Appendix A

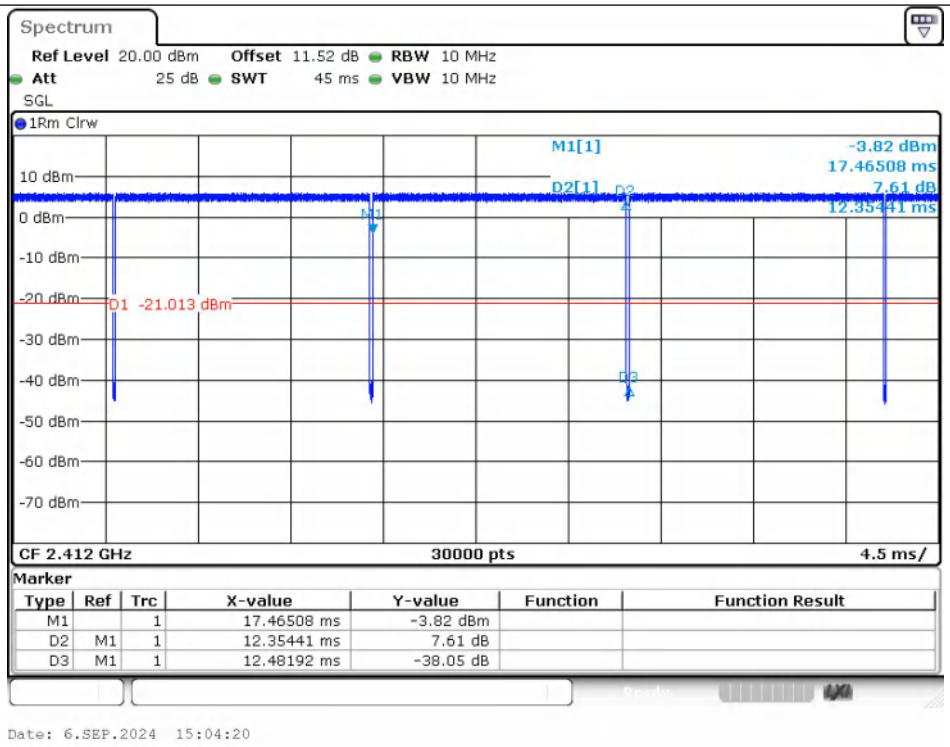
Report No.:	CISRR240828201
FCC ID:	2BKPY-F8
Product Name:	Smart electronic lock
Model No.:	F8
Test Engineer:	Mark Fu
Supervised by:	Rory Huang

Duty Cycle

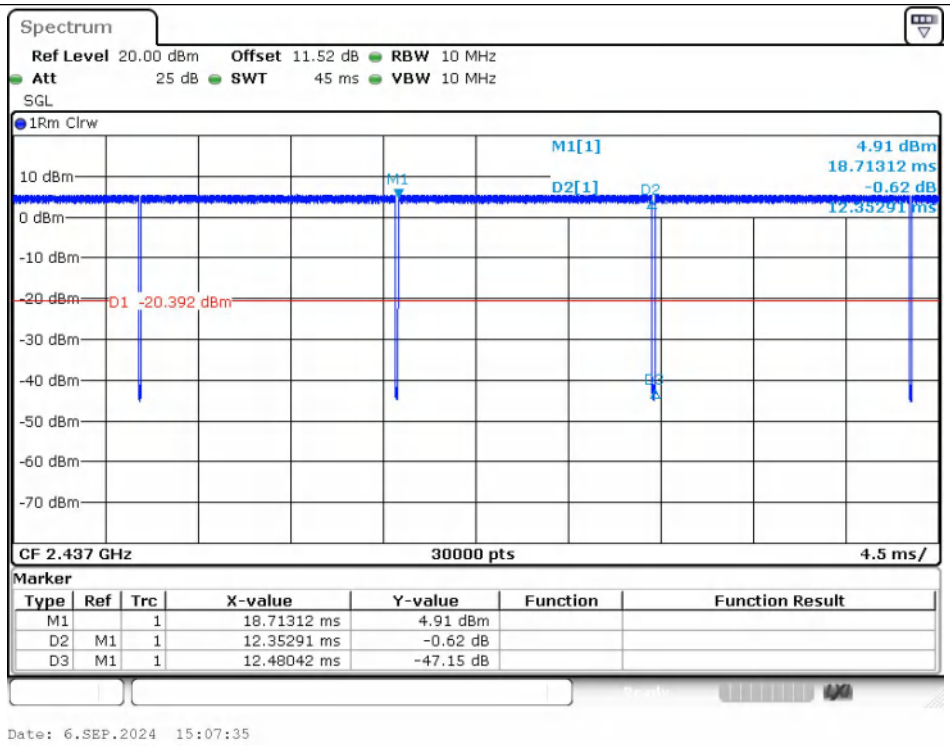
Test Result

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	12.354	12.482	98.98	0.9898	0.0445	0.08
		6		12.353	12.480	98.98	0.9898	0.0445	0.08
		11		12.375	12.504	98.97	0.9897	0.045	0.08
IEEE 802.11g		1		2.068	2.195	94.21	0.9421	0.259	0.48
		6		2.068	2.195	94.21	0.9421	0.259	0.48
		11		2.068	2.195	94.21	0.9421	0.259	0.48
IEEE 802.11n_20	MCS 0	1		1.924	2.051	93.81	0.9381	0.2775	0.52
		6		1.924	2.051	93.81	0.9381	0.2775	0.52
		11		1.924	2.051	93.81	0.9381	0.2775	0.52

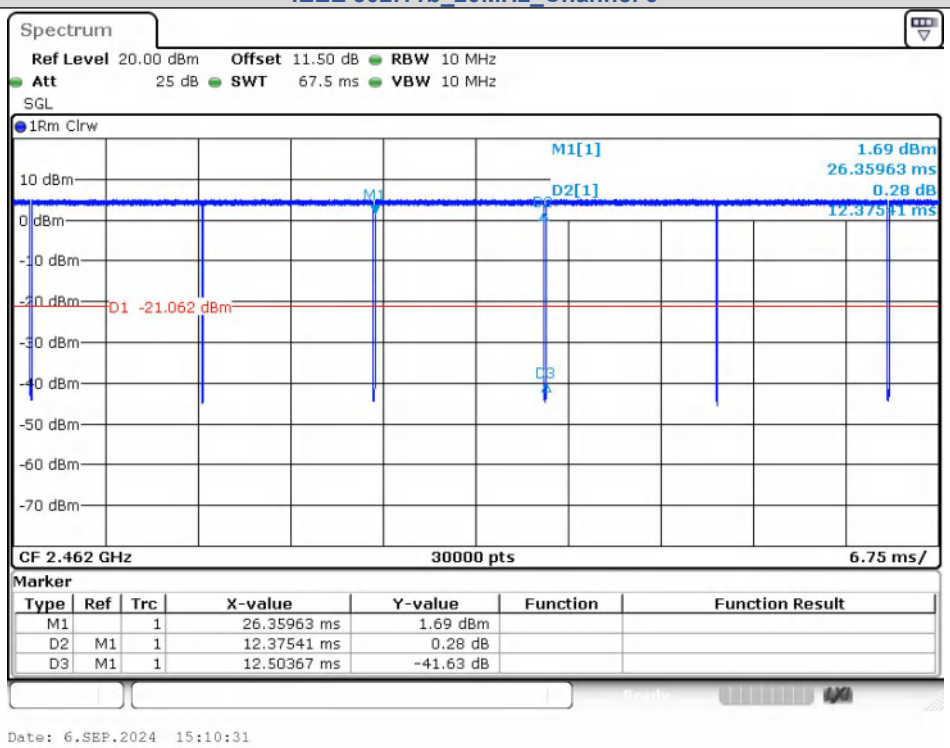
Test Graphs



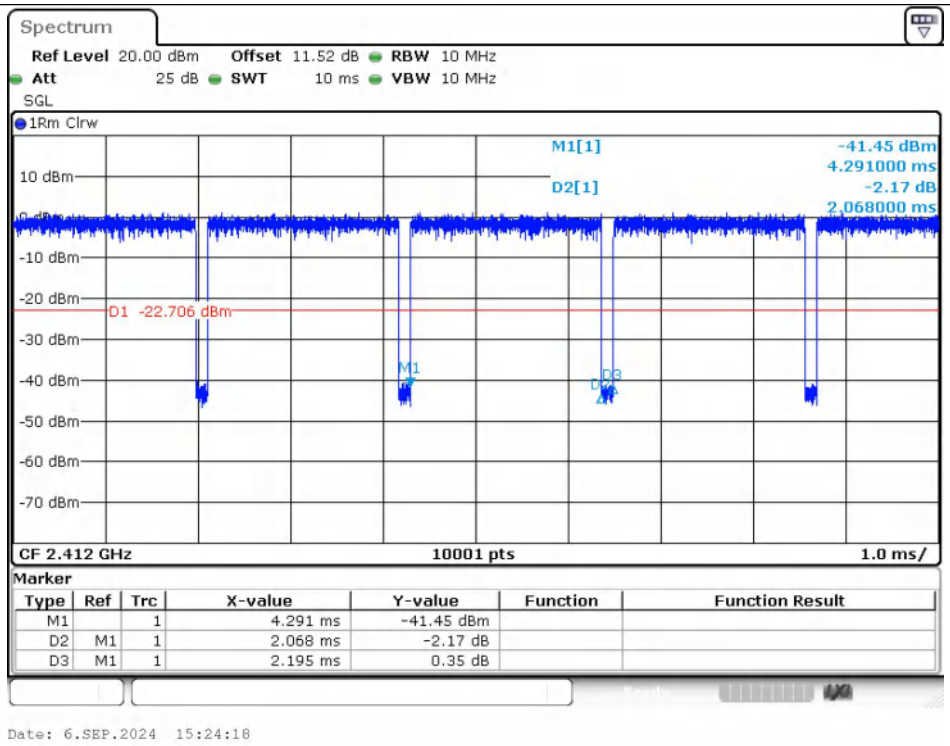
IEEE 802.11b_20MHz_Channel 1



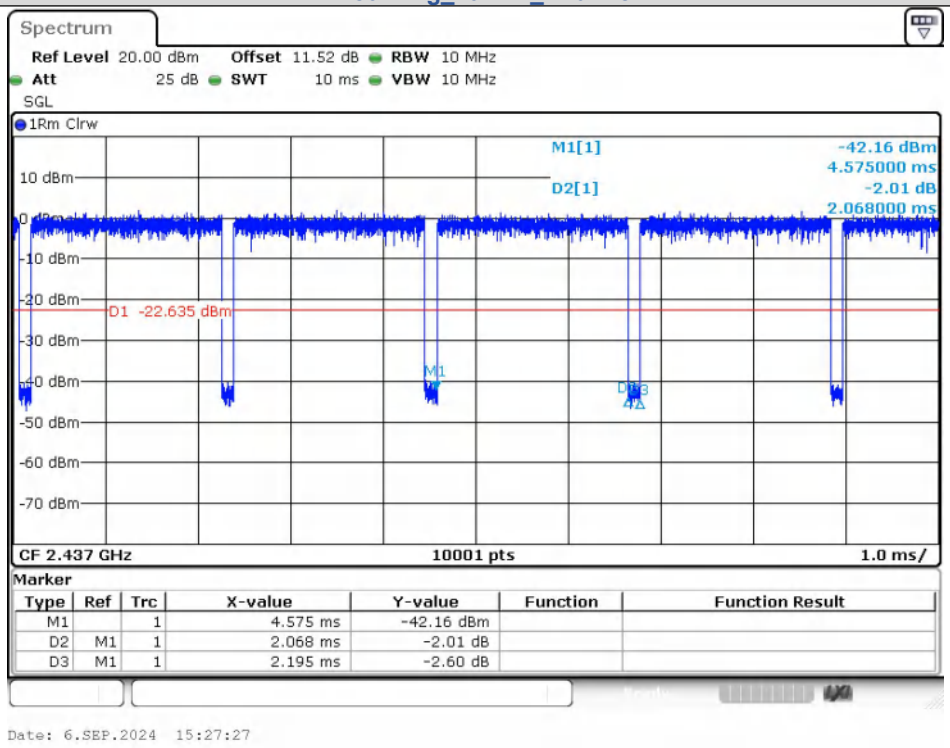
IEEE 802.11b_20MHz_Channel 6



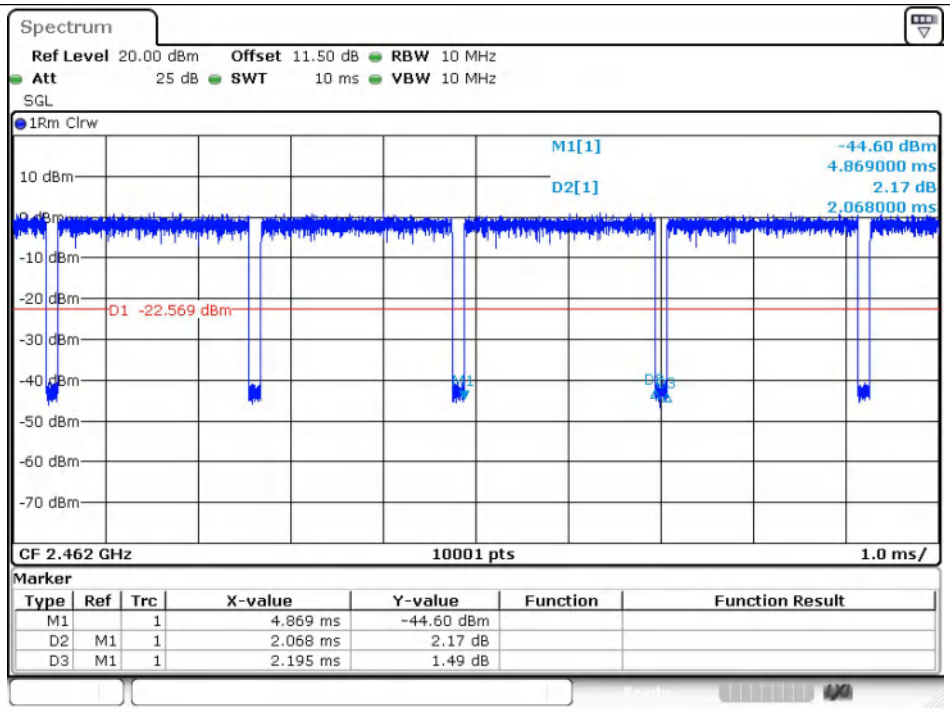
IEEE 802.11b_20MHz_Channel 11



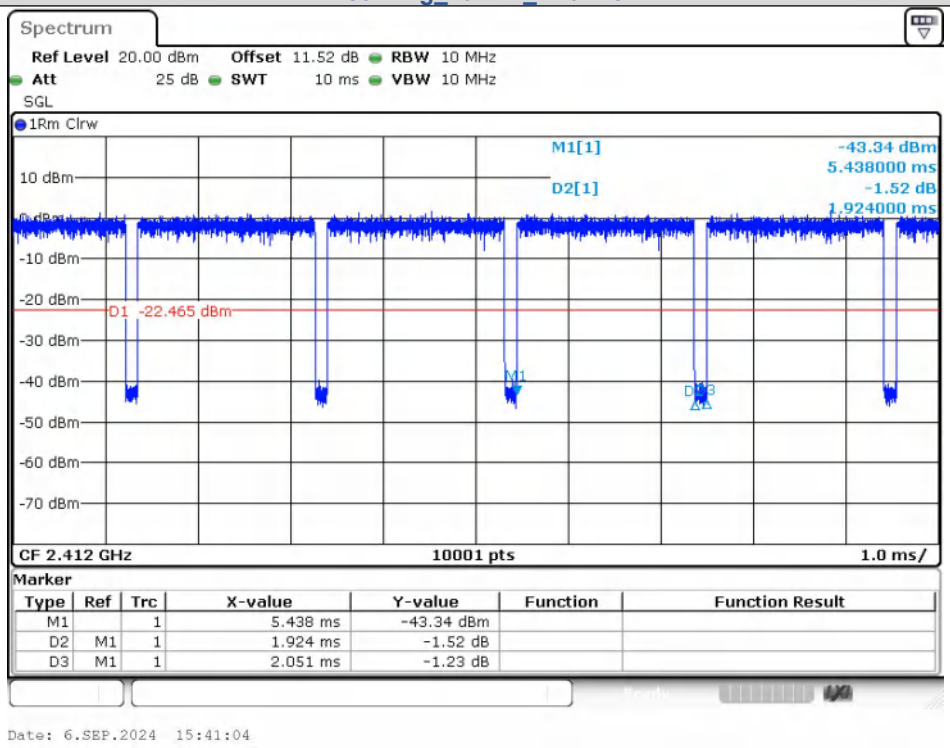
IEEE 802.11g_20MHz_Channel 1



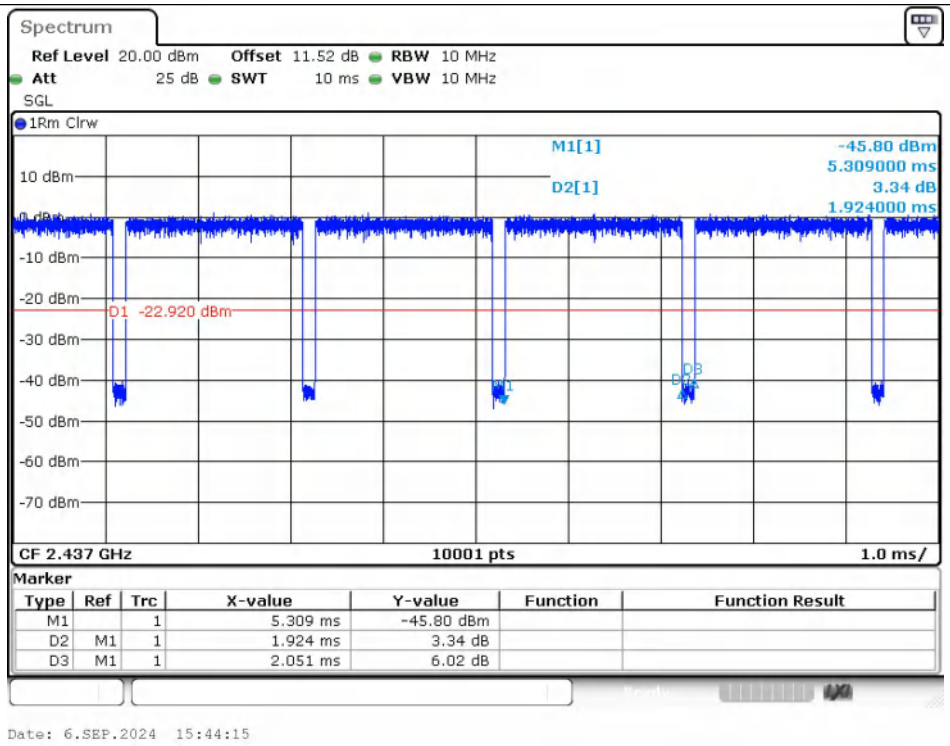
IEEE 802.11g_20MHz_Channel 6



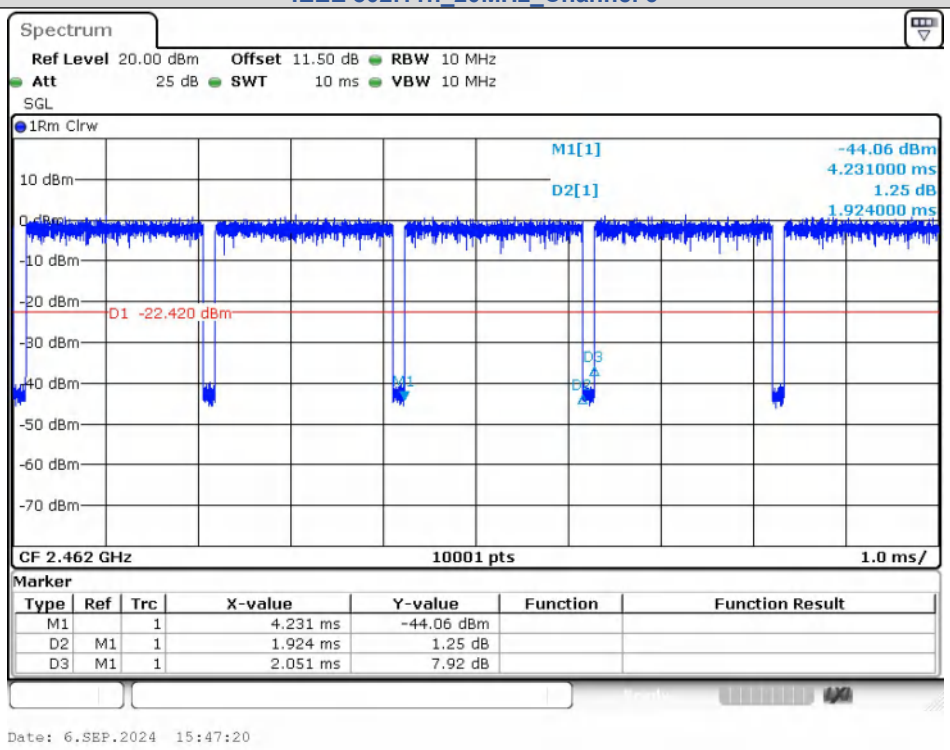
IEEE 802.11g_20MHz_Channel 11



IEEE 802.11n_20MHz_Channel 1



IEEE 802.11n_20MHz_Channel 6



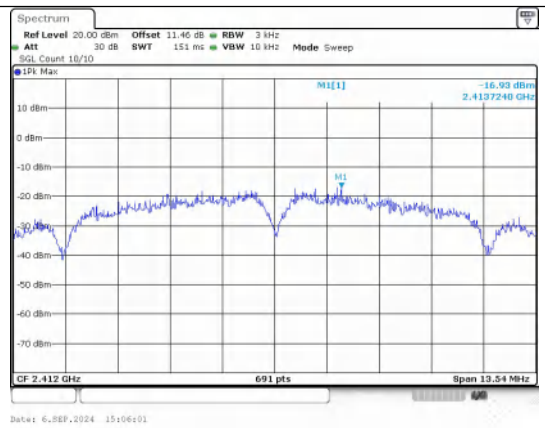
IEEE 802.11n_20MHz_Channel 11

Power Spectral Density

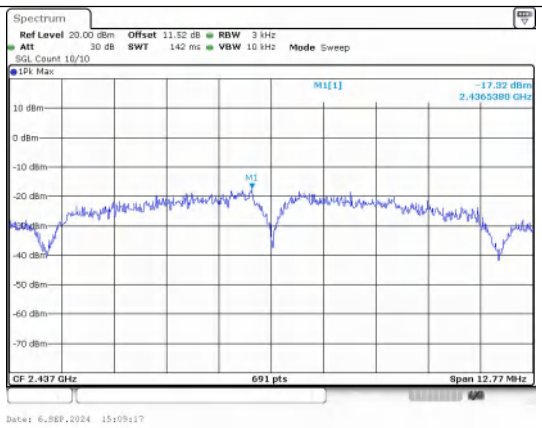
Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-16.935	≤8	PASS
	6	-17.322		PASS
	11	-18.133		PASS
IEEE 802.11g	1	-25.362		PASS
	6	-24.734		PASS
	11	-25.345		PASS
IEEE 802.11n_20	1	-24.233		PASS
	6	-25.612		PASS
	11	-25.672		PASS

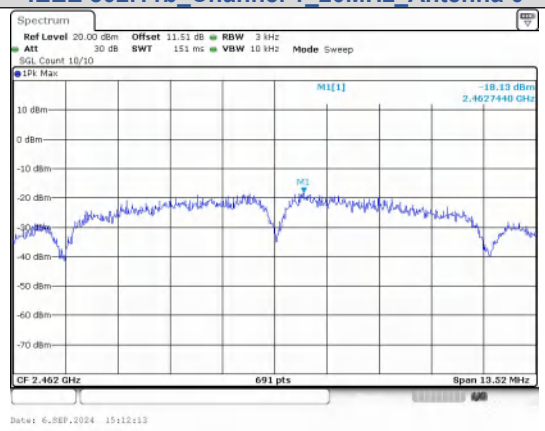
Test Graphs



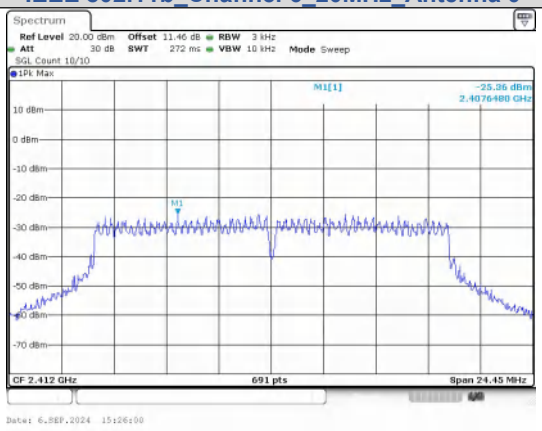
IEEE 802.11b_Channel 1_20MHz_Antenna 0



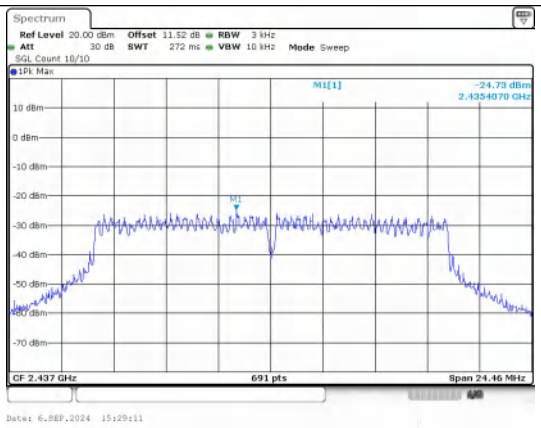
IEEE 802.11b_Channel 6_20MHz_Antenna 0



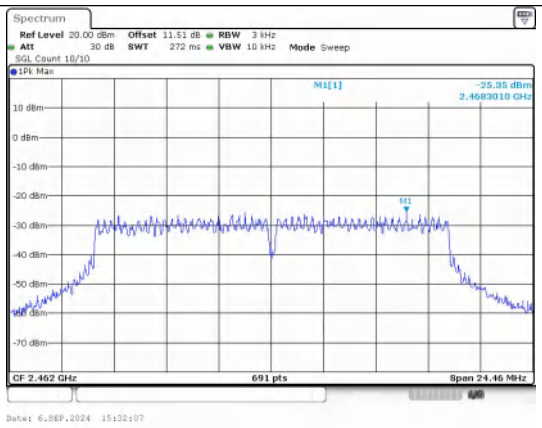
IEEE 802.11b_Channel 11_20MHz_Antenna 0



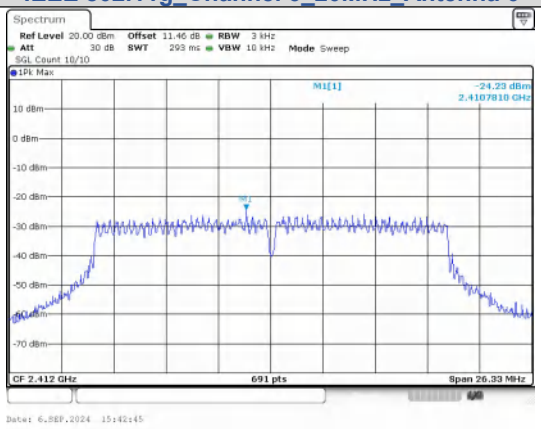
IEEE 802.11g_Channel 1_20MHz_Antenna 0



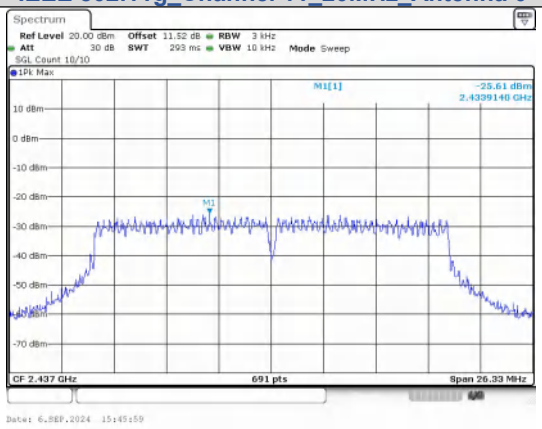
IEEE 802.11g_Channel 6_20MHz_Antenna 0



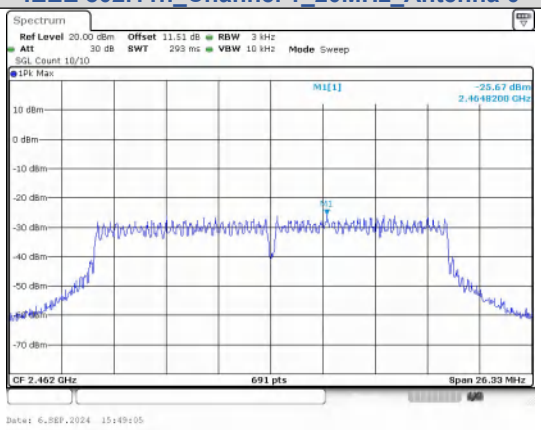
IEEE 802.11g_Channel 11_20MHz_Antenna 0



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 Output Power

Test Result

Conducted Output Power

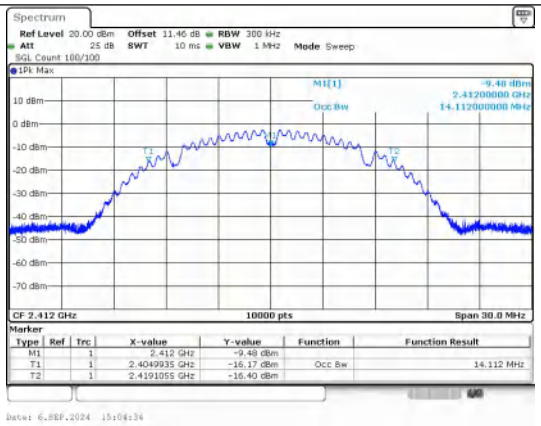
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	8.33	≤30	PASS
	6	8.00	≤30	PASS
	11	7.86	≤30	PASS
IEEE 802.11g	1	8.37	≤30	PASS
	6	8.34	≤30	PASS
	11	8.14	≤30	PASS
IEEE 802.11n_20	1	8.38	≤30	PASS
	6	8.28	≤30	PASS
	11	8.05	≤30	PASS

99% Bandwidth

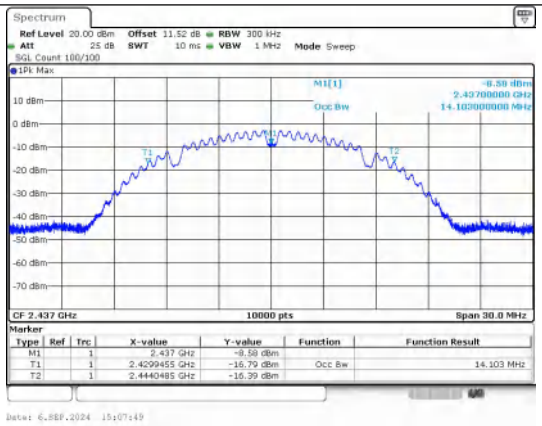
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	0	2412	14.112
	6		2437	14.103
	11		2462	14.145
IEEE 802.11g	1		2412	16.881
	6		2437	16.896
	11		2462	16.920
IEEE 802.11n_20	1		2412	17.991
	6		2437	17.982
	11		2462	18.009

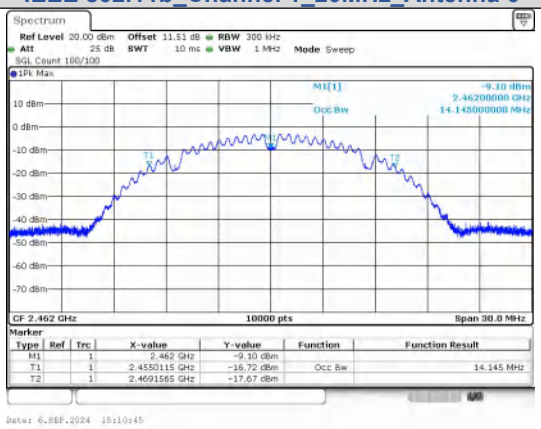
Test Graphs



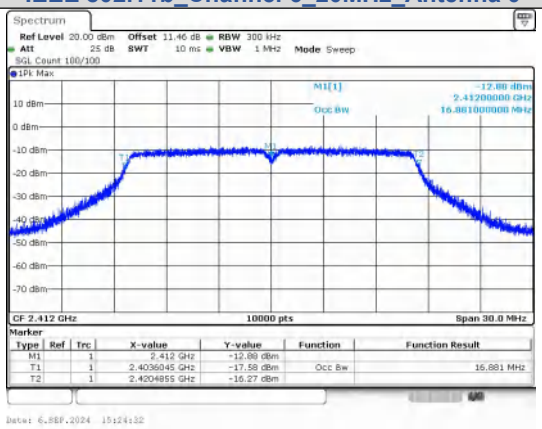
IEEE 802.11b_Channel 1_20MHz_Antenna 0



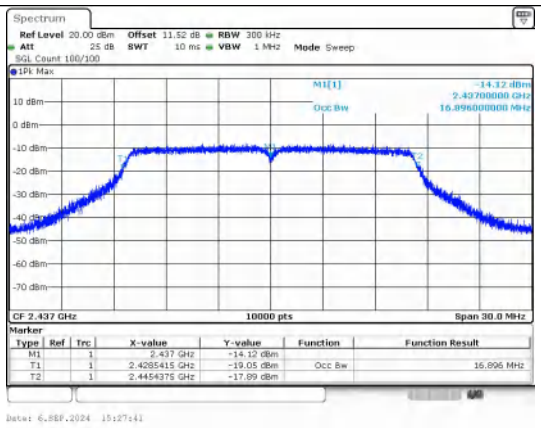
IEEE 802.11b_Channel 6_20MHz_Antenna 0



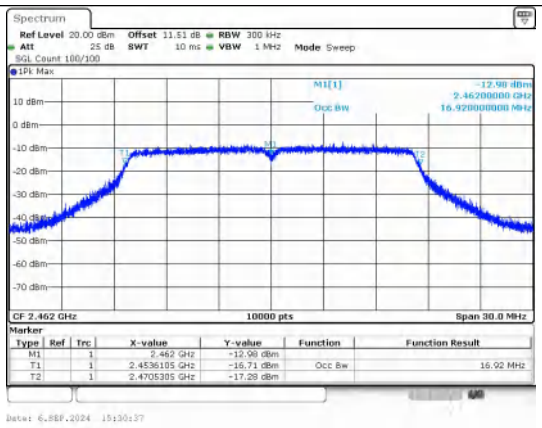
IEEE 802.11b_Channel 11_20MHz_Antenna 0



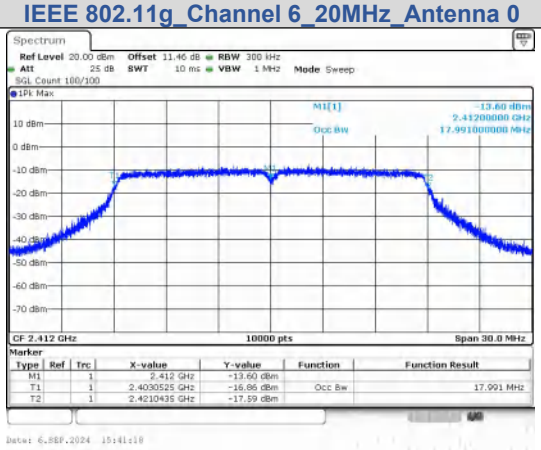
IEEE 802.11g_Channel 1_20MHz_Antenna 0



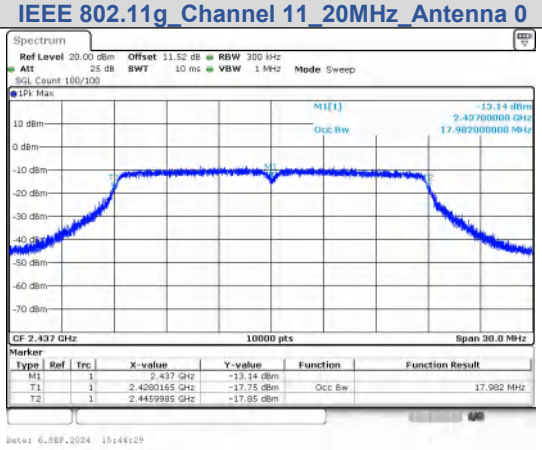
IEEE 802.11g_Channel 6_20MHz_Antenna 0



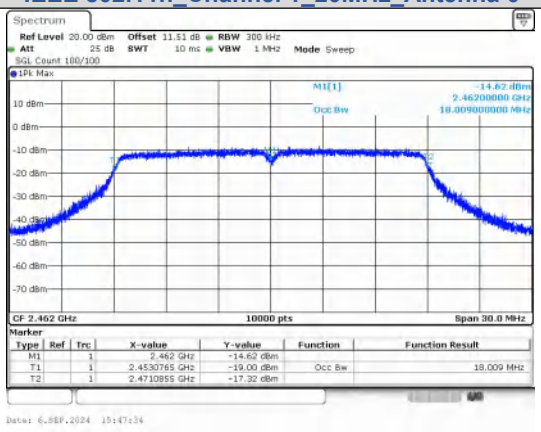
IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



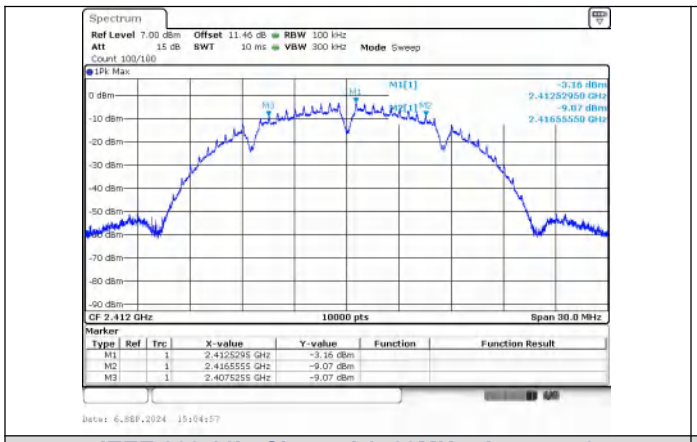
IEEE 802.11n_Channel 11_20MHz_Antenna 0

6dB Bandwidth

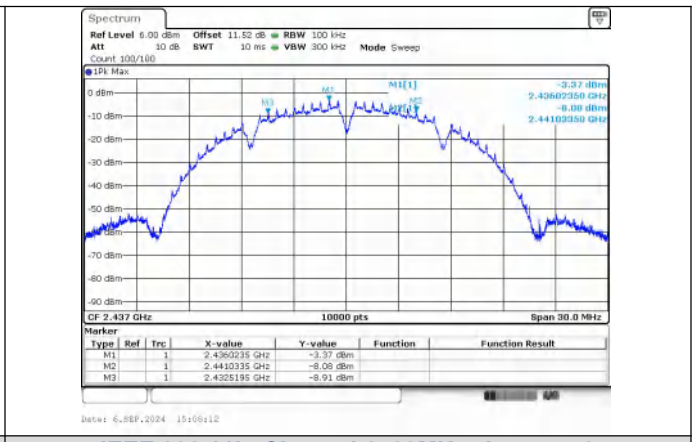
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	9.030	≥0.5	PASS
	6		2437	8.510		PASS
	11		2462	9.010		PASS
IEEE 802.11g	1		2412	16.30		PASS
	6		2437	16.31		PASS
	11		2462	16.31		PASS
IEEE 802.11n_20	1		2412	17.55		PASS
	6		2437	17.55		PASS
	11		2462	17.55		PASS

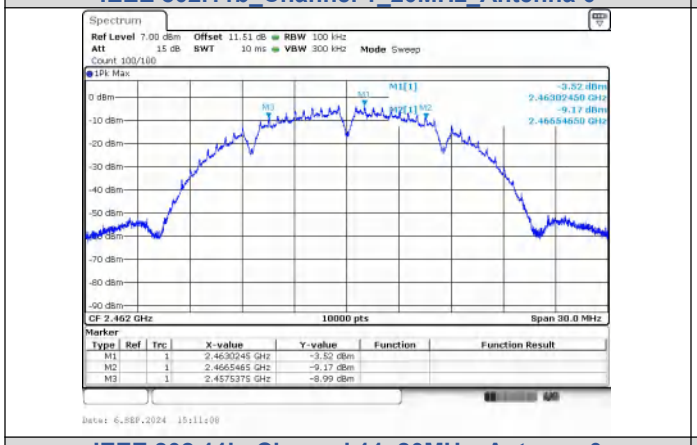
Test Graphs



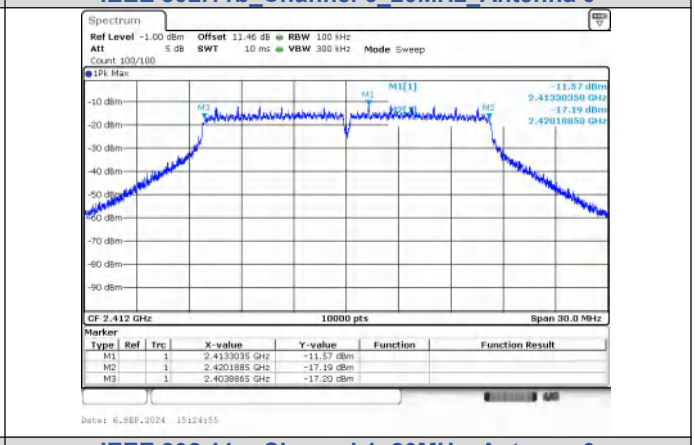
IEEE 802.11b_Channel 1_20MHz_Antenna 0



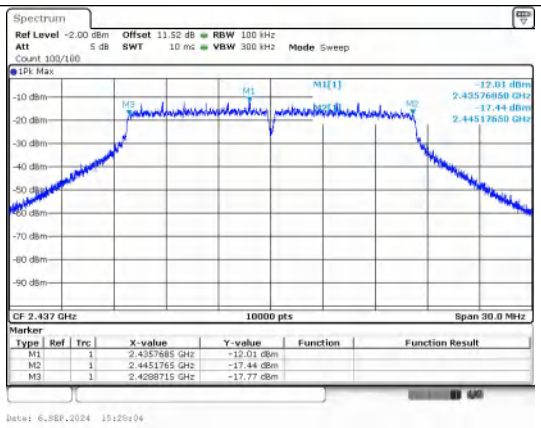
IEEE 802.11b_Channel 6_20MHz_Antenna 0



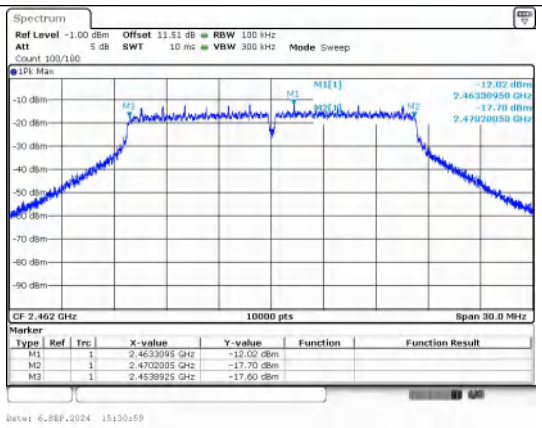
IEEE 802.11b_Channel 11_20MHz_Antenna 0



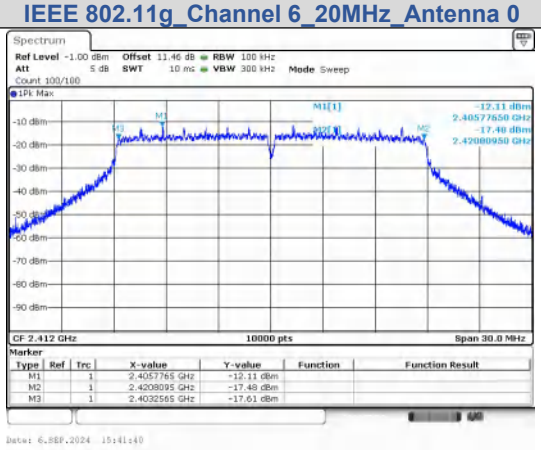
IEEE 802.11g_Channel 1_20MHz_Antenna 0



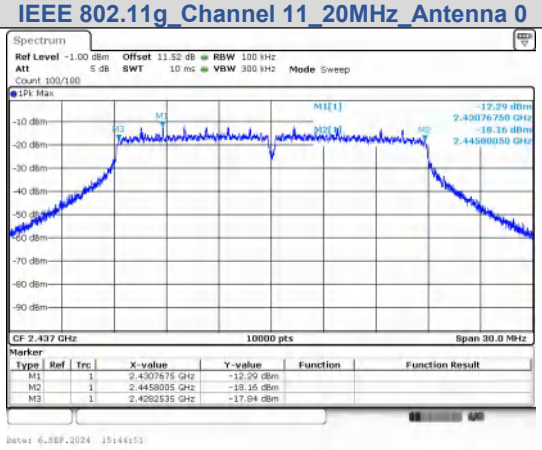
IEEE 802.11g_Channel 6_20MHz_Antenna 0



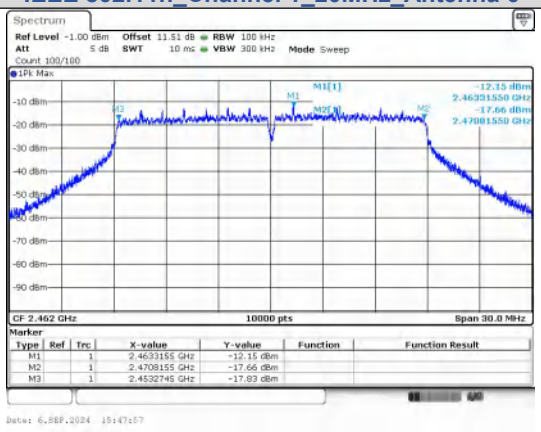
IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



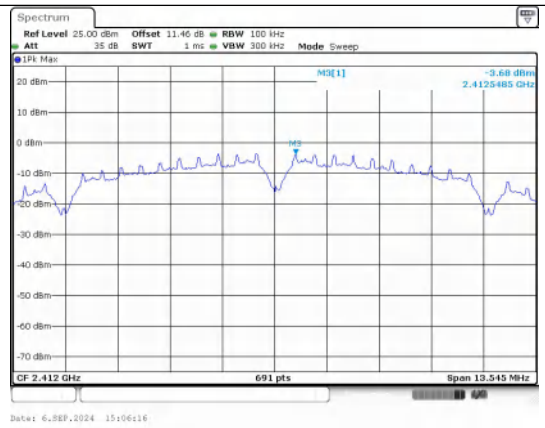
IEEE 802.11n_Channel 11_20MHz_Antenna 0

Conducted Out Of Band Emission

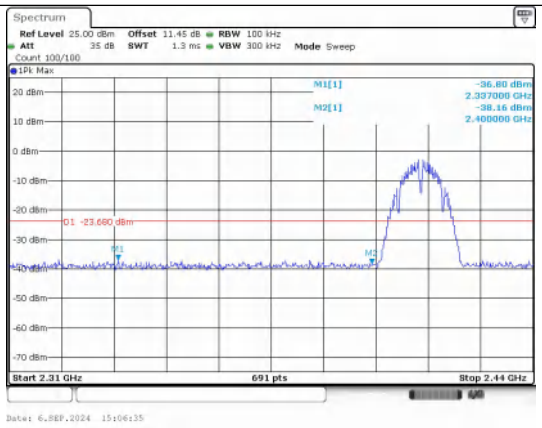
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2337.00	-36.798	-23.68	-13.118	PASS
			2400.00	-38.164	-23.68	-14.484	PASS
			6938.80	-43.721	-23.68	-20.041	PASS
	6		22015.7	-43.089	-23.29	-19.799	PASS
	11		2483.50	-38.371	-21.03	-17.341	PASS
			6912.98	-42.460	-21.03	-21.430	PASS
IEEE 802.11g	1		2397.39	-36.904	-30.97	-5.934	PASS
			2400.00	-37.593	-30.97	-6.623	PASS
			6946.30	-41.645	-30.97	-10.675	PASS
	6		5890.88	-43.329	-31.25	-12.079	PASS
	11		2483.50	-38.731	-31.37	-7.361	PASS
			6942.11	-42.546	-31.37	-11.176	PASS
IEEE 802.11n_20	1		2330.22	-36.567	-31.01	-5.557	PASS
			2400.00	-38.105	-31.01	-7.095	PASS
			6292.10	-44.034	-31.01	-13.024	PASS
	6		5231.67	-43.265	-31.24	-12.025	PASS
	11		2483.50	-38.739	-31.76	-6.979	PASS
			22110.6	-43.070	-31.76	-11.310	PASS

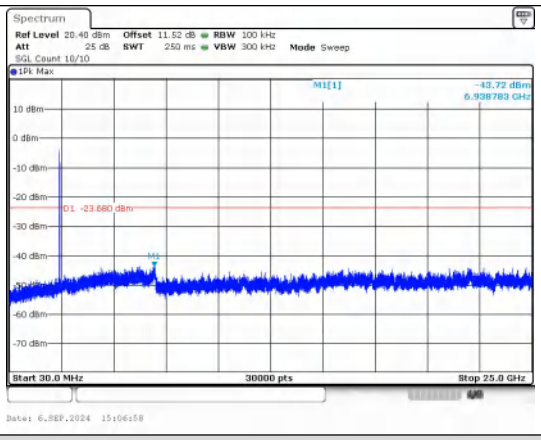
Test Graphs



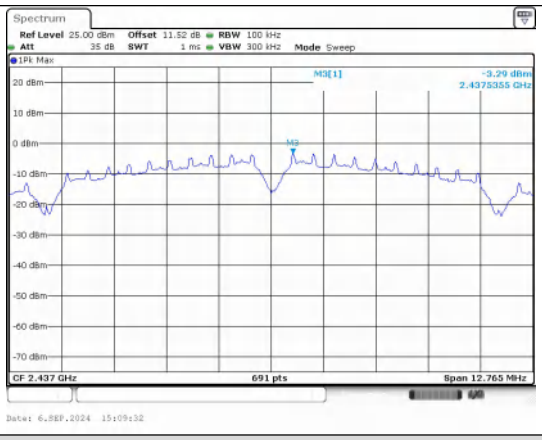
In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



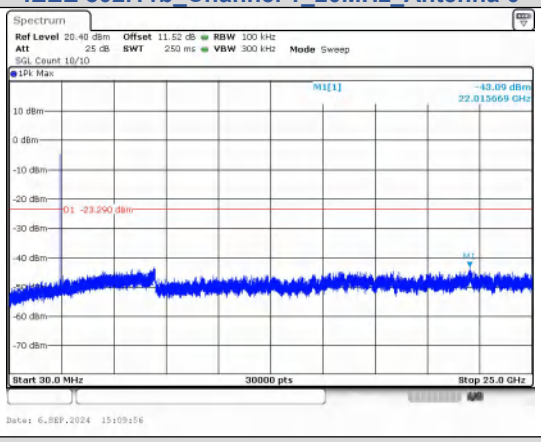
Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0



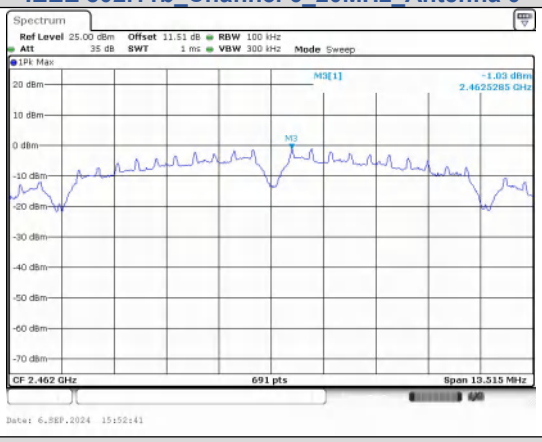
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0



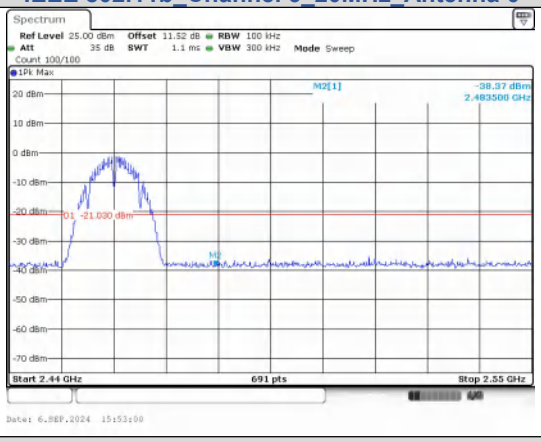
In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



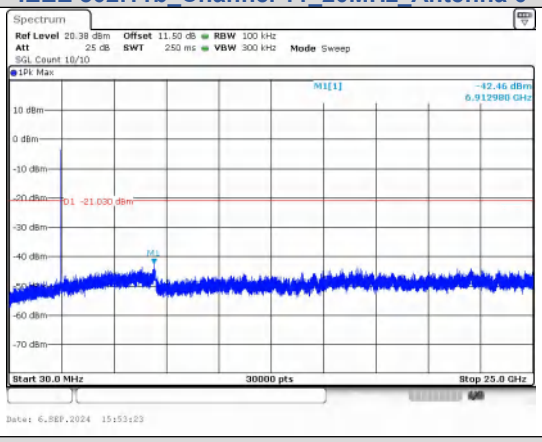
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 6_20MHz_Antenna 0



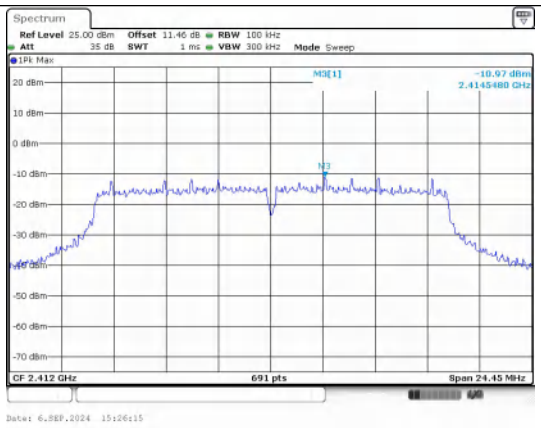
In-Band Reference Level
IEEE 802.11b_Channel 11_20MHz_Antenna 0



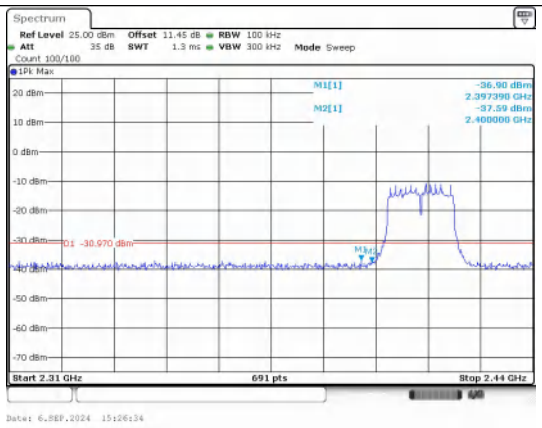
Out Of Band Emission
IEEE 802.11b_Channel 11_20MHz_Antenna 0



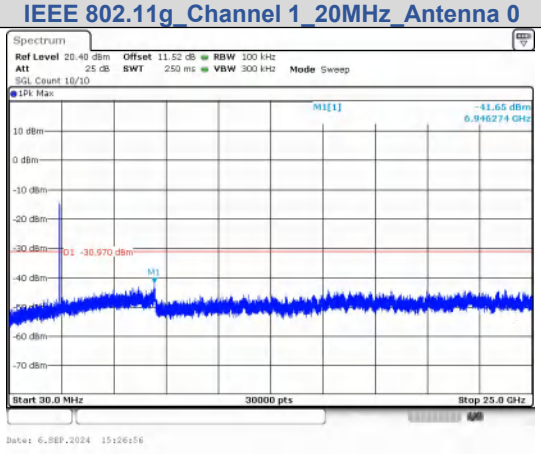
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0



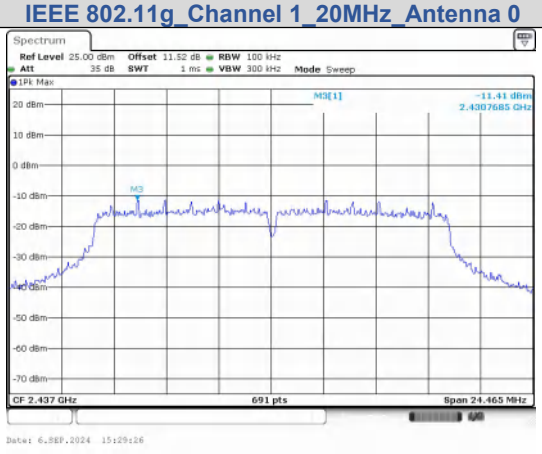
In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



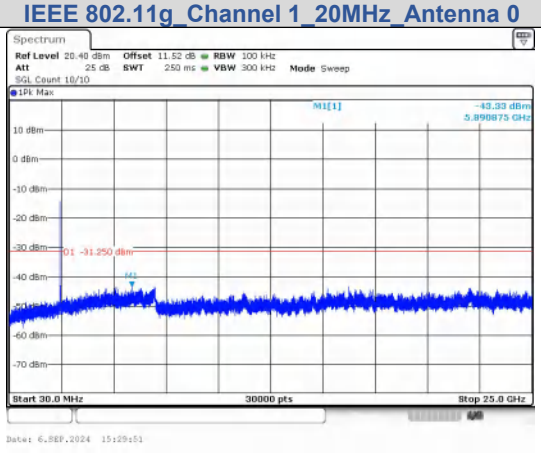
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0



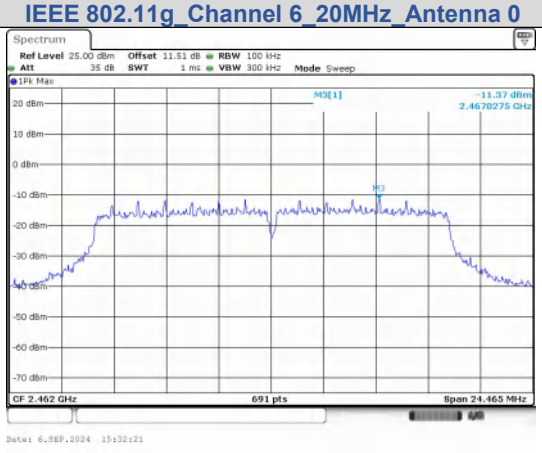
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0



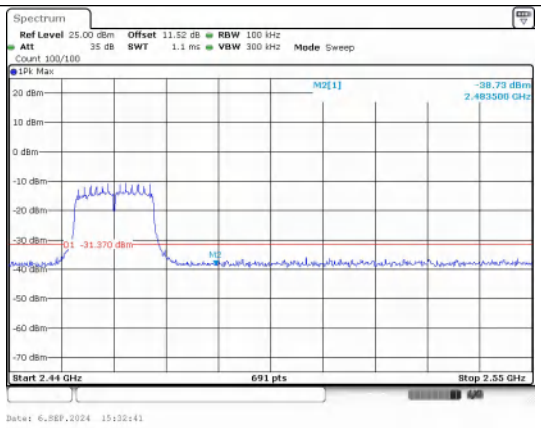
In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



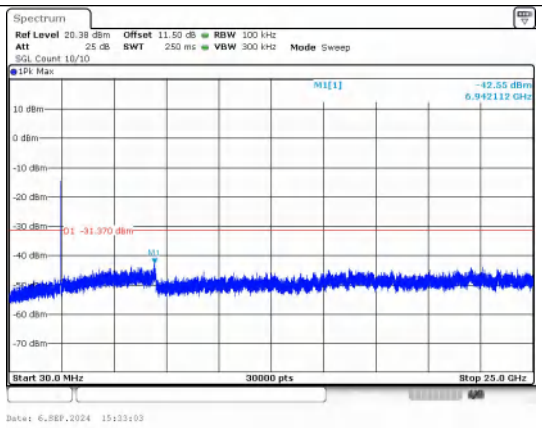
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0



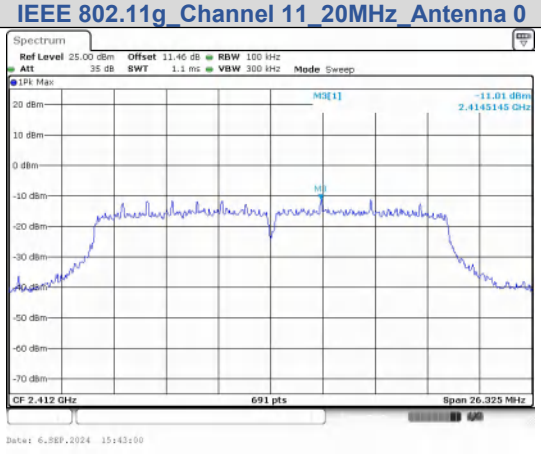
In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



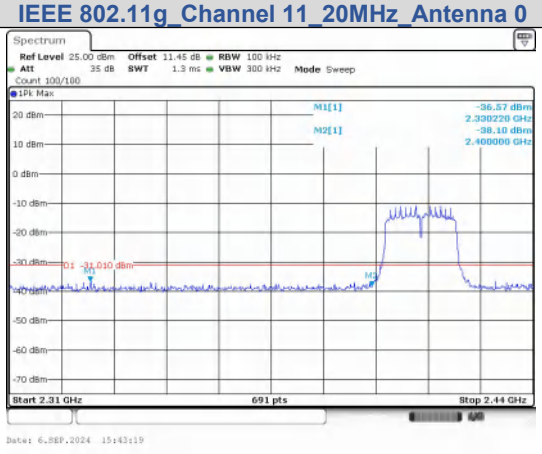
Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0



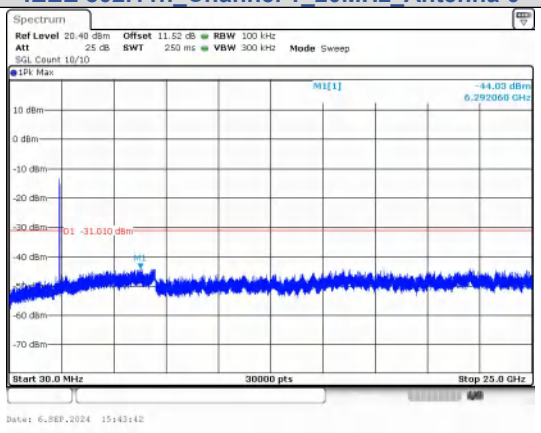
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 11_20MHz_Antenna 0



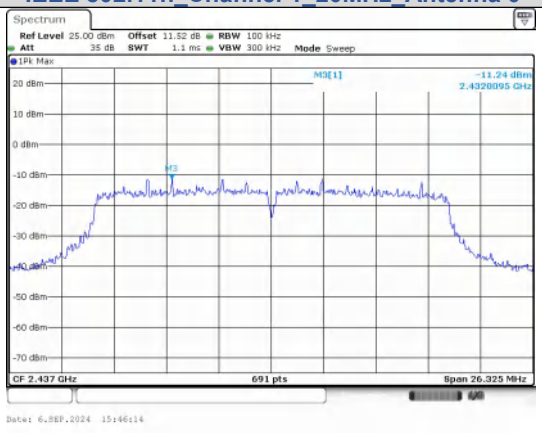
In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0



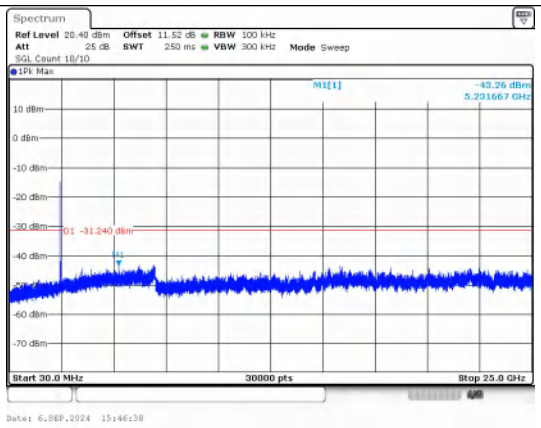
Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



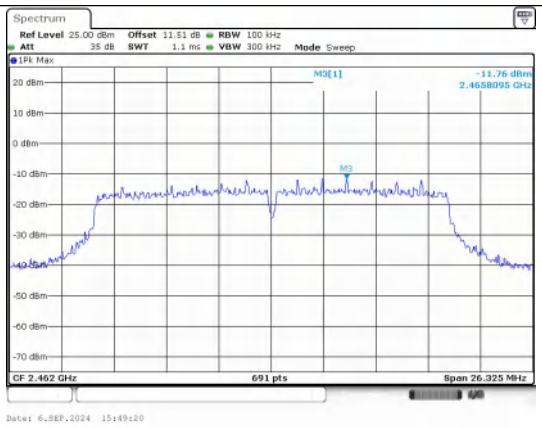
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 1_20MHz_Antenna 0



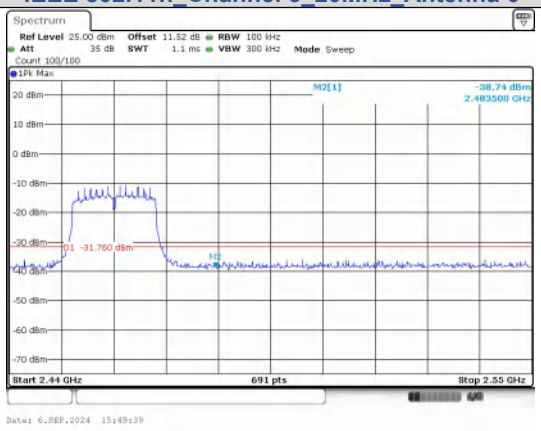
In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



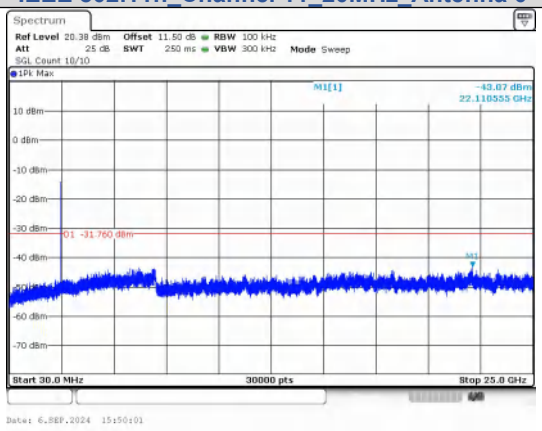
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



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