Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan
Tel: +886 2 26099301
Fax: +886 2 26099303

A.3 MAXIMUM POWER SPECTRAL DENSITY

Test Date	2022/02/16~ 03/31	Temp./Hum.	17 ~ 23℃/64~78%
Cable Loss	1.9dB	Tested By	Sam Chang
Test Voltage	AC 120V 60Hz (Via AC Adapter)		
Simultaneous Factor 10 log(N_{ANT})(Note: where N_{ANT} is the number of outputs)	3dB		

A.3.1 Power Spectral Density Result

- OFDM Modulation

SKU#1 (with INPAQ Antenna)

Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 2		Directional Antenna Gain (dBi) Note 4	Max. e.i.r.p Density (dBm/MHz) Note 3	Limit (dBm/MHz)
			ANT A (AUX)	ANT B (Main)			
802.11ax-HE20	5	5955	-7.136	-7.521	3.35	-3.786	-1
		6175	-7.488	-7.904	3.35	-4.138	
		6415	-7.010	-7.521	2.60	-4.410	
	6	6435	-7.290	-8.188	2.60	-4.690	
		6475	-7.093	-7.970	2.60	-4.493	
		6515	-7.642	-8.599	2.60	-5.042	
	7	6535	-7.805	-8.214	2.60	-5.205	
		6695	-7.110	-7.320	2.60	-4.510	
		6855	-8.230	-9.138	2.30	-5.930	
	8	6875	-9.464	-9.691	2.30	-7.164	
		6995	-6.966	-7.242	2.30	-4.666	
		7115	-10.721	-11.634	2.30	-8.421	
802.11ax-HE40	5	5965	-7.092	-8.291	3.35	-3.742	-1
		6165	-7.127	-7.415	3.35	-3.777	
		6405	-6.819	-7.741	2.60	-4.219	
	6	6445	-7.264	-8.270	2.60	-4.664	
		6485	-6.997	-7.226	2.60	-4.397	
	7	6525	-6.803	-7.167	2.60	-4.203	
		6685	-7.414	-7.824	2.60	-4.814	
		6845	-8.019	-8.453	2.30	-5.719	
	8	6885	-8.525	-8.936	2.30	-6.225	
		7005	-7.135	-7.962	2.30	-4.835	
		7085	-6.980	-7.820	2.30	-4.680	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
4. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi
Directional gain: 5925MHz: 10 log[($10^{3.5/10}$ +$10^{3.2/10}$)/2]= 3.35dBi /
6525MHz: 10 log[($10^{2.7/10}$ +$10^{2.5/10}$)/2]= 2.60dBi /7125MHz: 10 log[($10^{2.5/10}$ +$10^{2.1/10}$)/2]= 2.30dBi
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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Fax: +886 2 26099303

Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 2		Directional Antenna Gain (dBi) Note 4	Max. e.i.r.p Density (dBm/MHz) Note 3	Limit (dBm/MHz)
			ANT A (AUX)	ANT B (Main)			
802.11ax-HE80	5	5985	-7.225	-7.262	3.35	-3.875	-1
		6145	-7.226	-7.410	3.35	-3.876	
		6385	-6.488	-6.656	2.60	-3.888	
	6	6465	-6.802	-7.195	2.60	-4.202	
		6545	-6.562	-6.725	2.60	-3.962	
	7	6625	-6.793	-6.889	2.60	-4.193	
		6705	-7.184	-7.400	2.60	-4.584	
		6785	-7.712	-8.056	2.60	-5.112	
	8	6865	-7.736	-8.107	2.30	-5.436	
		6945	-7.401	-7.734	2.30	-5.101	
		7025	-7.252	-7.456	2.30	-4.952	
802.11ax-HE160	5	6025	-7.135	-7.328	3.35	-3.785	-1
		6185	-7.072	-7.223	3.35	-3.722	
		6345	-6.080	-6.254	2.60	-3.480	
	6	6505	-6.524	-6.741	2.60	-3.924	
	7	6665	-7.368	-7.501	2.60	-4.768	
		6825	-7.597	-7.668	2.60	-4.997	
	8	6985	-7.630	-7.771	2.30	-5.330	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
4. 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: $10 \log[(10^{3.5/10} + 10^{3.2/10})/2]$= 3.35dBi /
6525MHz: $10 \log[(10^{2.7/10} + 10^{2.5/10})/2]$= 2.60dBi /7125MHz: $10 \log[(10^{2.5/10} + 10^{2.1/10})/2]$= 2.30dBi
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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Fax: +886 2 26099303

SKU#2 (with LUXSHARE-ICT Antenna)

Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 2		Directional Antenna Gain (dBi) Note 4	Max. e.i.r.p Density (dBm/MHz) Note 3	Limit (dBm/MHz)
			ANT A (AUX)	ANT B (Main)			
802.11ax-HE20	5	5955	-7.136	-7.521	4.48	-2.656	-1
		6175	-7.488	-7.904	4.48	-3.008	
		6415	-7.010	-7.521	1.29	-5.720	
	6	6435	-7.290	-8.188	1.29	-6.000	
		6475	-7.093	-7.970	1.29	-5.803	
		6515	-7.642	-8.599	1.29	-6.352	
	7	6535	-7.805	-8.214	1.29	-6.515	
		6695	-7.110	-7.320	1.29	-5.820	
		6855	-8.230	-9.138	3.07	-5.160	
	8	6875	-9.464	-9.691	3.07	-6.394	
		6995	-6.966	-7.242	3.07	-3.896	
		7115	-10.721	-11.634	3.07	-7.651	
802.11ax-HE40	5	5965	-7.092	-8.291	4.48	-2.612	-1
		6165	-7.127	-7.415	4.48	-2.647	
		6405	-6.819	-7.741	1.29	-5.529	
	6	6445	-7.264	-8.270	1.29	-5.974	
		6485	-6.997	-7.226	1.29	-5.707	
	7	6525	-6.803	-7.167	1.29	-5.513	
		6685	-7.414	-7.824	1.29	-6.124	
		6845	-8.019	-8.453	3.07	-4.949	
	8	6885	-8.525	-8.936	3.07	-5.455	
		7005	-7.135	-7.962	3.07	-4.065	
		7085	-6.980	-7.820	3.07	-3.910	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
4. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi
Directional gain: 5925MHz: 10 log[($10^{5.85/10}$ +$10^{2.48/10}$)/2]= 4.48dBi /
6525MHz: 10 log[($10^{1.19/10}$ +$10^{1.38/10}$)/2]= 1.29dBi /7125MHz: 10 log[($10^{3.99/10}$ +$10^{1.89/10}$)/2]= 3.07dBi
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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Fax: +886 2 26099303

Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 2		Directional Antenna Gain (dBi) Note 4	Max. e.i.r.p Density (dBm/MHz) Note 3	Limit (dBm/MHz)
			ANT A (AUX)	ANT B (Main)			
802.11ax-HE80	5	5985	-7.225	-7.262	4.48	-2.745	-1
		6145	-7.226	-7.410	4.48	-2.746	
		6385	-6.488	-6.656	1.29	-5.198	
	6	6465	-6.802	-7.195	1.29	-5.512	
		6545	-6.562	-6.725	1.29	-5.272	
	7	6625	-6.793	-6.889	1.29	-5.503	
		6705	-7.184	-7.400	1.29	-5.894	
		6785	-7.712	-8.056	1.29	-6.422	
	8	6865	-7.736	-8.107	3.07	-4.666	
		6945	-7.401	-7.734	3.07	-4.331	
		7025	-7.252	-7.456	3.07	-4.182	
802.11ax-HE160	5	6025	-7.135	-7.328	4.48	-2.655	-1
		6185	-7.072	-7.223	4.48	-2.592	
		6345	-6.080	-6.254	1.29	-4.790	
	6	6505	-6.524	-6.741	1.29	-5.234	
	7	6665	-7.368	-7.501	1.29	-6.078	
		6825	-7.597	-7.668	1.29	-6.307	
	8	6985	-7.630	-7.771	3.07	-4.560	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
4. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi
Directional gain: 5925MHz: 10 log[($10^{5.85/10}$ +$10^{2.48/10}$)/2]= 4.48dBi /
6525MHz: 10 log[($10^{1.19/10}$ +$10^{1.38/10}$)/2]= 1.29dBi /7125MHz: 10 log[($10^{3.99/10}$ +$10^{1.89/10}$)/2]= 3.07dBi
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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New Taipei City244, Taiwan
Tel: +886 2 26099301
Fax: +886 2 26099303

- OFDMA Modulation

SKU#1 (with INPAQ Antenna)

Tones	RU Index	Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 3		Directional Antenna Gain (dBi) Note 5	Max. e.i.r.p Density (dBm/MHz) Note 4	Limit (dBm/MHz)
					ANT A (AUX)	ANT B (Main)			
26T	4	802.11ax- HE20	5	5955	-7.053	-8.289	3.35	-3.703	-1
52T	44	802.11ax- HE80	5	5985	-7.059	-7.200	3.35	-3.709	
106T	53	802.11ax- HE20	5	5955	-7.157	-7.257	3.35	-3.807	
242T	62	802.11ax- HE160	5	6185	-7.232	-8.526	3.35	-3.882	
484T	S66	802.11ax- HE160	5	6185	-7.115	-7.209	3.35	-3.765	
996T	67	802.11ax- HE80	5	5985	-7.164	-7.361	3.35	-3.814	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. After preliminary test, we present worst case with maximum power of each RU type.
4. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
5. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi
Directional gain: 5925MHz: 10 log[($10^{3.5/10}$ +$10^{3.2/10}$)/2]= 3.35dBi /
6525MHz: 10 log[($10^{2.7/10}$ +$10^{2.5/10}$)/2]= 2.60dBi /7125MHz: 10 log[($10^{2.5/10}$ +$10^{2.1/10}$)/2]= 2.30dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

SKU#2 (with LUXSHARE-ICT Antenna)

Tones	RU Index	Mode	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz) Note 3		Directional Antenna Gain (dBi) Note 5	Max. e.i.r.p Density (dBm/MHz) Note 4	Limit (dBm/MHz)
					ANT A (AUX)	ANT B (Main)			
26T	4	802.11ax- HE20	5	5955	-7.053	-8.289	4.48	-2.573	-1
52T	44	802.11ax- HE80	5	5985	-7.059	-7.200	4.48	-2.579	
106T	53	802.11ax- HE20	5	5955	-7.157	-7.257	4.48	-2.677	
242T	62	802.11ax- HE160	5	6185	-7.232	-8.526	4.48	-2.752	
484T	S66	802.11ax- HE160	5	6185	-7.115	-7.209	4.48	-2.635	
996T	67	802.11ax- HE80	5	5985	-7.164	-7.361	4.48	-2.684	

Note: 1. All results have been included cable loss and Simultaneous Factor [Please refer to KDB 662911 E 2) c)]
2. Each output of PSD = individual spectrum value +10 log (Nant)
3. After preliminary test, we present worst case with maximum power of each RU type.
4. Max. e.i.r.p Density= The Max. of Power Spectral Density [ANT A (AUX) or ANT B (Main)]+ Directional Antenna Gain
5. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi
Directional gain: 5925MHz: 10 log[($10^{5.85/10}$ +$10^{2.48/10}$)/2]= 4.48dBi /
6525MHz: 10 log[($10^{1.19/10}$ +$10^{1.38/10}$)/2]= 1.29dBi /7125MHz: 10 log[($10^{3.99/10}$ +$10^{1.89/10}$)/2]= 3.07dBi
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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New Taipei City244, Taiwan

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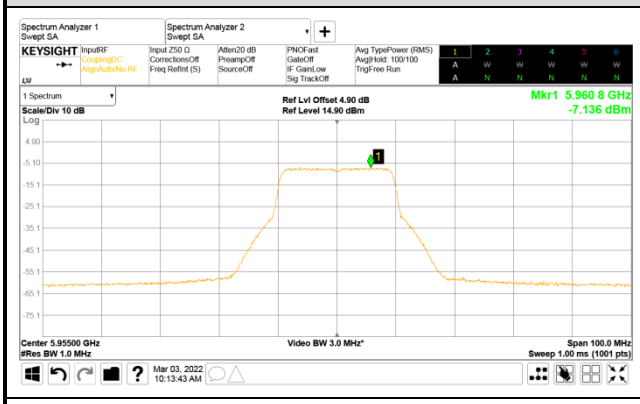
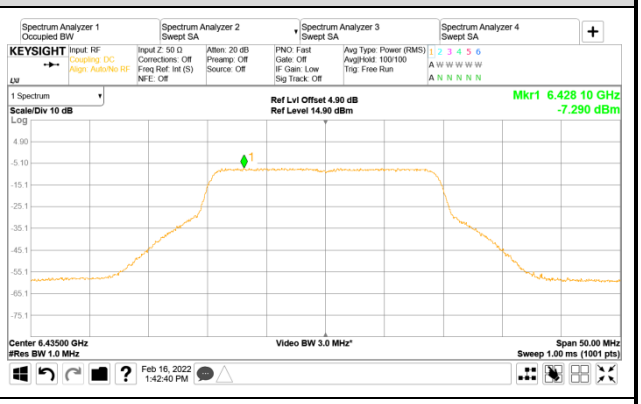
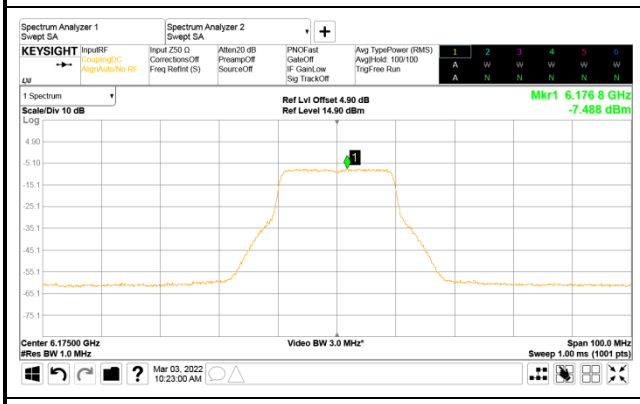
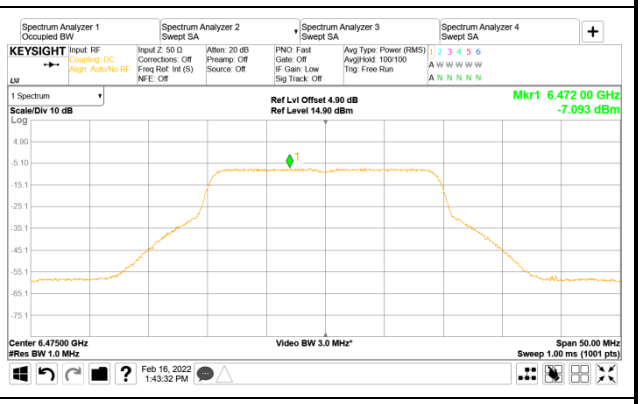
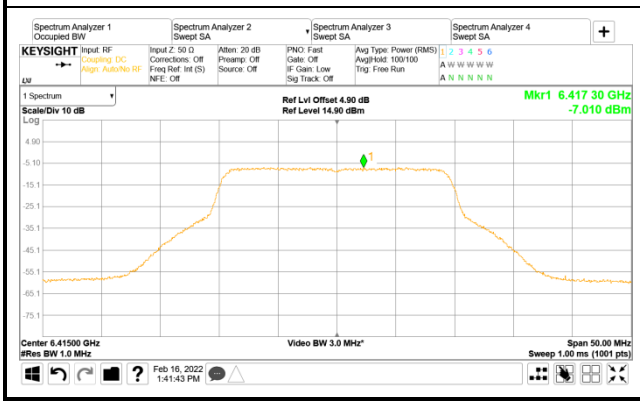
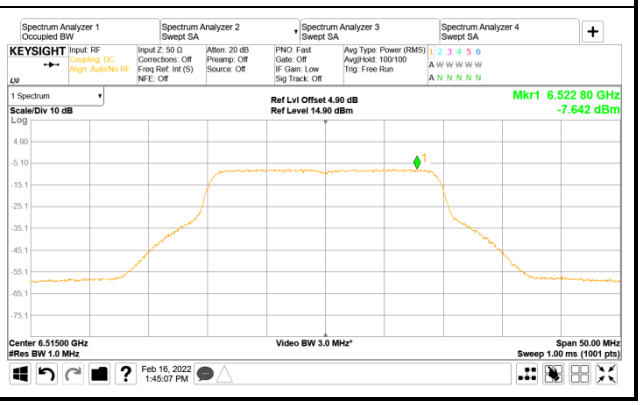
Fax: +886 2 26099303

A.3.2 Measurement Plots

- OFDM Modulation

ANT A (AUX) Port	
Mode: 802.11ax-HE20	
U-NII Band 5	U-NII Band 6
	
	
	

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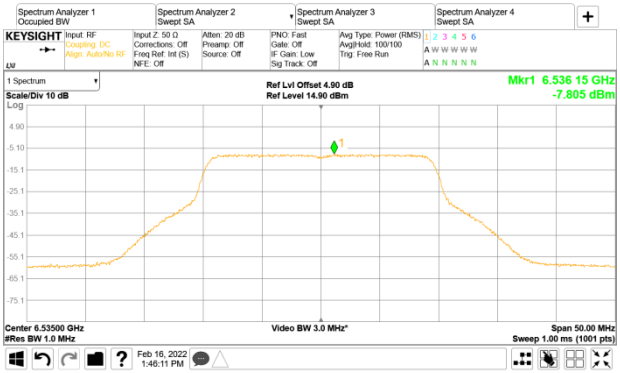
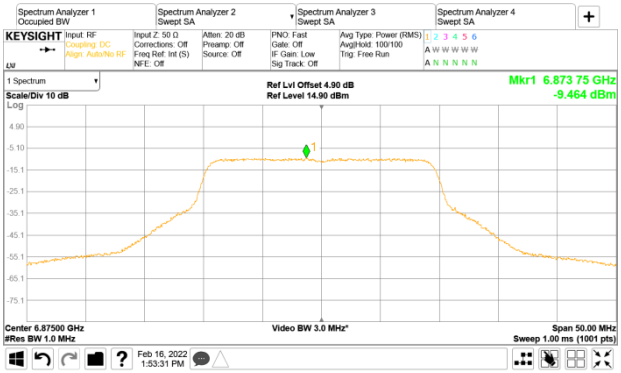
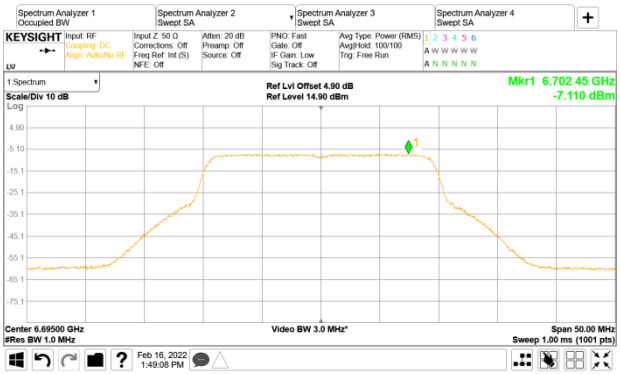
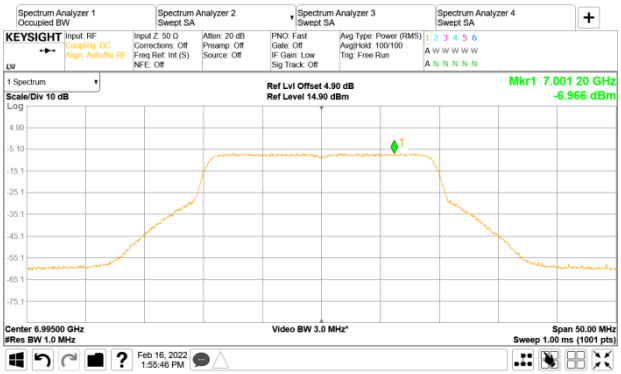
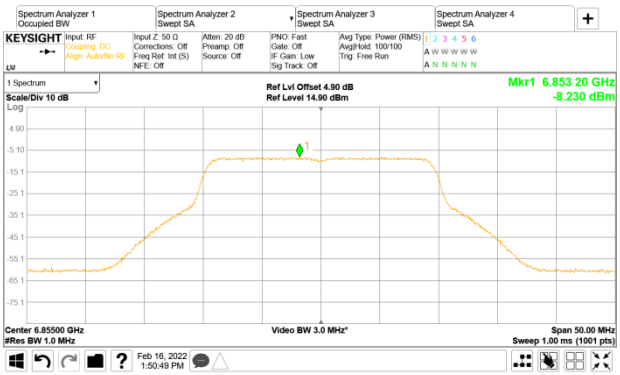
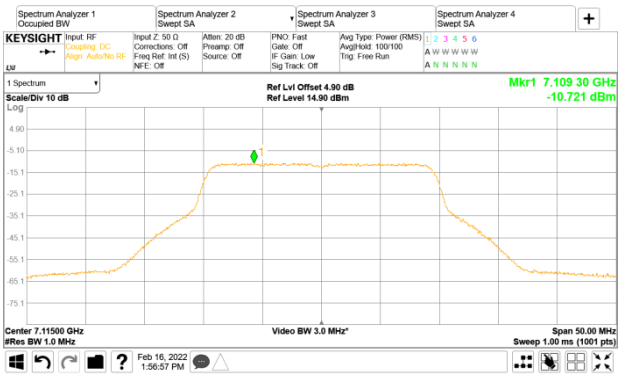
Fax: +886 2 26099303

ANT A (AUX) Port	
Mode: 802.11ax-HE20	
U-NII Band 7	U-NII Band 8
	
	
	

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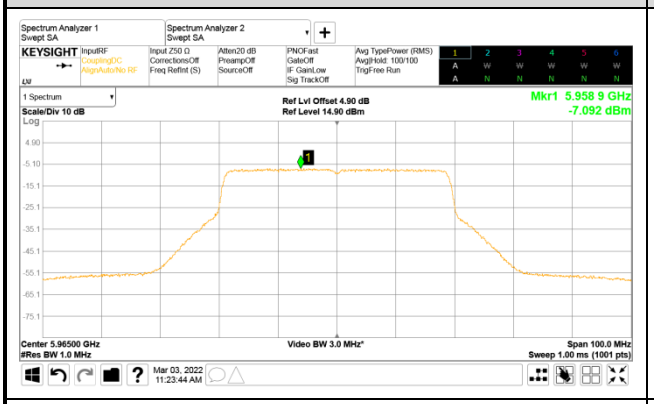
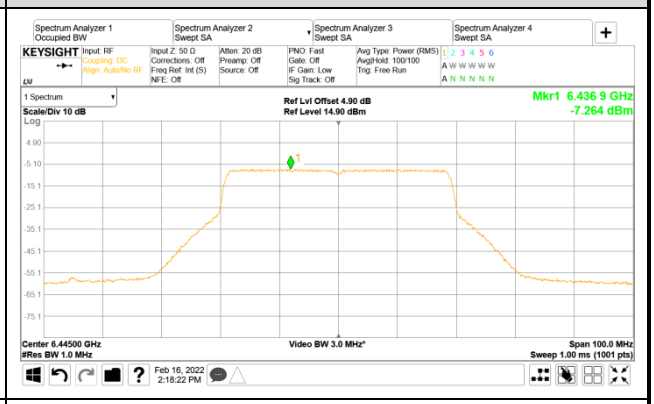
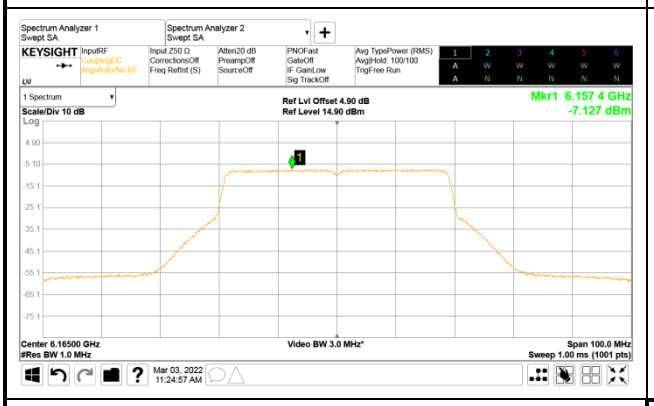
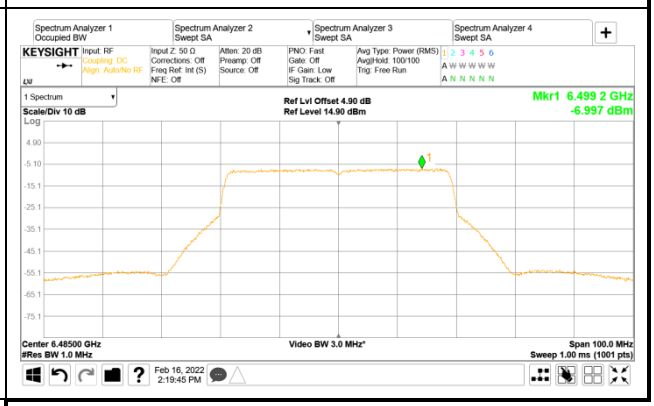
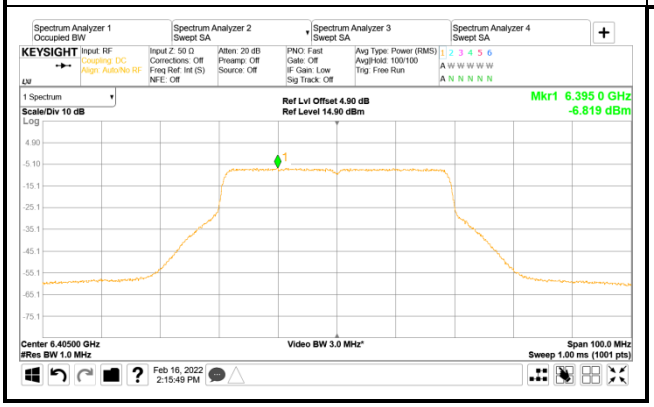
ANT A (AUX) Port	
Mode: 802.11ax-HE40	
U-NII Band 5	U-NII Band 6











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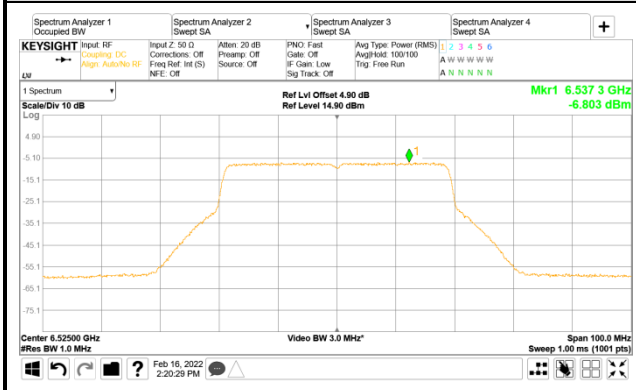
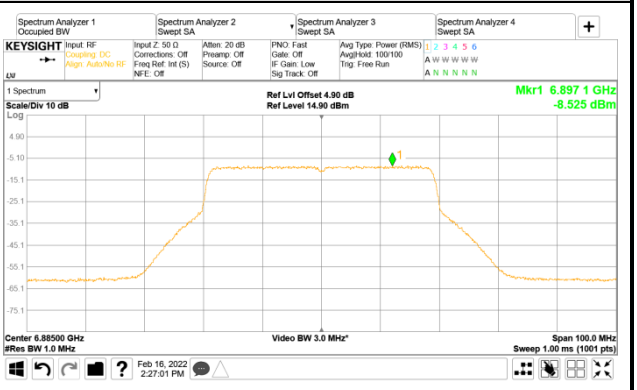
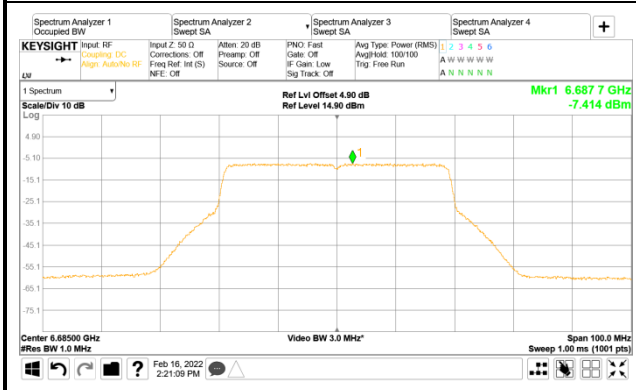
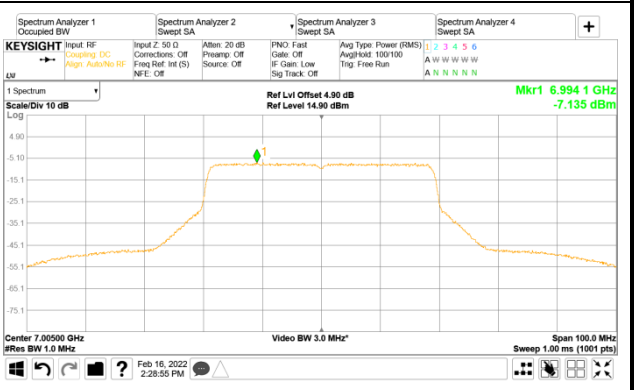
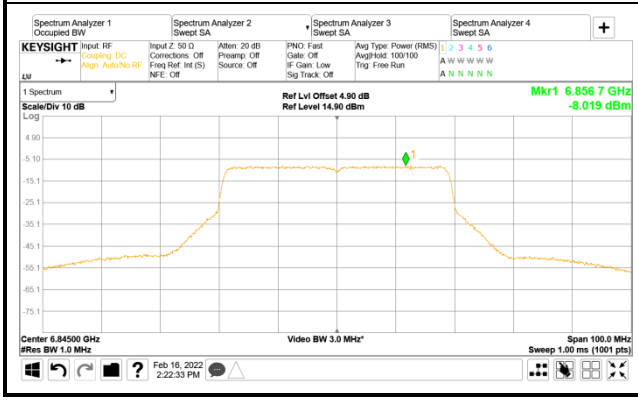
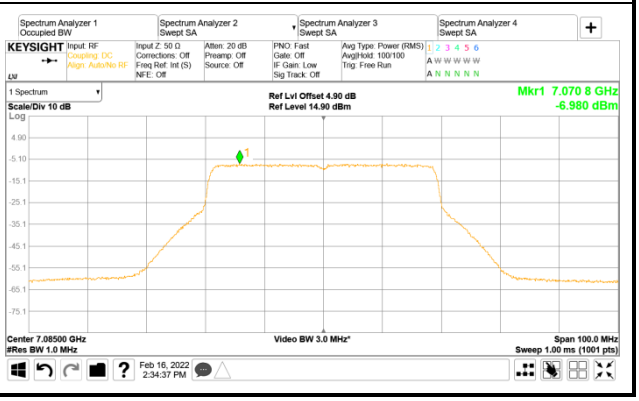
ANT A (AUX) Port	
Mode: 802.11ax-HE40	
U-NII Band 7	U-NII Band 8
	
	
	

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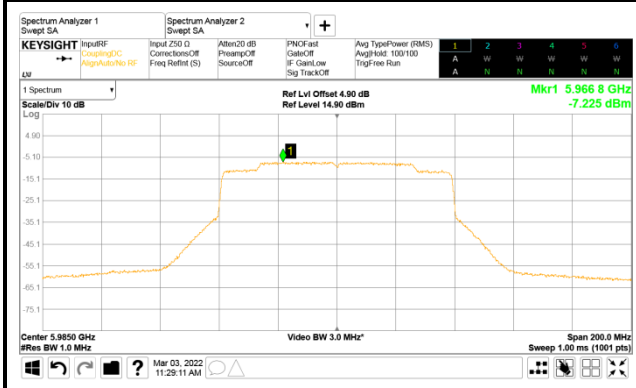
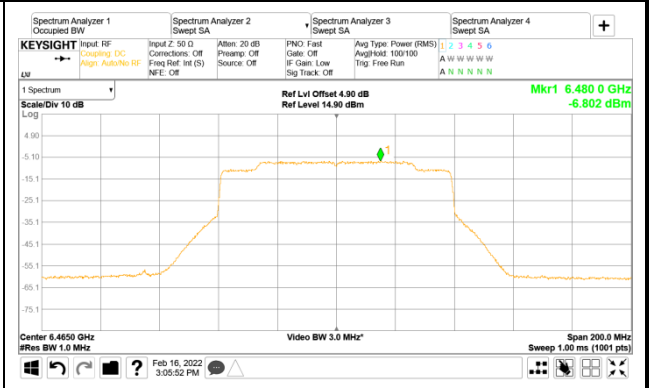
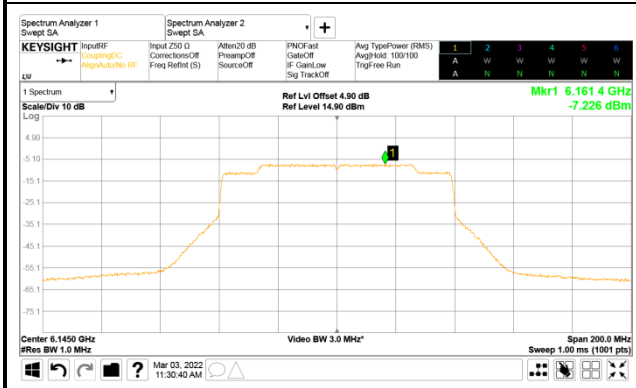
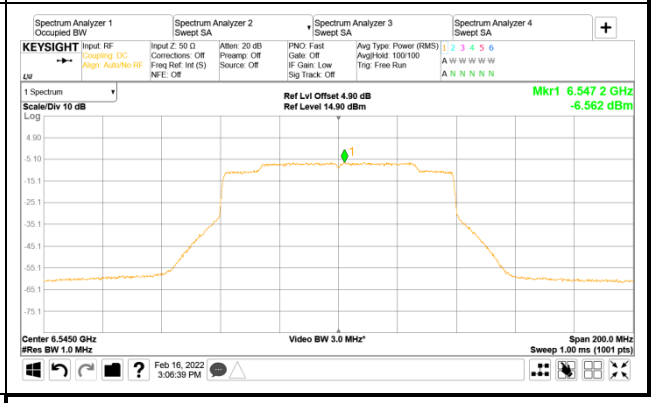
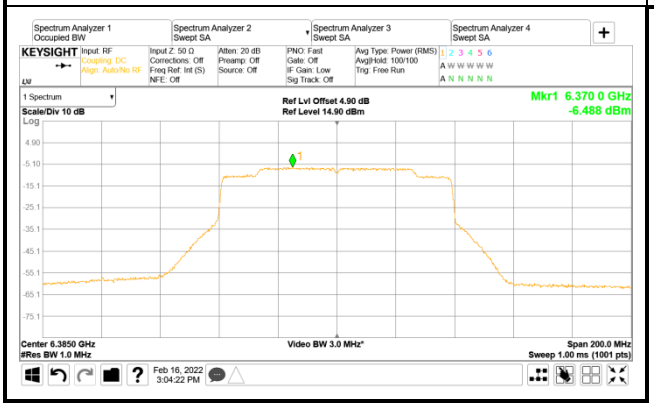
ANT A (AUX) Port	
Mode: 802.11ax-HE80	
U-NII Band 5	U-NII Band 6











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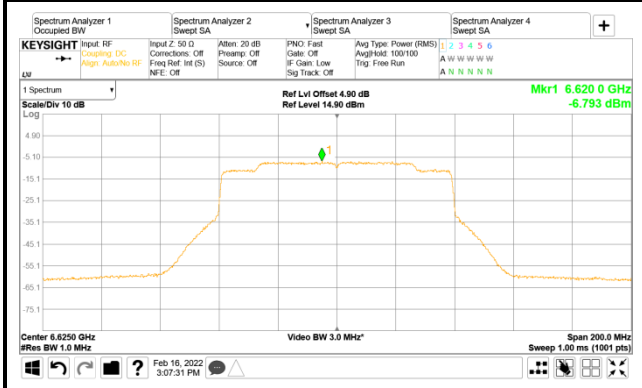
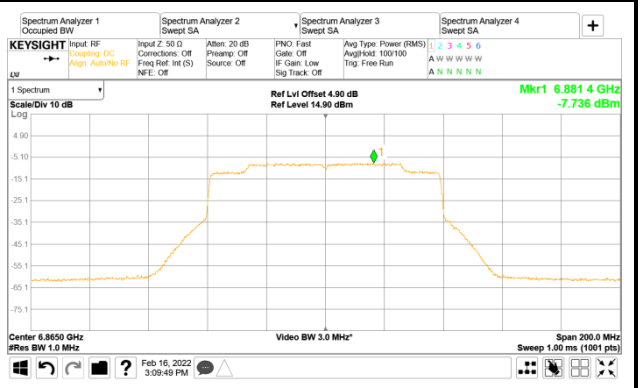
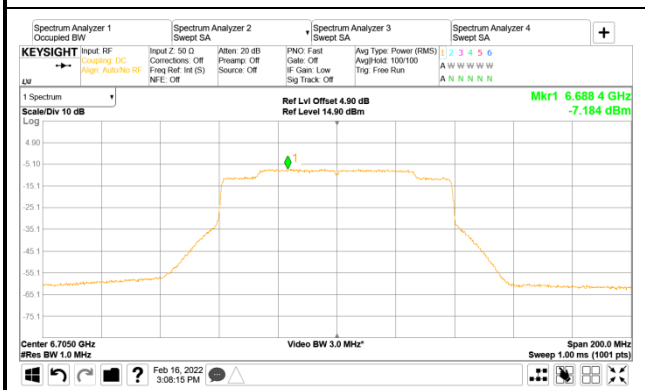
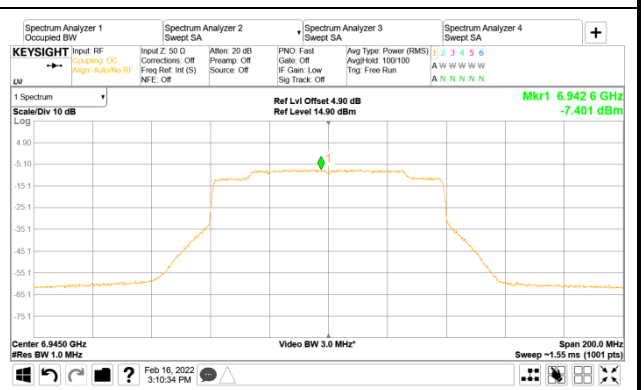
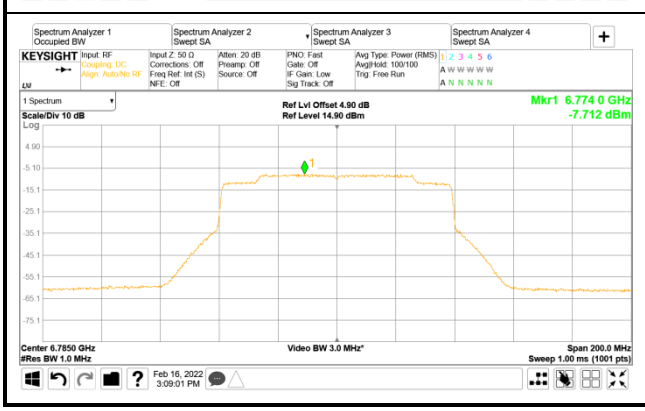
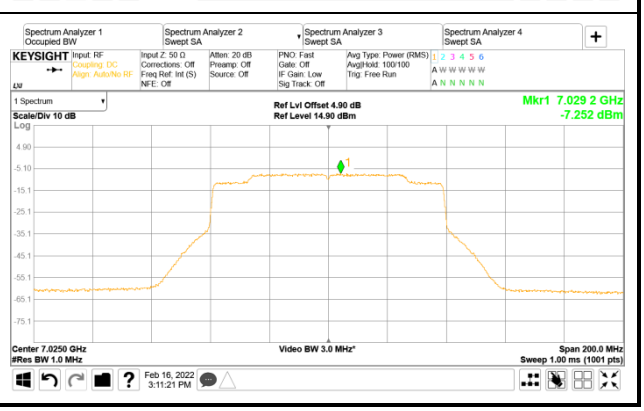
ANT A (AUX) Port	
Mode: 802.11ax-HE80	
U-NII Band 7	U-NII Band 8
	
	
	

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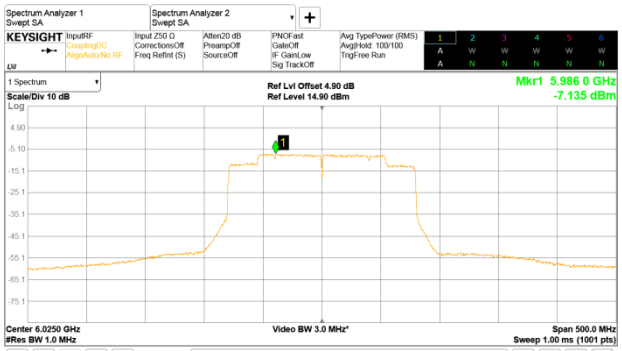
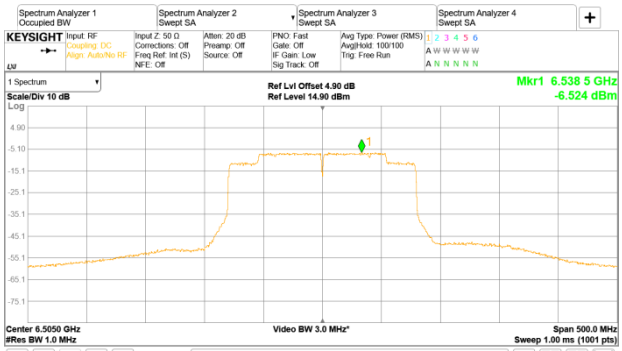
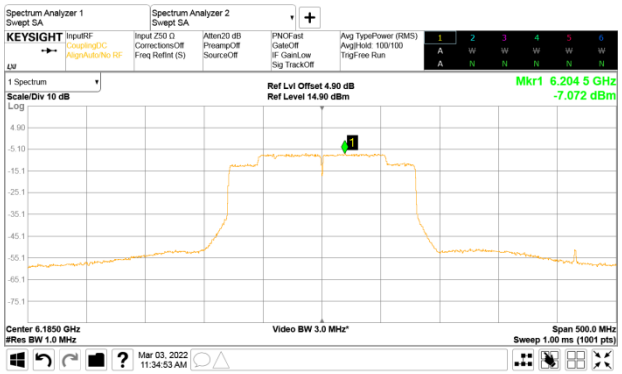
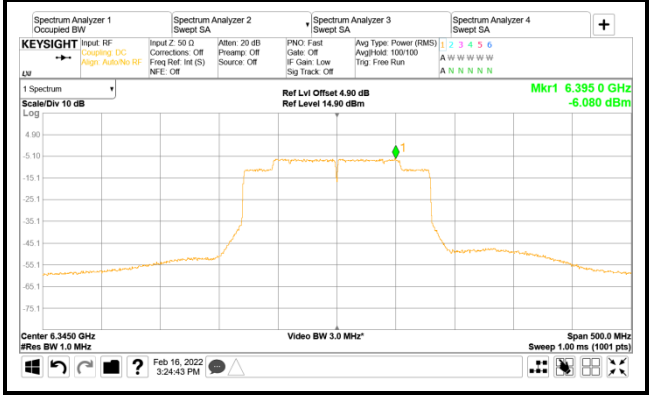
ANT A (AUX) Port	
Mode: 802.11ax-HE160	
U-NII Band 5	U-NII Band 6
	
	
	

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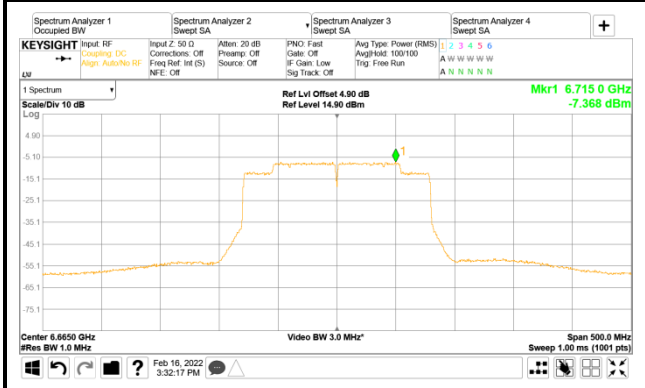
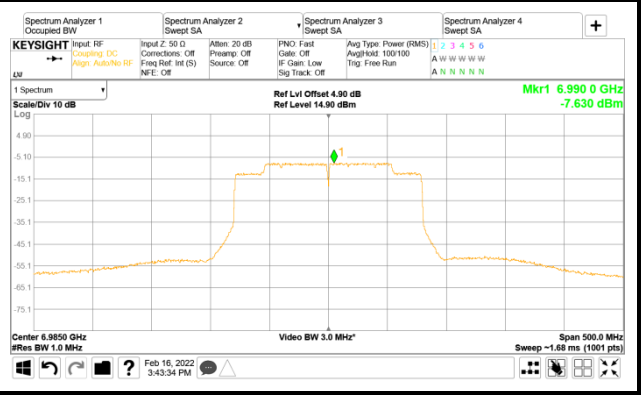
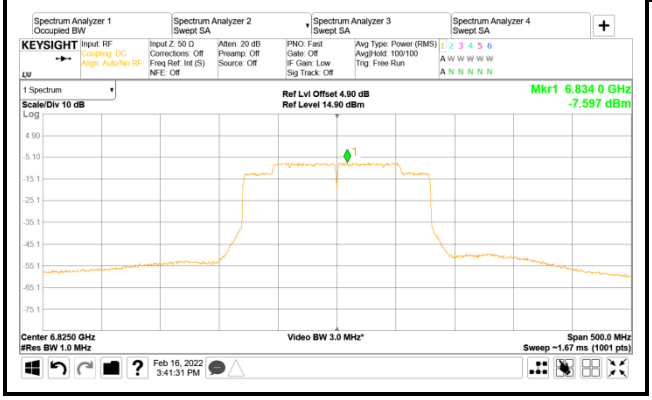
ANT A (AUX) Port	
Mode: 802.11ax-HE160	
U-NII Band 7	U-NII Band 8
	
	

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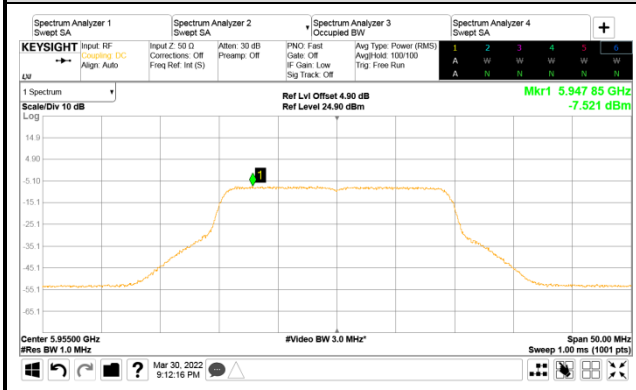
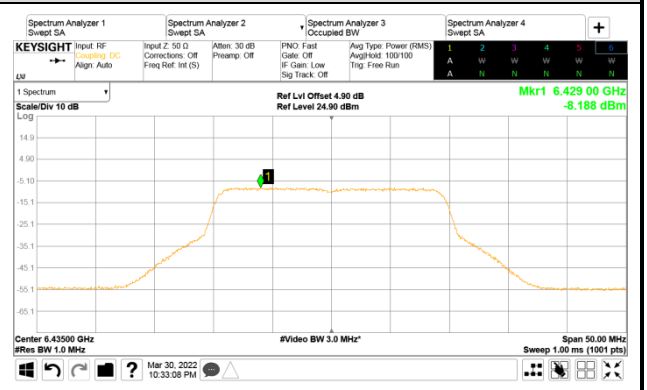
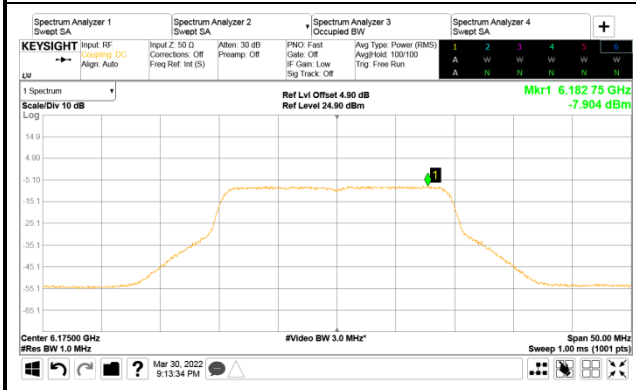
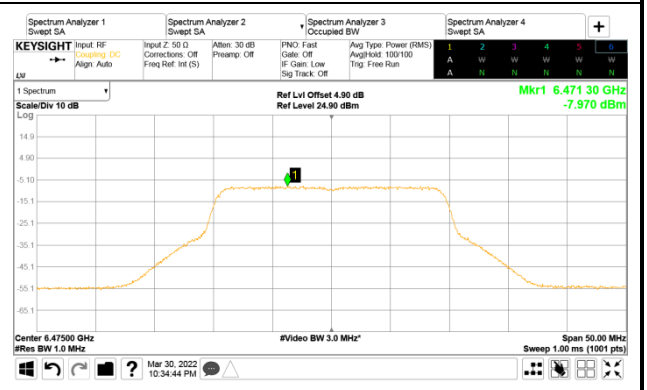
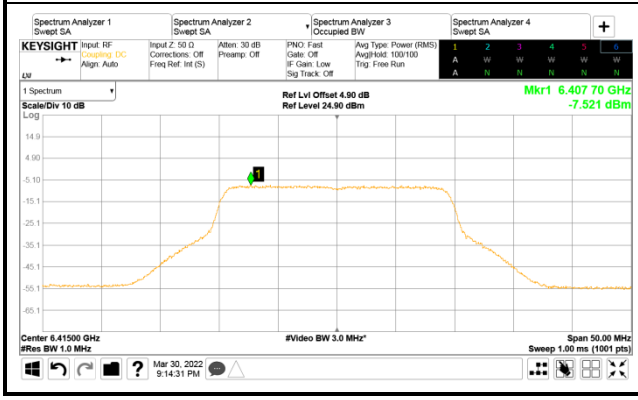
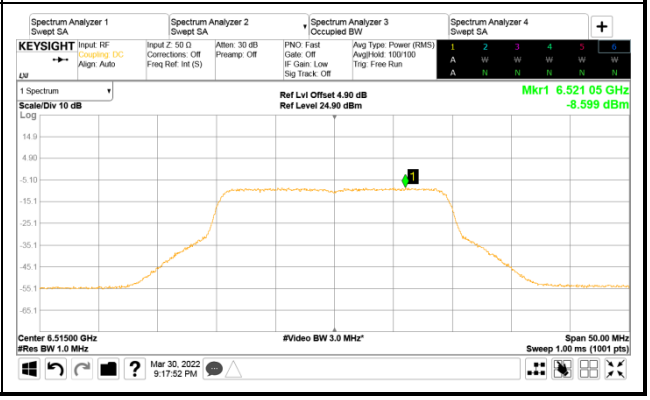
ANT B (Main) Port

ANT B (Main) Port	
Mode: 802.11ax-HE20	
U-NII Band 5	U-NII Band 6
	
	
	

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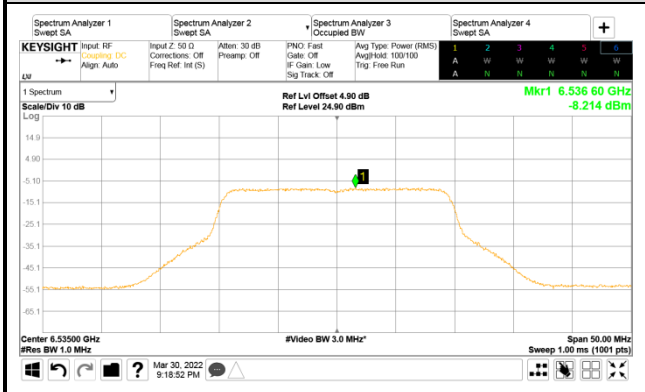
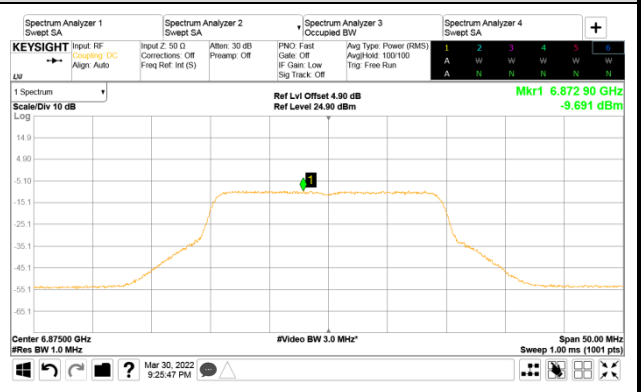
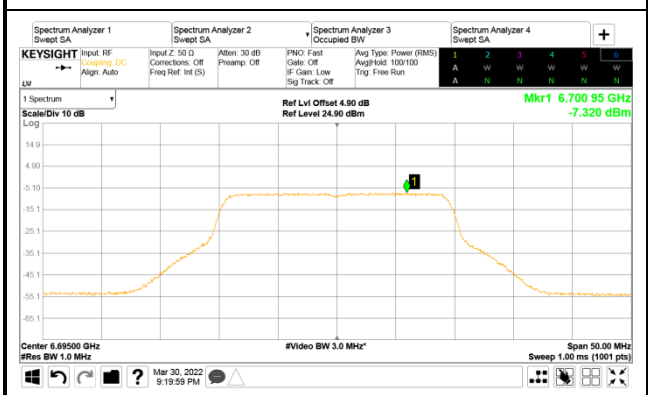
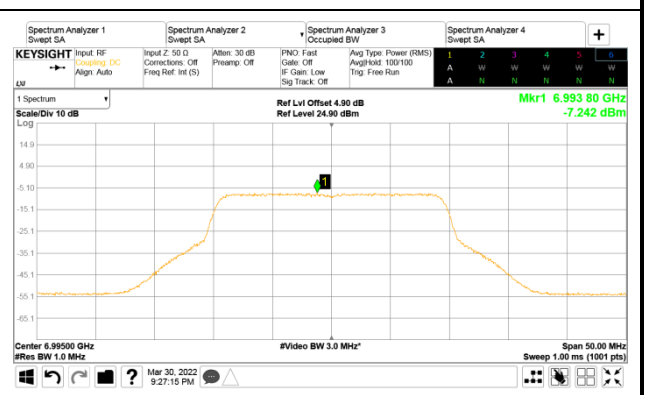
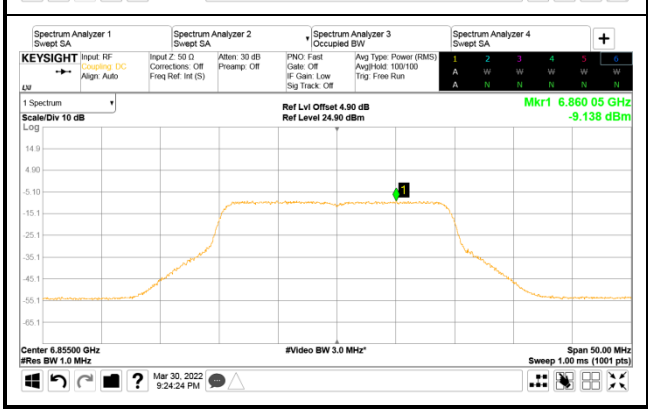
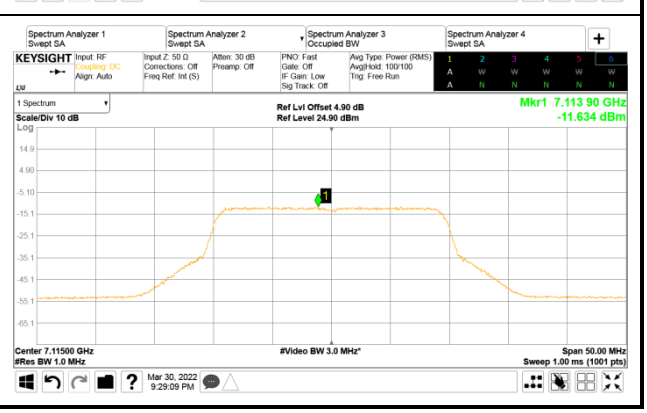
ANT B (Main) Port	
Mode: 802.11ax-HE20	
U-NII Band 7	U-NII Band 8
	
	
	

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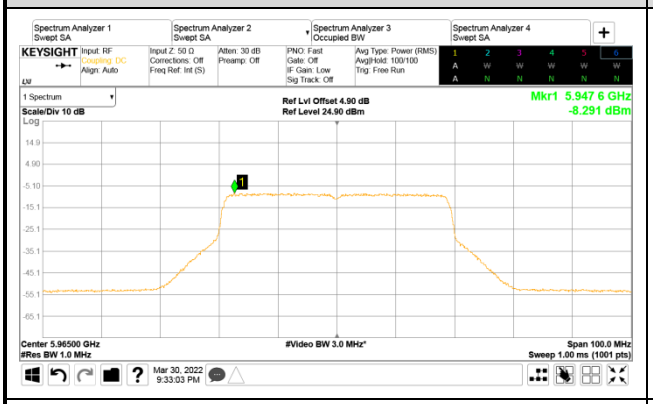
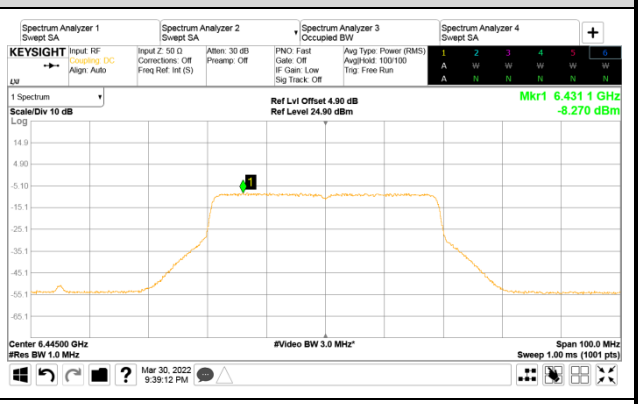
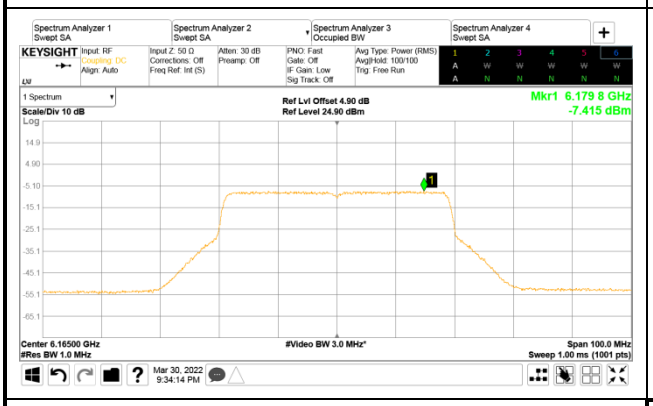
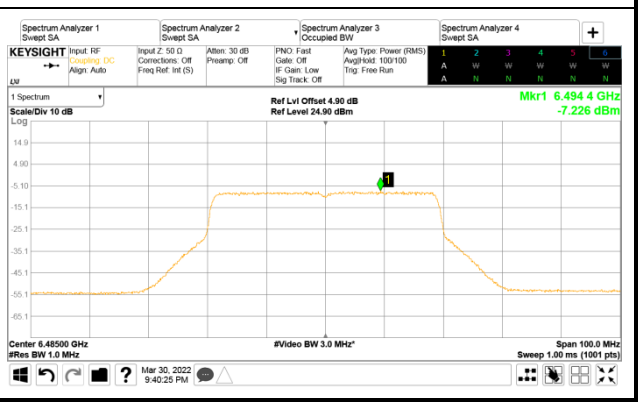
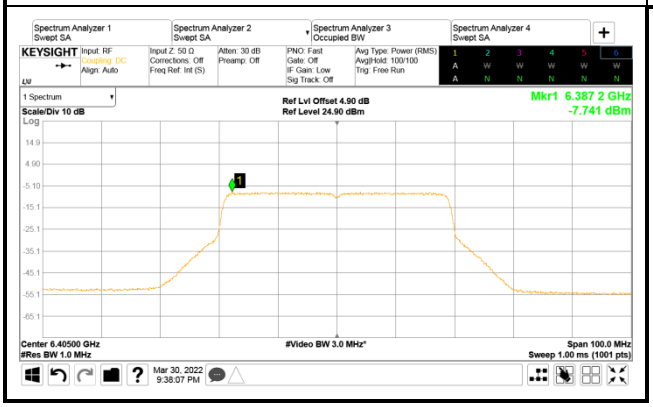
ANT B (Main) Port	
Mode: 802.11ax-HE40	
U-NII Band 5	U-NII Band 6
	
	
	

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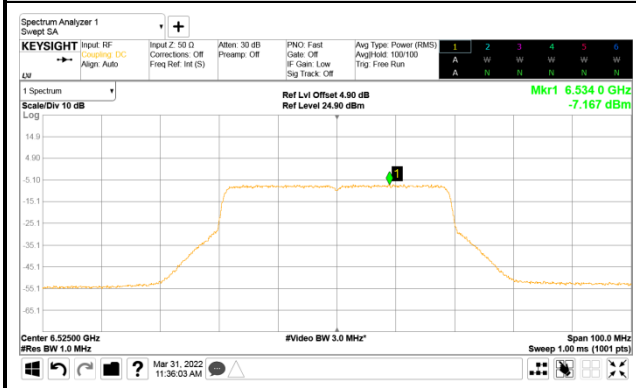
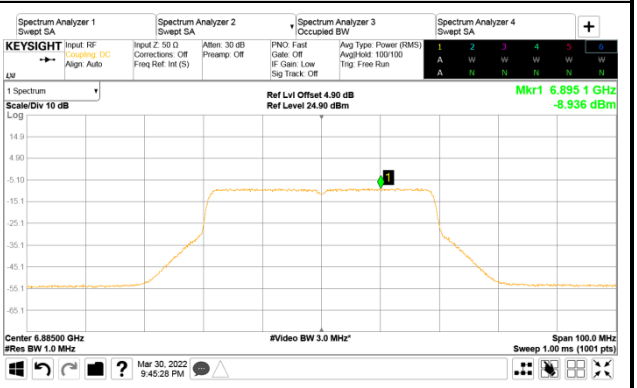
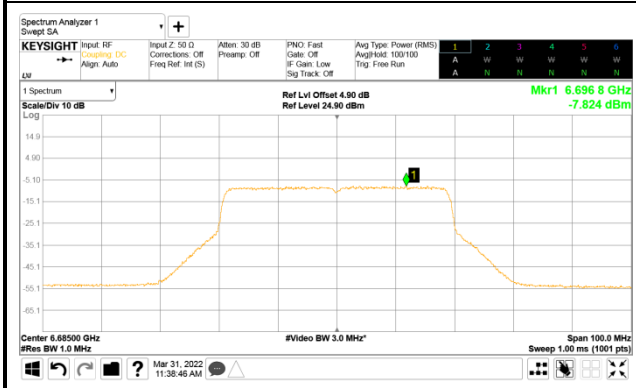
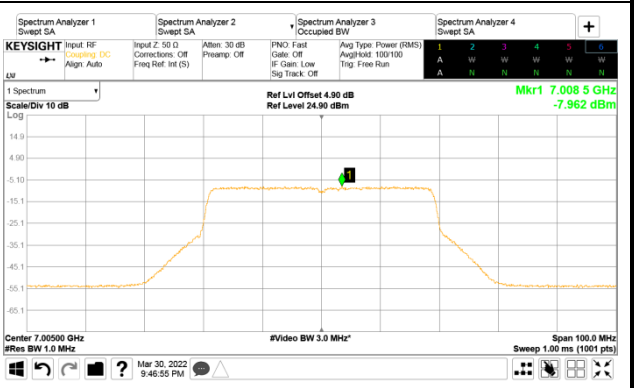
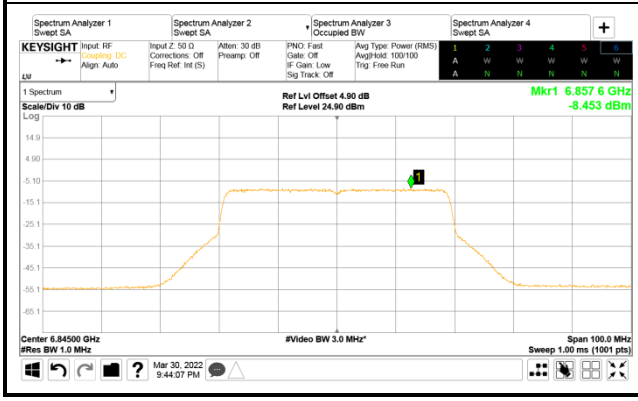
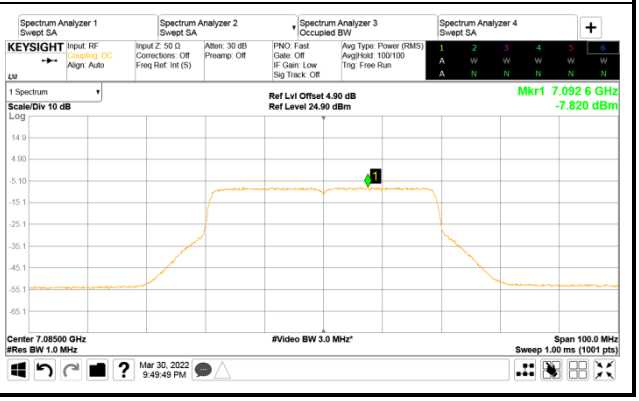
ANT B (Main) Port	
Mode: 802.11ax-HE40	
U-NII Band 7	U-NII Band 8
	
	
	

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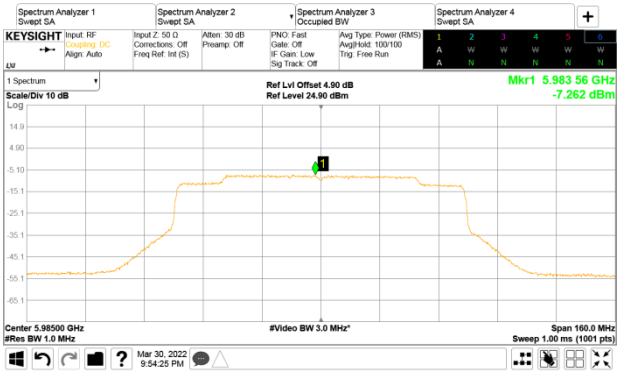
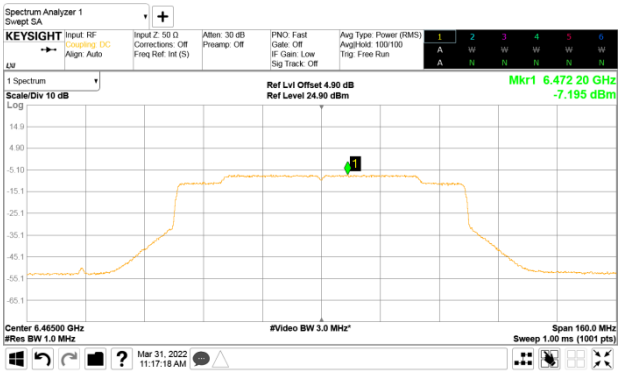
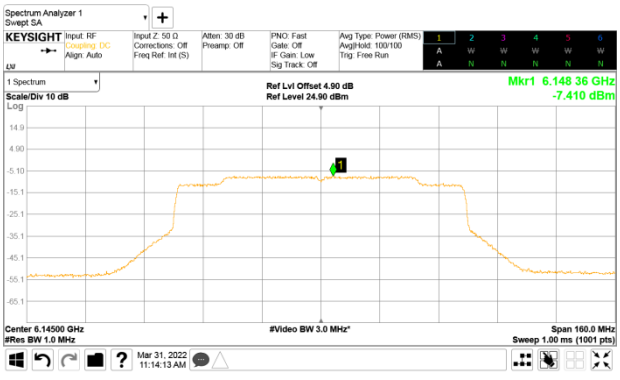
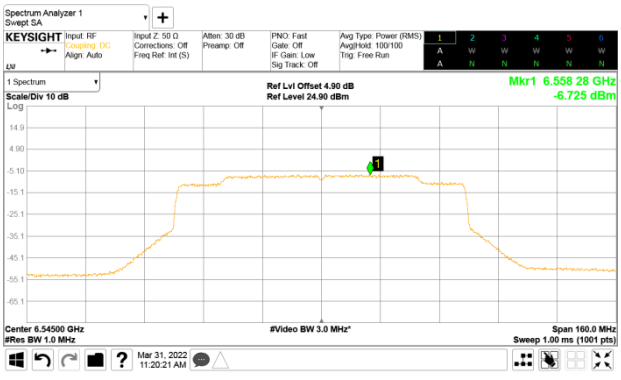
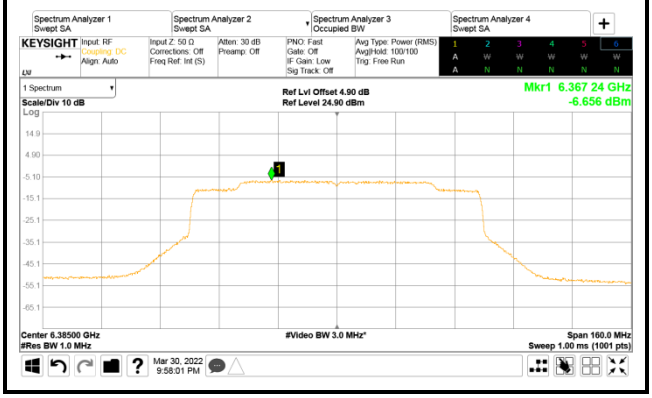
ANT B (Main) Port	
Mode: 802.11ax-HE80	
U-NII Band 5	U-NII Band 6
	
	
	

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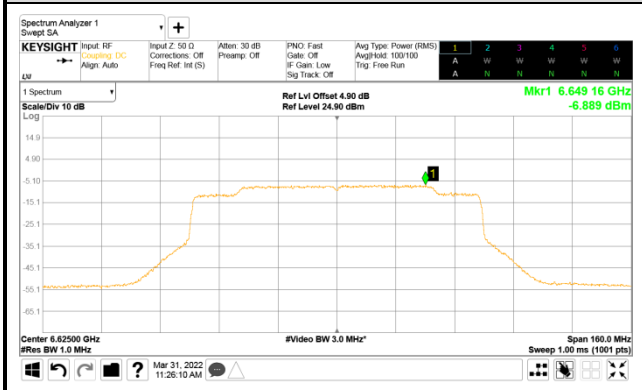
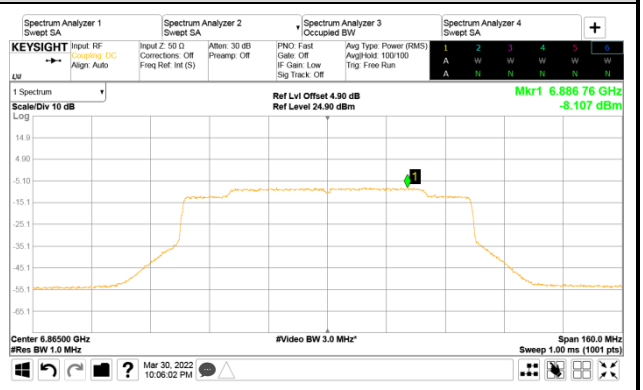
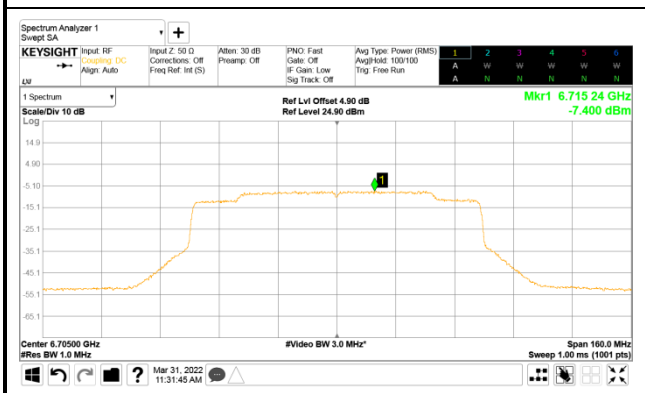
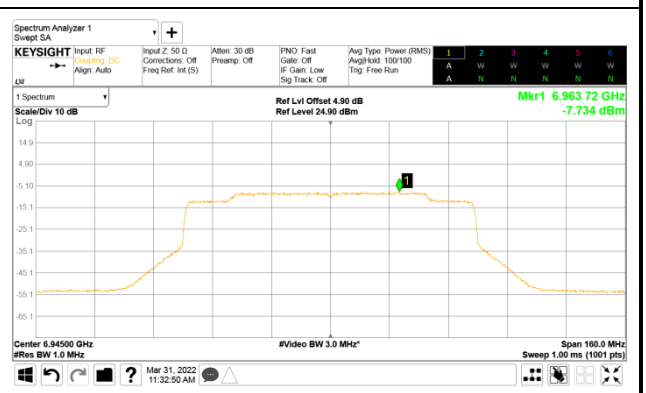
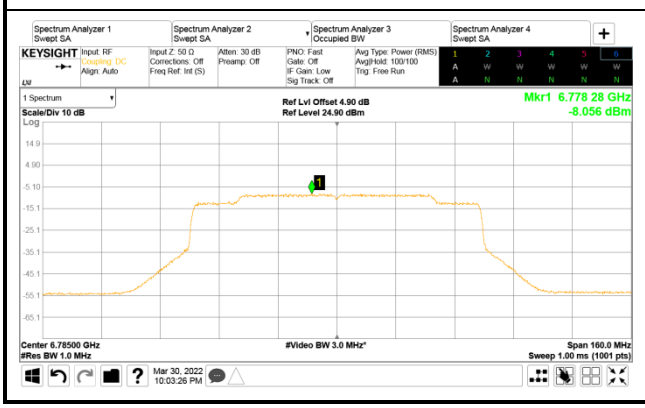
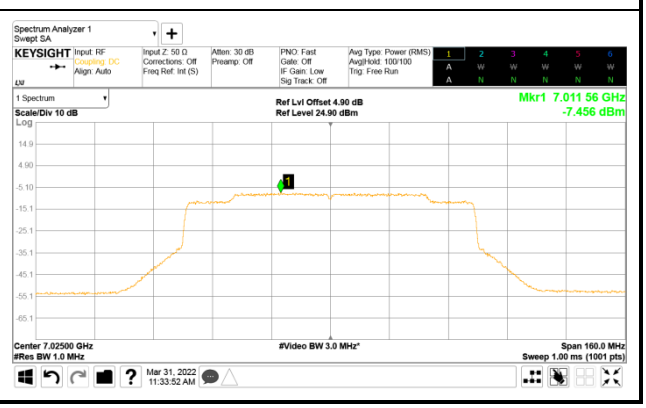
ANT B (Main) Port	
Mode: 802.11ax-HE80	
U-NII Band 7	U-NII Band 8
	
	
	

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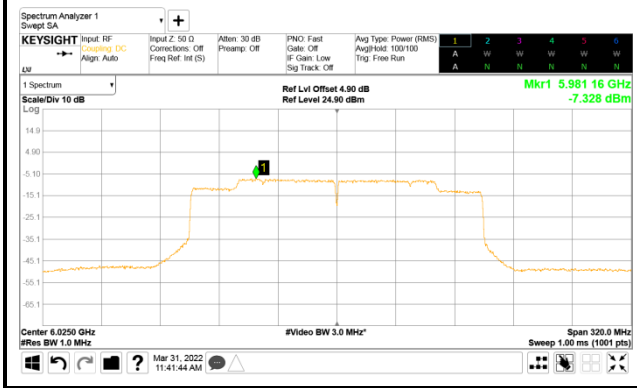
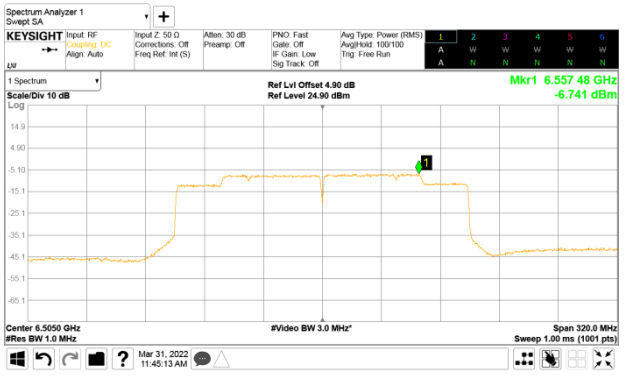
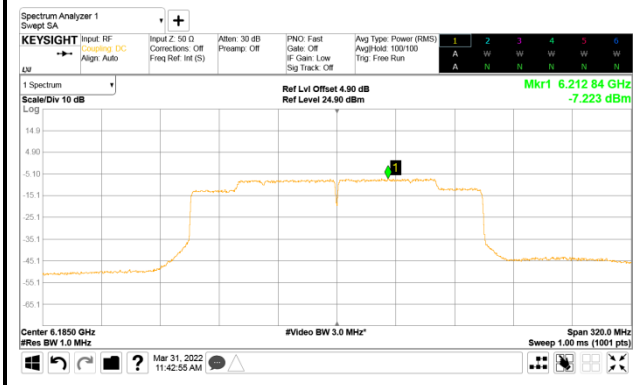
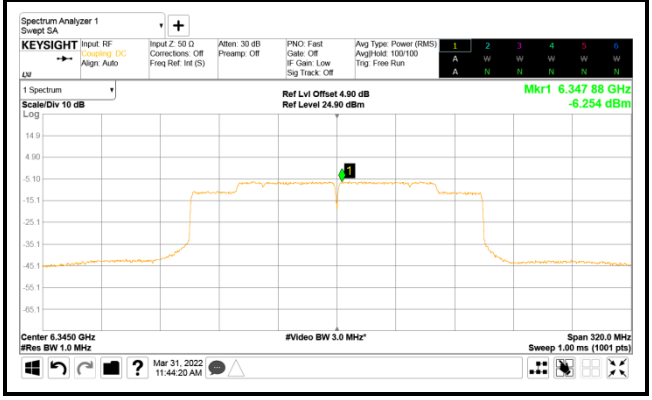
ANT B (Main) Port	
Mode: 802.11ax-HE160	
U-NII Band 5	U-NII Band 6
	
	
	

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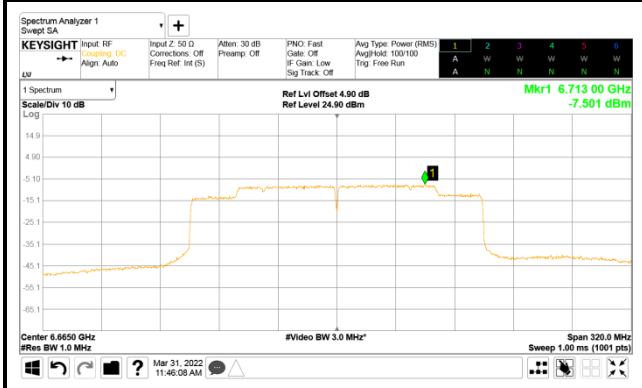
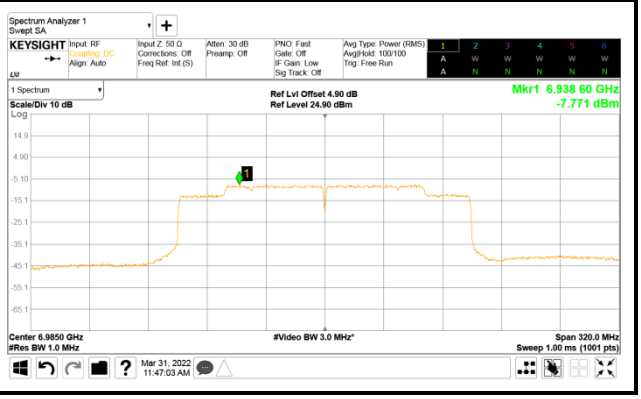
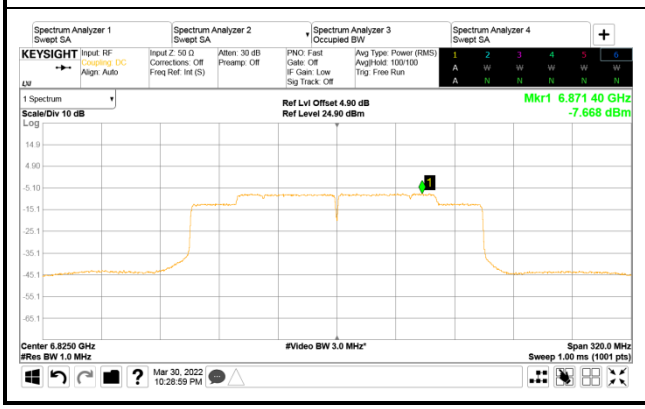
ANT B (Main) Port	
Mode: 802.11ax-HE160	
U-NII Band 7	U-NII Band 8
	
	

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