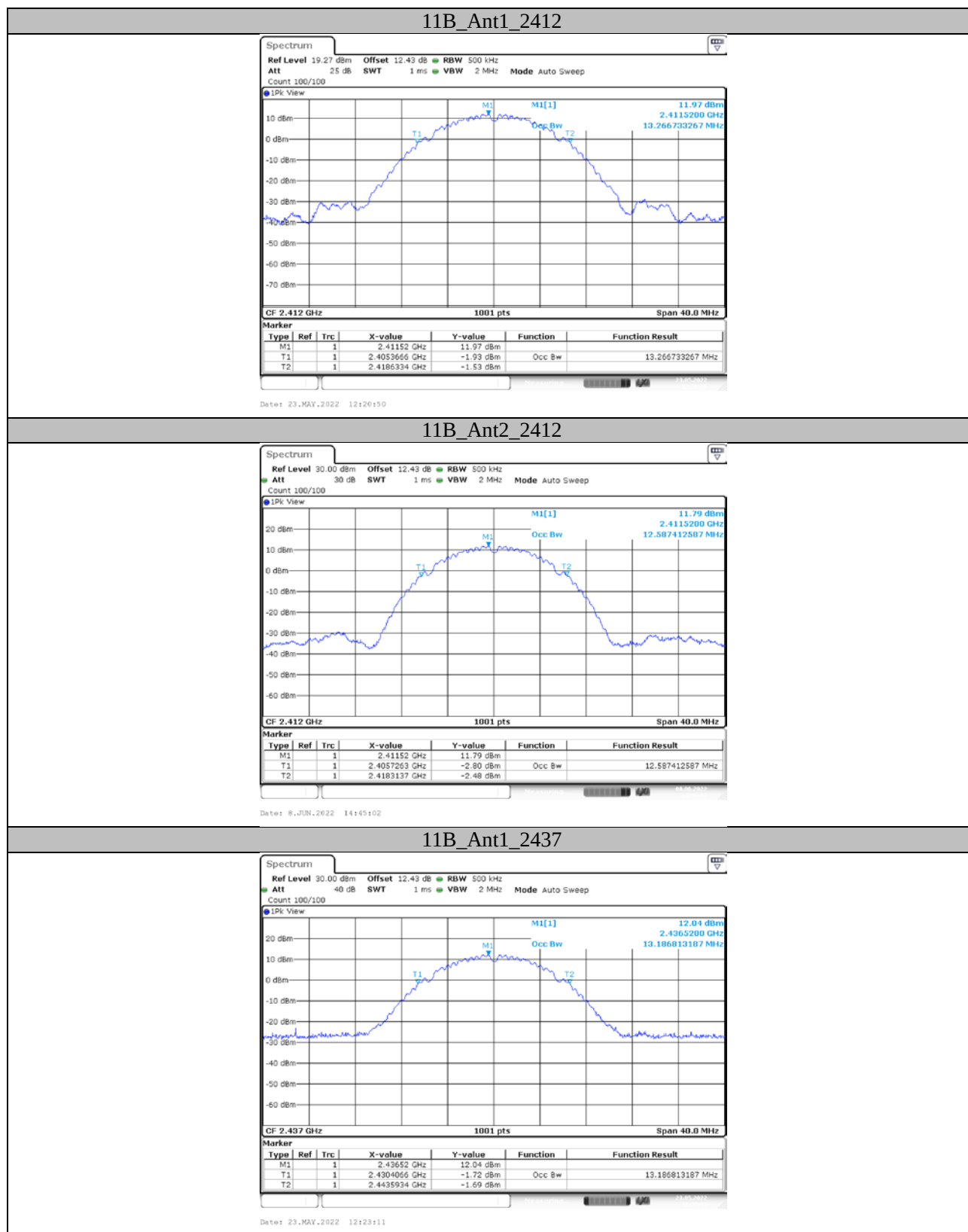


Appendix B: Occupied Channel Bandwidth**Test Result**

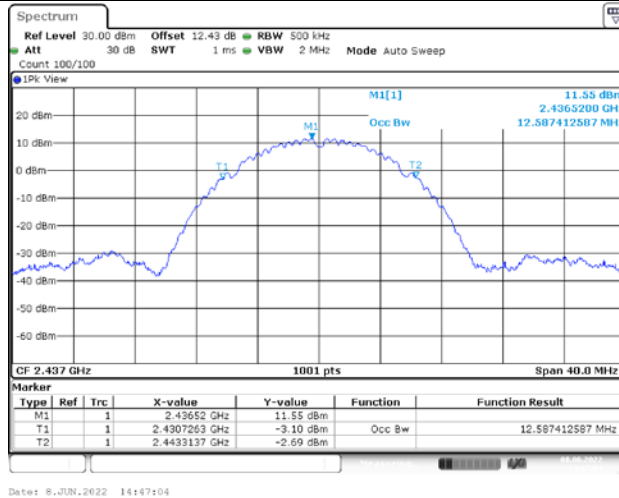
Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	2412	Ant1	13.267	2405.367	2418.633	---	PASS
		Ant2	12.587	2405.726	2418.314	---	PASS
	2437	Ant1	13.187	2430.407	2443.593	---	PASS
		Ant2	12.587	2430.726	2443.314	---	PASS
	2462	Ant1	13.267	2455.367	2468.633	---	PASS
		Ant2	12.667	2455.686	2468.354	---	PASS
11G	2412	Ant1	16.903	2403.568	2420.472	---	PASS
		Ant2	17.303	2403.369	2420.671	---	PASS
	2437	Ant1	16.943	2428.568	2445.511	---	PASS
		Ant2	17.263	2428.409	2445.671	---	PASS
	2462	Ant1	16.983	2453.528	2470.511	---	PASS
		Ant2	17.263	2453.409	2470.671	---	PASS
11N20MIMO	2412	Ant1	17.902	2403.089	2420.991	---	PASS
		Ant2	17.862	2403.089	2420.951	---	PASS
	2437	Ant1	17.862	2428.089	2445.951	---	PASS
		Ant2	17.862	2428.089	2445.951	---	PASS
	2462	Ant1	17.862	2453.089	2470.951	---	PASS
		Ant2	17.902	2453.049	2470.951	---	PASS
11N40MIMO	2422	Ant1	36.204	2403.938	2440.142	---	PASS
		Ant2	36.364	2403.858	2440.222	---	PASS
	2437	Ant1	36.204	2418.938	2455.142	---	PASS
		Ant2	36.284	2418.938	2455.222	---	PASS
	2452	Ant1	36.284	2433.938	2470.222	---	PASS
		Ant2	36.284	2433.938	2470.222	---	PASS
11AX20MIMO	2412	Ant1	19.740	2402.130	2421.870	---	PASS
		Ant2	19.461	2402.330	2421.790	---	PASS
	2437	Ant1	19.620	2427.170	2446.790	---	PASS
		Ant2	19.341	2427.330	2446.670	---	PASS
	2462	Ant1	19.620	2452.170	2471.790	---	PASS
		Ant2	19.381	2452.330	2471.710	---	PASS
11AX40MIMO	2422	Ant1	37.802	2403.139	2440.941	---	PASS
		Ant2	37.642	2403.299	2440.941	---	PASS
	2437	Ant1	37.882	2418.139	2456.021	---	PASS
		Ant2	37.722	2418.219	2455.941	---	PASS
	2452	Ant1	37.802	2433.139	2470.941	---	PASS
		Ant2	37.642	2433.219	2470.861	---	PASS

Note: The Maximum Tones and Full RU Index was tested and recorded for 802.11AX modes.

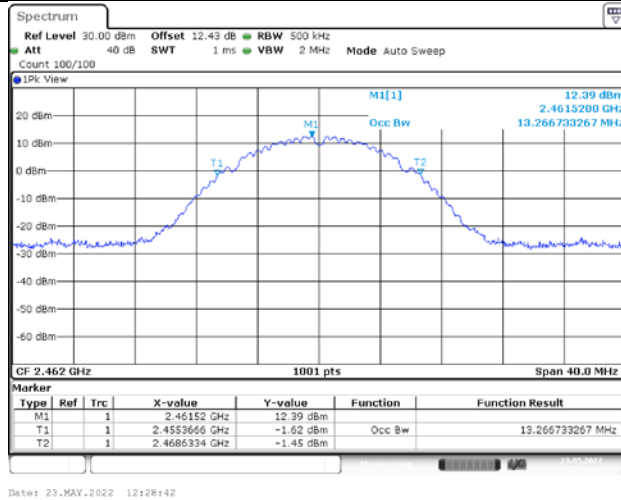
Test Graphs



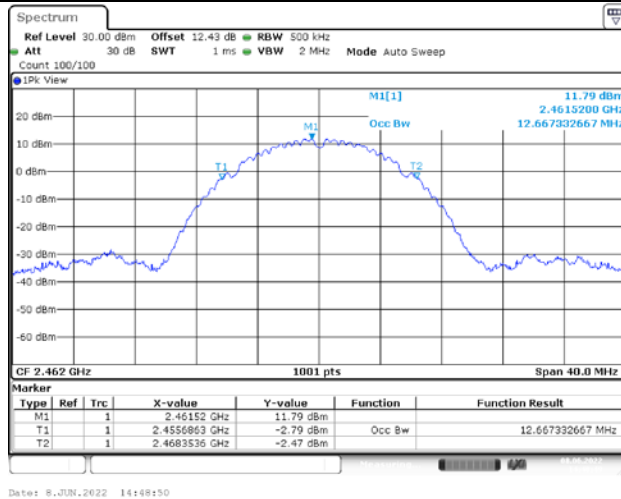
11B_Ant2_2437



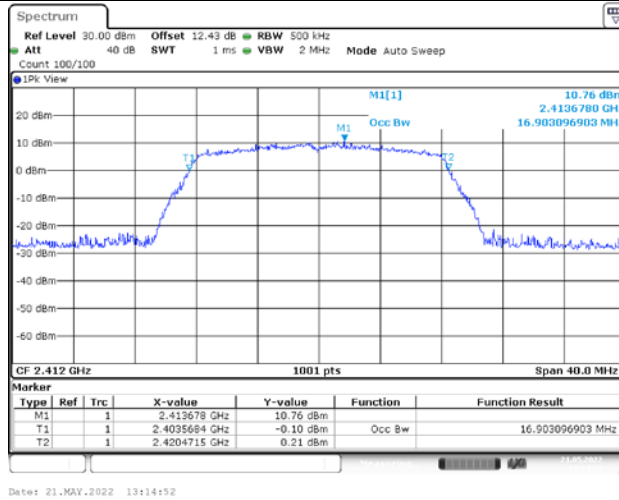
11B_Ant1_2462



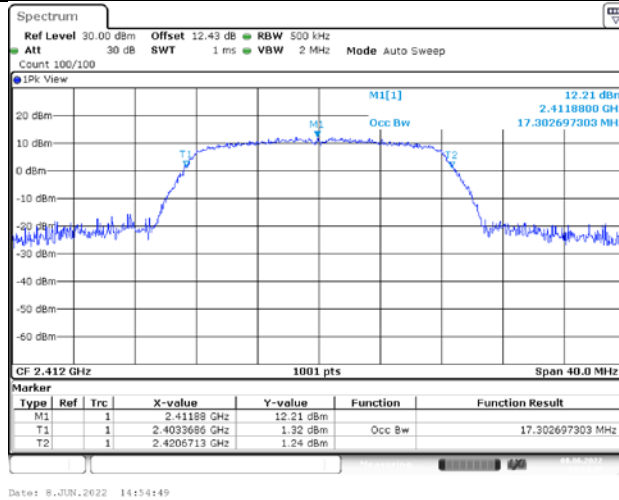
11B_Ant2_2462



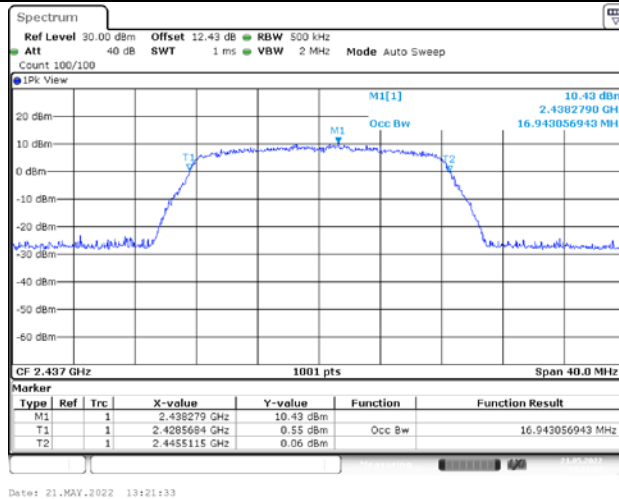
11G_Ant1_2412



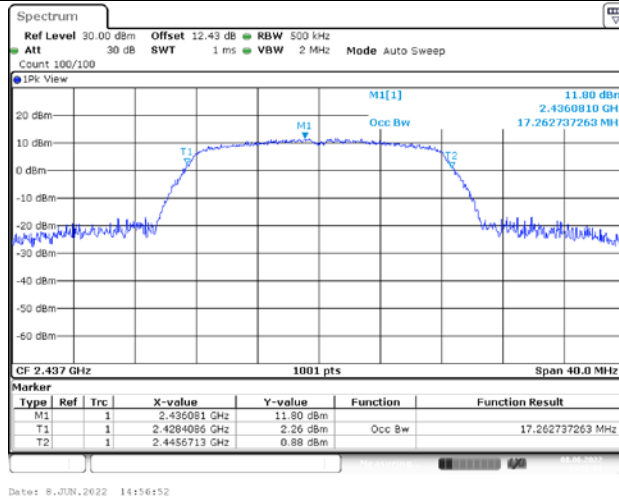
11G_Ant2_2412



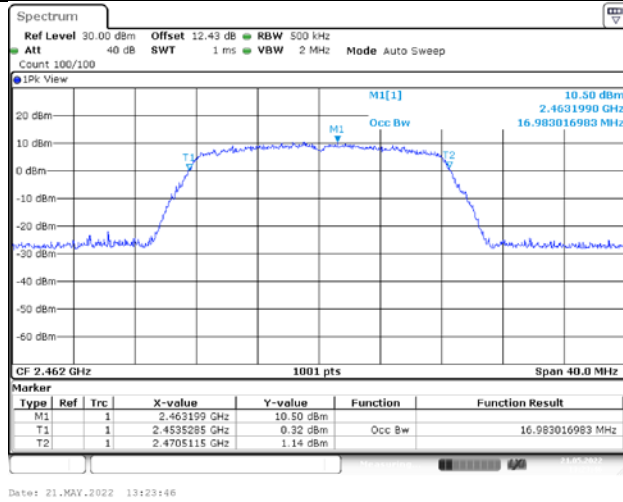
11G_Ant1_2437



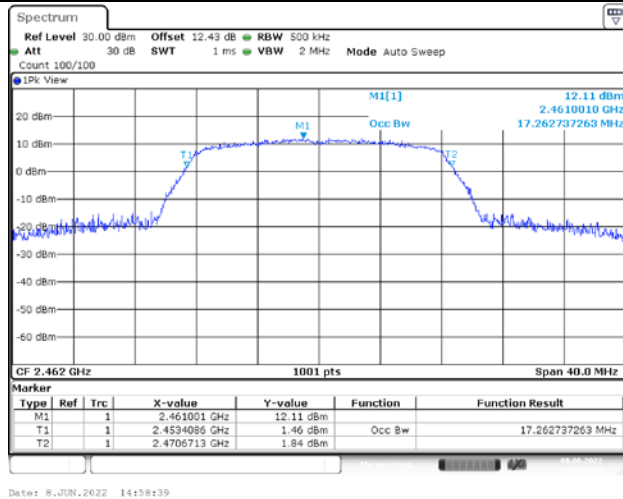
11G_Ant2_2437



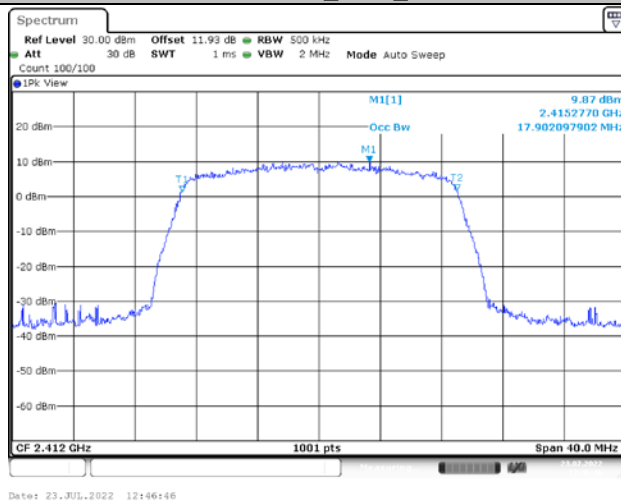
11G_Ant1_2462



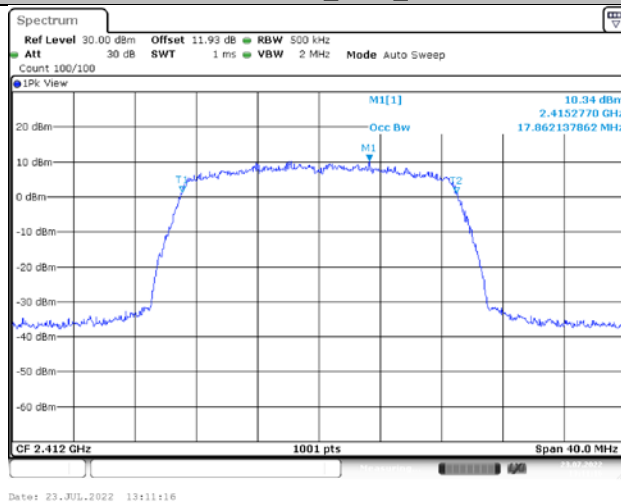
11G_Ant2_2462



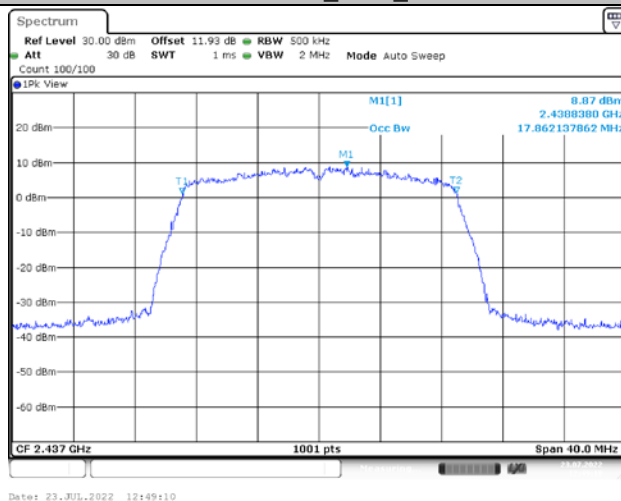
11N20MIMO_Ant1_2412



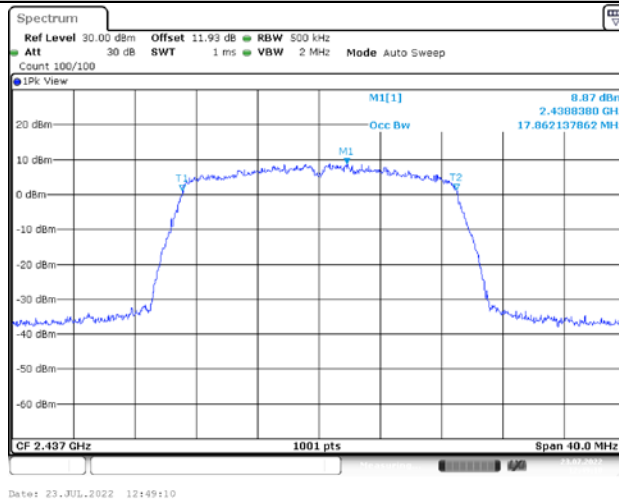
11N20MIMO_Ant2_2412



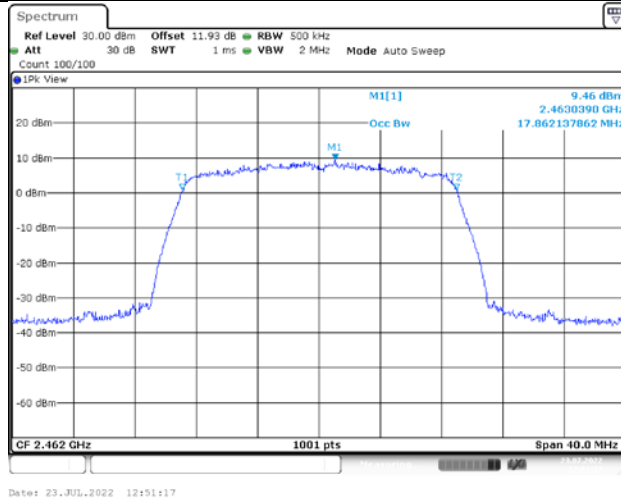
11N20MIMO_Ant1_2437



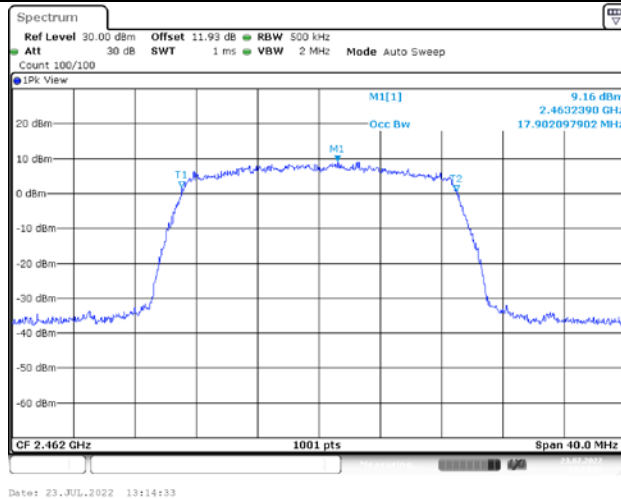
11N20MIMO_Ant2_2437



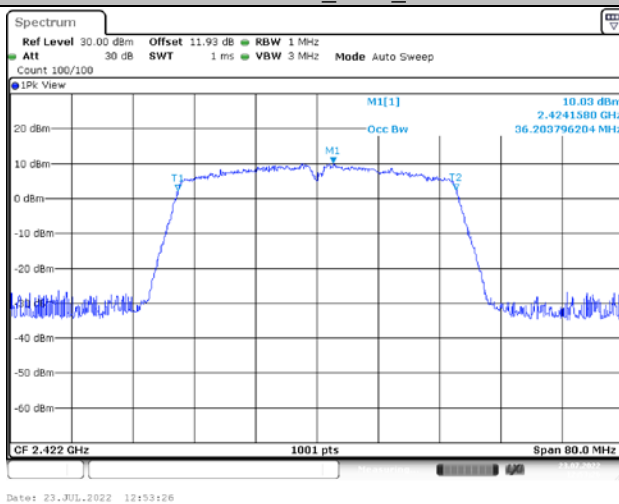
11N20MIMO_Ant1_2462



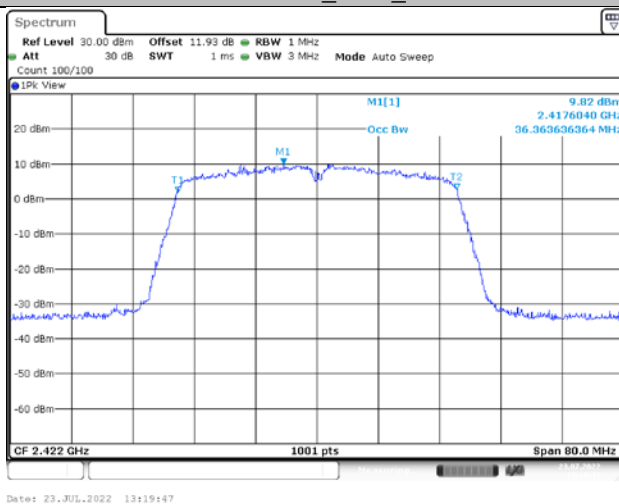
11N20MIMO_Ant2_2462



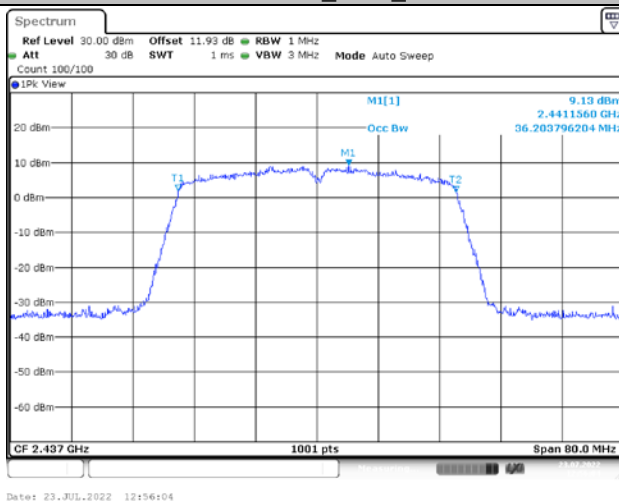
11N40MIMO_Ant1_2422



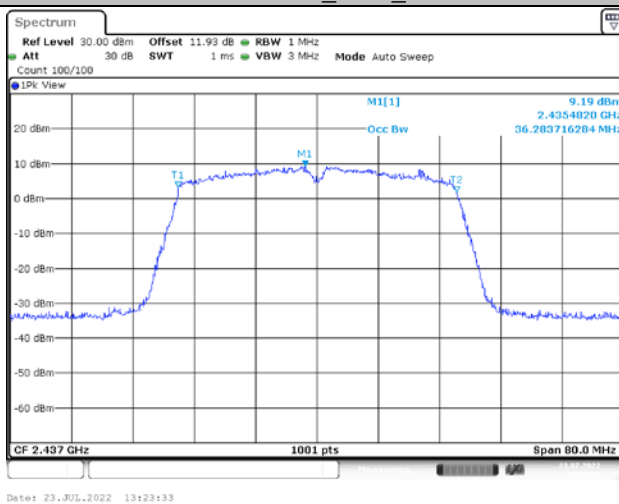
11N40MIMO_Ant2_2422



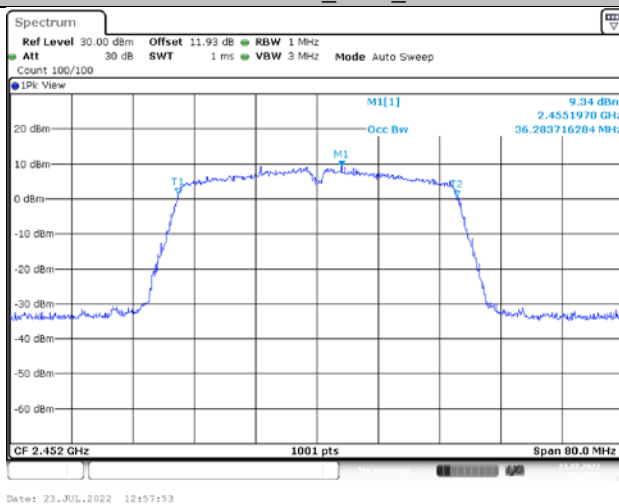
11N40MIMO_Ant1_2437



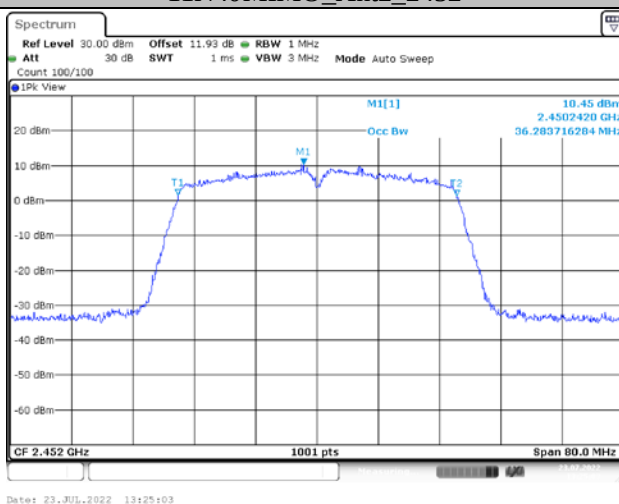
11N40MIMO_Ant2_2437



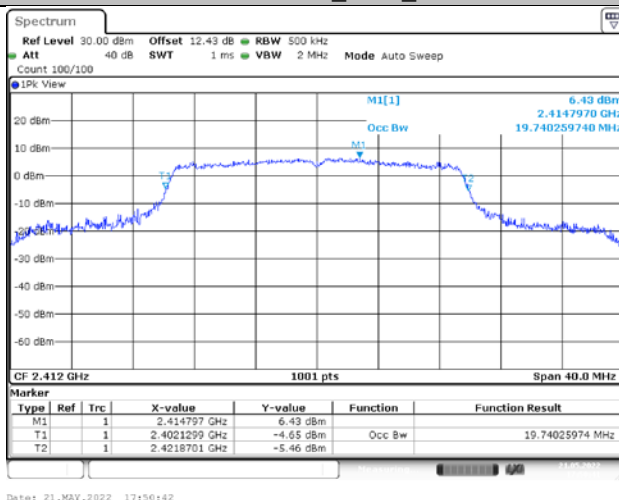
11N40MIMO_Ant1_2452



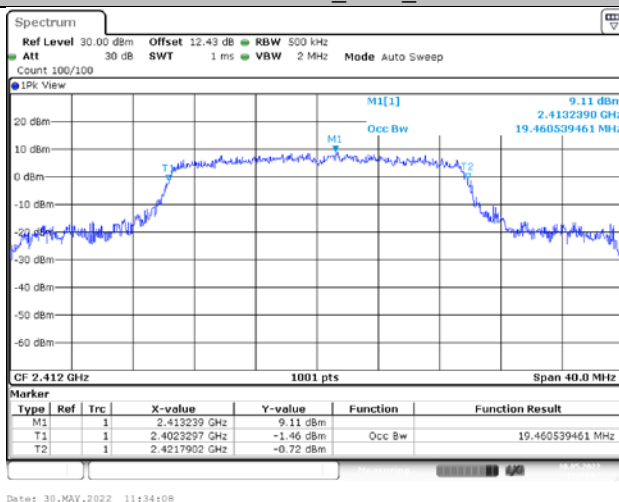
11N40MIMO_Ant2_2452



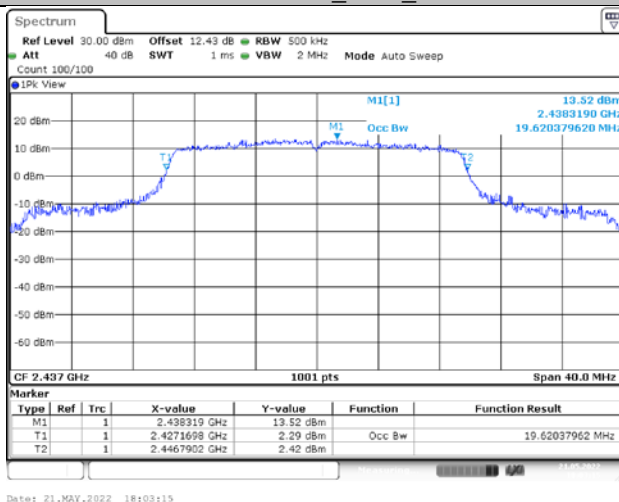
11AX20MIMO_Ant1_2412



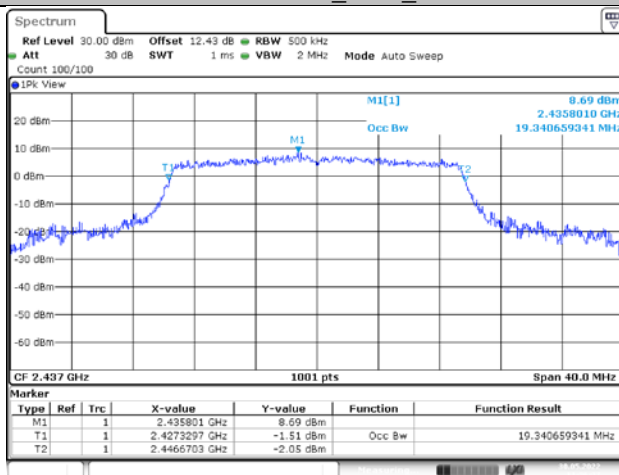
11AX20MIMO_Ant2_2412



11AX20MIMO_Ant1_2437

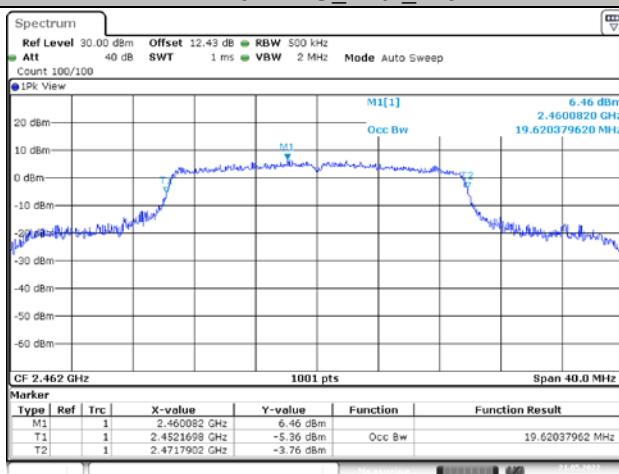


11AX20MIMO_Ant2_2437



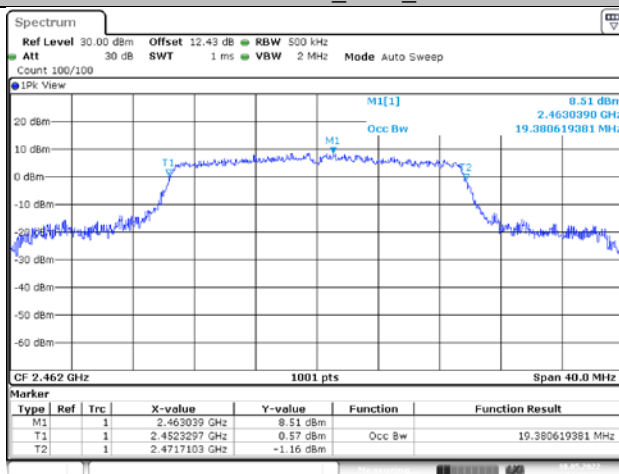
Date: 30.MAY.2022 11:36:27

11AX20MIMO_Ant1_2462



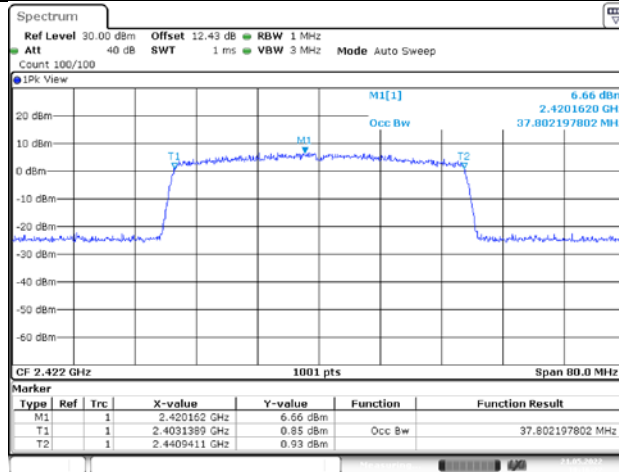
Date: 21.MAY.2022 18:06:48

11AX20MIMO_Ant2_2462



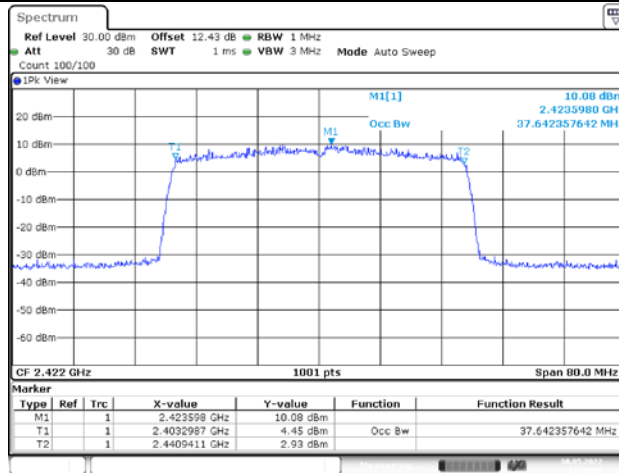
Date: 30.MAY.2022 11:38:08

11AX40MIMO_Ant1_2422



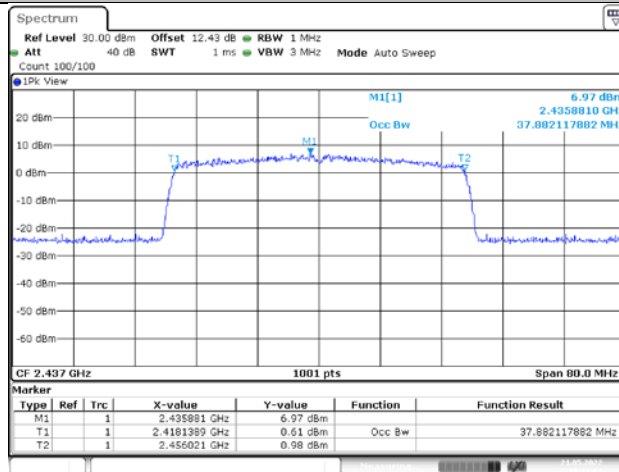
Date: 21.MAY.2022 18:16:22

11AX40MIMO_Ant2_2422



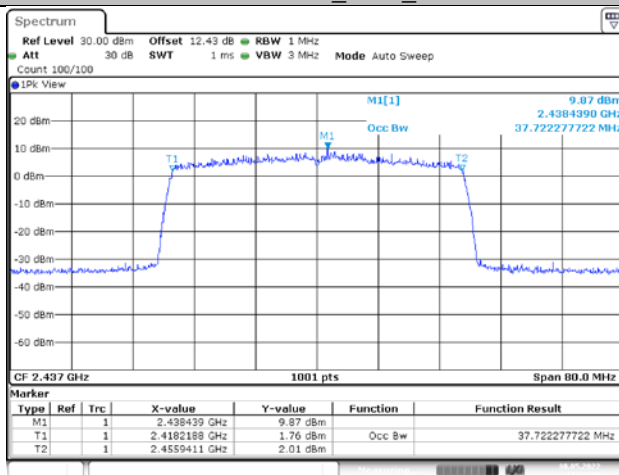
Date: 30.MAY.2022 11:40:02

11AX40MIMO_Ant1_2437



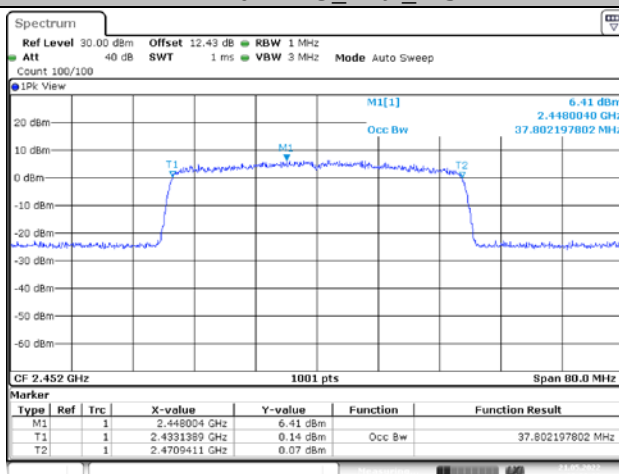
Date: 21.MAY.2022 18:19:07

11AX40MIMO_Ant2_2437



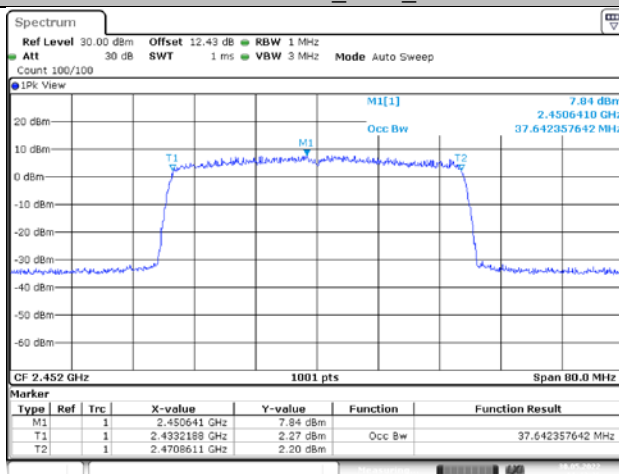
Date: 30.MAY.2022 11:42:01

11AX40MIMO_Ant1_2452



Date: 21.MAY.2022 18:23:28

11AX40MIMO_Ant2_2452



Date: 30.MAY.2022 11:43:37

Appendix C: Maximum conducted output power (Peak)**Test Result**

Test Mode	Channel	Antenna	Result[dBm]	Limit[dBm]	Verdict
11B	2412	Ant1	18.94	<=30	PASS
		Ant2	18.53	<=30	PASS
	2437	Ant1	18.72	<=30	PASS
		Ant2	18.07	<=30	PASS
	2462	Ant1	18.99	<=30	PASS
		Ant2	18.24	<=30	PASS
11G	2412	Ant1	18.65	<=30	PASS
		Ant2	14.22	<=30	PASS
	2437	Ant1	18.65	<=30	PASS
		Ant2	14.17	<=30	PASS
	2462	Ant1	18.15	<=30	PASS
		Ant2	14.36	<=30	PASS
11N20MIMO	2412	Ant1	19.76	<=30	PASS
		Ant2	21.43	<=30	PASS
		Total	23.69	<=30	PASS
	2437	Ant1	18.73	<=30	PASS
		Ant2	19.05	<=30	PASS
		Total	21.90	<=30	PASS
	2462	Ant1	18.93	<=30	PASS
		Ant2	18.86	<=30	PASS
		Total	21.91	<=30	PASS
11N40MIMO	2422	Ant1	18.37	<=30	PASS
		Ant2	18.57	<=30	PASS
		Total	21.48	<=30	PASS
	2437	Ant1	17.26	<=30	PASS
		Ant2	17.56	<=30	PASS
		Total	20.42	<=30	PASS
	2452	Ant1	16.76	<=30	PASS
		Ant2	17.42	<=30	PASS
		Total	20.11	<=30	PASS

Test Mode	Tone	RU Index	Channel	Antenna	Result[dBm]	Limit[dBm]	Verdict
11AX20MIMO	26	0	2412	Ant1	5.05	<=30	PASS
				Ant2	3.57	<=30	PASS
				Total	7.38	<=30	PASS
			2437	Ant1	5.6	<=30	PASS
				Ant2	2.63	<=30	PASS
				Total	7.37	<=30	PASS
			2462	Ant1	5.45	<=30	PASS
				Ant2	3.79	<=30	PASS
				Total	7.71	<=30	PASS
	52	37	2412	Ant1	8.65	<=30	PASS
				Ant2	6.34	<=30	PASS
				Total	10.66	<=30	PASS
			2437	Ant1	8.67	<=30	PASS
				Ant2	6.64	<=30	PASS
				Total	10.78	<=30	PASS
			2462	Ant1	8.3	<=30	PASS
				Ant2	6.57	<=30	PASS
				Total	10.53	<=30	PASS
	106	53	2412	Ant1	10.32	<=30	PASS
				Ant2	9.63	<=30	PASS
				Total	13	<=30	PASS
			2437	Ant1	9.18	<=30	PASS
				Ant2	8.75	<=30	PASS
				Total	11.98	<=30	PASS
			2462	Ant1	11.45	<=30	PASS
				Ant2	9.16	<=30	PASS
				Total	13.46	<=30	PASS
	242	Full	2412	Ant1	13.68	<=30	PASS
				Ant2	12.26	<=30	PASS
				Total	16.04	<=30	PASS
			2437	Ant1	13.36	<=30	PASS
				Ant2	12	<=30	PASS
				Total	15.74	<=30	PASS
			2462	Ant1	14.21	<=30	PASS
				Ant2	12.16	<=30	PASS
				Total	16.32	<=30	PASS

Test Mode	Tone	RU Index	Channel	Antenna	Result[dBm]	Limit[dBm]	Verdict
11AX40MIMO	26	0	2422	Ant1	2.56	<=30	PASS
				Ant2	1.35	<=30	PASS
				Total	5.01	<=30	PASS
			2437	Ant1	2.35	<=30	PASS
				Ant2	2.48	<=30	PASS
				Total	5.43	<=30	PASS
			2452	Ant1	3.12	<=30	PASS
				Ant2	2.13	<=30	PASS
				Total	5.66	<=30	PASS
	52	37	2422	Ant1	5.56	<=30	PASS
				Ant2	4.53	<=30	PASS
				Total	8.09	<=30	PASS
			2437	Ant1	4.35	<=30	PASS
				Ant2	5.43	<=30	PASS
				Total	7.93	<=30	PASS
			2452	Ant1	6.12	<=30	PASS
				Ant2	4.65	<=30	PASS
				Total	8.46	<=30	PASS
	106	53	2422	Ant1	7.36	<=30	PASS
				Ant2	8.68	<=30	PASS
				Total	11.08	<=30	PASS
			2437	Ant1	7.68	<=30	PASS
				Ant2	7.69	<=30	PASS
				Total	10.7	<=30	PASS
			2452	Ant1	8.32	<=30	PASS
				Ant2	8.35	<=30	PASS
				Total	11.35	<=30	PASS
	242	61	2422	Ant1	10.16	<=30	PASS
				Ant2	9.75	<=30	PASS
				Total	12.97	<=30	PASS
			2437	Ant1	9.53	<=30	PASS
				Ant2	10.16	<=30	PASS
				Total	12.87	<=30	PASS
			2452	Ant1	11.3	<=30	PASS
				Ant2	10.63	<=30	PASS
				Total	13.99	<=30	PASS
	484	Full	2422	Ant1	13.14	<=30	PASS
				Ant2	11.76	<=30	PASS
				Total	15.51	<=30	PASS
			2437	Ant1	12.37	<=30	PASS
				Ant2	12.48	<=30	PASS
				Total	15.44	<=30	PASS
			2452	Ant1	12.78	<=30	PASS
				Ant2	12.36	<=30	PASS
				Total	15.59	<=30	PASS

Note: The maximum antenna gain is 3.13dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0dB (i.e., no array gain) For $N_{ANT} \leq 4$;

So: Directional gain=3.13dBi <6dBi

Appendix D: Power spectral density**Test Result**

Test Mode	Channel	Antenna	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	Ant1	0.27	<=8	PASS
		Ant2	1.06	<=8	PASS
	2437	Ant1	-0.49	<=8	PASS
		Ant2	-0.92	<=8	PASS
	2462	Ant1	0.31	<=8	PASS
		Ant2	-0.18	<=8	PASS
11G	2412	Ant1	-3.08	<=8	PASS
		Ant2	-4.35	<=8	PASS
	2437	Ant1	-3.61	<=8	PASS
		Ant2	-4.89	<=8	PASS
	2462	Ant1	-4.07	<=8	PASS
		Ant2	-4.97	<=8	PASS
11N20MIMO	2412	Ant1	-10.53	<=7.86	PASS
		Ant2	-8.82	<=7.86	PASS
		Total	-6.58	<=7.86	PASS
	2437	Ant1	-11.24	<=7.86	PASS
		Ant2	-9.36	<=7.86	PASS
		Total	-7.19	<=7.86	PASS
	2462	Ant1	-11.65	<=7.86	PASS
		Ant2	-9.75	<=7.86	PASS
		Total	-7.59	<=7.86	PASS
11N40MIMO	2422	Ant1	-13.3	<=7.86	PASS
		Ant2	-11.79	<=7.86	PASS
		Total	-9.47	<=7.86	PASS
	2437	Ant1	-14.43	<=7.86	PASS
		Ant2	-12.92	<=7.86	PASS
		Total	-10.60	<=7.86	PASS
	2452	Ant1	-14.38	<=7.86	PASS
		Ant2	-13.14	<=7.86	PASS
		Total	-10.71	<=7.86	PASS

Test Mode	Tone	RU Index	Channel	Antenna	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11AX20MIMO	26	0	2412	Ant1	-8.98	<=7.86	PASS
				Ant2	-9.95	<=7.86	PASS
				Total	-6.43	<=7.86	PASS
			2437	Ant1	-9.68	<=7.86	PASS
				Ant2	-9.89	<=7.86	PASS
				Total	-6.77	<=7.86	PASS
			2462	Ant1	-9.33	<=7.86	PASS
				Ant2	-11.04	<=7.86	PASS
				Total	-7.09	<=7.86	PASS
	52	37	2412	Ant1	-7.1	<=7.86	PASS
				Ant2	-8.08	<=7.86	PASS
				Total	-4.55	<=7.86	PASS
			2437	Ant1	-9.21	<=7.86	PASS
				Ant2	-8.87	<=7.86	PASS
				Total	-6.03	<=7.86	PASS
			2462	Ant1	-7.75	<=7.86	PASS
				Ant2	-8.4	<=7.86	PASS
				Total	-5.05	<=7.86	PASS
	106	53	2412	Ant1	-5.53	<=7.86	PASS
				Ant2	-6.62	<=7.86	PASS
				Total	-3.03	<=7.86	PASS
			2437	Ant1	-7.02	<=7.86	PASS
				Ant2	-6.93	<=7.86	PASS
				Total	-3.96	<=7.86	PASS
			2462	Ant1	-6.7	<=7.86	PASS
				Ant2	-6.66	<=7.86	PASS
				Total	-3.67	<=7.86	PASS
	242	Full	2412	Ant1	-5.39	<=7.86	PASS
				Ant2	-5.56	<=7.86	PASS
				Total	-2.46	<=7.86	PASS
			2437	Ant1	-6.09	<=7.86	PASS
				Ant2	-6.22	<=7.86	PASS
				Total	-3.14	<=7.86	PASS
			2462	Ant1	-5.96	<=7.86	PASS
				Ant2	-6.29	<=7.86	PASS
				Total	-3.11	<=7.86	PASS

Test Mode	Tone	RU Index	Channel	Antenna	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11AX40MIMO	26	0	2422	Ant1	-11.18	<=7.86	PASS
				Ant2	-14.78	<=7.86	PASS
				Total	-9.61	<=7.86	PASS
			2437	Ant1	-12.55	<=7.86	PASS
				Ant2	-13.78	<=7.86	PASS
				Total	-10.11	<=7.86	PASS
			2452	Ant1	-12.13	<=7.86	PASS
				Ant2	-10.89	<=7.86	PASS
				Total	-8.46	<=7.86	PASS
	52	37	2422	Ant1	-11.05	<=7.86	PASS
				Ant2	-12.15	<=7.86	PASS
				Total	-8.55	<=7.86	PASS
			2437	Ant1	-12.73	<=7.86	PASS
				Ant2	-13.34	<=7.86	PASS
				Total	-10.01	<=7.86	PASS
			2452	Ant1	-11.43	<=7.86	PASS
				Ant2	-11.56	<=7.86	PASS
				Total	-8.48	<=7.86	PASS
	106	53	2422	Ant1	-9.92	<=7.86	PASS
				Ant2	-11.38	<=7.86	PASS
				Total	-7.58	<=7.86	PASS
			2437	Ant1	-11.1	<=7.86	PASS
				Ant2	-11.73	<=7.86	PASS
				Total	-8.39	<=7.86	PASS
			2452	Ant1	-11.33	<=7.86	PASS
				Ant2	-10.17	<=7.86	PASS
				Total	-7.7	<=7.86	PASS
	242	61	2422	Ant1	-9.09	<=7.86	PASS
				Ant2	-9.25	<=7.86	PASS
				Total	-6.16	<=7.86	PASS
			2437	Ant1	-9.36	<=7.86	PASS
				Ant2	-10	<=7.86	PASS
				Total	-6.66	<=7.86	PASS
			2452	Ant1	-9.84	<=7.86	PASS
				Ant2	-8.76	<=7.86	PASS
				Total	-6.26	<=7.86	PASS
	484	Full	2422	Ant1	-6.92	<=7.86	PASS
				Ant2	-7.13	<=7.86	PASS
				Total	-4.01	<=7.86	PASS
			2437	Ant1	-7.28	<=7.86	PASS
				Ant2	-6.69	<=7.86	PASS
				Total	-3.96	<=7.86	PASS
			2452	Ant1	-7.97	<=7.86	PASS
				Ant2	-8.45	<=7.86	PASS
				Total	-5.19	<=7.86	PASS

Note: The maximum antenna gain is 3.13 dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

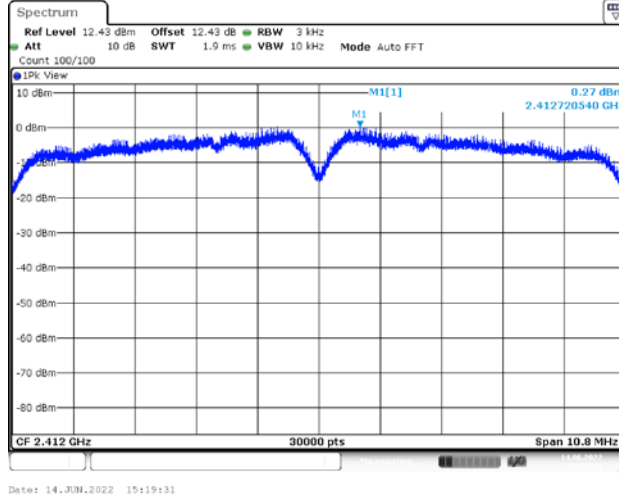
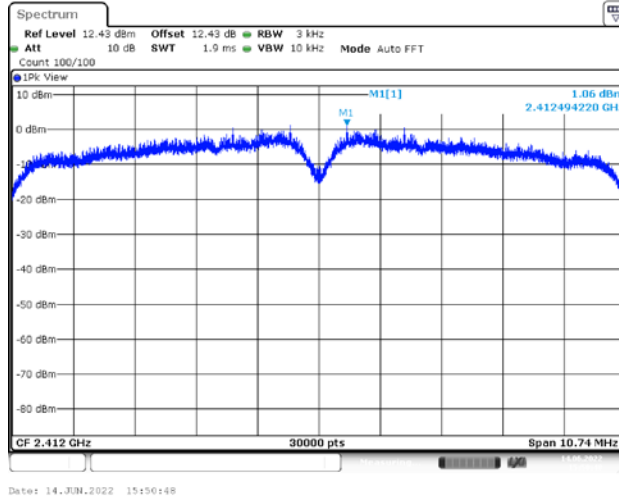
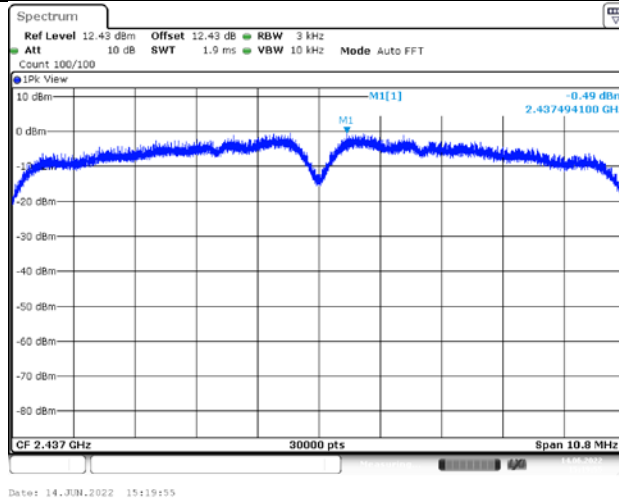
Directional gain = $G_{ANT} + \text{Array Gain}$

Array Gain = $10 \cdot \log(N_{ant}/N_{ss})$ dB

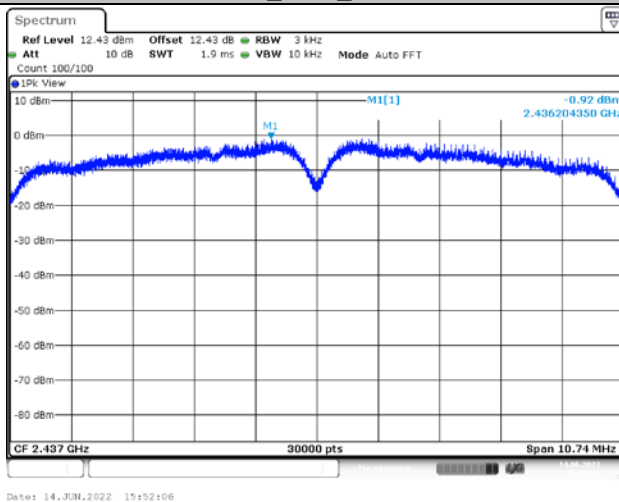
For the worst case, $N_{ss}=1$,

So:

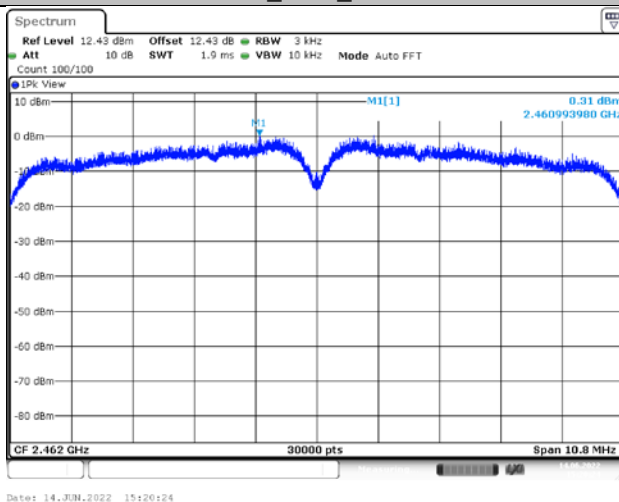
Directional gain = $3.13\text{dBi} + 10 \cdot \log(2/1)\text{dB} = 6.14\text{dBi} > 6\text{dBi}$, the limit should be reduce $(6.14-6)\text{dB} = 0.14\text{dB}$

Test Graphs**11B_Ant1_2412****11B_Ant2_2412****11B_Ant1_2437**

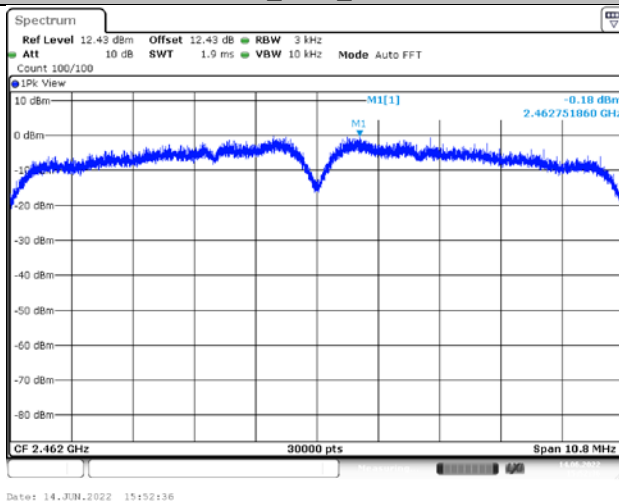
11B_Ant2_2437



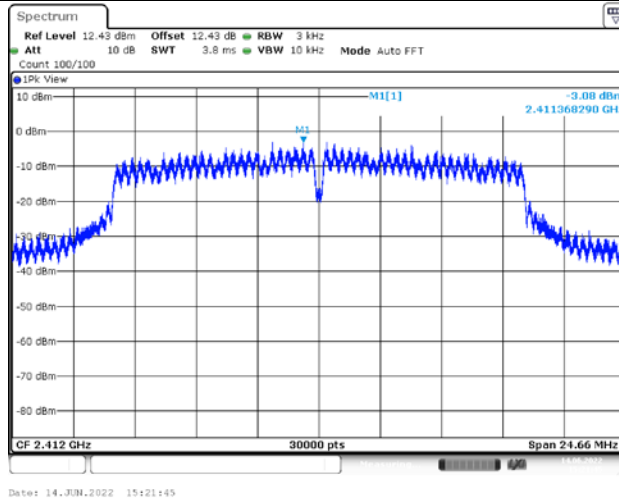
11B_Ant1_2462



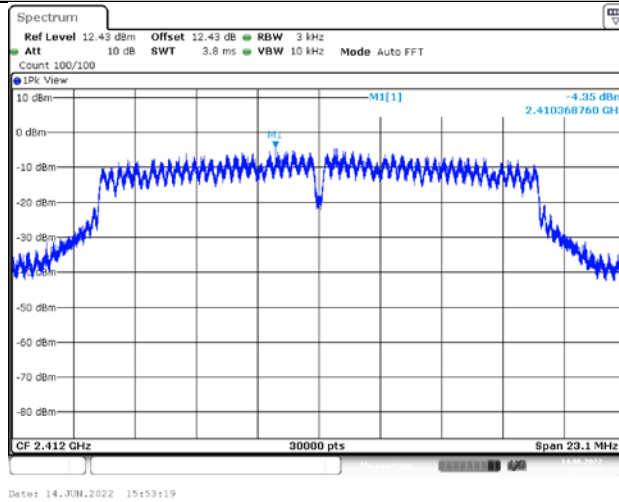
11B_Ant2_2462



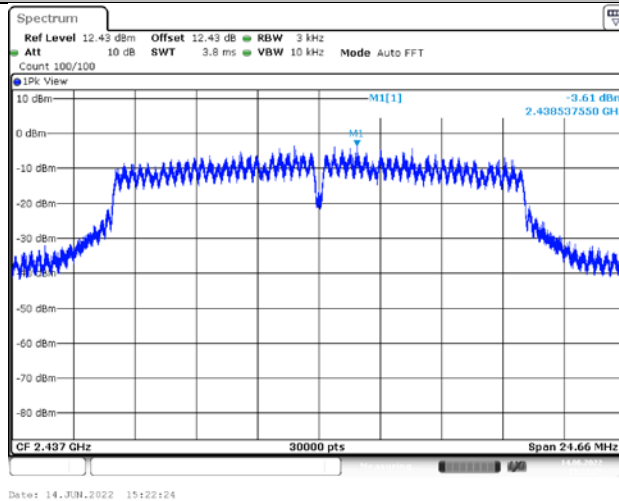
11G_Ant1_2412



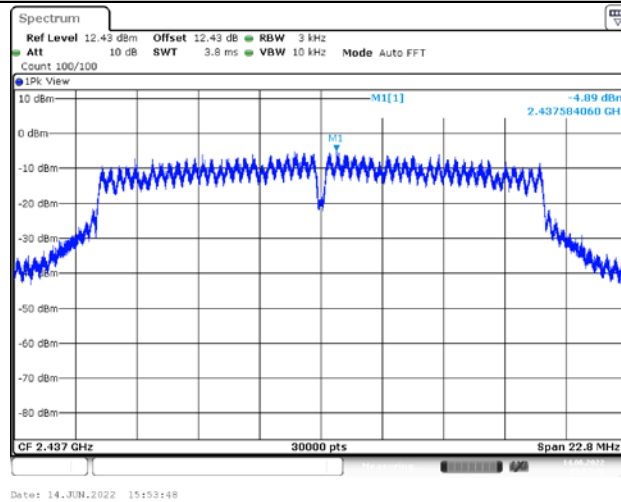
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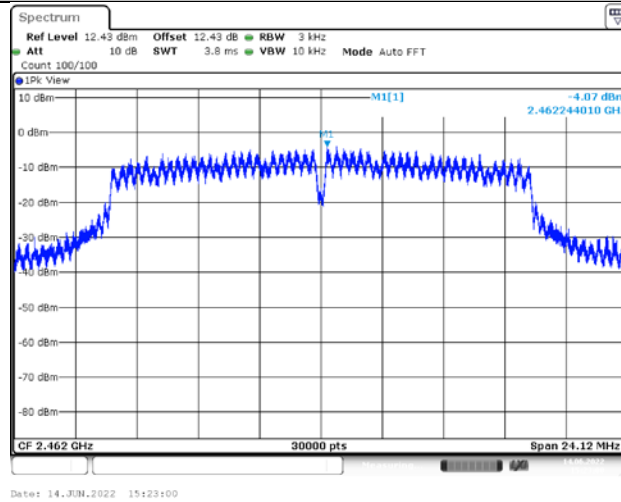
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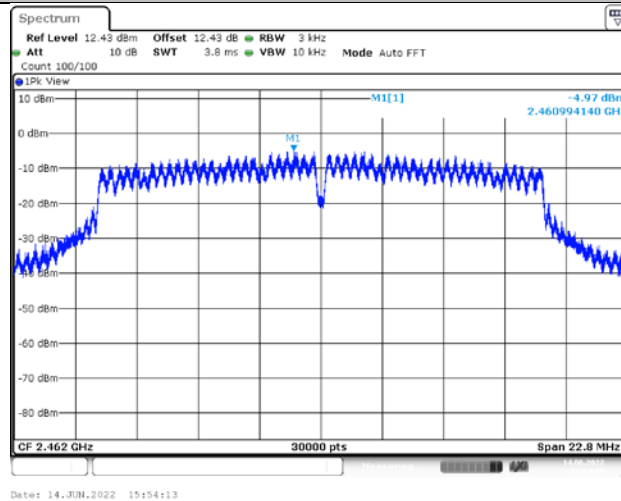
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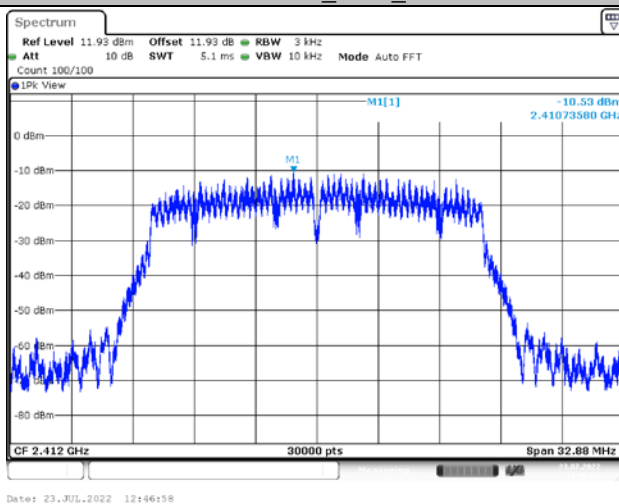
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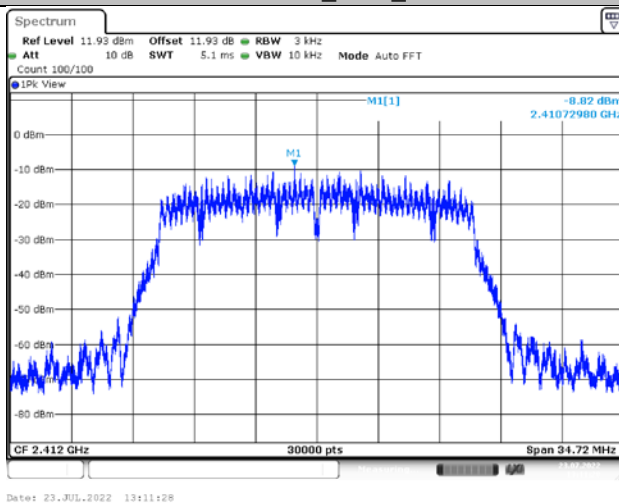
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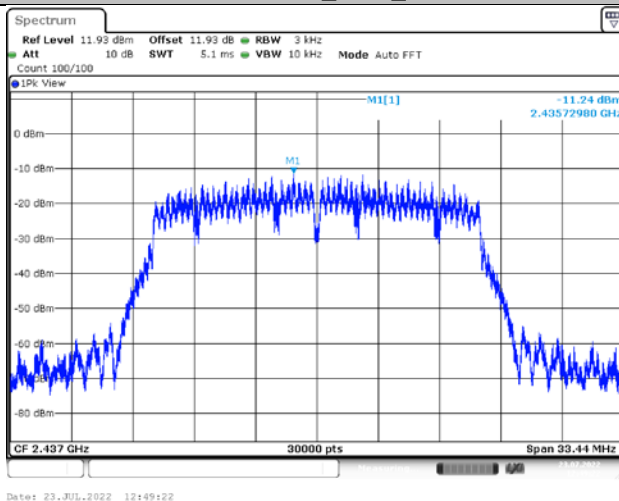
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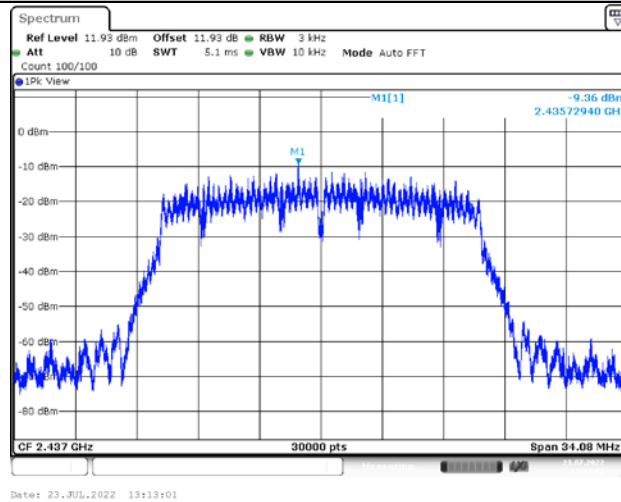
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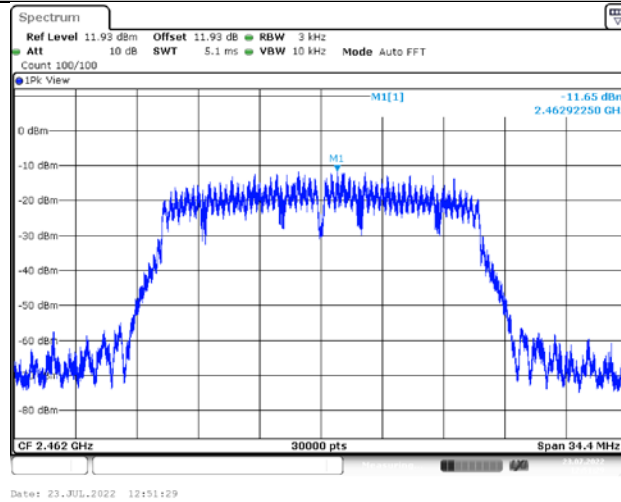
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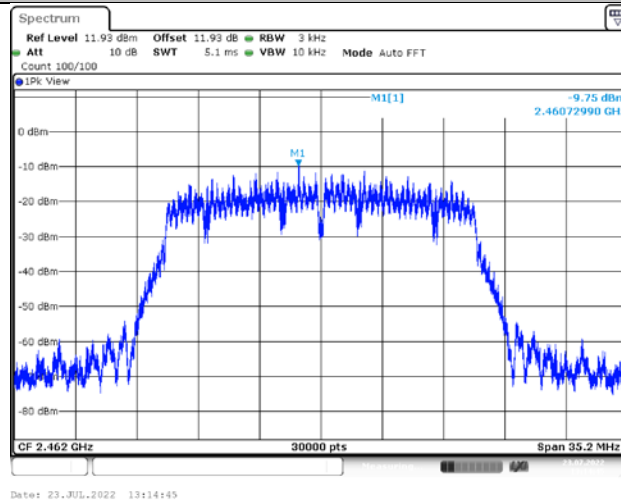
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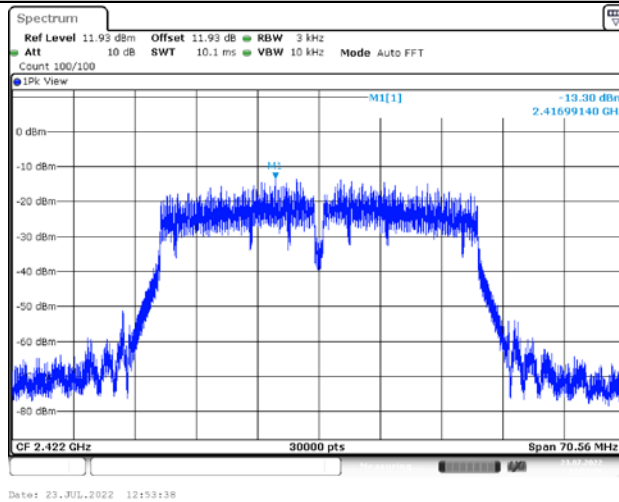
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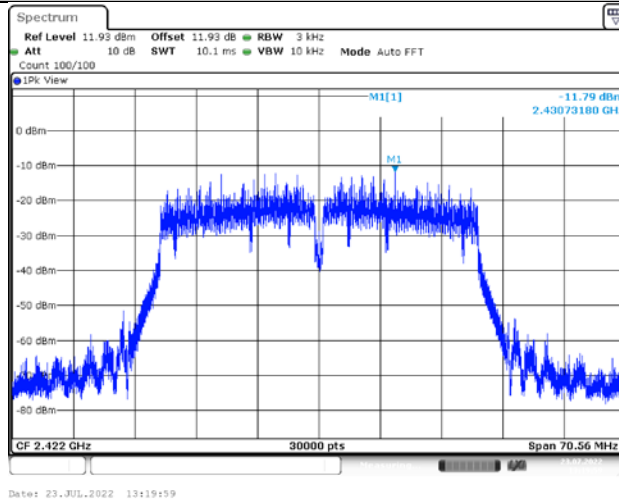
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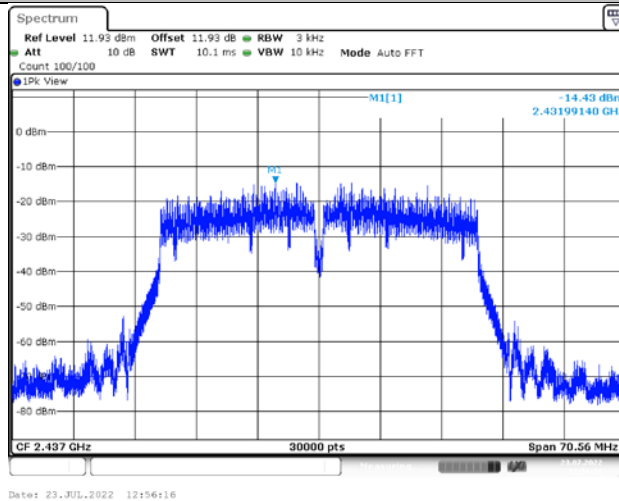
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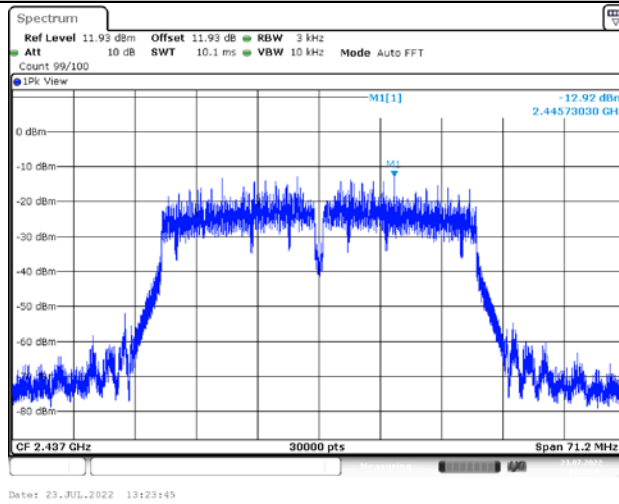
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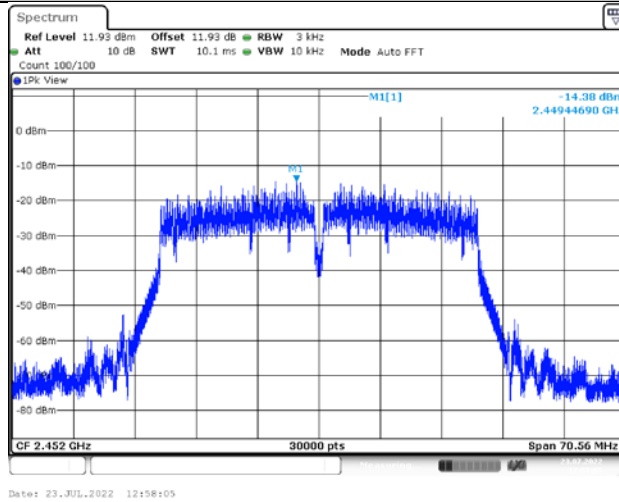
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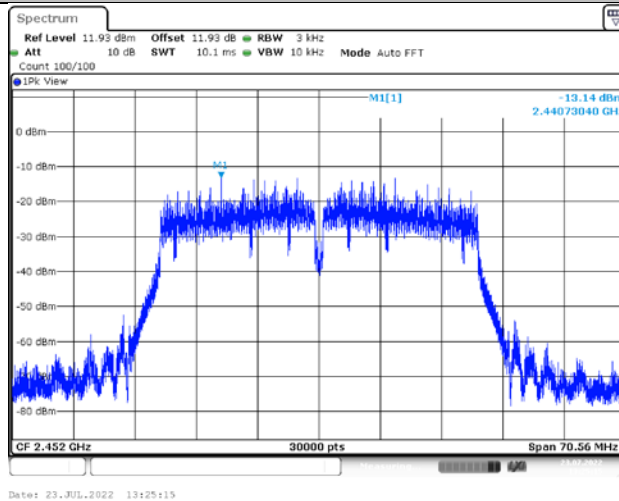
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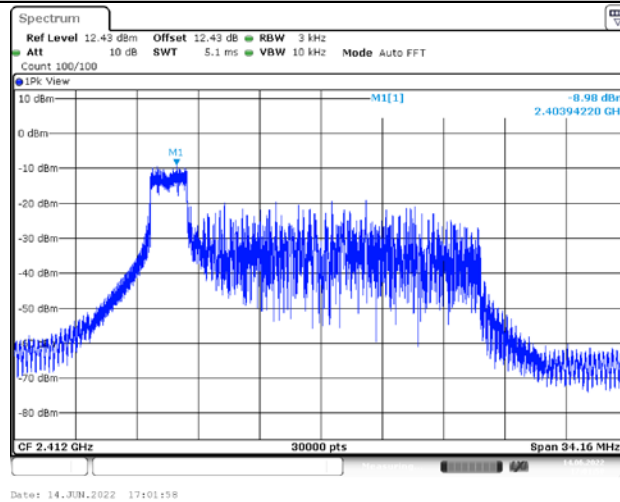
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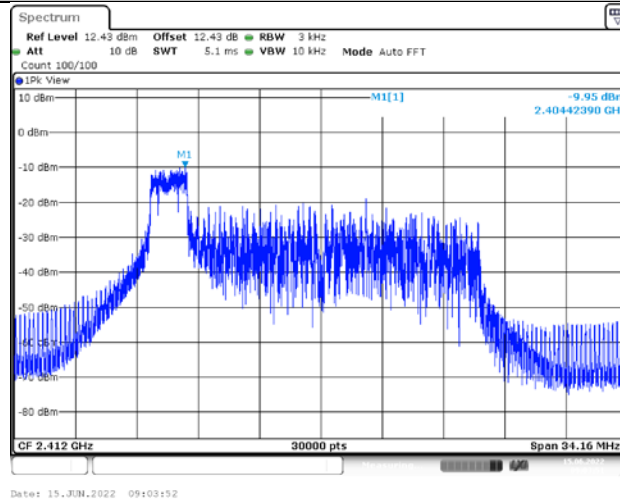
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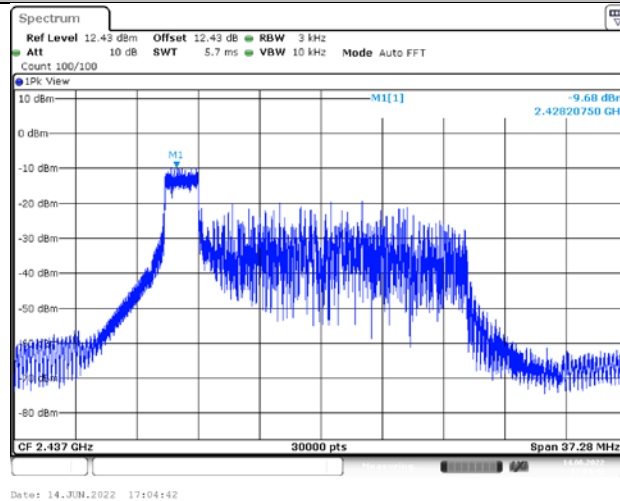
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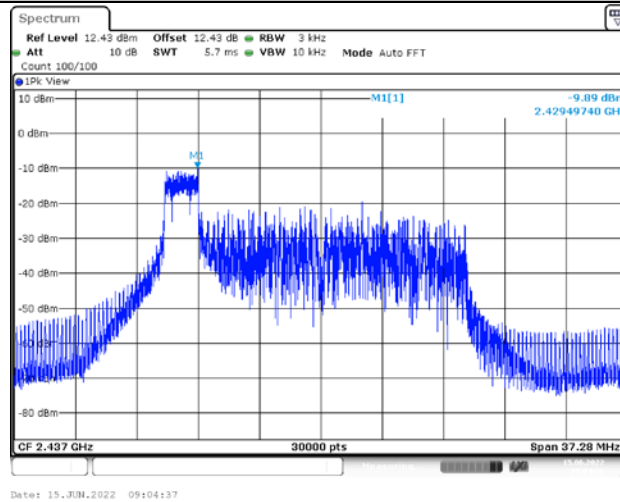
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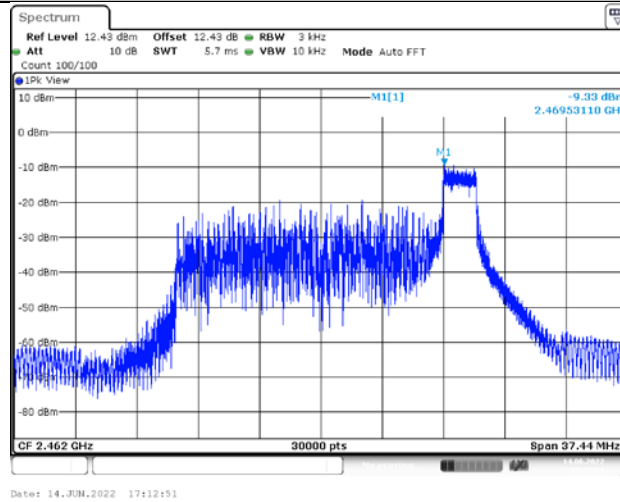
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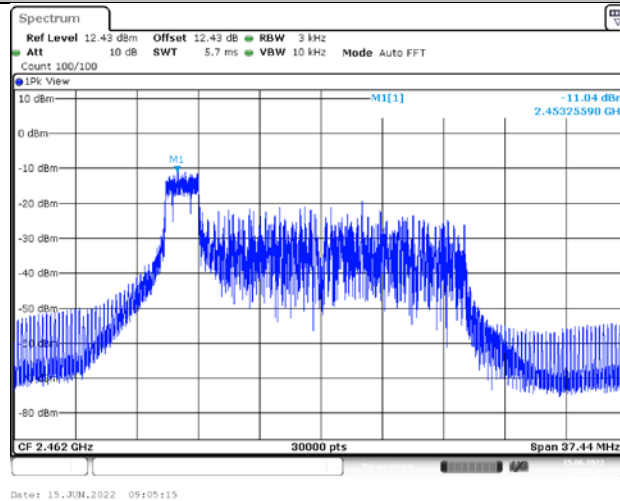
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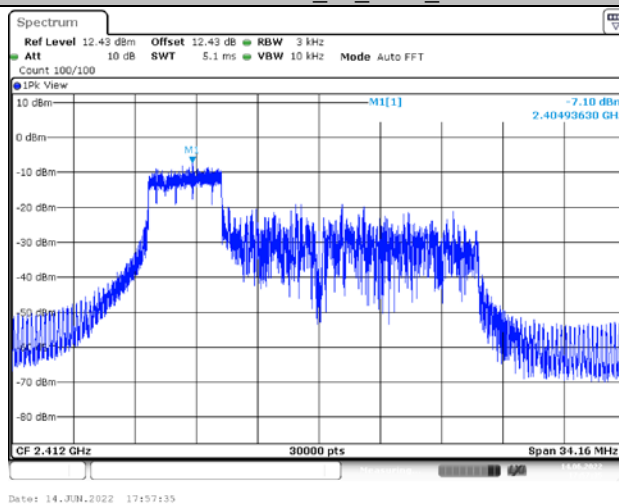
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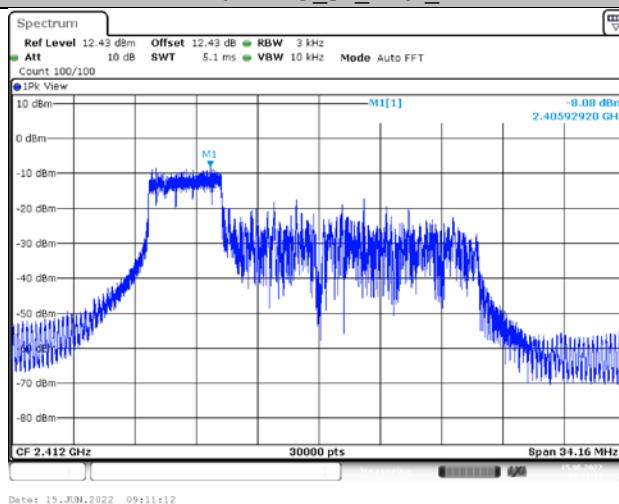
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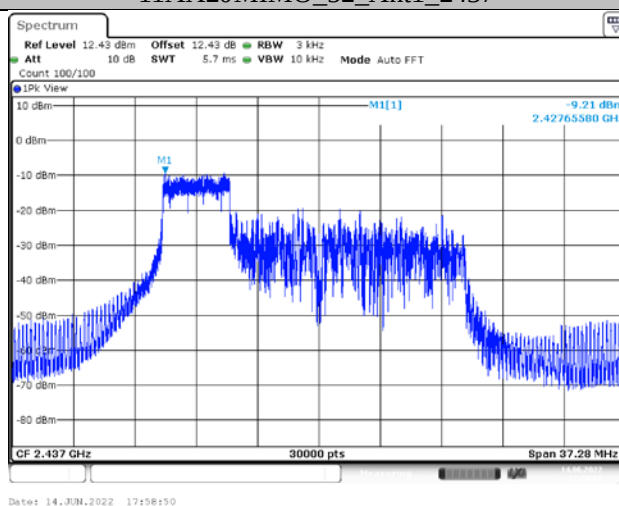
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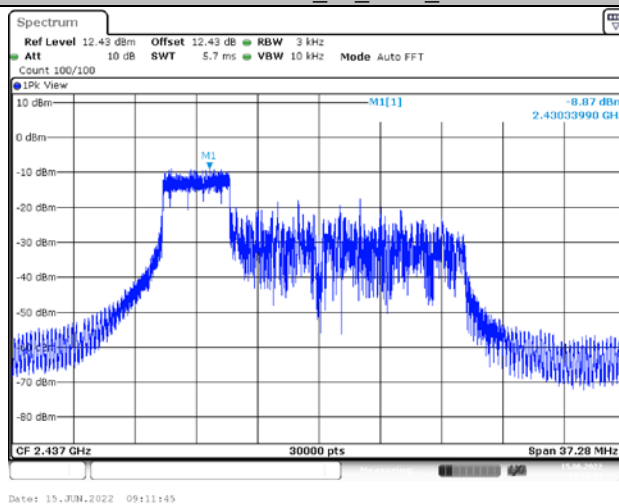
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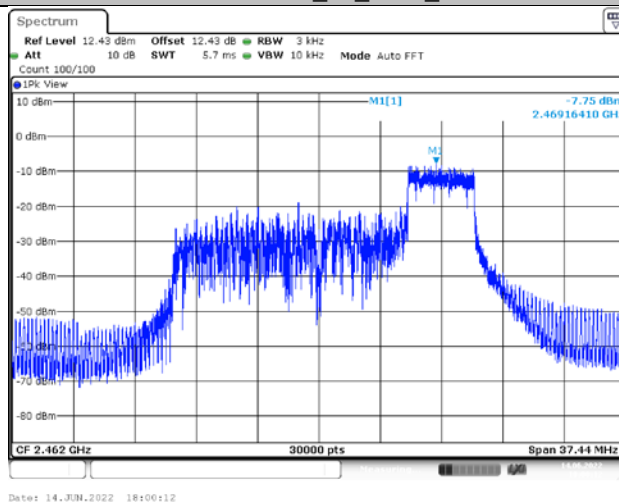
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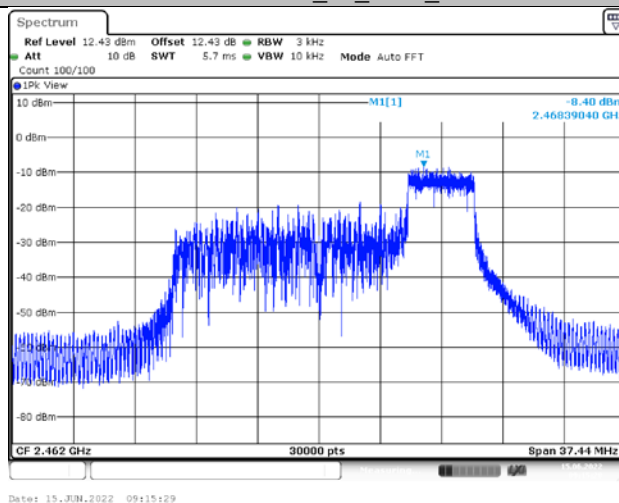
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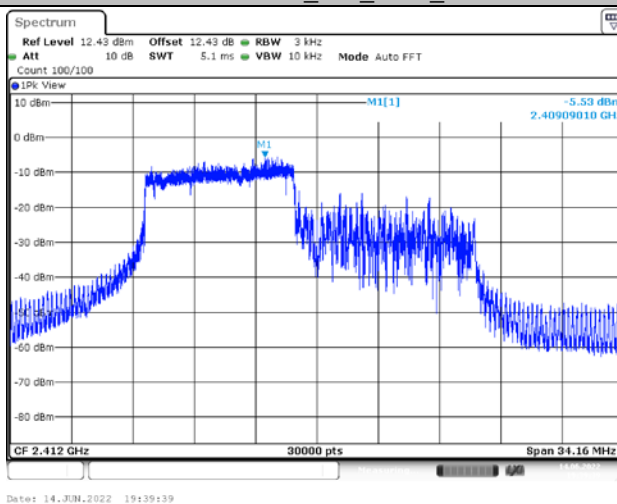
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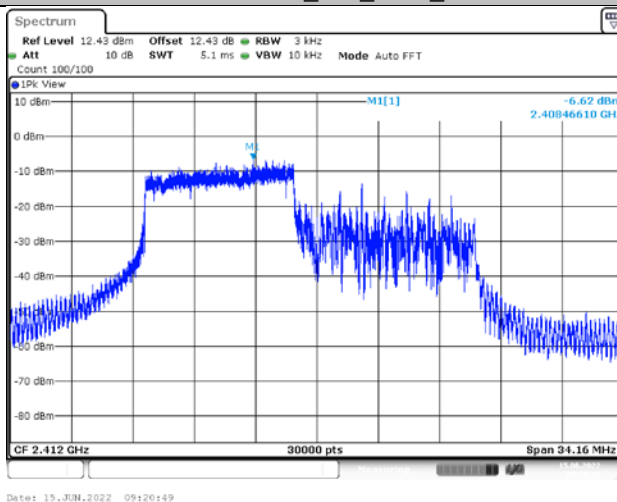
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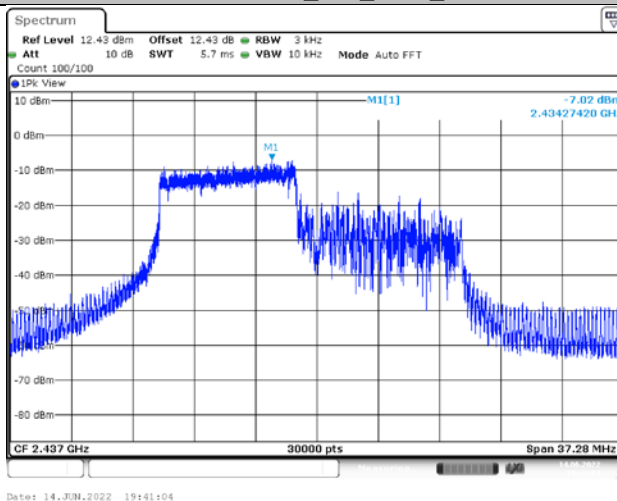
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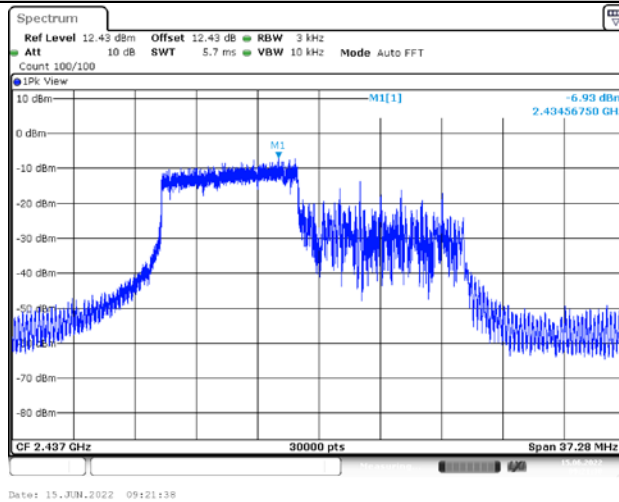
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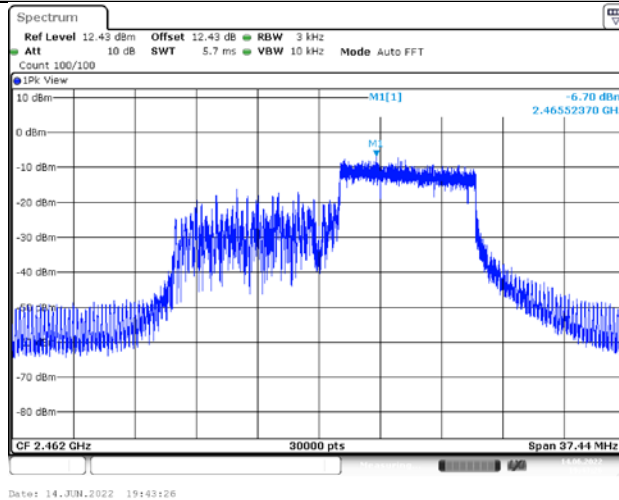
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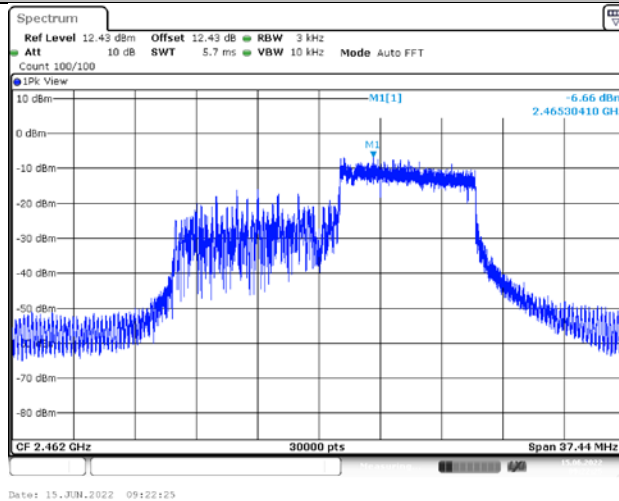
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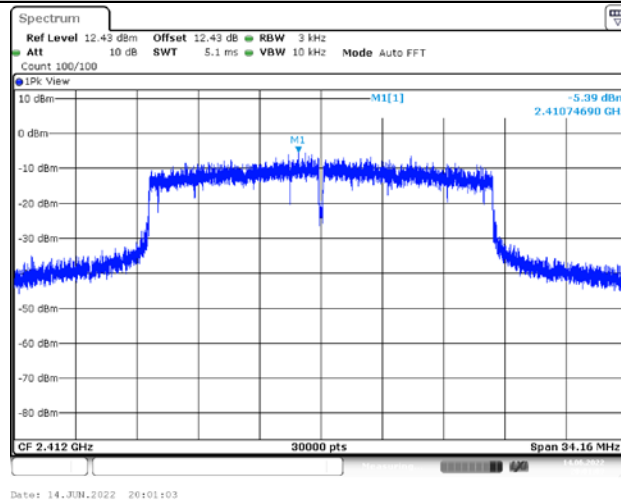
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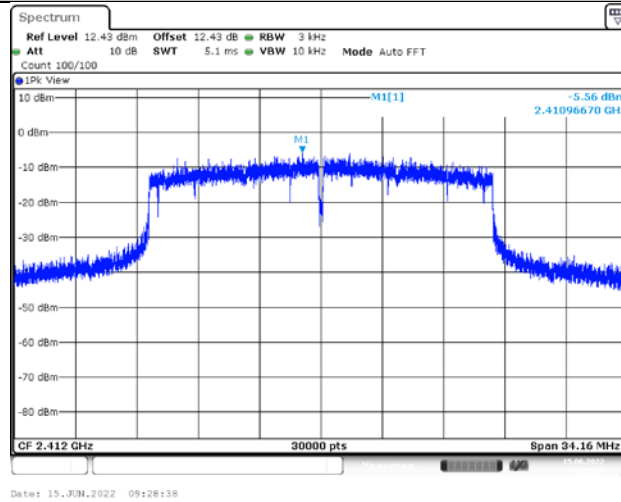
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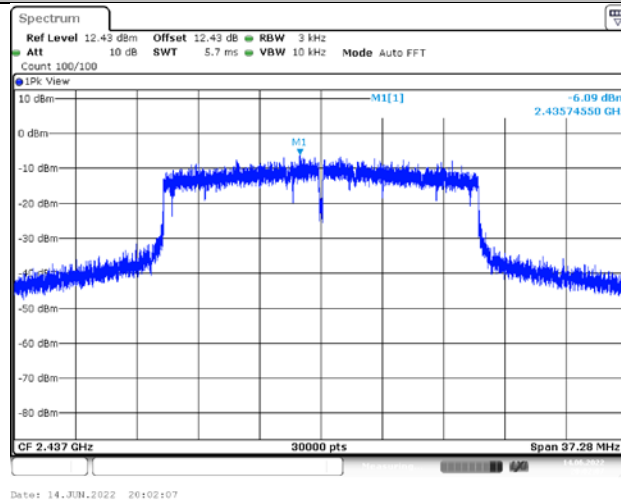
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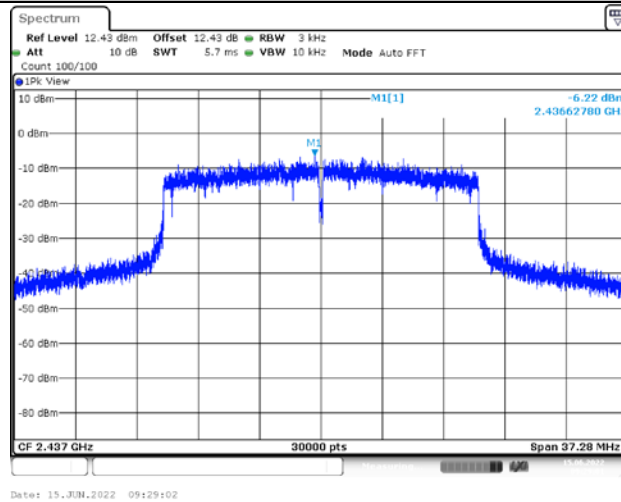
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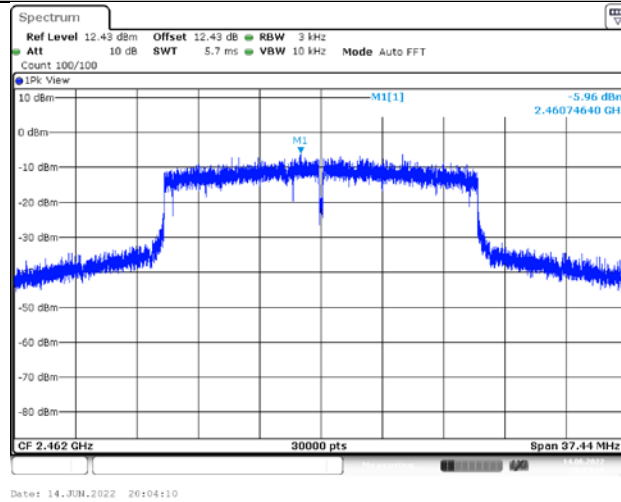
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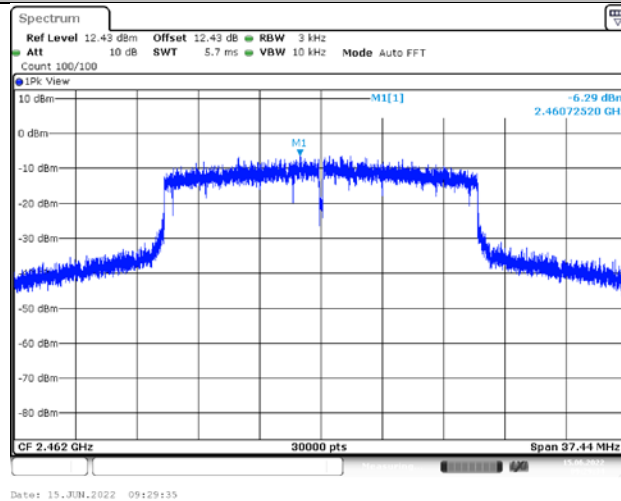
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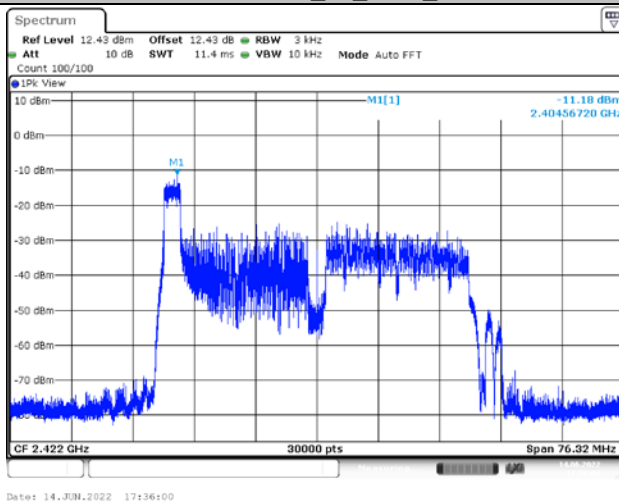
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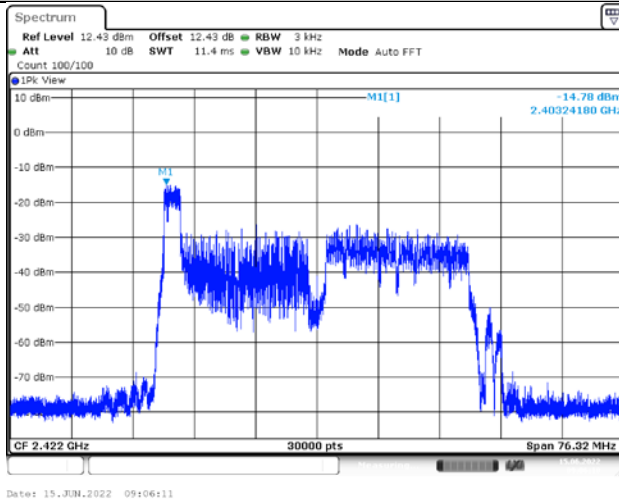
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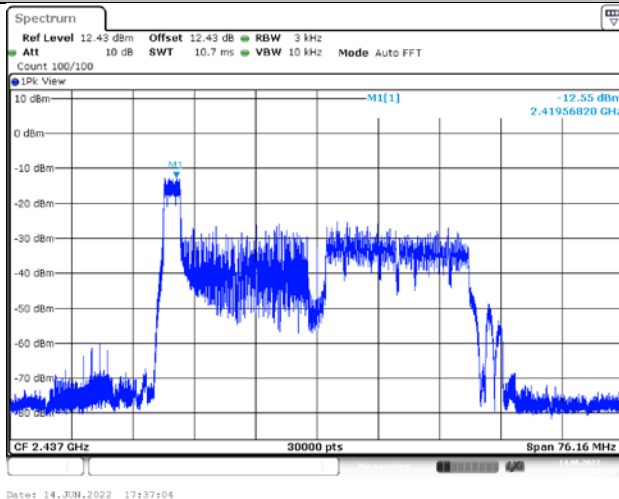
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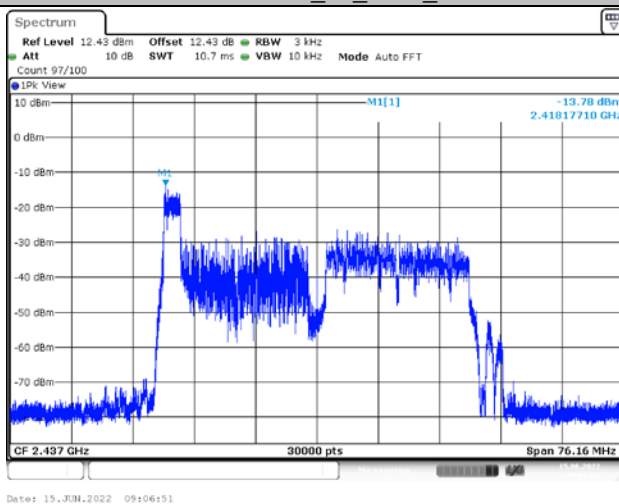
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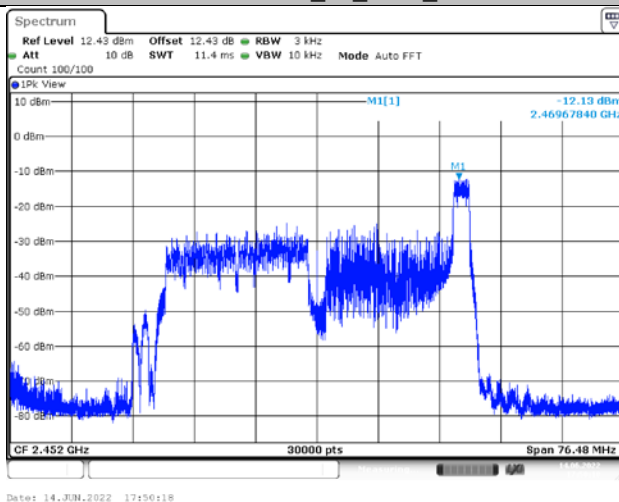
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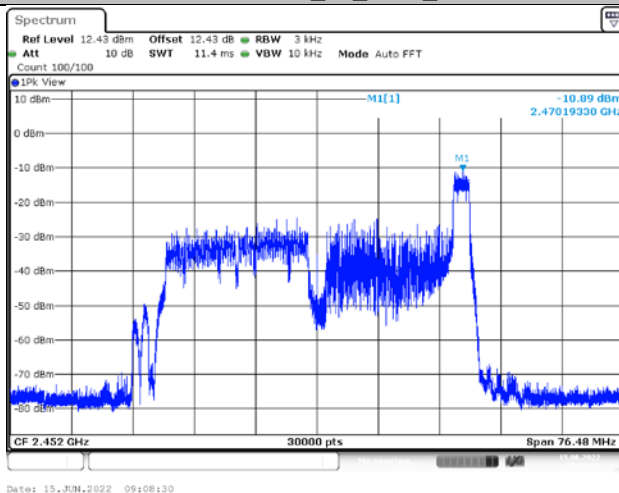
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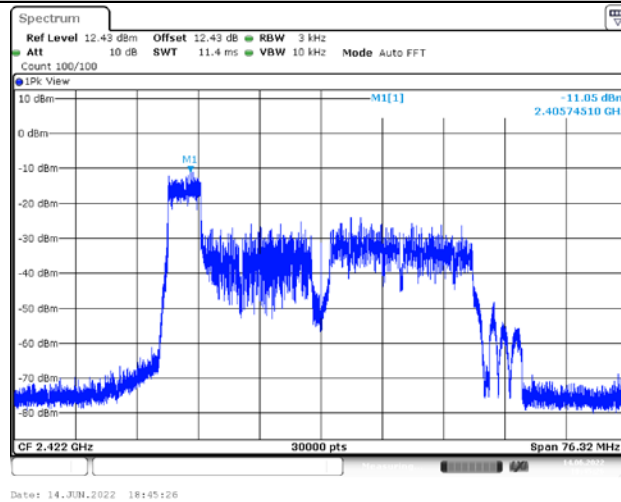
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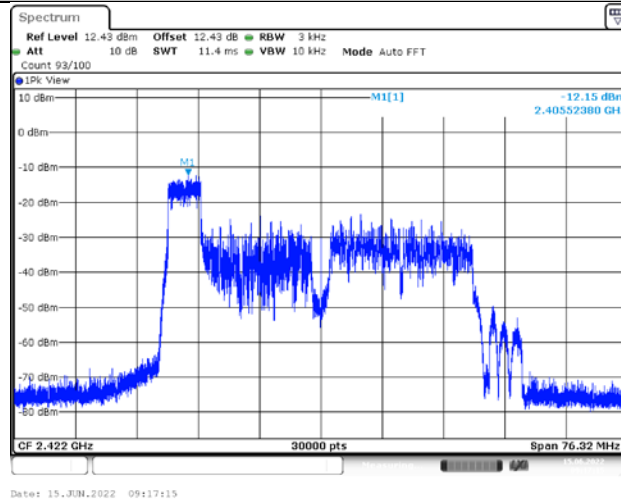
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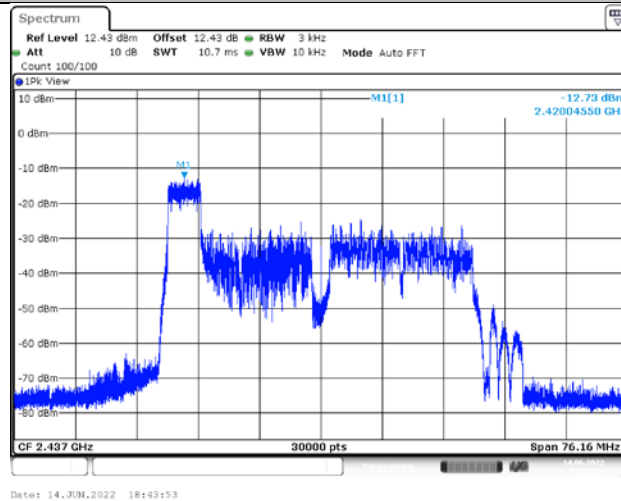
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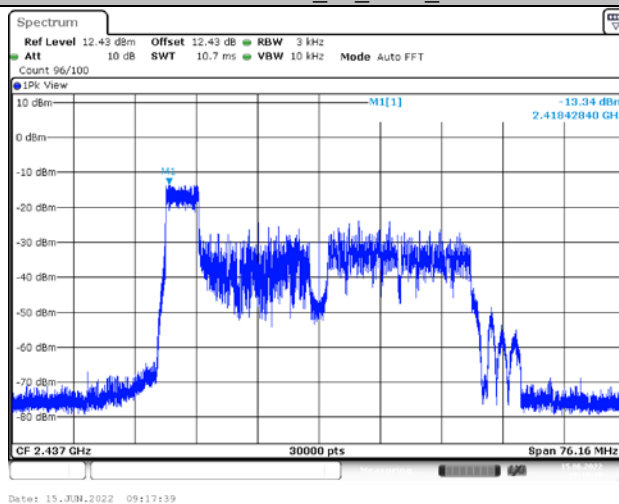
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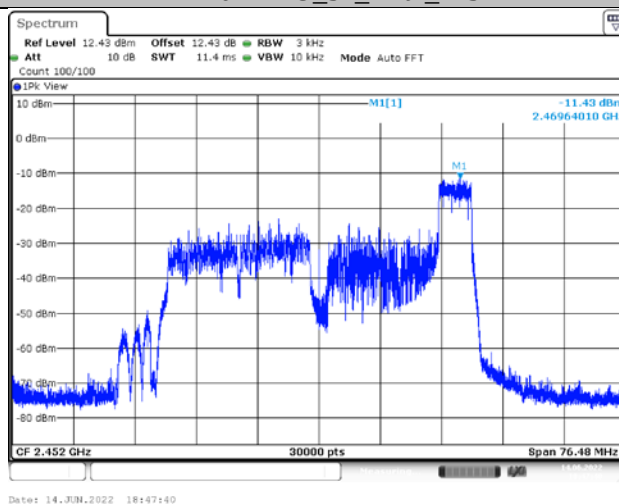
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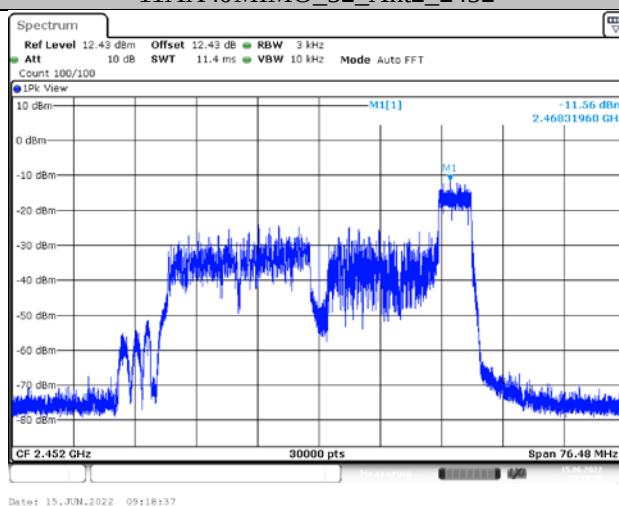
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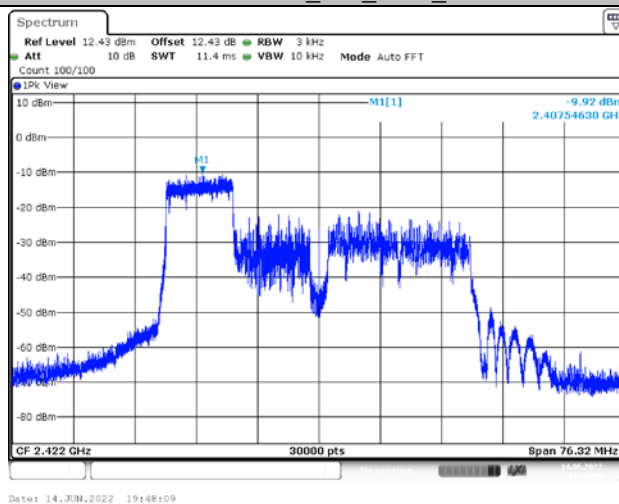
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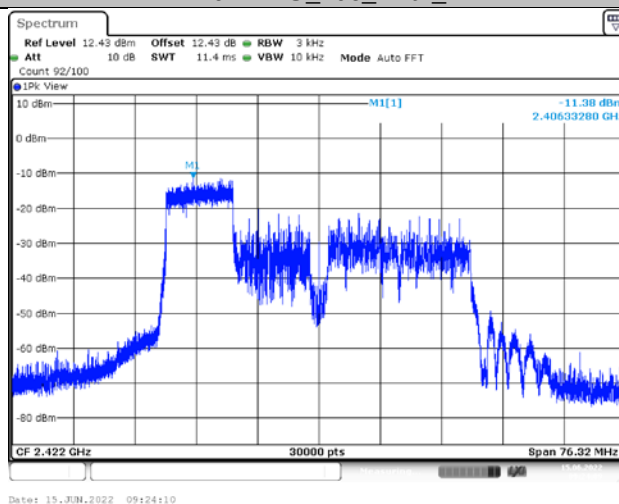
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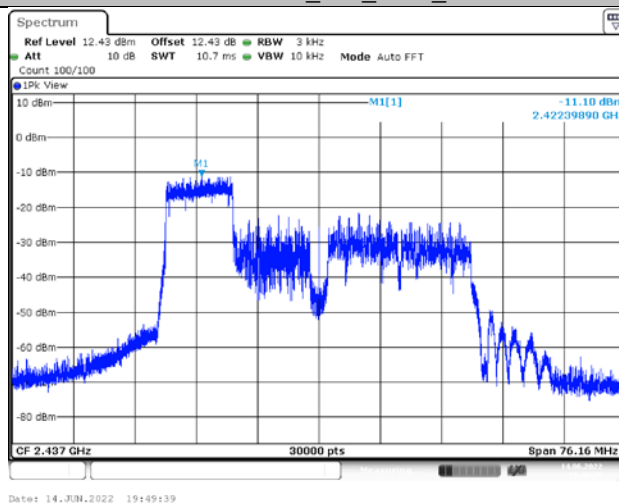
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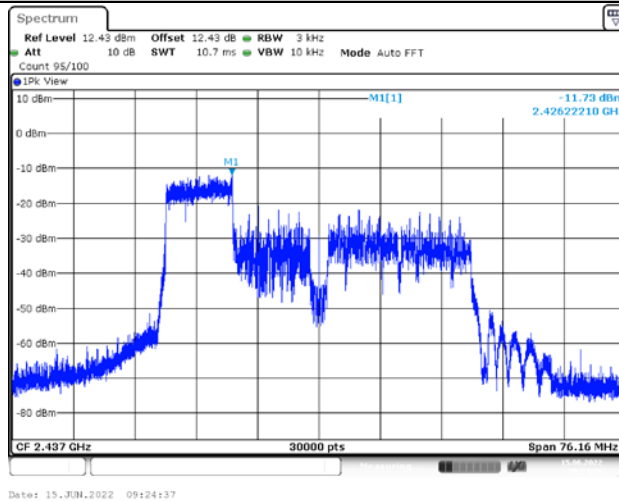
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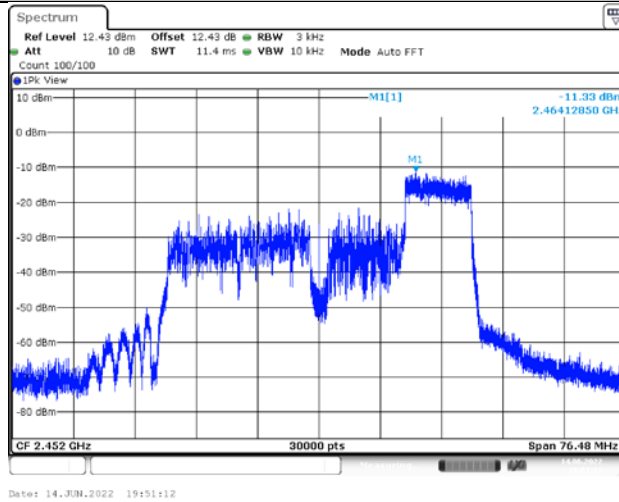
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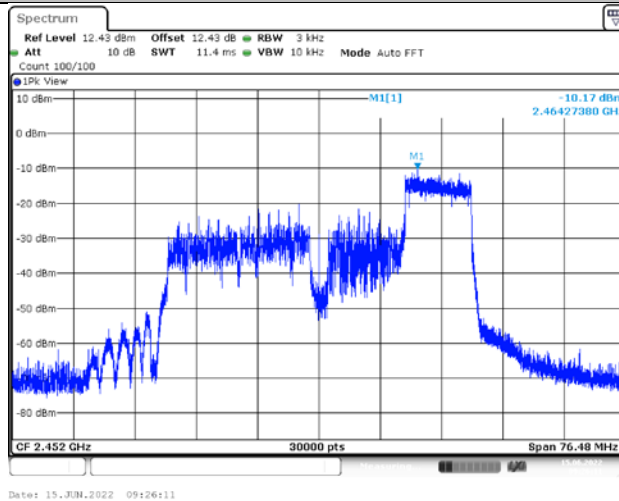
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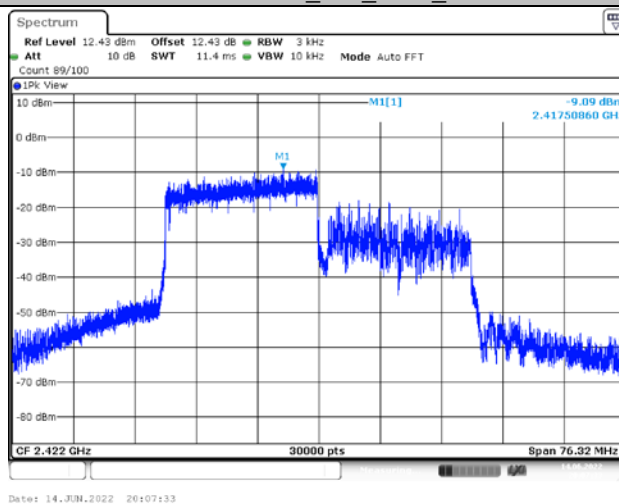
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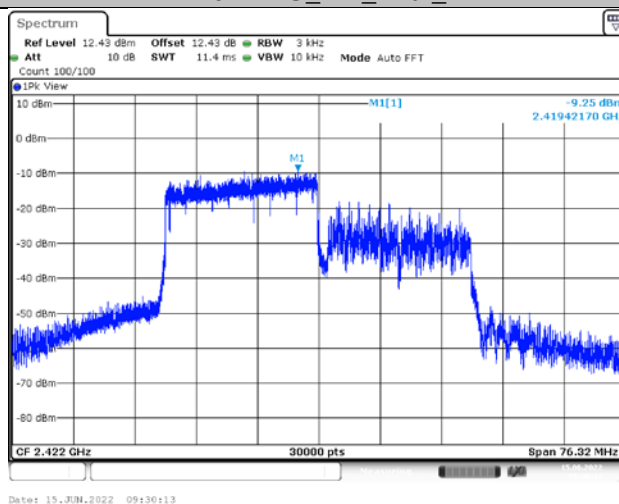
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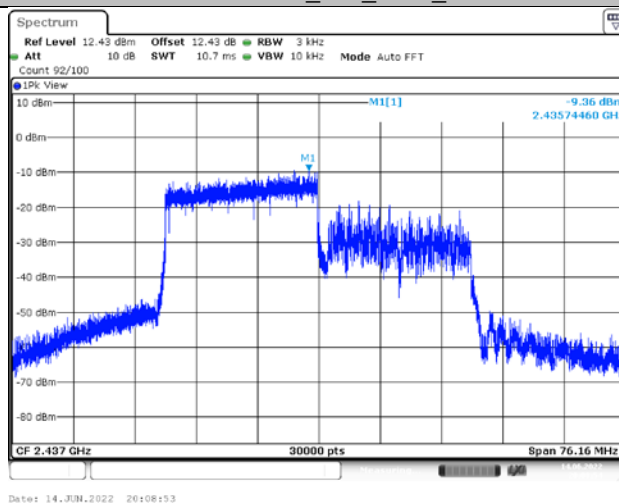
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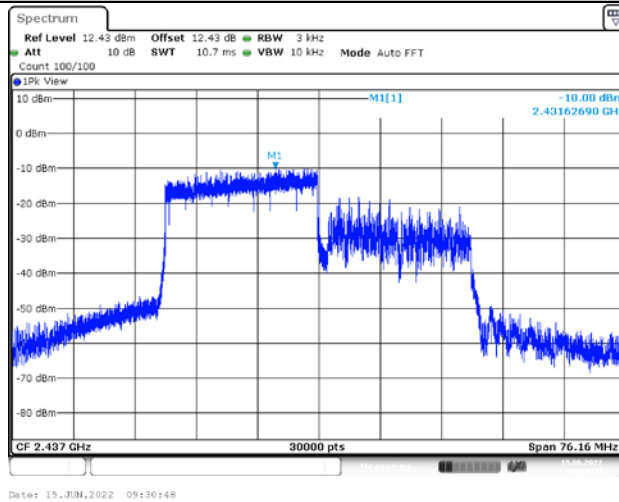
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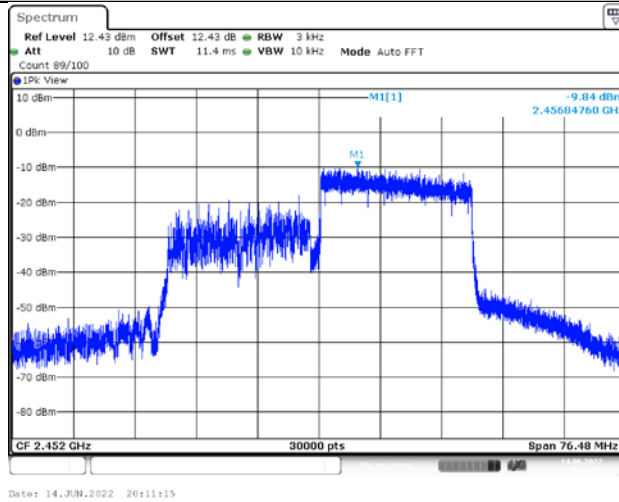
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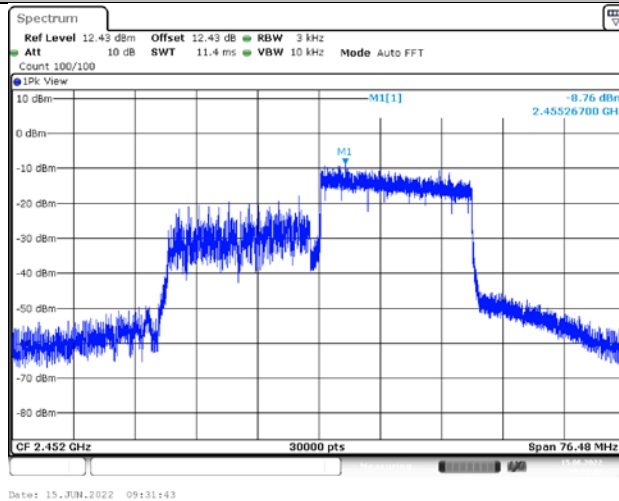
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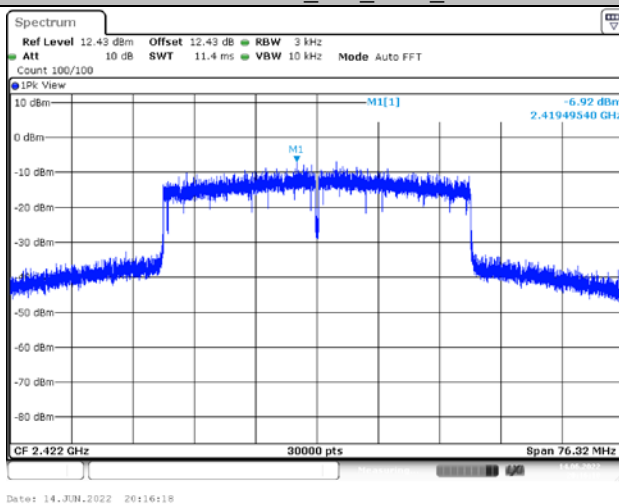
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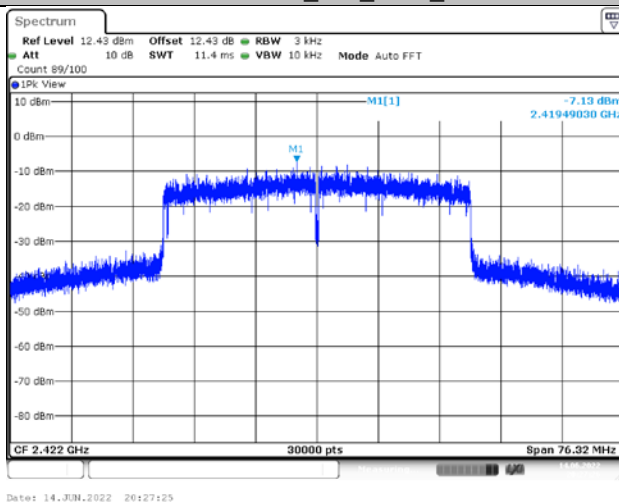
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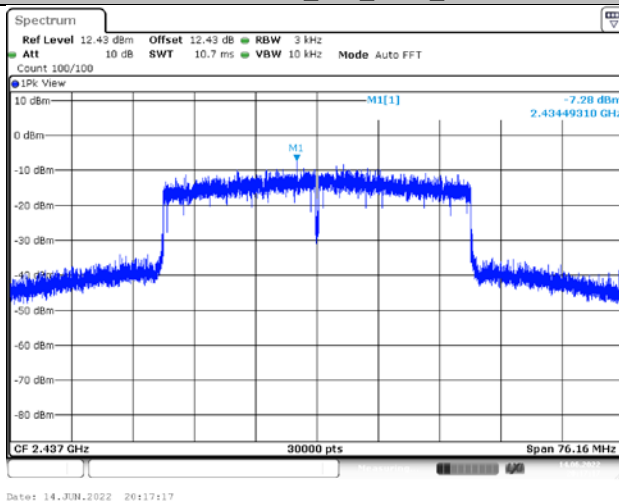
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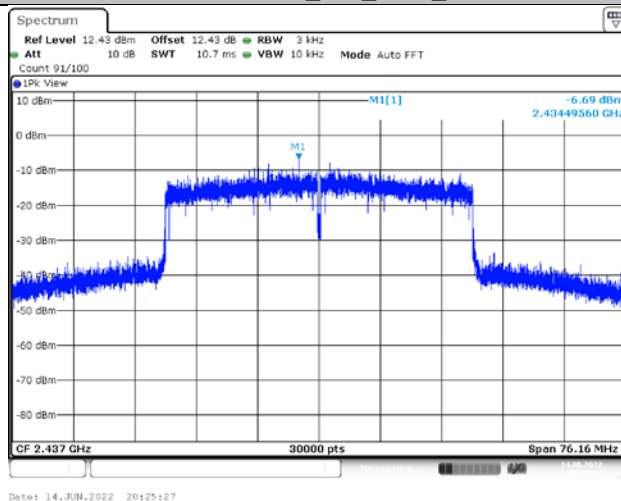
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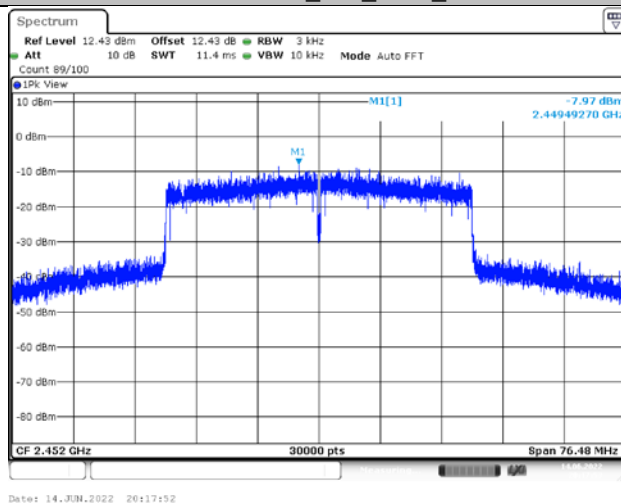
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11AX40MIMO_484_Ant2_2437



11AX40MIMO_484_Ant1_2452



11AX40MIMO_484_Ant2_2452

