

FCC Appendix RF Test Data for 2.4GWIFI

FCC ID : 2BYEV-HELIXX

Company : SHENZHEN DANFOO TECHNOLOGY CO.,LTD.

EUT : Smart Bee Box

Model Number : HELIX X

Report No. : CTA26071300507

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	9.120	2407.400	2416.520	0.5	PASS
		2437	10.240	2432.200	2442.440	0.5	PASS
		2462	9.720	2457.400	2467.120	0.5	PASS
11G	Ant1	2412	16.440	2403.840	2420.280	0.5	PASS
		2437	16.480	2428.800	2445.280	0.5	PASS
		2462	16.480	2453.800	2470.280	0.5	PASS
11N20SISO	Ant1	2412	17.680	2403.200	2420.880	0.5	PASS
		2437	17.600	2428.240	2445.840	0.5	PASS
		2462	17.600	2453.240	2470.840	0.5	PASS
11N40SISO	Ant1	2422	35.920	2404.080	2440.000	0.5	PASS
		2437	36.000	2419.000	2455.000	0.5	PASS
		2452	35.920	2434.000	2469.920	0.5	PASS

Test Graphs

11B_Ant1_2412



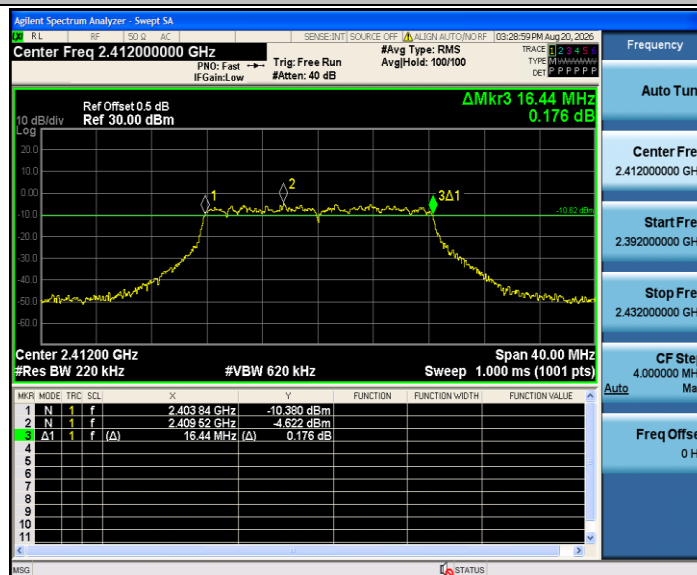
11B_Ant1_2437



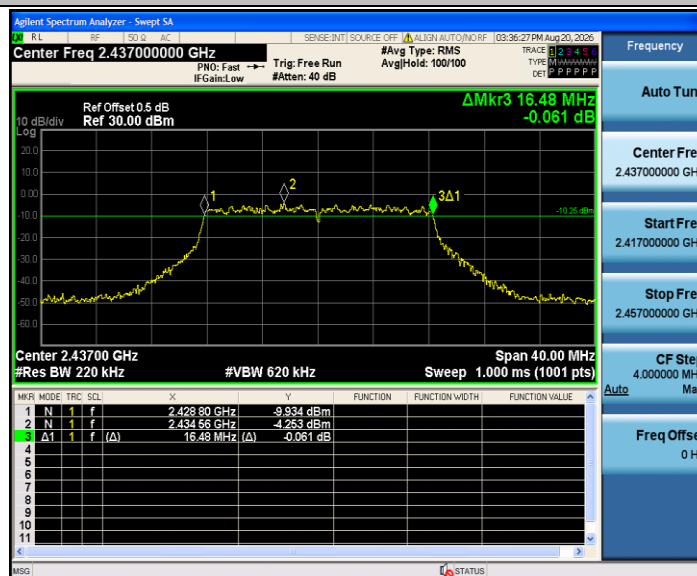
11B_Ant1_2462



11G_Ant1_2412



11G_Ant1_2437



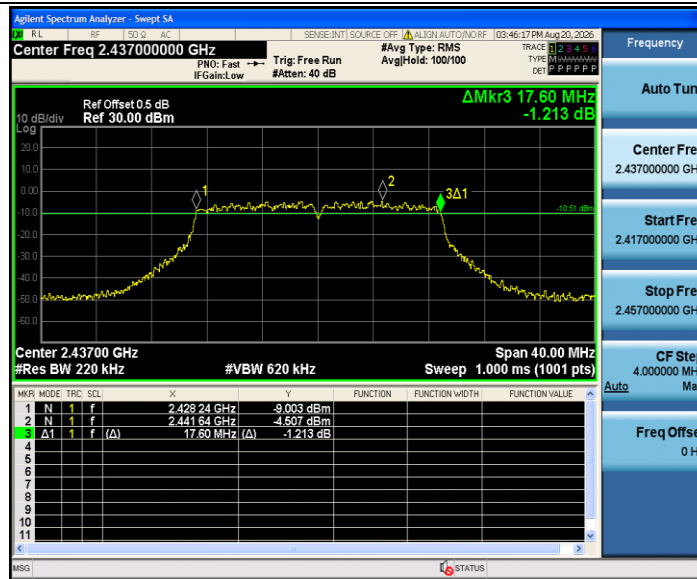
11G_Ant1_2462



11N20SISO_Ant1_2412



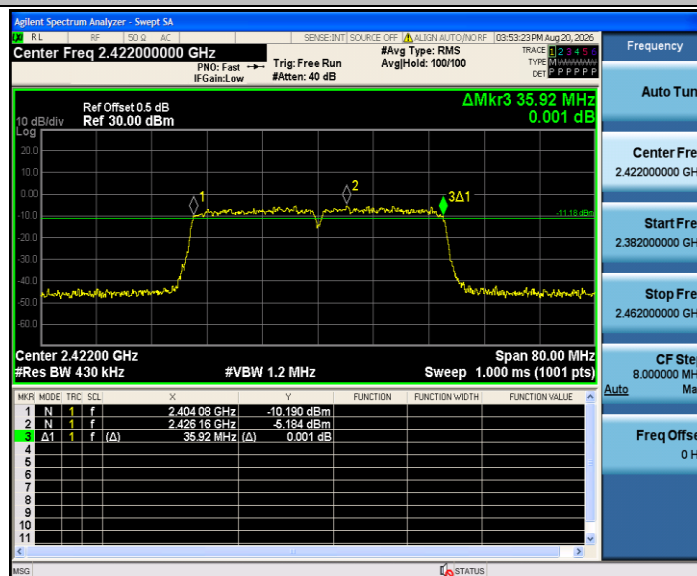
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



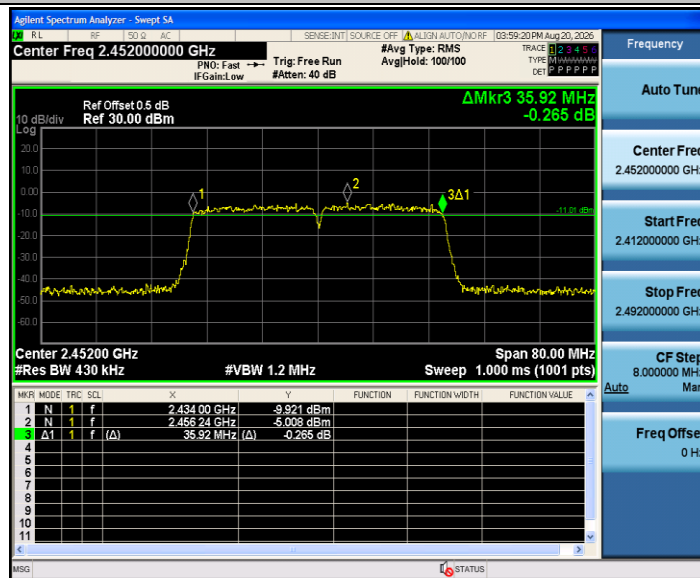
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



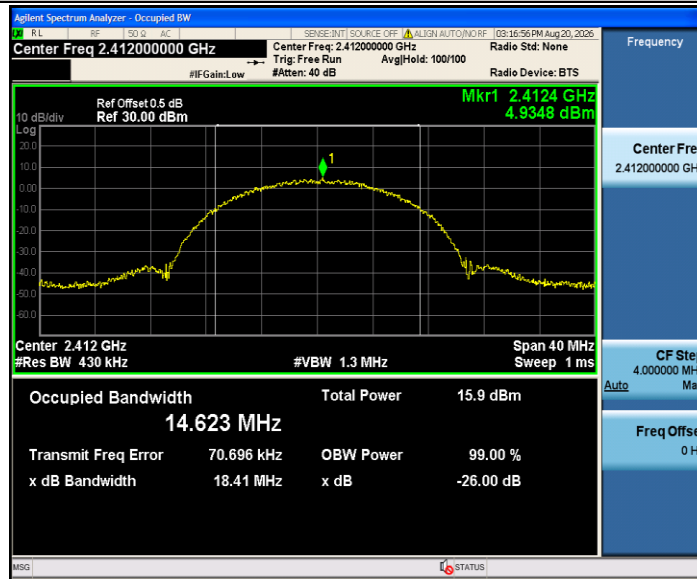
Appendix B: Occupied Channel Bandwidth

Test Result

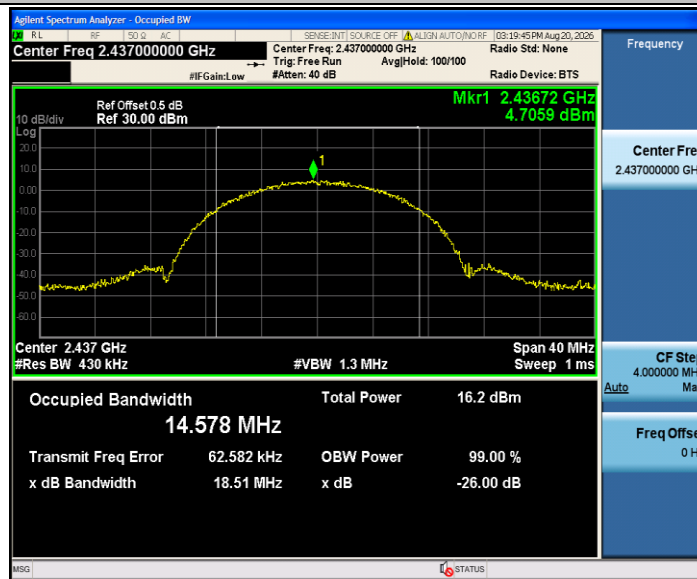
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.623	2404.7592	2419.3822	---	---
		2437	14.578	2429.7736	2444.3516	---	---
		2462	14.641	2454.7195	2469.3605	---	---
11G	Ant1	2412	16.924	2403.6681	2420.5921	---	---
		2437	16.905	2428.6692	2445.5742	---	---
		2462	16.874	2453.6560	2470.5300	---	---
11N20SISO	Ant1	2412	17.886	2403.0781	2420.9641	---	---
		2437	17.866	2428.1026	2445.9686	---	---
		2462	17.831	2453.0999	2470.9309	---	---
11N40SISO	Ant1	2422	35.997	2404.0682	2440.0652	---	---
		2437	35.963	2419.0872	2455.0502	---	---
		2452	35.992	2434.0481	2470.0401	---	---

Test Graphs

11B_Ant1_2412



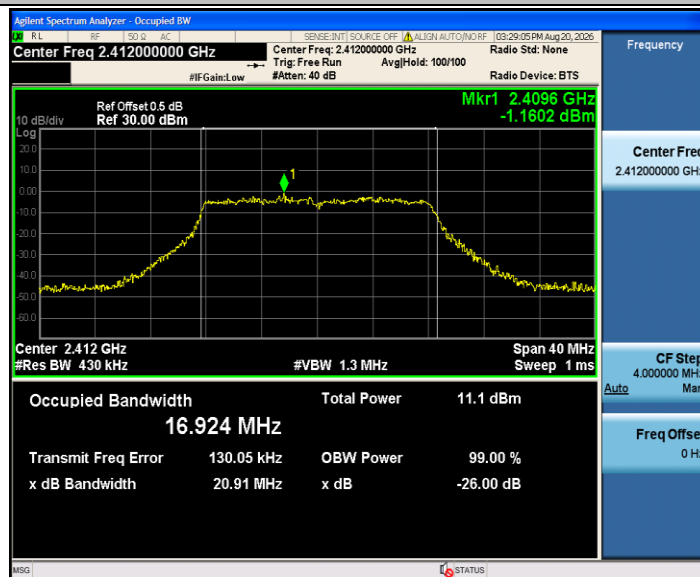
11B_Ant1_2437



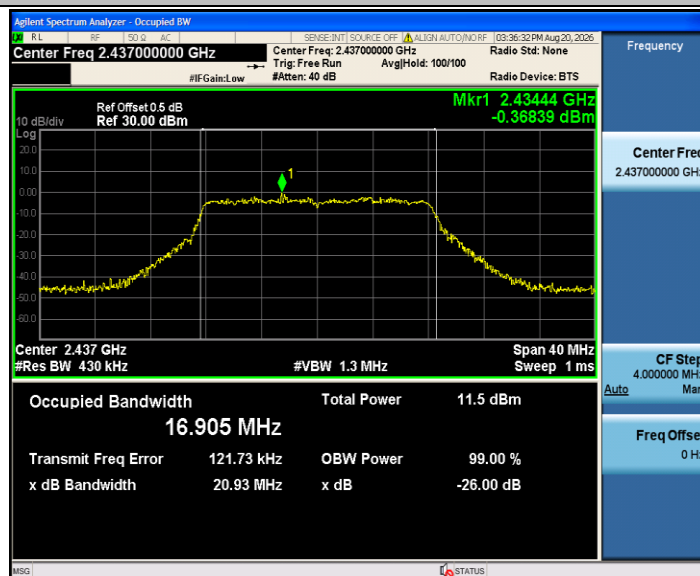
11B_Ant1_2462



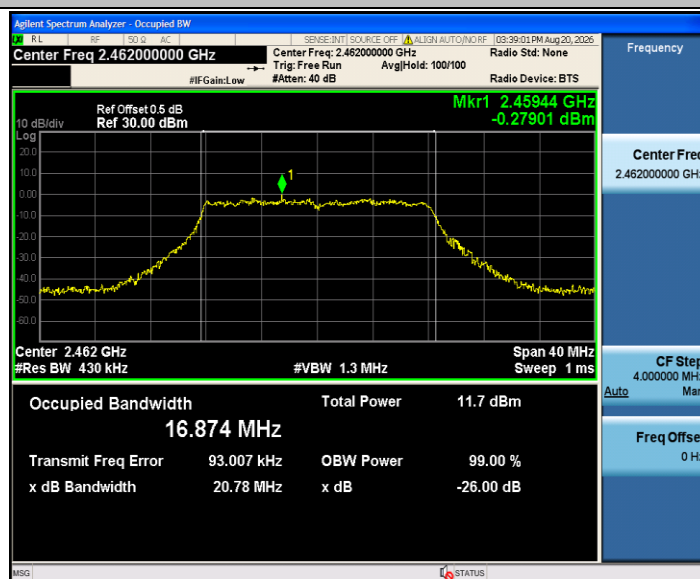
11G_Ant1_2412



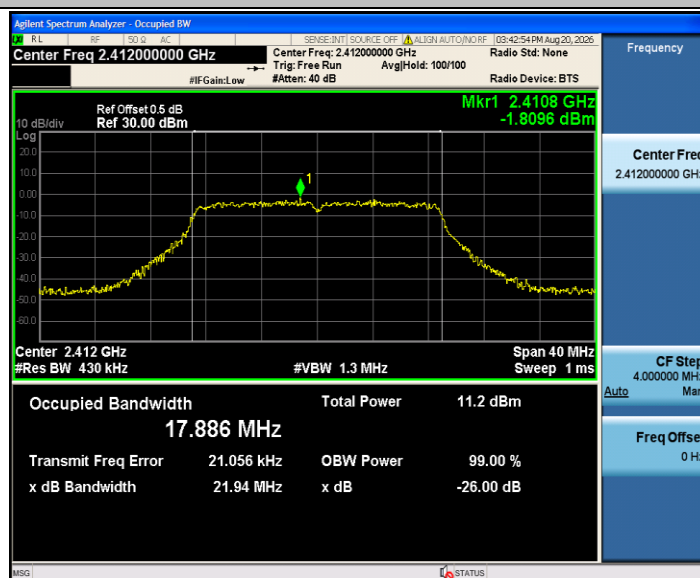
11G_Ant1_2437



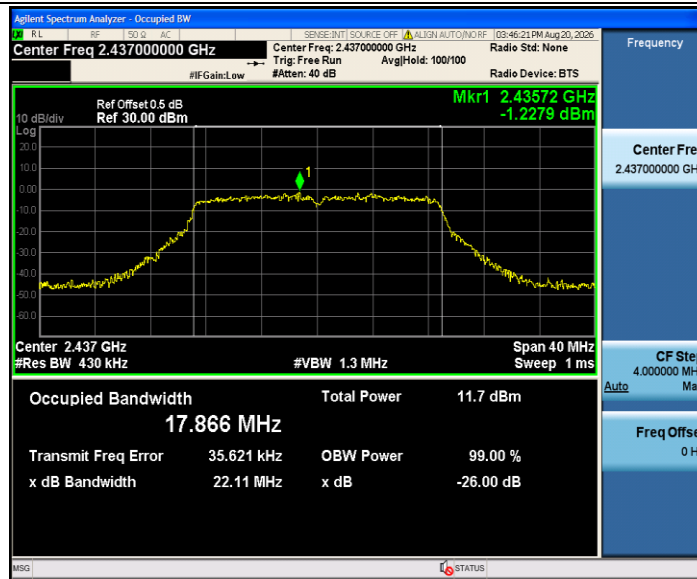
11G_Ant1_2462



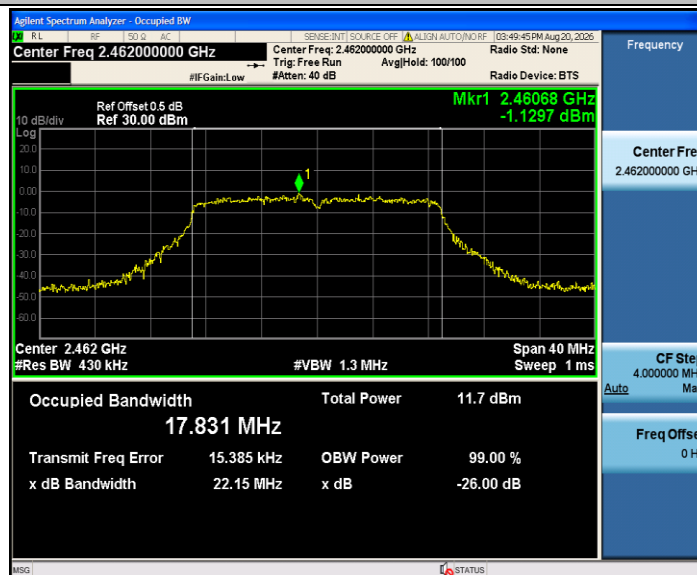
11N20SISO_Ant1_2412



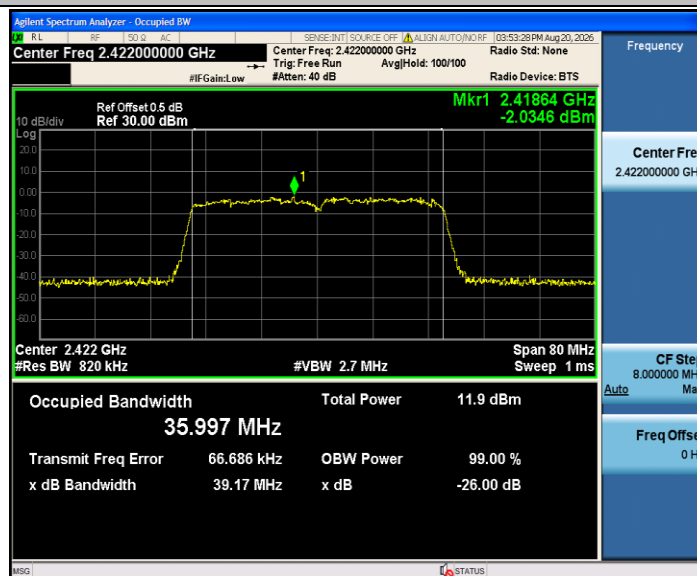
11N20SISO_Ant1_2437



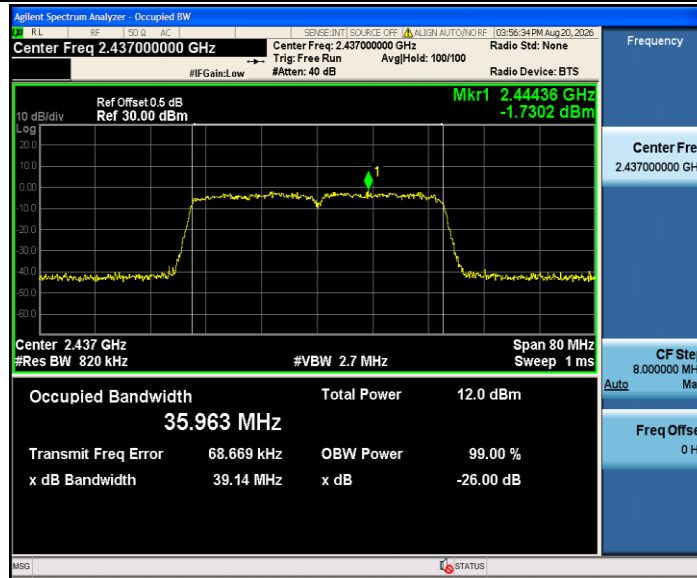
11N20SISO_Ant1_2462



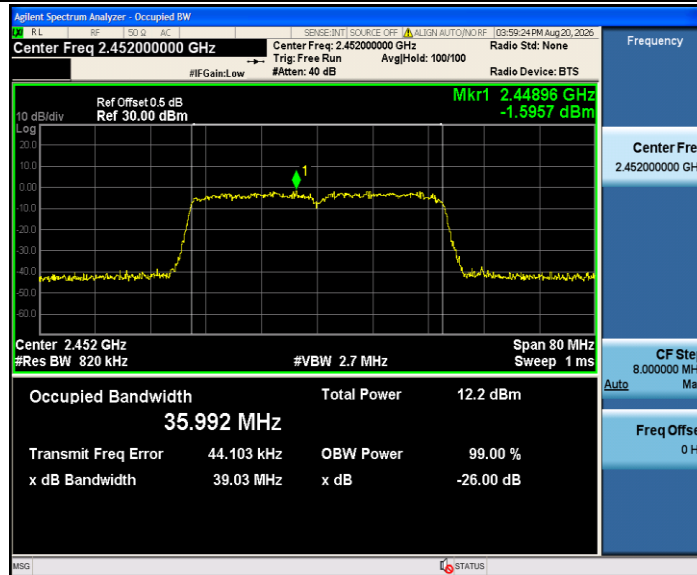
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Peak power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	15.02	≤30.00	PASS
		2437	15.68	≤30.00	PASS
		2462	15.98	≤30.00	PASS
11G	Ant1	2412	14.11	≤30.00	PASS
		2437	14.48	≤30.00	PASS
		2462	14.18	≤30.00	PASS
11N20SISO	Ant1	2412	14.42	≤30.00	PASS
		2437	14.69	≤30.00	PASS
		2462	14.77	≤30.00	PASS
11N40SISO	Ant1	2422	15.55	≤30.00	PASS
		2437	15.29	≤30.00	PASS
		2452	15.75	≤30.00	PASS

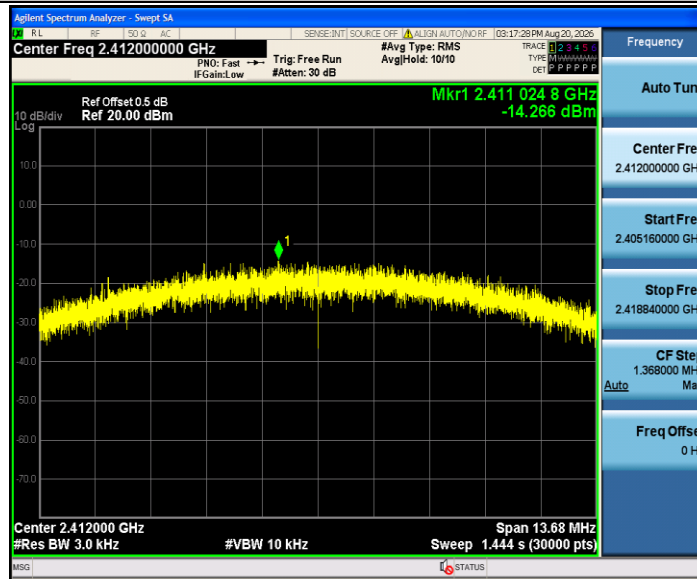
Appendix D: Maximum power spectral density

Test Result

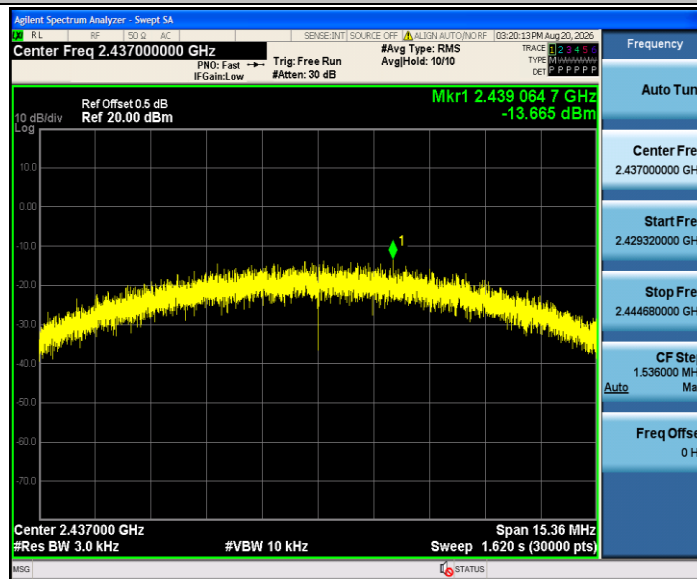
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-14.27	≤8.00	PASS
		2437	-13.67	≤8.00	PASS
		2462	-12.11	≤8.00	PASS
11G	Ant1	2412	-20.21	≤8.00	PASS
		2437	-19.69	≤8.00	PASS
		2462	-19.66	≤8.00	PASS
11N20SISO	Ant1	2412	-21.23	≤8.00	PASS
		2437	-20.44	≤8.00	PASS
		2462	-20.46	≤8.00	PASS
11N40SISO	Ant1	2422	-23.53	≤8.00	PASS
		2437	-23.11	≤8.00	PASS
		2452	-22.81	≤8.00	PASS

Test Graphs

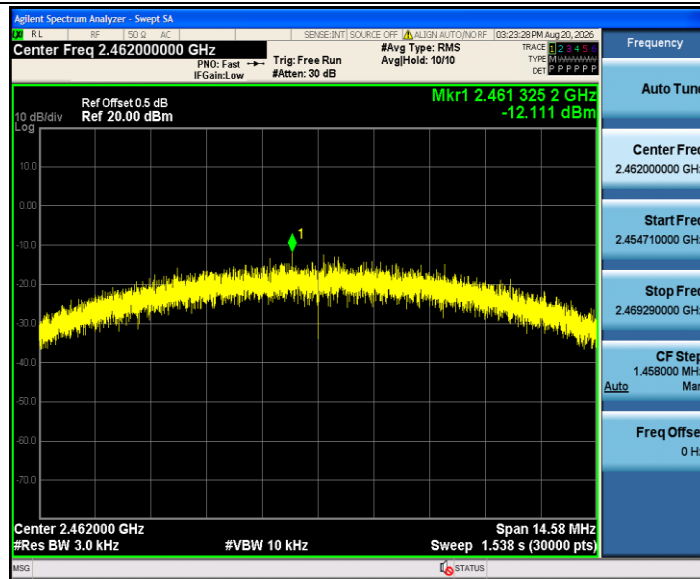
11B_Ant1_2412



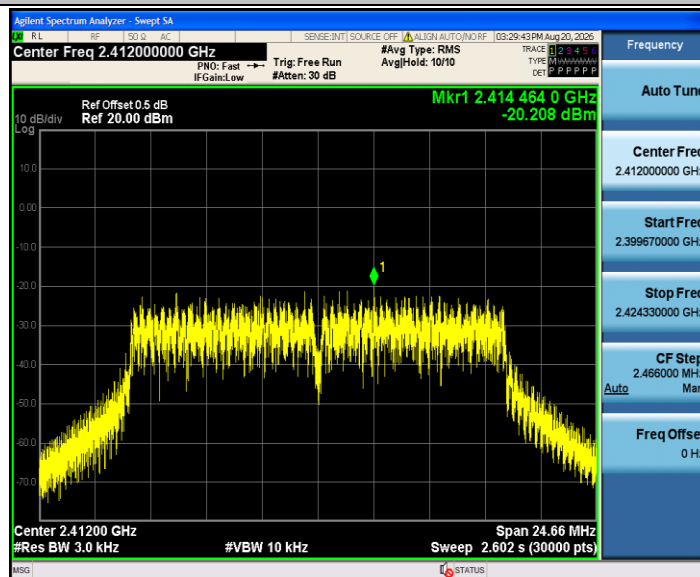
11B_Ant1_2437



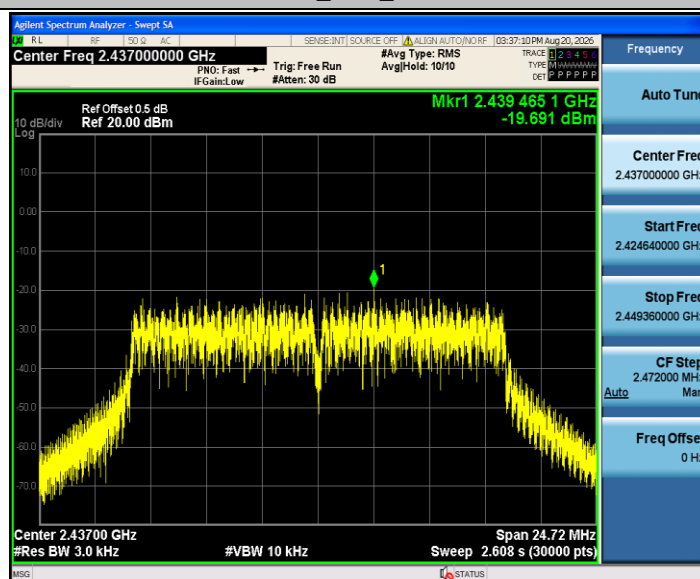
11B_Ant1_2462



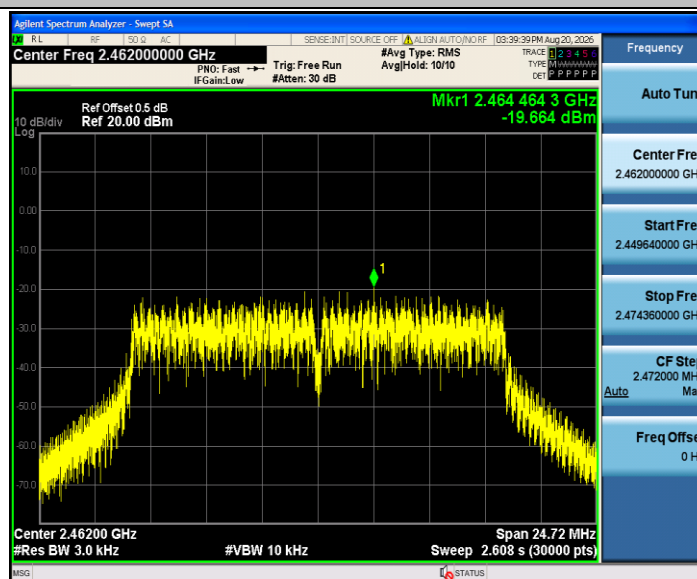
11G_Ant1_2412



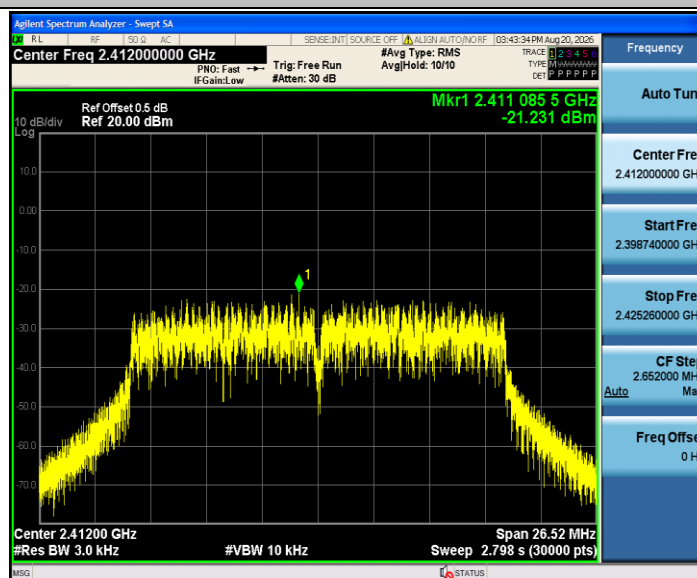
11G_Ant1_2437



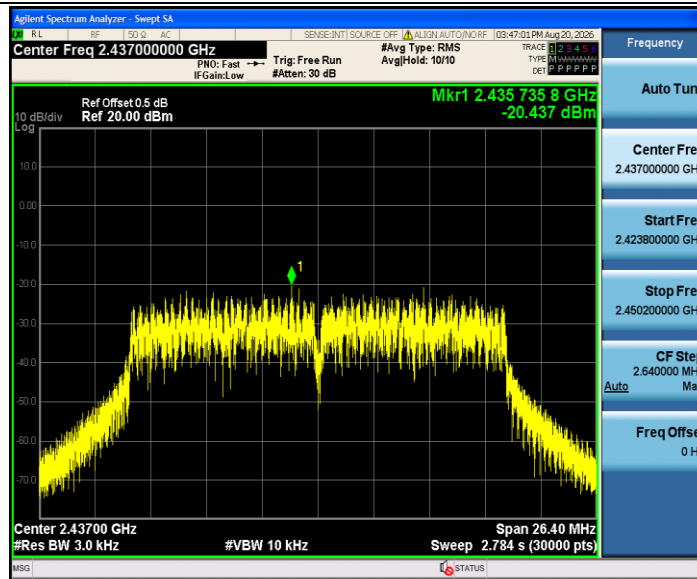
11G_Ant1_2462



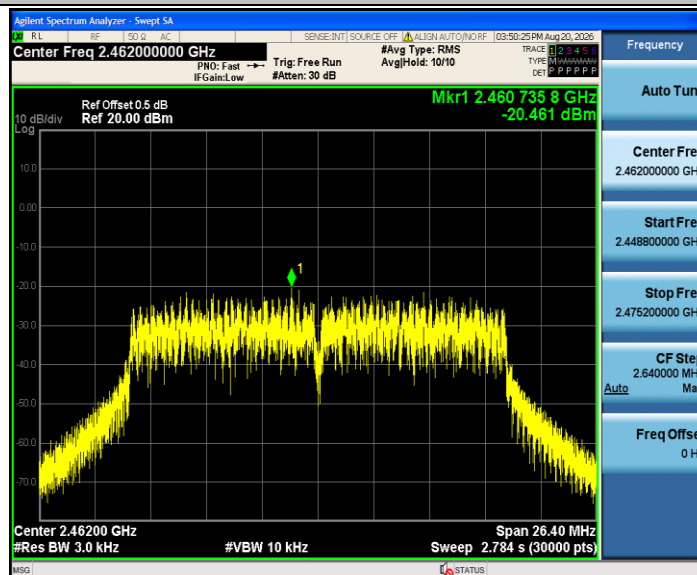
11N20SISO_Ant1_2412



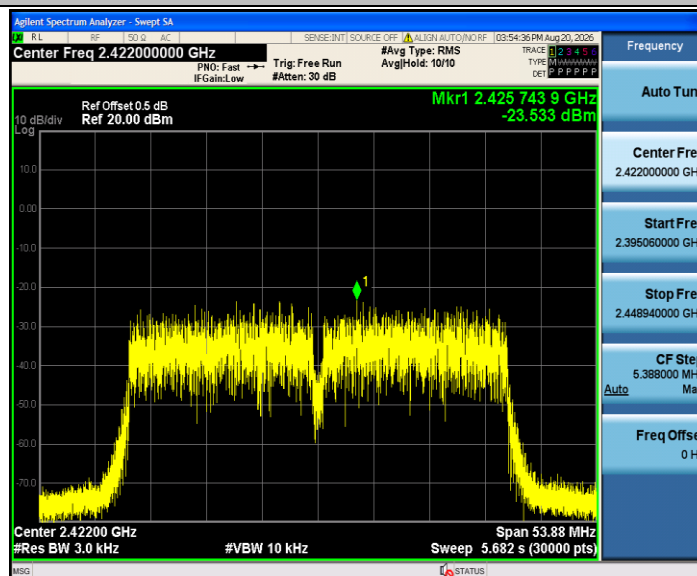
11N20SISO_Ant1_2437



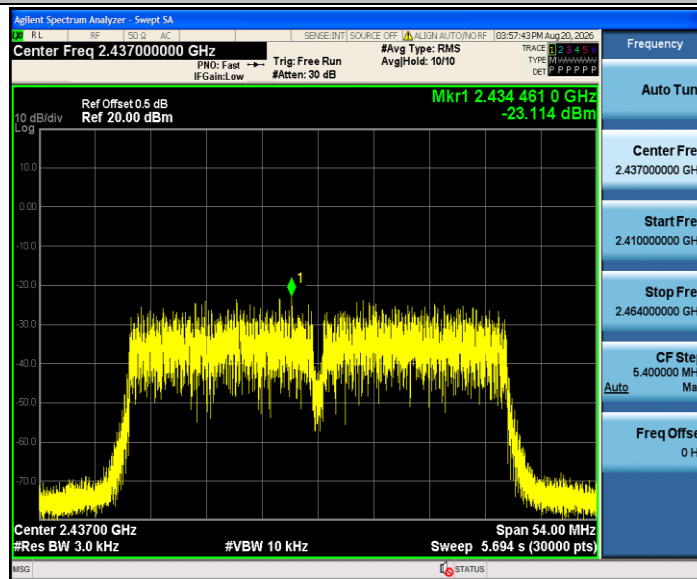
11N20SISO_Ant1_2462



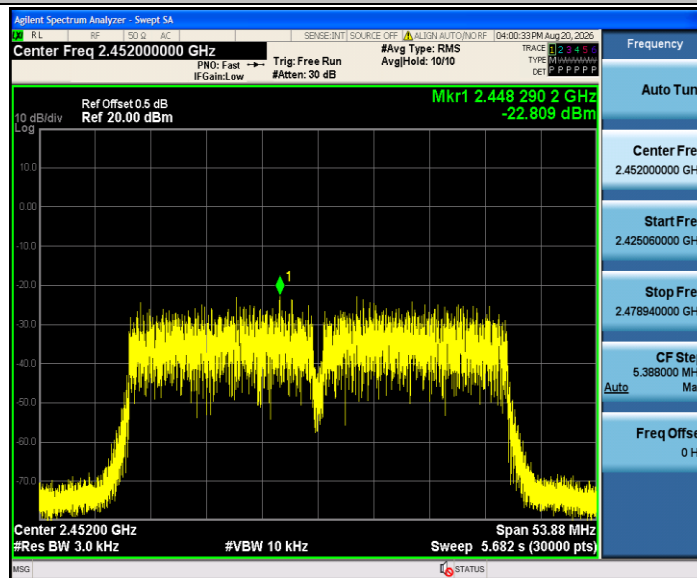
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



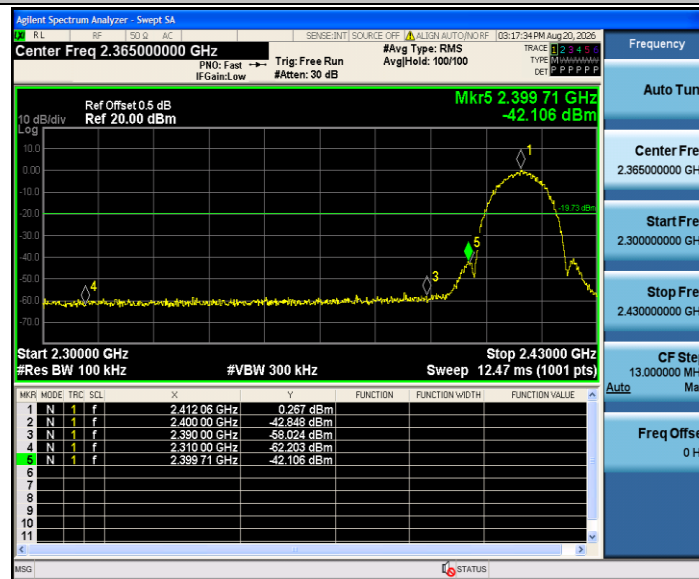
Appendix E: Band edge measurements

Test Result

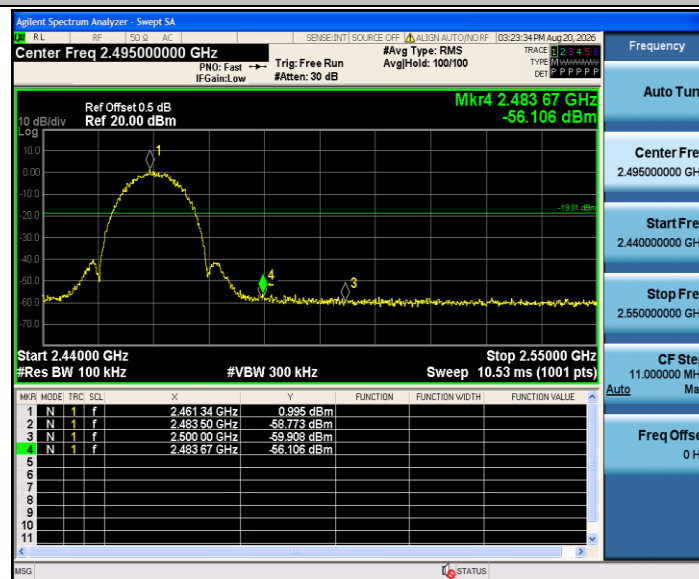
TestMode	Antenna	Channel Name	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	0.27	-42.11	≤-19.73	PASS
		High	2462	1.00	-56.11	≤-19.01	PASS
11G	Ant1	Low	2412	-5.91	-45.46	≤-25.91	PASS
		High	2462	-5.68	-57.06	≤-25.68	PASS
11N20SISO	Ant1	Low	2412	-6.22	-41.78	≤-26.22	PASS
		High	2462	-5.41	-57.3	≤-25.41	PASS
11N40SISO	Ant1	Low	2422	-8.69	-51.89	≤-28.69	PASS
		High	2452	-8.40	-54.78	≤-28.4	PASS

Test Graphs

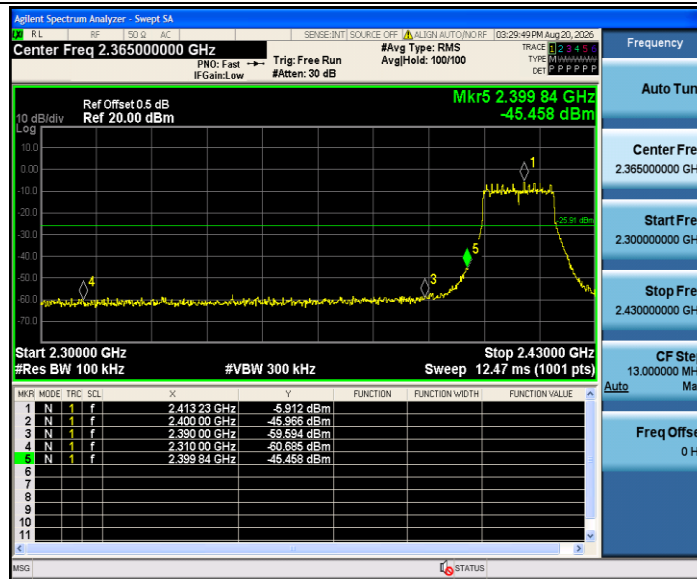
11B_Ant1_Low_2412



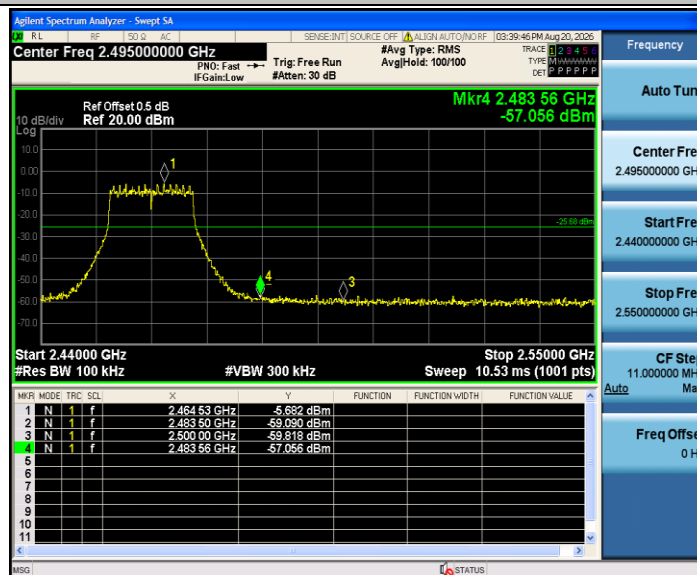
11B_Ant1_High_2462



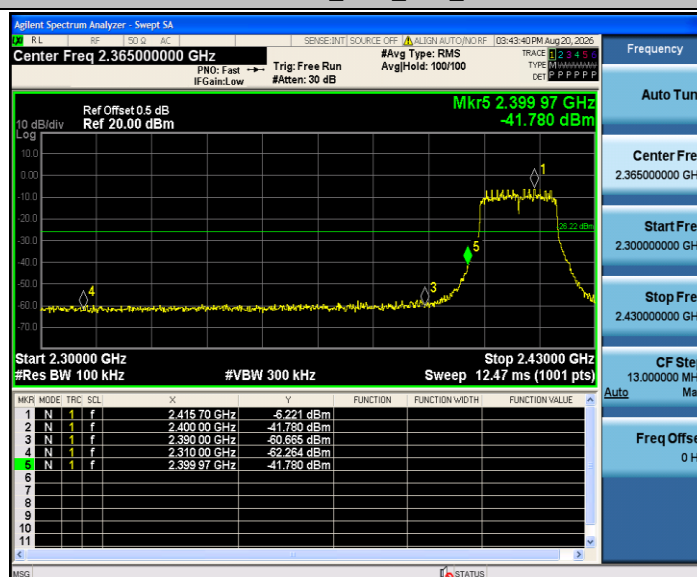
11G_Ant1_Low_2412



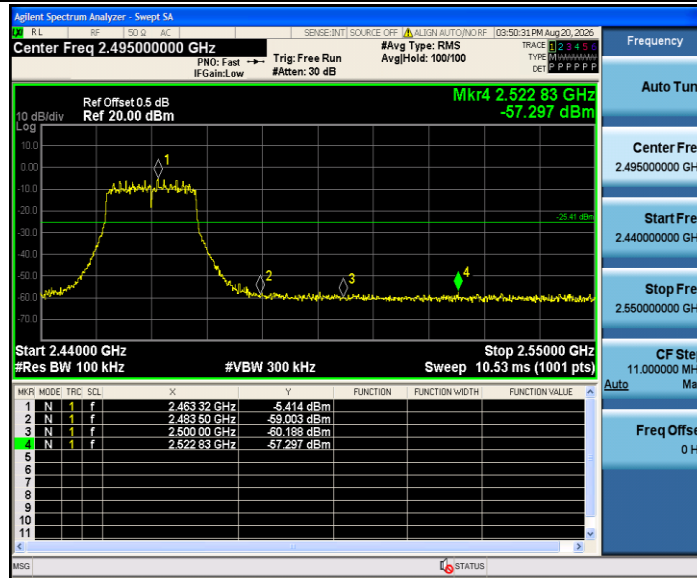
11G_Ant1_High_2462



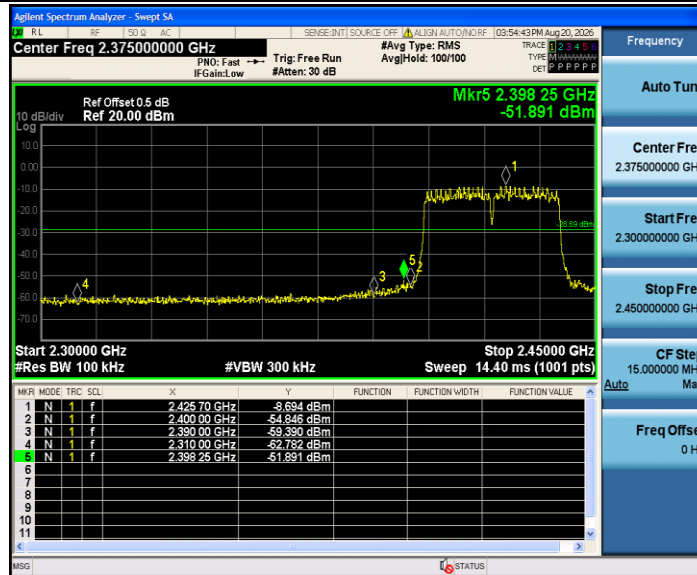
11N20SISO_Ant1_Low_2412



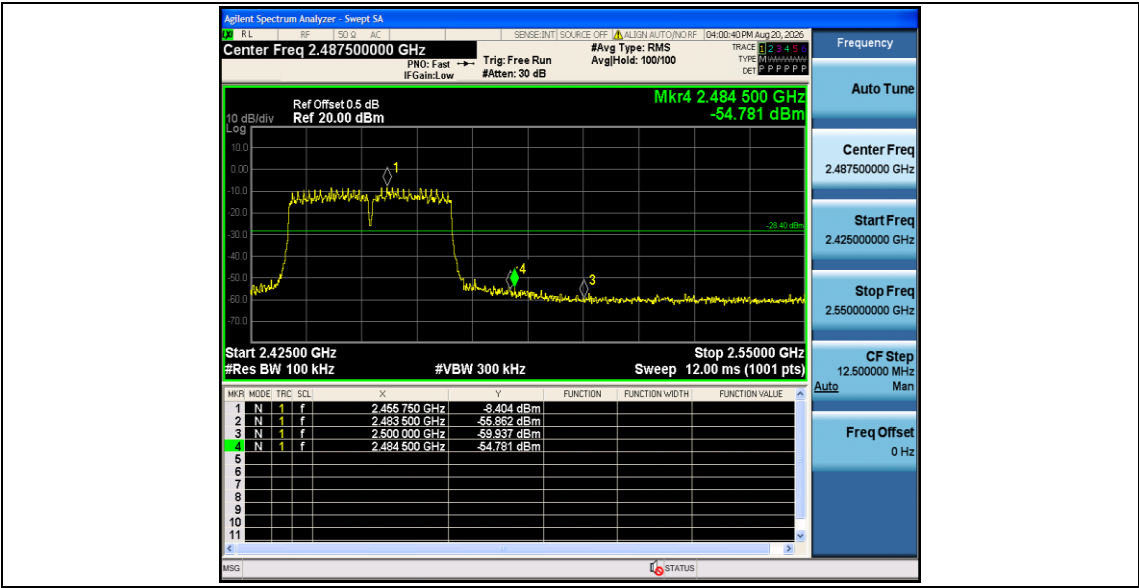
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



Appendix F: Conducted Spurious Emission

Test Result

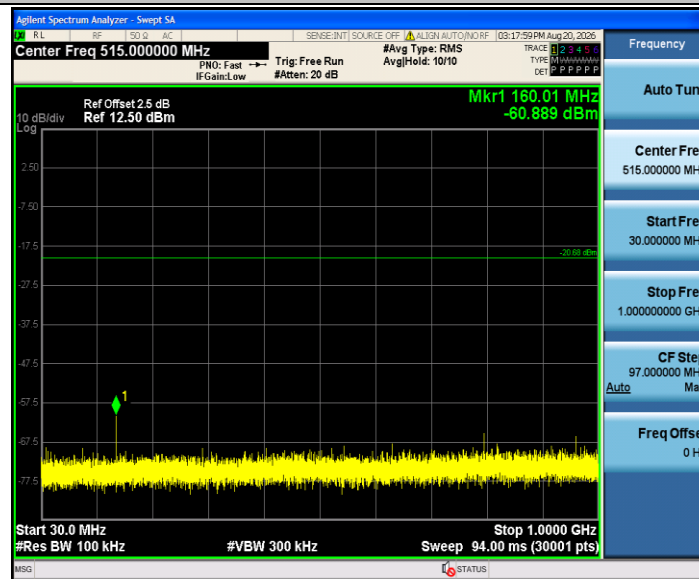
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	-0.68	-0.68	---	PASS
			30~1000	-0.68	-60.89	≤-20.68	PASS
			1000~26500	-0.68	-45.96	≤-20.68	PASS
		2437	Reference	-0.37	-0.37	---	PASS
			30~1000	-0.37	-59.65	≤-20.37	PASS
			1000~26500	-0.37	-47.1	≤-20.37	PASS
		2462	Reference	-0.61	-0.61	---	PASS
			30~1000	-0.61	-66.09	≤-20.61	PASS
			1000~26500	-0.61	-46.75	≤-20.61	PASS
11G	Ant1	2412	Reference	-6.70	-6.70	---	PASS
			30~1000	-6.70	-58.3	≤-26.7	PASS
			1000~26500	-6.70	-46.32	≤-26.7	PASS
		2437	Reference	-6.89	-6.89	---	PASS
			30~1000	-6.89	-58.55	≤-26.89	PASS
			1000~26500	-6.89	-46.31	≤-26.89	PASS
		2462	Reference	-6.25	-6.25	---	PASS
			30~1000	-6.25	-58.56	≤-26.25	PASS
			1000~26500	-6.25	-45.94	≤-26.25	PASS
11N20SISO	Ant1	2412	Reference	-6.23	-6.23	---	PASS
			30~1000	-6.23	-58.75	≤-26.23	PASS
			1000~26500	-6.23	-46.45	≤-26.23	PASS
		2437	Reference	-5.53	-5.53	---	PASS
			30~1000	-5.53	-59.26	≤-25.53	PASS
			1000~26500	-5.53	-46.47	≤-25.53	PASS
		2462	Reference	-6.21	-6.21	---	PASS
			30~1000	-6.21	-58.89	≤-26.21	PASS
			1000~26500	-6.21	-45.6	≤-26.21	PASS
11N40SISO	Ant1	2422	Reference	-8.72	-8.72	---	PASS
			30~1000	-8.72	-59.1	≤-28.72	PASS
			1000~26500	-8.72	-46.69	≤-28.72	PASS
		2437	Reference	-8.92	-8.92	---	PASS
			30~1000	-8.92	-58.51	≤-28.92	PASS
			1000~26500	-8.92	-45.95	≤-28.92	PASS
		2452	Reference	-8.98	-8.98	---	PASS
			30~1000	-8.98	-58.73	≤-28.98	PASS
			1000~26500	-8.98	-46.41	≤-28.98	PASS

Test Graphs

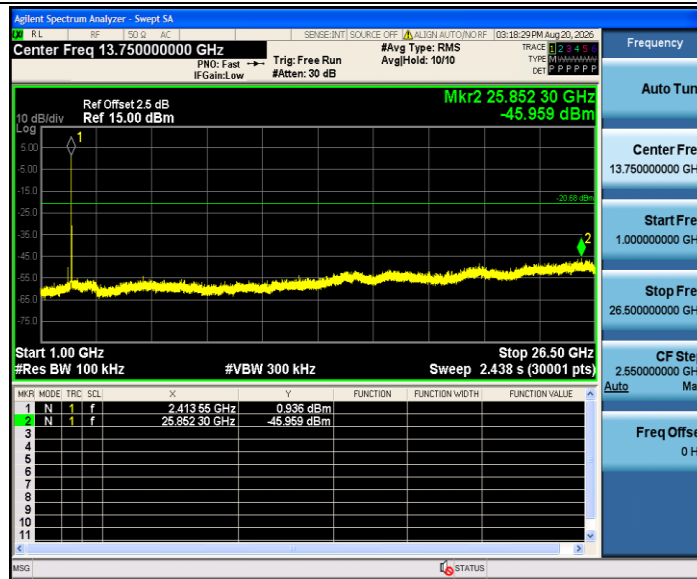
11B_Ant1_2412_0~Reference



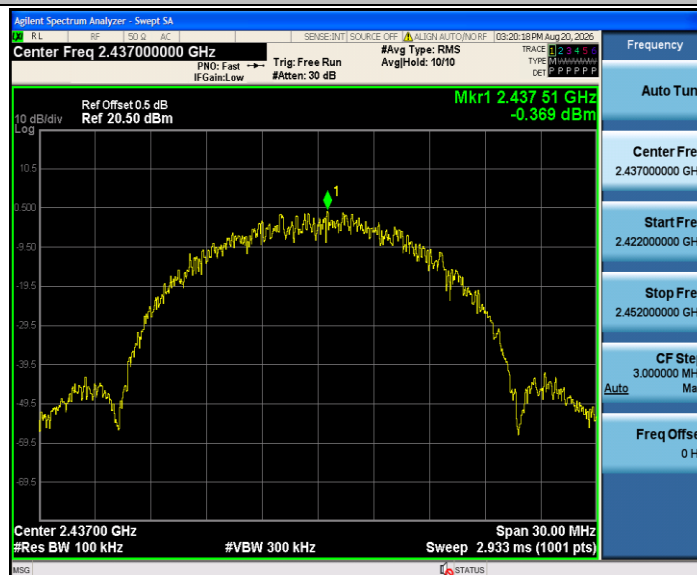
11B_Ant1_2412_30~1000



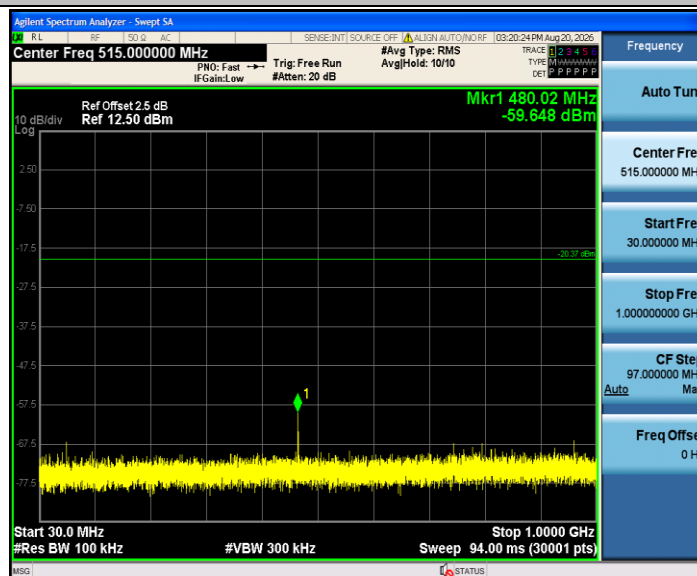
11B_Ant1_2412_1000~26500



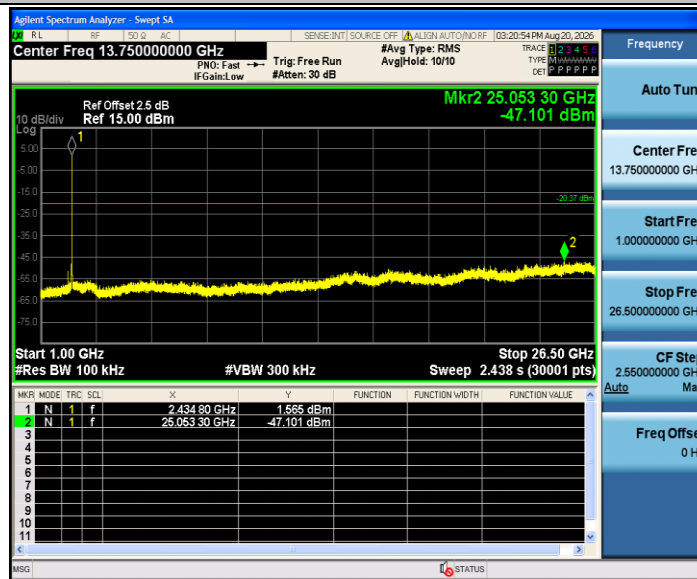
11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



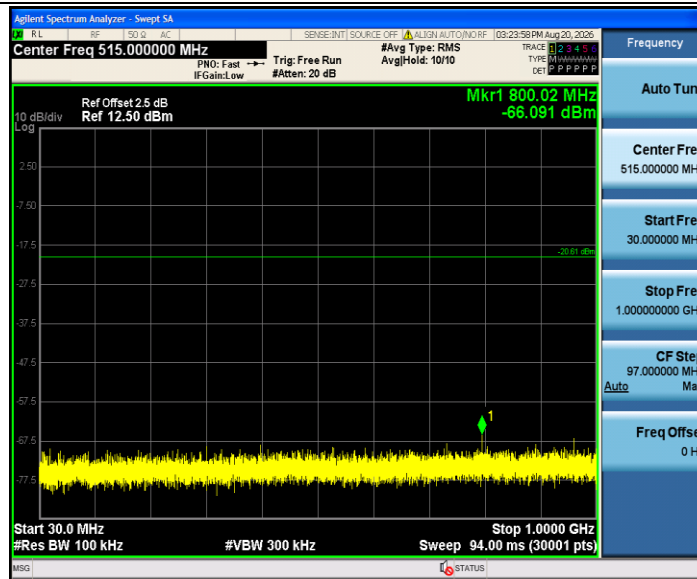
11B_Ant1_2437_1000~26500



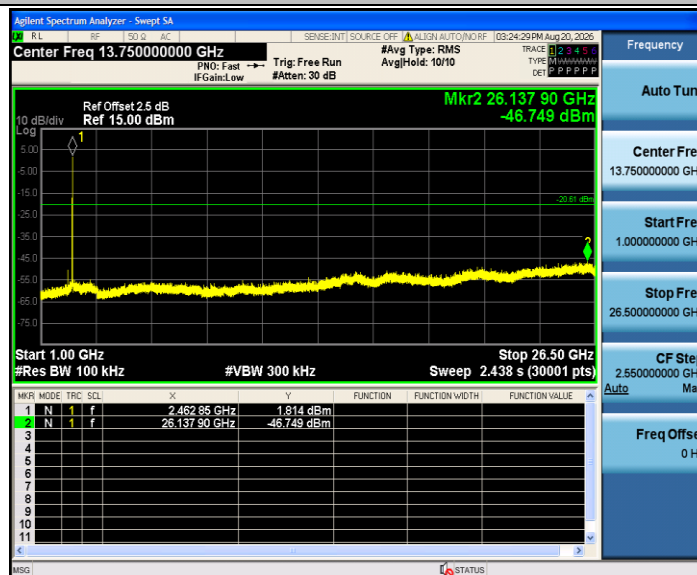
11B_Ant1_2462_0~Reference



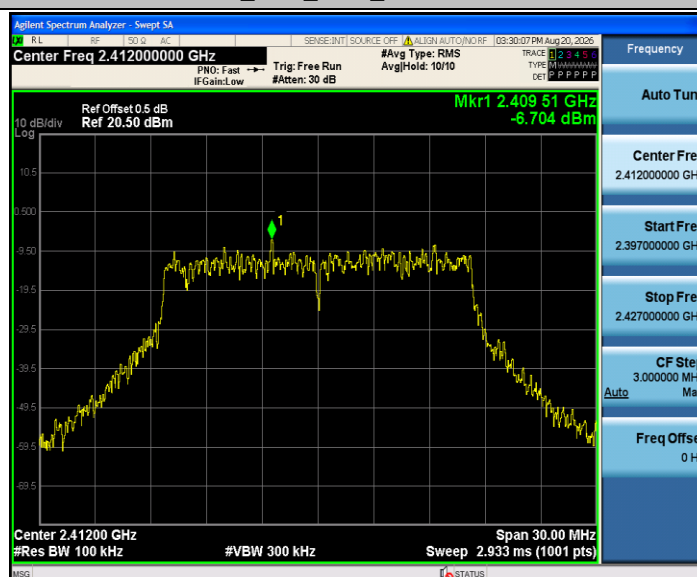
11B_Ant1_2462_30~1000



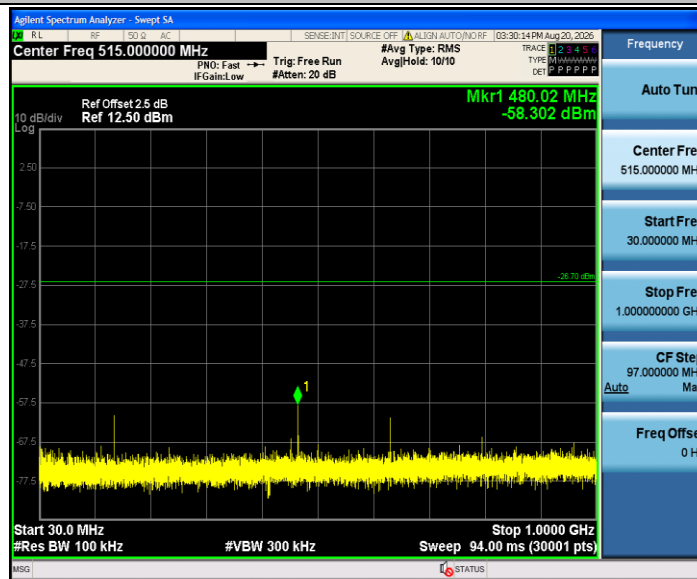
11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference



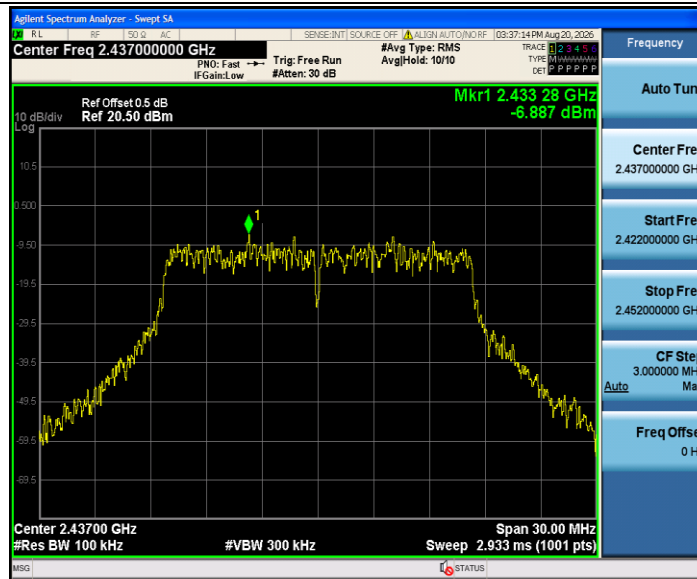
11G_Ant1_2412_30~1000



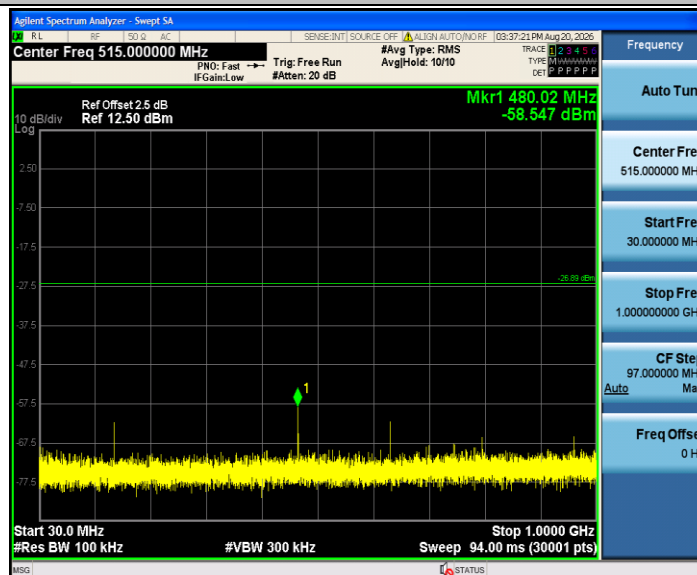
11G_Ant1_2412_1000~26500



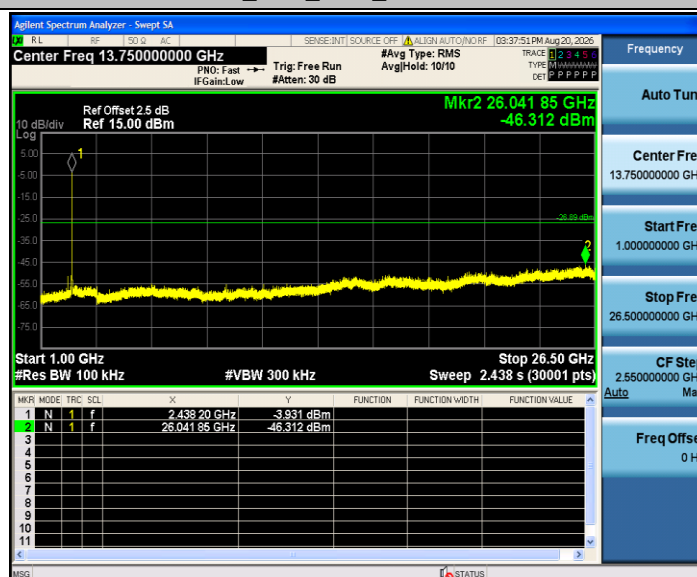
11G_Ant1_2437_0~Reference



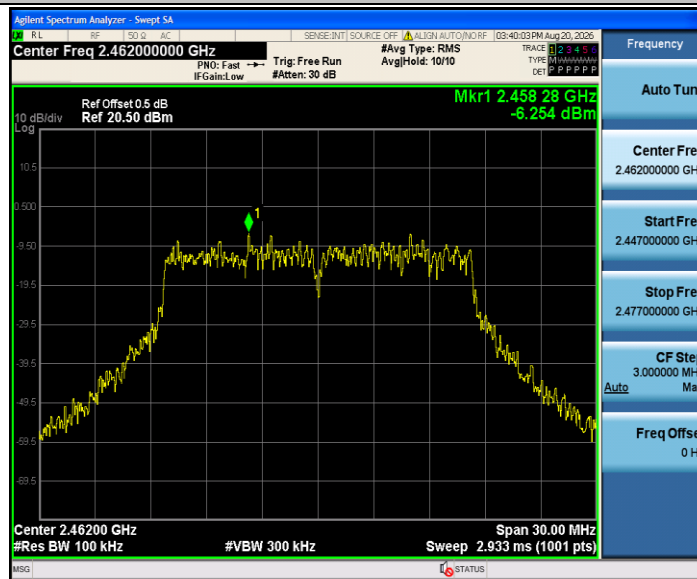
11G_Ant1_2437_30~1000



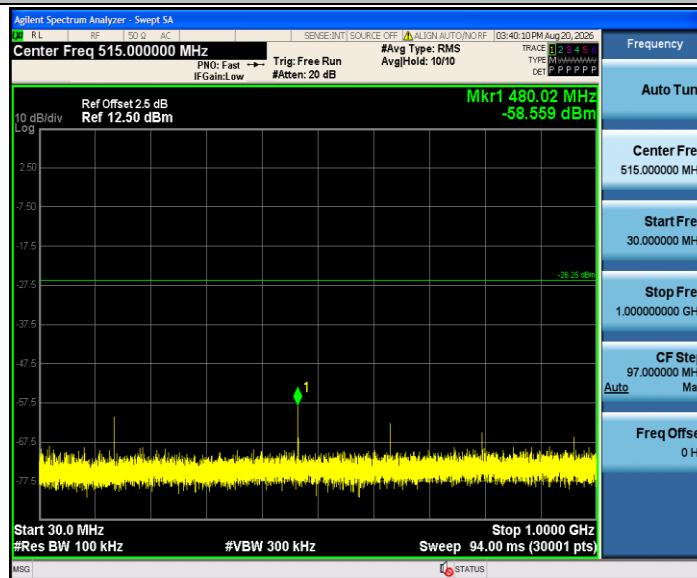
11G_Ant1_2437_1000~26500



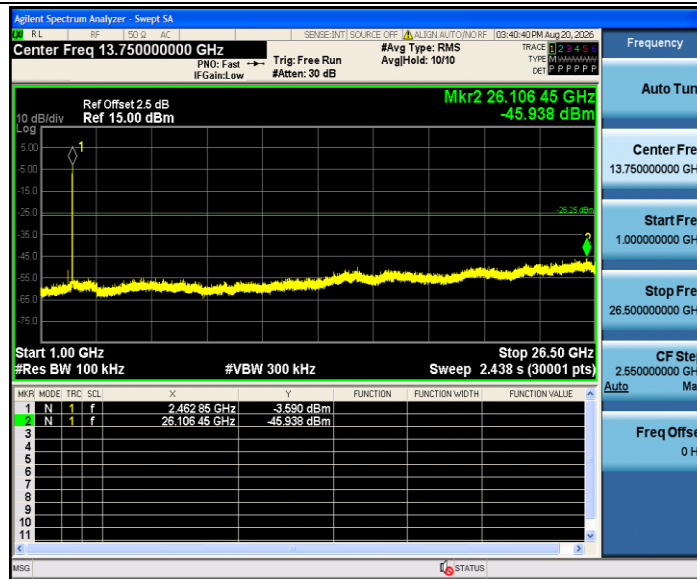
11G_Ant1_2462_0~Reference



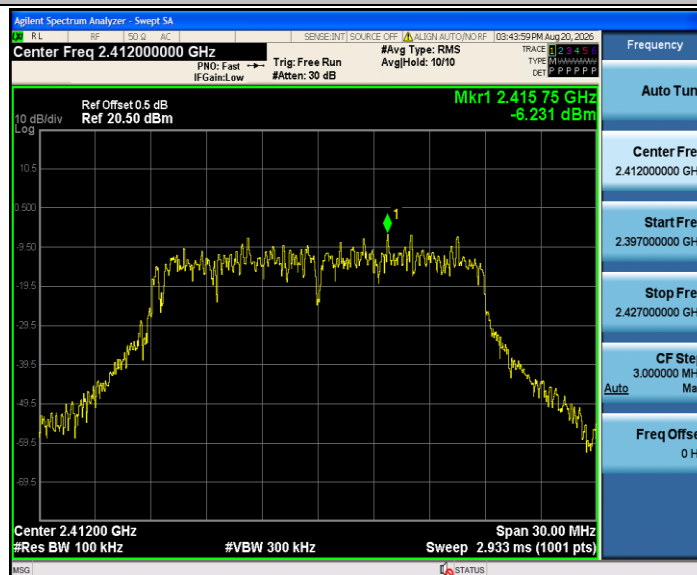
11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000

