

FCC Appendix RF Test Data for 2.4GWIFI

FCC ID : 2AY2G-ISCAN5

Company : AUTOLAND SCIENTECH CO., LTD

EUT : Automotive computer diagnostic instruments

Model Number : iSCAN 5

Report No. : CTA26051202503

Reviewed By : Eric Wang

FCC Appendix RF Test Data for 2.4GWIFI for ESP32

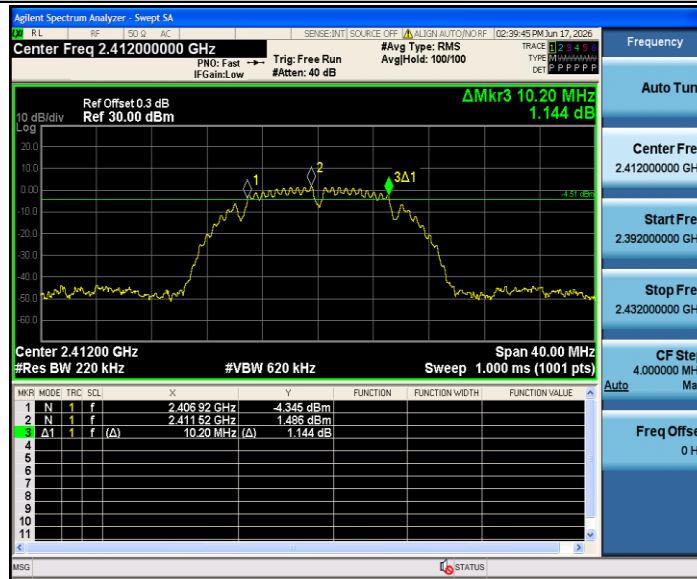
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.200	2406.920	2417.120	0.5	PASS
		2437	10.240	2431.920	2442.160	0.5	PASS
		2462	10.240	2456.920	2467.160	0.5	PASS
11G	Ant1	2412	15.920	2404.040	2419.960	0.5	PASS
		2437	15.760	2429.040	2444.800	0.5	PASS
		2462	15.480	2454.200	2469.680	0.5	PASS
11N20SISO	Ant1	2412	16.640	2403.760	2420.400	0.5	PASS
		2437	16.440	2429.040	2445.480	0.5	PASS
		2462	16.320	2453.560	2469.880	0.5	PASS

Test Graphs

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



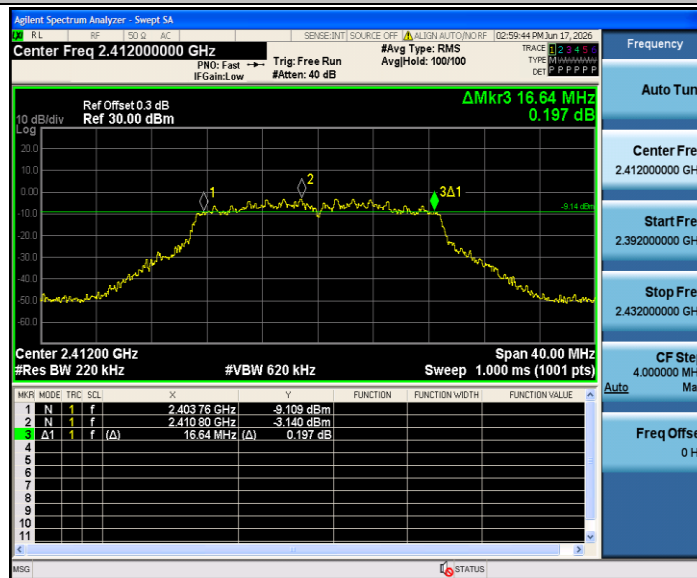
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



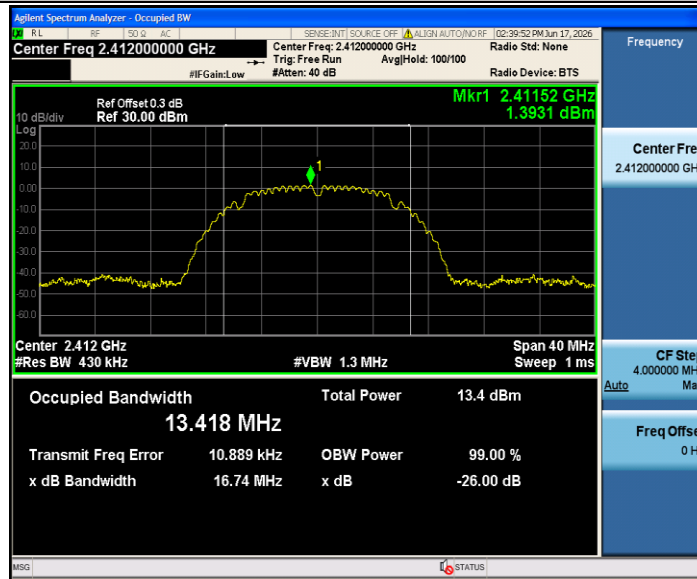
Appendix B: Occupied Channel Bandwidth

Test Result

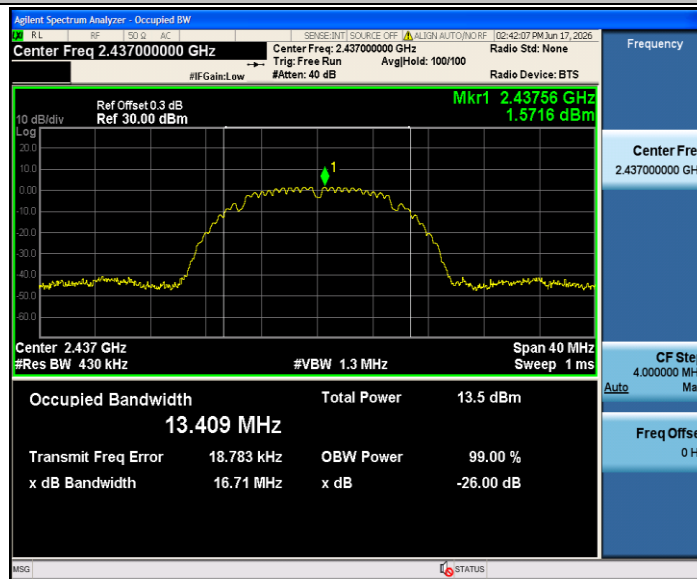
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.418	2405.3019	2418.7199	---	---
		2437	13.409	2430.3143	2443.7233	---	---
		2462	13.408	2455.3248	2468.7328	---	---
11G	Ant1	2412	16.850	2403.6008	2420.4508	---	---
		2437	16.824	2428.6245	2445.4485	---	---
		2462	16.825	2453.6154	2470.4404	---	---
11N20SISO	Ant1	2412	17.984	2403.0262	2421.0102	---	---
		2437	17.859	2428.0570	2445.9160	---	---
		2462	17.860	2453.0748	2470.9348	---	---

Test Graphs

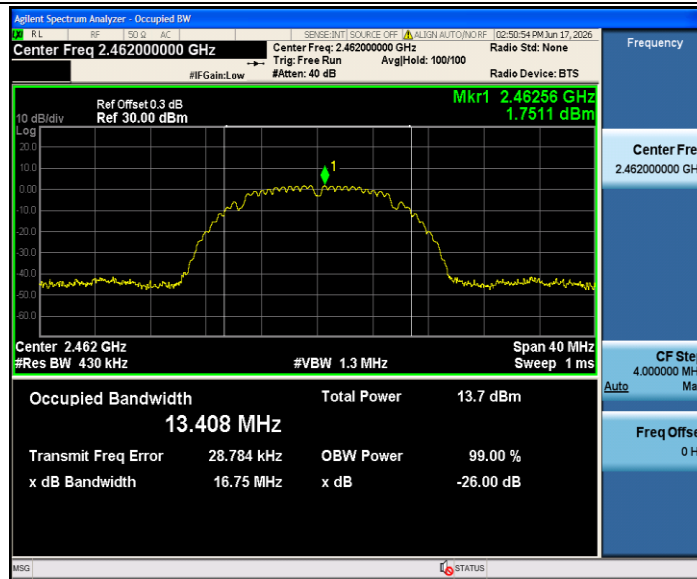
11B_Ant1_2412



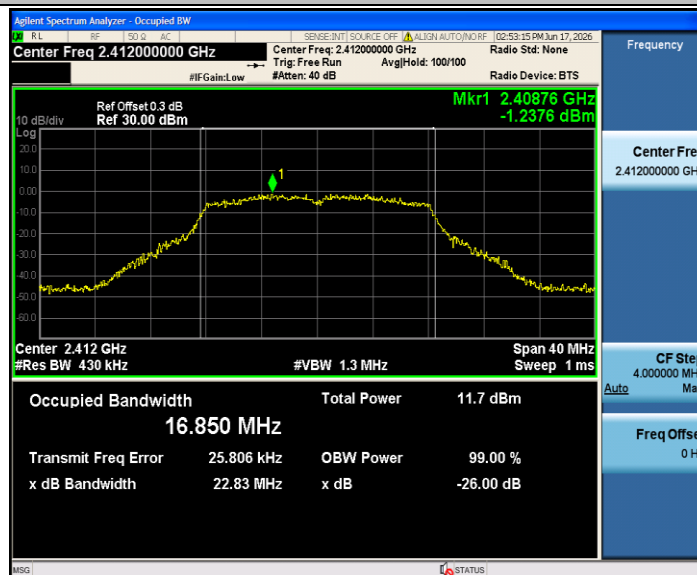
11B_Ant1_2437



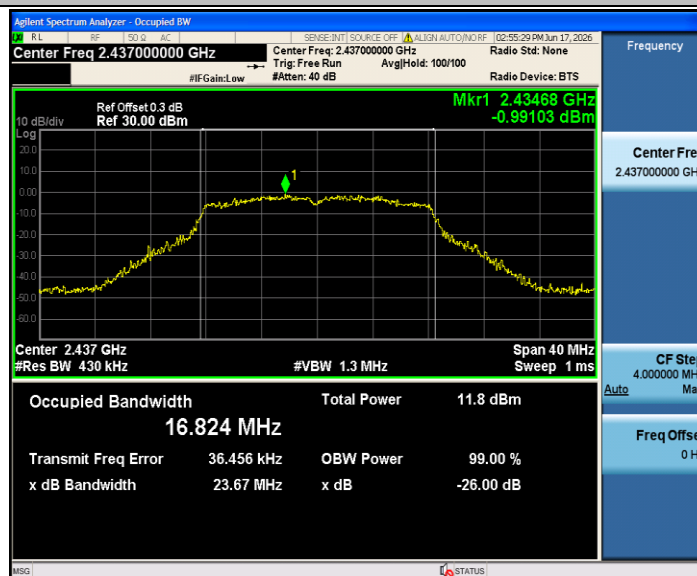
11B_Ant1_2462



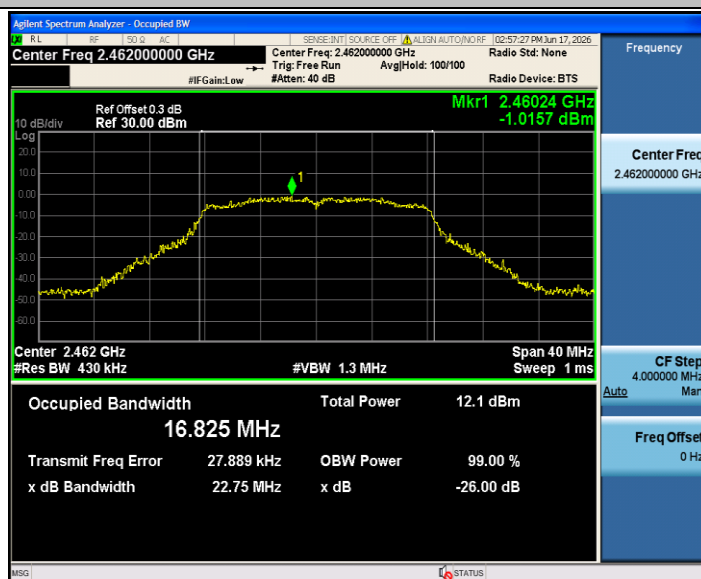
11G_Ant1_2412



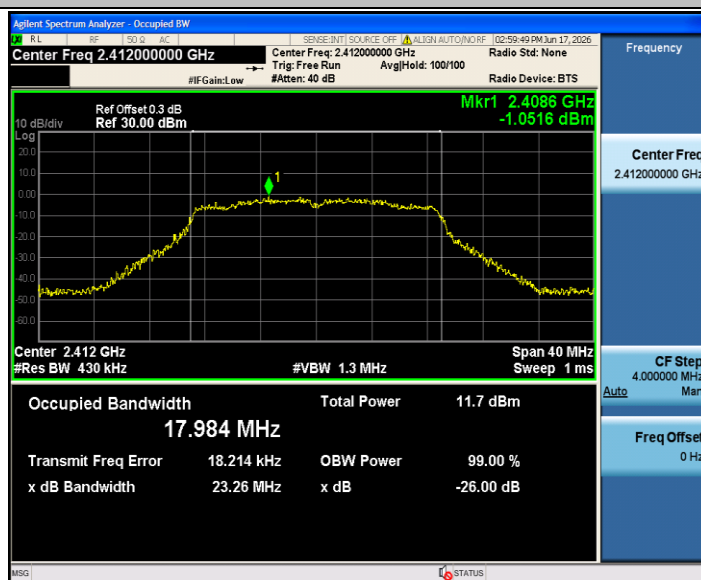
11G_Ant1_2437



11G_Ant1_2462



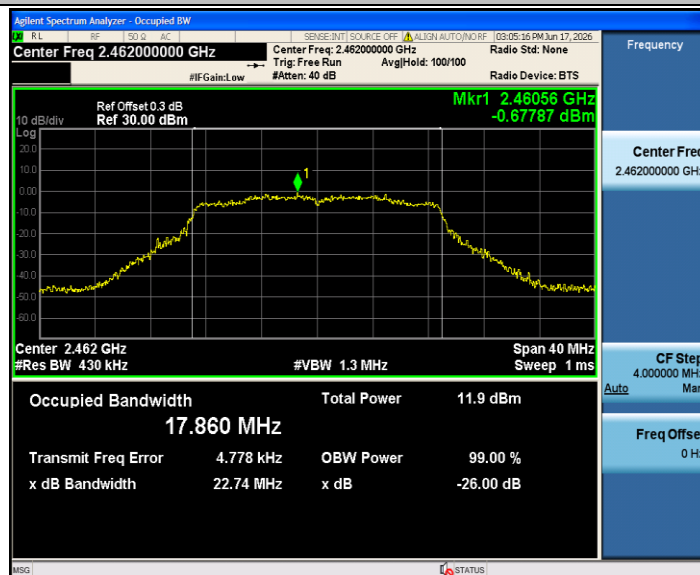
11N20SISO_Ant1_2412



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	13.03	≤30.00	PASS
		2437	13.12	≤30.00	PASS
		2462	13.41	≤30.00	PASS
11G	Ant1	2412	12.69	≤30.00	PASS
		2437	12.88	≤30.00	PASS
		2462	12.93	≤30.00	PASS
11N20SISO	Ant1	2412	12.41	≤30.00	PASS
		2437	12.63	≤30.00	PASS
		2462	12.76	≤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	-13.18	≤8.00	PASS
		2462	-12.77	≤8.00	PASS
11G	Ant1	2412	-19.27	≤8.00	PASS
		2437	-19.36	≤8.00	PASS
		2462	-18.97	≤8.00	PASS
11N20SISO	Ant1	2412	-19.40	≤8.00	PASS
		2437	-19.09	≤8.00	PASS
		2462	-17.71	≤8.00	PASS

Test Graphs

11B_Ant1_2412



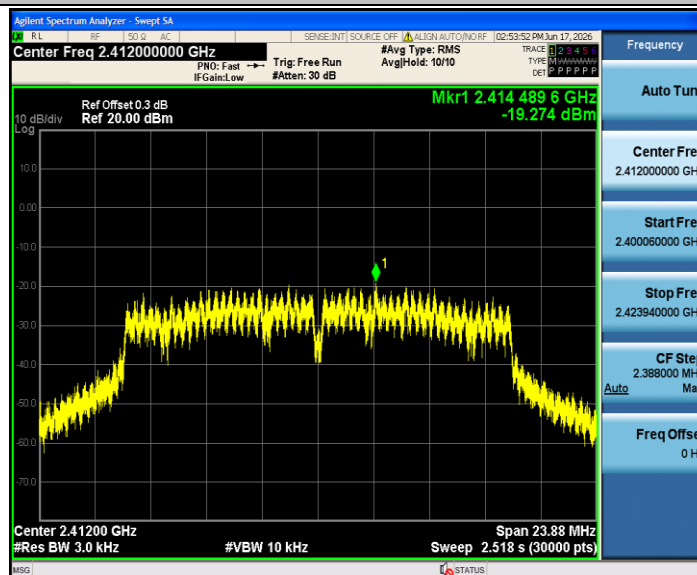
11B_Ant1_2437



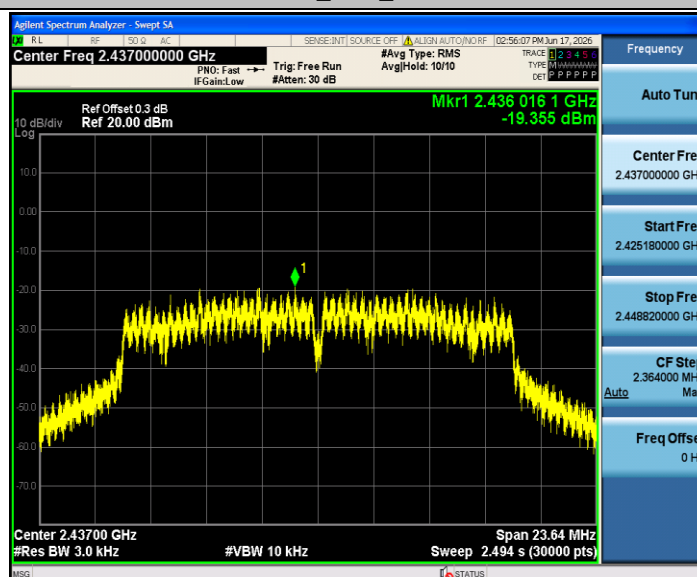
11B_Ant1_2462



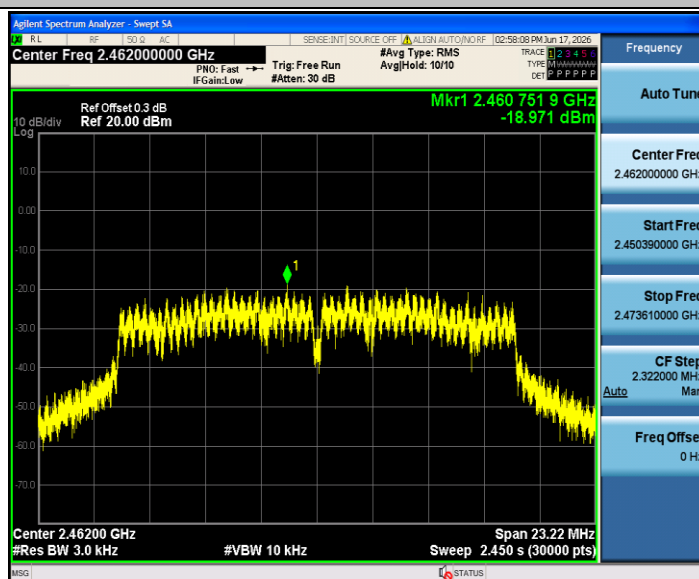
11G_Ant1_2412



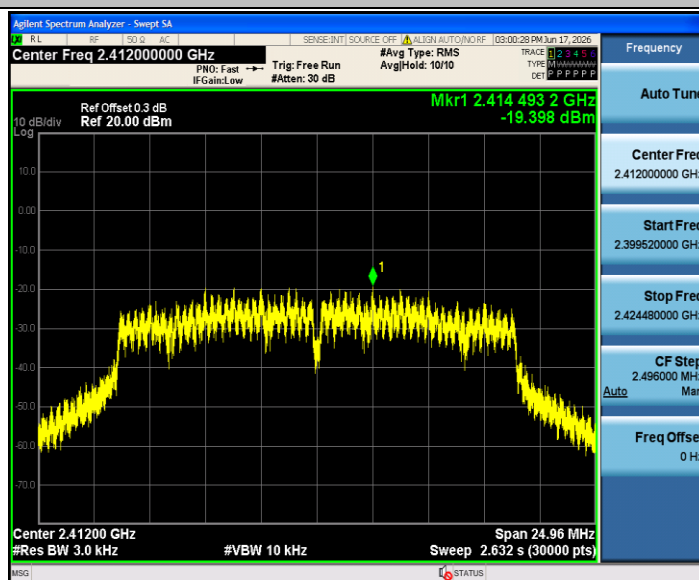
11G_Ant1_2437



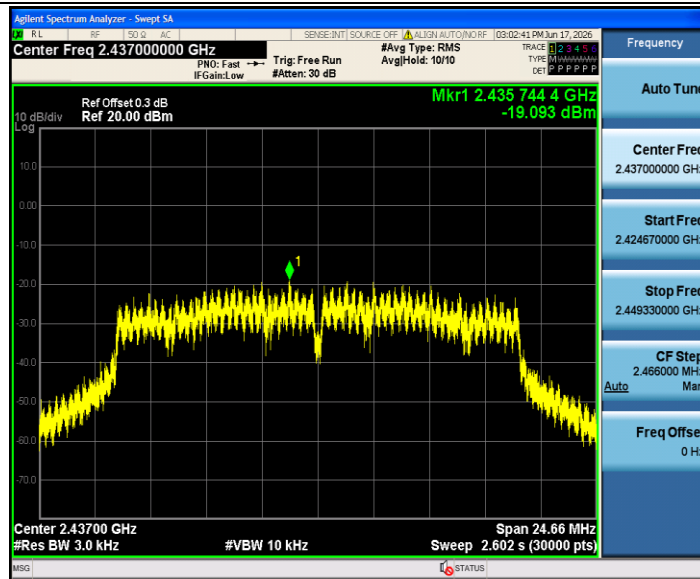
11G_Ant1_2462



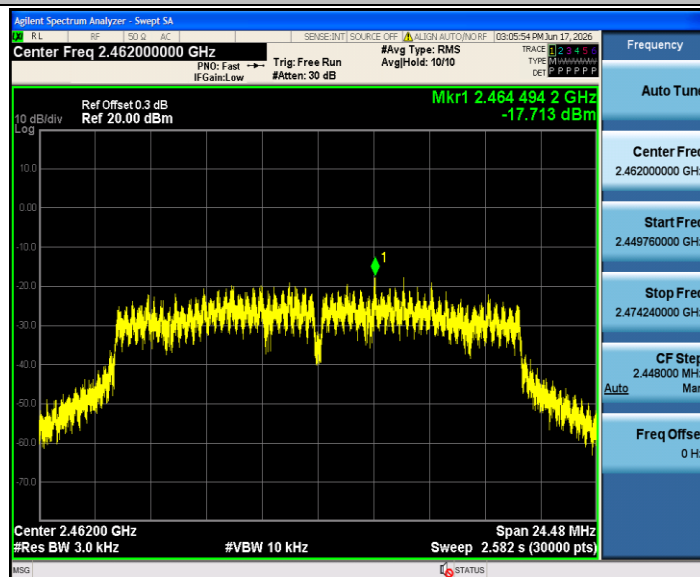
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

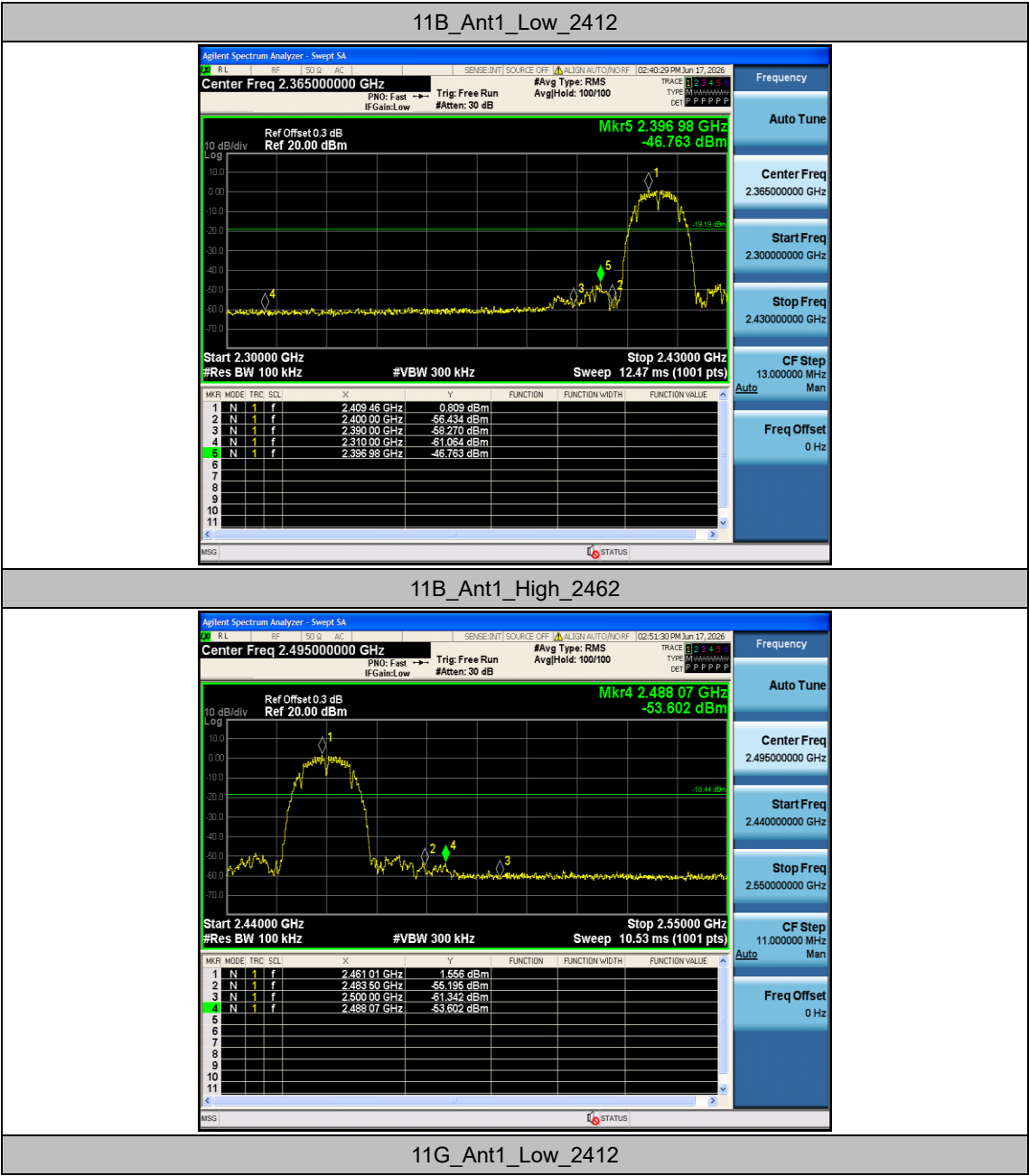


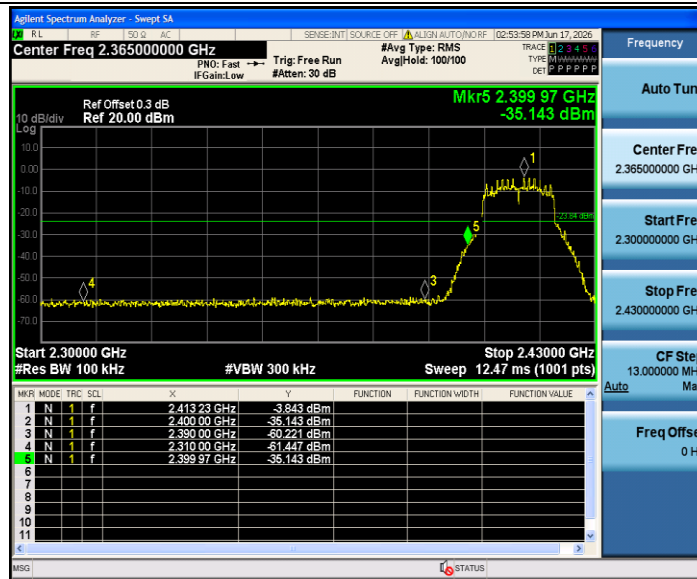
Appendix E: Band edge measurements

Test Result

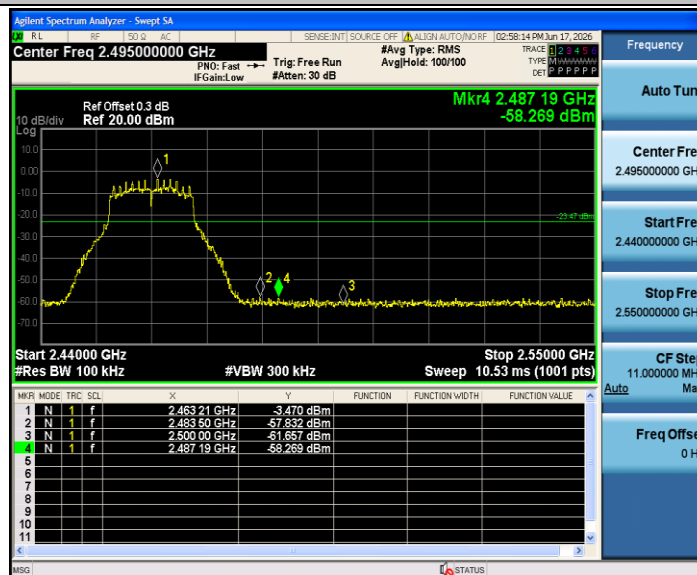
TestMode	Antenna	Channel Name	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	0.81	-46.76	≤-19.19	PASS
		High	2462	1.56	-53.6	≤-18.44	PASS
11G	Ant1	Low	2412	-3.84	-35.14	≤-23.84	PASS
		High	2462	-3.47	-58.27	≤-23.47	PASS
11N20SISO	Ant1	Low	2412	-4.16	-36.78	≤-24.16	PASS
		High	2462	-3.82	-57.99	≤-23.82	PASS

Test Graphs

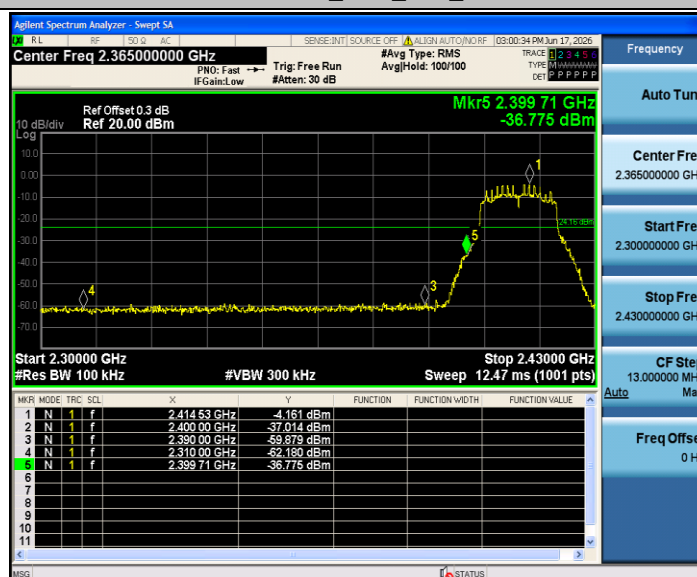




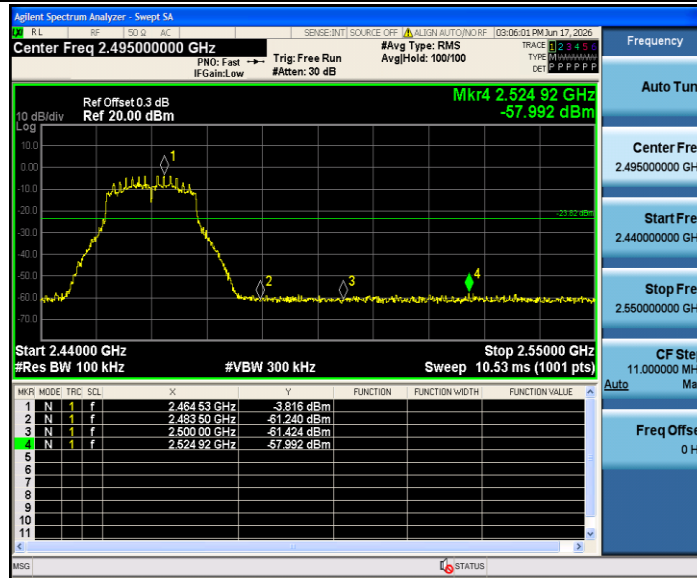
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



Appendix F: Conducted Spurious Emission

Test Result

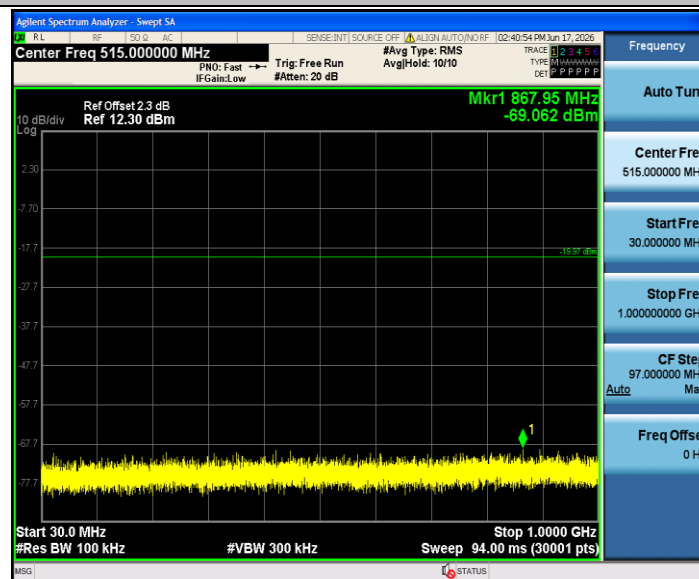
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.03	0.03	---	PASS
			30~1000	0.03	-69.06	≤-19.97	PASS
			1000~26500	0.03	-57.06	≤-19.97	PASS
		2437	Reference	-0.17	-0.17	---	PASS
			30~1000	-0.17	-69.09	≤-20.17	PASS
			1000~26500	-0.17	-56.74	≤-20.17	PASS
		2462	Reference	0.63	0.63	---	PASS
			30~1000	0.63	-69.41	≤-19.37	PASS
			1000~26500	0.63	-56.77	≤-19.37	PASS
11G	Ant1	2412	Reference	-4.26	-4.26	---	PASS
			30~1000	-4.26	-68.36	≤-24.26	PASS
			1000~26500	-4.26	-56.96	≤-24.26	PASS
		2437	Reference	-4.29	-4.29	---	PASS
			30~1000	-4.29	-69.09	≤-24.29	PASS
			1000~26500	-4.29	-57.08	≤-24.29	PASS
		2462	Reference	-4.06	-4.06	---	PASS
			30~1000	-4.06	-69.59	≤-24.06	PASS
			1000~26500	-4.06	-56.87	≤-24.06	PASS
11N20SISO	Ant1	2412	Reference	-4.44	-4.44	---	PASS
			30~1000	-4.44	-68.15	≤-24.44	PASS
			1000~26500	-4.44	-56.95	≤-24.44	PASS
		2437	Reference	-4.55	-4.55	---	PASS
			30~1000	-4.55	-68.85	≤-24.55	PASS
			1000~26500	-4.55	-57.19	≤-24.55	PASS
		2462	Reference	-3.76	-3.76	---	PASS
			30~1000	-3.76	-69.28	≤-23.76	PASS
			1000~26500	-3.76	-56.8	≤-23.76	PASS

Test Graphs

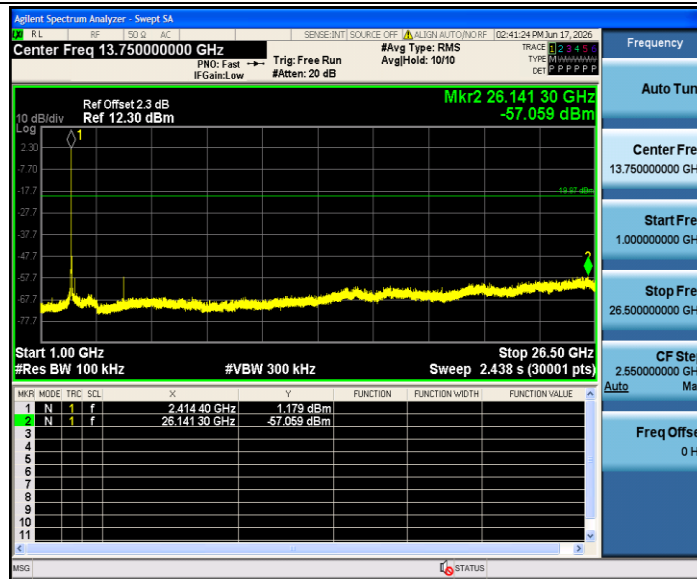
11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



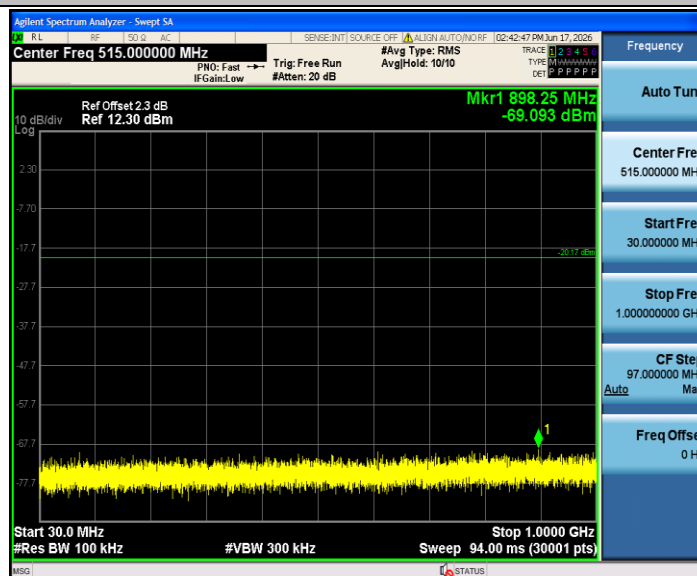
11B_Ant1_2412_1000~26500



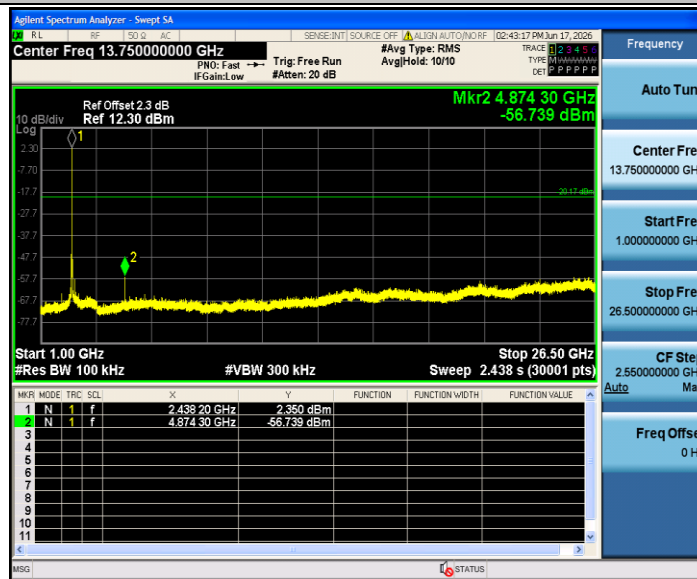
11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



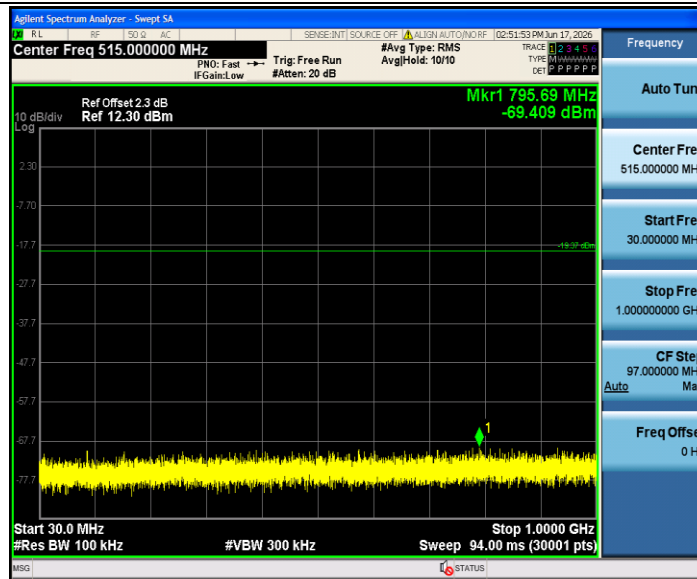
11B_Ant1_2437_1000~26500



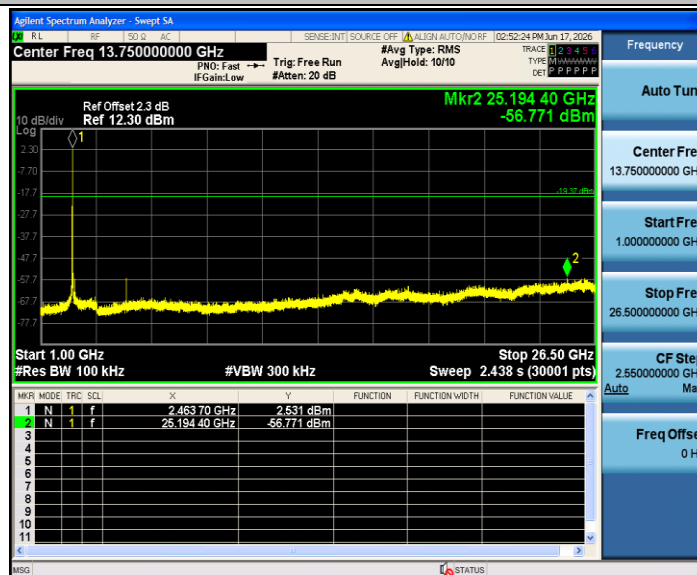
11B_Ant1_2462_0~Reference



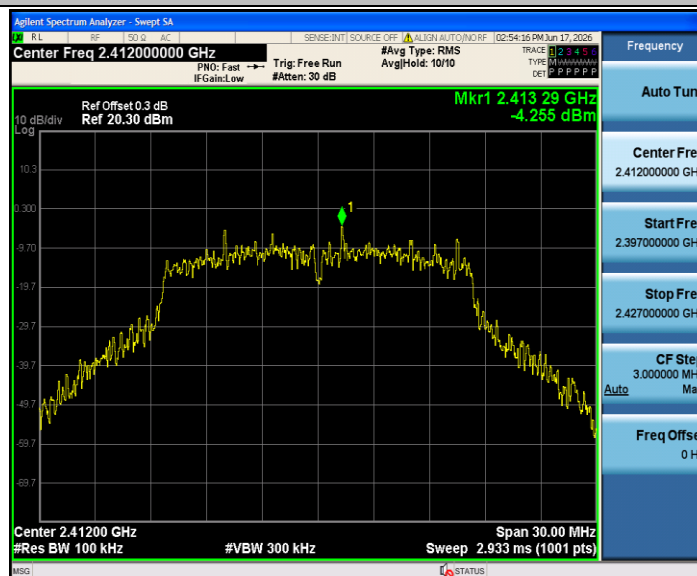
11B_Ant1_2462_30~1000



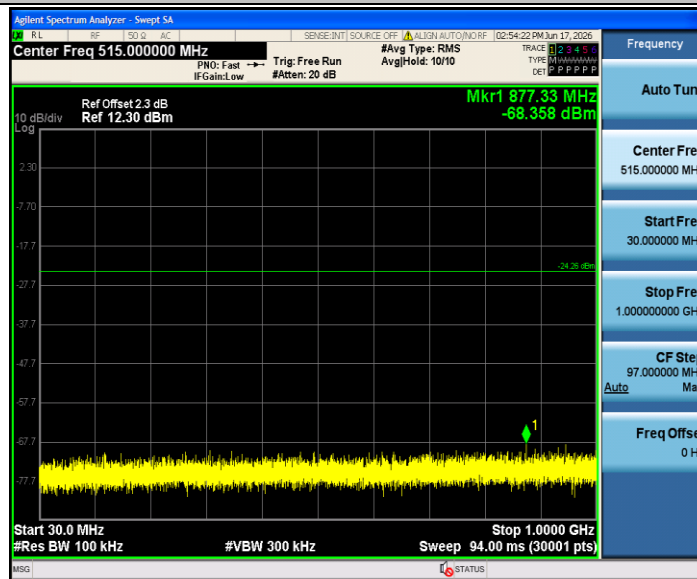
11B_Ant1_2462_1000~26500



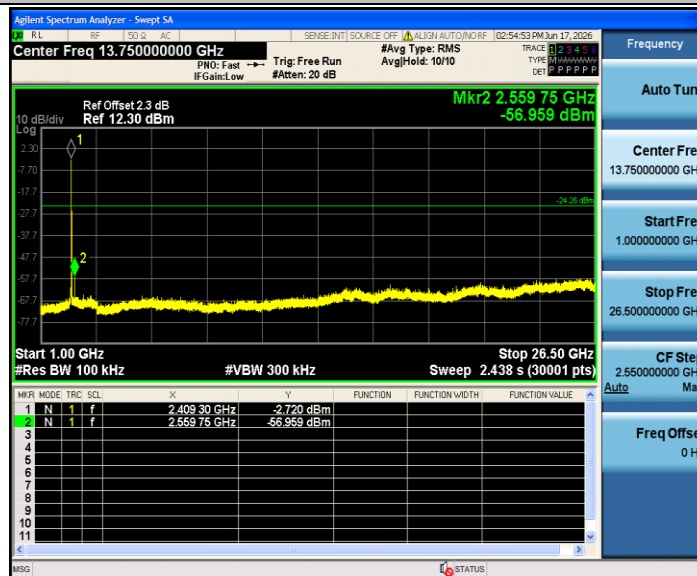
11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



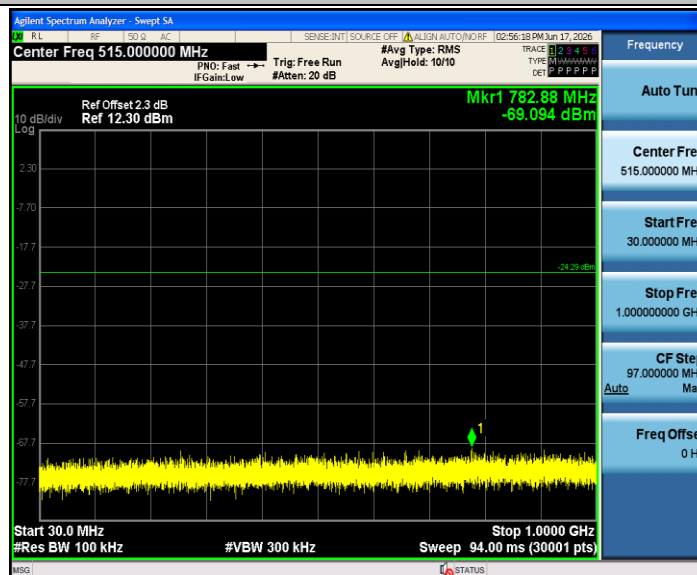
11G_Ant1_2412_1000~26500



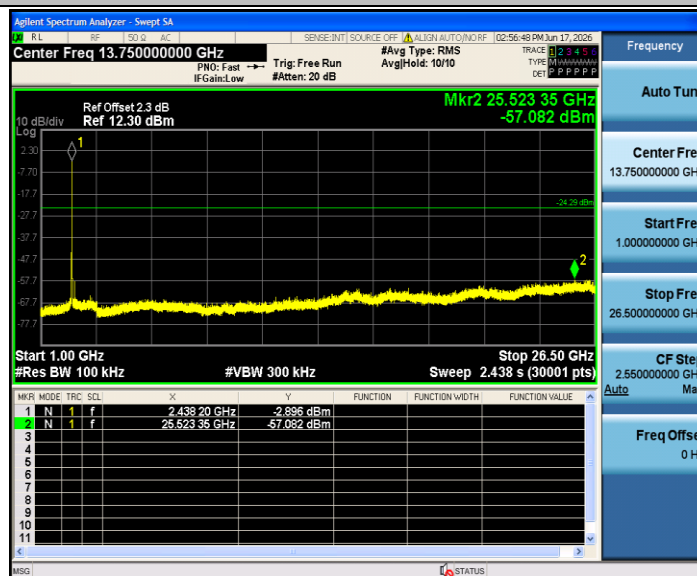
11G_Ant1_2437_0~Reference



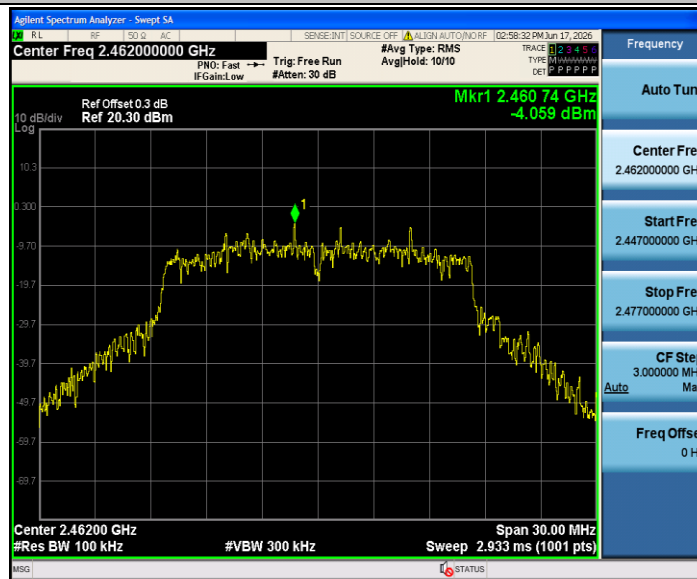
11G_Ant1_2437_30~1000



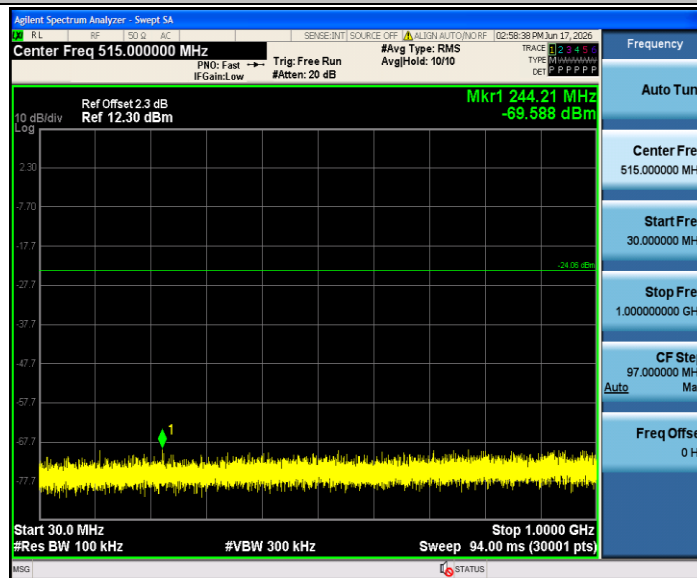
11G_Ant1_2437_1000~26500



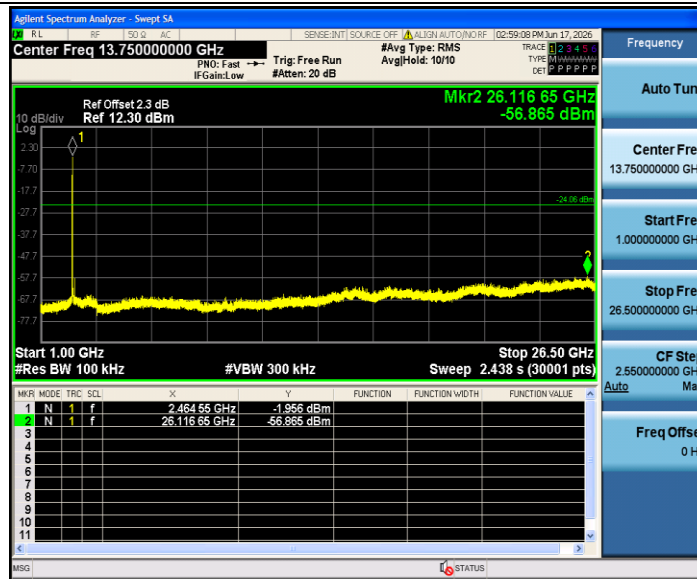
11G_Ant1_2462_0~Reference



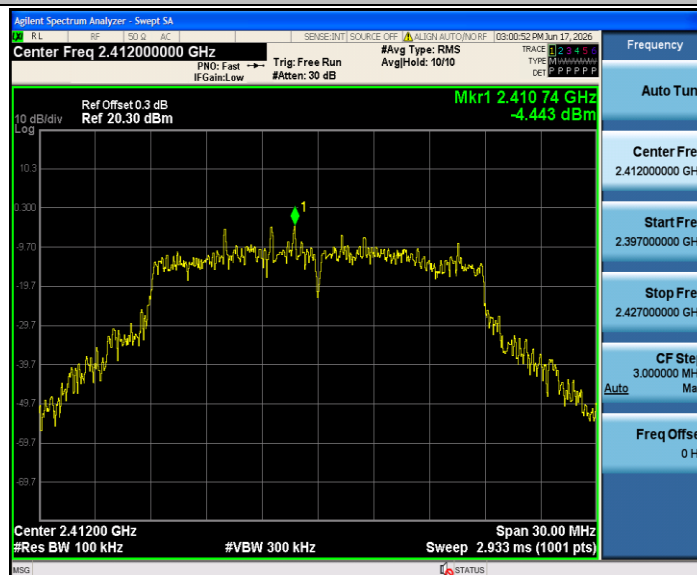
11G_Ant1_2462_30~1000



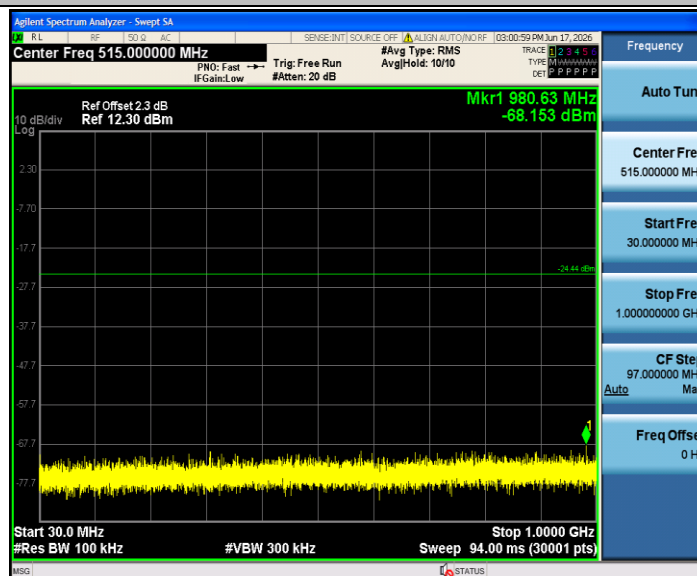
11G_Ant1_2462_1000~26500



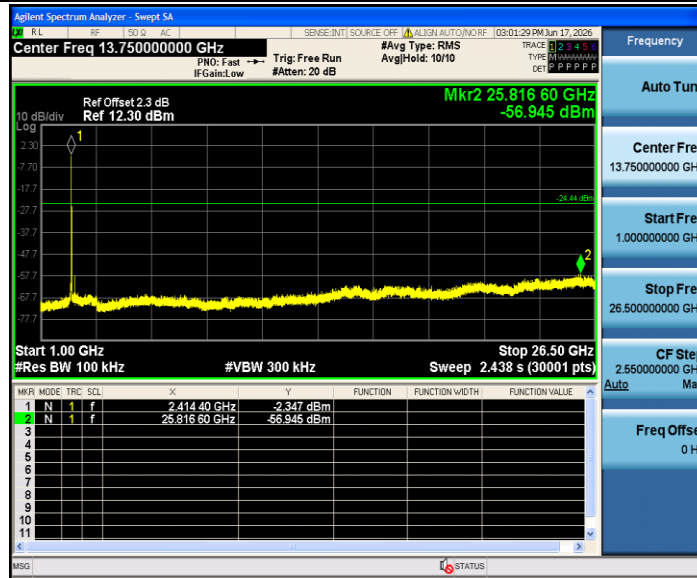
11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



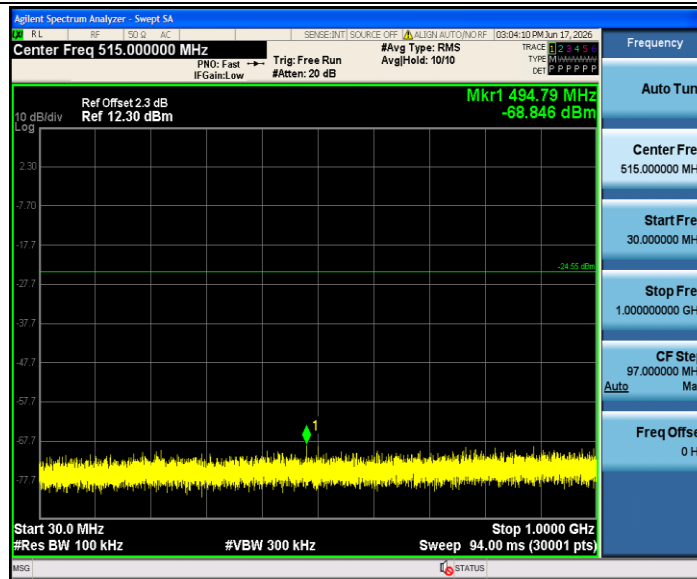
11N20SISO_Ant1_2412_1000~26500



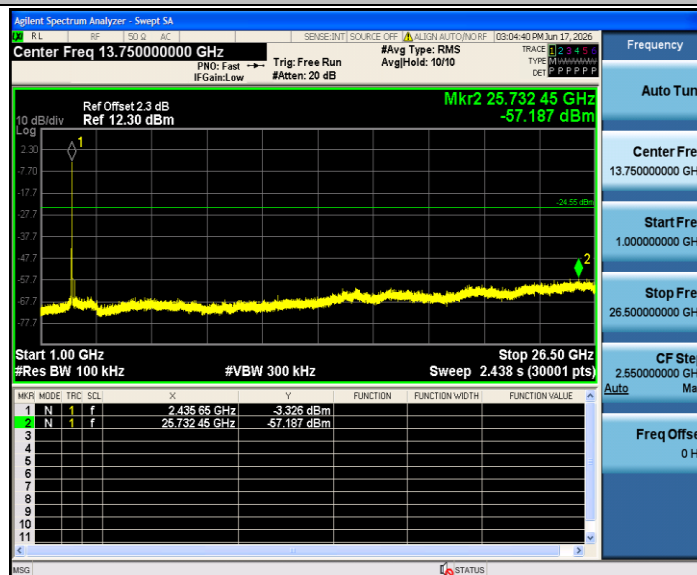
11N20SISO_Ant1_2437_0~Reference



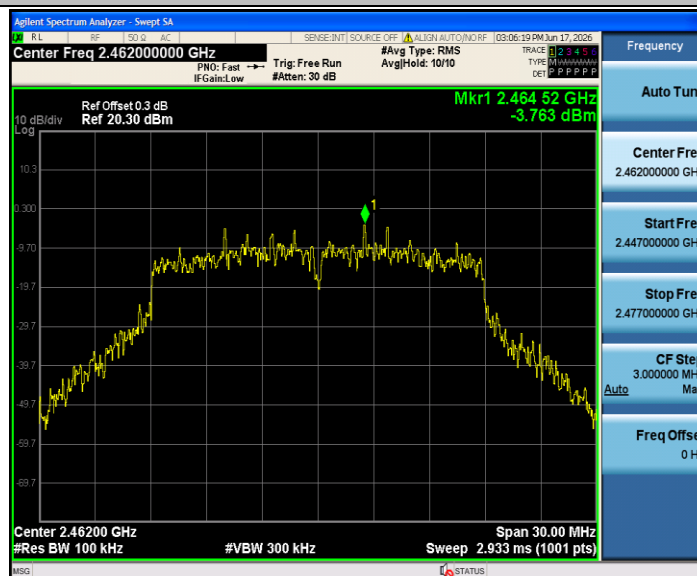
11N20SISO_Ant1_2437_30~1000



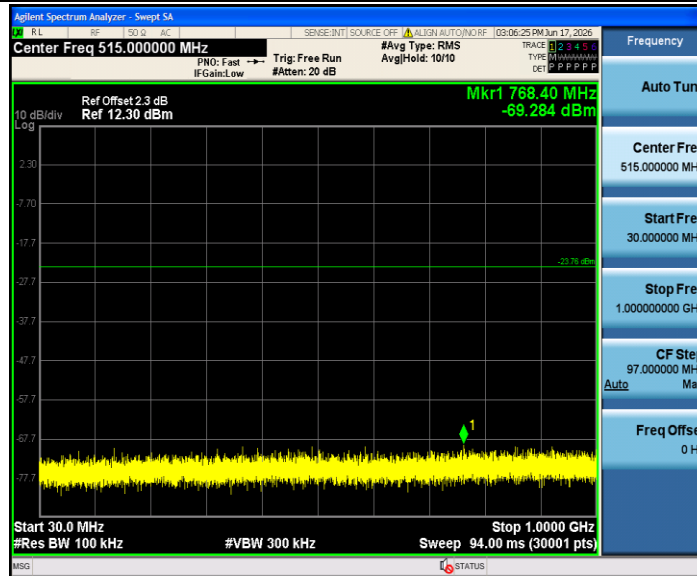
11N20SISO_Ant1_2437_1000~26500



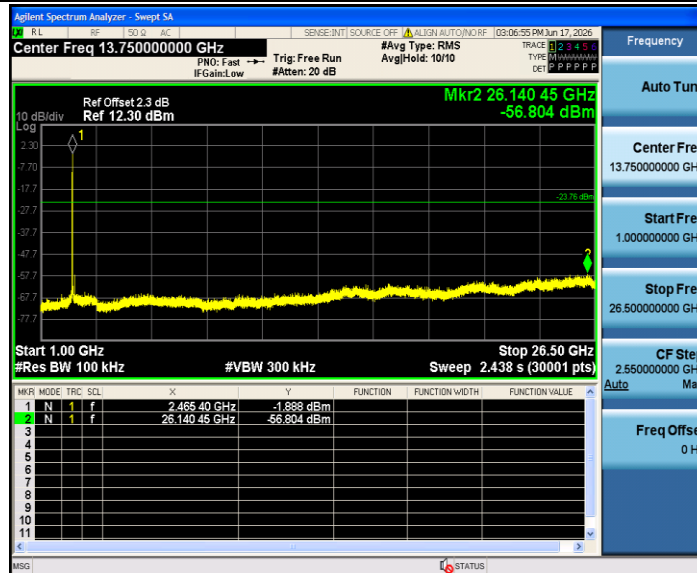
11N20SISO_Ant1_2462_0~Reference



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	8.39	99.52	0.02	0.12
		2462	8.35	8.39	99.52	0.02	0.12
11G	Ant1	2412	0.15	0.19	78.95	1.03	6.67
		2437	0.14	0.19	73.68	1.33	7.14
		2462	0.15	0.20	75.00	1.25	6.67
11N20SISO	Ant1	2412	0.18	0.23	78.26	1.06	5.56
		2437	0.18	0.22	81.82	0.87	5.56
		2462	0.18	0.23	78.26	1.06	5.56

11B_Ant1_2412

