

Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Quartz tube heater

Test Model: GD9315BCW-3JW

Environmental Conditions

Temperature:	23.6°C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

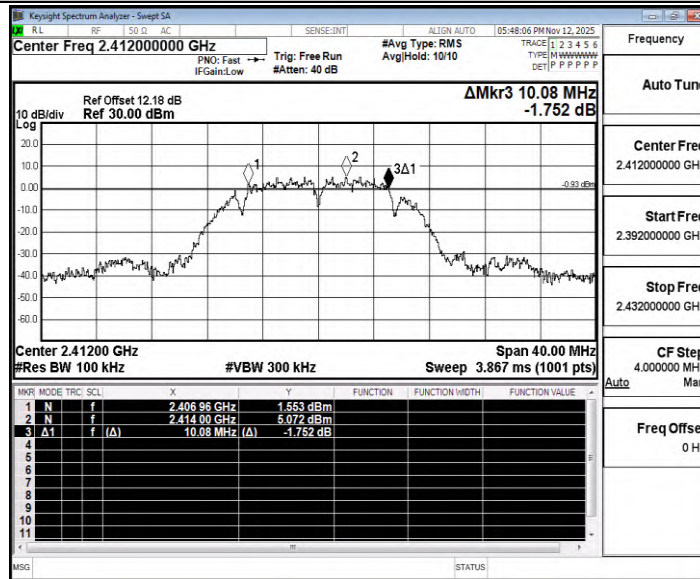
B.1 -6dB Bandwidth

Test Result

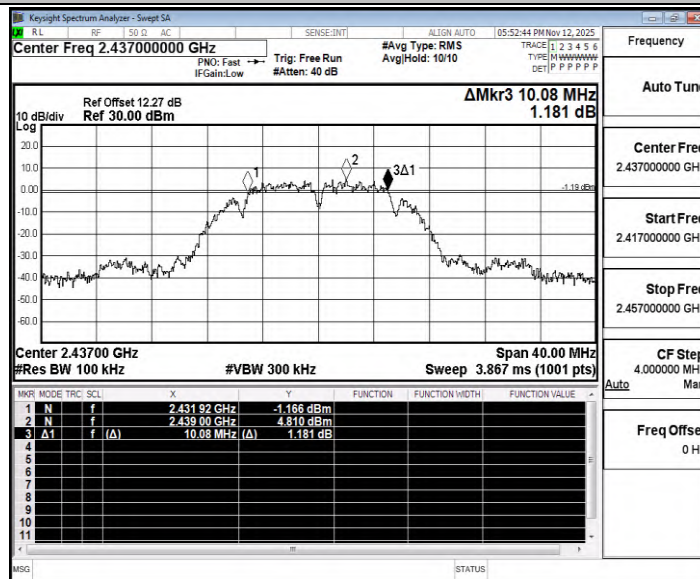
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.080	2406.960	2417.040	0.5	PASS
		2437	10.080	2431.920	2442.000	0.5	PASS
		2462	10.000	2457.080	2467.080	0.5	PASS
11G	Ant1	2412	16.280	2403.880	2420.160	0.5	PASS
		2437	16.280	2428.880	2445.160	0.5	PASS
		2462	16.360	2453.840	2470.200	0.5	PASS
11N20SISO	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.360	2428.840	2445.200	0.5	PASS
		2462	16.280	2453.840	2470.120	0.5	PASS

Test Graphs

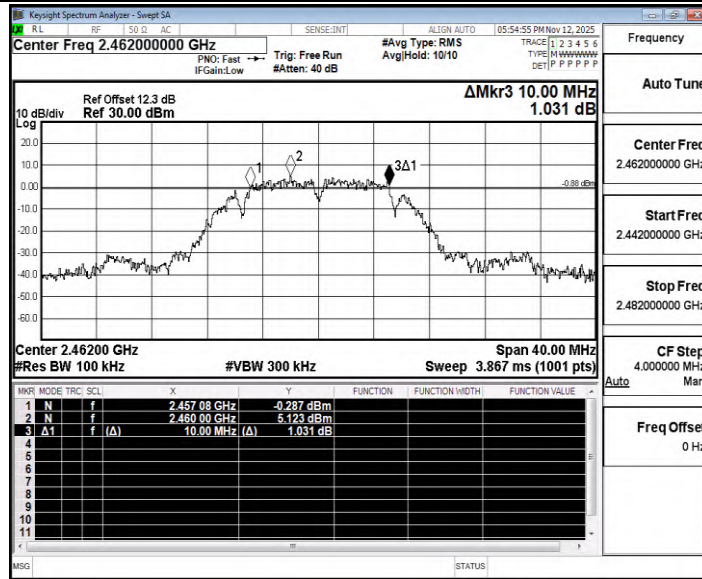
11B_Ant1_2412



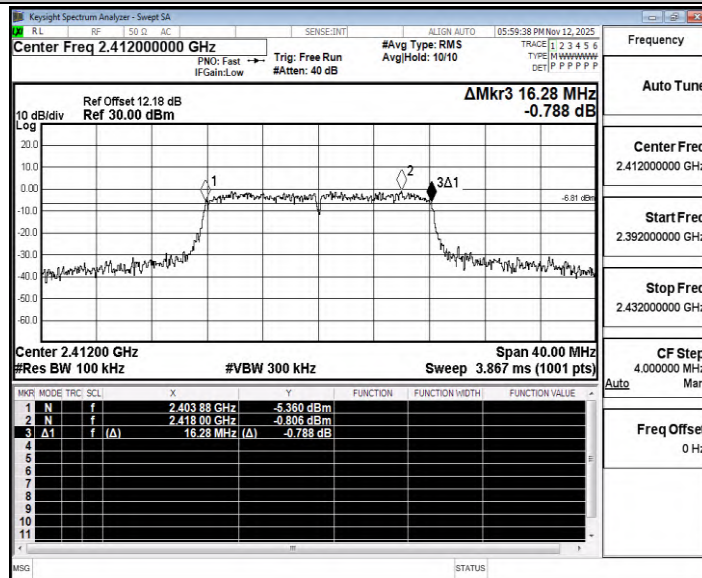
11B_Ant1_2437



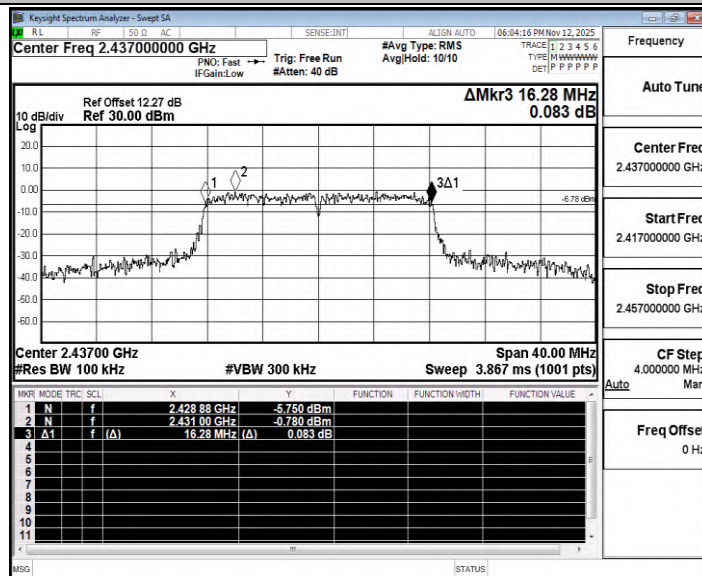
11B_Ant1_2462



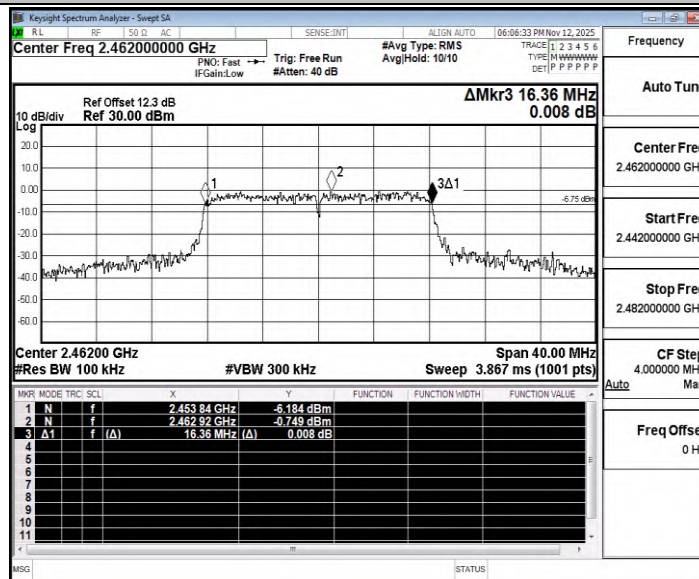
11G_Ant1_2412



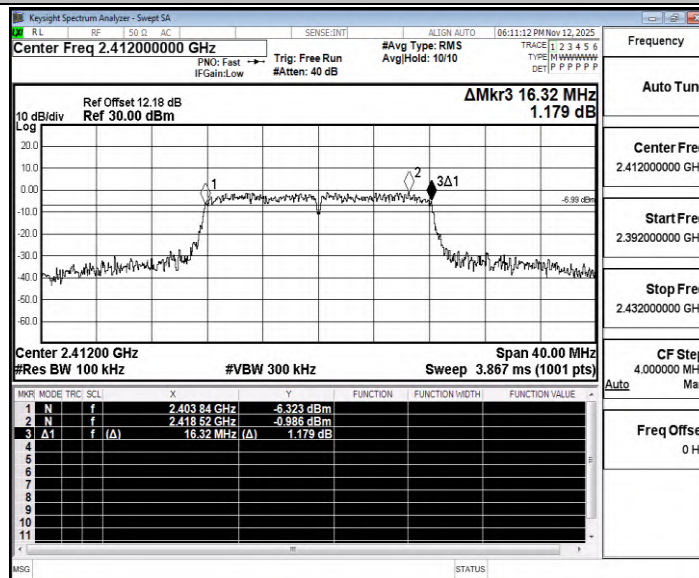
11G_Ant1_2437



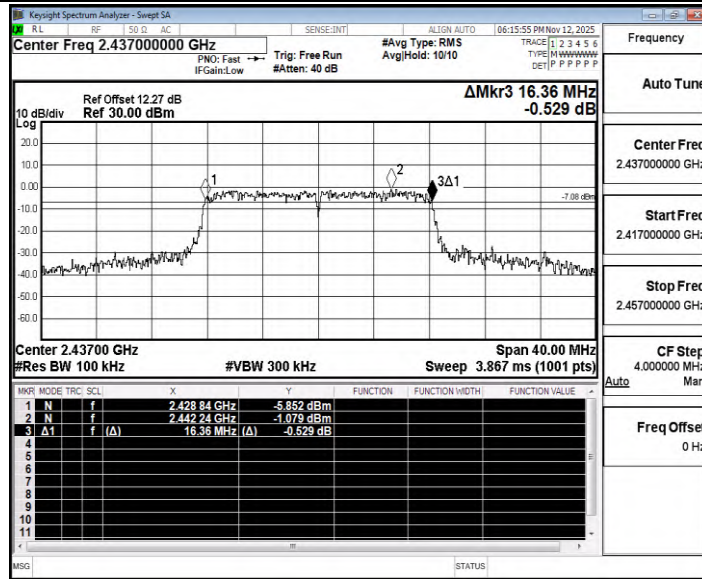
11G_Ant1_2462



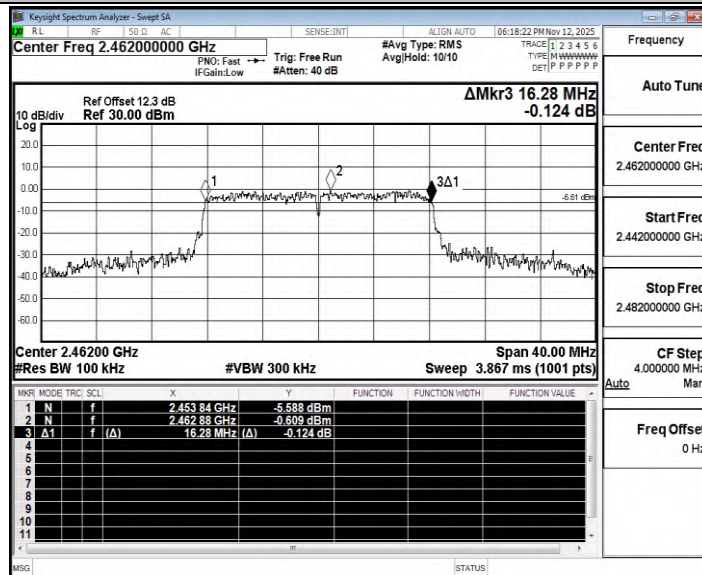
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



B.2 Maximum Peak Conducted Output Power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Set Power	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	NA	16.20	≤30.00	PASS
		2437	NA	15.97	≤30.00	PASS
		2462	NA	15.91	≤30.00	PASS
11G	Ant1	2412	NA	13.39	≤30.00	PASS
		2437	NA	13.42	≤30.00	PASS
		2462	NA	13.43	≤30.00	PASS
11N20SISO	Ant1	2412	NA	13.36	≤30.00	PASS
		2437	NA	13.37	≤30.00	PASS
		2462	NA	13.40	≤30.00	PASS

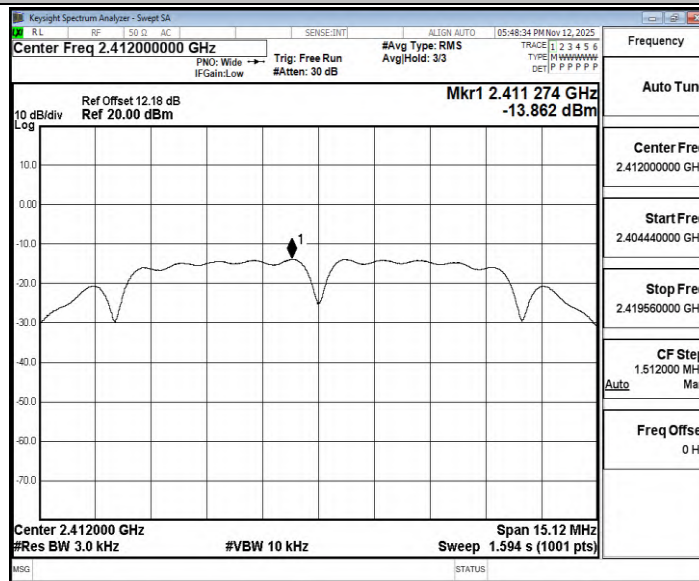
B.3 Maximum Power Spectral Density Level

Test Result

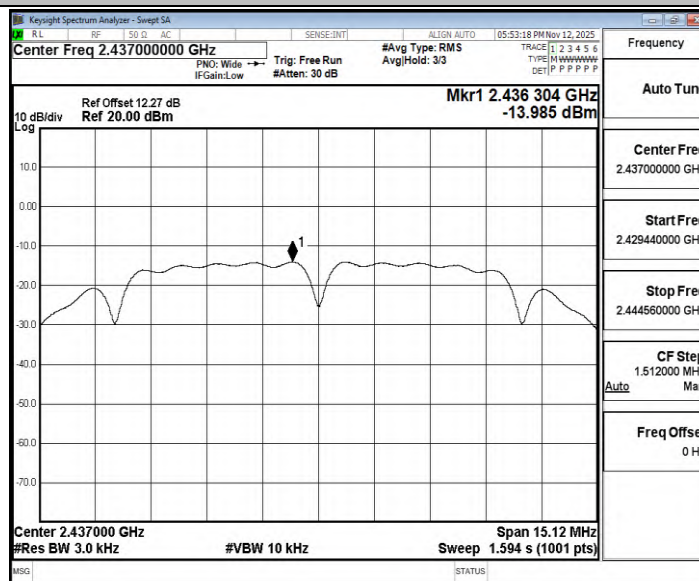
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.86	≤8.00	PASS
		2437	-13.99	≤8.00	PASS
		2462	-13.67	≤8.00	PASS
11G	Ant1	2412	-14.82	≤8.00	PASS
		2437	-14.71	≤8.00	PASS
		2462	-14.25	≤8.00	PASS
11N20SISO	Ant1	2412	-15.14	≤8.00	PASS
		2437	-14.99	≤8.00	PASS
		2462	-14.62	≤8.00	PASS

Test Graphs

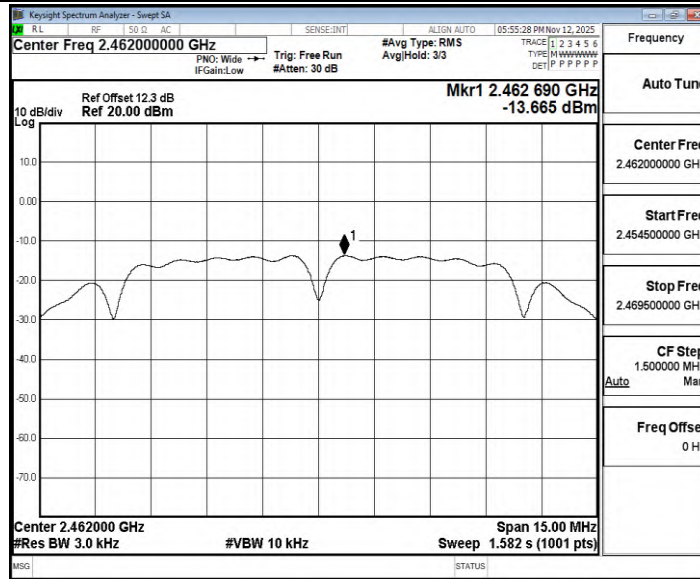
11B_Ant1_2412



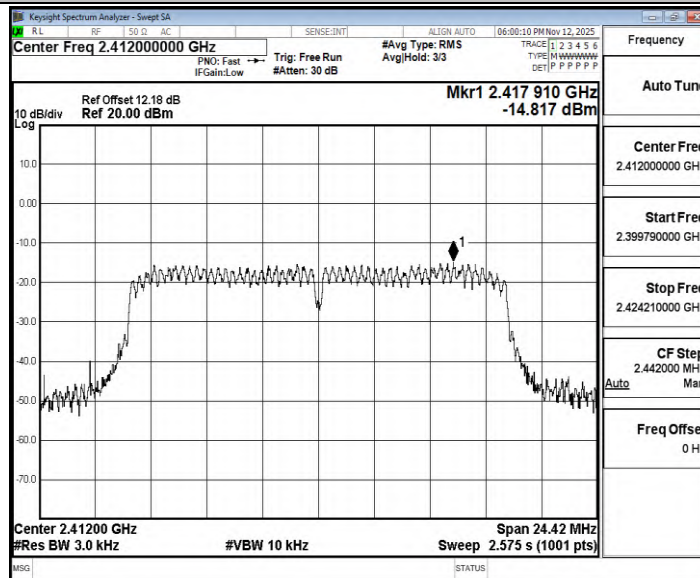
11B_Ant1_2437



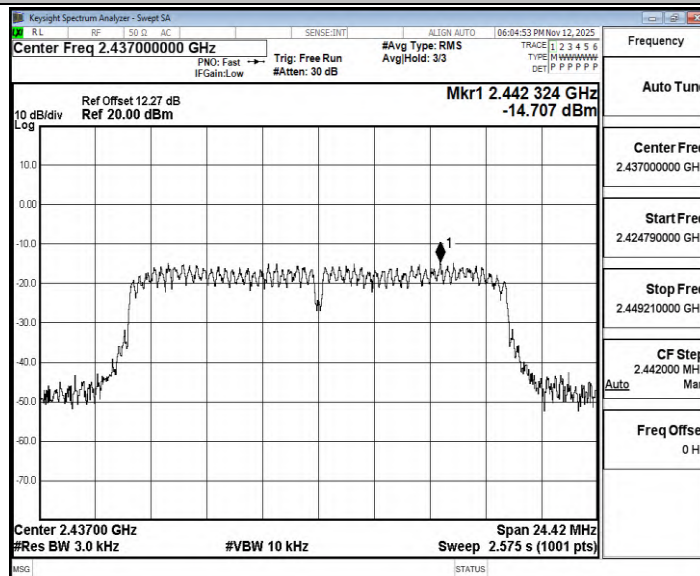
11B_Ant1_2462



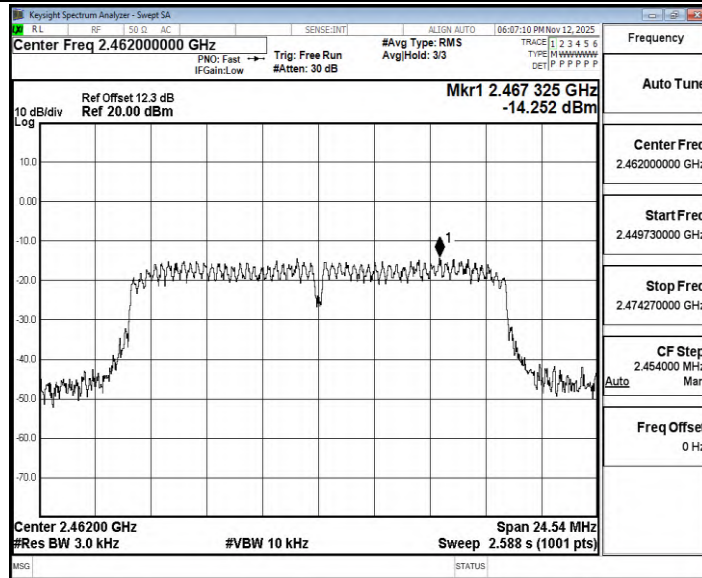
11G_Ant1_2412



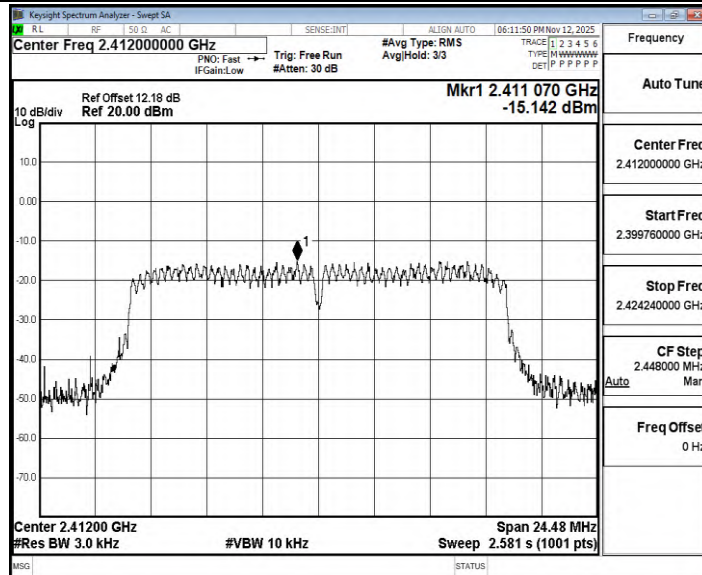
11G_Ant1_2437



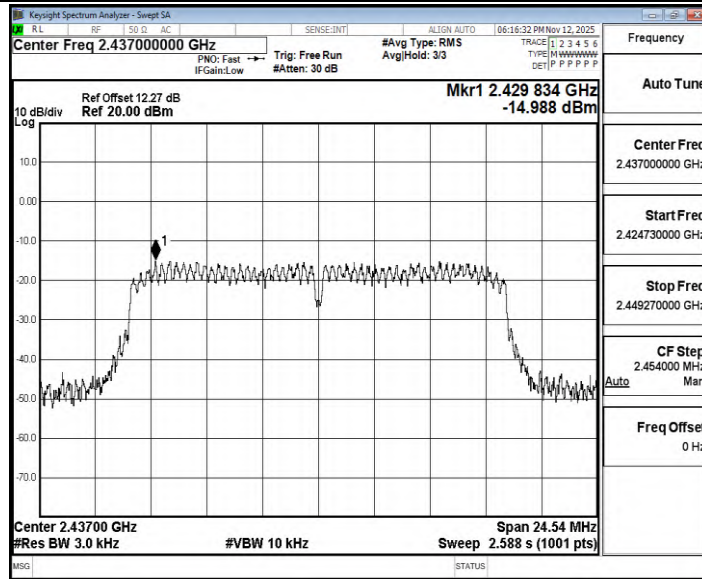
11G_Ant1_2462



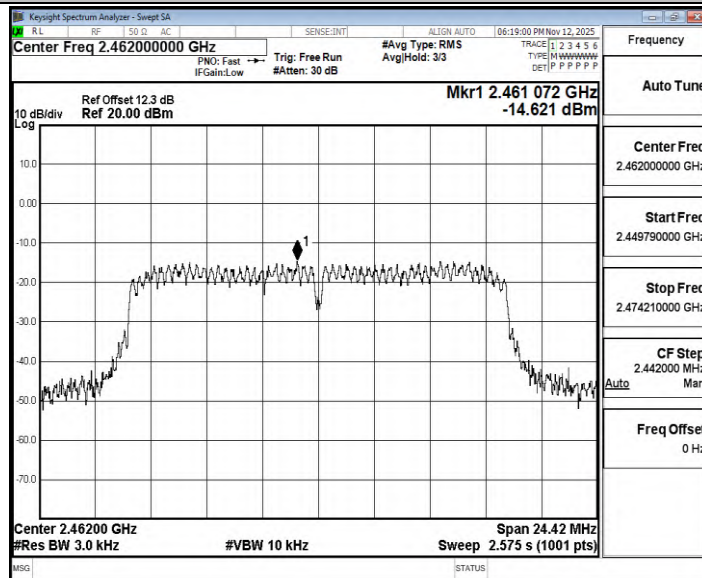
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



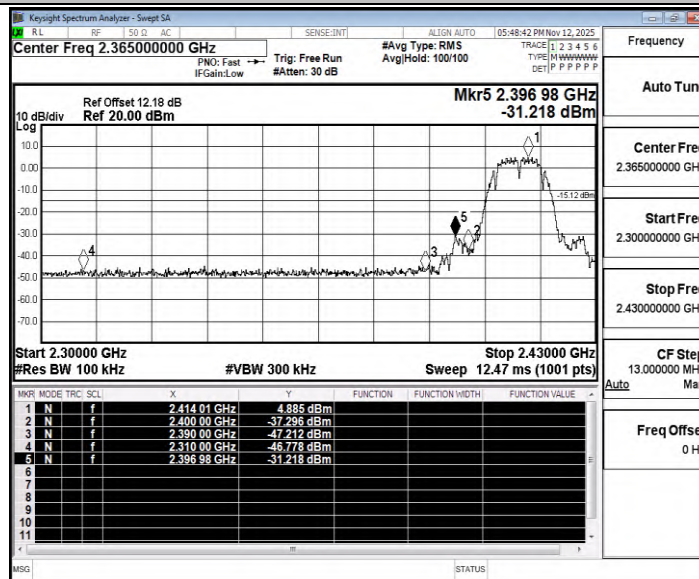
B.4 Band Edge

Test Result

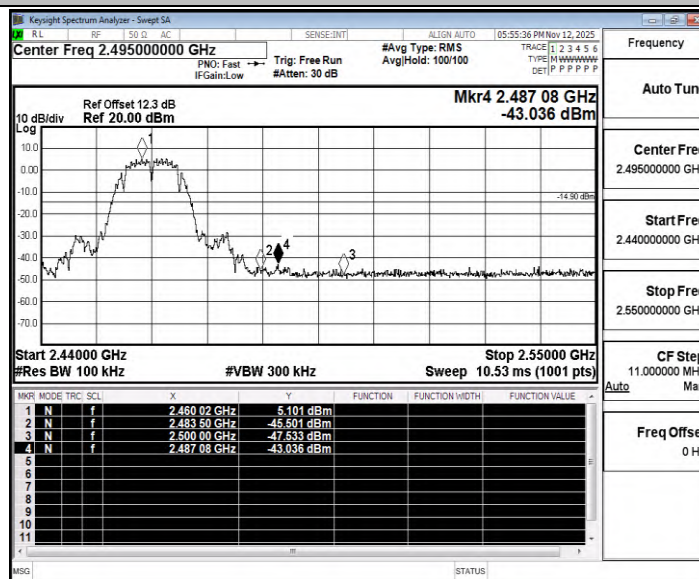
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.89	-31.22	≤-15.12	PASS
		High	2462	5.10	-43.04	≤-14.9	PASS
11G	Ant1	Low	2412	-0.78	-30.01	≤-20.78	PASS
		High	2462	-0.45	-40.81	≤-20.45	PASS
11N20SISO	Ant1	Low	2412	-0.88	-30.48	≤-20.88	PASS
		High	2462	-0.48	-40.31	≤-20.48	PASS

Test Graphs

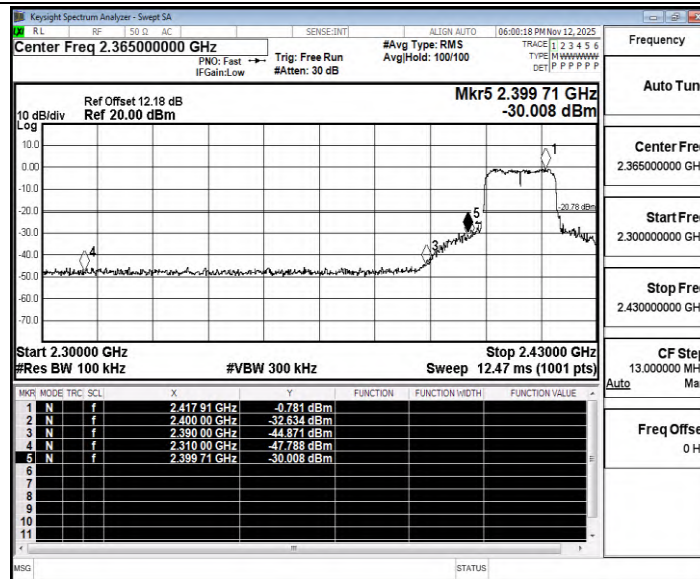
11B_Ant1_Low_2412



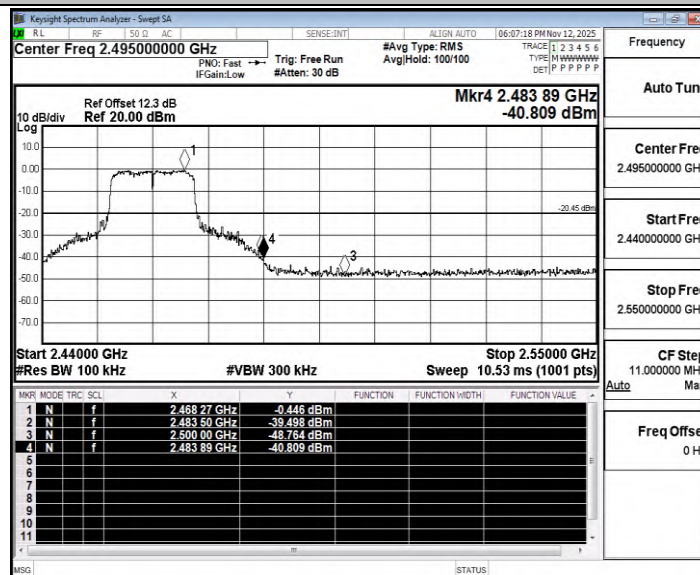
11B_Ant1_High_2462



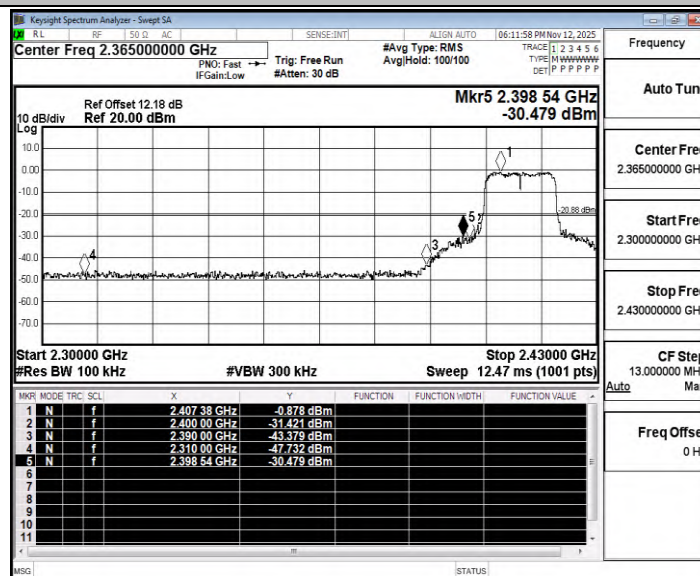
11G_Ant1_Low_2412



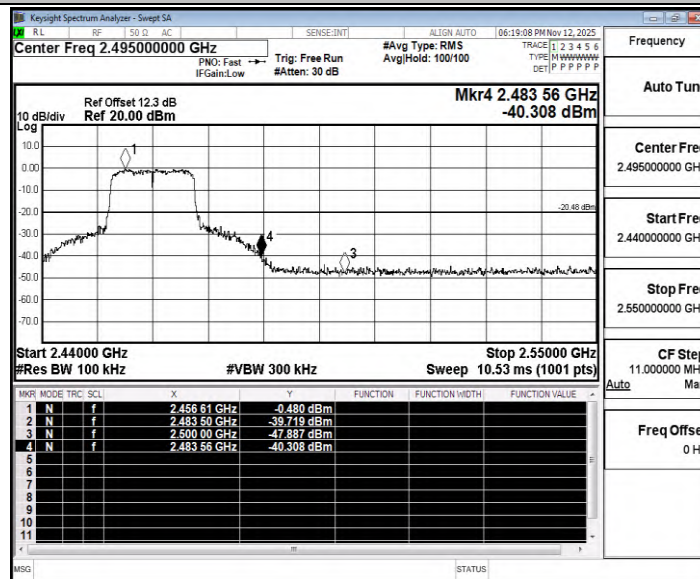
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



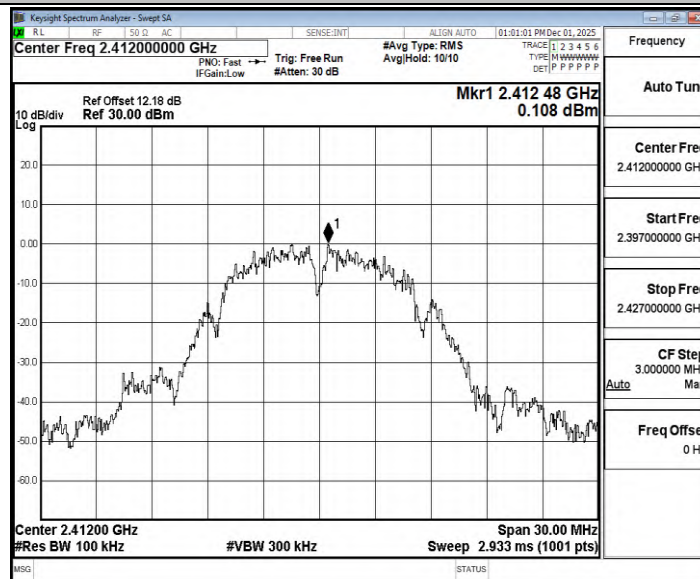
B.5 Conducted RF Spurious Emission

Test Result

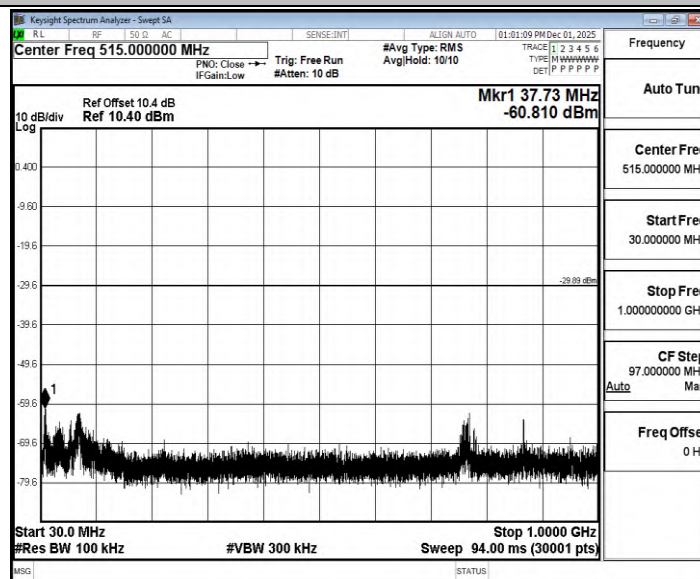
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.11	0.11	---	PASS
			30~1000	0.11	-60.81	≤-29.89	PASS
			1000~26500	0.11	-43.18	≤-29.89	PASS
		2437	Reference	-2.72	-2.72	---	PASS
			30~1000	-2.72	-62.07	≤-32.72	PASS
			1000~26500	-2.72	-42.73	≤-32.72	PASS
		2462	Reference	-0.03	-0.03	---	PASS
			30~1000	-0.03	-61.8	≤-30.03	PASS
			1000~26500	-0.03	-42.91	≤-30.03	PASS
11G	Ant1	2412	Reference	-3.19	-3.19	---	PASS
			30~1000	-3.19	-61.44	≤-33.19	PASS
			1000~26500	-3.19	-43.27	≤-33.19	PASS
		2437	Reference	-5.59	-5.59	---	PASS
			30~1000	-5.59	-62.23	≤-35.59	PASS
			1000~26500	-5.59	-42.97	≤-35.59	PASS
		2462	Reference	-1.85	-1.85	---	PASS
			30~1000	-1.85	-61.29	≤-31.85	PASS
			1000~26500	-1.85	-43.11	≤-31.85	PASS
11N20SISO	Ant1	2412	Reference	-2.71	-2.71	---	PASS
			30~1000	-2.71	-61.99	≤-32.71	PASS
			1000~26500	-2.71	-43.76	≤-32.71	PASS
		2437	Reference	-5.83	-5.83	---	PASS
			30~1000	-5.83	-61.51	≤-35.83	PASS
			1000~26500	-5.83	-41.75	≤-35.83	PASS
		2462	Reference	-1.47	-1.47	---	PASS
			30~1000	-1.47	-59.87	≤-31.47	PASS
			1000~26500	-1.47	-43.26	≤-31.47	PASS

Test Graphs

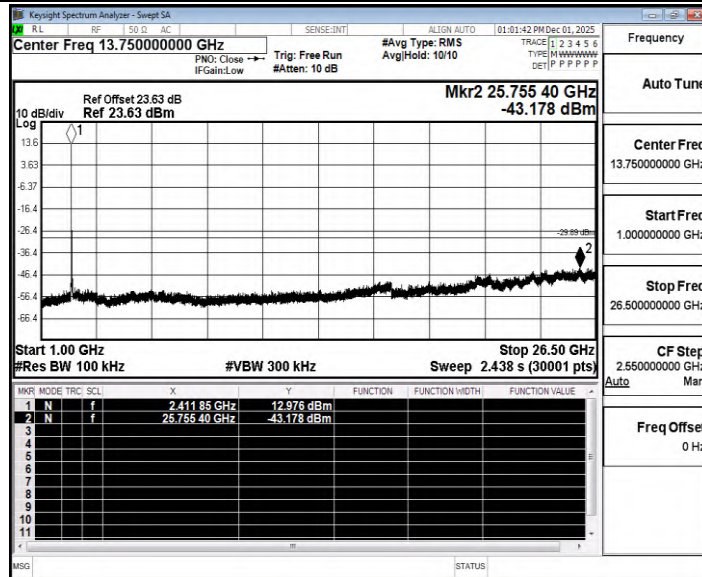
11B_Ant1_2412_0~Reference



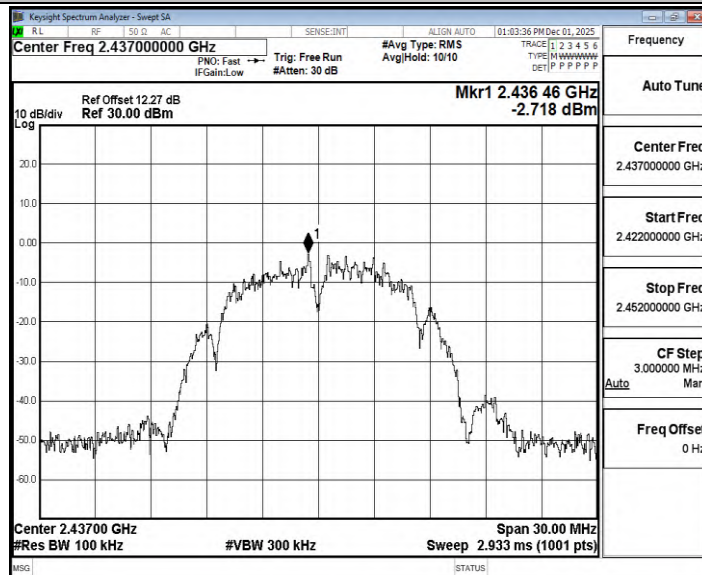
11B_Ant1_2412_30~1000



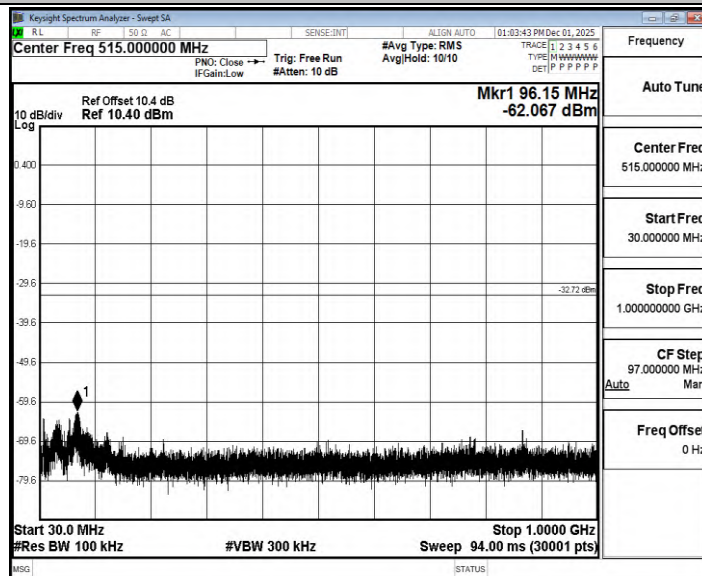
11B_Ant1_2412_1000~26500



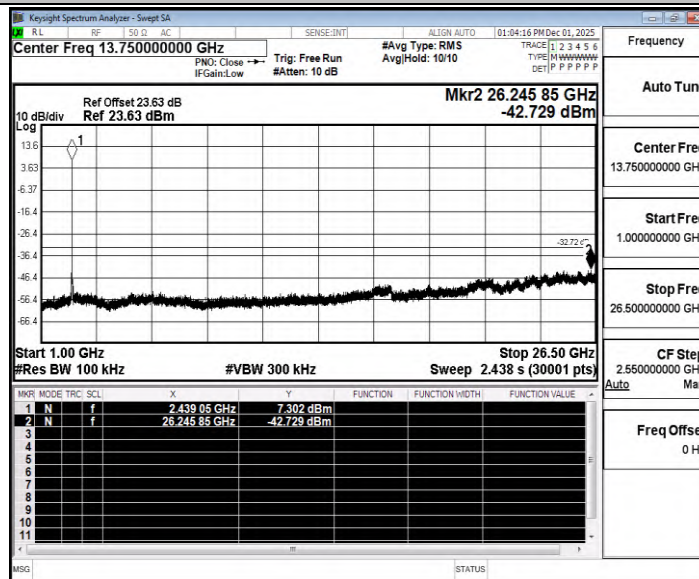
11B_Ant1_2437_0~Reference



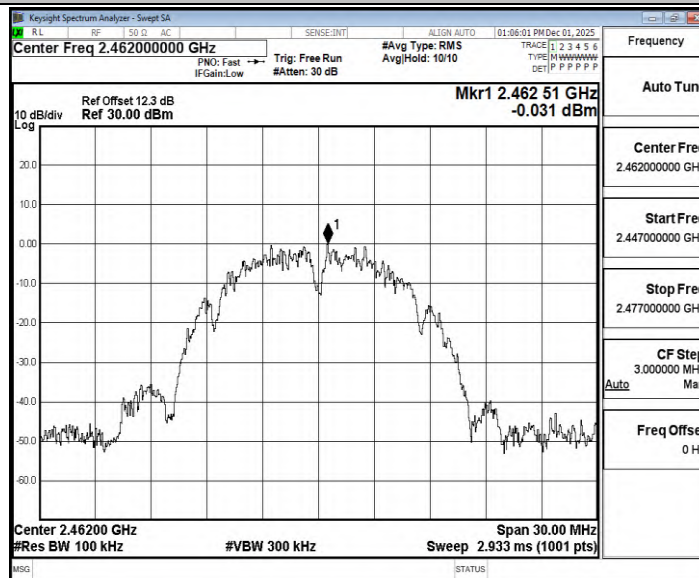
11B_Ant1_2437_30~1000



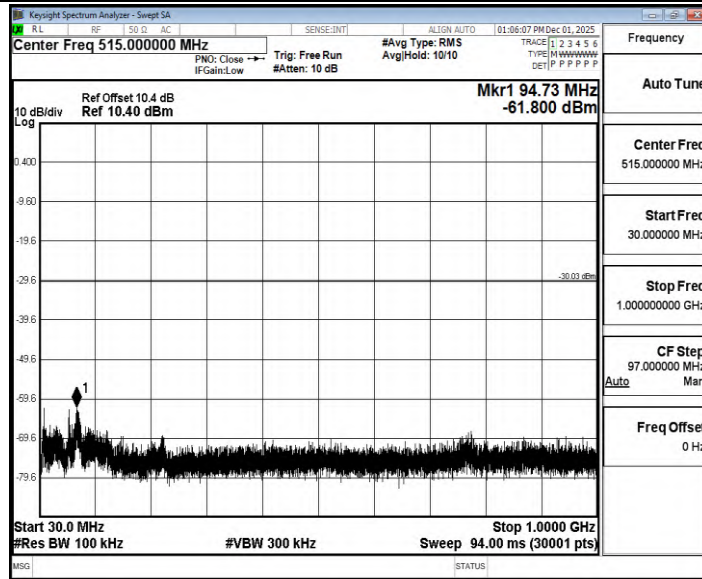
11B_Ant1_2437_1000~26500



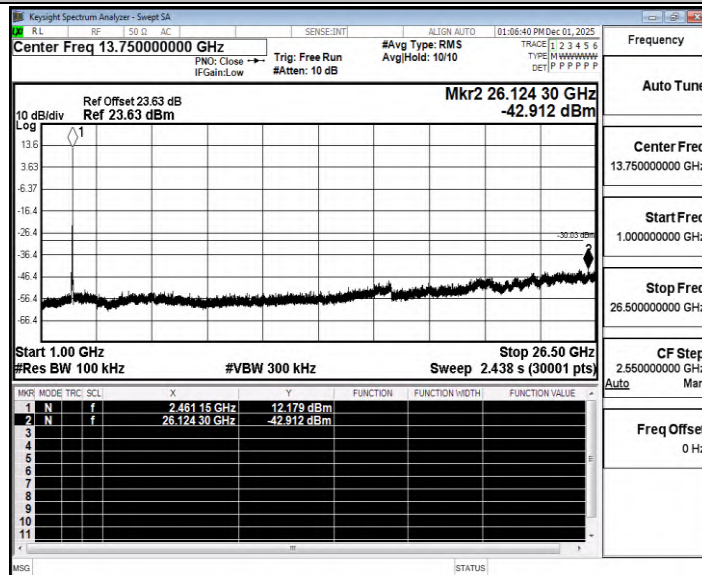
11B_Ant1_2462_0~Reference



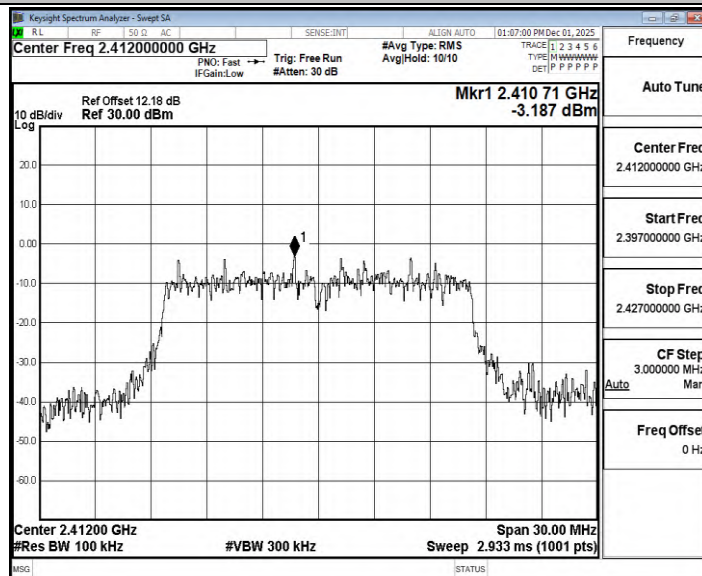
11B_Ant1_2462_30~1000



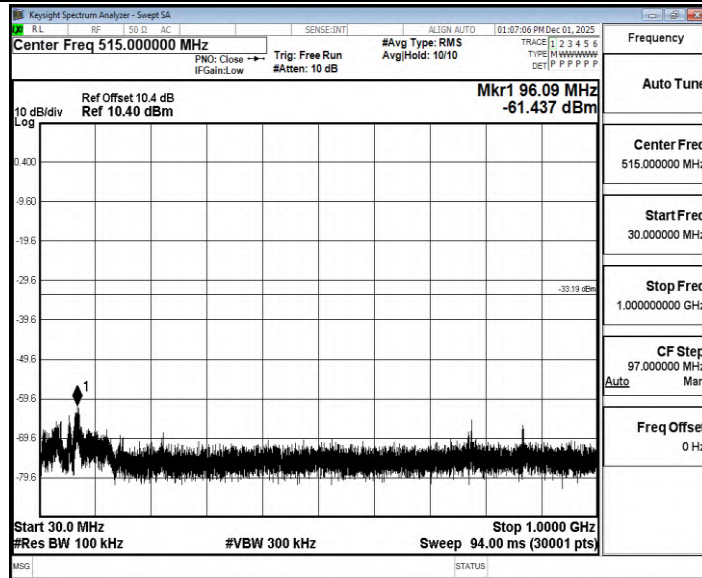
11B_Ant1_2462_1000~26500



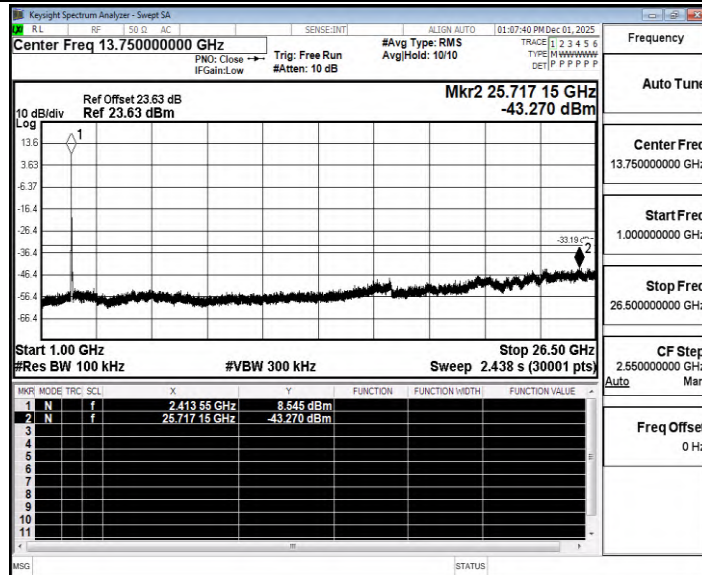
11G_Ant1_2412_0~Reference



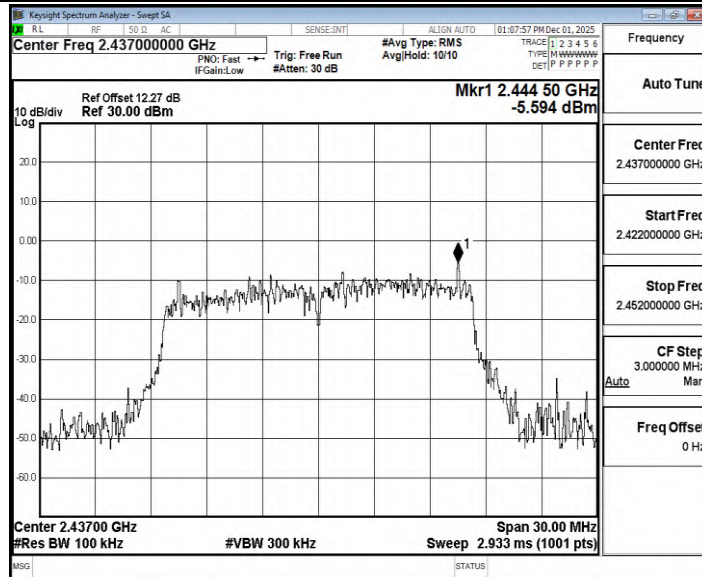
11G_Ant1_2412_30~1000



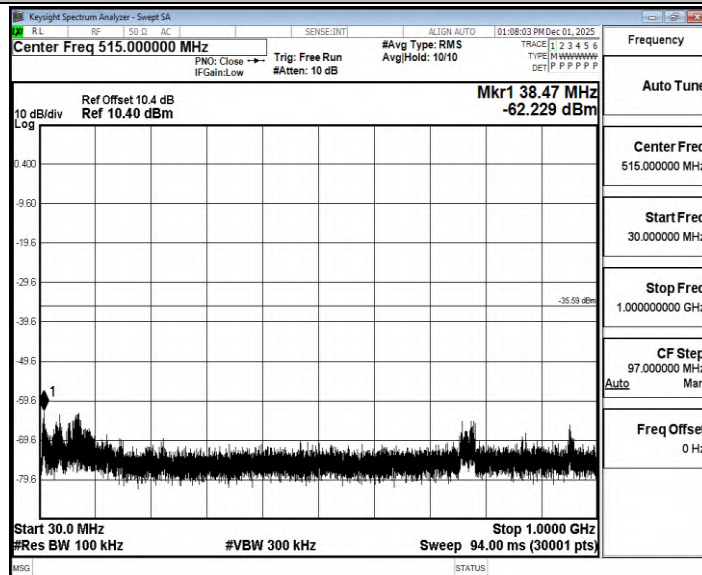
11G_Ant1_2412_1000~26500



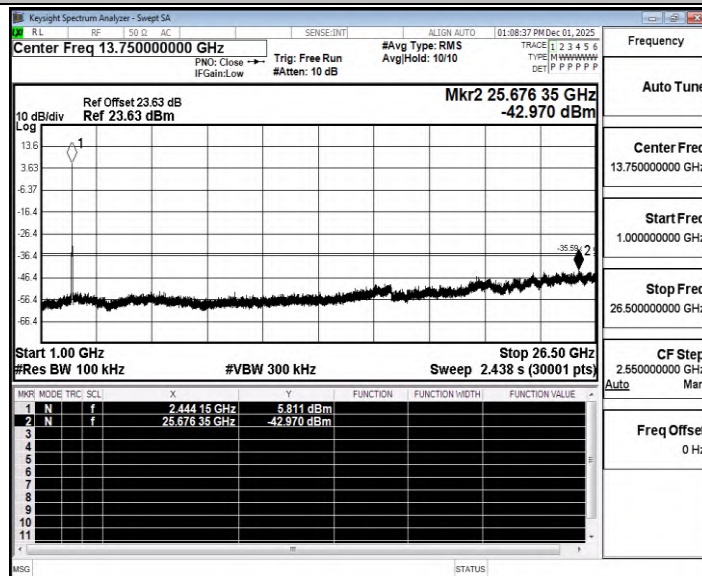
11G_Ant1_2437_0~Reference



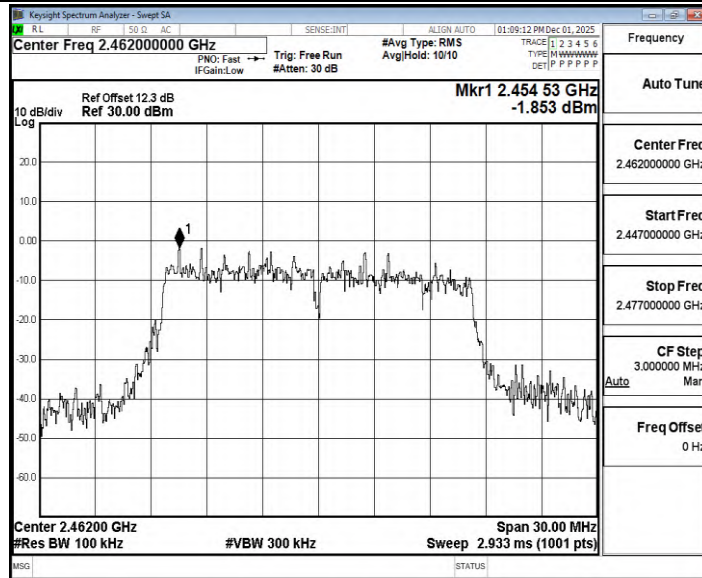
11G_Ant1_2437_30~1000



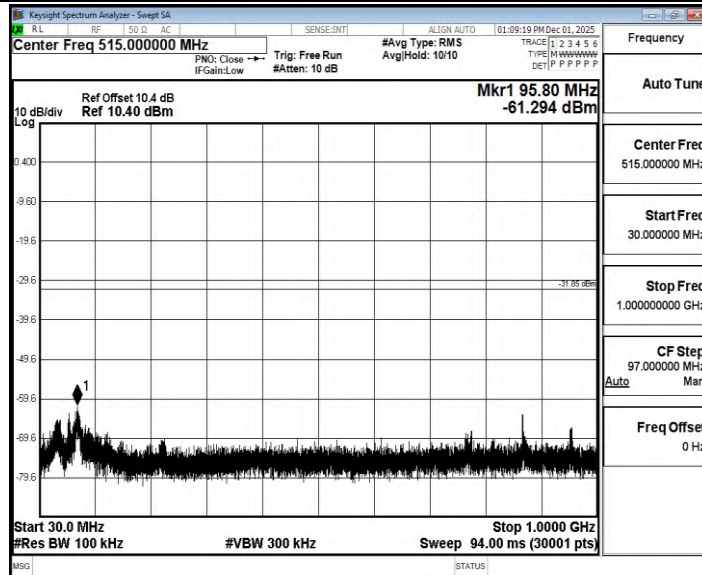
11G_Ant1_2437_1000~26500



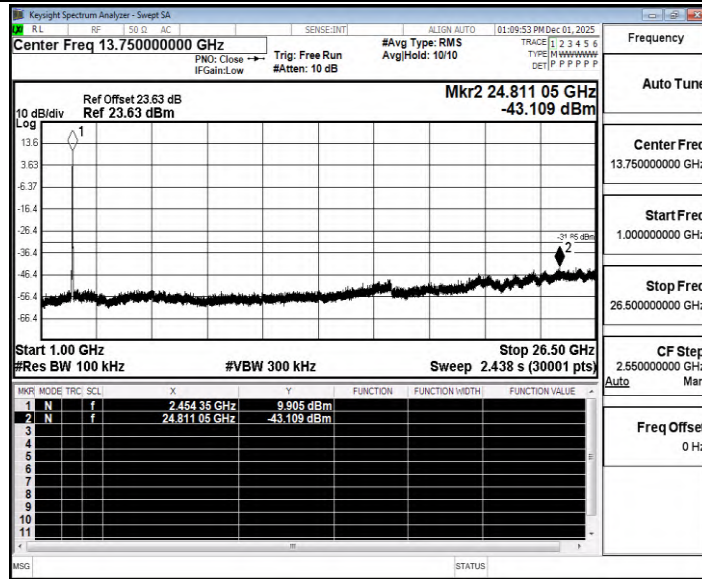
11G_Ant1_2462_0~Reference



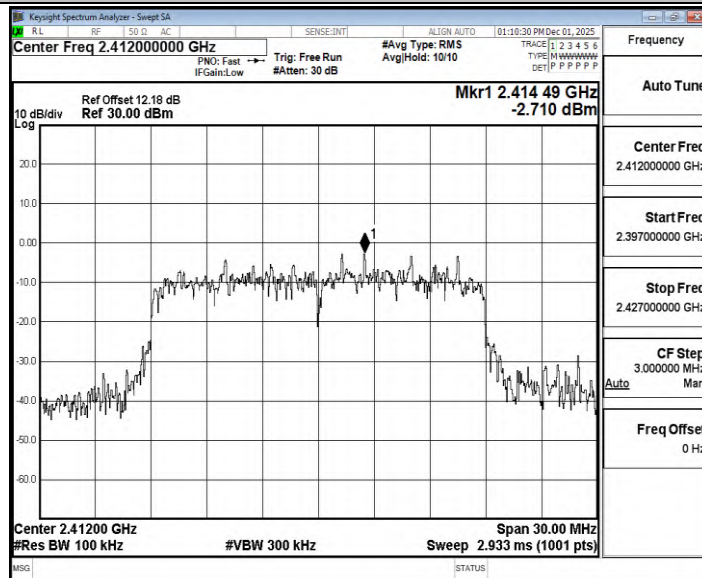
11G_Ant1_2462_30~1000



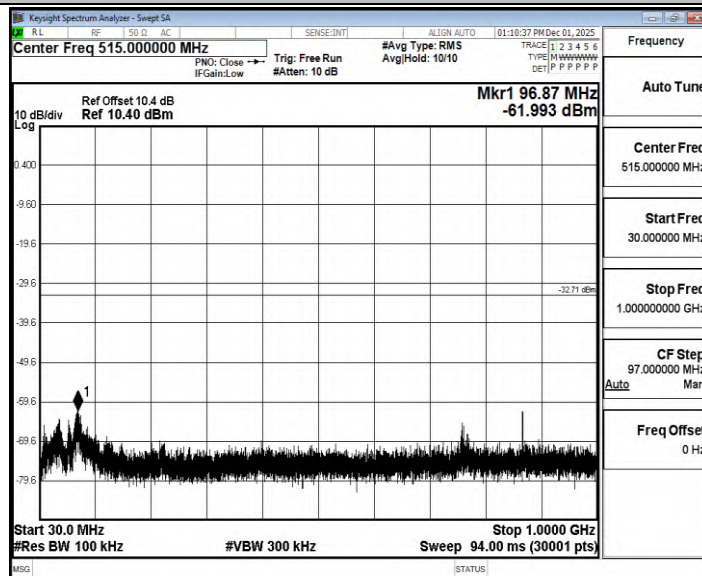
11G_Ant1_2462_1000~26500



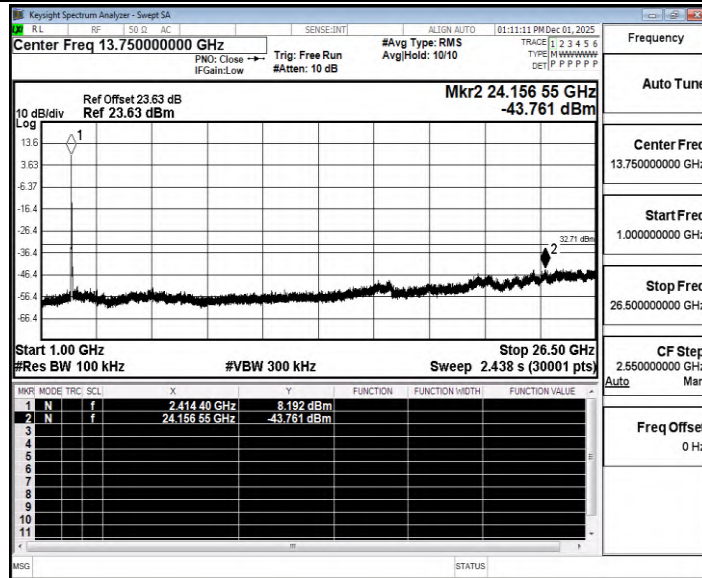
11N20SISO_Ant1_2412_0~Reference



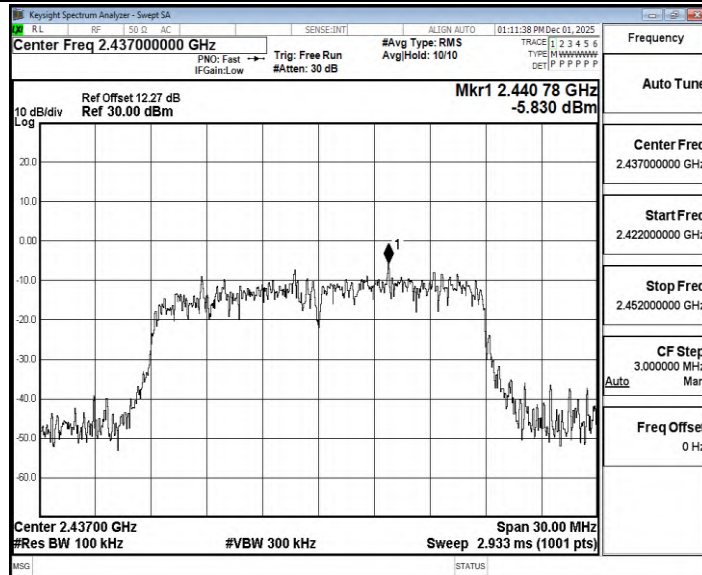
11N20SISO_Ant1_2412_30~1000



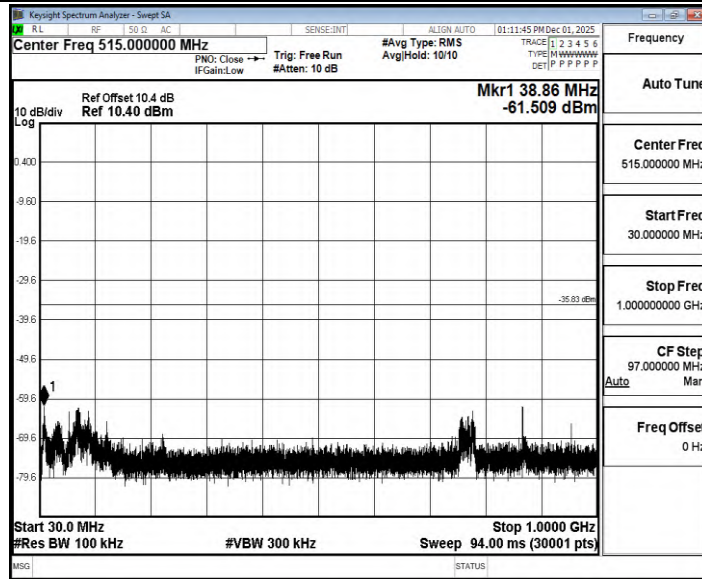
11N20SISO_Ant1_2412_1000~26500



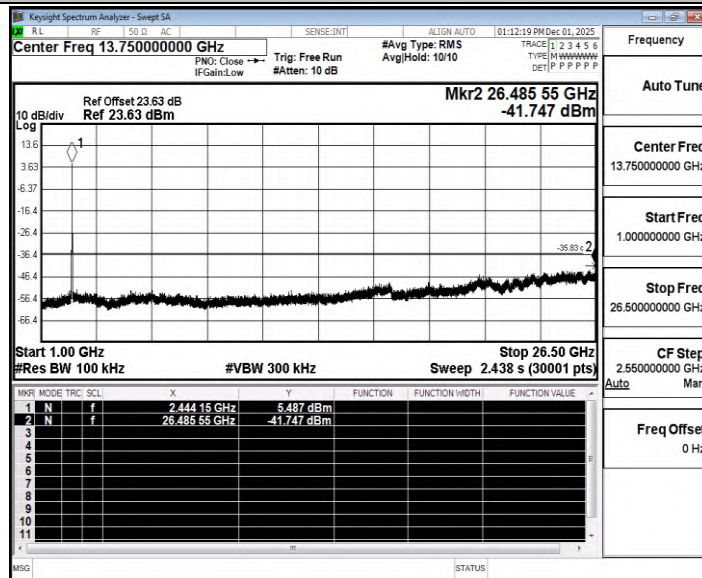
11N20SISO_Ant1_2437_0~Reference



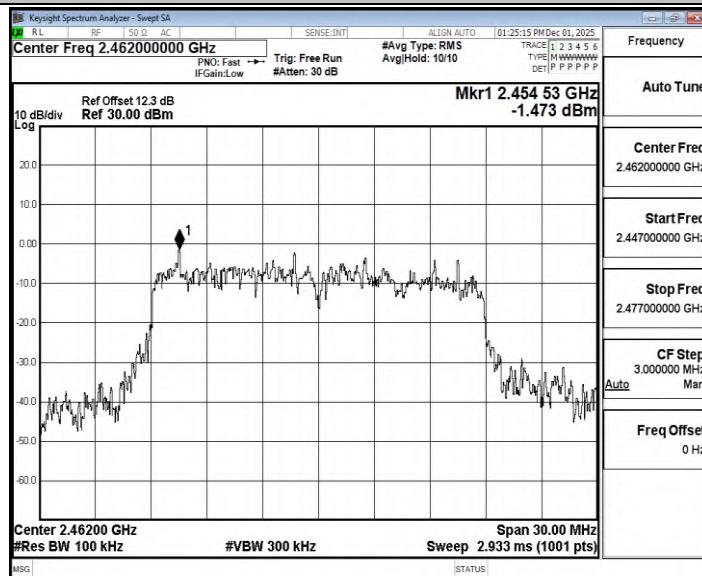
11N20SISO_Ant1_2437_30~1000



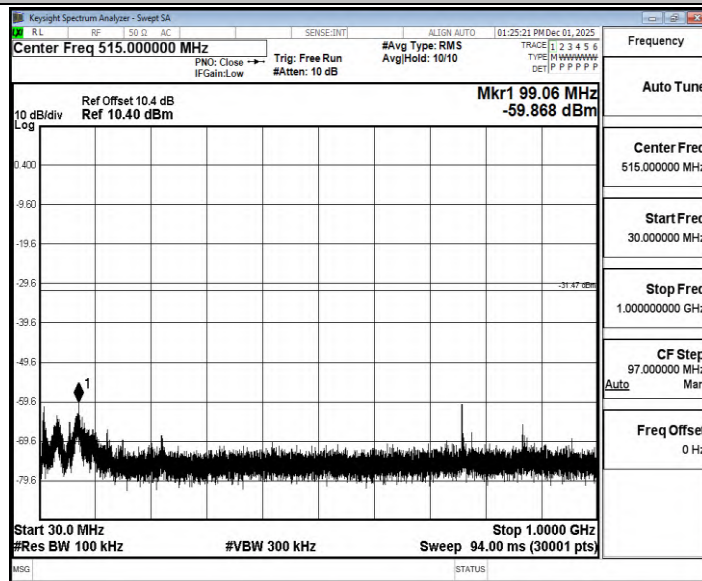
11N20SISO_Ant1_2437_1000~26500



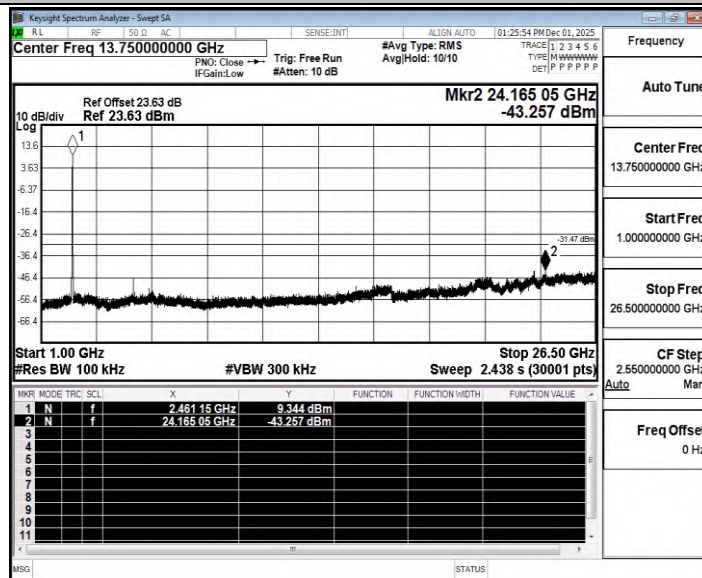
11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



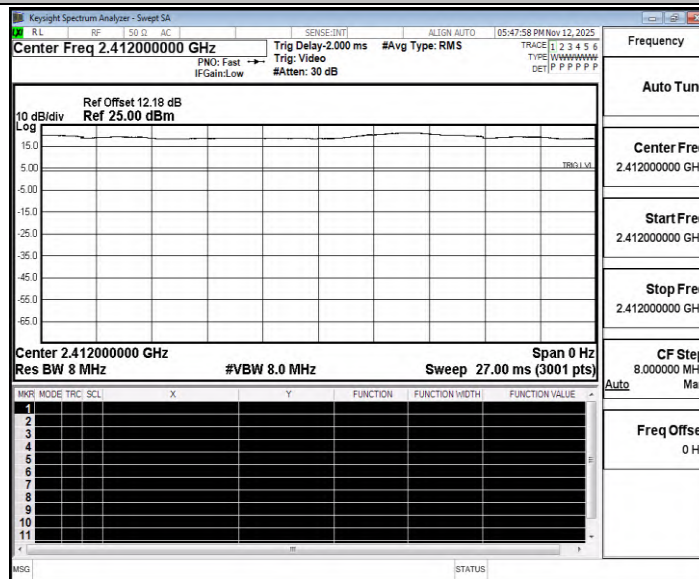
B.6 Duty Cycle

Test Result

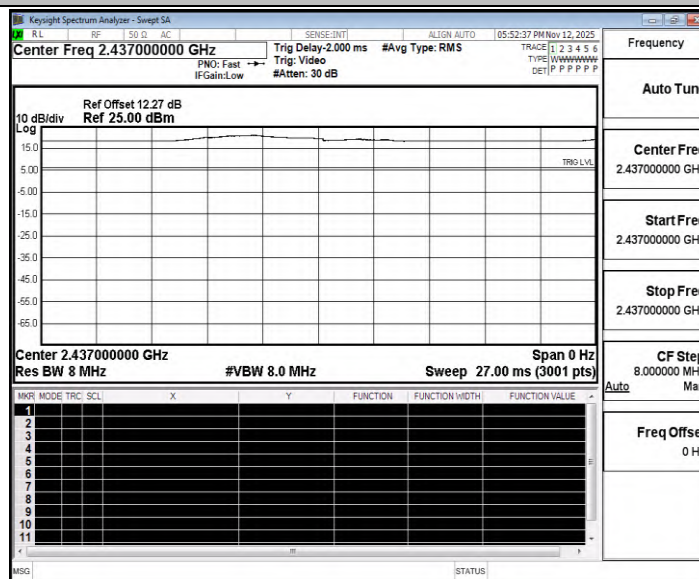
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B	Ant1	2412	27.00	27.00	100.00
		2437	27.00	27.00	100.00
		2462	27.00	27.00	100.00
11G	Ant1	2412	27.00	27.00	100.00
		2437	27.00	27.00	100.00
		2462	27.00	27.00	100.00
11N20SISO	Ant1	2412	27.00	27.00	100.00
		2437	27.00	27.00	100.00
		2462	27.00	27.00	100.00

Test Graphs

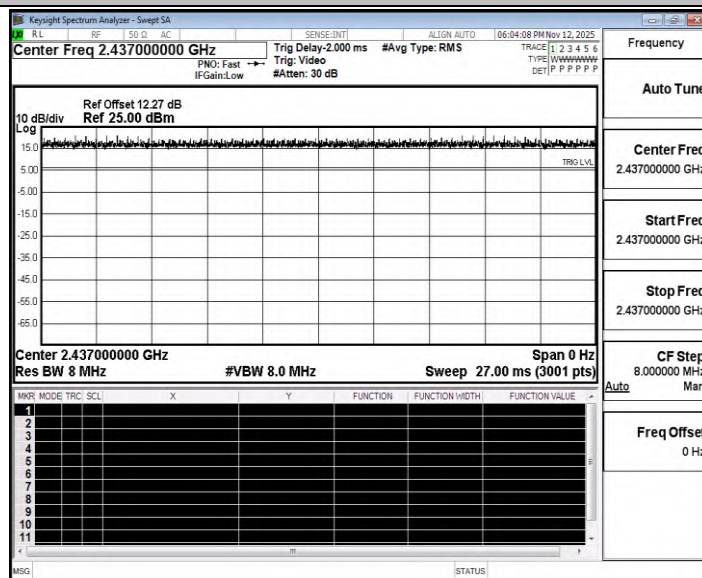
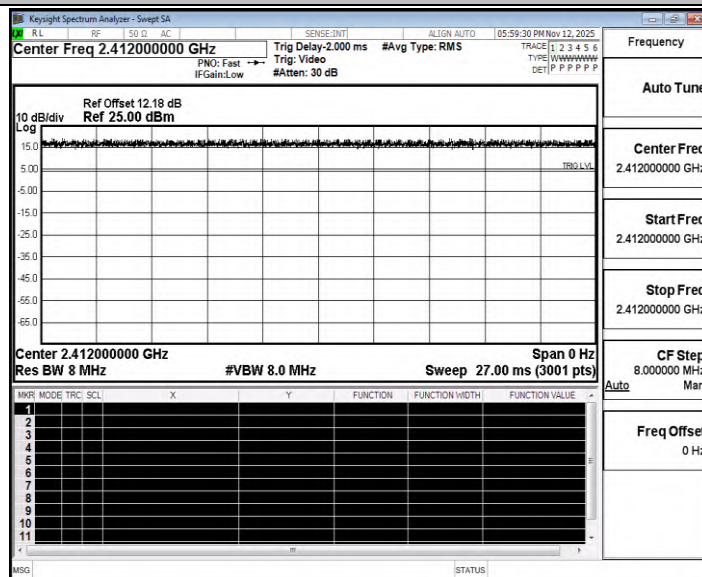
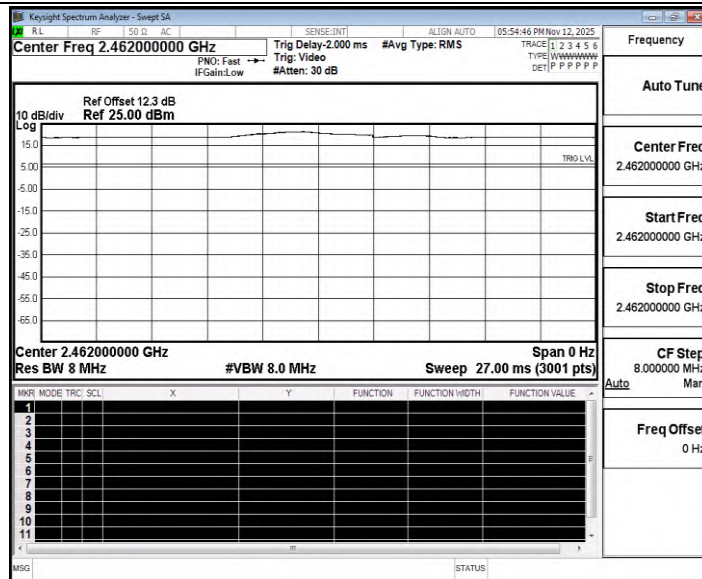
11B_Ant1_2412



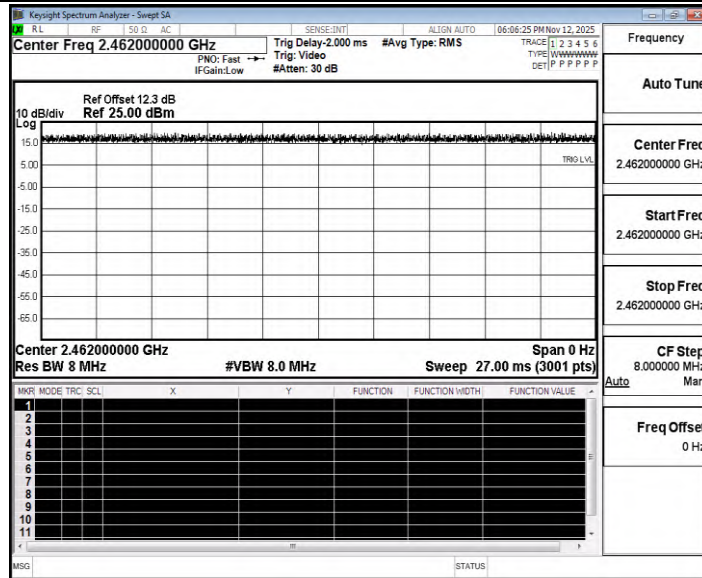
11B_Ant1_2437



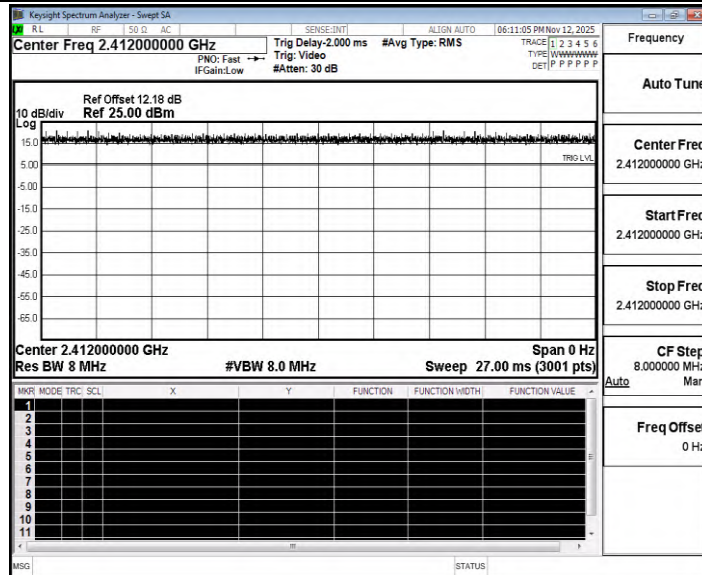
11B_Ant1_2462



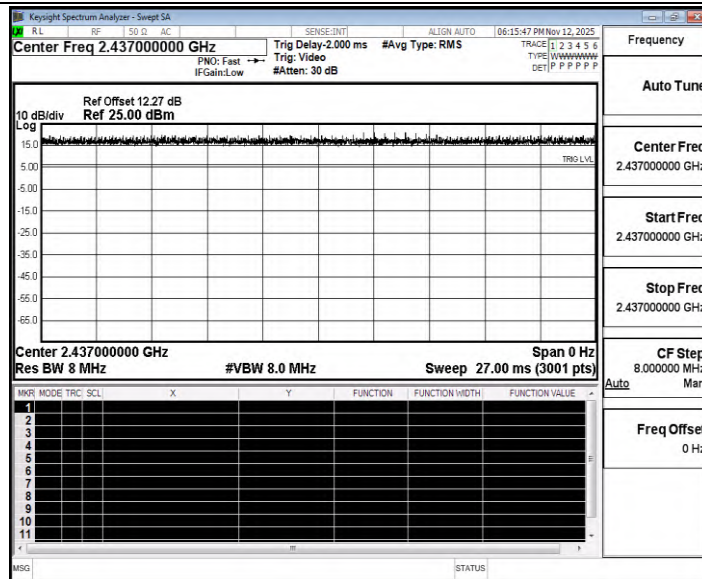
11G_Ant1_2462



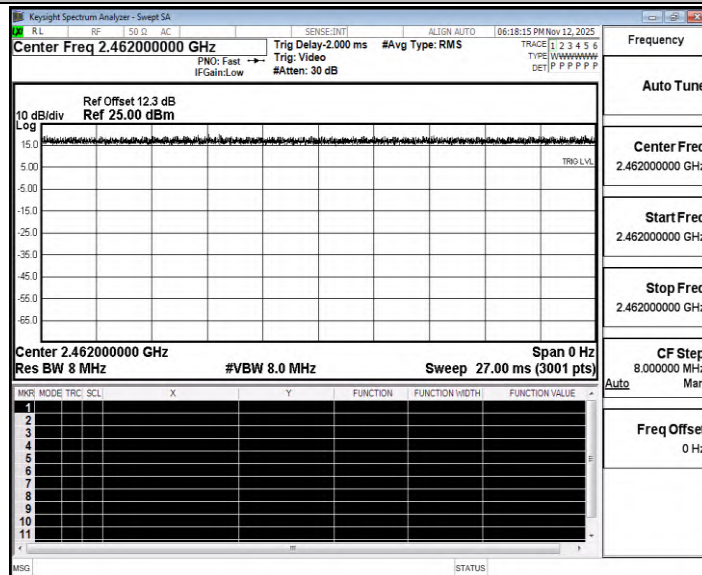
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



B.7 Restrict Band

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-49.62	≤-41.20	0	45.58	≤54	PASS
				AV	2337.700	-46.56	≤-41.20	0	48.64	≤54	PASS
				AV	2390.000	-49.83	≤-41.20	0	45.37	≤54	PASS
				Peak	2310.000	-47.55	≤-21.20	---	47.65	≤74	PASS
				Peak	2355.380	-44.48	≤-21.20	---	50.72	≤74	PASS
				Peak	2390.000	-48.89	≤-21.20	---	46.31	≤74	PASS
		High	2462	AV	2483.500	-48.48	≤-41.20	0	46.72	≤54	PASS
				AV	2484.440	-42	≤-41.20	0	53.20	≤54	PASS
				AV	2500.000	-49.42	≤-41.20	0	45.78	≤54	PASS
				Peak	2483.500	-46.92	≤-21.20	---	48.28	≤74	PASS
				Peak	2489.170	-41.38	≤-21.20	---	53.82	≤74	PASS
				Peak	2500.000	-46.53	≤-21.20	---	48.67	≤74	PASS
11G	Ant1	Low	2412	AV	2310.000	-49.87	≤-41.20	0	45.33	≤54	PASS
				AV	2375.010	-45.94	≤-41.20	0	49.26	≤54	PASS
				AV	2390.000	-49.09	≤-41.20	0	46.11	≤54	PASS
				Peak	2310.000	-45.2	≤-21.20	---	50.00	≤74	PASS
				Peak	2386.190	-44.35	≤-21.20	---	50.85	≤74	PASS
				Peak	2390.000	-46.6	≤-21.20	---	48.60	≤74	PASS
		High	2462	AV	2483.500	-43.28	≤-41.20	0	51.92	≤54	PASS
				AV	2484.000	-43.07	≤-41.20	0	52.13	≤54	PASS
				AV	2500.000	-50.06	≤-41.20	0	45.14	≤54	PASS
				Peak	2483.500	-47.52	≤-21.20	---	47.68	≤74	PASS
				Peak	2486.200	-42.69	≤-21.20	---	52.51	≤74	PASS
				Peak	2500.000	-48.09	≤-21.20	---	47.11	≤74	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-47.64	≤-41.20	0	47.56	≤54	PASS
				AV	2389.440	-44.95	≤-41.20	0	50.25	≤54	PASS
				AV	2390.000	-48.35	≤-41.20	0	46.85	≤54	PASS
				Peak	2310.000	-49.09	≤-21.20	---	46.11	≤74	PASS
				Peak	2357.850	-44.74	≤-21.20	---	50.46	≤74	PASS
				Peak	2390.000	-47.37	≤-21.20	---	47.83	≤74	PASS
		High	2462	AV	2483.500	-48.3	≤-41.20	0	46.90	≤54	PASS
				AV	2483.560	-43.37	≤-41.20	0	51.83	≤54	PASS
				AV	2500.000	-48.27	≤-41.20	0	46.93	≤54	PASS
				Peak	2483.500	-47.38	≤-21.20	---	47.82	≤74	PASS
				Peak	2483.670	-42.63	≤-21.20	---	52.57	≤74	PASS
				Peak	2500.000	-49.54	≤-21.20	---	45.66	≤74	PASS

Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for

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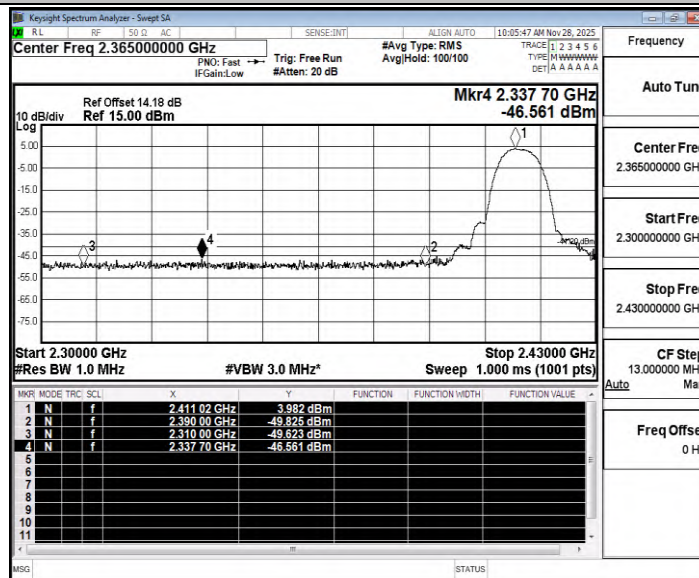
Add: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

Tel: +(86) 020-39166689 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

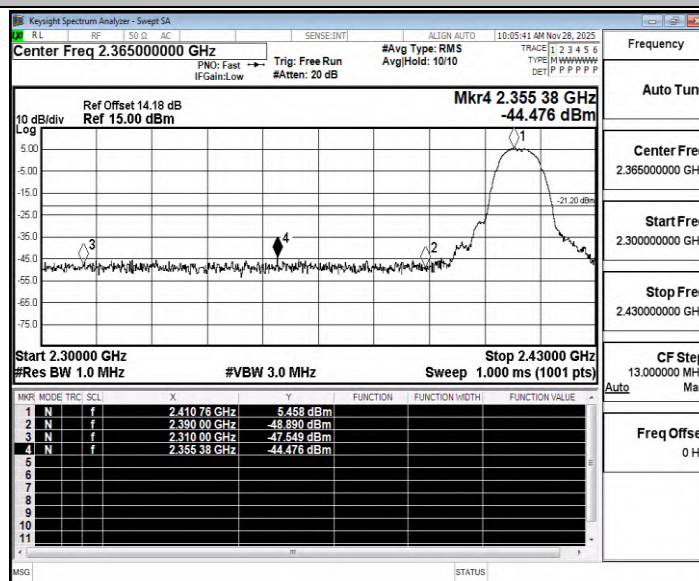
peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

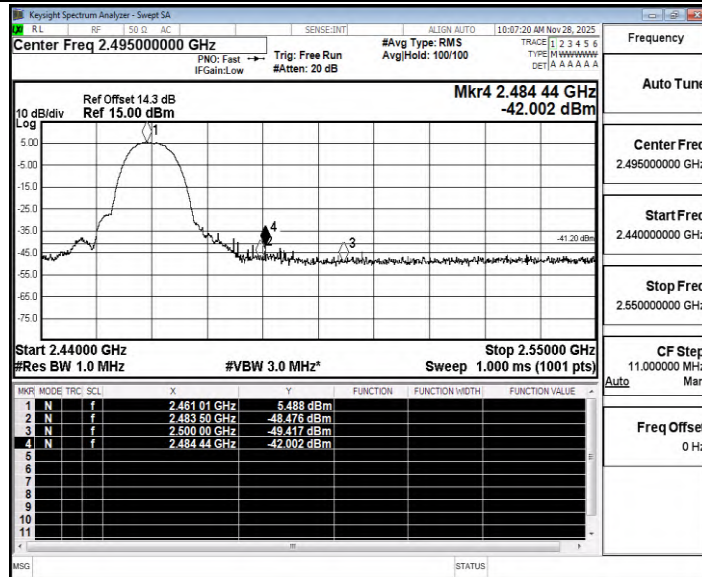
11B_Ant1_Low_2412_AV



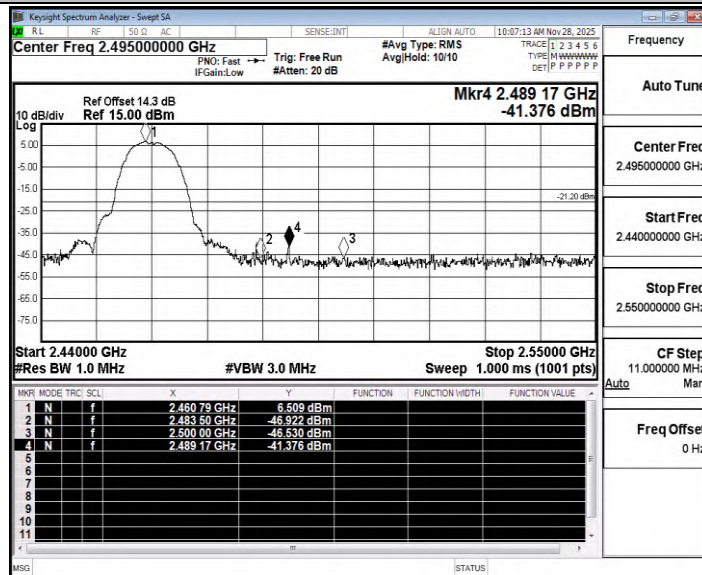
11B_Ant1_Low_2412_Peak



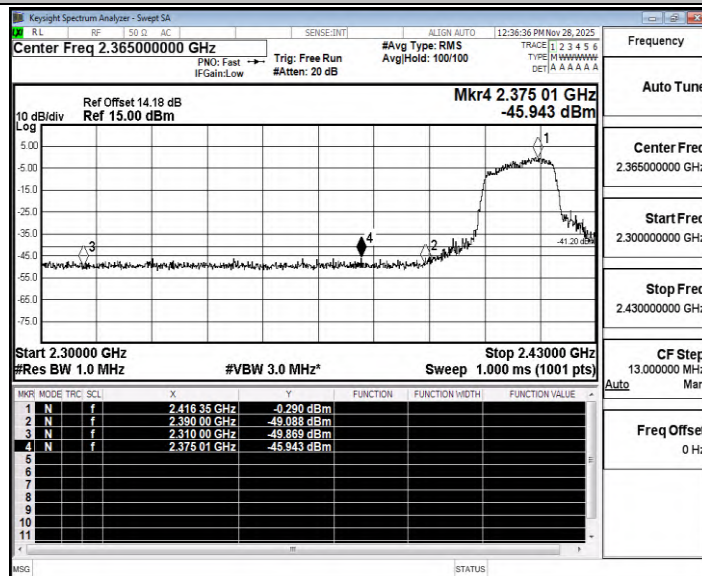
11B_Ant1_High_2462_AV



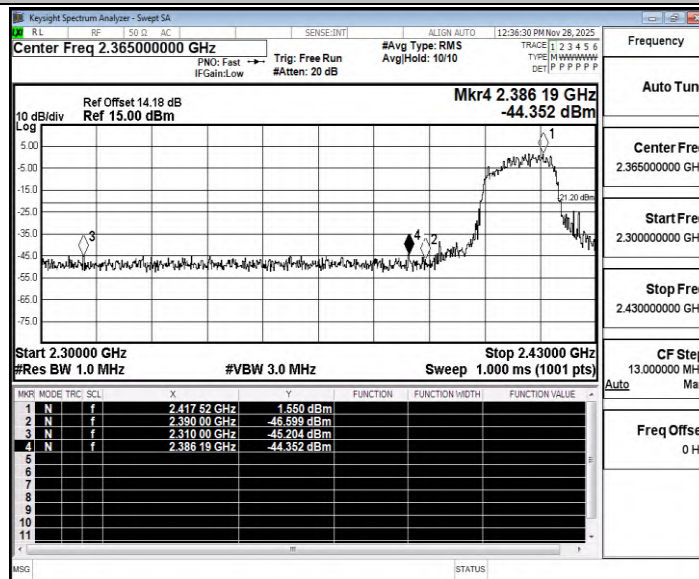
11B_Ant1_High_2462_Peak



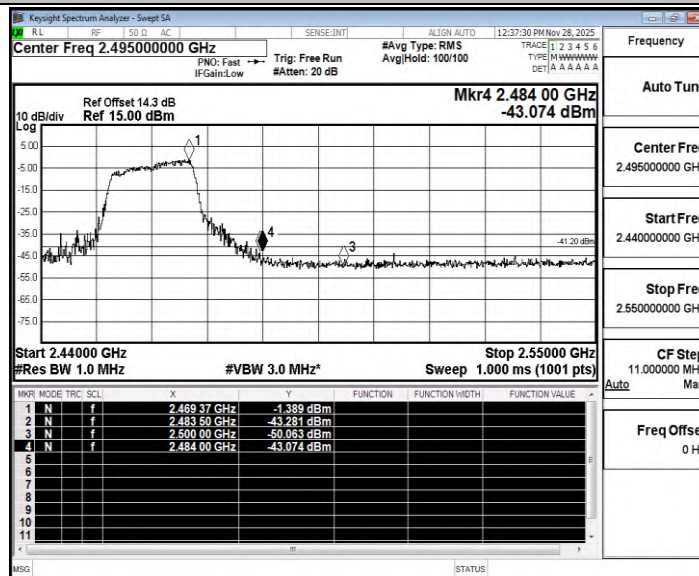
11G_Ant1_Low_2412_AV



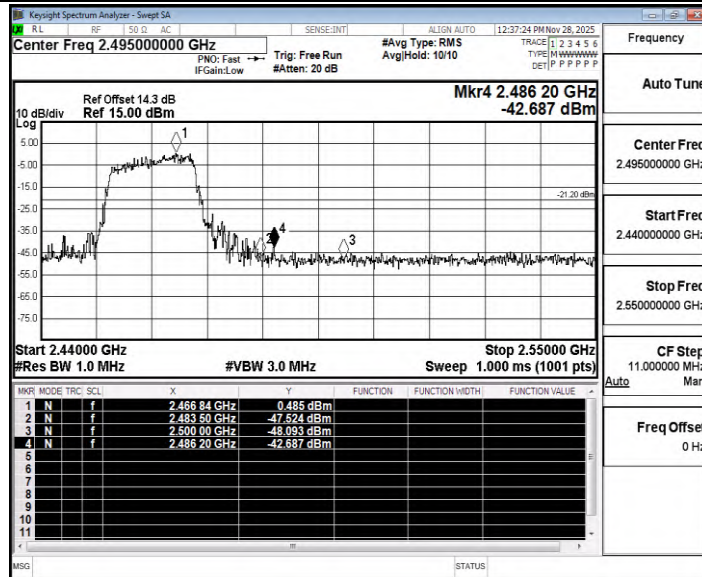
11G_Ant1_Low_2412_Peak



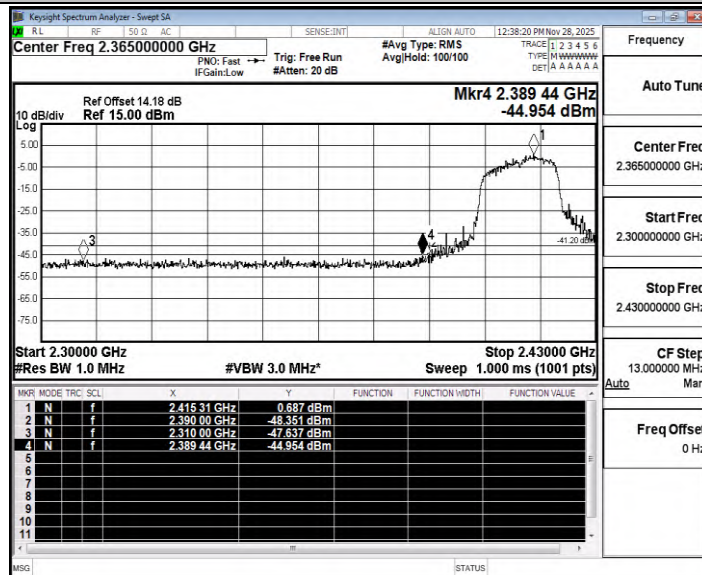
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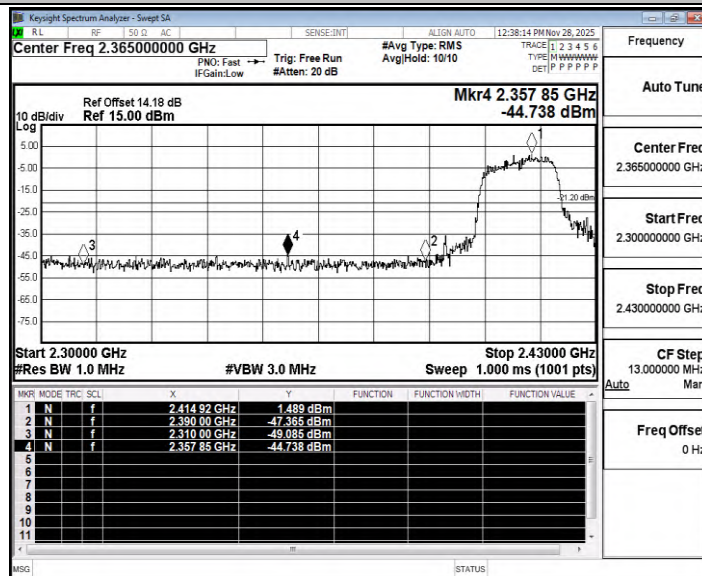
11G_Ant1_High_2462_Peak



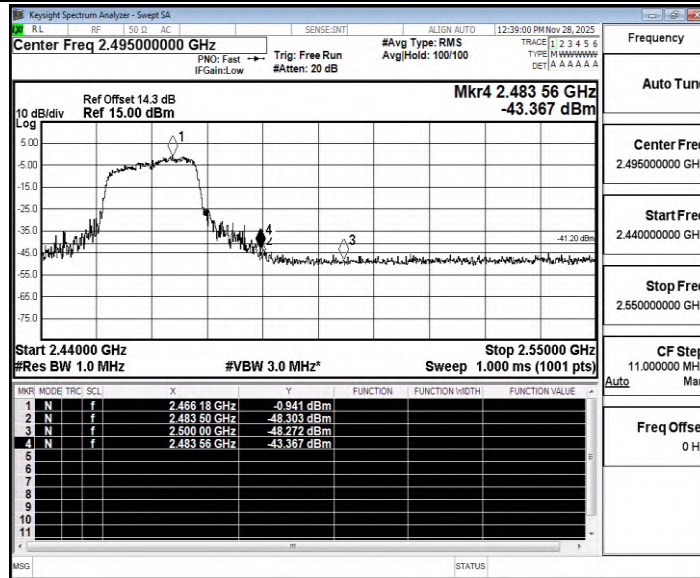
11N20SISO_Ant1_Low_2412_AV



11N20SISO_Ant1_Low_2412_Peak



11N20SISO_Ant1_High_2462_AV



11N20SISO_Ant1_High_2462_Peak

