

Appendix: 2.4G WIFI of module 1

## Contents

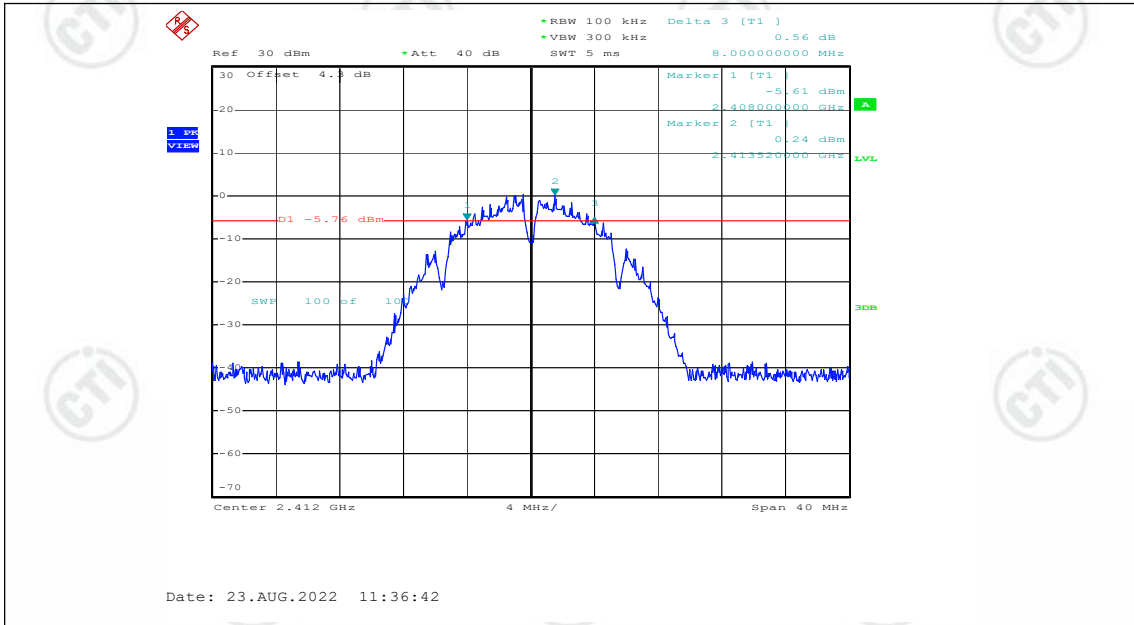
Appendix A: DTS Bandwidth.....	3
Test Result.....	3
Test Graphs.....	4
Appendix B: Occupied Channel Bandwidth.....	10
Test Result.....	10
Test Graphs.....	11
Appendix C: Maximum conducted output power.....	17
Test Result.....	17
Appendix D: Maximum power spectral density.....	24
Test Result.....	24
Test Graphs.....	25
Appendix E:Band edge measurements.....	31
Test Result.....	31
Test Graphs.....	32
Appendix F:Conducted Spurious Emission.....	36
Test Result.....	36
Test Graphs.....	38
Appendix G: DutyCycle.....	56
Test Result.....	56
Test Graphs.....	57

## Appendix A: DTS Bandwidth

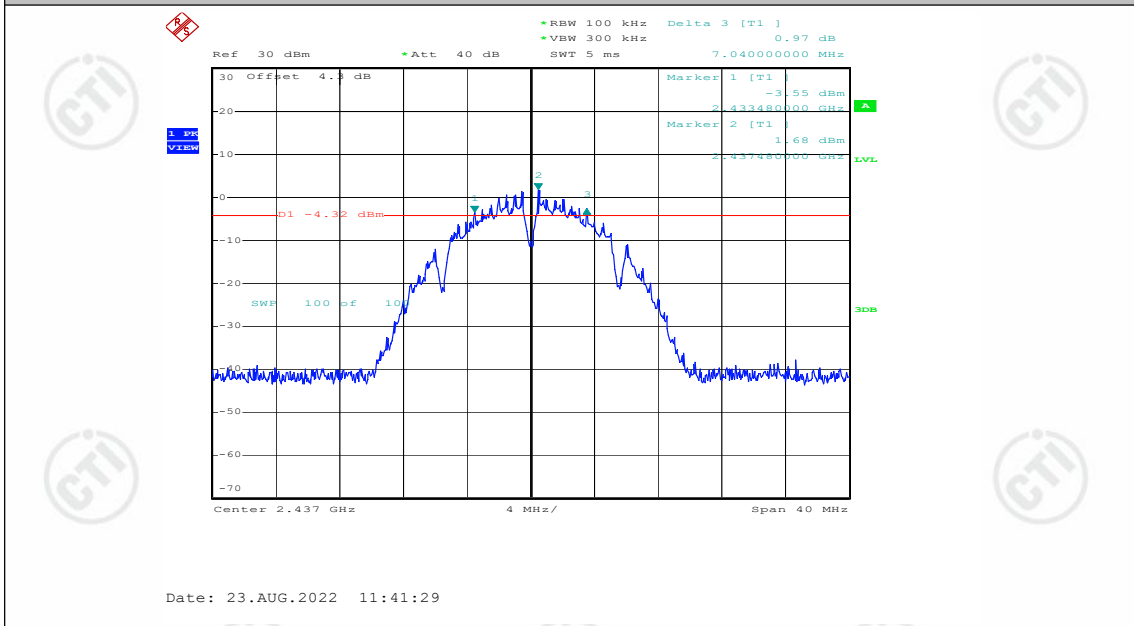
### Test Result

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

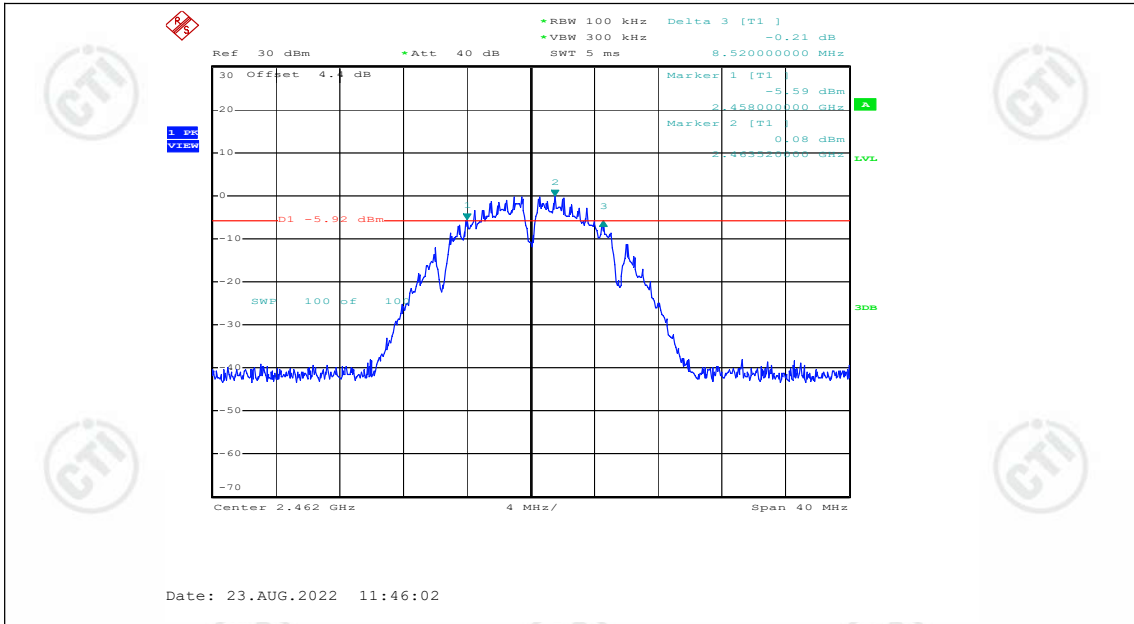
## Test Graphs



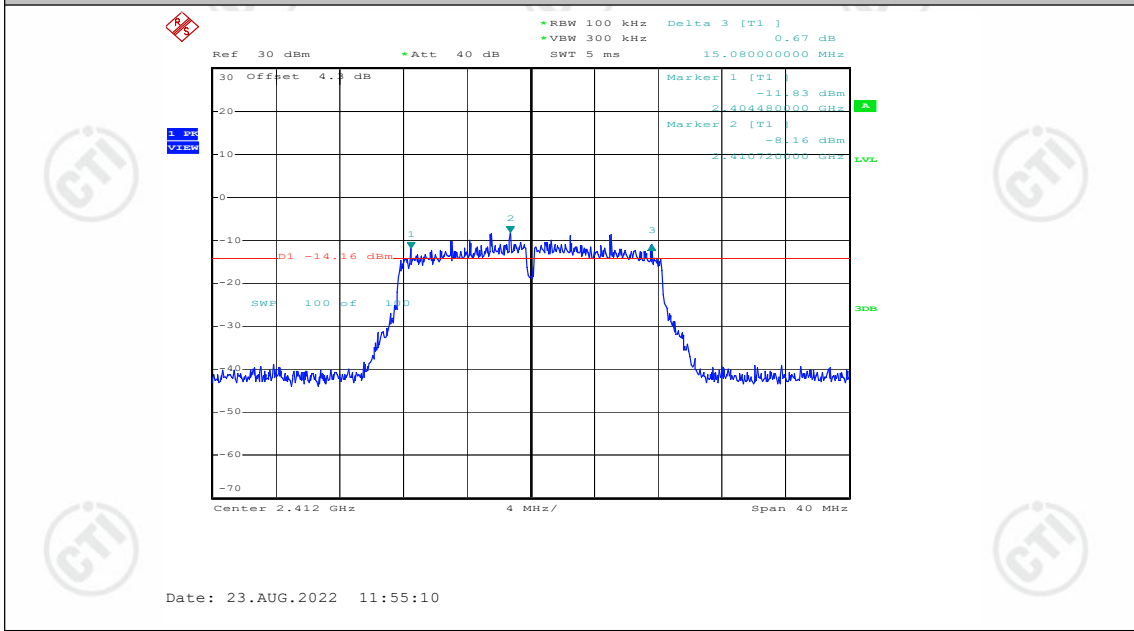
11B\_Ant1\_2412



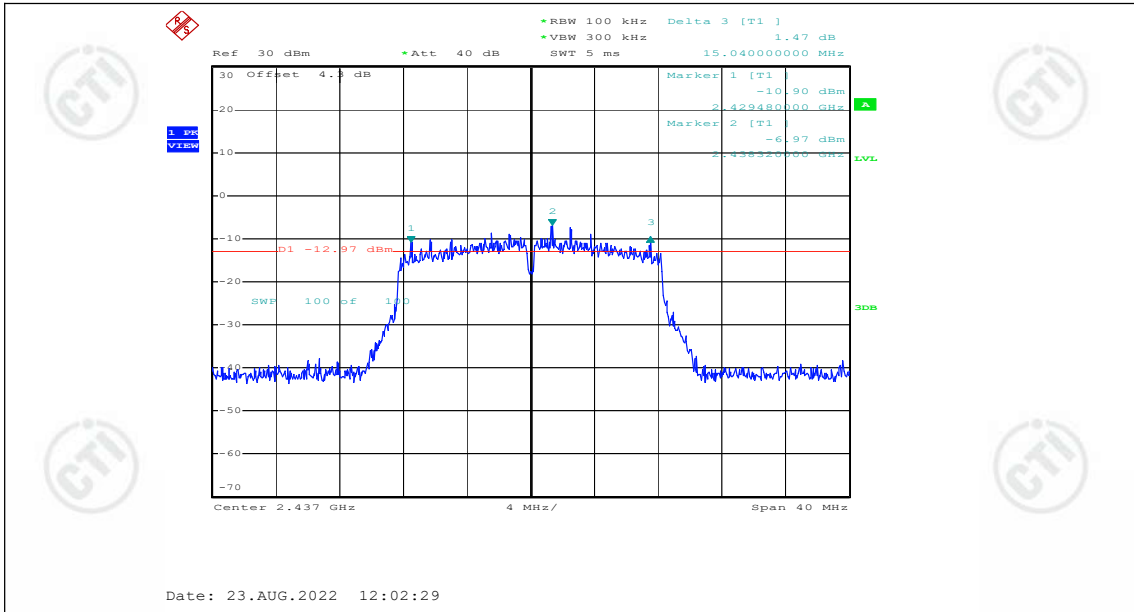
11B\_Ant1\_2437



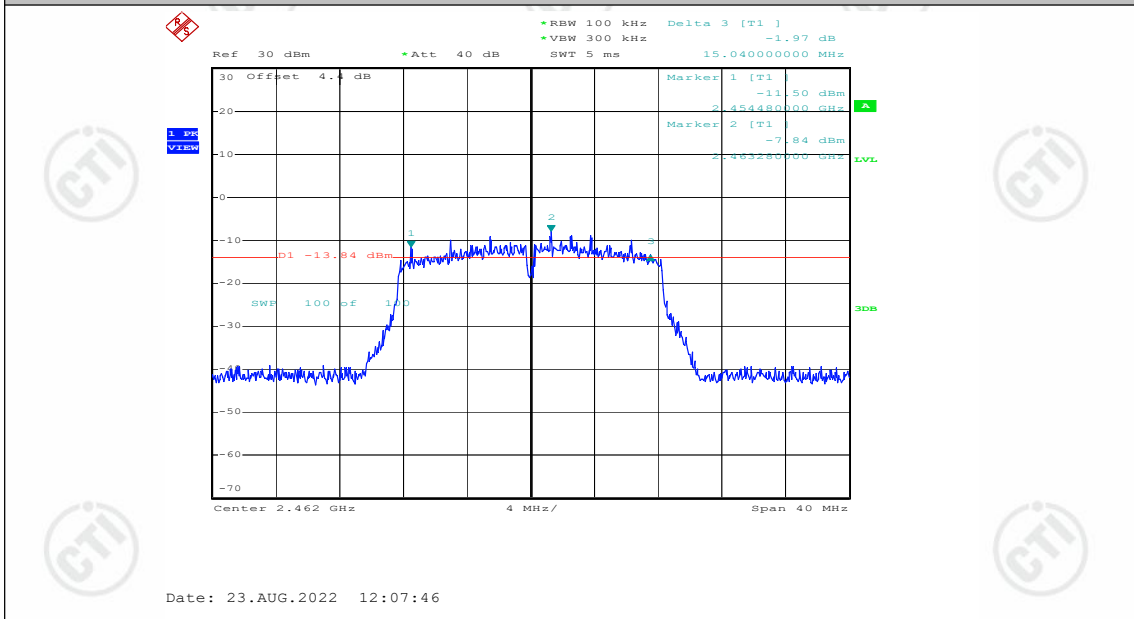
11B\_Ant1\_2462



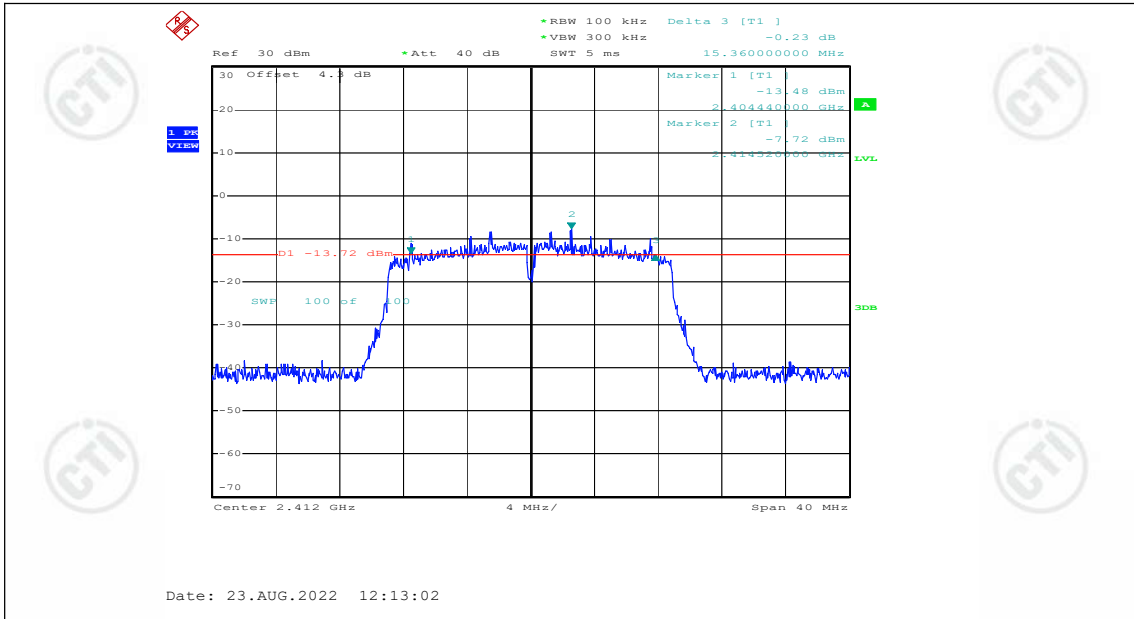
11G\_Ant1\_2412



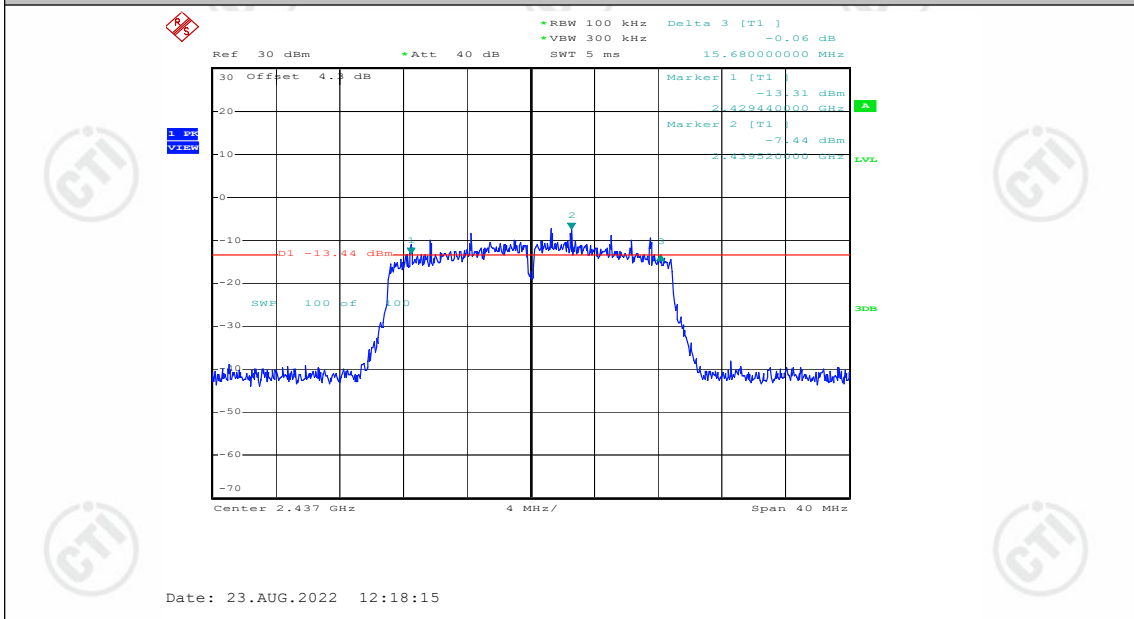
11G\_Ant1\_2437



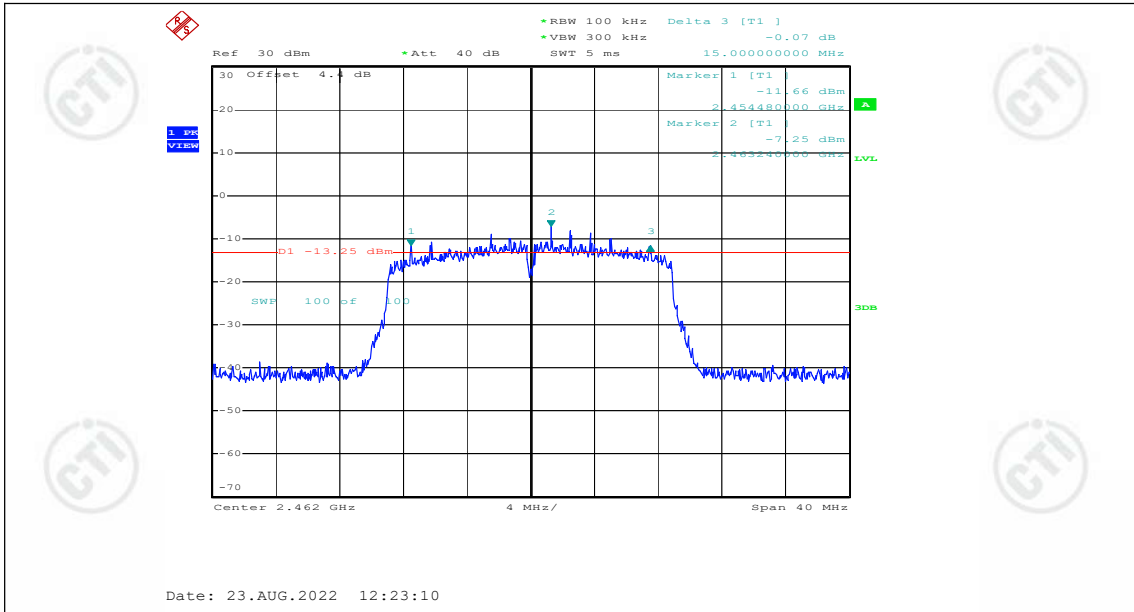
11G\_Ant1\_2462



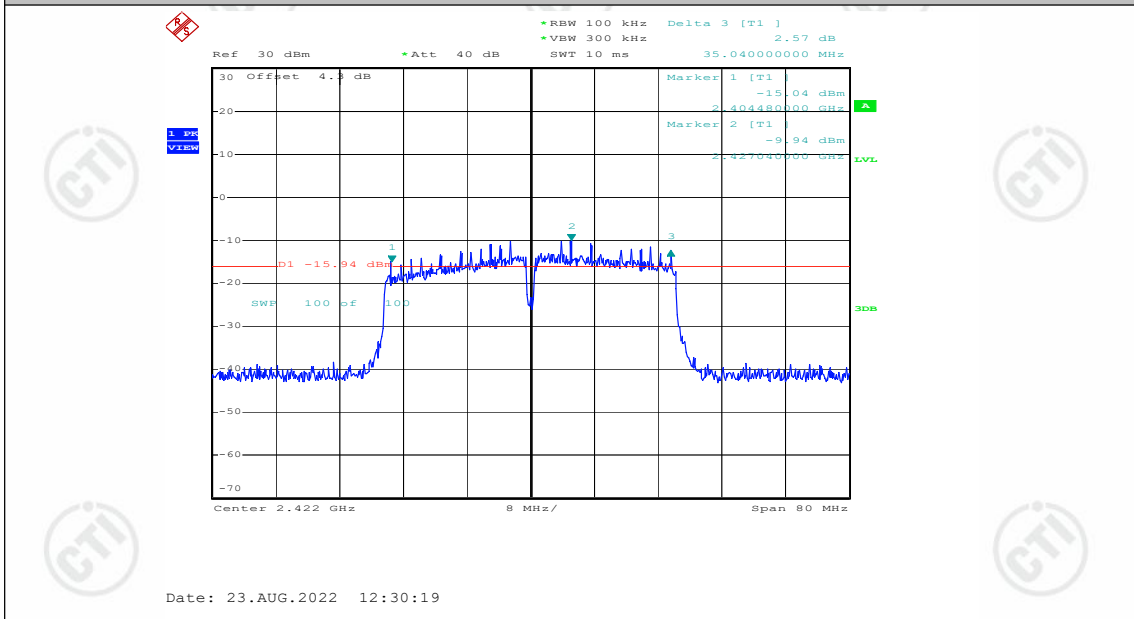
11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437

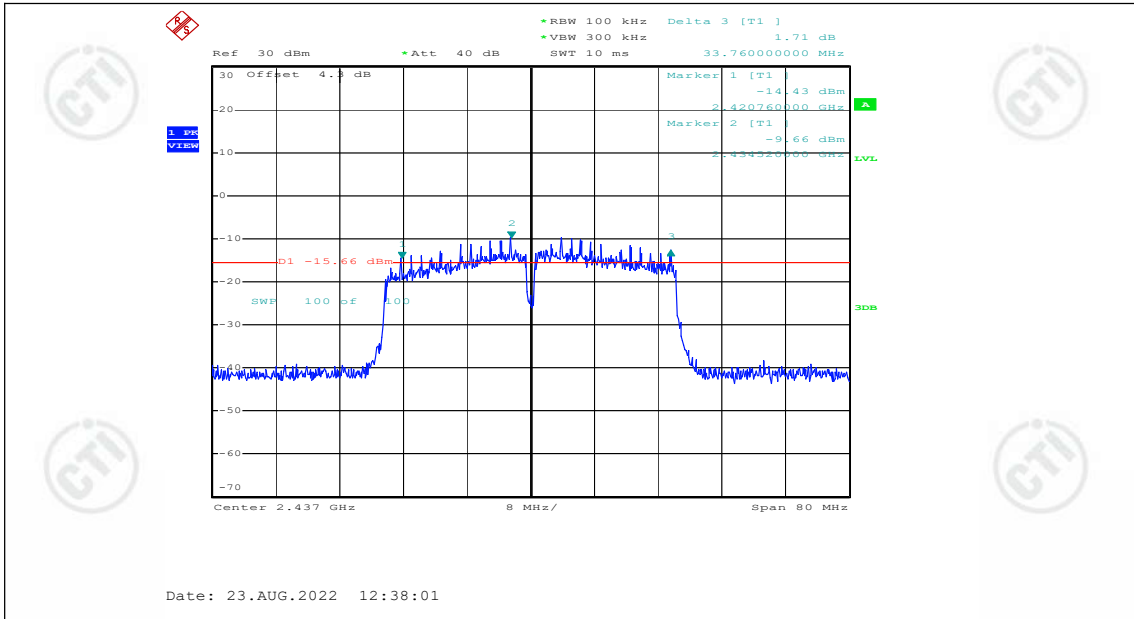


11N20SISO\_Ant1\_2462

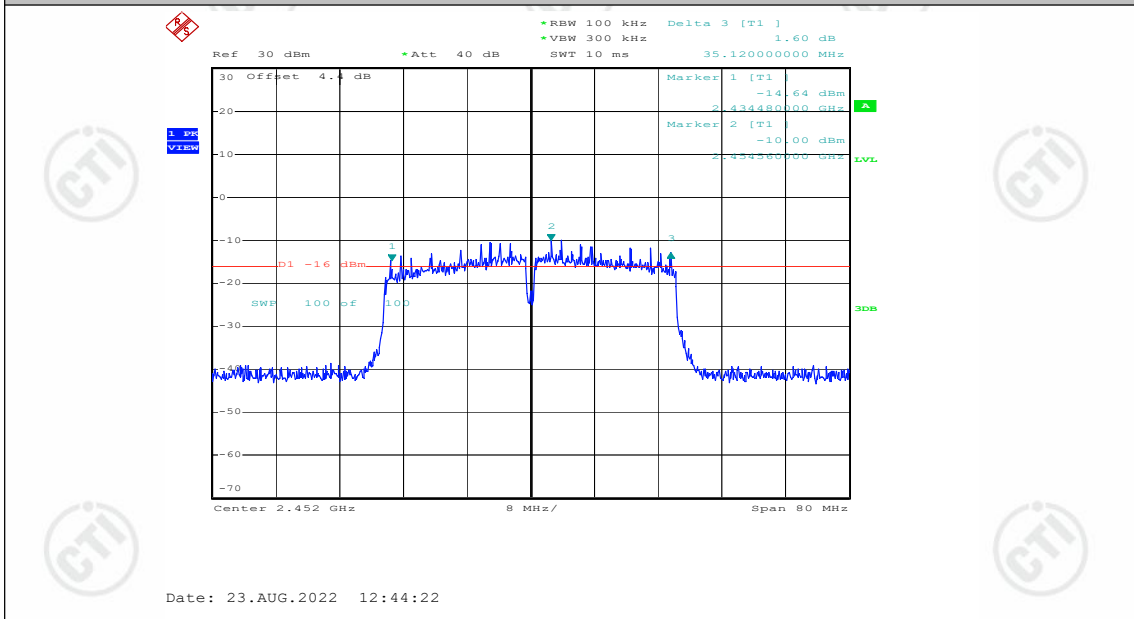


11N40SISO\_Ant1\_2422





11N40SISO\_Ant1\_2437



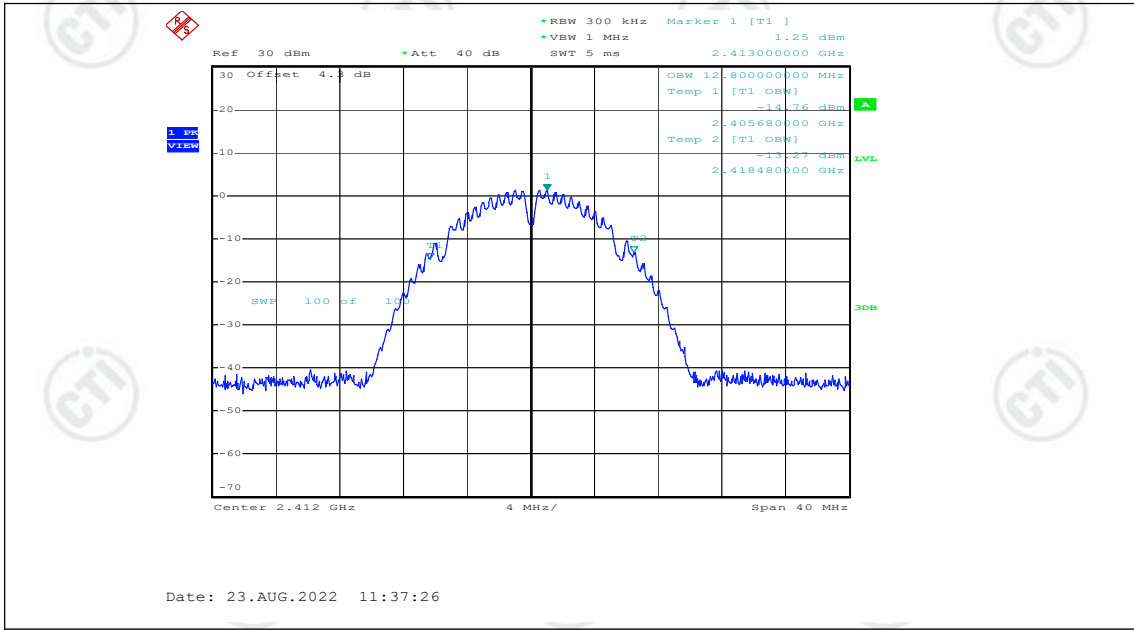
11N40SISO\_Ant1\_2452

## Appendix B: Occupied Channel Bandwidth

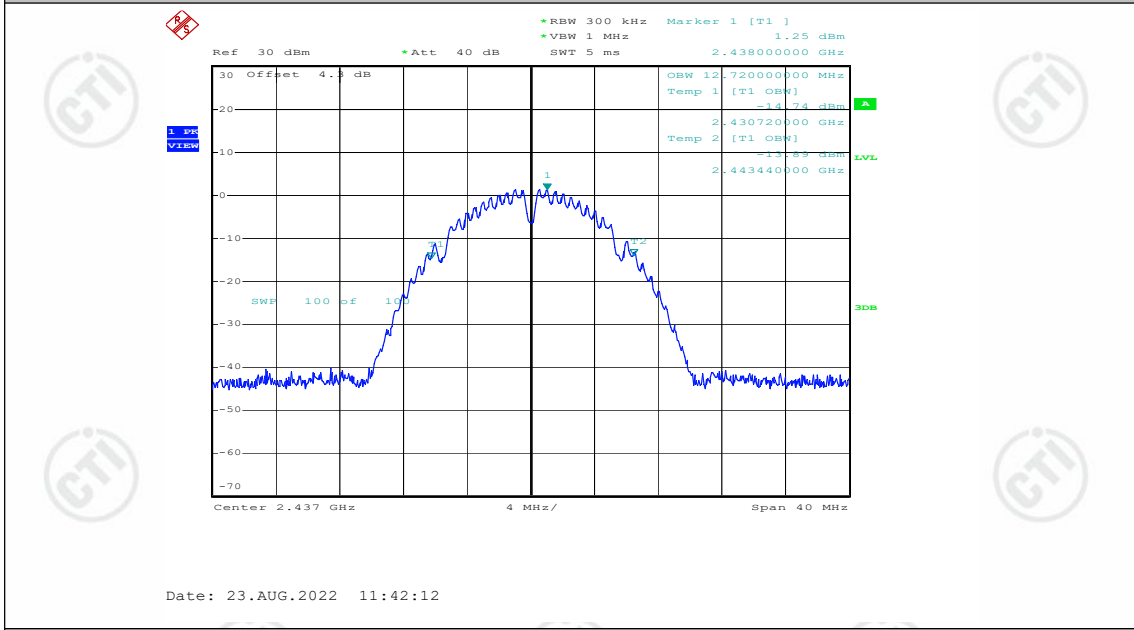
### Test Result

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	---	---

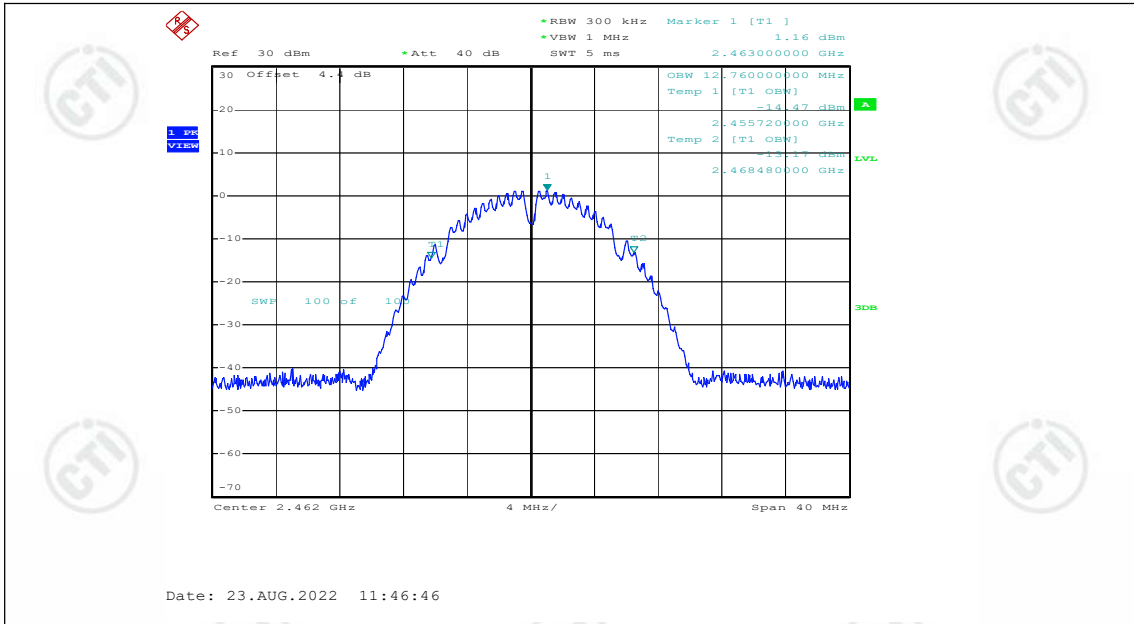
## Test Graphs



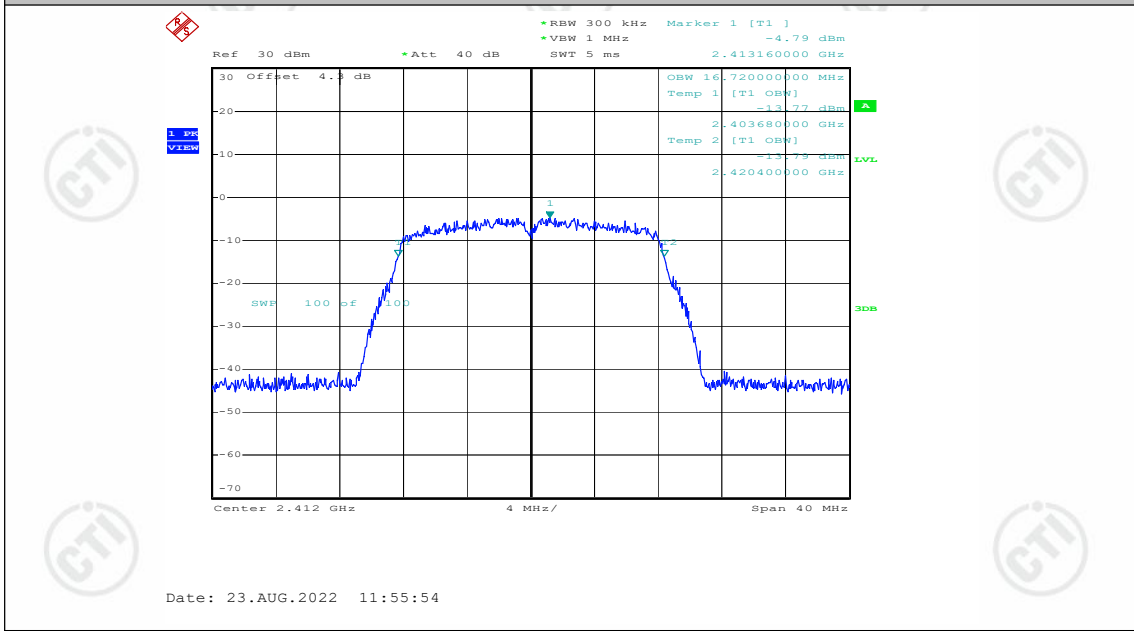
11B\_Ant1\_2412



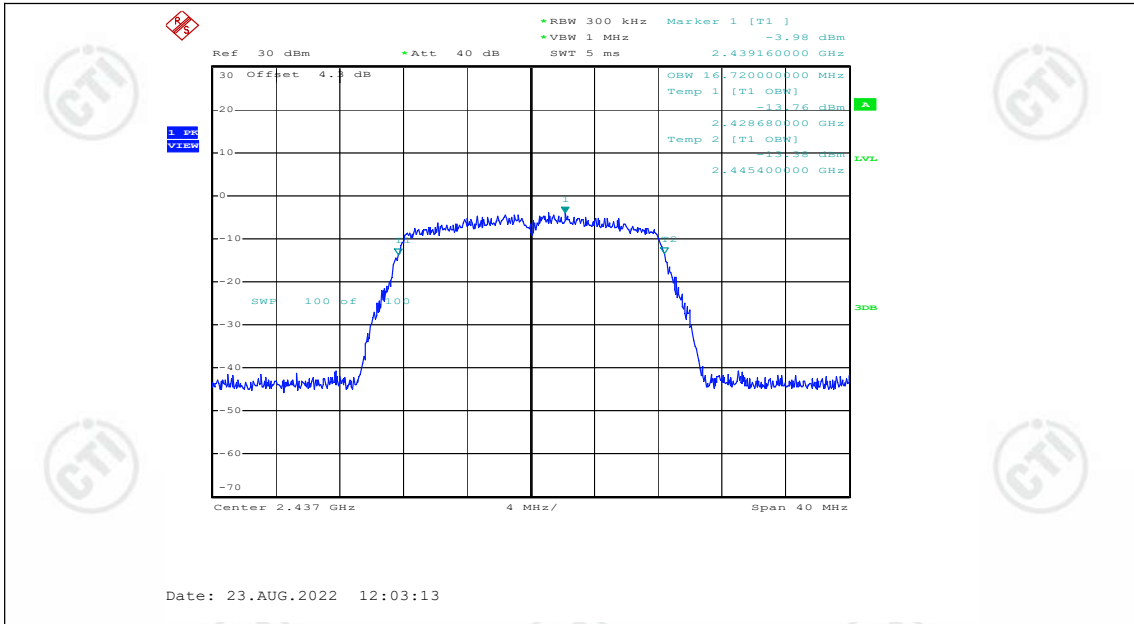
11B\_Ant1\_2437



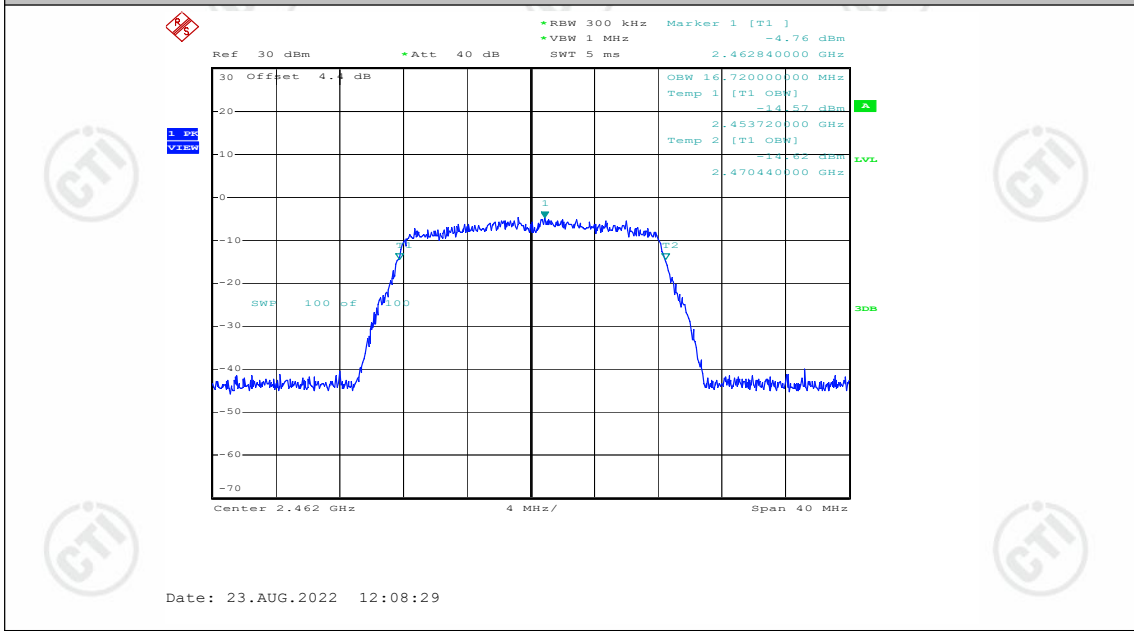
11B\_Ant1\_2462



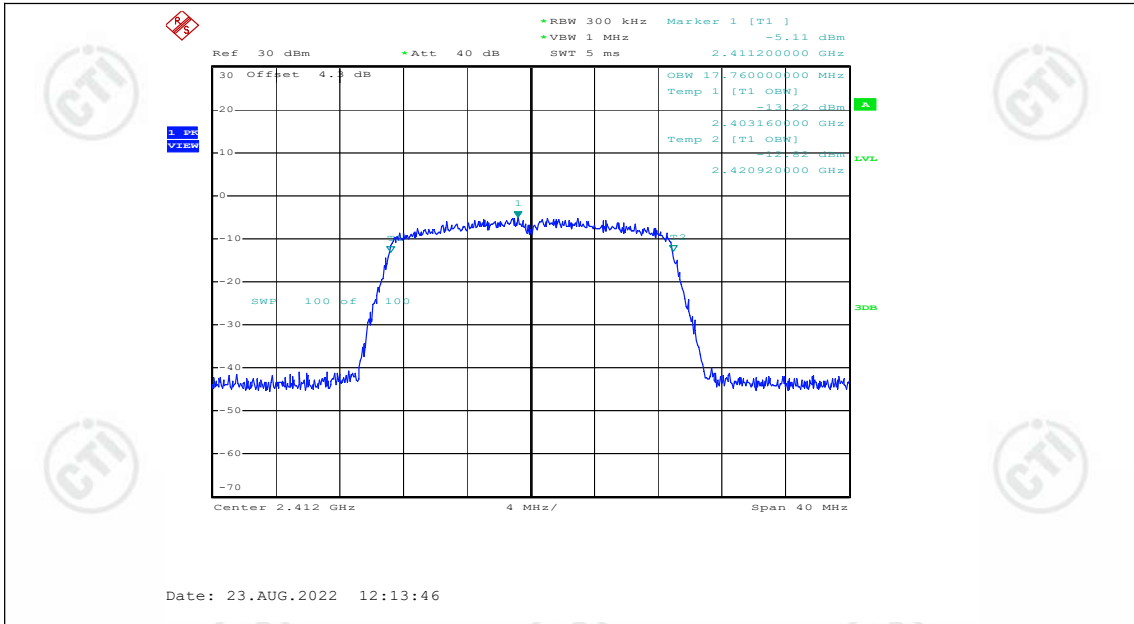
11G\_Ant1\_2412



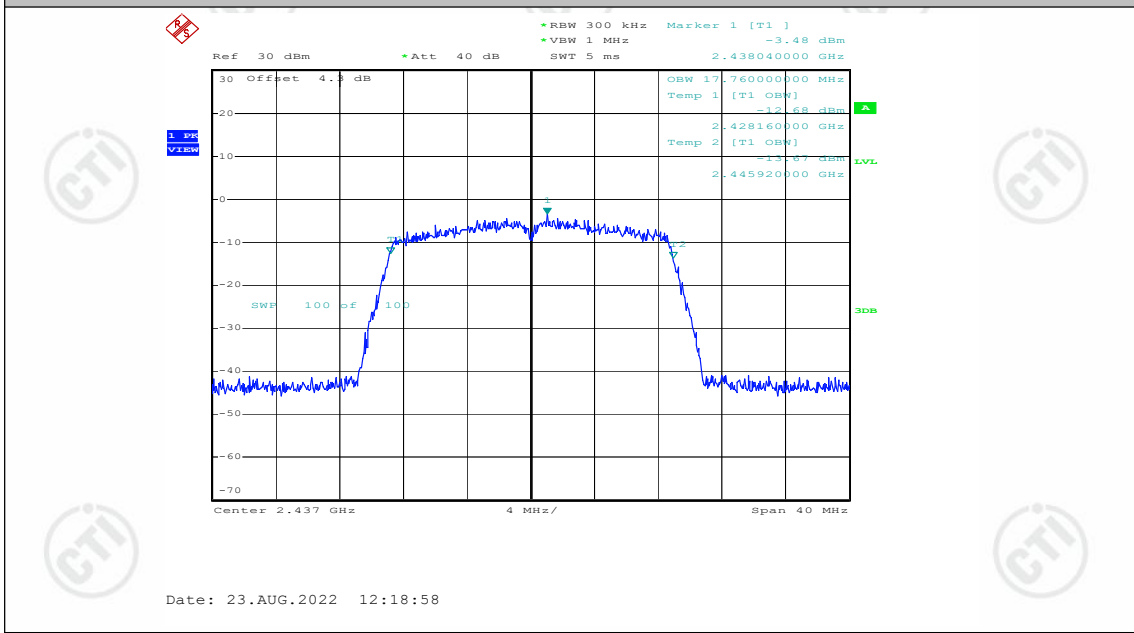
11G\_Ant1\_2437



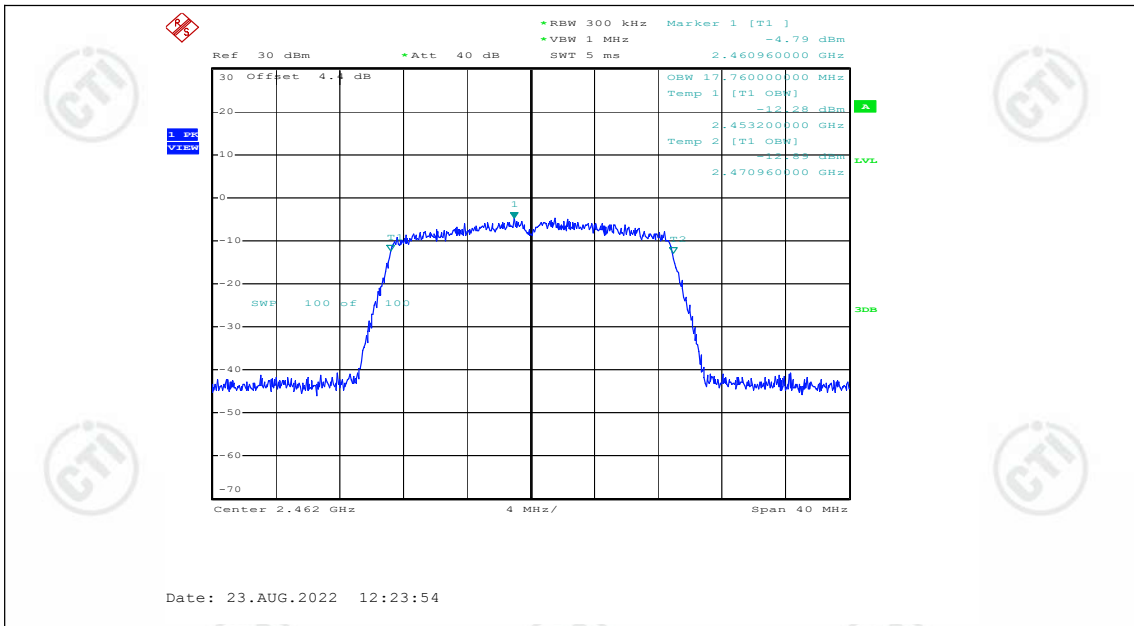
11G\_Ant1\_2462



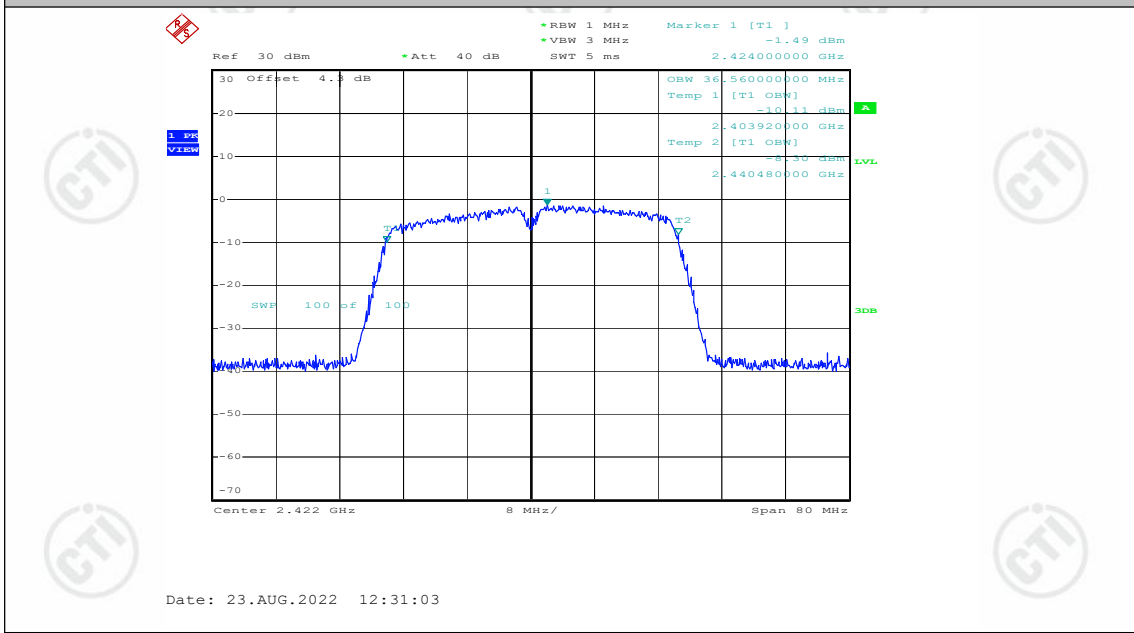
11N20SISO\_Ant1\_2412



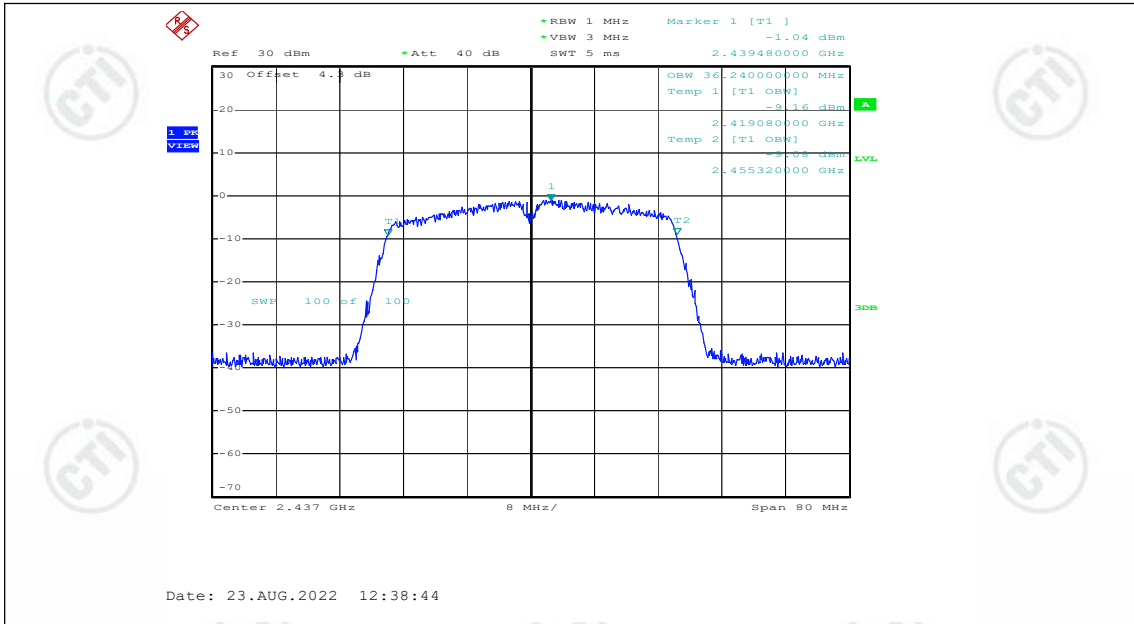
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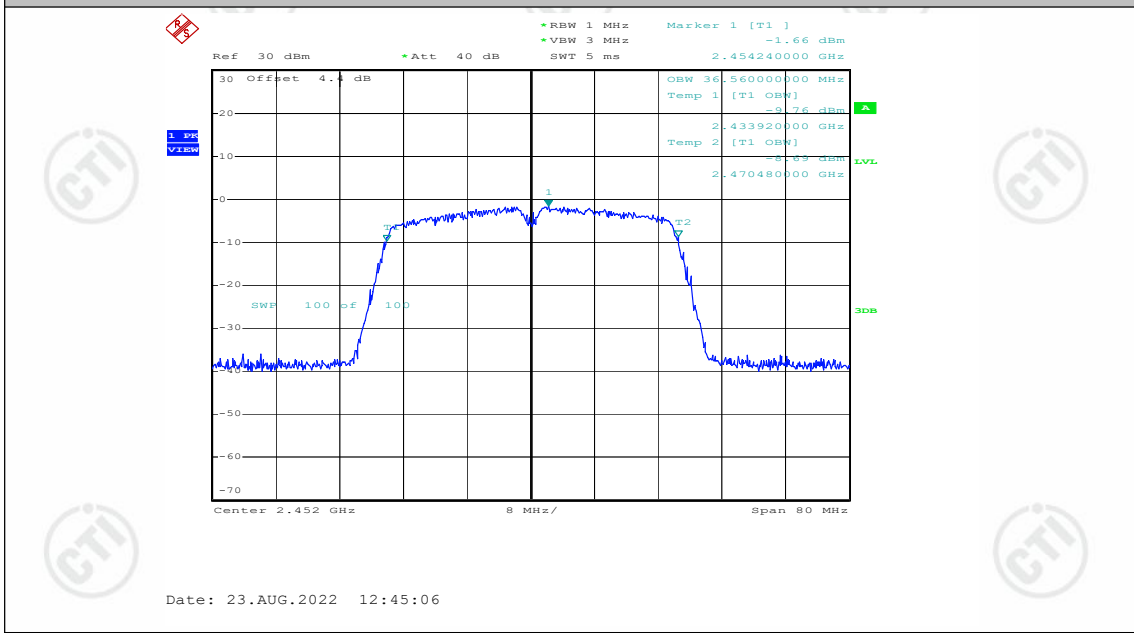
11N20SISO\_Ant1\_2462



11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



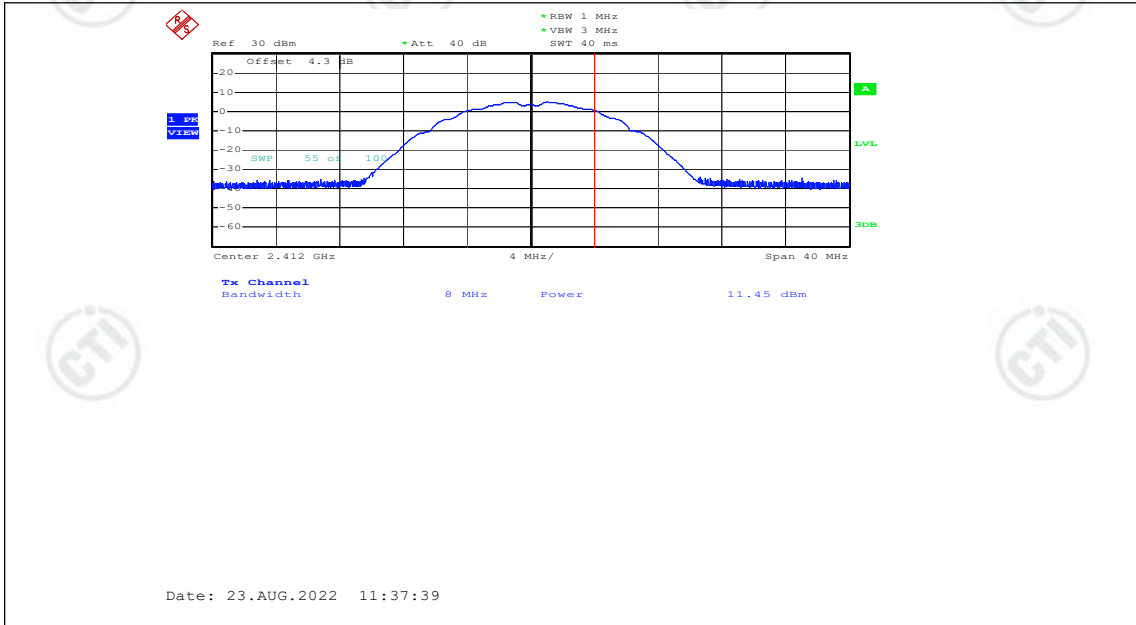
11N40SISO\_Ant1\_2452



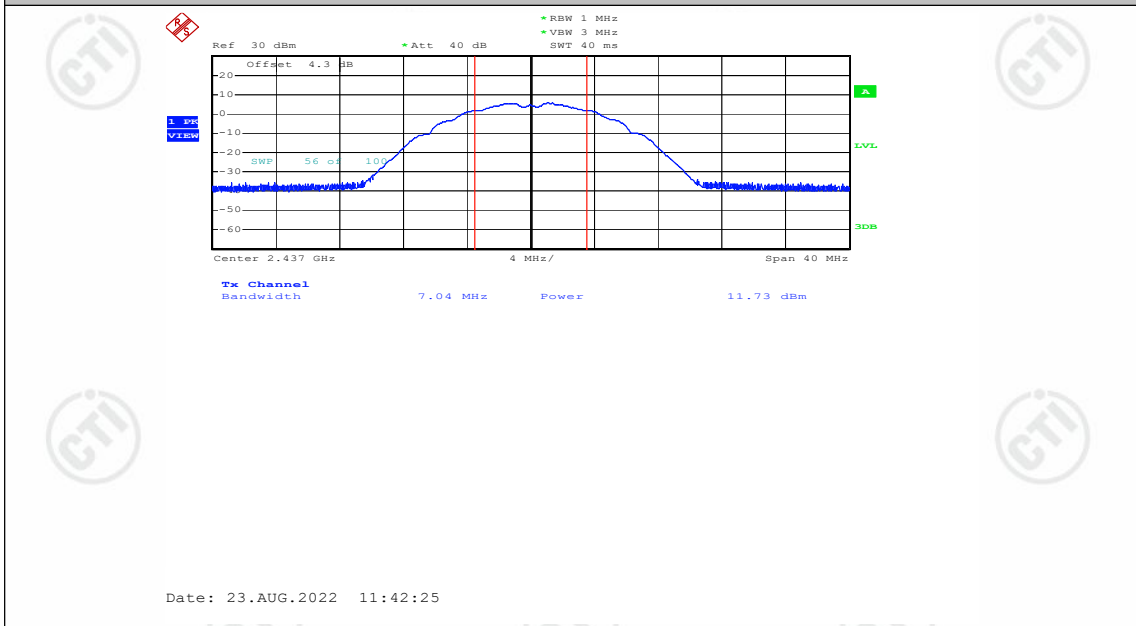
## Appendix C: Maximum conducted output power

### Test Result

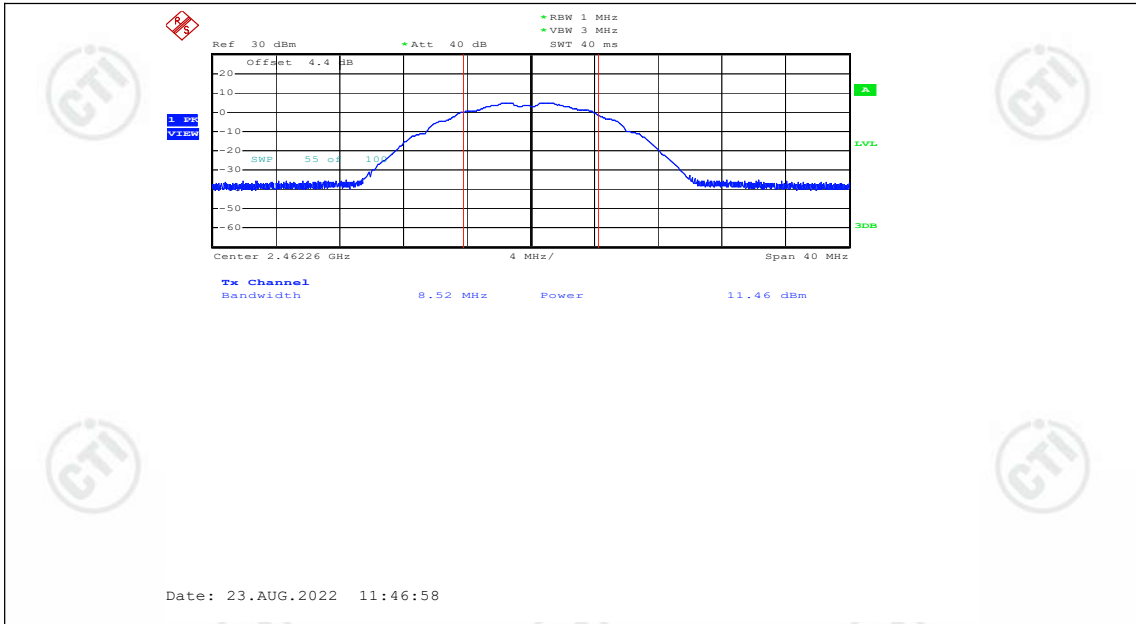
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	11.45	≤30.00	PASS
		2437	11.73	≤30.00	PASS
		2462	11.46	≤30.00	PASS
11G	Ant1	2412	10.39	≤30.00	PASS
		2437	10.68	≤30.00	PASS
		2462	10.21	≤30.00	PASS
11N20SISO	Ant1	2412	10.18	≤30.00	PASS
		2437	10.56	≤30.00	PASS
		2462	10.18	≤30.00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



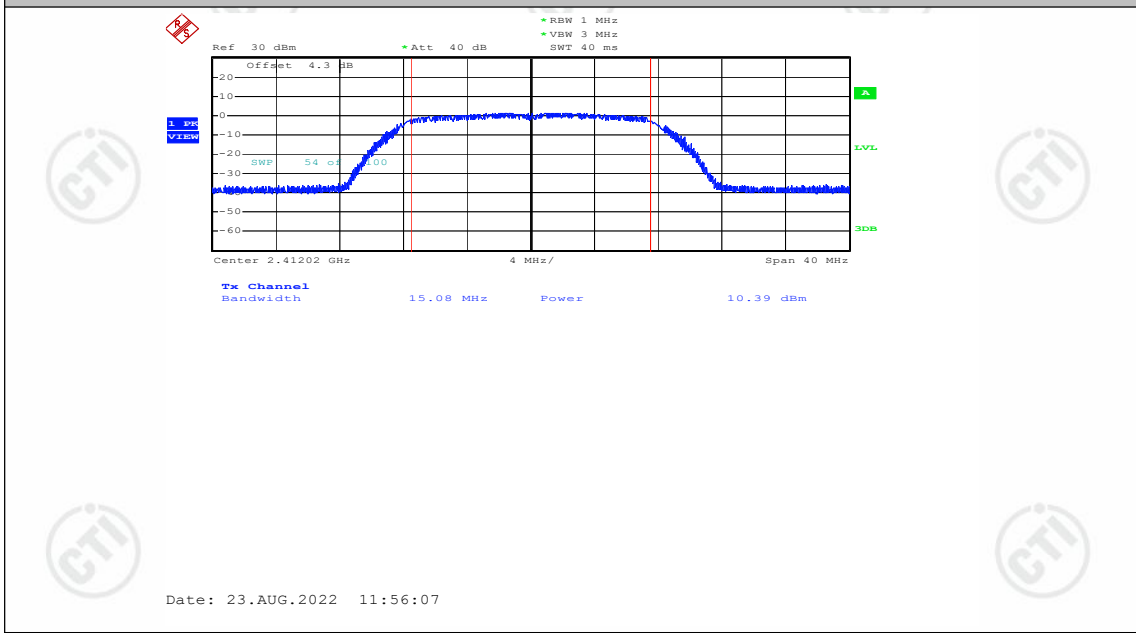
### 11B\_Ant1\_2412



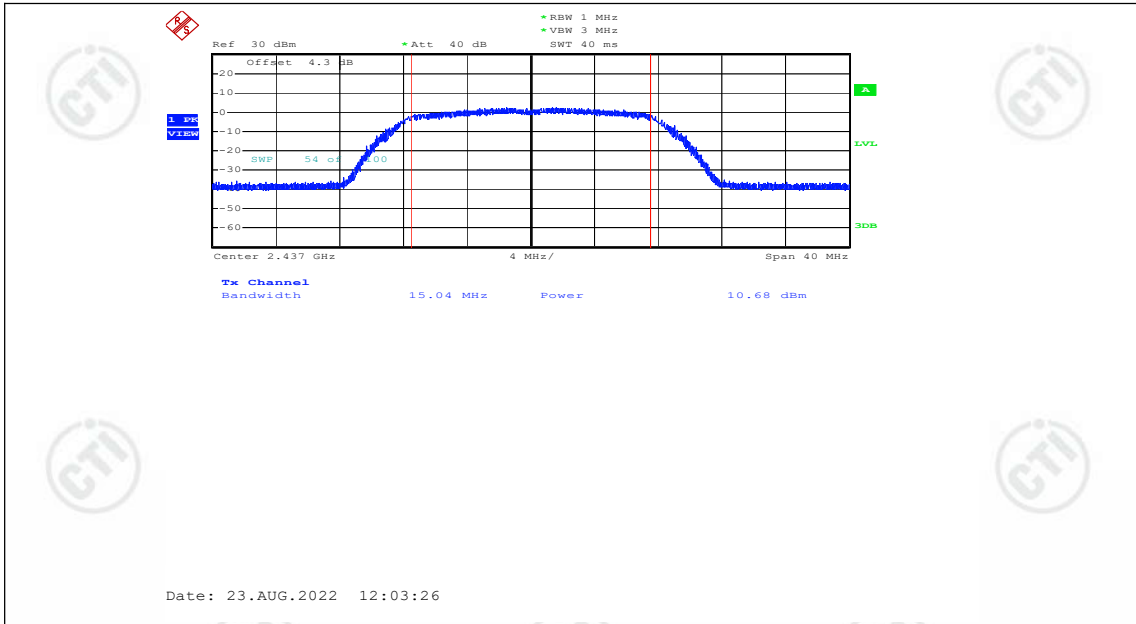
### 11B\_Ant1\_2437



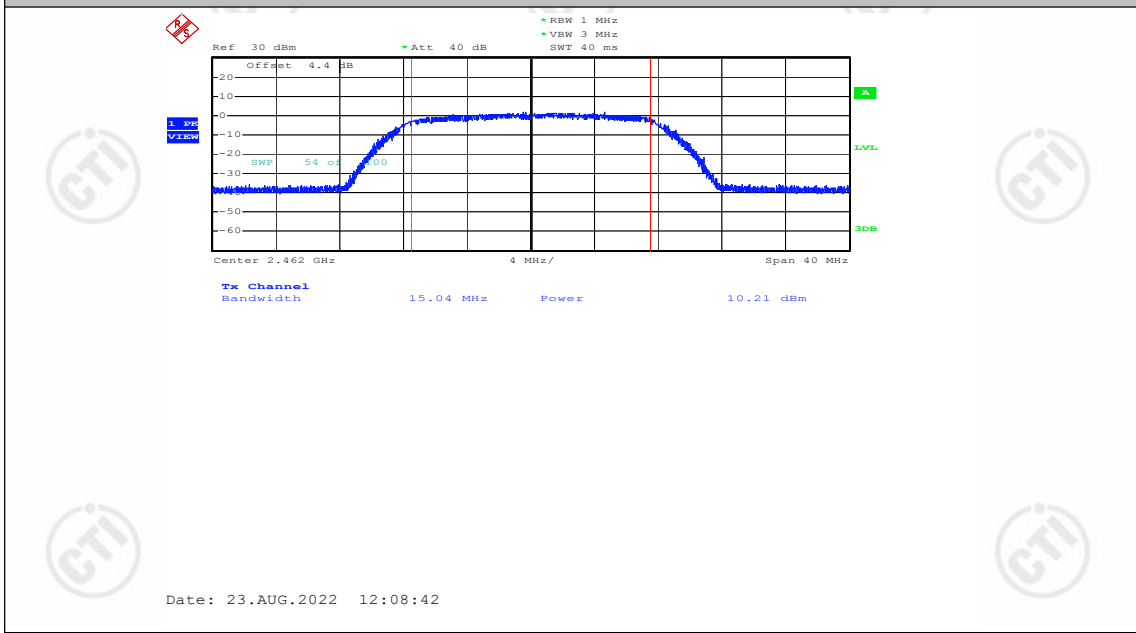
11B\_Ant1\_2462



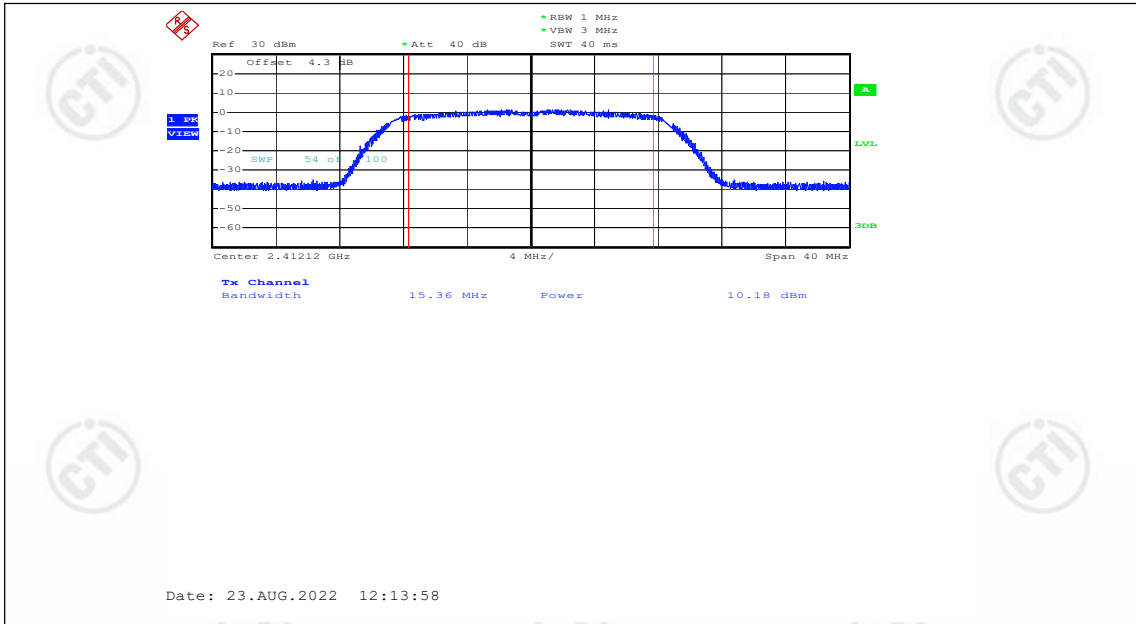
11G\_Ant1\_2412



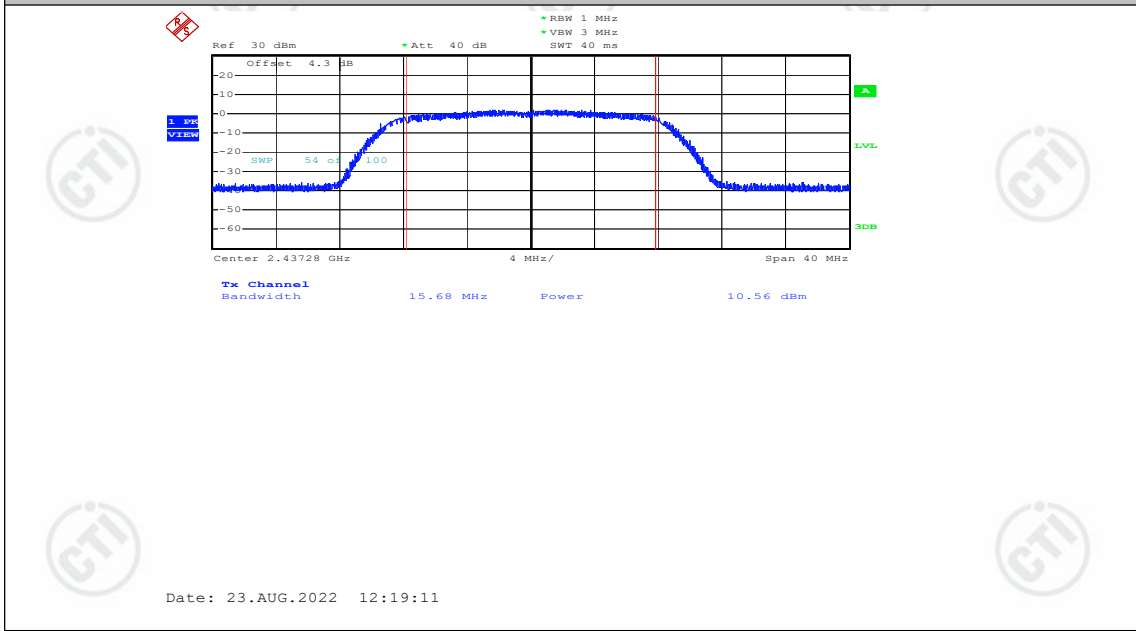
11G\_Ant1\_2437



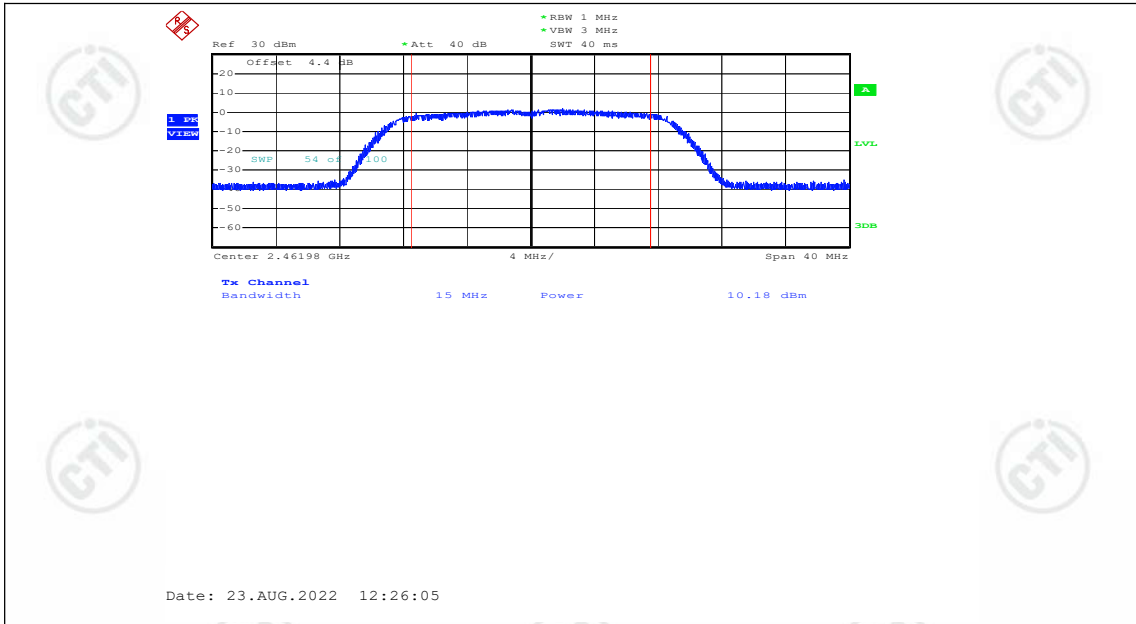
11G\_Ant1\_2462



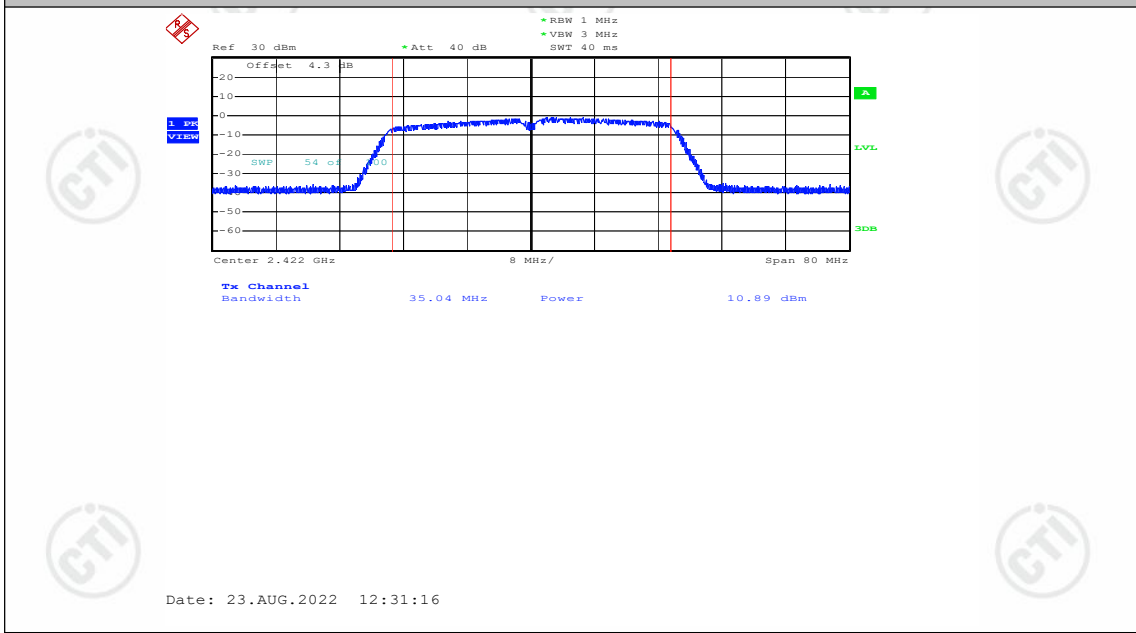
11N20SISO\_Ant1\_2412



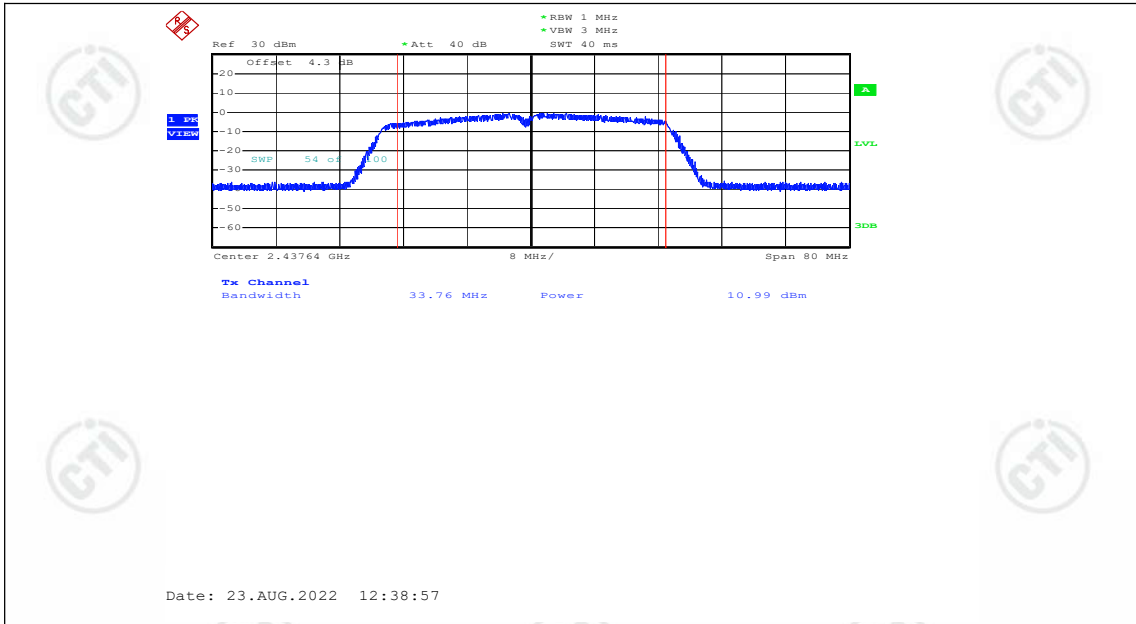
11N20SISO\_Ant1\_2437



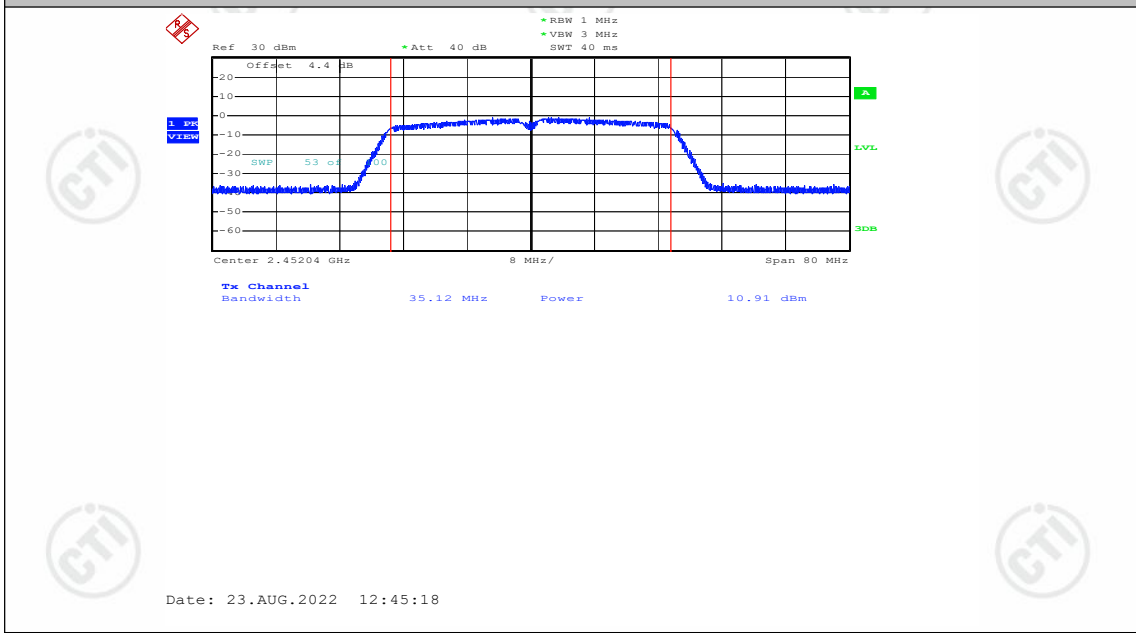
11N20SISO\_Ant1\_2462



11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



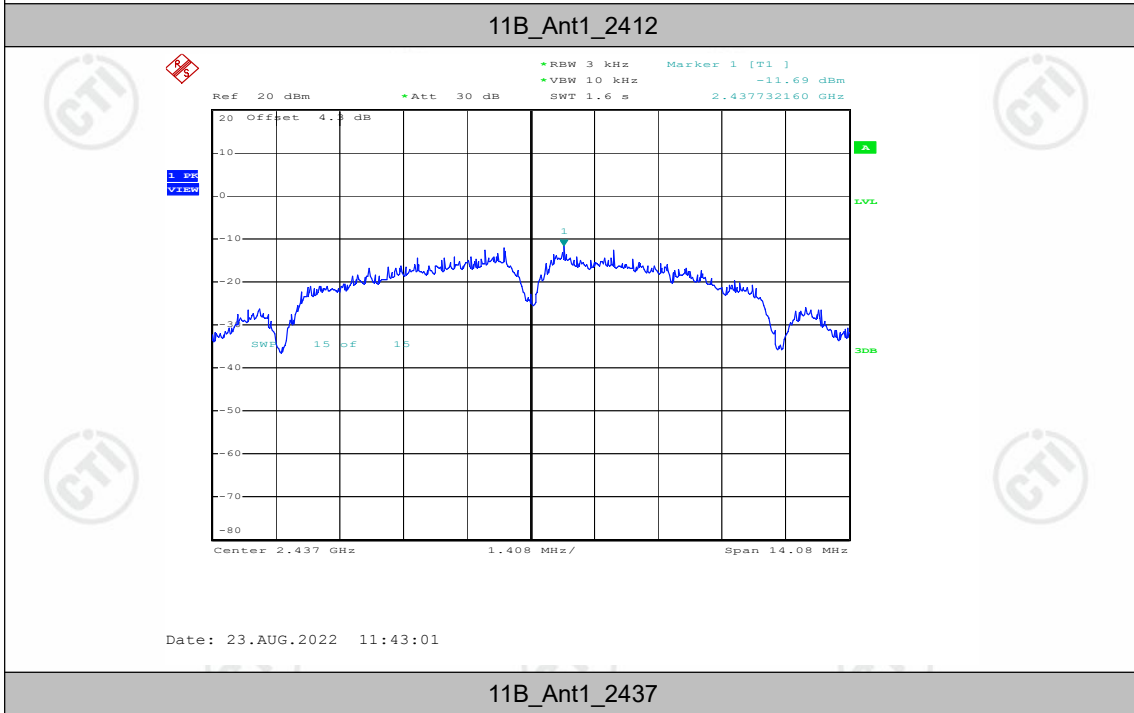
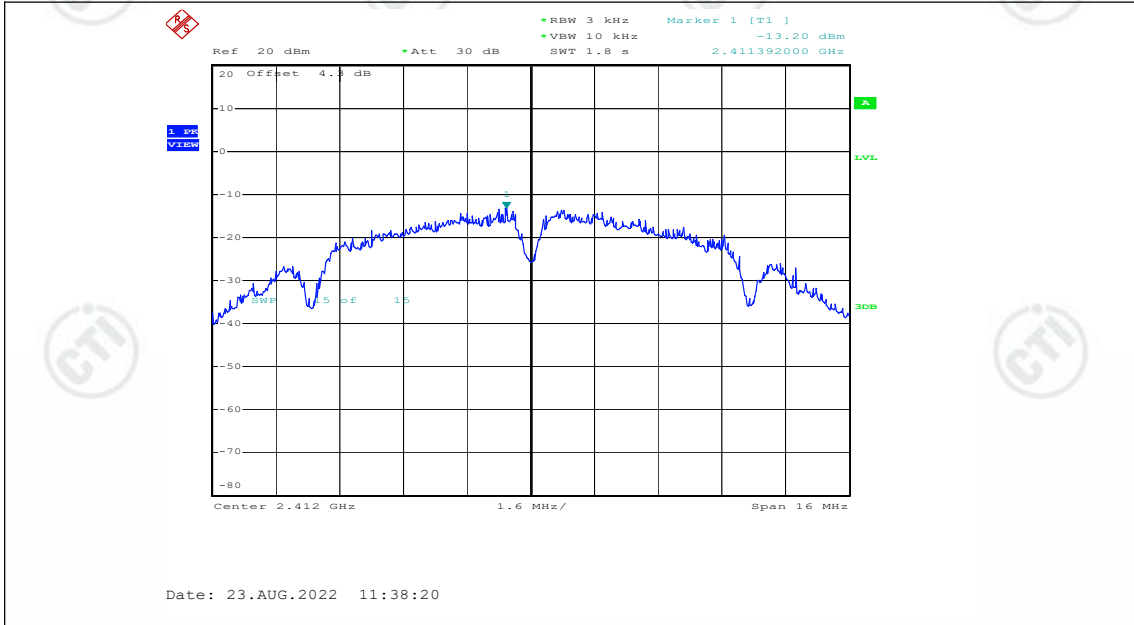
11N40SISO\_Ant1\_2452

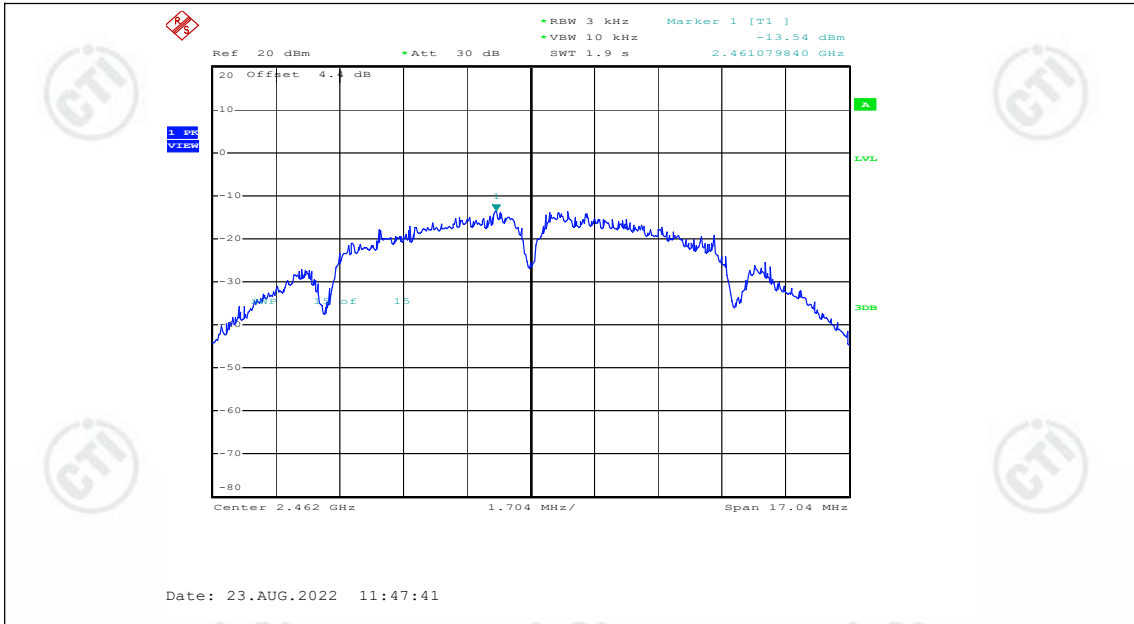
**Appendix D: Maximum power spectral density****Test Result**

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

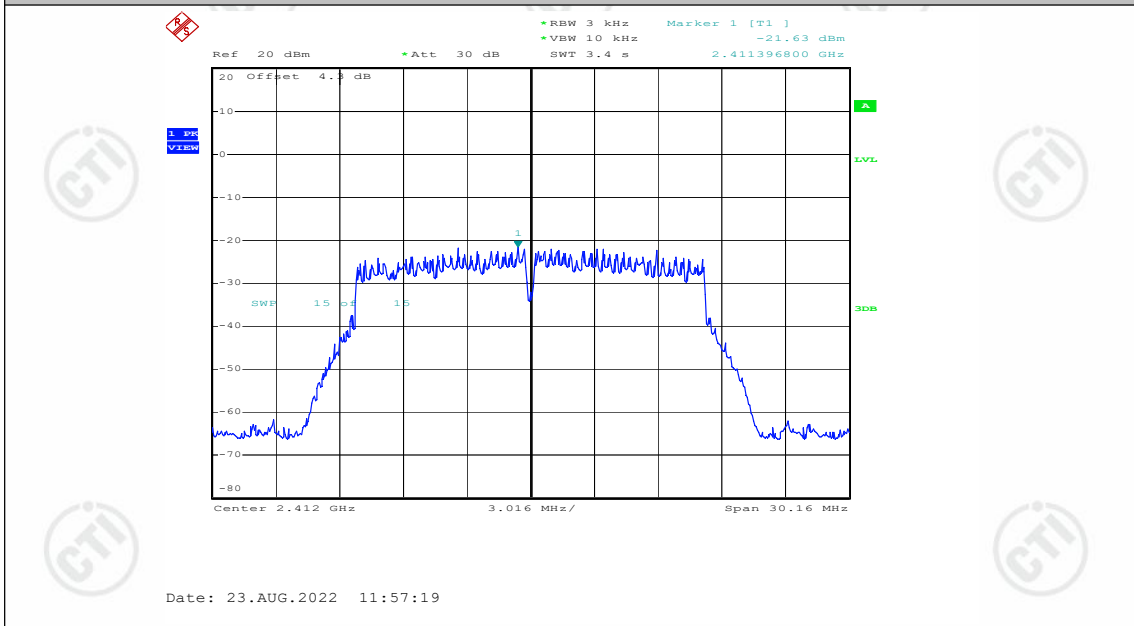


## Test Graphs

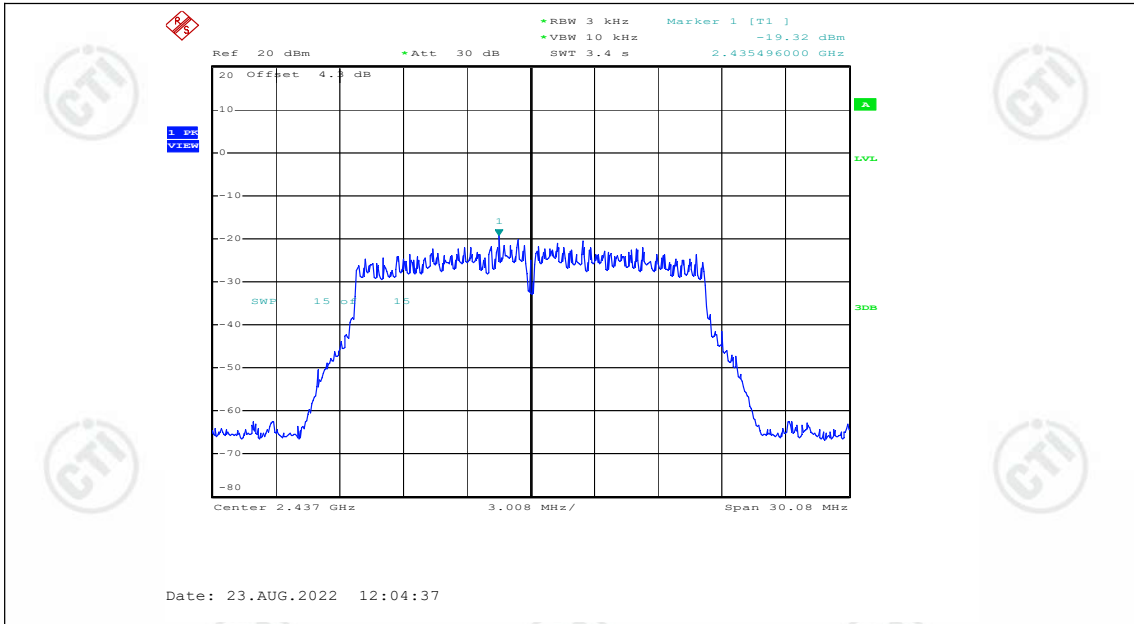




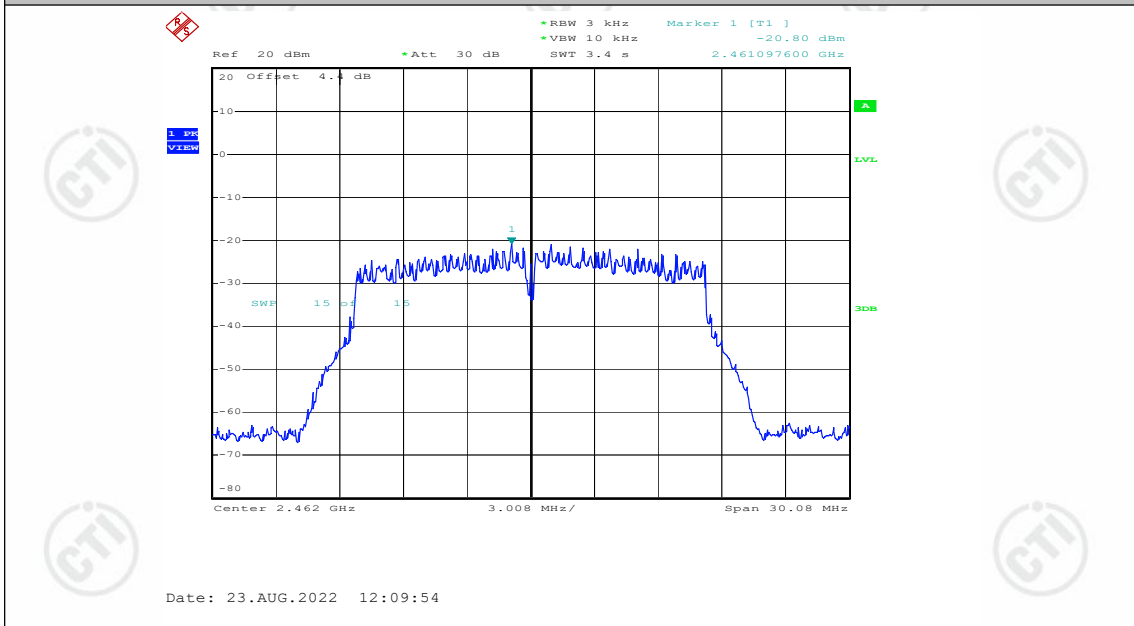
11B\_Ant1\_2462



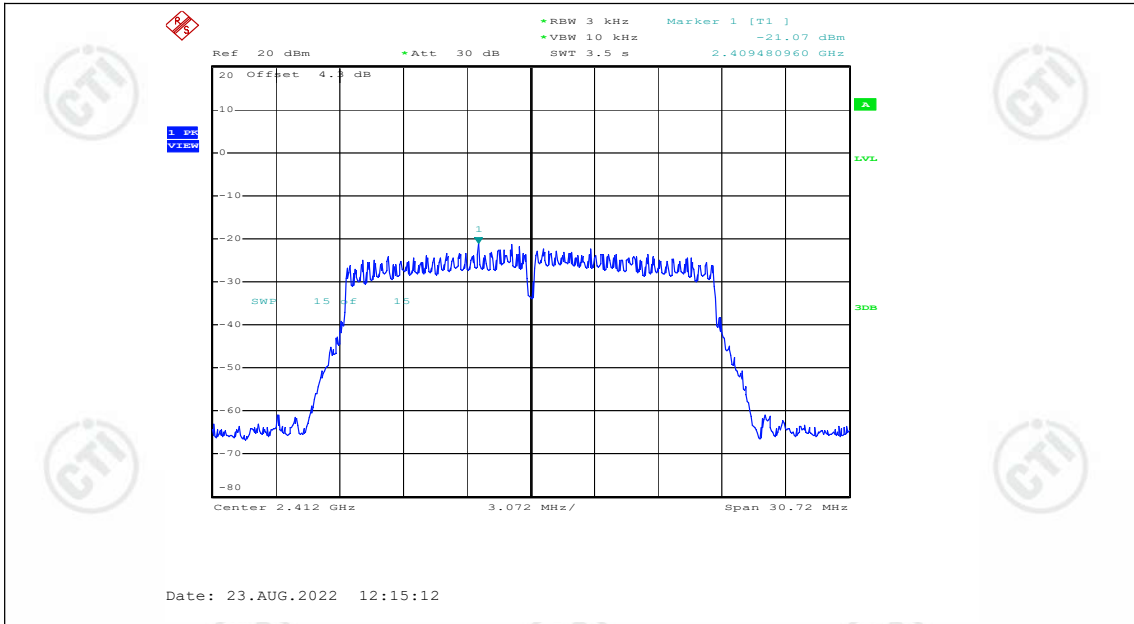
11G\_Ant1\_2412



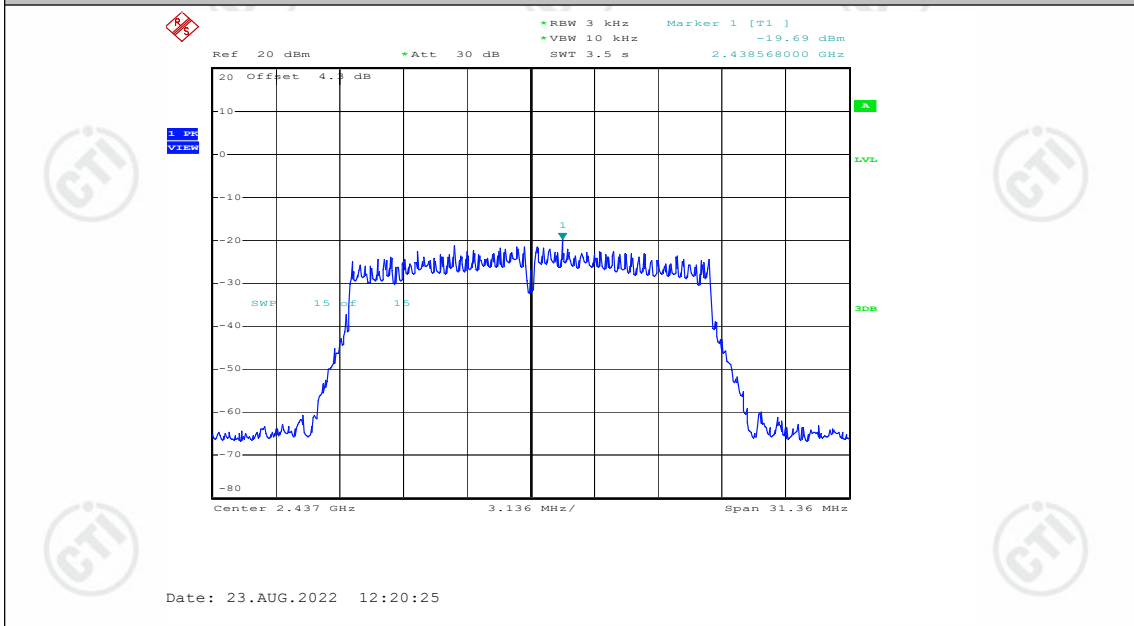
11G\_Ant1\_2437



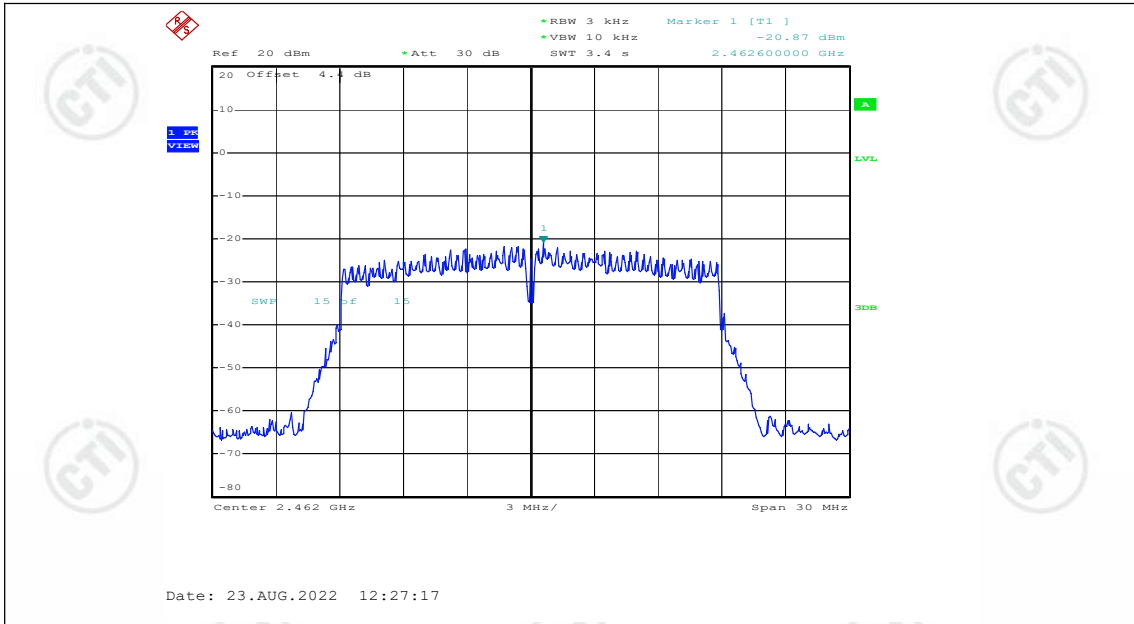
11G\_Ant1\_2462



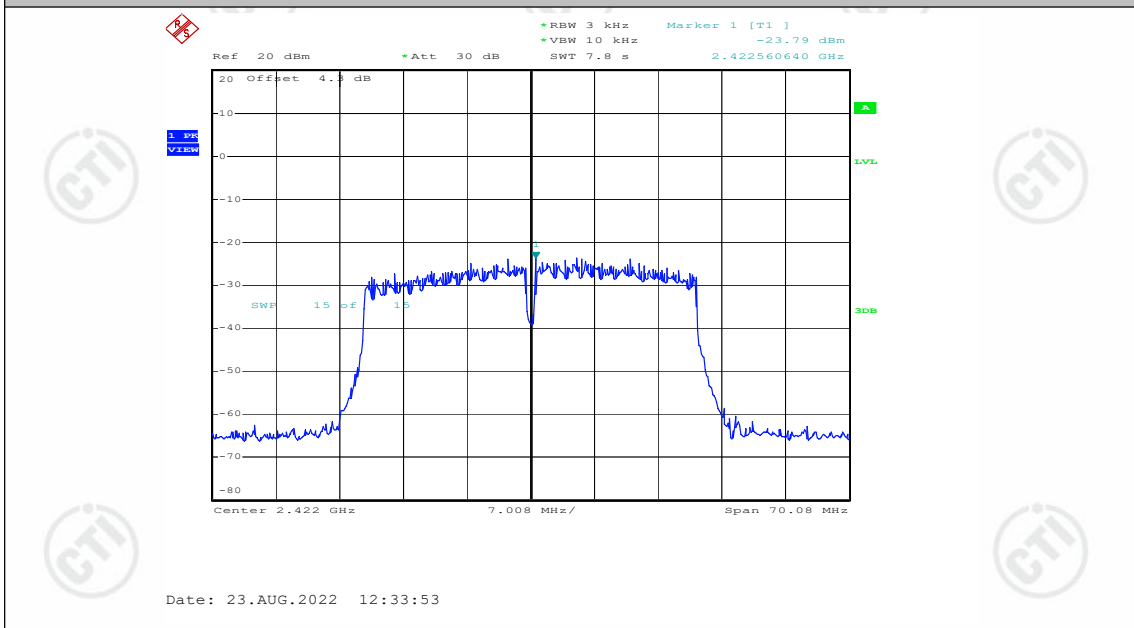
11N20SISO\_Ant1\_2412



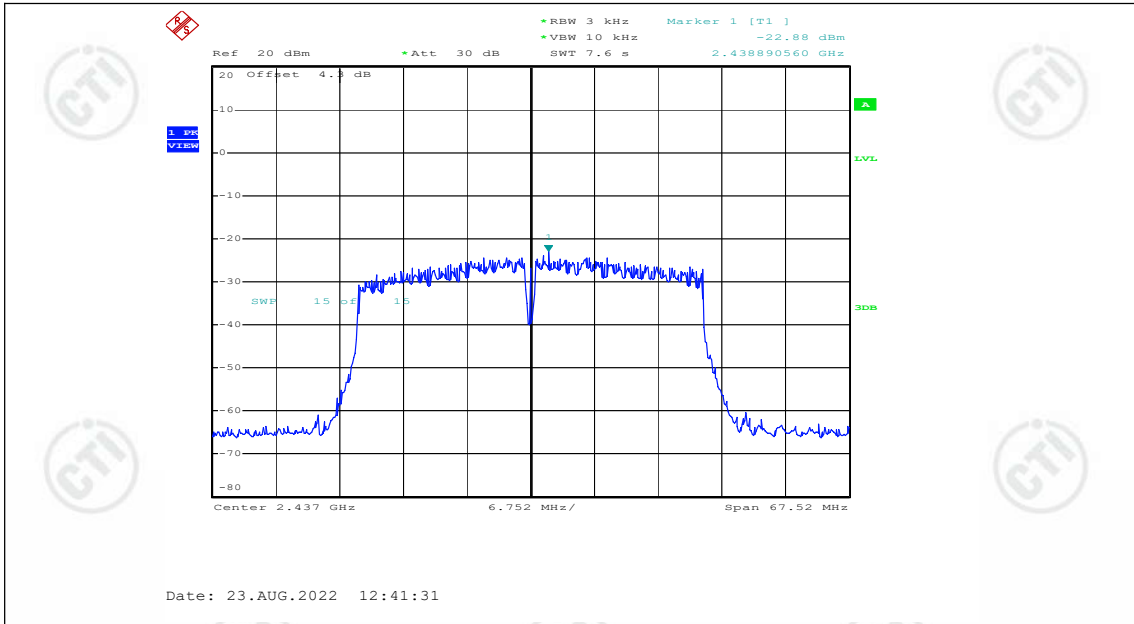
11N20SISO\_Ant1\_2437



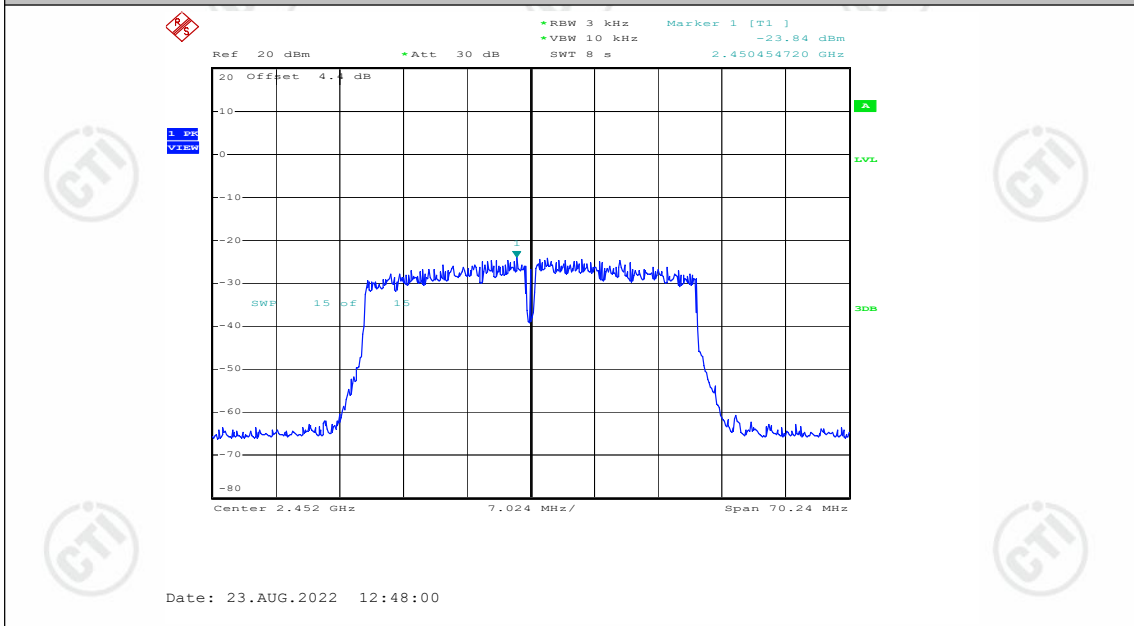
11N20SISO\_Ant1\_2462



11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437



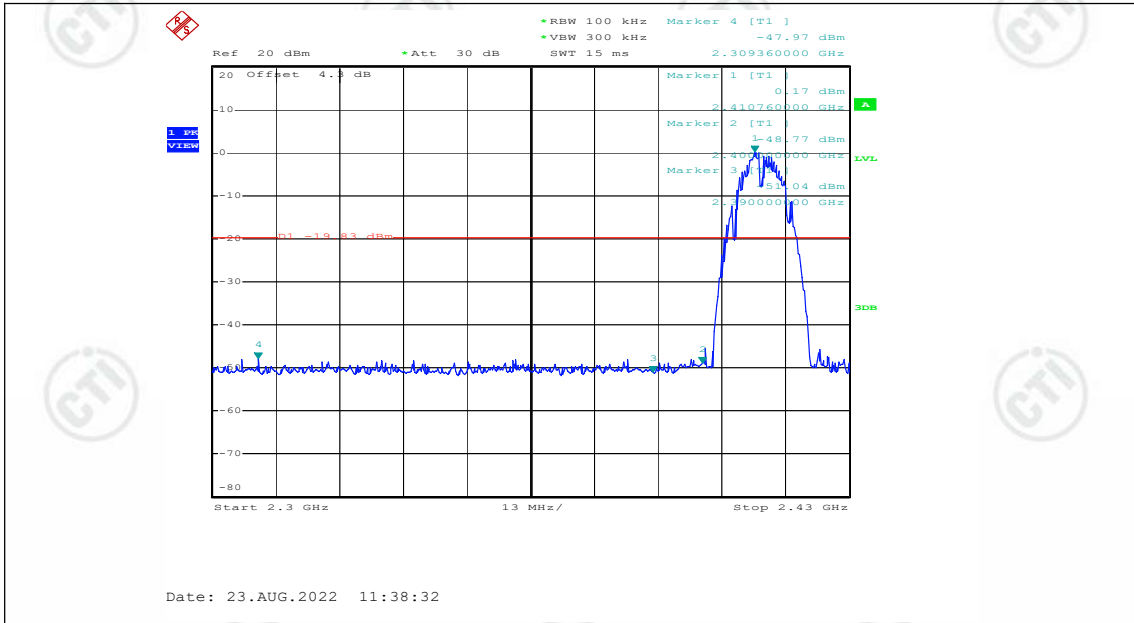
11N40SISO\_Ant1\_2452

## Appendix E:Band edge measurements

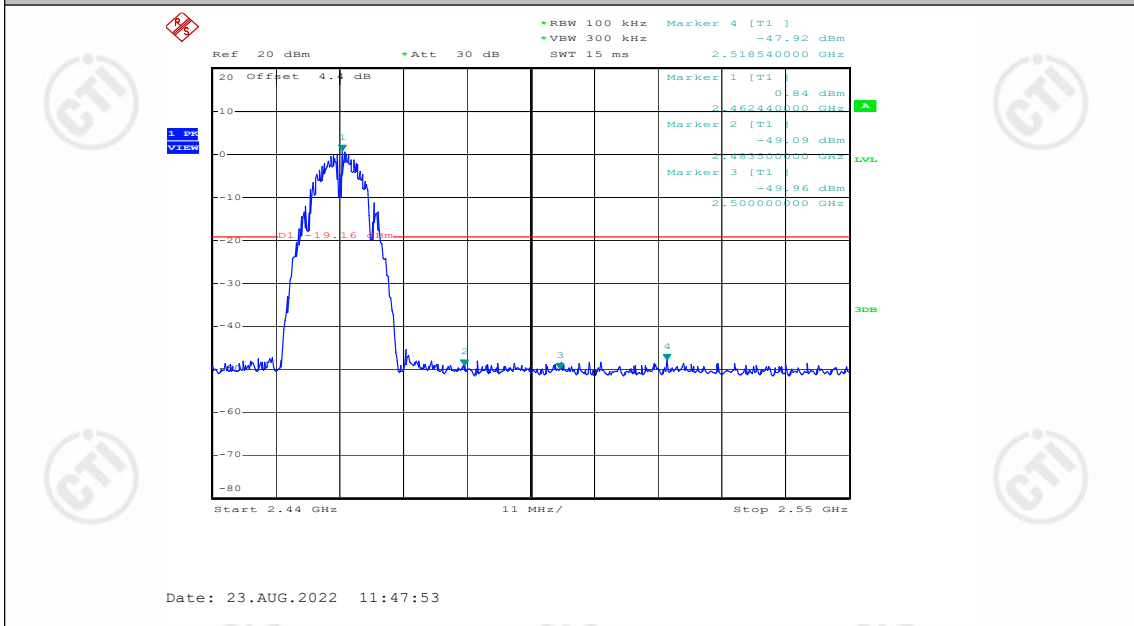
### Test Result

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

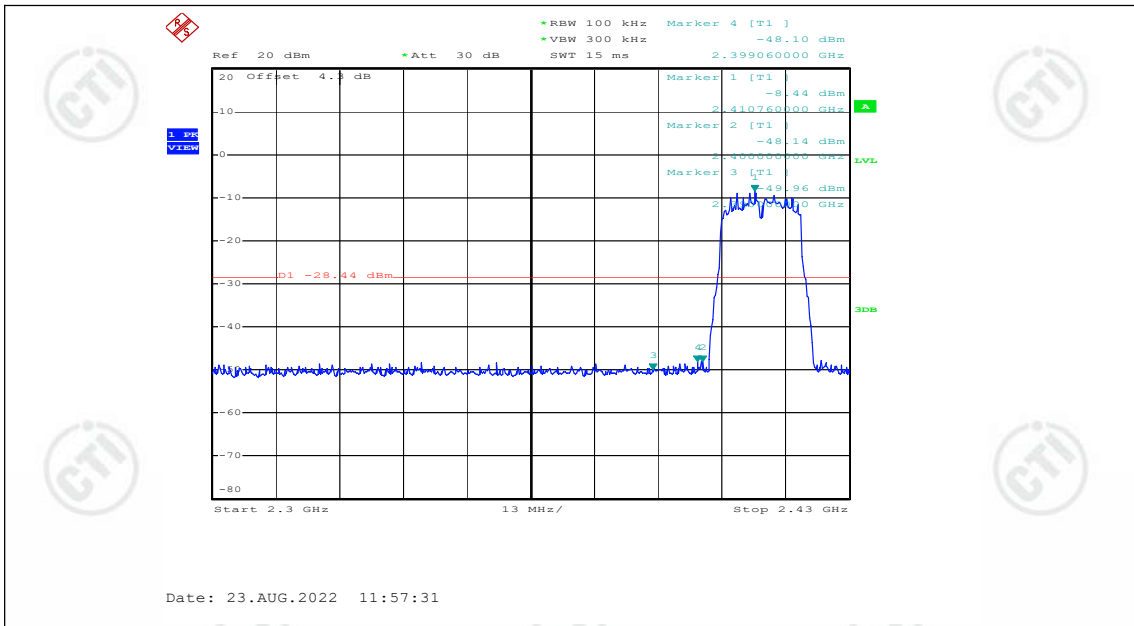


11B\_Ant1\_Low\_2412

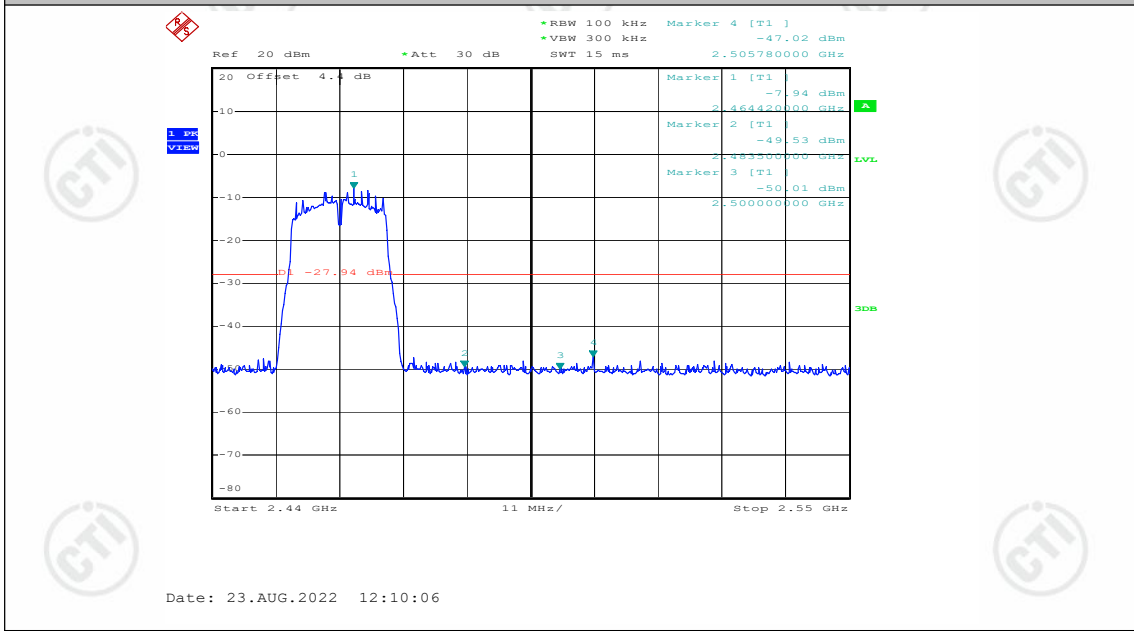


11B\_Ant1\_High\_2462

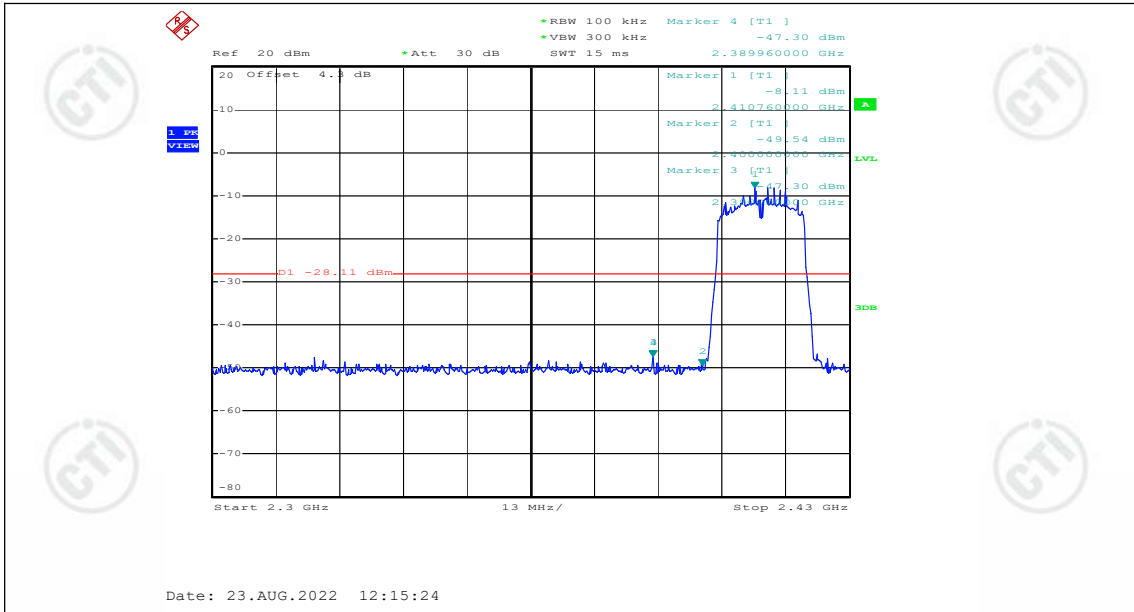




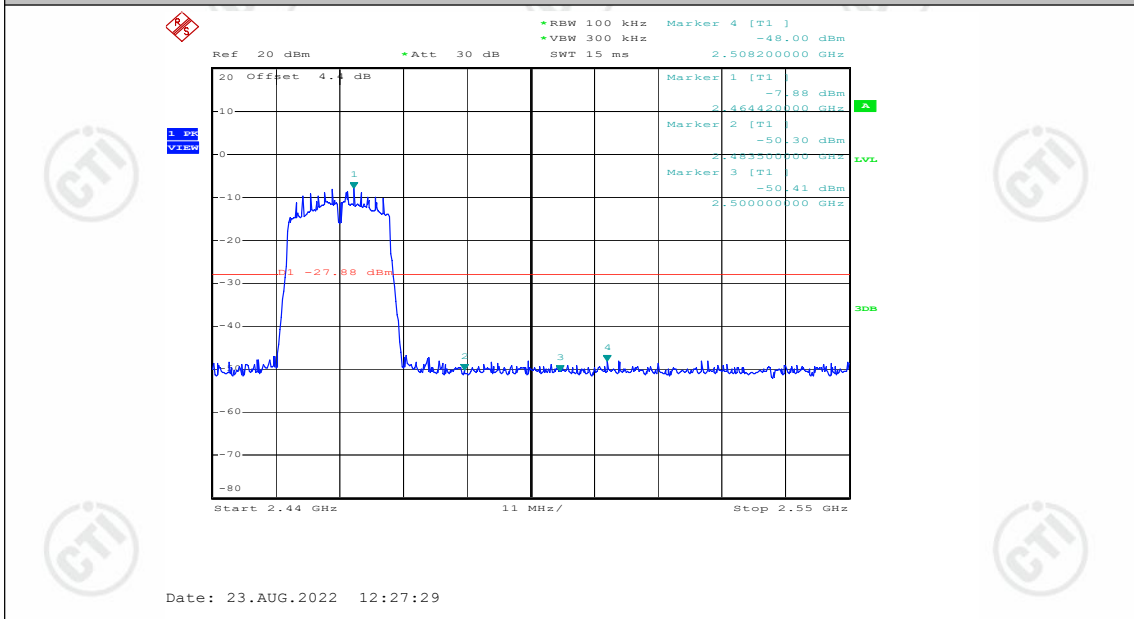
### 11G\_Ant1\_Low\_2412



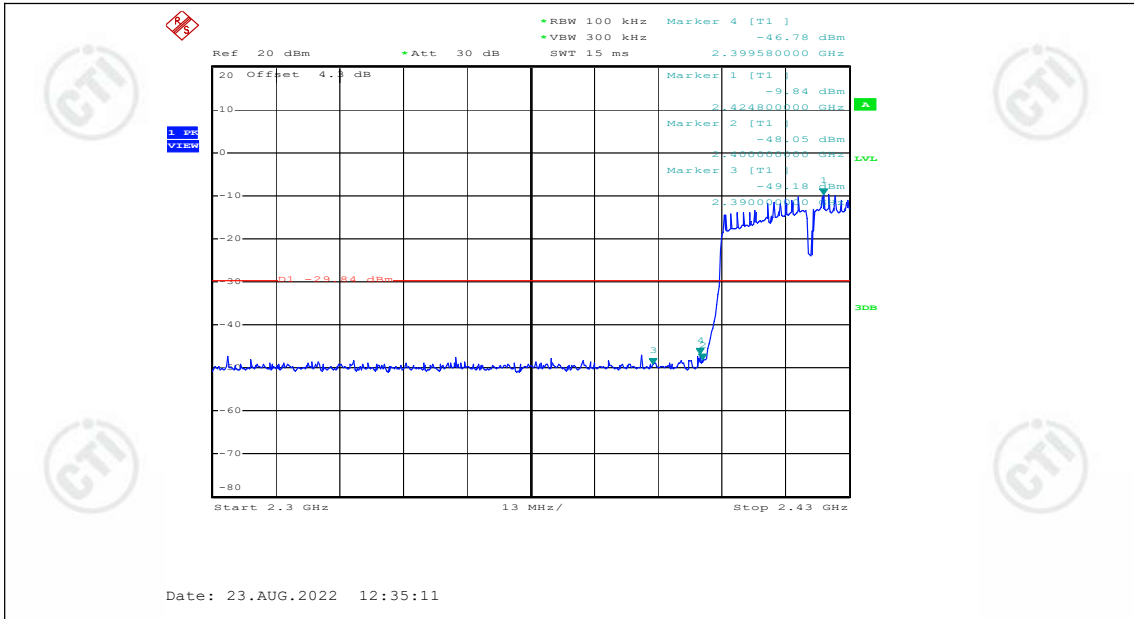
### 11G\_Ant1\_High\_2462



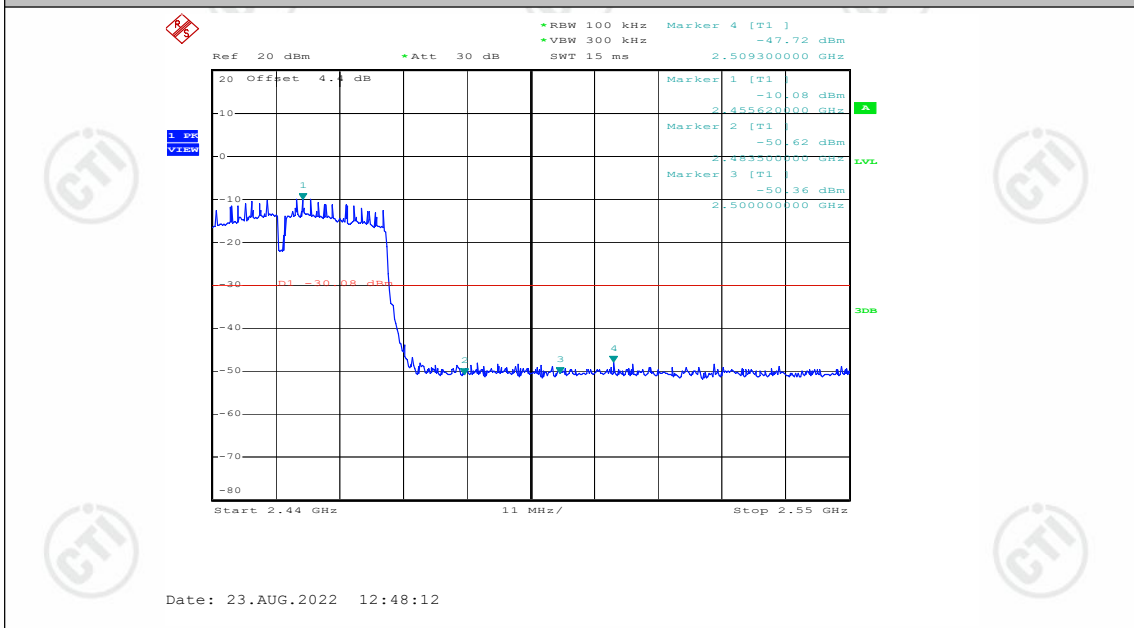
11N20SISO\_Ant1\_Low\_2412



11N20SISO\_Ant1\_High\_2462



11N40SISO\_Ant1\_Low\_2422



11N40SISO\_Ant1\_High\_2452

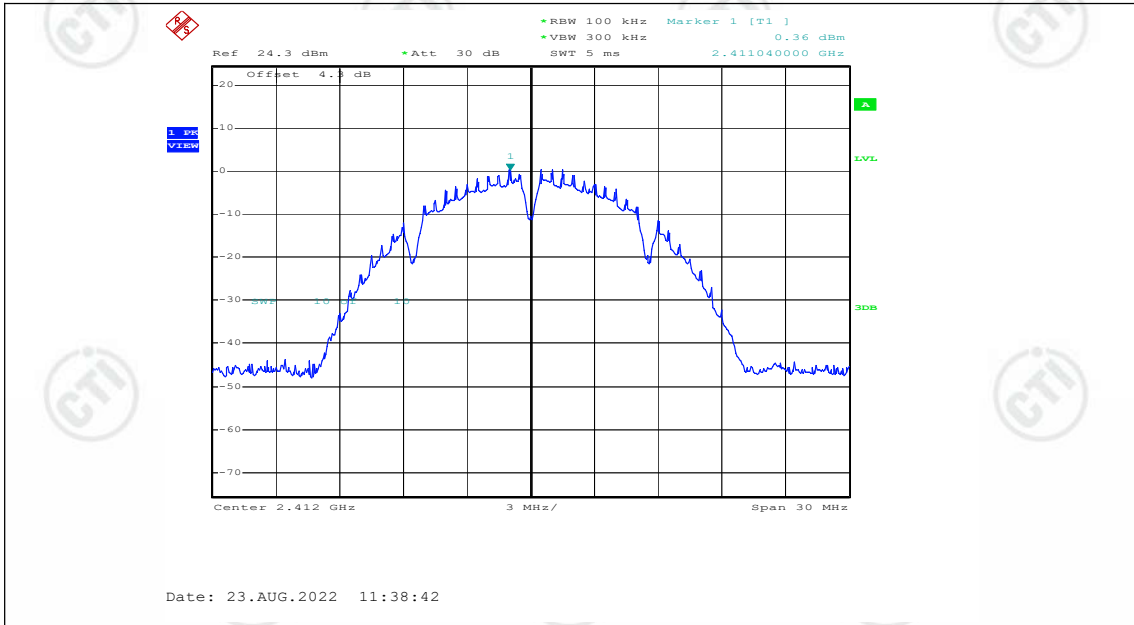
## Appendix F: Conducted Spurious Emission

### Test Result

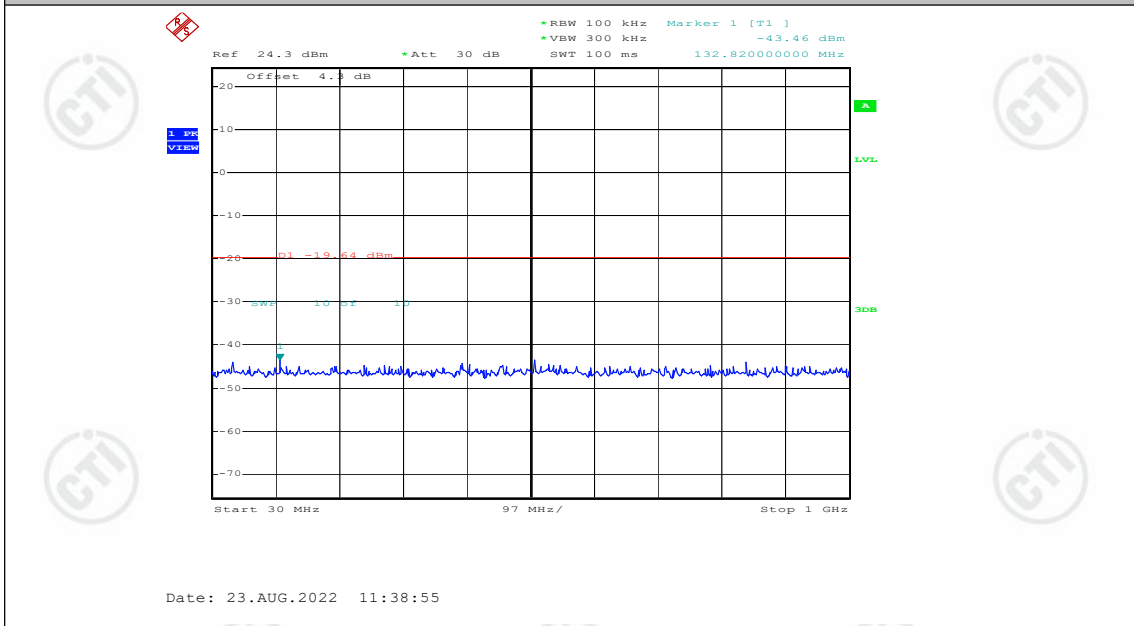
Test Mode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.36	0.36	---	PASS
			30~1000	0.36	-43.46	≤-19.64	PASS
			1000~26500	0.36	-46.13	≤-19.64	PASS
		2437	Reference	0.74	0.74	---	PASS
			30~1000	0.74	-44.05	≤-19.26	PASS
			1000~26500	0.74	-46.55	≤-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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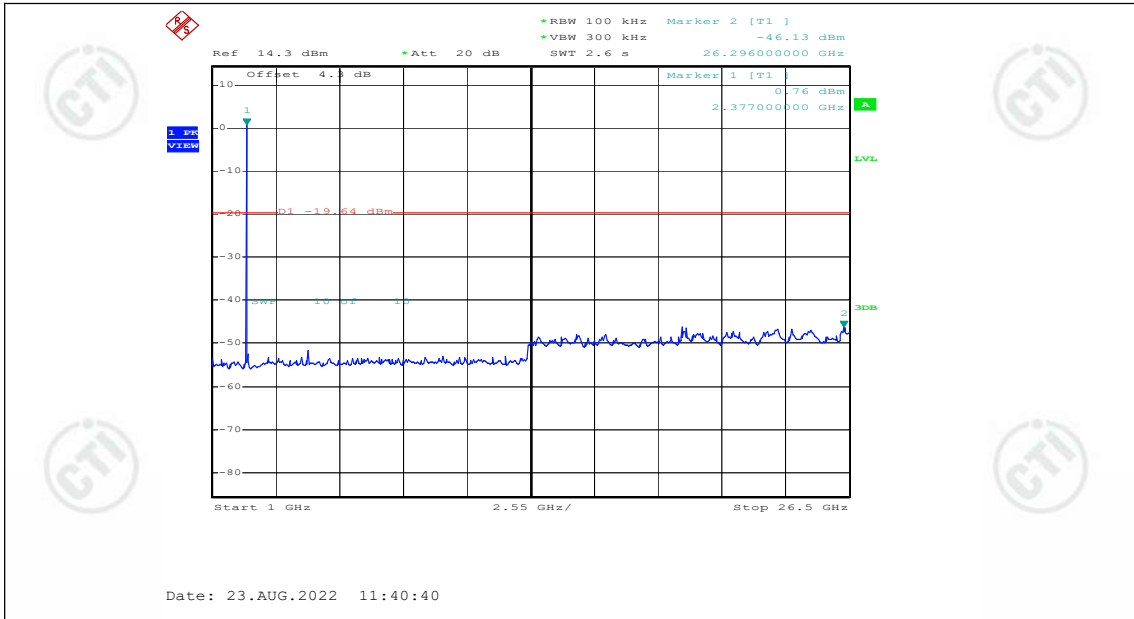
## Test Graphs



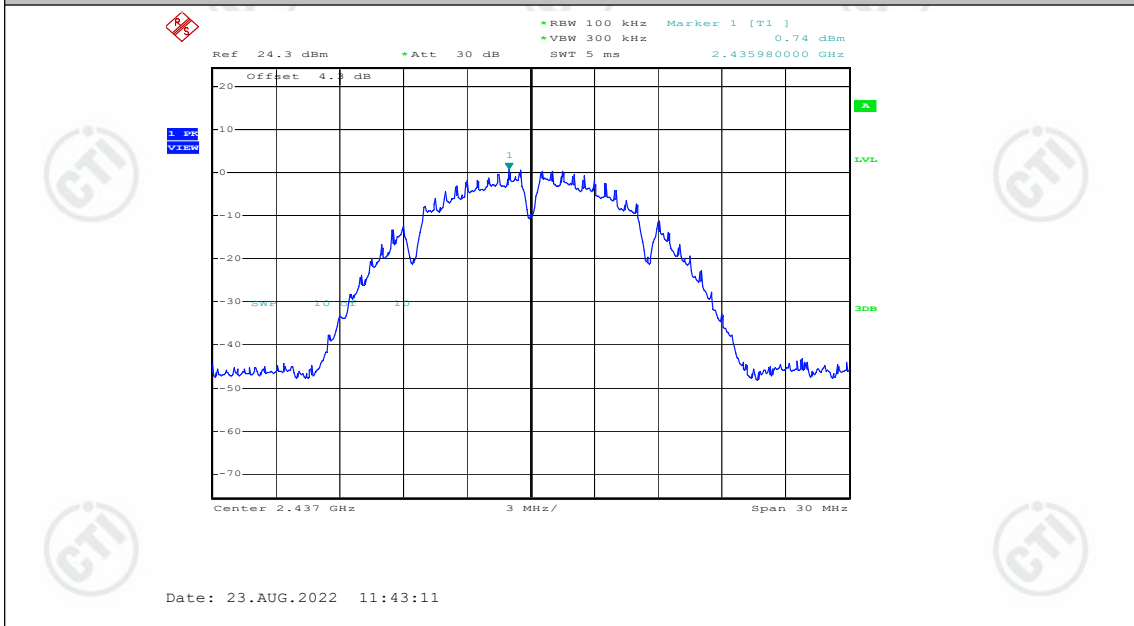
11B\_Ant1\_2412\_0~Reference



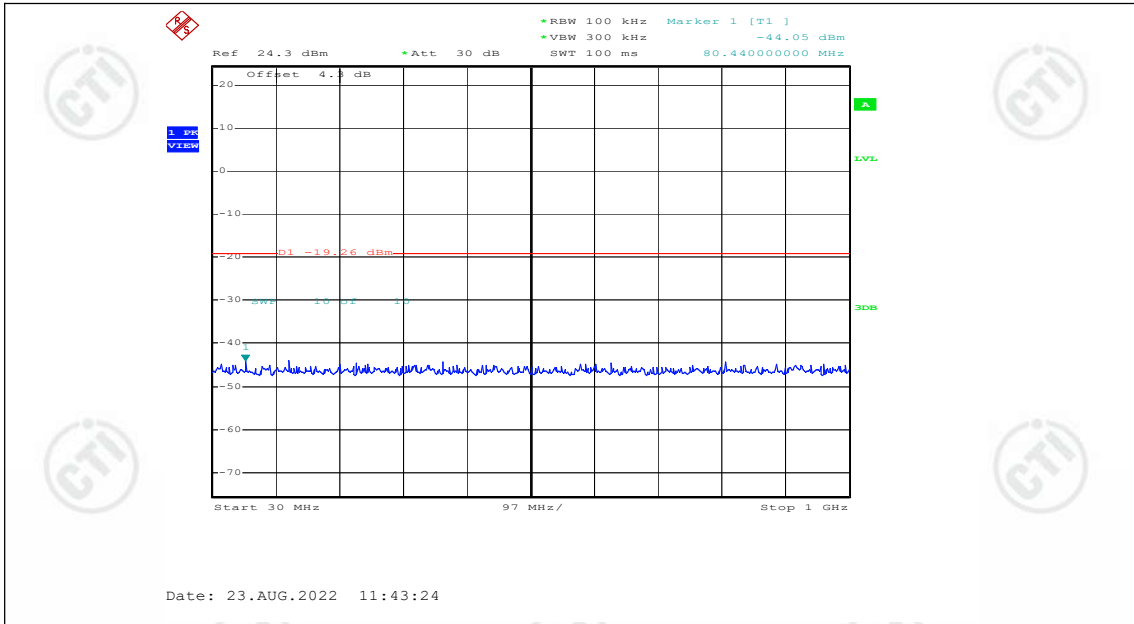
11B\_Ant1\_2412\_30~1000



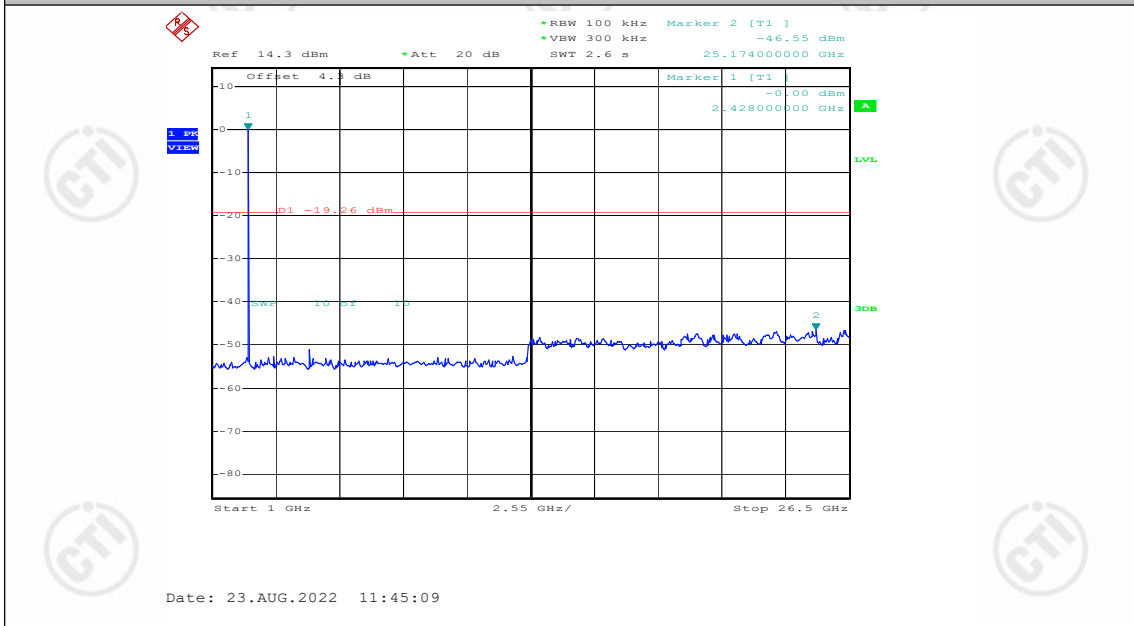
11B\_Ant1\_2412\_1000~26500



11B\_Ant1\_2437\_0~Reference

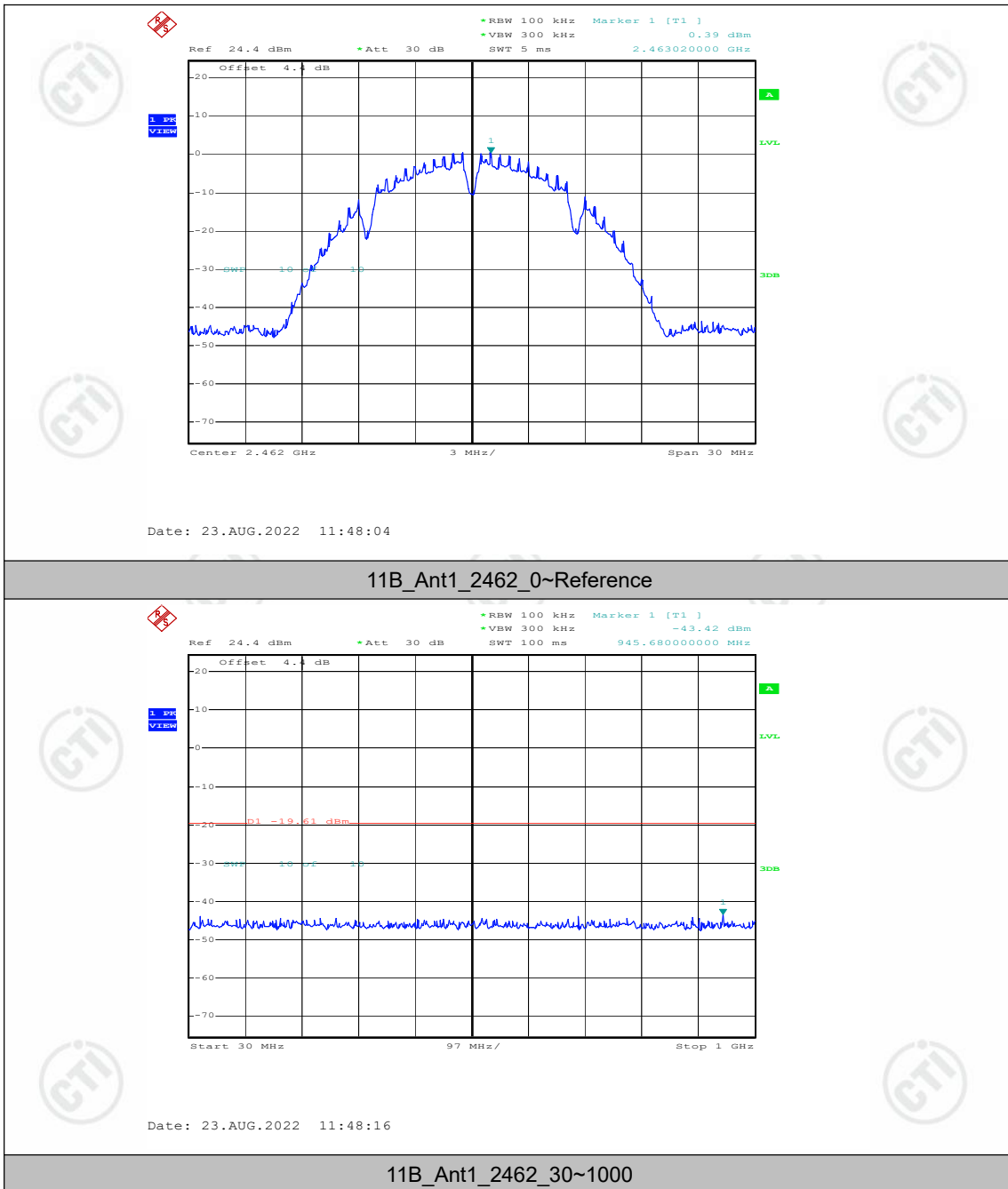


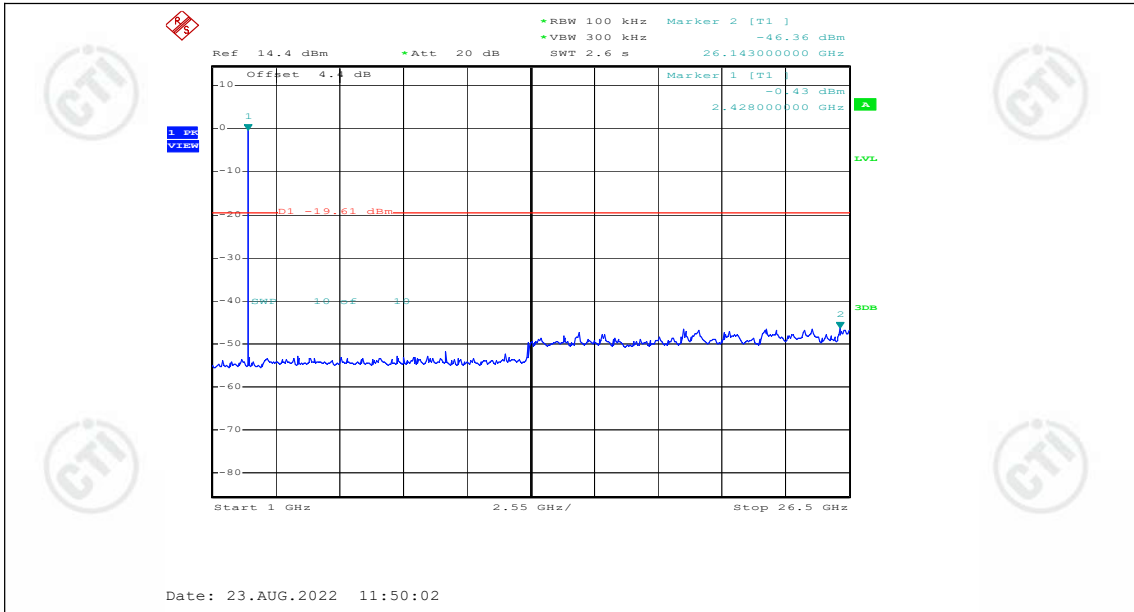
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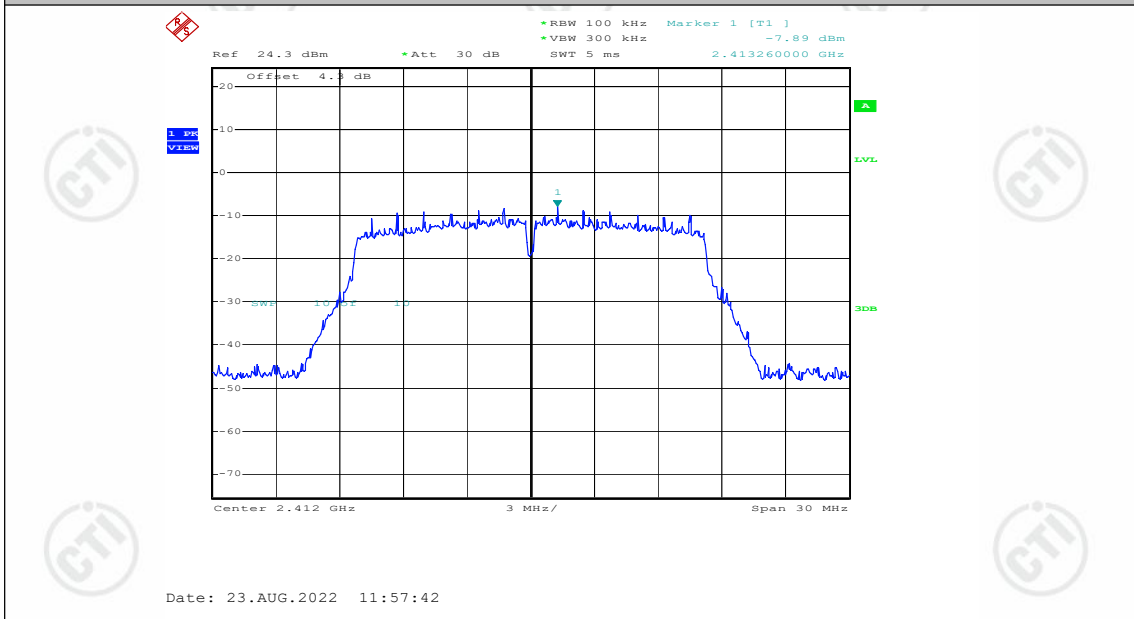
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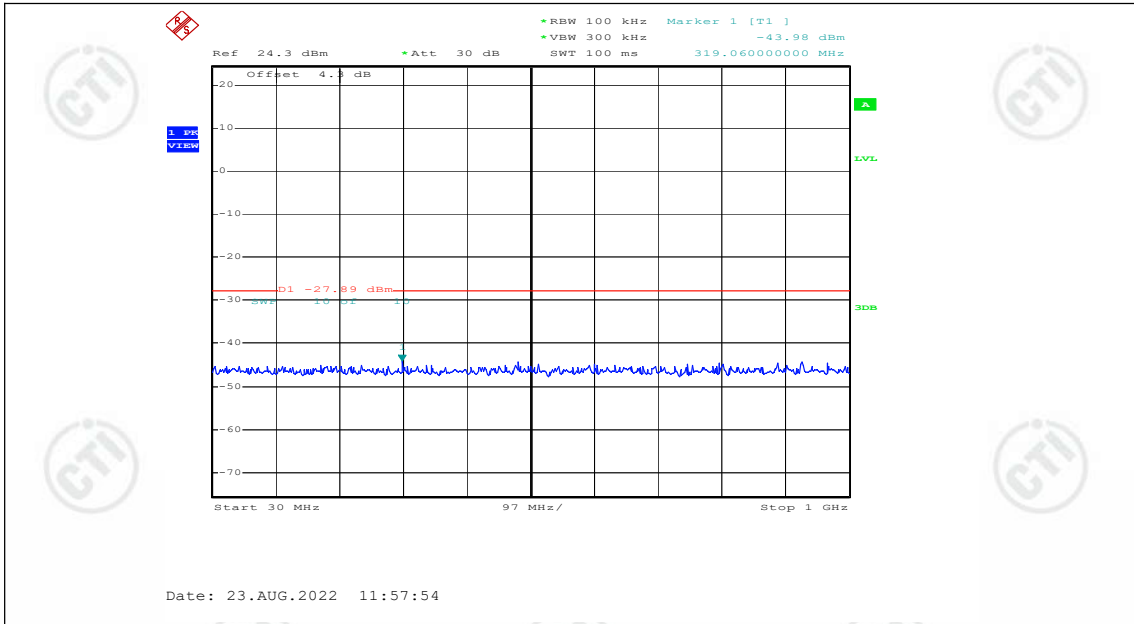




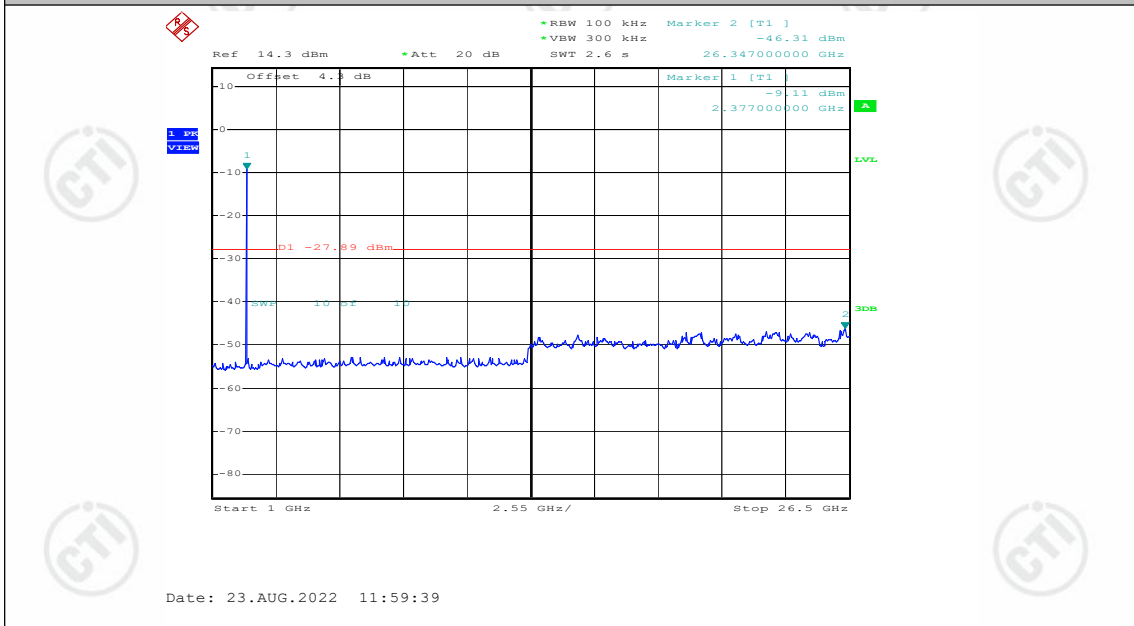
11B\_Ant1\_2462\_1000~26500



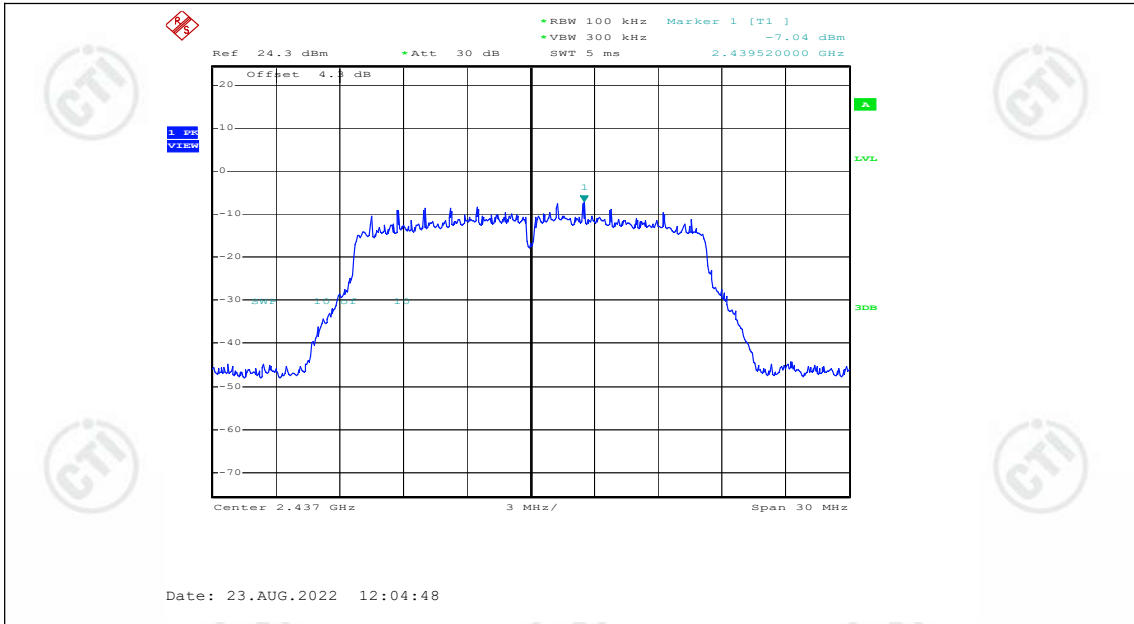
11G\_Ant1\_2412\_0~Reference



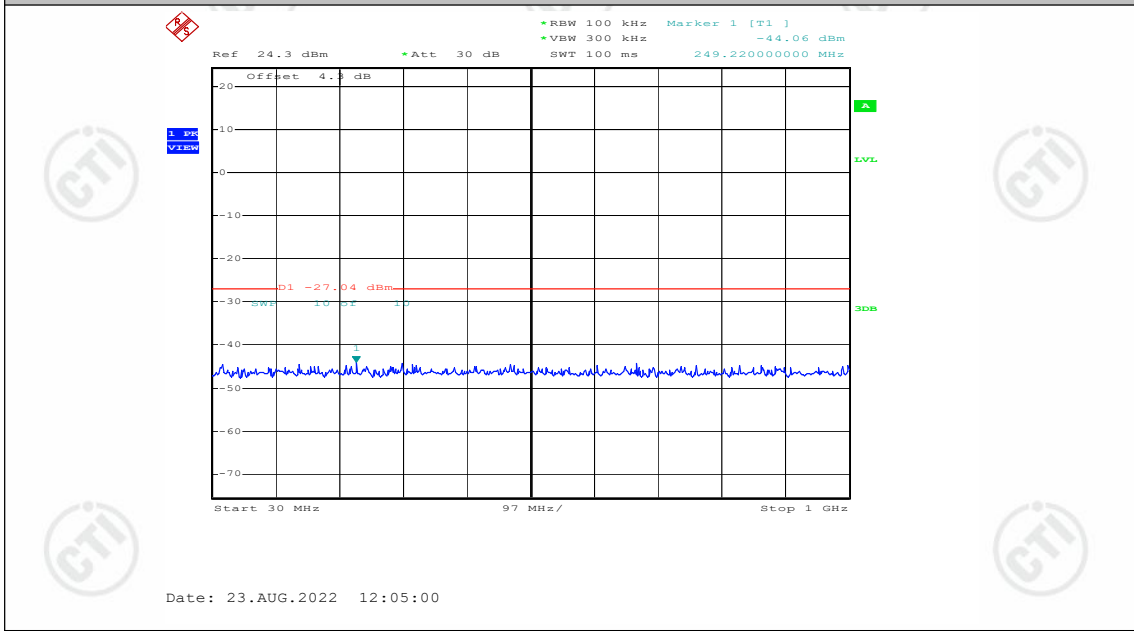
11G\_Ant1\_2412\_30~1000



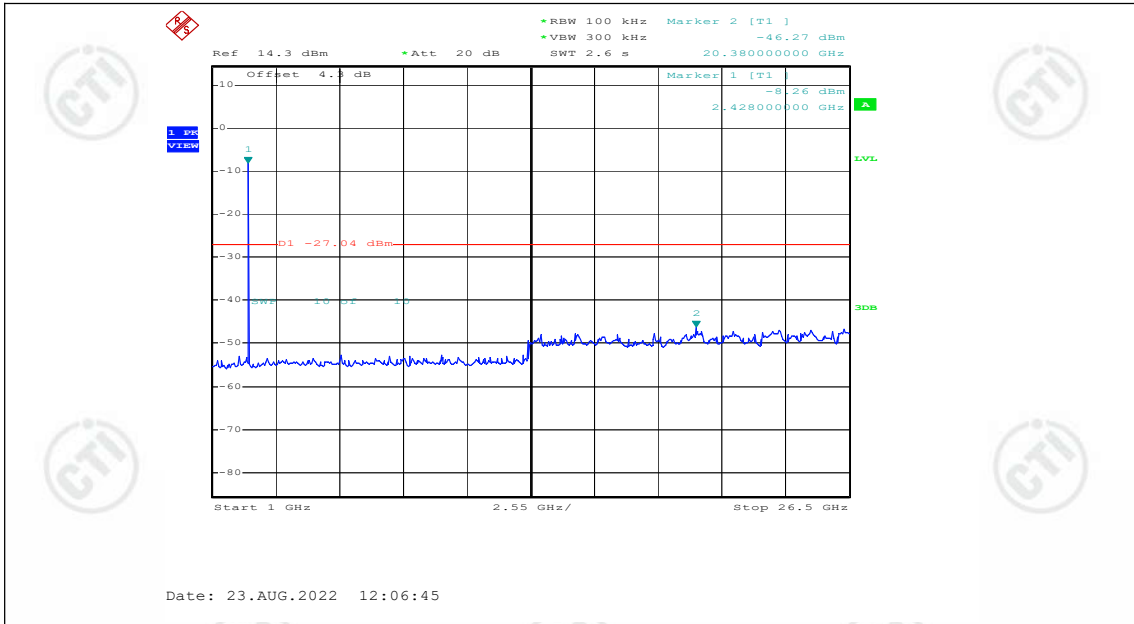
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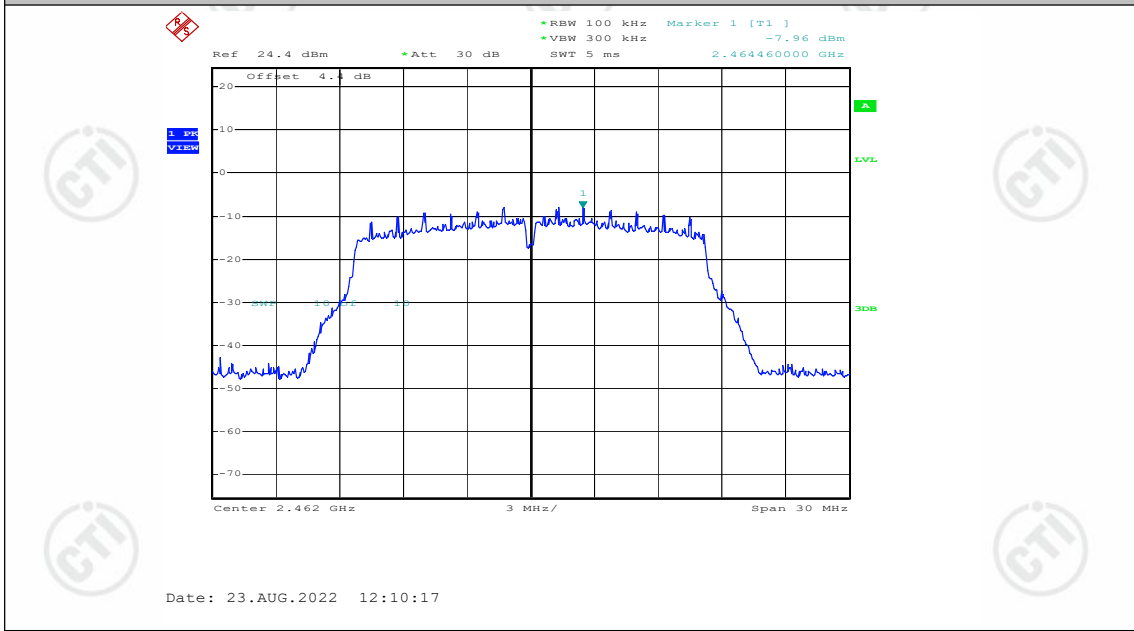
11G\_Ant1\_2437\_0~Reference



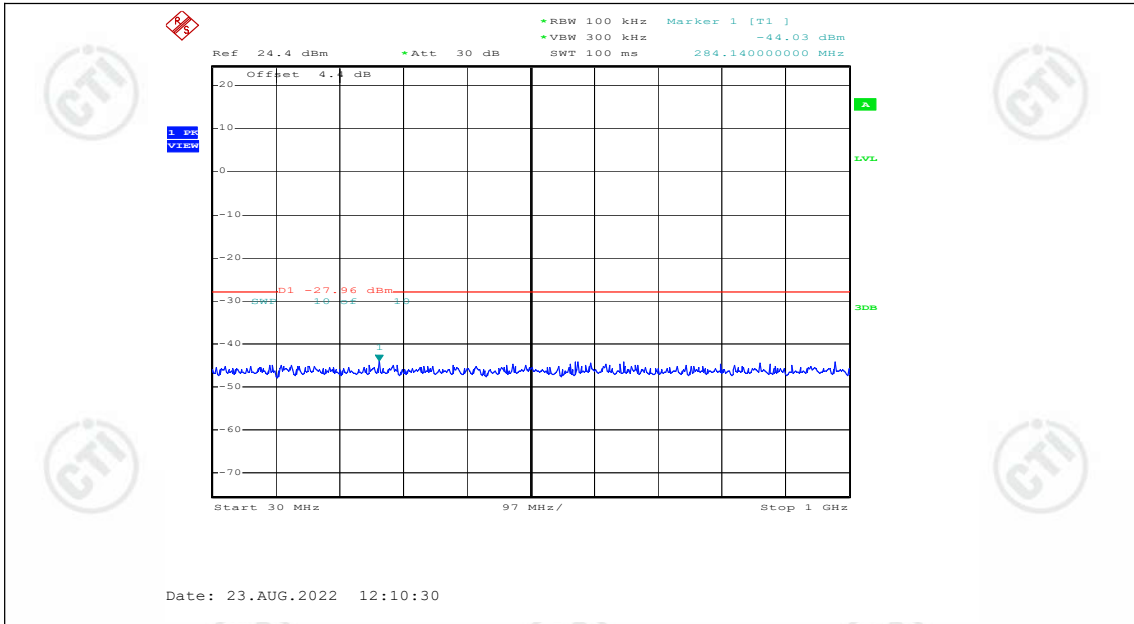
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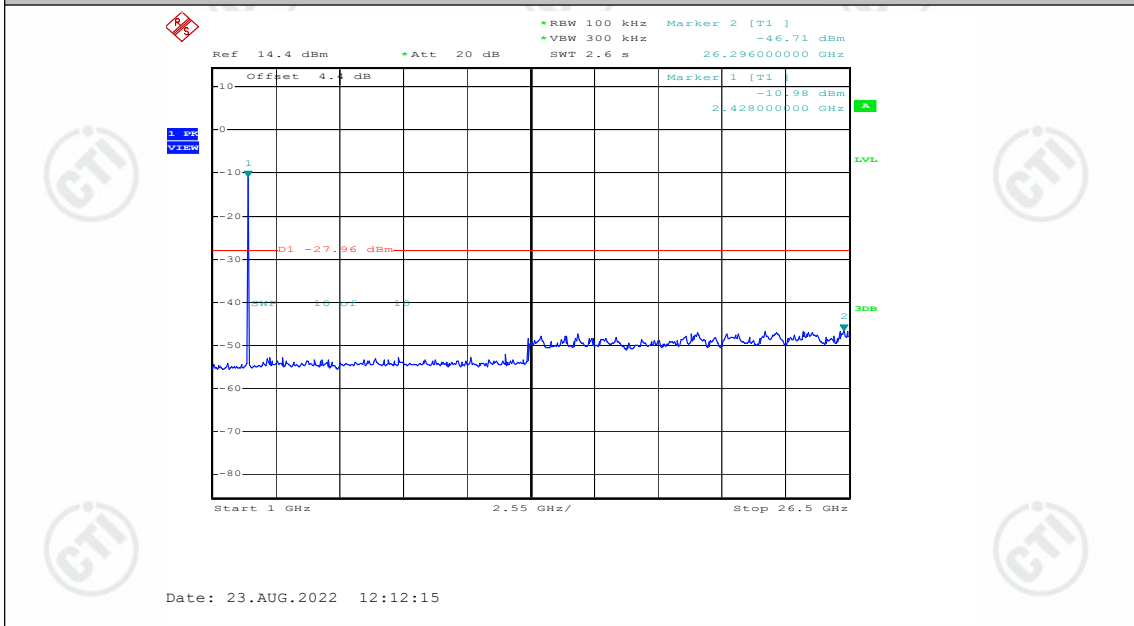
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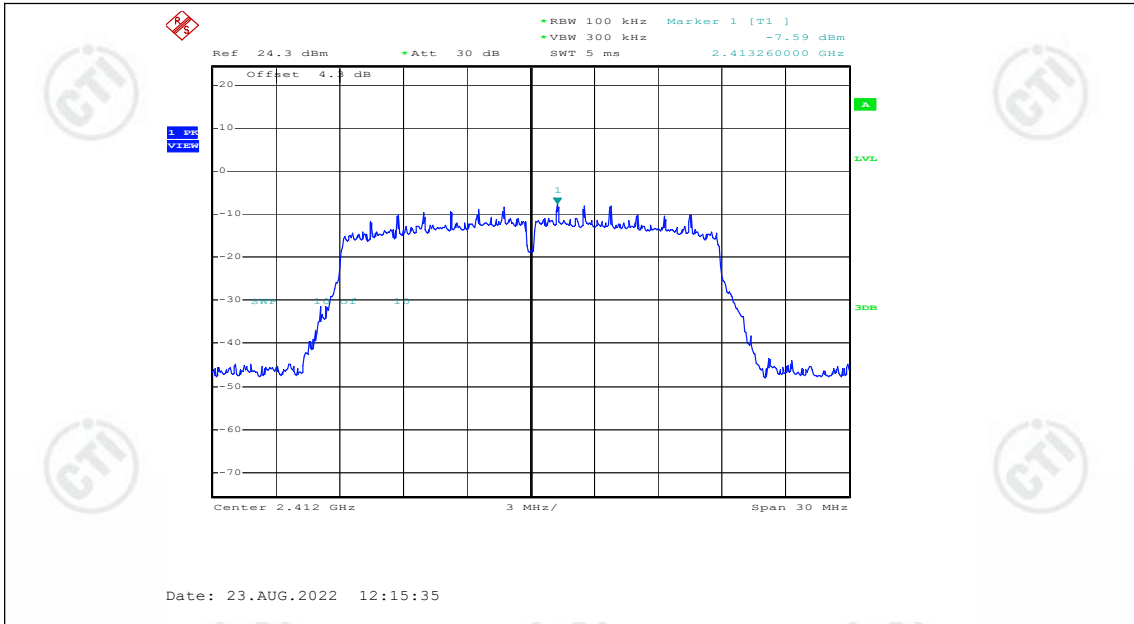
11G\_Ant1\_2462\_0~Reference



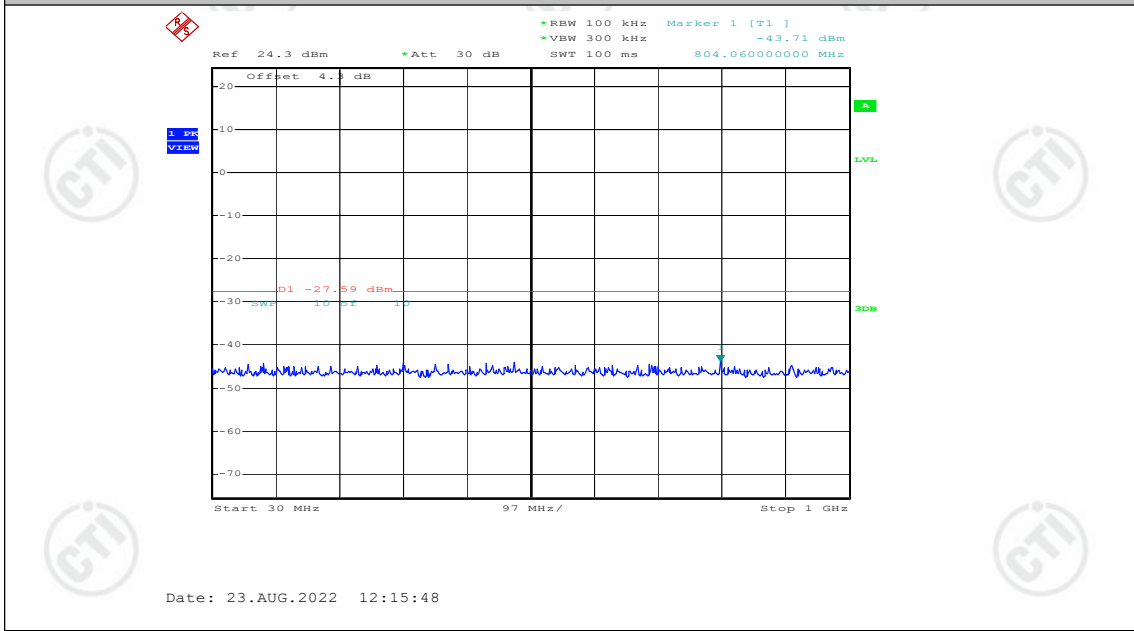
11G\_Ant1\_2462\_30~1000



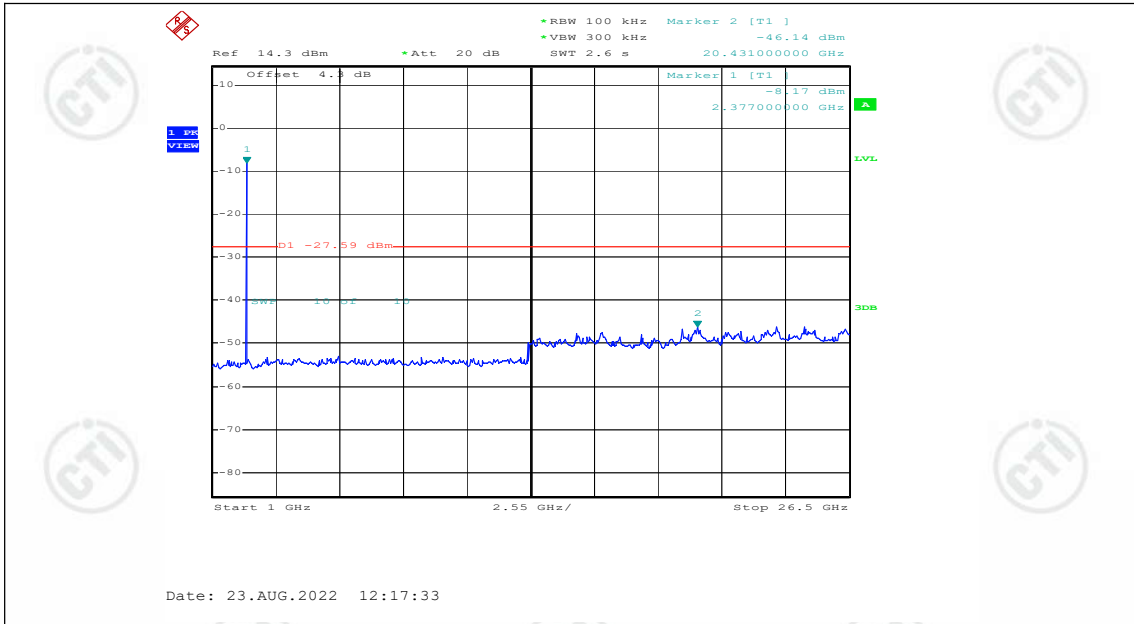
11G\_Ant1\_2462\_1000~26500



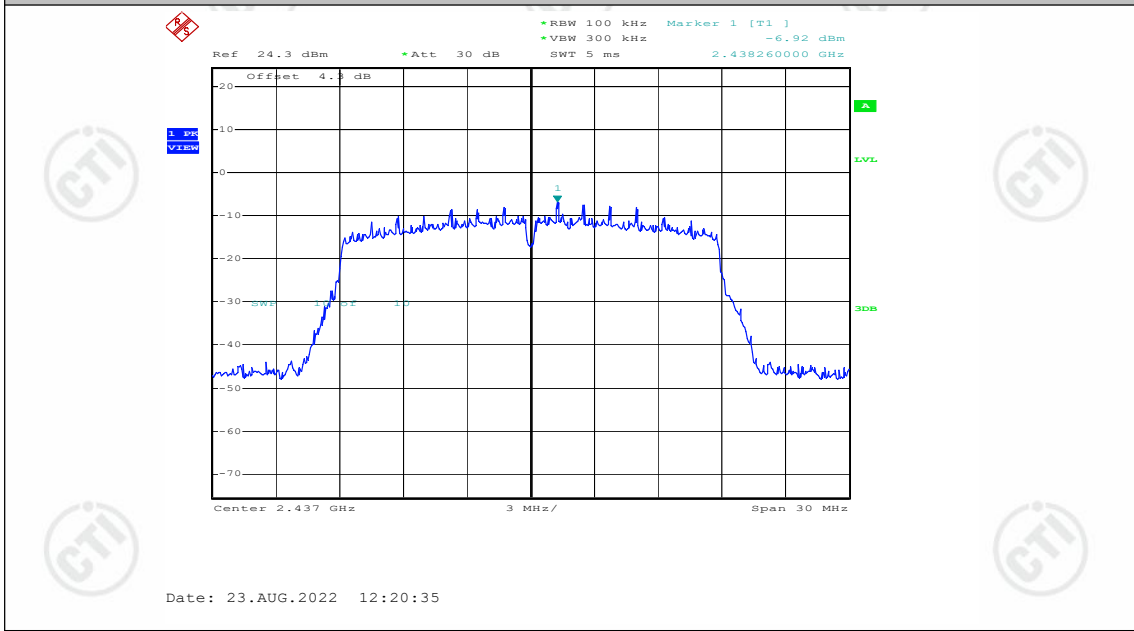
11N20SISO\_Ant1\_2412\_0~Reference



11N20SISO\_Ant1\_2412\_30~100

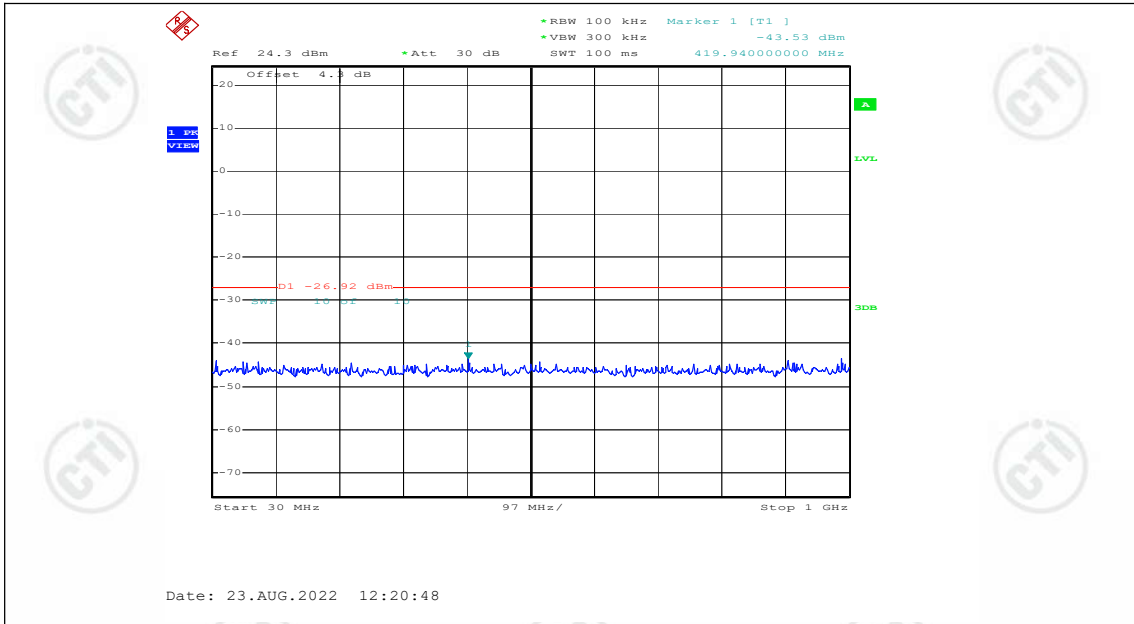


11N20SISO\_Ant1\_2412\_1000~26500

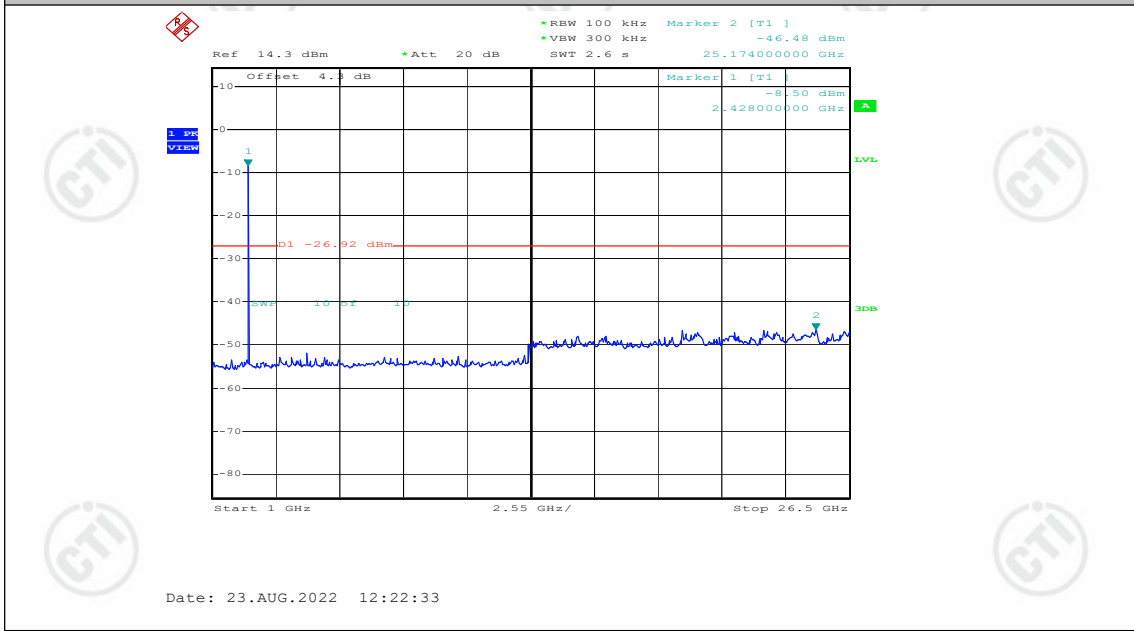


11N20SISO\_Ant1\_2437\_0~Reference

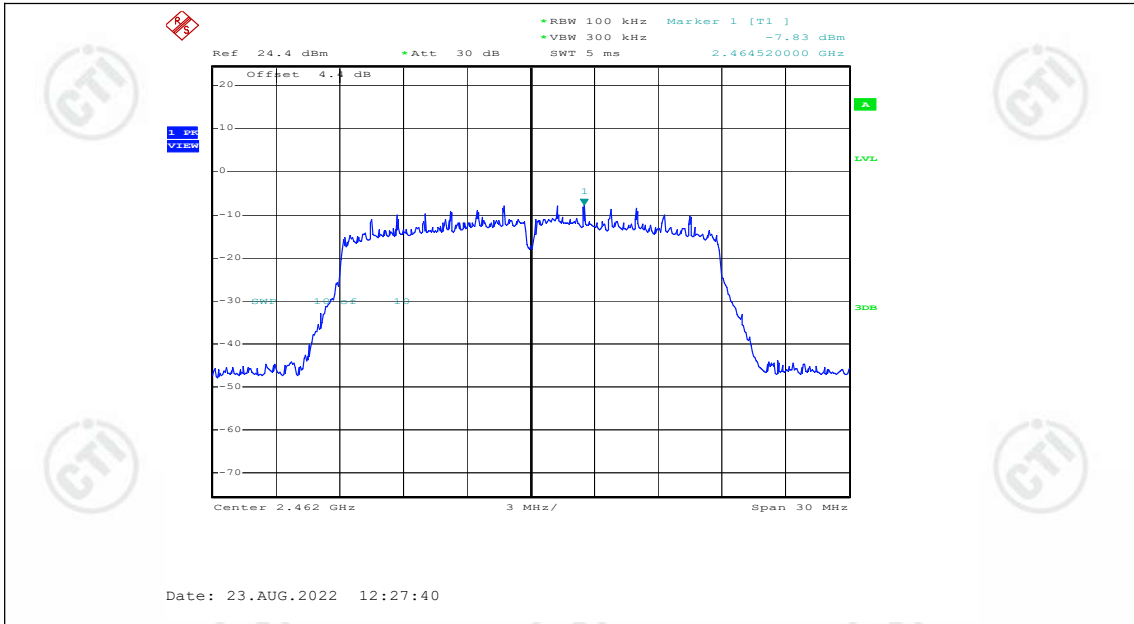




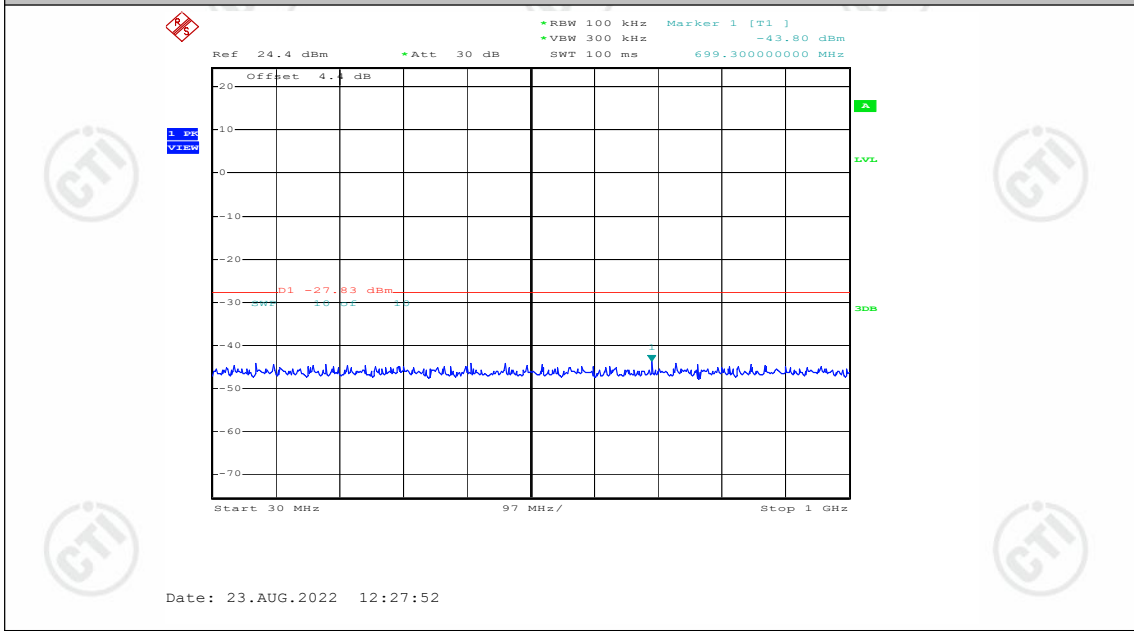
11N20SISO\_Ant1\_2437\_30~1000



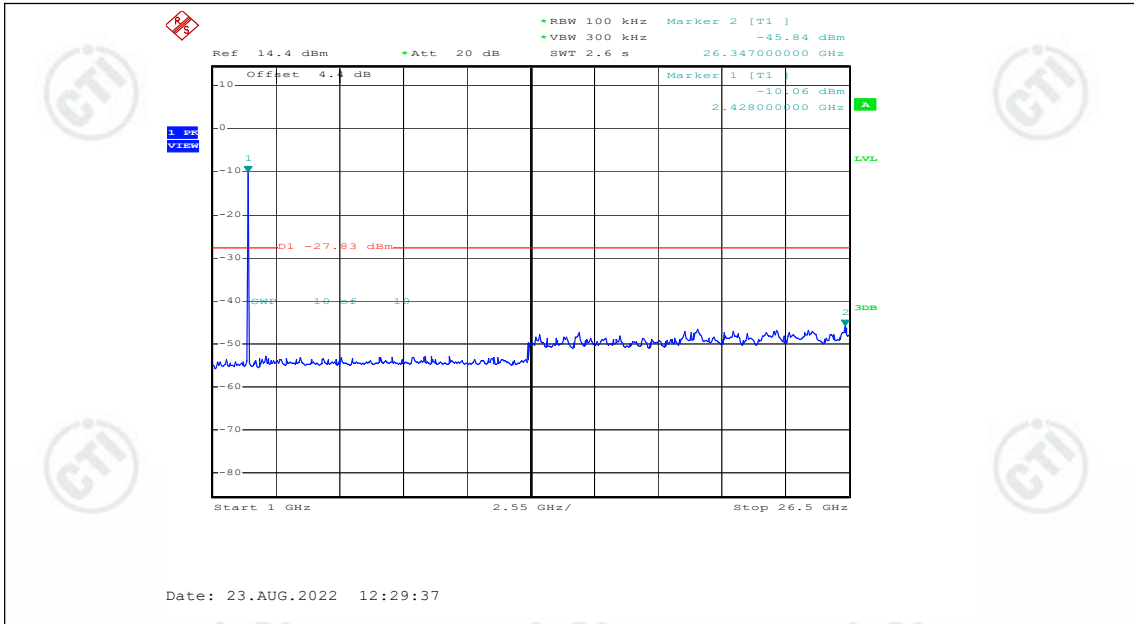
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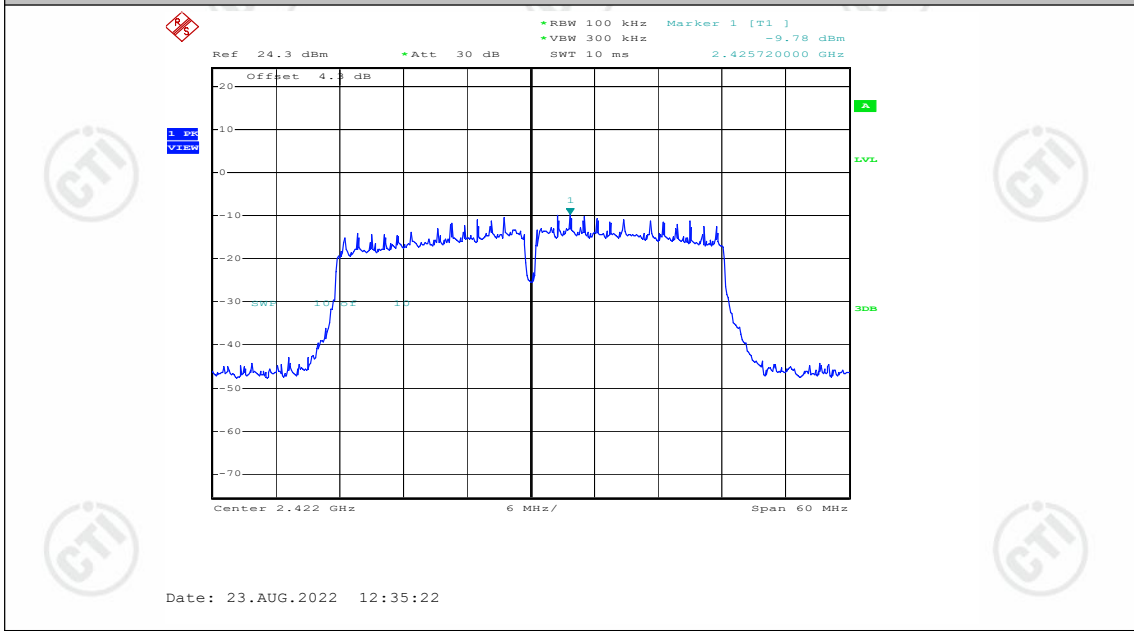
11N20SISO\_Ant1\_2462\_0~Reference



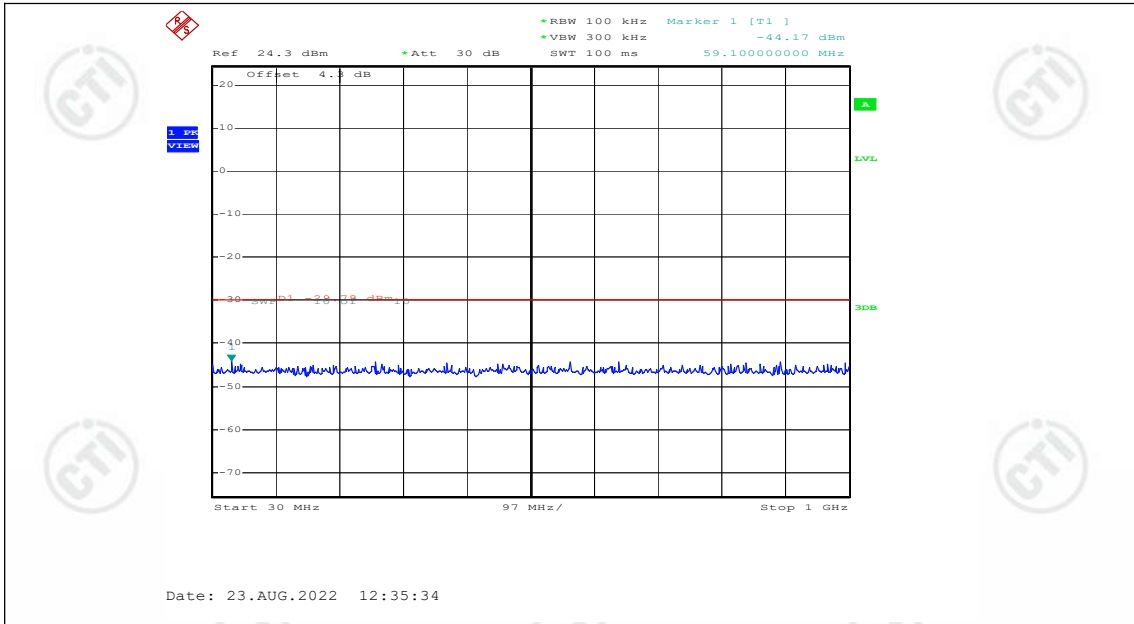
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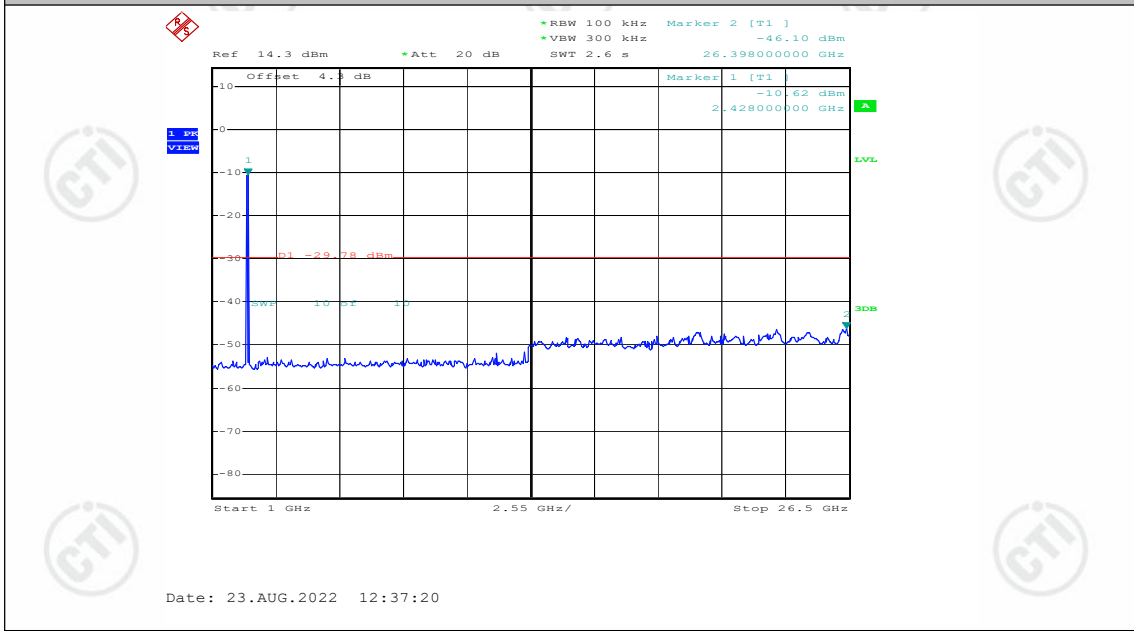
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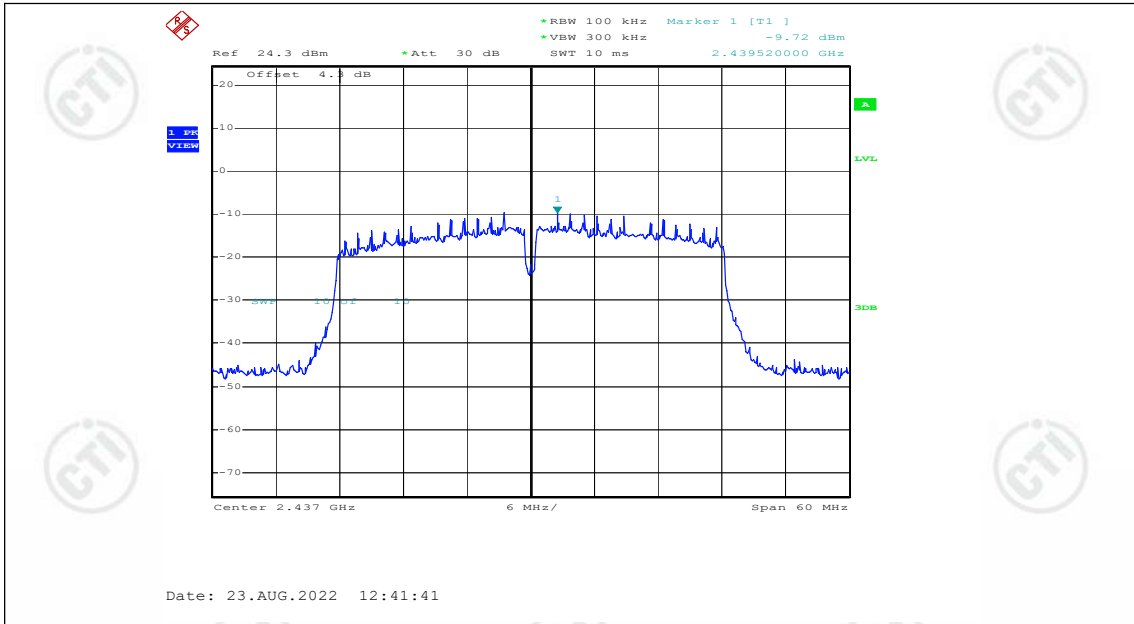
11N40SISO\_Ant1\_2422\_0~Reference



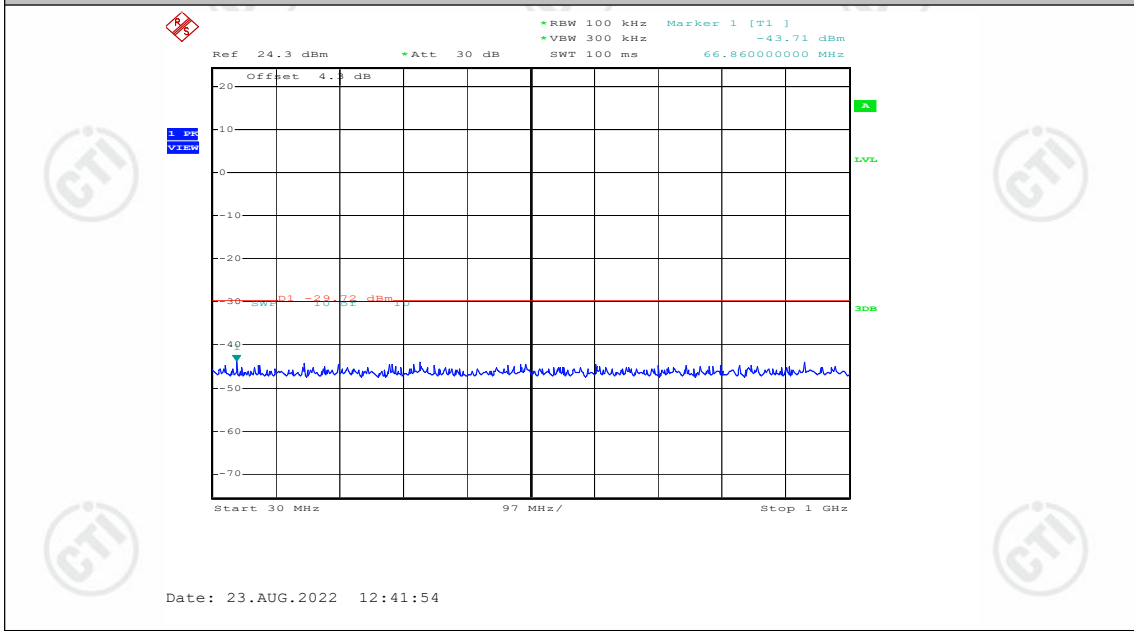
11N40SISO\_Ant1\_2422\_30~1000



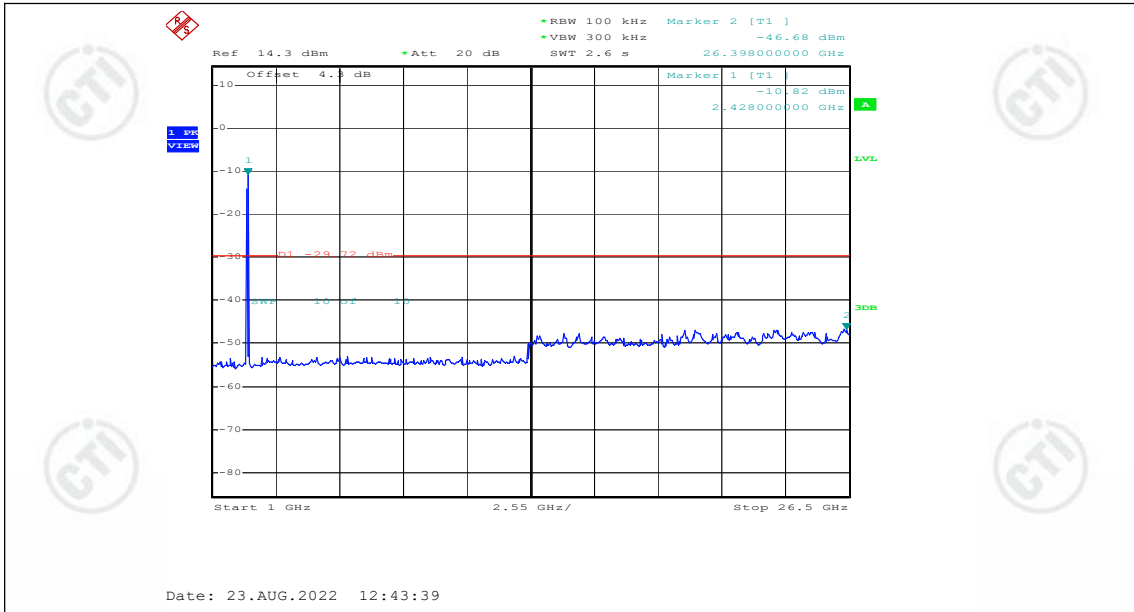
11N40SISO\_Ant1\_2422\_1000~26500



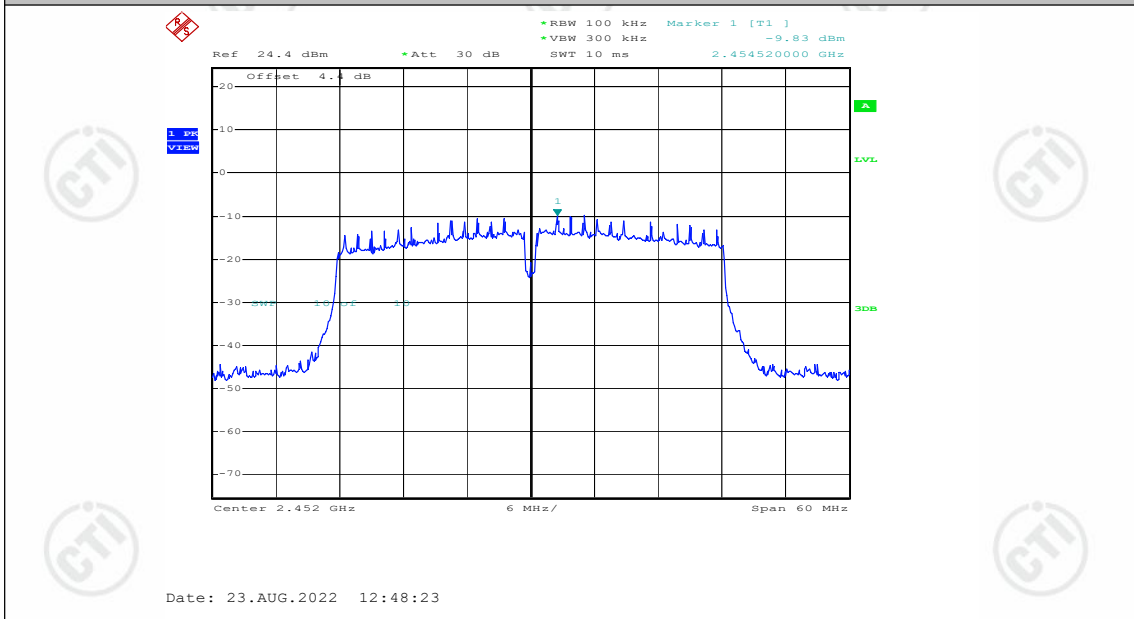
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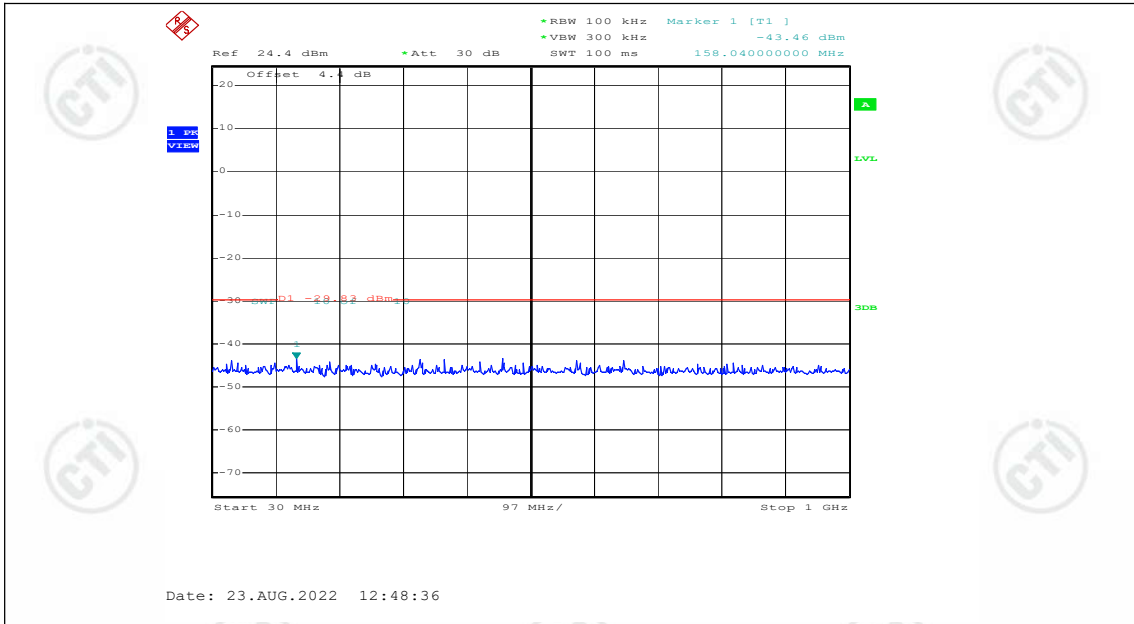
11N40SISO\_Ant1\_2437\_30~1000



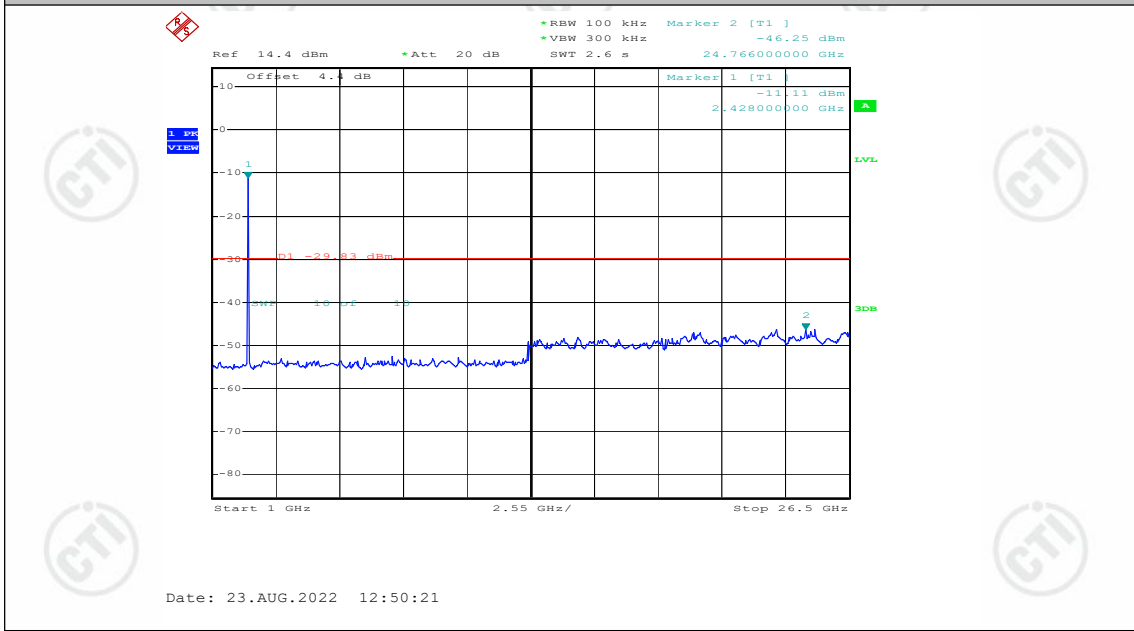
11N40SISO\_Ant1\_2437\_1000~26500



11N40SISO\_Ant1\_2452\_0~Reference



11N40SISO\_Ant1\_2452\_30~1000



11N40SISO\_Ant1\_2452\_1000~26500

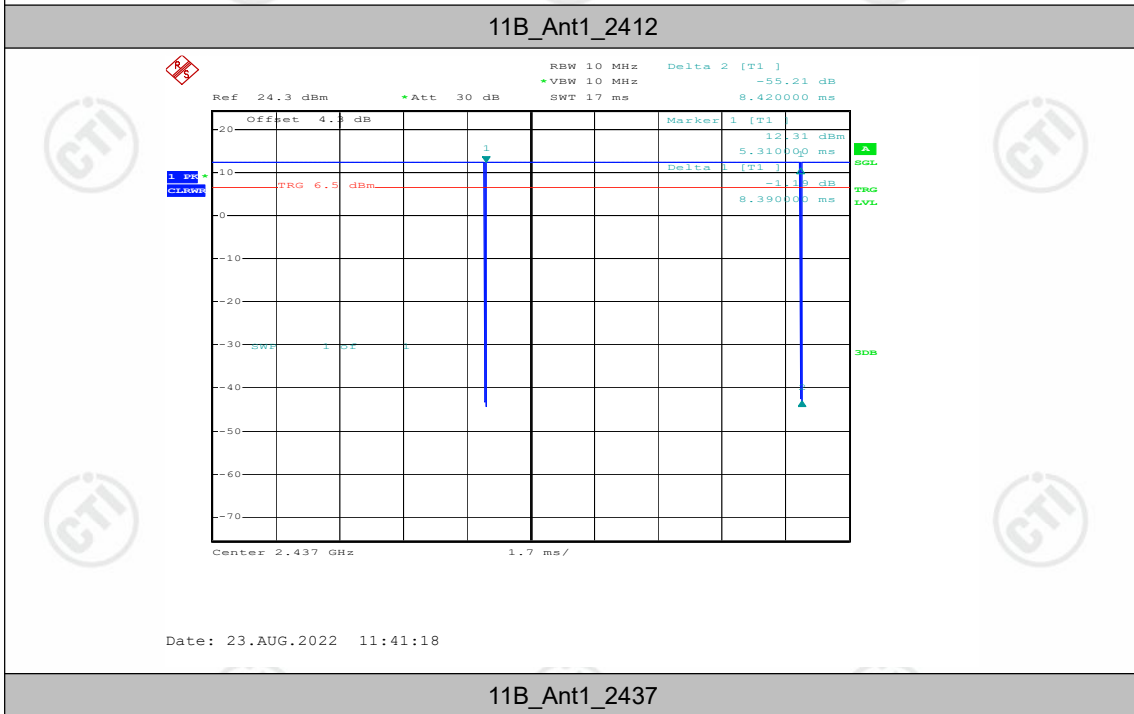
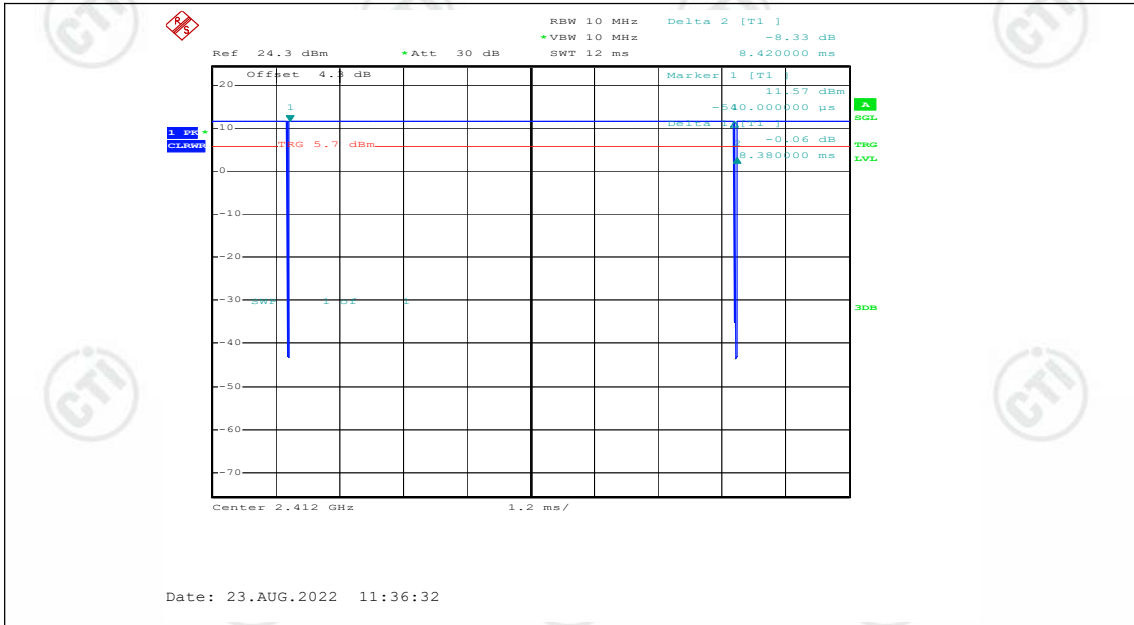
## Appendix G: DutyCycle

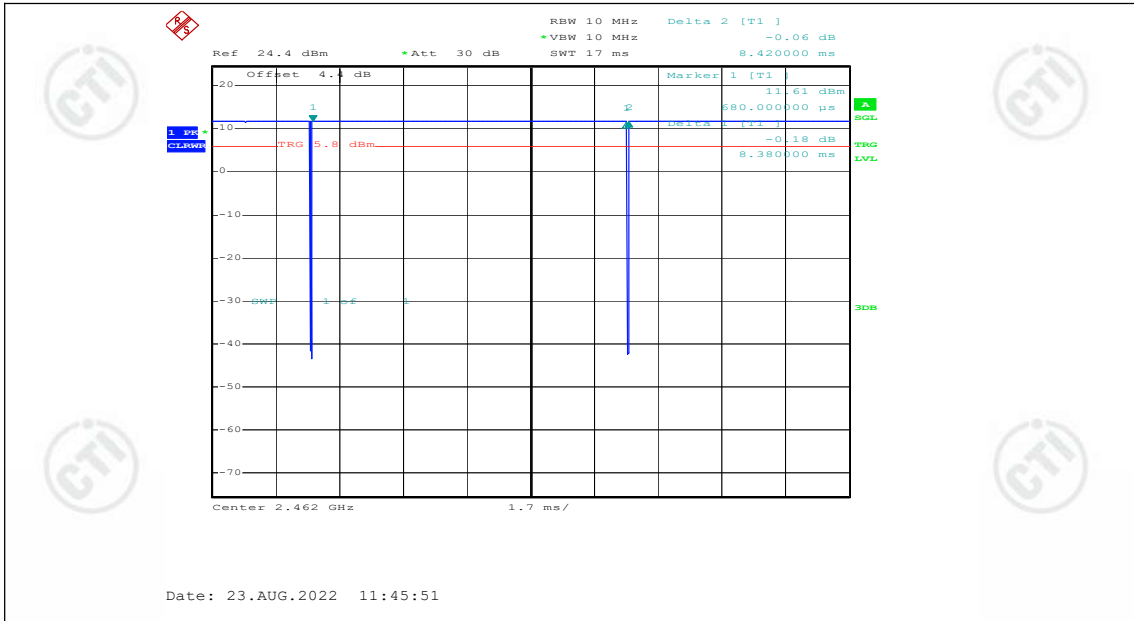
### Test Result

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	---	---

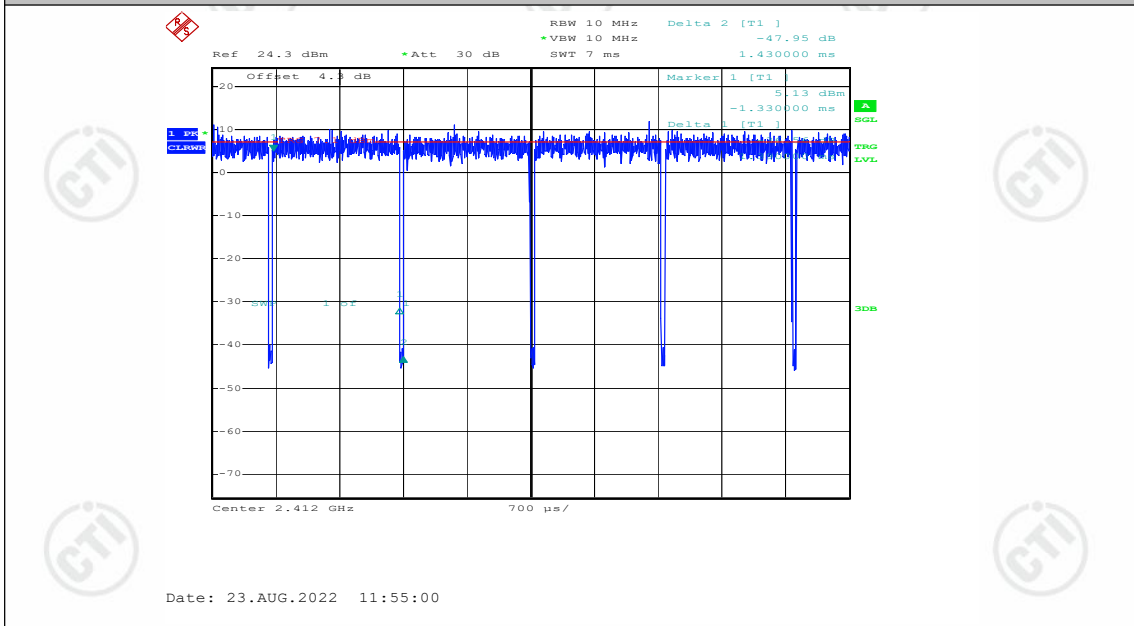


## Test Graphs

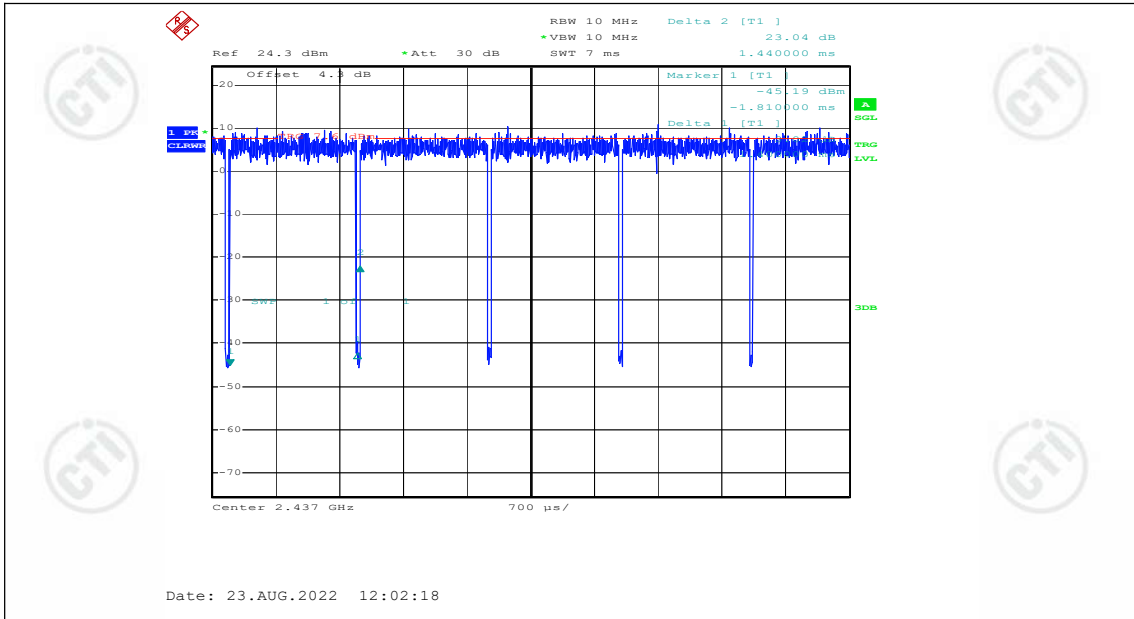




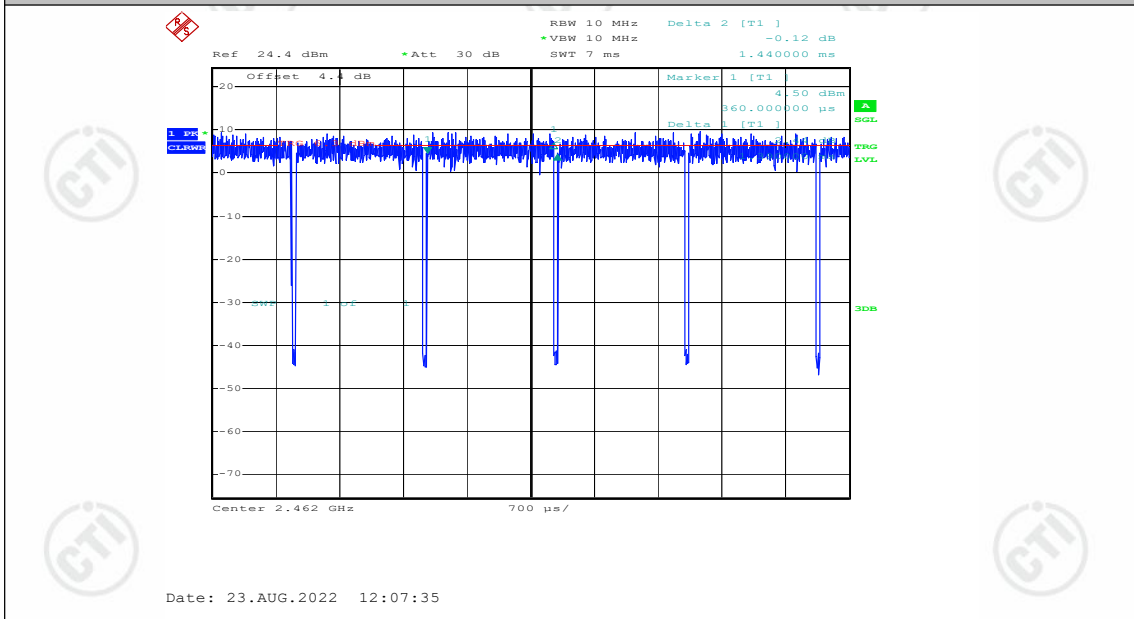
11B\_Ant1\_2462



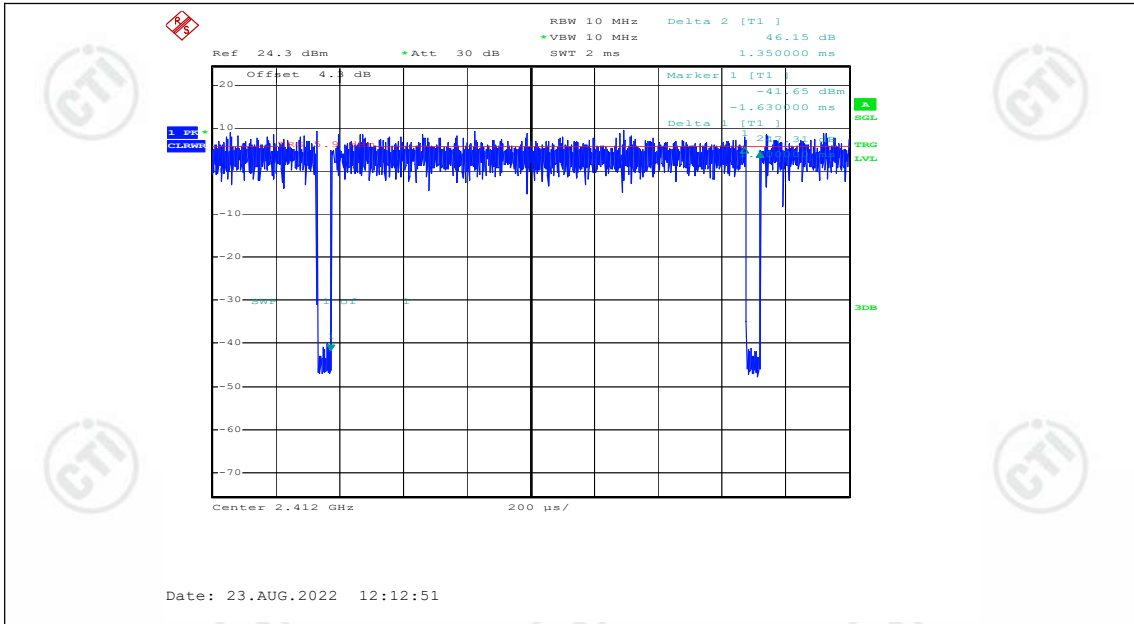
11G\_Ant1\_2412



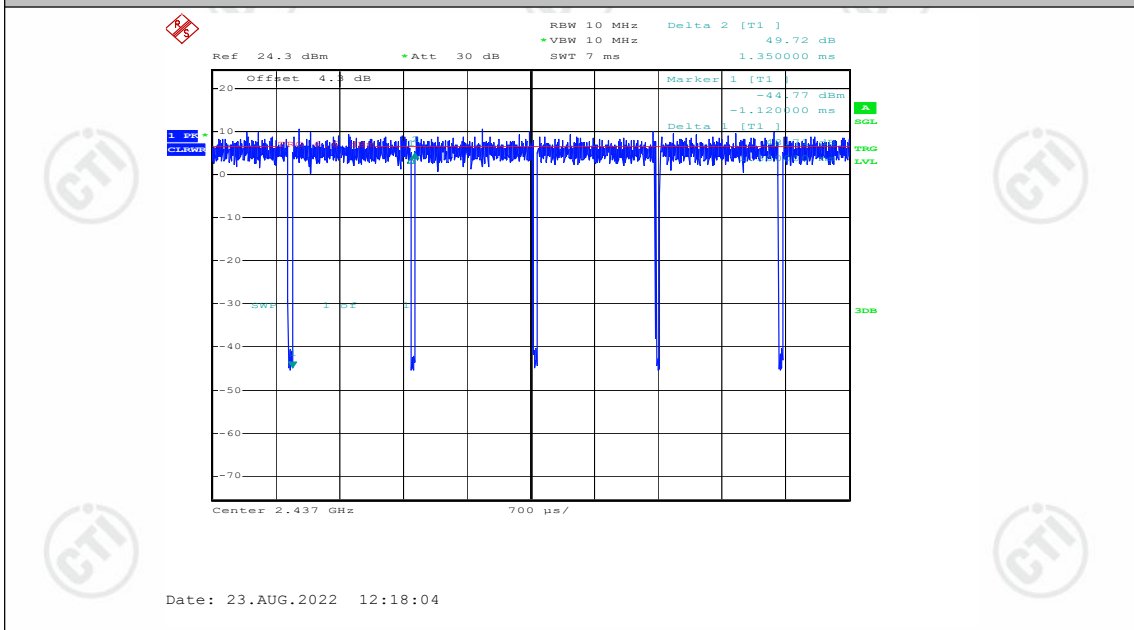
11G\_Ant1\_2437



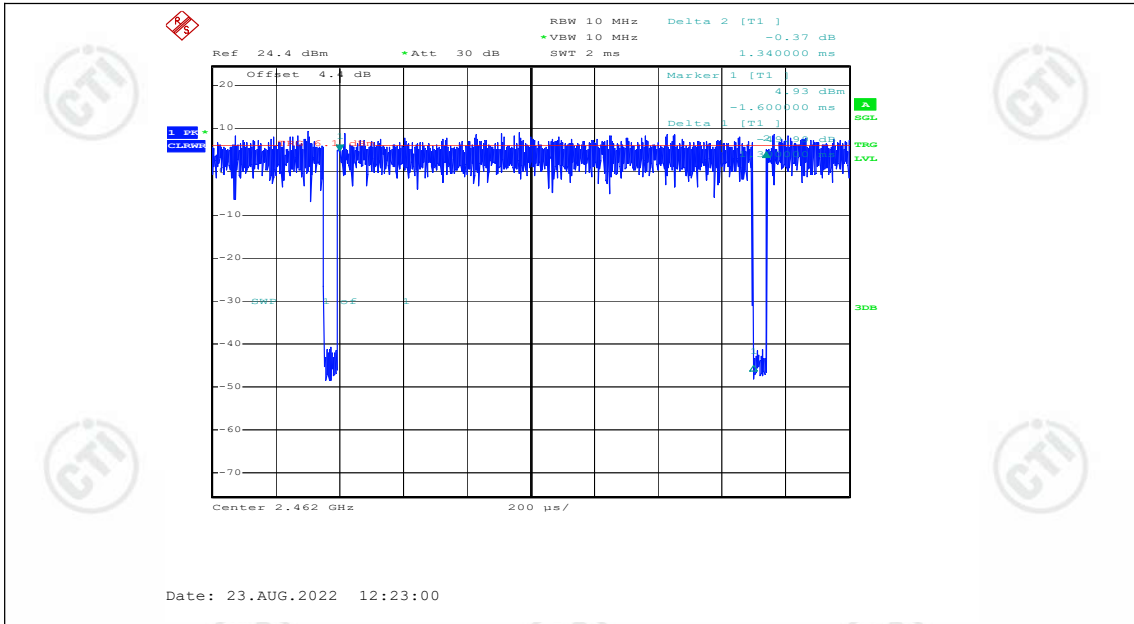
11G\_Ant1\_2462



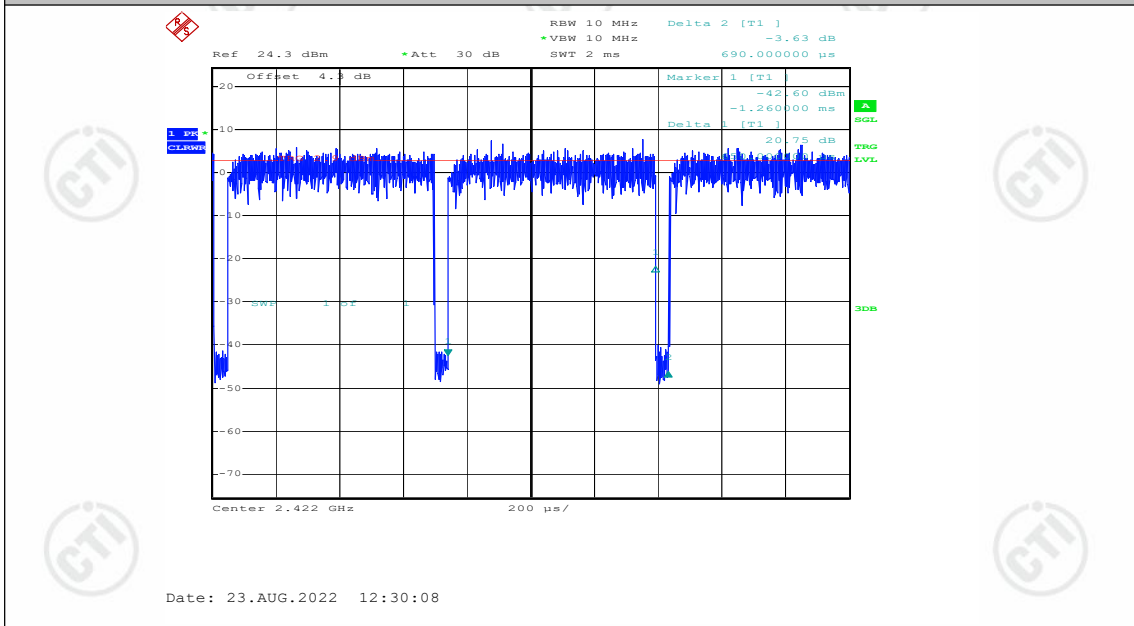
11N20SISO\_Ant1\_2412



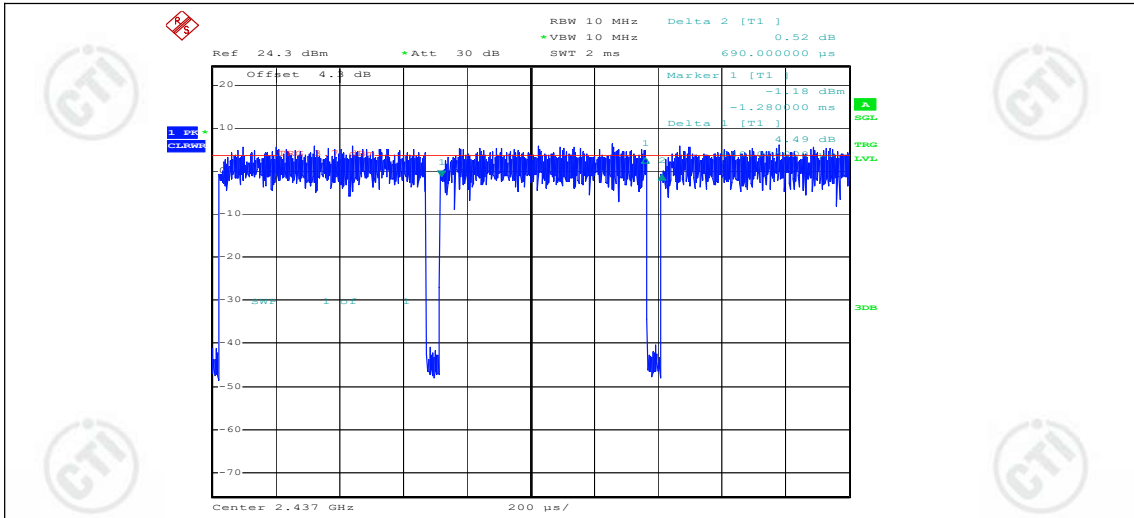
11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462

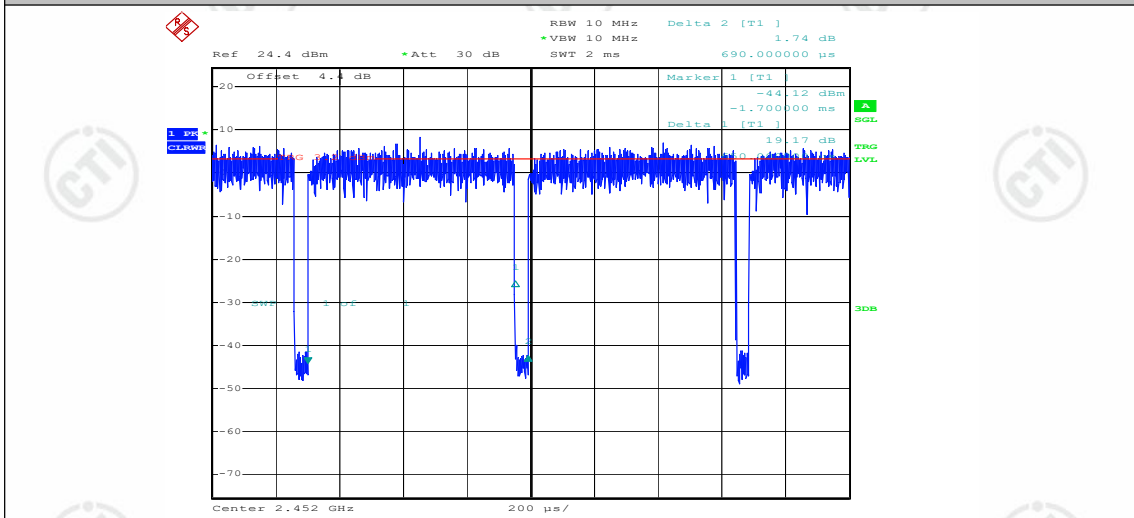


11N40SISO\_Ant1\_2422



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

### 11N40SISO\_Ant1\_2437



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

### 11N40SISO\_Ant1\_2452

\*\*\* End of Report \*\*\*