

FCC Appendix RF Test Data for 2.4GWIFI

FCC ID : **2BQU2-NERDQAXE**

Company : **Shenzhen Qunlian Intelligent Manufacturing Technology Co., Ltd**

EUT : **Lottery machine**

Model Number : **NerdQaxe++**

Report No. : **CTA26042201701**

Reviewed By : **Eric Wang**

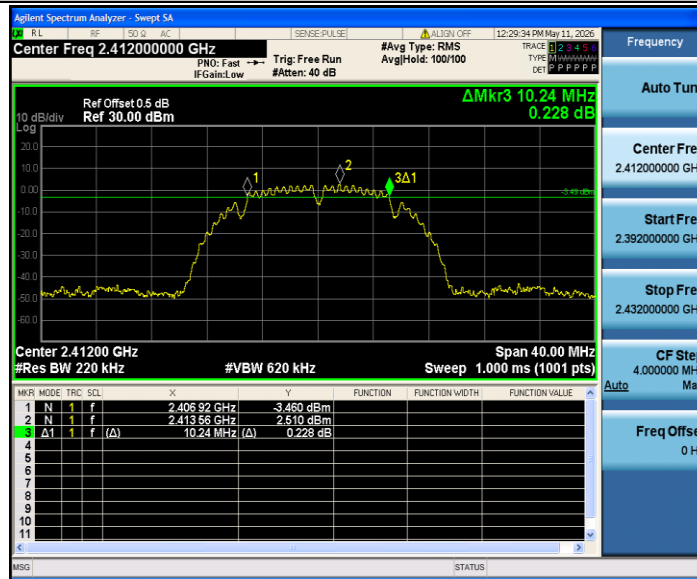
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.240	2406.920	2417.160	0.5	PASS
		2437	10.200	2431.920	2442.120	0.5	PASS
		2462	10.160	2456.960	2467.120	0.5	PASS
11G	Ant1	2412	16.040	2404.040	2420.080	0.5	PASS
		2437	15.760	2429.240	2445.000	0.5	PASS
		2462	15.920	2454.120	2470.040	0.5	PASS
11N20SISO	Ant1	2412	16.960	2403.640	2420.600	0.5	PASS
		2437	17.000	2428.440	2445.440	0.5	PASS
		2462	16.880	2453.560	2470.440	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



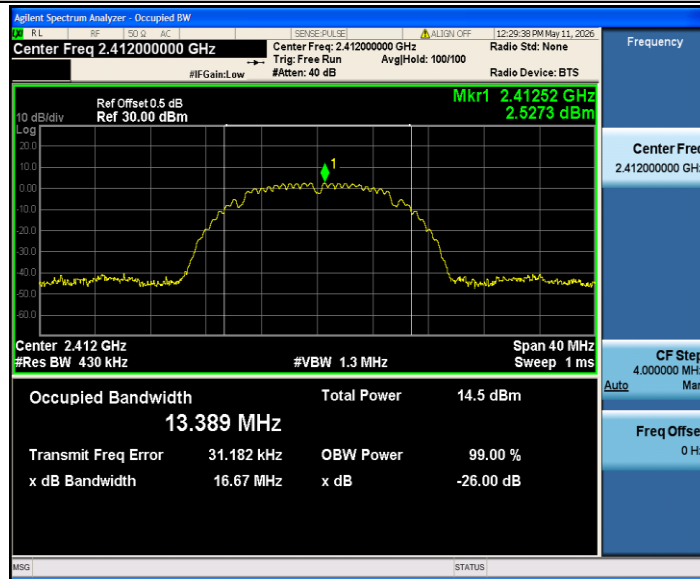
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.389	2405.3367	2418.7257	---	---
		2437	13.403	2430.3181	2443.7211	---	---
		2462	13.423	2455.3042	2468.7272	---	---
11G	Ant1	2412	16.796	2403.6498	2420.4458	---	---
		2437	16.821	2428.6242	2445.4452	---	---
		2462	16.889	2453.6067	2470.4957	---	---
11N20SISO	Ant1	2412	17.857	2403.1012	2420.9582	---	---
		2437	17.863	2428.0814	2445.9444	---	---
		2462	17.903	2453.0727	2470.9757	---	---

Test Graphs

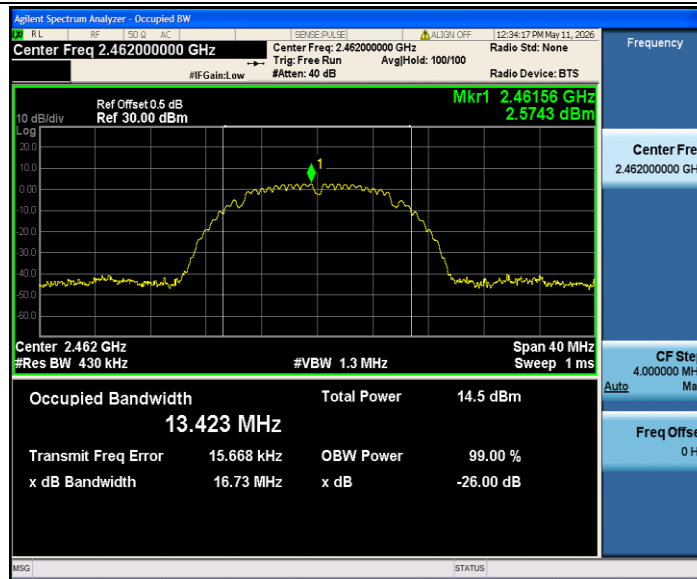
11B_Ant1_2412



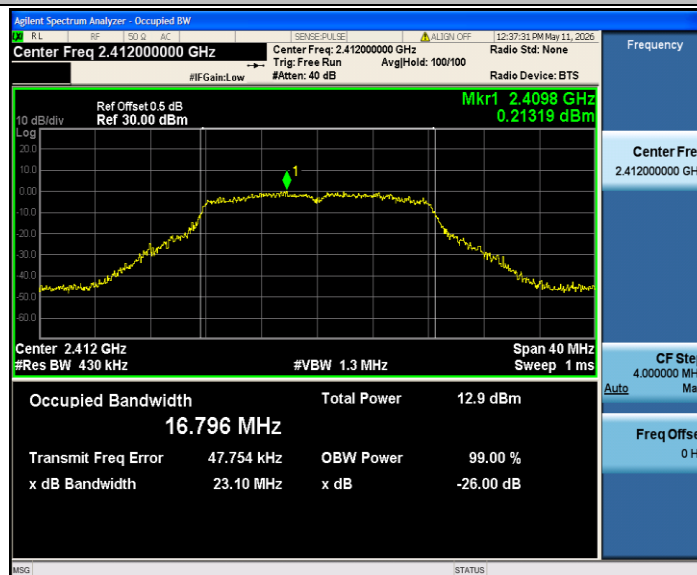
11B_Ant1_2437



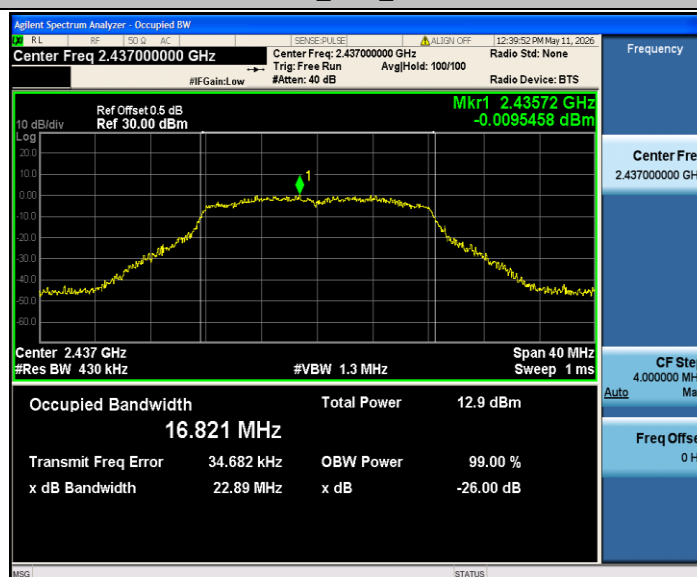
11B_Ant1_2462



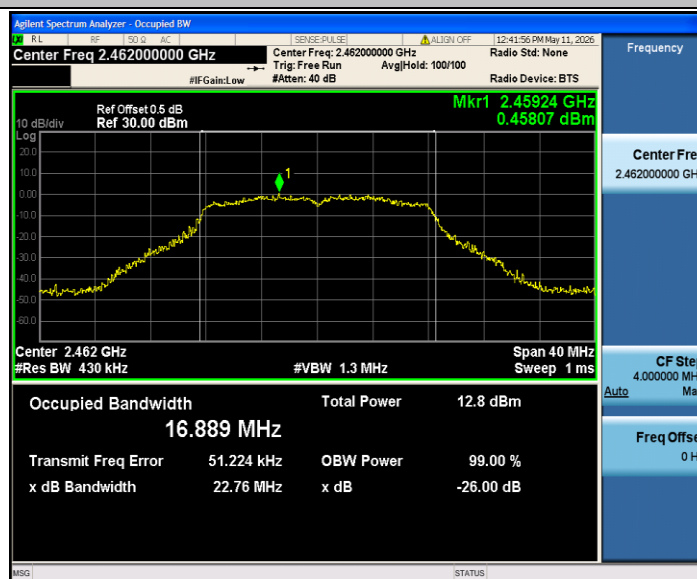
11G_Ant1_2412



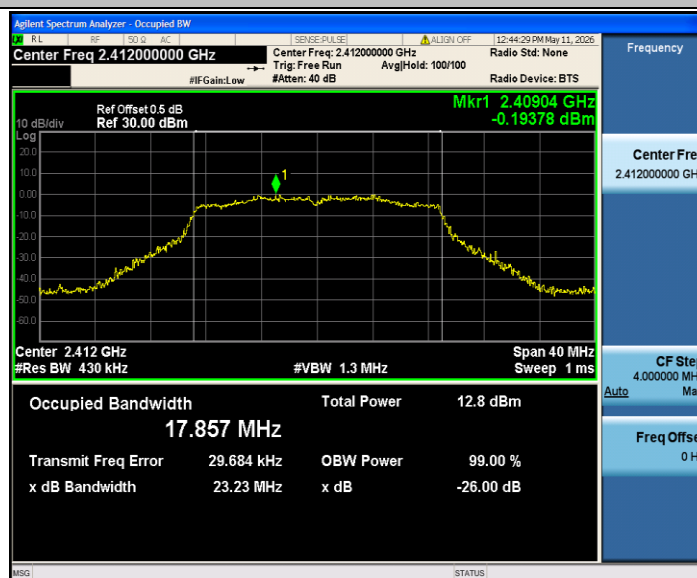
11G_Ant1_2437



11G_Ant1_2462



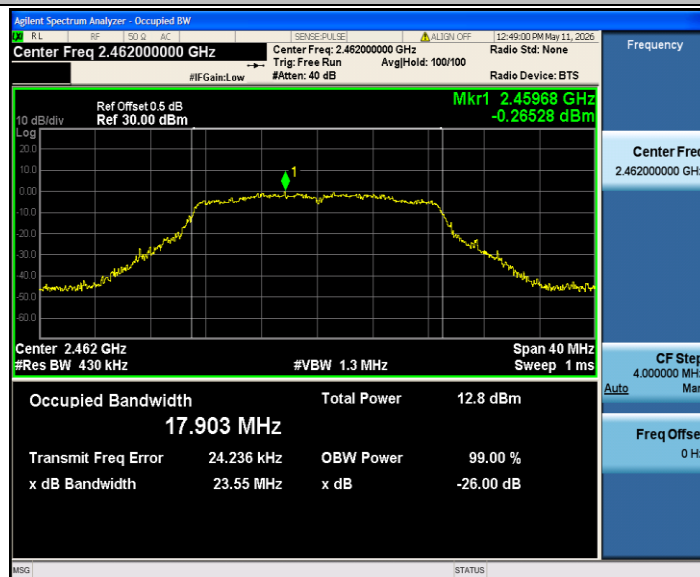
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	13.83	≤30.00	PASS
		2437	14.13	≤30.00	PASS
		2462	14.30	≤30.00	PASS
11G	Ant1	2412	13.77	≤30.00	PASS
		2437	13.78	≤30.00	PASS
		2462	13.84	≤30.00	PASS
11N20SISO	Ant1	2412	13.65	≤30.00	PASS
		2437	13.90	≤30.00	PASS
		2462	13.95	≤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	-12.13	≤8.00	PASS
		2437	-11.79	≤8.00	PASS
		2462	-11.48	≤8.00	PASS
11G	Ant1	2412	-17.47	≤8.00	PASS
		2437	-18.59	≤8.00	PASS
		2462	-18.21	≤8.00	PASS
11N20SISO	Ant1	2412	-18.26	≤8.00	PASS
		2437	-17.65	≤8.00	PASS
		2462	-16.40	≤8.00	PASS

Test Graphs

11B_Ant1_2412



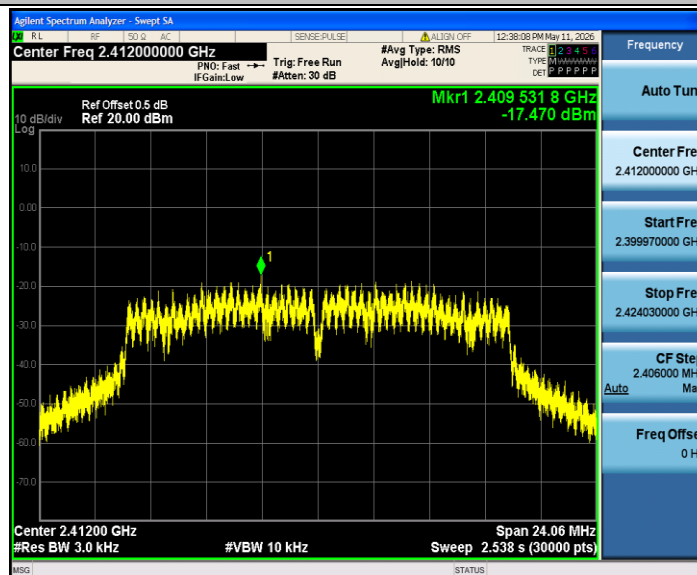
11B_Ant1_2437



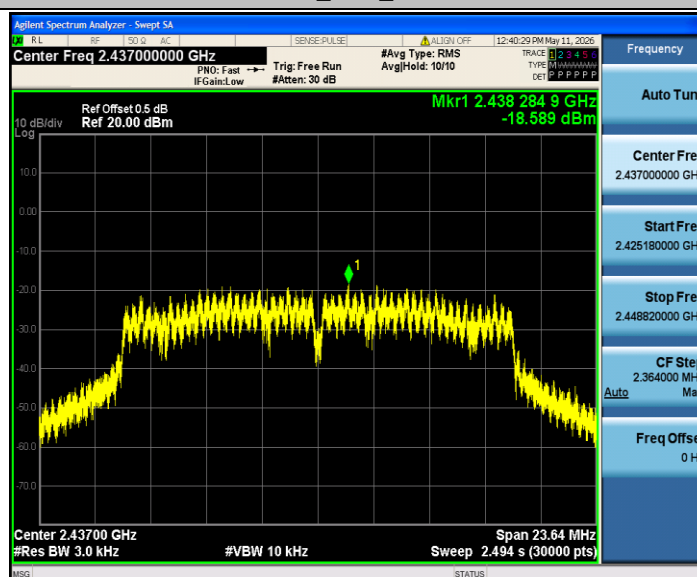
11B_Ant1_2462



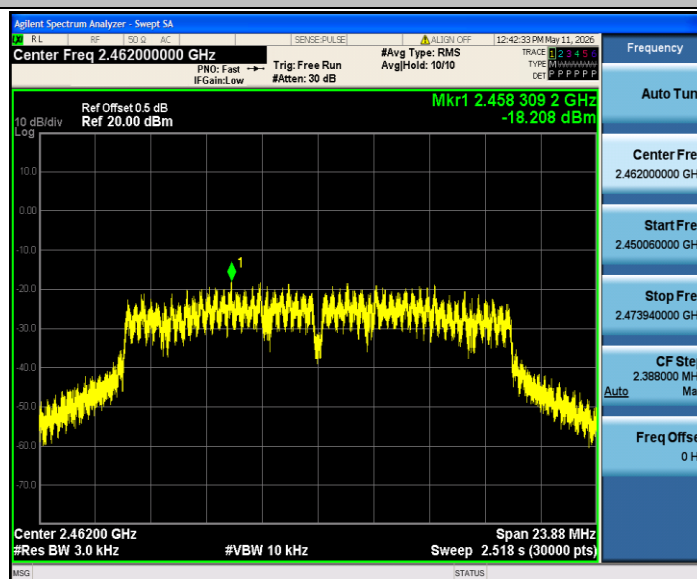
11G_Ant1_2412



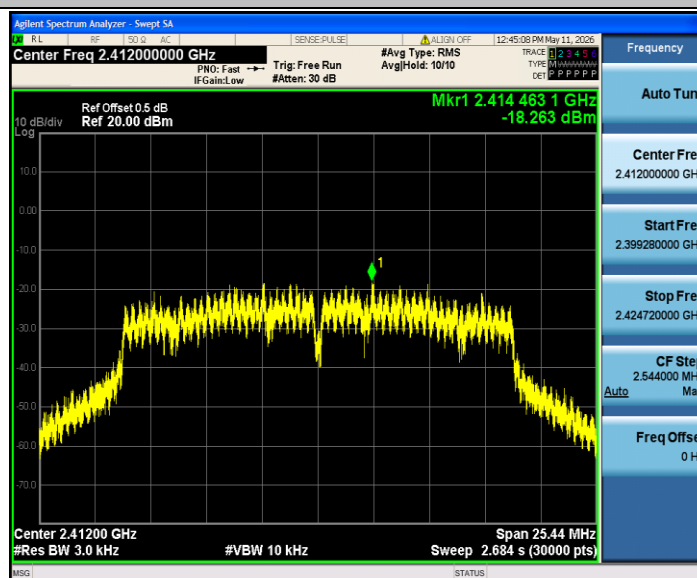
11G_Ant1_2437



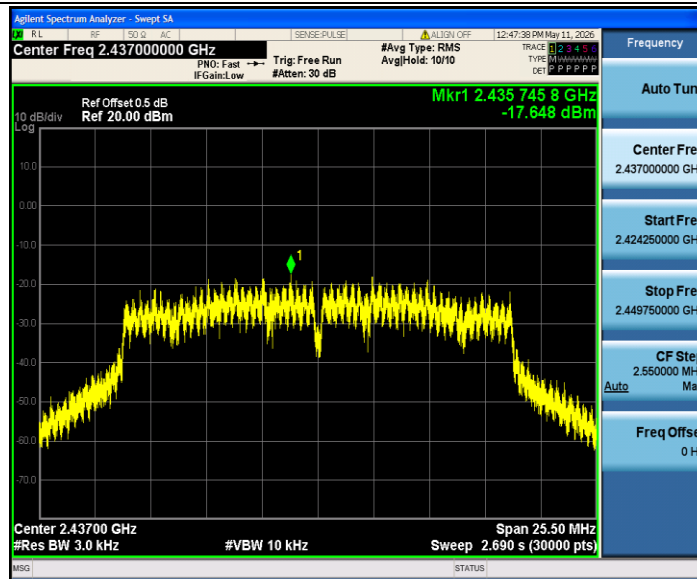
11G_Ant1_2462



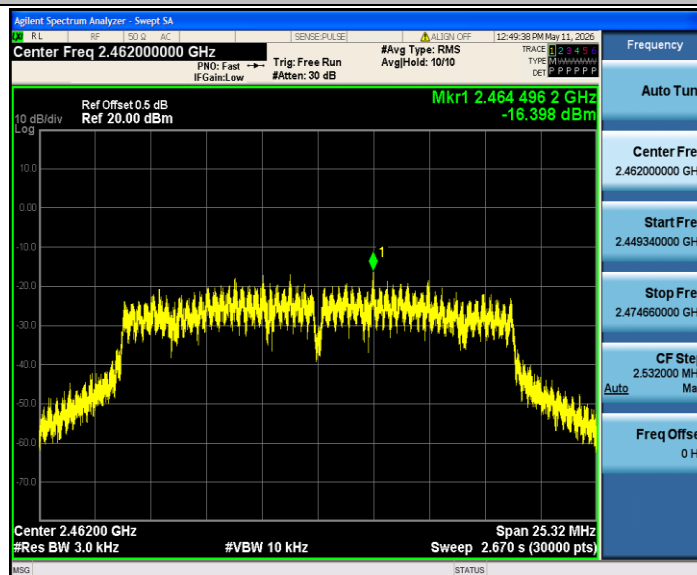
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



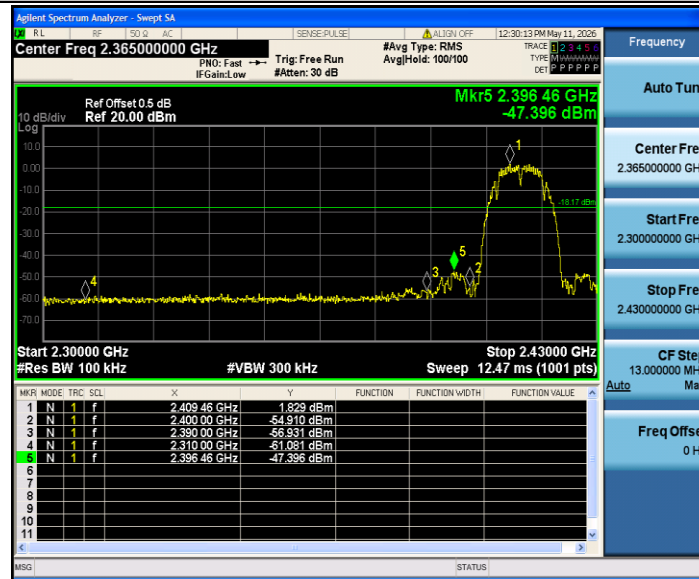
Appendix E: Band edge measurements

Test Result

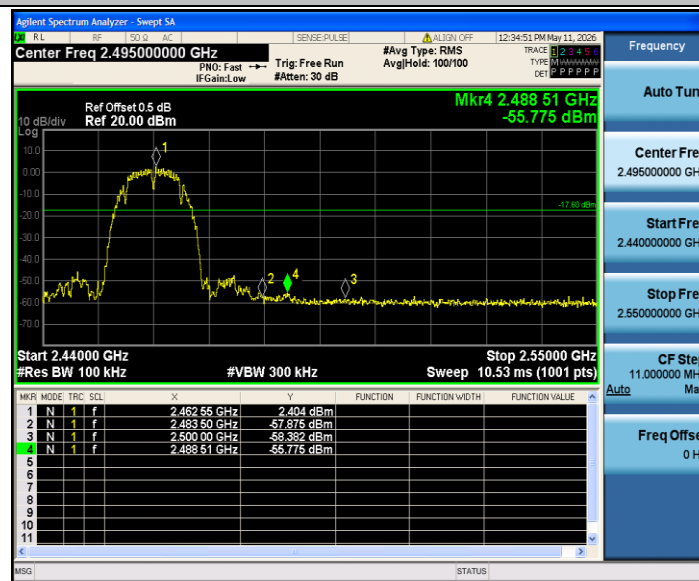
TestMode	Antenna	Channel Name	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	1.83	-47.4	≤-18.17	PASS
		High	2462	2.40	-55.78	≤-17.6	PASS
11G	Ant1	Low	2412	-3.05	-33.72	≤-23.05	PASS
		High	2462	-2.32	-57.53	≤-22.32	PASS
11N20SISO	Ant1	Low	2412	-2.52	-33.87	≤-22.52	PASS
		High	2462	-2.27	-57.14	≤-22.27	PASS

Test Graphs

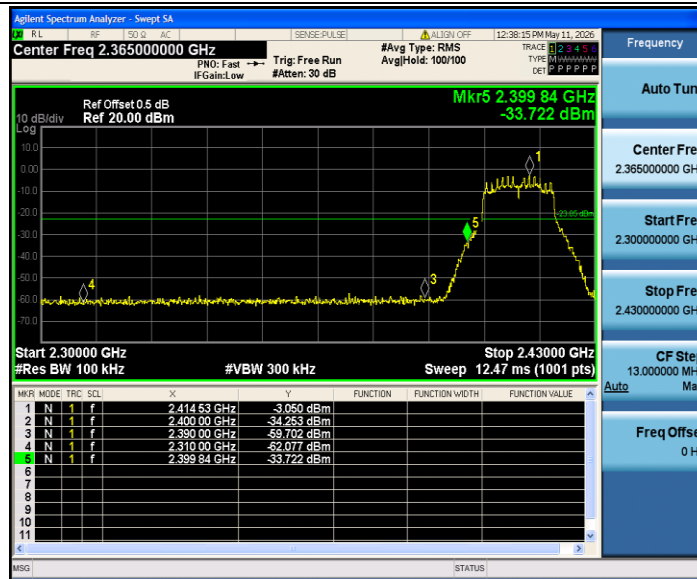
11B_Ant1_Low_2412



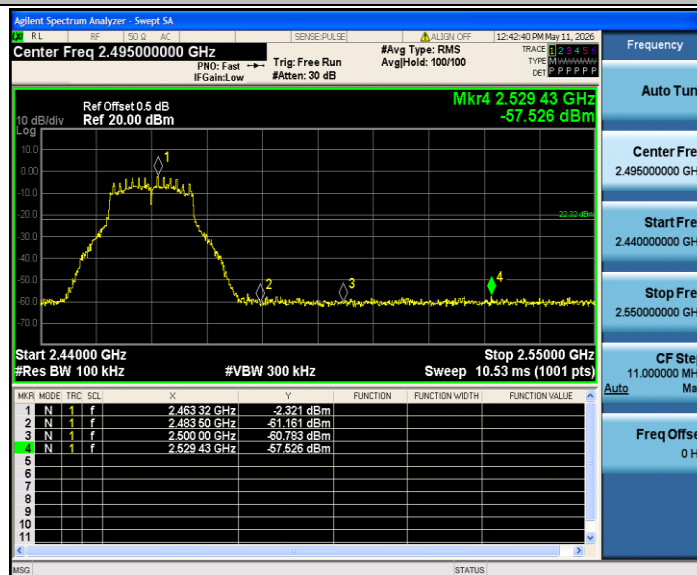
11B_Ant1_High_2462



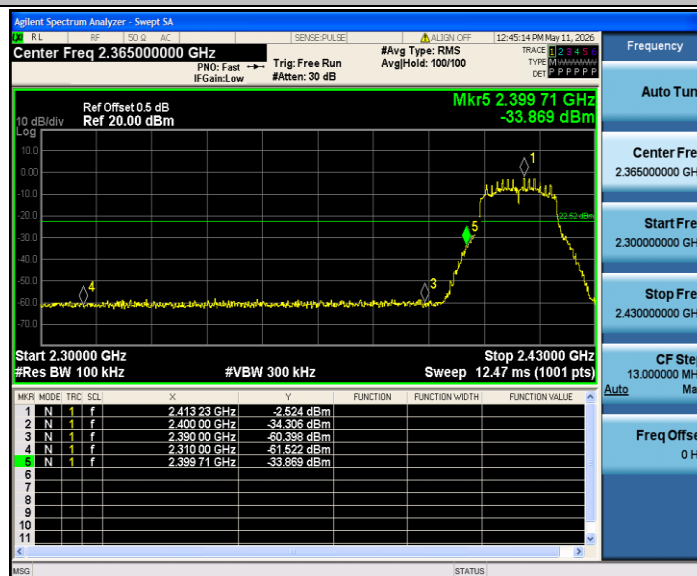
11G_Ant1_Low_2412



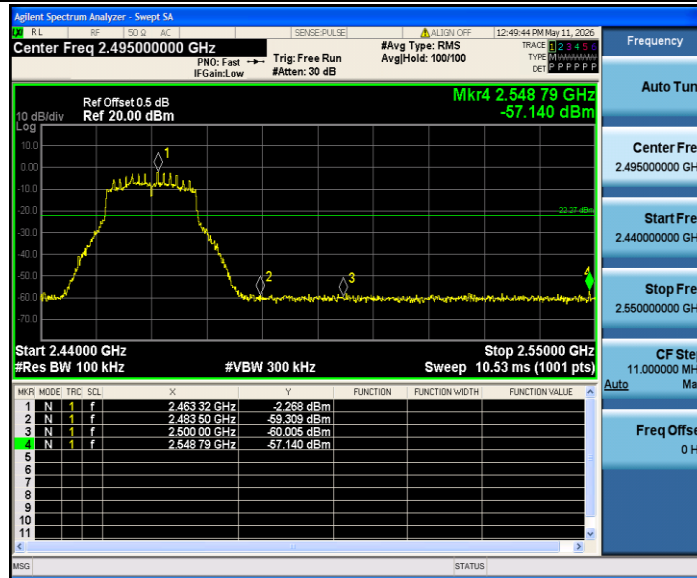
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



Appendix F: Conducted Spurious Emission

Test Result

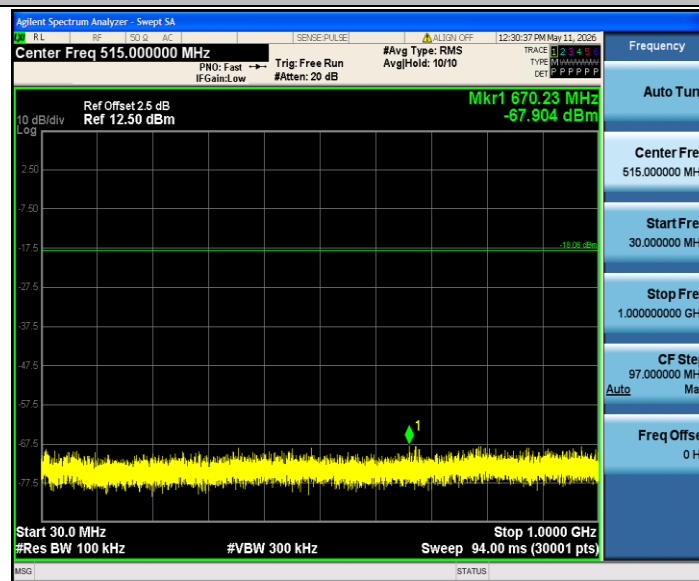
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	1.94	1.94	---	PASS
			30~1000	1.94	-67.9	≤-18.06	PASS
			1000~26500	1.94	-55.35	≤-18.06	PASS
		2437	Reference	0.24	0.24	---	PASS
			30~1000	0.24	-55.35	≤-19.76	PASS
			1000~26500	0.24	-54.77	≤-19.76	PASS
		2462	Reference	1.75	1.75	---	PASS
			30~1000	1.75	-64.78	≤-18.25	PASS
			1000~26500	1.75	-54.77	≤-18.25	PASS
11G	Ant1	2412	Reference	-3.37	-3.37	---	PASS
			30~1000	-3.37	-56.29	≤-23.37	PASS
			1000~26500	-3.37	-54.59	≤-23.37	PASS
		2437	Reference	-3.01	-3.01	---	PASS
			30~1000	-3.01	-66.38	≤-23.01	PASS
			1000~26500	-3.01	-55.84	≤-23.01	PASS
		2462	Reference	-2.97	-2.97	---	PASS
			30~1000	-2.97	-67.93	≤-22.97	PASS
			1000~26500	-2.97	-55.37	≤-22.97	PASS
11N20SISO	Ant1	2412	Reference	-3.42	-3.42	---	PASS
			30~1000	-3.42	-59.86	≤-23.42	PASS
			1000~26500	-3.42	-55.16	≤-23.42	PASS
		2437	Reference	-4.43	-4.43	---	PASS
			30~1000	-4.43	-66.78	≤-24.43	PASS
			1000~26500	-4.43	-55.21	≤-24.43	PASS
		2462	Reference	-2.78	-2.78	---	PASS
			30~1000	-2.78	-64.07	≤-22.78	PASS
			1000~26500	-2.78	-55.63	≤-22.78	PASS

Test Graphs

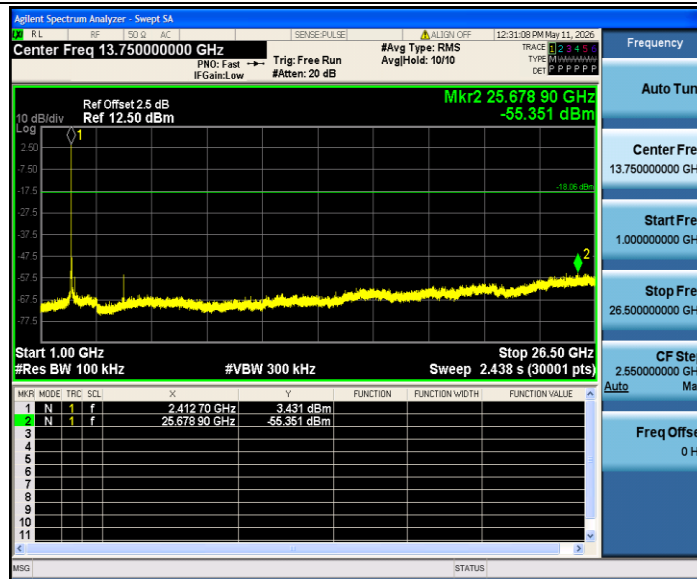
11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



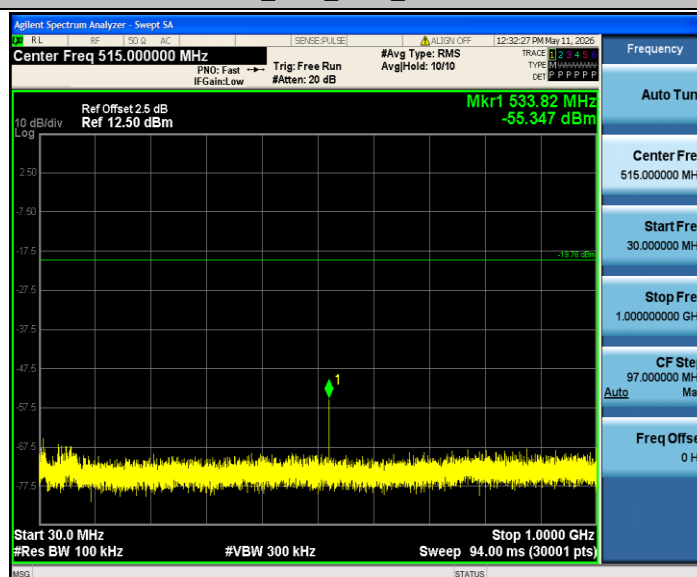
11B_Ant1_2412_1000~26500



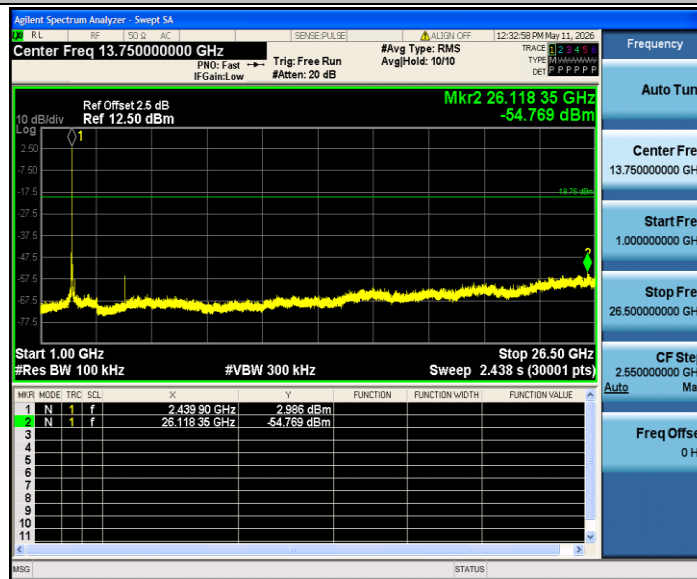
11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



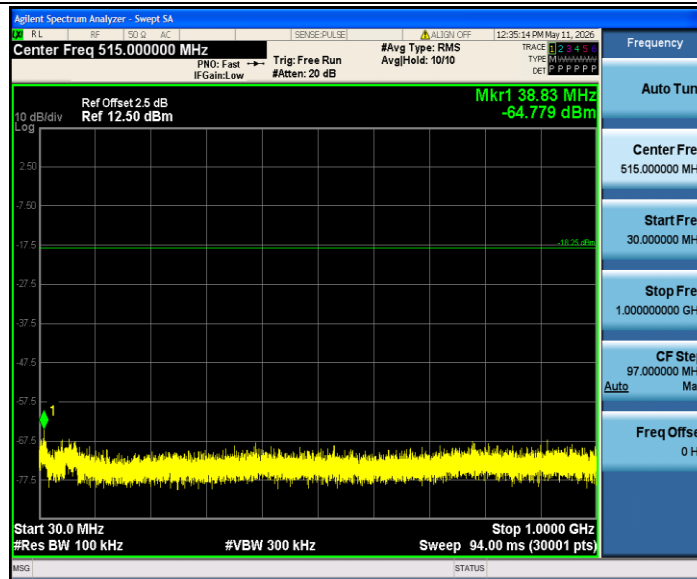
11B_Ant1_2437_1000~26500



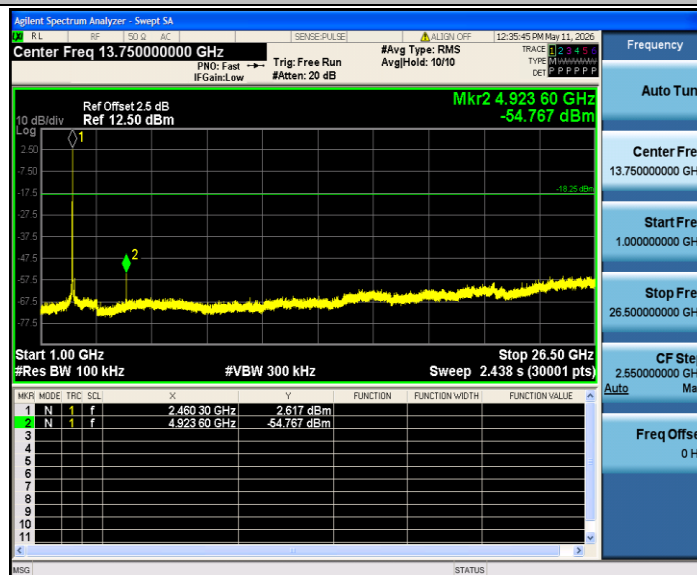
11B_Ant1_2462_0~Reference



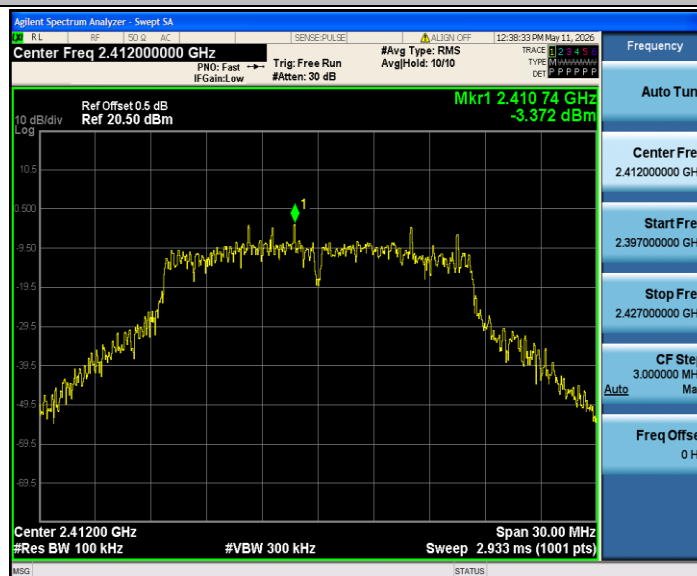
11B_Ant1_2462_30~1000



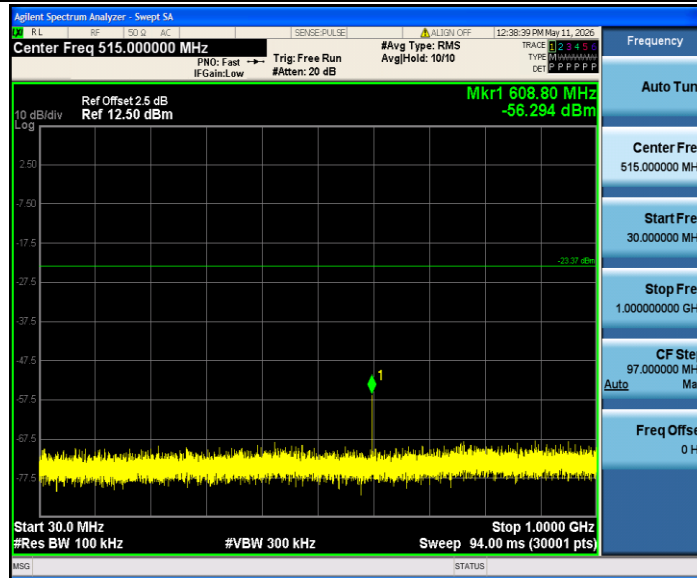
11B_Ant1_2462_1000~26500



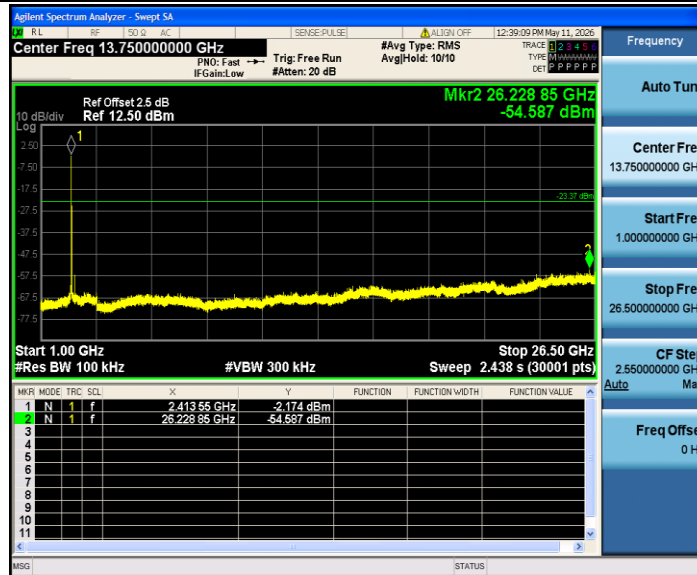
11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



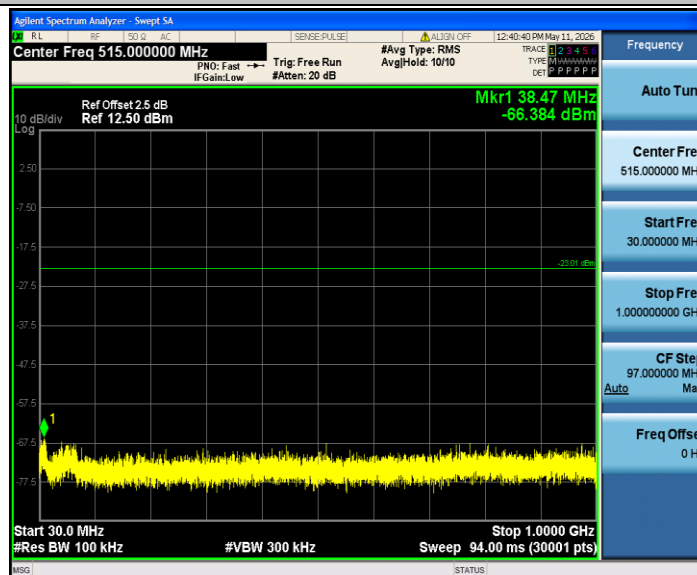
11G_Ant1_2412_1000~26500



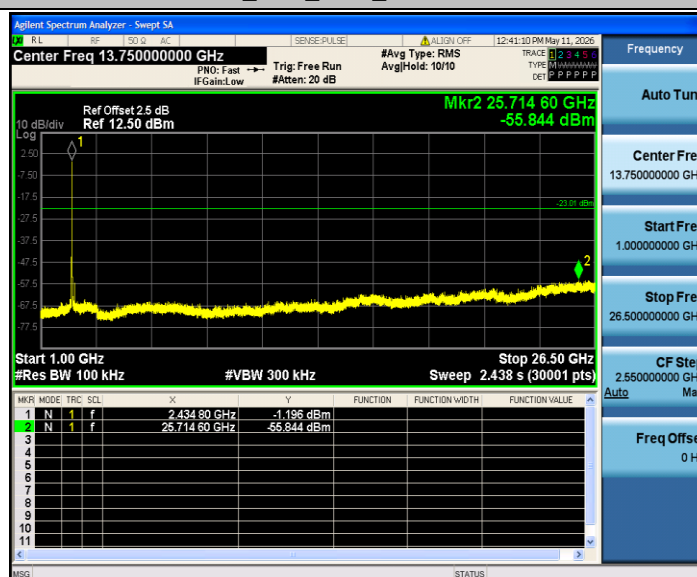
11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



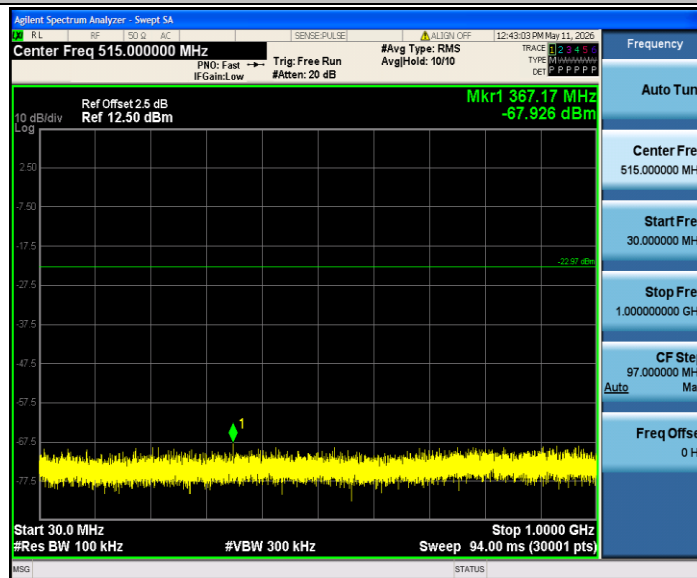
11G_Ant1_2437_1000~26500



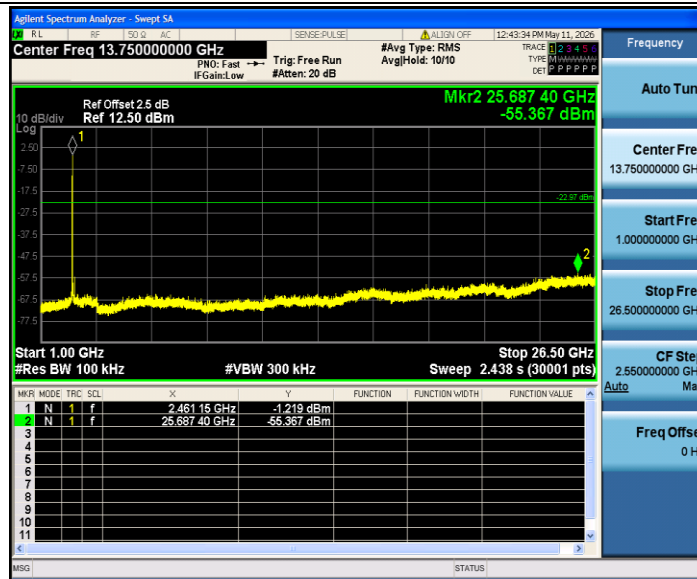
11G_Ant1_2462_0~Reference



11G_Ant1_2462_30~1000



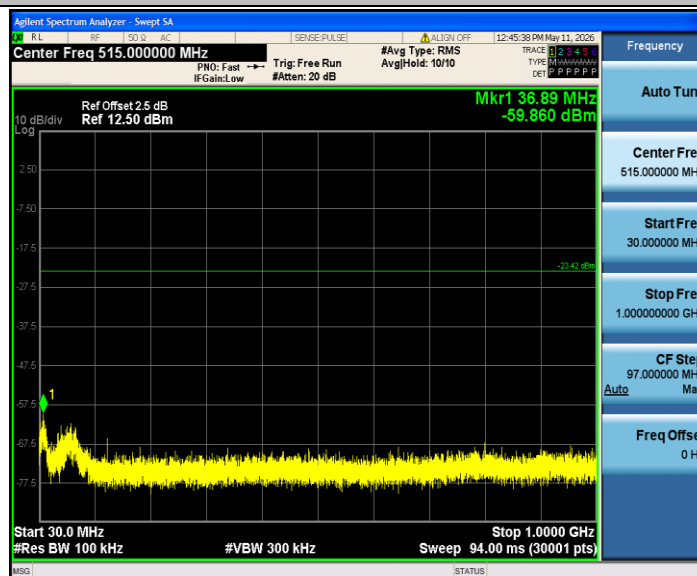
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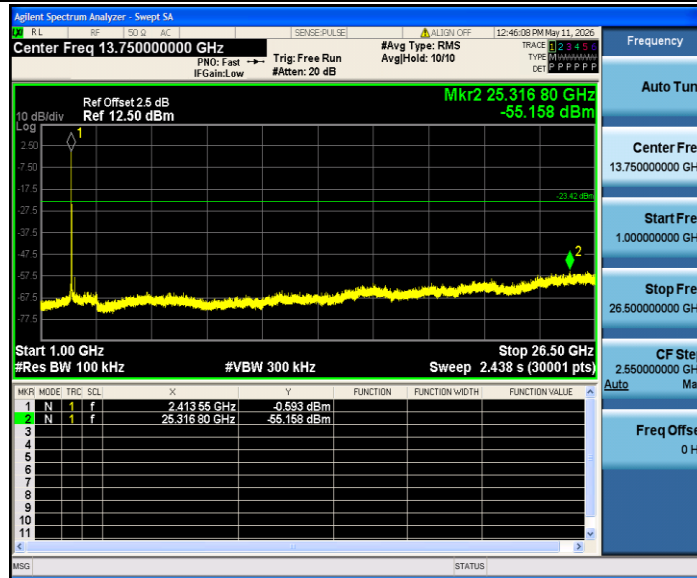
11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



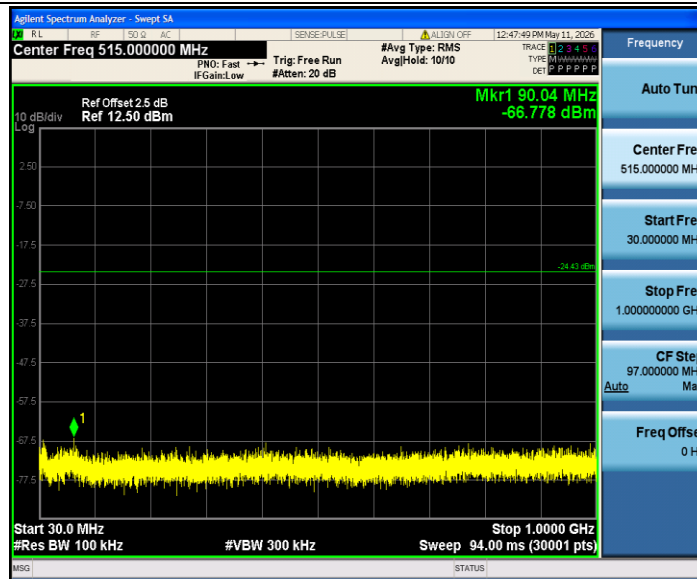
11N20SISO_Ant1_2412_1000~26500



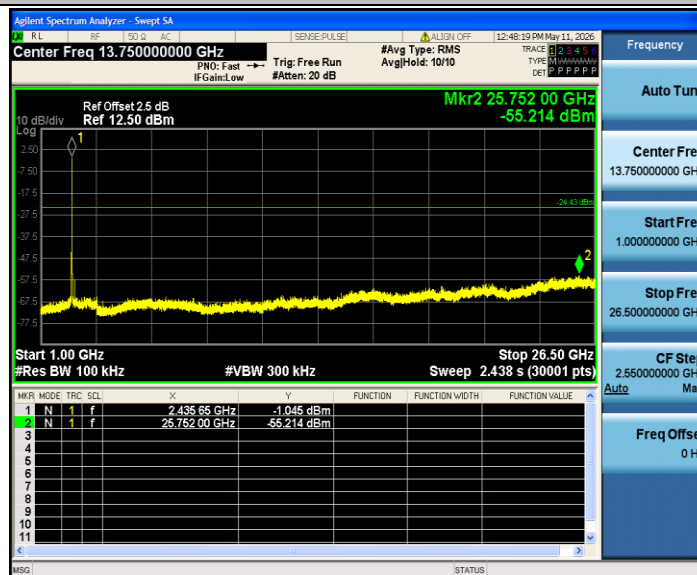
11N20SISO_Ant1_2437_0~Reference



11N20SISO_Ant1_2437_30~1000



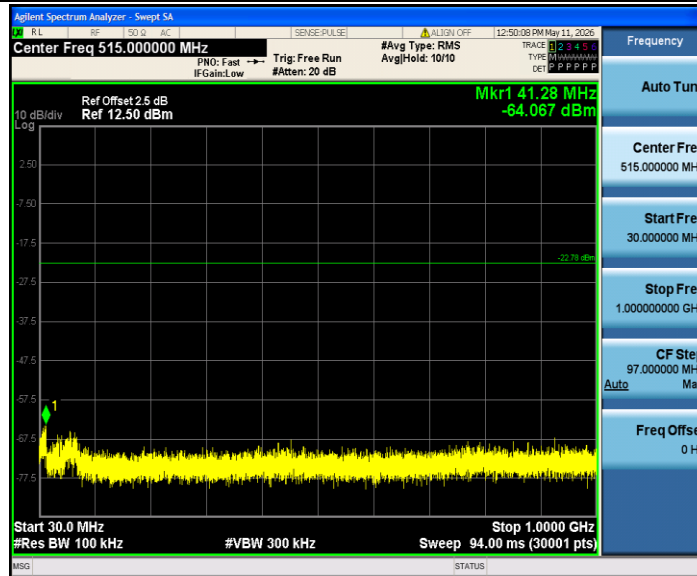
11N20SISO_Ant1_2437_1000~26500



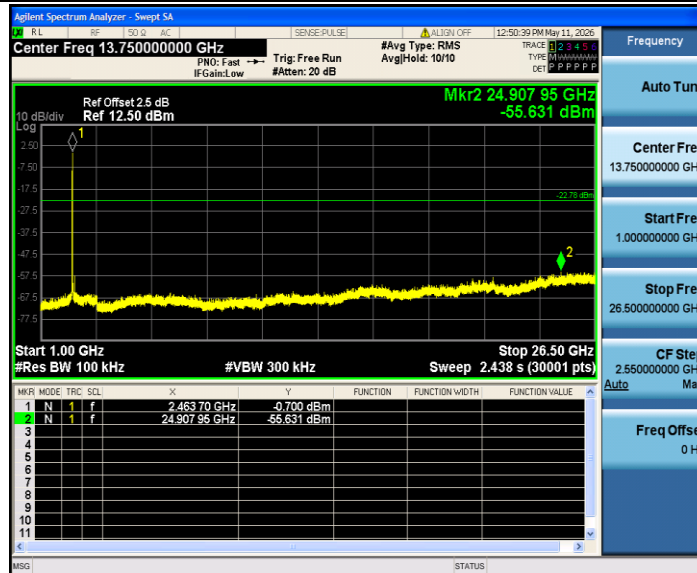
11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor [dB]	T Factor [dB]
11B	Ant1	2412	8.35	8.39	99.52	0.02	0.12
		2437	8.35	8.40	99.40	0.03	0.12
		2462	8.35	8.40	99.40	0.03	0.12
11G	Ant1	2412	0.15	0.20	75.00	1.25	6.67
		2437	0.15	0.19	78.95	1.03	6.67
		2462	0.15	0.20	75.00	1.25	6.67
11N20SISO	Ant1	2412	0.17	0.22	77.27	1.12	5.88
		2437	0.18	0.23	78.26	1.06	5.56
		2462	0.18	0.23	78.26	1.06	5.56