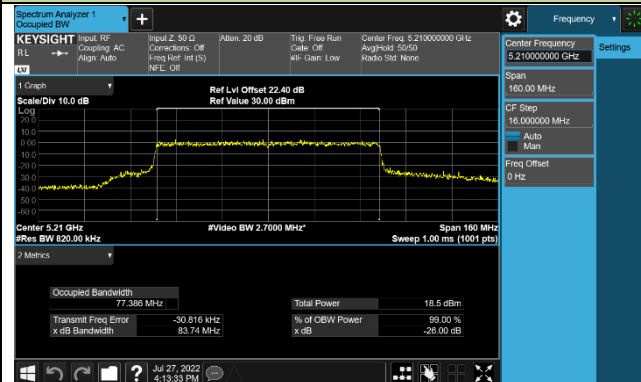
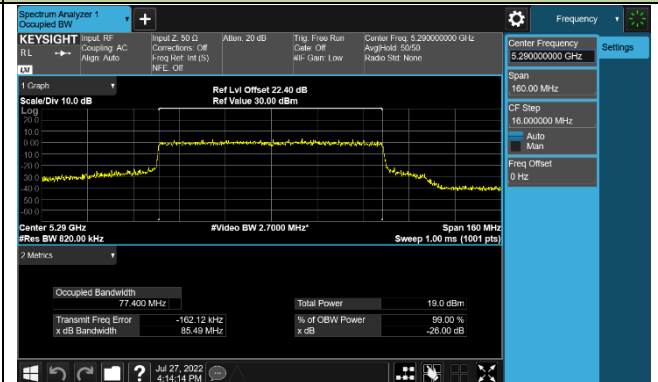


802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

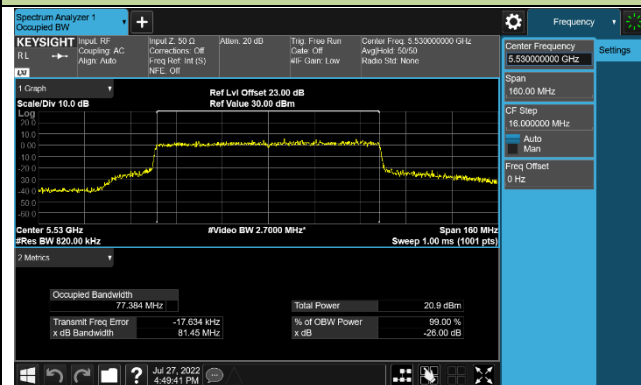
Channel 42 (5210MHz)



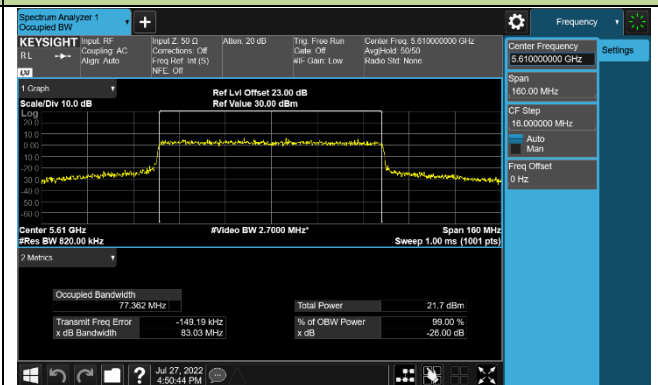
Channel 58 (5290MHz)



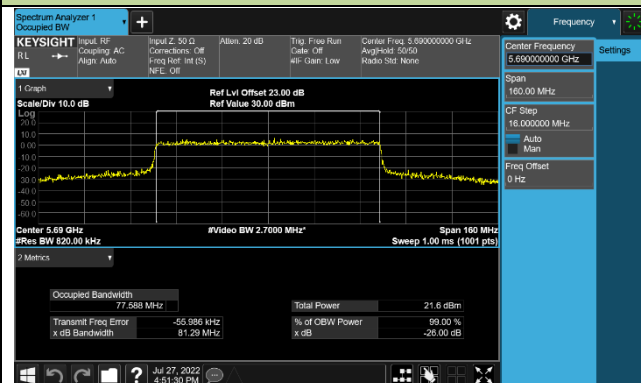
Channel 106 (5530MHz)



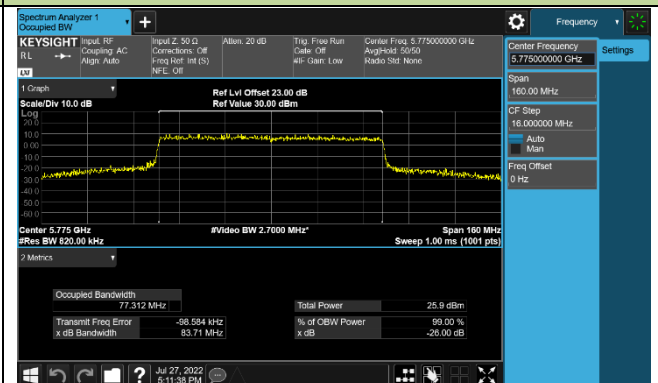
Channel 122 (5610MHz)



Channel 138 (5690MHz)

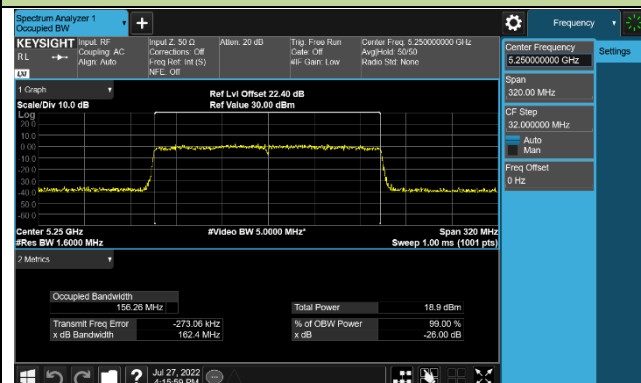


Channel 155 (5775MHz)

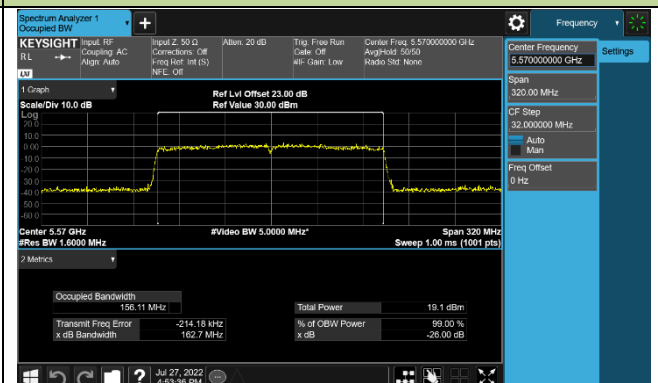


802.11ax-HE160 26dB Bandwidth & 99% Bandwidth

Channel 50 (5250MHz)



Channel 114 (5570MHz)



7.3. 6dB Bandwidth Measurement

7.3.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

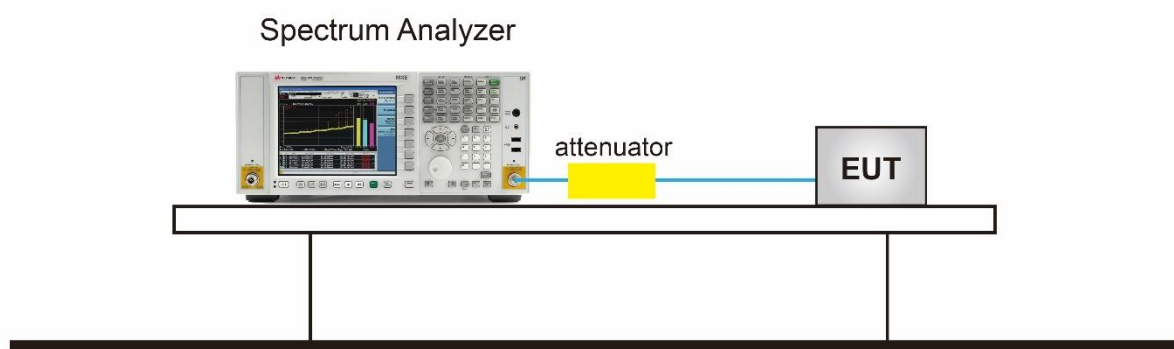
7.3.2. Test Procedure used

KDB 789033 D02v02r01- Section II) C.2

7.3.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW $3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3.4. Test Setup



7.3.5.TestResult

Product	AXE16000 Quad-Band Wi-Fi 6E Router	Test Engineer	Jay
Test Site	SR5	Test Date	2022/7/27

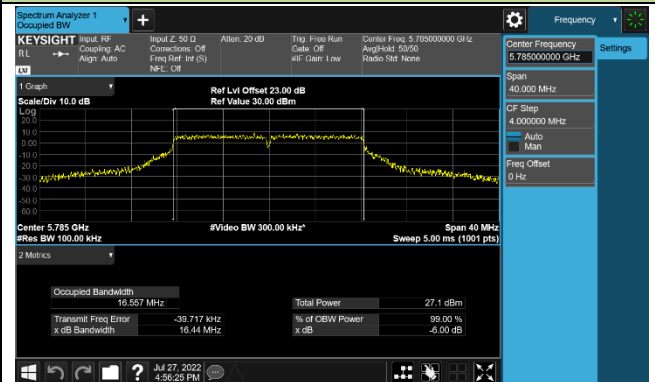
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 1						
802.11a	6Mbps	149	5745	16.370	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.440	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.370	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.400	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.600	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.620	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	18.810	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	18.580	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	18.940	≥ 0.5	Pass
802.11ax-HE20	MCS0	149	5745	36.460	≥ 0.5	Pass
802.11ax-HE20	MCS0	157	5785	36.430	≥ 0.5	Pass
802.11ax-HE20	MCS0	165	5825	37.430	≥ 0.5	Pass
802.11ax-HE40	MCS0	151	5755	37.750	≥ 0.5	Pass
802.11ax-HE40	MCS0	159	5795	76.100	≥ 0.5	Pass
802.11ax-HE80	MCS0	155	5775	77.260	≥ 0.5	Pass

802.11a 6dB Bandwidth

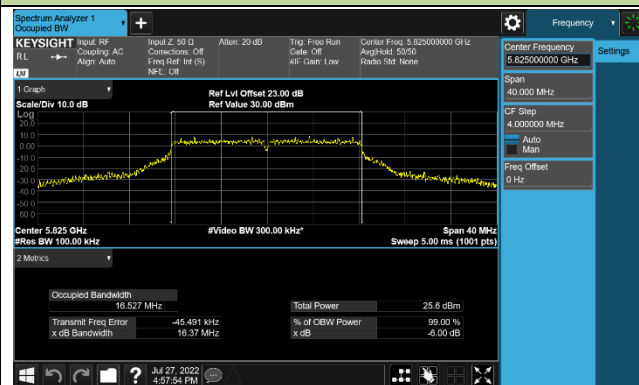
Channel 149 (5745MHz)



Channel 157 (5785MHz)

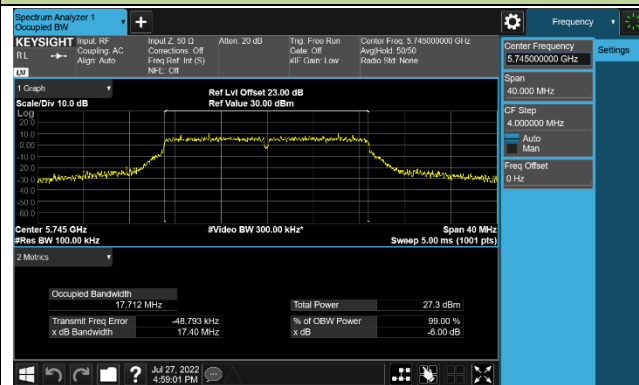


Channel 165 (5825MHz)

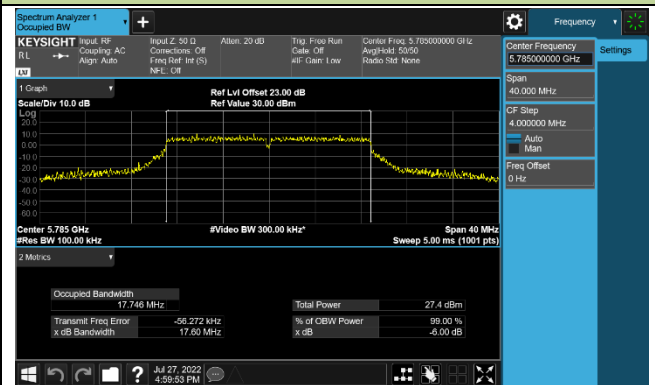


802.11ac-VHT20 6dB Bandwidth

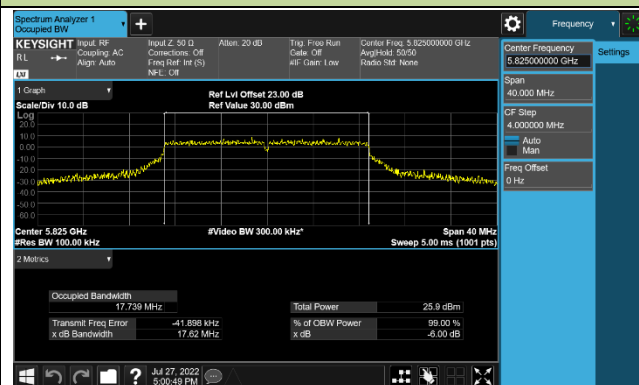
Channel 149 (5745MHz)



Channel 157 (5785MHz)

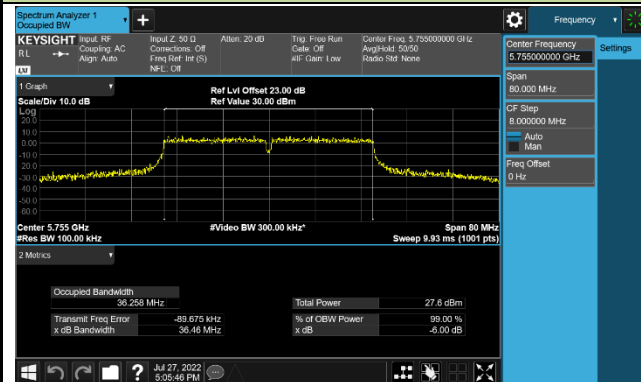


Channel 165 (5825MHz)

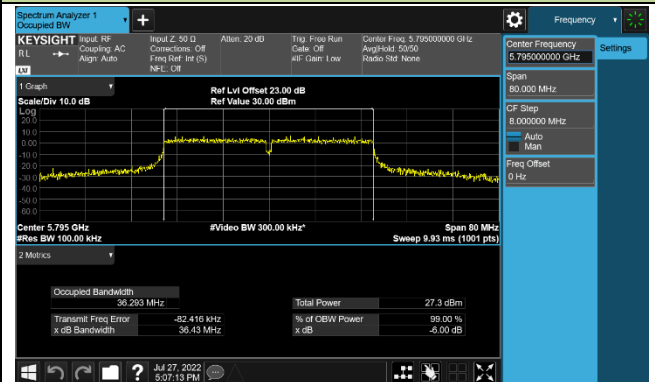


802.11ac-VHT40 6dB Bandwidth

Channel 151 (5755MHz)

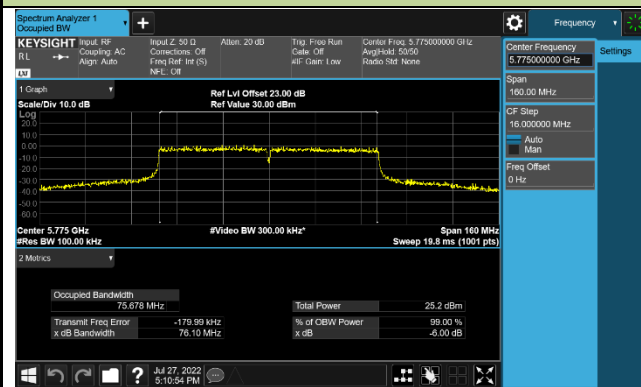


Channel 159 (5795MHz)



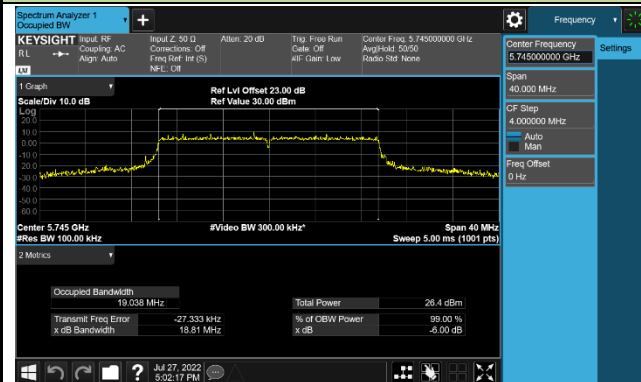
802.11ac-VHT80 6dB Bandwidth

Channel 155 (5775MHz)

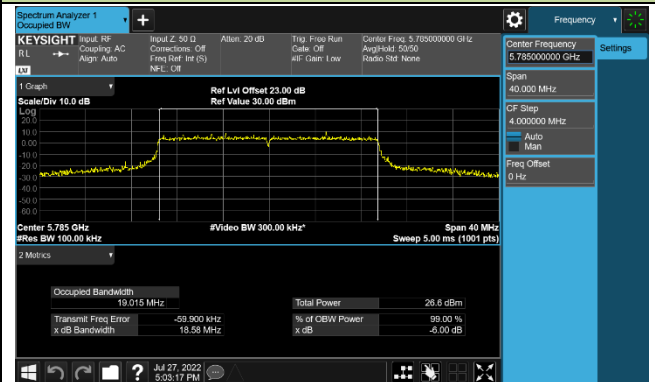


802.11ax-HE20 6dB Bandwidth

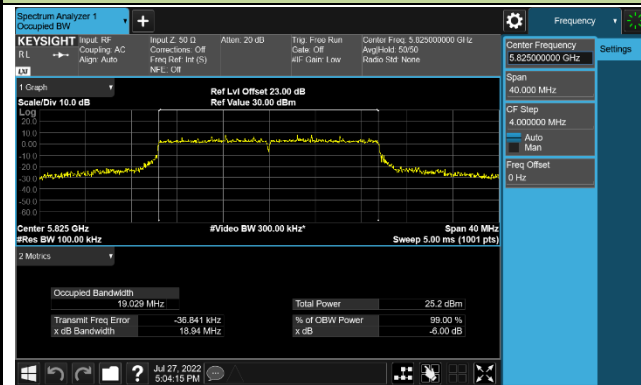
Channel 149 (5745MHz)



Channel 157 (5785MHz)

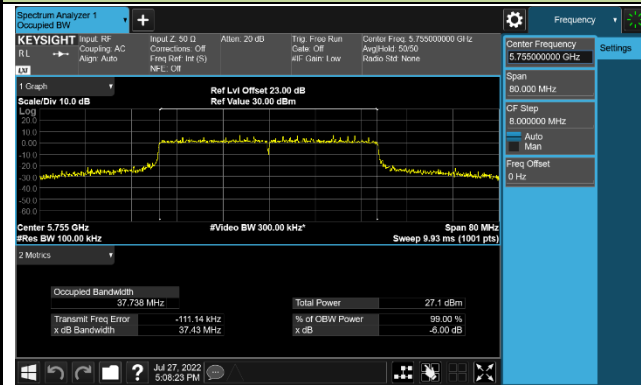


Channel 165 (5825MHz)

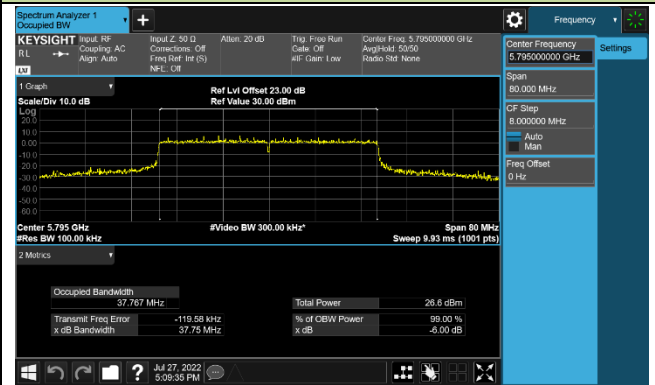


802.11ax-HE40 6dB Bandwidth

Channel 151 (5755MHz)

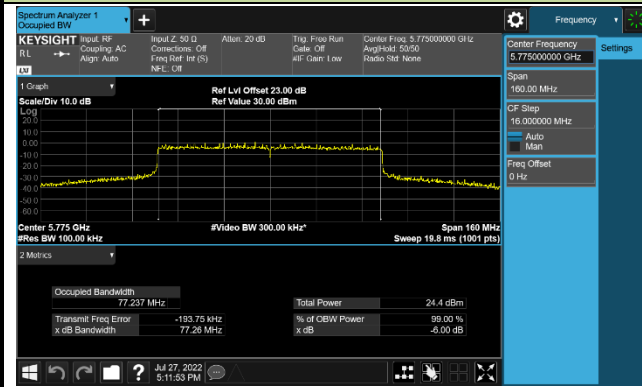


Channel 159 (5795MHz)



802.11ax-HE80 6dB Bandwidth

Channel 155 (5775MHz)



7.4. Output Power Measurement

7.4.1. Test Limit

For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

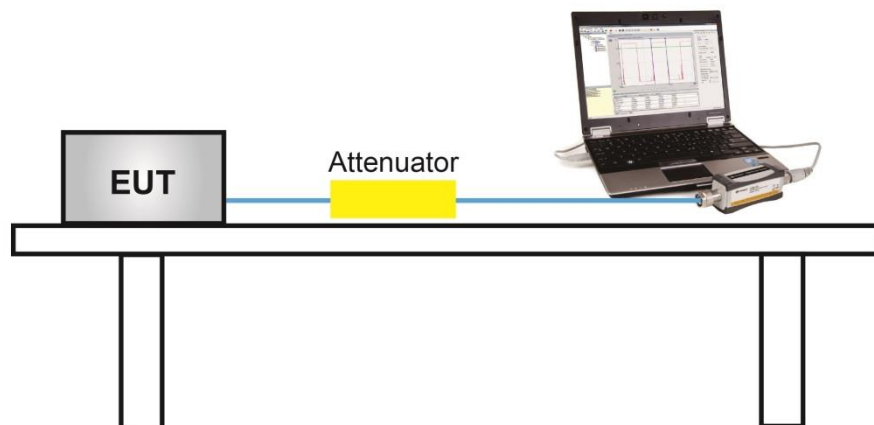
7.4.2. Test Procedure Used

KDB 789033D02v02r01- Section II) E3)b) Method PM-G

7.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

7.4.4. Test Setup



7.4.5. Test Result

Product	AXE16000 Quad-Band Wi-Fi 6E Router	Test Engineer	Jay
Test Site	SR5	Test Date	2022/7/27
Test Mode	CDD Mode		

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11a	6Mbps	36	5180	19.76	19.75	19.68	19.84	25.78	≤ 30.00	Pass
11a	6Mbps	44	5220	19.31	19.50	20.46	19.61	25.76	≤ 30.00	Pass
11a	6Mbps	48	5240	19.19	19.32	20.38	19.27	25.59	≤ 30.00	Pass
11a	6Mbps	52	5260	13.64	13.10	13.37	13.37	19.39	≤ 23.98	Pass
11a	6Mbps	60	5300	13.71	13.33	12.91	13.46	19.38	≤ 23.98	Pass
11a	6Mbps	64	5320	13.54	12.98	12.44	13.25	19.09	≤ 23.98	Pass
11a	6Mbps	100	5500	12.89	13.13	13.63	13.88	19.42	≤ 23.98	Pass
11a	6Mbps	116	5580	13.62	13.56	13.51	13.90	19.67	≤ 23.98	Pass
11a	6Mbps	140	5700	13.80	13.00	13.39	13.31	19.41	≤ 23.98	Pass
11a	6Mbps	144	5720	14.17	13.59	13.44	13.64	19.74	≤ 23.11	Pass
11a	6Mbps	149	5745	23.07	24.14	23.65	23.87	29.72	≤ 30.00	Pass
11a	6Mbps	157	5785	23.18	23.93	23.53	24.03	29.70	≤ 30.00	Pass
11a	6Mbps	165	5825	23.33	22.00	23.82	24.67	29.58	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	19.01	18.78	18.61	18.98	24.87	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	19.73	19.67	20.55	19.65	25.94	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	19.43	19.61	20.73	19.74	25.93	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	13.89	13.27	13.74	13.62	19.66	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	13.96	13.65	13.10	13.59	19.61	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	13.96	13.28	12.55	13.47	19.36	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	13.63	13.41	13.62	14.01	19.69	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	14.05	14.02	13.40	14.17	19.94	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	14.38	13.57	14.37	13.92	20.09	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	14.72	14.06	14.04	13.94	20.22	≤ 23.00	Pass
11ac-VHT20	MCS0	149	5745	23.56	23.96	23.74	23.47	29.71	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	23.24	23.85	24.01	23.93	29.79	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	23.59	22.04	23.98	25.00	29.80	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT40	MCS0	38	5190	15.86	15.50	15.62	15.86	21.73	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	22.58	23.12	23.78	22.69	29.09	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	16.80	17.07	17.09	16.28	22.84	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	15.50	15.52	14.93	14.61	21.18	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	16.67	16.23	16.88	17.11	22.76	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	16.96	16.12	16.79	17.04	22.76	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	17.08	16.40	17.17	16.98	22.94	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	17.16	17.13	16.95	16.72	23.01	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	23.91	24.23	23.41	23.80	29.87	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	23.42	23.89	23.56	24.21	29.80	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	15.71	15.38	15.45	15.31	21.49	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	14.73	14.91	14.94	14.41	20.77	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	17.85	17.50	17.03	17.56	23.52	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	17.47	17.73	17.71	17.08	23.53	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	17.50	17.65	17.39	17.42	23.51	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	23.57	23.43	23.57	23.56	29.55	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	16.13	16.18	15.86	15.92	22.05	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	17.41	17.82	17.36	17.69	23.59	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	18.53	18.06	18.17	18.23	24.27	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	19.71	19.88	20.76	20.01	26.13	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	19.81	20.03	20.98	19.98	26.25	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	14.17	13.84	13.99	14.03	20.03	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	14.22	14.01	13.44	13.92	19.93	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	14.03	13.60	12.90	13.93	19.66	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	13.74	13.72	13.83	14.15	19.88	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	14.08	14.18	13.95	14.18	20.12	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	14.88	14.03	14.43	14.32	20.45	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	14.94	14.26	14.24	14.24	20.45	≤ 23.04	Pass
11ax-HE20	MCS0	149	5745	23.52	23.94	23.66	23.43	29.66	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	23.31	23.74	23.82	23.90	29.72	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	23.18	22.04	24.14	24.89	29.71	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	16.07	15.67	15.82	16.20	21.97	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	22.67	23.01	23.83	22.68	29.09	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	16.82	16.83	17.11	16.13	22.76	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	15.68	15.69	15.20	15.11	21.45	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	16.96	16.38	16.96	17.26	22.92	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	17.08	16.50	17.17	17.23	23.03	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	17.01	17.00	17.03	16.86	23.00	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	17.00	16.90	16.95	16.50	22.86	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	23.27	24.65	23.62	23.87	29.90	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	23.02	23.99	23.77	24.35	29.83	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	14.92	14.82	15.04	14.78	20.91	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	14.66	14.70	14.84	14.47	20.69	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	17.85	17.39	17.20	17.67	23.56	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	17.59	17.99	17.08	17.20	23.50	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	17.68	17.77	17.79	17.50	23.71	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	23.57	23.44	23.65	23.69	29.61	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	15.70	15.49	15.25	15.25	21.45	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	17.79	17.96	17.78	17.91	23.88	≤ 23.98	Pass

Note 1:

The 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 5250- 5350MHz and 5470 - 5725MHz Band: Average Power Limit (dBm) = 23.98 dBm.

For 5150 - 5250MHz and 5725 - 5850MHz Bands: Average Power Limit (dBm) = 30 dBm.

For Channel 144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2)$



Product	AXE16000 Quad-Band Wi-Fi 6E Router	Test Engineer	Jay
Test Site	SR5	Test Date	2022/7/27
Test Mode	Beamforming Mode		

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT20	MCS0	36	5180	19.01	18.78	18.61	18.98	24.87	≤ 26.96	Pass
11ac-VHT20	MCS0	40	5220	19.73	19.67	20.55	19.65	25.94	≤ 26.96	Pass
11ac-VHT20	MCS0	48	5240	19.43	19.61	20.73	19.74	25.93	≤ 26.96	Pass
11ac-VHT20	MCS0	52	5260	13.89	13.27	13.74	13.62	19.66	≤ 20.88	Pass
11ac-VHT20	MCS0	60	5300	13.96	13.65	13.10	13.59	19.61	≤ 20.88	Pass
11ac-VHT20	MCS0	64	5320	13.96	13.28	12.55	13.47	19.36	≤ 20.88	Pass
11ac-VHT20	MCS0	100	5500	13.63	13.41	13.62	14.01	19.69	≤ 20.83	Pass
11ac-VHT20	MCS0	116	5580	14.05	14.02	13.40	14.17	19.94	≤ 20.83	Pass
11ac-VHT20	MCS0	140	5700	14.38	13.57	14.37	13.92	20.09	≤ 20.83	Pass
11ac-VHT20	MCS0	144	5720	14.11	13.30	13.51	13.39	19.61	≤ 19.85	Pass
11ac-VHT20	MCS0	149	5745	21.14	20.65	20.55	20.32	26.70	≤ 27.01	Pass
11ac-VHT20	MCS0	157	5785	20.76	20.61	20.72	20.63	26.70	≤ 27.01	Pass
11ac-VHT20	MCS0	165	5825	20.70	18.79	20.95	22.03	26.79	≤ 27.01	Pass
11ac-VHT40	MCS0	38	5190	15.86	15.50	15.62	15.86	21.73	≤ 26.96	Pass
11ac-VHT40	MCS0	46	5230	20.35	20.80	21.45	20.64	26.85	≤ 26.96	Pass
11ac-VHT40	MCS0	54	5270	14.71	14.80	14.86	14.01	20.63	≤ 20.88	Pass
11ac-VHT40	MCS0	62	5310	14.84	14.93	14.46	14.06	20.61	≤ 20.88	Pass
11ac-VHT40	MCS0	102	5510	14.54	14.04	14.81	14.73	20.56	≤ 20.83	Pass
11ac-VHT40	MCS0	110	5550	15.03	14.37	14.83	14.58	20.73	≤ 20.83	Pass
11ac-VHT40	MCS0	134	5670	14.77	14.74	14.88	14.43	20.73	≤ 20.83	Pass
11ac-VHT40	MCS0	142	5710	15.13	14.88	14.63	14.08	20.72	≤ 20.83	Pass
11ac-VHT40	MCS0	151	5755	21.25	20.99	20.45	20.25	26.77	≤ 27.01	Pass
11ac-VHT40	MCS0	159	5795	20.55	20.45	20.56	20.71	26.59	≤ 27.01	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT80	MCS0	42	5210	15.71	15.38	15.45	15.31	21.49	≤ 26.96	Pass
11ac-VHT80	MCS0	58	5290	14.73	14.91	14.94	14.41	20.77	≤ 20.88	Pass
11ac-VHT80	MCS0	106	5530	15.10	14.13	14.82	13.94	20.54	≤ 20.83	Pass
11ac-VHT80	MCS0	122	5610	14.79	14.69	14.86	14.22	20.67	≤ 20.83	Pass
11ac-VHT80	MCS0	138	5690	14.64	14.44	14.92	14.41	20.63	≤ 20.83	Pass
11ac-VHT80	MCS0	155	5775	20.66	20.67	21.35	20.73	26.88	≤ 27.01	Pass
11ac-VHT160	MCS0	50	5250	14.91	14.64	14.39	14.39	20.61	≤ 20.88	Pass
11ac-VHT160	MCS0	114	5570	14.87	14.48	14.57	14.58	20.65	≤ 20.83	Pass
11ax-HE20	MCS0	36	5180	18.53	18.06	18.17	18.23	24.27	≤ 26.96	Pass
11ax-HE20	MCS0	40	5220	19.71	19.88	20.76	20.01	26.13	≤ 26.96	Pass
11ax-HE20	MCS0	48	5240	19.81	20.03	20.98	19.98	26.25	≤ 26.96	Pass
11ax-HE20	MCS0	52	5260	14.17	13.84	13.99	14.03	20.03	≤ 20.88	Pass
11ax-HE20	MCS0	60	5300	14.22	14.01	13.44	13.92	19.93	≤ 20.88	Pass
11ax-HE20	MCS0	64	5320	14.03	13.60	12.90	13.93	19.66	≤ 20.88	Pass
11ax-HE20	MCS0	100	5500	13.74	13.72	13.83	14.15	19.88	≤ 20.83	Pass
11ax-HE20	MCS0	116	5580	14.08	14.18	13.95	14.18	20.12	≤ 20.83	Pass
11ax-HE20	MCS0	140	5700	14.88	14.03	14.43	14.32	20.45	≤ 20.83	Pass
11ax-HE20	MCS0	144	5720	14.11	13.40	13.66	13.34	19.66	≤ 19.89	Pass
11ax-HE20	MCS0	149	5745	20.97	20.51	20.47	20.39	26.61	≤ 27.01	Pass
11ax-HE20	MCS0	157	5785	20.87	20.66	20.87	20.78	26.82	≤ 27.01	Pass
11ax-HE20	MCS0	165	5825	20.65	18.68	20.77	22.12	26.74	≤ 27.01	Pass
11ax-HE40	MCS0	38	5190	16.07	15.67	15.82	16.20	21.97	≤ 26.96	Pass
11ax-HE40	MCS0	46	5230	20.04	20.66	21.49	20.63	26.76	≤ 26.96	Pass
11ax-HE40	MCS0	54	5270	14.76	14.64	14.96	13.98	20.62	≤ 20.88	Pass
11ax-HE40	MCS0	62	5310	14.95	14.97	14.46	14.34	20.71	≤ 20.88	Pass
11ax-HE40	MCS0	102	5510	14.80	14.23	14.88	14.70	20.68	≤ 20.83	Pass
11ax-HE40	MCS0	110	5550	14.76	14.13	14.70	14.66	20.59	≤ 20.83	Pass
11ax-HE40	MCS0	134	5670	14.93	14.63	14.93	14.34	20.73	≤ 20.83	Pass
11ax-HE40	MCS0	142	5710	14.89	14.55	14.45	14.27	20.57	≤ 20.83	Pass
11ax-HE40	MCS0	151	5755	20.49	20.96	20.50	20.47	26.63	≤ 27.01	Pass
11ax-HE40	MCS0	159	5795	20.10	20.70	21.05	21.04	26.76	≤ 27.01	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE80	MCS0	42	5210	14.92	14.82	15.04	14.78	20.91	≤ 26.96	Pass
11ax-HE80	MCS0	58	5290	14.66	14.70	14.84	14.47	20.69	≤ 20.88	Pass
11ax-HE80	MCS0	106	5530	15.35	14.14	14.82	14.02	20.64	≤ 20.83	Pass
11ax-HE80	MCS0	122	5610	14.80	15.01	14.71	14.03	20.67	≤ 20.83	Pass
11ax-HE80	MCS0	138	5690	14.82	14.62	15.16	14.10	20.71	≤ 20.83	Pass
11ax-HE80	MCS0	155	5775	20.62	20.54	21.17	20.65	26.77	≤ 27.01	Pass
11ax-HE160	MCS0	50	5250	14.85	14.57	14.31	14.76	20.65	≤ 20.88	Pass
11ax-HE160	MCS0	114	5570	14.78	14.40	14.67	14.55	20.62	≤ 20.83	Pass

Note 1:

The 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 5125 - 5250MHz Band: Average Power Limit (dBm) = 30 - (9.04- 6) = 26.96dBm

For 5250 - 5350MHz Band: Average Power Limit (dBm) = 23.98 - (9.10- 6) = 20.88dBm.

For 5470 - 5725MHz Band: Average Power Limit (dBm) = 23.98 - (9.15- 6) = 20.83dBm.

For 5725 - 5850MHz Band: Average Power Limit (dBm) = 30- (8.99- 6) = 27.01dBm.

For Channel 144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) - (9.15- 6)$

7.5. Transmit Power Control

7.5.1. Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

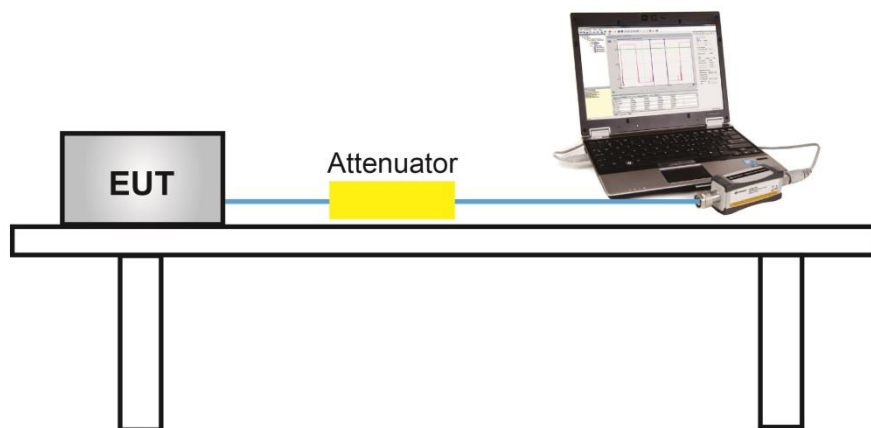
7.5.2. Test Procedure Used

KDB 789033 D02v01- Section II) E)3)b) Method PM-G

7.5.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.5.4. Test Setup



7.5.5. Test Result

Device supports TPC mechanism, details refer to the operational description.

7.6. Power Spectral Density Measurement

7.6.1. Test Limit

For the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

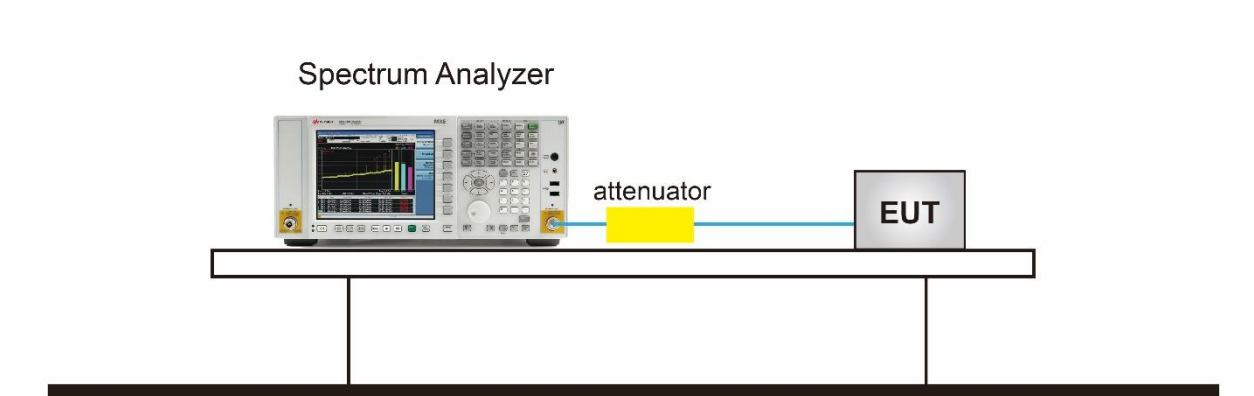
7.6.2. Test Procedure Used

KDB 789033 D02v02r01-Section F

7.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,
RBW = 510 kHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = power averaging (Average)
7. Sweep time = auto
8. Trigger = free run
9. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
10. Add $10 \cdot \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \cdot \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

7.6.4. Test Setup



7.6.5.Test Result

Product	AXE16000 Quad-Band Wi-Fi 6E Router	Test Engineer	Jay
Test Site	SR5	Test Date	2022/7/27~2022/8/18
Mode	Power Spectral Density (U-NII- 1/-2a / -2c) CDD Mode		

Test Mode	Data Rate /MCS	Ch. 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
11a	6Mbps	36	5180	7.451	7.657	7.484	7.371	95.76%	13.701	≤ 13.96	Pass
11a	6Mbps	44	5220	7.218	7.200	8.012	7.349	95.76%	13.693	≤ 13.96	Pass
11a	6Mbps	48	5240	7.117	7.448	8.240	7.507	95.76%	13.807	≤ 13.96	Pass
11a	6Mbps	52	5260	1.461	1.247	1.326	1.441	95.76%	7.578	≤ 7.90	Pass
11a	6Mbps	60	5300	1.656	1.498	1.136	1.581	95.76%	7.681	≤ 7.90	Pass
11a	6Mbps	64	5320	1.927	1.469	1.044	1.713	95.76%	7.759	≤ 7.90	Pass
11a	6Mbps	100	5500	1.024	1.112	1.773	1.697	95.76%	7.623	≤ 7.85	Pass
11a	6Mbps	116	5580	0.945	1.455	1.192	1.632	95.76%	7.523	≤ 7.85	Pass
11a	6Mbps	140	5700	1.416	1.131	1.723	1.294	95.76%	7.605	≤ 7.85	Pass
11a	6Mbps	144	5720	1.117	1.528	1.366	1.317	95.76%	7.543	≤ 7.85	Pass
11ac-VHT20	MCS0	36	5180	6.445	6.495	6.524	6.651	98.82%	12.602	≤ 13.96	Pass
11ac-VHT20	MCS0	40	5220	7.343	7.489	8.212	7.495	98.82%	13.720	≤ 13.96	Pass
11ac-VHT20	MCS0	48	5240	7.203	7.645	8.274	7.510	98.82%	13.748	≤ 13.96	Pass
11ac-VHT20	MCS0	52	5260	1.670	1.279	1.499	1.541	98.82%	7.572	≤ 7.90	Pass
11ac-VHT20	MCS0	60	5300	2.025	1.705	1.261	1.708	98.82%	7.755	≤ 7.90	Pass
11ac-VHT20	MCS0	64	5320	2.135	1.643	1.067	1.635	98.82%	7.709	≤ 7.90	Pass
11ac-VHT20	MCS0	100	5500	1.146	1.475	1.473	1.960	98.82%	7.595	≤ 7.85	Pass
11ac-VHT20	MCS0	116	5580	1.305	1.698	1.379	1.712	98.82%	7.600	≤ 7.85	Pass
11ac-VHT20	MCS0	140	5700	1.177	1.283	2.312	1.433	98.82%	7.675	≤ 7.85	Pass
11ac-VHT20	MCS0	144	5720	1.773	1.617	1.815	1.491	98.82%	7.748	≤ 7.85	Pass

Test Mode	Data Rate /MCS	Ch. 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
11ac-VHT40	MCS0	38	5190	0.151	0.165	0.322	0.287	97.45%	6.365	≤ 13.96	Pass
11ac-VHT40	MCS0	46	5230	7.089	7.678	8.316	7.502	97.45%	13.802	≤ 13.96	Pass
11ac-VHT40	MCS0	54	5270	1.416	1.786	1.883	1.222	97.45%	7.718	≤ 7.90	Pass
11ac-VHT40	MCS0	62	5310	0.669	0.884	0.722	0.181	97.45%	6.755	≤ 7.90	Pass
11ac-VHT40	MCS0	102	5510	1.331	1.185	1.845	2.080	97.45%	7.758	≤ 7.85	Pass
11ac-VHT40	MCS0	110	5550	1.859	1.406	1.717	1.494	97.45%	7.755	≤ 7.85	Pass
11ac-VHT40	MCS0	134	5670	1.445	1.648	1.762	1.404	97.45%	7.700	≤ 7.85	Pass
11ac-VHT40	MCS0	142	5710	1.425	1.998	1.499	1.101	97.45%	7.651	≤ 7.85	Pass
11ac-VHT80	MCS0	42	5210	-3.081	-3.194	-2.766	-3.349	94.76%	3.162	≤ 13.96	Pass
11ac-VHT80	MCS0	58	5290	-3.499	-3.219	-3.255	-3.836	94.76%	2.809	≤ 7.90	Pass
11ac-VHT80	MCS0	106	5530	-0.268	-1.156	-0.539	-1.235	94.76%	5.474	≤ 7.85	Pass
11ac-VHT80	MCS0	122	5610	-1.267	-0.737	-0.887	-1.115	94.76%	5.258	≤ 7.85	Pass
11ac-VHT80	MCS0	138	5690	-1.240	-0.483	-0.640	-1.373	94.76%	5.337	≤ 7.85	Pass
11ac-VHT160	MCS0	50	5250	-4.922	-4.849	-5.121	-5.222	90.12%	1.446	≤ 7.90	Pass
11ac-VHT160	MCS0	114	5570	-4.552	-3.949	-3.980	-4.219	90.12%	2.304	≤ 7.85	Pass
11ax-HE20	MCS0	36	5180	6.006	5.733	5.702	5.993	98.55%	11.945	≤ 13.96	Pass
11ax-HE20	MCS0	44	5220	7.404	7.297	8.129	7.290	98.55%	13.628	≤ 13.96	Pass
11ax-HE20	MCS0	48	5240	7.574	7.613	8.297	7.401	98.55%	13.819	≤ 13.96	Pass
11ax-HE20	MCS0	52	5260	1.655	1.343	1.456	1.687	98.55%	7.622	≤ 7.90	Pass
11ax-HE20	MCS0	60	5300	2.162	1.554	1.432	1.637	98.55%	7.789	≤ 7.90	Pass
11ax-HE20	MCS0	64	5320	2.135	1.466	0.854	1.875	98.55%	7.693	≤ 7.90	Pass
11ax-HE20	MCS0	100	5500	1.509	1.246	1.158	1.852	98.55%	7.534	≤ 7.85	Pass
11ax-HE20	MCS0	116	5580	1.375	1.792	1.351	1.434	98.55%	7.576	≤ 7.85	Pass
11ax-HE20	MCS0	140	5700	1.574	1.599	2.221	1.295	98.55%	7.770	≤ 7.85	Pass
11ax-HE20	MCS0	144	5720	1.172	1.727	2.117	1.612	98.55%	7.754	≤ 7.85	Pass

Test Mode	Data Rate/MCS	Ch. 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
11ax-HE40	MCS0	38	5190	0.664	0.400	0.612	0.970	97.28%	6.807	≤ 13.96	Pass
11ax-HE40	MCS0	46	5230	7.068	7.552	8.454	7.126	97.28%	13.727	≤ 13.96	Pass
11ax-HE40	MCS0	54	5270	1.447	1.604	1.888	1.075	97.28%	7.654	≤ 7.90	Pass
11ax-HE40	MCS0	62	5310	0.695	0.766	0.102	0.152	97.28%	6.580	≤ 7.90	Pass
11ax-HE40	MCS0	102	5510	1.484	1.015	1.924	1.804	97.28%	7.711	≤ 7.85	Pass
11ax-HE40	MCS0	110	5550	1.864	1.026	1.381	1.247	97.28%	7.531	≤ 7.85	Pass
11ax-HE40	MCS0	134	5670	1.549	1.728	1.995	1.027	97.28%	7.729	≤ 7.85	Pass
11ax-HE40	MCS0	142	5710	1.776	1.960	1.129	1.561	97.28%	7.758	≤ 7.85	Pass
11ax-HE80	MCS0	42	5210	-3.352	-3.809	-3.722	3.661	94.76%	5.828	≤ 13.96	Pass
11ax-HE80	MCS0	58	5290	-3.457	-3.475	-3.561	-3.691	94.76%	2.709	≤ 7.90	Pass
11ax-HE80	MCS0	106	5530	-0.490	-0.684	-0.574	-0.971	94.76%	5.578	≤ 7.85	Pass
11ax-HE80	MCS0	122	5610	-0.742	-0.619	-0.570	-1.241	94.76%	5.469	≤ 7.85	Pass
11ax-HE80	MCS0	122	5690	-0.796	-0.879	0.134	-0.869	94.76%	5.674	≤ 7.85	Pass
11ax-HE160	MCS0	50	5250	-5.499	-5.577	-5.655	-5.826	90.12%	0.835	≤ 7.90	Pass
11ax-HE160	MCS0	114	5570	-4.132	-3.716	-3.689	-3.969	90.12%	2.600	≤ 7.85	Pass

Note 1: When EUT duty cycle ≥ 98%,

the total PSD (dBm/MHz) = $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$ (dBm/MHz).

When EUT duty cycle < 98%,

the total PSD (dBm/MHz) = $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\} + 10 \cdot \log (1/\text{Duty Cycle})$ (dBm/MHz).

Note 2:

For 5150 - 5250MHz Band: PSD Limit (dBm/MHz) = 17 - (9.04 - 6) = 13.96dBm/MHz.

For 5250 - 5350MHz Band: PSD Limit (dBm/MHz) = 11 - (9.10 - 6) = 7.90dBm/MHz.

For 5470 - 5725MHz Band: PSD Limit (dBm/MHz) = 11 - (9.15 - 6) = 7.85dBm/MHz.

Product	AXE16000 Quad-Band Wi-Fi 6E Router	Test Engineer	Jay
Test Site	SR5	Test Date	2022/7/27~2022/8/18
Test Item	Power Spectral Density (U-NII-3) CDD Mode		

Test Mode	Data Rate/MCS	Ch. No.	Freq. (MHz)	Ant 0 PSD (dBm/510KHz)	Ant 1 PSD (dBm/510KHz)	Ant 2 PSD (dBm/510KHz)	Ant 3 PSD (dBm/510KHz)	Duty Cycle (%)	Total PSD (dBm/510kHz)	Limit (dBm/500kHz)	Result
11a	6Mbps	149	5745	8.960	8.625	8.040	8.215	95.76%	14.684	≤ 27.01	Pass
11a	6Mbps	157	5785	8.369	8.388	8.517	8.371	95.76%	14.620	≤ 27.01	Pass
11a	6Mbps	165	5825	8.923	7.101	8.942	8.733	95.76%	14.697	≤ 27.01	Pass
11ac-VHT20	MCS0	149	5745	8.111	8.467	7.524	6.654	98.82%	13.814	≤ 27.01	Pass
11ac-VHT20	MCS0	157	5785	8.150	7.869	8.000	7.766	98.82%	14.021	≤ 27.01	Pass
11ac-VHT20	MCS0	165	5825	8.549	6.758	8.521	9.892	98.82%	14.641	≤ 27.01	Pass
11ac-VHT40	MCS0	151	5755	5.631	5.595	5.082	4.220	97.45%	11.301	≤ 27.01	Pass
11ac-VHT40	MCS0	159	5795	5.208	5.211	5.491	4.760	97.45%	11.308	≤ 27.01	Pass
11ac-VHT80	MCS0	155	5775	0.650	0.564	1.293	0.426	94.76%	7.001	≤ 27.01	Pass
11ax-HE20	MCS0	149	5745	7.782	7.649	7.325	7.218	98.55%	13.584	≤ 27.01	Pass
11ax-HE20	MCS0	157	5785	7.787	7.676	7.993	8.040	98.55%	13.961	≤ 27.01	Pass
11ax-HE20	MCS0	165	5825	7.968	7.091	8.627	9.315	98.55%	14.411	≤ 27.01	Pass
11ax-HE40	MCS0	151	5755	5.701	5.577	5.096	4.626	97.28%	11.411	≤ 27.01	Pass
11ax-HE40	MCS0	159	5795	5.279	5.144	4.606	5.588	97.28%	11.309	≤ 27.01	Pass
11ax-HE80	MCS0	155	5775	0.930	0.796	1.014	0.572	94.76%	7.086	≤ 27.01	Pass

Note 1: When EUT duty cycle ≥ 98%,

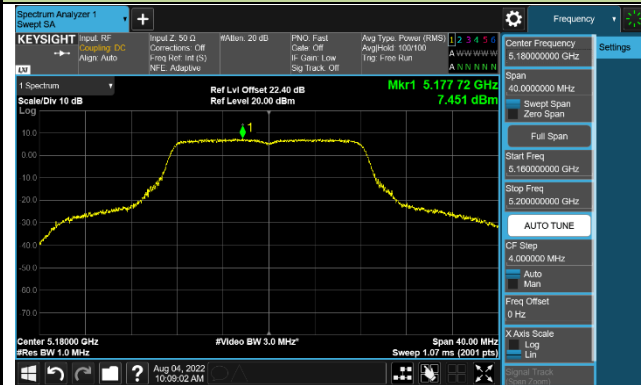
the total PSD (dBm/510kHz) = $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$ (dBm/510kHz)

When EUT duty cycle < 98%, the total PSD (dBm/510kHz) = $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$ (dBm/510kHz) + $10 \cdot \log (1/\text{Duty Cycle})$.

Note 2: PSD Limit (dBm/500kHz) = 30 - (8.99 - 6) = 27.01dBm/500kHz.

802.11a Power Spectral Density - Ant 0

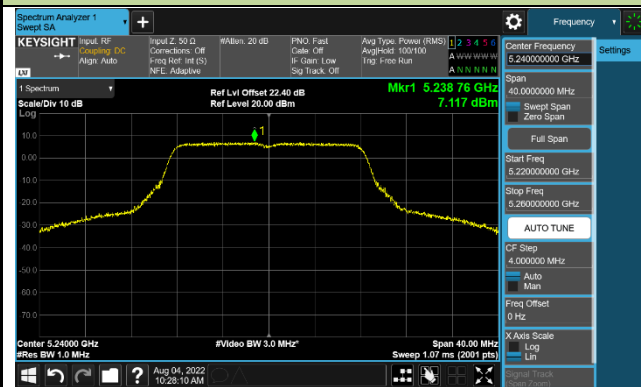
Channel 36 (5180MHz)



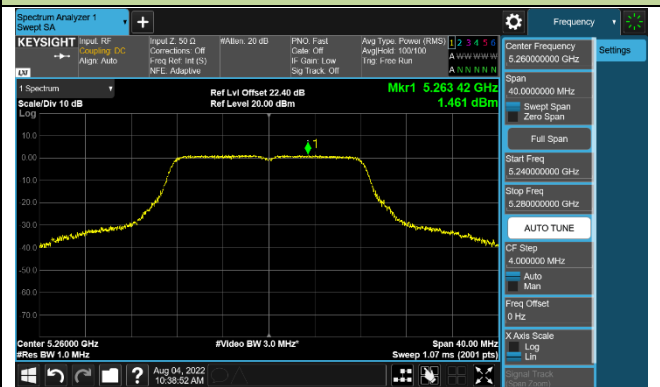
Channel 44 (5220MHz)



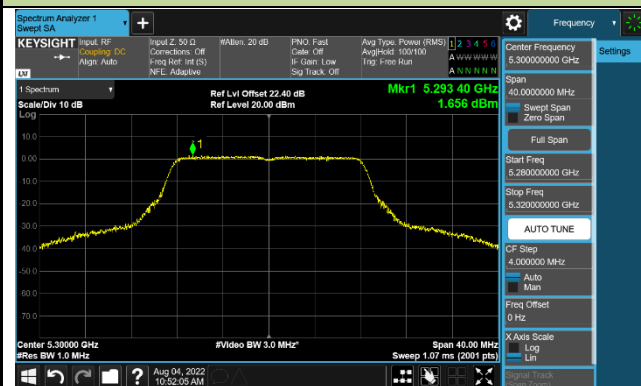
Channel 48 (5240MHz)



Channel 52 (5260MHz)



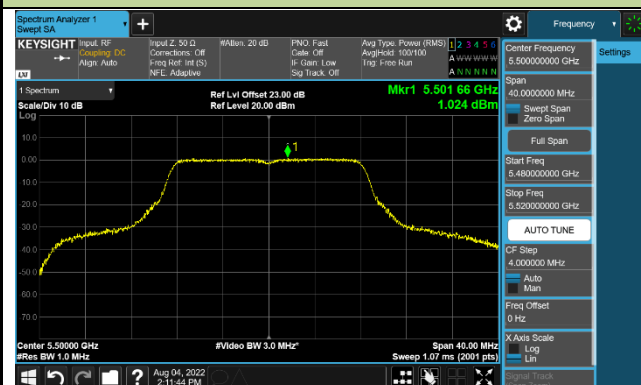
Channel 60 (5300MHz)



Channel 64 (5320MHz)

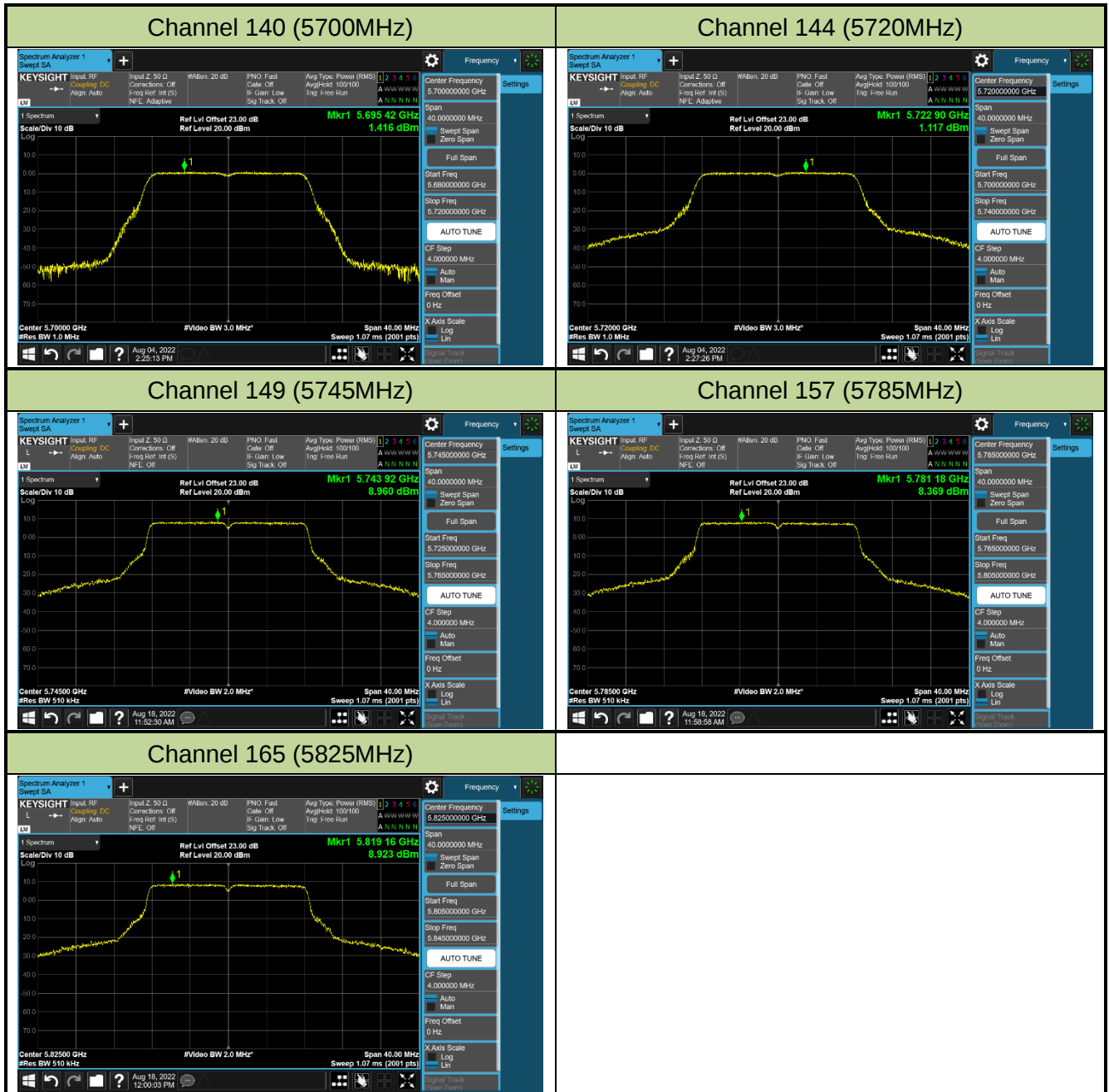


Channel 100 (5500MHz)



Channel 116 (5580MHz)



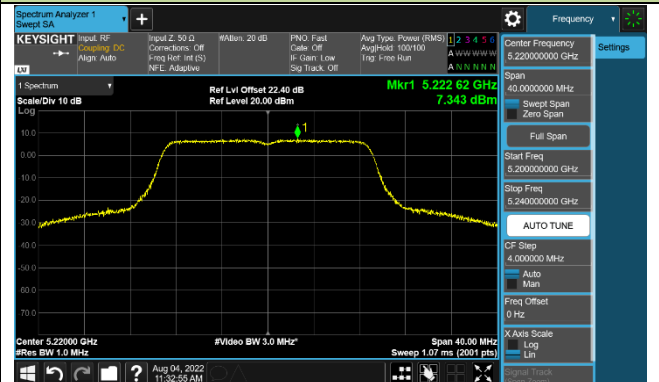


802.11ac-VHT20 Power Spectral Density - Ant 0

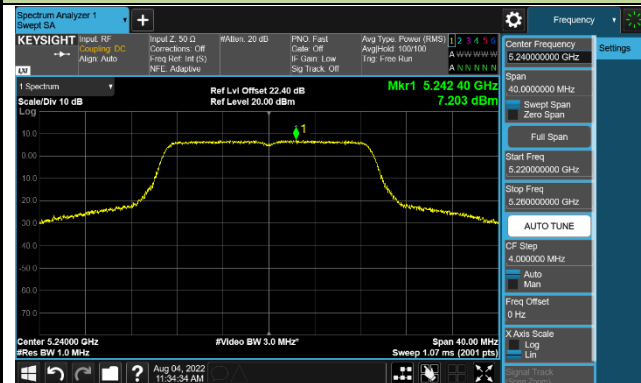
Channel 36 (5180MHz)



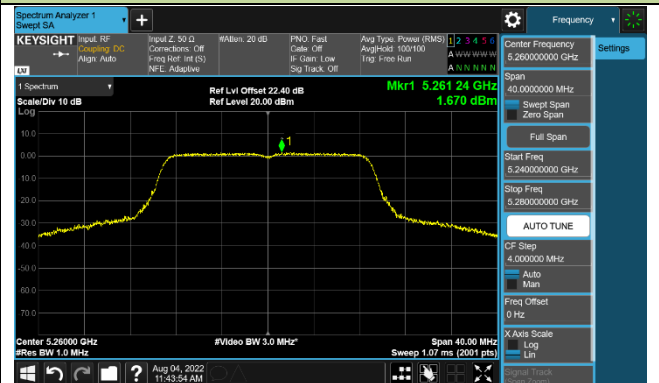
Channel 44 (5220MHz)



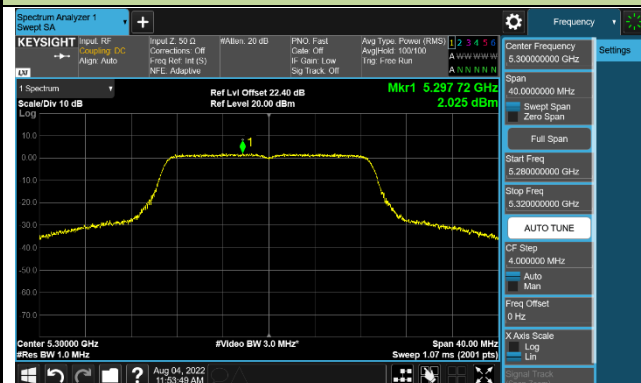
Channel 48 (5240MHz)



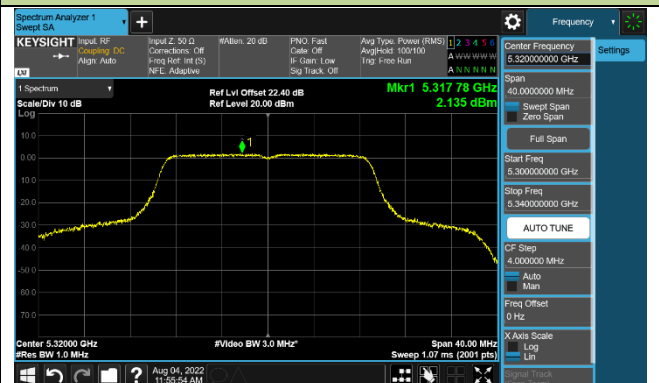
Channel 52 (5260MHz)



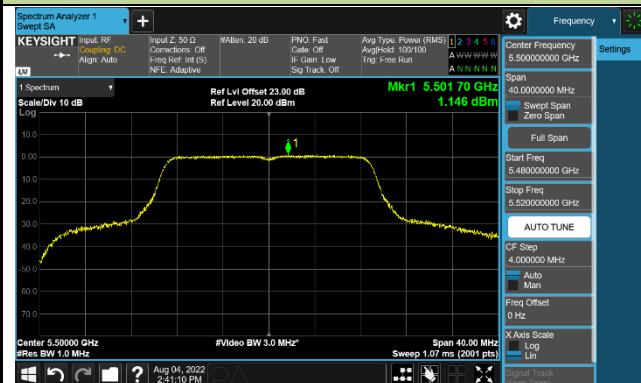
Channel 60 (5300MHz)



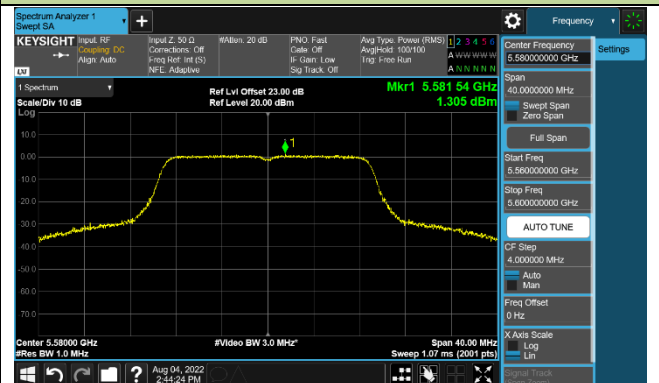
Channel 64 (5320MHz)

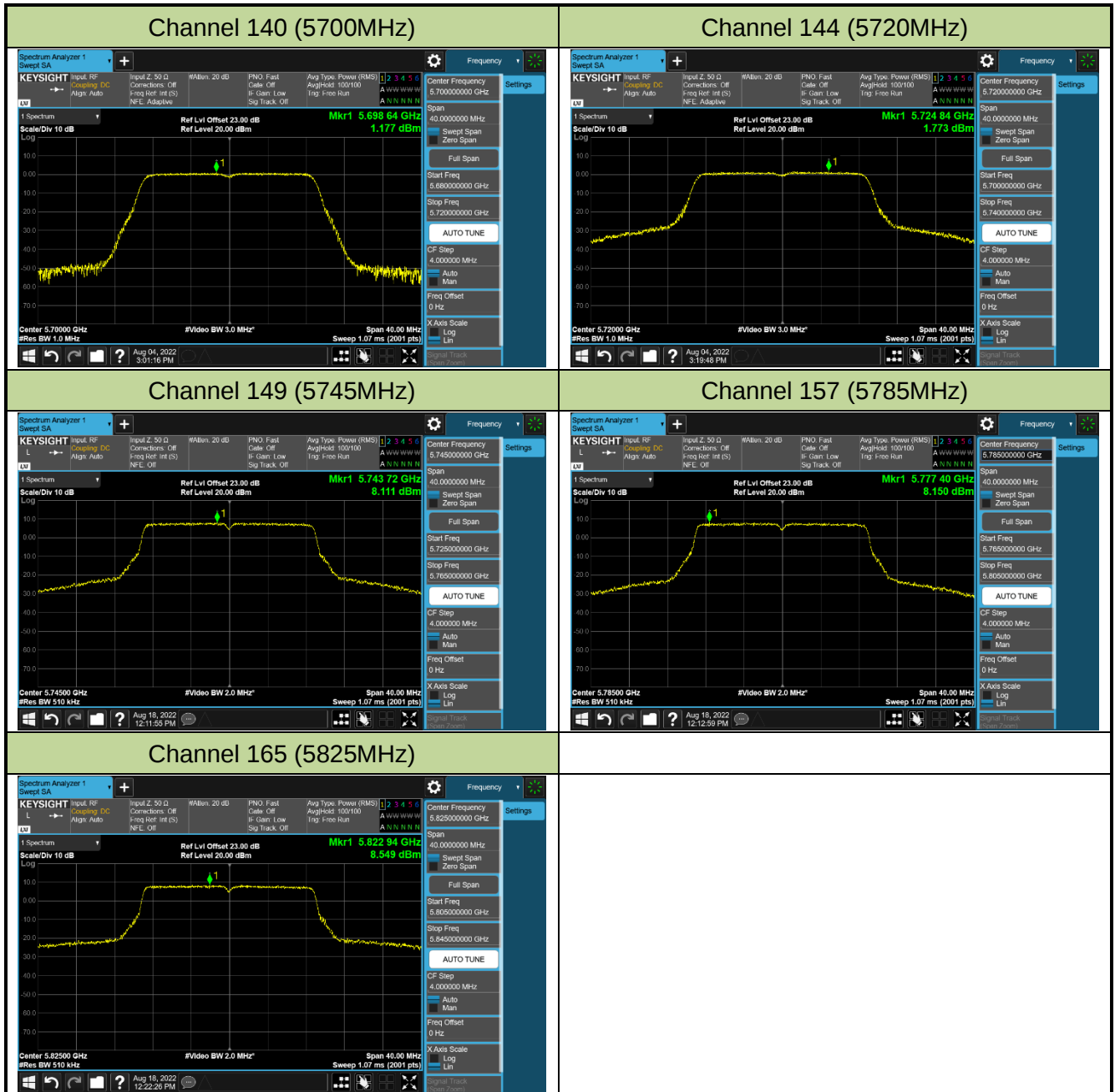


Channel 100 (5500MHz)



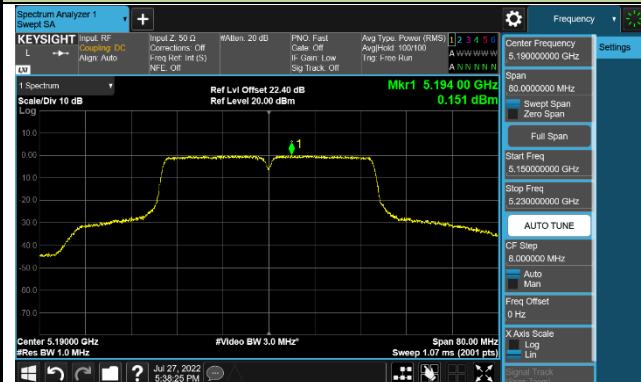
Channel 116 (5580MHz)



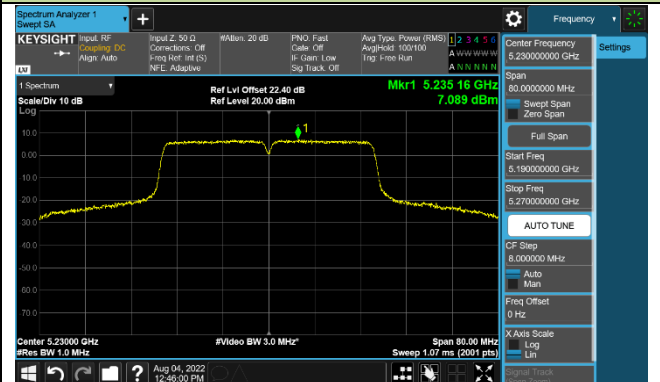


802.11ac-VHT40 Power Spectral Density - Ant 0

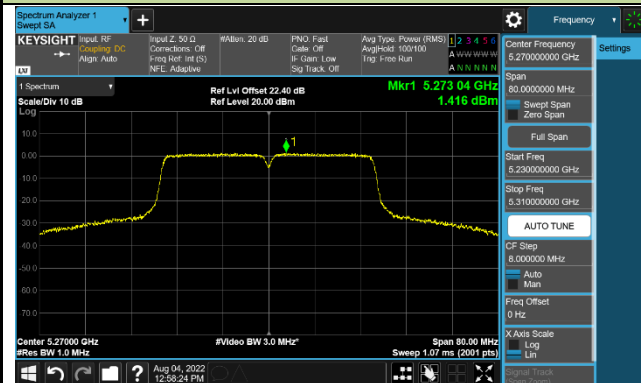
Channel 38 (5190MHz)



Channel 46 (5230MHz)



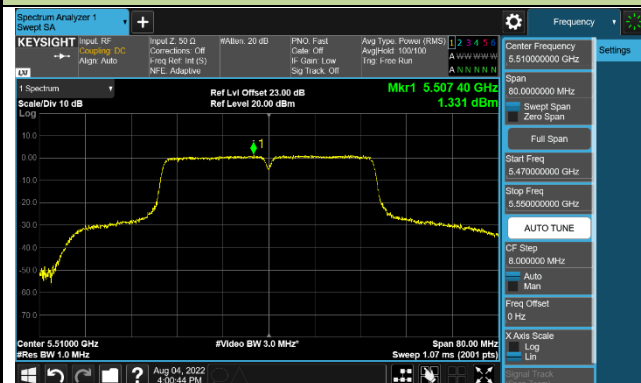
Channel 54 (5270MHz)



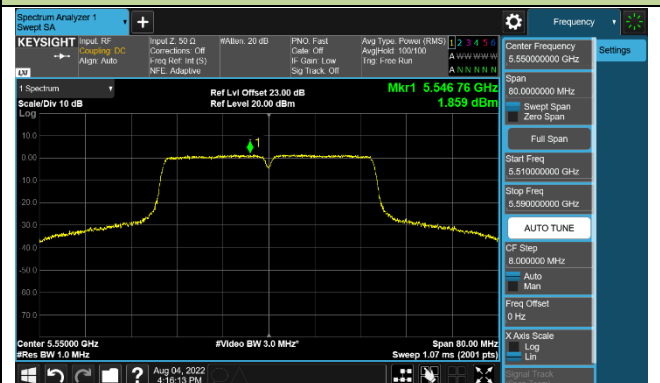
Channel 62 (5310MHz)



Channel 102 (5510MHz)



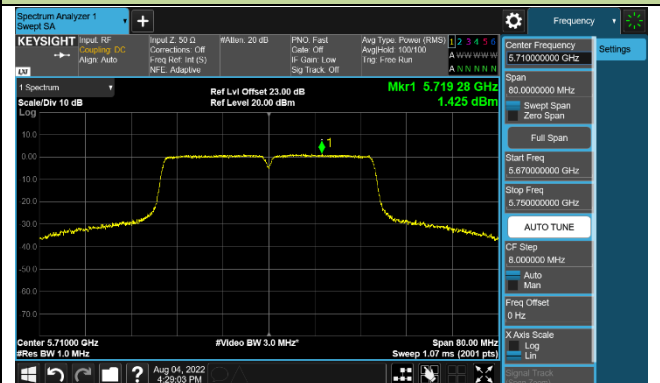
Channel 110 (5550MHz)

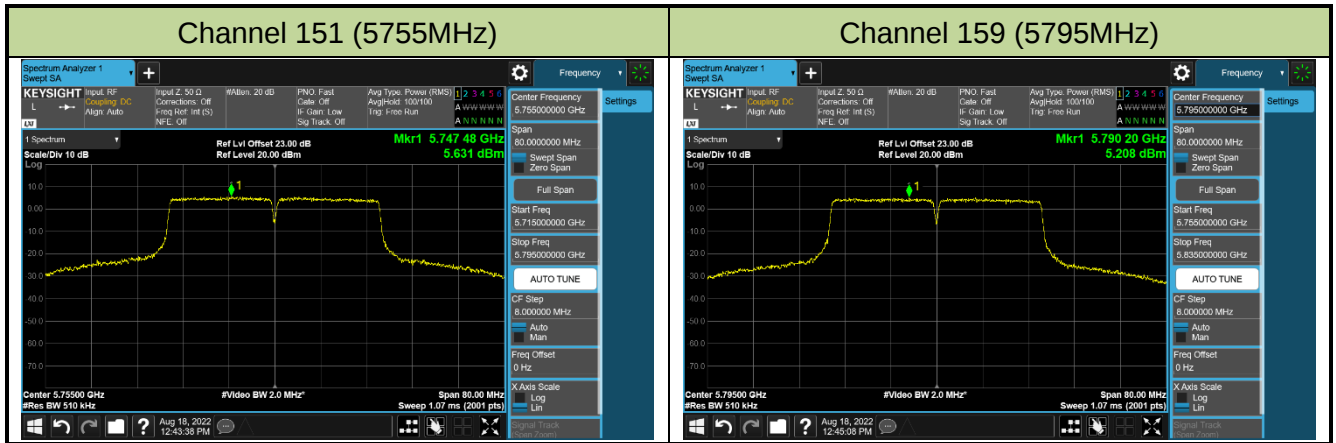


Channel 134 (5670MHz)



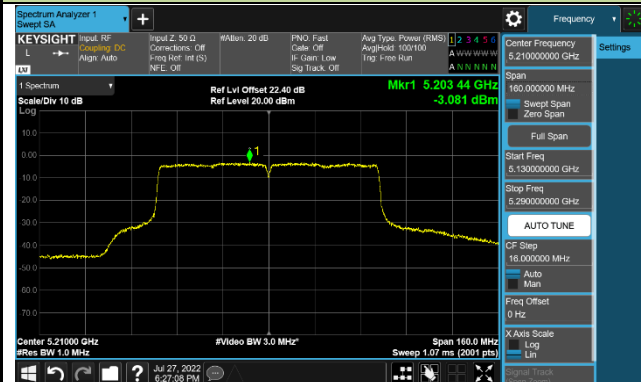
Channel 142 (5710MHz)



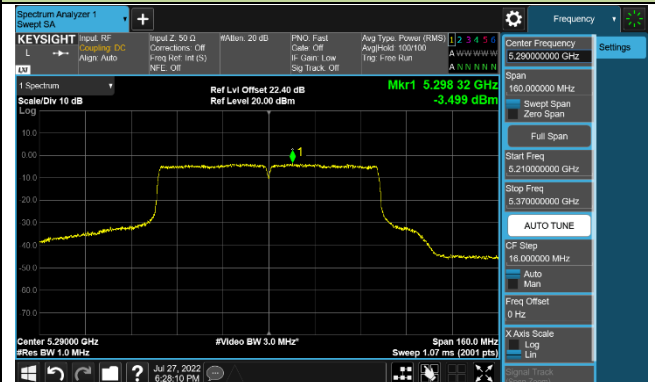


802.11ac-VHT80 Power Spectral Density - Ant 0

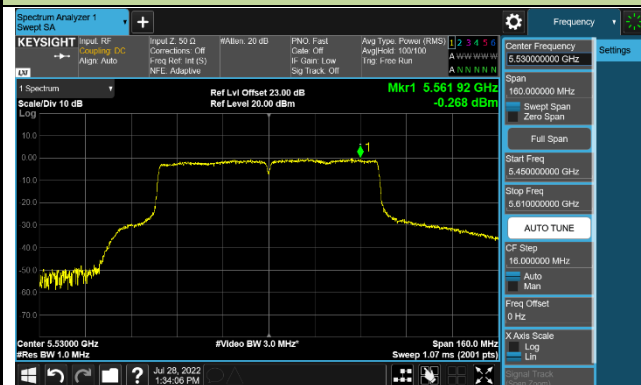
Channel 42 (5210MHz)



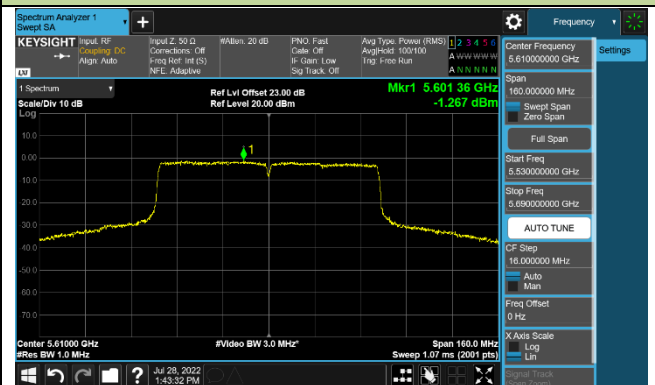
Channel 58 (5290MHz)



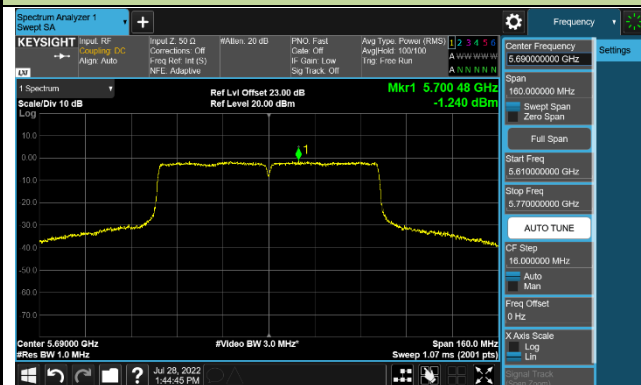
Channel 106 (5530MHz)



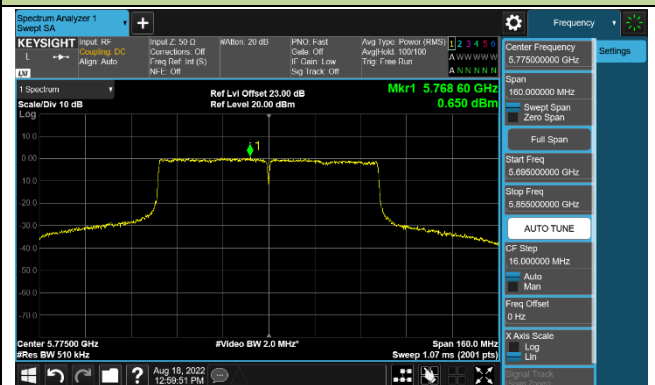
Channel 122 (5610MHz)



Channel 138 (5690MHz)

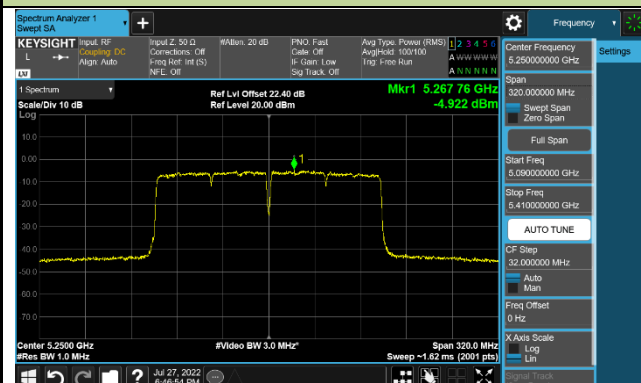


Channel 155 (5775MHz)

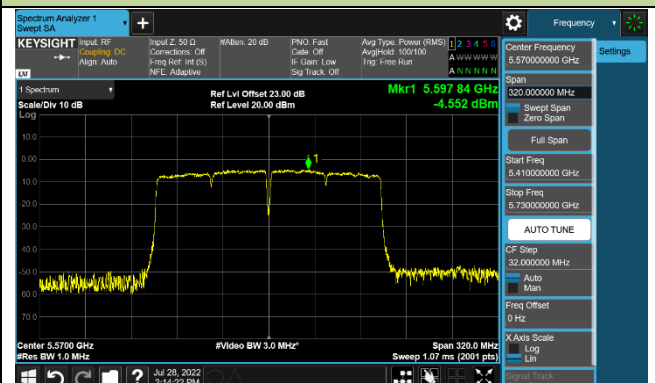


802.11ac-VHT160 Power Spectral Density - Ant 0

Channel 50 (5250MHz)



Channel 114 (5570MHz)

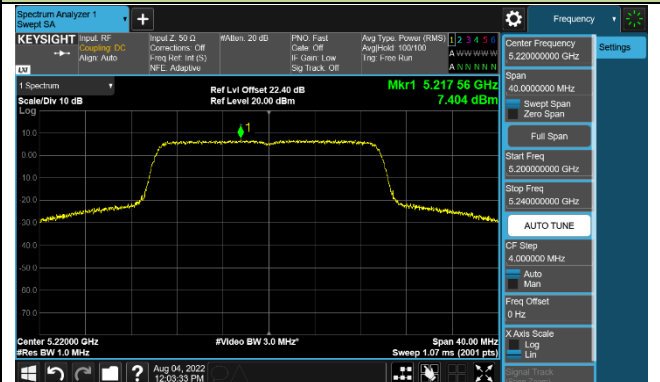


802.11ax-HE20 Power Spectral Density - Ant 0

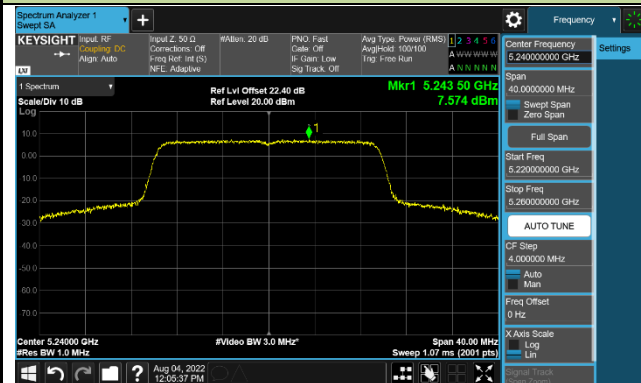
Channel 36 (5180MHz)



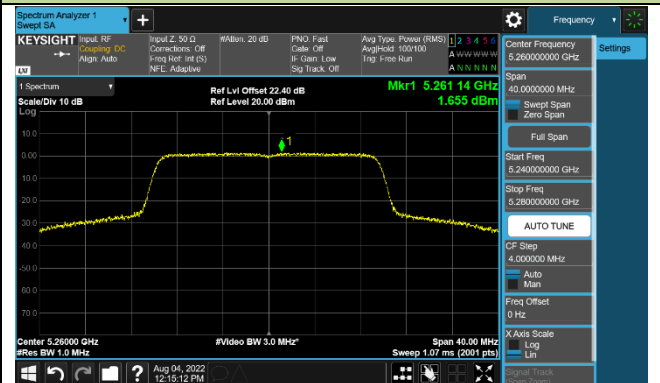
Channel 44 (5220MHz)



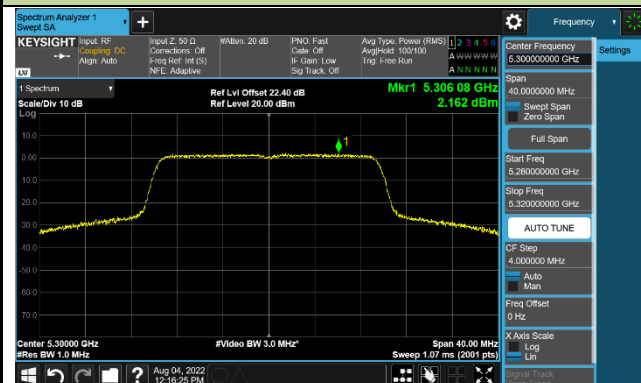
Channel 48 (5240MHz)



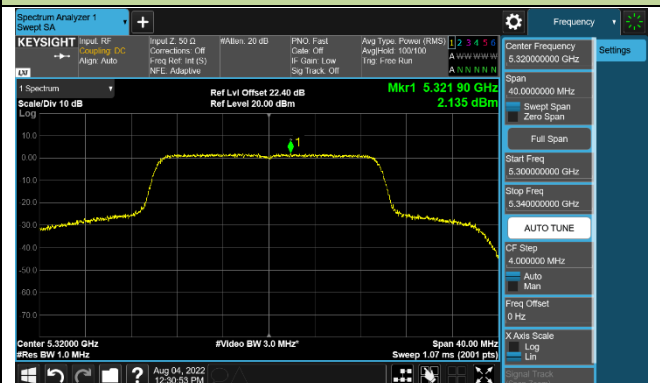
Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)

