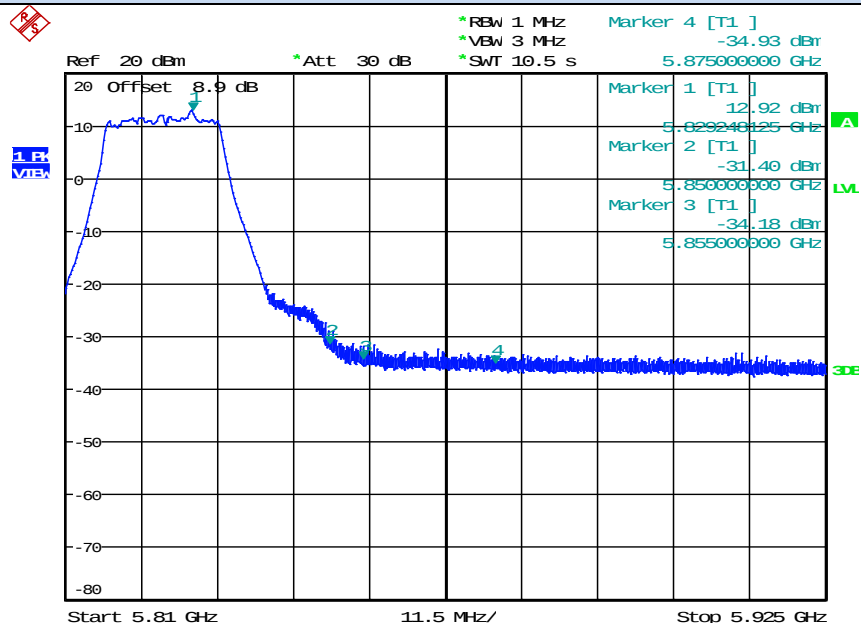
IEEE 802.11n20 / Channel 149 / 5745MHz / Peak



Date: 27.AUG.2019 09:45:47

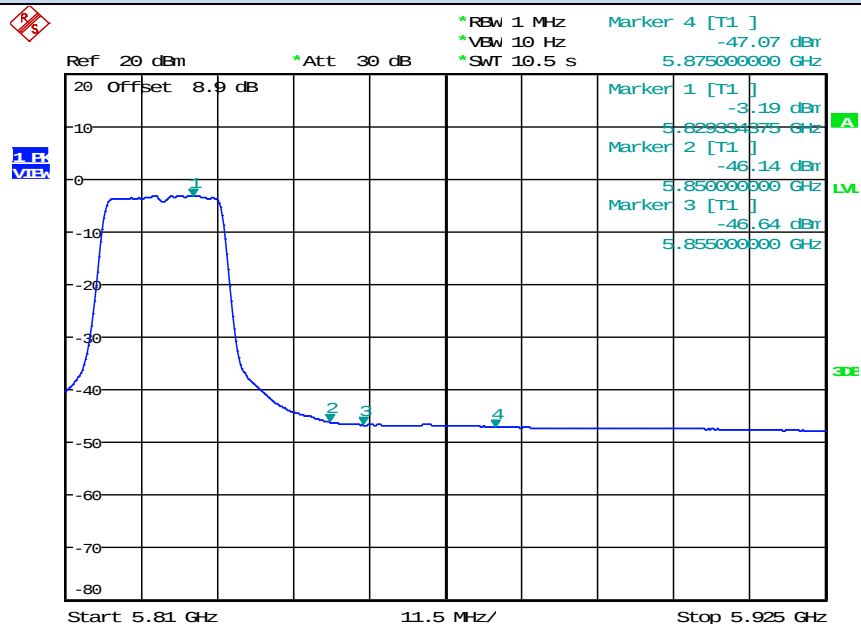
IEEE 802.11n20 / Channel 149 / 5745MHz / Average

Undesirable Emissions Measurement



Date: 27.AUG.2019 09:50:37

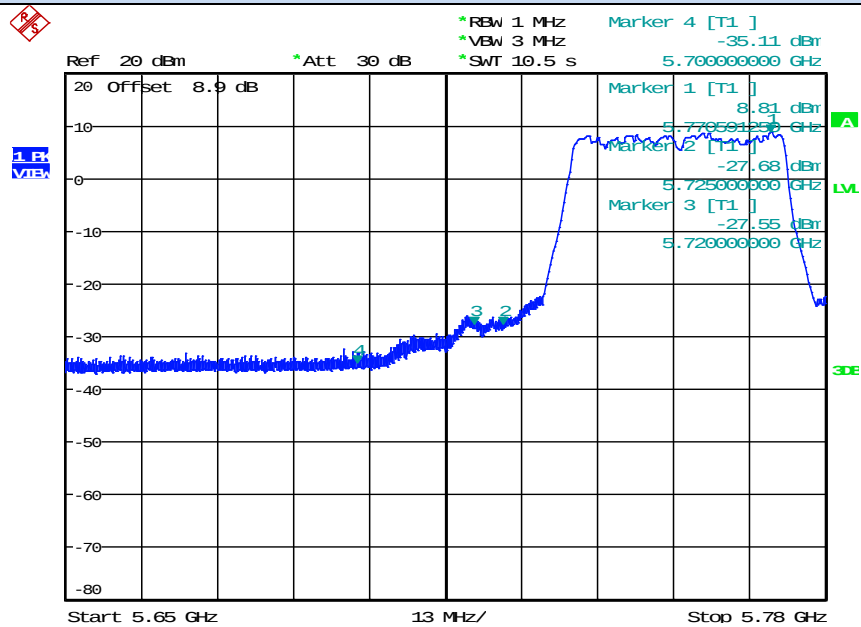
IEEE 802.11n20 / Channel 165 / 5825MHz / Peak



Date: 27.AUG.2019 09:51:15

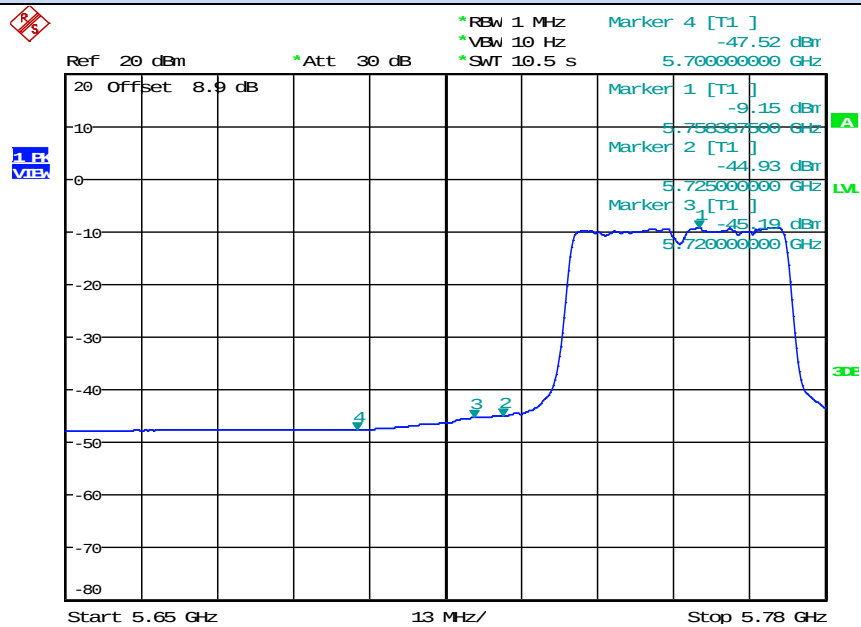
IEEE 802.11n20 / Channel 165 / 5825MHz / Average

Undesirable Emissions Measurement



Date: 27.AUG.2019 10:03:14

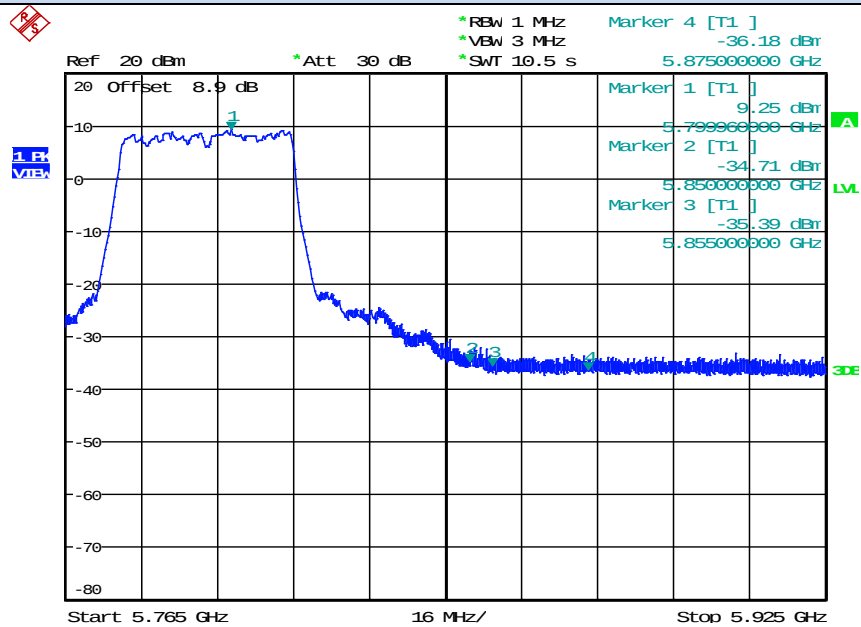
IEEE 802.11n40 / Channel 151 / 5755MHz / Peak



Date: 27.AUG.2019 10:04:02

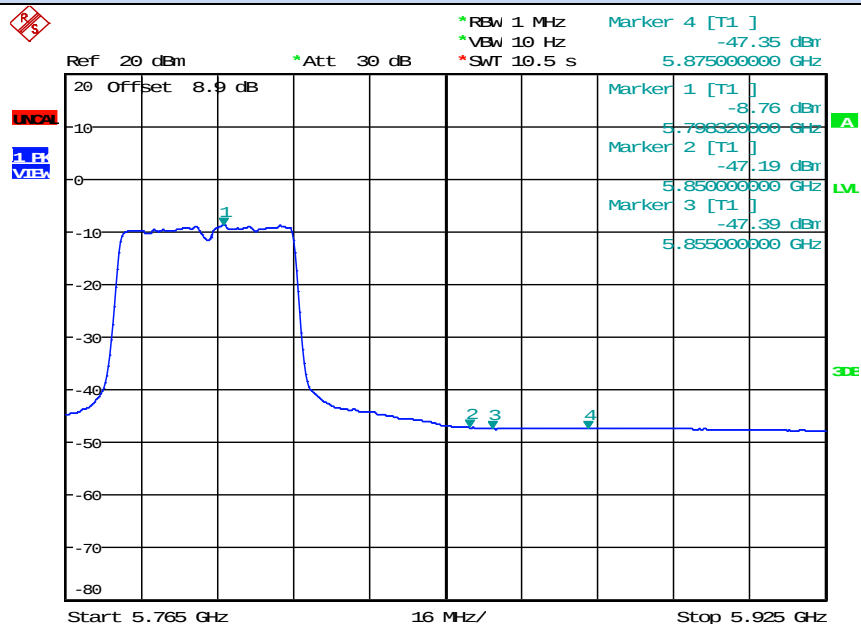
IEEE 802.11n40 / Channel 151 / 5755MHz / Average

Undesirable Emissions Measurement



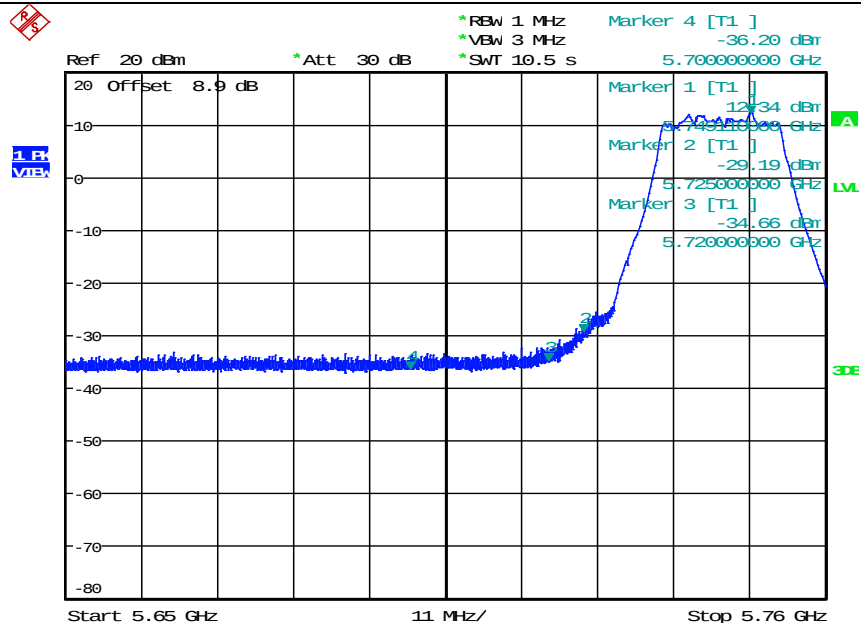
Date: 27.AUG.2019 10:06:53

IEEE 802.11n40 / Channel 159 / 5795MHz / Peak



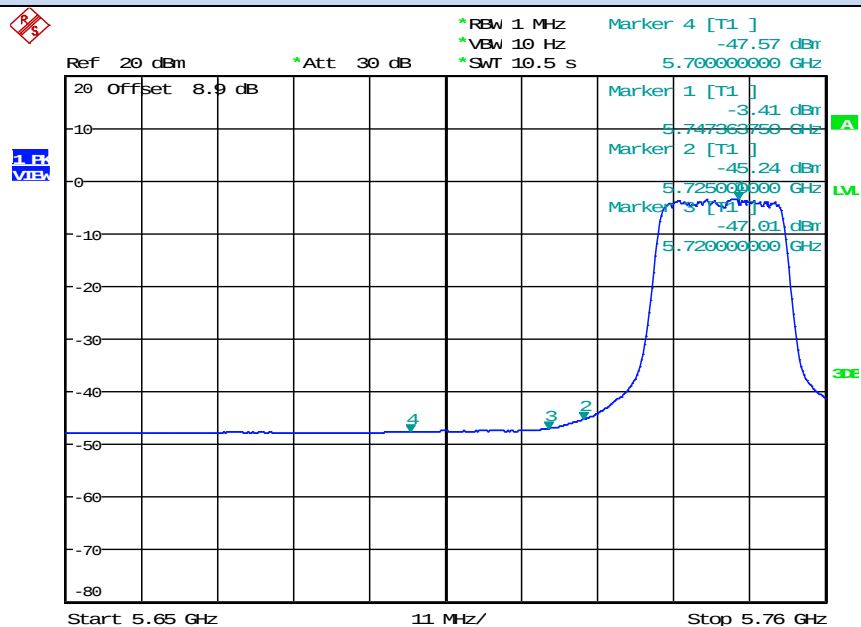
Date: 27.AUG.2019 10:07:34

IEEE 802.11n40 / Channel 159 / 5795MHz / Average



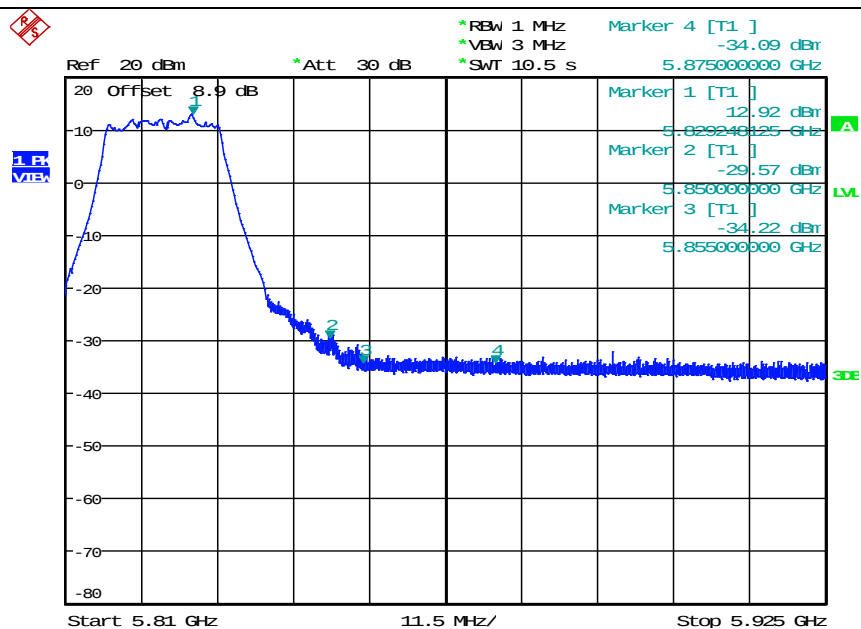
Date: 27.AUG.2019 10:19:36

IEEE 802.11ac20 / Channel 149 / 5745MHz / Peak



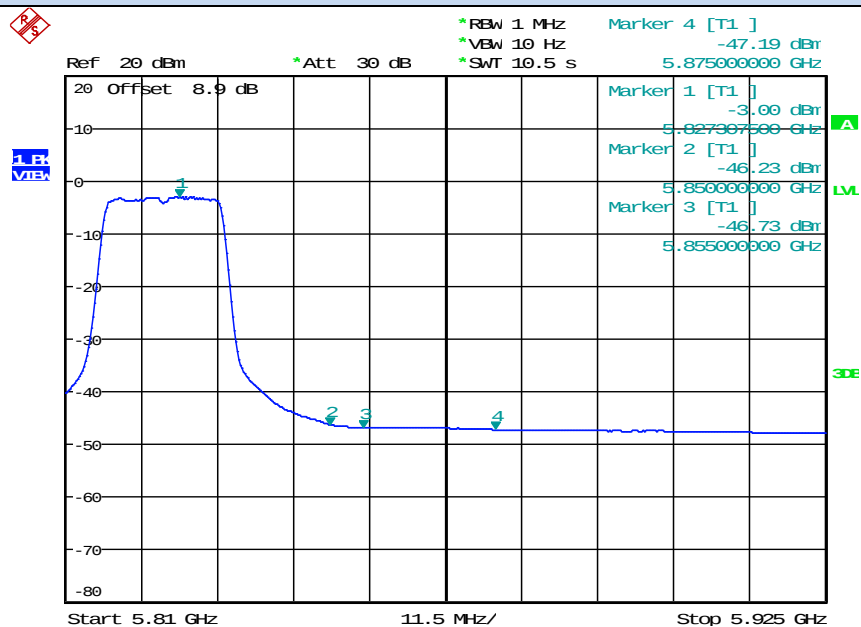
Date: 27.AUG.2019 10:20:15

IEEE 802.11ac20 / Channel 149 / 5745MHz / Average



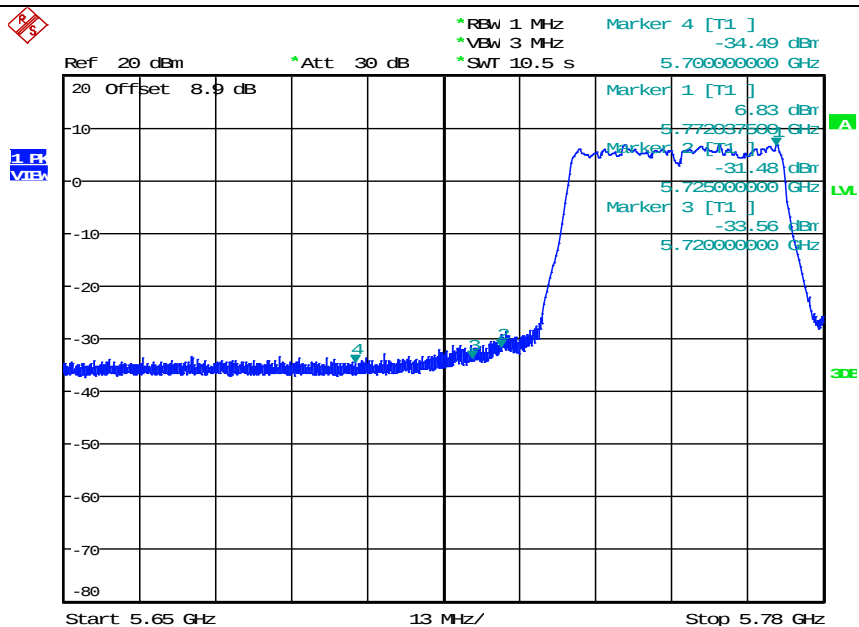
Date: 27.AUG.2019 10:24:42

IEEE 802.11ac20 / Channel 165 / 5825MHz / Peak



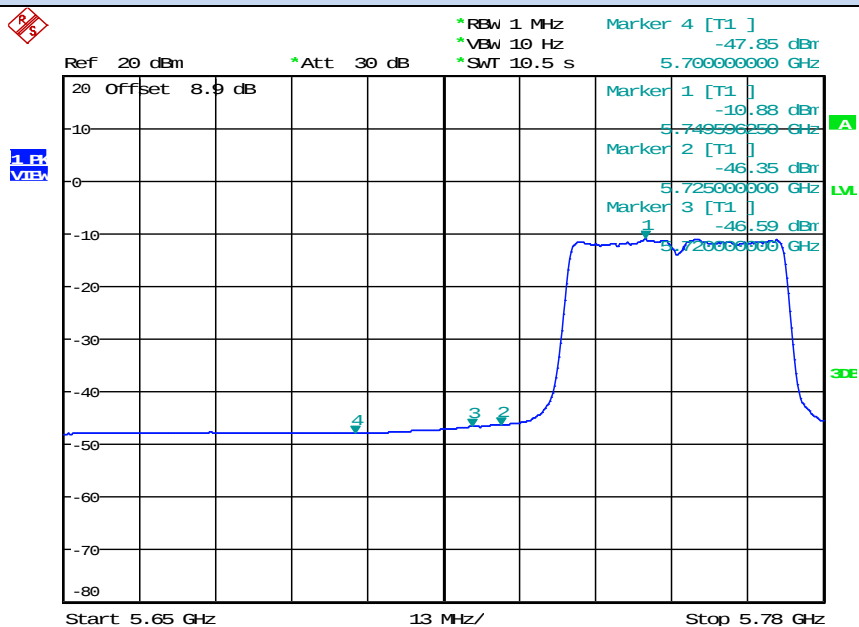
Date: 27.AUG.2019 10:25:30

IEEE 802.11ac20 / Channel 165 / 5825MHz / Average



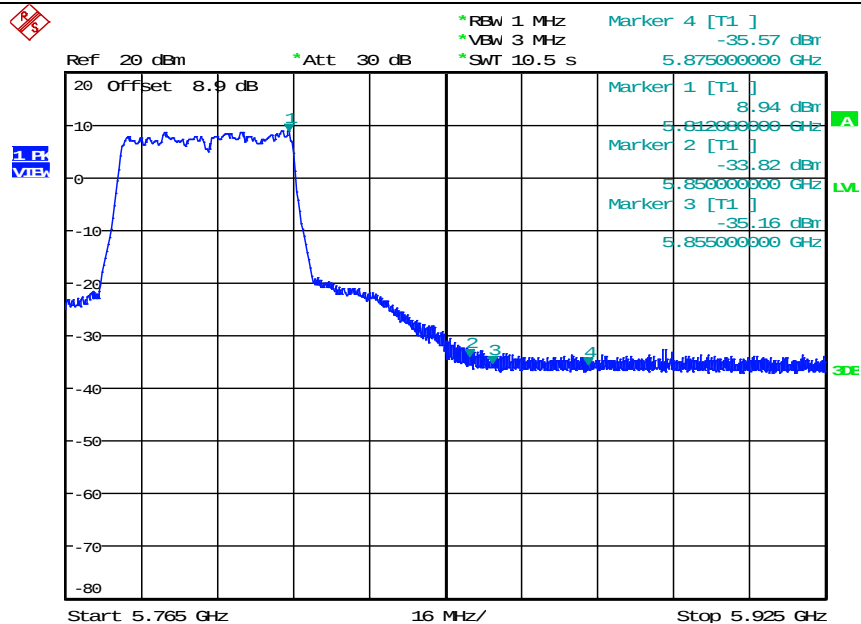
Date: 27.AUG.2019 10:44:51

IEEE 802.11ac40 / Channel 151 / 5755MHz / Peak



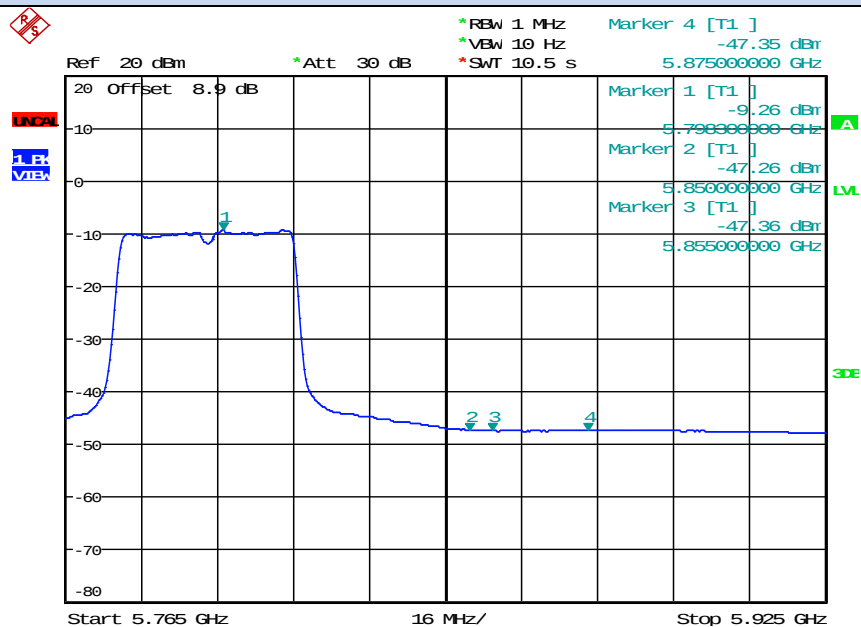
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IEEE 802.11ac40 / Channel 151 / 5755MHz / Average



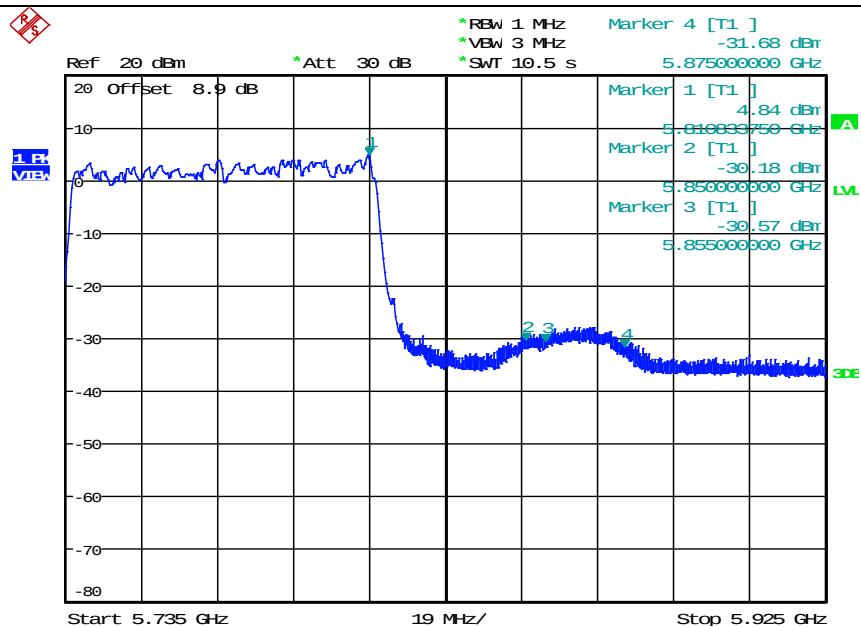
Date: 27.AUG.2019 10:41:20

IEEE 802.11ac40 / Channel 159 / 5795MHz / Peak



Date: 27.AUG.2019 10:42:01

IEEE 802.11ac40 / Channel 159 / 5795MHz / Average



Date: 27.AUG.2019 11:03:25

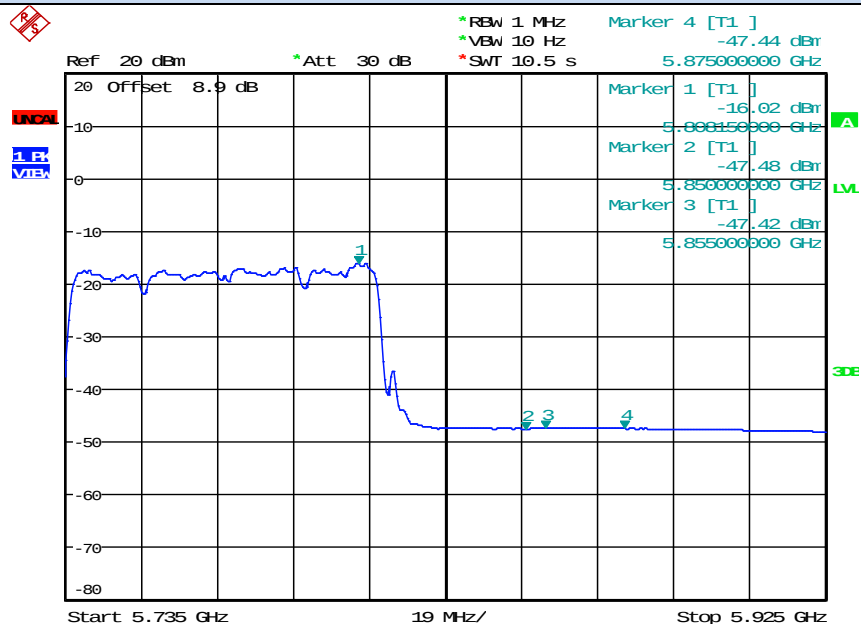
IEEE 802.11ac80 / Channel 155 / 5775MHz / Peak

#imgrb11ac80iso5775nnav

IEEE 802.11ac80 / Channel 155 / 5775MHz / Average

#imgrb11ac80iso15775nnpeak

IEEE 802.11ac80 / Channel 155 / 5775MHz / Peak



Date: 27.AUG.2019 11:04:09

IEEE 802.11ac80 / Channel 155 / 5775MHz / Average