

Appendix RF test data for WIFI2.4G

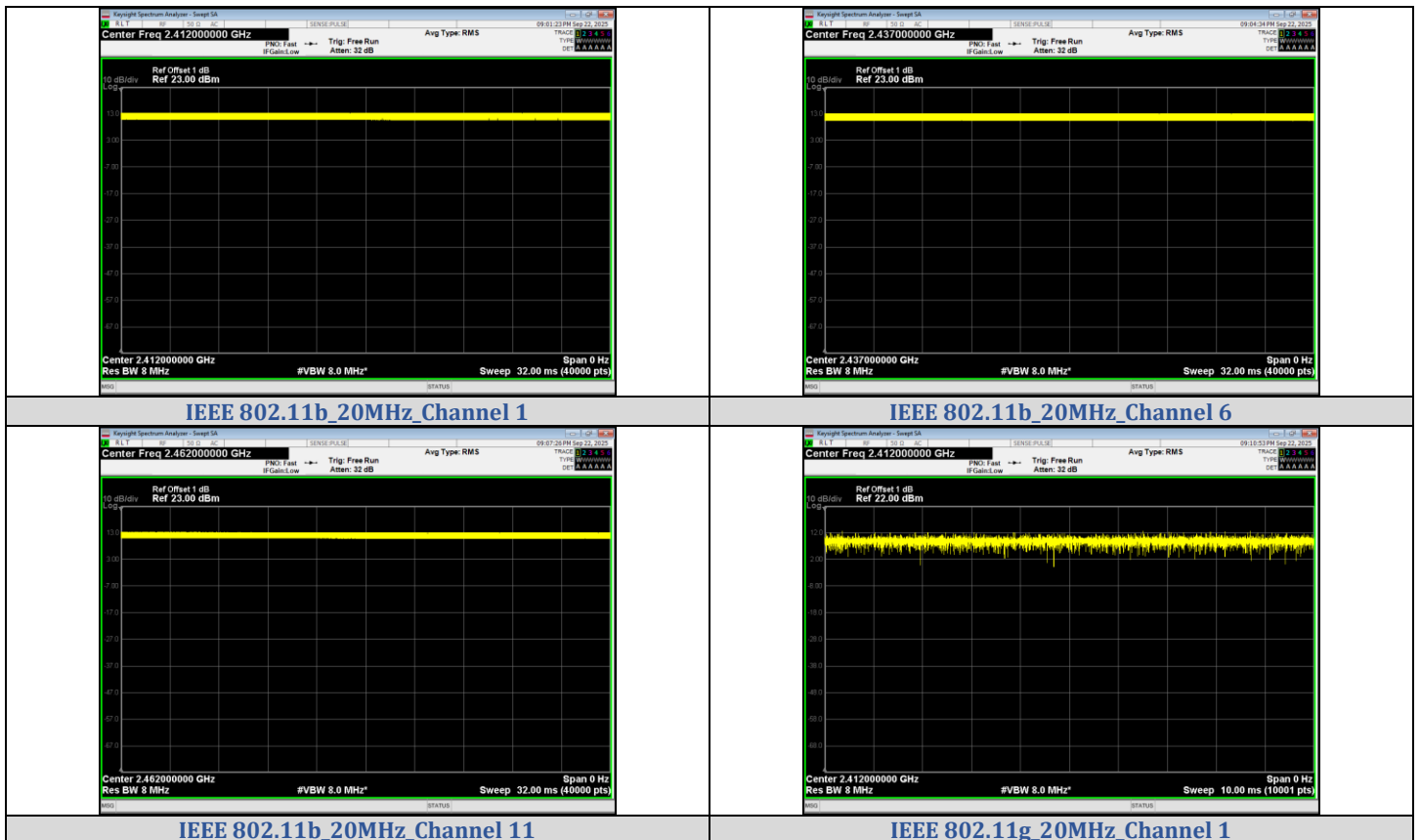


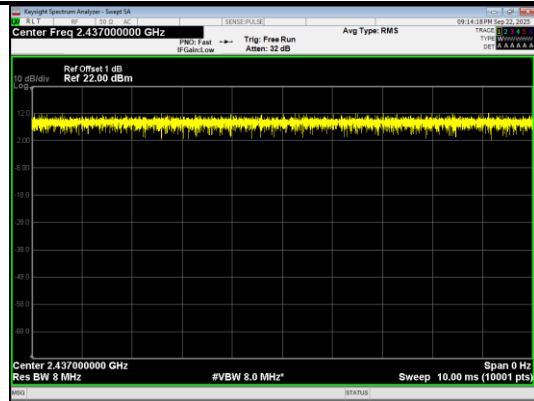
Duty Cycle

Test Result

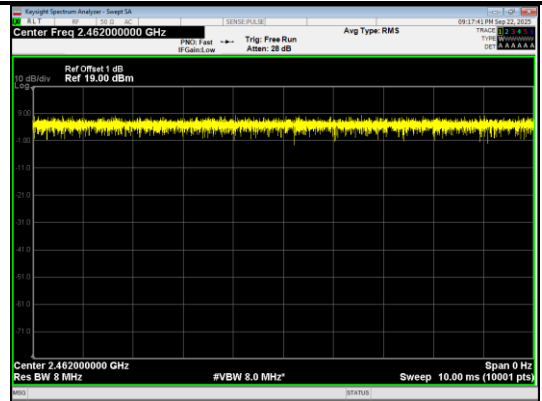
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1	1	1	32.000	32.000	100	1	0.0	0.0312
		6		32.000	32.000	100	1	0.0	0.0312
		11		32.000	32.000	100	1	0.0	0.0312
IEEE 802.11g		1		10.000	10.000	100	1	0.0	0.1000
		6		10.000	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
IEEE 802.11n_40		3		10.000	10.000	100	1	0.0	0.1000
		6		10.000	10.000	100	1	0.0	0.1000
		9		10.000	10.000	100	1	0.0	0.1000

Test Graphs

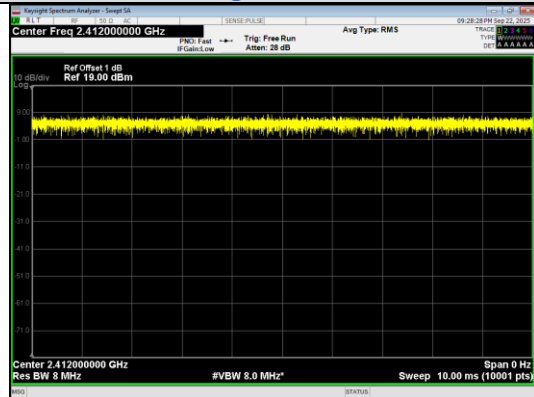




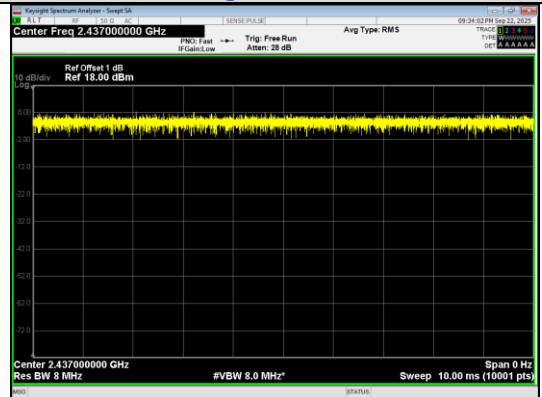
IEEE 802.11g 20MHz Channel 6



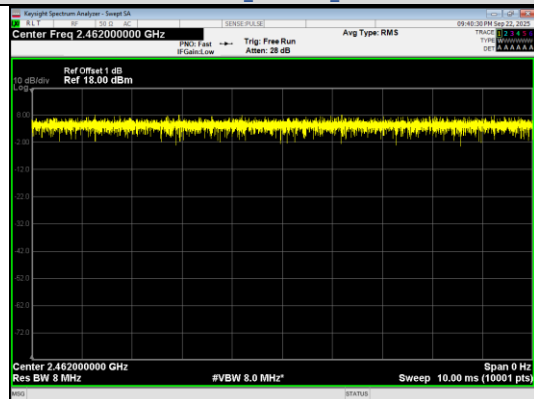
IEEE 802.11g 20MHz Channel 11



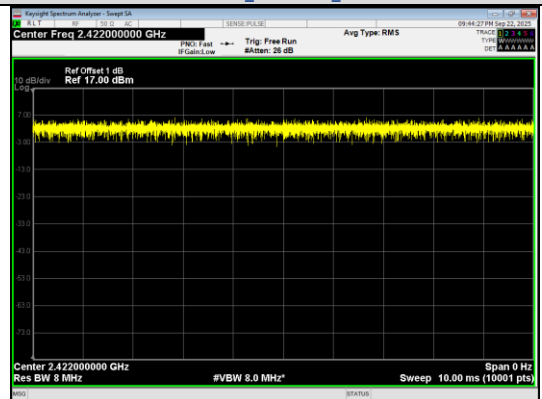
IEEE 802.11n 20MHz Channel 1



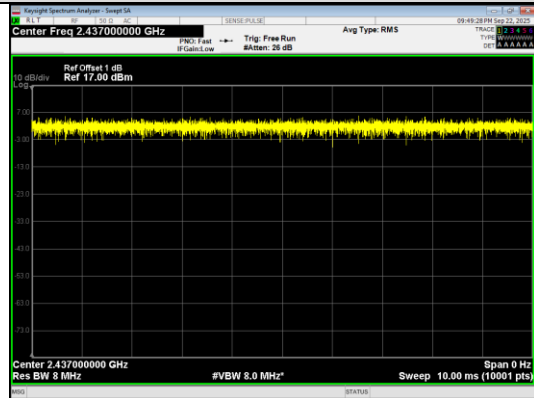
IEEE 802.11n 20MHz Channel 6



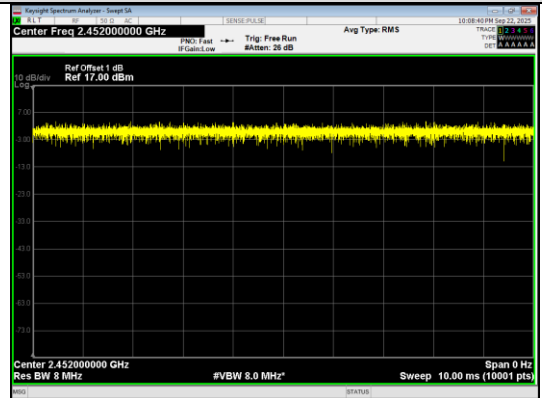
IEEE 802.11n 20MHz Channel 11



IEEE 802.11n 40MHz Channel 3



IEEE 802.11n 40MHz Channel 6



IEEE 802.11n 40MHz Channel 9

Conducted Output Power

Test Result

Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	13.07	≤30	PASS
	6	12.97	≤30	PASS
	11	13.19	≤30	PASS
IEEE 802.11g	1	13.28	≤30	PASS
	6	12.72	≤30	PASS
	11	12.76	≤30	PASS
IEEE 802.11n_20	1	12.90	≤30	PASS
	6	12.36	≤30	PASS
	11	12.40	≤30	PASS
IEEE 802.11n_40	3	12.16	≤30	PASS
	6	10.91	≤30	PASS
	9	10.83	≤30	PASS

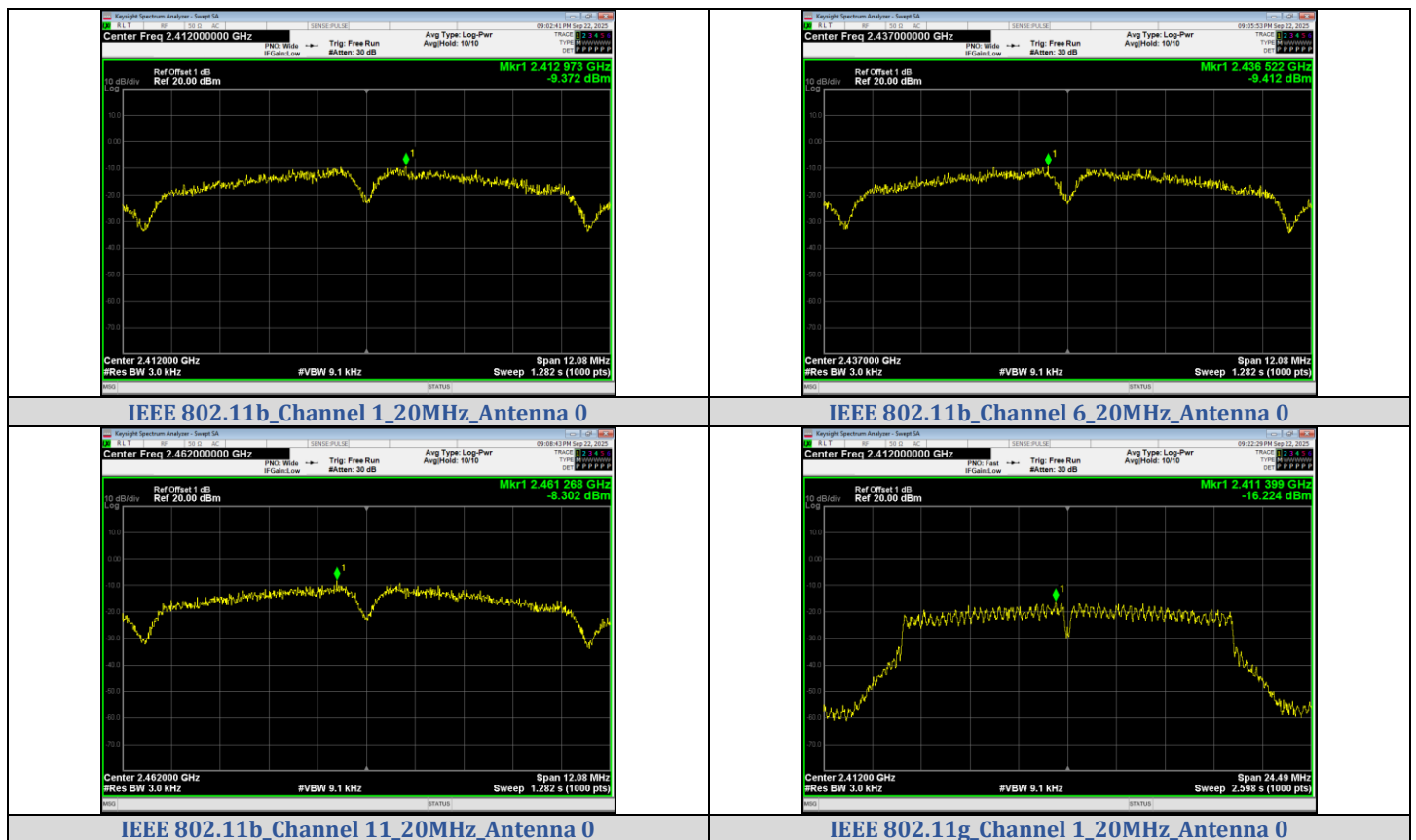


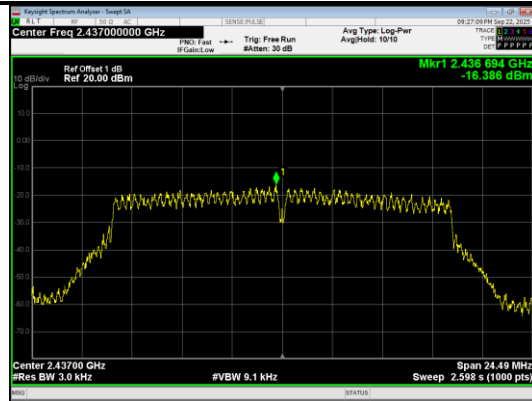
Power Spectral Density

Test Result

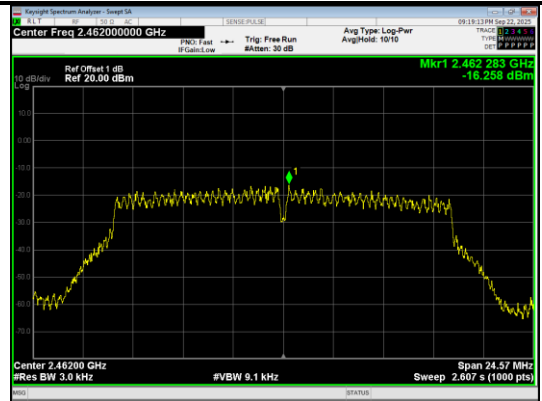
Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-9.370	≤8	PASS
	6	-9.410		PASS
	11	-8.300		PASS
IEEE 802.11g	1	-16.220		PASS
	6	-16.390		PASS
	11	-16.260		PASS
IEEE 802.11n_20	1	-16.570		PASS
	6	-17.200		PASS
	11	-17.120		PASS
IEEE 802.11n_40	3	-20.080		PASS
	6	-20.620		PASS
	9	-20.960		PASS

Test Graphs

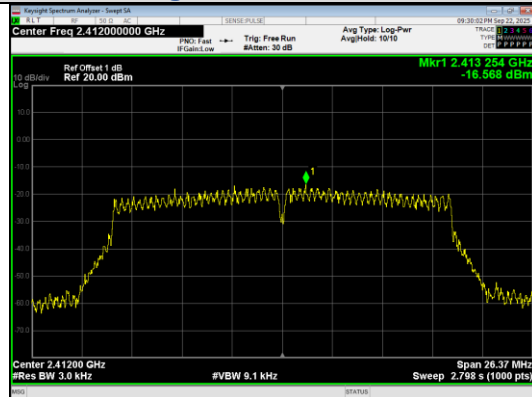




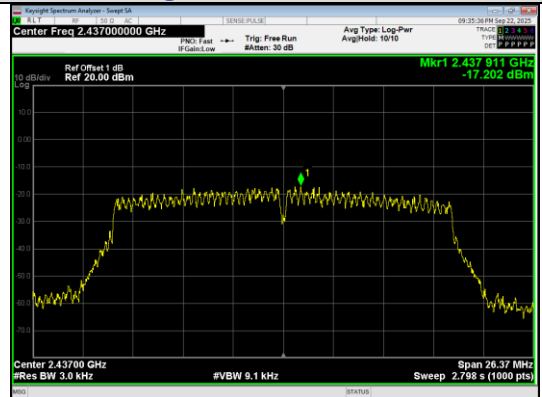
IEEE 802.11g Channel 6 20MHz_Antenna 0



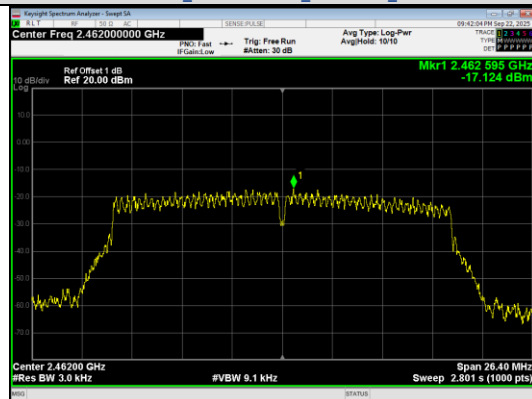
IEEE 802.11g Channel 11 20MHz_Antenna 0



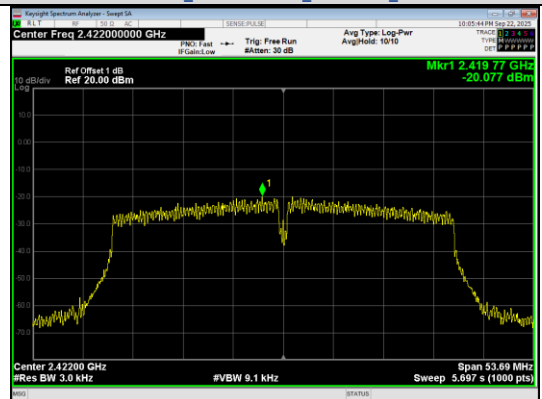
IEEE 802.11n Channel 1 20MHz_Antenna 0



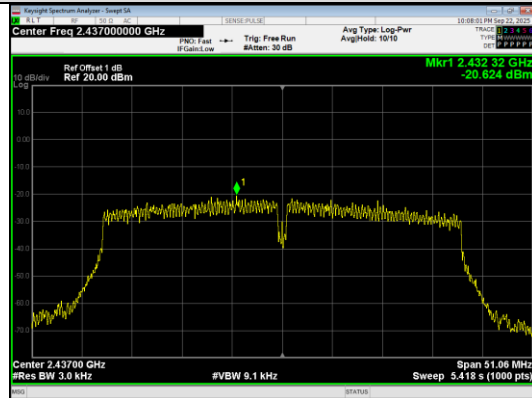
IEEE 802.11n Channel 6 20MHz_Antenna 0



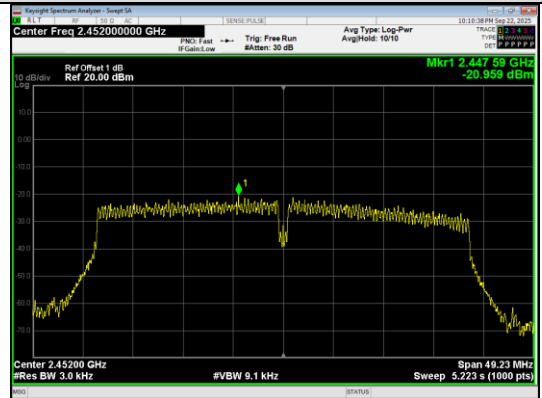
IEEE 802.11n Channel 11 20MHz_Antenna 0



IEEE 802.11n Channel 3 40MHz_Antenna 0



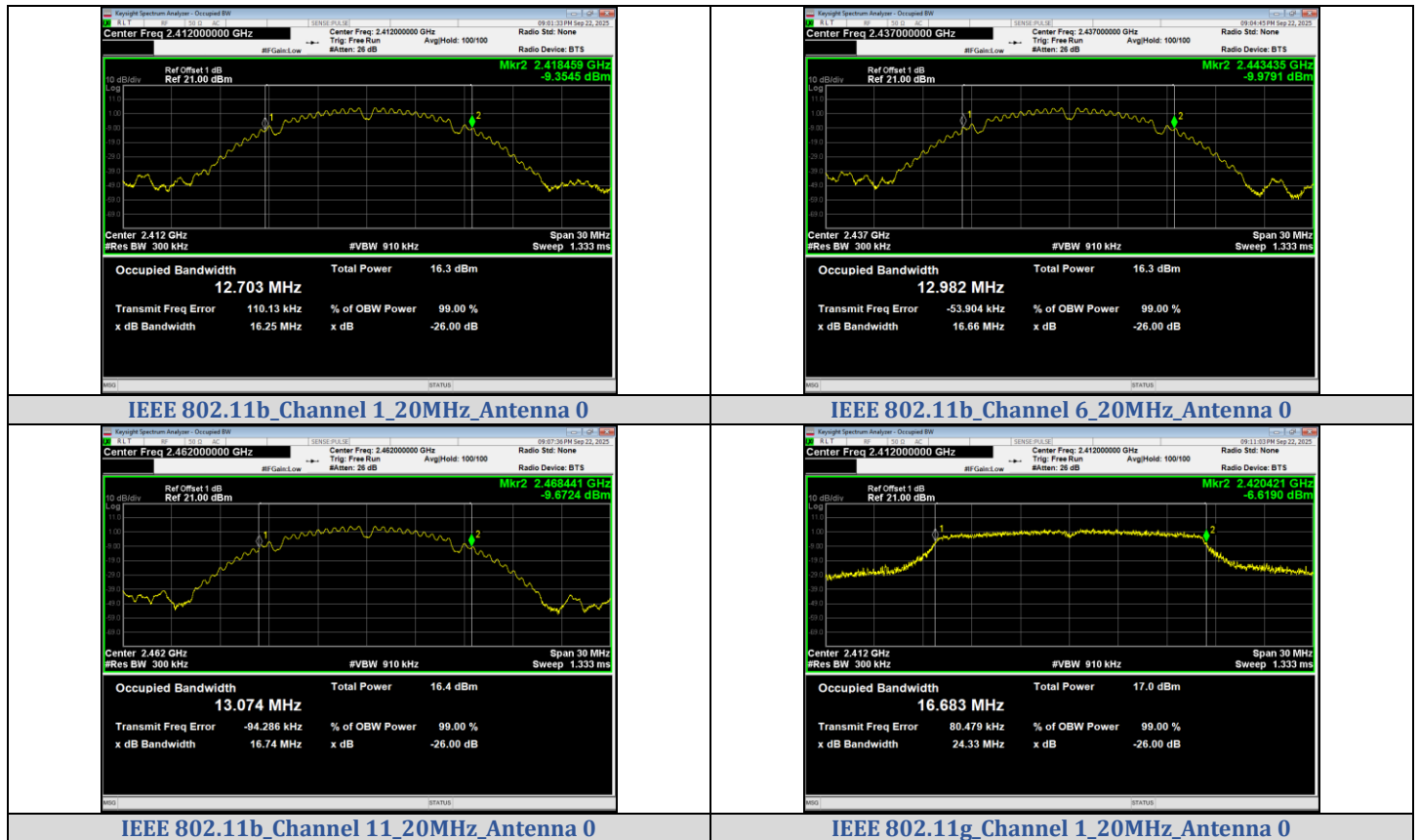
IEEE 802.11n Channel 6 40MHz_Antenna 0

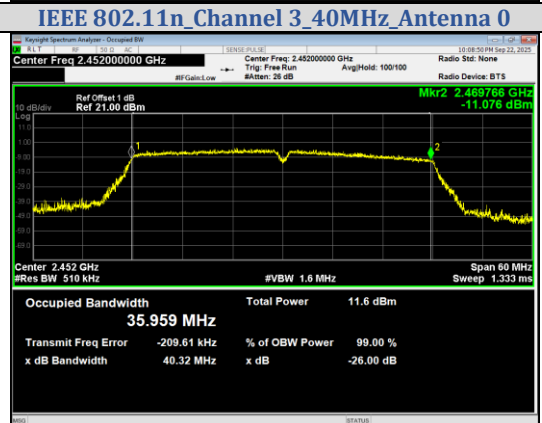
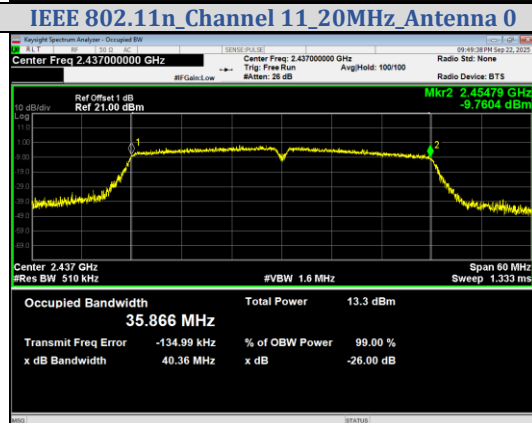
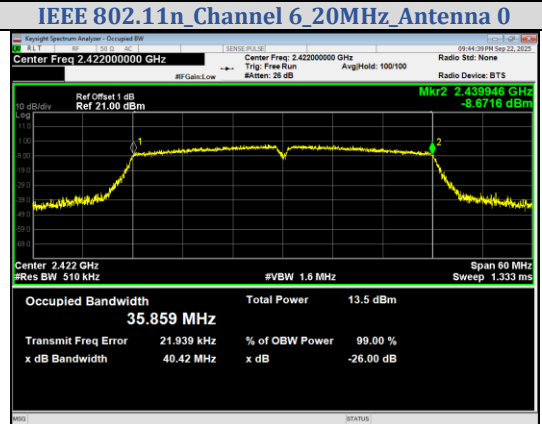
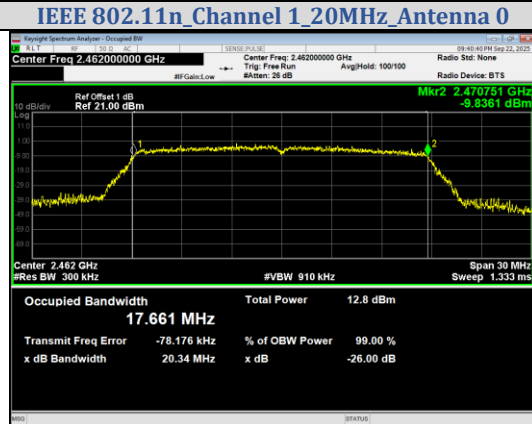
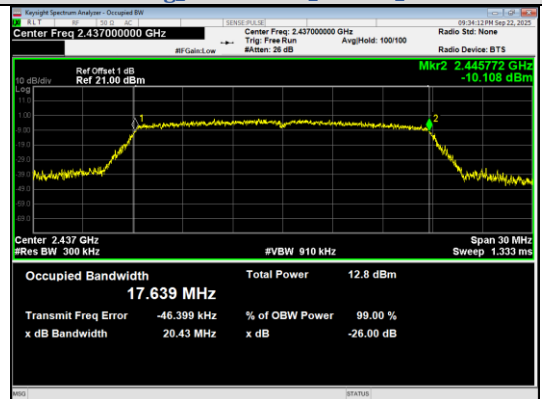
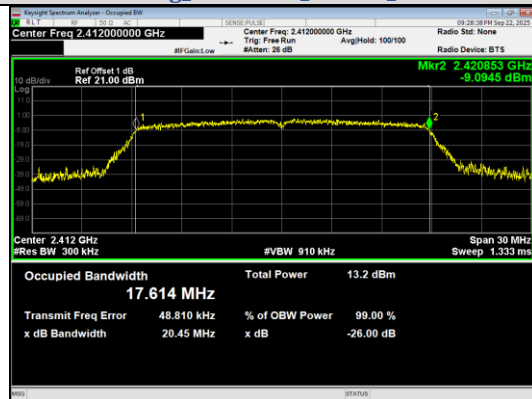
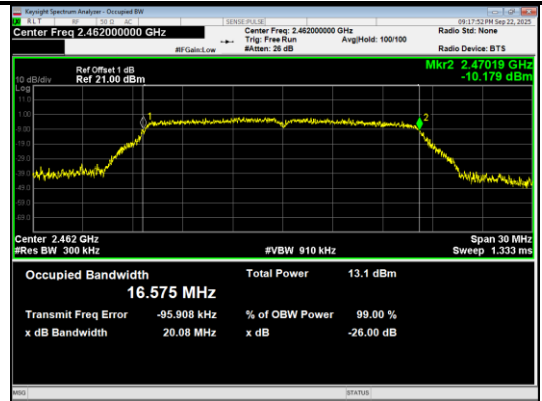
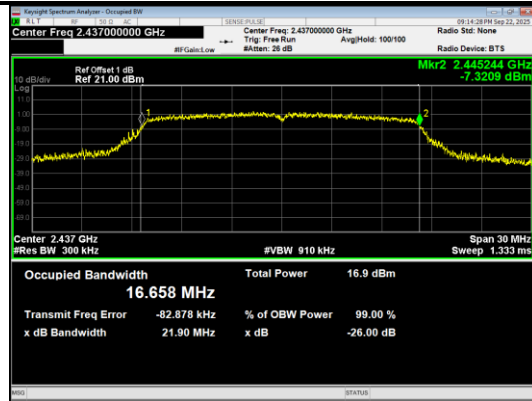


IEEE 802.11n Channel 9 40MHz_Antenna 0

**99% Bandwidth****Test Result**

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	0	2412	12.703
	6		2437	12.982
	11		2462	13.074
IEEE 802.11g	1		2412	16.683
	6		2437	16.658
	11		2462	16.575
IEEE 802.11n_20	1		2412	17.614
	6		2437	17.639
	11		2462	17.661
IEEE 802.11n_40	3		2422	35.859
	6		2437	35.866
	9		2452	35.959

Test Graphs

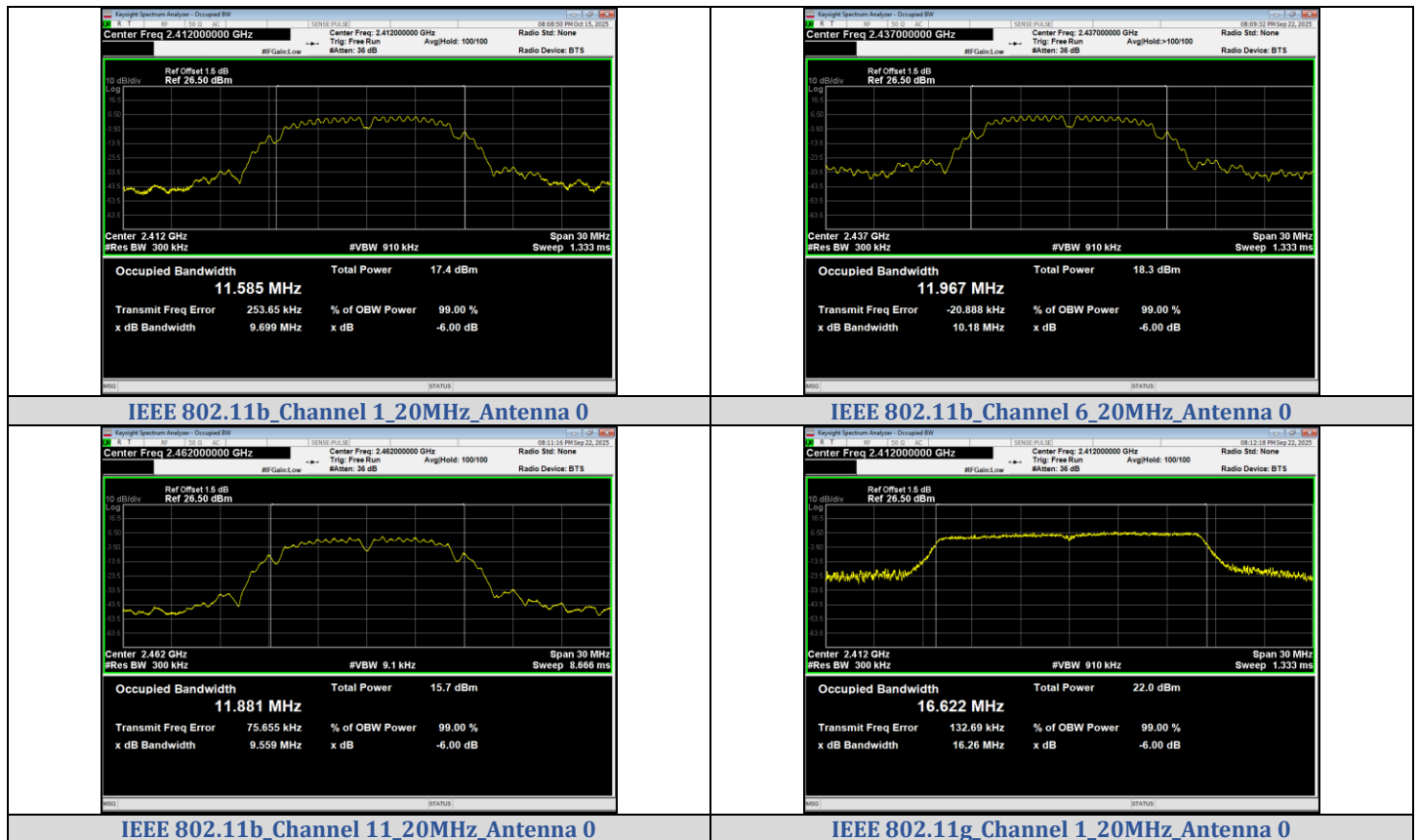


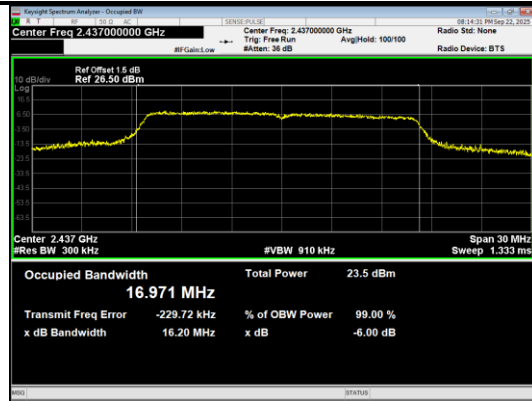
IEEE 802.11n_Channel 6_40MHz_Antenna 0

IEEE 802.11n_Channel 9_40MHz_Antenna 0

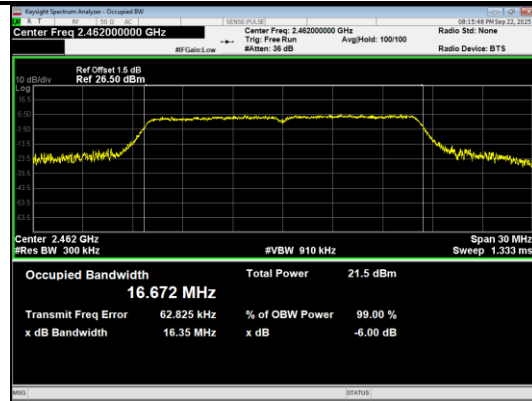
**6dB Bandwidth****Test Result**

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	9.700	≥0.5	PASS
	6		2437	10.18		PASS
	11		2462	9.560		PASS
IEEE 802.11g	1		2412	16.26		PASS
	6		2437	16.20		PASS
	11		2462	16.35		PASS
IEEE 802.11n_20	1		2412	17.14		PASS
	6		2437	17.01		PASS
	11		2462	17.41		PASS
IEEE 802.11n_40	3		2422	34.39		PASS
	6		2437	36.02		PASS
	9		2452	35.48		PASS

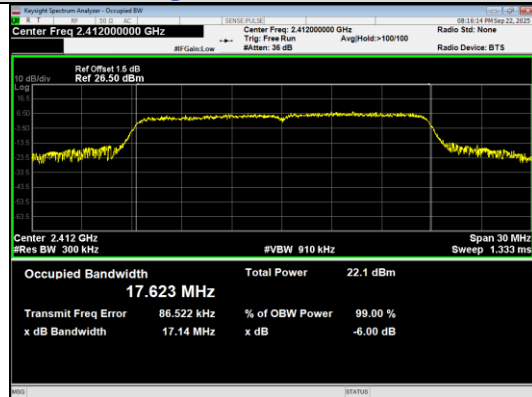
Test Graphs



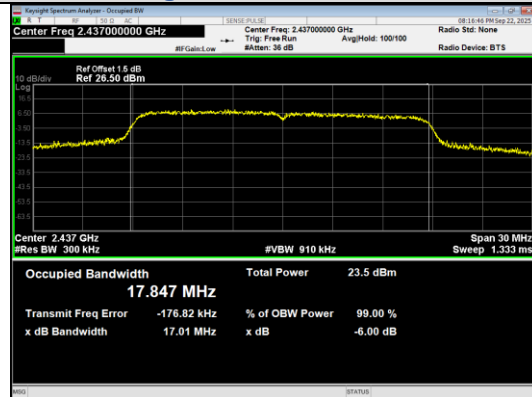
IEEE 802.11g Channel 6 20MHz Antenna 0



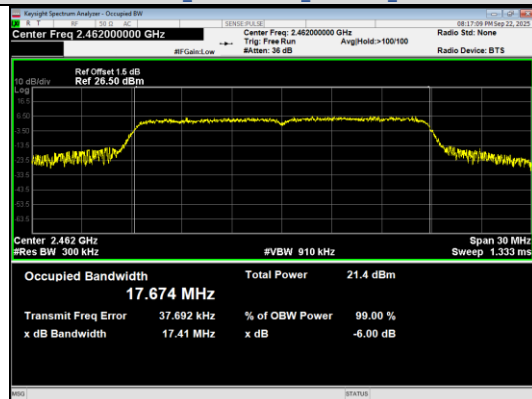
IEEE 802.11g Channel 11 20MHz Antenna 0



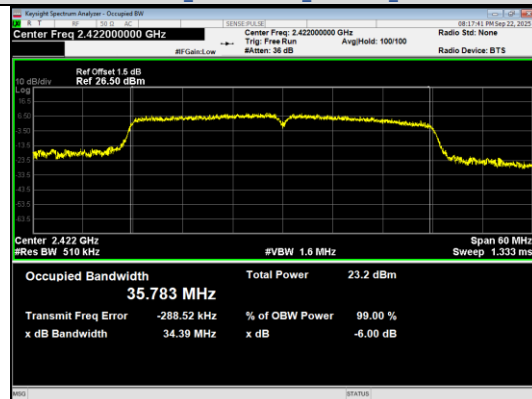
IEEE 802.11n Channel 1 20MHz Antenna 0



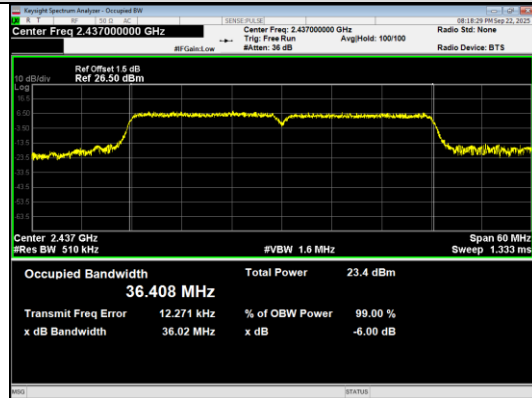
IEEE 802.11n Channel 6 20MHz Antenna 0



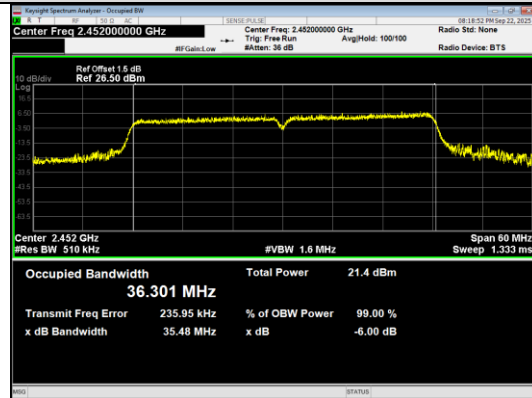
IEEE 802.11n Channel 11 20MHz Antenna 0



IEEE 802.11n Channel 3 40MHz Antenna 0



IEEE 802.11n Channel 6 40MHz Antenna 0



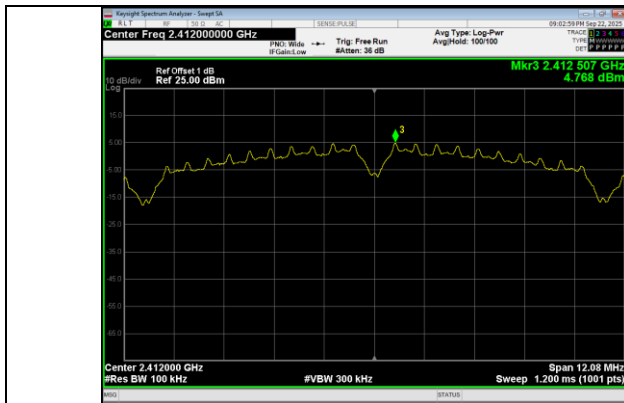
IEEE 802.11n Channel 9 40MHz Antenna 0

Conducted Out Of Band Emission

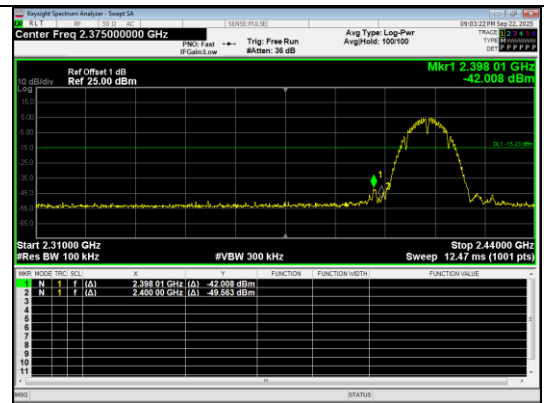
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2398.01	-42.008	-15.23	-26.778	PASS
			2400.00	-49.560	-15.23	-34.330	PASS
			24967.5	-38.728	-15.23	-23.498	PASS
	6		24380.1	-39.962	-15.4	-24.562	PASS
	11		2483.50	-52.950	-15.24	-37.710	PASS
			24974.4	-40.294	-15.24	-25.054	PASS
IEEE 802.11g	1		2400.00	-29.860	-21.71	-8.150	PASS
	6		24837.7	-39.232	-21.71	-17.522	PASS
			24944.4	-39.676	-21.65	-18.026	PASS
	11		2483.50	-51.750	-25.14	-26.610	PASS
			24716.0	-39.770	-25.14	-14.630	PASS
	IEEE 802.11n_20		1	2396.71	-40.067	-25.45	-14.617
6			2400.00	-40.660	-25.45	-15.210	PASS
			24338.3	-39.408	-25.45	-13.958	PASS
11			24928.2	-40.037	-25.56	-14.477	PASS
			2483.50	-53.160	-25.38	-27.780	PASS
24941.9			-39.640	-25.38	-14.260	PASS	
IEEE 802.11n_40	3		2397.23	-42.859	-27.73	-15.129	PASS
	6	2400.00	-46.050	-27.73	-18.320	PASS	
		24982.5	-39.414	-27.73	-11.684	PASS	
	9	24998.8	-40.211	-28.48	-11.731	PASS	
		2483.50	-51.290	-30.28	-21.010	PASS	
	24903.2	-39.774	-30.28	-9.494	PASS		

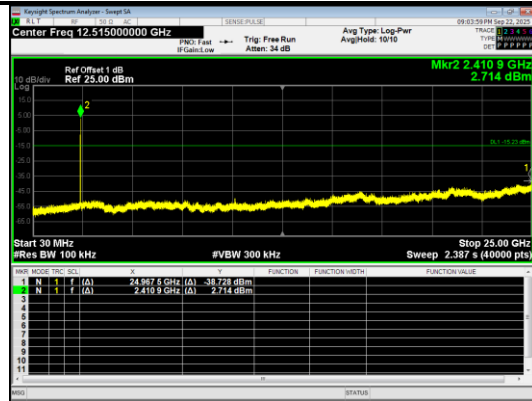
Test Graphs



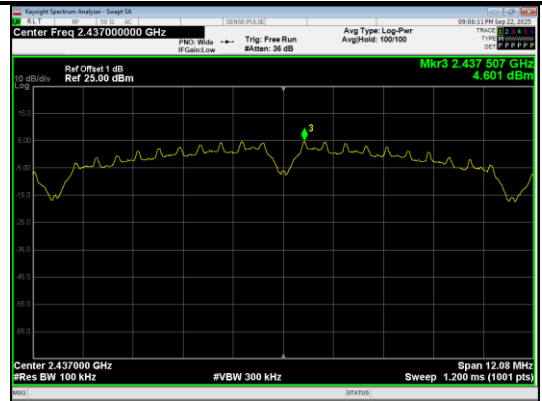
In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



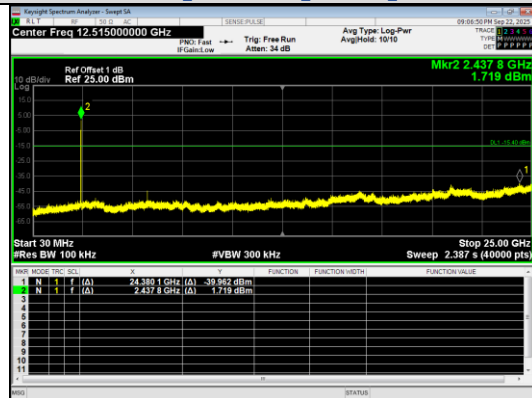
Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0



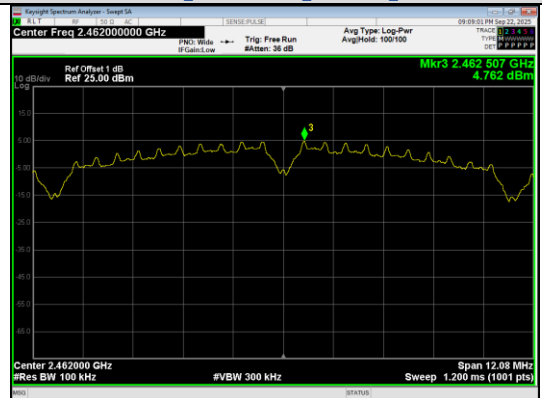
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0



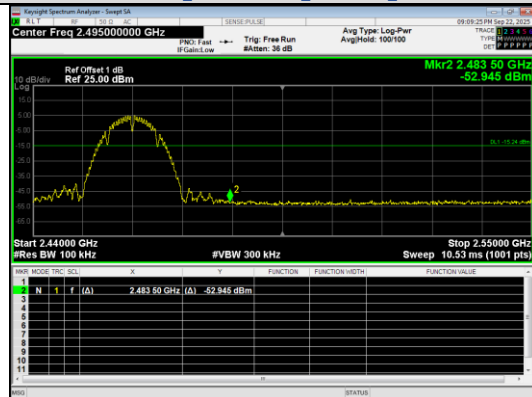
In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



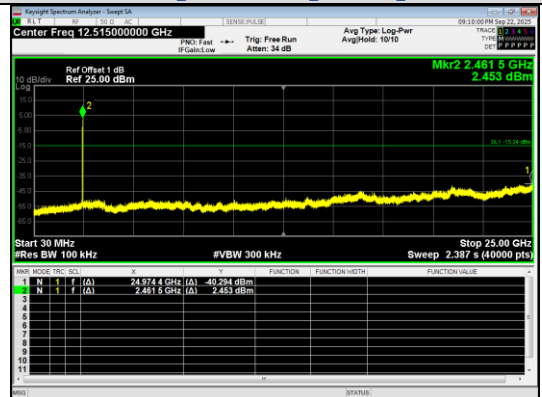
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 6_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11b_Channel 11_20MHz_Antenna 0



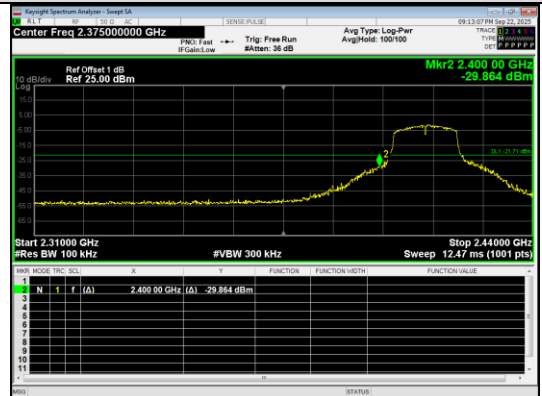
Out Of Band Emission
IEEE 802.11b_Channel 11_20MHz_Antenna 0



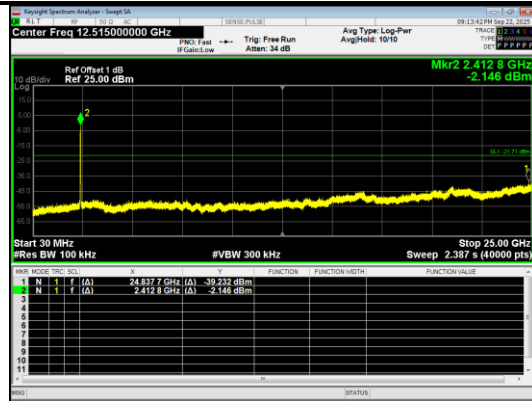
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0



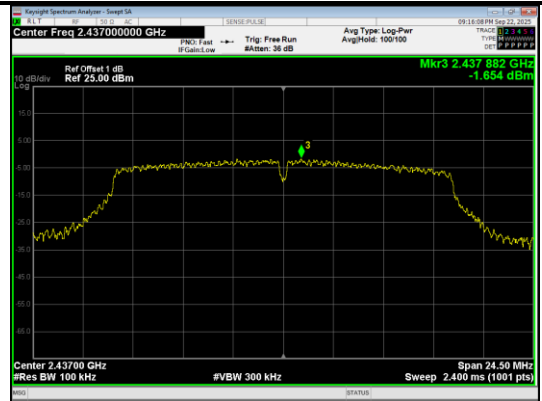
In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



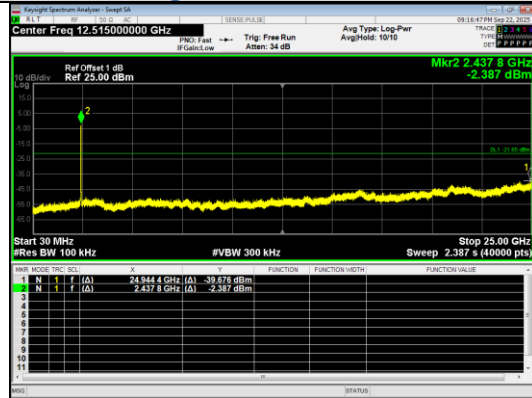
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0



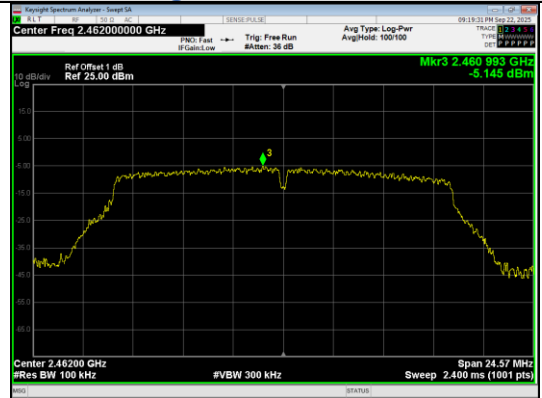
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0



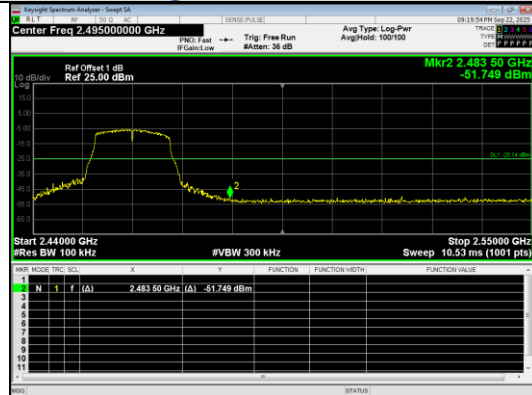
In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



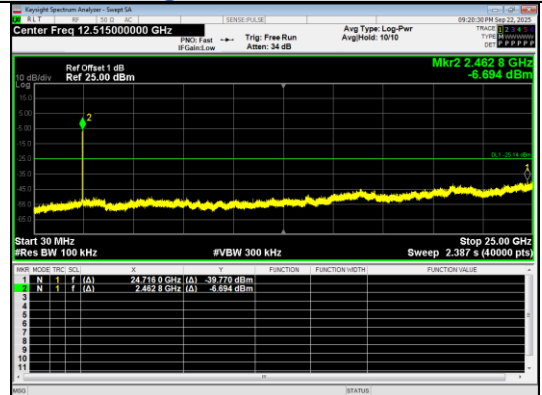
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



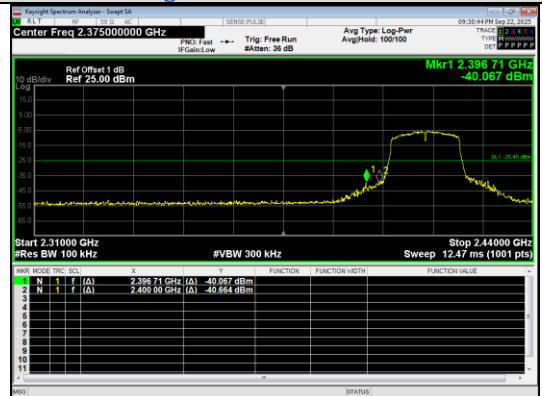
Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0



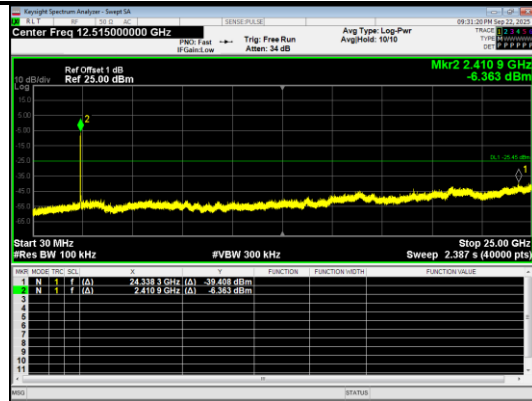
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IEEE 802.11g_Channel 11_20MHz_Antenna 0



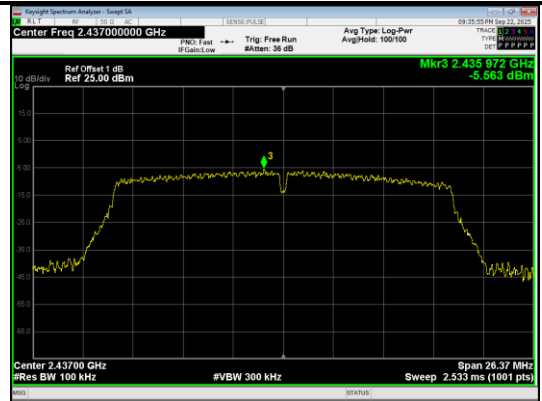
In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0



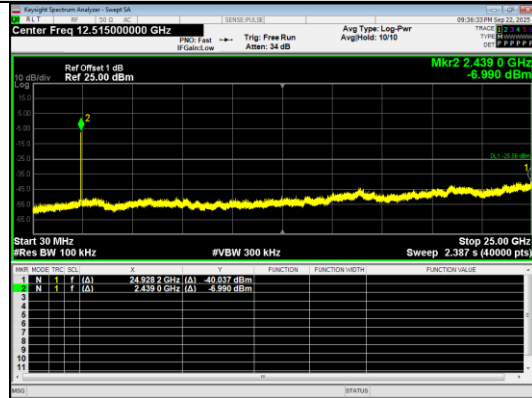
Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



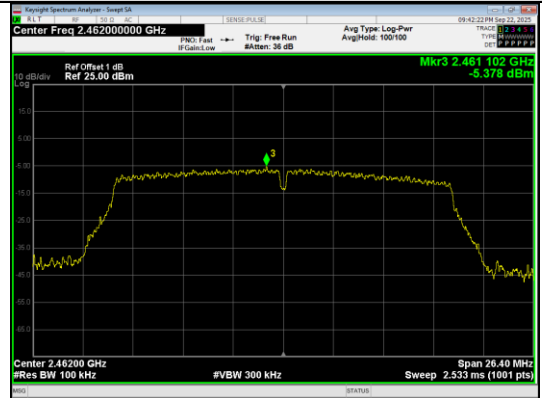
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IEEE 802.11n_Channel 1_20MHz_Antenna 0



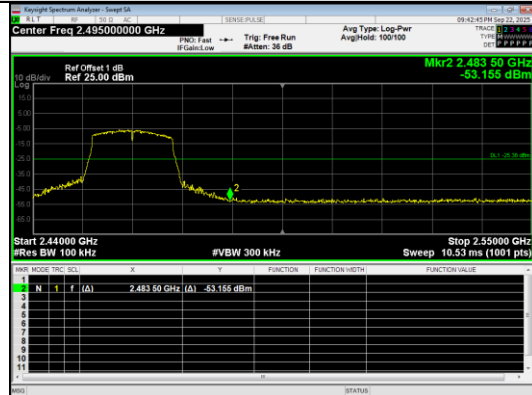
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IEEE 802.11n_Channel 6_20MHz_Antenna 0



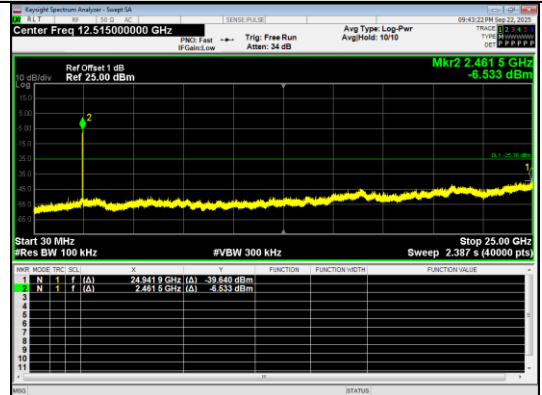
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



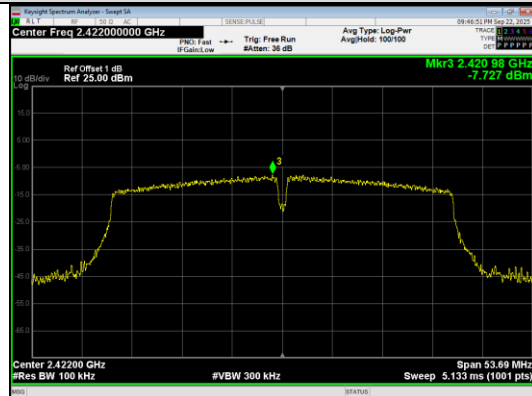
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



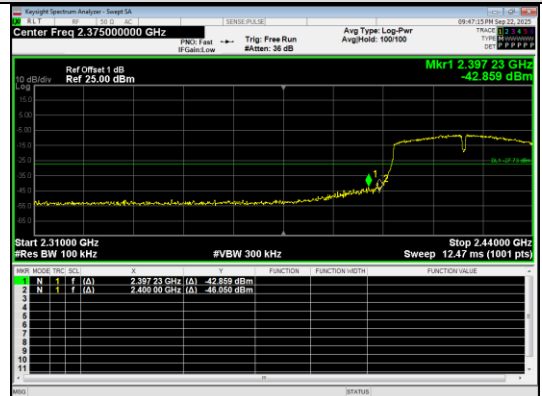
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



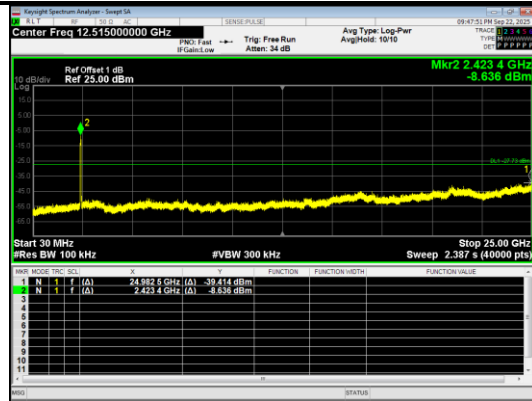
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0



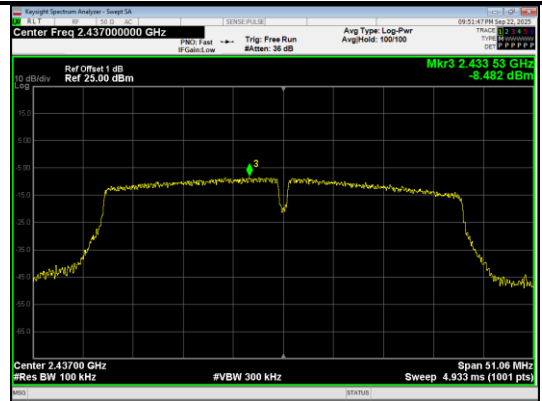
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



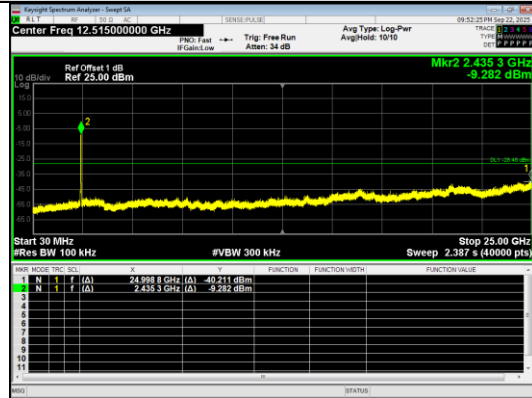
Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



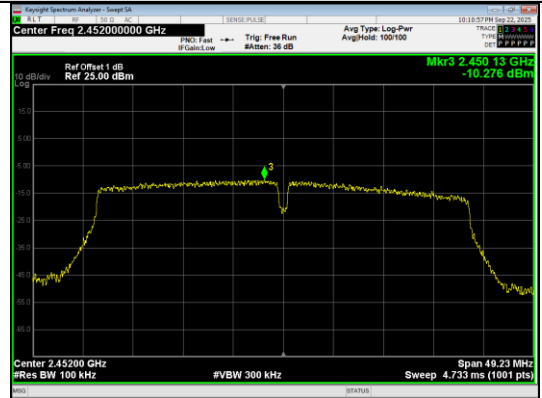
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 3_40MHz_Antenna 0



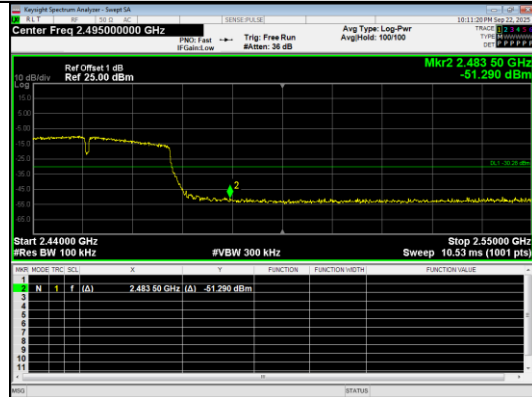
In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



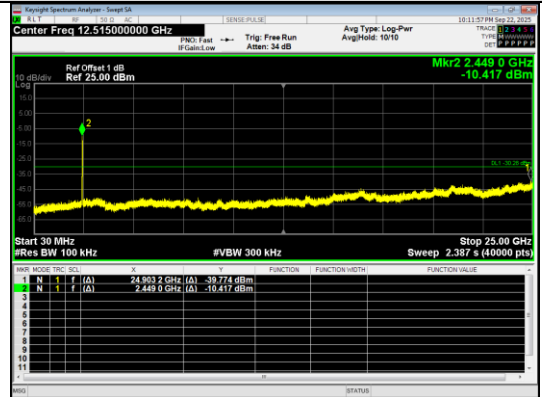
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 3_40MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 9_40MHz_Antenna 0

***** End of Report *****