

Appendix: 2.4G WIFI

Contents

Appendix A: DTS Bandwidth 3

 Test Result 3

 Test Graphs 4

Appendix B: Occupied Channel Bandwidth 16

 Test Result 16

 Test Graphs 17

Appendix C: Maximum conducted output power 29

 Test Result Peak 29

Appendix D: Maximum power spectral density 31

 Test Result 31

 Test Graphs 33

Appendix E: Band edge measurements 51

 Test Result 51

 Test Graphs 52

Appendix F: Conducted Spurious Emission 60

 Test Result 60

 Test Graphs 62

Appendix G: Duty Cycle 98

 Test Result 98

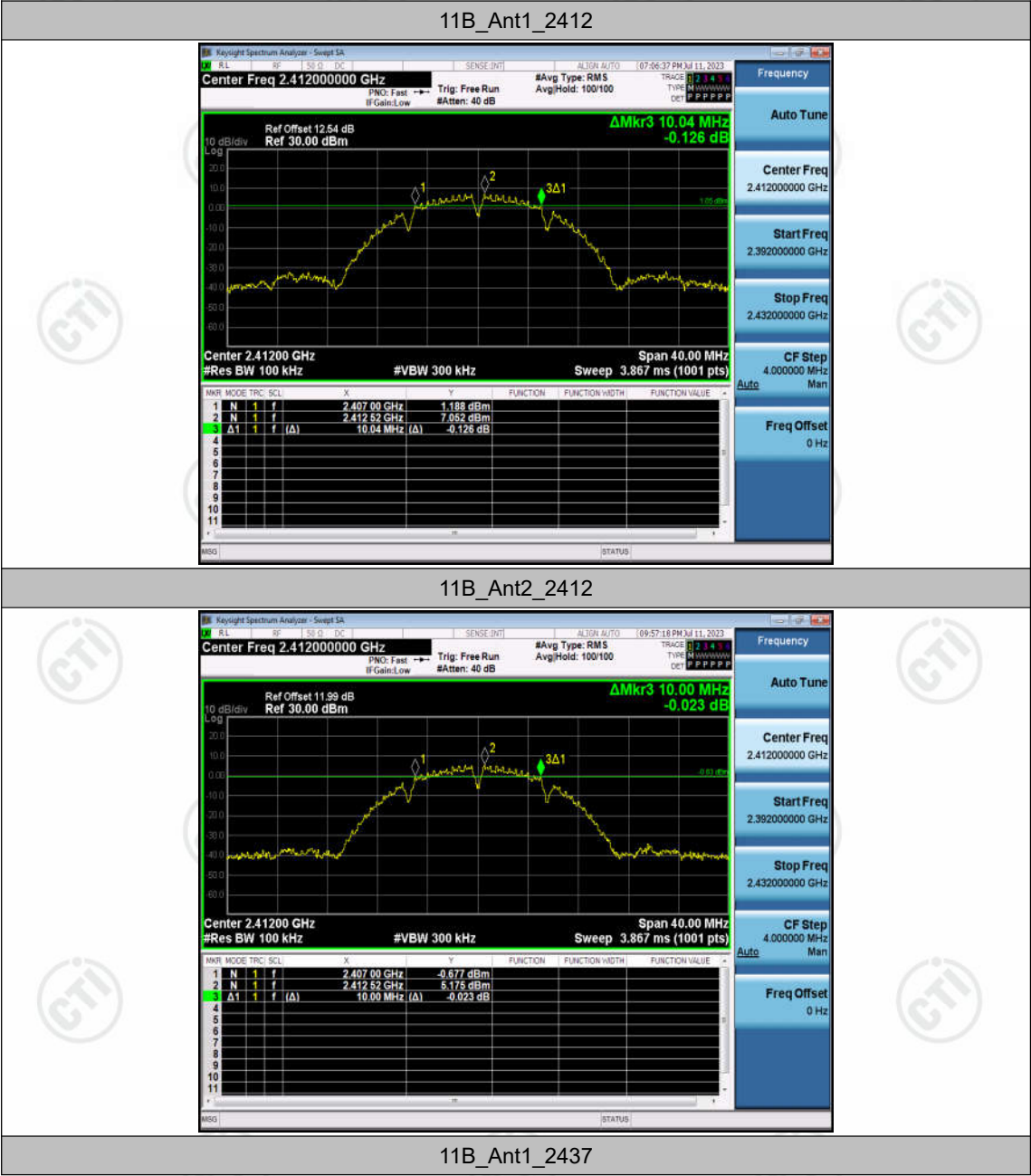
 Test Graphs 99

Appendix A: DTS Bandwidth

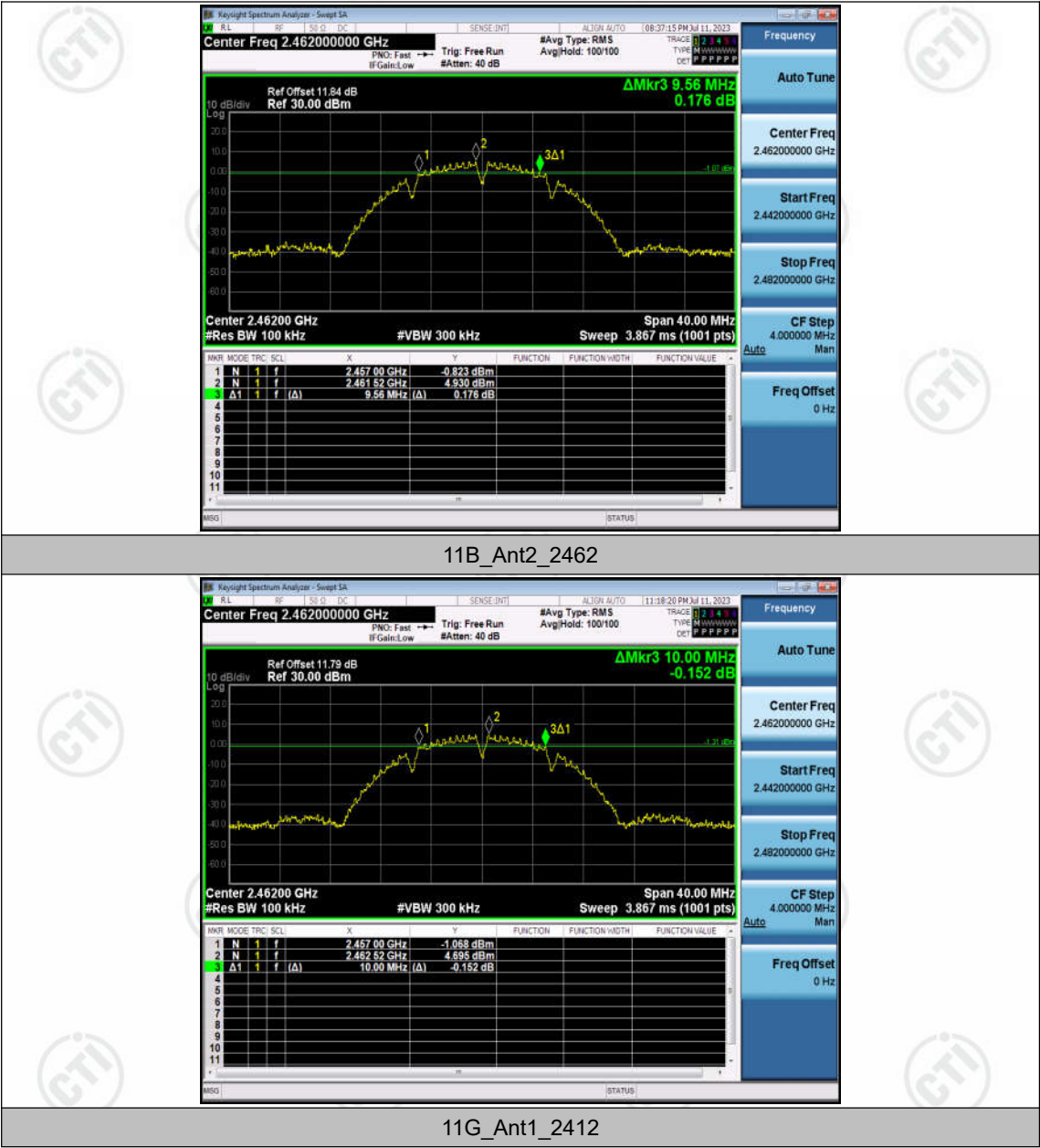
Test Result

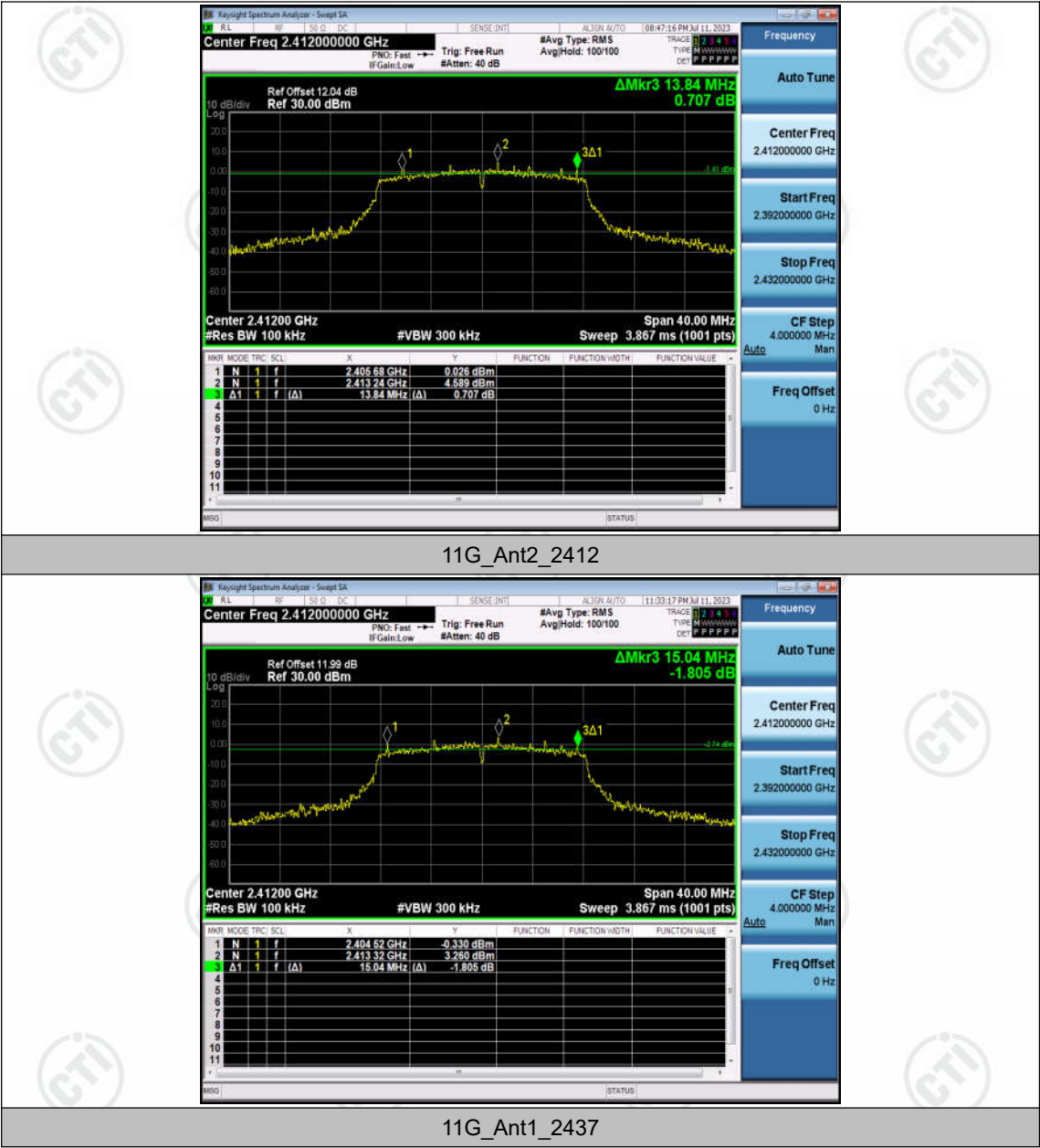
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.040	2407.000	2417.040	0.5	PASS
	Ant2	2412	10.000	2407.000	2417.000	0.5	PASS
	Ant1	2437	9.520	2432.040	2441.560	0.5	PASS
	Ant2	2437	9.560	2431.960	2441.520	0.5	PASS
	Ant1	2462	9.560	2457.000	2466.560	0.5	PASS
	Ant2	2462	10.000	2457.000	2467.000	0.5	PASS
11G	Ant1	2412	13.840	2405.680	2419.520	0.5	PASS
	Ant2	2412	15.040	2404.520	2419.560	0.5	PASS
	Ant1	2437	10.680	2430.720	2441.400	0.5	PASS
	Ant2	2437	14.800	2429.720	2444.520	0.5	PASS
	Ant1	2462	15.320	2454.240	2469.560	0.5	PASS
	Ant2	2462	13.120	2454.520	2467.640	0.5	PASS
11N20SI SO	Ant1	2412	17.000	2403.520	2420.520	0.5	PASS
	Ant2	2412	12.640	2405.680	2418.320	0.5	PASS
	Ant1	2437	11.720	2431.600	2443.320	0.5	PASS
	Ant2	2437	12.240	2431.080	2443.320	0.5	PASS
	Ant1	2462	13.840	2455.680	2469.520	0.5	PASS
	Ant2	2462	15.440	2454.120	2469.560	0.5	PASS
11N40SI SO	Ant1	2422	30.080	2405.760	2435.840	0.5	PASS
	Ant2	2422	33.840	2405.680	2439.520	0.5	PASS
	Ant1	2437	28.720	2419.480	2448.200	0.5	PASS
	Ant2	2437	32.560	2419.480	2452.040	0.5	PASS
	Ant1	2452	32.560	2434.480	2467.040	0.5	PASS
	Ant2	2452	33.760	2435.760	2469.520	0.5	PASS

Test Graphs





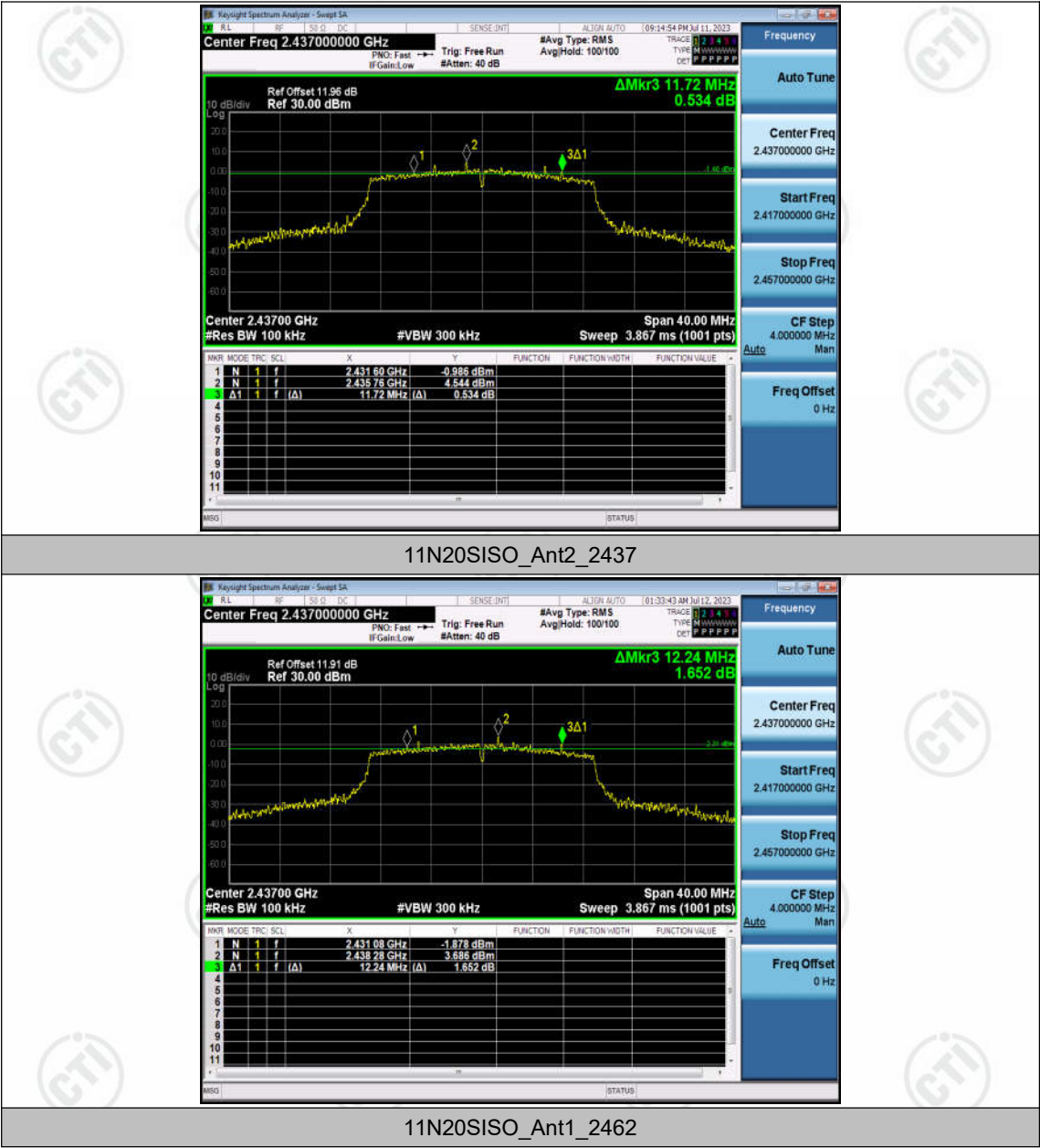


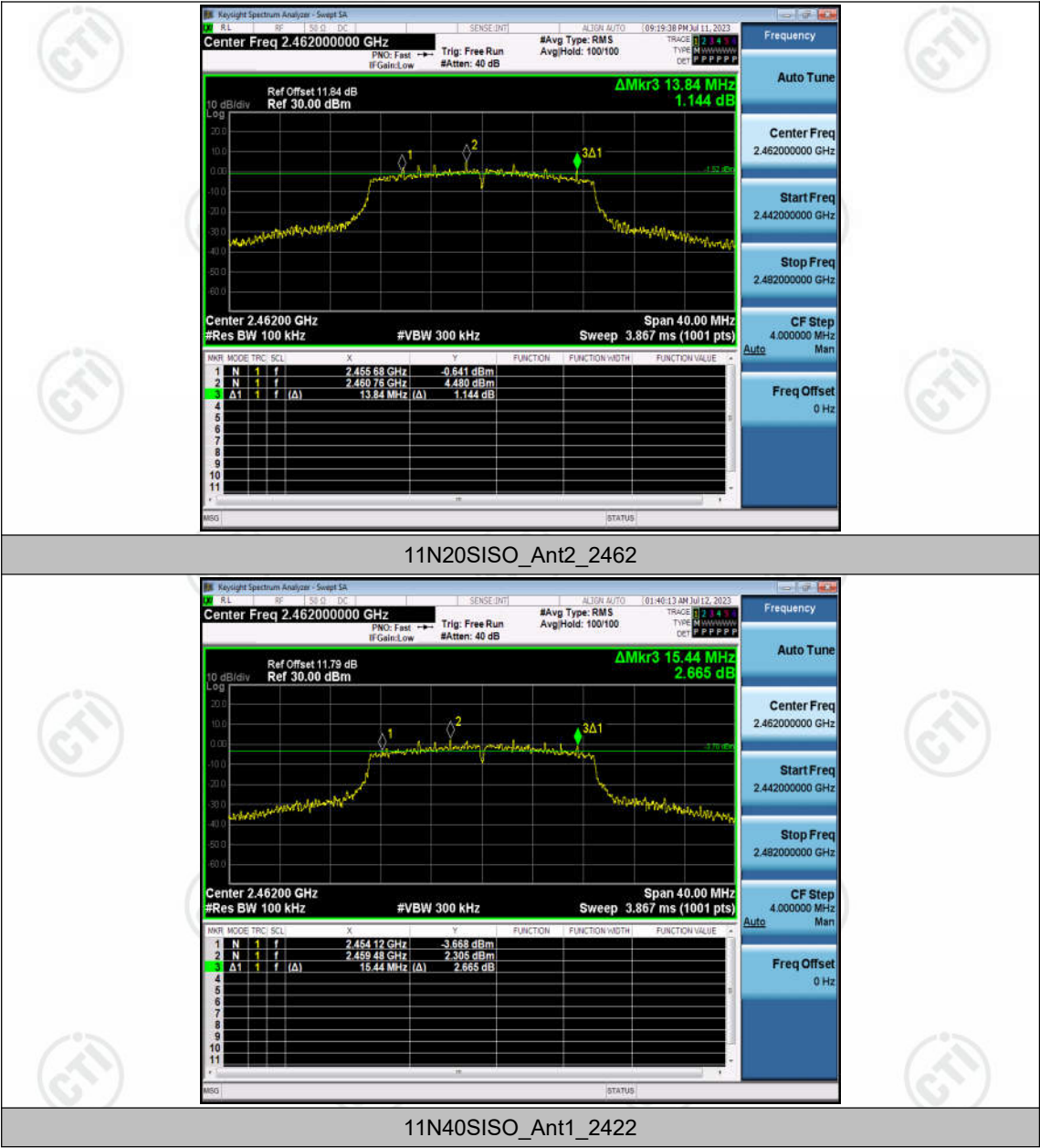


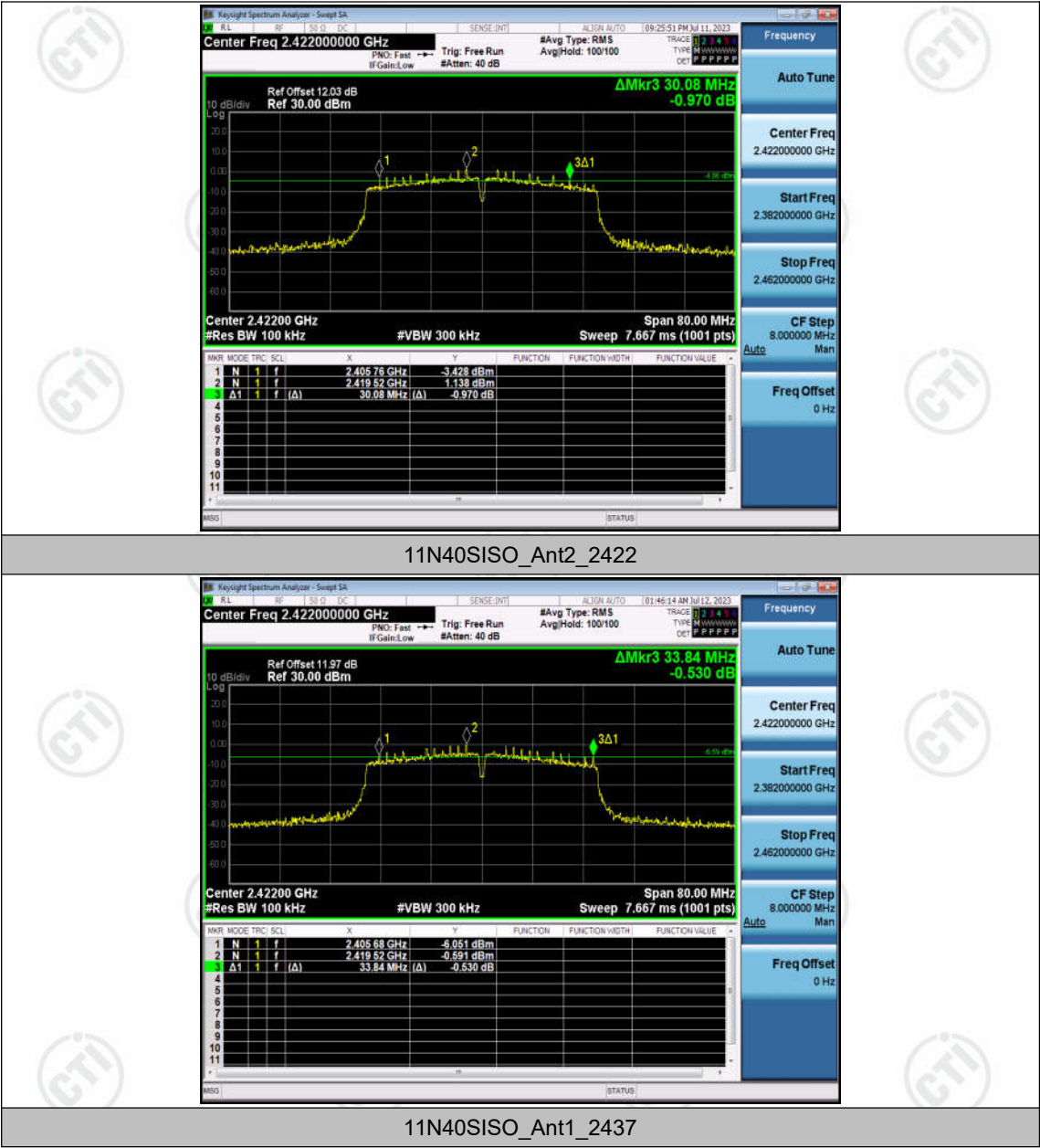


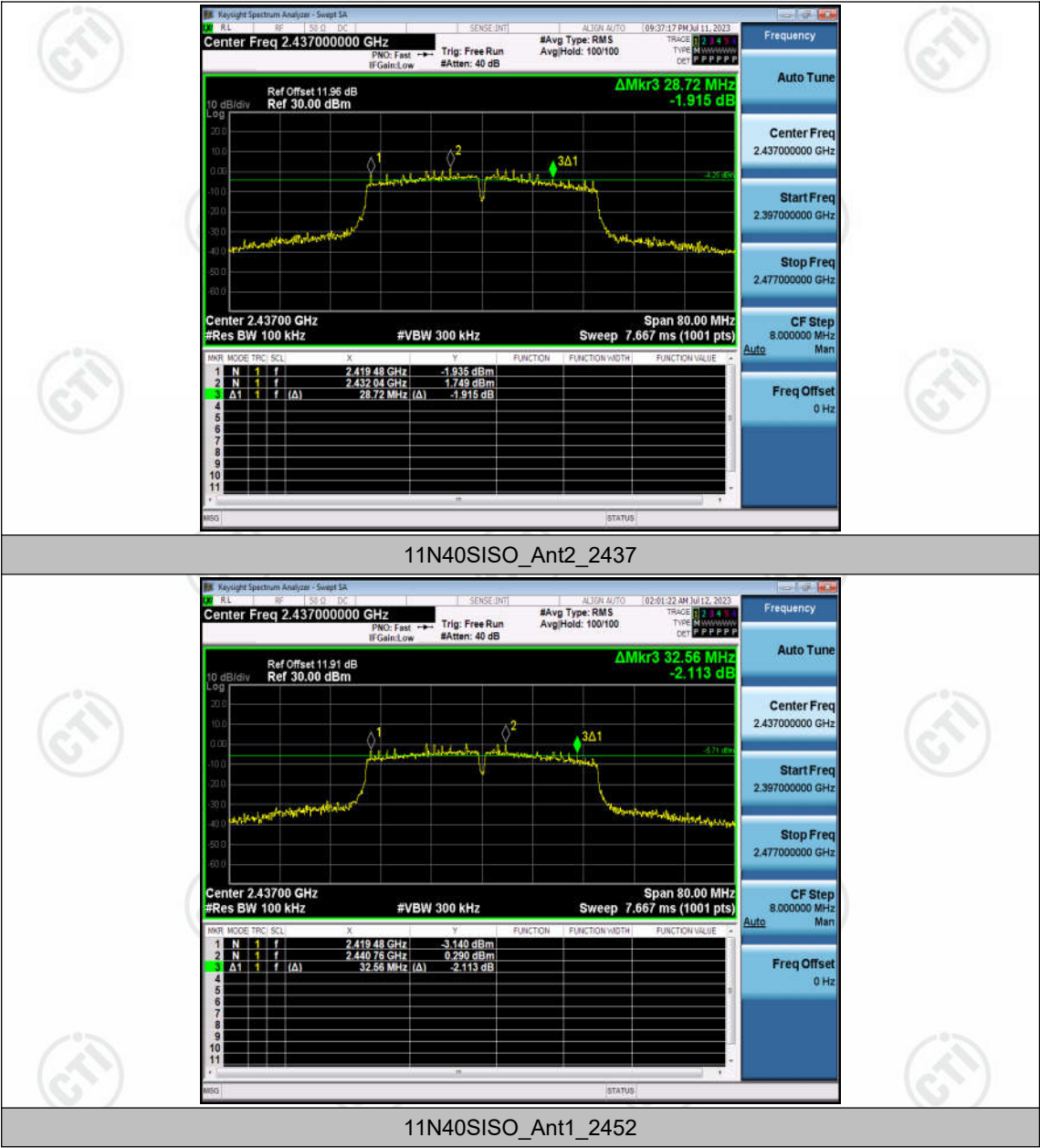


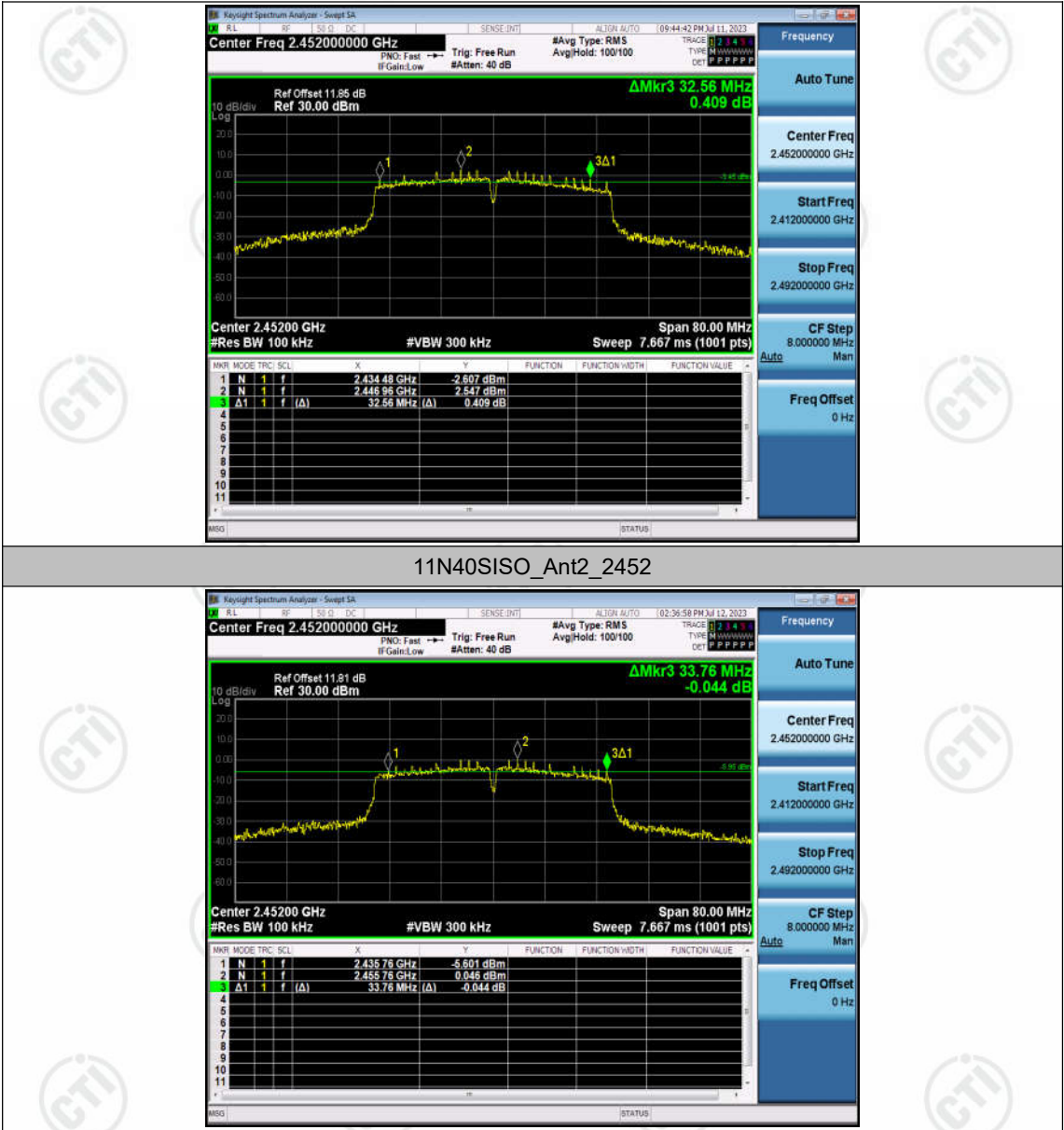










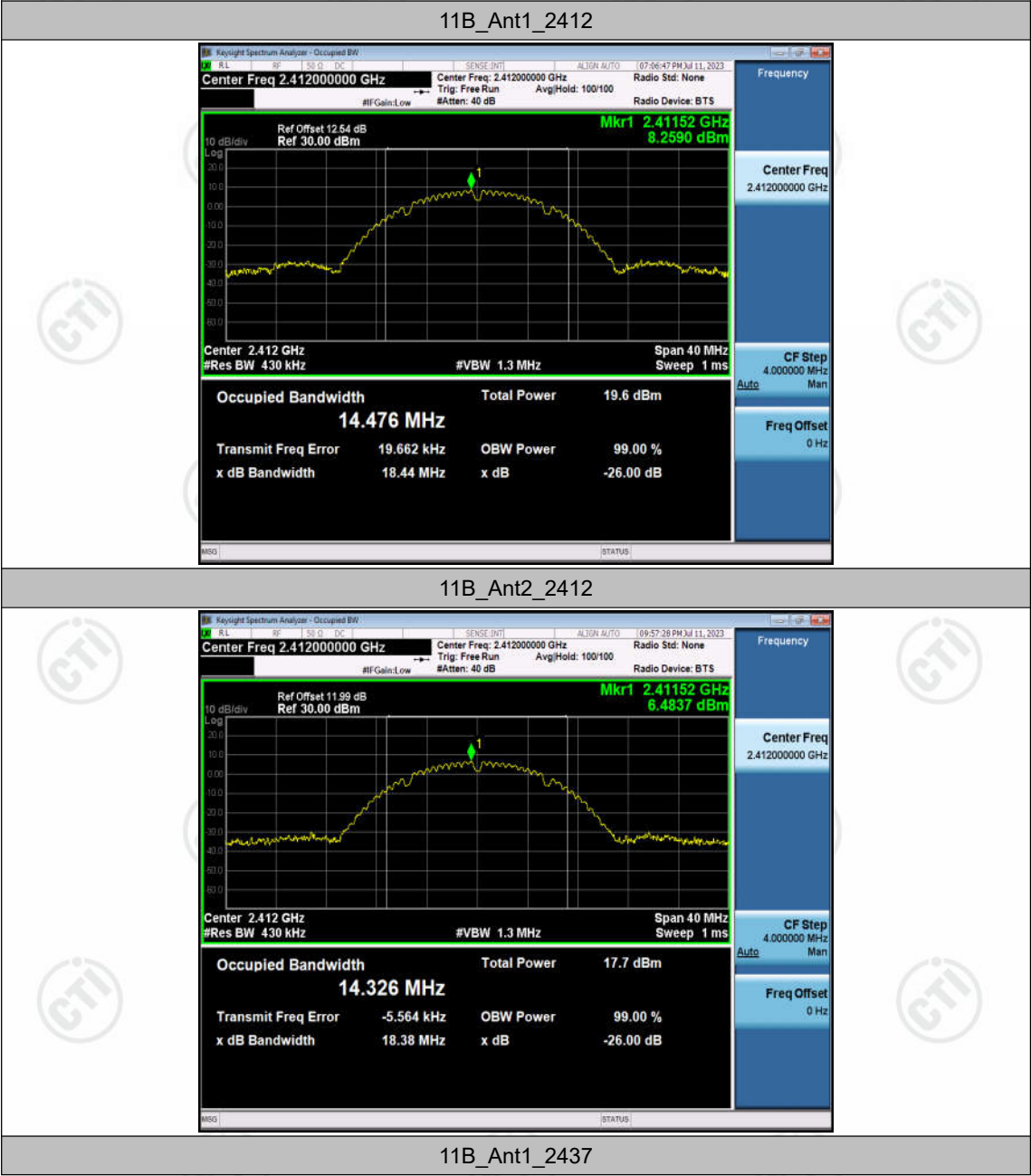


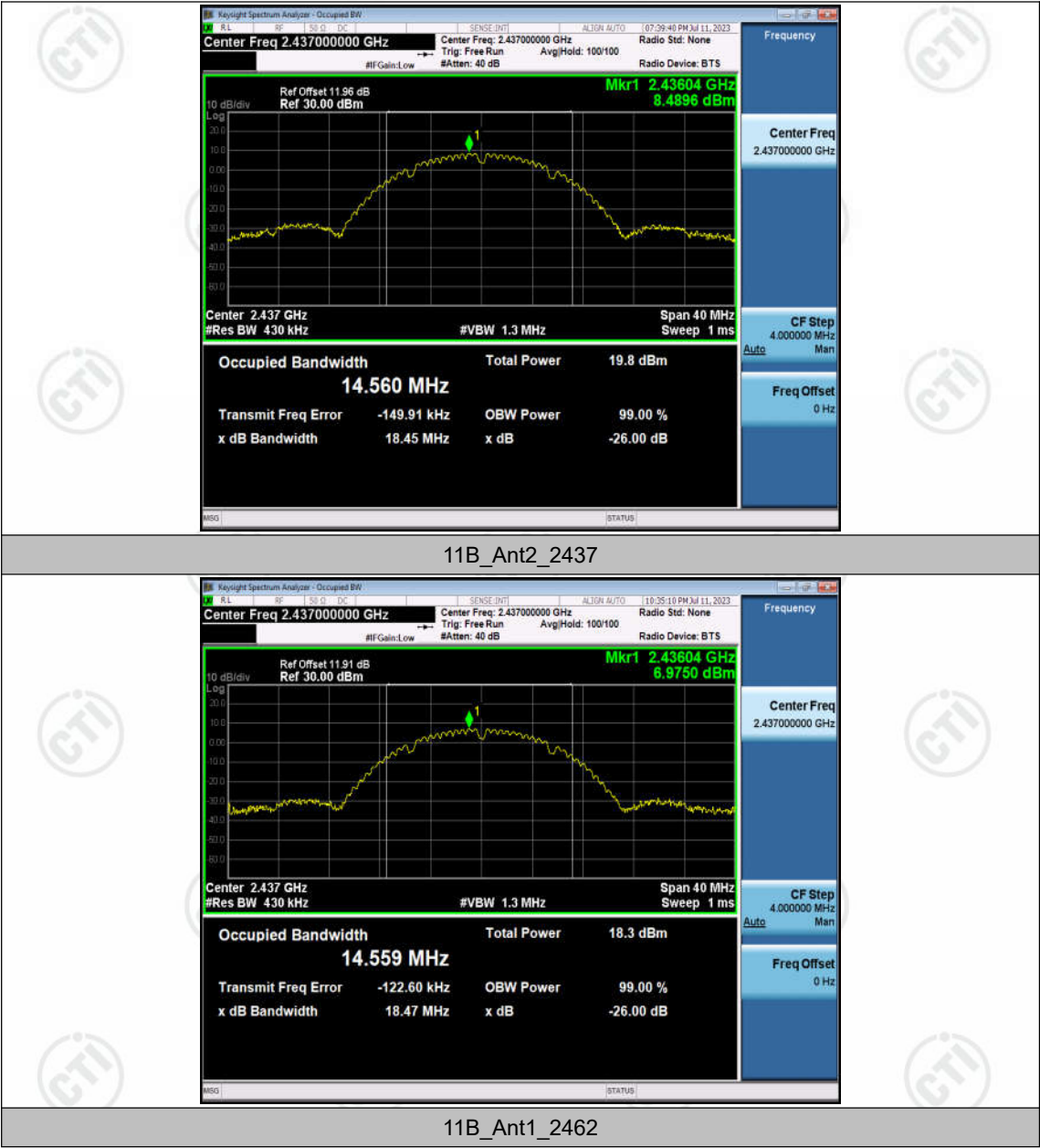
Appendix B: Occupied Channel Bandwidth

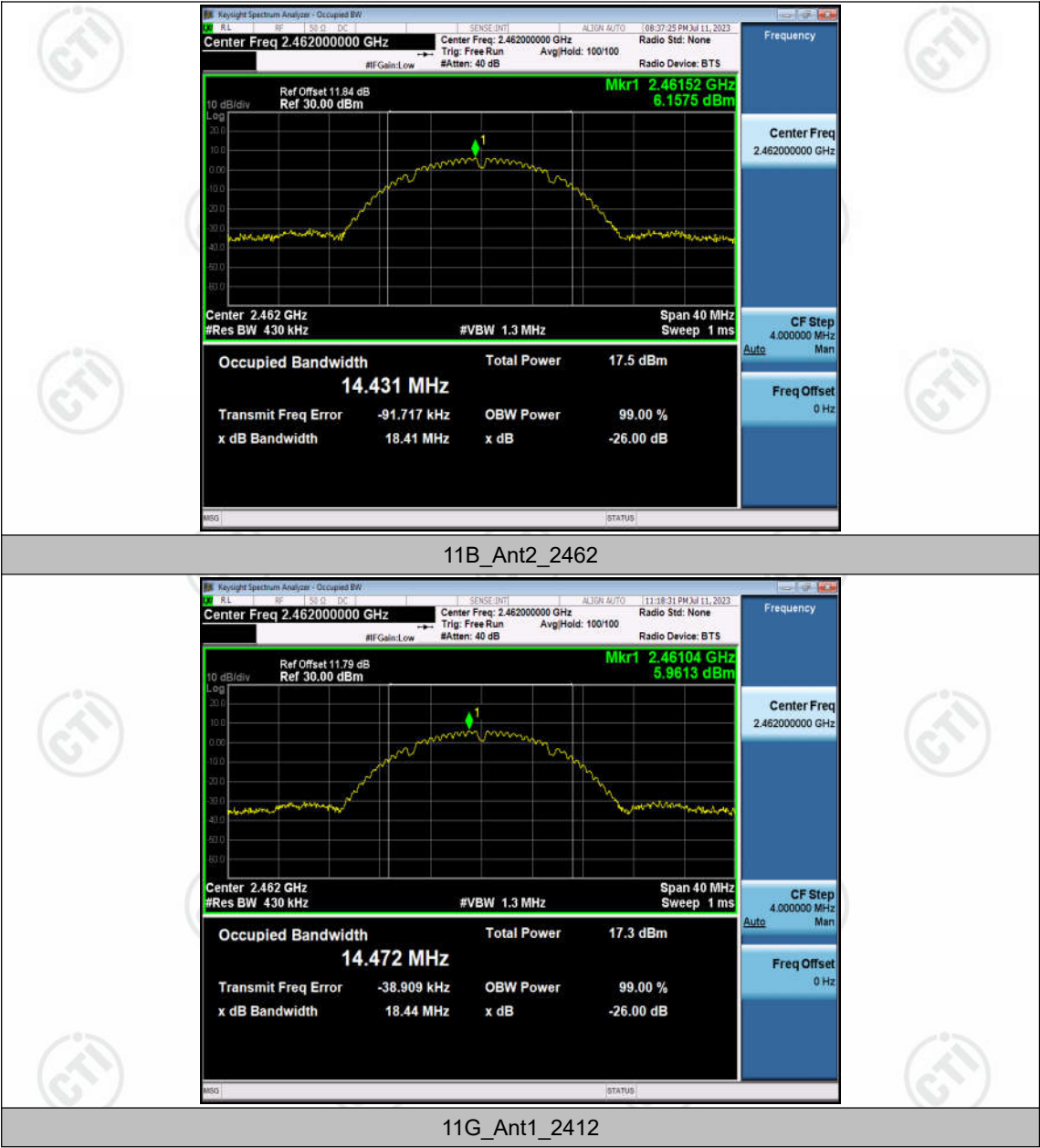
Test Result

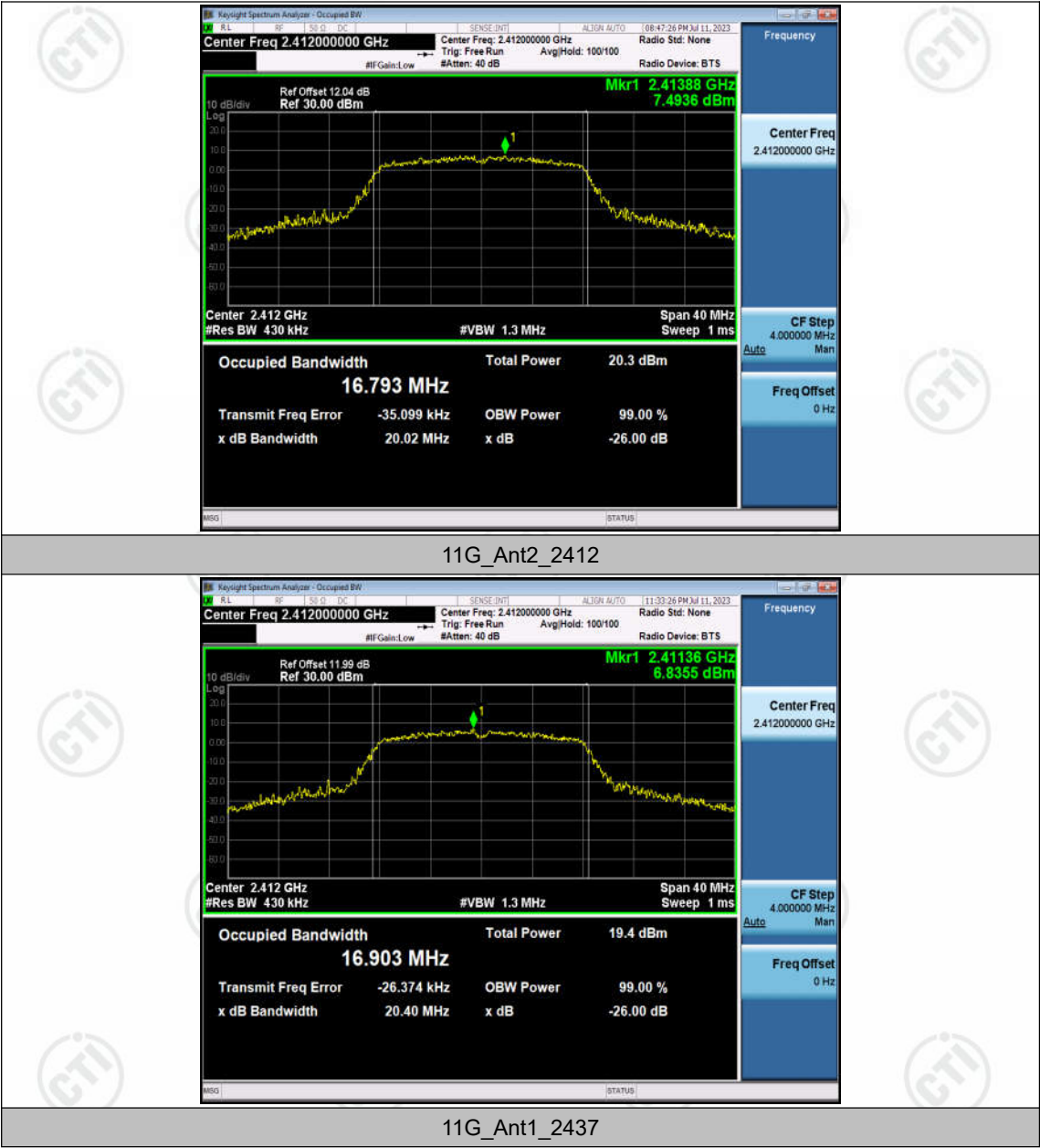
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.476	2404.7817	2419.2577	---	---
	Ant2	2412	14.326	2404.8314	2419.1574	---	---
	Ant1	2437	14.560	2429.5701	2444.1301	---	---
	Ant2	2437	14.559	2429.5979	2444.1569	---	---
	Ant1	2462	14.431	2454.6928	2469.1238	---	---
	Ant2	2462	14.472	2454.7251	2469.1971	---	---
11G	Ant1	2412	16.793	2403.5684	2420.3614	---	---
	Ant2	2412	16.903	2403.5221	2420.4251	---	---
	Ant1	2437	16.984	2428.3688	2445.3528	---	---
	Ant2	2437	16.987	2428.3879	2445.3749	---	---
	Ant1	2462	17.013	2453.4202	2470.4332	---	---
	Ant2	2462	17.061	2453.3966	2470.4576	---	---
11N20SI SO	Ant1	2412	17.747	2403.1641	2420.9111	---	---
	Ant2	2412	17.791	2403.1080	2420.8990	---	---
	Ant1	2437	17.756	2428.0723	2445.8283	---	---
	Ant2	2437	17.877	2428.0096	2445.8866	---	---
	Ant1	2462	17.809	2453.0716	2470.8806	---	---
	Ant2	2462	17.878	2453.0504	2470.9284	---	---
11N40SI SO	Ant1	2422	35.825	2404.0457	2439.8707	---	---
	Ant2	2422	35.848	2403.9886	2439.8366	---	---
	Ant1	2437	35.904	2418.9166	2454.8206	---	---
	Ant2	2437	36.028	2418.8502	2454.8782	---	---
	Ant1	2452	36.124	2433.8035	2469.9275	---	---
	Ant2	2452	36.193	2433.7675	2469.9605	---	---

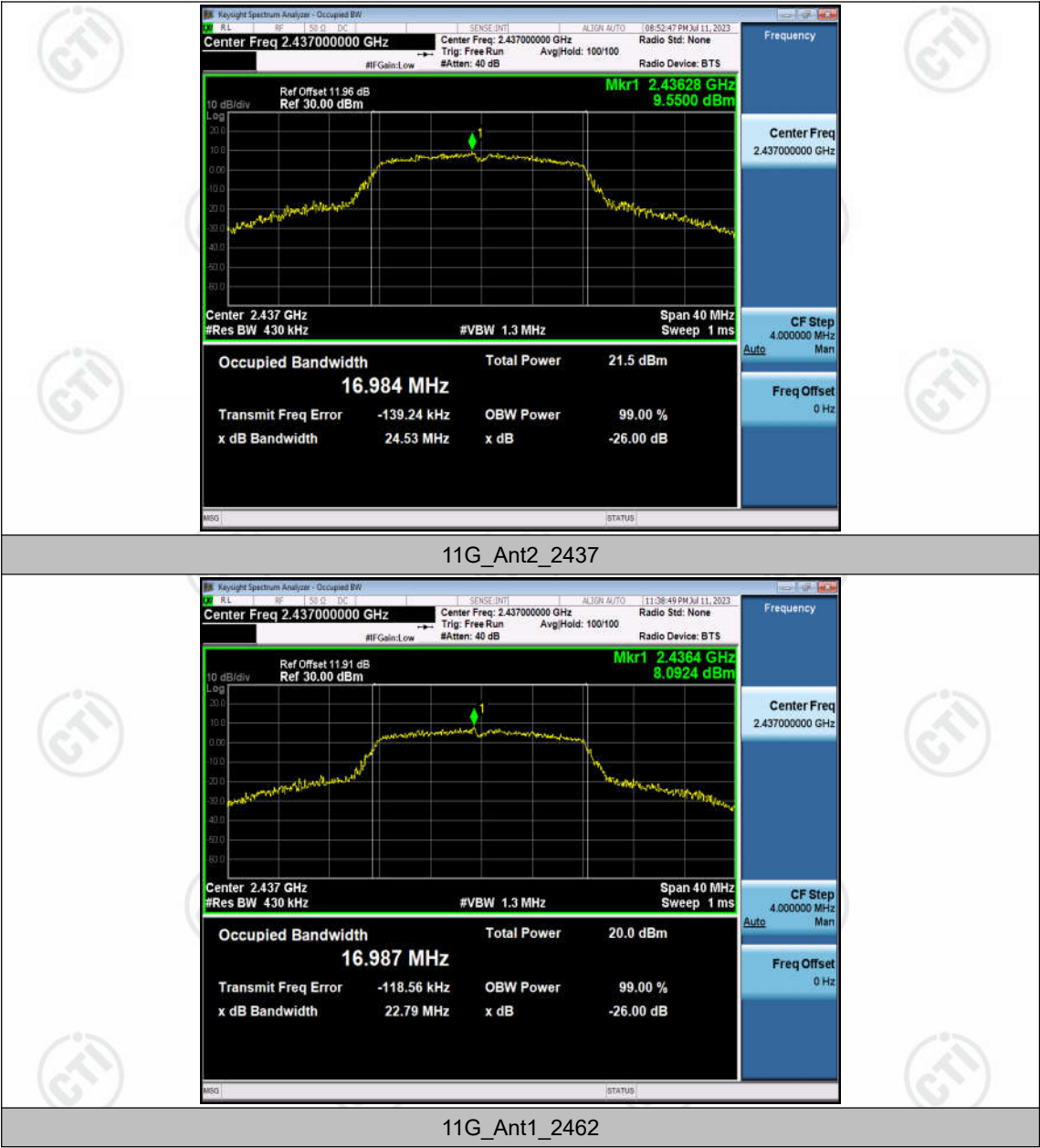
Test Graphs

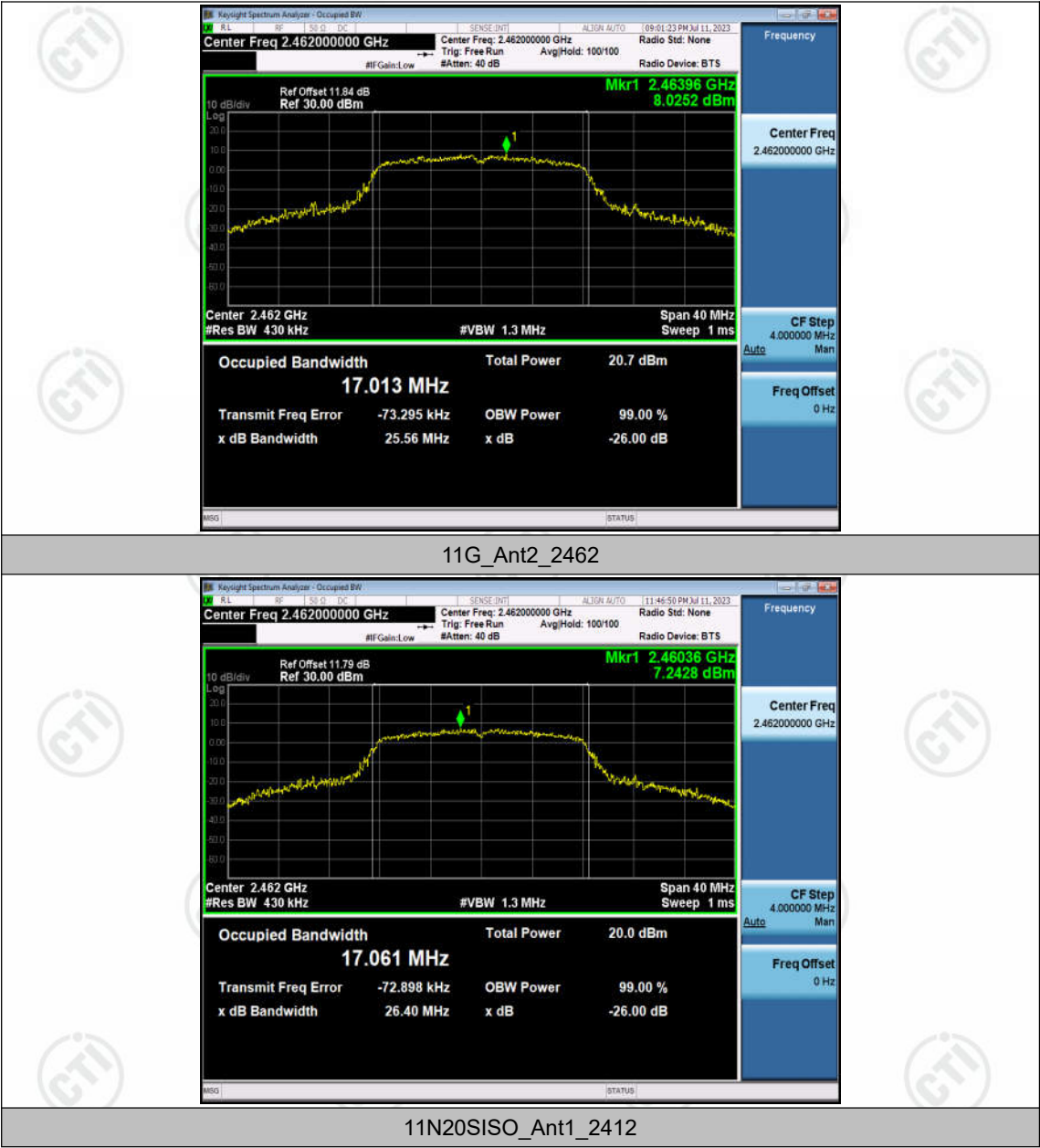




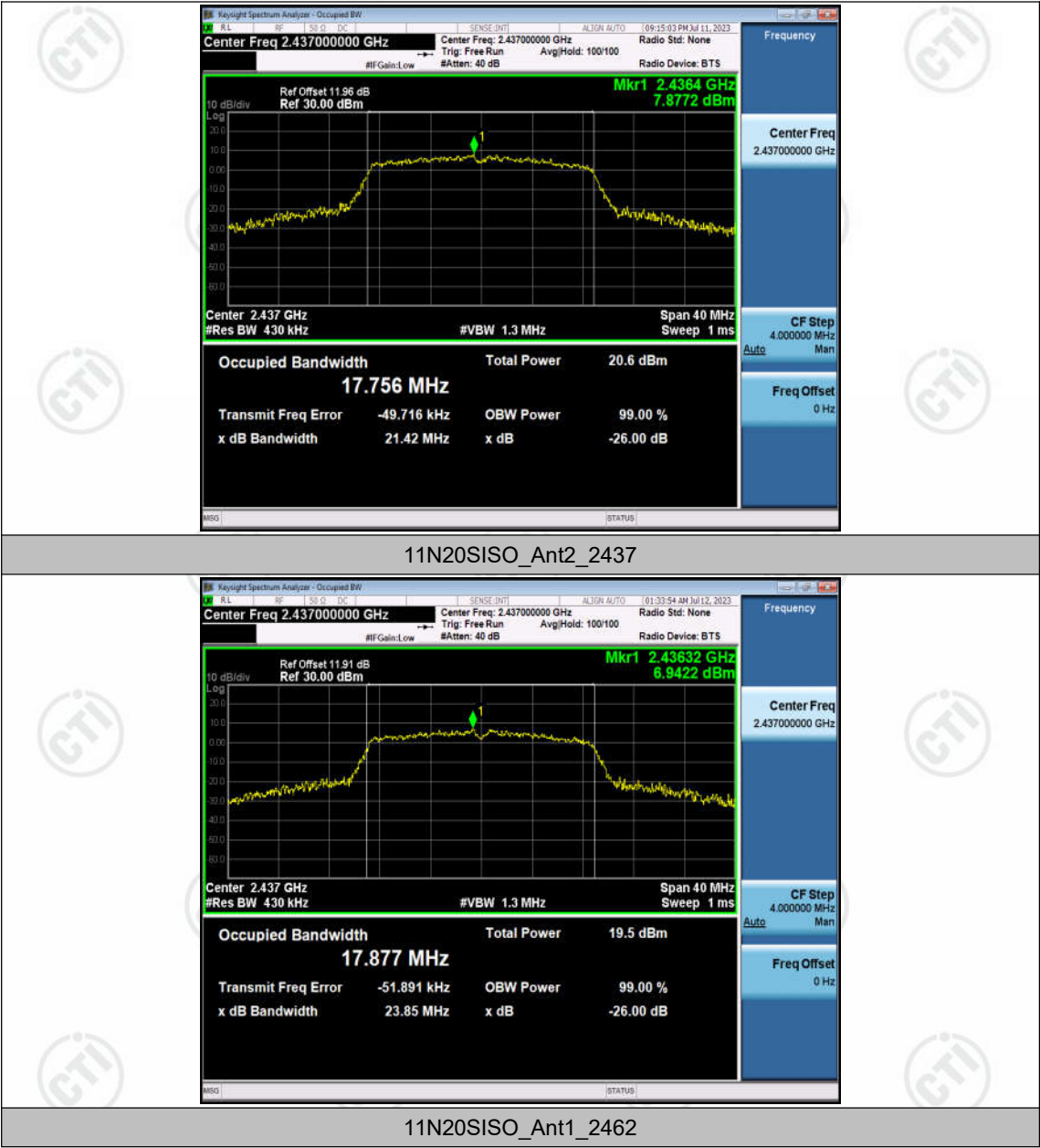


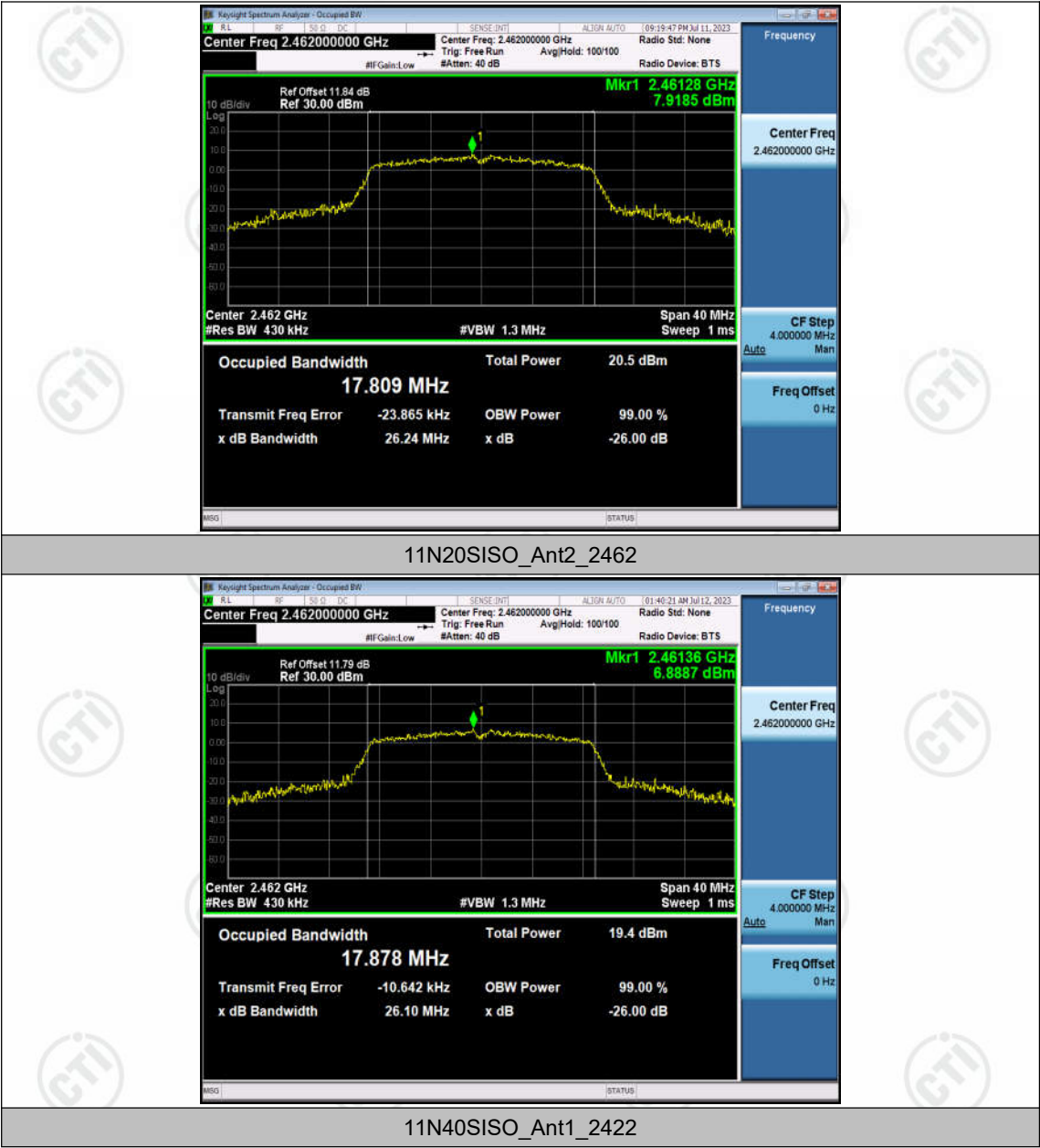


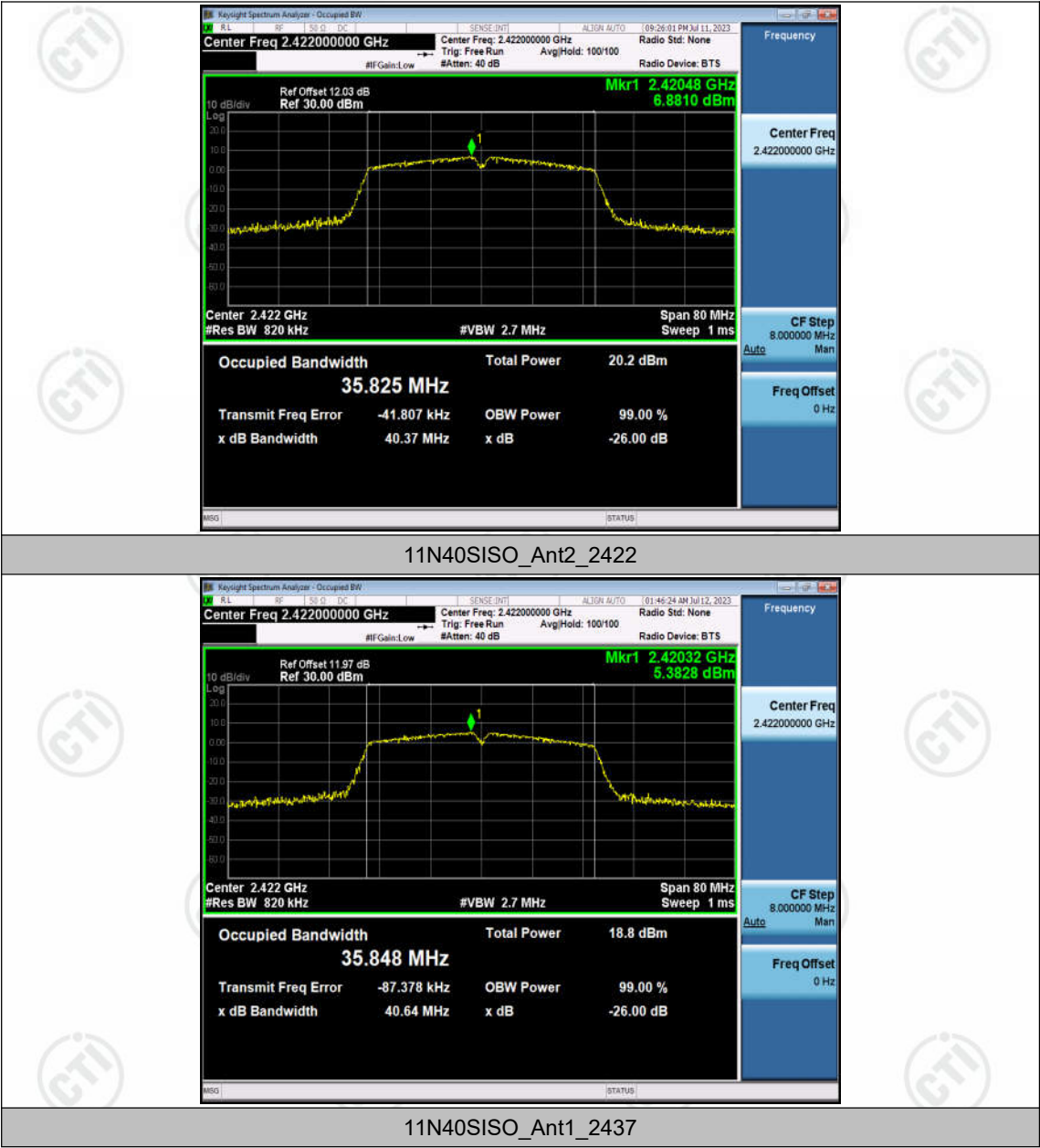


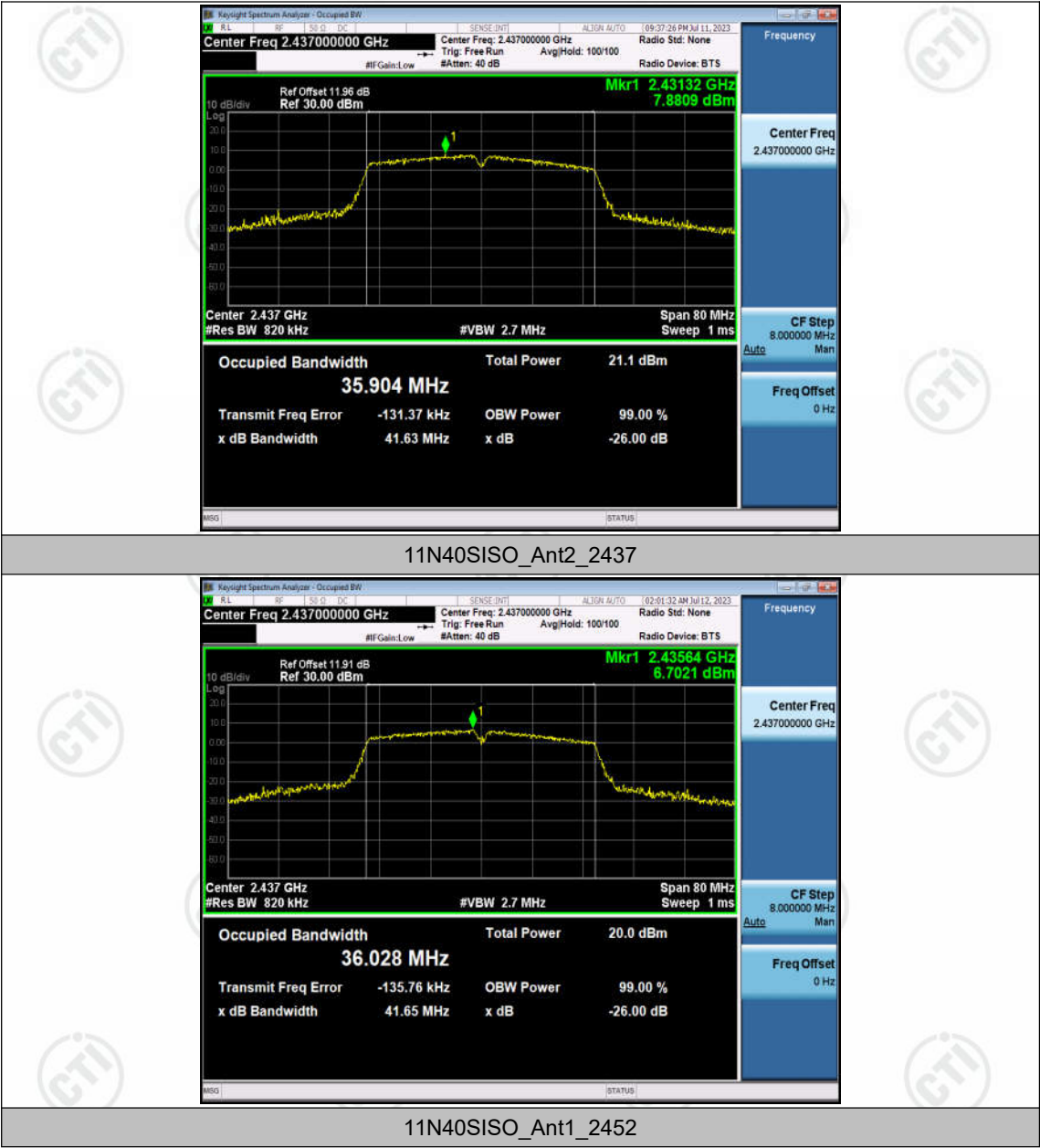


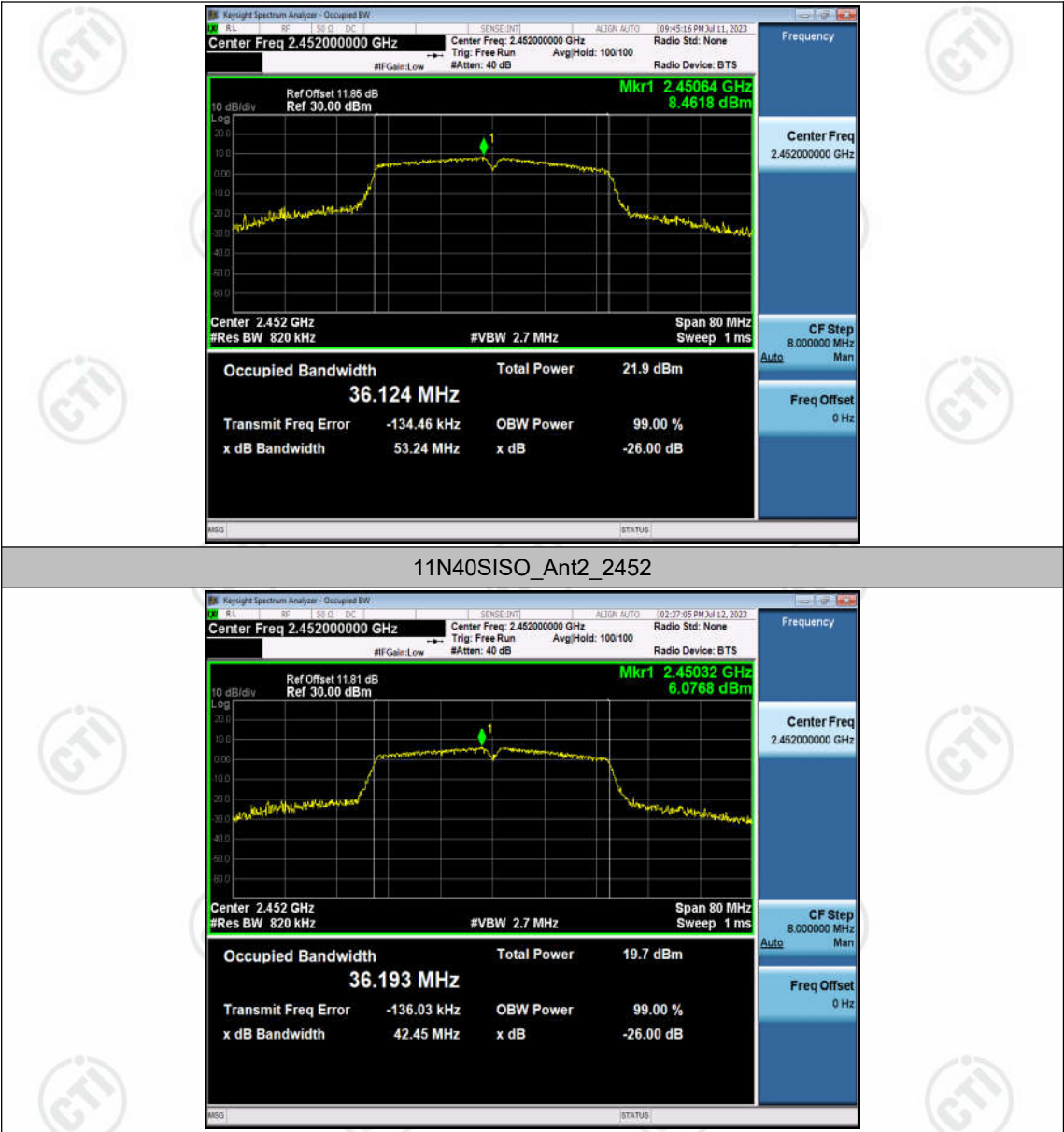












Appendix C: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Set Power	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	---	15.16	≤30.00	PASS
	Ant2	2412	---	13.75	≤30.00	PASS
	Ant1	2437	---	15.78	≤30.00	PASS
	Ant2	2437	---	14.14	≤30.00	PASS
	Ant1	2462	---	15.69	≤30.00	PASS
	Ant2	2462	---	13.21	≤30.00	PASS
11G	Ant1	2412	---	14.32	≤30.00	PASS
	Ant2	2412	---	13.36	≤30.00	PASS
	Ant1	2437	---	14.81	≤30.00	PASS
	Ant2	2437	---	13.94	≤30.00	PASS
	Ant1	2462	---	14.80	≤30.00	PASS
	Ant2	2462	---	13.95	≤30.00	PASS
11N20SISO	Ant1	2412	---	14.30	≤30.00	PASS
	Ant2	2412	---	13.54	≤30.00	PASS
	Ant1	2437	---	14.68	≤30.00	PASS
	Ant2	2437	---	13.90	≤30.00	PASS
	Ant1	2462	---	14.72	≤30.00	PASS
	Ant2	2462	---	13.82	≤30.00	PASS
11N40SISO	Ant1	2422	---	14.42	≤30.00	PASS
	Ant2	2422	---	13.03	≤30.00	PASS
	Ant1	2437	---	14.86	≤30.00	PASS
	Ant2	2437	---	13.52	≤30.00	PASS
	Ant1	2452	---	14.83	≤30.00	PASS
	Ant2	2452	---	14.04	≤30.00	PASS
11N20MI MO	Ant1	2412	---	10.40	≤30.00	PASS
	Ant2	2412	---	10.44	≤30.00	PASS
	total	2412	---	13.43	≤30.00	PASS
	Ant1	2437	---	11.42	≤30.00	PASS
	Ant2	2437	---	10.85	≤30.00	PASS
	total	2437	---	14.15	≤30.00	PASS
	Ant1	2462	---	10.97	≤30.00	PASS
	Ant2	2462	---	10.91	≤30.00	PASS
	total	2462	---	13.95	≤30.00	PASS
11N40MI	Ant1	2422	---	9.44	≤30.00	PASS

MO	Ant2	2422	---	9.07	≤30.00	PASS
	total	2422	---	12.27	≤30.00	PASS
	Ant1	2437	---	10.18	≤30.00	PASS
	Ant2	2437	---	9.66	≤30.00	PASS
	total	2437	---	12.94	≤30.00	PASS
	Ant1	2452	---	10.72	≤30.00	PASS
	Ant2	2452	---	10.29	≤30.00	PASS
	total	2452	---	13.52	≤30.00	PASS

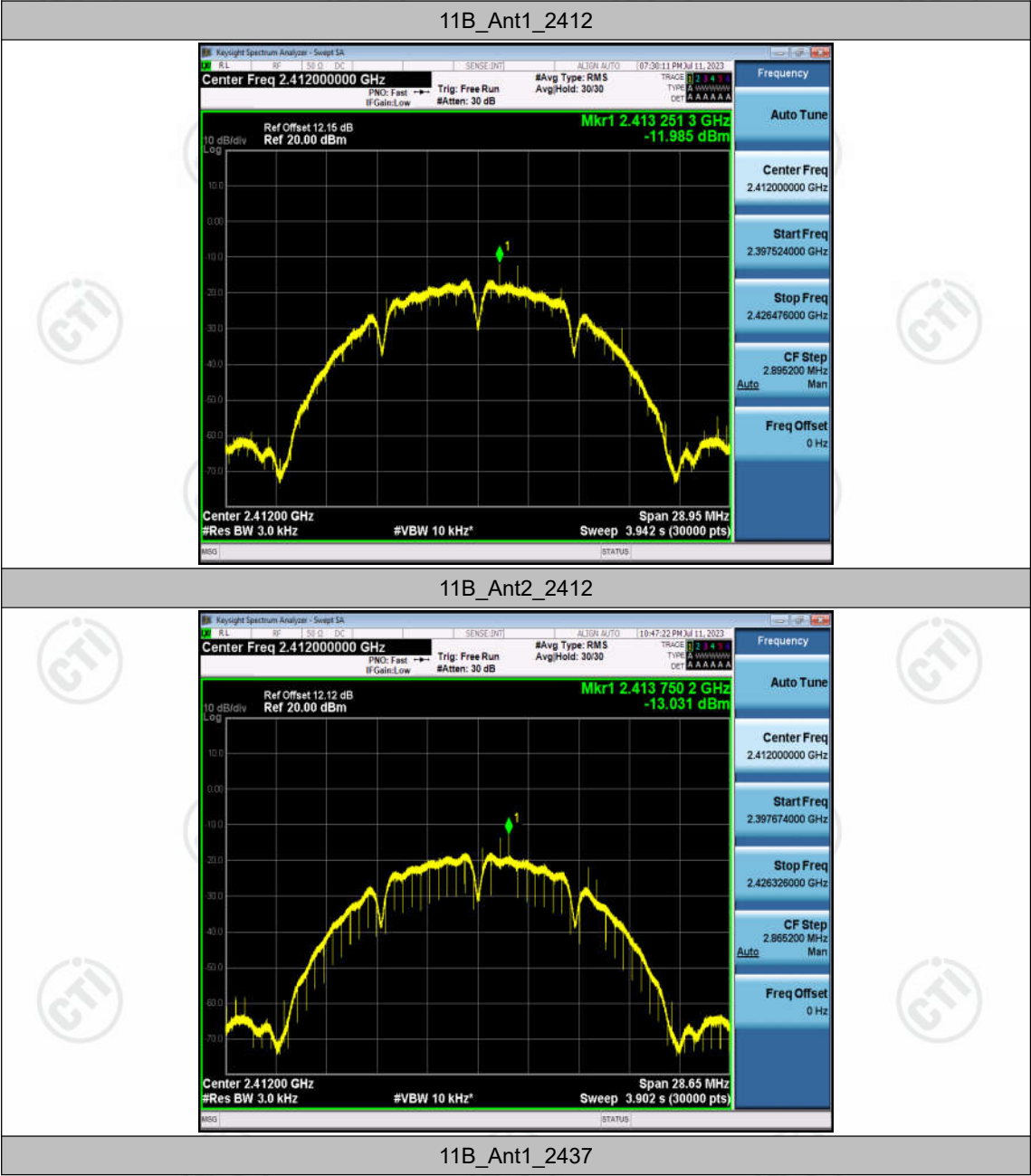
Appendix D: Maximum power spectral density

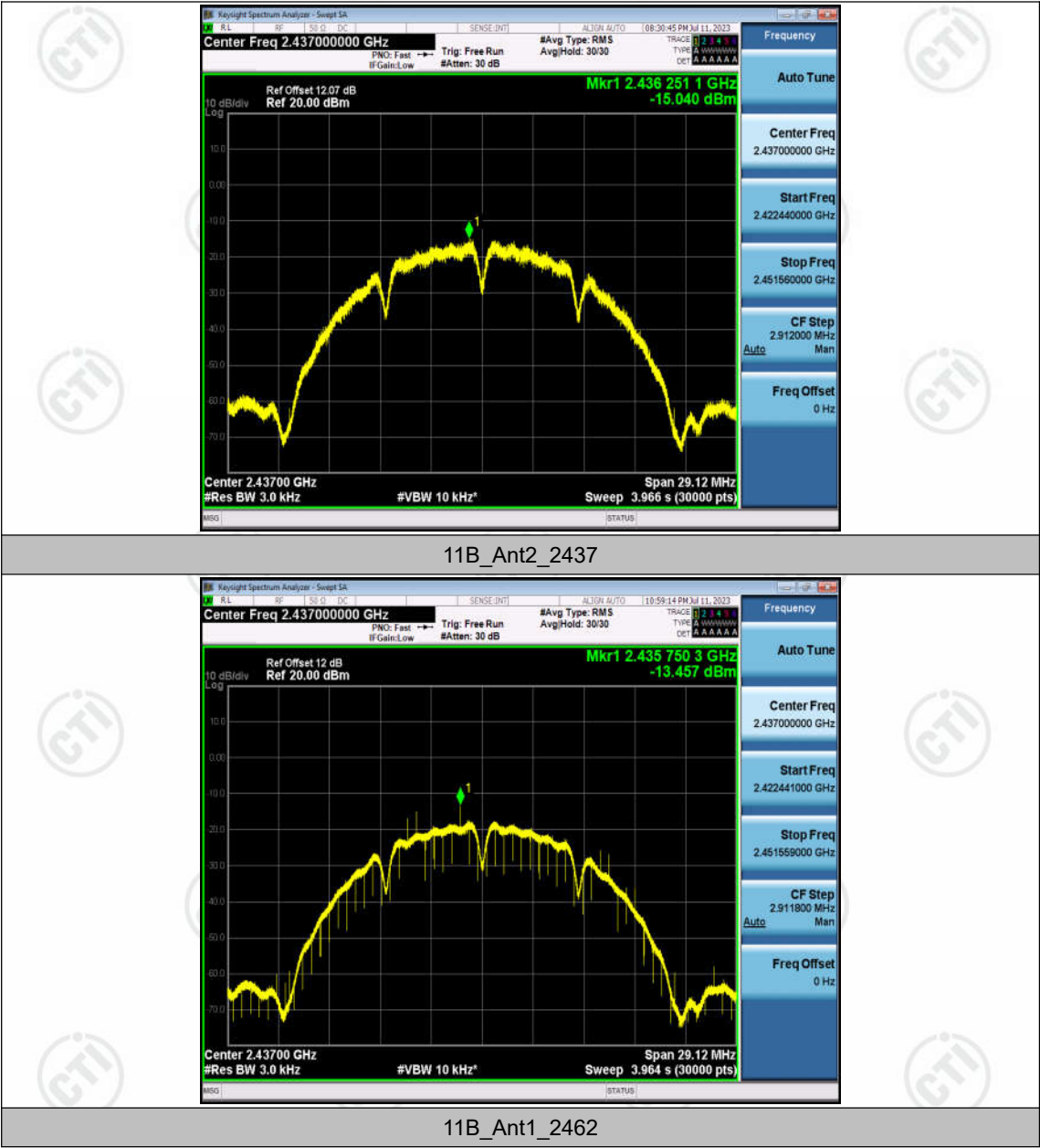
Test Result

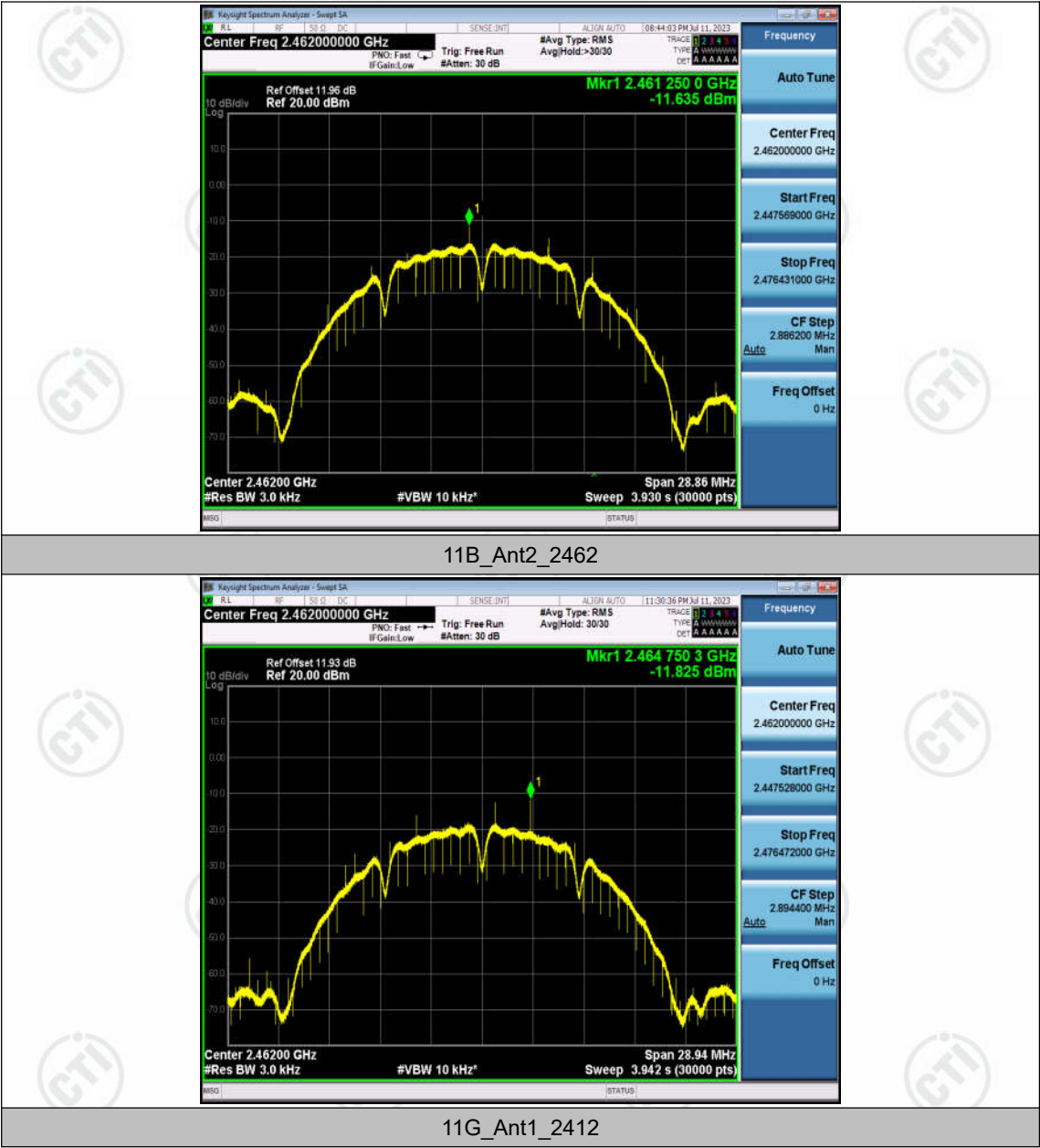
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.99	≤8.00	PASS
	Ant2	2412	-13.03	≤8.00	PASS
	Ant1	2437	-15.04	≤8.00	PASS
	Ant2	2437	-13.46	≤8.00	PASS
	Ant1	2462	-11.5	≤8.00	PASS
	Ant2	2462	-11.83	≤8.00	PASS
11G	Ant1	2412	-16.73	≤8.00	PASS
	Ant2	2412	-17.69	≤8.00	PASS
	Ant1	2437	-16.02	≤8.00	PASS
	Ant2	2437	-17.17	≤8.00	PASS
	Ant1	2462	-16.52	≤8.00	PASS
	Ant2	2462	-17.24	≤8.00	PASS
11N20SISO	Ant1	2412	-17.31	≤8.00	PASS
	Ant2	2412	-18.23	≤8.00	PASS
	Ant1	2437	-17.11	≤8.00	PASS
	Ant2	2437	-17.85	≤8.00	PASS
	Ant1	2462	-16.83	≤8.00	PASS
	Ant2	2462	-18.16	≤8.00	PASS
11N40SISO	Ant1	2422	-19.58	≤8.00	PASS
	Ant2	2422	-20.9	≤8.00	PASS
	Ant1	2437	-18.99	≤8.00	PASS
	Ant2	2437	-20.21	≤8.00	PASS
	Ant1	2452	-19.25	≤8.00	PASS
	Ant2	2452	-20.52	≤8.00	PASS
11N20MIMO	Ant1	2412	-20.83	≤8.00	PASS
	Ant2	2412	-21.13	≤8.00	PASS
	total	2412	-17.97	≤8.00	PASS
	Ant1	2437	-20.38	≤8.00	PASS
	Ant2	2437	-21.92	≤8.00	PASS
	total	2437	-18.07	≤8.00	PASS
	Ant1	2462	-20.85	≤8.00	PASS
	Ant2	2462	-21.42	≤8.00	PASS
	total	2462	-18.12	≤8.00	PASS
11N40MIMO	Ant1	2422	-24.25	≤8.00	PASS
	Ant2	2422	-23.76	≤8.00	PASS

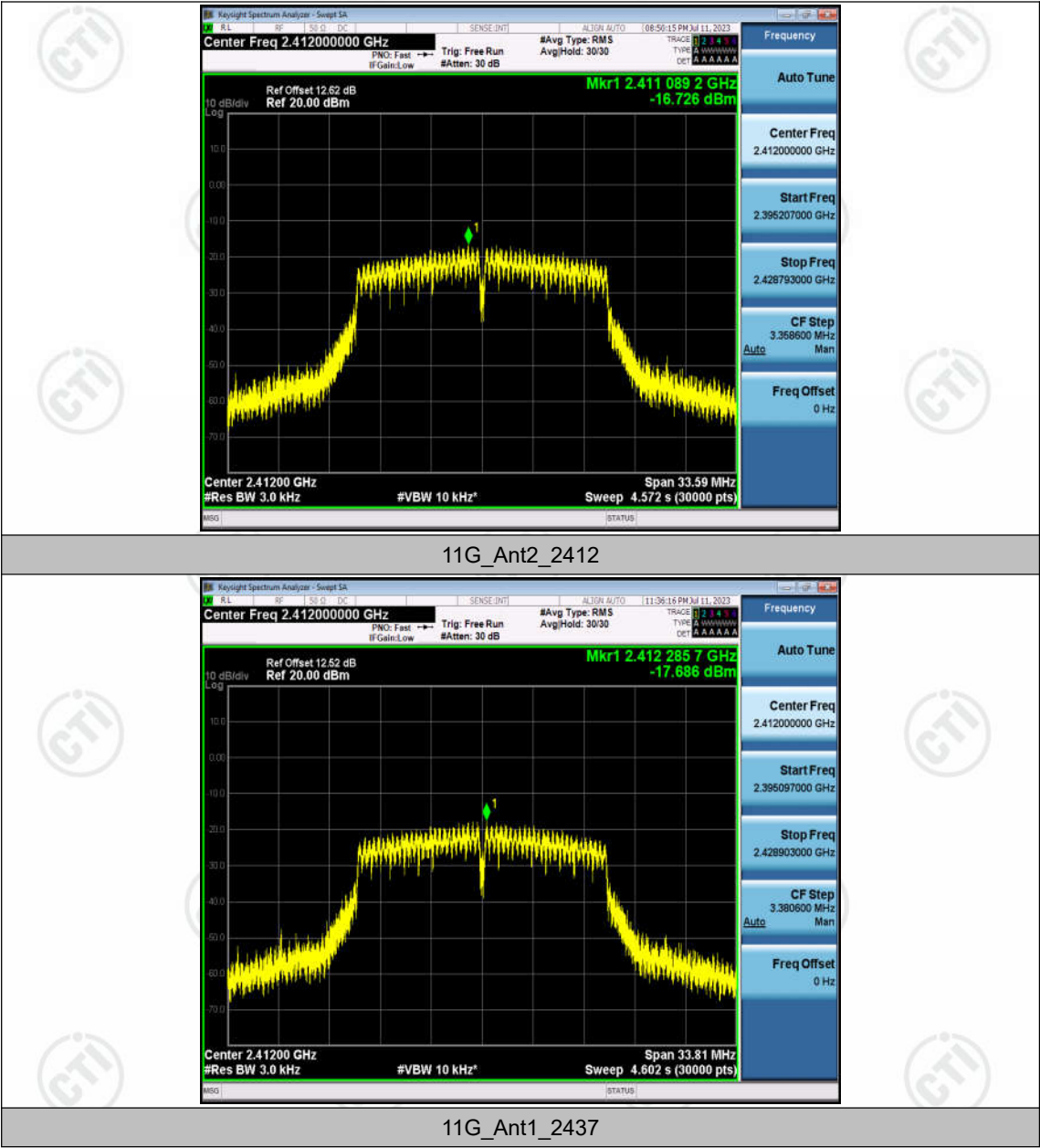
	total	2422	-20.99	≤8.00	PASS
	Ant1	2437	-23.08	≤8.00	PASS
	Ant2	2437	-23.47	≤8.00	PASS
	total	2437	-20.26	≤8.00	PASS
	Ant1	2452	-23.52	≤8.00	PASS
	Ant2	2452	-21.85	≤8.00	PASS
	total	2452	-19.59	≤8.00	PASS

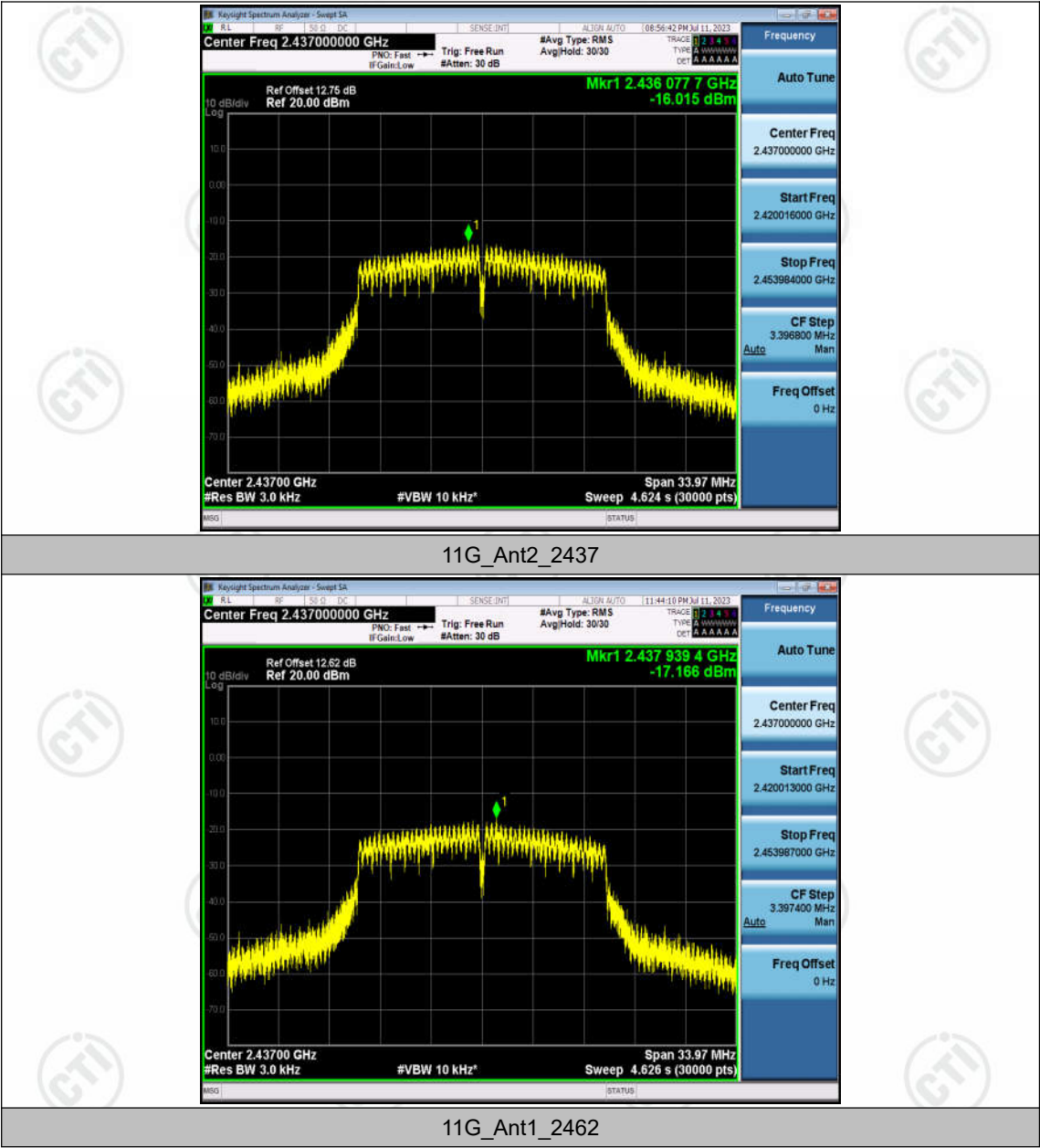
Test Graphs

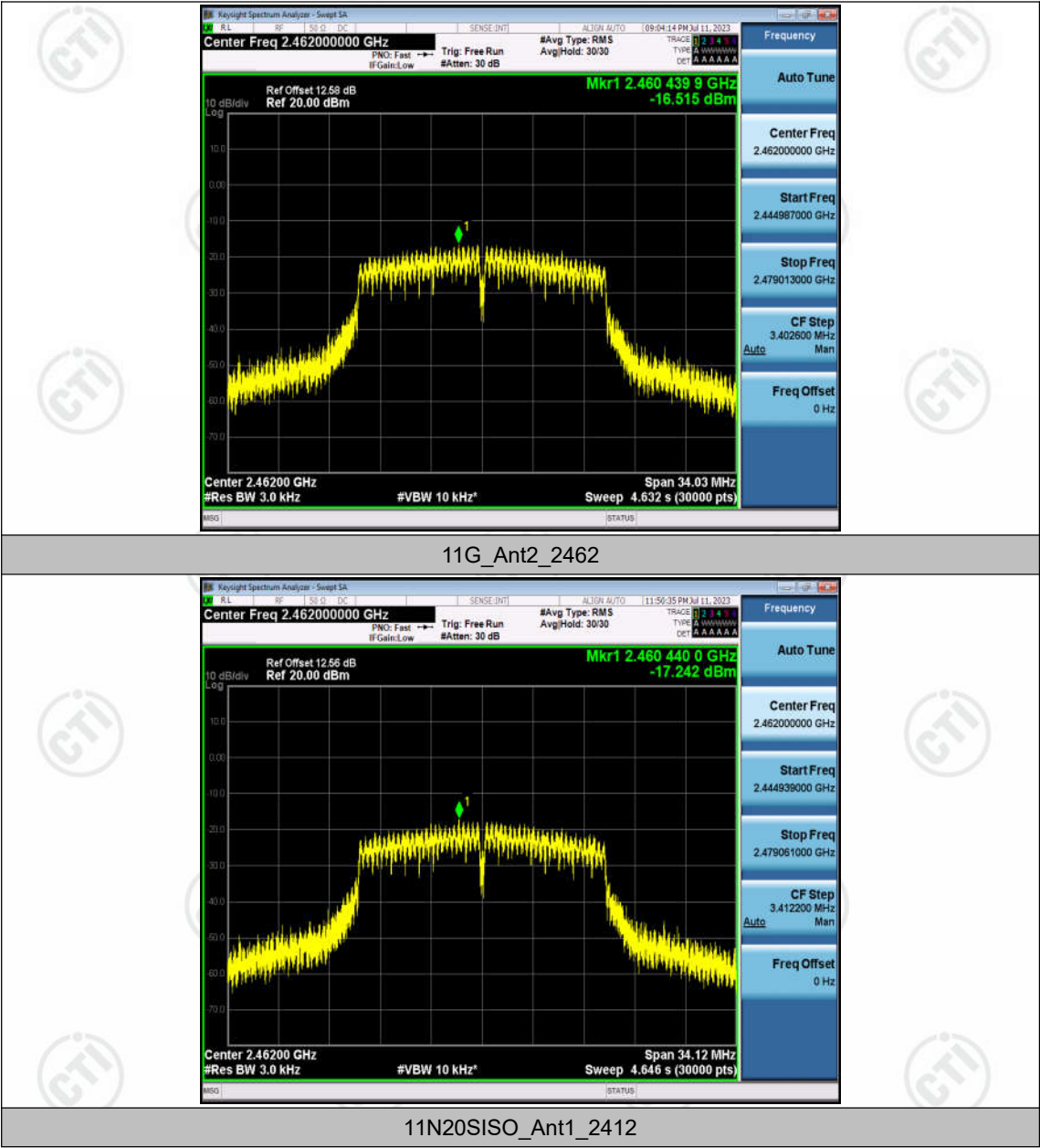


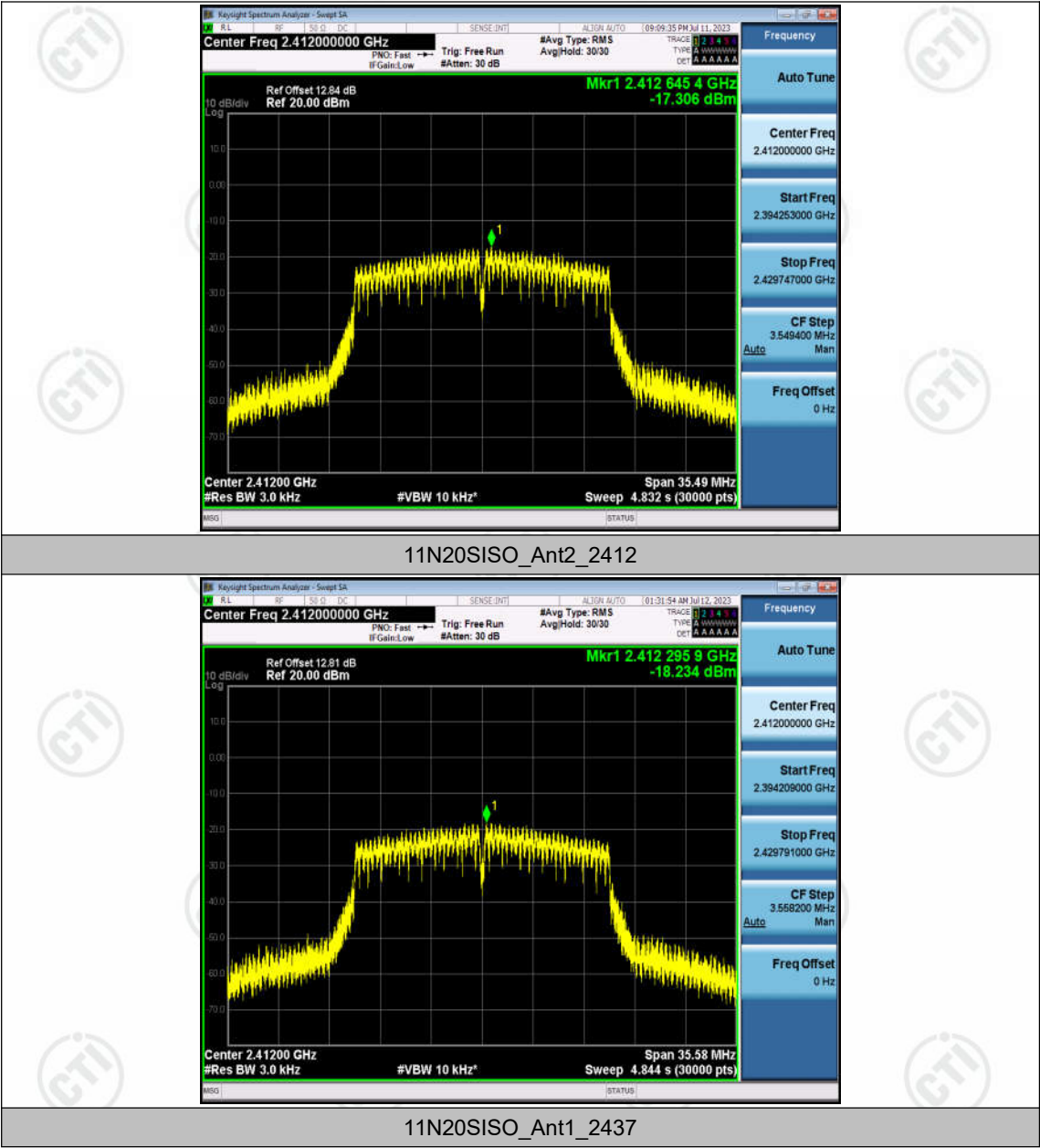


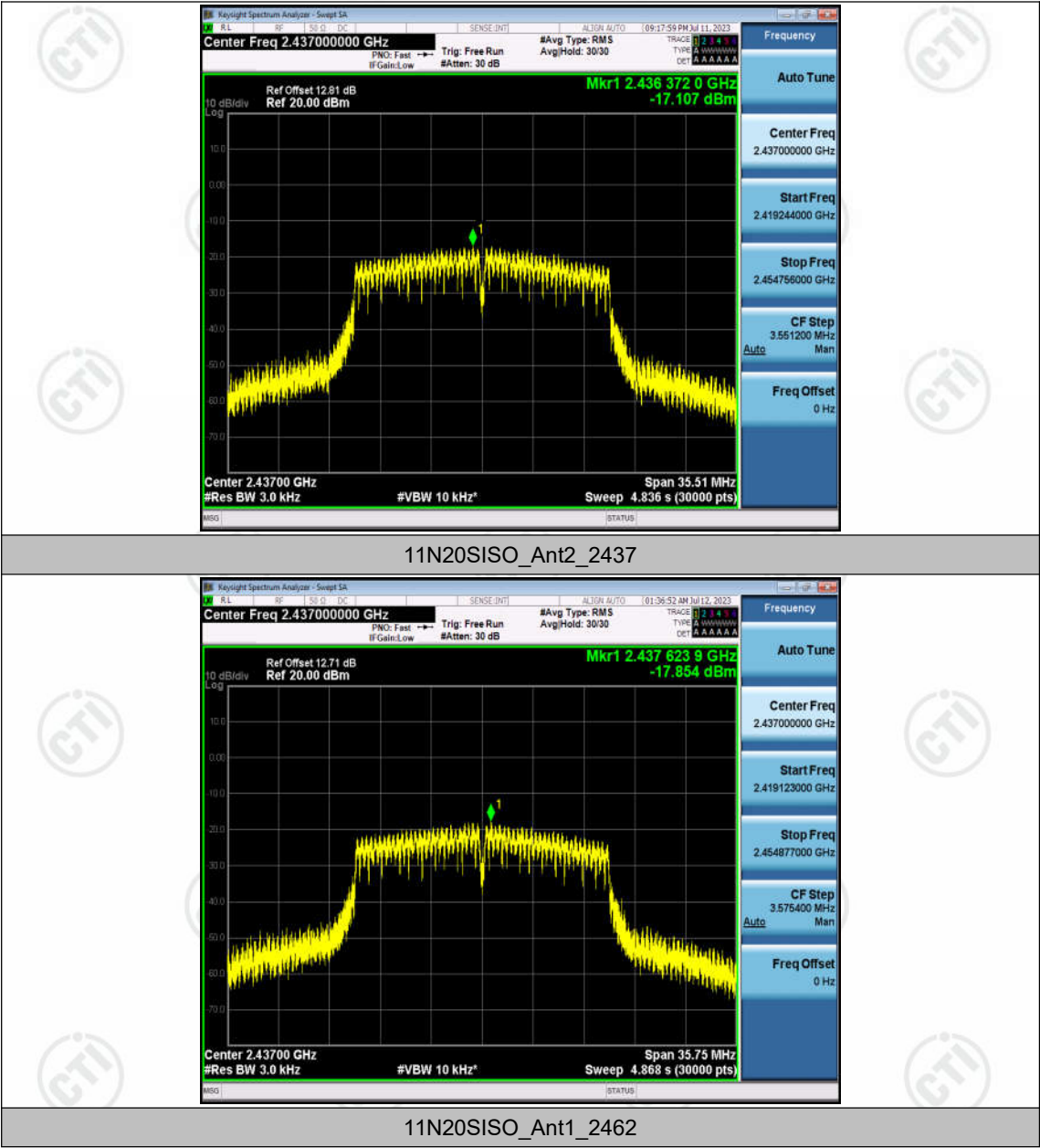


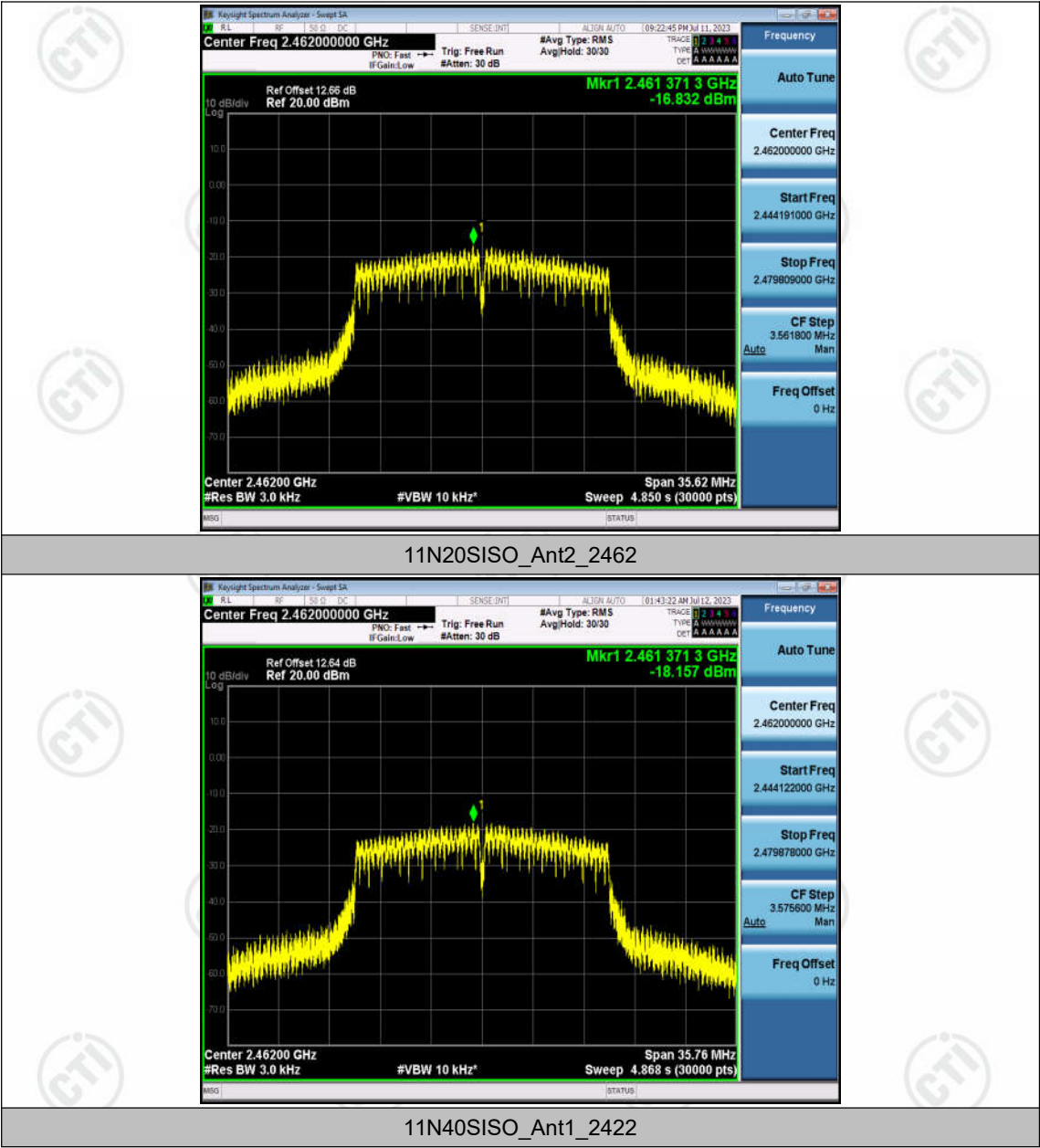


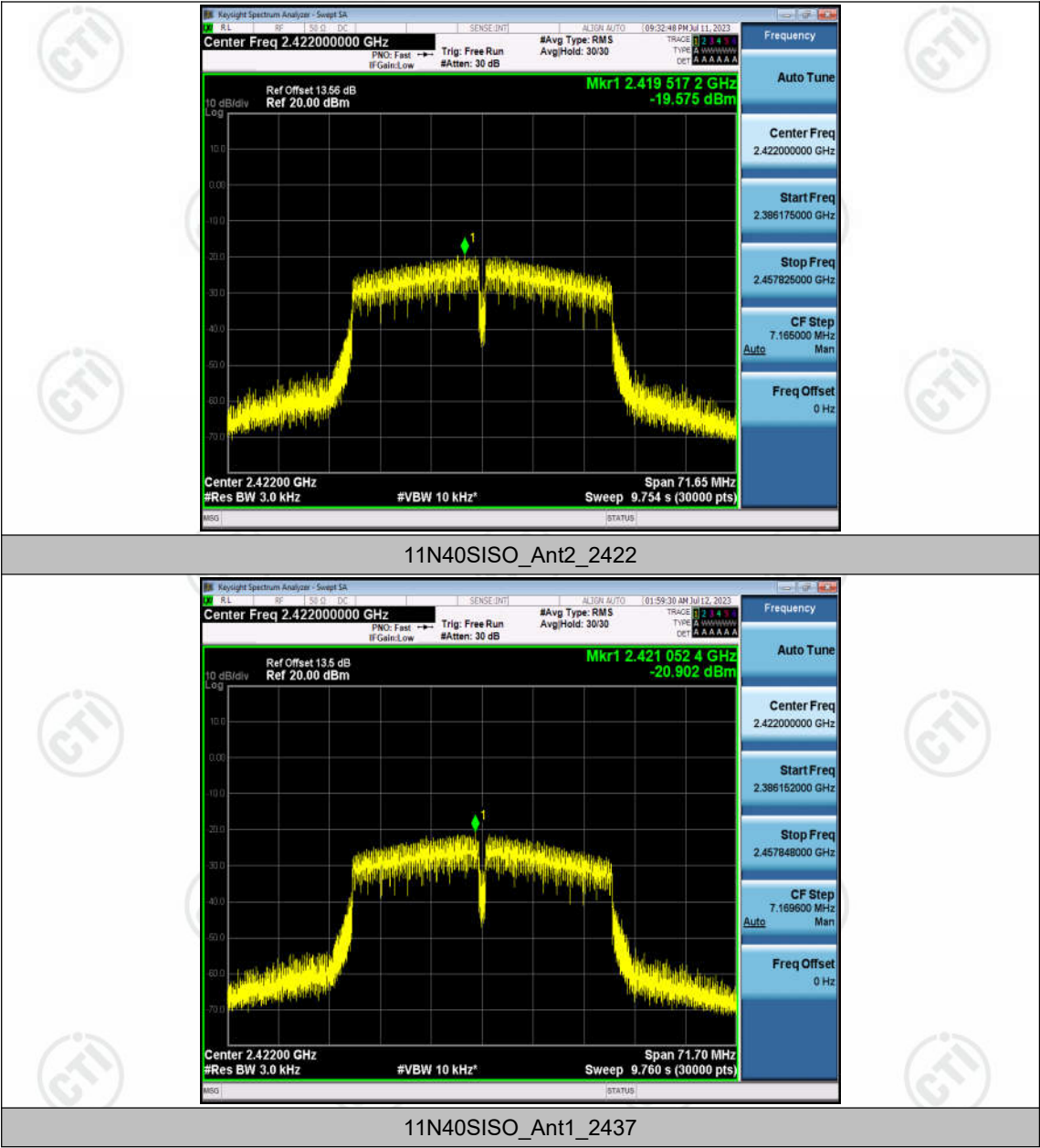


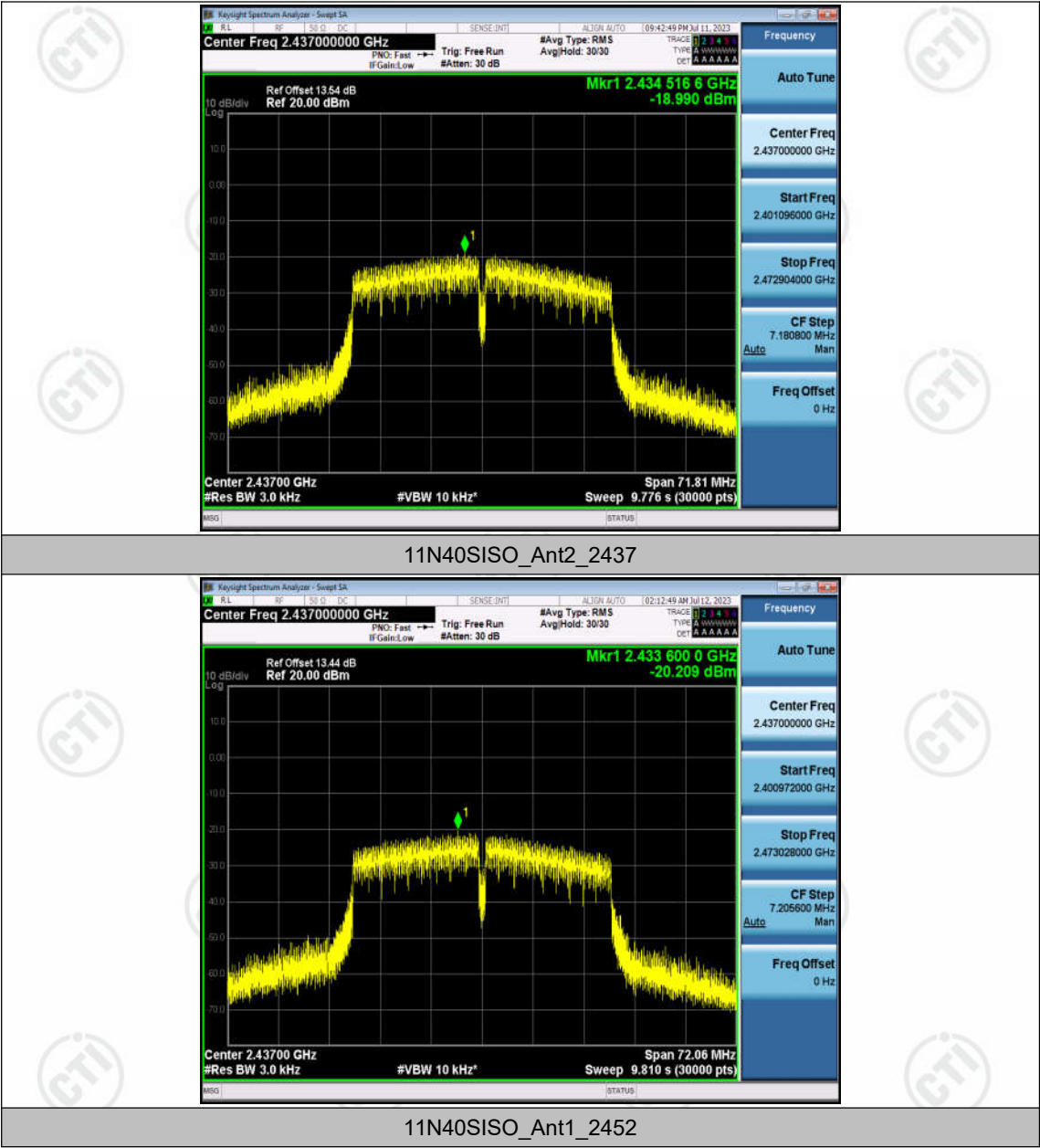


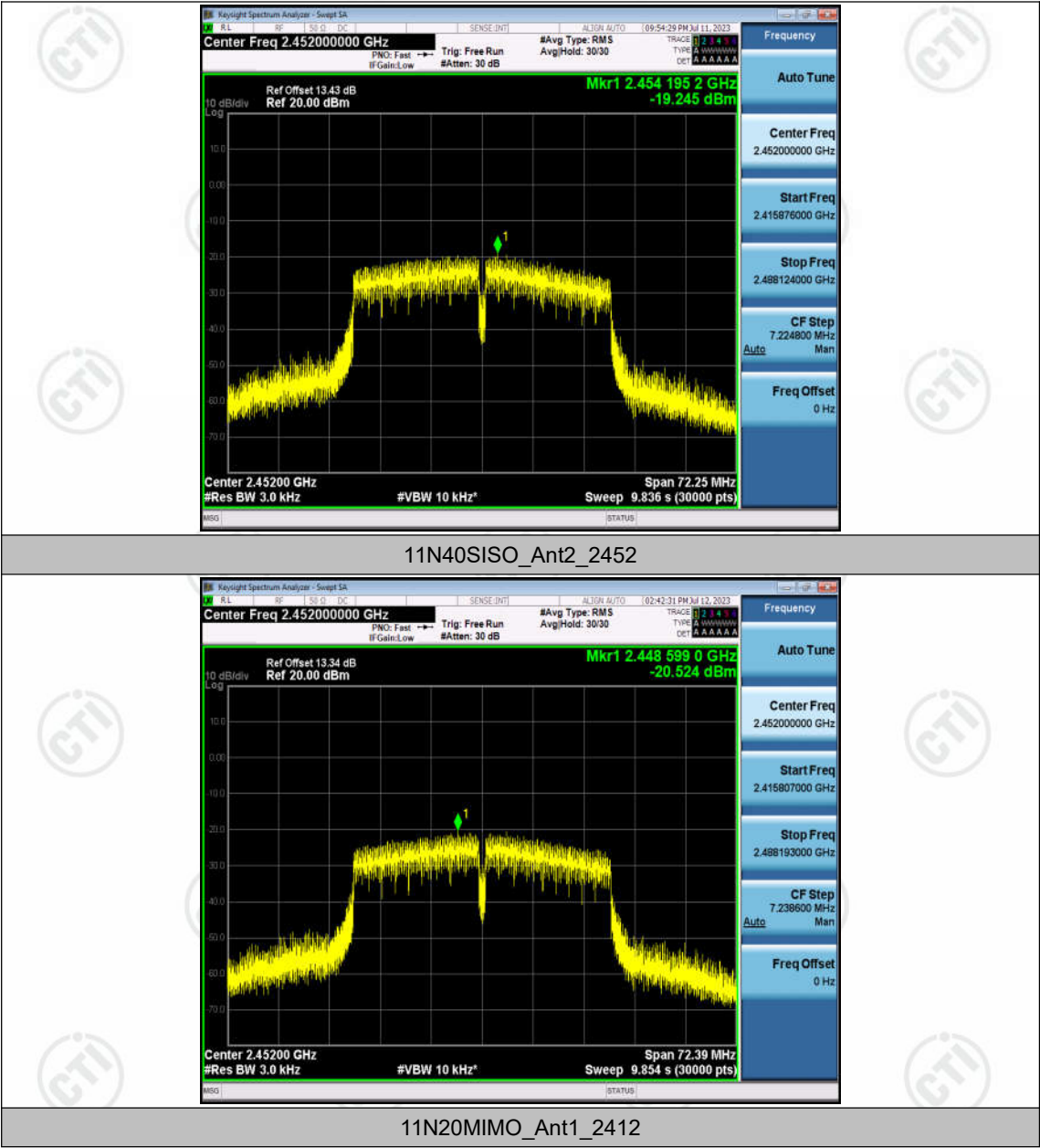


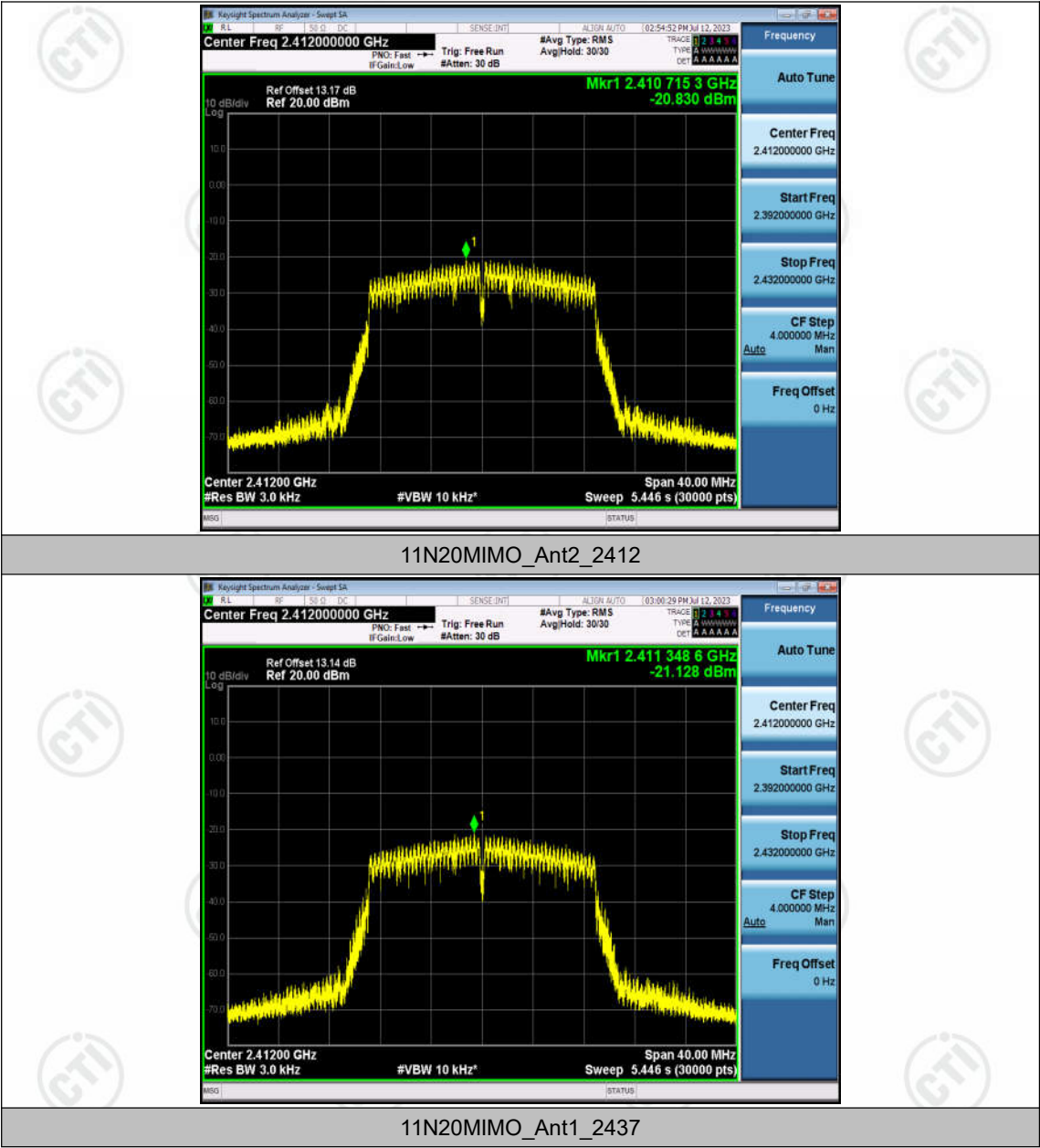


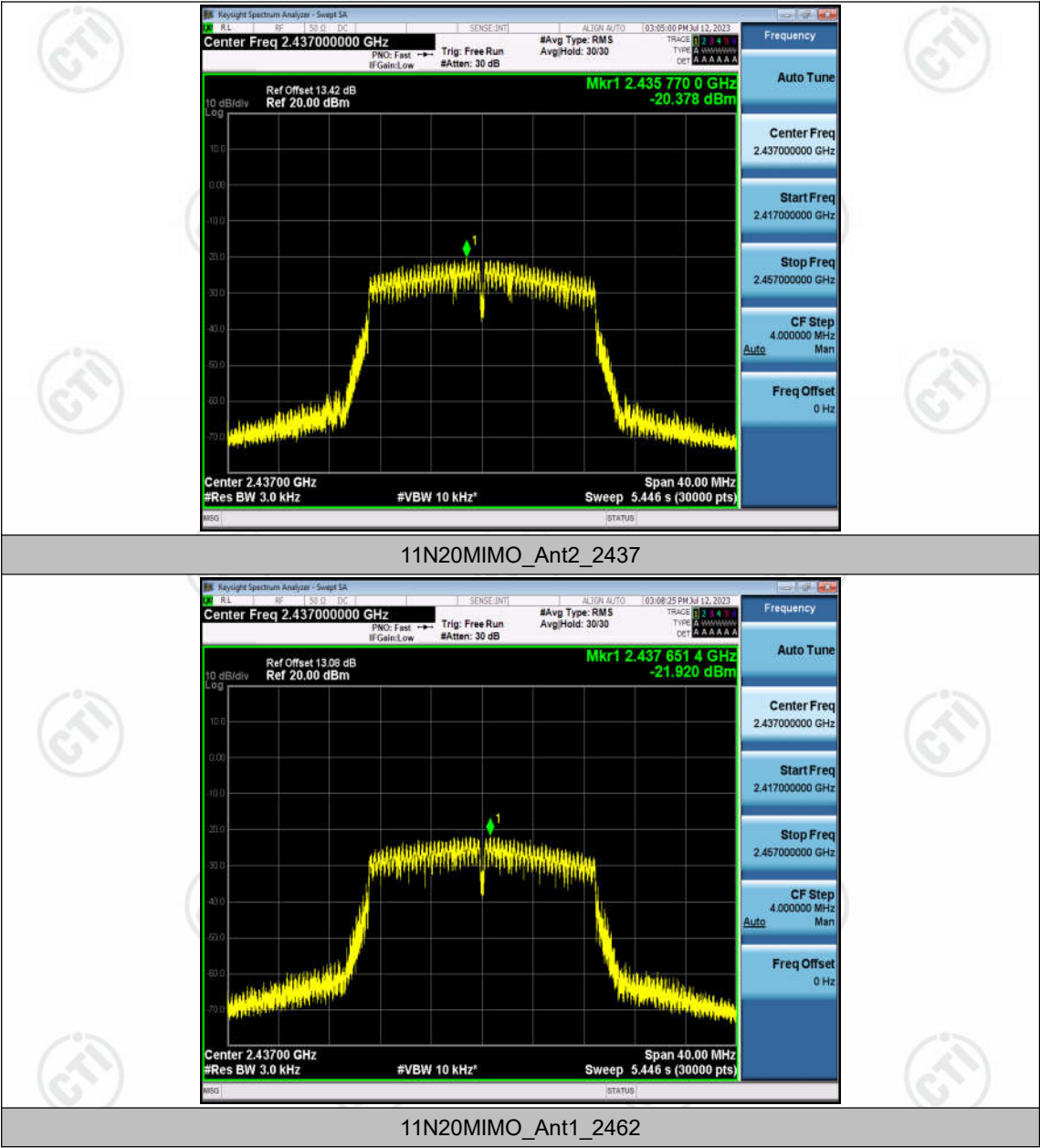


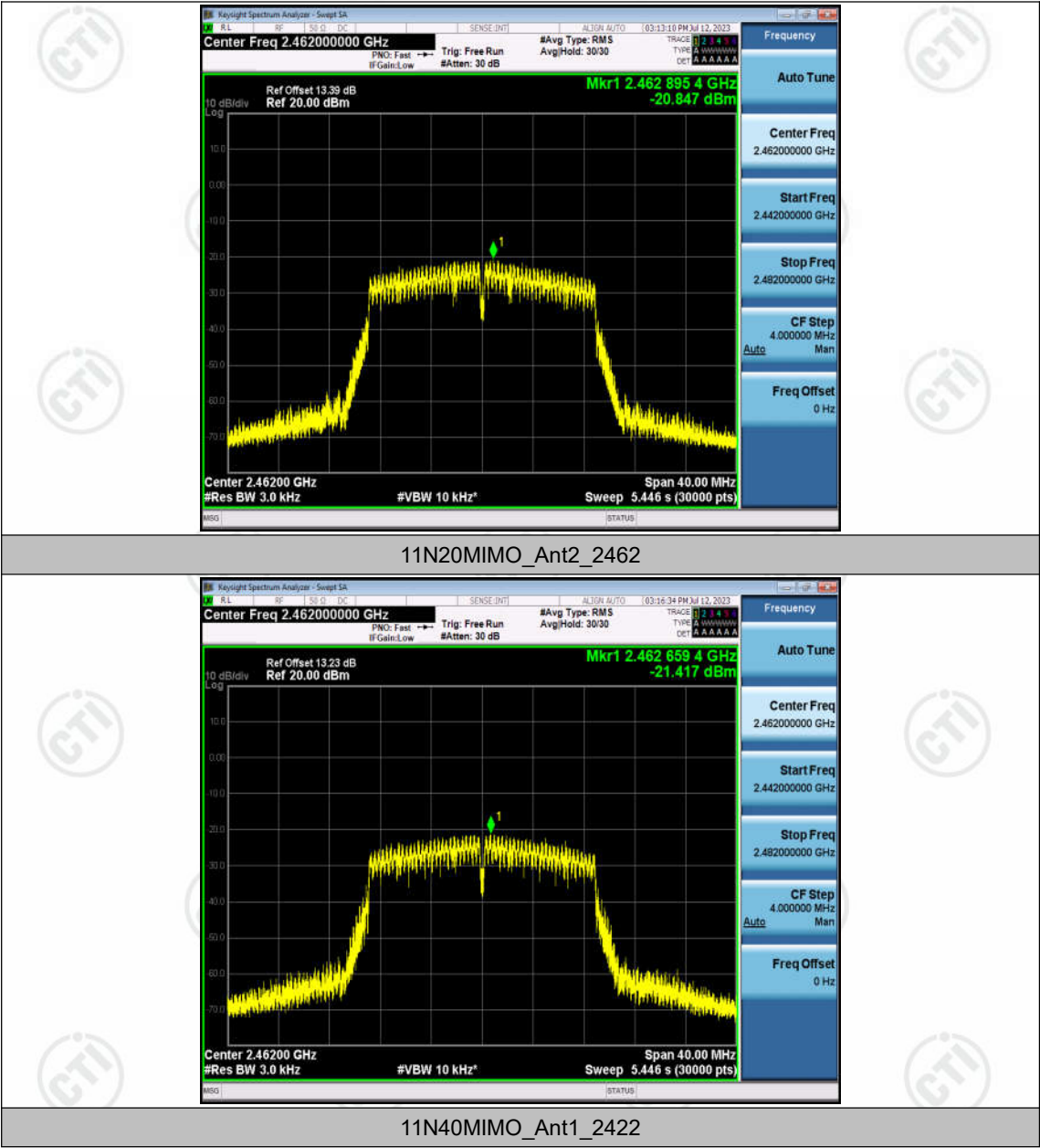


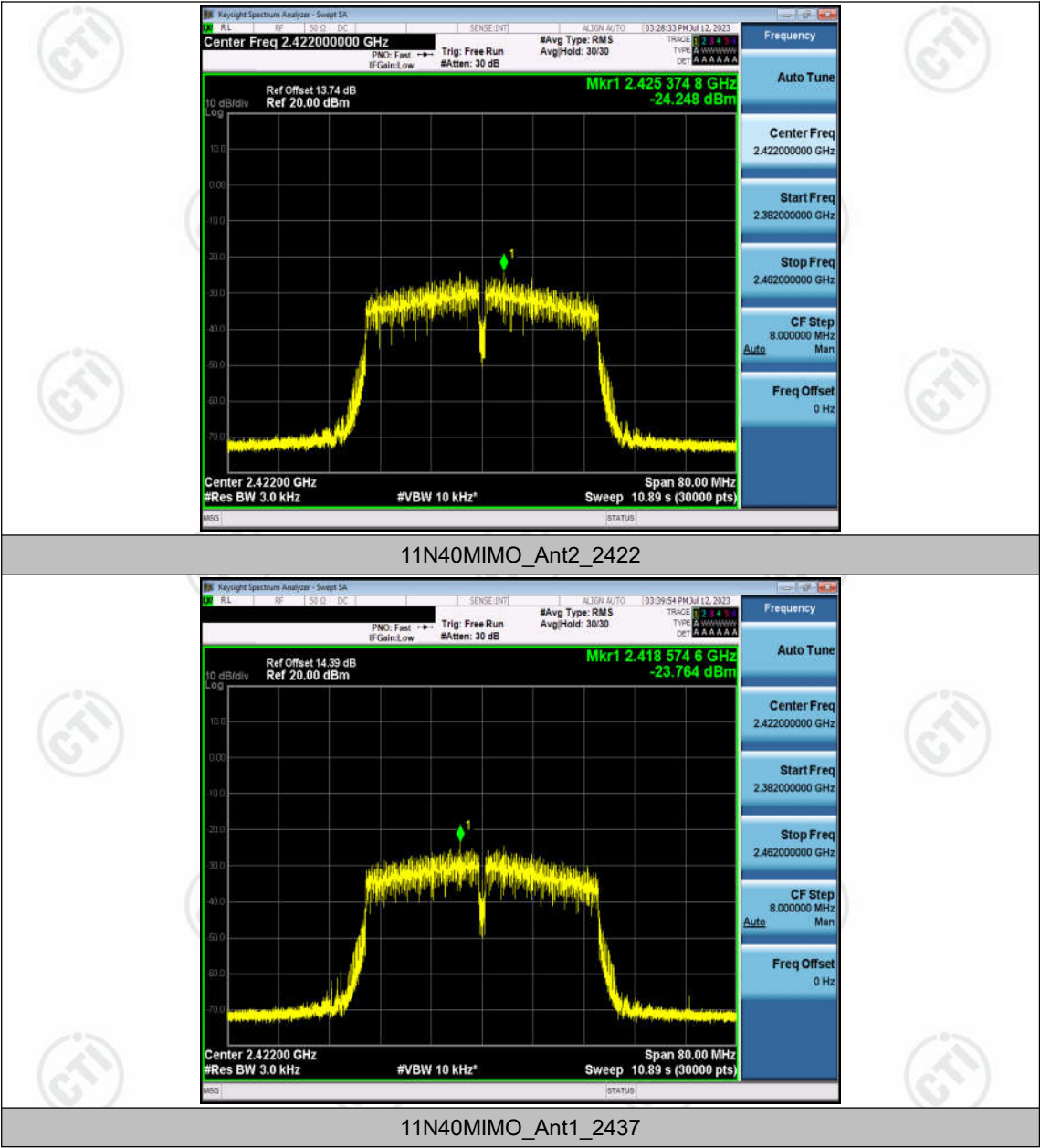


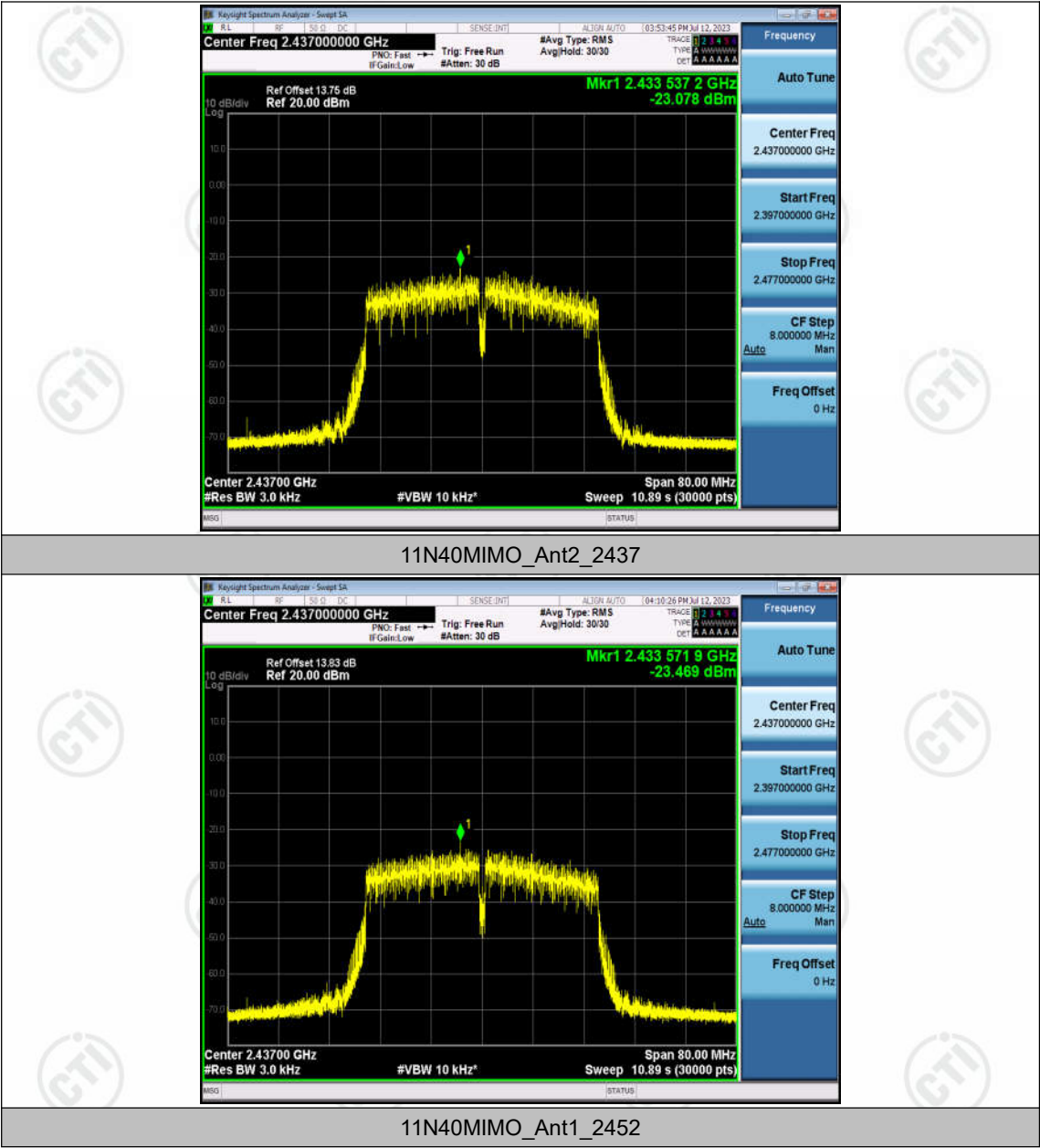


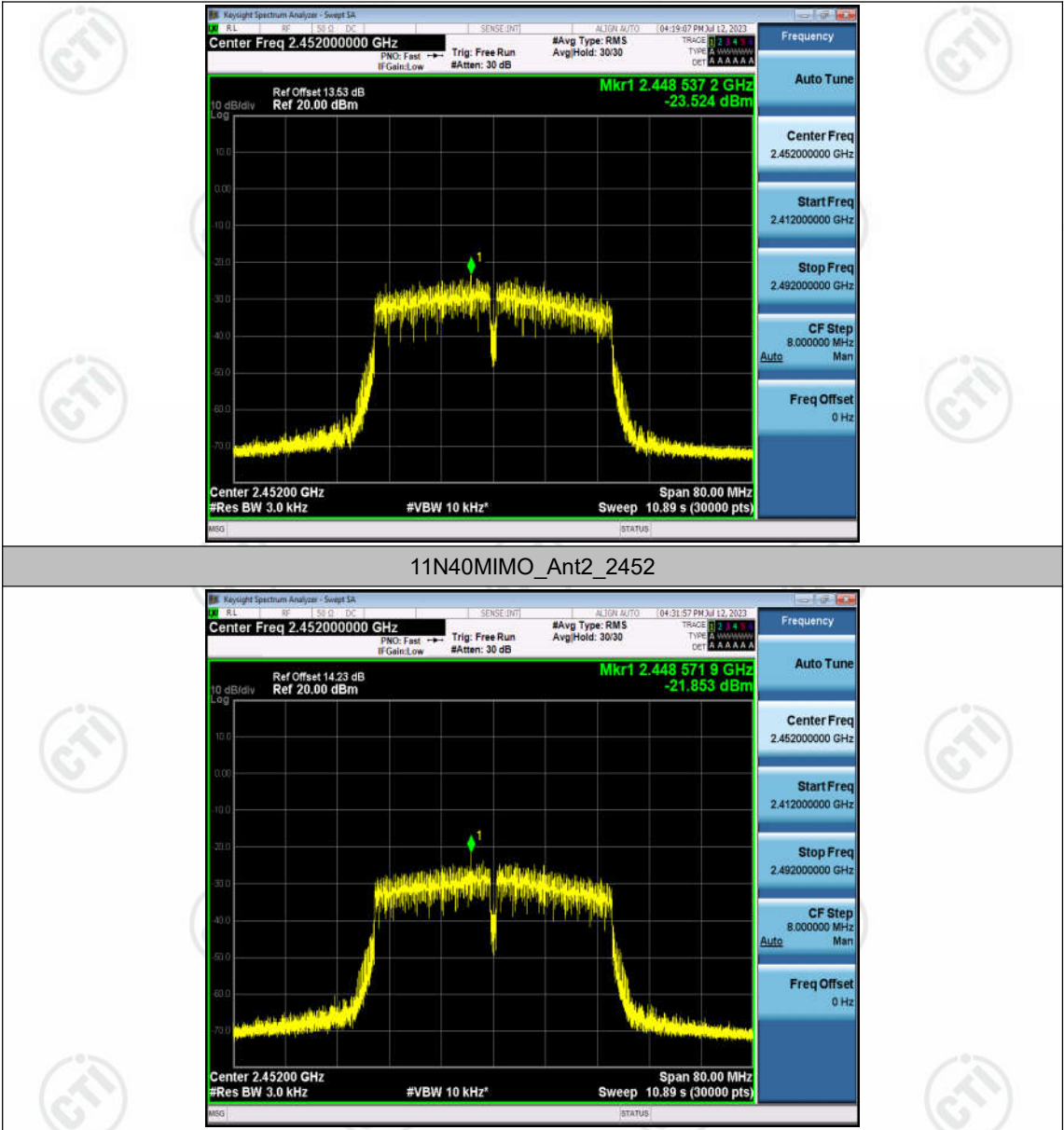










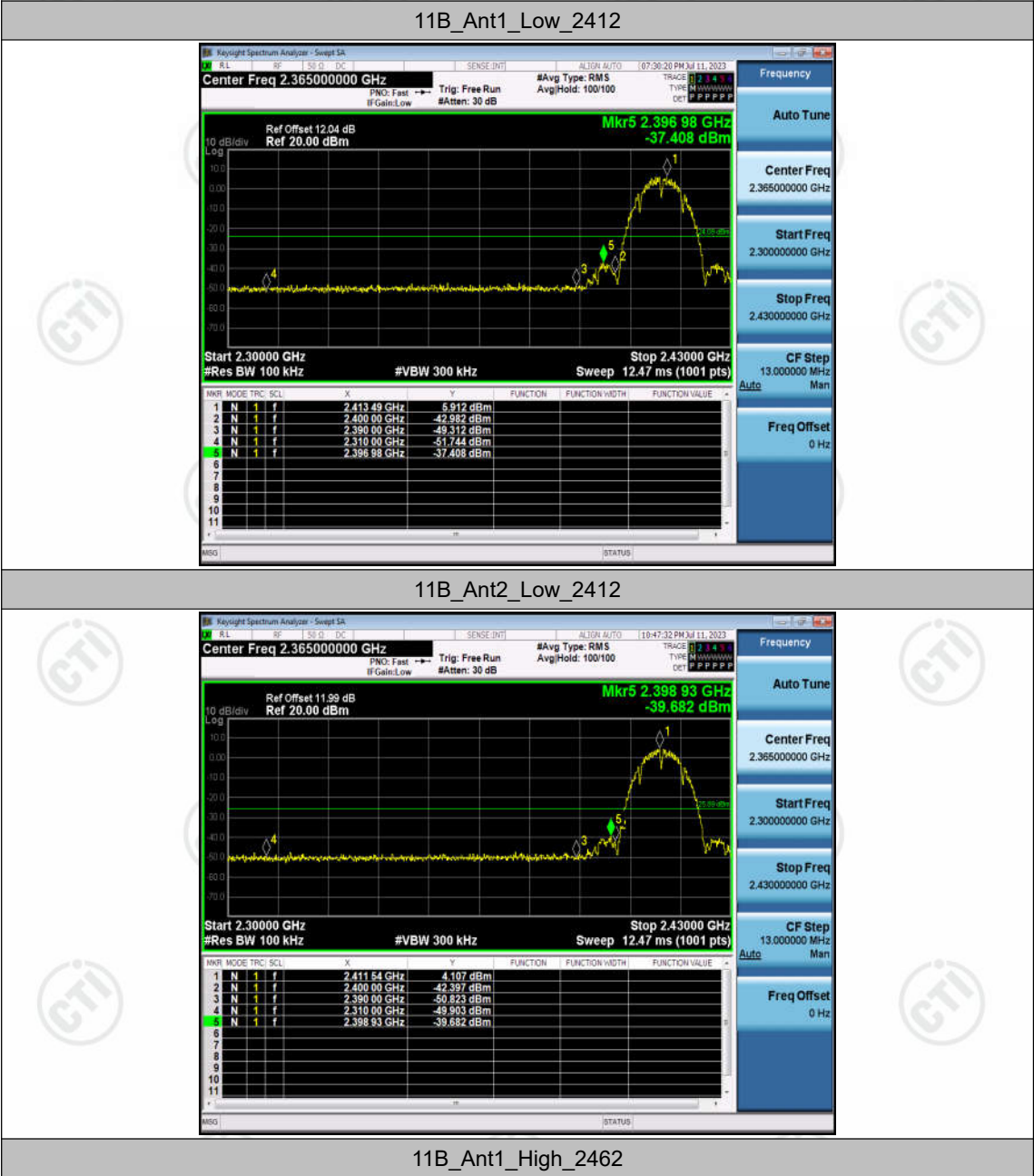


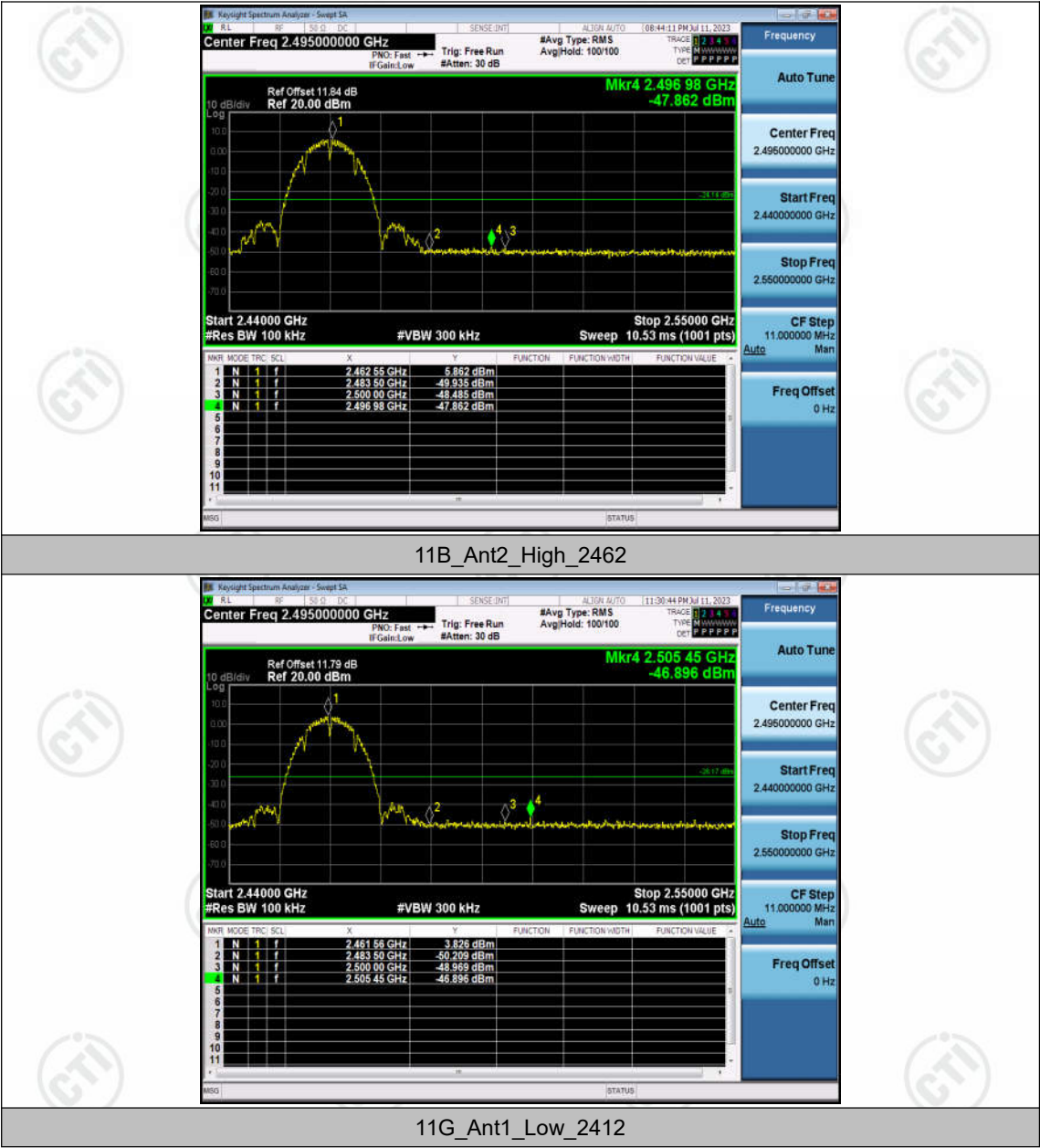
Appendix E: Band edge measurements

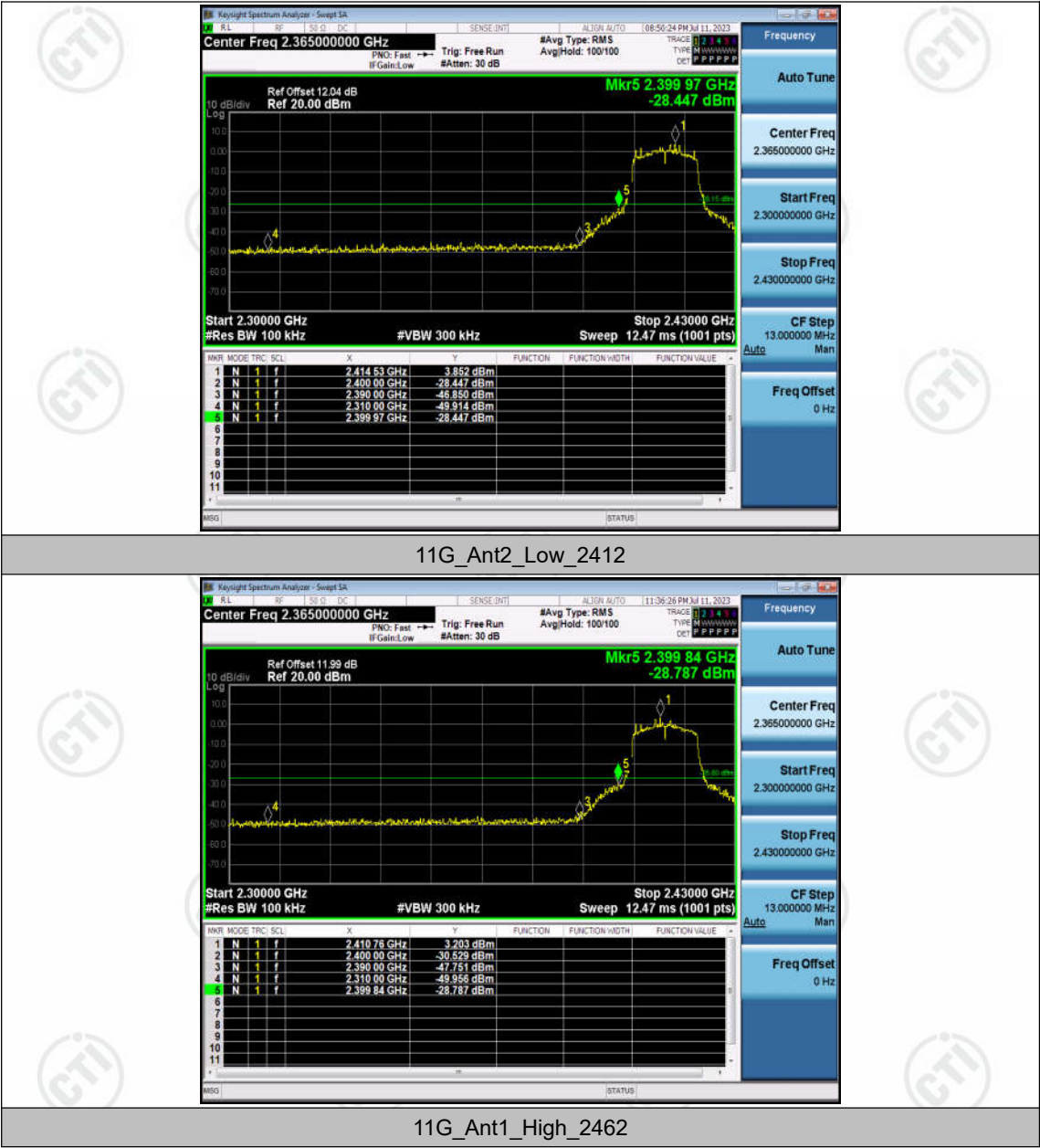
Test Result

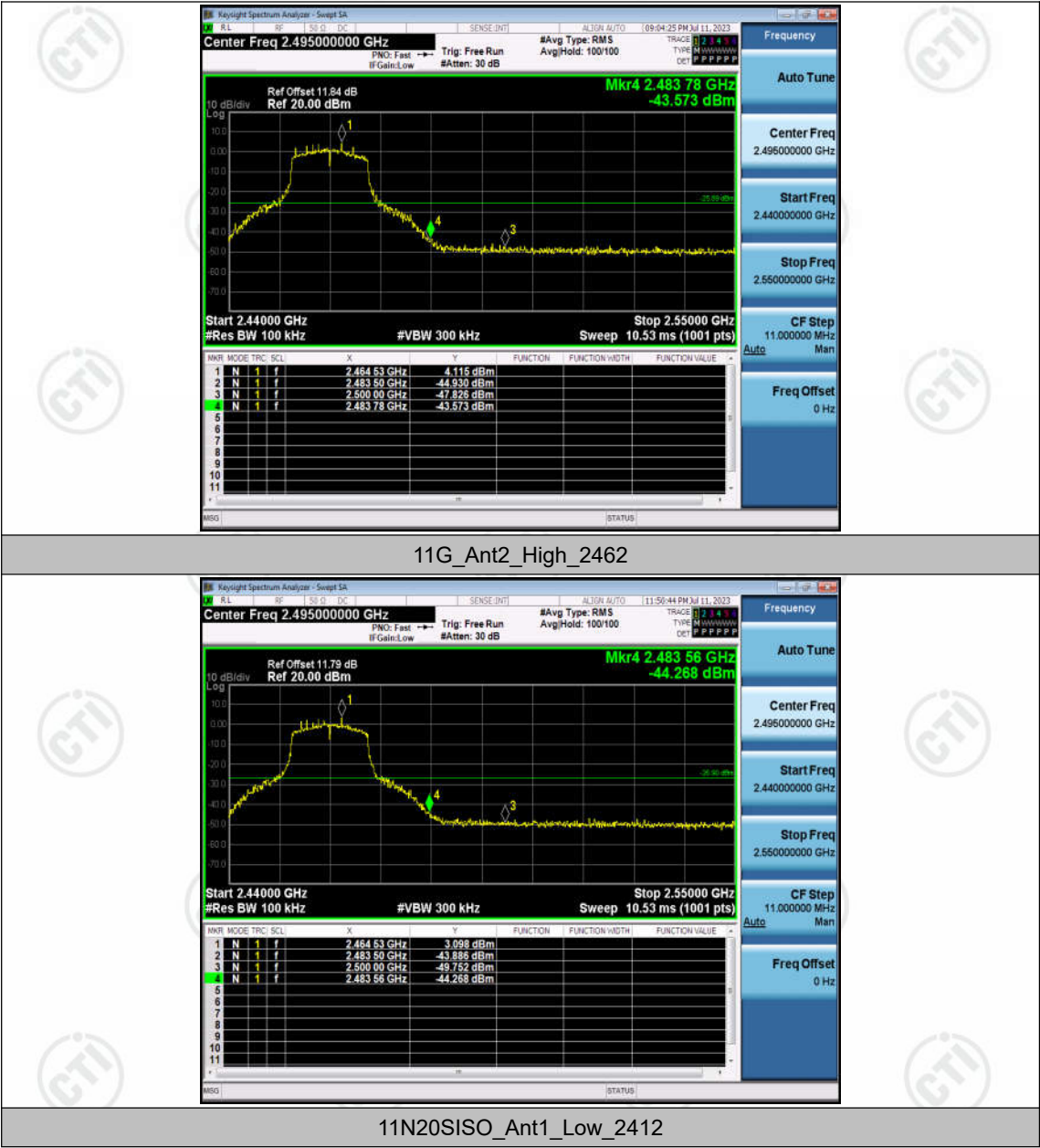
TestMode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.91	-37.41	≤-24.09	PASS
	Ant2	Low	2412	4.11	-39.68	≤-25.89	PASS
	Ant1	High	2462	5.86	-47.86	≤-24.14	PASS
	Ant2	High	2462	3.83	-46.9	≤-26.17	PASS
11G	Ant1	Low	2412	3.85	-28.45	≤-26.15	PASS
	Ant2	Low	2412	3.20	-28.79	≤-26.8	PASS
	Ant1	High	2462	4.12	-43.57	≤-25.89	PASS
	Ant2	High	2462	3.10	-44.27	≤-26.9	PASS
11N20SIS O	Ant1	Low	2412	4.30	-28.68	≤-25.7	PASS
	Ant2	Low	2412	3.95	-31	≤-26.05	PASS
	Ant1	High	2462	5.00	-40.8	≤-25	PASS
	Ant2	High	2462	2.68	-40.33	≤-27.32	PASS
11N40SIS O	Ant1	Low	2422	0.92	-32.62	≤-29.08	PASS
	Ant2	Low	2422	-0.29	-34.82	≤-30.29	PASS
	Ant1	High	2452	1.84	-37.39	≤-28.17	PASS
	Ant2	High	2452	-0.24	-34.95	≤-30.24	PASS

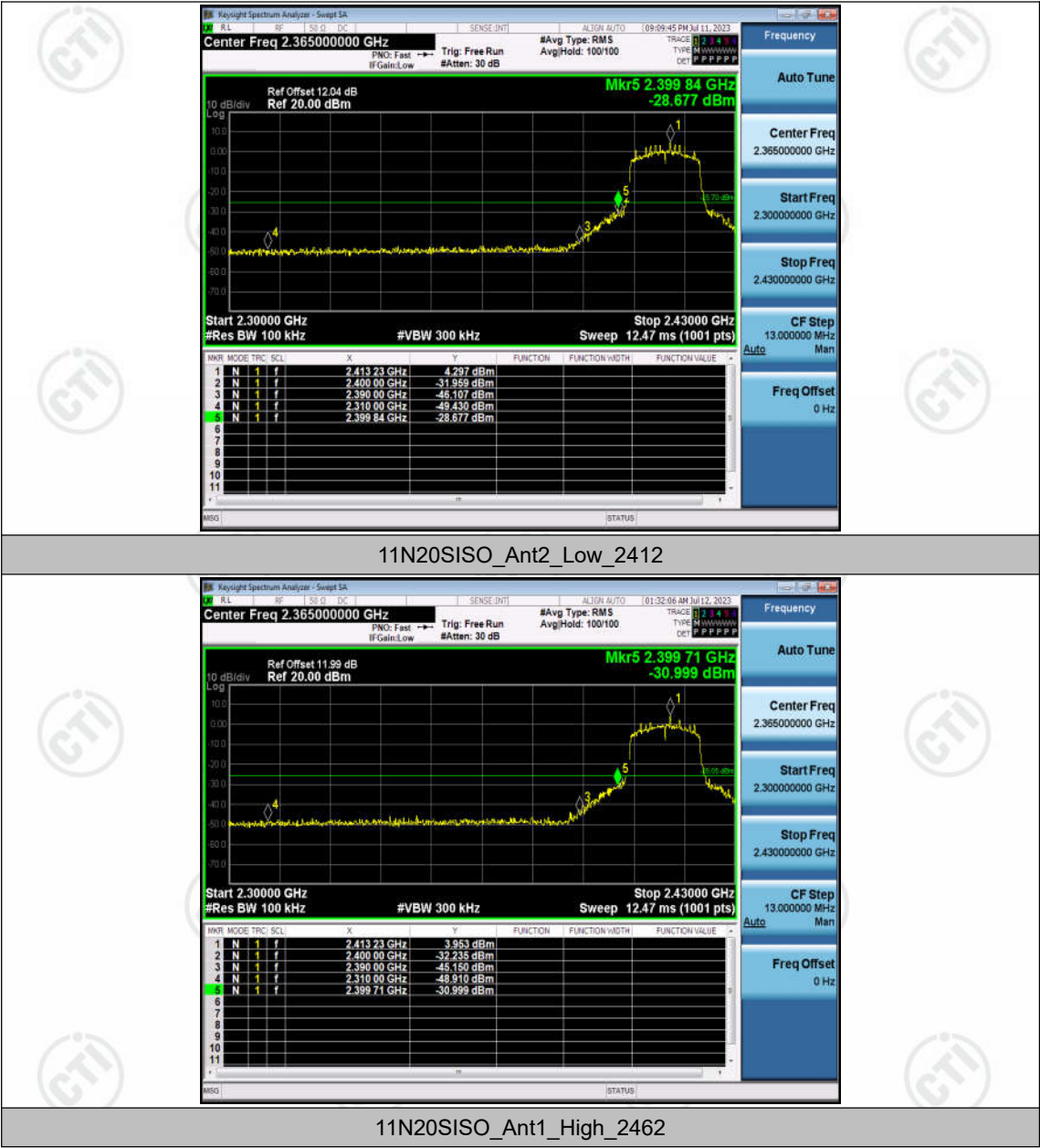
Test Graphs

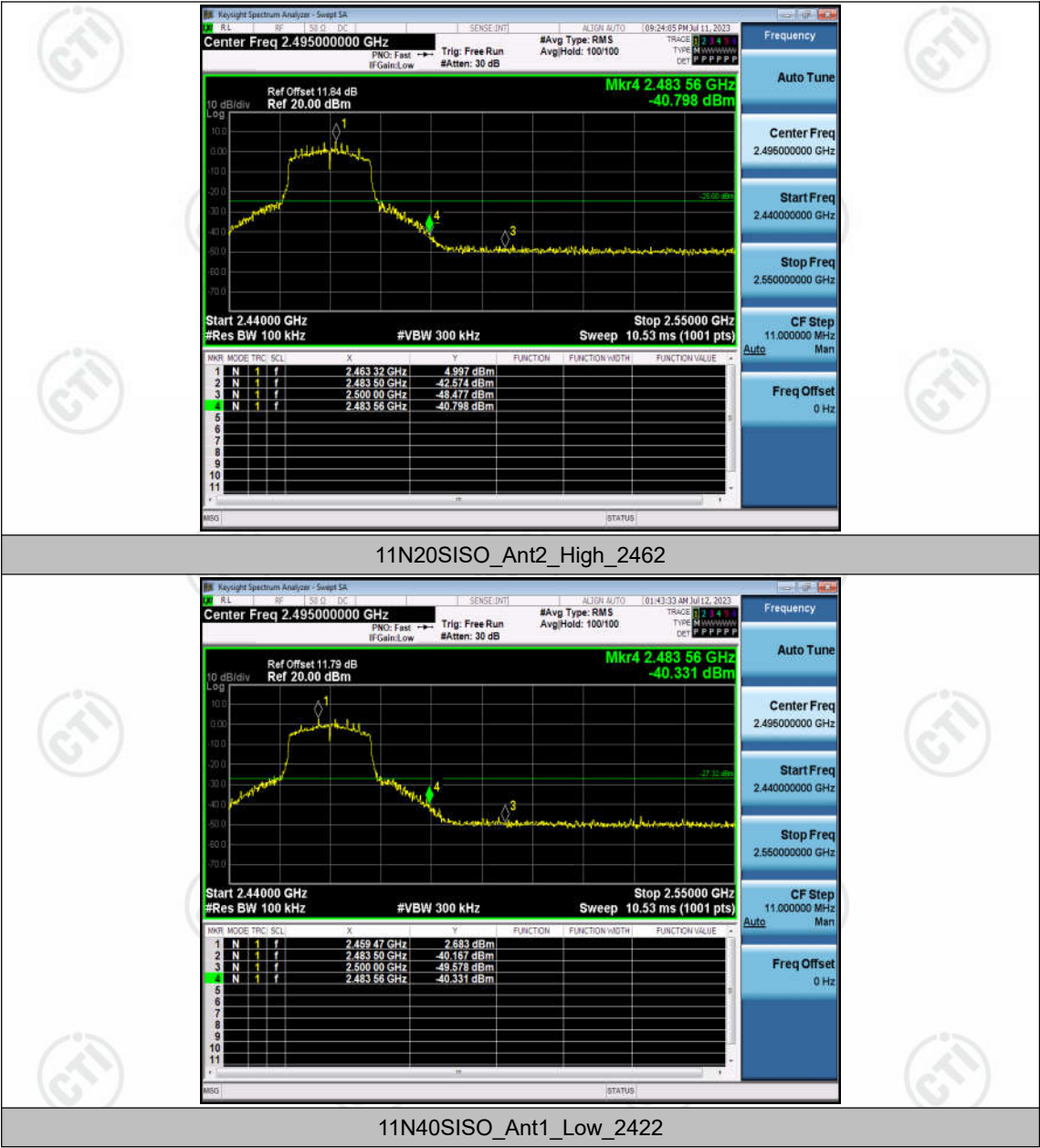


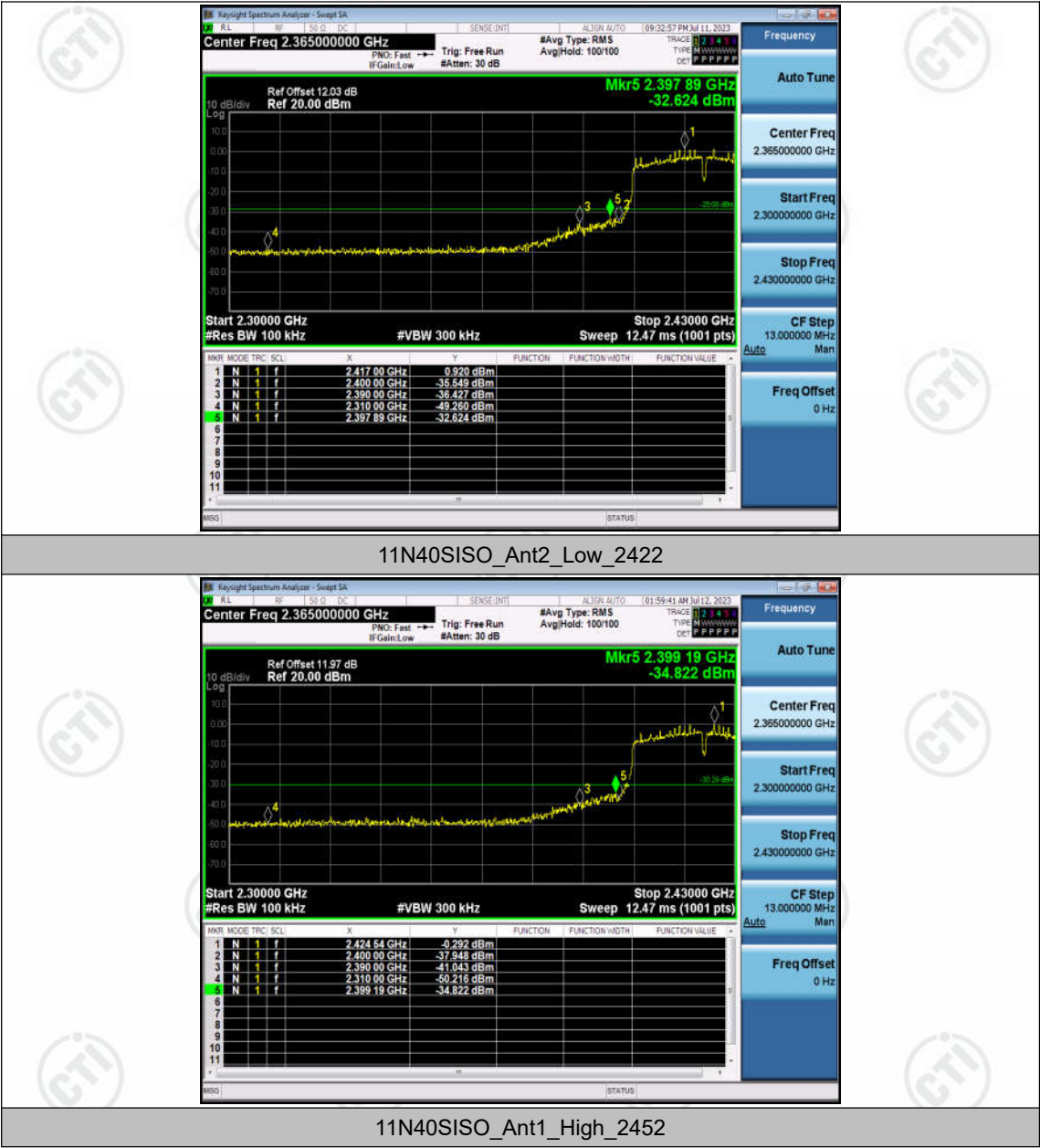


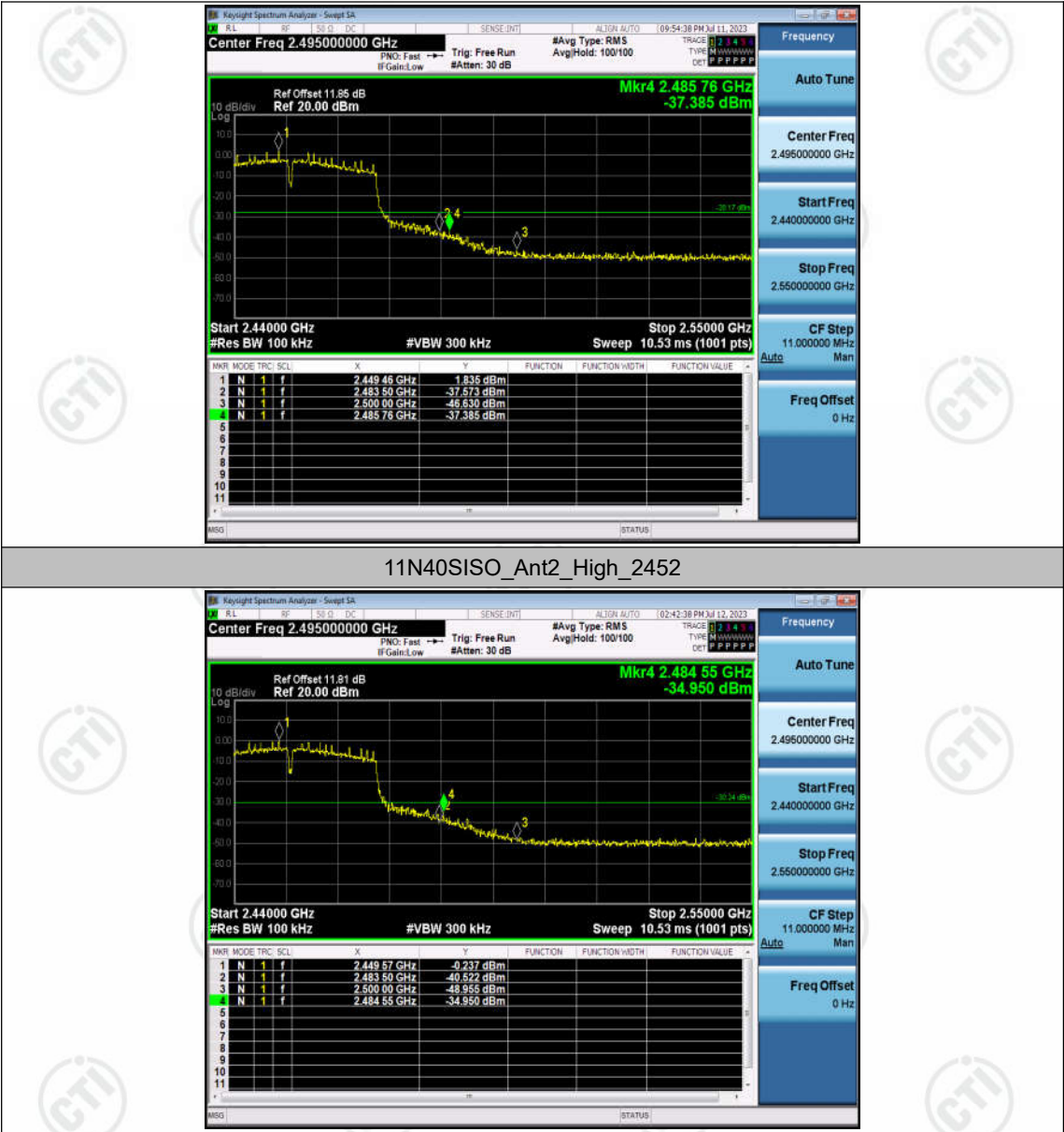












Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	4.44	4.44	---	PASS
			30~1000	4.44	-58.49	≤-25.56	PASS
			1000~26500	4.44	-36.81	≤-25.56	PASS
	Ant2	2412	Reference	4.09	4.09	---	PASS
			30~1000	4.09	-53.75	≤-25.91	PASS
			1000~26500	4.09	-29.59	≤-25.91	PASS
	Ant1	2437	Reference	6.50	6.50	---	PASS
			30~1000	6.50	-57.61	≤-23.5	PASS
			1000~26500	6.50	-33.41	≤-23.5	PASS
	Ant2	2437	Reference	4.41	4.41	---	PASS
			30~1000	4.41	-53.25	≤-25.59	PASS
			1000~26500	4.41	-27.43	≤-25.59	PASS
	Ant1	2462	Reference	5.99	5.99	---	PASS
			30~1000	5.99	-58.22	≤-24.01	PASS
			1000~26500	5.99	-28.94	≤-24.01	PASS
	Ant2	2462	Reference	3.68	3.68	---	PASS
			30~1000	3.68	-53.95	≤-26.32	PASS
			1000~26500	3.68	-27.78	≤-26.32	PASS
11G	Ant1	2412	Reference	4.88	4.88	---	PASS
			30~1000	4.88	-52.92	≤-25.12	PASS
			1000~26500	4.88	-42.74	≤-25.12	PASS
	Ant2	2412	Reference	3.80	3.80	---	PASS
			30~1000	3.80	-47.68	≤-26.2	PASS
			1000~26500	3.80	-36.07	≤-26.2	PASS
	Ant1	2437	Reference	5.00	5.00	---	PASS
			30~1000	5.00	-52.5	≤-25	PASS
			1000~26500	5.00	-40.59	≤-25	PASS
	Ant2	2437	Reference	3.53	3.53	---	PASS
			30~1000	3.53	-50.09	≤-26.47	PASS
			1000~26500	3.53	-36.33	≤-26.47	PASS
	Ant1	2462	Reference	5.13	5.13	---	PASS
			30~1000	5.13	-51.91	≤-24.87	PASS
			1000~26500	5.13	-37.6	≤-24.87	PASS
	Ant2	2462	Reference	3.50	3.50	---	PASS

11N20SI SO			30~1000	3.50	-49.46	≤ -26.5	PASS
			1000~26500	3.50	-32.94	≤ -26.5	PASS
	Ant1	2412	Reference	4.83	4.83	---	PASS
			30~1000	4.83	-56.77	≤ -25.17	PASS
			1000~26500	4.83	-44.52	≤ -25.17	PASS
	Ant2	2412	Reference	3.89	3.89	---	PASS
			30~1000	3.89	-47.39	≤ -26.11	PASS
			1000~26500	3.89	-37.27	≤ -26.11	PASS
	Ant1	2437	Reference	4.14	4.14	---	PASS
			30~1000	4.14	-52.82	≤ -25.86	PASS
			1000~26500	4.14	-41.96	≤ -25.86	PASS
	Ant2	2437	Reference	3.89	3.89	---	PASS
			30~1000	3.89	-49.86	≤ -26.11	PASS
			1000~26500	3.89	-34.26	≤ -26.11	PASS
	Ant1	2462	Reference	4.66	4.66	---	PASS
			30~1000	4.66	-52.1	≤ -25.34	PASS
			1000~26500	4.66	-38.93	≤ -25.34	PASS
	Ant2	2462	Reference	3.18	3.18	---	PASS
			30~1000	3.18	-49.64	≤ -26.82	PASS
			1000~26500	3.18	-31.86	≤ -26.82	PASS
11N40SI SO	Ant1	2422	Reference	1.65	1.65	---	PASS
			30~1000	1.65	-55.19	≤ -28.35	PASS
			1000~26500	1.65	-45.8	≤ -28.35	PASS
	Ant2	2422	Reference	0.03	0.03	---	PASS
			30~1000	0.03	-45.95	≤ -29.97	PASS
			1000~26500	0.03	-41.54	≤ -29.97	PASS
	Ant1	2437	Reference	1.90	1.90	---	PASS
			30~1000	1.90	-51.71	≤ -28.1	PASS
			1000~26500	1.90	-43.05	≤ -28.1	PASS
	Ant2	2437	Reference	0.21	0.21	---	PASS
			30~1000	0.21	-45.95	≤ -29.79	PASS
			1000~26500	0.21	-40.57	≤ -29.79	PASS
	Ant1	2452	Reference	1.78	1.78	---	PASS
			30~1000	1.78	-51.18	≤ -28.22	PASS
			1000~26500	1.78	-41.71	≤ -28.22	PASS
	Ant2	2452	Reference	0.15	0.15	---	PASS
			30~1000	0.15	-47.96	≤ -29.85	PASS
			1000~26500	0.15	-40.46	≤ -29.85	PASS

Test Graphs

