

Annex D

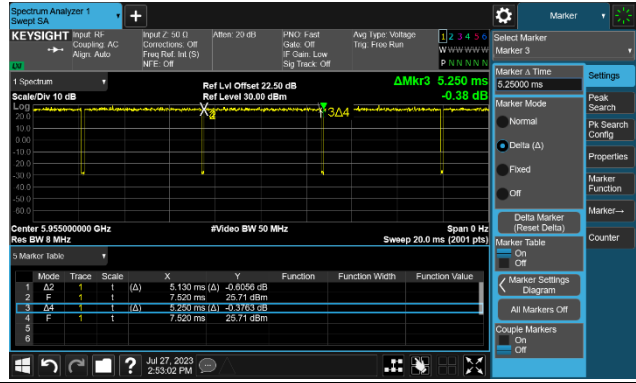
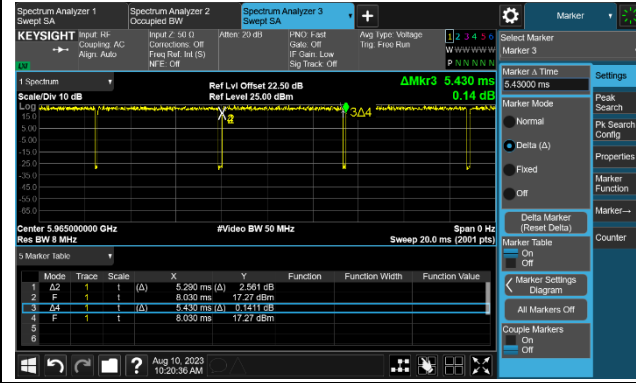
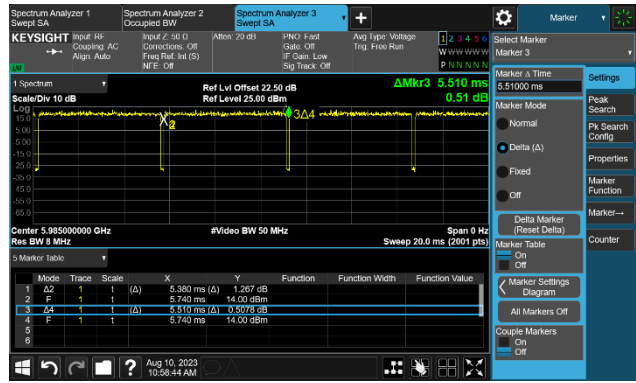
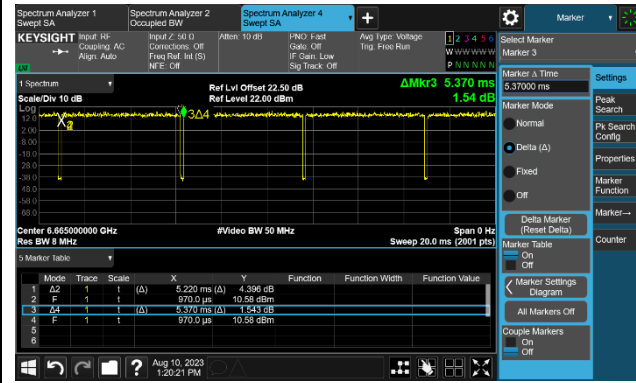
WLAN 802.11ax Test Result

Model No.: APEX0675

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1. Duty Cycle Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2023-07-27~2023-08-10		

Test Mode	Duty Cycle
802.11ax-HE20	97.71%
802.11ax-HE40	97.42%
802.11ax-HE80	97.64%
802.11ax-HE160	97.21%
Duty Cycle (T = Transmission Duration)	
802.11ax-HE20 (T = 5.130ms)	802.11ax-HE40 (T = 5.290ms)
	
802.11ax-HE80 (T = 5.380ms)	802.11ax-HE160 (T = 5.220ms)
	

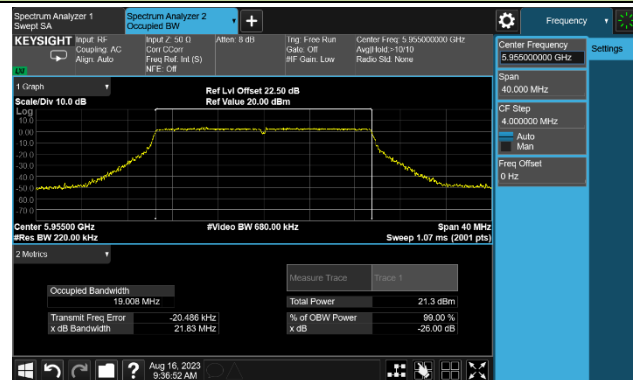
2. 26dB Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2023-08-16~2023-10-09		

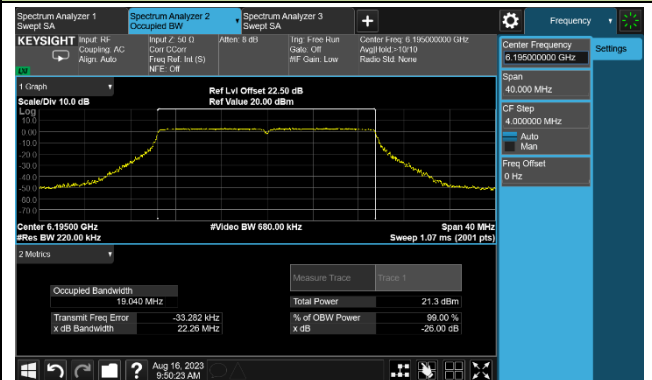
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Result
802.11ax-HE20	MCS0	1	5955	21.83	19.008	Pass
802.11ax-HE20	MCS0	49	6195	22.26	19.040	Pass
802.11ax-HE20	MCS0	93	6415	22.00	19.018	Pass
802.11ax-HE20	MCS0	117	6535	22.29	19.030	Pass
802.11ax-HE20	MCS0	153	6715	22.77	19.034	Pass
802.11ax-HE20	MCS0	181	6855	22.08	18.979	Pass
802.11ax-HE40	MCS0	3	5965	43.26	37.893	Pass
802.11ax-HE40	MCS0	51	6205	42.61	37.902	Pass
802.11ax-HE40	MCS0	91	6405	43.51	37.874	Pass
802.11ax-HE40	MCS0	123	6565	43.06	37.898	Pass
802.11ax-HE40	MCS0	147	6685	43.30	37.897	Pass
802.11ax-HE40	MCS0	179	6845	42.86	37.914	Pass
802.11ax-HE80	MCS0	7	5985	88.34	77.637	Pass
802.11ax-HE80	MCS0	55	6225	88.99	77.711	Pass
802.11ax-HE80	MCS0	87	6385	87.57	77.749	Pass
802.11ax-HE80	MCS0	135	6625	88.50	77.773	Pass
802.11ax-HE80	MCS0	151	6705	88.22	77.588	Pass
802.11ax-HE80	MCS0	167	6785	87.59	77.752	Pass
802.11ax-HE160	MCS0	15	6025	170.70	157.07	Pass
802.11ax-HE160	MCS0	47	6185	170.10	157.07	Pass
802.11ax-HE160	MCS0	79	6345	171.60	157.25	Pass
802.11ax-HE160	MCS0	143	6665	170.30	156.78	Pass

802.11ax-HE20 26dB Bandwidth

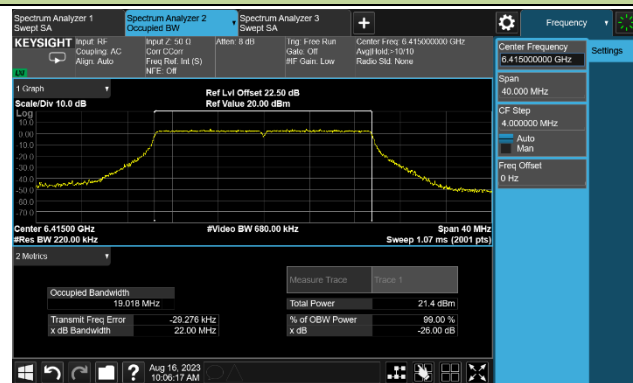
Channel 1 (5955MHz)



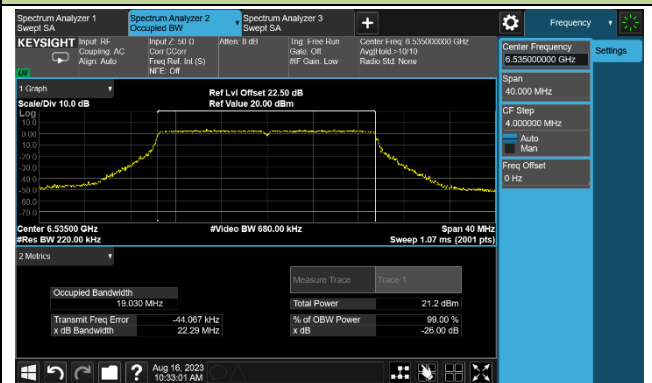
Channel 49 (6195MHz)



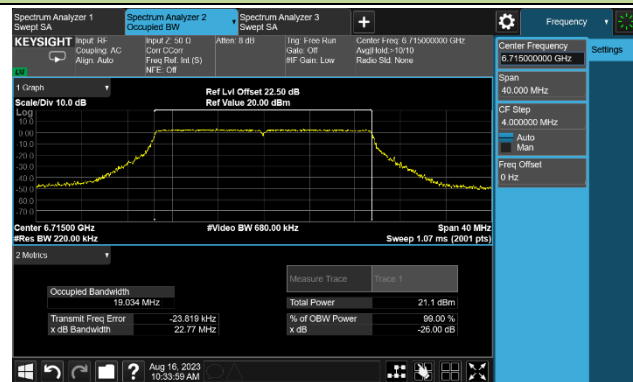
Channel 93 (6415MHz)



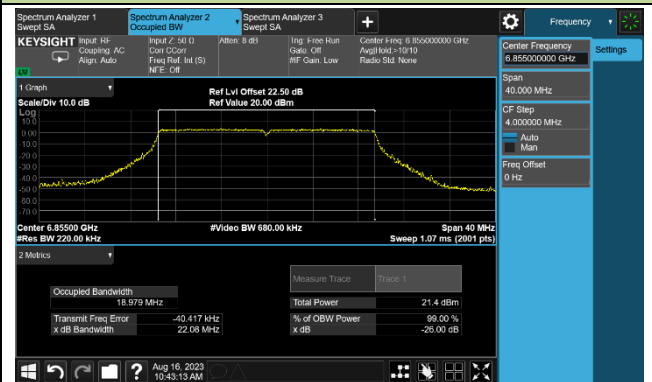
Channel 117 (6535MHz)



Channel 153 (6715MHz)

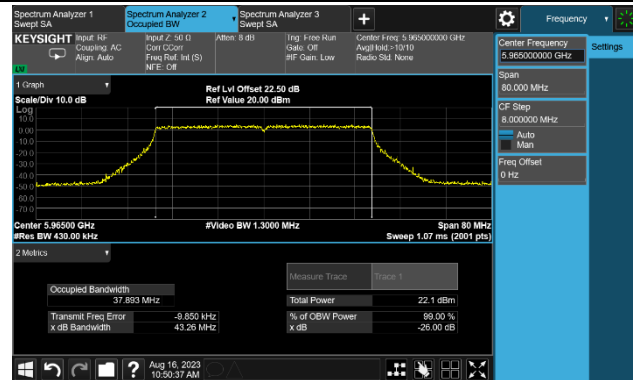


Channel 181 (6855MHz)

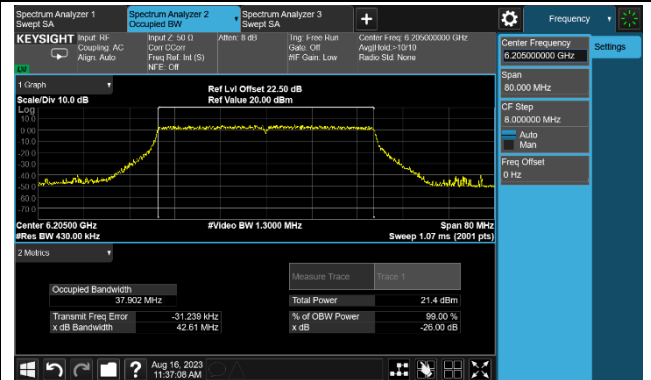


802.11ax-HE40 26dB Bandwidth

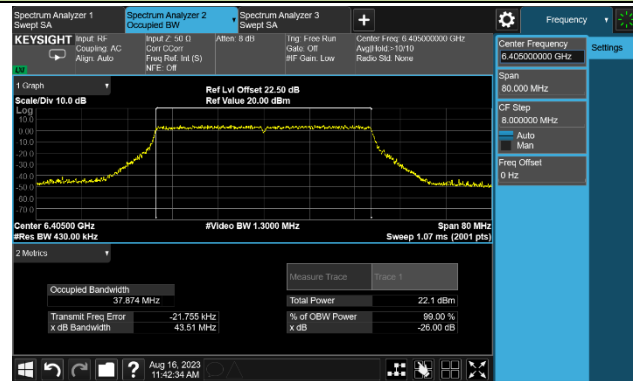
Channel 3 (5965MHz)



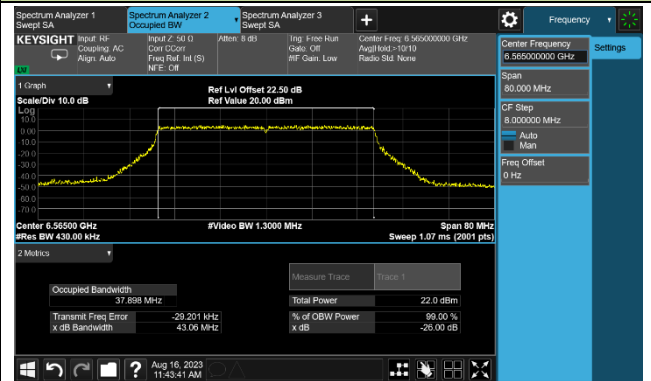
Channel 51 (6205MHz)



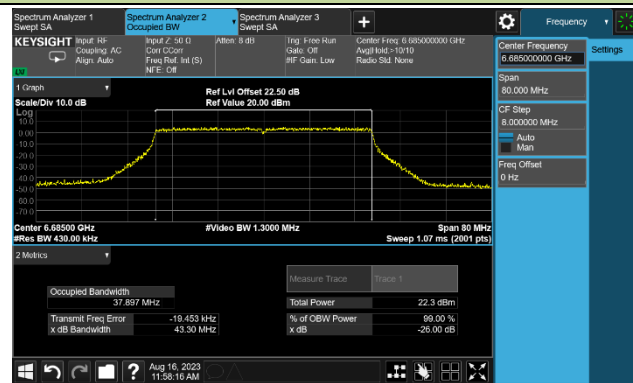
Channel 91 (6405MHz)



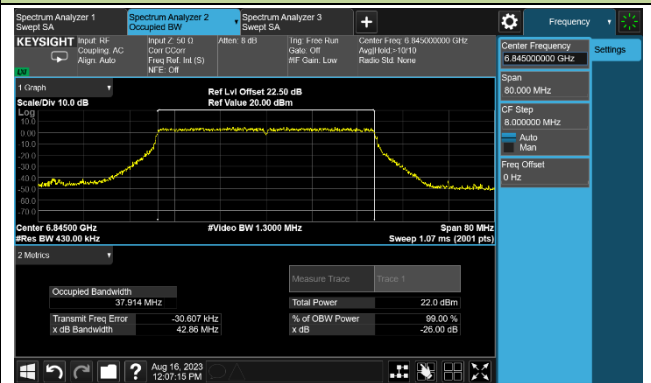
Channel 123 (6565MHz)



Channel 147 (6685MHz)

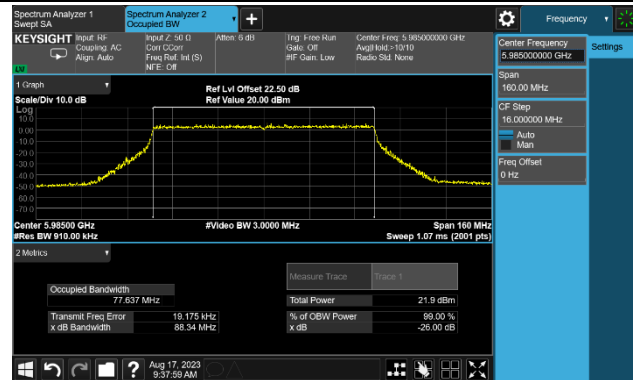


Channel 179 (6845MHz)

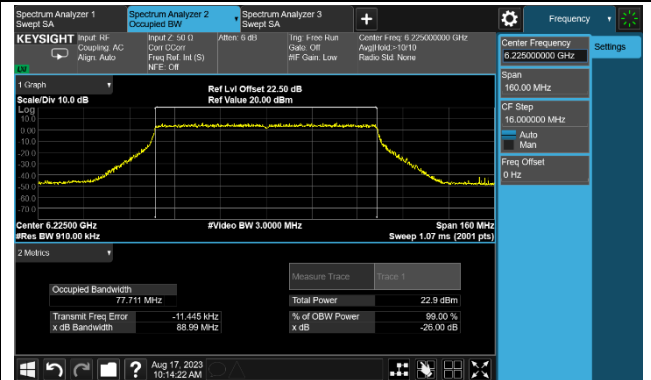


802.11ax-HE80 26dB Bandwidth

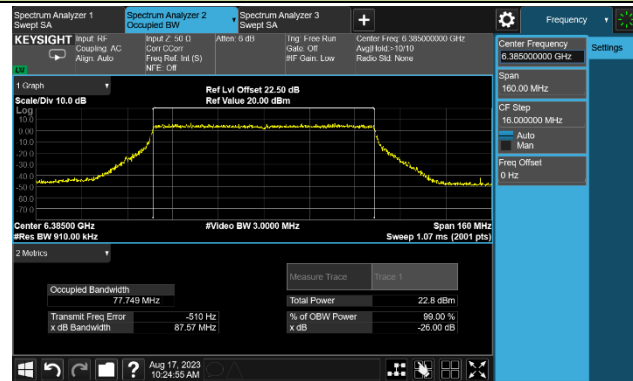
Channel 7 (5985MHz)



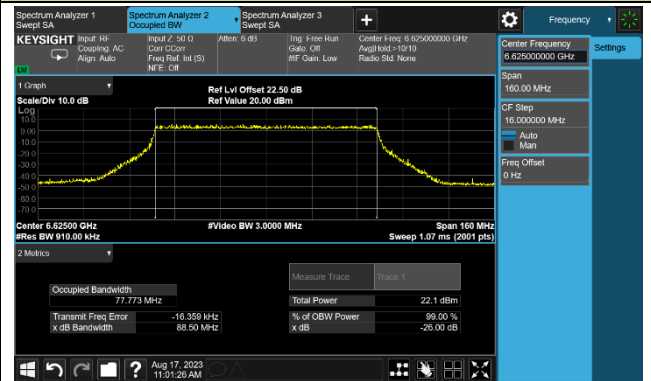
Channel 55 (6225MHz)



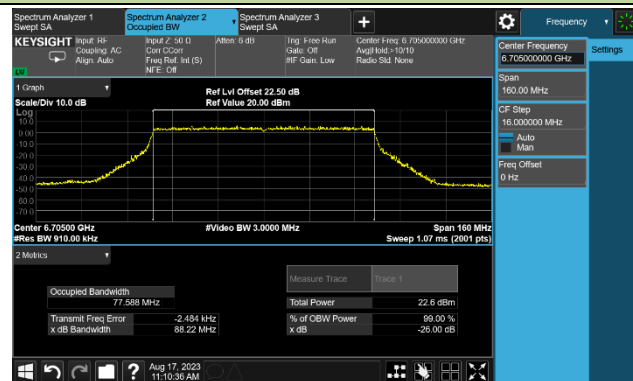
Channel 87 (6385MHz)



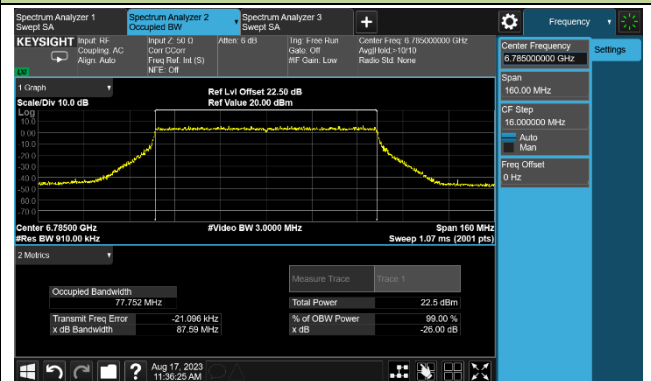
Channel 135 (6625MHz)



Channel 151 (6705MHz)

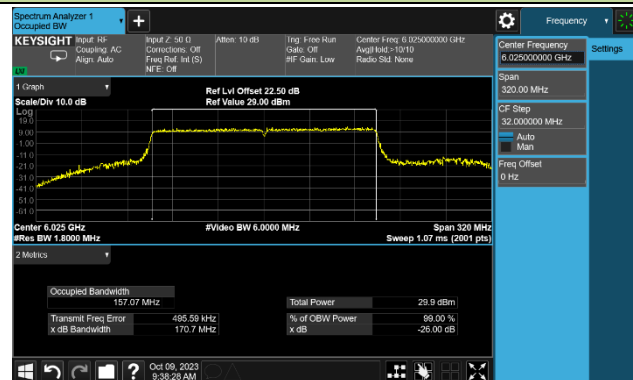


Channel 167 (6785MHz)

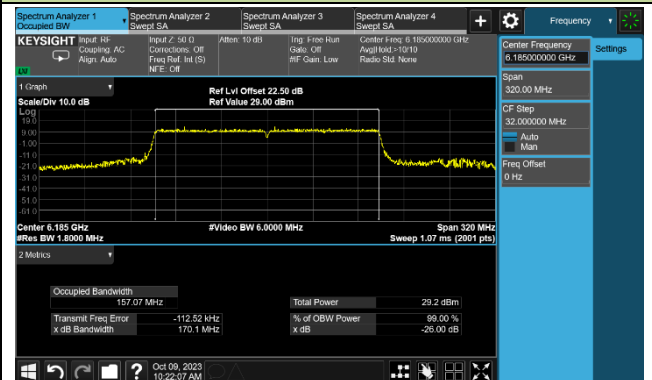


802.11ax-HE160 26dB Bandwidth

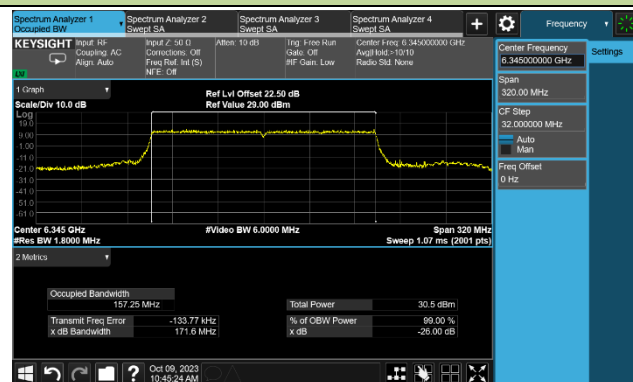
Channel 15 (6025MHz)



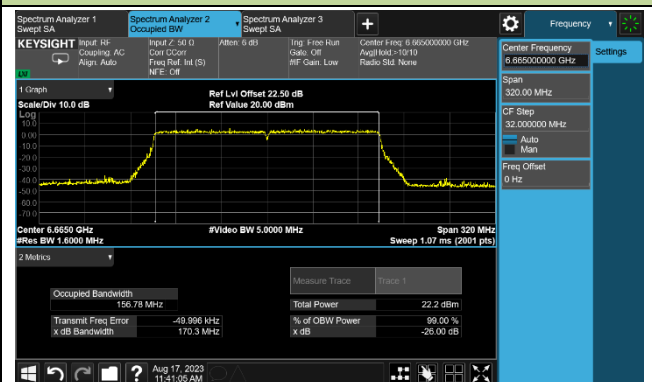
Channel 47 (6185MHz)



Channel 79 (6345MHz)



Channel 143 (6665MHz)



3. Output Power Measurement Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2023-08-06		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Power (dBm)	30 Degree EIRP (dBm)	Limit (dBm)	Result
802.11ax-HE20	MCS0	1	5955	20.39	20.04	23.23	20.43	≤ 21.00	Pass
802.11ax-HE20	MCS0	49	6195	20.16	20.31	23.25	20.45	≤ 21.00	Pass
802.11ax-HE20	MCS0	93	6415	20.44	20.88	23.68	20.88	≤ 21.00	Pass
802.11ax-HE20	MCS0	117	6535	20.43	20.72	23.59	20.79	≤ 21.00	Pass
802.11ax-HE20	MCS0	153	6715	20.39	19.98	23.20	20.40	≤ 21.00	Pass
802.11ax-HE20	MCS0	181	6855	20.29	20.41	23.36	20.56	≤ 21.00	Pass
802.11ax-HE40	MCS0	3	5965	20.71	20.26	23.50	20.70	≤ 21.00	Pass
802.11ax-HE40	MCS0	51	6205	20.42	20.76	23.60	20.80	≤ 21.00	Pass
802.11ax-HE40	MCS0	91	6405	20.78	20.55	23.68	20.88	≤ 21.00	Pass
802.11ax-HE40	MCS0	123	6565	20.86	20.29	23.59	20.79	≤ 21.00	Pass
802.11ax-HE40	MCS0	147	6685	20.89	20.48	23.70	20.90	≤ 21.00	Pass
802.11ax-HE40	MCS0	179	6845	20.79	20.48	23.65	20.85	≤ 21.00	Pass
802.11ax-HE80	MCS0	7	5985	20.52	20.74	23.64	20.84	≤ 21.00	Pass
802.11ax-HE80	MCS0	55	6225	20.42	20.39	23.42	20.62	≤ 21.00	Pass
802.11ax-HE80	MCS0	87	6385	20.67	20.34	23.52	20.72	≤ 21.00	Pass
802.11ax-HE80	MCS0	135	6625	20.84	20.42	23.65	20.85	≤ 21.00	Pass
802.11ax-HE80	MCS0	151	6705	20.92	20.38	23.67	20.87	≤ 21.00	Pass
802.11ax-HE80	MCS0	167	6785	20.44	20.82	23.64	20.84	≤ 21.00	Pass
802.11ax-HE160	MCS0	15	6025	20.36	19.95	23.17	20.37	≤ 21.00	Pass
802.11ax-HE160	MCS0	47	6185	20.17	20.14	23.17	20.37	≤ 21.00	Pass
802.11ax-HE160	MCS0	79	6345	20.41	19.81	23.13	20.33	≤ 21.00	Pass
802.11ax-HE160	MCS0	143	6665	20.56	20.24	23.41	20.61	≤ 21.00	Pass

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

Note 2: EIRP Above 30 Degree Angle (dBm) = Total Power (dBm) + 30 Degree Antenna Gain (dBi).

4. Power Spectral Density Measurement Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2023-08-16~2023-10-09		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)		Duty Cycle (%)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)
				Ant 0	Ant 1			
802.11ax-HE20	MCS0	1	5955	9.952	9.346	97.71	19.57	≤ 23.00
802.11ax-HE20	MCS0	49	6195	9.571	9.998	97.71	19.70	≤ 23.00
802.11ax-HE20	MCS0	93	6415	9.179	9.391	97.71	19.20	≤ 23.00
802.11ax-HE20	MCS0	117	6535	9.043	9.104	97.71	18.98	≤ 23.00
802.11ax-HE20	MCS0	153	6715	8.981	8.963	97.71	18.88	≤ 23.00
802.11ax-HE20	MCS0	181	6855	9.246	9.520	97.71	19.30	≤ 23.00
802.11ax-HE40	MCS0	3	5965	6.282	5.904	97.42	16.02	≤ 23.00
802.11ax-HE40	MCS0	51	6205	6.495	6.320	97.42	16.33	≤ 23.00
802.11ax-HE40	MCS0	91	6405	6.258	6.074	97.42	16.09	≤ 23.00
802.11ax-HE40	MCS0	123	6565	6.516	6.104	97.42	16.24	≤ 23.00
802.11ax-HE40	MCS0	147	6685	6.447	6.306	97.42	16.30	≤ 23.00
802.11ax-HE40	MCS0	179	6845	6.098	6.324	97.42	16.14	≤ 23.00
802.11ax-HE80	MCS0	7	5985	3.003	3.109	97.64	12.97	≤ 23.00
802.11ax-HE80	MCS0	55	6225	3.386	3.423	97.64	13.32	≤ 23.00
802.11ax-HE80	MCS0	87	6385	2.872	2.854	97.64	12.78	≤ 23.00
802.11ax-HE80	MCS0	135	6625	3.022	2.848	97.64	12.85	≤ 23.00
802.11ax-HE80	MCS0	151	6705	3.312	3.217	97.64	13.18	≤ 23.00
802.11ax-HE80	MCS0	167	6785	3.417	3.424	97.64	13.33	≤ 23.00
802.11ax-HE160	MCS0	15	6025	-0.568	-1.168	97.21	9.08	≤ 23.00
802.11ax-HE160	MCS0	47	6185	-1.115	-1.609	97.21	8.58	≤ 23.00
802.11ax-HE160	MCS0	79	6345	-0.997	-1.868	97.21	8.52	≤ 23.00
802.11ax-HE160	MCS0	143	6665	0.376	0.275	97.21	10.26	≤ 23.00

Note:

When EUT duty cycle < 98%, $EIRP\ PSD\ (dBm/MHz) = 10 \cdot \log \{10^{(Ant\ 0\ PSD/10)} + 10^{(Ant\ 1\ PSD/10)}\} (dBm/MHz) + 10 \cdot \log (1/Duty\ Cycle) + Directional\ Gain\ for\ PSD\ (dBi)$.

When EUT duty cycle ≥ 98%, $EIRP\ PSD\ (dBm/MHz) = 10 \cdot \log \{10^{(Ant\ 0\ PSD/10)} + 10^{(Ant\ 1\ PSD/10)}\} (dBm/MHz) + Directional\ Gain\ for\ PSD\ (dBi)$.

802.11ax-HE20 Power Spectral Density- Ant 0

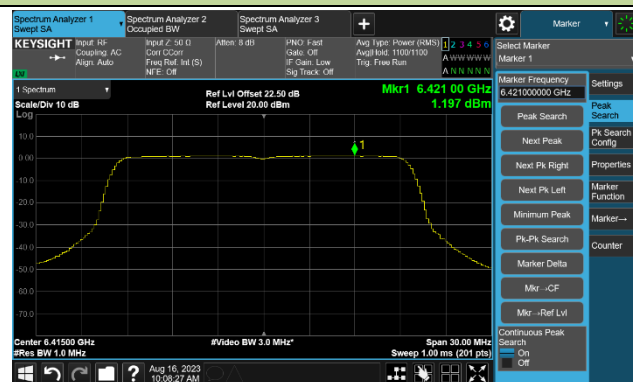
Channel 1 (5955MHz)



Channel 49 (6195MHz)



Channel 93 (6415MHz)



Channel 117 (6535MHz)



Channel 153 (6715MHz)

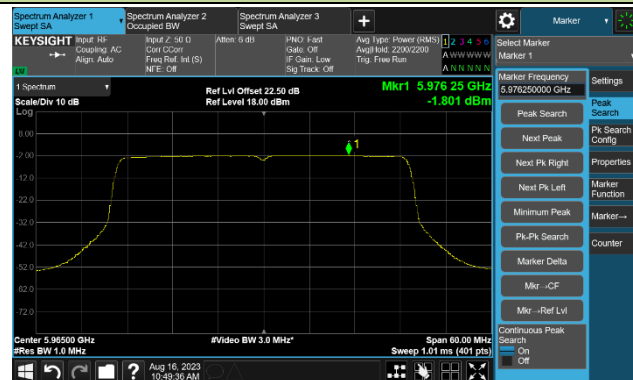


Channel 181 (6855MHz)



802.11ax-HE40 Power Spectral Density- Ant 0

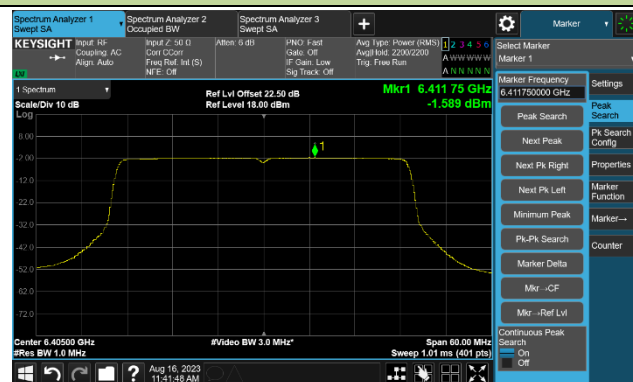
Channel 3 (5965MHz)



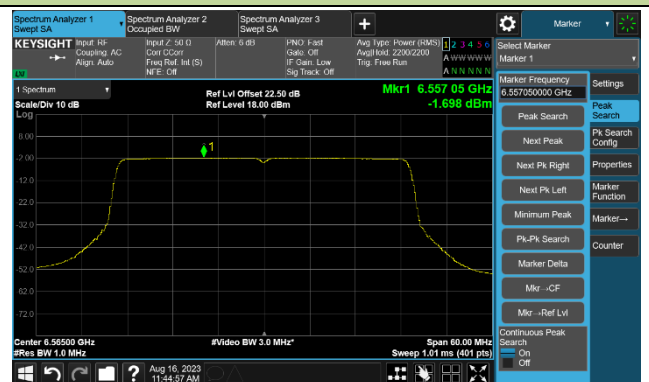
Channel 51 (6205MHz)



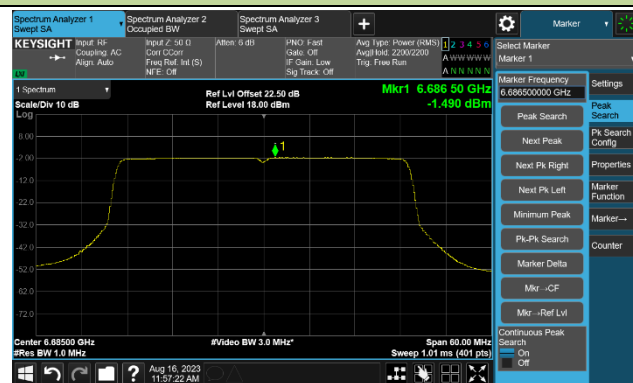
Channel 91 (6405MHz)



Channel 123 (6565MHz)



Channel 147 (6685MHz)

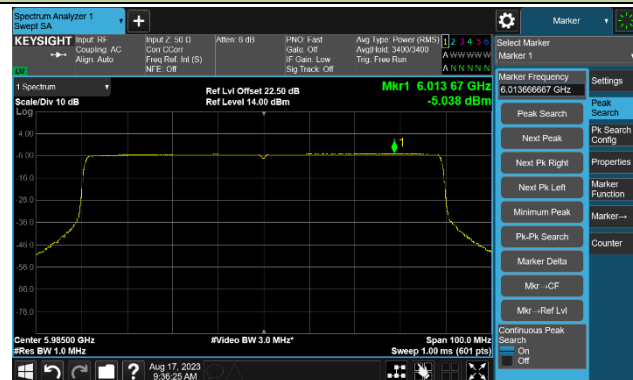


Channel 179 (6845MHz)



802.11ax-HE80 Power Spectral Density- Ant 0

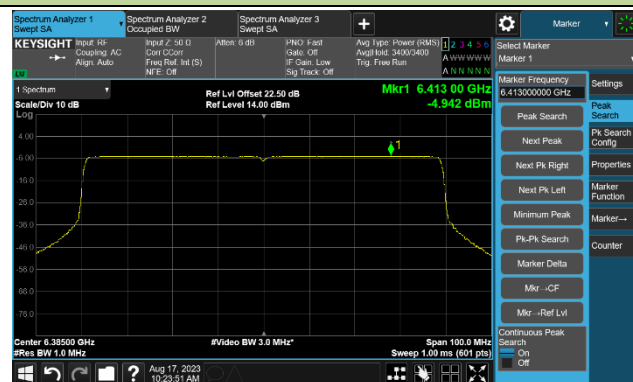
Channel 7 (5985MHz)



Channel 55 (6225MHz)



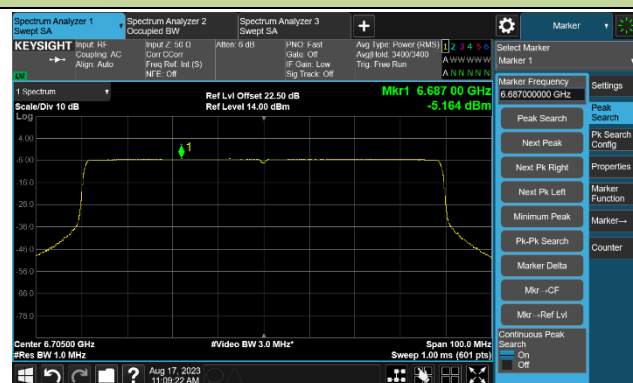
Channel 87 (6385MHz)



Channel 135 (6625MHz)



Channel 151 (6705MHz)

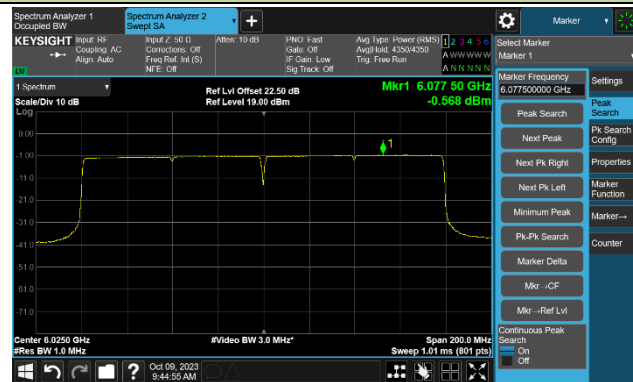


Channel 167 (6785MHz)

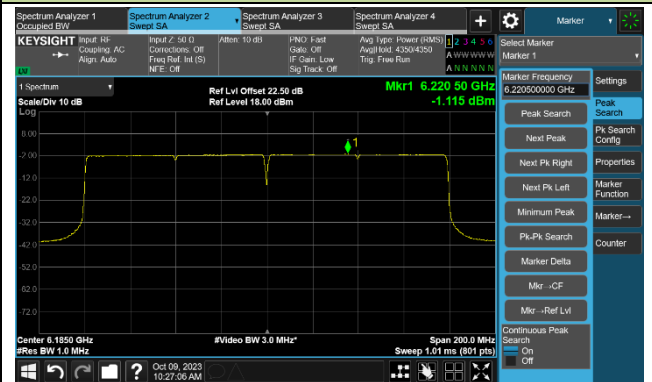


802.11ax-HE160 Power Spectral Density- Ant 0

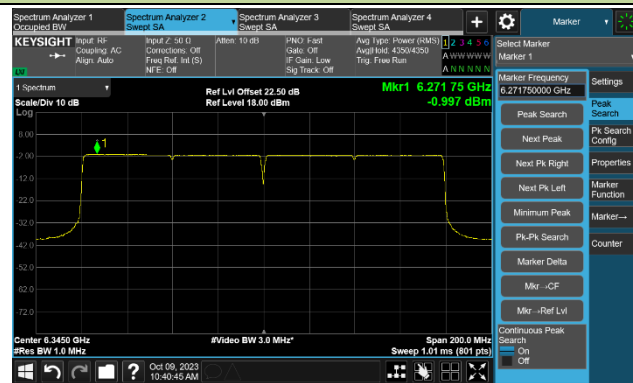
Channel 15 (6025MHz)



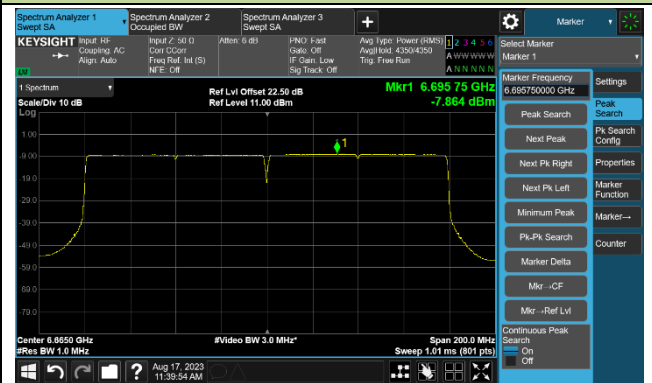
Channel 47 (6185MHz)



Channel 79 (6345MHz)



Channel 143 (6665MHz)



802.11ax-HE20 Power Spectral Density- Ant 1

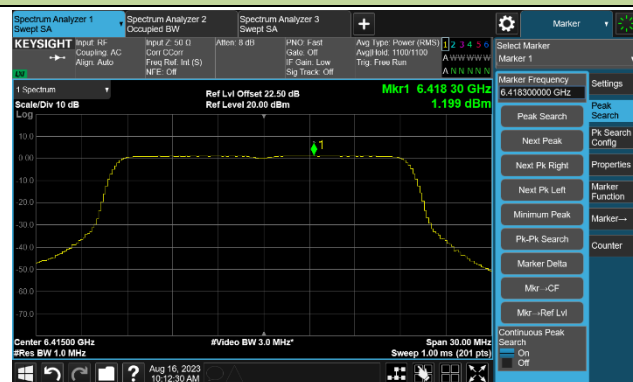
Channel 1 (5955MHz)



Channel 49 (6195MHz)



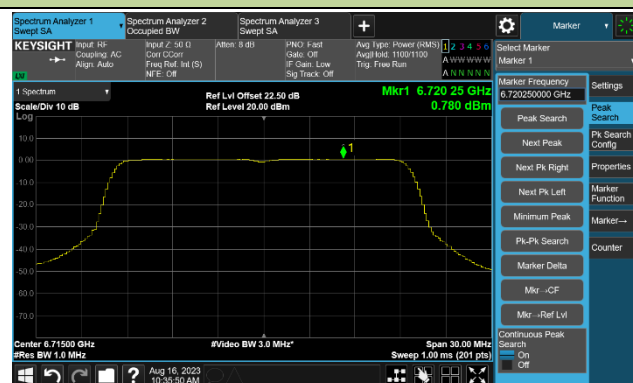
Channel 93 (6415MHz)



Channel 117 (6535MHz)



Channel 153 (6715MHz)

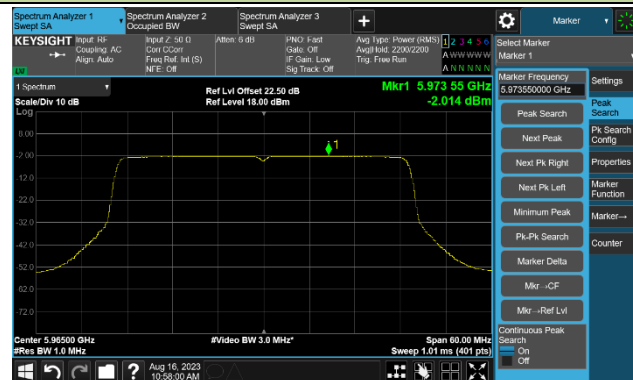


Channel 181 (6855MHz)



802.11ax-HE40 Power Spectral Density- Ant 1

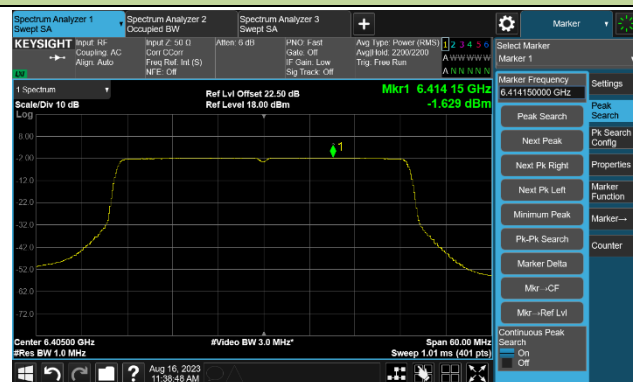
Channel 3 (5965MHz)



Channel 51 (6205MHz)



Channel 91 (6405MHz)



Channel 123 (6565MHz)



Channel 147 (6685MHz)

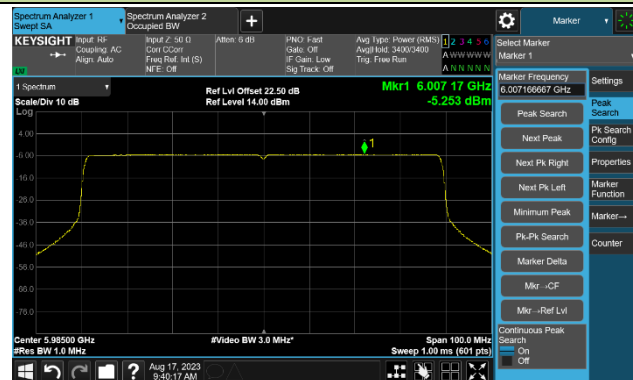


Channel 179 (6845MHz)



802.11ax-HE80 Power Spectral Density- Ant 1

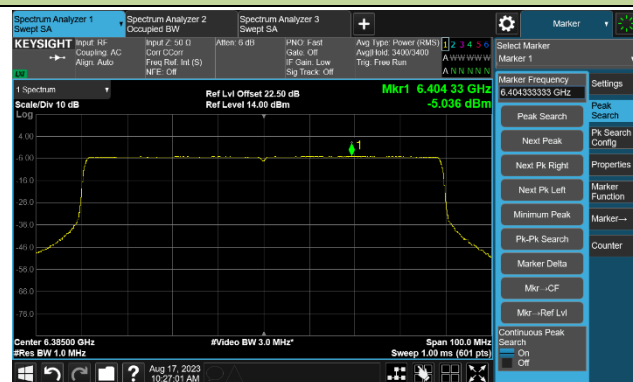
Channel 7 (5985MHz)



Channel 55 (6225MHz)



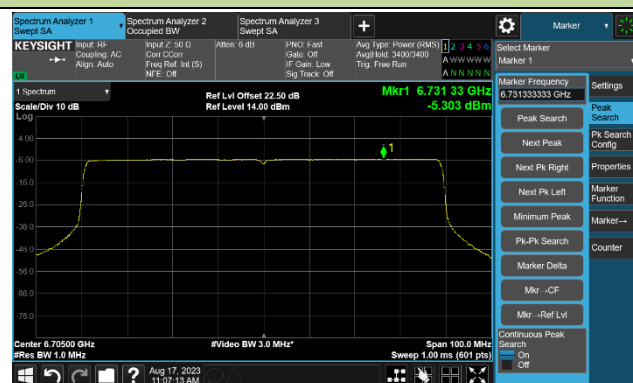
Channel 87 (6385MHz)



Channel 135 (6625MHz)



Channel 151 (6705MHz)

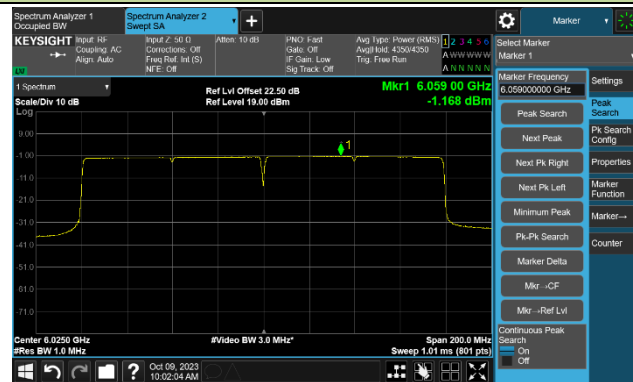


Channel 167 (6785MHz)

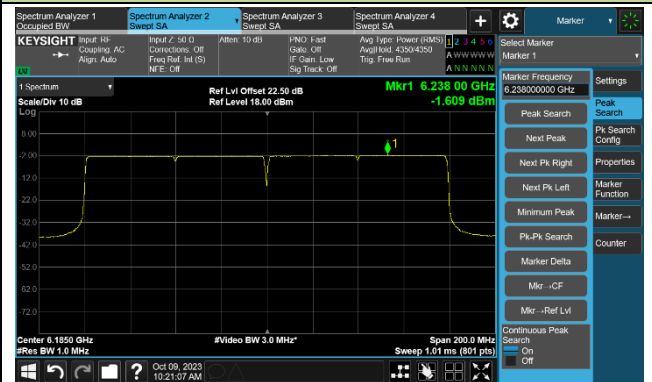


802.11ax-HE160 Power Spectral Density- Ant 1

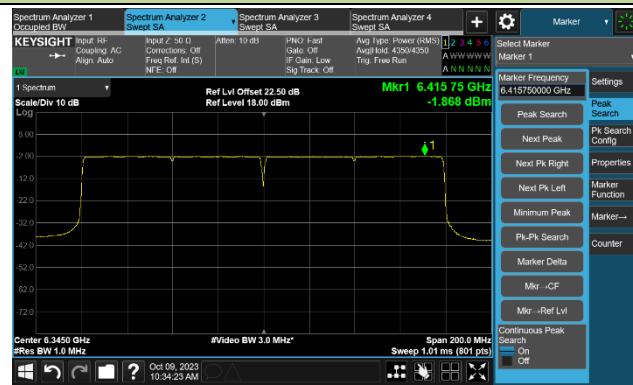
Channel 15 (6025MHz)



Channel 47 (6185MHz)



Channel 79 (6345MHz)



Channel 143 (6665MHz)

