

Appendix: 2.4G WIFI of module 1

Contents

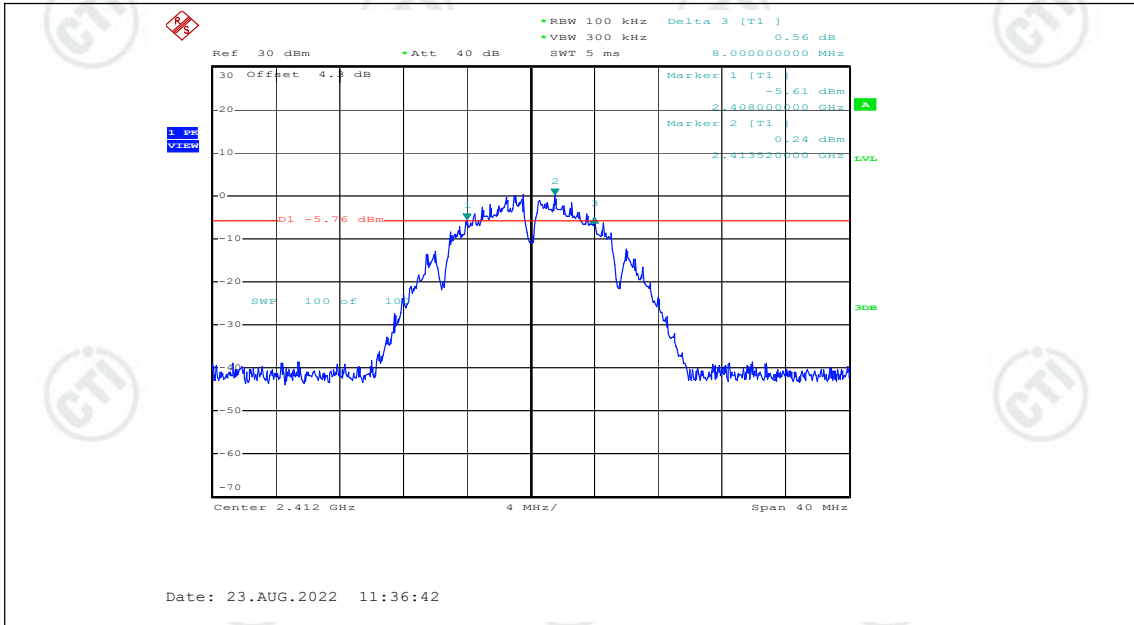
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Appendix A: DTS Bandwidth

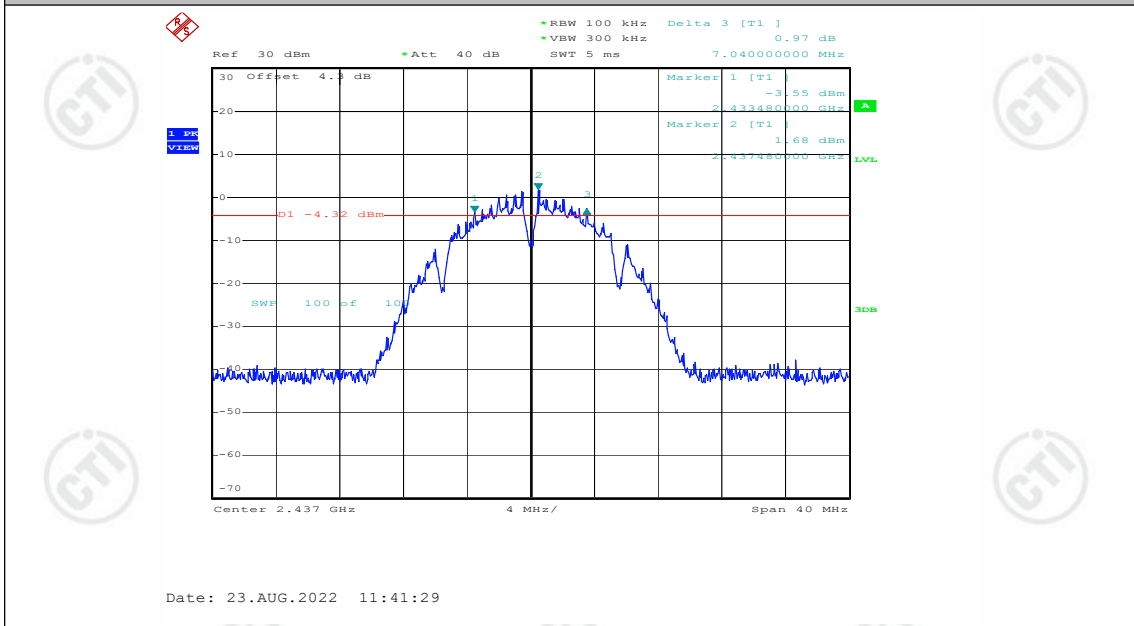
Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.00	2408.00	2416.00	0.5	PASS
		2437	7.04	2433.48	2440.52	0.5	PASS
		2462	8.52	2458.00	2466.52	0.5	PASS
11G	Ant1	2412	15.08	2404.48	2419.56	0.5	PASS
		2437	15.04	2429.48	2444.52	0.5	PASS
		2462	15.04	2454.48	2469.52	0.5	PASS
11N20SISO	Ant1	2412	15.36	2404.44	2419.80	0.5	PASS
		2437	15.68	2429.44	2445.12	0.5	PASS
		2462	15.00	2454.48	2469.48	0.5	PASS
11N40SISO	Ant1	2422	35.04	2404.48	2439.52	0.5	PASS
		2437	33.76	2420.76	2454.52	0.5	PASS
		2452	35.12	2434.48	2469.60	0.5	PASS

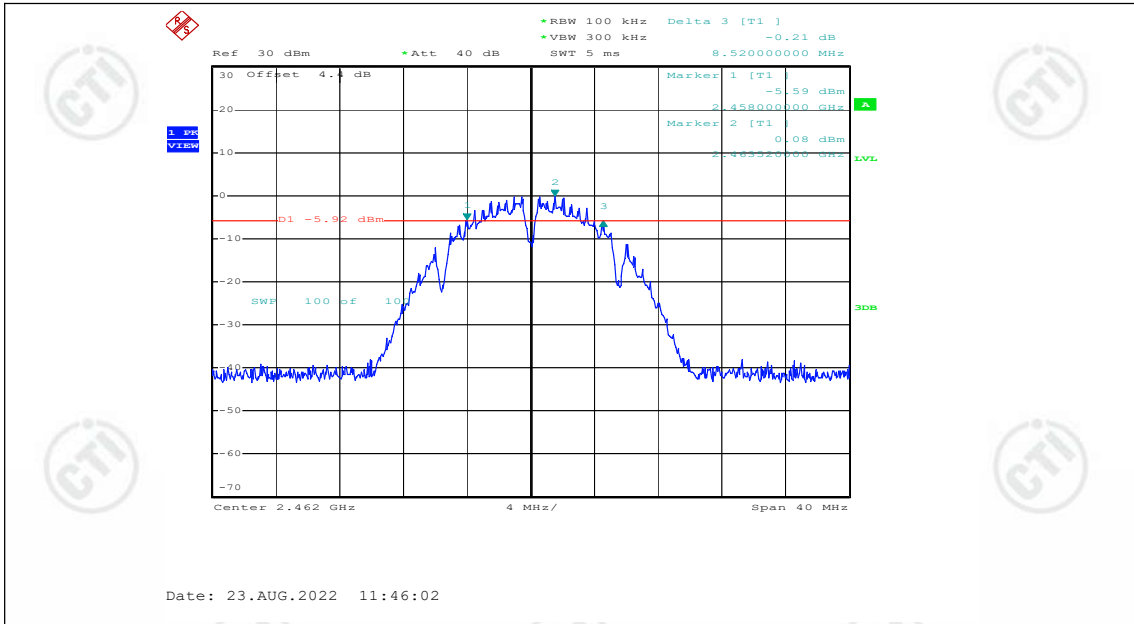
Test Graphs



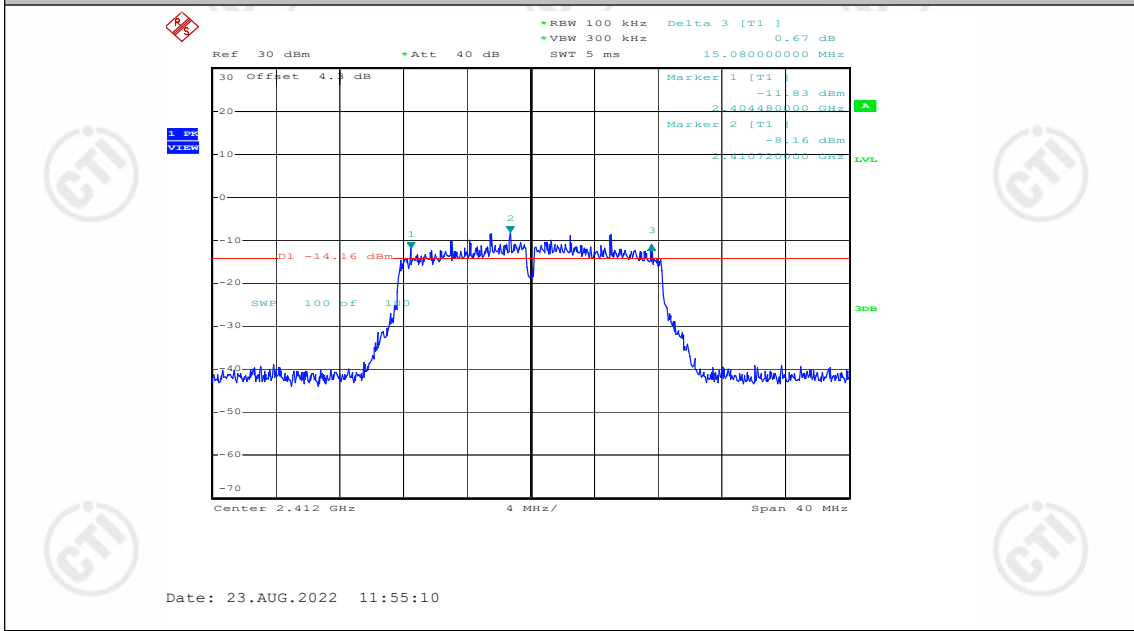
11B_Ant1_2412



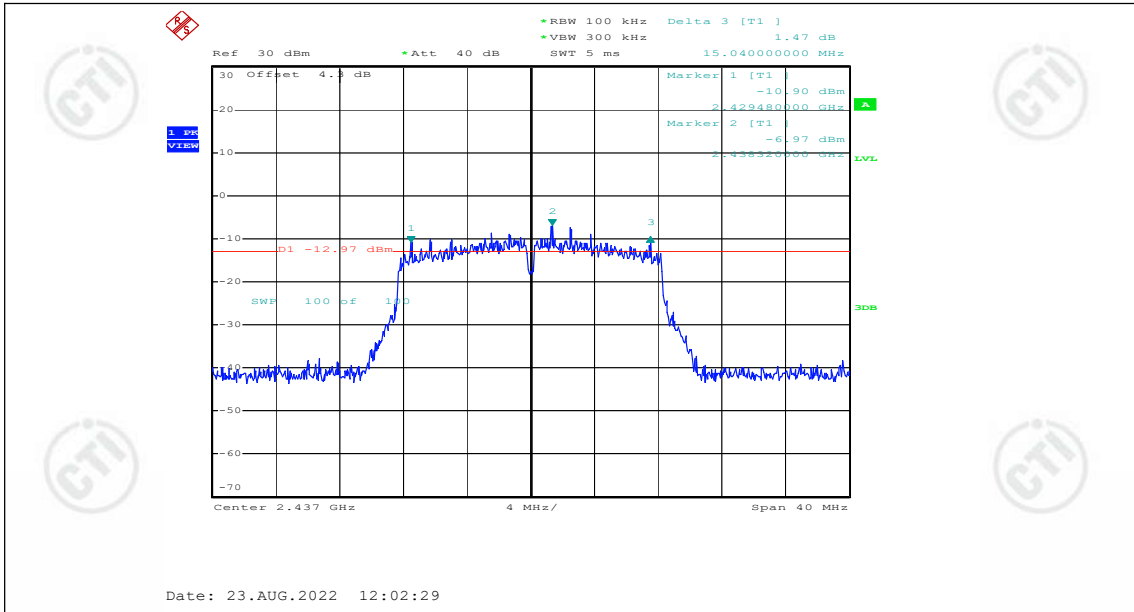
11B_Ant1_2437



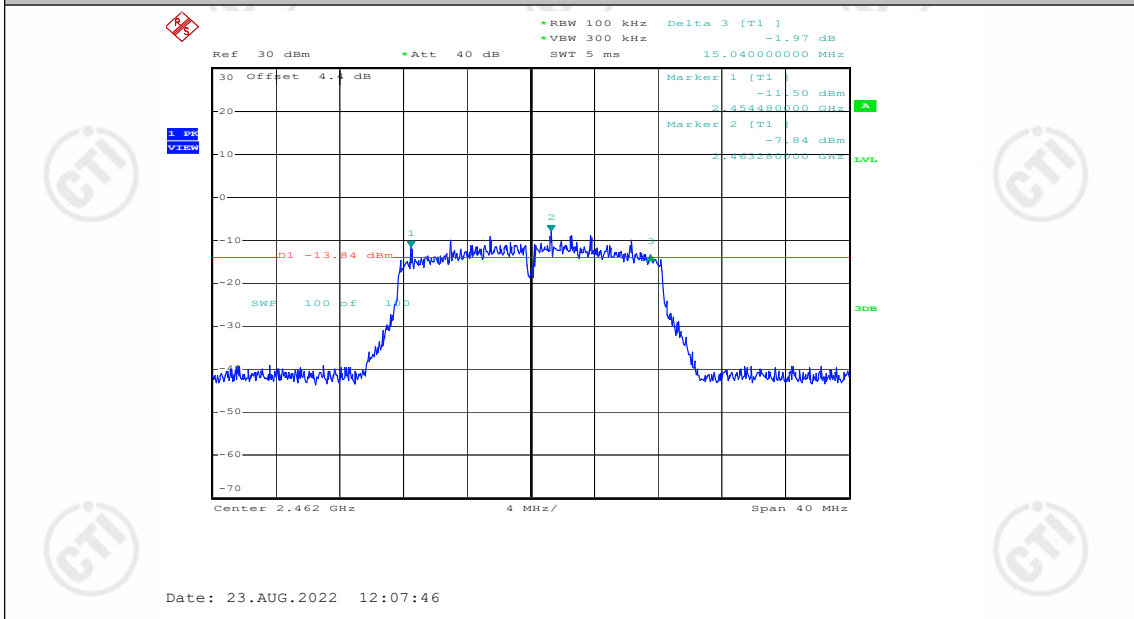
11B_Ant1_2462



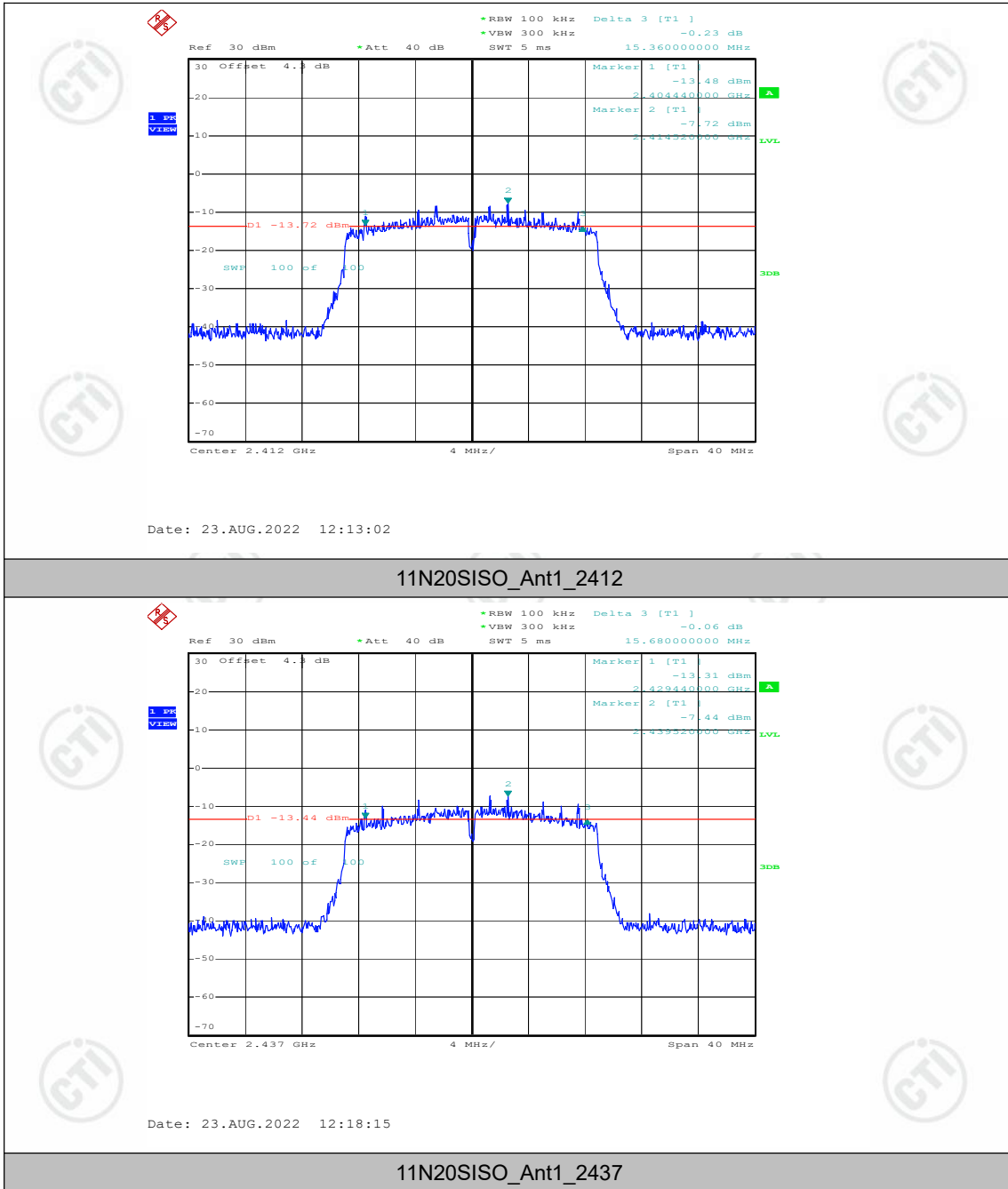
11G_Ant1_2412

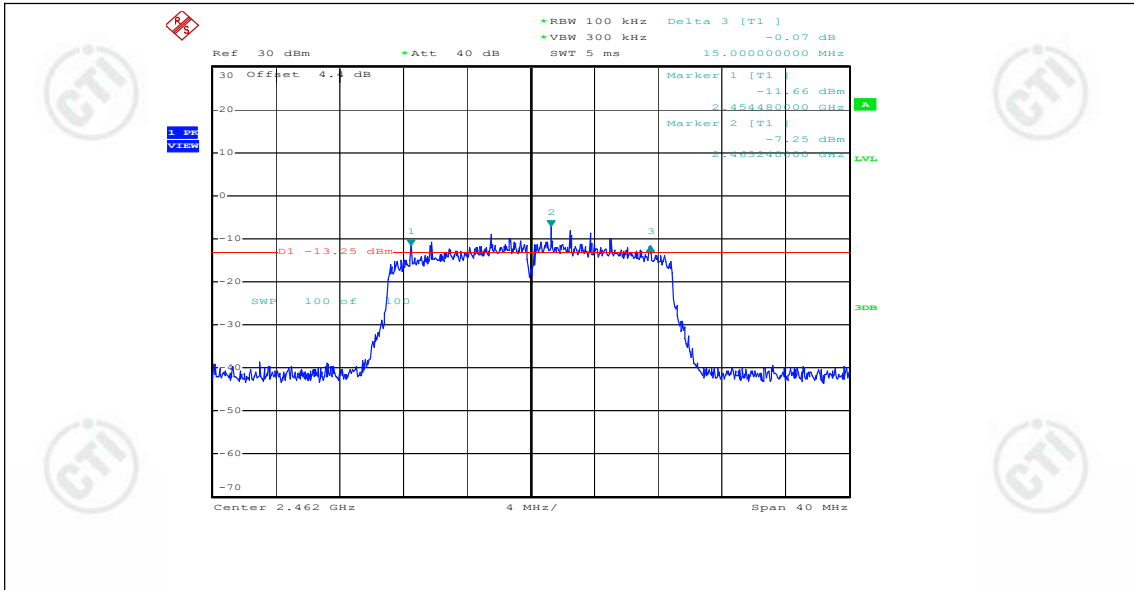


11G_Ant1_2437

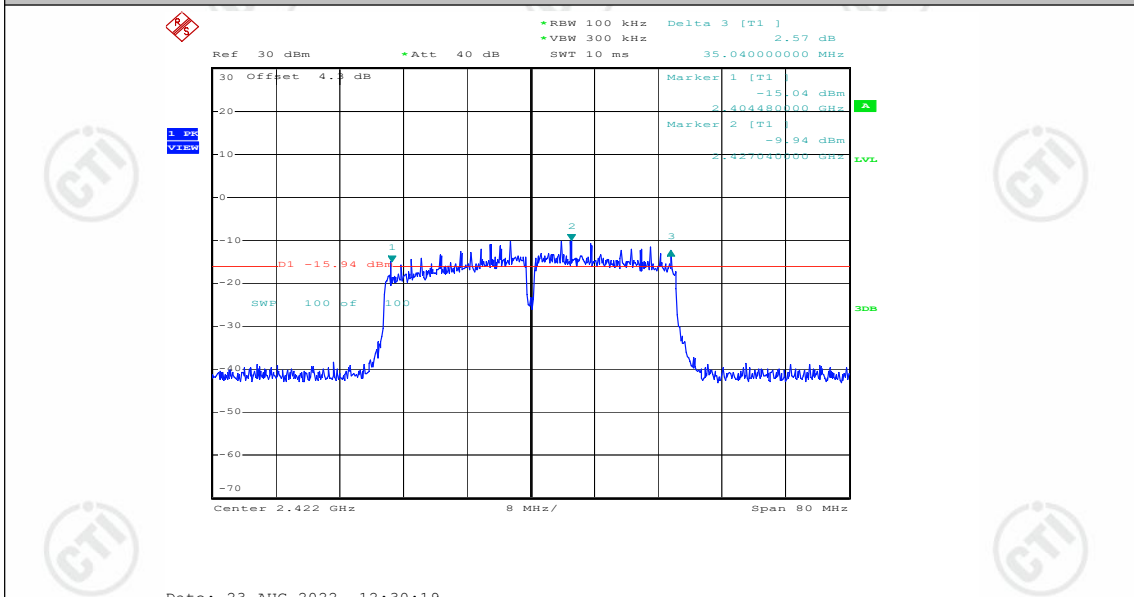


11G_Ant1_2462

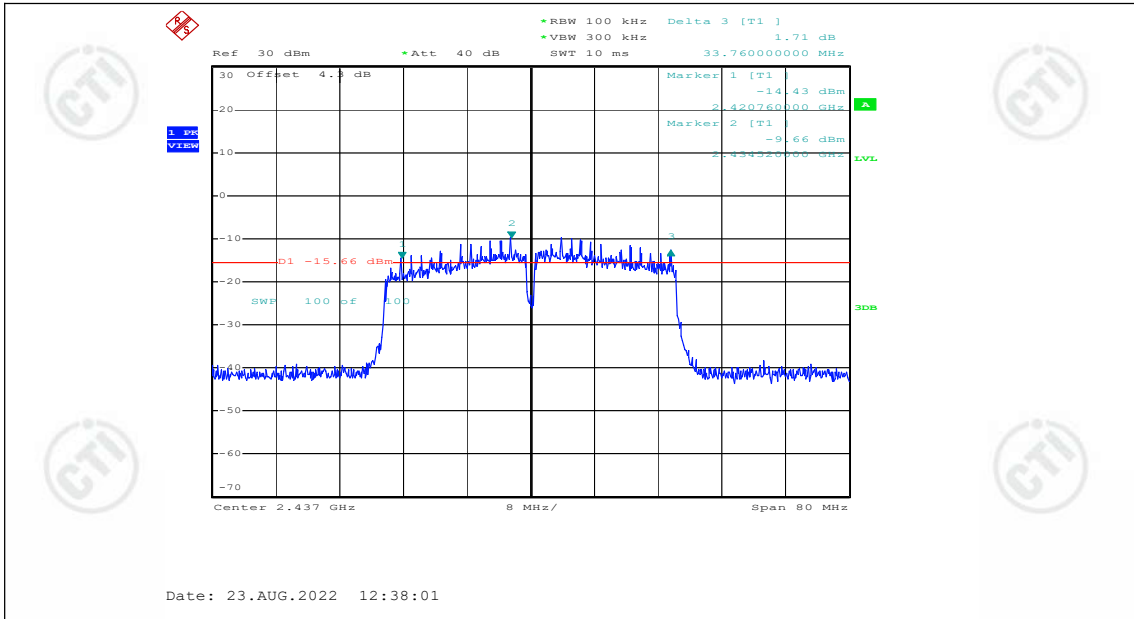




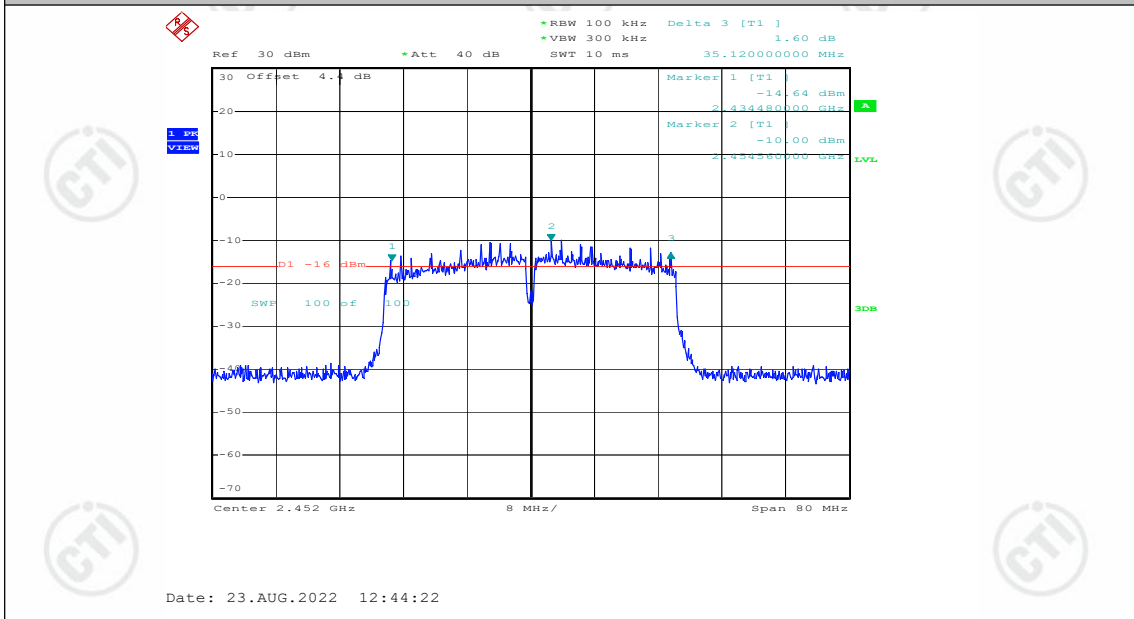
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



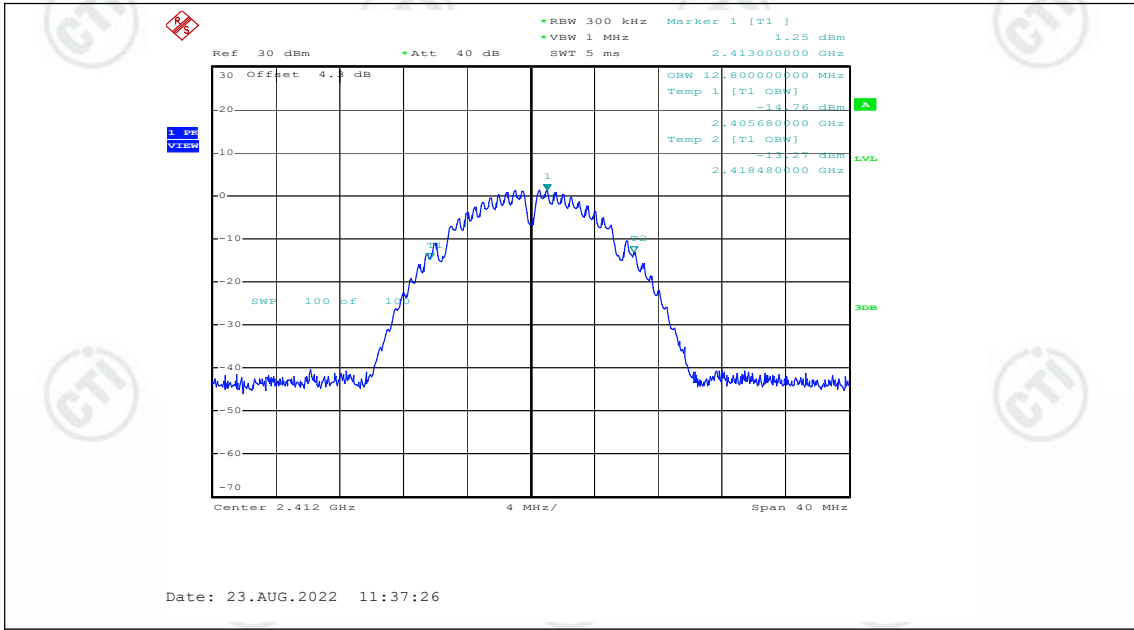
11N40SISO_Ant1_2452

Appendix B: Occupied Channel Bandwidth

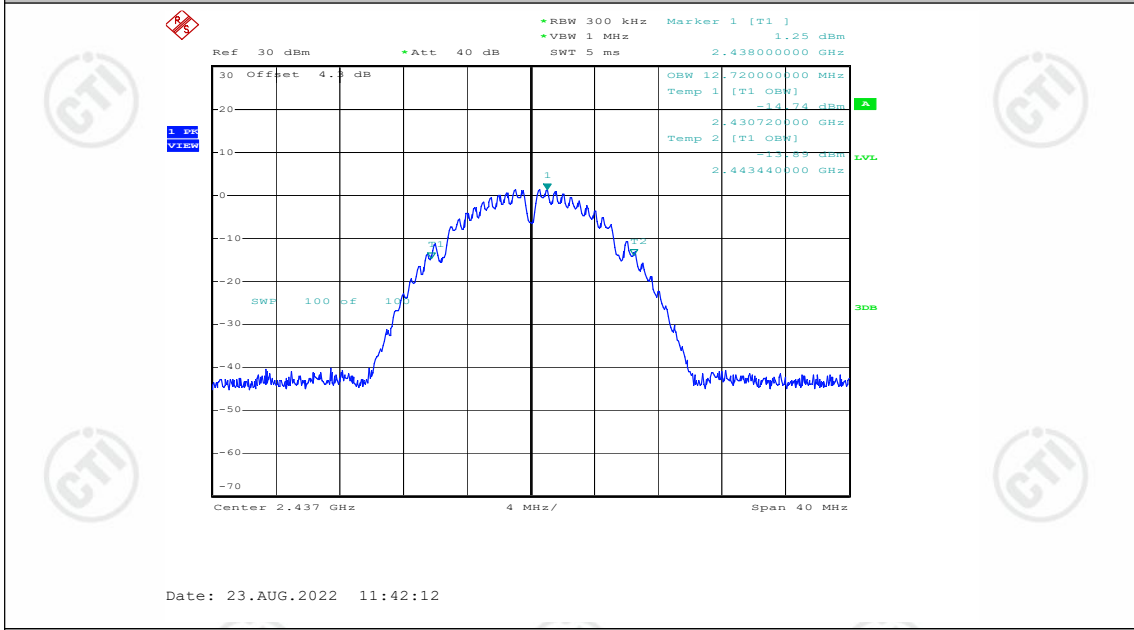
Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.8	0.000	0.000	---	---
		2437	12.72	0.000	0.000	---	---
		2462	12.76	0.000	0.000	---	---
11G	Ant1	2412	16.72	0.000	0.000	---	---
		2437	16.72	0.000	0.000	---	---
		2462	16.72	0.000	0.000	---	---
11N20SISO	Ant1	2412	17.76	0.000	0.000	---	---
		2437	17.76	0.000	0.000	---	---
		2462	17.76	0.000	0.000	---	---
11N40SISO	Ant1	2422	36.56	0.000	0.000	---	---
		2437	36.24	0.000	0.000	---	---
		2452	36.56	0.000	0.000	---	---

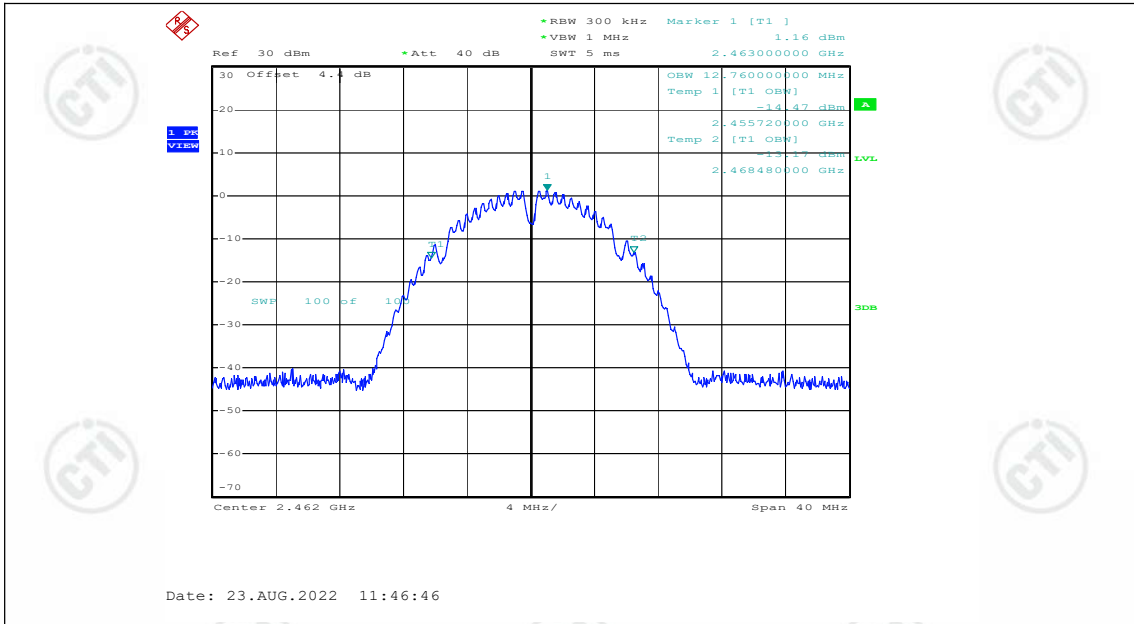
Test Graphs



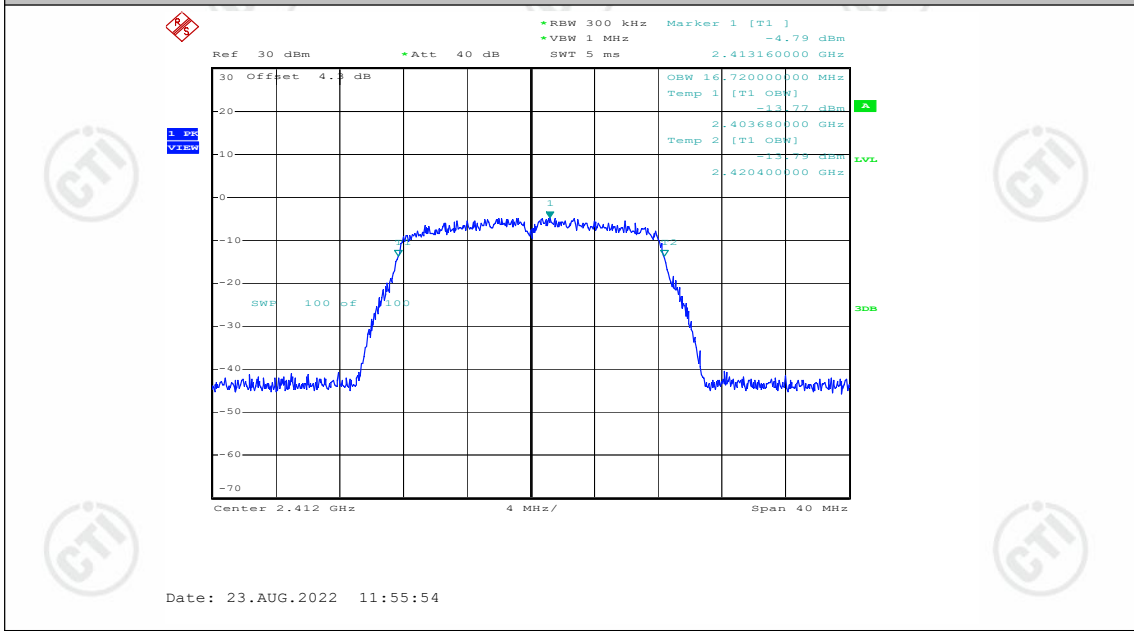
11B_Ant1_2412



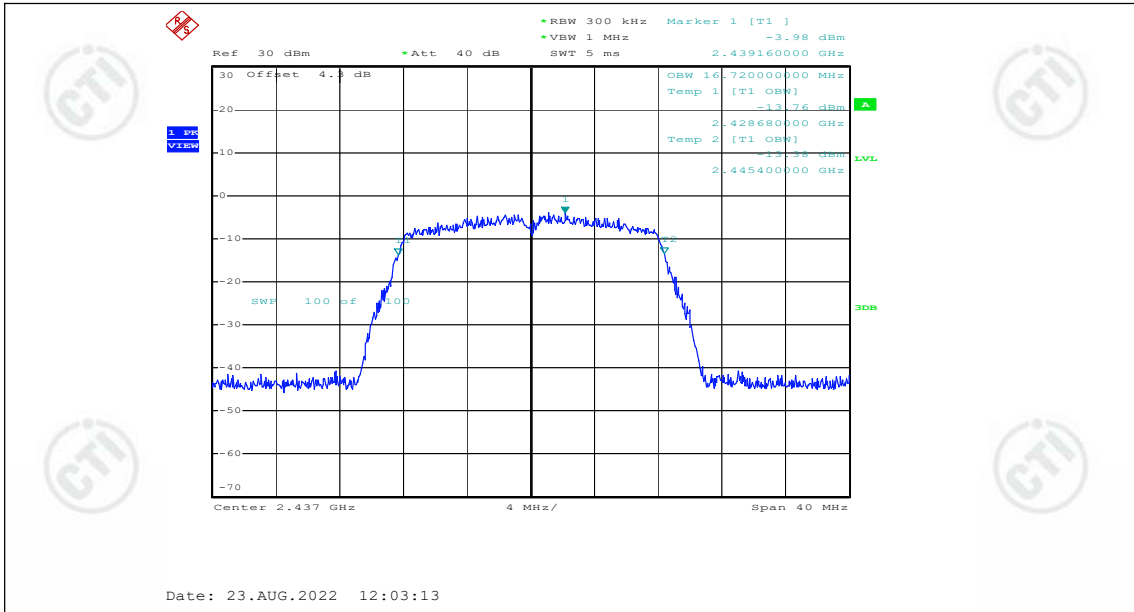
11B_Ant1_2437



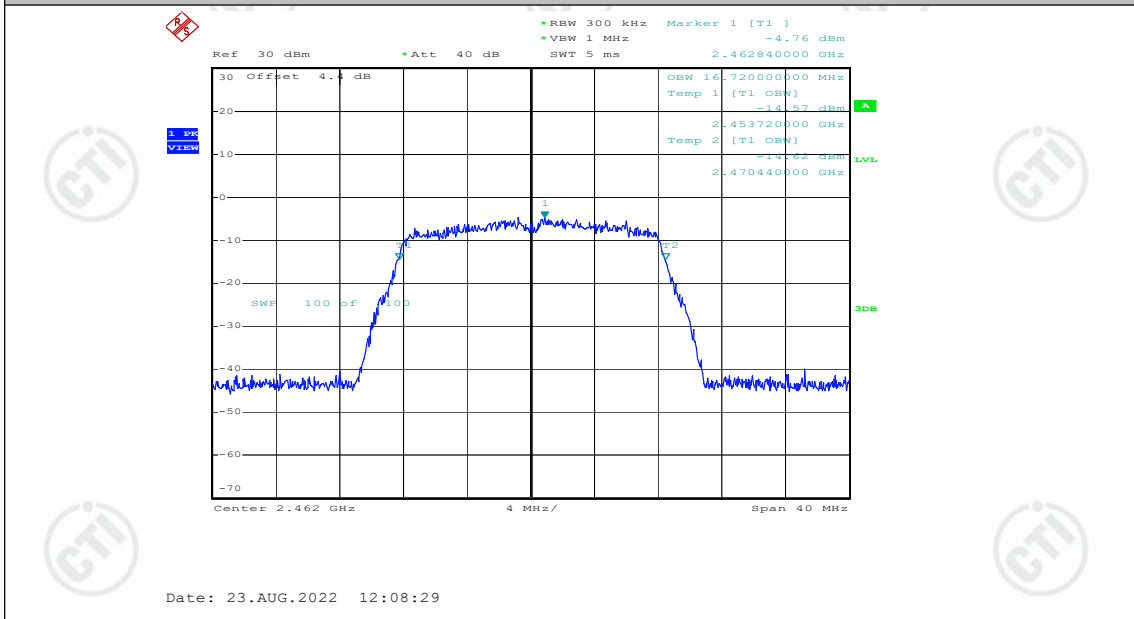
11B_Ant1_2462



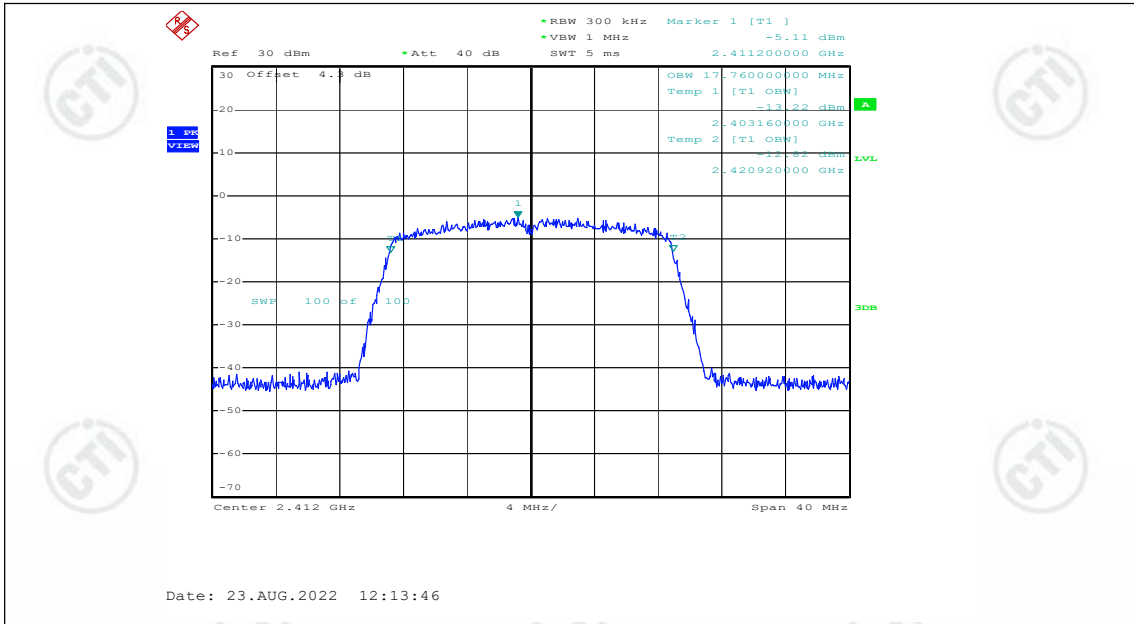
11G_Ant1_2412



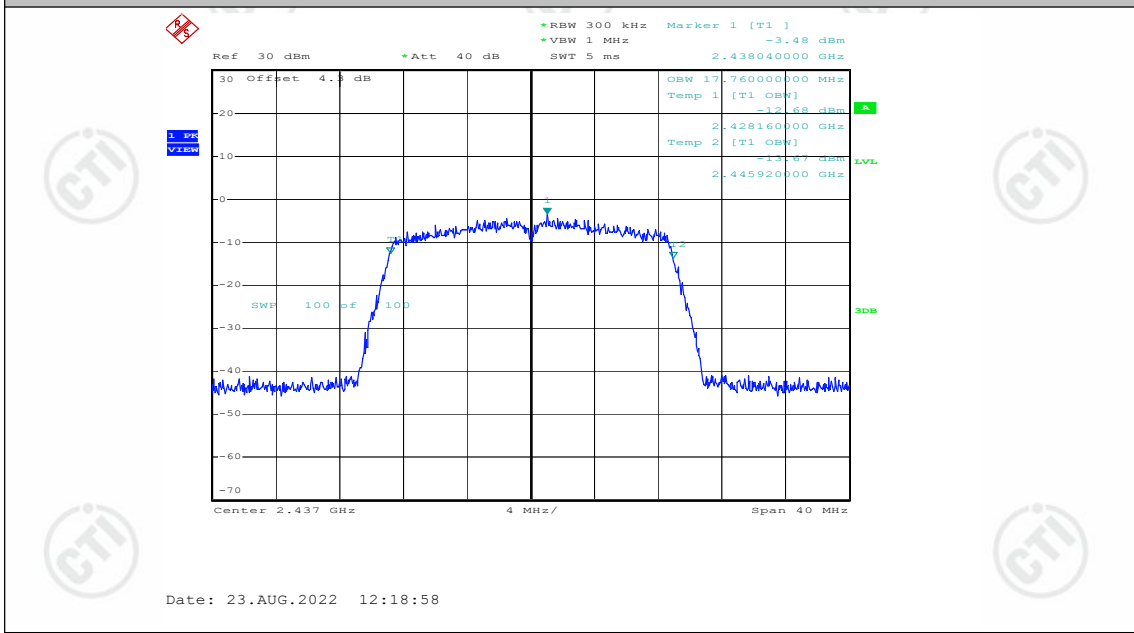
11G_Ant1_2437



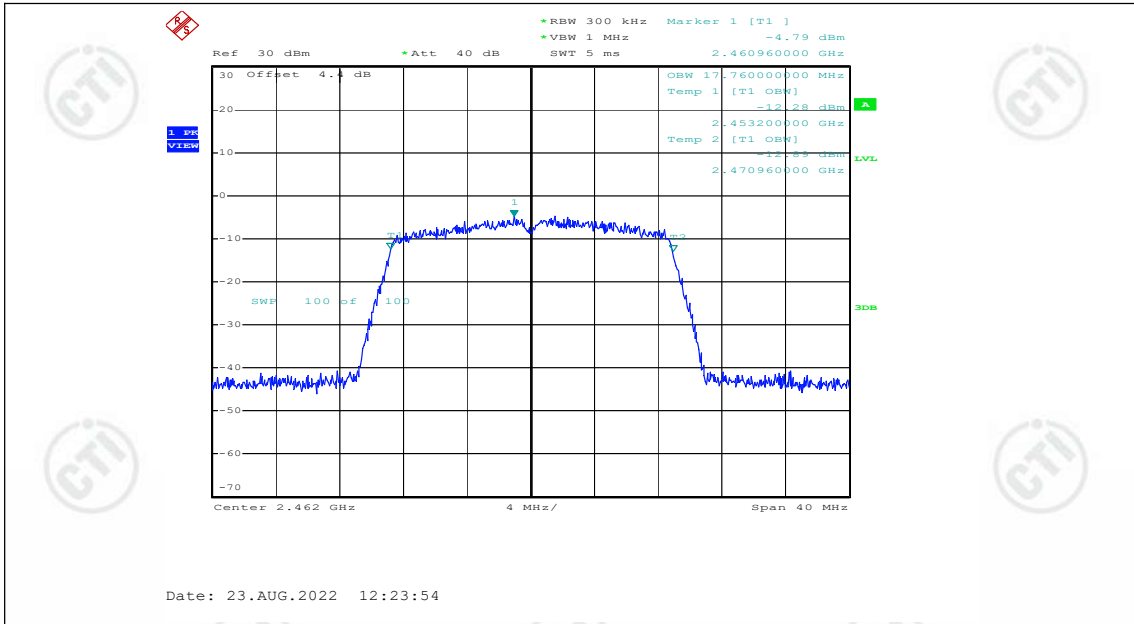
11G_Ant1_2462



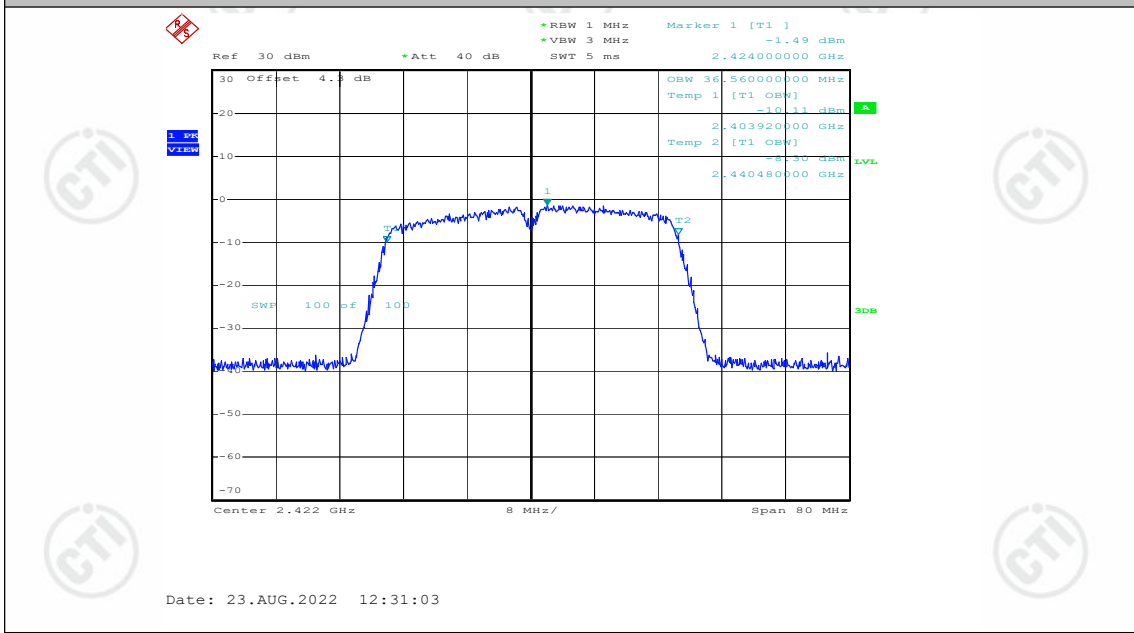
11N20SISO_Ant1_2412



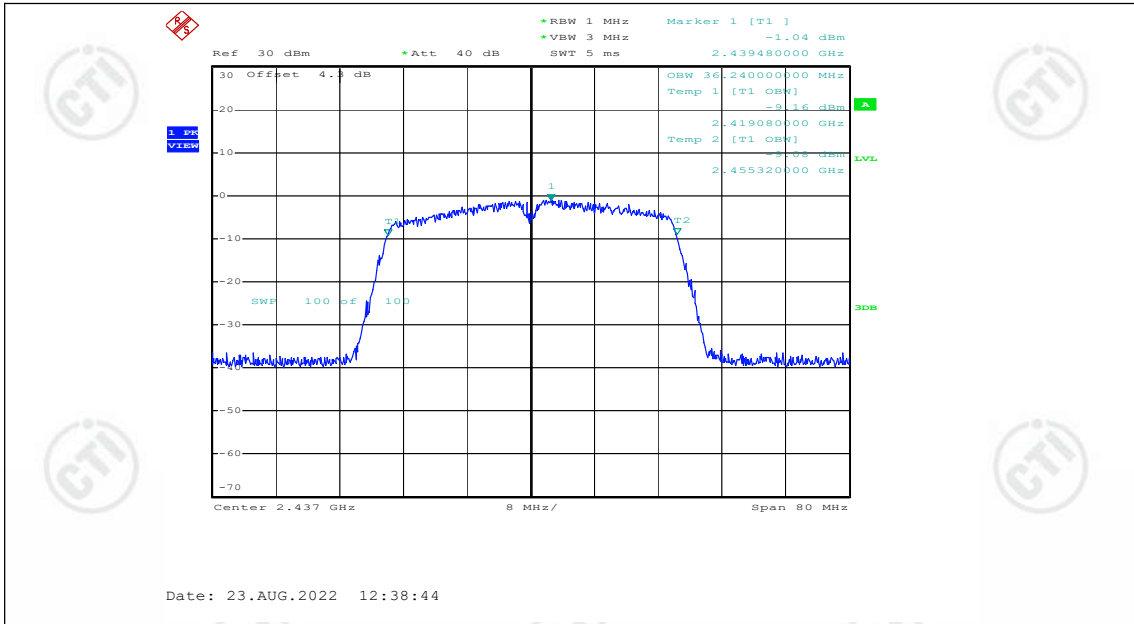
11N20SISO_Ant1_2437



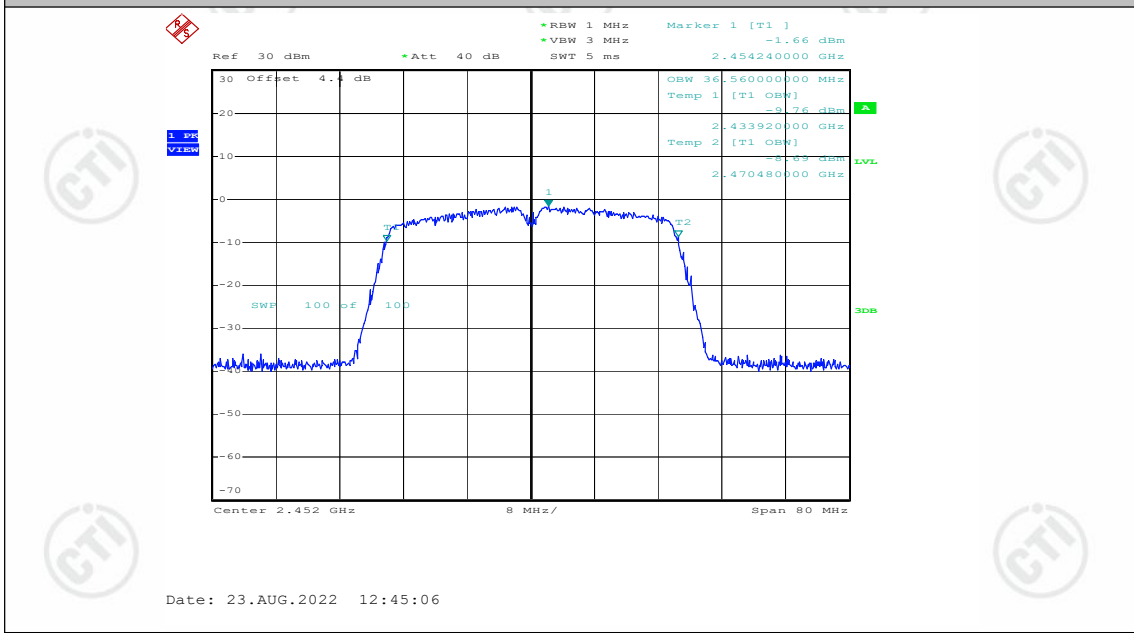
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437

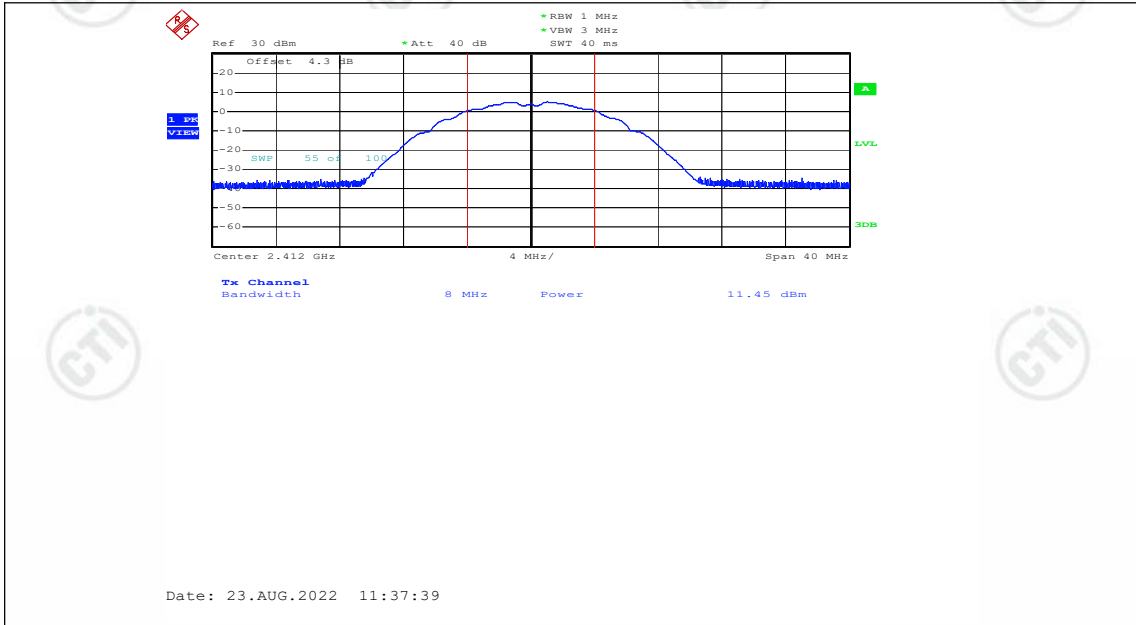


11N40SISO_Ant1_2452

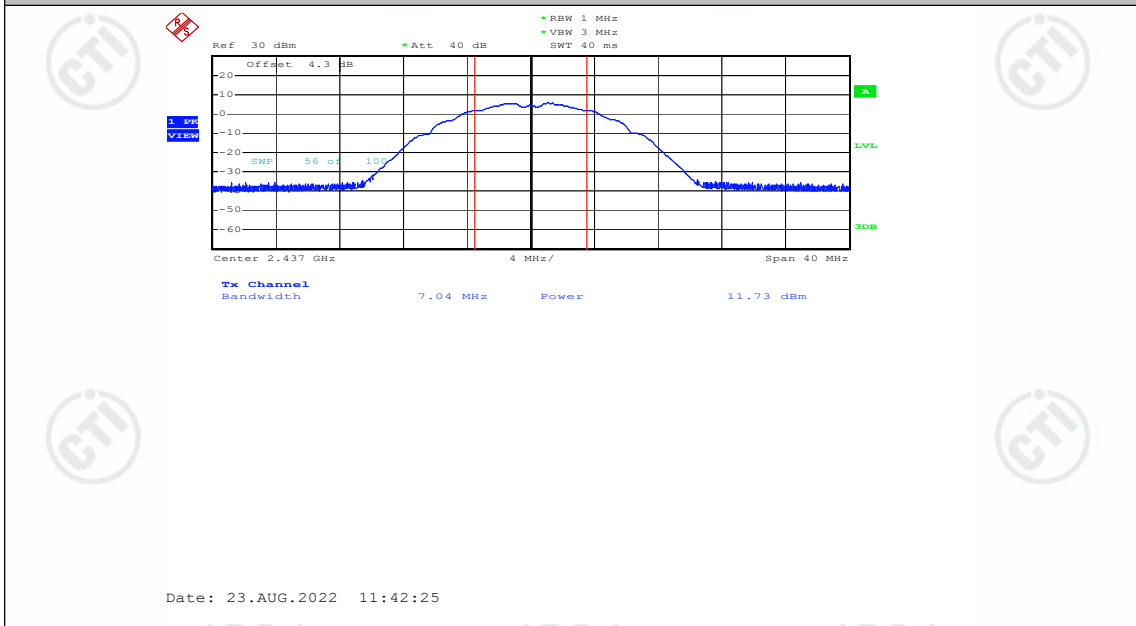
Appendix C: Maximum conducted output power

Test Result

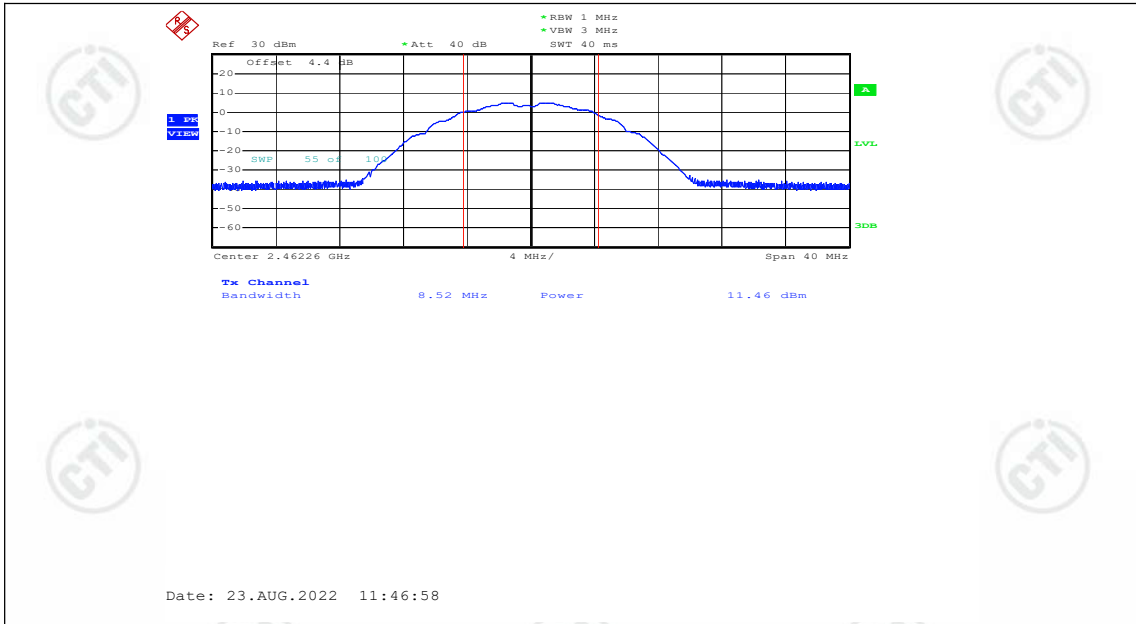
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	11.45	≤30.00	PASS
		2437	11.73	≤30.00	PASS
		2462	11.46	≤30.00	PASS
11G	Ant1	2412	10.39	≤30.00	PASS
		2437	10.68	≤30.00	PASS
		2462	10.21	≤30.00	PASS
11N20SISO	Ant1	2412	10.18	≤30.00	PASS
		2437	10.56	≤30.00	PASS
		2462	10.18	≤30.00	PASS
11N40SISO	Ant1	2422	10.89	≤30.00	PASS
		2437	10.99	≤30.00	PASS
		2452	10.91	≤30.00	PASS



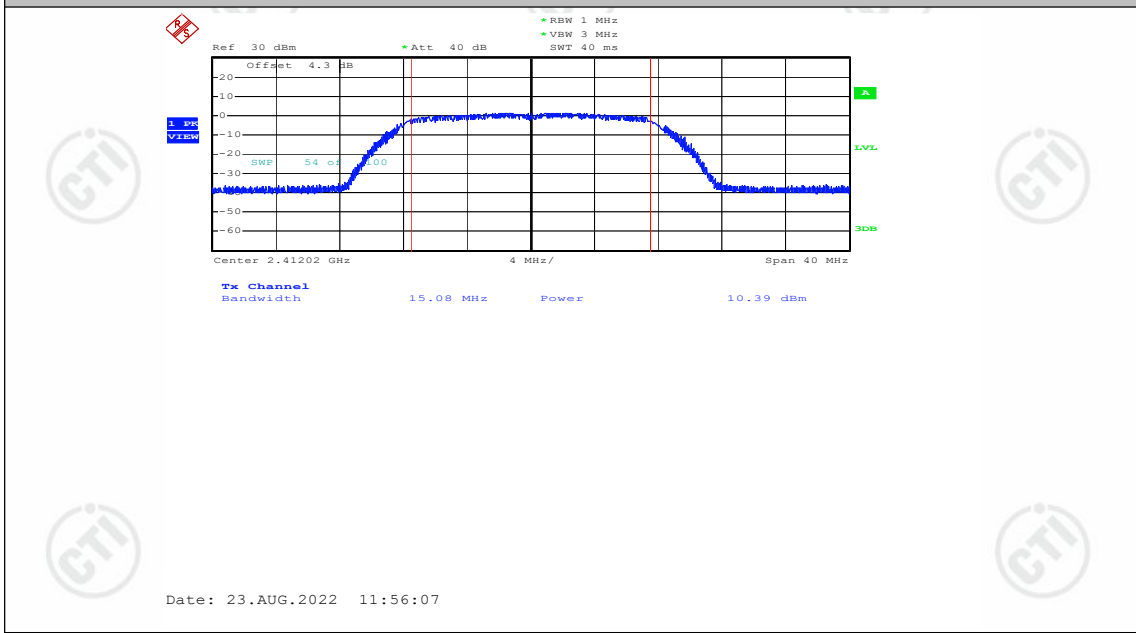
11B_Ant1_2412



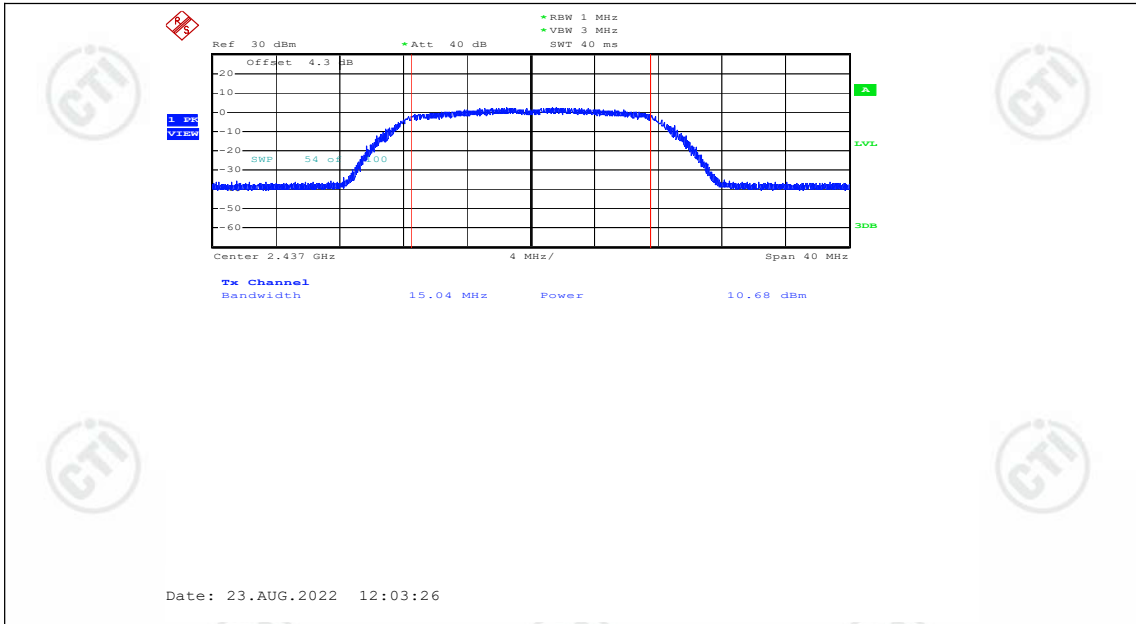
11B_Ant1_2437



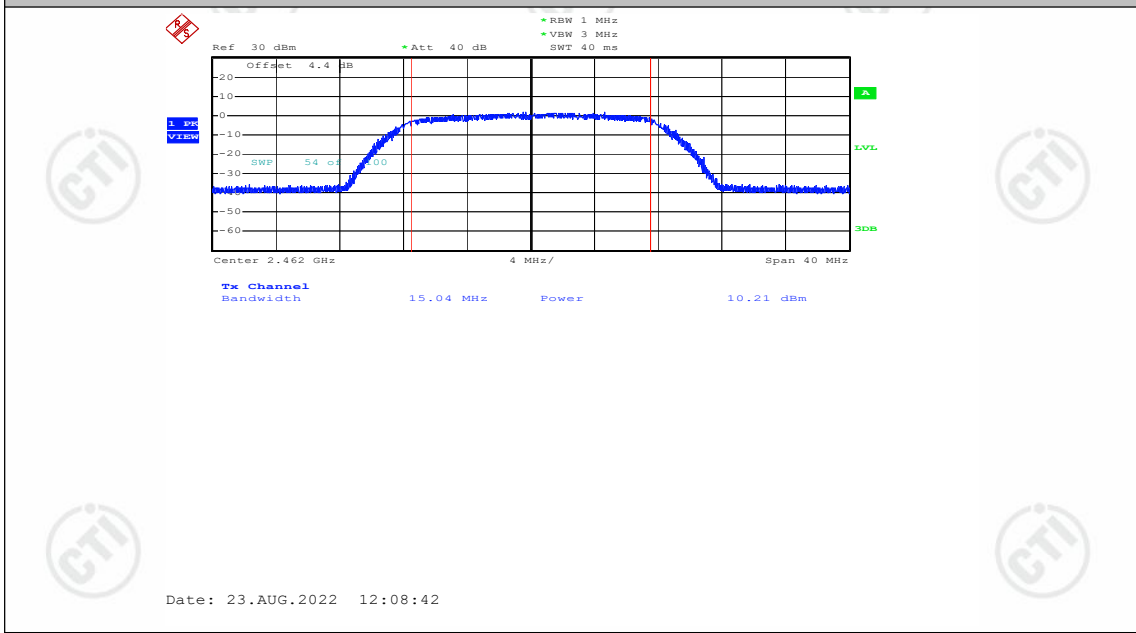
11B_Ant1_2462



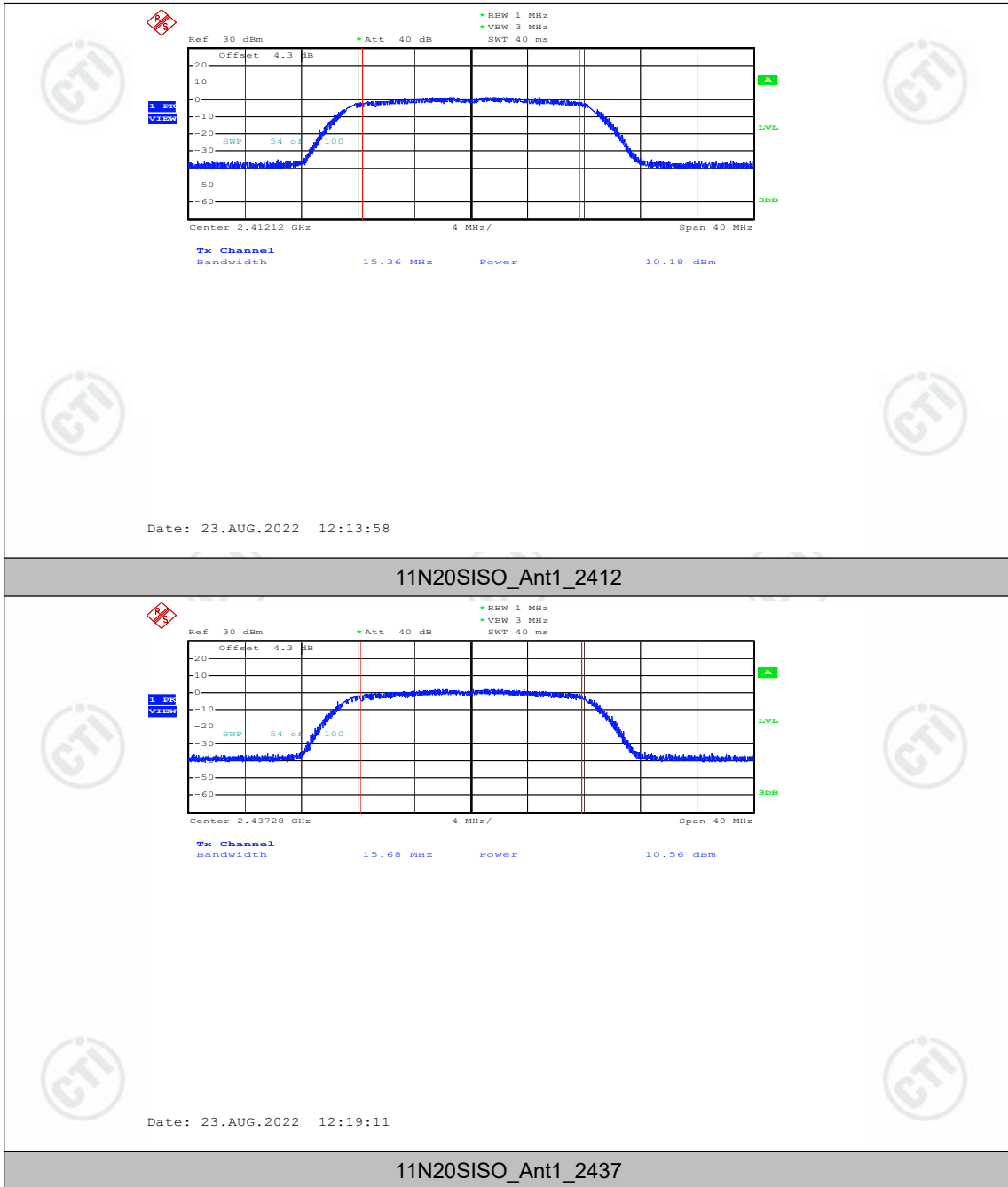
11G_Ant1_2412

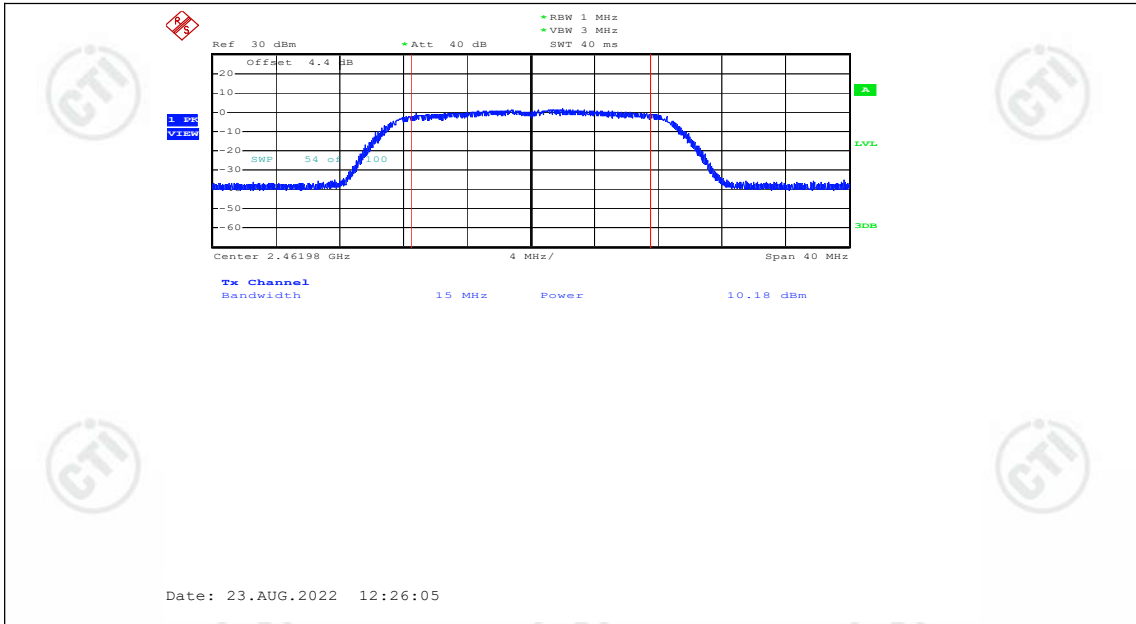


11G_Ant1_2437

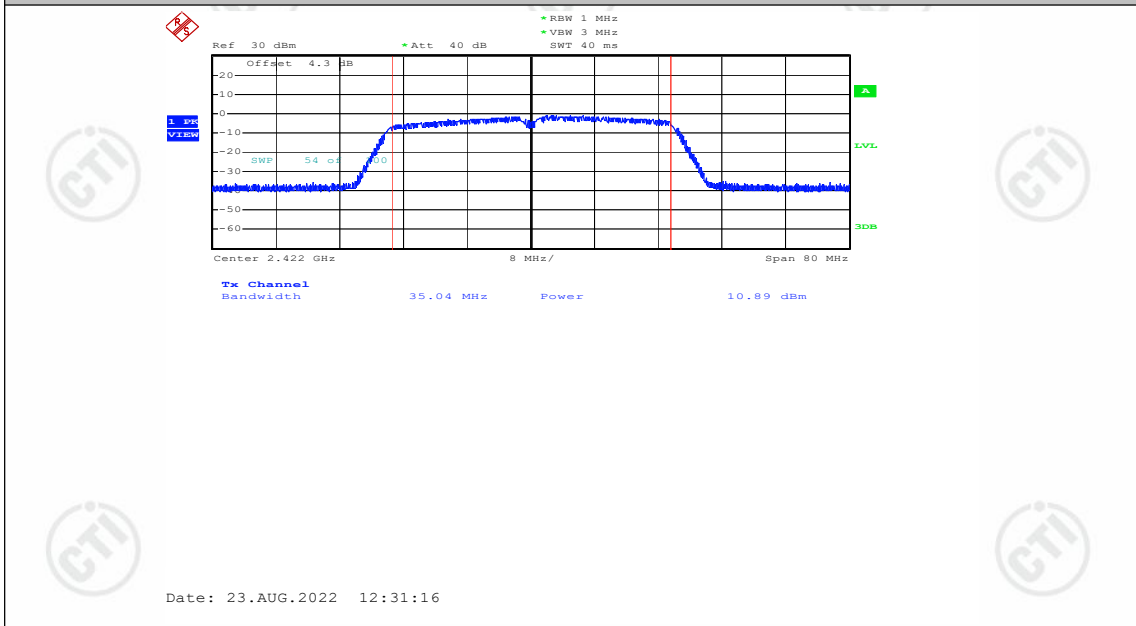


11G_Ant1_2462

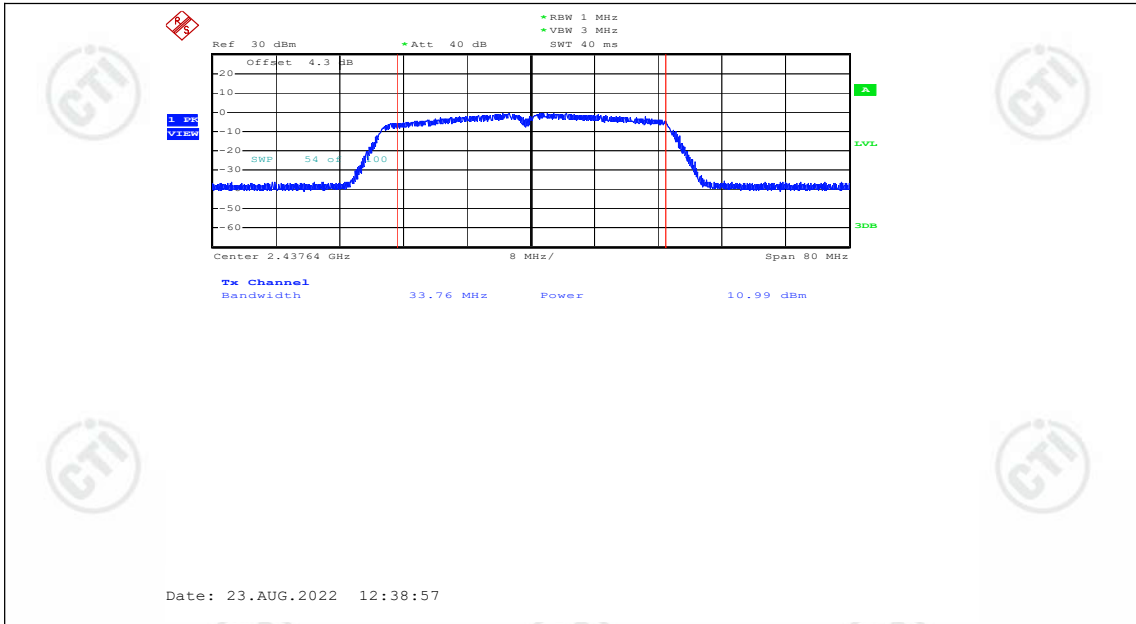




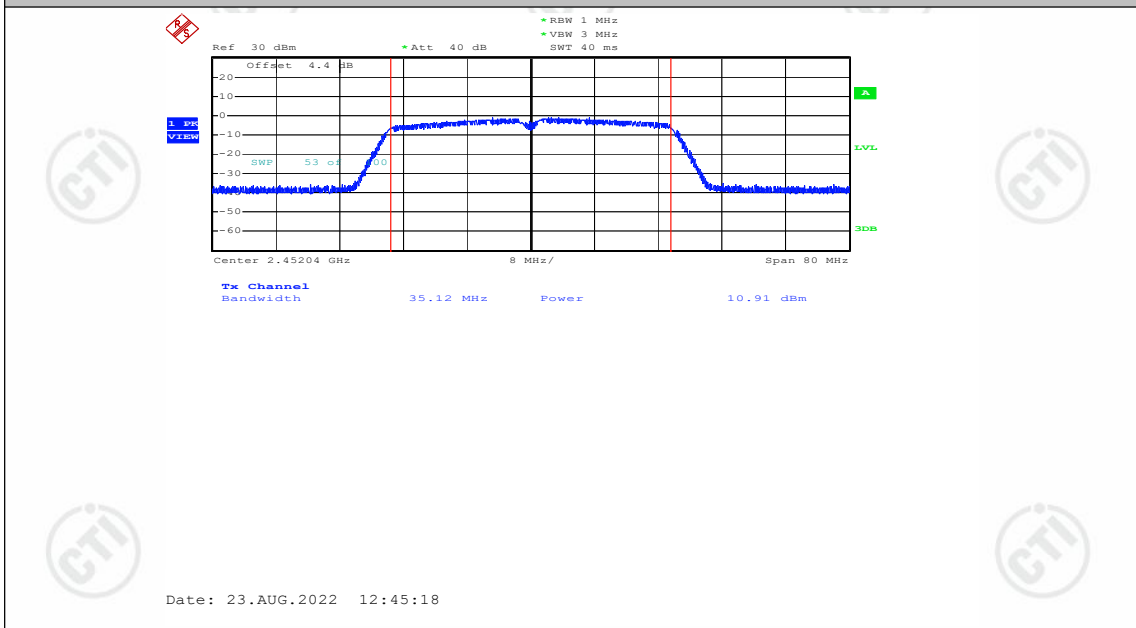
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437

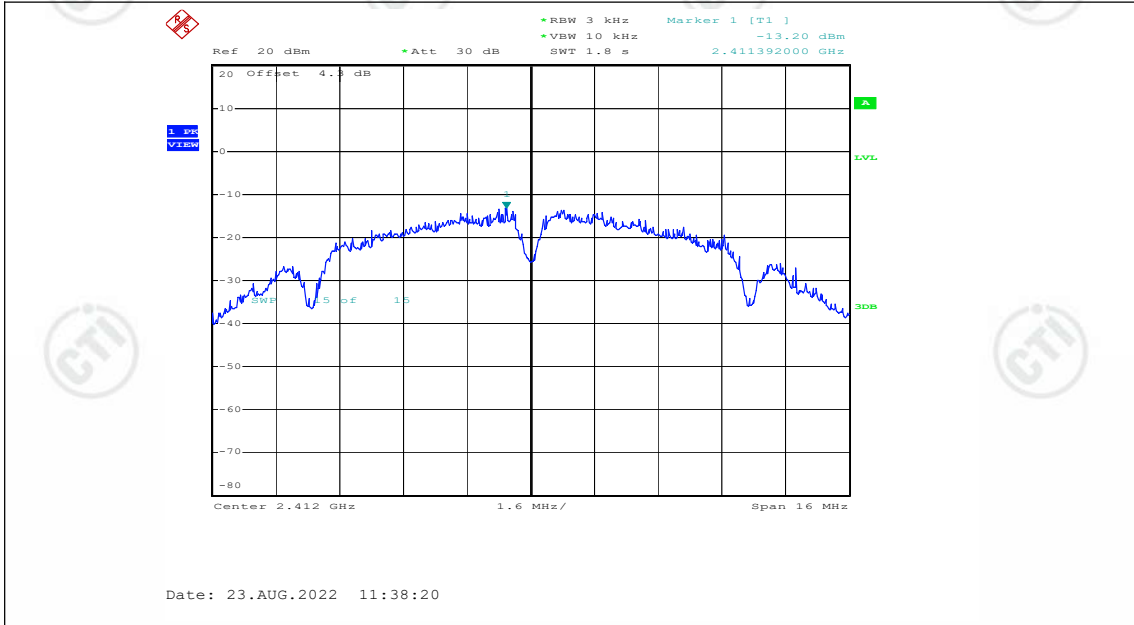


11N40SISO_Ant1_2452

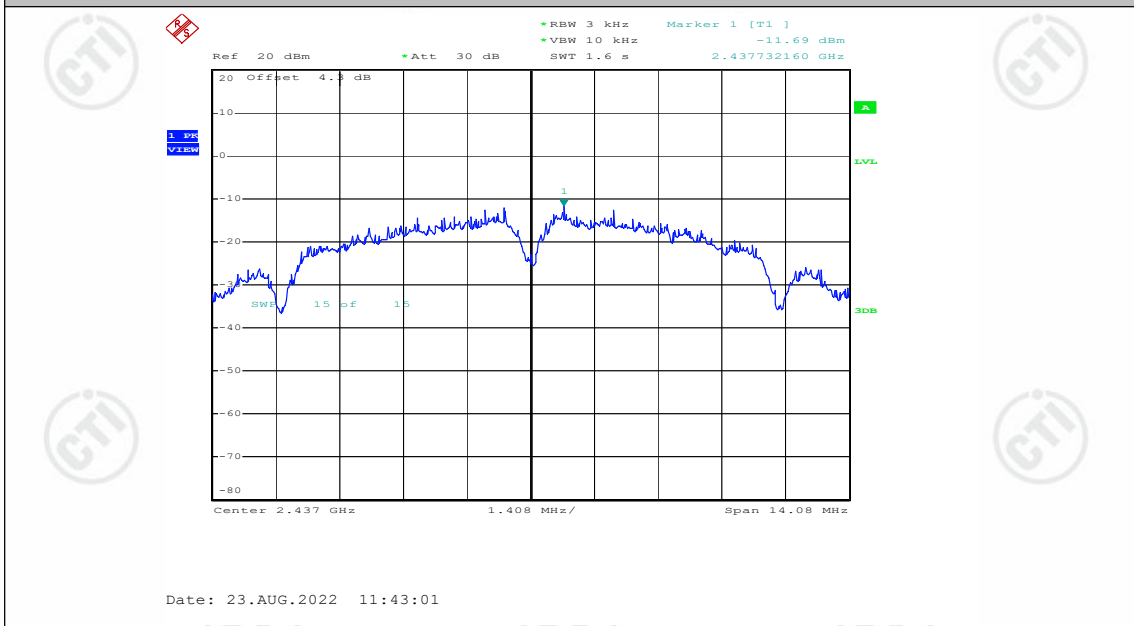
Appendix D: Maximum power spectral density**Test Result**

Test Mode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.2	≤8.00	PASS
		2437	-11.69	≤8.00	PASS
		2462	-13.54	≤8.00	PASS
11G	Ant1	2412	-21.63	≤8.00	PASS
		2437	-19.32	≤8.00	PASS
		2462	-20.8	≤8.00	PASS
11N20SISO	Ant1	2412	-21.07	≤8.00	PASS
		2437	-19.69	≤8.00	PASS
		2462	-20.87	≤8.00	PASS
11N40SISO	Ant1	2422	-23.79	≤8.00	PASS
		2437	-22.88	≤8.00	PASS
		2452	-23.84	≤8.00	PASS

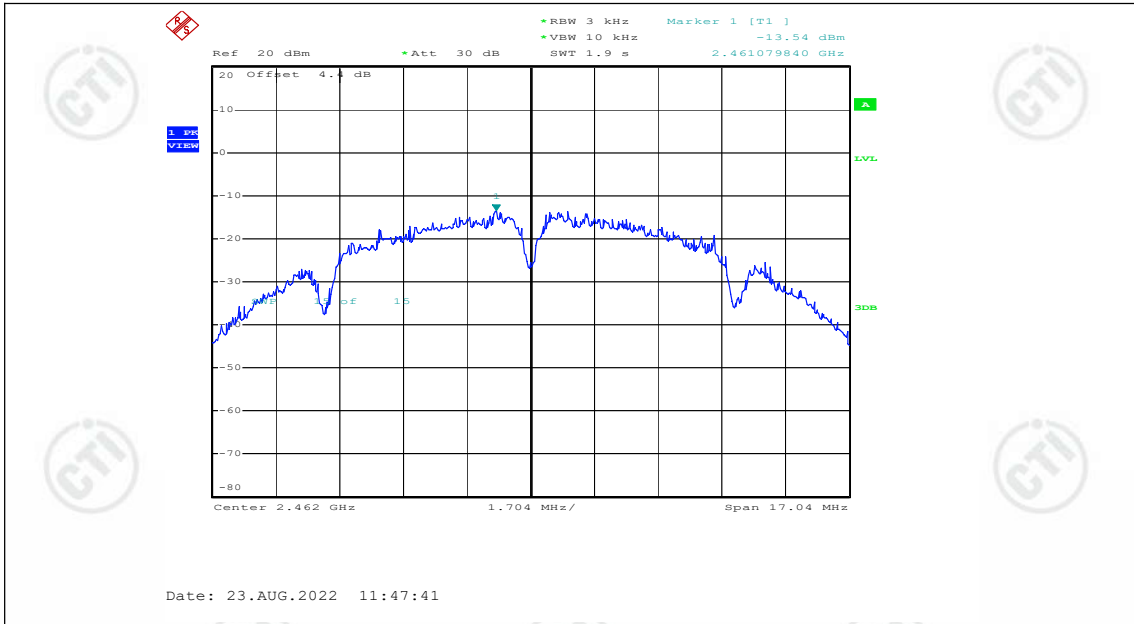
Test Graphs



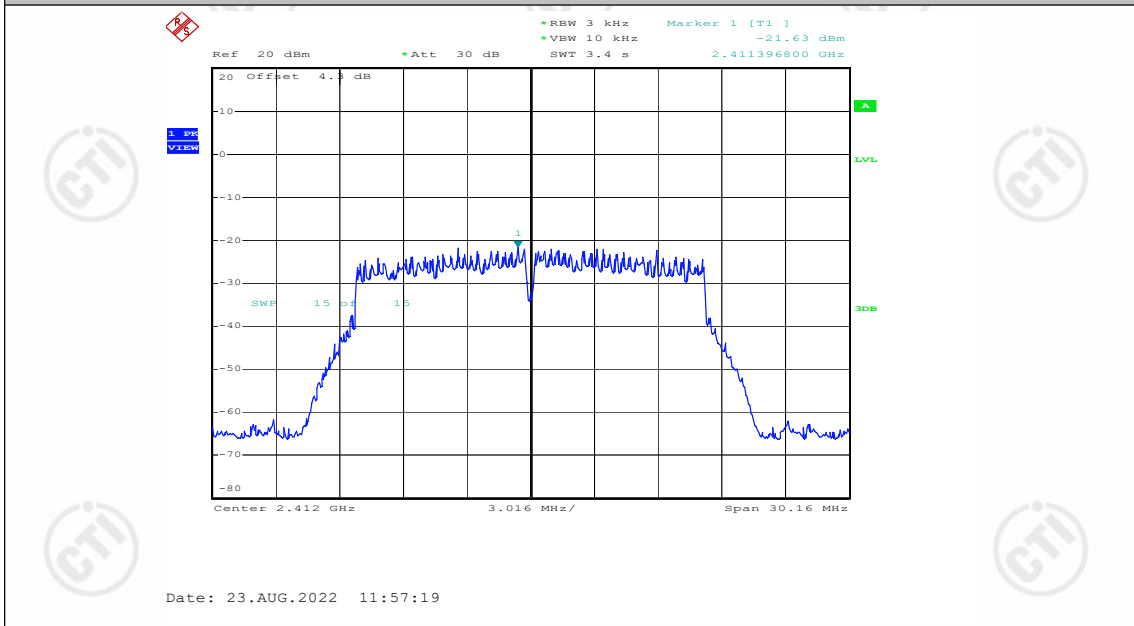
11B_Ant1_2412



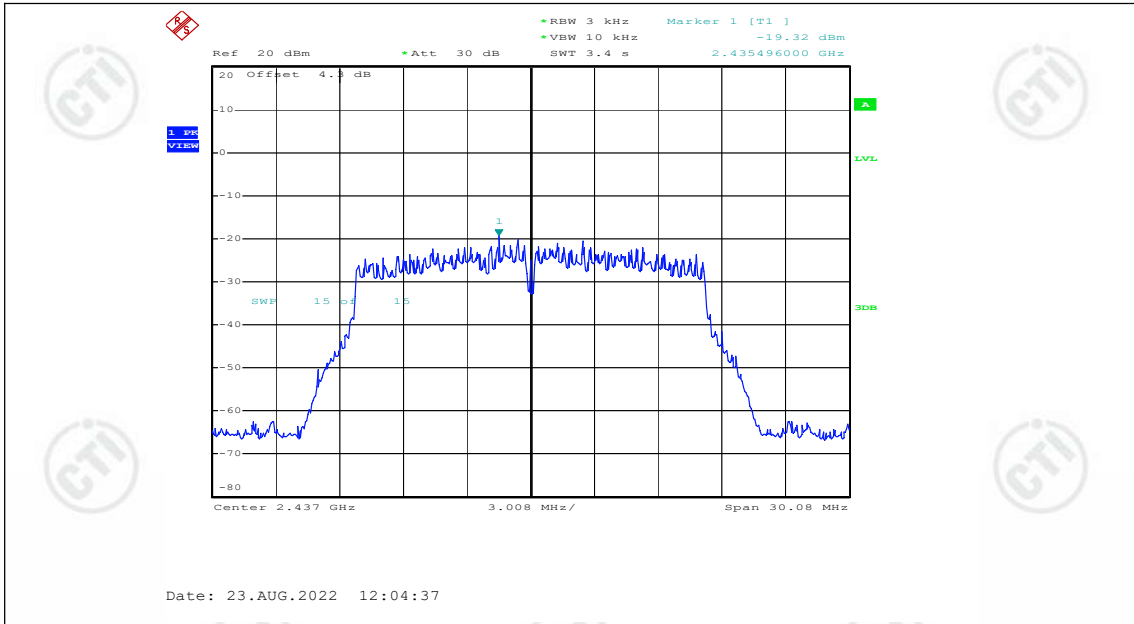
11B_Ant1_2437



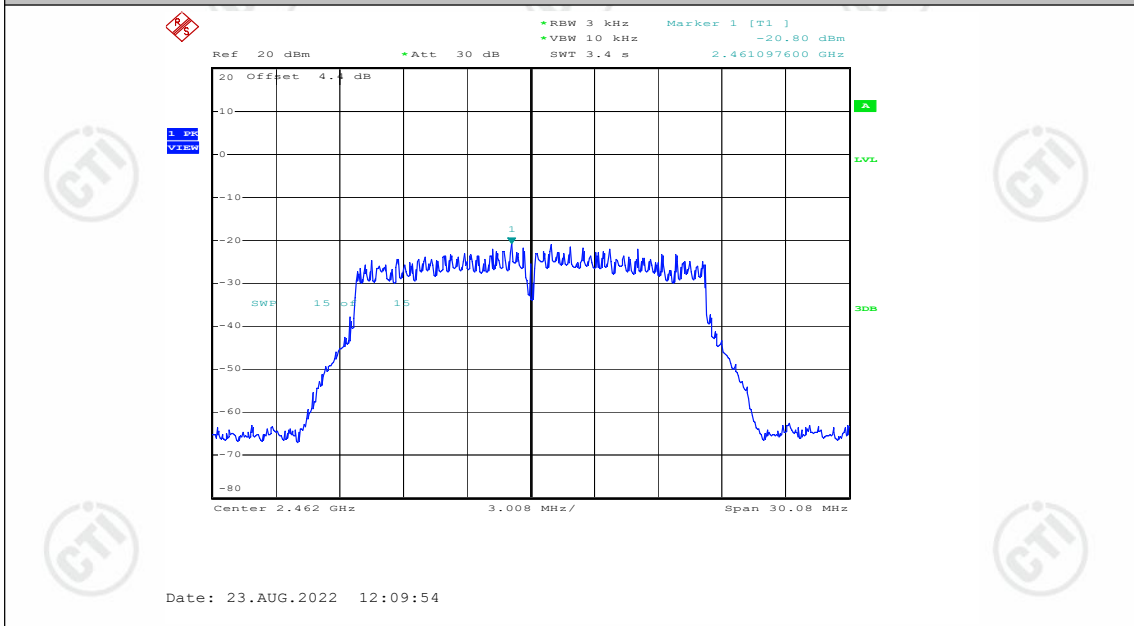
11B_Ant1_2462



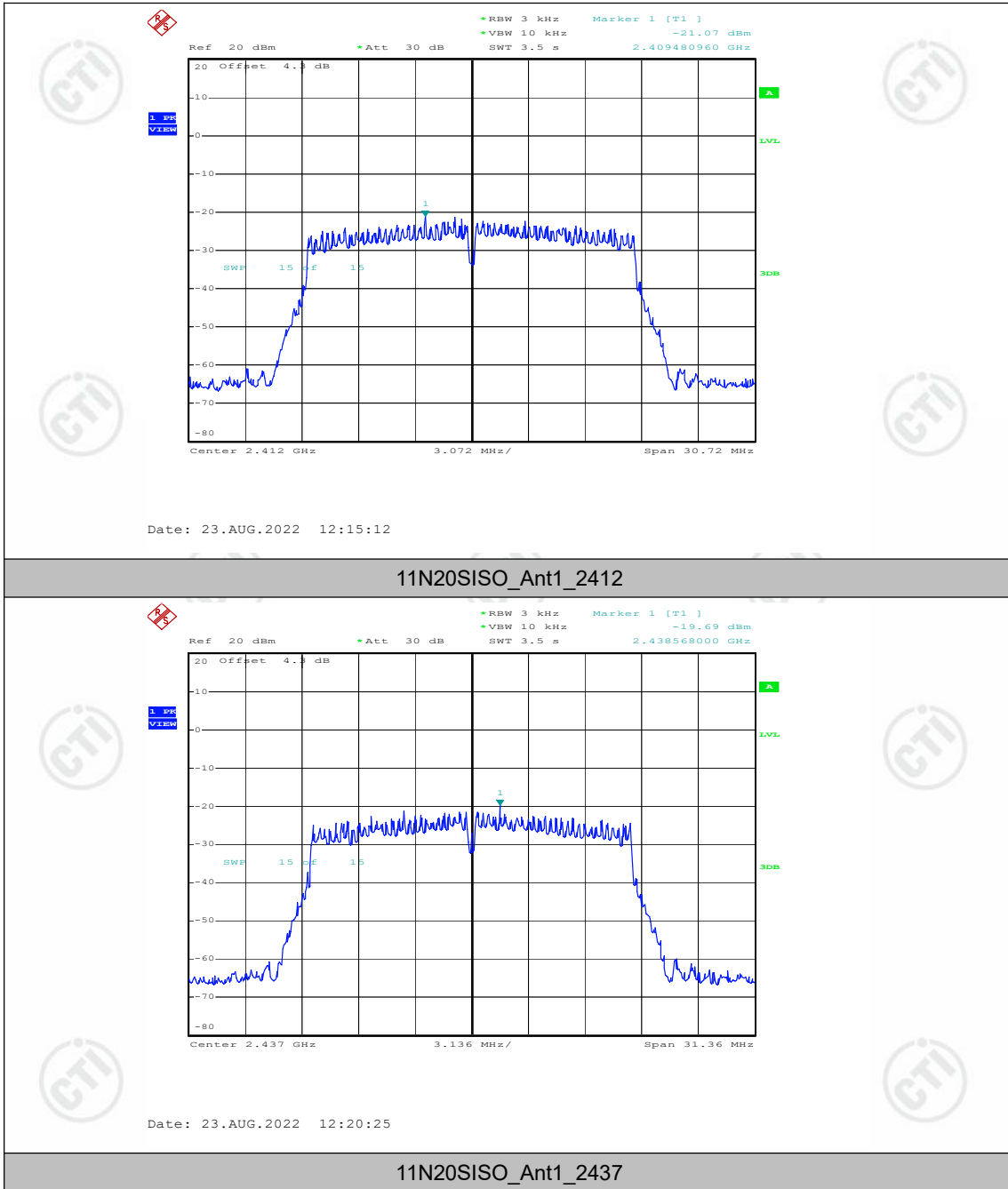
11G_Ant1_2412

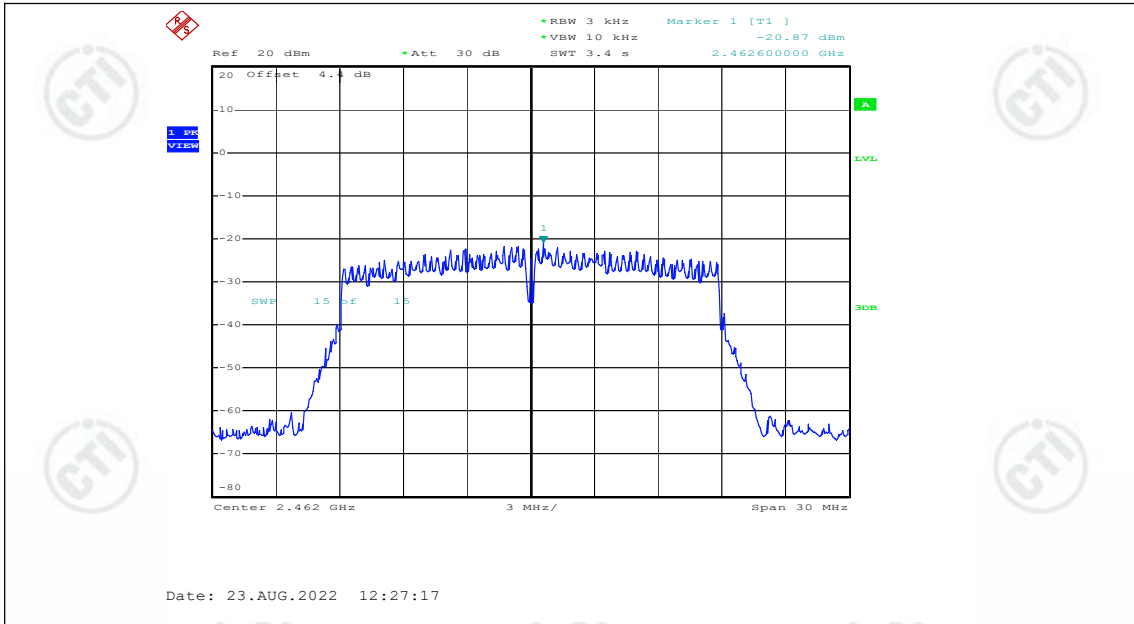


11G_Ant1_2437

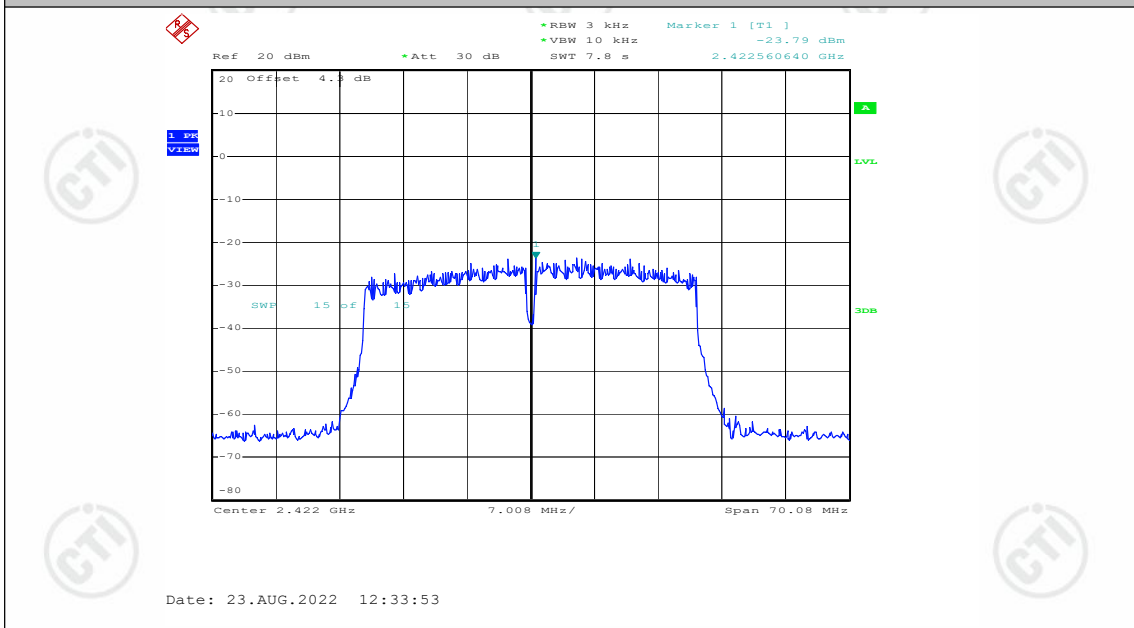


11G_Ant1_2462

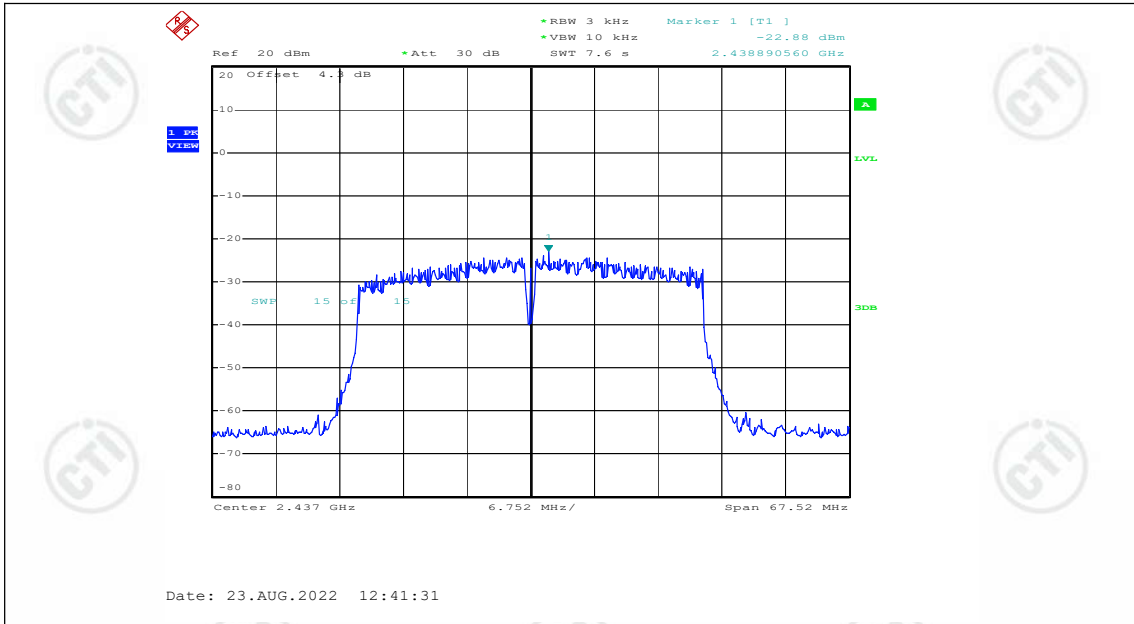




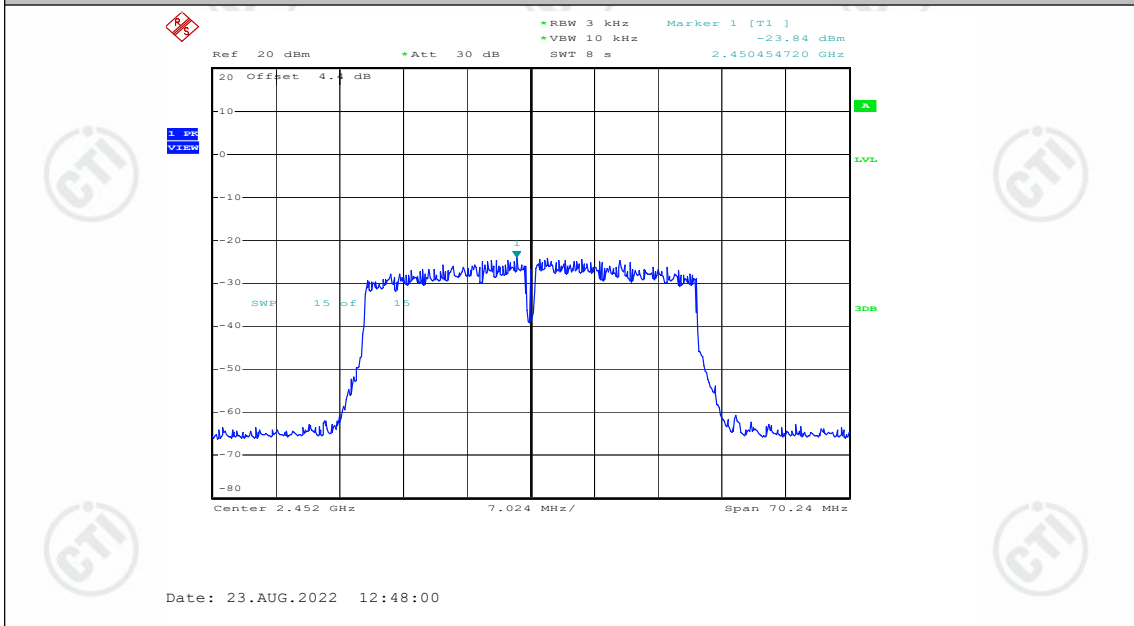
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



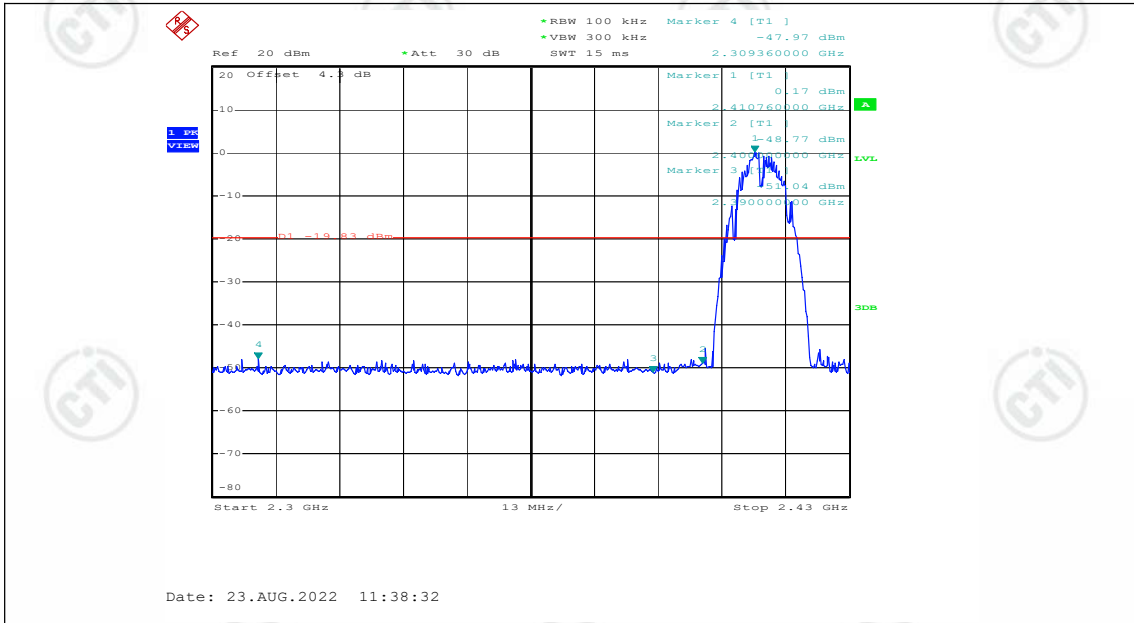
11N40SISO_Ant1_2452

Appendix E:Band edge measurements

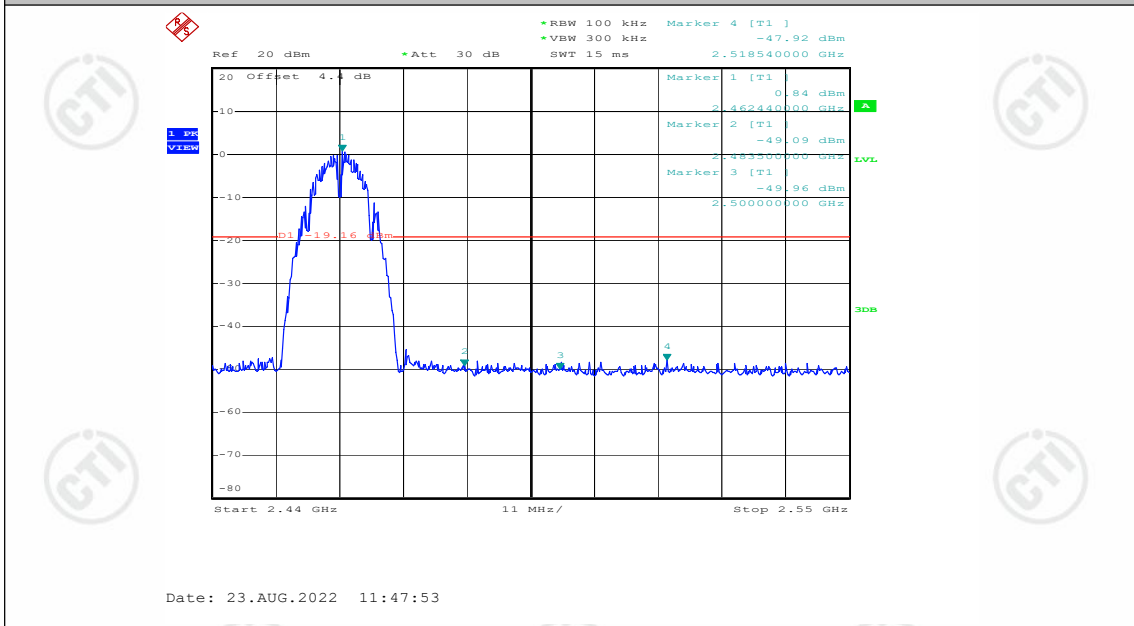
Test Result

Test Mode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	0.17	-47.97	≤-19.83	PASS
		High	2462	0.84	-47.92	≤-19.16	PASS
11G	Ant1	Low	2412	-8.44	-48.1	≤-28.44	PASS
		High	2462	-7.94	-47.02	≤-27.94	PASS
11N20SISO	Ant1	Low	2412	-8.11	-47.3	≤-28.11	PASS
		High	2462	-7.88	-48	≤-27.88	PASS
11N40SISO	Ant1	Low	2422	-9.84	-46.78	≤-29.84	PASS
		High	2452	-10.08	-47.72	≤-30.08	PASS

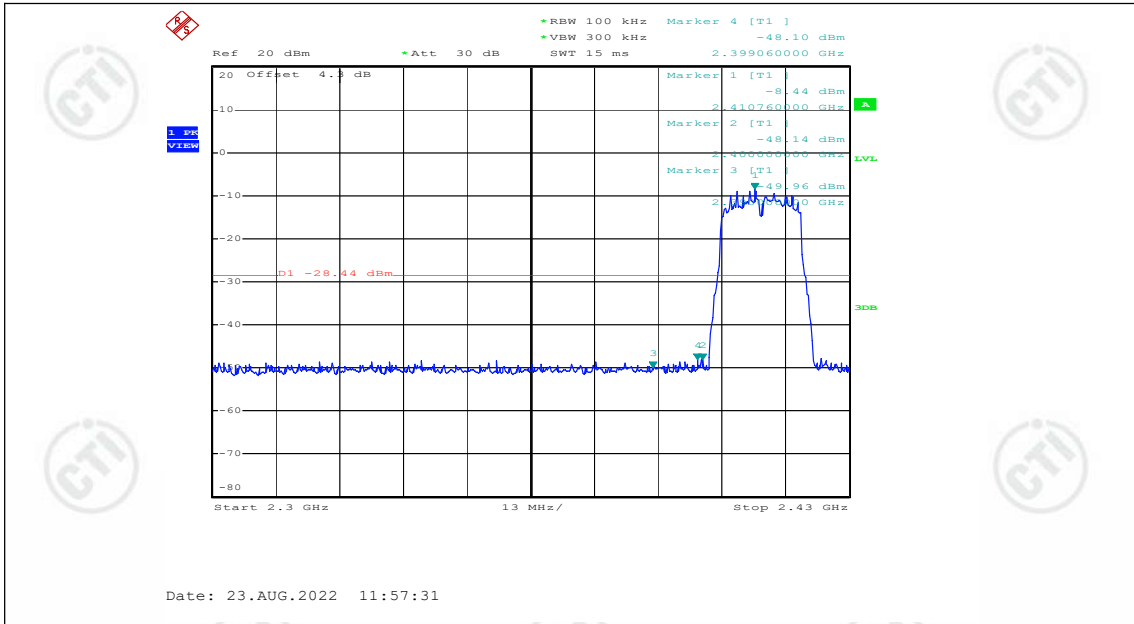
Test Graphs



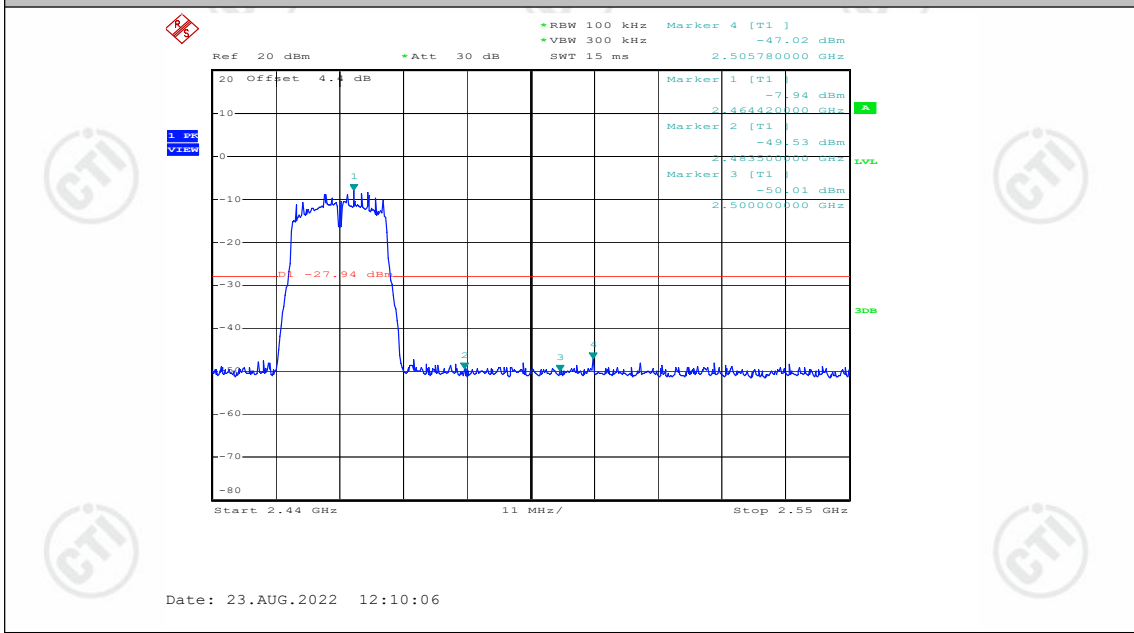
11B_Ant1_Low_2412



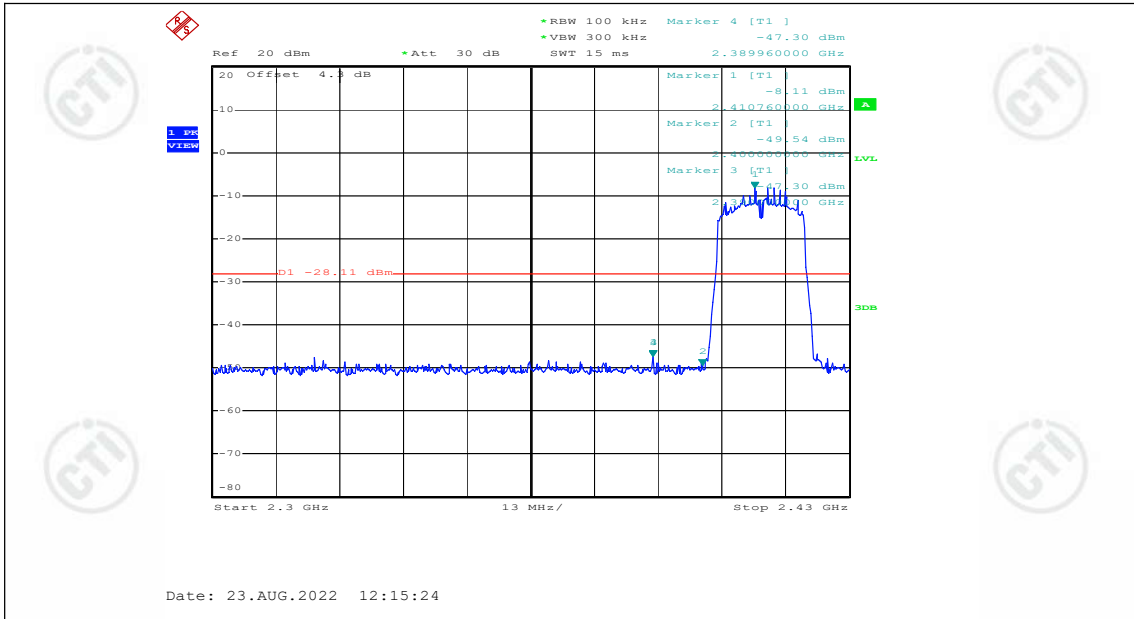
11B_Ant1_High_2462



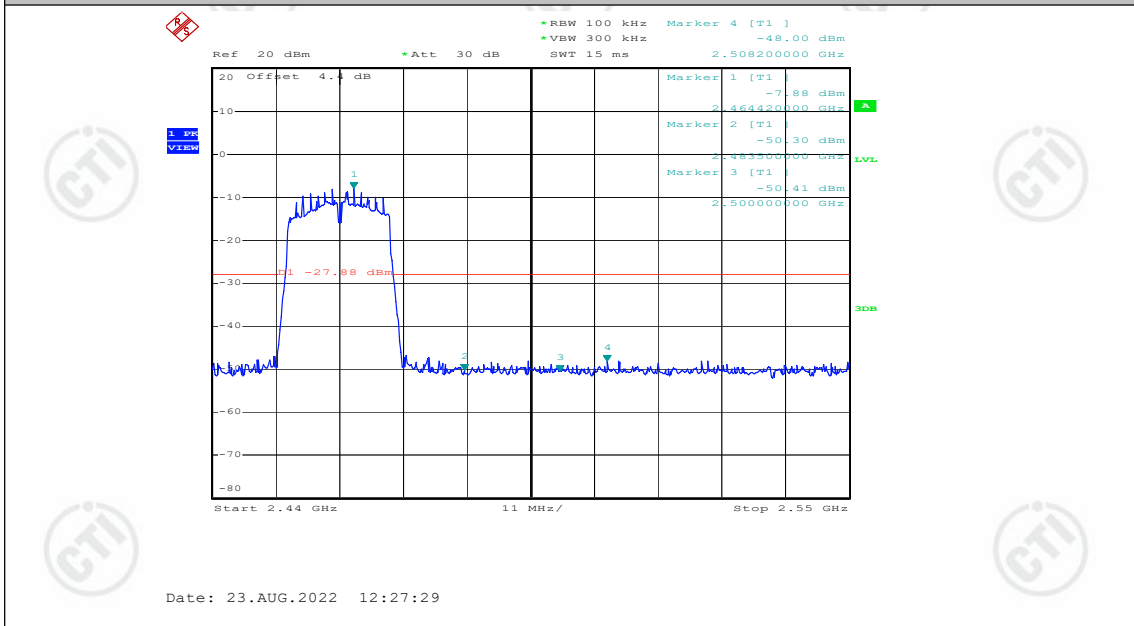
11G_Ant1_Low_2412



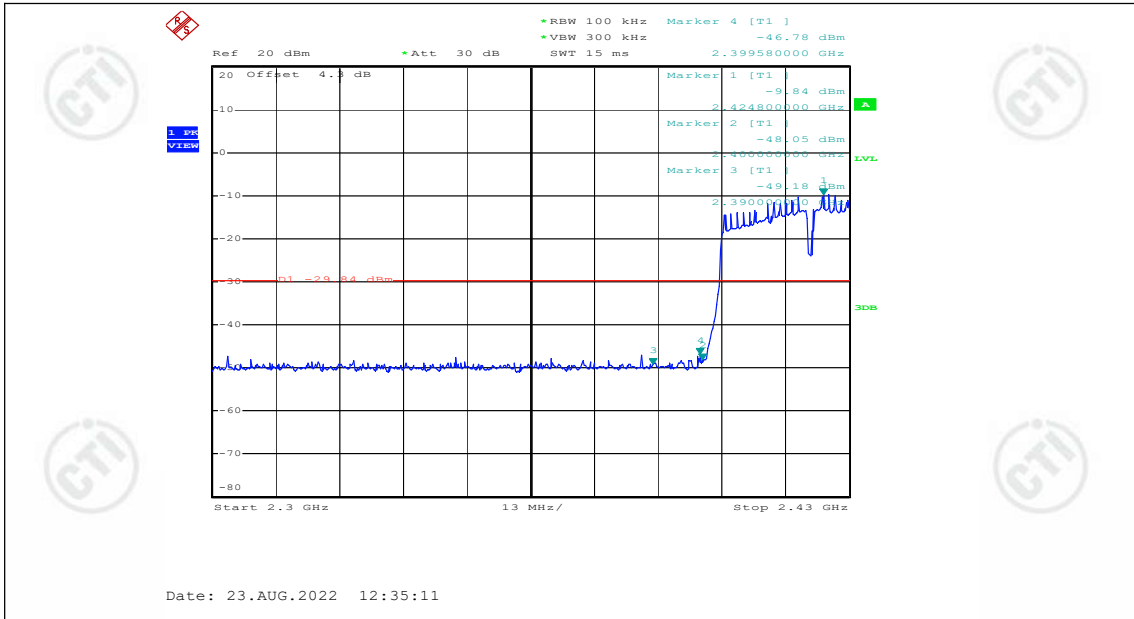
11G_Ant1_High_2462



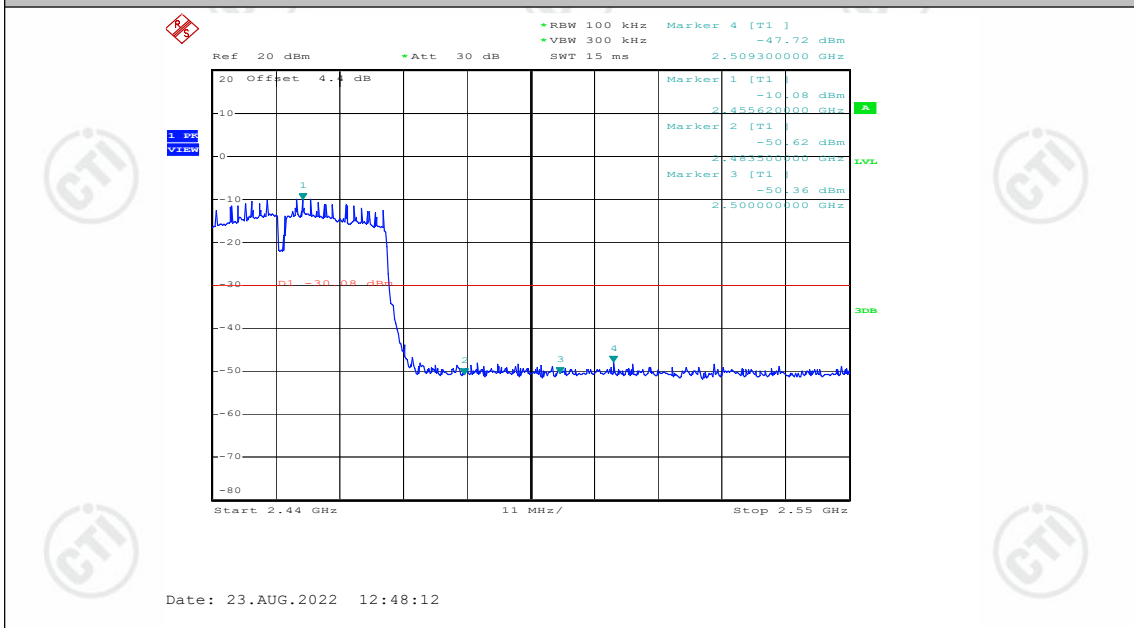
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452

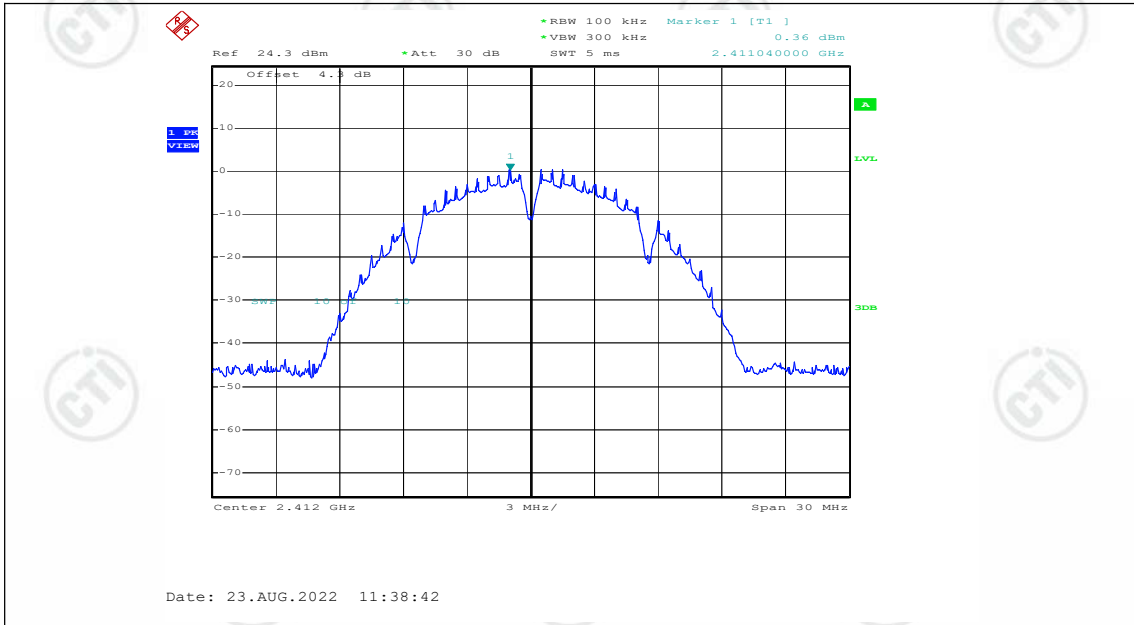
Appendix F: Conducted Spurious Emission

Test Result

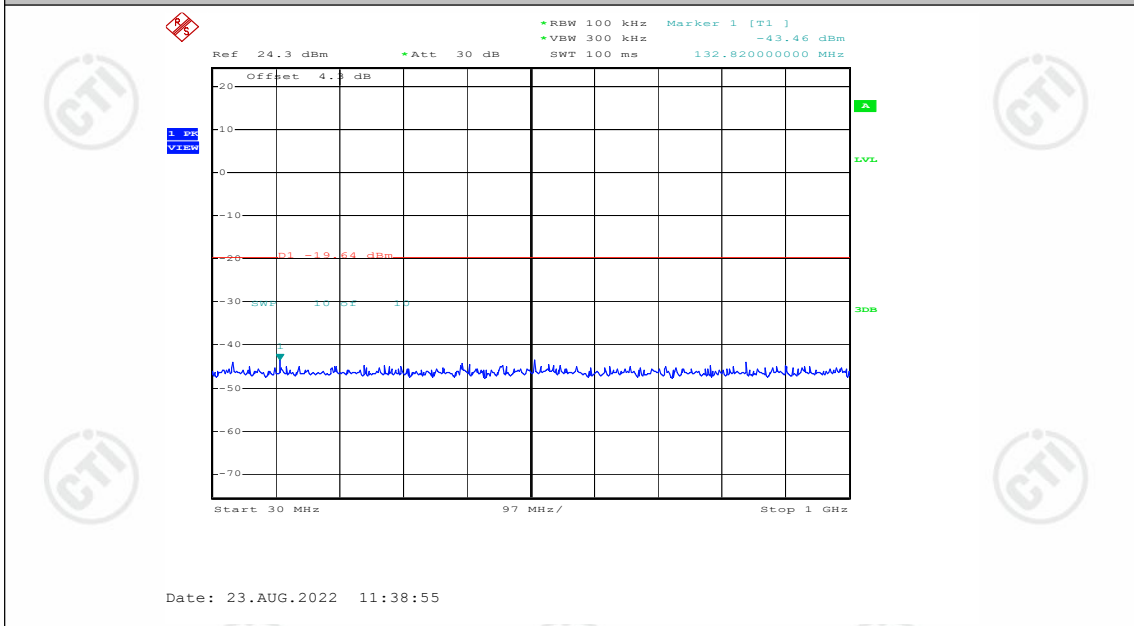
Test Mode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.36	0.36	---	PASS
			30~1000	0.36	-43.46	≤-19.64	PASS
			1000~26500	0.36	-46.13	≤-19.64	PASS
		2437	Reference	0.74	0.74	---	PASS
			30~1000	0.74	-44.05	≤-19.26	PASS
			1000~26500	0.74	-46.55	≤-19.26	PASS
		2462	Reference	0.39	0.39	---	PASS
			30~1000	0.39	-43.42	≤-19.61	PASS
			1000~26500	0.39	-46.36	≤-19.61	PASS
11G	Ant1	2412	Reference	-7.89	-7.89	---	PASS
			30~1000	-7.89	-43.98	≤-27.89	PASS
			1000~26500	-7.89	-46.31	≤-27.89	PASS
		2437	Reference	-7.04	-7.04	---	PASS
			30~1000	-7.04	-44.06	≤-27.04	PASS
			1000~26500	-7.04	-46.27	≤-27.04	PASS
		2462	Reference	-7.96	-7.96	---	PASS
			30~1000	-7.96	-44.03	≤-27.96	PASS
			1000~26500	-7.96	-46.71	≤-27.96	PASS
11N20SISO	Ant1	2412	Reference	-7.59	-7.59	---	PASS
			30~1000	-7.59	-43.71	≤-27.59	PASS
			1000~26500	-7.59	-46.14	≤-27.59	PASS
		2437	Reference	-6.92	-6.92	---	PASS
			30~1000	-6.92	-43.53	≤-26.92	PASS
			1000~26500	-6.92	-46.48	≤-26.92	PASS
		2462	Reference	-7.83	-7.83	---	PASS
			30~1000	-7.83	-43.8	≤-27.83	PASS
			1000~26500	-7.83	-45.84	≤-27.83	PASS
11N40SISO	Ant1	2422	Reference	-9.78	-9.78	---	PASS
			30~1000	-9.78	-44.17	≤-29.78	PASS
			1000~26500	-9.78	-46.1	≤-29.78	PASS
		2437	Reference	-9.72	-9.72	---	PASS
			30~1000	-9.72	-43.71	≤-29.72	PASS
			1000~26500	-9.72	-46.68	≤-29.72	PASS
		2452	Reference	-9.83	-9.83	---	PASS
			30~1000	-9.83	-43.46	≤-29.83	PASS

			1000~26500	-9.83	-46.25	≤-29.83	PASS
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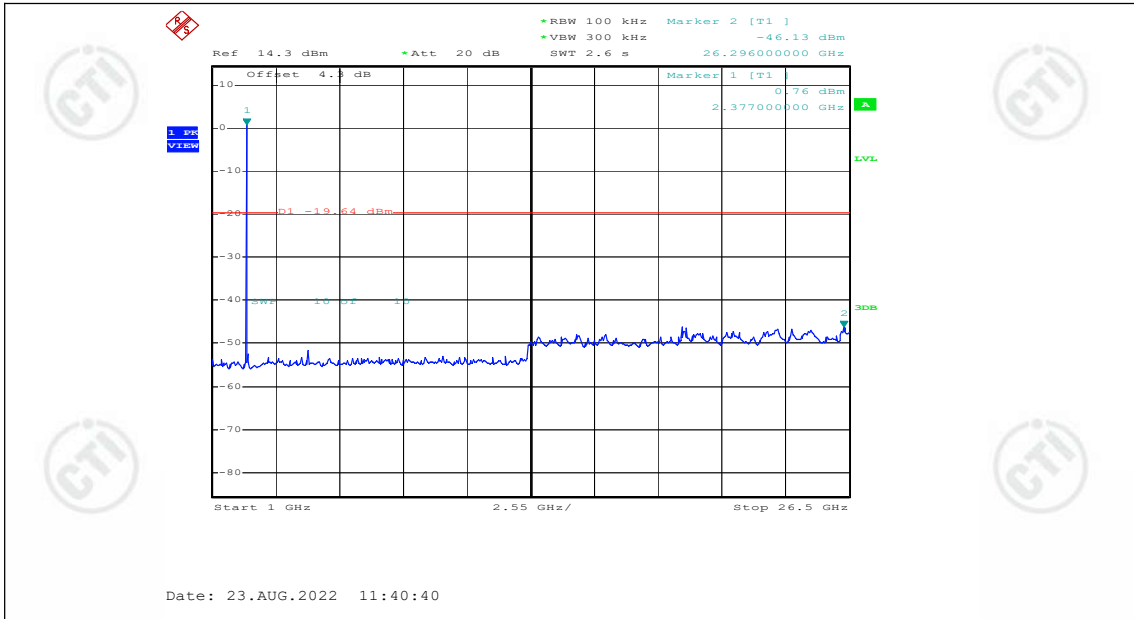
Test Graphs



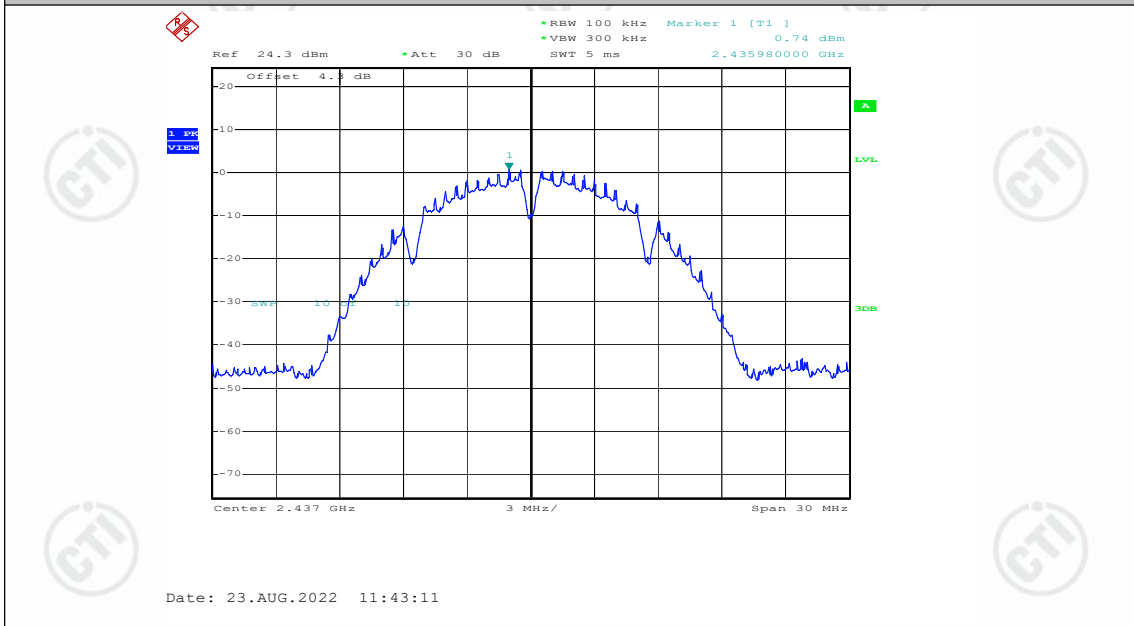
11B_Ant1_2412_0~Reference



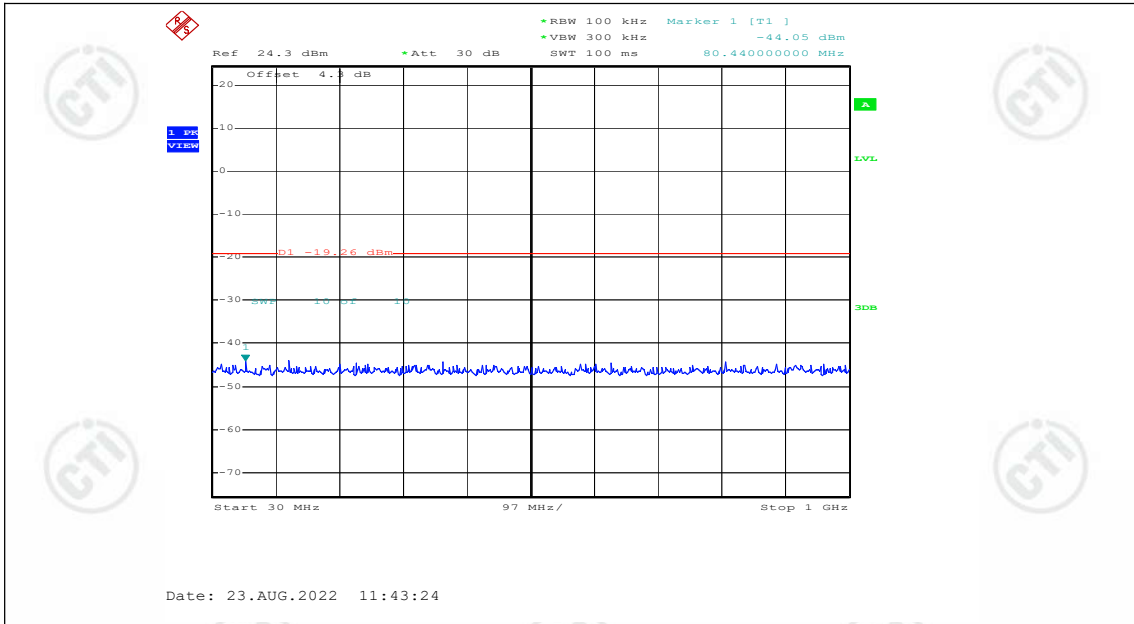
11B_Ant1_2412_30~1000



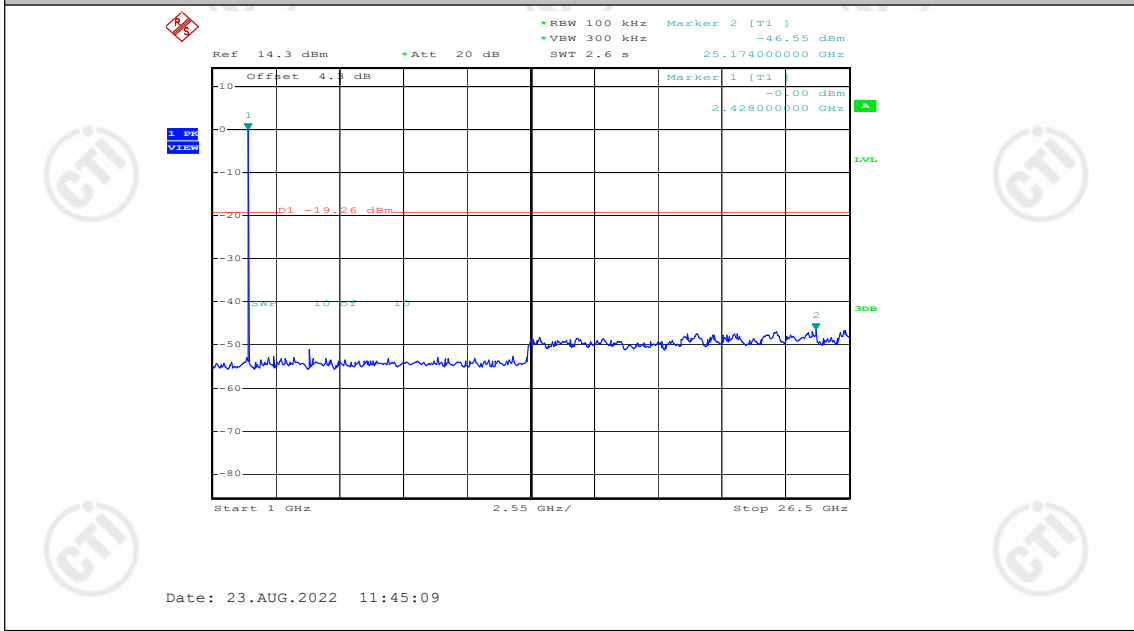
11B_Ant1_2412_1000~26500



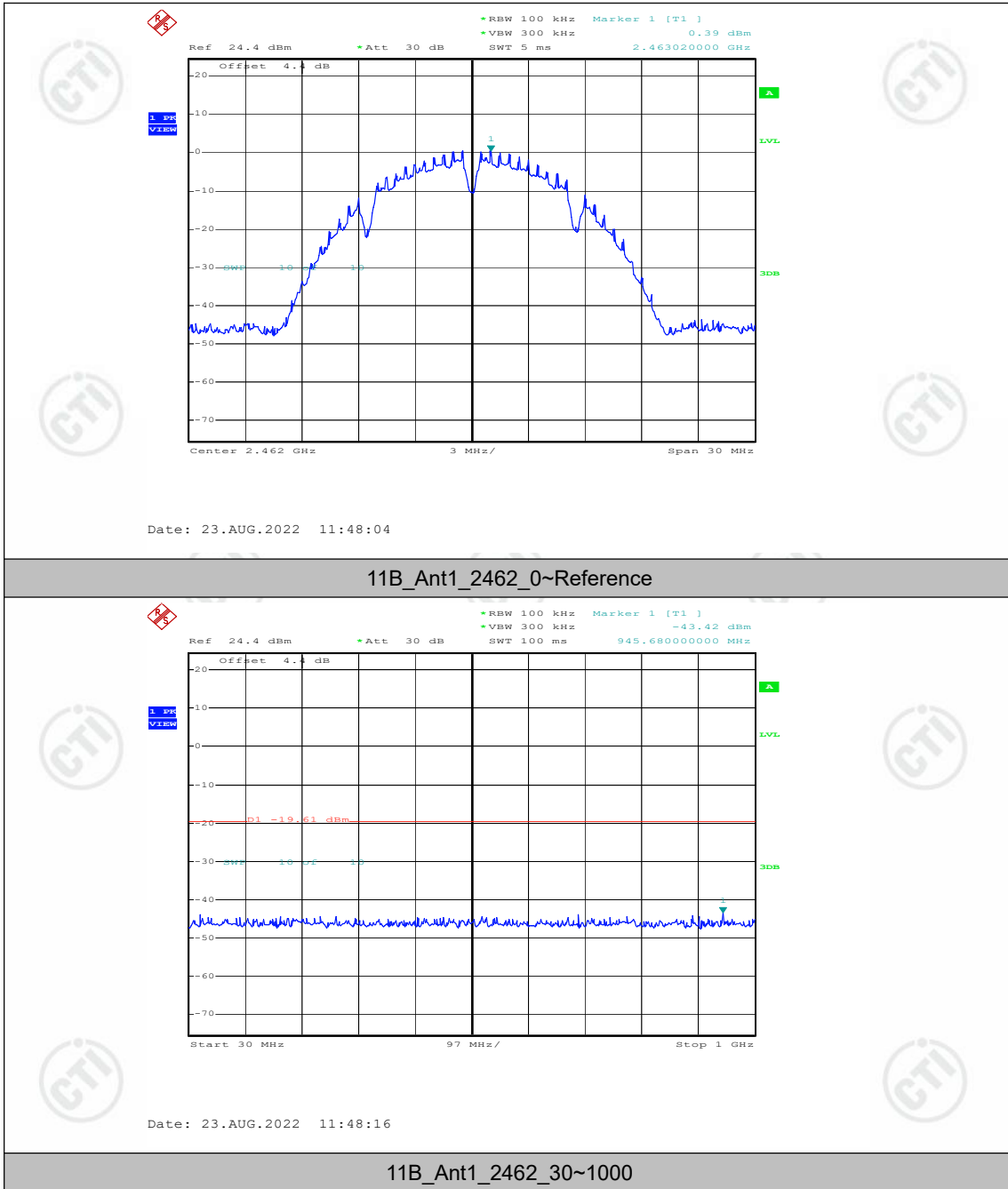
11B_Ant1_2437_0~Reference

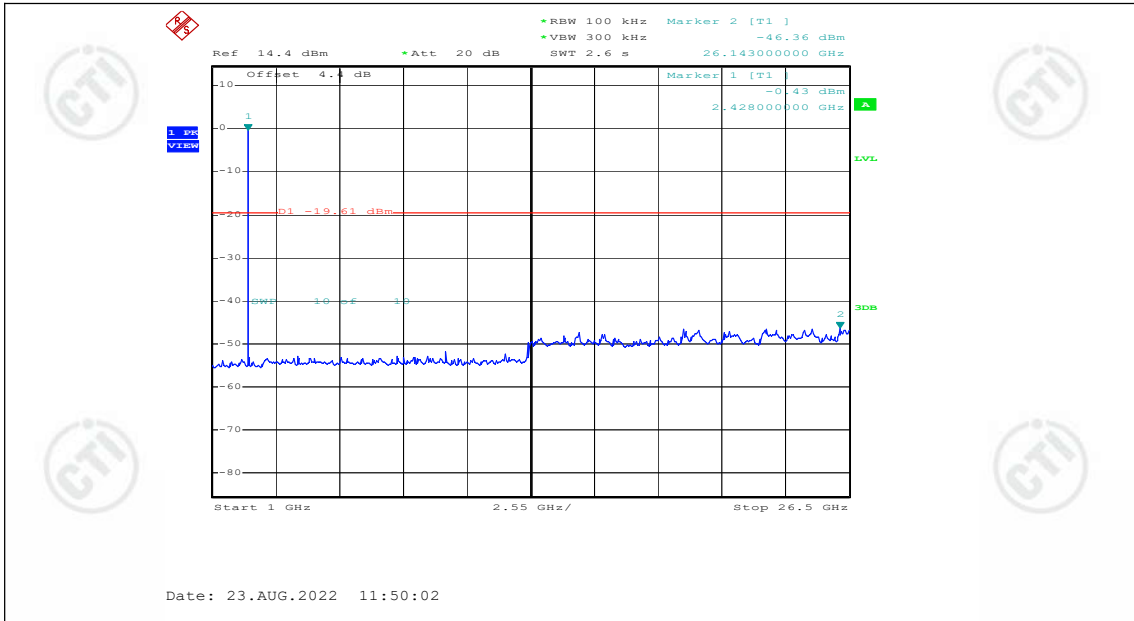


11B_Ant1_2437_30~1000

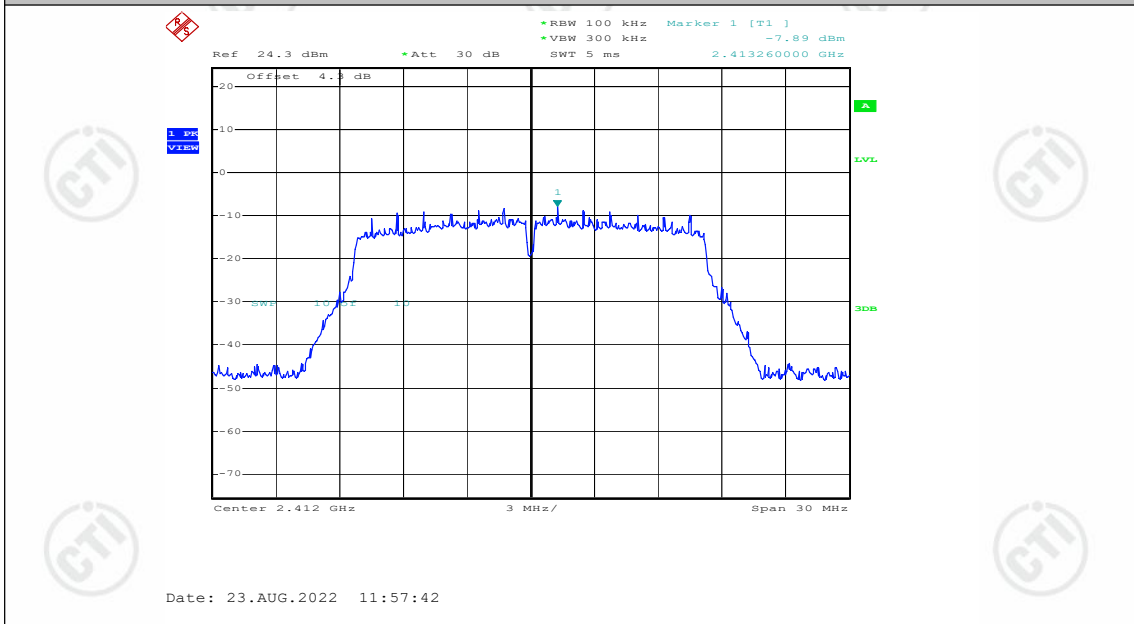


11B_Ant1_2437_1000~26500

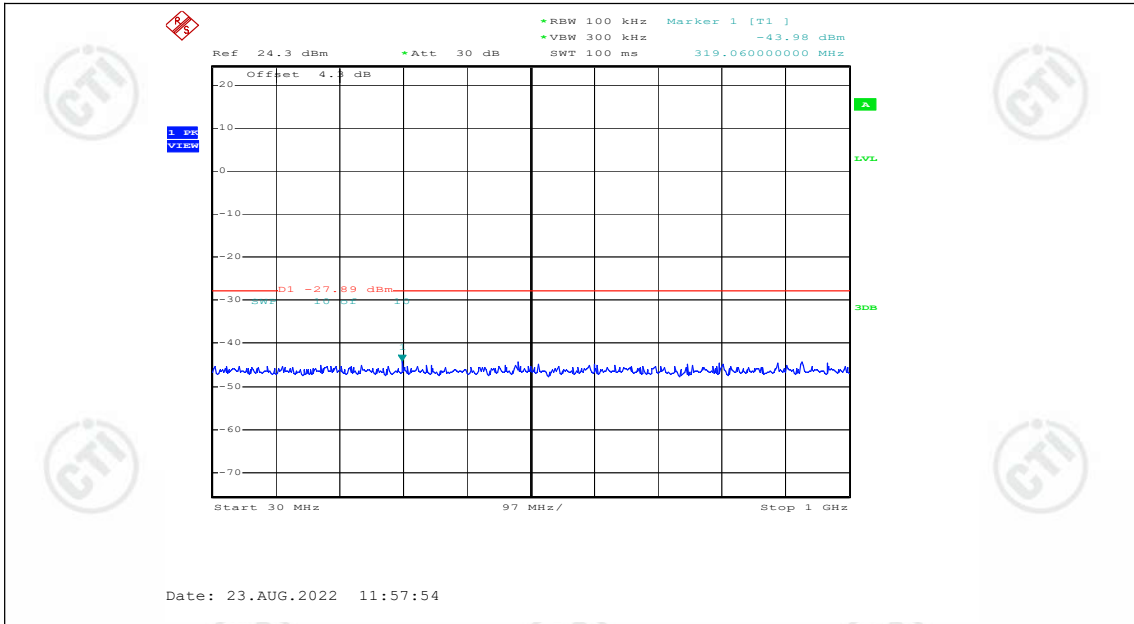




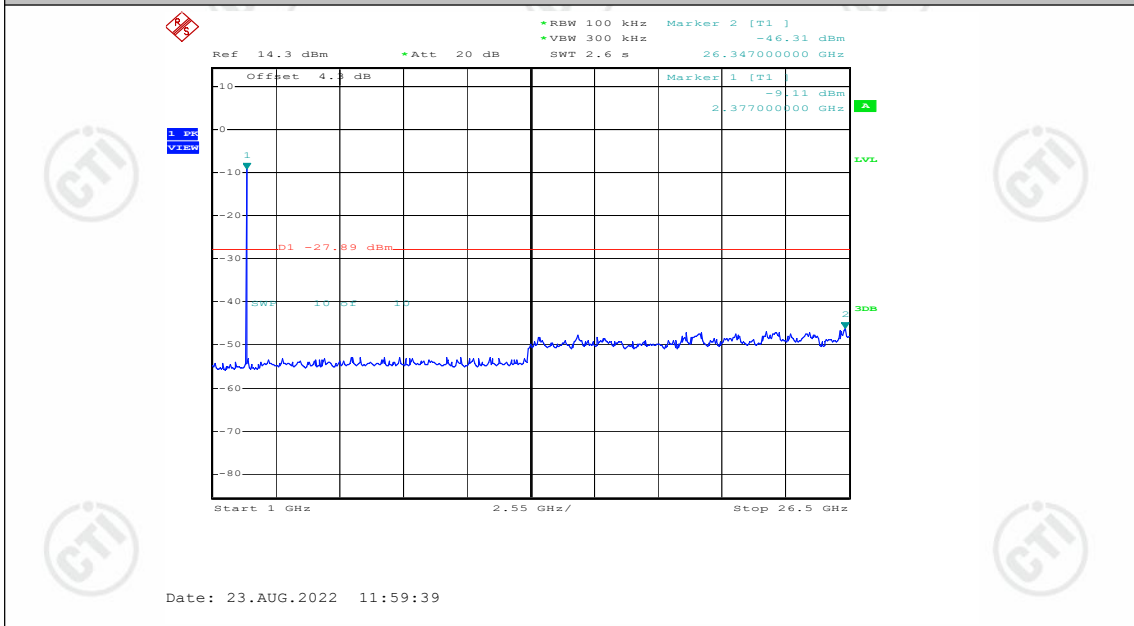
11B_Ant1_2462_1000~26500



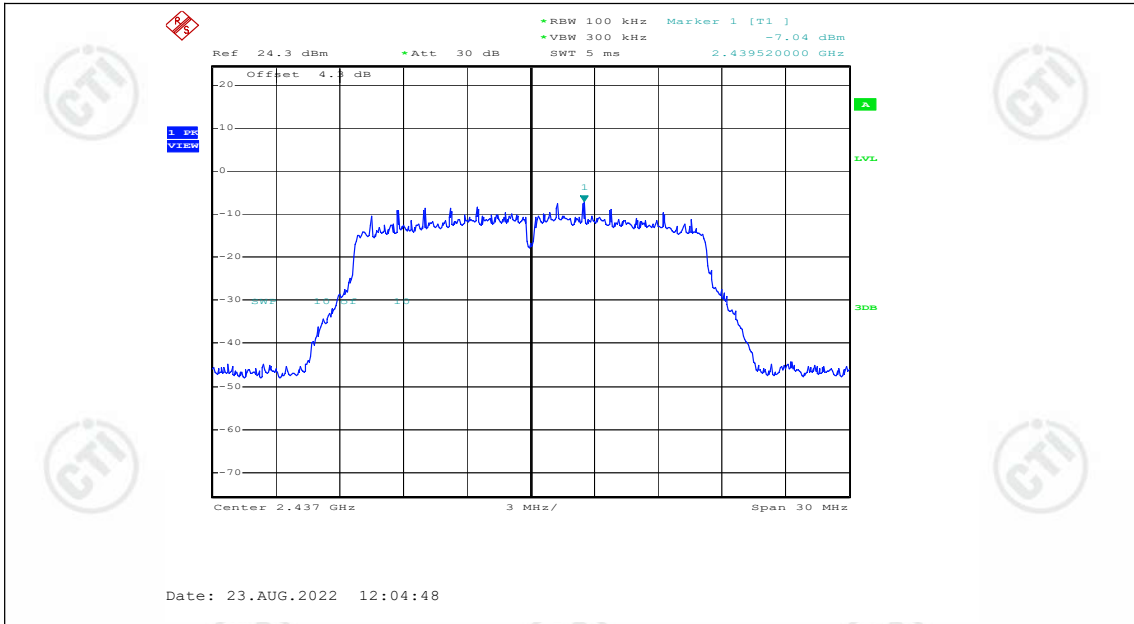
11G_Ant1_2412_0~Reference



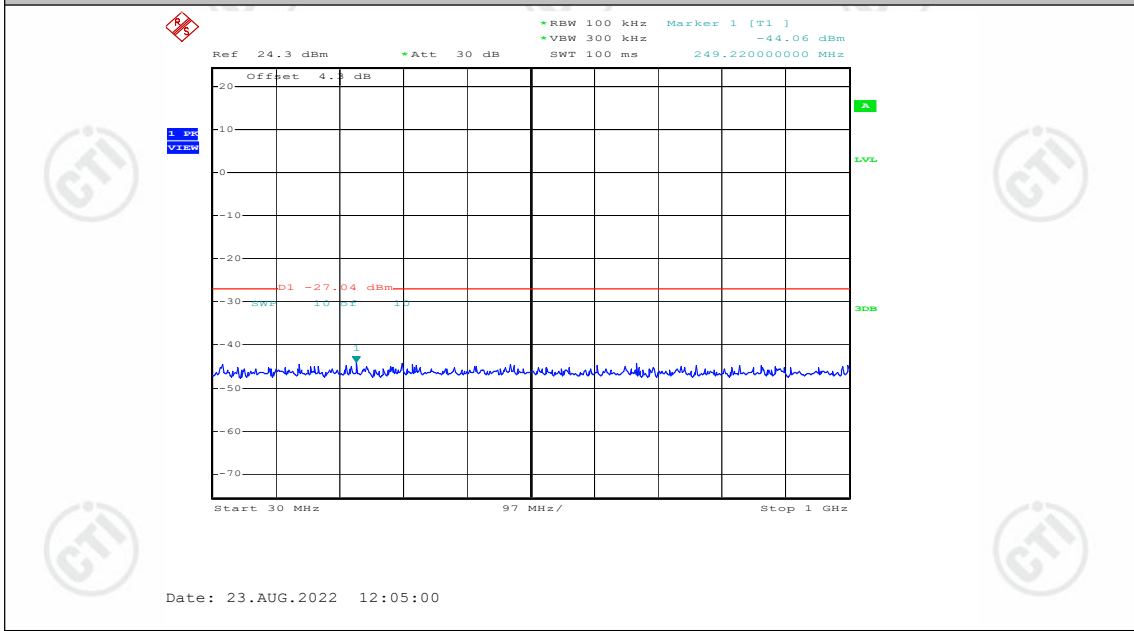
11G_Ant1_2412_30~1000



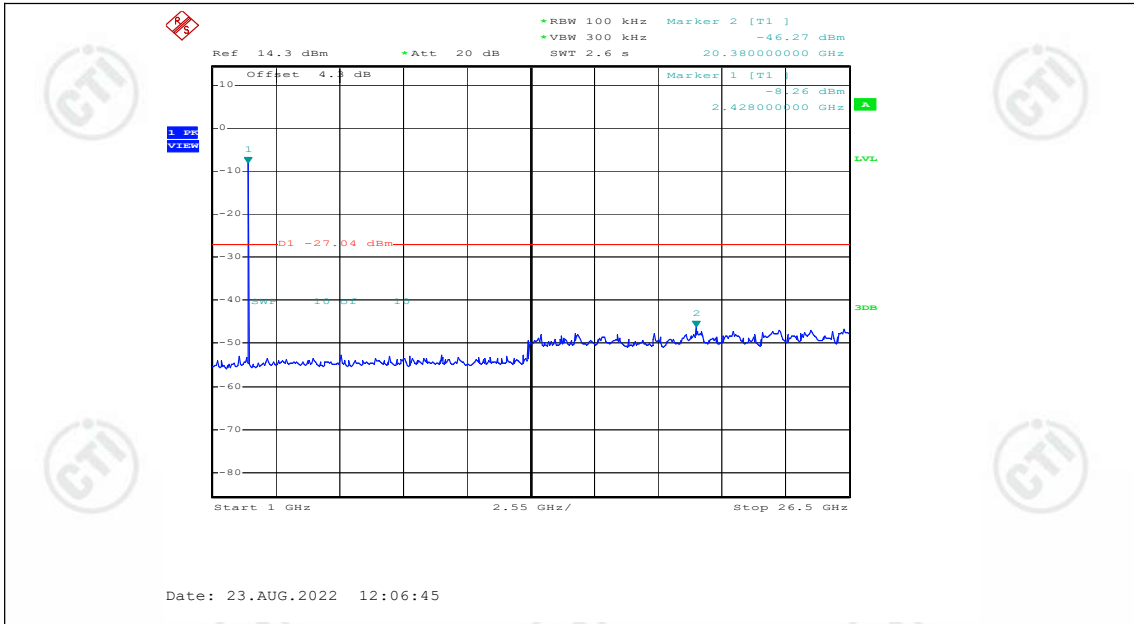
11G_Ant1_2412_1000~26500



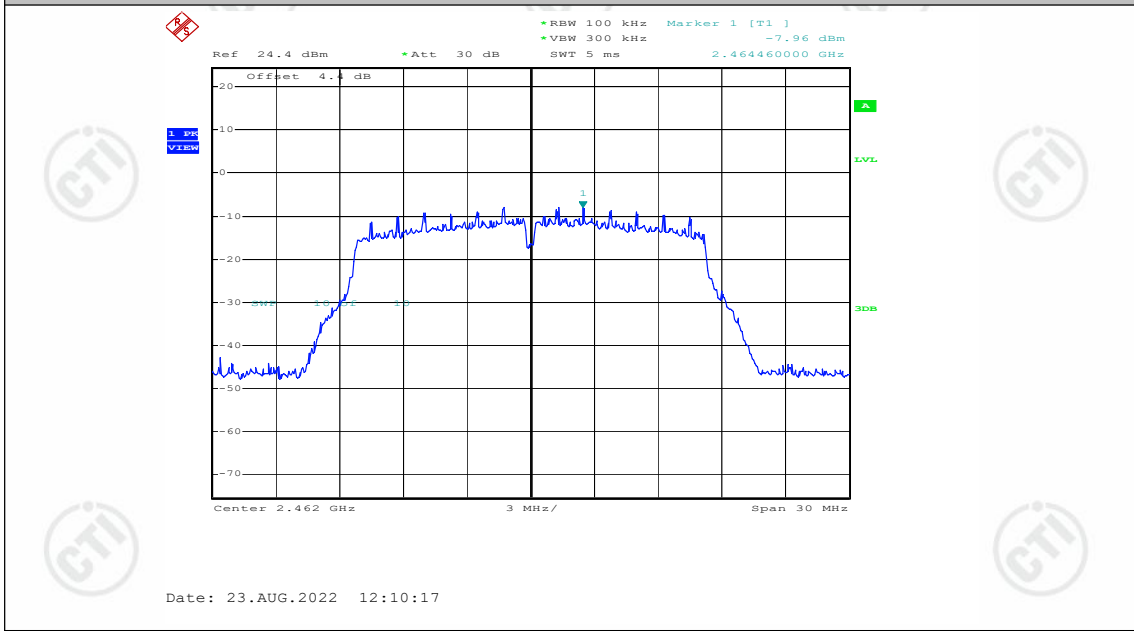
11G_Ant1_2437_0~Reference



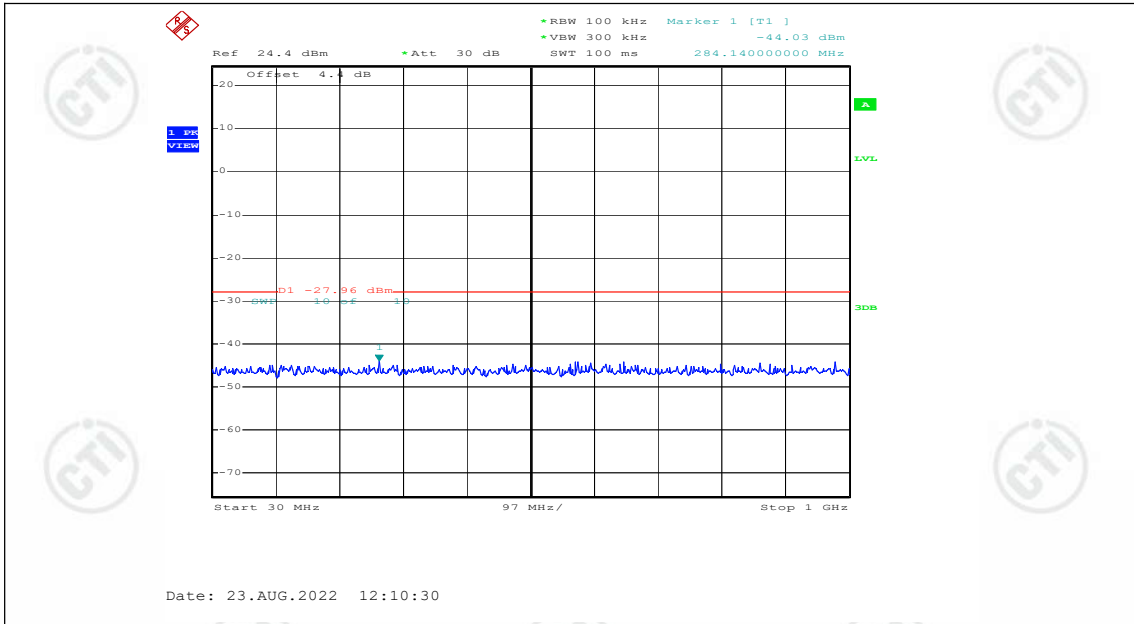
11G_Ant1_2437_30~1000



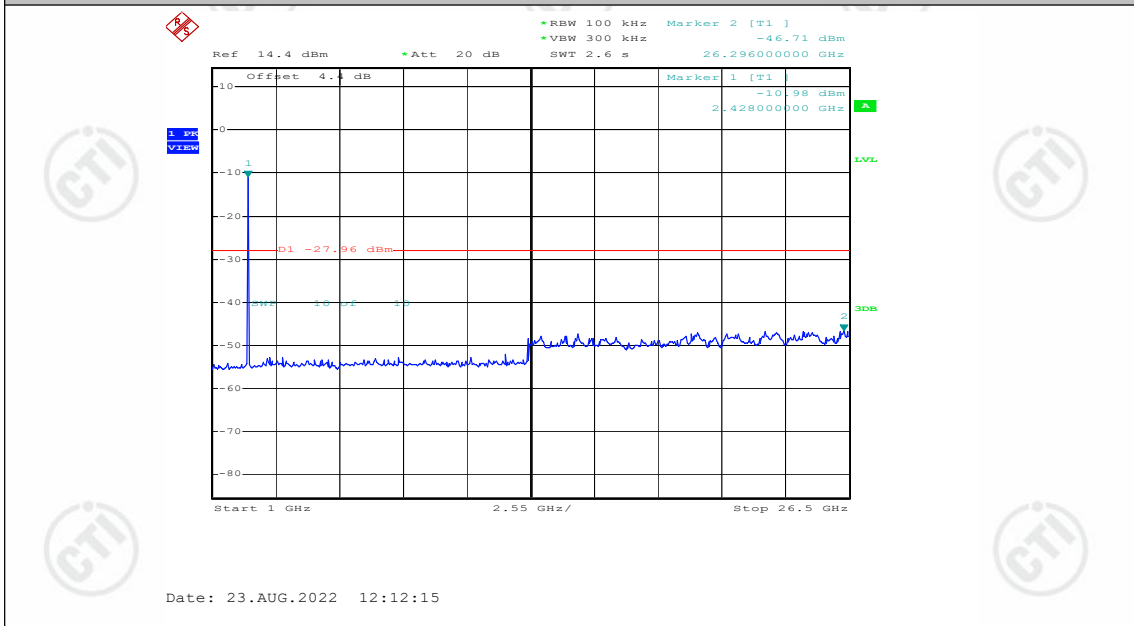
11G_Ant1_2437_1000~26500



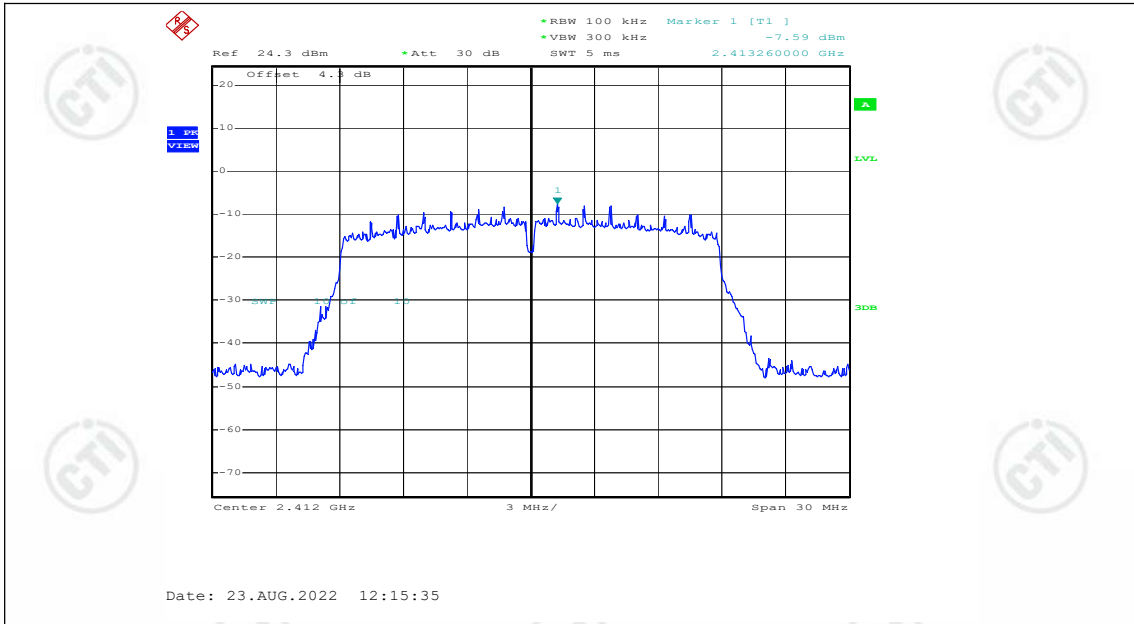
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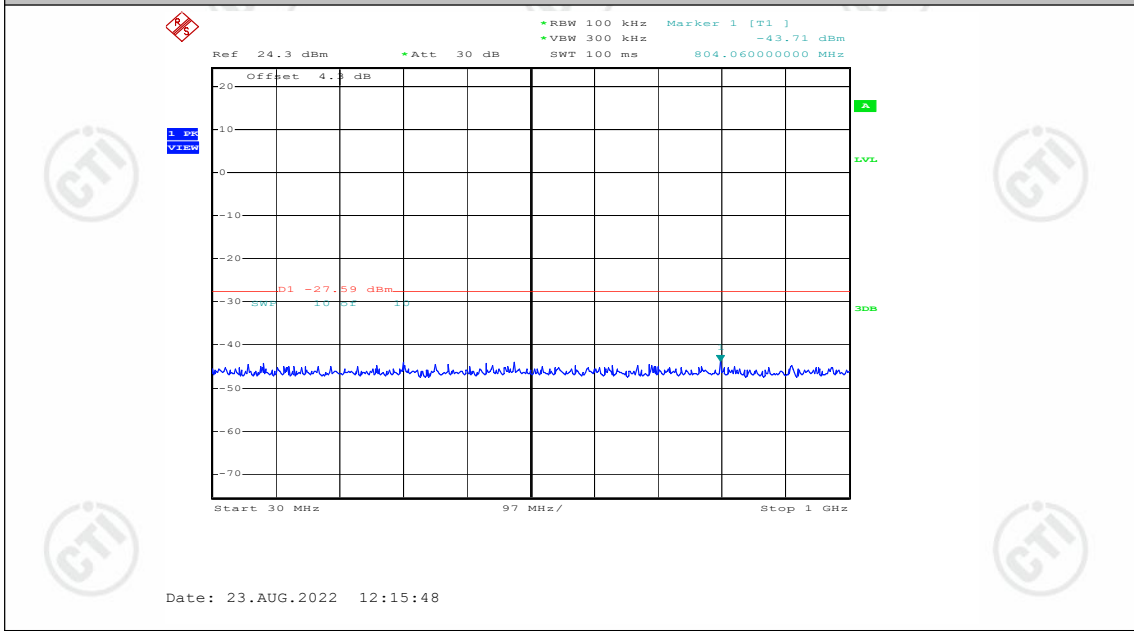
11G_Ant1_2462_30~1000



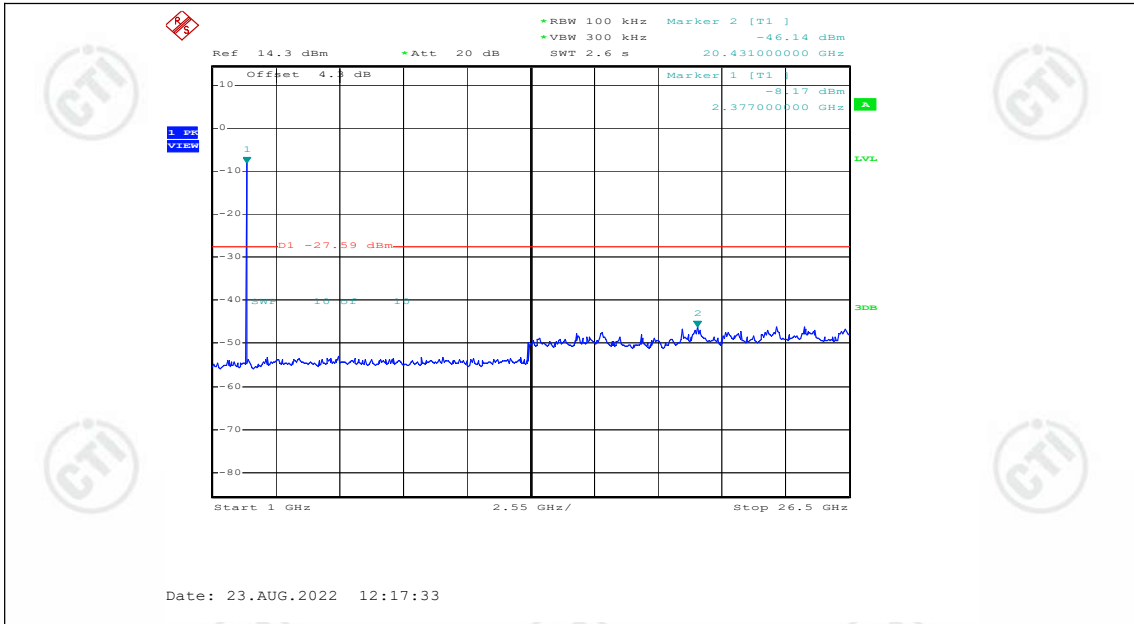
11G_Ant1_2462_1000~26500



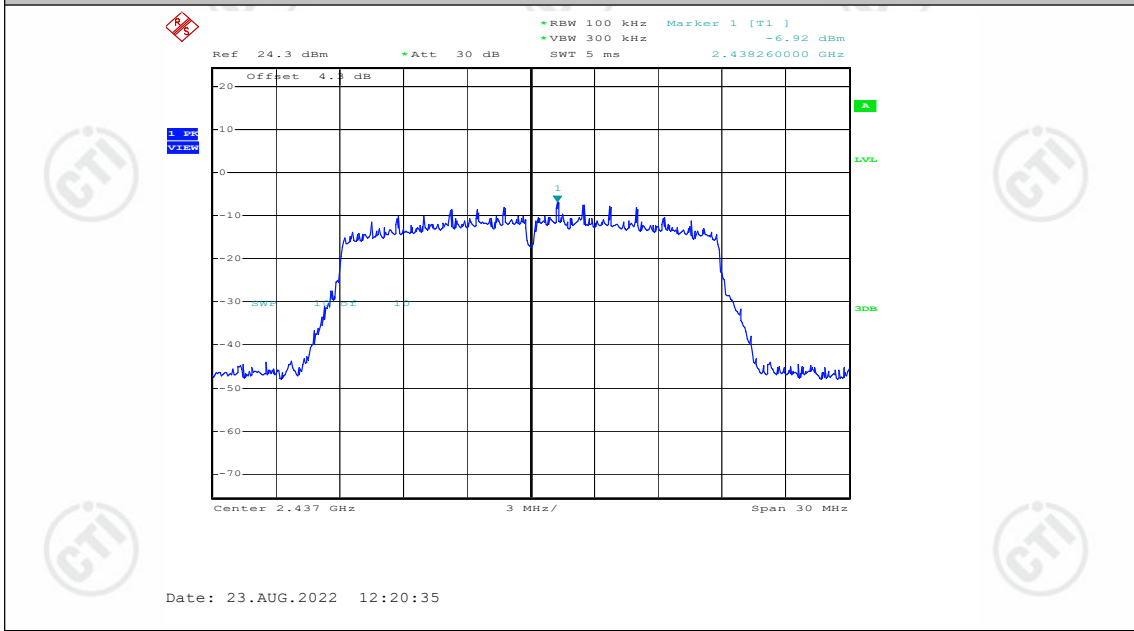
11N20SISO_Ant1_2412_0~Reference



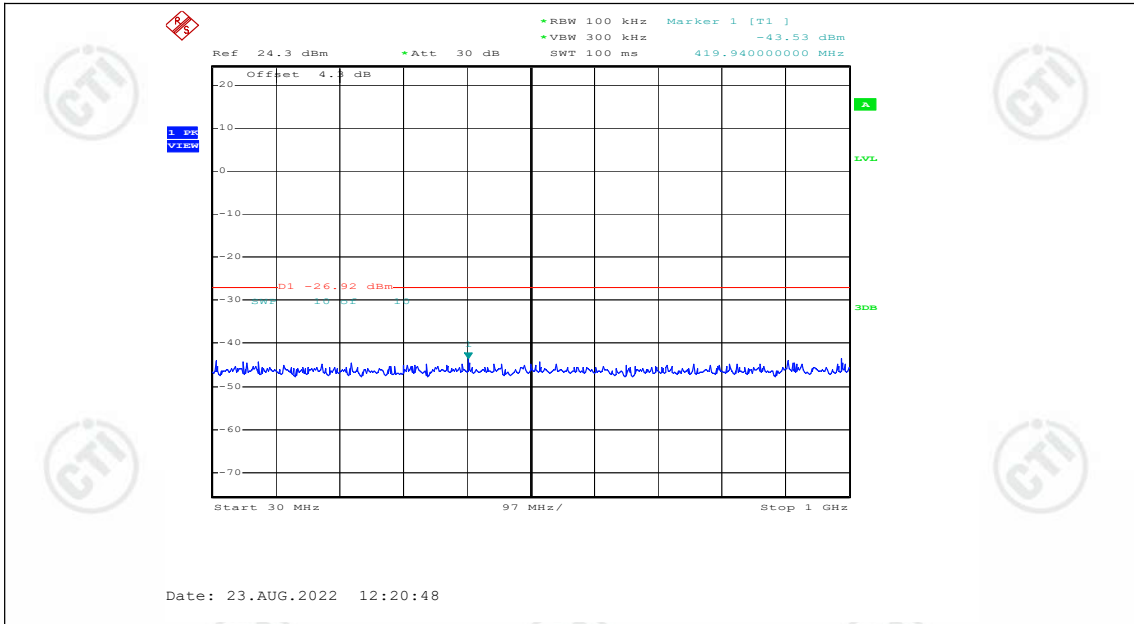
11N20SISO_Ant1_2412_30~1000



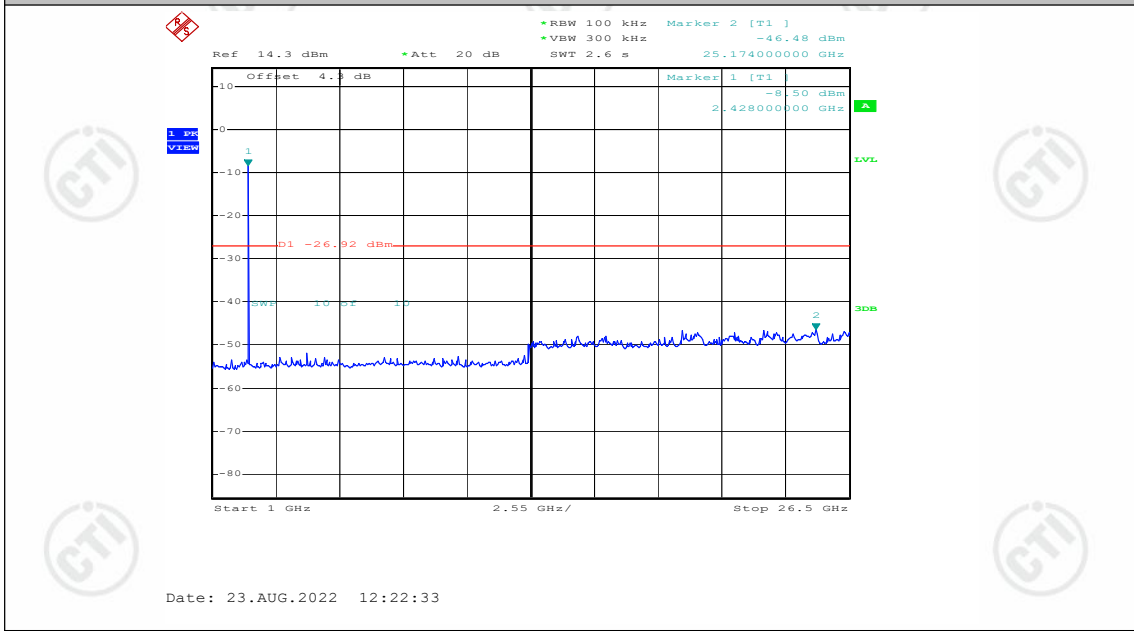
11N20SISO_Ant1_2412_1000~26500



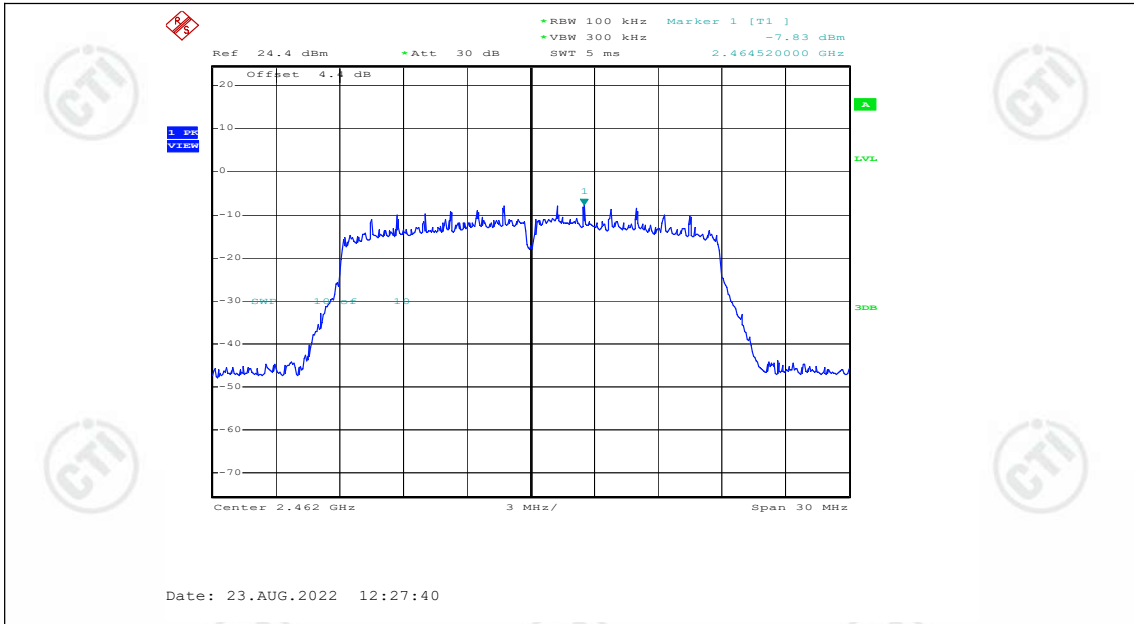
11N20SISO_Ant1_2437_0~Reference



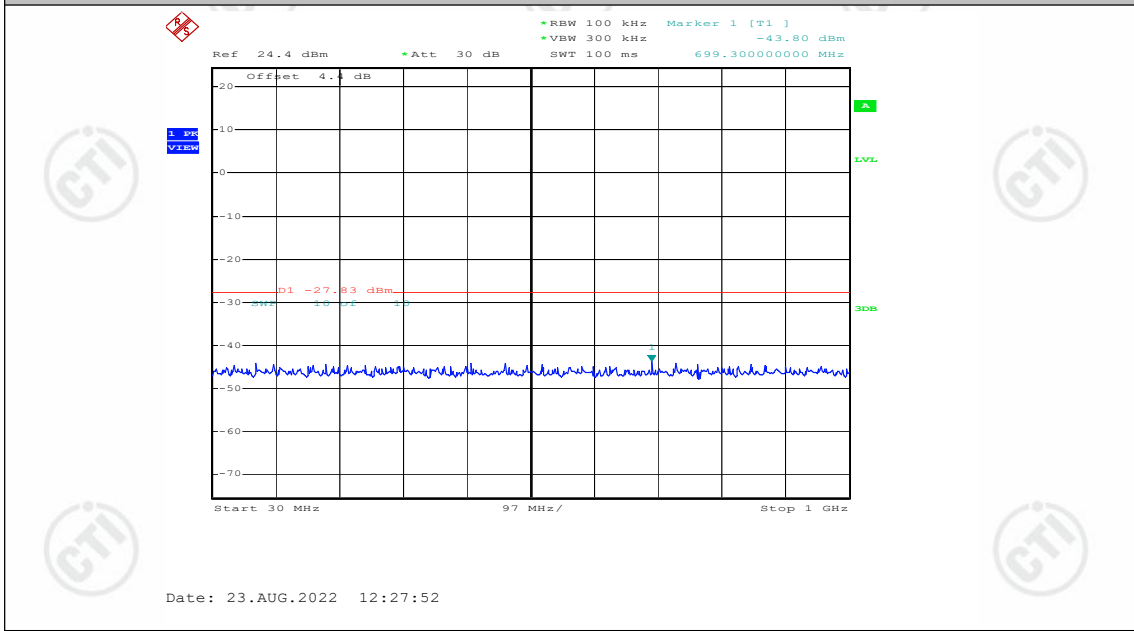
11N20SISO_Ant1_2437_30~1000



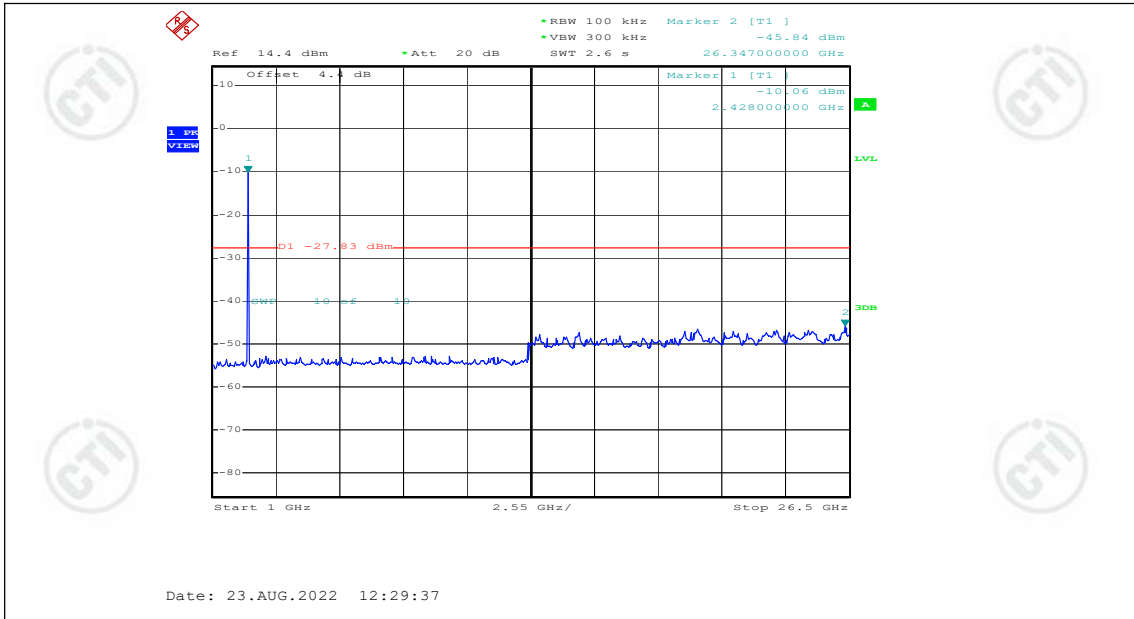
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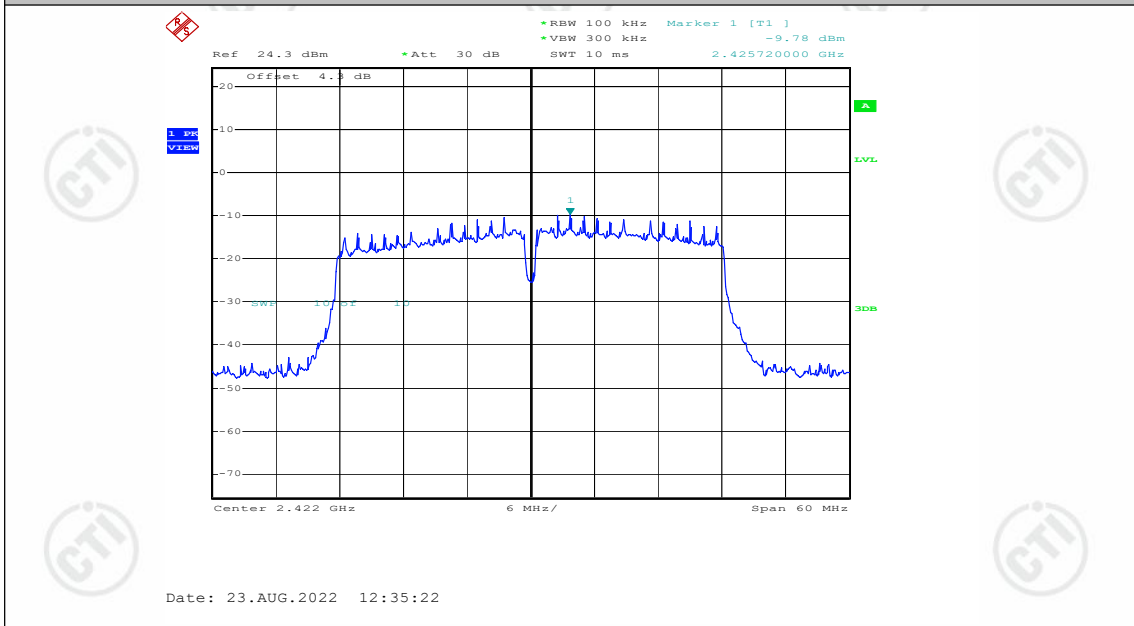
11N20SISO_Ant1_2462_0~Reference



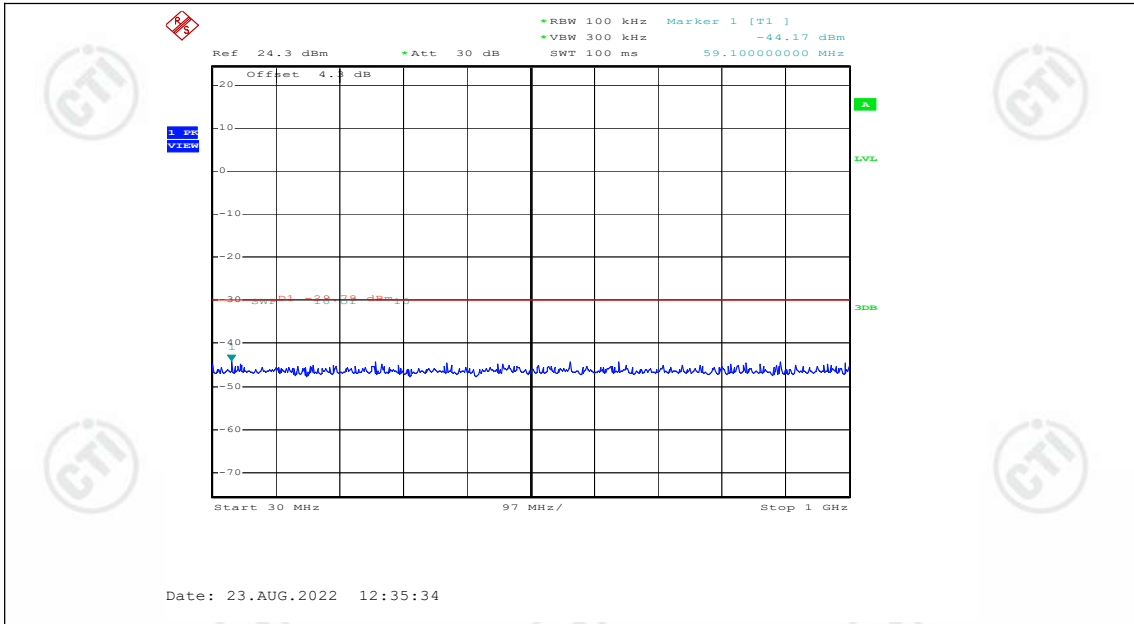
11N20SISO_Ant1_2462_30~1000



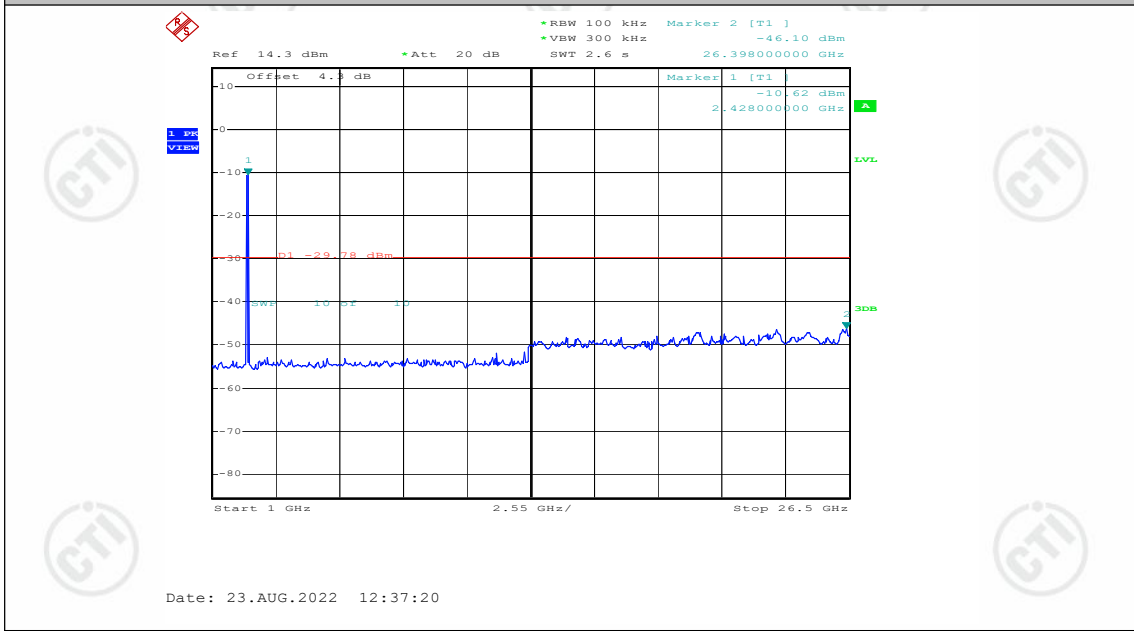
11N20SISO_Ant1_2462_1000~26500



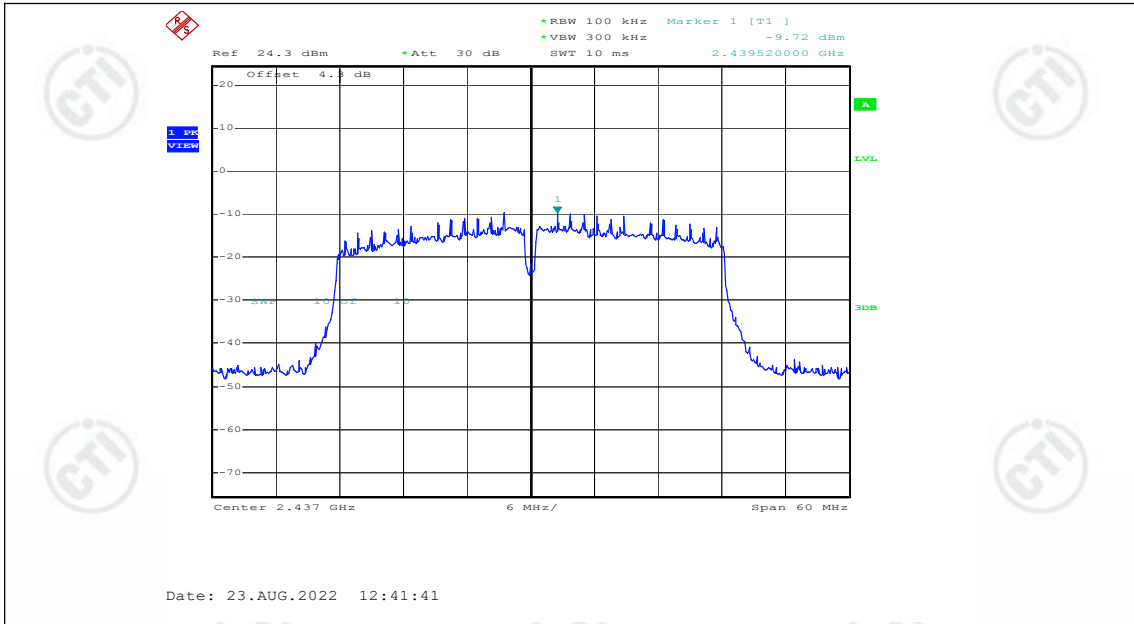
11N40SISO_Ant1_2422_0~Reference



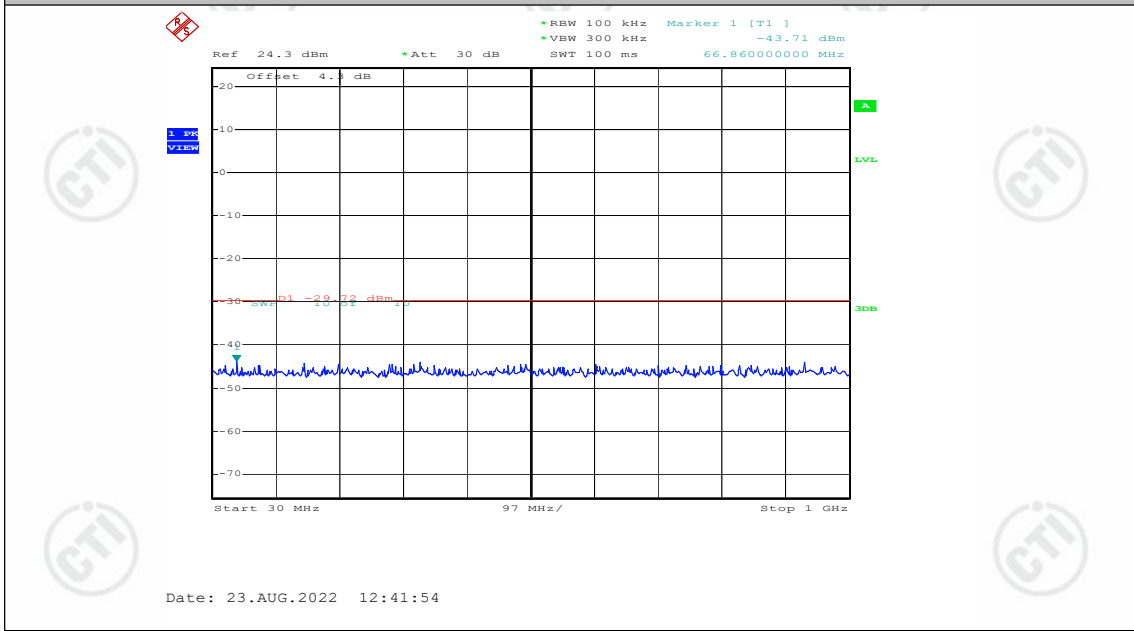
11N40SISO_Ant1_2422_30~1000



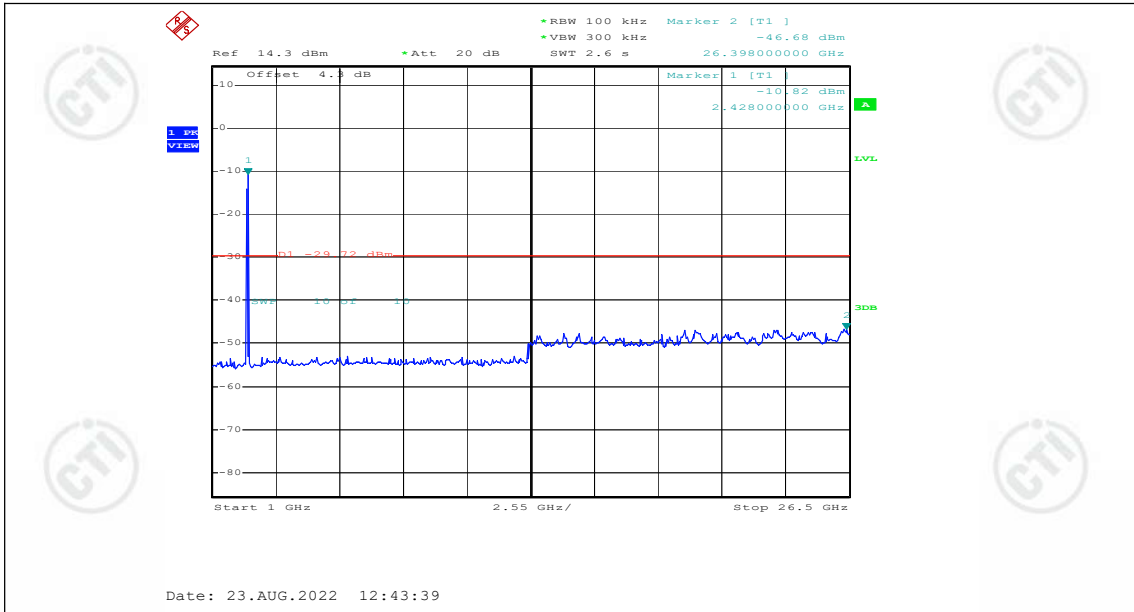
11N40SISO_Ant1_2422_1000~26500



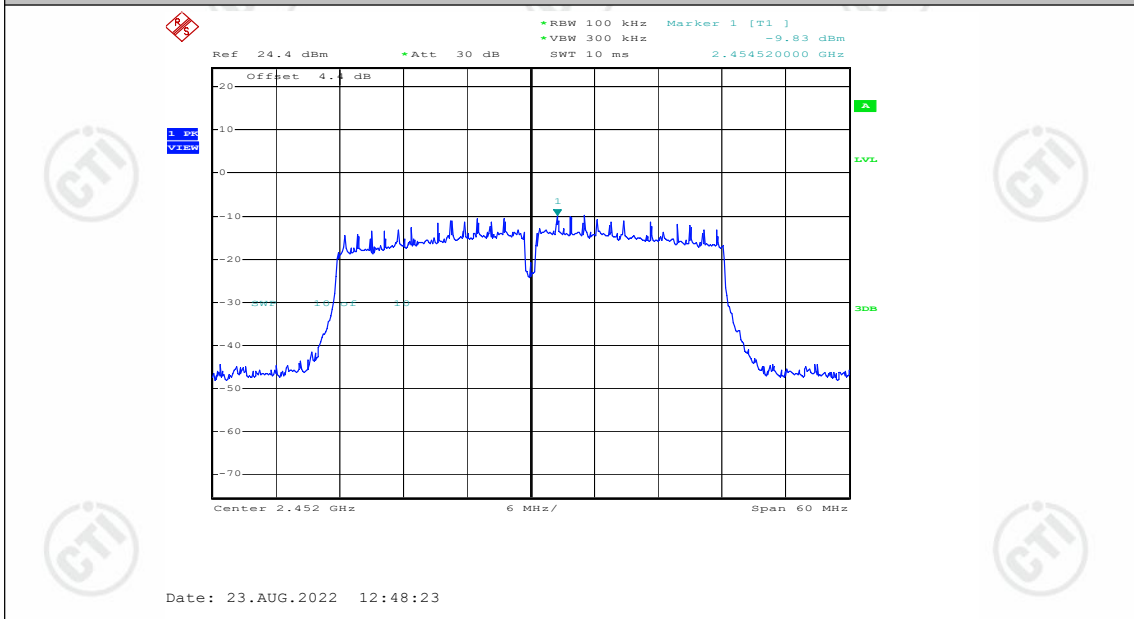
11N40SISO_Ant1_2437_0~Reference



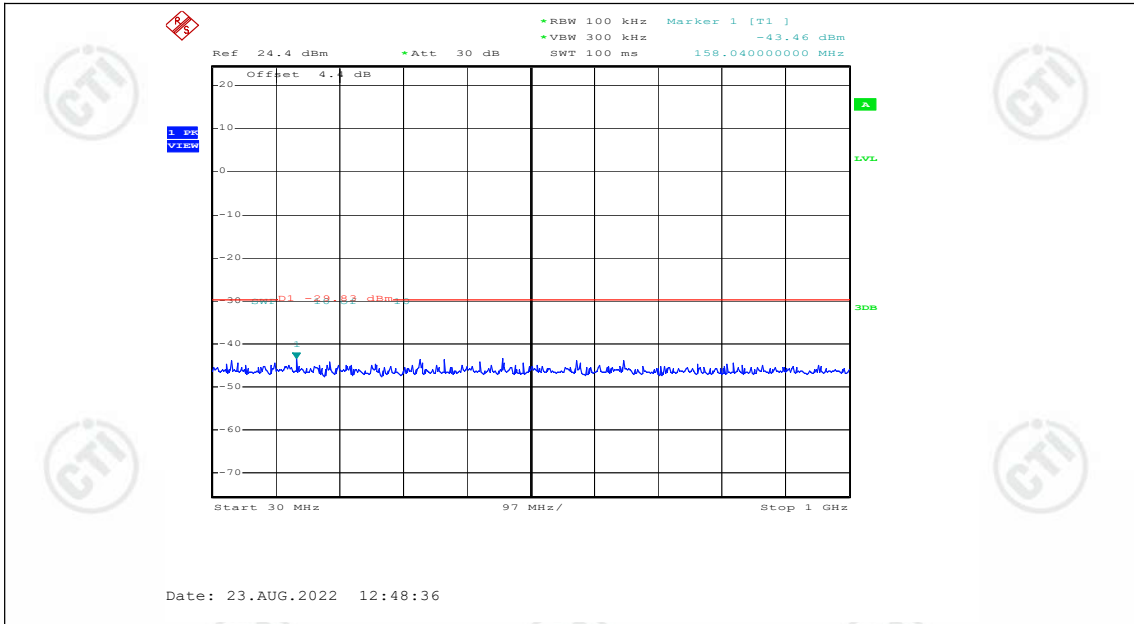
11N40SISO_Ant1_2437_30~100



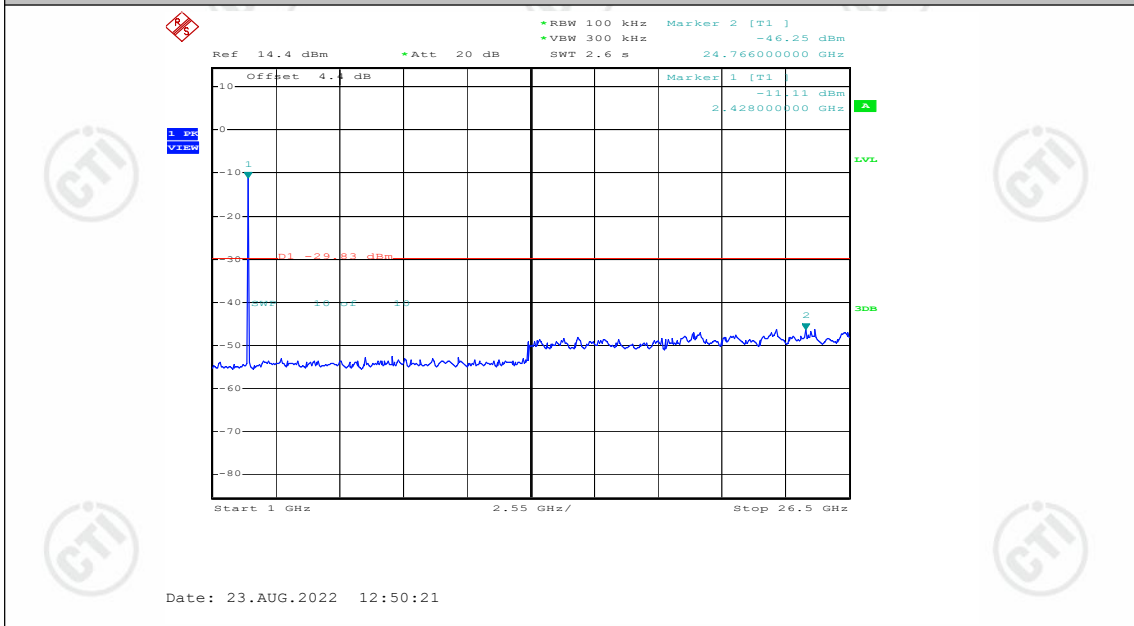
11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~1000



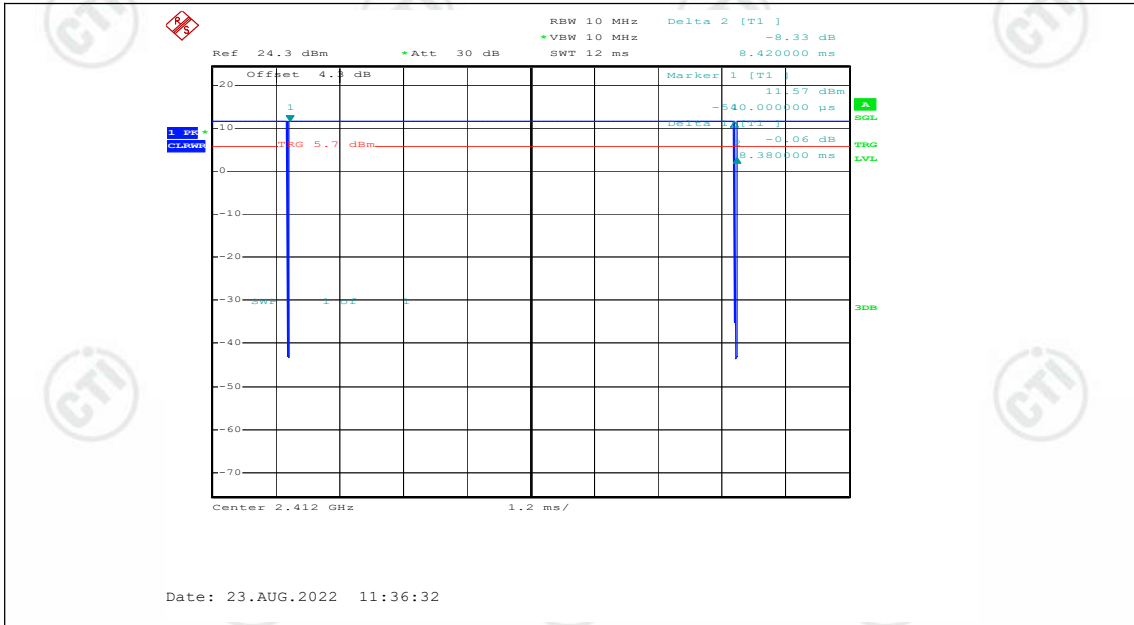
11N40SISO_Ant1_2452_1000~26500

Appendix G: DutyCycle

Test Result

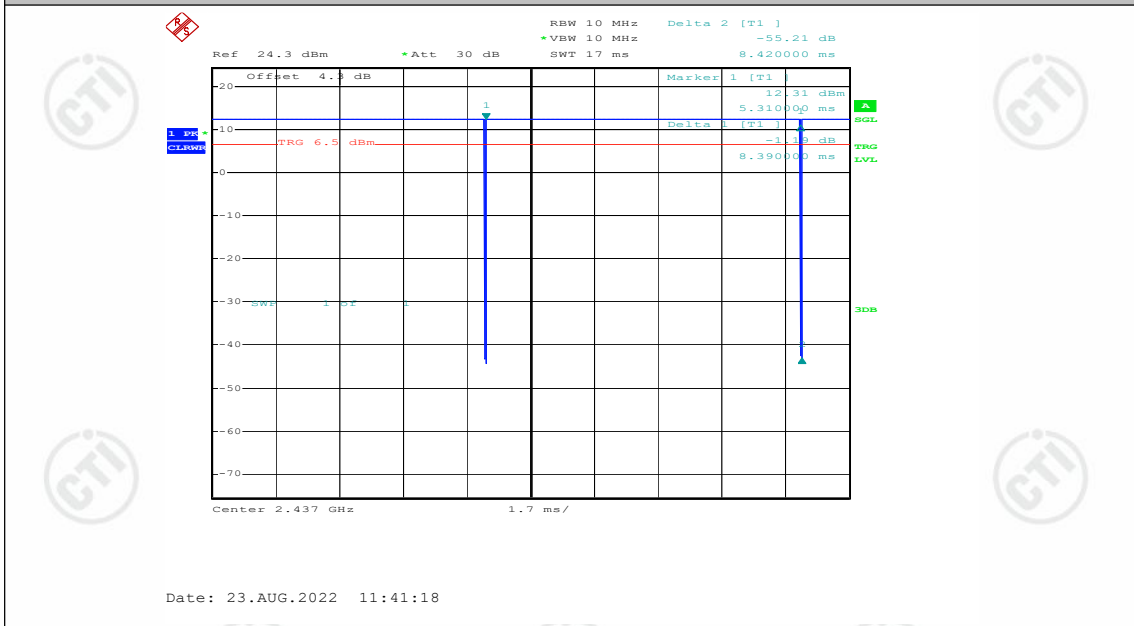
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	8.38	8.42	99.52	---	---
		2437	8.39	8.42	99.64	---	---
		2462	8.38	8.42	99.52	---	---
11G	Ant1	2412	1.39	1.43	97.20	---	---
		2437	1.40	1.44	97.22	---	---
		2462	1.39	1.44	96.53	---	---
11N20SISO	Ant1	2412	1.30	1.35	96.30	---	---
		2437	1.30	1.35	96.30	---	---
		2462	1.30	1.34	97.01	---	---
11N40SISO	Ant1	2422	0.65	0.69	94.20	---	---
		2437	0.64	0.69	92.75	---	---
		2452	0.65	0.69	94.20	---	---

Test Graphs



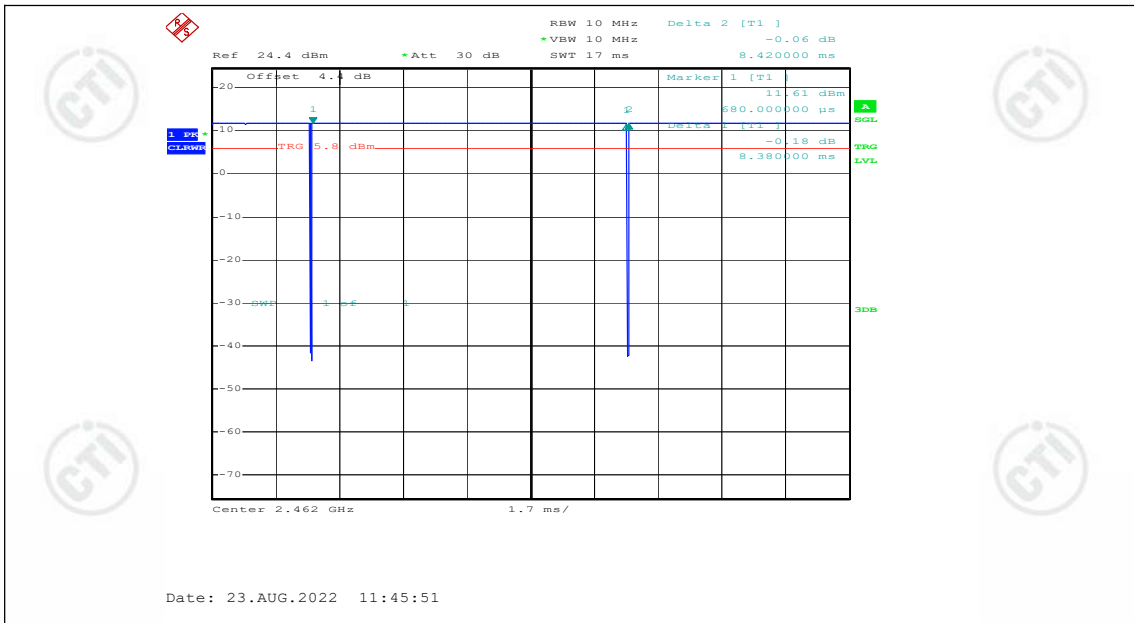
Date: 23.AUG.2022 11:36:32

11B_Ant1_2412

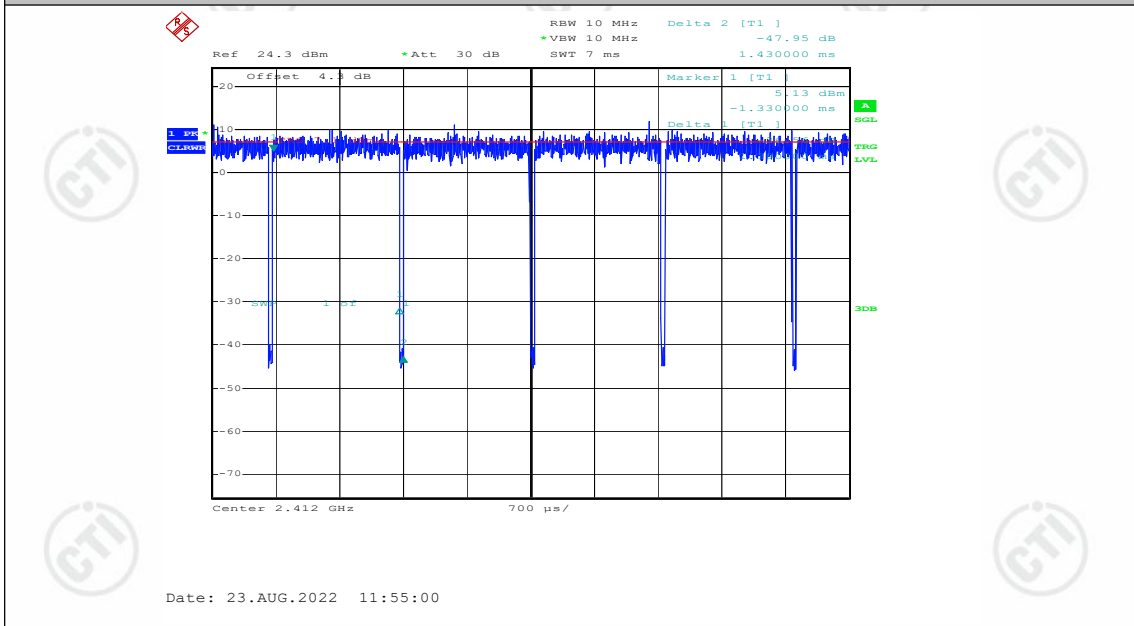


Date: 23.AUG.2022 11:41:18

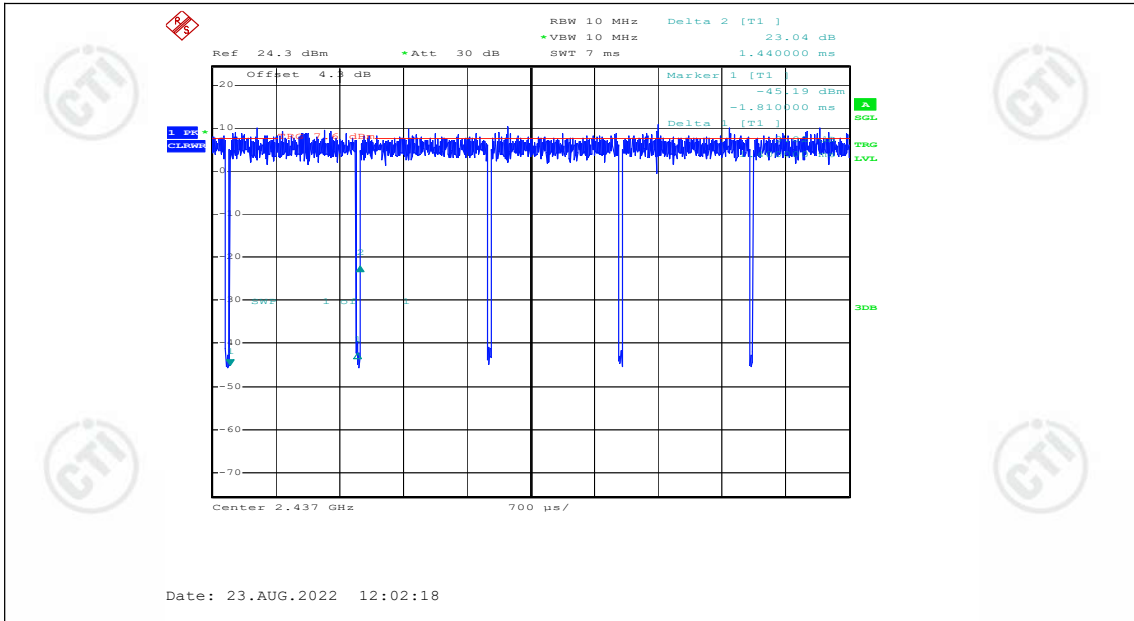
11B_Ant1_2437



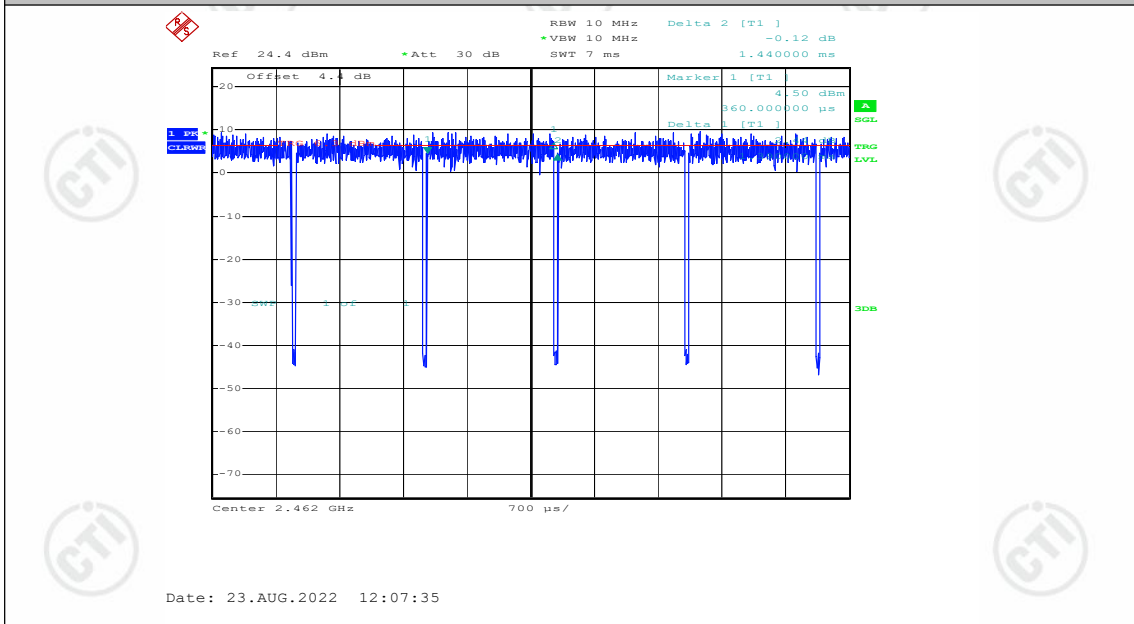
11B_Ant1_2462



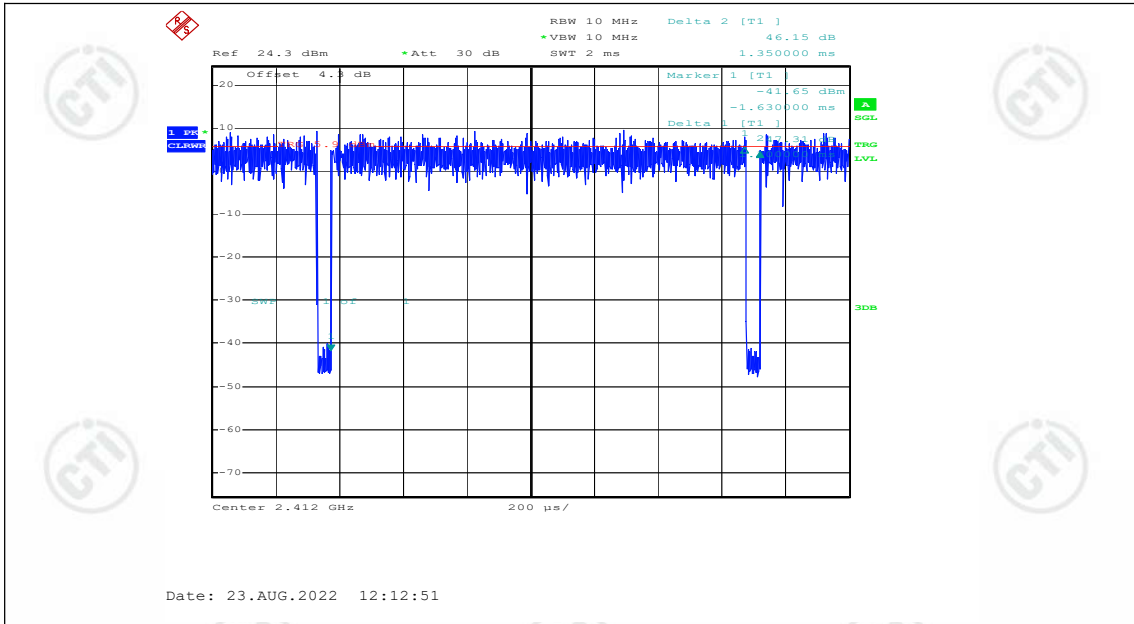
11G_Ant1_2412



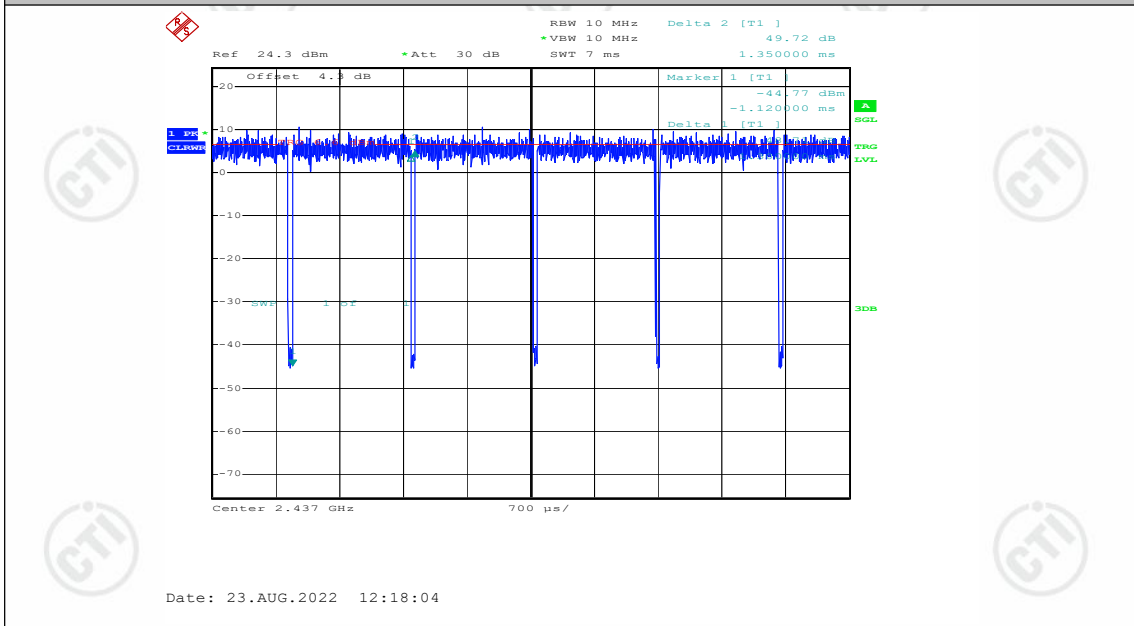
11G_Ant1_2437



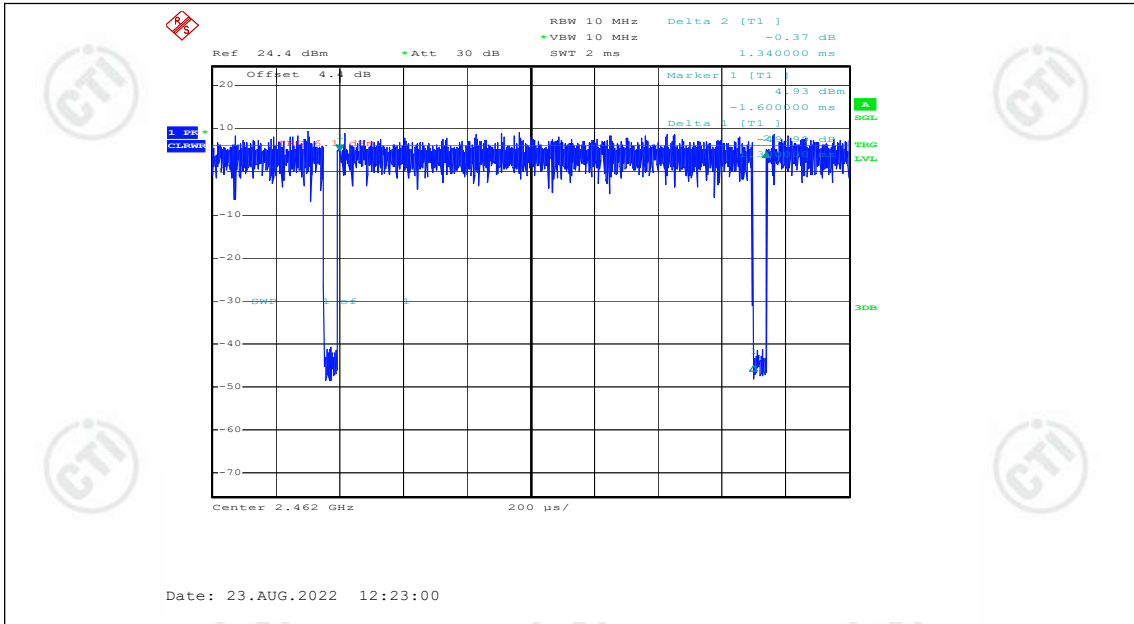
11G_Ant1_2462



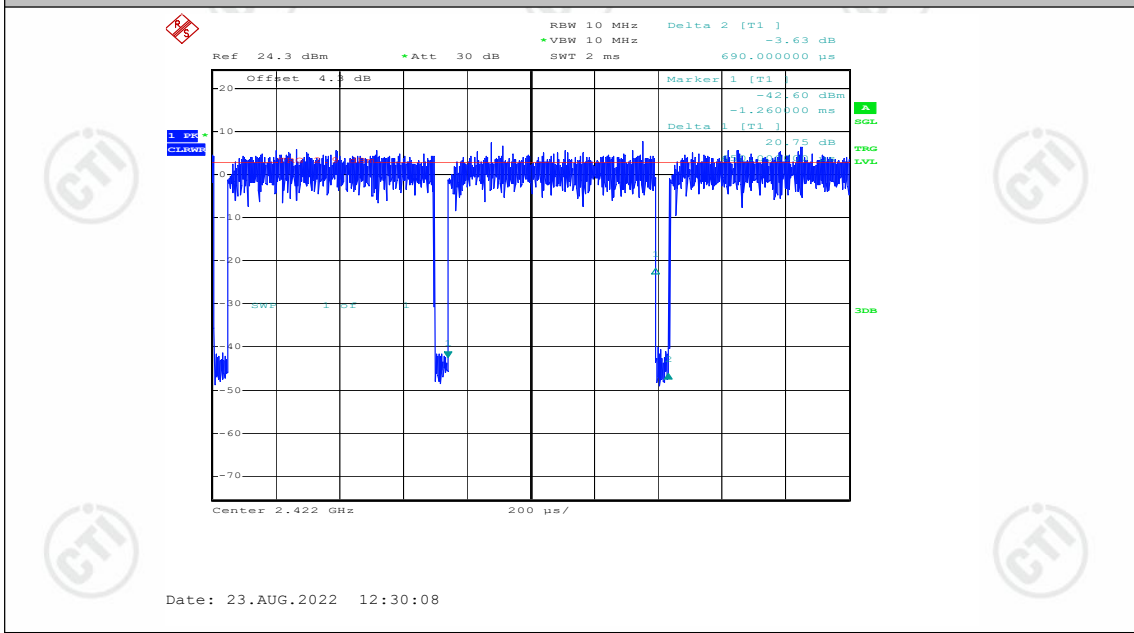
11N20SISO_Ant1_2412



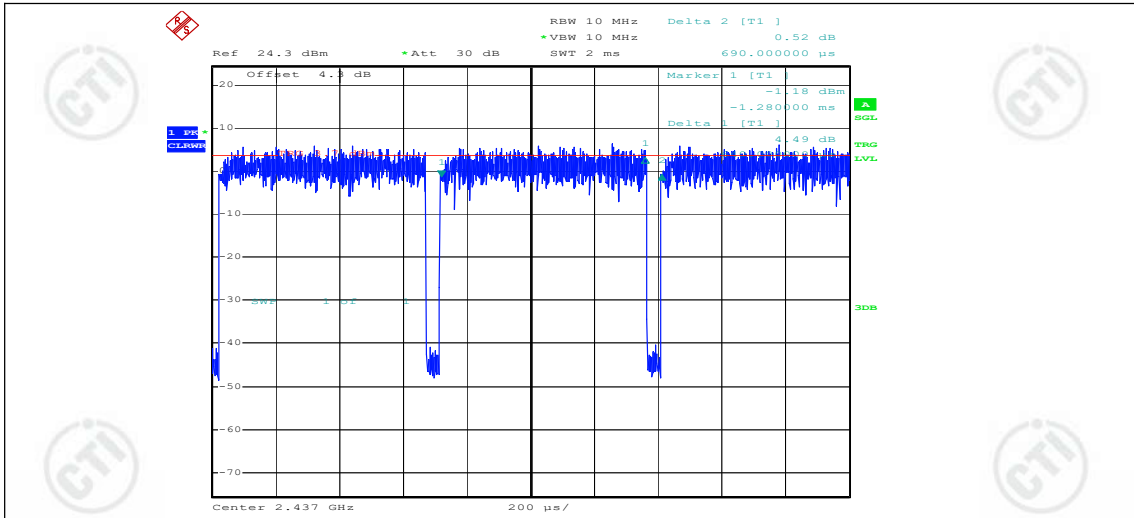
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

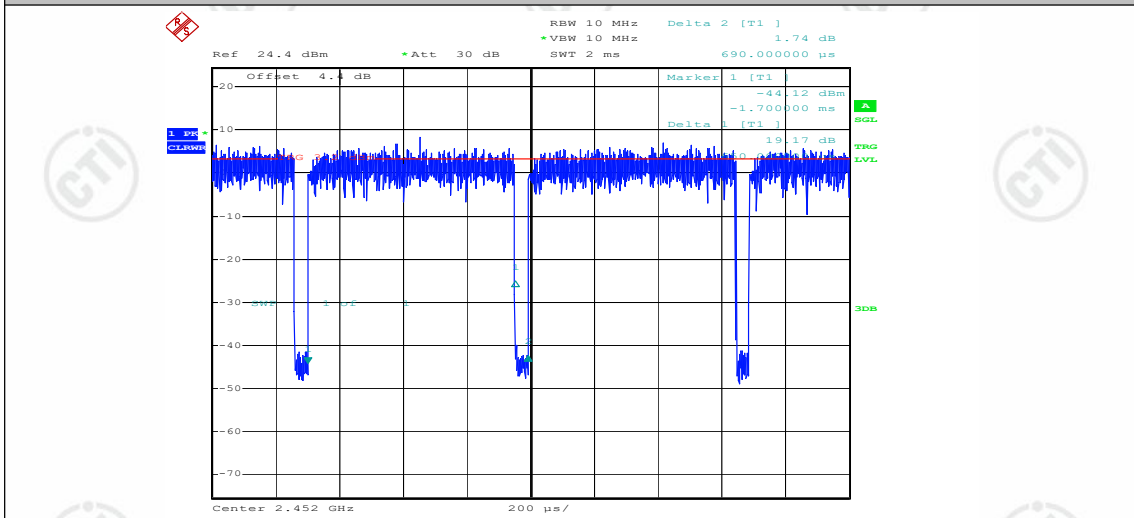


11N40SISO_Ant1_2422



Date: 23.AUG.2022 12:37:50

11N40SISO_Ant1_2437



Date: 23.AUG.2022 12:44:11

11N40SISO_Ant1_2452

*** End of Report ***