Appendix Report A

Report No.:	CISRR25011311104
Test Engineer:	Mark Fu
Supervised by:	Rory Huang

Frequency Stability

Test Result

Condition	Mode	Ch.	RU & Index	Antenna	Center Frequency (MHz)	Calculated Value of Center Frequency(MHz)	Result (ppm)	Limit (ppm)	State
NT/NV	IEEE 802.11a	36	N/A	0	5180.0	5180.239575	46.25	Within authorized band	PASS
		40			5200.0	5200.241408	46.42		PASS
		48			5240.0	5240.238475	45.51		PASS
		52			5260.0	5260.229008	43.54		PASS
		60			5300.0	5300.228042	43.03		PASS
		64			5320.0	5320.228842	43.02		PASS
		100			5500.0	5500.232525	42.28		PASS
		116			5580.0	5580.235908	42.28		PASS
		140			5700.0	5700.246125	43.18		PASS
	IEEE 802.11n_20	36			5180.0	5180.242908	46.89		PASS
		40			5200.0	5200.242758	46.68		PASS
		48			5240.0	5240.245242	46.8		PASS
		52			5260.0	5260.236842	45.03		PASS
		60			5300.0	5300.234692	44.28		PASS
		64			5320.0	5320.243408	45.75		PASS
		100			5500.0	5500.243692	44.31		PASS
		116			5580.0	5580.246792	44.23		PASS
		140			5700.0	5700.242108	42.48		PASS
	IEEE 802.11n_40	38			5190.0	5190.003025	0.58		PASS
		46			5230.0	5230.237975	45.5		PASS
		54			5270.0	5270.206042	39.1		PASS
		62			5310.0	5310.246992	46.51		PASS
		110			5550.0	5549.978742	-3.83		PASS

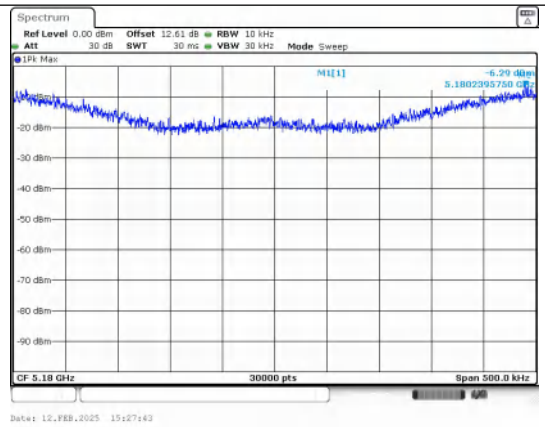
		134			5670.0	5670.238892	42.13		PASS
	IEEE 802.11ac_20	36			5180.0	5179.753558	-47.58		PASS
		40			5200.0	5200.246392	47.38		PASS
		48			5240.0	5239.752042	-47.32		PASS
		52			5260.0	5260.235742	44.82		PASS
		60			5300.0	5300.233142	43.99		PASS
		64			5320.0	5320.218758	41.12		PASS
		100			5500.0	5500.248625	45.2		PASS
		116			5580.0	5579.750492	-44.71		PASS
		140			5700.0	5700.225758	39.61		PASS
	IEEE 802.11ac_40	38			5190.0	5190.002942	0.57		PASS
		46			5230.0	5230.000875	0.17		PASS
		54			5270.0	5270.227425	43.15		PASS
		62			5310.0	5309.978775	-4.0		PASS
		110			5550.0	5549.987175	-2.31		PASS
		134			5670.0	5670.224258	39.55		PASS
	IEEE 802.11ax_20	36	SU		5180.0	5180.249975	48.26		PASS
		40			5200.0	5199.787258	-40.91		PASS
		48			5240.0	5240.215208	41.07		PASS
		52			5260.0	5259.752492	-47.05		PASS
		60			5300.0	5300.242425	45.74		PASS
		64			5320.0	5319.818275	-34.16		PASS
		100			5500.0	5499.763092	-43.07		PASS
		116			5580.0	5580.239942	43.0		PASS
		140			5700.0	5699.756092	-42.79		PASS
	IEEE 802.11ax_40	38			5190.0	5190.203292	39.17		PASS
		46			5230.0	5230.186758	35.71		PASS
		54			5270.0	5270.227592	43.19		PASS

		62			5310.0	5309.762492	-44.73		PASS
		102			5510.0	5510.222692	40.42		PASS
		110			5550.0	5550.205742	37.07		PASS
		134			5670.0	5669.755558	-43.11		PASS

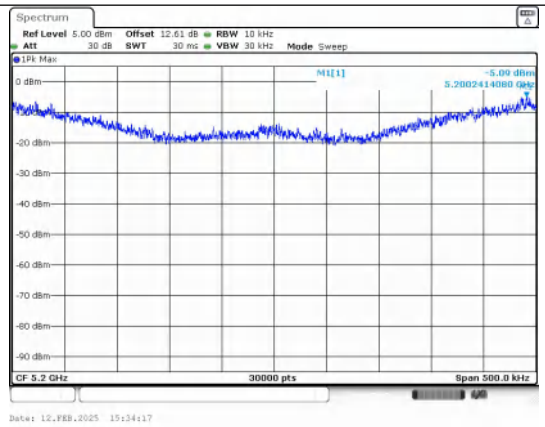
Test Graphs

NT/NV

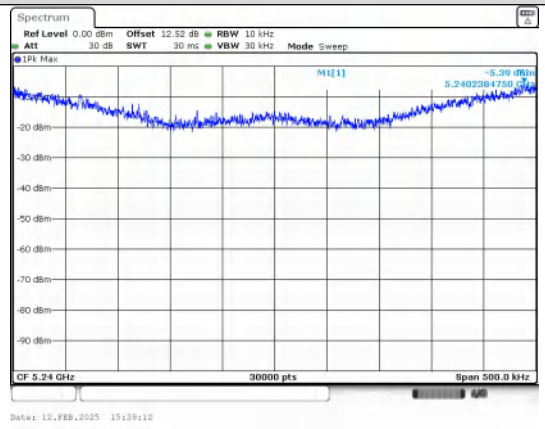
IEEE 802.11a



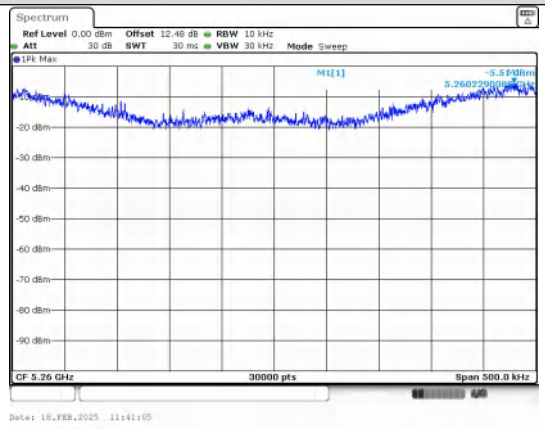
NT/NV_Antenna 0
IEEE 802.11a_Channel 36_20MHz



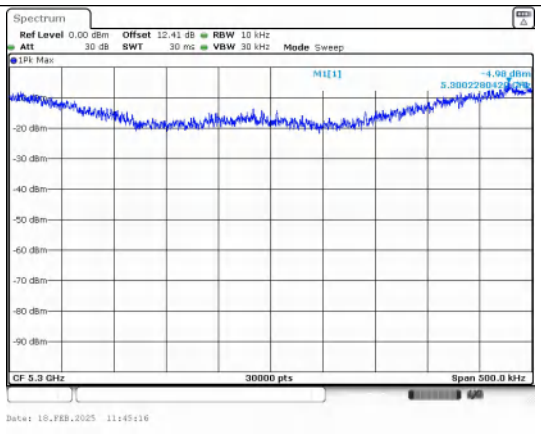
NT/NV_Antenna 0
IEEE 802.11a_Channel 40_20MHz



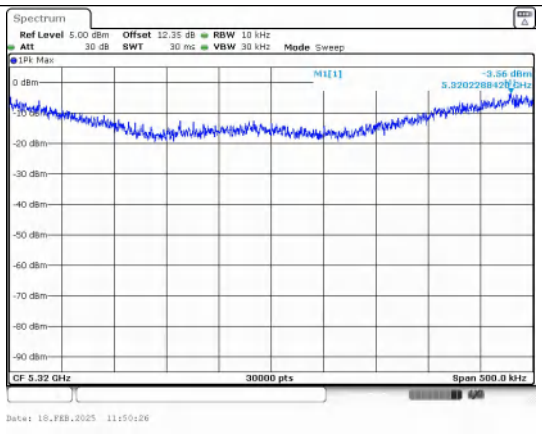
NT/NV_Antenna 0
IEEE 802.11a_Channel 48_20MHz



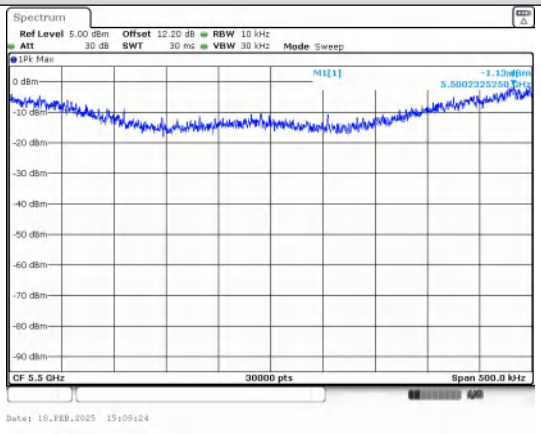
NT/NV_Antenna 0
IEEE 802.11a_Channel 52_20MHz



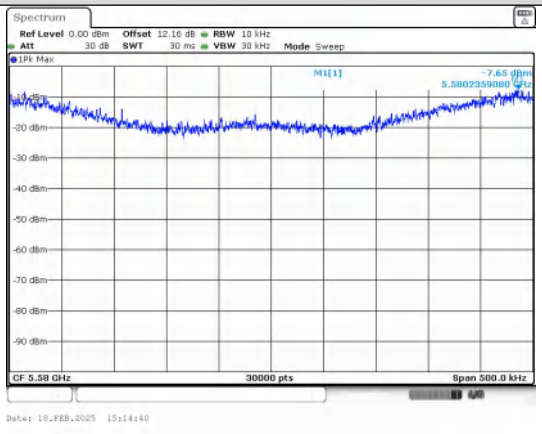
NT/NV_Antenna 0
IEEE 802.11a_Channel 60_20MHz



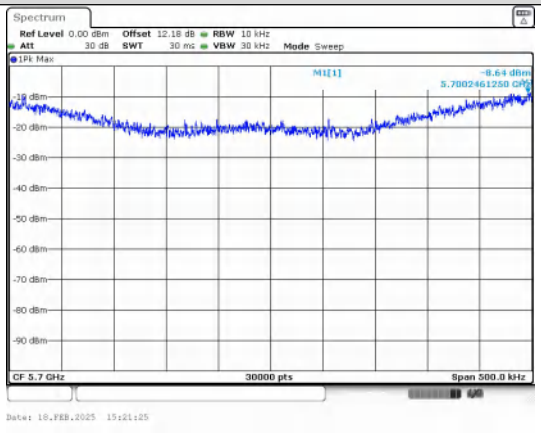
NT/NV_Antenna 0
IEEE 802.11a_Channel 64_20MHz



NT/NV_Antenna 0
IEEE 802.11a_Channel 100_20MHz

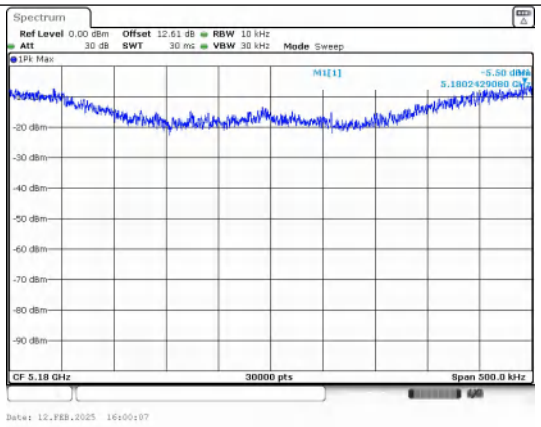


NT/NV_Antenna 0
IEEE 802.11a_Channel 116_20MHz

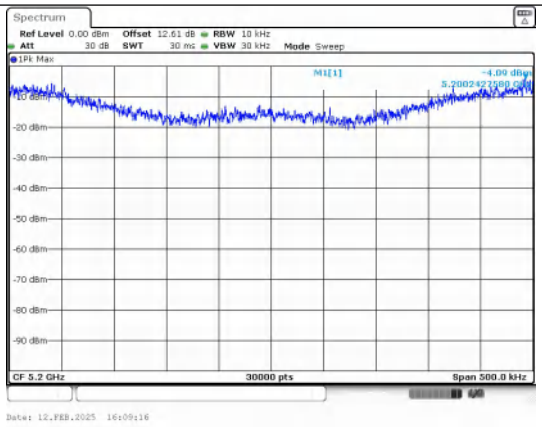


NT/NV_Antenna 0
IEEE 802.11a_Channel 140_20MHz

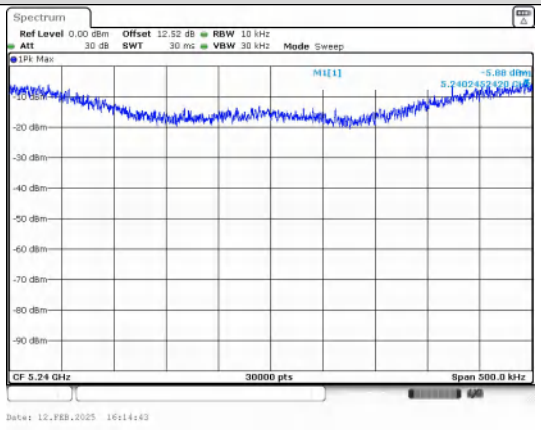
IEEE 802.11n_20



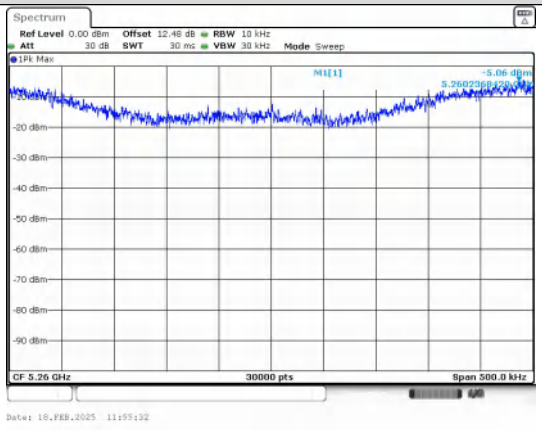
NT/NV_Antenna 0
IEEE 802.11n_Channel 36_20MHz



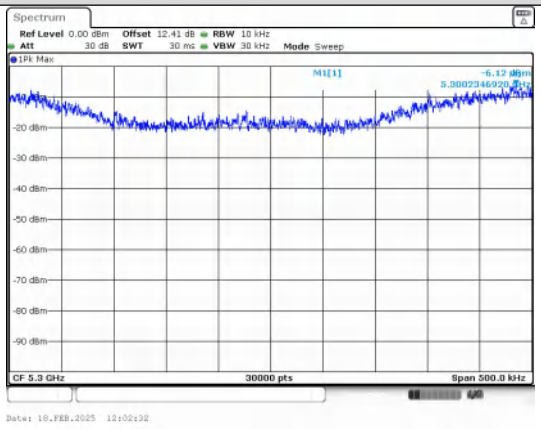
NT/NV_Antenna 0
IEEE 802.11n_Channel 40_20MHz



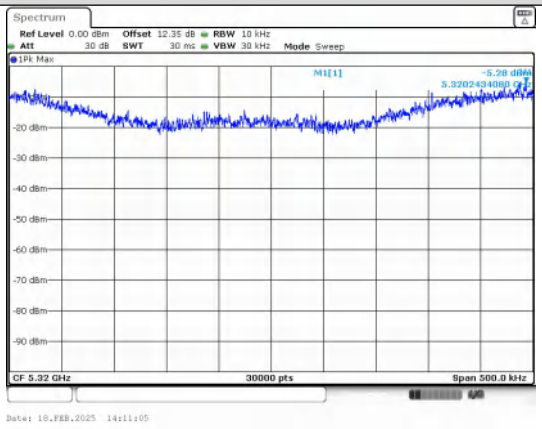
NT/NV_Antenna 0
IEEE 802.11n_Channel 48_20MHz



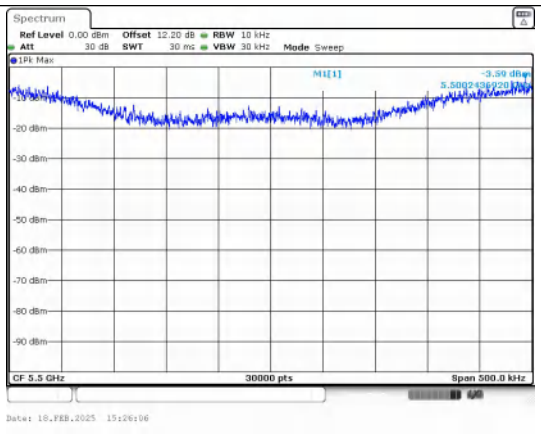
NT/NV_Antenna 0
IEEE 802.11n_Channel 52_20MHz



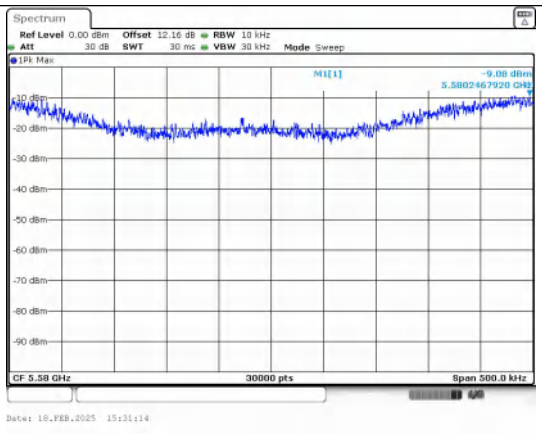
NT/NV_Antenna 0
IEEE 802.11n_Channel 60_20MHz



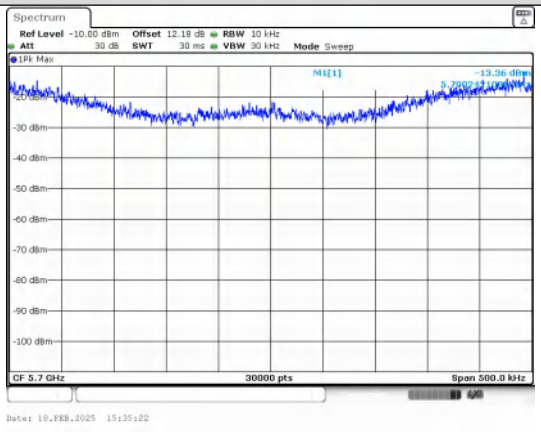
NT/NV_Antenna 0
IEEE 802.11n_Channel 64_20MHz



NT/NV_Antenna 0
IEEE 802.11n_Channel 100_20MHz

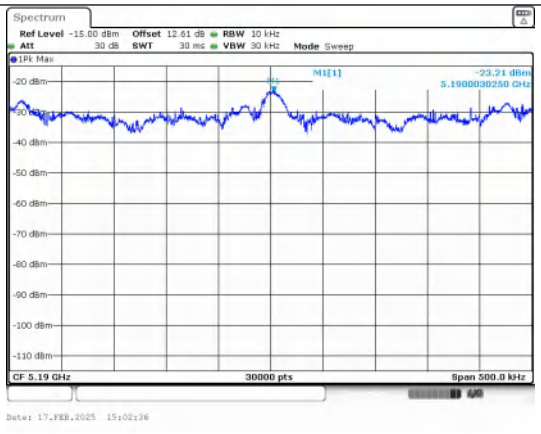


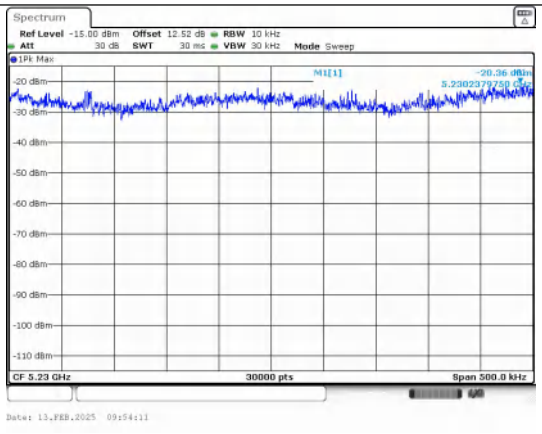
NT/NV_Antenna 0
IEEE 802.11n_Channel 116_20MHz

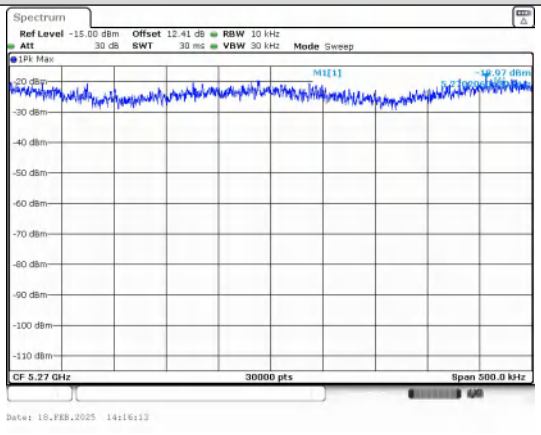
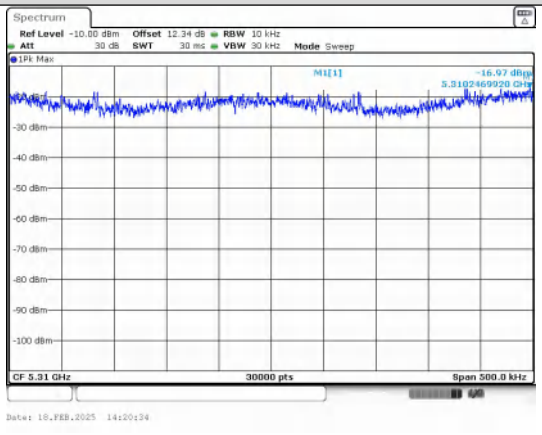
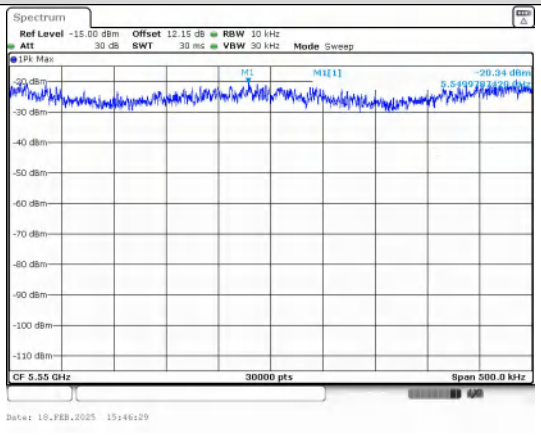
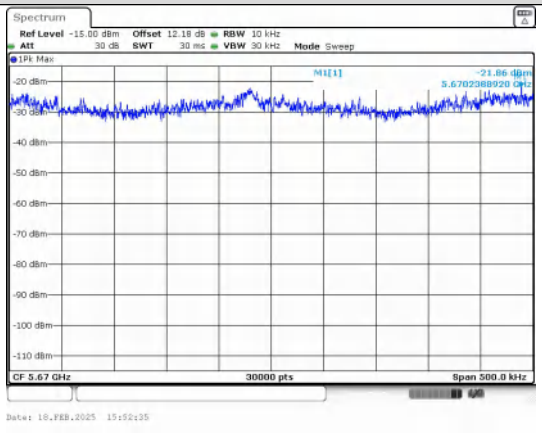


NT/NV_Antenna 0
IEEE 802.11n_Channel 140_20MHz

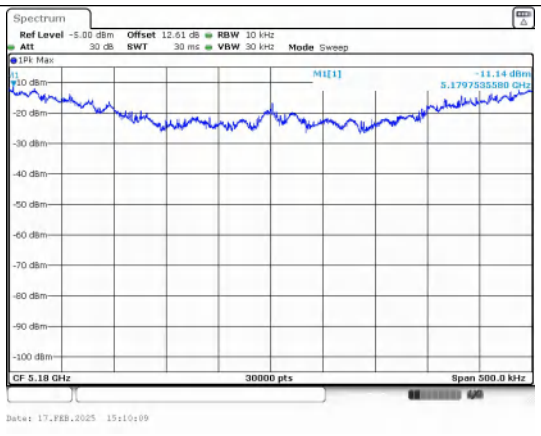
IEEE 802.11n_40



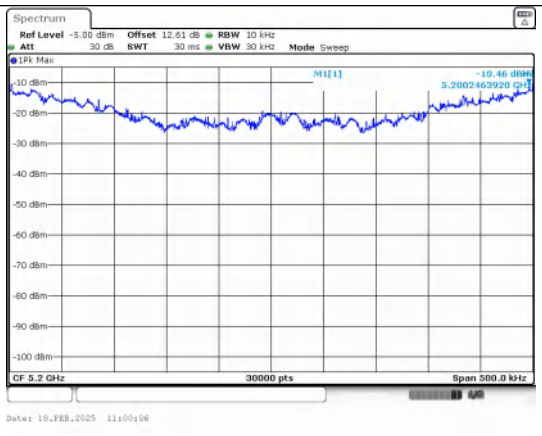


NT/NV_Antenna 0 IEEE 802.11n_Channel 38_40MHz	NT/NV_Antenna 0 IEEE 802.11n_Channel 46_40MHz
	
NT/NV_Antenna 0 IEEE 802.11n_Channel 54_40MHz	**NT/NV_Antenna 0 IEEE 802.11n_Channel 62_40MHz**
	
NT/NV_Antenna 0 IEEE 802.11n_Channel 110_40MHz	**NT/NV_Antenna 0 IEEE 802.11n_Channel 134_40MHz**

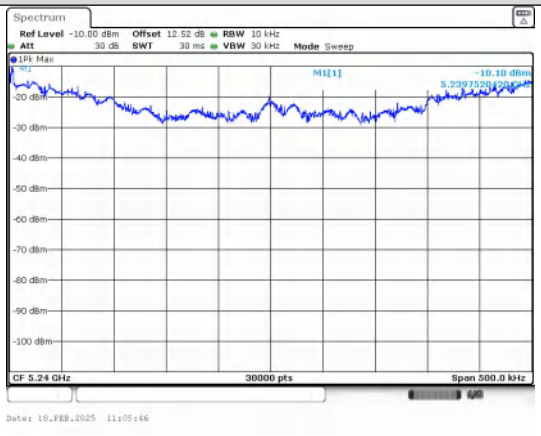
IEEE 802.11ac_20



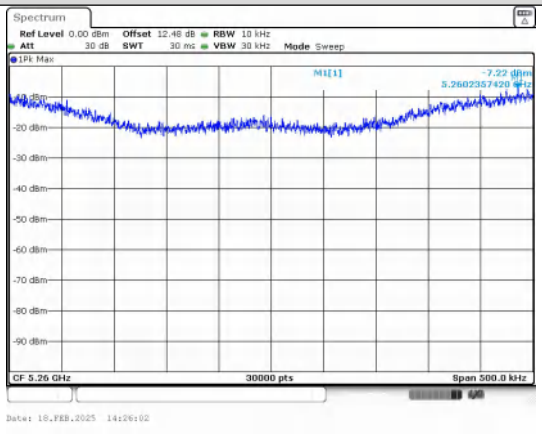
NT/NV_Antenna 0
IEEE 802.11ac_Channel 36_20MHz



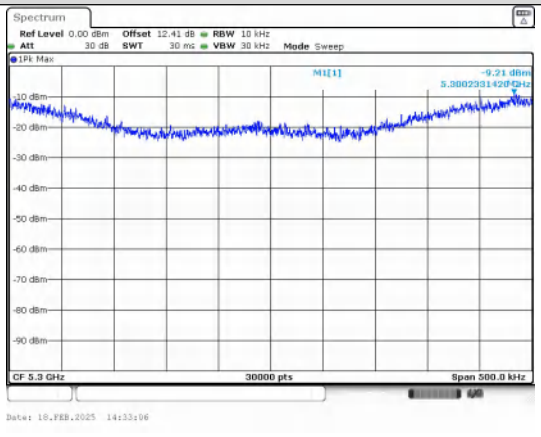
NT/NV_Antenna 0
IEEE 802.11ac_Channel 40_20MHz



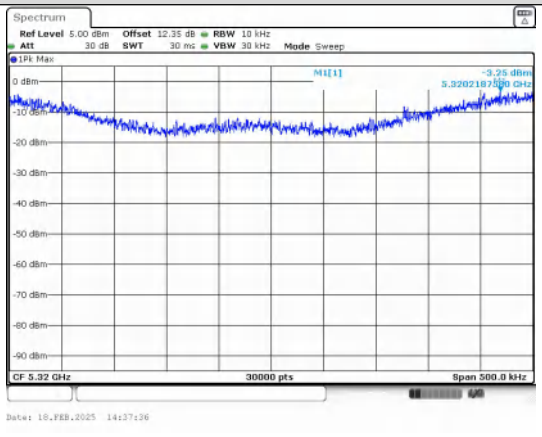
NT/NV_Antenna 0
IEEE 802.11ac_Channel 48_20MHz



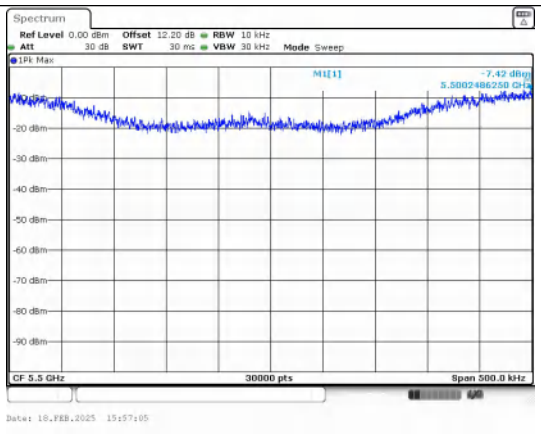
NT/NV_Antenna 0
IEEE 802.11ac_Channel 52_20MHz



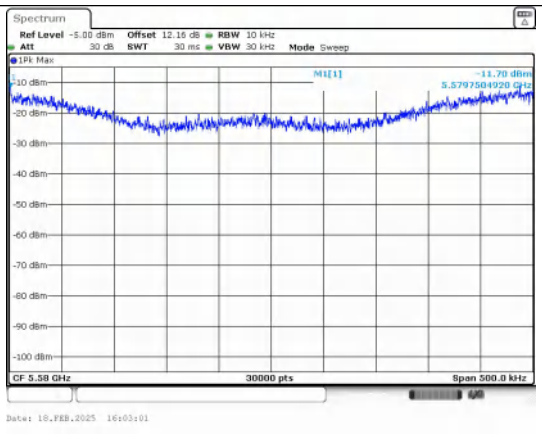
NT/NV_Antenna 0
IEEE 802.11ac_Channel 60_20MHz



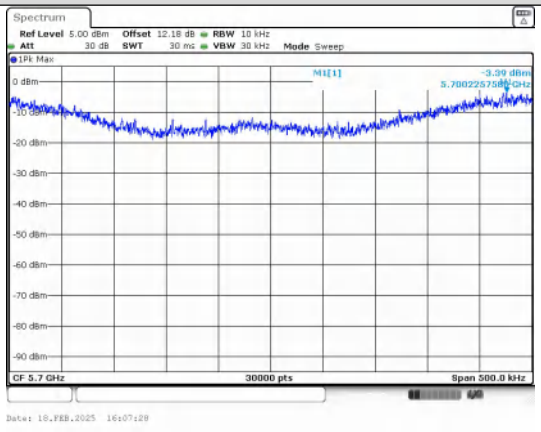
NT/NV_Antenna 0
IEEE 802.11ac_Channel 64_20MHz



NT/NV_Antenna 0
IEEE 802.11ac_Channel 100_20MHz

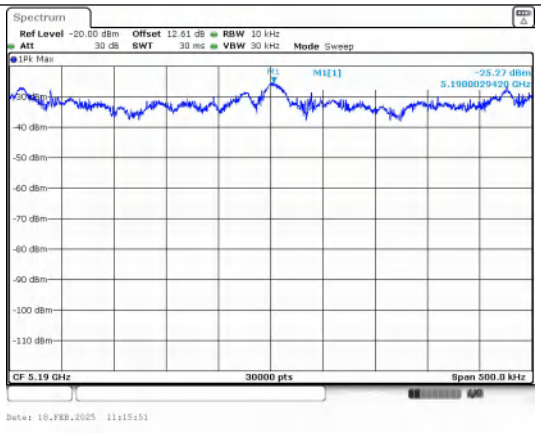


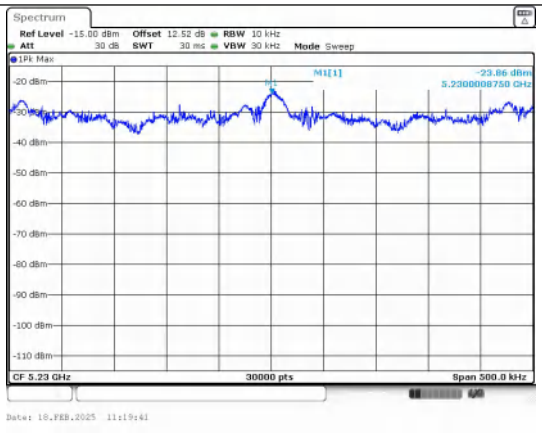
NT/NV_Antenna 0
IEEE 802.11ac_Channel 116_20MHz

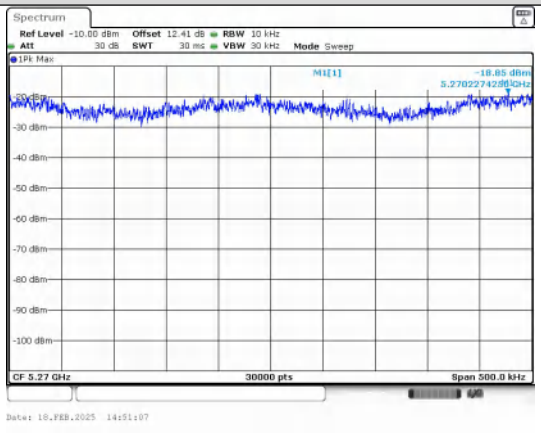
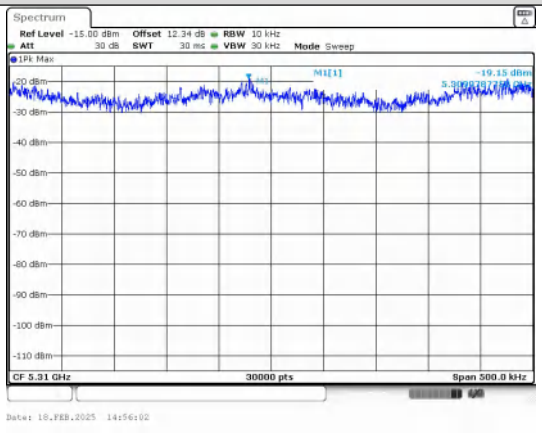
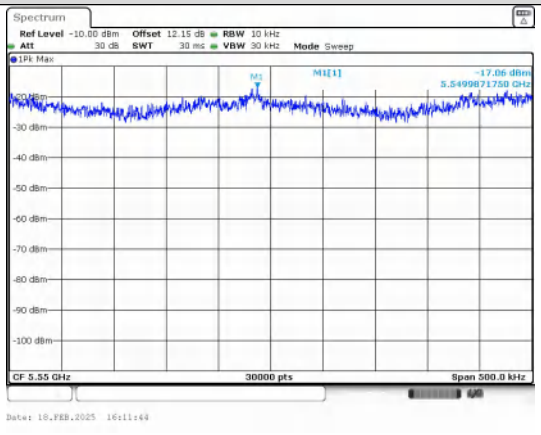
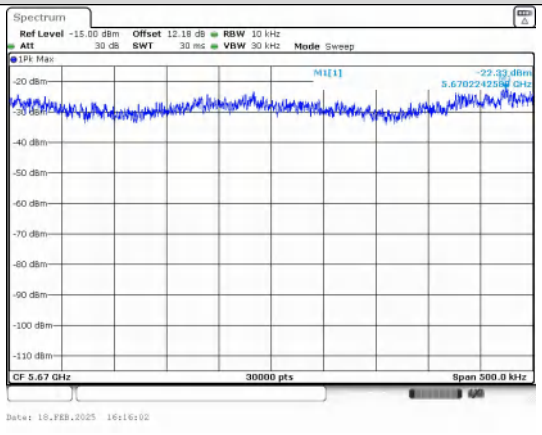


NT/NV_Antenna 0
IEEE 802.11ac_Channel 140_20MHz

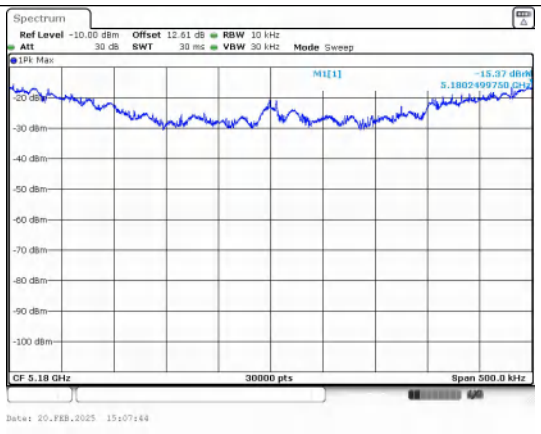
IEEE 802.11ac_40



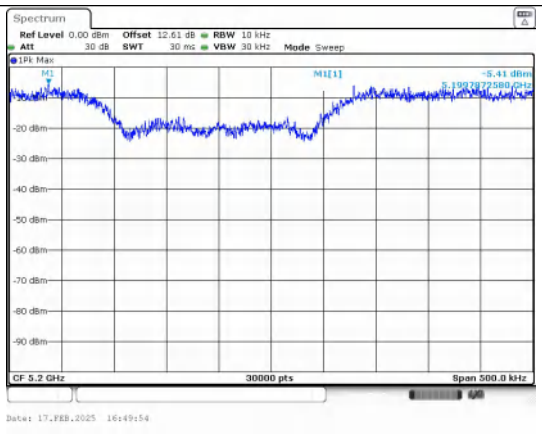


NT/NV_Antenna 0 IEEE 802.11ac_Channel 38_40MHz	NT/NV_Antenna 0 IEEE 802.11ac_Channel 46_40MHz
	
NT/NV_Antenna 0 IEEE 802.11ac_Channel 54_40MHz	**NT/NV_Antenna 0 IEEE 802.11ac_Channel 62_40MHz**
	
NT/NV_Antenna 0 IEEE 802.11ac_Channel 110_40MHz	**NT/NV_Antenna 0 IEEE 802.11ac_Channel 134_40MHz**

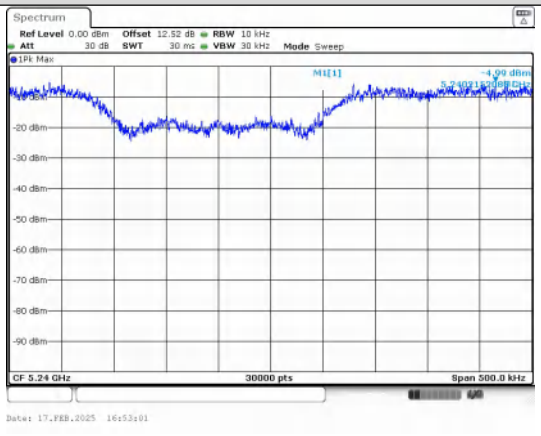
IEEE 802.11ax_20



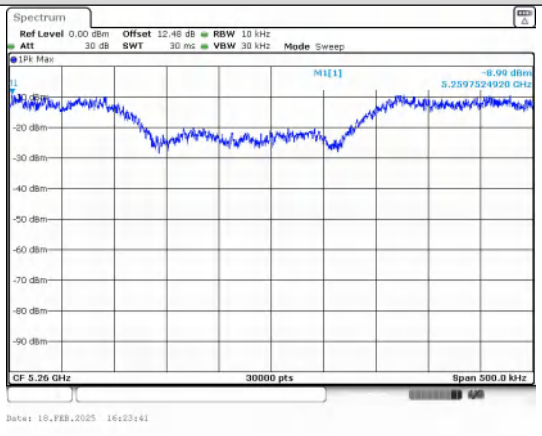
NT/NV_Antenna 0
IEEE 802.11ax_Channel 36_20MHz



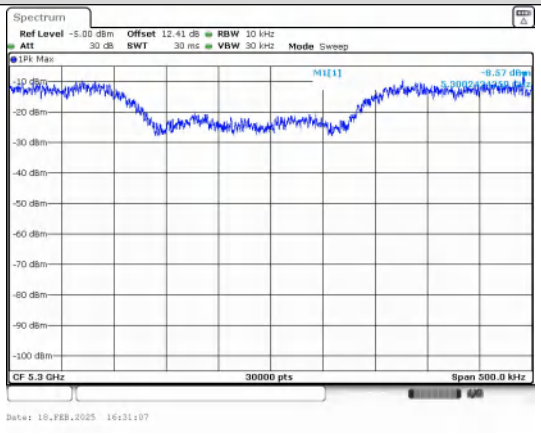
NT/NV_Antenna 0
IEEE 802.11ax_Channel 40_20MHz



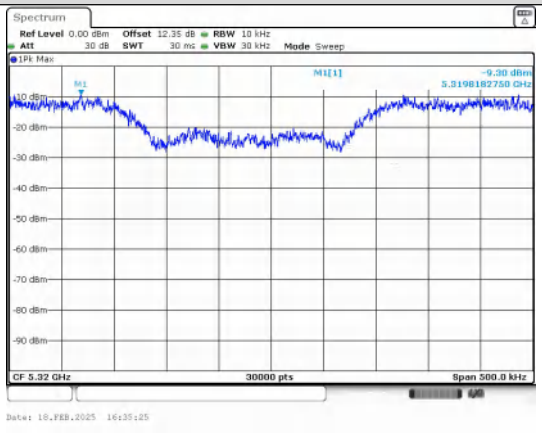
NT/NV_Antenna 0
IEEE 802.11ax_Channel 48_20MHz



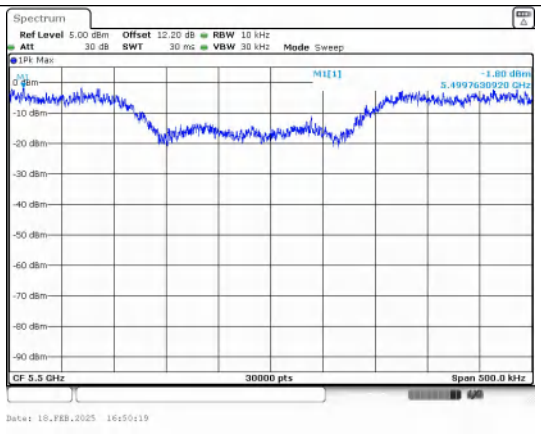
NT/NV_Antenna 0
IEEE 802.11ax_Channel 52_20MHz



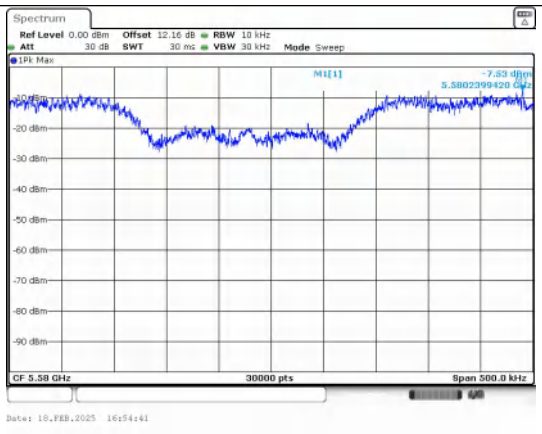
NT/NV_Antenna 0
IEEE 802.11ax_Channel 60_20MHz



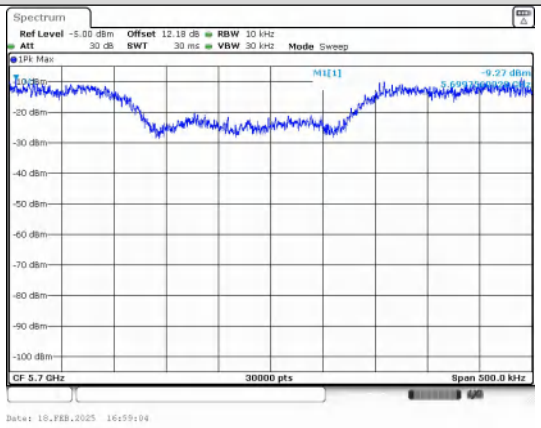
NT/NV_Antenna 0
IEEE 802.11ax_Channel 64_20MHz



NT/NV_Antenna 0
IEEE 802.11ax_Channel 100_20MHz

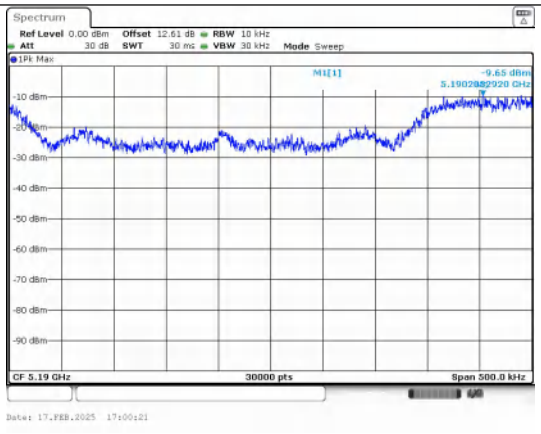


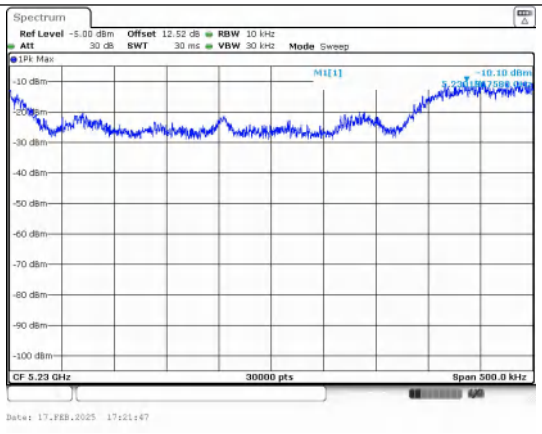
NT/NV_Antenna 0
IEEE 802.11ax_Channel 116_20MHz



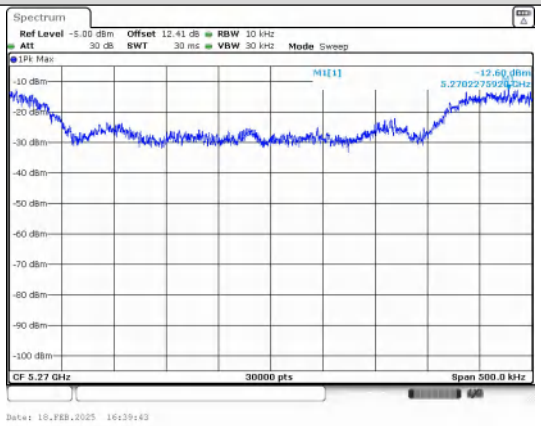
NT/NV_Antenna 0
IEEE 802.11ax_Channel 140_20MHz

IEEE 802.11ax_40

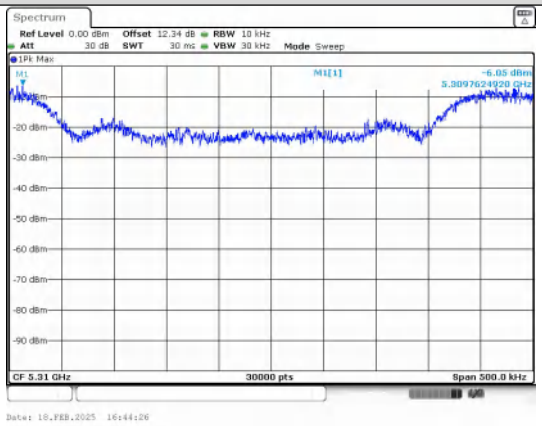




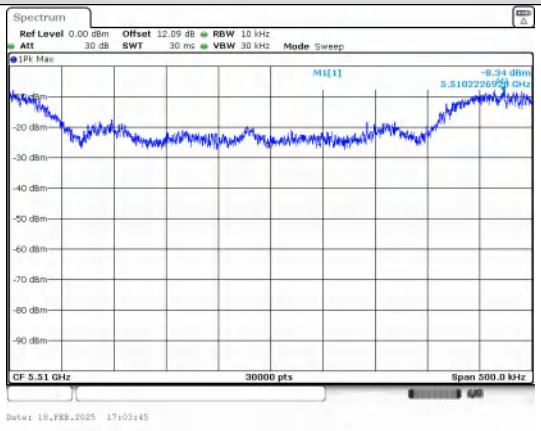
NT/NV_Antenna 0
IEEE 802.11ax_Channel 38_40MHz



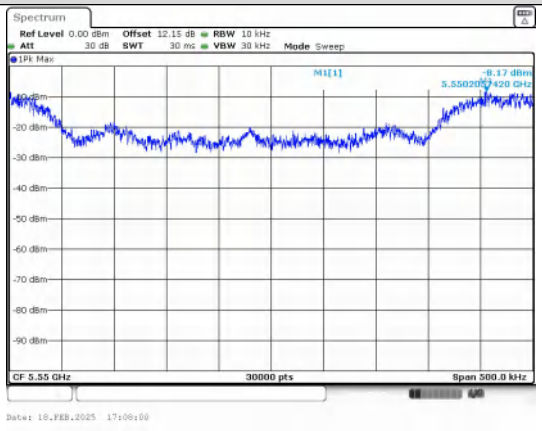
NT/NV_Antenna 0
IEEE 802.11ax_Channel 46_40MHz



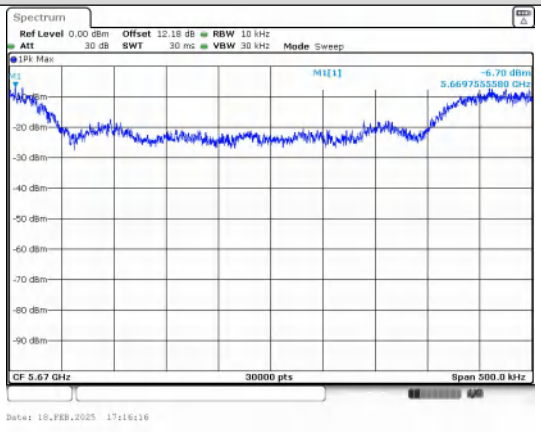
NT/NV_Antenna 0
IEEE 802.11ax_Channel 54_40MHz



NT/NV_Antenna 0
IEEE 802.11ax_Channel 62_40MHz



NT/NV_Antenna 0
IEEE 802.11ax_Channel 102_40MHz



NT/NV_Antenna 0
IEEE 802.11ax_Channel 110_40MHz

IEEE 802.11ax_Channel 134_40MHz

Duty Cycle

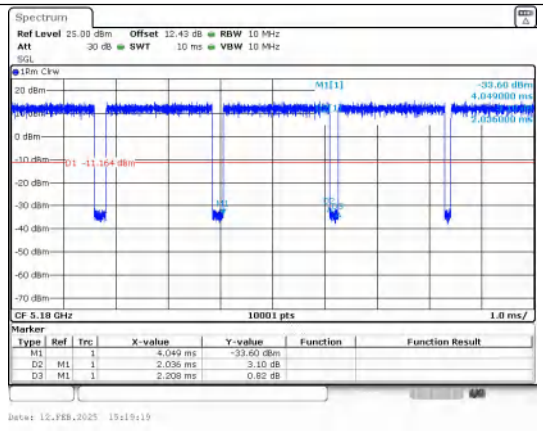
Test Result

Mode	Data rates	Channel	RU & Index	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11a	6	36	N/A	1	2.036	2.208	92.21	0.9221	0.3522	0.4912
		40			2.036	2.150	94.70	0.9470	0.2365	0.4912
		48			2.036	2.172	93.74	0.9374	0.2808	0.4912
		52			2.036	2.271	89.65	0.8965	0.4745	0.4912
		60			2.036	2.172	93.74	0.9374	0.2808	0.4912
		64			2.036	2.244	90.73	0.9073	0.4225	0.4912
		100			2.036	2.154	94.52	0.9452	0.2448	0.4912
		116			2.036	2.150	94.70	0.9470	0.2365	0.4912
		140			2.036	2.217	91.84	0.9184	0.3697	0.4912
IEEE 802.11n_20	MCS 0	36			0.546	0.662	82.47	0.8247	0.837	1.8315
		40			0.546	0.661	82.53	0.8253	0.8339	1.8315
		48			0.546	0.661	82.53	0.8253	0.8339	1.8315
		52			0.546	0.783	69.79	0.6979	1.5621	1.8315
		60			0.546	0.666	82.04	0.8204	0.8597	1.8315
		64			0.542	1.019	53.17	0.5317	2.7433	1.8450
		100			0.546	0.764	71.40	0.7140	1.463	1.8315
		116			0.546	0.684	79.84	0.7984	0.9778	1.8315
		140			0.546	0.666	81.98	0.8198	0.8629	1.8315
IEEE 802.11n_40		38			0.650	0.684	94.94	0.9494	0.2255	1.5385
		46			0.526	0.695	75.64	0.7564	1.2125	1.9011
		54			0.523	1.008	51.85	0.5185	2.8525	1.9120
		62			0.526	0.726	72.44	0.7244	1.4002	1.9011
		110			0.526	0.735	71.58	0.7158	1.4521	1.9011
		134			0.526	0.717	73.34	0.7334	1.3466	1.9011

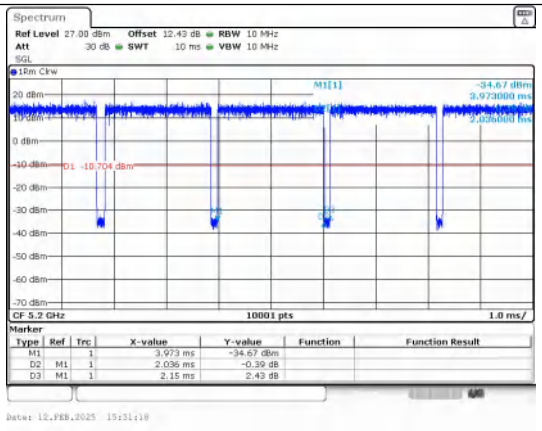
IEEE 802.11ac_20		36			1.316	1.349	97.55	0.9755	0.1077	0.7599
		40			1.304	1.338	97.46	0.9746	0.1117	0.7669
		48			1.315	1.349	97.48	0.9748	0.1108	0.7605
		52			2.568	2.695	95.29	0.9529	0.2095	0.3894
		60			2.569	2.686	95.64	0.9564	0.1936	0.3893
		64			3.414	3.530	96.73	0.9673	0.1444	0.2929
		100			2.568	2.985	86.03	0.8603	0.6535	0.3894
		116			2.568	2.686	95.61	0.9561	0.195	0.3894
		140			3.414	3.646	93.62	0.9362	0.2863	0.2929
IEEE 802.11ac_40		38			0.654	0.688	94.96	0.9496	0.2246	1.5291
		46			0.654	0.688	95.03	0.9503	0.2214	1.5291
		54			0.409	0.529	77.42	0.7742	1.1115	2.4450
		62			0.409	0.636	64.29	0.6429	1.9186	2.4450
		110			0.409	0.601	68.15	0.6815	1.6653	2.4450
		134			0.409	0.556	73.65	0.7365	1.3283	2.4450
IEEE 802.11ax_20		36	SU		1.316	1.349	97.55	0.9755	0.1077	0.7599
		40			0.519	0.635	81.74	0.8174	0.8757	1.9268
		48			0.520	0.653	79.52	0.7952	0.9952	1.9231
		52			0.519	0.666	77.92	0.7792	1.0835	1.9268
		60			0.520	0.666	77.99	0.7799	1.0796	1.9231
		64			0.519	0.639	81.22	0.8122	0.9034	1.9268
		100			0.520	0.666	77.99	0.7799	1.0796	1.9231
		116			0.520	0.956	54.35	0.5435	2.648	1.9231
		140			0.520	0.639	81.29	0.8129	0.8996	1.9231
IEEE 802.11ax_40		38			0.292	0.407	71.62	0.7162	1.4497	3.4247
		46			0.292	0.501	58.25	0.5825	2.347	3.4247
		54			0.292	0.782	37.33	0.3733	4.2794	3.4247
		62			0.292	0.683	42.75	0.4275	3.6906	3.4247

		102			0.292	0.474	61.56	0.6156	2.107	3.4247
		110			0.292	0.674	43.38	0.4338	3.6271	3.4247
		134			0.292	0.474	61.56	0.6156	2.107	3.4247

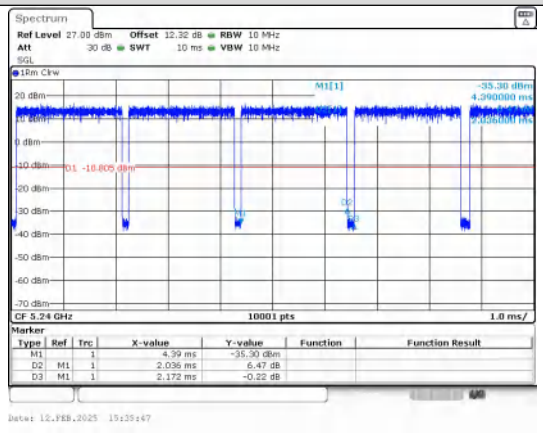
Test Graphs



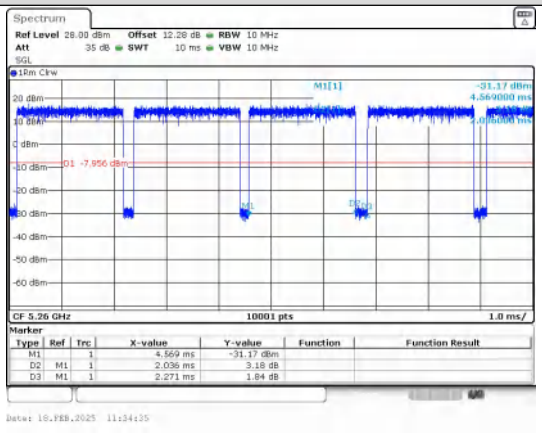
IEEE 802.11a_20MHz_Channel 36



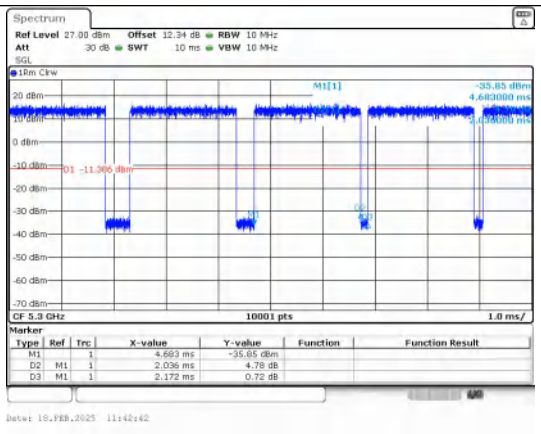
IEEE 802.11a_20MHz_Channel 40



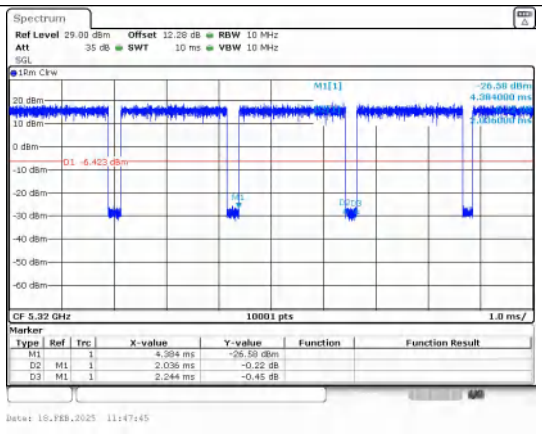
IEEE 802.11a_20MHz_Channel 48



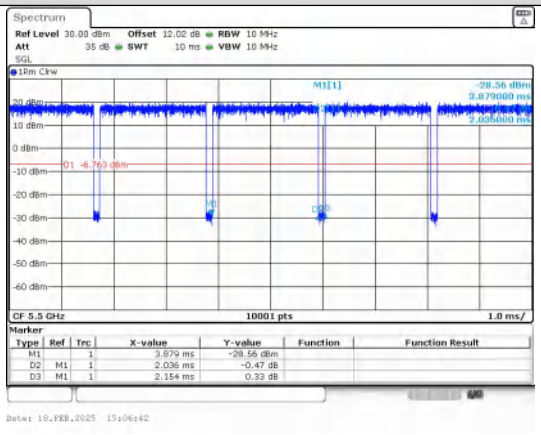
IEEE 802.11a_20MHz_Channel 52



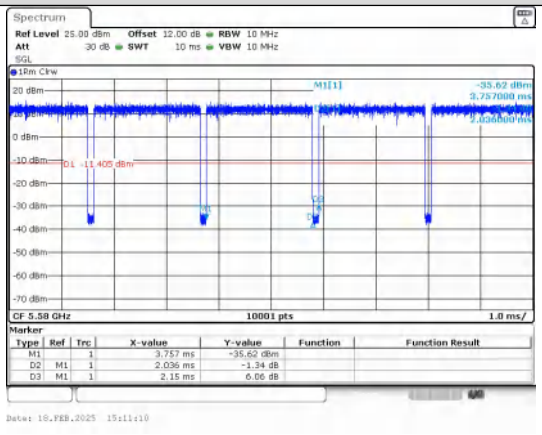
IEEE 802.11a_20MHz_Channel 60



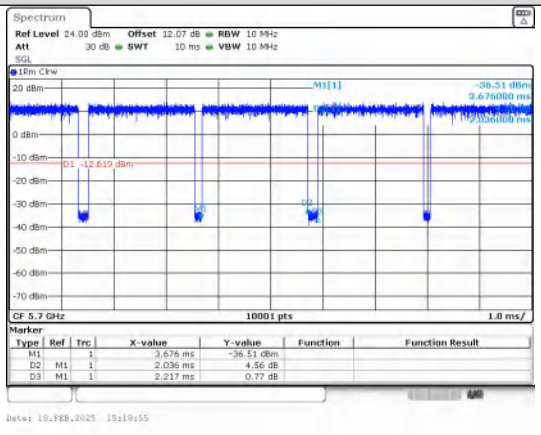
IEEE 802.11a_20MHz_Channel 64



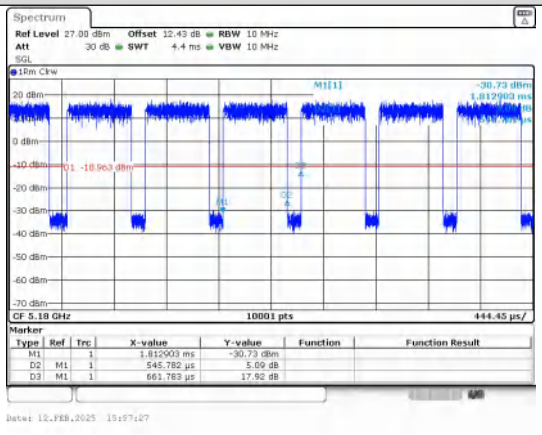
IEEE 802.11a_20MHz_Channel 100



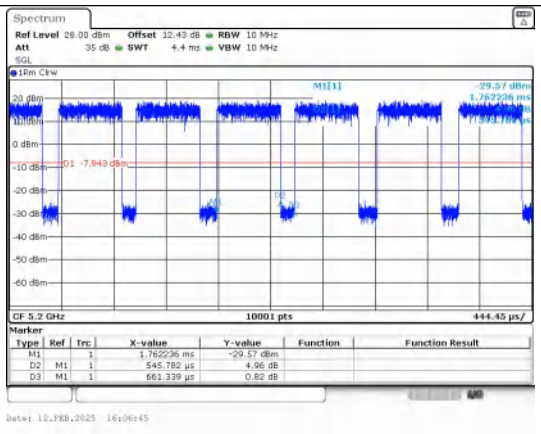
IEEE 802.11a_20MHz_Channel 116



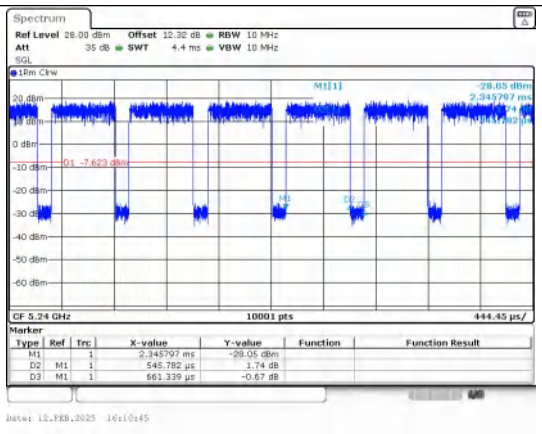
IEEE 802.11a_20MHz_Channel 140



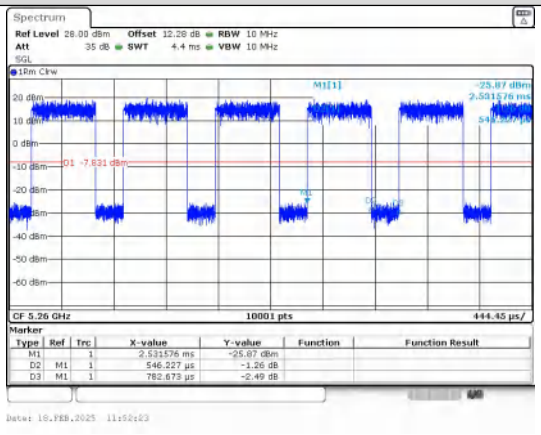
IEEE 802.11n_20MHz_Channel 36



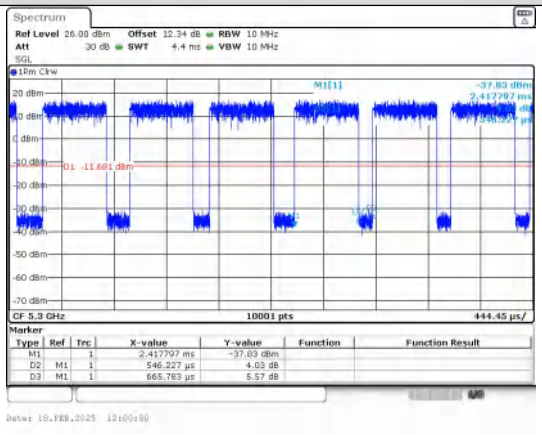
IEEE 802.11n_20MHz_Channel 40



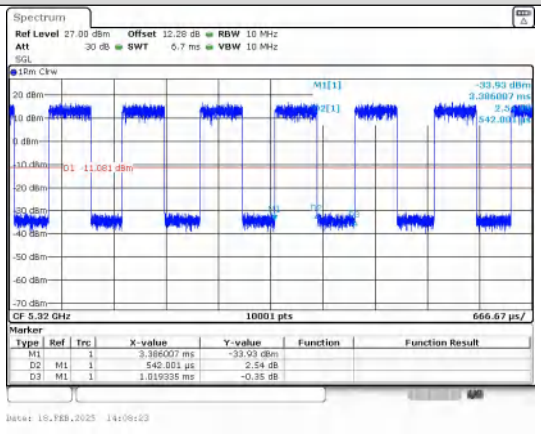
IEEE 802.11n_20MHz_Channel 48



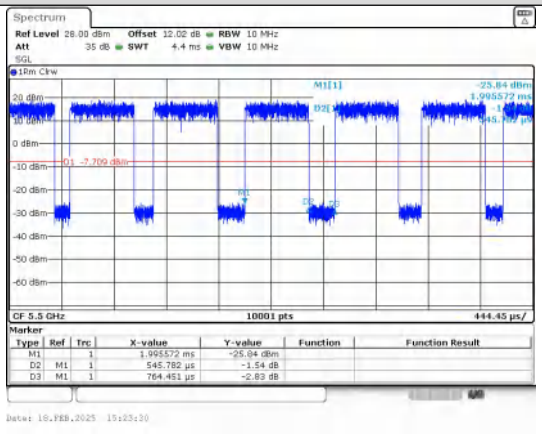
IEEE 802.11n_20MHz_Channel 52



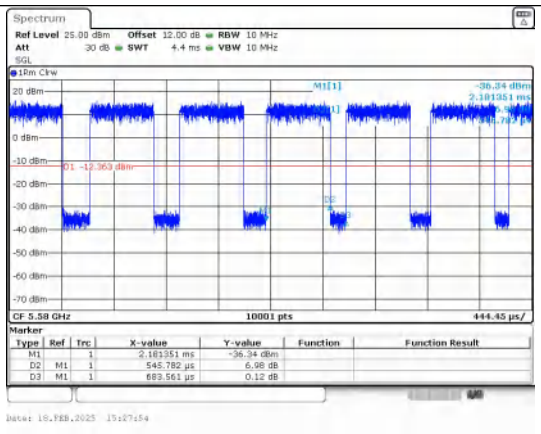
IEEE 802.11n_20MHz_Channel 60



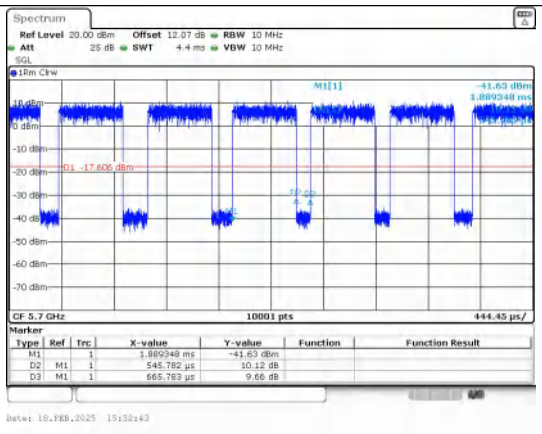
IEEE 802.11n_20MHz_Channel 64



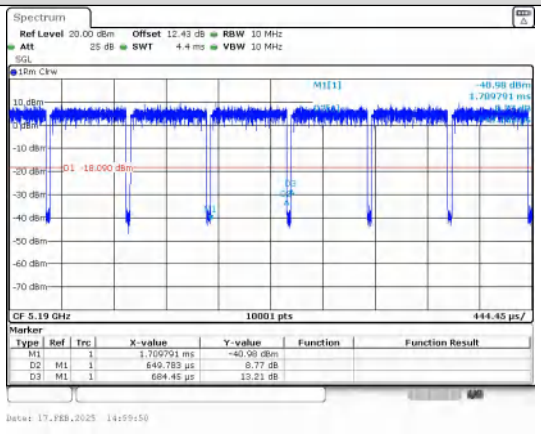
IEEE 802.11n_20MHz_Channel 100



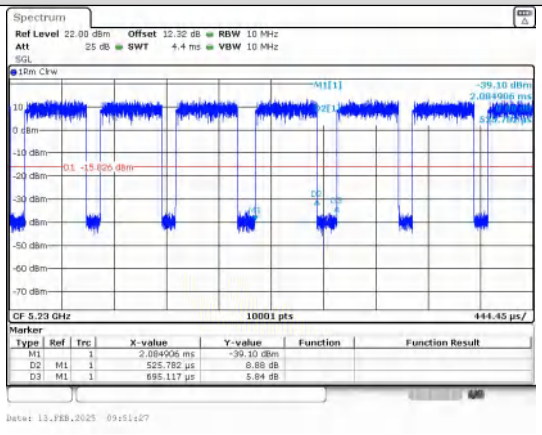
IEEE 802.11n_20MHz_Channel 116



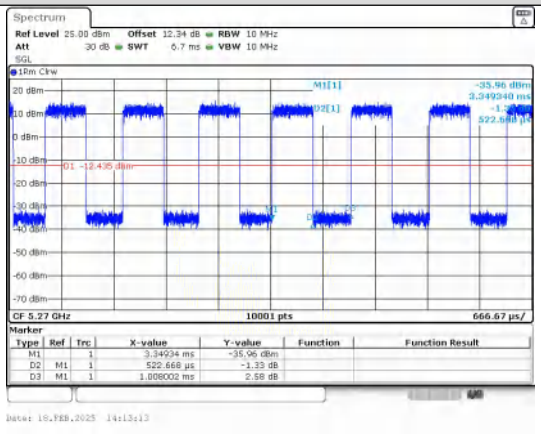
IEEE 802.11n_20MHz_Channel 140



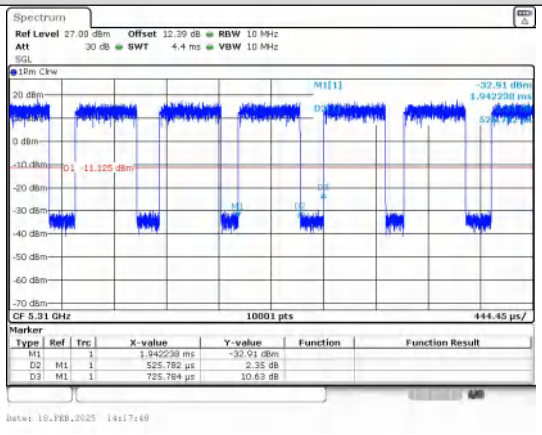
IEEE 802.11n_40MHz_Channel 38



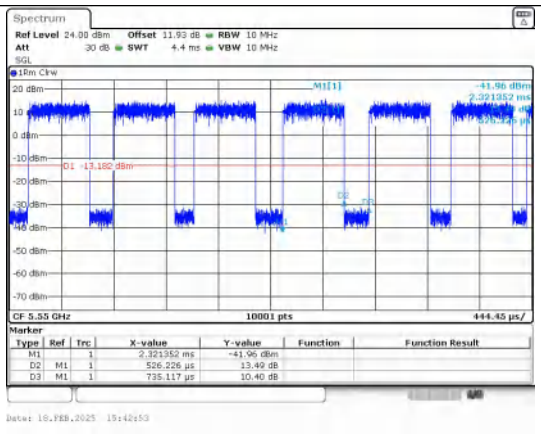
IEEE 802.11n_40MHz_Channel 46



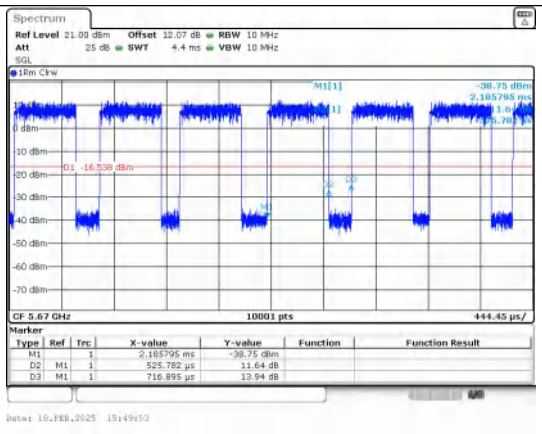
IEEE 802.11n_40MHz_Channel 54



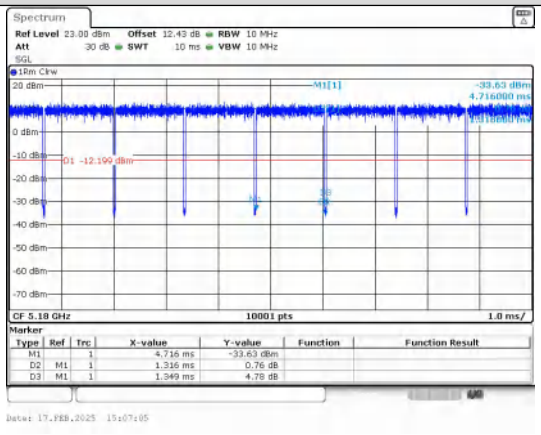
IEEE 802.11n_40MHz_Channel 62



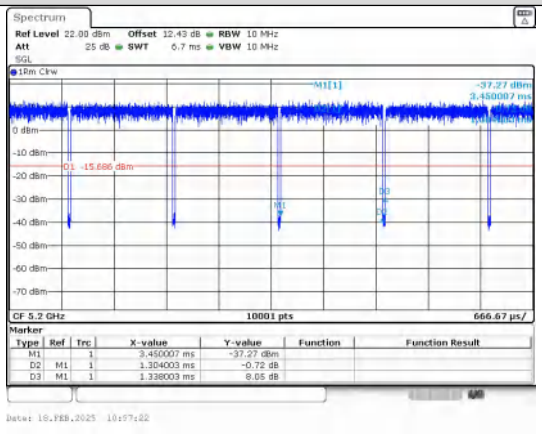
IEEE 802.11n_40MHz_Channel 110



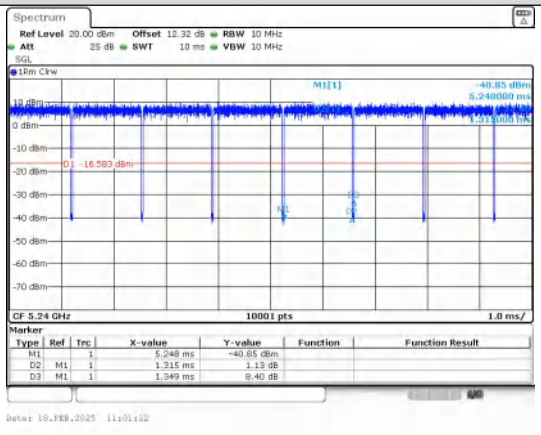
IEEE 802.11n_40MHz_Channel 134



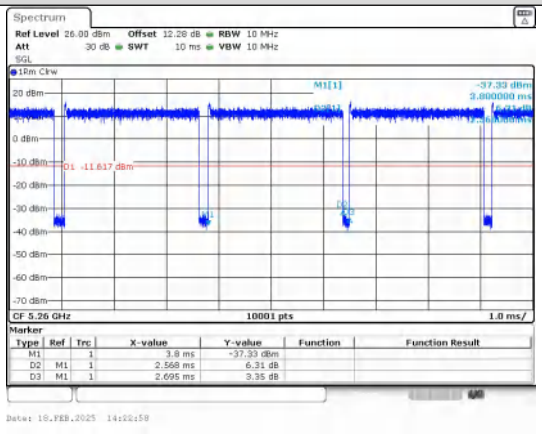
IEEE 802.11ac_20MHz_Channel 36



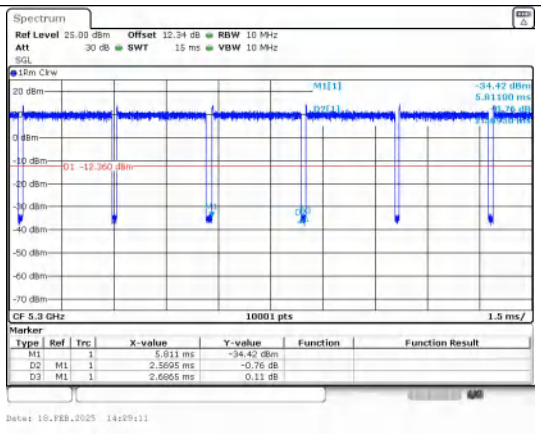
IEEE 802.11ac_20MHz_Channel 40



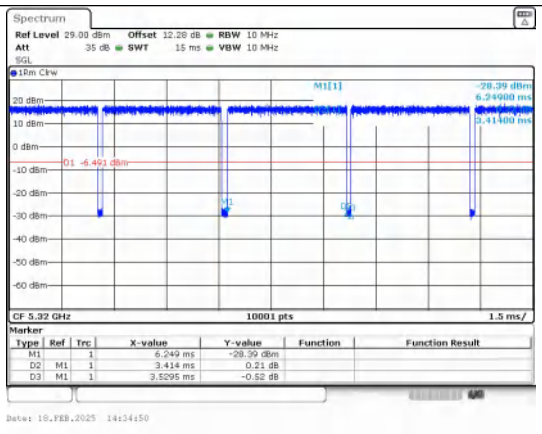
IEEE 802.11ac_20MHz_Channel 48



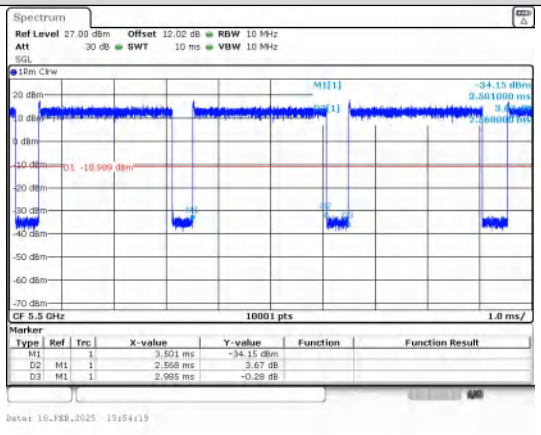
IEEE 802.11ac_20MHz_Channel 52



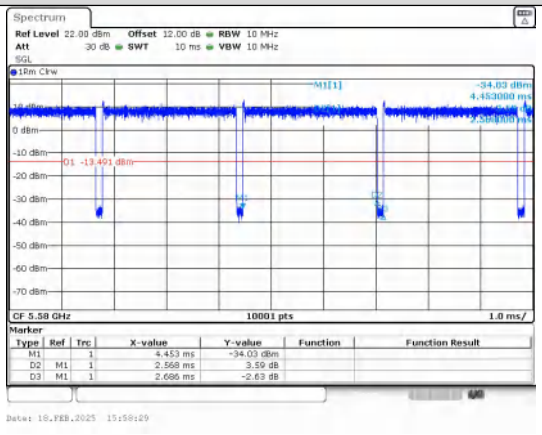
IEEE 802.11ac_20MHz_Channel 60



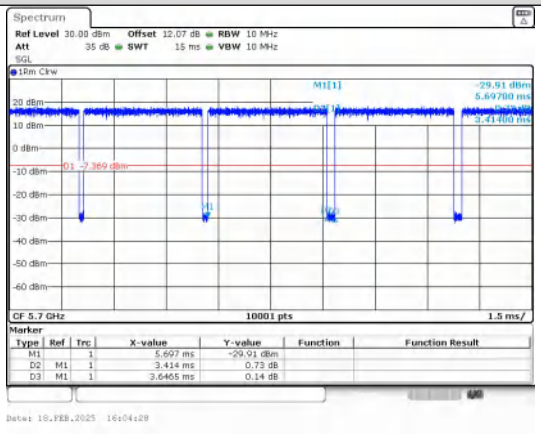
IEEE 802.11ac_20MHz_Channel 64



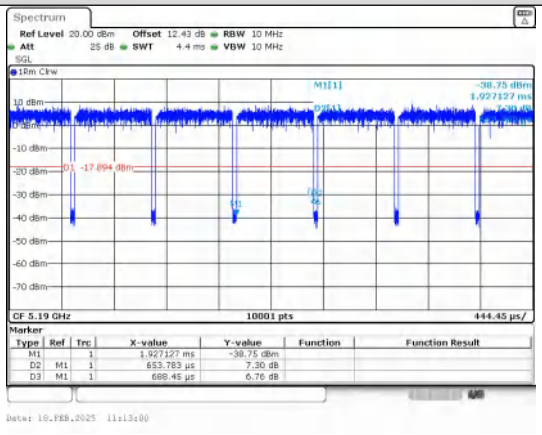
IEEE 802.11ac_20MHz_Channel 100



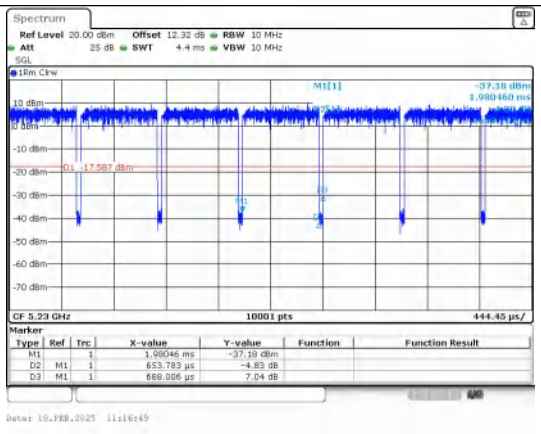
IEEE 802.11ac_20MHz_Channel 116



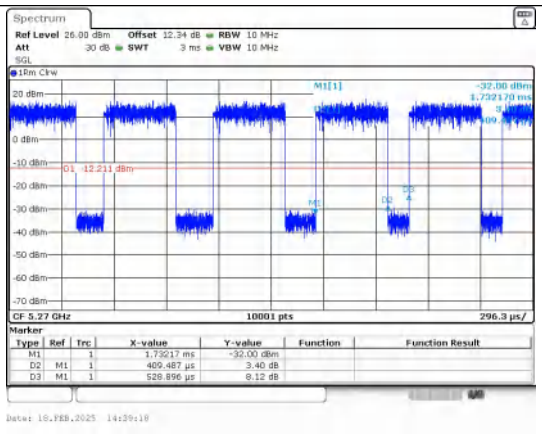
IEEE 802.11ac_20MHz_Channel 140



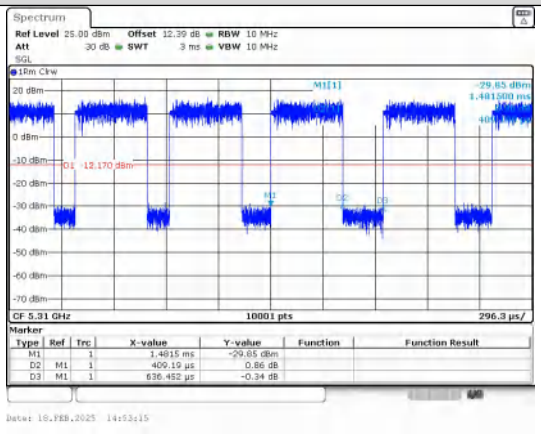
IEEE 802.11ac_40MHz_Channel 38



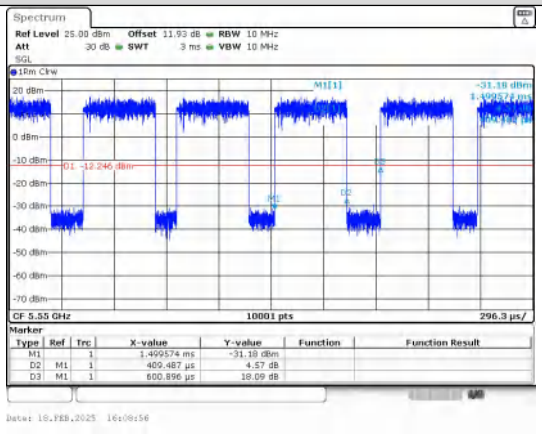
IEEE 802.11ac_40MHz_Channel 46



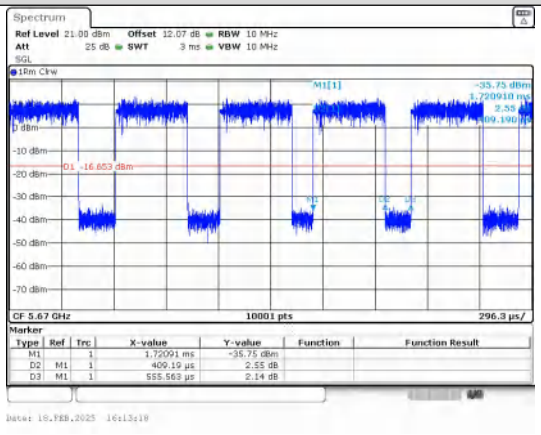
IEEE 802.11ac_40MHz_Channel 54



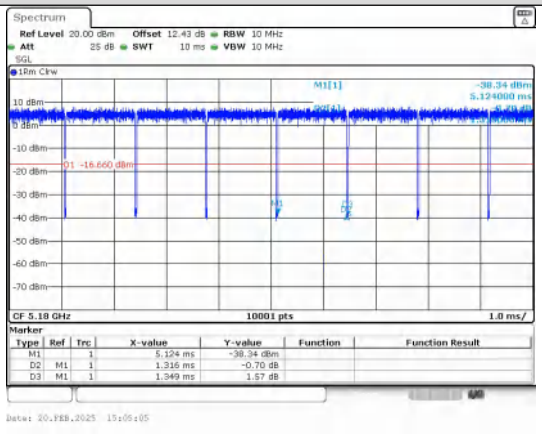
IEEE 802.11ac_40MHz_Channel 62



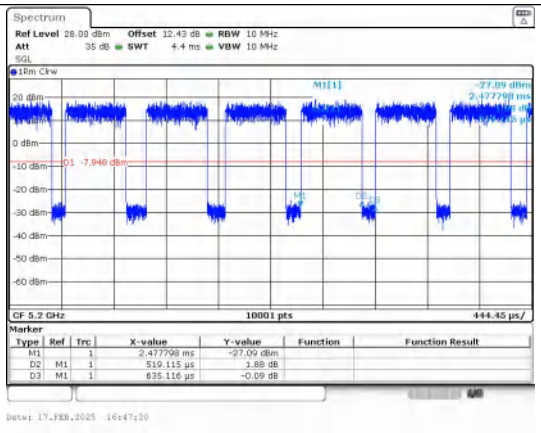
IEEE 802.11ac_40MHz_Channel 110



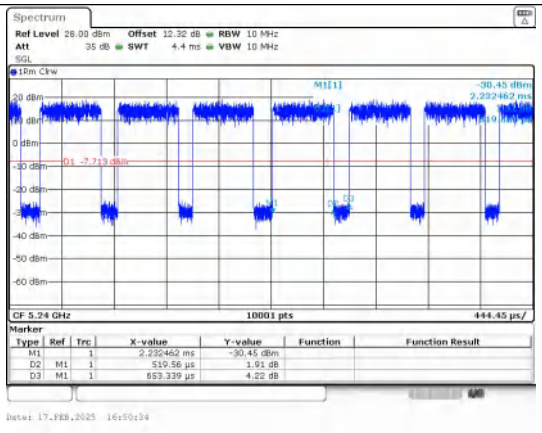
IEEE 802.11ac_40MHz_Channel 134



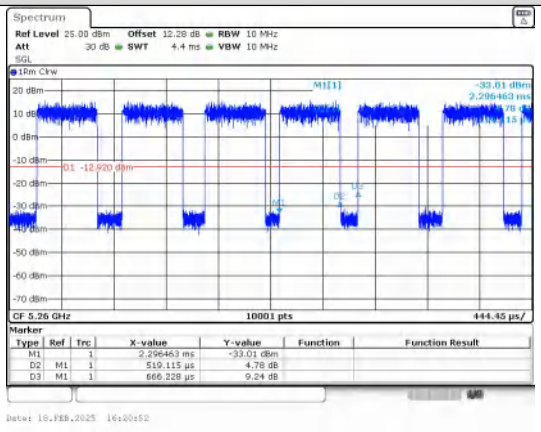
IEEE 802.11ax_20MHz_Channel 36



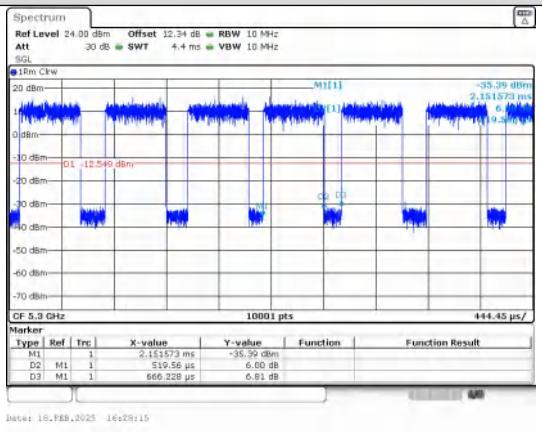
IEEE 802.11ax_20MHz_Channel 40



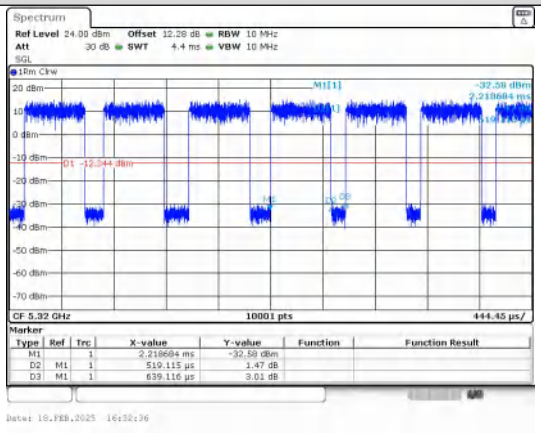
IEEE 802.11ax_20MHz_Channel 48



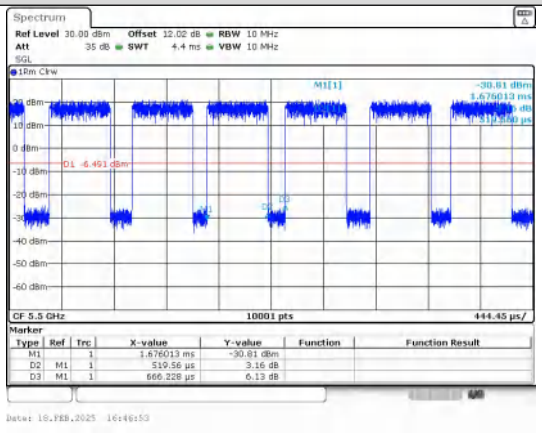
IEEE 802.11ax_20MHz_Channel 52



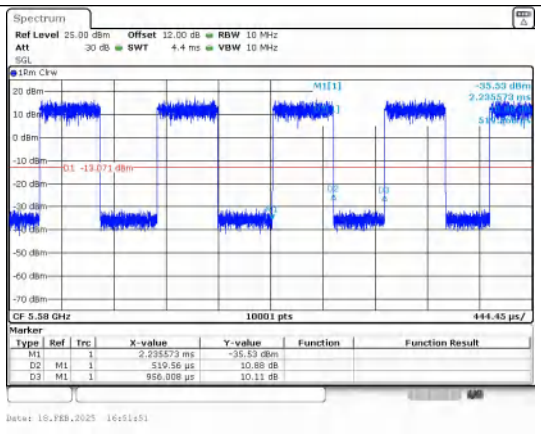
IEEE 802.11ax_20MHz_Channel 60



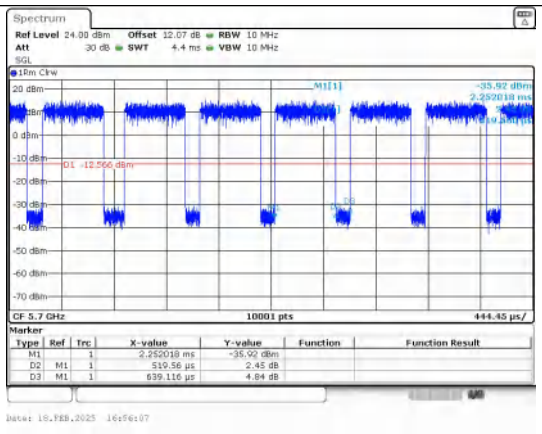
IEEE 802.11ax_20MHz_Channel 64



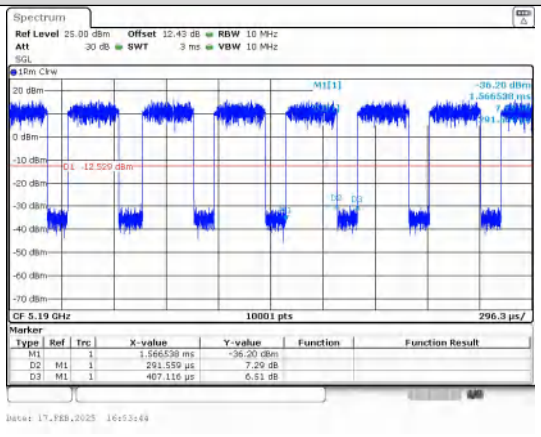
IEEE 802.11ax_20MHz_Channel 100



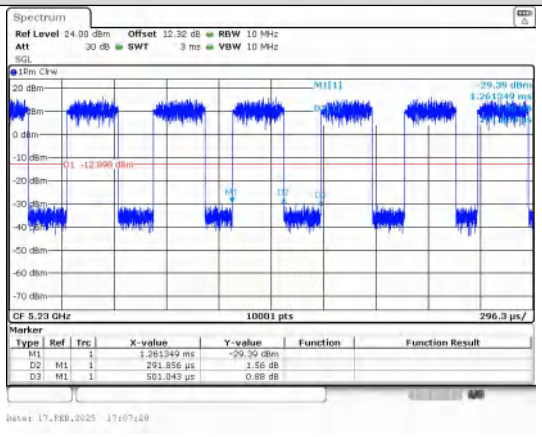
IEEE 802.11ax_20MHz_Channel 116



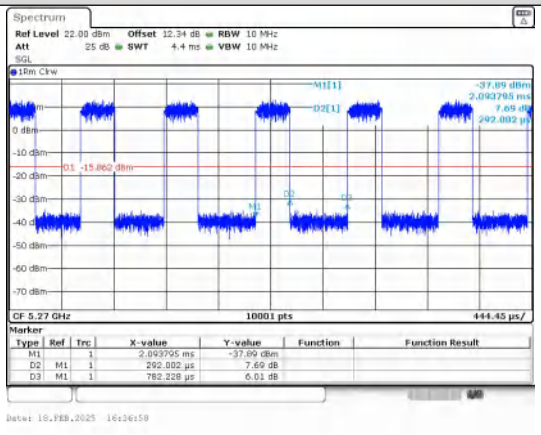
IEEE 802.11ax_20MHz_Channel 140



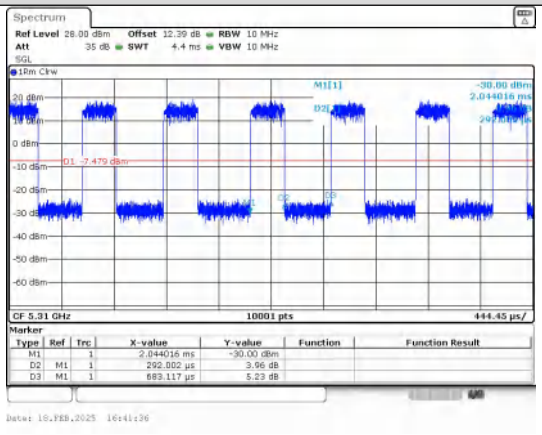
IEEE 802.11ax_40MHz_Channel 38



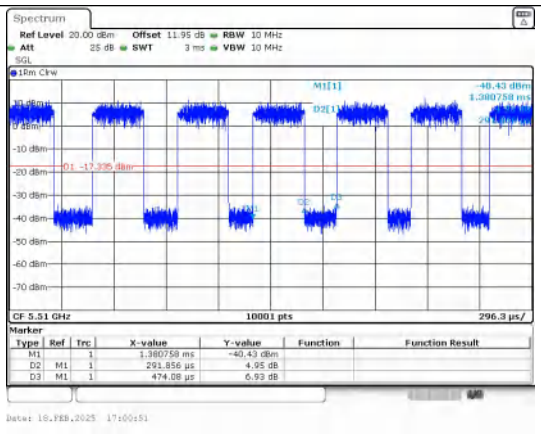
IEEE 802.11ax_40MHz_Channel 46



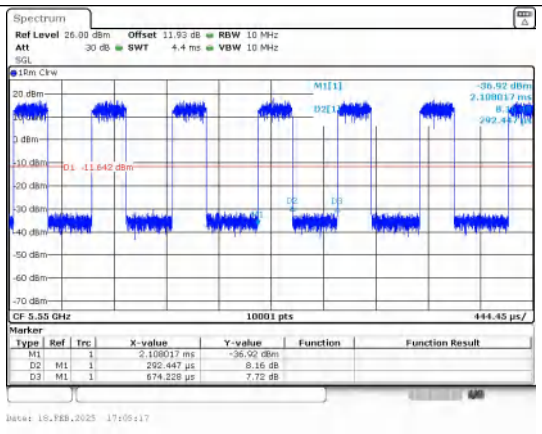
IEEE 802.11ax_40MHz_Channel 54



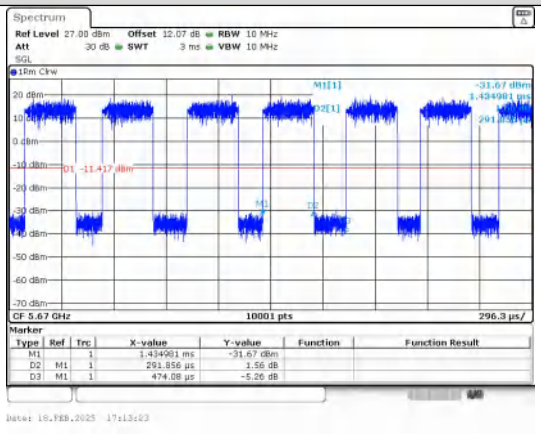
IEEE 802.11ax_40MHz_Channel 62



IEEE 802.11ax_40MHz_Channel 102



IEEE 802.11ax_40MHz_Channel 110



IEEE 802.11ax_40MHz_Channel 134

Peak Power Spectral Density

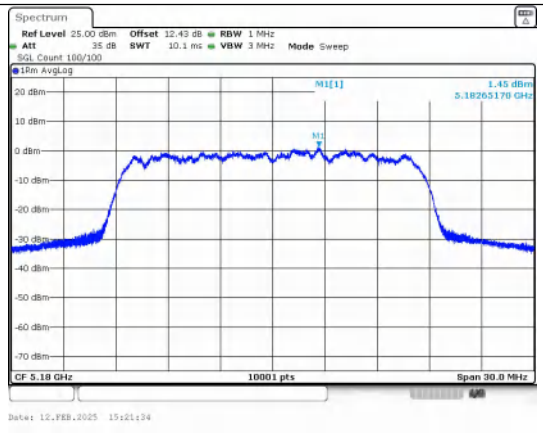
Test Result

Mode	Channel	RU & Index	Ant. 0 Meas PSD (dBm/MHz or dBm/0.5MHz)	Ant. 0 Corr'd PSD (dBm/MHz or dBm/0.5MHz)	Limit (dBm/MHz or dBm/0.5MHz)	Result
IEEE 802.11a	36	N/A	1.450	1.82	11	PASS
	40		2.990	3.36		PASS
	48		2.850	3.22		PASS
	52		2.130	2.5		PASS
	60		2.770	3.14		PASS
	64		4.990	5.36		PASS
	100		6.380	6.75		PASS
	116		1.370	1.74		PASS
	140		0.620	0.99		PASS
IEEE 802.11n_20	36		-1.360	-0.497		PASS
	40		-1.350	-0.487		PASS
	48		0.080	0.943		PASS
	52		-0.940	-0.077		PASS
	60		-9.410	-8.547		PASS
	64		-4.940	-4.077		PASS
	100		-0.350	0.513		PASS
	116		-6.910	-6.047		PASS
	140		-14.670	-13.807		PASS
IEEE 802.11n_40	38		-4.910	-3.563		PASS
	46		-4.520	-3.173		PASS
	54		-2.840	-1.493		PASS
	62		-4.340	-2.993		PASS
	110		-4.340	-2.993		PASS
	134		-6.880	-5.533		PASS

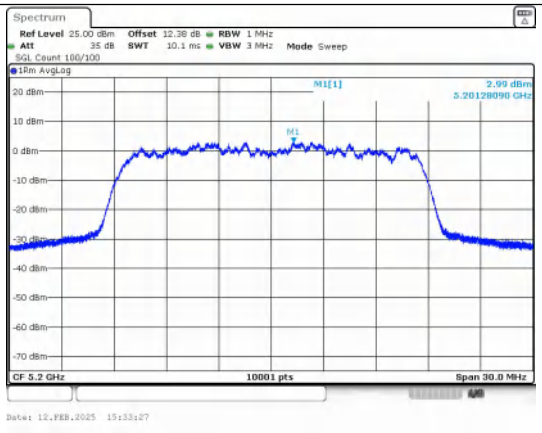
IEEE 802.11ac_20	36		-0.630	-0.344		PASS
	40		-0.510	-0.224		PASS
	48		-2.950	-2.664		PASS
	52		1.410	1.696		PASS
	60		-0.380	-0.094		PASS
	64		6.150	6.436		PASS
	100		2.260	2.546		PASS
	116		-2.300	-2.014		PASS
	140		5.890	6.176		PASS
IEEE 802.11ac_40	38		-5.730	-4.402		PASS
	46		-4.910	-3.582		PASS
	54		-3.660	-2.332		PASS
	62		-9.060	-7.732		PASS
	110		-14.010	-12.682		PASS
	134		-7.790	-6.462		PASS
IEEE 802.11ax_20	36	SU	-4.510	-4.402		PASS
	40		-1.450	-1.342		PASS
	48		-0.300	-0.192		PASS
	52		-5.230	-5.122		PASS
	60		-5.210	-5.102		PASS
	64		-2.900	-2.792		PASS
	100		1.200	1.308		PASS
	116		-11.760	-11.652		PASS
	140		-5.430	-5.322		PASS
IEEE 802.11ax_40	38		-5.480	-3.373		PASS
	46		-8.190	-6.083		PASS
	54		-9.310	-7.203		PASS
	62		-13.960	-11.853		PASS

	102		-7.200	-5.093		PASS
	110		-7.940	-5.833		PASS
	134		-7.300	-5.193		PASS

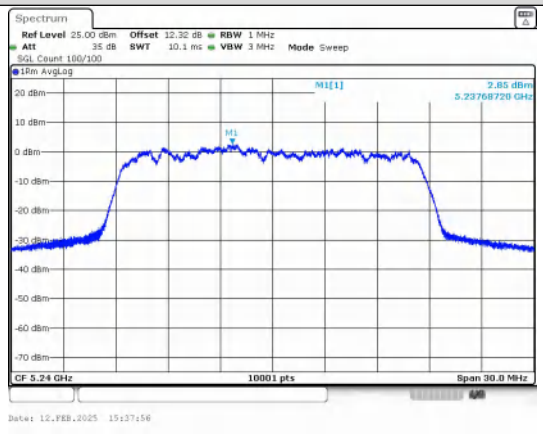
Test Graphs



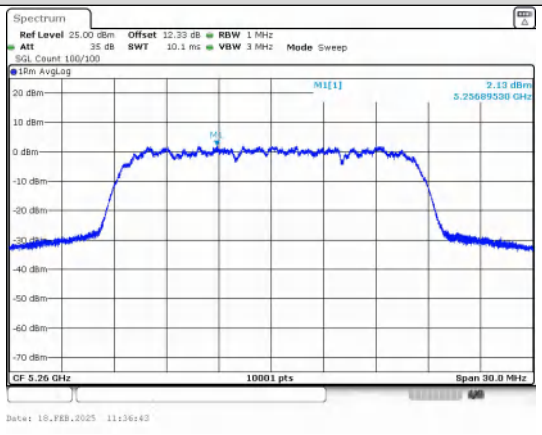
IEEE 802.11a_Channel 36_20MHz_Antenna 0



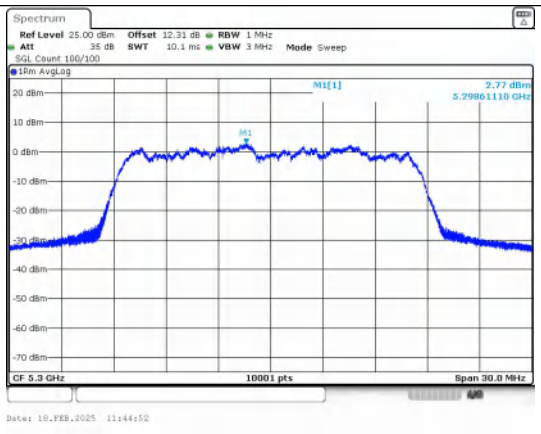
IEEE 802.11a_Channel 40_20MHz_Antenna 0



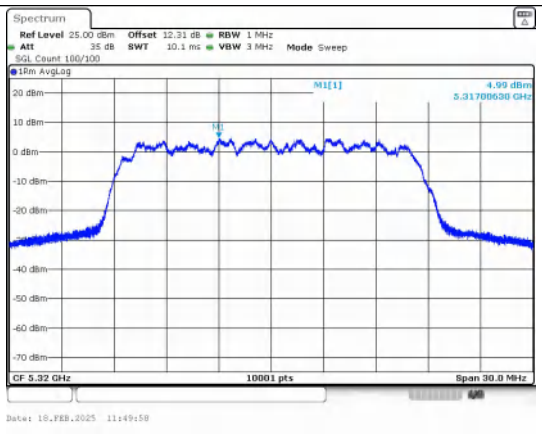
IEEE 802.11a_Channel 48_20MHz_Antenna 0



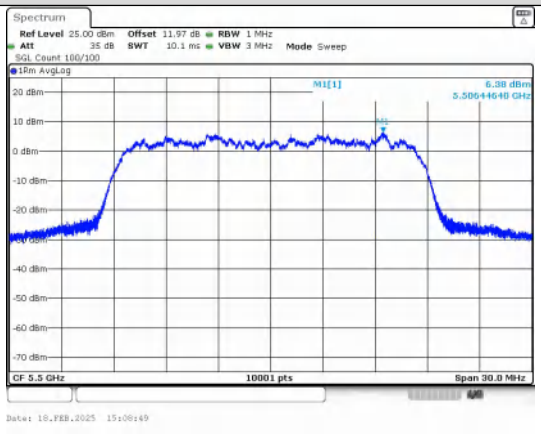
IEEE 802.11a_Channel 52_20MHz_Antenna 0



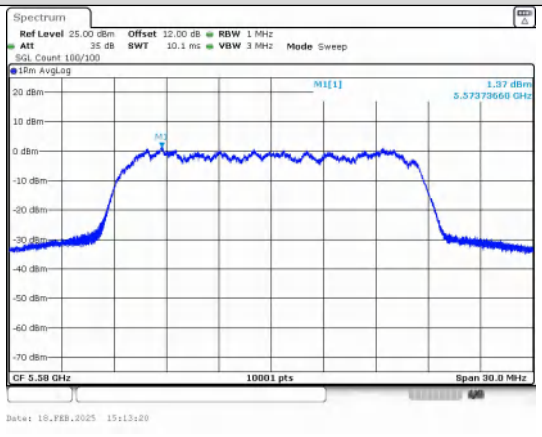
IEEE 802.11a_Channel 60_20MHz_Antenna 0



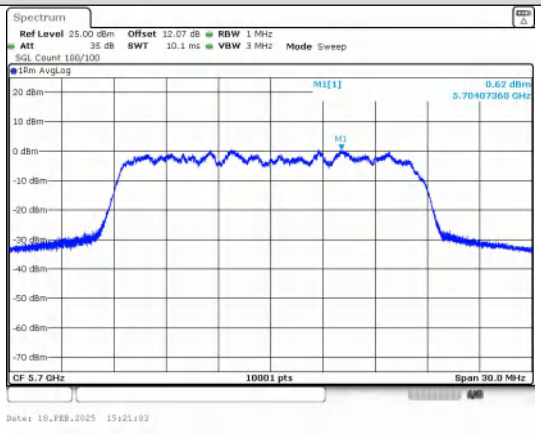
IEEE 802.11a_Channel 64_20MHz_Antenna 0



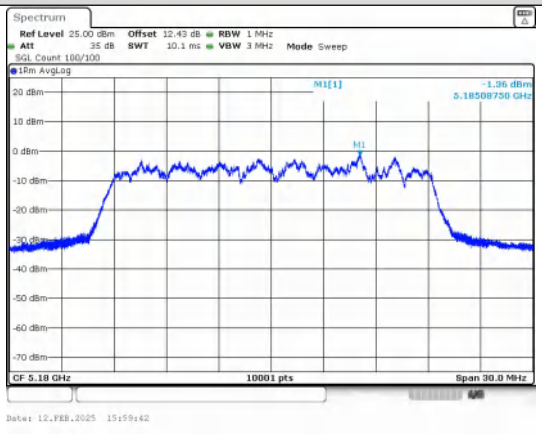
IEEE 802.11a_Channel 100_20MHz_Antenna 0



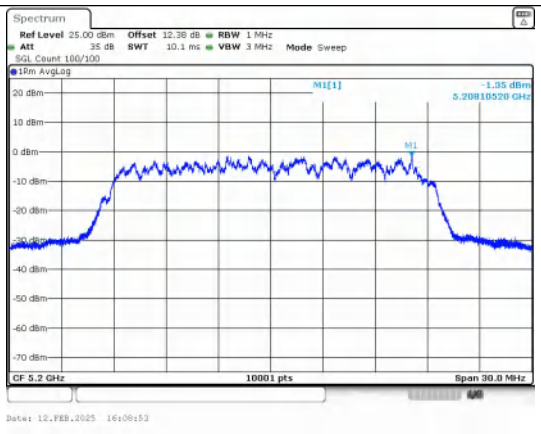
IEEE 802.11a_Channel 116_20MHz_Antenna 0



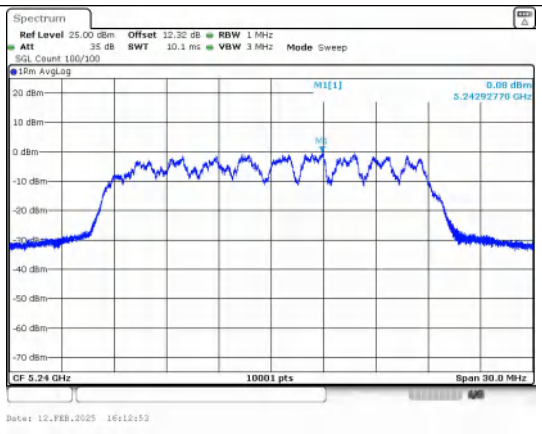
IEEE 802.11a_Channel 140_20MHz_Antenna 0



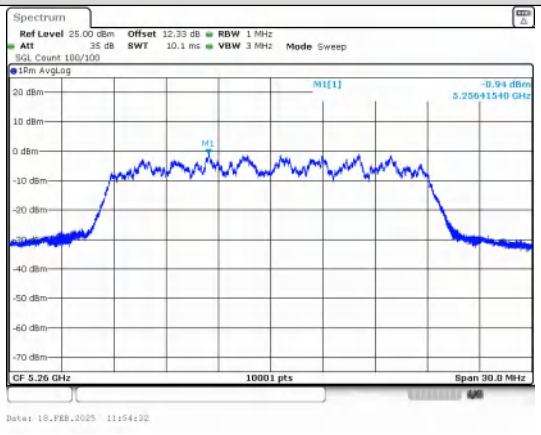
IEEE 802.11n_Channel 36_20MHz_Antenna 0



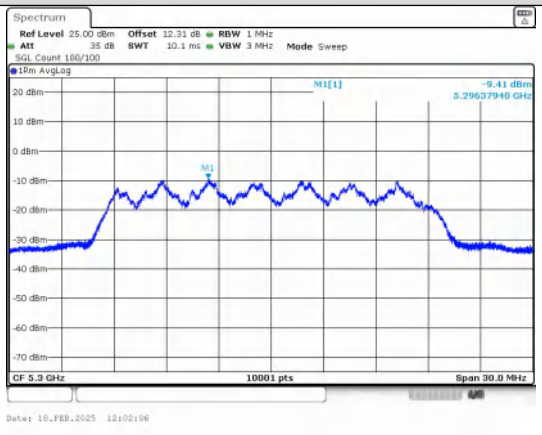
IEEE 802.11n_Channel 40_20MHz_Antenna 0



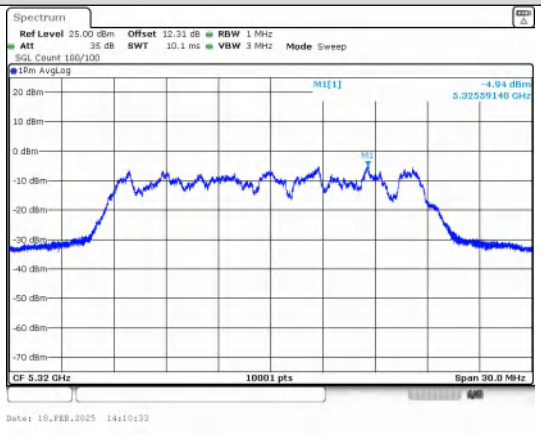
IEEE 802.11n_Channel 48_20MHz_Antenna 0



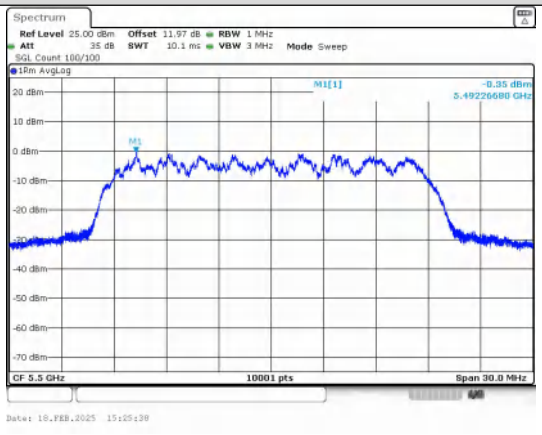
IEEE 802.11n_Channel 52_20MHz_Antenna 0



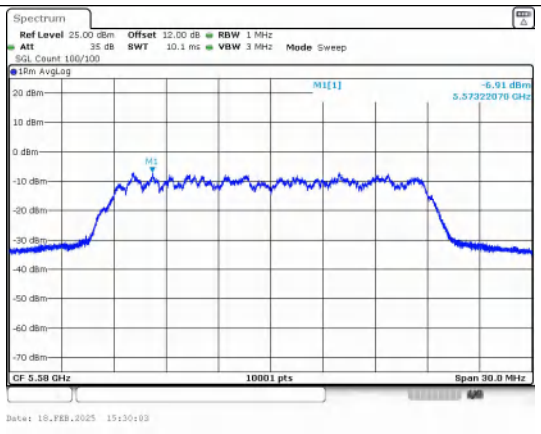
IEEE 802.11n_Channel 60_20MHz_Antenna 0



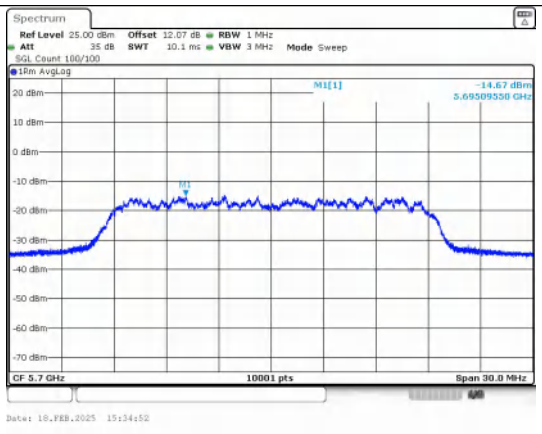
IEEE 802.11n_Channel 64_20MHz_Antenna 0



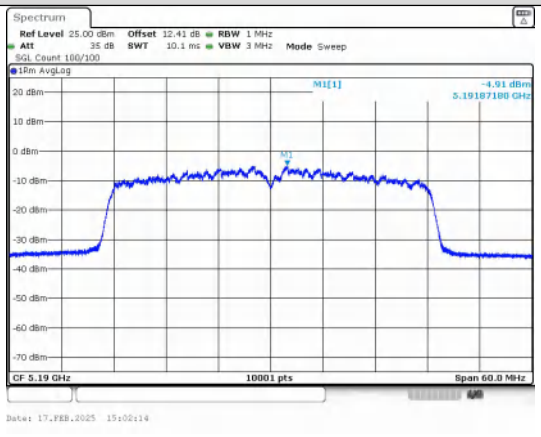
IEEE 802.11n_Channel 100_20MHz_Antenna 0



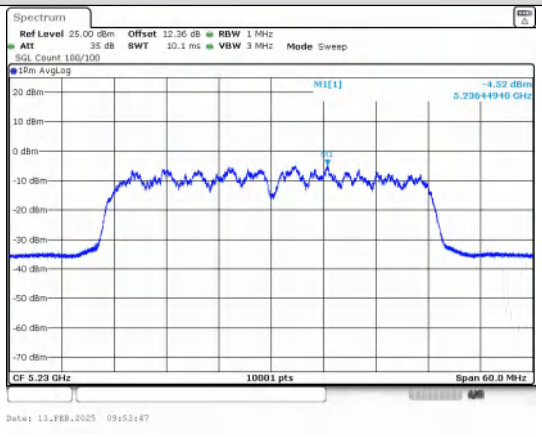
IEEE 802.11n_Channel 116_20MHz_Antenna 0



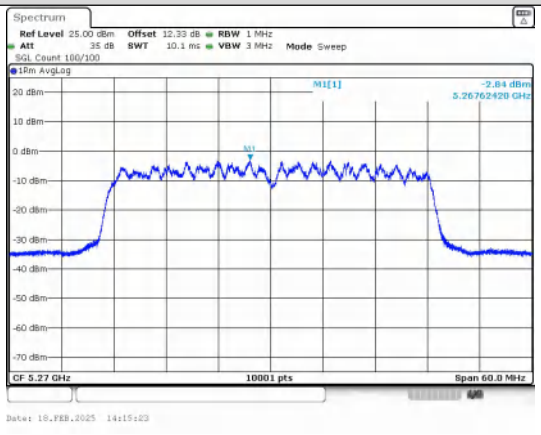
IEEE 802.11n_Channel 140_20MHz_Antenna 0



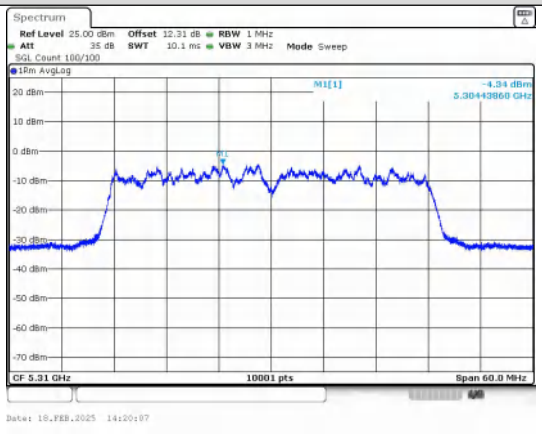
IEEE 802.11n_Channel 38_40MHz_Antenna 0



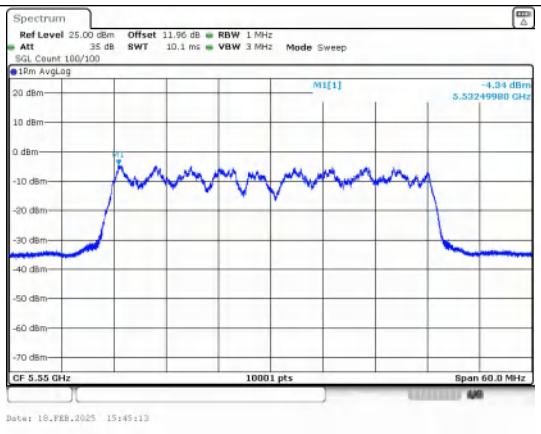
IEEE 802.11n_Channel 46_40MHz_Antenna 0



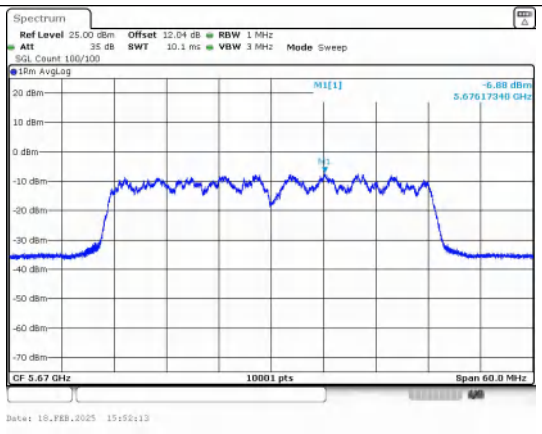
IEEE 802.11n_Channel 54_40MHz_Antenna 0



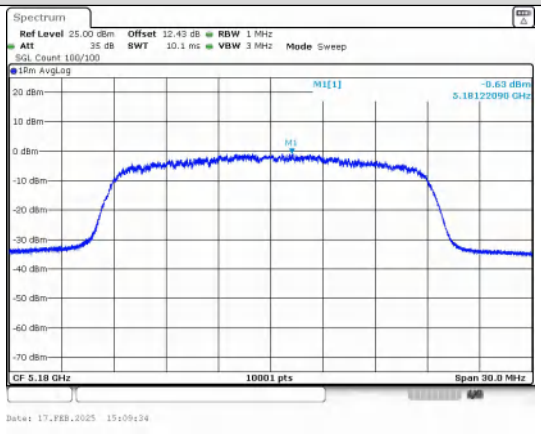
IEEE 802.11n_Channel 62_40MHz_Antenna 0



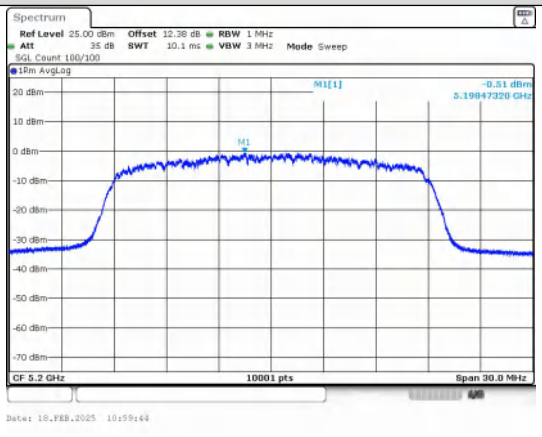
IEEE 802.11n_Channel 110_40MHz_Antenna 0



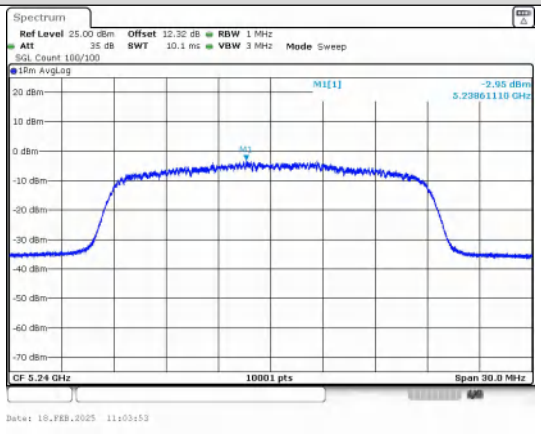
IEEE 802.11n_Channel 134_40MHz_Antenna 0



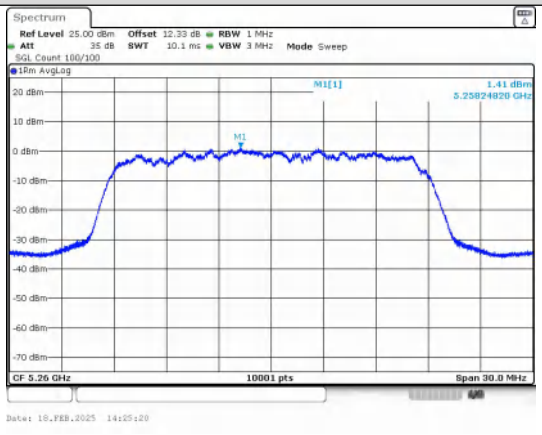
IEEE 802.11ac_Channel 36_20MHz_Antenna 0



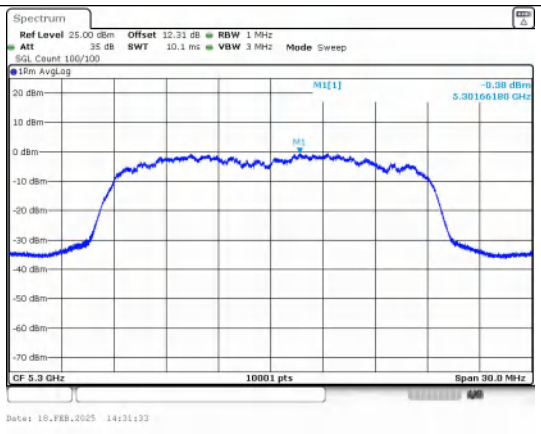
IEEE 802.11ac_Channel 40_20MHz_Antenna 0



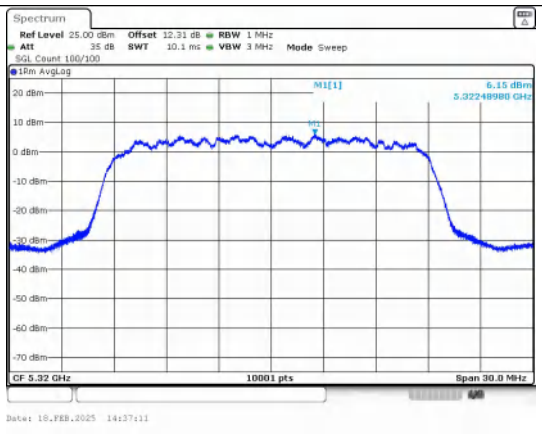
IEEE 802.11ac_Channel 48_20MHz_Antenna 0



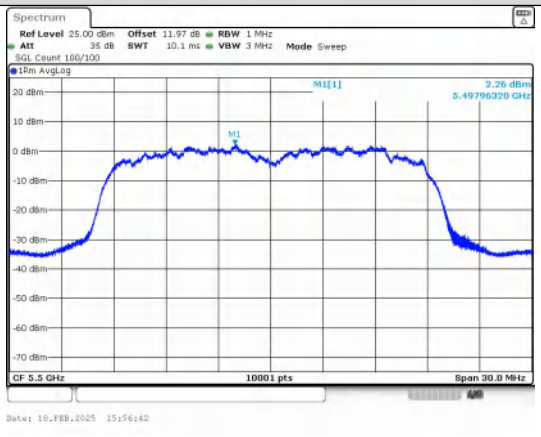
IEEE 802.11ac_Channel 52_20MHz_Antenna 0



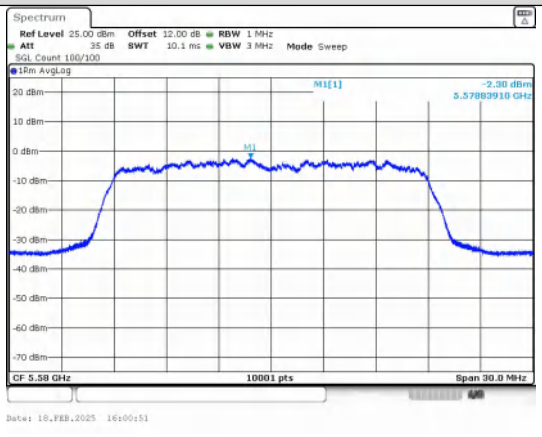
IEEE 802.11ac_Channel 60_20MHz_Antenna 0



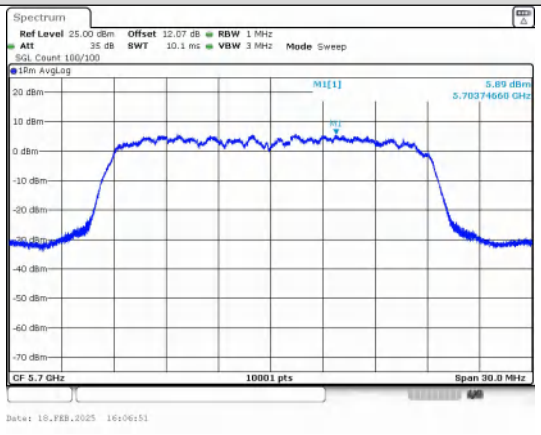
IEEE 802.11ac_Channel 64_20MHz_Antenna 0



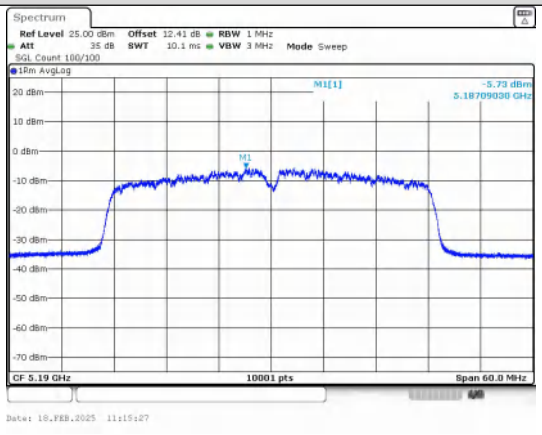
IEEE 802.11ac_Channel 100_20MHz_Antenna 0



IEEE 802.11ac_Channel 116_20MHz_Antenna 0



IEEE 802.11ac_Channel 140_20MHz_Antenna 0



IEEE 802.11ac_Channel 38_40MHz_Antenna 0