

Appendix A: Test result for 2.4GHz Wi-Fi

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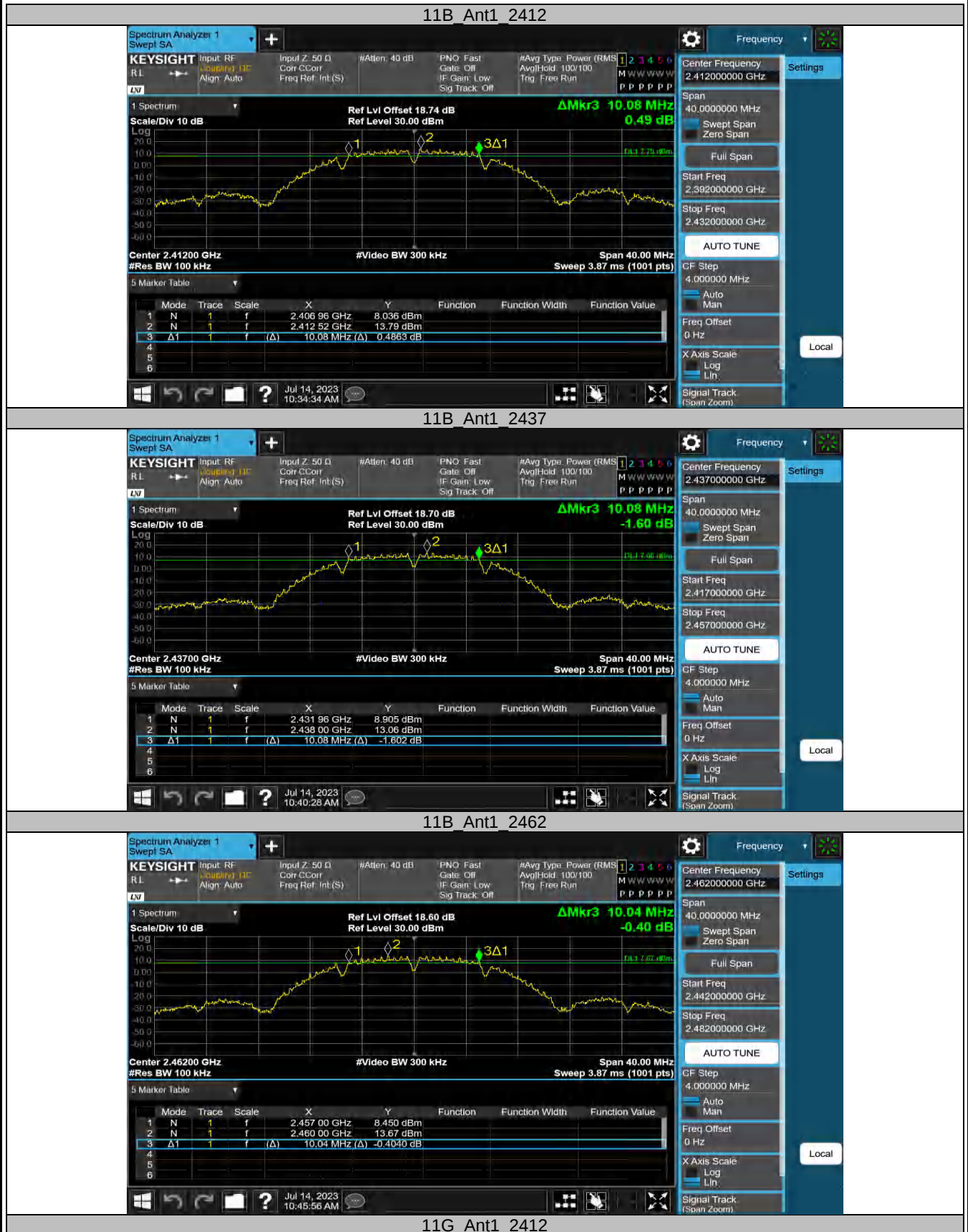
1.1 Appendix A: DTS Bandwidth

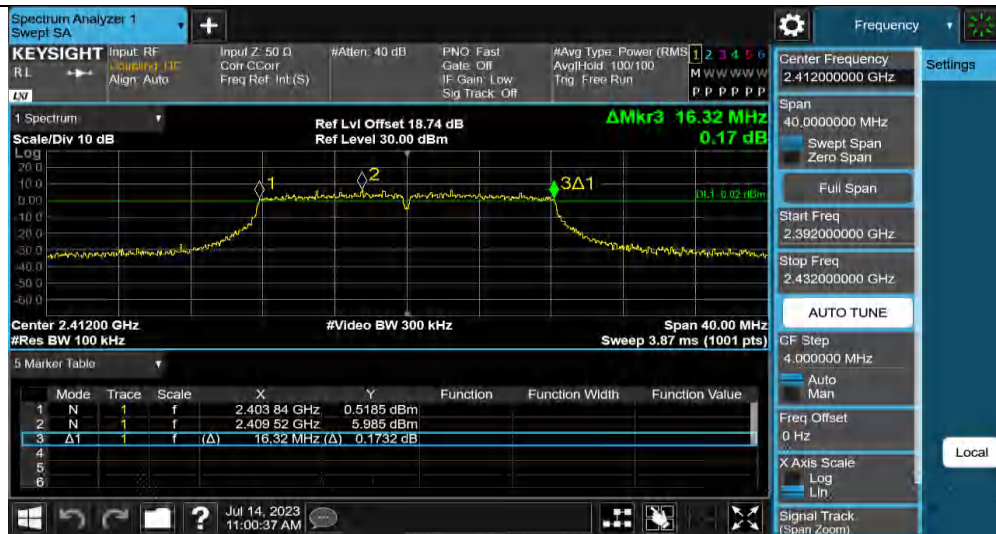
1.1.1 Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.080	2406.960	2417.040	0.5	PASS
		2437	10.080	2431.960	2442.040	0.5	PASS
		2462	10.040	2457.000	2467.040	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.040	2428.840	2444.880	0.5	PASS
		2462	15.800	2454.080	2469.880	0.5	PASS
11N20MIMO	Ant1	2412	16.400	2403.480	2419.880	0.5	PASS
	Ant2	2412	16.920	2403.440	2420.360	0.5	PASS
	Ant1	2437	10.040	2432.000	2442.040	0.5	PASS
	Ant2	2437	10.080	2431.960	2442.040	0.5	PASS
	Ant1	2462	10.360	2456.840	2467.200	0.5	PASS
	Ant2	2462	10.080	2456.960	2467.040	0.5	PASS
11N40MIMO	Ant1	2422	34.240	2405.360	2439.600	0.5	PASS
	Ant2	2422	35.040	2404.480	2439.520	0.5	PASS
	Ant1	2437	35.120	2419.480	2454.600	0.5	PASS
	Ant2	2437	35.040	2419.480	2454.520	0.5	PASS
	Ant1	2452	35.040	2434.480	2469.520	0.5	PASS
	Ant2	2452	33.200	2435.360	2468.560	0.5	PASS

Note: Both antenna port were tested, only the worst case reported.

1.1.2 Test Graphs





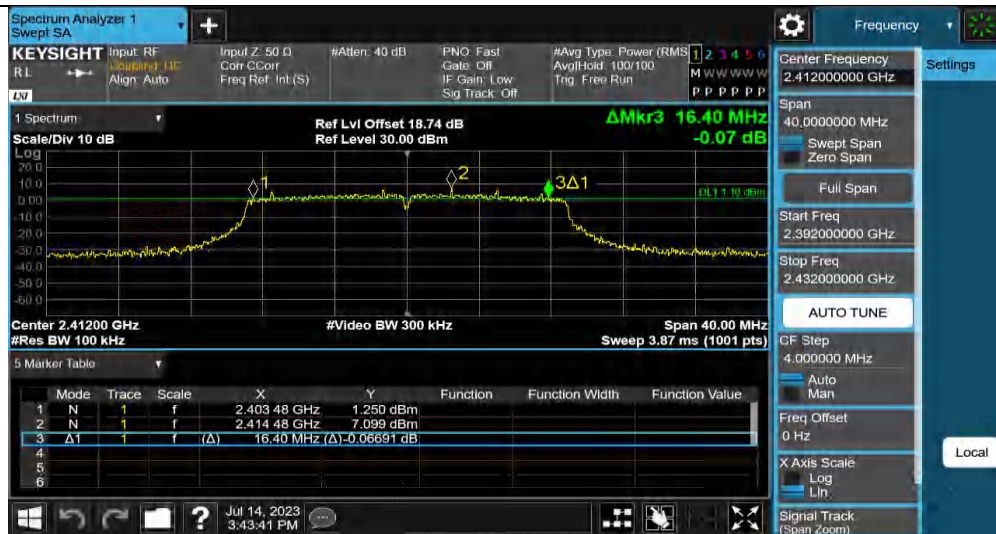
11G Ant1 2437



11G Ant1 2462



11N20MIMO Ant1 2412



11N20MIMO Ant2 2412



11N20MIMO Ant1 2437



11N20MIMO Ant2 2437



11N20MIMO Ant1 2462



11N20MIMO Ant2 2462



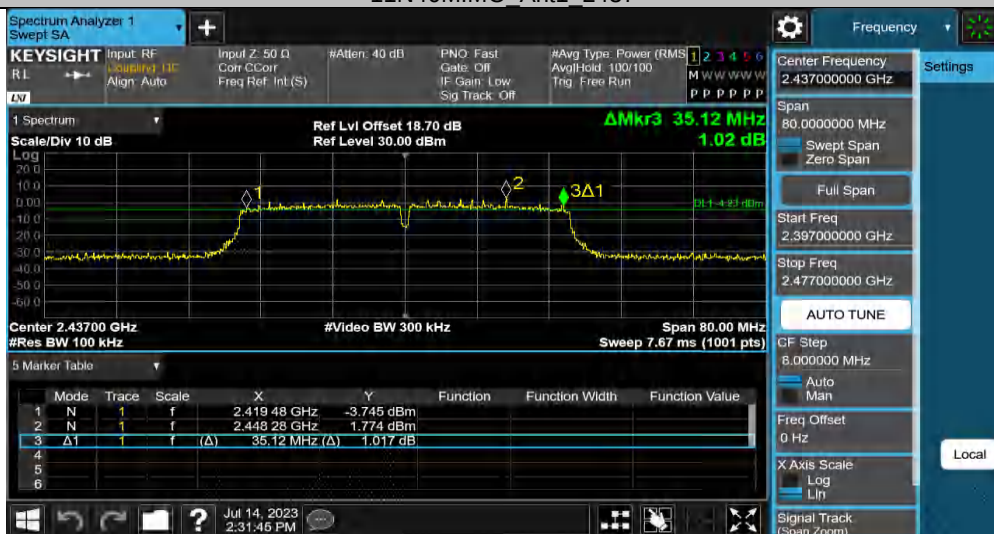
11N40MIMO Ant1 2422



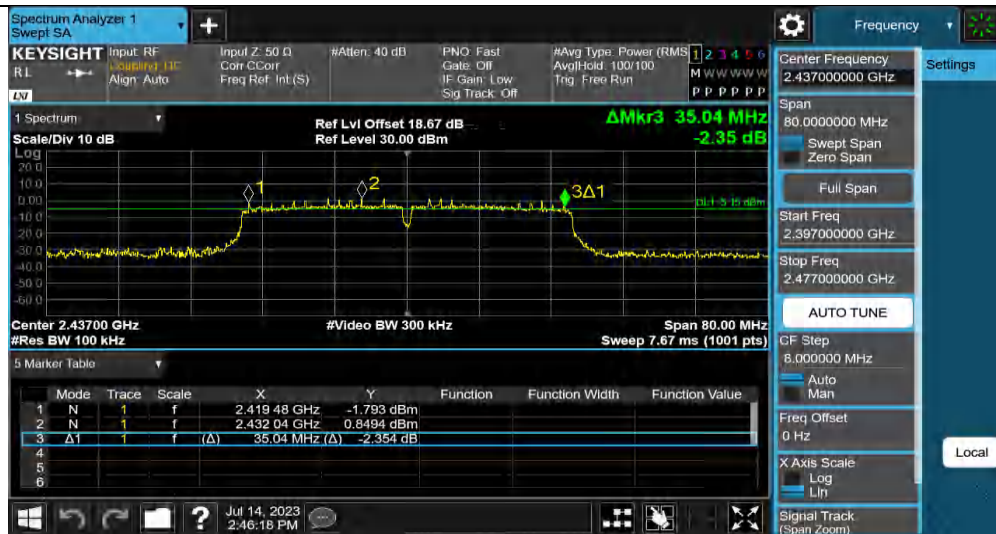
11N40MIMO Ant2 2422



11N40MIMO Ant1 2437



11N40MIMO Ant2 2437



11N40MIMO Ant1 2452



11N40MIMO Ant2 2452



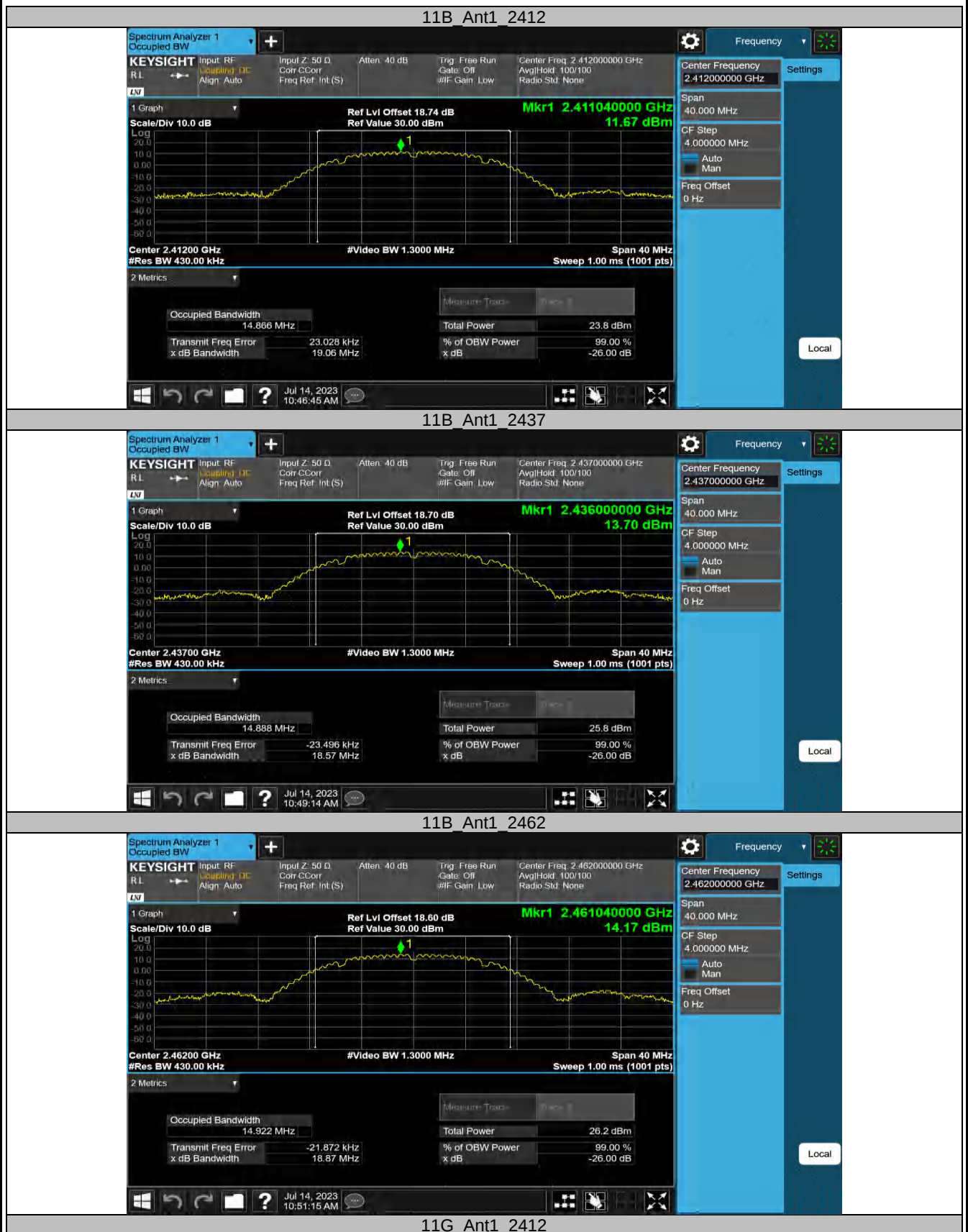
1.2 Appendix B: Occupied Channel Bandwidth

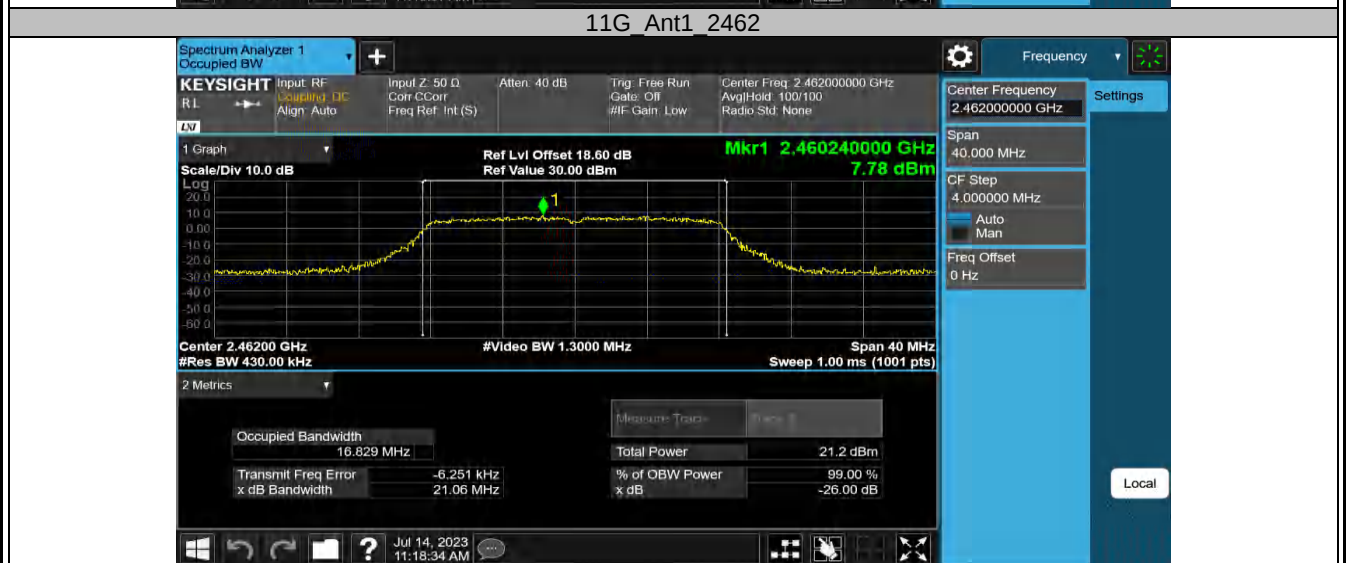
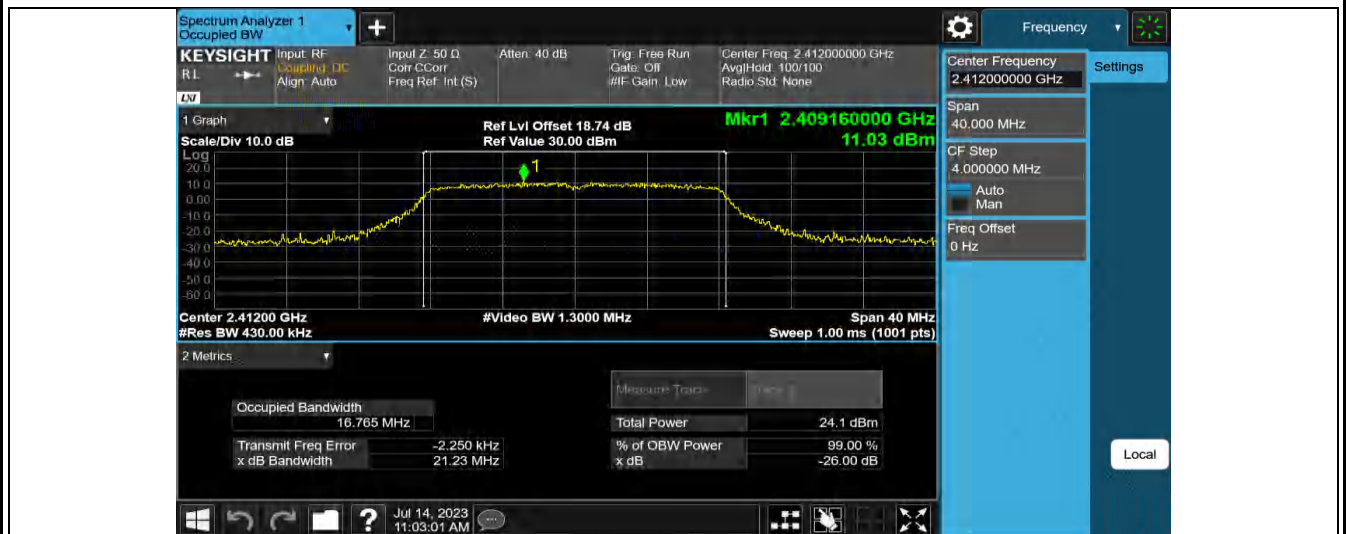
1.2.1 Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.866	2404.5900	2419.4560	---	---
		2437	14.888	2429.5325	2444.4205	---	---
		2462	14.922	2454.5171	2469.4391	---	---
11G	Ant1	2412	16.765	2403.6153	2420.3803	---	---
		2437	16.724	2428.6569	2445.3809	---	---
		2462	16.829	2453.5793	2470.4083	---	---
11N20MIMO	Ant1	2412	14.881	2404.5958	2419.4768	---	---
	Ant2	2412	17.889	2403.0621	2420.9511	---	---
	Ant1	2437	14.841	2429.5849	2444.4259	---	---
	Ant2	2437	17.873	2428.0585	2445.9315	---	---
	Ant1	2462	14.859	2454.5802	2469.4392	---	---
	Ant2	2462	17.900	2453.0151	2470.9151	---	---
11N40MIMO	Ant1	2422	36.213	2403.9237	2440.1367	---	---
	Ant2	2422	36.333	2403.8400	2440.1730	---	---
	Ant1	2437	36.188	2418.9315	2455.1195	---	---
	Ant2	2437	36.394	2418.8220	2455.2160	---	---
	Ant1	2452	36.240	2433.8878	2470.1278	---	---
	Ant2	2452	36.323	2433.8271	2470.1501	---	---

Note: Both antenna port were tested, only the worst case reported.

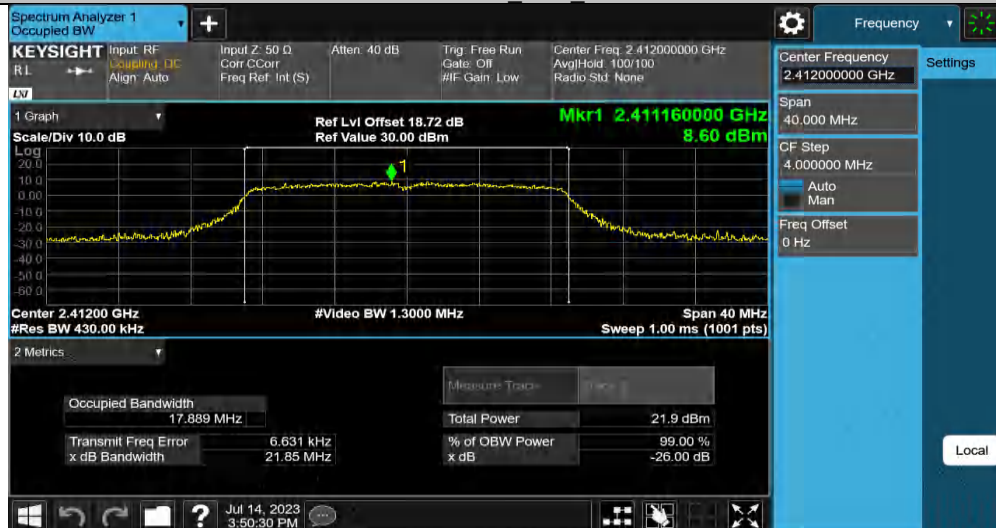
1.2.2 Test Graphs







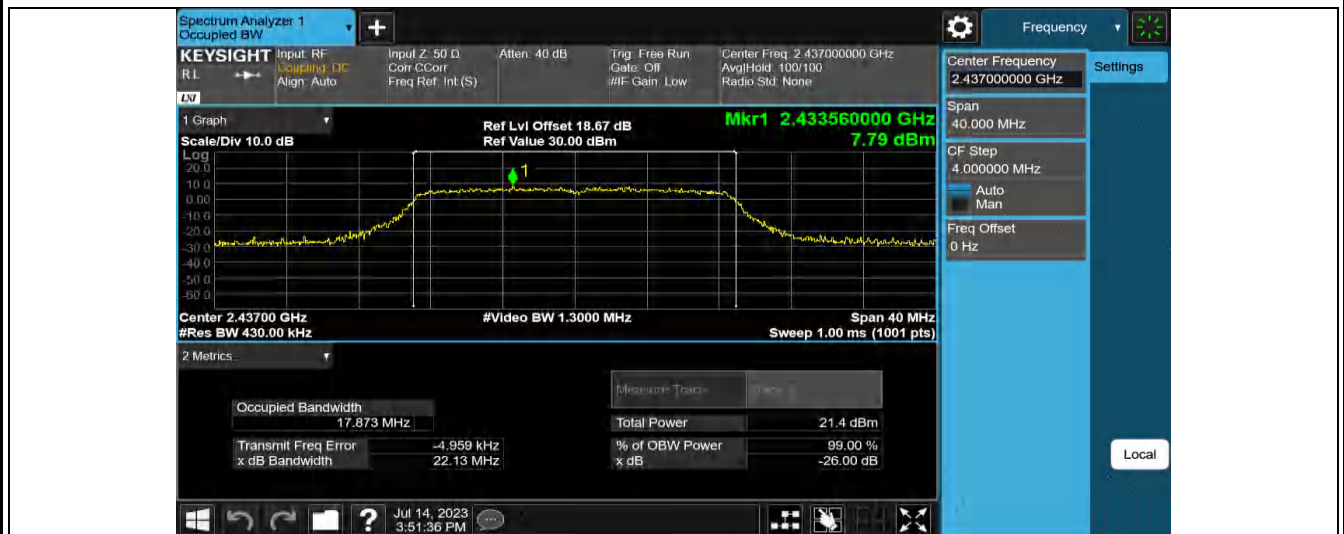
11N20MIMO Ant2 2412



11N20MIMO Ant1 2437



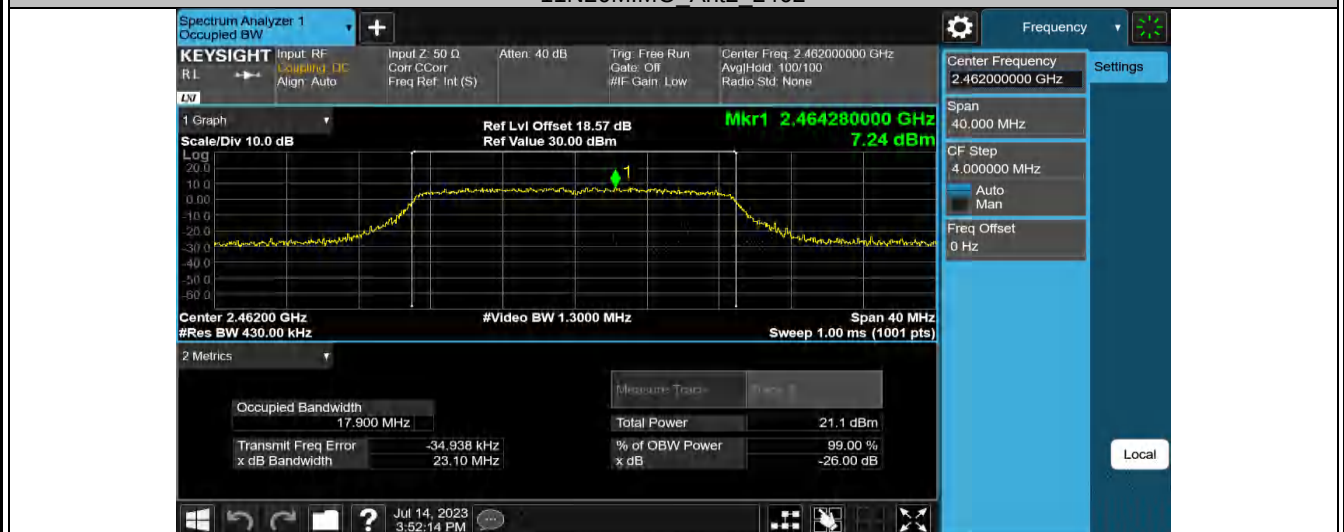
11N20MIMO Ant2 2437



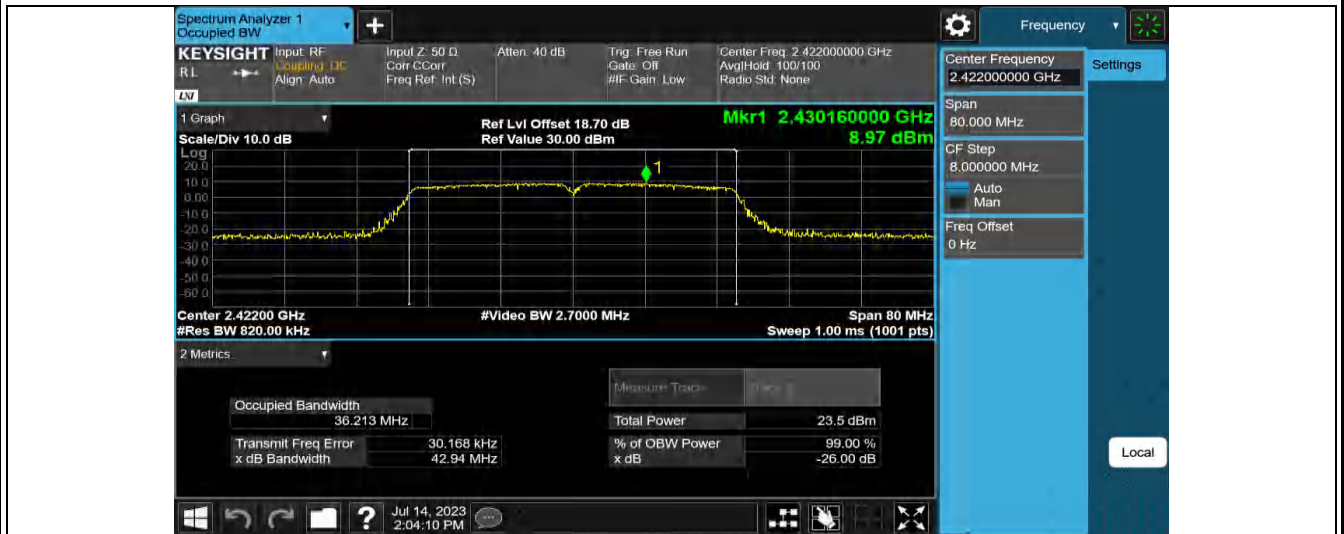
11N20MIMO Ant1 2462



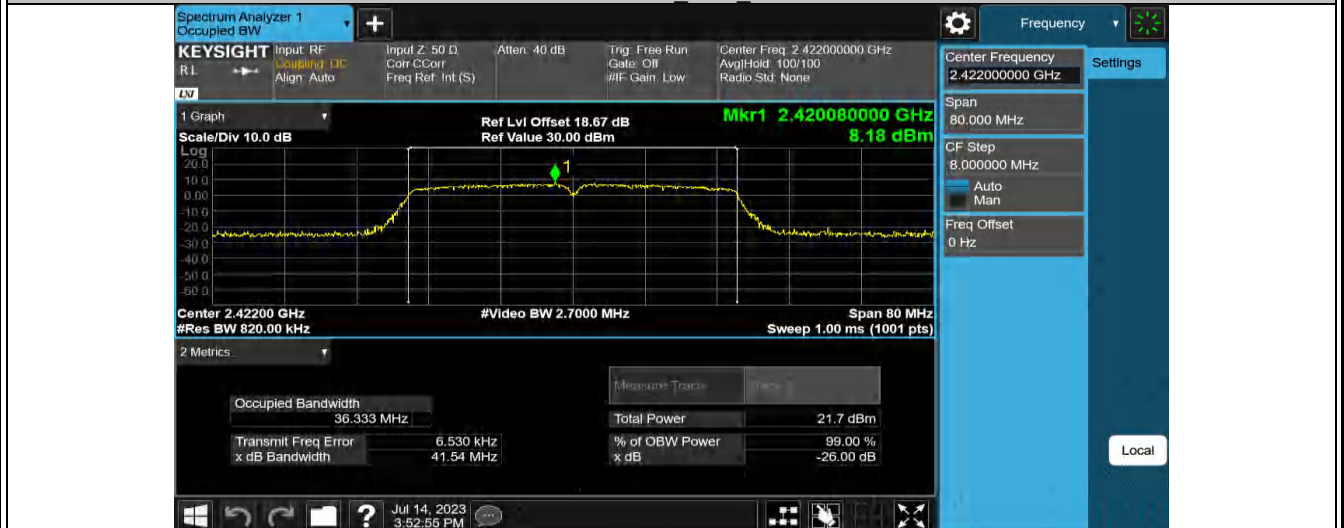
11N20MIMO Ant2 2462



11N40MIMO Ant1 2422



11N40MIMO Ant2 2422



11N40MIMO Ant1 2437



11N40MIMO Ant2 2437



1.3 Appendix C: Maximum conducted output power

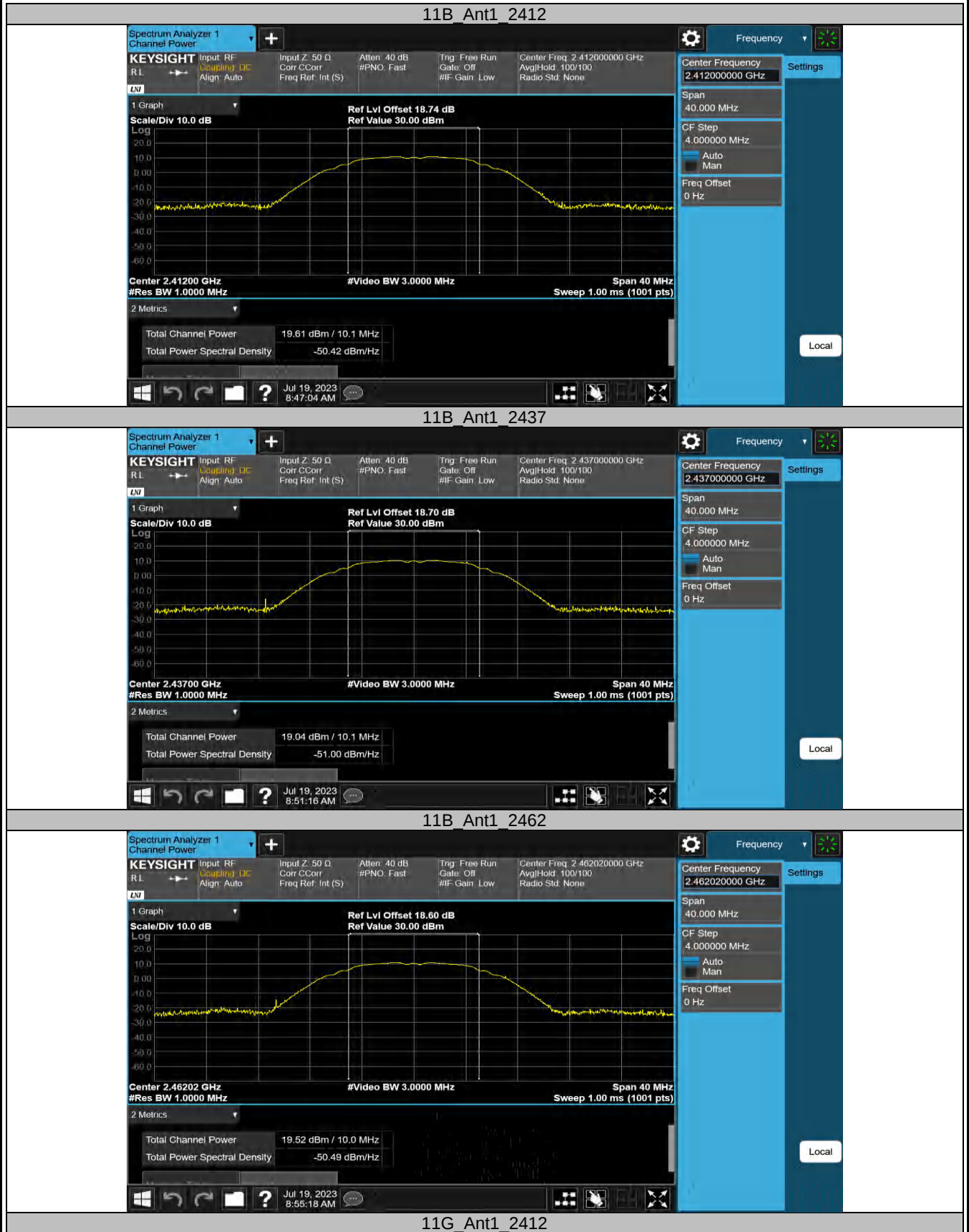
1.3.1 Test Result

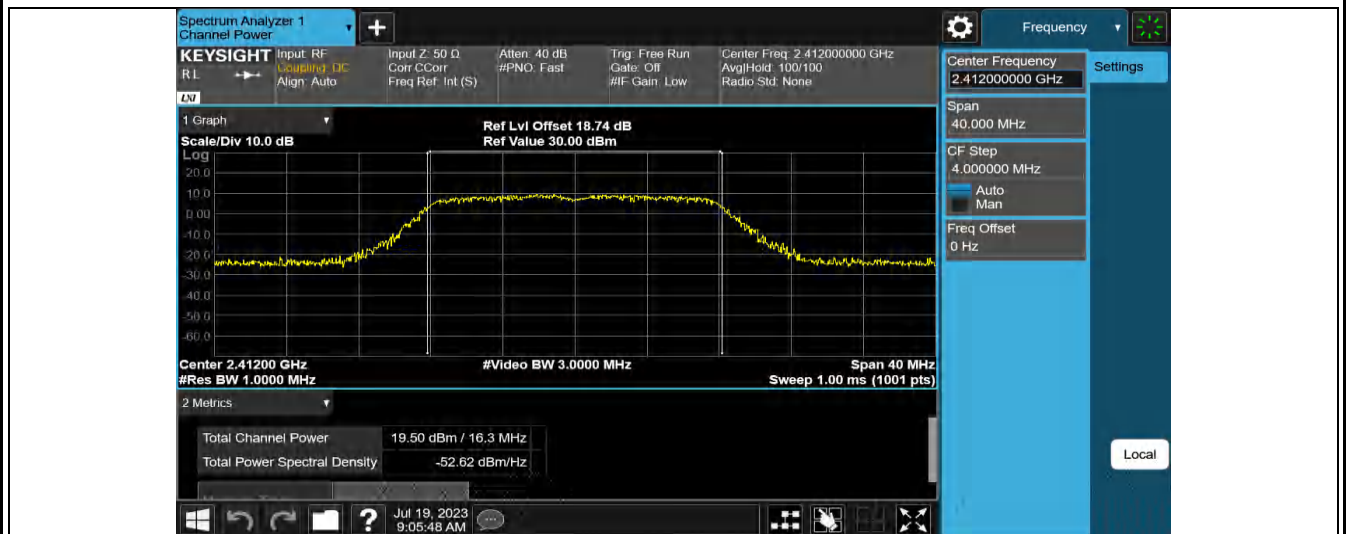
TestMode	Antenna	Channel	Peak power-Result[dBm]	Average power-Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	19.61	17.00	≤30.00	PASS
		2437	19.04	16.32	≤30.00	PASS
		2462	19.52	16.89	≤30.00	PASS
	Ant2	2412	18.42	16.23	≤30.00	PASS
		2437	17.55	15.64	≤30.00	PASS
		2462	17.83	16.03	≤30.00	PASS
11G	Ant1	2412	19.5	14.52	≤30.00	PASS
		2437	18.22	13.44	≤30.00	PASS
		2462	17.91	13.14	≤30.00	PASS
	Ant2	2412	18.13	13.79	≤30.00	PASS
		2437	17.39	12.61	≤30.00	PASS
		2462	17.01	12.27	≤30.00	PASS
11N20MIMO	Ant1	2412	16.72	/	≤30.00	PASS
	Ant2	2412	14.97	/	≤30.00	PASS
	total	2412	18.94	13.79	≤30.00	PASS
	Ant1	2437	17.48	/	≤30.00	PASS
	Ant2	2437	13.39	/	≤30.00	PASS
	total	2437	18.91	13.26	≤30.00	PASS
	Ant1	2462	15.26	/	≤30.00	PASS
	Ant2	2462	13.30	/	≤30.00	PASS
	total	2462	17.40	12.44	≤30.00	PASS
11N40MIMO	Ant1	2422	17.25	/	≤30.00	PASS
	Ant2	2422	15.58	/	≤30.00	PASS
	total	2422	19.51	13.47	≤30.00	PASS
	Ant1	2437	16.96	/	≤30.00	PASS
	Ant2	2437	15.42	/	≤30.00	PASS
	total	2437	19.27	13.23	≤30.00	PASS
	Ant1	2452	16.86	/	≤30.00	PASS
	Ant2	2452	15.07	/	≤30.00	PASS
	total	2452	19.07	12.98	≤30.00	PASS

Note:

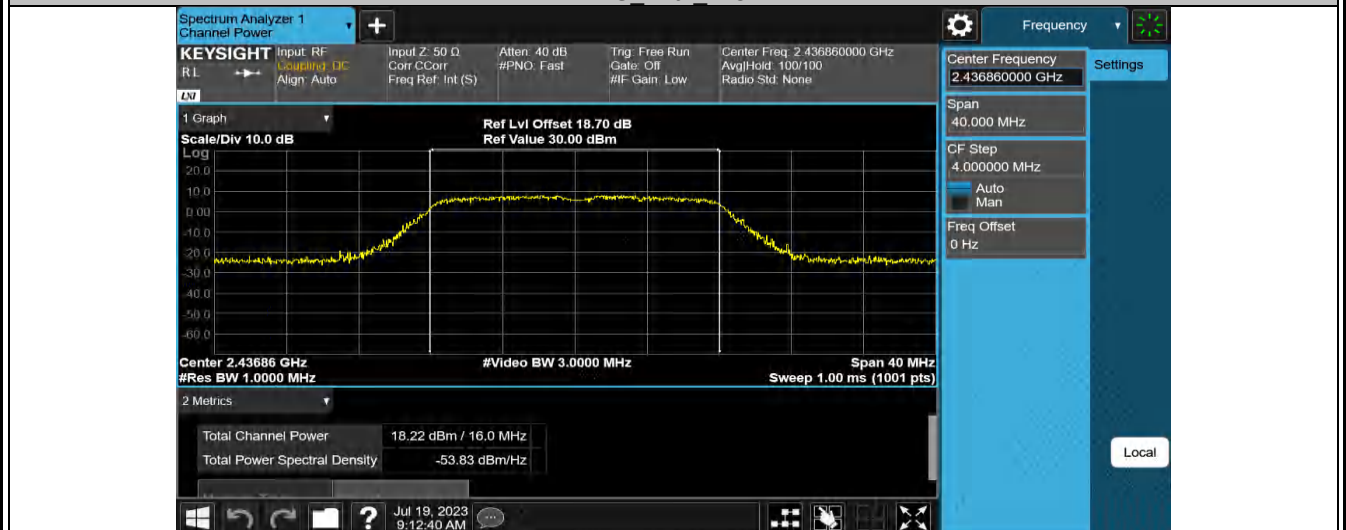
1. Max. e.i.r.p.=19.61dBm+3.11dBi=22.72dBm, which is less than 36dBm=4W, Max Antenna gain: 3.11dBi, here e.i.r.p is calculated by the max antenna gain.
2. The cable loss is taken into account in results.

1.3.2 Test Graphs

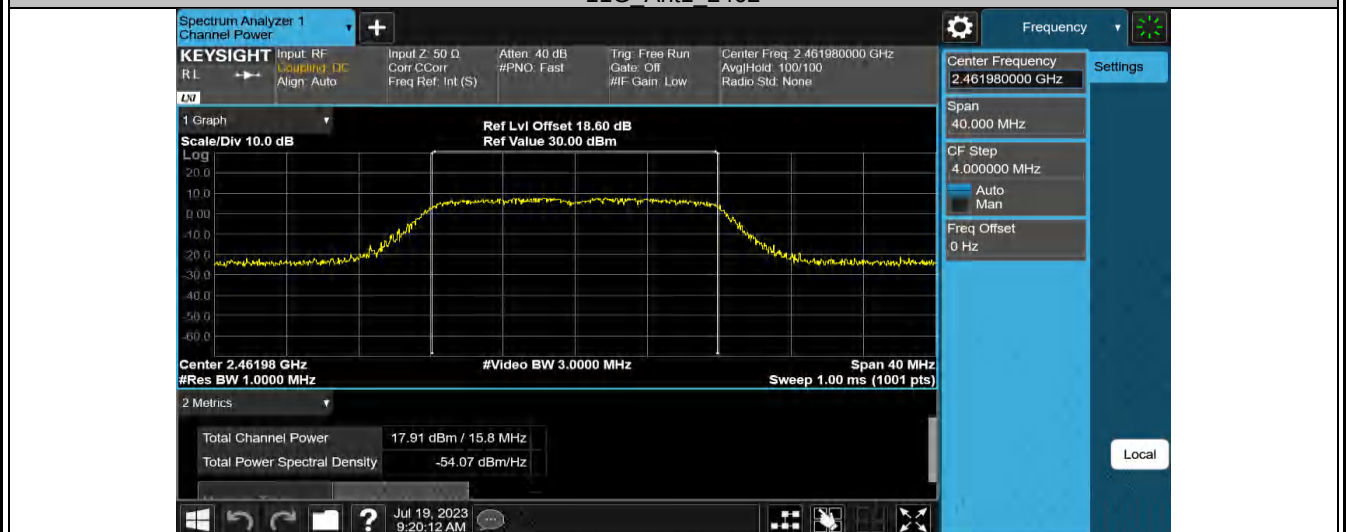




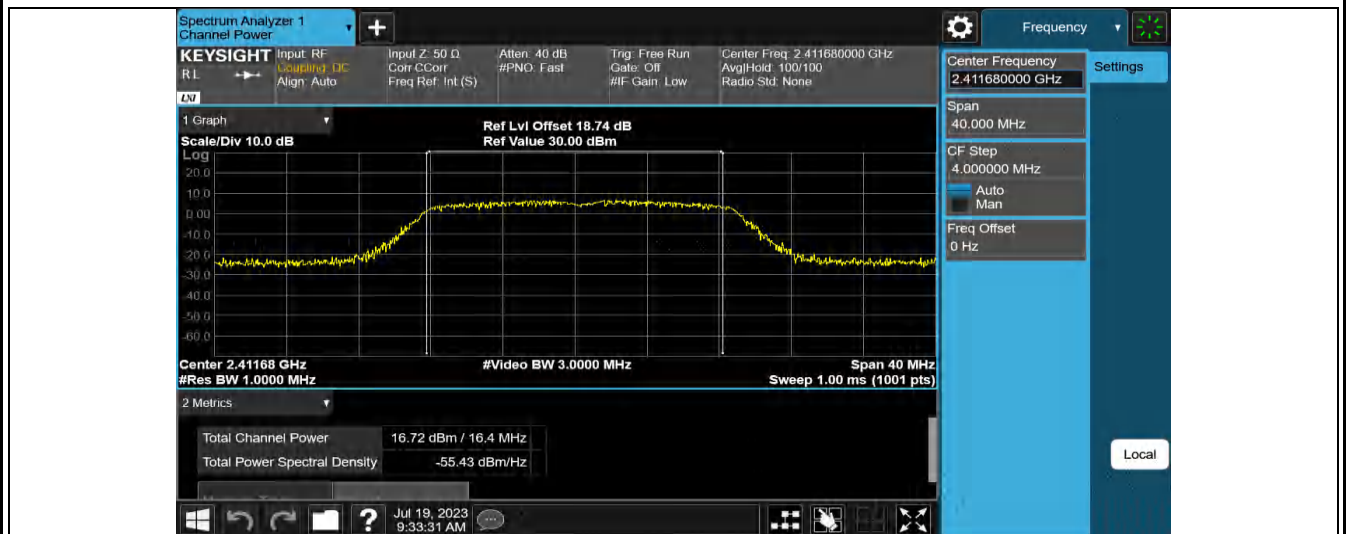
11G Ant1 2437



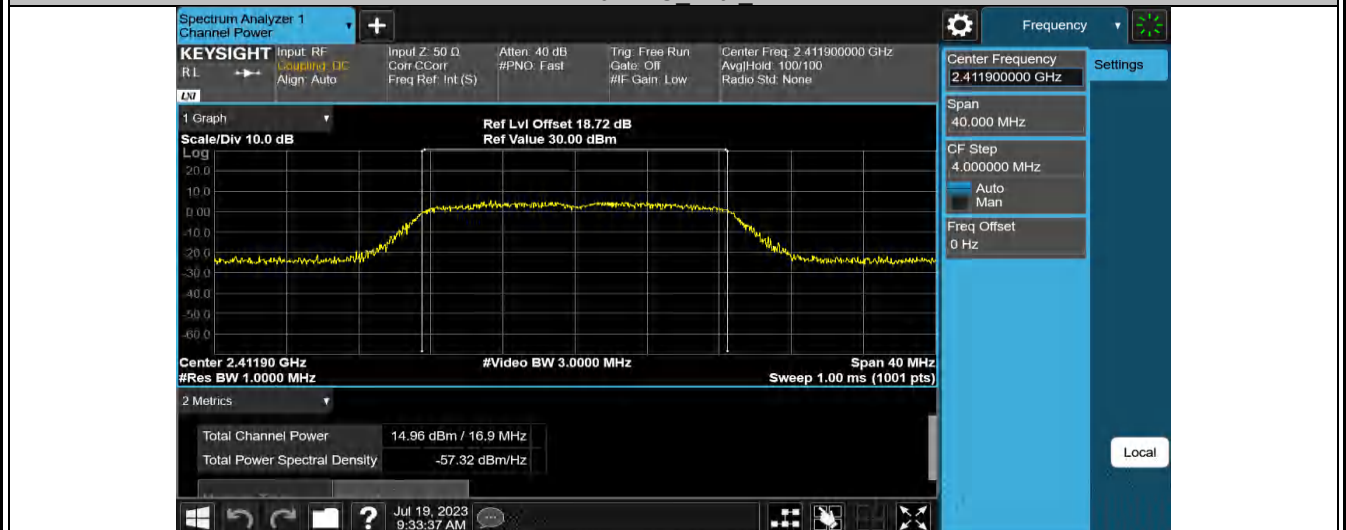
11G Ant1 2462



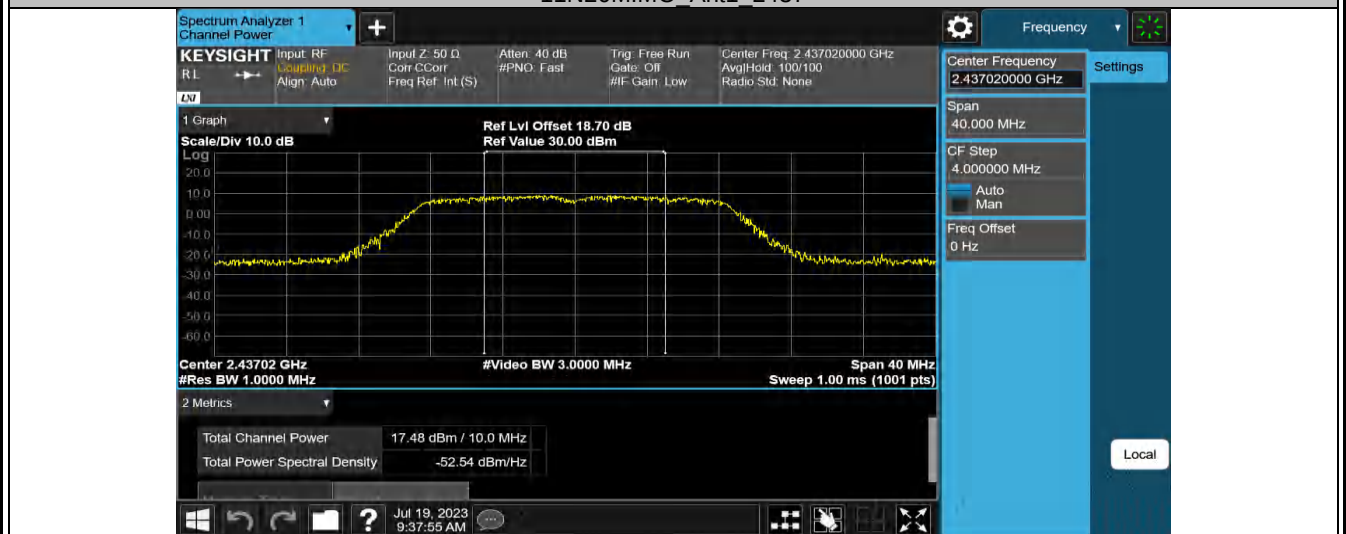
11N20MIMO Ant1 2412



11N20MIMO Ant2 2412



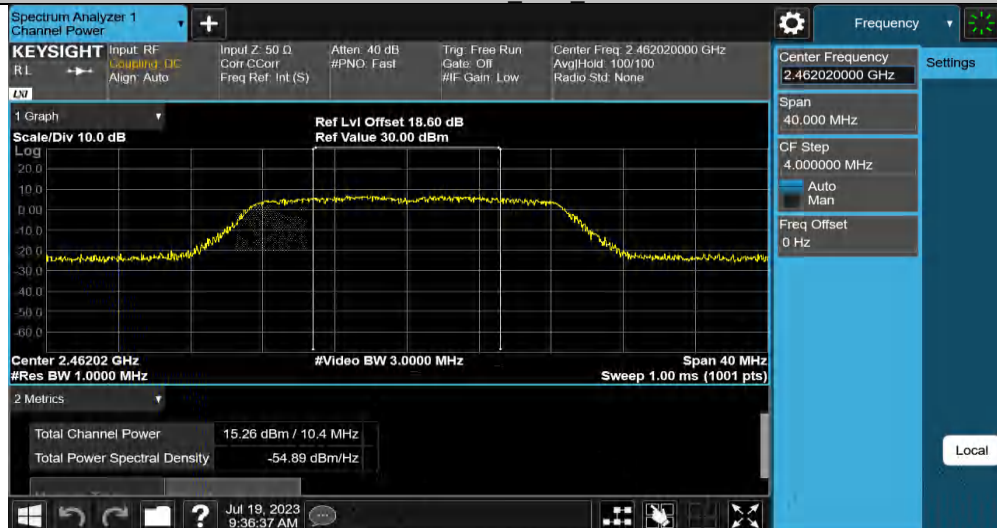
11N20MIMO Ant1 2437



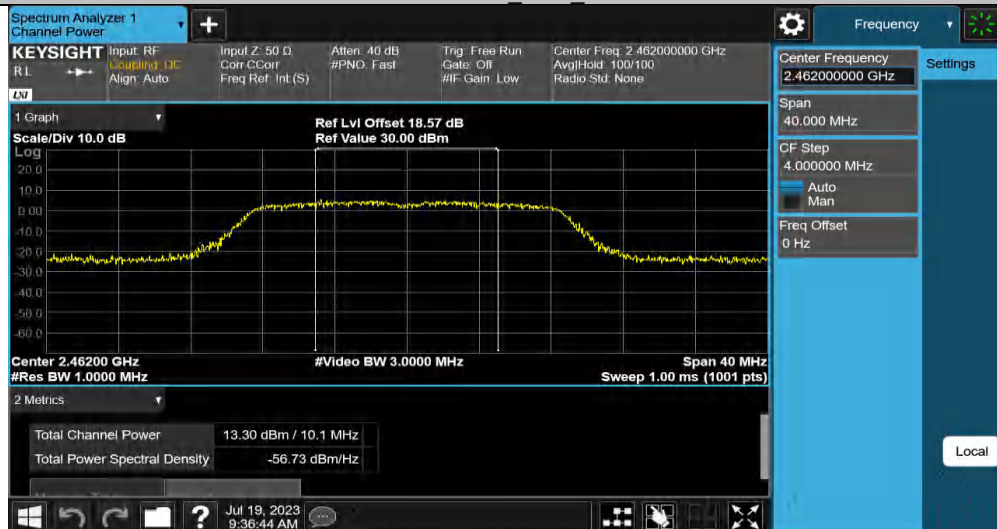
11N20MIMO Ant2 2437



11N20MIMO Ant1 2462



11N20MIMO Ant2 2462



11N40MIMO Ant1 2422





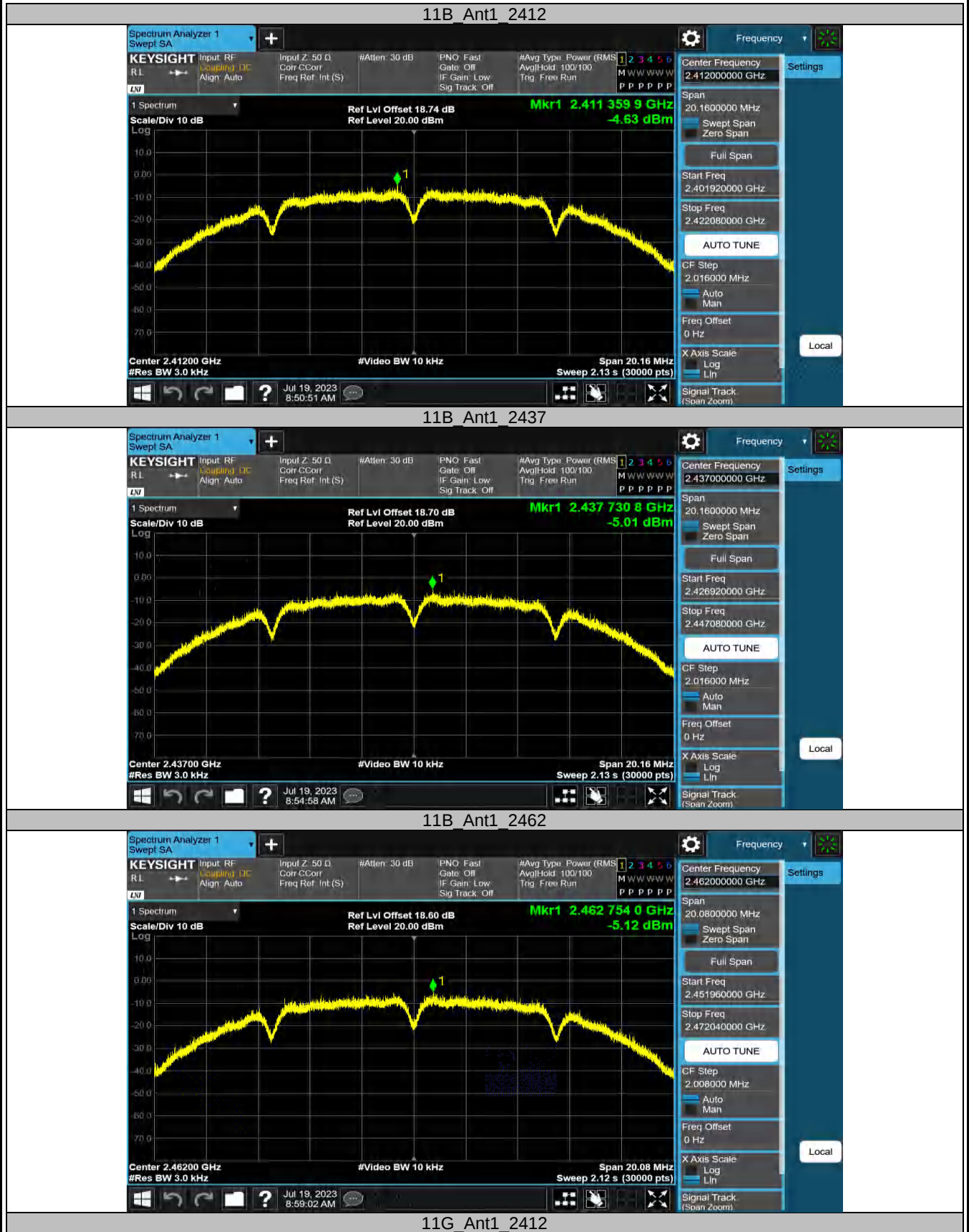
1.4 Appendix D: Maximum power spectral density

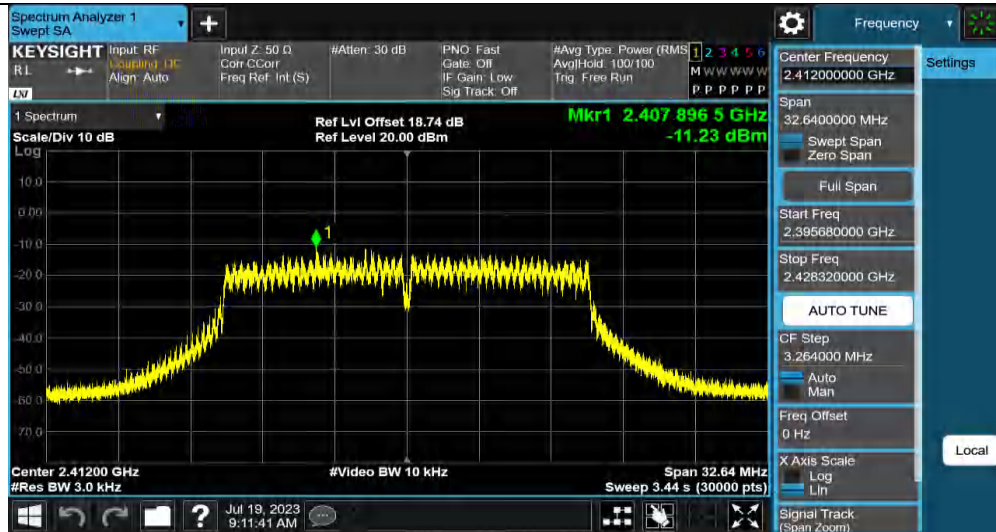
1.4.1 Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-4.63	≤8.00	PASS
		2437	-5.01	≤8.00	PASS
		2462	-5.12	≤8.00	PASS
11G	Ant1	2412	-11.23	≤8.00	PASS
		2437	-12.85	≤8.00	PASS
		2462	-13.5	≤8.00	PASS
11N20MIMO	Ant1	2412	-14.14	≤8.00	PASS
	Ant2	2412	-15.83	≤8.00	PASS
	total	2412	-11.89	≤8.00	PASS
	Ant1	2437	-15.33	≤8.00	PASS
	Ant2	2437	-16.83	≤8.00	PASS
	total	2437	-13.01	≤8.00	PASS
	Ant1	2462	-15.36	≤8.00	PASS
	Ant2	2462	-17.01	≤8.00	PASS
	total	2462	-13.10	≤8.00	PASS
11N40MIMO	Ant1	2422	-16.62	≤8.00	PASS
	Ant2	2422	-18.23	≤8.00	PASS
	total	2422	-14.34	≤8.00	PASS
	Ant1	2437	-17.89	≤8.00	PASS
	Ant2	2437	-20.03	≤8.00	PASS
	total	2437	-15.82	≤8.00	PASS
	Ant1	2452	-17.75	≤8.00	PASS
	Ant2	2452	-19.34	≤8.00	PASS
	total	2452	-15.46	≤8.00	PASS

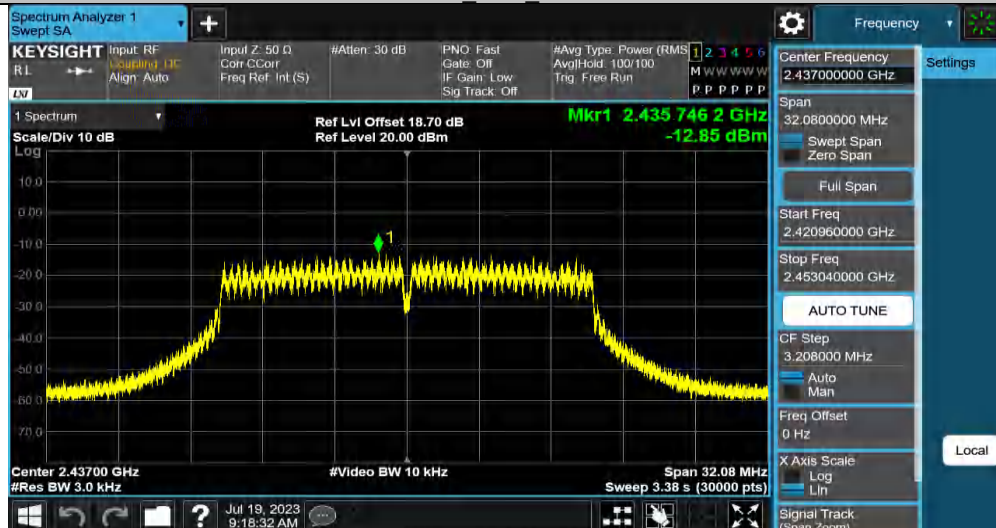
Note: Both antenna port were tested, only the worst case reported.

1.4.2 Test Graphs

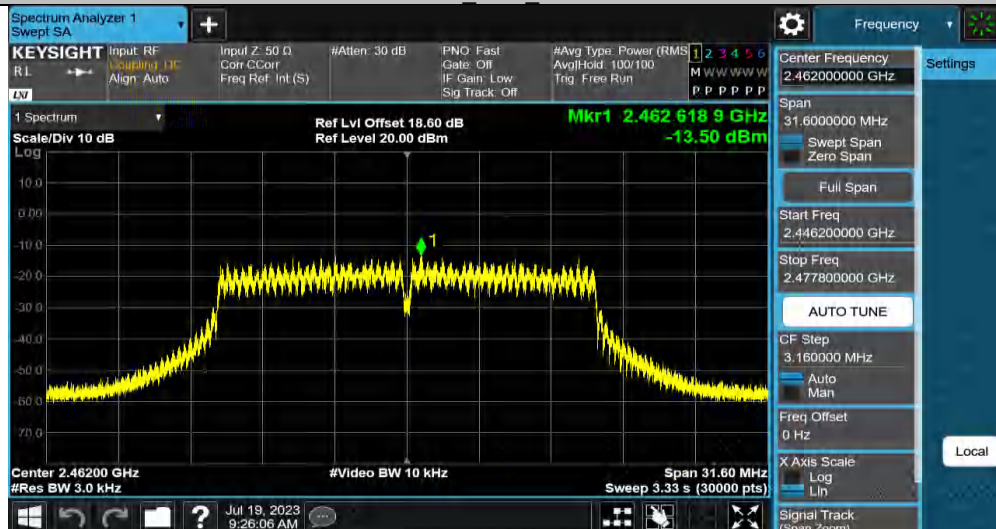




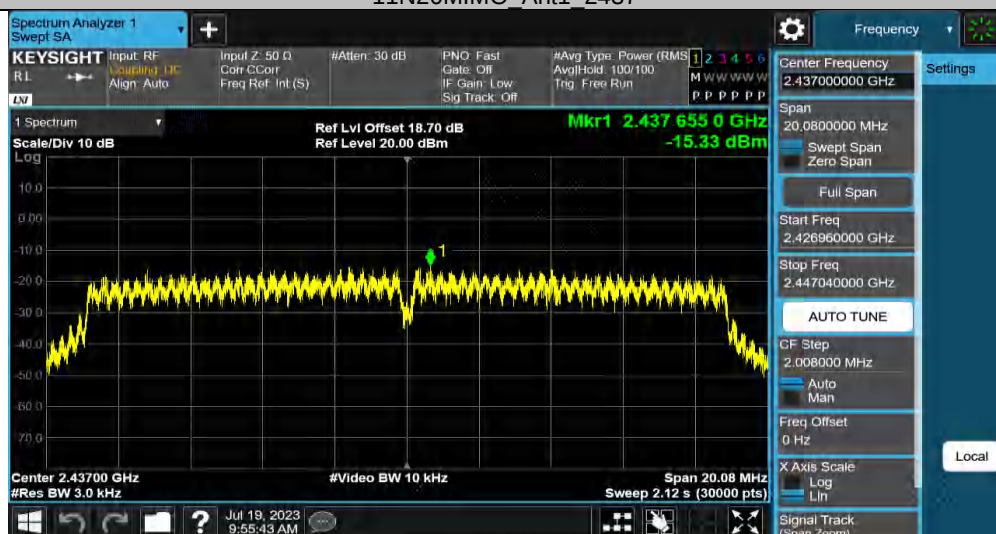
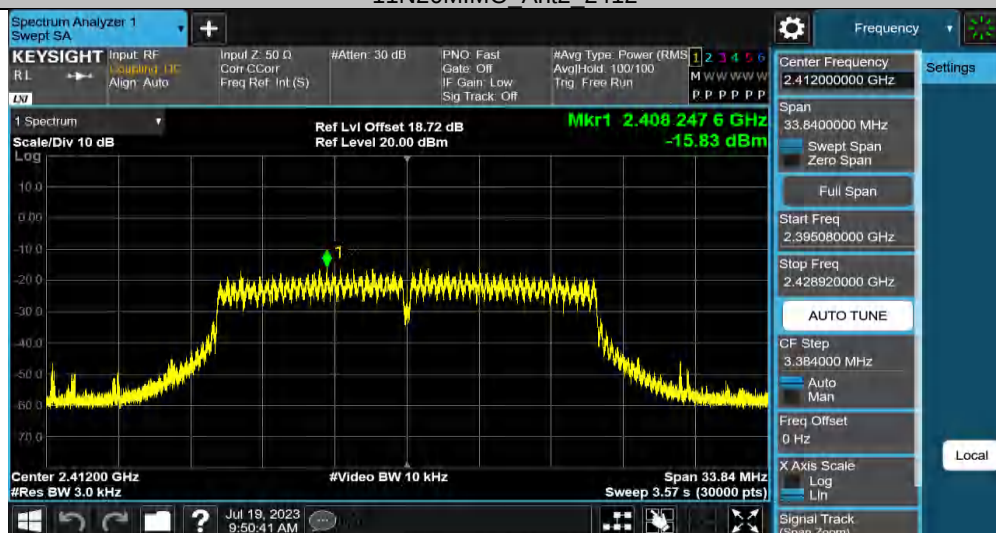
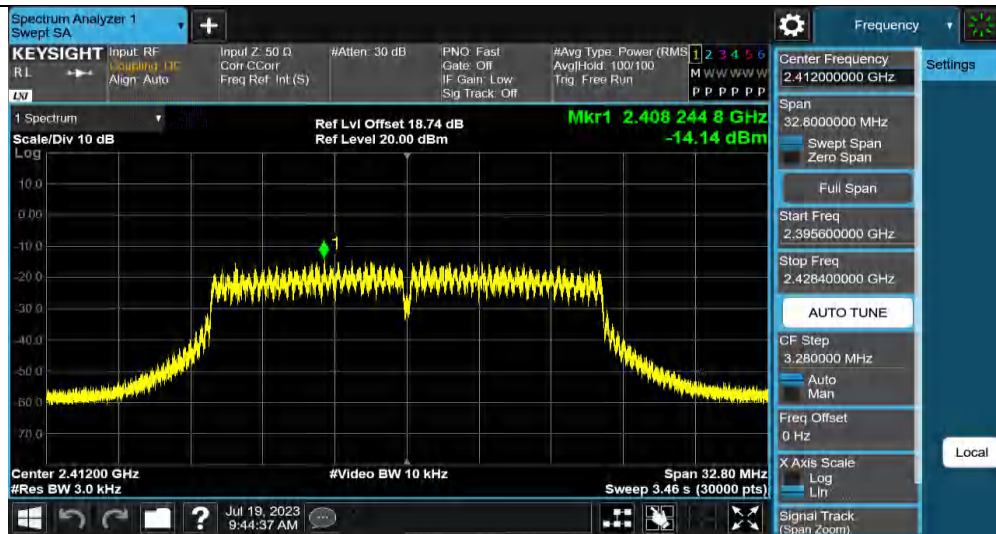
11G Ant1 2437

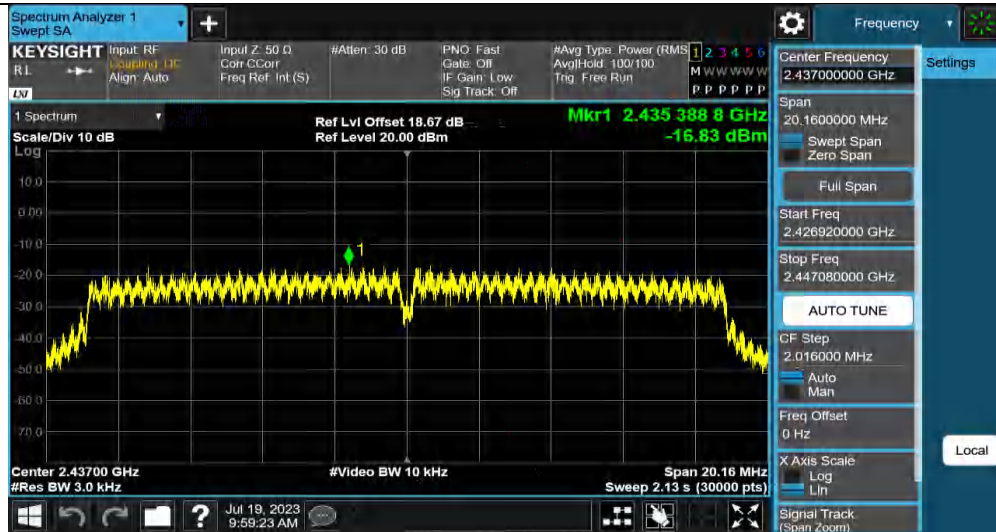


11G Ant1 2462

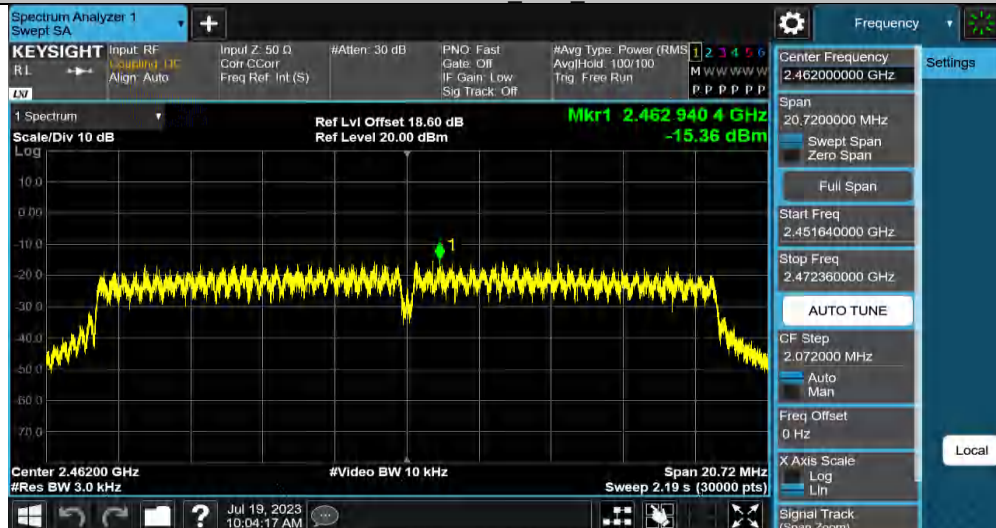


11N20MIMO Ant1 2412

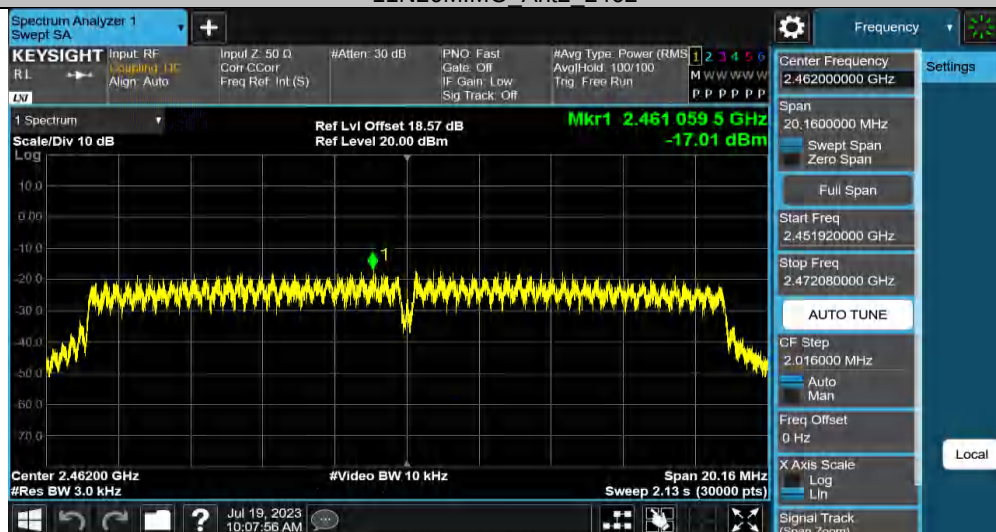




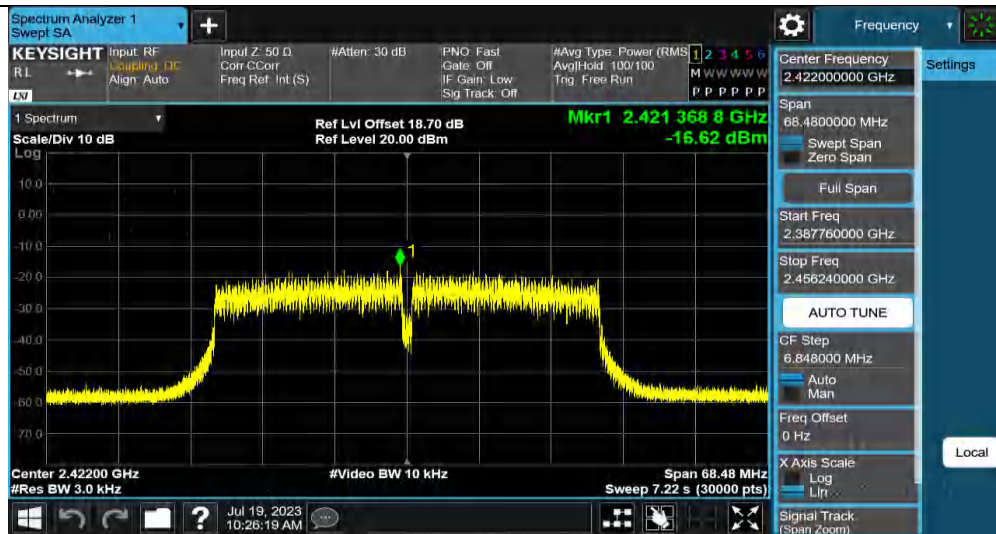
11N20MIMO Ant1 2462



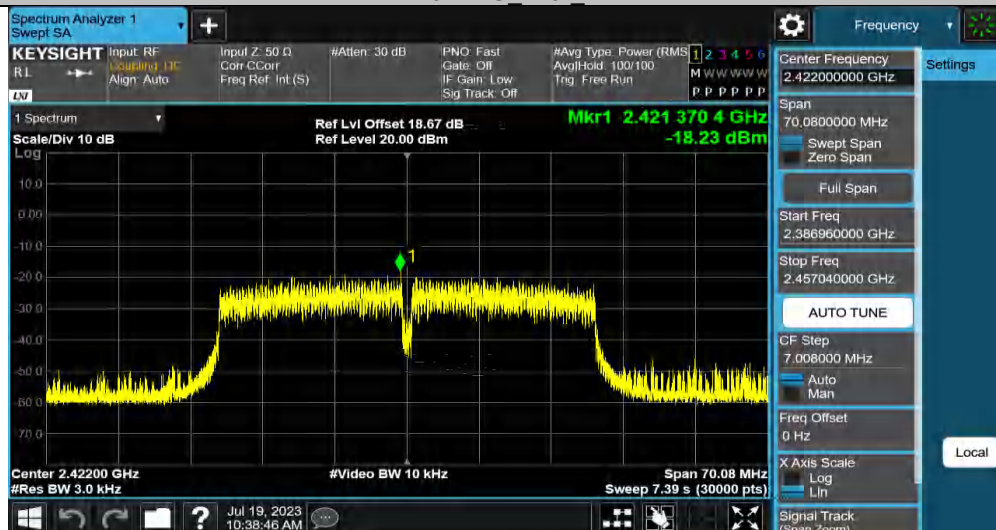
11N20MIMO Ant2 2462



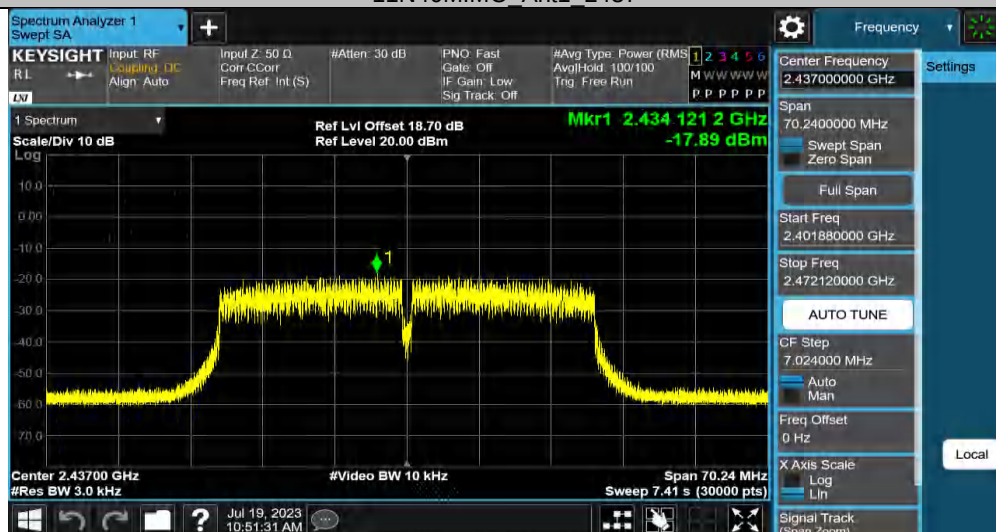
11N40MIMO Ant1 2422



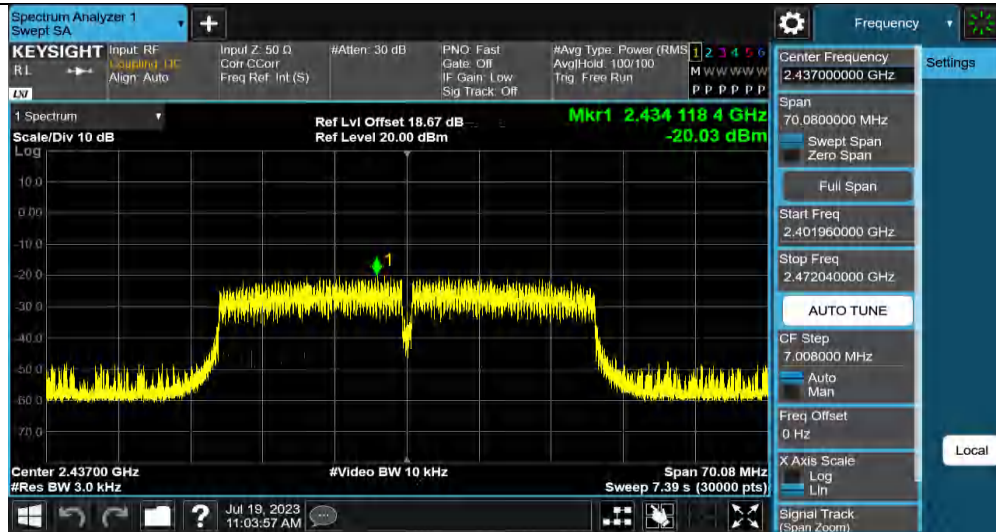
11N40MIMO Ant2 2422



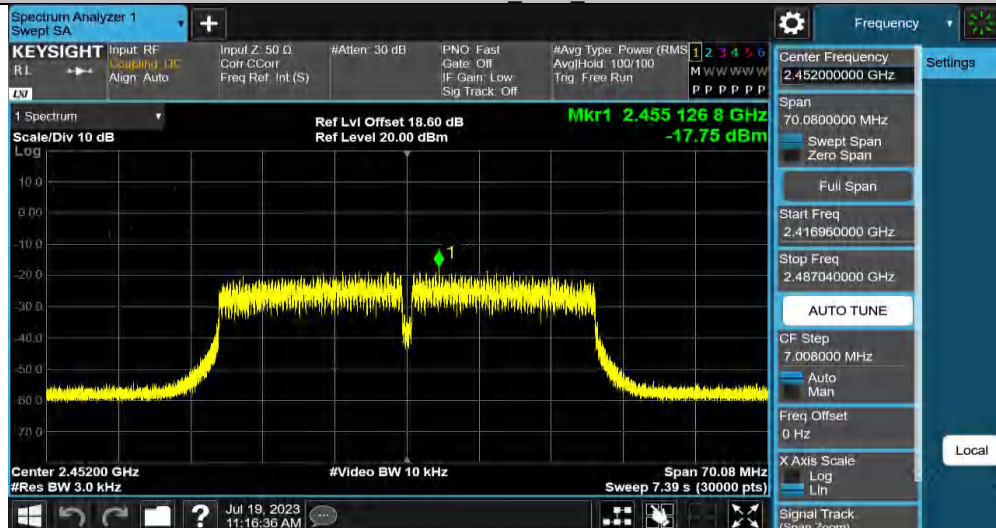
11N40MIMO Ant1 2437



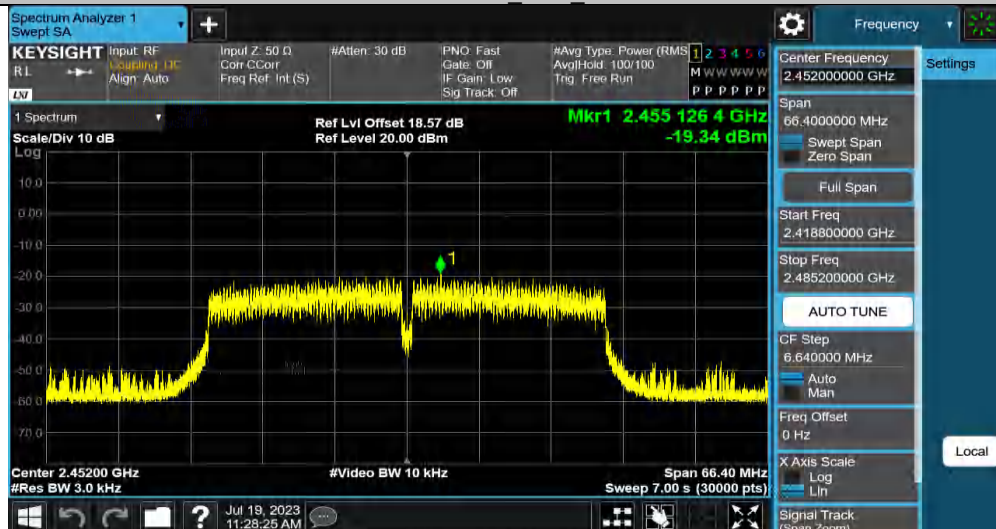
11N40MIMO Ant2 2437



11N40MIMO Ant1 2452



11N40MIMO Ant2 2452



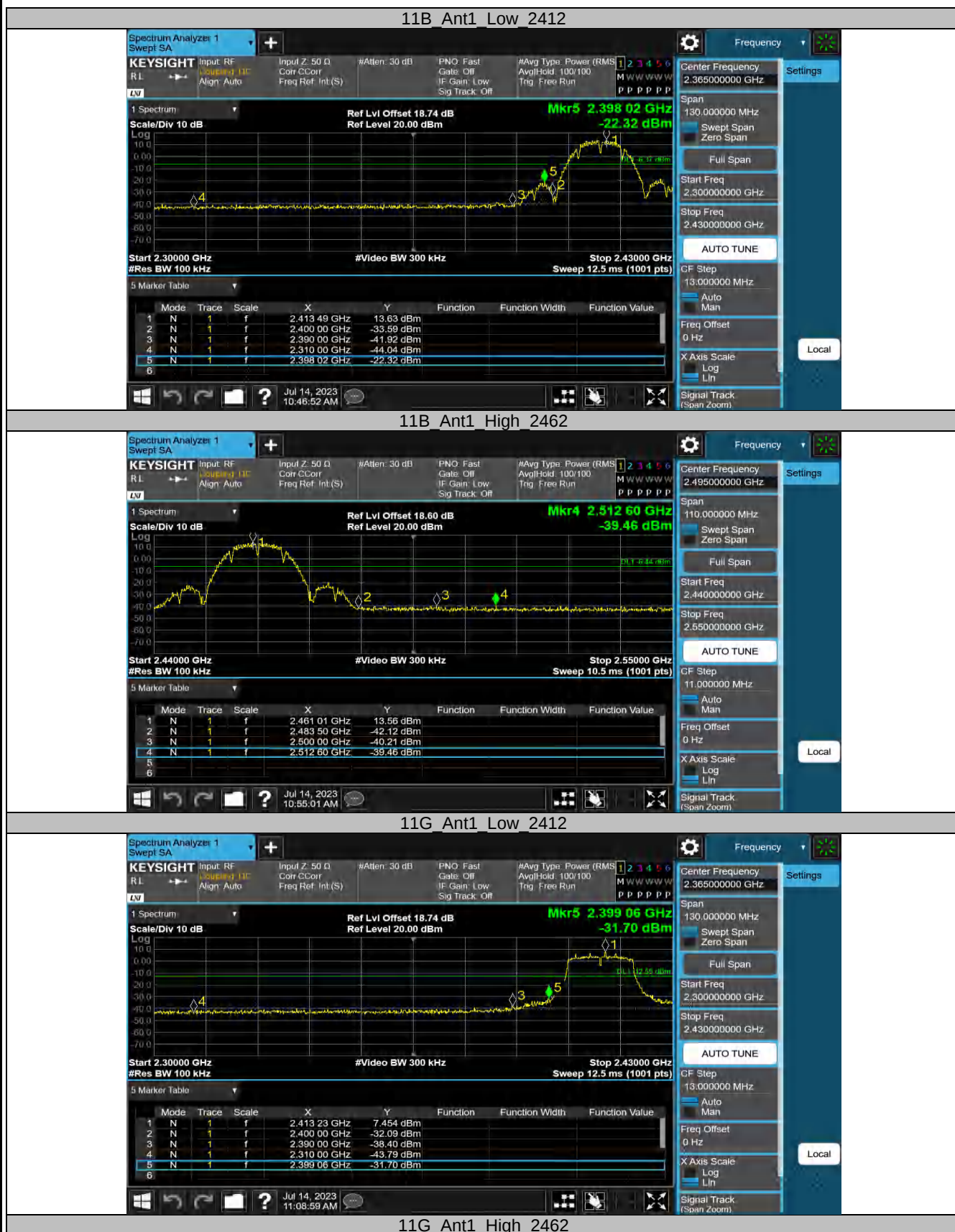
1.5 Appendix E: Band edge measurements

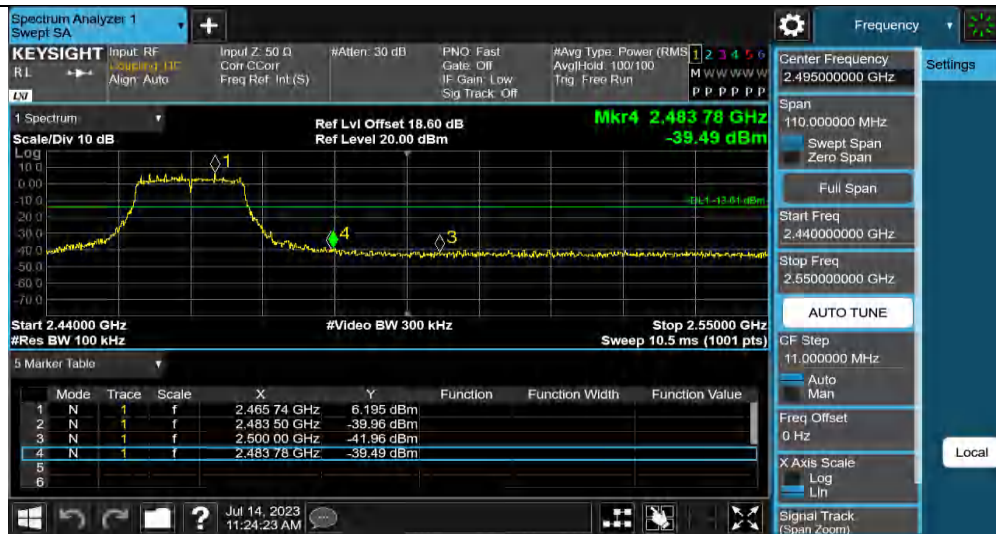
1.5.1 Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	13.63	-22.32	≤-6.37	PASS
		High	2462	13.56	-39.46	≤-6.44	PASS
11G	Ant1	Low	2412	7.45	-31.7	≤-12.55	PASS
		High	2462	6.20	-39.49	≤-13.81	PASS
11N20MIMO	Ant1	Low	2412	11.77	-30.39	≤-8.23	PASS
		High	2462	11.26	-39.99	≤-8.74	PASS
11N40MIMO	Ant1	Low	2422	3.49	-34.72	≤-16.51	PASS
		High	2452	2.51	-39.83	≤-17.49	PASS

Note: Both antenna port were tested, only the worst case reported.

1.5.2 Test Graphs

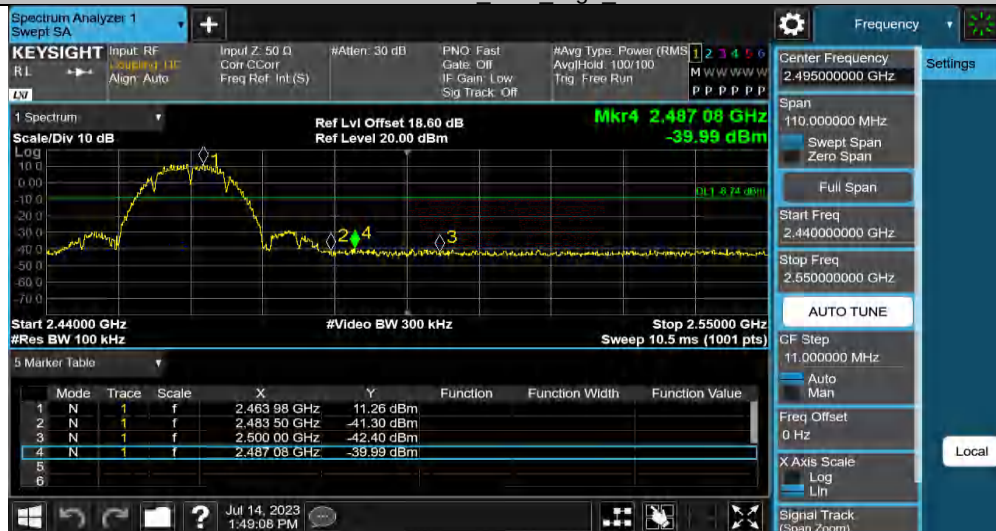




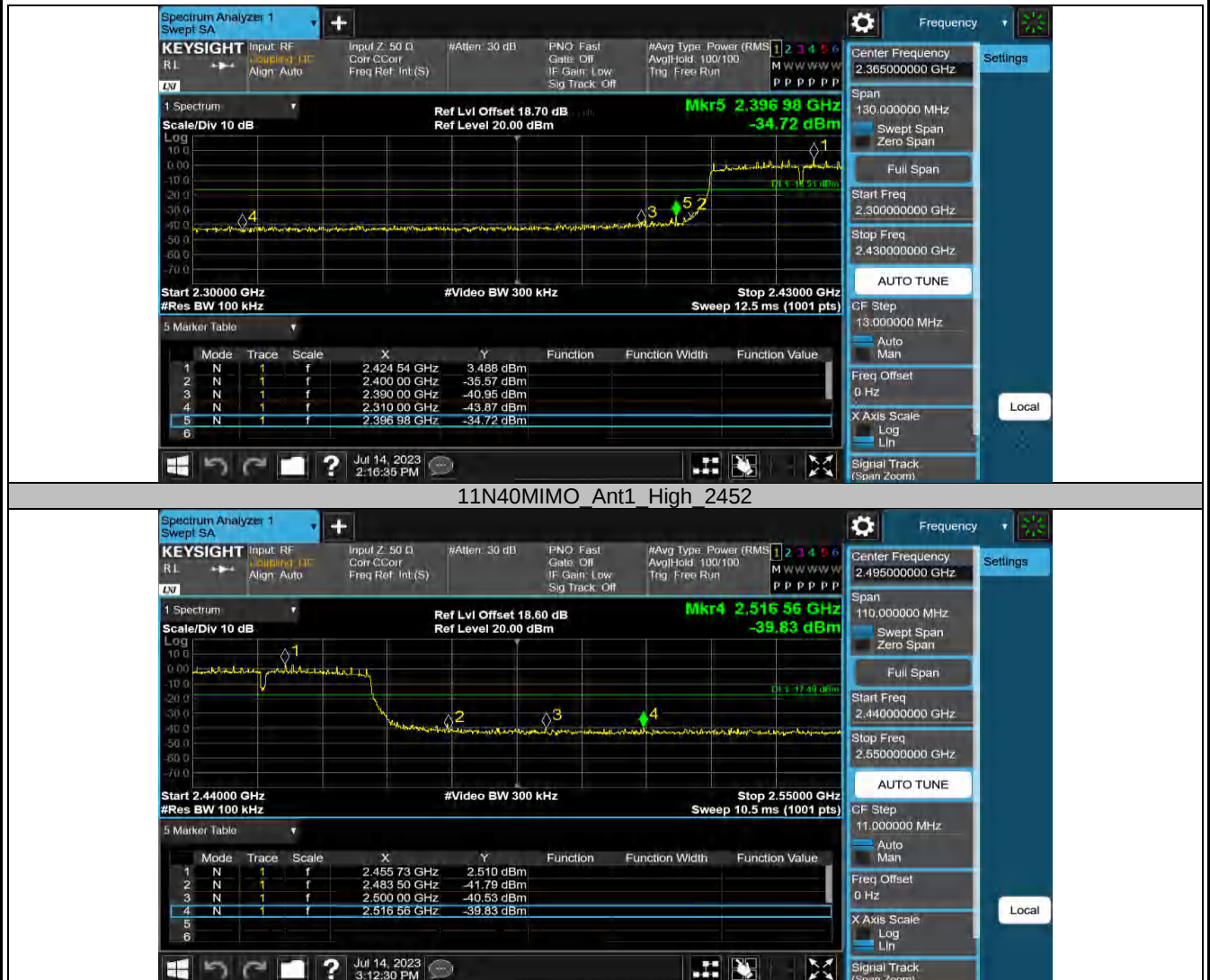
11N20MIMO Ant1 Low 2412



11N20MIMO Ant1 High 2462



11N40MIMO Ant1 Low 2422



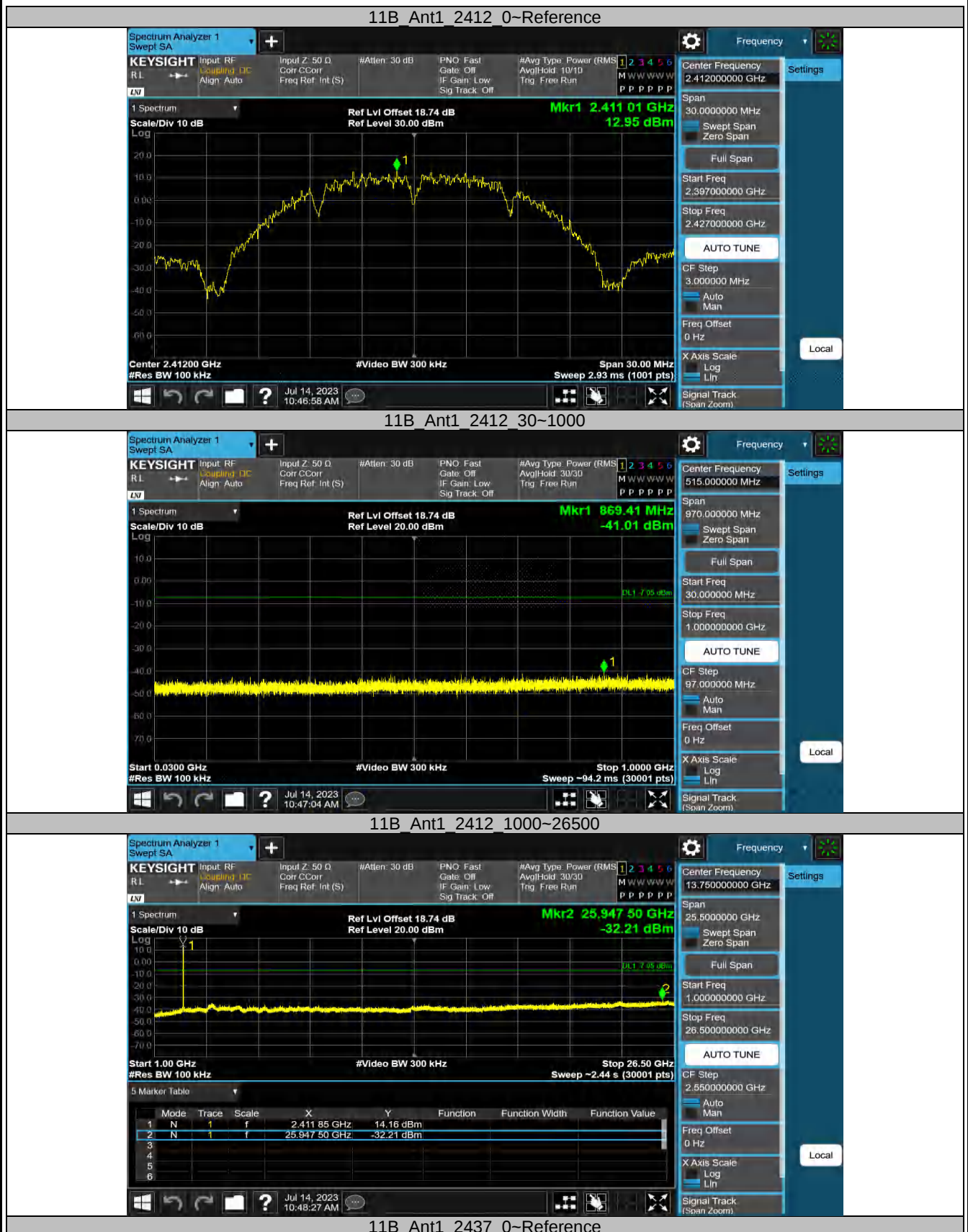
1.6 Appendix F: Conducted Spurious Emission

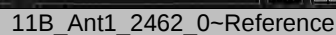
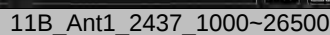
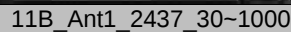
1.6.1 Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	12.95	12.95	---	PASS
			30~1000	12.95	-41.01	≤-7.05	PASS
			1000~26500	12.95	-32.21	≤-7.05	PASS
		2437	Reference	12.89	12.89	---	PASS
			30~1000	12.89	-41	≤-7.11	PASS
			1000~26500	12.89	-31.79	≤-7.11	PASS
		2462	Reference	12.58	12.58	---	PASS
			30~1000	12.58	-41.14	≤-7.42	PASS
			1000~26500	12.58	-31.9	≤-7.42	PASS
11G	Ant1	2412	Reference	4.78	4.78	---	PASS
			30~1000	4.78	-41.25	≤-15.22	PASS
			1000~26500	4.78	-32.52	≤-15.22	PASS
		2437	Reference	4.57	4.57	---	PASS
			30~1000	4.57	-41	≤-15.43	PASS
			1000~26500	4.57	-32.42	≤-15.43	PASS
		2462	Reference	4.77	4.77	---	PASS
			30~1000	4.77	-40.32	≤-15.23	PASS
			1000~26500	4.77	-32.35	≤-15.23	PASS
11N20MIMO	Ant1	2412	Reference	9.29	9.29	---	PASS
			30~1000	9.29	-41.18	≤-10.71	PASS
			1000~26500	9.29	-31.84	≤-10.71	PASS
		2437	Reference	9.65	9.65	---	PASS
			30~1000	9.65	-41.15	≤-10.35	PASS
			1000~26500	9.65	-32.75	≤-10.35	PASS
		2462	Reference	9.36	9.36	---	PASS
			30~1000	9.36	-41.1	≤-10.64	PASS
			1000~26500	9.36	-31.72	≤-10.64	PASS
11N40MIMO	Ant1	2422	Reference	2.22	2.22	---	PASS
			30~1000	2.22	-40.79	≤-17.78	PASS
			1000~26500	2.22	-32.2	≤-17.78	PASS
		2437	Reference	0.82	0.82	---	PASS
			30~1000	0.82	-40.69	≤-19.18	PASS
			1000~26500	0.82	-31.79	≤-19.18	PASS
		2452	Reference	0.32	0.32	---	PASS
			30~1000	0.32	-41.02	≤-19.68	PASS
			1000~26500	0.32	-32.53	≤-19.68	PASS

Note: Both antenna port were tested, only the worst case reported.

1.6.2 Test Graphs



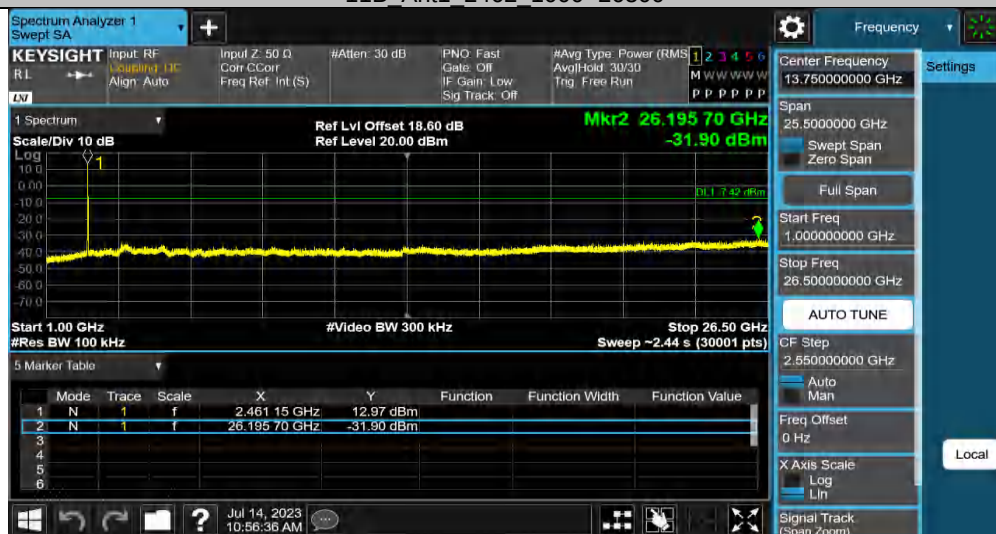




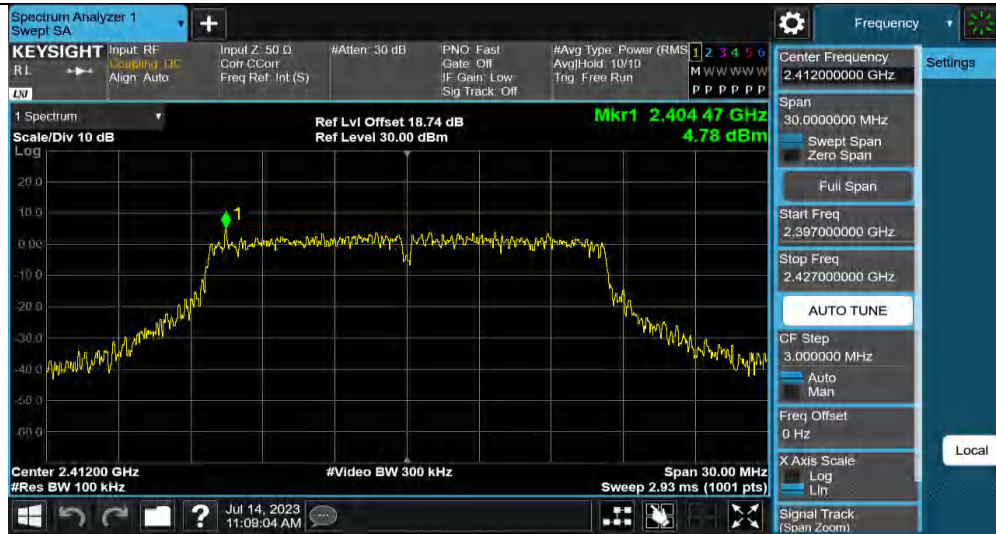
11B_Ant1_2462_30-1000



11B_Ant1_2462_1000-26500



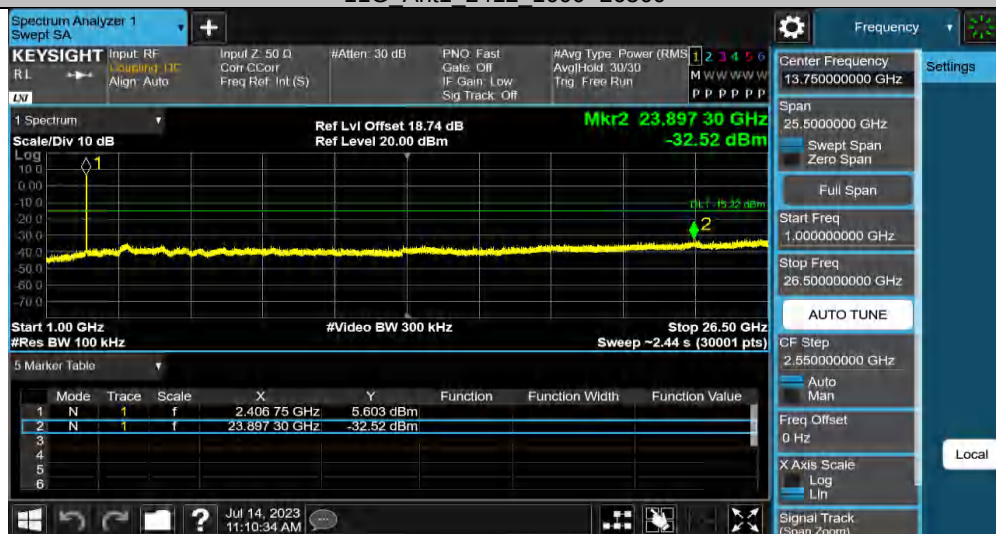
11G_Ant1_2412_0-Reference



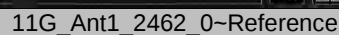
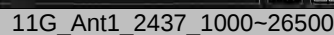
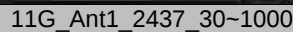
11G_Ant1_2412_30-1000



11G_Ant1_2412_1000-26500



11G_Ant1_2437_0-Reference

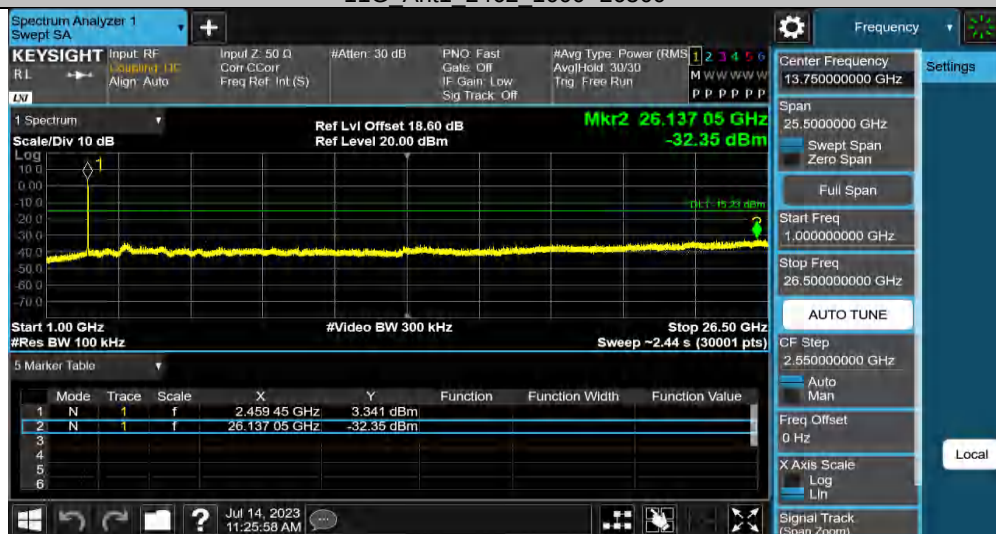




11G Ant1 2462 30-1000



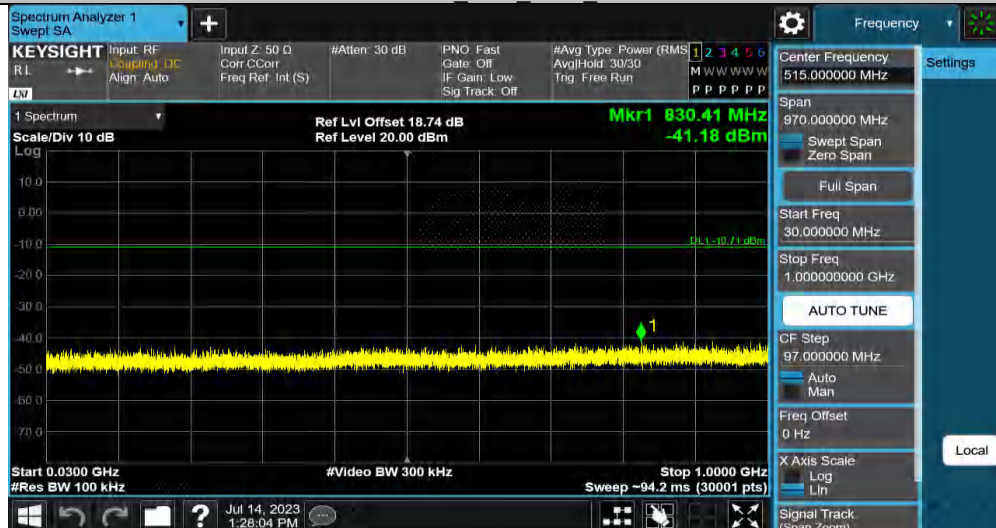
11G Ant1 2462 1000-26500



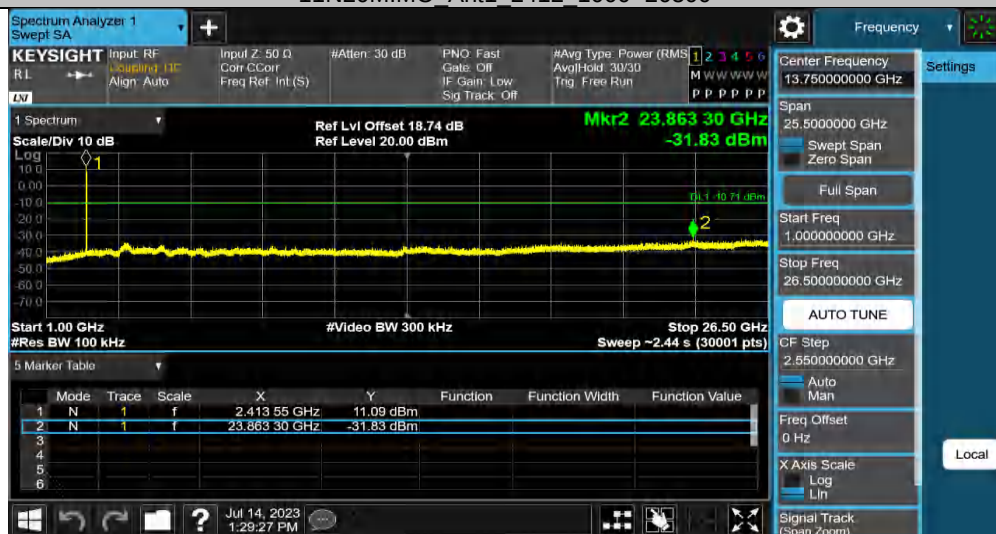
11N20MIMO_Ant1_2412_0-Reference



11N20MIMO_Ant1_2412_30-1000



11N20MIMO_Ant1_2412_1000-26500



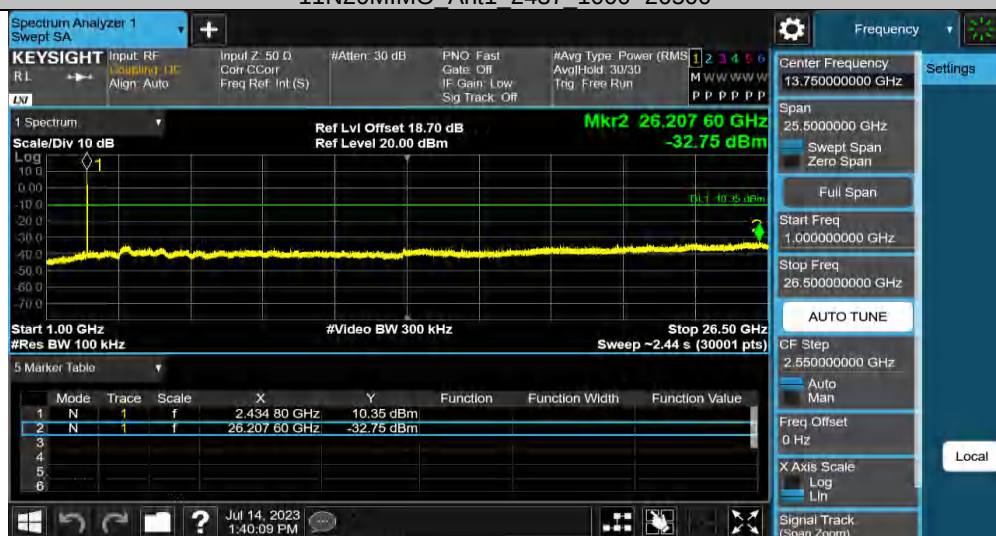
11N20MIMO_Ant1_2437_0-Reference



11N20MIMO_Ant1_2437_30-1000



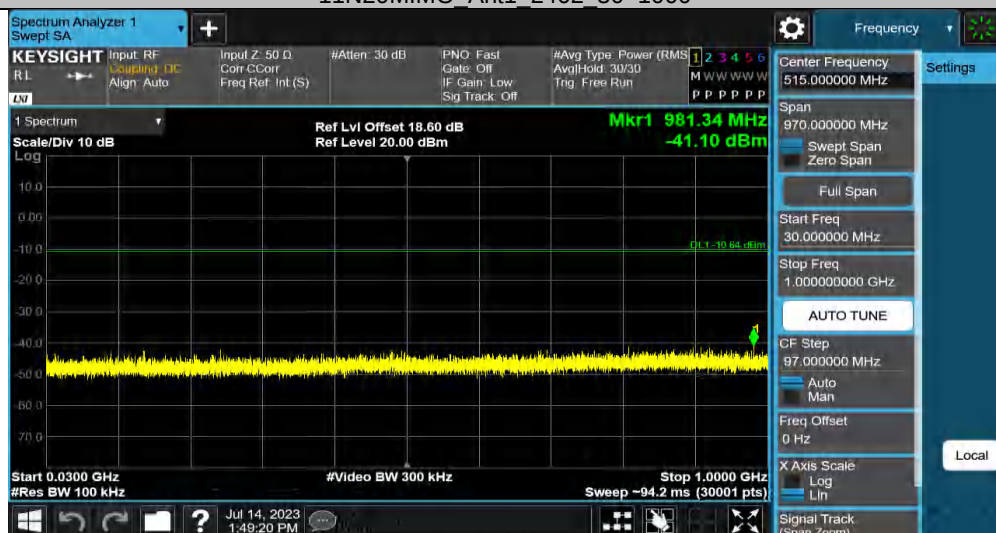
11N20MIMO_Ant1_2437_1000-26500



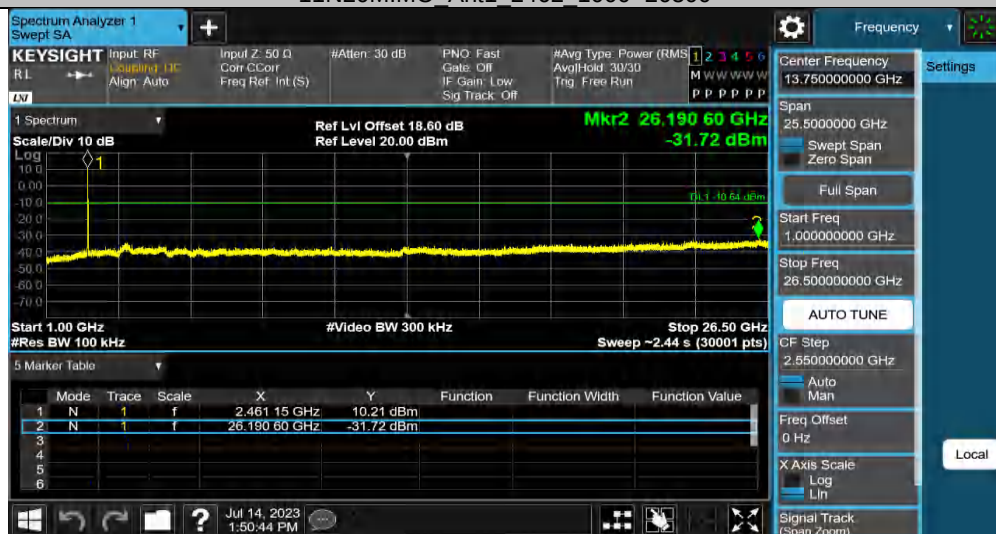
11N20MIMO_Ant1_2462_0-Reference



11N20MIMO_Ant1_2462_30-1000



11N20MIMO_Ant1_2462_1000-26500



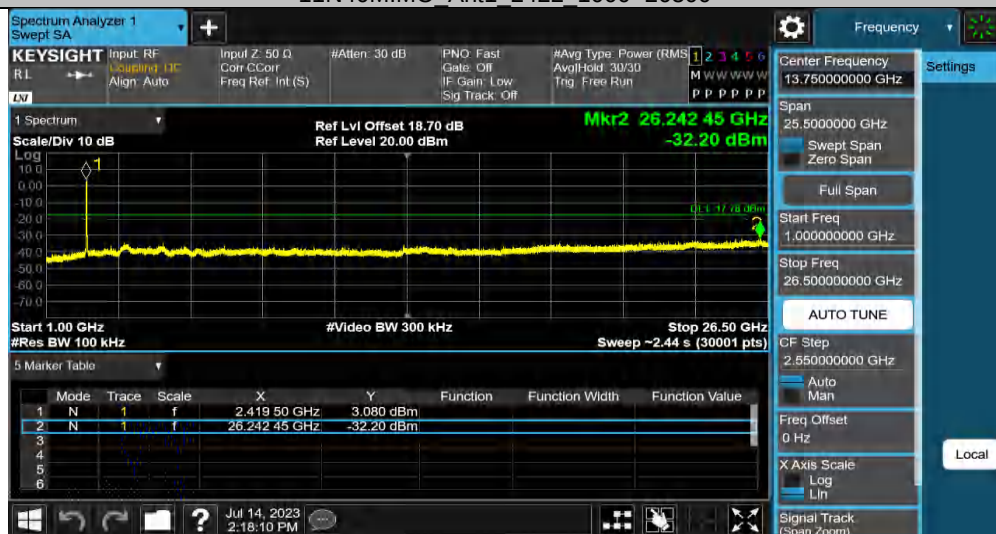
11N40MIMO_Ant1_2422_0-Reference



11N40MIMO_Ant1_2422_30-1000



11N40MIMO_Ant1_2422_1000-26500



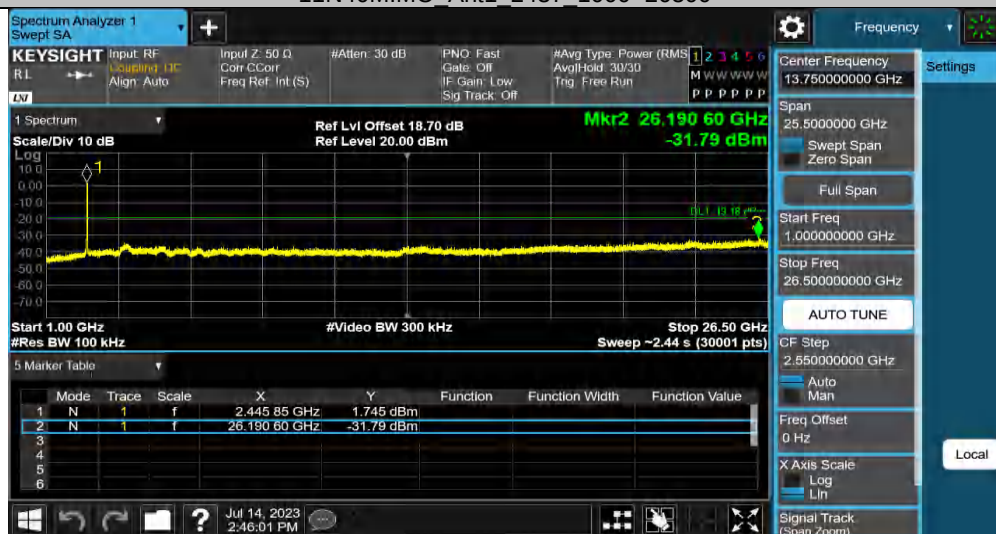
11N40MIMO_Ant1_2437_0-Reference



11N40MIMO_Ant1_2437_30-1000



11N40MIMO_Ant1_2437_1000-26500



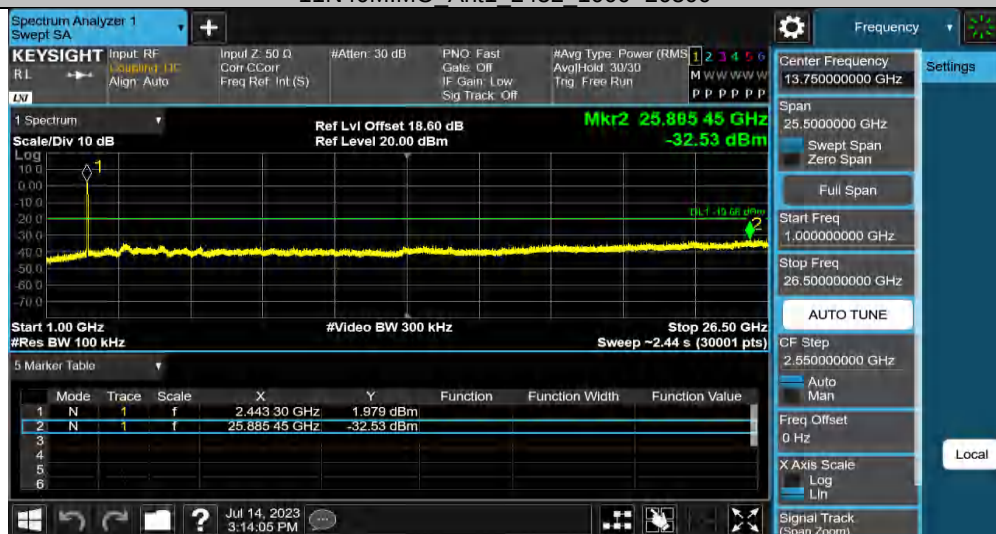
11N40MIMO_Ant1_2452_0-Reference



11N40MIMO_Ant1_2452_30-1000



11N40MIMO_Ant1_2452_1000-26500

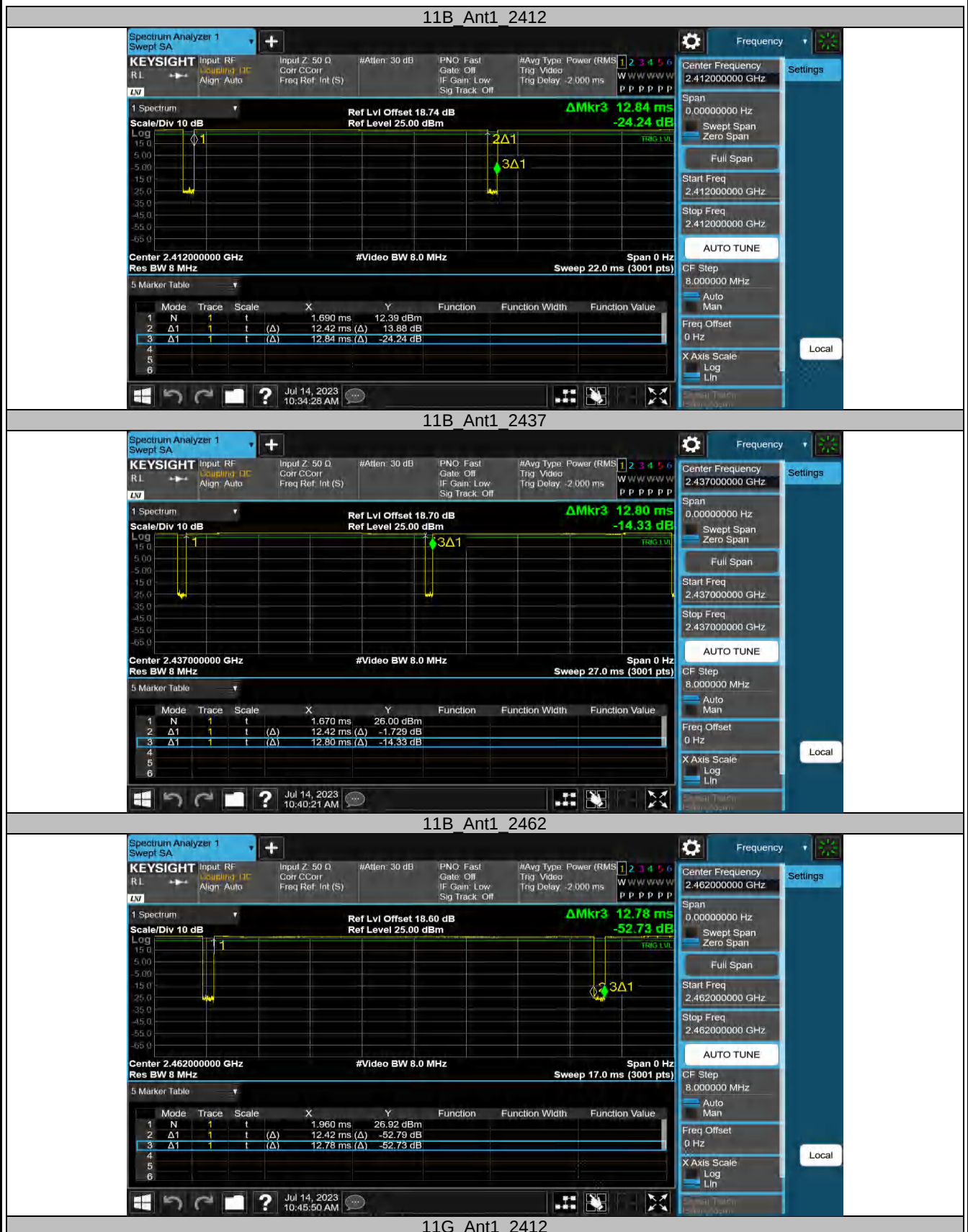


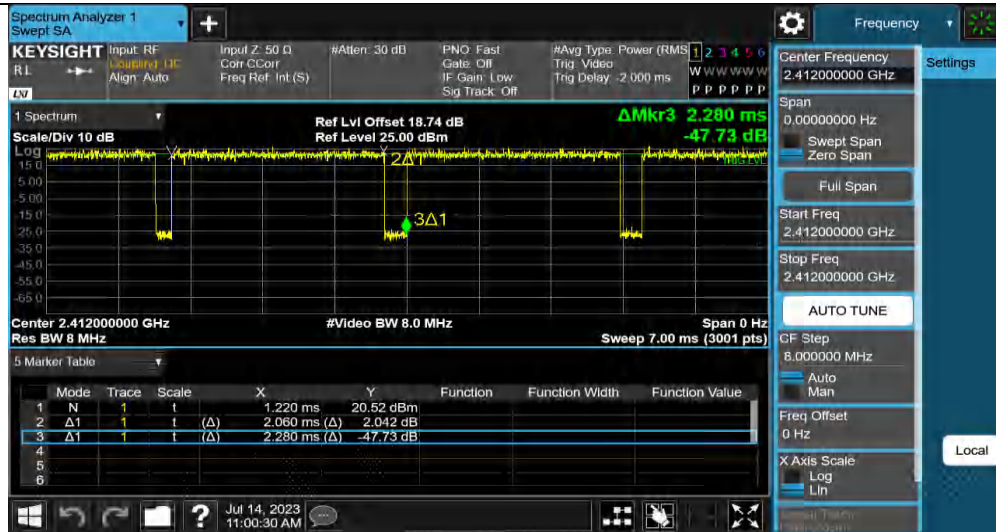
1.7 Appendix G: Duty Cycle

1.7.1 Test Result

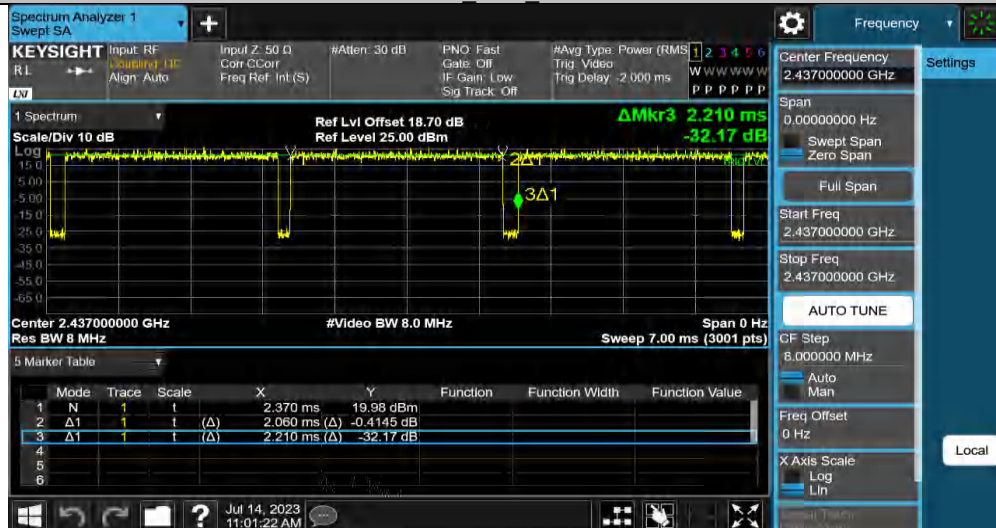
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	12.42	12.84	96.73	---	---
		2437	12.42	12.80	97.03	---	---
		2462	12.42	12.78	97.18	---	---
11G	Ant1	2412	2.06	2.28	90.35	---	---
		2437	2.06	2.21	93.21	---	---
		2462	2.07	2.22	93.24	---	---
11N20MIMO	Ant1	2412	12.42	12.89	96.35	---	---
	Ant2	2412	12.42	12.77	97.26	---	---
	Ant1	2437	12.42	12.80	97.03	---	---
	Ant2	2437	12.42	12.91	96.20	---	---
	Ant1	2462	12.42	12.89	96.35	---	---
	Ant2	2462	12.42	12.84	96.73	---	---
11N40MIMO	Ant1	2422	0.94	1.08	87.04	---	---
	Ant2	2422	0.95	1.14	83.33	---	---
	Ant1	2437	0.95	1.09	87.16	---	---
	Ant2	2437	0.95	1.15	82.61	---	---
	Ant1	2452	0.95	1.18	80.51	---	---
	Ant2	2452	0.95	1.15	82.61	---	---

1.7.2 Test Graphs

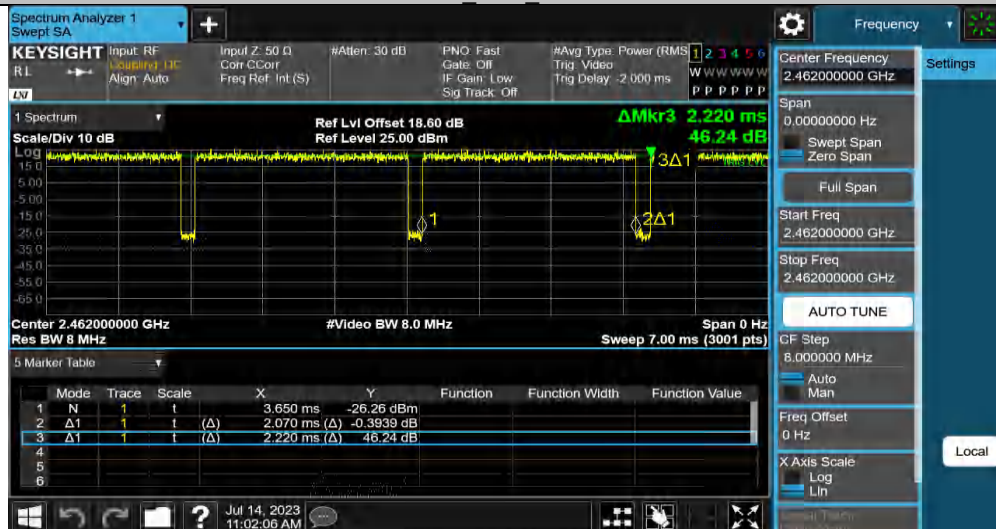




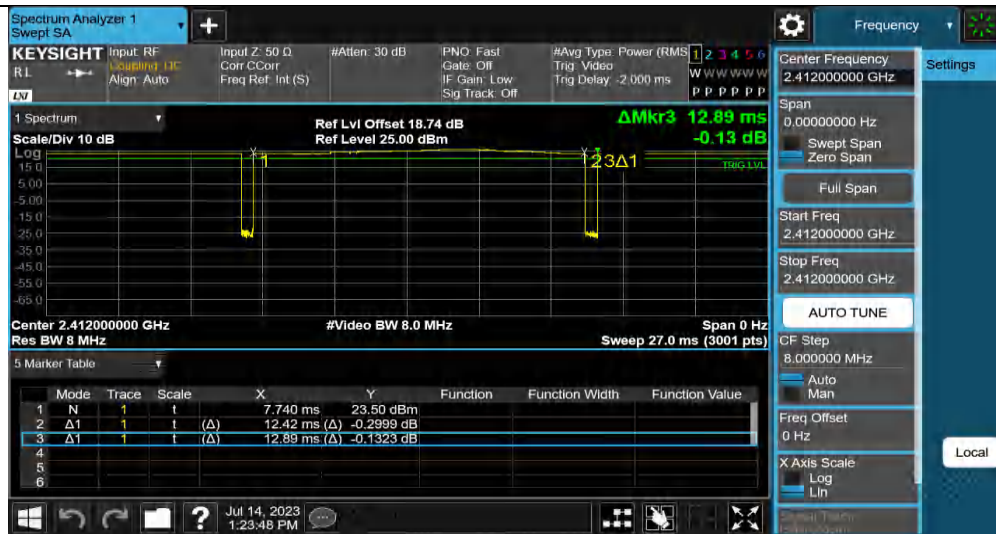
11G Ant1_2437



11G Ant1_2462



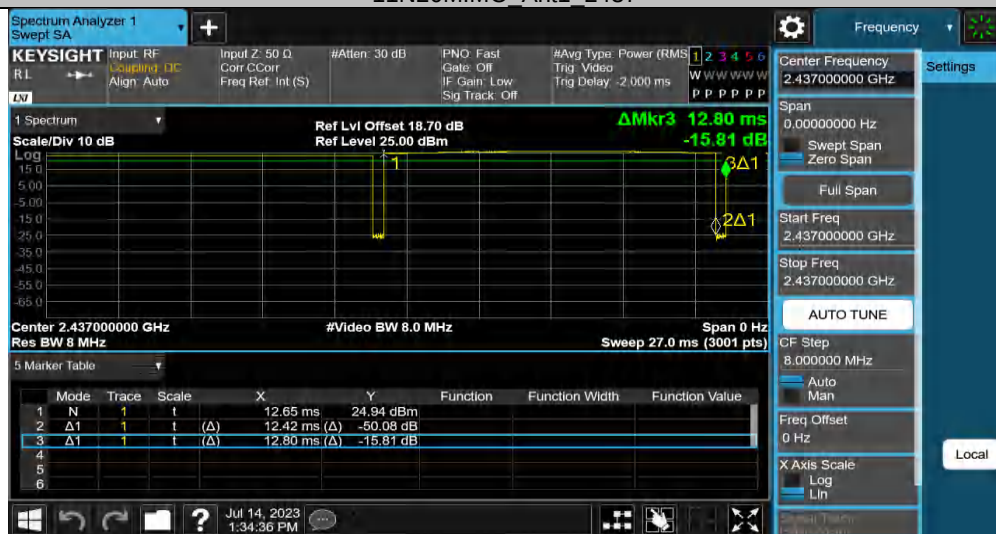
11N20MIMO_Ant1_2412



11N20MIMO Ant2 2412



11N20MIMO Ant1 2437



11N20MIMO Ant2 2437