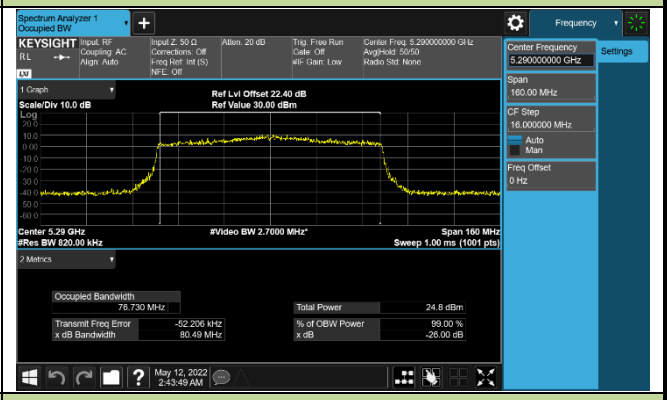
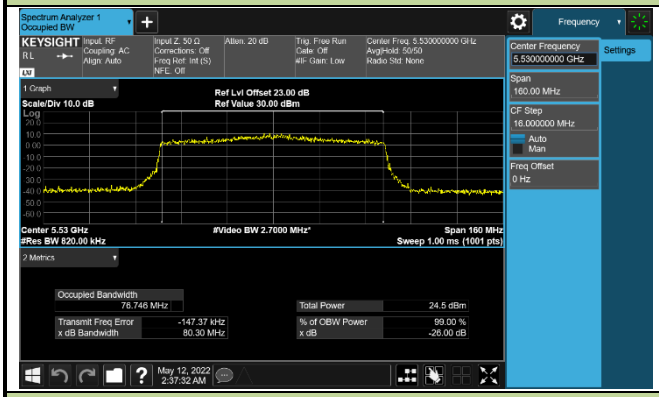
8802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

Channel 42 (5210MHz)

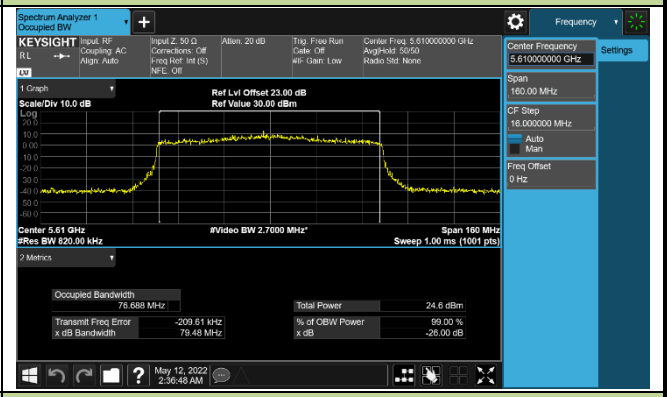
Channel 58 (5290MHz)



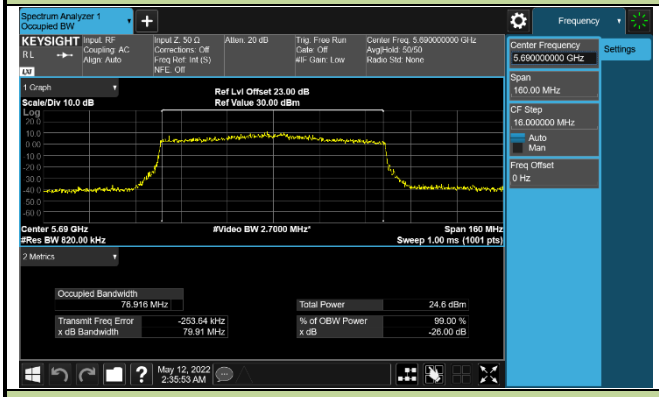
Channel 106 (5530MHz)



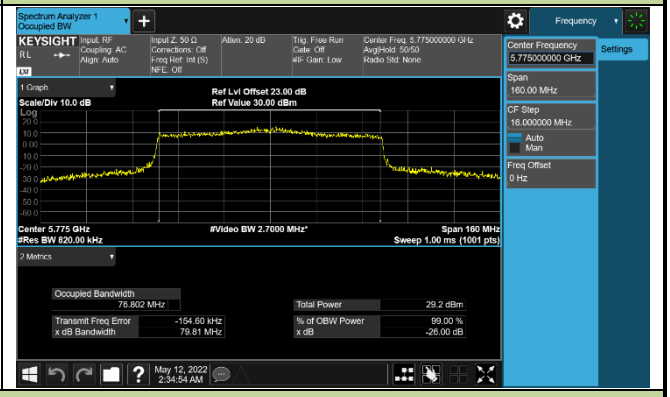
Channel 122 (5610MHz)



Channel 138 (5690MHz)

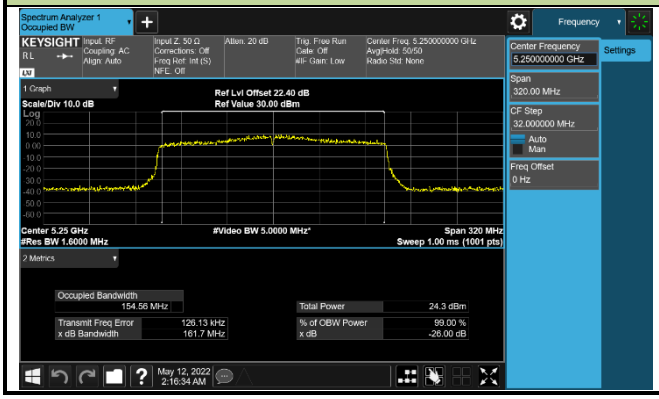


Channel 155 (5775MHz)

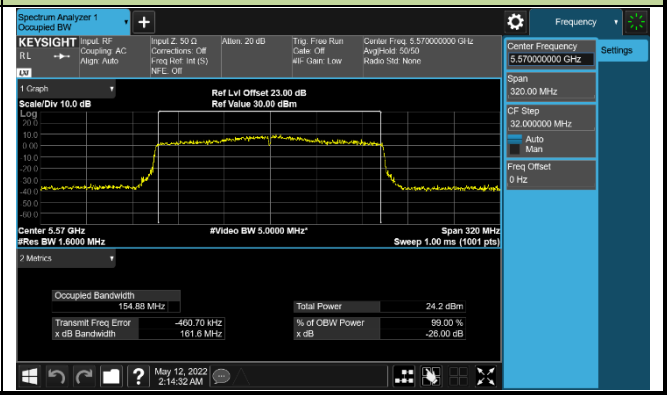


802.11ax-HE160 26dB Bandwidth & 99% Bandwidth

Channel 50 (5250MHz)



Channel 114 (5570MHz)



7.3. 6dB Bandwidth Measurement

7.3.1.Test Limit

The minimum 6dBbandwidth shall be at least 500 kHz.

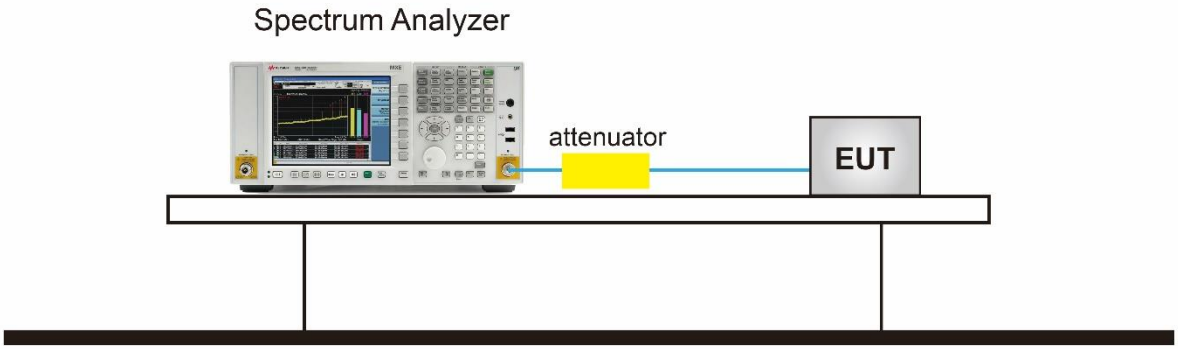
7.3.2.Test Procedure used

KDB 789033 D02v02r01- Section II) C.2

7.3.3.Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW 3 × 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



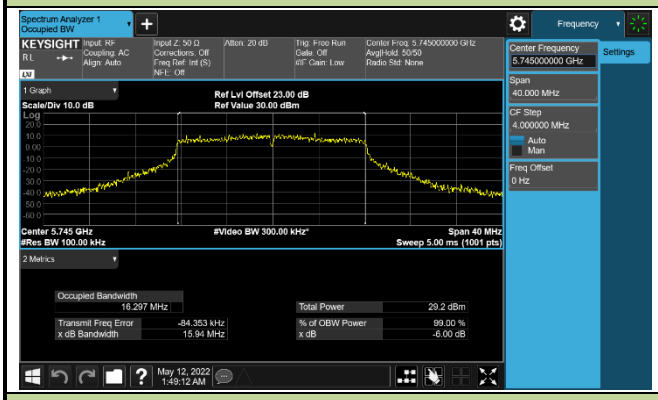
7.3.5.TestResult

Product	AX3000 Gigabit Wi-Fi 6 Router	Test Engineer	Owen
Test Site	SR5	Test Date	2022/5/12~2022/5/18

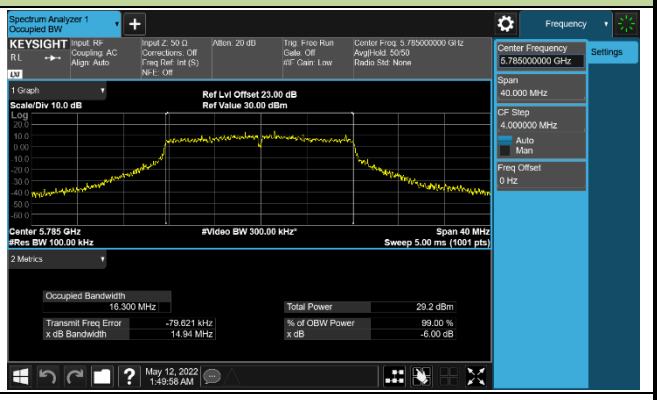
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 0						
802.11a	6Mbps	149	5745	15.940	≥ 0.5	Pass
802.11a	6Mbps	157	5785	14.940	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.290	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.170	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	15.630	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.220	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	35.630	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	35.060	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	70.920	≥ 0.5	Pass
802.11ax-HE20	MCS0	149	5745	13.300	≥ 0.5	Pass
802.11ax-HE20	MCS0	157	5785	16.930	≥ 0.5	Pass
802.11ax-HE20	MCS0	165	5825	18.130	≥ 0.5	Pass
802.11ax-HE40	MCS0	151	5755	36.400	≥ 0.5	Pass
802.11ax-HE40	MCS0	159	5795	37.440	≥ 0.5	Pass
802.11ax-HE80	MCS0	155	5775	71.650	≥ 0.5	Pass

802.11a 6dB Bandwidth

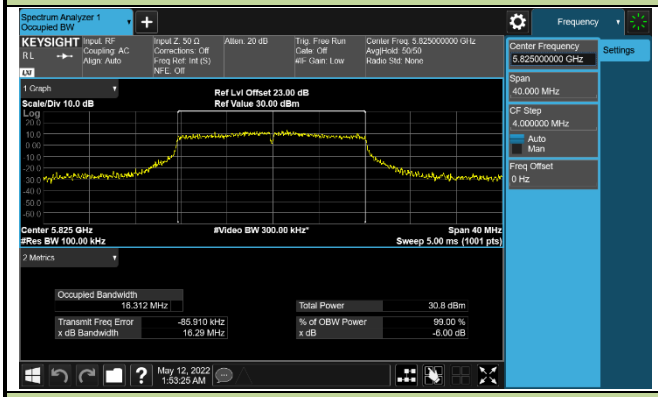
Channel 149 (5745MHz)



Channel 157 (5785MHz)

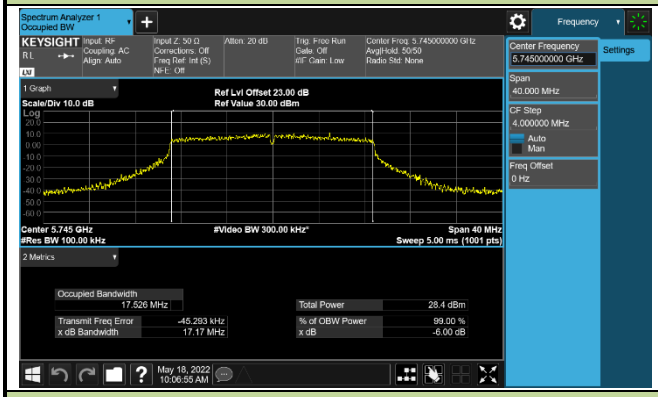


Channel 165 (5825MHz)

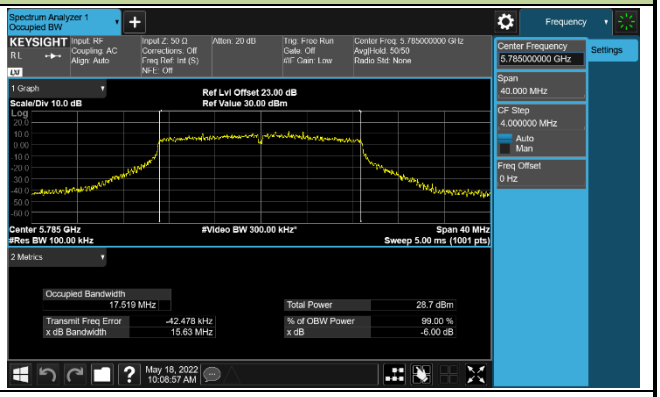


802.11ac-VHT20 6dB Bandwidth

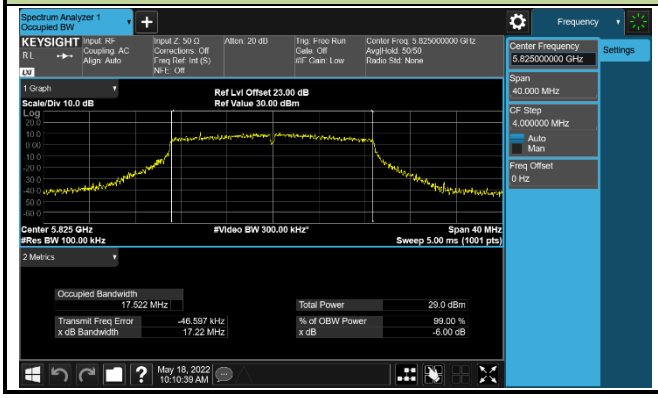
Channel 149 (5745MHz)

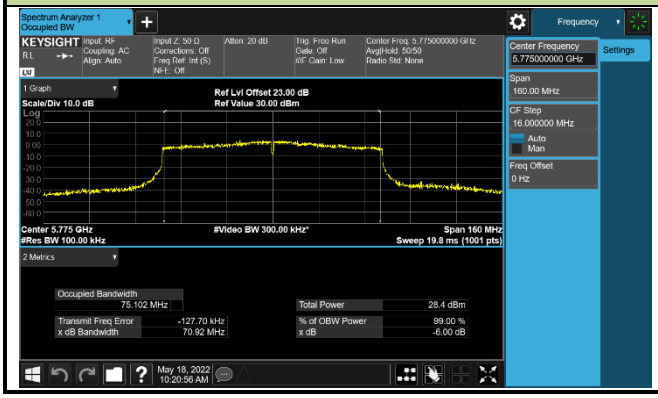


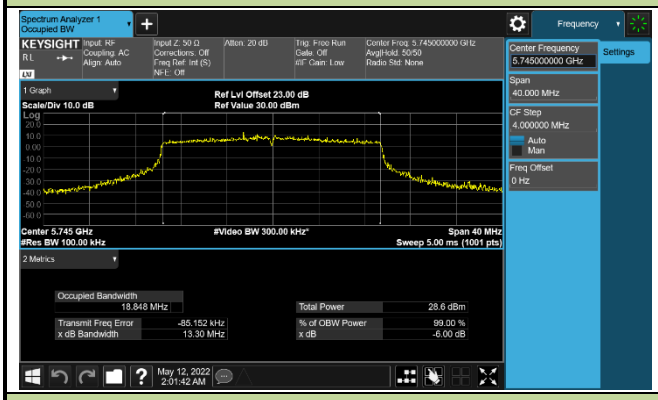
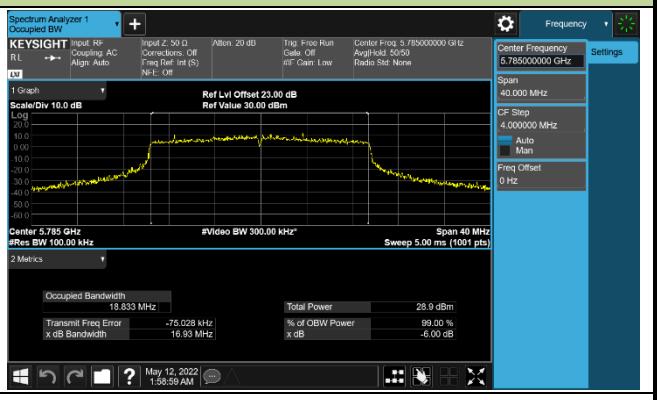
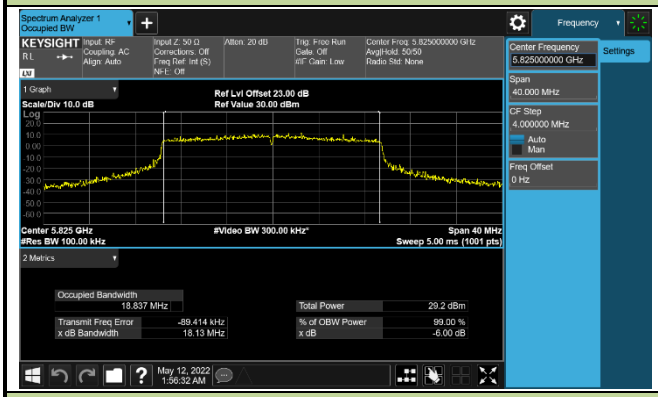
Channel 157 (5785MHz)

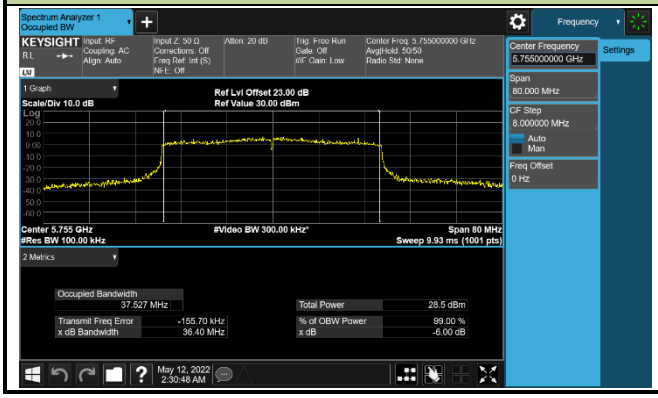
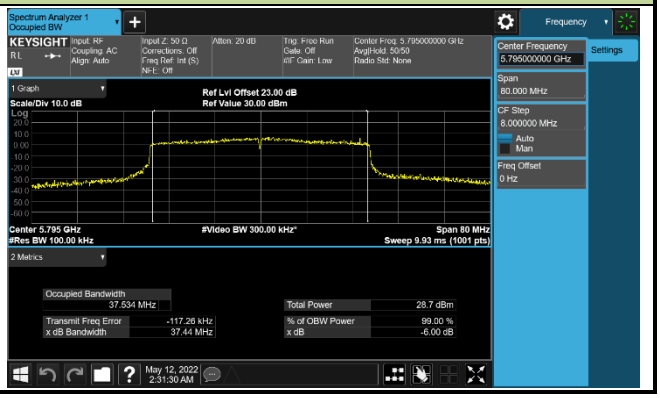


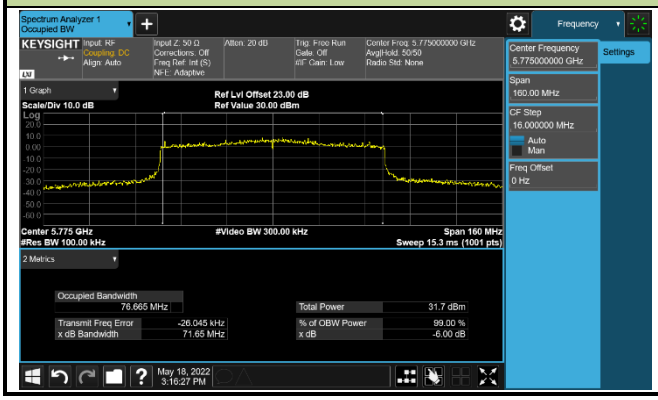
Channel 165 (5825MHz)



802.11ac-VHT40 6dB Bandwidth	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	
802.11ac-VHT80 6dB Bandwidth	
Channel 155 (5775MHz)	
	

802.11ax-HE20 6dB Bandwidth	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	

802.11ax-HE40 6dB Bandwidth	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

802.11ax-HE80 6dB Bandwidth	
Channel 155 (5775MHz)	
	

7.4. Output Power Measurement

7.4.1.Test Limit

For the band 5.15-5.25 GHz, the maximum conductedoutput power over the frequency band of operation shall not exceed 1 W provided the maximumantenna 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 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 maximumconducted output power shall be reduced by the amount in dB that the directional gain of theantenna exceeds 6dBi.

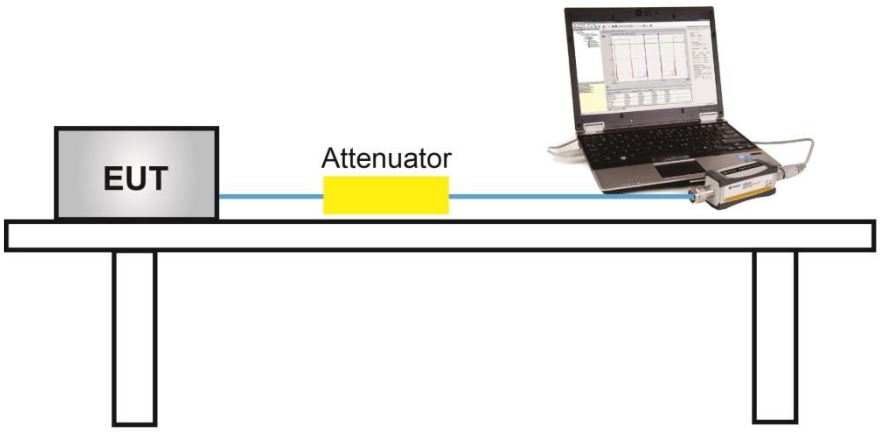
7.4.2.Test Procedure Used

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 Gigabit Wi-Fi 6 Router	Test Engineer	Owen
Test Site	SR5	Test Date	2022/5/6~2022/5/13
Test Mode	CDD Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
11a	6Mbps	36	5180	24.60	24.59	27.61	≤ 30.00	Pass
11a	6Mbps	44	5220	23.99	23.30	26.67	≤ 30.00	Pass
11a	6Mbps	48	5240	23.80	23.11	26.48	≤ 30.00	Pass
11a	6Mbps	52	5260	17.97	17.50	20.75	≤ 23.98	Pass
11a	6Mbps	60	5300	18.22	17.18	20.74	≤ 23.98	Pass
11a	6Mbps	64	5320	17.79	17.22	20.52	≤ 23.98	Pass
11a	6Mbps	100	5500	17.62	18.38	21.03	≤ 23.98	Pass
11a	6Mbps	116	5580	17.56	18.34	20.98	≤ 23.98	Pass
11a	6Mbps	140	5700	18.20	18.33	21.28	≤ 23.98	Pass
11a	6Mbps	144	5720	17.78	18.24	21.03	≤ 22.55	Pass
11a	6Mbps	149	5745	24.92	25.37	28.16	≤ 30.00	Pass
11a	6Mbps	157	5785	24.91	25.76	28.37	≤ 30.00	Pass
11a	6Mbps	165	5825	26.15	25.99	29.08	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	23.77	23.83	26.81	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	23.72	23.72	26.73	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	23.95	23.79	26.88	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	17.99	18.02	21.02	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	18.15	17.81	20.99	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	17.18	17.01	20.11	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	17.77	18.02	20.91	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	17.39	18.08	20.76	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	18.22	17.73	20.99	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	18.23	17.65	20.96	≤ 22.75	Pass
11ac-VHT20	MCS0	149	5745	24.27	24.95	27.63	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	24.37	25.33	27.89	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	24.52	24.64	27.59	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
11ac-VHT40	MCS0	38	5190	21.83	21.06	24.47	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	27.16	26.32	29.77	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	20.54	20.77	23.67	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	20.59	19.68	23.17	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	19.92	20.57	23.27	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	20.10	20.50	23.31	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	20.66	20.30	23.49	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	20.68	20.18	23.45	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	25.11	24.88	28.01	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	24.91	24.40	27.67	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	22.22	21.22	24.76	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	20.37	19.92	23.16	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	20.25	20.41	23.34	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	20.15	20.57	23.38	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	20.05	20.07	23.07	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	25.17	24.85	28.02	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	20.12	20.00	23.07	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	20.23	20.37	23.31	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	23.79	24.01	26.91	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	24.03	23.80	26.93	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	24.16	24.07	27.13	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	18.23	18.32	21.29	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	18.45	17.99	21.24	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	17.99	17.04	20.55	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	17.92	18.14	21.04	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	17.69	18.40	21.07	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	18.50	17.79	21.17	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	18.51	17.74	21.15	≤ 22.78	Pass
11ax-HE20	MCS0	149	5745	24.47	25.34	27.94	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	24.71	25.56	28.17	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	24.82	24.84	27.84	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
11ax-HE40	MCS0	38	5190	21.92	21.18	24.58	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	27.18	26.41	29.82	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	20.74	20.81	23.79	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	20.83	19.73	23.33	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	20.23	20.36	23.31	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.17	20.90	23.56	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	20.97	20.37	23.69	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.79	20.31	23.57	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	25.17	24.97	28.08	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	24.93	24.47	27.72	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	22.31	21.51	24.94	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	20.66	19.96	23.33	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	20.47	20.54	23.52	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	20.47	20.70	23.60	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.49	20.16	23.34	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	25.26	24.97	28.13	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	20.14	20.32	23.24	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	20.46	20.62	23.55	≤ 23.98	Pass

Note 1:

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

Note 2:

For 802.11a Ch144 (5720MHz), Average Power Limit (dBm) = 11+10*log(5 + 18.56/2)=22.55 dBm

For 802.11ac Ch 144 (5720MHz), Average Power Limit (dBm) = 11+10*log(5 + 19.9/2)=22.75 dBm

For 802.11ax Ch 144 (5720MHz), Average Power Limit (dBm) = 11+10*log(5 + 20.1/2)=22.78 dBm

Product	AX3000 Gigabit Wi-Fi 6 Router	Test Engineer	Owen
Test Site	SR5	Test Date	2022/5/6~2022/5/13
Test Mode	Beamforming Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
11ac-VHT20	MCS0	36	5180	23.77	23.83	26.81	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	23.72	23.72	26.73	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	23.95	23.79	26.88	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	17.99	18.02	21.02	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	18.15	17.81	20.99	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	17.18	17.01	20.11	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	17.77	18.02	20.91	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	17.39	18.08	20.76	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	18.22	17.73	20.99	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	18.23	17.65	20.96	≤ 22.75	Pass
11ac-VHT20	MCS0	149	5745	24.27	24.95	27.63	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	24.37	25.33	27.89	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	24.52	24.64	27.59	≤ 30.00	Pass
11ac-VHT40	MCS0	38	5190	21.83	21.06	24.47	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	27.16	26.32	29.77	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	20.54	20.77	23.67	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	20.59	19.68	23.17	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	19.92	20.57	23.27	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	20.10	20.50	23.31	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	20.66	20.30	23.49	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	20.68	20.18	23.45	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	25.11	24.88	28.01	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	24.91	24.40	27.67	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	22.22	21.22	24.76	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	20.37	19.92	23.16	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	20.25	20.41	23.34	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	20.15	20.57	23.38	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	20.05	20.07	23.07	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	25.17	24.85	28.02	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
11ac-VHT160	MCS0	50	5250	20.12	20.00	23.07	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	20.23	20.37	23.31	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	23.79	24.01	26.91	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	24.03	23.80	26.93	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	24.16	24.07	27.13	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	18.23	18.32	21.29	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	18.45	17.99	21.24	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	17.99	17.04	20.55	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	17.92	18.14	21.04	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	17.69	18.40	21.07	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	18.50	17.79	21.17	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	18.51	17.74	21.15	≤ 22.78	Pass
11ax-HE20	MCS0	149	5745	24.47	25.34	27.94	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	24.71	25.56	28.17	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	24.82	24.84	27.84	≤ 30.00	Pass
11ax-HE40	MCS0	38	5190	21.92	21.18	24.58	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	27.18	26.41	29.82	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	20.74	20.81	23.79	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	20.83	19.73	23.33	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	20.23	20.36	23.31	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.17	20.90	23.56	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	20.97	20.37	23.69	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.79	20.31	23.57	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	25.17	24.97	28.08	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	24.93	24.47	27.72	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	22.31	21.51	24.94	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	20.66	19.96	23.33	≤ 23.98	Pass
11ax-HE80	MCS0	106	5530	20.47	20.54	23.52	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	20.47	20.70	23.60	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.49	20.16	23.34	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	25.26	24.97	28.13	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	20.14	20.32	23.24	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	20.46	20.62	23.55	≤ 23.98	Pass

Note 1:

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

Note 2:

For 802.11ac Ch 144 (5720MHz), Average Power Limit (dBm) = 11+10*log(5 + 19.9/2)=22.75 dBm

For 802.11ax Ch 144 (5720MHz), Average Power Limit (dBm) = 11+10*log(5 + 20.1/2)=22.78 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.

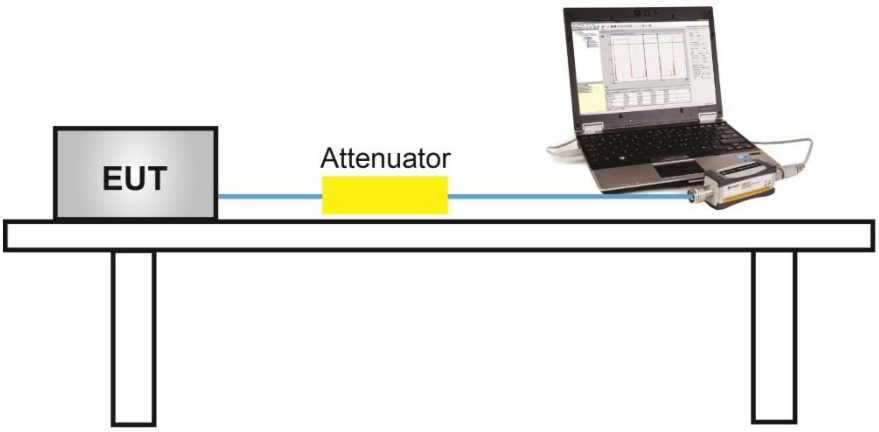
7.5.2.Test Procedure Used

KDB 789033 D02v01- 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 theantenna exceeds 6dBi.

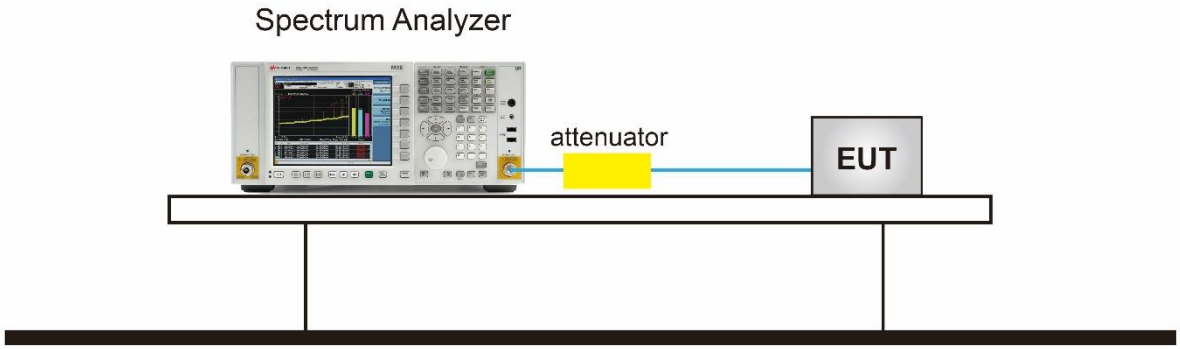
7.6.2.Test Procedure Used

KDB 789033 D02v02r01 - Section II) 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 ≥ 2 × (span / 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*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*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	Owen
Test Site	SR5	Test Date	2022/5/10~2022/5/18
Mode	Power Spectral Density (U-NII- 1/-2a / -2c) CDD Mode		

Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	PSD (dBm/MHz)		Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
				Ant 0	Ant 1				
11a	6Mbps	36	5180	13.751	13.291	94.74	16.772	≤ 17.00	Pass
11a	6Mbps	44	5220	13.747	13.341	94.74	16.794	≤ 17.00	Pass
11a	6Mbps	48	5240	13.759	13.269	94.74	16.766	≤ 17.00	Pass
11a	6Mbps	52	5260	7.429	6.833	94.74	10.386	≤ 11.00	Pass
11a	6Mbps	60	5300	7.902	6.955	94.74	10.699	≤ 11.00	Pass
11a	6Mbps	64	5320	7.803	6.962	94.74	10.648	≤ 11.00	Pass
11a	6Mbps	100	5500	7.221	7.799	94.74	10.765	≤ 11.00	Pass
11a	6Mbps	116	5580	7.178	7.860	94.74	10.777	≤ 11.00	Pass
11a	6Mbps	140	5700	7.612	7.154	94.74	10.634	≤ 11.00	Pass
11a	6Mbps	144	5720	7.650	7.051	94.74	10.606	≤ 11.00	Pass
11ac-VHT20	MCS0	36	5180	13.553	13.069	92.41	16.671	≤ 17.00	Pass
11ac-VHT20	MCS0	44	5220	13.875	13.210	92.41	16.908	≤ 17.00	Pass
11ac-VHT20	MCS0	48	5240	13.488	13.034	92.41	16.620	≤ 17.00	Pass
11ac-VHT20	MCS0	52	5260	7.410	7.379	92.41	10.748	≤ 11.00	Pass
11ac-VHT20	MCS0	60	5300	7.736	7.187	92.41	10.823	≤ 11.00	Pass
11ac-VHT20	MCS0	64	5320	7.911	7.115	92.41	10.884	≤ 11.00	Pass
11ac-VHT20	MCS0	100	5500	7.139	8.076	92.41	10.986	≤ 11.00	Pass
11ac-VHT20	MCS0	116	5580	6.747	7.610	92.41	10.553	≤ 11.00	Pass
11ac-VHT20	MCS0	140	5700	7.490	7.308	92.41	10.753	≤ 11.00	Pass
11ac-VHT20	MCS0	144	5720	7.615	7.010	92.41	10.676	≤ 11.00	Pass

Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	PSD (dBm/MHz)		Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
				Ant 0	Ant 1				
11ac-VHT40	MCS0	38	5190	8.295	8.238	91.60	11.658	≤ 17.00	Pass
11ac-VHT40	MCS0	46	5230	13.588	13.610	91.60	16.990	≤ 17.00	Pass
11ac-VHT40	MCS0	54	5270	7.316	6.796	91.60	10.455	≤ 11.00	Pass
11ac-VHT40	MCS0	62	5310	7.624	6.958	91.60	10.695	≤ 11.00	Pass
11ac-VHT40	MCS0	102	5510	7.116	7.665	91.60	10.791	≤ 11.00	Pass
11ac-VHT40	MCS0	110	5550	6.326	7.237	91.60	10.197	≤ 11.00	Pass
11ac-VHT40	MCS0	134	5670	7.128	7.933	91.60	10.940	≤ 11.00	Pass
11ac-VHT40	MCS0	142	5710	7.200	7.850	91.60	10.928	≤ 11.00	Pass
11ac-VHT80	MCS0	42	5210	5.943	6.132	90.95	9.461	≤ 17.00	Pass
11ac-VHT80	MCS0	58	5290	4.340	4.348	90.95	7.766	≤ 11.00	Pass
11ac-VHT80	MCS0	106	5530	4.169	4.940	90.95	7.994	≤ 11.00	Pass
11ac-VHT80	MCS0	122	5610	4.629	4.685	90.95	8.079	≤ 11.00	Pass
11ac-VHT80	MCS0	138	5690	4.183	4.376	90.95	7.703	≤ 11.00	Pass
11ac-VHT160	MCS0	50	5250	1.651	1.425	91.14	4.953	≤ 11.00	Pass
11ac-VHT160	MCS0	114	5570	1.437	2.428	91.14	5.374	≤ 11.00	Pass
11ax-HE20	MCS0	36	5180	13.247	12.886	92.80	16.405	≤ 17.00	Pass
11ax-HE20	MCS0	44	5220	13.825	12.845	92.80	16.697	≤ 17.00	Pass
11ax-HE20	MCS0	48	5240	13.245	12.701	92.80	16.316	≤ 17.00	Pass
11ax-HE20	MCS0	52	5260	7.401	6.879	92.80	10.483	≤ 11.00	Pass
11ax-HE20	MCS0	60	5300	7.879	6.948	92.80	10.773	≤ 11.00	Pass
11ax-HE20	MCS0	64	5320	7.865	6.989	92.80	10.784	≤ 11.00	Pass
11ax-HE20	MCS0	100	5500	6.984	7.658	92.80	10.669	≤ 11.00	Pass
11ax-HE20	MCS0	116	5580	7.327	6.958	92.80	10.481	≤ 11.00	Pass
11ax-HE20	MCS0	140	5700	7.975	6.813	92.80	10.768	≤ 11.00	Pass
11ax-HE20	MCS0	144	5720	7.807	6.769	92.80	10.654	≤ 11.00	Pass

Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	PSD (dBm/MHz)		Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/MHz)	Result
				Ant 0	Ant 1				
11ax-HE40	MCS0	38	5190	8.724	8.094	91.32	11.825	≤ 17.00	Pass
11ax-HE40	MCS0	46	5230	13.143	13.620	91.32	16.793	≤ 17.00	Pass
11ax-HE40	MCS0	54	5270	7.357	7.383	91.32	10.775	≤ 11.00	Pass
11ax-HE40	MCS0	62	5310	7.699	6.762	91.32	10.660	≤ 11.00	Pass
11ax-HE40	MCS0	102	5510	7.112	7.582	91.32	10.758	≤ 11.00	Pass
11ax-HE40	MCS0	110	5550	5.865	6.464	91.32	9.579	≤ 11.00	Pass
11ax-HE40	MCS0	134	5670	5.801	7.229	91.32	9.978	≤ 11.00	Pass
11ax-HE40	MCS0	142	5710	7.156	7.573	91.32	10.774	≤ 11.00	Pass
11ax-HE80	MCS0	42	5210	5.997	5.633	92.29	9.178	≤ 17.00	Pass
11ax-HE80	MCS0	58	5290	4.615	4.428	92.29	7.881	≤ 11.00	Pass
11ax-HE80	MCS0	106	5530	4.425	5.055	92.29	8.110	≤ 11.00	Pass
11ax-HE80	MCS0	122	5610	4.438	5.452	92.29	8.333	≤ 11.00	Pass
11ax-HE80	MCS0	138	5690	4.047	4.661	92.29	7.724	≤ 11.00	Pass
11ax-HE160	MCS0	50	5250	1.653	0.916	90.65	4.737	≤ 11.00	Pass
11ax-HE160	MCS0	114	5570	1.617	2.180	90.65	5.344	≤ 11.00	Pass

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

Product	AX3000 Gigabit Wi-Fi 6 Router	Test Engineer	Owen
Test Site	SR5	Test Date	2022/5/10~2022/5/18
Test Item	Power Spectral Density (U-NII-3) CDD Mode		

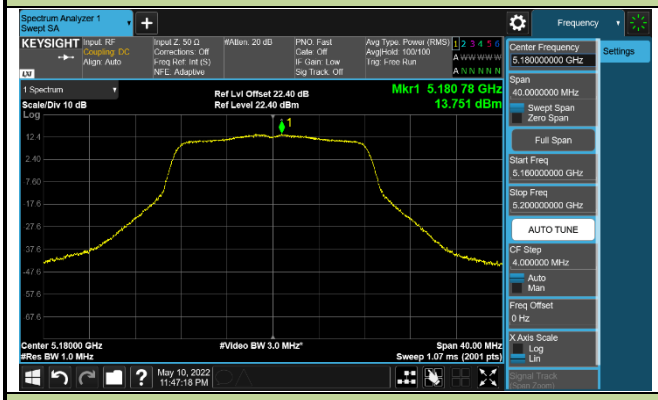
Test Mode	Data Rate /MCS	Ch. No.	Freq. (MHz)	PSD (dBm/510KHz)		Duty Cycle (%)	Total PSD (dBm/ 510KHz)	PSD Limit (dBm/500KHz)	Result
				Ant 0	Ant 1				
11a	6Mbps	149	5745	11.880	11.944	94.74%	15.157	≤ 30.00	Pass
11a	6Mbps	157	5785	11.819	11.951	94.74%	15.130	≤ 30.00	Pass
11a	6Mbps	165	5825	13.371	12.419	94.74%	16.166	≤ 30.00	Pass
11ac-VHT20	MCS0	149	5745	10.947	10.926	92.41%	14.290	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	10.883	11.573	92.41%	14.595	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	10.889	11.238	92.41%	14.420	≤ 30.00	Pass
11ac-VHT40	MCS0	151	5755	8.607	9.590	91.60%	12.518	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	8.973	9.173	91.60%	12.465	≤ 30.00	Pass
11ac-VHT80	MCS0	155	5775	5.996	6.551	90.95%	9.705	≤ 30.00	Pass
11ax-HE20	MCS0	149	5745	10.709	10.520	92.80%	13.950	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	11.330	11.601	92.80%	14.802	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	11.321	10.872	92.80%	14.437	≤ 30.00	Pass
11ax-HE40	MCS0	151	5755	8.927	9.226	91.32%	12.484	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	8.980	8.343	91.32%	12.078	≤ 30.00	Pass
11ax-HE80	MCS0	155	5775	6.238	6.087	92.29%	9.522	≤ 30.00	Pass

Note:

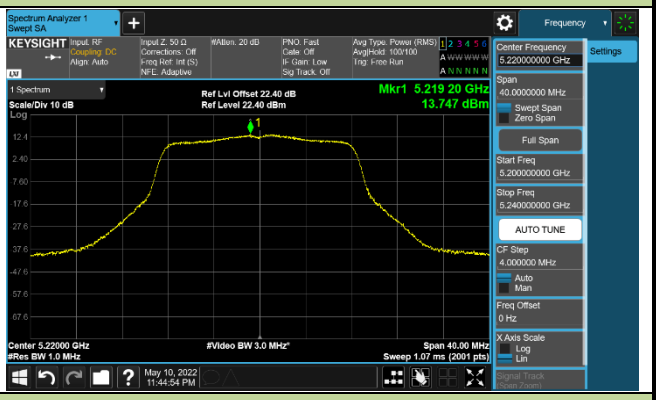
When EUT duty cycle < 98%, the total PSD (dBm/510kHz) = 10*log $\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ (dBm/510KHz) + 10*log (1/Duty Cycle)

802.11a Power Spectral Density - Ant 0

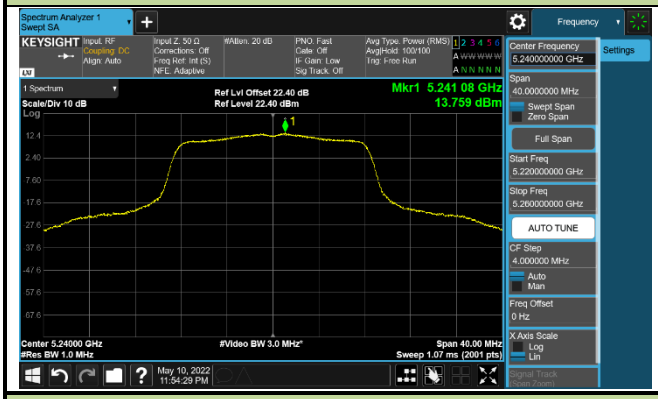
Channel 36 (5180MHz)



Channel 44 (5220MHz)

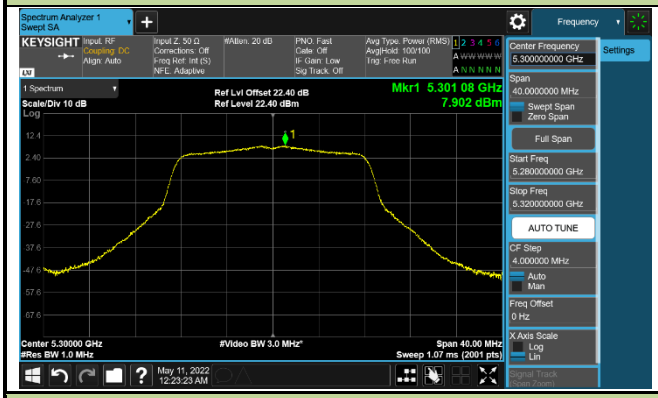


Channel 48 (5240MHz)



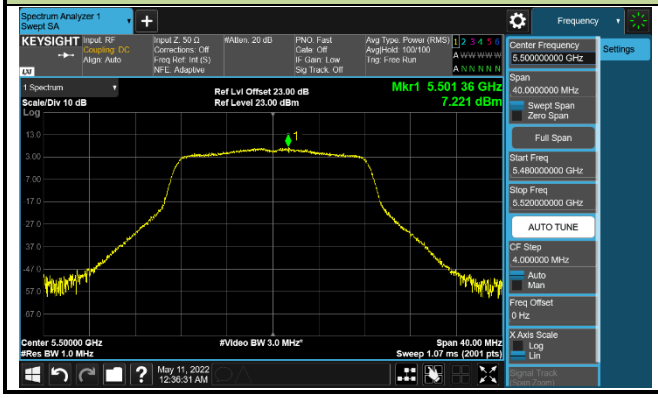
Channel 52 (5260MHz)

Channel 60 (5300MHz)

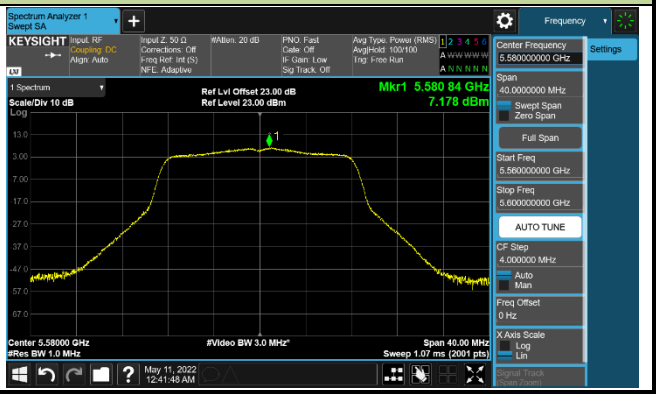


Channel 64 (5320MHz)

Channel 100 (5500MHz)



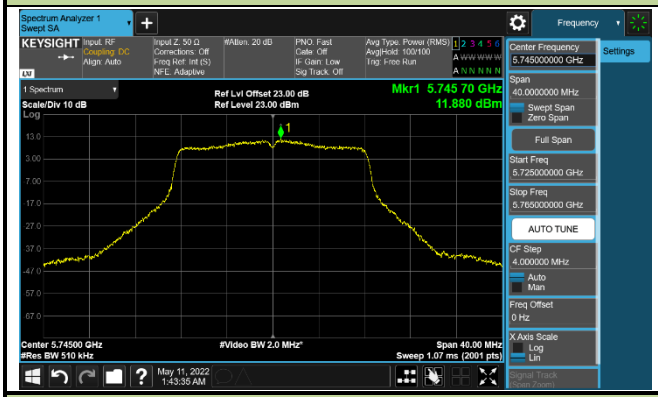
Channel 116 (5580MHz)



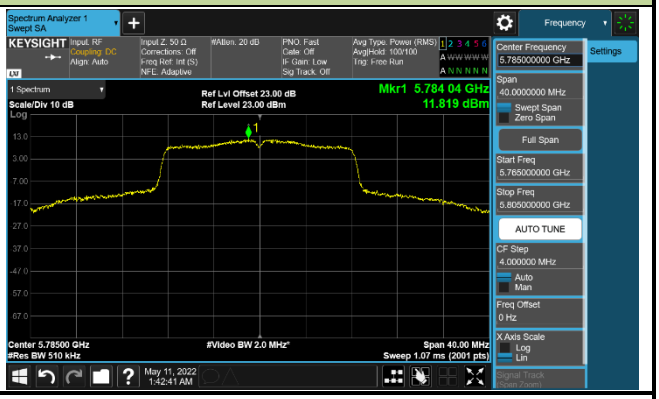
Channel 140 (5700MHz)

Channel 144 (5720MHz)

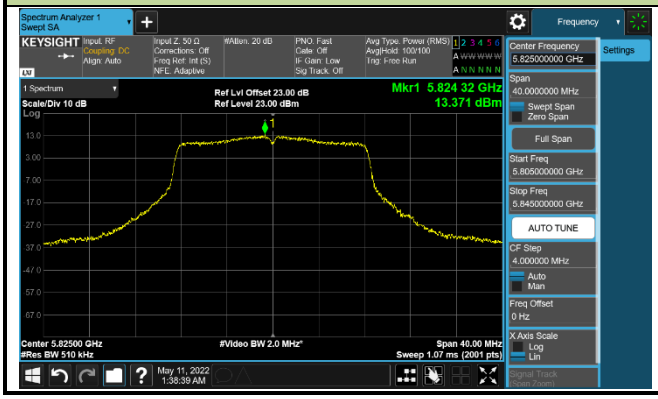
Channel 149 (5745MHz)



Channel 157 (5785MHz)

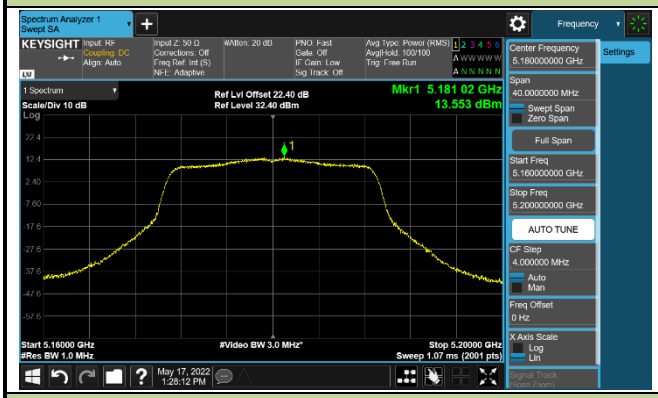


Channel 165 (5825MHz)

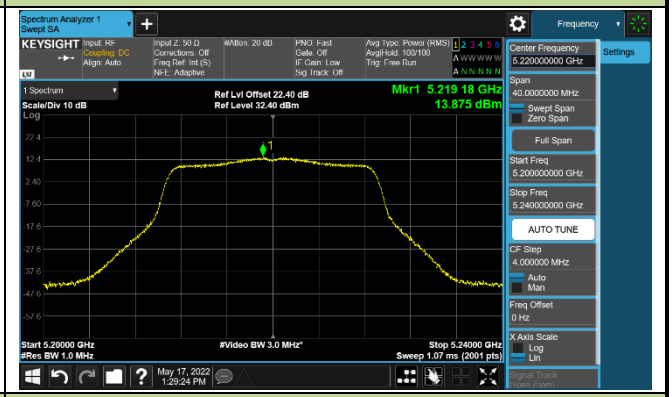


802.11ac-VHT20 Power Spectral Density - Ant 0

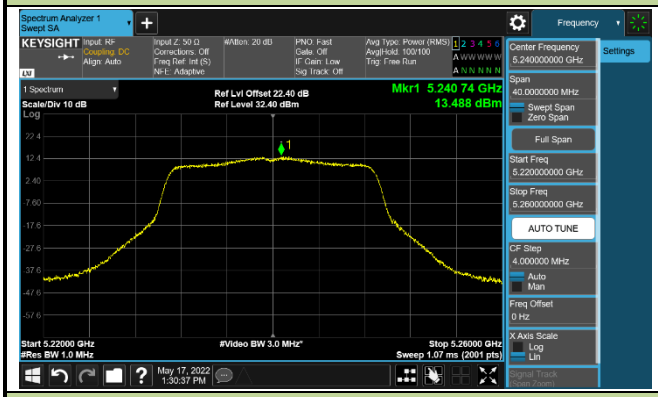
Channel 36 (5180MHz)



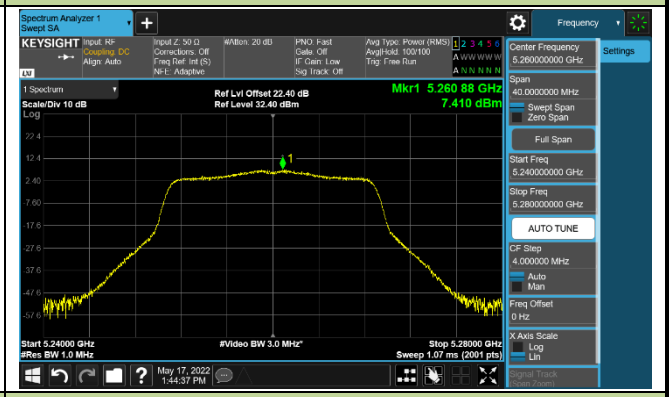
Channel 44 (5220MHz)



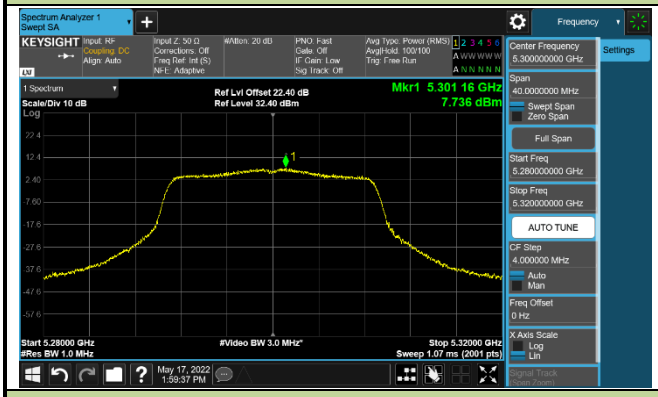
Channel 48 (5240MHz)



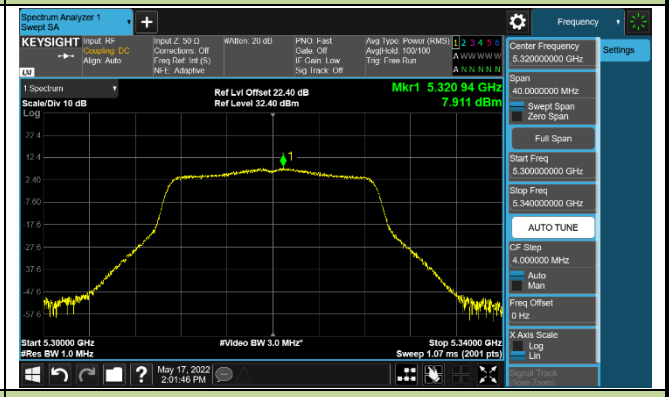
Channel 52 (5260MHz)



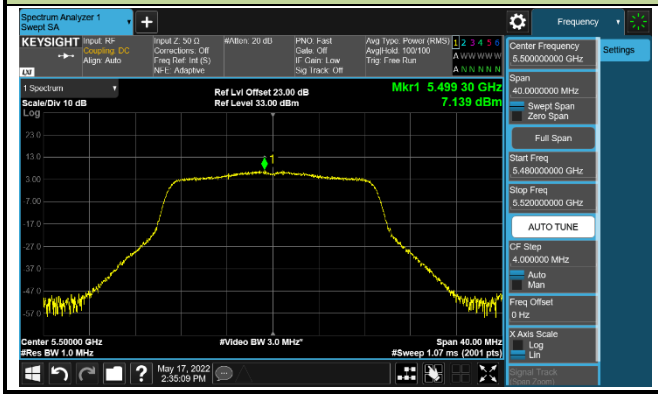
Channel 60 (5300MHz)



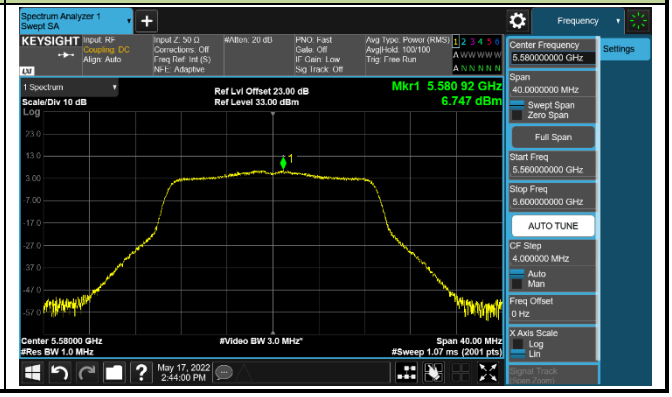
Channel 64 (5320MHz)

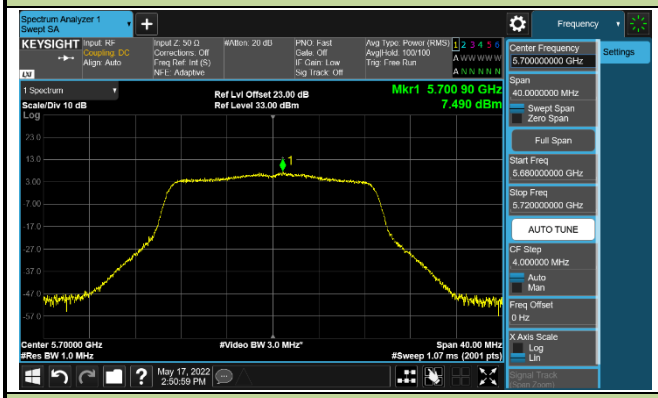
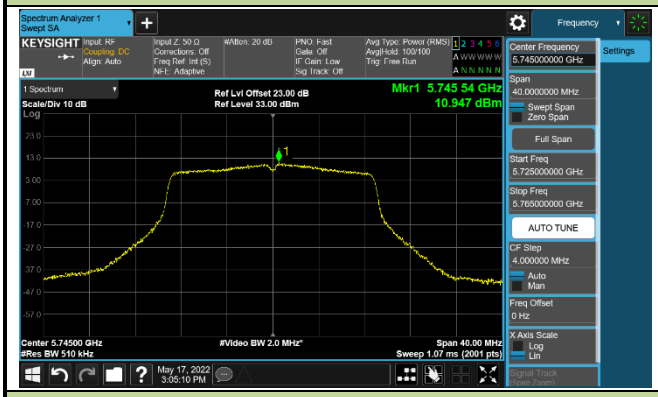
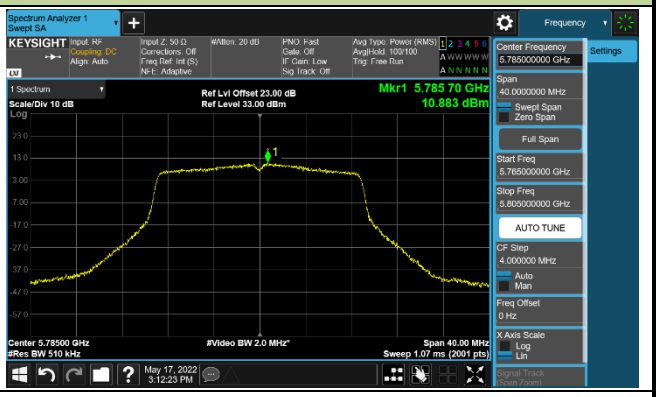
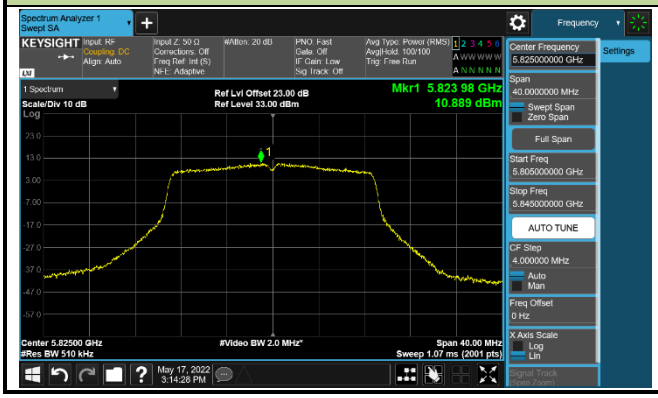


Channel 100 (5500MHz)



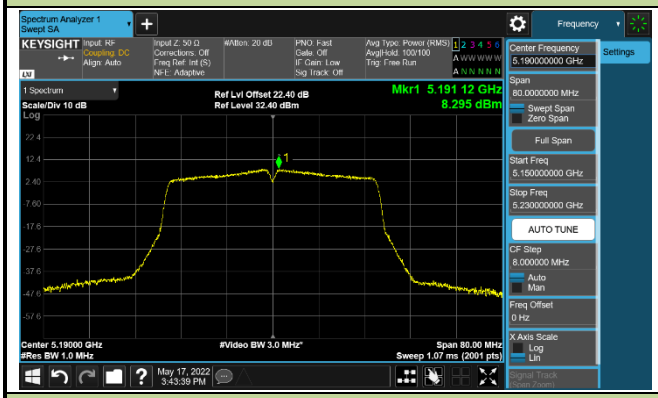
Channel 116 (5580MHz)



Channel 140 (5700MHz)	Channel 144 (5720MHz)
	
Channel 149 (5745MHz)	**Channel 157 (5785MHz)**
	
Channel 165 (5825MHz)	
	

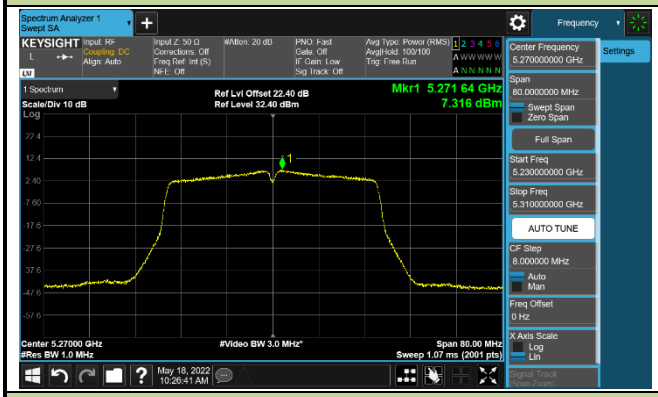
802.11ac-VHT40 Power Spectral Density - Ant 0

Channel 38 (5190MHz)

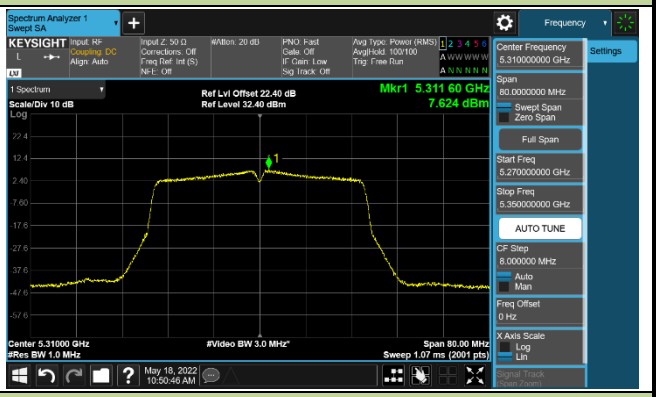


Channel 46 (5230MHz)

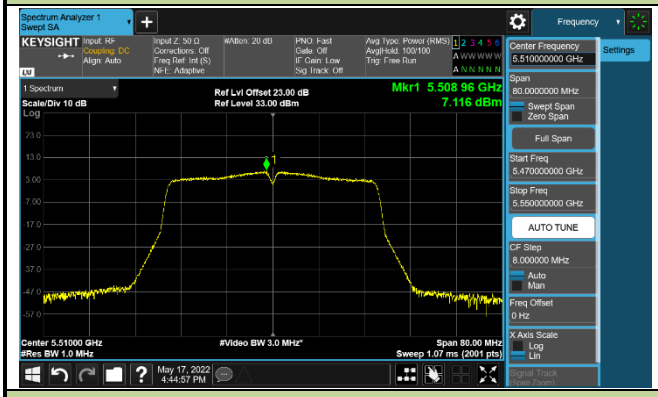
Channel 54 (5270MHz)



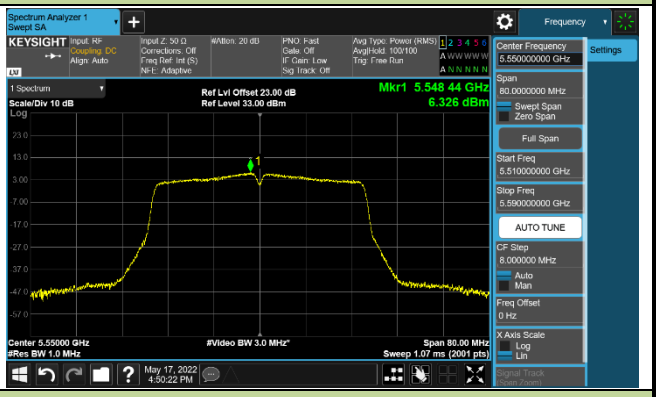
Channel 62 (5310MHz)



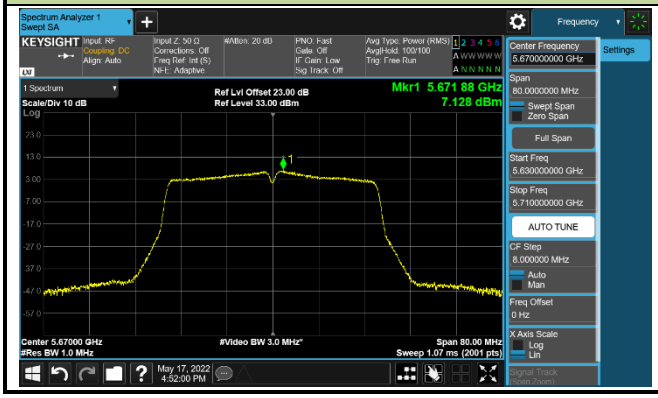
Channel 102 (5510MHz)



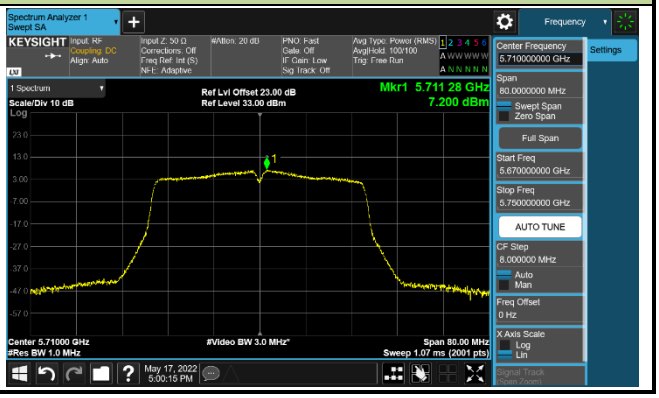
Channel 110 (5550MHz)

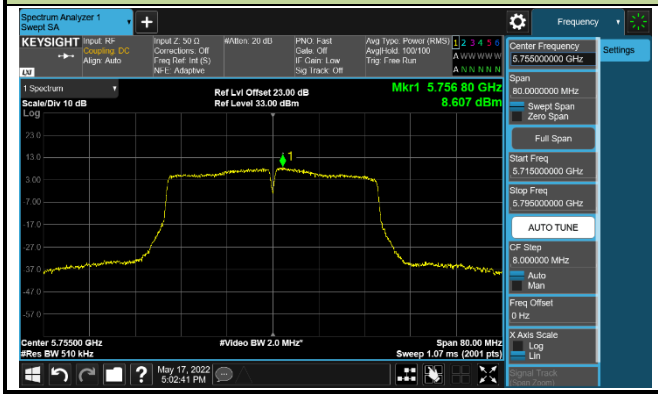
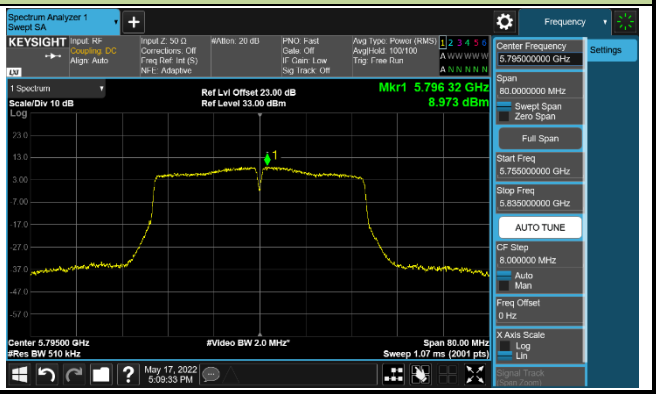


Channel 134 (5670MHz)



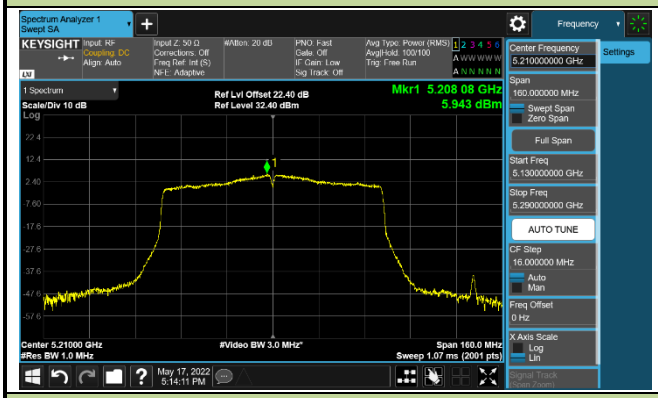
Channel 142 (5710MHz)



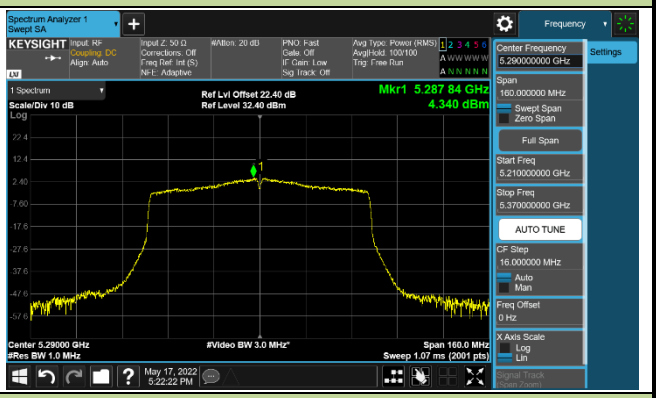
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

802.11ac-VHT80 Power Spectral Density - Ant 0

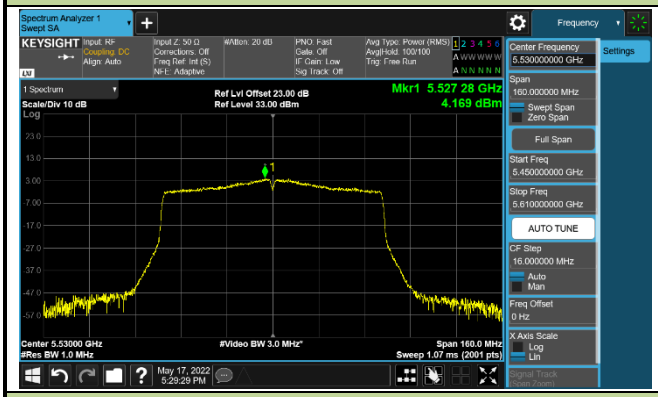
Channel 42 (5210MHz)



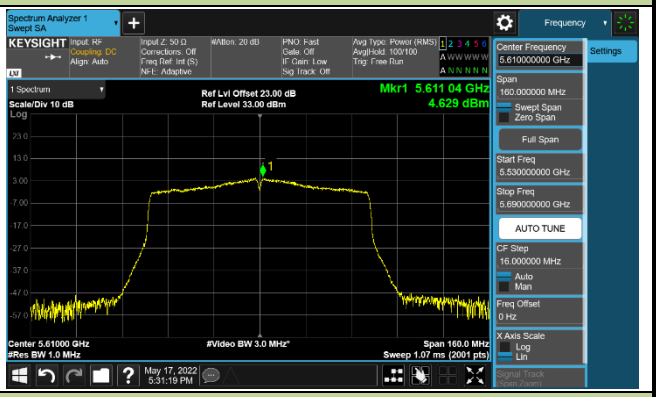
Channel 58 (5290MHz)



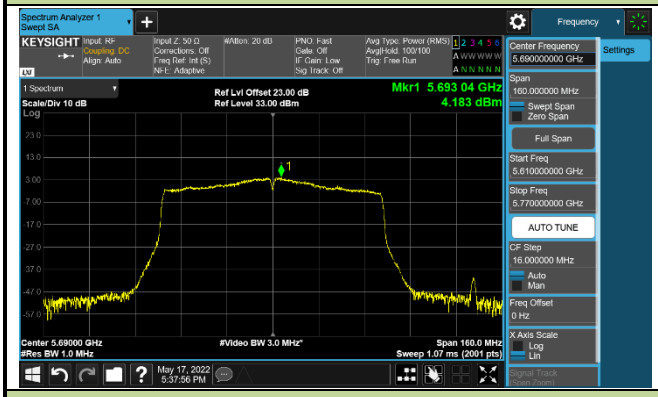
Channel 106 (5530MHz)



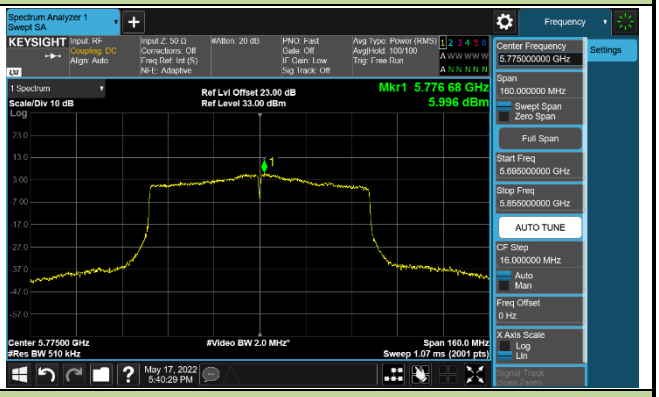
Channel 122 (5610MHz)



Channel 138 (5690MHz)



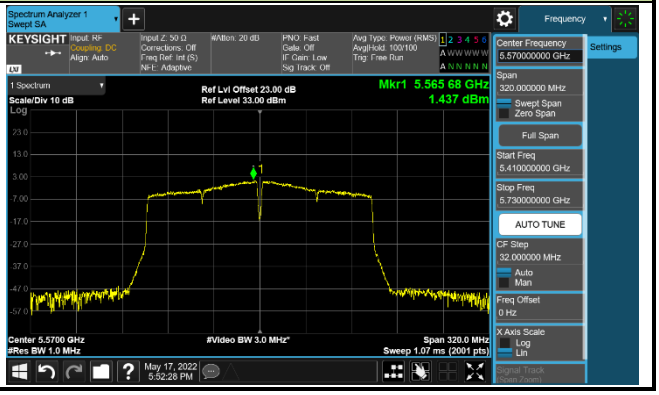
Channel 155 (5775MHz)



802.11ac-VHT160 Power Spectral Density - Ant 0

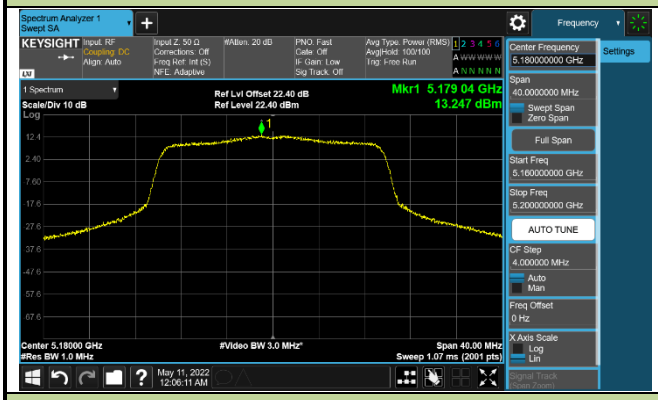
Channel 50 (5250MHz)

Channel 114 (5570MHz)

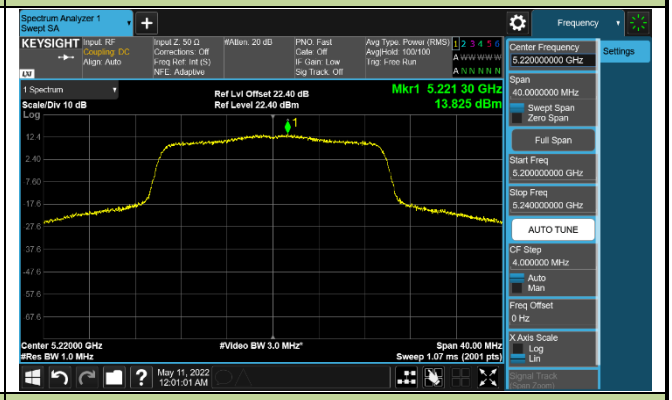


802.11ax-HE20 Power Spectral Density - Ant 0

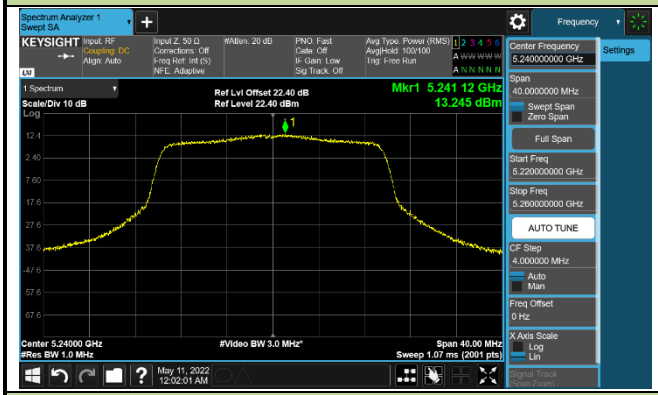
Channel 36 (5180MHz)



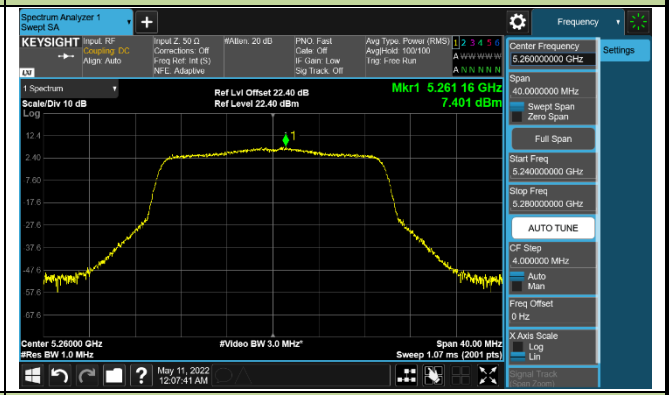
Channel 44 (5220MHz)



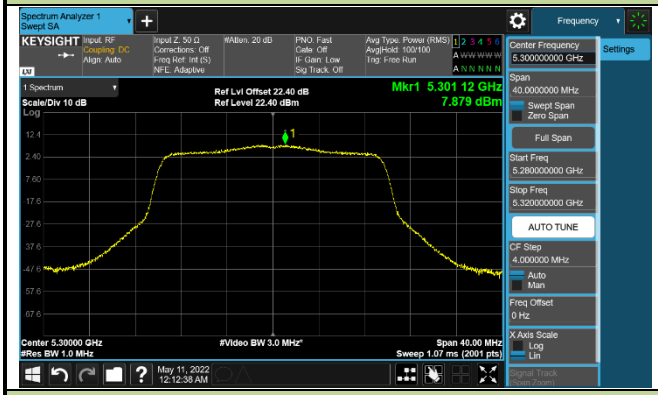
Channel 48 (5240MHz)



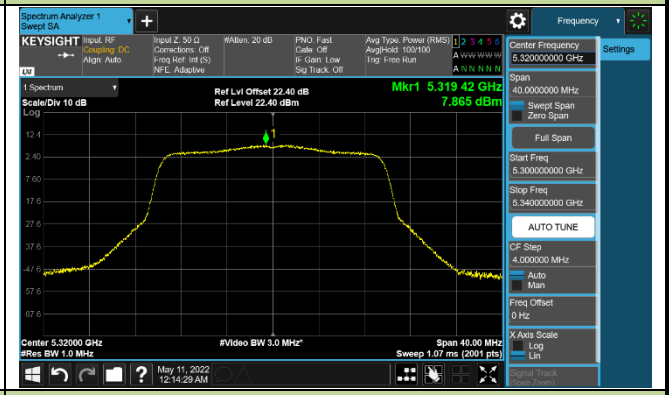
Channel 52 (5260MHz)



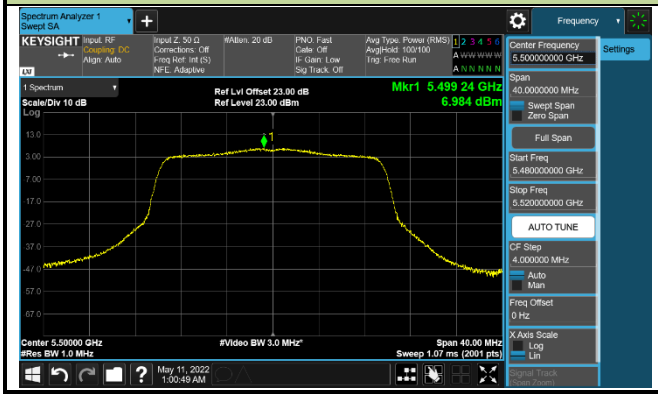
Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)