





Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: LED Controller

Test Model: SP511E

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan



A.1 DTS Bandwidth

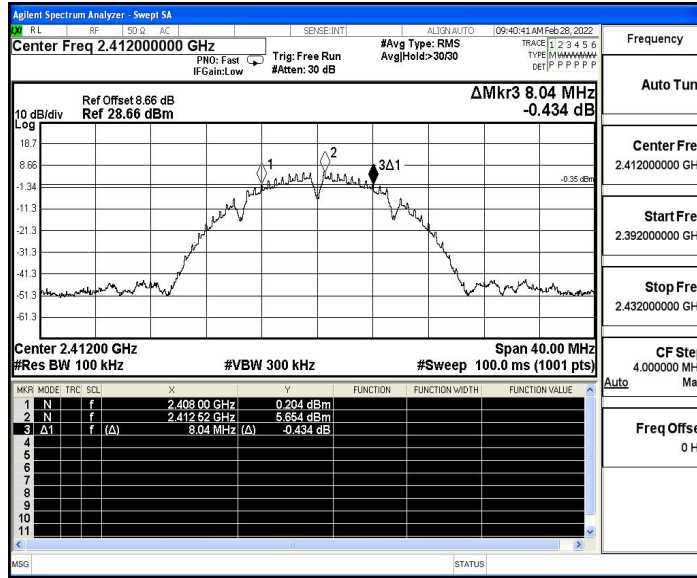
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.040	2408.000	2416.040	0.5	PASS
		2437	8.040	2432.960	2441.000	0.5	PASS
		2462	8.040	2457.960	2466.000	0.5	PASS
11G	Ant1	2412	15.320	2404.440	2419.760	0.5	PASS
		2437	15.520	2429.240	2444.760	0.5	PASS
		2462	15.120	2454.440	2469.560	0.5	PASS
11N20SISO	Ant1	2412	15.120	2404.440	2419.560	0.5	PASS
		2437	15.280	2429.440	2444.720	0.5	PASS
		2462	15.080	2454.440	2469.520	0.5	PASS

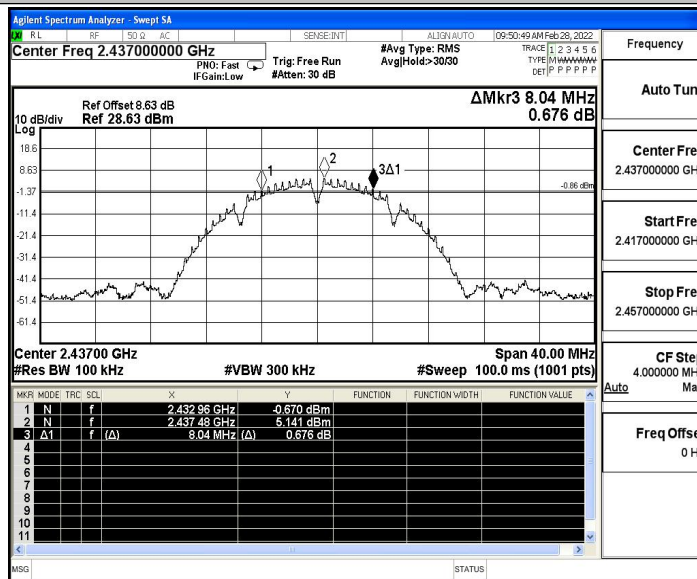


Test Graphs

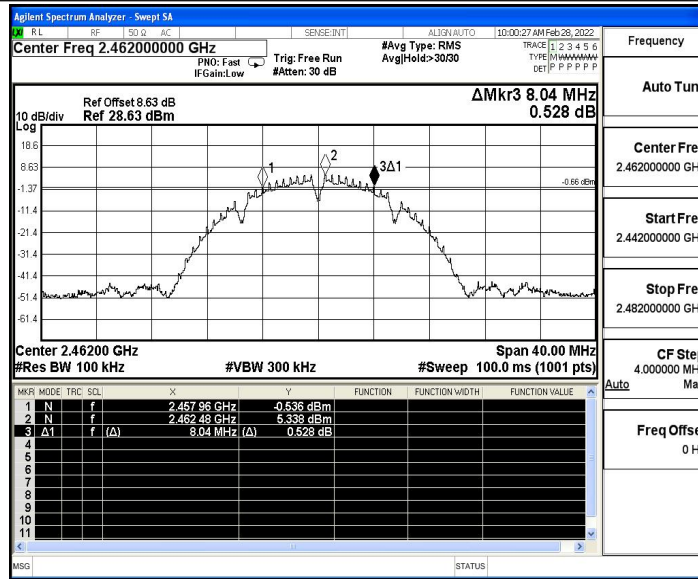
11B_Ant1_2412



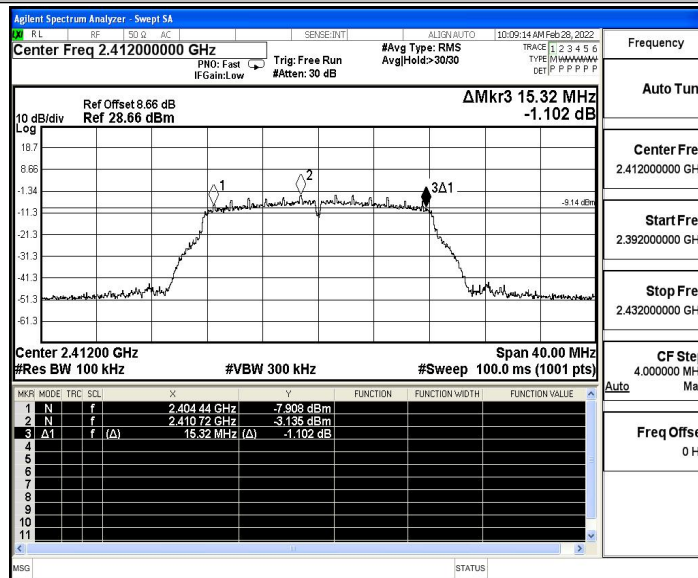
11B_Ant1_2437



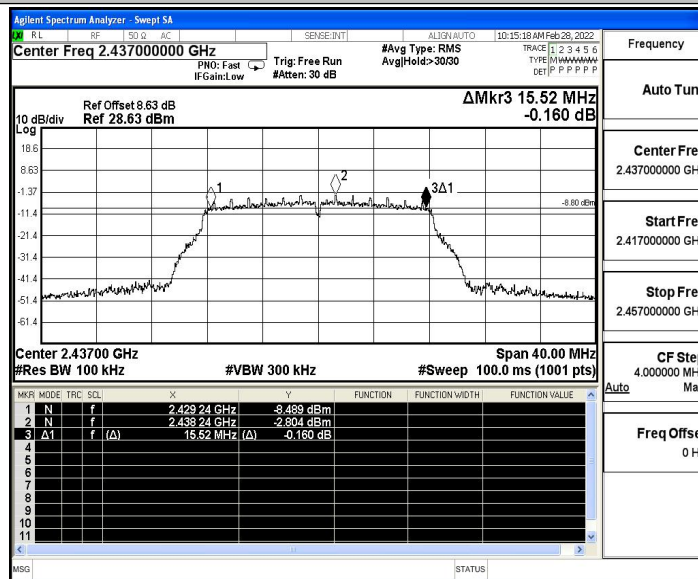
11B_Ant1_2462



11G_Ant1_2412

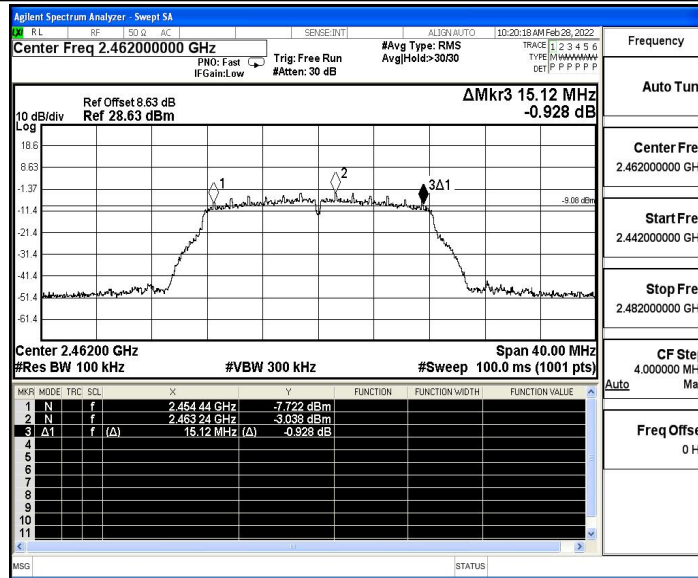


11G_Ant1_2437

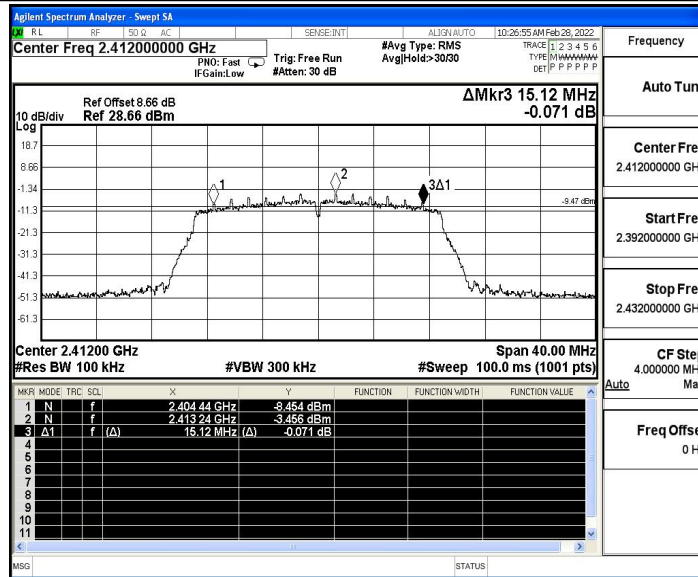




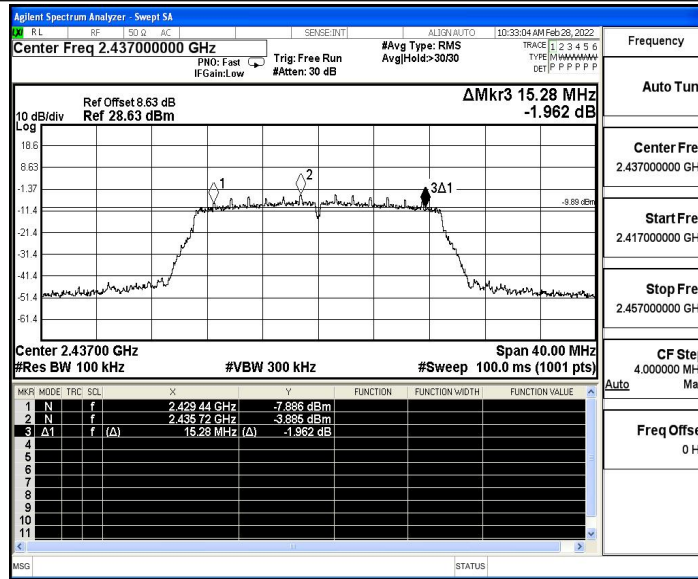
11G_Ant1_2462



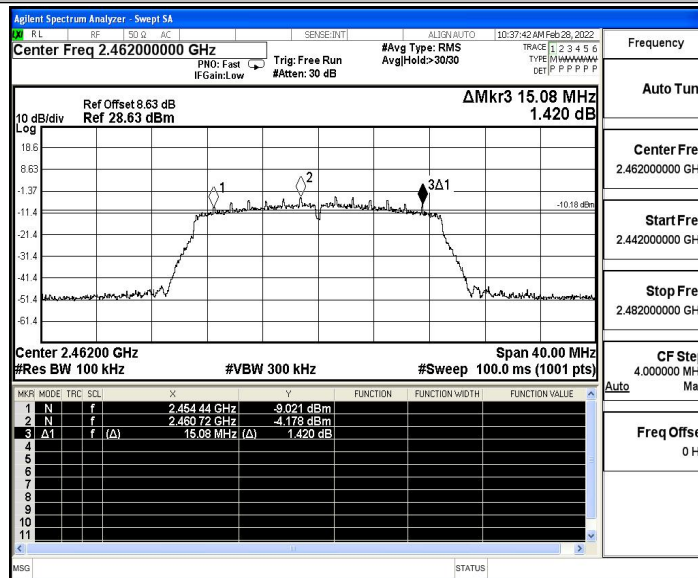
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





A.2 Maximum peak conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	16.74	≤30.00	PASS
		2437	16.19	≤30.00	PASS
		2462	16.20	≤30.00	PASS
11G	Ant1	2412	15.57	≤30.00	PASS
		2437	15.98	≤30.00	PASS
		2462	15.45	≤30.00	PASS
11N20SISO	Ant1	2412	15.00	≤30.00	PASS
		2437	14.83	≤30.00	PASS
		2462	14.35	≤30.00	PASS



A.3 Maximum power spectral density

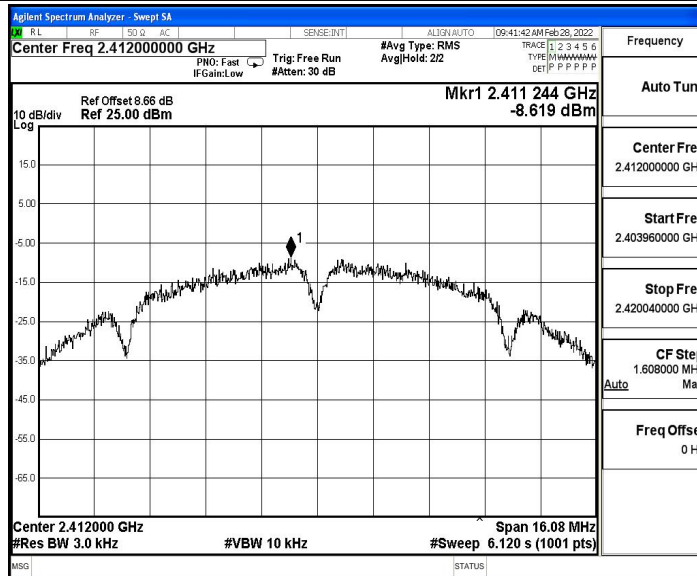
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-8.62	≤8.00	PASS
		2437	-8.6	≤8.00	PASS
		2462	-8.51	≤8.00	PASS
11G	Ant1	2412	-17.86	≤8.00	PASS
		2437	-16.3	≤8.00	PASS
		2462	-16.69	≤8.00	PASS
11N20SISO	Ant1	2412	-17.75	≤8.00	PASS
		2437	-19.05	≤8.00	PASS
		2462	-19.18	≤8.00	PASS

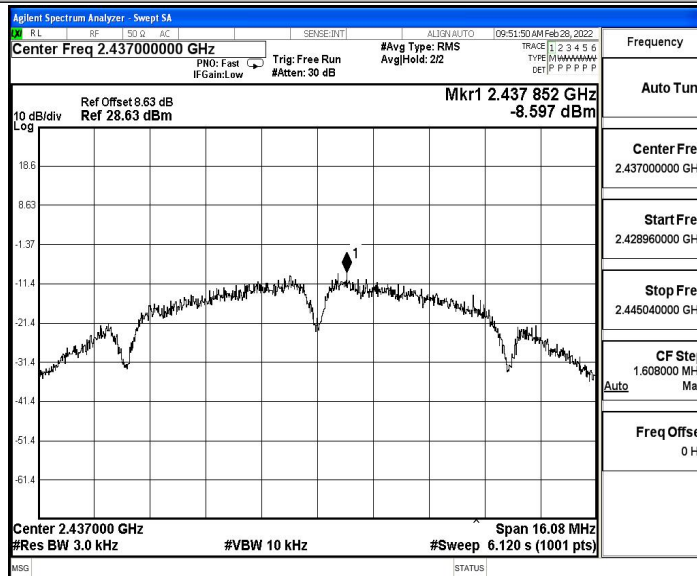


Test Graphs

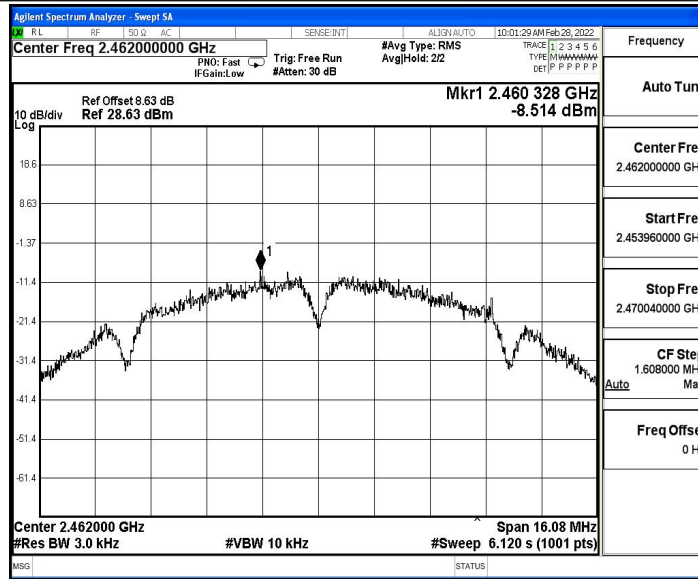
11B_Ant1_2412



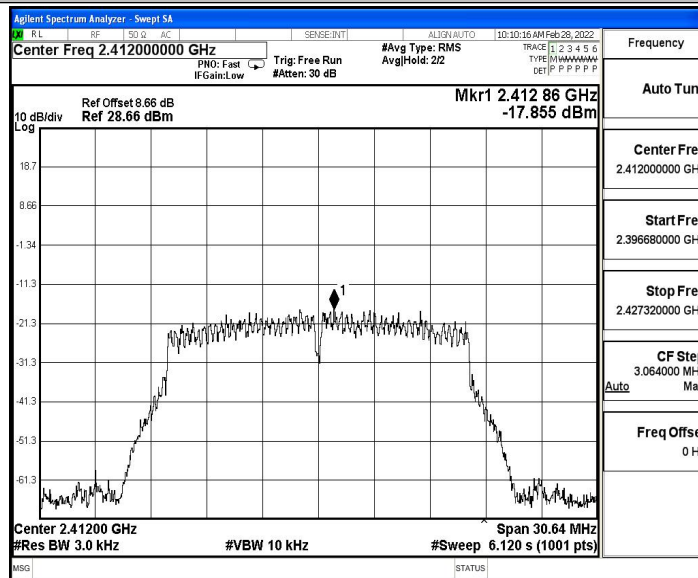
11B_Ant1_2437



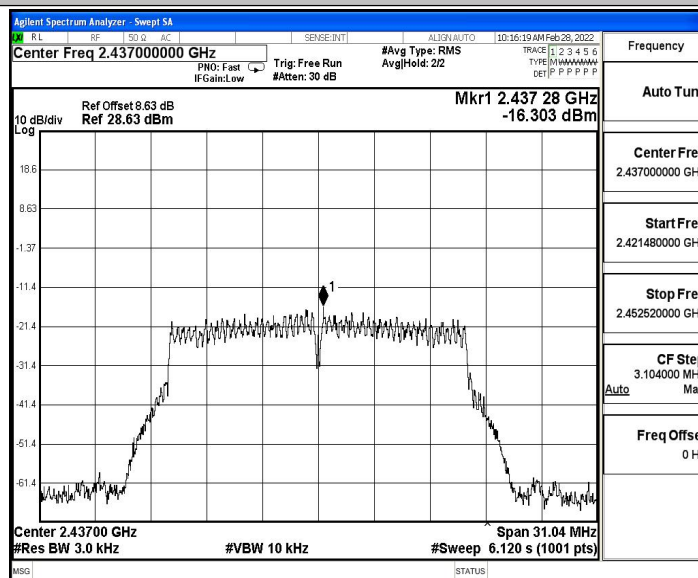
11B_Ant1_2462



11G_Ant1_2412

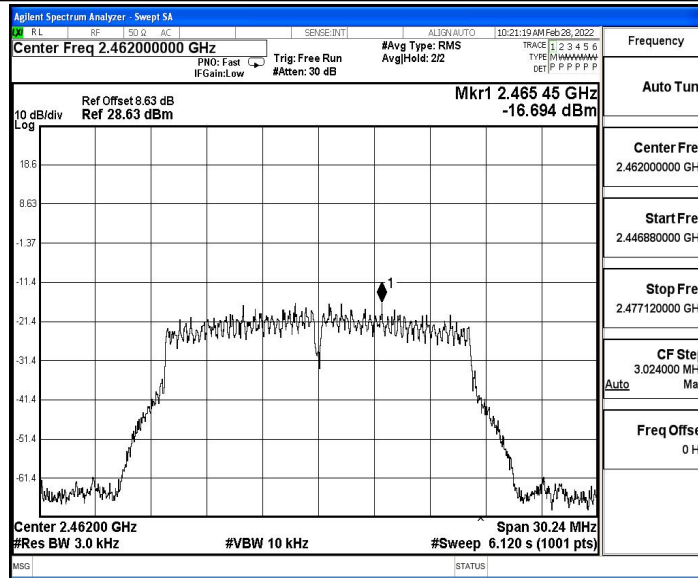


11G_Ant1_2437

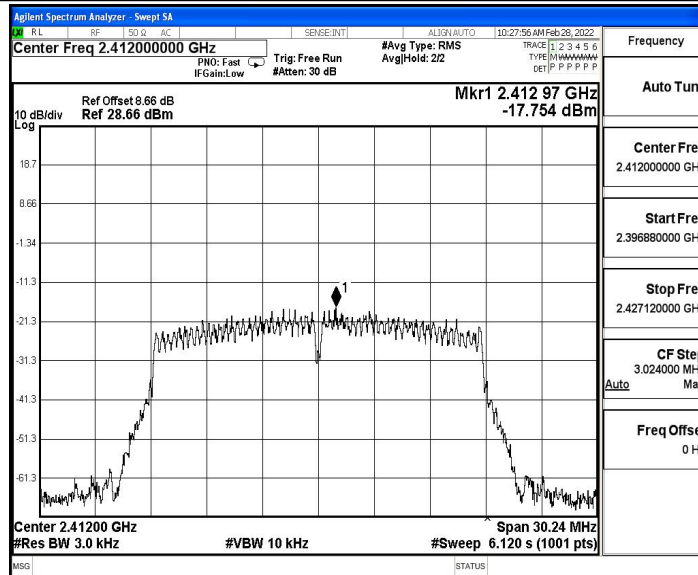




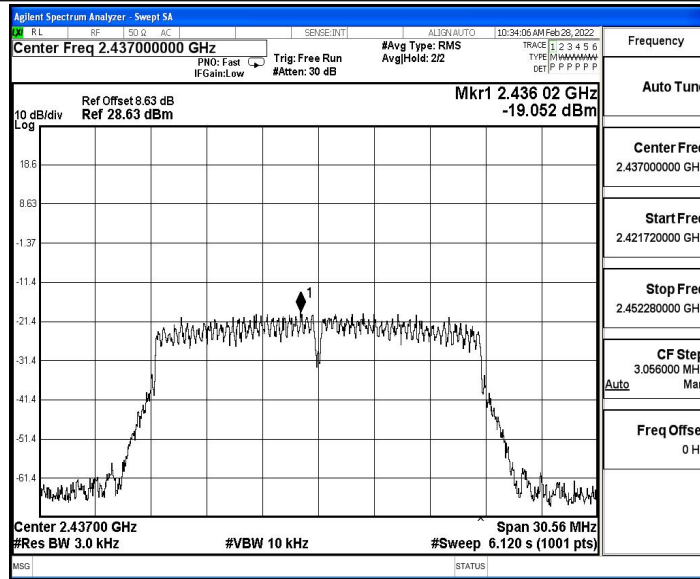
11G_Ant1_2462



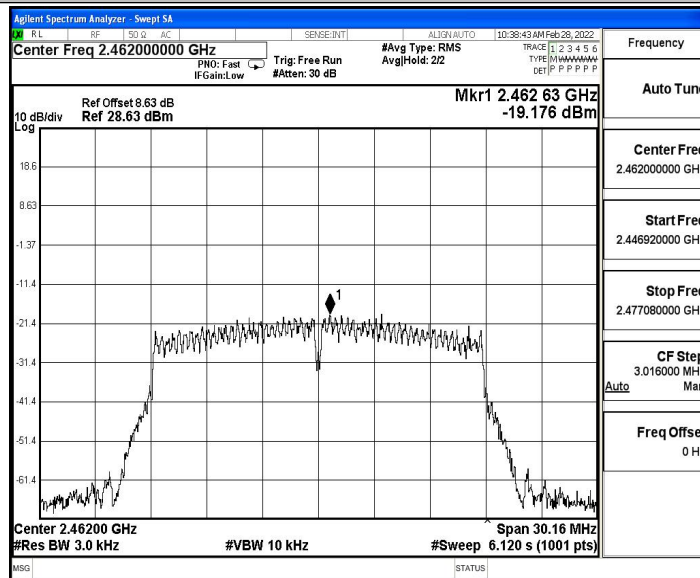
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





A.4 Band edge measurements

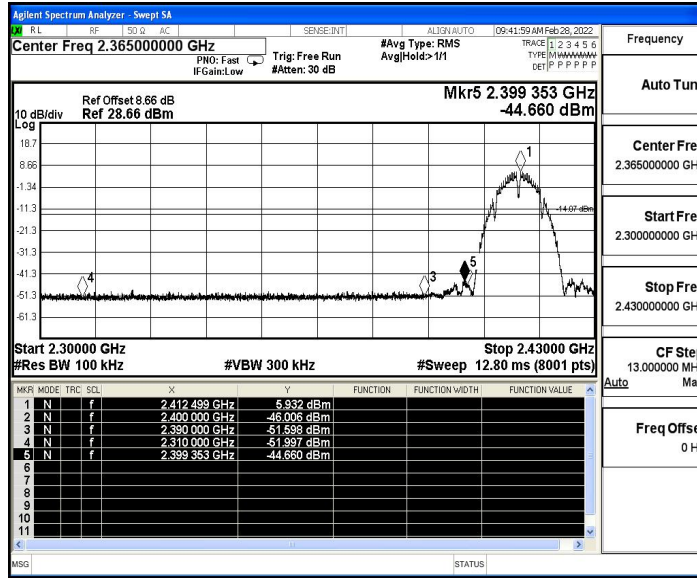
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.93	-44.66	≤-14.07	PASS
		High	2462	5.20	-47.81	≤-14.8	PASS
11G	Ant1	Low	2412	-2.47	-45.66	≤-22.47	PASS
		High	2462	-2.98	-48.21	≤-22.98	PASS
11N20SISO	Ant1	Low	2412	-3.55	-46.33	≤-23.55	PASS
		High	2462	-3.77	-47.75	≤-23.77	PASS

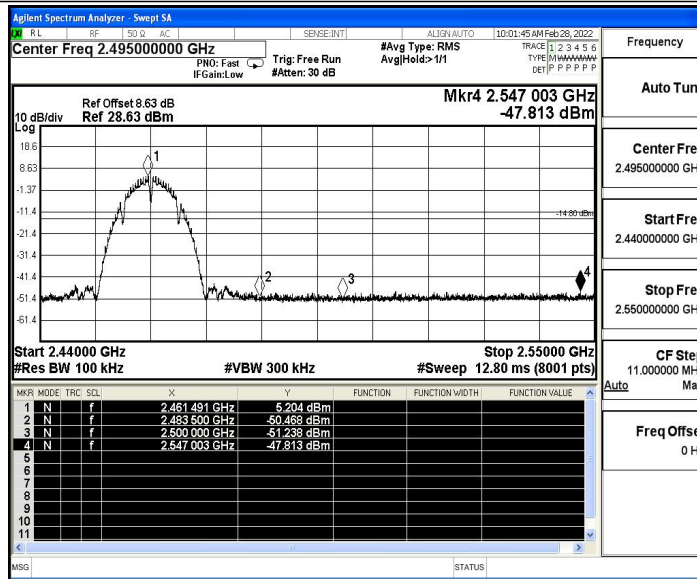


Test Graphs

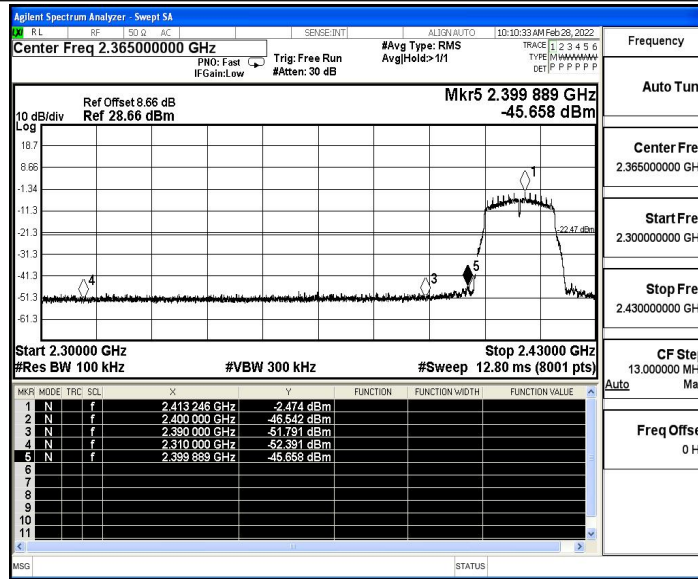
11B_Ant1_Low_2412



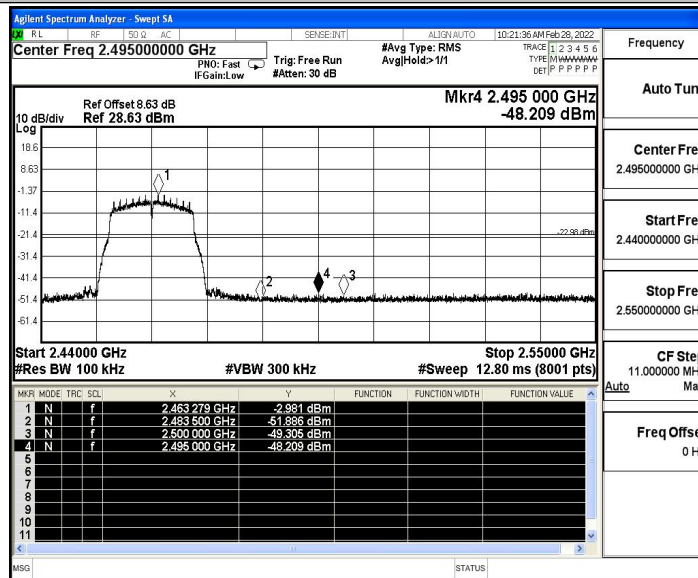
11B_Ant1_High_2462



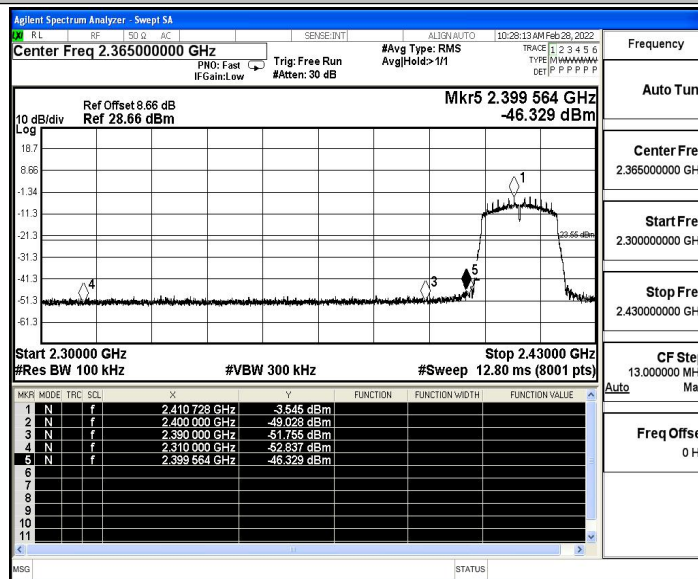
11G_Ant1_Low_2412



11G_Ant1_High_2462

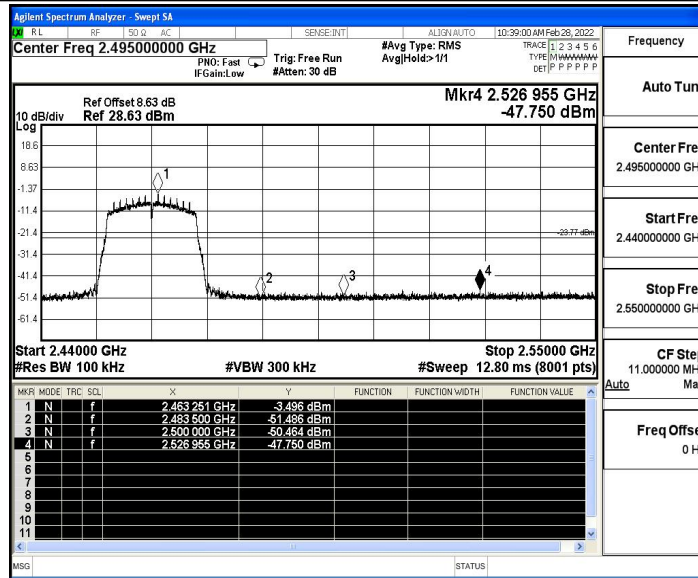


11N20SISO_Ant1_Low_2412





11N20SISO_Ant1_High_2462





A.5 Conducted Spurious Emission

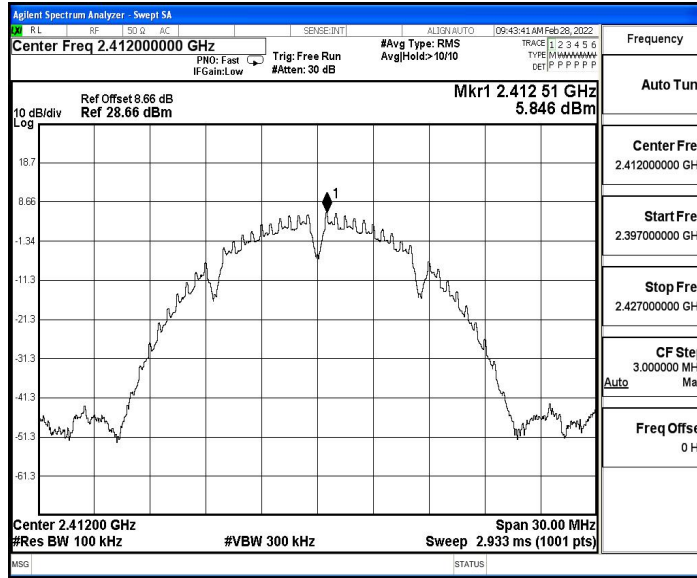
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	5.85	5.85	---	PASS
			30~1000	5.85	-60.55	≤-14.15	PASS
			1000~26500	5.85	-46.36	≤-14.15	PASS
		2437	Reference	4.93	4.93	---	PASS
			30~1000	4.93	-60.24	≤-15.07	PASS
			1000~26500	4.93	-45.75	≤-15.07	PASS
		2462	Reference	5.08	5.08	---	PASS
			30~1000	5.08	-60.48	≤-14.92	PASS
			1000~26500	5.08	-46	≤-14.92	PASS
11G	Ant1	2412	Reference	-2.36	-2.36	---	PASS
			30~1000	-2.36	-60.37	≤-22.36	PASS
			1000~26500	-2.36	-45.92	≤-22.36	PASS
		2437	Reference	-2.16	-2.16	---	PASS
			30~1000	-2.16	-51.21	≤-22.16	PASS
			1000~26500	-2.16	-45.89	≤-22.16	PASS
		2462	Reference	-3.10	-3.10	---	PASS
			30~1000	-3.10	-42.93	≤-23.1	PASS
			1000~26500	-3.10	-46.24	≤-23.1	PASS
11N20SISO	Ant1	2412	Reference	-2.81	-2.81	---	PASS
			30~1000	-2.81	-60.35	≤-22.81	PASS
			1000~26500	-2.81	-46.01	≤-22.81	PASS
		2437	Reference	-3.54	-3.54	---	PASS
			30~1000	-3.54	-60.07	≤-23.54	PASS
			1000~26500	-3.54	-46.26	≤-23.54	PASS
		2462	Reference	-3.77	-3.77	---	PASS
			30~1000	-3.77	-59.88	≤-23.77	PASS
			1000~26500	-3.77	-45.69	≤-23.77	PASS

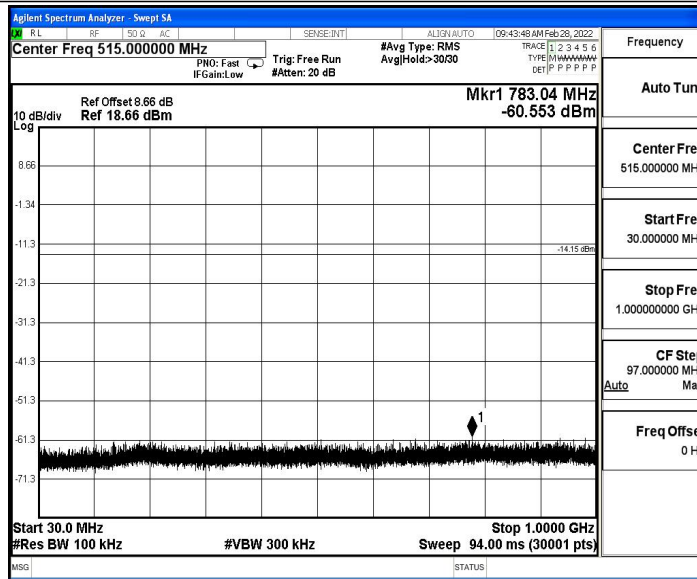


Test Graphs

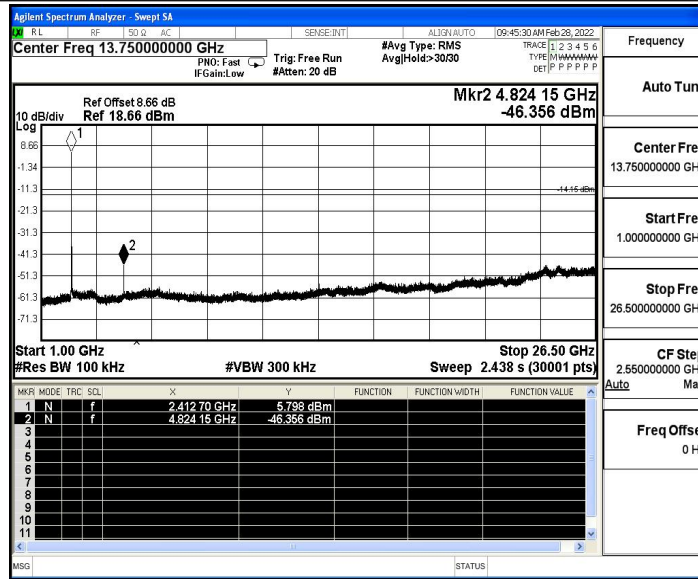
11B_Ant1_2412_0~Reference



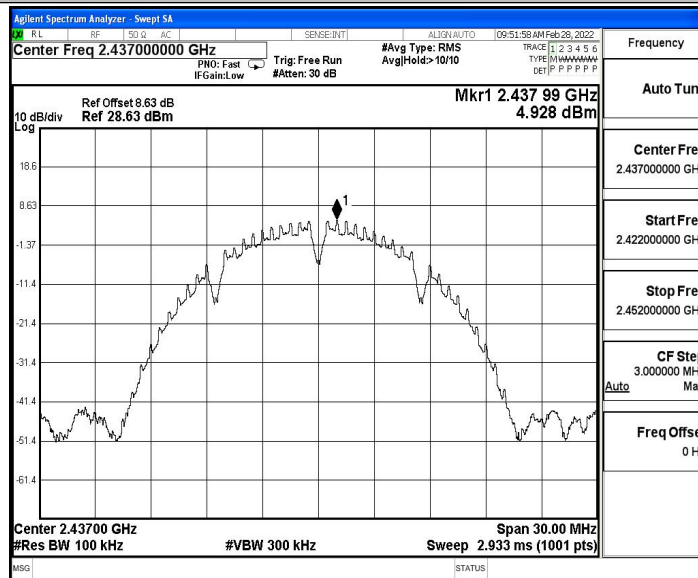
11B_Ant1_2412_30~1000



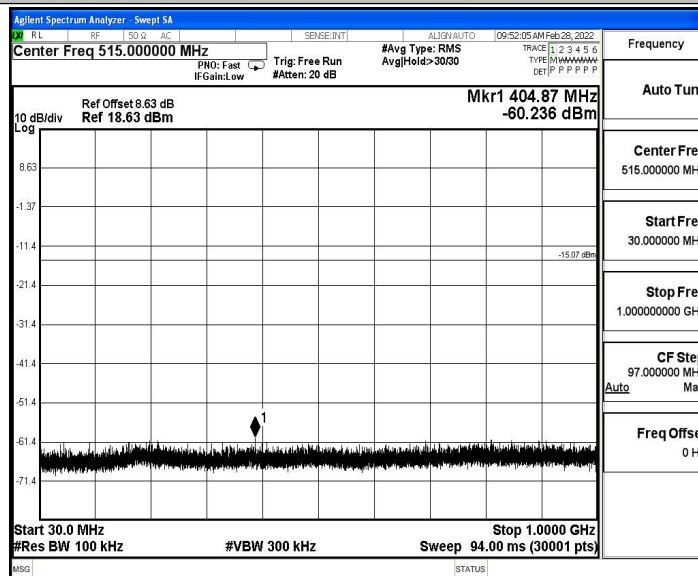
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference

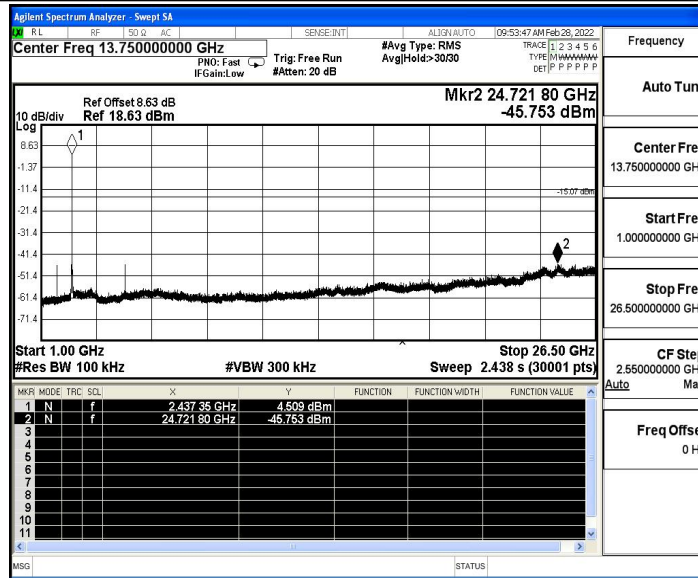


11B_Ant1_2437_30~1000

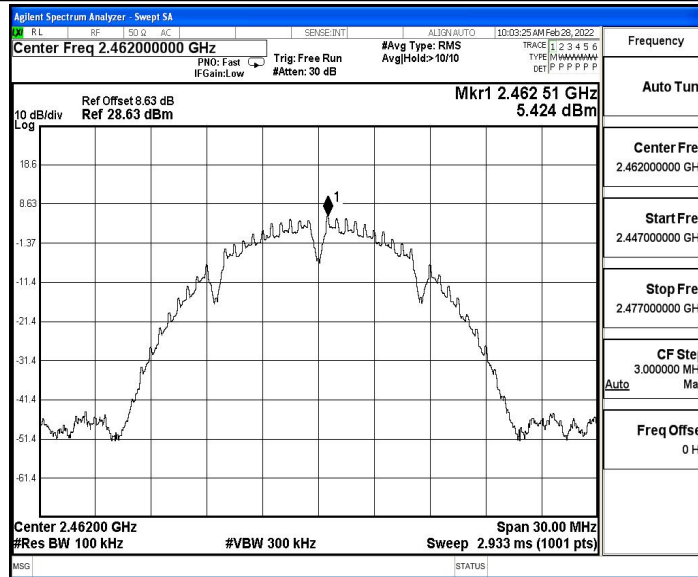




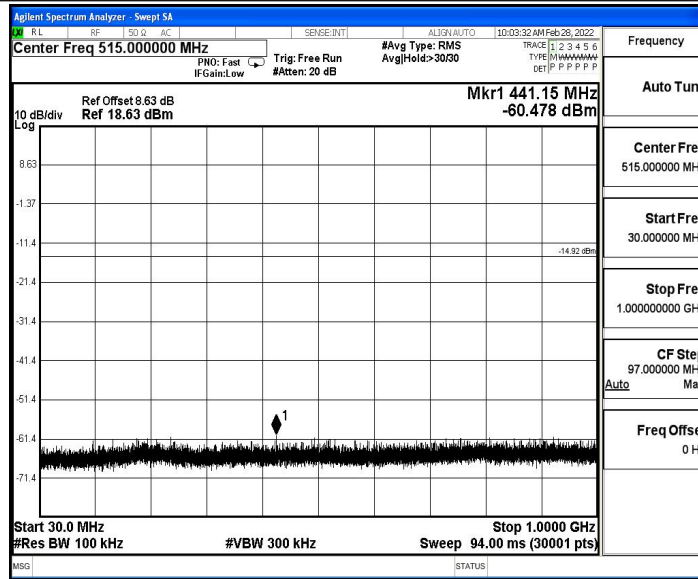
11B_Ant1_2437_1000~26500



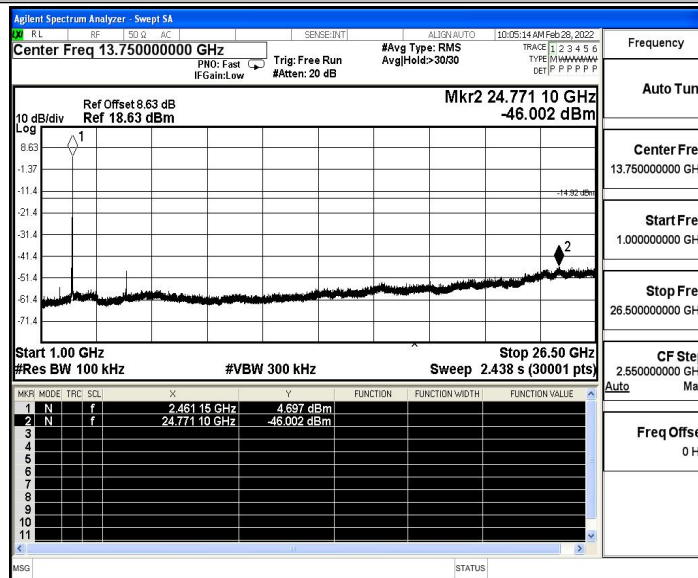
11B_Ant1_2462_0~Reference



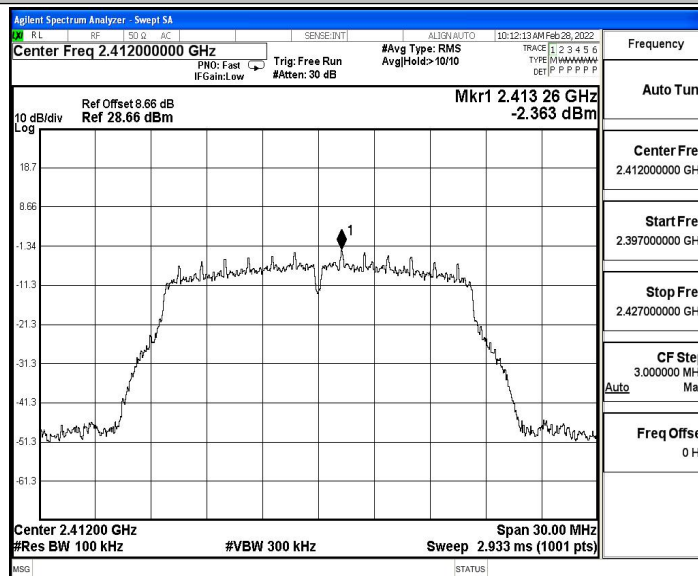
11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500

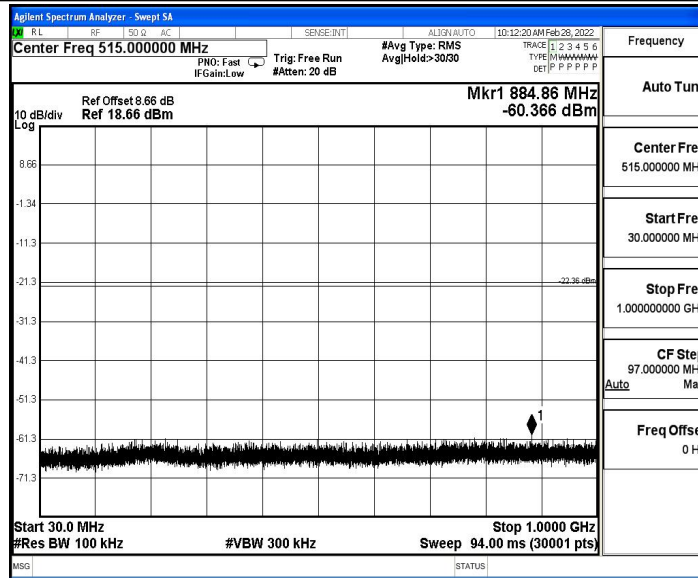


11G_Ant1_2412_0~Reference

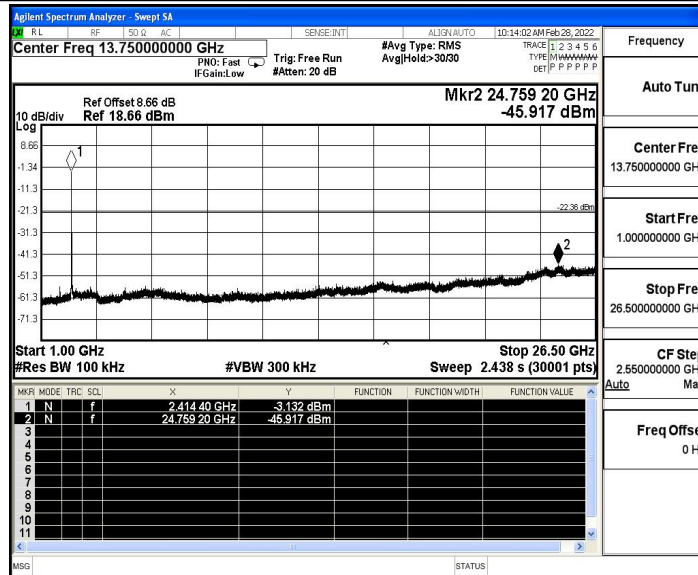




11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference