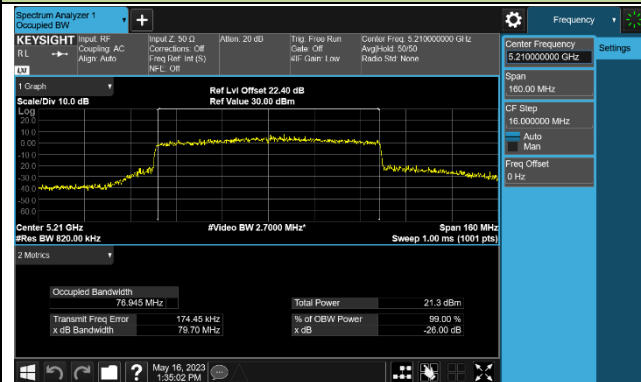
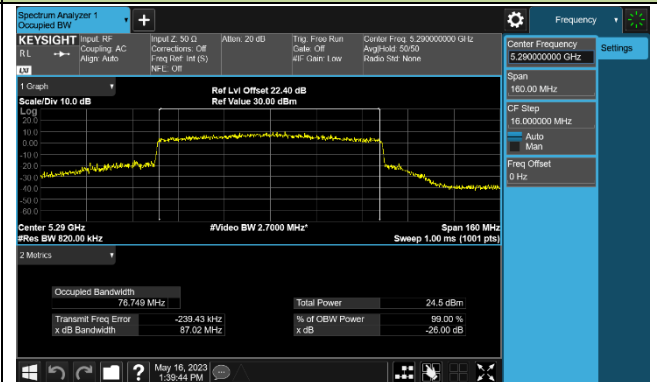


8802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

Channel 42 (5210MHz)



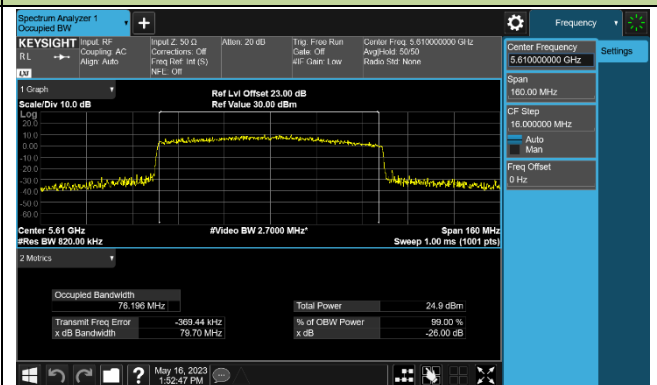
Channel 58 (5290MHz)



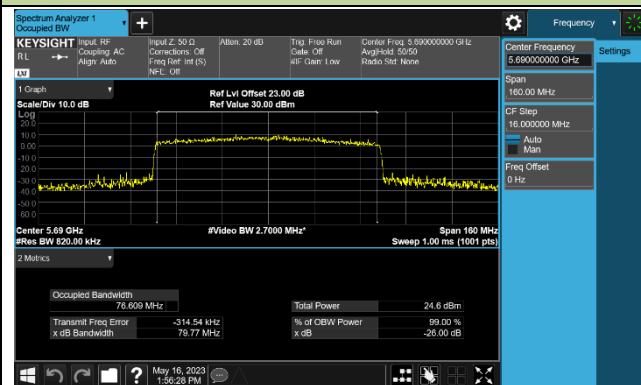
Channel 106 (5530MHz)



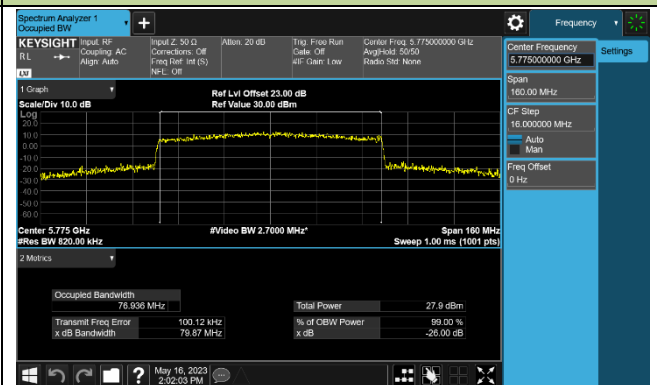
Channel 122 (5610MHz)



Channel 138 (5690MHz)

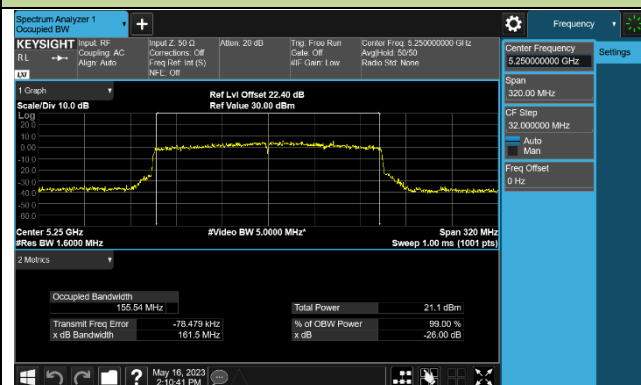


Channel 155 (5775MHz)

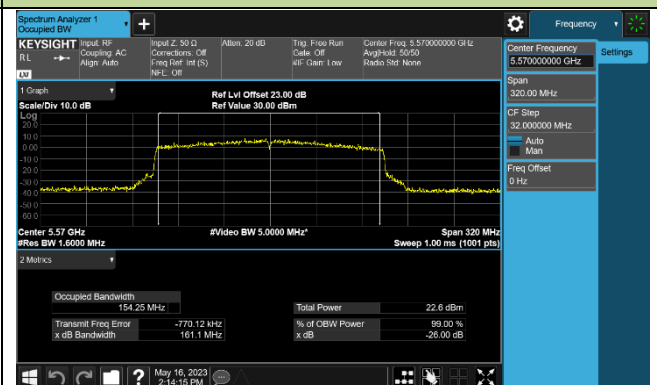


802.11ax-HE160 26dB Bandwidth & 99% Bandwidth

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.

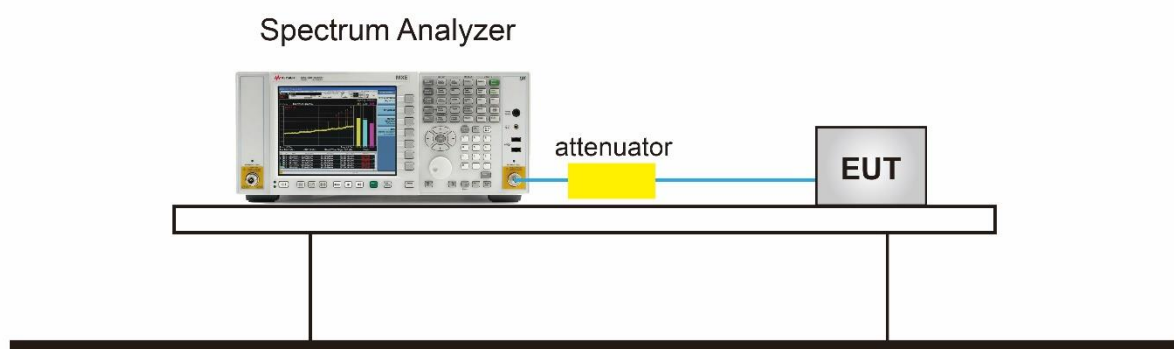
7.3.2. Test Procedure used

KDB 789033 D02v02r01- Section 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	AX3000 Multi-Gigabit Wi-Fi 6 Router	Test Engineer	Xuan
Test Site	SR6	Test Date	2023/5/15~2023/5/16

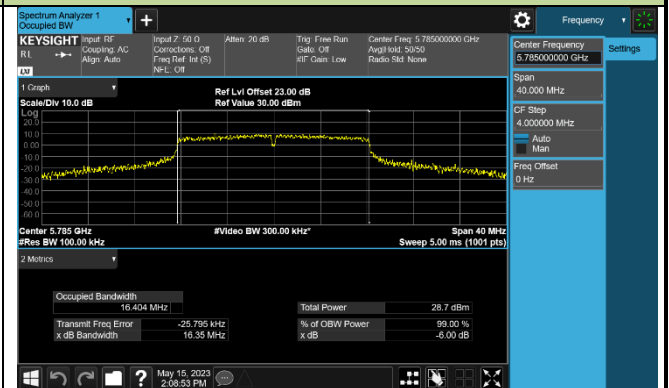
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 1						
802.11a	6Mbps	149	5745	16.280	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.350	≥ 0.5	Pass
802.11a	6Mbps	165	5825	15.640	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	16.910	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	16.360	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.290	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	34.990	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	35.010	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	73.820	≥ 0.5	Pass
802.11ax-HE20	MCS0	149	5745	17.160	≥ 0.5	Pass
802.11ax-HE20	MCS0	157	5785	15.790	≥ 0.5	Pass
802.11ax-HE20	MCS0	165	5825	15.130	≥ 0.5	Pass
802.11ax-HE40	MCS0	151	5755	30.160	≥ 0.5	Pass
802.11ax-HE40	MCS0	159	5795	33.880	≥ 0.5	Pass
802.11ax-HE80	MCS0	155	5775	73.870	≥ 0.5	Pass

802.11a 6dB Bandwidth

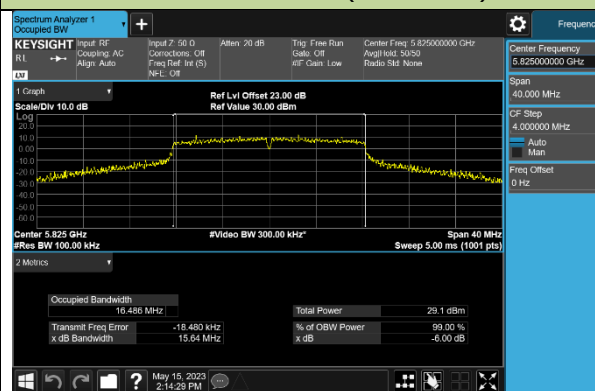
Channel 149 (5745MHz)



Channel 157 (5785MHz)

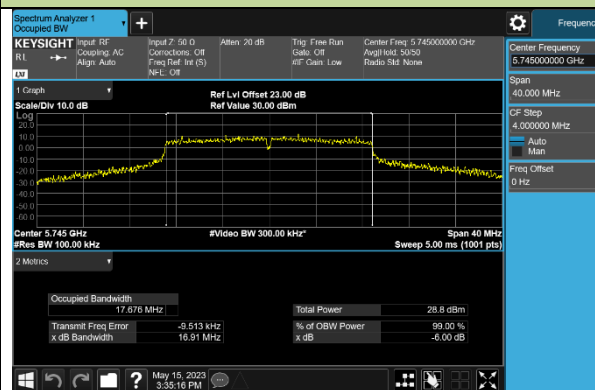


Channel 165 (5825MHz)

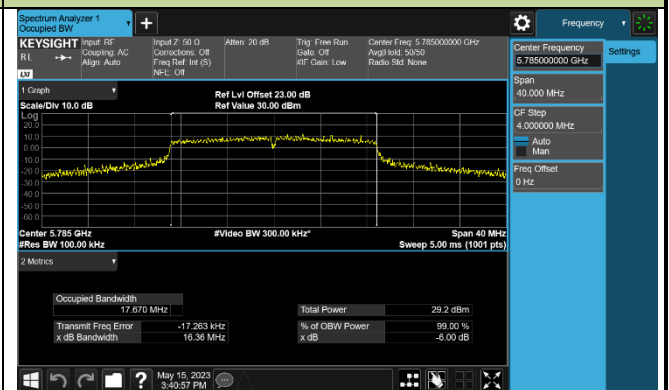


802.11ac-VHT20 6dB Bandwidth

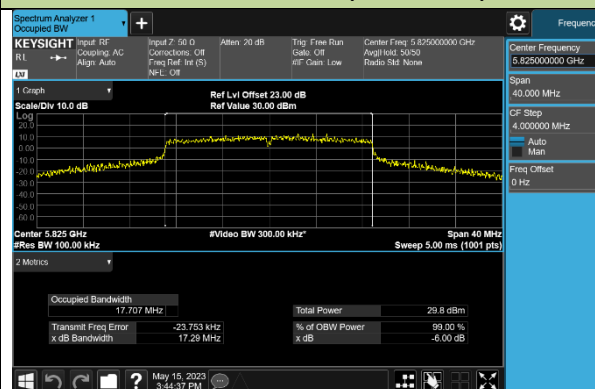
Channel 149 (5745MHz)



Channel 157 (5785MHz)

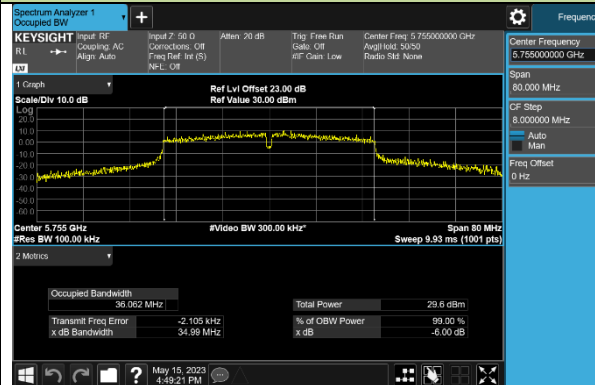


Channel 165 (5825MHz)

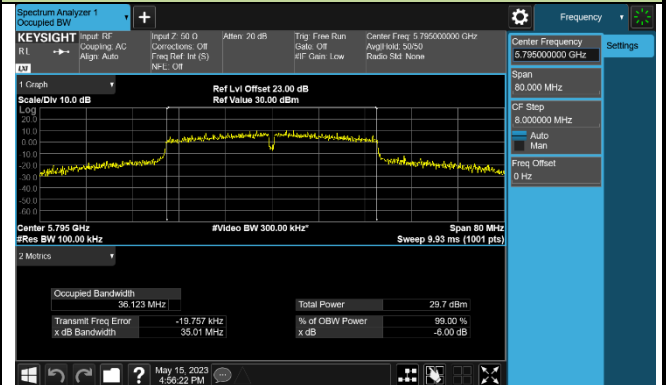


802.11ac-VHT40 6dB Bandwidth

Channel 151 (5755MHz)

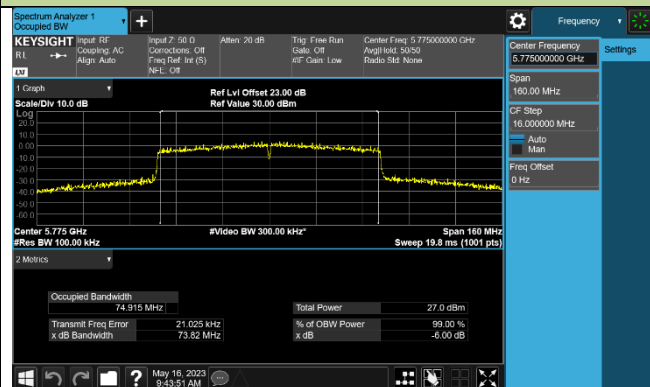


Channel 159 (5795MHz)



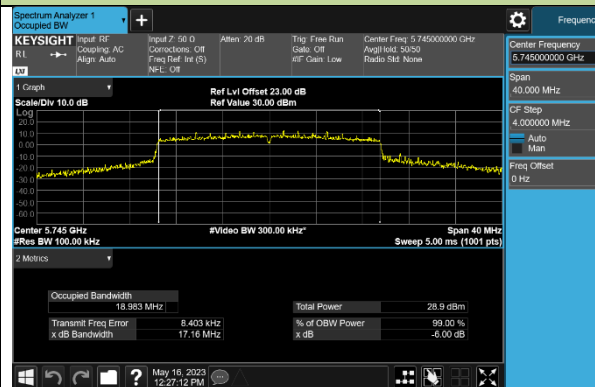
802.11ac-VHT80 6dB Bandwidth

Channel 155 (5775MHz)

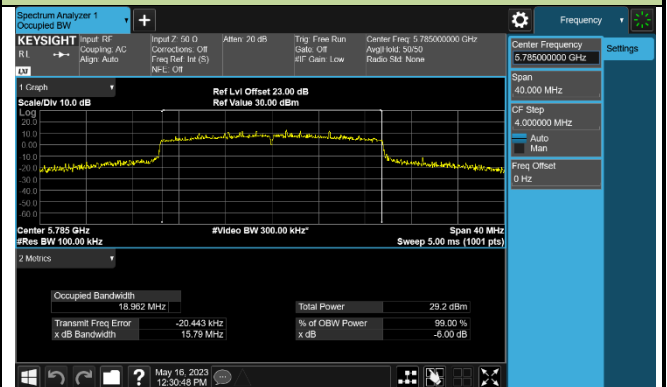


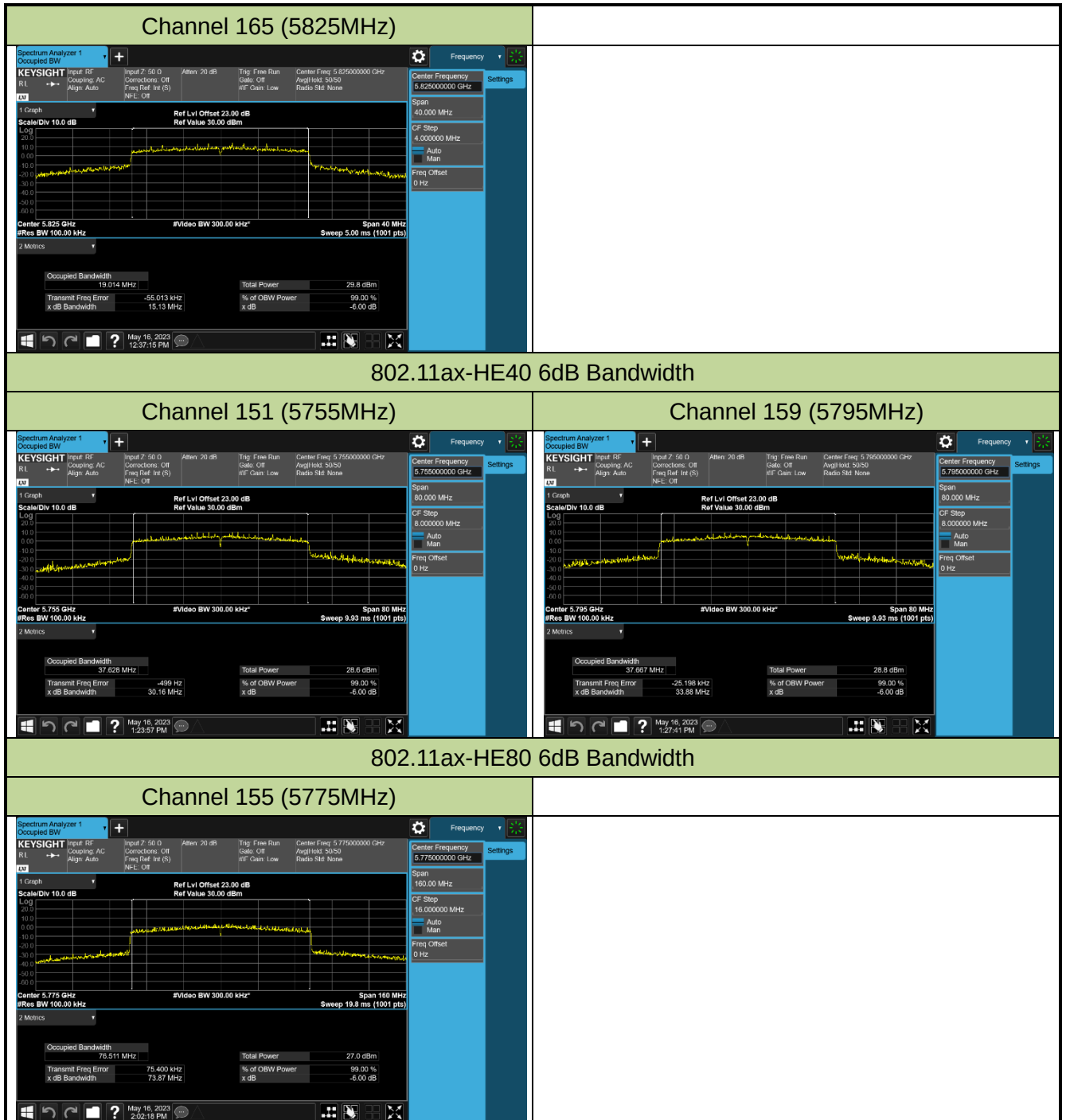
802.11ax-HE20 6dB Bandwidth

Channel 149 (5745MHz)



Channel 157 (5785MHz)





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.

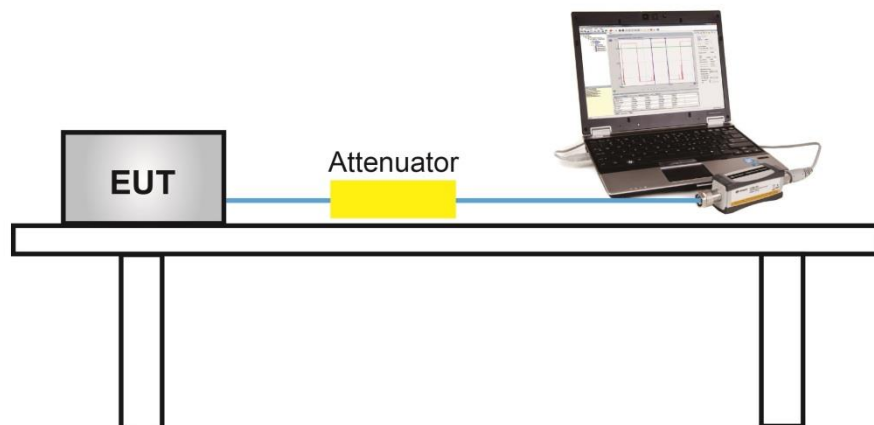
7.4.2. Test Procedure Used

KDB 789033D02v02r01- Section E)3)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	AX3000 Multi-Gigabit Wi-Fi 6 Router	Test Engineer	Xuan
Test Site	SR6	Test Date	2023/5/15~2023/5/17
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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11a	6Mbps	36	5180	20.02	21.21	20.20	25.28	≤ 30.00	Pass
11a	6Mbps	44	5220	20.31	21.65	20.50	25.63	≤ 30.00	Pass
11a	6Mbps	48	5240	20.23	21.61	20.04	25.46	≤ 30.00	Pass
11a	6Mbps	52	5260	14.26	15.10	15.13	19.62	≤ 23.98	Pass
11a	6Mbps	60	5300	13.55	14.57	14.81	19.11	≤ 23.98	Pass
11a	6Mbps	64	5320	13.43	14.48	14.79	19.04	≤ 23.98	Pass
11a	6Mbps	100	5500	14.59	15.40	15.31	19.89	≤ 23.98	Pass
11a	6Mbps	116	5580	15.03	15.25	14.65	19.75	≤ 23.98	Pass
11a	6Mbps	140	5700	14.40	15.81	15.02	19.89	≤ 23.98	Pass
11a	6Mbps	144	5720	14.69	15.81	15.19	20.03	≤ 22.70	Pass
11a	6Mbps	149	5745	24.47	25.17	25.12	29.70	≤ 30.00	Pass
11a	6Mbps	157	5785	24.24	25.02	25.29	29.64	≤ 30.00	Pass
11a	6Mbps	165	5825	24.31	25.16	24.97	29.60	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	20.35	21.72	20.31	25.62	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	20.46	21.80	20.02	25.60	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	20.45	21.52	20.04	25.49	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	14.80	15.59	15.55	20.10	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	14.26	15.18	15.39	19.74	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	14.12	15.54	15.41	19.84	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	14.61	15.44	15.72	20.05	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	15.14	15.28	15.53	20.09	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	14.91	16.12	15.24	20.23	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	15.25	16.26	15.60	20.49	≤ 22.78	Pass
11ac-VHT20	MCS0	149	5745	24.24	24.70	24.85	29.38	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	24.25	24.89	24.87	29.45	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	24.15	25.28	24.89	29.57	≤ 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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT40	MCS0	38	5190	19.39	20.83	19.51	24.73	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	22.55	23.80	22.49	27.76	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	16.80	17.92	17.85	22.32	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	16.17	17.81	17.69	22.06	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	16.63	17.43	17.31	21.91	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	17.01	17.75	17.79	22.30	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	17.70	18.19	17.59	22.61	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	17.49	18.43	17.55	22.62	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	24.27	24.91	25.11	29.55	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	24.22	25.17	25.20	29.66	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	16.29	17.69	16.77	21.73	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	18.03	19.88	18.39	23.61	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	17.71	18.76	18.33	23.06	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	18.21	19.43	18.84	23.63	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	18.29	19.22	19.03	23.64	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	22.50	23.05	23.20	27.70	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	15.83	17.08	16.09	21.14	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	18.11	18.95	20.15	23.92	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	21.21	21.70	21.03	26.09	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	20.96	21.75	20.73	25.94	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	21.00	22.10	20.66	26.07	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	14.11	15.17	15.09	19.59	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	14.53	15.53	15.42	19.95	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	14.24	15.64	15.48	19.93	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	15.24	15.77	16.30	20.56	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	16.31	16.28	16.61	21.17	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	15.43	16.42	15.88	20.70	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	15.63	16.80	16.24	21.02	≤ 22.88	Pass
11ax-HE20	MCS0	149	5745	24.10	24.76	24.80	29.34	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	24.05	24.68	24.89	29.33	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	23.85	25.15	24.70	29.37	≤ 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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	18.29	19.59	18.51	23.61	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	22.05	23.29	21.92	27.24	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	16.29	16.56	17.60	21.63	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	15.81	16.17	16.87	21.08	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	16.99	18.27	18.54	22.76	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	17.60	18.55	18.45	22.99	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	17.89	18.25	18.10	22.85	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	17.61	18.76	18.59	23.12	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	24.44	24.78	25.16	29.57	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	24.45	24.97	25.18	29.65	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	16.25	17.17	16.48	21.42	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	18.01	19.10	18.51	23.33	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	17.59	18.61	18.69	23.10	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	18.05	19.43	18.93	23.61	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	18.10	19.18	18.40	23.36	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	23.61	23.77	23.64	28.45	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	15.93	16.28	16.26	20.93	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	18.11	19.01	19.73	23.77	≤ 23.98	Pass

Note 1:

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

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 802.11a Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.70$ dBm.

For 802.11n Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.78$ dBm.

For 802.11ac Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.88$ dBm.

Product	AX3000 Multi-Gigabit Wi-Fi 6 Router	Test Engineer	Xuan
Test Site	SR6	Test Date	2023/5/15~2023/5/17
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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT20	MCS0	36	5180	20.35	21.72	20.31	25.62	≤ 28.23	Pass
11ac-VHT20	MCS0	40	5220	20.46	21.80	20.02	25.60	≤ 28.23	Pass
11ac-VHT20	MCS0	48	5240	20.45	21.52	20.04	25.49	≤ 28.23	Pass
11ac-VHT20	MCS0	52	5260	14.80	15.59	15.55	20.10	≤ 22.21	Pass
11ac-VHT20	MCS0	60	5300	14.26	15.18	15.39	19.74	≤ 22.21	Pass
11ac-VHT20	MCS0	64	5320	14.12	15.54	15.41	19.84	≤ 22.21	Pass
11ac-VHT20	MCS0	100	5500	14.61	15.44	15.72	20.05	≤ 22.21	Pass
11ac-VHT20	MCS0	116	5580	15.14	15.28	15.53	20.09	≤ 22.21	Pass
11ac-VHT20	MCS0	140	5700	14.91	16.12	15.24	20.23	≤ 22.21	Pass
11ac-VHT20	MCS0	144	5720	15.25	16.26	15.60	20.49	≤ 21.01	Pass
11ac-VHT20	MCS0	149	5745	22.90	23.85	23.35	28.16	≤ 28.23	Pass
11ac-VHT20	MCS0	157	5785	22.77	23.99	23.22	28.13	≤ 28.23	Pass
11ac-VHT20	MCS0	165	5825	22.73	24.40	22.80	28.15	≤ 28.23	Pass
11ac-VHT40	MCS0	38	5190	19.39	20.83	19.51	24.73	≤ 28.23	Pass
11ac-VHT40	MCS0	46	5230	22.55	23.80	22.49	27.76	≤ 28.23	Pass
11ac-VHT40	MCS0	54	5270	15.64	17.65	17.53	21.80	≤ 22.21	Pass
11ac-VHT40	MCS0	62	5310	16.17	17.81	17.69	22.06	≤ 22.21	Pass
11ac-VHT40	MCS0	102	5510	16.63	17.43	17.31	21.91	≤ 22.21	Pass
11ac-VHT40	MCS0	110	5550	16.50	16.99	17.32	21.72	≤ 22.21	Pass
11ac-VHT40	MCS0	134	5670	16.97	17.72	17.29	22.11	≤ 22.21	Pass
11ac-VHT40	MCS0	142	5710	16.43	17.42	16.94	21.72	≤ 22.21	Pass
11ac-VHT40	MCS0	151	5755	22.85	22.98	23.32	27.83	≤ 28.23	Pass
11ac-VHT40	MCS0	159	5795	22.81	23.31	23.49	27.98	≤ 28.23	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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT80	MCS0	42	5210	15.24	16.20	15.46	20.42	≤ 28.23	Pass
11ac-VHT80	MCS0	58	5290	15.30	18.60	17.70	22.18	≤ 22.21	Pass
11ac-VHT80	MCS0	106	5530	16.55	17.80	17.15	21.97	≤ 22.21	Pass
11ac-VHT80	MCS0	122	5610	16.19	17.82	17.60	22.03	≤ 22.21	Pass
11ac-VHT80	MCS0	138	5690	16.59	17.55	17.69	22.07	≤ 22.21	Pass
11ac-VHT80	MCS0	155	5775	22.50	23.05	23.20	27.70	≤ 28.23	Pass
11ac-VHT160	MCS0	50	5250	14.37	15.54	14.67	19.66	≤ 22.21	Pass
11ac-VHT160	MCS0	114	5570	16.55	17.29	17.10	21.76	≤ 22.21	Pass
11ax-HE20	MCS0	36	5180	21.21	21.70	21.03	26.09	≤ 28.23	Pass
11ax-HE20	MCS0	40	5220	20.96	21.75	20.73	25.94	≤ 28.23	Pass
11ax-HE20	MCS0	48	5240	21.00	22.10	20.66	26.07	≤ 28.23	Pass
11ax-HE20	MCS0	52	5260	14.11	15.17	15.09	19.59	≤ 22.21	Pass
11ax-HE20	MCS0	60	5300	14.53	15.53	15.42	19.95	≤ 22.21	Pass
11ax-HE20	MCS0	64	5320	14.24	15.64	15.48	19.93	≤ 22.21	Pass
11ax-HE20	MCS0	100	5500	15.24	15.77	16.30	20.56	≤ 22.21	Pass
11ax-HE20	MCS0	116	5580	16.31	16.28	16.61	21.17	≤ 22.21	Pass
11ax-HE20	MCS0	140	5700	15.43	16.42	15.88	20.70	≤ 22.21	Pass
11ax-HE20	MCS0	144	5720	15.63	16.80	16.24	21.02	≤ 21.10	Pass
11ax-HE20	MCS0	149	5745	22.85	23.65	23.30	28.05	≤ 28.23	Pass
11ax-HE20	MCS0	157	5785	22.58	23.88	23.44	28.10	≤ 28.23	Pass
11ax-HE20	MCS0	165	5825	22.62	23.35	23.81	28.06	≤ 28.23	Pass
11ax-HE40	MCS0	38	5190	18.29	19.59	18.51	23.61	≤ 28.23	Pass
11ax-HE40	MCS0	46	5230	22.05	23.29	21.92	27.24	≤ 28.23	Pass
11ax-HE40	MCS0	54	5270	16.29	16.56	17.60	21.63	≤ 22.21	Pass
11ax-HE40	MCS0	62	5310	15.81	16.17	16.87	21.08	≤ 22.21	Pass
11ax-HE40	MCS0	102	5510	16.40	17.55	17.45	21.93	≤ 22.21	Pass
11ax-HE40	MCS0	110	5550	17.10	17.60	17.38	22.14	≤ 22.21	Pass
11ax-HE40	MCS0	134	5670	16.98	17.81	17.11	22.09	≤ 22.21	Pass
11ax-HE40	MCS0	142	5710	16.92	17.97	17.29	22.19	≤ 22.21	Pass
11ax-HE40	MCS0	151	5755	22.91	23.83	23.53	28.21	≤ 28.23	Pass
11ax-HE40	MCS0	159	5795	22.33	23.62	23.31	27.89	≤ 28.23	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)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE80	MCS0	42	5210	16.25	17.17	16.48	21.42	≤ 28.23	Pass
11ax-HE80	MCS0	58	5290	15.75	18.32	17.40	22.05	≤ 22.21	Pass
11ax-HE80	MCS0	106	5530	16.85	17.96	17.16	22.12	≤ 22.21	Pass
11ax-HE80	MCS0	122	5610	16.69	17.89	17.07	22.02	≤ 22.21	Pass
11ax-HE80	MCS0	138	5690	16.43	17.86	17.30	22.01	≤ 22.21	Pass
11ax-HE80	MCS0	155	5775	21.92	23.05	22.58	27.31	≤ 28.23	Pass
11ax-HE160	MCS0	50	5250	15.93	16.28	16.26	20.93	≤ 22.21	Pass
11ax-HE160	MCS0	114	5570	16.95	17.67	17.59	22.19	≤ 22.21	Pass

Note 1:

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

Note 2:

For 5125 - 5250MHz Band: Average Power Limit (dBm) = 30 - (7.77- 6) = 28.23dBm

For 5250 - 5350MHz and 5470 - 5725MHz Band: Average Power Limit (dBm) = 23.98 - (7.77- 6) = 22.21dBm.

For 5725 - 5850MHz Band: Average Power Limit (dBm) = 30- (7.77- 6) = 28.23dBm.

For 802.11ac_ch144, Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) - (7.77- 6) = 21.01\text{dBm}$.

For 802.11ax_ch144, Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) - (7.77- 6) = 21.10\text{dBm}$.

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.

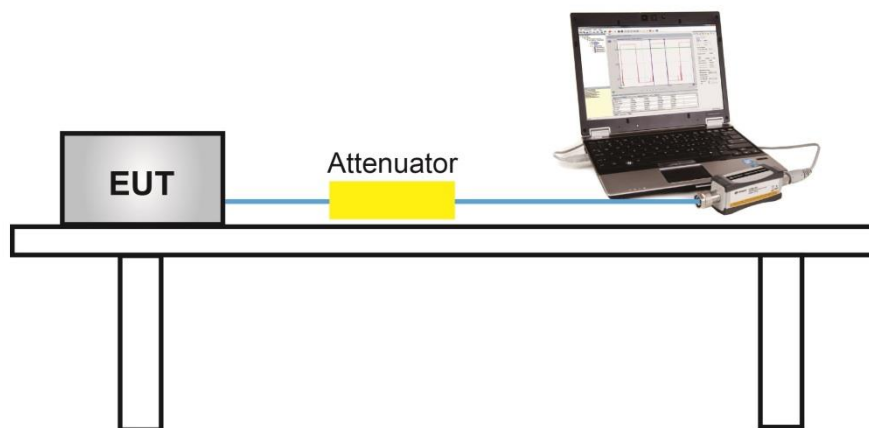
7.5.2. Test Procedure Used

KDB 789033 D02v02r01- Section 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.

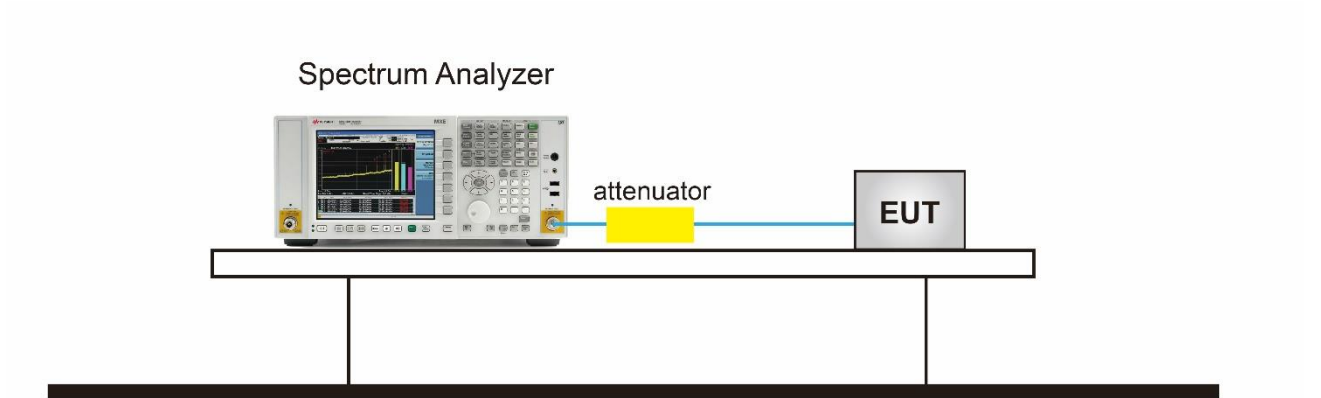
7.6.2. Test Procedure Used

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	AX3000 Multi-Gigabit Wi-Fi 6 Router	Test Engineer	Xuan
Test Site	SR6	Test Date	2023/5/15/~2023/5/26
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)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11a	6Mbps	36	5180	9.245	10.322	9.877	95.73	14.798	≤15.23	Pass
11a	6Mbps	44	5220	9.458	10.875	10.240	95.73	15.190	≤15.23	Pass
11a	6Mbps	48	5240	9.263	10.678	10.091	95.73	15.010	≤15.23	Pass
11a	6Mbps	52	5260	3.588	4.151	4.837	95.73	9.183	≤9.23	Pass
11a	6Mbps	60	5300	3.511	4.267	4.886	95.73	9.218	≤9.23	Pass
11a	6Mbps	64	5320	3.556	4.247	4.830	95.73	9.203	≤9.23	Pass
11a	6Mbps	100	5500	3.360	4.374	4.856	95.73	9.201	≤9.23	Pass
11a	6Mbps	116	5580	3.922	4.232	4.535	95.73	9.198	≤9.23	Pass
11a	6Mbps	140	5700	3.274	4.792	4.410	95.73	9.166	≤9.23	Pass
11a	6Mbps	144	5720	3.315	4.597	4.179	95.73	9.023	≤9.23	Pass
11ac-VHT20	MCS0	36	5180	8.967	10.025	9.832	95.63	14.597	≤15.23	Pass
11ac-VHT20	MCS0	40	5220	8.937	9.974	9.522	95.63	14.464	≤15.23	Pass
11ac-VHT20	MCS0	48	5240	8.878	9.745	9.317	95.63	14.293	≤15.23	Pass
11ac-VHT20	MCS0	52	5260	3.549	4.286	4.707	95.63	9.172	≤9.23	Pass
11ac-VHT20	MCS0	60	5300	3.401	4.060	4.936	95.63	9.143	≤9.23	Pass
11ac-VHT20	MCS0	64	5320	3.194	4.299	4.781	95.63	9.106	≤9.23	Pass
11ac-VHT20	MCS0	100	5500	3.396	4.298	4.205	95.63	8.950	≤9.23	Pass
11ac-VHT20	MCS0	116	5580	3.345	3.713	4.382	95.63	8.800	≤9.23	Pass
11ac-VHT20	MCS0	140	5700	3.265	4.636	3.790	95.63	8.899	≤9.23	Pass
11ac-VHT20	MCS0	144	5720	3.797	4.911	3.886	95.63	9.193	≤9.23	Pass
11ac-VHT40	MCS0	38	5190	5.496	7.320	6.657	91.04	11.734	≤15.23	Pass
11ac-VHT40	MCS0	46	5230	9.287	10.371	9.487	91.04	14.920	≤15.23	Pass
11ac-VHT40	MCS0	54	5270	3.170	4.041	4.687	91.04	9.189	≤9.23	Pass
11ac-VHT40	MCS0	62	5310	3.205	4.022	4.695	91.04	9.195	≤9.23	Pass
11ac-VHT40	MCS0	102	5510	2.588	3.775	3.919	91.04	8.646	≤9.23	Pass
11ac-VHT40	MCS0	110	5550	3.169	3.863	3.453	91.04	8.683	≤9.23	Pass
11ac-VHT40	MCS0	134	5670	3.826	4.224	3.833	91.04	9.144	≤9.23	Pass
11ac-VHT40	MCS0	142	5710	3.232	4.174	4.554	91.04	9.200	≤9.23	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)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11ac-VHT80	MCS0	42	5210	-0.510	0.309	0.363	85.03	5.547	≤15.23	Pass
11ac-VHT80	MCS0	58	5290	0.975	2.794	2.984	85.03	7.816	≤9.23	Pass
11ac-VHT80	MCS0	106	5530	-0.469	1.832	1.767	85.03	6.642	≤9.23	Pass
11ac-VHT80	MCS0	122	5610	1.652	2.214	2.276	85.03	7.532	≤9.23	Pass
11ac-VHT80	MCS0	138	5690	1.213	1.748	1.633	85.03	7.013	≤9.23	Pass
11ac-VHT160	MCS0	50	5250	-3.659	-2.951	-3.564	76.32	2.565	≤9.23	Pass
11ac-VHT160	MCS0	114	5570	-2.305	-1.931	-1.431	76.32	4.071	≤9.23	Pass
11ax-HE20	MCS0	36	5180	9.470	9.937	9.784	94.46	14.753	≤15.23	Pass
11ax-HE20	MCS0	44	5220	9.583	10.494	10.415	94.46	15.202	≤15.23	Pass
11ax-HE20	MCS0	48	5240	9.560	10.267	10.249	94.46	15.056	≤15.23	Pass
11ax-HE20	MCS0	52	5260	3.313	3.877	4.276	94.46	8.859	≤9.23	Pass
11ax-HE20	MCS0	60	5300	2.657	3.250	4.294	94.46	8.473	≤9.23	Pass
11ax-HE20	MCS0	64	5320	2.358	3.047	4.017	94.46	8.213	≤9.23	Pass
11ax-HE20	MCS0	100	5500	3.200	3.789	3.696	94.46	8.588	≤9.23	Pass
11ax-HE20	MCS0	116	5580	3.679	4.380	4.364	94.46	9.172	≤9.23	Pass
11ax-HE20	MCS0	140	5700	3.141	4.142	3.941	94.46	8.781	≤9.23	Pass
11ax-HE20	MCS0	144	5720	3.477	4.551	4.330	94.46	9.162	≤9.23	Pass
11ax-HE40	MCS0	38	5190	4.783	6.791	4.981	90.59	10.817	≤15.23	Pass
11ax-HE40	MCS0	46	5230	8.514	10.045	8.947	90.59	14.418	≤15.23	Pass
11ax-HE40	MCS0	54	5270	3.124	4.550	4.277	90.59	9.227	≤9.23	Pass
11ax-HE40	MCS0	62	5310	3.321	4.380	4.289	90.59	9.223	≤9.23	Pass
11ax-HE40	MCS0	102	5510	3.056	4.466	3.785	90.59	9.007	≤9.23	Pass
11ax-HE40	MCS0	110	5550	3.082	4.724	3.926	90.59	9.163	≤9.23	Pass
11ax-HE40	MCS0	134	5670	3.224	4.551	4.032	90.59	9.170	≤9.23	Pass
11ax-HE40	MCS0	142	5710	3.225	4.335	4.074	90.59	9.104	≤9.23	Pass
11ax-HE80	MCS0	42	5210	-1.541	-0.091	-2.744	83.93	4.209	≤15.23	Pass
11ax-HE80	MCS0	58	5290	1.121	3.458	1.567	83.93	7.704	≤9.23	Pass
11ax-HE80	MCS0	106	5530	0.348	2.184	1.106	83.93	6.811	≤9.23	Pass
11ax-HE80	MCS0	122	5610	1.117	1.884	2.224	83.93	7.298	≤9.23	Pass
11ax-HE80	MCS0	122	5690	1.204	1.226	1.484	83.93	6.839	≤9.23	Pass
11ax-HE160	MCS0	50	5250	-3.572	-3.258	-3.214	76.26	2.603	≤9.23	Pass
11ax-HE160	MCS0	114	5570	-2.832	-0.338	-0.992	76.26	4.683	≤9.23	Pass

Note 1: When EUT duty cycle < 98%,

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

Note 2:

For 5150 - 5250 MHz Band: PSD Limit (dBm/MHz) = 17 - (7.77 - 6) = 15.23 dBm/MHz.

For 5250 - 5350 MHz and 5470 - 5725 MHz Band: PSD Limit (dBm/MHz) = 11 - (7.77 - 6) = 9.23 dBm/MHz.

Product	AX3000 Multi-Gigabit Wi-Fi 6 Router	Test Engineer	Xuan
Test Site	SR6	Test Date	2023/5/15/~2023/5/26
Test Item	Power Spectral Density (U-NII-3) CDD Mode		

Test Mode	Data Rate/ MCS	Ch. No.	Freq. (MHz)	Ant 0 PSD (dBm/510 KHz)	Ant 1 PSD (dBm/510 KHz)	Ant 2 PSD (dBm/510 KHz)	Duty Cycle (%)	Total PSD (dBm/ 510kHz)	Limit (dBm/ 500kHz)	Result
11a	6Mbps	149	5745	10.375	10.852	11.027	95.73	15.721	≤ 28.23	Pass
11a	6Mbps	157	5785	10.446	10.913	11.278	95.73	15.853	≤ 28.23	Pass
11a	6Mbps	165	5825	10.390	11.123	11.425	95.73	15.961	≤ 28.23	Pass
11ac-VHT20	MCS0	149	5745	10.255	10.708	10.950	95.63	15.612	≤ 28.23	Pass
11ac-VHT20	MCS0	157	5785	10.160	10.833	11.011	95.63	15.648	≤ 28.23	Pass
11ac-VHT20	MCS0	165	5825	10.154	11.709	11.206	95.63	16.036	≤ 28.23	Pass
11ac-VHT40	MCS0	151	5755	8.201	8.532	9.027	91.04	13.779	≤ 28.23	Pass
11ac-VHT40	MCS0	159	5795	8.293	9.368	9.486	91.04	14.260	≤ 28.23	Pass
11ac-VHT80	MCS0	155	5775	2.747	3.365	3.925	85.03	8.848	≤ 28.23	Pass
11ax-HE20	MCS0	149	5745	10.191	10.508	10.591	94.46	15.452	≤ 28.23	Pass
11ax-HE20	MCS0	157	5785	10.507	11.117	10.579	94.46	15.762	≤ 28.23	Pass
11ax-HE20	MCS0	165	5825	9.922	11.512	10.467	94.46	15.703	≤ 28.23	Pass
11ax-HE40	MCS0	151	5755	7.885	8.553	8.664	90.59	13.581	≤ 28.23	Pass
11ax-HE40	MCS0	159	5795	8.144	8.523	8.093	90.59	13.458	≤ 28.23	Pass
11ax-HE80	MCS0	155	5775	3.698	4.078	3.957	83.93	9.446	≤ 28.23	Pass

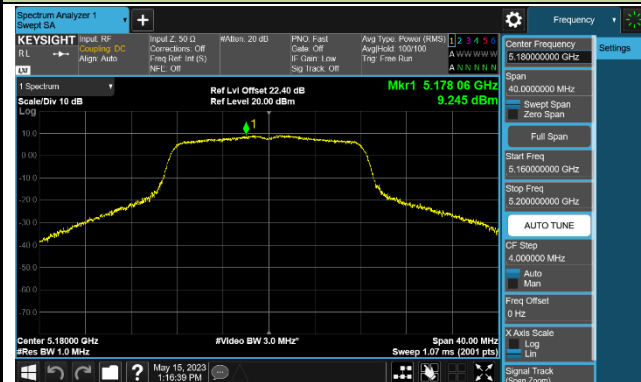
Note 1: When EUT duty cycle < 98%,

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

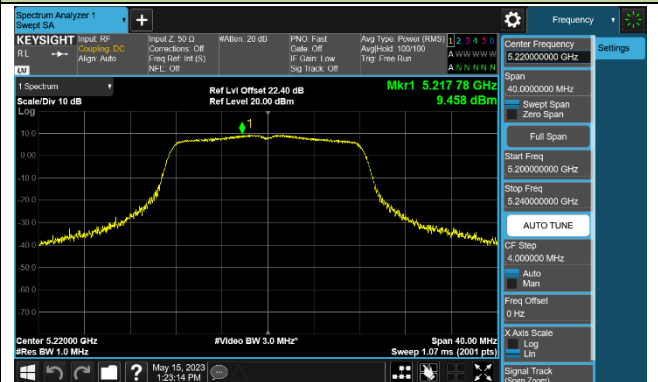
Note 2: PSD Limit (dBm/500kHz) = 30 - (7.77 - 6) = 28.23dBm/500kHz.

802.11a Power Spectral Density - Ant 0

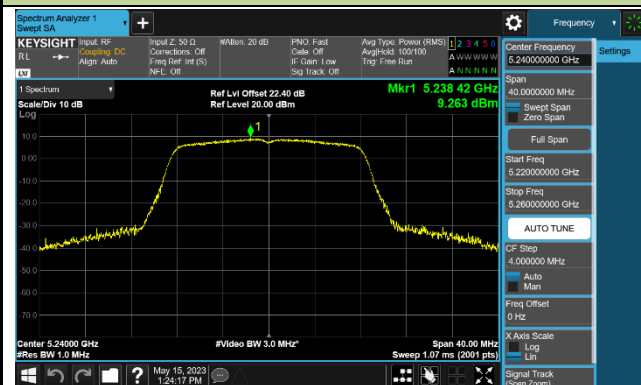
Channel 36 (5180MHz)



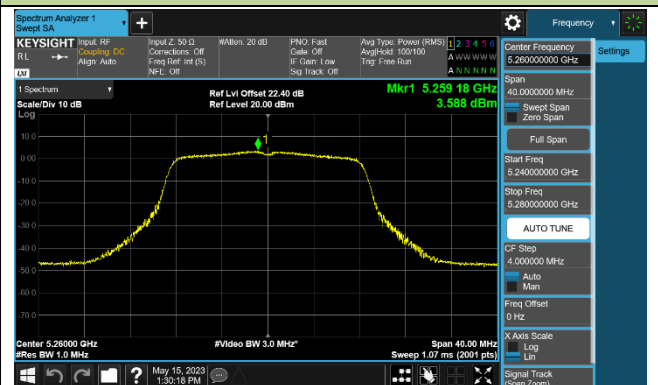
Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)



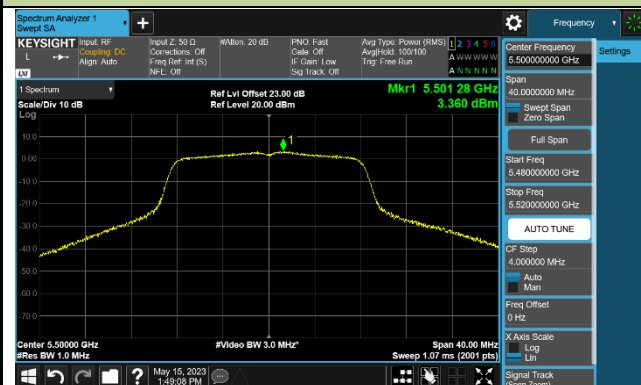
Channel 60 (5300MHz)



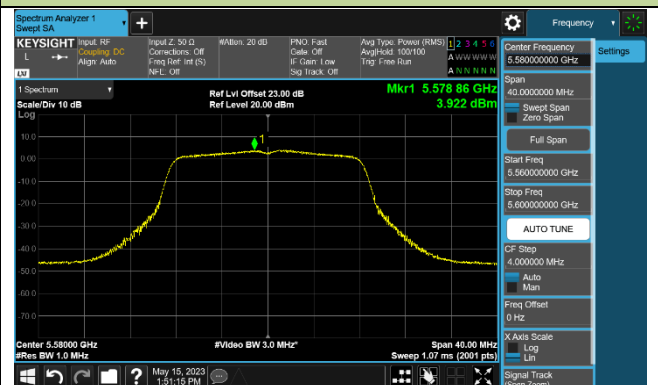
Channel 64 (5320MHz)

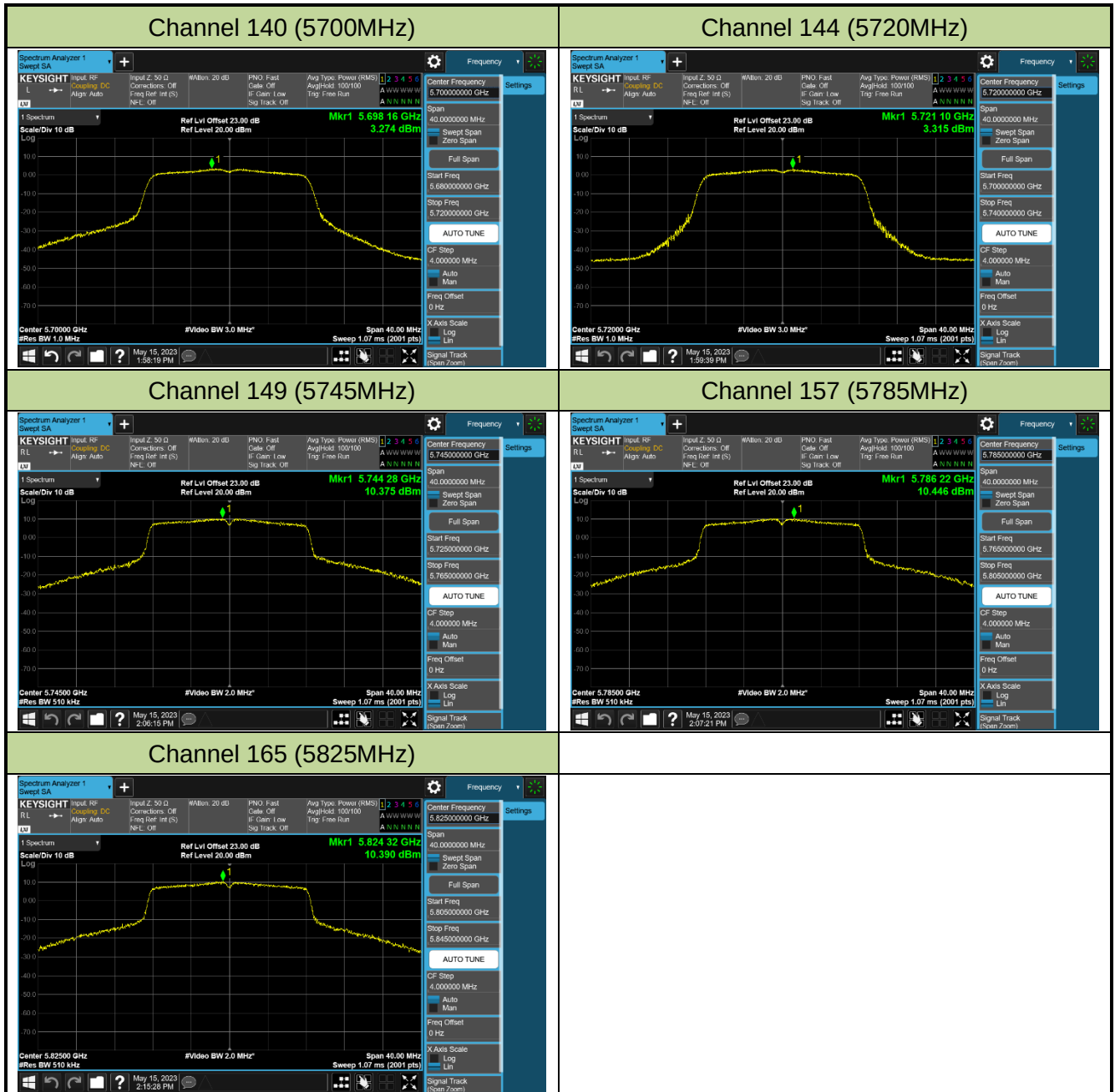


Channel 100 (5500MHz)



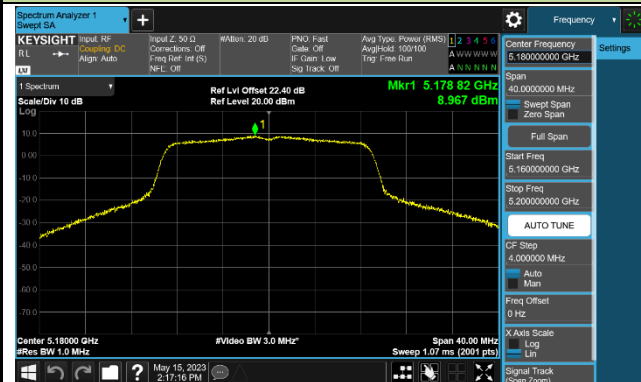
Channel 116 (5580MHz)



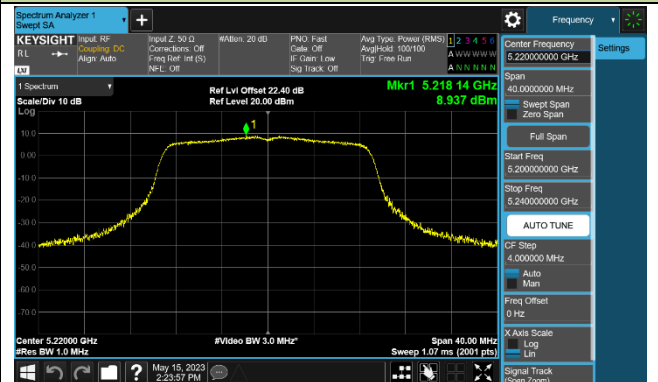


802.11ac-VHT20 Power Spectral Density - Ant 0

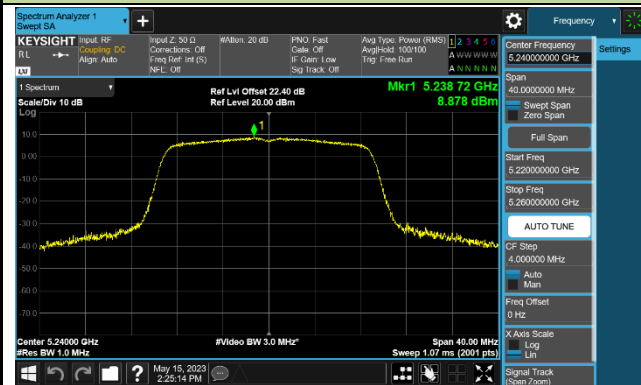
Channel 36 (5180MHz)



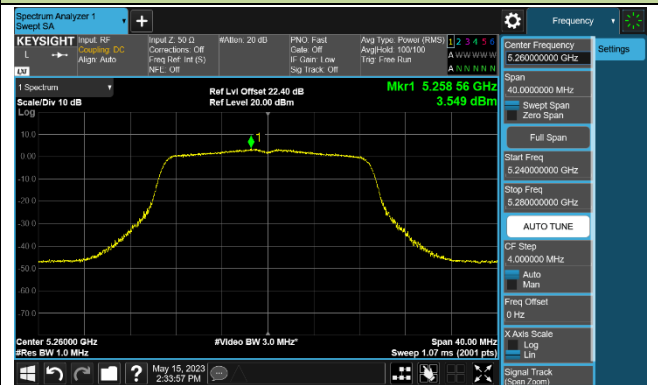
Channel 44 (5220MHz)



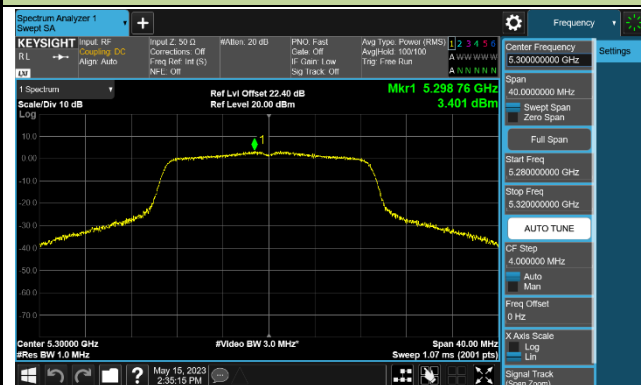
Channel 48 (5240MHz)



Channel 52 (5260MHz)



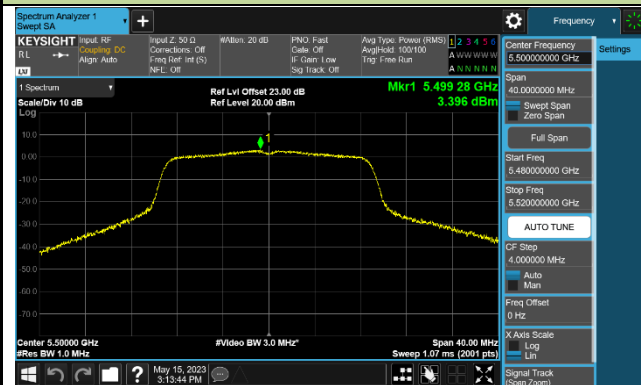
Channel 60 (5300MHz)



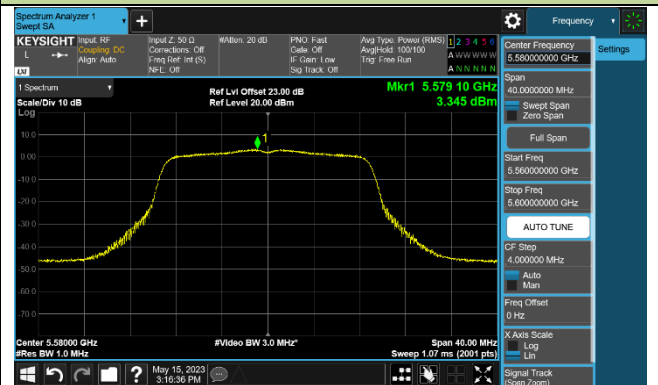
Channel 64 (5320MHz)

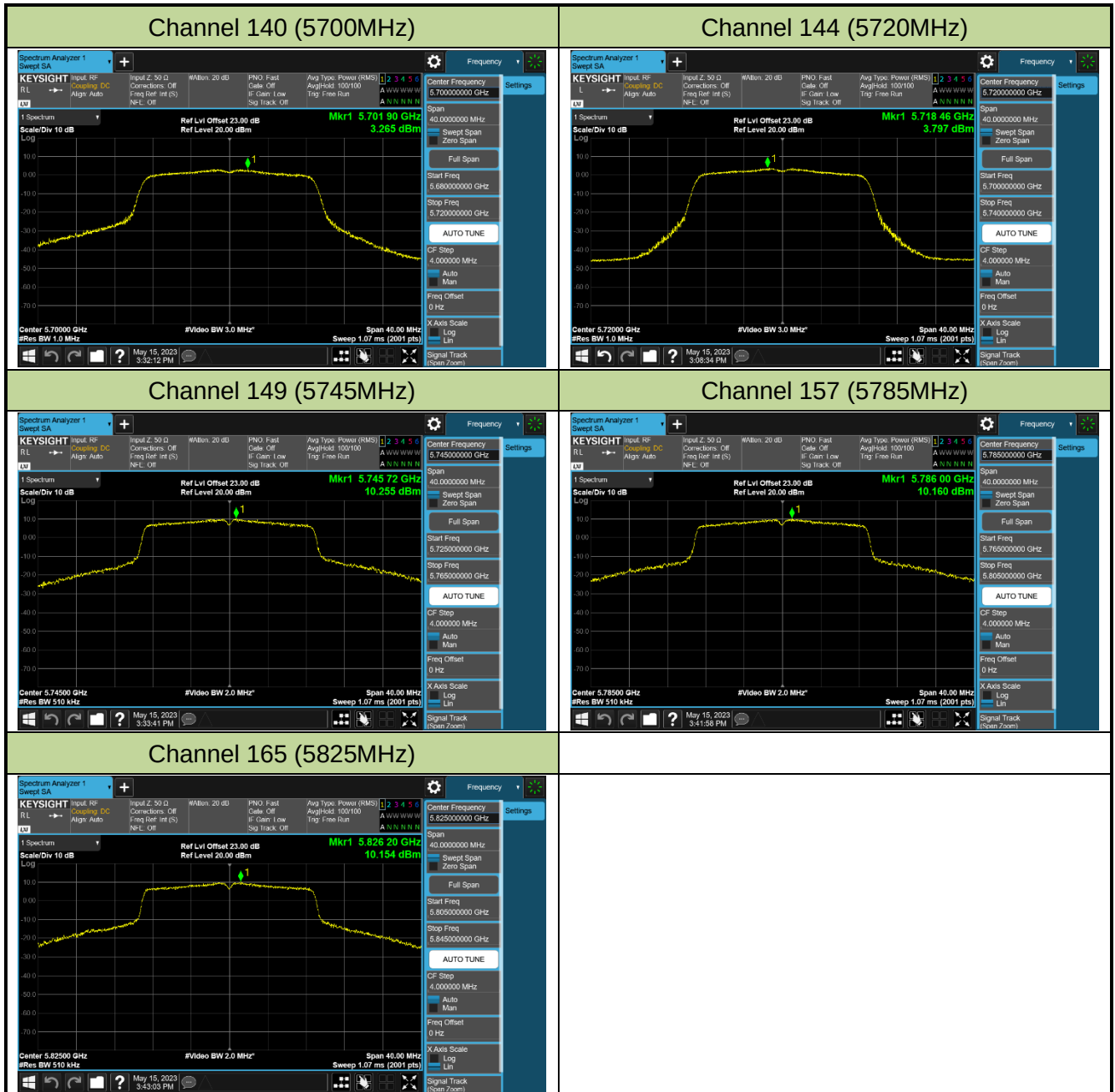


Channel 100 (5500MHz)



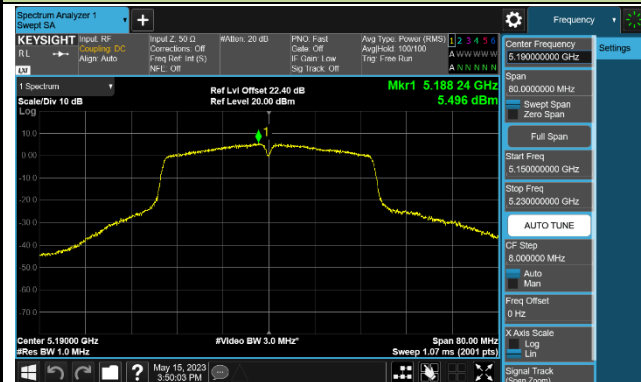
Channel 116 (5580MHz)



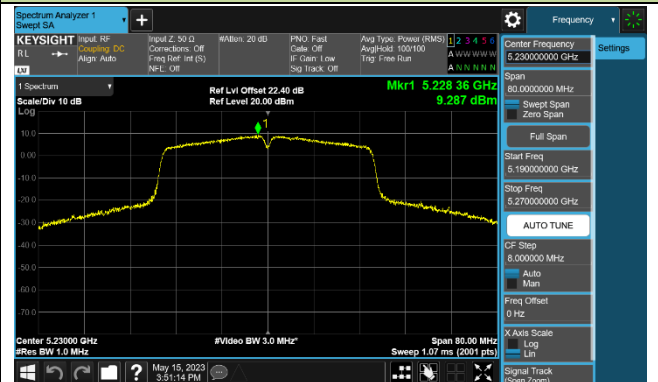


802.11ac-VHT40 Power Spectral Density - Ant 0

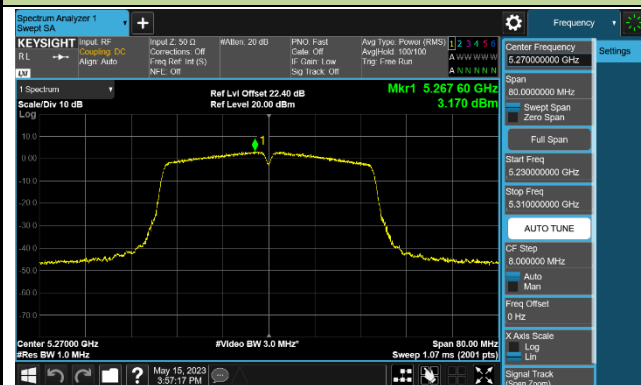
Channel 38 (5190MHz)



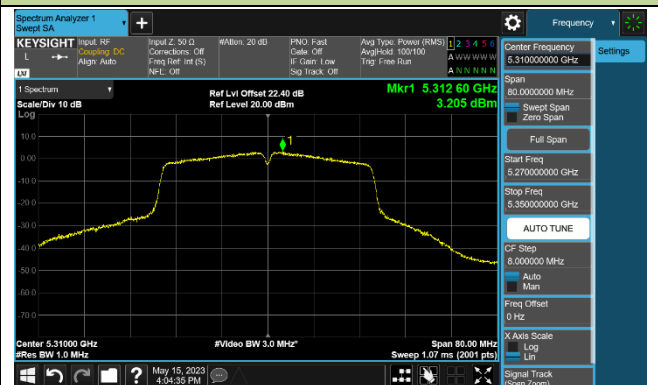
Channel 46 (5230MHz)



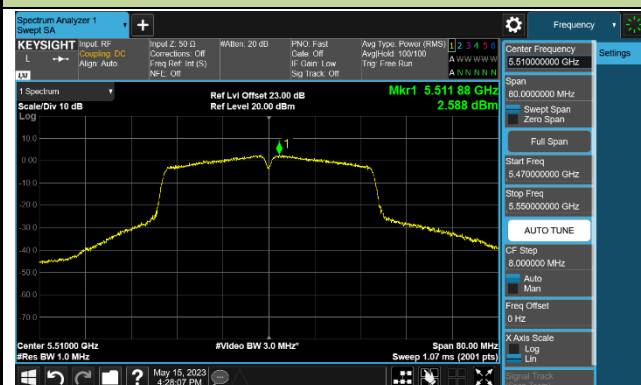
Channel 54 (5270MHz)



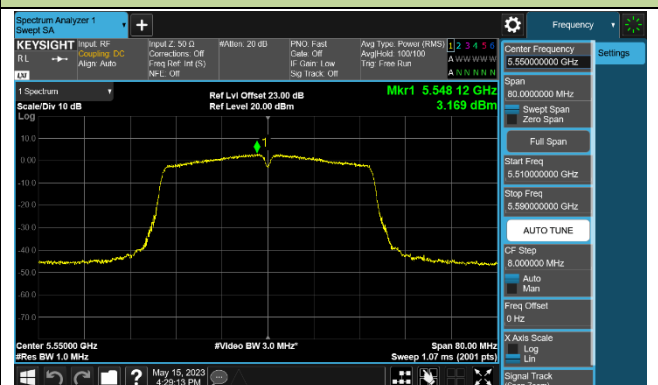
Channel 62 (5310MHz)



Channel 102 (5510MHz)



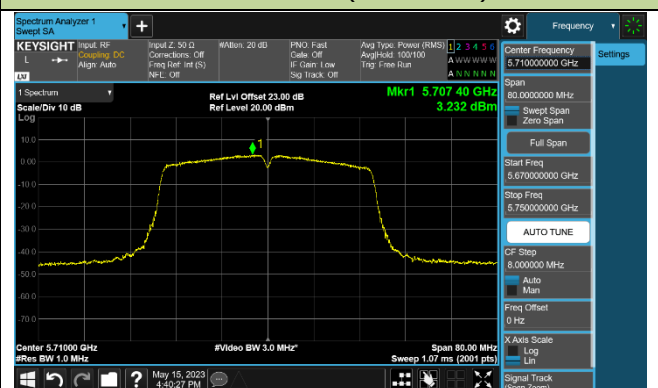
Channel 110 (5550MHz)

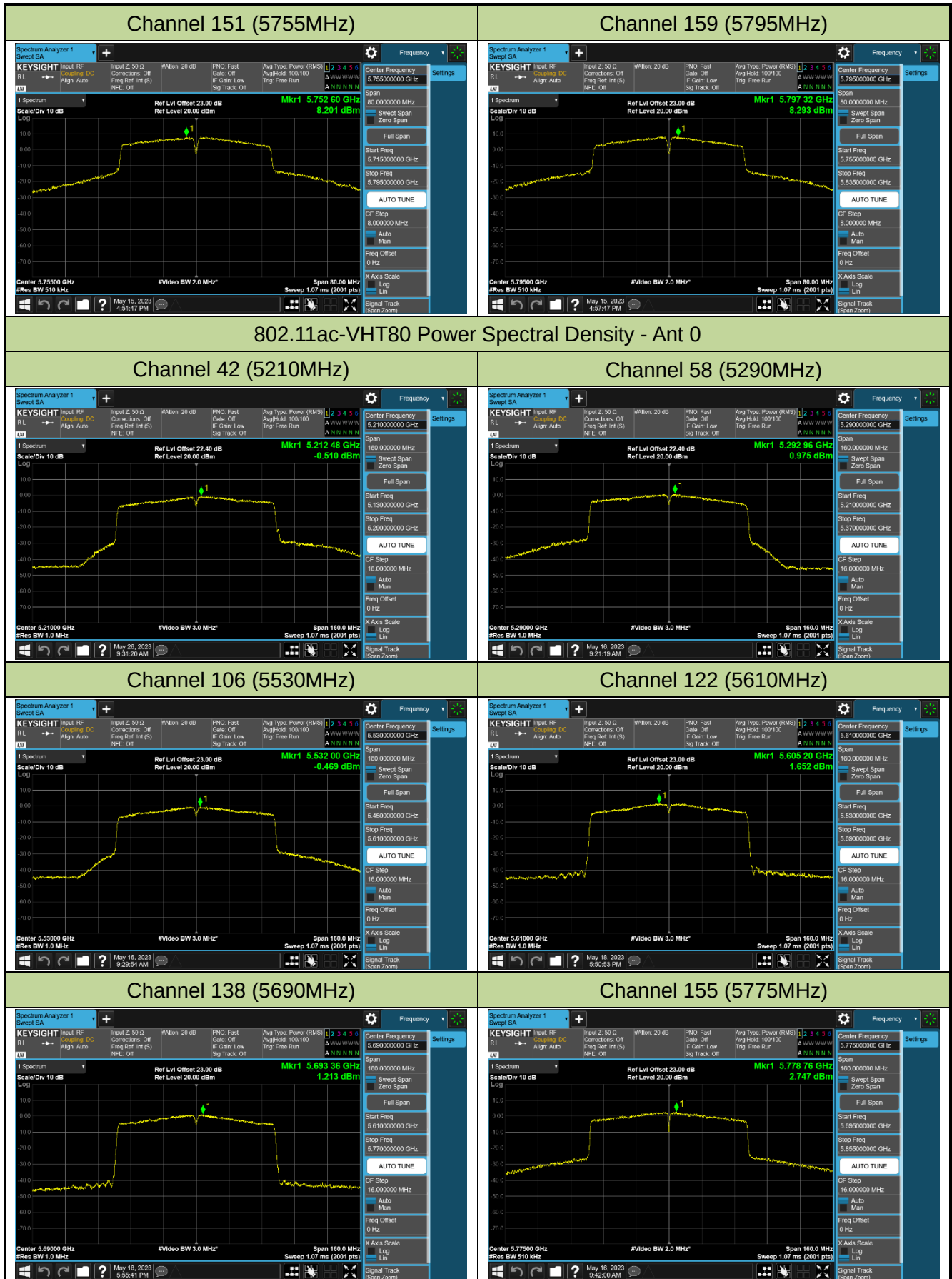


Channel 134 (5670MHz)



Channel 142 (5710MHz)



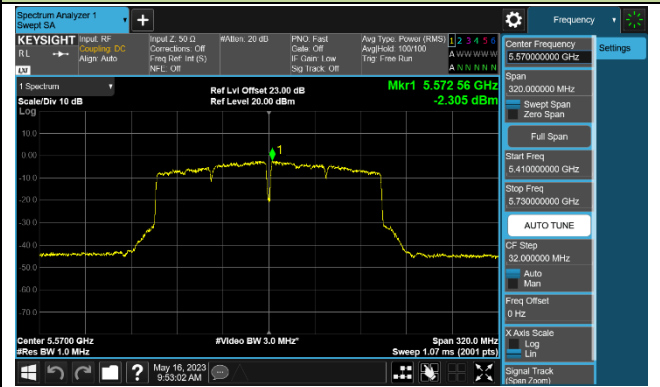


802.11ac-VHT160 Power Spectral Density - Ant 0

Channel 50 (5250MHz)

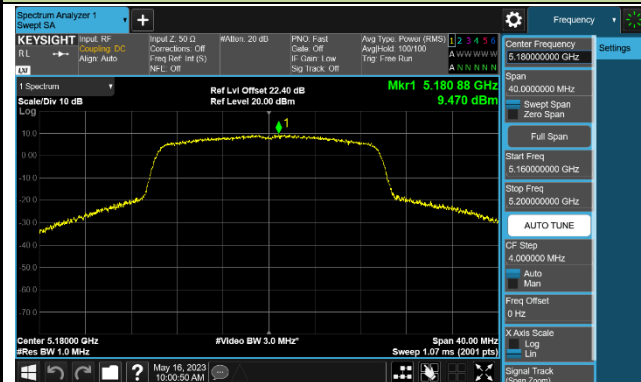


Channel 114 (5570MHz)

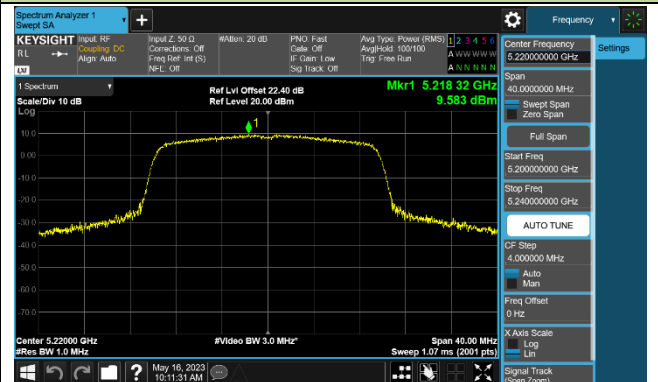


802.11ax-HE20 Power Spectral Density - Ant 0

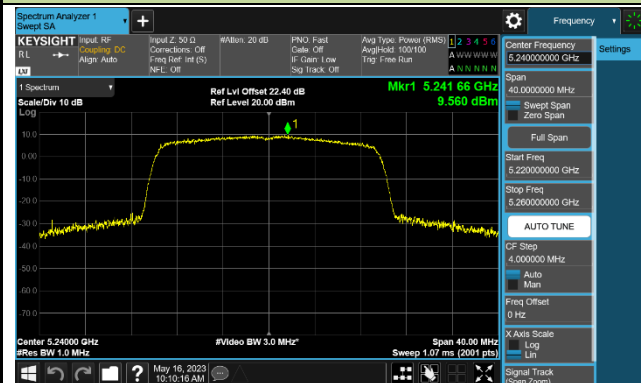
Channel 36 (5180MHz)



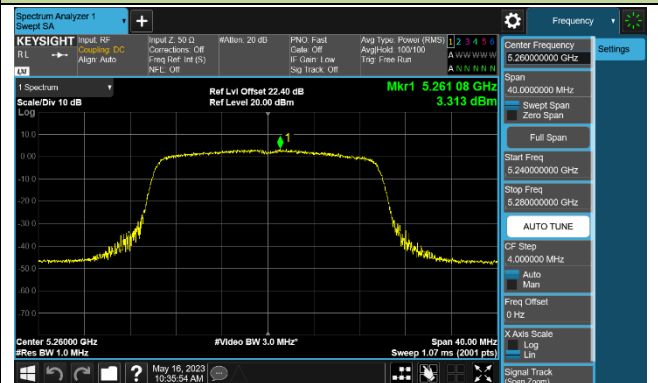
Channel 44 (5220MHz)



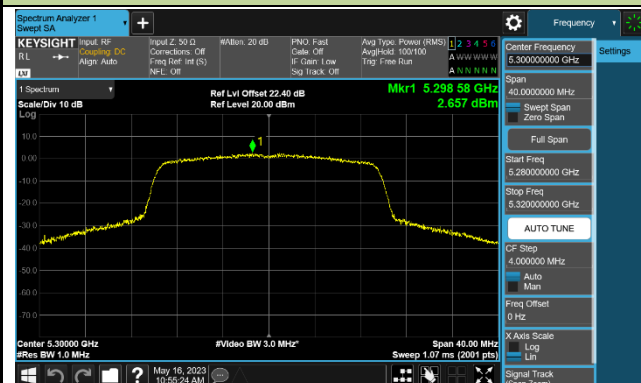
Channel 48 (5240MHz)



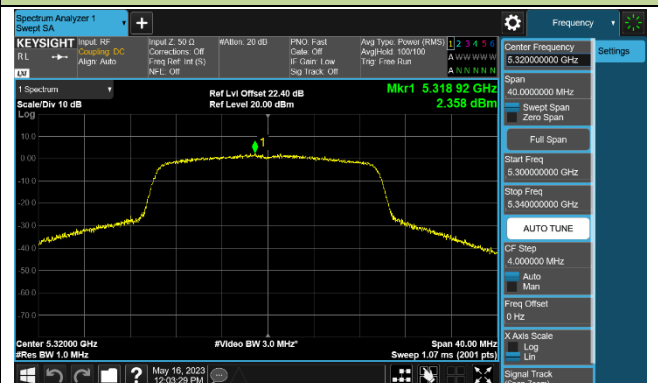
Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)

