

FCC Appendix RF Test Data for 2.4GWIFI

FCC ID : 2A948-Q10

**Company : Shenzhen Bosheng Electronics Development
Co.,LTD**

EUT : AI alarm clock

Model Number : Q10

Report No. : CTA26052001101

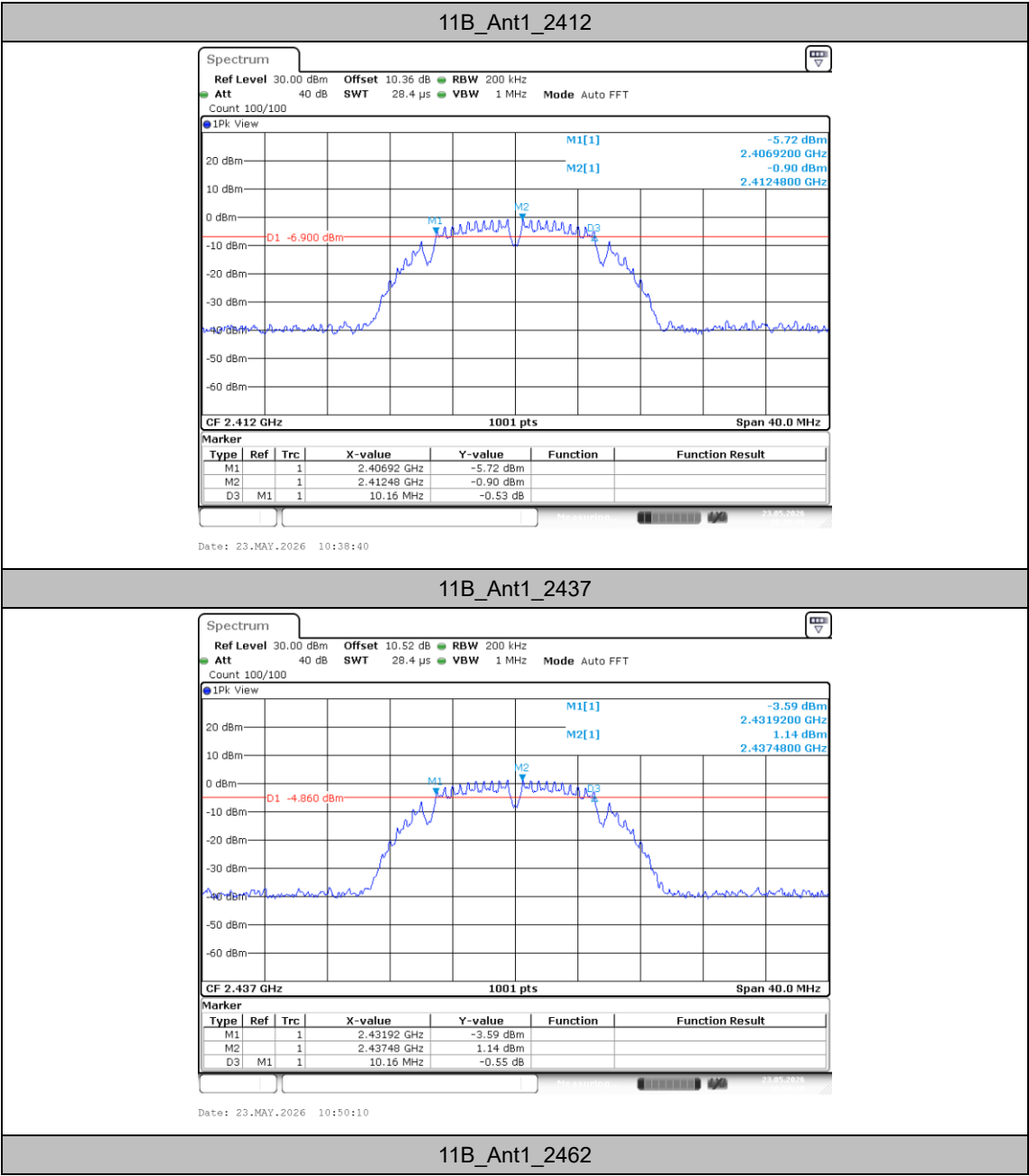
Reviewed By : Eric Wang

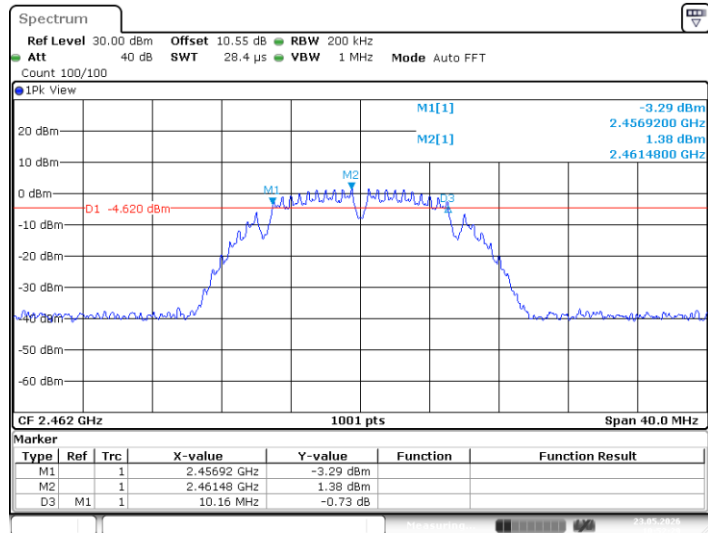
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.16	2406.92	2417.08	0.5	PASS
		2437	10.16	2431.92	2442.08	0.5	PASS
		2462	10.16	2456.92	2467.08	0.5	PASS
11G	Ant1	2412	15.40	2404.36	2419.76	0.5	PASS
		2437	15.36	2429.40	2444.76	0.5	PASS
		2462	15.96	2454.00	2469.96	0.5	PASS
11N20SISO	Ant1	2412	15.32	2404.28	2419.60	0.5	PASS
		2437	16.12	2428.64	2444.76	0.5	PASS
		2462	16.00	2453.60	2469.60	0.5	PASS

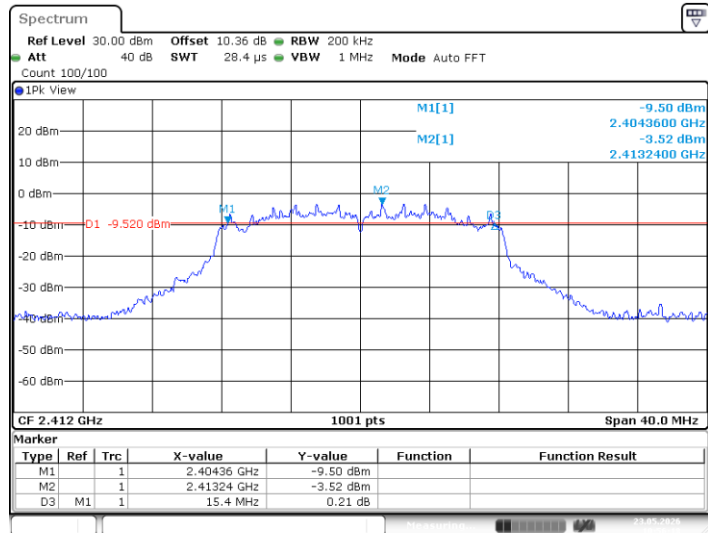
Test Graphs





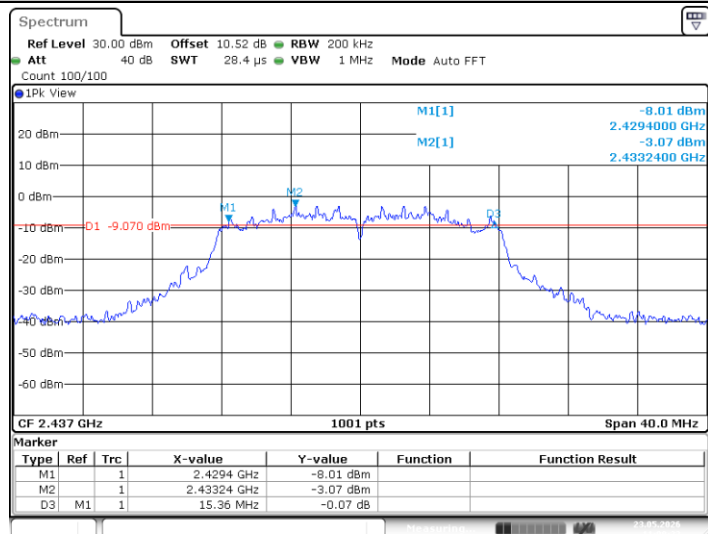
Date: 23.MAY.2026 10:52:29

11G_Ant1_2412



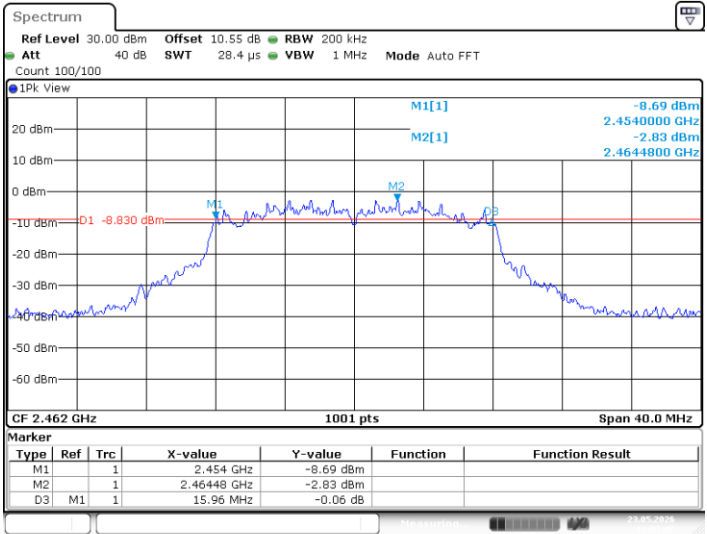
Date: 23.MAY.2026 10:56:17

11G_Ant1_2437



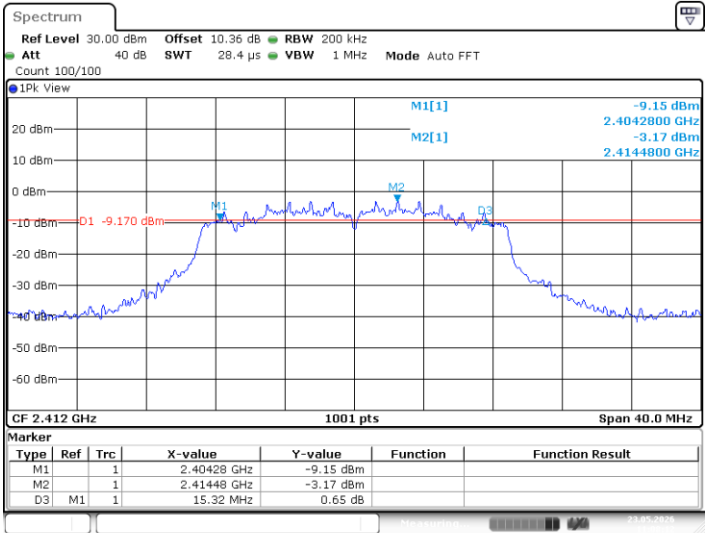
Date: 23.MAY.2026 11:00:23

11G_Ant1_2462



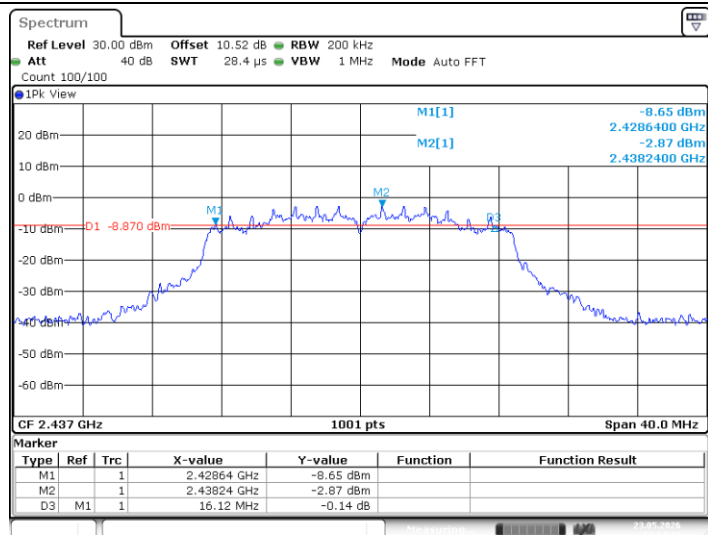
Date: 23.MAY.2026 11:03:47

11N20SISO_Ant1_2412



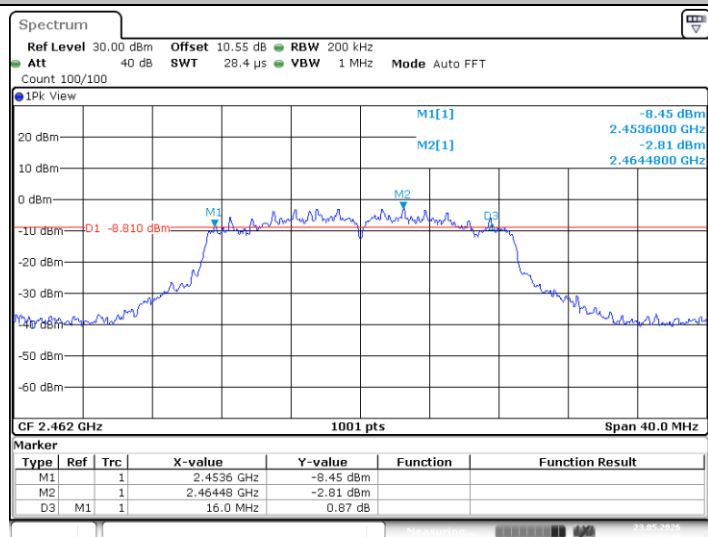
Date: 23.MAY.2026 11:08:12

11N20SISO_Ant1_2437



Date: 23.MAY.2026 11:14:24

11N20SISO_Ant1_2462



Date: 23.MAY.2026 11:17:14

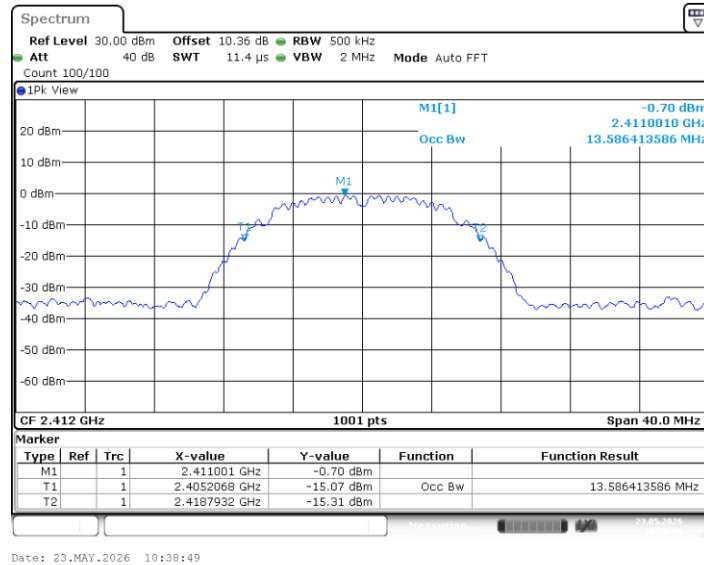
Appendix B: Occupied Channel Bandwidth

Test Result

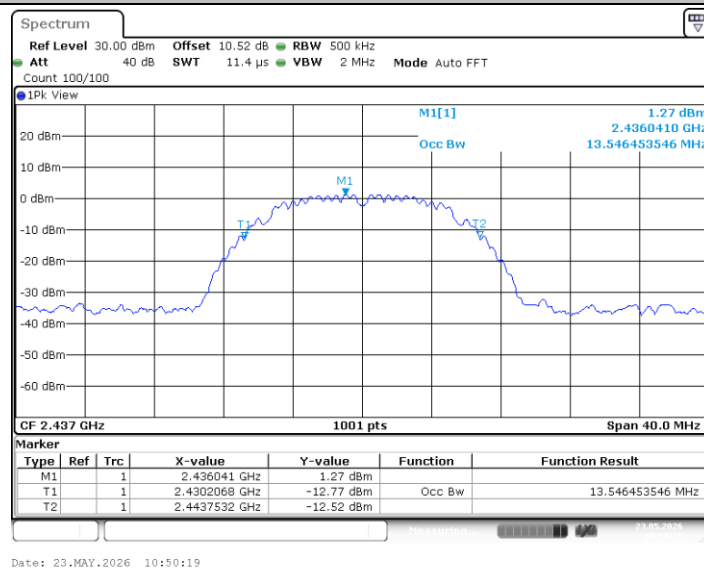
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.586	2405.2068	2418.7932	---	---
		2437	13.546	2430.2068	2443.7532	---	---
		2462	13.546	2455.2068	2468.7532	---	---
11G	Ant1	2412	17.463	2403.1688	2420.6314	---	---
		2437	16.943	2428.5684	2445.5115	---	---
		2462	16.823	2453.6084	2470.4316	---	---
11N20SISO	Ant1	2412	17.862	2403.0889	2420.9510	---	---
		2437	18.222	2427.8092	2446.0310	---	---
		2462	17.902	2453.0889	2470.9910	---	---

Test Graphs

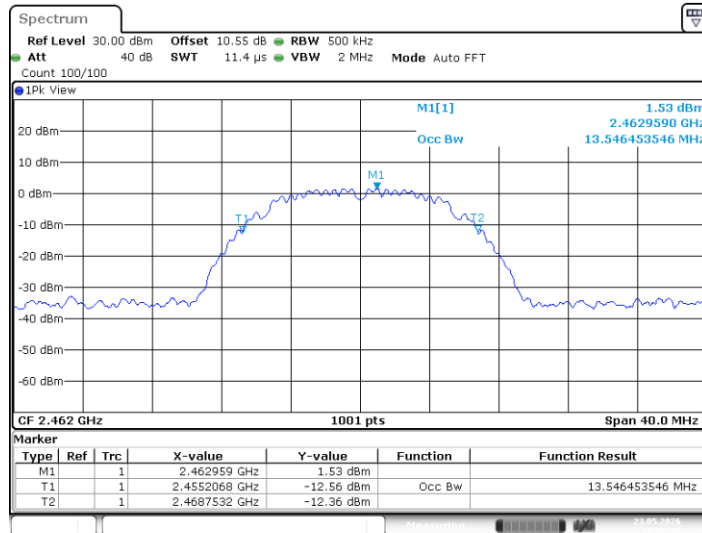
11B_Ant1_2412



11B_Ant1_2437

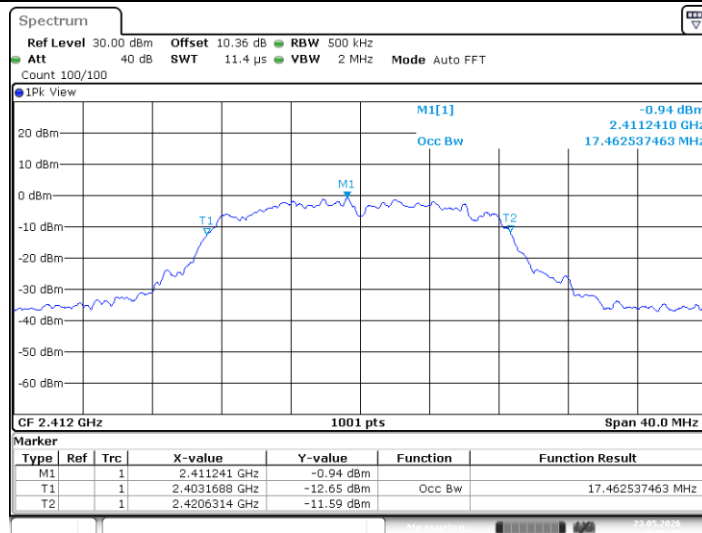


11B_Ant1_2462



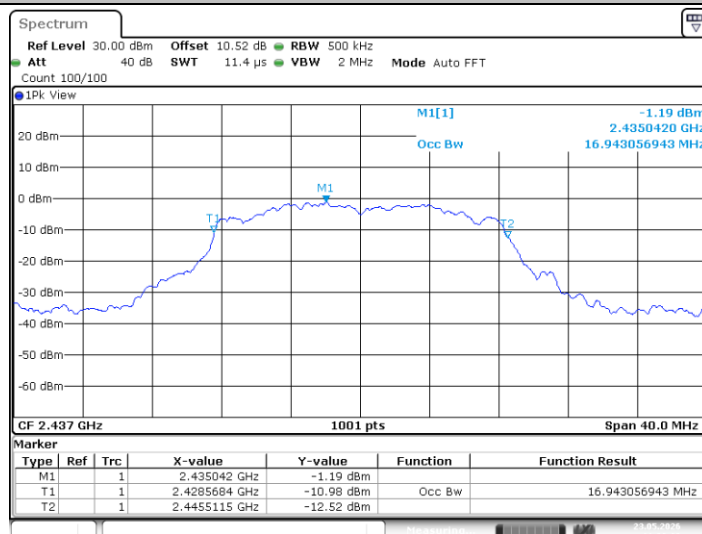
Date: 23.MAY.2026 10:52:38

11G_Ant1_2412



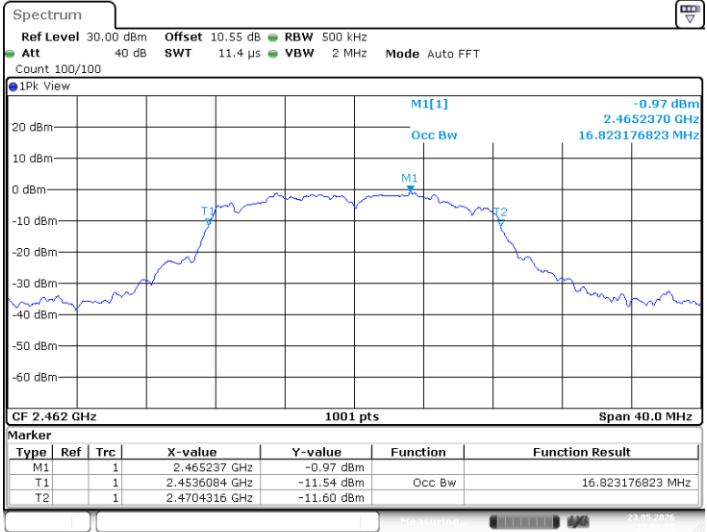
Date: 23.MAY.2026 10:56:26

11G_Ant1_2437

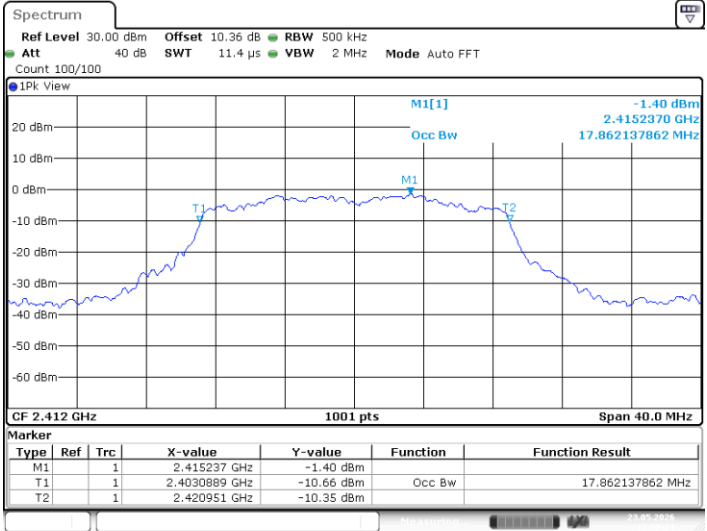


Date: 23.MAY.2026 11:00:32

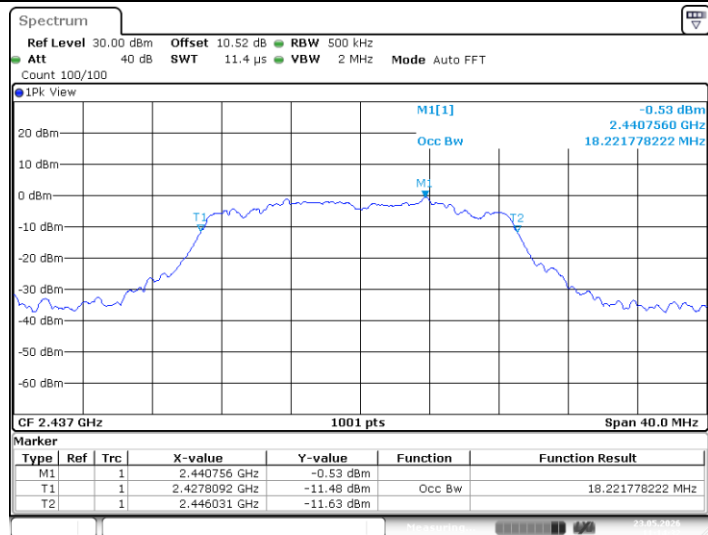
11G_Ant1_2462



11N20SISO_Ant1_2412

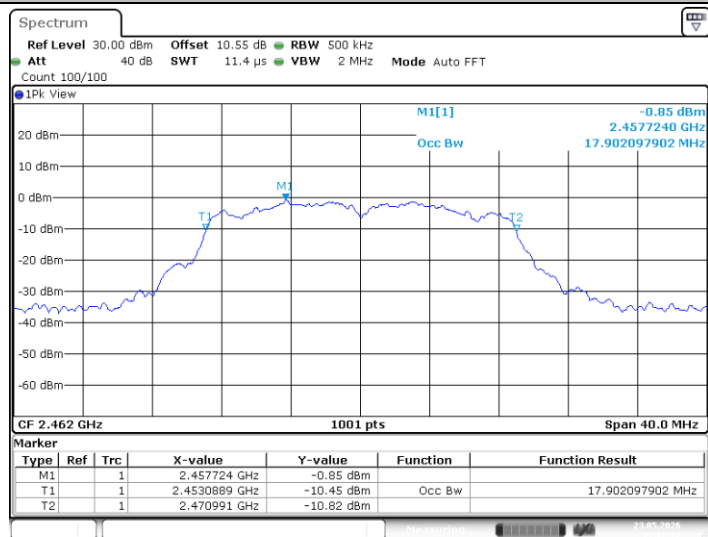


11N20SISO_Ant1_2437



Date: 23.MAY.2026 11:14:32

11N20SISO_Ant1_2462



Date: 23.MAY.2026 11:17:22

Appendix C: Maximum conducted output power

Test Result

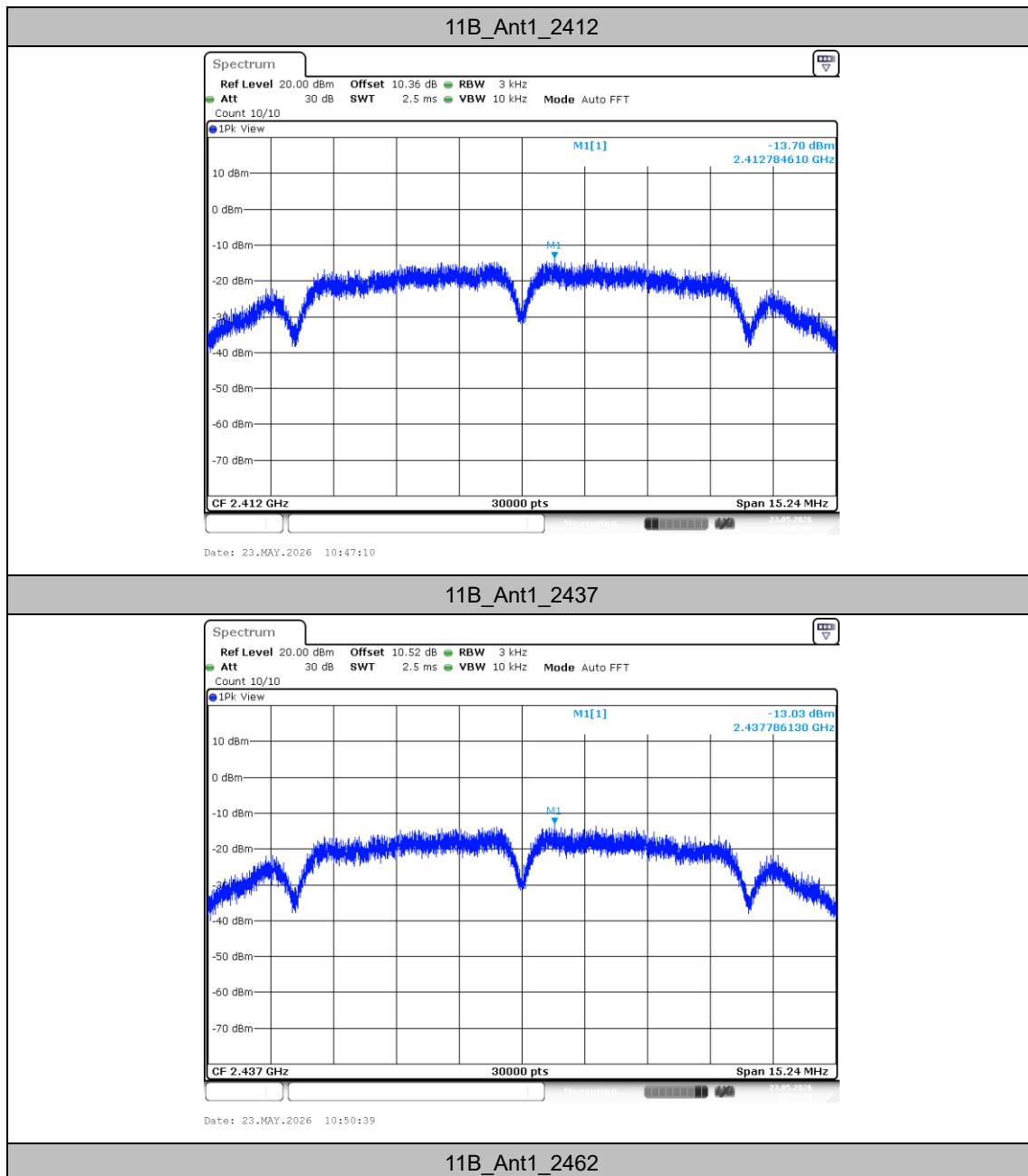
Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	12.36	≤30.00	PASS
		2437	13.01	≤30.00	PASS
		2462	13.27	≤30.00	PASS
11G	Ant1	2412	12.23	≤30.00	PASS
		2437	12.58	≤30.00	PASS
		2462	12.96	≤30.00	PASS
11N20SISO	Ant1	2412	12.18	≤30.00	PASS
		2437	12.60	≤30.00	PASS
		2462	12.82	≤30.00	PASS

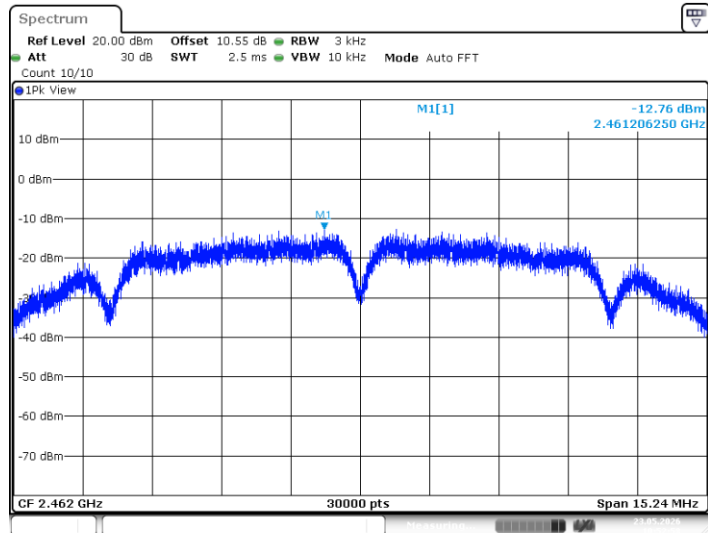
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.70	≤8.00	PASS
		2437	-13.03	≤8.00	PASS
		2462	-12.76	≤8.00	PASS
11G	Ant1	2412	-19.00	≤8.00	PASS
		2437	-19.03	≤8.00	PASS
		2462	-17.80	≤8.00	PASS
11N20SISO	Ant1	2412	-18.82	≤8.00	PASS
		2437	-17.16	≤8.00	PASS
		2462	-18.50	≤8.00	PASS

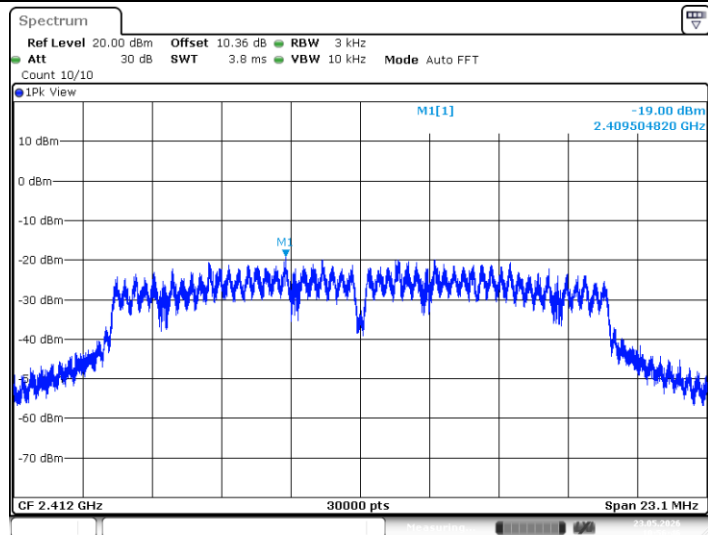
Test Graphs





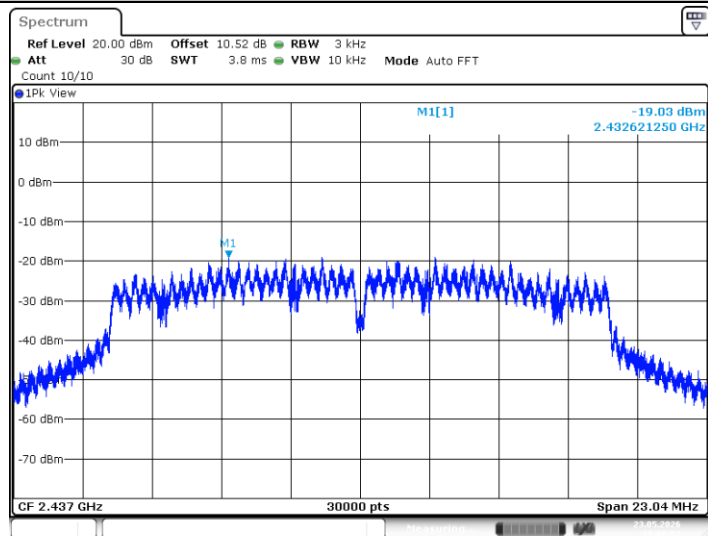
Date: 23.MAY.2026 10:52:58

11G_Ant1_2412



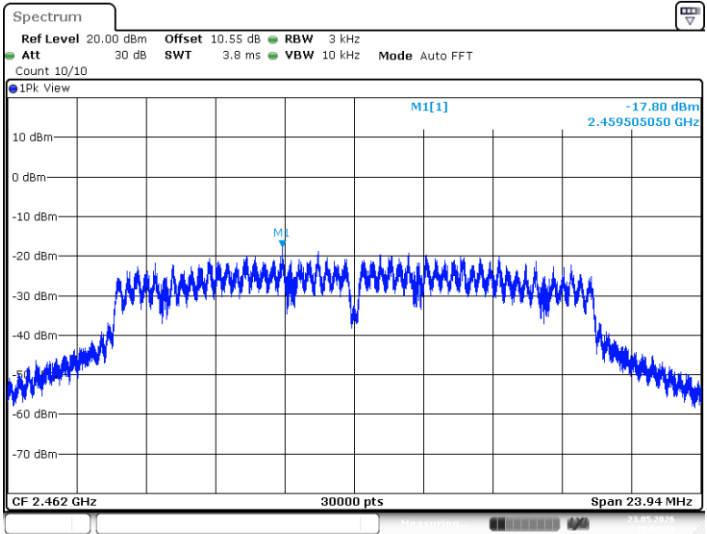
Date: 23.MAY.2026 10:56:47

11G_Ant1_2437



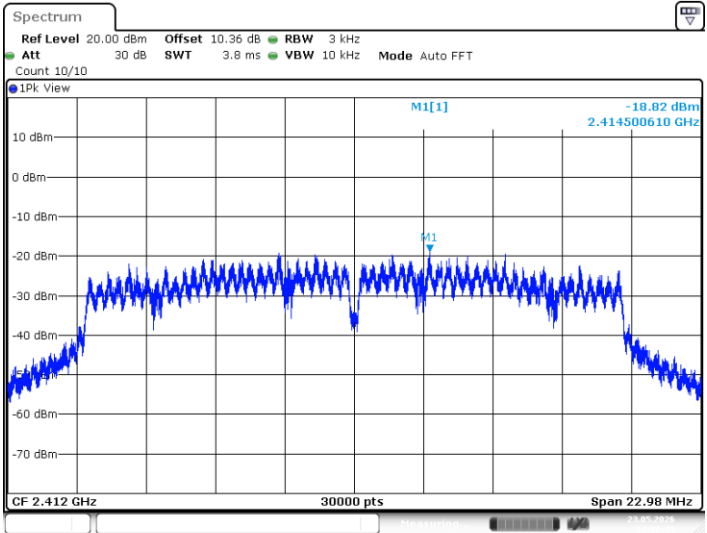
Date: 23.MAY.2026 11:00:53

11G_Ant1_2462



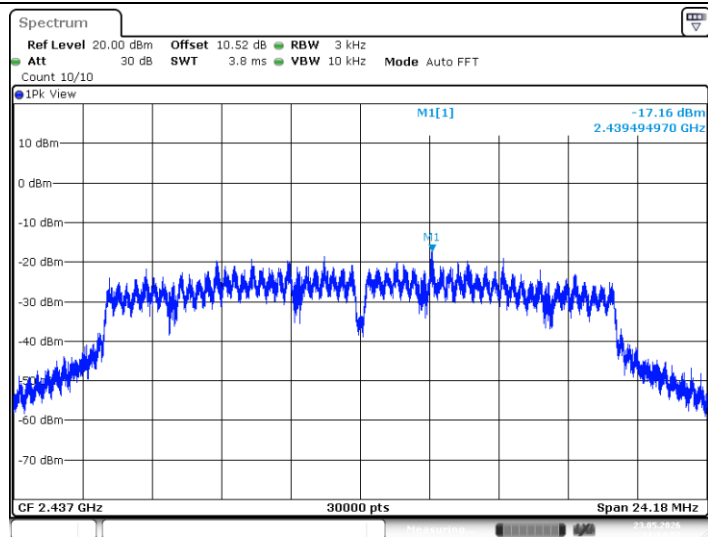
Date: 23.MAY.2026 11:04:15

11N20SISO_Ant1_2412



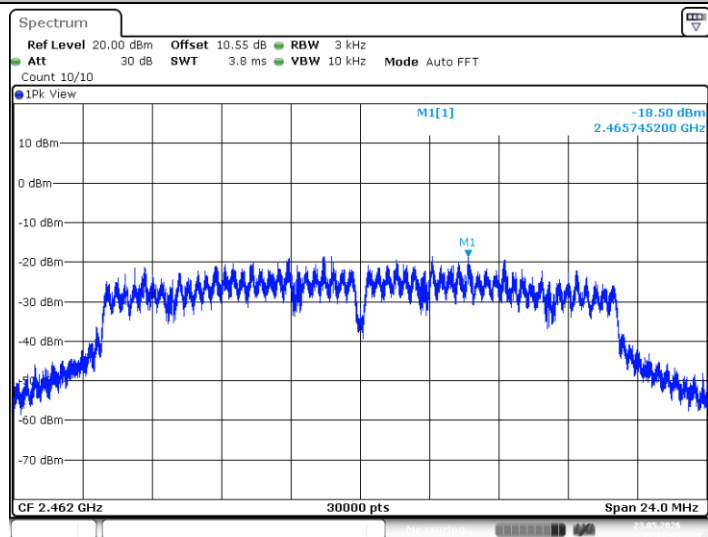
Date: 23.MAY.2026 11:08:41

11N20SISO_Ant1_2437



Date: 23.MAY.2026 11:14:53

11N20SISO_Ant1_2462



Date: 23.MAY.2026 11:17:43

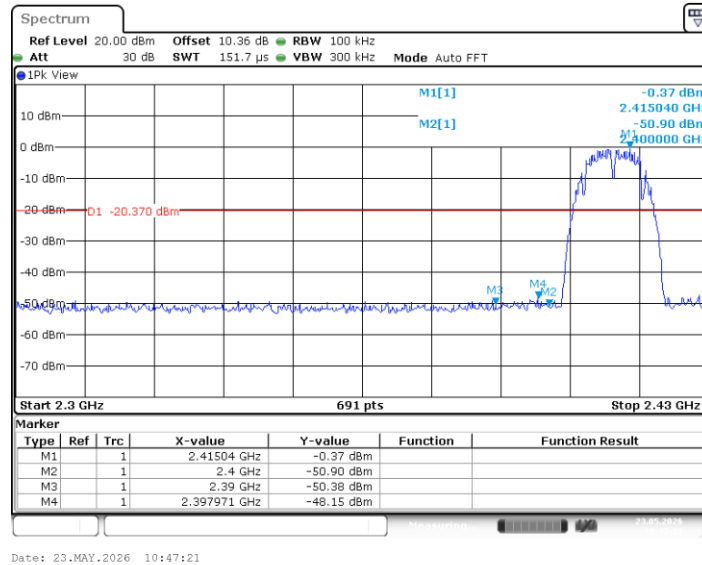
Appendix E: Band edge measurements

Test Result

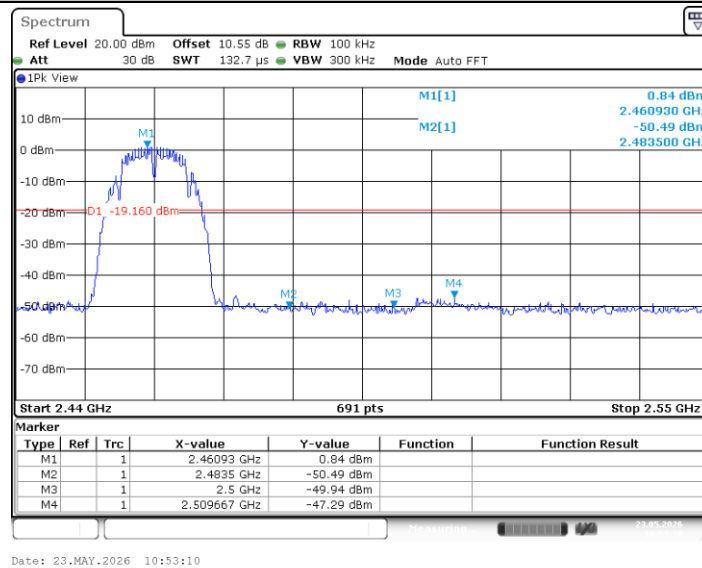
TestMode	Antenna	Channel Name	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	-0.37	-48.15	≤-20.37	PASS
		High	2462	0.84	-47.29	≤-19.16	PASS
11G	Ant1	Low	2412	-4.48	-35.63	≤-24.48	PASS
		High	2462	-4.49	-46.54	≤-24.49	PASS
11N20SISO	Ant1	Low	2412	-4.45	-36.27	≤-24.45	PASS
		High	2462	-3.73	-47.39	≤-23.73	PASS

Test Graphs

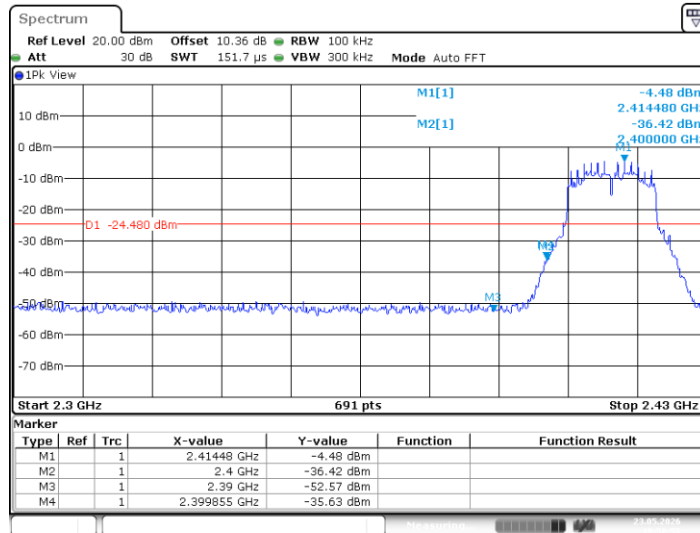
11B_Ant1_Low_2412



11B_Ant1_High_2462

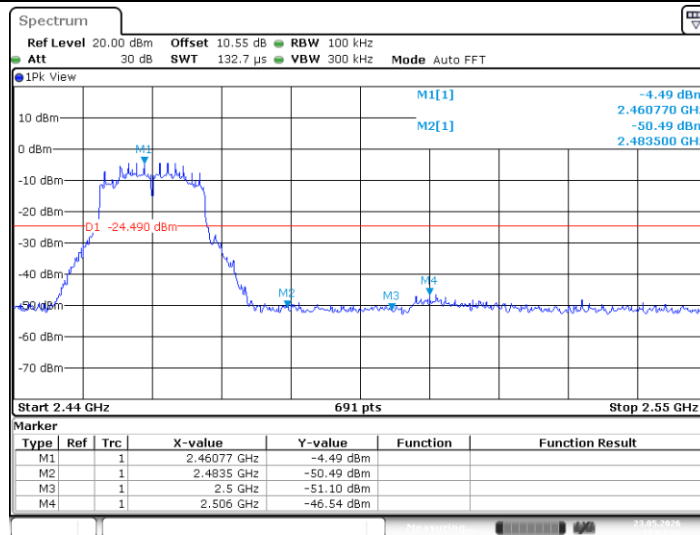


11G_Ant1_Low_2412



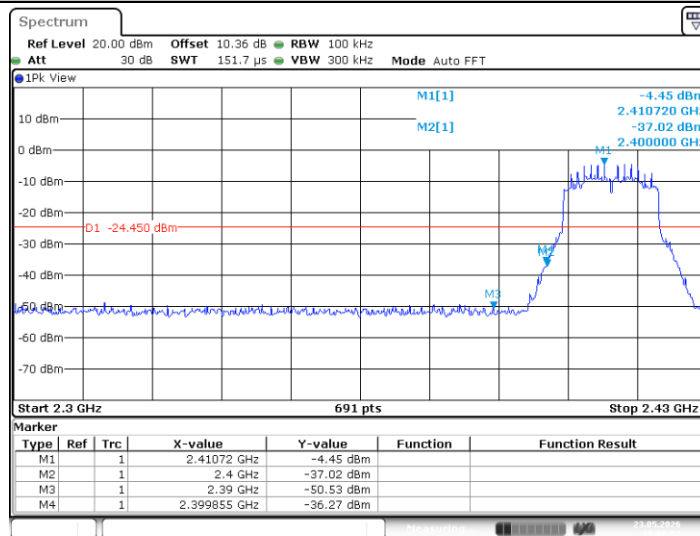
Date: 23.MAY.2026 10:56:58

11G_Ant1_High_2462



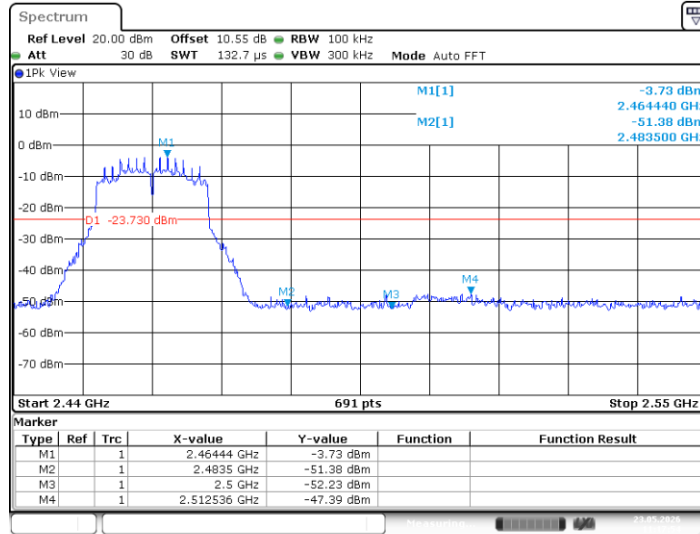
Date: 23.MAY.2026 11:04:27

11N20SISO_Ant1_Low_2412



Date: 23.MAY.2026 11:08:53

11N20SISO_Ant1_High_2462



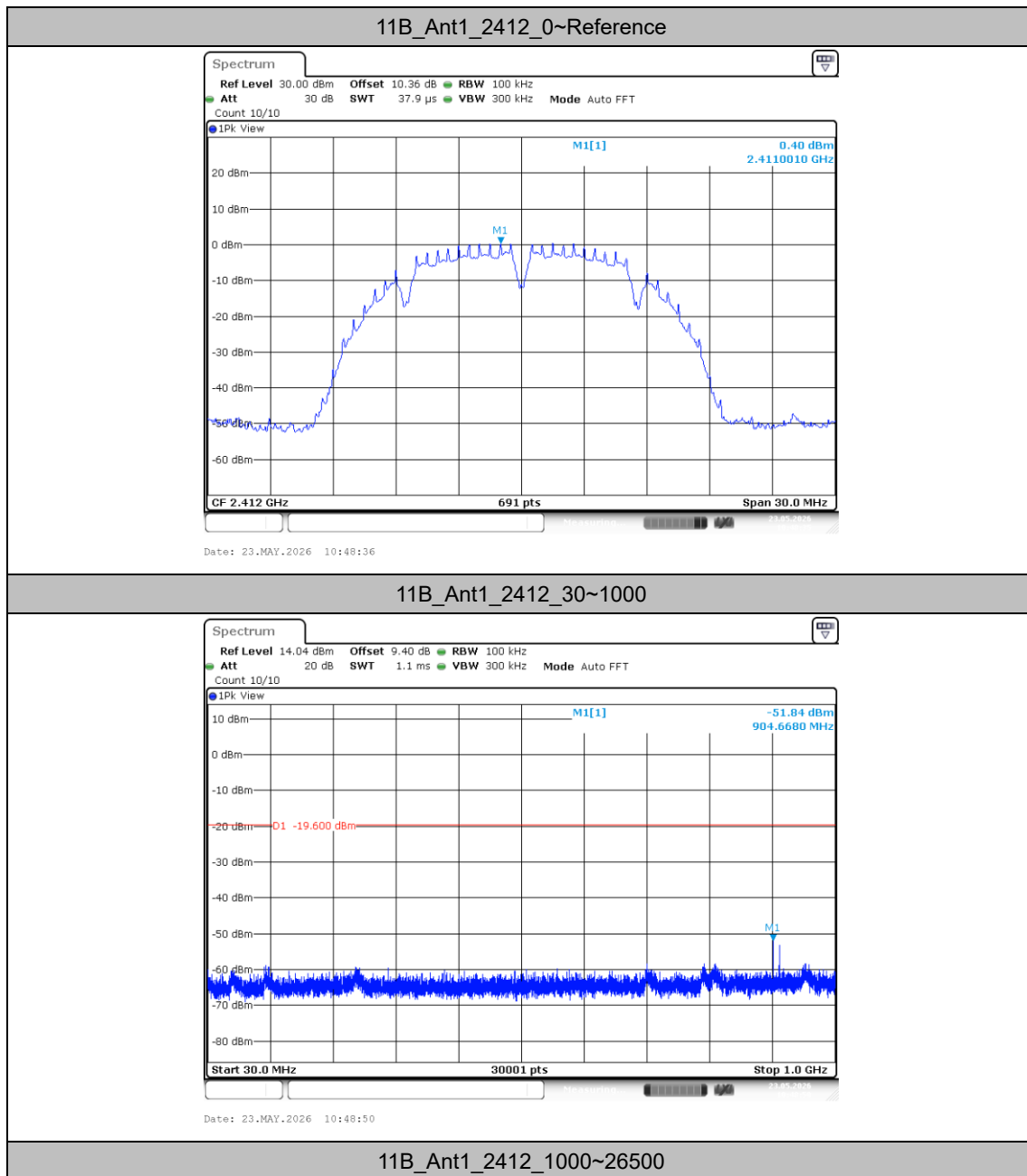
Date: 23.MAY.2026 11:17:54

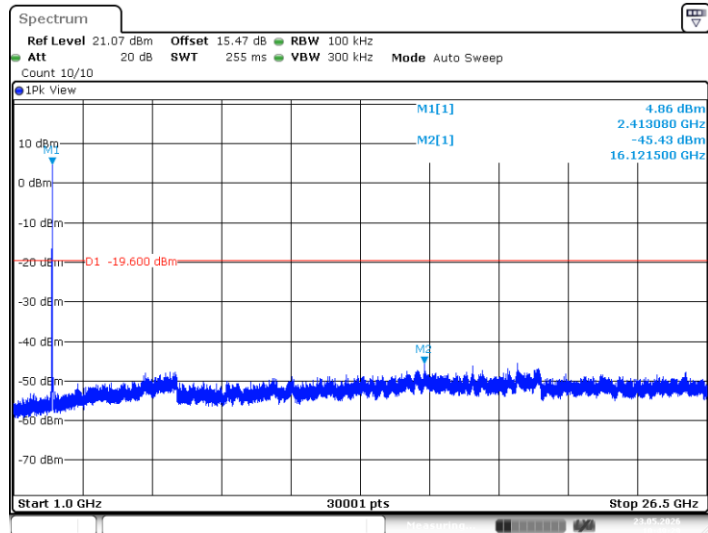
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.40	0.40	---	PASS
			30~1000	0.40	-51.84	≤-19.6	PASS
			1000~26500	0.40	-45.43	≤-19.6	PASS
		2437	Reference	0.71	0.71	---	PASS
			30~1000	0.71	-54.67	≤-19.29	PASS
			1000~26500	0.71	-46.15	≤-19.29	PASS
		2462	Reference	0.68	0.68	---	PASS
			30~1000	0.68	-49.63	≤-19.32	PASS
			1000~26500	0.68	-45.73	≤-19.32	PASS
11G	Ant1	2412	Reference	-4.11	-4.11	---	PASS
			30~1000	-4.11	-57.6	≤-24.11	PASS
			1000~26500	-4.11	-46.16	≤-24.11	PASS
		2437	Reference	-4.02	-4.02	---	PASS
			30~1000	-4.02	-57.27	≤-24.02	PASS
			1000~26500	-4.02	-44.92	≤-24.02	PASS
		2462	Reference	-3.72	-3.72	---	PASS
			30~1000	-3.72	-57.72	≤-23.72	PASS
			1000~26500	-3.72	-46.21	≤-23.72	PASS
11N20SISO	Ant1	2412	Reference	-4.01	-4.01	---	PASS
			30~1000	-4.01	-53.81	≤-24.01	PASS
			1000~26500	-4.01	-45.94	≤-24.01	PASS
		2437	Reference	-3.80	-3.80	---	PASS
			30~1000	-3.80	-56.56	≤-23.8	PASS
			1000~26500	-3.80	-45.69	≤-23.8	PASS
		2462	Reference	-3.63	-3.63	---	PASS
			30~1000	-3.63	-45.73	≤-23.63	PASS
			1000~26500	-3.63	-45.89	≤-23.63	PASS

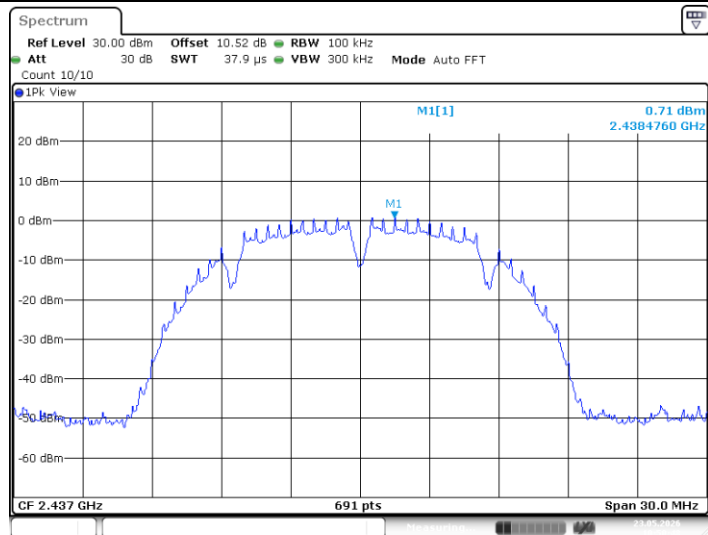
Test Graphs





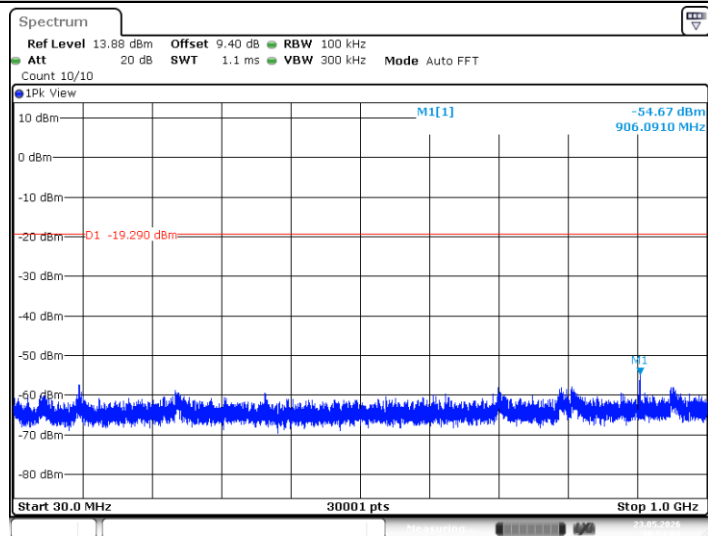
Date: 23.MAY.2026 10:49:30

11B_Ant1_2437_0~Reference



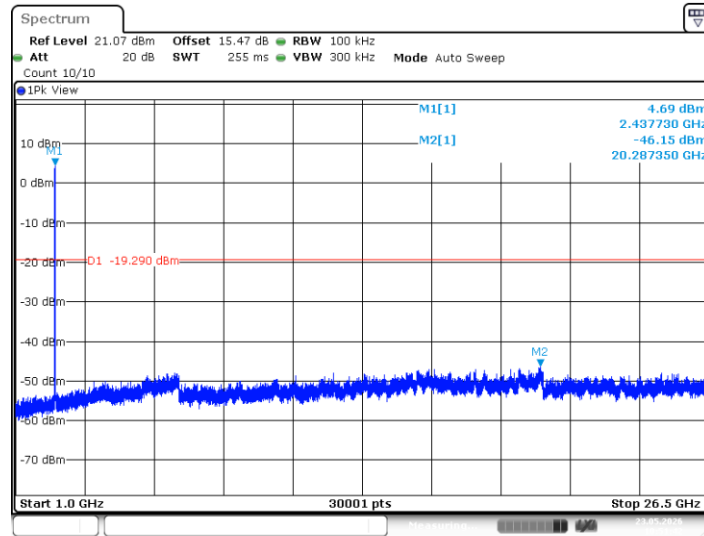
Date: 23.MAY.2026 10:50:49

11B_Ant1_2437_30~1000



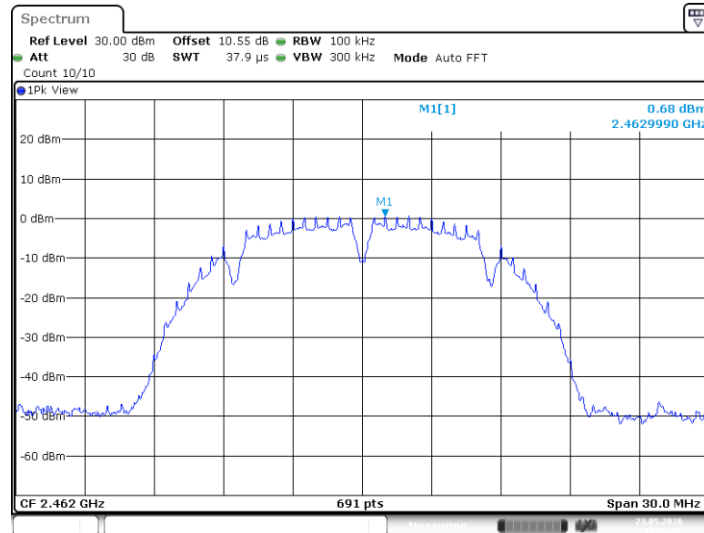
Date: 23.MAY.2026 10:51:03

11B_Ant1_2437_1000~26500



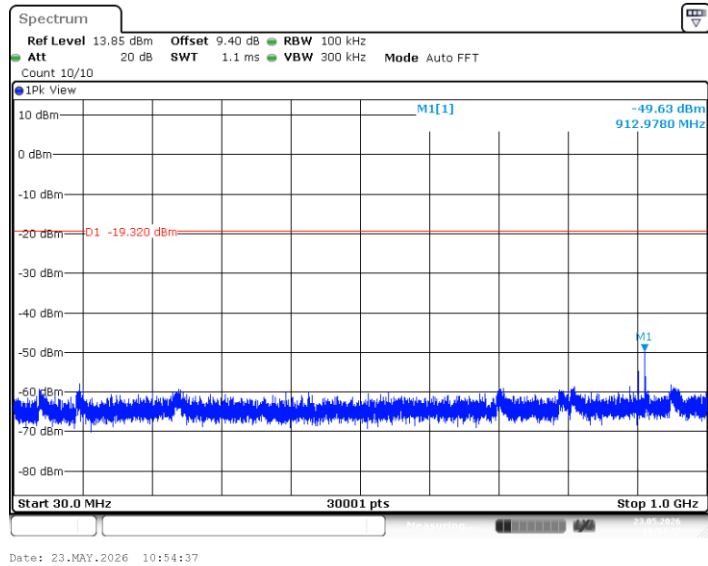
Date: 23.MAY.2026 10:51:43

11B_Ant1_2462_0~Reference

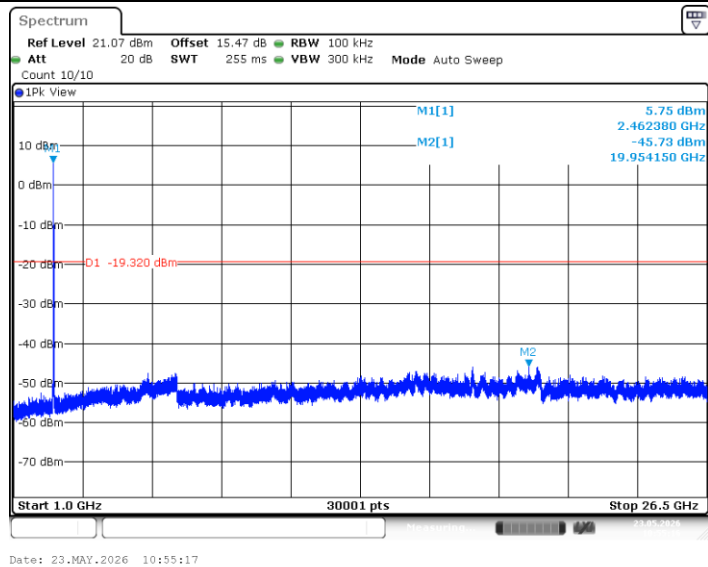


Date: 23.MAY.2026 10:54:23

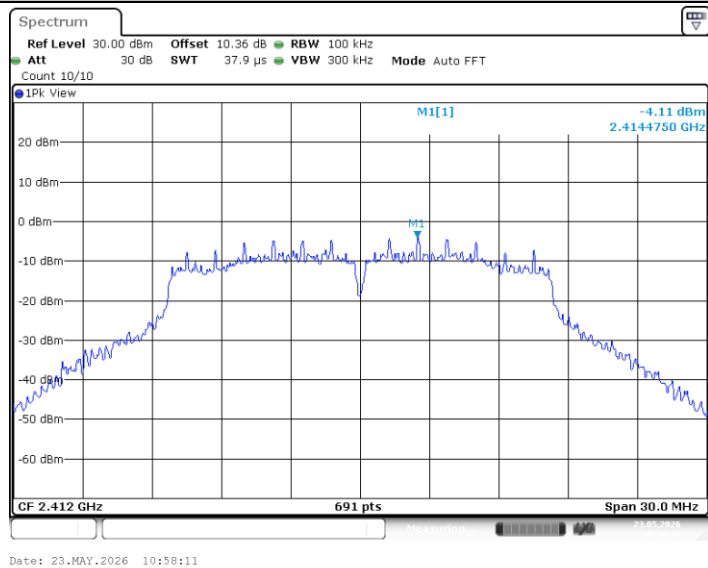
11B_Ant1_2462_30~1000



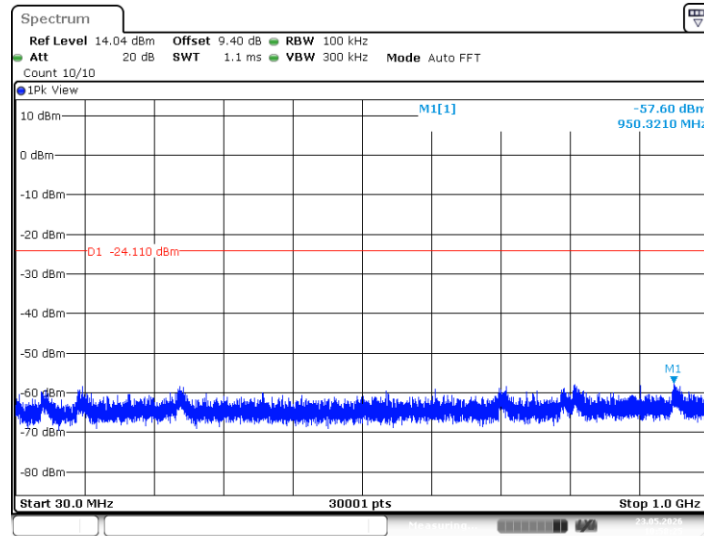
11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

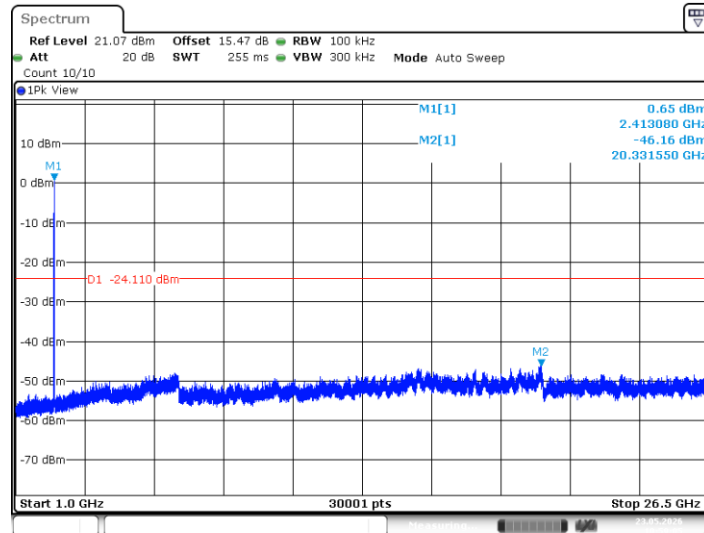


11G_Ant1_2412_30~1000



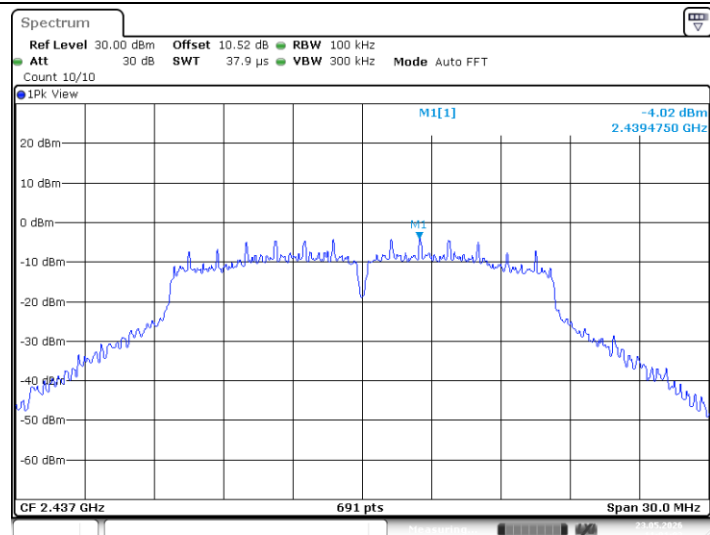
Date: 23.MAY.2026 10:58:25

11G_Ant1_2412_1000~26500



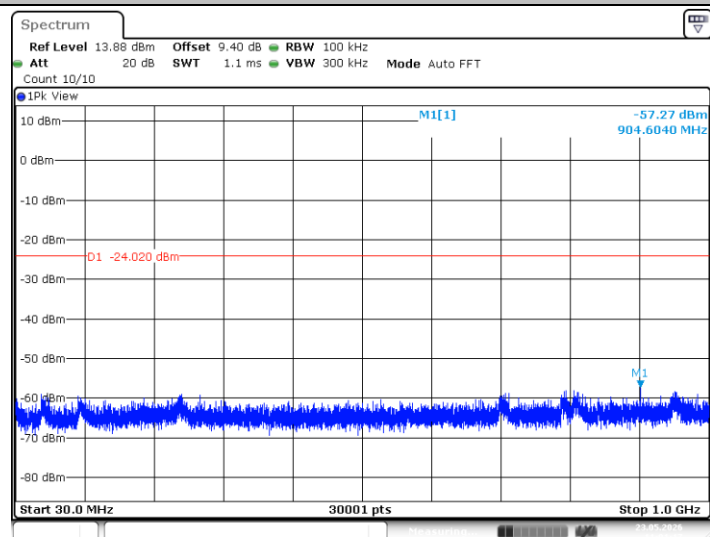
Date: 23.MAY.2026 10:59:05

11G_Ant1_2437_0~Reference



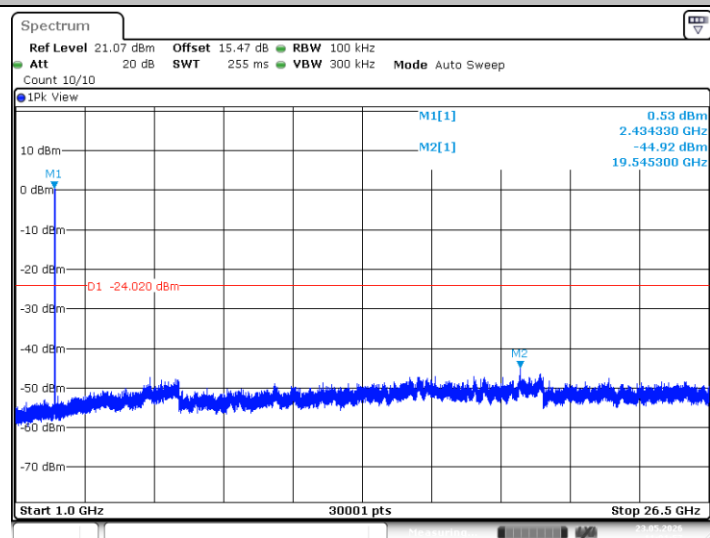
Date: 23.MAY.2026 11:01:02

11G_Ant1_2437_30~1000



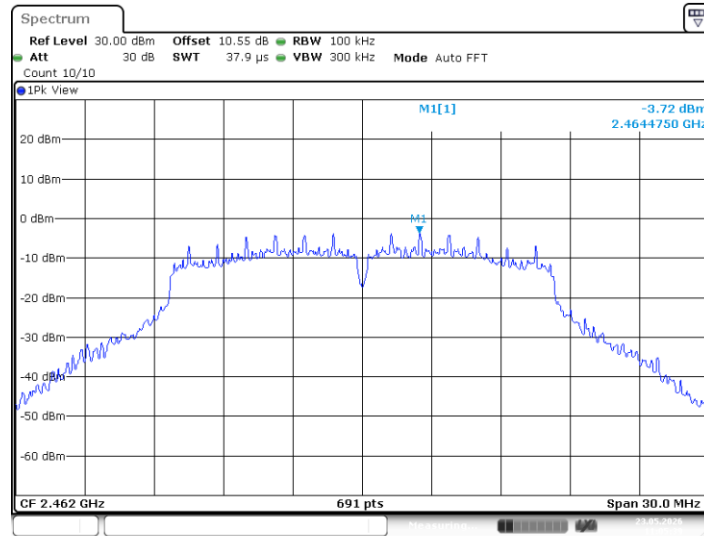
Date: 23.MAY.2026 11:01:17

11G_Ant1_2437_1000~26500



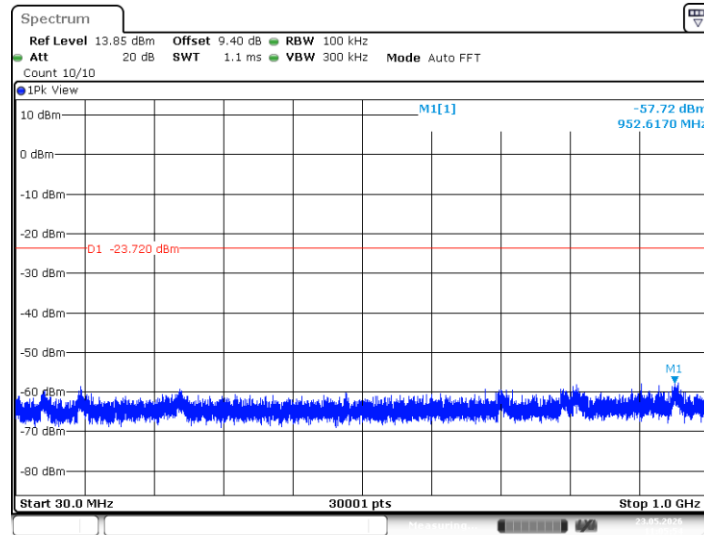
Date: 23.MAY.2026 11:01:57

11G_Ant1_2462_0~Reference



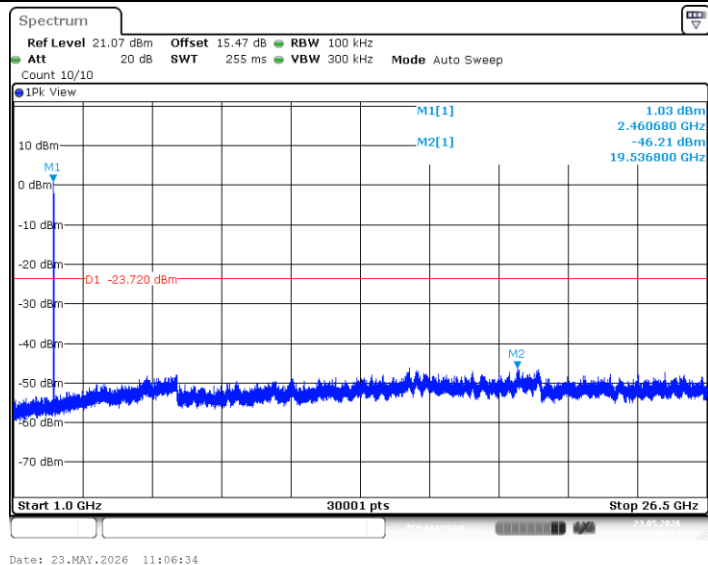
Date: 23.MAY.2026 11:05:40

11G_Ant1_2462_30~1000

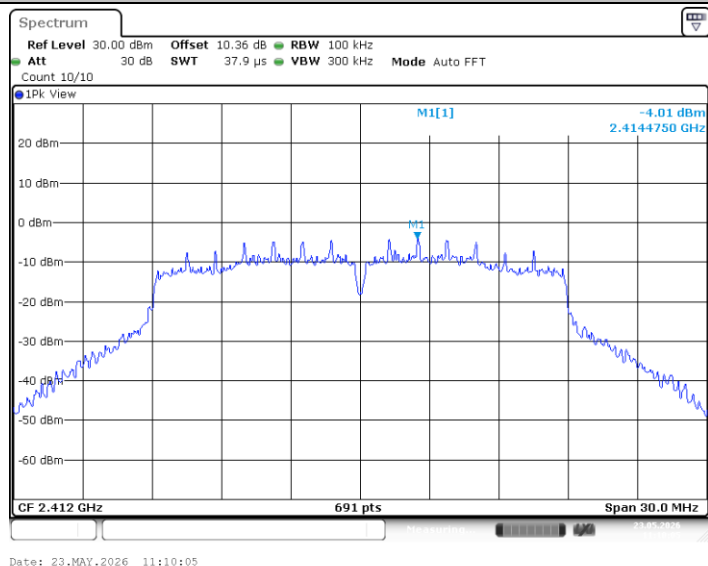


Date: 23.MAY.2026 11:05:54

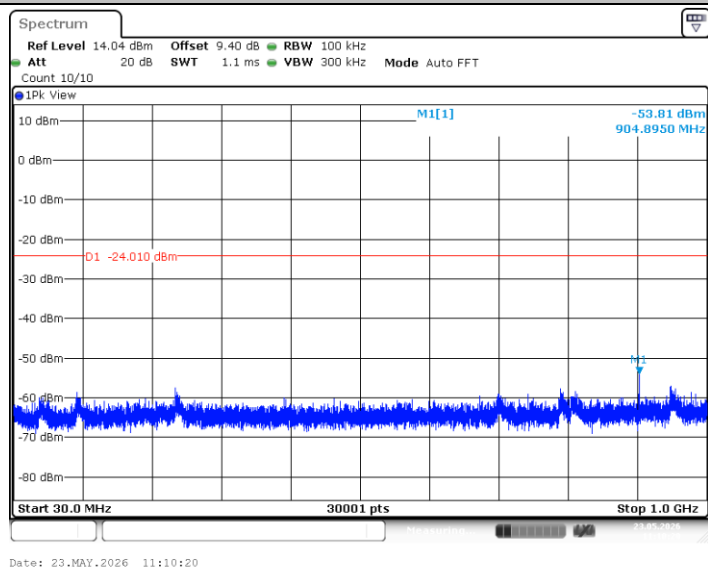
11G_Ant1_2462_1000~26500



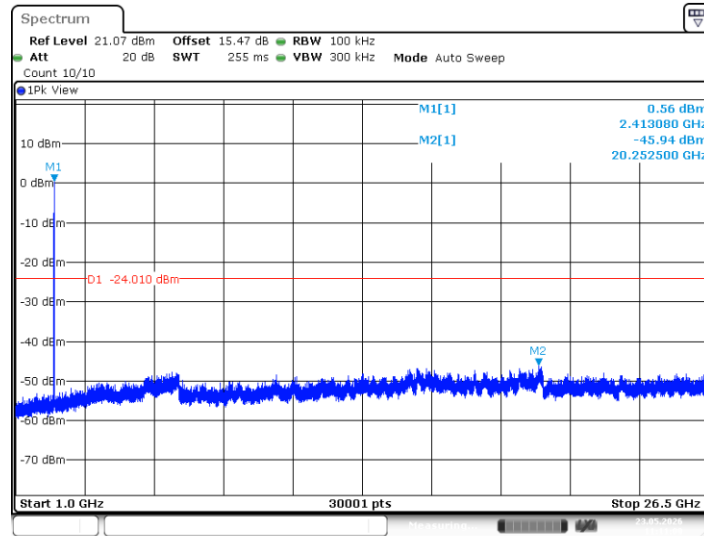
11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000

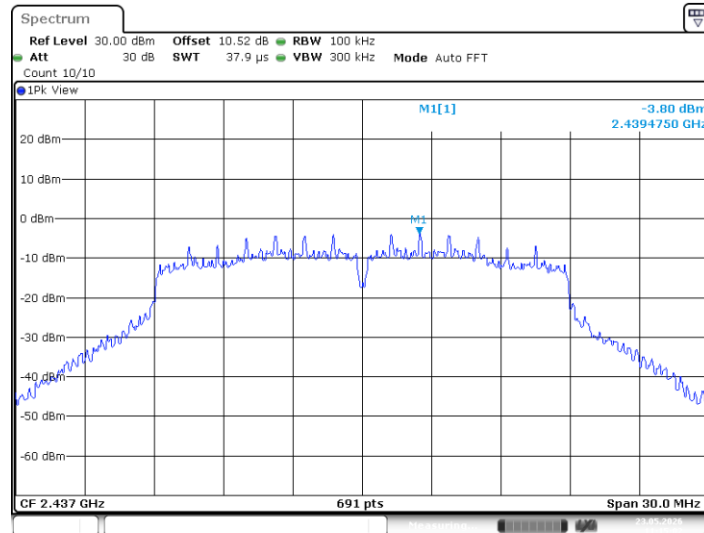


11N20SISO_Ant1_2412_1000~26500



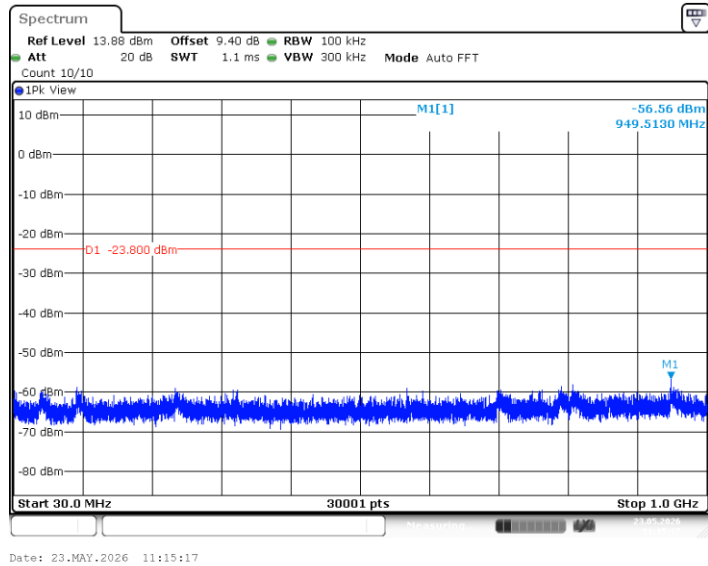
Date: 23.MAY.2026 11:11:00

11N20SISO_Ant1_2437_0~Reference

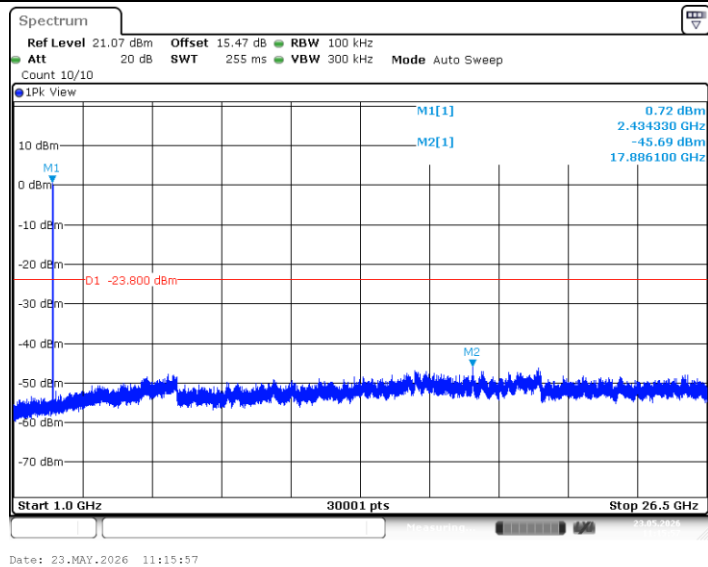


Date: 23.MAY.2026 11:15:03

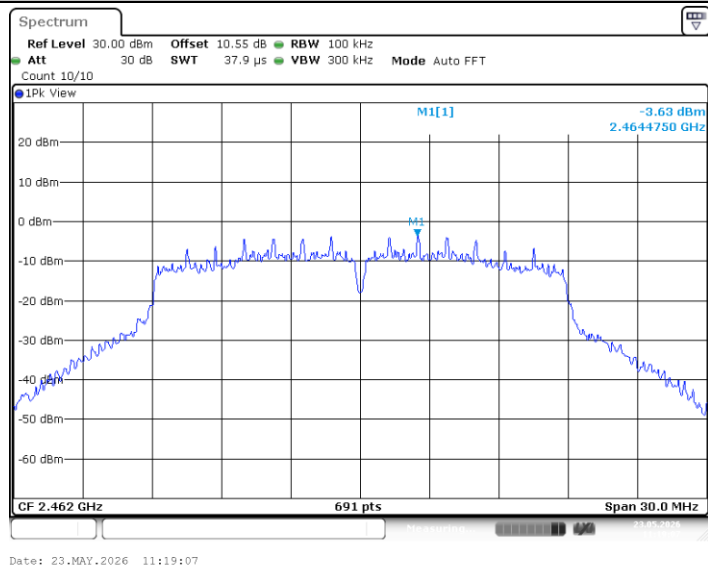
11N20SISO_Ant1_2437_30~1000



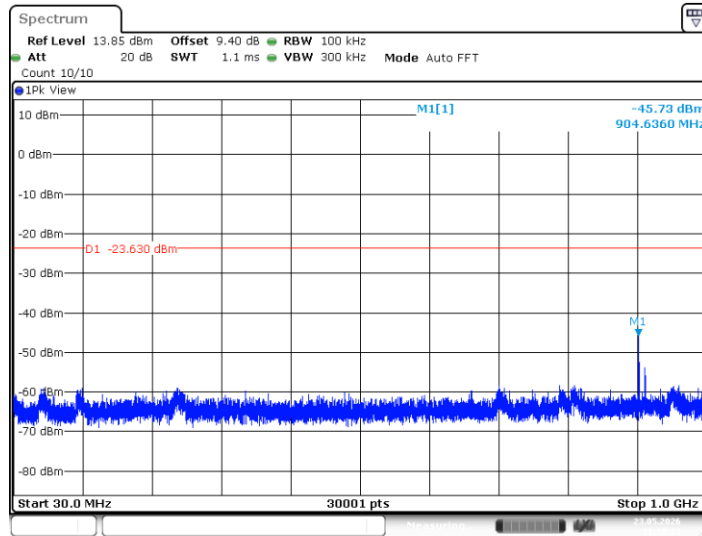
11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference

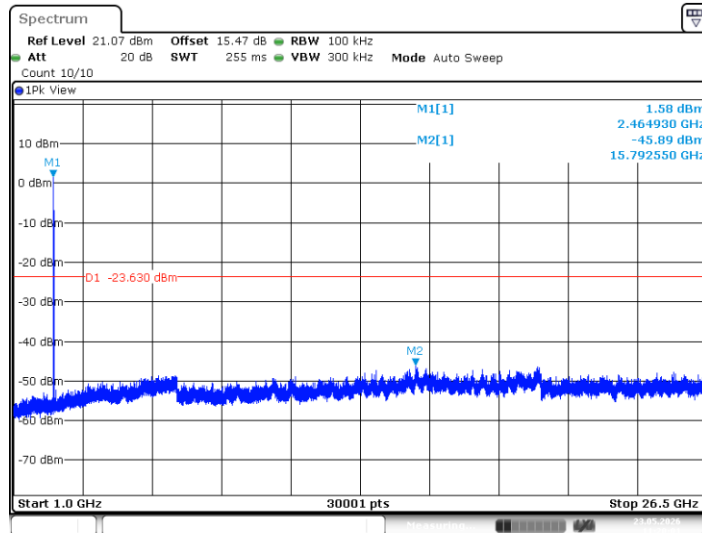


11N20SISO_Ant1_2462_30~1000



Date: 23.MAY.2026 11:19:22

11N20SISO_Ant1_2462_1000~26500



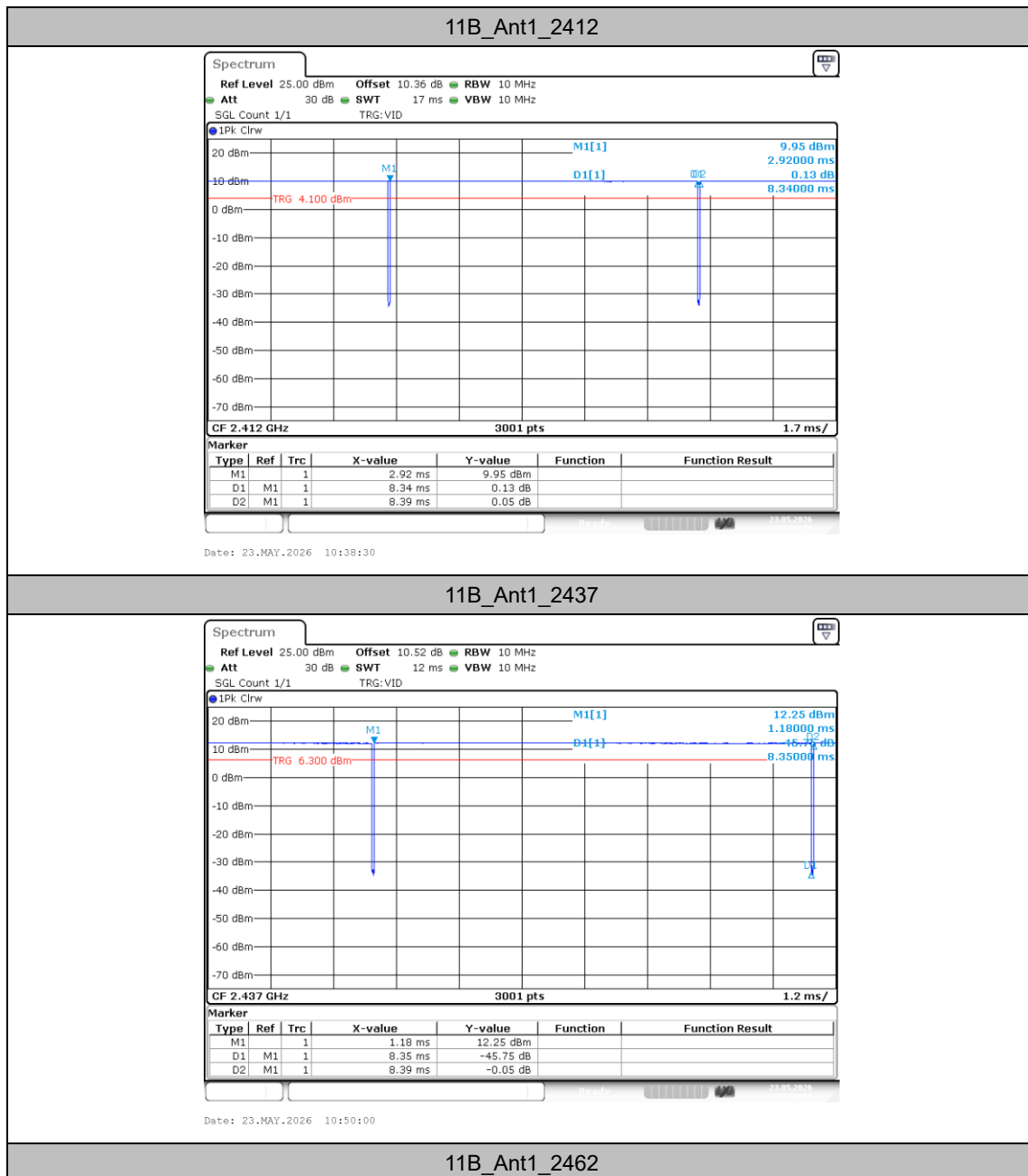
Date: 23.MAY.2026 11:20:01

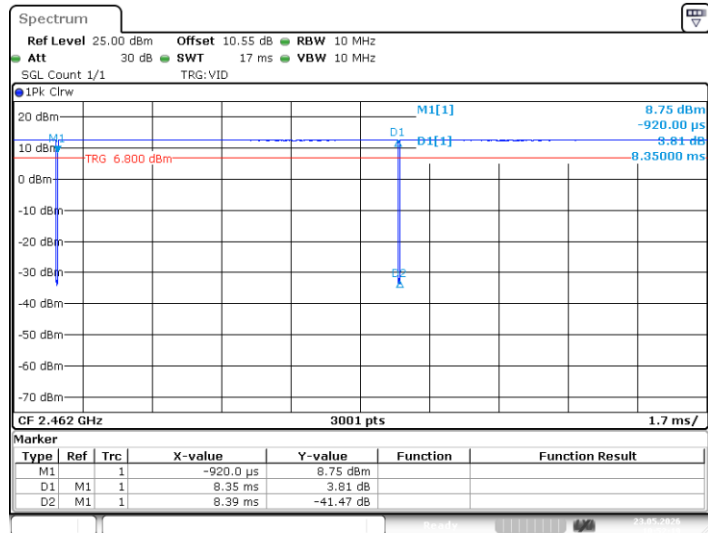
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor [dB]	T Factor [dB]
11B	Ant1	2412	8.34	8.39	99.40	0.03	0.12
		2437	8.35	8.39	99.52	0.02	0.12
		2462	8.35	8.39	99.52	0.02	0.12
11G	Ant1	2412	0.15	0.20	75.00	1.25	6.67
		2437	0.15	0.20	75.00	1.25	6.67
		2462	0.15	0.20	75.00	1.25	6.67
11N20SISO	Ant1	2412	0.17	0.22	77.27	1.12	5.88
		2437	0.18	0.23	78.26	1.06	5.56
		2462	0.18	0.23	78.26	1.06	5.56

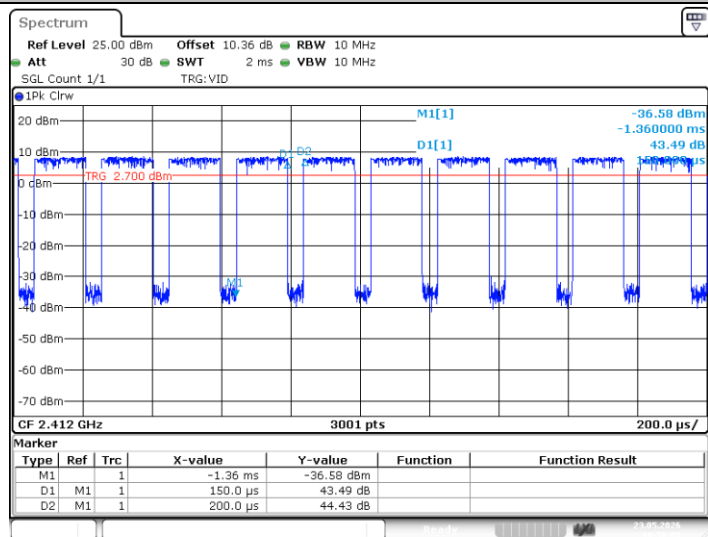
Test Graphs





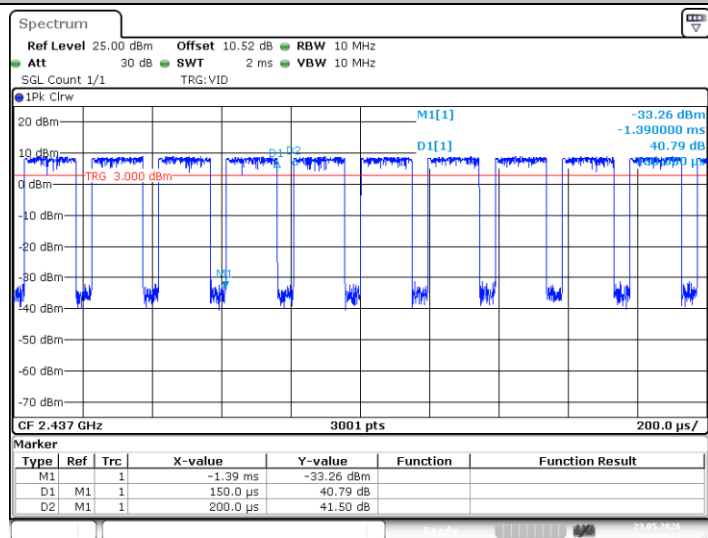
Date: 23.MAY.2026 10:52:19

11G_Ant1_2412



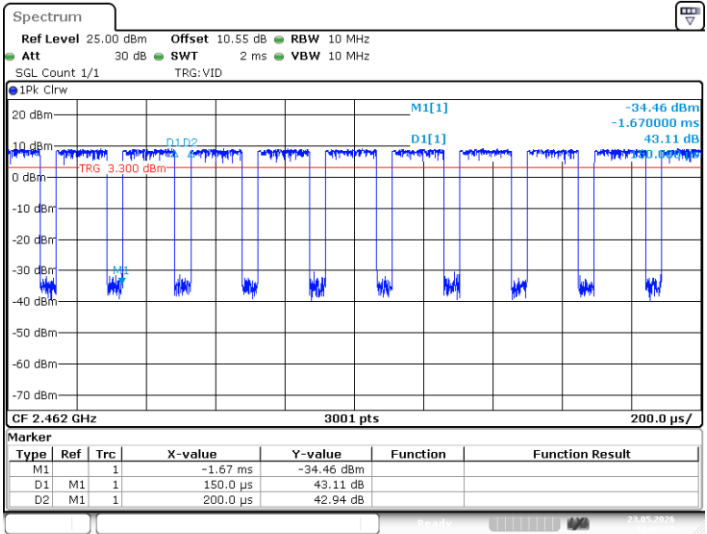
Date: 23.MAY.2026 10:56:07

11G_Ant1_2437



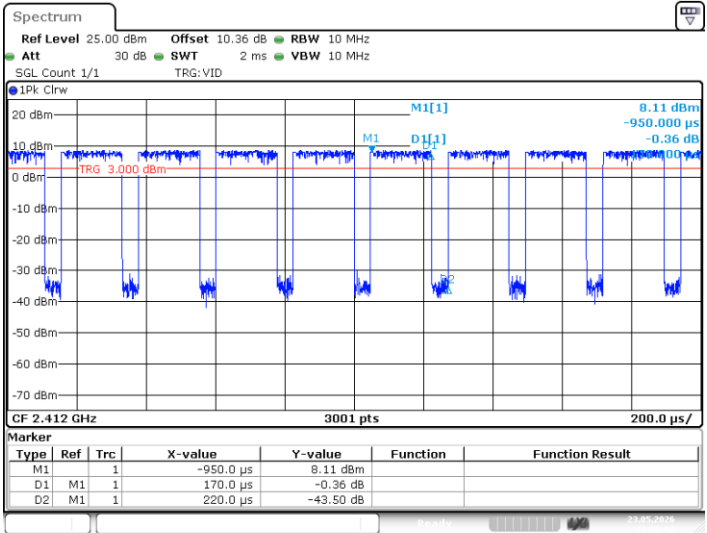
Date: 23.MAY.2026 11:00:13

11G_Ant1_2462



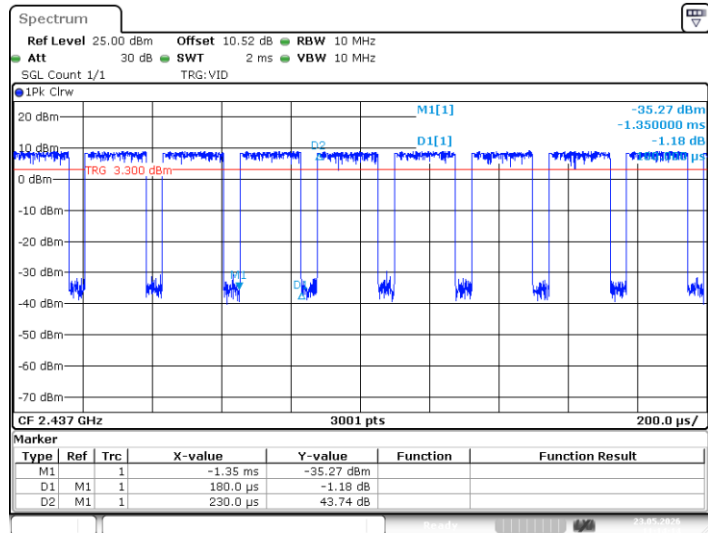
Date: 23.MAY.2026 11:03:37

11N20SISO_Ant1_2412



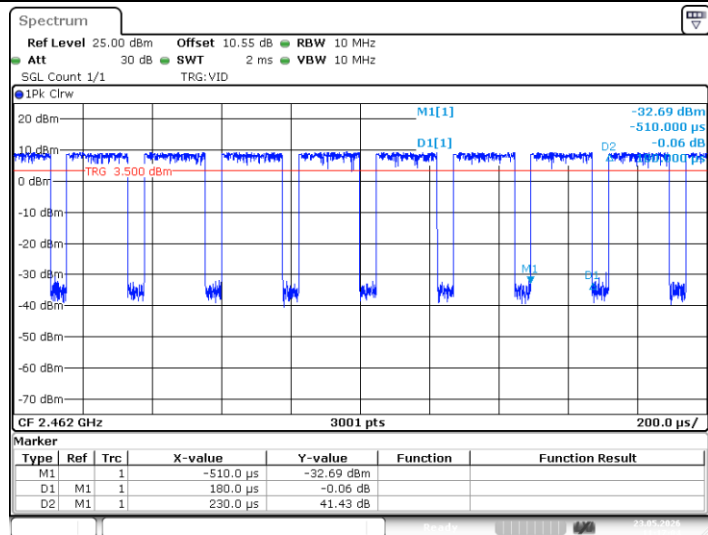
Date: 23.MAY.2026 11:08:02

11N20SISO_Ant1_2437



Date: 23.MAY.2026 11:14:14

11N20SISO_Ant1_2462



Date: 23.MAY.2026 11:17:04

Appendix H: Emissions in Restricted Bands

Test Result

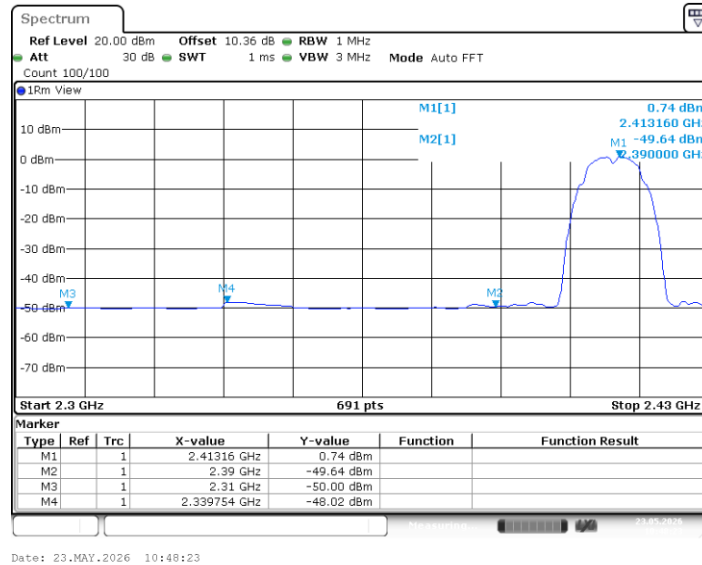
TestMod e	Antenn a	ChNam e	Frequen cy[MHz]	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-50	2.00	0.03	47.23	≤54	PASS
				AV	2339.754	-48.02	2.00	0.03	49.21	≤54	PASS
				AV	2390.000	-49.64	2.00	0.03	47.59	≤54	PASS
				Peak	2310.000	-38.23	2.00	0.00	58.97	≤74	PASS
				Peak	2341.072	-36.37	2.00	0.00	60.83	≤74	PASS
				Peak	2390.000	-38.52	2.00	0.00	58.68	≤74	PASS
		High	2462	AV	2483.500	-49.19	2.00	0.02	48.03	≤54	PASS
				AV	2488.145	-48.9	2.00	0.02	48.32	≤54	PASS
				AV	2500.000	-49.63	2.00	0.02	47.59	≤54	PASS
				Peak	2483.500	-37.72	2.00	0.00	59.48	≤74	PASS
				Peak	2489.261	-37.37	2.00	0.00	59.83	≤74	PASS
				Peak	2500.000	-38.53	2.00	0.00	58.67	≤74	PASS
11G	Ant1	Low	2412	AV	2310.000	-49.91	2.00	1.25	48.54	≤54	PASS
				AV	2340.319	-48.03	2.00	1.25	50.42	≤54	PASS
				AV	2390.000	-50.08	2.00	1.25	48.37	≤54	PASS
				Peak	2310.000	-38.71	2.00	0.00	58.49	≤74	PASS
				Peak	2342.014	-36.59	2.00	0.00	60.61	≤74	PASS
				Peak	2390.000	-39.76	2.00	0.00	57.44	≤74	PASS
		High	2462	AV	2483.500	-49.56	2.00	1.25	48.89	≤54	PASS
				AV	2495.797	-49.38	2.00	1.25	49.07	≤54	PASS
				AV	2500.000	-49.67	2.00	1.25	48.78	≤54	PASS
				Peak	2483.500	-39.27	2.00	0.00	57.93	≤74	PASS
				Peak	2499.942	-37.77	2.00	0.00	59.43	≤74	PASS
				Peak	2500.000	-37.77	2.00	0.00	59.43	≤74	PASS
11N20SI SO	Ant1	Low	2412	AV	2310.000	-49.97	2.00	1.12	48.35	≤54	PASS
				AV	2340.319	-48.02	2.00	1.12	50.30	≤54	PASS
				AV	2390.000	-50.08	2.00	1.12	48.24	≤54	PASS
				Peak	2310.000	-37.42	2.00	0.00	59.78	≤74	PASS
				Peak	2344.087	-35.88	2.00	0.00	61.32	≤74	PASS
				Peak	2390.000	-39.3	2.00	0.00	57.90	≤74	PASS
		High	2462	AV	2483.500	-49.52	2.00	1.06	48.74	≤54	PASS
				AV	2495.159	-49.38	2.00	1.06	48.88	≤54	PASS
				AV	2500.000	-49.74	2.00	1.06	48.52	≤54	PASS
				Peak	2483.500	-38.88	2.00	0.00	58.32	≤74	PASS
				Peak	2498.348	-37.48	2.00	0.00	59.72	≤74	PASS
				Peak	2500.000	-39.12	2.00	0.00	58.08	≤74	PASS

Note:

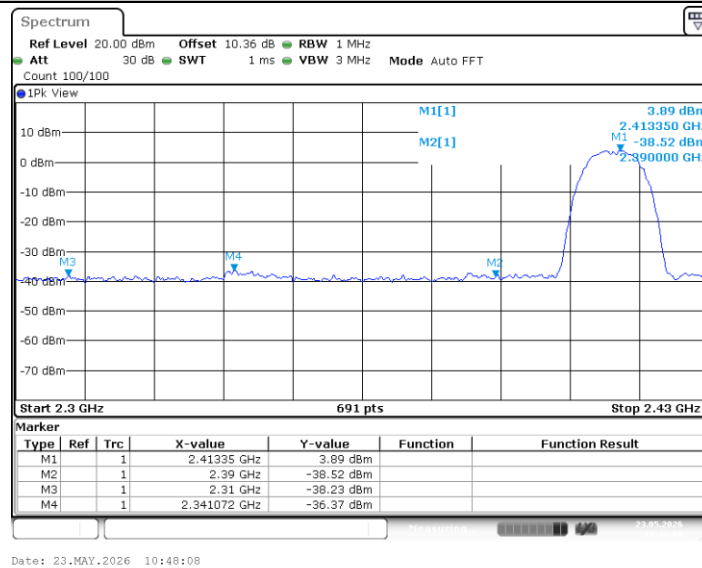
1. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

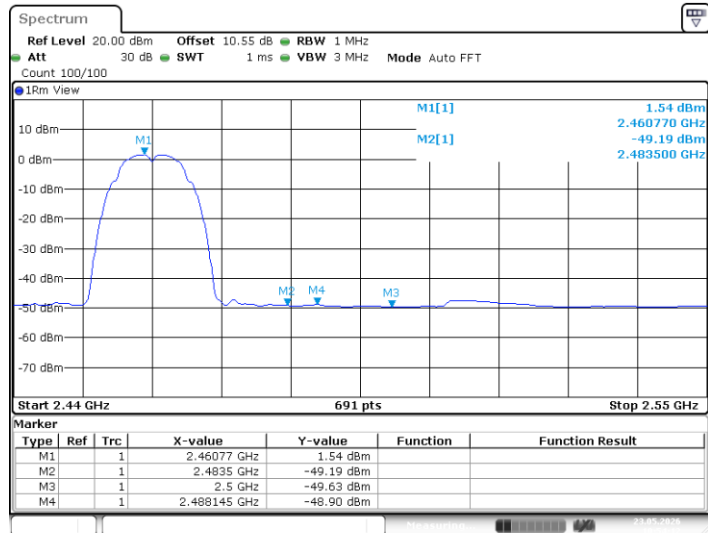
11B_Ant1_Low_2412_AV



11B_Ant1_Low_2412_Peak

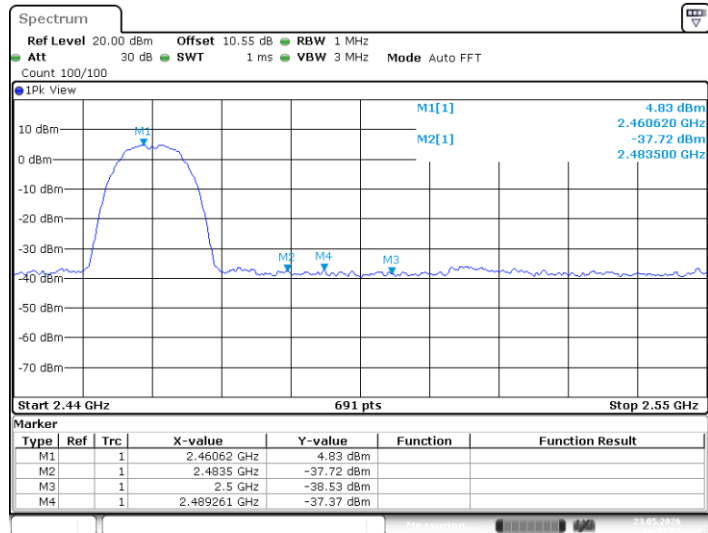


11B_Ant1_High_2462_AV



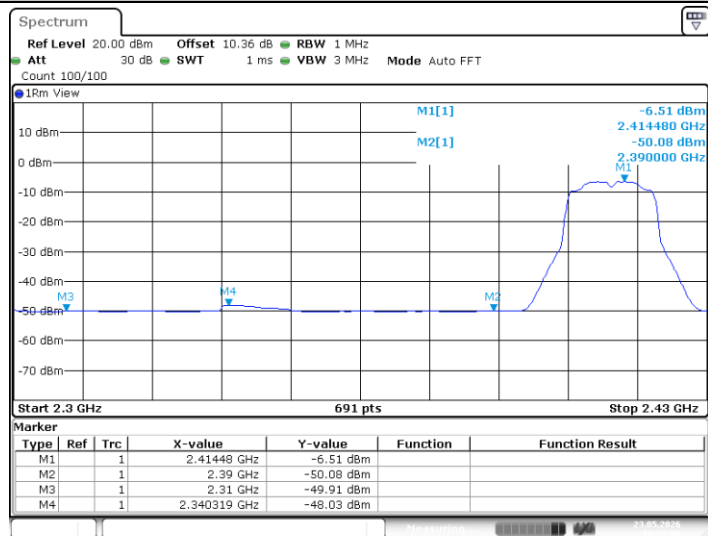
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11B_Ant1_High_2462_Peak



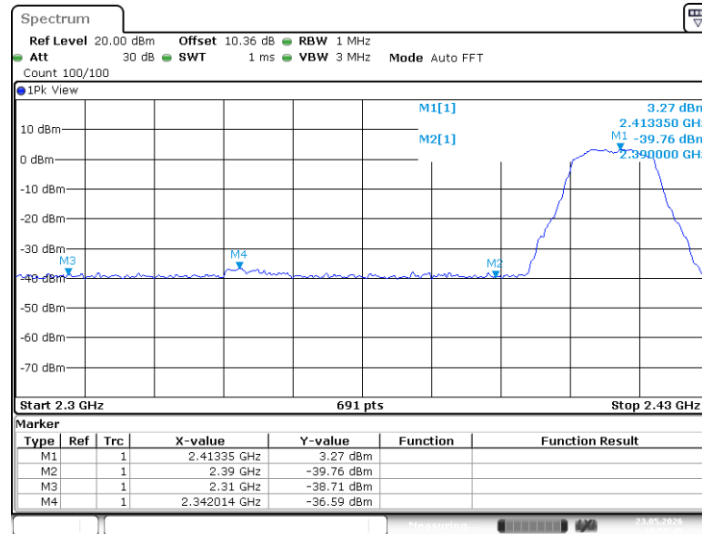
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11G_Ant1_Low_2412_AV



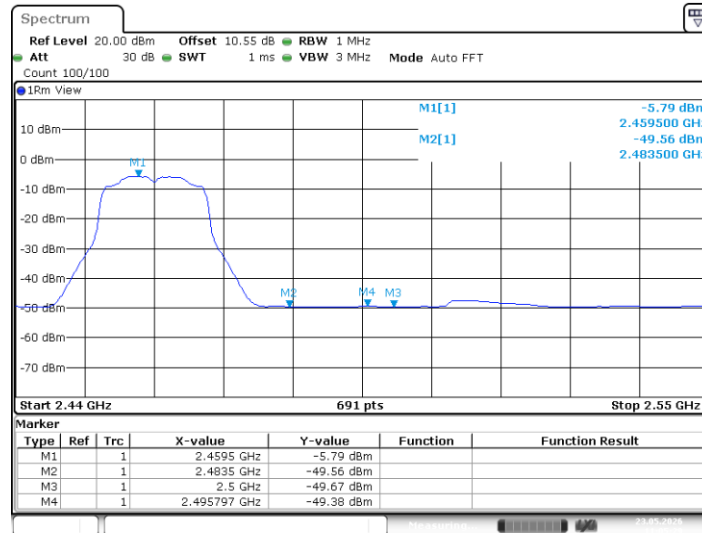
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11G_Ant1_Low_2412_Peak



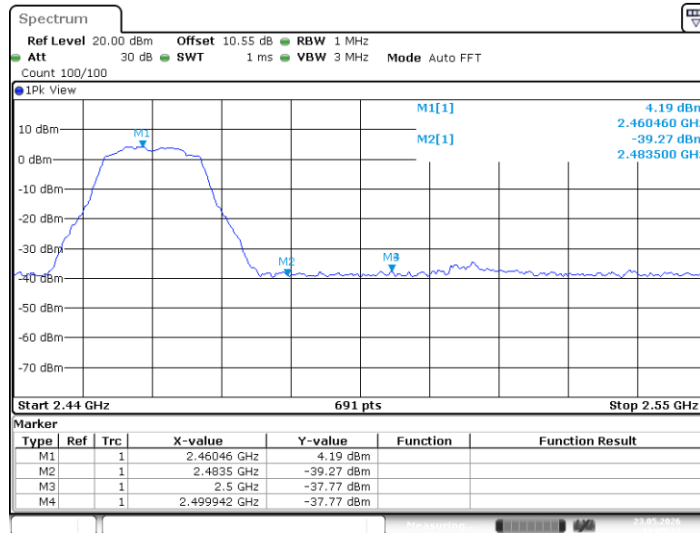
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11G_Ant1_High_2462_AV



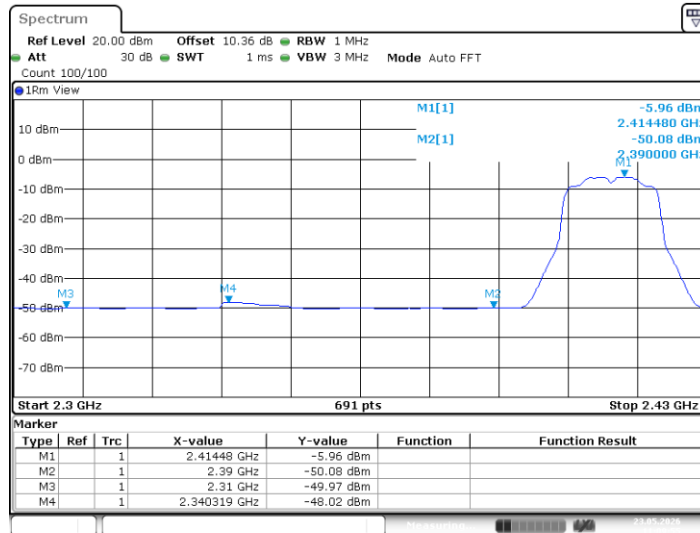
Date: 23.MAY.2026 11:05:29

11G_Ant1_High_2462_Peak



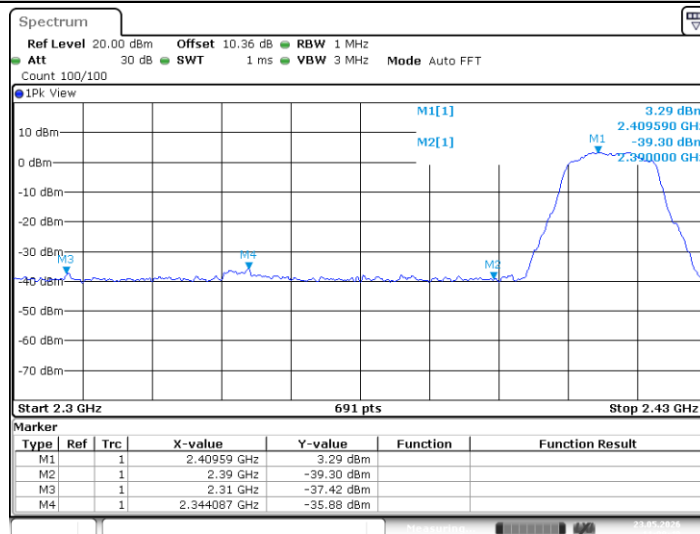
Date: 23.MAY.2026 11:05:13

11N20SISO_Ant1_Low_2412_AV



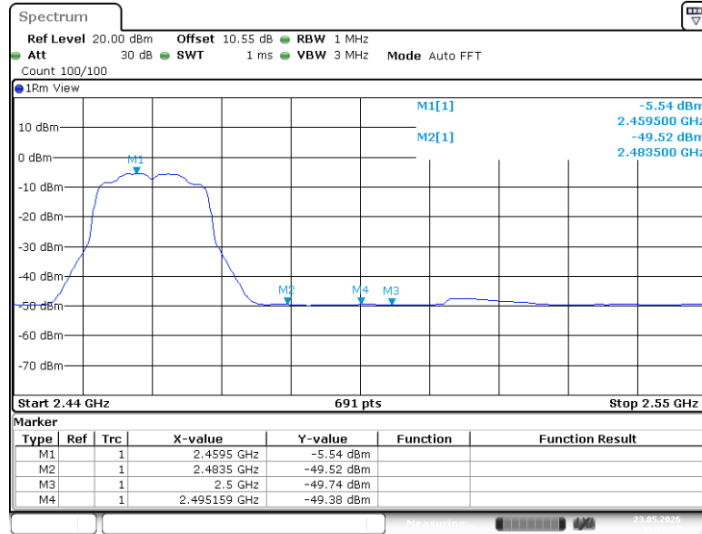
Date: 23.MAY.2026 11:09:55

11N20SISO_Ant1_Low_2412_Peak



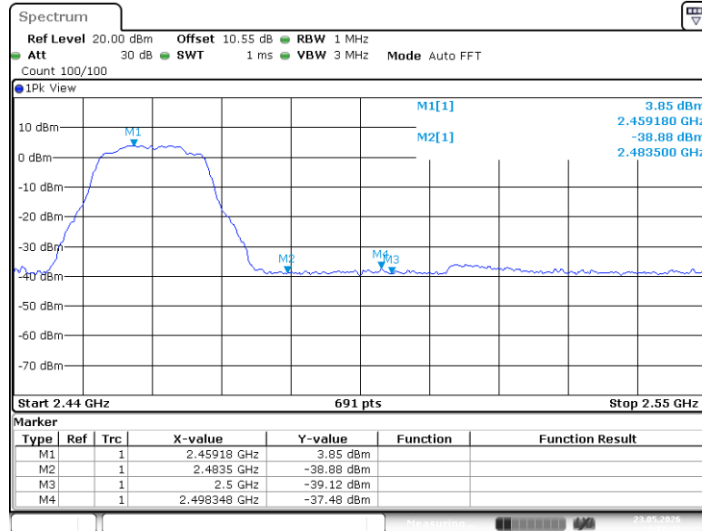
Date: 23.MAY.2026 11:09:39

11N20SISO_Ant1_High_2462_AV



Date: 23.MAY.2026 11:18:56

11N20SISO_Ant1_High_2462_Peak



Date: 23.MAY.2026 11:18:41