Appendix Report

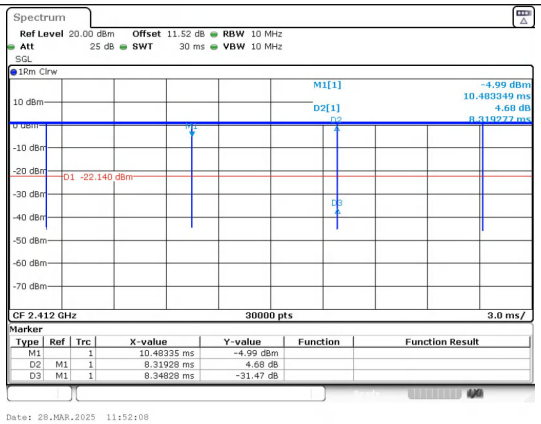
Project No.:	CISR250324214
Test Engineer:	James Wang
Supervised by:	Rory Huang

Duty Cycle

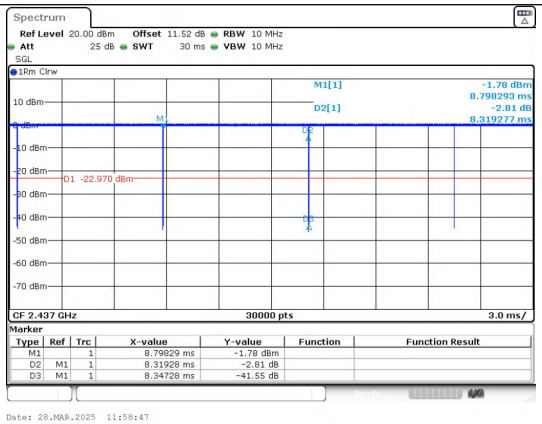
Test Result

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	8.319	8.348	99.65	0.9965	0.0152	0.1202
		6		8.319	8.347	99.66	0.9966	0.0148	0.1202
		11		8.340	8.369	99.66	0.9966	0.0148	0.1199
IEEE 802.11g		1		1.396	1.429	97.69	0.9769	0.1015	0.7163
		6		1.396	1.429	97.69	0.9769	0.1015	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	1.338	97.46	0.9746	0.1117	0.7669
		11		1.304	1.338	97.46	0.9746	0.1117	0.7669
IEEE 802.11n_40		3		0.650	0.684	94.94	0.9494	0.2255	1.5385
		6		0.650	0.684	95.00	0.9500	0.2228	1.5385
		9		0.650	0.684	95.00	0.9500	0.2228	1.5385

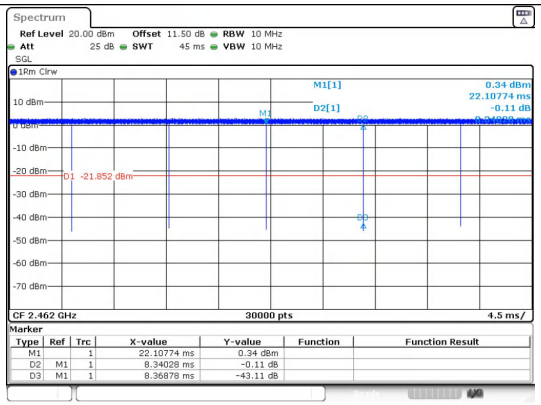
Test Graphs



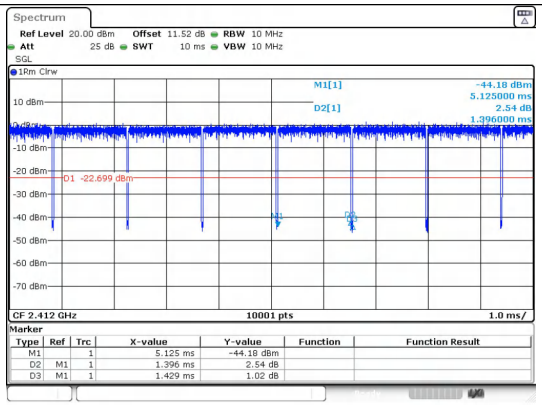
IEEE 802.11b_20MHz_Channel 1



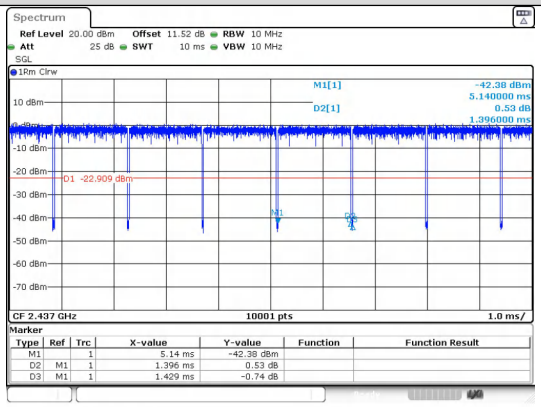
IEEE 802.11b_20MHz_Channel 6



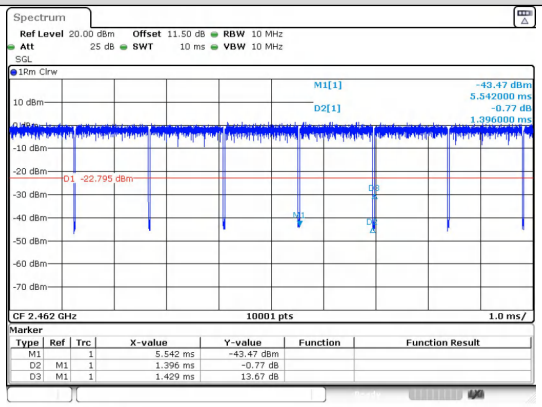
IEEE 802.11b_20MHz_Channel 11



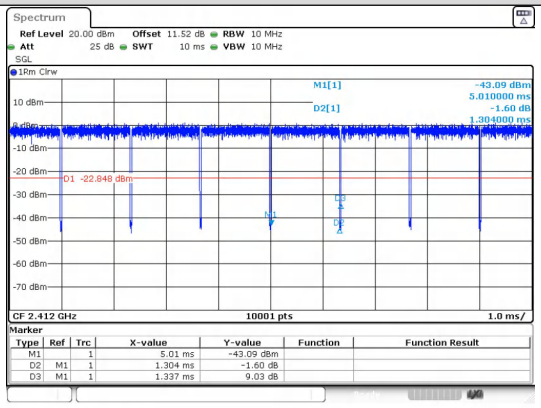
IEEE 802.11g_20MHz_Channel 1



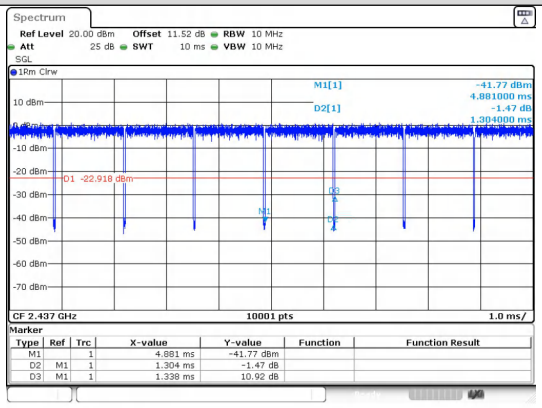
IEEE 802.11g_20MHz_Channel 6



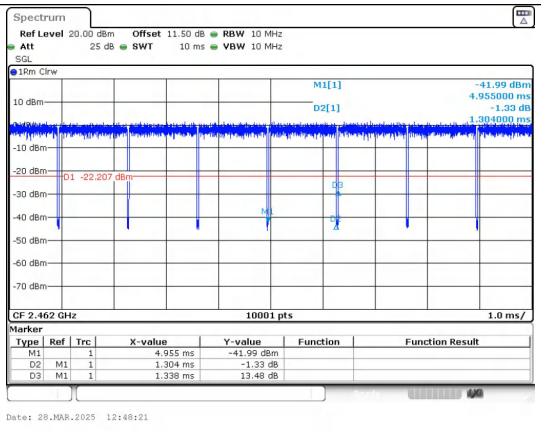
IEEE 802.11g_20MHz_Channel 11



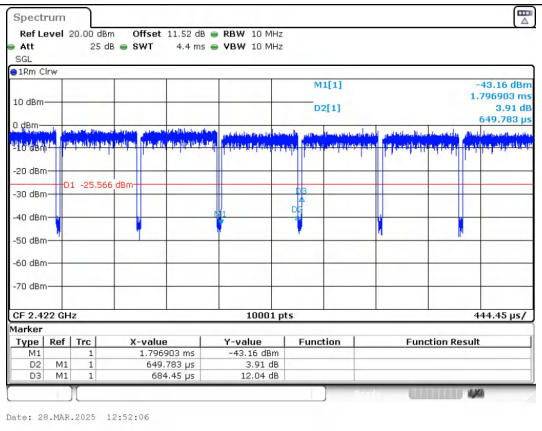
IEEE 802.11n_20MHz_Channel 1



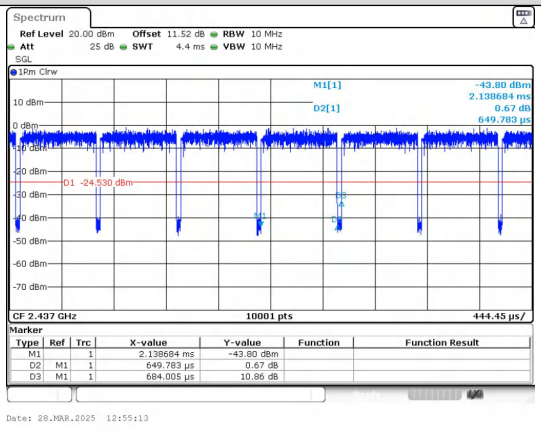
IEEE 802.11n_20MHz_Channel 6



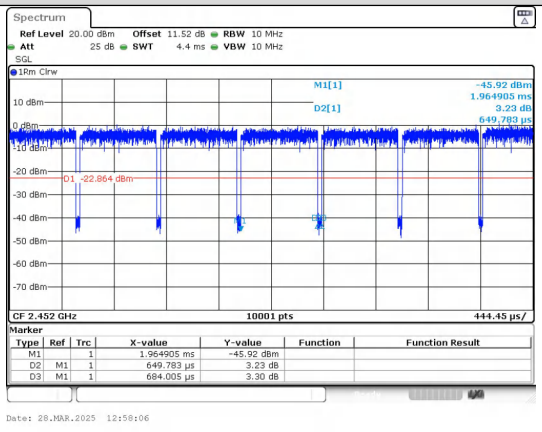
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



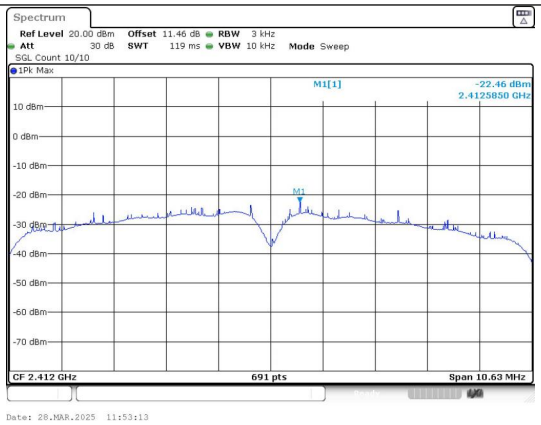
IEEE 802.11n_40MHz_Channel 9

Power Spectral Density

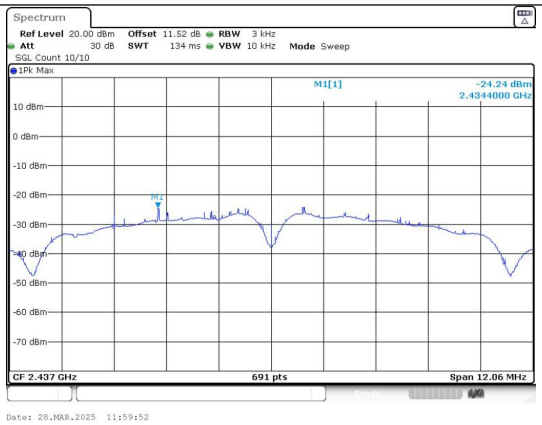
Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-22.460	≤8	PASS
	6	-24.240		PASS
	11	-22.220		PASS
IEEE 802.11g	1	-26.390		PASS
	6	-25.740		PASS
	11	-24.970		PASS
IEEE 802.11n_20	1	-24.980		PASS
	6	-25.120		PASS
	11	-25.620		PASS
IEEE 802.11n_40	3	-29.570		PASS
	6	-29.120		PASS
	9	-27.570		PASS

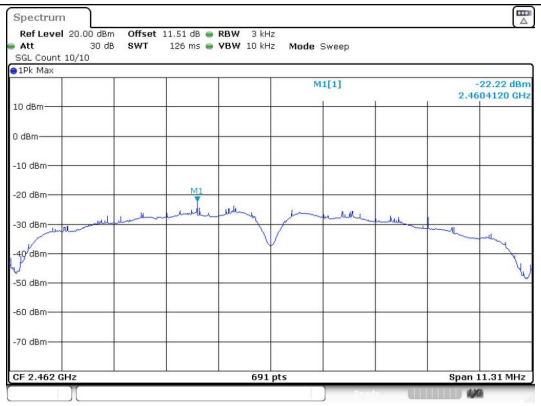
Test Graphs



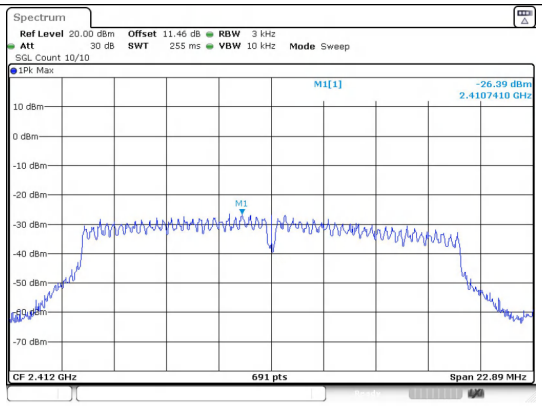
IEEE 802.11b_Channel 1_20MHz_Antenna 0



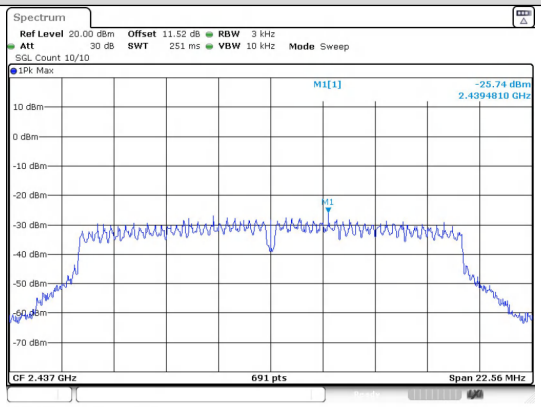
IEEE 802.11b_Channel 6_20MHz_Antenna 0



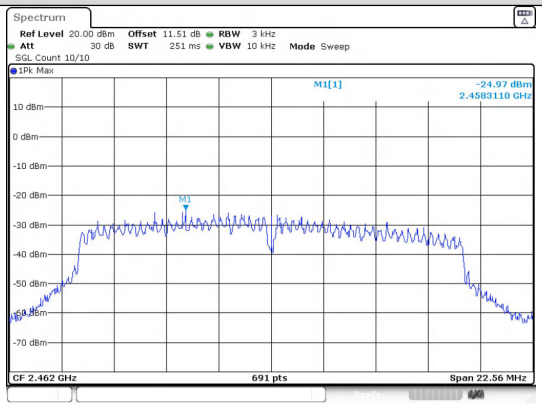
IEEE 802.11b_Channel 11_20MHz_Antenna 0



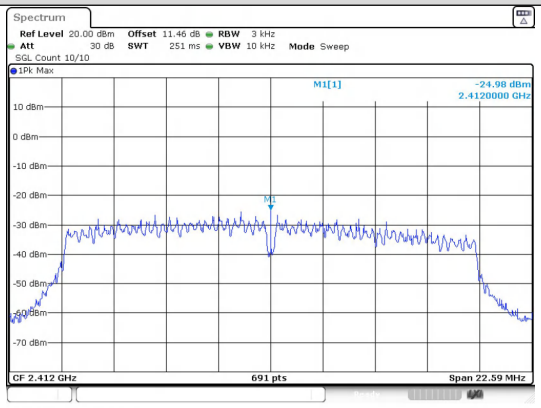
IEEE 802.11g_Channel 1_20MHz_Antenna 0



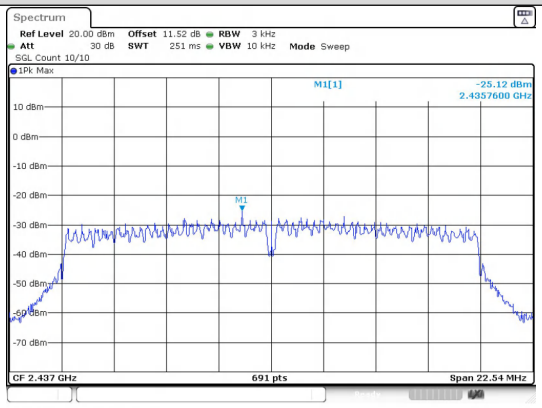
IEEE 802.11g_Channel 6_20MHz_Antenna 0



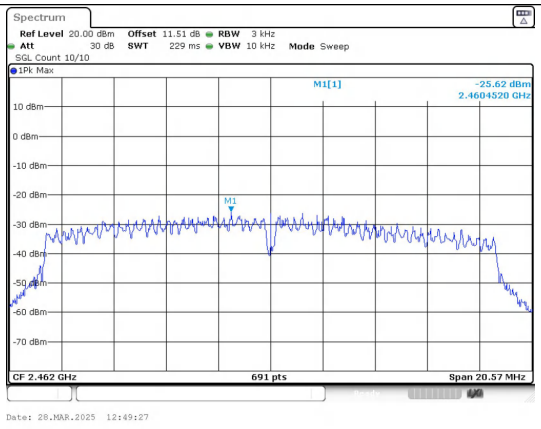
IEEE 802.11g_Channel 11_20MHz_Antenna 0



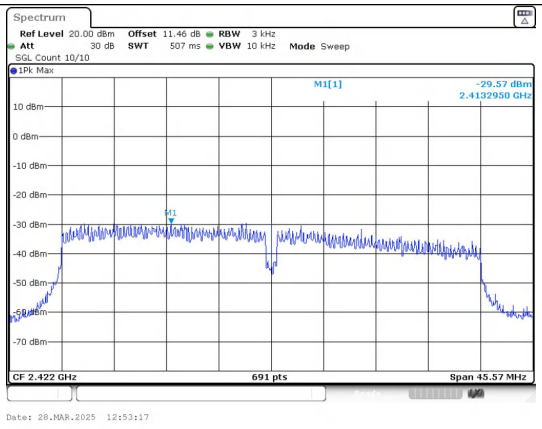
IEEE 802.11n_Channel 1_20MHz_Antenna 0



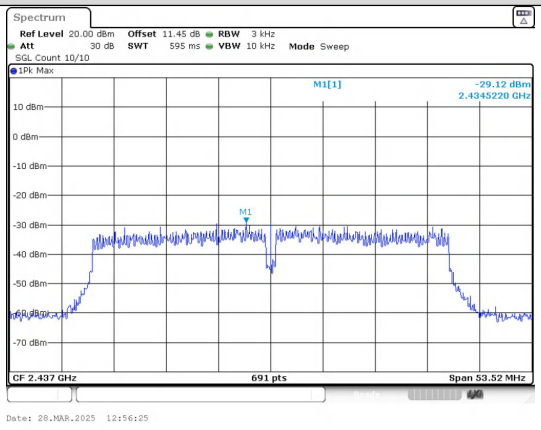
IEEE 802.11n_Channel 6_20MHz_Antenna 0



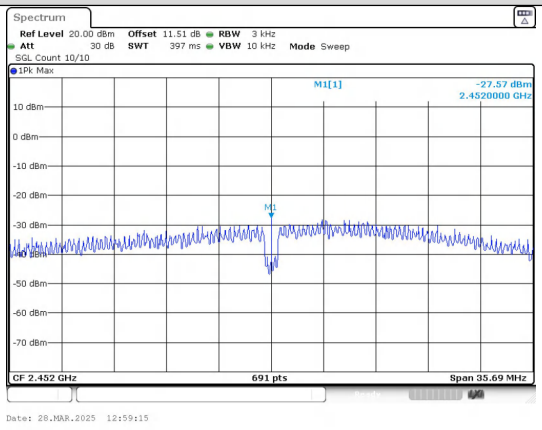
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

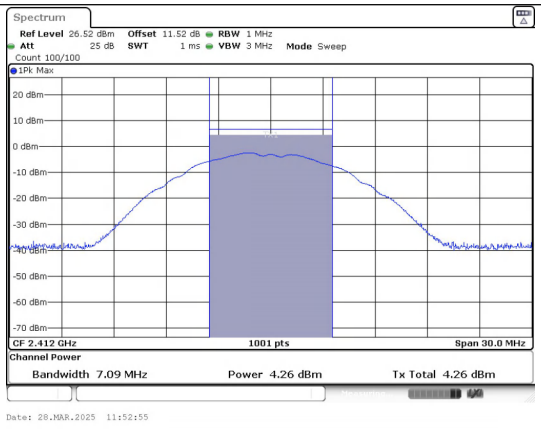
Conducted Output Power

Test Result

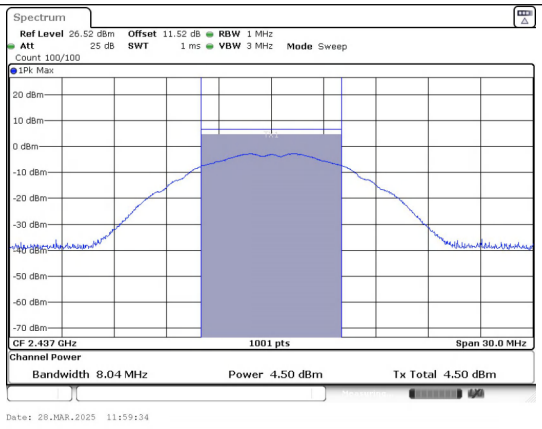
Conducted Output Power

Mode	Channel	Ant. 0 (dBm)	Total (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	4.26	N/A	≤30	PASS
	6	4.50	N/A	≤30	PASS
	11	4.65	N/A	≤30	PASS
IEEE 802.11g	1	7.72	N/A	≤30	PASS
	6	7.30	N/A	≤30	PASS
	11	7.85	N/A	≤30	PASS
IEEE 802.11n_20	1	7.54	N/A	≤30	PASS
	6	7.14	N/A	≤30	PASS
	11	7.84	N/A	≤30	PASS
IEEE 802.11n_40	3	6.92	N/A	≤30	PASS
	6	7.34	N/A	≤30	PASS
	9	7.25	N/A	≤30	PASS

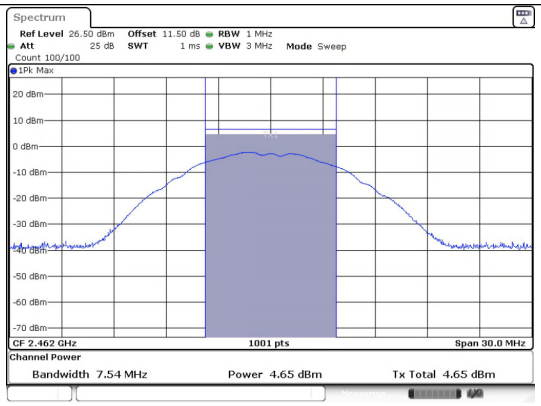
Test Graphs



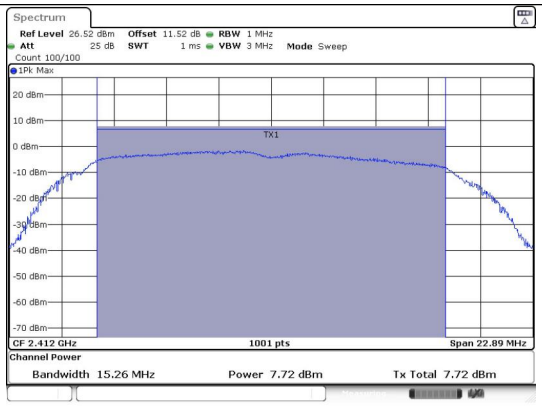
Conducted Output Power
IEEE 802.11b_Channel 1_Antenna 0



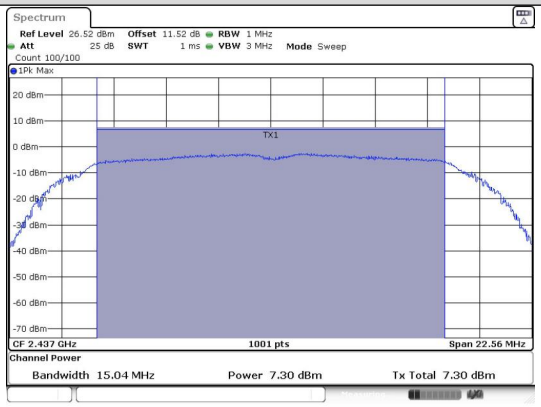
Conducted Output Power
IEEE 802.11b_Channel 6_Antenna 0



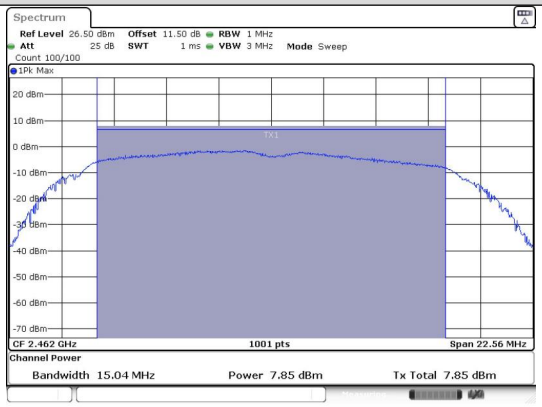
Conducted Output Power
IEEE 802.11b_Channel 11_Antenna 0



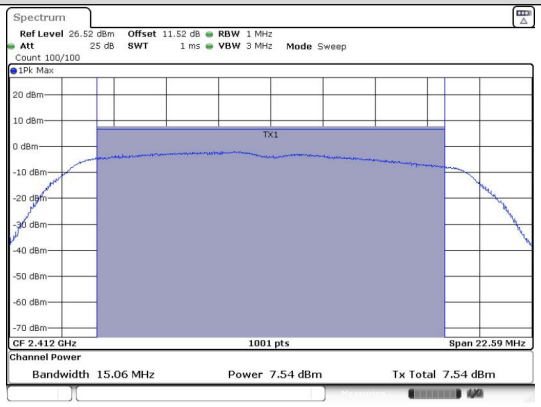
Conducted Output Power
IEEE 802.11g_Channel 1_Antenna 0



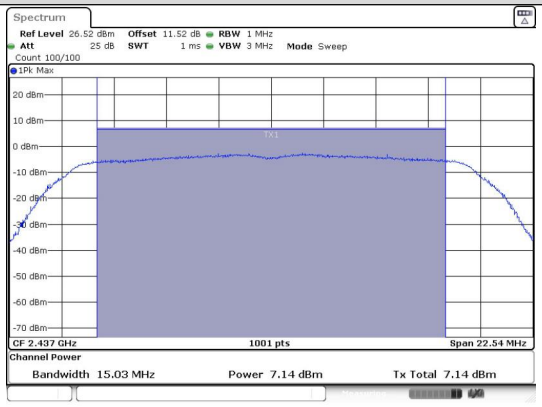
Conducted Output Power
IEEE 802.11g_Channel 6_Antenna 0



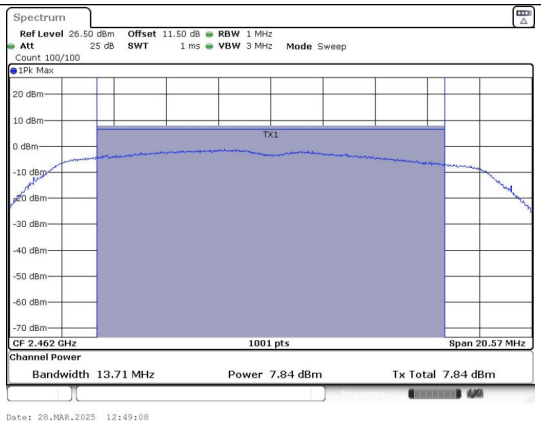
Conducted Output Power
IEEE 802.11g_Channel 11_Antenna 0



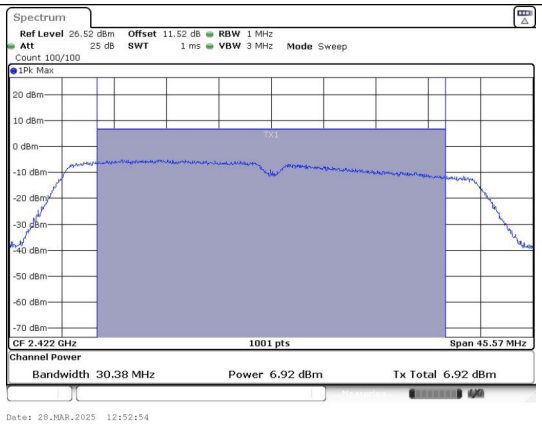
Conducted Output Power
IEEE 802.11n_20_Channel 1_Antenna 0



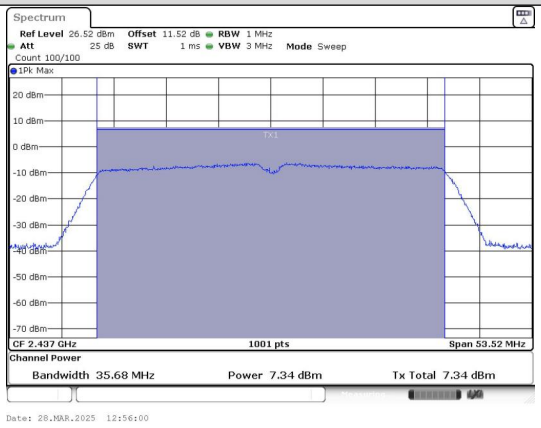
Conducted Output Power
IEEE 802.11n_20_Channel 6_Antenna 0



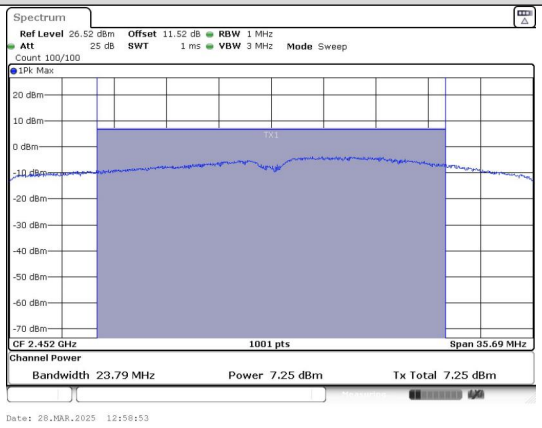
Conducted Output Power
IEEE 802.11n_20_Channel 11_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 3_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 6_Antenna 0



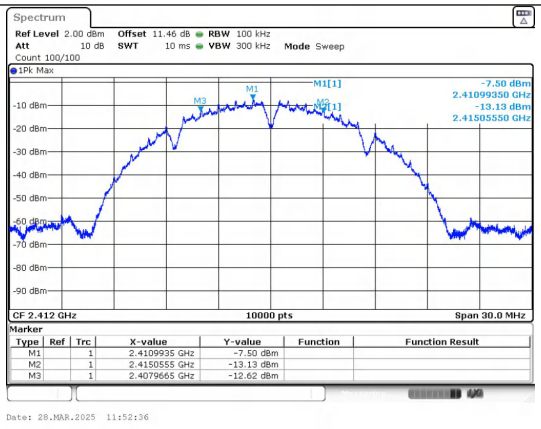
Conducted Output Power
IEEE 802.11n_40_Channel 9_Antenna 0

6dB Bandwidth

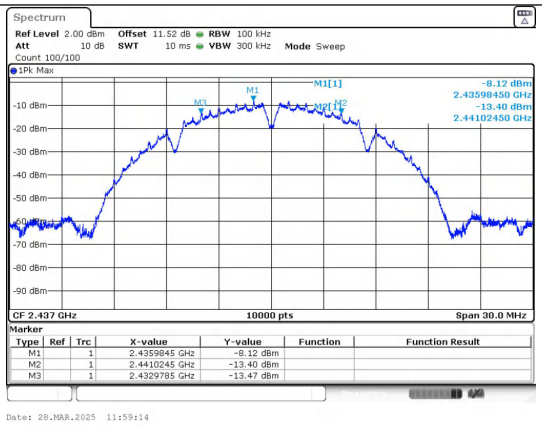
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	7.090	≥0.5	PASS
	6		2437	8.040		PASS
	11		2462	7.540		PASS
IEEE 802.11g	1		2412	15.26		PASS
	6		2437	15.04		PASS
	11		2462	15.04		PASS
IEEE 802.11n_20	1		2412	15.06		PASS
	6		2437	15.03		PASS
	11		2462	13.71		PASS
IEEE 802.11n_40	3		2422	30.38		PASS
	6		2437	35.68		PASS
	9		2452	23.79		PASS

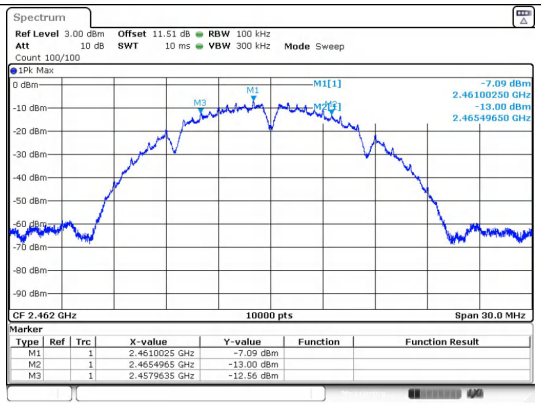
Test Graphs



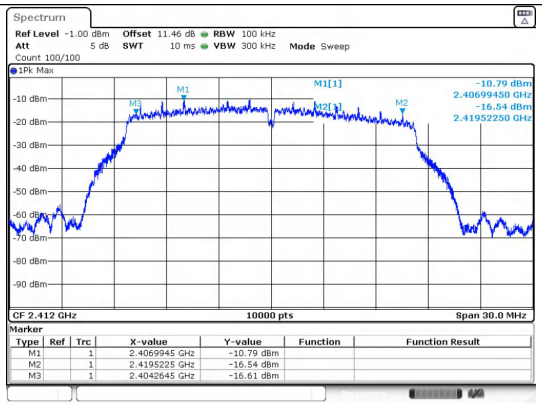
IEEE 802.11b_Channel 1_20MHz_Antenna 0



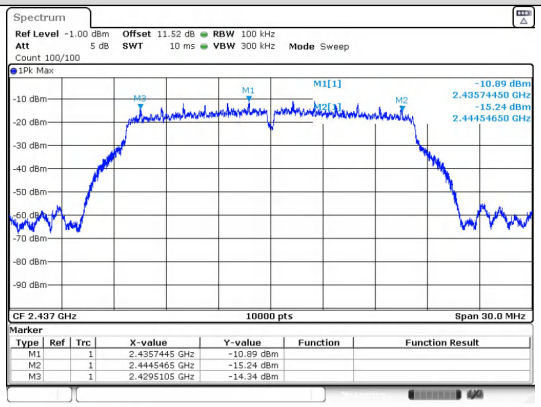
IEEE 802.11b_Channel 6_20MHz_Antenna 0



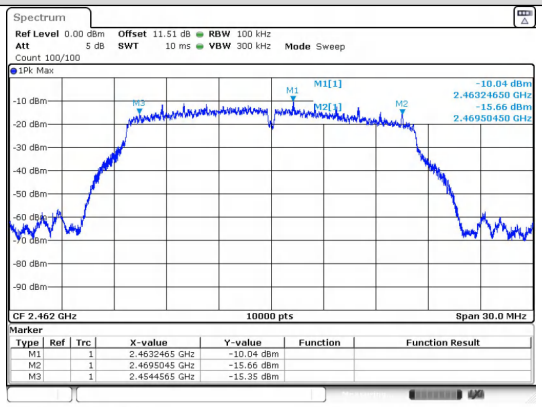
IEEE 802.11b_Channel 11_20MHz_Antenna 0



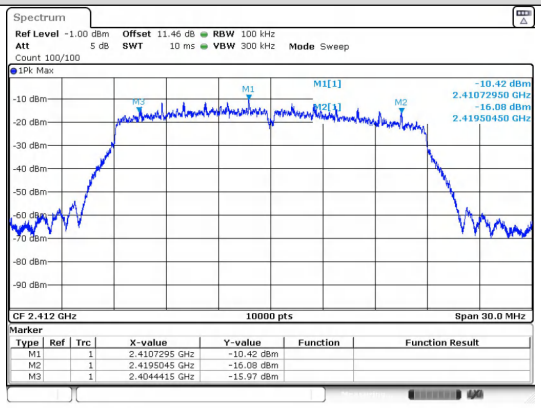
IEEE 802.11g_Channel 1_20MHz_Antenna 0



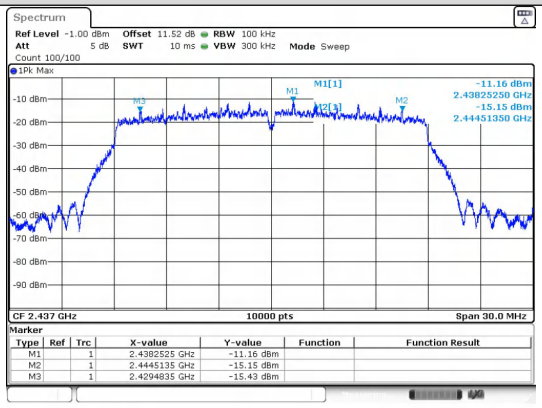
IEEE 802.11g_Channel 6_20MHz_Antenna 0



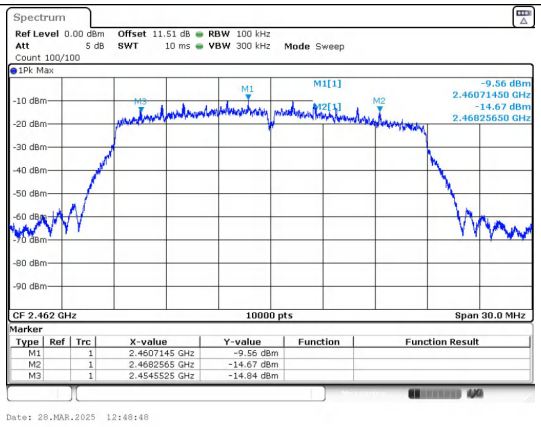
IEEE 802.11g_Channel 11_20MHz_Antenna 0



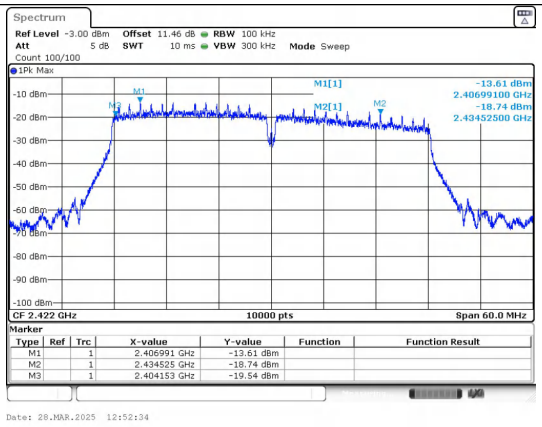
IEEE 802.11n_Channel 1_20MHz_Antenna 0



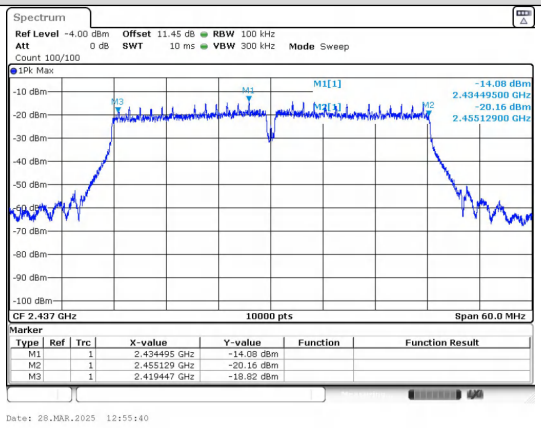
IEEE 802.11n_Channel 6_20MHz_Antenna 0



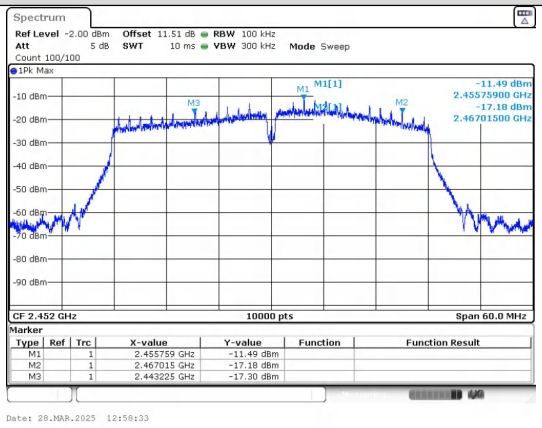
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



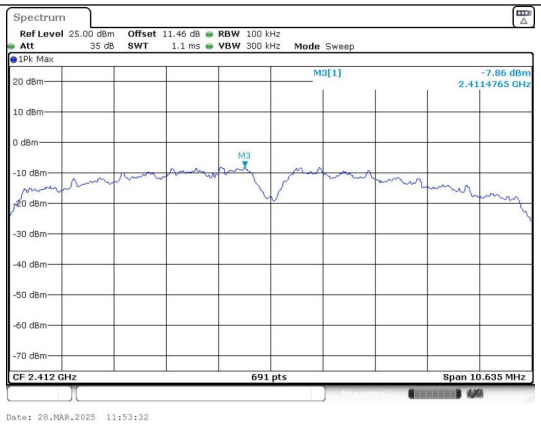
IEEE 802.11n_Channel 9_40MHz_Antenna 0

Conducted Out Of Band Emission

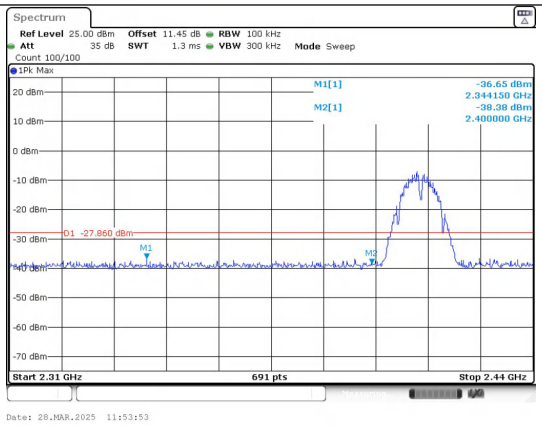
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2344.15	-36.653	-27.86	-8.793	PASS
			2400.00	-38.380	-27.86	-10.520	PASS
			22038.1	-42.928	-27.86	-15.068	PASS
	6		21917.5	-42.795	-28.21	-14.585	PASS
	11		2483.50	-38.400	-27.32	-11.080	PASS
			6969.58	-42.796	-27.32	-15.476	PASS
IEEE 802.11g	1		2330.98	-36.552	-30.58	-5.972	PASS
			2400.00	-37.640	-30.58	-7.060	PASS
			22035.6	-43.701	-30.58	-13.121	PASS
	6		6921.30	-42.283	-31.05	-11.233	PASS
	11		2483.50	-37.570	-31.35	-6.220	PASS
			6922.97	-43.828	-31.35	-12.478	PASS
IEEE 802.11n_20	1		2362.21	-36.487	-30.84	-5.647	PASS
			2400.00	-39.410	-30.84	-8.570	PASS
			6976.20	-43.021	-30.84	-12.181	PASS
	6		6947.11	-42.293	-31.36	-10.933	PASS
	11		2483.50	-38.180	-29.75	-8.430	PASS
			6684.92	-43.035	-29.75	-13.285	PASS
IEEE 802.11n_40	3		2326.84	-36.538	-33.9	-2.638	PASS
			2400.00	-39.200	-33.9	-5.300	PASS
			6942.90	-43.103	-33.9	-9.203	PASS
	6		6902.16	-42.191	-33.79	-8.401	PASS
	9		2483.50	-38.870	-32.25	-6.620	PASS
			6937.95	-43.340	-32.25	-11.090	PASS

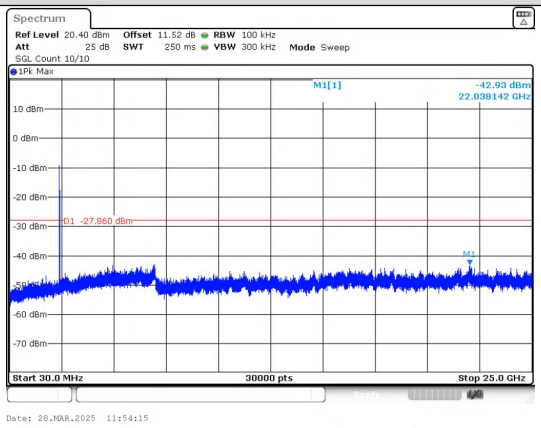
Test Graphs



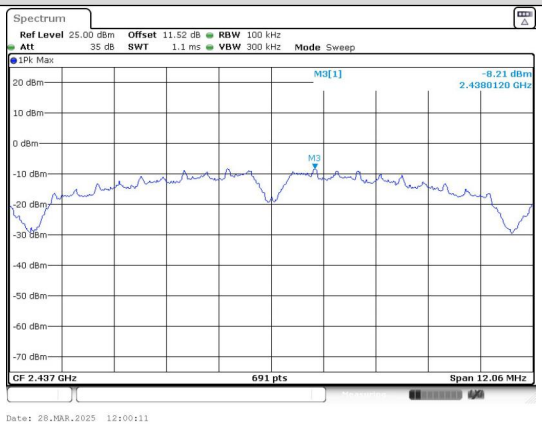
In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



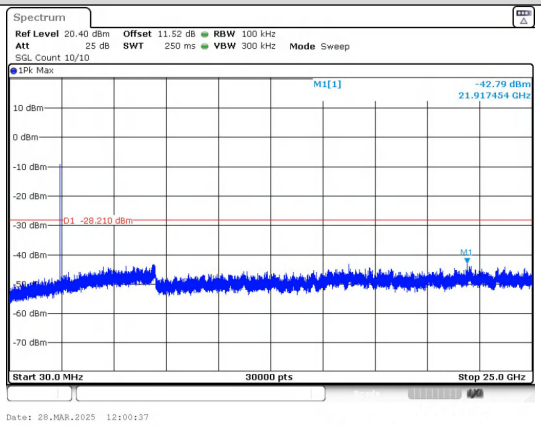
Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0

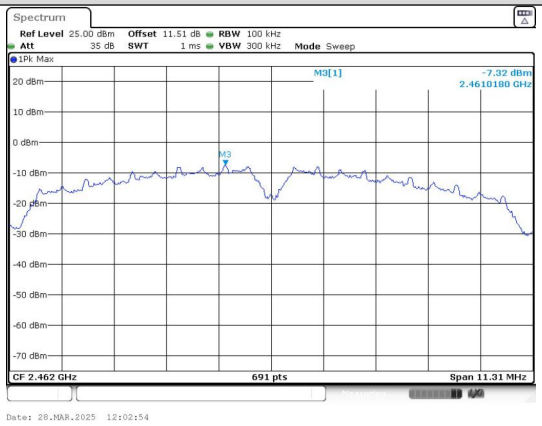


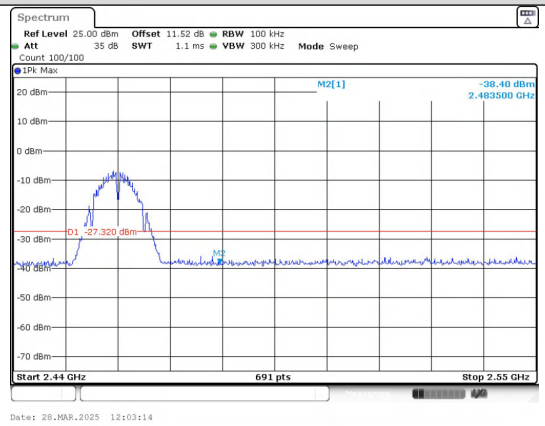
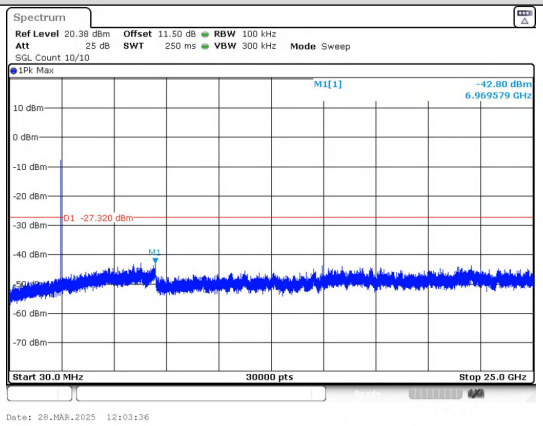
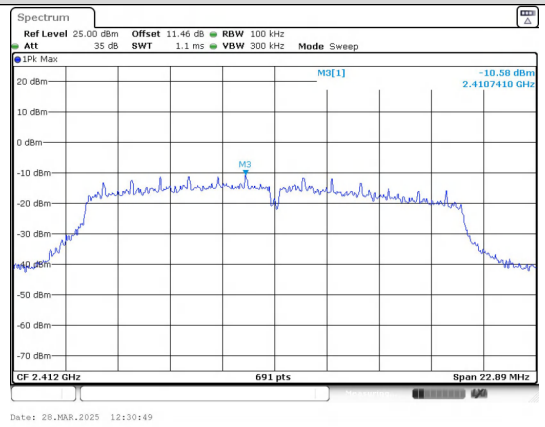
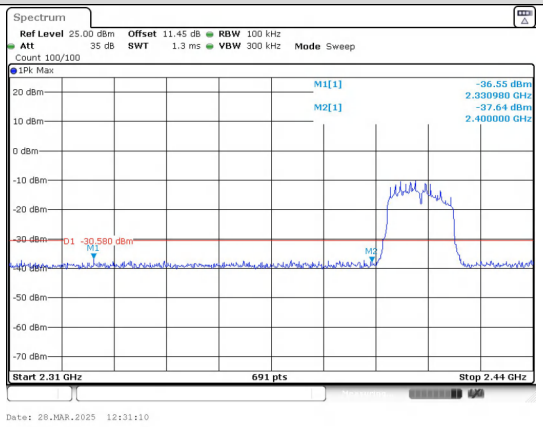
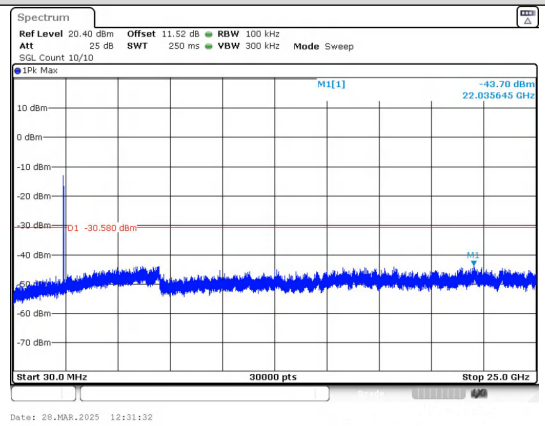
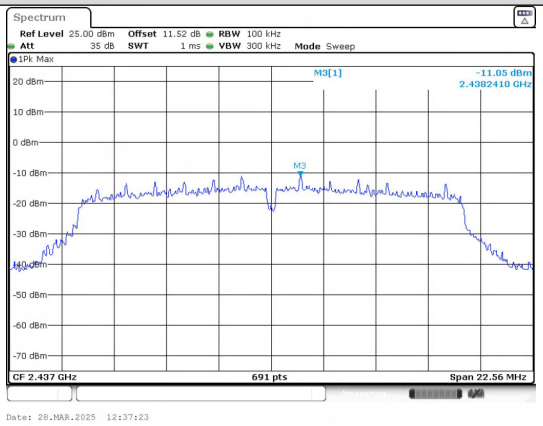
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0



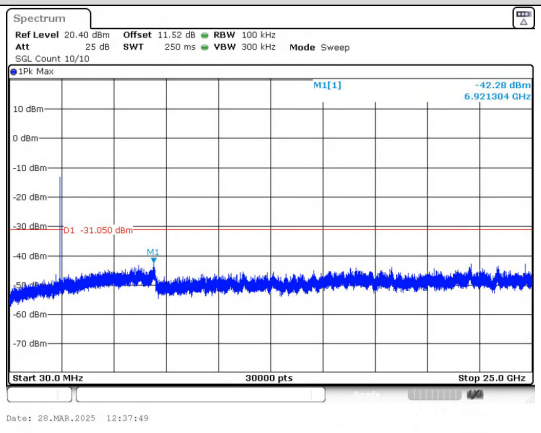
In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



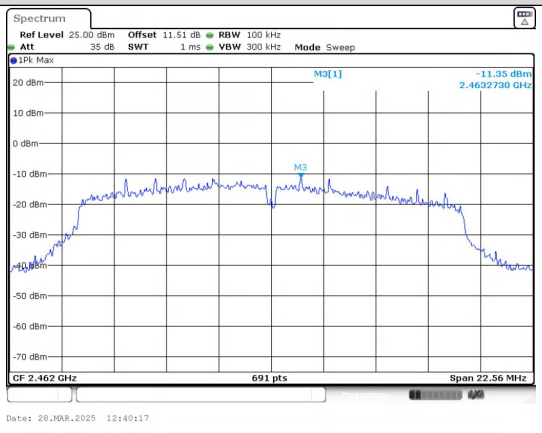


30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 6_20MHz_Antenna 0	In-Band Reference Level IEEE 802.11b_Channel 11_20MHz_Antenna 0
	
Out Of Band Emission IEEE 802.11b_Channel 11_20MHz_Antenna 0	**30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 11_20MHz_Antenna 0**
	
In-Band Reference Level IEEE 802.11g_Channel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

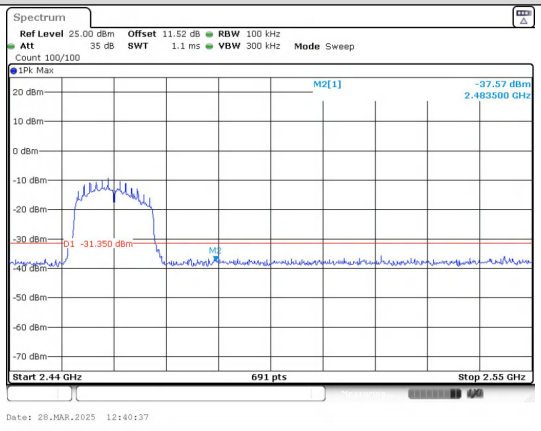
IEEE 802.11g_Channel 1_20MHz_Antenna 0



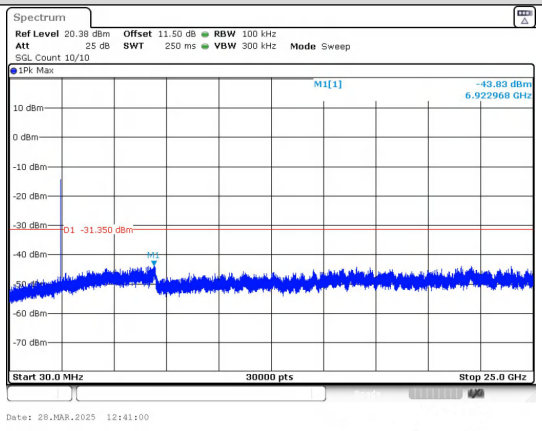
IEEE 802.11g_Channel 6_20MHz_Antenna 0



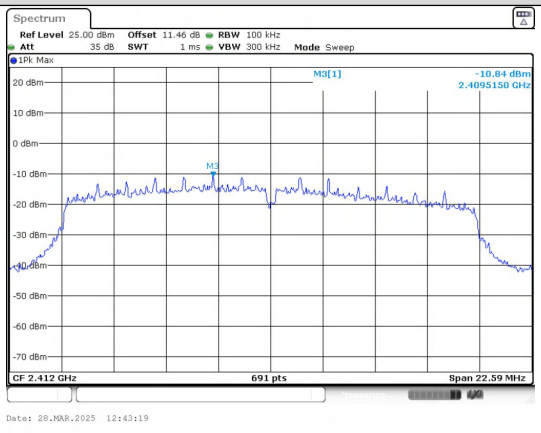
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0



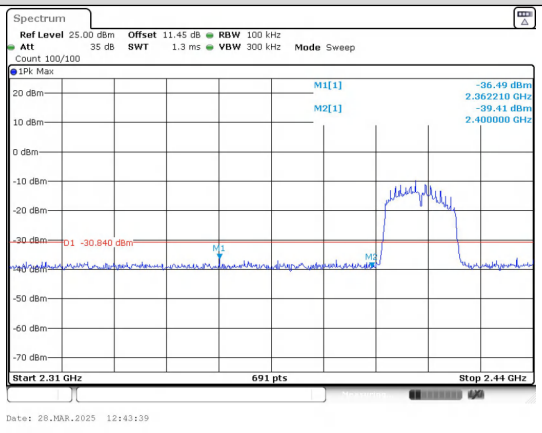
In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0

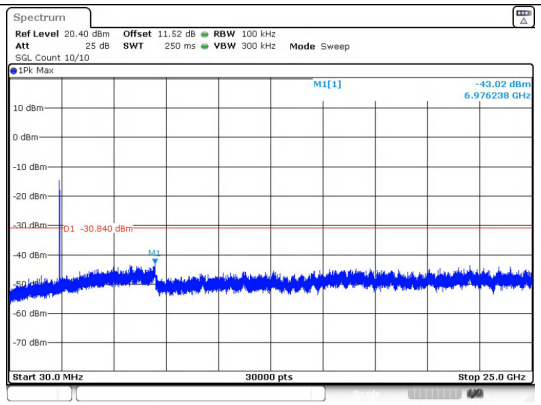


30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 11_20MHz_Antenna 0

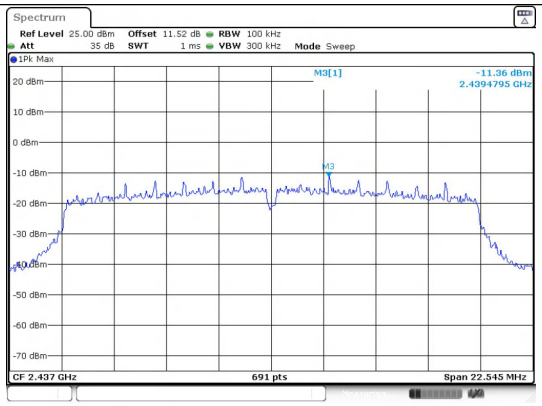


In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0

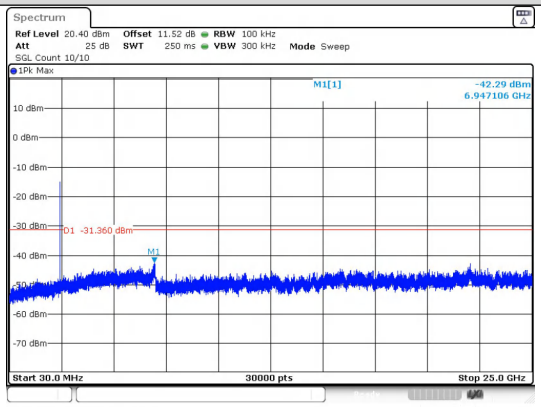
Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



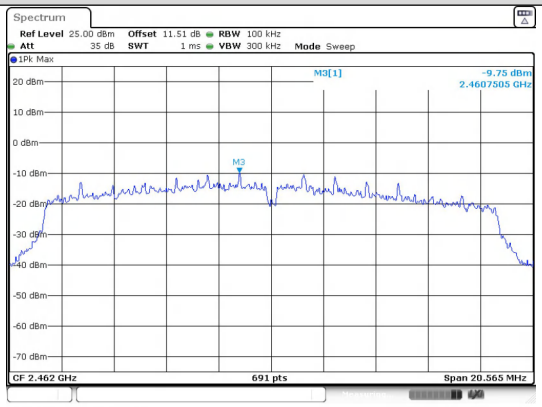
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 1_20MHz_Antenna 0



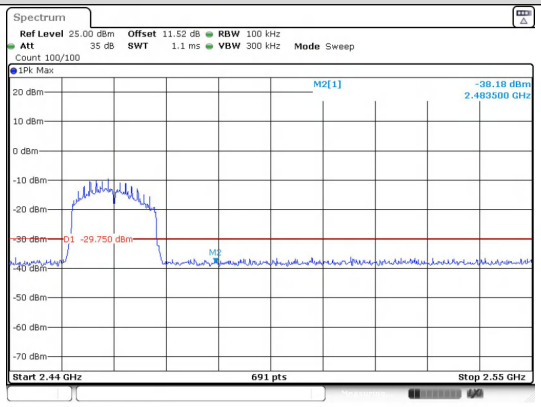
In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



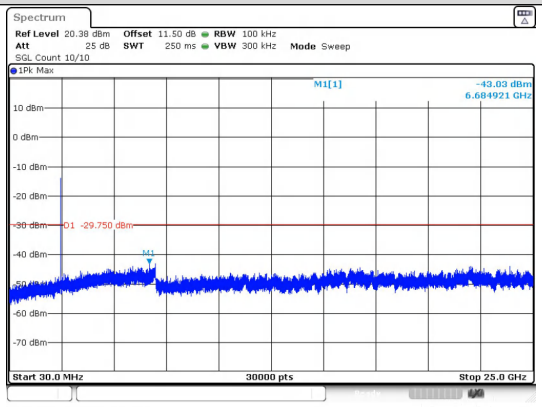
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



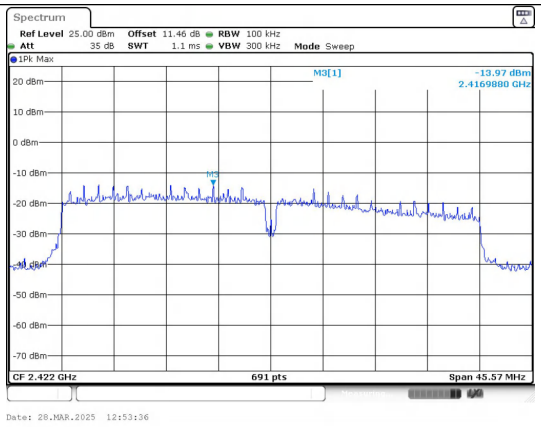
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



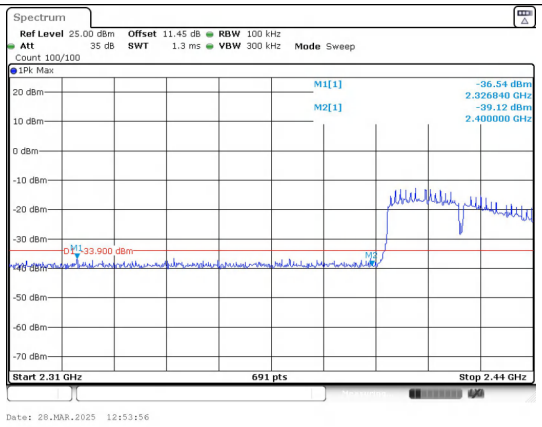
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



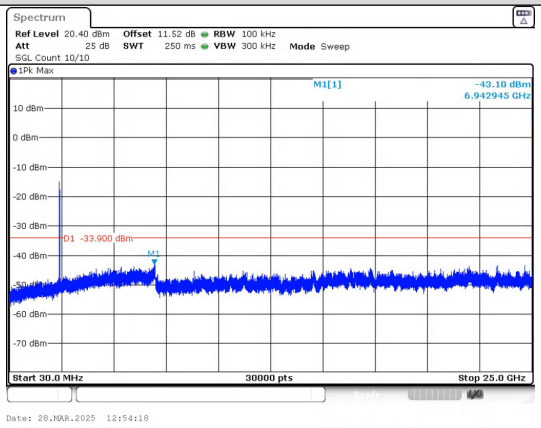
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0



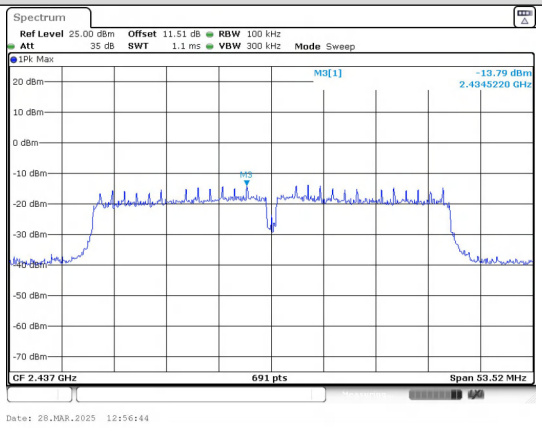
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



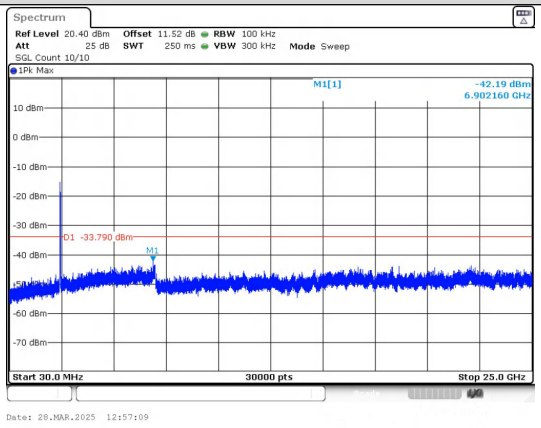
Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



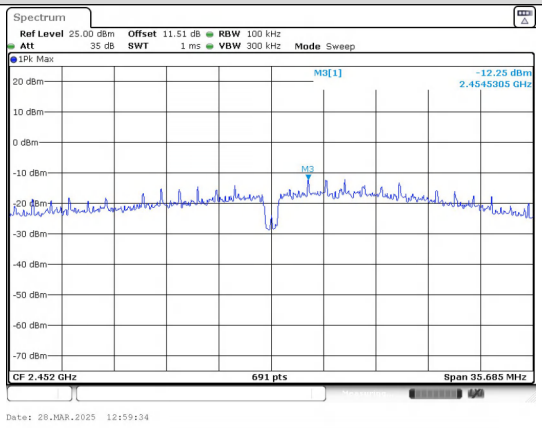
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 3_40MHz_Antenna 0



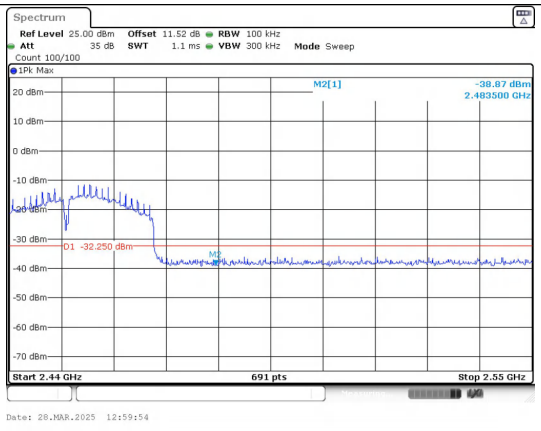
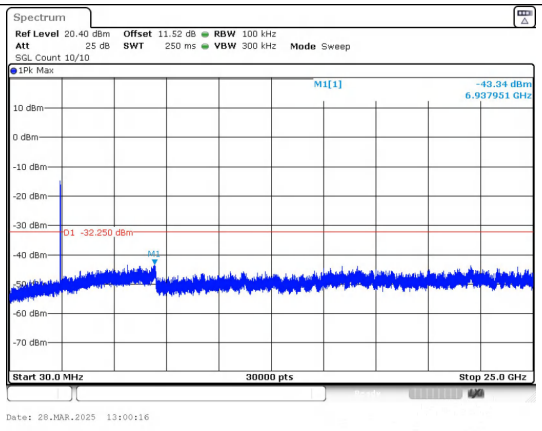
In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



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-----