

RF Test Data for 2.4G Wi-Fi (Conducted Measurements)

General Description of EUT	
Product Name:	netool.io handheld network analyzer.
Test Model:	NE1D
Sample ID:	202209-0277-3-2#
Environmental Conditions	
Temperature:	24°C
Relative Humidity:	50%
Test Voltage:	DC 3.7V
Test Engineer:	Liujiang
Note: For a more detailed features description, please refer to the report TBR-C-202209-0277-3.	

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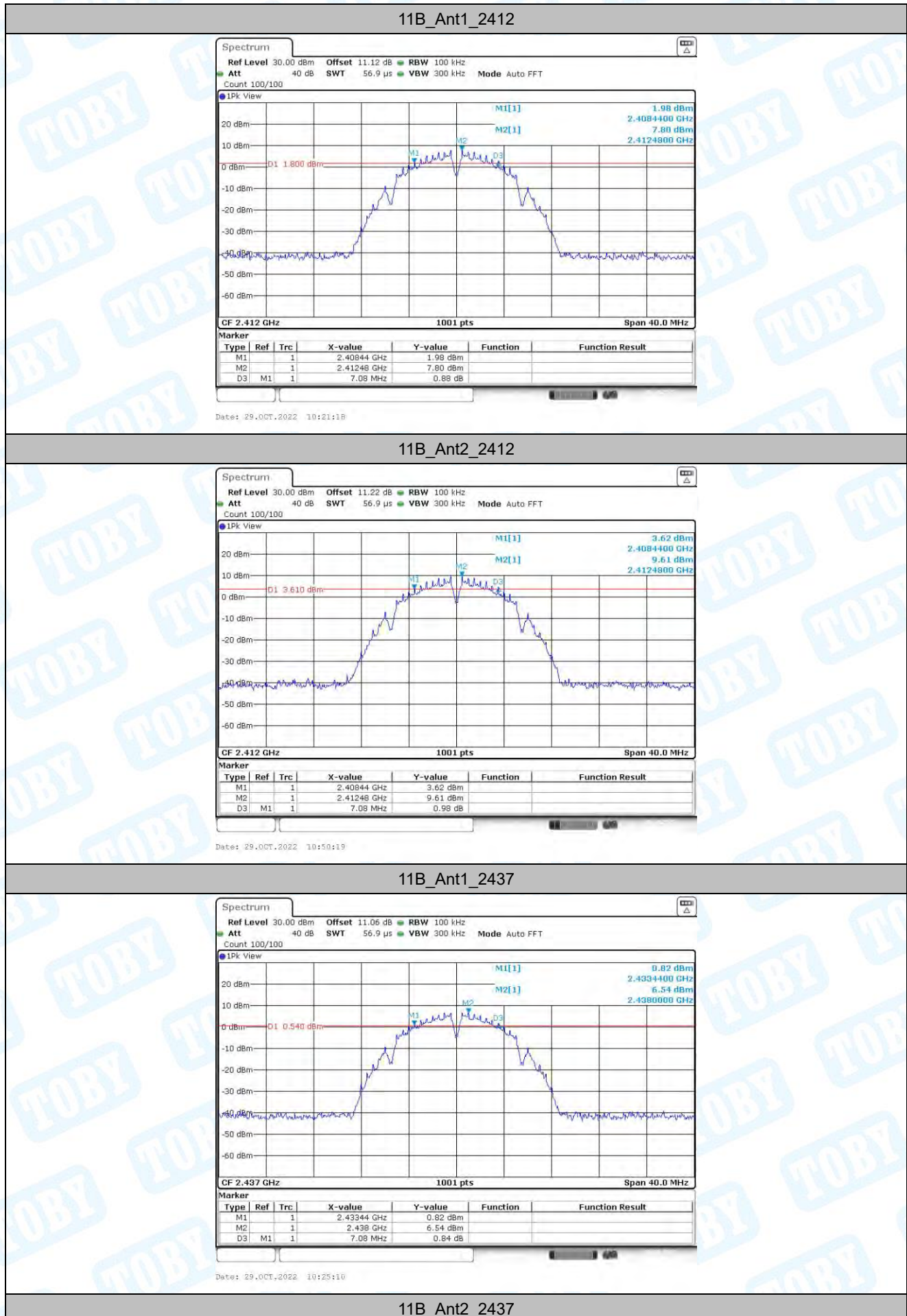
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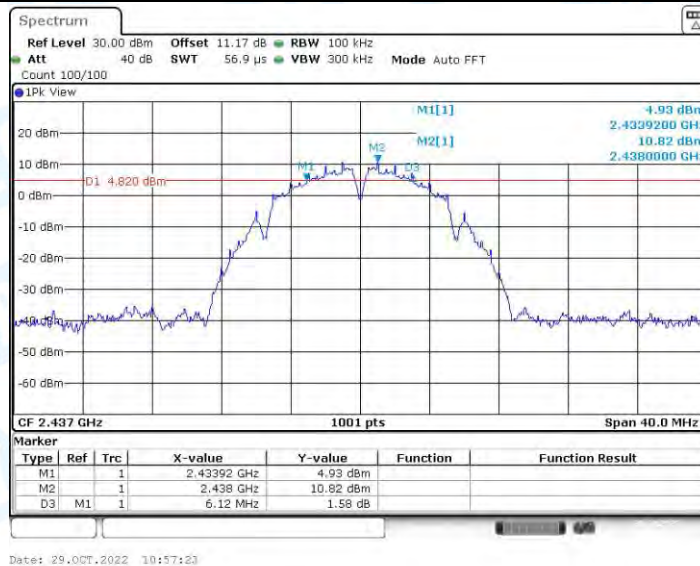
1. DTS Bandwidth

1.1. Test Result

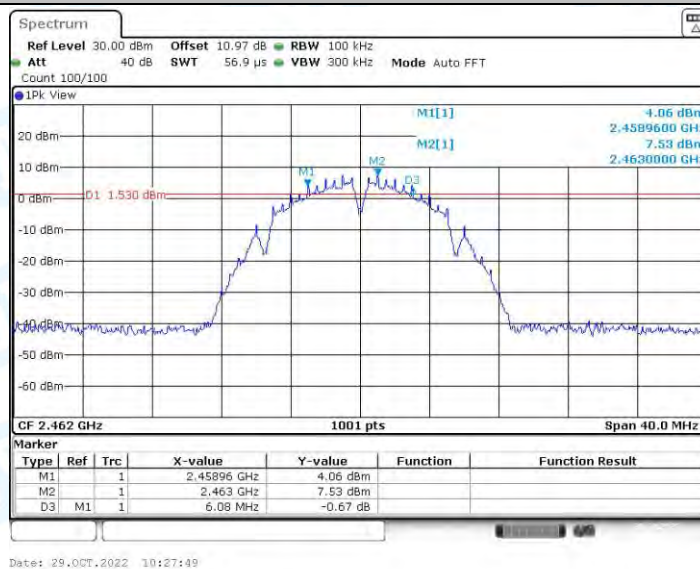
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.08	2408.44	2415.52	0.5	PASS
	Ant2	2412	7.08	2408.44	2415.52	0.5	PASS
	Ant1	2437	7.08	2433.44	2440.52	0.5	PASS
	Ant2	2437	6.12	2433.92	2440.04	0.5	PASS
	Ant1	2462	6.08	2458.96	2465.04	0.5	PASS
	Ant2	2462	6.12	2458.92	2465.04	0.5	PASS
11G	Ant1	2412	16.04	2404.08	2420.12	0.5	PASS
	Ant2	2412	15.72	2404.40	2420.12	0.5	PASS
	Ant1	2437	15.88	2429.24	2445.12	0.5	PASS
	Ant2	2437	16.08	2429.08	2445.16	0.5	PASS
	Ant1	2462	15.72	2454.40	2470.12	0.5	PASS
	Ant2	2462	16.00	2454.12	2470.12	0.5	PASS
11N20MIMO	Ant1	2412	17.52	2403.24	2420.76	0.5	PASS
	Ant2	2412	17.56	2403.20	2420.76	0.5	PASS
	Ant1	2437	16.96	2428.84	2445.80	0.5	PASS
	Ant2	2437	17.52	2428.24	2445.76	0.5	PASS
	Ant1	2462	16.92	2453.84	2470.76	0.5	PASS
	Ant2	2462	17.28	2453.48	2470.76	0.5	PASS
11N40MIMO	Ant1	2422	35.92	2403.84	2439.76	0.5	PASS
	Ant2	2422	35.76	2403.84	2439.60	0.5	PASS
	Ant1	2437	35.52	2419.40	2454.92	0.5	PASS
	Ant2	2437	36.32	2418.84	2455.16	0.5	PASS
	Ant1	2452	35.92	2433.84	2469.76	0.5	PASS
	Ant2	2452	35.92	2433.84	2469.76	0.5	PASS

1.2. Test Graphs

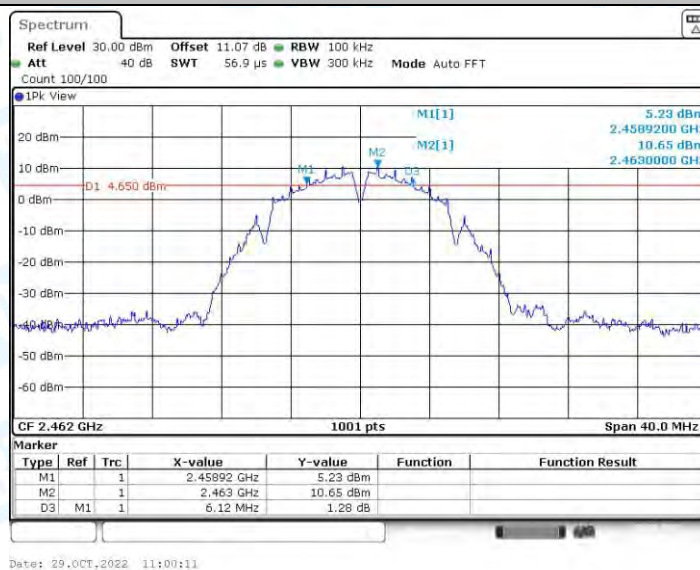




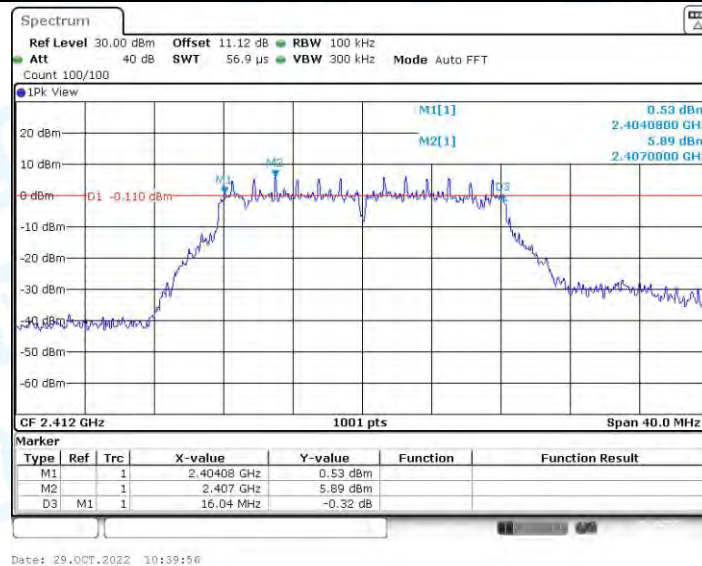
11B_Ant1_2462



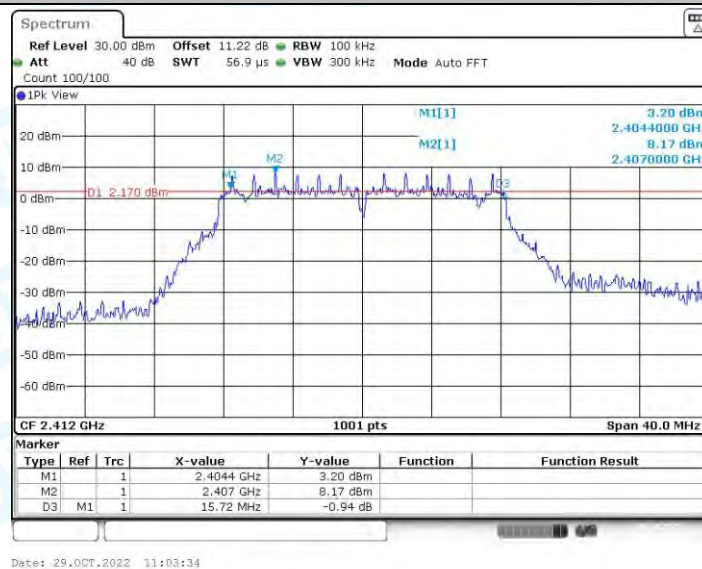
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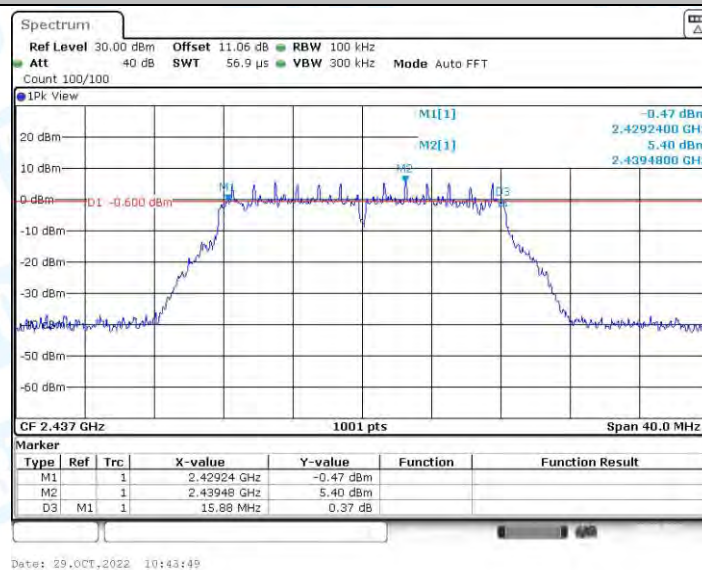
11G_Ant1_2412



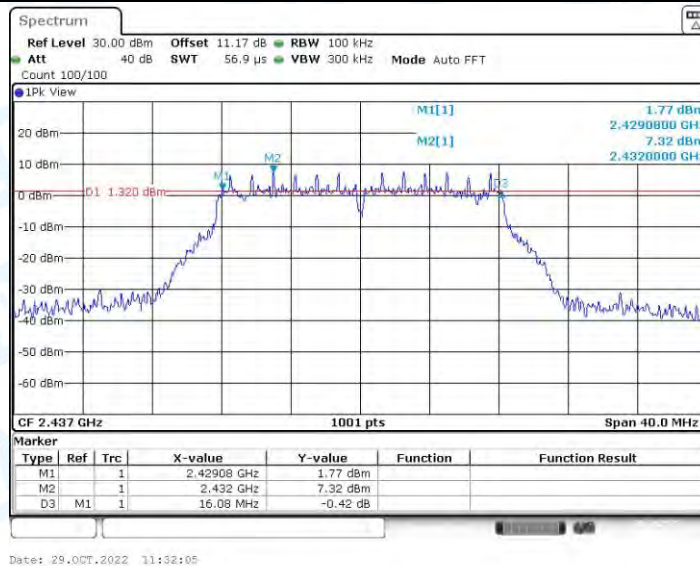
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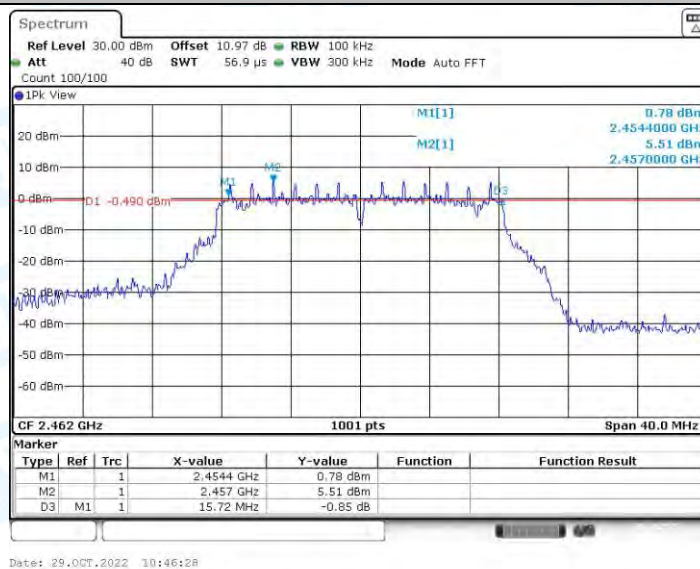
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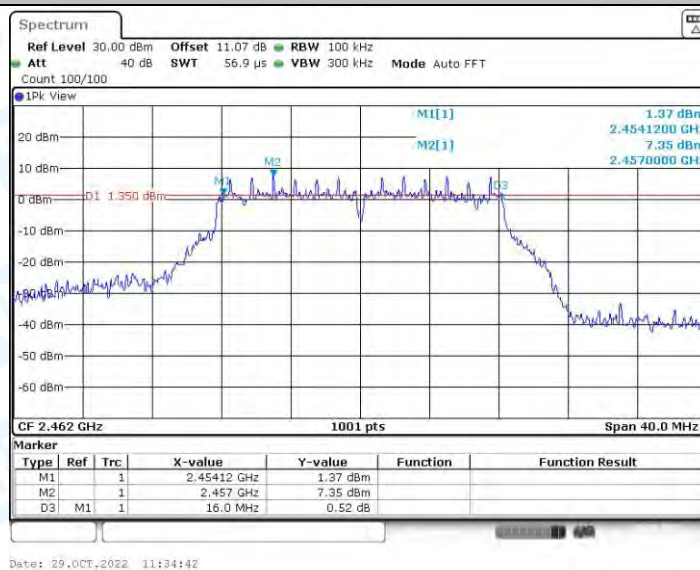
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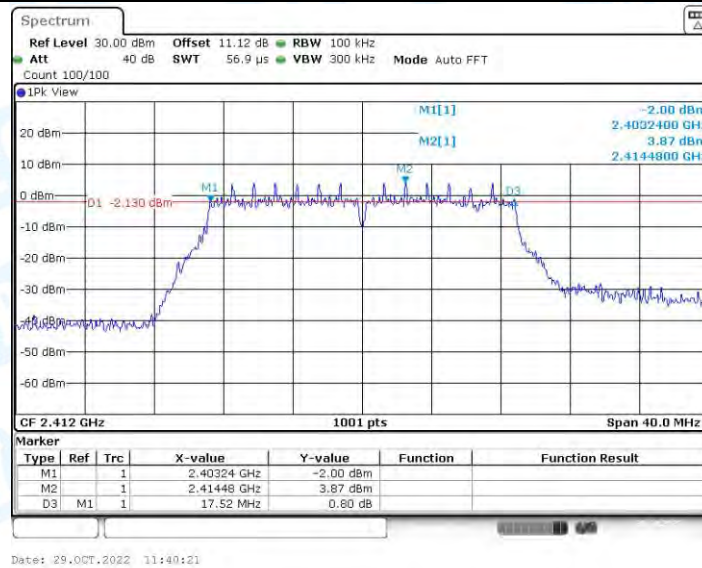
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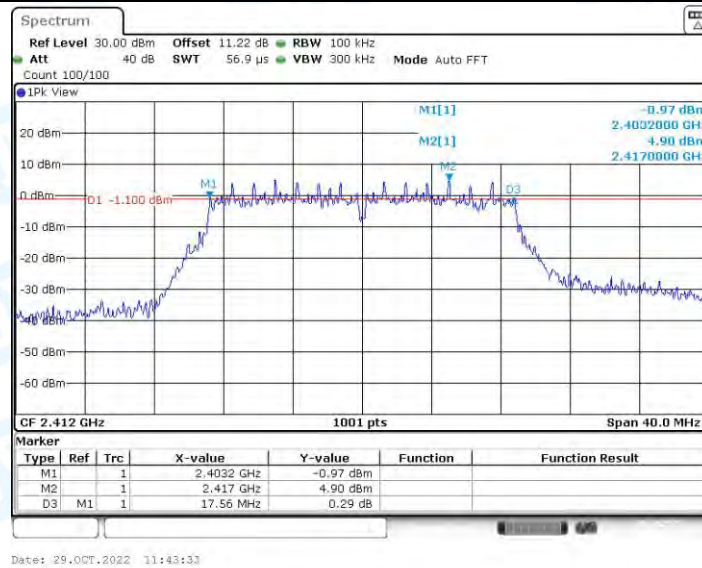
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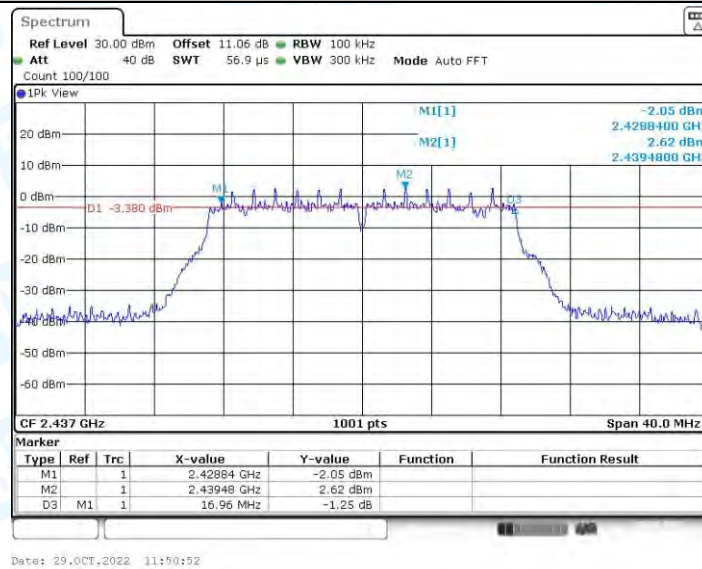
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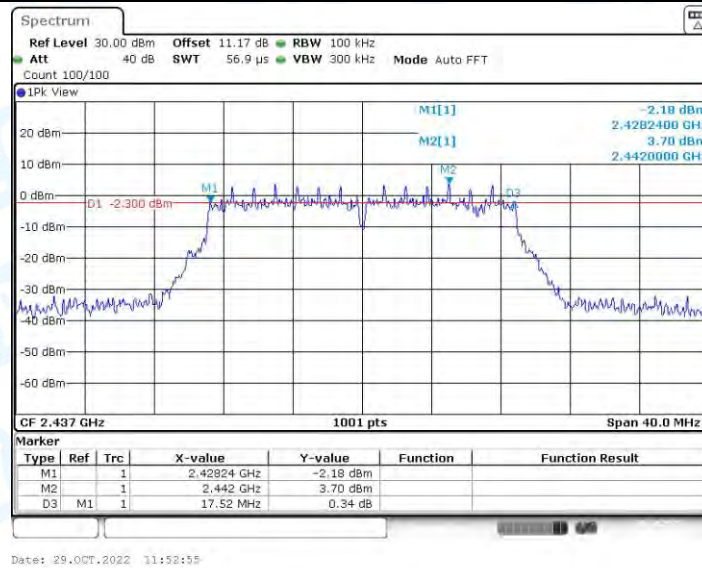
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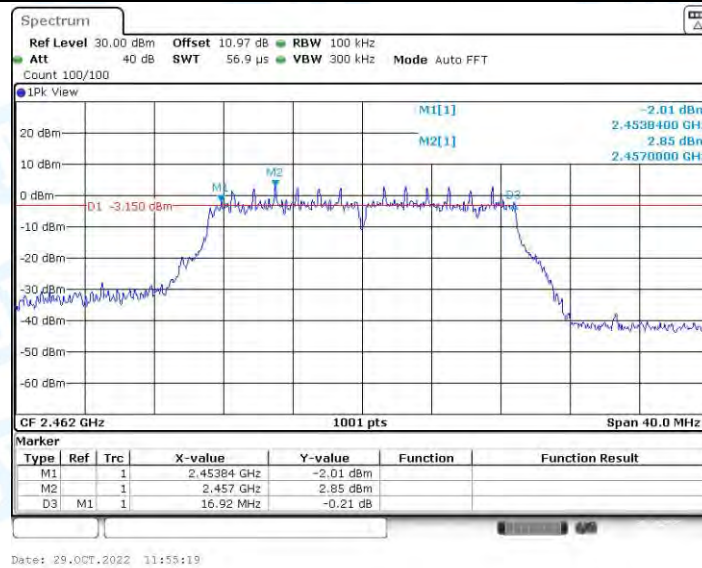
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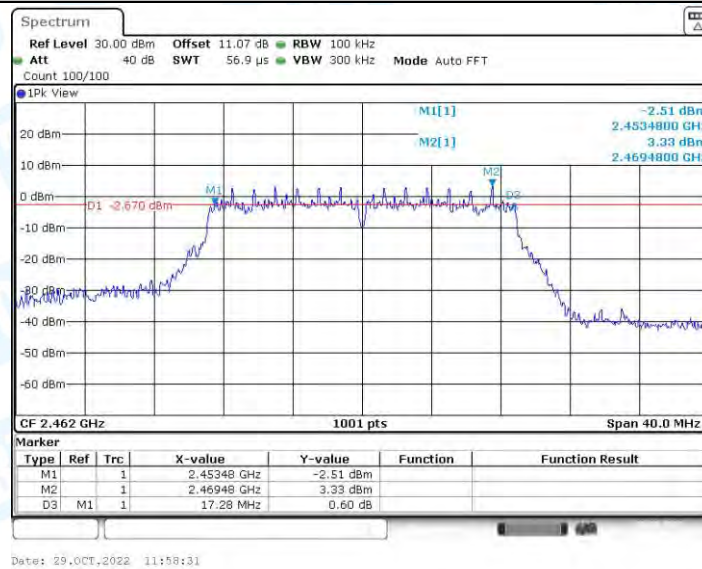
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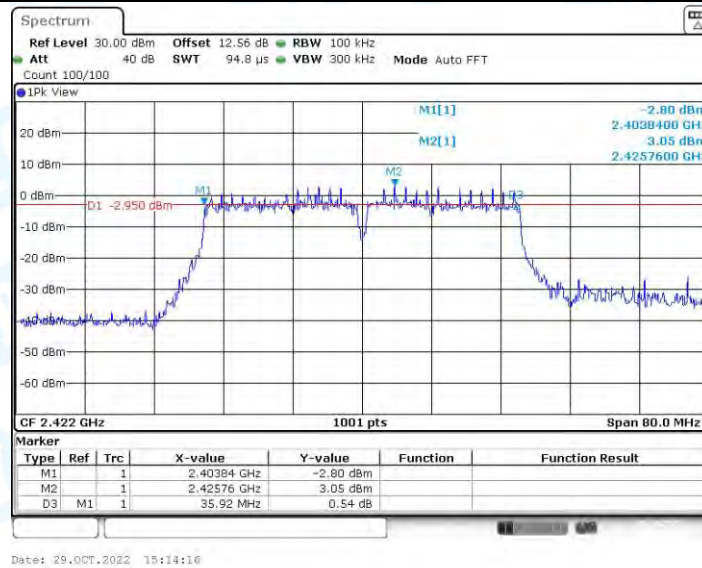
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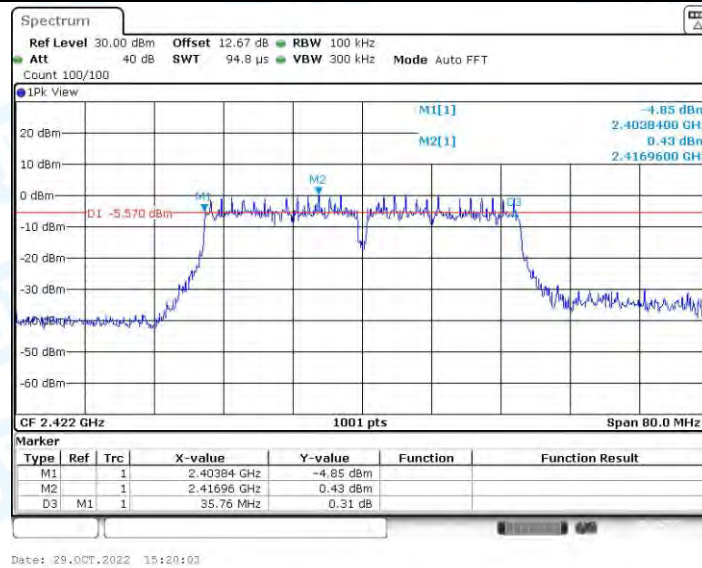
11N20MIMO_Ant2_2462



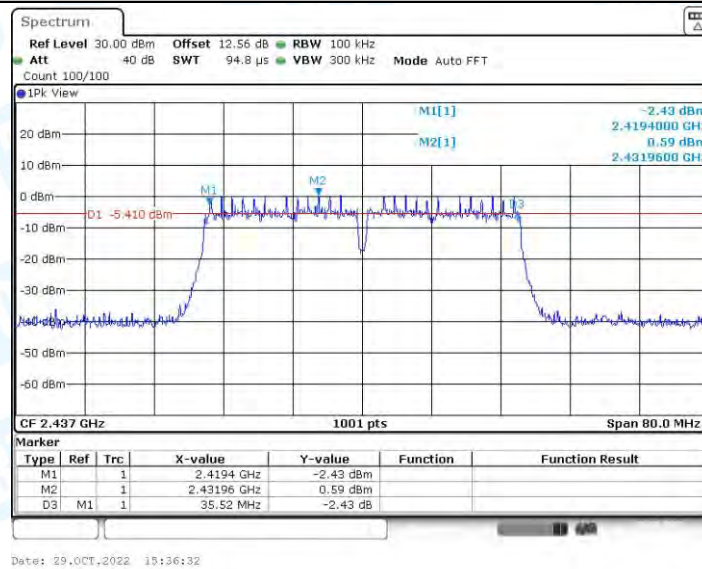
11N40MIMO_Ant1_2422



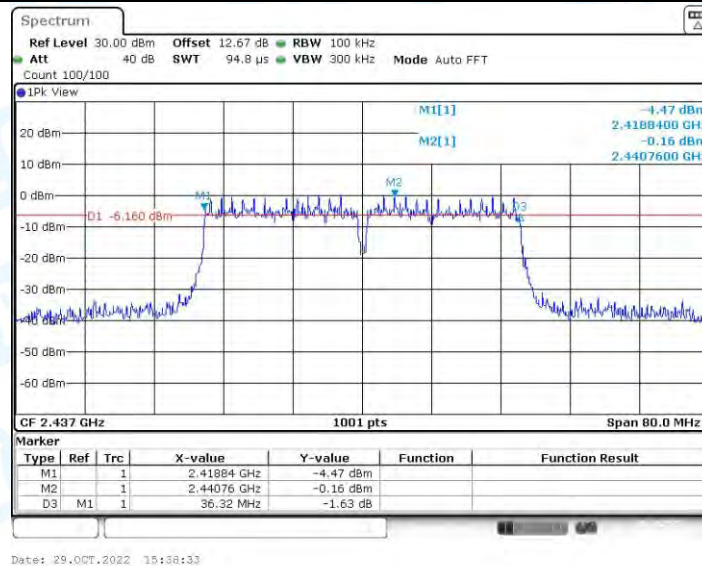
11N40MIMO_Ant2_2422



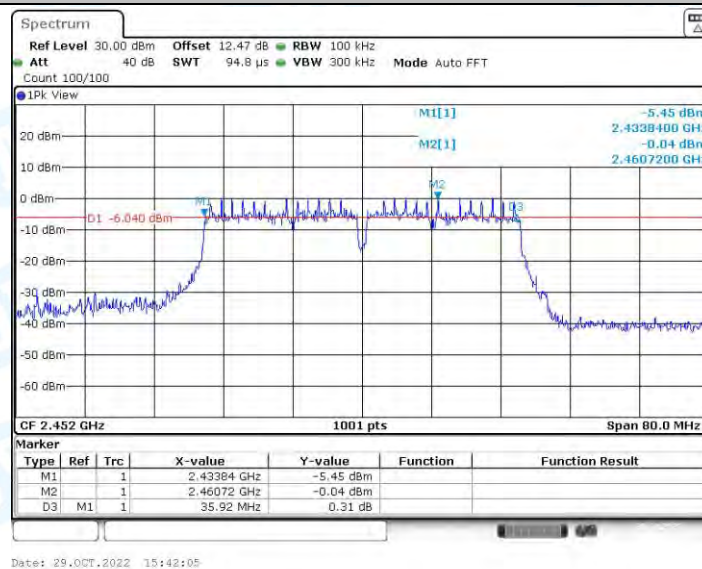
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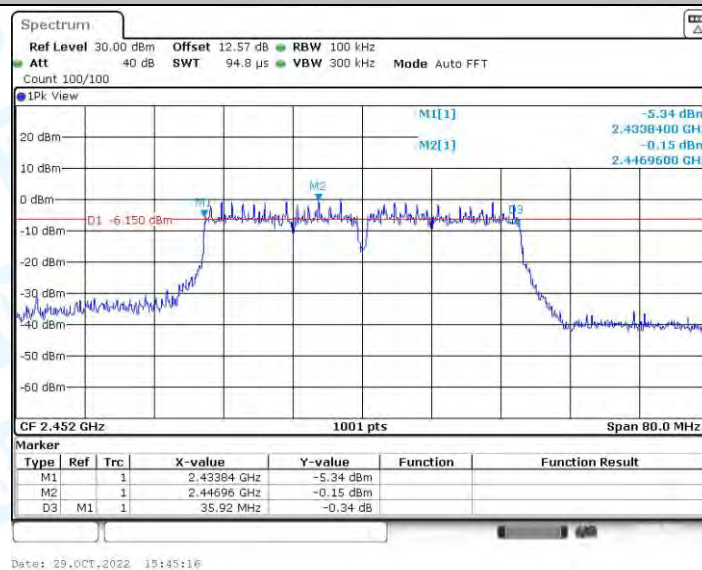
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11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



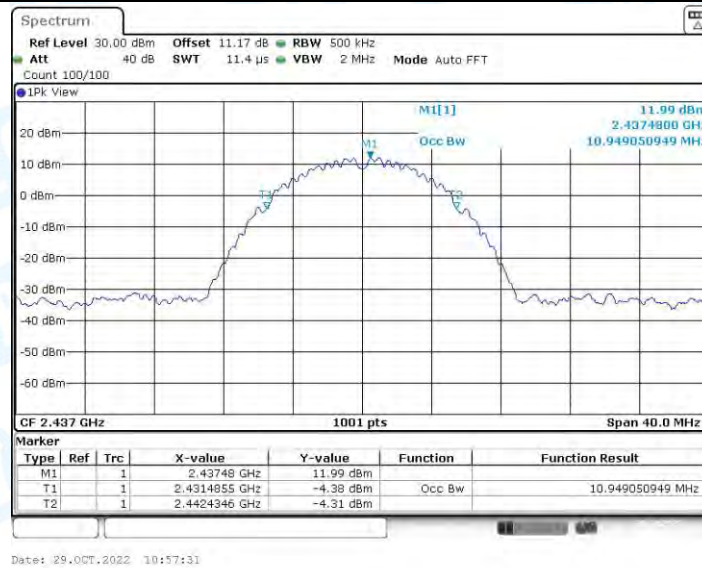
2. Occupied Channel Bandwidth

2.1. Test Result

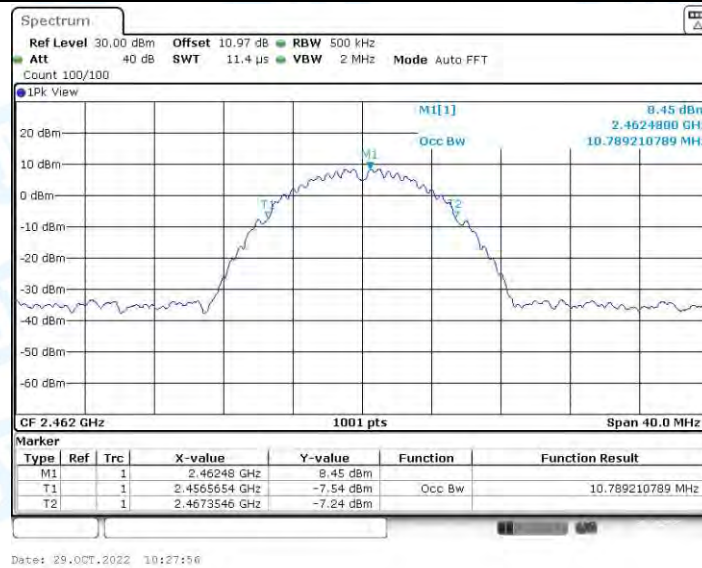
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.829	2406.5654	2417.3946	---	---
	Ant2	2412	10.829	2406.5255	2417.3546	---	---
	Ant1	2437	10.829	2431.5654	2442.3946	---	---
	Ant2	2437	10.949	2431.4855	2442.4346	---	---
	Ant1	2462	10.789	2456.5654	2467.3546	---	---
	Ant2	2462	11.029	2456.4456	2467.4745	---	---
11G	Ant1	2412	17.463	2403.2887	2420.7512	---	---
	Ant2	2412	17.343	2403.3287	2420.6713	---	---
	Ant1	2437	17.343	2428.3686	2445.7113	---	---
	Ant2	2437	17.423	2428.3686	2445.7912	---	---
	Ant1	2462	17.463	2453.0889	2470.5514	---	---
	Ant2	2462	17.502	2453.0889	2470.5914	---	---
11N20MIMO	Ant1	2412	18.022	2403.0090	2421.0310	---	---
	Ant2	2412	17.982	2403.0090	2420.9910	---	---
	Ant1	2437	18.462	2427.8092	2446.2707	---	---
	Ant2	2437	18.262	2428.0090	2446.2707	---	---
	Ant1	2462	18.062	2452.8891	2470.9510	---	---
	Ant2	2462	18.182	2452.8092	2470.9910	---	---
11N40MIMO	Ant1	2422	36.923	2403.3786	2440.3017	---	---
	Ant2	2422	36.444	2403.6983	2440.1419	---	---
	Ant1	2437	36.763	2418.6983	2455.4615	---	---
	Ant2	2437	36.364	2418.8581	2455.2218	---	---
	Ant1	2452	36.683	2433.6184	2470.3017	---	---
	Ant2	2452	36.683	2433.5385	2470.2218	---	---

2.2. Test Graphs

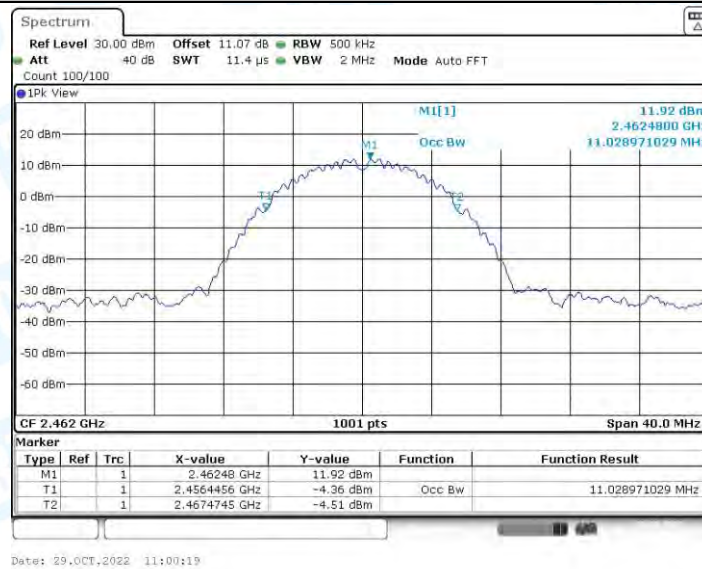




11B_Ant1_2462



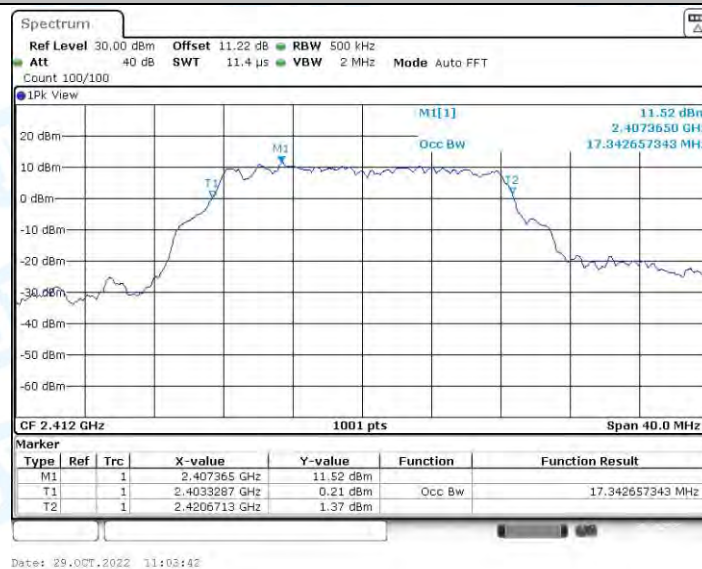
11B_Ant2_2462



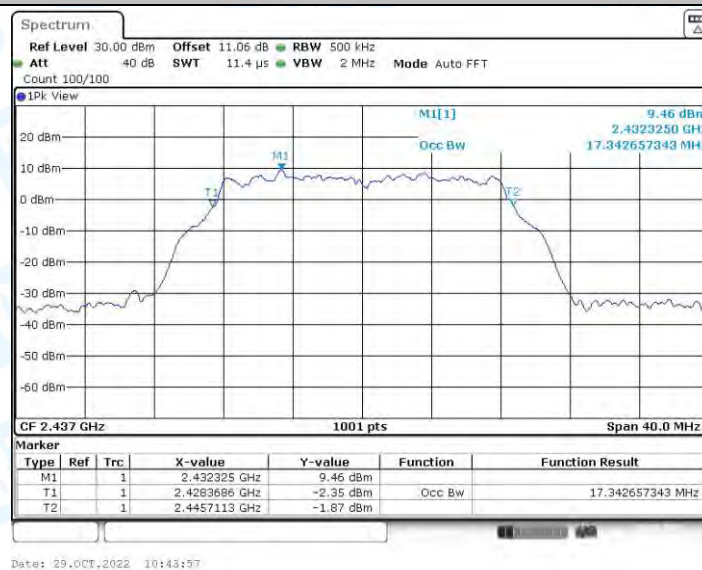
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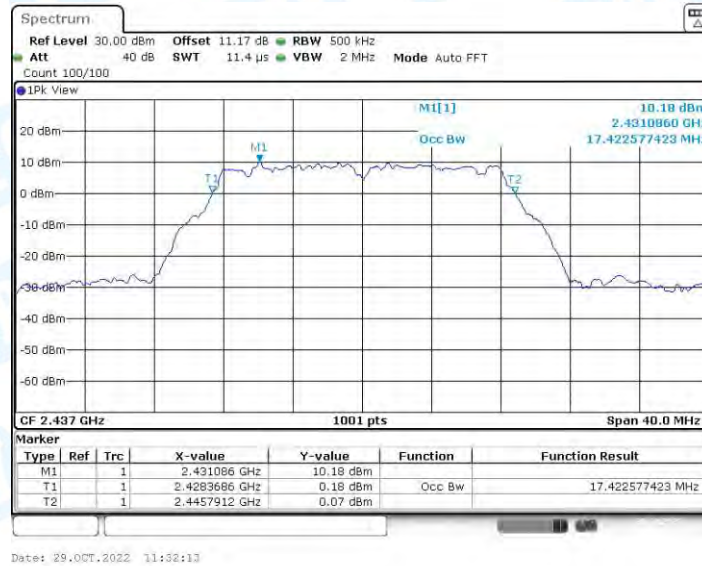
11G_Ant2_2412



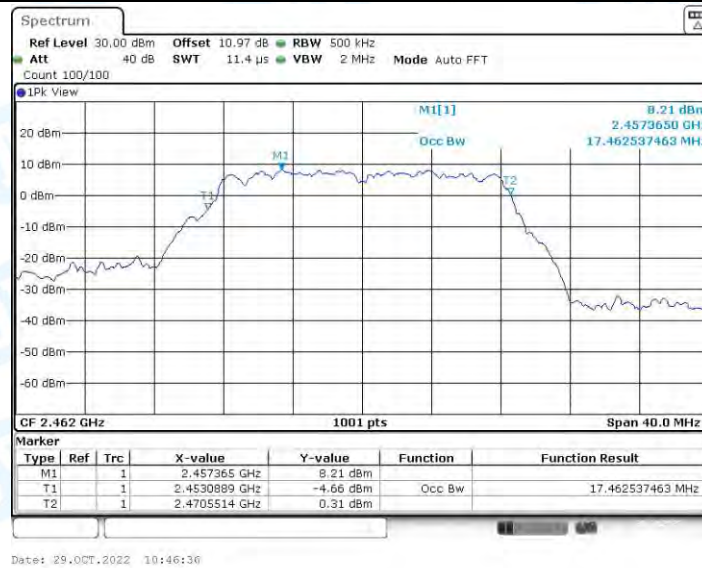
11G_Ant1_2437



11G_Ant2_2437



11G_Ant1_2462



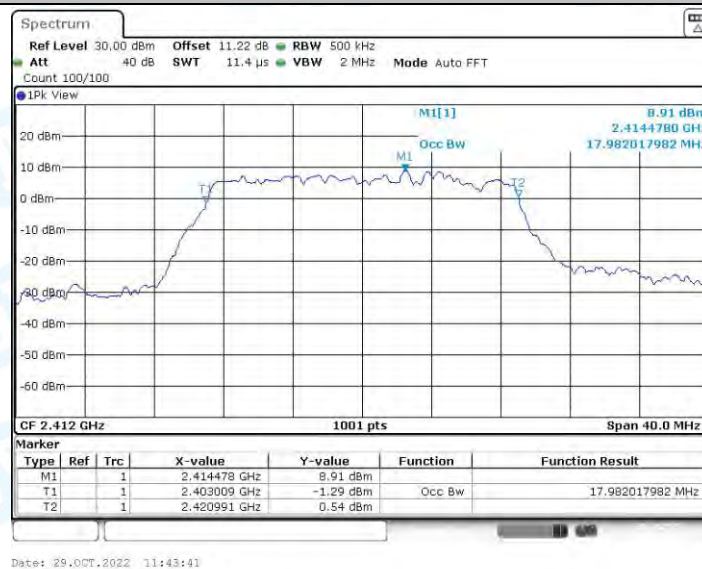
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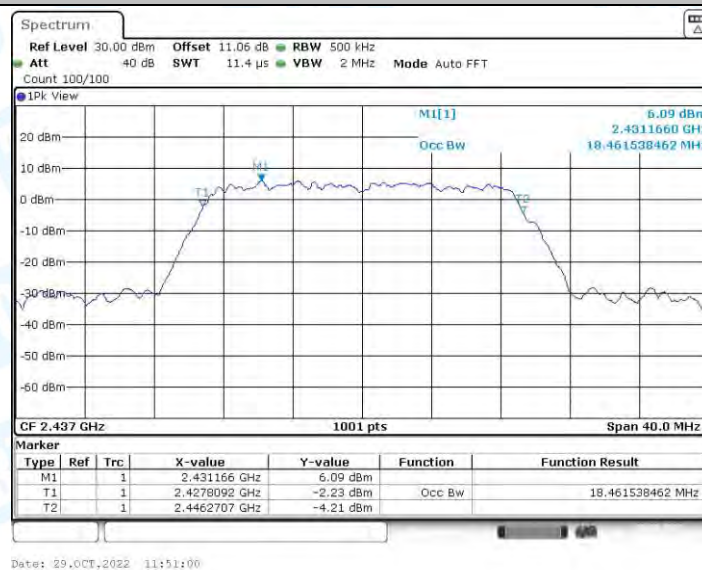
11N20MIMO_Ant1_2412



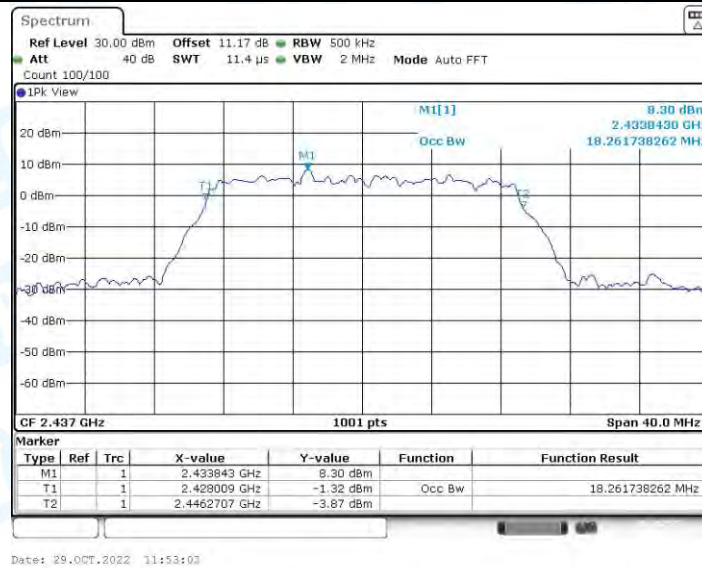
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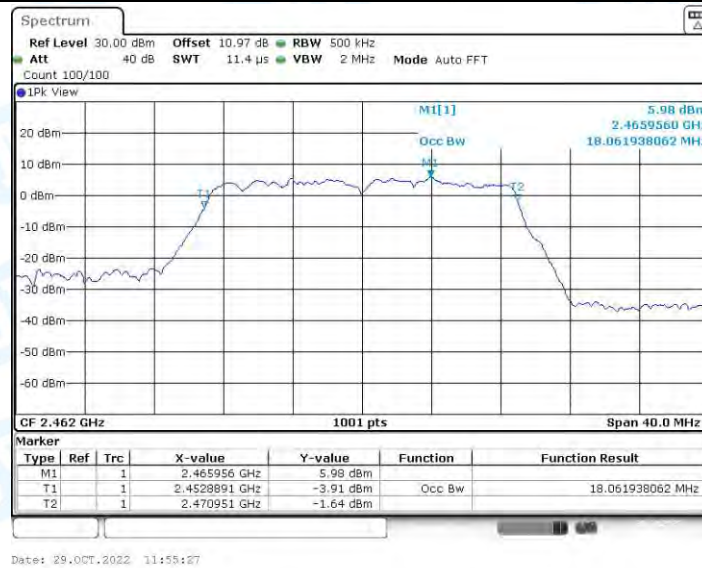
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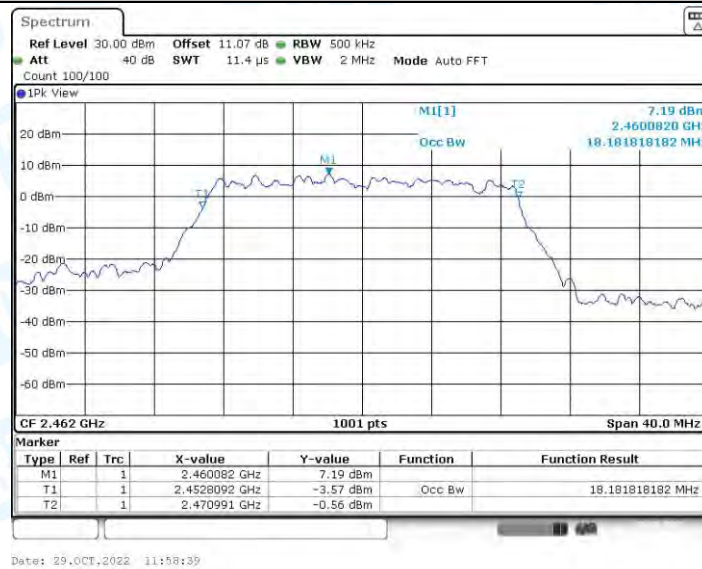
11N20MIMO_Ant2_2437



11N20MIMO_Ant1_2462



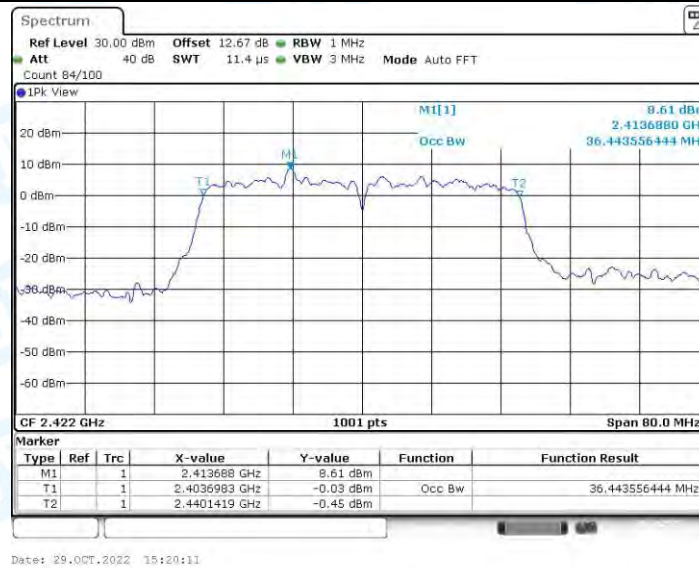
11N20MIMO_Ant2_2462



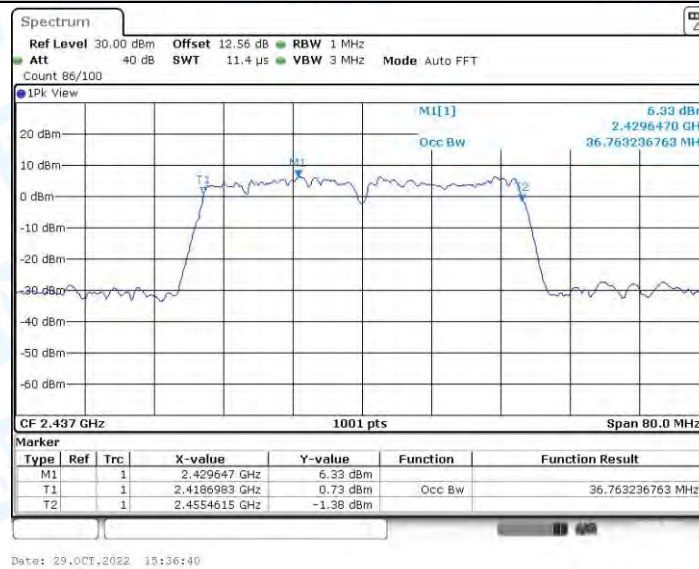
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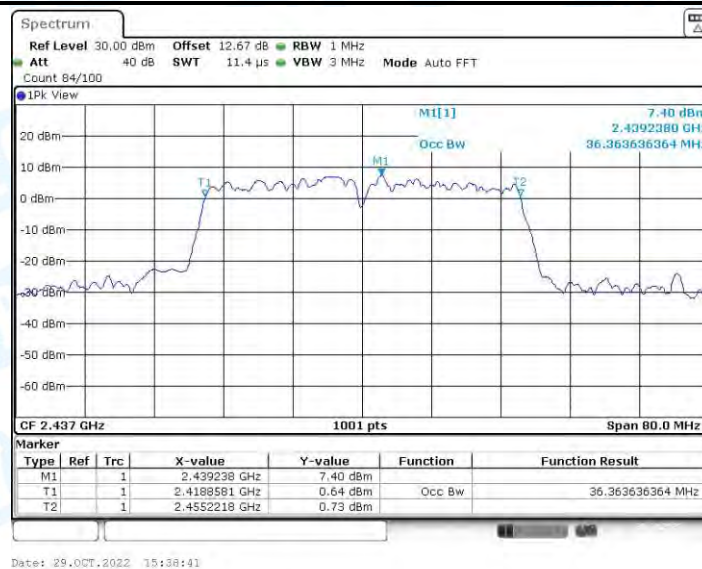
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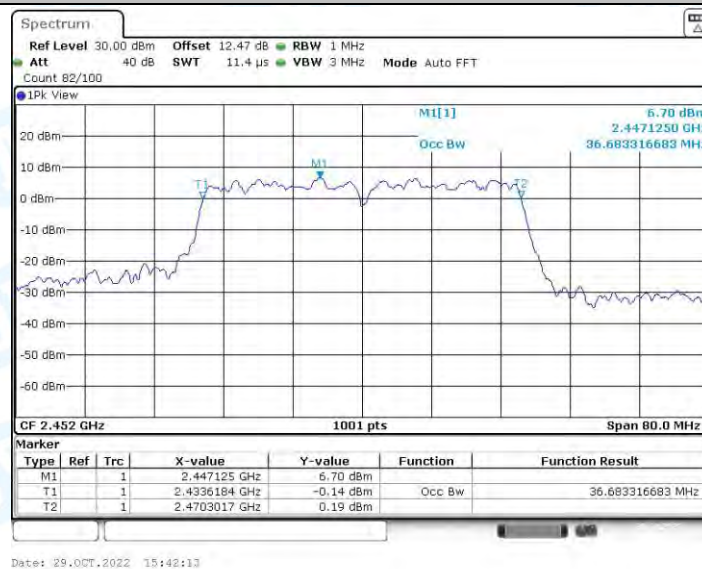
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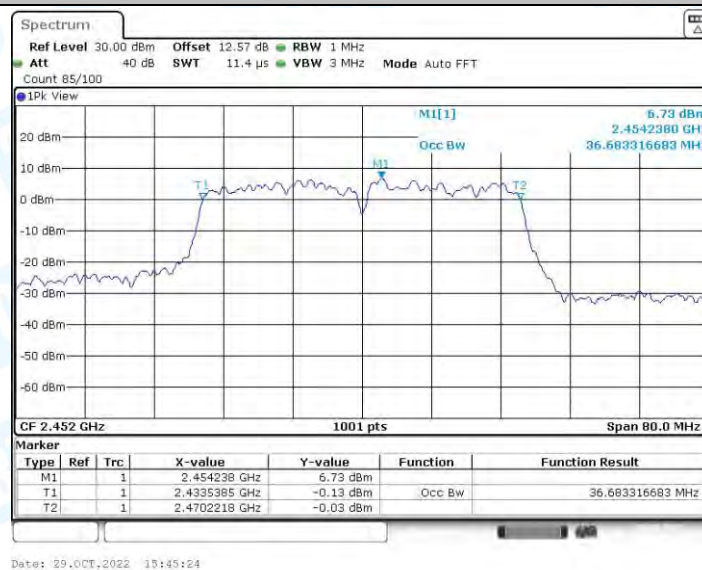
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



3. Maximum conducted output power

3.1. Test Result

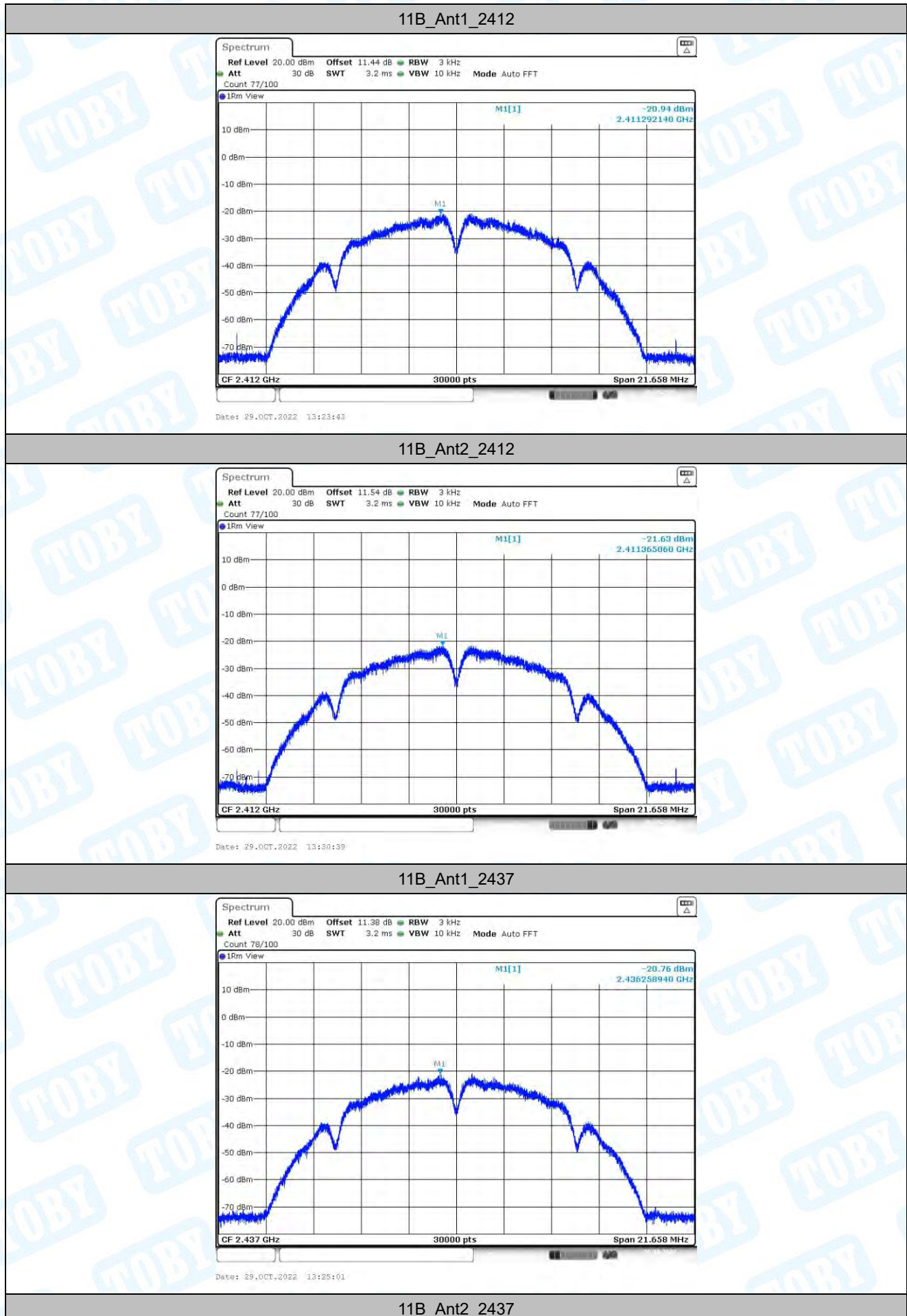
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	8.08	≤30.00	PASS
	Ant2	2412	8.20	≤30.00	PASS
	Ant1	2437	7.90	≤30.00	PASS
	Ant2	2437	8.19	≤30.00	PASS
	Ant1	2462	7.94	≤30.00	PASS
	Ant2	2462	7.68	≤30.00	PASS
11G	Ant1	2412	7.15	≤30.00	PASS
	Ant2	2412	7.70	≤30.00	PASS
	Ant1	2437	7.24	≤30.00	PASS
	Ant2	2437	7.61	≤30.00	PASS
	Ant1	2462	7.10	≤30.00	PASS
	Ant2	2462	7.56	≤30.00	PASS
11N20MIMO	Ant1	2412	4.16	≤30.00	PASS
	Ant2	2412	5.51	≤30.00	PASS
	total	2412	7.90	≤30.00	PASS
	Ant1	2437	3.87	≤30.00	PASS
	Ant2	2437	5.65	≤30.00	PASS
	total	2437	7.86	≤30.00	PASS
	Ant1	2462	3.87	≤30.00	PASS
	Ant2	2462	5.29	≤30.00	PASS
	total	2462	7.65	≤30.00	PASS
11N40MIMO	Ant1	2422	4.83	≤30.00	PASS
	Ant2	2422	5.77	≤30.00	PASS
	total	2422	8.34	≤30.00	PASS
	Ant1	2437	5.22	≤30.00	PASS
	Ant2	2437	6.31	≤30.00	PASS
	total	2437	8.81	≤30.00	PASS
	Ant1	2452	4.90	≤30.00	PASS
	Ant2	2452	5.73	≤30.00	PASS
	total	2452	8.35	≤30.00	PASS

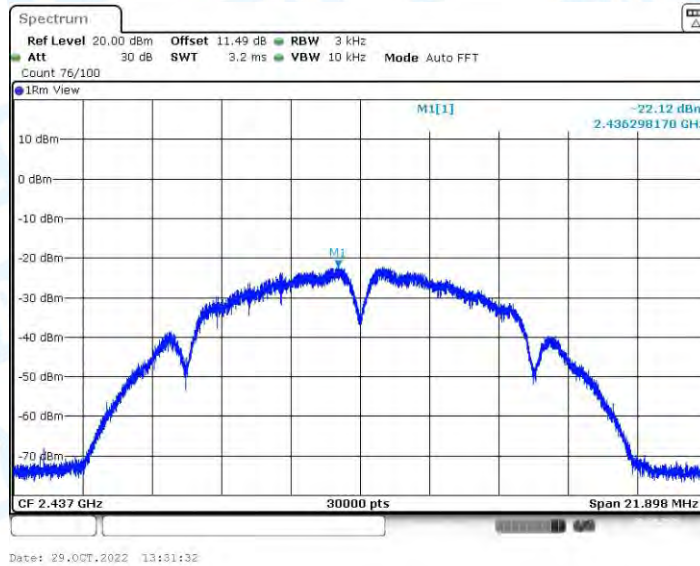
4. Maximum power spectral density

4.1. Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-20.94	≤8.00	PASS
	Ant2	2412	-21.63	≤8.00	PASS
	Ant1	2437	-20.76	≤8.00	PASS
	Ant2	2437	-22.12	≤8.00	PASS
	Ant1	2462	-21.67	≤8.00	PASS
	Ant2	2462	-22.09	≤8.00	PASS
11G	Ant1	2412	-19.23	≤8.00	PASS
	Ant2	2412	-18.77	≤8.00	PASS
	Ant1	2437	-18.74	≤8.00	PASS
	Ant2	2437	-19.02	≤8.00	PASS
	Ant1	2462	-18.96	≤8.00	PASS
	Ant2	2462	-19.44	≤8.00	PASS
11N20MIMO	Ant1	2412	-24.2	≤8.00	PASS
	Ant2	2412	-22.32	≤8.00	PASS
	total	2412	-20.15	≤8.00	PASS
	Ant1	2437	-24.08	≤8.00	PASS
	Ant2	2437	-22.12	≤8.00	PASS
	total	2437	-19.98	≤8.00	PASS
	Ant1	2462	-24.04	≤8.00	PASS
	Ant2	2462	-21.73	≤8.00	PASS
	total	2462	-19.72	≤8.00	PASS
11N40MIMO	Ant1	2422	-24.84	≤8.00	PASS
	Ant2	2422	-24.74	≤8.00	PASS
	total	2422	-21.78	≤8.00	PASS
	Ant1	2437	-24.24	≤8.00	PASS
	Ant2	2437	-24.9	≤8.00	PASS
	total	2437	-21.55	≤8.00	PASS
	Ant1	2452	-24.44	≤8.00	PASS
	Ant2	2452	-24.78	≤8.00	PASS
	total	2452	-21.60	≤8.00	PASS

4.2. Test Graphs

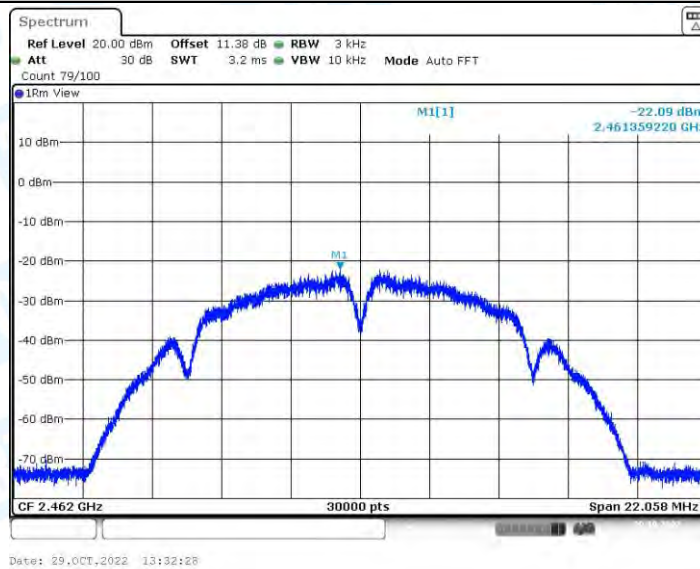




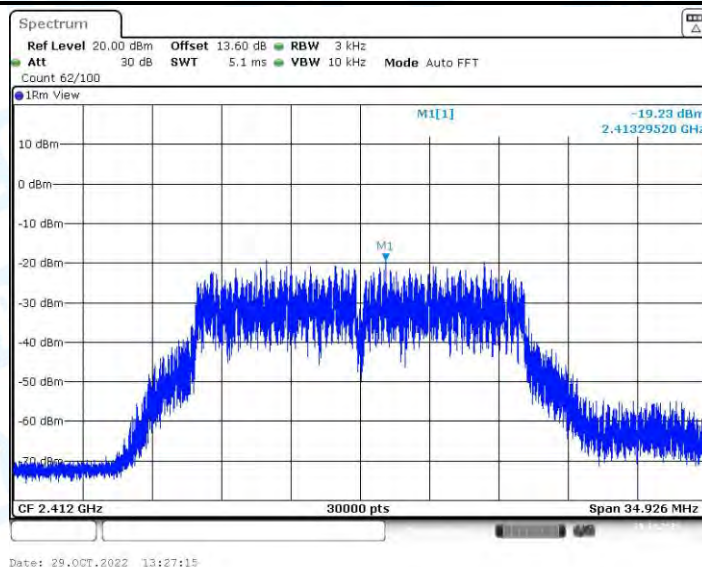
11B_Ant1_2462



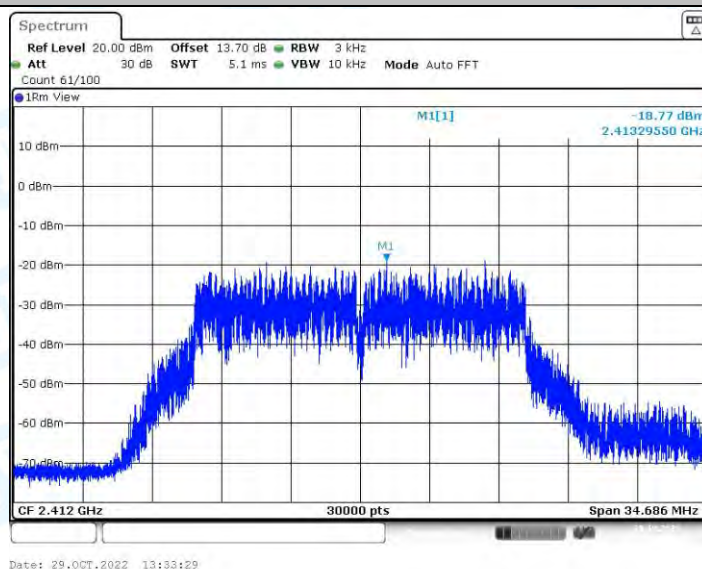
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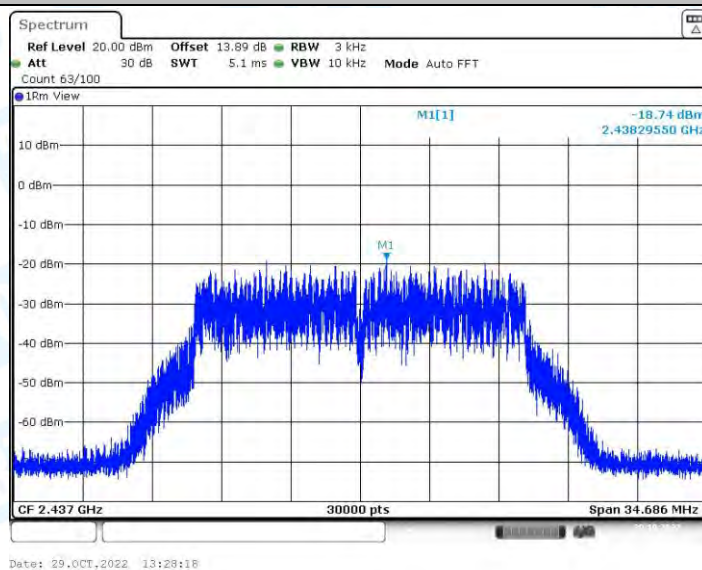
11G_Ant1_2412



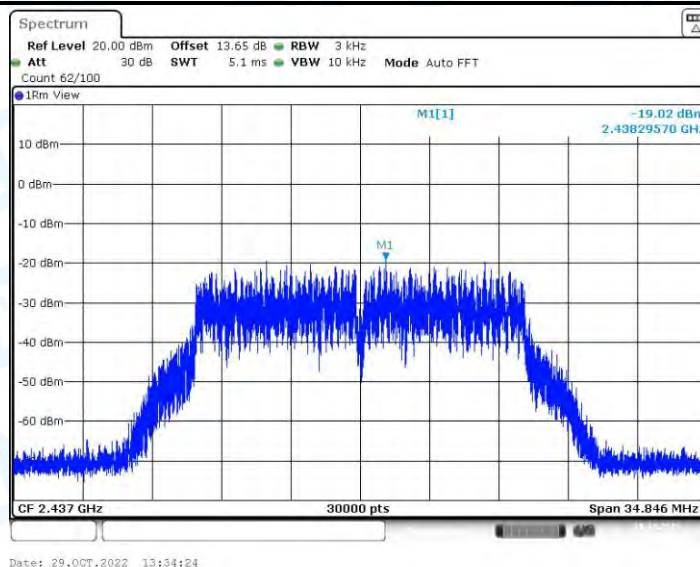
11G_Ant2_2412



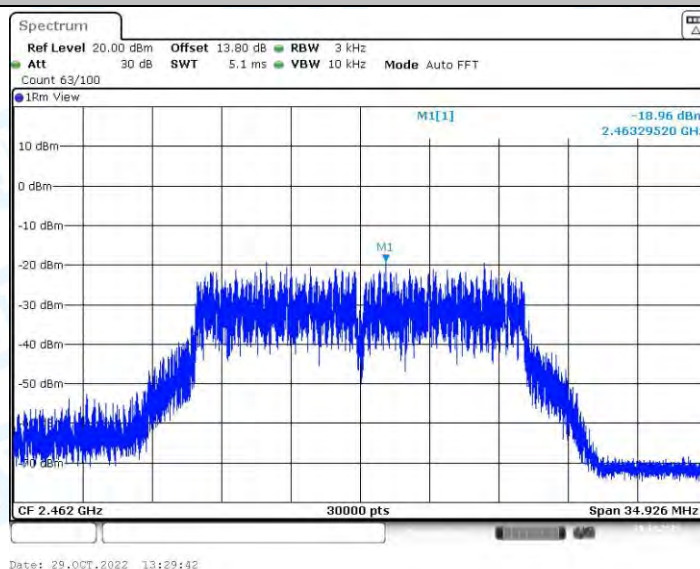
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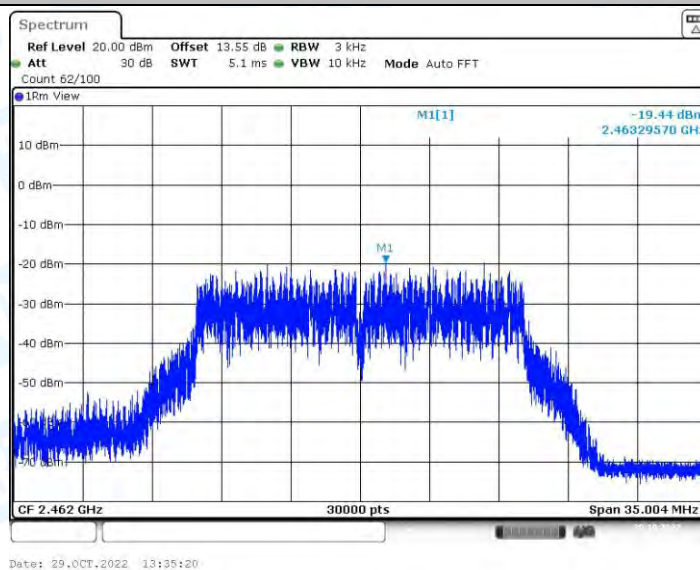
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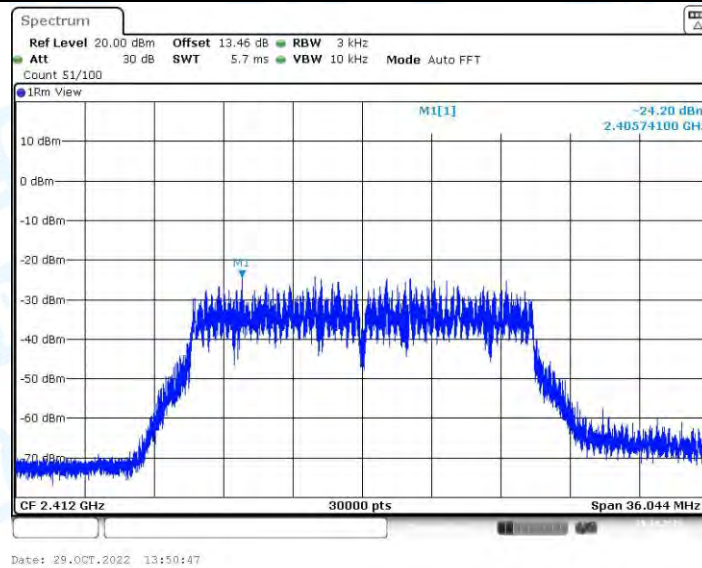
11G_Ant1_2462



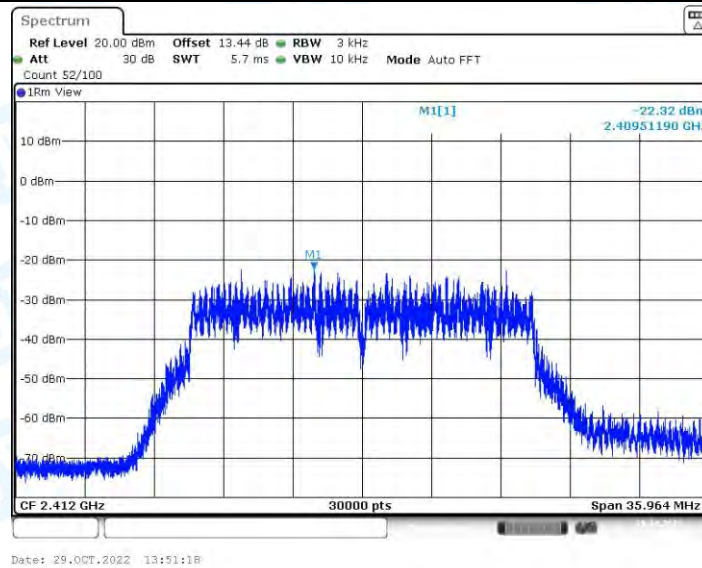
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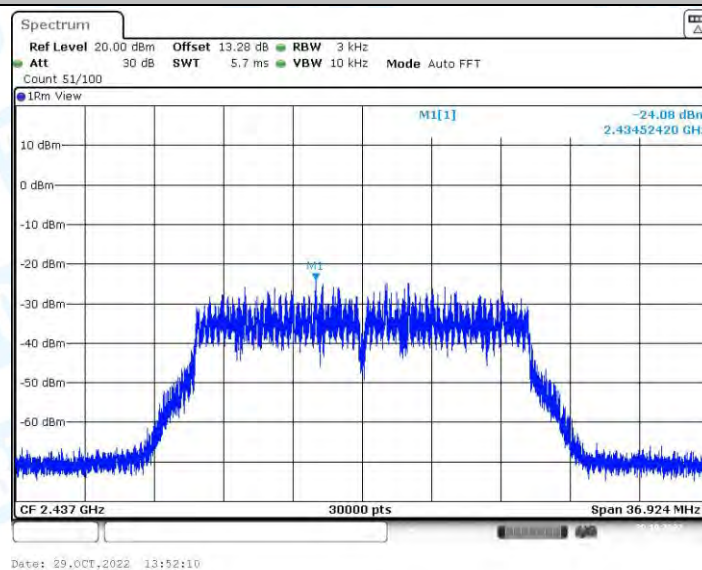
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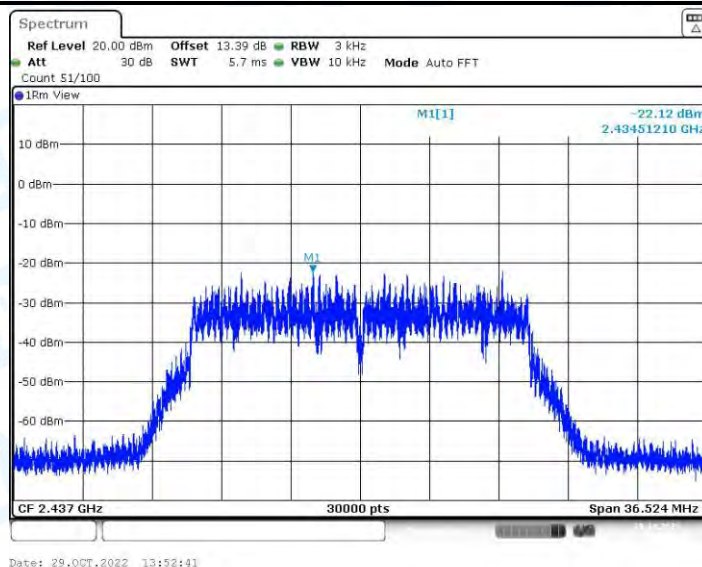
11N20MIMO_Ant2_2412



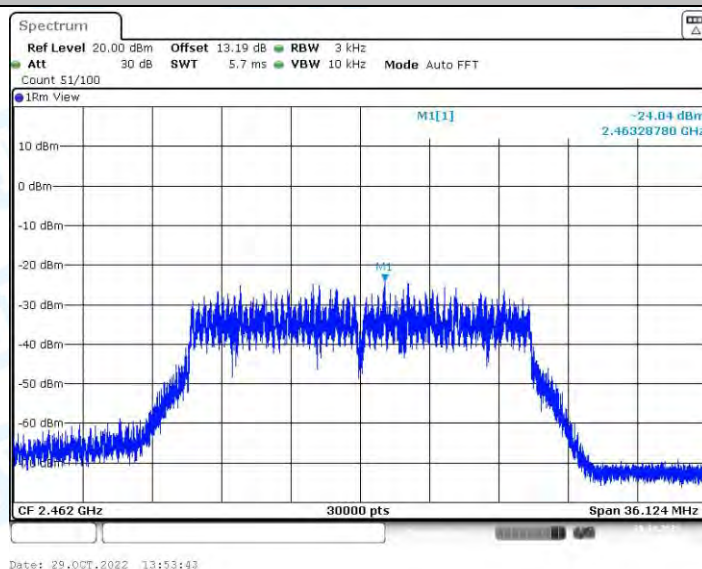
11N20MIMO_Ant1_2437



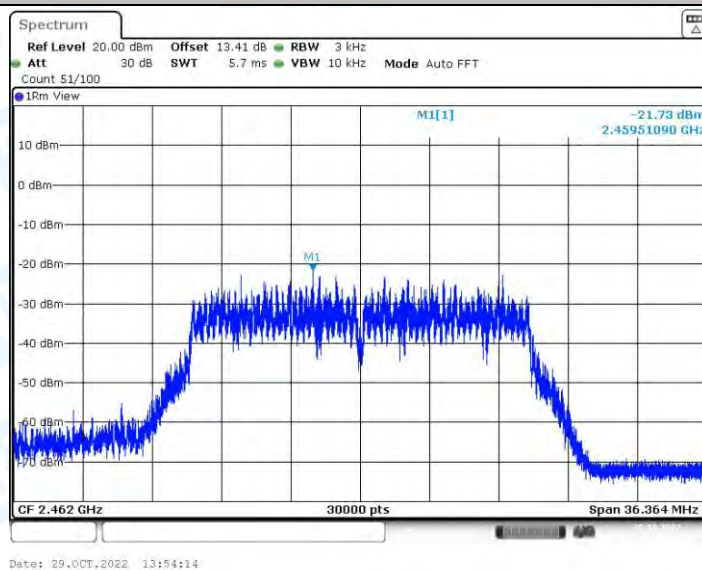
11N20MIMO_Ant2_2437



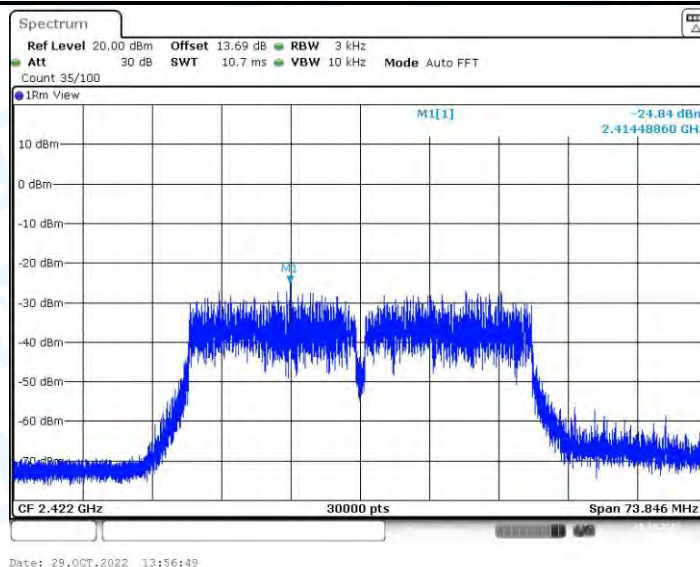
11N20MIMO_Ant1_2462



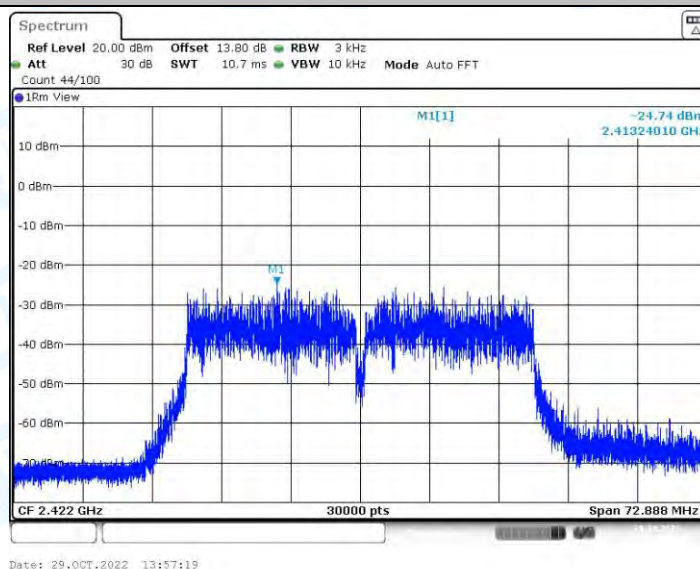
11N20MIMO_Ant2_2462



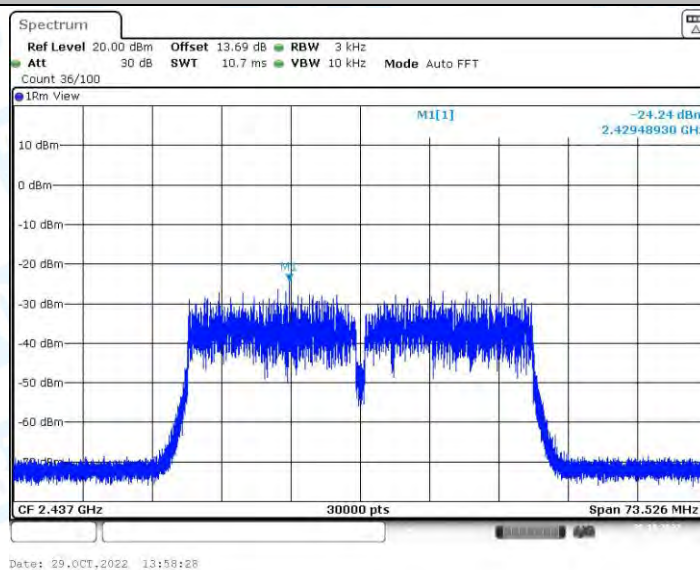
11N40MIMO_Ant1_2422



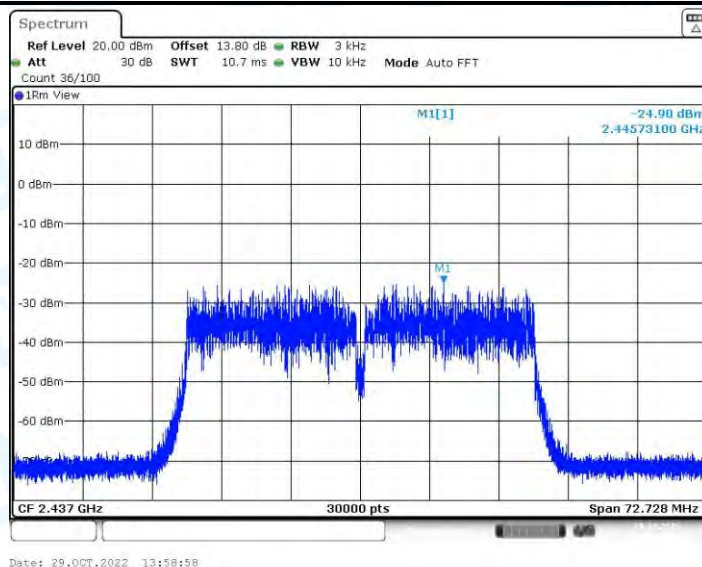
11N40MIMO_Ant2_2422



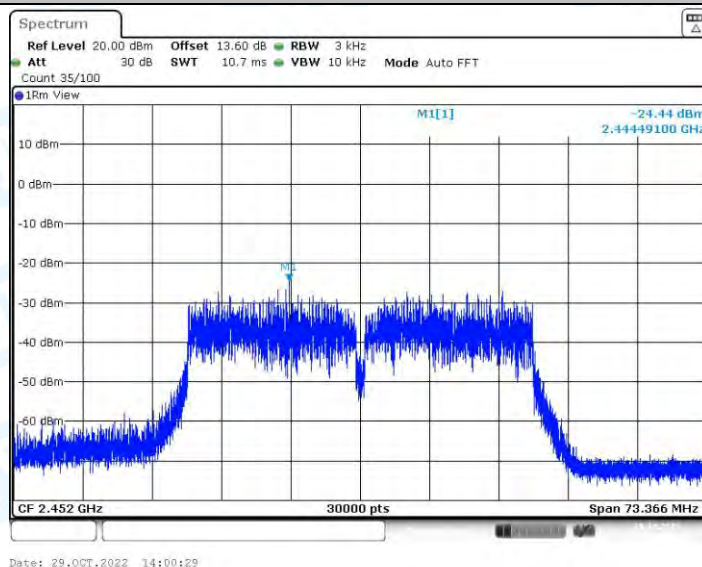
11N40MIMO_Ant1_2437



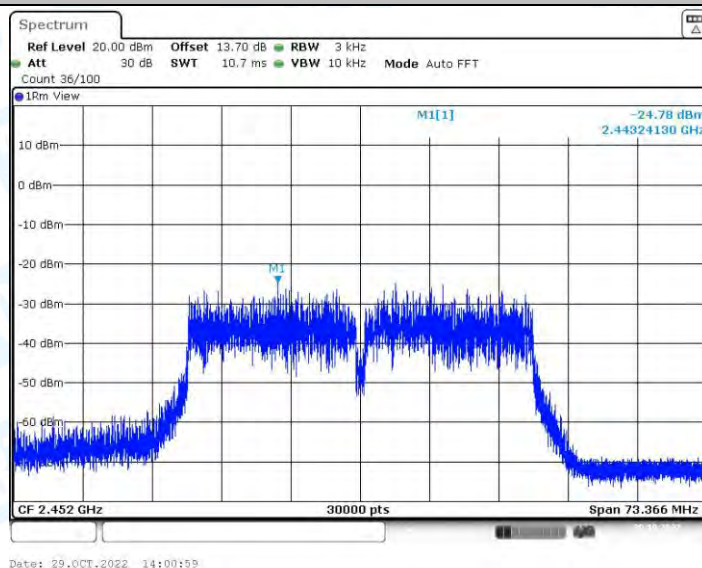
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452

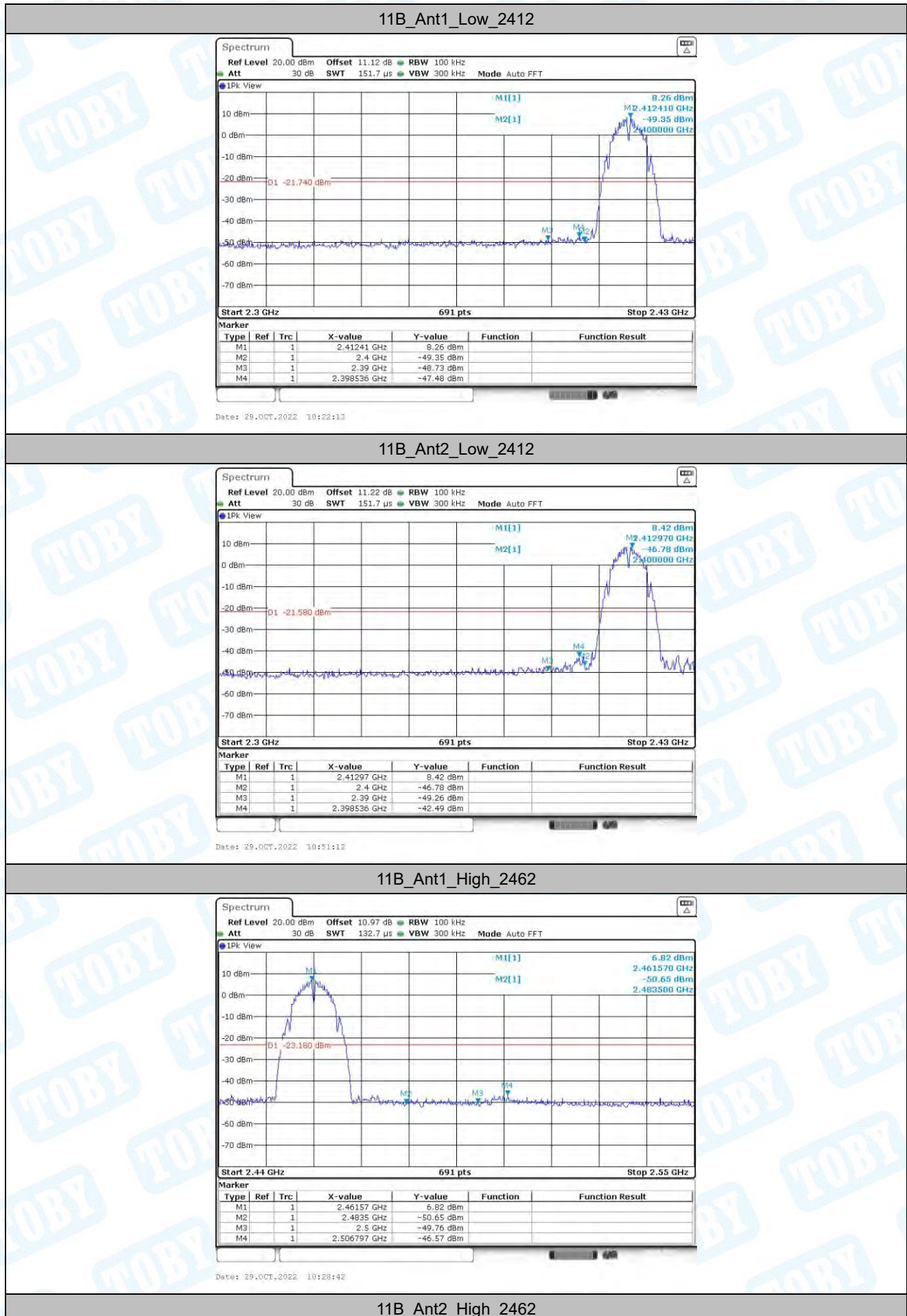


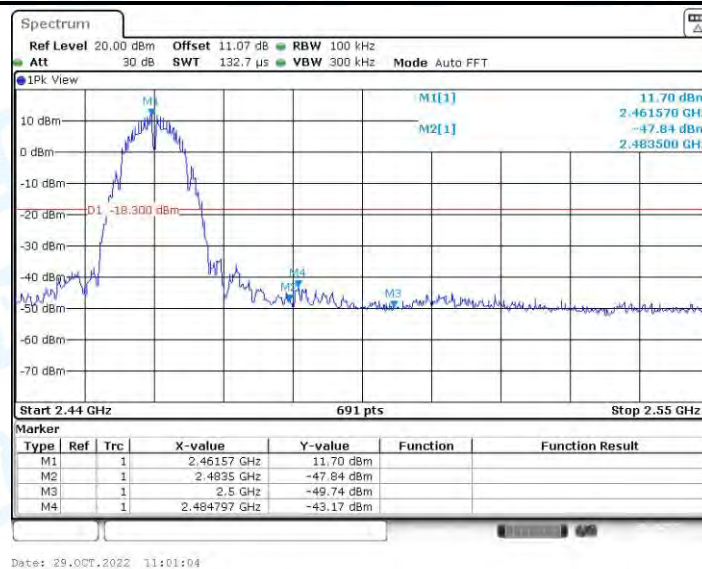
5. Band edge measurements

5.1. Test Result

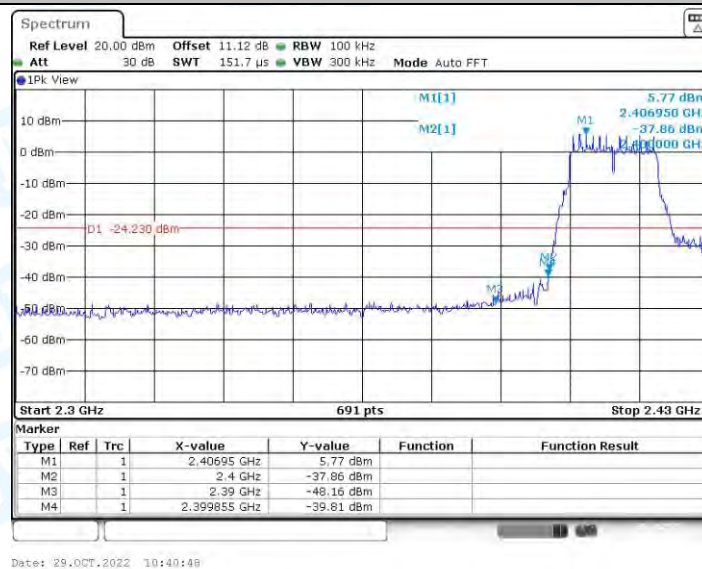
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	8.26	-47.48	≤ -21.74	PASS
	Ant2	Low	2412	8.42	-42.49	≤ -21.58	PASS
	Ant1	High	2462	6.82	-46.57	≤ -23.18	PASS
	Ant2	High	2462	11.70	-43.17	≤ -18.3	PASS
11G	Ant1	Low	2412	5.77	-39.81	≤ -24.23	PASS
	Ant2	Low	2412	8.14	-33.34	≤ -21.86	PASS
	Ant1	High	2462	5.54	-45.89	≤ -24.46	PASS
	Ant2	High	2462	7.36	-43.87	≤ -22.64	PASS
11N20MIMO	Ant1	Low	2412	4.31	-41.44	≤ -25.69	PASS
	Ant2	Low	2412	5.07	-34.15	≤ -24.93	PASS
	Ant1	High	2462	2.37	-47.03	≤ -27.63	PASS
	Ant2	High	2462	3.53	-41.4	≤ -26.47	PASS
11N40MIMO	Ant1	Low	2422	-5.87	-41.8	≤ -35.87	PASS
	Ant2	Low	2422	-5.01	-44	≤ -35.01	PASS
	Ant1	High	2452	-5.56	-46.12	≤ -35.56	PASS
	Ant2	High	2452	-6.44	-46.42	≤ -36.44	PASS

5.2. Test Graphs

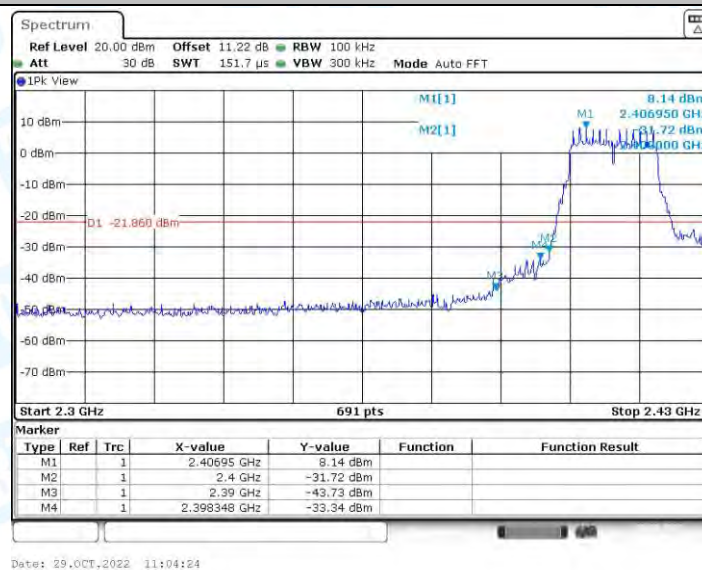




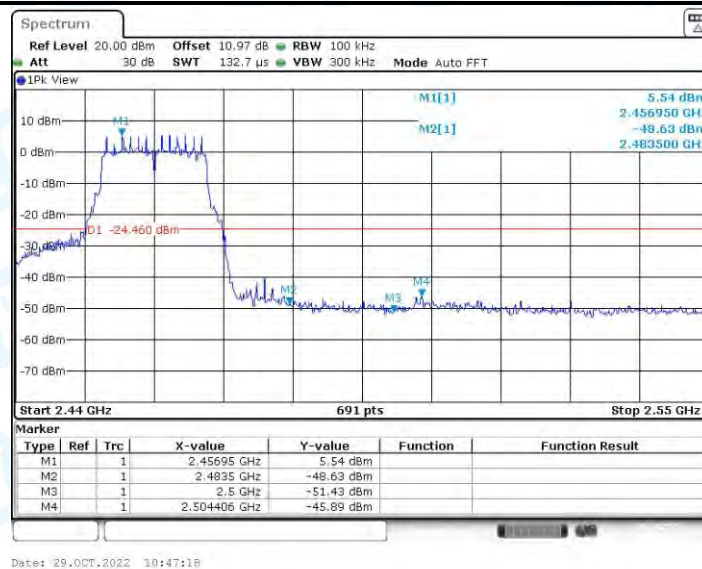
11G_Ant1_Low_2412



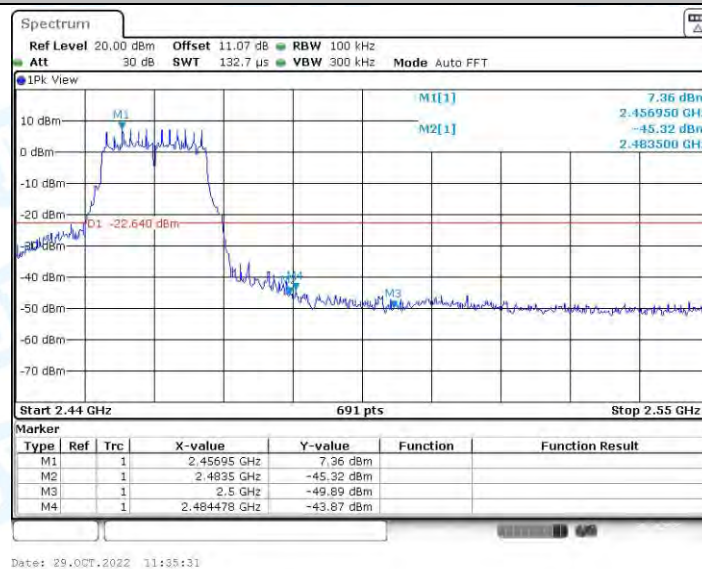
11G_Ant2_Low_2412



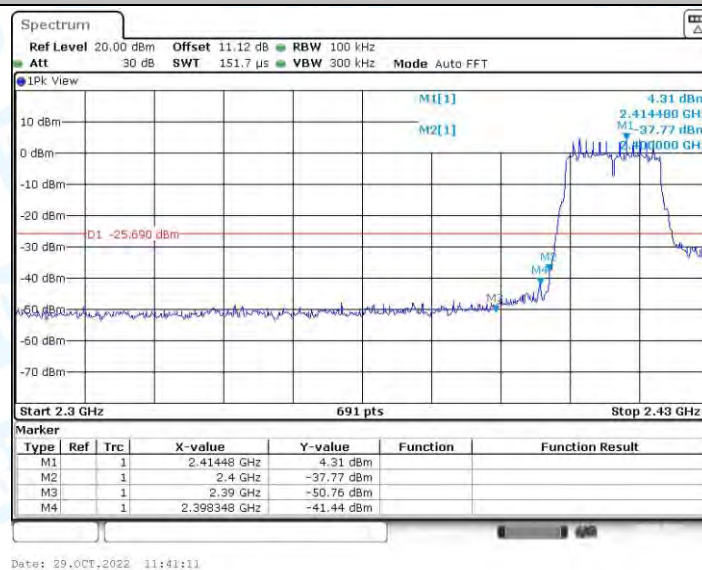
11G_Ant1_High_2462



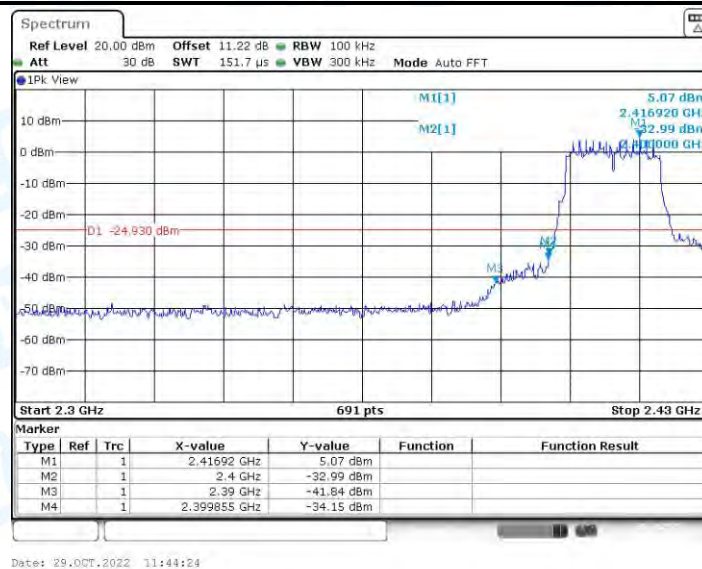
11G_Ant2_High_2462



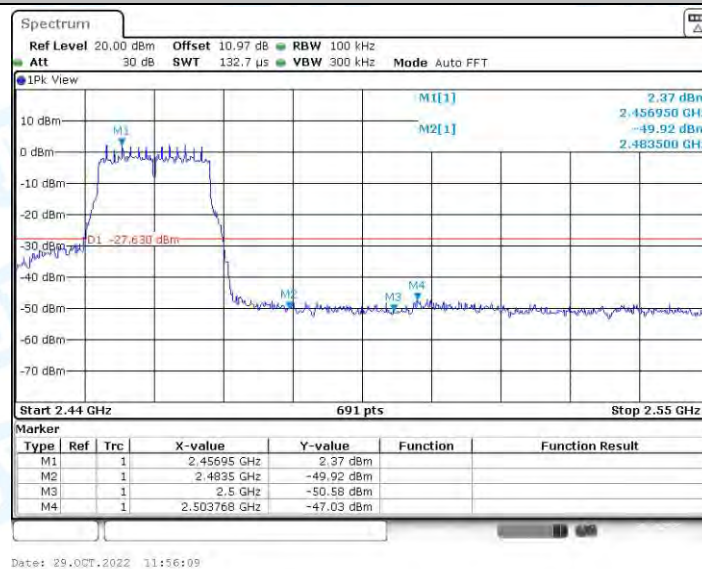
11N20MIMO_Ant1_Low_2412



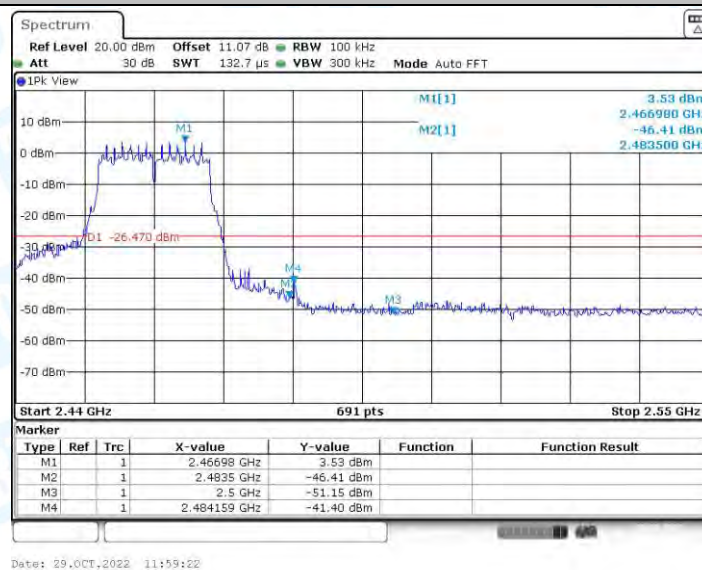
11N20MIMO_Ant2_Low_2412



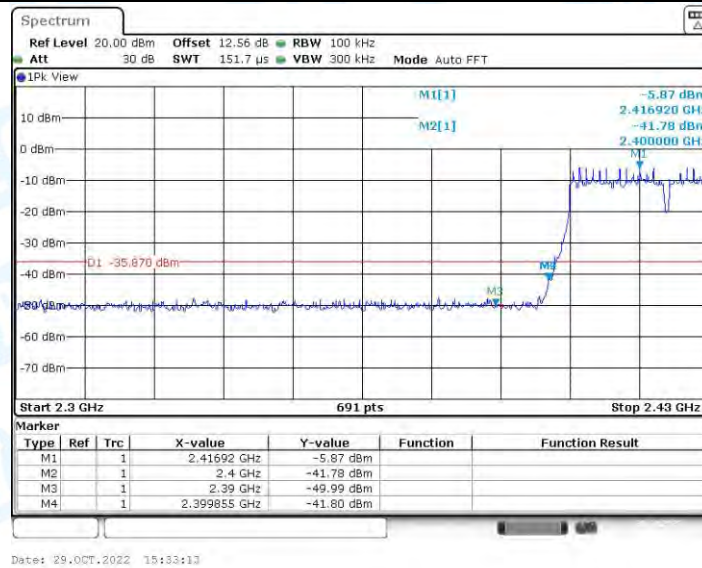
11N20MIMO_Ant1_High_2462



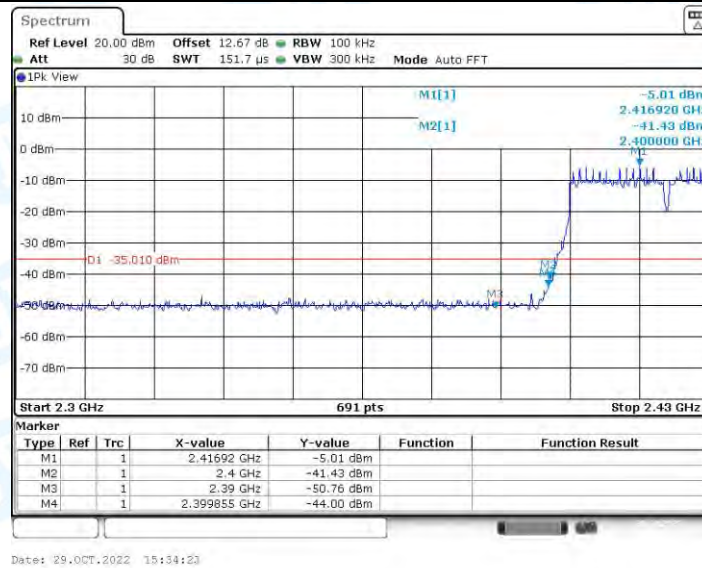
11N20MIMO_Ant2_High_2462



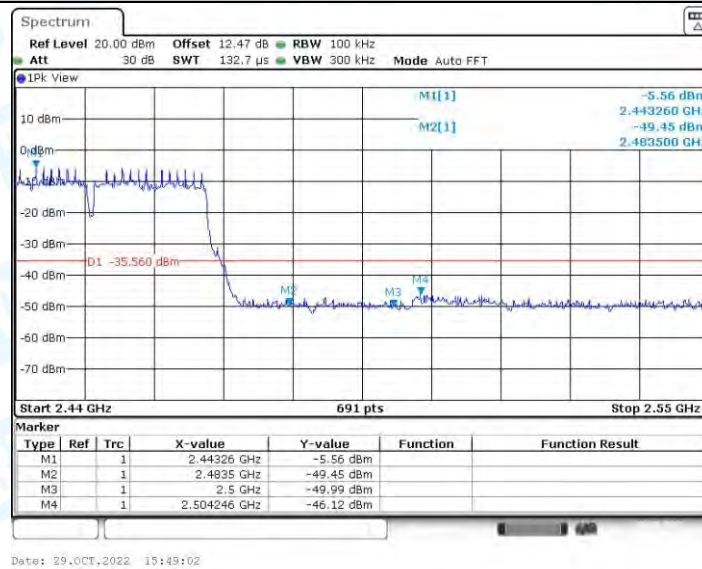
11N40MIMO_Ant1_Low_2422



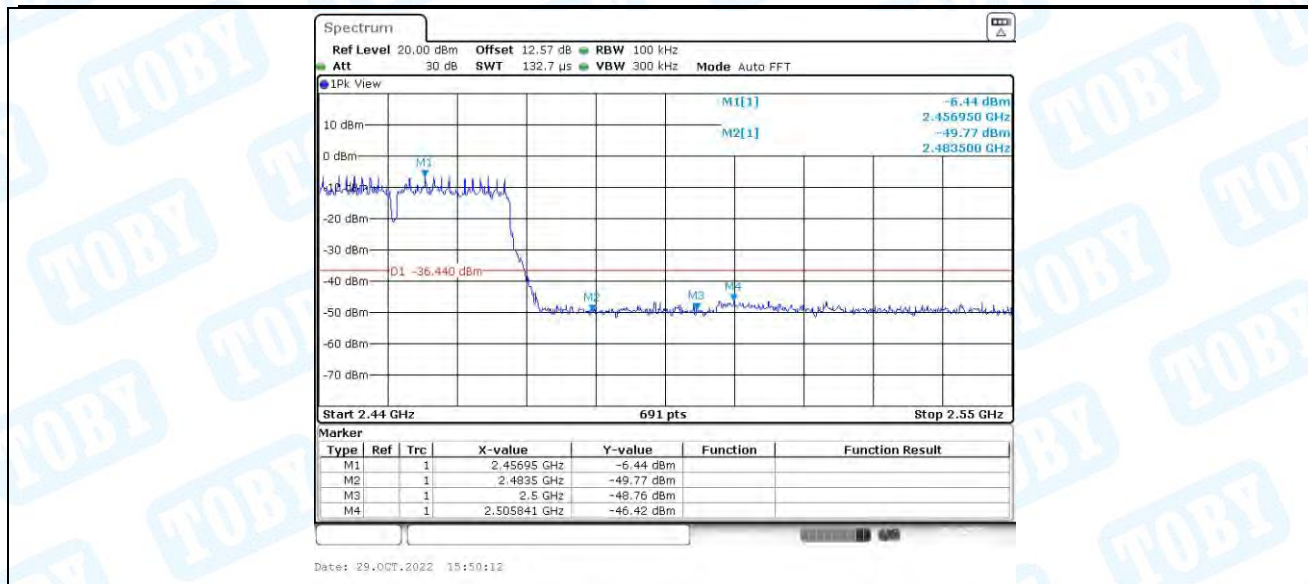
11N40MIMO_Ant2_Low_2422



11N40MIMO_Ant1_High_2452



11N40MIMO_Ant2_High_2452



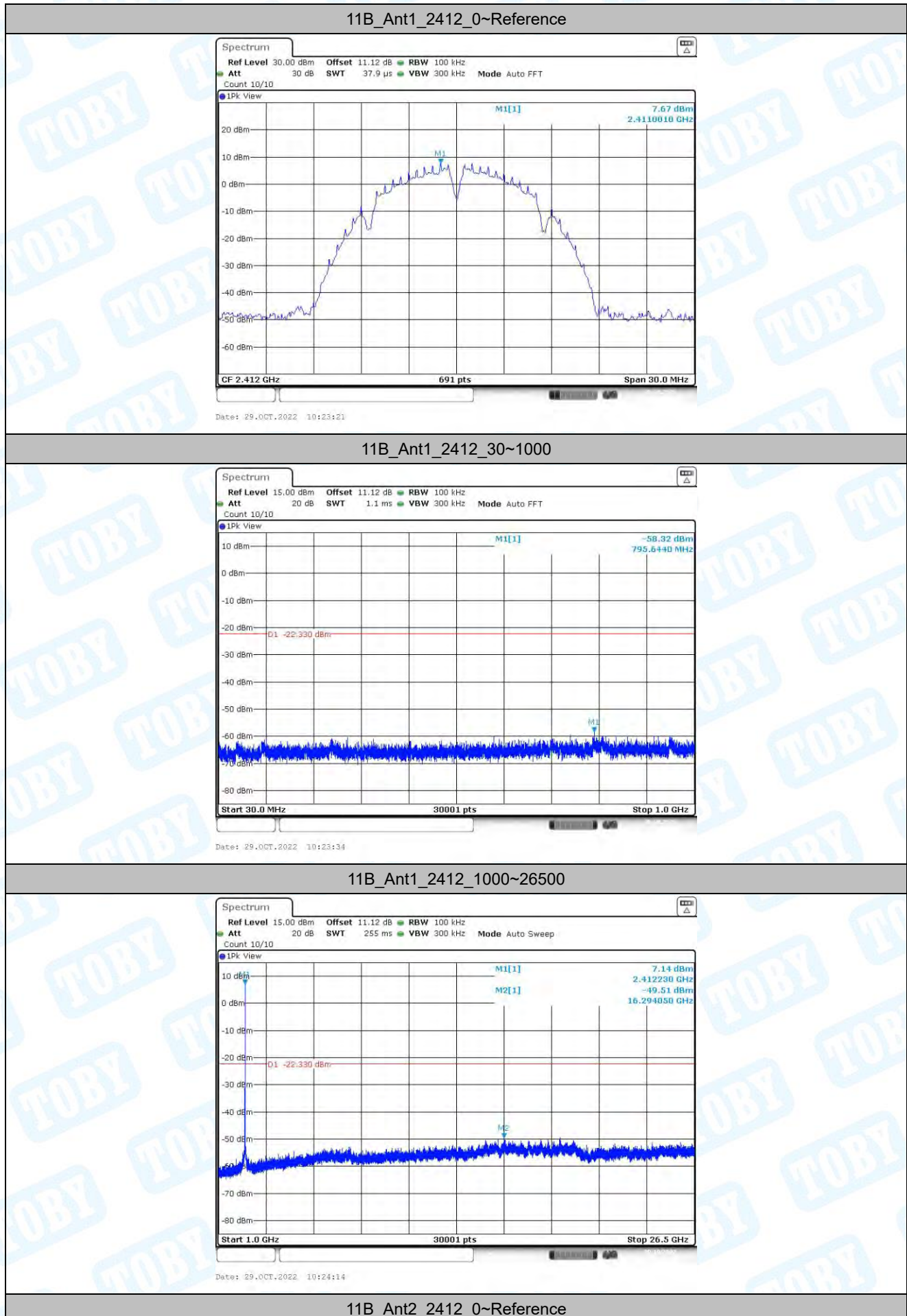
6. Conducted Spurious Emission

6.1. Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	7.67	7.67	---	PASS
			30~1000	7.67	-58.32	≤-22.33	PASS
			1000~26500	7.67	-49.51	≤-22.33	PASS
	Ant2	2412	Reference	9.49	9.49	---	PASS
			30~1000	9.49	-57.86	≤-20.51	PASS
			1000~26500	9.49	-48.82	≤-20.51	PASS
	Ant1	2437	Reference	8.01	8.01	---	PASS
			30~1000	8.01	-59.1	≤-21.99	PASS
			1000~26500	8.01	-49.04	≤-21.99	PASS
	Ant2	2437	Reference	11.35	11.35	---	PASS
			30~1000	11.35	-59.12	≤-18.65	PASS
			1000~26500	11.35	-47.28	≤-18.65	PASS
	Ant1	2462	Reference	7.36	7.36	---	PASS
			30~1000	7.36	-59.15	≤-22.64	PASS
			1000~26500	7.36	-48.39	≤-22.64	PASS
	Ant2	2462	Reference	10.79	10.79	---	PASS
			30~1000	10.79	-59.11	≤-19.21	PASS
			1000~26500	10.79	-46.58	≤-19.21	PASS
11G	Ant1	2412	Reference	5.88	5.88	---	PASS
			30~1000	5.88	-59.76	≤-24.12	PASS
			1000~26500	5.88	-50.09	≤-24.12	PASS
	Ant2	2412	Reference	5.81	5.81	---	PASS
			30~1000	5.81	-58.48	≤-24.19	PASS
			1000~26500	5.81	-50.27	≤-24.19	PASS
	Ant1	2437	Reference	5.57	5.57	---	PASS
			30~1000	5.57	-59.28	≤-24.43	PASS
			1000~26500	5.57	-48.84	≤-24.43	PASS
	Ant2	2437	Reference	7.58	7.58	---	PASS
			30~1000	7.58	-58.7	≤-22.42	PASS
			1000~26500	7.58	-50.03	≤-22.42	PASS
	Ant1	2462	Reference	5.60	5.60	---	PASS
			30~1000	5.60	-59.2	≤-24.4	PASS
			1000~26500	5.60	-49.88	≤-24.4	PASS
	Ant2	2462	Reference	7.47	7.47	---	PASS
			30~1000	7.47	-59.21	≤-22.53	PASS
			1000~26500	7.47	-49.88	≤-22.53	PASS
11N20MIMO	Ant1	2412	Reference	4.45	4.45	---	PASS
			30~1000	4.45	-59.33	≤-25.55	PASS
			1000~26500	4.45	-49.98	≤-25.55	PASS
	Ant2	2412	Reference	3.78	3.78	---	PASS
			30~1000	3.78	-58.55	≤-26.22	PASS

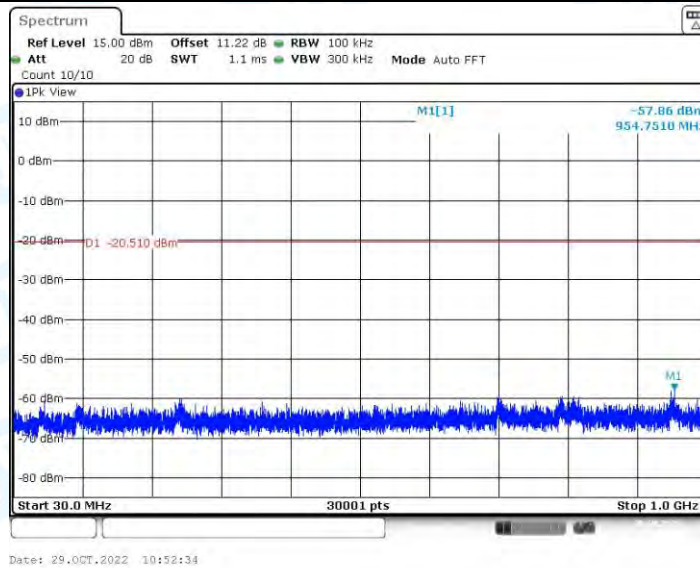
	Ant1	2437	1000~26500	3.78	-49.78	≤ -26.22	PASS
			Reference	3.18	3.18	---	PASS
			30~1000	3.18	-58.89	≤ -26.82	PASS
			1000~26500	3.18	-49.71	≤ -26.82	PASS
	Ant2	2437	Reference	4.06	4.06	---	PASS
			30~1000	4.06	-58.44	≤ -25.94	PASS
			1000~26500	4.06	-49.75	≤ -25.94	PASS
	Ant1	2462	Reference	3.03	3.03	---	PASS
			30~1000	3.03	-59.43	≤ -26.97	PASS
			1000~26500	3.03	-49.95	≤ -26.97	PASS
	Ant2	2462	Reference	3.59	3.59	---	PASS
			30~1000	3.59	-59.38	≤ -26.41	PASS
			1000~26500	3.59	-49.65	≤ -26.41	PASS
11N40MIMO	Ant1	2422	Reference	0.65	0.65	---	PASS
			30~1000	0.65	-58.13	≤ -29.35	PASS
			1000~26500	0.65	-48.37	≤ -29.35	PASS
	Ant2	2422	Reference	0.38	0.38	---	PASS
			30~1000	0.38	-57.54	≤ -29.62	PASS
			1000~26500	0.38	-47.94	≤ -29.62	PASS
	Ant1	2437	Reference	0.44	0.44	---	PASS
			30~1000	0.44	-57.24	≤ -29.56	PASS
			1000~26500	0.44	-48.72	≤ -29.56	PASS
	Ant2	2437	Reference	0.29	0.29	---	PASS
			30~1000	0.29	-57.78	≤ -29.71	PASS
			1000~26500	0.29	-47.37	≤ -29.71	PASS
	Ant1	2452	Reference	0.36	0.36	---	PASS
			30~1000	0.36	-58.17	≤ -29.64	PASS
			1000~26500	0.36	-48.49	≤ -29.64	PASS
	Ant2	2452	Reference	0.07	0.07	---	PASS
			30~1000	0.07	-56.66	≤ -29.93	PASS
			1000~26500	0.07	-48.64	≤ -29.93	PASS

6.2. Test Graphs

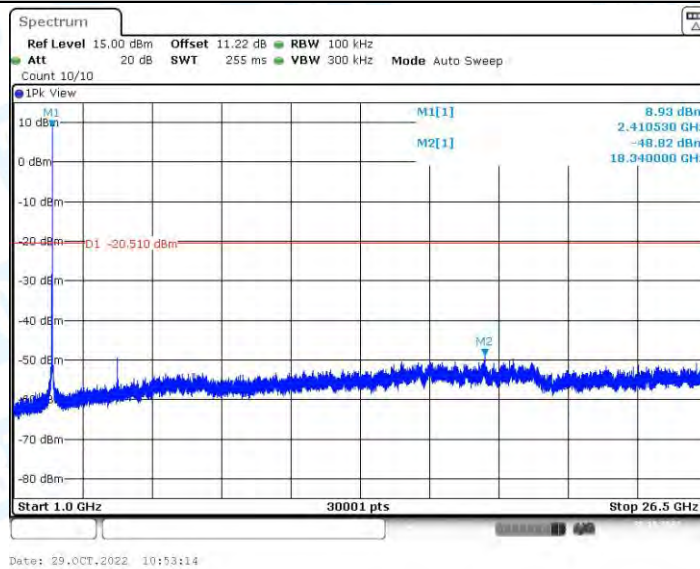




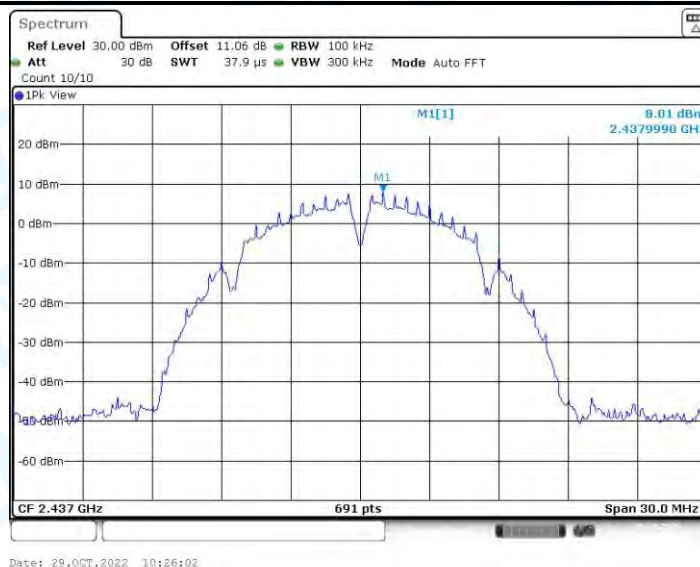
11B_Ant2_2412_30~1000



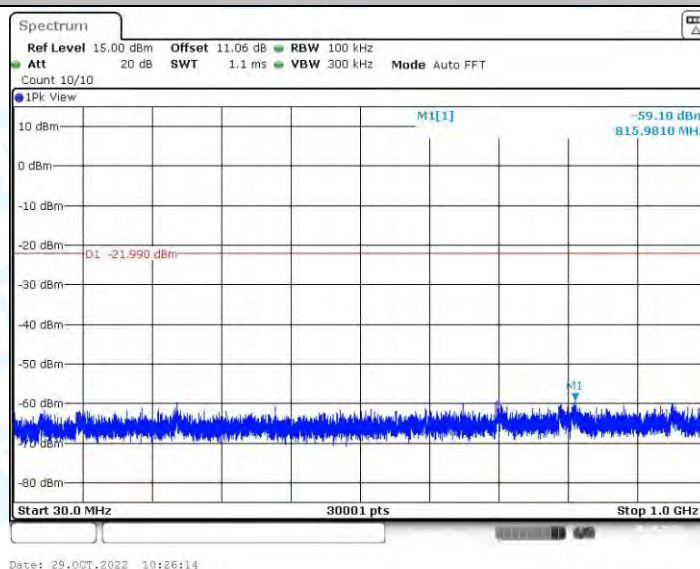
11B_Ant2_2412_1000~26500



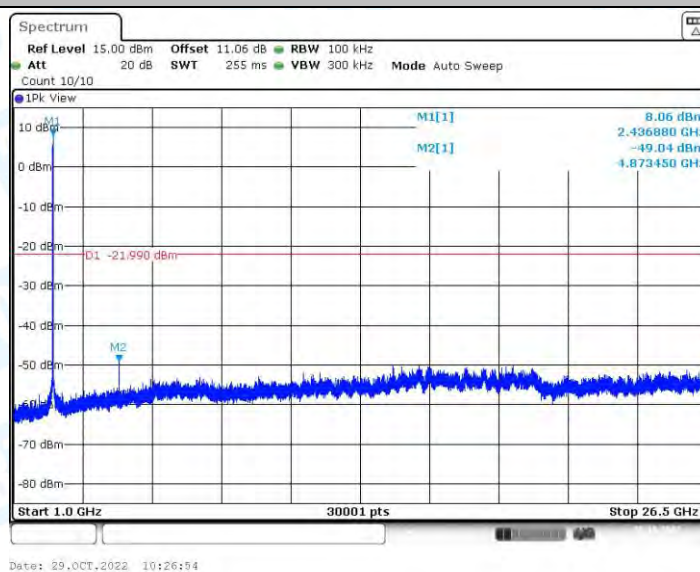
11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



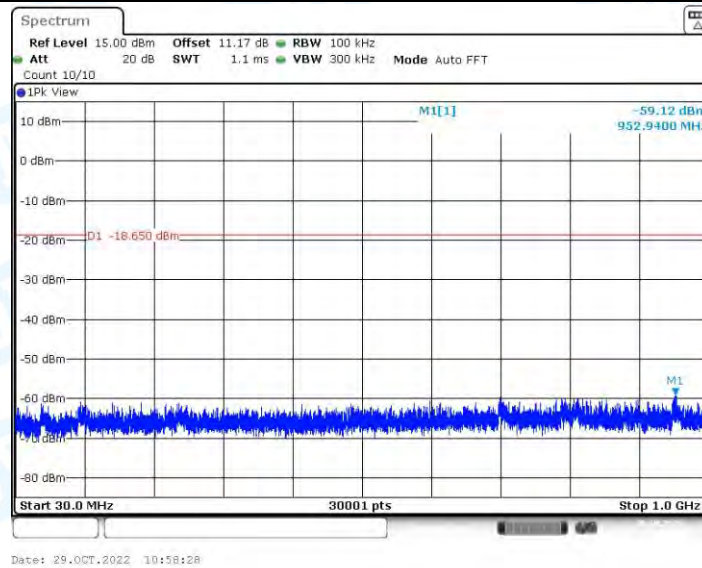
11B_Ant1_2437_1000~26500



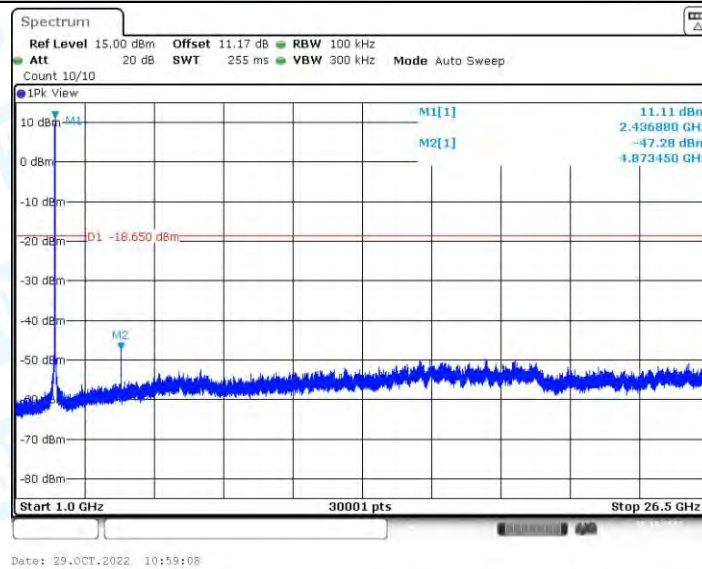
11B_Ant2_2437_0~Reference



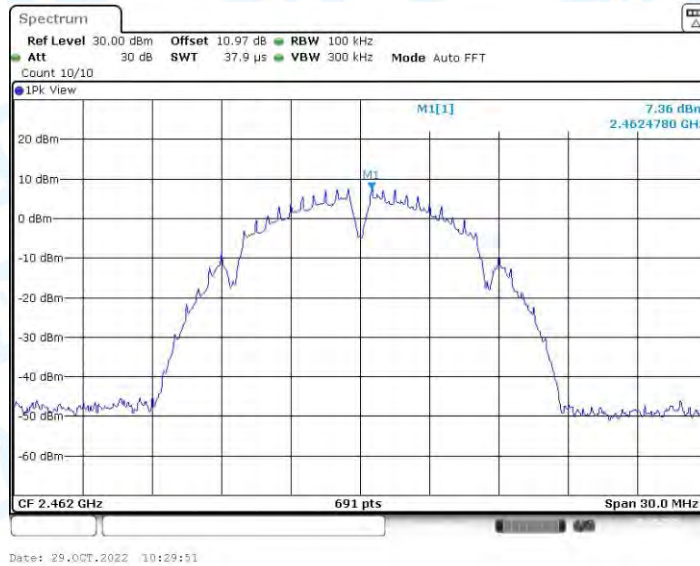
11B_Ant2_2437_30~1000



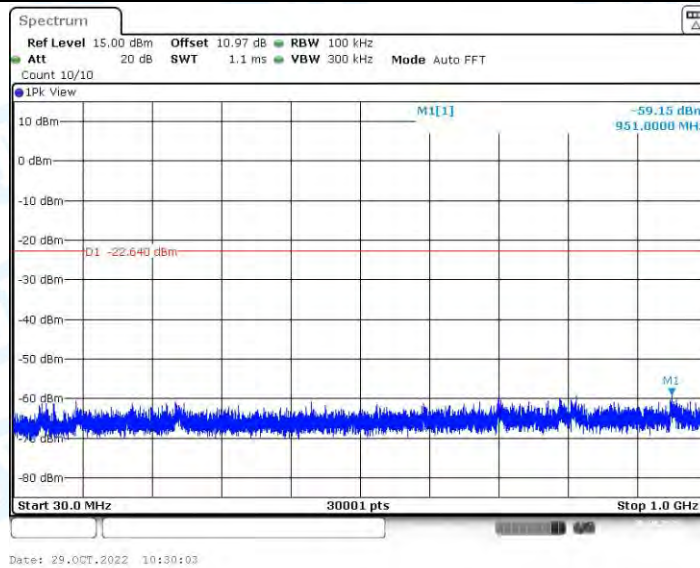
11B_Ant2_2437_1000~26500



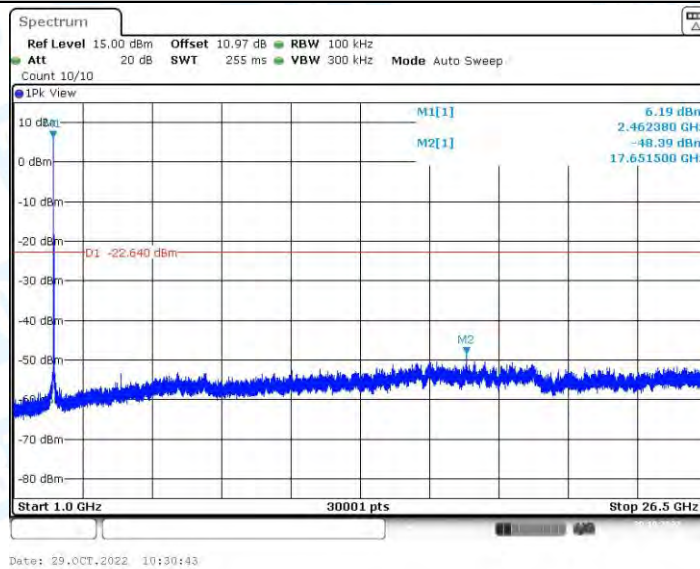
11B_Ant1_2462_0~Reference



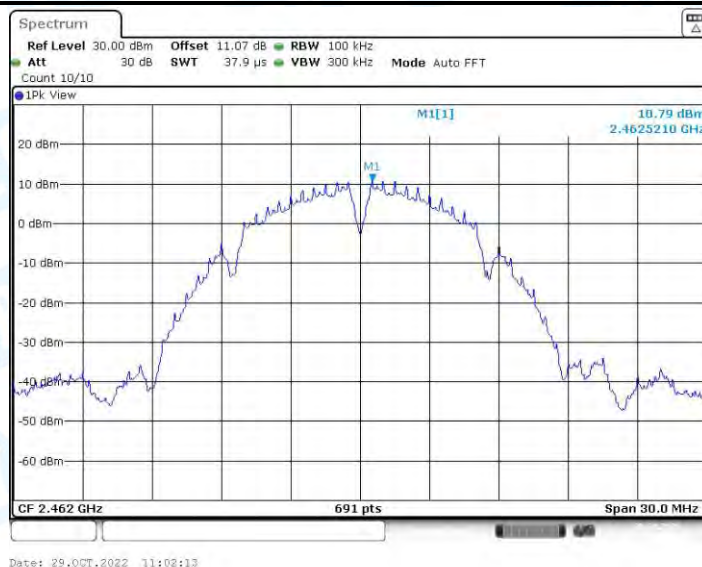
11B_Ant1_2462_30~1000



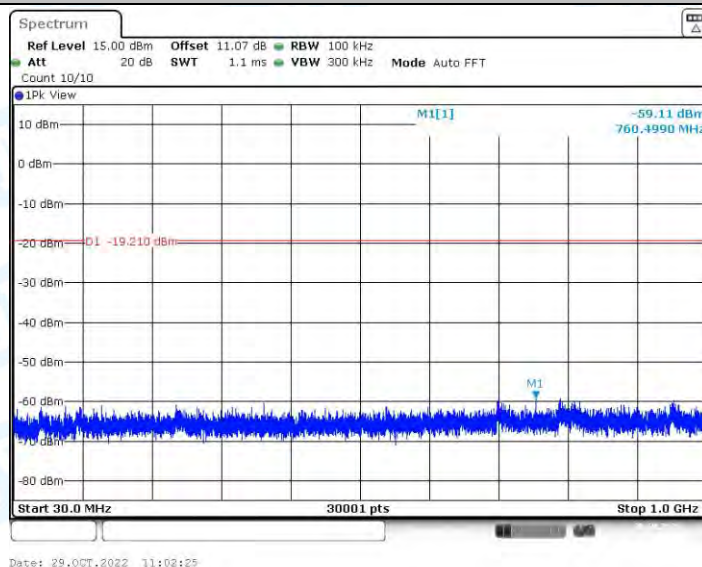
11B_Ant1_2462_1000~26500



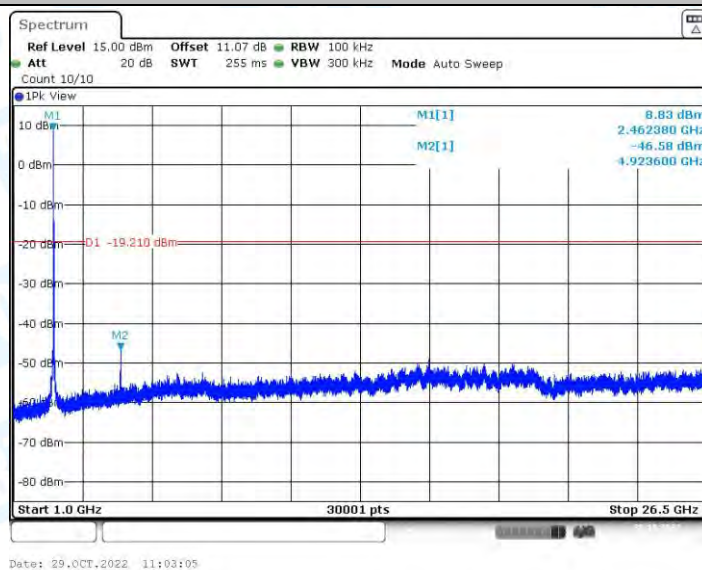
11B_Ant2_2462_0~Reference



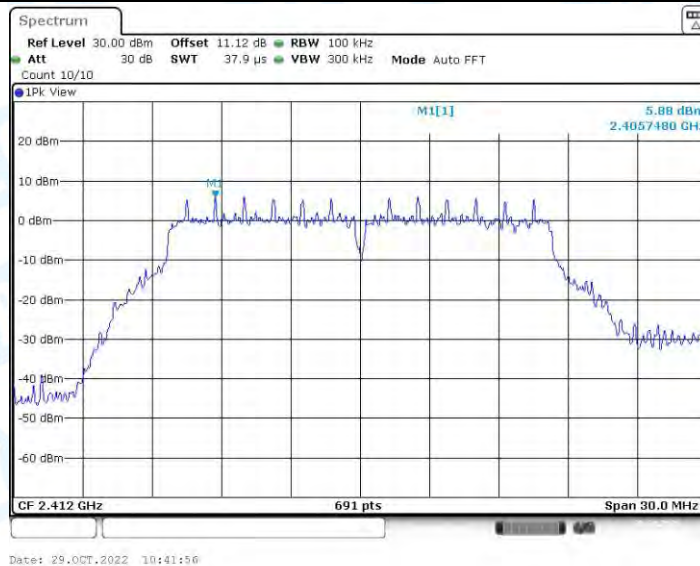
11B_Ant2_2462_30~1000



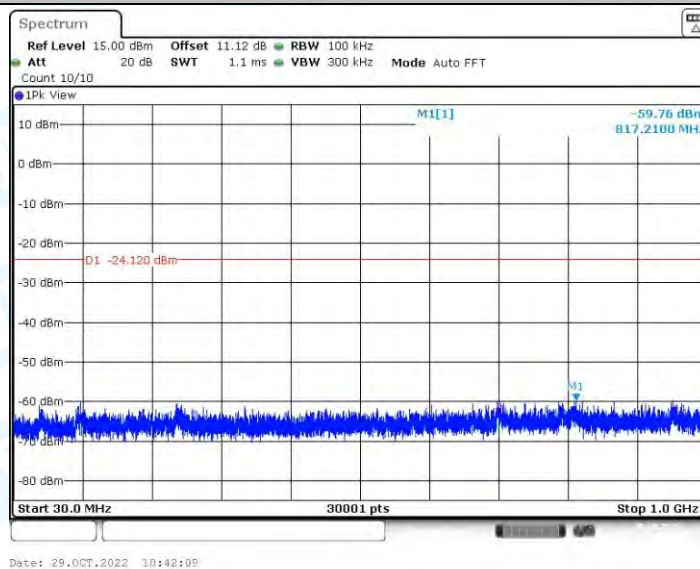
11B_Ant2_2462_1000~26500



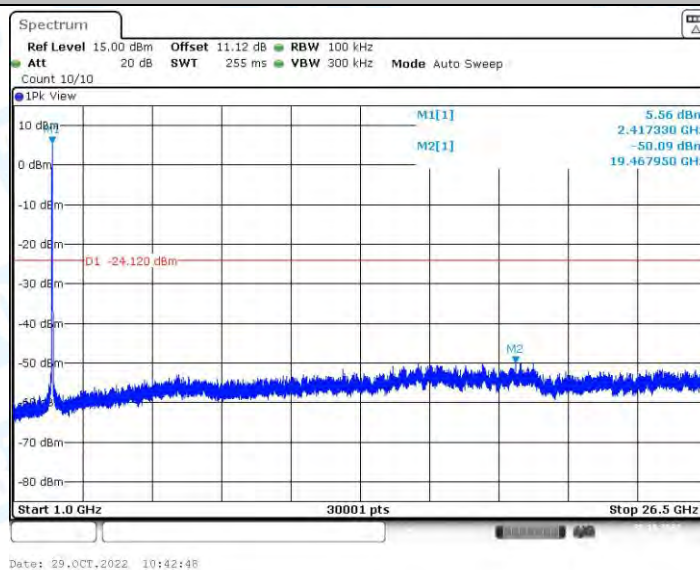
11G_Ant1_2412_0~Reference



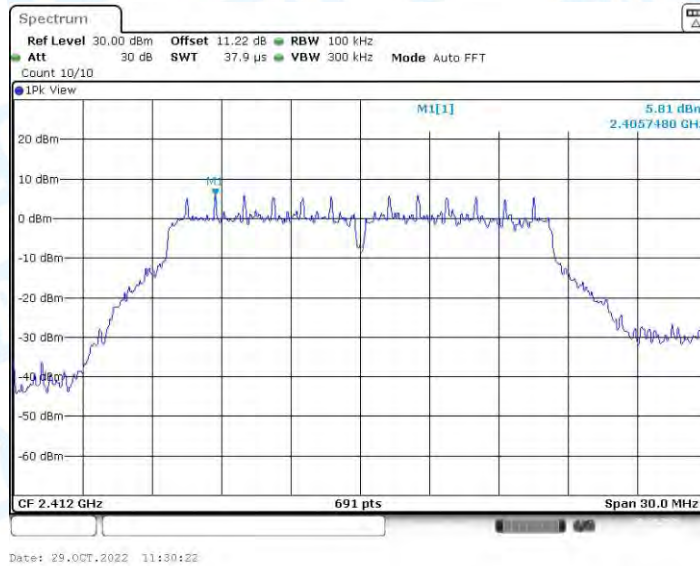
11G_Ant1_2412_30~1000



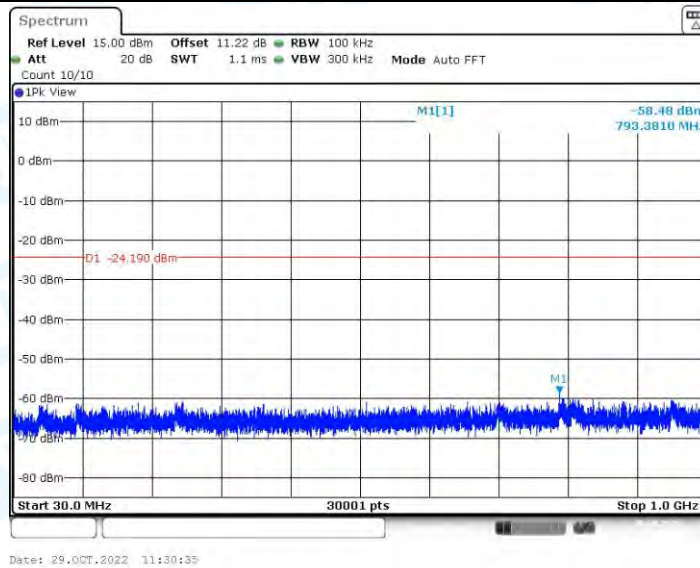
11G_Ant1_2412_1000~26500



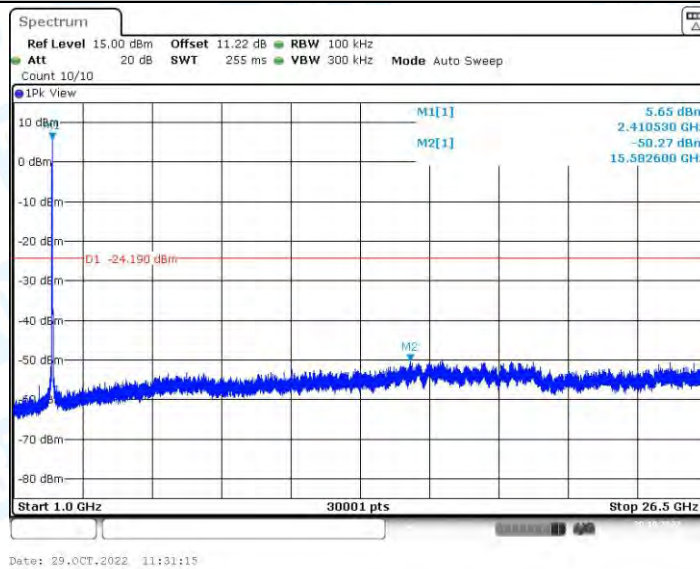
11G_Ant2_2412_0~Reference



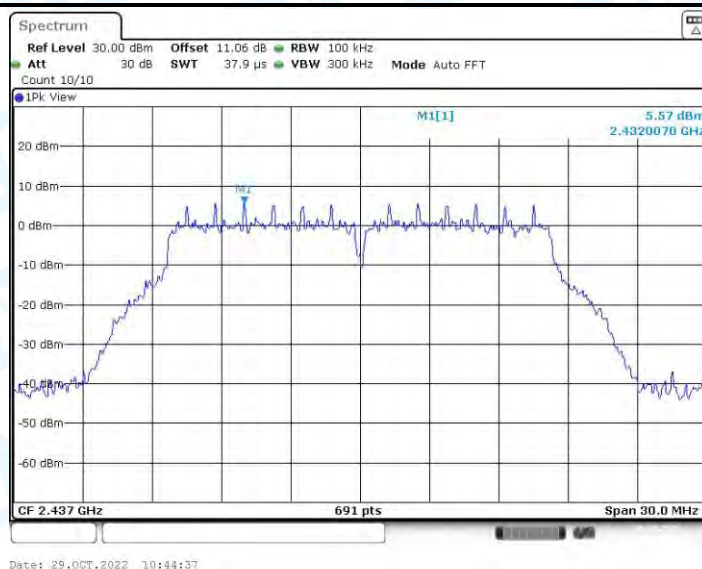
11G_Ant2_2412_30~1000



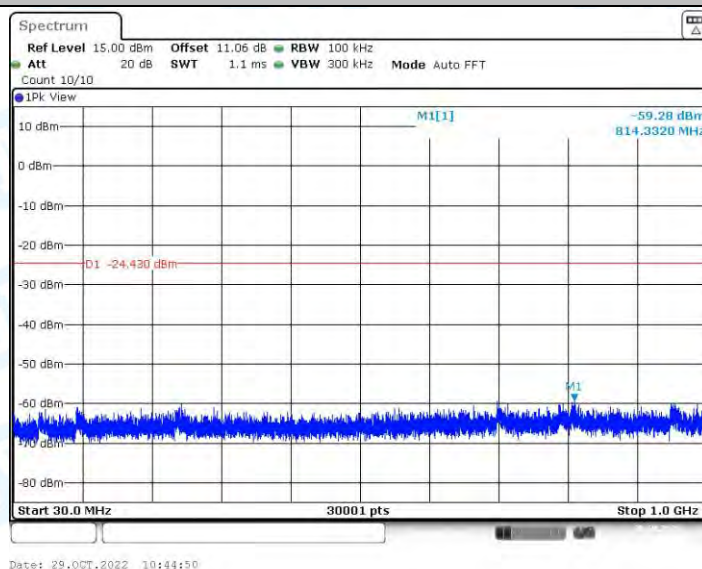
11G_Ant2_2412_1000~26500



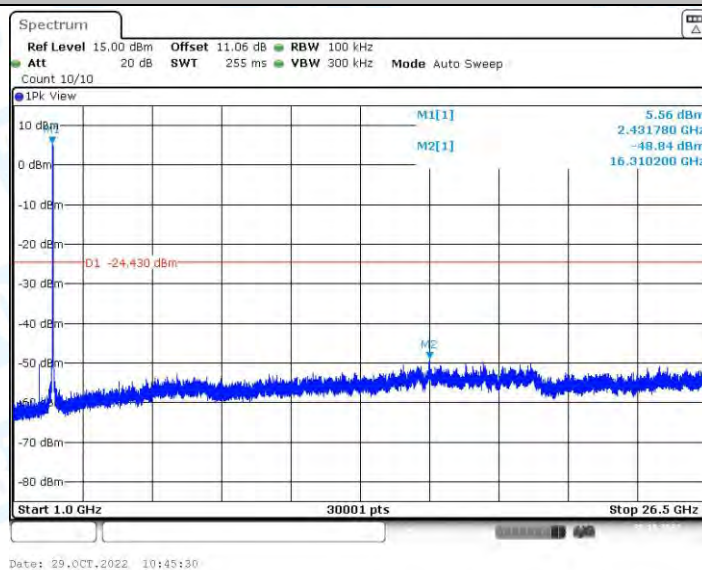
11G_Ant1_2437_0~Reference



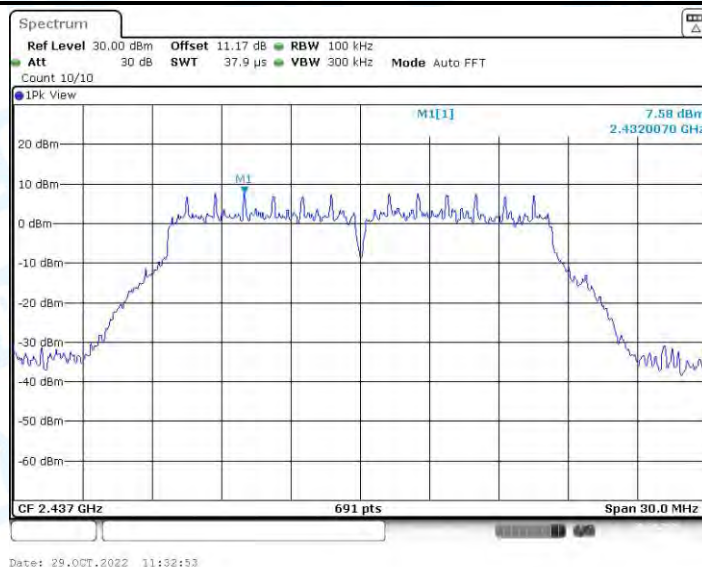
11G_Ant1_2437_30~1000



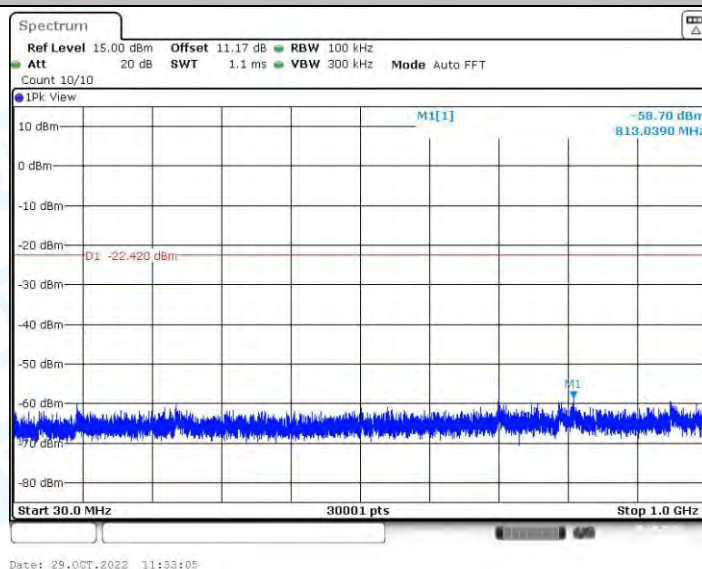
11G_Ant1_2437_1000~26500



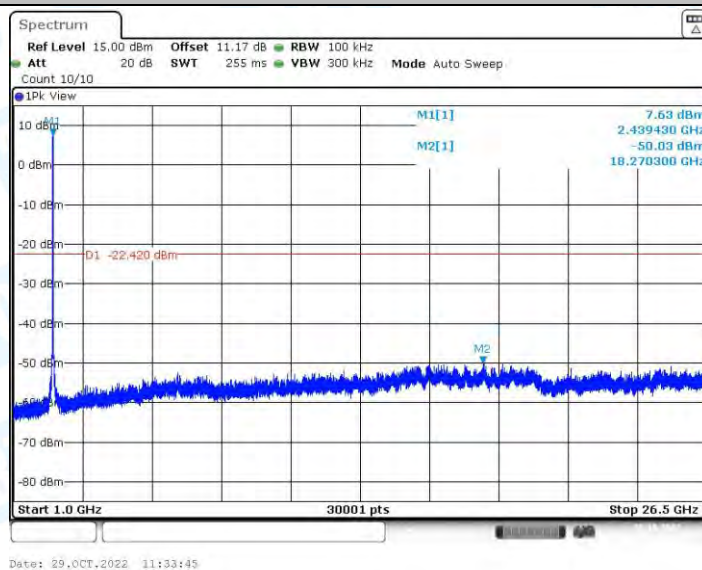
11G_Ant2_2437_0~Reference



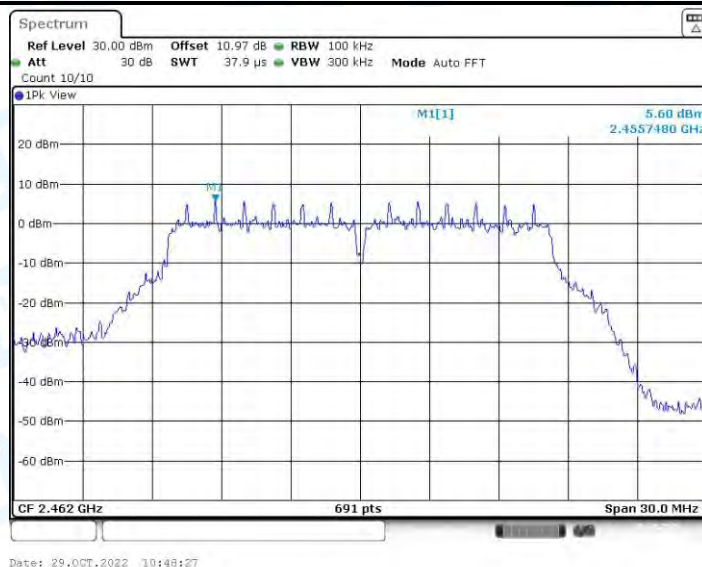
11G_Ant2_2437_30~1000



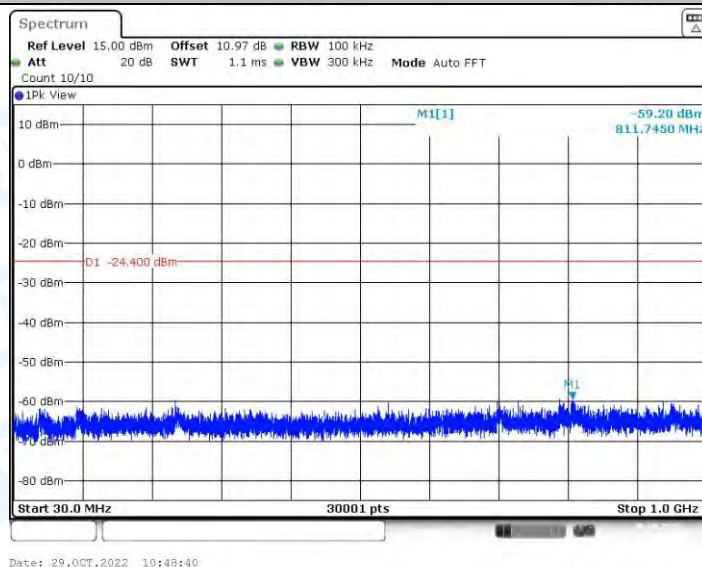
11G_Ant2_2437_1000~26500



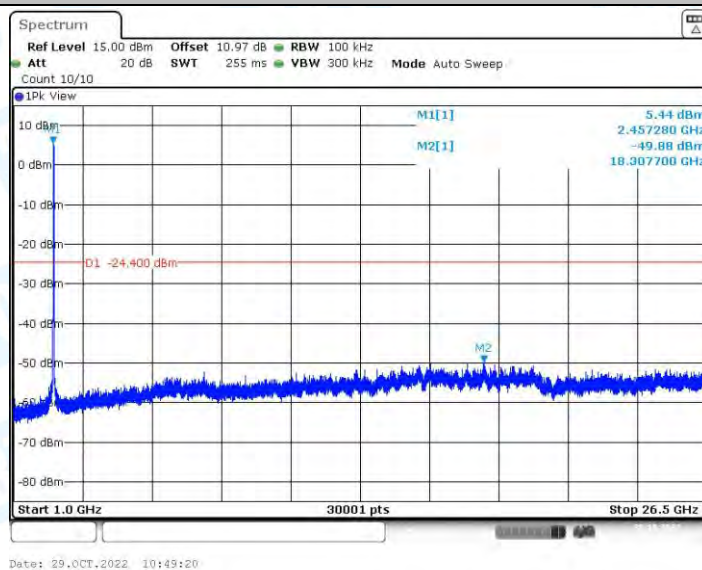
11G_Ant1_2462_0~Reference



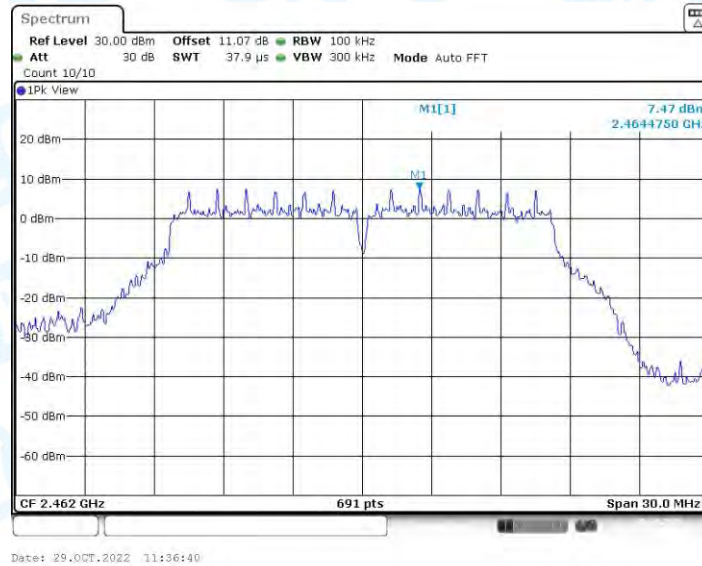
11G_Ant1_2462_30~1000



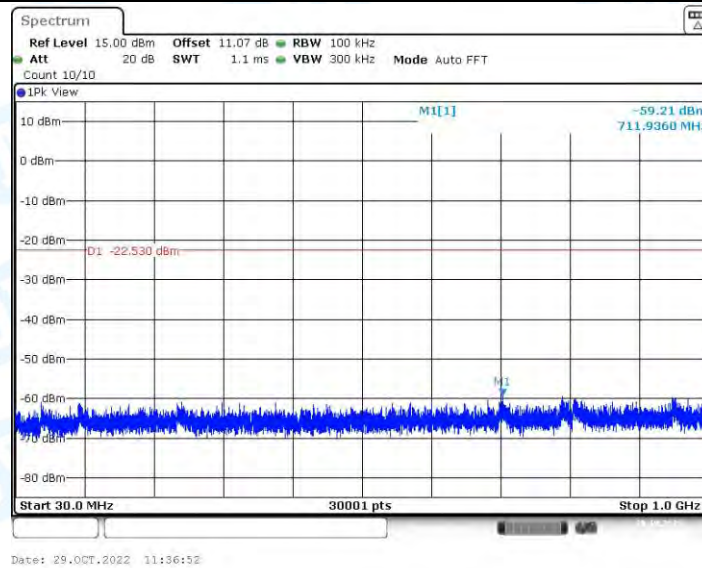
11G_Ant1_2462_1000~26500



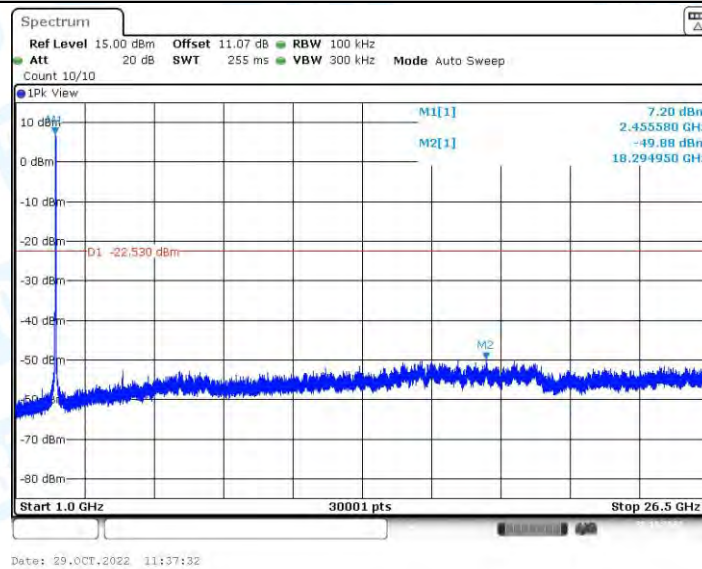
11G_Ant2_2462_0~Reference



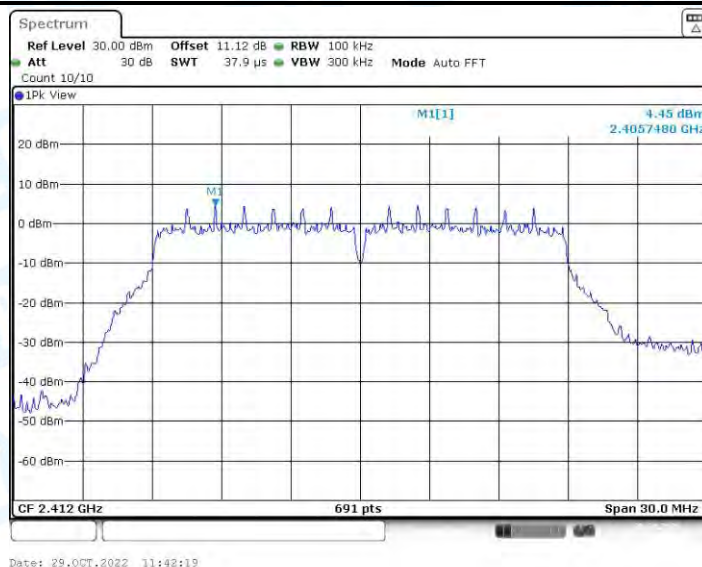
11G_Ant2_2462_30~1000



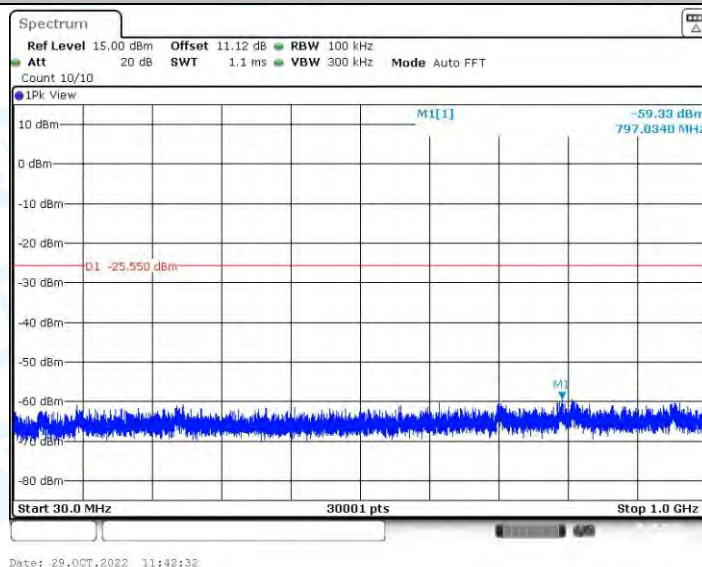
11G_Ant2_2462_1000~26500



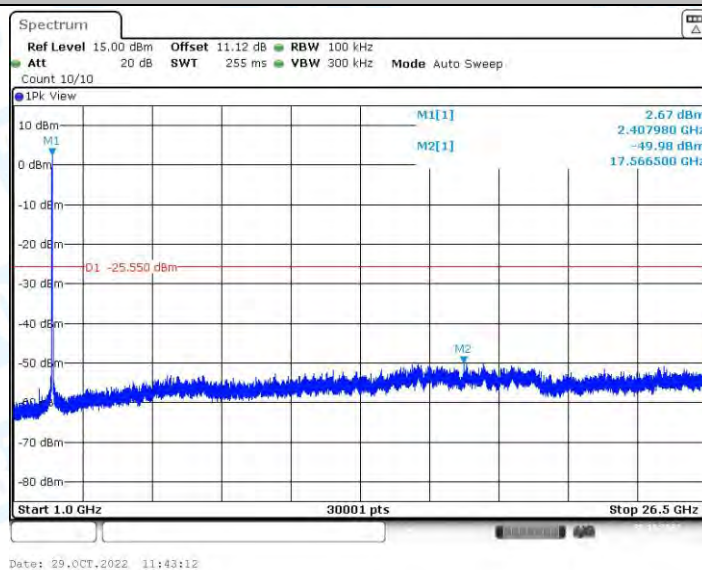
11N20MIMO_Ant1_2412_0~Reference



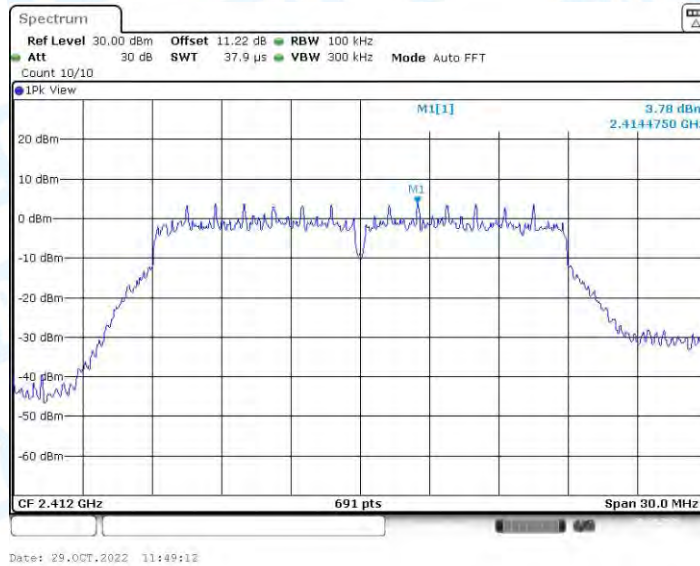
11N20MIMO_Ant1_2412_30~1000



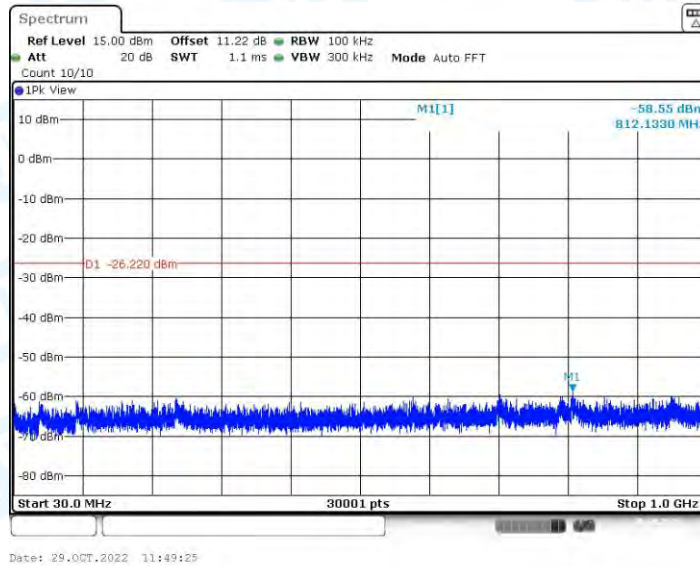
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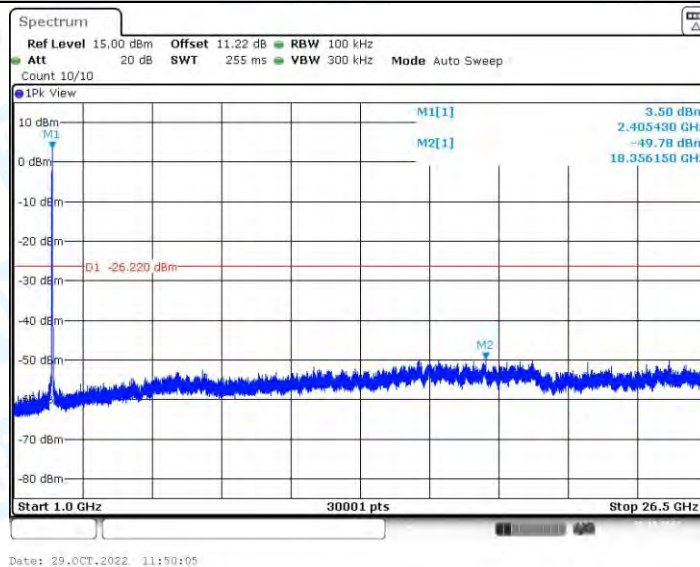
11N20MIMO_Ant2_2412_0~Reference



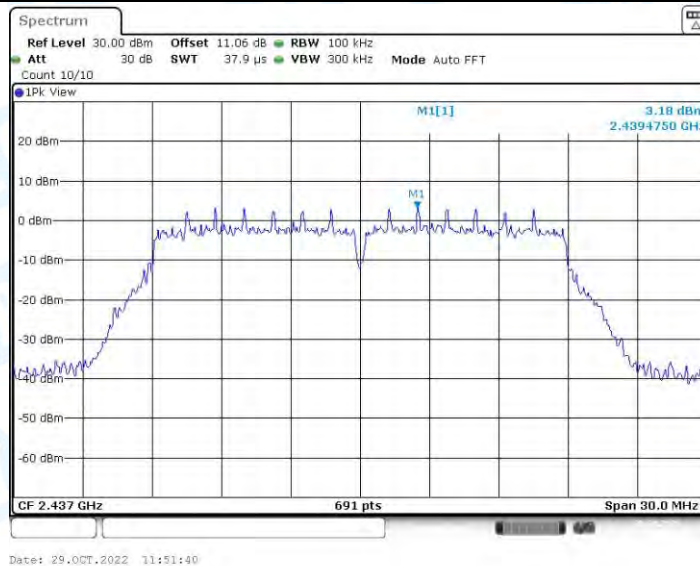
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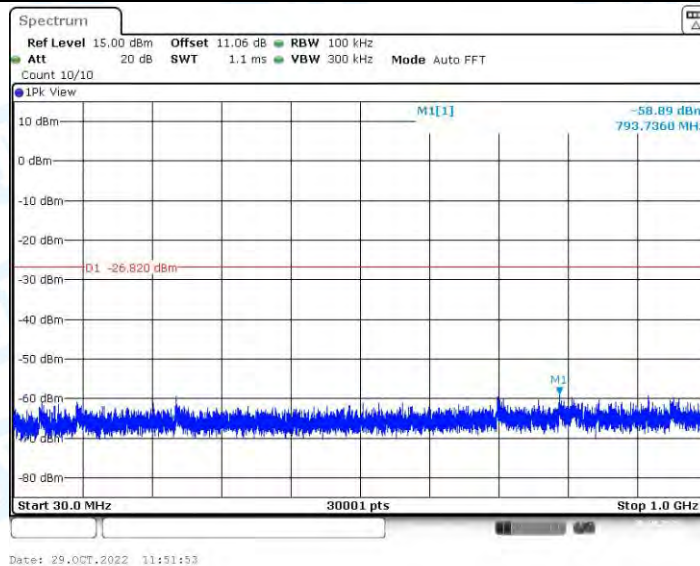
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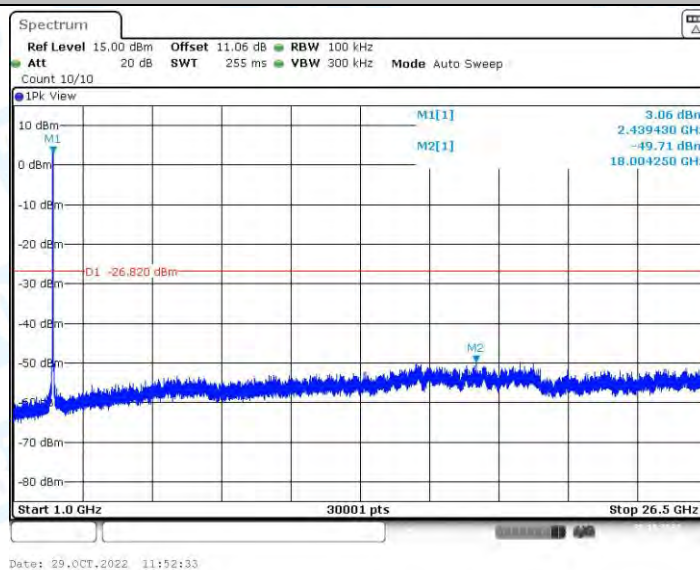
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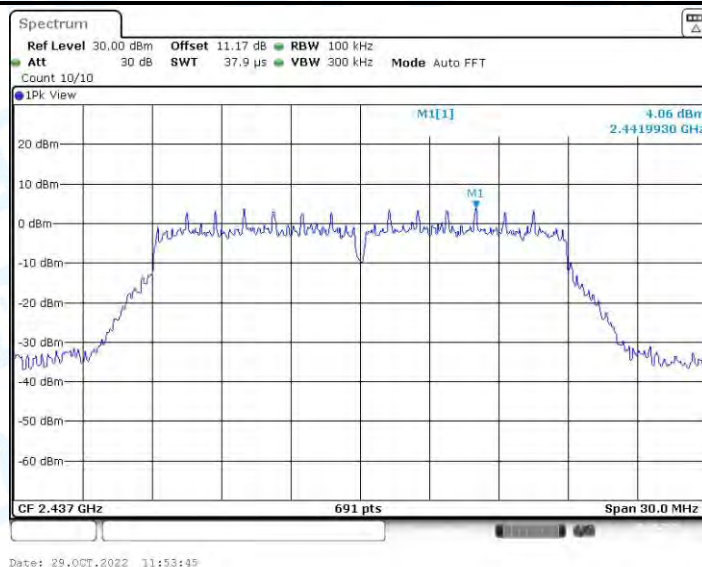
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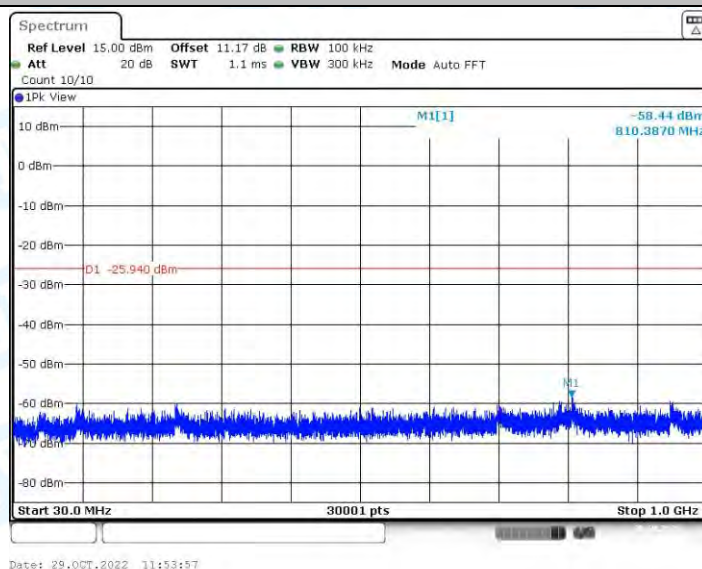
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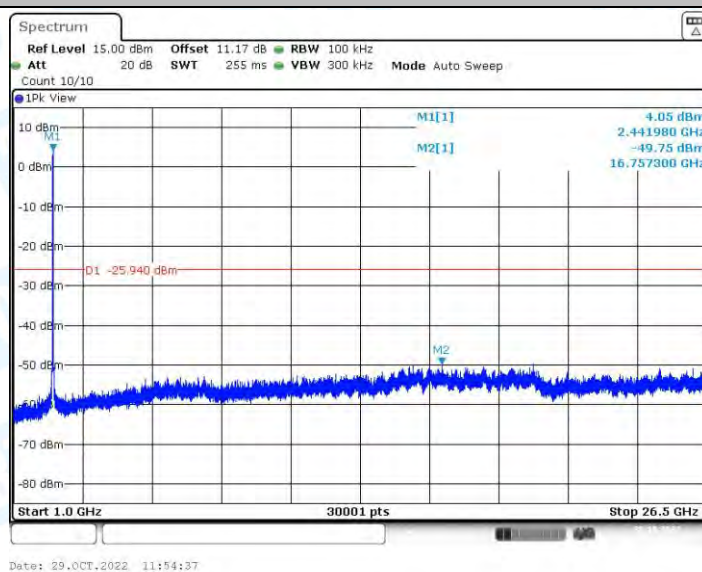
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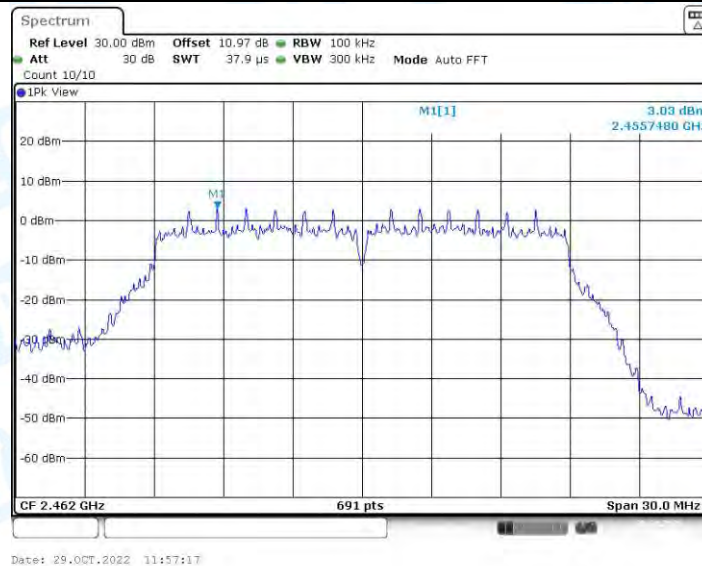
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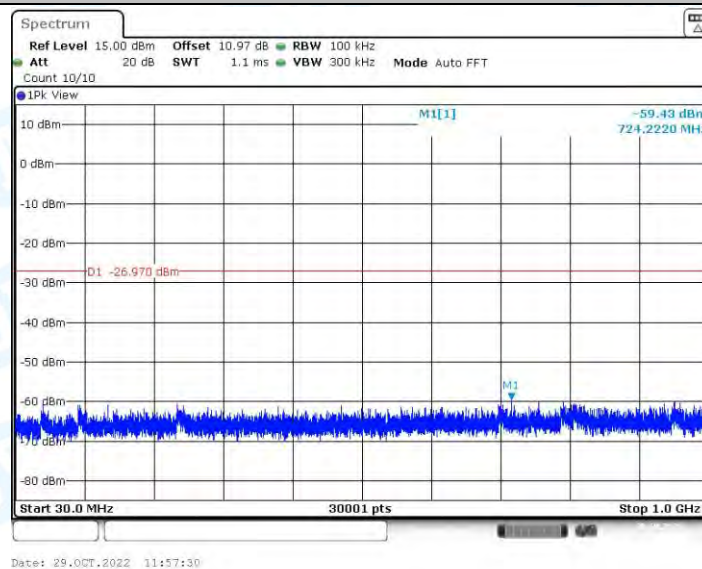
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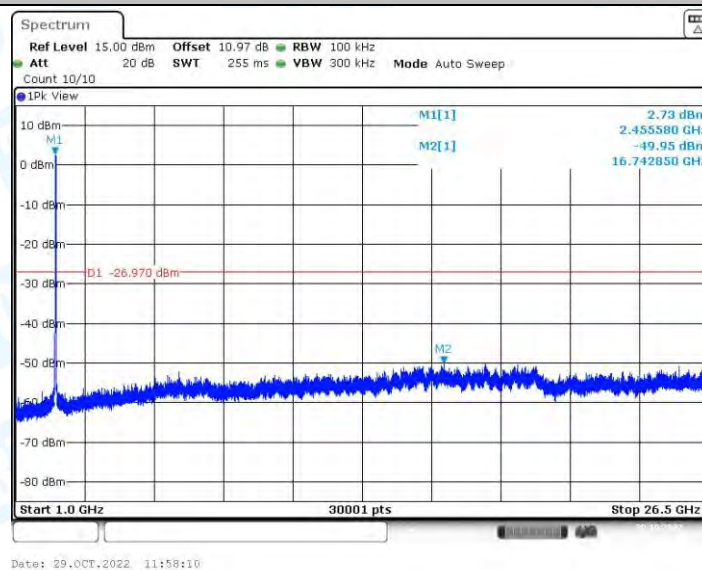
11N20MIMO_Ant1_2462_0~Reference



11N20MIMO_Ant1_2462_30~1000



11N20MIMO_Ant1_2462_1000~26500



11N20MIMO_Ant2_2462_0~Reference