Appendix Report

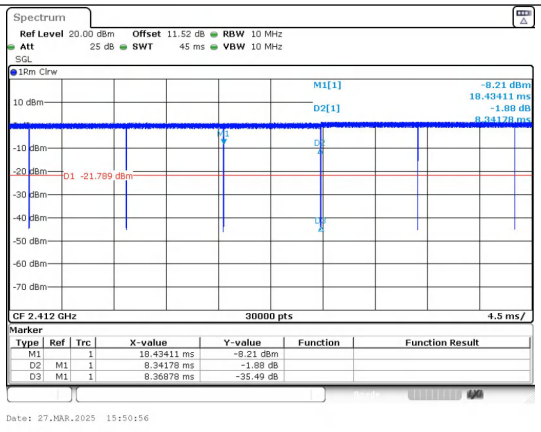
Project No.:	CISR250322191
Test Engineer:	James Wang
Supervised by:	Rory Huang

Duty Cycle

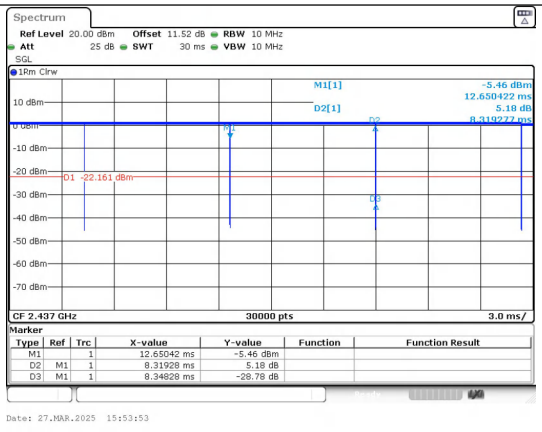
Test Result

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	8.342	8.369	99.68	0.9968	0.0139	0.1199
		6		8.319	8.348	99.65	0.9965	0.0152	0.1202
		11		8.319	8.348	99.65	0.9965	0.0152	0.1202
IEEE 802.11g		1		1.395	1.429	97.62	0.9762	0.1046	0.7168
		6		1.396	1.430	97.62	0.9762	0.1046	0.7163
		11		1.396	1.429	97.69	0.9769	0.1015	0.7163
IEEE 802.11n_20	MCS 0	1		1.304	1.337	97.53	0.9753	0.1086	0.7669
		6		1.304	1.337	97.53	0.9753	0.1086	0.7669
		11		1.292	1.326	97.44	0.9744	0.1126	0.7740
IEEE 802.11n_40		3		0.650	0.684	94.94	0.9494	0.2255	1.5385
		6		0.650	0.684	94.94	0.9494	0.2255	1.5385
		9		0.650	0.684	95.00	0.9500	0.2228	1.5385

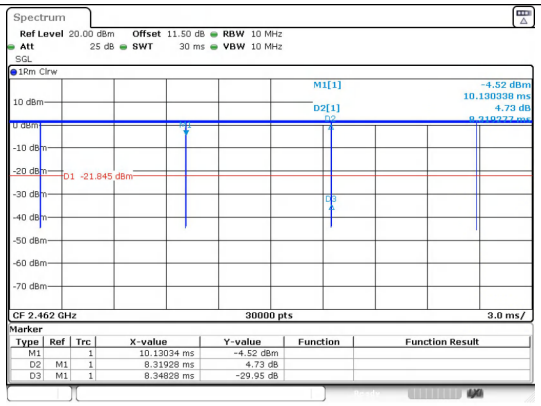
Test Graphs



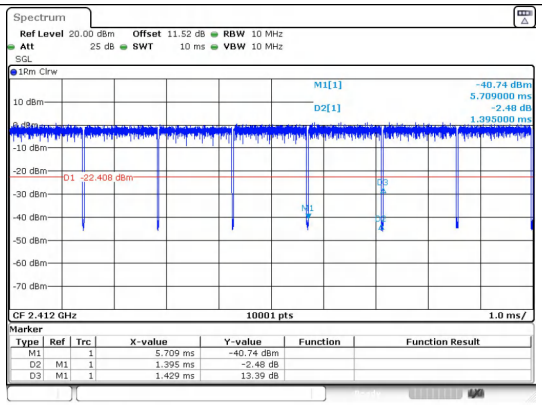
IEEE 802.11b_20MHz_Channel 1



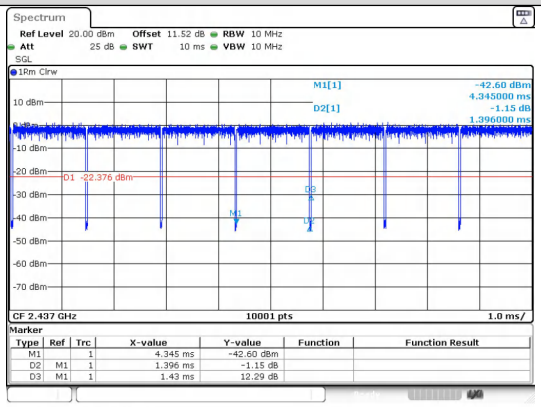
IEEE 802.11b_20MHz_Channel 6



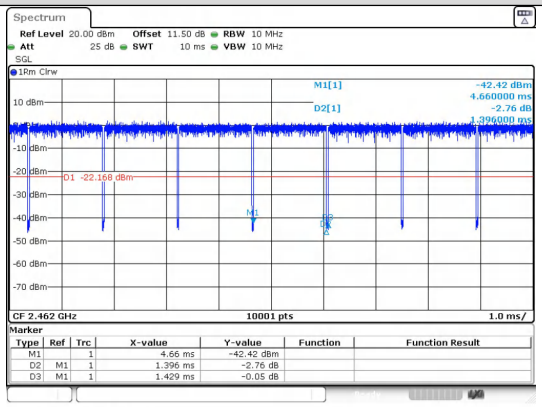
IEEE 802.11b_20MHz_Channel 11



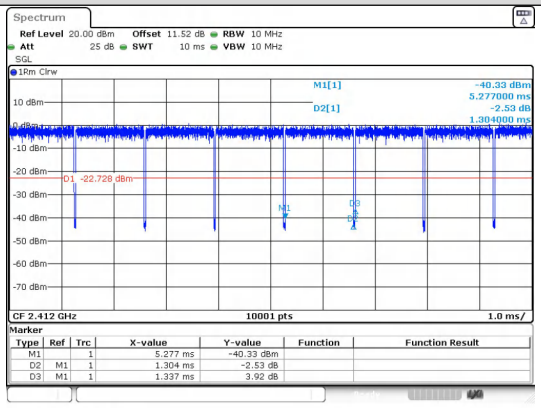
IEEE 802.11g_20MHz_Channel 1



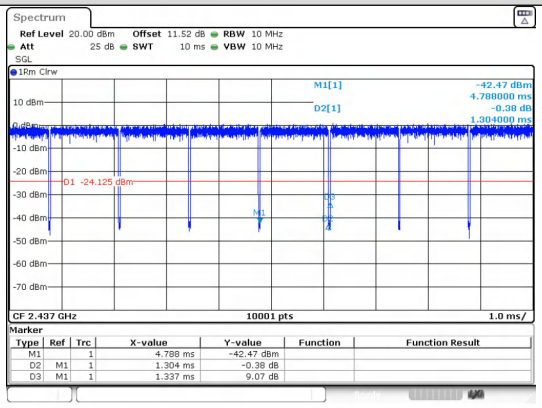
IEEE 802.11g_20MHz_Channel 6



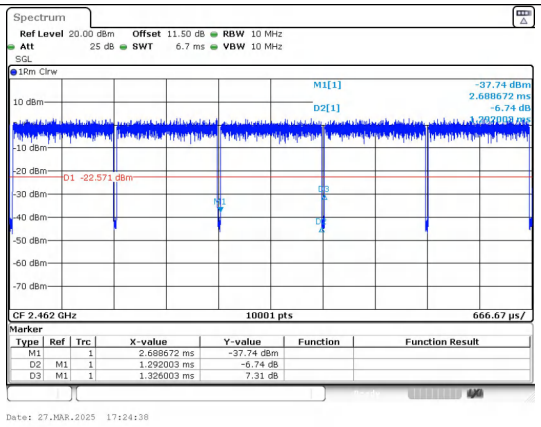
IEEE 802.11g_20MHz_Channel 11



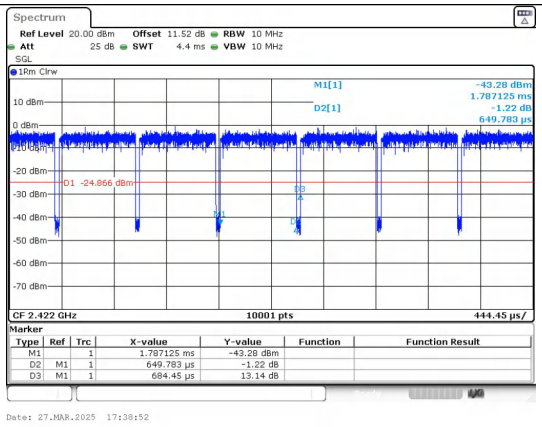
IEEE 802.11n_20MHz_Channel 1



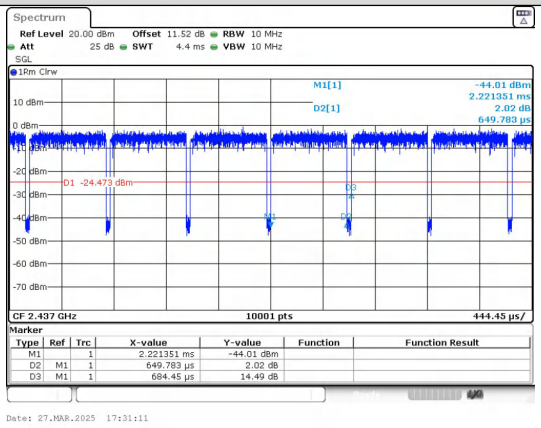
IEEE 802.11n_20MHz_Channel 6



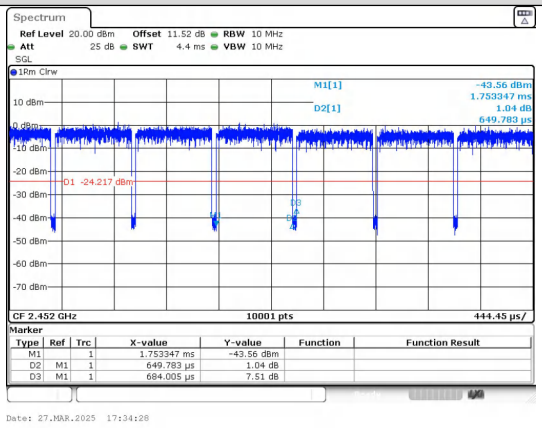
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



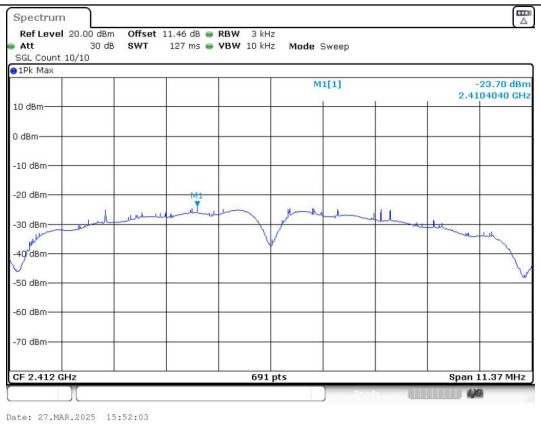
IEEE 802.11n_40MHz_Channel 9

Power Spectral Density

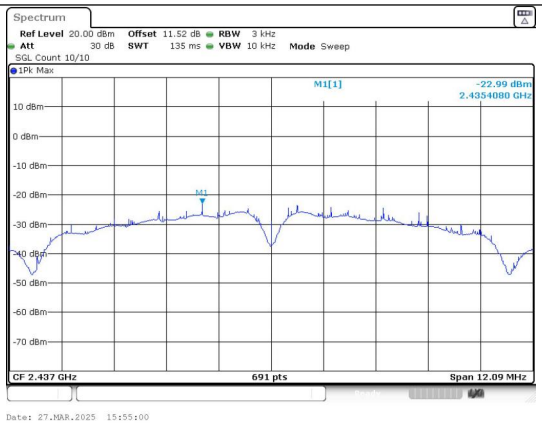
Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-23.700	≤8	PASS
	6	-22.990		PASS
	11	-22.680		PASS
IEEE 802.11g	1	-24.280		PASS
	6	-27.190		PASS
	11	-25.560		PASS
IEEE 802.11n_20	1	-24.320		PASS
	6	-27.350		PASS
	11	-24.430		PASS
IEEE 802.11n_40	3	-28.440		PASS
	6	-29.110		PASS
	9	-26.620		PASS

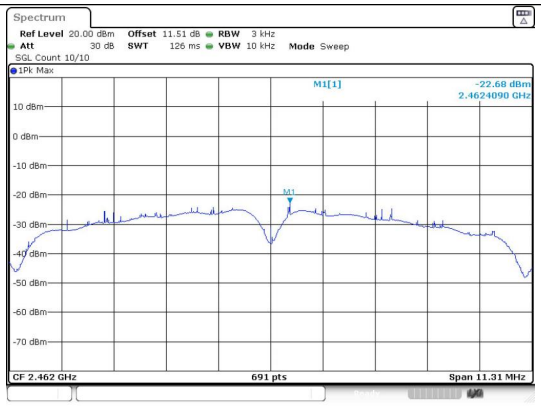
Test Graphs



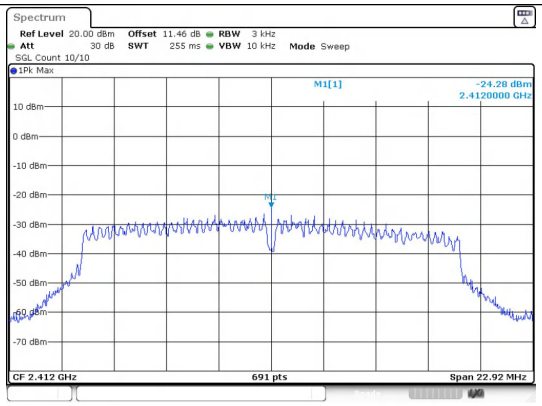
IEEE 802.11b_Channel 1_20MHz_Antenna 0



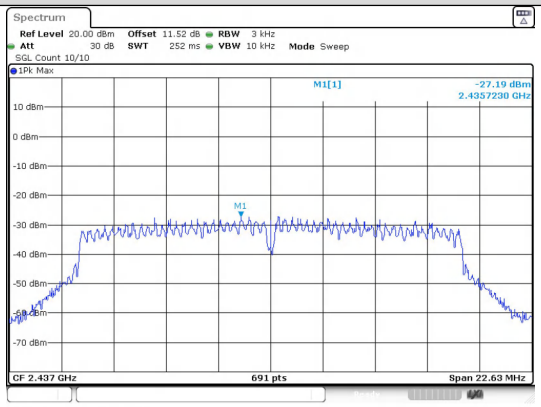
IEEE 802.11b_Channel 6_20MHz_Antenna 0



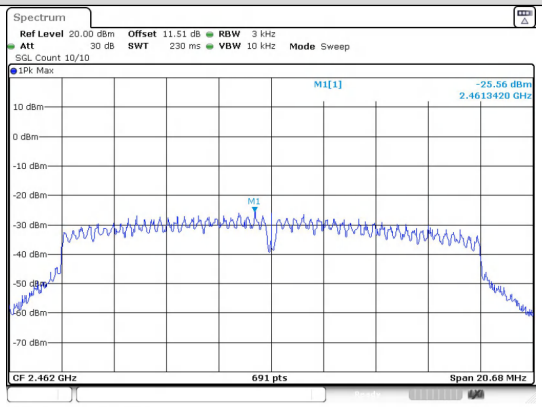
IEEE 802.11b_Channel 11_20MHz_Antenna 0



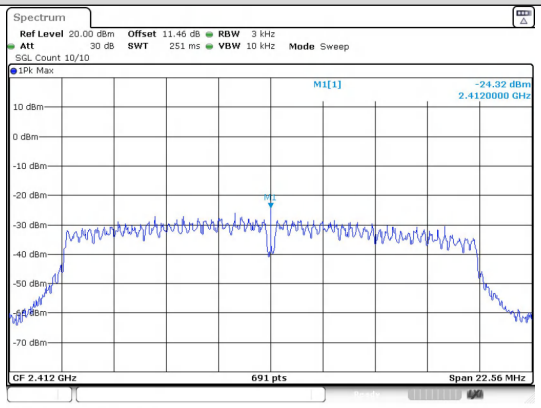
IEEE 802.11g_Channel 1_20MHz_Antenna 0



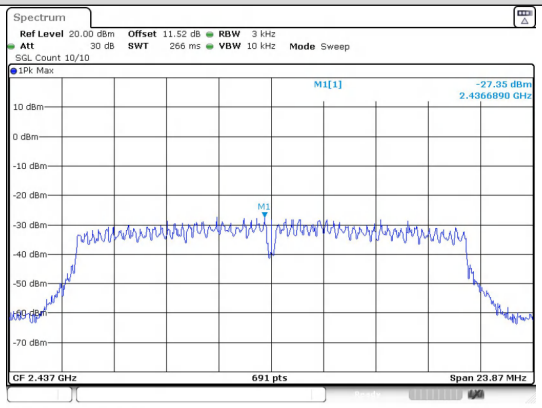
IEEE 802.11g_Channel 6_20MHz_Antenna 0



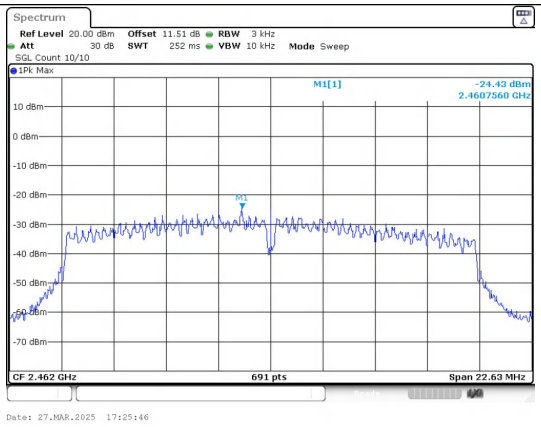
IEEE 802.11g_Channel 11_20MHz_Antenna 0



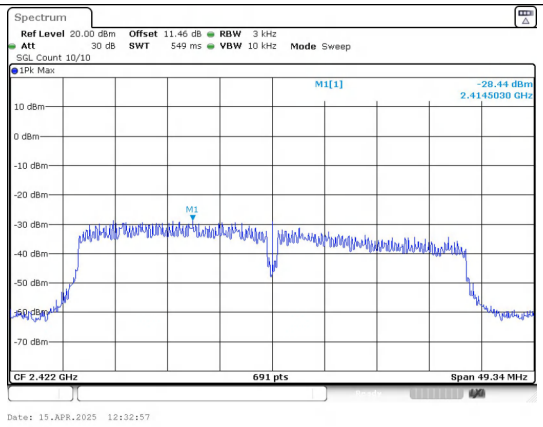
IEEE 802.11n_Channel 1_20MHz_Antenna 0



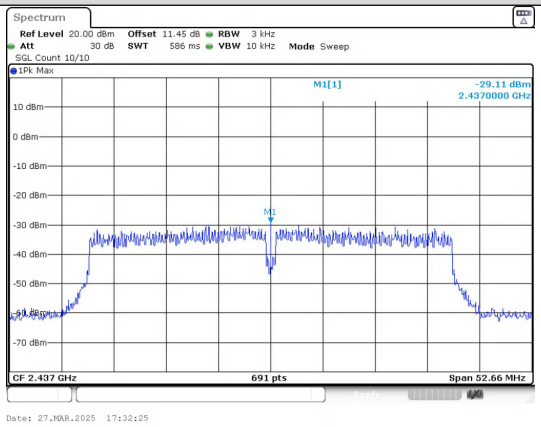
IEEE 802.11n_Channel 6_20MHz_Antenna 0



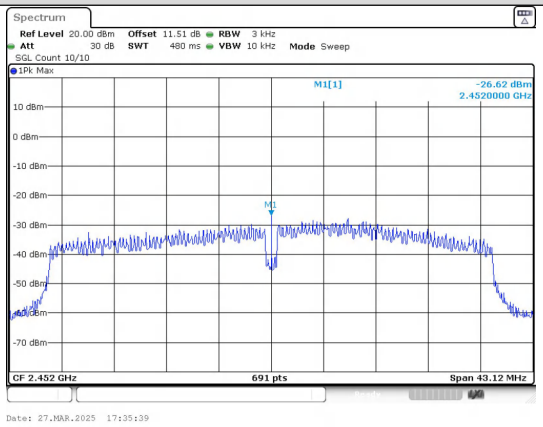
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

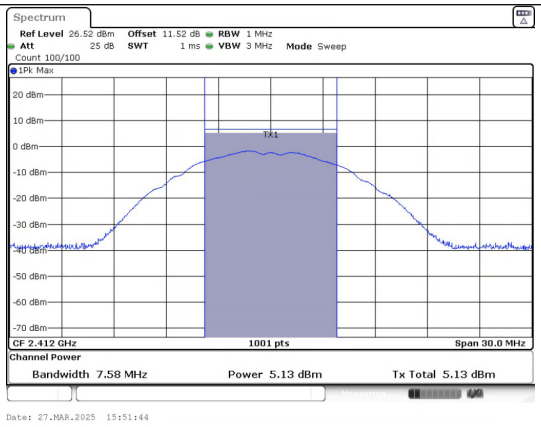
Conducted Output Power

Test Result

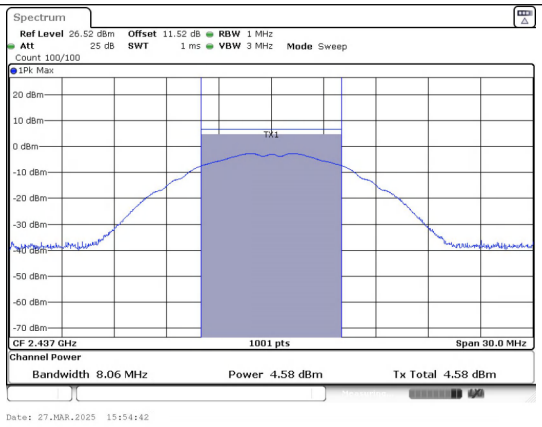
Conducted Output Power

Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	5.13	≤30	PASS
	6	4.58	≤30	PASS
	11	5.28	≤30	PASS
IEEE 802.11g	1	7.47	≤30	PASS
	6	7.39	≤30	PASS
	11	7.70	≤30	PASS
IEEE 802.11n_20	1	7.47	≤30	PASS
	6	7.26	≤30	PASS
	11	7.74	≤30	PASS
IEEE 802.11n_40	3	7.16	≤30	PASS
	6	7.47	≤30	PASS
	9	7.39	≤30	PASS

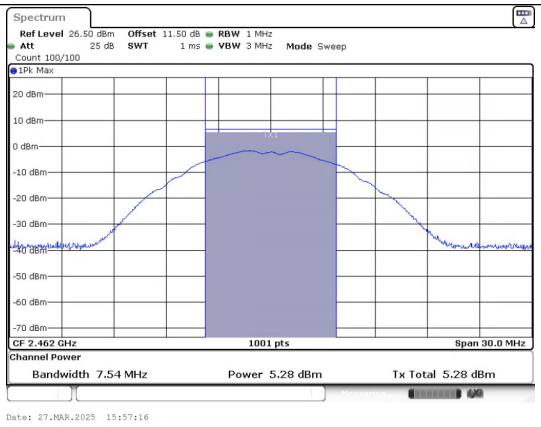
Test Graphs



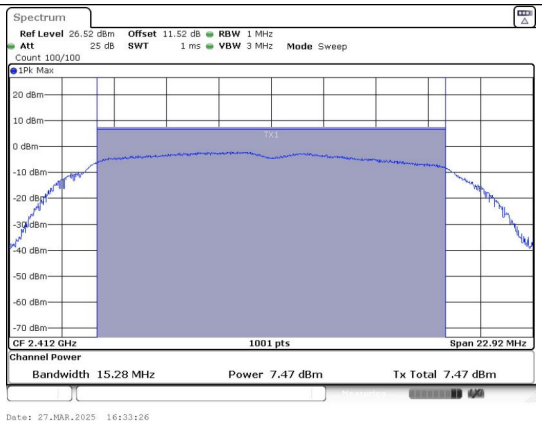
Conducted Output Power
IEEE 802.11b_Channel 1_Antenna 0



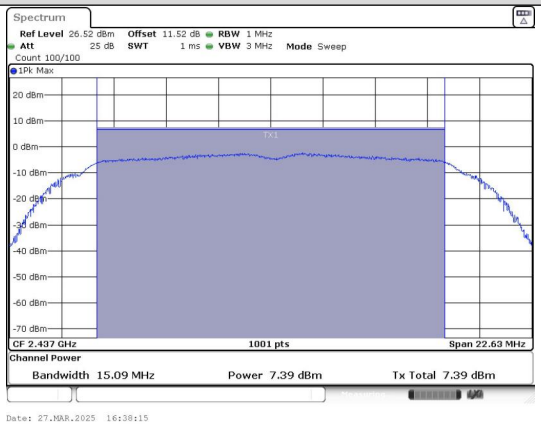
Conducted Output Power
IEEE 802.11b_Channel 6_Antenna 0



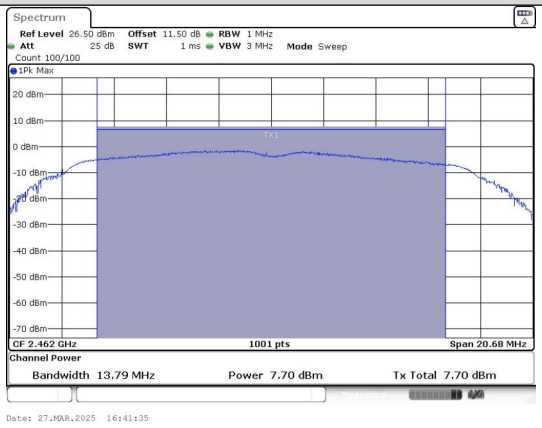
Conducted Output Power
IEEE 802.11b_Channel 11_Antenna 0



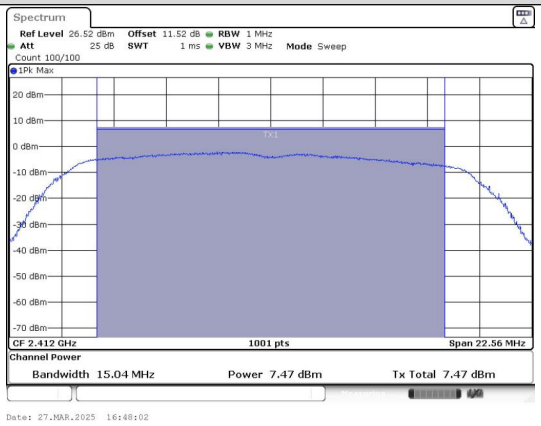
Conducted Output Power
IEEE 802.11g_Channel 1_Antenna 0



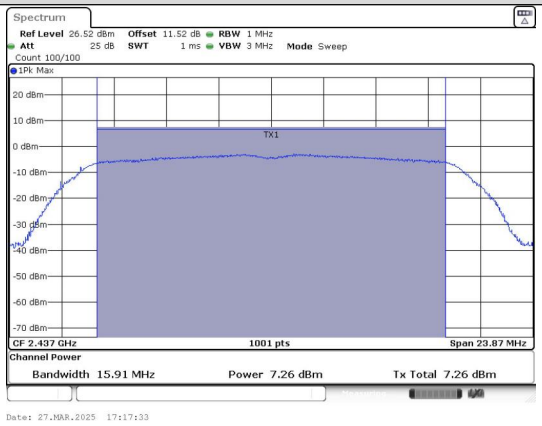
Conducted Output Power
IEEE 802.11g_Channel 6_Antenna 0



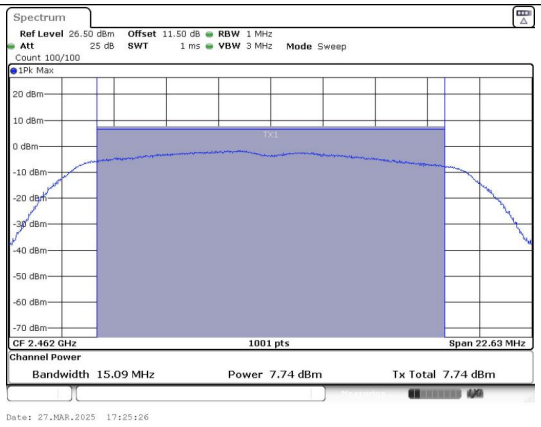
Conducted Output Power
IEEE 802.11g_Channel 11_Antenna 0



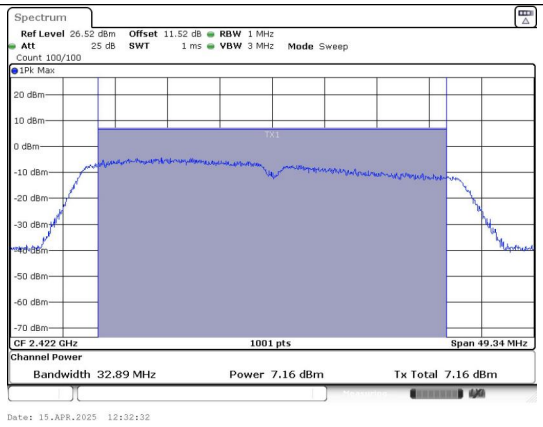
Conducted Output Power
IEEE 802.11n_20_Channel 1_Antenna 0



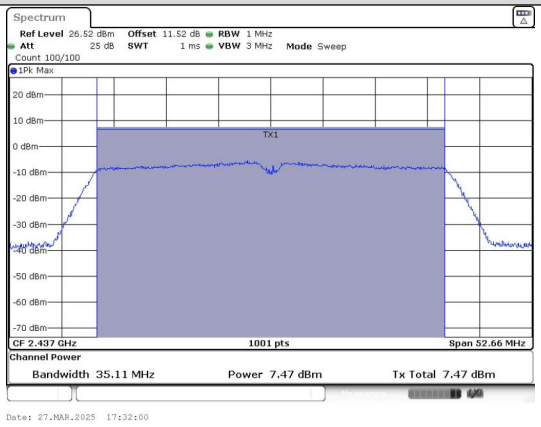
Conducted Output Power
IEEE 802.11n_20_Channel 6_Antenna 0



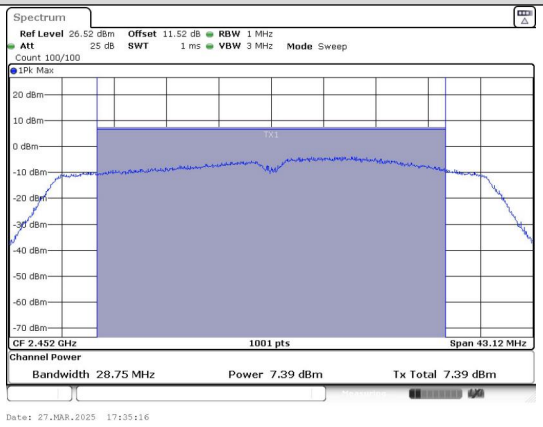
Conducted Output Power
IEEE 802.11n_20_Channel 11_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 3_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 6_Antenna 0



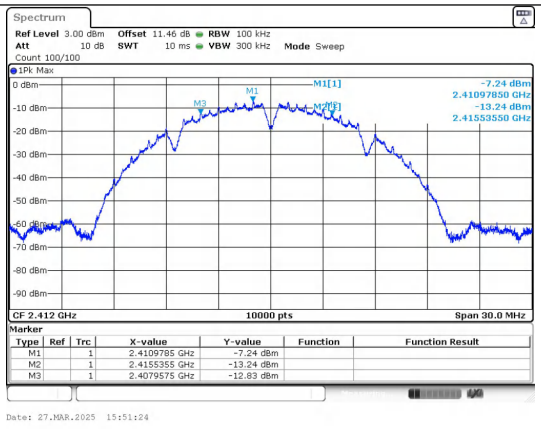
Conducted Output Power
IEEE 802.11n_40_Channel 9_Antenna 0

6dB Bandwidth

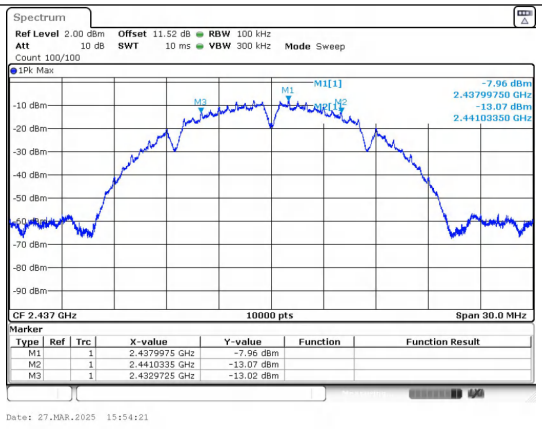
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	7.580	≥0.5	PASS
	6		2437	8.060		PASS
	11		2462	7.540		PASS
IEEE 802.11g	1		2412	15.28		PASS
	6		2437	15.09		PASS
	11		2462	13.79		PASS
IEEE 802.11n_20	1		2412	15.04		PASS
	6		2437	15.91		PASS
	11		2462	15.09		PASS
IEEE 802.11n_40	3		2422	32.89		PASS
	6		2437	35.11		PASS
	9		2452	28.75		PASS

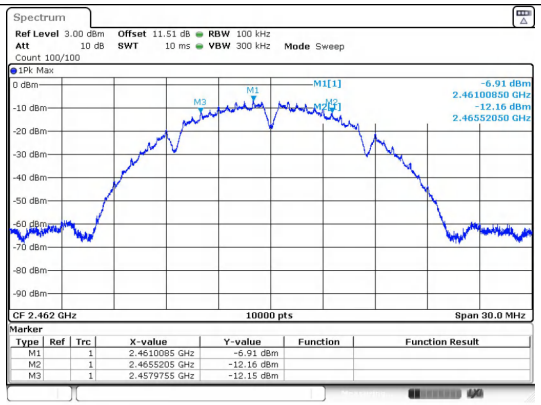
Test Graphs



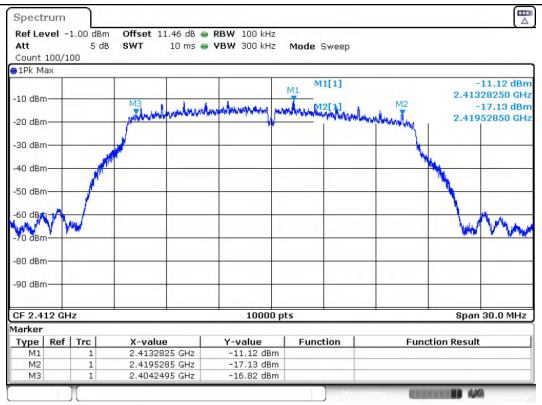
IEEE 802.11b_Channel 1_20MHz_Antenna 0



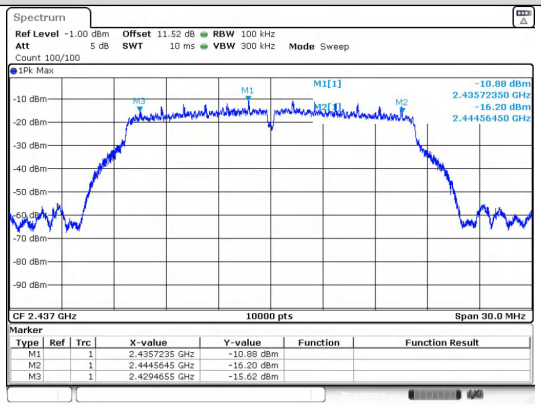
IEEE 802.11b_Channel 6_20MHz_Antenna 0



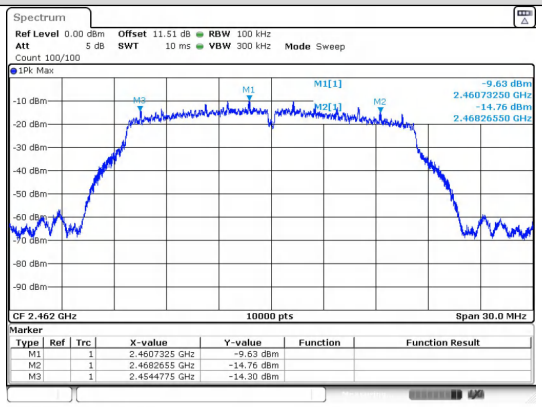
IEEE 802.11b_Channel 11_20MHz_Antenna 0



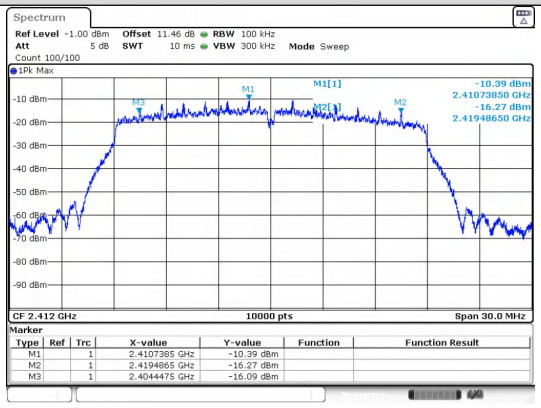
IEEE 802.11g_Channel 1_20MHz_Antenna 0



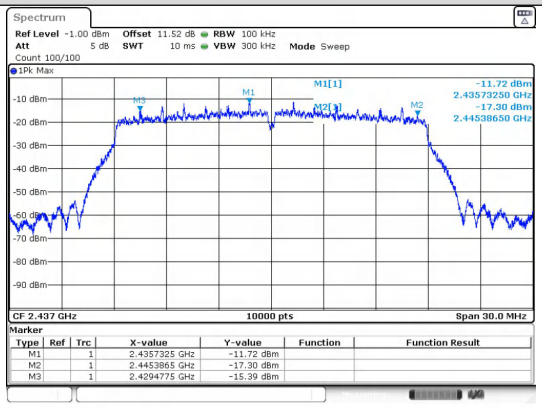
IEEE 802.11g_Channel 6_20MHz_Antenna 0



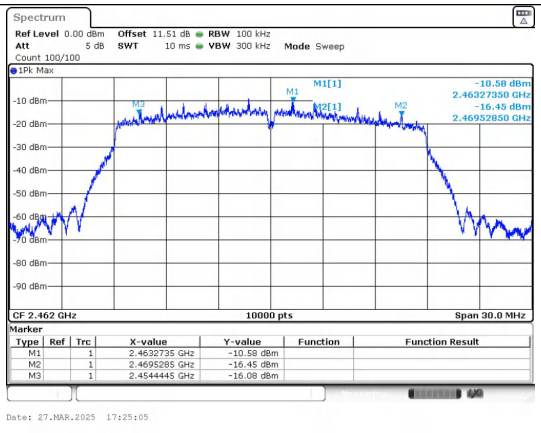
IEEE 802.11g_Channel 11_20MHz_Antenna 0



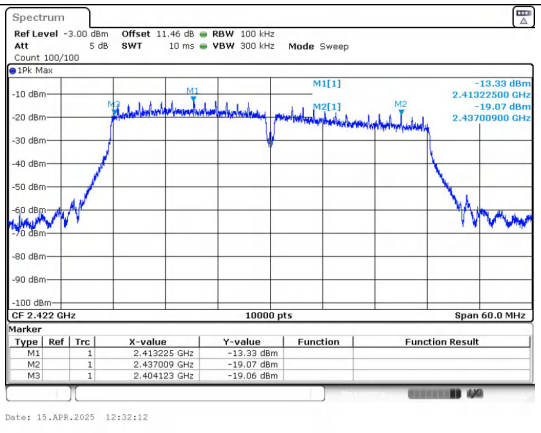
IEEE 802.11n_Channel 1_20MHz_Antenna 0



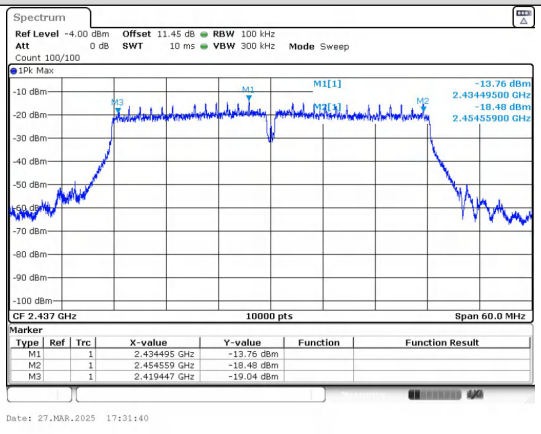
IEEE 802.11n_Channel 6_20MHz_Antenna 0



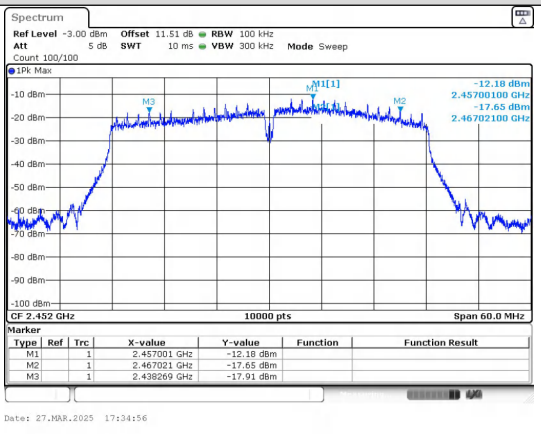
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



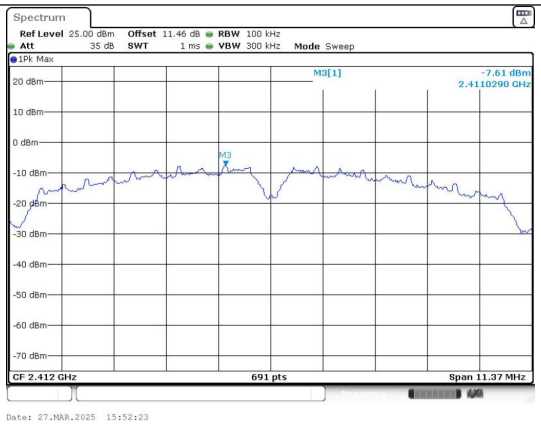
IEEE 802.11n_Channel 9_40MHz_Antenna 0

Conducted Out Of Band Emission

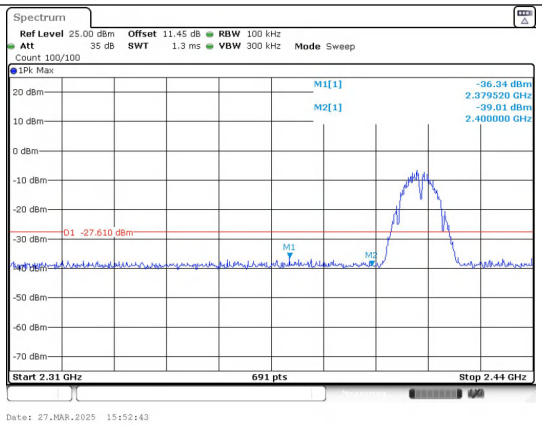
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2379.52	-36.344	-27.61	-8.734	PASS
			2400.00	-39.010	-27.61	-11.400	PASS
			22001.5	-43.788	-27.61	-16.178	PASS
	6		6912.98	-43.053	-27.55	-15.503	PASS
	11		2483.50	-38.840	-26.8	-12.040	PASS
			6842.23	-43.283	-26.8	-16.483	PASS
IEEE 802.11g	1		2377.26	-36.693	-30.4	-6.293	PASS
			2400.00	-38.150	-30.4	-7.750	PASS
			6955.40	-43.199	-30.4	-12.799	PASS
	6		18287.6	-43.497	-30.89	-12.607	PASS
	11		2483.50	-37.680	-30.49	-7.190	PASS
			6187.19	-43.024	-30.49	-12.534	PASS
IEEE 802.11n_20	1		2393.44	-36.046	-30.96	-5.086	PASS
			2400.00	-39.440	-30.96	-8.480	PASS
			5866.70	-43.287	-30.96	-12.327	PASS
	6		6954.60	-42.106	-31.44	-10.666	PASS
	11		2483.50	-37.590	-30.66	-6.930	PASS
			6943.78	-43.269	-30.66	-12.609	PASS
IEEE 802.11n_40	3		2396.64	-36.575	-32.16	-4.415	PASS
			2400.00	-38.270	-32.16	-6.110	PASS
			6953.80	-43.225	-32.16	-11.065	PASS
	6		6775.65	-42.250	-33.69	-8.560	PASS
	9		2483.50	-38.110	-32.17	-5.940	PASS
			6893.00	-42.051	-32.17	-9.881	PASS

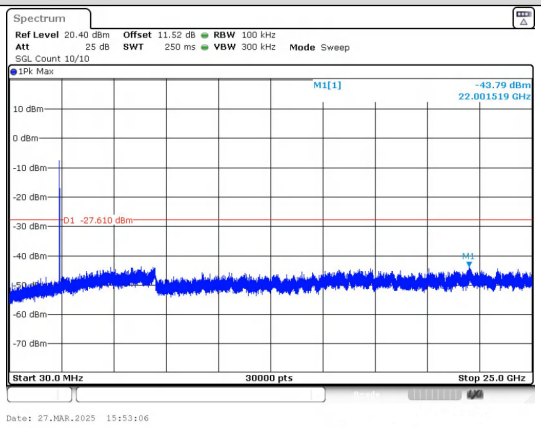
Test Graphs



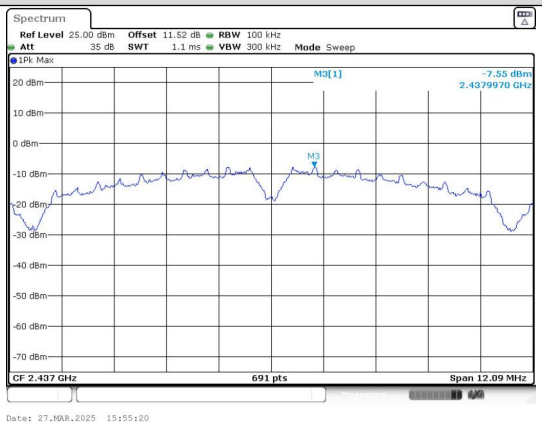
In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



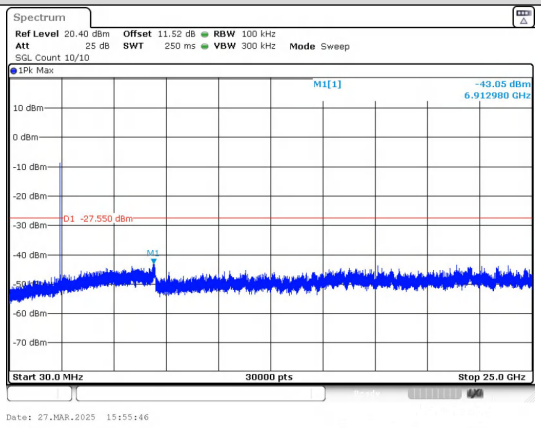
Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0

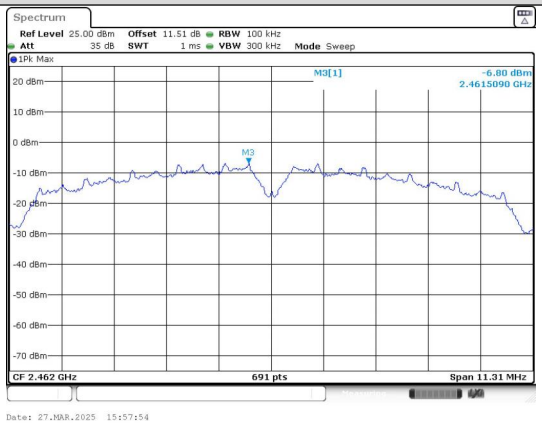


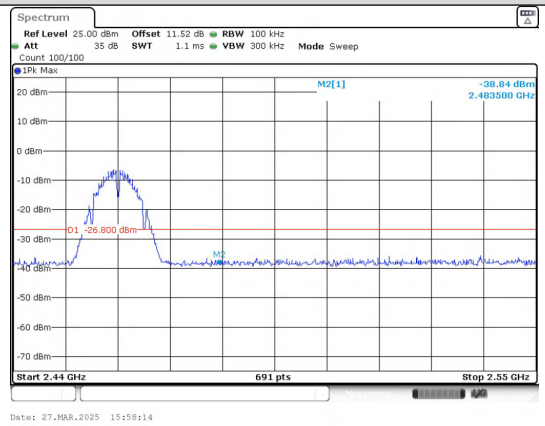
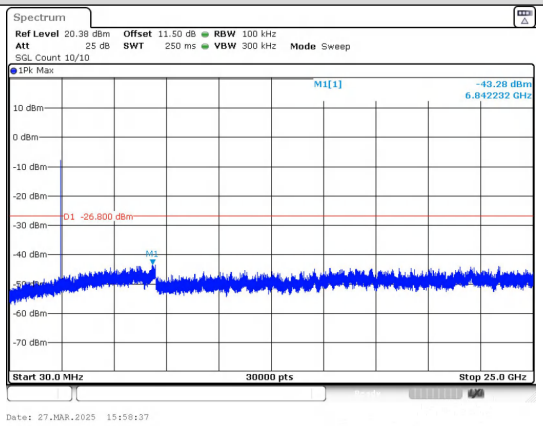
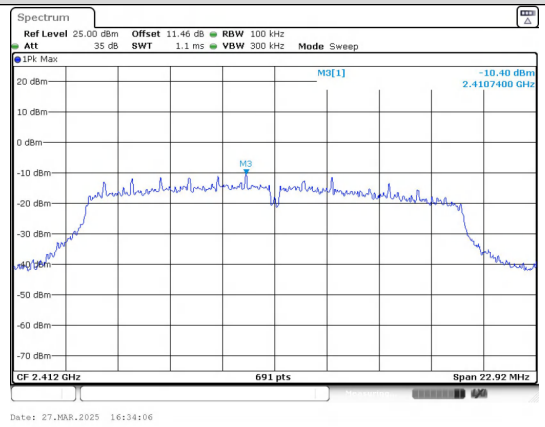
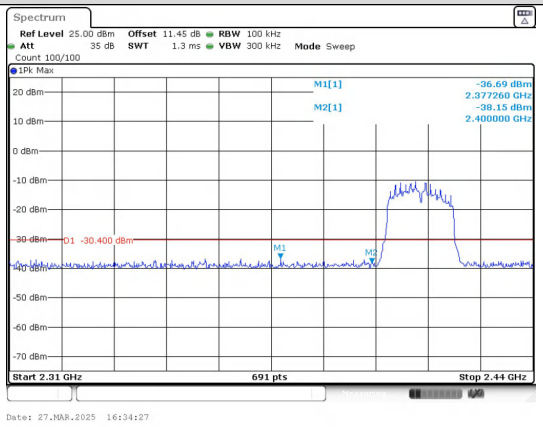
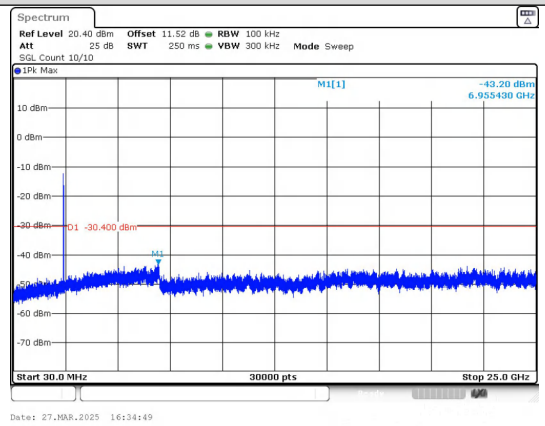
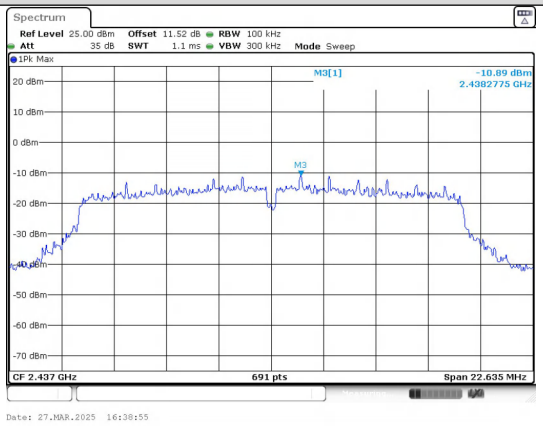
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0



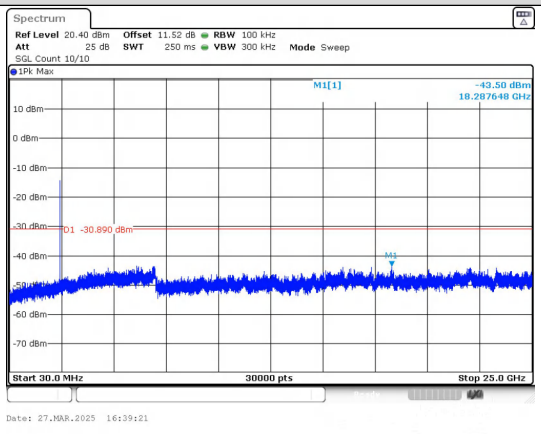
In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



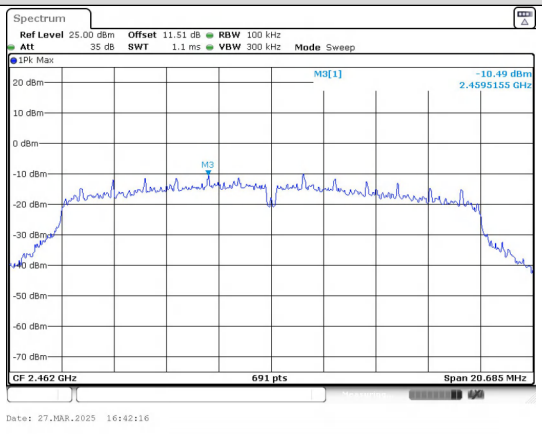


30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 6_20MHz_Antenna 0	In-Band Reference Level IEEE 802.11b_Channel 11_20MHz_Antenna 0
	
Out Of Band Emission IEEE 802.11b_Channel 11_20MHz_Antenna 0	**30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 11_20MHz_Antenna 0**
	
In-Band Reference Level IEEE 802.11g_Channel 1_20MHz_Antenna 0	**Out Of Band Emission IEEE 802.11g_Channel 1_20MHz_Antenna 0**
	
30.0 MHz - 25000.0 MHz	**In-Band Reference Level**

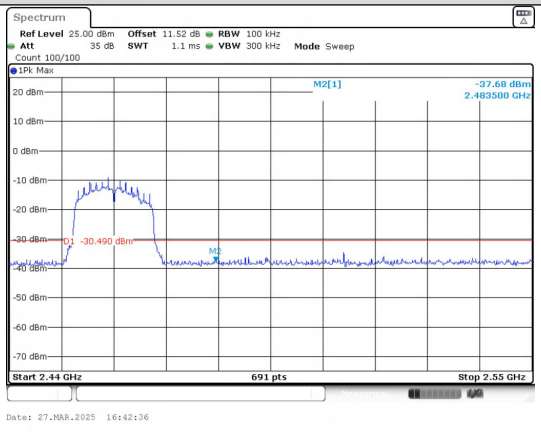
IEEE 802.11g_Channel 1_20MHz_Antenna 0



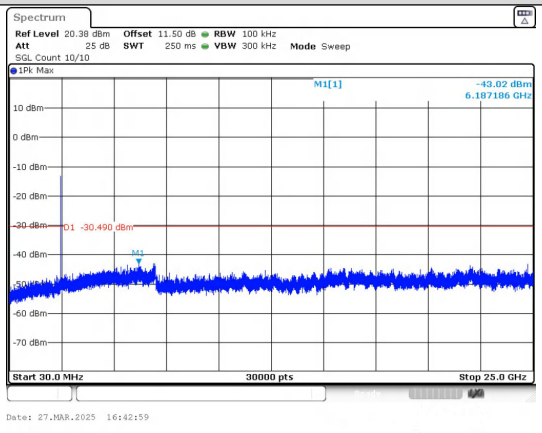
IEEE 802.11g_Channel 6_20MHz_Antenna 0



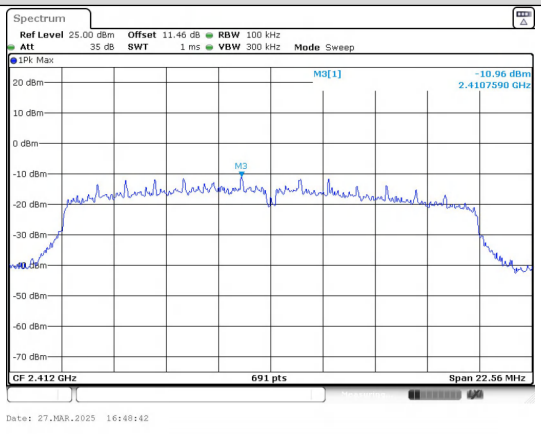
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0



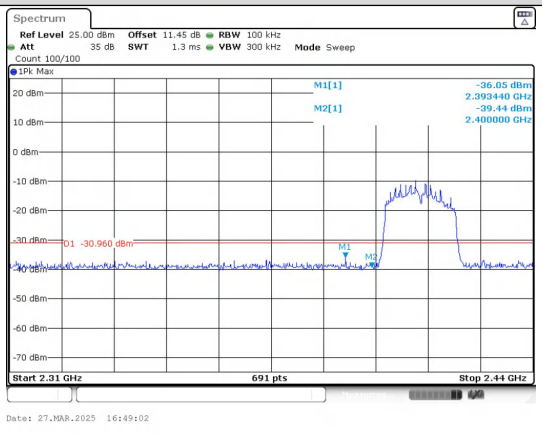
In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0

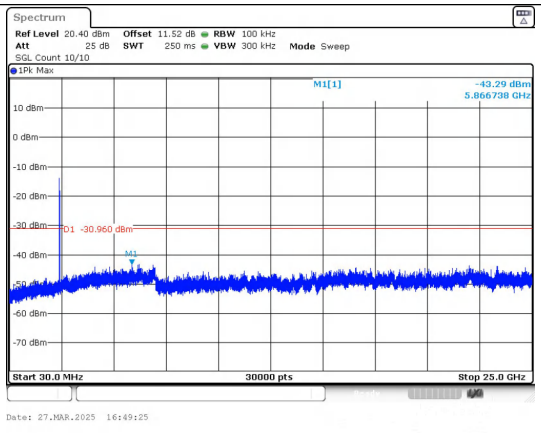


30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 11_20MHz_Antenna 0

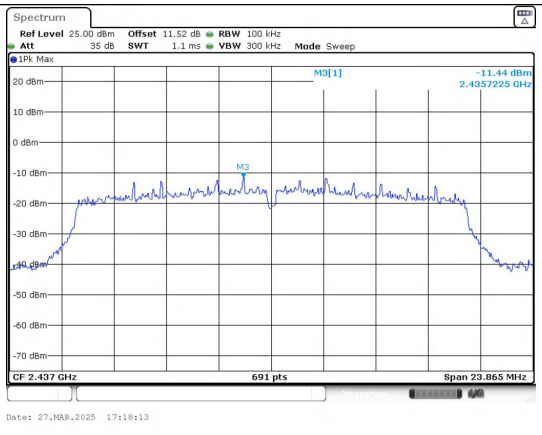


In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0

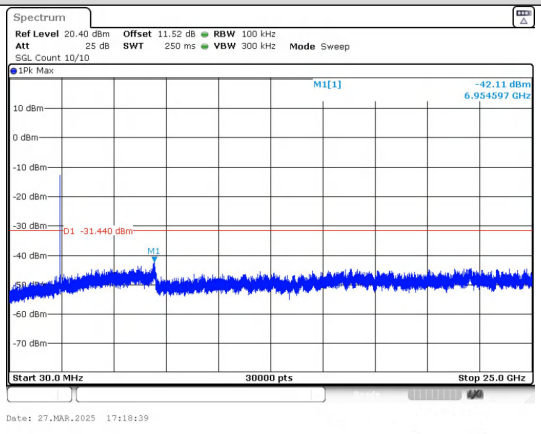
Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



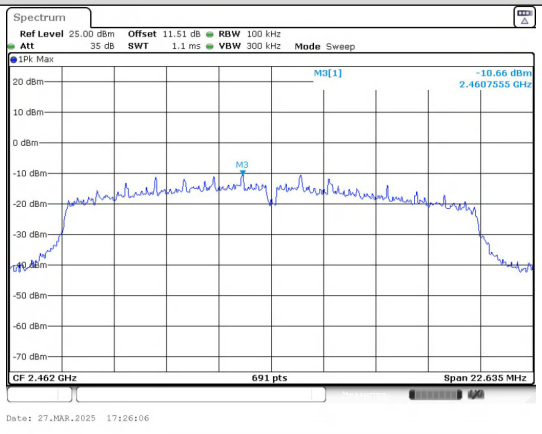
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 1_20MHz_Antenna 0



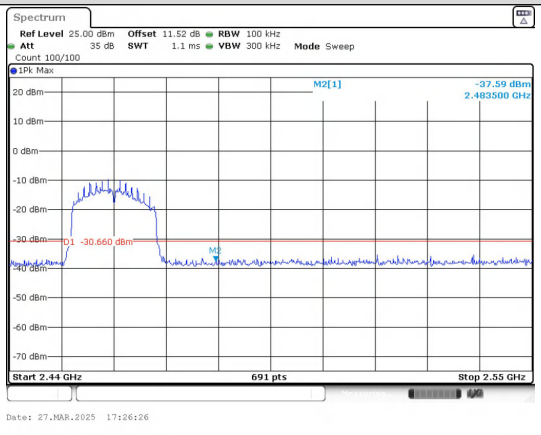
In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



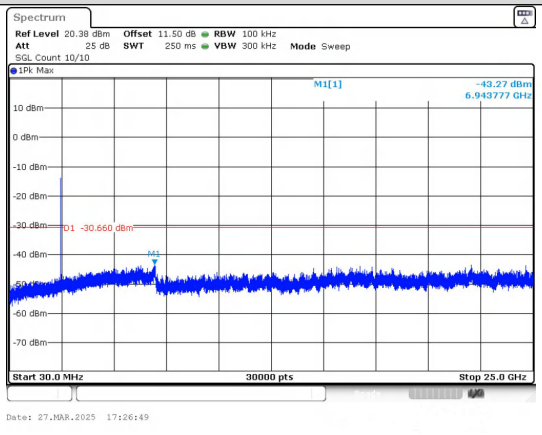
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



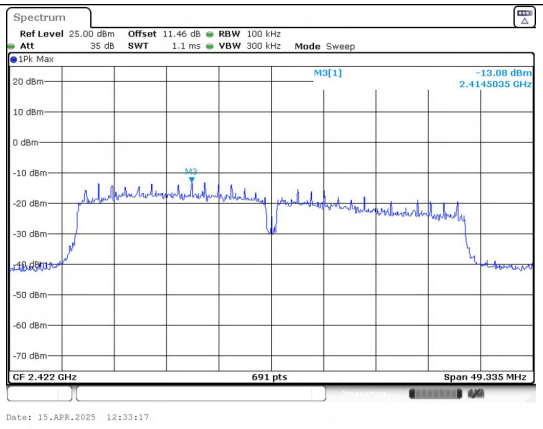
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



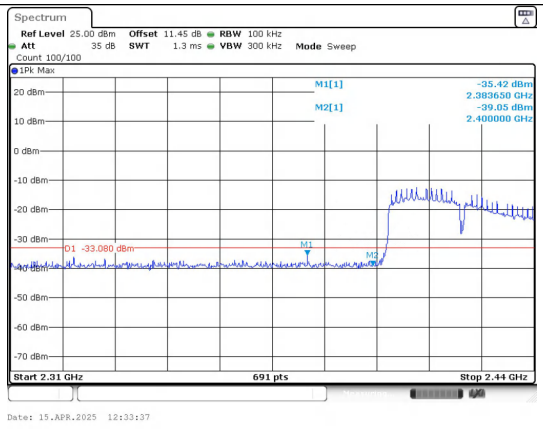
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



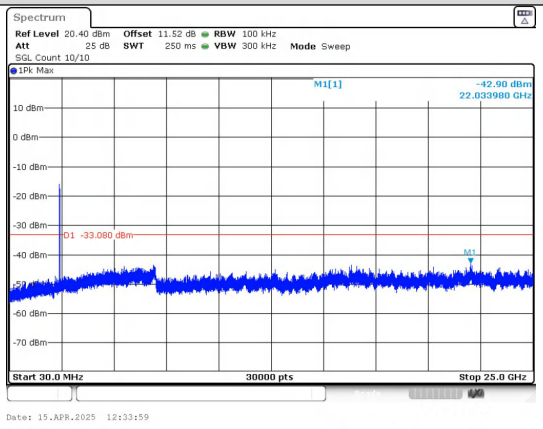
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0



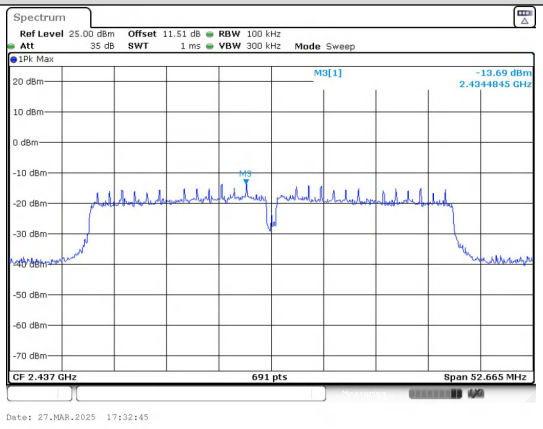
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



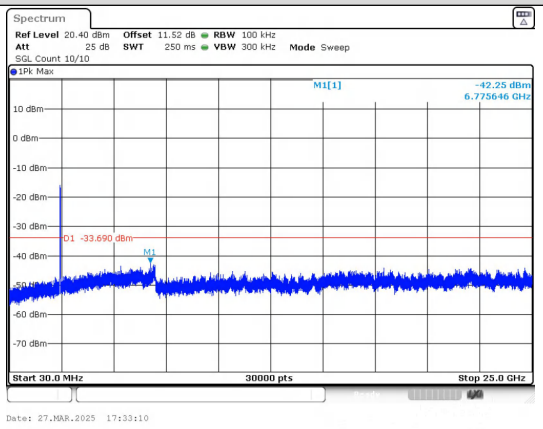
Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



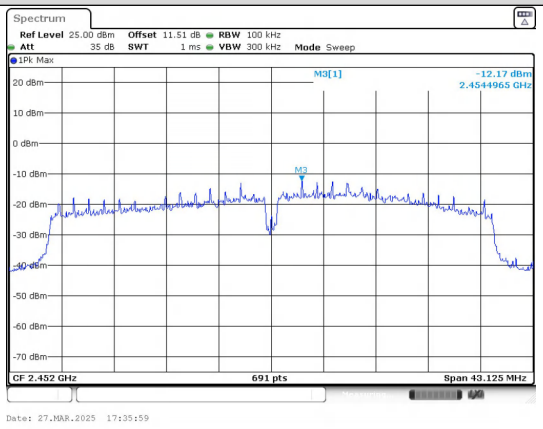
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 3_40MHz_Antenna 0



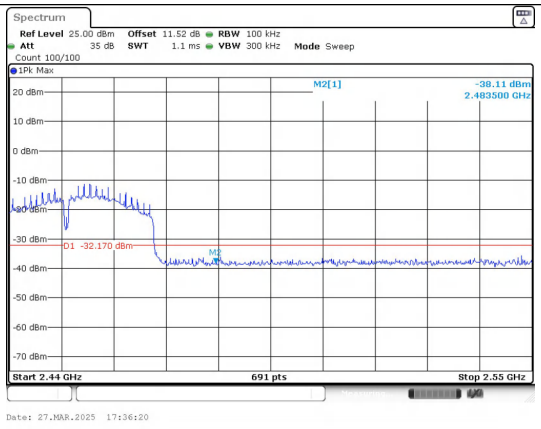
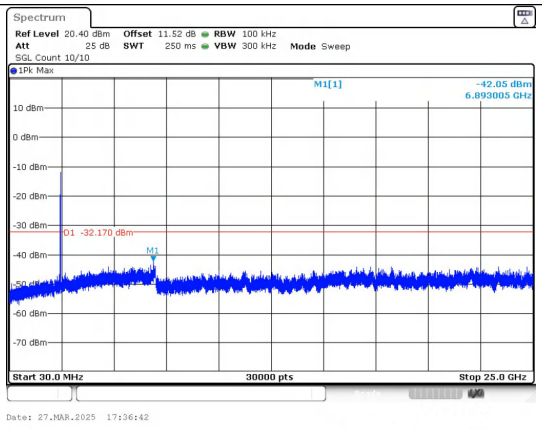
In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_40MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 9_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 the report-----