



Annex D

WLAN 802.11a/ac/ax Test Result

Model No.: APEX0574

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1. Output Power Measurement Test Result

Power output test was verified over all data rates of each mode shown as below table, and then choose the maximum power output (gray marker) for final test of each channel.

For Ant 0 / Ant 0 + 1 + 2 + 3 port for Omni Antenna:

Test Mode	Bandwidth	Channel	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11a	20	36	5180	6Mbps	14.65
				24Mbps	14.42
				54Mbps	14.18
802.11ac	20	36	5180	MCS0	14.71
				MCS4	14.49
				MCS8	14.31
802.11ac	40	38	5190	MCS0	14.84
				MCS4	14.65
				MCS9	14.38
802.11ac	80	42	5210	MCS0	14.68
				MCS4	14.47
				MCS9	14.24
802.11ac	160	50	5250	MCS0	14.15
				MCS4	13.95
				MCS9	13.69
802.11ax	20	36	5180	MCS0	14.72
				MCS6	14.48
				MCS11	14.22
802.11ax	40	38	5190	MCS0	14.75
				MCS6	14.51
				MCS11	14.28
802.11ax	80	42	5210	MCS0	14.79
				MCS6	14.56
				MCS11	14.29
802.11ax	160	50	5250	MCS0	14.43
				MCS6	14.18
				MCS11	13.96



Product	ACCESS POINT	Temperature	24°C
Test Engineer	Kevin Ker	Relative Humidity	59%
Test Site	SR2	Test Date	2020/01/06
Antenna Type	Omni Antenna (ANT-2x2-5005)	Test Item	Output Power

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	Average Power Limit (dBm)	E.I.R.P. Above 30 Degree Angle (dBm)		Result
				Ant 0	Ant 1	Ant 2	Ant 3			Max E.I.R.P.	Limit	
Ant 0 + 1 + 2 + 3												
11a	6Mbps	36	5180	14.65	14.32	14.39	14.78	20.56	≤ 30.00	20.56	≤ 21.00	Pass
11a	6Mbps	44	5220	14.52	14.48	14.24	14.70	20.51	≤ 30.00	20.51	≤ 21.00	Pass
11a	6Mbps	48	5240	14.41	14.38	14.25	14.51	20.41	≤ 30.00	20.41	≤ 21.00	Pass
11a	6Mbps	52	5260	14.25	13.67	14.02	14.38	20.11	≤ 23.98	--	--	Pass
11a	6Mbps	60	5300	14.19	13.88	13.87	14.18	20.05	≤ 23.98	--	--	Pass
11a	6Mbps	64	5320	14.22	13.89	13.65	14.09	19.99	≤ 23.98	--	--	Pass
11a	6Mbps	100	5500	14.39	13.95	13.82	14.28	20.14	≤ 23.98	--	--	Pass
11a	6Mbps	120	5600	14.03	14.38	13.72	14.27	20.13	≤ 23.98	--	--	Pass
11a	6Mbps	140	5700	13.91	14.02	13.56	14.26	19.97	≤ 23.98	--	--	Pass
11a	6Mbps	144	5720	13.64	14.00	13.52	14.23	19.88	≤ 22.92	--	--	Pass
11a	6Mbps	149	5745	22.80	22.11	22.25	22.96	28.57	≤ 30.00	--	--	Pass
11a	6Mbps	157	5785	22.04	21.89	22.28	22.73	28.27	≤ 30.00	--	--	Pass
11a	6Mbps	165	5825	21.98	21.76	22.04	22.47	28.09	≤ 30.00	--	--	Pass
11ac-VHT20	MCS0	36	5180	14.71	14.32	14.40	14.62	20.54	≤ 30.00	20.54	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	14.43	14.52	14.15	14.58	20.44	≤ 30.00	20.44	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	14.44	14.26	14.29	14.45	20.38	≤ 30.00	20.38	≤ 21.00	Pass
11ac-VHT20	MCS0	52	5260	14.36	13.81	13.90	14.38	20.14	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	60	5300	14.28	13.82	14.02	14.21	20.11	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	64	5320	14.38	13.78	13.86	14.09	20.05	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	100	5500	14.47	14.07	13.93	14.27	20.21	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	120	5600	14.00	14.19	13.81	14.48	20.15	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	140	5700	13.90	14.07	13.61	14.21	19.97	≤ 23.98	--	--	Pass
11ac-VHT20	MCS0	144	5720	13.89	14.01	13.63	14.17	19.95	≤ 22.96	--	--	Pass
11ac-VHT20	MCS0	149	5745	22.26	22.86	22.31	22.98	28.63	≤ 30.00	--	--	Pass
11ac-VHT20	MCS0	157	5785	22.04	22.09	22.17	22.89	28.33	≤ 30.00	--	--	Pass



11ac-VHT20	MCS0	165	5825	22.00	22.05	22.13	22.75	28.26	≤ 30.00	--	--	Pass
11ac-VHT40	MCS0	38	5190	14.84	14.65	14.38	15.01	20.75	≤ 30.00	20.75	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	14.81	14.74	14.47	14.94	20.76	≤ 30.00	20.76	≤ 21.00	Pass
11ac-VHT40	MCS0	54	5270	17.46	16.72	16.80	17.78	23.23	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	62	5310	17.17	16.63	16.75	17.75	23.12	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	102	5510	17.29	16.69	16.83	17.53	23.12	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	118	5590	16.09	16.70	16.73	17.21	22.72	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	134	5670	16.81	16.94	16.75	17.24	22.96	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	142	5710	16.75	16.75	16.52	16.98	22.77	≤ 23.98	--	--	Pass
11ac-VHT40	MCS0	151	5755	22.27	21.68	22.17	22.88	28.29	≤ 30.00	--	--	Pass
11ac-VHT40	MCS0	159	5795	22.12	21.69	22.06	22.71	28.18	≤ 30.00	--	--	Pass
11ac-VHT80	MCS0	42	5210	14.68	14.15	14.22	14.76	20.48	≤ 30.00	20.48	≤ 21.00	Pass
11ac-VHT80	MCS0	58	5290	17.07	16.87	16.66	17.01	22.93	≤ 23.98	--	--	Pass
11ac-VHT80	MCS0	106	5530	15.93	16.18	16.00	16.33	22.13	≤ 23.98	--	--	Pass
11ac-VHT80	MCS0	122	5610	17.32	17.52	17.33	18.15	23.61	≤ 23.98	--	--	Pass
11ac-VHT80	MCS0	138	5690	17.38	17.55	17.32	17.72	23.52	≤ 23.98	--	--	Pass
11ac-VHT80	MCS0	155	5775	20.18	20.48	20.01	21.23	26.52	≤ 30.00	--	--	Pass
802.11ac-VHT160 Straddle 5.15-5.25GHz												
11ac-VHT160	MCS0	50	5250	14.15	13.83	14.23	13.91	20.05	≤ 30.00	20.05	≤ 21.00	Pass
802.11ac-VHT160 Straddle 5.25-5.35GHz												
11ac-VHT160	MCS0	50	5250	14.23	13.88	14.05	13.64	19.98	≤ 23.98	--	--	Pass
11ac-VHT160	MCS0	50	5250	17.20	16.87	17.15	16.79	23.03	--	--	--	--
Test Mode: The total power was calculated through formula and recorded the value for reference only.												
11ac-VHT160	MCS0	114	5570	15.46	15.42	15.13	15.30	21.35	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	36	5180	14.72	14.64	14.72	15.03	20.80	≤ 30.00	20.80	≤ 21.00	Pass
11ax-HE20	MCS0	44	5220	14.62	14.68	14.47	14.65	20.63	≤ 30.00	20.63	≤ 21.00	Pass
11ax-HE20	MCS0	48	5240	14.42	14.44	14.34	14.71	20.50	≤ 30.00	20.50	≤ 21.00	Pass
11ax-HE20	MCS0	52	5260	14.59	14.04	14.24	14.58	20.39	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	60	5300	14.57	14.09	14.18	14.52	20.37	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	64	5320	14.59	14.13	14.13	13.53	20.13	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	100	5500	13.55	13.48	13.60	13.76	19.62	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	120	5600	14.35	14.53	14.14	14.32	20.36	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	140	5700	12.90	12.84	12.56	13.15	18.89	≤ 23.98	--	--	Pass
11ax-HE20	MCS0	144	5720	14.34	14.25	14.01	14.37	20.27	≤ 22.96	--	--	Pass
11ax-HE20	MCS0	149	5745	22.69	22.91	23.30	22.81	28.95	≤ 30.00	--	--	Pass
11ax-HE20	MCS0	157	5785	22.33	22.06	22.31	22.94	28.44	≤ 30.00	--	--	Pass
11ax-HE20	MCS0	165	5825	22.58	22.93	23.47	22.70	28.95	≤ 30.00	--	--	Pass



11ax-HE40	MCS0	38	5190	14.75	14.47	14.69	14.90	20.73	≤ 30.00	20.73	≤ 21.00	Pass
11ax-HE40	MCS0	46	5230	14.69	14.69	14.73	15.04	20.81	≤ 30.00	20.81	≤ 21.00	Pass
11ax-HE40	MCS0	54	5270	17.60	16.17	16.49	17.52	23.01	≤ 23.98	--	--	--
11ax-HE40	MCS0	62	5310	16.43	15.81	16.16	16.83	22.34	≤ 23.98	--	--	--
11ax-HE40	MCS0	102	5510	16.64	16.17	16.33	16.72	22.49	≤ 23.98	--	--	--
11ax-HE40	MCS0	118	5590	17.48	16.02	16.05	17.37	22.81	≤ 23.98	--	--	--
11ax-HE40	MCS0	134	5670	17.08	17.14	17.00	17.49	23.20	≤ 23.98	--	--	--
11ax-HE40	MCS0	142	5710	17.09	16.92	16.83	17.47	23.11	≤ 23.98	--	--	--
11ax-HE40	MCS0	151	5755	22.22	21.90	22.21	22.81	28.32	≤ 30.00	--	--	Pass
11ax-HE40	MCS0	159	5795	22.35	21.99	22.42	22.93	28.46	≤ 30.00	--	--	Pass
11ax-HE80	MCS0	42	5210	14.79	14.67	14.79	15.18	20.88	≤ 30.00	20.88	≤ 21.00	Pass
11ax-HE80	MCS0	58	5290	16.17	15.76	15.78	16.29	22.03	≤ 23.98	--	--	--
11ax-HE80	MCS0	106	5530	17.04	17.09	17.00	17.39	23.15	≤ 23.98	--	--	--
11ax-HE80	MCS0	122	5610	17.45	17.35	17.32	17.47	23.42	≤ 23.98	--	--	--
11ax-HE80	MCS0	138	5690	17.29	17.02	17.28	18.06	23.45	≤ 23.98	--	--	--
11ax-HE80	MCS0	155	5775	20.15	20.08	19.92	20.97	26.32	≤ 30.00	--	--	Pass
802.11ax-HE160 Straddle 5.15-5.25GHz												
11ax-HE160	MCS0	50	5250	14.43	14.14	14.34	13.86	20.22	≤ 30.00	20.22	≤ 21.00	Pass
802.11ax-HE160 Straddle 5.25-5.35GHz												
11ax-HE160	MCS0	50	5250	14.39	14.28	14.20	14.17	20.28	≤ 23.98	--	--	Pass
11ax-HE160	MCS0	50	5250	17.42	17.22	17.28	17.03	23.26	--	--	--	--
Test Mode: The total power was calculated through formula and recorded the value for reference only.												
11ax-HE160	MCS0	114	5570	15.64	15.76	15.64	15.96	21.77	≤ 23.98	--	--	Pass

Note 1: Total Average Power (dBm) = $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$.

Note 2: For NII-1 Band:

Max EIRP Above 30 Degree Angle (dBm) = Total Average Power (dBm) + 30 Degree Antenna Gain (dBi), 30 Degree Antenna Gain (dBi) = 0dBi.

Conducted Average Power Limit (dBm) = 30dBm.

For NII-2A and NII-2C Band: Conducted Average Power Limit (dBm) = 23.98dBm.

Note 3: For straddle channel 20MHz Bandwidth 5720MHz, the conducted power limit is as below:

$$802.11a = 11 + 10 \cdot \log(B) = 22.92, B = 21.09/2 + 5 = 15.55\text{MHz},$$

$$802.11ac-VHT20 = 11 + 10 \cdot \log(B) = 22.96, B = 21.41/2 + 5 = 15.71\text{MHz},$$

$$802.11ax-HE20 = 11 + 10 \cdot \log(B) = 22.96, B = 21.41/2 + 5 = 15.71\text{MHz}.$$



2. Power Spectral Density Measurement Test Result

Product	ACCESS POINT	Temperature	24°C
Test Engineer	Kevin Ker	Relative Humidity	59%
Test Site	SR2	Test Date	2020/01/09 ~ 2020/03/23
Test Item	Power Spectral Density (UNII-Band 1 and UNII-Band 2)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/MHz)	Ant 1 PSD (dBm/MHz)	Ant 2 PSD (dBm/MHz)	Ant 3 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
Ant 0 + 1 + 2 + 3											
11a	6Mbps	36	5180	4.22	3.82	3.17	3.67	94.93	9.98	≤ 14.99	Pass
11a	6Mbps	44	5220	3.70	3.63	3.83	4.06	94.93	10.05	≤ 14.99	Pass
11a	6Mbps	48	5240	3.48	3.23	3.81	4.26	94.93	9.96	≤ 14.99	Pass
11a	6Mbps	52	5260	2.78	2.31	2.23	2.05	94.93	8.60	≤ 8.99	Pass
11a	6Mbps	60	5300	2.71	2.52	2.05	2.22	94.93	8.63	≤ 8.99	Pass
11a	6Mbps	64	5320	2.59	2.24	2.10	2.13	94.93	8.52	≤ 8.99	Pass
11a	6Mbps	100	5500	2.90	2.54	2.14	2.42	94.93	8.76	≤ 8.99	Pass
11a	6Mbps	120	5600	2.50	2.59	2.14	2.86	94.93	8.78	≤ 8.99	Pass
11a	6Mbps	140	5700	2.35	2.66	2.06	2.92	94.93	8.76	≤ 8.99	Pass
11a	6Mbps	144	5720	2.28	2.76	2.08	2.74	94.93	8.72	≤ 8.99	Pass
11ac-VHT20	MCS0	36	5180	3.57	3.74	3.52	3.82	98.47	9.68	≤ 14.99	Pass
11ac-VHT20	MCS0	44	5220	3.35	3.85	3.21	3.73	98.47	9.56	≤ 14.99	Pass
11ac-VHT20	MCS0	48	5240	3.70	3.70	3.18	3.61	98.47	9.57	≤ 14.99	Pass
11ac-VHT20	MCS0	52	5260	2.85	2.19	2.12	2.49	98.47	8.44	≤ 8.99	Pass
11ac-VHT20	MCS0	60	5300	2.84	2.51	2.36	2.35	98.47	8.54	≤ 8.99	Pass
11ac-VHT20	MCS0	64	5320	2.83	2.32	2.14	2.44	98.47	8.46	≤ 8.99	Pass
11ac-VHT20	MCS0	100	5500	2.67	2.71	2.29	2.52	98.47	8.57	≤ 8.99	Pass
11ac-VHT20	MCS0	120	5600	2.59	2.66	2.14	2.66	98.47	8.54	≤ 8.99	Pass
11ac-VHT20	MCS0	140	5700	2.30	2.80	2.07	2.49	98.47	8.44	≤ 8.99	Pass
11ac-VHT20	MCS0	144	5720	2.24	2.88	2.26	2.52	98.47	8.50	≤ 8.99	Pass
11ac-VHT40	MCS0	38	5190	1.08	0.97	0.80	1.44	96.97	7.23	≤ 14.99	Pass
11ac-VHT40	MCS0	46	5230	0.99	1.11	0.74	1.37	96.97	7.21	≤ 14.99	Pass
11ac-VHT40	MCS0	54	5270	2.84	2.08	2.38	3.00	96.97	8.74	≤ 8.99	Pass
11ac-VHT40	MCS0	62	5310	2.76	2.24	2.24	2.83	96.97	8.68	≤ 8.99	Pass
11ac-VHT40	MCS0	102	5510	2.75	2.36	2.41	2.79	96.97	8.74	≤ 8.99	Pass
11ac-VHT40	MCS0	118	5590	2.87	2.34	2.11	2.55	96.97	8.63	≤ 8.99	Pass



11ac-VHT40	MCS0	134	5670	2.36	2.84	2.08	2.73	96.97	8.67	≤ 8.99	Pass
11ac-VHT40	MCS0	142	5710	2.35	2.49	2.24	2.84	96.97	8.64	≤ 8.99	Pass
11ac-VHT80	MCS0	42	5210	-1.95	-2.42	-2.05	-1.85	93.87	4.23	≤ 14.99	Pass
11ac-VHT80	MCS0	58	5290	-0.38	-0.91	-0.46	-0.56	93.87	5.72	≤ 8.99	Pass
11ac-VHT80	MCS0	106	5530	-1.97	-1.51	-1.70	-1.21	93.87	4.71	≤ 8.99	Pass
11ac-VHT80	MCS0	122	5610	-0.42	-0.61	-0.39	0.10	93.87	5.97	≤ 8.99	Pass
11ac-VHT80	MCS0	138	5690	-0.46	-0.94	-0.54	0.18	93.87	5.87	≤ 8.99	Pass
802.11ac-VHT160 Straddle 5.15-5.25GHz											
11ac-VHT160	MCS0	50	5250	-3.15	-3.29	-3.22	-3.25	89.49	3.28	≤ 14.99	Pass
802.11ac-VHT160 Straddle 5.25-5.35GHz											
11ac-VHT160	MCS0	50	5250	-3.19	-3.40	-3.23	-3.47	89.49	3.18	≤ 8.99	Pass
11ac-VHT160	MCS0	114	5570	-5.20	-4.60	-4.93	-4.18	89.49	1.79	≤ 8.99	Pass
11ax-HE20	MCS0	36	5180	3.40	3.71	3.34	3.98	97.76	9.73	≤ 14.99	Pass
11ax-HE20	MCS0	44	5220	3.12	3.64	3.43	3.64	97.76	9.58	≤ 14.99	Pass
11ax-HE20	MCS0	48	5240	3.45	3.48	3.36	3.66	97.76	9.61	≤ 14.99	Pass
11ax-HE20	MCS0	52	5260	3.07	2.60	2.61	2.55	97.76	8.83	≤ 8.99	Pass
11ax-HE20	MCS0	60	5300	2.84	2.60	2.30	2.42	97.76	8.66	≤ 8.99	Pass
11ax-HE20	MCS0	64	5320	2.89	2.43	2.14	2.30	97.76	8.57	≤ 8.99	Pass
11ax-HE20	MCS0	100	5500	1.66	1.76	1.48	1.75	97.76	7.78	≤ 8.99	Pass
11ax-HE20	MCS0	120	5600	2.55	2.71	2.35	2.75	97.76	8.71	≤ 8.99	Pass
11ax-HE20	MCS0	140	5700	0.74	0.94	0.50	0.58	97.76	6.81	≤ 8.99	Pass
11ax-HE20	MCS0	144	5720	2.46	2.80	2.22	2.83	97.76	8.70	≤ 8.99	Pass
11ax-HE40	MCS0	38	5190	1.35	1.16	0.85	1.67	95.99	7.47	≤ 14.99	Pass
11ax-HE40	MCS0	46	5230	0.90	0.76	0.68	1.25	95.99	7.10	≤ 14.99	Pass
11ax-HE40	MCS0	54	5270	2.99	2.38	2.61	3.03	95.99	8.96	≤ 8.99	Pass
11ax-HE40	MCS0	62	5310	2.22	1.30	1.54	2.37	95.99	8.08	≤ 8.99	Pass
11ax-HE40	MCS0	102	5510	2.04	1.50	1.76	2.21	95.99	8.08	≤ 8.99	Pass
11ax-HE40	MCS0	118	5590	2.81	2.32	2.34	2.96	95.99	8.82	≤ 8.99	Pass
11ax-HE40	MCS0	134	5670	2.35	2.81	2.30	3.02	95.99	8.83	≤ 8.99	Pass
11ax-HE40	MCS0	142	5710	2.16	2.52	2.14	2.92	95.99	8.65	≤ 8.99	Pass
11ax-HE80	MCS0	42	5210	-1.94	-2.53	-2.71	-1.97	92.38	4.09	≤ 14.99	Pass
11ax-HE80	MCS0	58	5290	-1.31	-1.72	-1.40	-1.24	92.38	4.95	≤ 8.99	Pass
11ax-HE80	MCS0	106	5530	-0.60	-0.19	0.08	0.27	92.38	6.27	≤ 8.99	Pass
11ax-HE80	MCS0	122	5610	-0.42	0.12	-0.73	0.39	92.38	6.23	≤ 8.99	Pass
11ax-HE80	MCS0	138	5690	-0.30	-0.54	-0.77	0.07	92.38	5.99	≤ 8.99	Pass
802.11ax-HE160 Straddle 5.15-5.25GHz											
11ax-HE160	MCS0	50	5250	-2.85	-3.90	-2.54	-3.45	88.15	3.42	≤ 14.99	Pass



802.11ax-HE160 Straddle 5.25-5.35GHz											
11ax-HE160	MCS0	50	5250	-3.30	-5.41	-2.98	-3.55	88.15	2.85	≤ 8.99	Pass
11ax-HE160	MCS0	114	5570	-4.69	-4.16	-4.57	-4.03	88.15	2.21	≤ 8.99	Pass

Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/MHz) = $10 \cdot \log \{ 10^{(\text{Ant } 0 \text{ PSD}/10)} + 10^{(\text{Ant } 1 \text{ PSD}/10)} + 10^{(\text{Ant } 2 \text{ PSD}/10)} + 10^{(\text{Ant } 3 \text{ PSD}/10)} \}$ (dBm/MHz).

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/MHz) = $10 \cdot \log \{ 10^{(\text{Ant } 0 \text{ PSD}/10)} + 10^{(\text{Ant } 1 \text{ PSD}/10)} + 10^{(\text{Ant } 2 \text{ PSD}/10)} + 10^{(\text{Ant } 3 \text{ PSD}/10)} \}$ (dBm/MHz) + $10 \cdot \log (1/\text{Duty Cycle})$.

Note 3:

For NII-1 band, PSD Limit (dBm/MHz) = 17dBm/MHz - (8.01dBi - 6dBi) = 14.99dBm/MHz.

For NII-2 band, PSD Limit (dBm/MHz) = 11dBm/MHz - (8.01dBi - 6dBi) = 8.99dBm/MHz.



Product	ACCESS POINT	Temperature	22°C
Test Engineer	Kevin Ker	Relative Humidity	54%
Test Site	SR2	Test Date	2020/01/09 ~ 2020/04/01
Test Item	Power Spectral Density (UNII-Band 3)		
Antenna Type	Omin Antenna (ANT-2x2-5005)		

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/100kHz)	Ant 1 PSD (dBm/100kHz)	Ant 2 PSD (dBm/100kHz)	Ant 3 PSD (dBm/100kHz)	Duty Cycle (%)	Constant Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
Ant 0 + 1 + 2 + 3												
11a	6Mbps	149	5745	1.73	1.82	1.28	1.90	94.93	6.99	14.93	≤ 27.99	Pass
11a	6Mbps	157	5785	1.62	1.36	1.17	2.12	94.93	6.99	14.82	≤ 27.99	Pass
11a	6Mbps	165	5825	1.45	1.05	1.26	1.79	94.93	6.99	14.63	≤ 27.99	Pass
11ac-VHT20	MCS0	149	5745	1.97	1.48	1.30	0.91	98.47	6.99	14.44	≤ 27.99	Pass
11ac-VHT20	MCS0	157	5785	1.18	1.54	1.59	1.87	98.47	6.99	14.56	≤ 27.99	Pass
11ac-VHT20	MCS0	165	5825	1.80	0.98	1.15	1.84	98.47	6.99	14.47	≤ 27.99	Pass
11ac-VHT40	MCS0	151	5755	-0.88	-1.56	-1.20	-0.13	96.97	6.99	12.23	≤ 27.99	Pass
11ac-VHT40	MCS0	159	5795	-1.38	-1.79	-0.85	-0.63	96.97	6.99	12.01	≤ 27.99	Pass
11ac-VHT80	MCS0	155	5775	-5.61	-5.66	-5.53	-4.91	93.87	6.99	7.87	≤ 27.99	Pass
11ax-HE20	MCS0	149	5745	-0.14	0.03	0.36	-0.41	97.76	6.99	13.08	≤ 27.99	Pass
11ax-HE20	MCS0	157	5785	0.58	0.60	0.34	0.71	97.76	6.99	13.67	≤ 27.99	Pass
11ax-HE20	MCS0	165	5825	-0.35	-0.26	0.20	-0.52	97.76	6.99	12.88	≤ 27.99	Pass
11ax-HE40	MCS0	151	5755	-2.25	-2.75	-2.15	-1.74	95.99	6.99	10.98	≤ 27.99	Pass
11ax-HE40	MCS0	159	5795	-2.20	-2.52	-2.16	-1.37	95.99	6.99	11.15	≤ 27.99	Pass
11ax-HE80	MCS0	155	5775	-6.55	-6.12	-6.63	-5.60	92.38	6.99	7.15	≤ 27.99	Pass

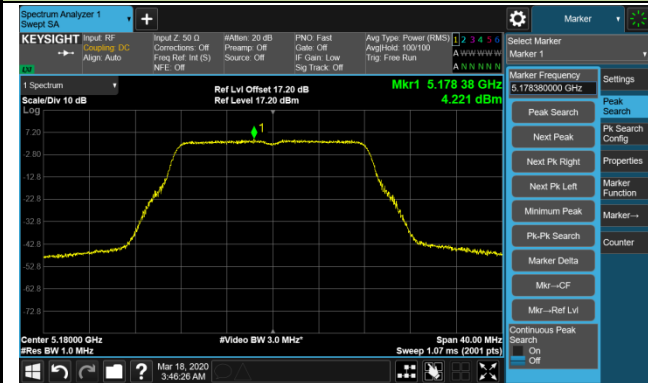
Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/500kHz) = 10*log {10^(Ant 0 PSD/10) + 10^(Ant 1 PSD/10) + 10^(Ant 2 PSD/10) + 10^(Ant 3 PSD/10)} (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/500kHz) = 10*log {10^(Ant 0 PSD/10) + 10^(Ant 1 PSD/10) + 10^(Ant 2 PSD/10) + 10^(Ant 3 PSD/10)} (dBm/100kHz) + Constant Factor + 10*log (1/Duty Cycle).

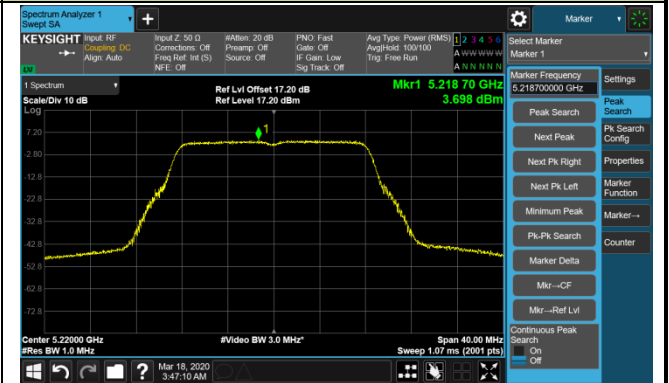
Note 3: PSD Limit (dBm/500kHz) = 30dBm/500kHz - (8.01dBi - 6dBi) = 27.99dBm/500kHz.

802.11a Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

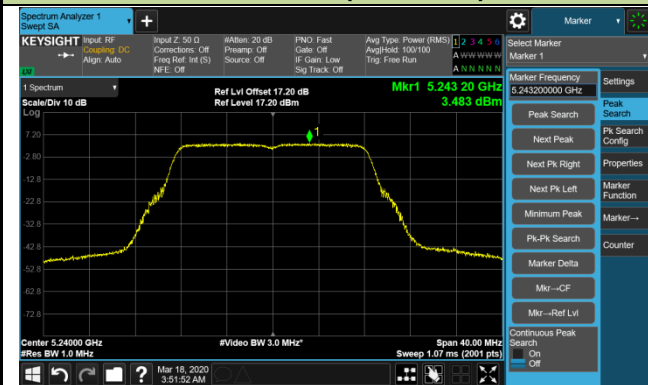
Channel 36 (5180MHz)



Channel 44 (5220MHz)



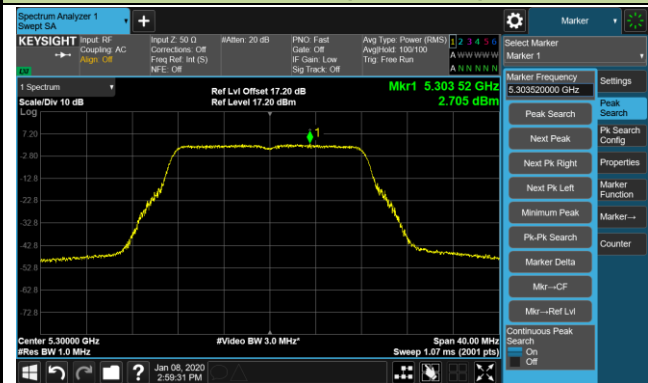
Channel 48 (5240MHz)



Channel 52 (5260MHz)



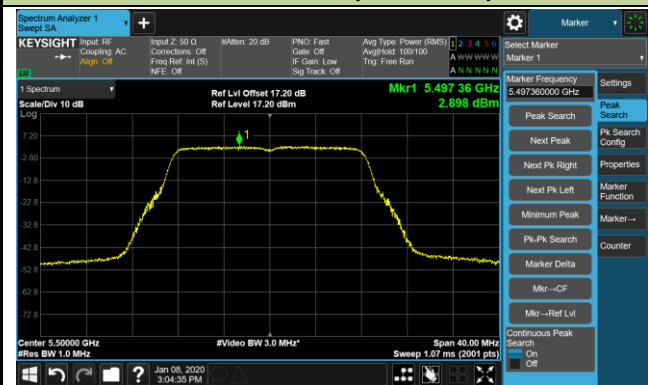
Channel 60 (5300MHz)



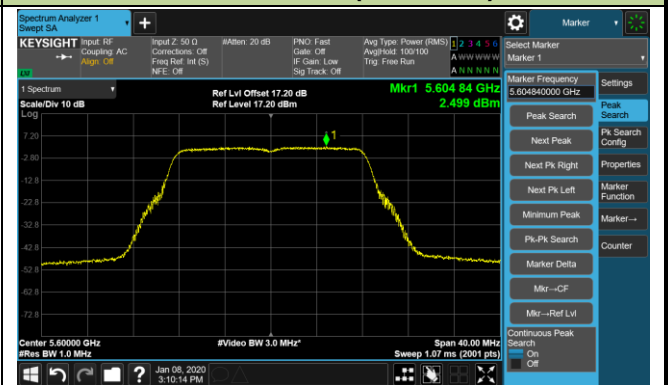
Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 120 (5600MHz)

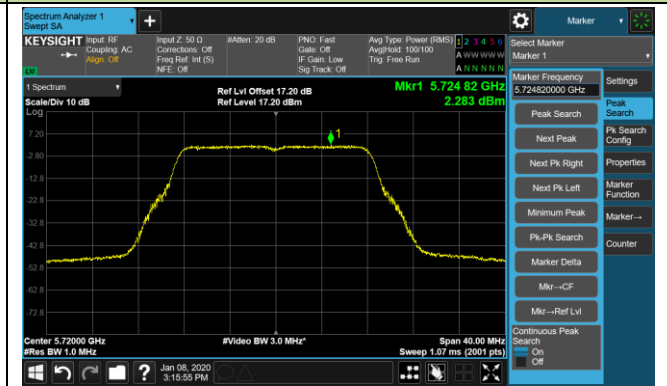


802.11a Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

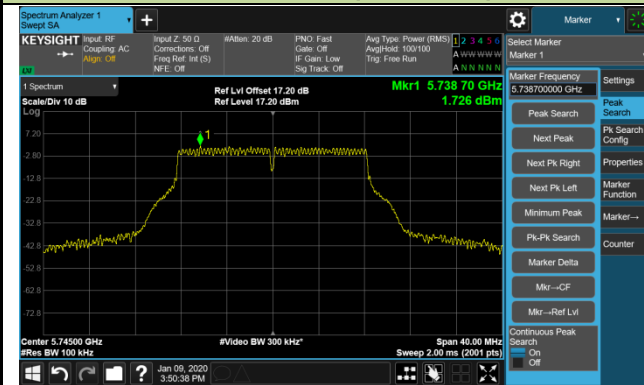
Channel 140 (5700MHz)



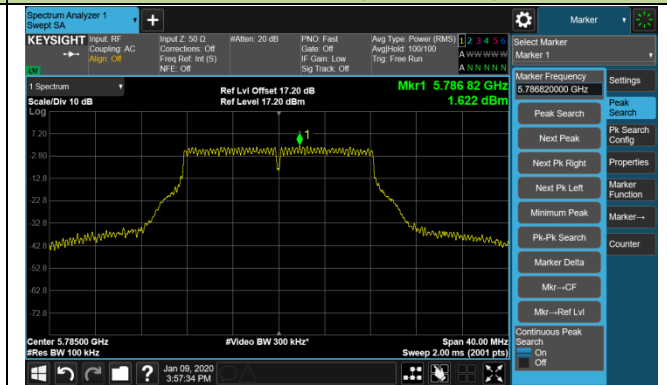
Channel 144 (5720MHz)



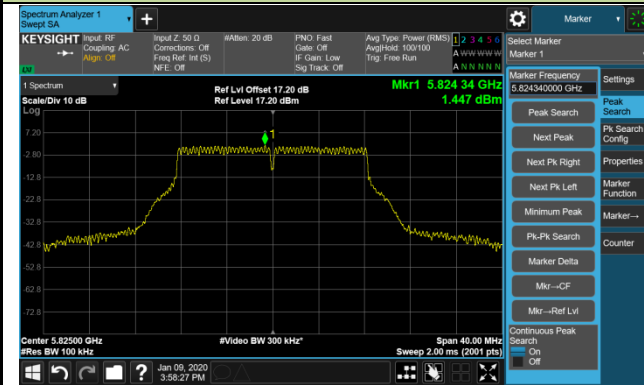
Channel 149 (5745MHz)



Channel 157 (5785MHz)

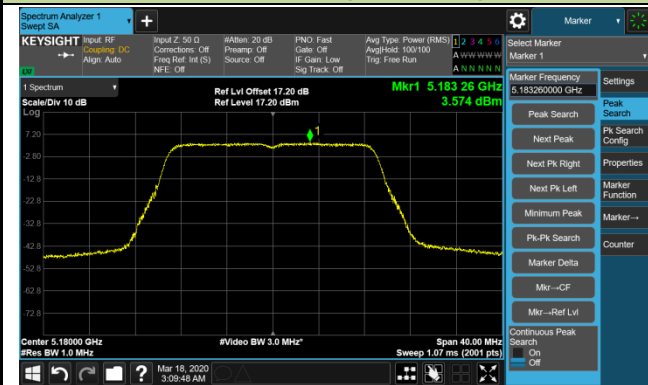


Channel 165 (5825MHz)

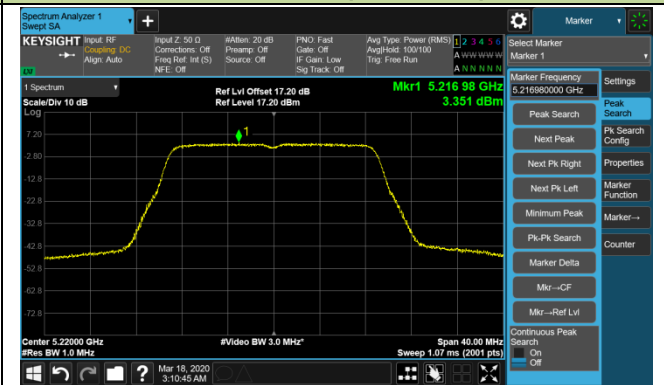


802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

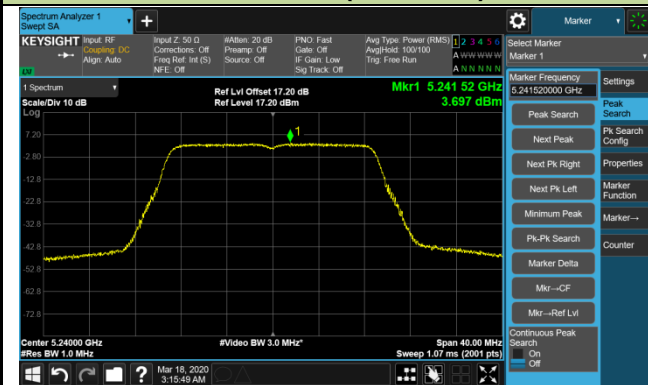
Channel 36 (5180MHz)



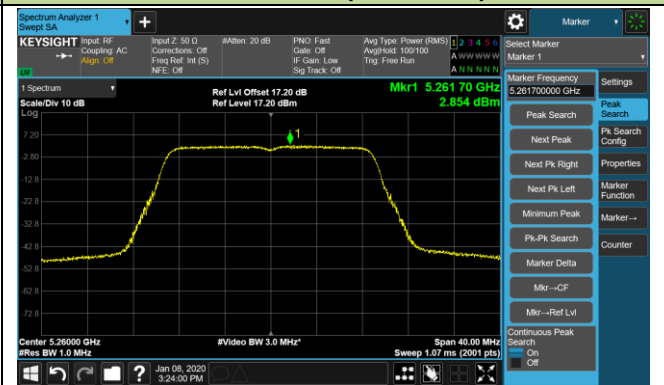
Channel 44 (5220MHz)



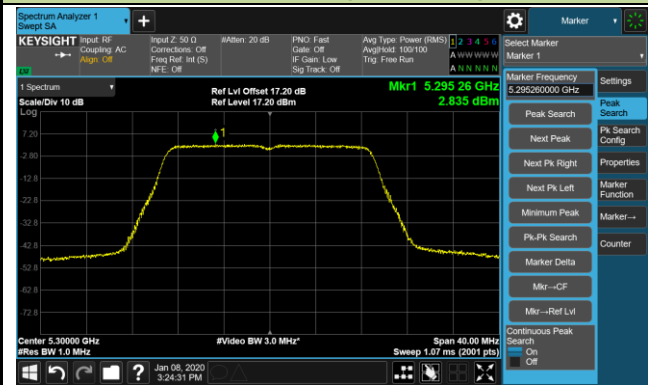
Channel 48 (5240MHz)



Channel 52 (5260MHz)



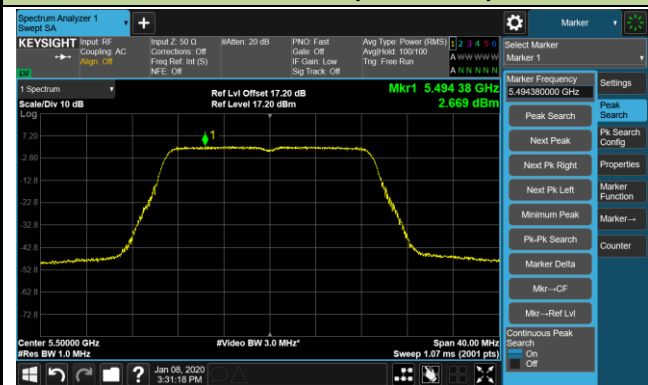
Channel 60 (5300MHz)



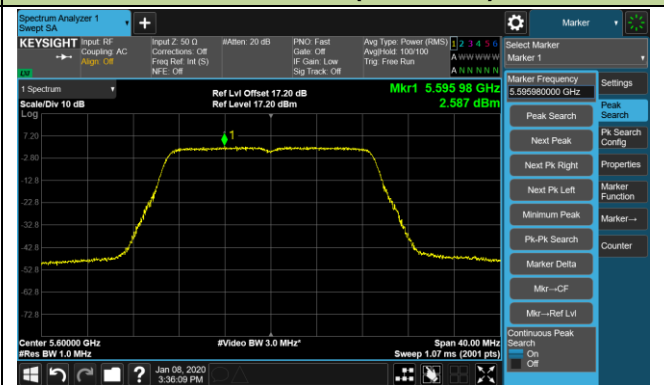
Channel 64 (5320MHz)



Channel 100 (5500MHz)

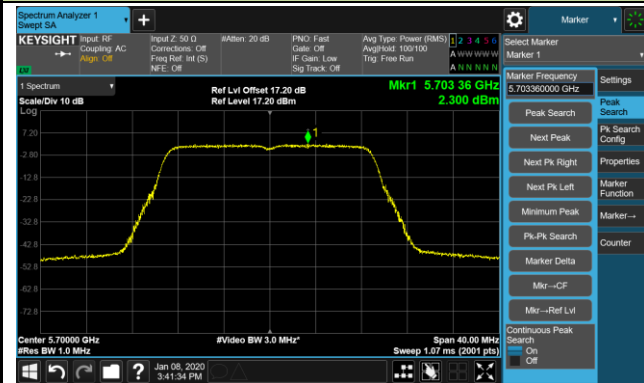


Channel 120 (5600MHz)

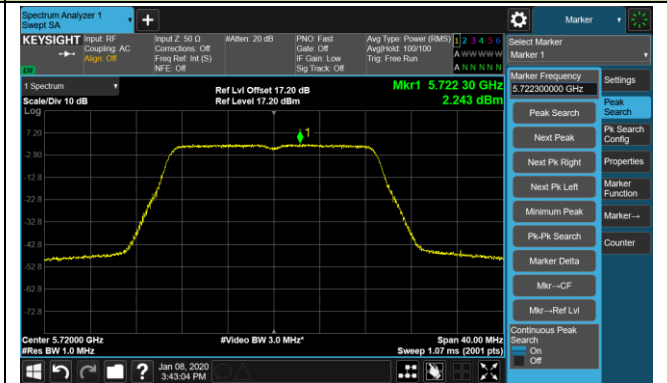


802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 140 (5700MHz)



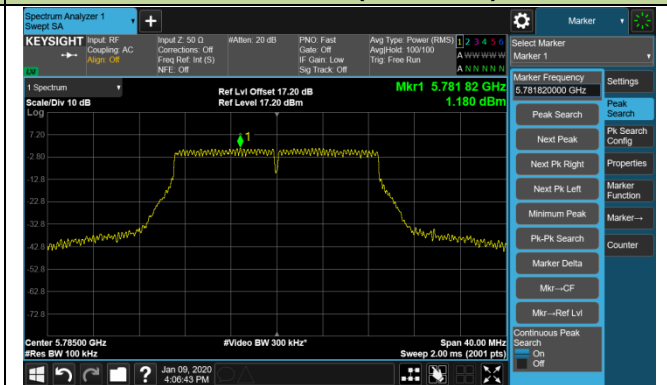
Channel 144 (5720MHz)



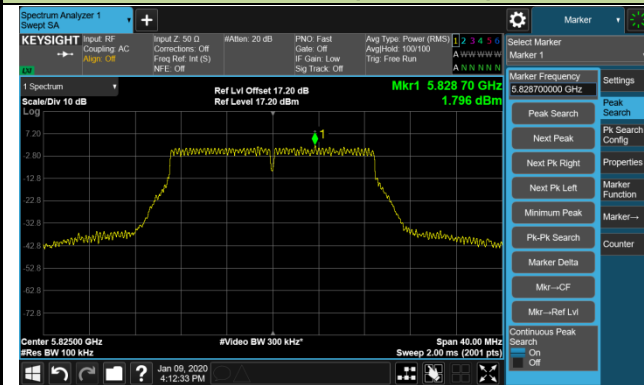
Channel 149 (5745MHz)



Channel 157 (5785MHz)

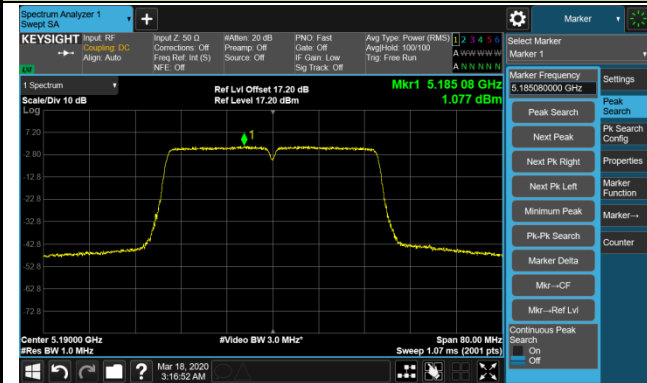


Channel 165 (5825MHz)

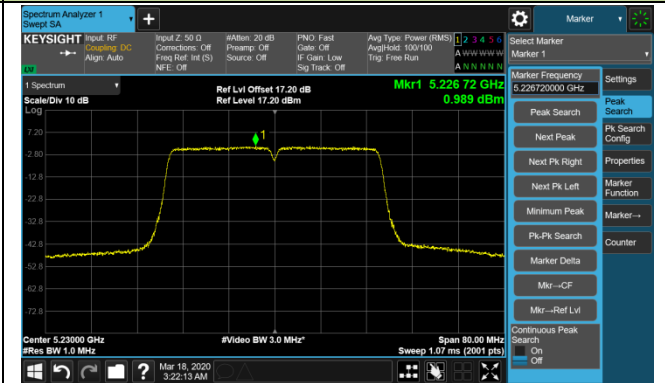


802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

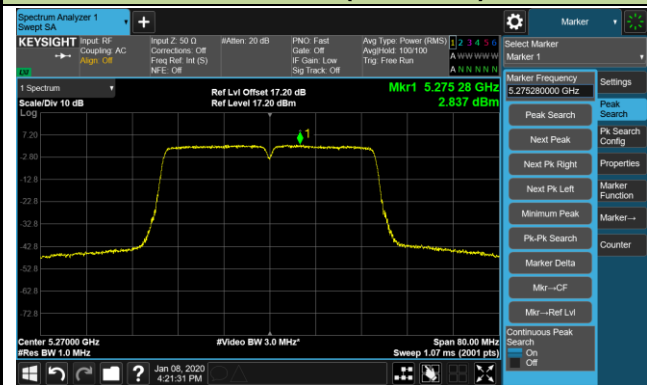
Channel 38 (5190MHz)



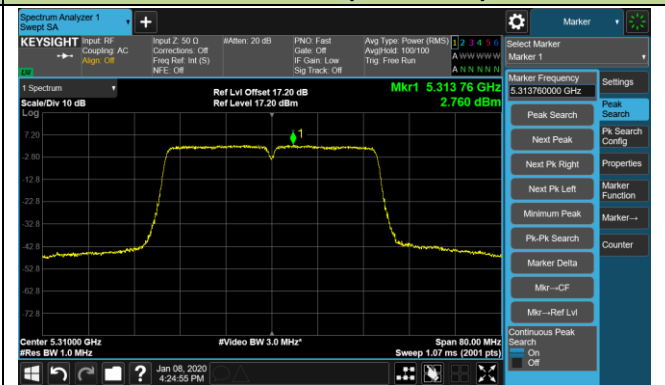
Channel 46 (5230MHz)



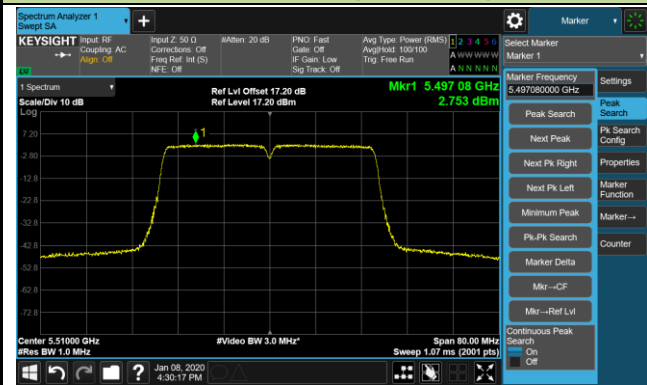
Channel 54 (5270MHz)



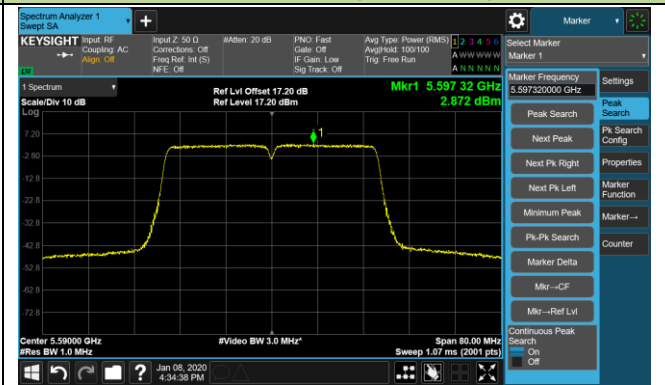
Channel 62 (5310MHz)



Channel 102 (5510MHz)

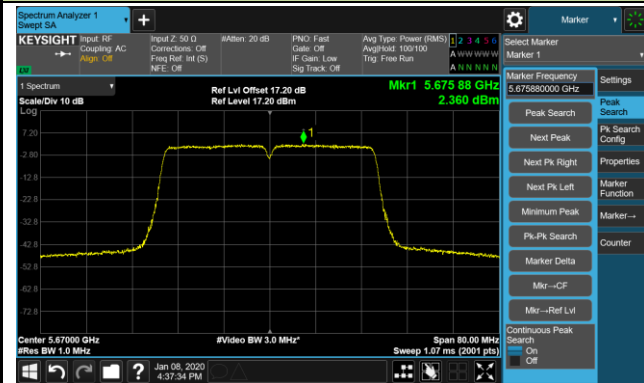


Channel 118 (5590MHz)

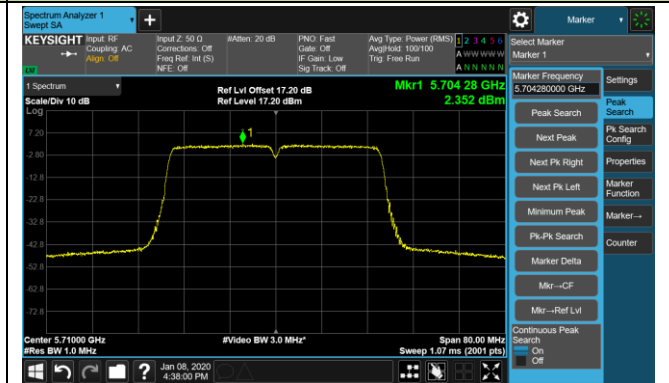


802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

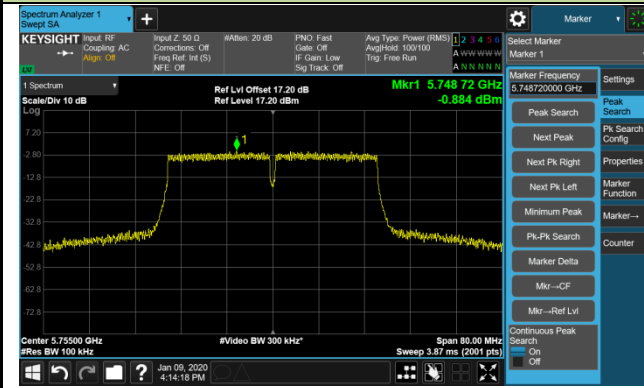
Channel 134 (5670MHz)



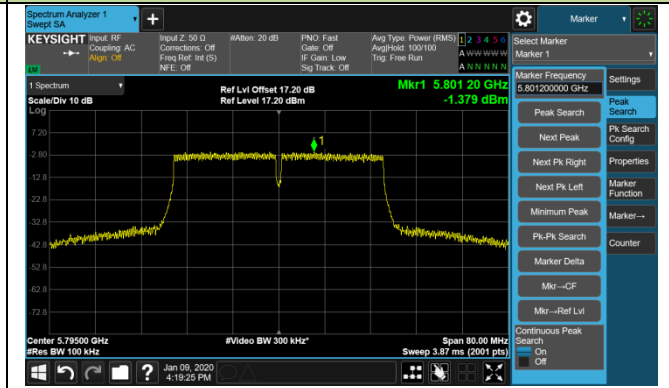
Channel 142 (5710MHz)



Channel 151 (5755MHz)

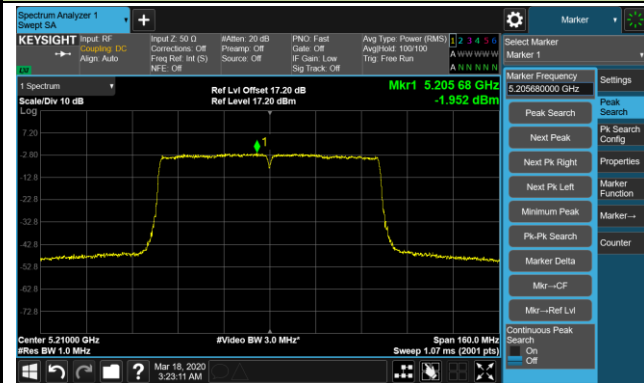


Channel 159 (5795MHz)

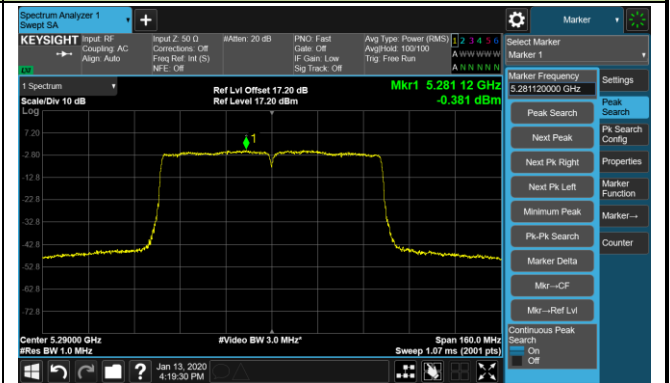


802.11ac-VHT80 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

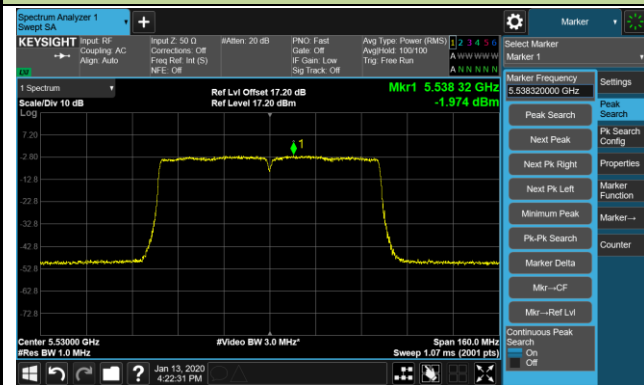
Channel 42 (5210MHz)



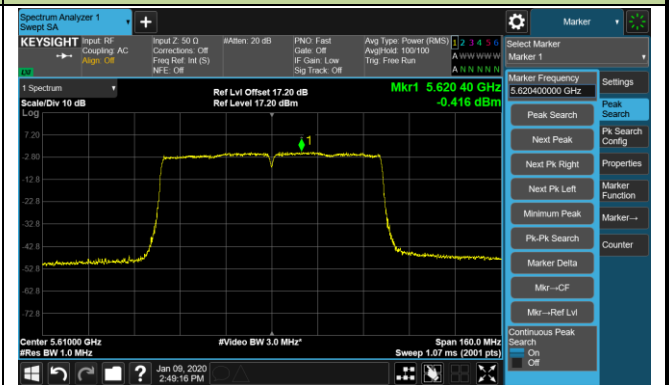
Channel 58 (5290MHz)



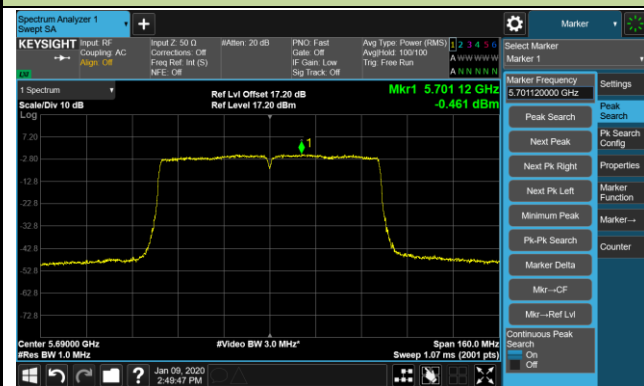
Channel 106 (5530MHz)



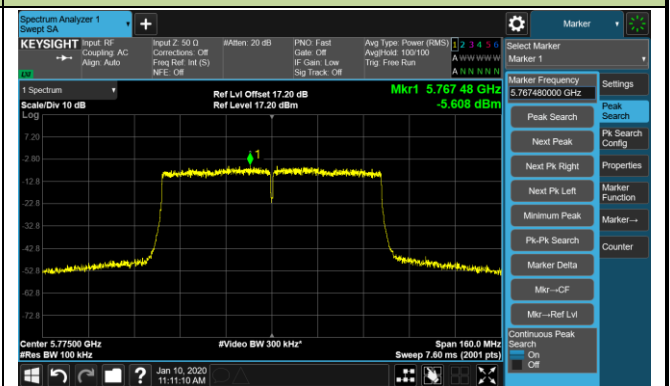
Channel 122 (5610MHz)



Channel 138 (5690MHz)

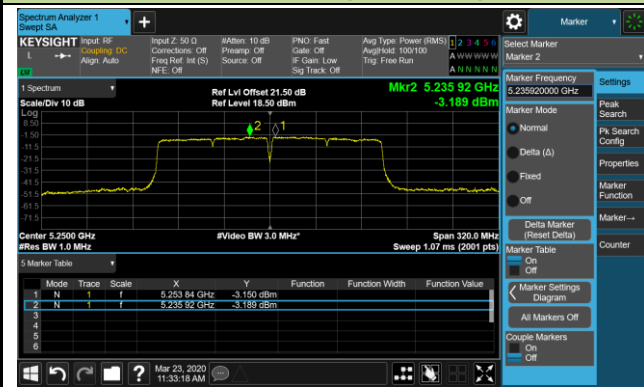


Channel 155 (5775MHz)

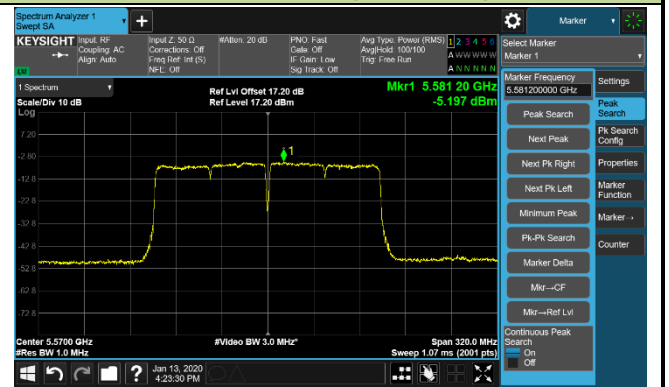


802.11ac-VHT160 Power Spectral Density - Ant 0 / Ant 0 + 1 (Ant 0 + 1 + 2 + 3)

Channel 50 (5250MHz)

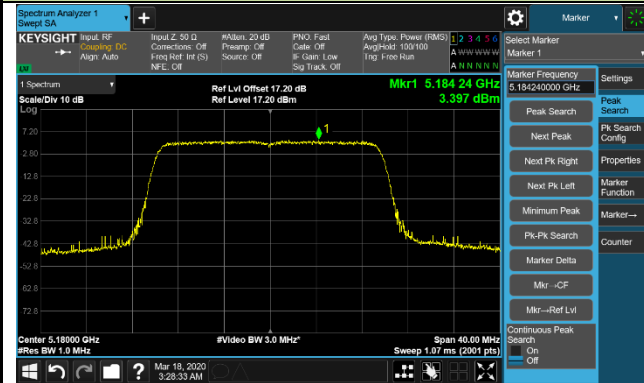


Channel 114 (5570MHz)

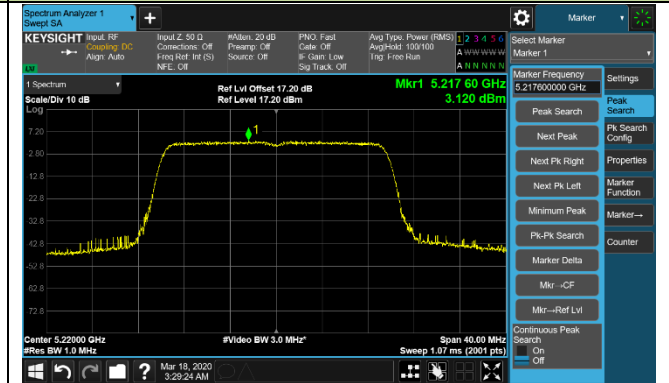


802.11ax-HE20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

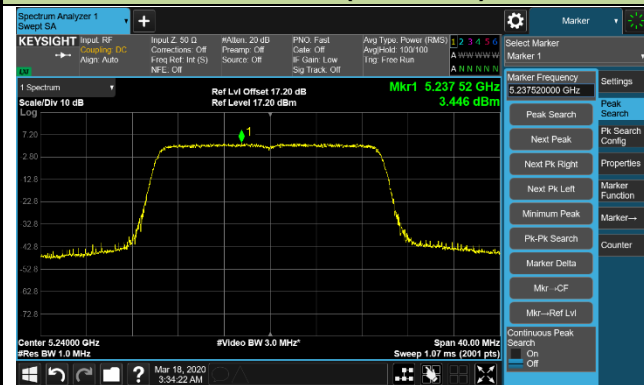
Channel 36 (5180MHz)



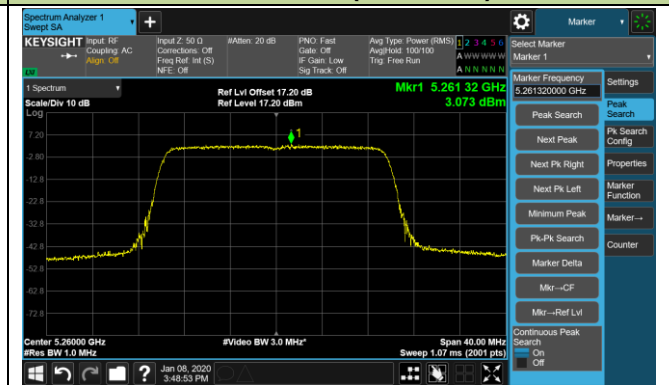
Channel 44 (5220MHz)



Channel 48 (5240MHz)



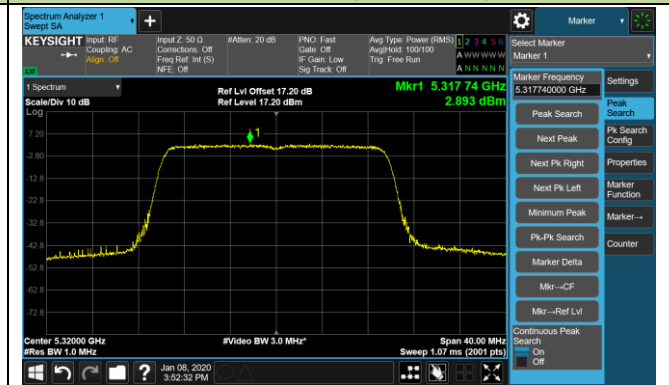
Channel 52 (5260MHz)



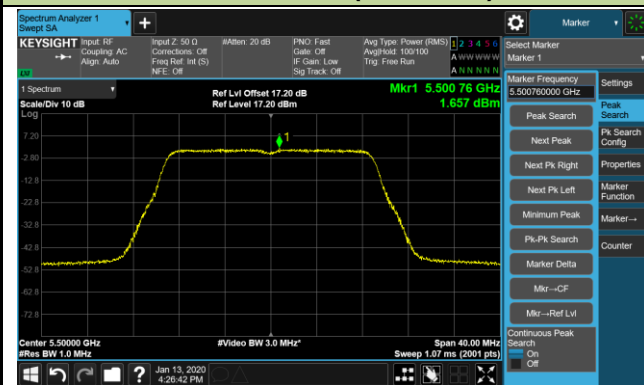
Channel 60 (5300MHz)



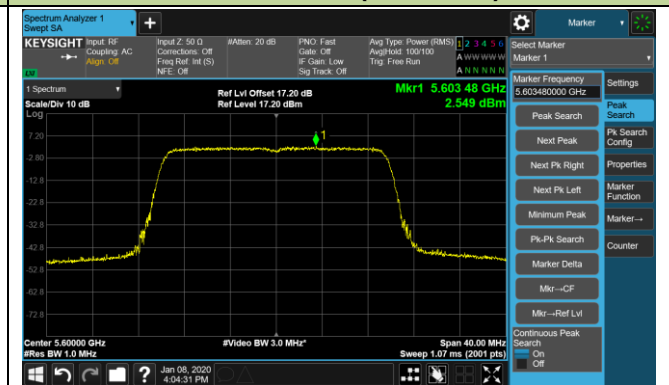
Channel 64 (5320MHz)



Channel 100 (5500MHz)

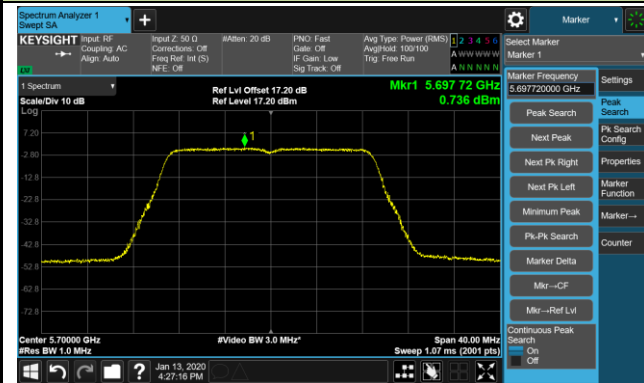


Channel 120 (5600MHz)

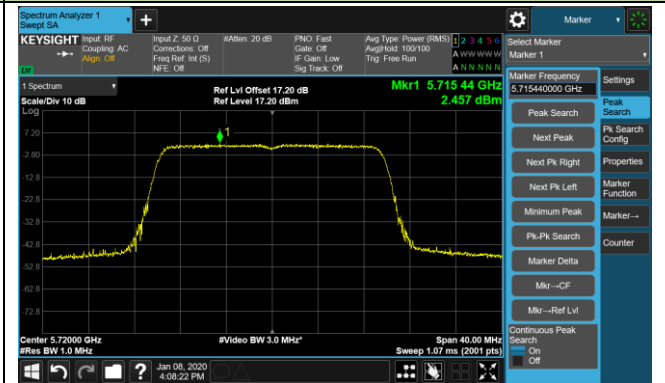


802.11ax-HE20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

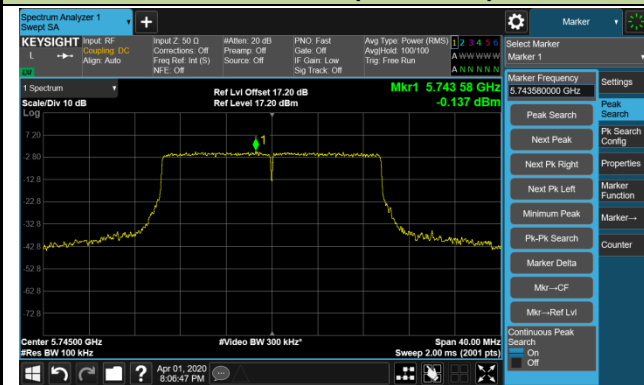
Channel 140 (5700MHz)



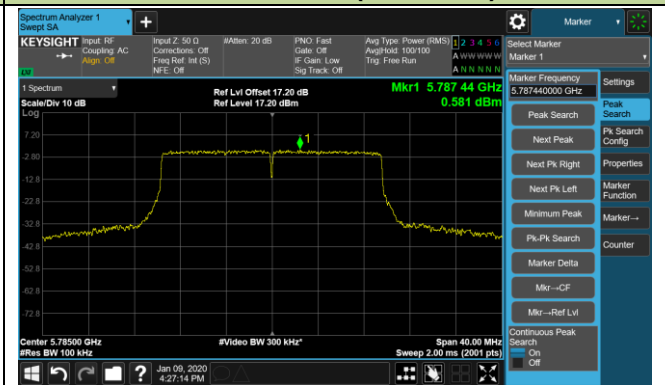
Channel 144 (5720MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)

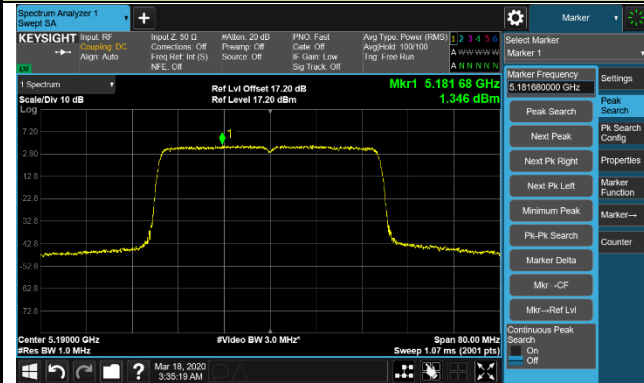


Channel 165 (5825MHz)

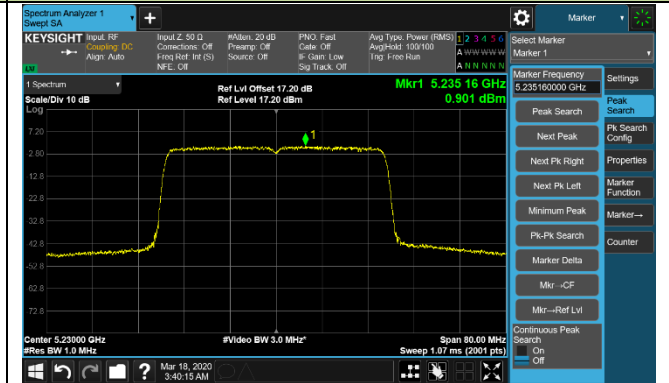


802.11ax-HE40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

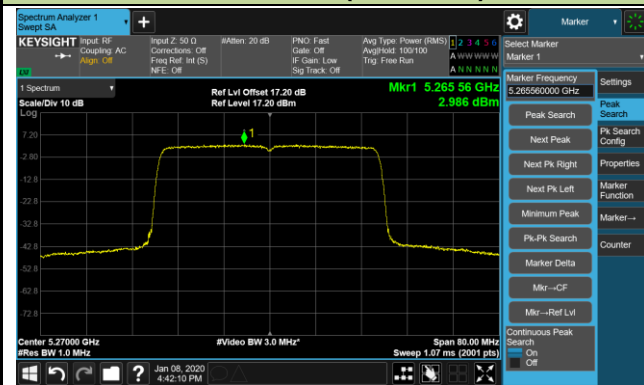
Channel 38 (5190MHz)



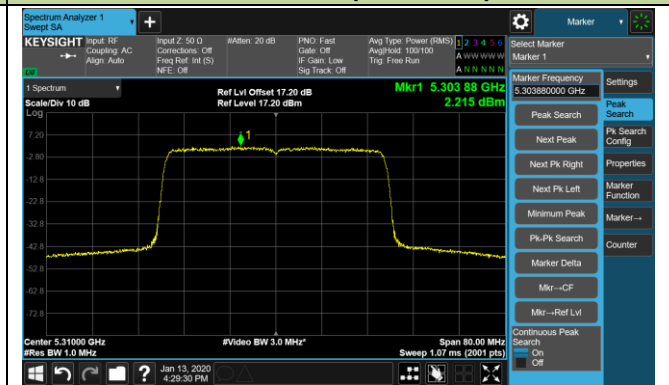
Channel 46 (5230MHz)



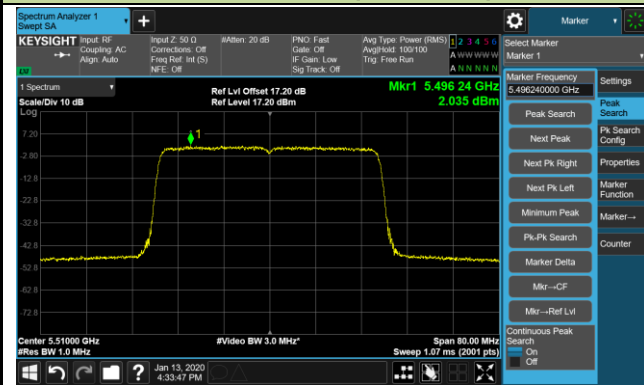
Channel 54 (5270MHz)



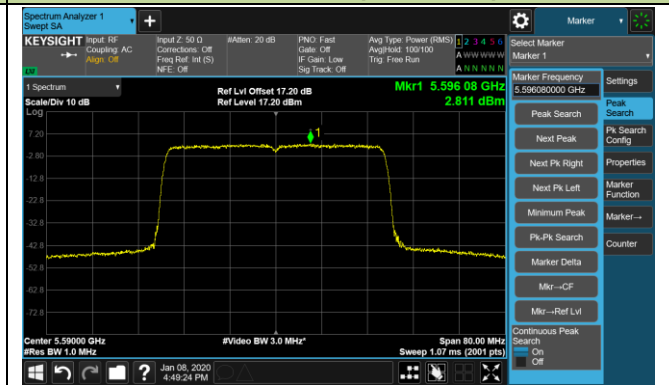
Channel 62 (5310MHz)



Channel 102 (5510MHz)

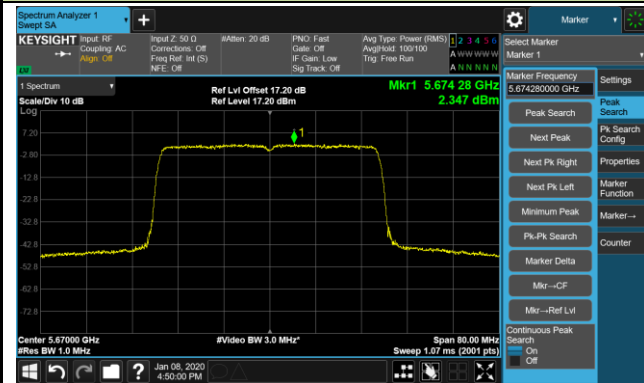


Channel 118 (5590MHz)

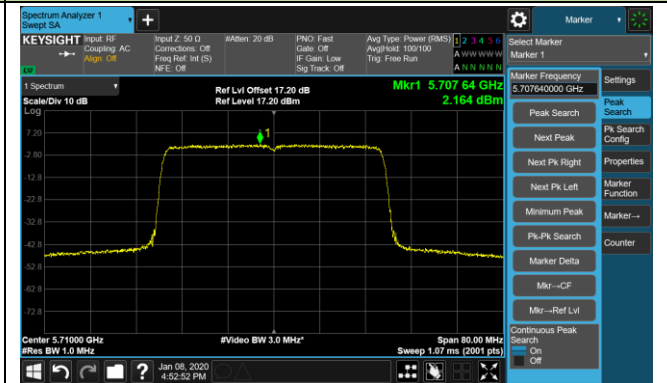


802.11ax-HE40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

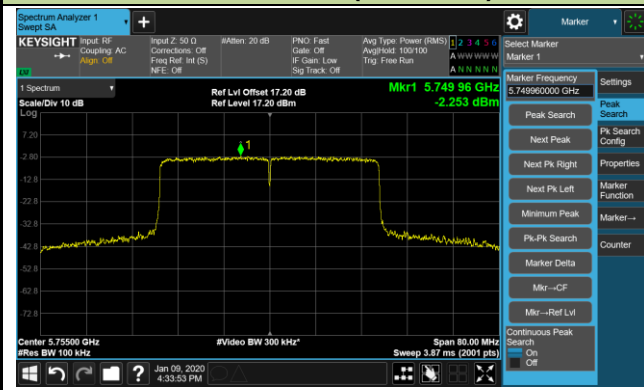
Channel 134 (5670MHz)



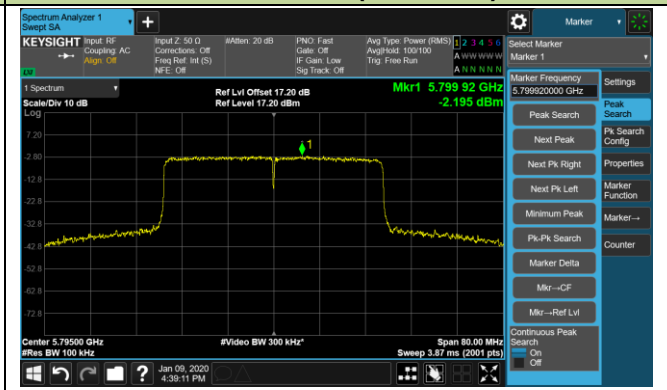
Channel 142 (5710MHz)



Channel 151 (5755MHz)

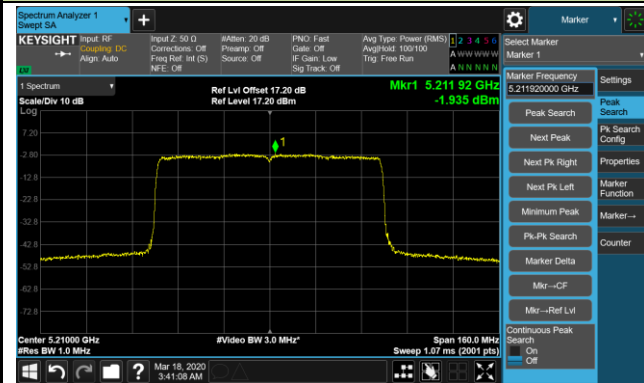


Channel 159 (5795MHz)

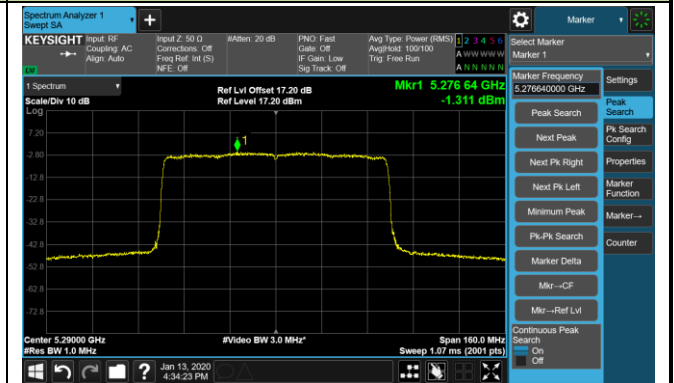


802.11ax-HE80 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

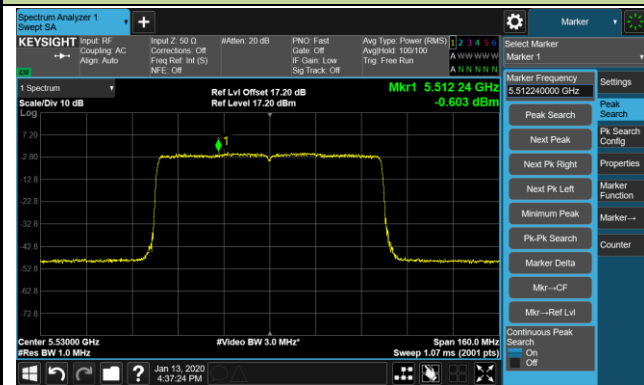
Channel 42 (5210MHz)



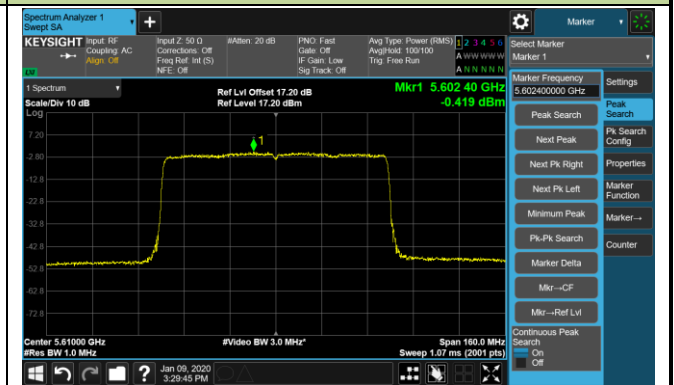
Channel 58 (5290MHz)



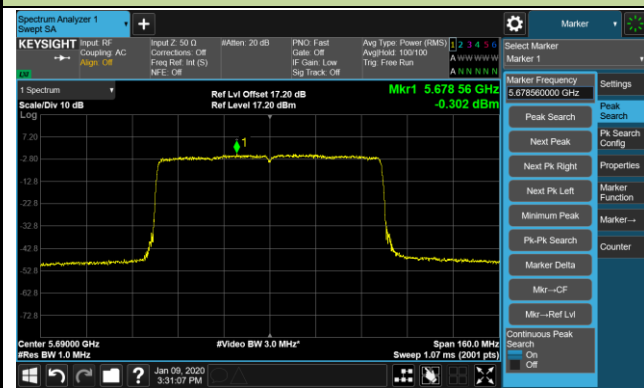
Channel 106 (5530MHz)



Channel 122 (5610MHz)



Channel 138 (5690MHz)



Channel 155 (5775MHz)

