

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
11ax-HE40	MCS0	38	5190	22.62	22.50	25.57	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	23.95	23.99	26.98	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	20.55	20.85	23.71	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	20.78	20.71	23.76	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	20.30	20.61	23.47	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.49	20.68	23.60	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	20.33	20.49	23.42	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.35	20.58	23.48	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	24.22	23.93	27.09	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	24.22	23.98	27.11	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	22.79	22.54	25.68	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	20.60	21.00	23.81	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	20.45	20.71	23.59	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	20.63	20.79	23.72	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.19	20.48	23.35	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	22.03	22.08	25.07	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	19.16	19.21	22.20	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	16.02	15.93	18.99	≤ 23.98	Pass

Note 1:

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

Note 2:

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

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

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

Product	AX3000 Gigabit Wi-Fi 6 Router	Test Engineer	Fran
Test Site	SR6	Test Date	2024/11/8
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)	Average Power Limit (dBm)	Result
11ax-HE20	MCS0	36	5180	24.32	24.25	27.30	≤ 30.00	Pass
11ax-HE20	MCS0	40	5200	24.39	24.28	27.35	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	24.58	24.42	27.51	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	19.98	20.42	23.22	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	20.22	19.99	23.12	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	19.85	19.87	22.87	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	19.80	20.07	22.95	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	19.86	20.12	23.00	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	19.64	19.41	22.54	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	19.46	19.80	22.64	≤ 23.56	Pass
11ax-HE20	MCS0	149	5745	25.11	25.41	28.27	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	24.78	24.68	27.74	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	21.34	21.65	24.51	≤ 30.00	Pass
11ax-HE40	MCS0	38	5190	22.62	22.50	25.57	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	23.95	23.99	26.98	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	20.55	20.85	23.71	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	20.78	20.71	23.76	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	20.30	20.61	23.47	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.49	20.68	23.60	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	20.33	20.49	23.42	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.35	20.58	23.48	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	24.22	23.93	27.09	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	24.22	23.98	27.11	≤ 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)	Average Power Limit (dBm)	Result
11ax-HE80	MCS0	42	5210	22.79	22.54	25.68	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	20.60	21.00	23.81	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	20.45	20.71	23.59	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	20.63	20.79	23.72	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.19	20.48	23.35	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	22.03	22.08	25.07	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	19.16	19.21	22.20	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	16.02	15.93	18.99	≤ 23.98	Pass

Note 1:

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

Note 2:

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

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

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

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

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.

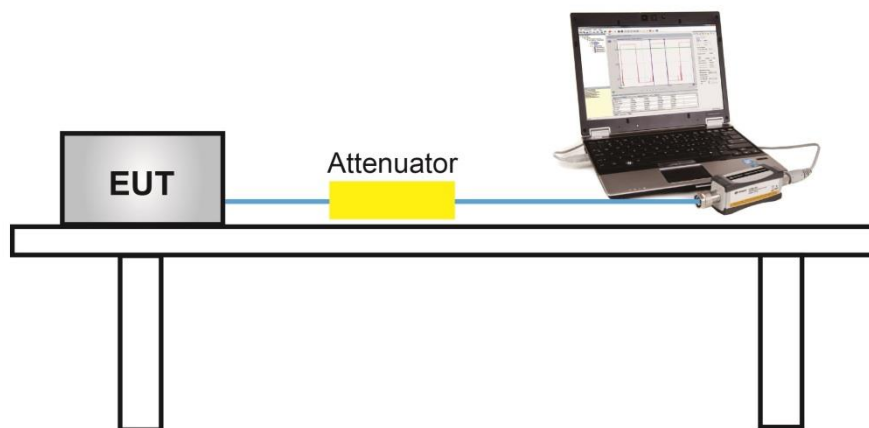
7.5.2. Test Procedure Used

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.

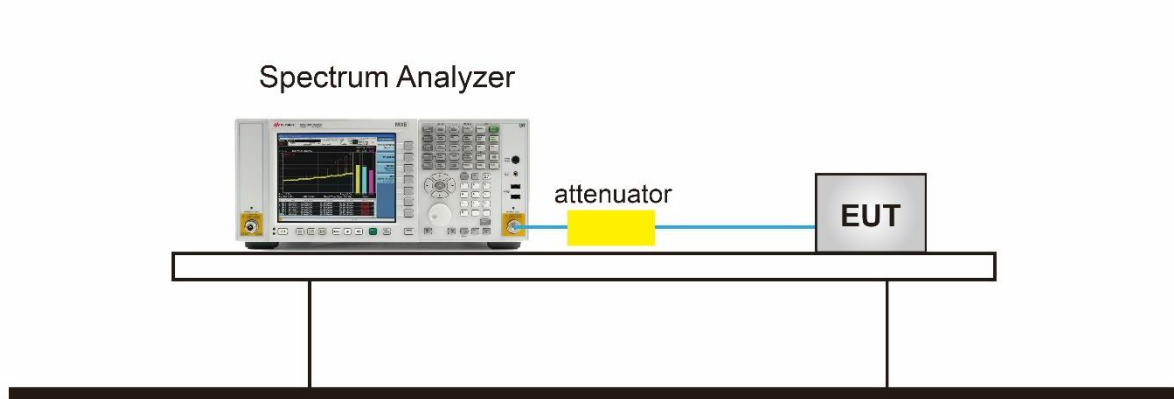
7.6.2. Test Procedure Used

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 Gigabit Wi-Fi 6 Router	Test Engineer	Fran
Test Site	SR6	Test Date	2021/12/14 ~ 2021/12/27
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	13.64	13.55	94.99%	16.829	≤ 17.00	Pass
11a	6Mbps	40	5200	13.46	13.38	94.99%	16.654	≤ 17.00	Pass
11a	6Mbps	48	5240	13.72	13.52	94.99%	16.855	≤ 17.00	Pass
11a	6Mbps	52	5260	7.32	7.57	94.99%	10.680	≤ 11.00	Pass
11a	6Mbps	60	5300	7.20	7.27	94.99%	10.469	≤ 11.00	Pass
11a	6Mbps	64	5320	7.65	7.63	94.99%	10.874	≤ 11.00	Pass
11a	6Mbps	100	5500	7.20	7.56	94.99%	10.617	≤ 11.00	Pass
11a	6Mbps	116	5580	7.38	7.44	94.99%	10.644	≤ 11.00	Pass
11a	6Mbps	140	5700	7.43	7.40	94.99%	10.649	≤ 11.00	Pass
11a	6Mbps	144	5720	7.59	7.55	94.99%	10.804	≤ 11.00	Pass
11ax-HE20	MCS0	36	5180	11.24	11.28	92.69%	14.600	≤ 17.00	Pass
11ax-HE20	MCS0	40	5200	11.41	11.22	92.69%	14.656	≤ 17.00	Pass
11ax-HE20	MCS0	48	5240	11.46	11.18	92.69%	14.662	≤ 17.00	Pass
11ax-HE20	MCS0	52	5260	7.24	7.76	92.69%	10.848	≤ 11.00	Pass
11ax-HE20	MCS0	60	5300	7.53	7.28	92.69%	10.747	≤ 11.00	Pass
11ax-HE20	MCS0	64	5320	7.18	7.17	92.69%	10.515	≤ 11.00	Pass
11ax-HE20	MCS0	100	5500	7.06	7.48	92.69%	10.615	≤ 11.00	Pass
11ax-HE20	MCS0	116	5580	7.21	7.42	92.69%	10.656	≤ 11.00	Pass
11ax-HE20	MCS0	140	5700	7.62	7.34	92.69%	10.822	≤ 11.00	Pass
11ax-HE20	MCS0	144	5720	7.22	7.72	92.69%	10.817	≤ 11.00	Pass
11ax-HE40	MCS0	38	5190	6.84	6.71	91.60%	10.167	≤ 17.00	Pass
11ax-HE40	MCS0	46	5230	7.98	8.01	91.60%	11.386	≤ 17.00	Pass
11ax-HE40	MCS0	54	5270	4.76	5.03	91.60%	8.288	≤ 11.00	Pass
11ax-HE40	MCS0	62	5310	4.86	4.79	91.60%	8.216	≤ 11.00	Pass
11ax-HE40	MCS0	102	5510	4.55	5.01	91.60%	8.177	≤ 11.00	Pass
11ax-HE40	MCS0	110	5550	4.70	5.09	91.60%	8.291	≤ 11.00	Pass
11ax-HE40	MCS0	134	5670	4.76	4.92	91.60%	8.232	≤ 11.00	Pass
11ax-HE40	MCS0	142	5710	5.01	5.03	91.60%	8.411	≤ 11.00	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
11ax-HE80	MCS0	42	5210	3.74	3.56	92.75%	6.988	≤ 17.00	Pass
11ax-HE80	MCS0	58	5290	1.65	2.16	92.75%	5.250	≤ 11.00	Pass
11ax-HE80	MCS0	106	5530	1.76	2.56	92.75%	5.516	≤ 11.00	Pass
11ax-HE80	MCS0	122	5610	2.23	2.77	92.75%	5.846	≤ 11.00	Pass
11ax-HE80	MCS0	138	5690	1.87	2.28	92.75%	5.417	≤ 11.00	Pass
11ax-HE160	MCS0	50	5250	0.17	0.20	92.33%	3.542	≤ 11.00	Pass
11ax-HE160	MCS0	114	5570	-2.82	-2.99	92.33%	0.453	≤ 11.00	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 - 5250MHzBand: PSD Limit (dBm/MHz) = 17dBm/MHz.

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

Product	AX3000 Gigabit Wi-Fi 6 Router	Test Engineer	Fran
Test Site	SR6	Test Date	2021/12/14 ~ 2021/12/27
Test Item	Power Spectral Density (U-NII-3) CDD Mode		

Test Mode	Data Rate/ MCS	Ch. No.	Freq. (MHz)	Ant 0 PSD (dBm/510KHz)	Ant 1 PSD (dBm/510KHz)	Duty Cycle (%)	Total PSD (dBm/510kHz)	Limit (dBm/500kHz)	Result
11a	6Mbps	149	5745	10.47	10.37	94.99%	13.654	≤ 30.00	Pass
11a	6Mbps	157	5785	7.68	7.63	94.99%	10.889	≤ 30.00	Pass
11a	6Mbps	165	5825	8.36	8.36	94.99%	11.594	≤ 30.00	Pass
11ax-HE20	MCS0	149	5745	9.40	9.80	92.69%	12.945	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	8.79	8.67	92.69%	12.070	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	6.43	6.82	92.69%	9.969	≤ 30.00	Pass
11ax-HE40	MCS0	151	5755	5.86	5.74	91.60%	9.192	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	6.22	5.82	91.60%	9.416	≤ 30.00	Pass
11ax-HE80	MCS0	155	5775	0.76	0.89	92.75%	4.163	≤ 30.00	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(dBm/500kHz).

802.11a Power Spectral Density - Ant 0

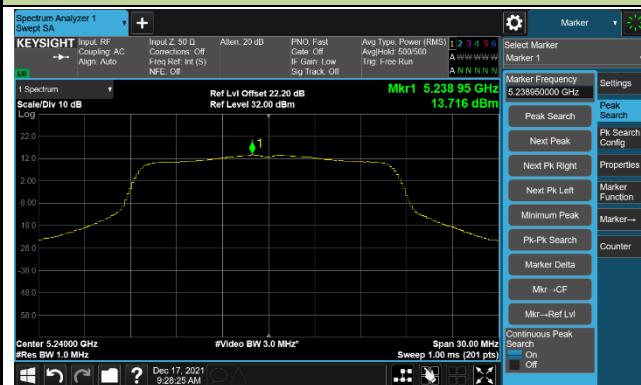
Channel 36 (5180MHz)



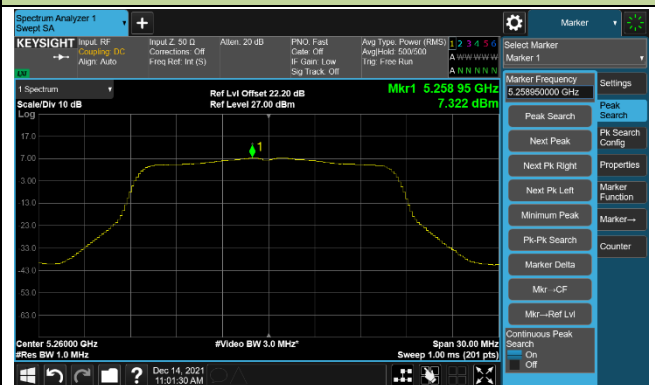
Channel 40 (5200MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)

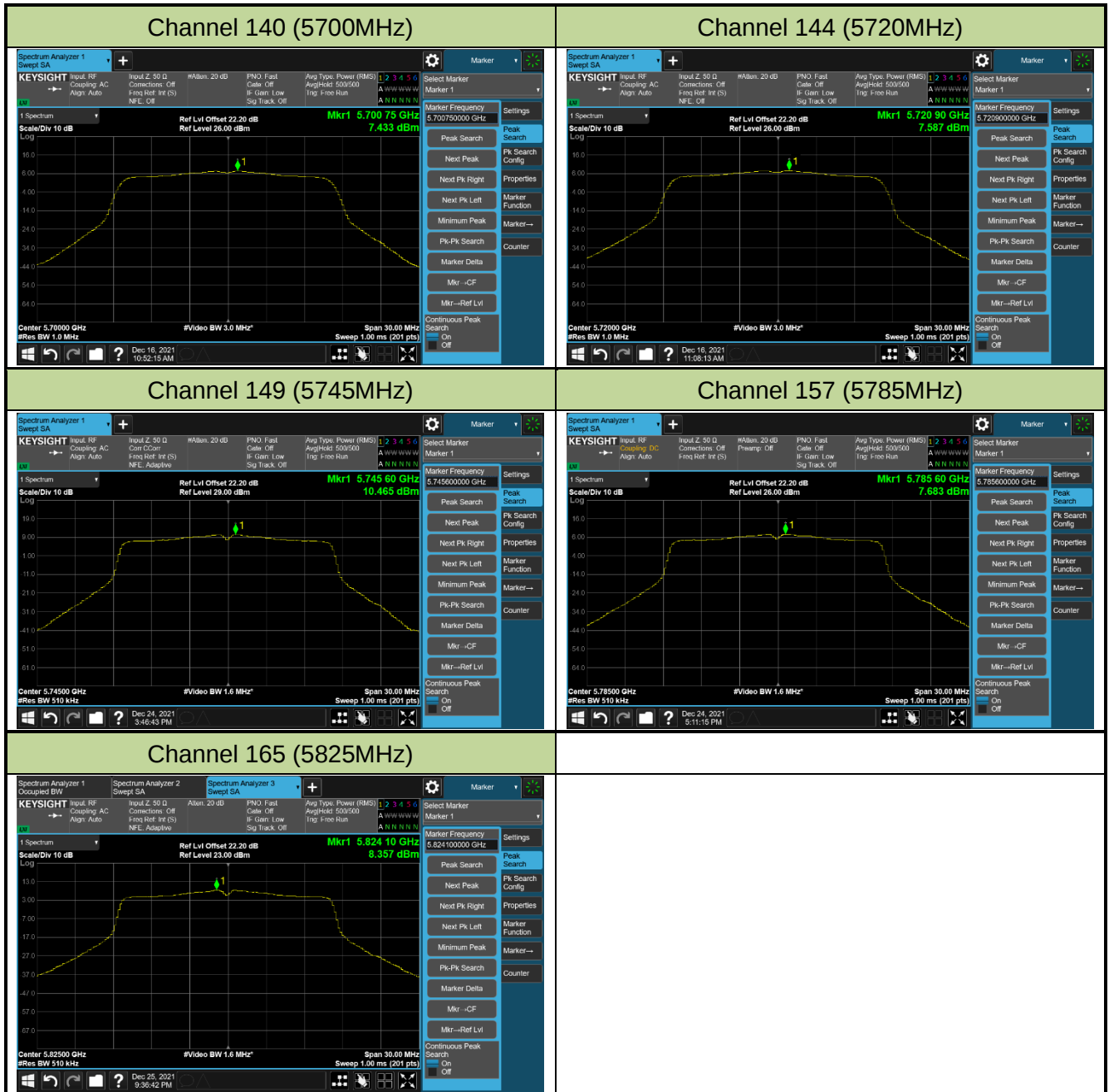


Channel 100 (5500MHz)



Channel 116 (5580MHz)





802.11ax-HE20 Power Spectral Density - Ant 0

Channel 36 (5180MHz)



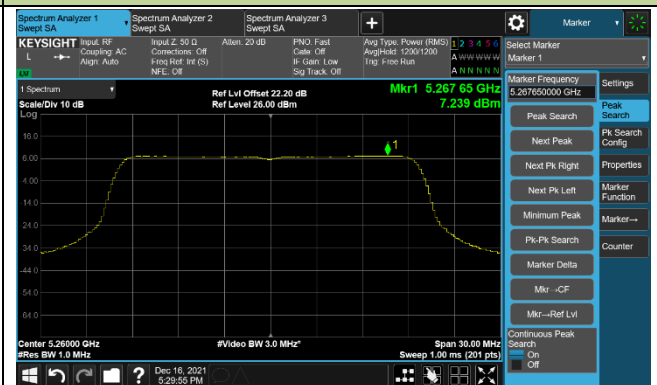
Channel 40 (5200MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)

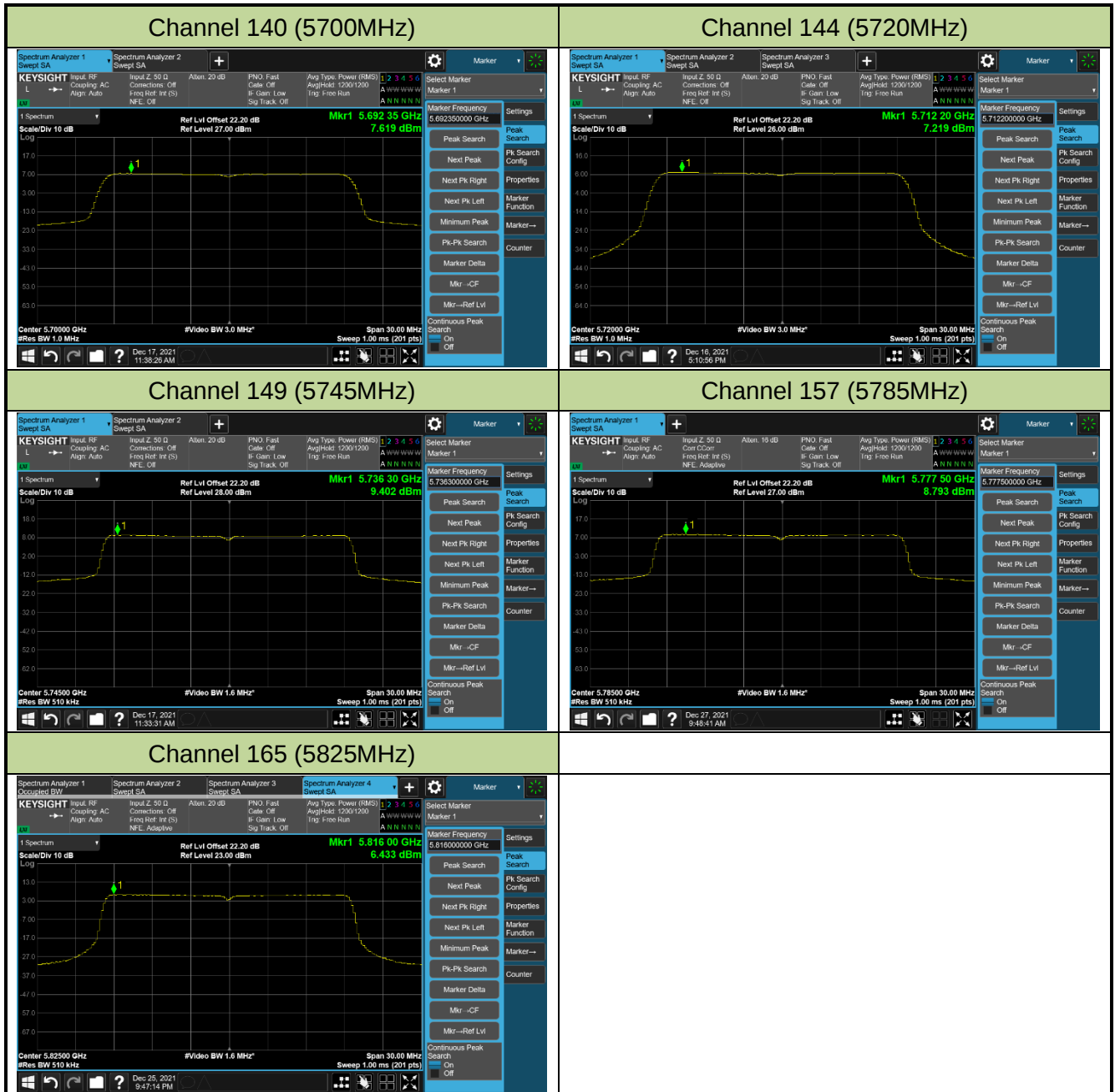


Channel 100 (5500MHz)



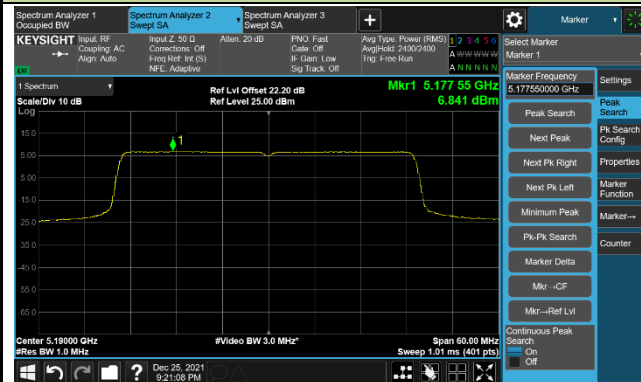
Channel 116 (5580MHz)





802.11ax-HE40 Power Spectral Density - Ant 0

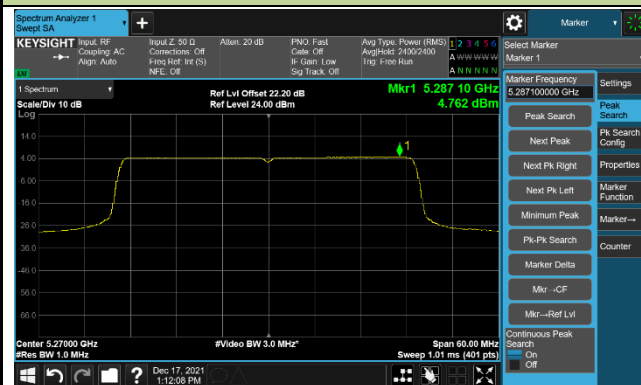
Channel 38 (5190MHz)



Channel 46 (5230MHz)



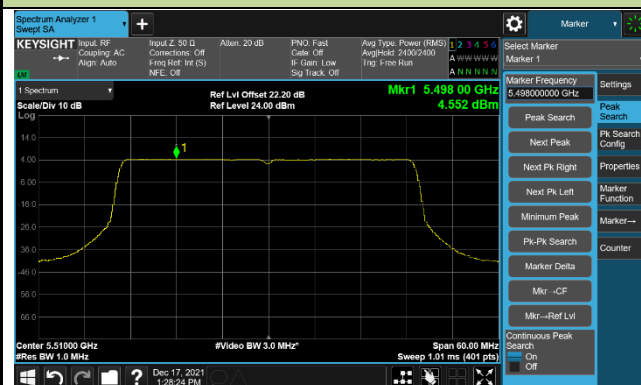
Channel 54 (5270MHz)



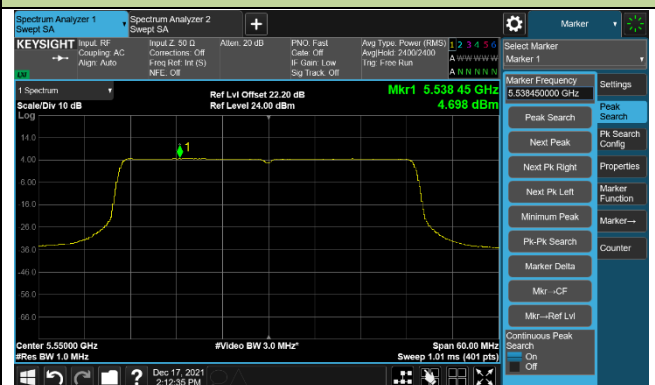
Channel 62 (5310MHz)



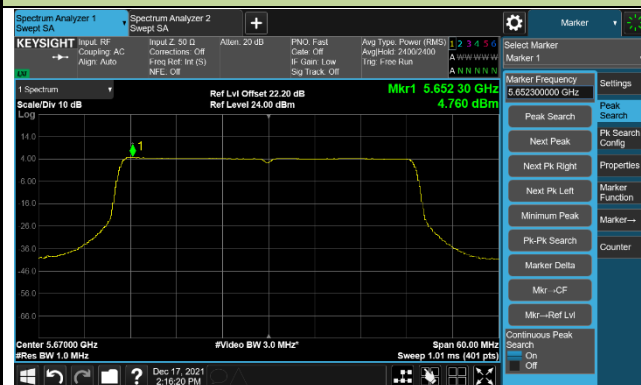
Channel 102 (5510MHz)



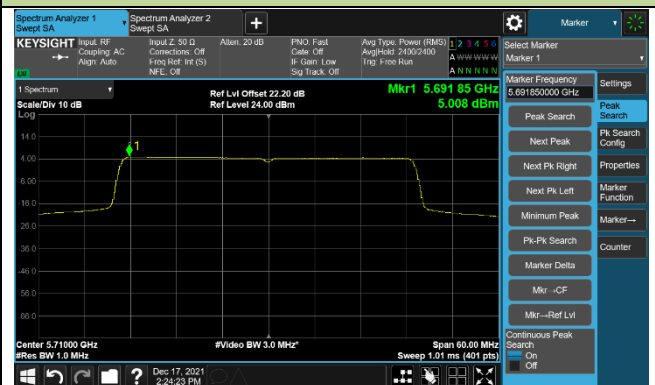
Channel 110 (5550MHz)



Channel 134 (5670MHz)



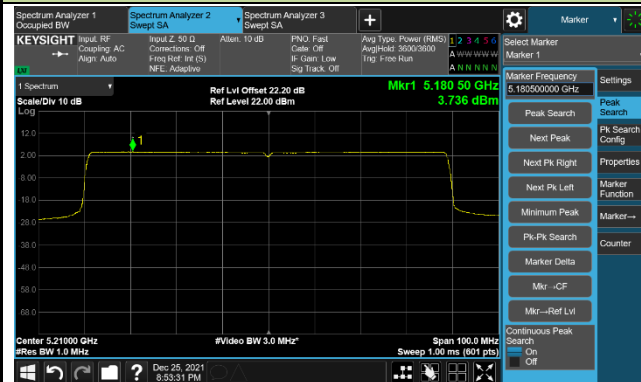
Channel 142 (5710MHz)



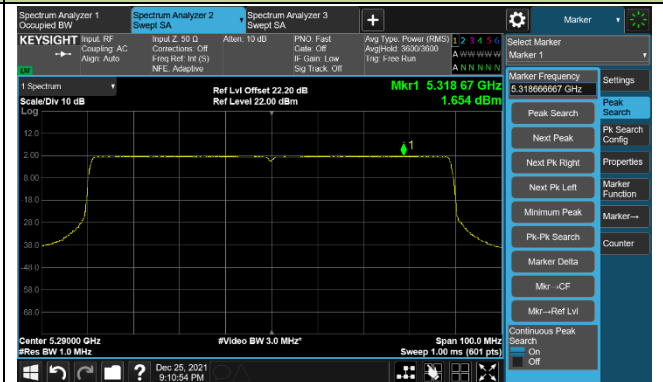


802.11ax-HE80 Power Spectral Density - Ant 0

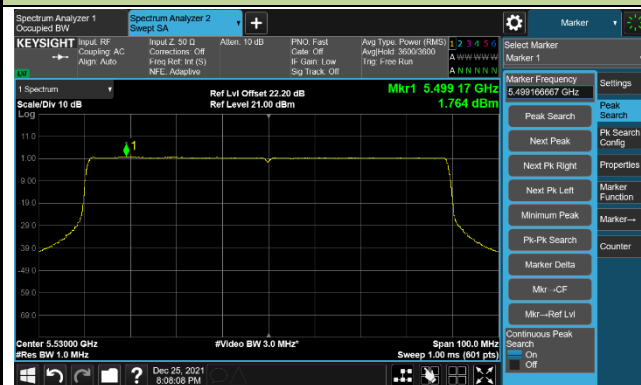
Channel 42 (5210MHz)



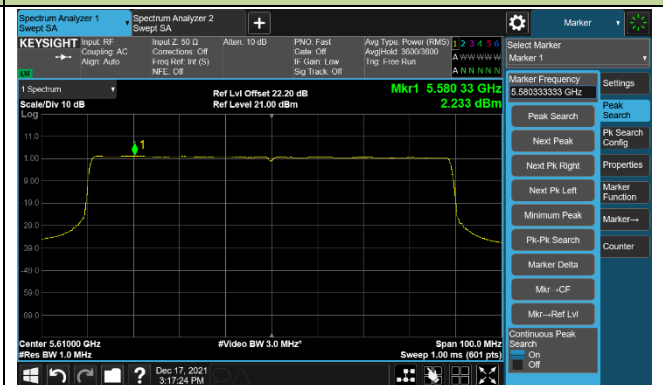
Channel 58 (5290MHz)



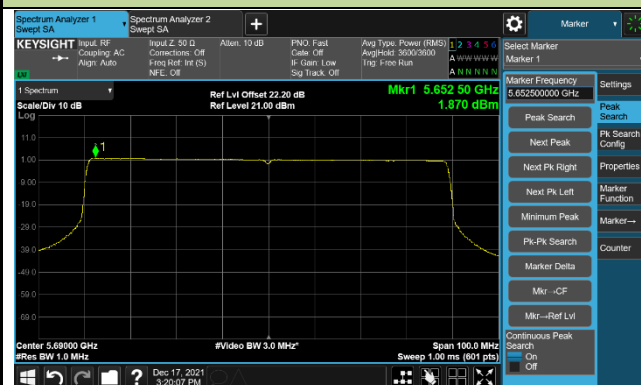
Channel 106 (5530MHz)



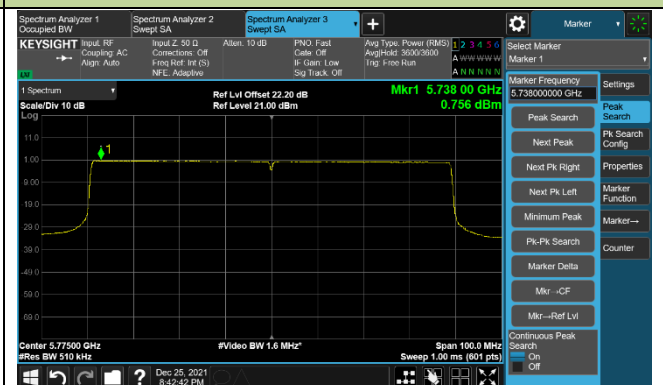
Channel 122 (5610MHz)



Channel 138 (5690MHz)

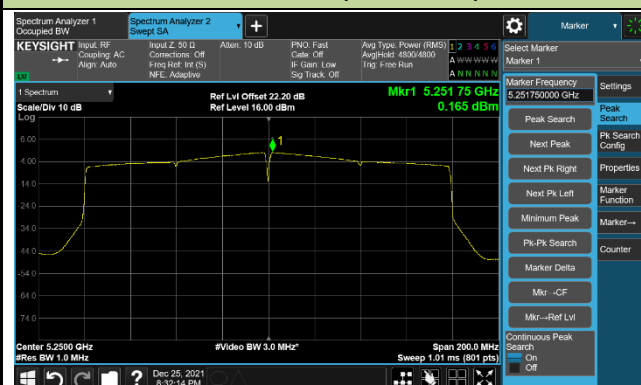


Channel 155 (5775MHz)



802.11ax-HE160 Power Spectral Density - Ant 0

Channel 50 (5250MHz)



Channel 114 (5570MHz)



802.11a Power Spectral Density - Ant 1

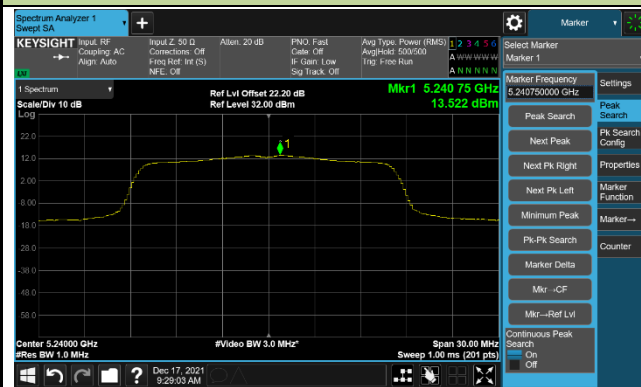
Channel 36 (5180MHz)



Channel 40 (5200MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)

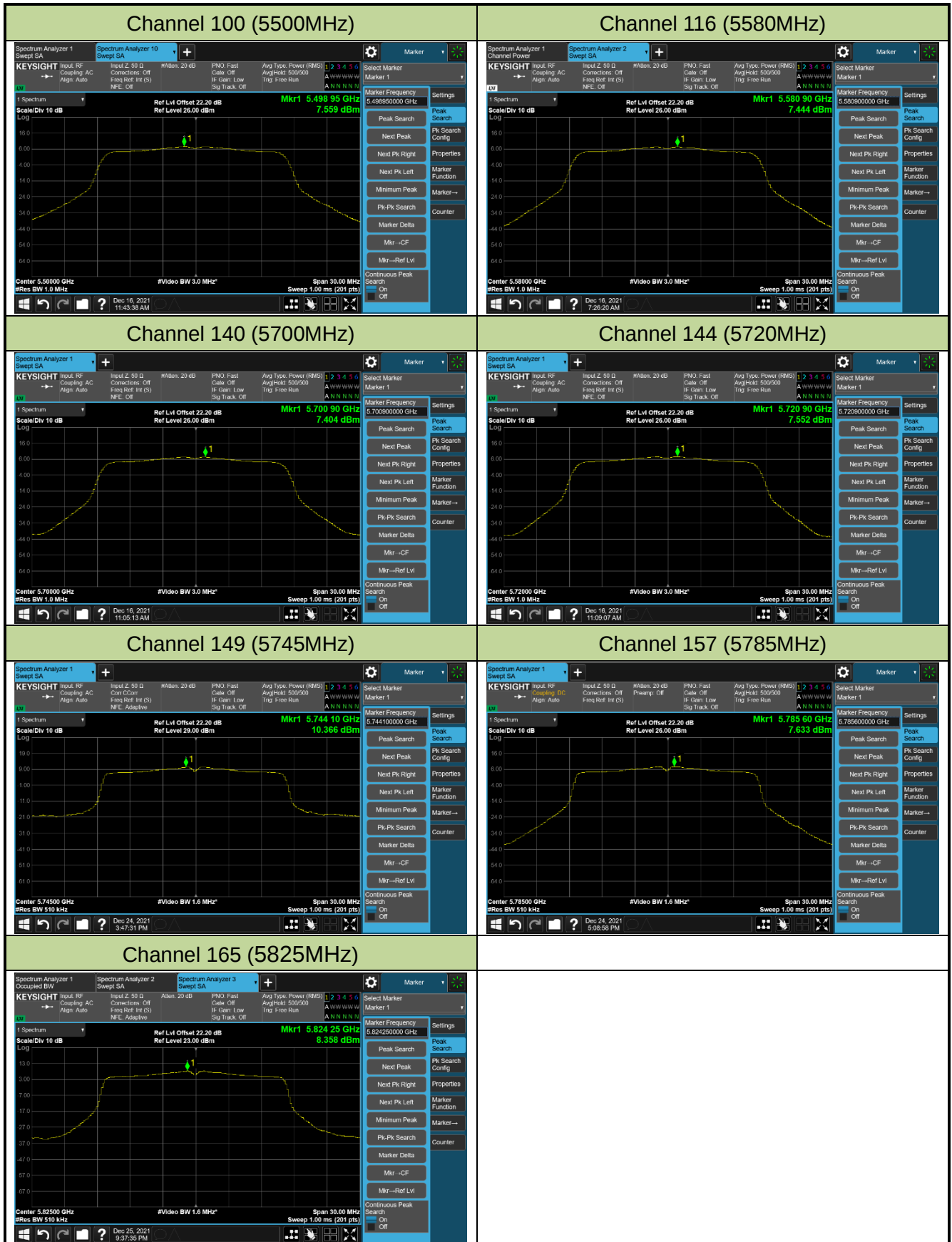


Channel 60 (5300MHz)



Channel 64 (5320MHz)





802.11ax-HE20 Power Spectral Density - Ant 1

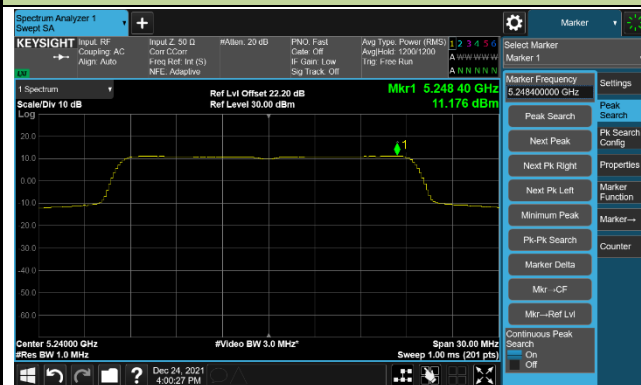
Channel 36 (5180MHz)



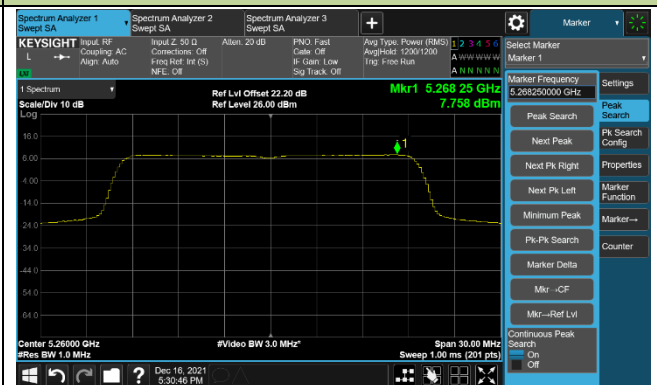
Channel 40 (5200MHz)



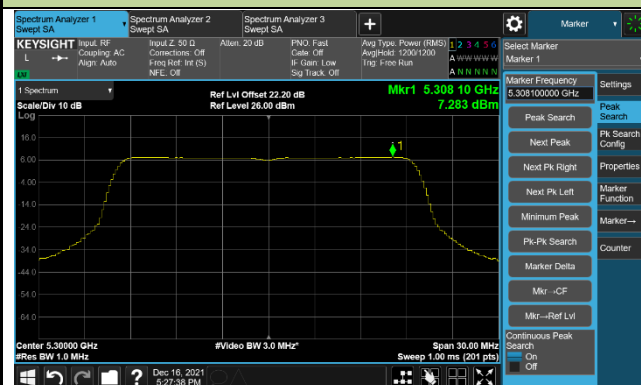
Channel 48 (5240MHz)



Channel 52 (5260MHz)



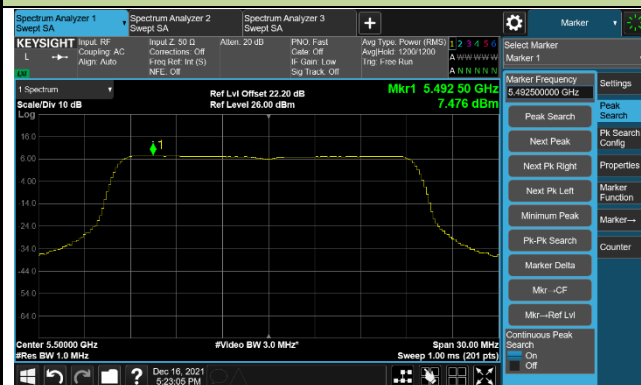
Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)

