

Appendix: 2.4G WiFi

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 Peak 17

 Test Graphs Peak 18

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 37

Appendix G: Duty Cycle 55

 Test Result 55

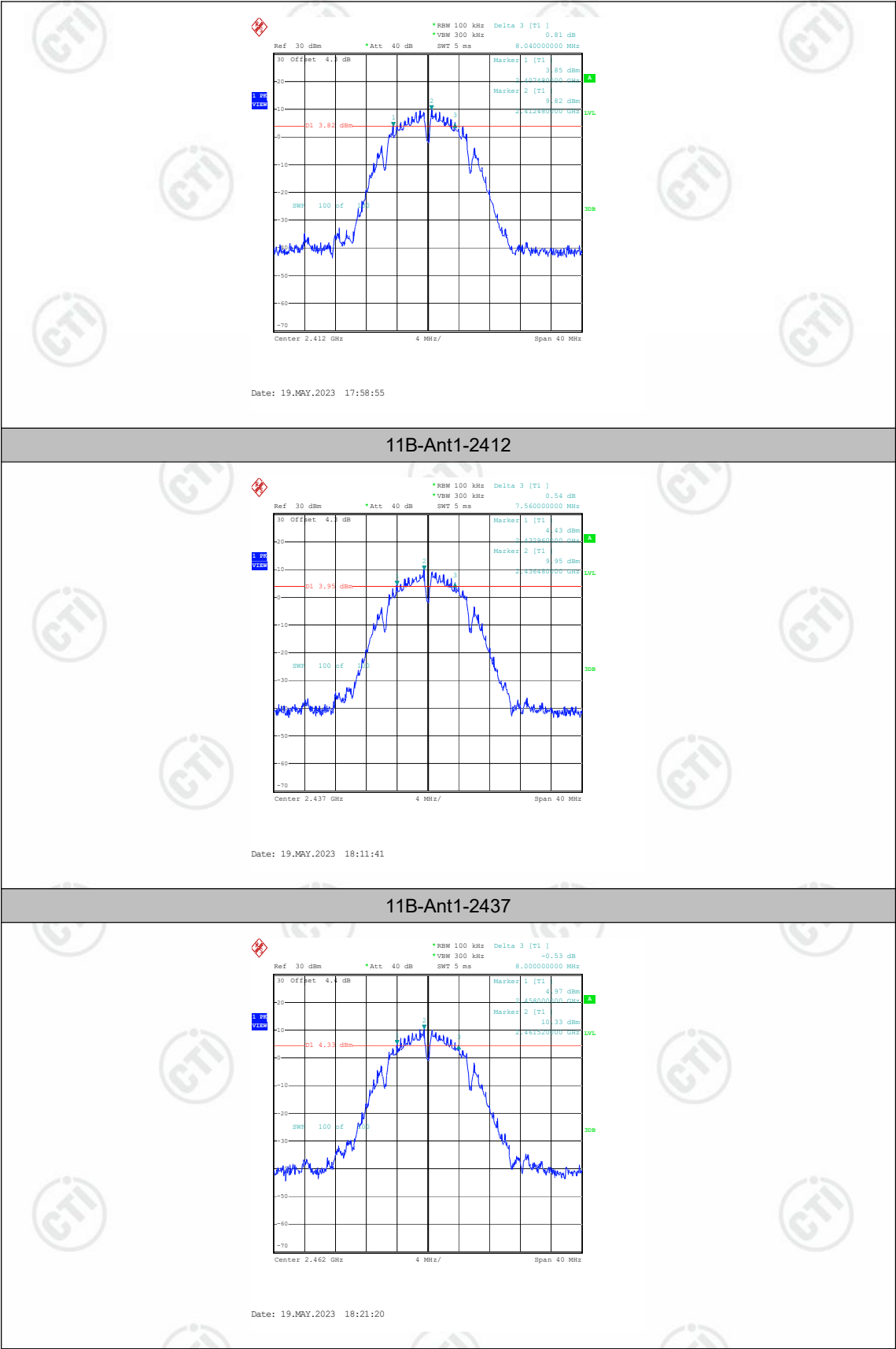
 Test Graphs 56

Appendix A: DTS Bandwidth

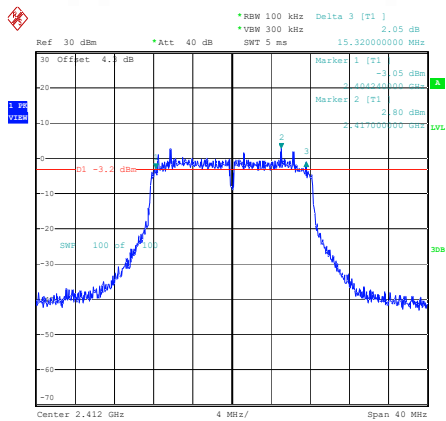
Test Result

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.04	2407.48	2415.52	0.5	PASS
11B	Ant1	2437	7.56	2432.96	2440.52	0.5	PASS
11B	Ant1	2462	8.00	2458.00	2466.00	0.5	PASS
11G	Ant1	2412	15.32	2404.24	2419.56	0.5	PASS
11G	Ant1	2437	15.12	2429.44	2444.56	0.5	PASS
11G	Ant1	2462	15.12	2454.44	2469.56	0.5	PASS
11N20SISO	Ant1	2412	16.20	2403.88	2420.08	0.5	PASS
11N20SISO	Ant1	2437	15.92	2429.20	2445.12	0.5	PASS
11N20SISO	Ant1	2462	15.72	2454.12	2469.84	0.5	PASS
11N40SISO	Ant1	2422	35.44	2404.16	2439.60	0.5	PASS
11N40SISO	Ant1	2437	35.44	2419.16	2454.60	0.5	PASS
11N40SISO	Ant1	2452	35.44	2434.16	2469.60	0.5	PASS
11AX20SISO	Ant1	2412	15.44	2404.12	2419.56	0.5	PASS
11AX20SISO	Ant1	2437	16.44	2428.44	2444.88	0.5	PASS
11AX20SISO	Ant1	2462	16.36	2453.64	2470.00	0.5	PASS
11AX40SISO	Ant1	2422	35.92	2403.68	2439.60	0.5	PASS
11AX40SISO	Ant1	2437	36.56	2418.76	2455.32	0.5	PASS
11AX40SISO	Ant1	2452	36.00	2433.60	2469.60	0.5	PASS

Test Graphs

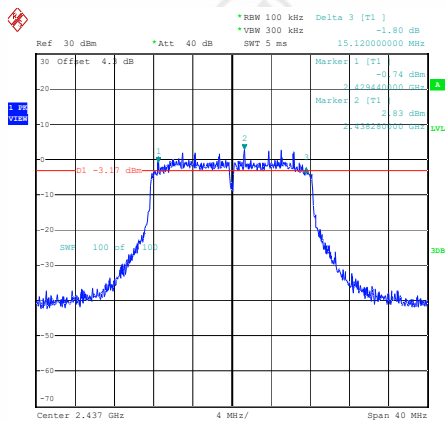


11B-Ant1-2462



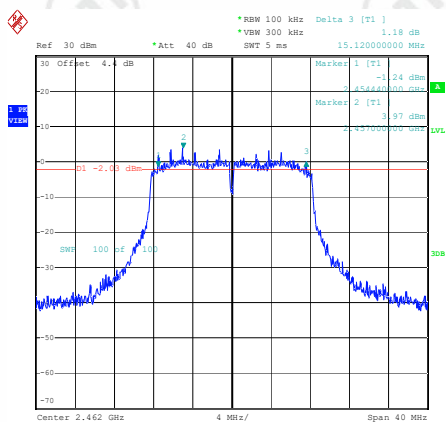
Date: 19.MAY.2023 18:38:35

11G-Ant1-2412



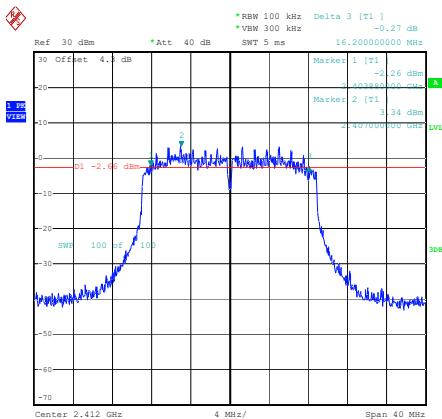
Date: 19.MAY.2023 19:02:02

11G-Ant1-2437



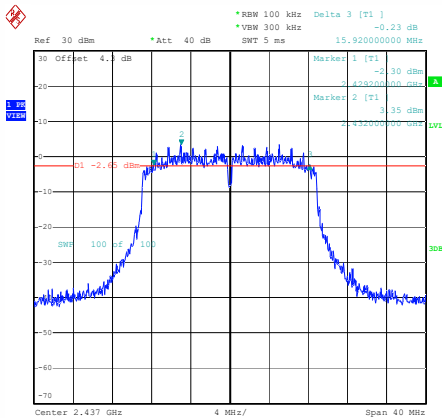
Date: 19.MAY.2023 19:26:49

11G-Ant1-2462



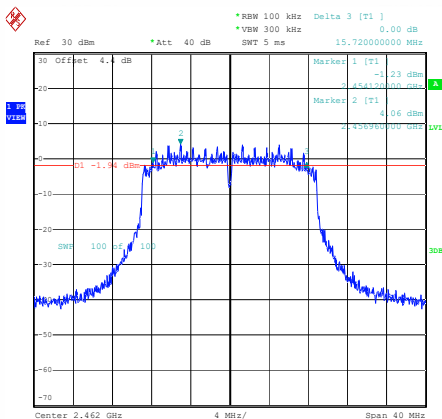
Date: 19.MAY.2023 19:39:42

11N20SISO-Ant1-2412



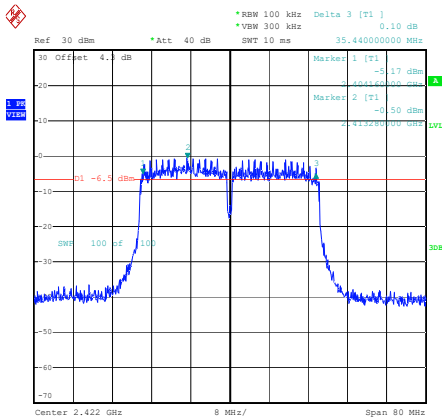
Date: 19.MAY.2023 19:51:35

11N20SISO-Ant1-2437



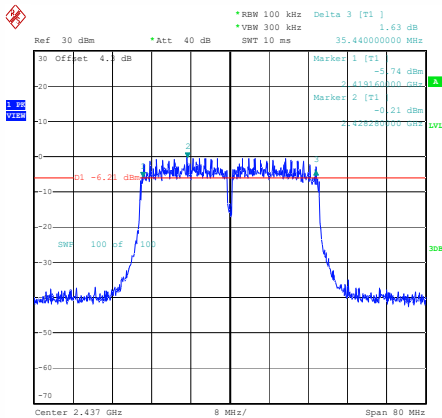
Date: 19.MAY.2023 20:02:27

11N20SISO-Ant1-2462



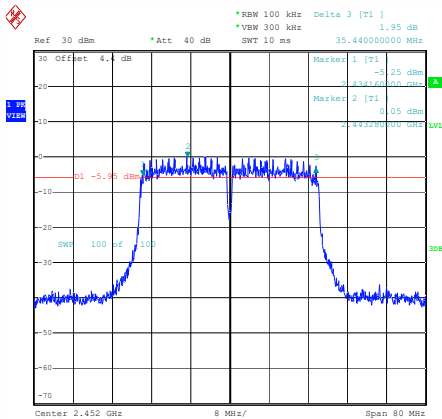
Date: 19.MAY.2023 20:29:52

11N40SISO-Ant1-2422



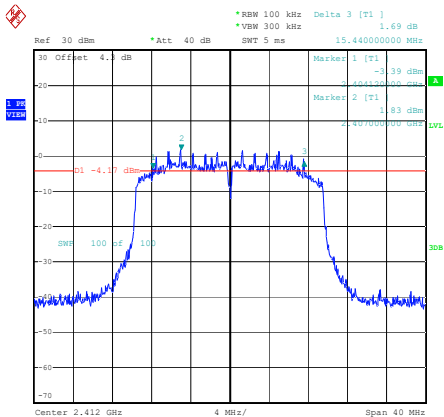
Date: 19.MAY.2023 20:53:12

11N40SISO-Ant1-2437



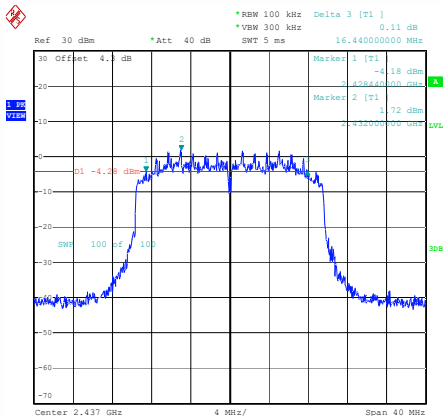
Date: 19.MAY.2023 21:14:33

11N40SISO-Ant1-2452



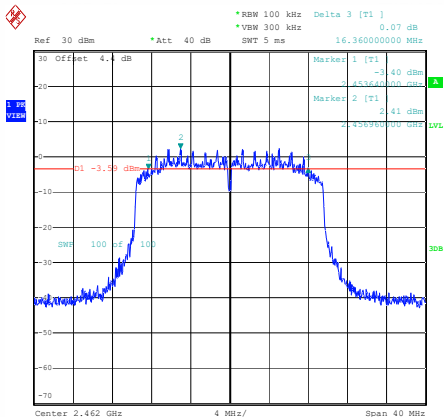
Date: 19.MAY.2023 22:12:11

11AX20SISO-Ant1-2412



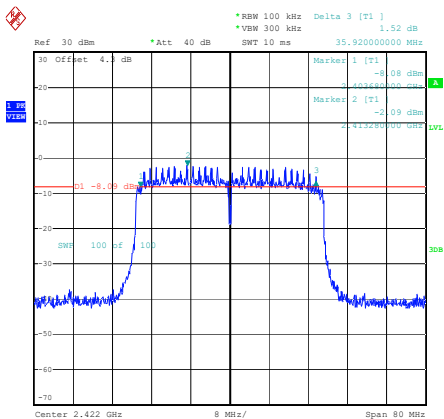
Date: 19.MAY.2023 22:15:34

11AX20SISO-Ant1-2437



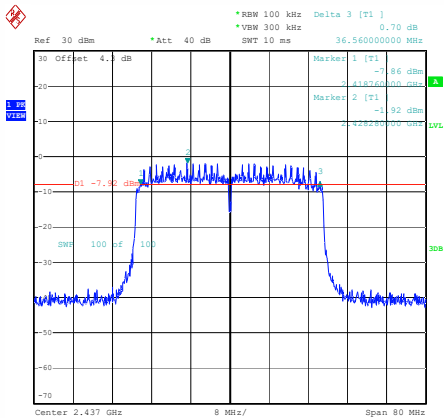
Date: 19.MAY.2023 22:19:25

11AX20SISO-Ant1-2462



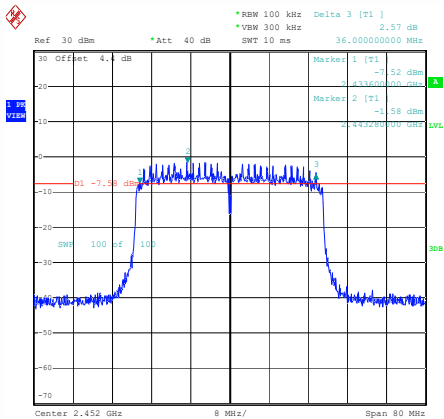
Date: 19.MAY.2023 22:24:42

11AX40SISO-Ant1-2422



Date: 19.MAY.2023 22:28:50

11AX40SISO-Ant1-2437



Date: 19.MAY.2023 22:32:36

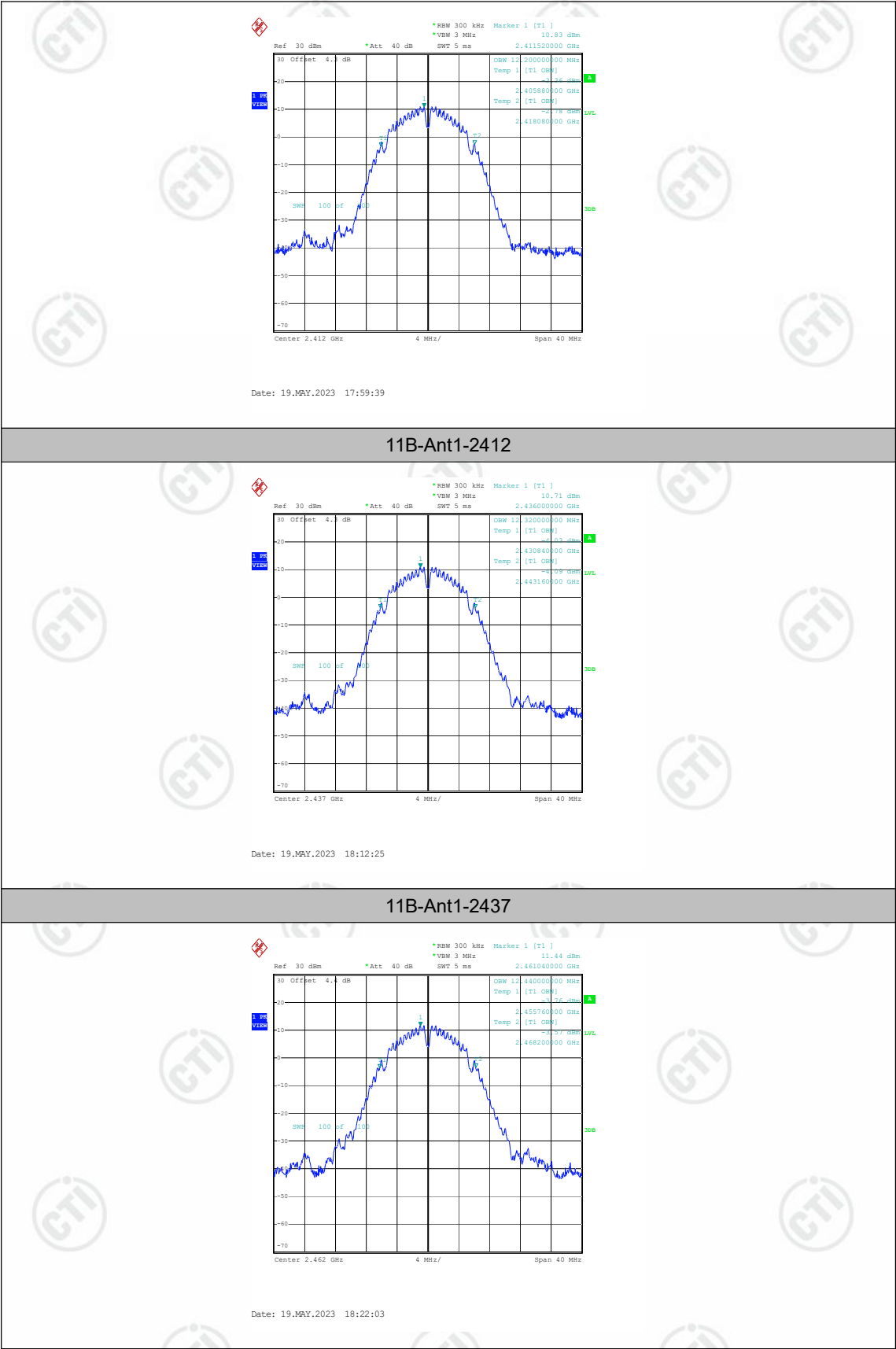
11AX40SISO-Ant1-2452

Appendix B: Occupied Channel Bandwidth

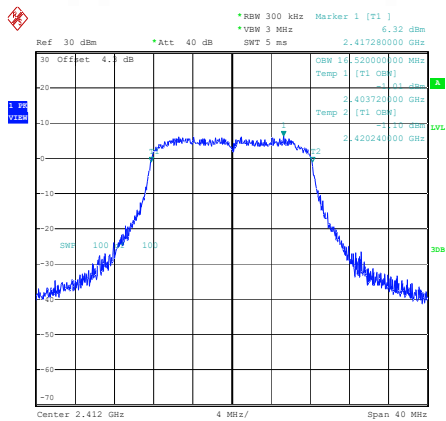
Test Result

Test Mode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.2	0.0000	0.0000	---	---
11B	Ant1	2437	12.32	0.0000	0.0000	---	---
11B	Ant1	2462	12.44	0.0000	0.0000	---	---
11G	Ant1	2412	16.52	0.0000	0.0000	---	---
11G	Ant1	2437	16.52	0.0000	0.0000	---	---
11G	Ant1	2462	16.52	0.0000	0.0000	---	---
11N20SISO	Ant1	2412	17.56	0.0000	0.0000	---	---
11N20SISO	Ant1	2437	17.6	0.0000	0.0000	---	---
11N20SISO	Ant1	2462	17.6	0.0000	0.0000	---	---
11N40SISO	Ant1	2422	36.56	0.0000	0.0000	---	---
11N40SISO	Ant1	2437	36.48	0.0000	0.0000	---	---
11N40SISO	Ant1	2452	36.48	0.0000	0.0000	---	---
11AX20SISO	Ant1	2412	18.72	0.0000	0.0000	---	---
11AX20SISO	Ant1	2437	18.76	0.0000	0.0000	---	---
11AX20SISO	Ant1	2462	18.8	0.0000	0.0000	---	---
11AX40SISO	Ant1	2422	38	0.0000	0.0000	---	---
11AX40SISO	Ant1	2437	37.92	0.0000	0.0000	---	---
11AX40SISO	Ant1	2452	37.92	0.0000	0.0000	---	---

Test Graphs

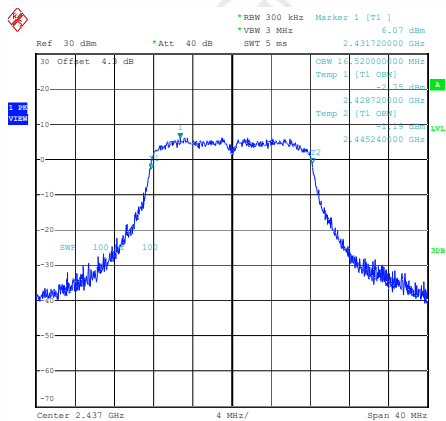


11B-Ant1-2462



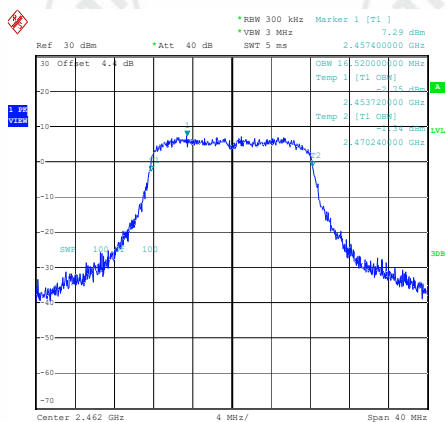
Date: 19.MAY.2023 18:39:19

11G-Ant1-2412



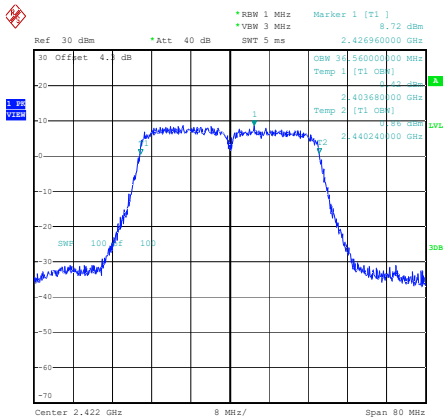
Date: 19.MAY.2023 19:02:47

11G-Ant1-2437



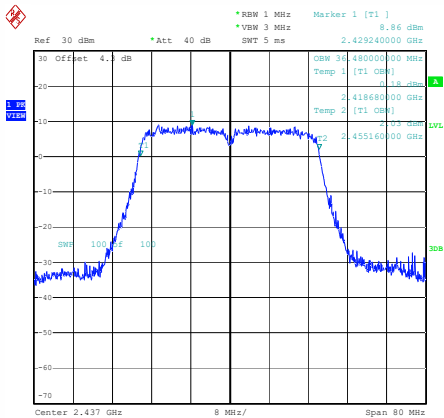
Date: 19.MAY.2023 19:27:34

11G-Ant1-2462



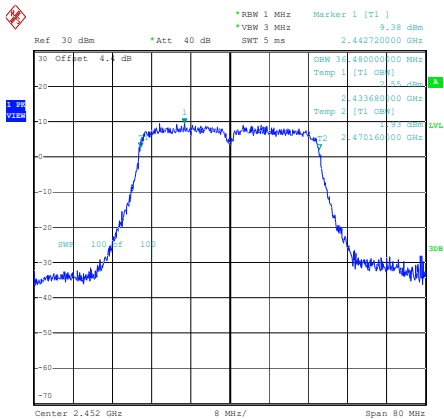
Date: 19.MAY.2023 20:30:36

11N40SISO-Ant1-2422



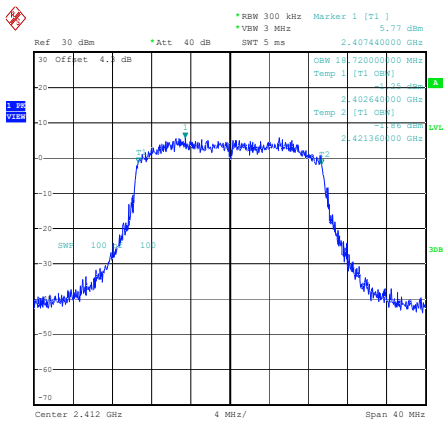
Date: 19.MAY.2023 20:53:56

11N40SISO-Ant1-2437



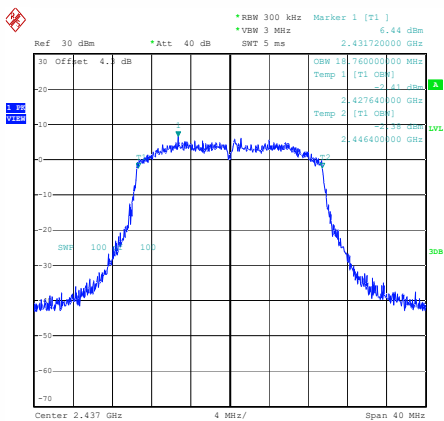
Date: 19.MAY.2023 21:15:18

11N40SISO-Ant1-2452



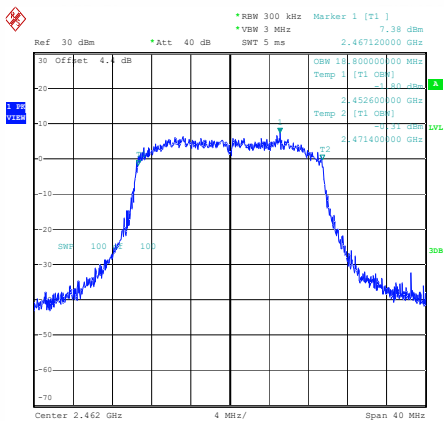
Date: 19.MAY.2023 22:12:55

11AX20SISO-Ant1-2412



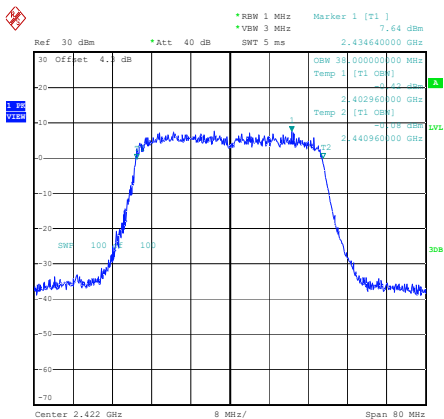
Date: 19.MAY.2023 22:16:18

11AX20SISO-Ant1-2437



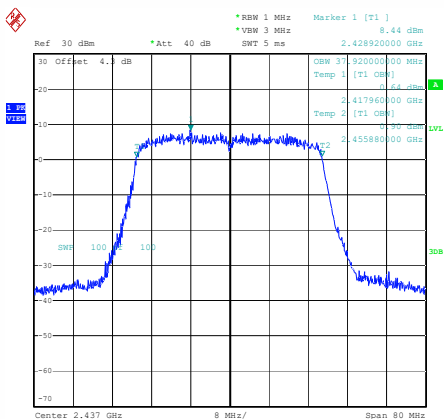
Date: 19.MAY.2023 22:20:09

11AX20SISO-Ant1-2462



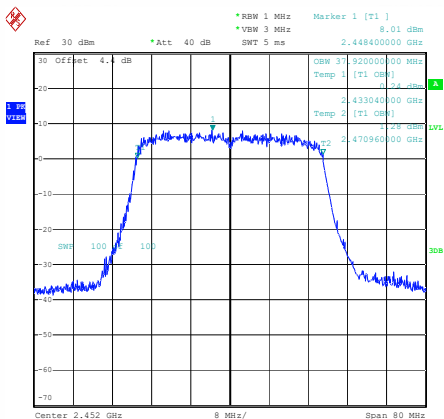
Date: 19.MAY.2023 22:25:27

11AX40SISO-Ant1-2422



Date: 19.MAY.2023 22:29:34

11AX40SISO-Ant1-2437



Date: 19.MAY.2023 22:33:20

11AX40SISO-Ant1-2452

Appendix C: Maximum conducted output power

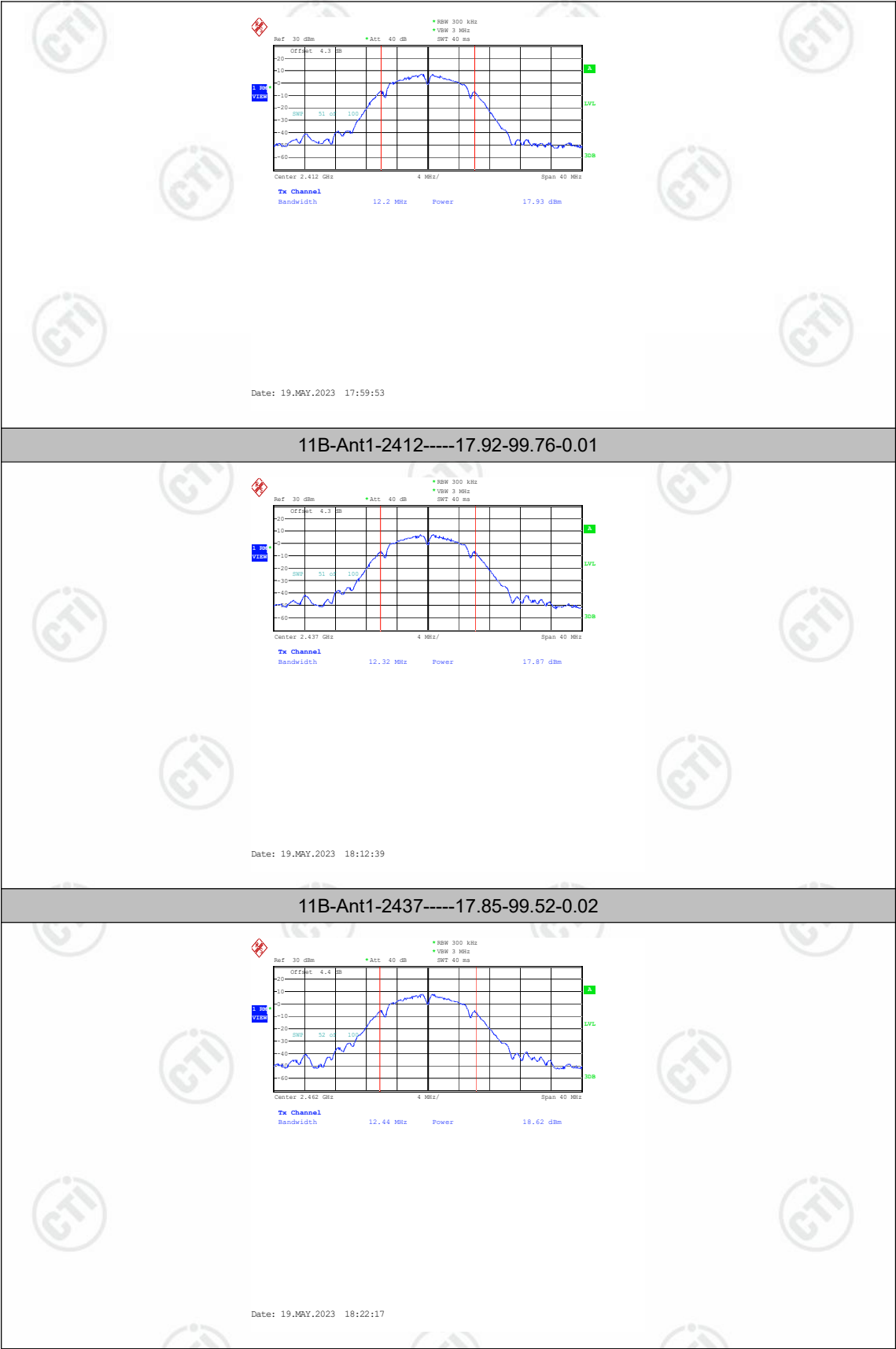
Test Result Peak

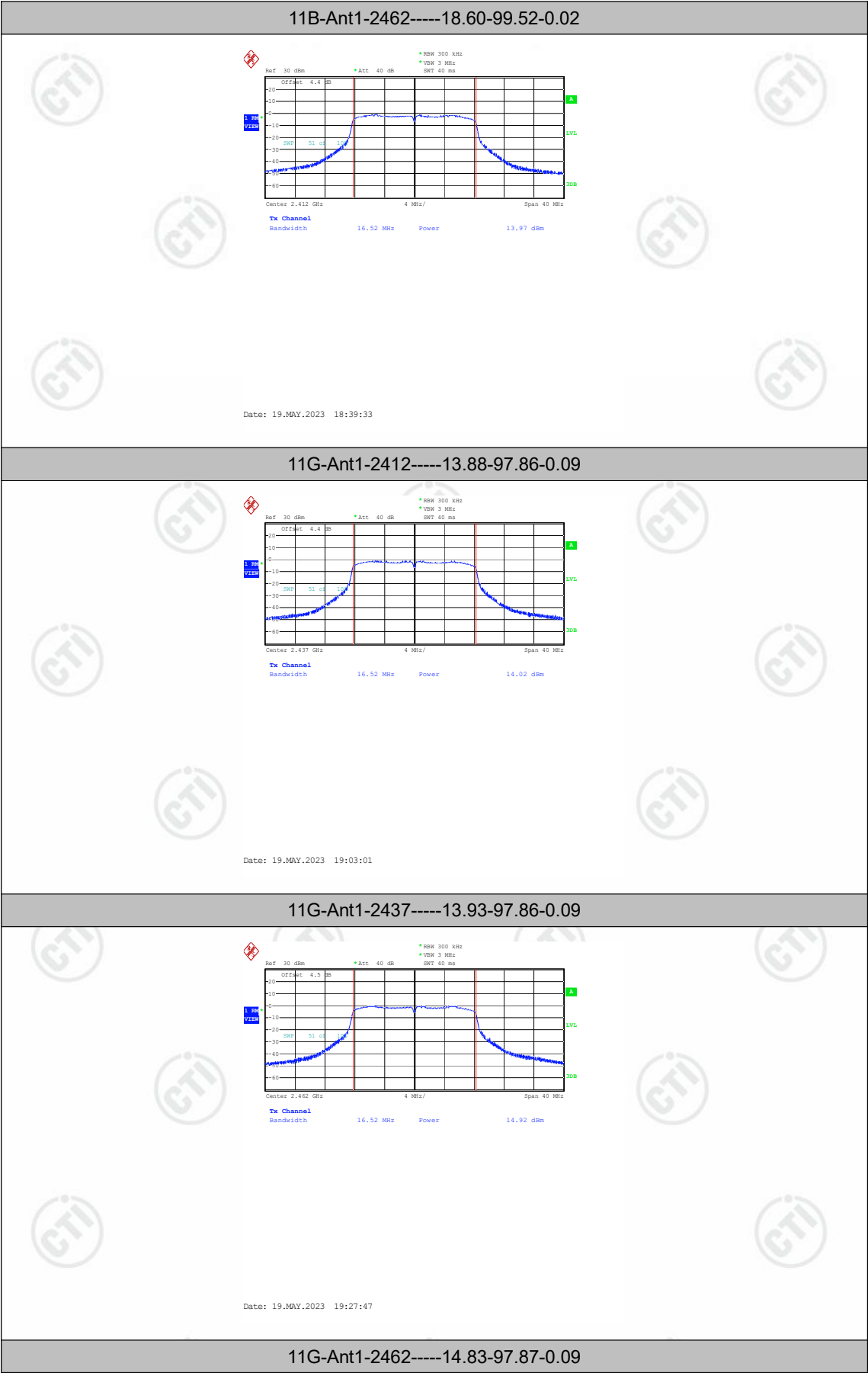
Test Mode	Frequen cy[MHz]	Peak Power[dBm]	Duty Cycle Factor[dB]	Maximum conducted output power[dBm]	Conducted Limit[dBm]	EIRP [dBm]	EIRP Limit[dBm]	Verdict
11B	2412	17.93	0.00	17.93	≤30.00	21.10	≤36.00	PASS
11B	2437	17.87	0.00	17.87	≤30.00	21.04	≤36.00	PASS
11B	2462	18.62	0.00	18.62	≤30.00	21.79	≤36.00	PASS
11G	2412	13.97	0.09	14.06	≤30.00	17.23	≤36.00	PASS
11G	2437	14.02	0.13	14.15	≤30.00	17.32	≤36.00	PASS
11G	2462	14.92	0.09	15.01	≤30.00	18.18	≤36.00	PASS
11N20SISO	2412	14.43	0.75	15.18	≤30.00	18.35	≤36.00	PASS
11N20SISO	2437	14.43	0.97	15.40	≤30.00	18.57	≤36.00	PASS
11N20SISO	2462	15.10	0.97	16.07	≤30.00	19.24	≤36.00	PASS
11N40SISO	2422	13.09	1.14	14.23	≤30.00	17.40	≤36.00	PASS
11N40SISO	2437	13.90	1.60	15.50	≤30.00	18.67	≤36.00	PASS
11N40SISO	2452	14.20	1.60	15.80	≤30.00	18.97	≤36.00	PASS
11AX20SISO	2412	12.26	1.05	13.31	≤30.00	16.48	≤36.00	PASS
11AX20SISO	2437	12.28	1.05	13.33	≤30.00	16.50	≤36.00	PASS
11AX20SISO	2462	13.29	1.35	14.64	≤30.00	17.81	≤36.00	PASS
11AX40SISO	2422	11.36	1.38	12.74	≤30.00	15.91	≤36.00	PASS
11AX40SISO	2437	11.71	1.38	13.09	≤30.00	16.26	≤36.00	PASS
11AX40SISO	2452	12.34	1.76	14.10	≤30.00	17.27	≤36.00	PASS

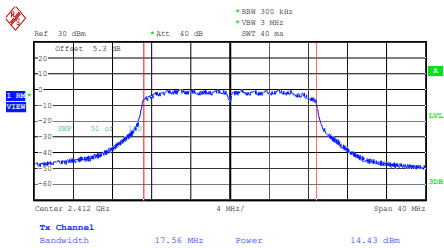
Note:

1. Maximum conducted output power=Peak Power+Duty Cycle Factor;
2. EIRP=Maximum conducted output power+Antenna gain.

Test Graphs Peak

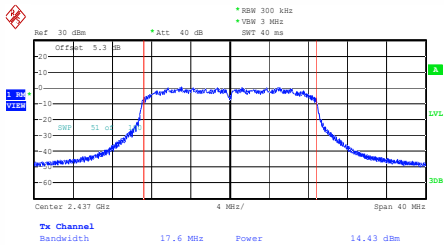






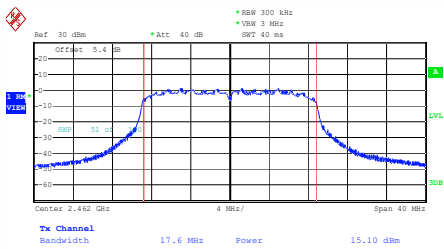
Date: 19.MAY.2023 19:40:40

11N20SISO-Ant1-2412-----13.40-78.95-1.03



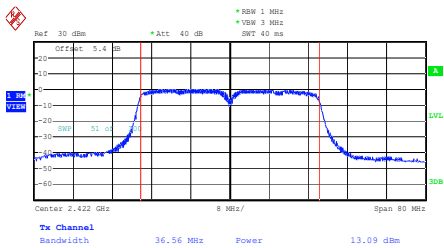
Date: 19.MAY.2023 19:52:33

11N20SISO-Ant1-2437-----13.40-78.95-1.03



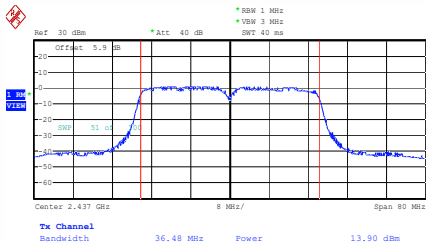
Date: 19.MAY.2023 20:03:26

11N20SISO-Ant1-2462-----14.07-78.95-1.03



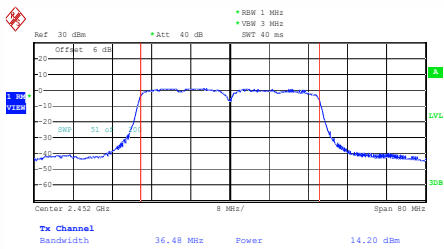
Date: 19.MAY.2023 20:30:50

11N40SISO-Ant1-2422-----11.95-76.92-1.14



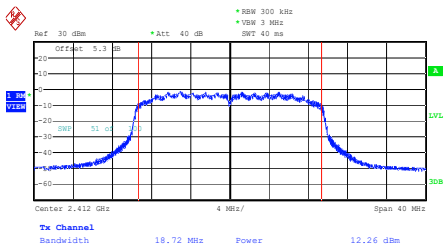
Date: 19.MAY.2023 20:54:10

11N40SISO-Ant1-2437-----12.30-69.23-1.60



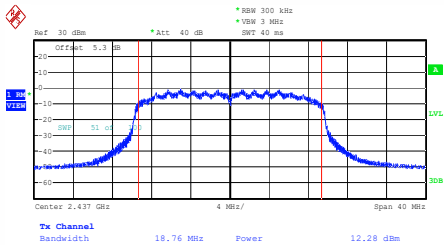
Date: 19.MAY.2023 21:15:32

11N40SISO-Ant1-2452-----12.60-69.23-1.60



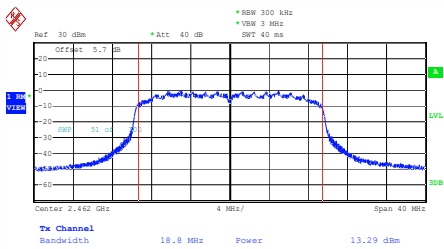
Date: 19.MAY.2023 22:13:09

11AX20SISO-Ant1-2412-----11.21-78.57-1.05



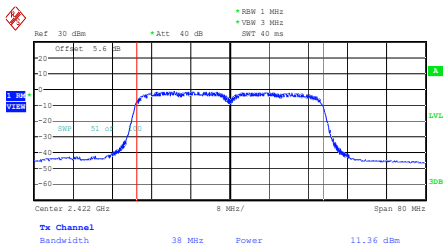
Date: 19.MAY.2023 22:16:32

11AX20SISO-Ant1-2437-----11.23-78.57-1.05



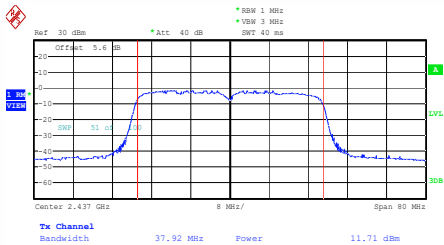
Date: 19.MAY.2023 22:20:23

11AX20SISO-Ant1-2462-----11.94-73.33-1.35



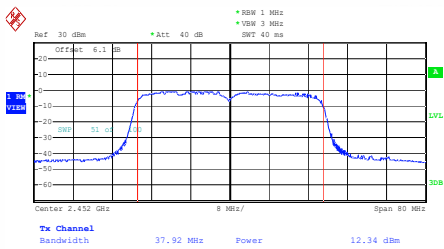
Date: 19.MAY.2023 22:25:41

11AX40SISO-Ant1-2422-----9.98-72.73-1.38



Date: 19.MAY.2023 22:29:48

11AX40SISO-Ant1-2437-----10.33-72.73-1.38



Date: 19.MAY.2023 22:33:34

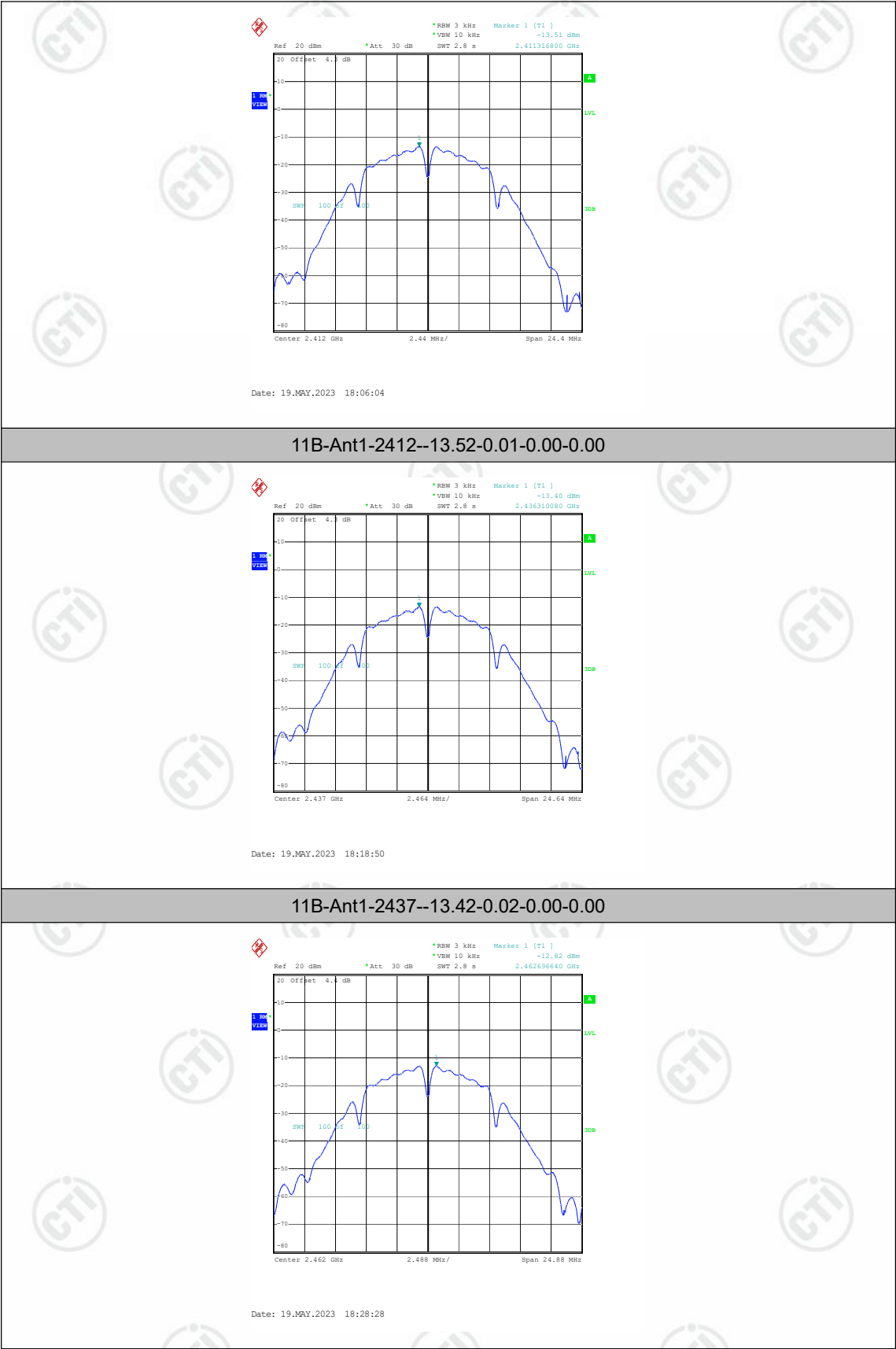
11AX40SISO-Ant1-2452-----10.58-66.67-1.76

Appendix D: Maximum power spectral density

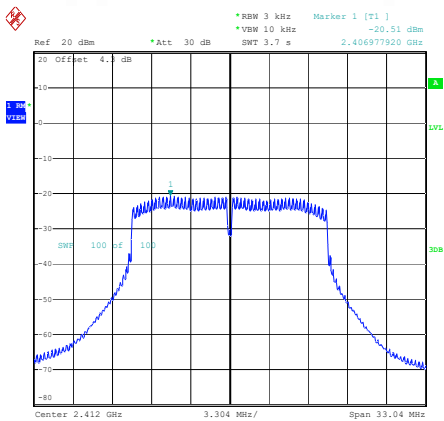
Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.51	≤8.00	PASS
11B	Ant1	2437	-13.4	≤8.00	PASS
11B	Ant1	2462	-12.82	≤8.00	PASS
11G	Ant1	2412	-20.51	≤8.00	PASS
11G	Ant1	2437	-20.52	≤8.00	PASS
11G	Ant1	2462	-19.64	≤8.00	PASS
11N20SISO	Ant1	2412	-17.86	≤8.00	PASS
11N20SISO	Ant1	2437	-17.66	≤8.00	PASS
11N20SISO	Ant1	2462	-17.07	≤8.00	PASS
11N40SISO	Ant1	2422	-23.01	≤8.00	PASS
11N40SISO	Ant1	2437	-22.18	≤8.00	PASS
11N40SISO	Ant1	2452	-21.91	≤8.00	PASS
11AX20SISO	Ant1	2412	-19.82	≤8.00	PASS
11AX20SISO	Ant1	2437	-19.76	≤8.00	PASS
11AX20SISO	Ant1	2462	-19.11	≤8.00	PASS
11AX40SISO	Ant1	2422	-24.23	≤8.00	PASS
11AX40SISO	Ant1	2437	-24.09	≤8.00	PASS
11AX40SISO	Ant1	2452	-23.31	≤8.00	PASS

Test Graphs

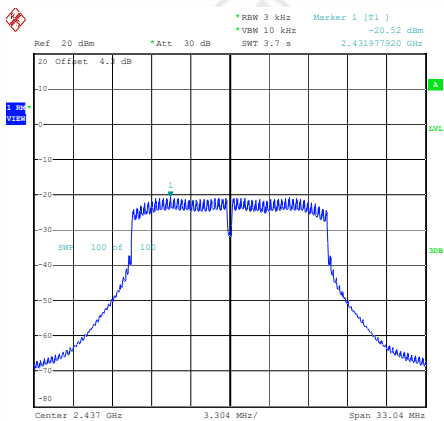


11B-Ant1-2462--12.84-0.02-0.00-0.00



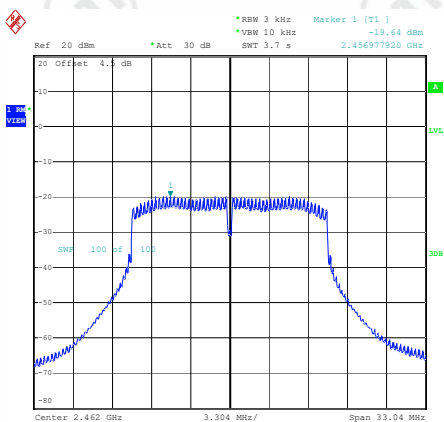
Date: 19.MAY.2023 18:47:41

11G-Ant1-2412--20.60-0.09-0.00-0.00



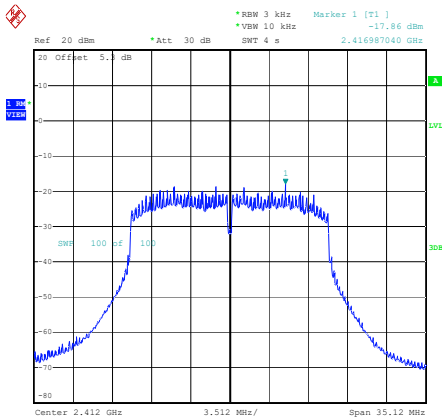
Date: 19.MAY.2023 19:11:09

11G-Ant1-2437--20.61-0.09-0.00-0.00



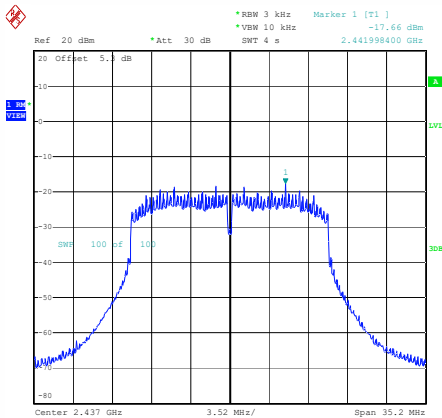
Date: 19.MAY.2023 19:35:55

11G-Ant1-2462--19.73-0.09-0.00-0.00



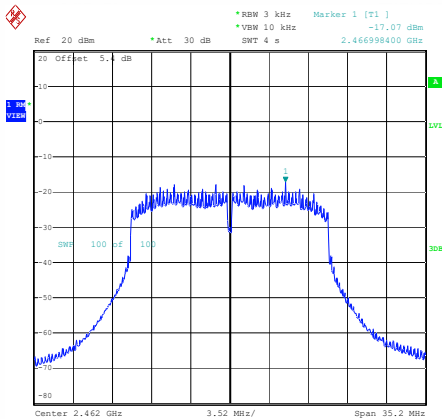
Date: 19.MAY.2023 19:49:28

11N20SISO-Ant1-2412--18.89-1.03-0.00-0.00



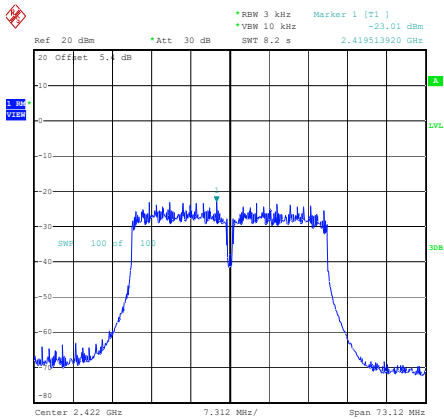
Date: 19.MAY.2023 20:01:20

11N20SISO-Ant1-2437--18.69-1.03-0.00-0.00



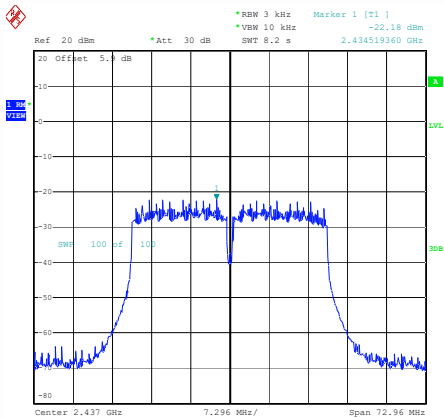
Date: 19.MAY.2023 20:19:17

11N20SISO-Ant1-2462--18.10-1.03-0.00-0.00



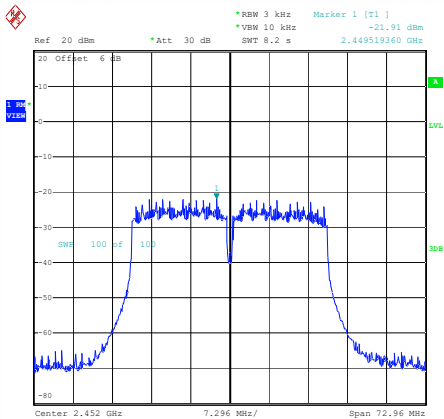
Date: 19.MAY.2023 20:48:43

11N40SISO-Ant1-2422--24.15-1.14-0.00-0.00



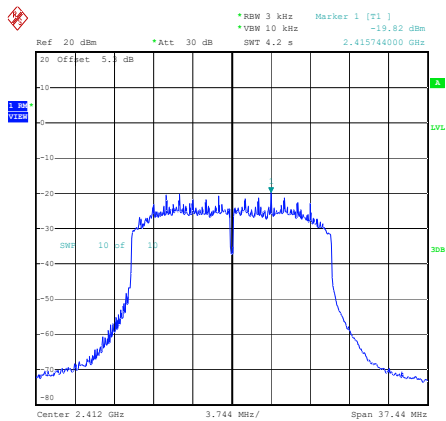
Date: 19.MAY.2023 21:12:03

11N40SISO-Ant1-2437--23.78-1.60-0.00-0.00



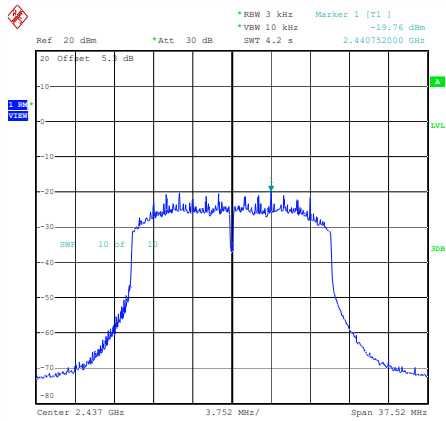
Date: 19.MAY.2023 21:33:25

11N40SISO-Ant1-2452--23.51-1.60-0.00-0.00



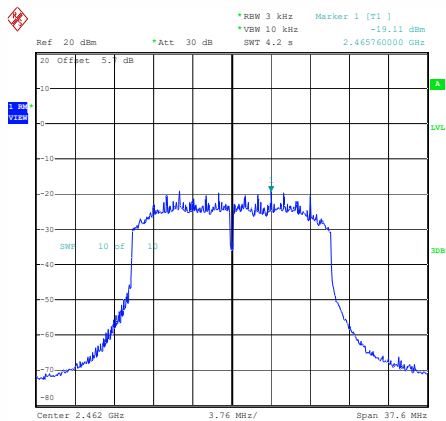
Date: 19.MAY.2023 22:14:10

11AX20SISO-Ant1-2412--20.87-1.05-0.00-0.00



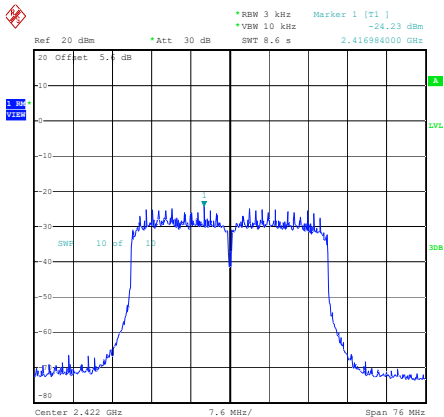
Date: 19.MAY.2023 22:17:34

11AX20SISO-Ant1-2437--20.81-1.05-0.00-0.00



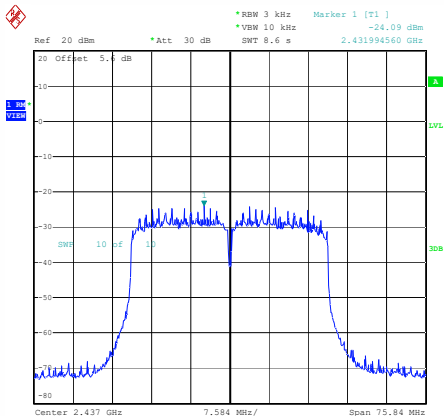
Date: 19.MAY.2023 22:21:25

11AX20SISO-Ant1-2462--20.46-1.35-0.00-0.00



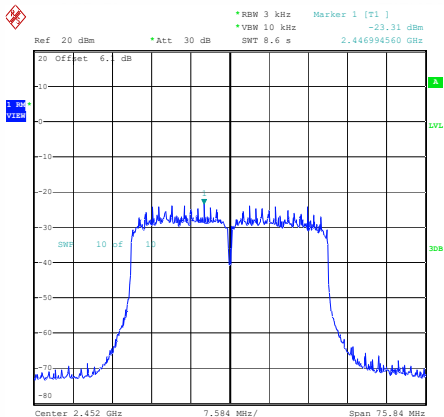
Date: 19.MAY.2023 22:27:39

11AX40SISO-Ant1-2422--25.61-1.38-0.00-0.00



Date: 19.MAY.2023 22:31:47

11AX40SISO-Ant1-2437--25.47-1.38-0.00-0.00



Date: 19.MAY.2023 22:35:33

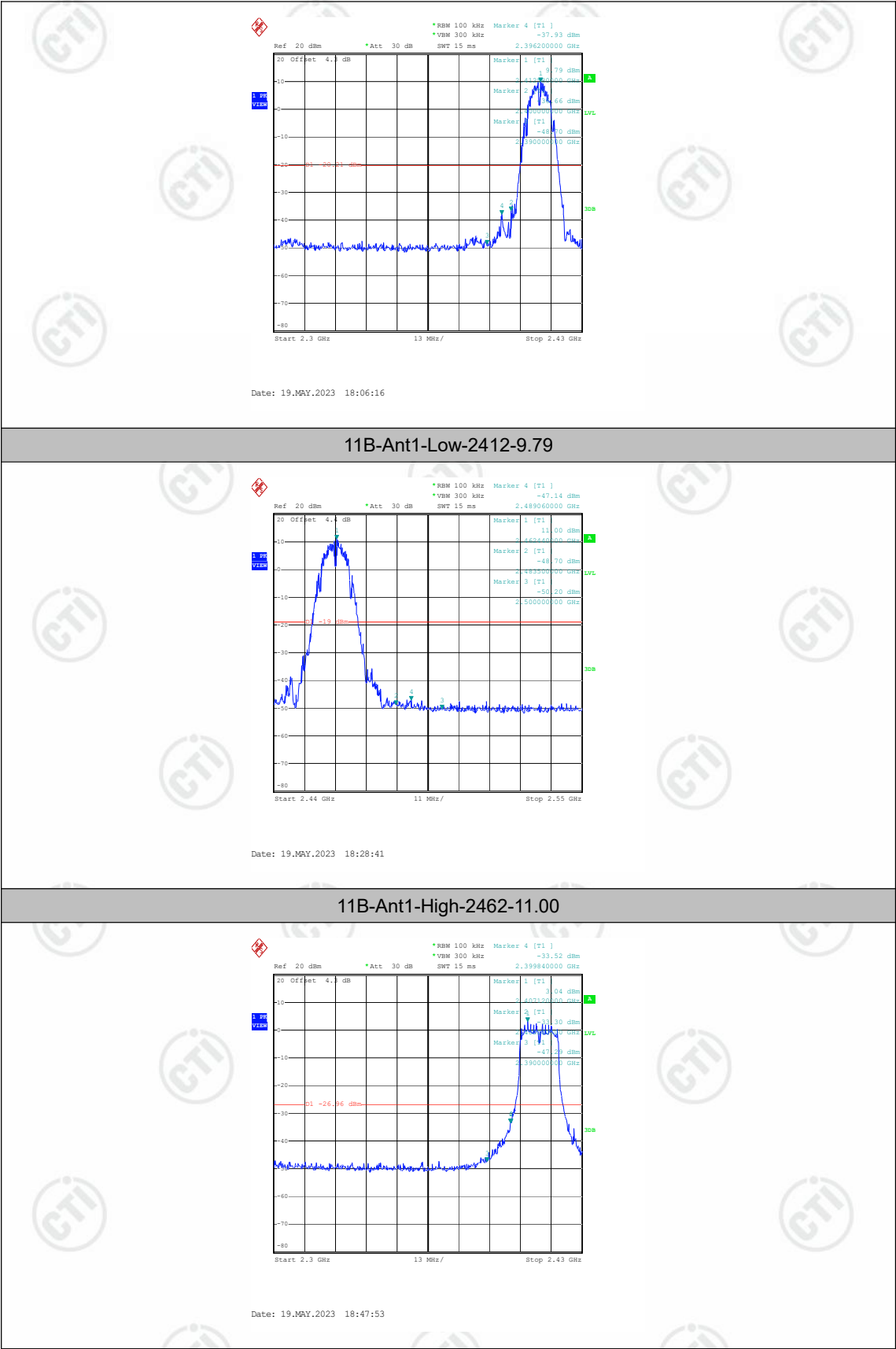
11AX40SISO-Ant1-2452--25.07-1.76-0.00-0.00

Appendix E: Band edge measurements

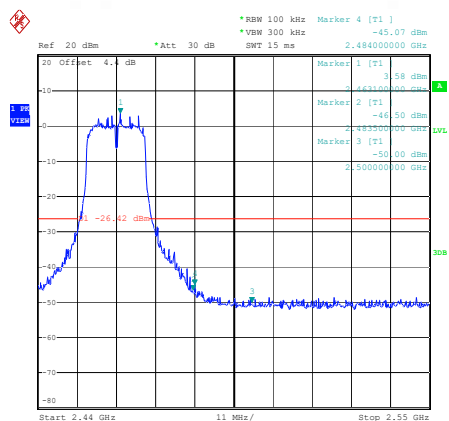
Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	9.79	-37.93	≤-20.21	PASS
11B	Ant1	High	2462	11.00	-47.14	≤-19	PASS
11G	Ant1	Low	2412	3.04	-33.52	≤-26.96	PASS
11G	Ant1	High	2462	3.58	-45.07	≤-26.42	PASS
11N20SISO	Ant1	Low	2412	3.01	-34.83	≤-26.99	PASS
11N20SISO	Ant1	High	2462	4.02	-45.79	≤-25.98	PASS
11N40SISO	Ant1	Low	2422	-0.98	-38.3	≤-30.98	PASS
11N40SISO	Ant1	High	2452	-0.05	-40.93	≤-30.05	PASS
11AX20SISO	Ant1	Low	2412	1.76	-37.82	≤-28.24	PASS
11AX20SISO	Ant1	High	2462	2.44	-47.53	≤-27.56	PASS
11AX40SISO	Ant1	Low	2422	-2.17	-40.48	≤-32.17	PASS
11AX40SISO	Ant1	High	2452	-1.64	-43.7	≤-31.64	PASS

Test Graphs

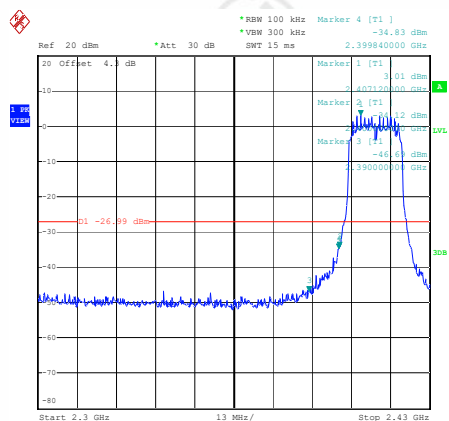


11G-Ant1-Low-2412-3.04



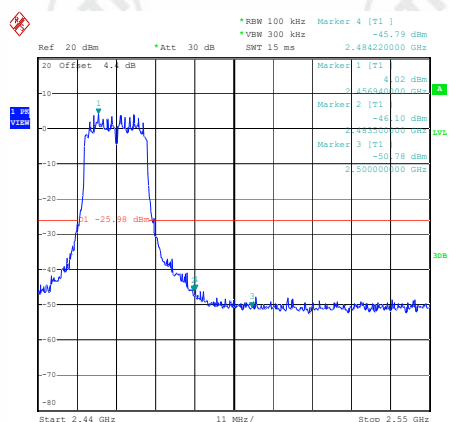
Date: 19.MAY.2023 19:36:05

11G-Ant1-High-2462-3.58



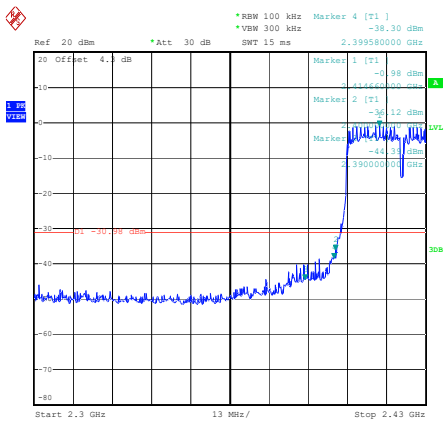
Date: 19.MAY.2023 19:49:37

11N20SISO-Ant1-Low-2412-3.01



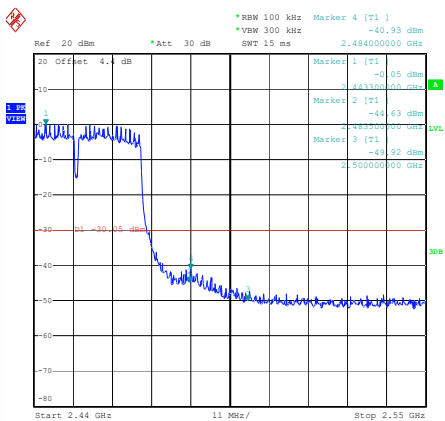
Date: 19.MAY.2023 20:19:26

11N20SISO-Ant1-High-2462-4.02



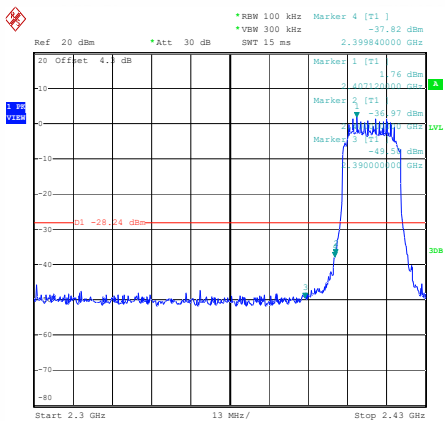
Date: 19.MAY.2023 20:48:52

11N40SISO-Ant1-Low-2422--0.98



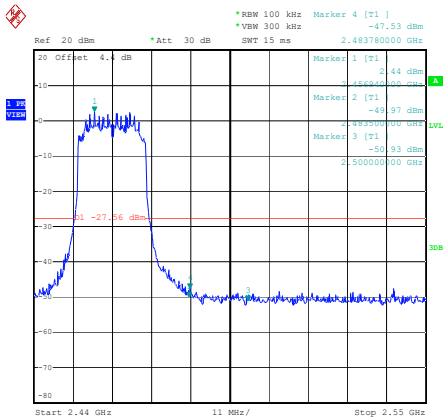
Date: 19.MAY.2023 21:33:36

11N40SISO-Ant1-High-2452--0.05



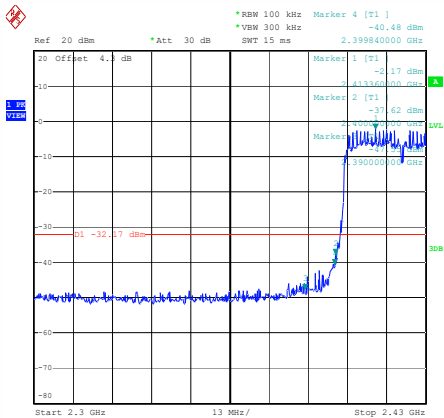
Date: 19.MAY.2023 22:14:20

11AX20SISO-Ant1-Low-2412-1.76



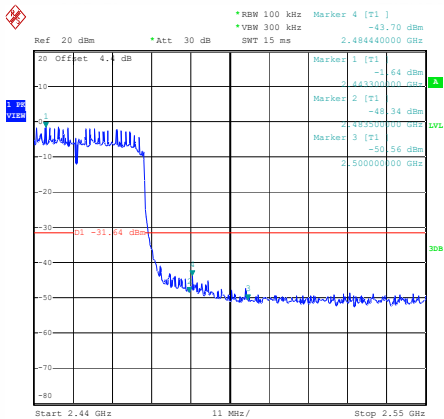
Date: 19.MAY.2023 22:21:34

11AX20SISO-Ant1-High-2462-2.44



Date: 19.MAY.2023 22:27:49

11AX40SISO-Ant1-Low-2422--2.17



Date: 19.MAY.2023 22:35:42

11AX40SISO-Ant1-High-2452--1.64

Appendix F: Conducted Spurious Emission

Test Result

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.43	-20	Pass
NVNT	b	2437	Ant1	-47.47	-20	Pass
NVNT	b	2462	Ant1	-48.18	-20	Pass
NVNT	g	2412	Ant1	-40.98	-20	Pass
NVNT	g	2437	Ant1	-41.52	-20	Pass
NVNT	g	2462	Ant1	-41.84	-20	Pass
NVNT	n20	2412	Ant1	-40.91	-20	Pass
NVNT	n20	2437	Ant1	-41.58	-20	Pass
NVNT	n20	2462	Ant1	-42.06	-20	Pass
NVNT	n40	2422	Ant1	-37.88	-20	Pass
NVNT	n40	2437	Ant1	-38.28	-20	Pass
NVNT	n40	2452	Ant1	-37.49	-20	Pass
NVNT	ax20	2412	Ant1	-40.1	-20	Pass
NVNT	ax20	2437	Ant1	-39.44	-20	Pass
NVNT	ax20	2462	Ant1	-39.72	-20	Pass
NVNT	ax40	2422	Ant1	-35.05	-20	Pass
NVNT	ax40	2437	Ant1	-36.61	-20	Pass
NVNT	ax40	2452	Ant1	-36.56	-20	Pass

Test Graphs

