



Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: 6.5 INCH WI-FI PIR MOTION SENSOR CLOSET LIGHT

Test Model: LSF610SMWH

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Eason Zhou
Supervised by:	Nick Peng



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B.1 DTS Bandwidth

Test Result

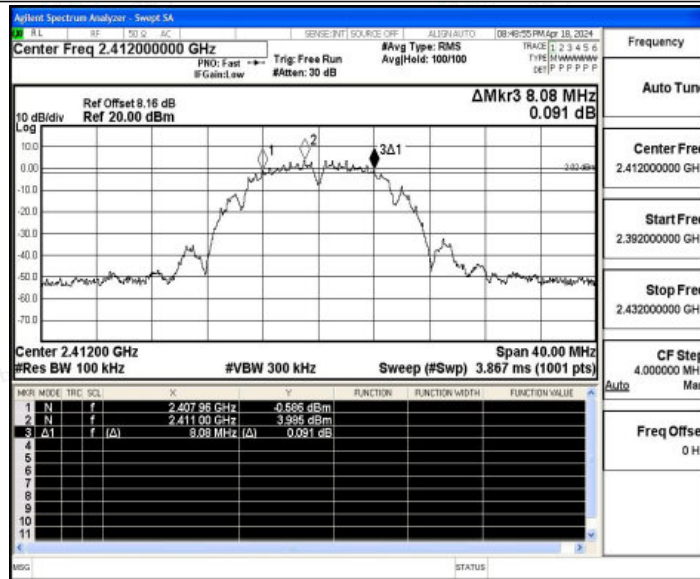
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.080	2407.960	2416.040	0.5	PASS
		2437	8.080	2432.960	2441.040	0.5	PASS
		2462	8.000	2458.000	2466.000	0.5	PASS
11G	Ant1	2412	16.080	2404.080	2420.160	0.5	PASS
		2437	16.280	2428.880	2445.160	0.5	PASS
		2462	16.240	2453.880	2470.120	0.5	PASS
11N20SISO	Ant1	2412	16.840	2403.800	2420.640	0.5	PASS
		2437	17.400	2428.240	2445.640	0.5	PASS
		2462	16.960	2453.640	2470.600	0.5	PASS
11N40SISO	Ant1	2422	35.520	2404.400	2439.920	0.5	PASS
		2437	35.360	2419.320	2454.680	0.5	PASS
		2452	35.920	2434.080	2470.000	0.5	PASS



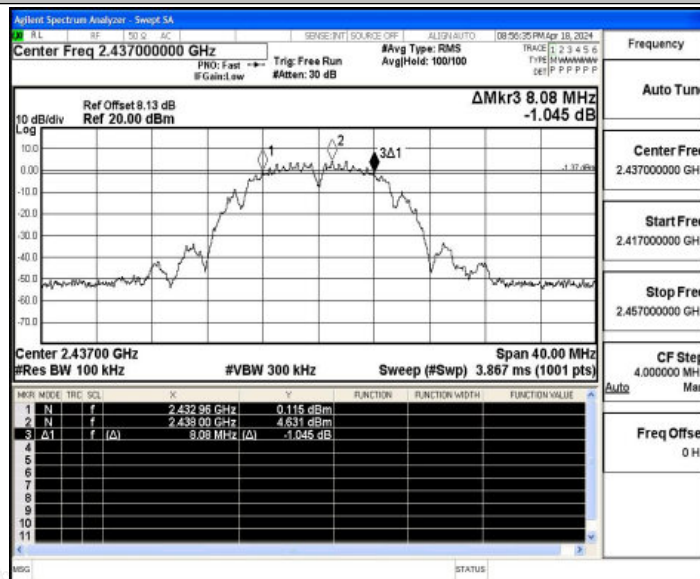


Test Graphs

11B_Ant1_2412

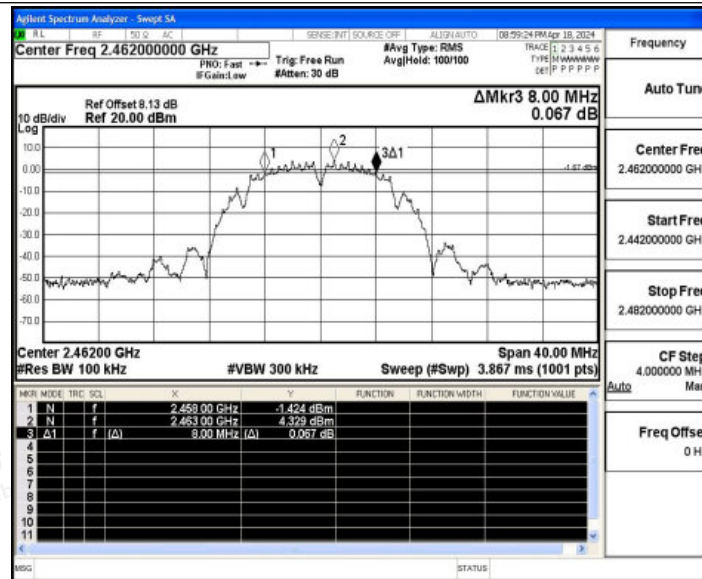


11B_Ant1_2437

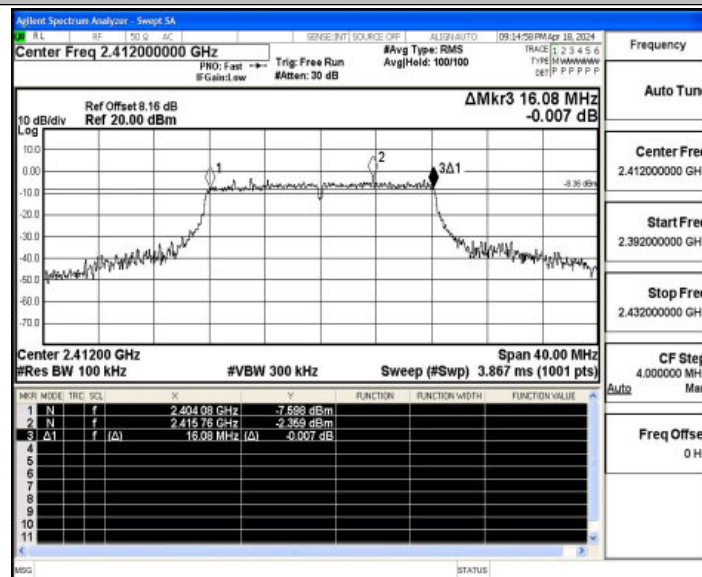


11B_Ant1_2462





11G_Ant1_2412



11G_Ant1_2437

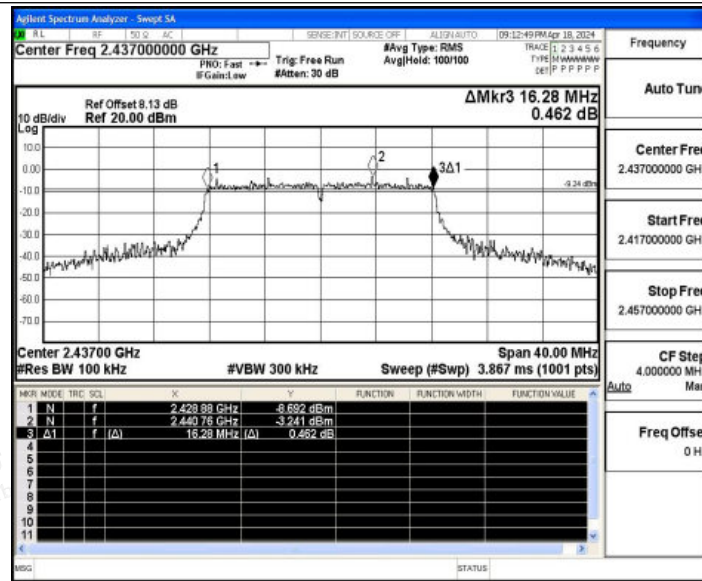


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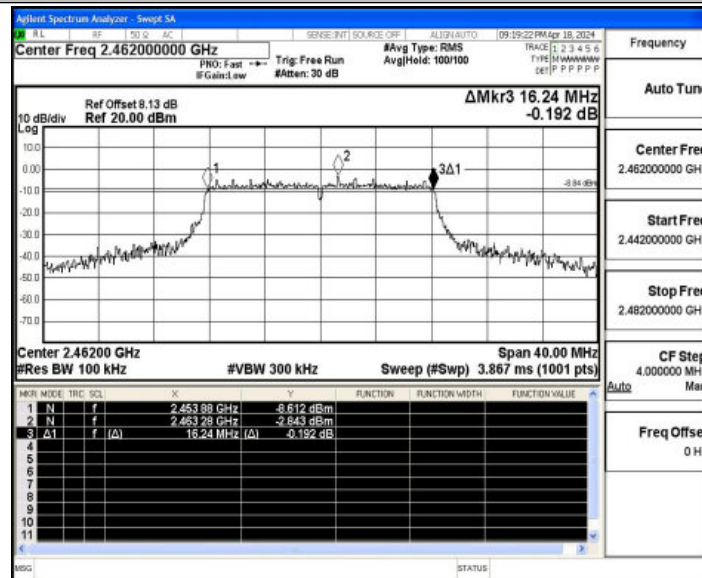
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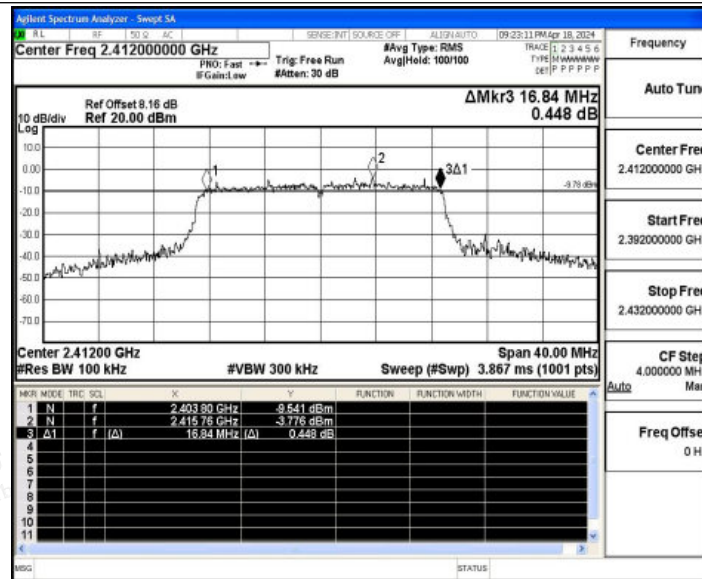


11G_Ant1_2462

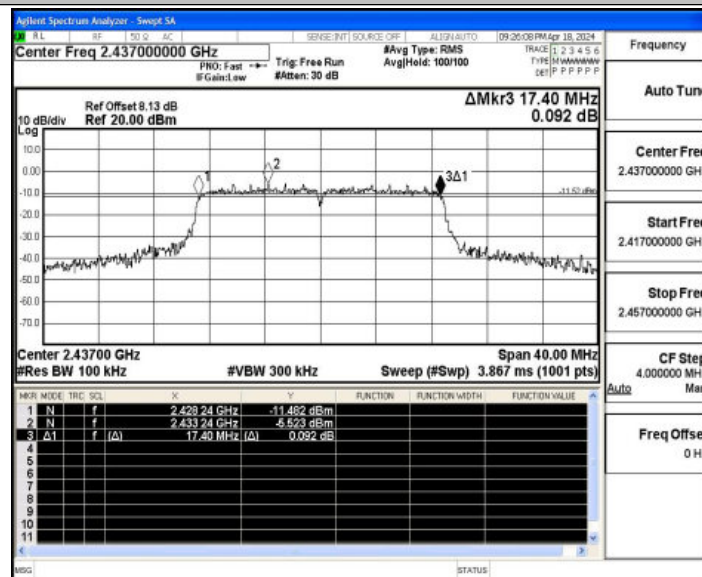


11N20SISO_Ant1_2412



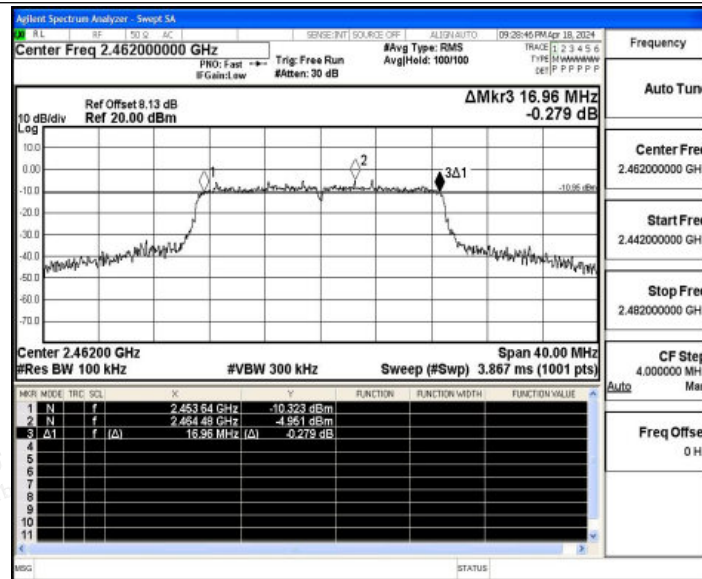


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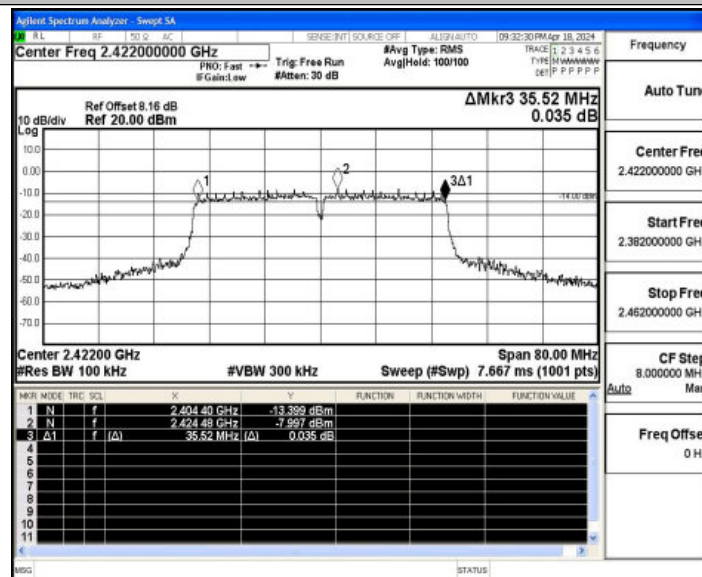


11N20SISO_Ant1_2462



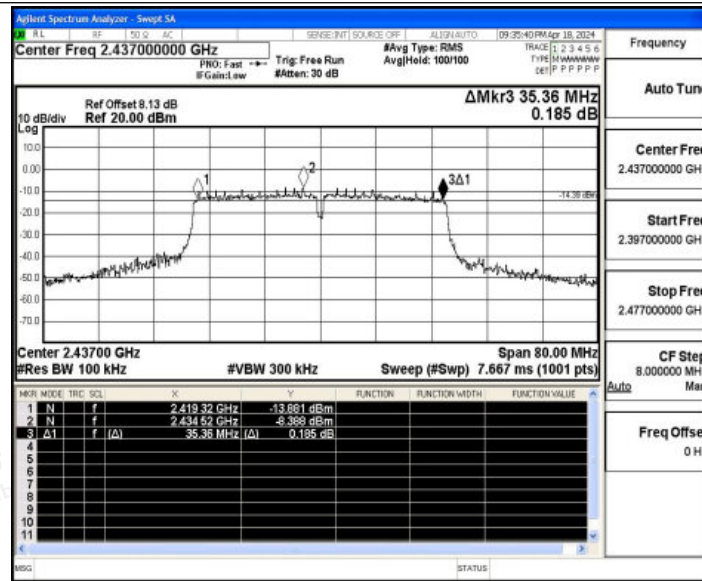


11N40SISO_Ant1_2422

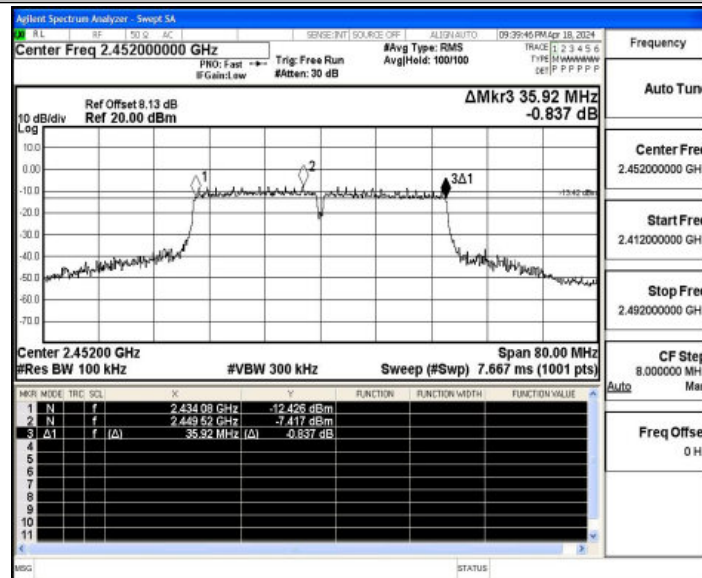


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452



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B.2 Maximum conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	15.39	≤30.00	PASS
		2437	15.92	≤30.00	PASS
		2462	15.68	≤30.00	PASS
11G	Ant1	2412	14.50	≤30.00	PASS
		2437	14.50	≤30.00	PASS
		2462	14.52	≤30.00	PASS
11N20SISO	Ant1	2412	13.92	≤30.00	PASS
		2437	12.98	≤30.00	PASS
		2462	12.98	≤30.00	PASS
11N40SISO	Ant1	2422	12.58	≤30.00	PASS
		2437	12.01	≤30.00	PASS
		2452	12.21	≤30.00	PASS





B.3 Maximum power spectral density

Test Result

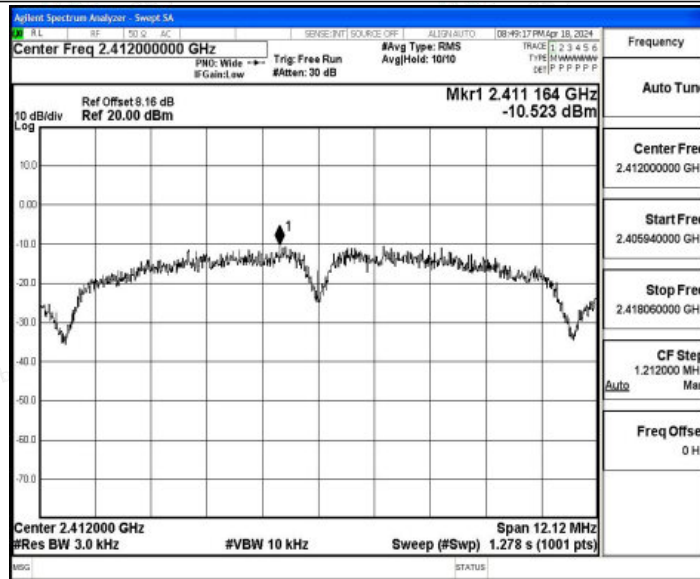
TestMode	Antenna	Freq(MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-10.52	≤8.00	PASS
		2437	-9.20	≤8.00	PASS
		2462	-9.34	≤8.00	PASS
11G	Ant1	2412	-17.92	≤8.00	PASS
		2437	-18.25	≤8.00	PASS
		2462	-17.63	≤8.00	PASS
11N20SISO	Ant1	2412	-16.40	≤8.00	PASS
		2437	-18.81	≤8.00	PASS
		2462	-18.76	≤8.00	PASS
11N40SISO	Ant1	2422	-22.00	≤8.00	PASS
		2437	-21.01	≤8.00	PASS
		2452	-21.81	≤8.00	PASS



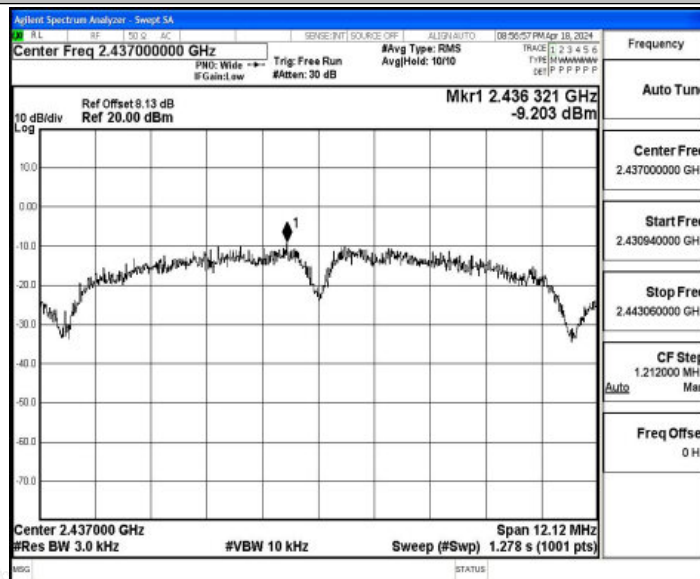


Test Graphs

11B_Ant1_2412

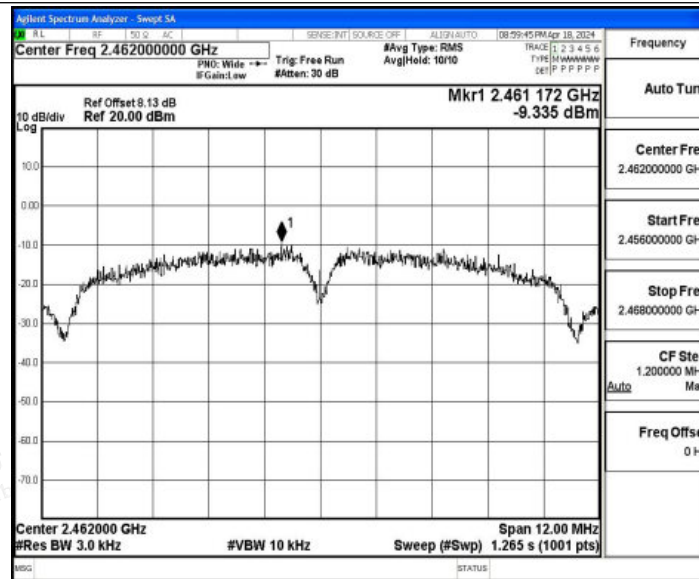


11B_Ant1_2437

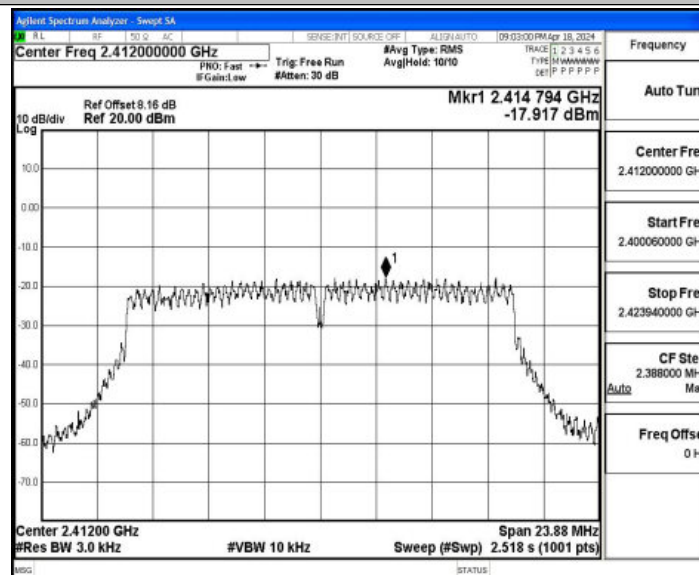


11B_Ant1_2462



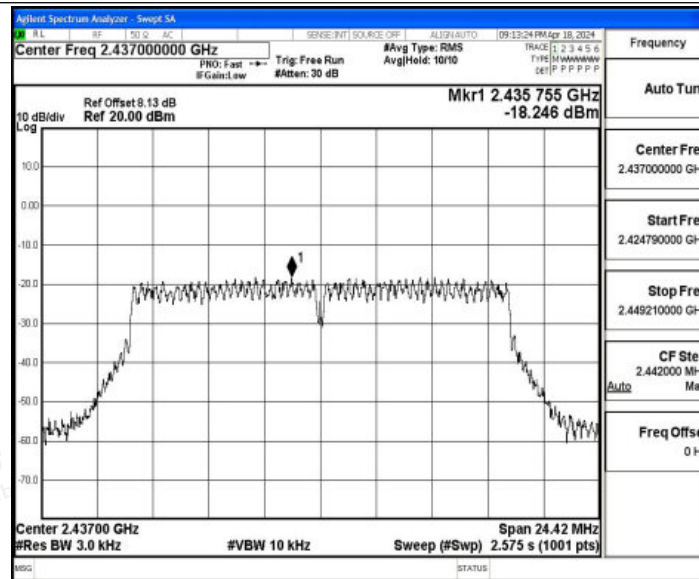


11G_Ant1_2412

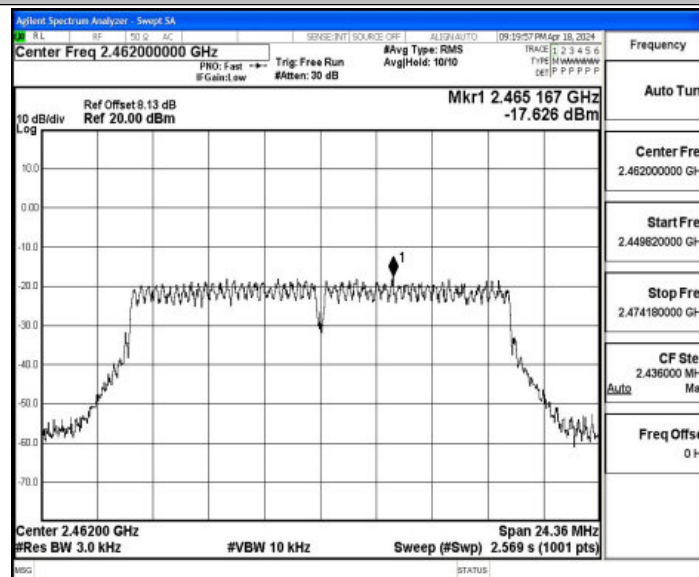


11G_Ant1_2437



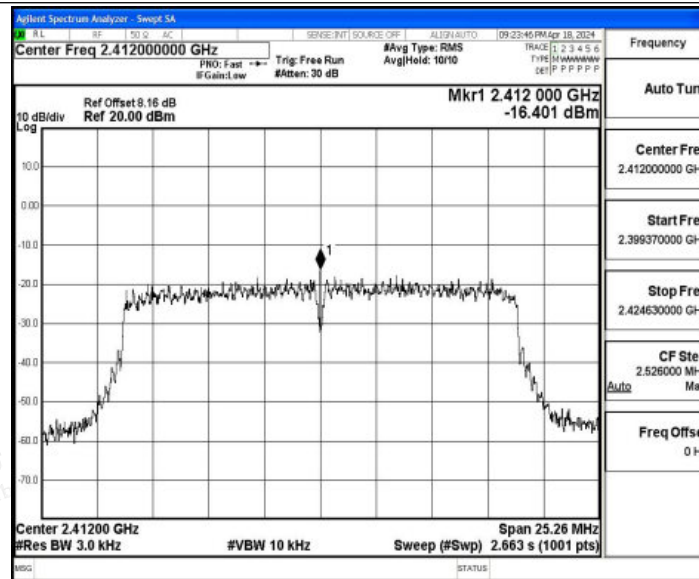


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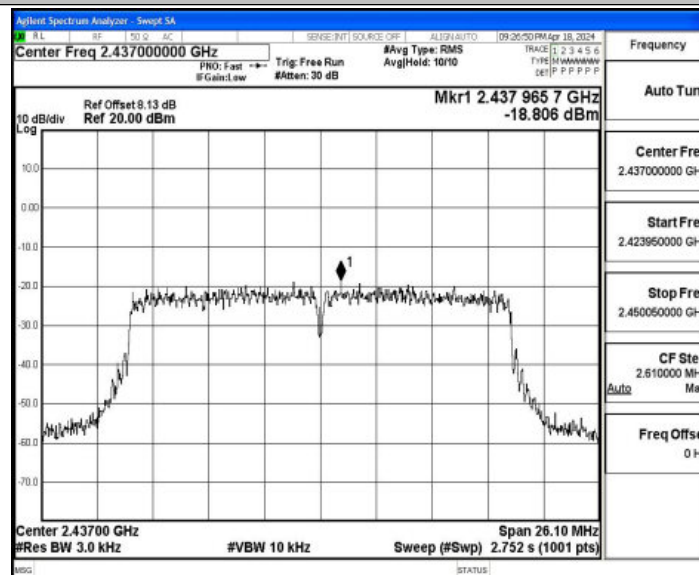


11N20SISO_Ant1_2412



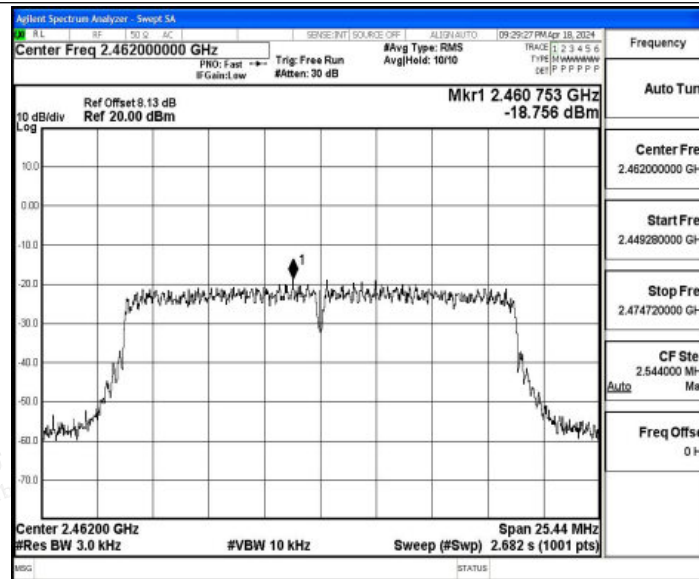


11N20SISO_Ant1_2437

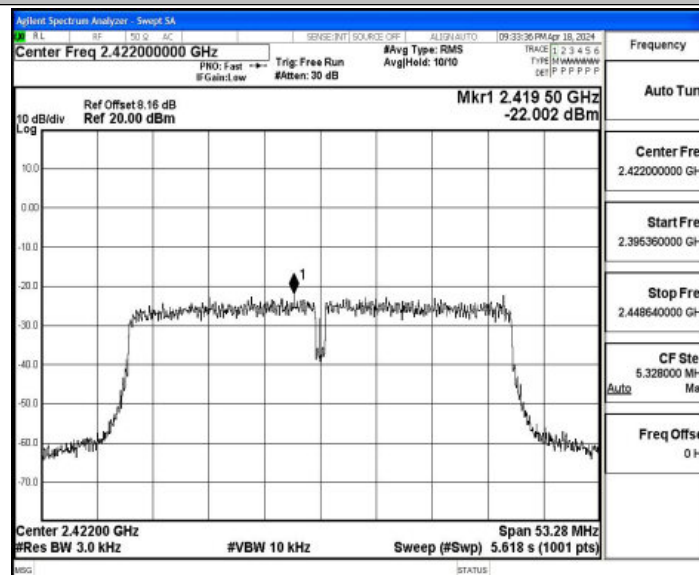


11N20SISO_Ant1_2462



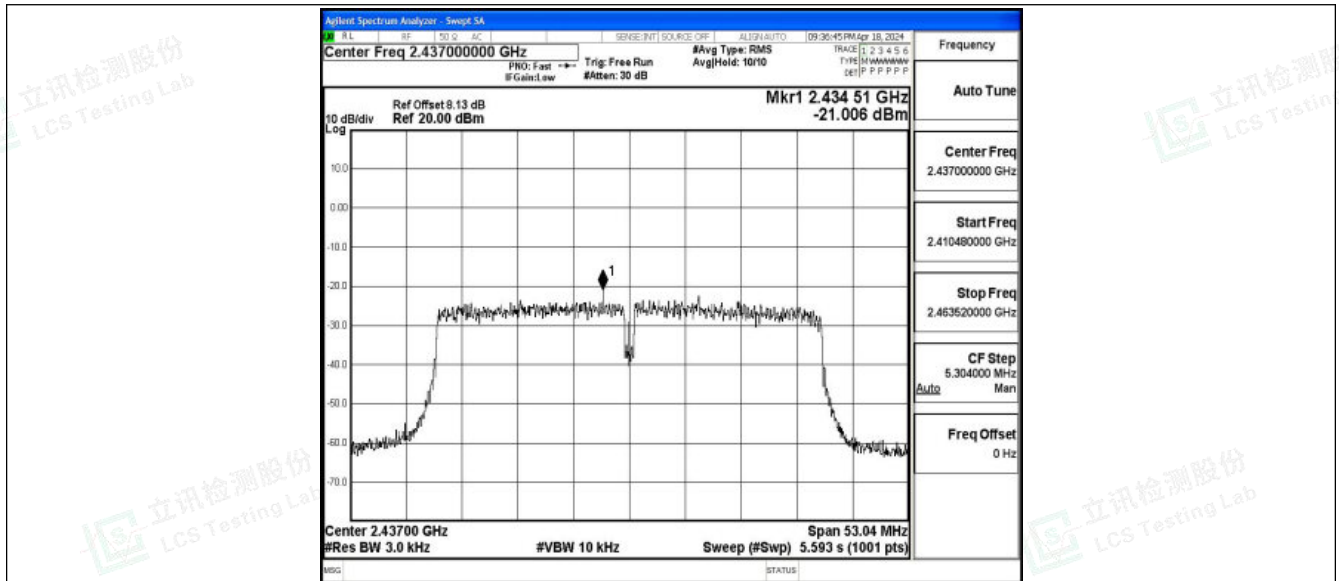


11N40SISO_Ant1_2422

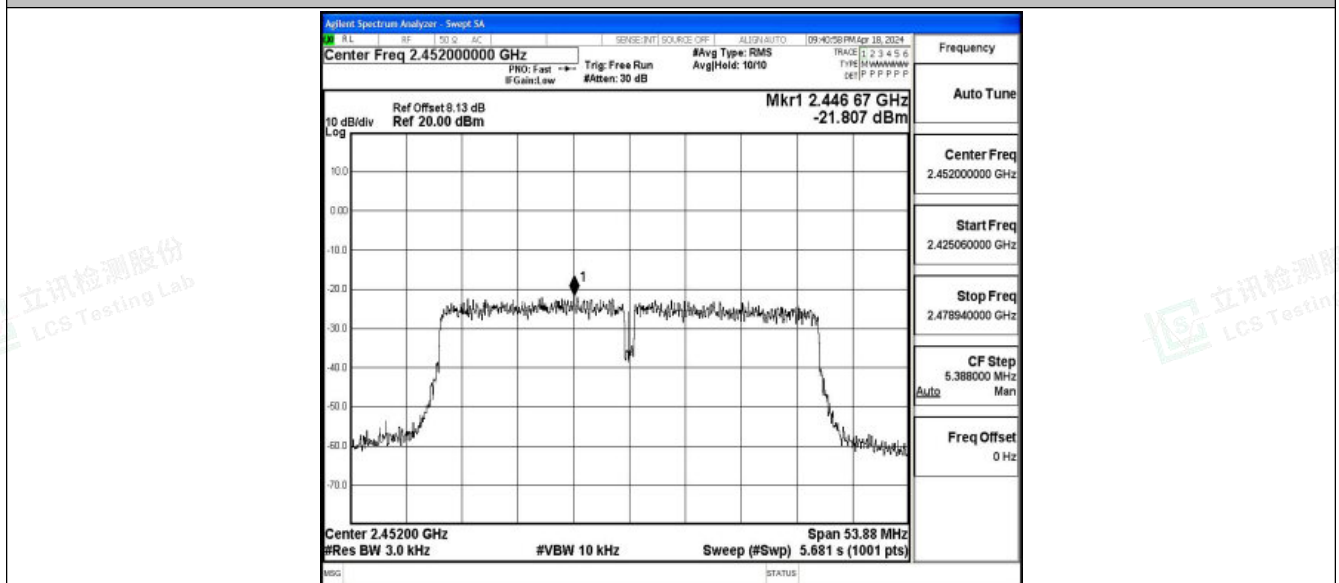


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452





B.4 Band edge measurements

Test Result

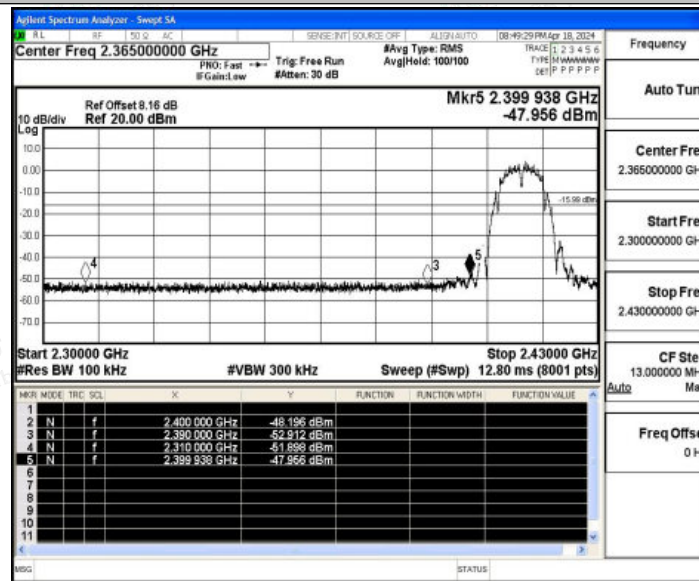
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.01	-47.96	≤ -15.99	PASS
		High	2462	4.32	-49.81	≤ -15.68	PASS
11G	Ant1	Low	2412	-3.81	-37.26	≤ -23.81	PASS
		High	2462	-3.27	-47.57	≤ -23.27	PASS
11N20SISO	Ant1	Low	2412	-3.63	-35.4	≤ -23.63	PASS
		High	2462	-4.95	-45.74	≤ -24.95	PASS
11N40SISO	Ant1	Low	2422	-8.08	-39.51	≤ -28.08	PASS
		High	2452	-7.37	-43.25	≤ -27.37	PASS



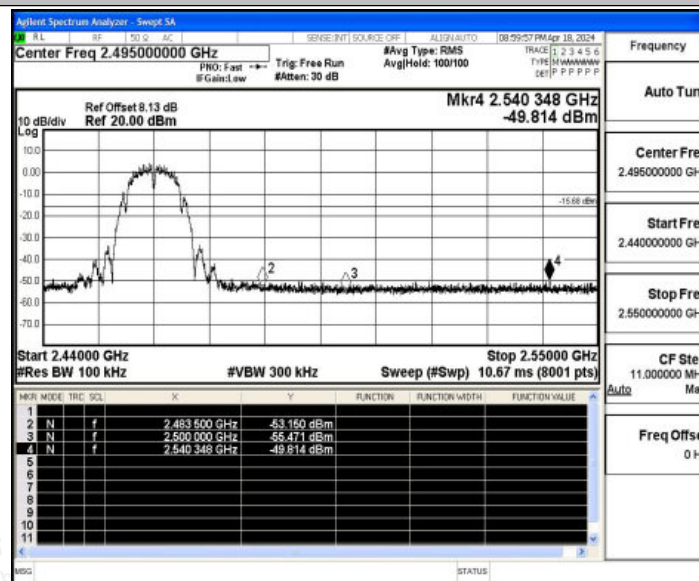


Test Graphs

11B_Ant1_Low_2412



11B_Ant1_High_2462



11G_Ant1_Low_2412

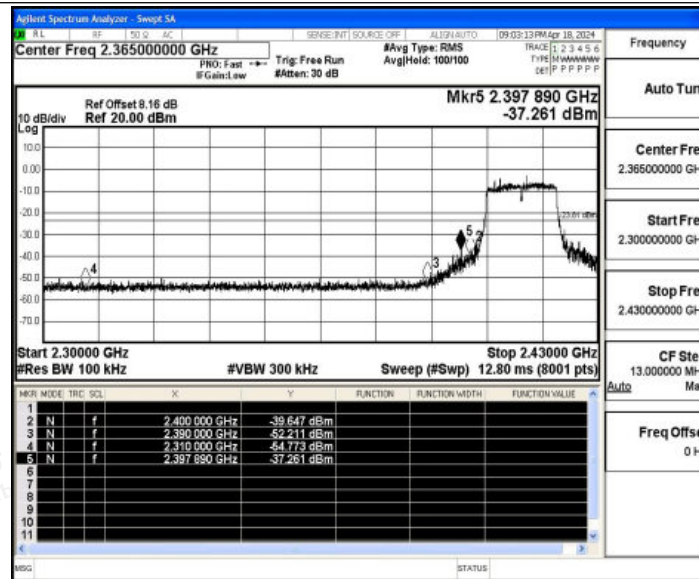


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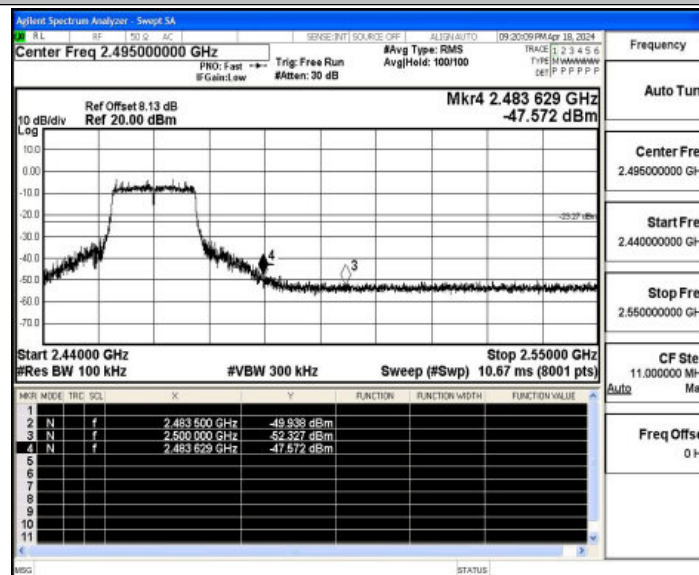
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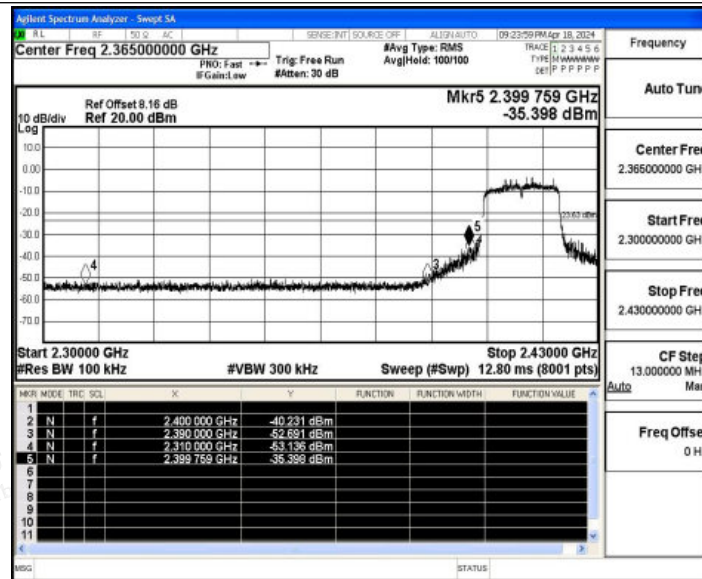


11G_Ant1_High_2462

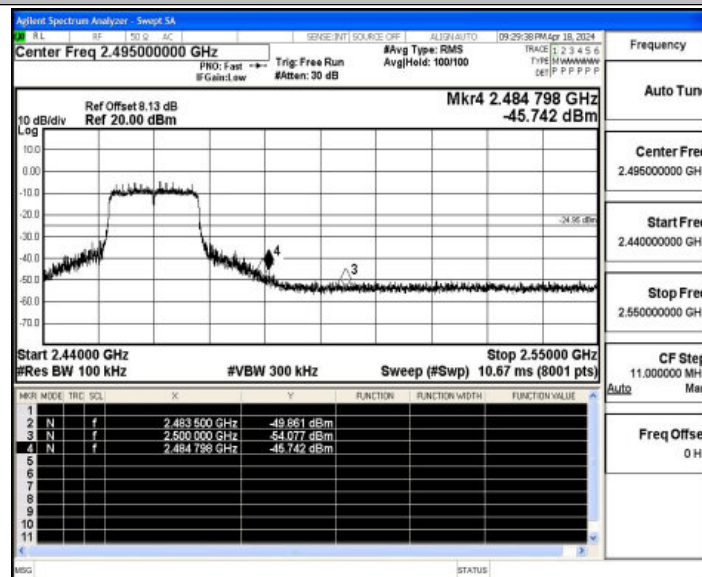


11N20SISO_Ant1_Low_2412



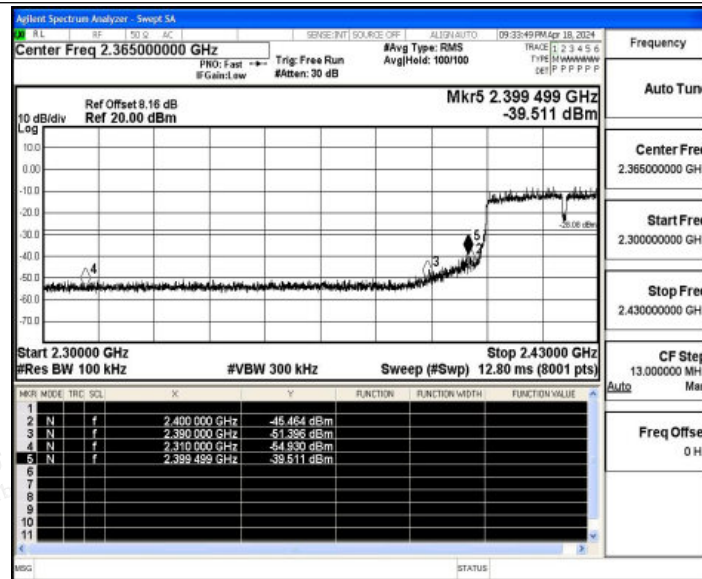


11N20SISO_Ant1_High_2462

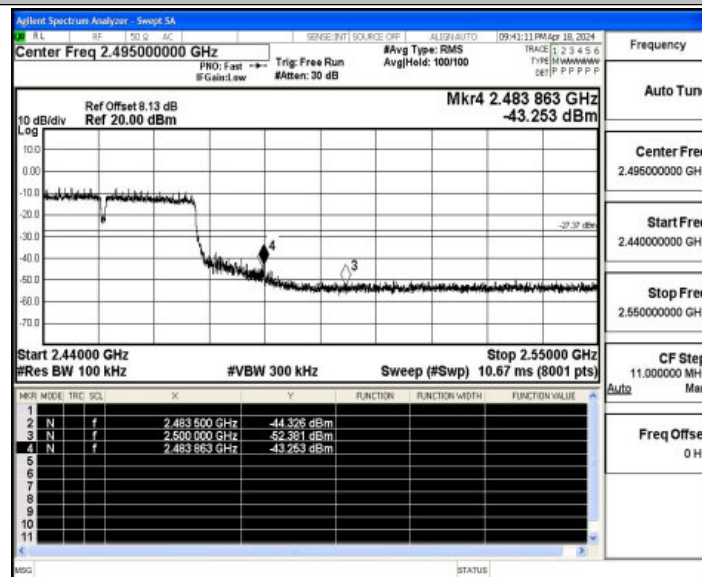


11N40SISO_Ant1_Low_2422





11N40SISO_Ant1_High_2452





B.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	4.01	-61.1	≤-15.99	PASS
			1000~26500	4.01	-49.56	≤-15.99	PASS
		2437	30~1000	4.33	-61.32	≤-15.67	PASS
			1000~26500	4.33	-49.45	≤-15.67	PASS
		2462	30~1000	4.32	-60.54	≤-15.68	PASS
			1000~26500	4.32	-49.39	≤-15.68	PASS
11G	Ant1	2412	30~1000	-3.81	-61.52	≤-23.81	PASS
			1000~26500	-3.81	-49.22	≤-23.81	PASS
		2437	30~1000	-3.20	-61.05	≤-23.2	PASS
			1000~26500	-3.20	-49.03	≤-23.2	PASS
		2462	30~1000	-3.27	-60.89	≤-23.27	PASS
			1000~26500	-3.27	-49.07	≤-23.27	PASS
11N20SISO	Ant1	2412	30~1000	-3.63	-61.56	≤-23.63	PASS
			1000~26500	-3.63	-48.89	≤-23.63	PASS
		2437	30~1000	-4.77	-61.86	≤-24.77	PASS
			1000~26500	-4.77	-49.09	≤-24.77	PASS
		2462	30~1000	-4.95	-61.61	≤-24.95	PASS
			1000~26500	-4.95	-49	≤-24.95	PASS
11N40SISO	Ant1	2422	30~1000	-8.08	-61.86	≤-28.08	PASS
			1000~26500	-8.08	-48.82	≤-28.08	PASS
		2437	30~1000	-8.42	-61.69	≤-28.42	PASS
			1000~26500	-8.42	-48.76	≤-28.42	PASS
		2452	30~1000	-7.37	-61.67	≤-27.37	PASS
			1000~26500	-7.37	-48.91	≤-27.37	PASS



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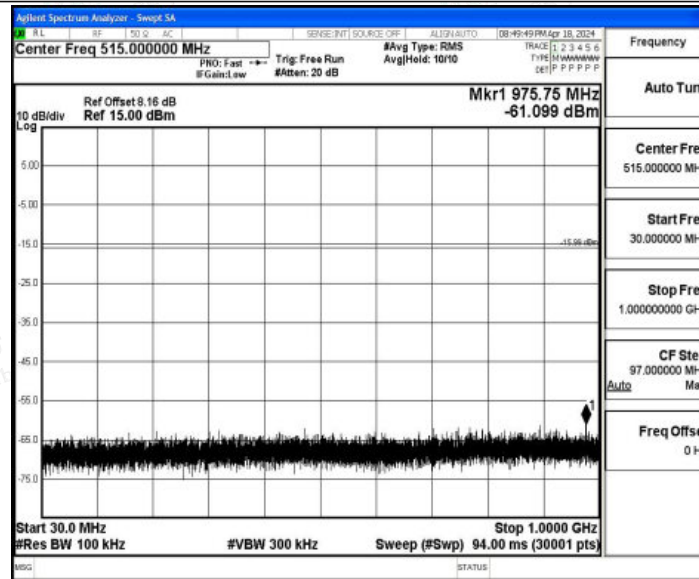
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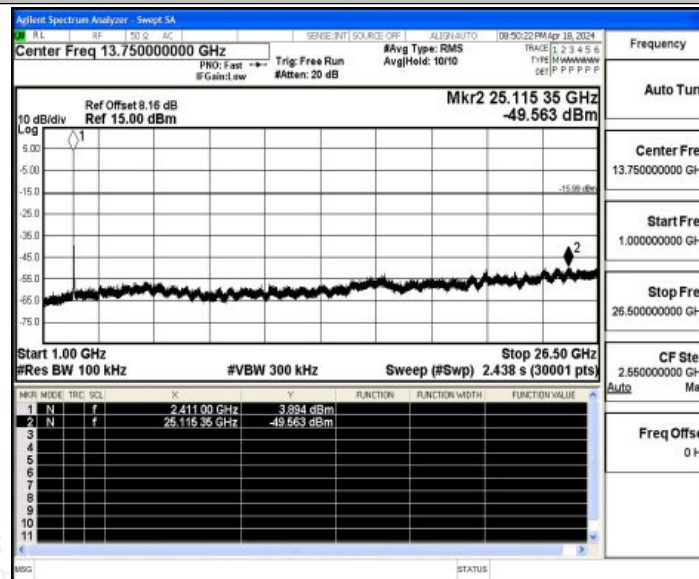


Test Graphs

11B_Ant1_2412_30~1000



11B_Ant1_2412_1000~26500



11B_Ant1_2437_30~1000

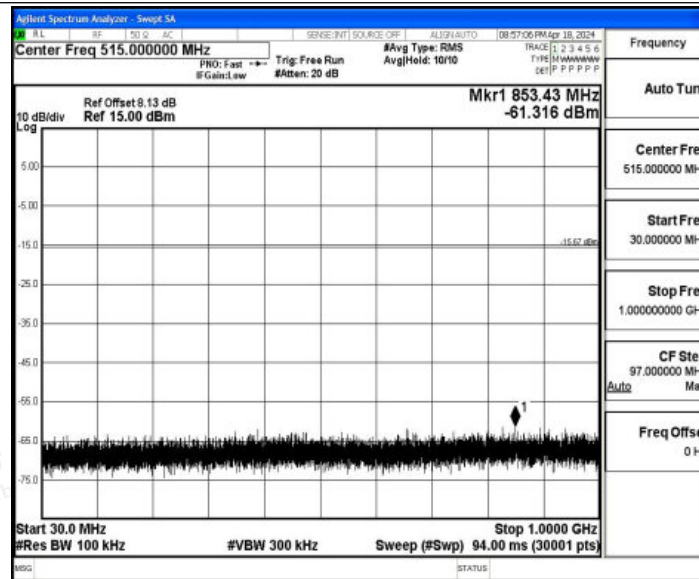


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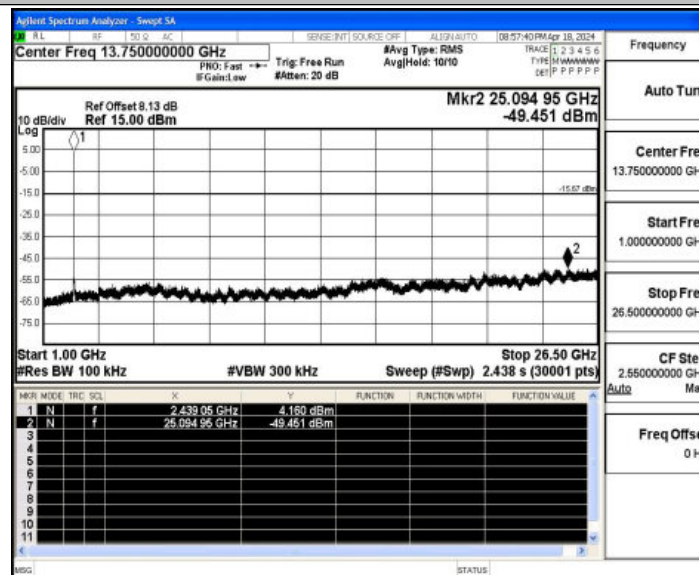
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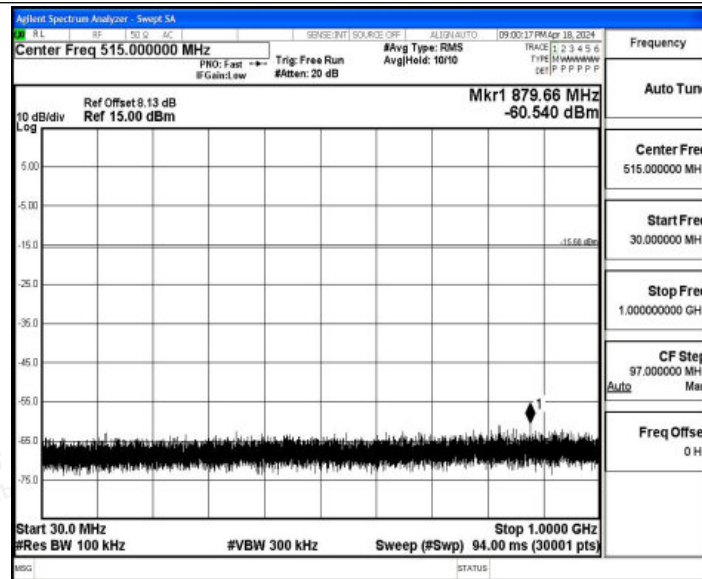


11B_Ant1_2437_1000~26500

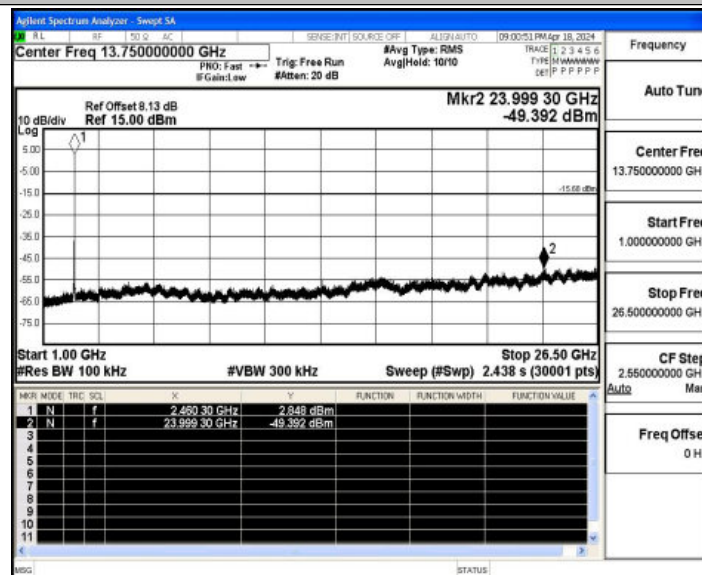


11B_Ant1_2462_30~1000



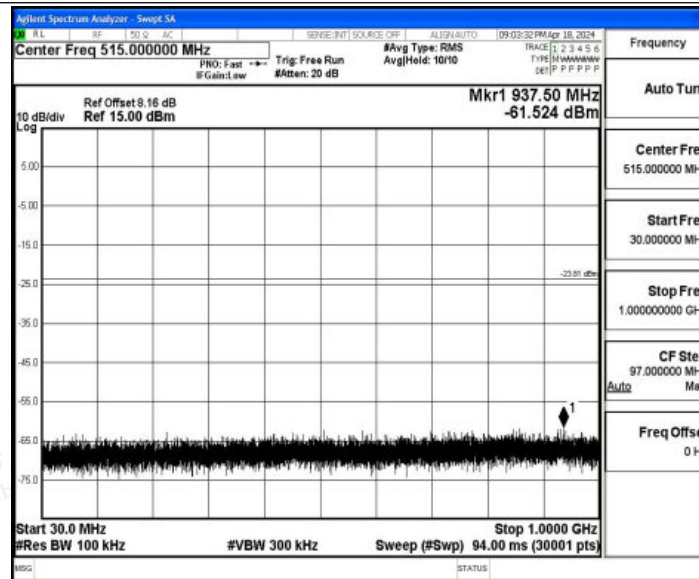


11B_Ant1_2462_1000~26500

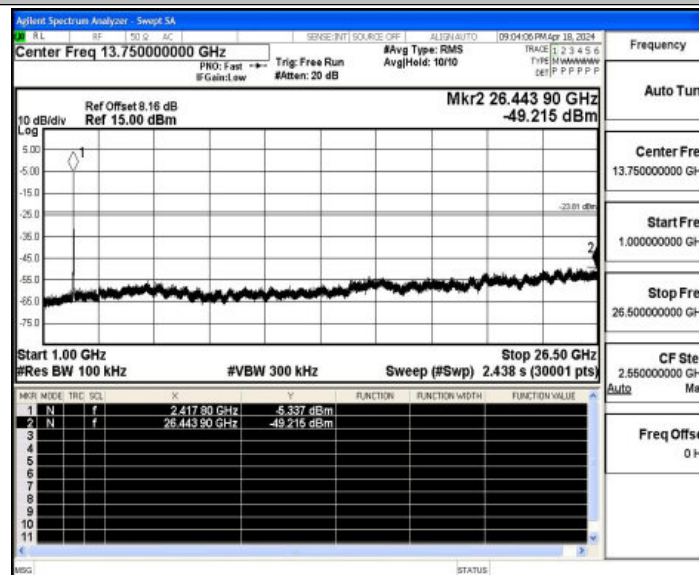


11G_Ant1_2412_30~1000



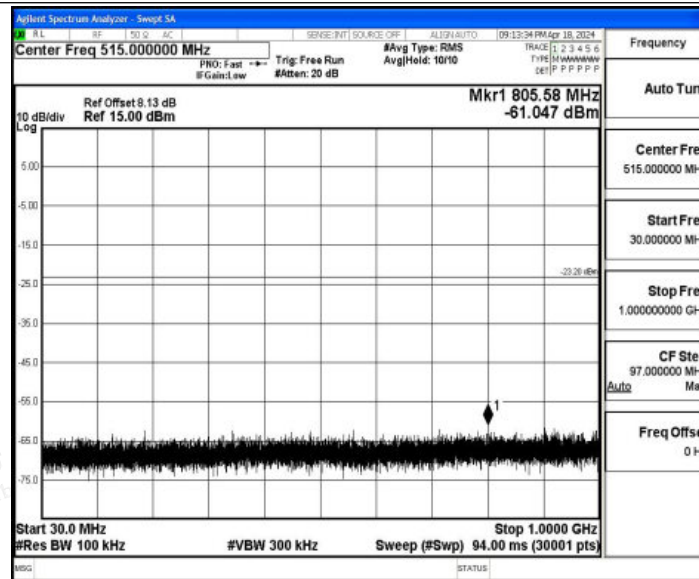


11G_Ant1_2412_1000~26500

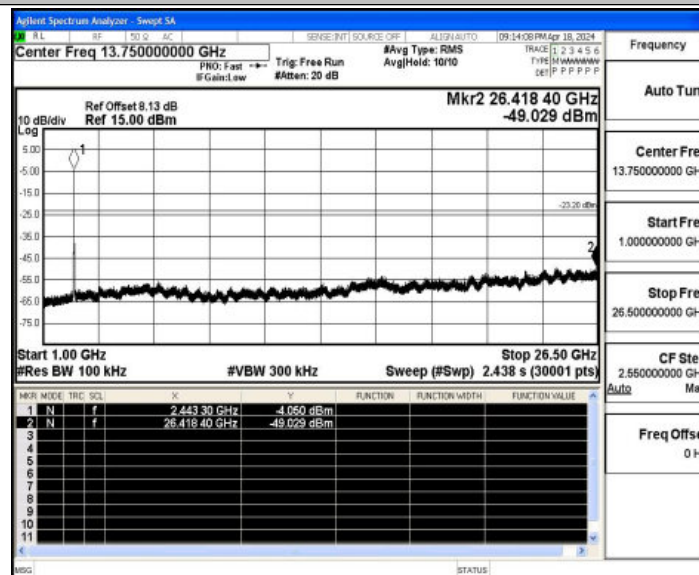


11G_Ant1_2437_30~1000



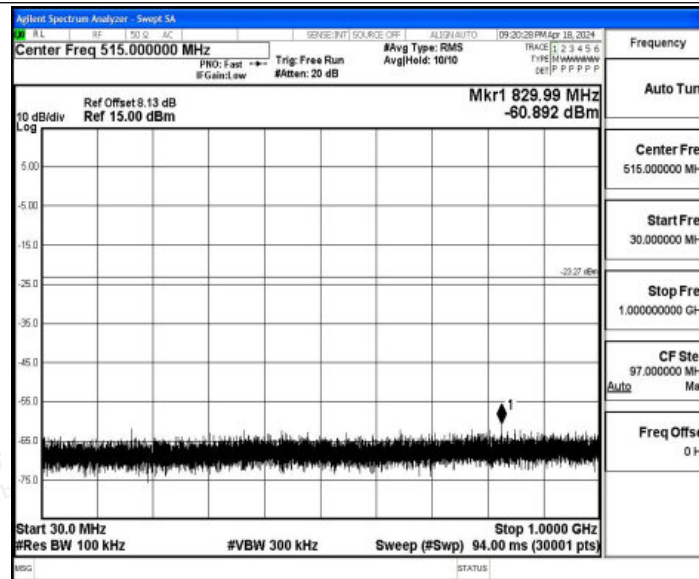


11G_Ant1_2437_1000~26500

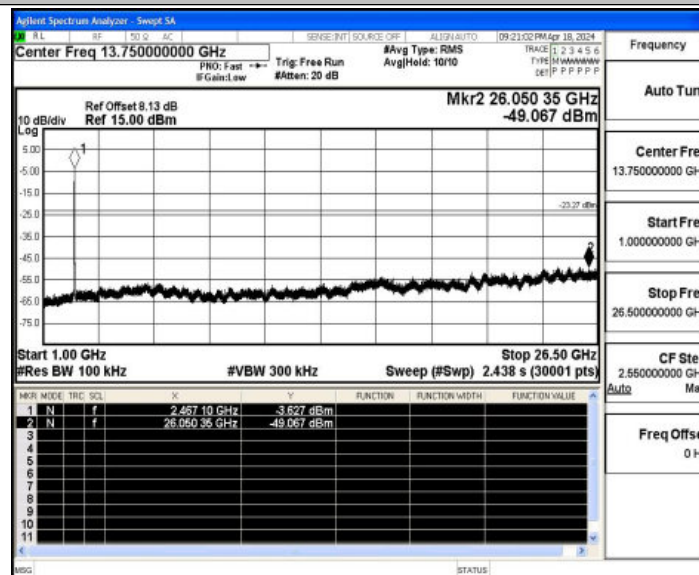


11G_Ant1_2462_30~1000



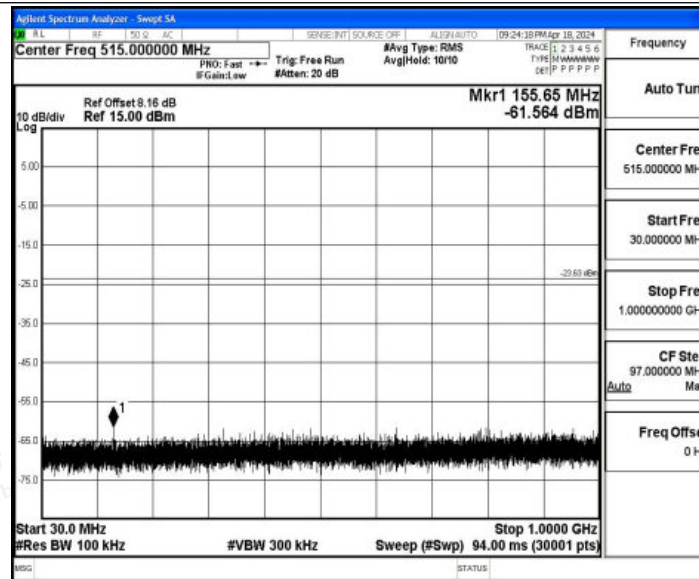


11G_Ant1_2462_1000~26500

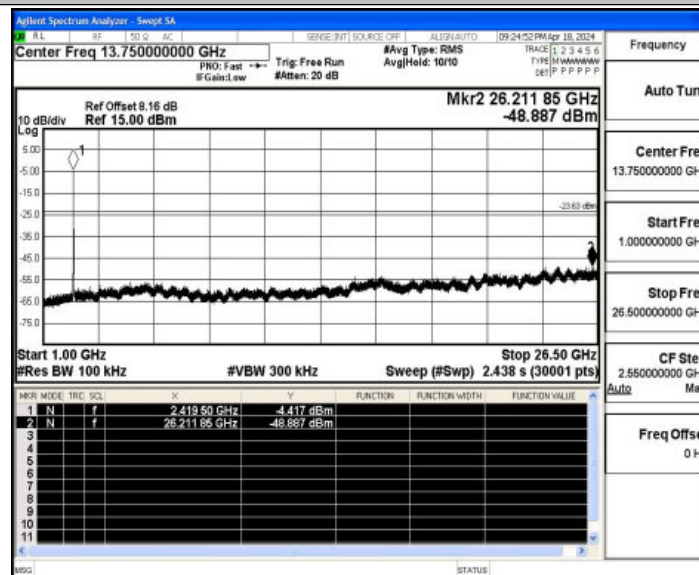


11N20SISO_Ant1_2412_30~1000



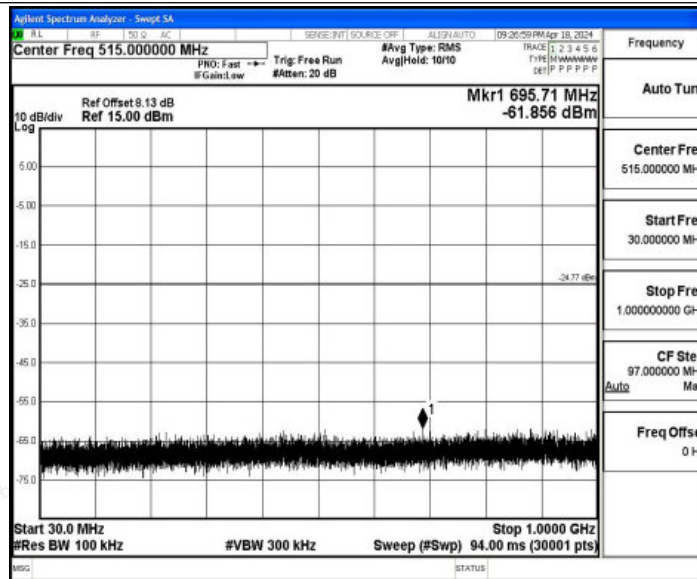


11N20SISO_Ant1_2412_1000~26500

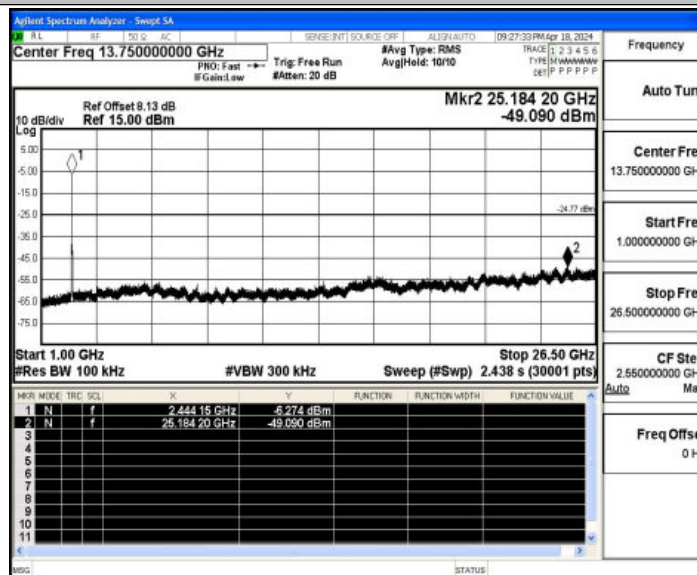


11N20SISO_Ant1_2437_30~1000



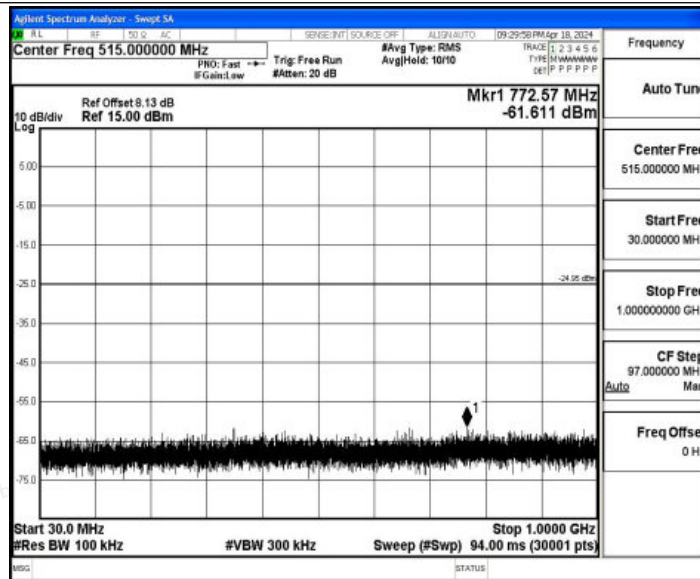


11N20SISO_Ant1_2437_1000~26500

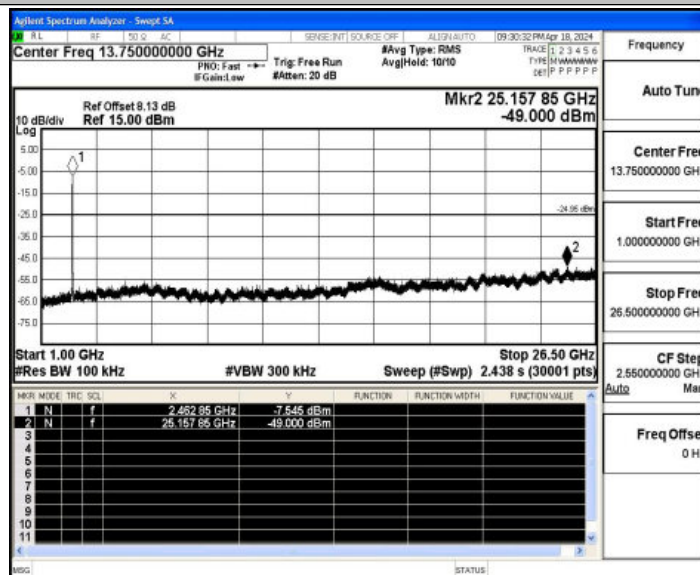


11N20SISO_Ant1_2462_30~1000



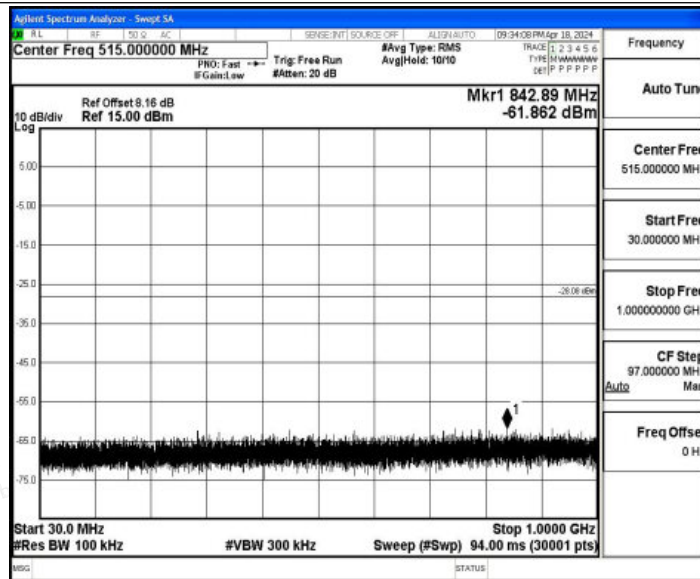


11N20SISO_Ant1_2462_1000~26500

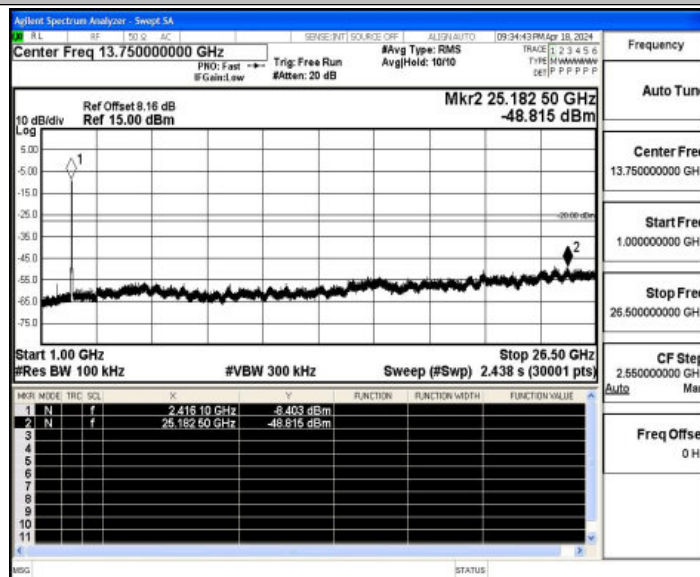


11N40SISO_Ant1_2422_30~1000



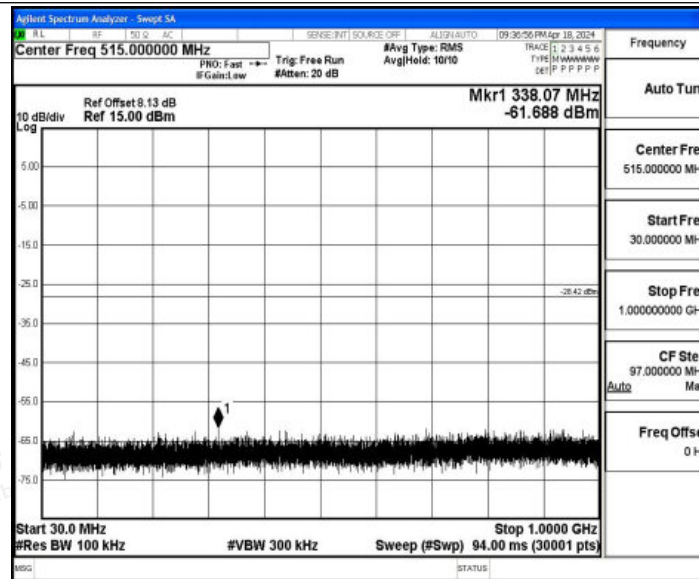


11N40SISO_Ant1_2422_1000~26500

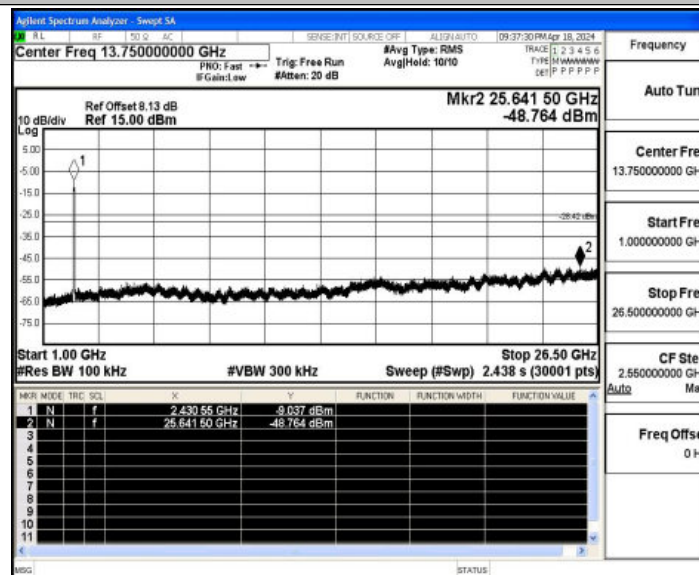


11N40SISO_Ant1_2437_30~1000



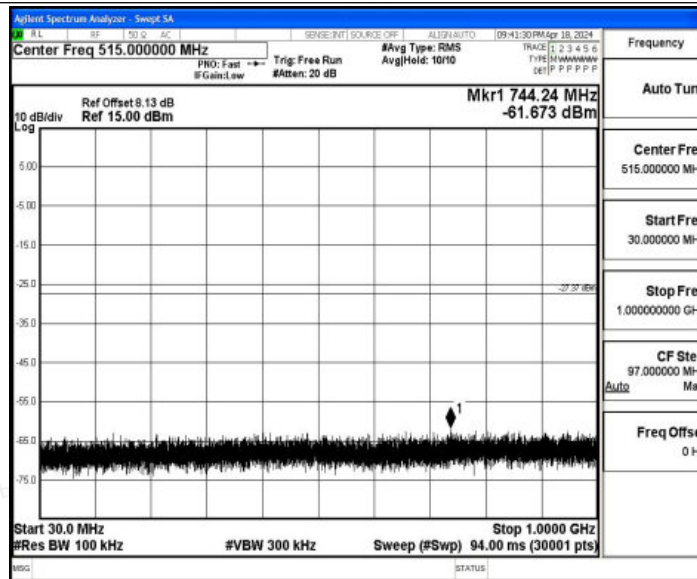


11N40SISO_Ant1_2437_1000~26500

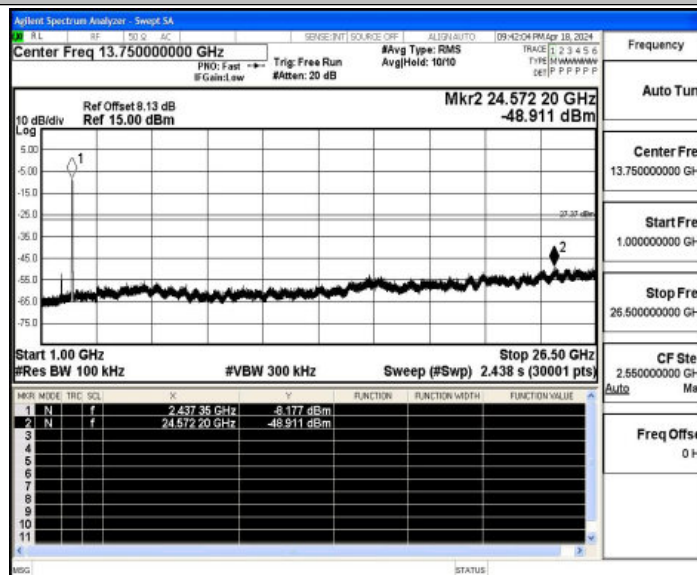


11N40SISO_Ant1_2452_30~1000





11N40SISO_Ant1_2452_1000~26500





Reference level measurement

Test Result

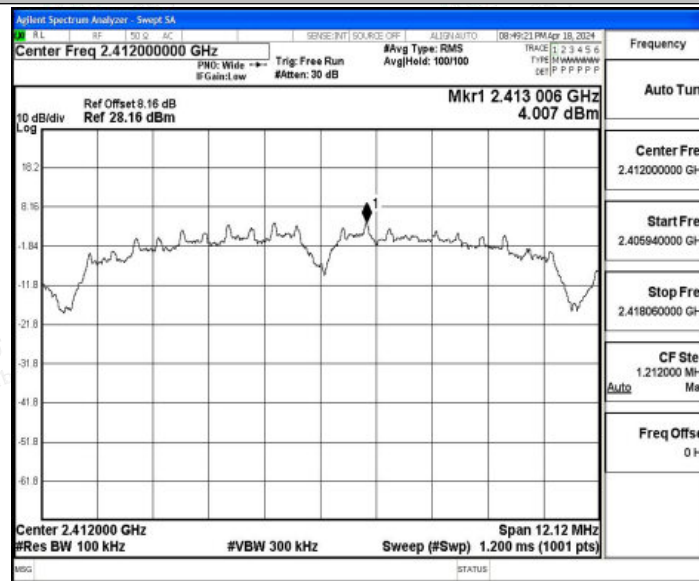
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
11B	Ant1	2412	2413.01	4.01
		2437	2436.02	4.33
		2462	2461.00	4.32
11G	Ant1	2412	2409.52	-3.81
		2437	2440.76	-3.20
		2462	2464.48	-3.27
11N20SISO	Ant1	2412	2413.26	-3.63
		2437	2438.28	-4.77
		2462	2463.25	-4.95
11N40SISO	Ant1	2422	2424.50	-8.08
		2437	2439.55	-8.42
		2452	2443.27	-7.37



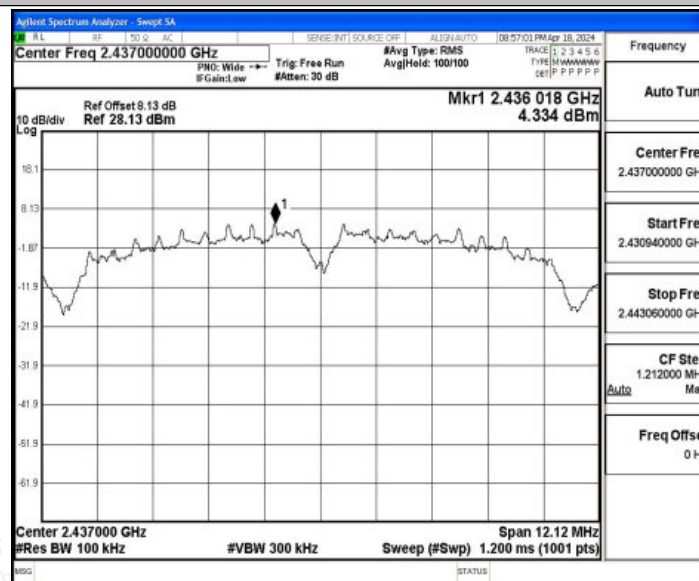


Test Graphs

11B_Ant1_2412

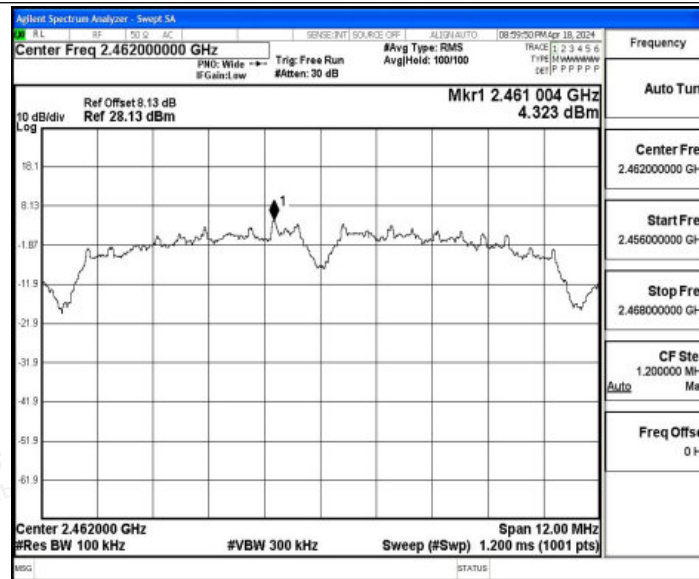


11B_Ant1_2437

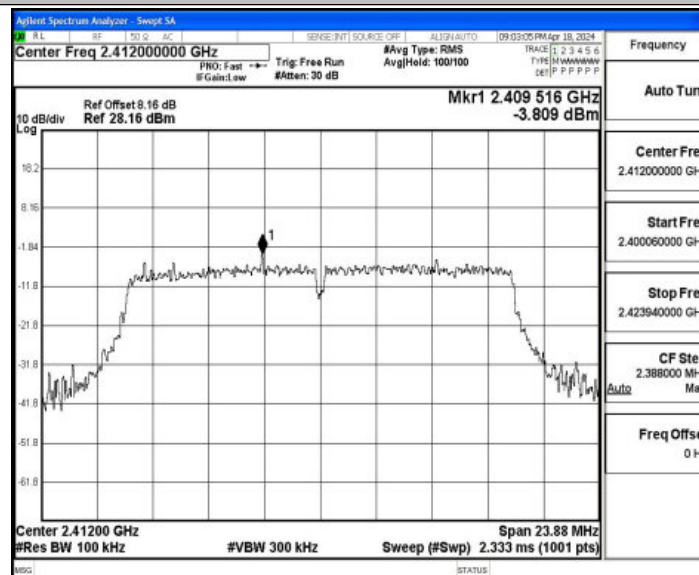


11B_Ant1_2462



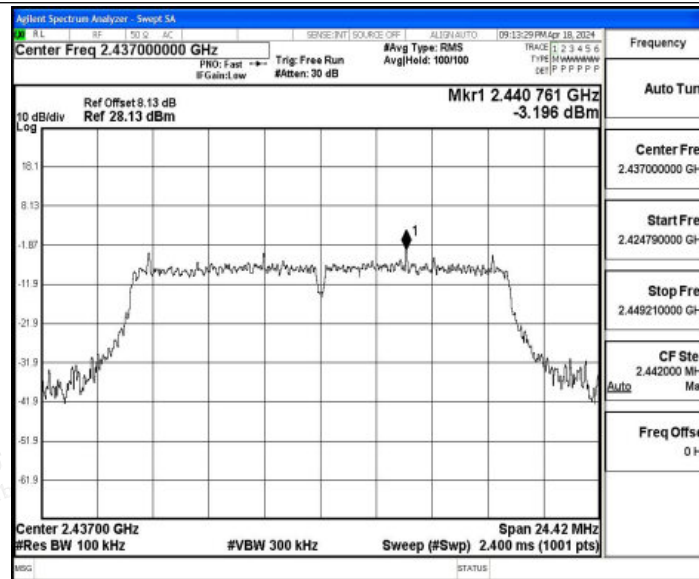


11G_Ant1_2412

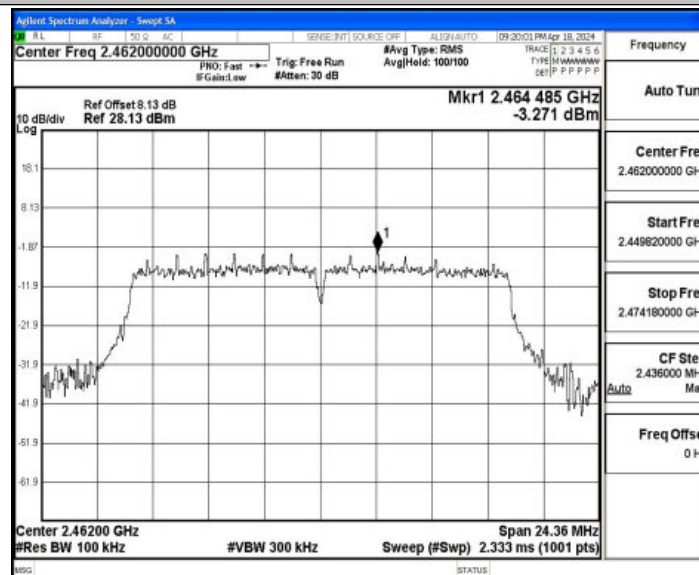


11G_Ant1_2437



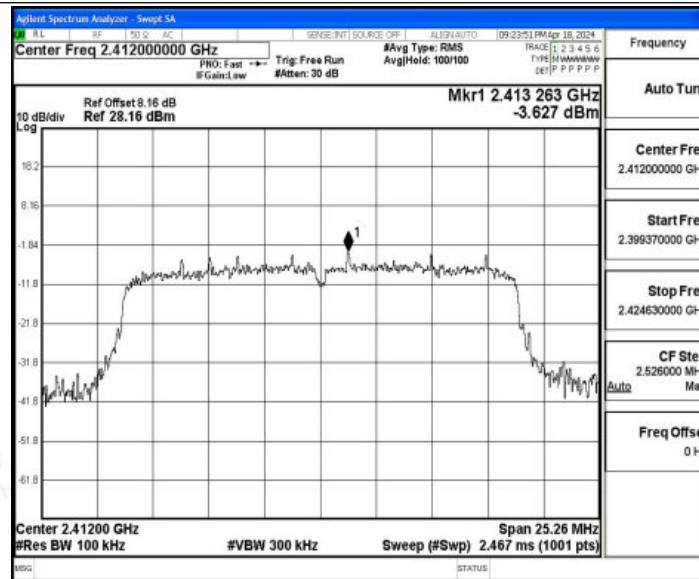


11G_Ant1_2462

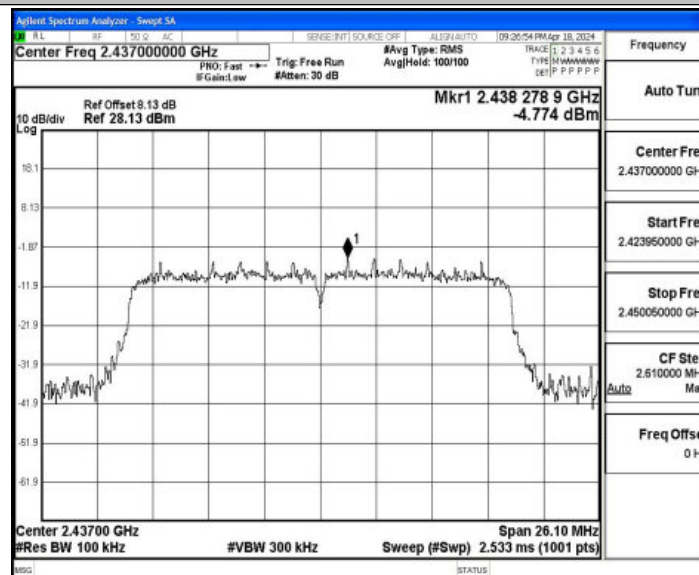


11N20SISO_Ant1_2412



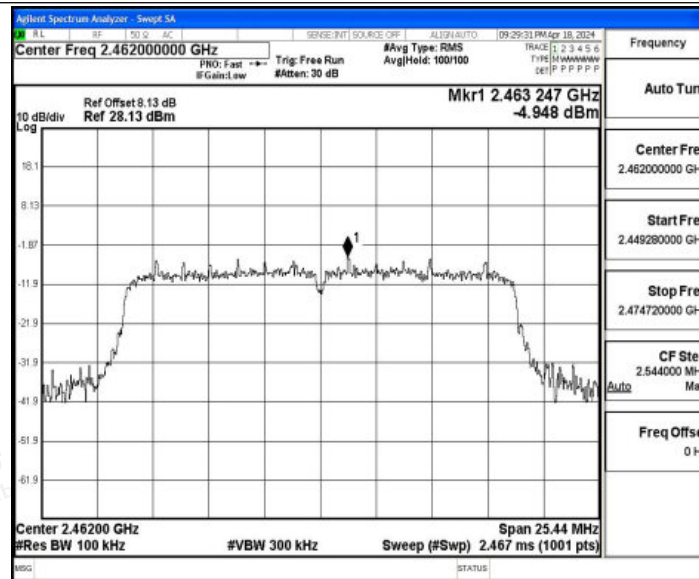


11N20SISO_Ant1_2437

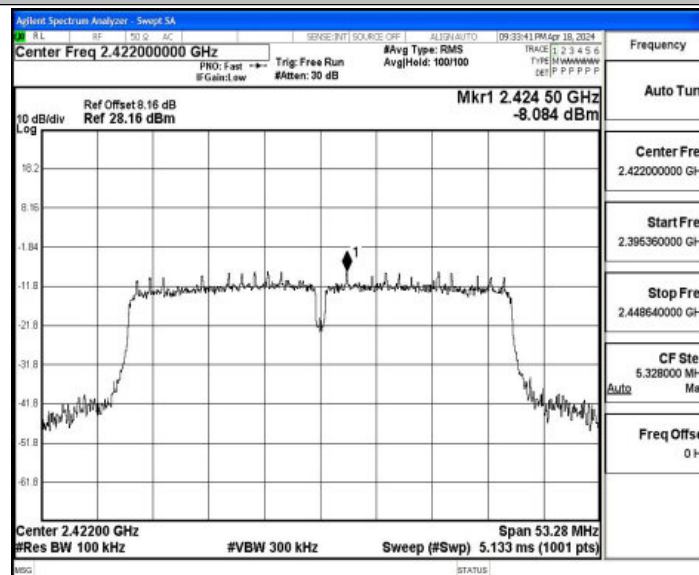


11N20SISO_Ant1_2462



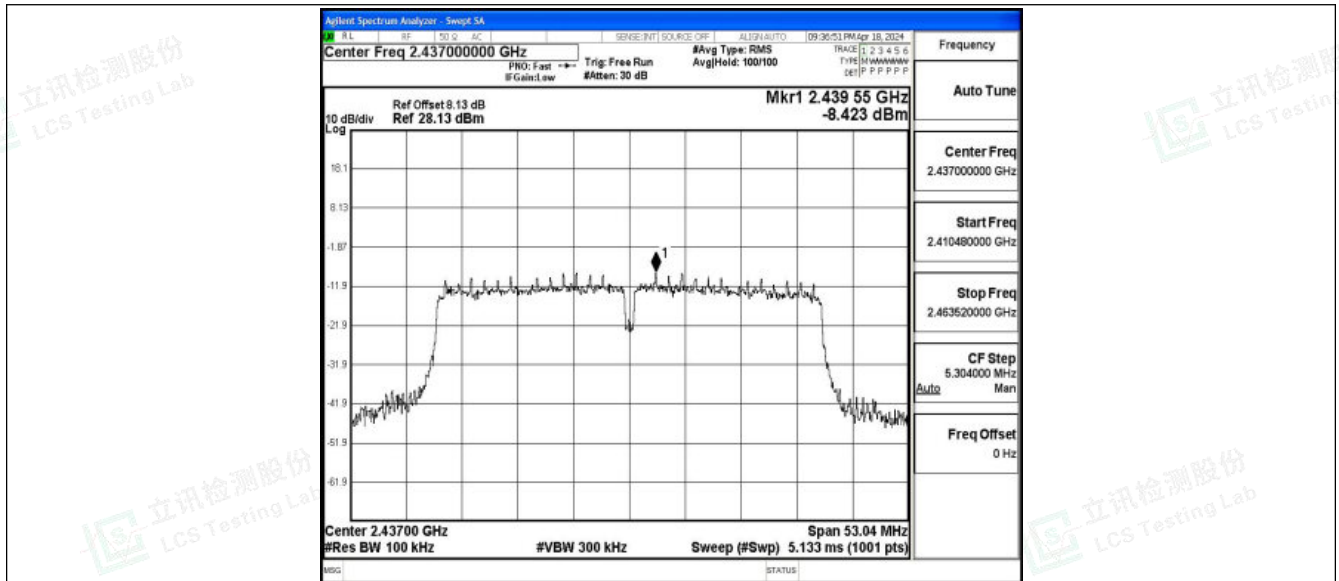


11N40SISO_Ant1_2422

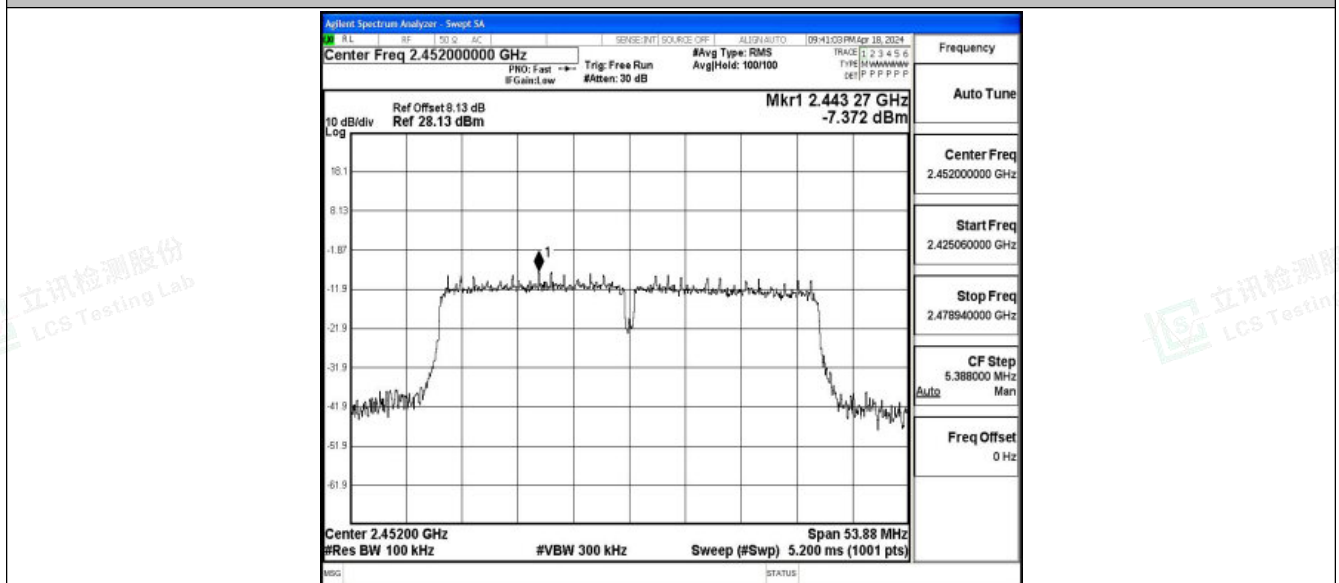


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452



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B.6 Duty Cycle

Test Result

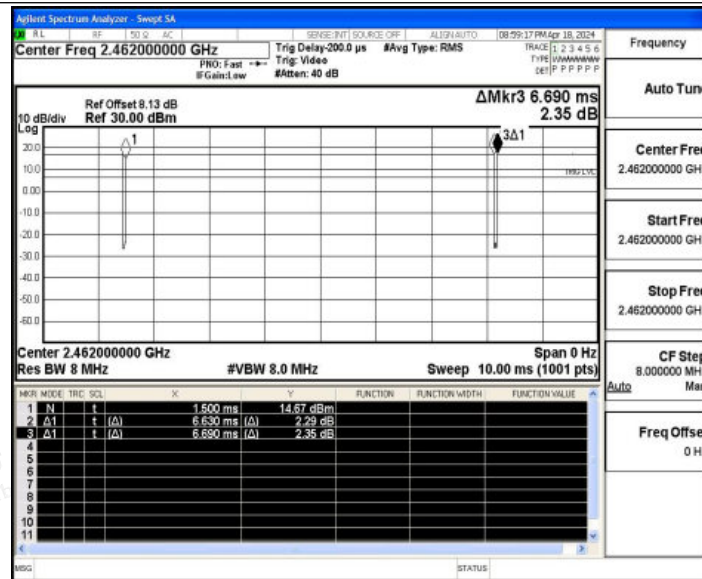
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor	1/T (kHz)	Verdict
11B	Ant1	2412	6.62	6.68	99.10	0.01	0.15	---
		2437	6.62	6.68	99.10	0.01	0.15	---
		2462	6.63	6.69	99.10	0.01	0.15	---
11G	Ant1	2412	1.10	1.16	94.83	0.23	0.91	---
		2437	1.09	1.16	93.97	0.27	0.92	---
		2462	1.09	1.16	93.97	0.27	0.92	---
11N20SISO	Ant1	2412	0.93	1.00	93.00	0.32	1.08	---
		2437	0.94	1.00	94.00	0.27	1.06	---
		2462	0.94	1.00	94.00	0.27	1.06	---
11N40SISO	Ant1	2422	0.46	0.53	86.79	0.62	2.17	---
		2437	0.47	0.53	88.68	0.52	2.13	---
		2452	0.46	0.53	86.79	0.62	2.17	---



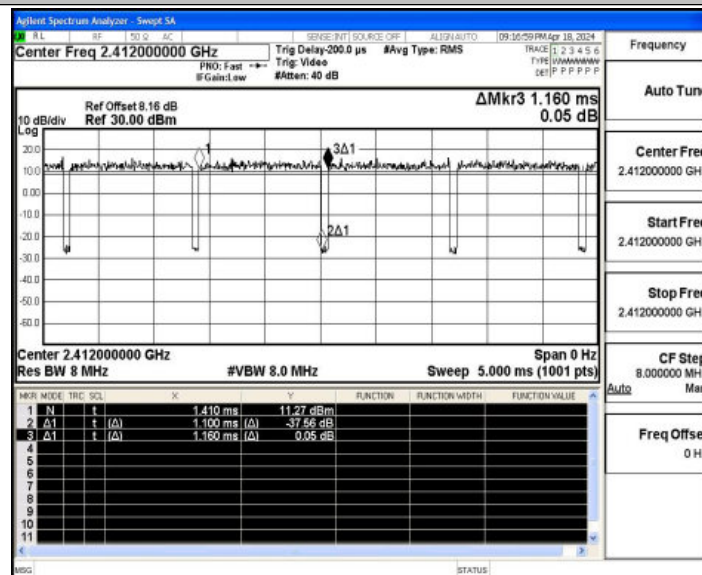
Test Graphs



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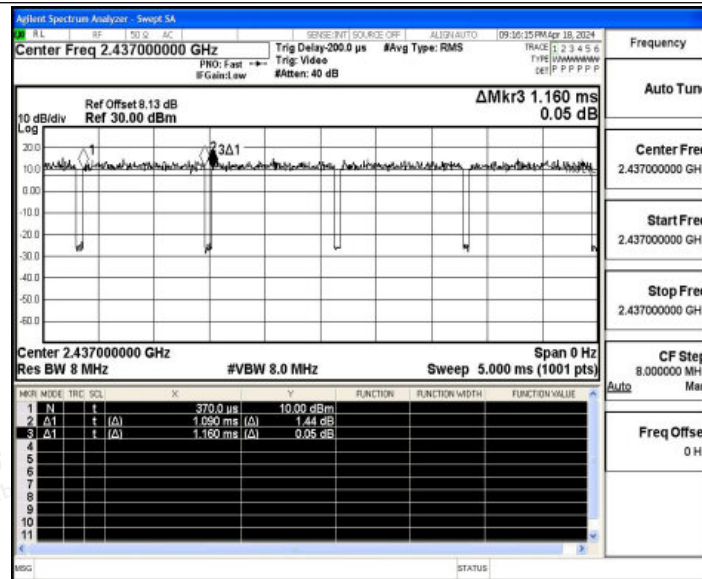


11G_Ant1_2412

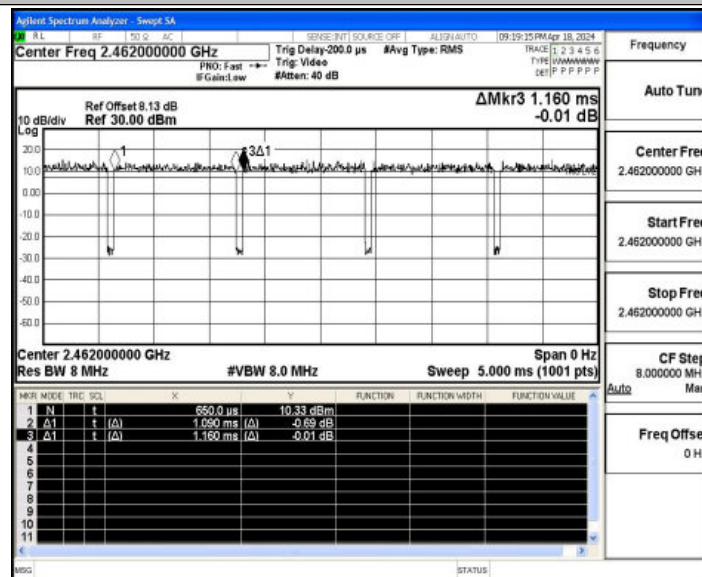


11G_Ant1_2437



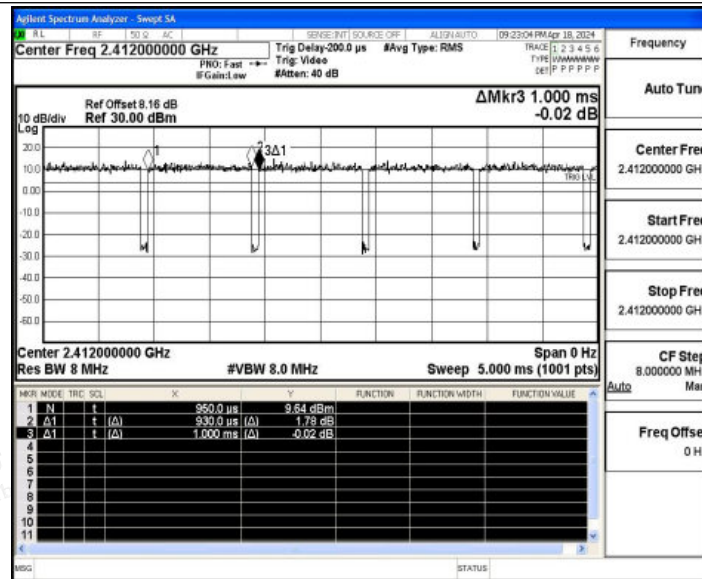


11G_Ant1_2462

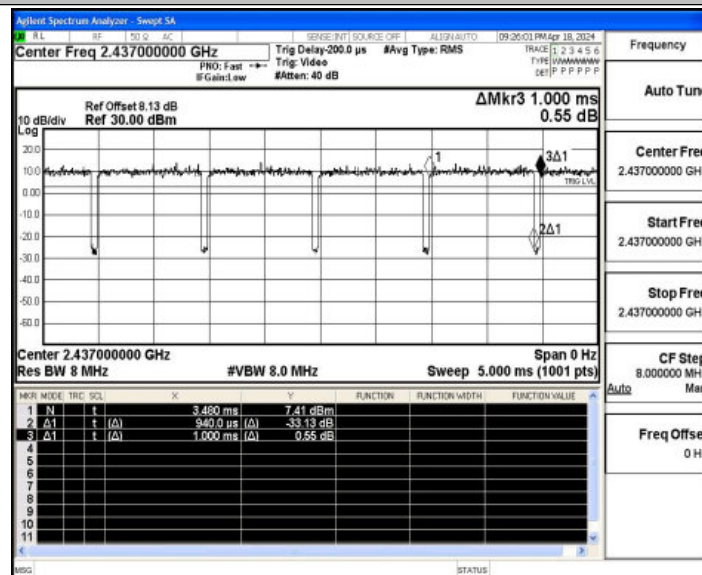


11N20SISO_Ant1_2412



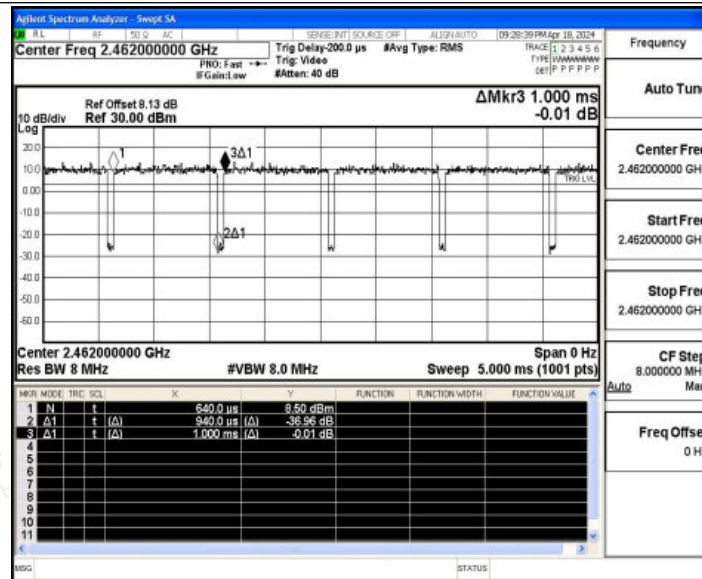


11N20SISO_Ant1_2437

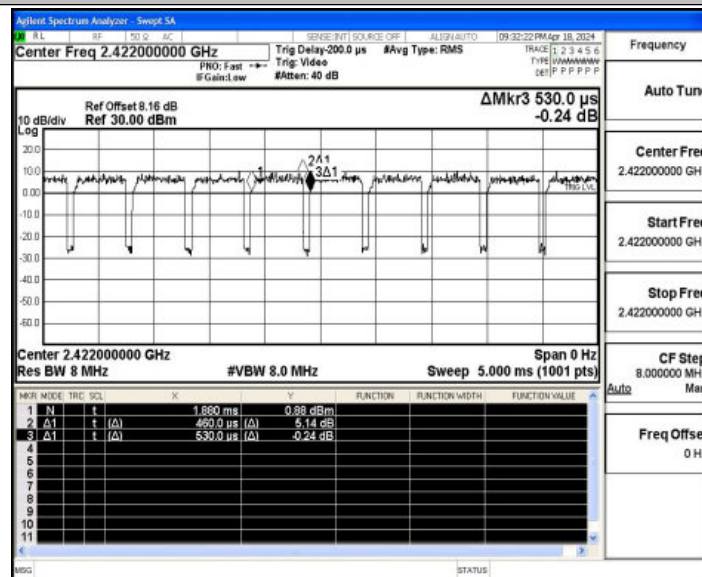


11N20SISO_Ant1_2462



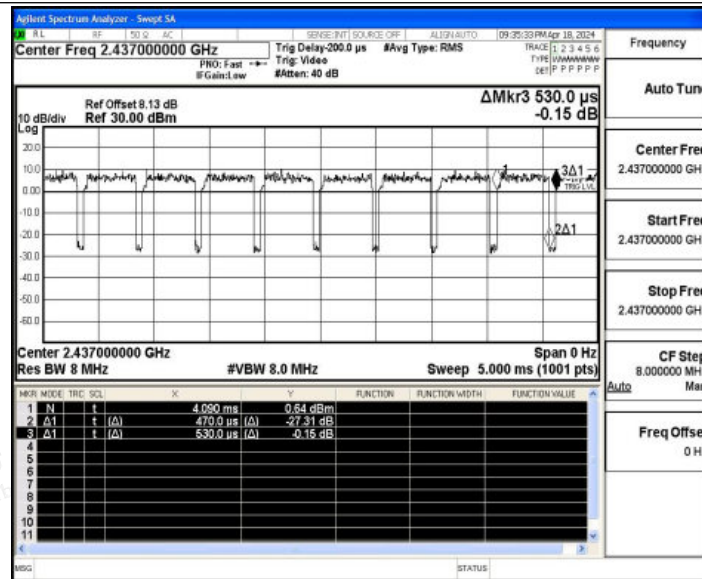


11N40SISO_Ant1_2422

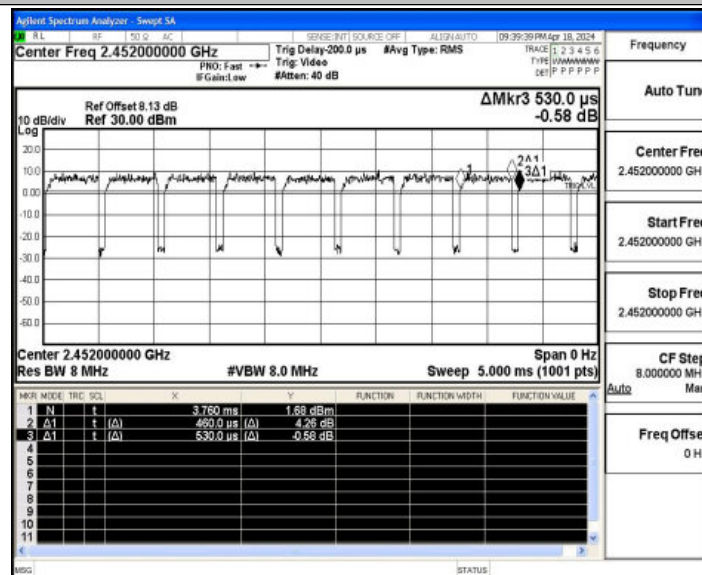


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452





B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-49.14	≤-41.20	46.06	≤54	PASS
				AV	2388.140	-48.6	≤-41.20	46.60	≤54	PASS
				AV	2390.000	-48.91	≤-41.20	46.29	≤54	PASS
				Peak	2310.000	-41.4	≤-21.20	53.80	≤74	PASS
				Peak	2330.030	-38.12	≤-21.20	57.08	≤74	PASS
				Peak	2390.000	-40.13	≤-21.20	55.07	≤74	PASS
		High	2462	AV	2483.500	-48.39	≤-41.20	46.81	≤54	PASS
				AV	2484.550	-48.09	≤-41.20	47.11	≤54	PASS
				AV	2500.000	-49.03	≤-41.20	46.17	≤54	PASS
				Peak	2483.500	-40.76	≤-21.20	54.44	≤74	PASS
				Peak	2486.530	-36.34	≤-21.20	58.86	≤74	PASS
				Peak	2500.000	-40.62	≤-21.20	54.58	≤74	PASS
11G	Ant1	Low	2412	AV	2310.000	-50.33	≤-41.20	44.87	≤54	PASS
				AV	2389.960	-47.74	≤-41.20	47.46	≤54	PASS
				AV	2390.000	-47.75	≤-41.20	47.45	≤54	PASS
				Peak	2310.000	-43.02	≤-21.20	52.18	≤74	PASS
				Peak	2388.790	-35.72	≤-21.20	59.48	≤74	PASS
				Peak	2390.000	-40.12	≤-21.20	55.08	≤74	PASS
		High	2462	AV	2483.500	-46.27	≤-41.20	48.93	≤54	PASS
				AV	2483.560	-46.14	≤-41.20	49.06	≤54	PASS
				AV	2500.000	-49.33	≤-41.20	45.87	≤54	PASS
				Peak	2483.500	-32.01	≤-21.20	63.19	≤74	PASS
				Peak	2484.000	-32.22	≤-21.20	62.98	≤74	PASS
				Peak	2500.000	-41.12	≤-21.20	54.08	≤74	PASS
11N20SI SO	Ant1	Low	2412	AV	2310.000	-49.14	≤-41.20	46.06	≤54	PASS
				AV	2389.700	-47.31	≤-41.20	47.89	≤54	PASS
				AV	2390.000	-47.8	≤-41.20	47.40	≤54	PASS
				Peak	2310.000	-42.48	≤-21.20	52.72	≤74	PASS
				Peak	2389.700	-31.83	≤-21.20	63.37	≤74	PASS
				Peak	2390.000	-32.11	≤-21.20	63.09	≤74	PASS
		High	2462	AV	2483.500	-47.17	≤-41.20	48.03	≤54	PASS
				AV	2483.670	-47.5	≤-41.20	47.70	≤54	PASS
				AV	2500.000	-49.51	≤-41.20	45.69	≤54	PASS
				Peak	2483.500	-35.8	≤-21.20	59.40	≤74	PASS
				Peak	2483.670	-33.97	≤-21.20	61.23	≤74	PASS



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11N40SI SO	Ant1	Low	2422	Peak	2500.000	-40.09	≤-21.20	55.11	≤74	PASS
				AV	2310.000	-49.59	≤-41.20	45.61	≤54	PASS
				AV	2389.960	-46.11	≤-41.20	49.09	≤54	PASS
				AV	2390.000	-46.12	≤-41.20	49.08	≤54	PASS
				Peak	2310.000	-41.88	≤-21.20	53.32	≤74	PASS
				Peak	2389.700	-35.77	≤-21.20	59.43	≤74	PASS
		High	2452	Peak	2390.000	-37.72	≤-21.20	57.48	≤74	PASS
				AV	2483.500	-47.56	≤-41.20	47.64	≤54	PASS
				AV	2484.440	-47.17	≤-41.20	48.03	≤54	PASS
				AV	2500.000	-48.75	≤-41.20	46.45	≤54	PASS
				Peak	2483.500	-35.54	≤-21.20	59.66	≤74	PASS
				Peak	2483.890	-34.81	≤-21.20	60.39	≤74	PASS
				Peak	2500.000	-40.03	≤-21.20	55.17	≤74	PASS

Note:

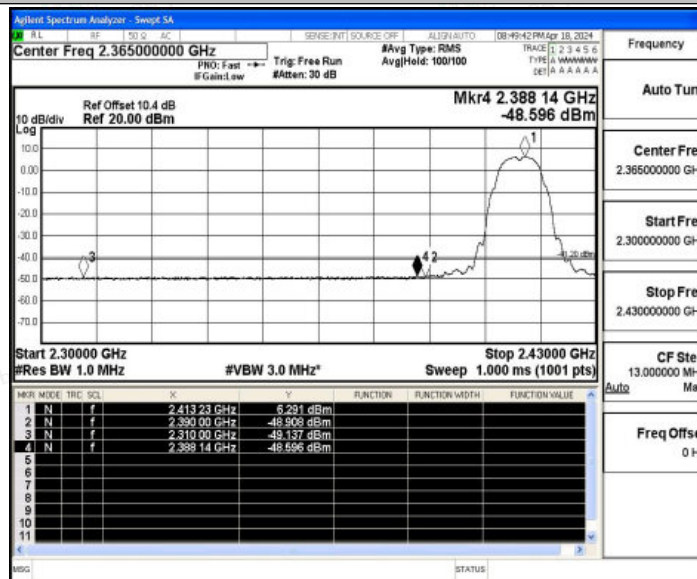
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



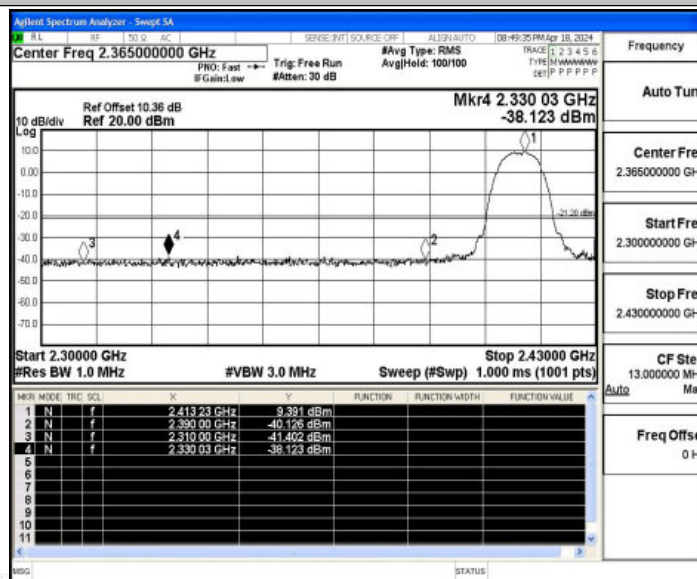


Test Graphs

11B_Ant1_Low_2412_AV



11B_Ant1_Low_2412_Peak



11B_Ant1_High_2462_AV

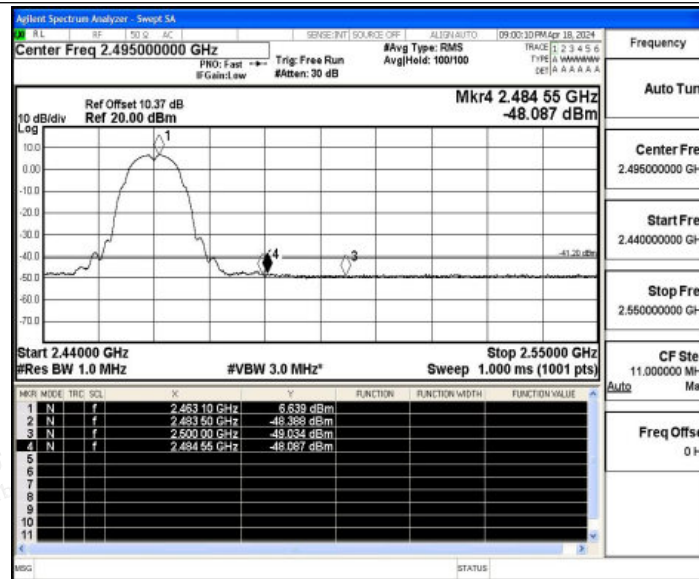


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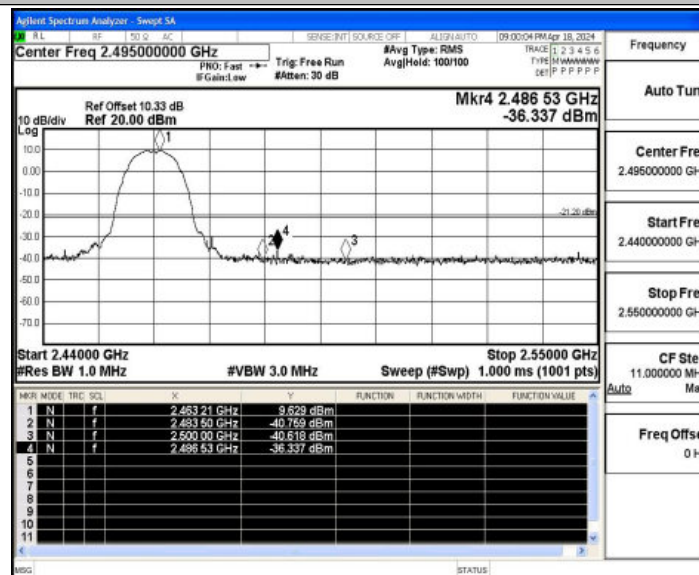
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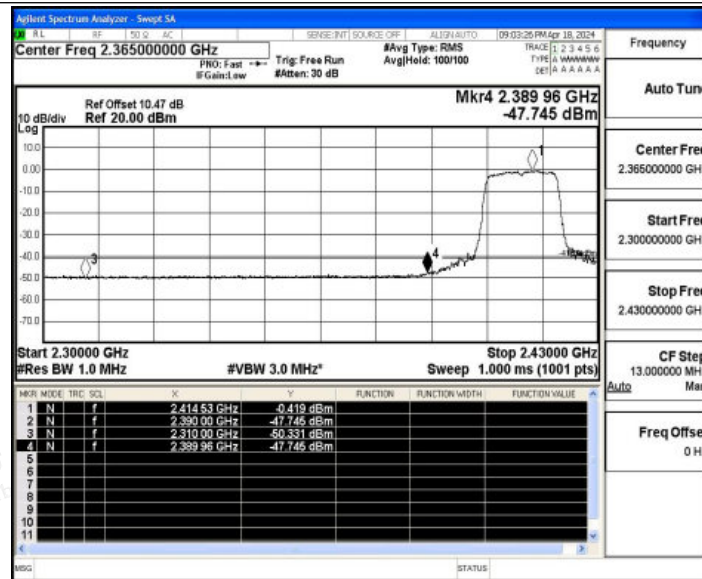


11B_Ant1_High_2462_Peak

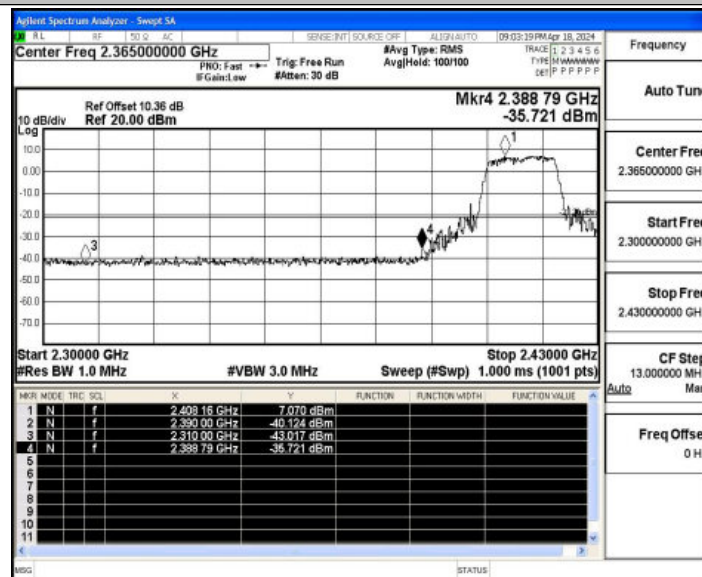


11G_Ant1_Low_2412_AV



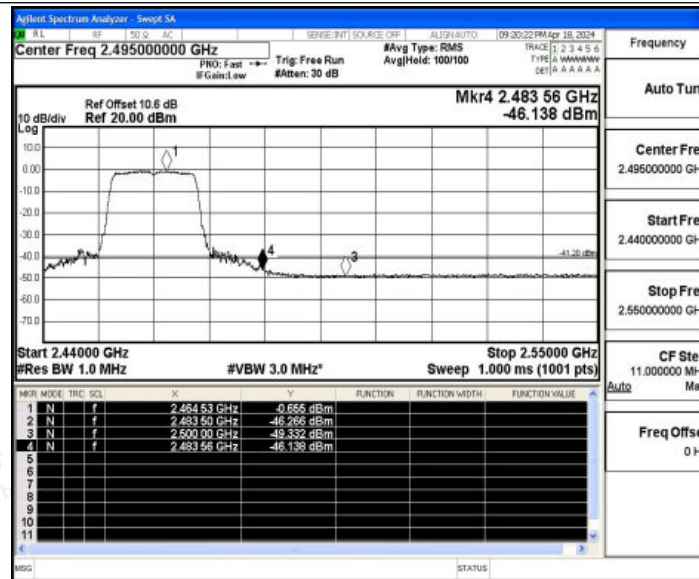


11G_Ant1_Low_2412_Peak

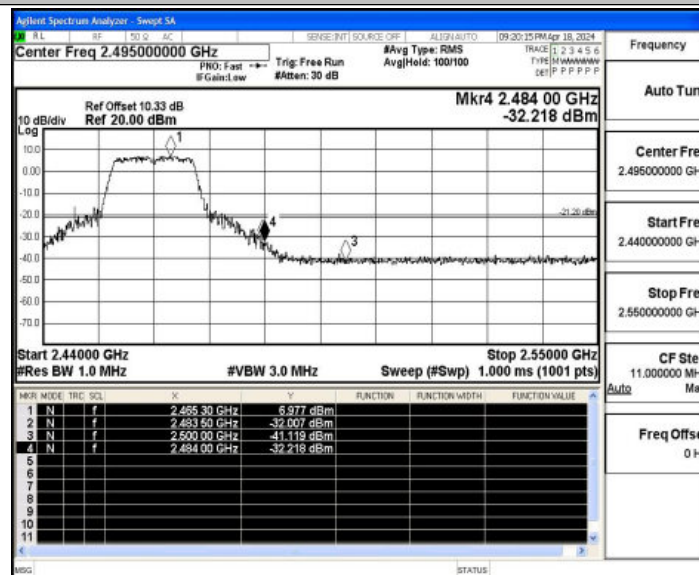


11G_Ant1_High_2462_AV



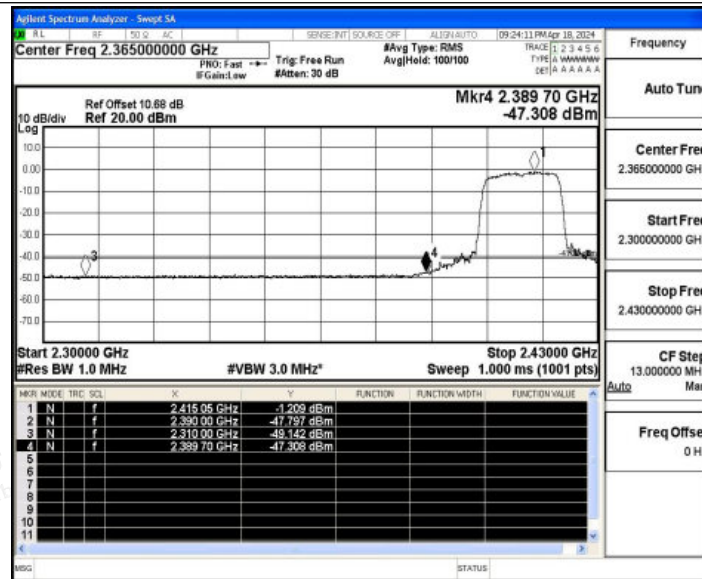


11G_Ant1_High_2462_Peak

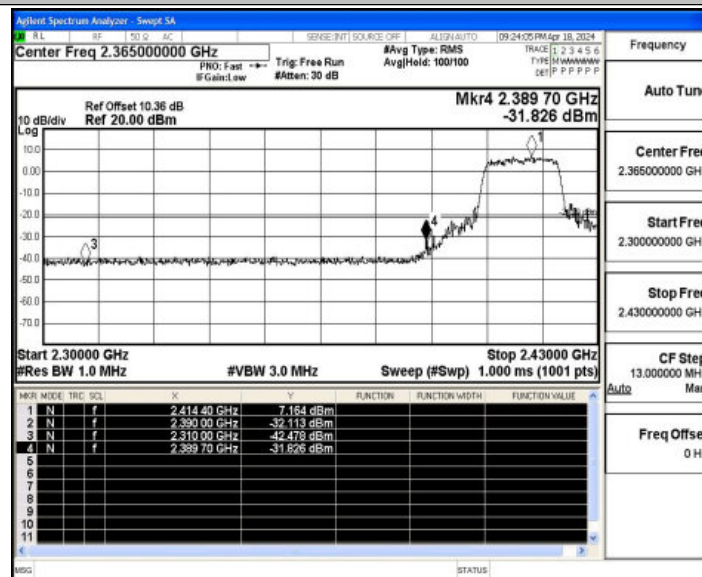


11N20SISO_Ant1_Low_2412_AV



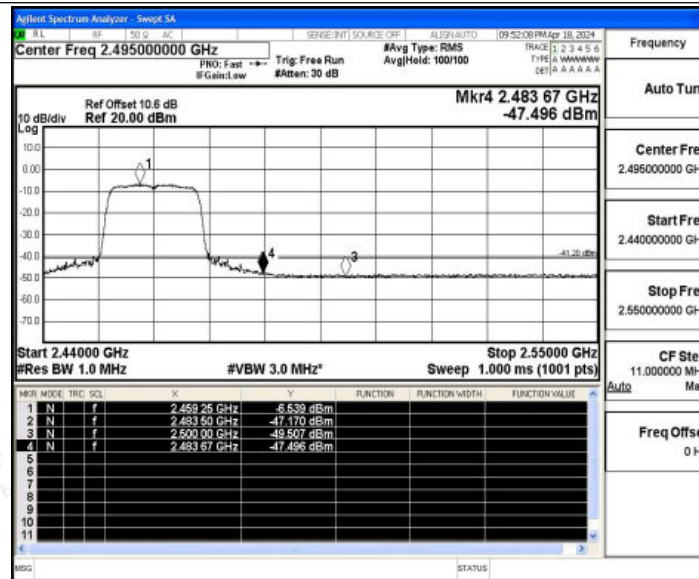


11N20SISO_Ant1_Low_2412_Peak

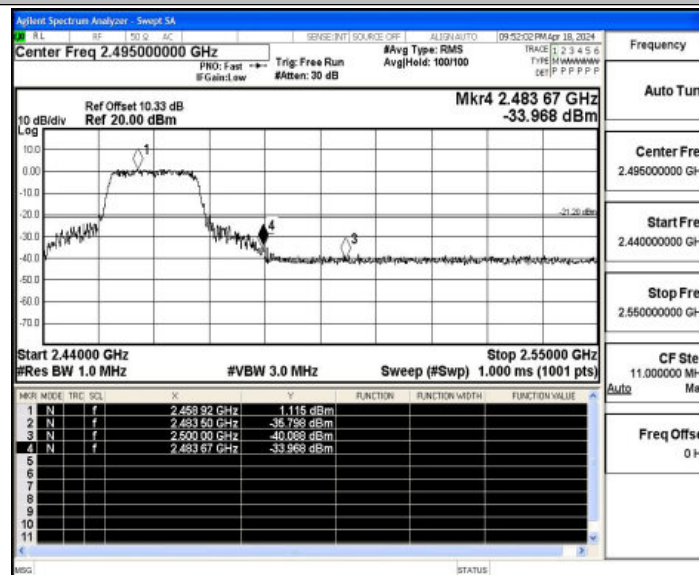


11N20SISO_Ant1_High_2462_AV



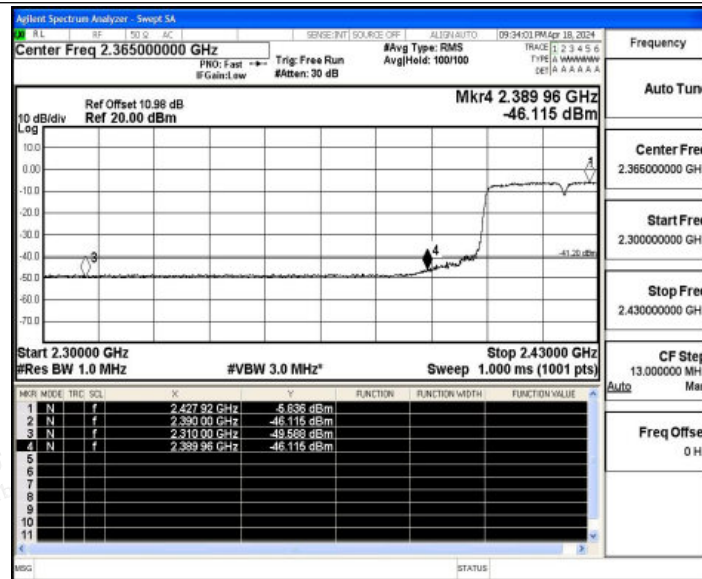


11N20SISO_Ant1_High_2462_Peak

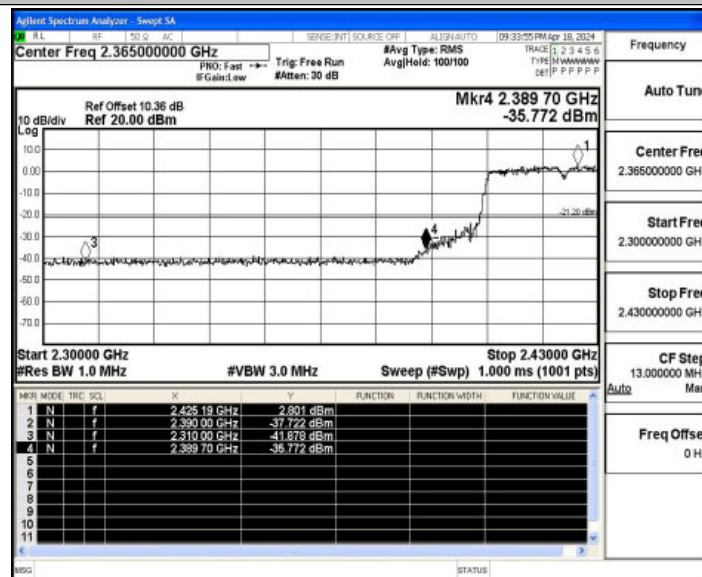


11N40SISO_Ant1_Low_2422_AV



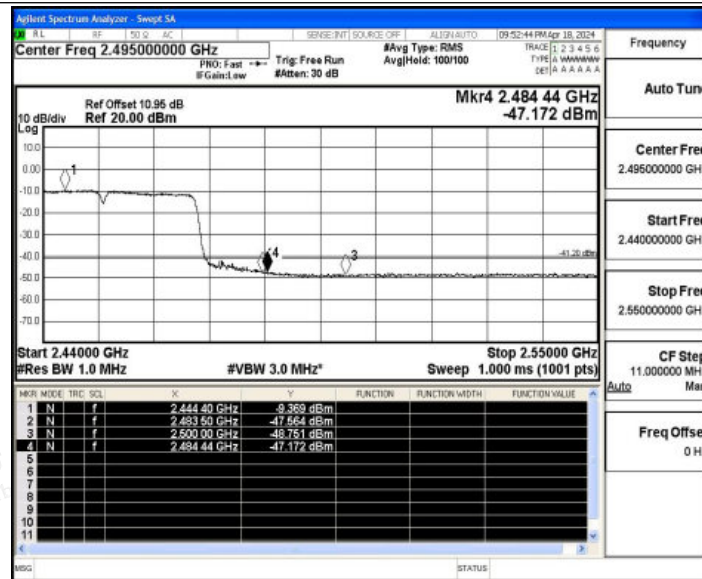


11N40SISO_Ant1_Low_2422_Peak

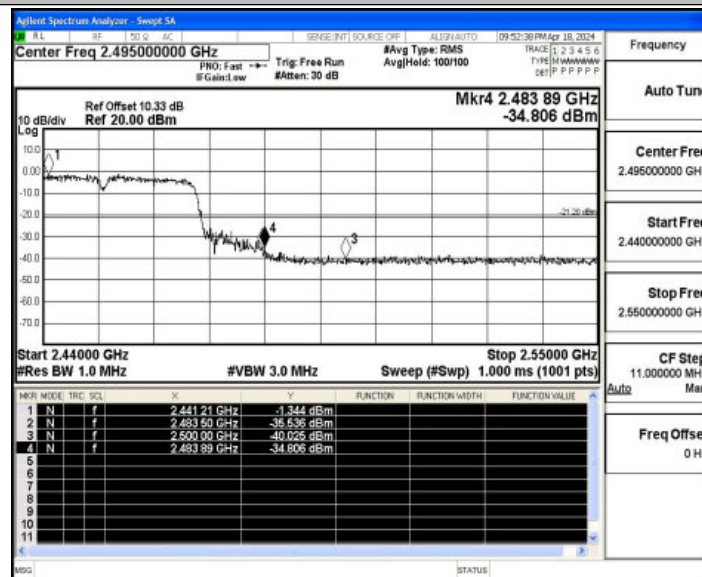


11N40SISO_Ant1_High_2452_AV





11N40SISO_Ant1_High_2452_Peak



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