

A.4 MAXIMUM PEAK OUTPUT POWER

Test Date	2022/10/17 ~ 21	Temp./Hum.	23-24°C/63-76%
Cable Loss	0.5dB	Tested By	Kuper Hsu
Test Voltage	AC 120V, 60Hz (via AC Adapter)		

A.4.1 Peak Output Power

Mode	Centre Frequency (MHz)	Peak Output Power (dBm)		Max Peak Output Power (dBm)	Antenna Gain (dBi)		E.I.R.P (dBm) ^{Note 2}	Limit
		Aux	Main		Aux	Main		
802.11b	2412	22.90	23.21	23.210	3.80	3.10	26.70	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
	2442	22.83	22.91	22.910	3.90	3.70	26.73	
	2462	22.89	23.04	23.040	3.90	3.70	26.79	
	2467	22.54	22.62	22.620	3.90	3.70	26.44	
	2472	20.41	20.13	20.410	3.90	3.70	24.31	
802.11g	2412	21.37	21.94	21.940	3.80	3.10	25.17	
	2417	22.94	23.06	23.060	3.80	3.10	26.74	
	2442	23.31	23.46	23.460	3.90	3.70	27.21	
	2457	22.92	22.65	22.920	3.90	3.70	26.82	
	2462	21.10	21.13	21.130	3.90	3.70	25.00	
	2467	19.81	19.04	19.810	3.90	3.70	23.71	
	2472	16.48	16.89	16.890	3.90	3.70	20.59	

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

2. E.I.R.P.= The Max. of Peak Output Power (AUX or Main)(dBm)+ Antenna Gain (dBi).

Mode	Centre Frequency (MHz)	Peak Output Power (dBm)		Total Peak Output Power ^{Note 2} (dBm)	Directional Gain ^{Note 3} (dBi)	E.I.R.P ^{Note 4} (dBm)	Limit
		Aux	Main				
802.11n-HT20	2412	19.39	19.58	22.496	3.46	25.96	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
	2417	21.59	21.62	24.615	3.46	28.08	
	2422	23.14	23.07	26.115	3.46	29.58	
	2442	23.74	23.68	26.720	3.80	30.52	
	2457	22.53	22.68	25.616	3.80	29.42	
	2462	19.46	19.51	22.495	3.80	26.30	
	2467	15.53	15.67	18.611	3.80	22.41	
	2472	11.11	11.18	14.155	3.80	17.96	
802.11n-HT40	2422	19.97	20.16	23.076	3.46	26.54	
	2442	21.03	21.15	24.101	3.80	27.90	
	2452	20.00	19.71	22.868	3.80	26.67	
	2457	15.28	15.24	18.270	3.80	22.07	
	2462	12.27	12.19	15.240	3.80	19.04	
802.11ax-HE20	2412	19.39	19.67	22.543	3.46	26.00	
	2417	21.76	21.48	24.633	3.46	28.09	
	2422	23.21	23.03	26.131	3.46	29.59	
	2442	23.64	23.58	26.620	3.80	30.42	
	2457	22.62	22.44	25.541	3.80	29.34	
	2462	19.52	19.04	22.297	3.80	26.10	
	2467	15.67	15.40	18.547	3.80	22.35	
	2472	11.19	11.03	14.121	3.80	17.92	
802.11ax-HE40	2422	19.81	19.92	22.876	3.46	26.34	
	2442	21.05	21.00	24.035	3.80	27.84	
	2452	19.92	19.50	22.725	3.80	26.53	
	2457	14.96	14.95	17.965	3.80	21.77	
	2462	11.93	11.82	14.886	3.80	18.69	

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

2. According to KDB 662911 D01 E)1), Total peak power = sum to individual output power

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

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

$$2400\text{MHz: Directional gain} = 10 \log[(10^{3.8/10} + 10^{3.1/10})/2] = 3.46\text{dBi}$$

$$2450\text{MHz: Directional gain} = 10 \log[(10^{3.9/10} + 10^{3.7/10})/2] = 3.80\text{dBi}$$

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

4. E.I.R.P.= The Total Peak Output Power (dBm)+ Directional Gain (dBi).

Mode	Centre Frequency (MHz)	RU Configuration	Peak Output Power (dBm)		Total Peak Output Power ^{Note 2} (dBm)	Directional Gain ^{Note 3} (dBi)	E.I.R.P. ^{Note 4} (dBm)	Limit
			Aux	Main				
802.11ax-HE20	2412	26/30	22.44	22.52	25.490	3.46	28.95	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
		52/37	22.62	22.64	25.640	3.46	29.10	
		106/53	22.43	22.50	25.475	3.46	28.94	
	2472	26/8	18.59	18.77	21.691	3.80	25.49	
		52/40	18.94	19.16	22.062	3.80	25.86	
		106/54	18.95	19.17	22.072	3.80	25.87	
802.11ax-HE40	2422	242/61	19.92	20.08	23.011	3.46	26.47	
	2462	242/62	17.66	17.52	20.601	3.80	24.40	

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

2. According to KDB 662911 D01 E)1), Total peak power = sum to individual output power

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

2400MHz: Directional gain= $10 \log[(10^{3.8/10} + 10^{3.1/10})/2] = 3.46\text{dBi}$

2450MHz: Directional gain= $10 \log[(10^{3.9/10} + 10^{3.7/10})/2] = 3.80\text{dBi}$

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

4. E.I.R.P.= The Total Peak Output Power (dBm)+ Directional Gain (dBi).

Mode	Centre Frequency (MHz)	Peak Output Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm) ^{Note 2}	Limit
		Aux	Aux		
BLE (1Mbps)	2402	5.500	3.80	9.30	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
	2440	5.900	3.90	9.80	
	2480	5.940	4.10	10.04	
BLE (2Mbps)	2402	5.530	3.80	9.33	
	2440	5.930	3.90	9.83	
	2480	5.960	4.10	10.06	
BLE (PHY Coded S2)	2402	5.500	3.80	9.30	
	2440	5.910	3.90	9.81	
	2480	5.930	4.10	10.03	
BLE (PHY Coded S8)	2402	5.480	3.80	9.28	
	2440	5.890	3.90	9.79	
	2480	5.920	4.10	10.02	

Note: 1. The results have been included cable loss.
 2. E.I.R.P.= The Peak Output Power (dBm)+ Antenna Gain (dBi).

A.4.2 Average Output Power (Reporting only)

Mode	Centre Frequency (MHz)	Average Output Power (dBm)		Duty cycle factor (dB) 10log (1/x)	Max Average Output Power (dBm)	Antenna Gain (dBi)		E.I.R.P (dBm) ^{Note 2}	Limit
		Aux	Main			Aux	Main		
802.11b	2412	19.61	19.84	N/A	19.84	3.80	3.10	23.41	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
	2442	19.72	19.91		19.91	3.90	3.70	23.62	
	2462	19.47	19.75		19.75	3.90	3.70	23.45	
	2467	18.64	18.78		18.78	3.90	3.70	22.54	
	2472	16.27	15.71		16.27	3.90	3.70	20.17	
802.11g	2412	16.51	16.92	N/A	16.92	3.80	3.10	20.31	
	2417	18.39	18.72		18.72	3.80	3.10	22.19	
	2442	19.57	19.51		19.57	3.90	3.70	23.47	
	2457	18.03	17.87		18.03	3.90	3.70	21.93	
	2462	16.09	16.26		16.26	3.90	3.70	19.99	
	2467	14.01	14.06		14.06	3.90	3.70	17.91	
	2472	10.93	11.39		11.39	3.90	3.70	15.09	

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

2. E.I.R.P.= The Max. of Average Output Power (AUX or Main)(dBm)+ Antenna Gain (dBi).

3. Max Average Output Power (dBm) = Max of each average output power (dBm)+ Duty Cycle Factor (dB) when duty cycle is less than 98%.

Mode	Centre Frequency (MHz)	Average Output Power (dBm)		Duty cycle factor (dB) 10log (1/x)	Total Average Output Power ^{Note2} (dBm)	Directional Gain ^{Note 3} (dBi)	Average Output Power (E.I.R.P) ^{Note4} (dBm)	Limit
		Aux	Main					
802.11n- HT20	2412	14.32	14.68	N/A	17.51	3.46	20.97	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
	2417	16.52	16.74		19.64	3.46	23.10	
	2422	18.77	18.99		21.89	3.46	25.35	
	2442	19.51	19.46		22.50	3.80	26.30	
	2457	17.52	17.66		20.60	3.80	24.40	
	2462	14.45	14.55		17.51	3.80	21.31	
	2467	10.38	10.58		13.49	3.80	17.29	
	2472	5.22	5.28		8.26	3.80	12.06	
802.11n- HT40	2422	13.84	13.75	N/A	16.81	3.46	20.27	
	2442	14.84	14.80		17.83	3.80	21.63	
	2452	13.80	13.41		16.62	3.80	20.42	
	2457	8.95	8.98		11.98	3.80	15.78	
	2462	5.55	5.48		8.53	3.80	12.33	
802.11ax- HE20	2412	14.48	14.57	N/A	17.54	3.46	21.00	
	2417	16.64	16.53		19.60	3.46	23.06	
	2422	18.89	18.78		21.85	3.46	25.31	
	2442	19.59	19.48		22.55	3.80	26.35	
	2457	17.60	14.49		19.33	3.80	23.13	
	2462	14.56	14.42		17.50	3.80	21.30	
	2467	10.41	10.26		13.35	3.80	17.15	
	2472	5.12	4.92		8.03	3.80	11.83	
802.11ax- HE40	2422	13.53	13.64	N/A	16.60	3.46	20.06	
	2442	14.62	14.41		17.53	3.80	21.33	
	2452	13.57	13.25		16.42	3.80	20.22	
	2457	8.70	8.77		11.75	3.80	15.55	
	2462	5.31	5.11		8.22	3.80	12.02	

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

2. According to KDB 662911 D01 E)1), Total Ave power = sum to individual output power + 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

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

$$2400\text{MHz: Directional gain} = 10 \log[(10^{3.8/10} + 10^{3.1/10})/2] = 3.46\text{dBi}$$

$$2450\text{MHz: Directional gain} = 10 \log[(10^{3.9/10} + 10^{3.7/10})/2] = 3.80\text{dBi}$$

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

4. E.I.R.P.= The Total Average Output Power (dBm)+ Directional Gain (dBi).

Mode	Centre Frequency (MHz)	RU Configuration	Average Output Power (dBm)		Duty cycle factor (dB) 10log	Total Average Output Power Note 2 (dBm)	Directional Gain Note 3 (dBi)	Average Output Power (E.I.R.P.) ^{Note 4}	Limit
			Aux	Main					
802.11ax-HE20	2412	26/30	17.44	17.52	0.137	20.627	4.42	25.047	<30dBm (Maximum Peak Output Power) <36dBm (E.I.R.P)
		52/37	18.05	18.08	N/A	21.075	4.42	25.495	
		106/53	17.89	18.08	0.092	21.088	4.42	25.508	
	2472	26/8	4.96	5.22	0.137	8.239	4.11	12.349	
		52/40	5.92	6.02	N/A	8.981	4.11	13.091	
		106/54	6.08	6.34	0.092	9.314	4.11	13.424	
802.11ax-HE40	2422	242/61	14.60	14.66	N/A	17.640	4.42	22.060	
	2462	242/62	6.01	6.18	N/A	9.106	4.11	13.216	

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

2. According to KDB 662911 D01 E)1), Total Ave power = sum to individual output power + 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

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

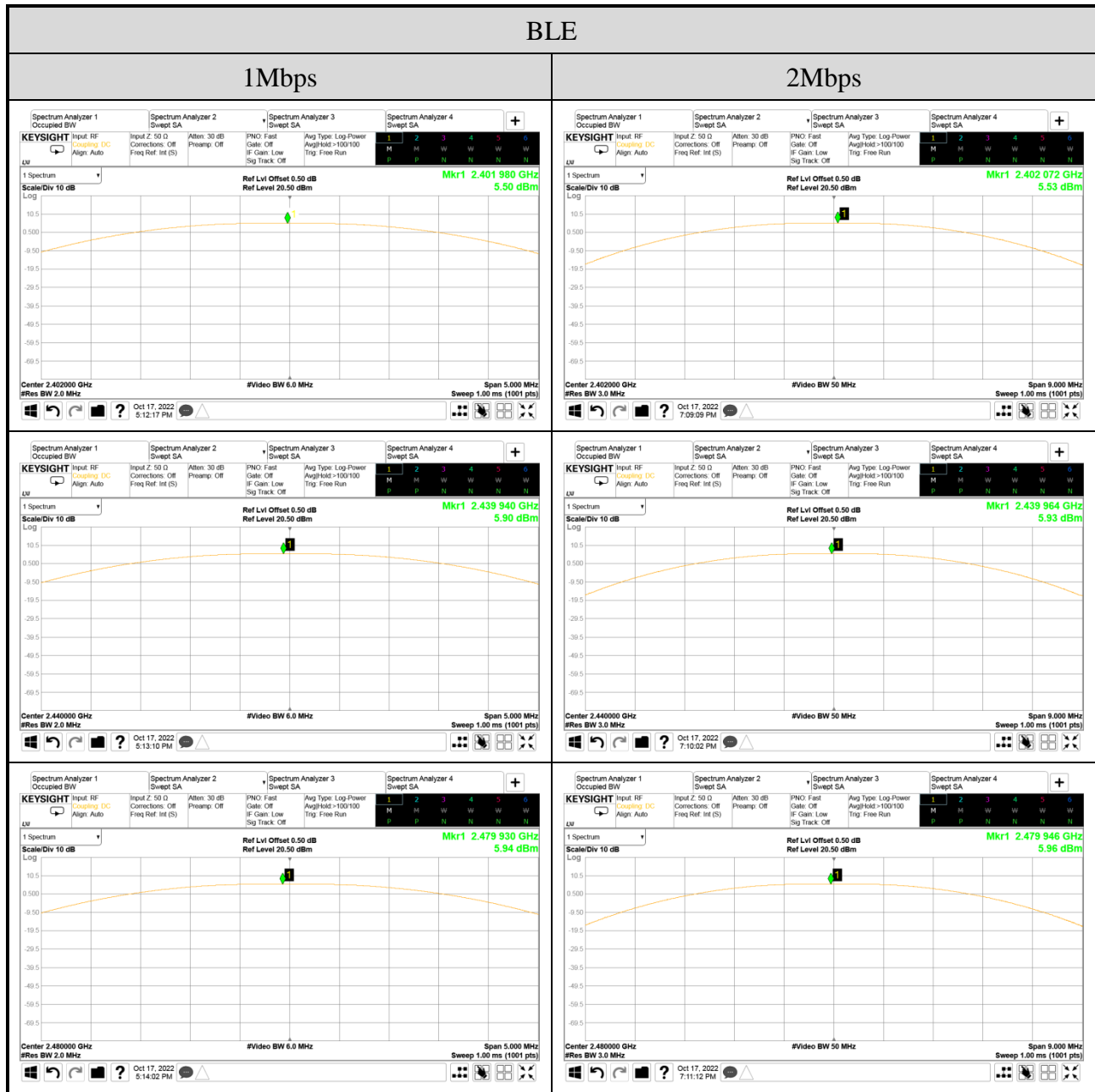
$$2400\text{MHz: Directional gain} = 10 \log[(10^{3.8/10} + 10^{3.1/10})/2] = 3.46\text{dBi}$$

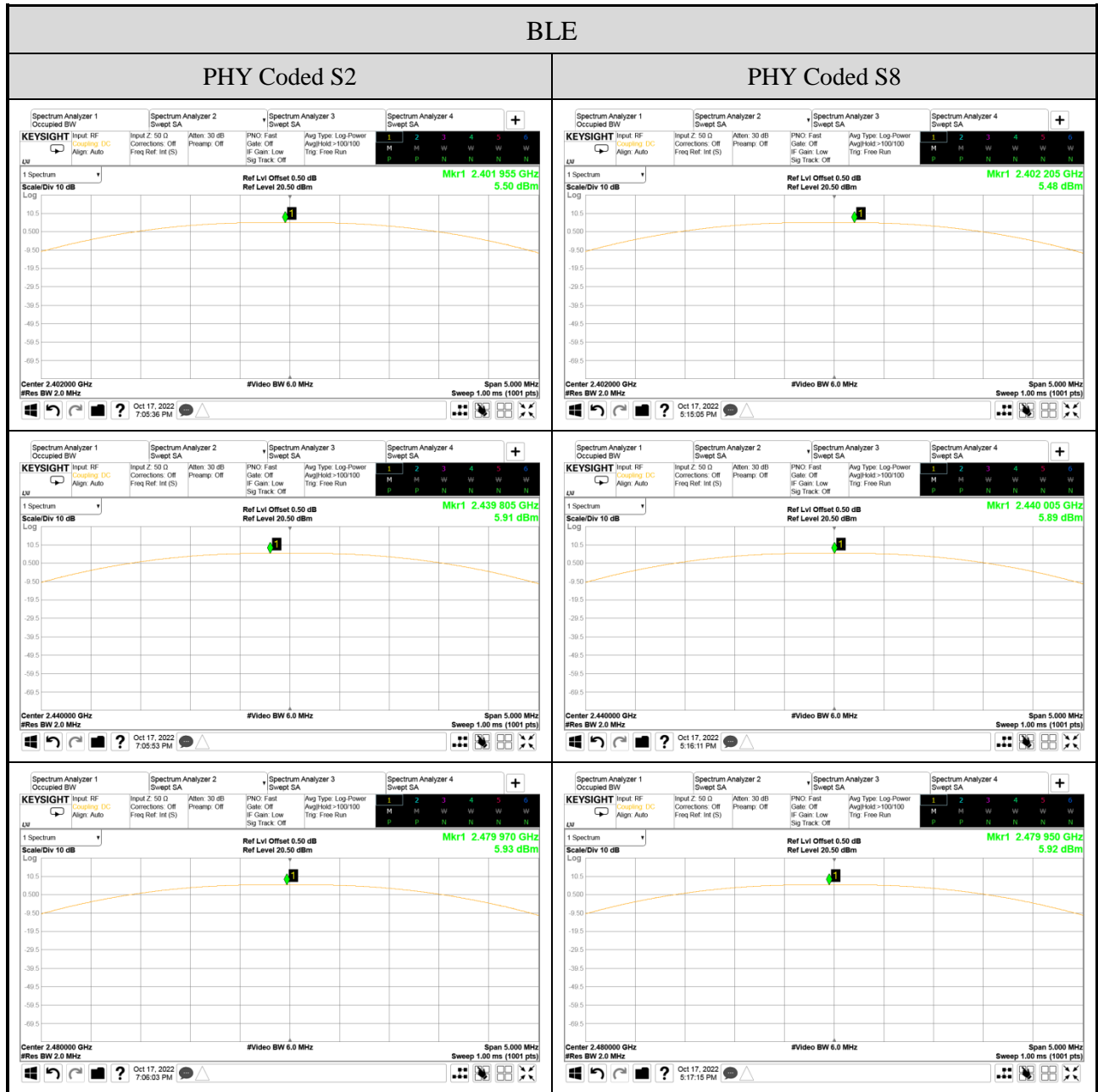
$$2450\text{MHz: Directional gain} = 10 \log[(10^{3.9/10} + 10^{3.7/10})/2] = 3.80\text{dBi}$$

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

4. E.I.R.P.= The Total Average Output Power (dBm)+ Directional Gain (dBi).

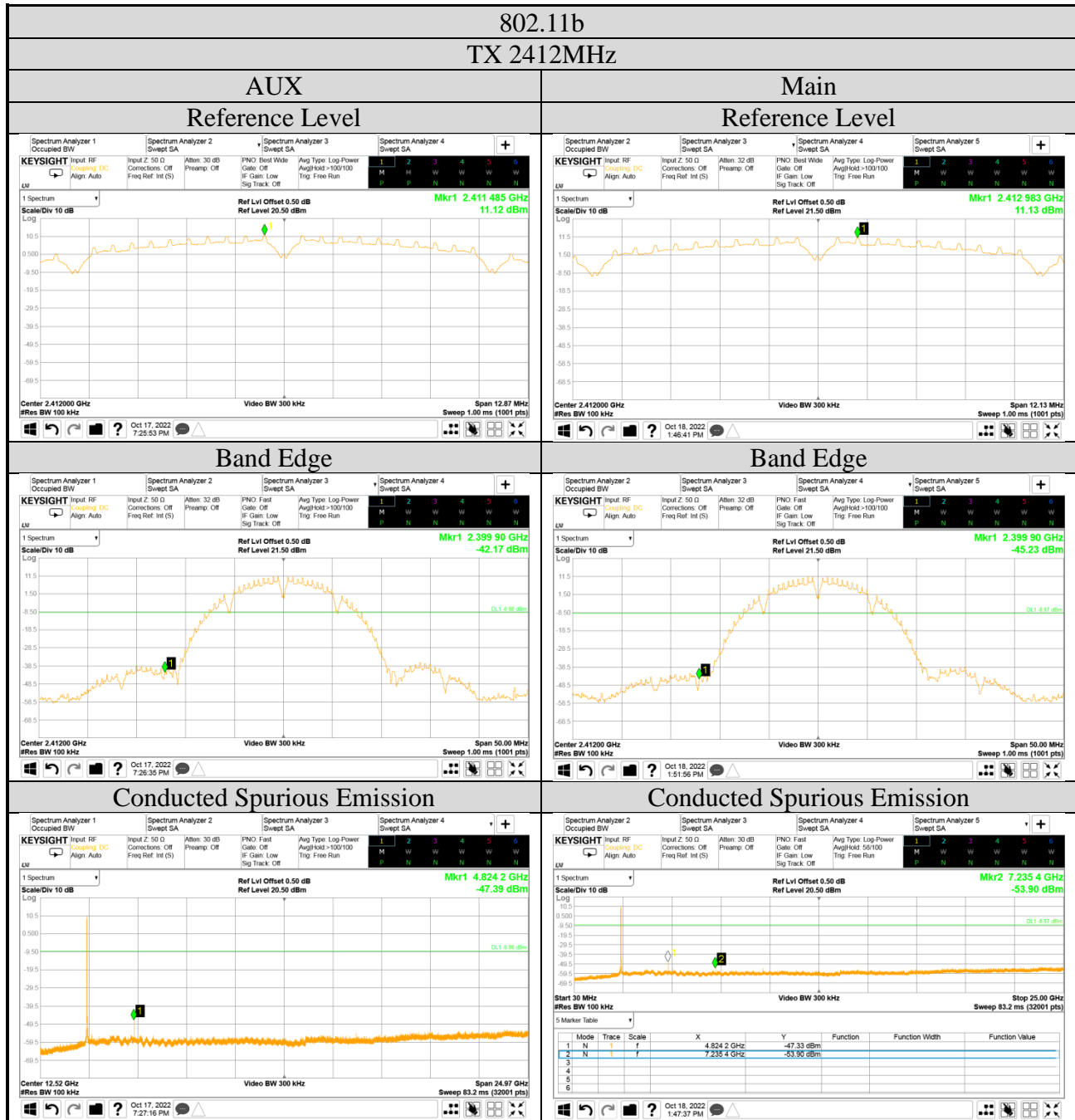
A.4.3 Measurement Plots

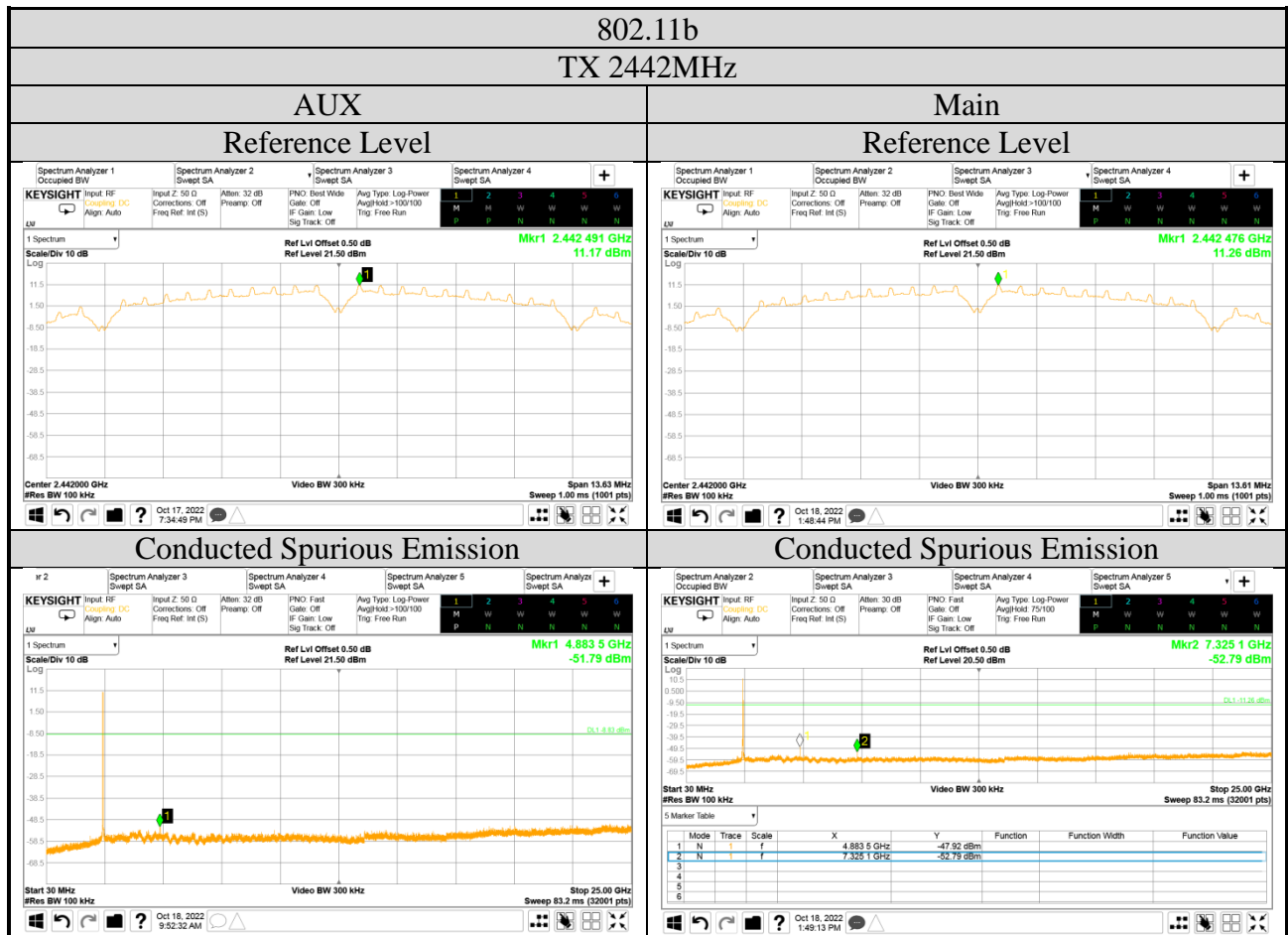


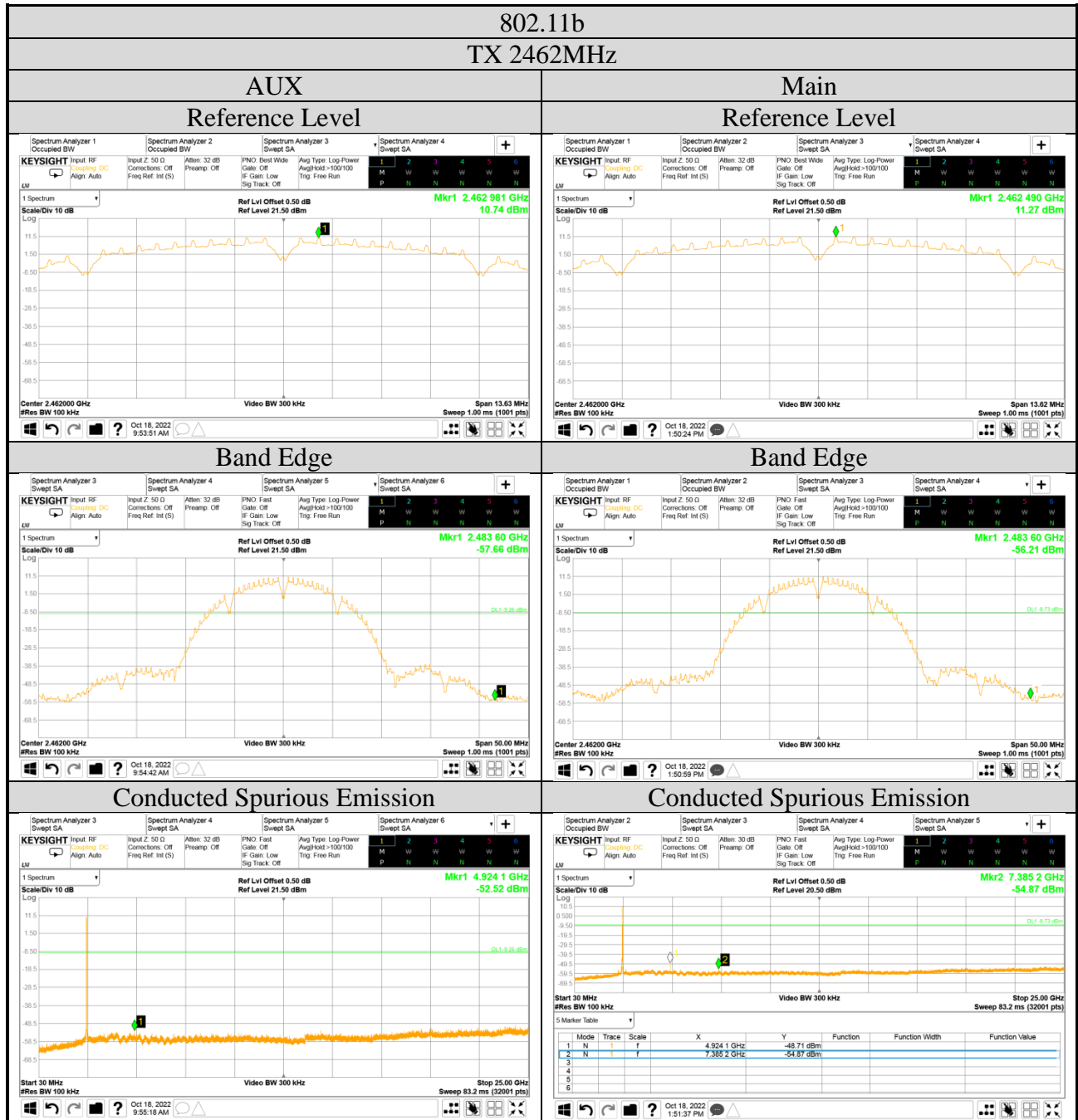


A.5 EMISSION LIMITATIONS

Test Date	2022/10/17 ~ 18	Temp./Hum.	23-24°C/71-76%
Cable Loss	0.50dB	Tested By	Kuper Hsu
Test Voltage	AC 120V, 60Hz (via AC Adapter)		
Simultaneous Factor 10 log(N _{ANT})(Note: where N _{ANT} is the number of outputs)	0dB		

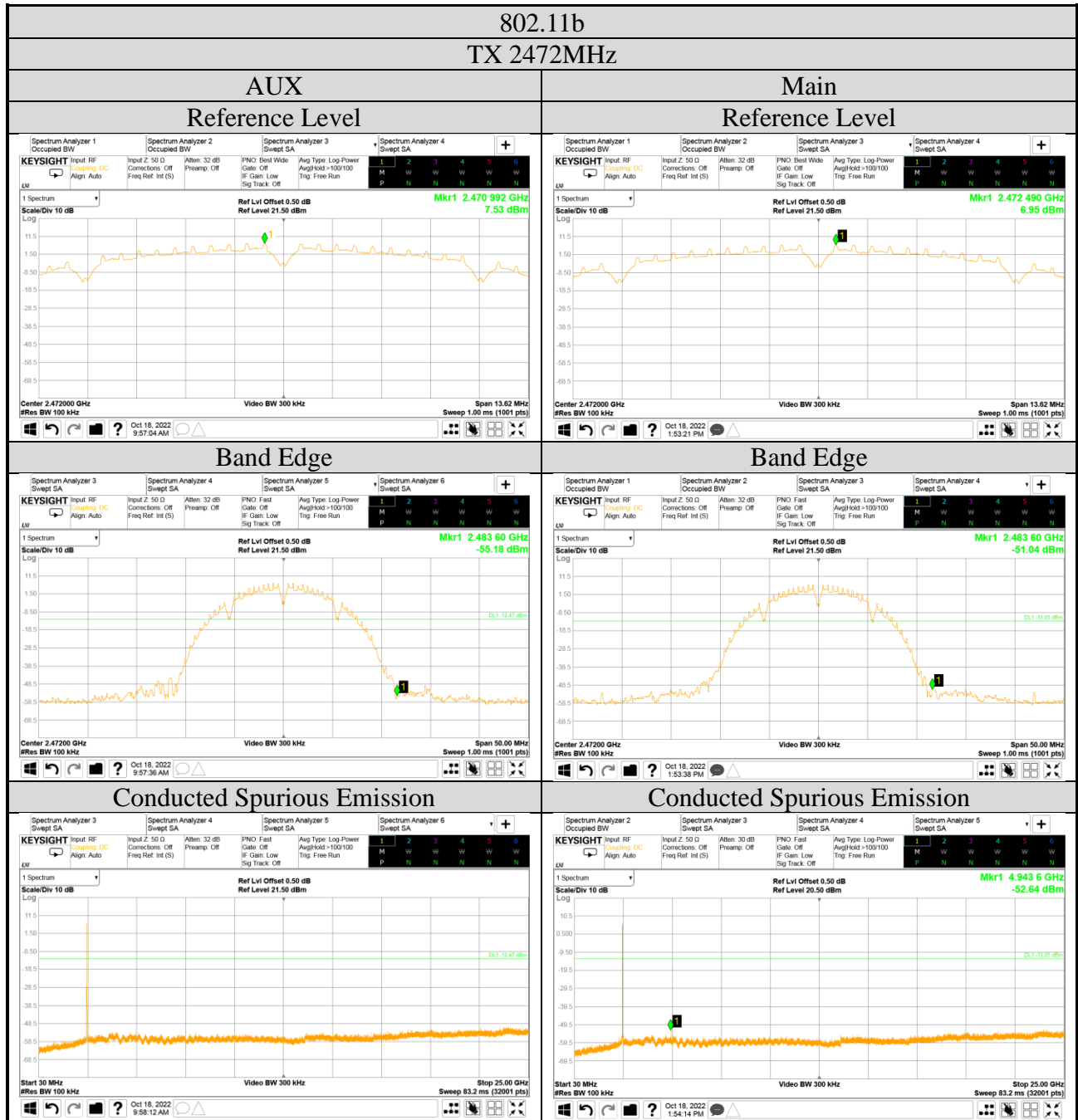


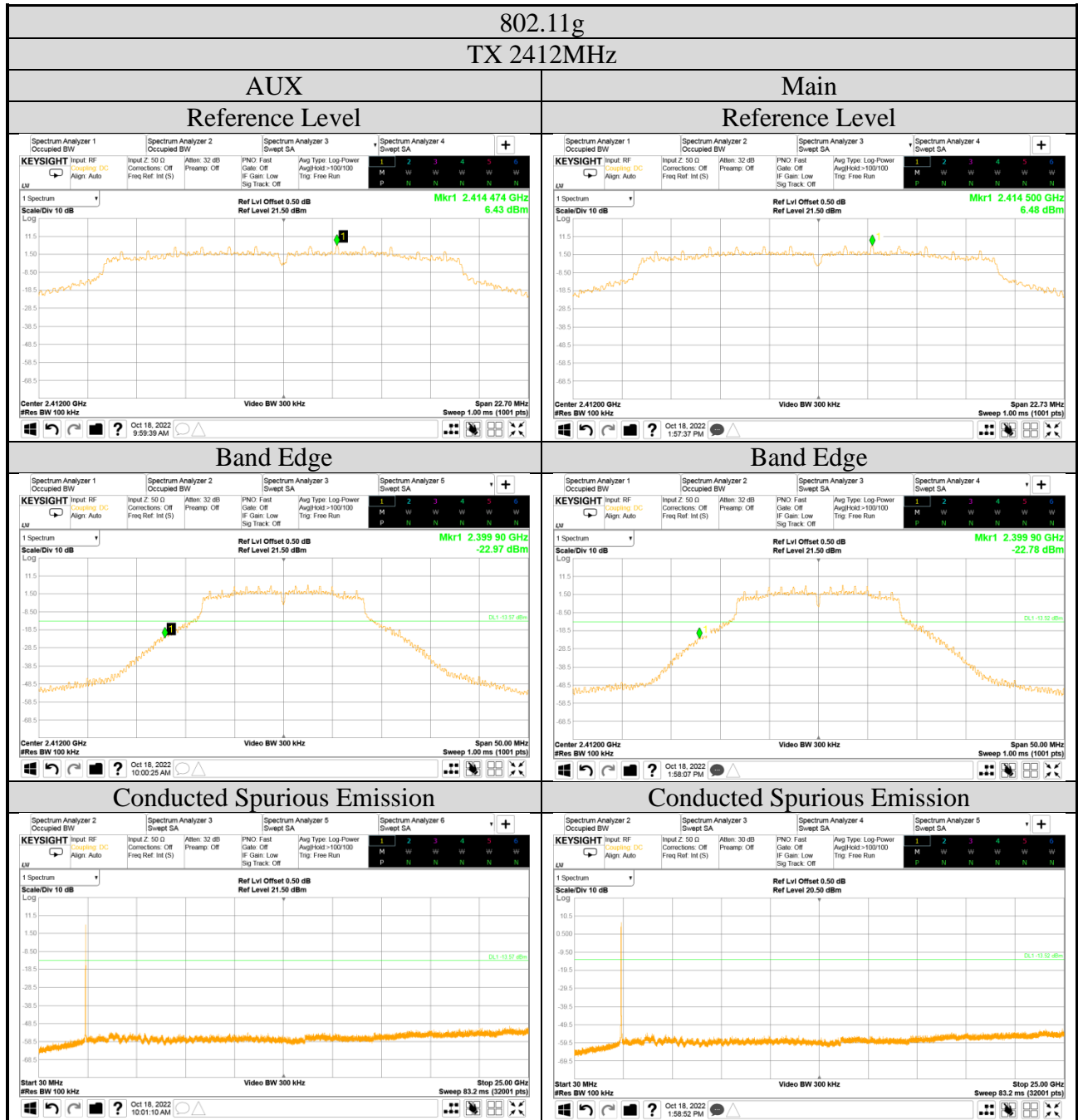


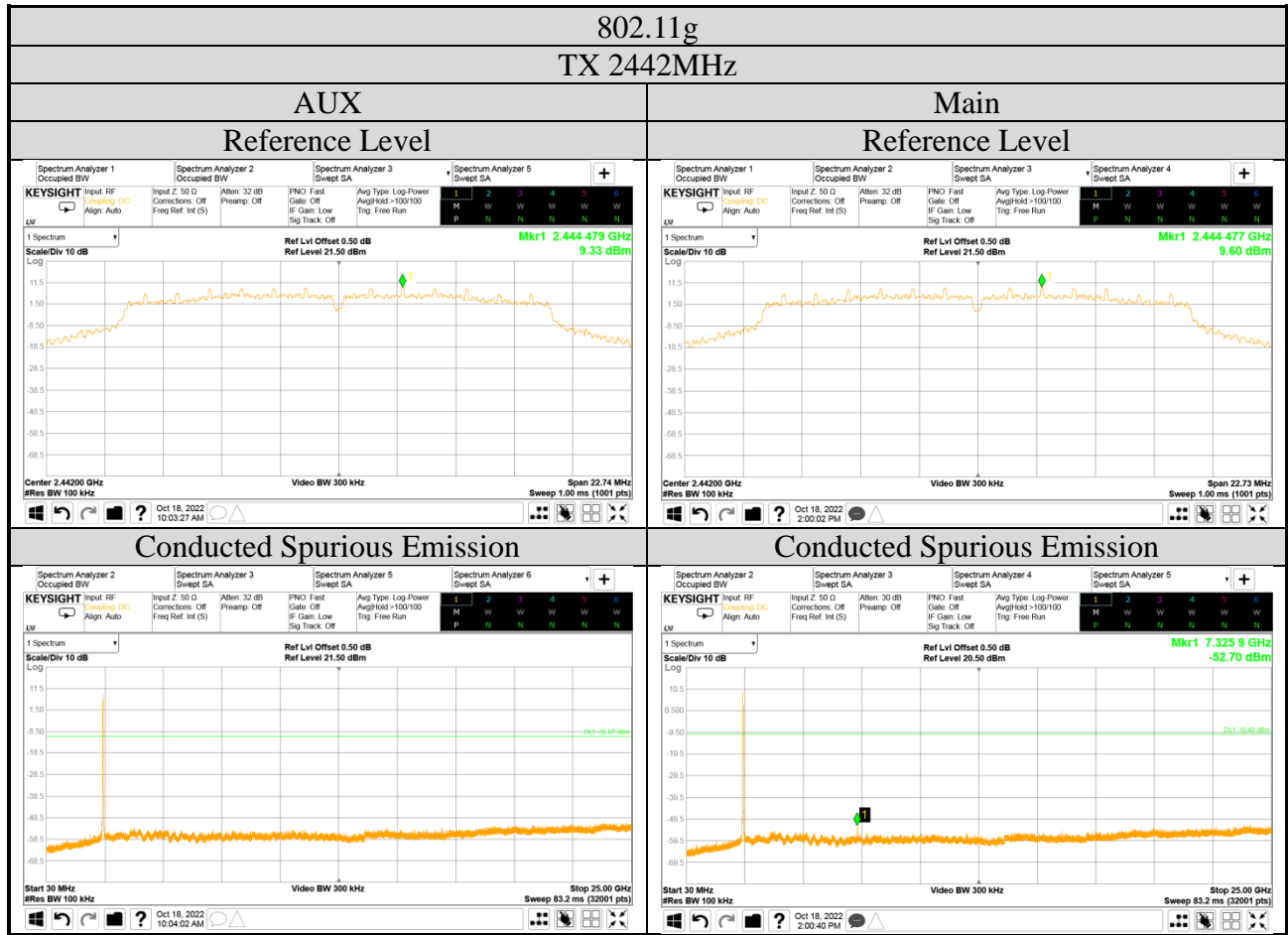


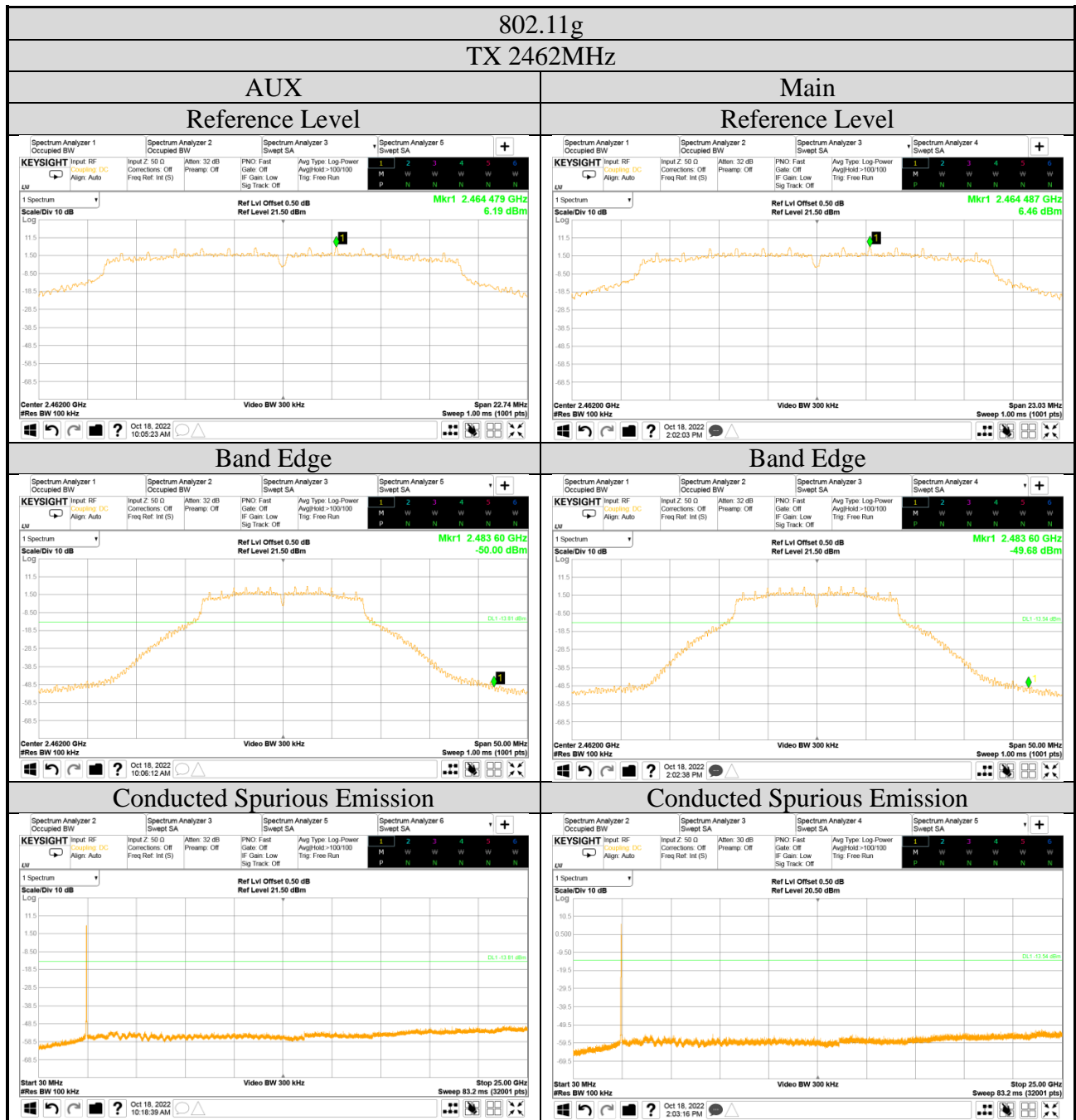
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 New Taipei City 244, Taiwan

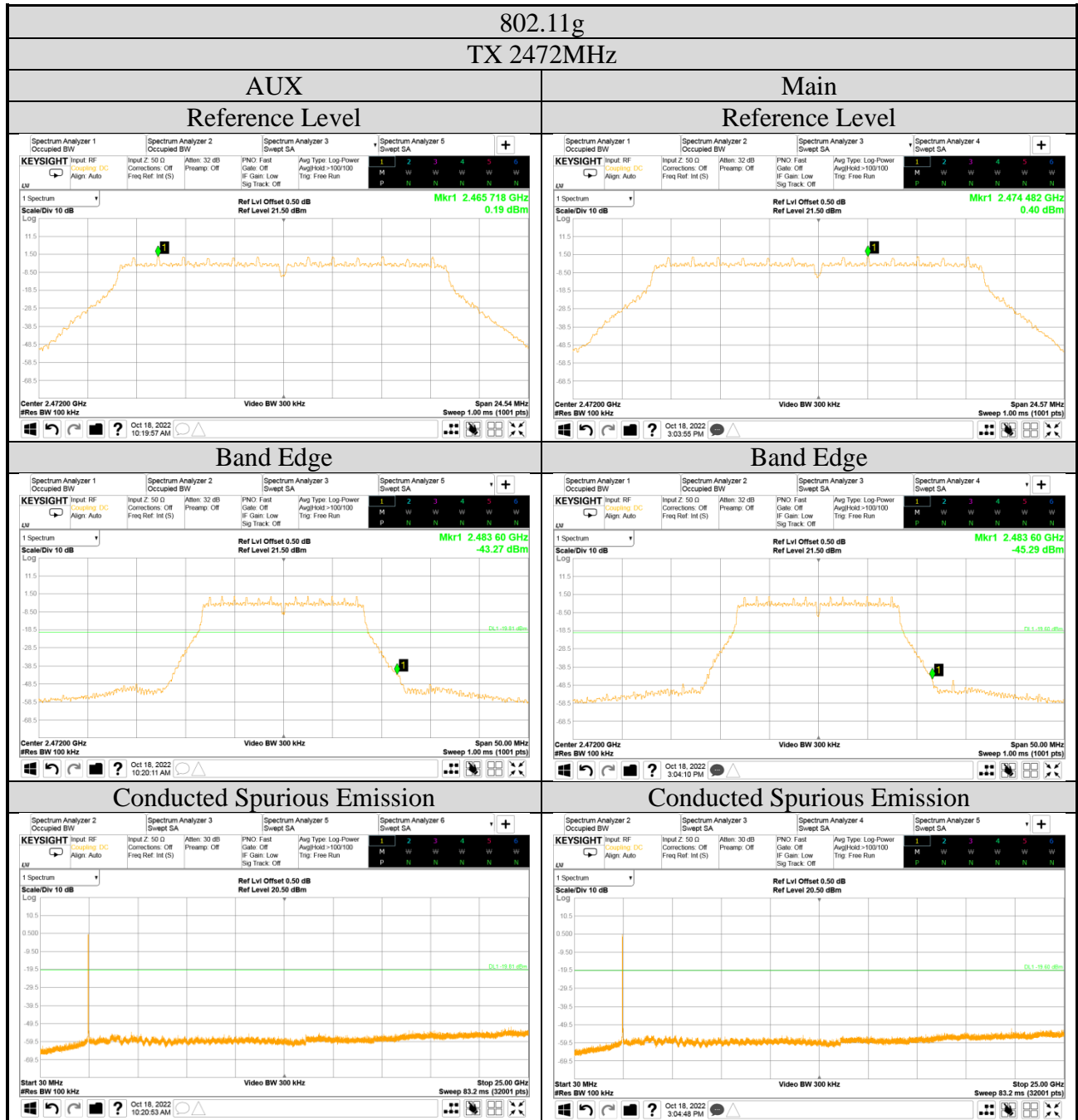
Tel: +886 2 26099301
 Fax: +886 2 26099303

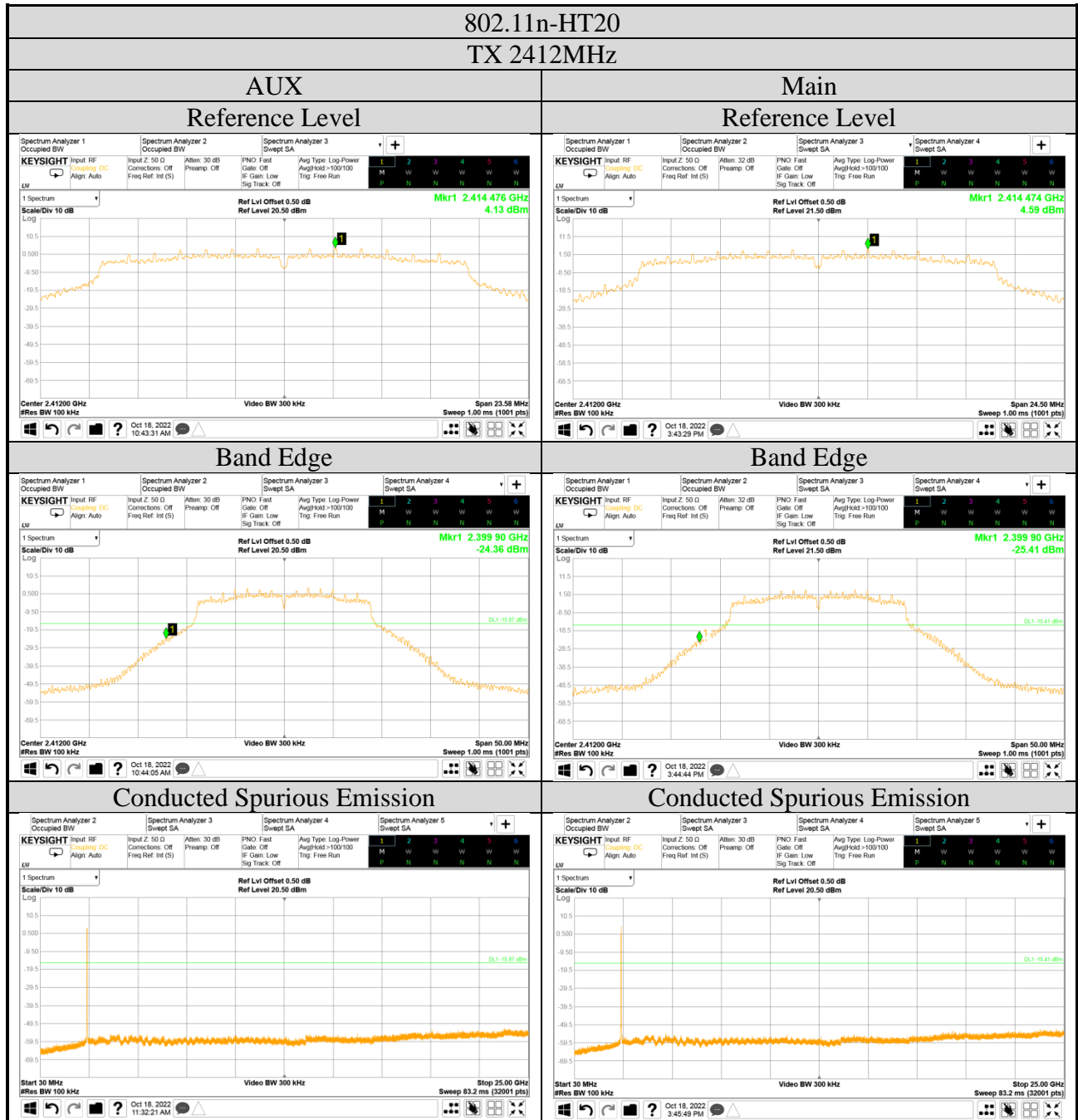












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