





Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart WIFI Dimmer Switch

Test Model: Shelly Dimmer2

Environmental Conditions

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





A.1 DTS Bandwidth

Test Result

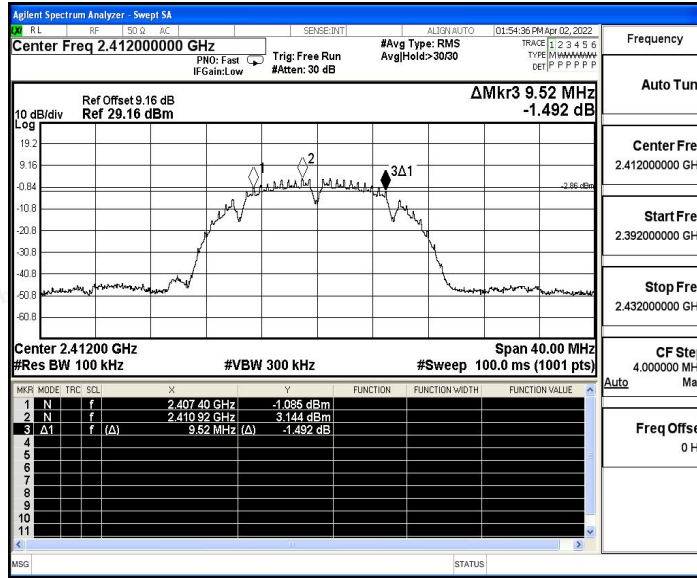
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.520	2407.400	2416.920	0.5	PASS
		2437	9.520	2432.400	2441.920	0.5	PASS
		2462	10.000	2456.920	2466.920	0.5	PASS
11G	Ant1	2412	16.320	2403.760	2420.080	0.5	PASS
		2437	16.320	2428.760	2445.080	0.5	PASS
		2462	16.280	2453.800	2470.080	0.5	PASS
11N20SISO	Ant1	2412	16.560	2403.760	2420.320	0.5	PASS
		2437	16.320	2428.760	2445.080	0.5	PASS
		2462	16.560	2453.760	2470.320	0.5	PASS



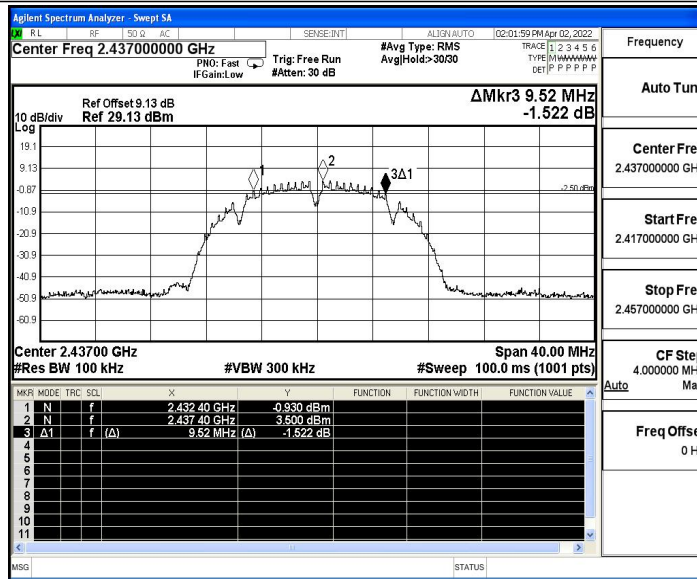


Test Graphs

11B_Ant1_2412

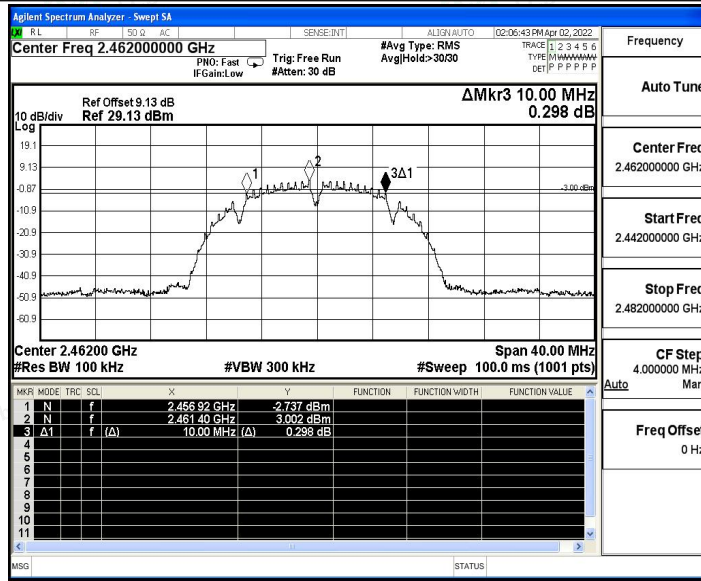


11B_Ant1_2437

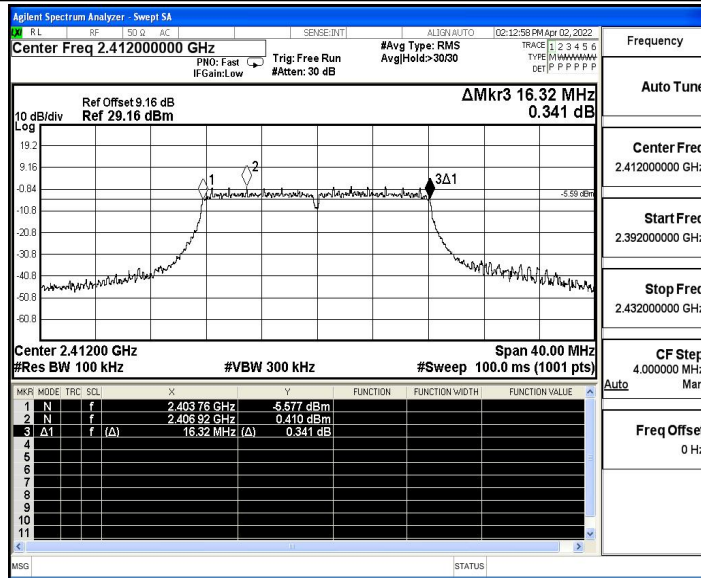


11B_Ant1_2462



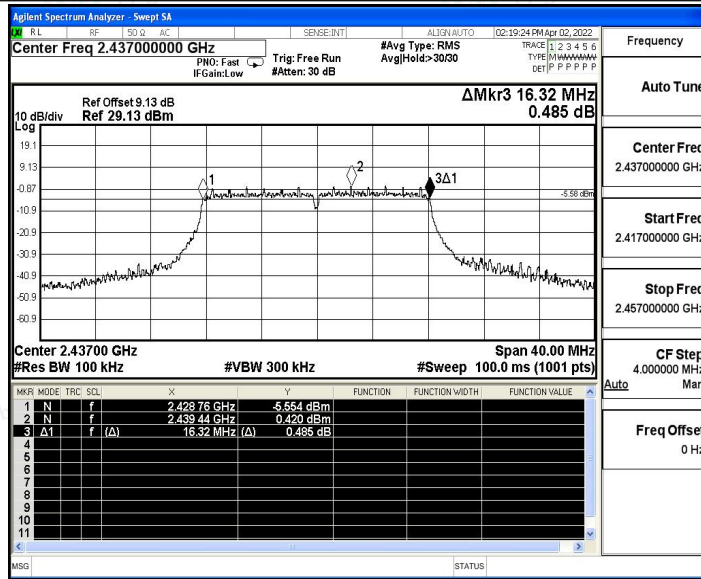


11G_Ant1_2412

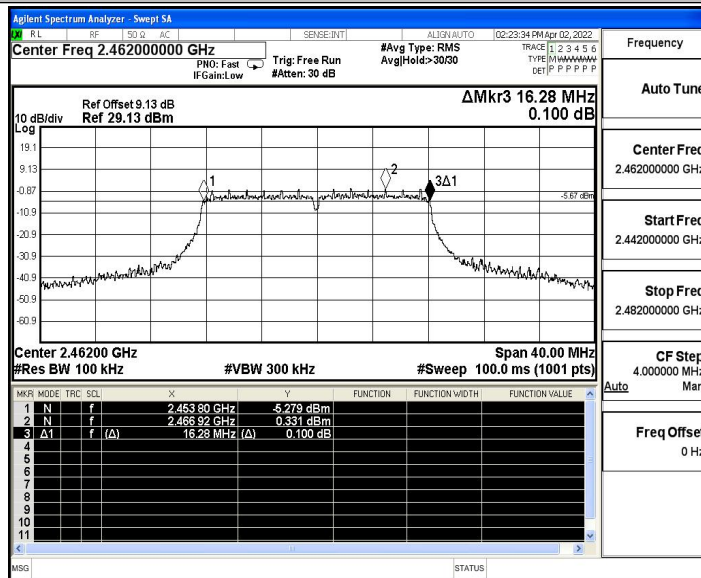


11G_Ant1_2437



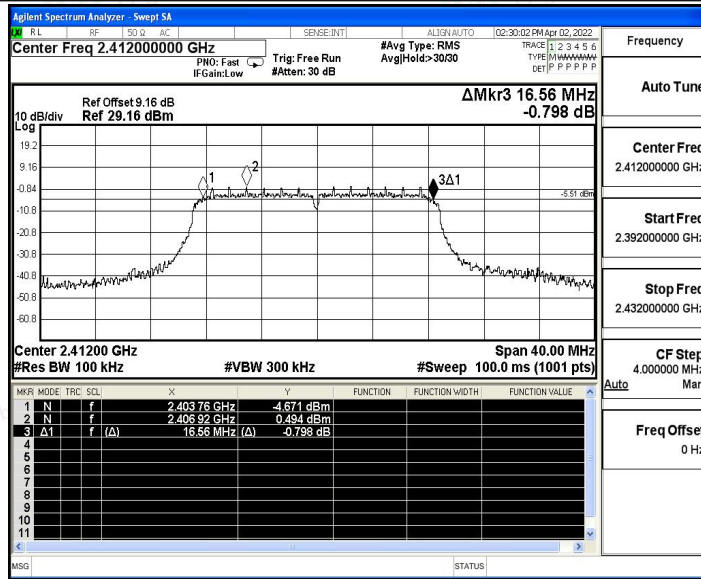


11G_Ant1_2462

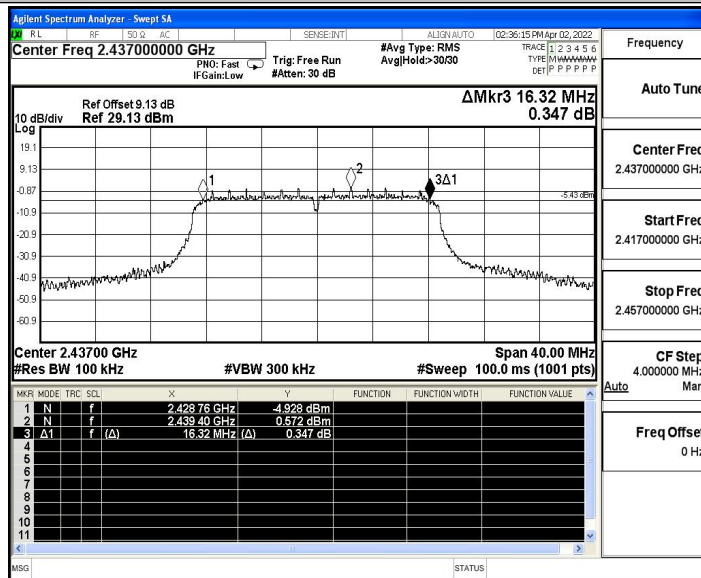


11N20SISO_Ant1_2412



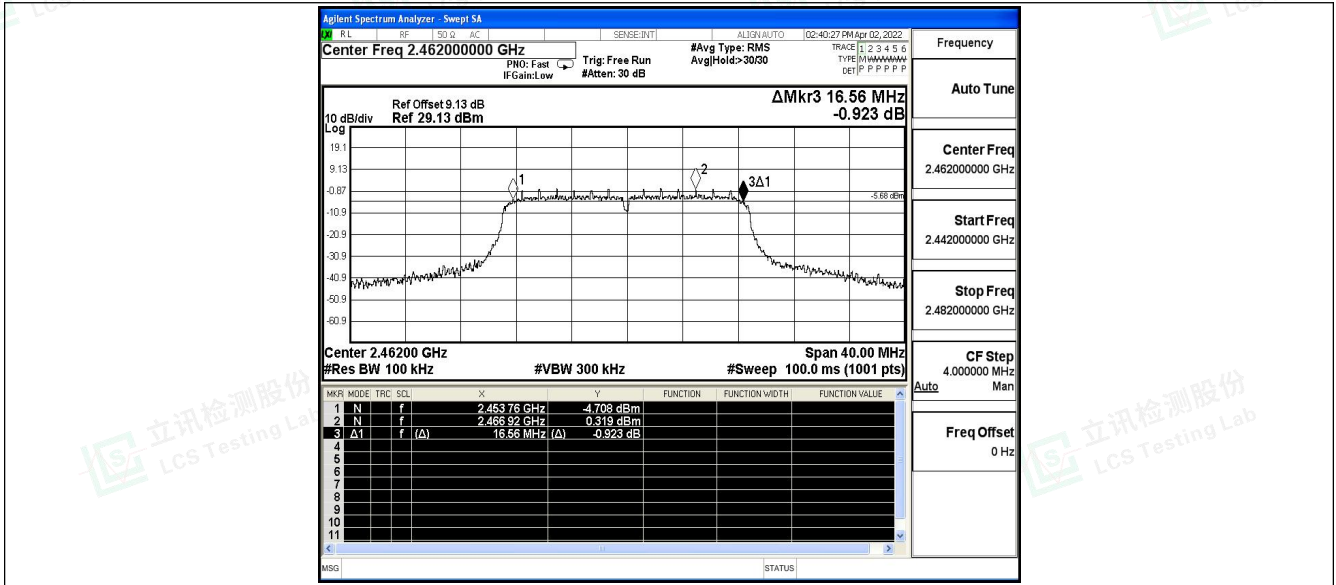


11N20SISO_Ant1_2437



11N20SISO_Ant1_2462







A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	14.92	≤30.00	PASS
		2437	15.21	≤30.00	PASS
		2462	14.90	≤30.00	PASS
11G	Ant1	2412	19.95	≤30.00	PASS
		2437	20.03	≤30.00	PASS
		2462	19.88	≤30.00	PASS
11N20SISO	Ant1	2412	19.93	≤30.00	PASS
		2437	20.01	≤30.00	PASS
		2462	19.78	≤30.00	PASS





A.3 Maximum power spectral density

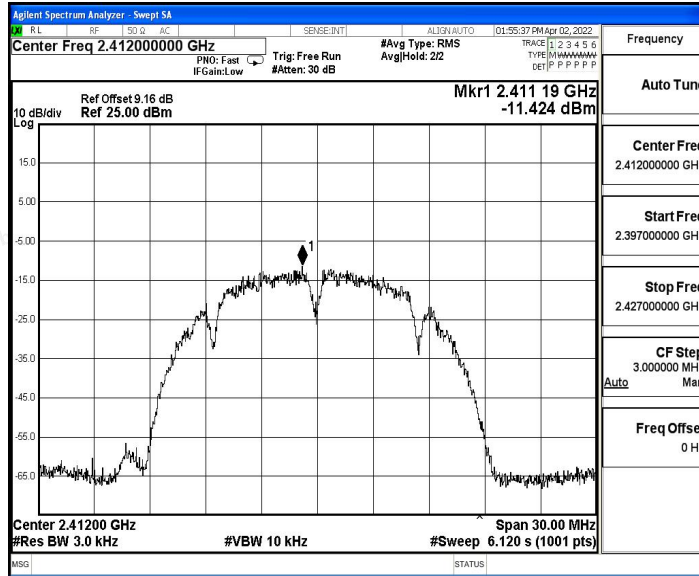
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.42	≤8.00	PASS
		2437	-11.2	≤8.00	PASS
		2462	-11.64	≤8.00	PASS
11G	Ant1	2412	-14.02	≤8.00	PASS
		2437	-13.19	≤8.00	PASS
		2462	-13.73	≤8.00	PASS
11N20SISO	Ant1	2412	-13.38	≤8.00	PASS
		2437	-12.69	≤8.00	PASS
		2462	-13.46	≤8.00	PASS

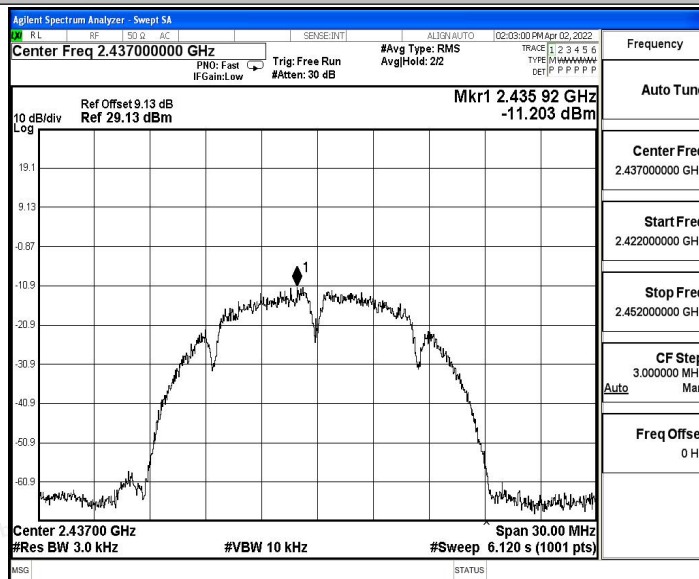


Test Graphs

11B_Ant1_2412

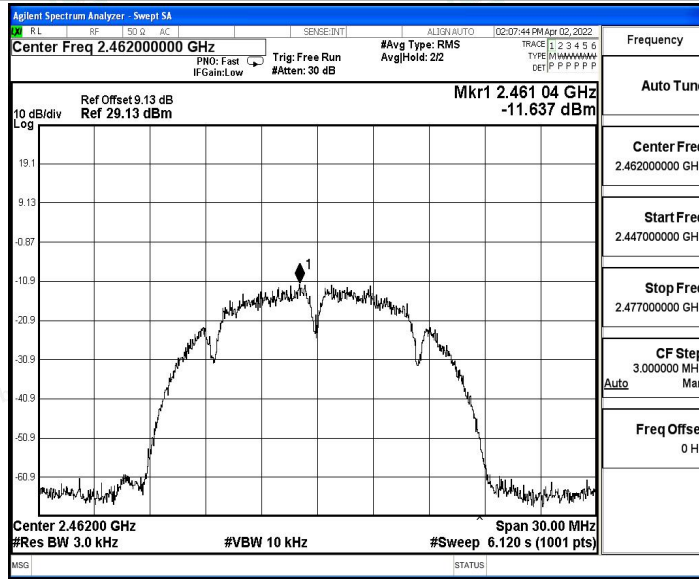


11B_Ant1_2437

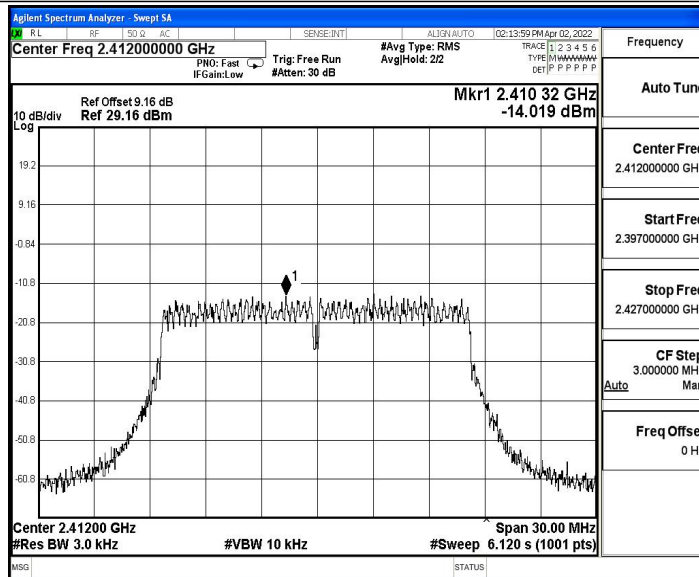


11B_Ant1_2462



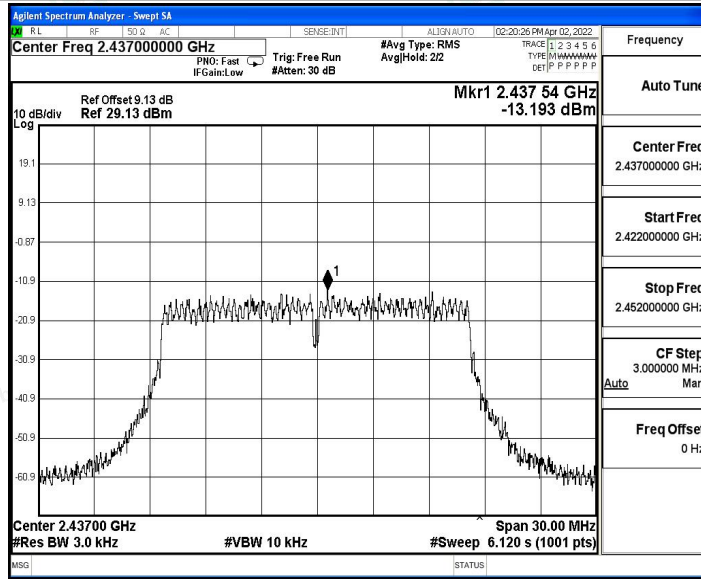


11G_Ant1_2412

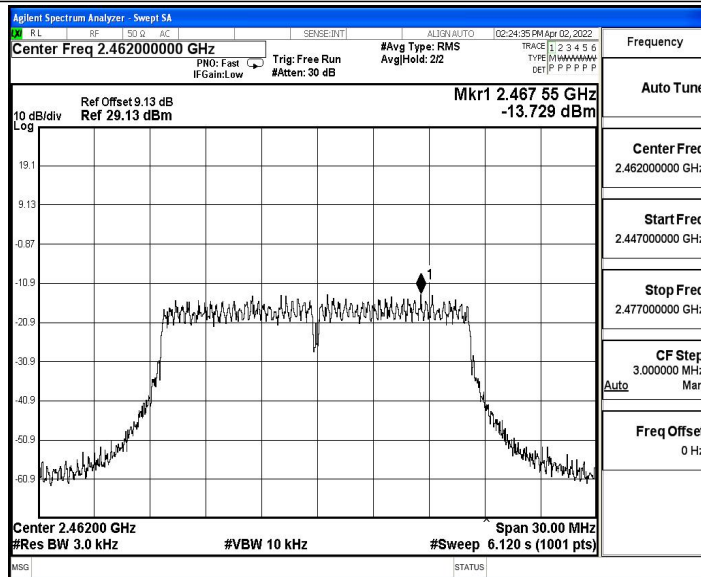


11G_Ant1_2437



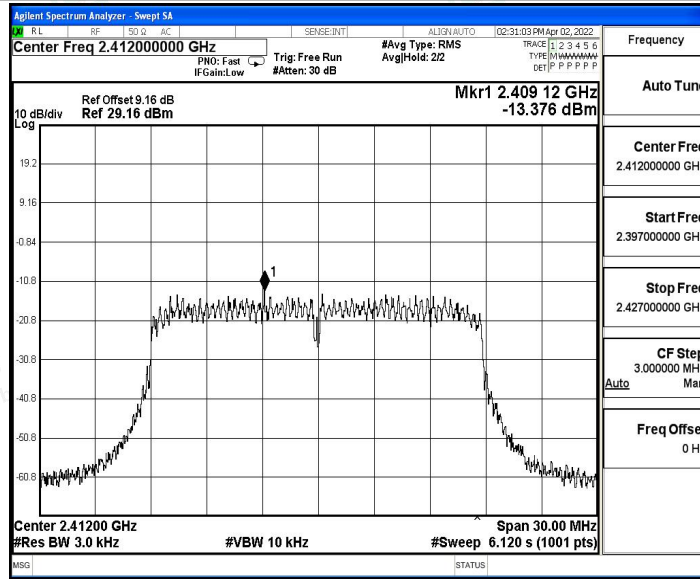


11G_Ant1_2462

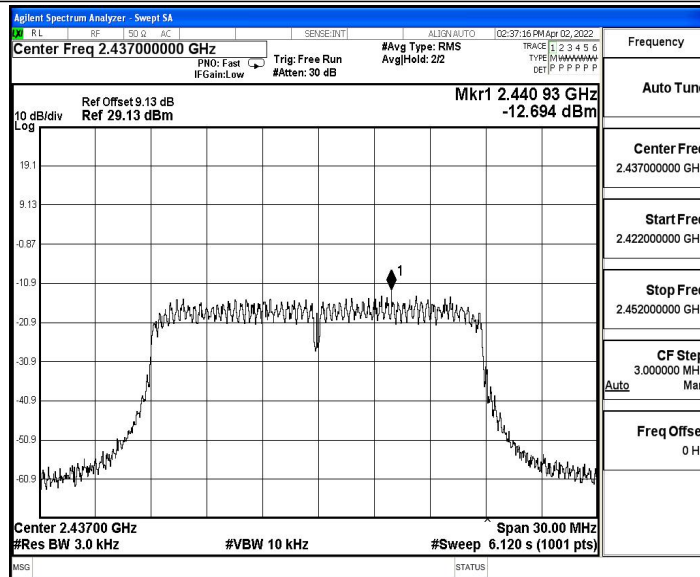


11N20SISO_Ant1_2412



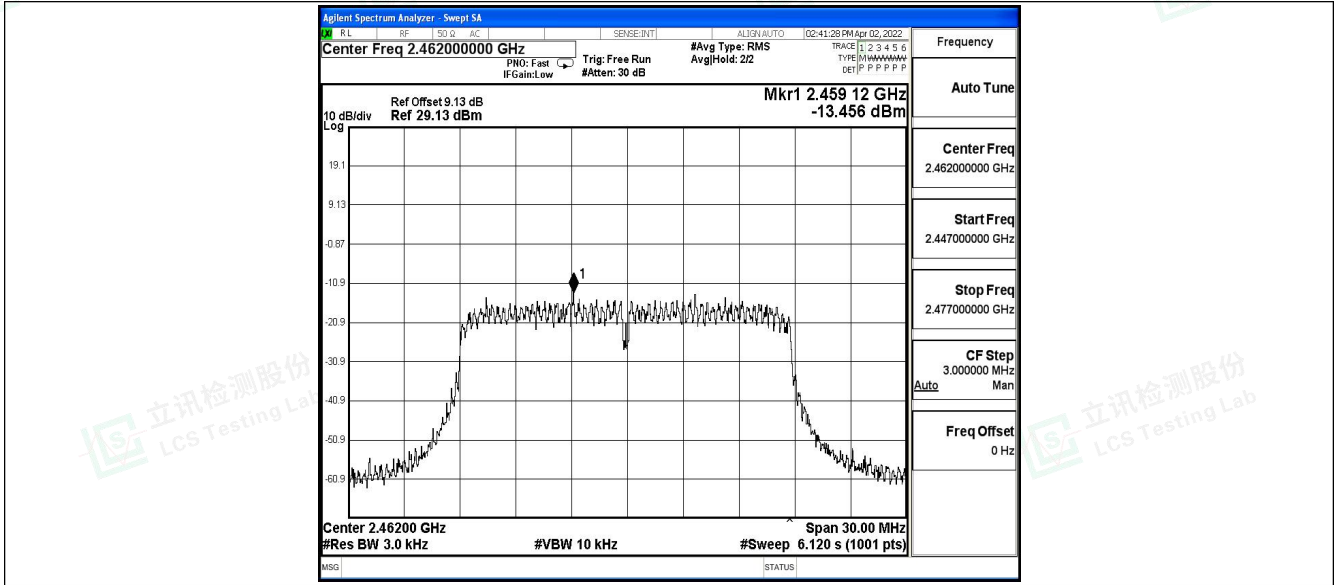


11N20SISO_Ant1_2437



11N20SISO_Ant1_2462







A.4 Band edge measurements

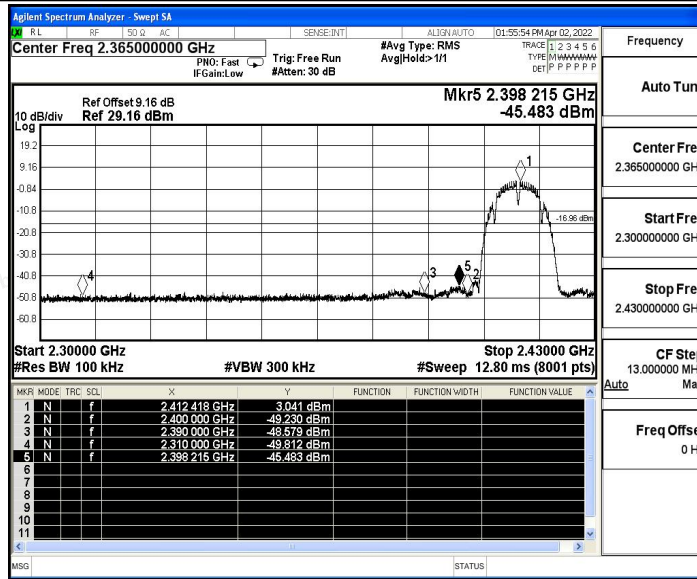
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.04	-45.48	≤-16.96	PASS
		High	2462	3.05	-46.17	≤-16.95	PASS
11G	Ant1	Low	2412	0.36	-40.02	≤-19.64	PASS
		High	2462	0.30	-45.14	≤-19.71	PASS
11N20SISO	Ant1	Low	2412	0.48	-38.48	≤-19.52	PASS
		High	2462	0.62	-42.89	≤-19.39	PASS

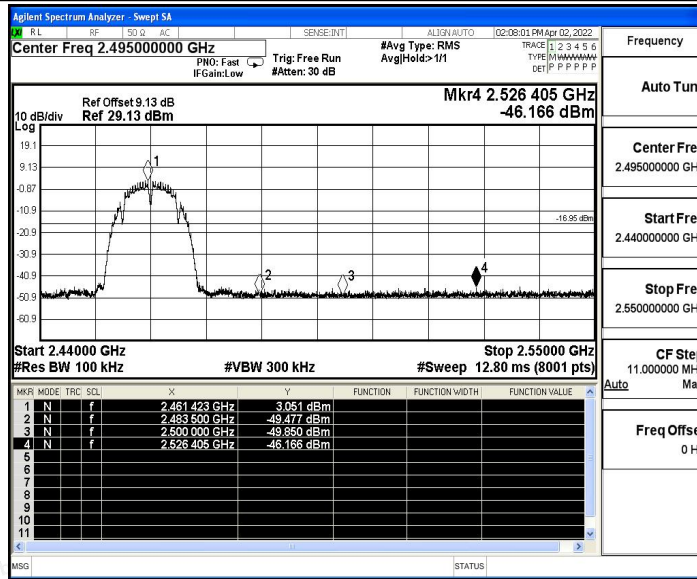


Test Graphs

11B_Ant1_Low_2412

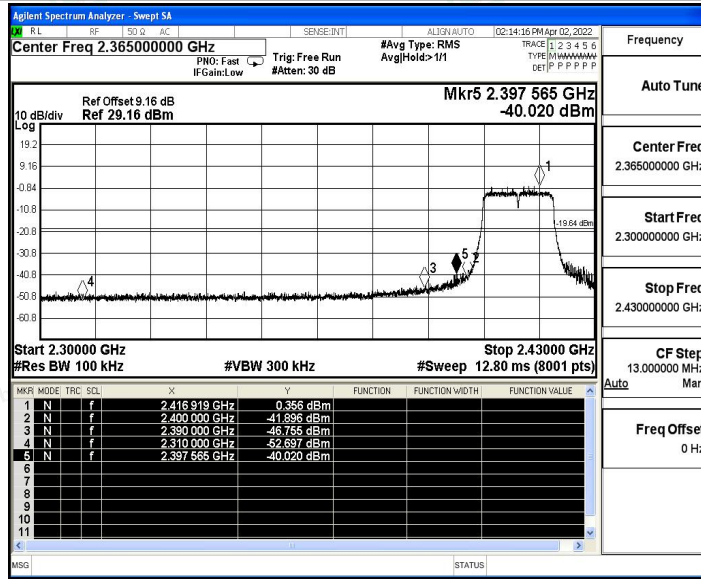


11B_Ant1_High_2462

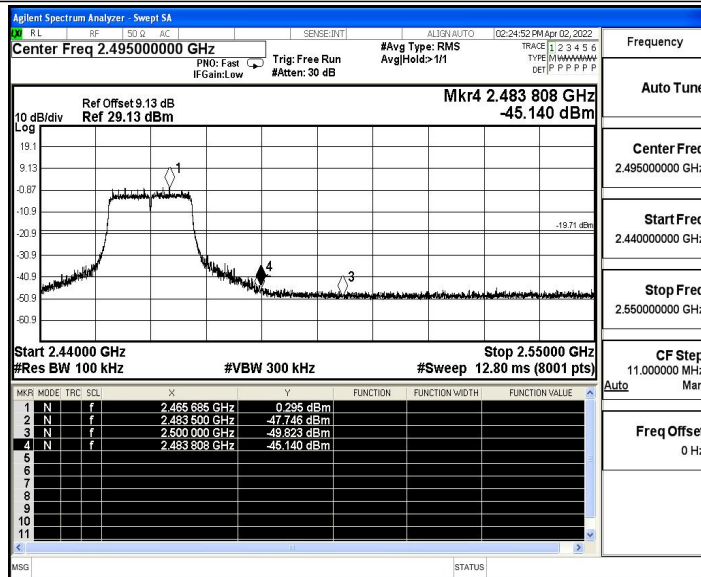


11G_Ant1_Low_2412



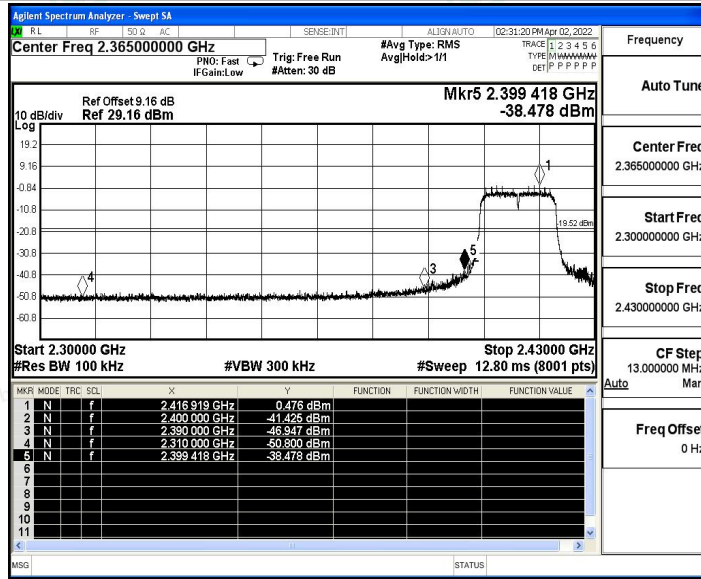


11G_Ant1_High_2462

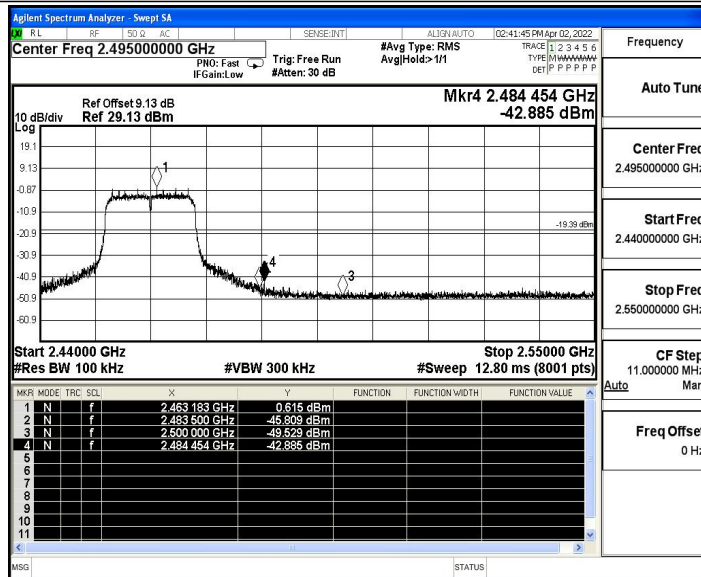


11N20SISO_Ant1_Low_2412





11N20SISO_Ant1_High_2462



A.5 Conducted Spurious Emission

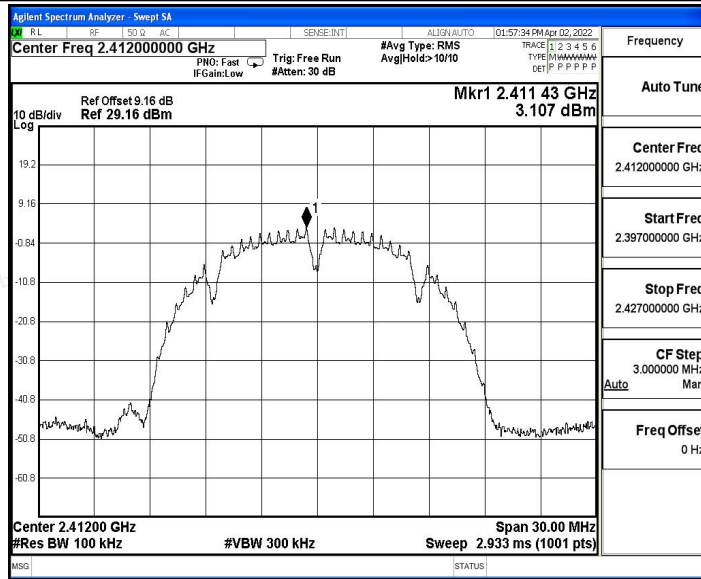
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.11	3.11	---	PASS
			30~1000	3.11	-54.36	≤-16.89	PASS
			1000~26500	3.11	-45.36	≤-16.89	PASS
		2437	Reference	3.43	3.43	---	PASS
			30~1000	3.43	-54.12	≤-16.57	PASS
			1000~26500	3.43	-44.33	≤-16.57	PASS
		2462	Reference	2.65	2.65	---	PASS
			30~1000	2.65	-53.92	≤-17.35	PASS
			1000~26500	2.65	-45.65	≤-17.35	PASS
11G	Ant1	2412	Reference	0.67	0.67	---	PASS
			30~1000	0.67	-54.2	≤-19.33	PASS
			1000~26500	0.67	-45.34	≤-19.33	PASS
		2437	Reference	0.67	0.67	---	PASS
			30~1000	0.67	-54.67	≤-19.33	PASS
			1000~26500	0.67	-45.68	≤-19.33	PASS
		2462	Reference	0.14	0.14	---	PASS
			30~1000	0.14	-54.68	≤-19.86	PASS
			1000~26500	0.14	-45.68	≤-19.86	PASS
11N20SISO	Ant1	2412	Reference	0.86	0.86	---	PASS
			30~1000	0.86	-52.87	≤-19.14	PASS
			1000~26500	0.86	-45.71	≤-19.14	PASS
		2437	Reference	1.01	1.01	---	PASS
			30~1000	1.01	-54.81	≤-18.99	PASS
			1000~26500	1.01	-38.64	≤-18.99	PASS
		2462	Reference	0.26	0.26	---	PASS
			30~1000	0.26	-53.78	≤-19.74	PASS
			1000~26500	0.26	-45.65	≤-19.74	PASS

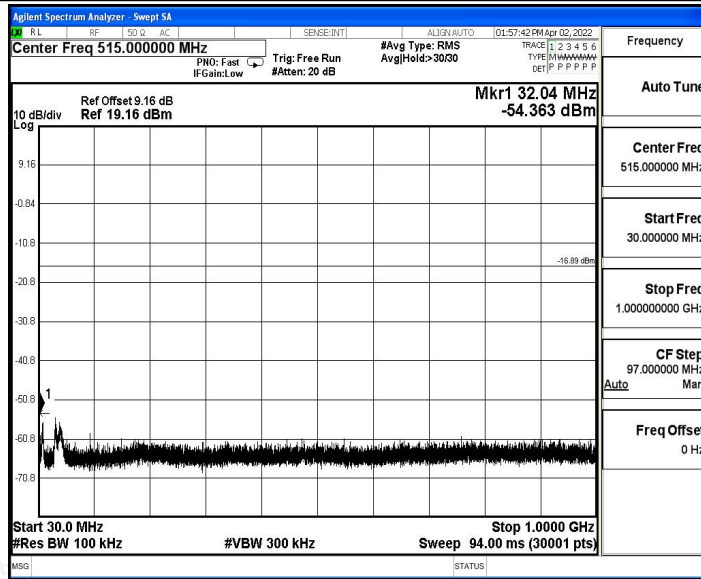


Test Graphs

11B_Ant1_2412_0~Reference

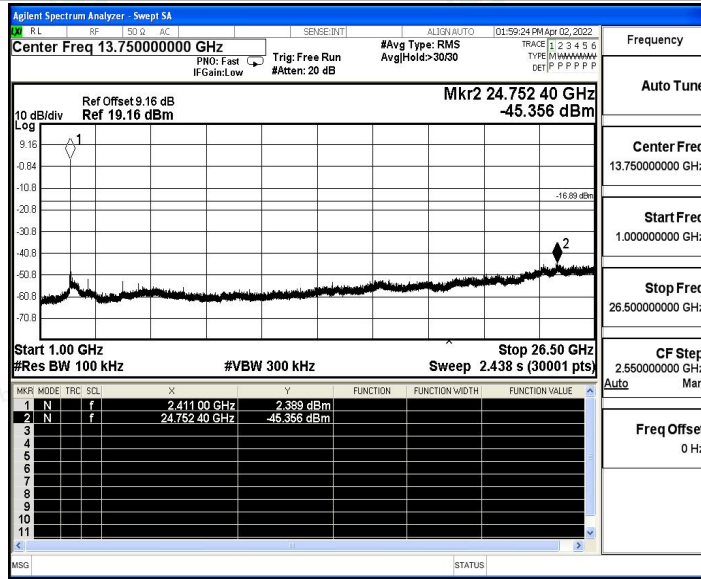


11B_Ant1_2412_30~1000

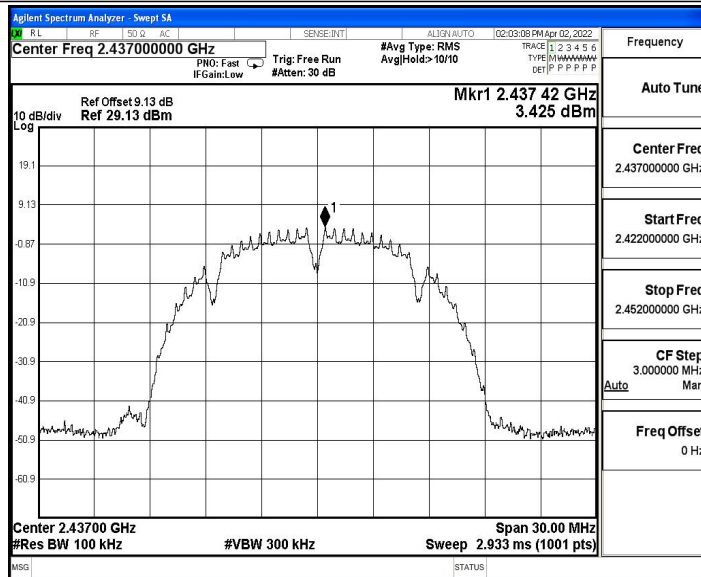


11B_Ant1_2412_1000~26500



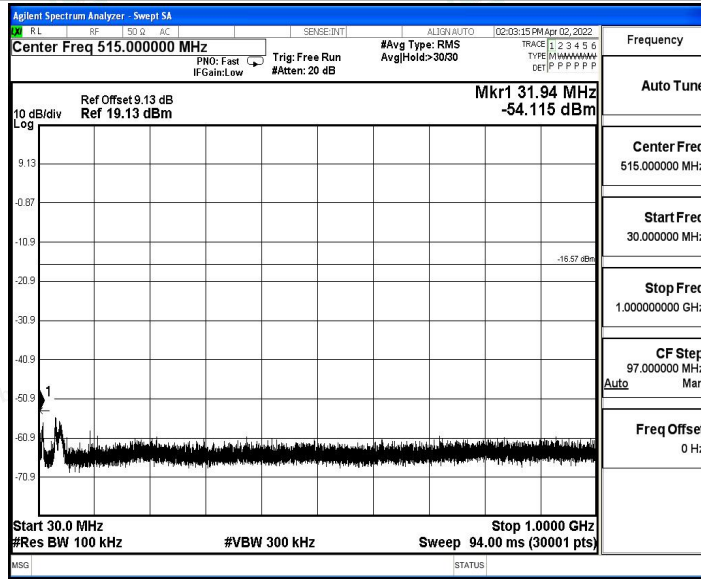


11B_Ant1_2437_0~Reference

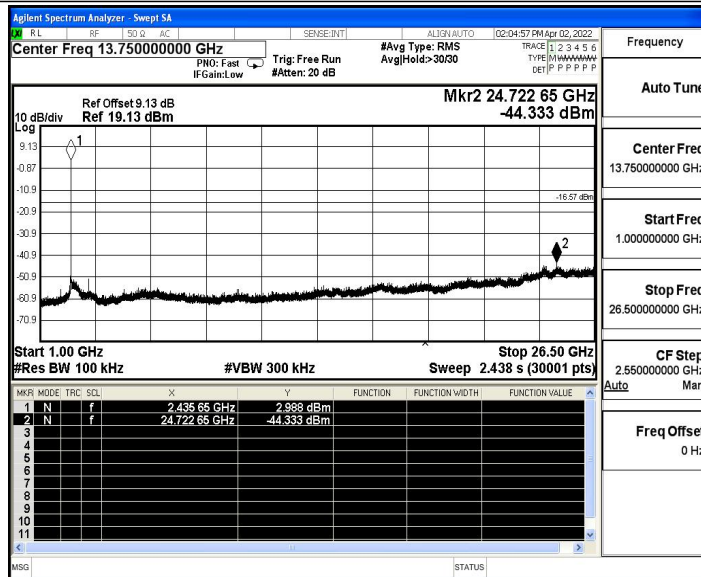


11B_Ant1_2437_30~1000



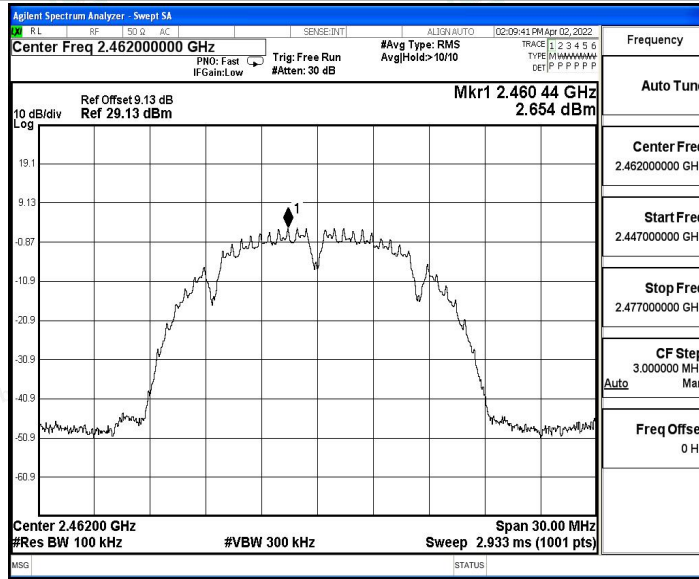


11B_Ant1_2437_1000~26500

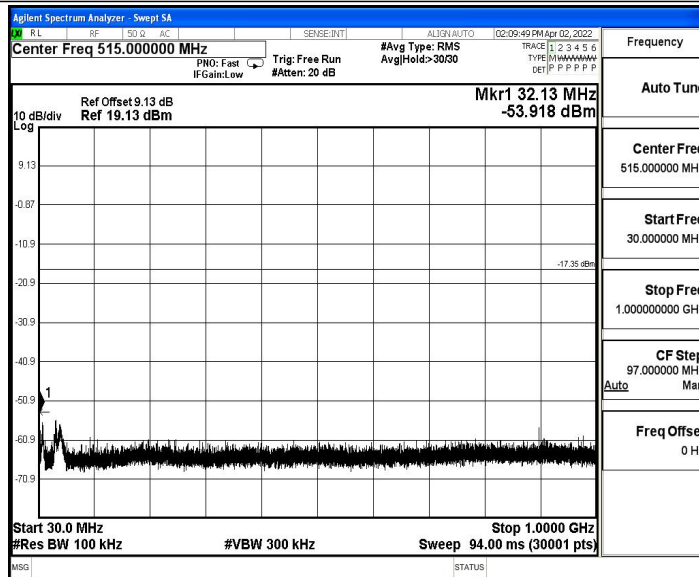


11B_Ant1_2462_0~Reference



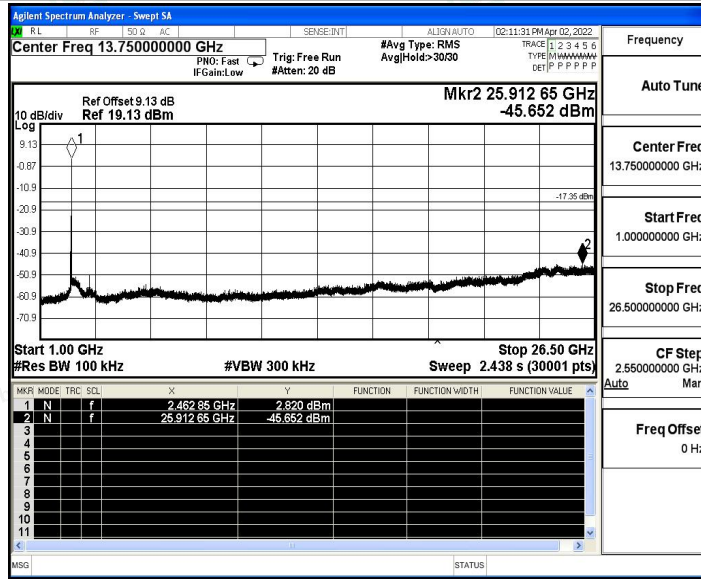


11B_Ant1_2462_30~1000

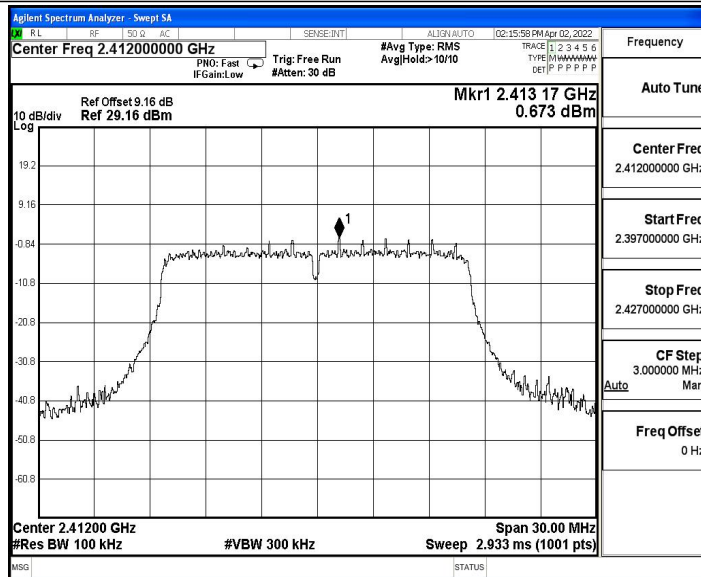


11B_Ant1_2462_1000~26500



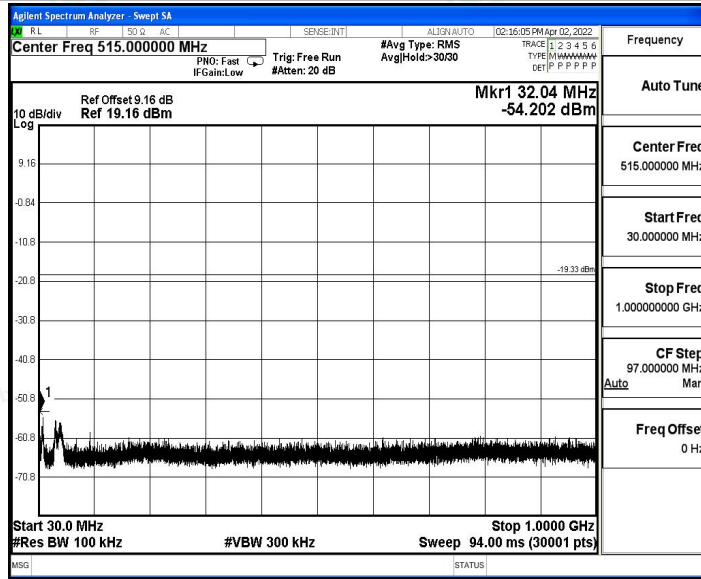


11G_Ant1_2412_0~Reference

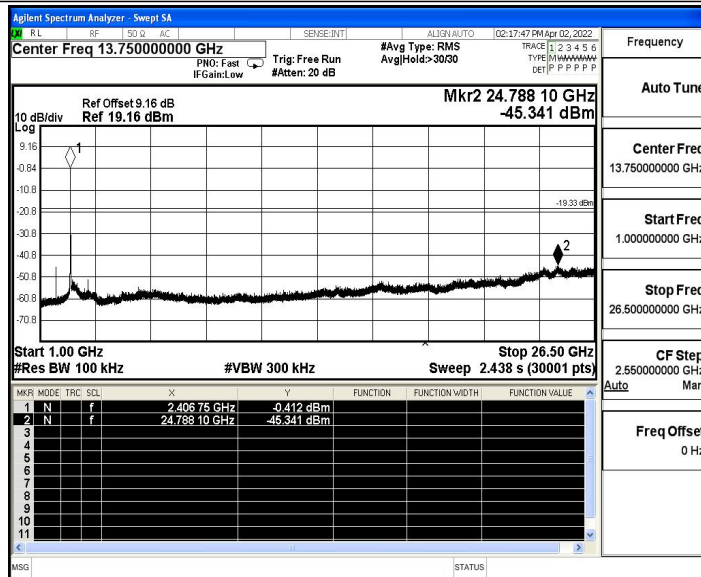


11G_Ant1_2412_30~1000





11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference

