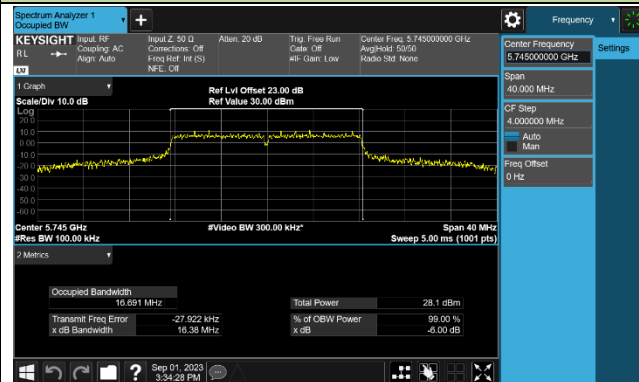
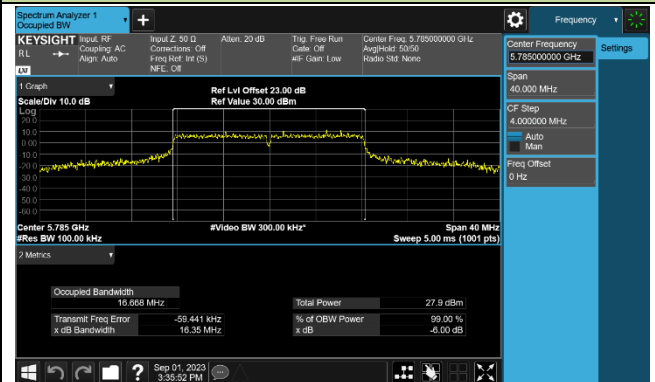


802.11a 6dB Bandwidth

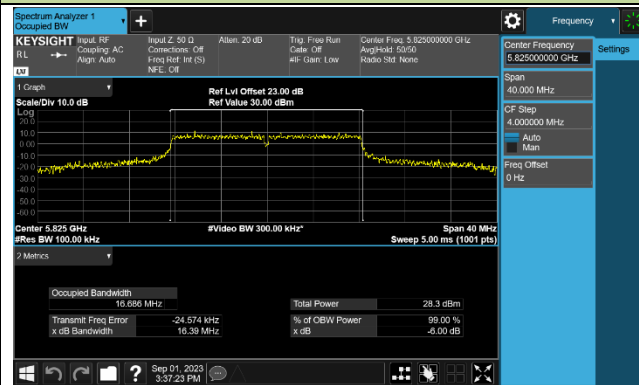
Channel 149 (5745MHz)



Channel 157 (5785MHz)

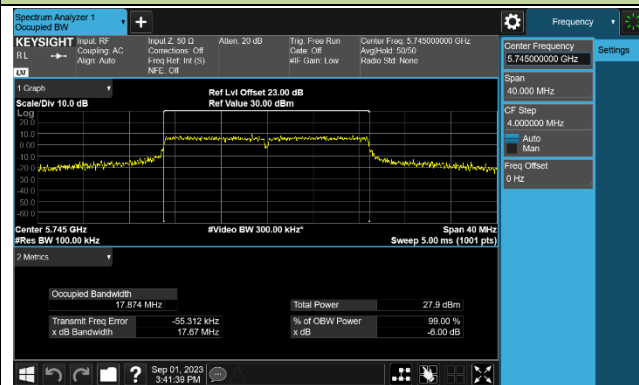


Channel 165 (5825MHz)

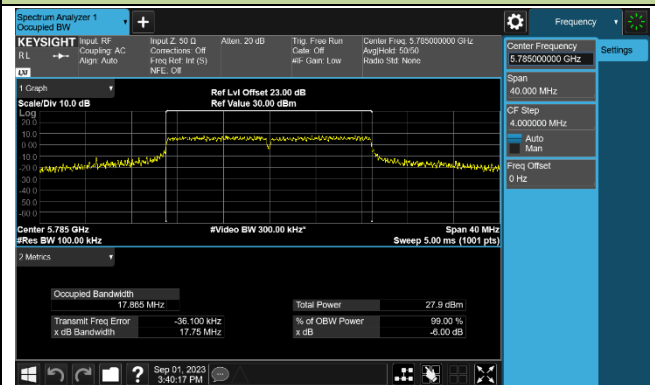


802.11ac-VHT20 6dB Bandwidth

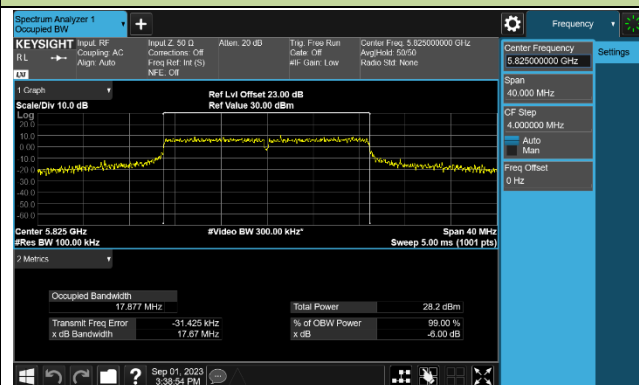
Channel 149 (5745MHz)



Channel 157 (5785MHz)

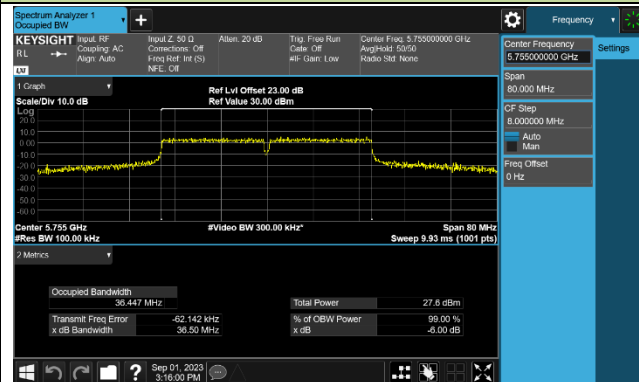


Channel 165 (5825MHz)

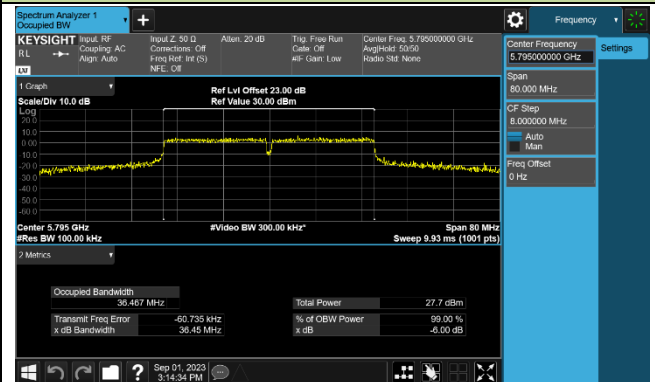


802.11ac-VHT40 6dB Bandwidth

Channel 151 (5755MHz)

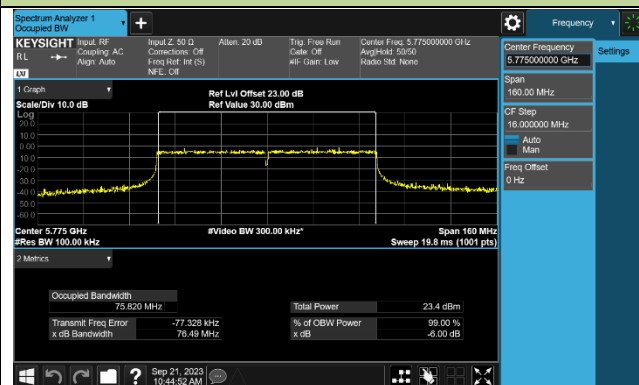


Channel 159 (5795MHz)



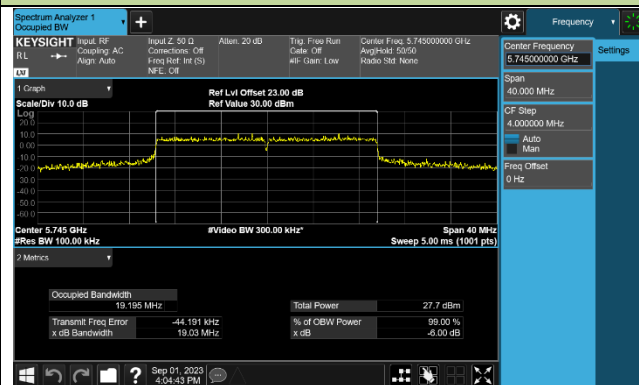
802.11ac-VHT80 6dB Bandwidth

Channel 155 (5775MHz)

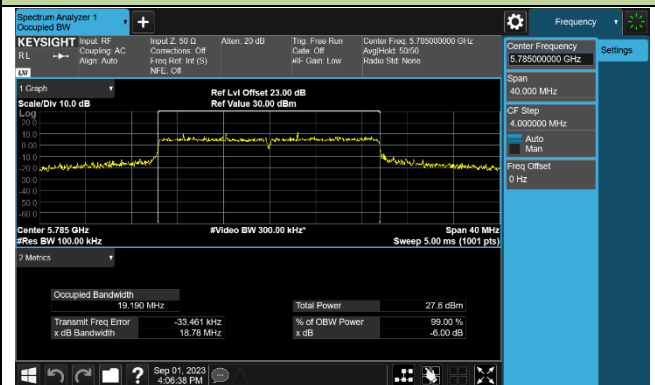


802.11ax-HE20 6dB Bandwidth

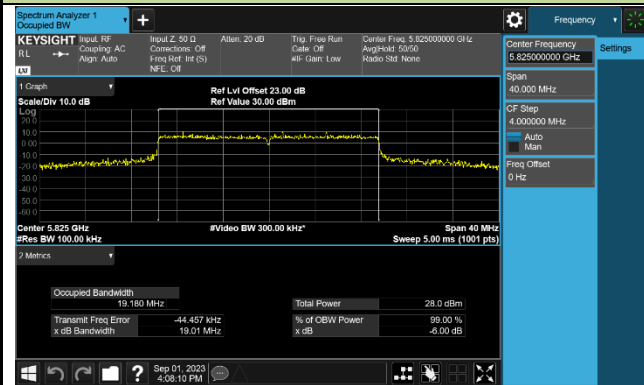
Channel 149 (5745MHz)



Channel 157 (5785MHz)

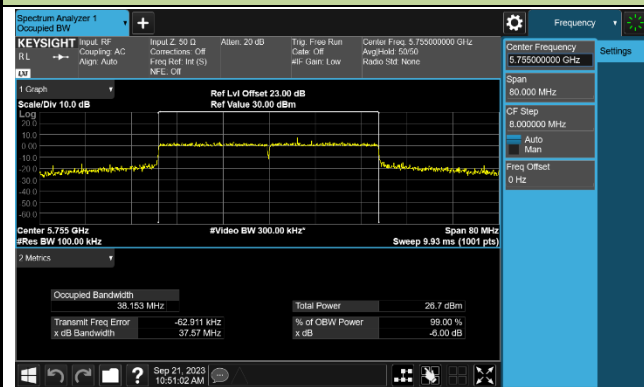


Channel 165 (5825MHz)

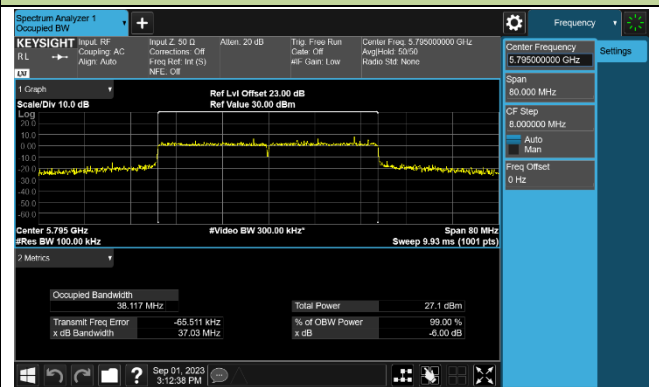


802.11ax-HE40 6dB Bandwidth

Channel 151 (5755MHz)

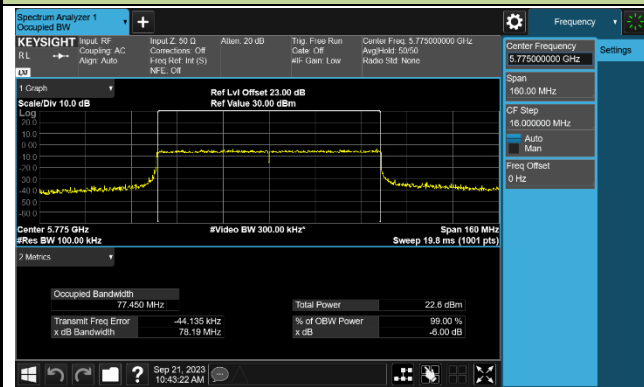


Channel 159 (5795MHz)



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 (30 dBm).

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

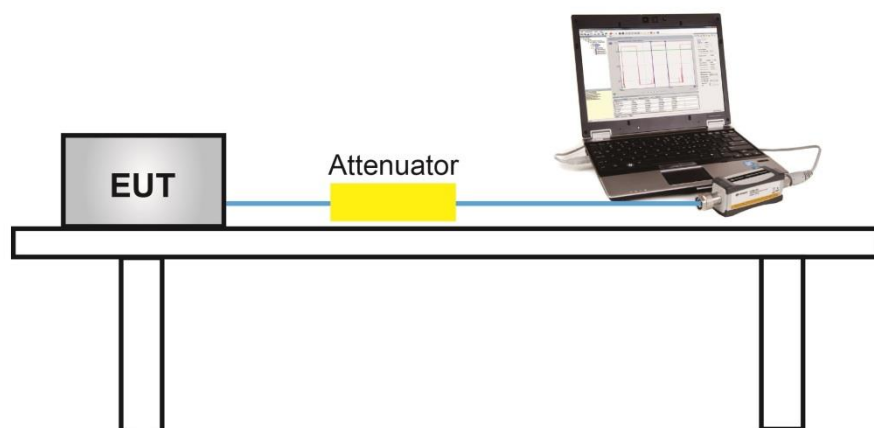
7.4.2. Test Procedure Used

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	AX1800 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Xuan Yu
Test Site	SR5	Test Date	2023/08/29~2023/09/21
Test Mode	CDD Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11a	6Mbps	36	5180	16.90	17.36	20.15	≤ 30.00	Pass
11a	6Mbps	44	5220	22.45	22.24	25.36	≤ 30.00	Pass
11a	6Mbps	48	5240	22.48	22.23	25.37	≤ 30.00	Pass
11a	6Mbps	52	5260	19.18	19.38	22.29	≤ 23.98	Pass
11a	6Mbps	60	5300	19.51	19.44	22.49	≤ 23.98	Pass
11a	6Mbps	64	5320	16.40	16.85	19.64	≤ 23.98	Pass
11a	6Mbps	100	5500	13.71	13.88	16.81	≤ 23.98	Pass
11a	6Mbps	116	5580	18.73	19.22	21.99	≤ 23.98	Pass
11a	6Mbps	140	5700	15.96	16.82	19.42	≤ 23.98	Pass
11a	6Mbps	144	5720	18.88	20.11	22.55	≤ 22.87	Pass
11a	6Mbps	149	5745	23.15	23.94	26.57	≤ 30.00	Pass
11a	6Mbps	157	5785	24.12	23.89	27.02	≤ 30.00	Pass
11a	6Mbps	165	5825	23.98	23.84	26.92	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	18.81	19.32	22.08	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	22.60	22.30	25.46	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	22.62	22.19	25.42	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	19.30	19.62	22.47	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	19.14	19.42	22.29	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	18.64	18.86	21.76	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	16.56	16.93	19.76	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	18.89	20.10	22.55	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	12.01	13.37	15.75	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	18.88	20.12	22.55	≤ 22.92	Pass
11ac-VHT20	MCS0	149	5745	23.52	24.42	27.00	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	24.18	24.33	27.27	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	23.90	24.24	27.08	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT40	MCS0	38	5190	15.25	15.43	18.35	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	22.38	22.31	25.36	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	20.55	20.51	23.54	≤ 30.00	Pass
11ac-VHT40	MCS0	62	5310	15.15	15.87	18.54	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	13.14	13.57	16.37	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	20.29	20.75	23.54	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	15.38	16.03	18.73	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	20.44	21.15	23.82	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	23.22	23.26	26.25	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	24.06	23.33	26.72	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	14.58	14.59	17.60	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	15.60	16.47	19.07	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	12.41	13.09	15.77	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	20.13	21.03	23.61	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	20.54	20.94	23.75	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	19.51	20.43	23.00	≤ 30.00	Pass
11ax-HE20	MCS0	36	5180	17.90	18.48	21.21	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	22.53	22.51	25.53	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	22.40	22.42	25.42	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	19.14	19.46	22.31	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	19.66	19.31	22.50	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	16.06	16.51	19.30	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	16.51	17.48	20.03	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	19.17	19.22	22.21	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	12.29	13.35	15.86	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	18.93	20.27	22.66	≤ 22.97	Pass
11ax-HE20	MCS0	149	5745	23.28	24.45	26.91	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	23.95	24.41	27.20	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	23.51	24.46	27.02	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	14.29	14.25	17.28	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	22.42	22.26	25.35	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	20.60	20.57	23.60	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	14.27	15.12	17.73	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	12.00	12.73	15.39	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.33	20.72	23.54	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	14.01	15.53	17.85	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.55	21.02	23.80	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	22.21	23.51	25.92	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	23.96	23.13	26.58	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	14.43	14.32	17.39	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	15.07	15.97	18.55	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	15.40	16.04	18.74	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	19.96	20.90	23.47	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.35	20.89	23.64	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	19.34	20.59	23.02	≤ 30.00	Pass

Note 1:

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

Note 2:

For 5150 - 5250MHz Bands: Average Power Limit (dBm) = 30.0 dBm.

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

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

For 802.11a Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.87$ dBm.

For 802.11ac Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.92$ dBm.

For 802.11ax Ch144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) = 22.97$ dBm.

Product	AX1800 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Xuan Yu
Test Site	SR5	Test Date	2023/08/29~2023/09/21
Test Mode	Beamforming Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ac-VHT20	MCS0	36	5180	18.81	19.32	22.08	≤ 29.99	Pass
11ac-VHT20	MCS0	40	5220	22.60	22.30	25.46	≤ 29.99	Pass
11ac-VHT20	MCS0	48	5240	22.62	22.19	25.42	≤ 29.99	Pass
11ac-VHT20	MCS0	52	5260	19.30	19.62	22.47	≤ 23.97	Pass
11ac-VHT20	MCS0	60	5300	19.14	19.42	22.29	≤ 23.97	Pass
11ac-VHT20	MCS0	64	5320	18.64	18.86	21.76	≤ 23.97	Pass
11ac-VHT20	MCS0	100	5500	16.56	16.93	19.76	≤ 23.97	Pass
11ac-VHT20	MCS0	116	5580	18.89	20.10	22.55	≤ 23.97	Pass
11ac-VHT20	MCS0	140	5700	12.01	13.37	15.75	≤ 23.97	Pass
11ac-VHT20	MCS0	144	5720	18.88	20.12	22.55	≤ 22.91	Pass
11ac-VHT20	MCS0	149	5745	23.52	24.42	27.00	≤ 29.99	Pass
11ac-VHT20	MCS0	157	5785	24.18	24.33	27.27	≤ 29.99	Pass
11ac-VHT20	MCS0	165	5825	23.90	24.24	27.08	≤ 29.99	Pass
11ac-VHT40	MCS0	38	5190	15.25	15.43	18.35	≤ 29.99	Pass
11ac-VHT40	MCS0	46	5230	22.38	22.31	25.36	≤ 29.99	Pass
11ac-VHT40	MCS0	54	5270	20.55	20.51	23.54	≤ 23.97	Pass
11ac-VHT40	MCS0	62	5310	15.15	15.87	18.54	≤ 23.97	Pass
11ac-VHT40	MCS0	102	5510	13.14	13.57	16.37	≤ 23.97	Pass
11ac-VHT40	MCS0	110	5550	20.29	20.75	23.54	≤ 23.97	Pass
11ac-VHT40	MCS0	134	5670	15.38	16.03	18.73	≤ 23.97	Pass
11ac-VHT40	MCS0	142	5710	20.44	21.15	23.82	≤ 23.97	Pass
11ac-VHT40	MCS0	151	5755	23.22	23.26	26.25	≤ 29.99	Pass
11ac-VHT40	MCS0	159	5795	24.06	23.33	26.72	≤ 29.99	Pass
11ac-VHT80	MCS0	42	5210	14.58	14.59	17.60	≤ 29.99	Pass
11ac-VHT80	MCS0	58	5290	15.60	16.47	19.07	≤ 23.97	Pass
11ac-VHT80	MCS0	106	5530	12.41	13.09	15.77	≤ 23.97	Pass
11ac-VHT80	MCS0	122	5610	20.13	21.03	23.61	≤ 23.97	Pass
11ac-VHT80	MCS0	138	5690	20.54	20.94	23.75	≤ 23.97	Pass
11ac-VHT80	MCS0	155	5775	19.51	20.43	23.00	≤ 29.99	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
11ax-HE20	MCS0	36	5180	17.90	18.48	21.21	≤ 29.99	Pass
11ax-HE20	MCS0	40	5220	22.53	22.51	25.53	≤ 29.99	Pass
11ax-HE20	MCS0	48	5240	22.40	22.42	25.42	≤ 29.99	Pass
11ax-HE20	MCS0	52	5260	19.14	19.46	22.31	≤ 23.97	Pass
11ax-HE20	MCS0	60	5300	19.66	19.31	22.50	≤ 23.97	Pass
11ax-HE20	MCS0	64	5320	16.06	16.51	19.30	≤ 23.97	Pass
11ax-HE20	MCS0	100	5500	16.51	17.48	20.03	≤ 23.97	Pass
11ax-HE20	MCS0	116	5580	19.17	19.22	22.21	≤ 23.97	Pass
11ax-HE20	MCS0	140	5700	12.29	13.35	15.86	≤ 23.97	Pass
11ax-HE20	MCS0	144	5720	18.93	20.27	22.66	≤ 22.96	Pass
11ax-HE20	MCS0	149	5745	23.28	24.45	26.91	≤ 29.99	Pass
11ax-HE20	MCS0	157	5785	23.95	24.41	27.20	≤ 29.99	Pass
11ax-HE20	MCS0	165	5825	23.51	24.46	27.02	≤ 29.99	Pass
11ax-HE40	MCS0	38	5190	14.29	14.25	17.28	≤ 29.99	Pass
11ax-HE40	MCS0	46	5230	22.42	22.26	25.35	≤ 29.99	Pass
11ax-HE40	MCS0	54	5270	20.60	20.57	23.60	≤ 23.97	Pass
11ax-HE40	MCS0	62	5310	14.27	15.12	17.73	≤ 23.97	Pass
11ax-HE40	MCS0	102	5510	12.00	12.73	15.39	≤ 23.97	Pass
11ax-HE40	MCS0	110	5550	20.33	20.72	23.54	≤ 23.97	Pass
11ax-HE40	MCS0	134	5670	14.01	15.53	17.85	≤ 23.97	Pass
11ax-HE40	MCS0	142	5710	20.55	21.02	23.80	≤ 23.97	Pass
11ax-HE40	MCS0	151	5755	22.21	23.51	25.92	≤ 29.99	Pass
11ax-HE40	MCS0	159	5795	23.96	23.13	26.58	≤ 29.99	Pass
11ax-HE80	MCS0	42	5210	14.43	14.32	17.39	≤ 29.99	Pass
11ax-HE80	MCS0	58	5290	15.07	15.97	18.55	≤ 23.97	Pass
11ax-HE80	MCS0	106	5530	15.40	16.04	18.74	≤ 23.97	Pass
11ax-HE80	MCS0	122	5610	19.96	20.90	23.47	≤ 23.97	Pass
11ax-HE80	MCS0	138	5690	20.35	20.89	23.64	≤ 23.97	Pass
11ax-HE80	MCS0	155	5775	19.34	20.59	23.02	≤ 29.99	Pass

Note 1:

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

Note 2:

For 5125 - 5250MHz Band: Average Power Limit (dBm) = 30 - (6.01- 6) = 29.99dBm

For 5250 - 5350MHz and 5470 - 5725MHz Band: Average Power Limit (dBm) = 23.98 - (6.01- 6) = 23.97dBm.

For 5725 - 5850MHz Band: Average Power Limit (dBm) = 30- (6.01- 6) = 29.99dBm.

For ac_144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) - (6.01 - 6) = 22.91 \text{ dBm}$.

For ax_144 (5720MHz), Average Power Limit (dBm) = $11 + 10 \cdot \log(5\text{MHz} + \text{BW}_{26\text{dBc}}/2) - (6.01 - 6) = 22.96 \text{ dBm}$.

Product	AX1800 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Xuan Yu
Test Site	SR5	Test Date	2023/08/29~2023/09/21

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
				Ant 0	Ant 1				
EIRP at any elevation angle above 30 degrees (CDD mode)									
11a	6Mbps	36	5180	16.90	17.36	20.15	15.42	≤ 21.00	Pass
11a	6Mbps	44	5220	22.45	22.24	25.36	20.63	≤ 21.00	Pass
11a	6Mbps	48	5240	22.48	22.23	25.37	20.64	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	18.81	19.32	22.08	17.35	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	22.60	22.30	25.46	20.73	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	22.62	22.19	25.42	20.69	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	15.25	15.43	18.35	13.62	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	22.38	22.31	25.36	20.63	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	14.58	14.59	17.60	12.87	≤ 21.00	Pass
11ax-HE20	MCS0	36	5180	17.90	18.48	21.21	16.48	≤ 21.00	Pass
11ax-HE20	MCS0	44	5220	22.53	22.51	25.53	20.80	≤ 21.00	Pass
11ax-HE20	MCS0	48	5240	22.40	22.42	25.42	20.69	≤ 21.00	Pass
11ax-HE40	MCS0	38	5190	14.29	14.25	17.28	12.55	≤ 21.00	Pass
11ax-HE40	MCS0	46	5230	22.42	22.26	25.35	20.62	≤ 21.00	Pass
11ax-HE80	MCS0	42	5210	14.43	14.32	17.39	12.66	≤ 21.00	Pass
EIRP at any elevation angle above 30 degrees (Beamforming mode)									
11ac-VHT20	MCS0	36	5180	18.81	19.32	22.08	20.36	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	19.24	19.27	22.27	20.55	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	19.27	19.41	22.35	20.63	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	15.25	15.43	18.35	16.63	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	19.23	19.22	22.24	20.52	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	14.58	14.59	17.60	15.88	≤ 21.00	Pass
11ax-HE20	MCS0	36	5180	17.90	18.48	21.21	19.49	≤ 21.00	Pass
11ax-HE20	MCS0	44	5220	19.02	19.48	22.27	20.55	≤ 21.00	Pass
11ax-HE20	MCS0	48	5240	19.11	19.38	22.26	20.54	≤ 21.00	Pass
11ax-HE40	MCS0	38	5190	14.29	14.25	17.28	15.56	≤ 21.00	Pass
11ax-HE40	MCS0	46	5230	19.23	19.42	22.34	20.62	≤ 21.00	Pass
11ax-HE80	MCS0	42	5210	14.43	14.32	17.39	15.67	≤ 21.00	Pass

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

Note 2: EIRP (dBm) = Total Average Power (dBm) + Directional Gain (dBi)

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.

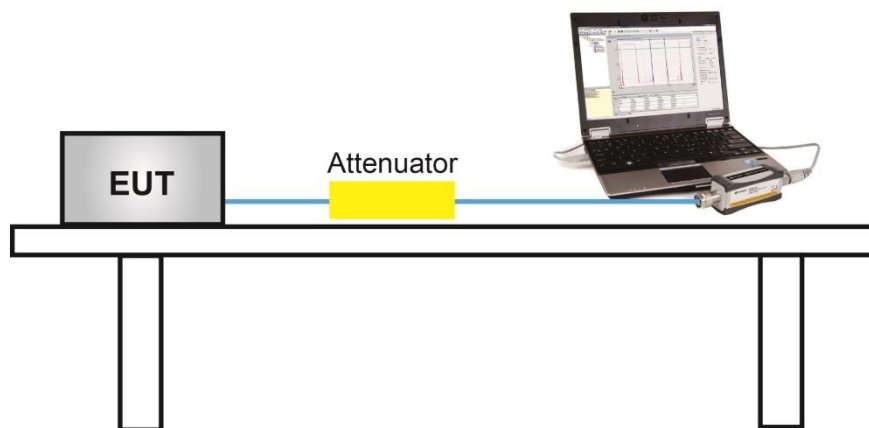
7.5.2. Test Procedure Used

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.

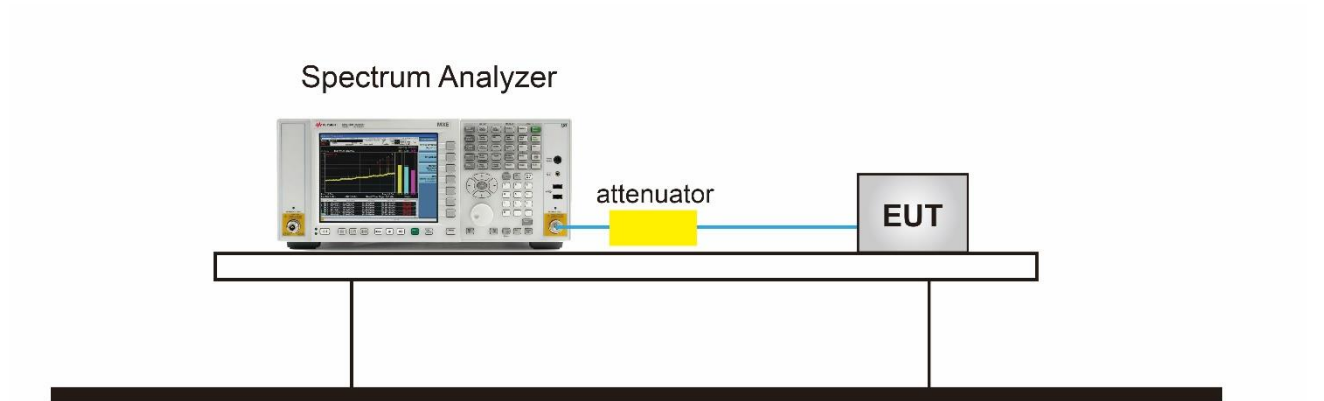
7.6.2. Test Procedure Used

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	AX1800 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Xuan Yu
Test Site	SR5	Test Date	2023/08/29~2023/09/21
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)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11a	6Mbps	36	5180	5.056	5.147	95.13%	8.329	≤ 16.99	Pass
11a	6Mbps	44	5220	10.338	10.428	95.13%	13.610	≤ 16.99	Pass
11a	6Mbps	48	5240	10.187	10.078	95.13%	13.360	≤ 16.99	Pass
11a	6Mbps	52	5260	7.251	7.388	95.13%	10.547	≤ 10.99	Pass
11a	6Mbps	60	5300	7.751	7.569	95.13%	10.888	≤ 10.99	Pass
11a	6Mbps	64	5320	4.445	5.237	95.13%	8.086	≤ 10.99	Pass
11a	6Mbps	100	5500	1.560	2.356	95.13%	5.203	≤ 10.99	Pass
11a	6Mbps	116	5580	6.781	7.684	95.13%	10.483	≤ 10.99	Pass
11a	6Mbps	140	5700	3.272	4.677	95.13%	7.258	≤ 10.99	Pass
11a	6Mbps	144	5720	6.744	8.038	95.13%	10.666	≤ 10.99	Pass
11ac-VHT20	MCS0	36	5180	6.304	6.945	96.10%	9.819	≤ 16.99	Pass
11ac-VHT20	MCS0	40	5220	9.768	9.866	96.10%	13.000	≤ 16.99	Pass
11ac-VHT20	MCS0	48	5240	9.774	10.255	96.10%	13.204	≤ 16.99	Pass
11ac-VHT20	MCS0	52	5260	7.095	7.568	96.10%	10.521	≤ 10.99	Pass
11ac-VHT20	MCS0	60	5300	7.518	7.740	96.10%	10.813	≤ 10.99	Pass
11ac-VHT20	MCS0	64	5320	6.671	6.881	96.10%	9.960	≤ 10.99	Pass
11ac-VHT20	MCS0	100	5500	4.637	4.645	96.10%	7.824	≤ 10.99	Pass
11ac-VHT20	MCS0	116	5580	6.758	7.907	96.10%	10.553	≤ 10.99	Pass
11ac-VHT20	MCS0	140	5700	-0.349	0.793	96.10%	3.442	≤ 10.99	Pass
11ac-VHT20	MCS0	144	5720	6.117	7.848	96.10%	10.251	≤ 10.99	Pass
11ac-VHT40	MCS0	38	5190	-0.263	-0.086	94.08%	3.102	≤ 16.99	Pass
11ac-VHT40	MCS0	46	5230	7.041	7.038	94.08%	10.315	≤ 16.99	Pass
11ac-VHT40	MCS0	54	5270	5.503	5.398	94.08%	8.726	≤ 10.99	Pass
11ac-VHT40	MCS0	62	5310	0.309	0.785	94.08%	3.829	≤ 10.99	Pass
11ac-VHT40	MCS0	102	5510	-2.465	-2.030	94.08%	1.033	≤ 10.99	Pass
11ac-VHT40	MCS0	110	5550	4.527	5.319	94.08%	8.216	≤ 10.99	Pass
11ac-VHT40	MCS0	134	5670	-0.317	1.232	94.08%	3.802	≤ 10.99	Pass
11ac-VHT40	MCS0	142	5710	5.200	6.390	94.08%	9.111	≤ 10.99	Pass

Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	Ant 0 PSD (dBm/MHz)	Ant 1 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
11ac-VHT80	MCS0	42	5210	-4.386	-4.501	95.78%	-1.246	≤ 16.99	Pass
11ac-VHT80	MCS0	58	5290	-2.098	-2.185	95.78%	1.056	≤ 10.99	Pass
11ac-VHT80	MCS0	106	5530	-5.930	-5.550	95.78%	-2.538	≤ 10.99	Pass
11ac-VHT80	MCS0	122	5610	1.317	2.464	95.78%	5.126	≤ 10.99	Pass
11ac-VHT80	MCS0	138	5690	1.941	2.697	95.78%	5.533	≤ 10.99	Pass
11ax-HE20	MCS0	36	5180	5.464	5.934	96.11%	8.888	≤ 16.99	Pass
11ax-HE20	MCS0	44	5220	9.794	9.994	96.11%	13.078	≤ 16.99	Pass
11ax-HE20	MCS0	48	5240	10.054	10.068	96.11%	13.244	≤ 16.99	Pass
11ax-HE20	MCS0	52	5260	6.868	7.497	96.11%	10.376	≤ 10.99	Pass
11ax-HE20	MCS0	60	5300	7.429	7.817	96.11%	10.810	≤ 10.99	Pass
11ax-HE20	MCS0	64	5320	4.549	4.869	96.11%	7.895	≤ 10.99	Pass
11ax-HE20	MCS0	100	5500	4.014	5.095	96.11%	7.771	≤ 10.99	Pass
11ax-HE20	MCS0	116	5580	6.522	7.927	96.11%	10.464	≤ 10.99	Pass
11ax-HE20	MCS0	140	5700	-0.177	1.288	96.11%	3.800	≤ 10.99	Pass
11ax-HE20	MCS0	144	5720	6.191	7.614	96.11%	10.143	≤ 10.99	Pass
11ax-HE40	MCS0	38	5190	-1.128	-1.406	94.76%	1.979	≤ 16.99	Pass
11ax-HE40	MCS0	46	5230	6.656	6.744	94.76%	9.944	≤ 16.99	Pass
11ax-HE40	MCS0	54	5270	5.259	5.432	94.76%	8.590	≤ 10.99	Pass
11ax-HE40	MCS0	62	5310	-0.836	-0.489	94.76%	2.585	≤ 10.99	Pass
11ax-HE40	MCS0	102	5510	-3.295	-2.800	94.76%	0.204	≤ 10.99	Pass
11ax-HE40	MCS0	110	5550	4.447	5.307	94.76%	8.142	≤ 10.99	Pass
11ax-HE40	MCS0	134	5670	-0.820	0.052	94.76%	2.882	≤ 10.99	Pass
11ax-HE40	MCS0	142	5710	5.005	6.215	94.76%	8.896	≤ 10.99	Pass
11ax-HE80	MCS0	42	5210	-3.958	-4.855	94.45%	-1.125	≤ 16.99	Pass
11ax-HE80	MCS0	58	5290	-3.027	-2.669	94.45%	0.414	≤ 10.99	Pass
11ax-HE80	MCS0	106	5530	-2.874	-2.793	94.45%	0.425	≤ 10.99	Pass
11ax-HE80	MCS0	122	5610	1.244	2.637	94.45%	5.254	≤ 10.99	Pass
11ax-HE80	MCS0	122	5690	1.668	2.828	94.45%	5.545	≤ 10.99	Pass

Note 1:When EUT duty cycle ≥ 98%,

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

When EUT duty cycle < 98%,

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

Note 2:

For 5150 - 5250MHz Band: PSD Limit (dBm/MHz) = 17 - (6.01 - 6) = 16.99dBm/MHz.

For 5250 - 5350MHz and 5470 - 5725MHz Band: PSD Limit (dBm/MHz) = 11 - (6.01 - 6) = 10.99dBm/MHz.

Product	AX1800 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Xuan Yu
Test Site	SR5	Test Date	2023/08/29~2023/09/21
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)	Duty Cycle (%)	Total PSD (dBm/ 510kHz)	Limit (dBm/ 500kHz)	Result
11a	6Mbps	149	5745	8.454	9.492	95.13%	12.231	≤ 29.99	Pass
11a	6Mbps	157	5785	9.402	9.477	95.13%	12.667	≤ 29.99	Pass
11a	6Mbps	165	5825	9.219	9.519	95.13%	12.599	≤ 29.99	Pass
11ac-VHT20	MCS0	149	5745	8.001	9.044	96.10%	11.737	≤ 29.99	Pass
11ac-VHT20	MCS0	157	5785	8.510	9.362	96.10%	12.140	≤ 29.99	Pass
11ac-VHT20	MCS0	165	5825	8.630	9.357	96.10%	12.192	≤ 29.99	Pass
11ac-VHT40	MCS0	151	5755	5.197	5.849	94.08%	8.811	≤ 29.99	Pass
11ac-VHT40	MCS0	159	5795	6.045	6.270	94.08%	9.434	≤ 29.99	Pass
11ac-VHT80	MCS0	155	5775	-2.013	-0.762	95.78%	1.855	≤ 29.99	Pass
11ax-HE20	MCS0	149	5745	8.104	8.938	96.11%	11.724	≤ 29.99	Pass
11ax-HE20	MCS0	157	5785	8.534	9.103	96.11%	12.010	≤ 29.99	Pass
11ax-HE20	MCS0	165	5825	8.621	8.914	96.11%	11.953	≤ 29.99	Pass
11ax-HE40	MCS0	151	5755	4.125	5.229	94.76%	7.956	≤ 29.99	Pass
11ax-HE40	MCS0	159	5795	5.917	5.864	94.76%	9.135	≤ 29.99	Pass
11ax-HE80	MCS0	155	5775	-2.058	-1.107	94.45%	1.702	≤ 29.99	Pass

Note 1: When EUT duty cycle ≥ 98%,

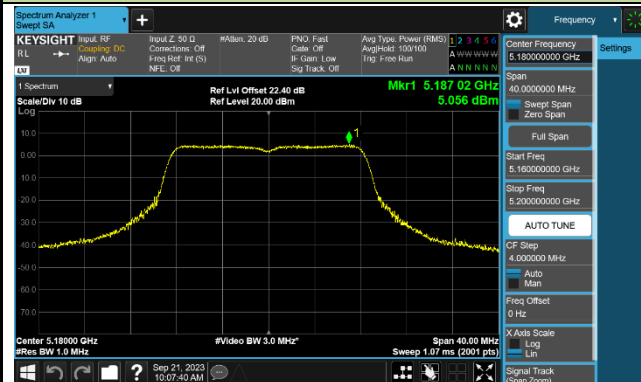
the total PSD (dBm/510kHz) = $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ (dBm/510kHz).

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

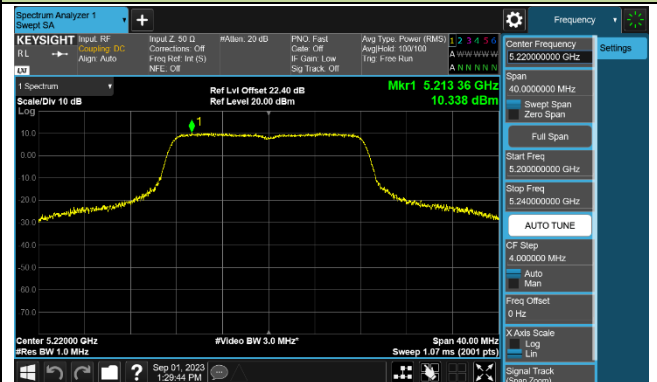
Note 2: PSD Limit (dBm/500kHz) = 30 - (6.01 - 6) = 29.99 (dBm/500kHz).

802.11a Power Spectral Density - Ant 0

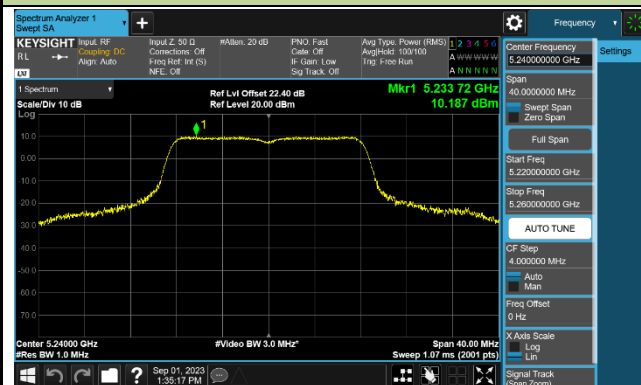
Channel 36 (5180MHz)



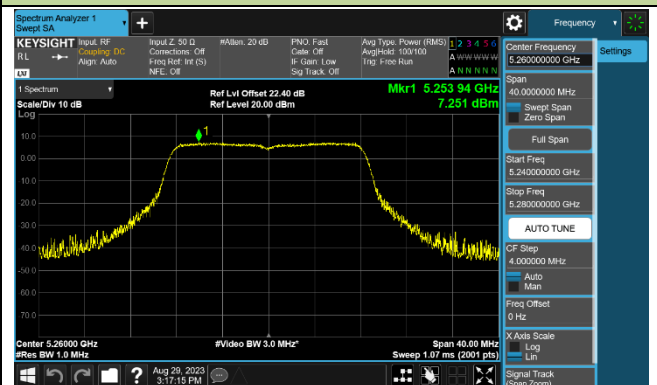
Channel 44 (5220MHz)



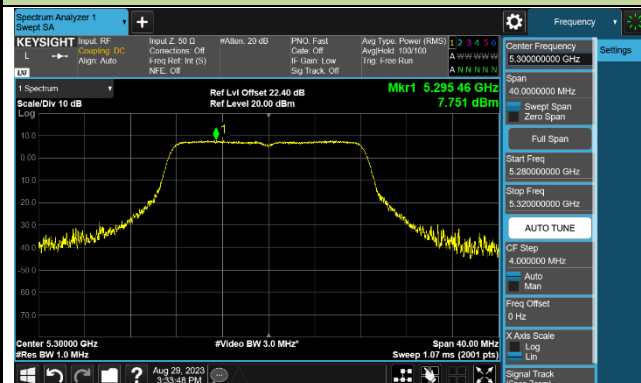
Channel 48 (5240MHz)



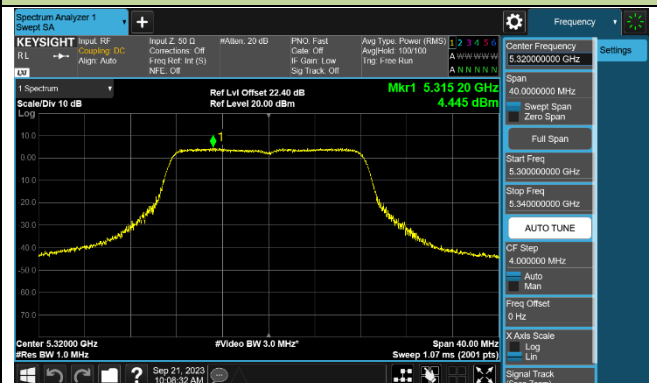
Channel 52 (5260MHz)



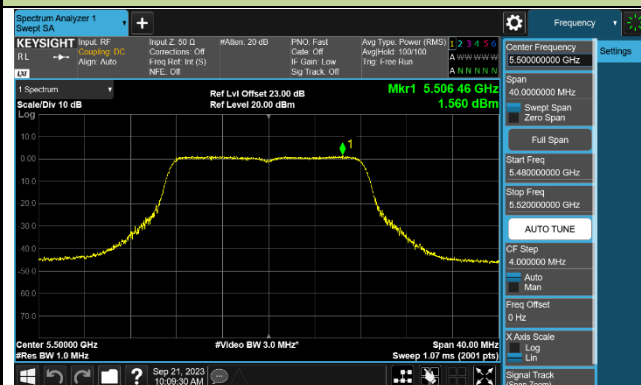
Channel 60 (5300MHz)



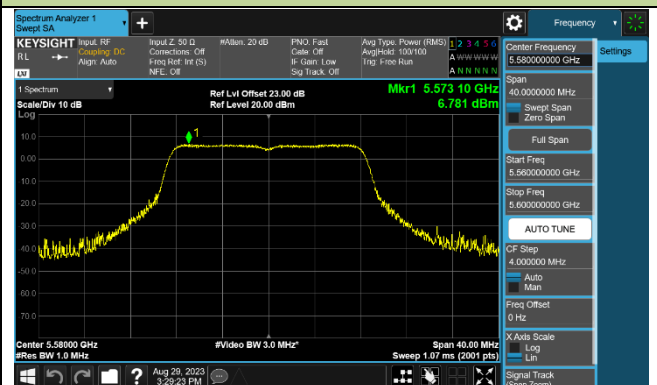
Channel 64 (5320MHz)

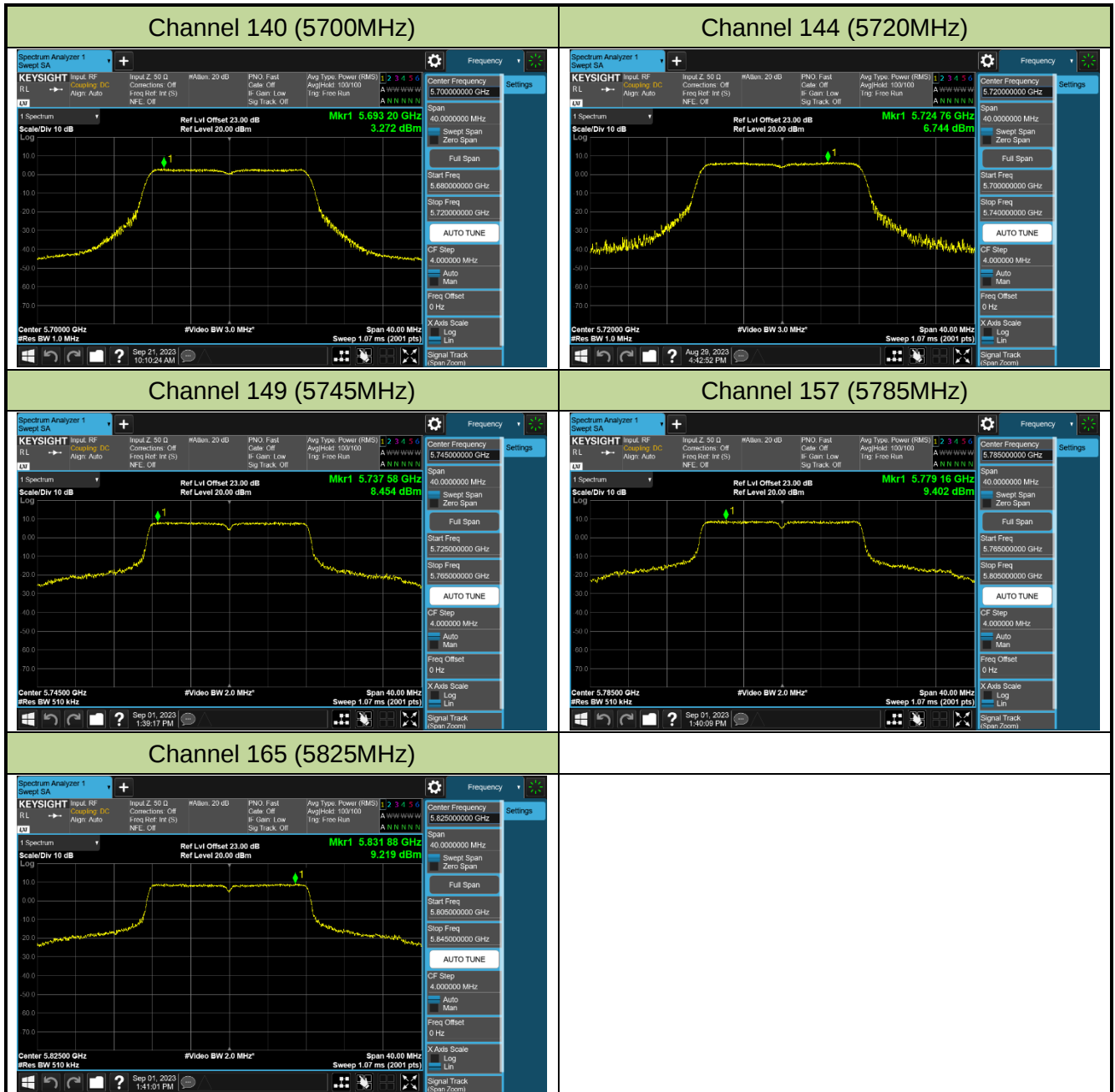


Channel 100 (5500MHz)



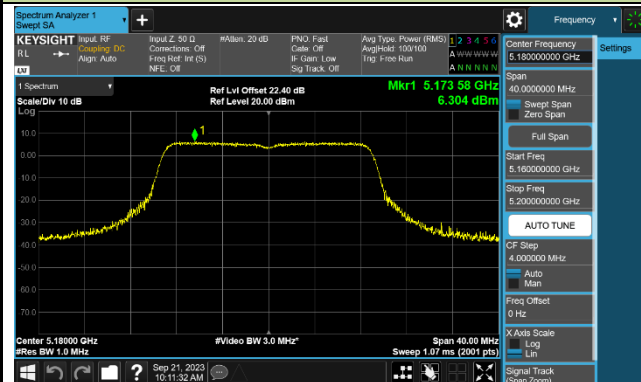
Channel 116 (5580MHz)



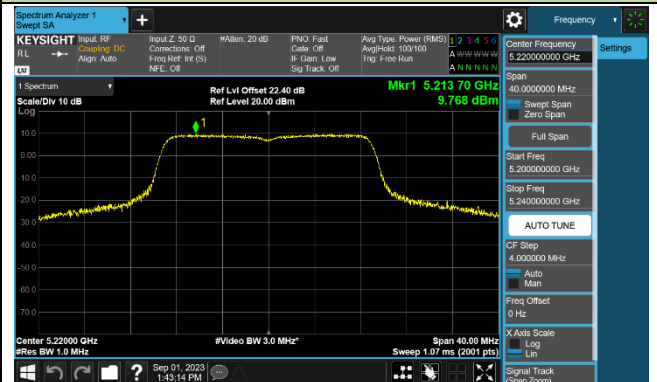


802.11ac-VHT20 Power Spectral Density - Ant 0

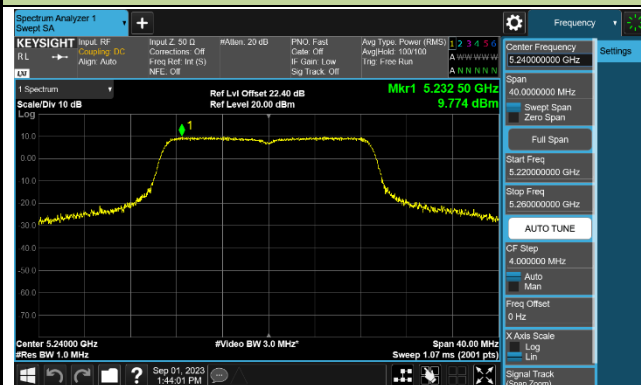
Channel 36 (5180MHz)



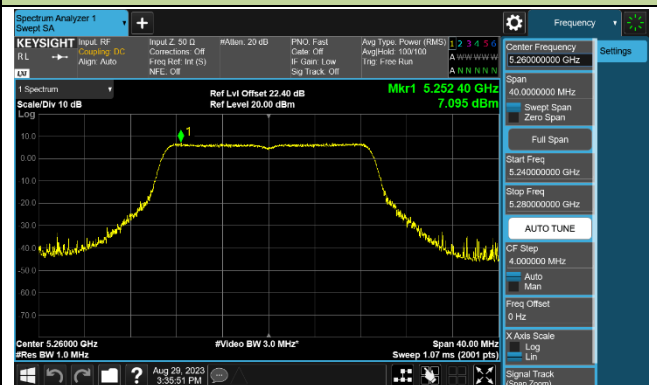
Channel 44 (5220MHz)



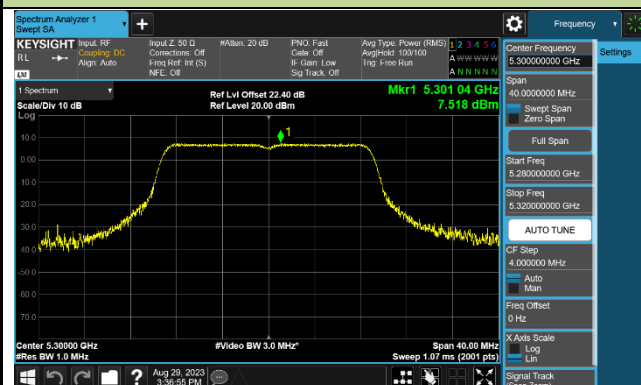
Channel 48 (5240MHz)



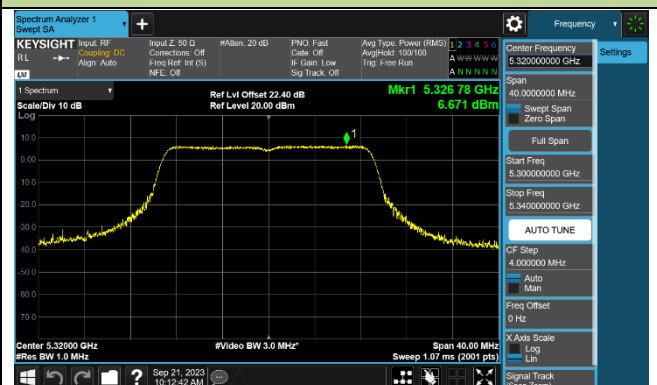
Channel 52 (5260MHz)



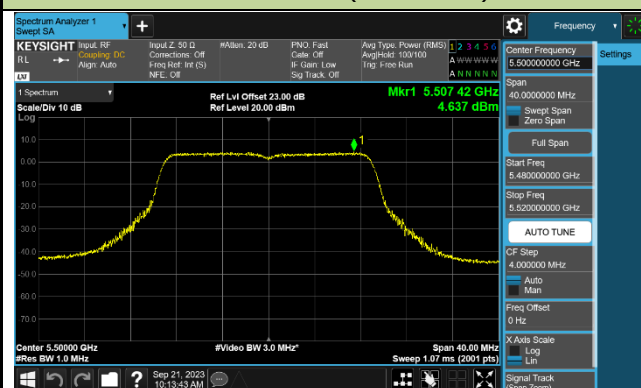
Channel 60 (5300MHz)



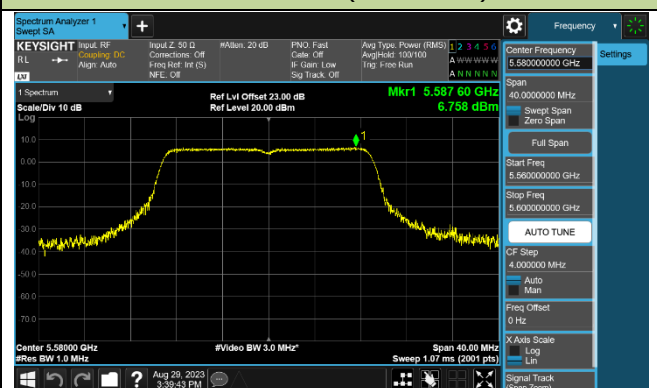
Channel 64 (5320MHz)

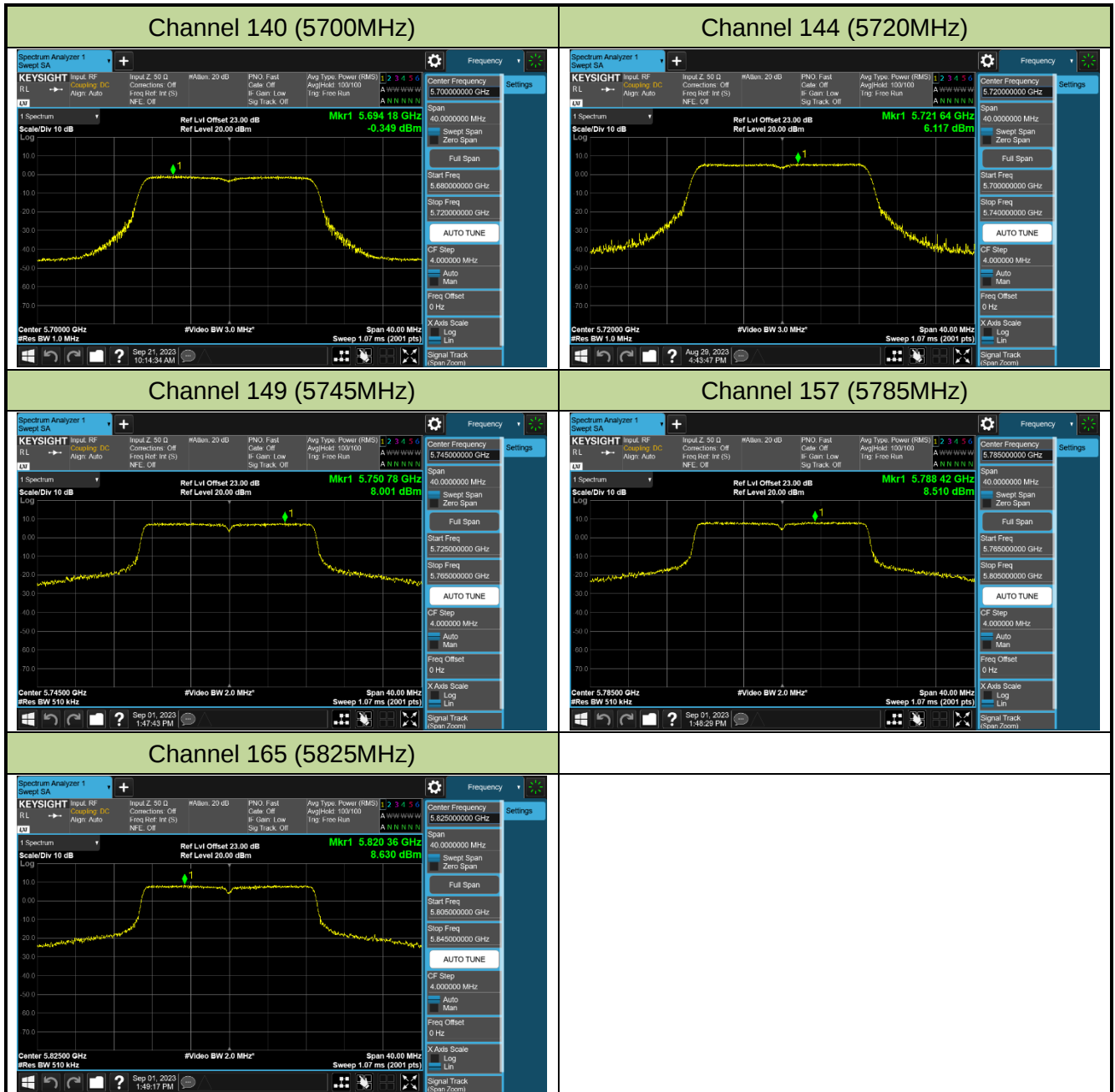


Channel 100 (5500MHz)



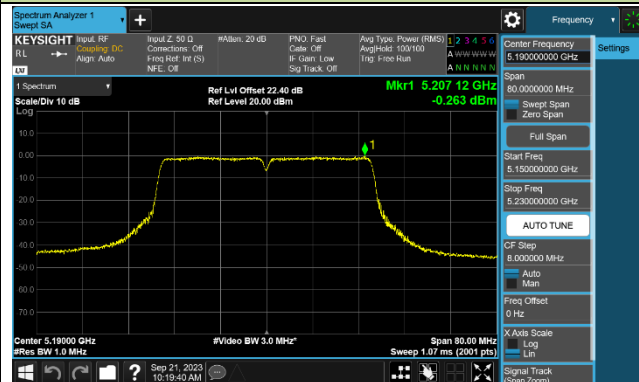
Channel 116 (5580MHz)



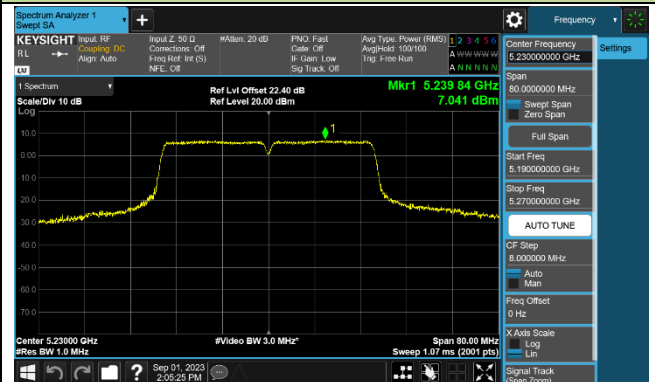


802.11ac-VHT40 Power Spectral Density - Ant 0

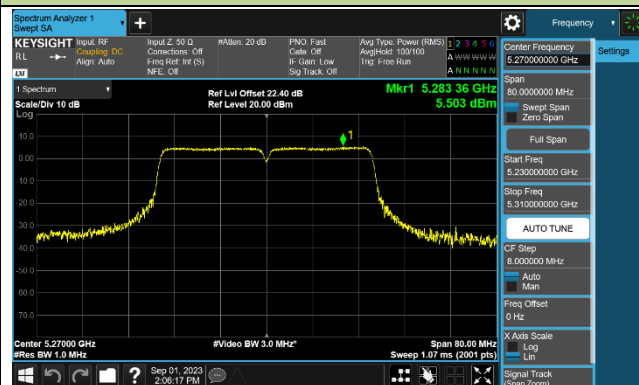
Channel 38 (5190MHz)



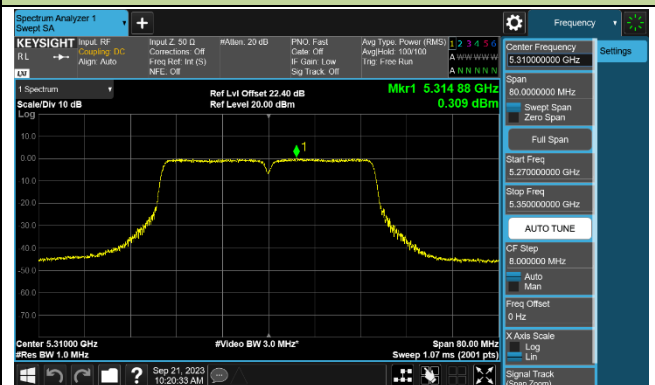
Channel 46 (5230MHz)



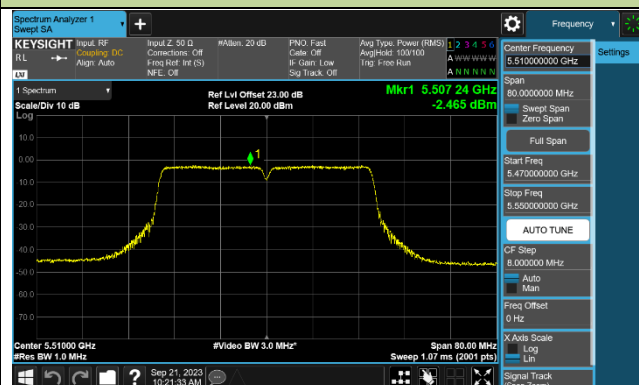
Channel 54 (5270MHz)



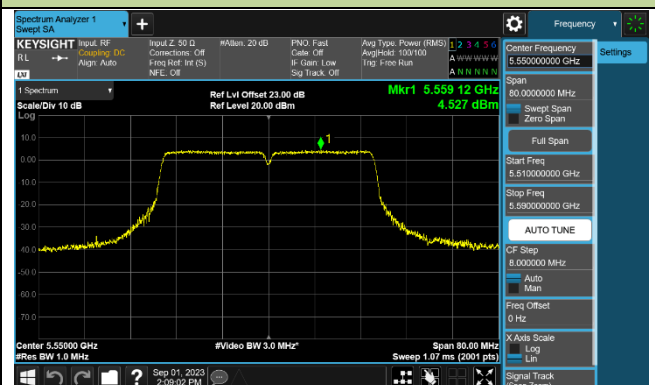
Channel 62 (5310MHz)



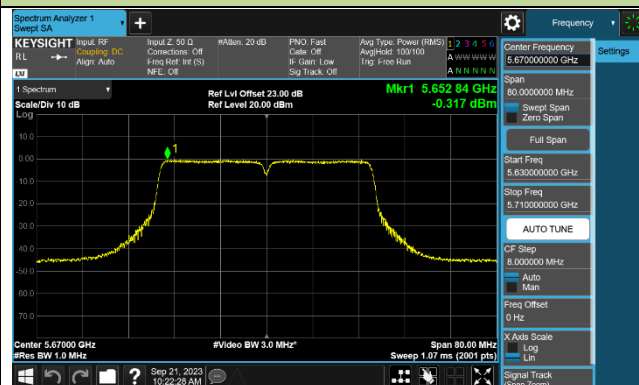
Channel 102 (5510MHz)



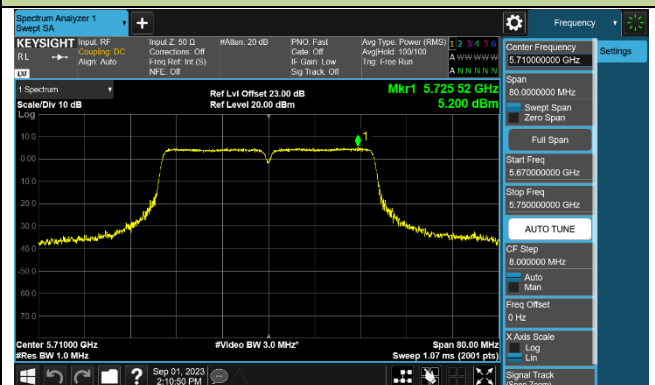
Channel 110 (5550MHz)

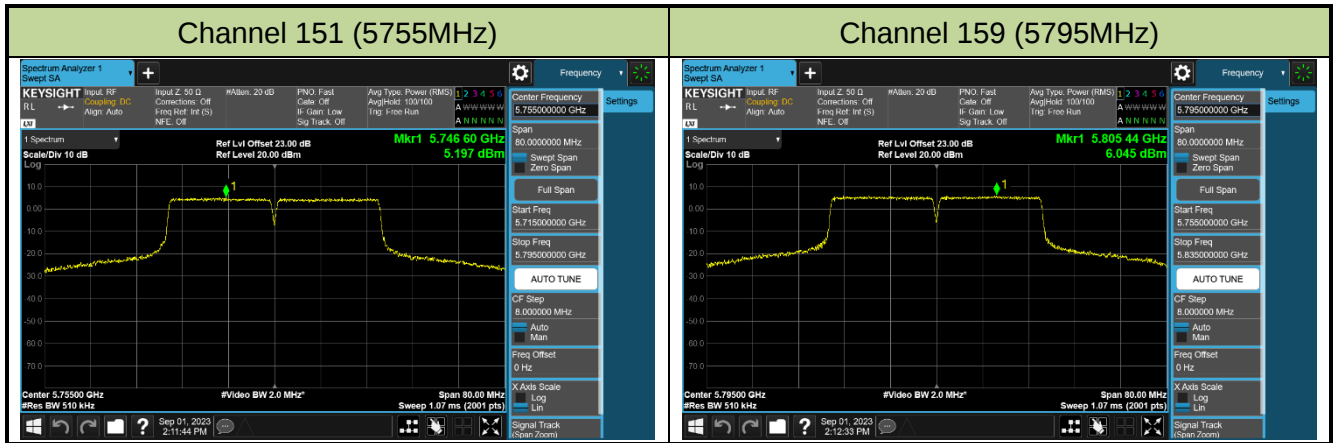


Channel 134 (5670MHz)



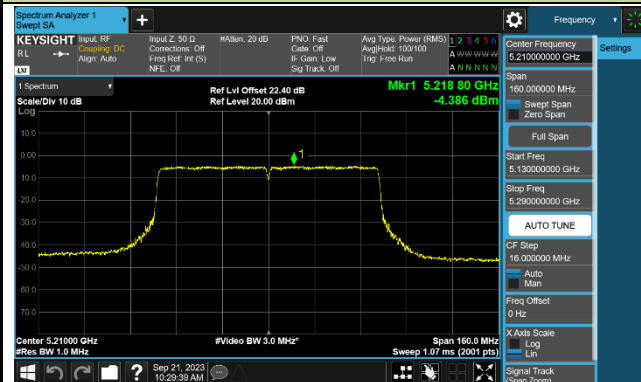
Channel 142 (5710MHz)



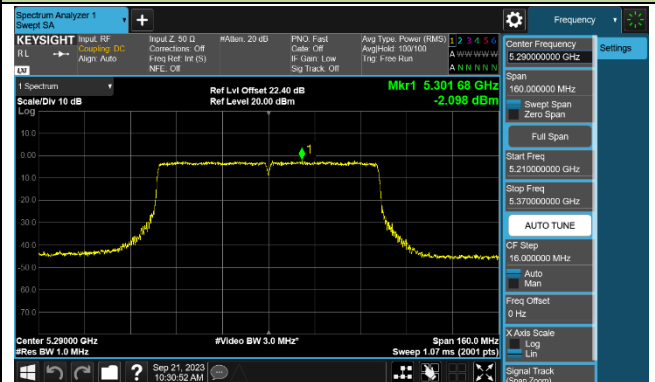


802.11ac-VHT80 Power Spectral Density - Ant 0

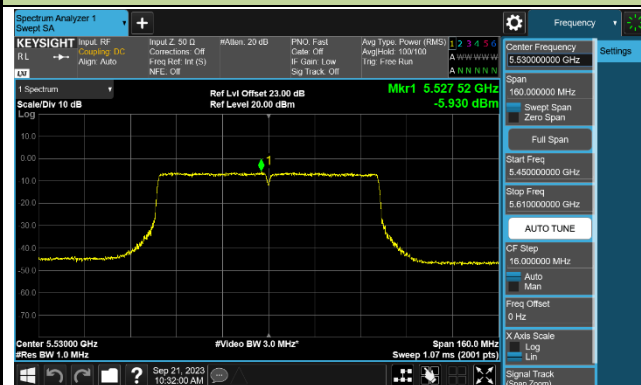
Channel 42 (5210MHz)



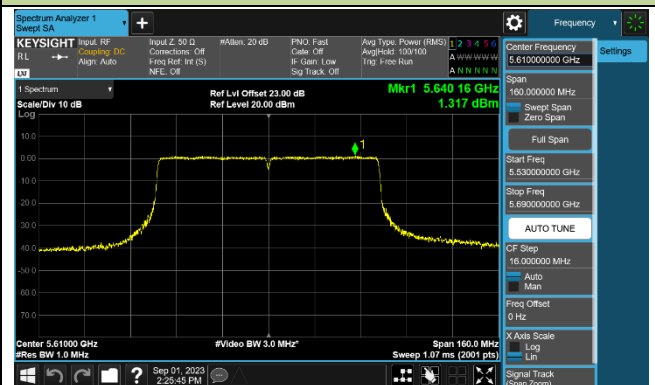
Channel 58 (5290MHz)



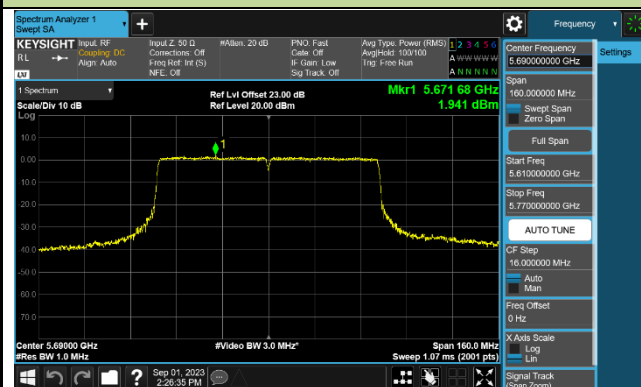
Channel 106 (5530MHz)



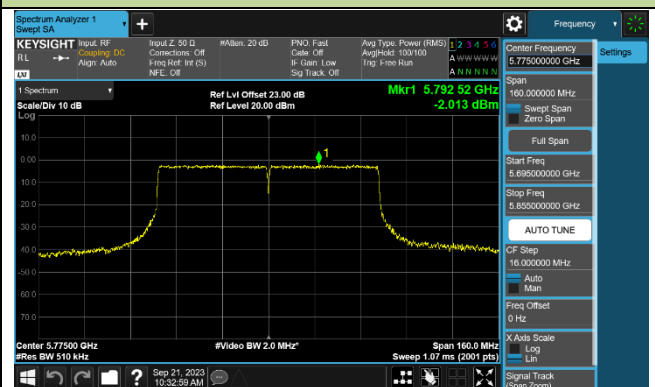
Channel 122 (5610MHz)



Channel 138 (5690MHz)

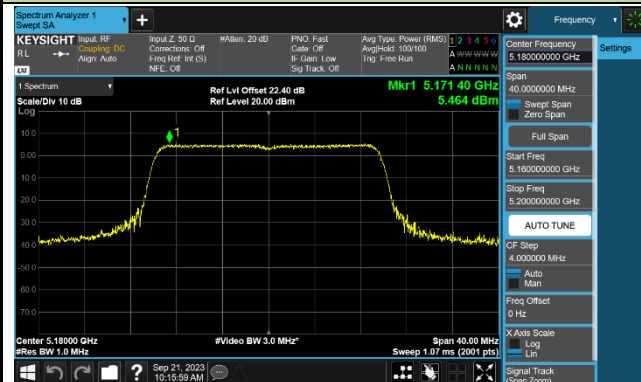


Channel 155 (5775MHz)

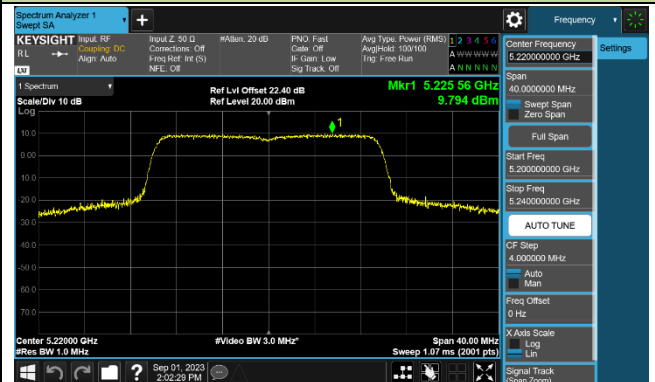


802.11ax-HE20 Power Spectral Density - Ant 0

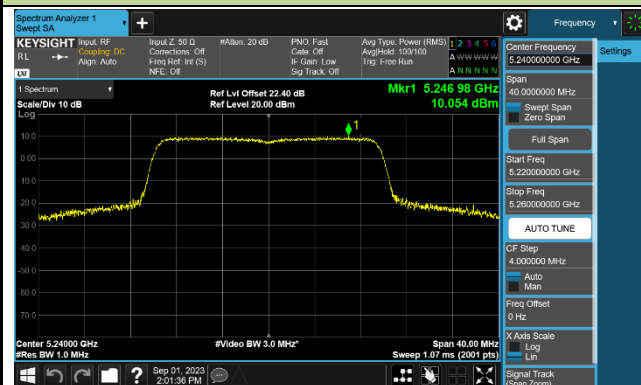
Channel 36 (5180MHz)



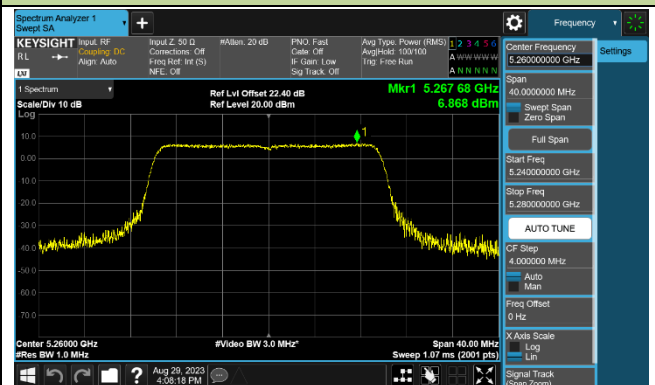
Channel 44 (5220MHz)



Channel 48 (5240MHz)



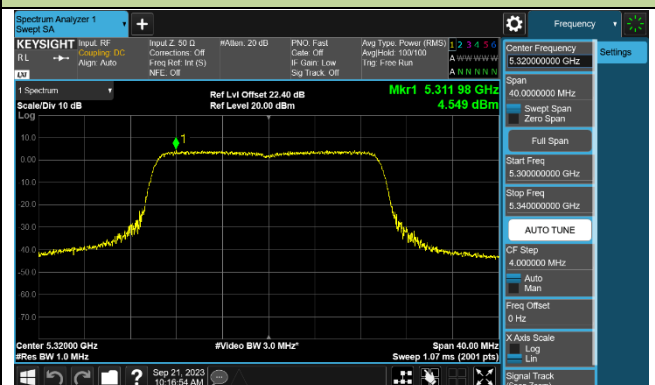
Channel 52 (5260MHz)



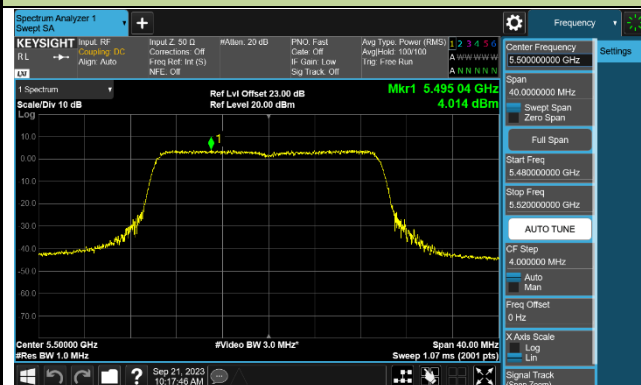
Channel 60 (5300MHz)



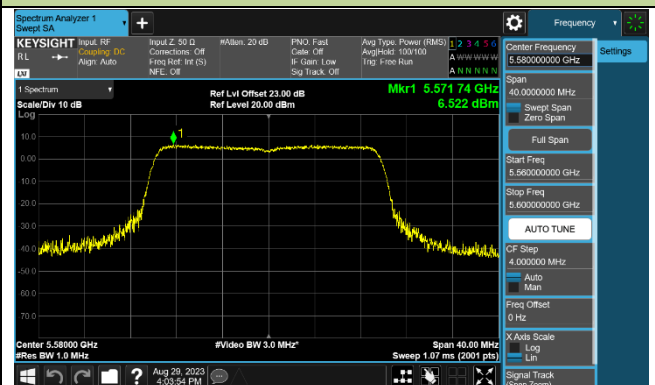
Channel 64 (5320MHz)

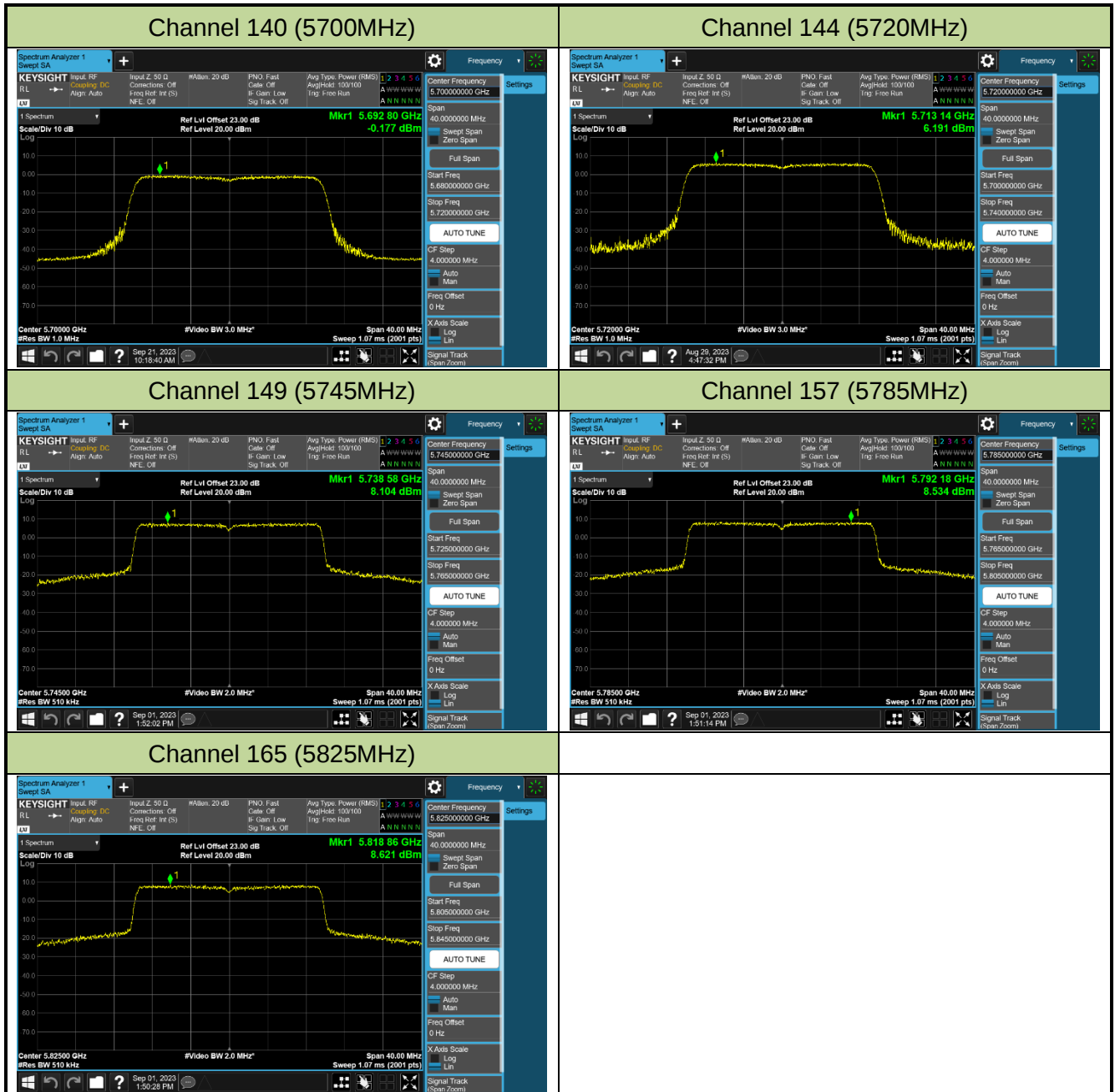


Channel 100 (5500MHz)



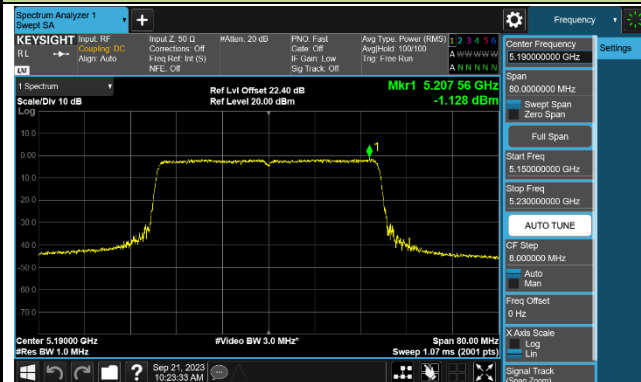
Channel 116 (5580MHz)



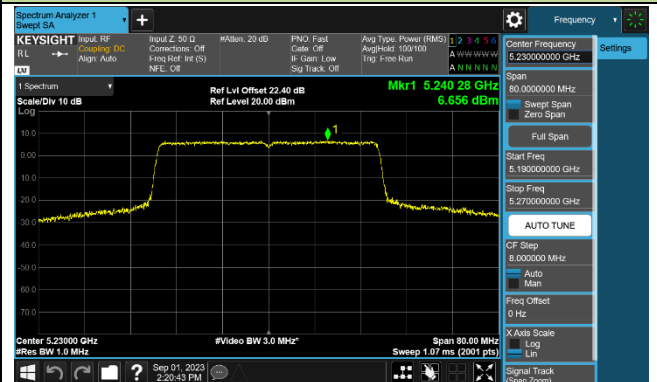


802.11ax-HE40 Power Spectral Density - Ant 0

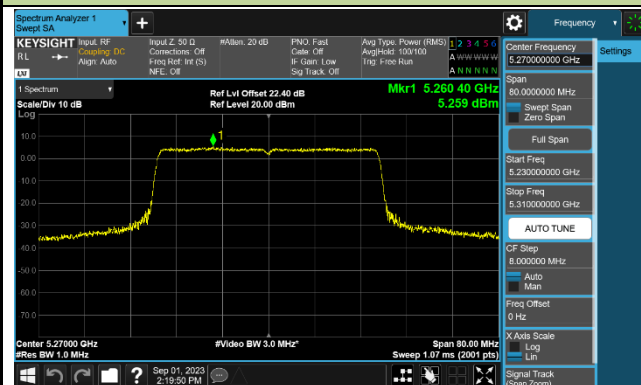
Channel 38 (5190MHz)



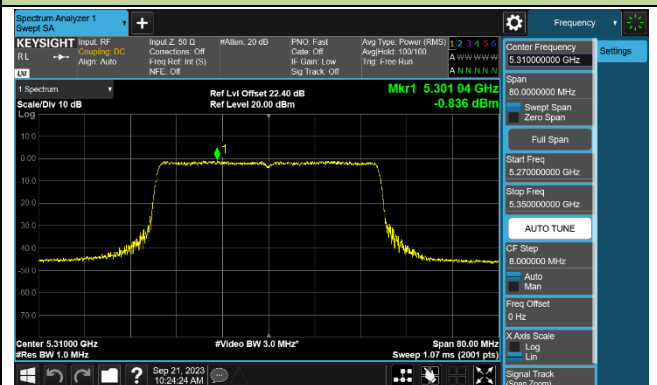
Channel 46 (5230MHz)



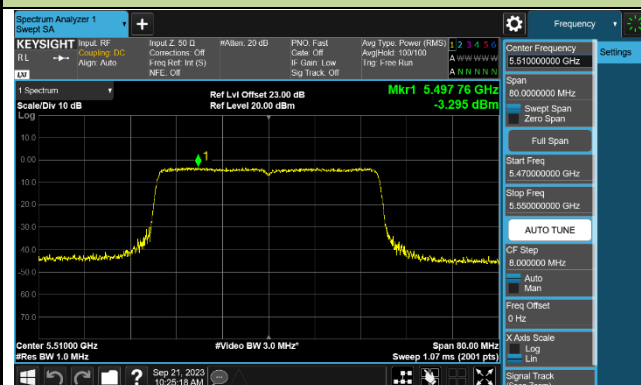
Channel 54 (5270MHz)



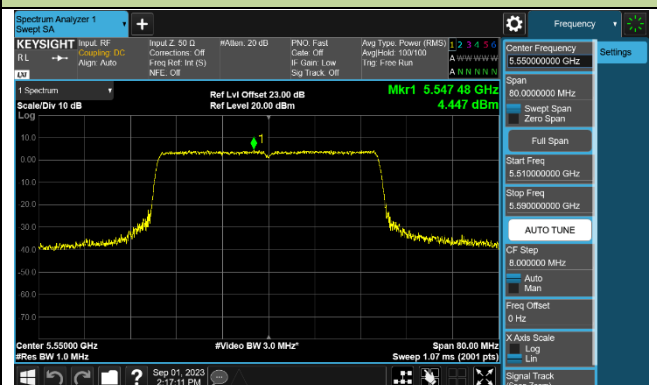
Channel 62 (5310MHz)



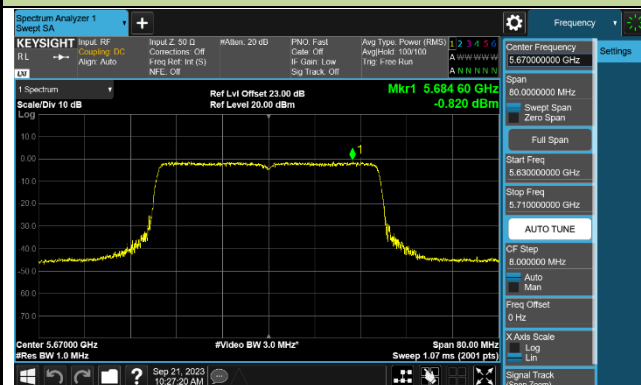
Channel 102 (5510MHz)



Channel 110 (5550MHz)



Channel 134 (5670MHz)



Channel 142 (5710MHz)

