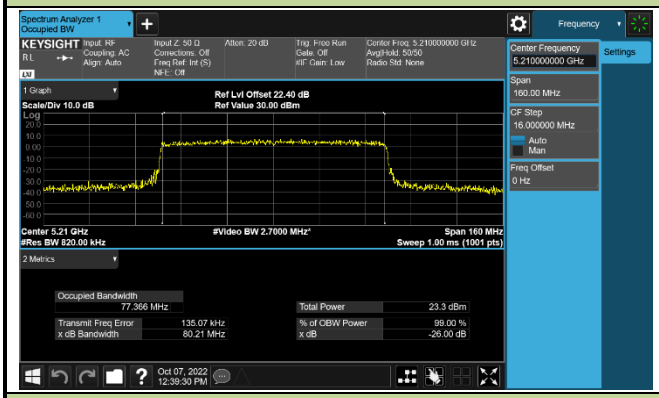
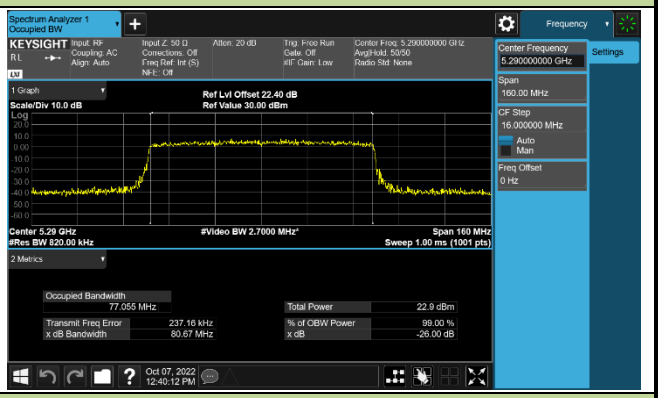
8802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

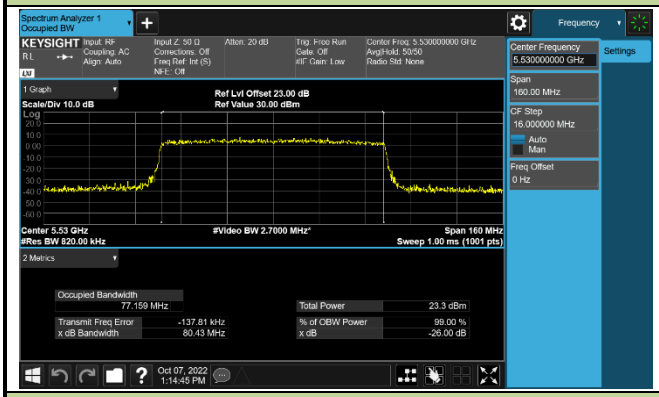
Channel 42 (5210MHz)



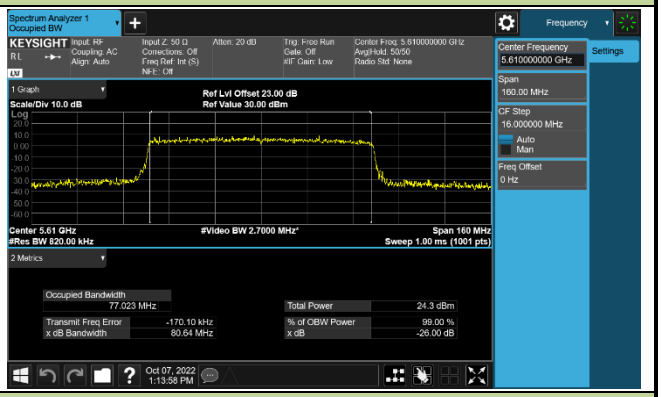
Channel 58 (5290MHz)



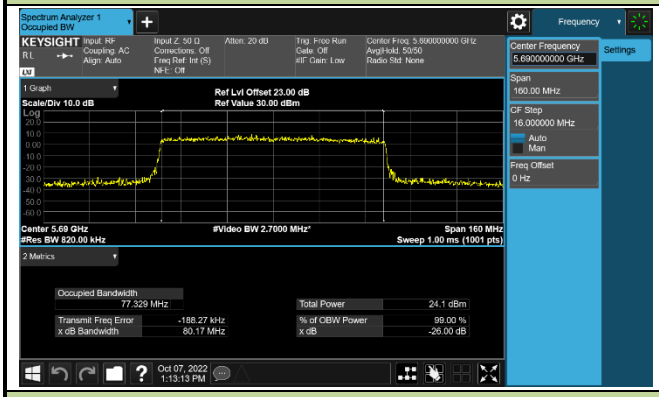
Channel 106 (5530MHz)



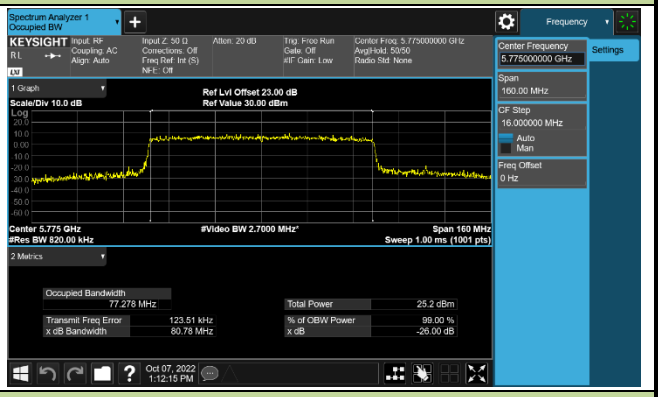
Channel 122 (5610MHz)



Channel 138 (5690MHz)

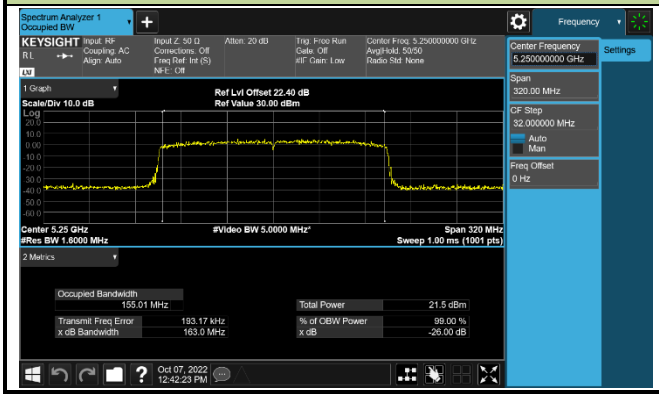


Channel 155 (5775MHz)

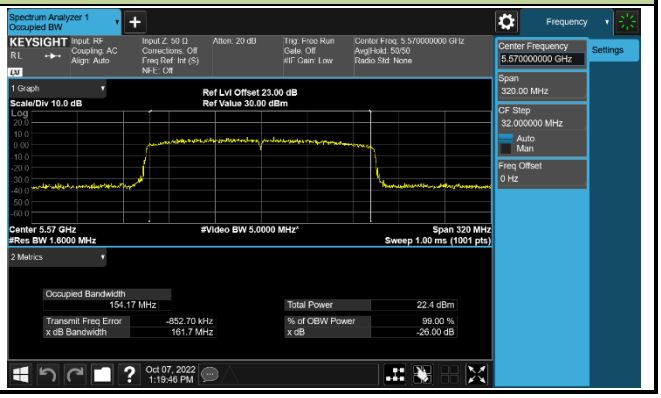


802.11ax-HE160 26dB Bandwidth & 99% Bandwidth

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.

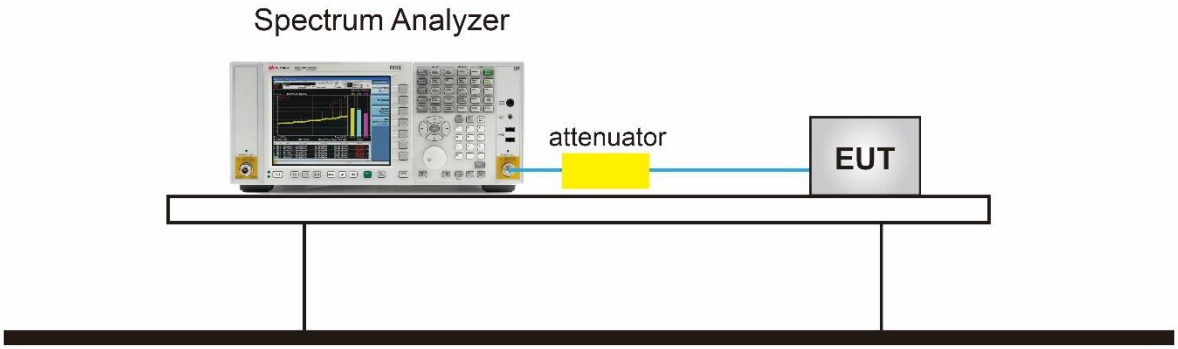
7.3.2.Test Procedure used

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.

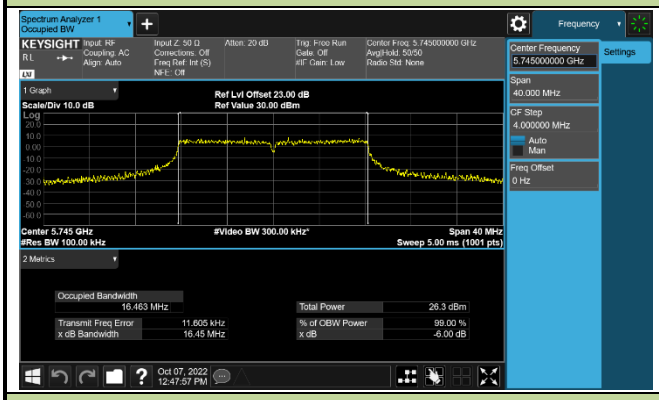
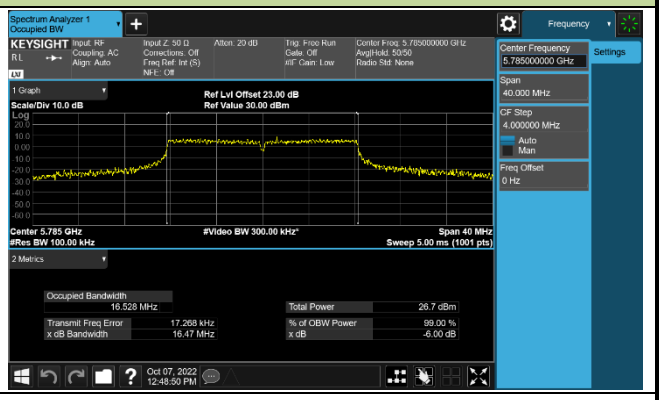
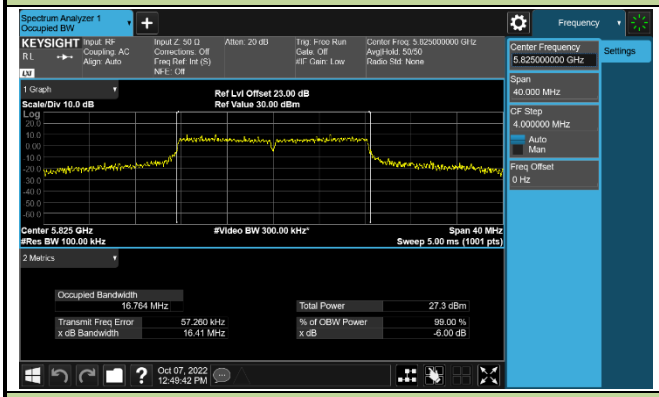
7.3.4.Test Setup

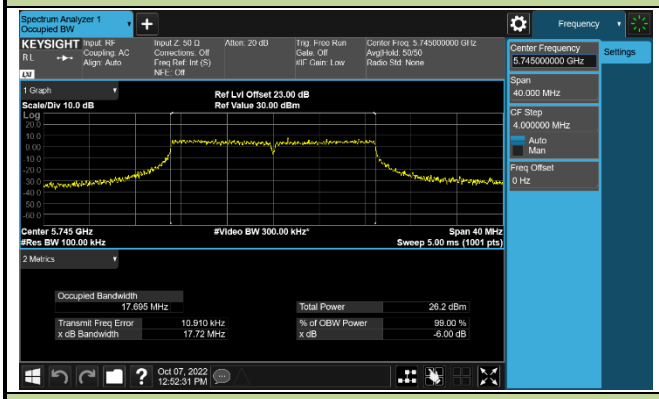
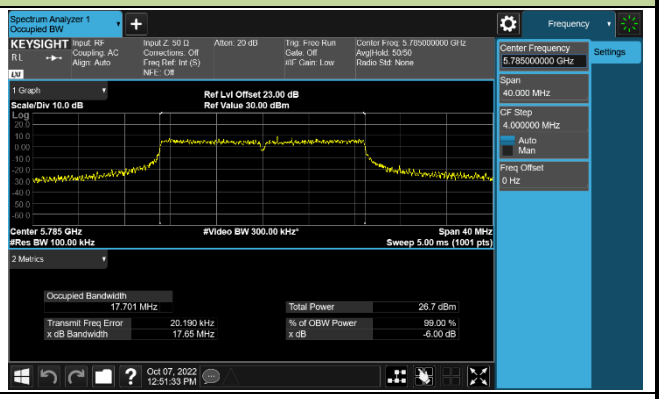
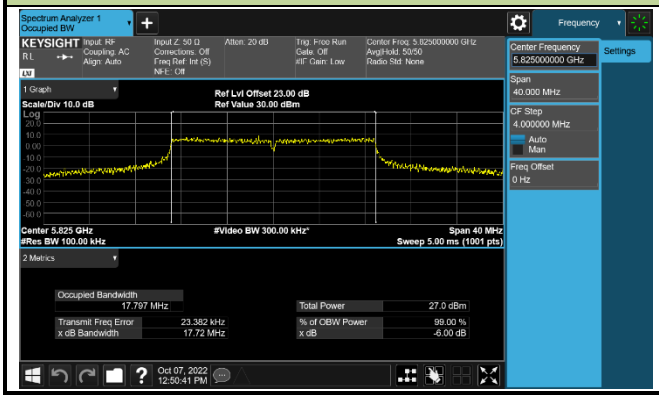


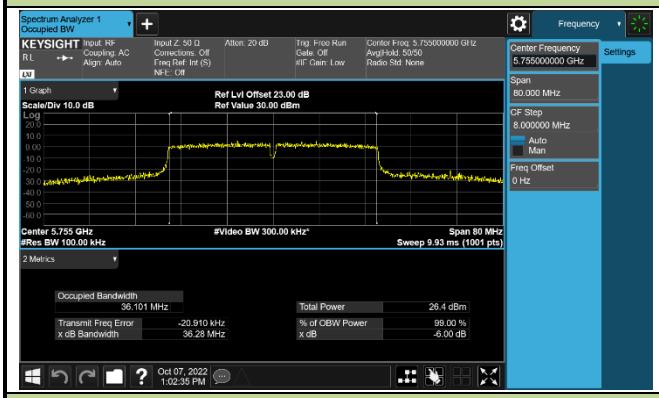
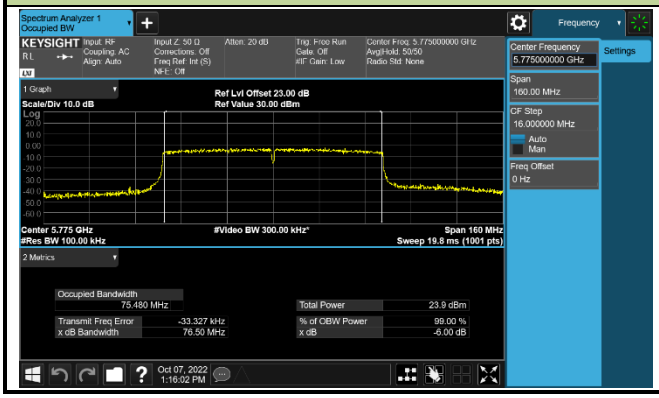
7.3.5.TestResult

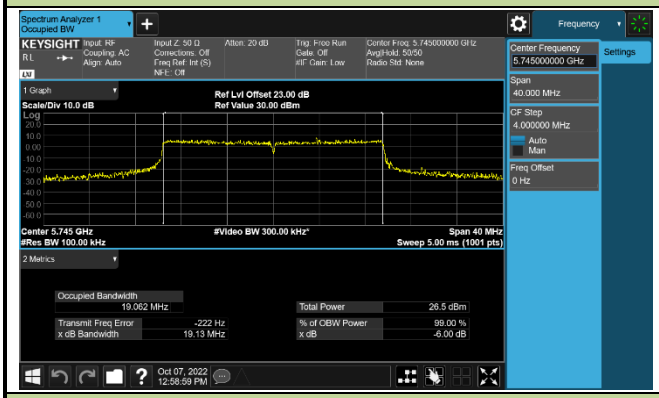
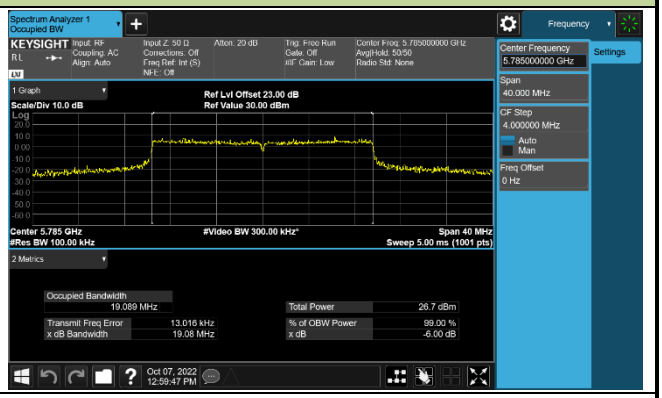
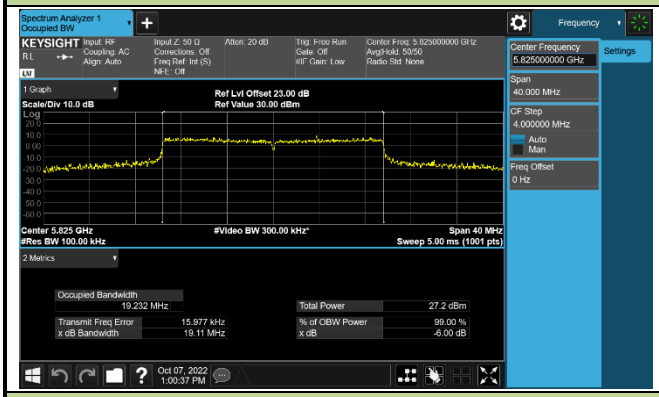
Product	AX3000 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/10/7

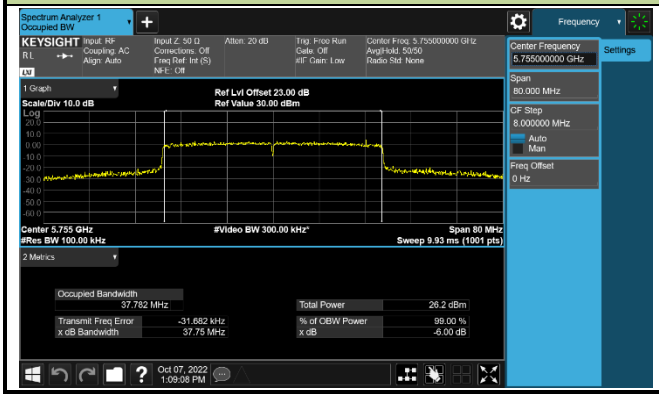
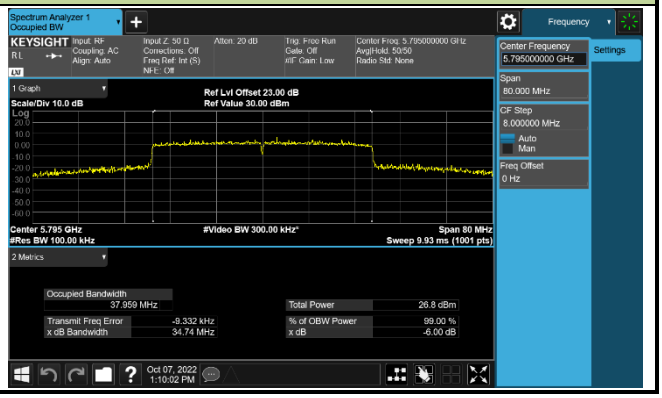
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 0						
802.11a	6Mbps	149	5745	16.450	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.470	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.410	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.720	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.650	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.720	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	36.280	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	36.390	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	76.500	≥ 0.5	Pass
802.11ax-HE20	MCS0	149	5745	19.130	≥ 0.5	Pass
802.11ax-HE20	MCS0	157	5785	19.080	≥ 0.5	Pass
802.11ax-HE20	MCS0	165	5825	19.110	≥ 0.5	Pass
802.11ax-HE40	MCS0	151	5755	37.750	≥ 0.5	Pass
802.11ax-HE40	MCS0	159	5795	34.740	≥ 0.5	Pass
802.11ax-HE80	MCS0	155	5775	77.970	≥ 0.5	Pass

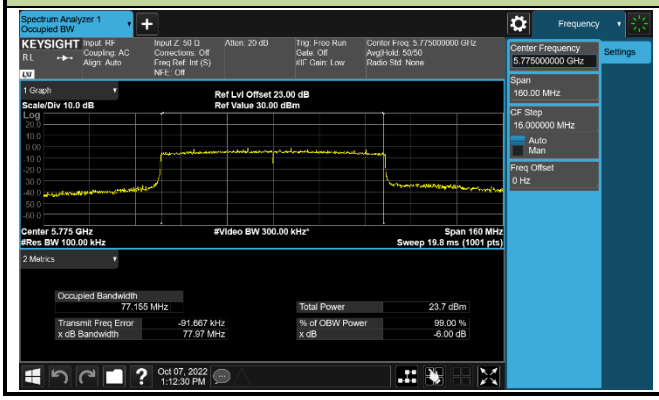
802.11a 6dB Bandwidth	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	

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 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 an outdoor access point operating in the band 5.15-5.25 GHz, the maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
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 maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

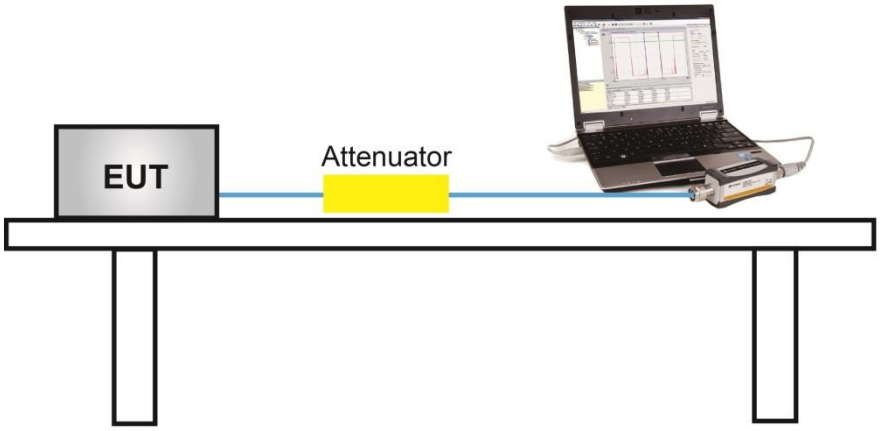
7.4.2.Test Procedure Used

KDB 789033D02v02r01- Section II)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 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
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	20.61	19.84	23.25	≤ 30.00	Pass
11a	6Mbps	44	5220	21.34	20.68	24.03	≤ 30.00	Pass
11a	6Mbps	48	5240	21.54	20.75	24.17	≤ 30.00	Pass
11a	6Mbps	52	5260	18.98	17.93	21.50	≤ 23.98	Pass
11a	6Mbps	60	5300	18.62	17.78	21.23	≤ 23.98	Pass
11a	6Mbps	64	5320	18.68	17.59	21.18	≤ 23.98	Pass
11a	6Mbps	100	5500	19.25	18.32	21.82	≤ 23.98	Pass
11a	6Mbps	116	5580	18.81	18.54	21.69	≤ 23.98	Pass
11a	6Mbps	140	5700	18.53	18.89	21.72	≤ 23.98	Pass
11a	6Mbps	144	5720	18.55	18.91	21.74	≤ 22.65	Pass
11a	6Mbps	149	5745	22.40	21.72	25.08	≤ 30.00	Pass
11a	6Mbps	157	5785	22.66	21.23	25.01	≤ 30.00	Pass
11a	6Mbps	165	5825	22.64	21.32	25.04	≤ 30.00	Pass
11ac-VHT20	MCS0	36	5180	20.90	19.99	23.48	≤ 30.00	Pass
11ac-VHT20	MCS0	40	5220	21.48	20.77	24.15	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	21.70	20.77	24.27	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	19.57	18.47	22.07	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	19.14	18.23	21.72	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	19.24	18.13	21.73	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	19.80	18.83	22.35	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	19.39	19.07	22.24	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	19.07	19.45	22.27	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	19.02	19.41	22.23	≤ 22.84	Pass
11ac-VHT20	MCS0	149	5745	22.55	21.88	25.24	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	22.76	21.45	25.16	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	22.95	21.53	25.31	≤ 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	20.26	19.37	22.85	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	21.52	20.81	24.19	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	21.33	20.05	23.75	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	19.50	18.43	22.01	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	20.83	20.06	23.47	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	20.88	19.97	23.46	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	20.07	20.10	23.10	≤23.98	Pass
11ac-VHT40	MCS0	142	5710	20.36	20.52	23.45	≤23.98	Pass
11ac-VHT40	MCS0	151	5755	23.12	22.16	25.68	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	23.32	21.97	25.71	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	19.41	18.32	21.91	≤ 24.40	Pass
11ac-VHT80	MCS0	58	5290	19.17	18.16	21.70	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	19.10	18.30	21.73	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	20.62	20.74	23.69	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	20.72	20.78	23.76	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	20.88	19.73	23.35	≤ 30.00	Pass
11ac-VHT160	MCS0	50	5250	17.81	16.73	20.31	≤ 23.98	Pass
11ac-VHT160	MCS0	114	5570	18.46	18.13	21.31	≤ 23.98	Pass
11ax-HE20	MCS0	36	5180	21.64	20.72	24.21	≤ 30.00	Pass
11ax-HE20	MCS0	40	5220	21.48	20.66	24.10	≤ 30.00	Pass
11ax-HE20	MCS0	48	5240	21.66	20.65	24.19	≤ 30.00	Pass
11ax-HE20	MCS0	52	5260	19.84	18.78	22.35	≤ 23.98	Pass
11ax-HE20	MCS0	60	5300	19.60	18.50	22.10	≤ 23.98	Pass
11ax-HE20	MCS0	64	5320	19.52	18.48	22.04	≤ 23.98	Pass
11ax-HE20	MCS0	100	5500	20.01	19.10	22.59	≤ 23.98	Pass
11ax-HE20	MCS0	116	5580	19.75	19.22	22.50	≤ 23.98	Pass
11ax-HE20	MCS0	140	5700	19.34	19.71	22.54	≤ 23.98	Pass
11ax-HE20	MCS0	144	5720	19.32	19.67	22.51	≤ 22.93	Pass
11ax-HE20	MCS0	149	5745	23.27	22.41	25.87	≤ 30.00	Pass
11ax-HE20	MCS0	157	5785	23.50	22.06	25.85	≤ 30.00	Pass
11ax-HE20	MCS0	165	5825	23.66	22.18	25.99	≤ 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	20.21	18.91	22.62	≤ 30.00	Pass
11ax-HE40	MCS0	46	5230	21.33	20.62	24.00	≤ 30.00	Pass
11ax-HE40	MCS0	54	5270	21.30	20.17	23.78	≤ 23.98	Pass
11ax-HE40	MCS0	62	5310	19.85	18.72	22.33	≤ 23.98	Pass
11ax-HE40	MCS0	102	5510	19.33	18.72	22.05	≤ 23.98	Pass
11ax-HE40	MCS0	110	5550	20.97	20.02	23.53	≤ 23.98	Pass
11ax-HE40	MCS0	134	5670	19.65	19.85	22.76	≤ 23.98	Pass
11ax-HE40	MCS0	142	5710	20.72	20.57	23.66	≤ 23.98	Pass
11ax-HE40	MCS0	151	5755	23.31	22.28	25.84	≤ 30.00	Pass
11ax-HE40	MCS0	159	5795	23.48	22.00	25.81	≤ 30.00	Pass
11ax-HE80	MCS0	42	5210	19.43	18.38	21.95	≤ 30.00	Pass
11ax-HE80	MCS0	58	5290	18.82	17.91	21.40	≤ 30.00	Pass
11ax-HE80	MCS0	106	5530	19.41	18.59	22.03	≤ 23.98	Pass
11ax-HE80	MCS0	122	5610	20.47	20.35	23.42	≤ 23.98	Pass
11ax-HE80	MCS0	138	5690	20.53	20.57	23.56	≤ 23.98	Pass
11ax-HE80	MCS0	155	5775	21.16	20.01	23.63	≤ 30.00	Pass
11ax-HE160	MCS0	50	5250	18.19	16.95	20.62	≤ 23.98	Pass
11ax-HE160	MCS0	114	5570	18.78	18.41	21.61	≤ 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 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) = $11+10*\log(5\text{MHz} + BW_{26dBc}/2)$.

Product	AX3000 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
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	18.42	17.41	20.95	≤ 29.99	Pass
11ac-VHT20	MCS0	40	5220	18.36	17.35	20.89	≤ 29.99	Pass
11ac-VHT20	MCS0	48	5240	18.62	17.33	21.03	≤ 29.99	Pass
11ac-VHT20	MCS0	52	5260	19.57	18.47	22.07	≤ 23.97	Pass
11ac-VHT20	MCS0	60	5300	19.14	18.23	21.72	≤ 23.97	Pass
11ac-VHT20	MCS0	64	5320	19.24	18.13	21.73	≤ 23.97	Pass
11ac-VHT20	MCS0	100	5500	19.80	18.83	22.35	≤ 23.97	Pass
11ac-VHT20	MCS0	116	5580	19.39	19.07	22.24	≤ 23.97	Pass
11ac-VHT20	MCS0	140	5700	19.07	19.45	22.27	≤ 23.97	Pass
11ac-VHT20	MCS0	144	5720	14.69	14.74	17.73	≤ 22.83	Pass
11ac-VHT20	MCS0	149	5745	22.55	21.88	25.24	≤ 29.99	Pass
11ac-VHT20	MCS0	157	5785	22.76	21.45	25.16	≤ 29.99	Pass
11ac-VHT20	MCS0	165	5825	22.95	21.53	25.31	≤ 29.99	Pass
11ac-VHT40	MCS0	38	5190	18.76	17.69	21.27	≤ 29.99	Pass
11ac-VHT40	MCS0	46	5230	18.93	17.55	21.30	≤ 29.99	Pass
11ac-VHT40	MCS0	54	5270	21.33	20.05	23.75	≤ 23.97	Pass
11ac-VHT40	MCS0	62	5310	19.50	18.43	22.01	≤ 23.97	Pass
11ac-VHT40	MCS0	102	5510	20.83	20.06	23.47	≤ 23.97	Pass
11ac-VHT40	MCS0	110	5550	20.88	19.97	23.46	≤ 23.97	Pass
11ac-VHT40	MCS0	134	5670	20.07	20.10	23.10	≤ 23.97	Pass
11ac-VHT40	MCS0	142	5710	20.36	20.52	23.45	≤ 23.97	Pass
11ac-VHT40	MCS0	151	5755	23.12	22.16	25.68	≤ 29.99	Pass
11ac-VHT40	MCS0	159	5795	23.32	21.97	25.71	≤ 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
11ac-VHT80	MCS0	42	5210	18.64	17.41	21.08	≤ 29.99	Pass
11ac-VHT80	MCS0	58	5290	19.17	18.16	21.70	≤ 23.97	Pass
11ac-VHT80	MCS0	106	5530	19.10	18.30	21.73	≤ 23.97	Pass
11ac-VHT80	MCS0	122	5610	20.62	20.74	23.69	≤ 23.97	Pass
11ac-VHT80	MCS0	138	5690	20.72	20.78	23.76	≤ 23.97	Pass
11ac-VHT80	MCS0	155	5775	20.88	19.73	23.35	≤ 29.99	Pass
11ac-VHT160	MCS0	50	5250	17.81	16.73	20.31	≤ 23.97	Pass
11ac-VHT160	MCS0	114	5570	18.46	18.13	21.31	≤ 23.97	Pass
11ax-HE20	MCS0	36	5180	18.54	17.54	21.08	≤ 29.99	Pass
11ax-HE20	MCS0	40	5220	18.50	17.30	20.95	≤ 29.99	Pass
11ax-HE20	MCS0	48	5240	18.52	17.50	21.05	≤ 29.99	Pass
11ax-HE20	MCS0	52	5260	19.84	18.78	22.35	≤ 23.97	Pass
11ax-HE20	MCS0	60	5300	19.60	18.50	22.10	≤ 23.97	Pass
11ax-HE20	MCS0	64	5320	19.52	18.48	22.04	≤ 23.97	Pass
11ax-HE20	MCS0	100	5500	20.01	19.10	22.59	≤ 23.97	Pass
11ax-HE20	MCS0	116	5580	19.75	19.22	22.50	≤ 23.97	Pass
11ax-HE20	MCS0	140	5700	19.34	19.71	22.54	≤ 23.97	Pass
11ax-HE20	MCS0	144	5720	14.57	14.55	17.57	≤ 22.92	Pass
11ax-HE20	MCS0	149	5745	23.27	22.41	25.87	≤ 29.99	Pass
11ax-HE20	MCS0	157	5785	23.50	22.06	25.85	≤ 29.99	Pass
11ax-HE20	MCS0	165	5825	23.66	22.18	25.99	≤ 29.99	Pass
11ax-HE40	MCS0	38	5190	18.55	17.26	20.96	≤ 29.99	Pass
11ax-HE40	MCS0	46	5230	18.37	17.33	20.89	≤ 29.99	Pass
11ax-HE40	MCS0	54	5270	21.30	20.17	23.78	≤ 23.97	Pass
11ax-HE40	MCS0	62	5310	19.85	18.72	22.33	≤ 23.97	Pass
11ax-HE40	MCS0	102	5510	19.33	18.72	22.05	≤ 23.97	Pass
11ax-HE40	MCS0	110	5550	20.97	20.02	23.53	≤ 23.97	Pass
11ax-HE40	MCS0	134	5670	19.65	19.85	22.76	≤ 23.97	Pass
11ax-HE40	MCS0	142	5710	20.72	20.57	23.66	≤ 23.97	Pass
11ax-HE40	MCS0	151	5755	23.31	22.28	25.84	≤ 29.99	Pass
11ax-HE40	MCS0	159	5795	23.48	22.00	25.81	≤ 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-HE80	MCS0	42	5210	18.48	17.33	20.95	≤ 29.99	Pass
11ax-HE80	MCS0	58	5290	18.82	17.91	21.40	≤ 23.97	Pass
11ax-HE80	MCS0	106	5530	19.41	18.59	22.03	≤ 23.97	Pass
11ax-HE80	MCS0	122	5610	20.47	20.35	23.42	≤ 23.97	Pass
11ax-HE80	MCS0	138	5690	20.53	20.57	23.56	≤ 23.97	Pass
11ax-HE80	MCS0	155	5775	21.16	20.01	23.63	≤ 23.99	Pass
11ax-HE160	MCS0	50	5250	18.19	16.95	20.62	≤ 23.97	Pass
11ax-HE160	MCS0	114	5570	18.78	18.41	21.61	≤ 23.97	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 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 Channel 144 (5720MHz), Average Power Limit (dBm) = $11+10*\log(5\text{MHz} + BW_{26dBc}/2)$ - (6.01- 6).

Product	AX3000 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
Test Mode	CDD Mode		

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									
11a	6Mbps	36	5180	20.61	19.84	23.25	19.84	≤ 21.00	Pass
11a	6Mbps	44	5220	21.34	20.68	24.03	20.62	≤ 21.00	Pass
11a	6Mbps	48	5240	21.54	20.75	24.17	20.76	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	20.90	19.99	23.48	20.07	≤ 21.00	Pass
11ac-VHT20	MCS0	40	5220	21.48	20.77	24.15	20.74	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	21.70	20.77	24.27	20.86	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	20.26	19.37	22.85	19.44	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	21.52	20.81	24.19	20.78	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	19.41	18.32	21.91	18.50	≤ 21.00	Pass
11ac-VHT160	MCS0	50	5250	17.81	16.73	20.31	16.90	≤ 21.00	Pass
11ax-HE20	MCS0	36	5180	21.64	20.72	24.21	20.80	≤ 21.00	Pass
11ax-HE20	MCS0	40	5220	21.48	20.66	24.10	20.69	≤ 21.00	Pass
11ax-HE20	MCS0	48	5240	21.66	20.65	24.19	20.78	≤ 21.00	Pass
11ax-HE40	MCS0	38	5190	20.21	18.91	22.62	19.21	≤ 21.00	Pass
11ax-HE40	MCS0	46	5230	21.33	20.62	24.00	20.59	≤ 21.00	Pass
11ax-HE80	MCS0	42	5210	19.43	18.38	21.95	18.54	≤ 21.00	Pass
11ax-HE160	MCS0	50	5250	18.19	16.95	20.62	17.21	≤ 21.00	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: EIRP (dBm) = Total Average Power (dBm) + Antenna Gain (dBi)

Product	AX3000 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
Test Mode	Beamforming Mode		

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									
11ac-VHT20	MCS0	36	5180	18.42	17.41	20.95	20.54	≤ 21.00	Pass
11ac-VHT20	MCS0	40	5220	18.36	17.35	20.89	20.48	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	18.62	17.33	21.03	20.62	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	18.76	17.69	21.27	20.86	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	18.93	17.55	21.30	20.89	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	18.64	17.41	21.08	20.67	≤ 21.00	Pass
11ac-VHT160	MCS0	50	5250	17.81	16.73	20.31	19.90	≤ 21.00	Pass
11ax-HE20	MCS0	36	5180	18.54	17.54	21.08	20.67	≤ 21.00	Pass
11ax-HE20	MCS0	40	5220	18.50	17.30	20.95	20.54	≤ 21.00	Pass
11ax-HE20	MCS0	48	5240	18.52	17.50	21.05	20.64	≤ 21.00	Pass
11ax-HE40	MCS0	38	5190	18.55	17.26	20.96	20.55	≤ 21.00	Pass
11ax-HE40	MCS0	46	5230	18.37	17.33	20.89	20.48	≤ 21.00	Pass
11ax-HE80	MCS0	42	5210	18.48	17.33	20.95	20.54	≤ 21.00	Pass
11ax-HE160	MCS0	50	5250	18.19	16.95	20.62	20.21	≤ 21.00	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: EIRP (dBm) = Total Average Power (dBm) + Antenna 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.

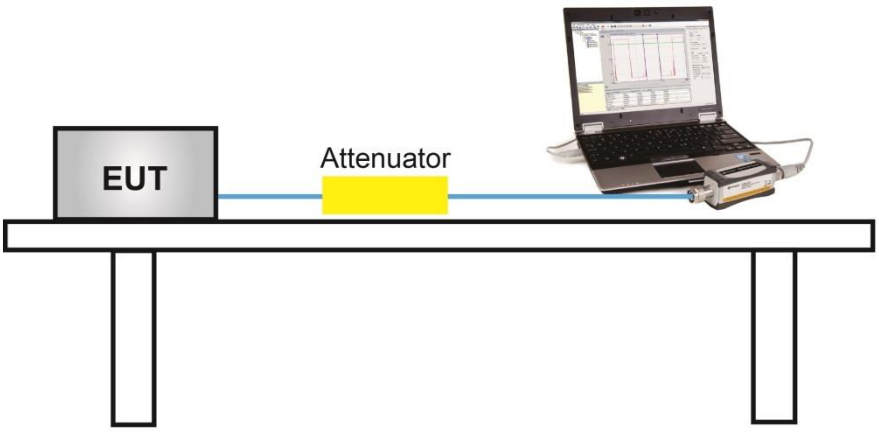
7.5.2.Test Procedure Used

KDB 789033 D02v02r01- Section II)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.

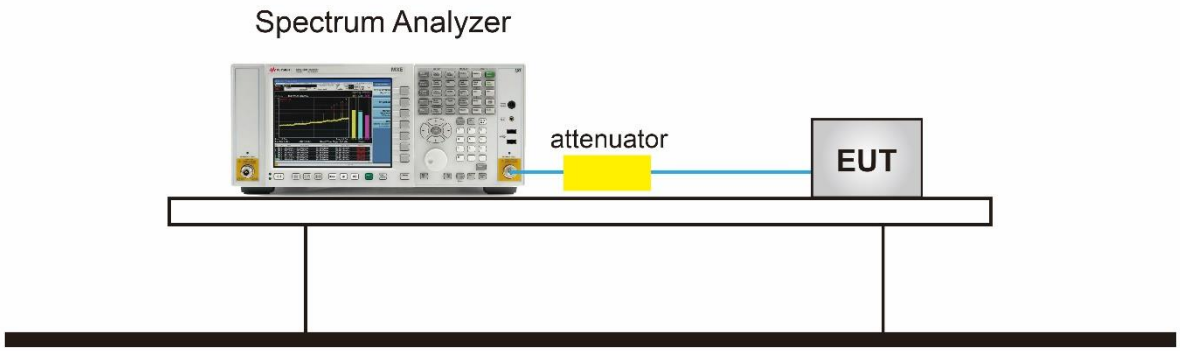
7.6.2.Test Procedure Used

KDB 789033 D02v02r01-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 ≥ 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 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
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	9.279	8.241	96.54%	11.954	≤ 16.99	Pass
11a	6Mbps	44	5220	9.705	9.117	96.54%	12.584	≤ 16.99	Pass
11a	6Mbps	48	5240	10.134	9.277	96.54%	12.890	≤ 16.99	Pass
11a	6Mbps	52	5260	8.034	6.835	96.54%	10.639	≤ 10.99	Pass
11a	6Mbps	60	5300	7.714	6.874	96.54%	10.478	≤ 10.99	Pass
11a	6Mbps	64	5320	7.650	6.827	96.54%	10.421	≤ 10.99	Pass
11a	6Mbps	100	5500	7.921	7.056	96.54%	10.673	≤ 10.99	Pass
11a	6Mbps	116	5580	7.459	7.198	96.54%	10.494	≤ 10.99	Pass
11a	6Mbps	140	5700	7.519	7.940	96.54%	10.898	≤ 10.99	Pass
11a	6Mbps	144	5720	7.503	7.411	96.54%	10.620	≤ 10.99	Pass
11ac-VHT20	MCS0	36	5180	8.520	7.336	85.22%	11.673	≤ 16.99	Pass
11ac-VHT20	MCS0	40	5220	9.239	8.527	85.22%	12.602	≤ 16.99	Pass
11ac-VHT20	MCS0	48	5240	9.676	8.269	85.22%	12.734	≤ 16.99	Pass
11ac-VHT20	MCS0	52	5260	7.202	6.196	85.22%	10.433	≤ 10.99	Pass
11ac-VHT20	MCS0	60	5300	7.494	6.276	85.22%	10.632	≤ 10.99	Pass
11ac-VHT20	MCS0	64	5320	7.483	6.082	85.22%	10.544	≤ 10.99	Pass
11ac-VHT20	MCS0	100	5500	7.141	6.667	85.22%	10.615	≤ 10.99	Pass
11ac-VHT20	MCS0	116	5580	7.066	6.886	85.22%	10.682	≤ 10.99	Pass
11ac-VHT20	MCS0	140	5700	6.897	7.096	85.22%	10.703	≤ 10.99	Pass
11ac-VHT20	MCS0	144	5720	6.895	6.756	85.22%	10.531	≤ 10.99	Pass
11ac-VHT40	MCS0	38	5190	5.202	3.456	85.04%	8.130	≤ 16.99	Pass
11ac-VHT40	MCS0	46	5230	6.096	5.398	85.04%	9.475	≤ 16.99	Pass
11ac-VHT40	MCS0	54	5270	5.898	4.465	85.04%	8.954	≤ 10.99	Pass
11ac-VHT40	MCS0	62	5310	4.794	3.427	85.04%	7.878	≤ 10.99	Pass
11ac-VHT40	MCS0	102	5510	5.074	4.410	85.04%	8.469	≤ 10.99	Pass
11ac-VHT40	MCS0	110	5550	4.934	4.444	85.04%	8.410	≤ 10.99	Pass
11ac-VHT40	MCS0	134	5670	4.790	4.625	85.04%	8.422	≤ 10.99	Pass
11ac-VHT40	MCS0	142	5710	4.396	4.815	85.04%	8.325	≤ 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	1.136	-0.295	85.92%	4.149	≤ 16.99	Pass
11ac-VHT80	MCS0	58	5290	0.939	-0.973	85.92%	3.757	≤ 10.99	Pass
11ac-VHT80	MCS0	106	5530	0.477	-0.332	85.92%	3.761	≤ 10.99	Pass
11ac-VHT80	MCS0	122	5610	1.792	1.929	85.92%	5.530	≤ 10.99	Pass
11ac-VHT80	MCS0	138	5690	1.876	1.767	85.92%	5.491	≤ 10.99	Pass
11ac-VHT160	MCS0	50	5250	-3.019	-4.114	85.22%	0.173	≤ 10.99	Pass
11ac-VHT160	MCS0	114	5570	-2.601	-2.649	85.22%	1.080	≤ 10.99	Pass
11ax-HE20	MCS0	36	5180	9.252	7.998	85.27%	12.372	≤ 16.99	Pass
11ax-HE20	MCS0	44	5220	8.823	7.537	85.27%	11.930	≤ 16.99	Pass
11ax-HE20	MCS0	48	5240	9.015	7.912	85.27%	12.201	≤ 16.99	Pass
11ax-HE20	MCS0	52	5260	7.362	6.363	85.27%	10.593	≤ 10.99	Pass
11ax-HE20	MCS0	60	5300	7.279	6.386	85.27%	10.558	≤ 10.99	Pass
11ax-HE20	MCS0	64	5320	7.503	6.161	85.27%	10.586	≤ 10.99	Pass
11ax-HE20	MCS0	100	5500	7.724	6.504	85.27%	10.859	≤ 10.99	Pass
11ax-HE20	MCS0	116	5580	7.248	6.900	85.27%	10.780	≤ 10.99	Pass
11ax-HE20	MCS0	140	5700	6.818	7.301	85.27%	10.769	≤ 10.99	Pass
11ax-HE20	MCS0	144	5720	6.931	6.517	85.27%	10.431	≤ 10.99	Pass
11ax-HE40	MCS0	38	5190	4.562	3.186	85.33%	7.628	≤ 16.99	Pass
11ax-HE40	MCS0	46	5230	5.477	4.835	85.33%	8.867	≤ 16.99	Pass
11ax-HE40	MCS0	54	5270	5.689	4.308	85.33%	8.752	≤ 10.99	Pass
11ax-HE40	MCS0	62	5310	4.526	3.539	85.33%	7.760	≤ 10.99	Pass
11ax-HE40	MCS0	102	5510	3.929	2.812	85.33%	7.106	≤ 10.99	Pass
11ax-HE40	MCS0	110	5550	5.093	3.928	85.33%	8.249	≤ 10.99	Pass
11ax-HE40	MCS0	134	5670	4.467	4.390	85.33%	8.128	≤ 10.99	Pass
11ax-HE40	MCS0	142	5710	4.480	4.593	85.33%	8.236	≤ 10.99	Pass
11ax-HE80	MCS0	42	5210	1.096	-0.033	85.92%	4.237	≤ 16.99	Pass
11ax-HE80	MCS0	58	5290	0.454	-0.847	85.92%	3.521	≤ 10.99	Pass
11ax-HE80	MCS0	106	5530	0.816	-0.096	85.92%	4.053	≤ 10.99	Pass
11ax-HE80	MCS0	122	5610	1.846	2.252	85.92%	5.723	≤ 10.99	Pass
11ax-HE80	MCS0	122	5690	1.917	2.238	85.92%	5.750	≤ 10.99	Pass
11ax-HE160	MCS0	50	5250	-3.151	-3.804	85.22%	0.240	≤ 10.99	Pass
11ax-HE160	MCS0	114	5570	-2.551	-2.595	85.22%	1.132	≤ 10.99	Pass

Note 1: When EUT duty cycle ≥ 98%,

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

When EUT duty cycle < 98%,

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

Note 2:

For5150 - 5250MHzBand: 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	AX3000 Indoor/Outdoor Wi-Fi 6 Access Point	Test Engineer	Jay
Test Site	SR5	Test Date	2022/9/29~2022/10/7
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/510 kHz)	Limit (dBm/ 500kHz)	Result
11a	6Mbps	149	5745	7.937	7.406	96.54%	10.843	≤ 29.99	Pass
11a	6Mbps	157	5785	8.362	7.112	96.54%	10.945	≤ 29.99	Pass
11a	6Mbps	165	5825	8.838	7.184	96.54%	11.252	≤ 29.99	Pass
11ac-VHT20	MCS0	149	5745	7.246	6.370	85.22%	10.535	≤ 29.99	Pass
11ac-VHT20	MCS0	157	5785	7.346	6.055	85.22%	10.453	≤ 29.99	Pass
11ac-VHT20	MCS0	165	5825	7.663	6.202	85.22%	10.699	≤ 29.99	Pass
11ac-VHT40	MCS0	151	5755	4.641	3.746	85.04%	7.931	≤ 29.99	Pass
11ac-VHT40	MCS0	159	5795	5.166	3.531	85.04%	8.139	≤ 29.99	Pass
11ac-VHT80	MCS0	155	5775	-0.699	-2.141	85.92%	2.309	≤ 29.99	Pass
11ax-HE20	MCS0	149	5745	7.597	6.945	85.27%	10.986	≤ 29.99	Pass
11ax-HE20	MCS0	157	5785	7.957	6.419	85.27%	10.958	≤ 29.99	Pass
11ax-HE20	MCS0	165	5825	8.288	6.282	85.27%	11.102	≤ 29.99	Pass
11ax-HE40	MCS0	151	5755	4.840	3.735	85.33%	8.022	≤ 29.99	Pass
11ax-HE40	MCS0	159	5795	5.127	3.776	85.33%	8.203	≤ 29.99	Pass
11ax-HE80	MCS0	155	5775	-0.352	-1.494	85.92%	2.784	≤ 29.99	Pass

Note 1: When EUT duty cycle ≥ 98%,

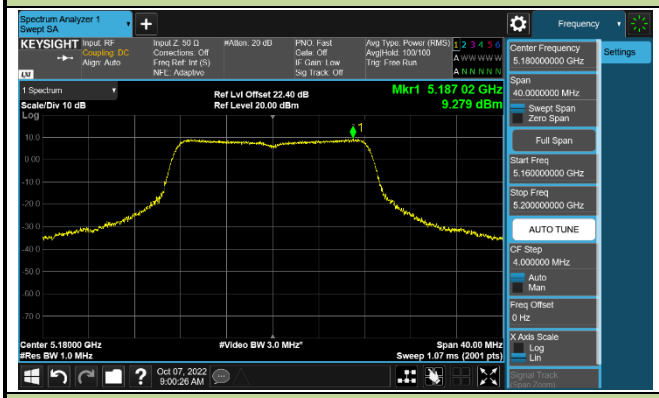
the total PSD (dBm/510kHz) = $10*\log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$ (dBm/510kHz).

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).

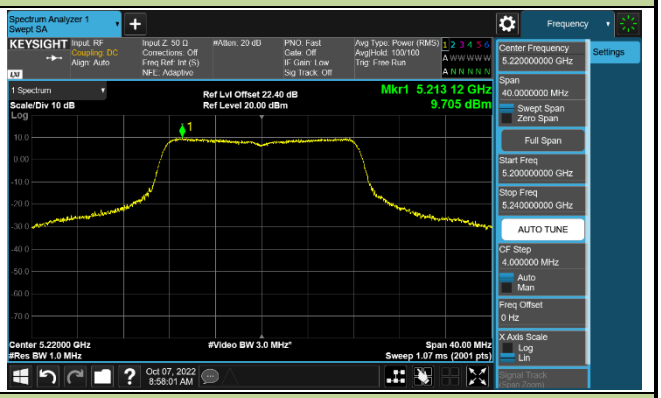
Note 2: PSD Limit (dBm/500kHz) = 30 - (6.01 - 6) = 29.99dBm/500kHz.

802.11a Power Spectral Density - Ant 0

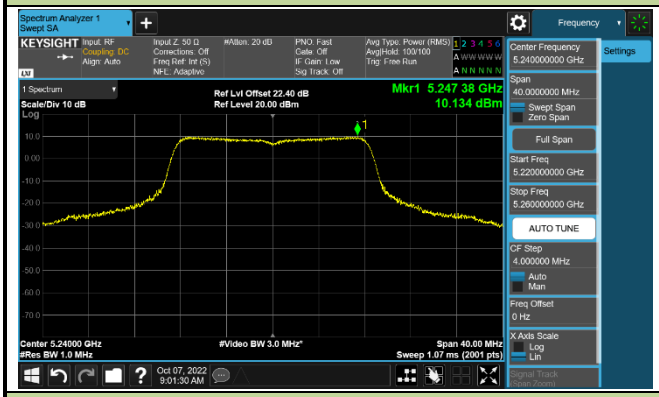
Channel 36 (5180MHz)



Channel 44 (5220MHz)

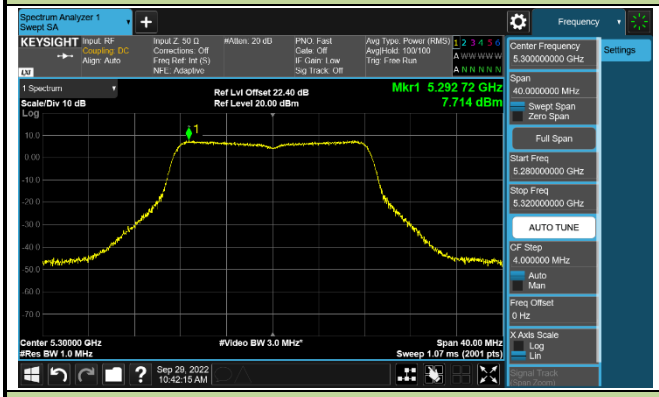


Channel 48 (5240MHz)

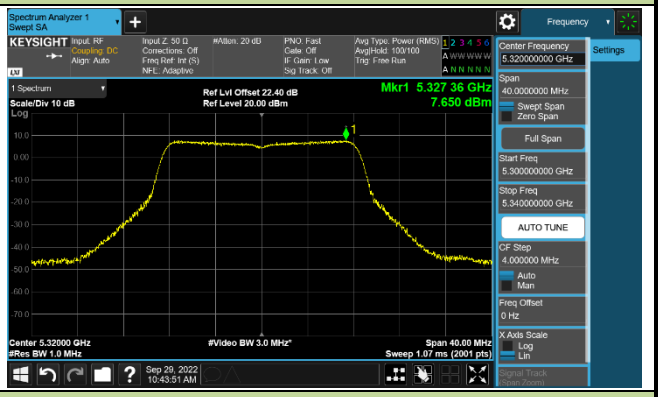


Channel 52 (5260MHz)

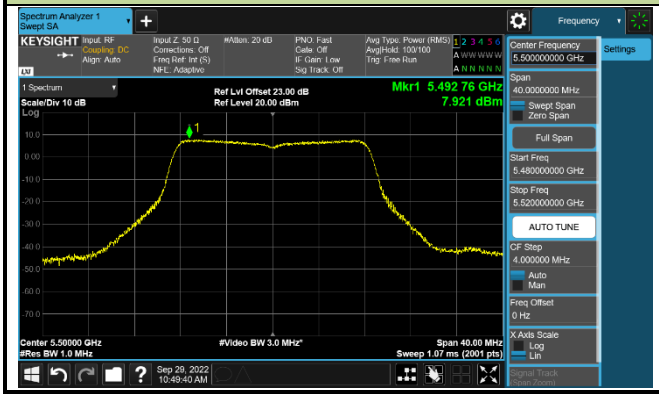
Channel 60 (5300MHz)



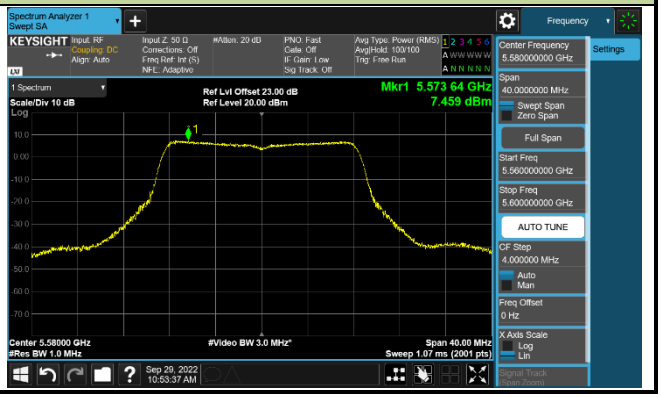
Channel 64 (5320MHz)

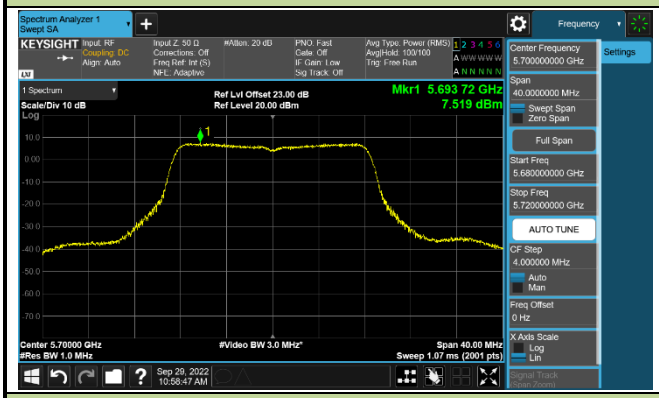
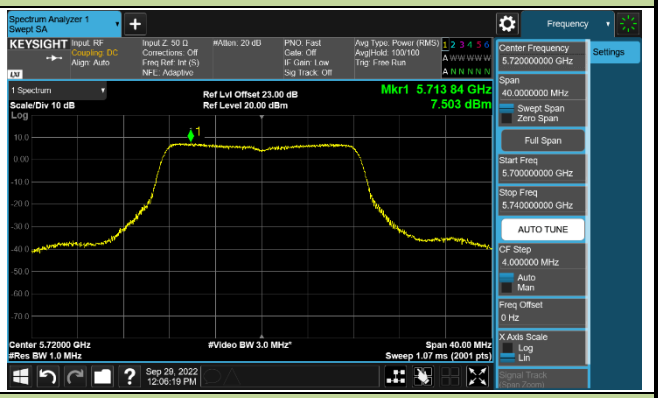
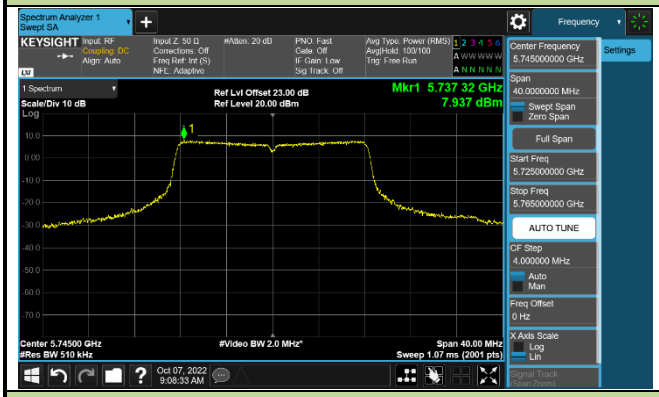
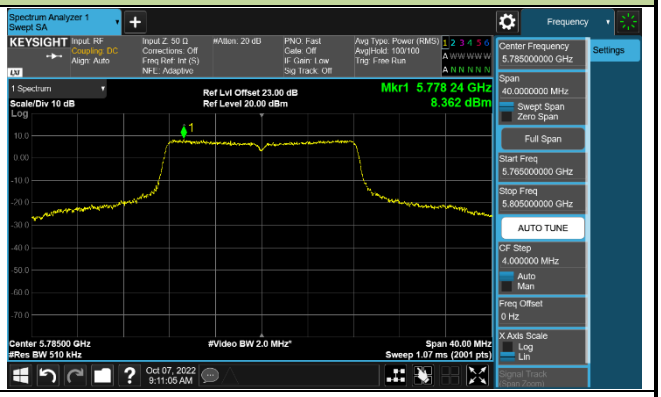
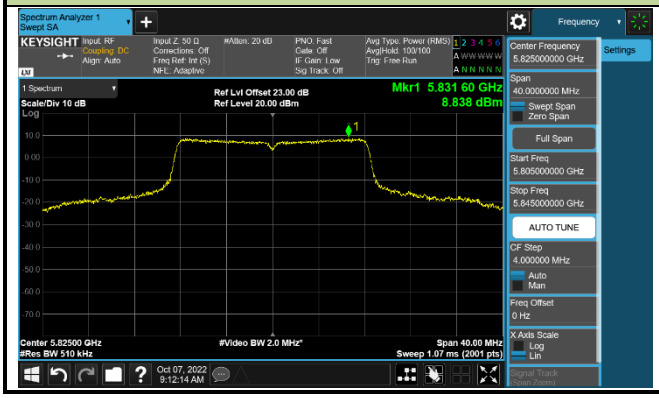


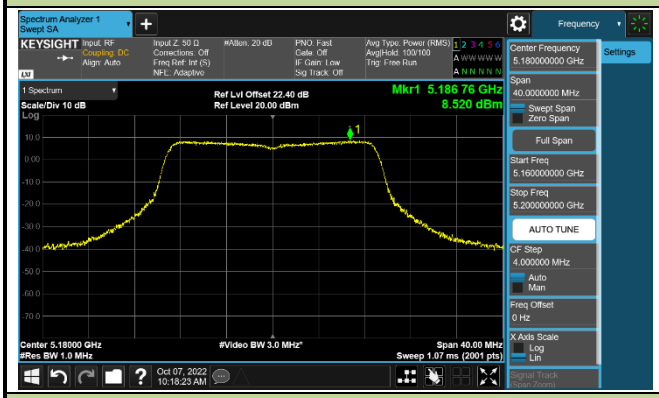
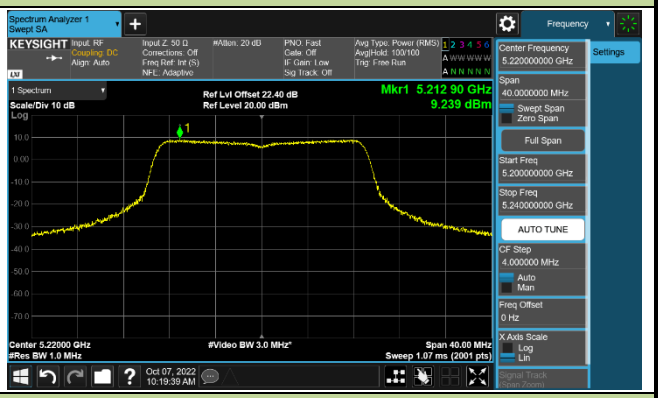
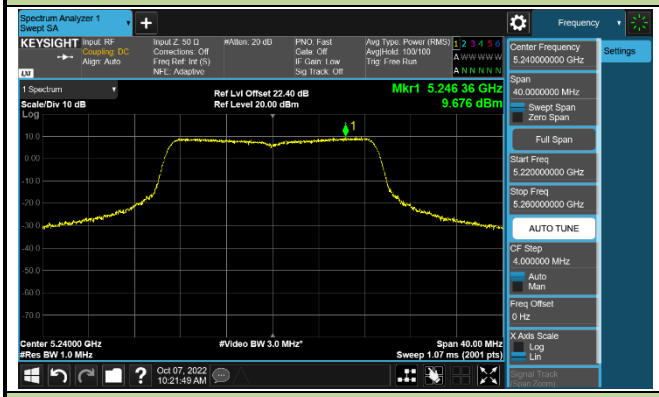
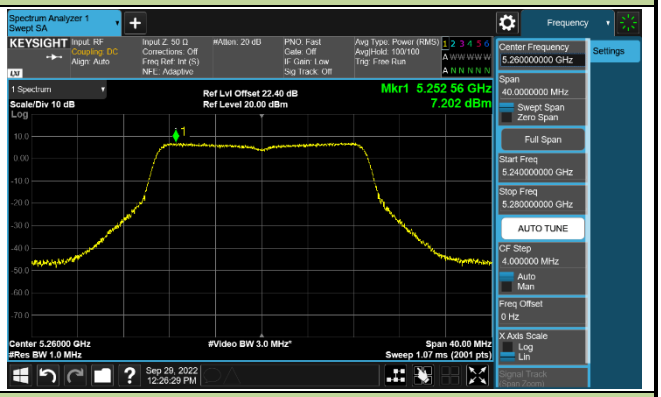
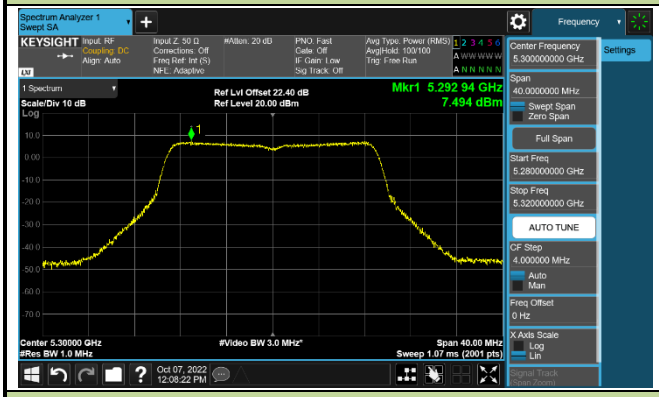
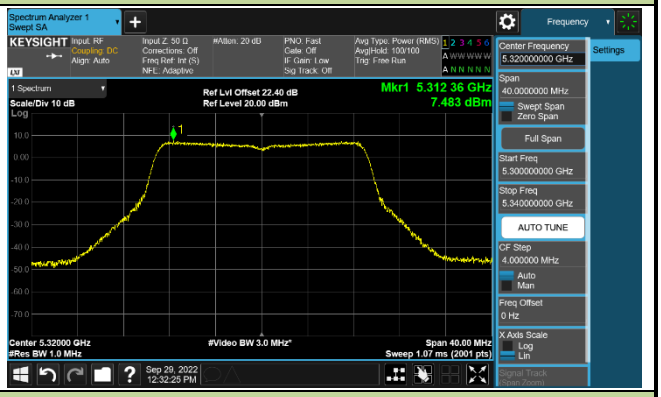
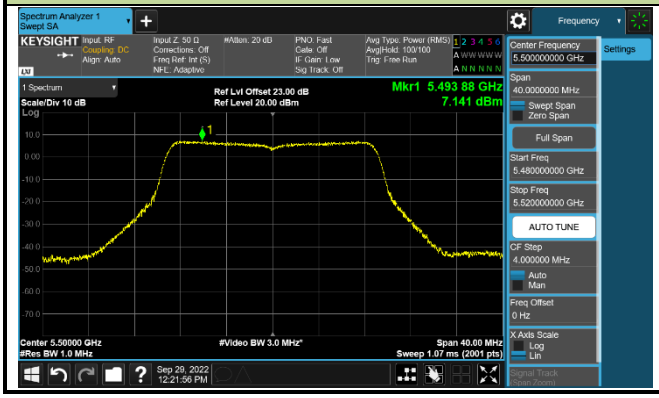
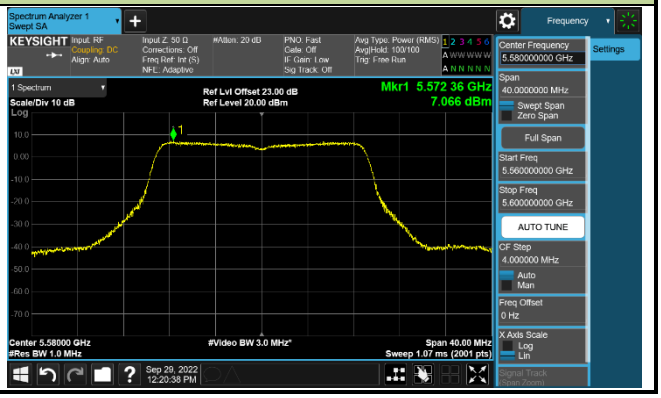
Channel 100 (5500MHz)

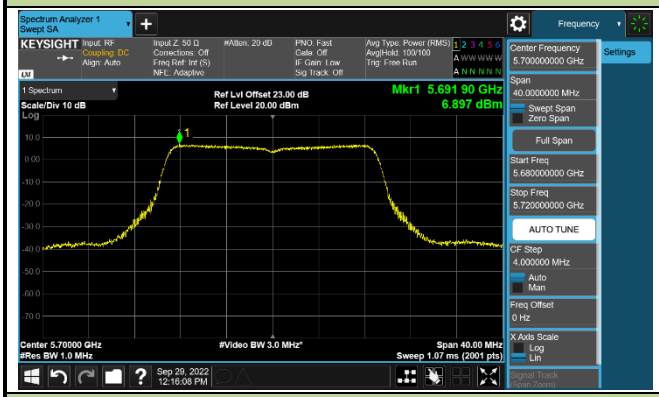
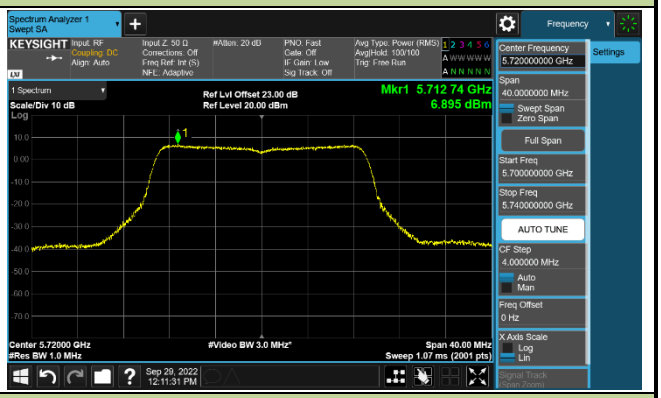
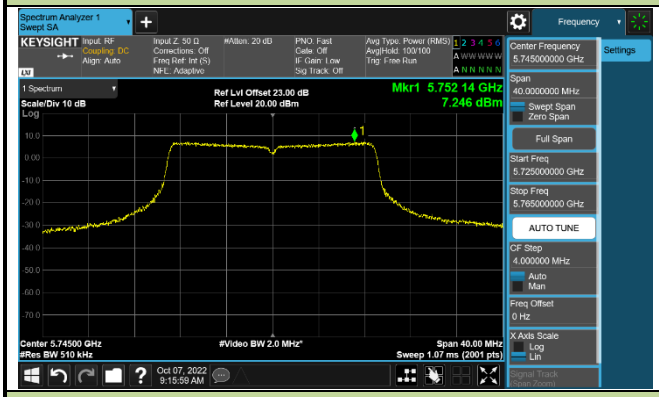
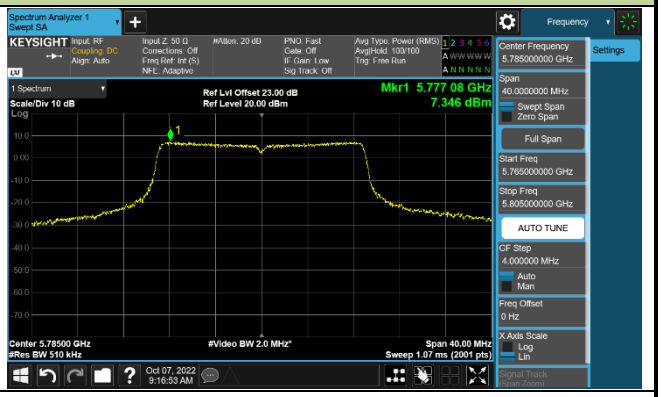
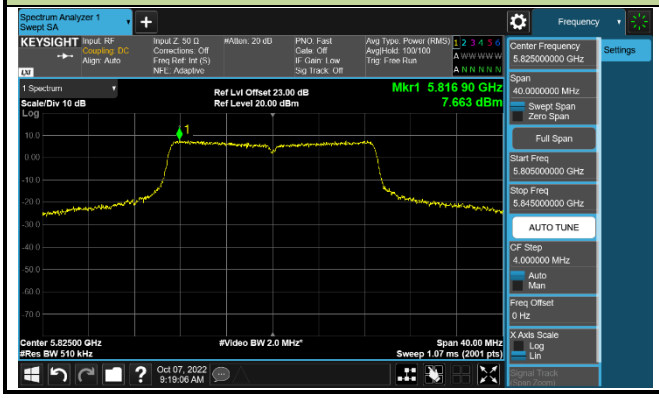


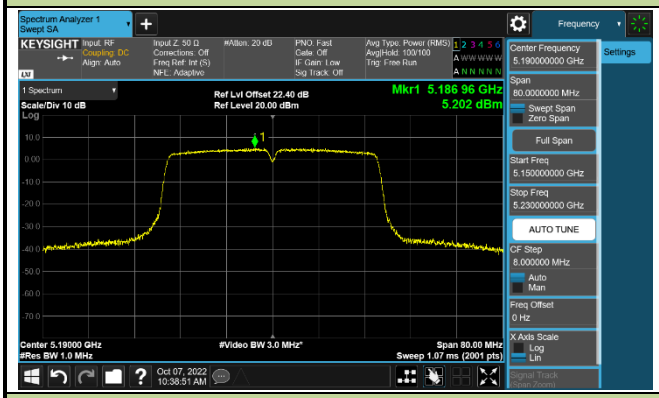
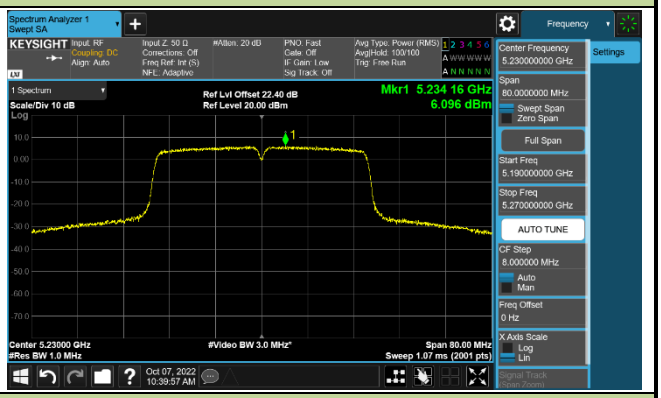
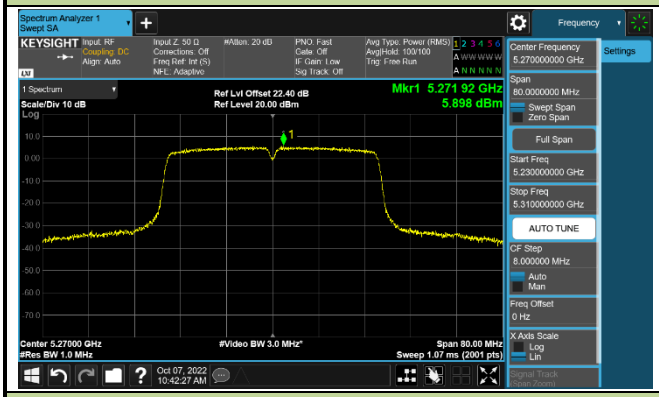
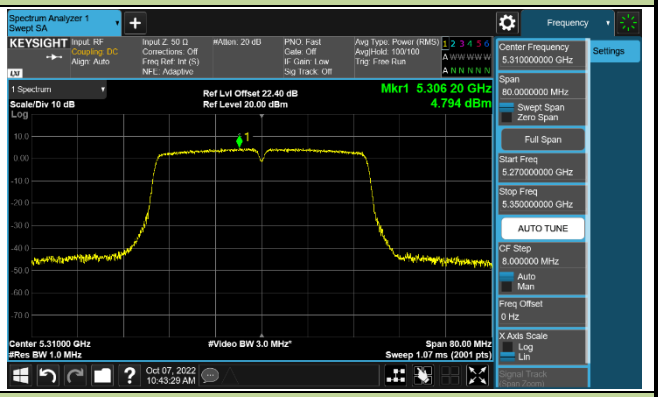
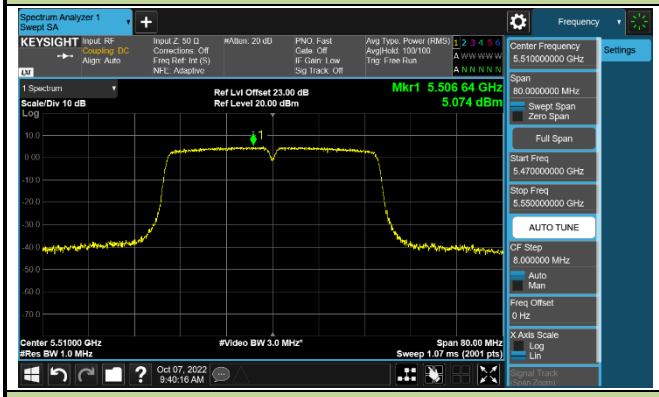
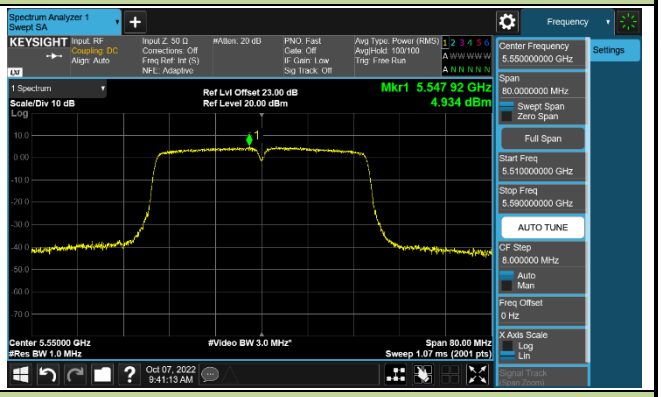
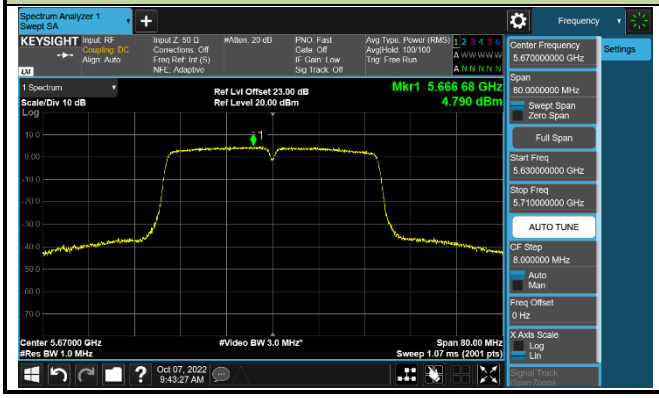
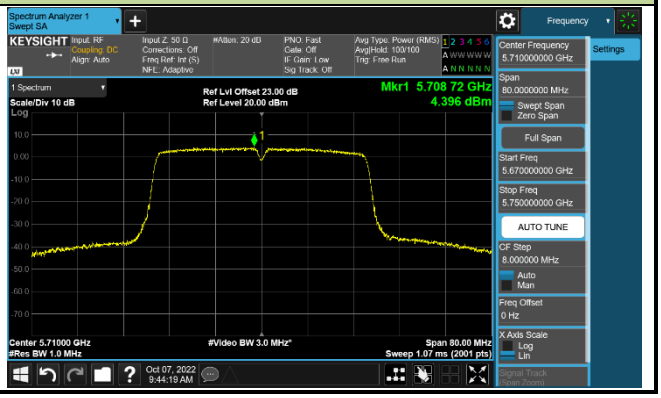
Channel 116 (5580MHz)

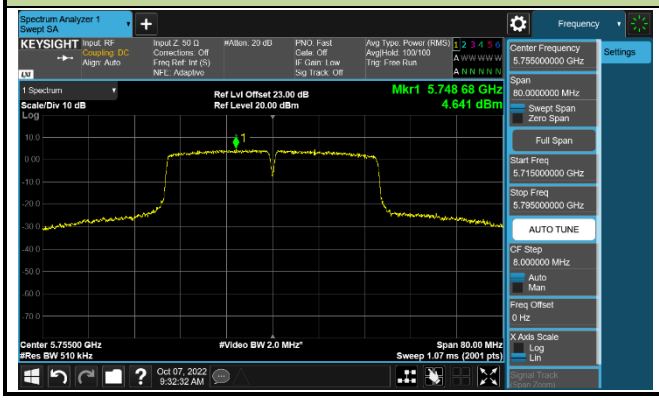
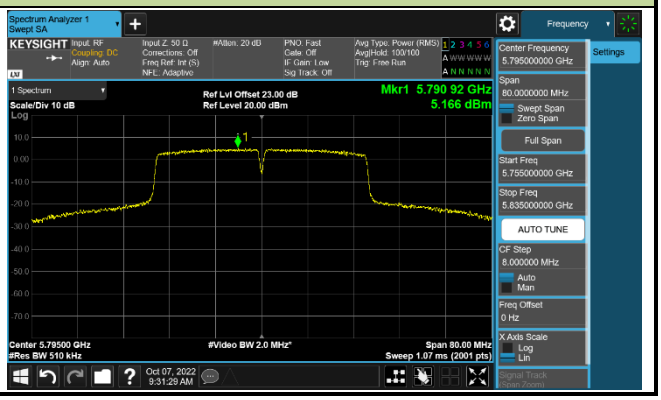


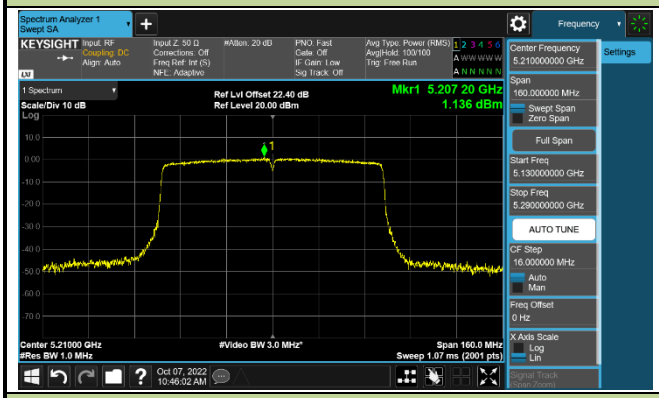
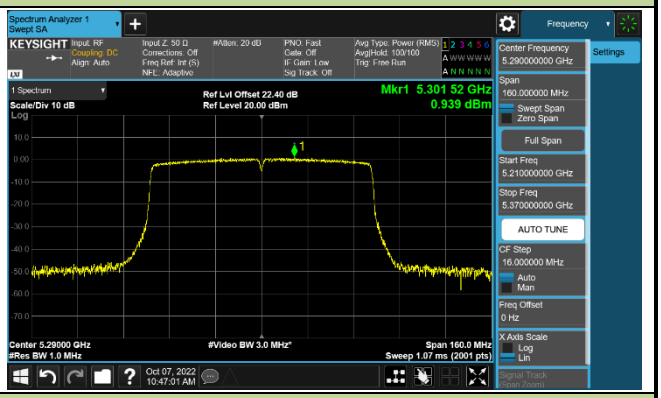
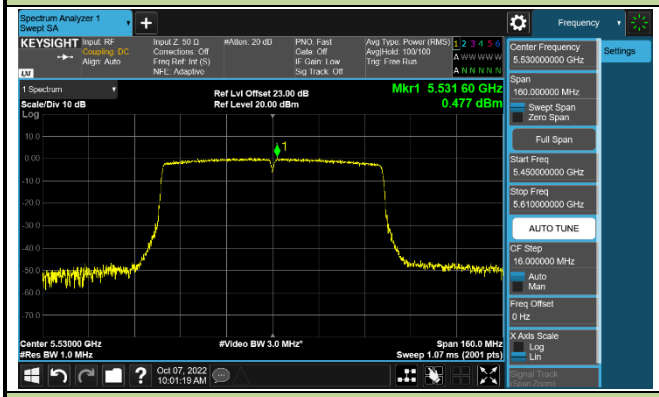
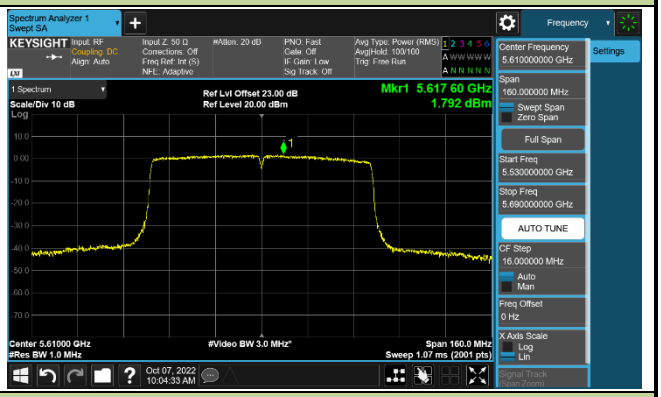
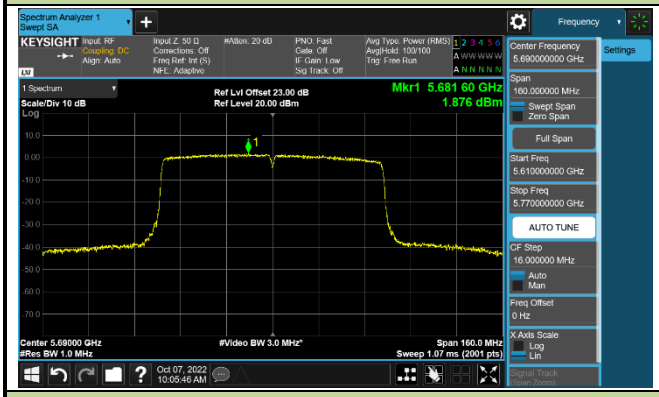
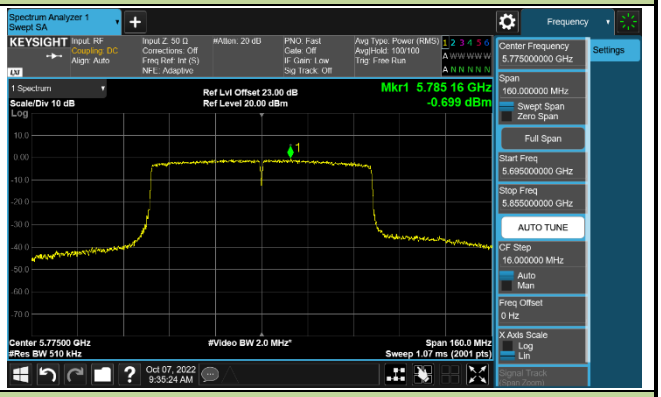
Channel 140 (5700MHz)	Channel 144 (5720MHz)
	
Channel 149 (5745MHz)	**Channel 157 (5785MHz)**
	
Channel 165 (5825MHz)	
	

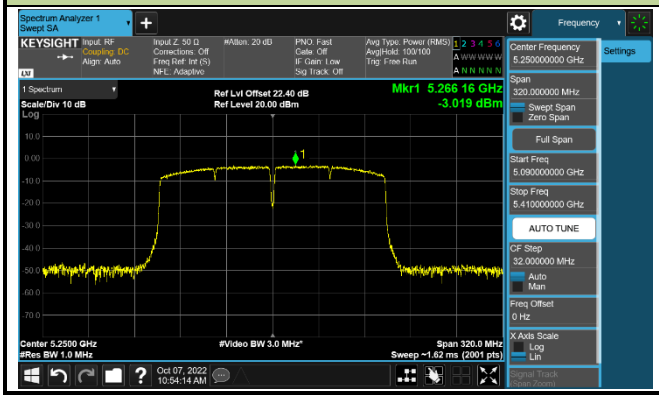
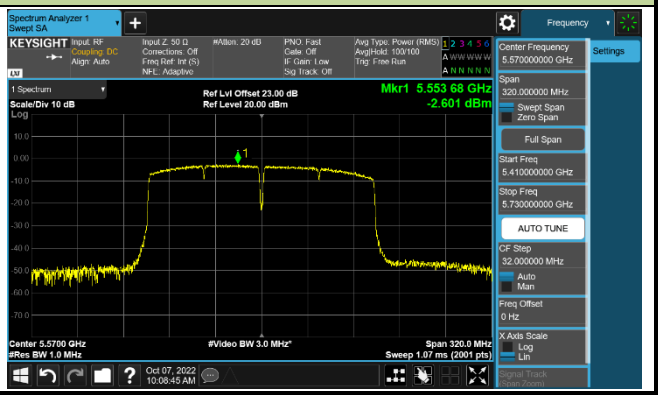
802.11ac-VHT20 Power Spectral Density - Ant 0	
Channel 36 (5180MHz)	Channel 44 (5220MHz)
	
Channel 48 (5240MHz)	Channel 52 (5260MHz)
	
Channel 60 (5300MHz)	Channel 64 (5320MHz)
	
Channel 100 (5500MHz)	Channel 116 (5580MHz)
	

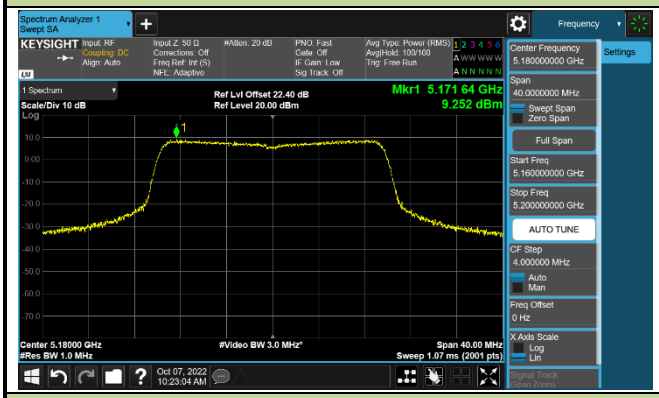
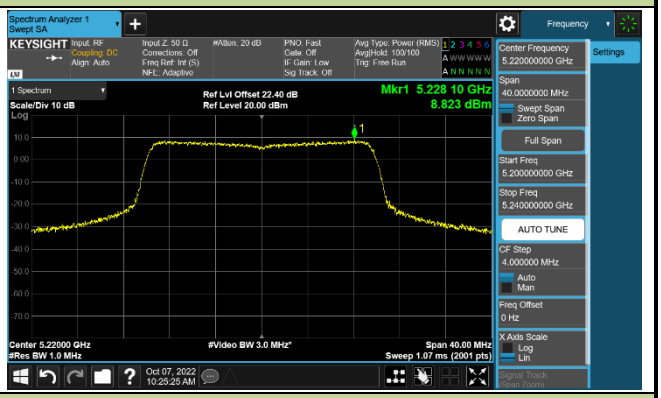
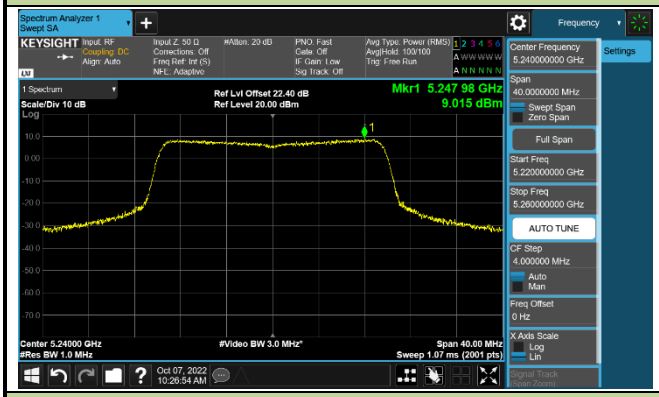
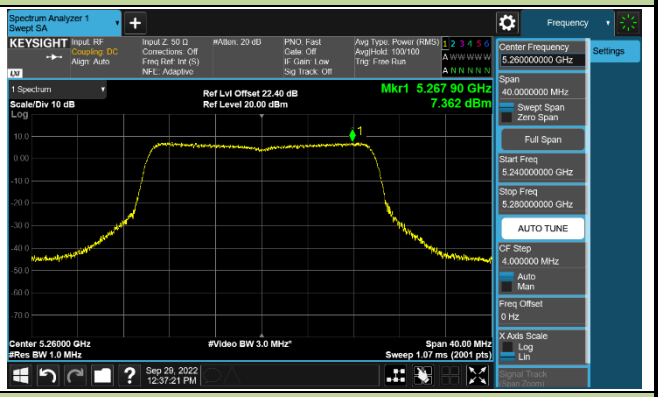
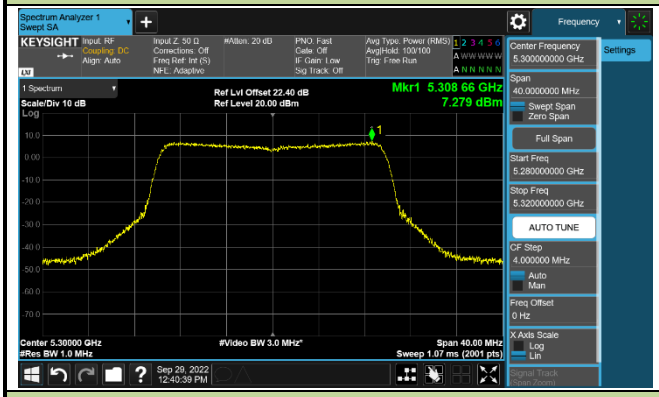
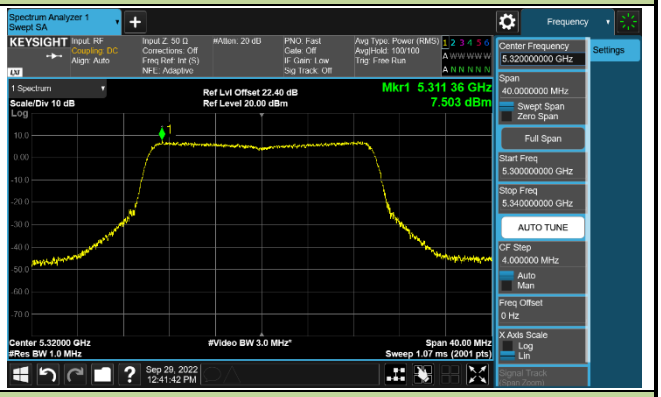
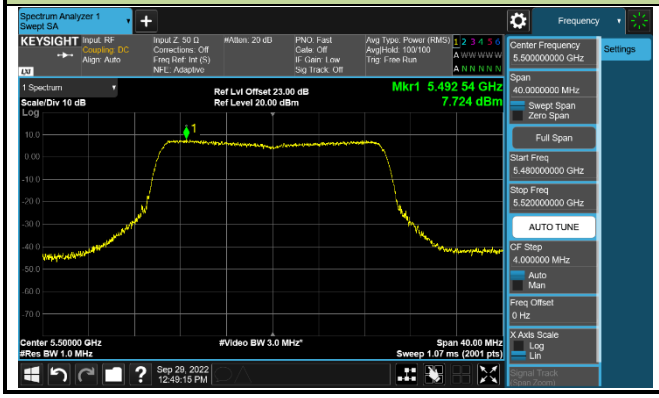
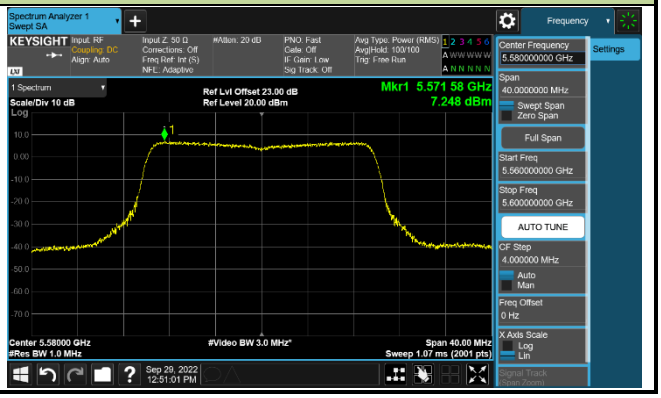
Channel 140 (5700MHz)	Channel 144 (5720MHz)
	
Channel 149 (5745MHz)	**Channel 157 (5785MHz)**
	
Channel 165 (5825MHz)	
	

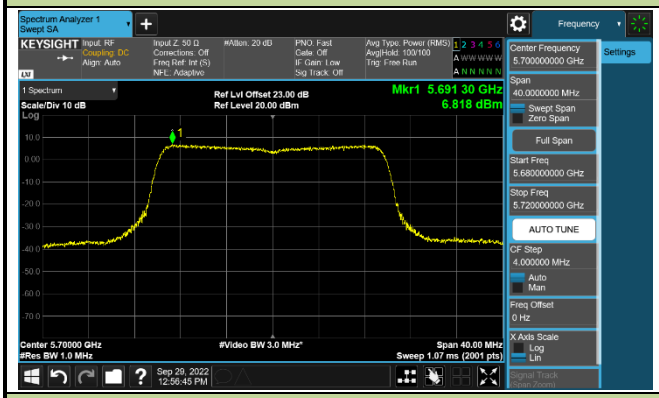
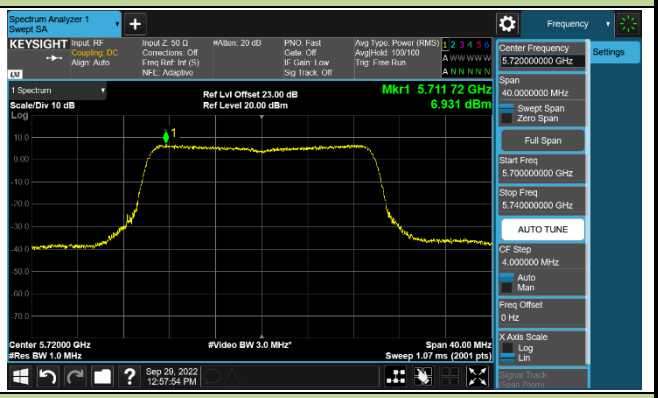
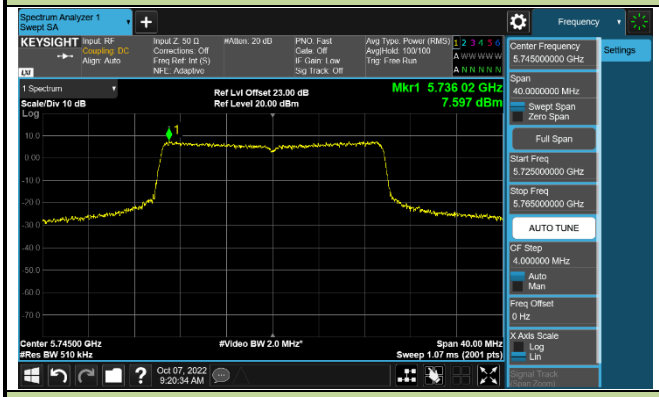
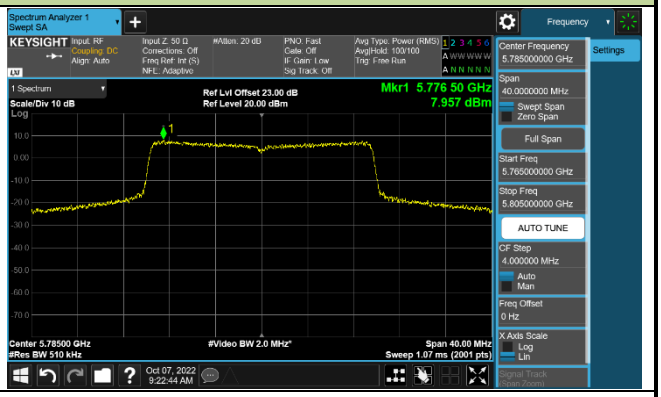
802.11ac-VHT40 Power Spectral Density - Ant 0	
Channel 38 (5190MHz)	Channel 46 (5230MHz)
	
Channel 54 (5270MHz)	Channel 62 (5310MHz)
	
Channel 102 (5510MHz)	Channel 110 (5550MHz)
	
Channel 134 (5670MHz)	Channel 142 (5710MHz)
	

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)
	

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