

Appendix A: Test Results of 2.4G WIFI

Conducted Output Power

Test Result

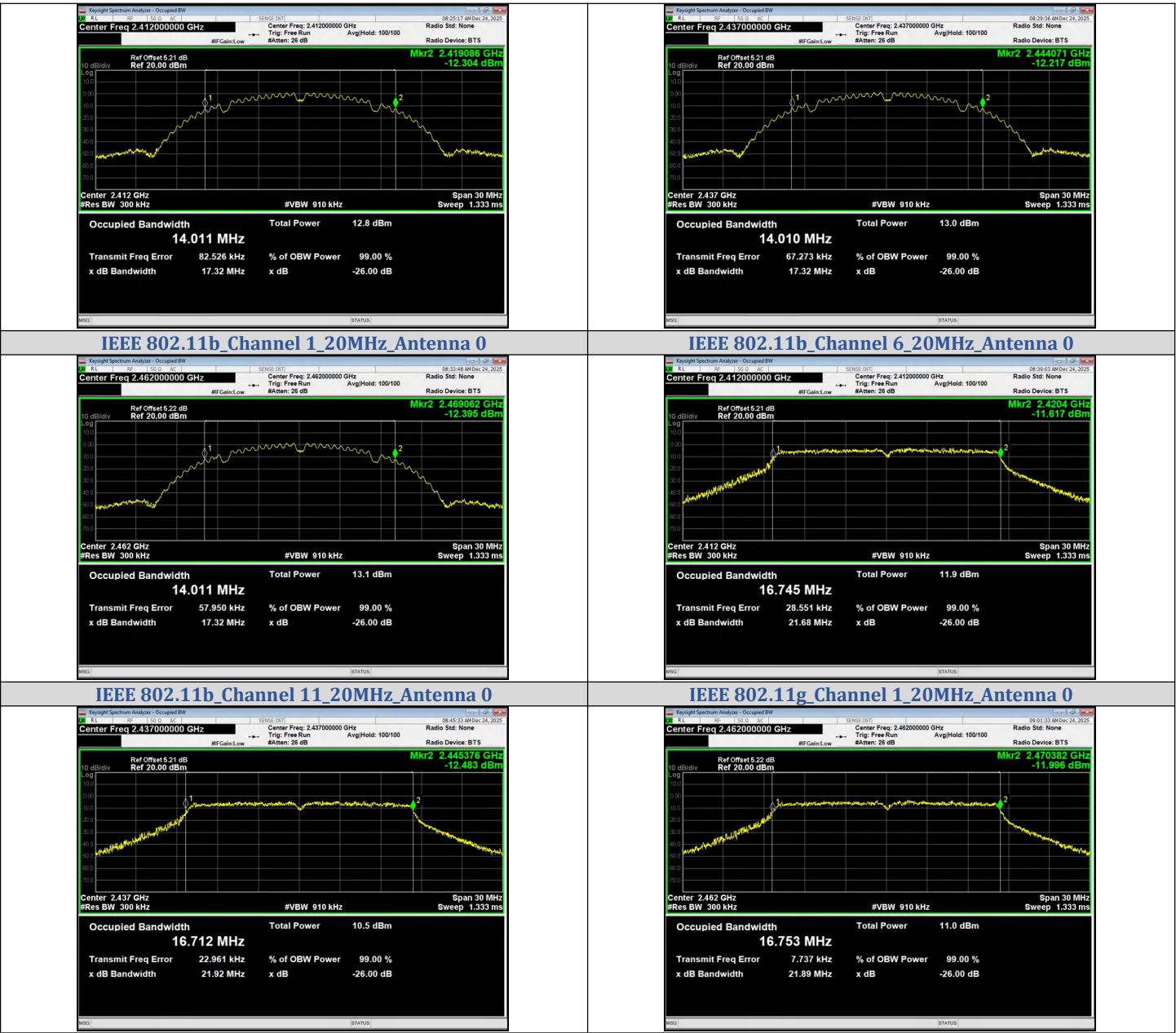
Conducted Output Power

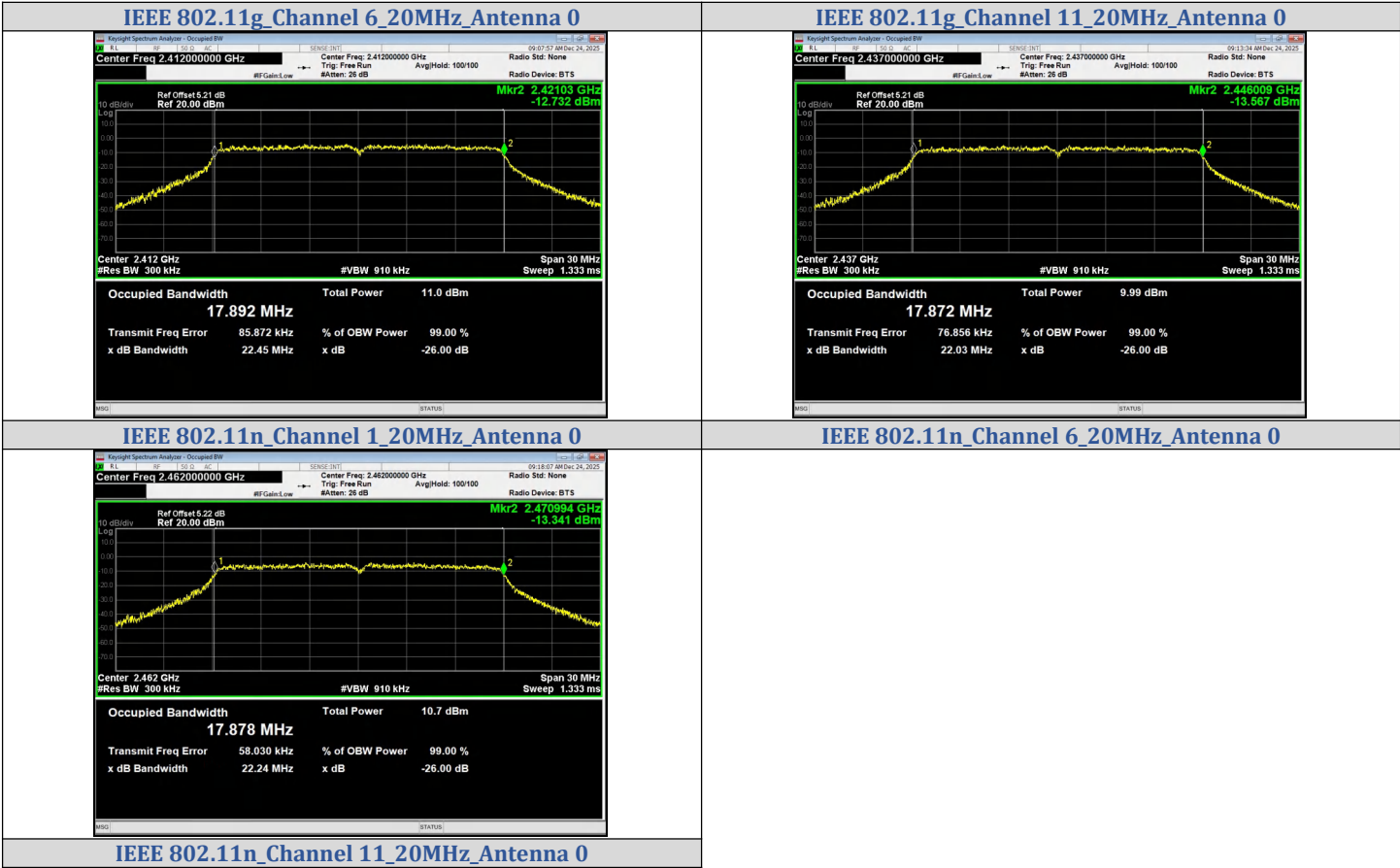
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	11.71	≤30	PASS
	6	12.04	≤30	PASS
	11	11.89	≤30	PASS
IEEE 802.11g	1	11.74	≤30	PASS
	6	12.03	≤30	PASS
	11	12.47	≤30	PASS
IEEE 802.11n_20	1	11.76	≤30	PASS
	6	11.87	≤30	PASS
	11	12.45	≤30	PASS

99% Bandwidth
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	0	2412	14.011
	6		2437	14.010
	11		2462	14.011
IEEE 802.11g	1		2412	16.745
	6		2437	16.712
	11		2462	16.753
IEEE 802.11n_20	1		2412	17.892
	6		2437	17.872
	11		2462	17.878

Test Graphs



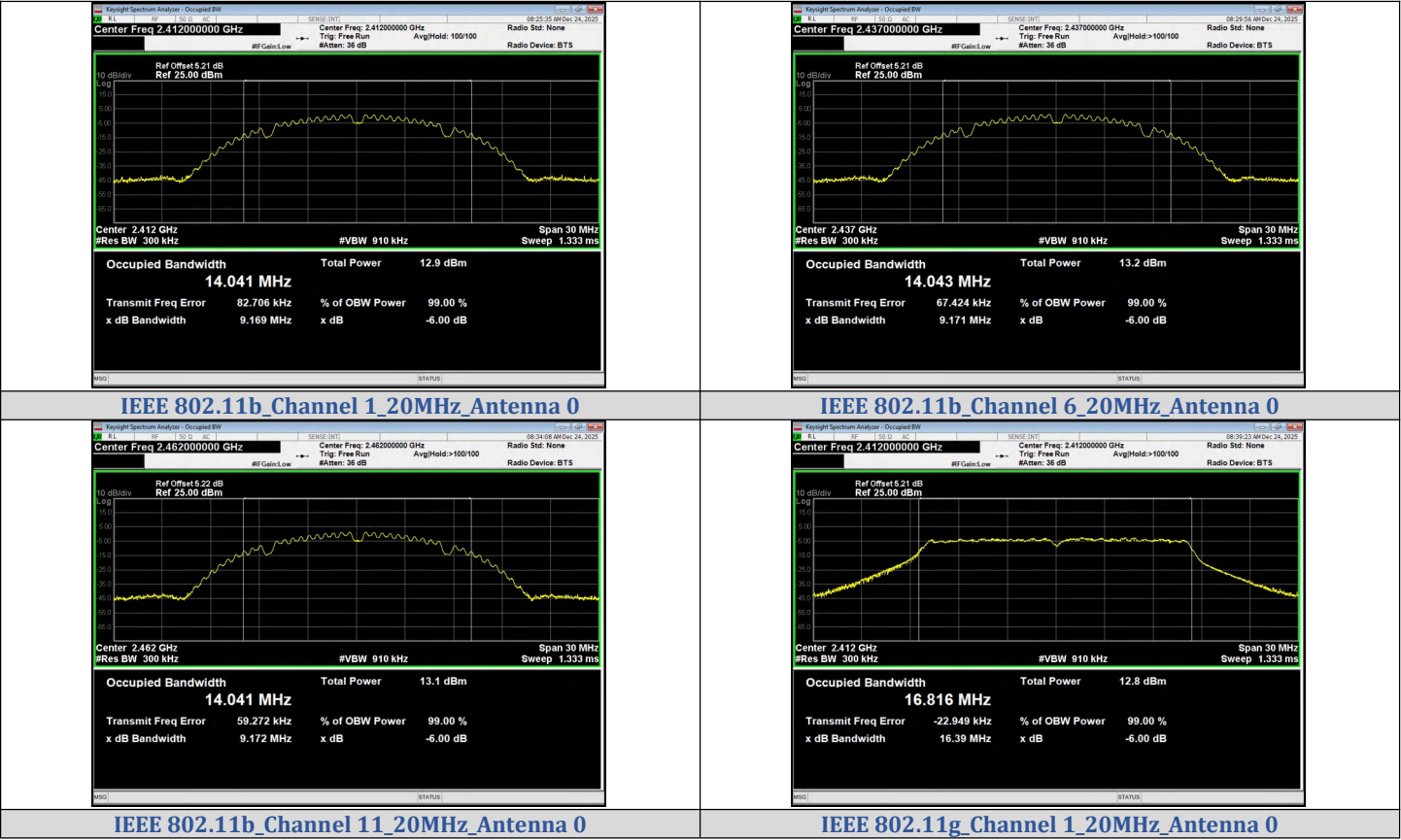


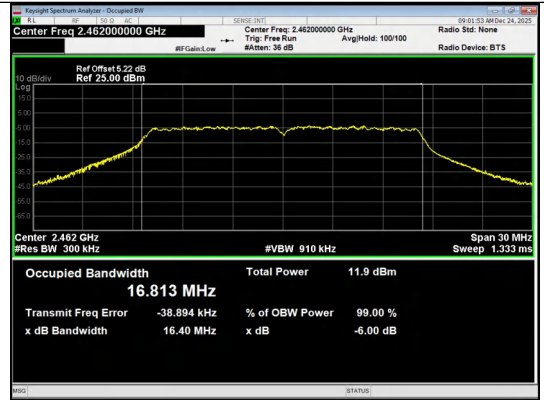
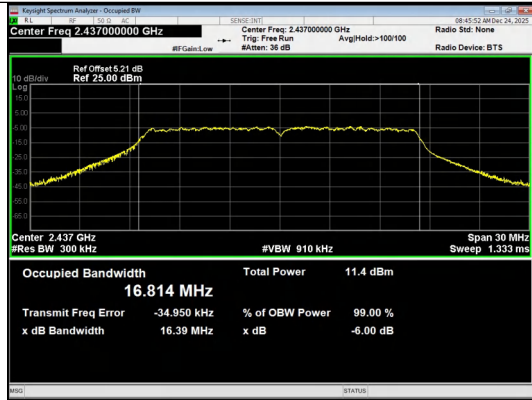
6dB Bandwidth

Test Result

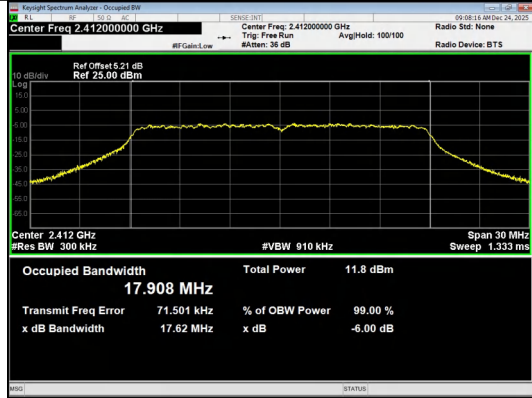
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	9.169	≥0.5	PASS
	6		2437	9.171		PASS
	11		2462	9.172		PASS
IEEE 802.11g	1		2412	16.39		PASS
	6		2437	16.39		PASS
	11		2462	16.40		PASS
IEEE 802.11n_20	1		2412	17.62		PASS
	6		2437	17.62		PASS
	11		2462	17.61		PASS

Test Graphs

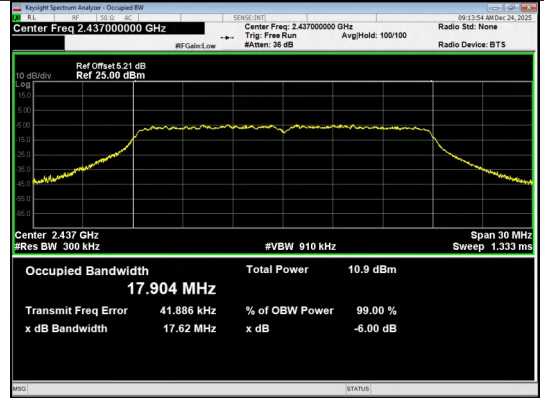




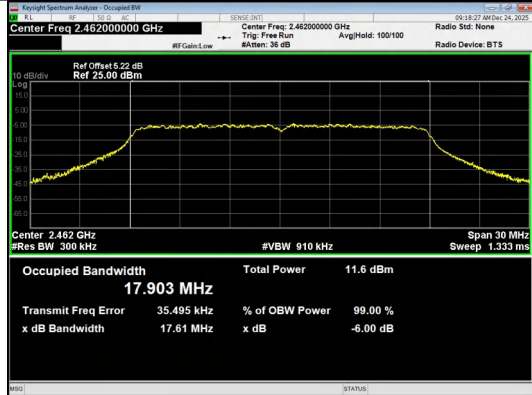
IEEE 802.11g_Channel 6_20MHz_Antenna 0



IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0

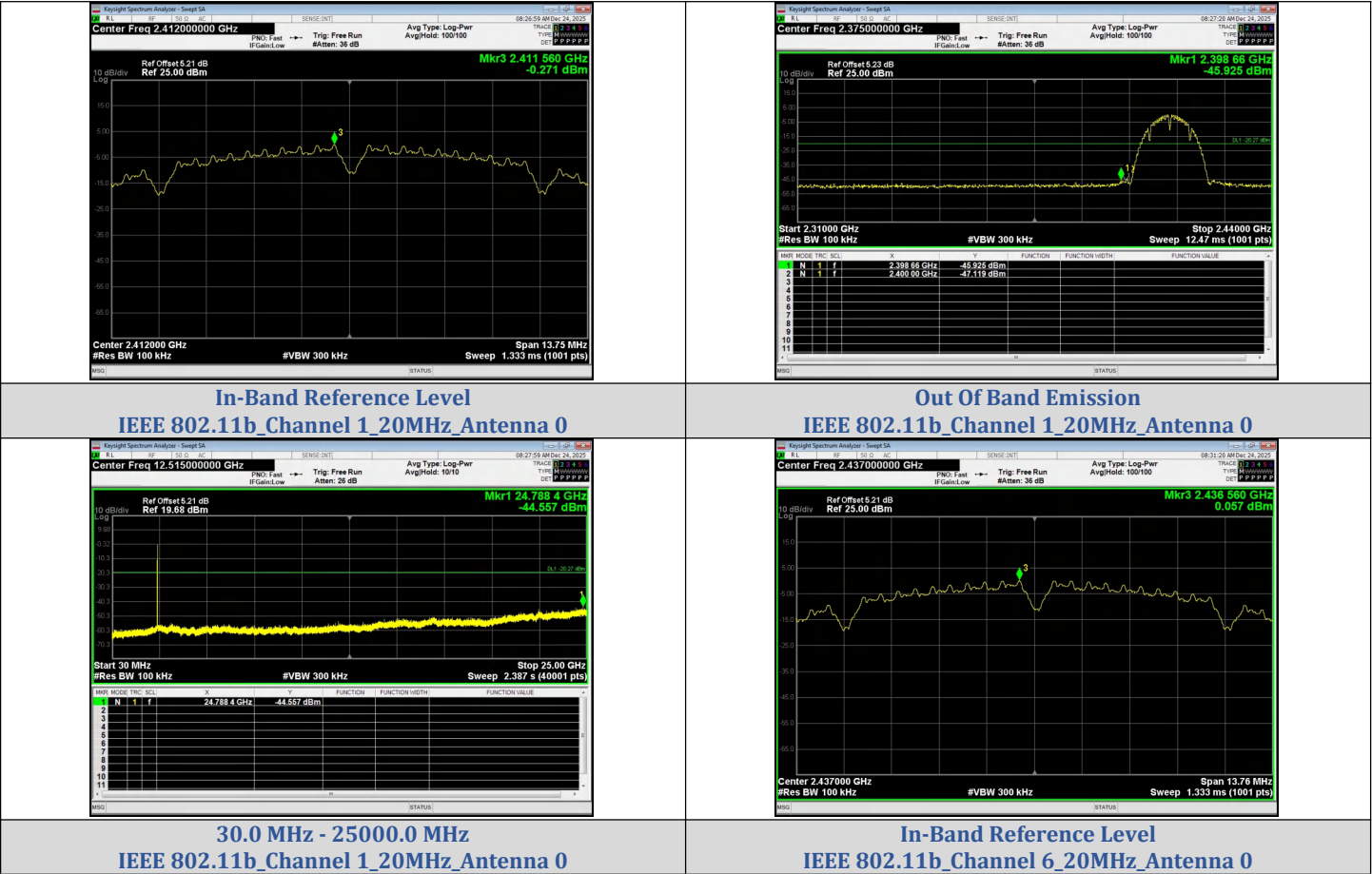
IEEE 802.11n_Channel 11_20MHz_Antenna 0

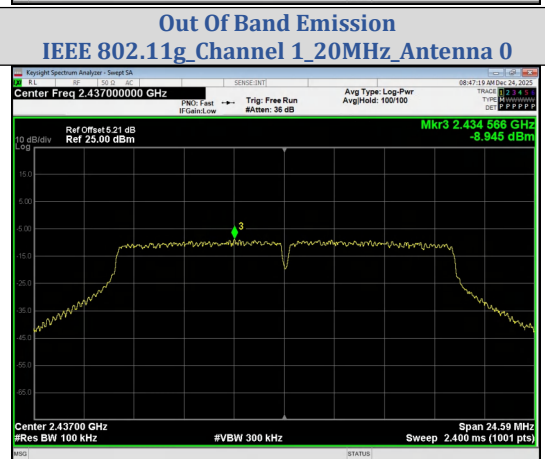
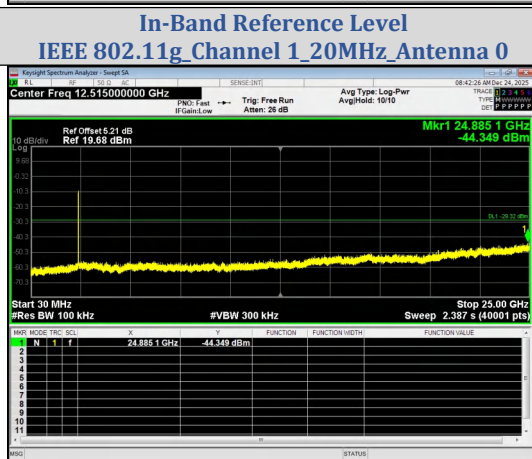
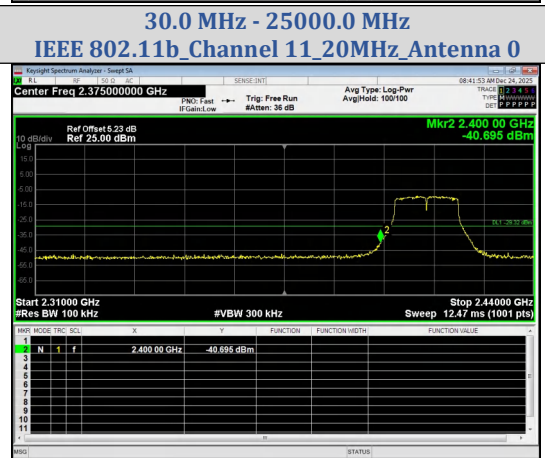
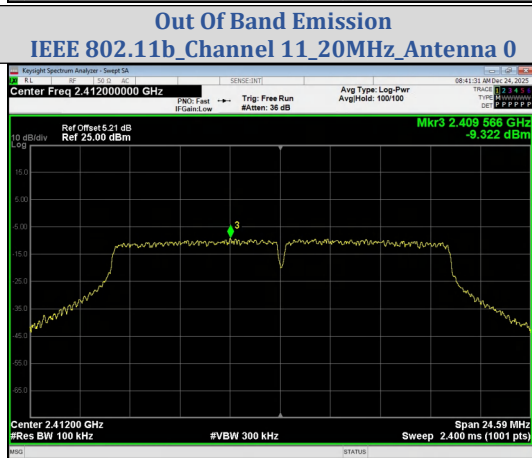
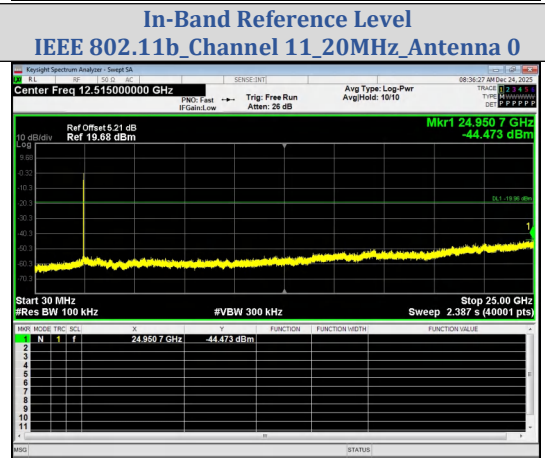
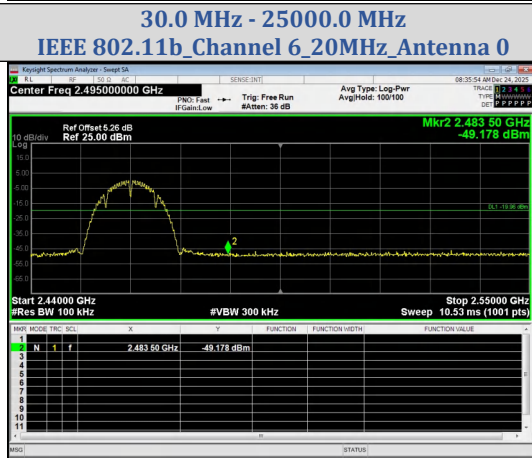
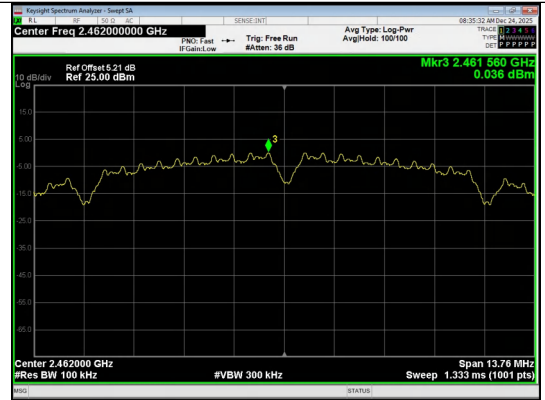
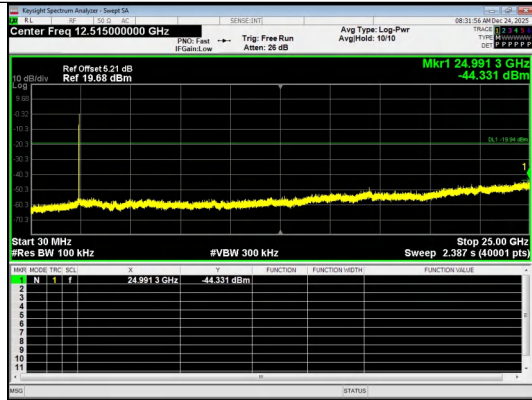
Conducted Spurious & Band Edge Emission
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2398.66	-45.925	-20.27	-25.655	PASS
			2400.00	-47.119	-20.27	-26.849	PASS
			24788.4	-44.557	-20.27	-24.287	PASS
	6		24991.3	-44.331	-19.94	-24.391	PASS
	11		2483.50	-49.178	-19.96	-29.218	PASS
			24950.7	-44.473	-19.96	-24.513	PASS
IEEE 802.11g	1		2400.00	-40.695	-29.32	-11.375	PASS
			24885.1	-44.349	-29.32	-15.029	PASS
	6		24998.1	-44.059	-28.95	-15.109	PASS
	11		2483.50	-49.440	-28.47	-20.970	PASS
			24838.3	-44.559	-28.47	-16.089	PASS
			2400.00	-40.131	-28.09	-12.041	PASS
IEEE 802.11n_20	1	24895.8	-44.514	-28.09	-16.424	PASS	
	6	24375.8	-44.238	-29.01	-15.228	PASS	
	11	2483.50	-49.618	-28.22	-21.398	PASS	
		24780.9	-44.556	-28.22	-16.336	PASS	
	Note: input compensation coefficient (dB)= Cable Loss (dB)						

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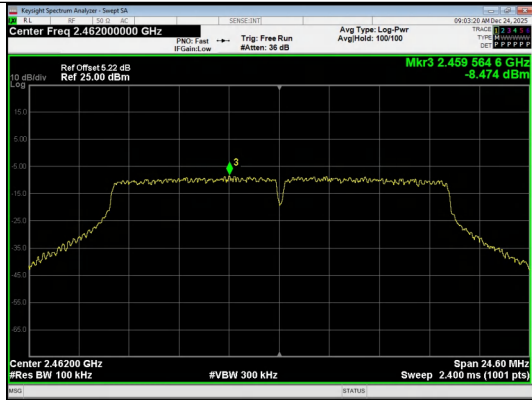
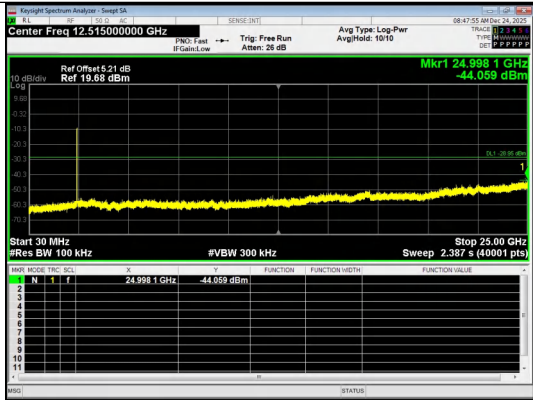
Test Graphs





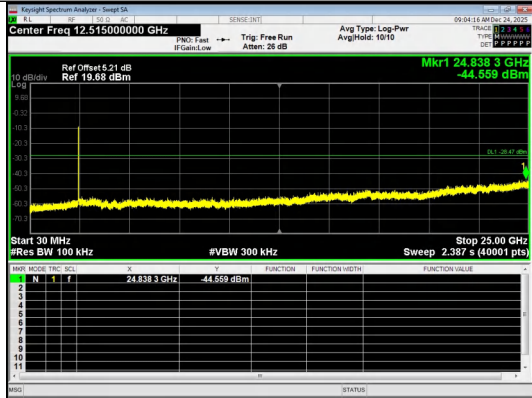
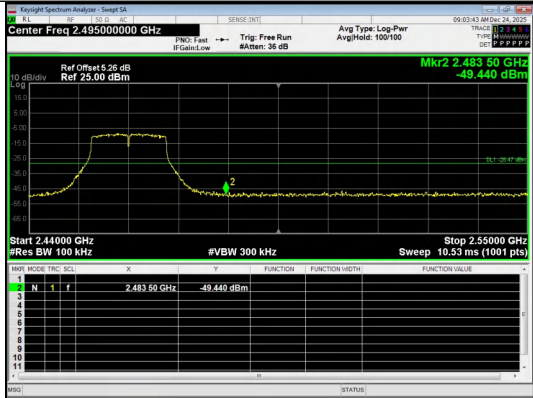
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



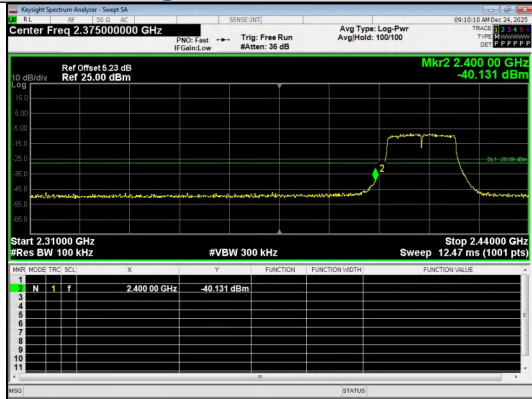
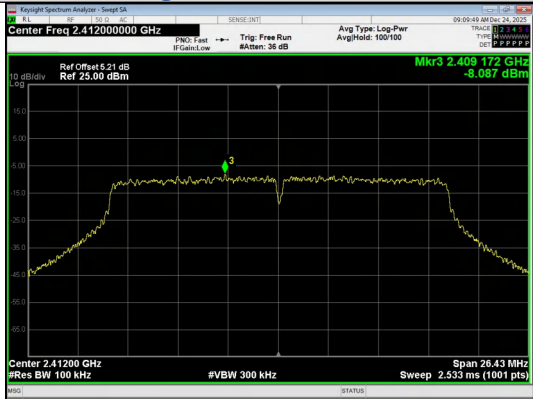
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



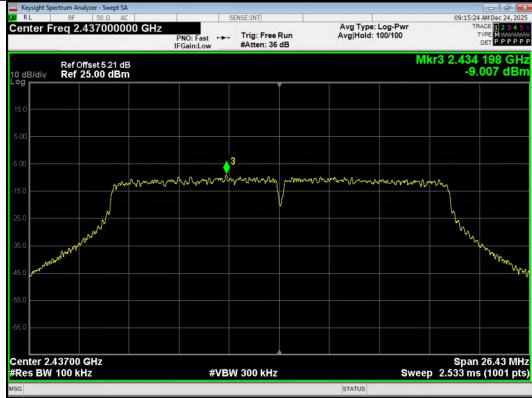
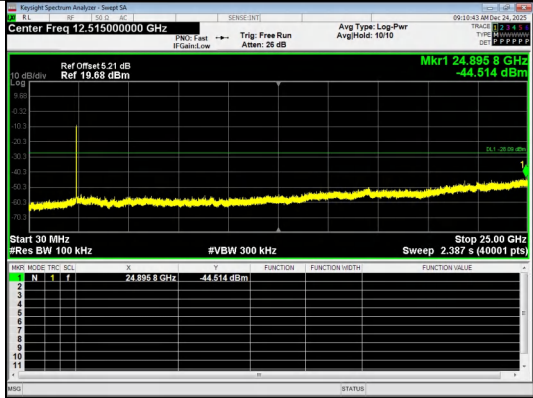
Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0

30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 11_20MHz_Antenna 0



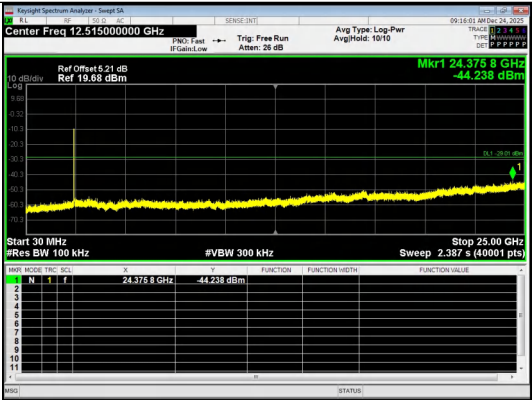
In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0

Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



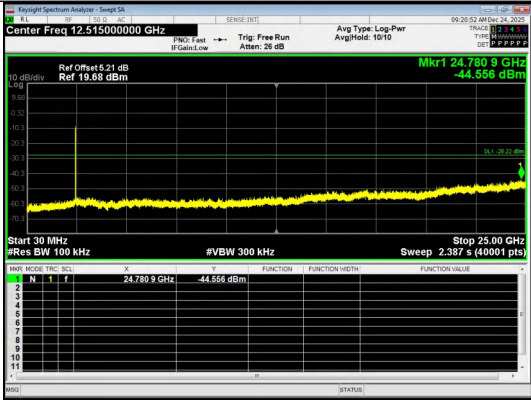
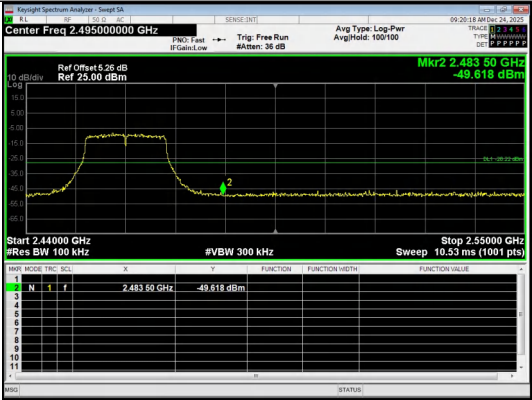
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 1_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0

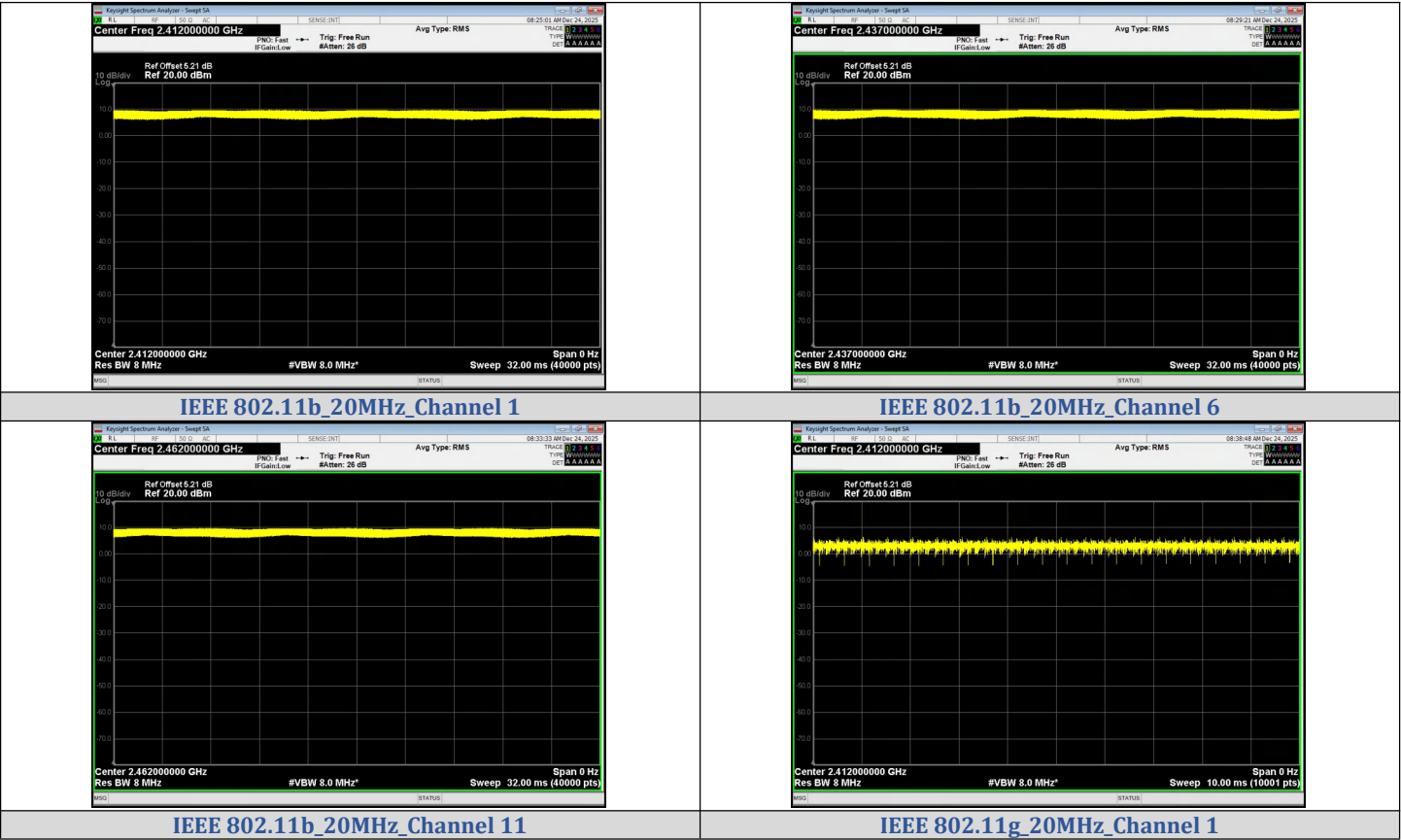
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0

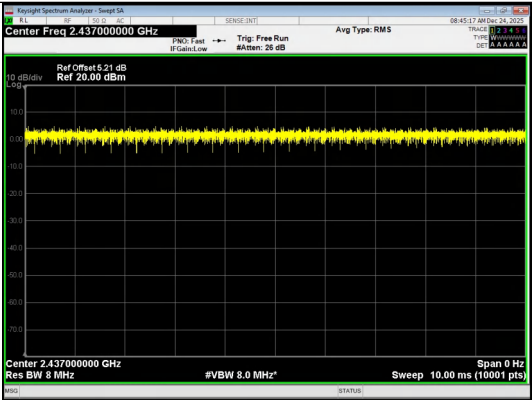
Duty Cycle

Test Result

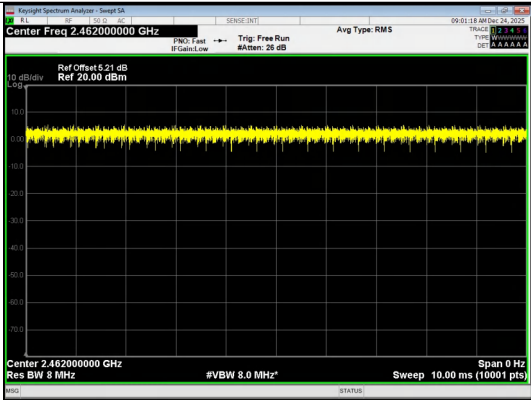
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1Mbps	1	1	32.000	32.000	100	1	0.0	0.0312
		6		32.000	32.000	100	1	0.0	0.0312
		11		32.000	32.000	100	1	0.0	0.0312
IEEE 802.11g	6 Mbps	1		10.000	10.000	100	1	0.0	0.1000
		6		10.000	10.000	100	1	0.0	0.1000
		11		10.000	10.000	100	1	0.0	0.1000
IEEE 802.11n_20	MCS 0	1		10.000	10.000	100	1	0.0	0.1000
		6		10.000	10.000	100	1	0.0	0.1000
		11		10.000	10.000	100	1	0.0	0.1000

Test Graphs

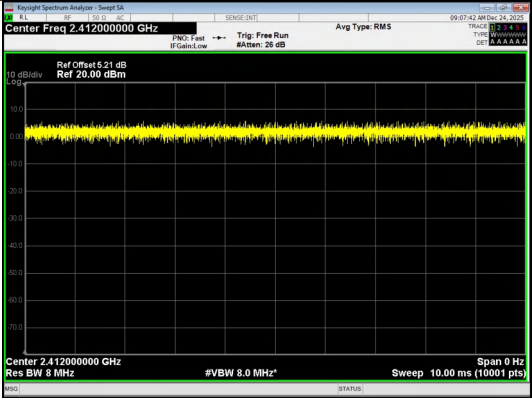




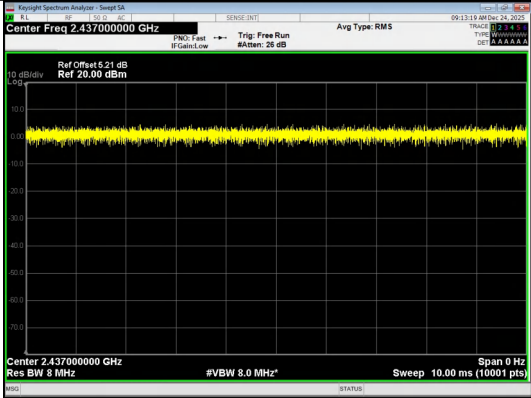
IEEE 802.11g_20MHz_Channel 6



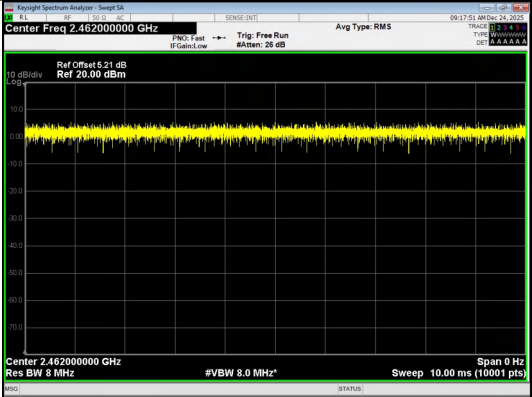
IEEE 802.11g_20MHz_Channel 11



IEEE 802.11n_20MHz_Channel 1



IEEE 802.11n_20MHz_Channel 6

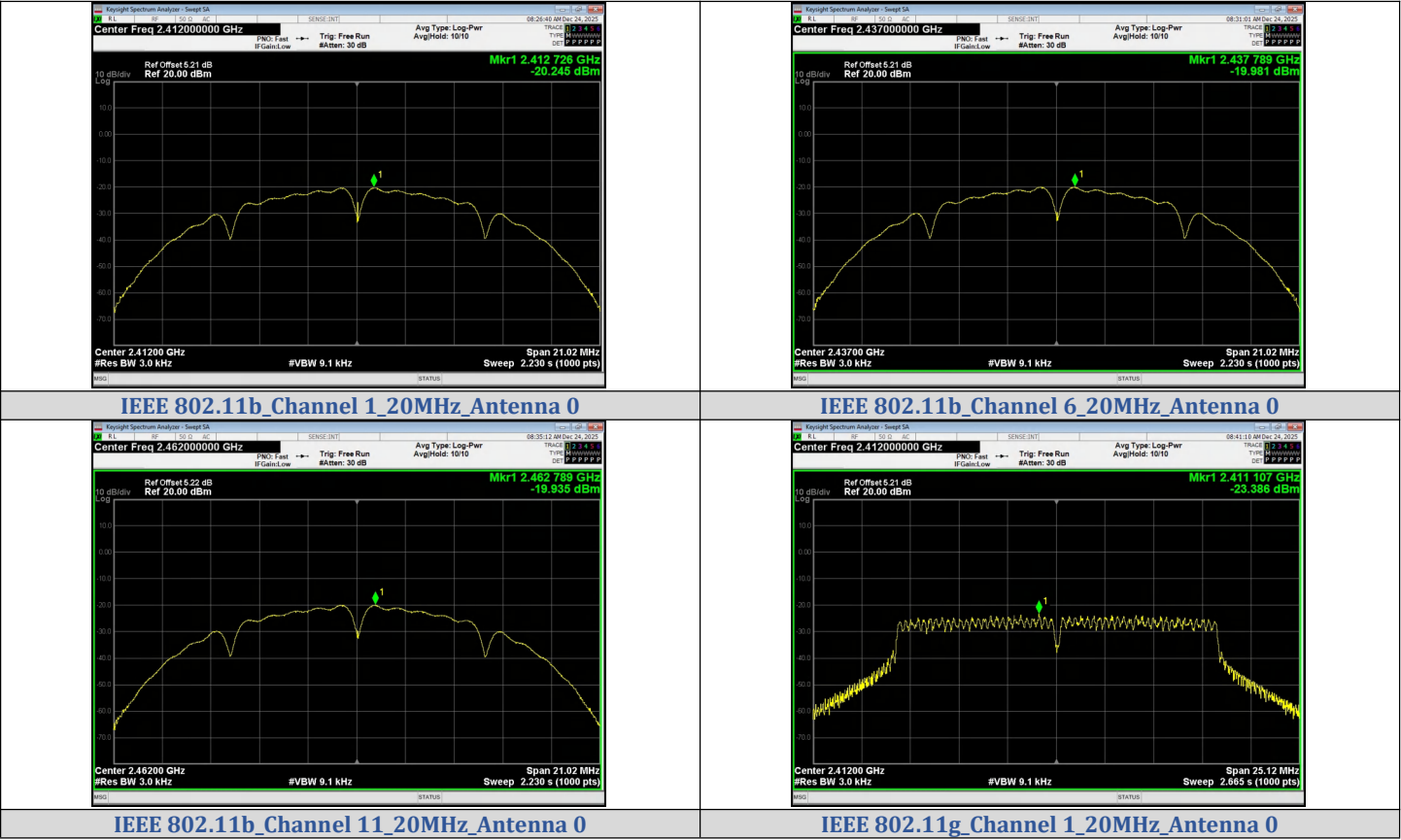


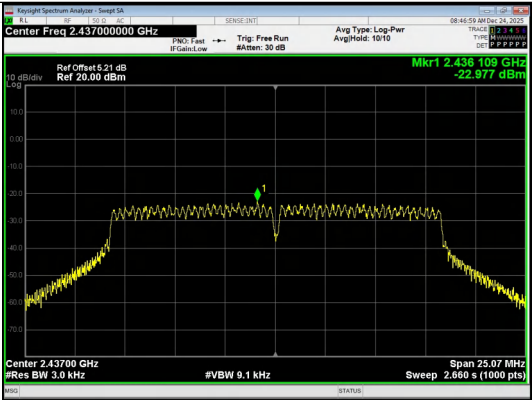
IEEE 802.11n_20MHz_Channel 11

Power Spectral Density
Test Result

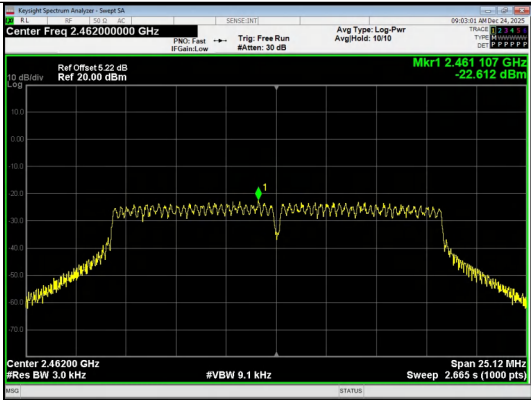
Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-20.250	≤8	PASS
	6	-19.980		PASS
	11	-19.930		PASS
IEEE 802.11g	1	-23.390		PASS
	6	-22.980		PASS
	11	-22.610		PASS
IEEE 802.11n_20	1	-22.440		PASS
	6	-23.300		PASS
	11	-22.600		PASS

Test Graphs

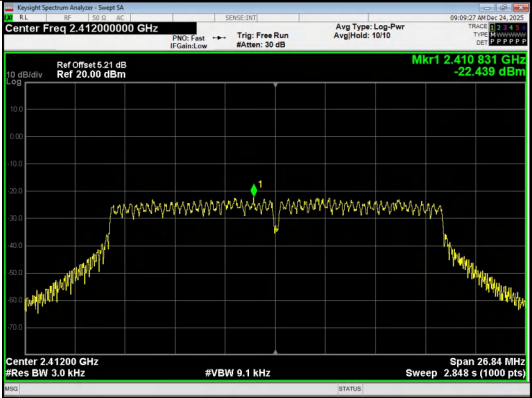




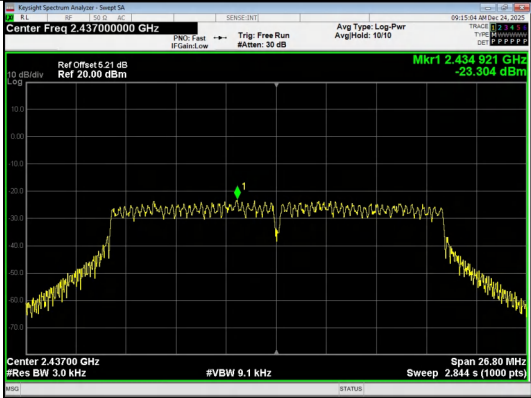
IEEE 802.11g_Channel 6_20MHz_Antenna 0



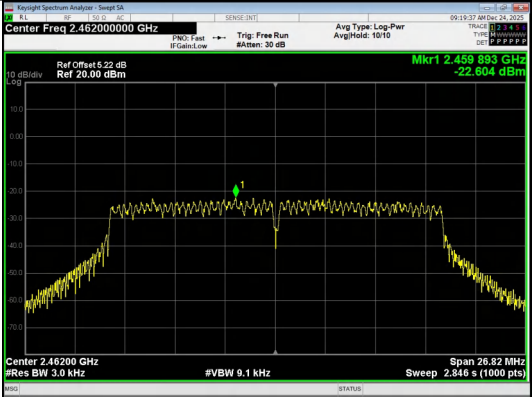
IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0