Audix Technology Corp.
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A.3 MAXIMUM POWER SPECTRAL DENSITY

Test Date	2022/07/13~14	Temp./Hum.	24 ~ 26℃/48 ~ 50%
Cable Loss	1.50dB	Tested By	Kuper Hsu
Test Voltage	AC 120V 60Hz (Via AC Adapter)		

A.3.1 Power Spectral Density Result

- OFDM Modulation

Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) Note3	Total Power Spectral Density (dBm/1MHz) Note2	Limit (dBm/MHz)
			AUX	Main				
802.11ax-HE20	5	5955	-9.643	-10.104	N/A	2.010	-4.847	-1
		6175	-9.912	-10.131		2.010	-5.000	
		6415	-9.874	-10.329		1.950	-5.135	
	6	6435	-9.975	-10.535		1.950	-5.286	
		6475	-9.993	-10.507		1.950	-5.282	
		6515	-10.171	-10.047		1.950	-5.148	
	7	6535	-12.063	-12.559		1.950	-7.344	
		6695	-12.681	-12.787		1.950	-7.773	
		6855	-12.116	-13.019		1.950	-7.584	
	8	6875	-12.344	-13.122		1.950	-7.755	
		6995	-11.502	-11.989		1.950	-6.778	
		7115	-15.040	-14.881		1.950	-9.999	
802.11ax-HE40	5	5965	-8.600	-9.544	N/A	2.010	-4.026	
		6165	-9.170	-9.836		2.010	-4.470	
		6405	-9.092	-9.947		1.950	-4.538	
	6	6445	-8.830	-10.478		1.950	-4.616	
		6485	-9.000	-10.047		1.950	-4.532	
	7	6525	-9.274	-10.073		1.950	-4.695	
		6685	-9.773	-10.529		1.950	-5.174	
		6845	-9.962	-10.944		1.950	-5.465	
	8	6885	-9.956	-10.635		1.950	-5.322	
		7005	-9.778	-10.288		1.950	-5.065	
		7085	-9.622	-10.042		1.950	-4.867	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}]$ dBi
Directional gain:
5925MHz: Directional gain = $10 \log[(10^{1.7/10} + 10^{2.3/10})/2]$= 2.01dBi
6525MHz: Directional gain = $10 \log[(10^{1.9/10} + 10^{2.0/10})/2]$= 1.95dBi
7125MHz: Directional gain = $10 \log[(10^{2.0/10} + 10^{1.9/10})/2]$= 1.95dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

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Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) Note3	Total Power Spectral Density (dBm/1MHz) Note 2	Limit (dBm/MHz)
			AUX	Main				
802.11ax-HE80	5	5985	-8.795	-9.022	N/A	2.010	-3.887	-1
		6145	-9.340	-9.331		2.010	-4.315	
		6385	-9.235	-9.554		1.950	-4.431	
	6	6465	-9.252	-9.731		1.950	-4.525	
		6545	-9.181	-9.495		1.950	-4.375	
	7	6625	-9.408	-10.349		1.950	-4.893	
		6705	-9.655	-10.167		1.950	-4.943	
		6785	-9.758	-10.006		1.950	-4.920	
	8	6865	-9.904	-10.208		1.950	-5.093	
		6945	-10.042	-10.188		1.950	-5.154	
		7025	-9.961	-10.161		1.950	-5.100	
802.11ax-HE160	5	6025	-9.179	-9.187	N/A	2.010	-4.163	
		6185	-8.733	-8.891		2.010	-3.791	
		6345	-9.019	-9.117		1.950	-4.107	
	6	6505	-8.916	-9.089		1.950	-4.041	
	7	6665	-9.471	-9.697		1.950	-4.622	
		6825	-9.929	-9.917		1.950	-4.963	
	8	6985	-9.446	-9.768		1.950	-4.644	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}$] dBi
Directional gain:
5925MHz: Directional gain = 10 log[$(10^{1.7/10} + 10^{2.3/10})/2$]= 2.01dBi
6525MHz: Directional gain = 10 log[$(10^{1.9/10} + 10^{2.0/10})/2$]= 1.95dBi
7125MHz: Directional gain = 10 log[$(10^{2.0/10} + 10^{1.9/10})/2$]= 1.95dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

- OFDMA Modulation

Tones	RU Index	Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) Note3	Total Power Spectral Density (dBm/1MHz) Note 2	Limit (dBm/MHz)
					AUX	Main				
26T	S0	802.11ax-HE160	5	6025	-8.887	-8.988	N/A	2.010	-3.917	-1
52T	44	802.11ax-HE80	5	5985	-8.727	-7.973	N/A	2.010	-3.313	
106T	54	802.11ax-HE20	5	5955	-8.572	-8.066	N/A	2.010	-3.291	
242T	62	802.11ax-HE160	5	6025	-9.557	-9.617	N/A	2.010	-4.567	
484T	66	802.11ax-HE160	5	6025	-9.540	-9.448	N/A	2.010	-4.473	
996T	67	802.11ax-HE80	5	5985	-9.165	-8.994	N/A	2.010	-4.058	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}$] dBi
Directional gain:
5925MHz: Directional gain = 10 log[$(10^{1.7/10} + 10^{2.3/10})/2$]= 2.01dBi
6525MHz: Directional gain = 10 log[$(10^{1.9/10} + 10^{2.0/10})/2$]= 1.95dBi
7125MHz: Directional gain = 10 log[$(10^{2.0/10} + 10^{1.9/10})/2$]= 1.95dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

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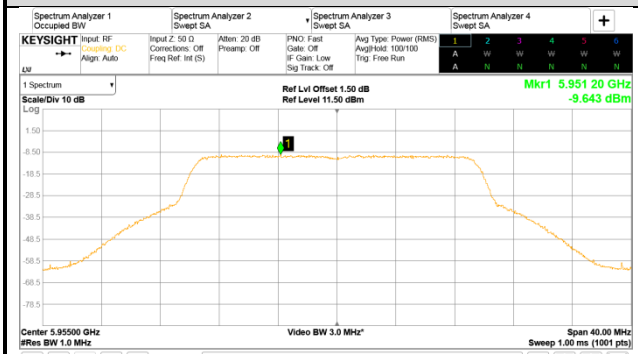
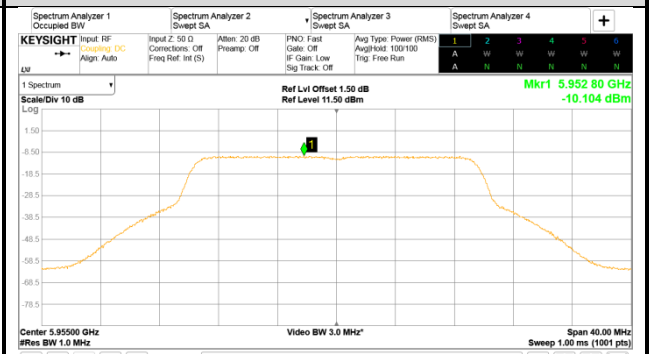
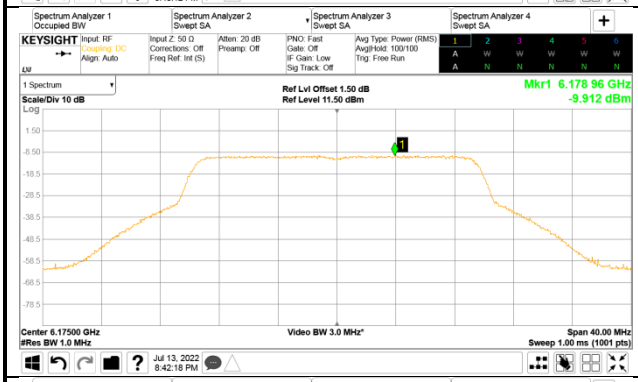
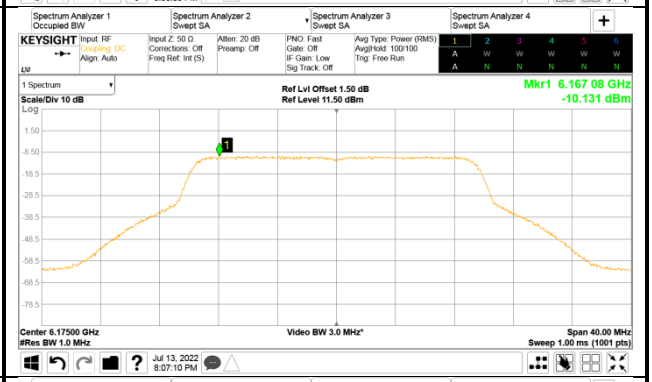
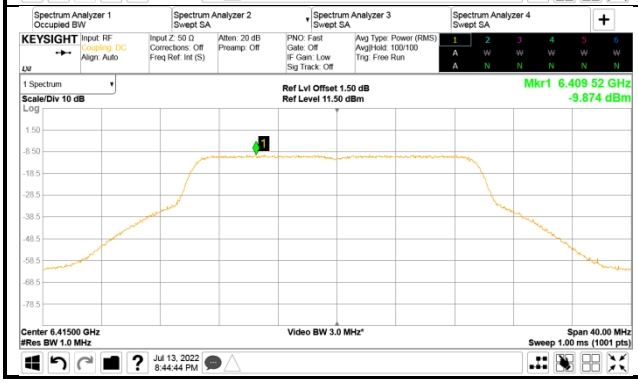
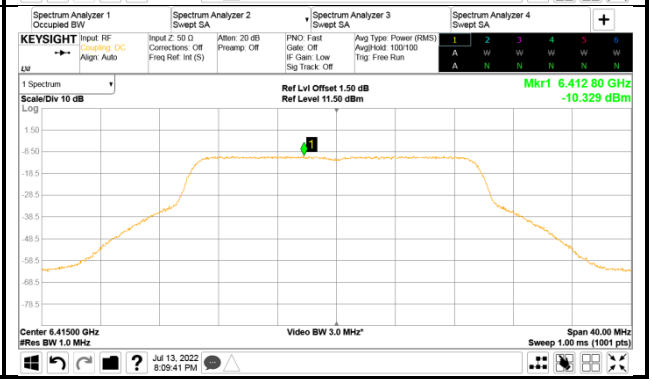
A.3.2 Measurement Plots

- OFDM Modulation

Mode: 802.11ax-HE20	
AUX	Main
U-NII Band 5	U-NII Band 5
	
	
	

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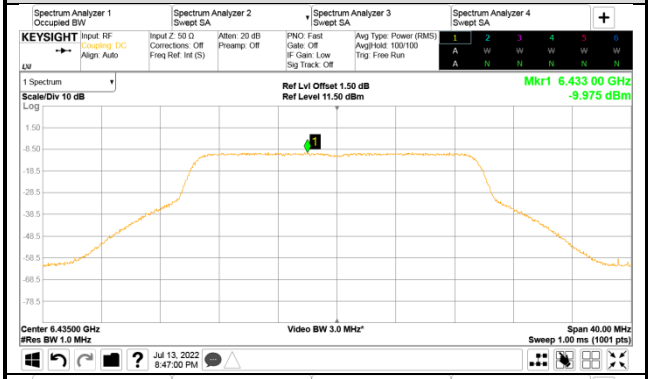
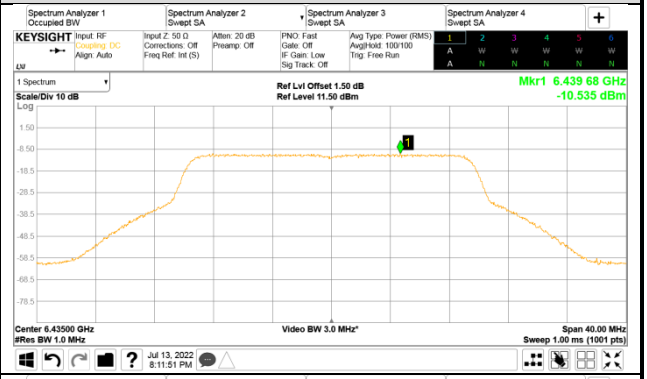
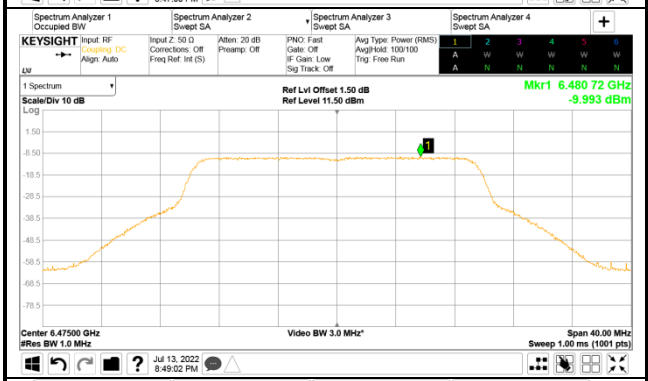
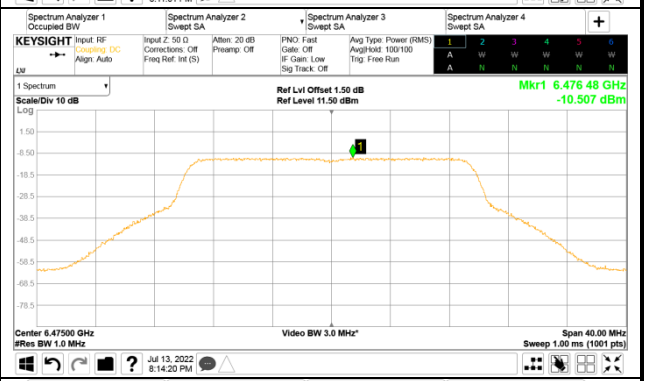
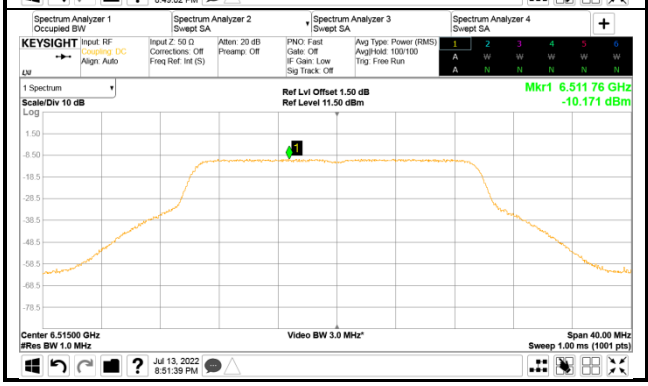
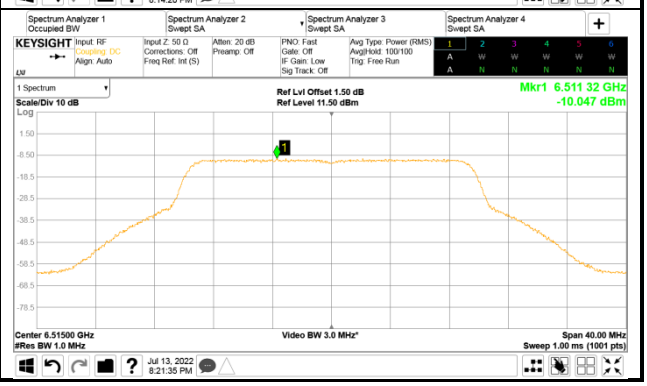
Mode: 802.11ax-HE20	
AUX	Main
U-NII Band 6	U-NII Band 6
	
	
	

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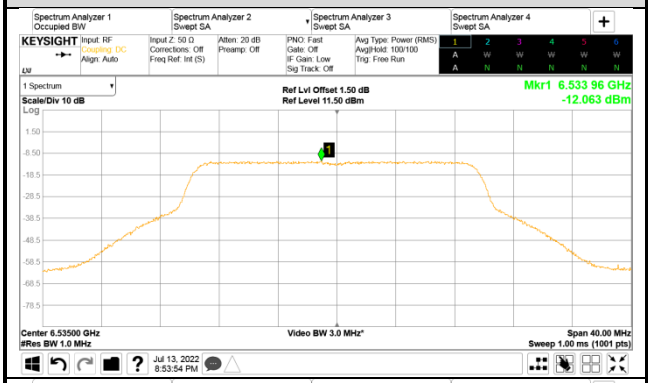
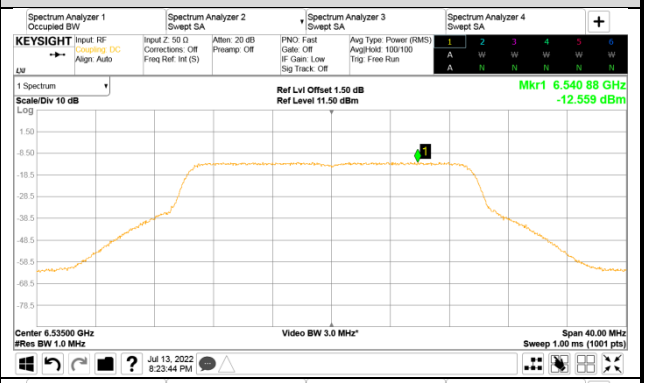
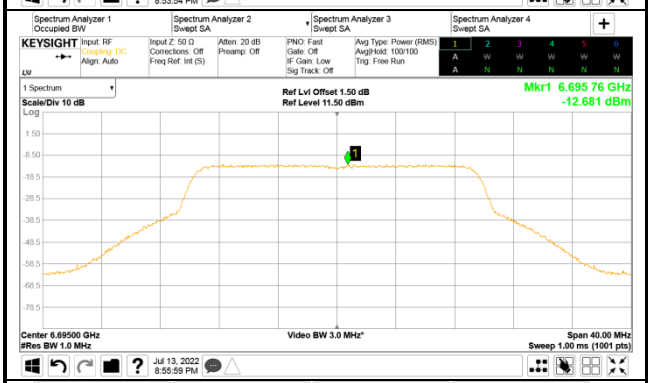
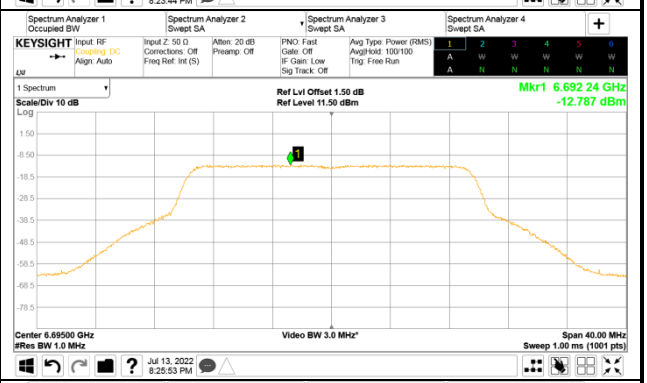
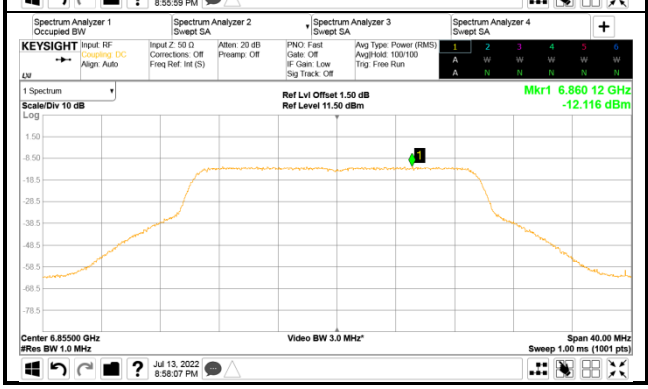
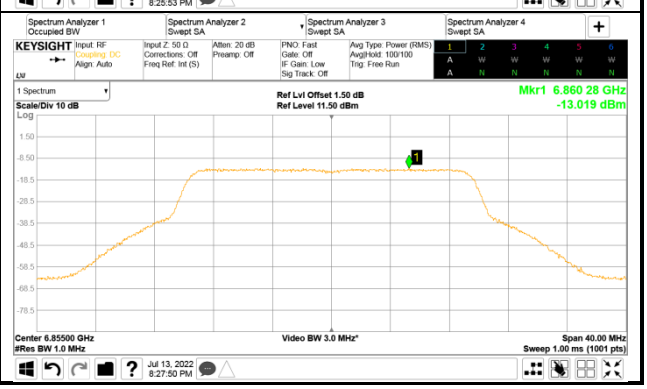
Mode: 802.11ax-HE20	
AUX	Main
U-NII Band 7	U-NII Band 7
	
	
	

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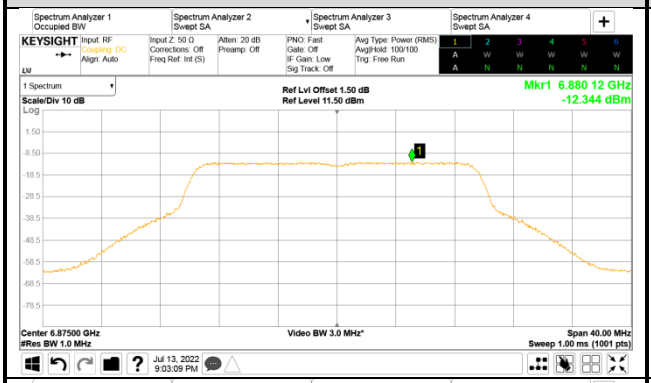
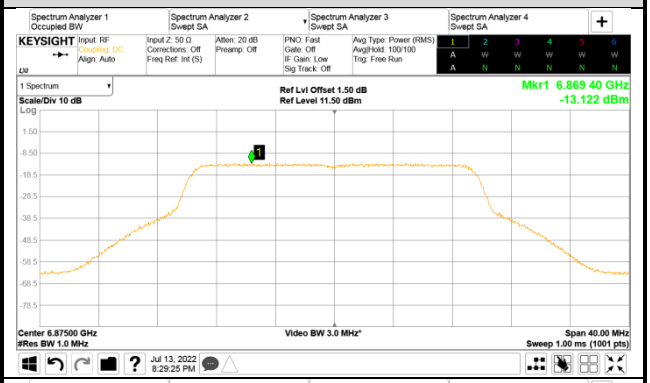
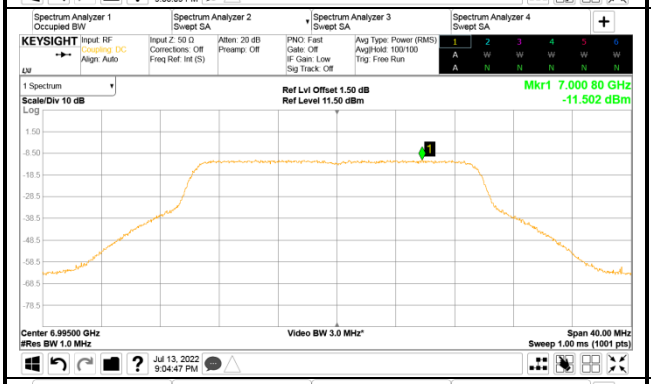
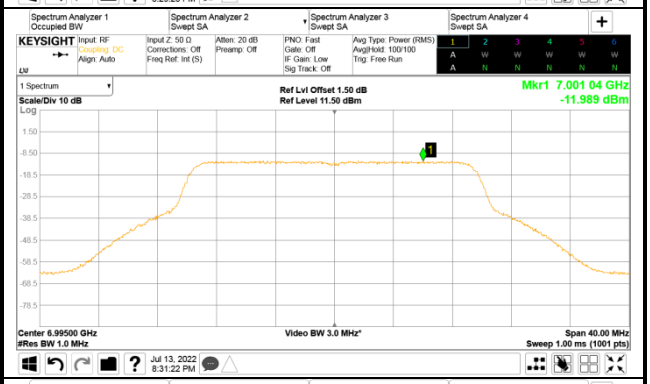
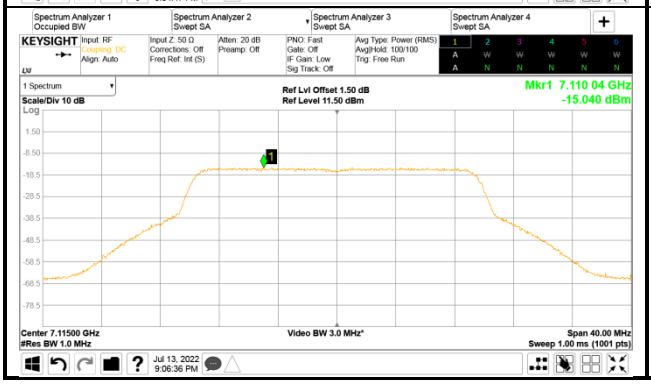
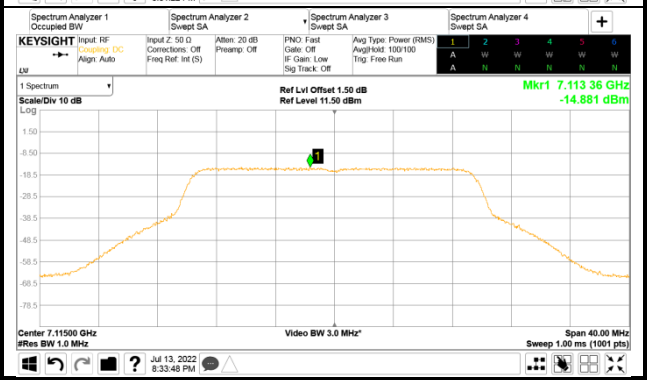
Mode: 802.11ax-HE20	
AUX	Main
U-NII Band 8	U-NII Band 8
	
	
	

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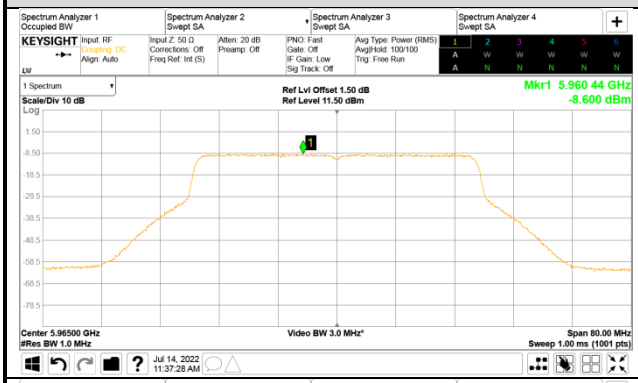
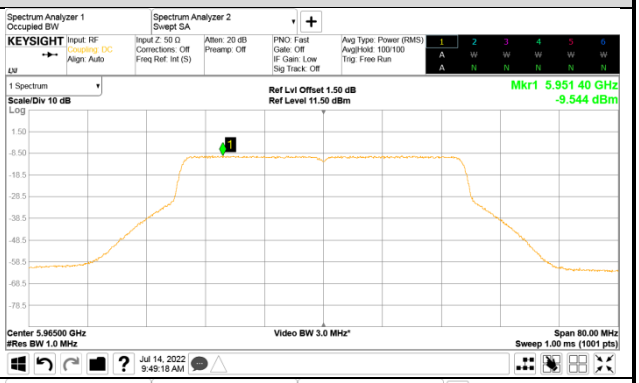
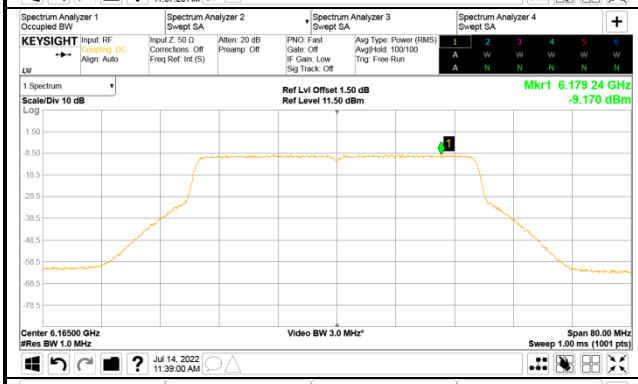
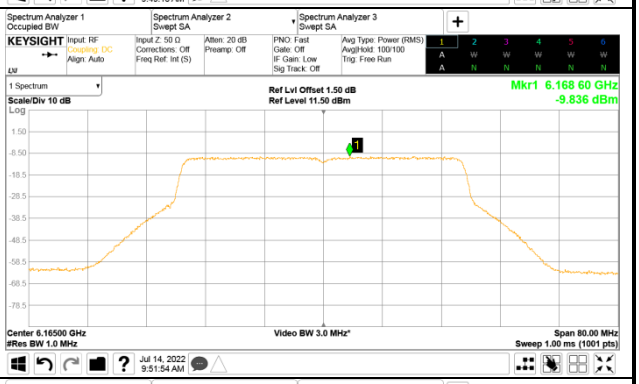
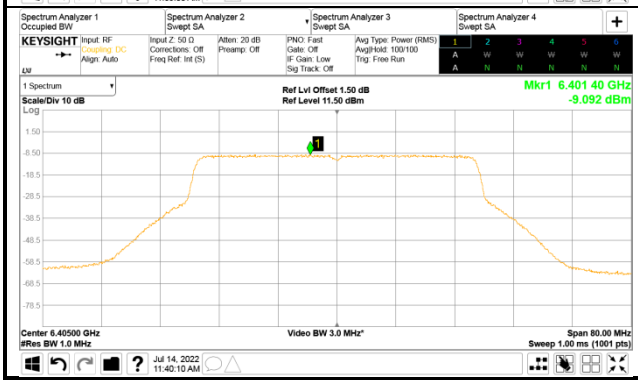
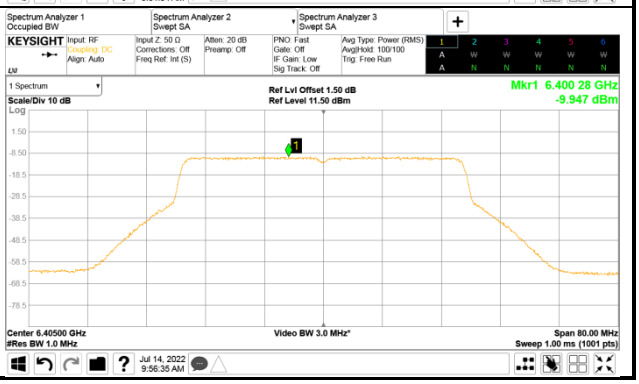
Mode: 802.11ax-HE40	
AUX	Main
U-NII Band 5	U-NII Band 5
	
	
	

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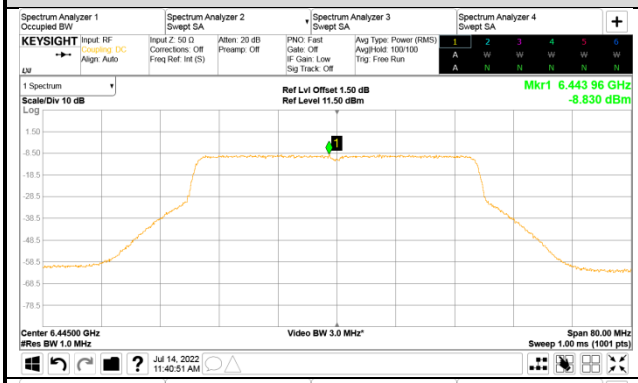
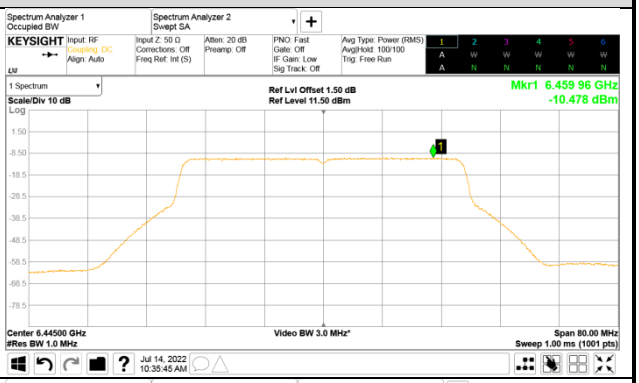
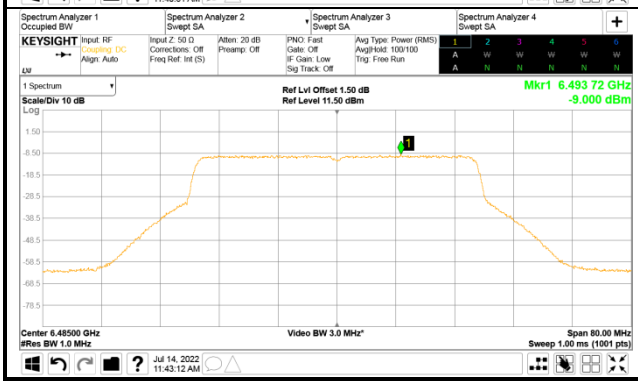
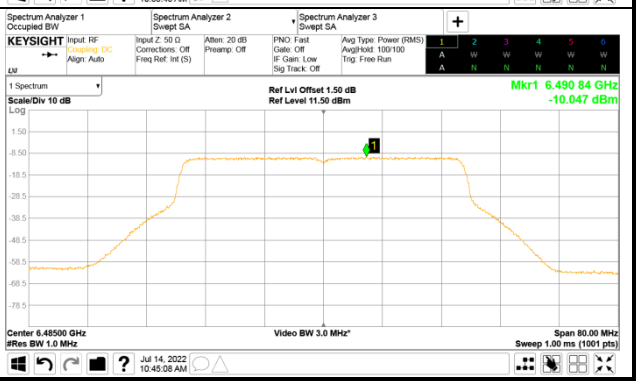
Mode: 802.11ax-HE40	
AUX	Main
U-NII Band 6	U-NII Band 6
	
	

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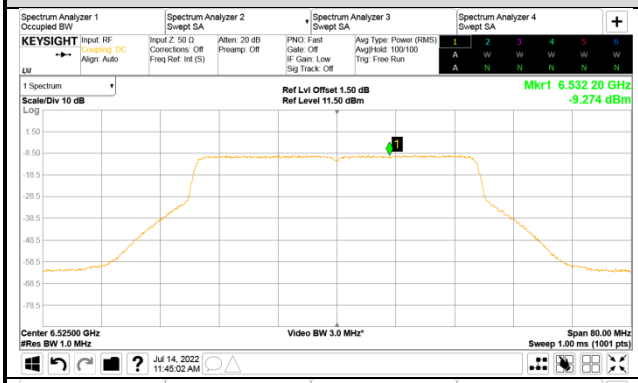
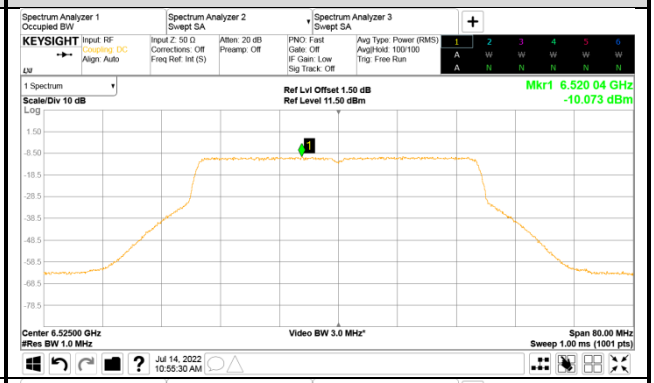
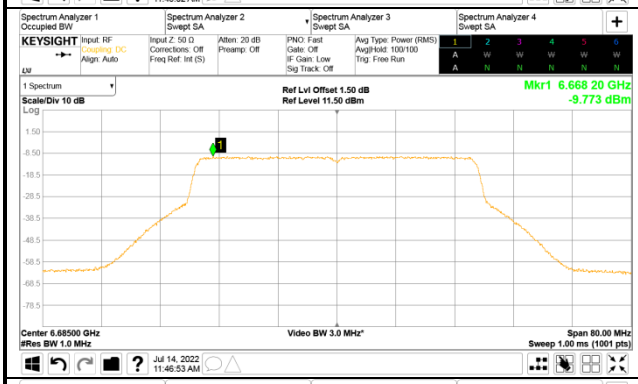
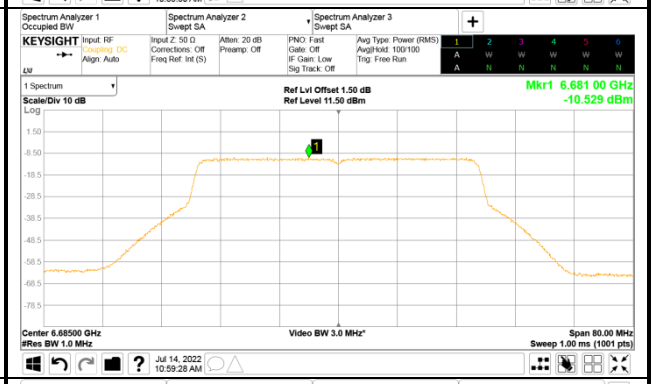
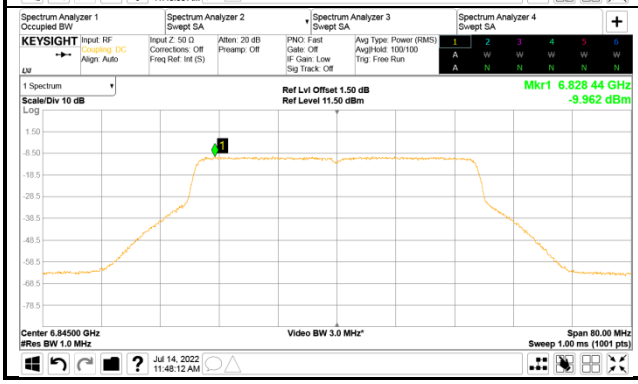
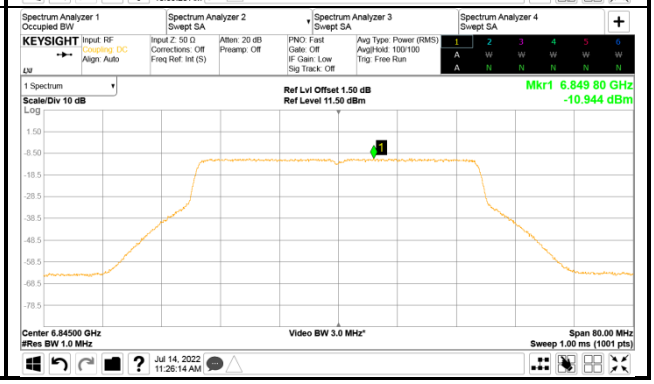
Mode: 802.11ax-HE40	
AUX	Main
U-NII Band 7	U-NII Band 7
	
	
	

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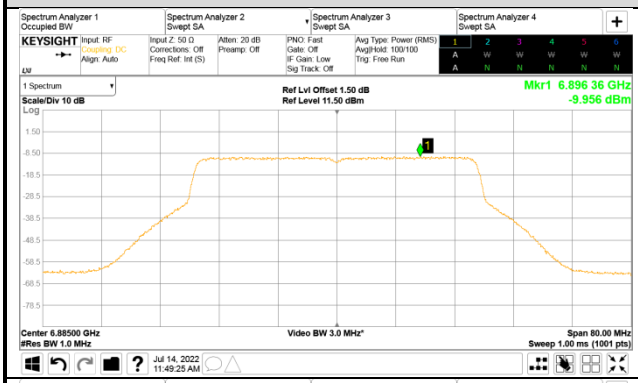
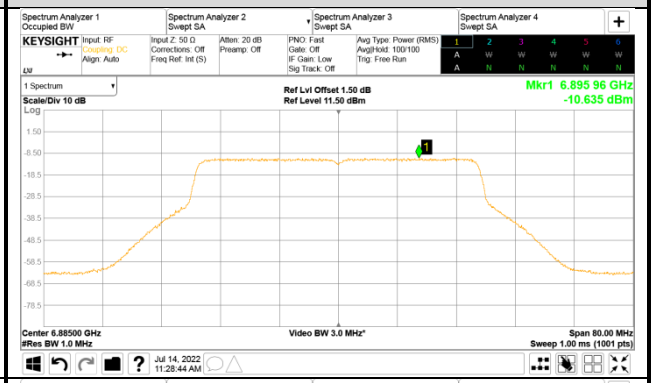
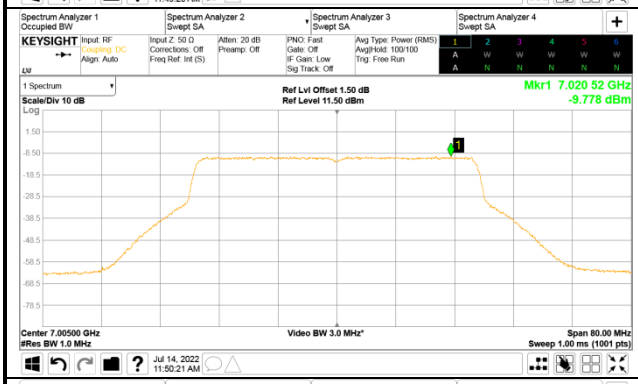
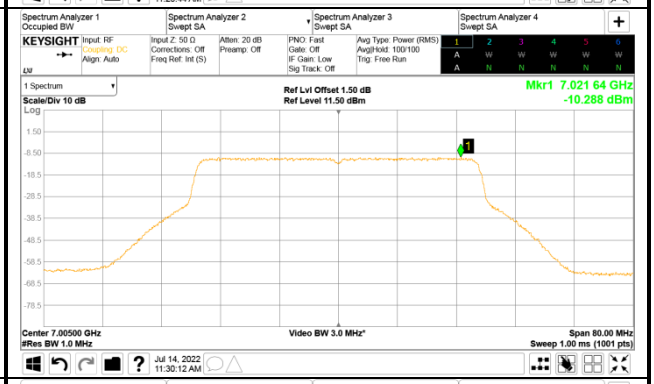
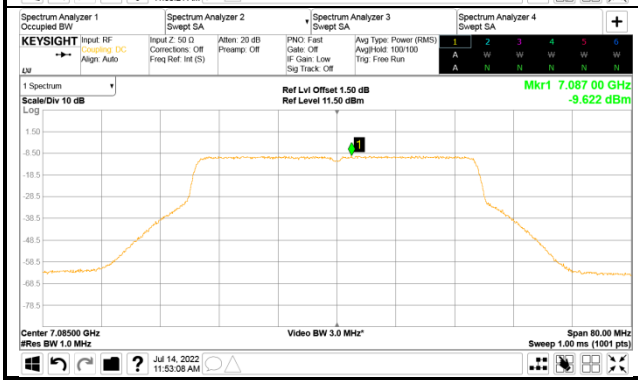
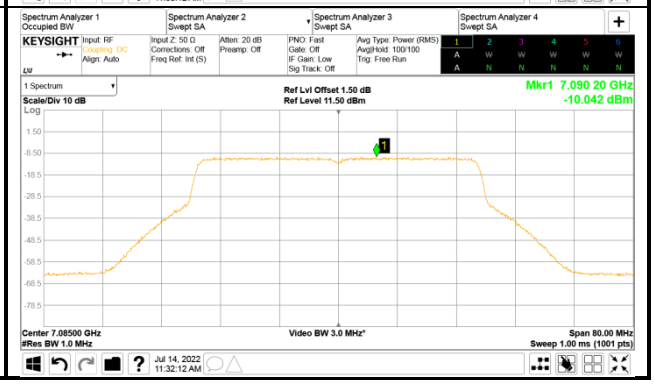
Mode: 802.11ax-HE40	
AUX	Main
U-NII Band 8	U-NII Band 8
	
	
	

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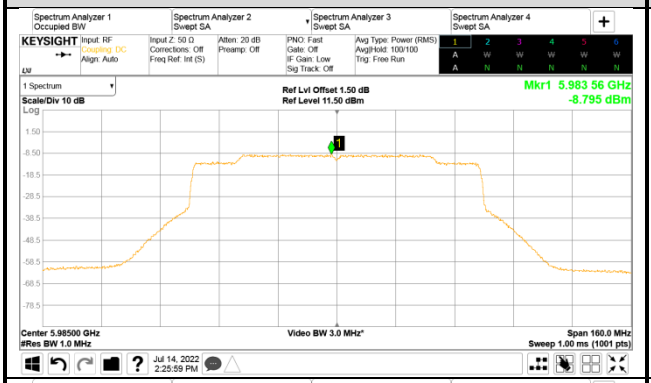
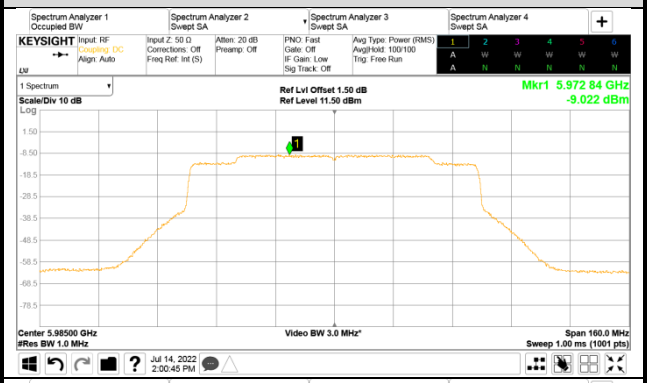
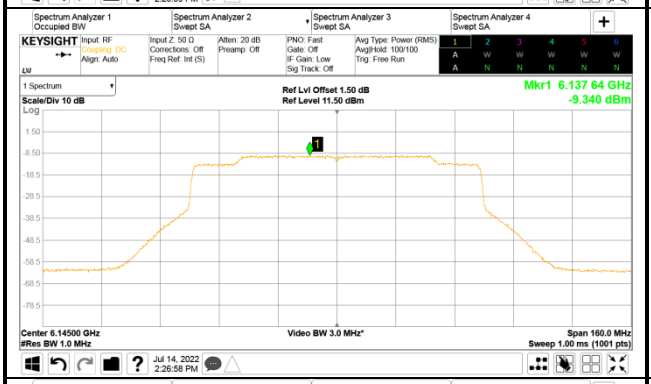
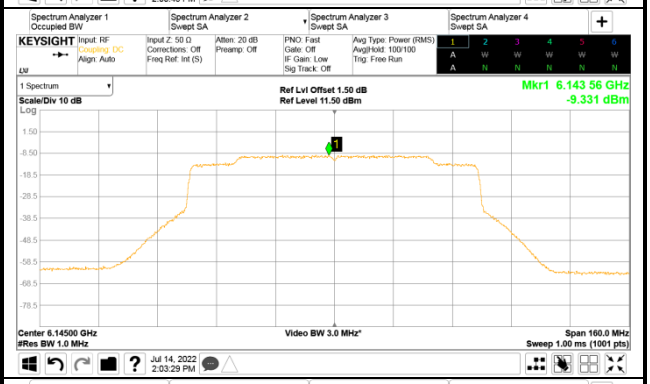
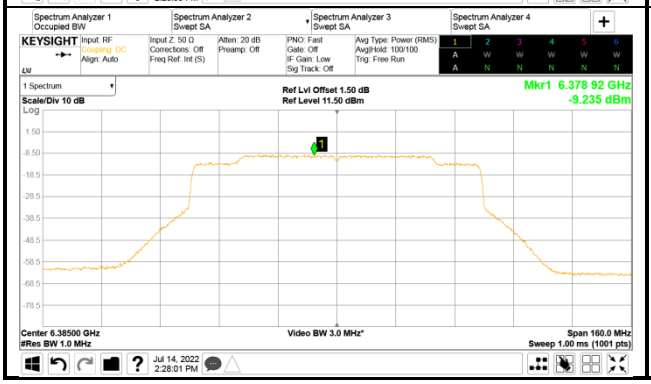
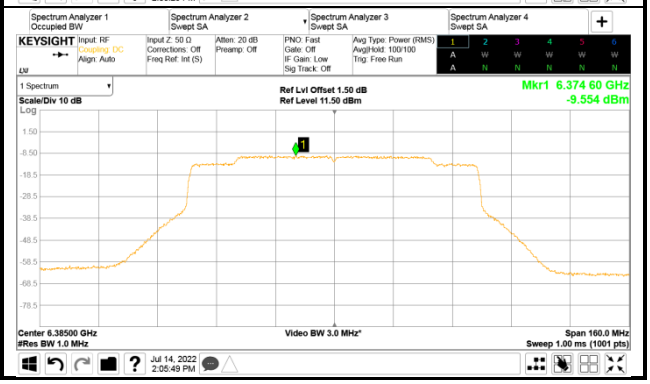
Mode: 802.11ax-HE80	
AUX	Main
U-NII Band 5	U-NII Band 5
	
	
	

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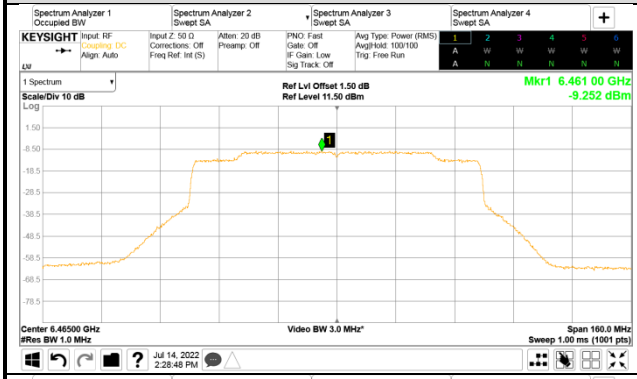
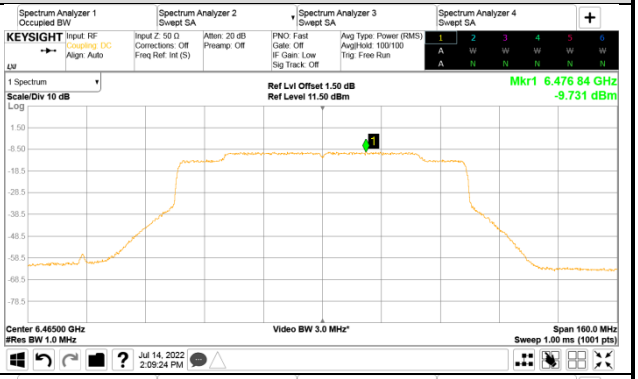
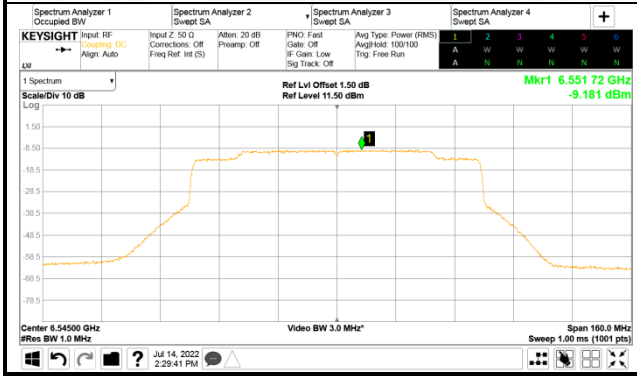
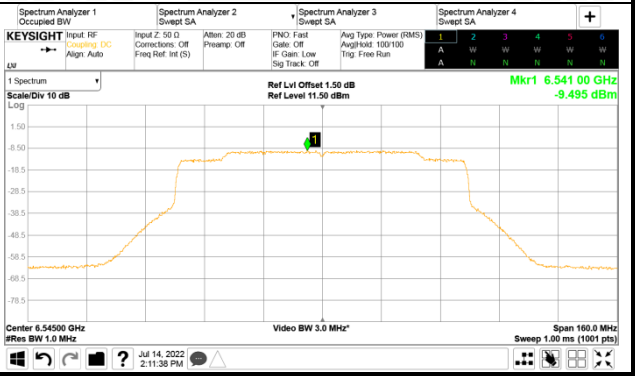
Mode: 802.11ax-HE80	
AUX	Main
U-NII Band 6	U-NII Band 6
	
	

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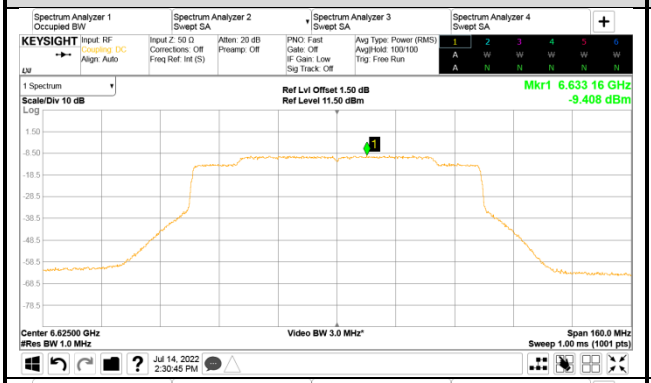
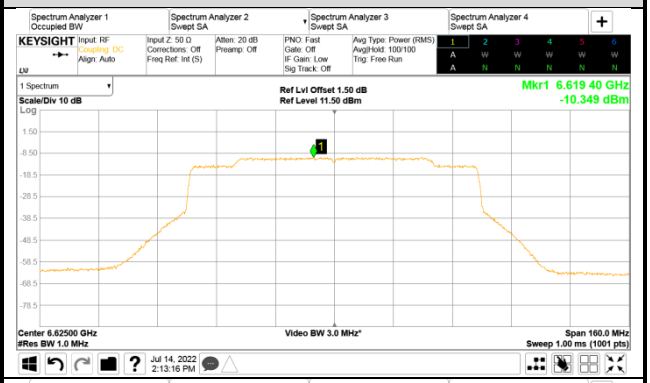
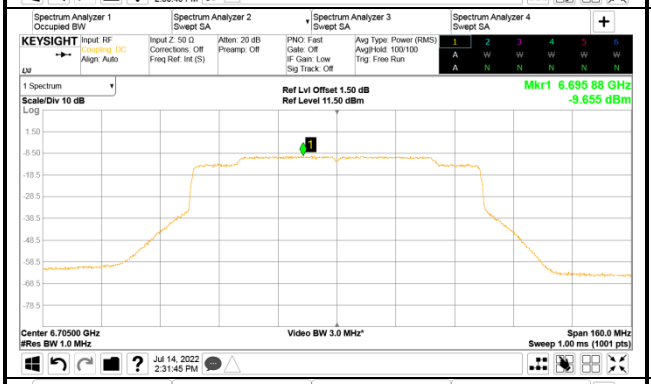
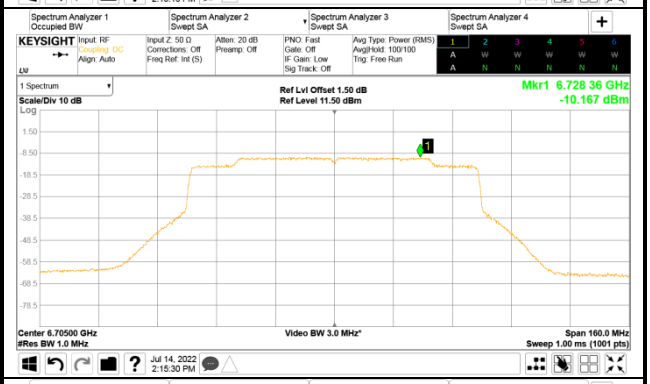
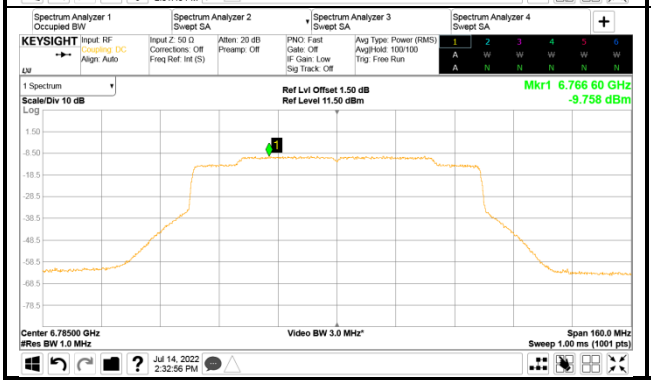
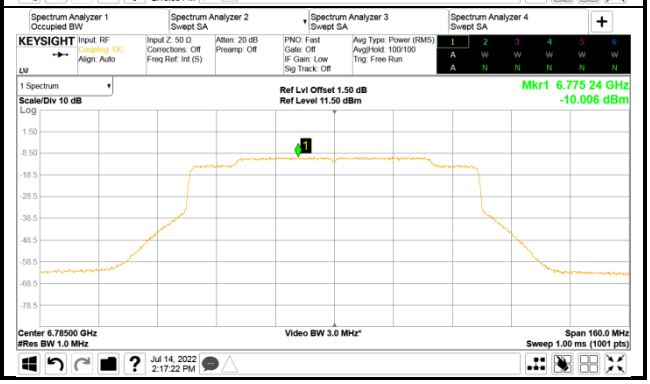
Mode: 802.11ax-HE80	
AUX	Main
U-NII Band 7	U-NII Band 7
	
	
	

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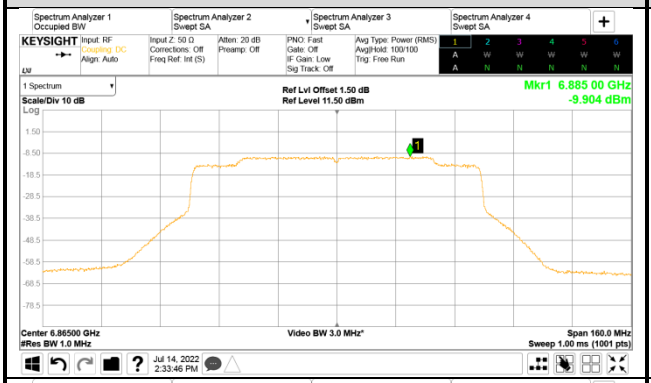
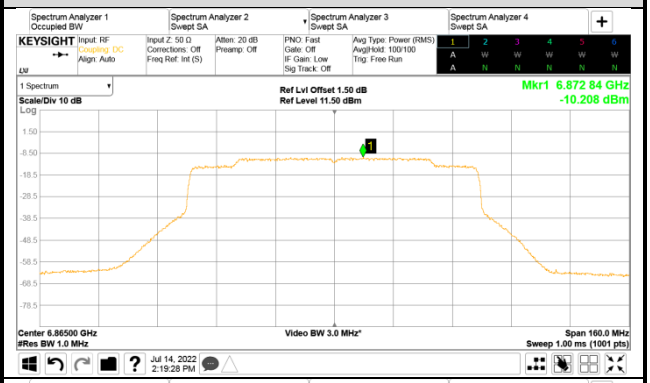
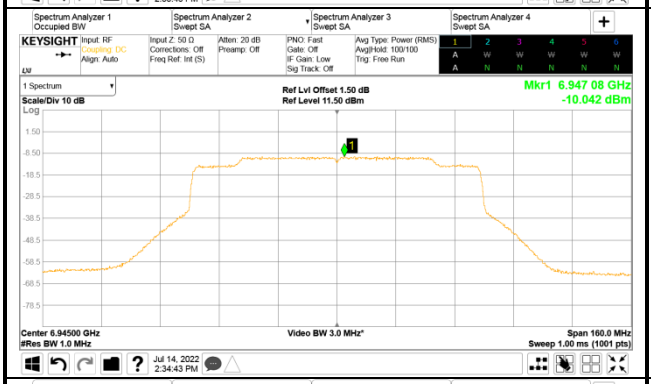
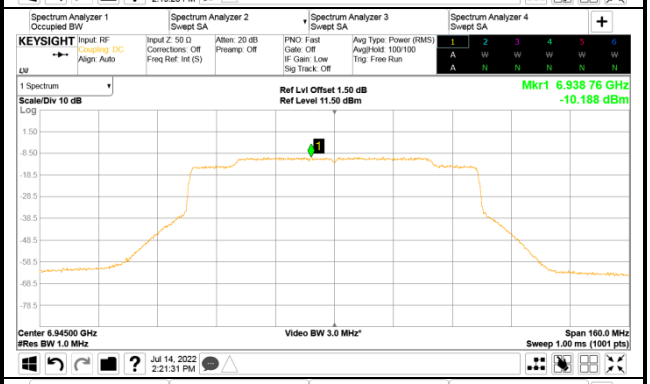
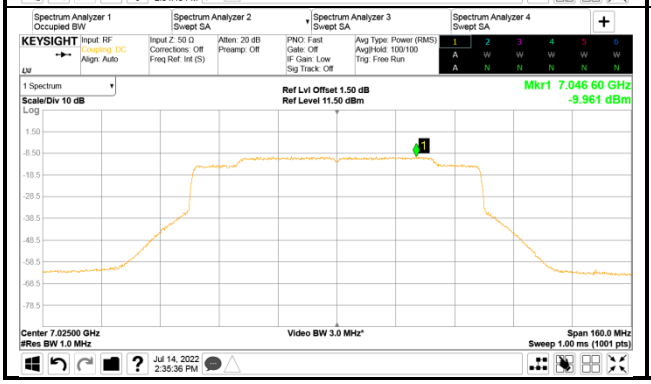
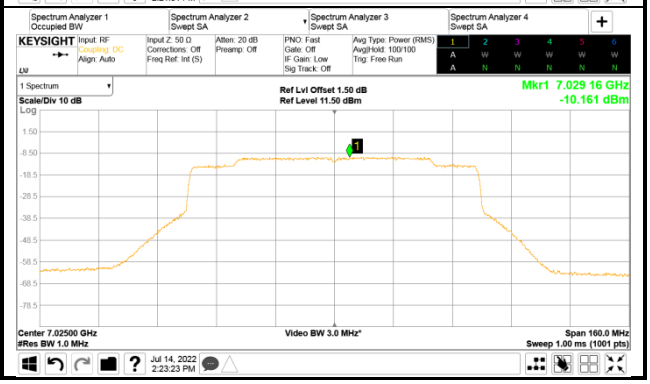
Mode: 802.11ax-HE80	
AUX	Main
U-NII Band 8	U-NII Band 8
	
	
	

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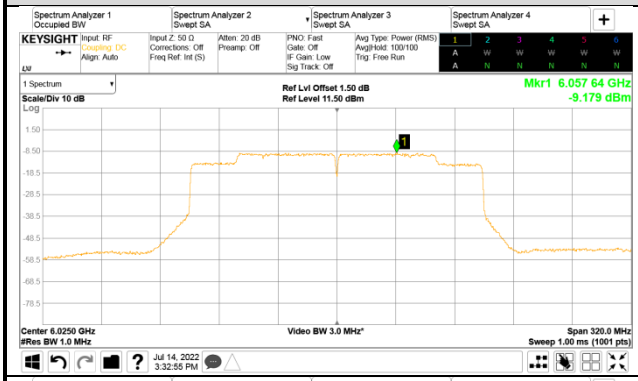
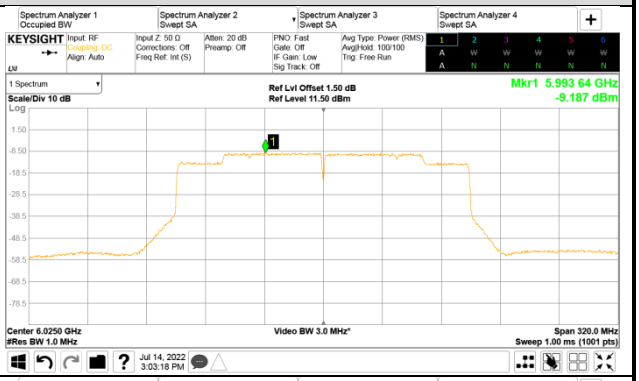
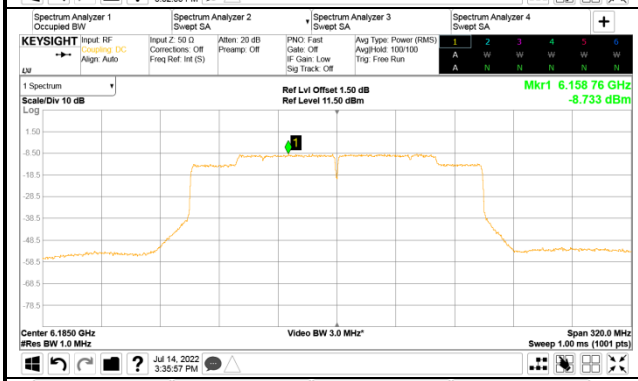
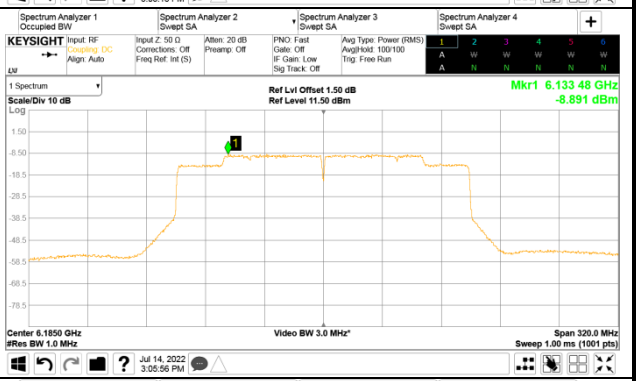
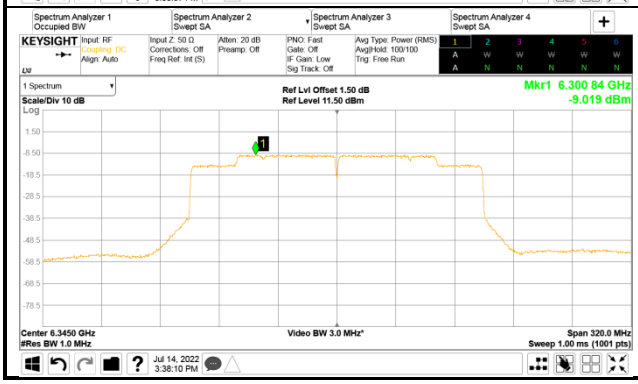
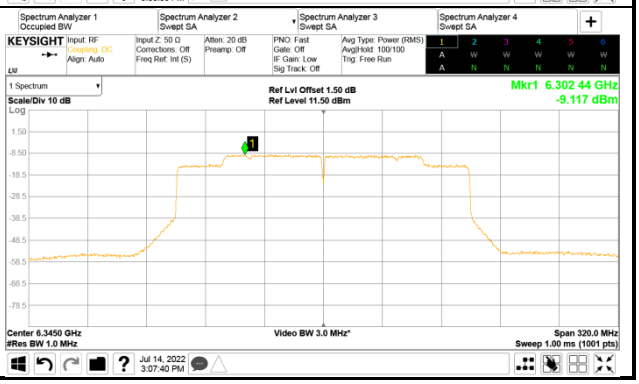
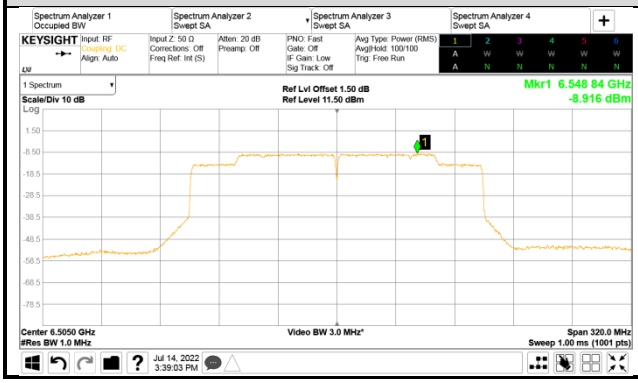
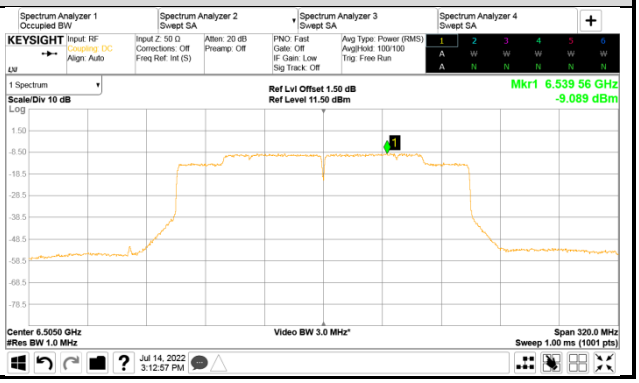
Mode: 802.11ax-HE160	
AUX	Main
U-NII Band 5	U-NII Band 5
	
	
	

Mode: 802.11ax-HE160	
AUX	Main
U-NII Band 6	U-NII Band 6
	

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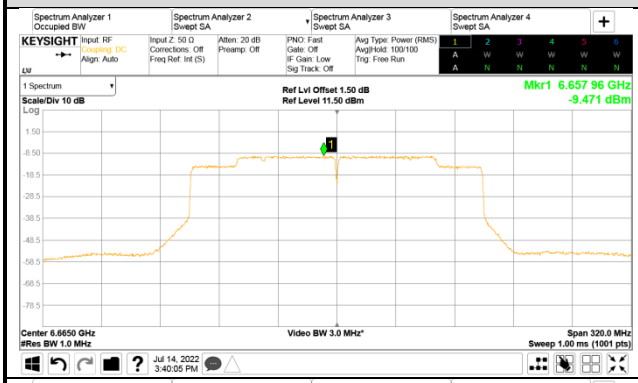
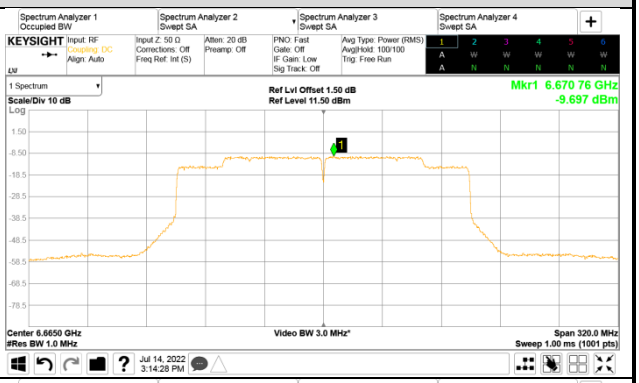
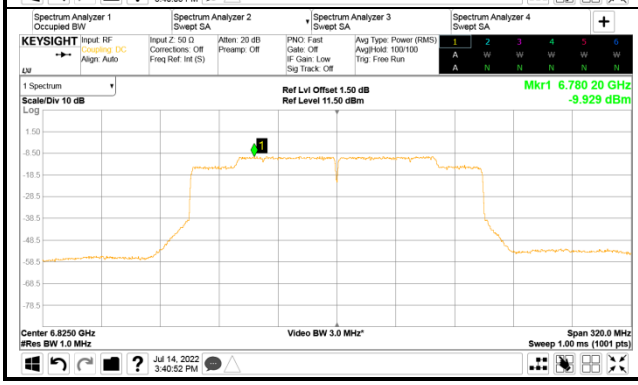
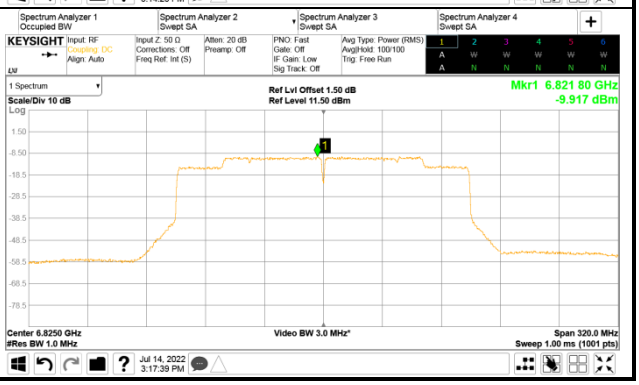
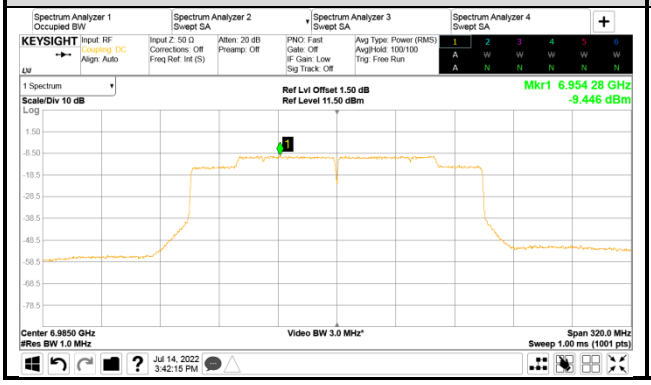
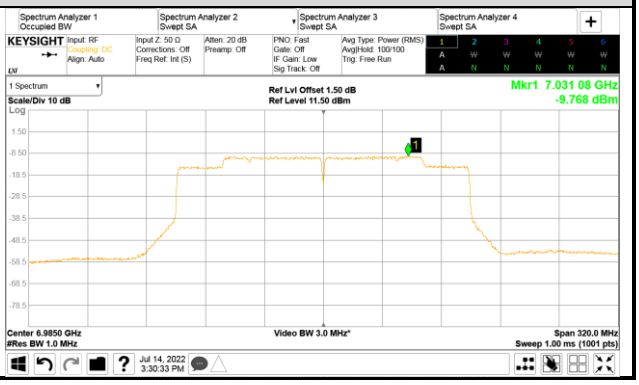
Mode: 802.11ax-HE160	
AUX	Main
U-NII Band 7	U-NII Band 7
	
	

Mode: 802.11ax-HE160	
AUX	Main
U-NII Band 8	U-NII Band 8
	

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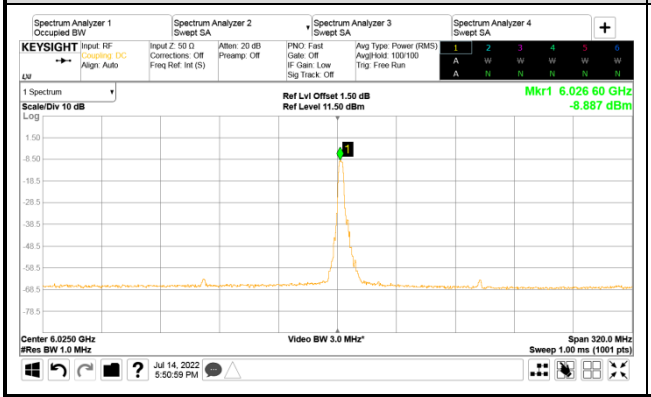
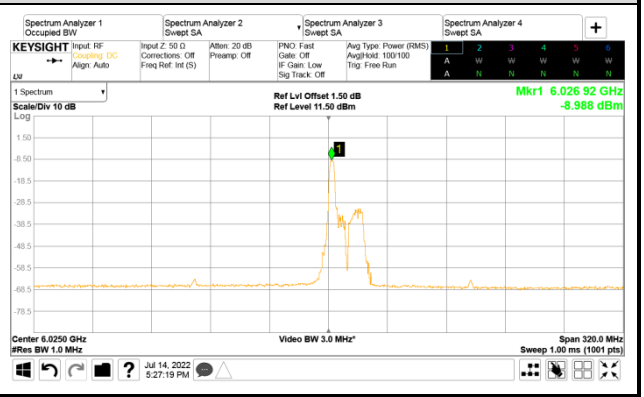
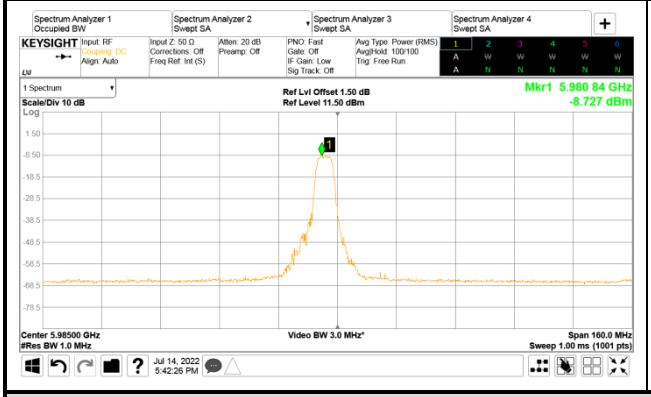
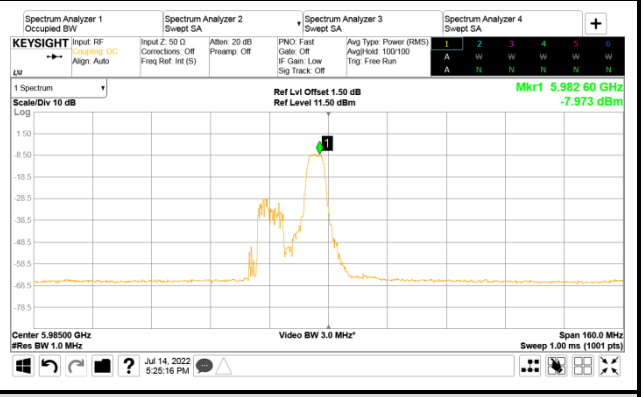
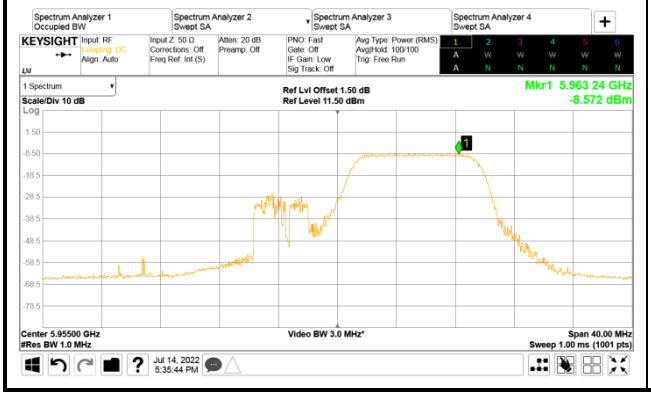
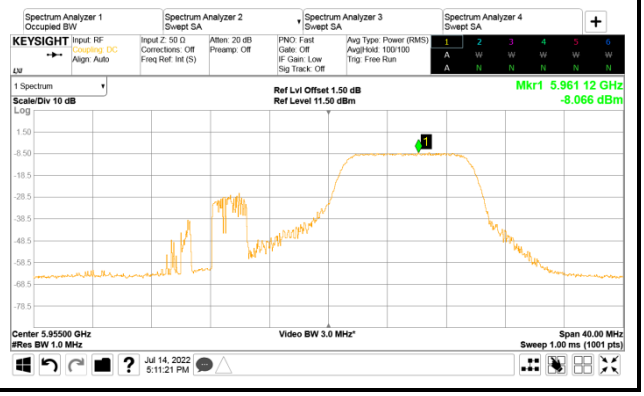
- OFDMA Modulation

Tones: 26T	
802.11ax-HE160, RU Index: S0	
U-NII Band 5, Centre Frequency: 6025MHz	
AUX	Main
	

Tones: 52T	
802.11ax-HE80, RU Index: 44	
U-NII Band 5, Centre Frequency: 5985MHz	
AUX	Main
	

Tones: 106T	
802.11ax-HE20, RU Index: 54	
U-NII Band 5, Centre Frequency: 5955MHz	
AUX	Main
	

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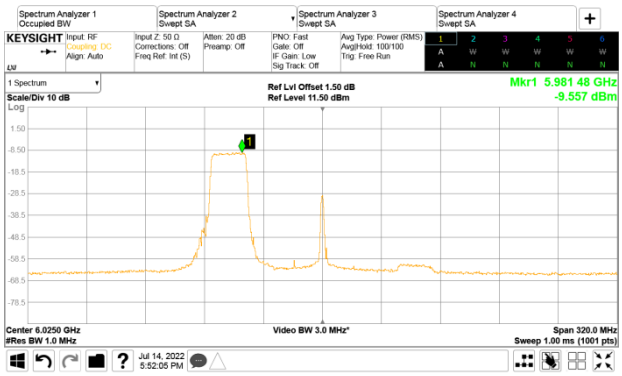
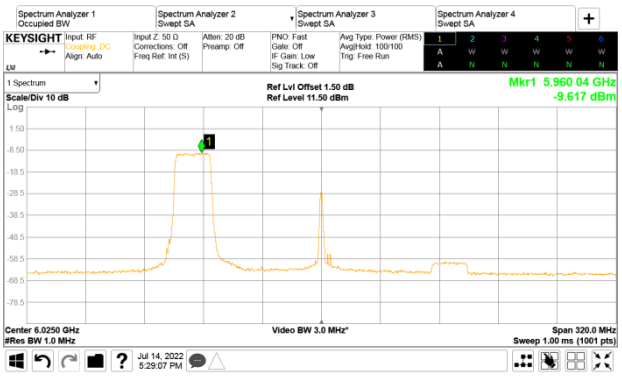
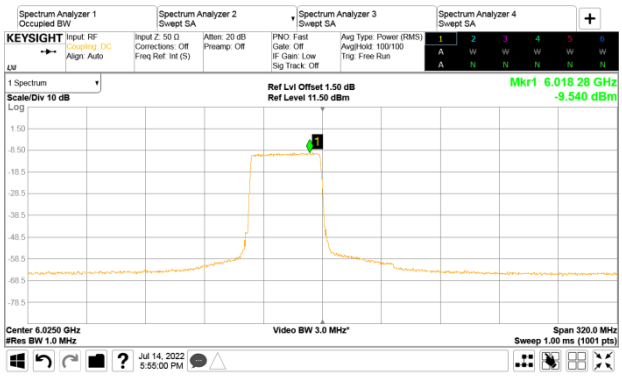
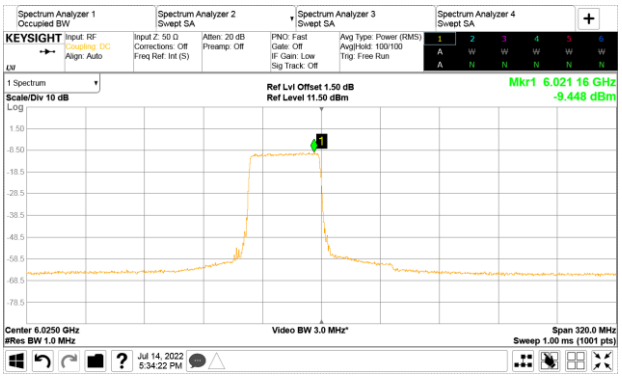
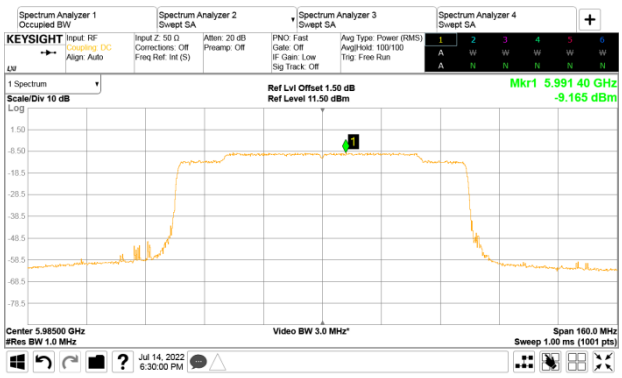
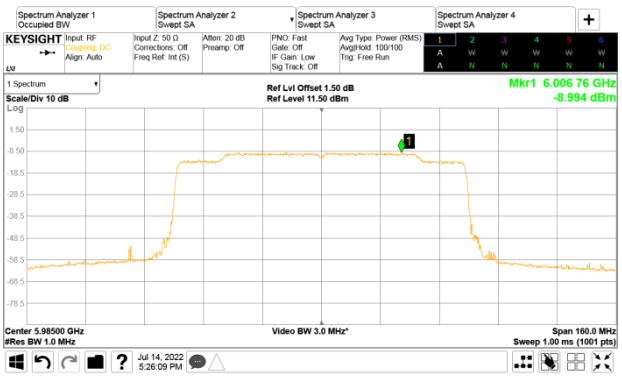
Tones: 242T	
802.11ax-HE160, RU Index: 62	
U-NII Band 5, Centre Frequency: 6025MHz	
AUX	Main
	

Tones: 484T	
802.11ax-HE160, RU Index: 66	
U-NII Band 6, Centre Frequency: 6025MHz	
AUX	Main
	

Tones: 996T	
802.11ax-HE80, RU Index: 67	
U-NII Band 5, Centre Frequency: 5985MHz	
AUX	Main
	

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