

A.3 MAXIMUM OUTPUT POWER AND EMISSION/OCCUPIED

BANDWIDTH

Test Date	2024/07/12 ~ 08/22	Temp./Hum.	24 ~ 25°C /52~60%
Cable Loss	1.00dB	Tested By	Harry Huang
Test Voltage	AC 120V 60Hz (Via AC Adapter)		

A.3.1 Average Output Power and Emission/Occupied Bandwidth

Mode 802.11a	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Antenna Gain (dBi)		Max Average Output Power (EIRP) ^{Note 2}	Limit (EIRP)
		Emission (6dB)		Occupied (99%) Bandwidth								
		AUX	Main	AUX	Main	AUX	Main		AUX	Main		
U-NII Band 4	5845	11.96	15.13	16.657	16.650	15.52	15.86	0.101	2.10	0.10	17.72	30
	5865	16.37	12.25	16.512	16.580	15.49	15.89		2.10	0.10	17.69	
	5885	16.39	16.36	16.528	16.595	15.50	16.05		2.10	0.10	17.70	

Note: 1. The results have been included cable loss.

2. Max Average Output Power (EIRP) = Max of average output power (AUX or Main) (dBm)+ Antenna Gain (dBi) + Duty Cycle Factor (dB) when duty cycle is less than 98%.

Mode 802.11n-HT20	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (6dB Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	13.84	15.93	17.765	17.796	15.21	15.70	N/A	1.21	19.68	30
	5865	10.07	15.67	17.726	17.681	15.13	15.53		1.21	19.55	
	5885	11.06	12.97	17.736	17.745	15.07	15.51		1.21	19.52	

Note: 1. The results have been included cable loss.

2. According to KDB 662911 D01 E)1), Total E.I.R.P.(dBm) = Sum to individual output power (dBm)+ Directional gain (dBi) + duty cycle factor(dB) when duty cycle is less than 98%.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{ANT}]$ dBi

Directional gain = $10 \log[(10^{0.1/10} + 10^{2.1/10})/2] = 1.21$ dBi

The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Audix Technology Corp.

No. 491, Zhongfu Rd., Linkou Dist.,

New Taipei City244, Taiwan

Tel: +886 2 26099301

Fax: +886 2 26099303

Mode 802.11n-HT40	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (6dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	35.30	35.75	36.079	36.118	15.42	15.91	N/A	1.21	19.89	30
	5865	36.06	30.24	36.038	36.047	15.42	15.76		1.21	19.81	

Mode 802.11ac- VHT80	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) _{Note3}	Total Average Output Power (EIRP) _{Note2}	Limit (EIRP)
		Emission (6dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5855	53.55	67.73	75.107	75.215	13.95	14.00	N/A	1.21	18.20	30

Mode 802.11ac- VHT160	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (6dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5815	146.40	126.70	153.27	153.27	13.90	13.89	N/A	1.21	18.12	30

Note: 1. The results have been included cable loss.

2. According to KDB 662911 D01 E)1), Total E.I.R.P.(dBm) = Sum to individual output power (dBm)+ Directional gain (dBi) + duty cycle factor(dB) when duty cycle is less than 98%.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{0.1/10} + 10^{2.1/10})/2] = 1.21\text{dBi}$$

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No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Mode 802.11ax- HE20	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	18.52	18.44	18.953	18.938	15.00	15.58	N/A	1.21	19.52	30
	5865	18.42	18.63	18.914	18.882	15.00	15.43		1.21	19.44	
	5885	17.78	18.41	18.897	18.906	15.02	15.41		1.21	19.44	

Mode 802.11ax- HE40	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	35.89	37.20	37.501	37.483	14.29	14.80	N/A	1.21	18.77	30
	5875	34.50	33.85	37.515	37.425	14.26	14.65		1.21	18.68	

Mode 802.11ax- HE80	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5855	66.89	69.48	76.700	76.646	13.89	13.89	N/A	1.21	18.11	30

Mode 802.11ax- HE160	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5815	151.80	146.70	155.46	154.76	13.80	13.83	0.092	1.21	18.13	30

Note: 1. The results have been included cable loss.

2. According to KDB 662911 D01 E)1), Total E.I.R.P.(dBm) = Sum to individual output power (dBm)+ Directional gain (dBi) + duty cycle factor(dB) when duty cycle is less than 98%.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{0.1/10} + 10^{2.1/10})/2] = 1.21 \text{ dBi}$$

The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Mode 802.11be- EHT20	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	18.14	17.99	18.947	18.918	15.06	15.58	N/A	1.21	19.55	30
	5865	16.01	18.25	18.887	18.968	15.06	15.45		1.21	19.48	
	5885	18.21	13.58	18.952	18.898	15.04	15.41		1.21	19.45	

Mode 802.11be- EHT40	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5845	34.70	30.58	37.431	37.419	15.32	15.79	N/A	1.21	19.78	30
	5875	34.13	33.63	37.511	37.494	15.31	15.65		1.21	19.70	

Mode 802.11be- EHT80	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5855	52.48	52.69	76.738	76.727	13.82	13.87	N/A	1.21	18.07	30

Mode 802.11be- EHT160	Centre Frequency (MHz)	Bandwidth(MHz)				Average Output Power (dBm)		Duty Cycle Factor (dB) 10log(1/X)	Directional gain (dBi) ^{Note3}	Total Average Output Power (EIRP) ^{Note2}	Limit (EIRP)
		Emission (26dB) Bandwidth		Occupied (99%) Bandwidth							
		AUX	Main	AUX	Main	AUX	Main				
U-NII Band 4	5815	143.90	143.30	154.96	154.42	13.84	13.92	N/A	1.21	18.10	30

Note: 1. The results have been included cable loss.

2. According to KDB 662911 D01 E)1), Total E.I.R.P.(dBm) = Sum to individual output power (dBm)+ Directional gain (dBi) + duty cycle factor(dB) when duty cycle is less than 98%.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{0.1/10} + 10^{2.1/10})/2] = 1.21 \text{ dBi}$$

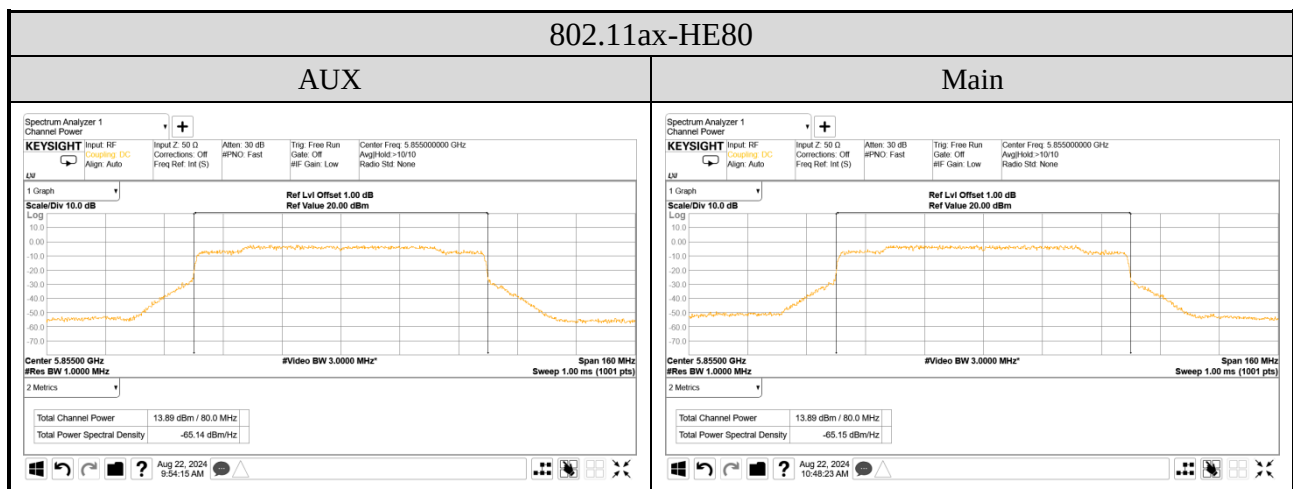
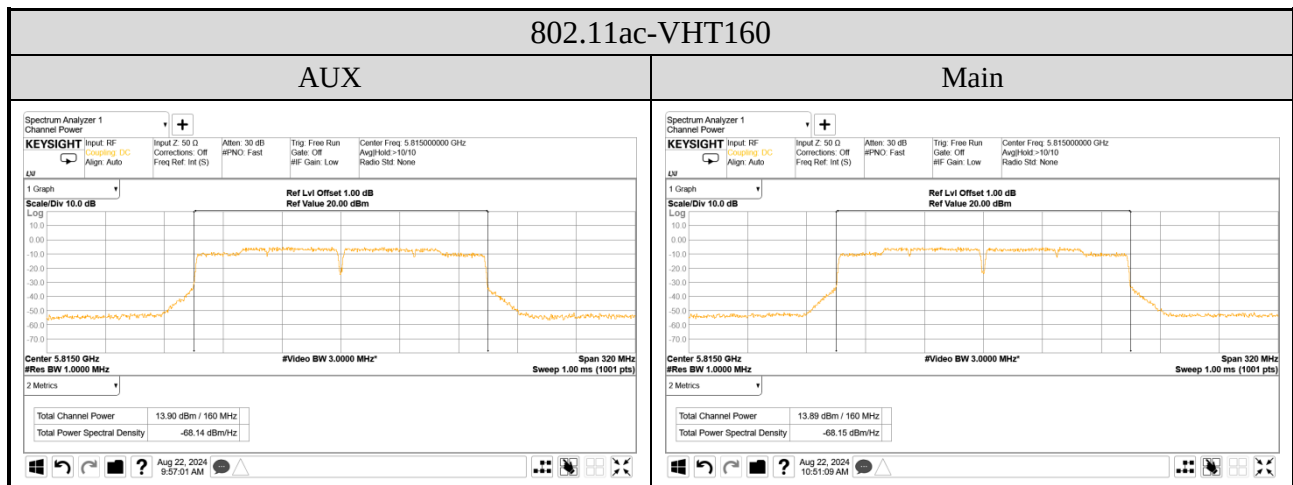
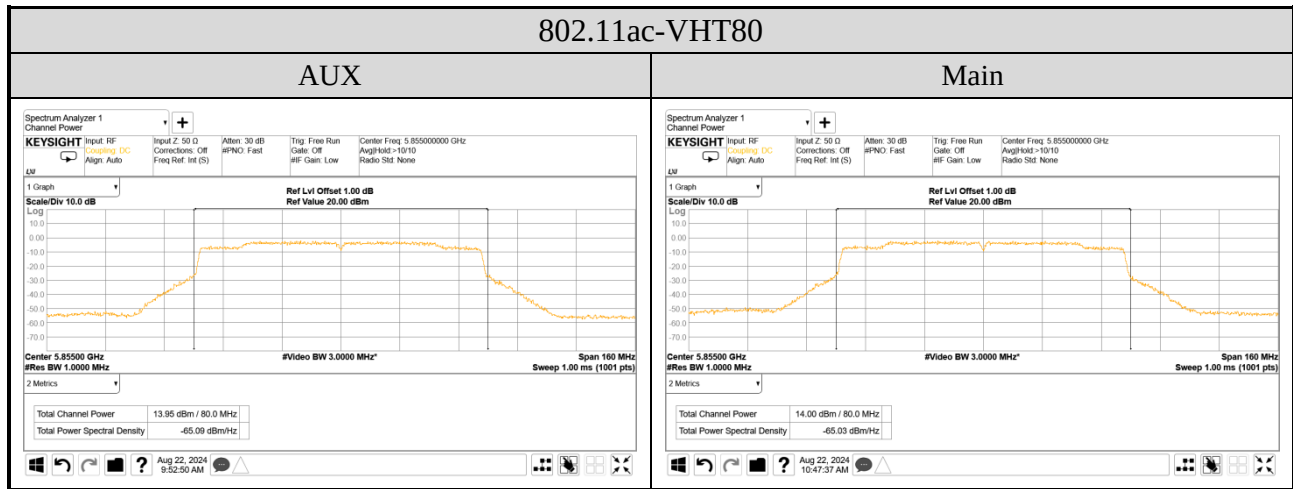
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Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

A.3.2 Measurement Plots

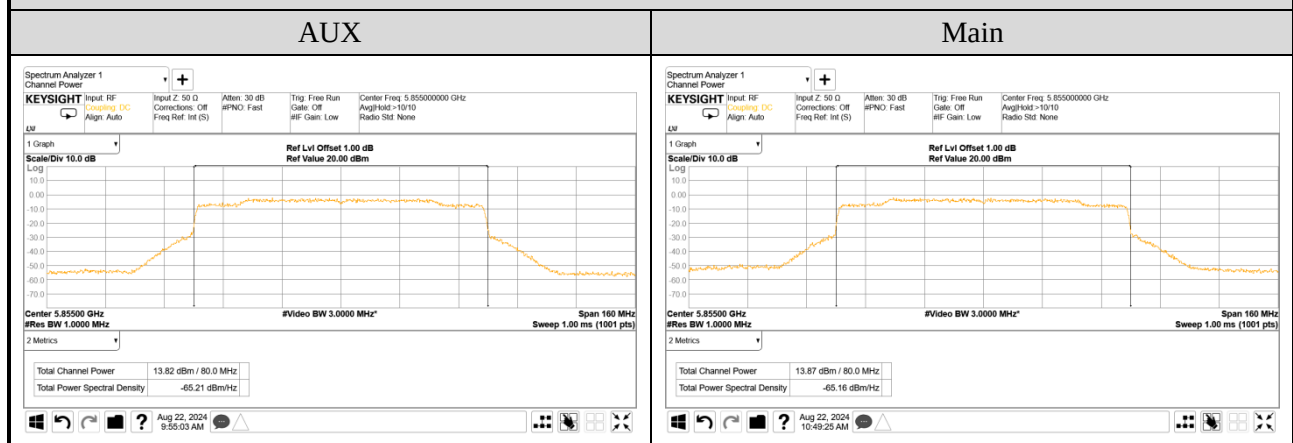
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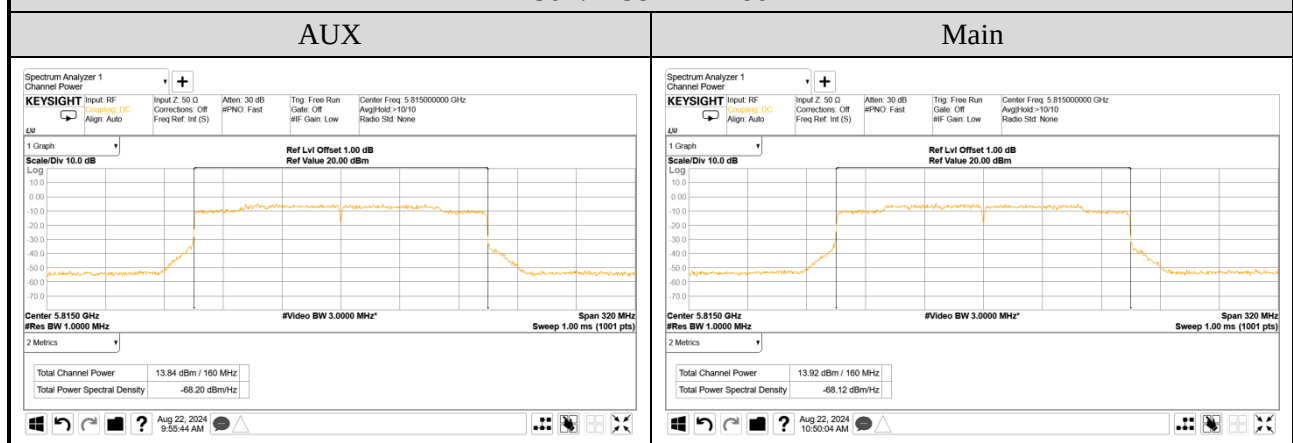
802.11ax-HE160



802.11be-EHT80



802.11be-EHT160

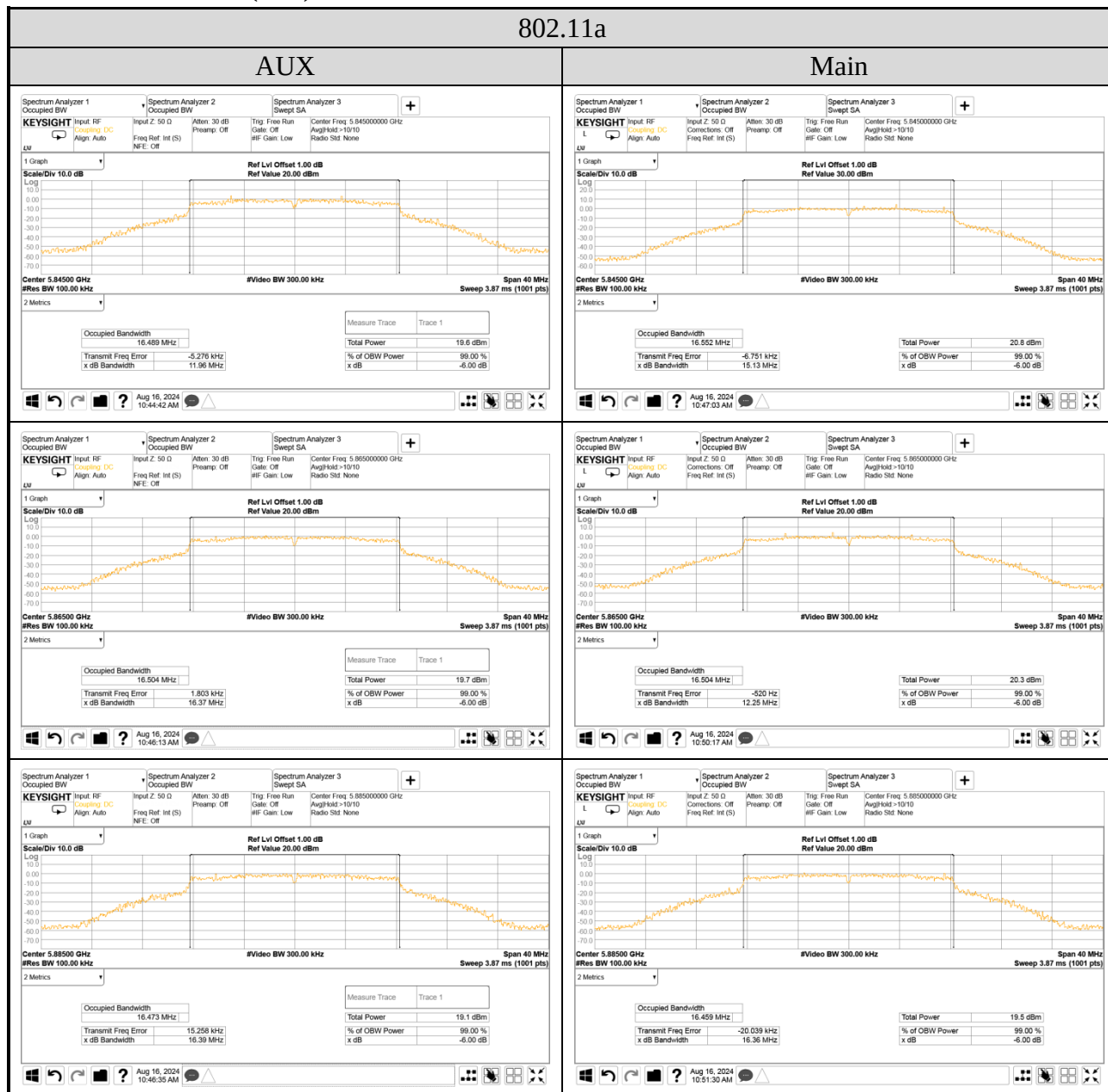


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New Taipei City244, Taiwan

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● Emission (6dB) Bandwidth

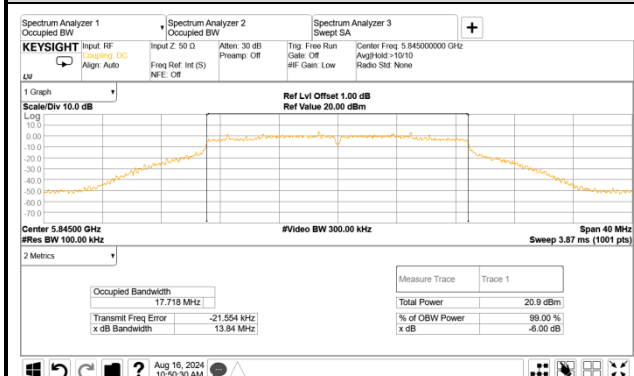


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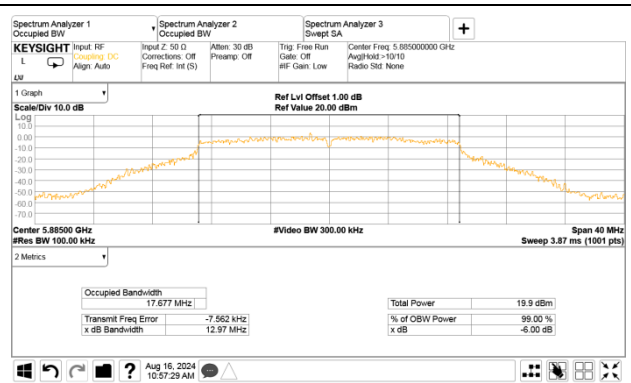
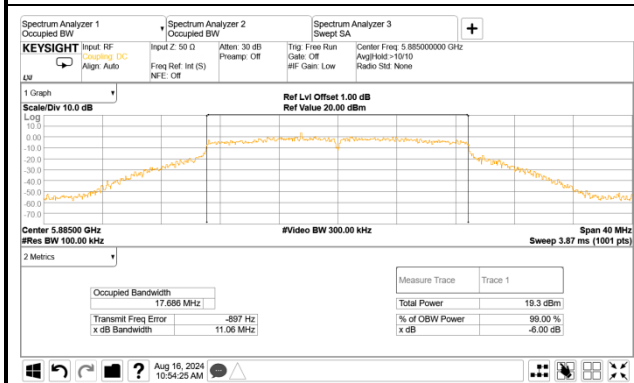
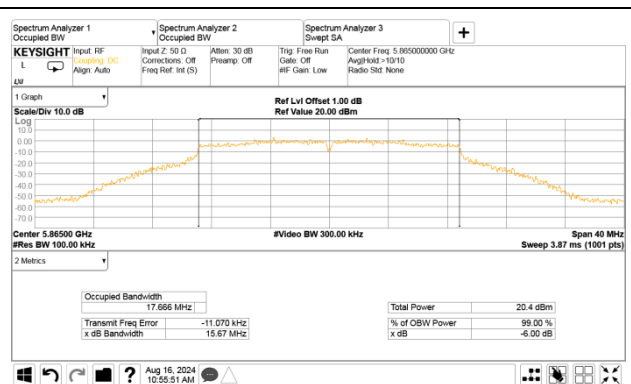
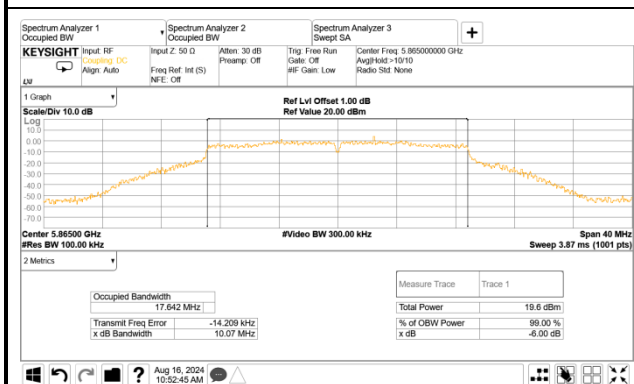
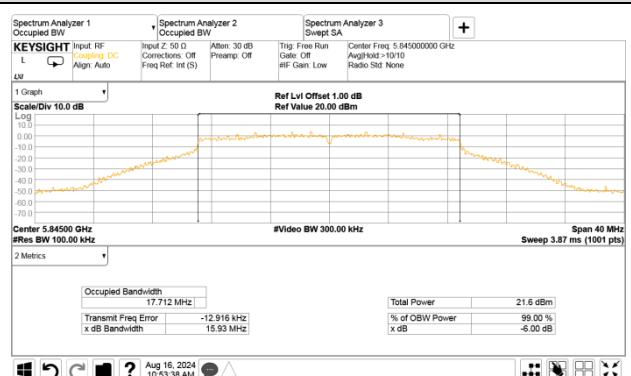
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802.11n-HT20

AUX



Main

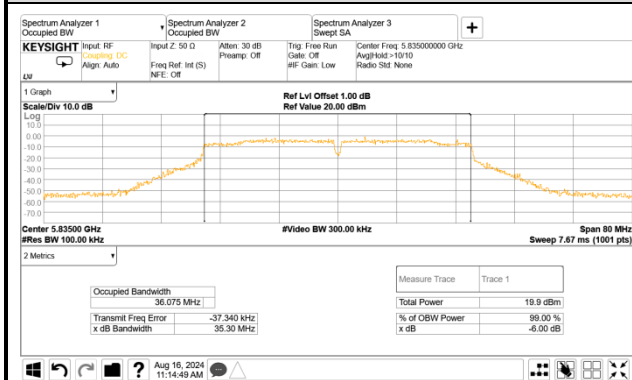


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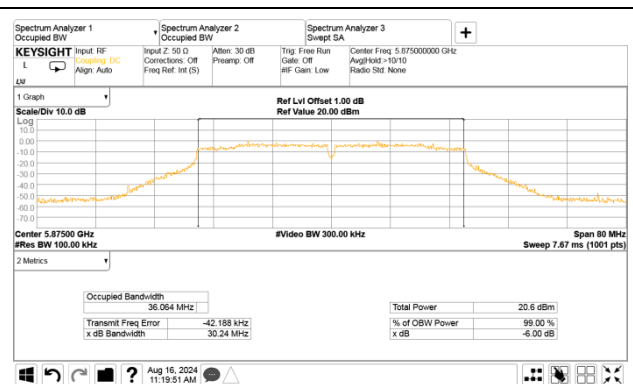
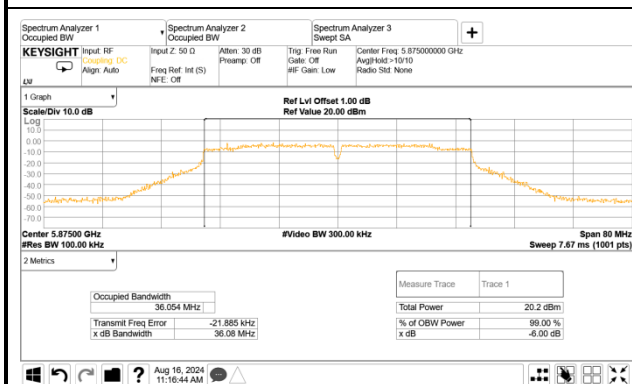
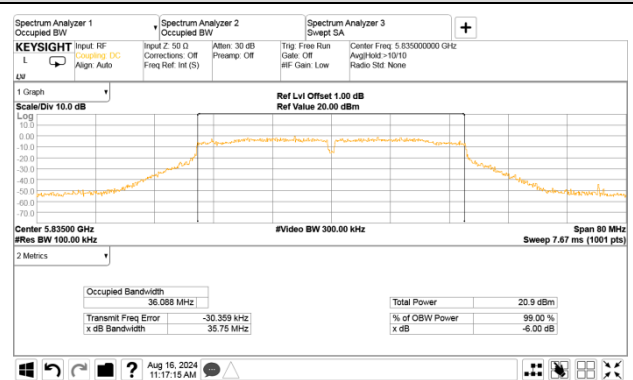
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AUX

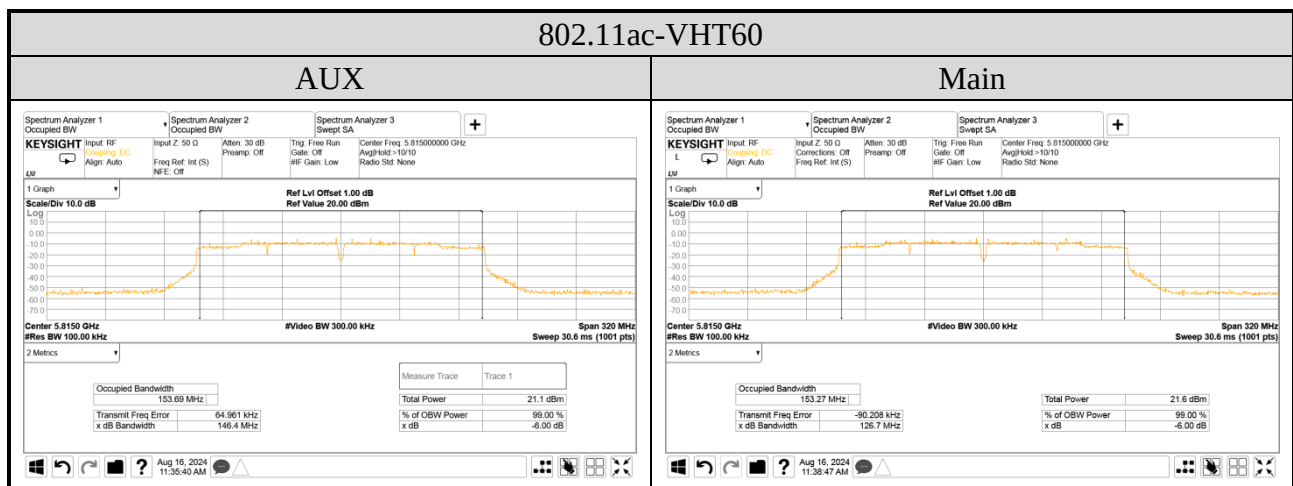
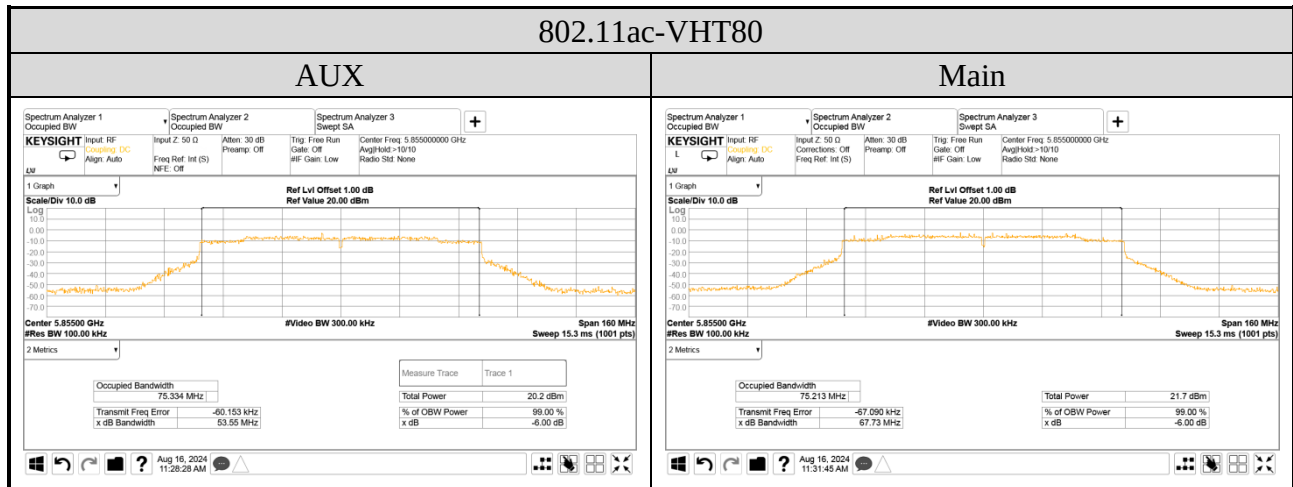


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No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

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Fax: +886 2 26099303

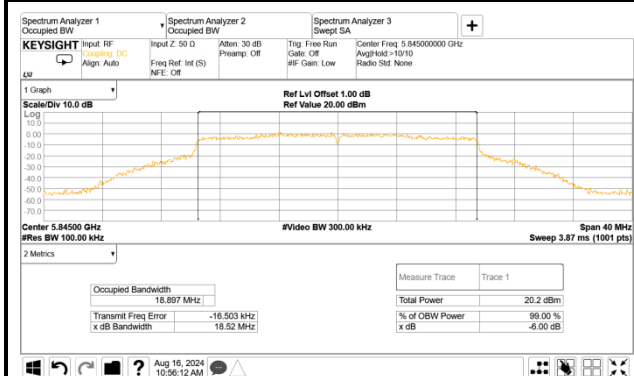


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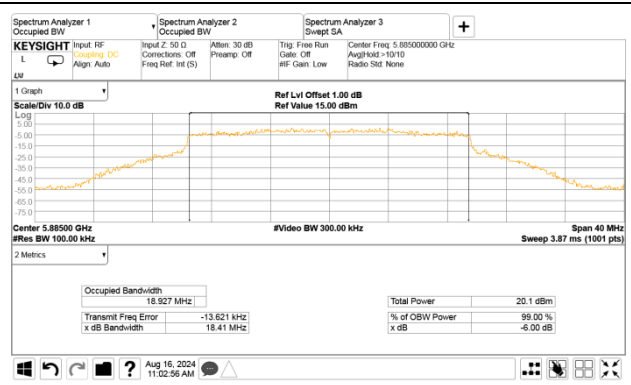
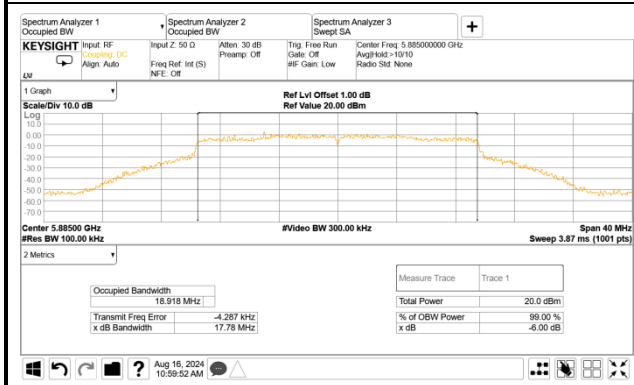
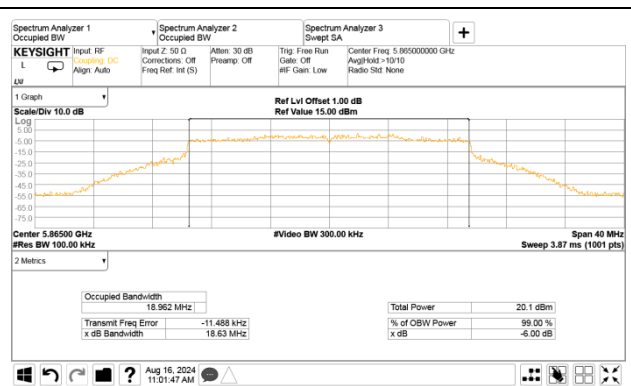
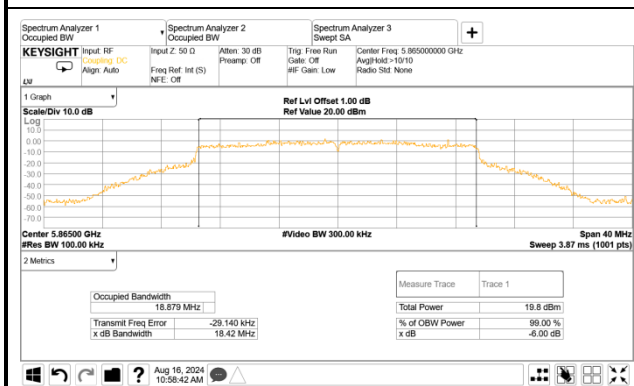
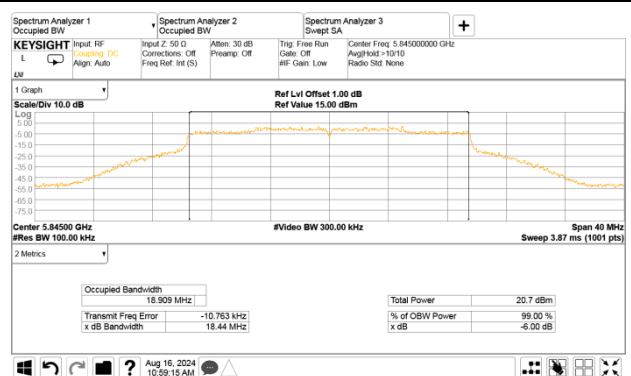
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802.11ax-HE20

AUX



Main

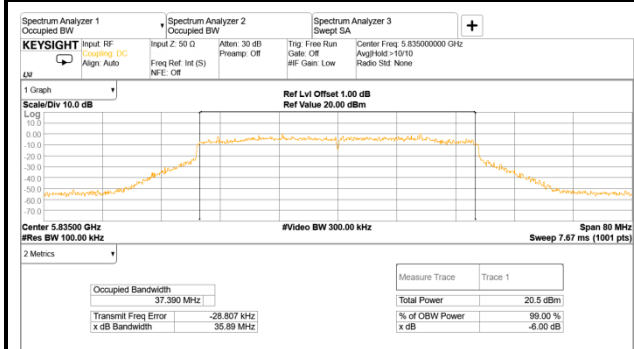


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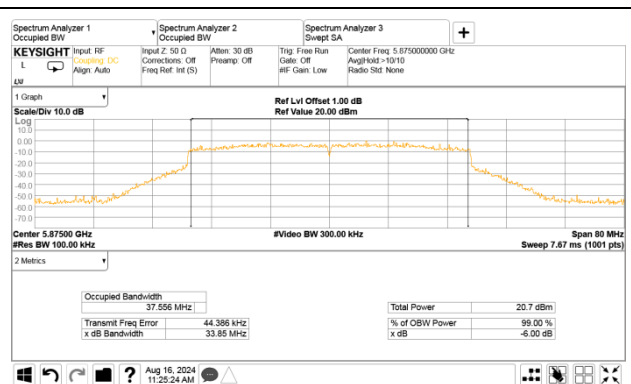
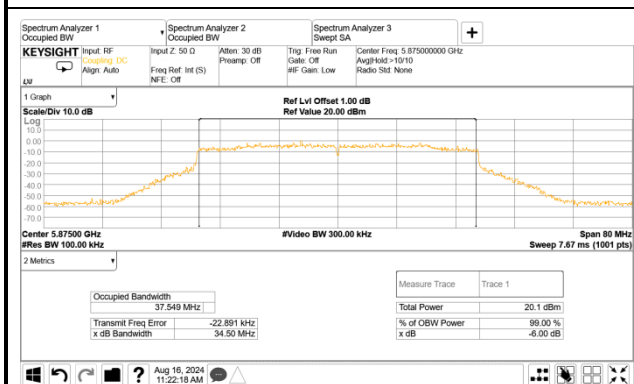
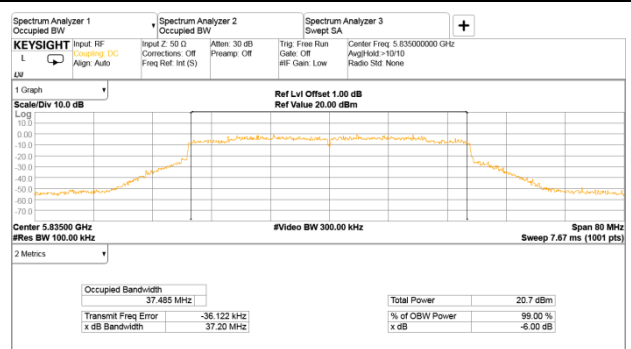
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802.11ax-HE40

AUX



Main

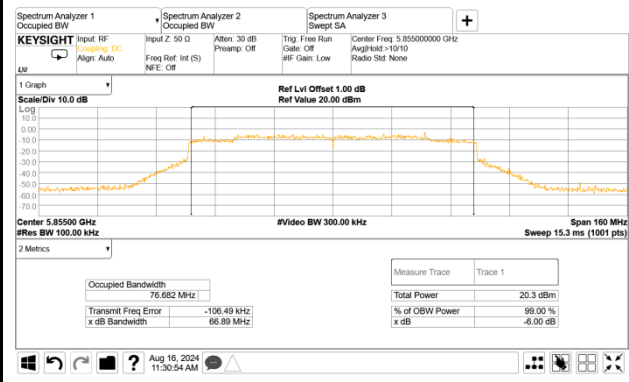


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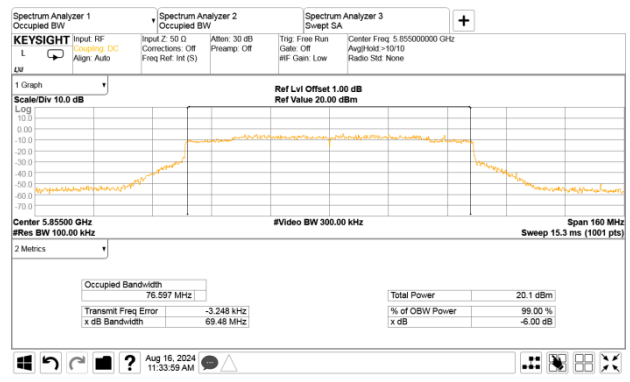
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802.11ax-HE80

AUX

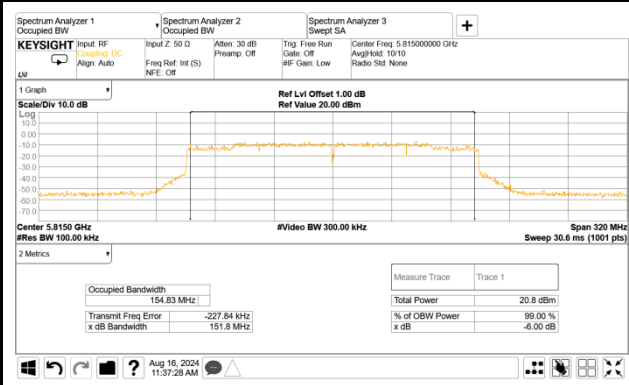


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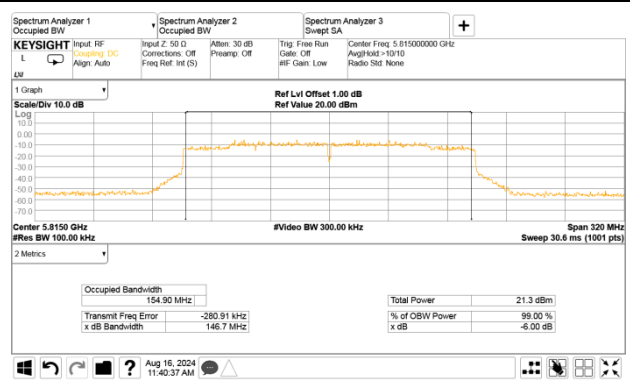


802.11ax-HE160

AUX

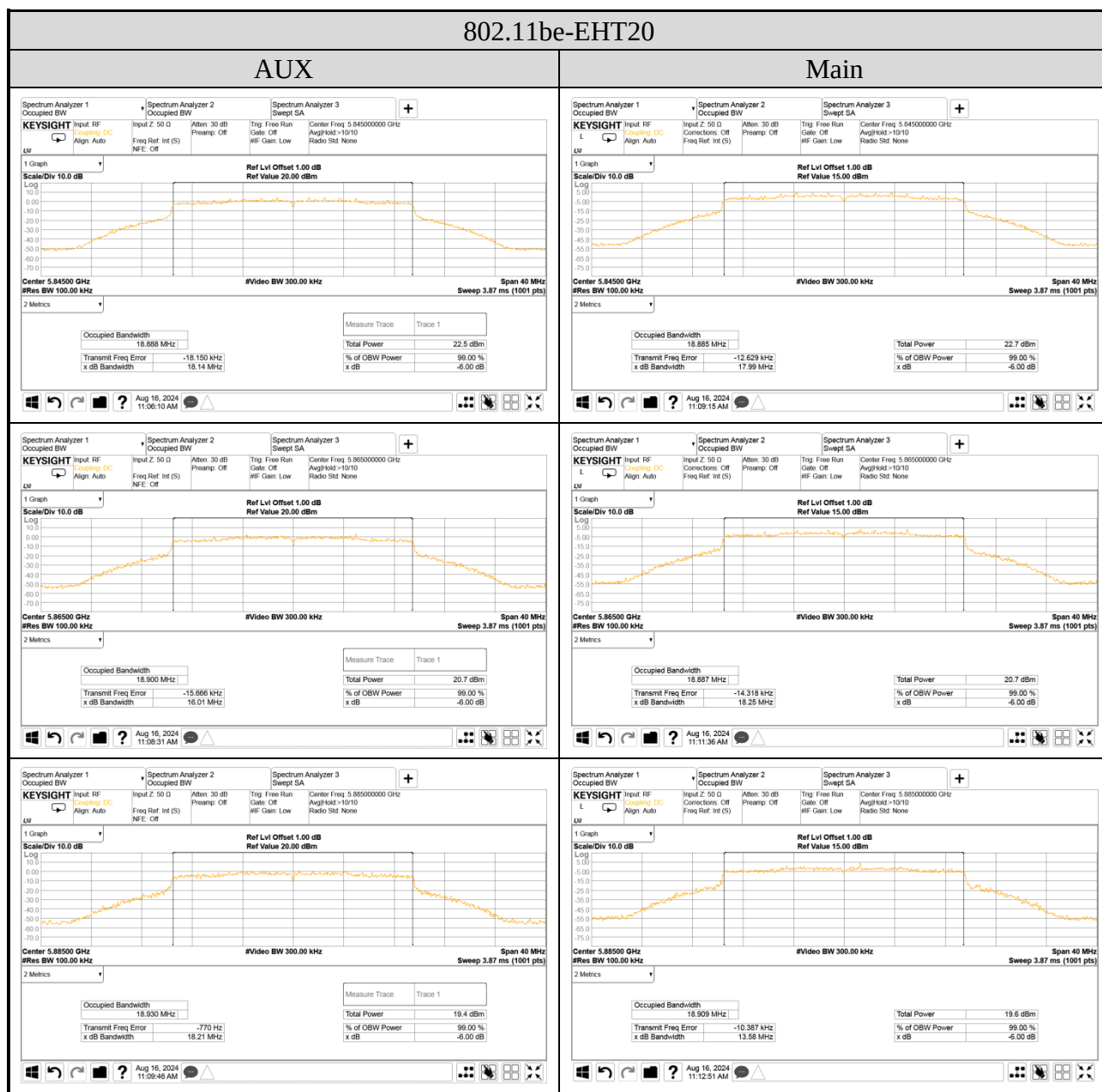


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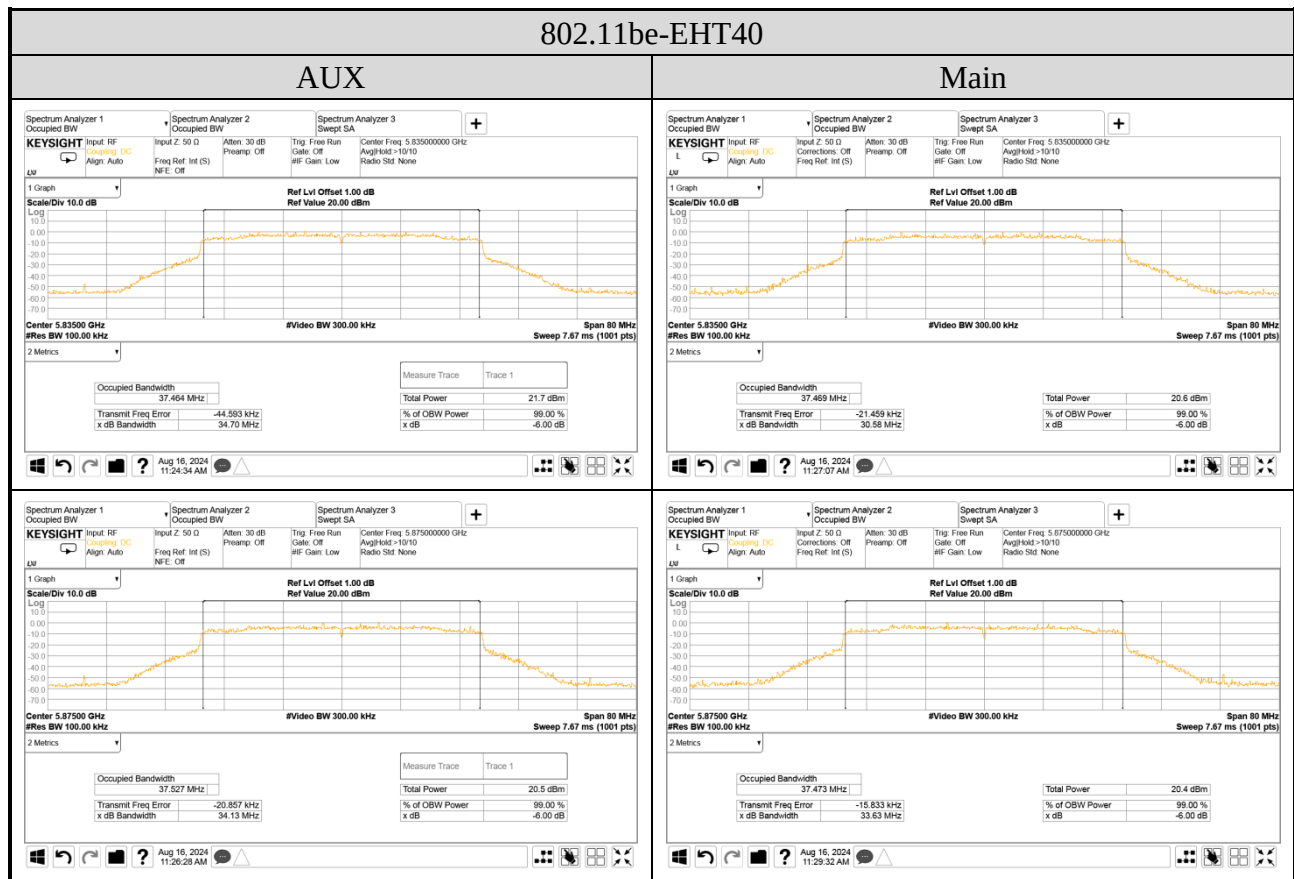
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No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303



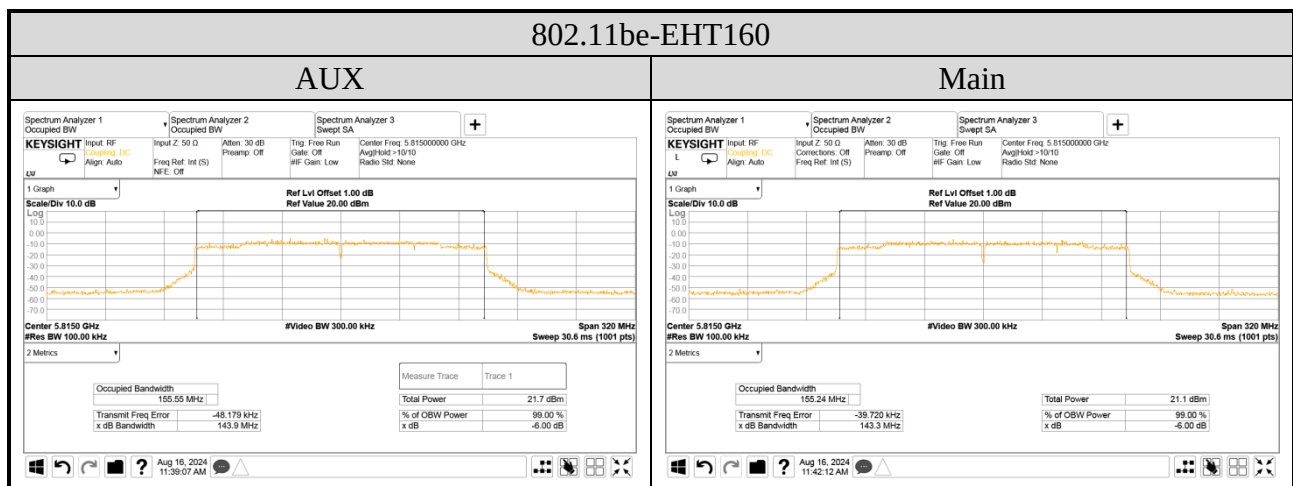
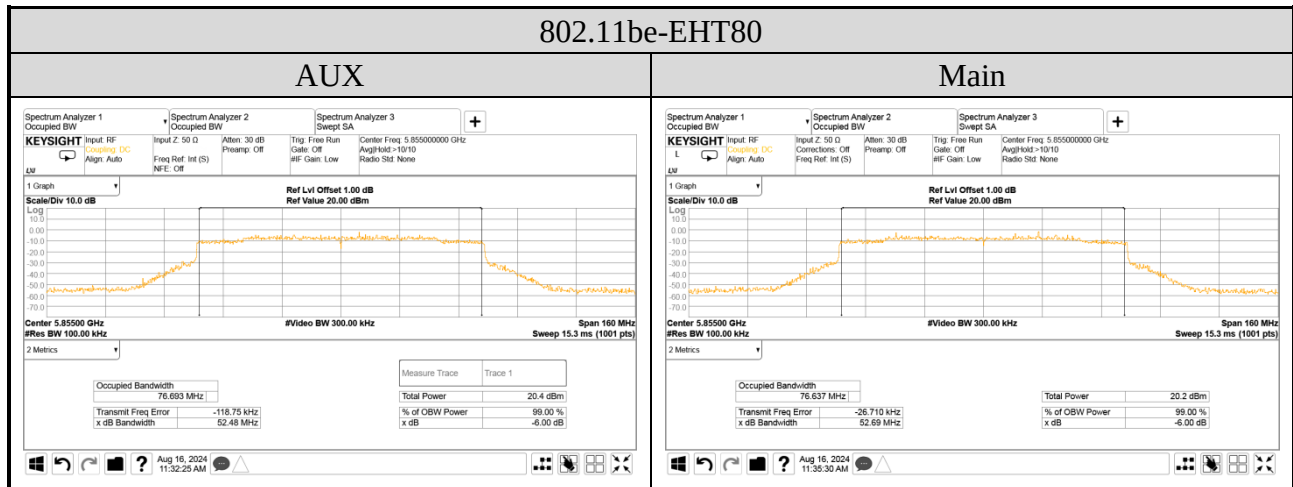
Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303



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No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

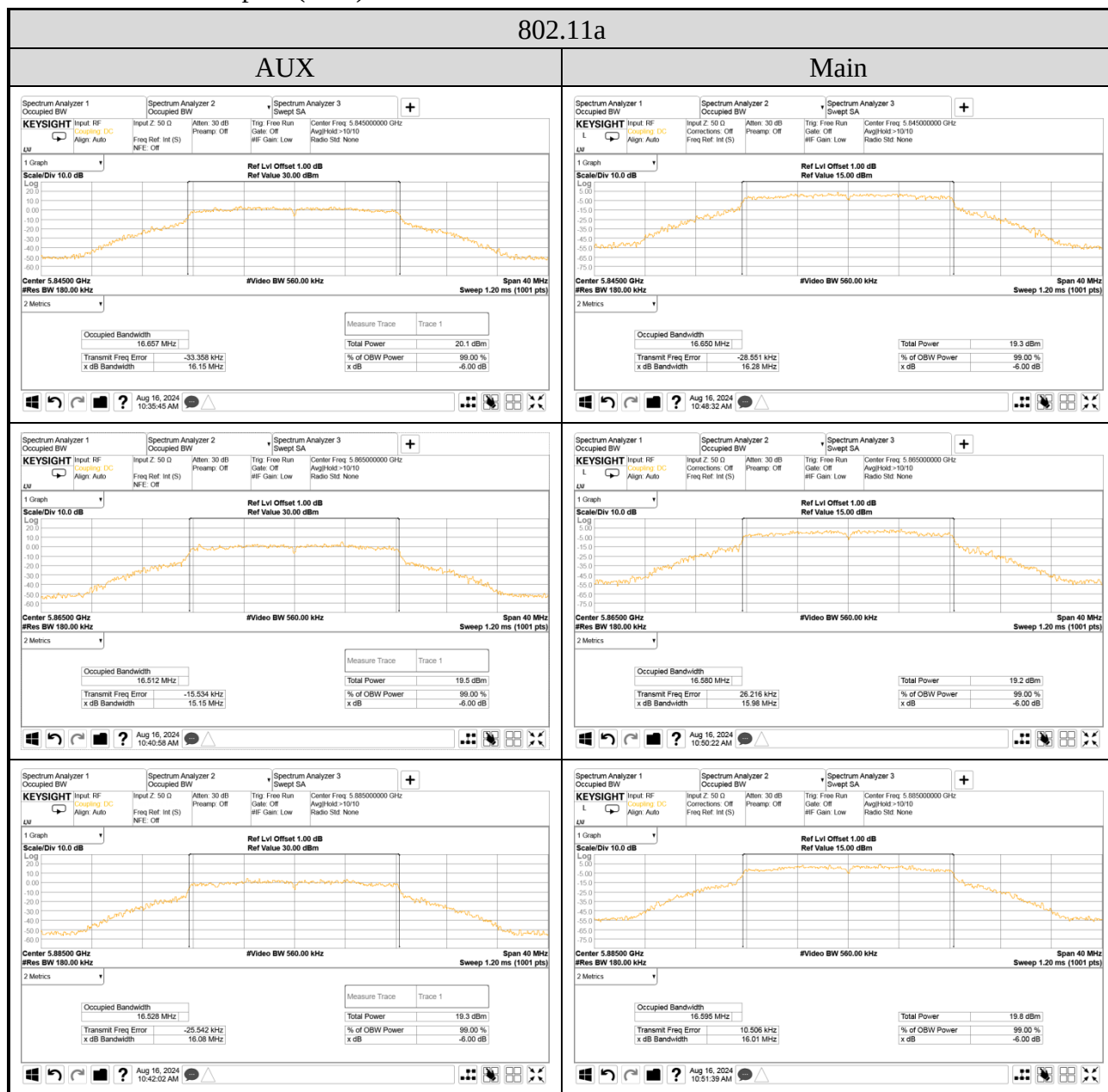


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New Taipei City 244, Taiwan

Tel: +886 2 26099301

Fax: +886 2 26099303

- For Occupied (99%) Bandwidth

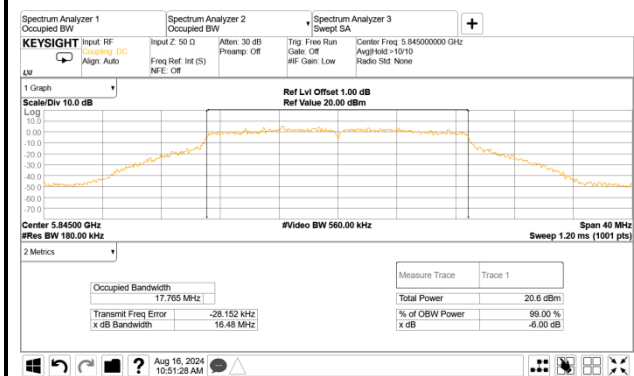


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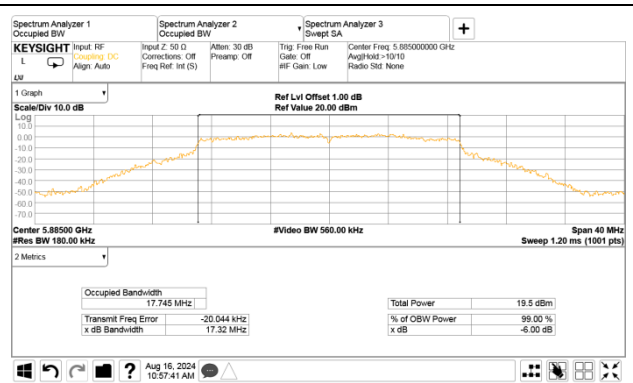
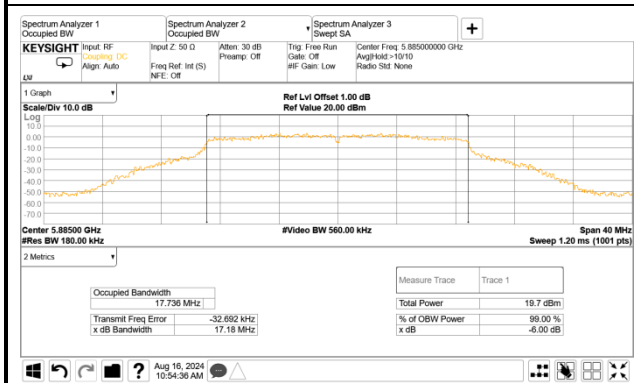
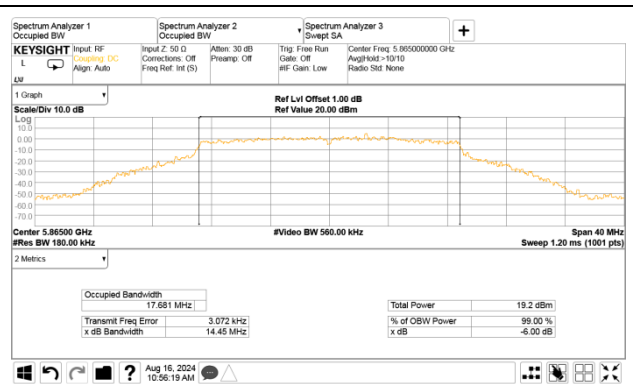
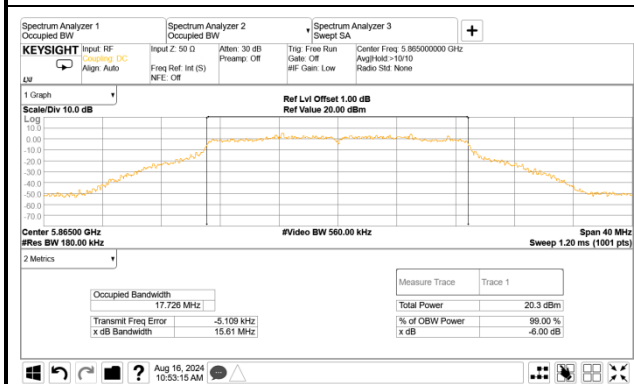
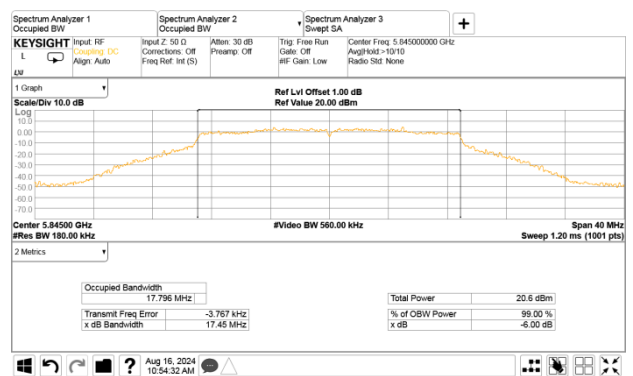
Tel: +886 2 26099301
Fax: +886 2 26099303

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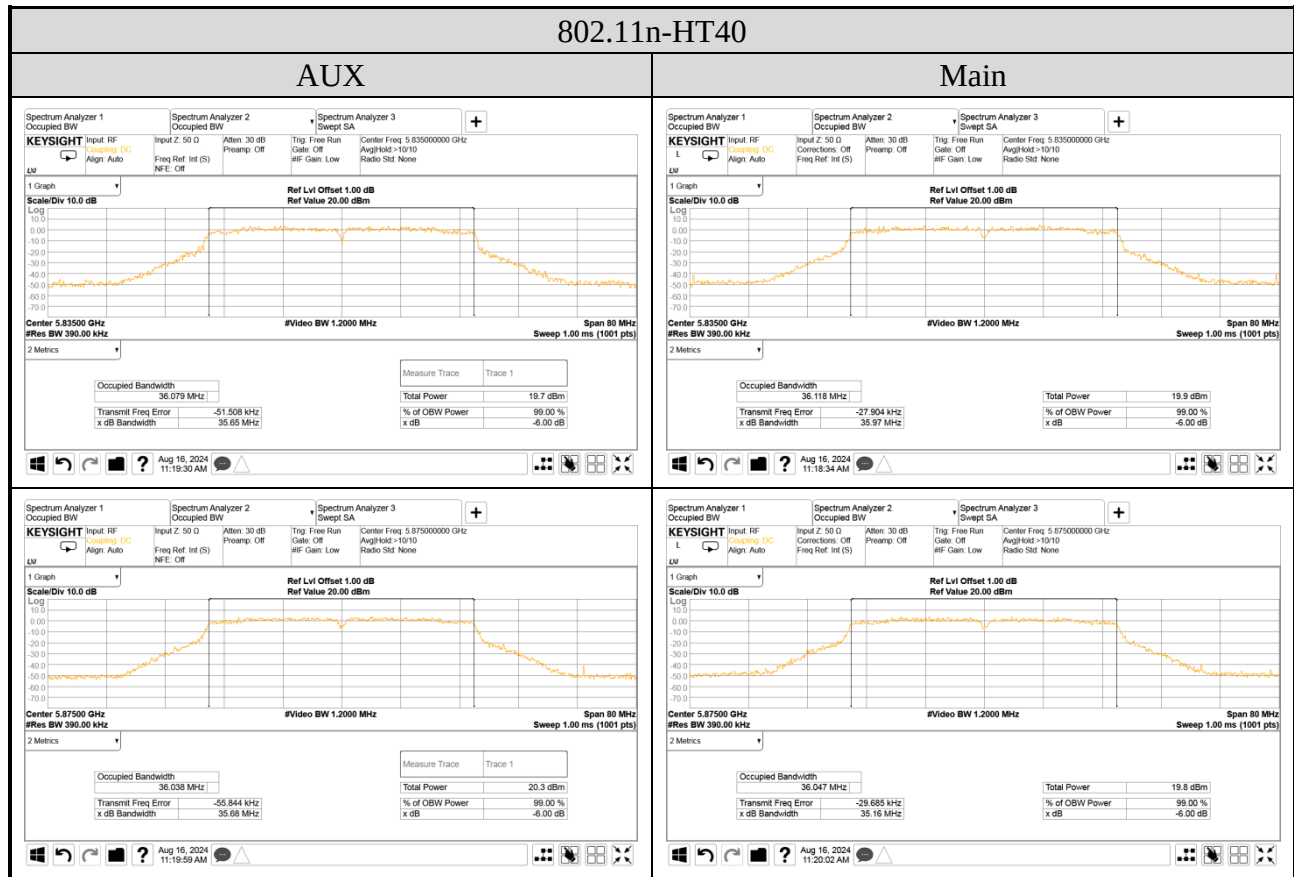


Main



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

