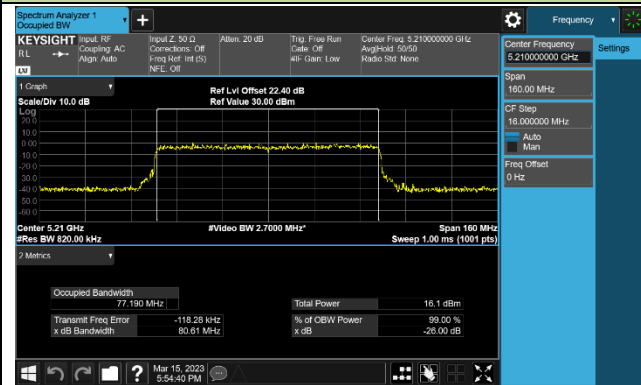
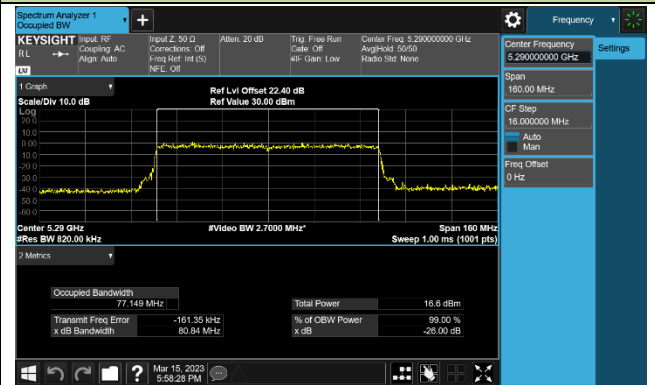


8802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

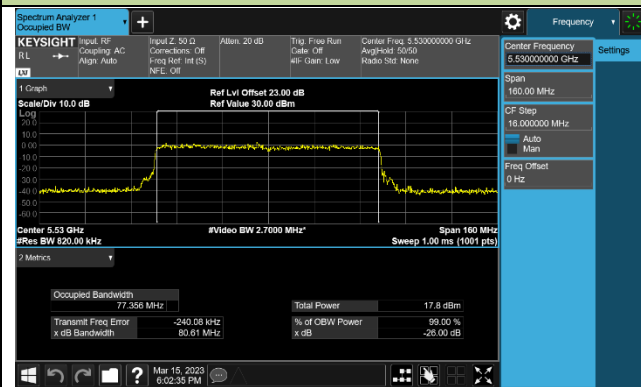
Channel 42 (5210MHz)



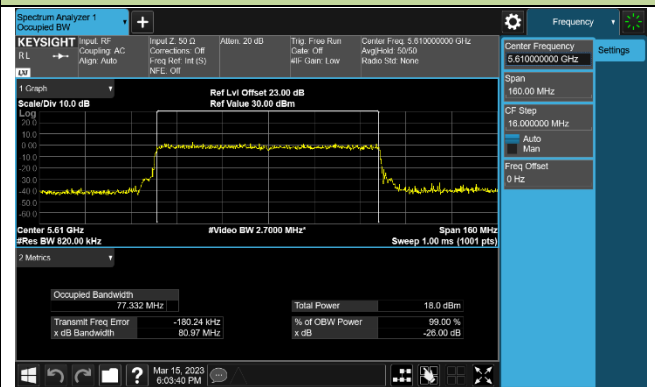
Channel 58 (5290MHz)



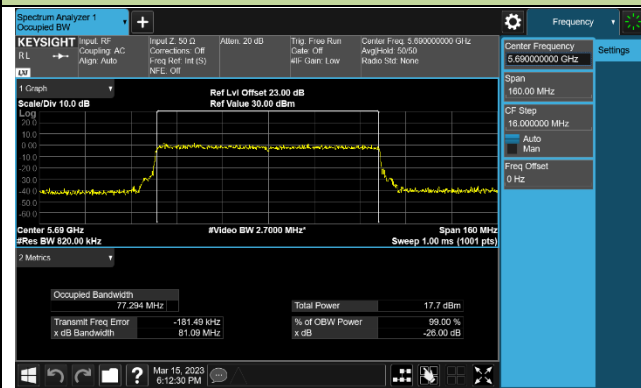
Channel 106 (5530MHz)



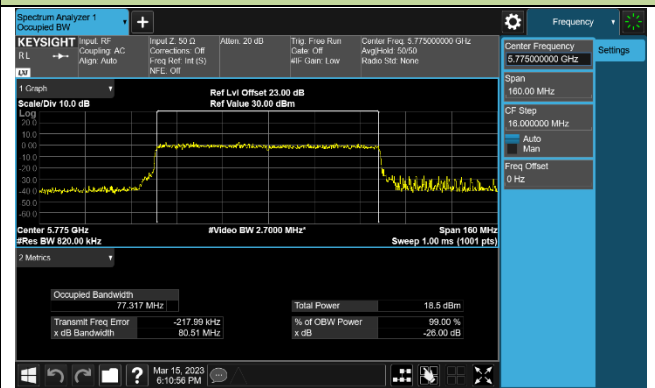
Channel 122 (5610MHz)



Channel 138 (5690MHz)

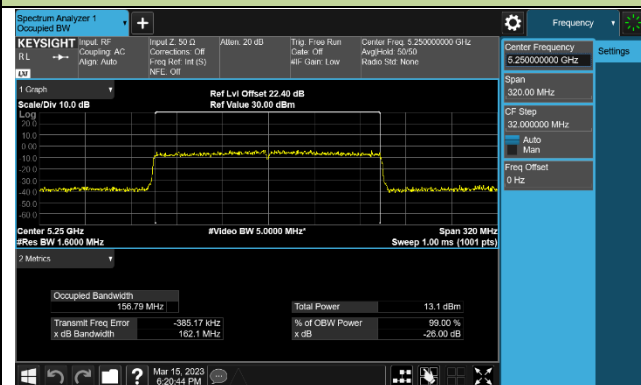


Channel 155 (5775MHz)

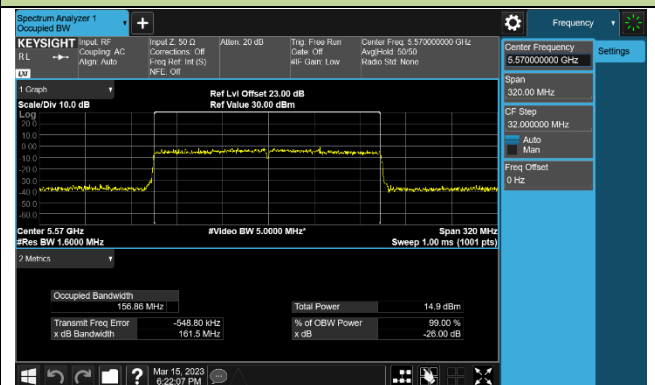


802.11ax-HE160 26dB Bandwidth & 99% Bandwidth

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.

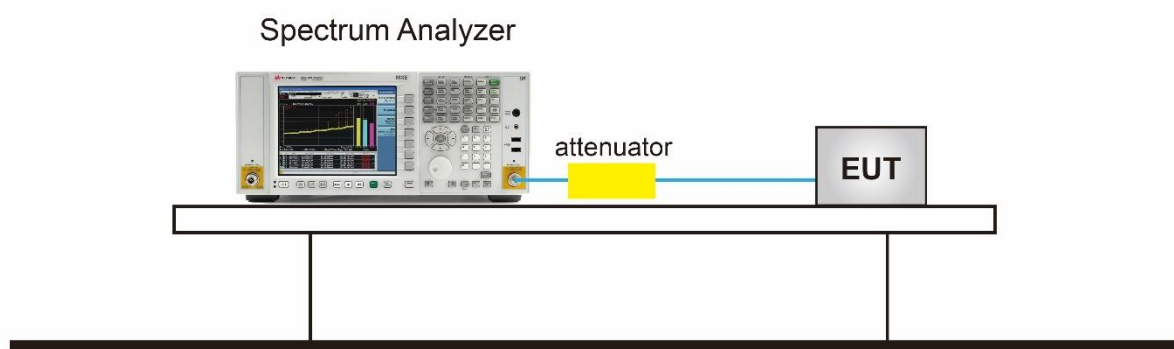
7.3.2. Test Procedure used

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



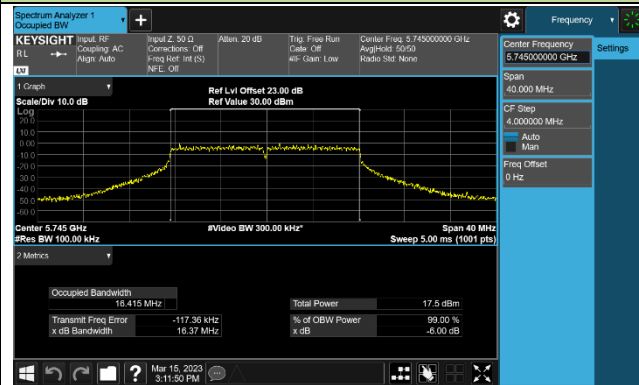
7.3.5.TestResult

Product	AX3000 High Gain Wireless USB Adapter	Test Engineer	Marvin
Test Site	SR6	Test Date	2023/03/15

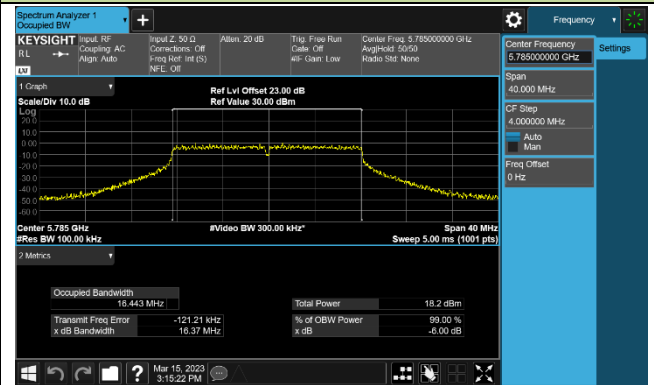
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 2						
802.11a	6Mbps	149	5745	16.370	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.370	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.370	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.600	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.580	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.610	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	36.460	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	36.400	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	76.440	≥ 0.5	Pass
802.11ax-HE20	MCS0	149	5745	18.690	≥ 0.5	Pass
802.11ax-HE20	MCS0	157	5785	18.470	≥ 0.5	Pass
802.11ax-HE20	MCS0	165	5825	18.220	≥ 0.5	Pass
802.11ax-HE40	MCS0	151	5755	38.040	≥ 0.5	Pass
802.11ax-HE40	MCS0	159	5795	37.830	≥ 0.5	Pass
802.11ax-HE80	MCS0	155	5775	77.660	≥ 0.5	Pass

802.11a 6dB Bandwidth

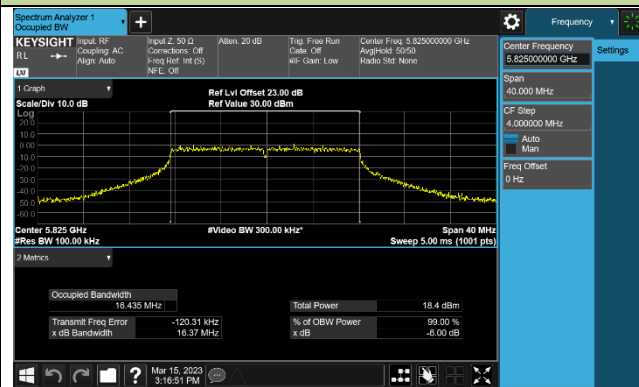
Channel 149 (5745MHz)



Channel 157 (5785MHz)

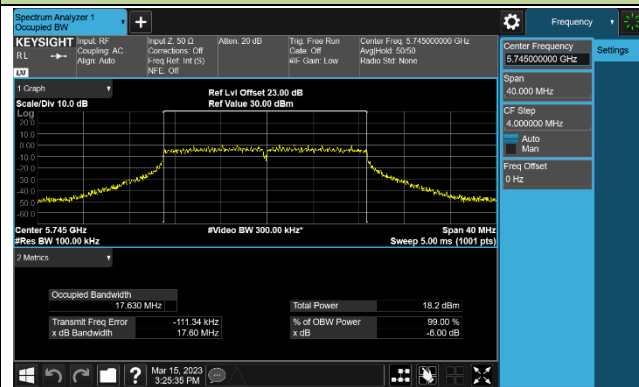


Channel 165 (5825MHz)

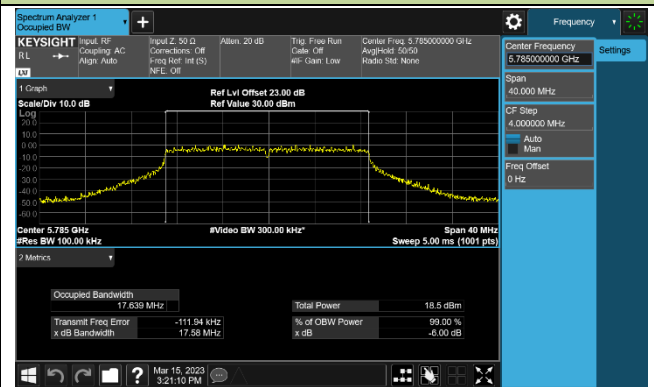


802.11ac-VHT20 6dB Bandwidth

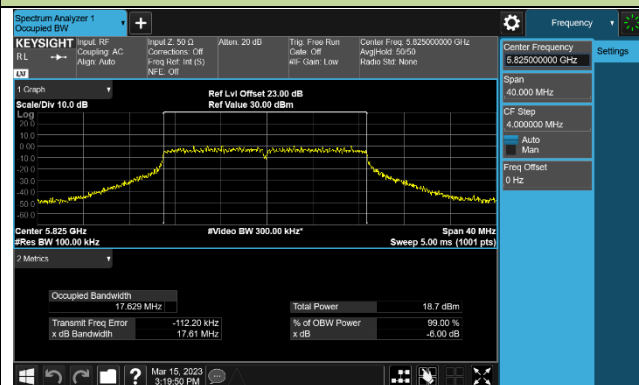
Channel 149 (5745MHz)



Channel 157 (5785MHz)

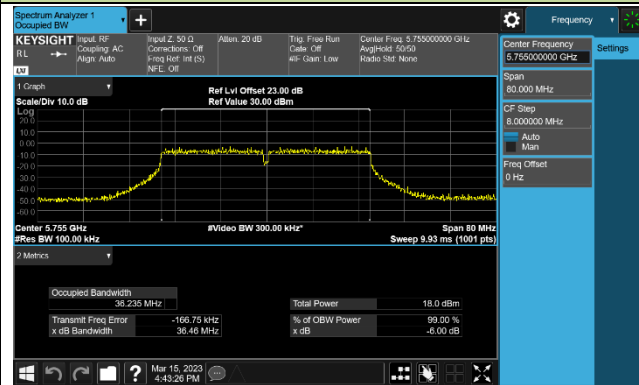


Channel 165 (5825MHz)

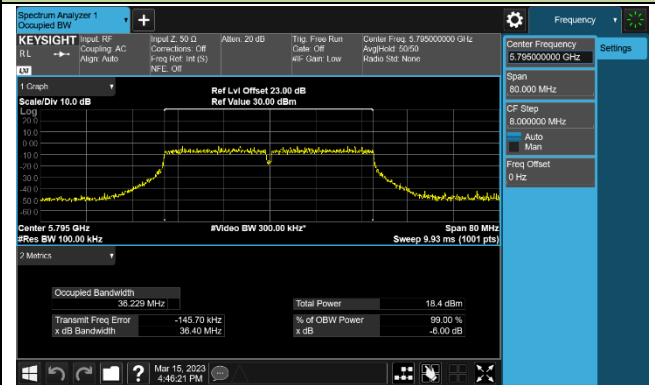


802.11ac-VHT40 6dB Bandwidth

Channel 151 (5755MHz)

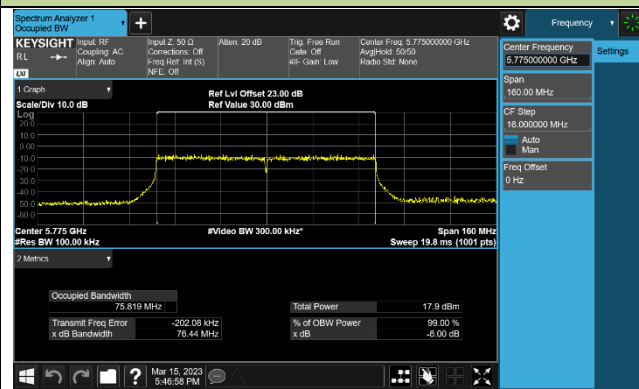


Channel 159 (5795MHz)



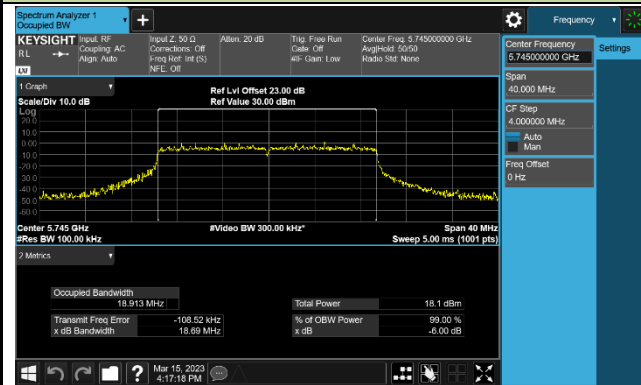
802.11ac-VHT80 6dB Bandwidth

Channel 155 (5775MHz)

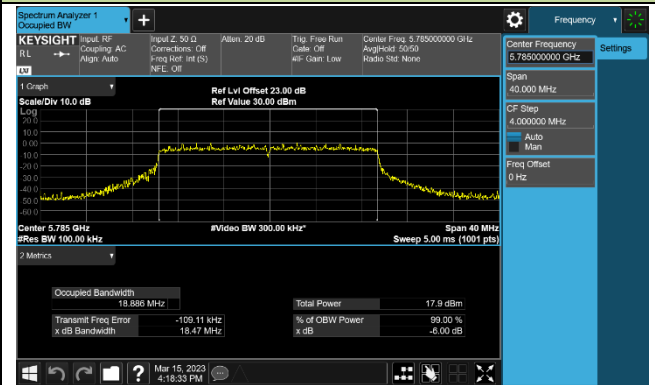


802.11ax-HE20 6dB Bandwidth

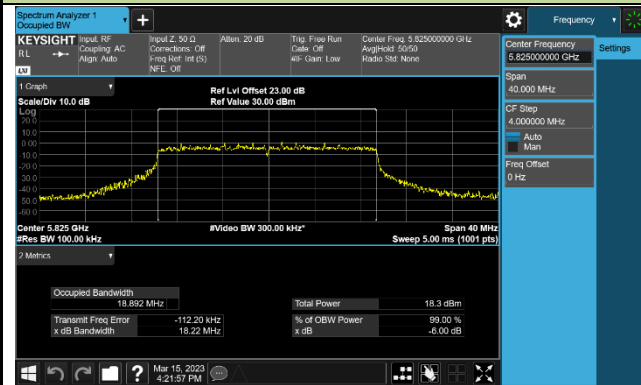
Channel 149 (5745MHz)



Channel 157 (5785MHz)

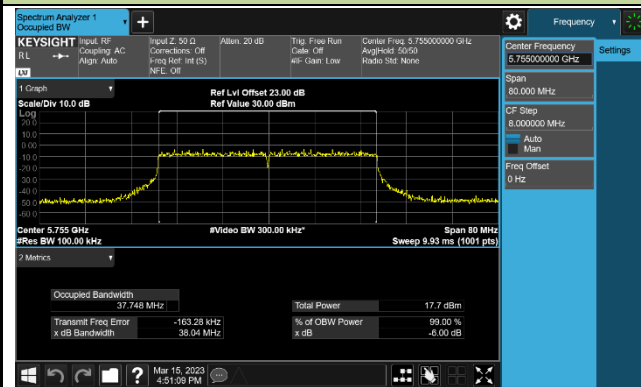


Channel 165 (5825MHz)

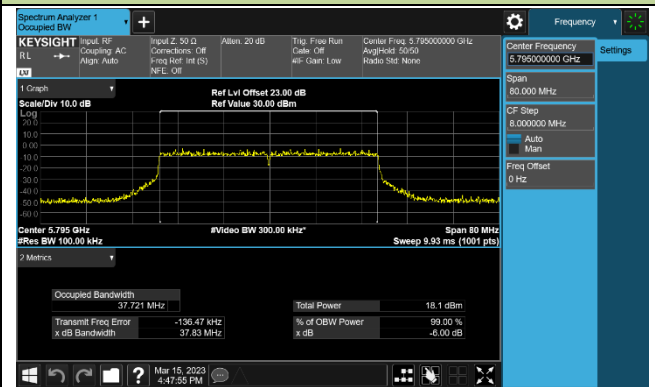


802.11ax-HE40 6dB Bandwidth

Channel 151 (5755MHz)

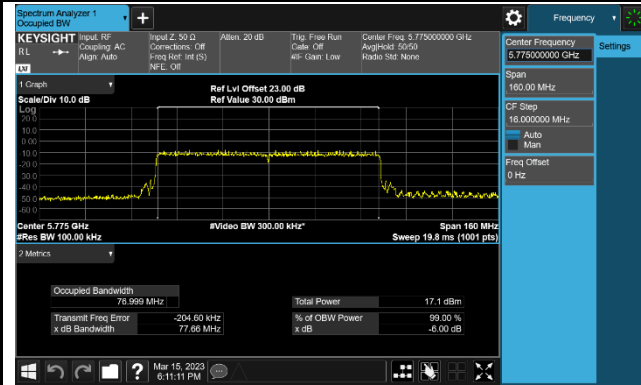


Channel 159 (5795MHz)



802.11ax-HE80 6dB Bandwidth

Channel 155 (5775MHz)



7.4. Output Power Measurement

7.4.1. Test Limit

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW 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.

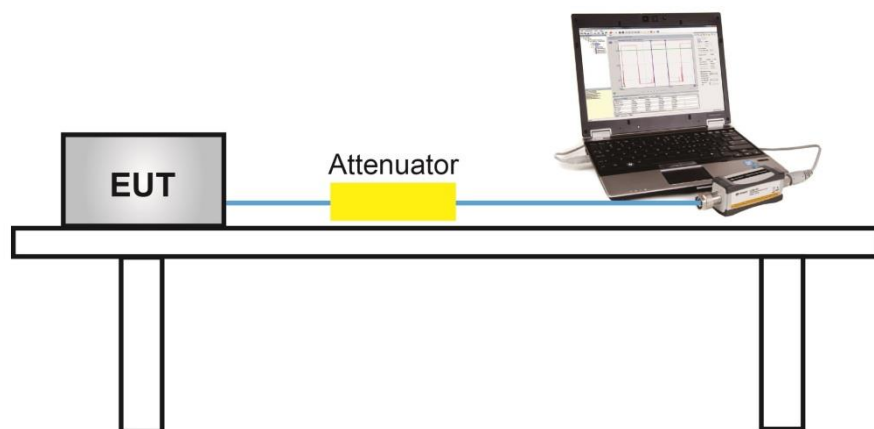
7.4.2. Test Procedure Used

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

Original Data

Product	AX3000 High Gain Wireless USB Adapter	Test Engineer	Marvin
Test Site	SR6	Test Date	2023/06/30
Test Mode	CDD Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11a	6Mbps	36	5180	11.66	11.92	14.80	≤ 23.98	Pass
11a	6Mbps	44	5220	11.51	11.75	14.64	≤ 23.98	Pass
11a	6Mbps	48	5240	11.45	11.66	14.57	≤ 23.98	Pass
11a	6Mbps	52	5260	11.33	11.76	14.56	≤ 23.98	Pass
11a	6Mbps	60	5300	11.54	11.96	14.77	≤ 23.98	Pass
11a	6Mbps	64	5320	11.50	11.90	14.71	≤ 23.98	Pass
11a	6Mbps	100	5500	13.06	13.56	16.33	≤ 23.98	Pass
11a	6Mbps	116	5580	12.88	13.53	16.23	≤ 23.98	Pass
11a	6Mbps	140	5700	12.63	13.36	16.02	≤ 23.98	Pass
11a	6Mbps	144	5720	12.72	13.44	16.11	≤ 22.86	Pass
11a	6Mbps	149	5745	13.01	13.23	16.93	≤ 30.00	Pass
11a	6Mbps	157	5785	12.76	13.22	16.01	≤ 30.00	Pass
11a	6Mbps	165	5825	13.01	13.27	16.15	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	11.61	11.80	14.72	≤ 23.98	Pass
11ac-VHT20	MCS0	40	5220	11.55	11.83	14.70	≤ 23.98	Pass
11ac-VHT20	MCS0	48	5240	11.39	11.68	14.55	≤ 23.98	Pass
11ac-VHT20	MCS0	52	5260	11.57	11.78	14.69	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	11.48	11.87	14.69	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	11.38	11.95	14.68	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	12.85	13.54	16.22	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	12.71	13.40	16.08	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	12.62	13.40	16.04	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	12.74	13.56	16.18	≤ 22.99	Pass
11ac-VHT20	MCS0	149	5745	13.02	13.06	16.05	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	12.85	13.39	16.14	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	12.82	13.21	16.03	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT40	MCS0	38	5190	11.61	11.77	14.70	≤ 23.98	Pass
11ac-VHT40	MCS0	46	5230	11.52	11.72	14.63	≤ 23.98	Pass
11ac-VHT40	MCS0	54	5270	11.51	11.99	14.77	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	11.36	11.67	14.53	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	12.98	13.45	16.23	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	13.09	13.51	16.32	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	12.73	13.29	16.03	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	12.92	13.47	16.21	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	13.17	13.08	16.14	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	12.90	13.30	16.11	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	11.71	12.05	14.89	≤ 23.98	Pass
11ac-VHT80	MCS0	58	5290	11.80	12.00	14.91	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	12.55	12.56	15.57	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	12.29	12.64	15.48	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	13.30	13.44	16.38	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	13.25	13.33	16.30	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	12.75	10.59	14.81	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	11.38	11.40	14.40	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	11.47	11.89	14.70	≤ 23.98	Pass
11ax-HE20	MCS0	40	5220	11.72	11.48	14.61	≤ 23.98	Pass
11ax-HE20	MCS0	48	5240	11.37	11.60	14.50	≤ 23.98	Pass
11ax-HE20	MCS0	52	5260	11.48	11.67	14.59	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	11.38	11.82	14.62	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	11.34	11.72	14.54	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	12.95	13.35	16.16	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	13.08	13.60	16.36	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	12.81	13.43	16.14	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	12.80	13.40	16.12	≤ 23.12	Pass
11ax-HE20	MCS0	149	5745	13.06	13.06	16.07	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	13.05	13.32	16.20	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	13.05	13.33	16.20	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	11.66	11.93	14.81	≤ 23.98	Pass
11ax-HE40	MCS0	46	5230	11.47	11.85	14.67	≤ 23.98	Pass
11ax-HE40	MCS0	54	5270	11.34	11.78	14.58	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	11.51	11.87	14.70	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	13.07	13.48	16.29	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	12.98	13.50	16.26	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	12.79	13.55	16.20	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	12.74	13.37	16.08	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	13.17	13.12	16.16	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	13.02	13.22	16.13	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	11.56	11.98	14.79	≤ 23.98	Pass
11ax-HE80	MCS0	58	5290	11.12	11.65	14.40	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	12.93	13.55	16.26	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	13.08	13.44	16.27	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	12.98	13.54	16.28	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	13.02	13.09	16.07	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	8.88	9.20	12.05	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	11.03	11.23	14.14	≤ 23.98	Pass

Note 1:

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

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) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.86$ dBm.

For 802.11ac Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.99$ dBm.

For 802.11ax Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 23.12$ dBm.

Verified Data

Product	AX3000 High Gain Wireless USB Adapter	Test Engineer	Marvin
Test Site	SR6	Test Date	2023/08/11
Test Mode	CDD Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11a	6Mbps	36	5180	11.43	11.76	14.61	≤ 23.98	Pass
11a	6Mbps	44	5220	11.39	11.67	14.54	≤ 23.98	Pass
11a	6Mbps	48	5240	11.32	11.51	14.43	≤ 23.98	Pass
11a	6Mbps	52	5260	11.31	11.65	14.49	≤ 23.98	Pass
11a	6Mbps	60	5300	11.43	11.77	14.61	≤ 23.98	Pass
11a	6Mbps	64	5320	11.45	11.81	14.64	≤ 23.98	Pass
11a	6Mbps	100	5500	12.97	13.43	16.22	≤ 23.98	Pass
11a	6Mbps	116	5580	12.70	13.38	16.06	≤ 23.98	Pass
11a	6Mbps	140	5700	12.51	13.24	15.90	≤ 23.98	Pass
11a	6Mbps	144	5720	12.66	13.30	16.00	≤ 22.86	Pass
11a	6Mbps	149	5745	12.89	13.01	15.96	≤ 30.00	Pass
11a	6Mbps	157	5785	12.65	13.05	15.86	≤ 30.00	Pass
11a	6Mbps	165	5825	12.82	13.03	15.94	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	11.52	11.68	14.61	≤ 23.98	Pass
11ac-VHT20	MCS0	40	5220	11.37	11.69	14.54	≤ 23.98	Pass
11ac-VHT20	MCS0	48	5240	11.27	11.52	14.41	≤ 23.98	Pass
11ac-VHT20	MCS0	52	5260	11.41	11.56	14.50	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	11.32	11.67	14.51	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	11.24	11.90	14.59	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	11.85	13.55	15.79	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	12.73	12.94	15.85	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	12.50	13.27	15.91	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	12.63	13.41	16.05	≤ 22.99	Pass
11ac-VHT20	MCS0	149	5745	12.78	12.83	15.82	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	12.64	13.11	15.89	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	12.71	13.02	15.88	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT40	MCS0	38	5190	11.49	11.70	14.61	≤ 23.98	Pass
11ac-VHT40	MCS0	46	5230	11.41	11.58	14.51	≤ 23.98	Pass
11ac-VHT40	MCS0	54	5270	11.33	11.84	14.60	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	11.25	11.60	14.44	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	12.78	13.35	16.08	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	12.93	13.37	16.17	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	12.51	13.09	15.82	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	12.77	13.36	16.09	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	13.02	12.88	15.96	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	12.76	13.15	15.97	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	11.67	11.89	14.79	≤ 23.98	Pass
11ac-VHT80	MCS0	58	5290	11.68	11.90	14.80	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	12.35	12.43	15.40	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	12.11	12.50	15.32	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	13.19	13.37	16.29	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	13.07	13.10	16.10	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	12.59	10.40	14.64	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	11.22	11.31	14.28	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	11.35	11.77	14.58	≤ 23.98	Pass
11ax-HE20	MCS0	40	5220	11.64	11.39	14.53	≤ 23.98	Pass
11ax-HE20	MCS0	48	5240	11.30	11.43	14.38	≤ 23.98	Pass
11ax-HE20	MCS0	52	5260	11.35	11.51	14.44	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	11.25	11.76	14.52	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	11.16	11.50	14.34	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	12.77	13.04	15.92	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	12.89	13.46	16.19	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	12.67	13.29	16.00	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	12.63	13.25	15.96	≤ 23.12	Pass
11ax-HE20	MCS0	149	5745	12.75	12.90	15.84	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	12.81	13.08	15.96	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	12.70	13.01	15.87	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	11.48	11.73	14.62	≤ 23.98	Pass
11ax-HE40	MCS0	46	5230	11.30	11.55	14.44	≤ 23.98	Pass
11ax-HE40	MCS0	54	5270	11.14	11.63	14.40	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	11.46	11.72	14.60	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	12.96	13.21	16.10	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	12.84	13.29	16.08	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	12.66	13.35	16.03	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	12.71	13.19	15.97	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	13.00	12.95	15.99	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	12.87	13.01	15.95	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	12.39	11.78	15.11	≤ 23.98	Pass
11ax-HE80	MCS0	58	5290	10.98	11.43	14.22	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	12.78	13.32	16.07	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	12.83	13.42	16.15	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	12.70	13.47	16.11	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	12.86	12.95	15.92	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	8.54	9.00	11.79	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	10.86	11.03	13.96	≤ 23.98	Pass

Note 1:

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

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) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.86$ dBm.

For 802.11ac Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.99$ dBm.

For 802.11ax Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 23.12$ 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.

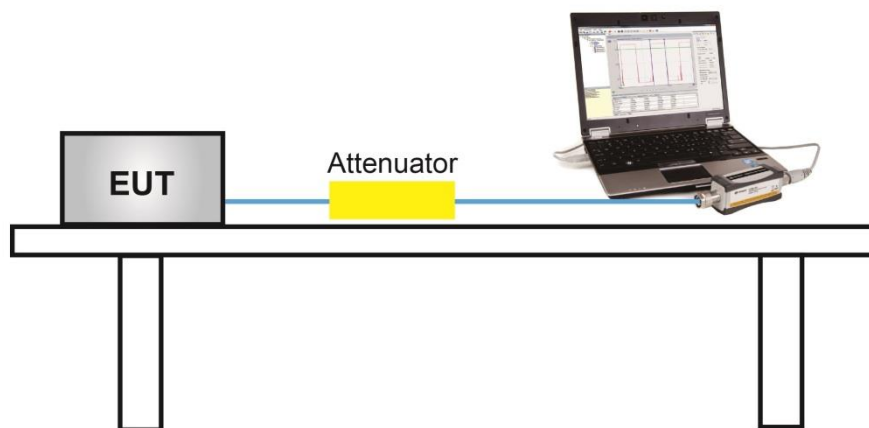
7.5.2. Test Procedure Used

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

A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

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 11 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.

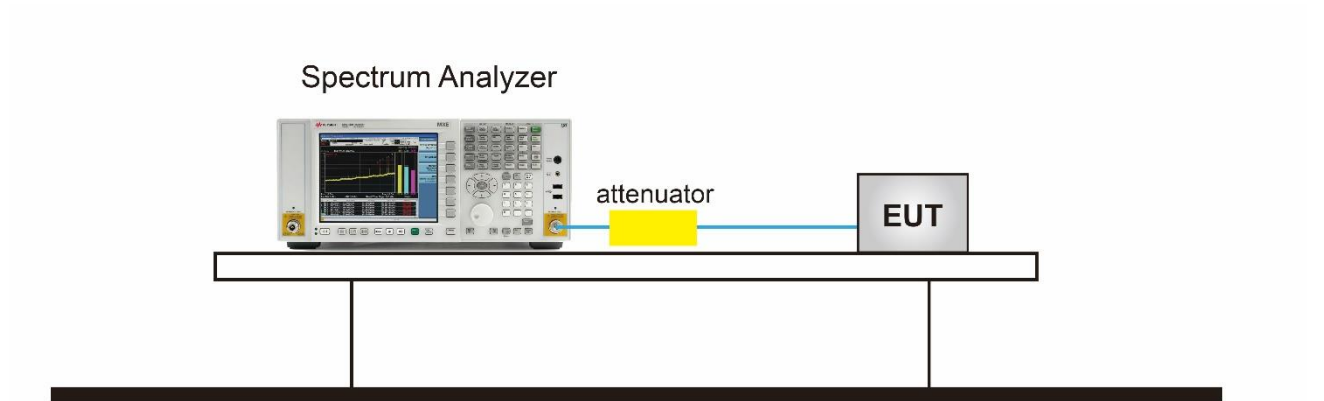
7.6.2. Test Procedure Used

KDB 789033 D02v02r01-SectionF

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 High Gain Wireless USB Adapter	Test Engineer	Marvin
Test Site	SR6	Test Date	2023/03/15
Mode	Power Spectral Density (U-NII- 1/-2a / -2c) CDD Mode		

Test Mode	Data Rate /MCS	Ch. No.	Freq. (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	-0.505	-0.183	95.33%	2.877	≤ 11.00	Pass
11a	6Mbps	44	5220	-0.556	-0.121	95.33%	2.885	≤ 11.00	Pass
11a	6Mbps	48	5240	-0.423	-0.089	95.33%	2.965	≤ 11.00	Pass
11a	6Mbps	52	5260	-0.311	-0.133	95.33%	2.997	≤ 11.00	Pass
11a	6Mbps	60	5300	-0.105	0.730	95.33%	3.551	≤ 11.00	Pass
11a	6Mbps	64	5320	0.047	0.371	95.33%	3.430	≤ 11.00	Pass
11a	6Mbps	100	5500	1.060	1.535	95.33%	4.522	≤ 11.00	Pass
11a	6Mbps	116	5580	0.907	1.300	95.33%	4.326	≤ 11.00	Pass
11a	6Mbps	140	5700	0.755	1.246	95.33%	4.225	≤ 11.00	Pass
11a	6Mbps	144	5720	0.838	1.237	95.33%	4.260	≤ 11.00	Pass
11ac-VHT20	MCS0	36	5180	-0.789	-0.253	92.62%	2.831	≤ 11.00	Pass
11ac-VHT20	MCS0	40	5220	-1.206	-0.221	92.62%	2.658	≤ 11.00	Pass
11ac-VHT20	MCS0	48	5240	-0.991	-0.331	92.62%	2.695	≤ 11.00	Pass
11ac-VHT20	MCS0	52	5260	-0.621	0.141	92.62%	3.120	≤ 11.00	Pass
11ac-VHT20	MCS0	60	5300	-0.277	0.395	92.62%	3.415	≤ 11.00	Pass
11ac-VHT20	MCS0	64	5320	-0.351	0.412	92.62%	3.390	≤ 11.00	Pass
11ac-VHT20	MCS0	100	5500	1.042	1.690	92.62%	4.721	≤ 11.00	Pass
11ac-VHT20	MCS0	116	5580	0.301	1.010	92.62%	4.013	≤ 11.00	Pass
11ac-VHT20	MCS0	140	5700	0.641	1.519	92.62%	4.445	≤ 11.00	Pass
11ac-VHT20	MCS0	144	5720	0.597	1.274	92.62%	4.292	≤ 11.00	Pass

Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	Ant 1 PSD (dBm/MHz)	Ant 2 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11ac-VHT40	MCS0	38	5190	-4.023	-3.051	89.55%	-0.020	≤ 11.00	Pass
11ac-VHT40	MCS0	46	5230	-4.336	-3.808	89.55%	-0.574	≤ 11.00	Pass
11ac-VHT40	MCS0	54	5270	-3.868	-3.728	89.55%	-0.308	≤ 11.00	Pass
11ac-VHT40	MCS0	62	5310	-3.585	-3.162	89.55%	0.121	≤ 11.00	Pass
11ac-VHT40	MCS0	102	5510	-2.555	-2.017	89.55%	1.212	≤ 11.00	Pass
11ac-VHT40	MCS0	110	5550	-2.626	-2.293	89.55%	1.033	≤ 11.00	Pass
11ac-VHT40	MCS0	134	5670	-2.365	-1.612	89.55%	1.517	≤ 11.00	Pass
11ac-VHT40	MCS0	142	5710	-2.730	-2.136	89.55%	1.067	≤ 11.00	Pass
11ac-VHT80	MCS0	42	5210	-6.863	-6.451	86.10%	-2.992	≤ 11.00	Pass
11ac-VHT80	MCS0	58	5290	-6.520	-6.183	86.10%	-2.688	≤ 11.00	Pass
11ac-VHT80	MCS0	106	5530	-5.873	-5.632	86.10%	-2.091	≤ 11.00	Pass
11ac-VHT80	MCS0	122	5610	-6.100	-5.229	86.10%	-1.982	≤ 11.00	Pass
11ac-VHT80	MCS0	138	5690	-5.248	-4.600	86.10%	-1.252	≤ 11.00	Pass
11ac-VHT160	MCS0	50	5250	-10.971	-11.094	82.29%	-7.175	≤ 11.00	Pass
11ac-VHT160	MCS0	114	5570	-10.066	-9.364	82.29%	-5.844	≤ 11.00	Pass
11ax-HE20	MCS0	36	5180	-1.201	-1.011	92.57%	2.241	≤ 11.00	Pass
11ax-HE20	MCS0	44	5220	-0.839	-0.438	92.57%	2.712	≤ 11.00	Pass
11ax-HE20	MCS0	48	5240	-1.228	-0.839	92.57%	2.316	≤ 11.00	Pass
11ax-HE20	MCS0	52	5260	-0.832	-0.377	92.57%	2.747	≤ 11.00	Pass
11ax-HE20	MCS0	60	5300	-0.767	-0.296	92.57%	2.820	≤ 11.00	Pass
11ax-HE20	MCS0	64	5320	-0.706	-0.470	92.57%	2.759	≤ 11.00	Pass
11ax-HE20	MCS0	100	5500	0.579	0.548	92.57%	3.909	≤ 11.00	Pass
11ax-HE20	MCS0	116	5580	0.377	1.151	92.57%	4.127	≤ 11.00	Pass
11ax-HE20	MCS0	140	5700	0.105	1.005	92.57%	3.924	≤ 11.00	Pass
11ax-HE20	MCS0	144	5720	0.230	0.990	92.57%	3.972	≤ 11.00	Pass

Test Mode	Data Rate/ MCS	Ch. No.	Freq. (MHz)	Ant 1 PSD (dBm/MHz)	Ant 2 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11ax-HE40	MCS0	38	5190	-3.894	-3.619	89.44%	-0.259	≤ 11.00	Pass
11ax-HE40	MCS0	46	5230	-4.199	-3.809	89.44%	-0.505	≤ 11.00	Pass
11ax-HE40	MCS0	54	5270	-4.149	-3.938	89.44%	-0.547	≤ 11.00	Pass
11ax-HE40	MCS0	62	5310	-3.050	-3.168	89.44%	0.386	≤ 11.00	Pass
11ax-HE40	MCS0	102	5510	-2.758	-2.258	89.44%	0.994	≤ 11.00	Pass
11ax-HE40	MCS0	110	5550	-2.774	-2.295	89.44%	0.967	≤ 11.00	Pass
11ax-HE40	MCS0	134	5670	-2.704	-1.935	89.44%	1.192	≤ 11.00	Pass
11ax-HE40	MCS0	142	5710	-2.678	-1.887	89.44%	1.230	≤ 11.00	Pass
11ax-HE80	MCS0	42	5210	-7.109	-5.631	86.39%	-2.662	≤ 11.00	Pass
11ax-HE80	MCS0	58	5290	-6.554	-6.026	86.39%	-2.636	≤ 11.00	Pass
11ax-HE80	MCS0	106	5530	-5.410	-4.758	86.39%	-1.426	≤ 11.00	Pass
11ax-HE80	MCS0	122	5610	-5.383	-4.743	86.39%	-1.406	≤ 11.00	Pass
11ax-HE80	MCS0	122	5690	-5.564	-4.500	86.39%	-1.354	≤ 11.00	Pass
11ax-HE160	MCS0	50	5250	-11.078	-10.788	84.33%	-7.180	≤ 11.00	Pass
11ax-HE160	MCS0	114	5570	-10.026	-9.417	84.33%	-5.960	≤ 11.00	Pass

Note 1: When EUT duty cycle ≥ 98%,

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

When EUT duty cycle < 98%,

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

Product	AX3000 High Gain Wireless USB Adapter	Test Engineer	Marvin
Test Site	SR6	Test Date	2023/03/15
Test Item	Power Spectral Density (U-NII-3) CDD Mode		

Test Mode	Data Rate/ MCS	Ch. No.	Freq. (MHz)	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	-1.648	-1.195	95.33%	1.802	≤ 30.00	Pass
11a	6Mbps	157	5785	-0.932	-0.205	95.33%	2.665	≤ 30.00	Pass
11a	6Mbps	165	5825	-1.181	-0.400	95.33%	2.445	≤ 30.00	Pass
11ac-VHT20	MCS0	149	5745	-1.641	-0.936	92.62%	2.069	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	-0.990	-0.406	92.62%	2.655	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	-1.310	0.081	92.62%	2.784	≤ 30.00	Pass
11ac-VHT40	MCS0	151	5755	-4.772	-3.678	89.55%	-0.701	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	-4.634	-3.760	89.55%	-0.685	≤ 30.00	Pass
11ac-VHT80	MCS0	155	5775	-7.572	-6.616	86.10%	-3.407	≤ 30.00	Pass
11ax-HE20	MCS0	149	5745	-1.748	-1.060	92.57%	1.955	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	-1.512	-0.858	92.57%	2.173	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	-1.859	-0.770	92.57%	2.065	≤ 30.00	Pass
11ax-HE40	MCS0	151	5755	-4.818	-4.014	89.44%	-0.902	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	-4.472	-3.776	89.44%	-0.615	≤ 30.00	Pass
11ax-HE80	MCS0	155	5775	-7.982	-6.799	86.39%	-3.705	≤ 30.00	Pass

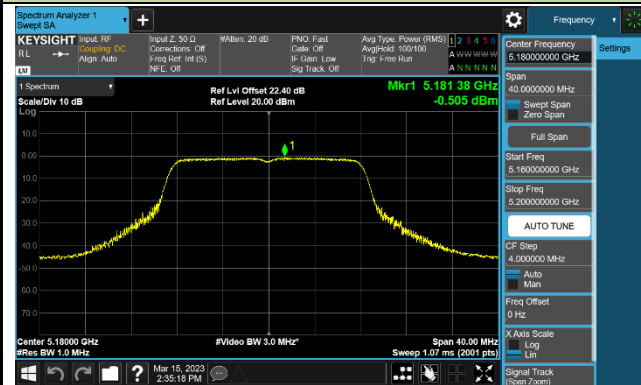
Note 1: When EUT duty cycle ≥ 98%,

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

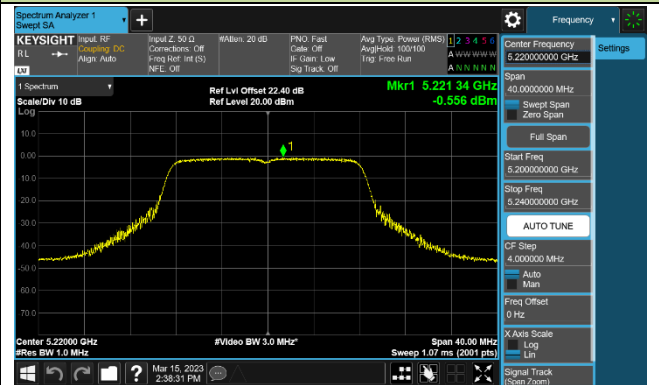
When EUT duty cycle < 98%, the total PSD (dBm/510kHz) = $10 \cdot \log \{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\}$ (dBm/510kHz) + $10 \cdot \log (1/\text{Duty Cycle})$.

802.11a Power Spectral Density - Ant 1

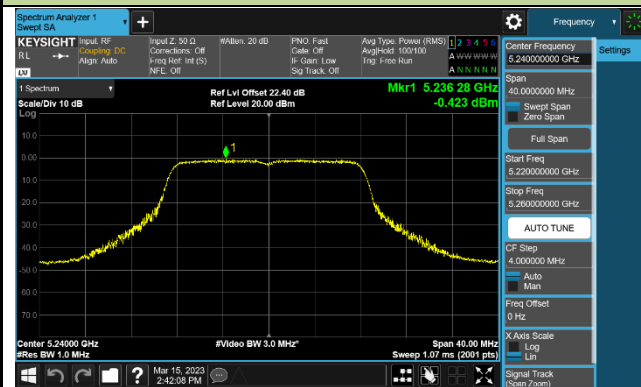
Channel 36 (5180MHz)



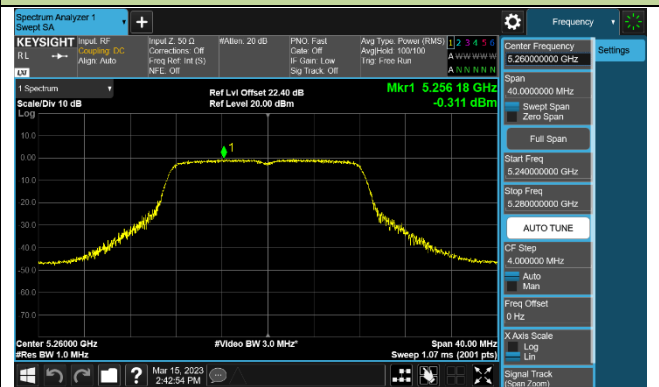
Channel 44 (5220MHz)



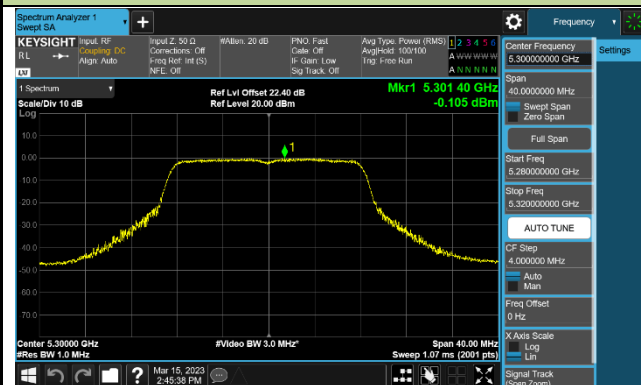
Channel 48 (5240MHz)



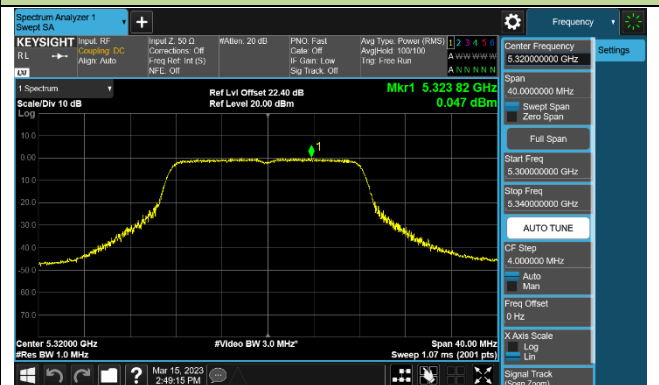
Channel 52 (5260MHz)



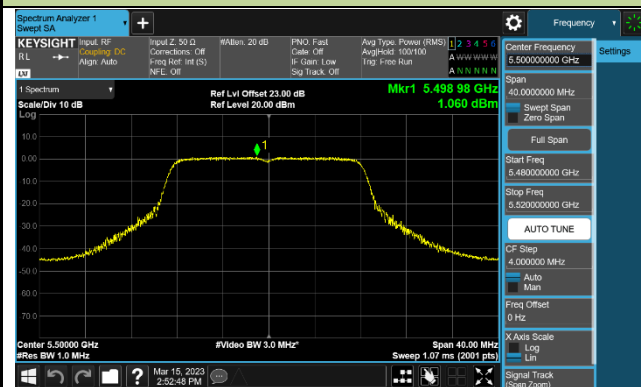
Channel 60 (5300MHz)



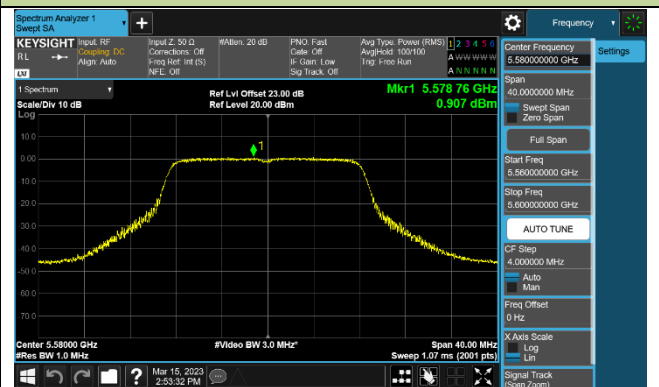
Channel 64 (5320MHz)

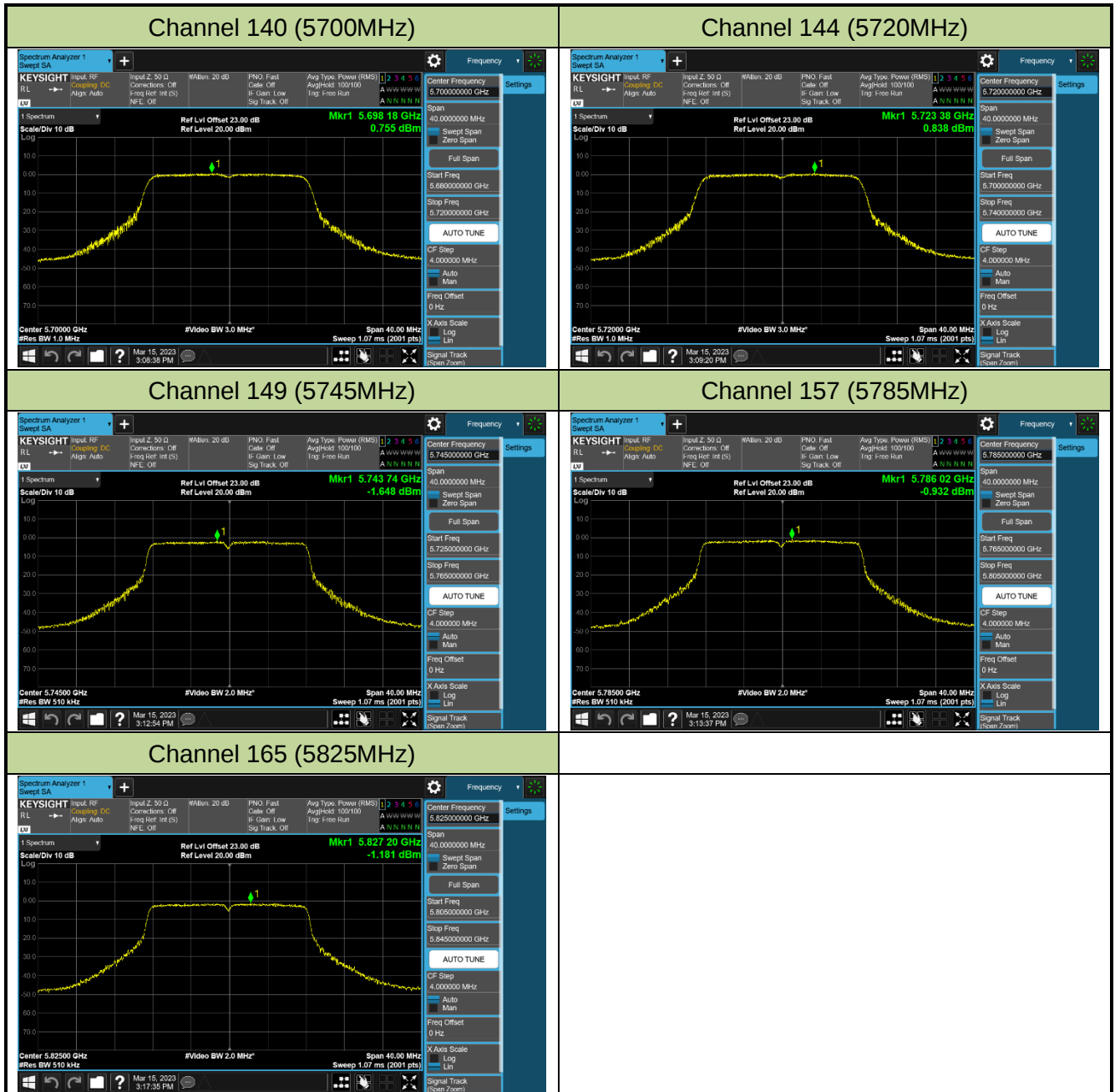


Channel 100 (5500MHz)



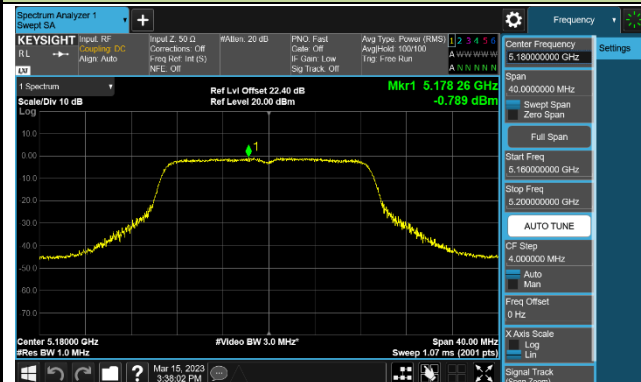
Channel 116 (5580MHz)



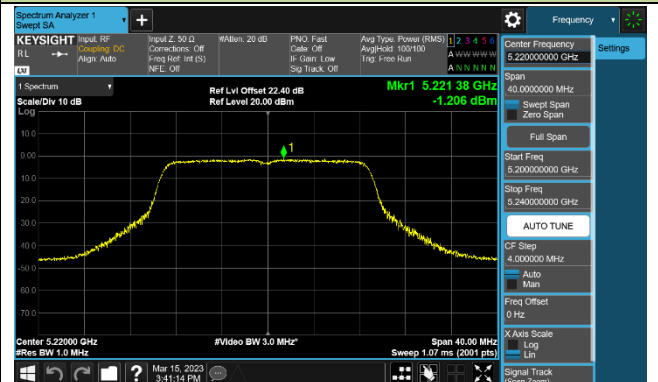


802.11ac-VHT20 Power Spectral Density - Ant 1

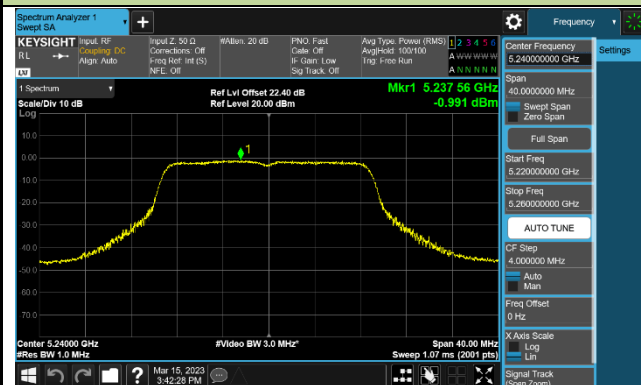
Channel 36 (5180MHz)



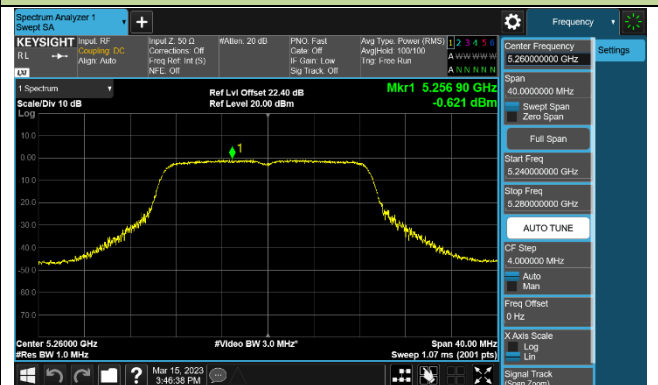
Channel 44 (5220MHz)



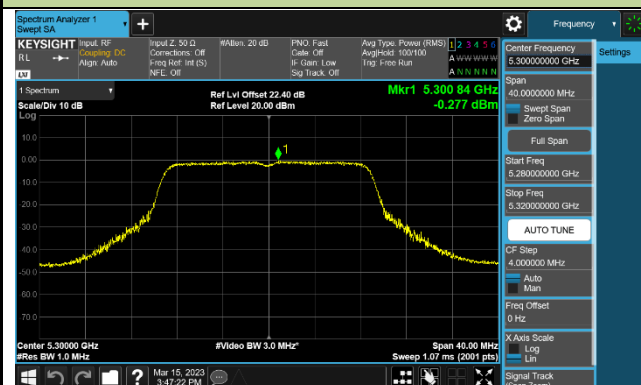
Channel 48 (5240MHz)



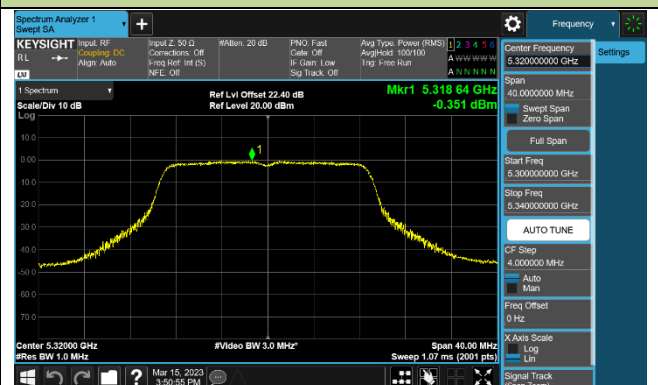
Channel 52 (5260MHz)



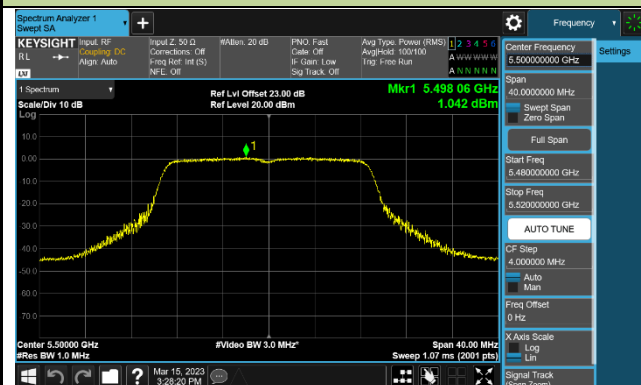
Channel 60 (5300MHz)



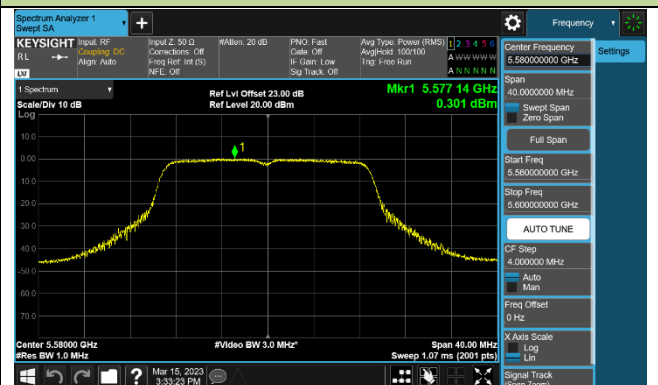
Channel 64 (5320MHz)

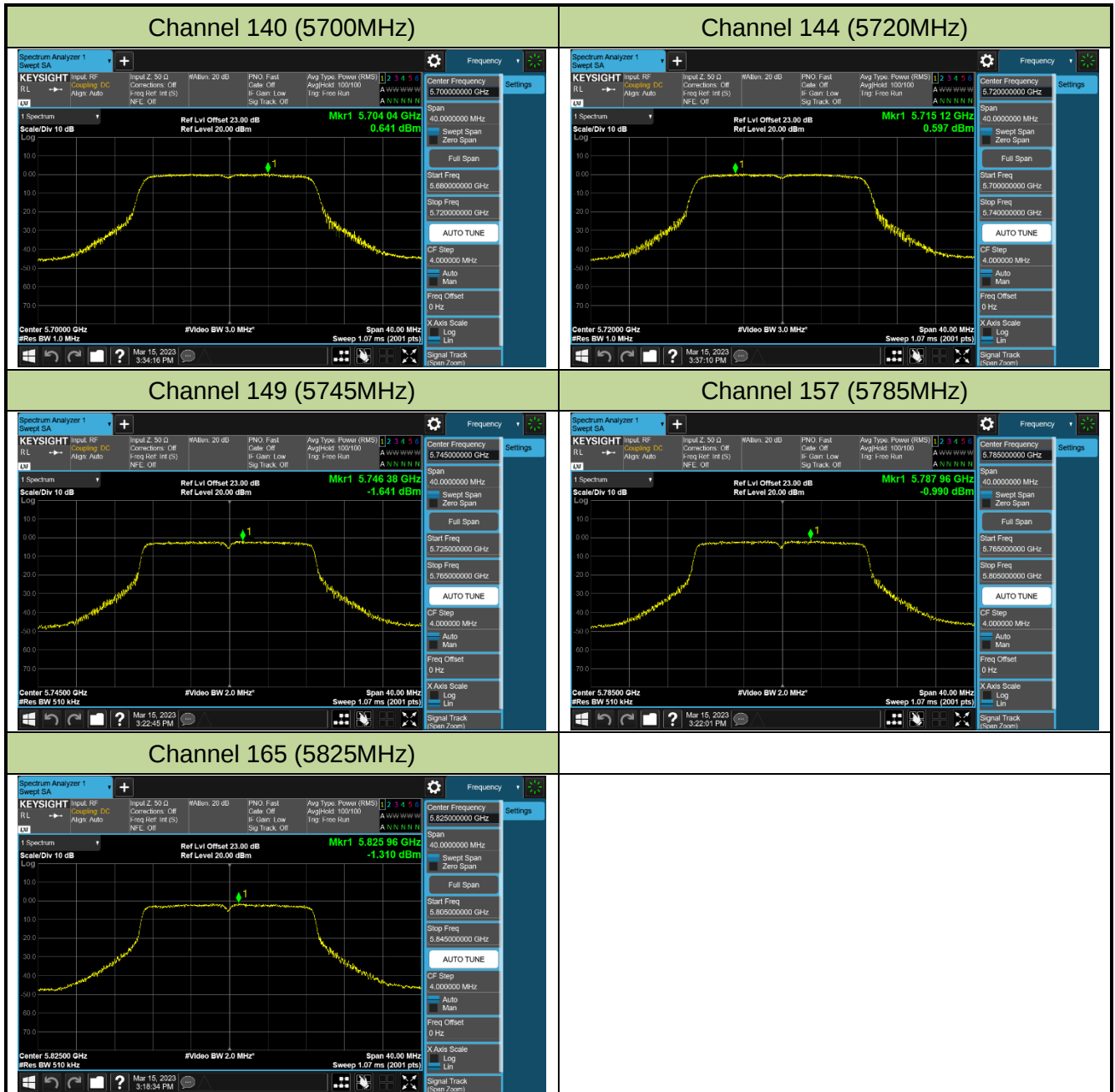


Channel 100 (5500MHz)



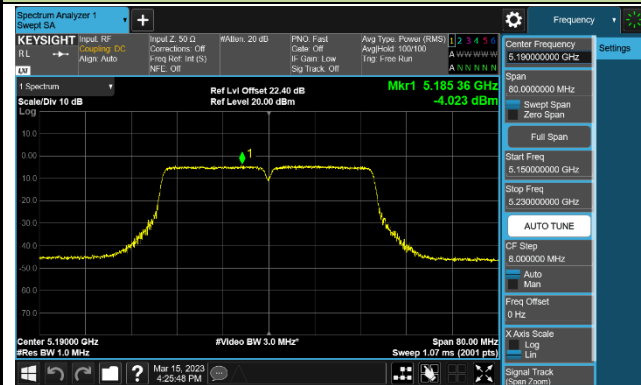
Channel 116 (5580MHz)



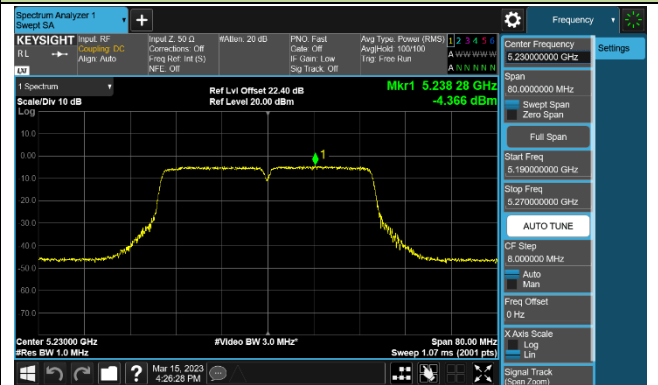


802.11ac-VHT40 Power Spectral Density - Ant 1

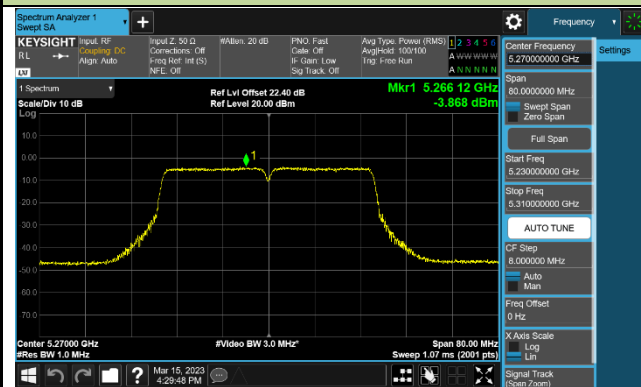
Channel 38 (5190MHz)



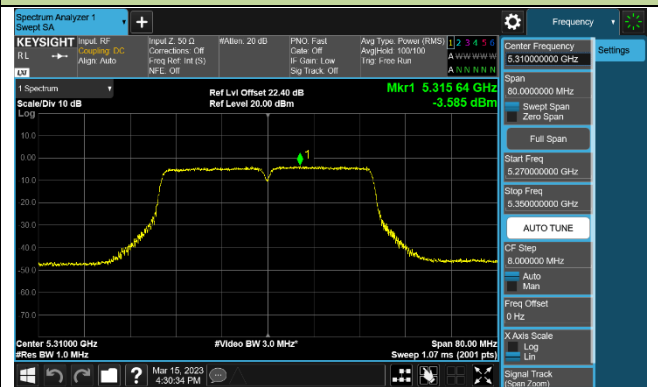
Channel 46 (5230MHz)



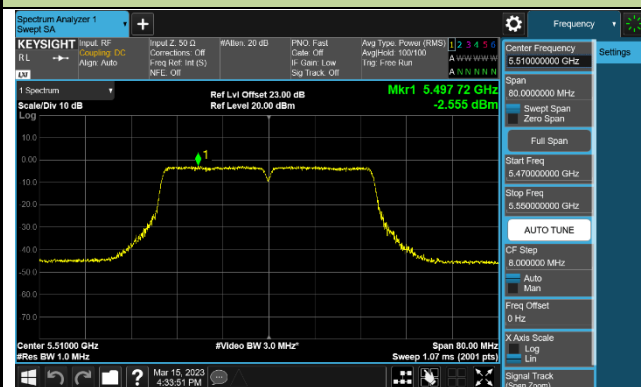
Channel 54 (5270MHz)



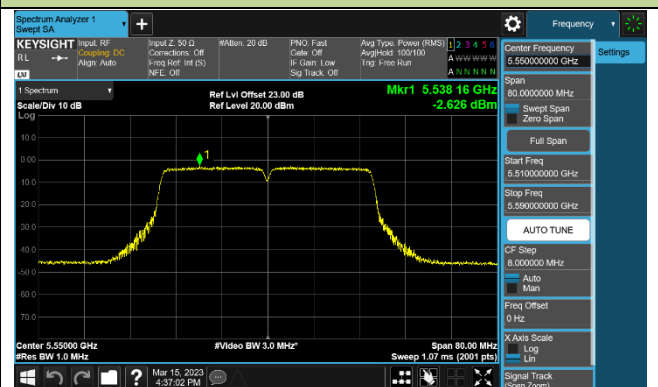
Channel 62 (5310MHz)



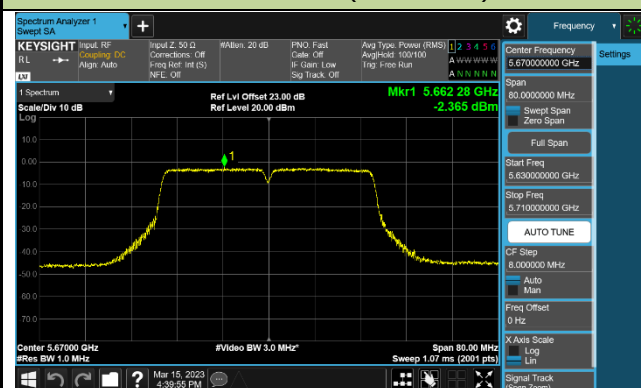
Channel 102 (5510MHz)



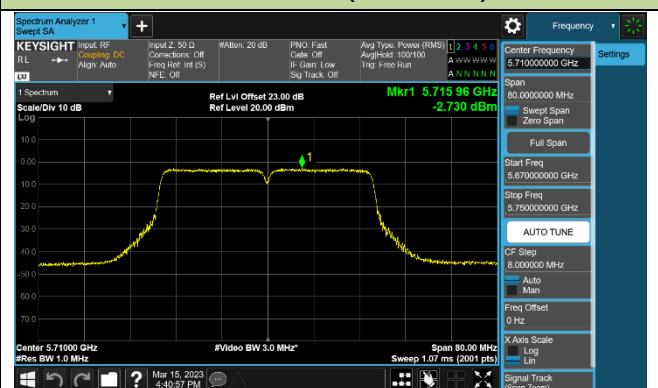
Channel 110 (5550MHz)



Channel 134 (5670MHz)



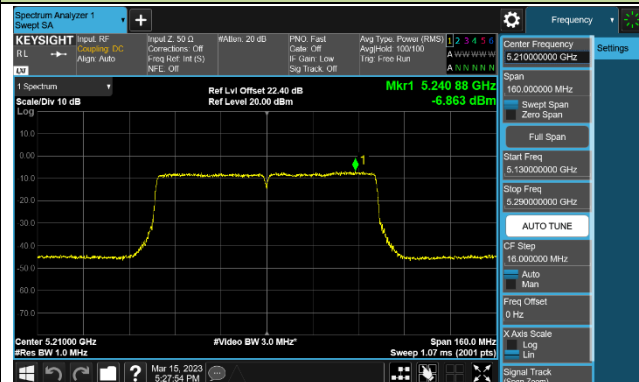
Channel 142 (5710MHz)



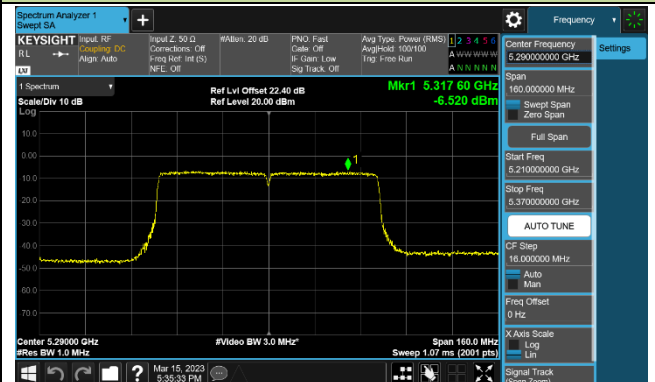


802.11ac-VHT80 Power Spectral Density - Ant 1

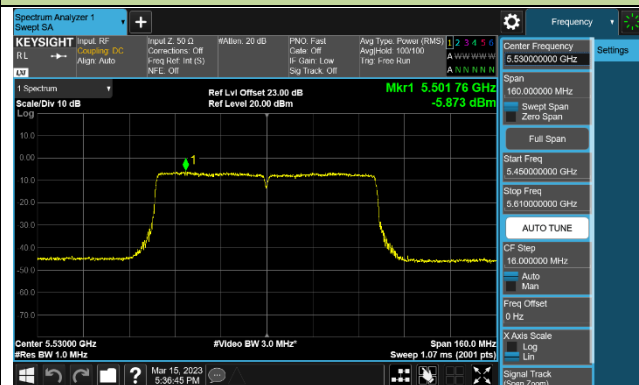
Channel 42 (5210MHz)



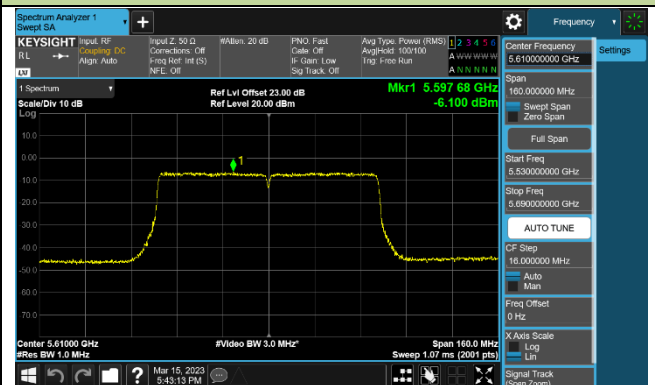
Channel 58 (5290MHz)



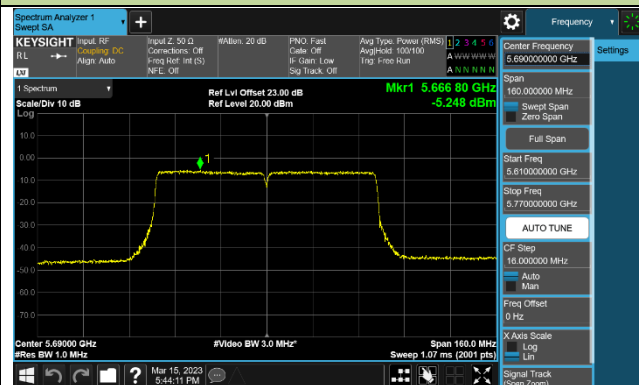
Channel 106 (5530MHz)



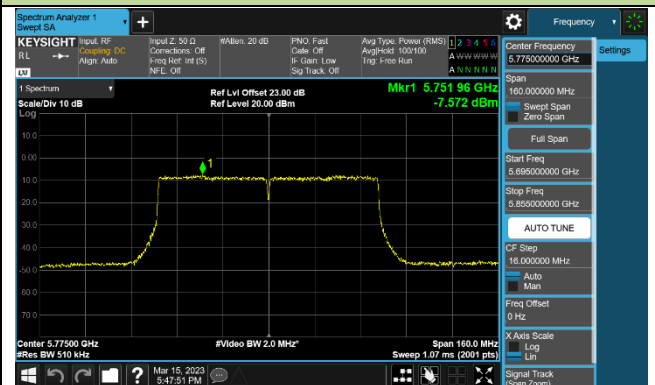
Channel 122 (5610MHz)



Channel 138 (5690MHz)

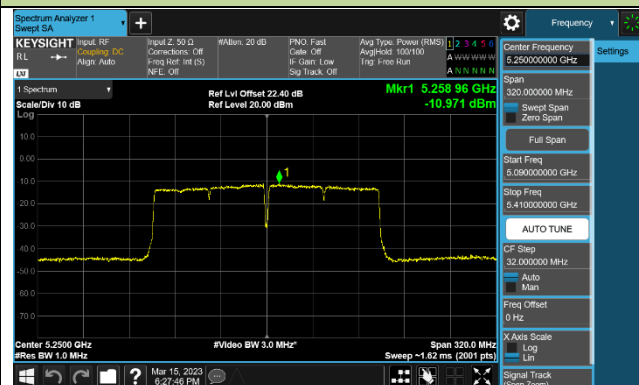


Channel 155 (5775MHz)

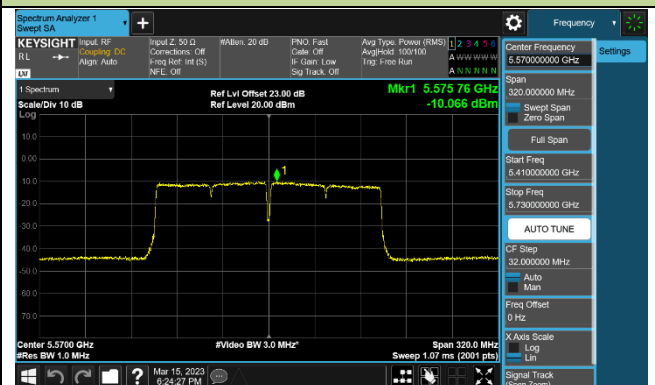


802.11ac-VHT160 Power Spectral Density - Ant 1

Channel 50 (5250MHz)

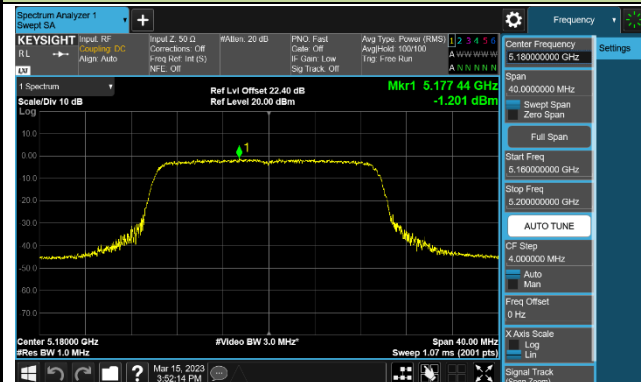


Channel 114 (5570MHz)



802.11ax-HE20 Power Spectral Density - Ant 1

Channel 36 (5180MHz)



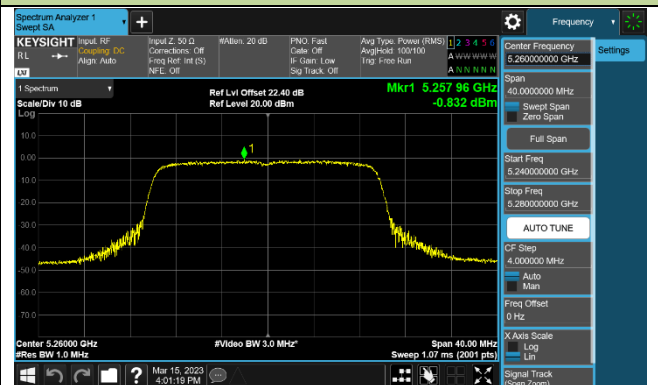
Channel 44 (5220MHz)



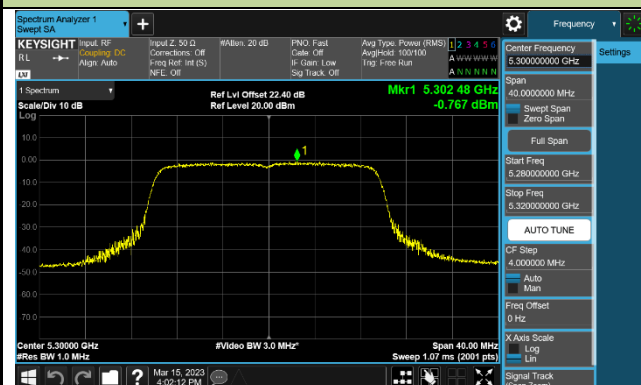
Channel 48 (5240MHz)



Channel 52 (5260MHz)



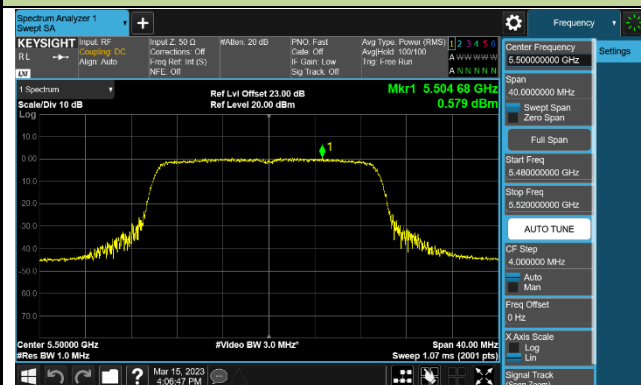
Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)

