

Appendix Report

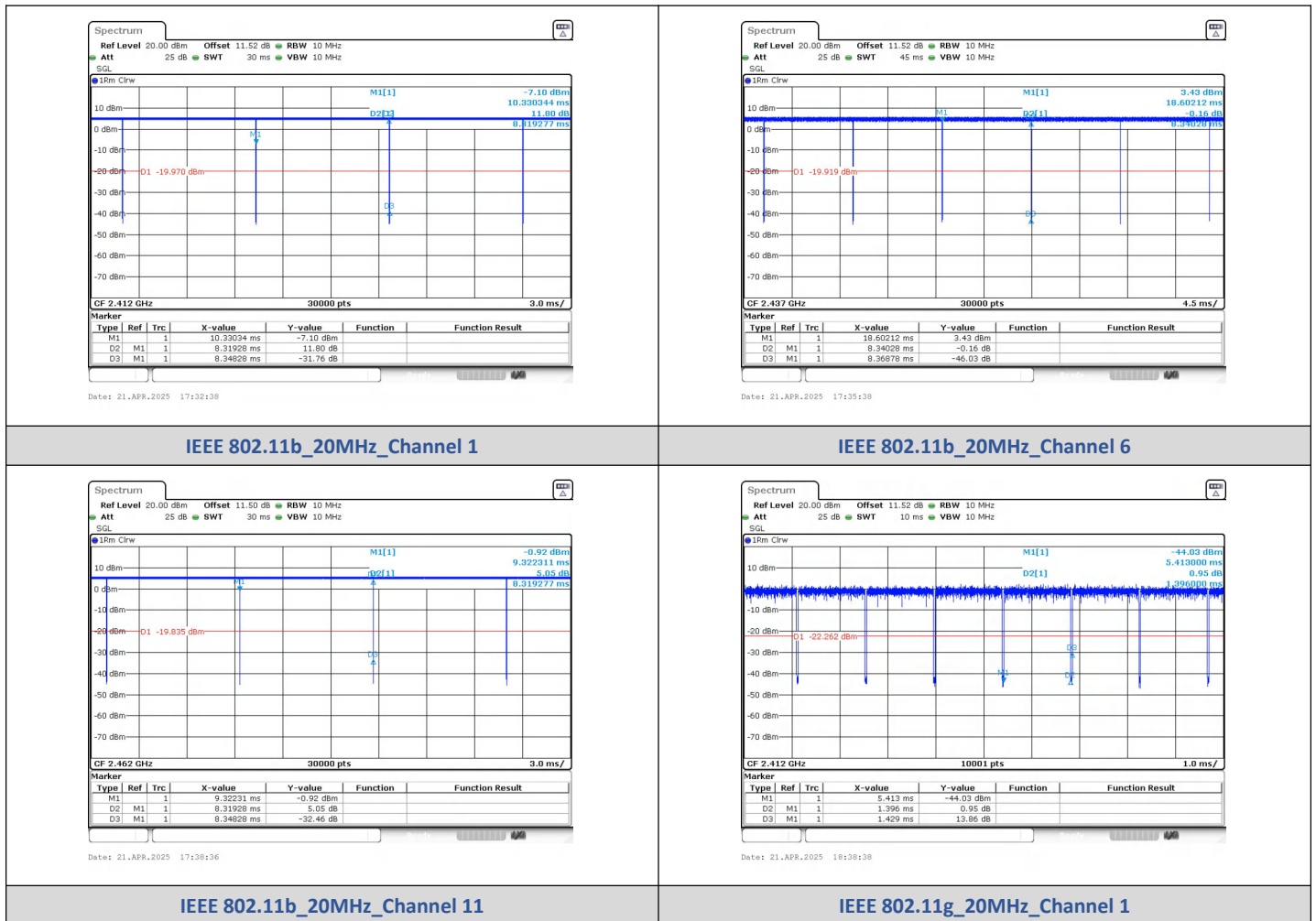
Project No.:	CISR250414121
Test Engineer:	James Wang
Supervised by:	Rory Huang

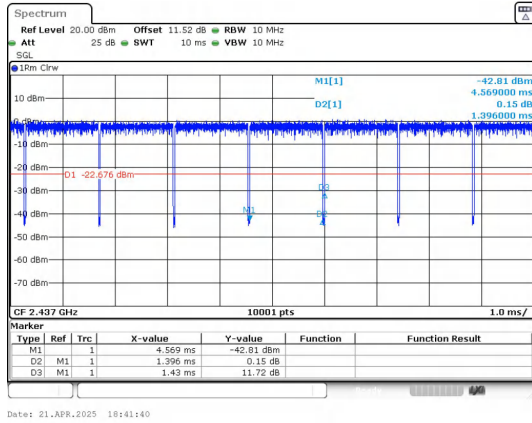
1) Duty Cycle

Test Result

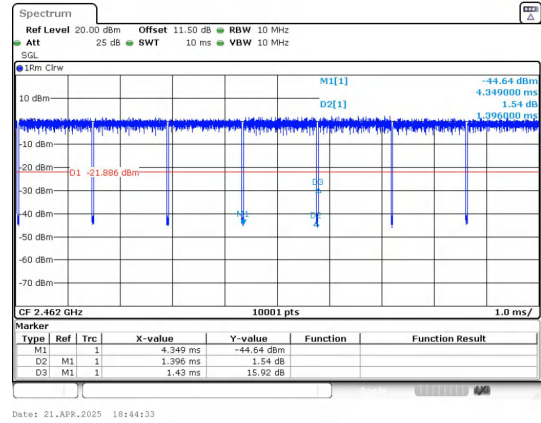
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1	1	1	8.319	8.348	99.65	0.9965	0.0152	0.1202
		6		8.340	8.369	99.66	0.9966	0.0148	0.1199
		11		8.319	8.348	99.65	0.9965	0.0152	0.1202
1		1.396		1.429	97.69	0.9769	0.1015	0.7163	
6		1.396		1.430	97.62	0.9762	0.1046	0.7163	
11		1.396		1.430	97.62	0.9762	0.1046	0.7163	
IEEE 802.11g	MCS 0	1		1.293	1.327	97.44	0.9744	0.1126	0.7734
		6		1.304	1.338	97.46	0.9746	0.1117	0.7669
		11		1.293	1.327	97.44	0.9744	0.1126	0.7734
3		0.650		0.684	95.00	0.9500	0.2228	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	
IEEE 802.11n_20		IEEE 802.11n_40							

Test Graphs

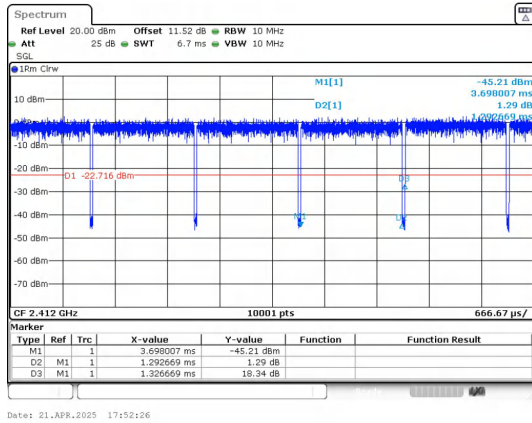




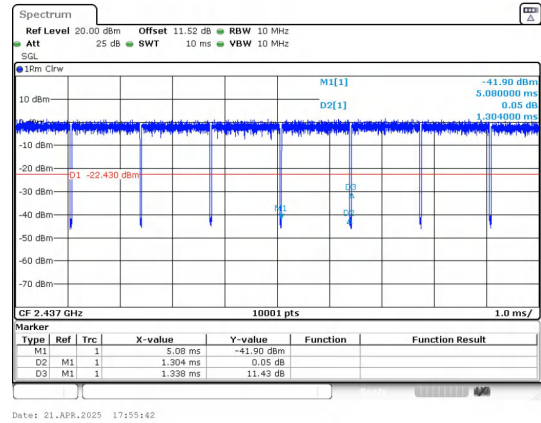
IEEE 802.11g_20MHz_Channel 6



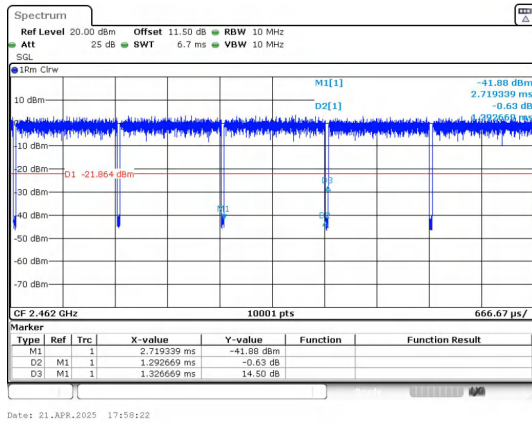
IEEE 802.11g_20MHz_Channel 11



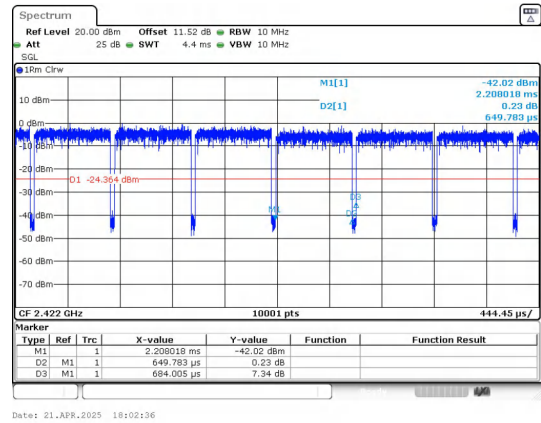
IEEE 802.11n_20MHz_Channel 1



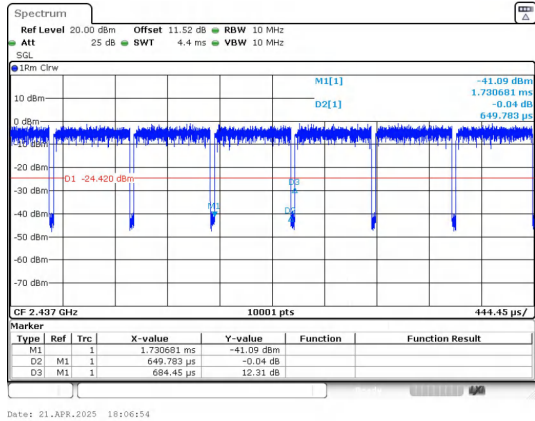
IEEE 802.11n_20MHz_Channel 6



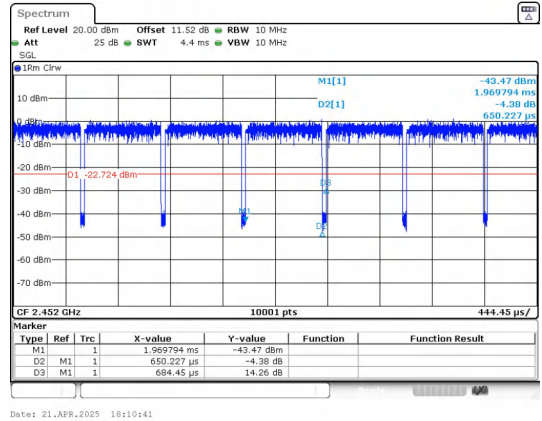
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



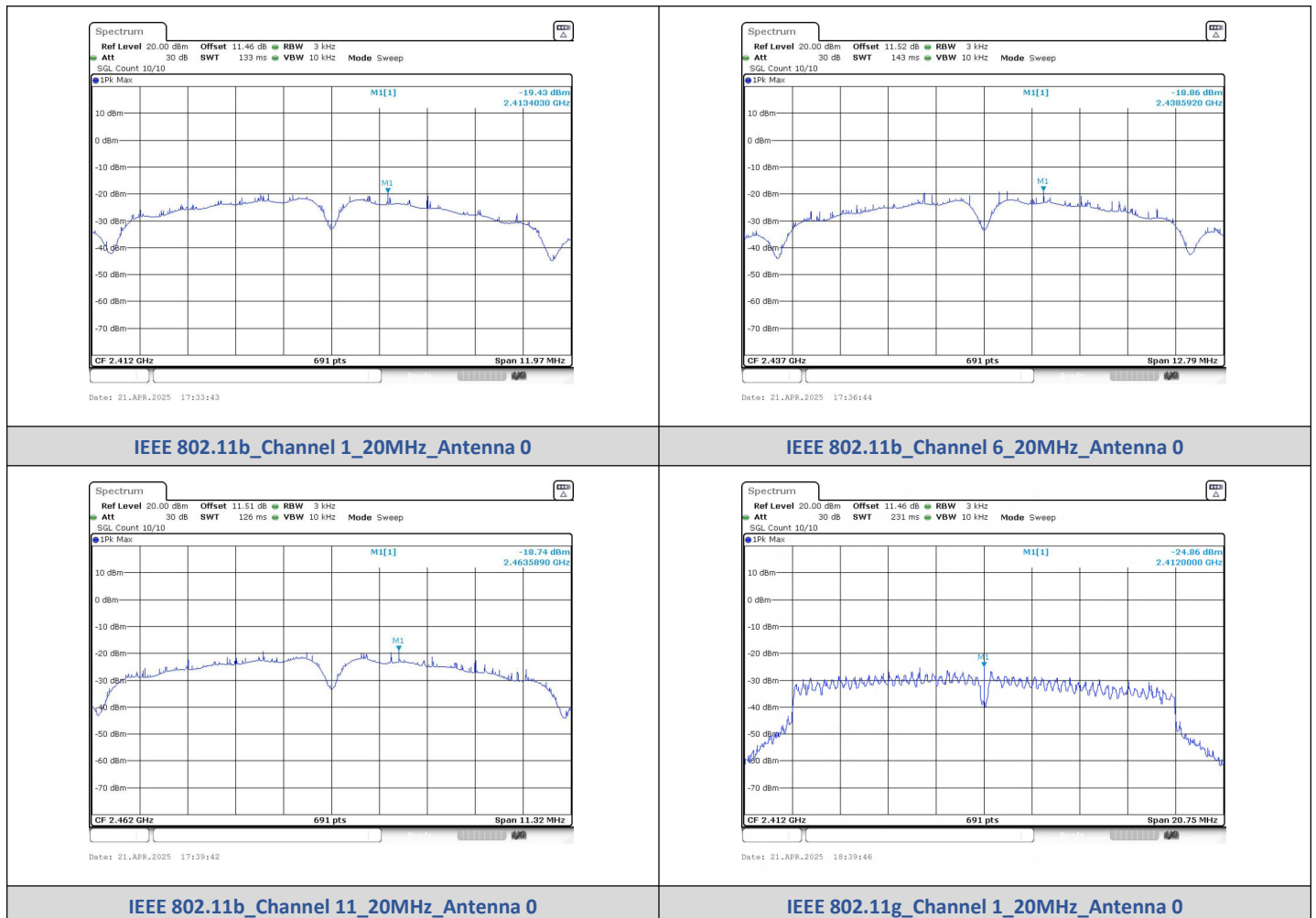
IEEE 802.11n_40MHz_Channel 9

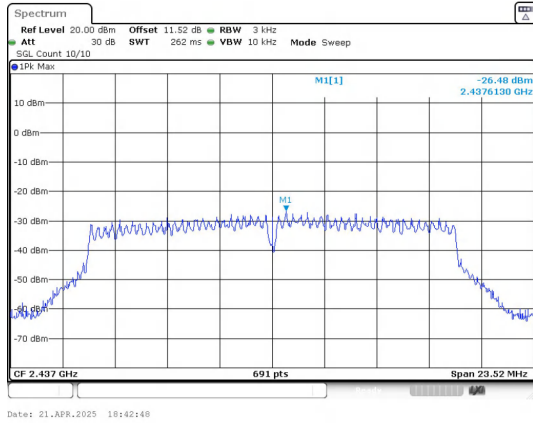
2) Power Spectral Density

Test Result

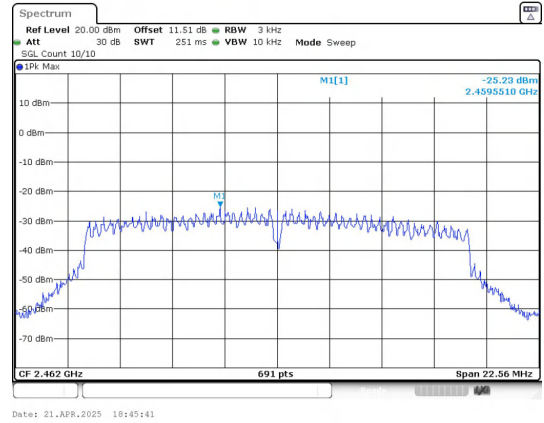
Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-19.430	≤8	PASS
	6	-18.860		PASS
	11	-18.740		PASS
IEEE 802.11g	1	-24.860		PASS
	6	-26.480		PASS
	11	-25.230		PASS
IEEE 802.11n_20	1	-24.170		PASS
	6	-26.140		PASS
	11	-25.260		PASS
IEEE 802.11n_40	3	-26.840		PASS
	6	-29.190		PASS
	9	-26.800		PASS

Test Graphs

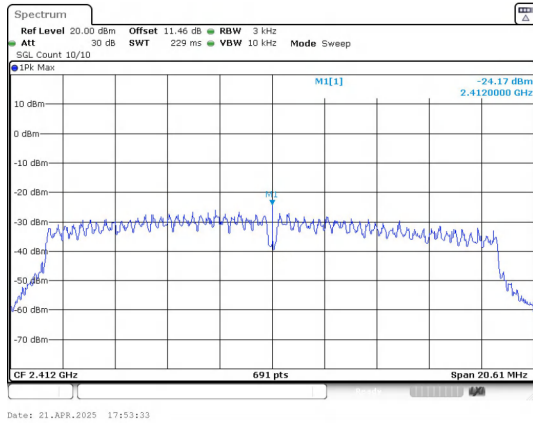




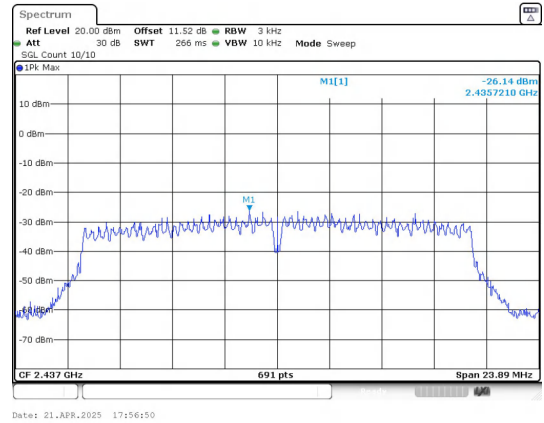
IEEE 802.11g_Channel 6_20MHz_Antenna 0



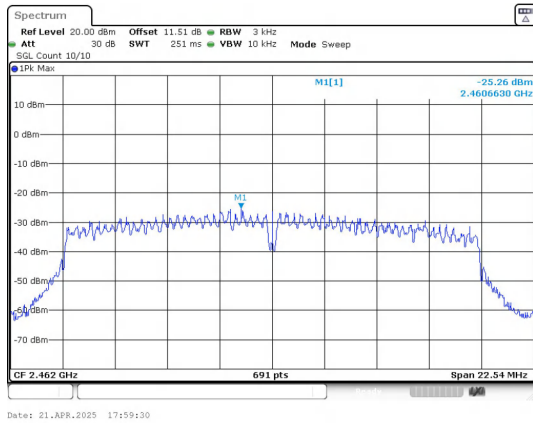
IEEE 802.11g_Channel 11_20MHz_Antenna 0



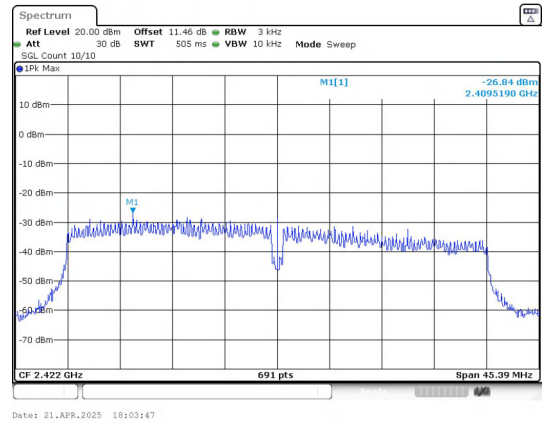
IEEE 802.11n_Channel 1_20MHz_Antenna 0



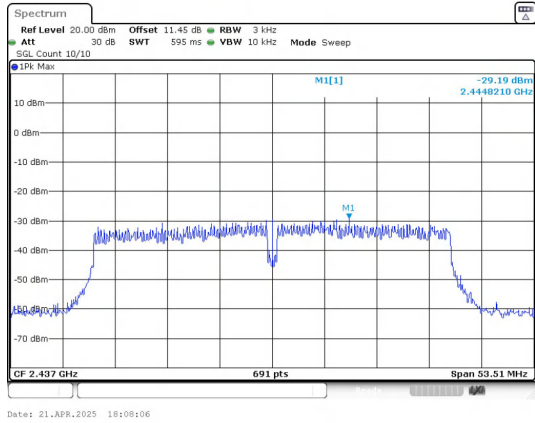
IEEE 802.11n_Channel 6_20MHz_Antenna 0



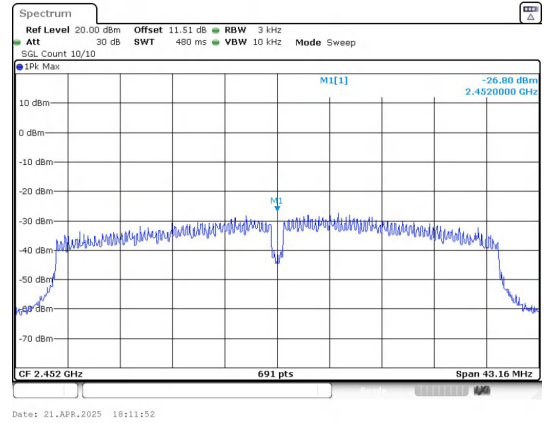
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

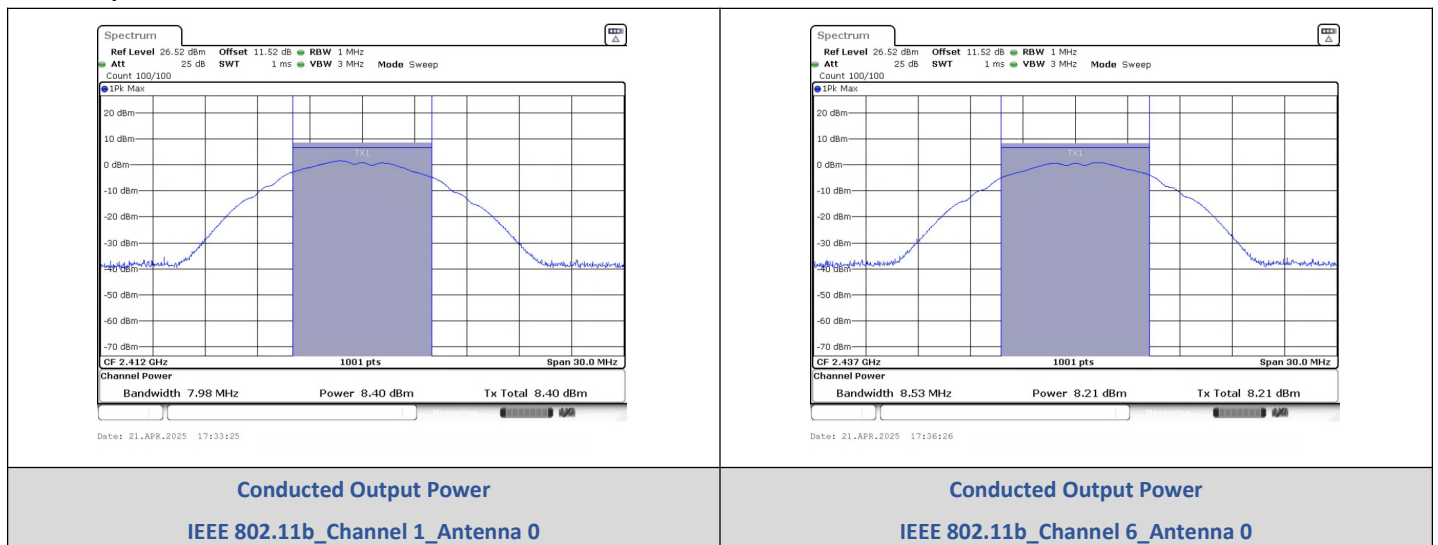
3) Conducted Output Power

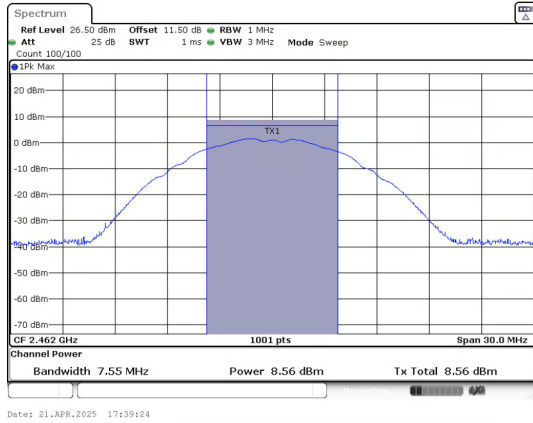
Test Result

Conducted Output Power

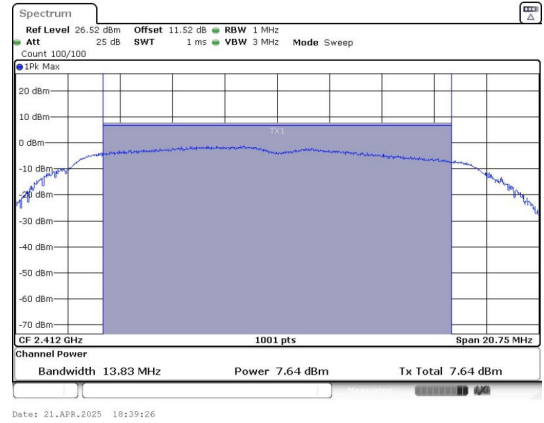
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	8.40	≤30	PASS
	6	8.21	≤30	PASS
	11	8.55	≤30	PASS
IEEE 802.11g	1	7.62	≤30	PASS
	6	7.55	≤30	PASS
	11	8.43	≤30	PASS
IEEE 802.11n_20	1	7.64	≤30	PASS
	6	7.74	≤30	PASS
	11	8.21	≤30	PASS
IEEE 802.11n_40	3	7.36	≤30	PASS
	6	7.83	≤30	PASS
	9	8.11	≤30	PASS

Test Graphs

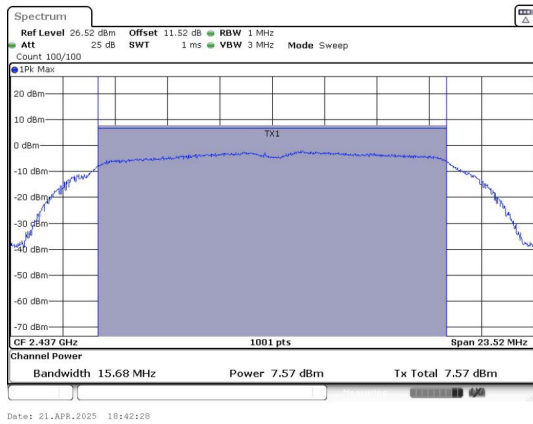




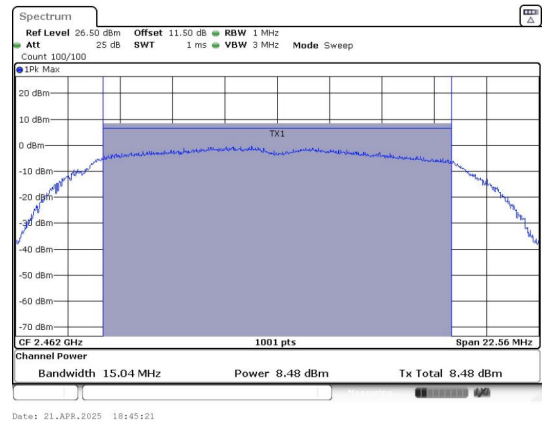
Conducted Output Power
IEEE 802.11b_Channel 11_Antenna 0



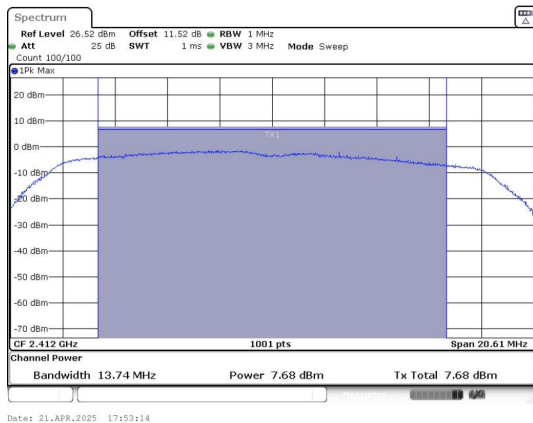
Conducted Output Power
IEEE 802.11g_Channel 1_Antenna 0



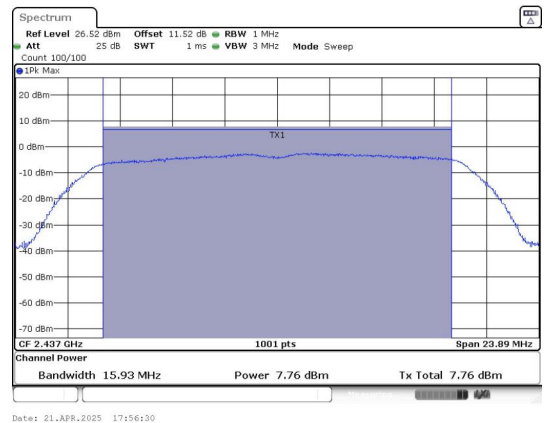
Conducted Output Power
IEEE 802.11g_Channel 6_Antenna 0



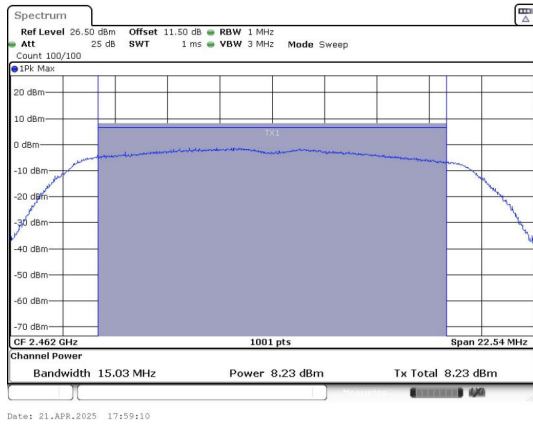
Conducted Output Power
IEEE 802.11g_Channel 11_Antenna 0



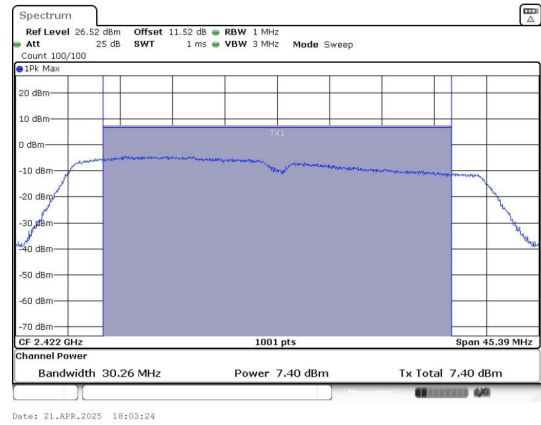
Conducted Output Power
IEEE 802.11n_20_Channel 1_Antenna 0



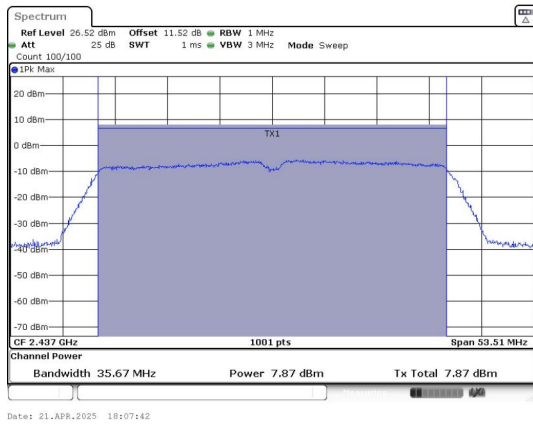
Conducted Output Power
IEEE 802.11n_20_Channel 6_Antenna 0



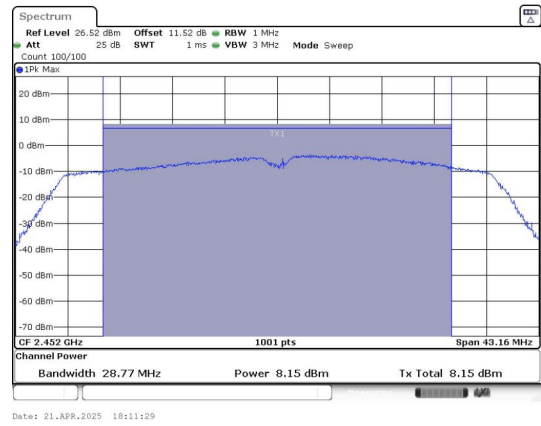
Conducted Output Power
IEEE 802.11n_20_Channel 11_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 3_Antenna 0



Conducted Output Power
IEEE 802.11n_40_Channel 6_Antenna 0



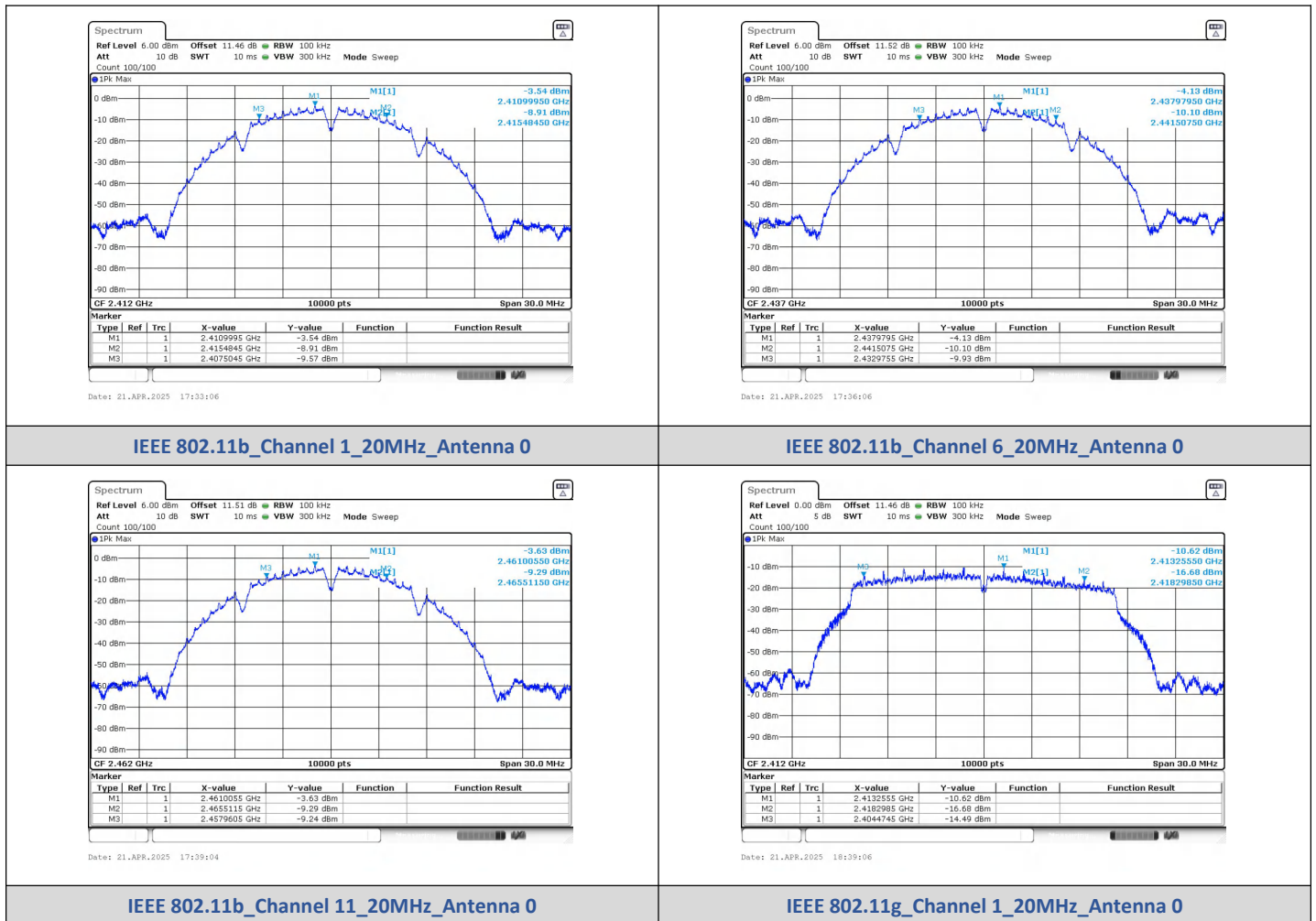
Conducted Output Power
IEEE 802.11n_40_Channel 9_Antenna 0

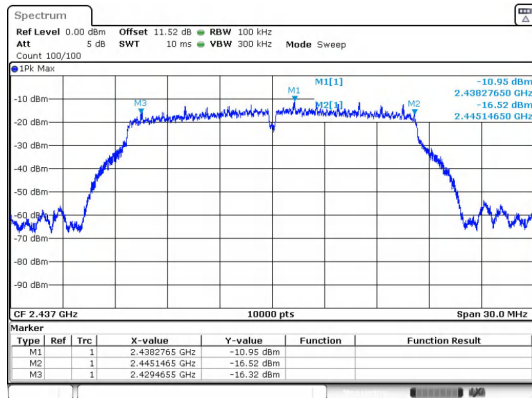
4) 6dB Bandwidth

Test Result

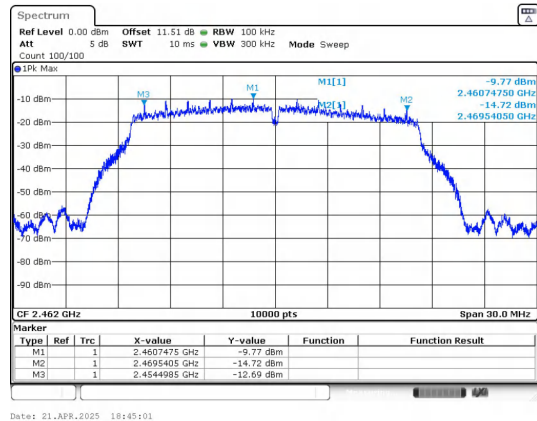
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	7.980	≥0.5	PASS
	6		2437	8.530		PASS
	11		2462	7.550		PASS
IEEE 802.11g	1		2412	13.83		PASS
	6		2437	15.68		PASS
	11		2462	15.04		PASS
IEEE 802.11n_20	1		2412	13.74		PASS
	6		2437	15.93		PASS
	11		2462	15.03		PASS
IEEE 802.11n_40	3		2422	30.26		PASS
	6		2437	35.67		PASS
	9		2452	28.77		PASS

Test Graphs

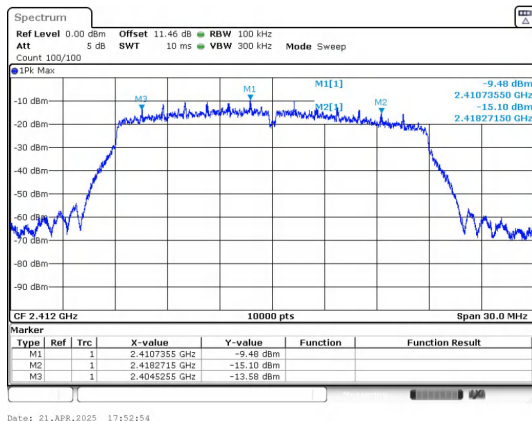




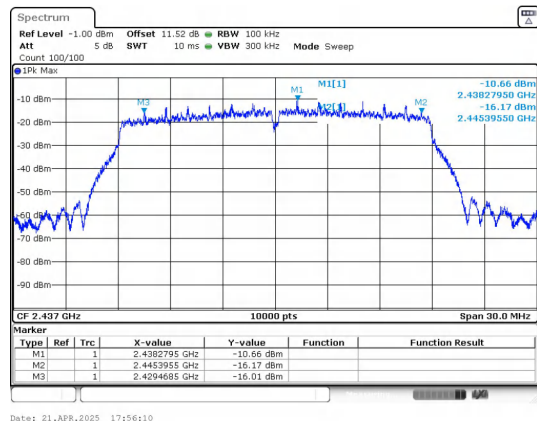
IEEE 802.11g_Channel 6_20MHz_Antenna 0



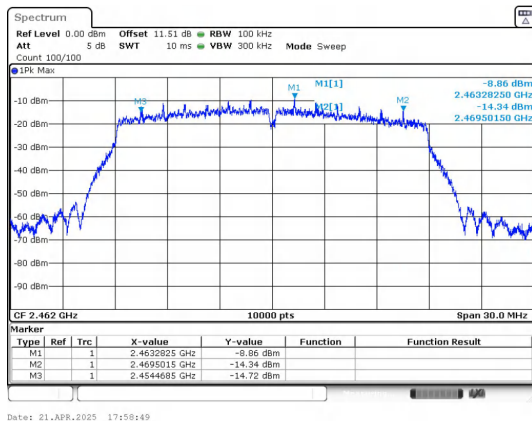
IEEE 802.11g_Channel 11_20MHz_Antenna 0



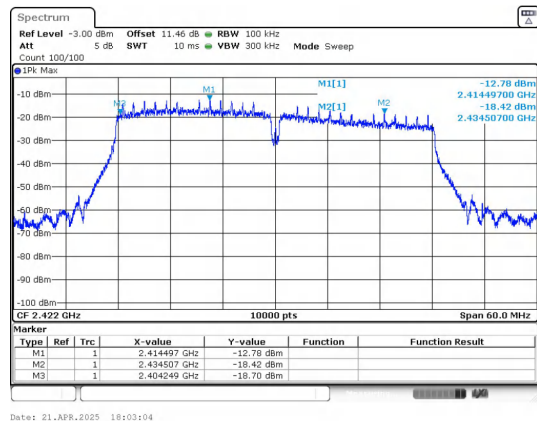
IEEE 802.11n_Channel 1_20MHz_Antenna 0



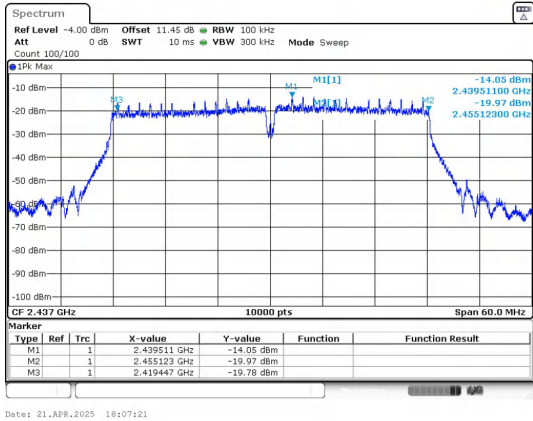
IEEE 802.11n_Channel 6_20MHz_Antenna 0



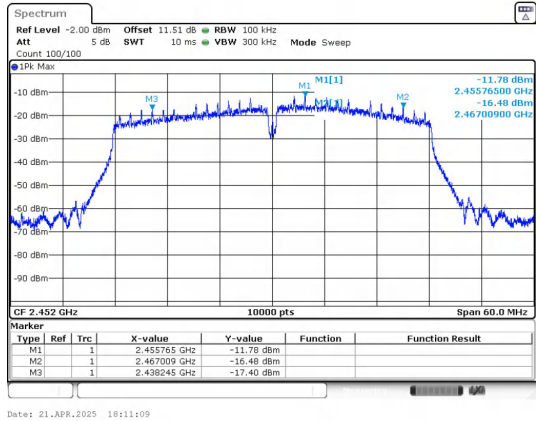
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



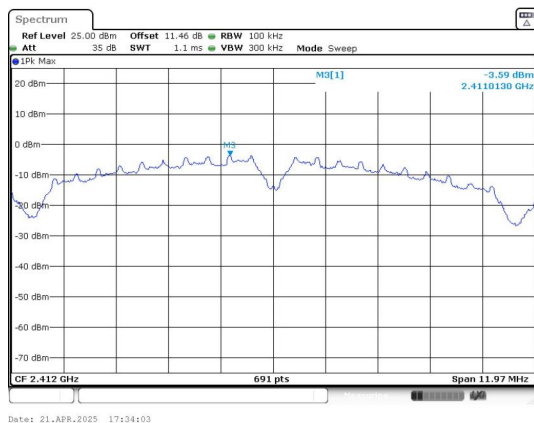
IEEE 802.11n_Channel 9_40MHz_Antenna 0

5) Conducted Out Of Band Emission

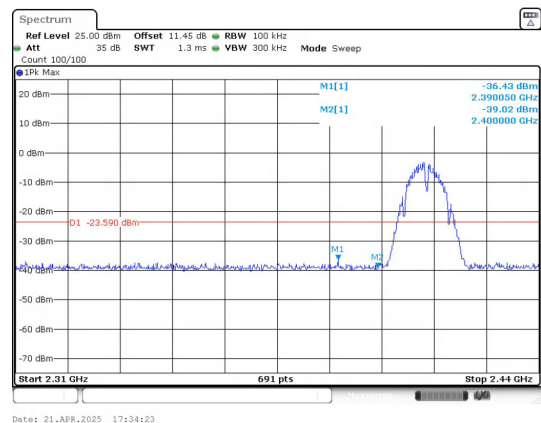
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	
IEEE 802.11b	1	0	2390.05	-36.432	-23.59	-12.842	PASS	
			2400.00	-39.020	-23.59	-15.430	PASS	
			6892.20	-42.449	-23.59	-18.859	PASS	
	6		22083.1	-43.033	-24.11	-18.923	PASS	
			11	2483.50	-38.580	-23.54	-15.040	PASS
				6959.59	-42.435	-23.54	-18.895	PASS
IEEE 802.11g	1			2364.28	-35.774	-29.94	-5.834	PASS
			2400.00	-38.950	-29.94	-9.010	PASS	
			6908.00	-42.499	-29.94	-12.559	PASS	
	6		6955.43	-42.912	-30.31	-12.602	PASS	
			11	2483.50	-37.580	-28.36	-9.220	PASS
				6977.90	-42.914	-28.36	-14.554	PASS
IEEE 802.11n_20	1			2351.67	-36.949	-29.7	-7.249	PASS
			2400.00	-39.250	-29.7	-9.550	PASS	
			6919.60	-42.558	-29.7	-12.858	PASS	
	6		6931.29	-43.520	-31.05	-12.470	PASS	
			11	2483.50	-38.680	-30.24	-8.440	PASS
				6898.00	-43.042	-30.24	-12.802	PASS
IEEE 802.11n_40	3			2342.26	-36.950	-32.64	-4.310	PASS
			2400.00	-39.110	-32.64	-6.470	PASS	
			22007.3	-43.274	-32.64	-10.634	PASS	
	6		6902.16	-42.807	-33.17	-9.637	PASS	
			9	2483.50	-38.410	-31.58	-6.830	PASS
				6897.17	-43.085	-31.58	-11.505	PASS

Test Graphs

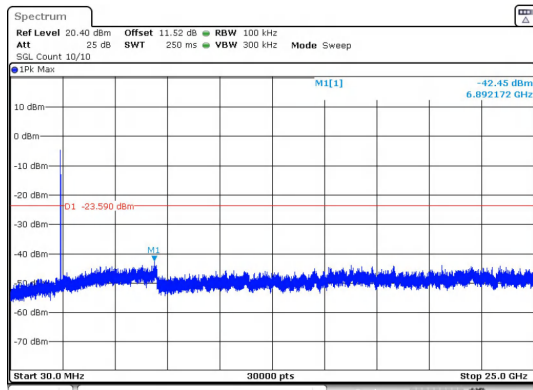


In-Band Reference Level



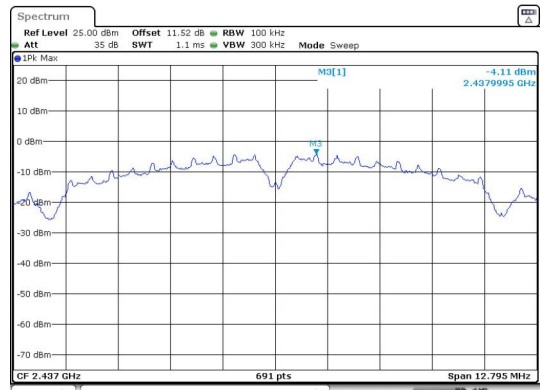
Out Of Band Emission

IEEE 802.11b_Channel 1_20MHz_Antenna 0



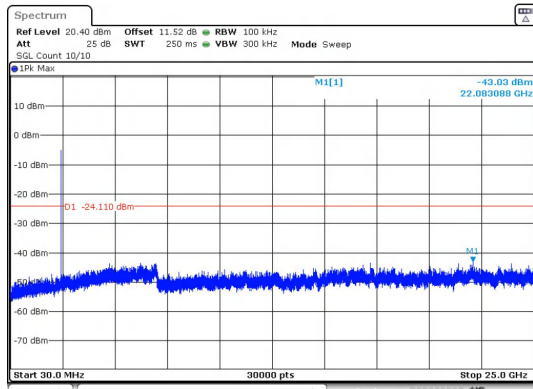
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IEEE 802.11b_Channel 1_20MHz_Antenna 0



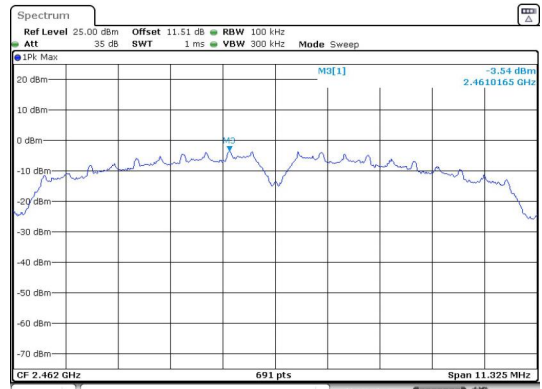
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30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 1_20MHz_Antenna 0



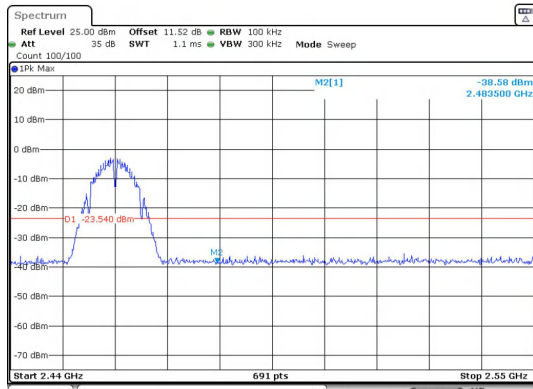
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In-Band Reference Level IEEE 802.11b_Channel 6_20MHz_Antenna 0



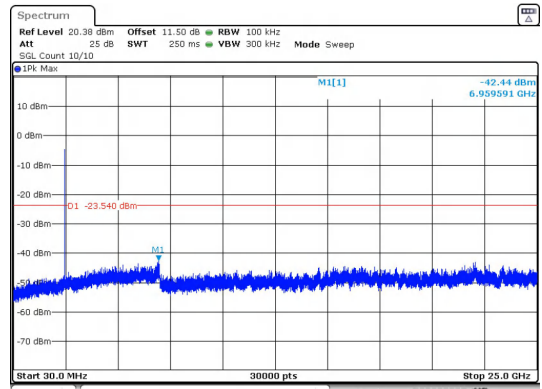
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30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 6_20MHz_Antenna 0



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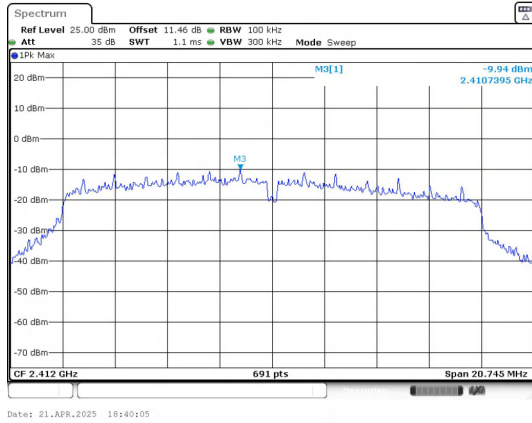
In-Band Reference Level IEEE 802.11b_Channel 11_20MHz_Antenna 0



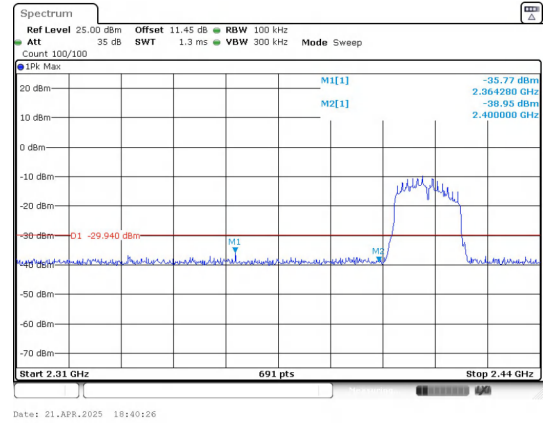
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Out Of Band Emission IEEE 802.11b_Channel 11_20MHz_Antenna 0

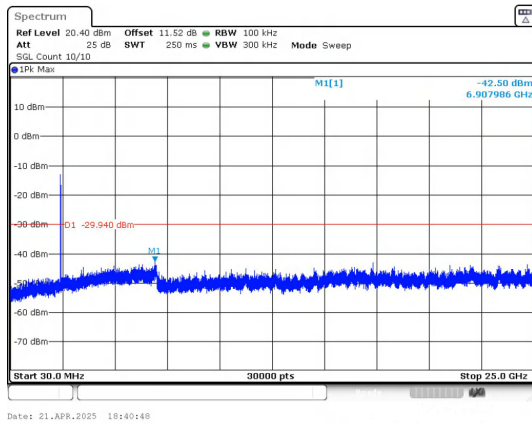
30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 11_20MHz_Antenna 0



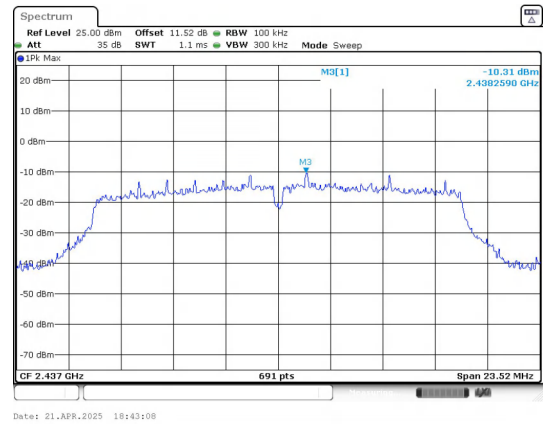
In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



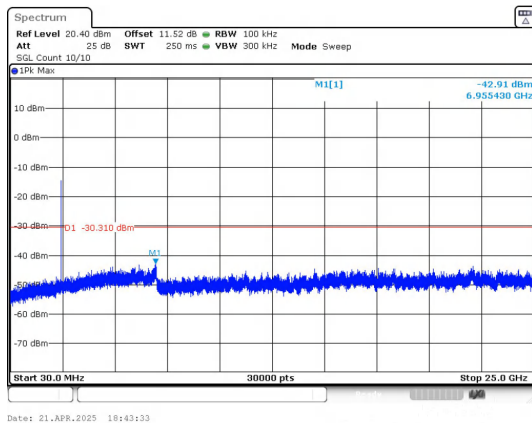
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0



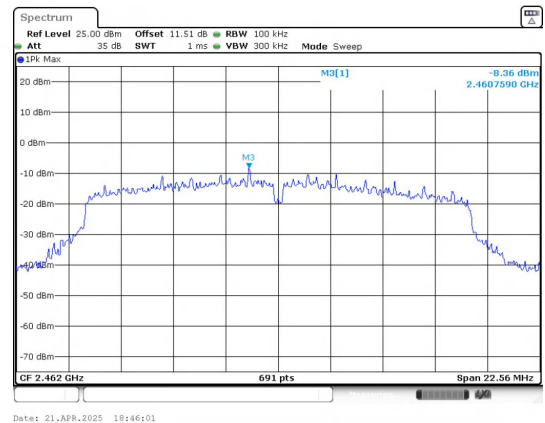
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0



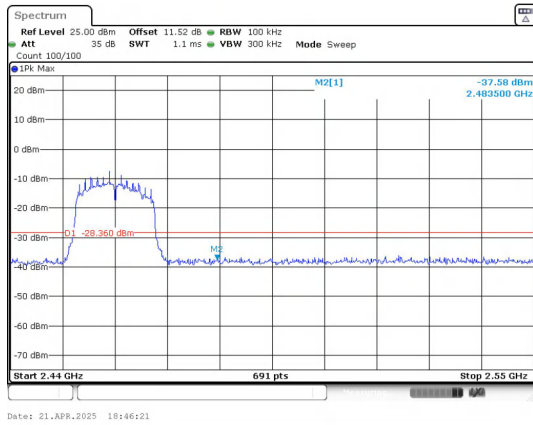
In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0

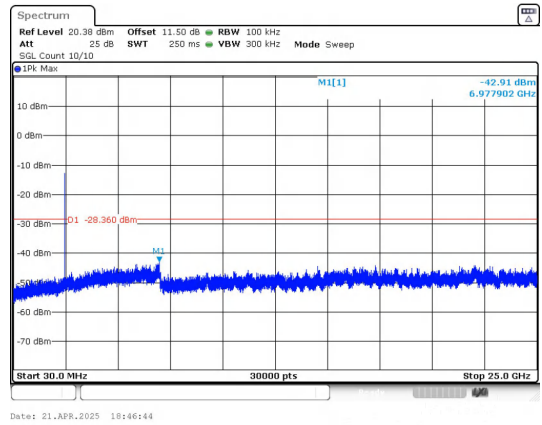


In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



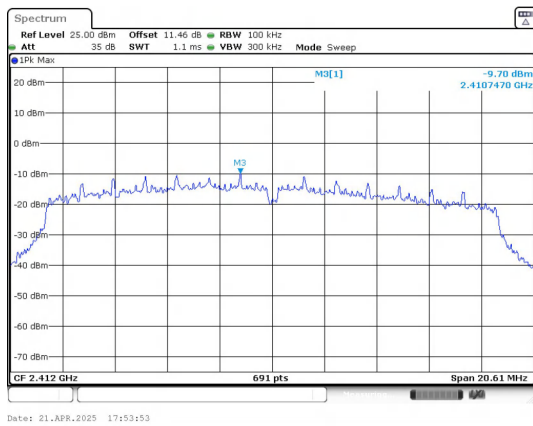
Out Of Band Emission

IEEE 802.11g_Channel 11_20MHz_Antenna 0



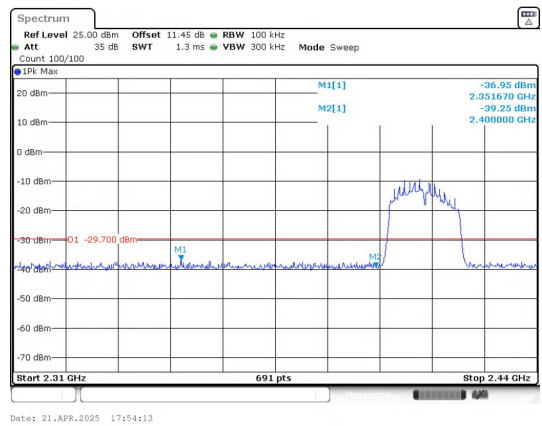
30.0 MHz - 25000.0 MHz

IEEE 802.11g_Channel 11_20MHz_Antenna 0



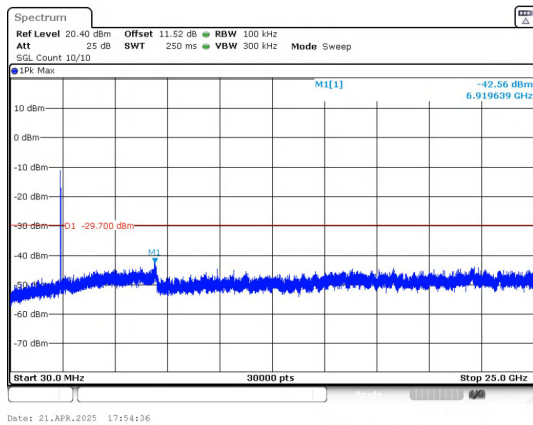
In-Band Reference Level

IEEE 802.11n_Channel 1_20MHz_Antenna 0



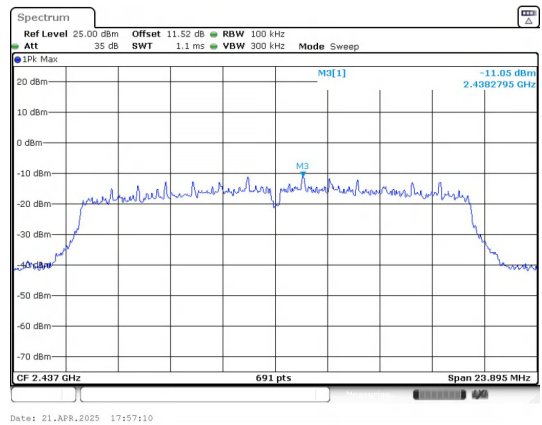
Out Of Band Emission

IEEE 802.11n_Channel 1_20MHz_Antenna 0



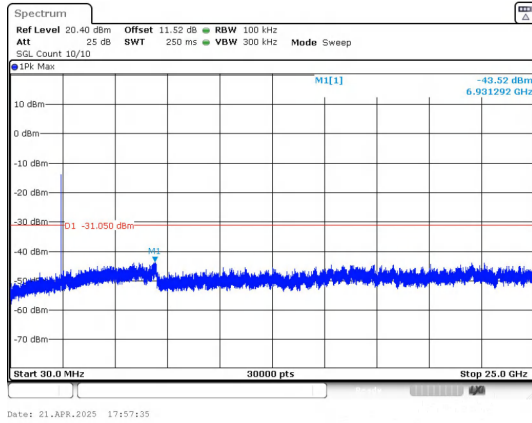
30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 1_20MHz_Antenna 0

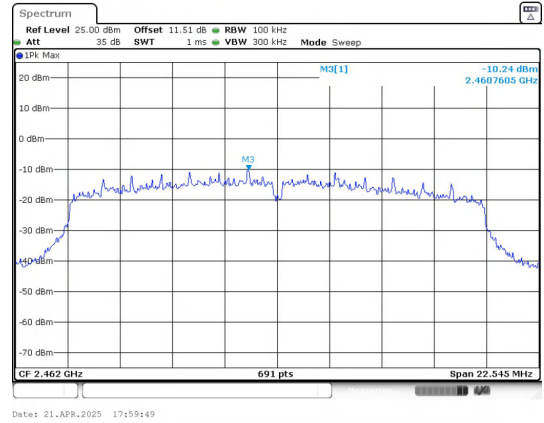


In-Band Reference Level

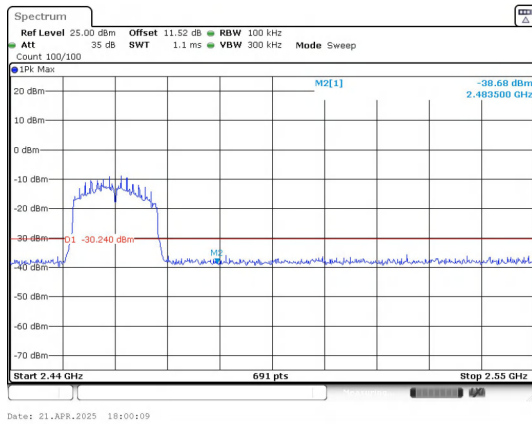
IEEE 802.11n_Channel 6_20MHz_Antenna 0



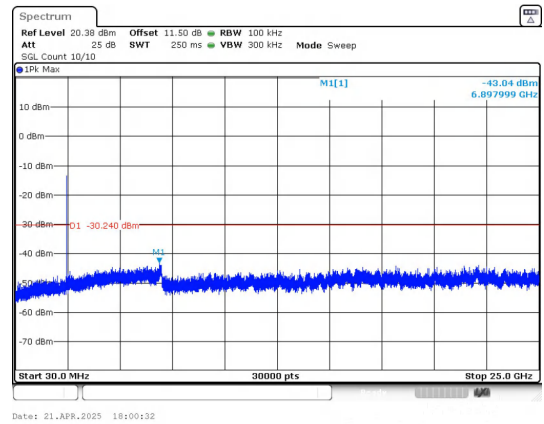
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



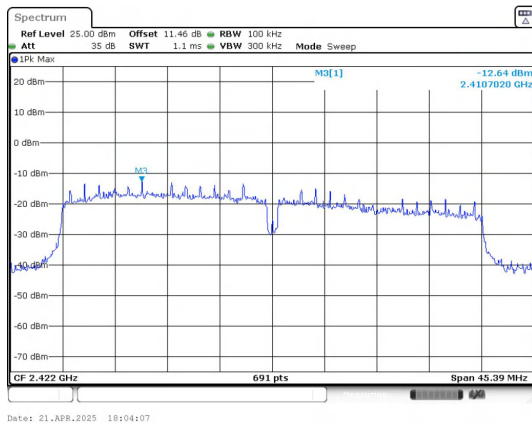
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



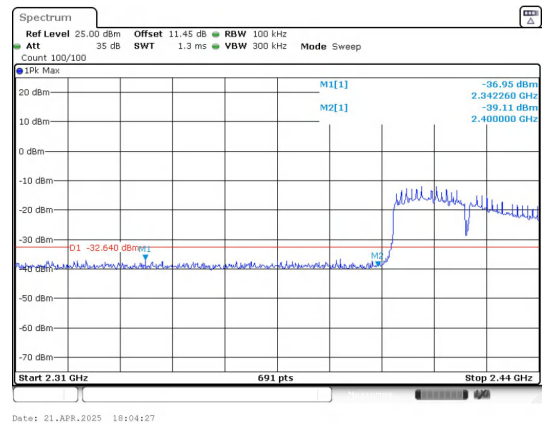
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



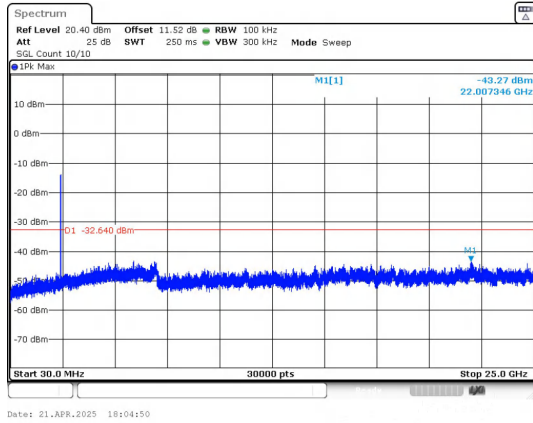
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IEEE 802.11n_Channel 11_20MHz_Antenna 0



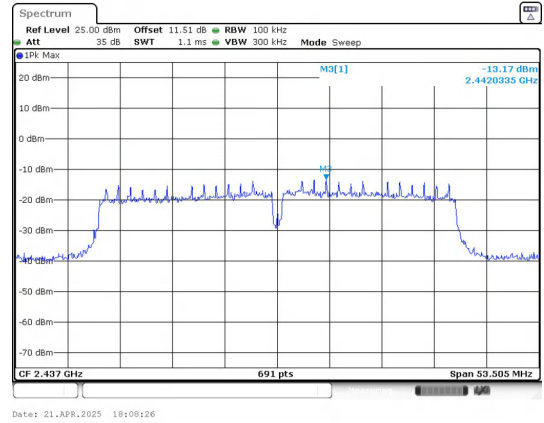
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



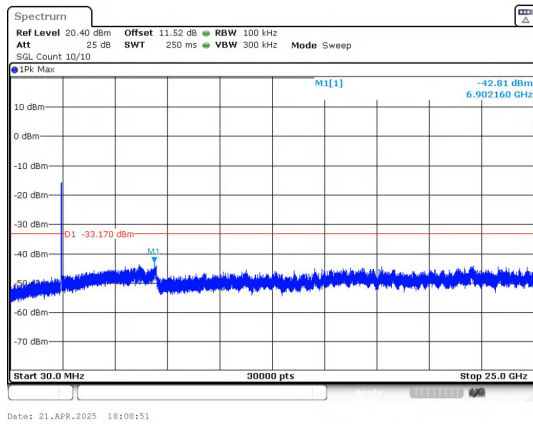
Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



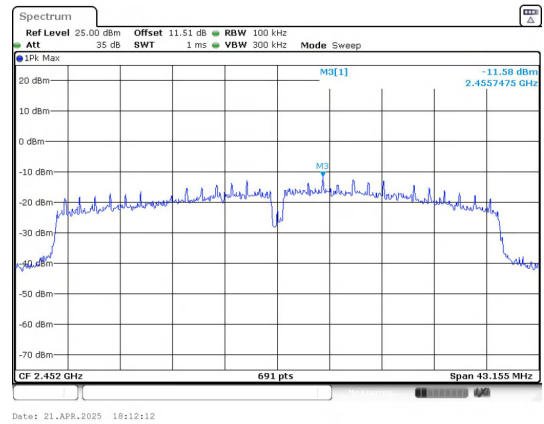
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IEEE 802.11n_Channel 3_40MHz_Antenna 0



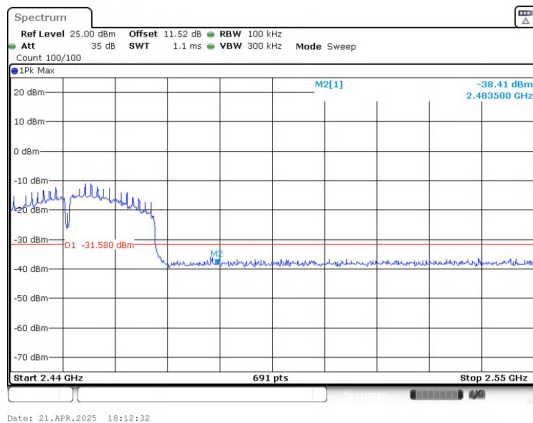
In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



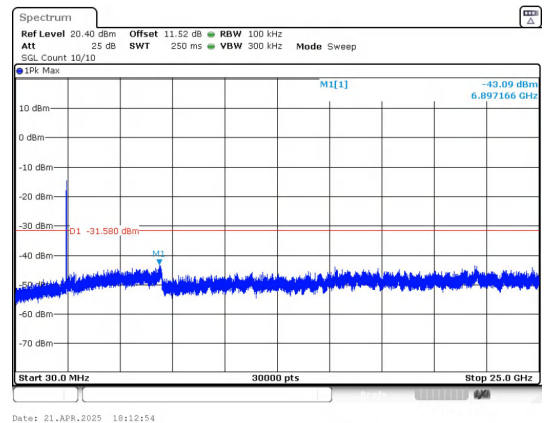
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_40MHz_Antenna 0



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