



Appendix B

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart LED Ceiling light

Test Model: ZL-CWB24-RGBCW-8UN

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan



B.1 6dB Bandwidth

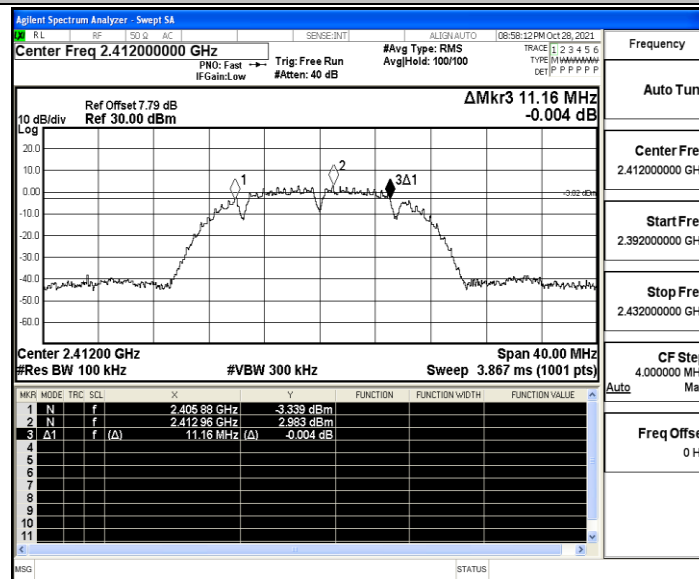
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.160	2405.880	2417.040	0.5	PASS
		2437	11.120	2430.920	2442.040	0.5	PASS
		2462	11.160	2456.880	2468.040	0.5	PASS
11G	Ant1	2412	15.160	2404.400	2419.560	0.5	PASS
		2437	15.360	2429.400	2444.760	0.5	PASS
		2462	15.200	2454.320	2469.520	0.5	PASS
11N20SISO	Ant1	2412	12.920	2406.600	2419.520	0.5	PASS
		2437	10.120	2431.880	2442.000	0.5	PASS
		2462	10.920	2455.680	2466.600	0.5	PASS
11N40SISO	Ant1	2422	35.280	2404.320	2439.600	0.5	PASS
		2437	33.920	2420.600	2454.520	0.5	PASS
		2452	34.000	2434.320	2468.320	0.5	PASS

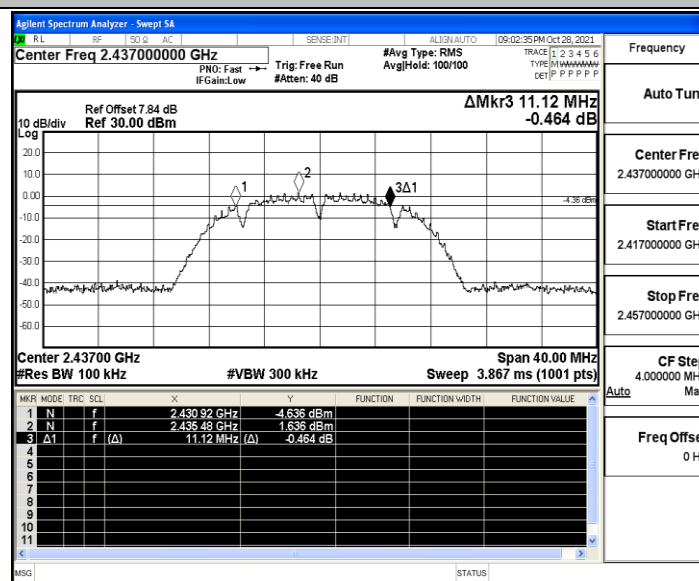


Test Graphs

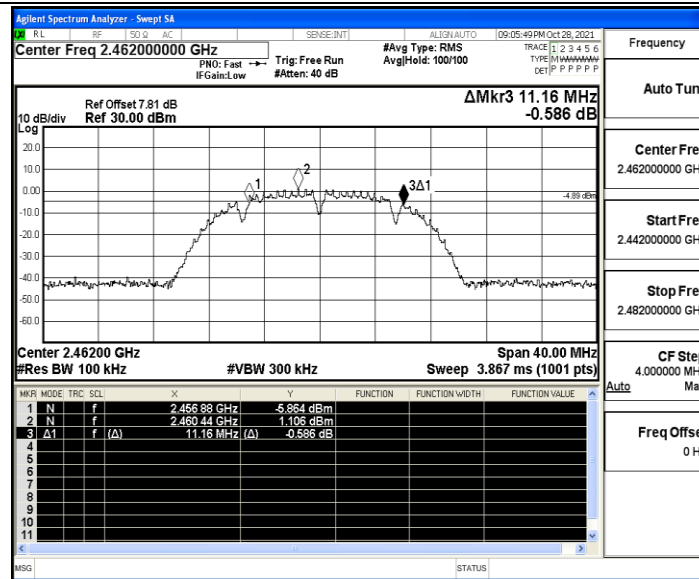
11B_Ant1_2412



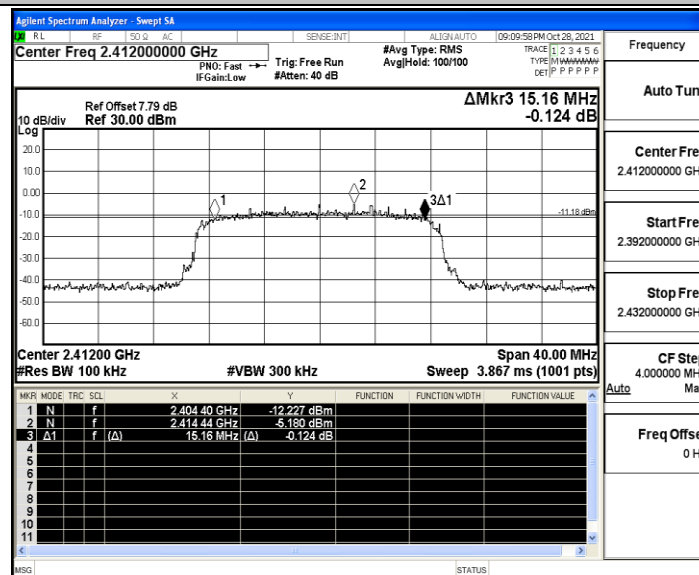
11B_Ant1_2437



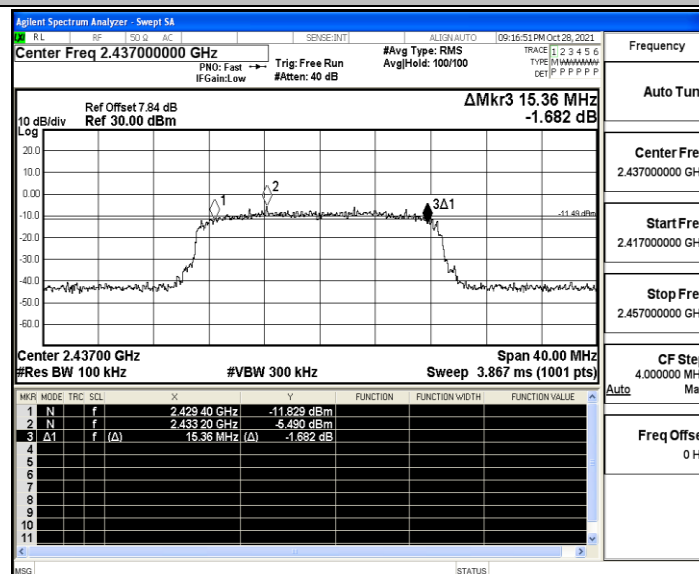
11B_Ant1_2462



11G_Ant1_2412

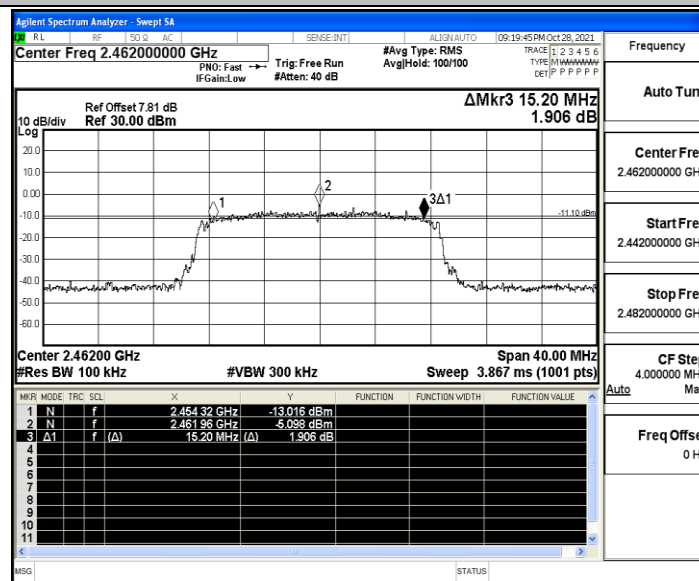


11G_Ant1_2437

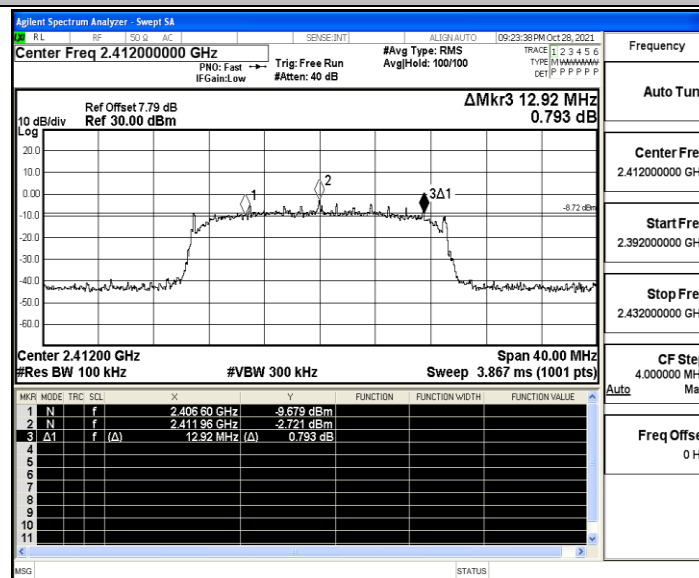




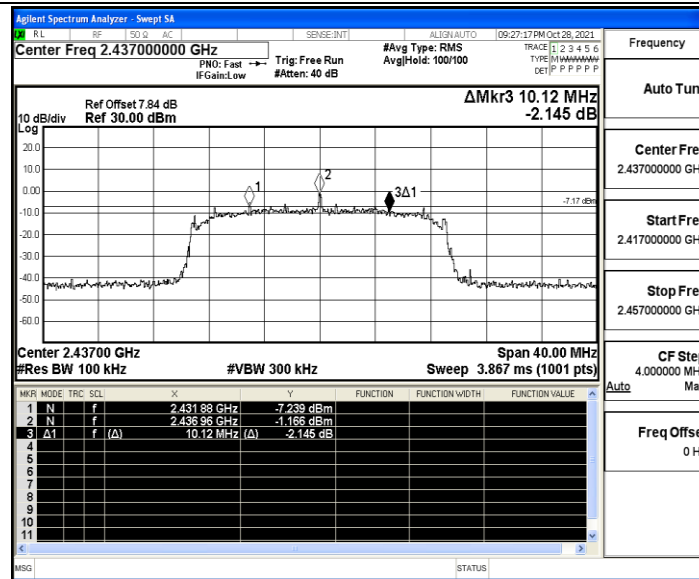
11G_Ant1_2462



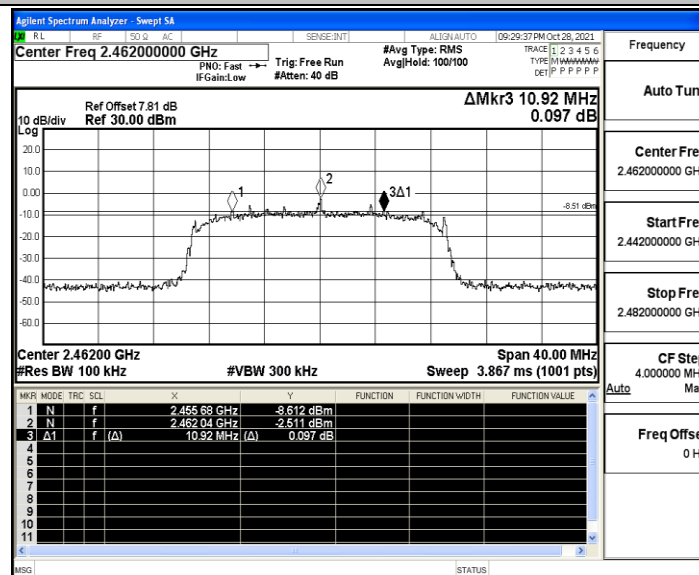
11N20SISO_Ant1_2412



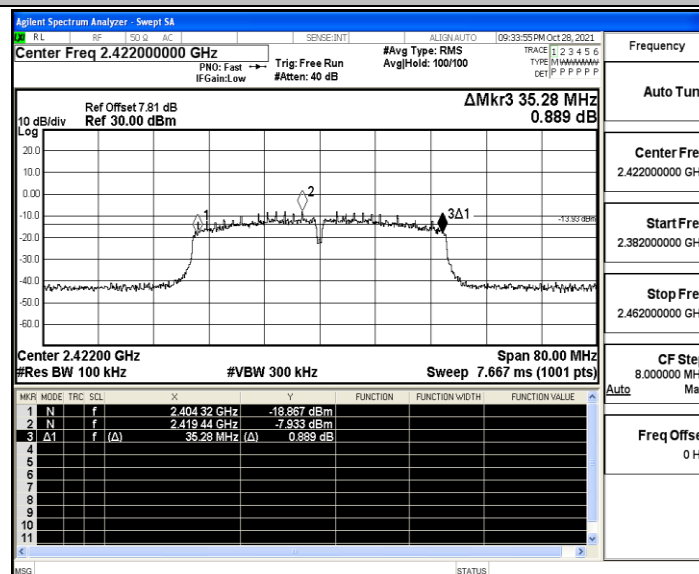
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

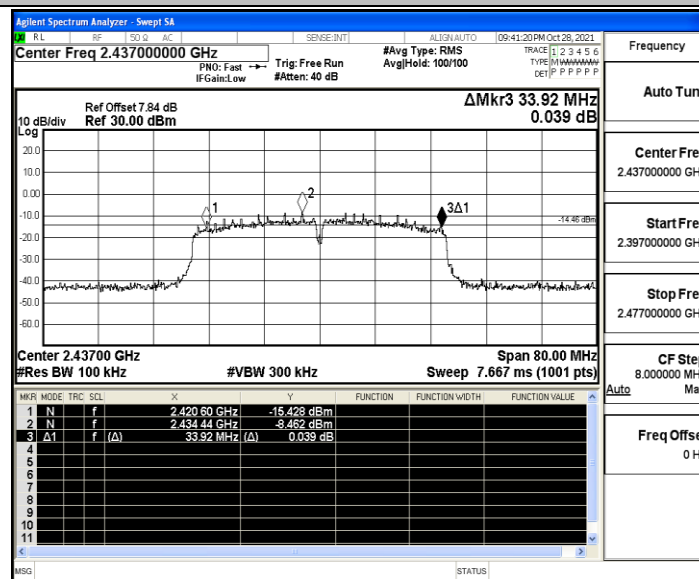


11N40SISO_Ant1_2422

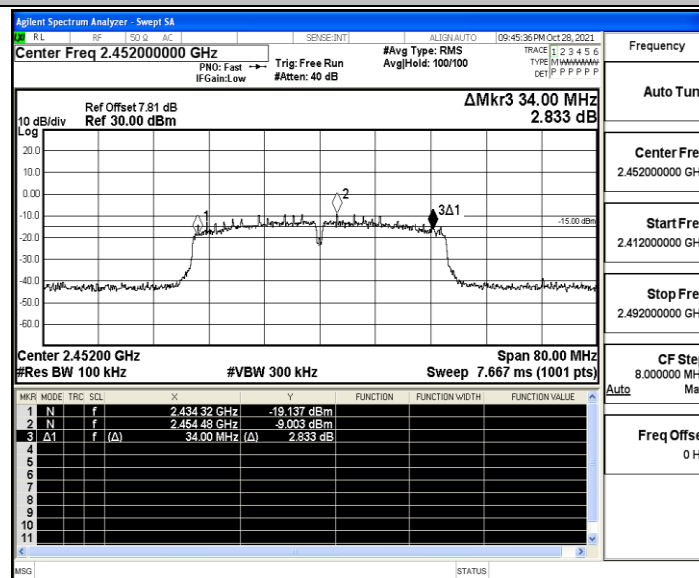




11N40SISO_Ant1_2437



11N40SISO_Ant1_2452





B.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.30	≤30	PASS
		2437	14.66	≤30	PASS
		2462	14.10	≤30	PASS
11G	Ant1	2412	14.01	≤30	PASS
		2437	13.31	≤30	PASS
		2462	13.07	≤30	PASS
11N20SISO	Ant1	2412	13.60	≤30	PASS
		2437	13.51	≤30	PASS
		2462	13.05	≤30	PASS
11N40SISO	Ant1	2422	12.67	≤30	PASS
		2437	12.15	≤30	PASS
		2452	12.24	≤30	PASS



B.3 Maximum power spectral density

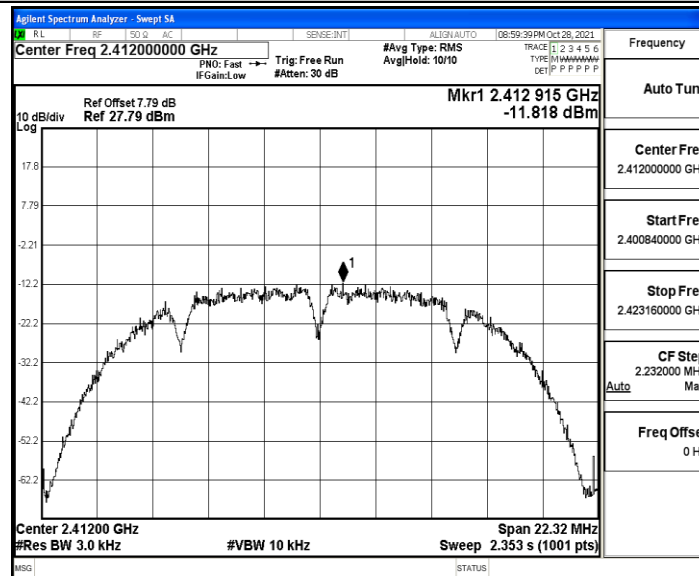
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.82	≤8	PASS
		2437	-12.48	≤8	PASS
		2462	-12.83	≤8	PASS
11G	Ant1	2412	-18.64	≤8	PASS
		2437	-19.41	≤8	PASS
		2462	-18.82	≤8	PASS
11N20SISO	Ant1	2412	-17.08	≤8	PASS
		2437	-17.92	≤8	PASS
		2462	-18.26	≤8	PASS
11N40SISO	Ant1	2422	-22.05	≤8	PASS
		2437	-22.44	≤8	PASS
		2452	-22.56	≤8	PASS

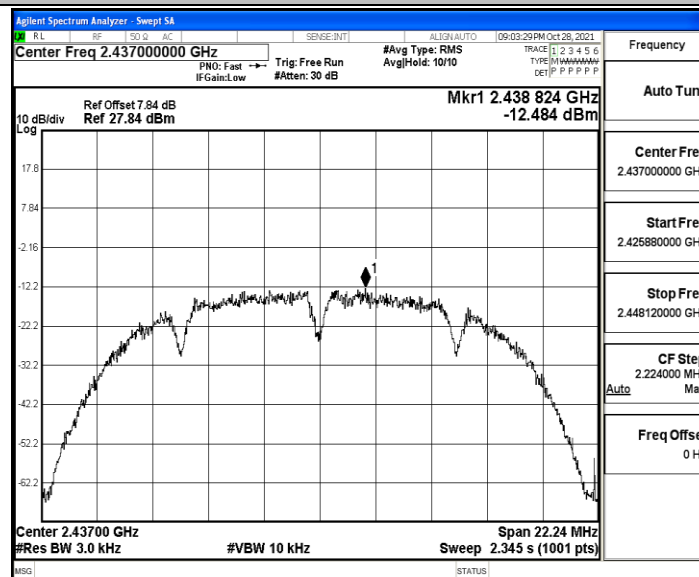


Test Graphs

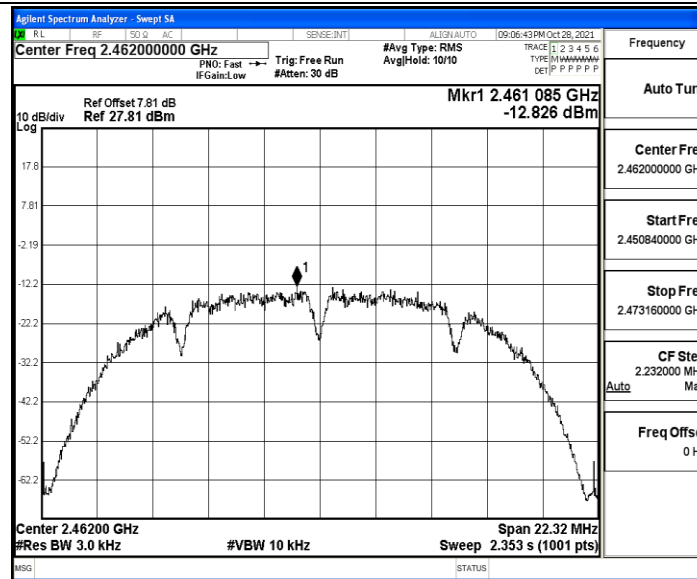
11B_Ant1_2412



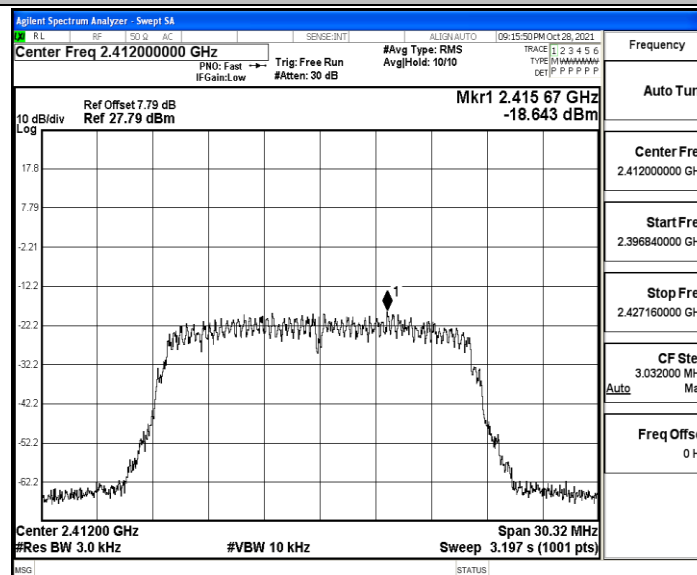
11B_Ant1_2437



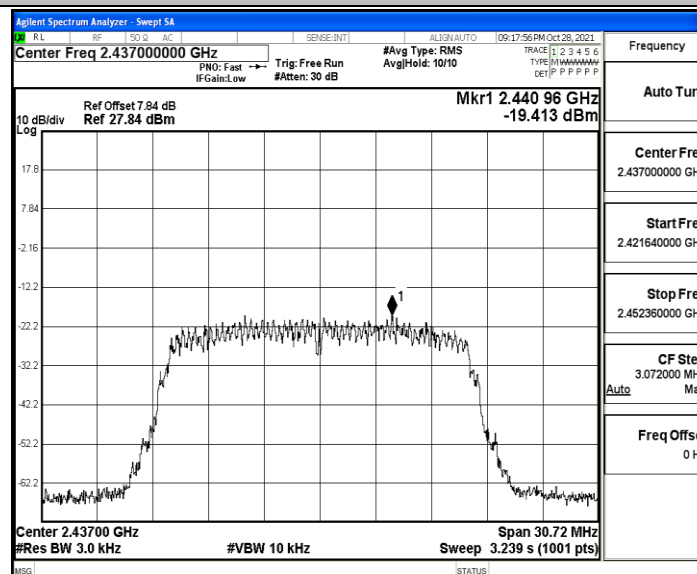
11B_Ant1_2462



11G_Ant1_2412

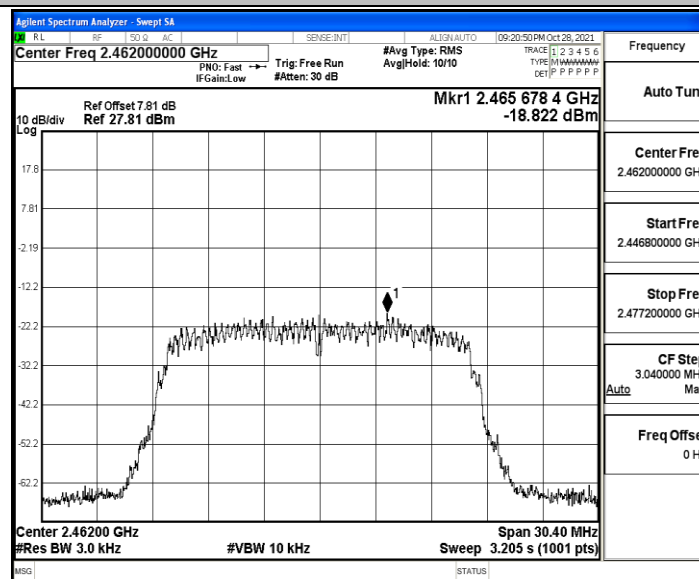


11G_Ant1_2437

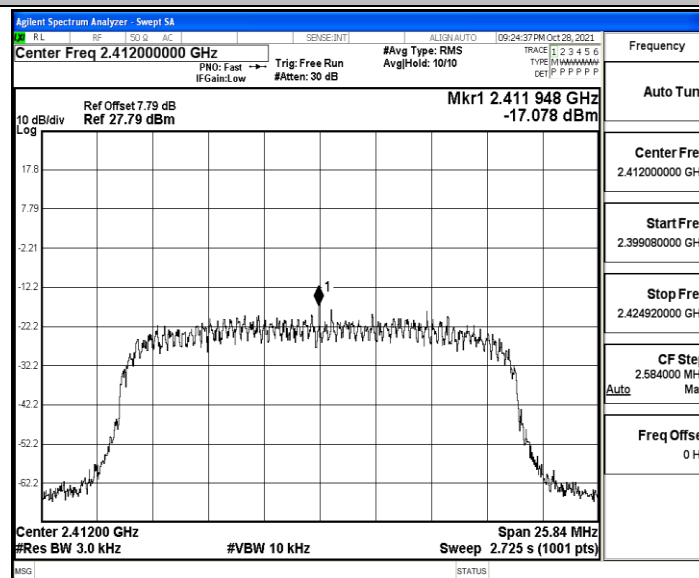




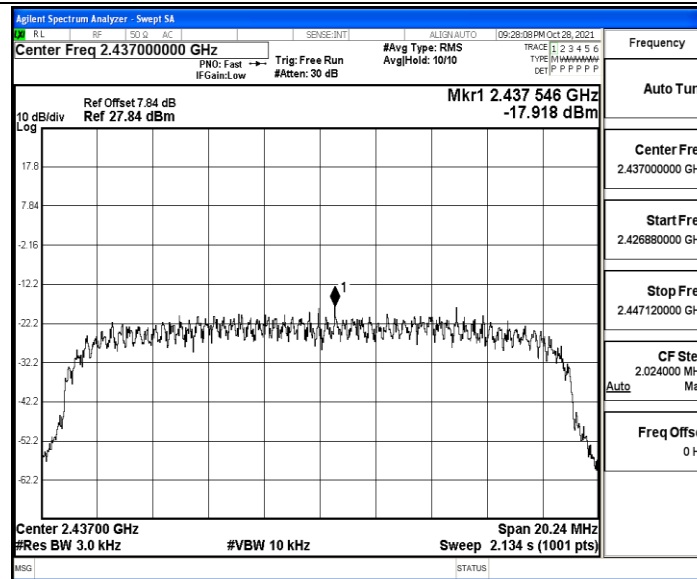
11G_Ant1_2462



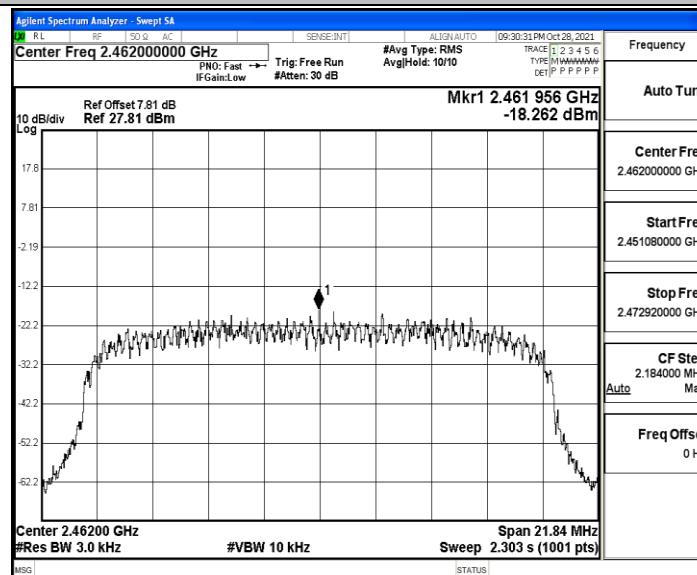
11N20SISO_Ant1_2412



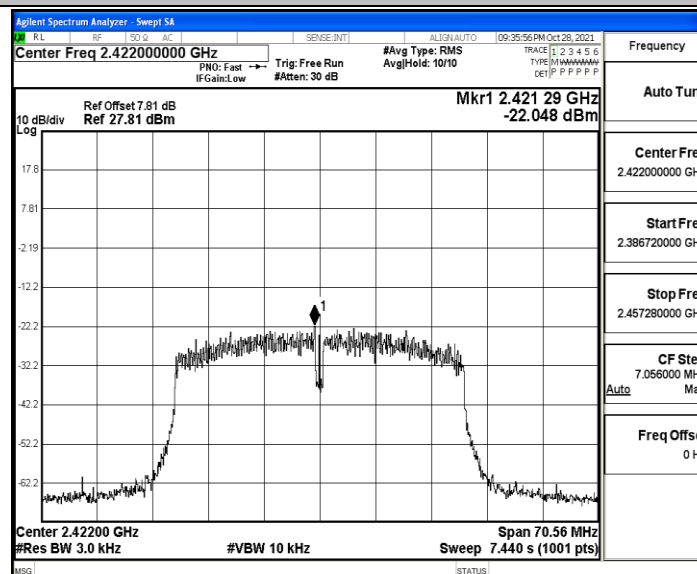
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

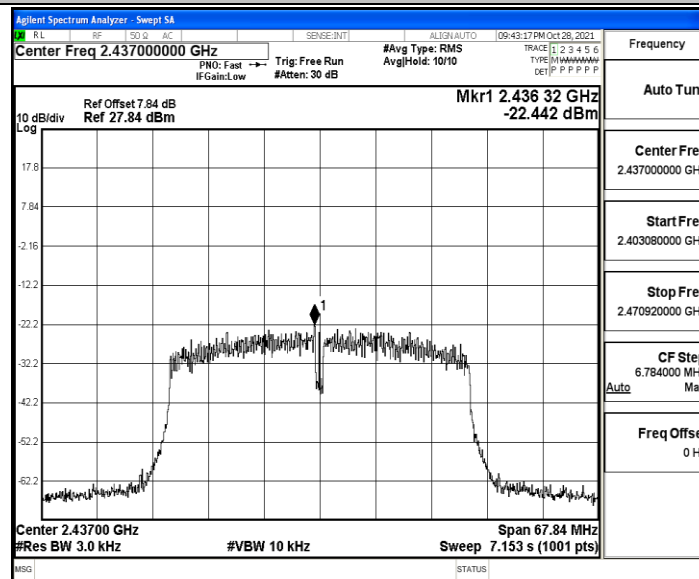


11N40SISO_Ant1_2422

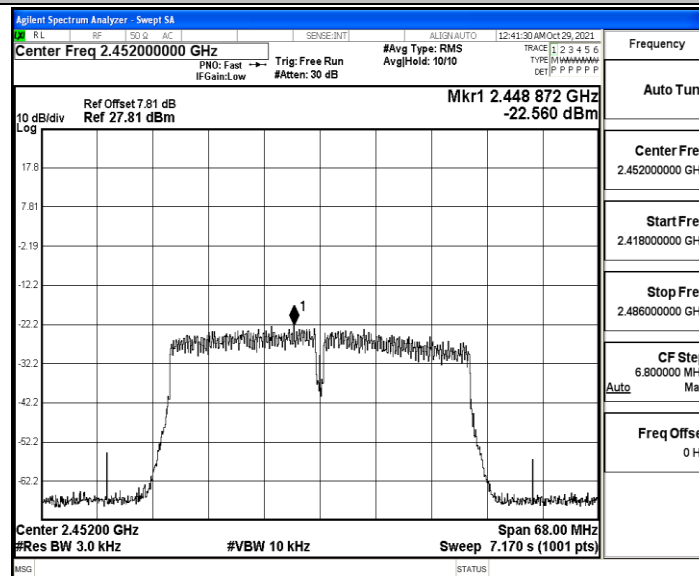




11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



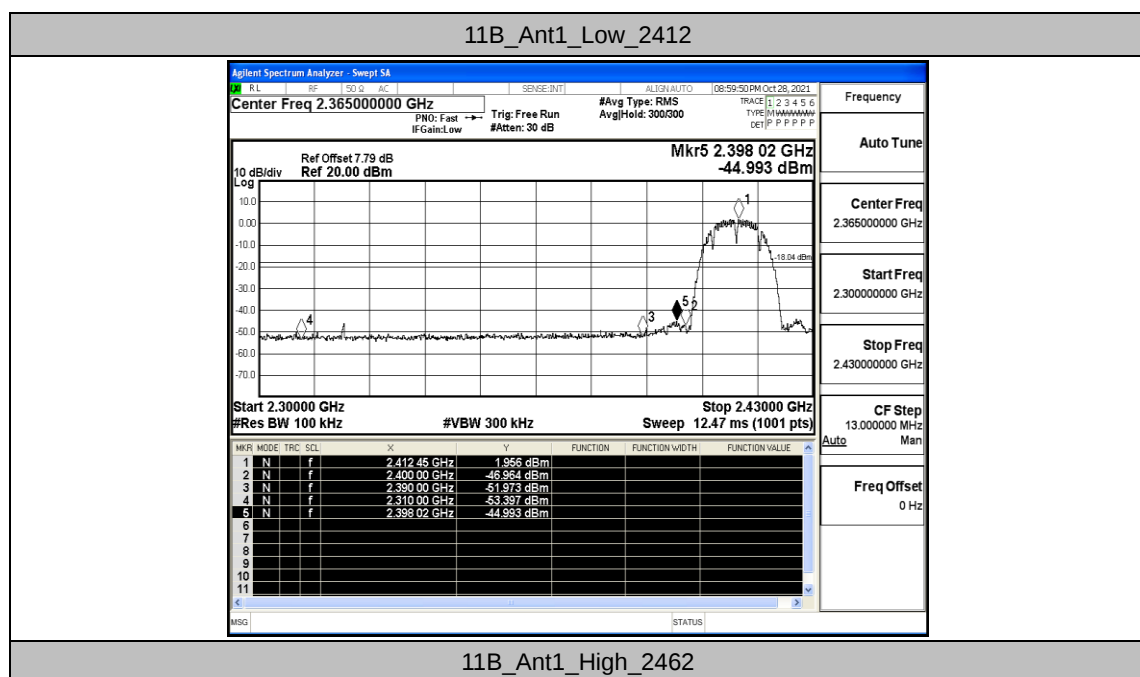


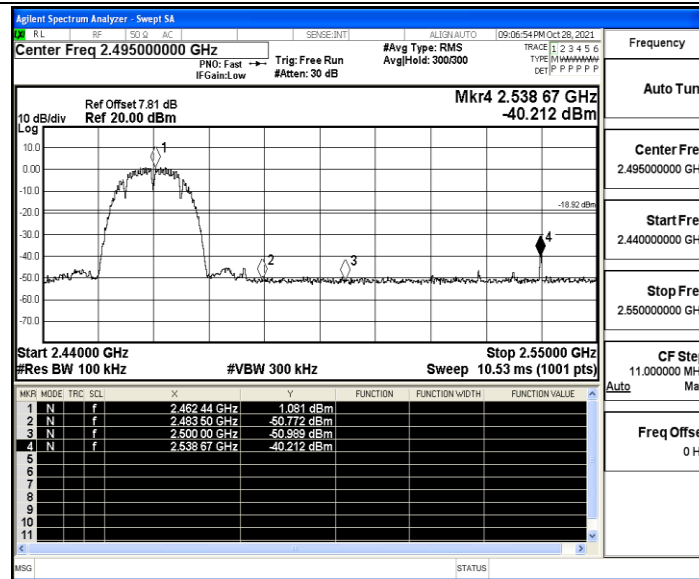
B.4 Band edge measurements

Test Result

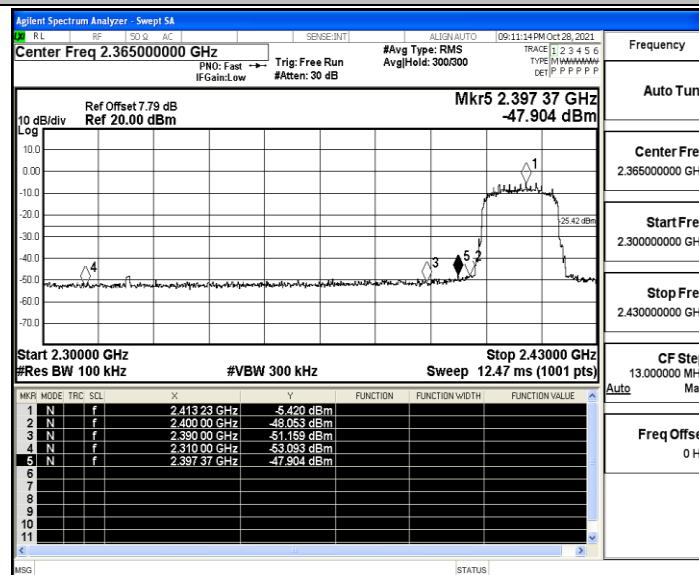
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	1.96	-44.99	≤-18.04	PASS
		High	2462	1.08	-40.21	≤-18.92	PASS
11G	Ant1	Low	2412	-5.42	-47.9	≤-25.42	PASS
		High	2462	-4.98	-38.53	≤-24.98	PASS
11N20SISO	Ant1	Low	2412	-1.07	-46.22	≤-21.07	PASS
		High	2462	-1.47	-48.99	≤-21.47	PASS
11N40SISO	Ant1	Low	2422	-7.96	-46.24	≤-27.96	PASS
		High	2452	-9.06	-37.91	≤-29.06	PASS

Test Graphs

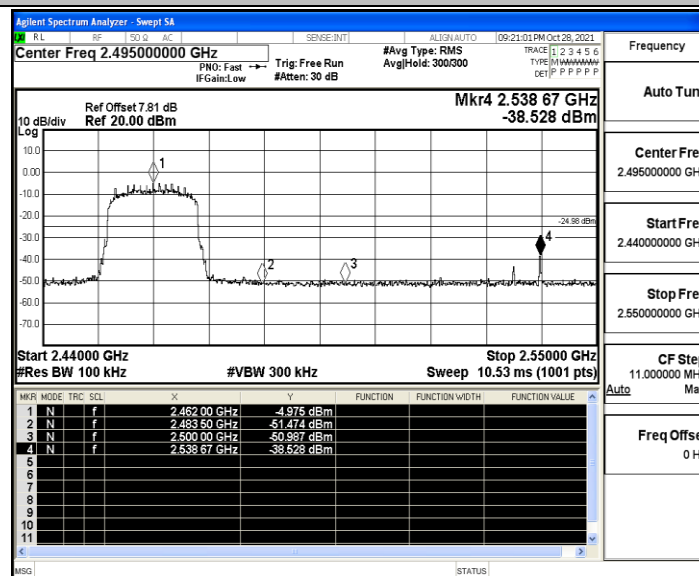




11G_Ant1_Low_2412

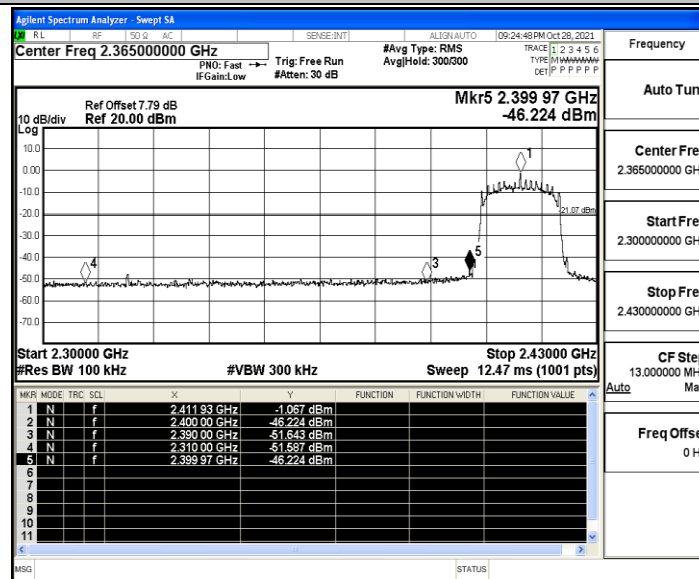


11G_Ant1_High_2462

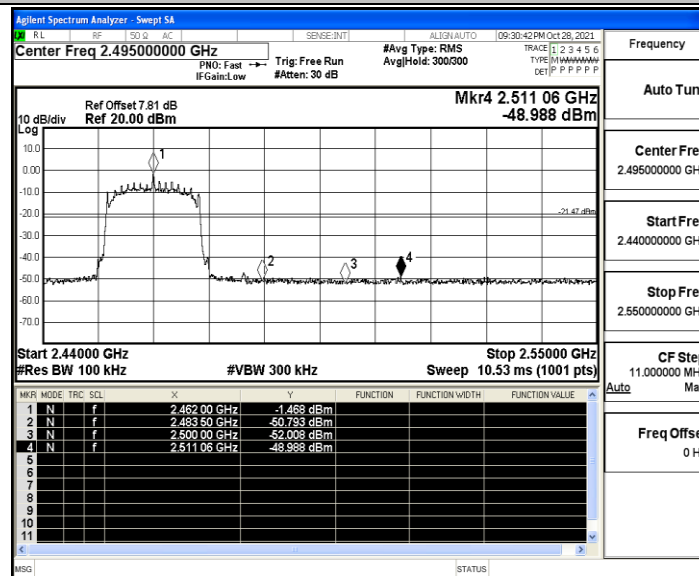




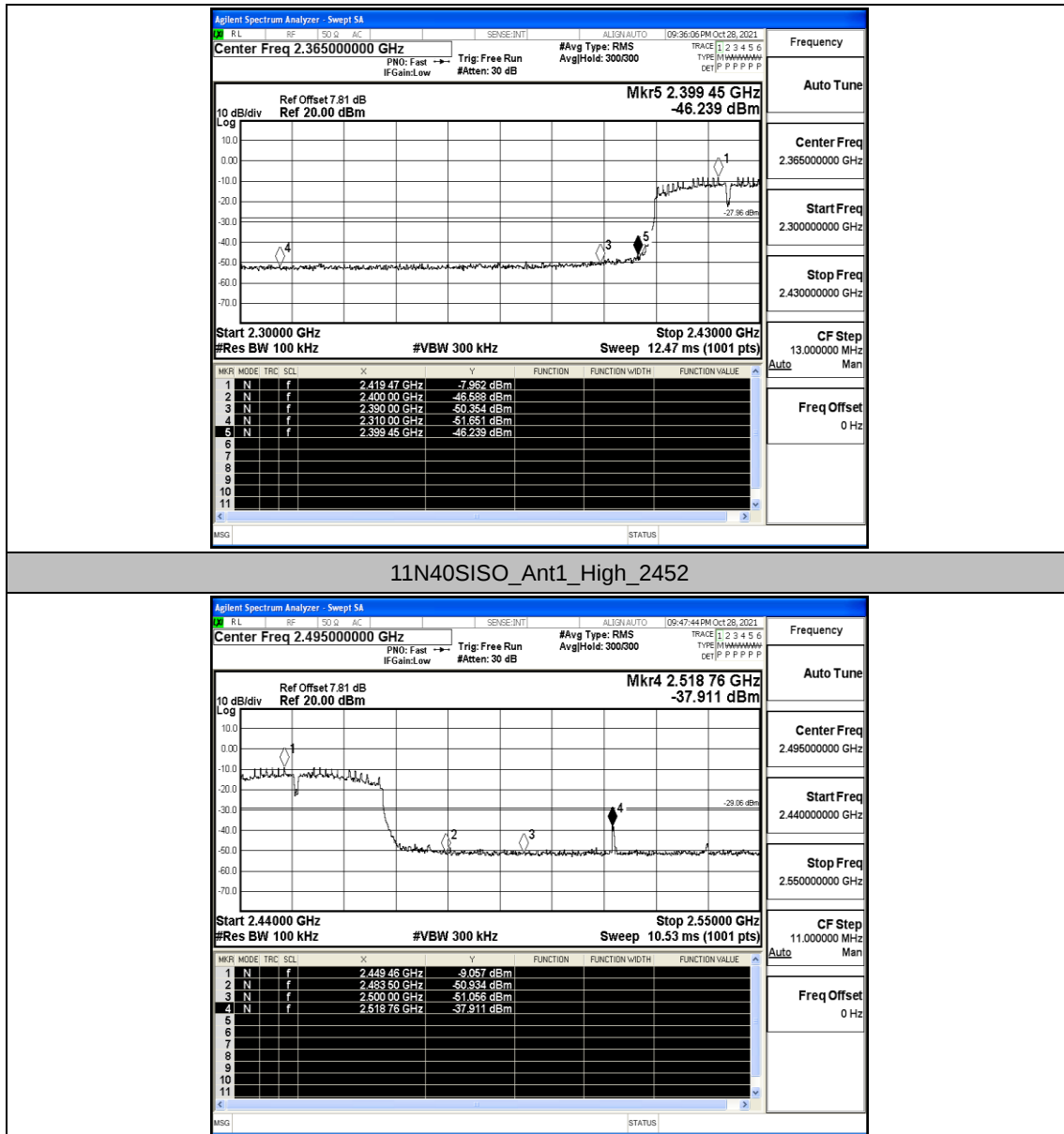
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422





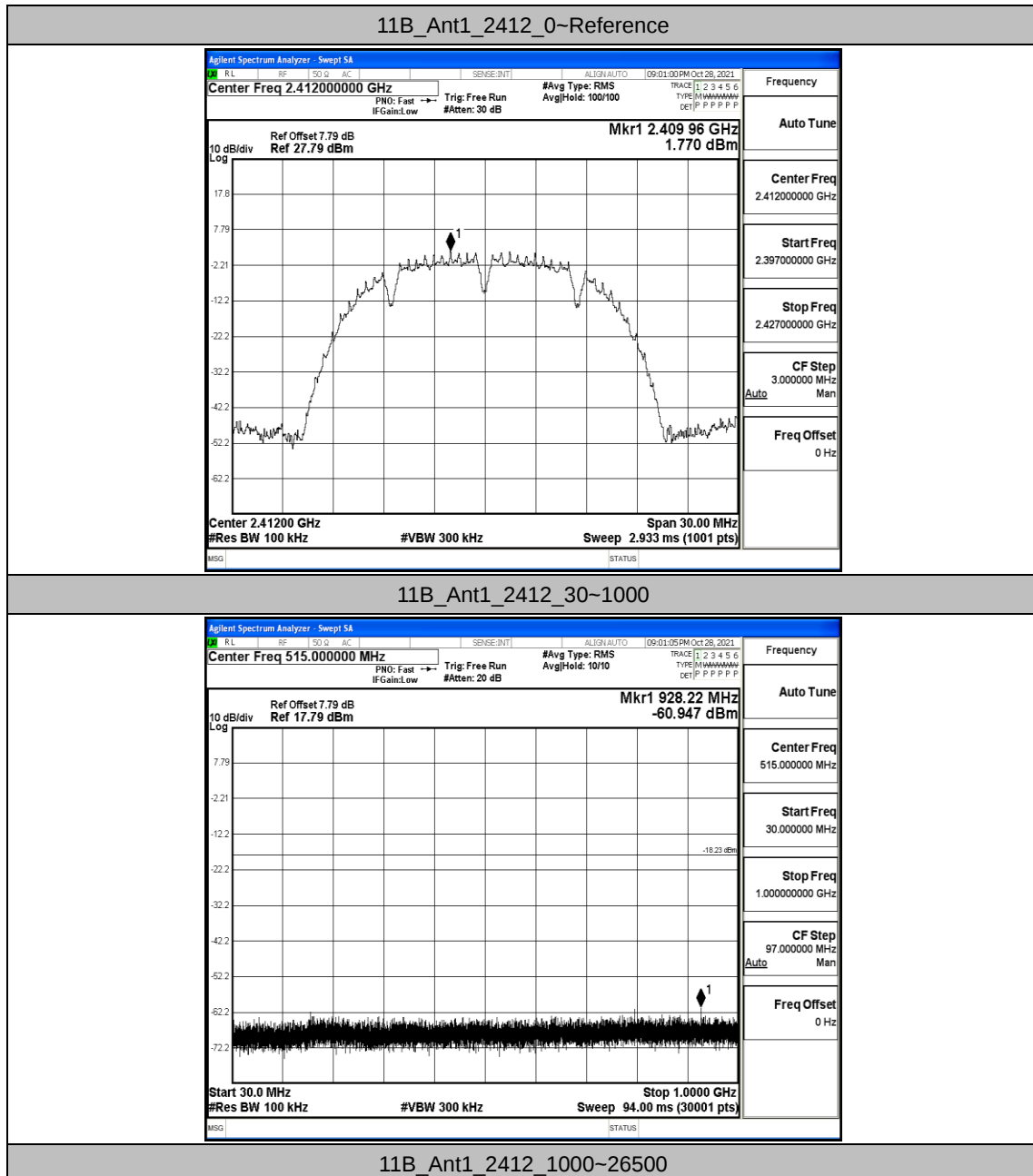
B.5 Conducted Spurious Emission

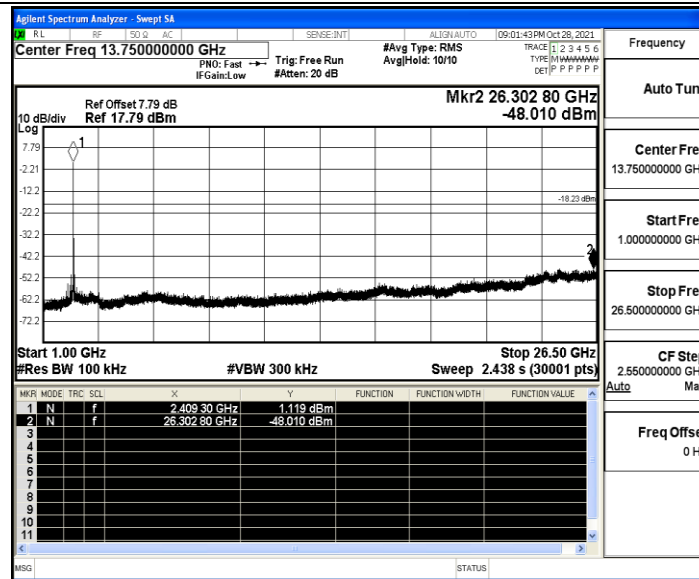
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	1.77	1.77	---	PASS
			30~1000	1.77	-60.95	≤-18.23	PASS
			1000~26500	1.77	-48.01	≤-18.23	PASS
		2437	Reference	1.24	1.24	---	PASS
			30~1000	1.24	-61.66	≤-18.76	PASS
			1000~26500	1.24	-48.22	≤-18.76	PASS
		2462	Reference	0.71	0.71	---	PASS
			30~1000	0.71	-62.53	≤-19.29	PASS
			1000~26500	0.71	-47.64	≤-19.29	PASS
11G	Ant1	2412	Reference	-5.12	-5.12	---	PASS
			30~1000	-5.12	-61.91	≤-25.12	PASS
			1000~26500	-5.12	-47.72	≤-25.12	PASS
		2437	Reference	-6.49	-6.49	---	PASS
			30~1000	-6.49	-61.97	≤-26.49	PASS
			1000~26500	-6.49	-47.63	≤-26.49	PASS
		2462	Reference	-6.22	-6.22	---	PASS
			30~1000	-6.22	-62.12	≤-26.22	PASS
			1000~26500	-6.22	-47.38	≤-26.22	PASS
11N20SISO	Ant1	2412	Reference	-0.90	-0.90	---	PASS
			30~1000	-0.90	-62.07	≤-20.9	PASS
			1000~26500	-0.90	-47.85	≤-20.9	PASS
		2437	Reference	-0.94	-0.94	---	PASS
			30~1000	-0.94	-61.7	≤-20.94	PASS
			1000~26500	-0.94	-47.18	≤-20.94	PASS
		2462	Reference	-2.02	-2.02	---	PASS
			30~1000	-2.02	-62.13	≤-22.02	PASS
			1000~26500	-2.02	-47.54	≤-22.02	PASS
11N40SISO	Ant1	2422	Reference	-8.03	-8.03	---	PASS
			30~1000	-8.03	-61.98	≤-28.03	PASS
			1000~26500	-8.03	-47.5	≤-28.03	PASS
		2437	Reference	-8.50	-8.50	---	PASS
			30~1000	-8.50	-61.38	≤-28.5	PASS
			1000~26500	-8.50	-46.82	≤-28.5	PASS
		2452	Reference	-9.02	-9.02	---	PASS
			30~1000	-9.02	-62.26	≤-29.02	PASS
			1000~26500	-9.02	-47.44	≤-29.02	PASS

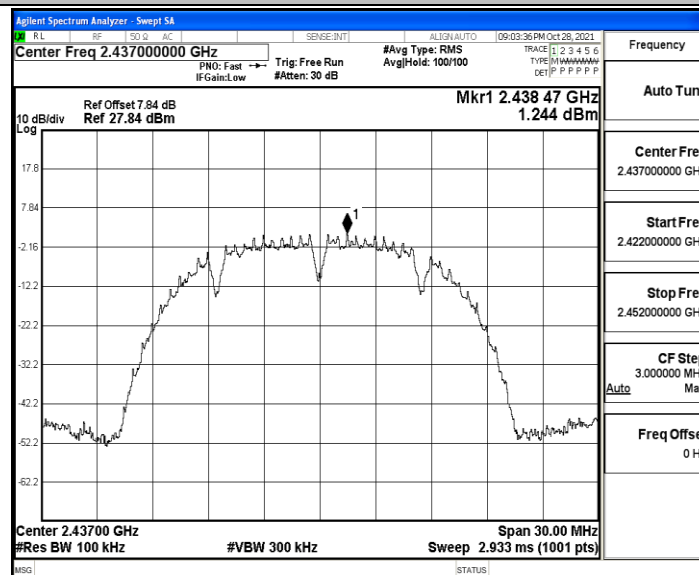


Test Graphs

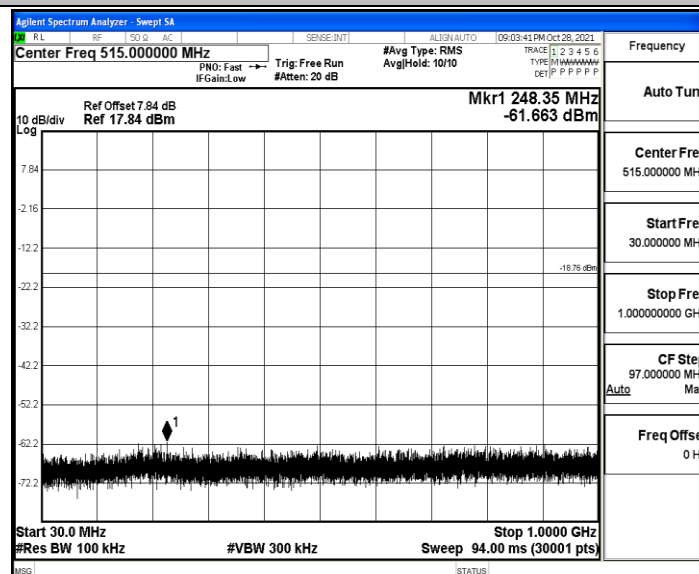




11B_Ant1_2437_0~Reference

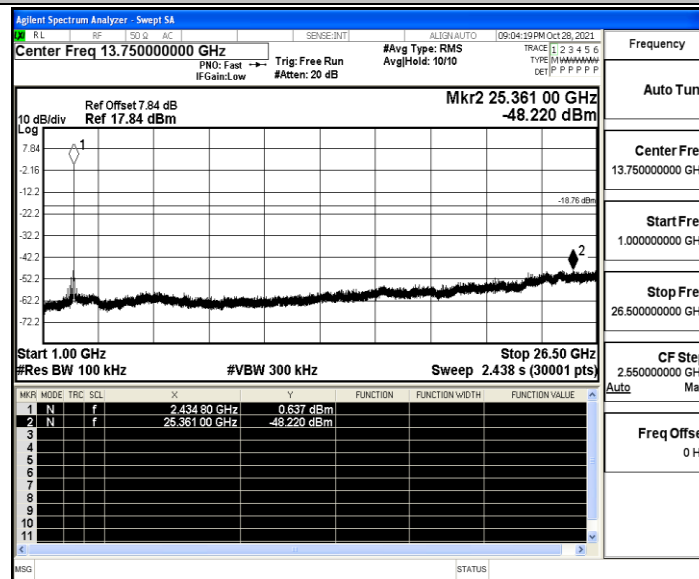


11B_Ant1_2437_30~1000

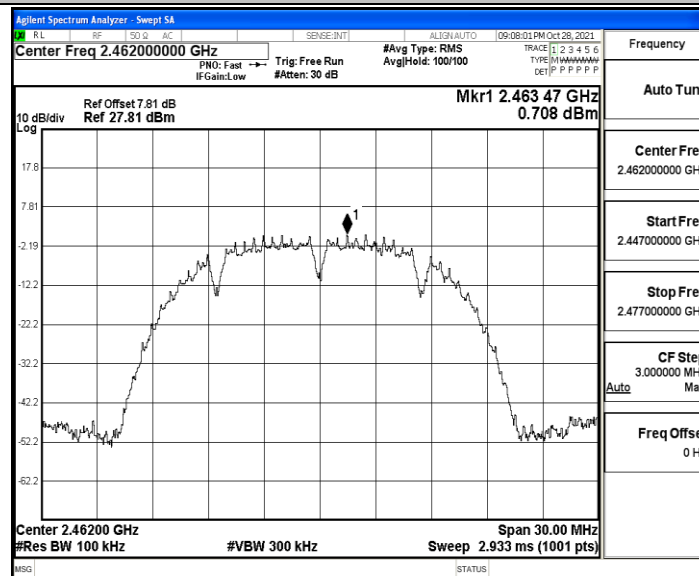




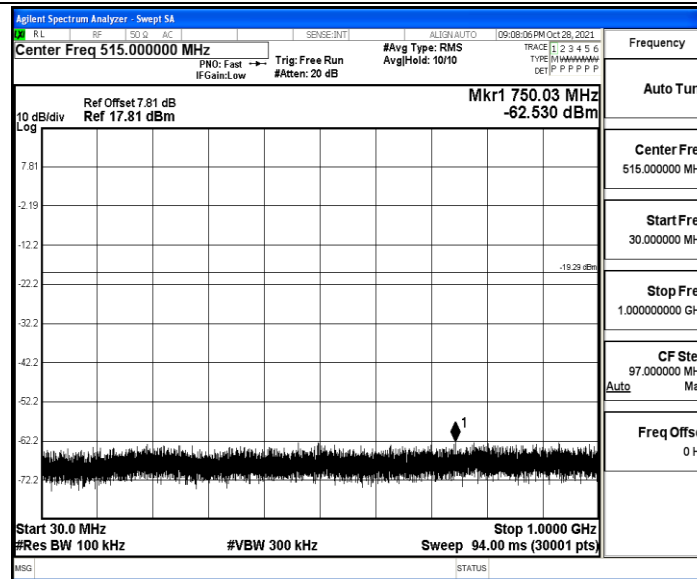
11B_Ant1_2437_1000~26500



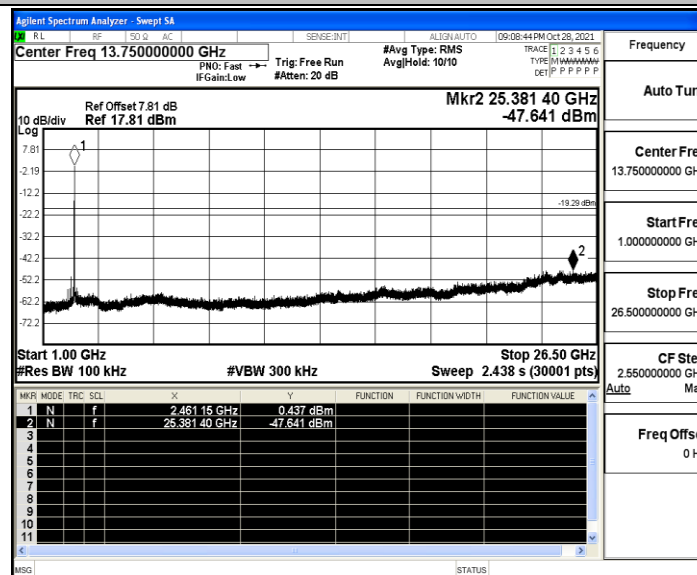
11B_Ant1_2462_0~Reference



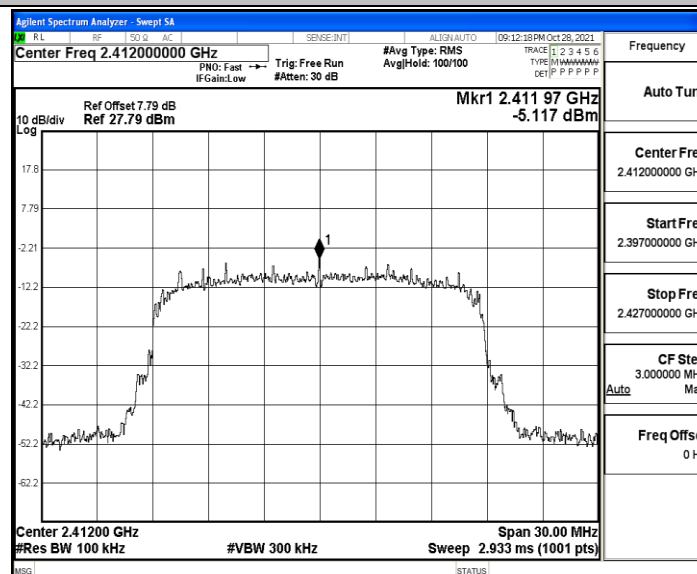
11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500

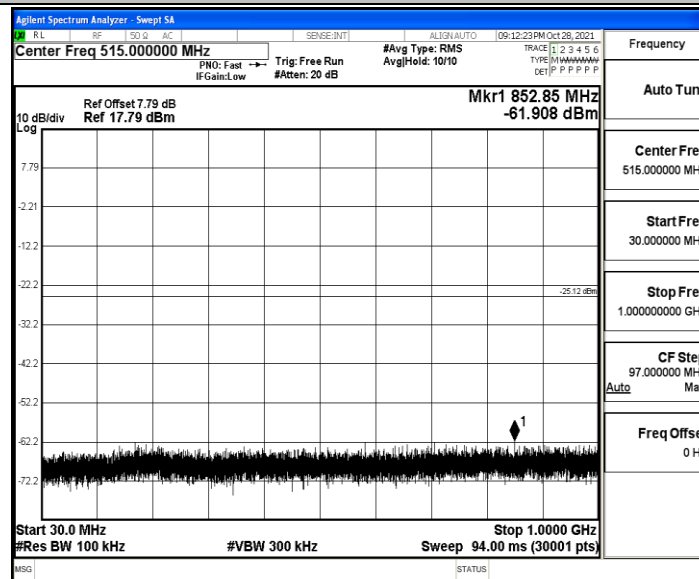


11G_Ant1_2412_0-Reference

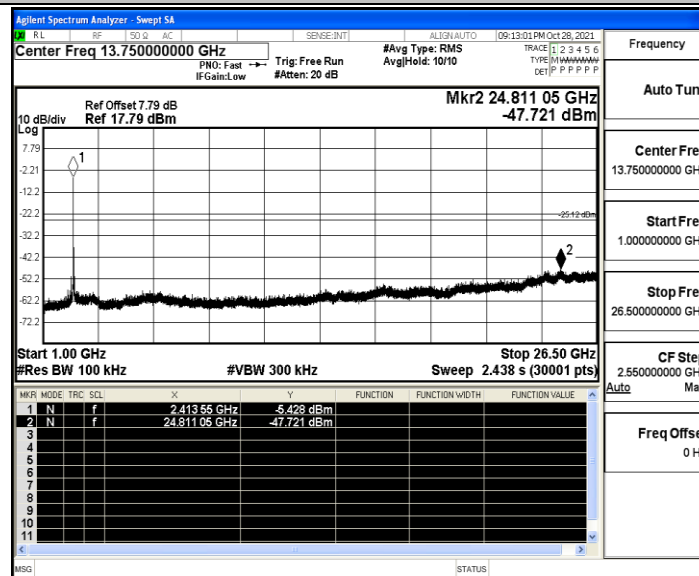




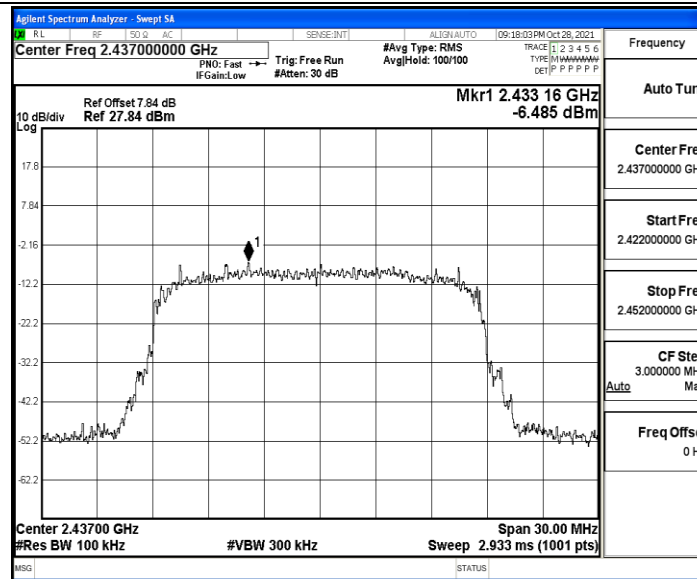
11G_Ant1_2412_30~1000



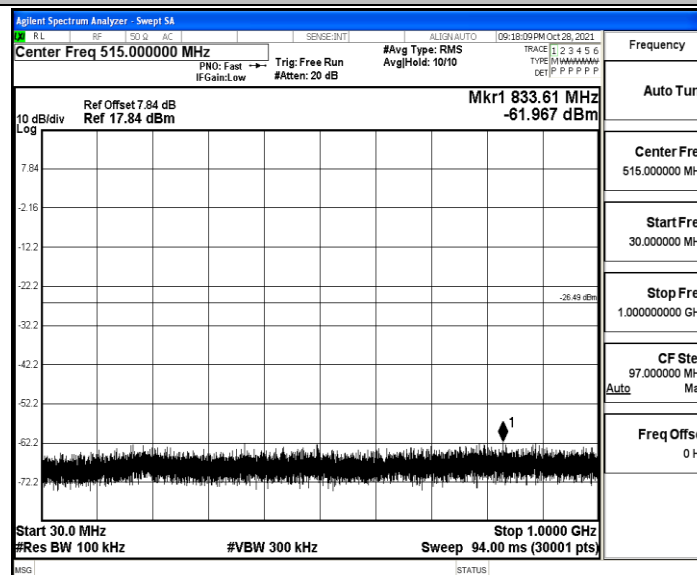
11G_Ant1_2412_1000~26500



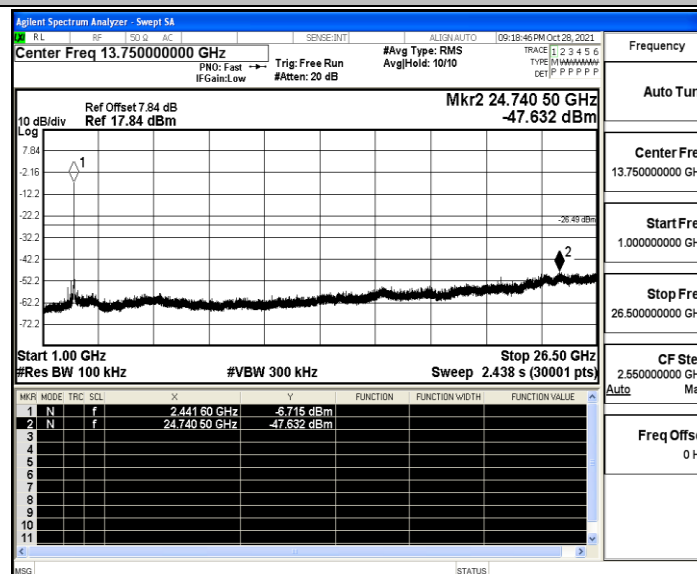
11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000

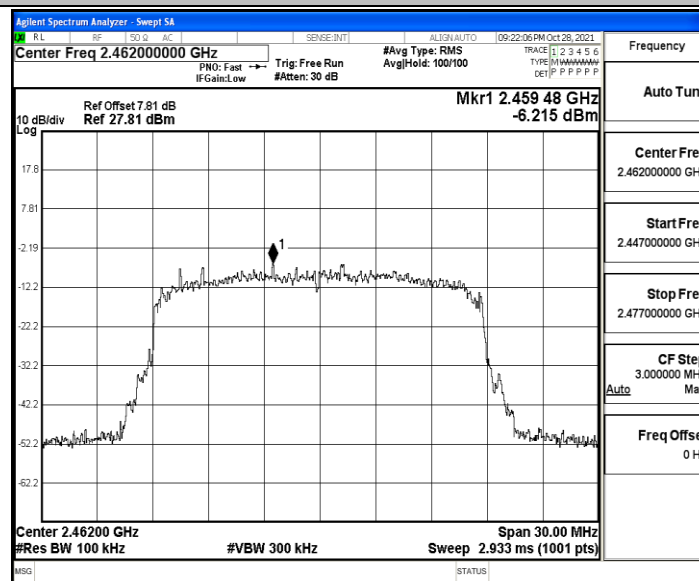


11G_Ant1_2437_1000~26500

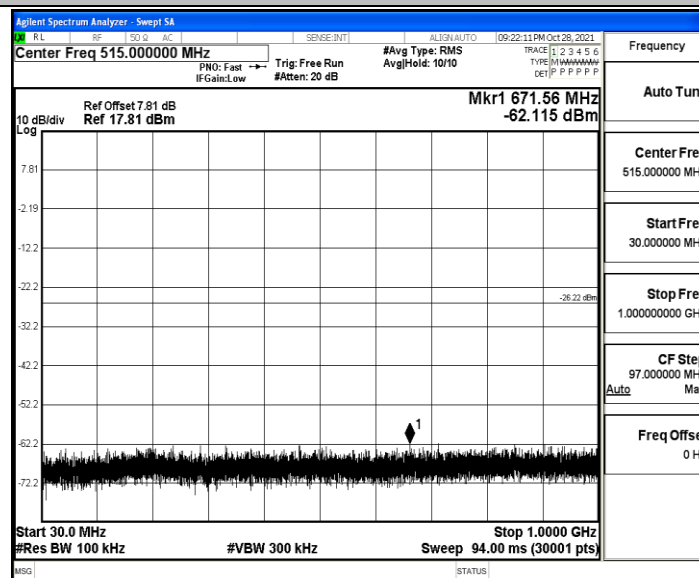




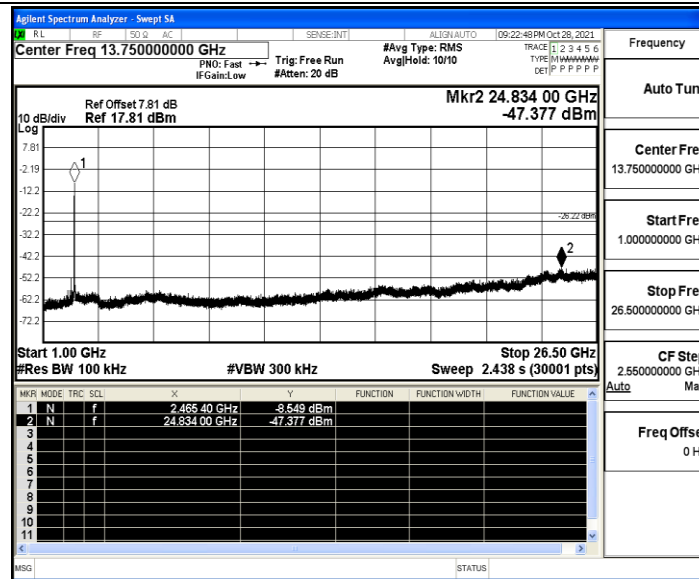
11G_Ant1_2462_0~Reference



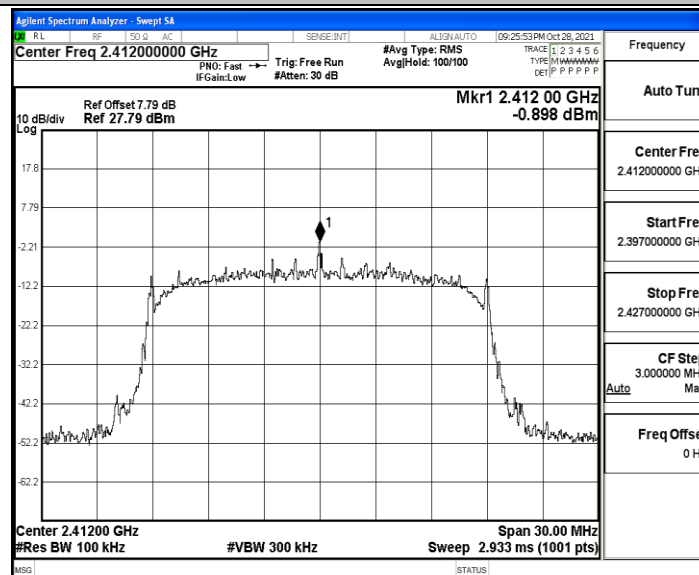
11G_Ant1_2462_30~1000



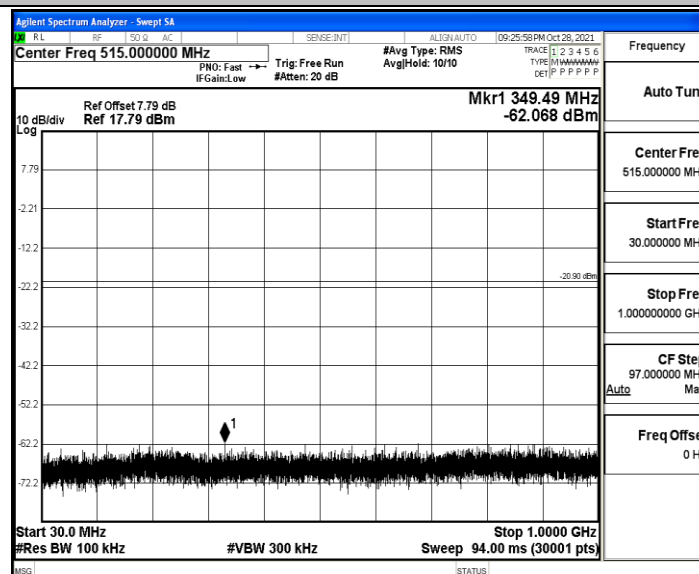
11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0-Reference

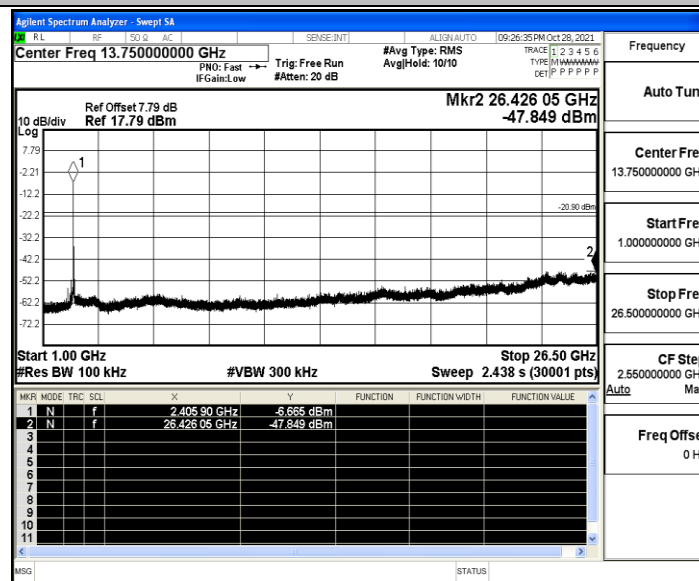


11N20SISO_Ant1_2412_30-1000

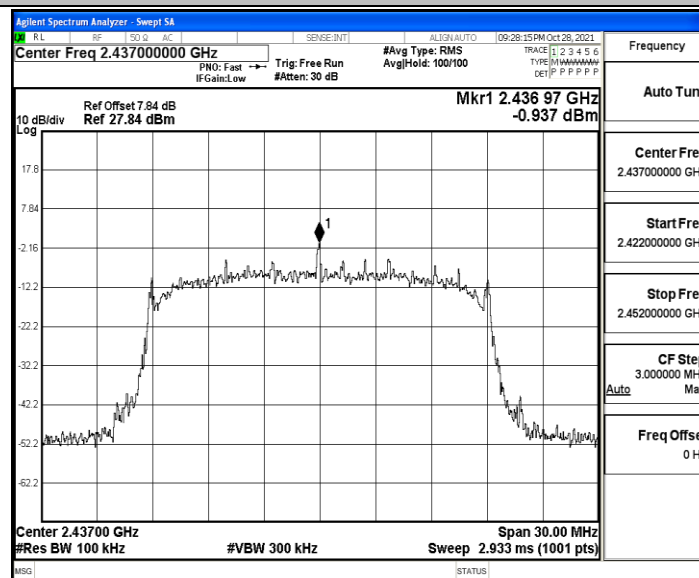




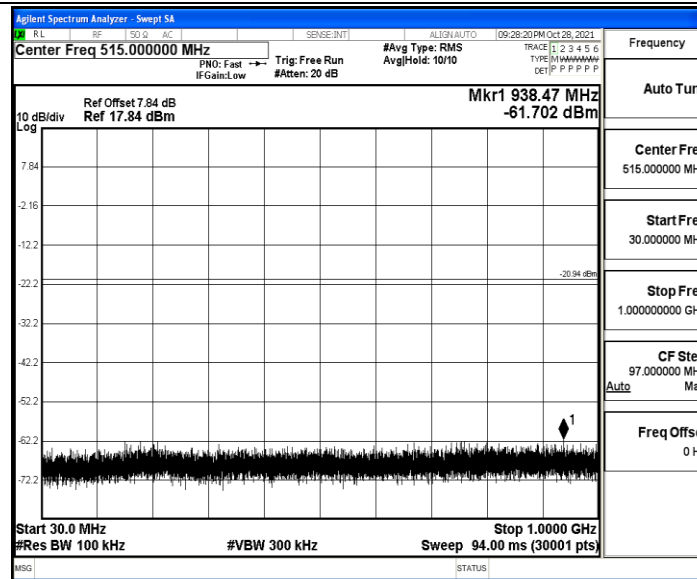
11N20SISO_Ant1_2412_1000~26500



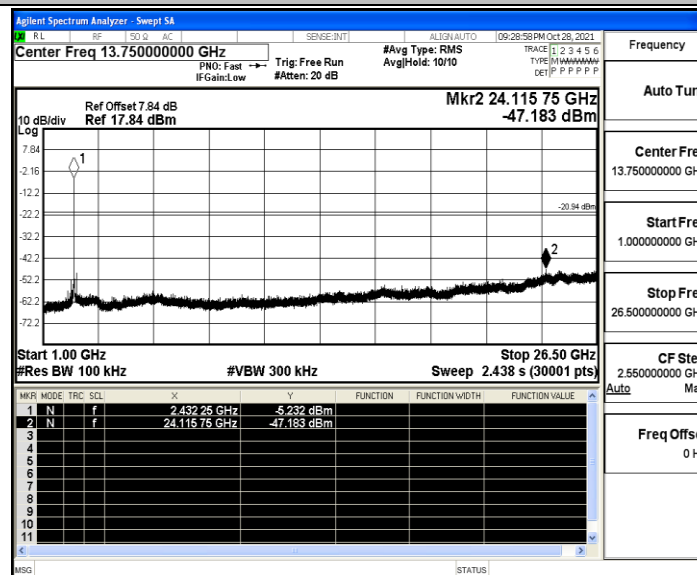
11N20SISO_Ant1_2437_0~Reference



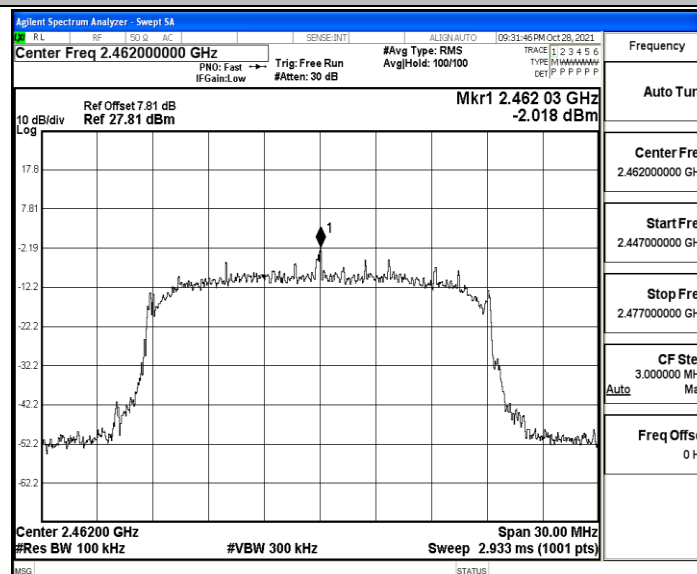
11N20SISO_Ant1_2437_30~1000



11N20SISO_Ant1_2437_1000~26500

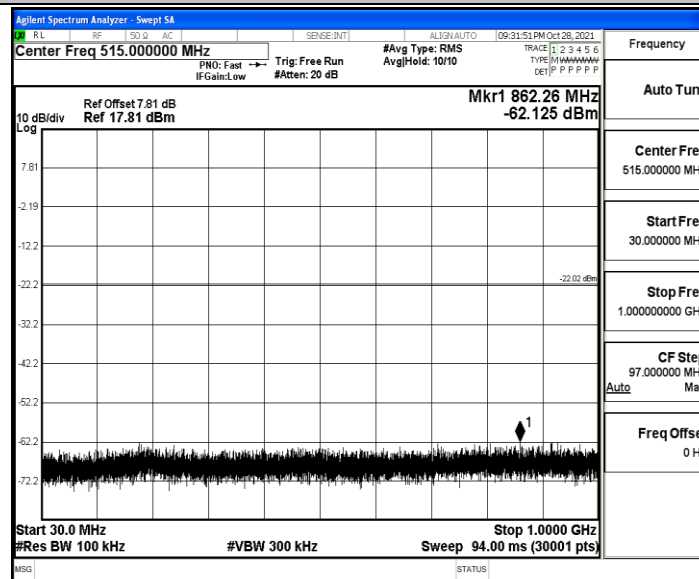


11N20SISO_Ant1_2462_0~Reference

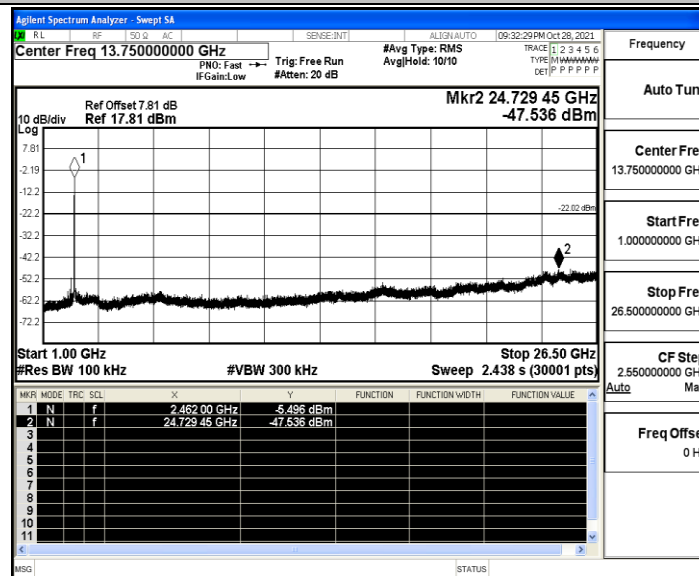




11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



11N40SISO_Ant1_2422_0~Reference