Appendix B

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart LED Lamp

Test Model: E4B09

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu Taylor Hu
Supervised by:	Lihu Li Huan

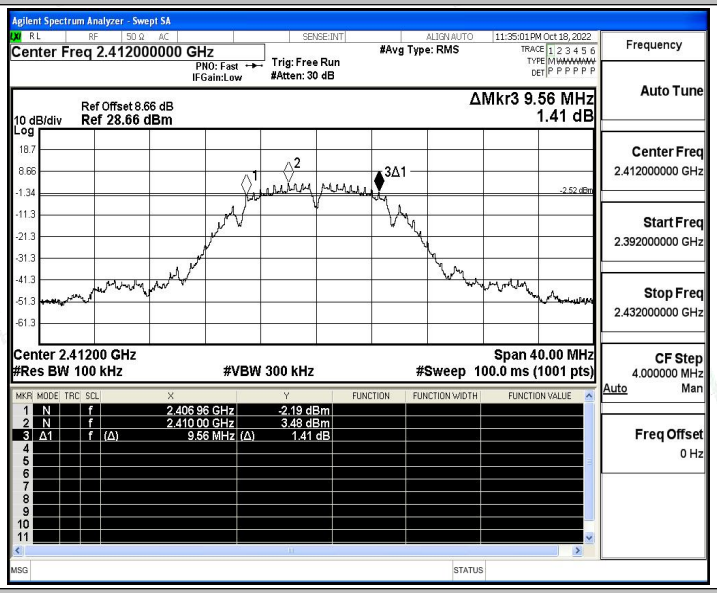
B.1 DTS Bandwidth

Test Result

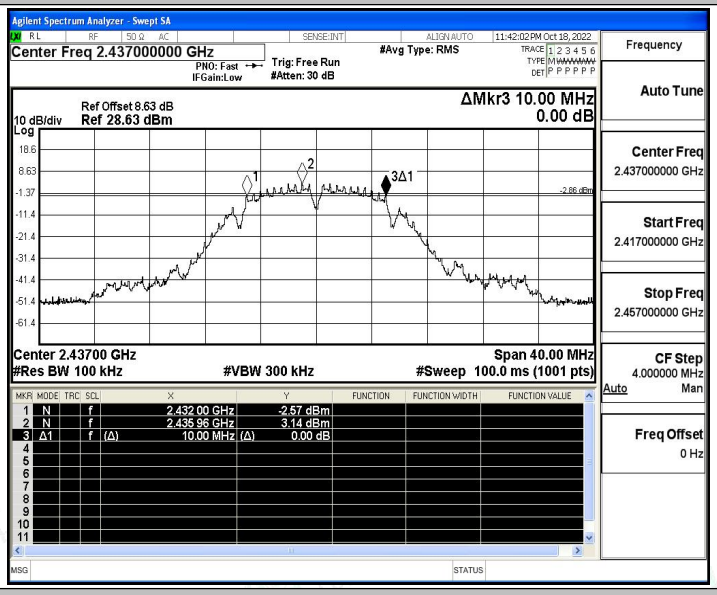
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.560	2406.960	2416.520	0.5	PASS
		2437	10.000	2432.000	2442.000	0.5	PASS
		2462	9.080	2457.440	2466.520	0.5	PASS
11G	Ant1	2412	16.360	2403.800	2420.160	0.5	PASS
		2437	16.320	2428.840	2445.160	0.5	PASS
		2462	16.320	2453.840	2470.160	0.5	PASS
11N20SISO	Ant1	2412	17.560	2403.200	2420.760	0.5	PASS
		2437	17.560	2428.200	2445.760	0.5	PASS
		2462	17.560	2453.200	2470.760	0.5	PASS
11N40SISO	Ant1	2422	35.920	2404.160	2440.080	0.5	PASS
		2437	35.920	2419.240	2455.160	0.5	PASS
		2452	35.840	2434.080	2469.920	0.5	PASS

Test Graphs

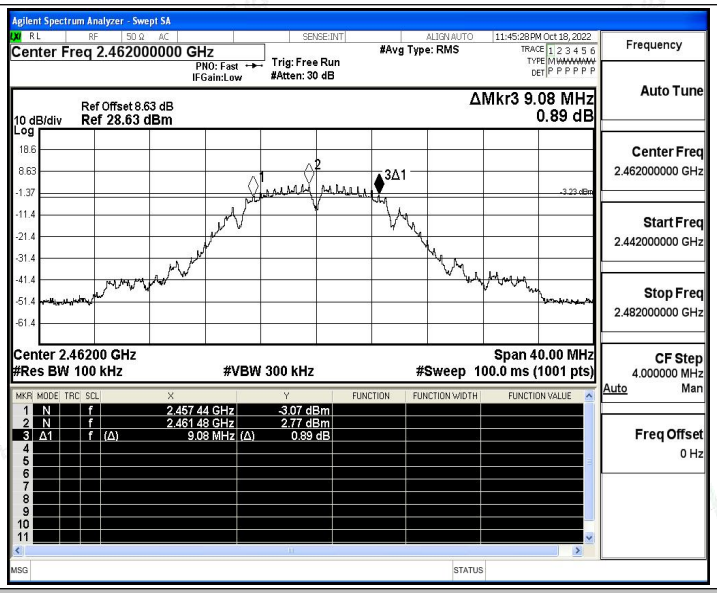
11B_Ant1_2412



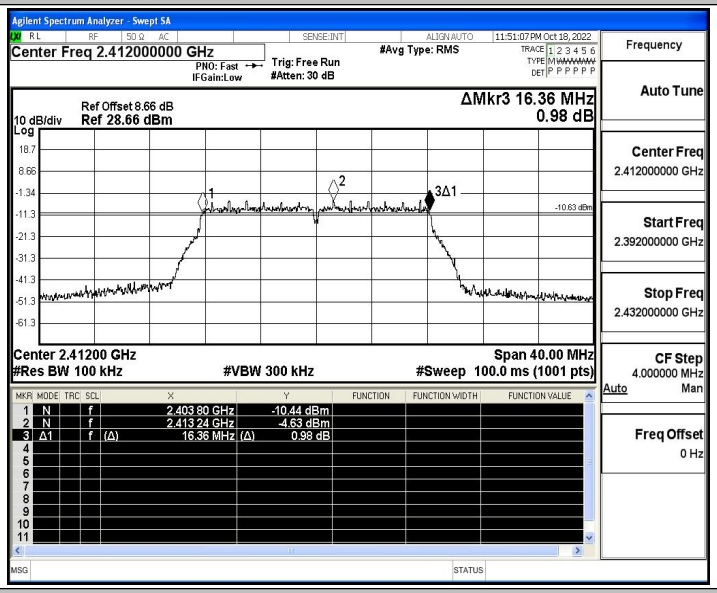
11B_Ant1_2437



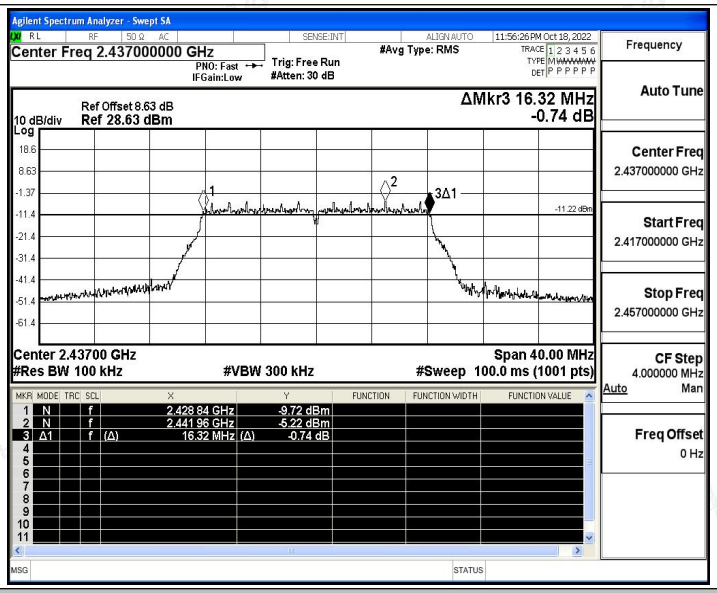
11B_Ant1_2462



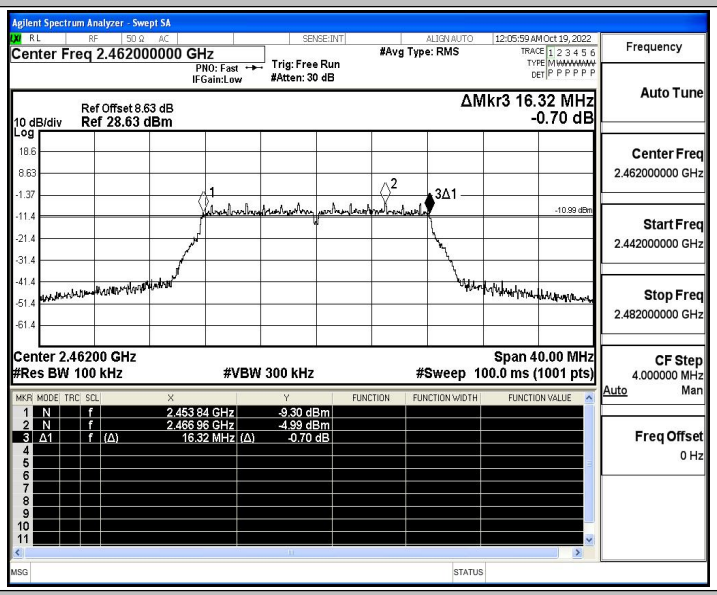
11G_Ant1_2412



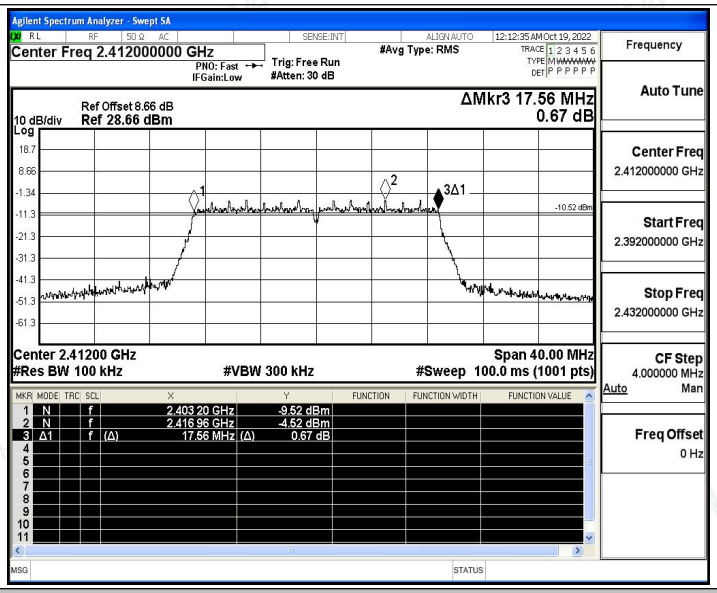
11G_Ant1_2437



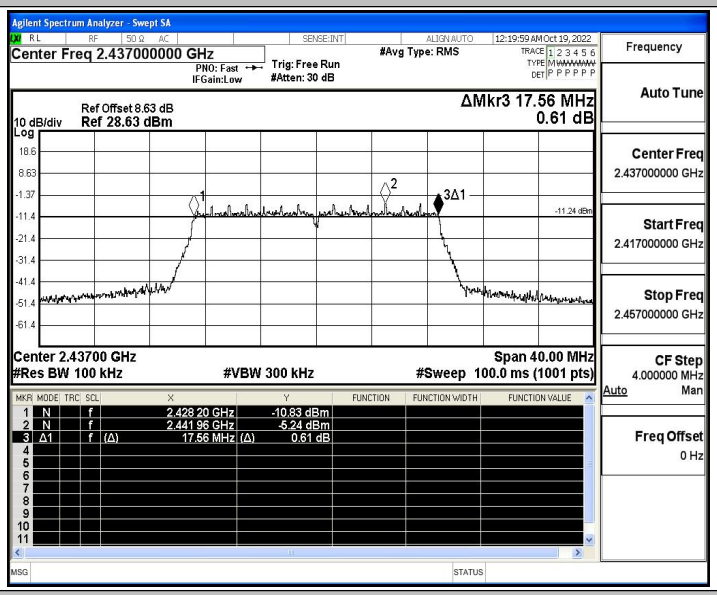
11G_Ant1_2462



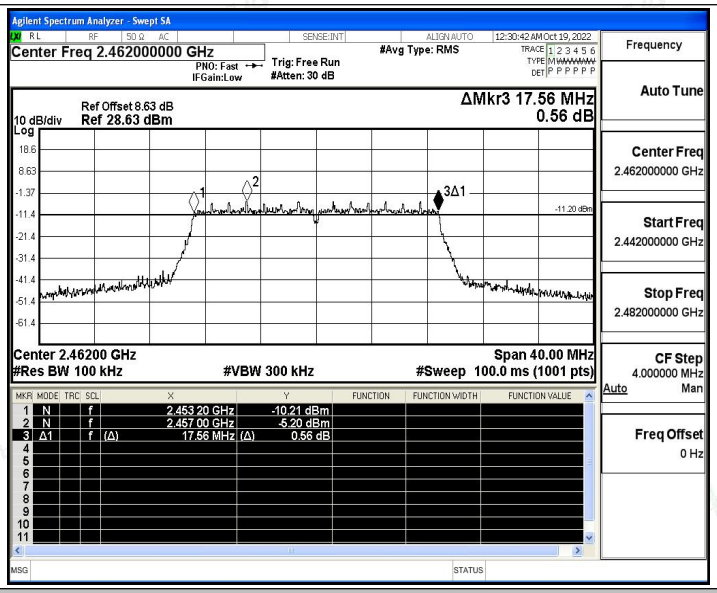
11N20SISO_Ant1_2412



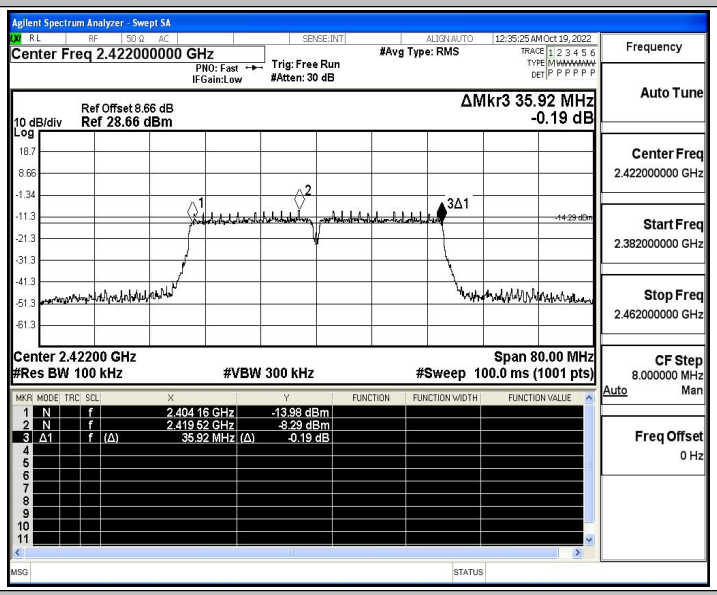
11N20SISO_Ant1_2437



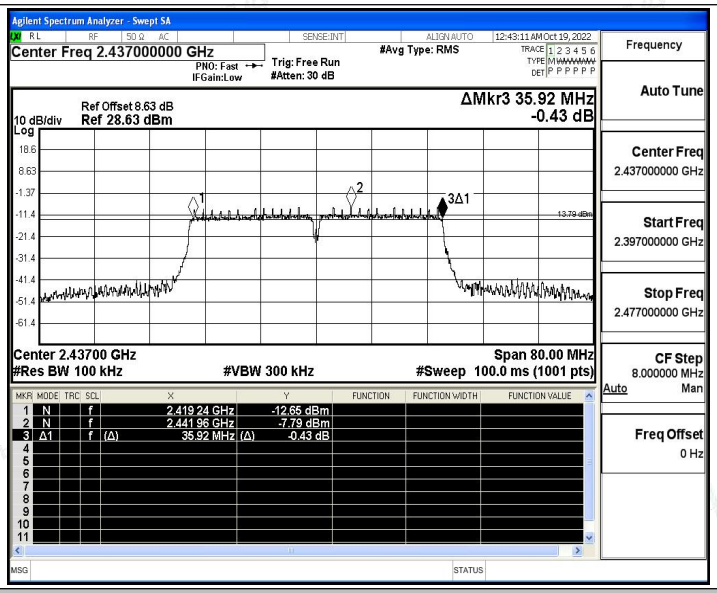
11N20SISO_Ant1_2462



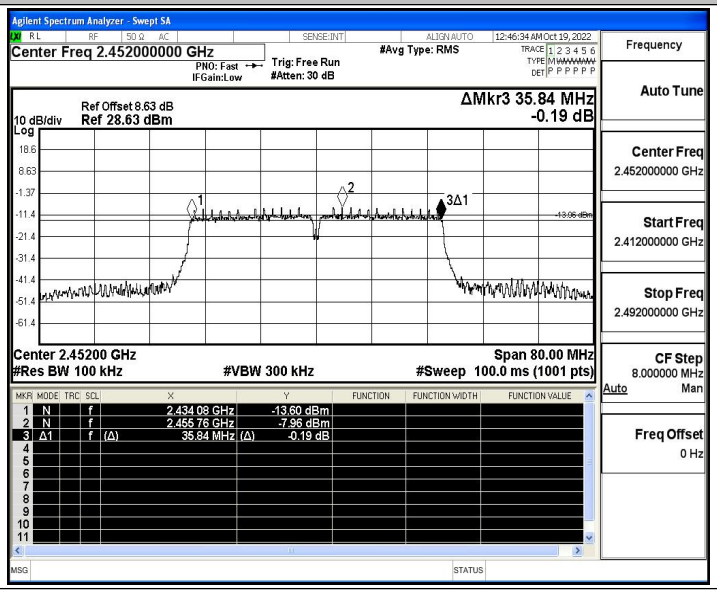
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



B.2 Maximum conducted output power

Test Result

TestMode	Antenna	Freq(MHz)	Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	15.51	≤30.00	PASS
		2437	15.06	≤30.00	PASS
		2462	14.51	≤30.00	PASS
11G	Ant1	2412	15.05	≤30.00	PASS
		2437	14.09	≤30.00	PASS
		2462	14.53	≤30.00	PASS
11N20SISO	Ant1	2412	15.02	≤30.00	PASS
		2437	14.19	≤30.00	PASS
		2462	14.34	≤30.00	PASS
11N40SISO	Ant1	2422	13.97	≤30.00	PASS
		2437	14.79	≤30.00	PASS
		2452	14.58	≤30.00	PASS

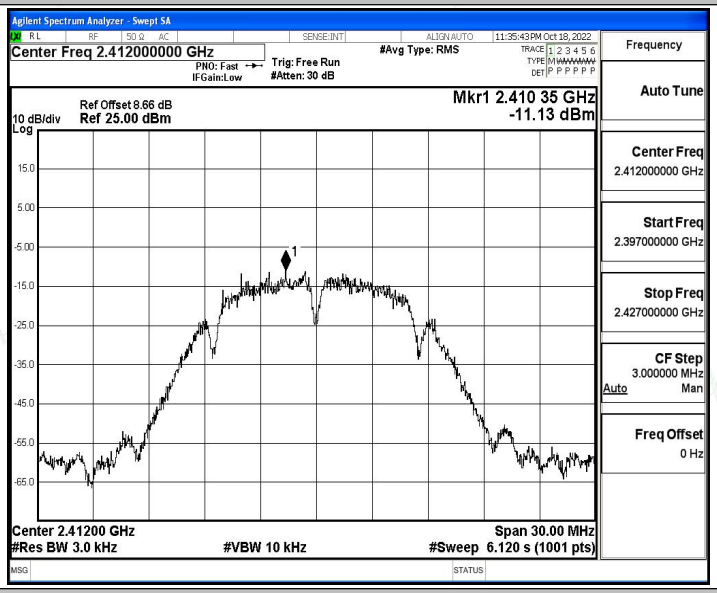
B.3 Maximum power spectral density

Test Result

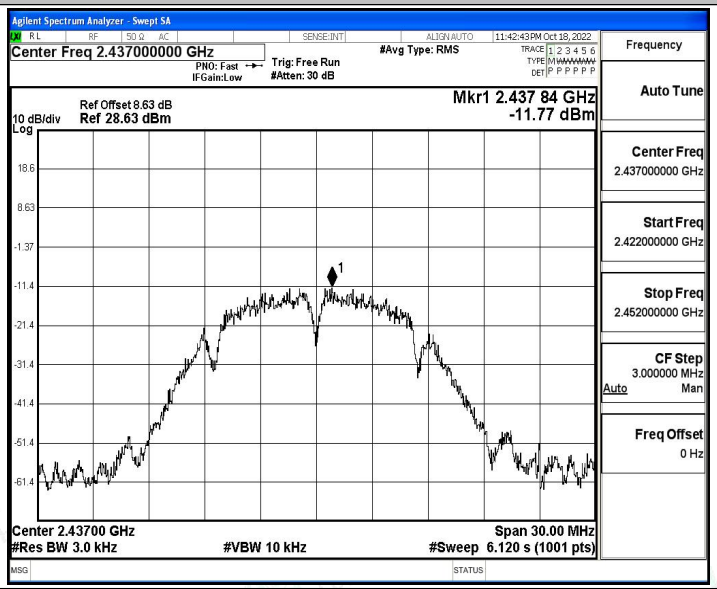
TestMode	Antenna	Freq(MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-11.13	≤8.00	PASS
		2437	-11.77	≤8.00	PASS
		2462	-11.13	≤8.00	PASS
11G	Ant1	2412	-18.73	≤8.00	PASS
		2437	-18.66	≤8.00	PASS
		2462	-19.75	≤8.00	PASS
11N20SISO	Ant1	2412	-18.26	≤8.00	PASS
		2437	-19.25	≤8.00	PASS
		2462	-20.05	≤8.00	PASS
11N40SISO	Ant1	2422	-22.23	≤8.00	PASS
		2437	-22.86	≤8.00	PASS
		2452	-21.18	≤8.00	PASS

Test Graphs

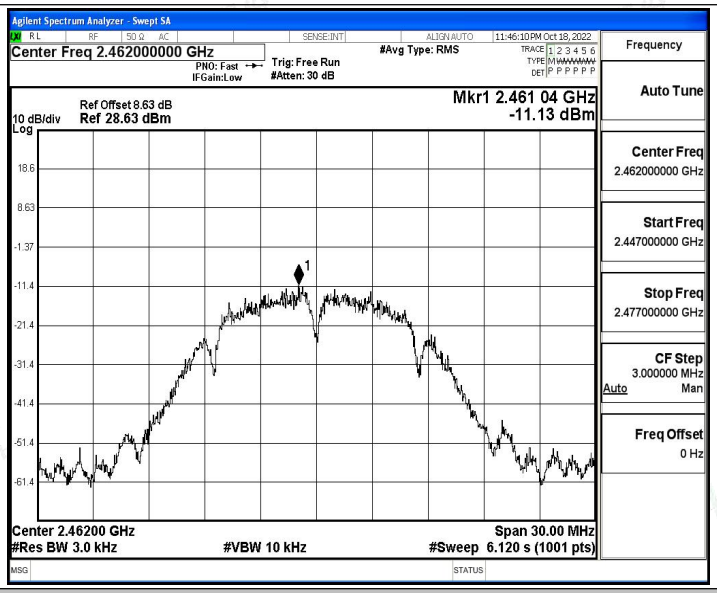
11B_Ant1_2412



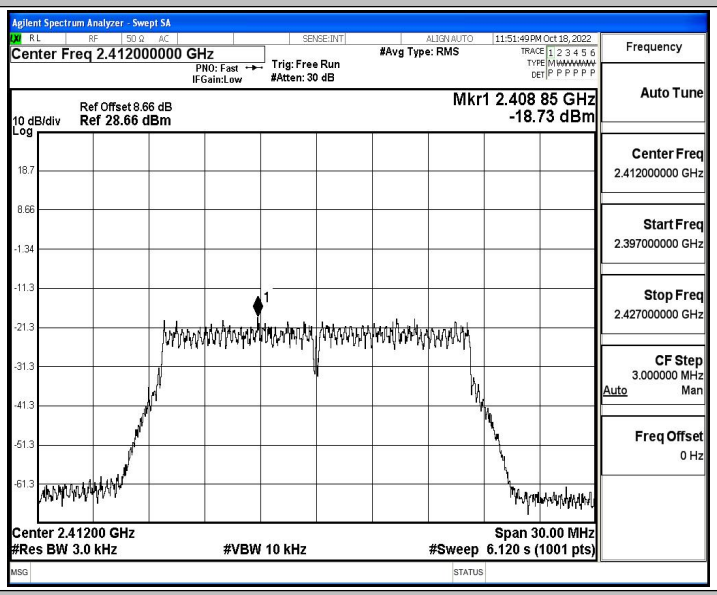
11B_Ant1_2437



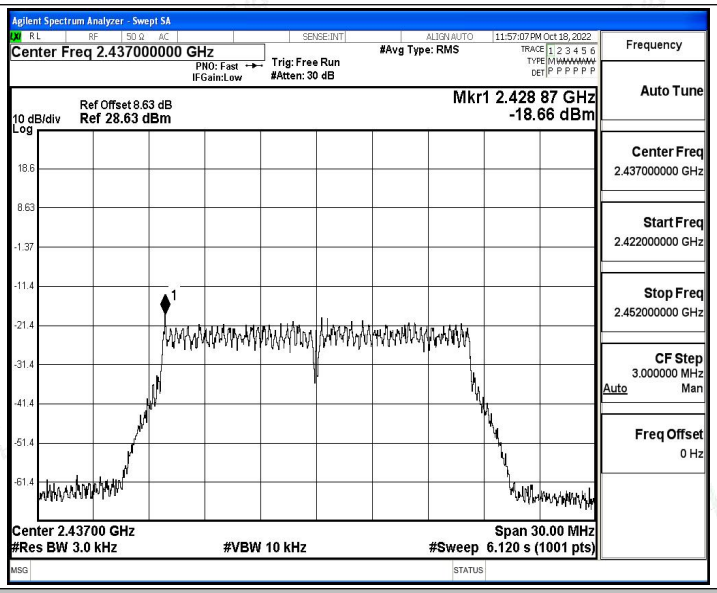
11B_Ant1_2462



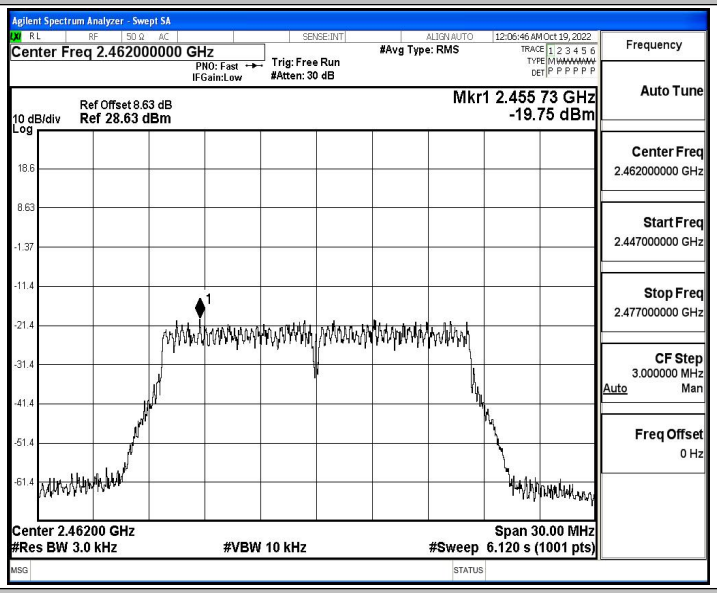
11G_Ant1_2412



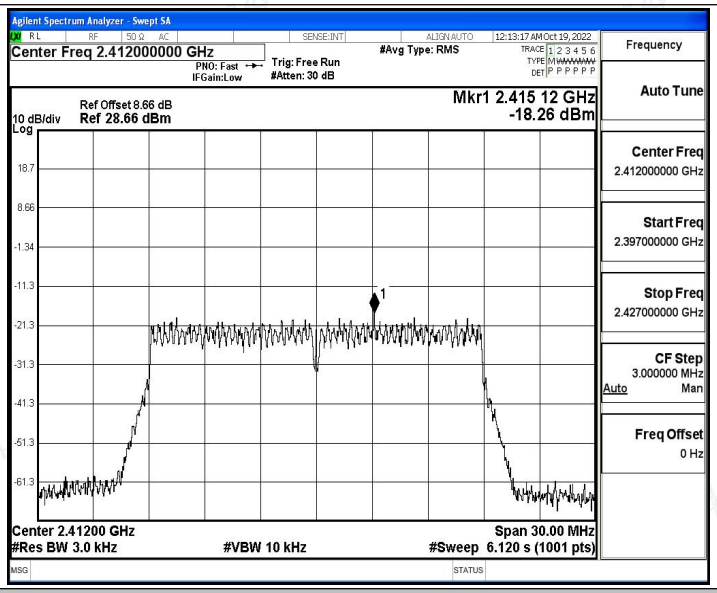
11G_Ant1_2437



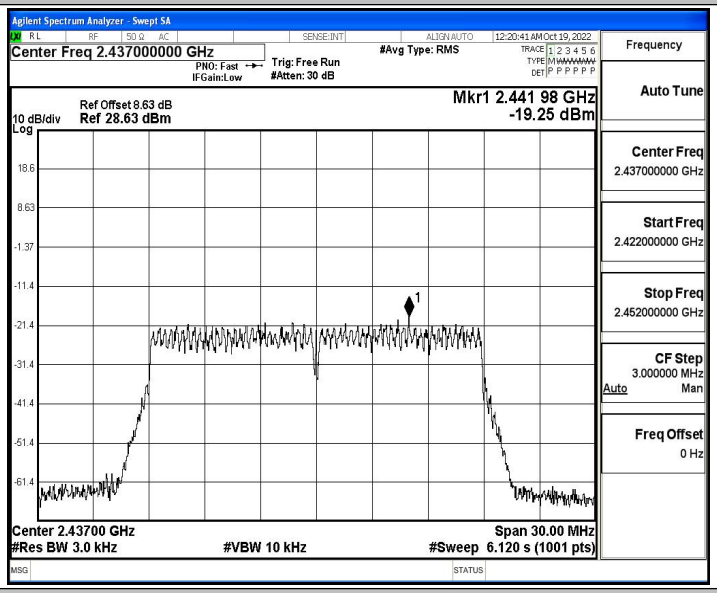
11G_Ant1_2462



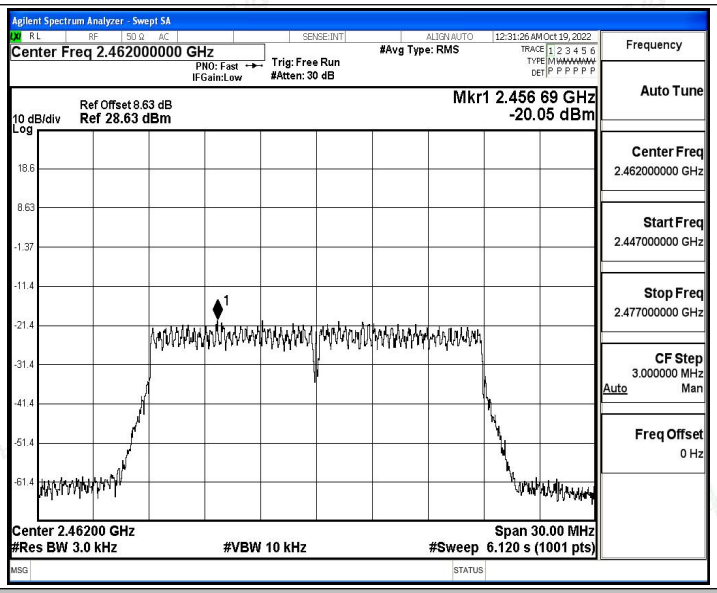
11N20SISO_Ant1_2412



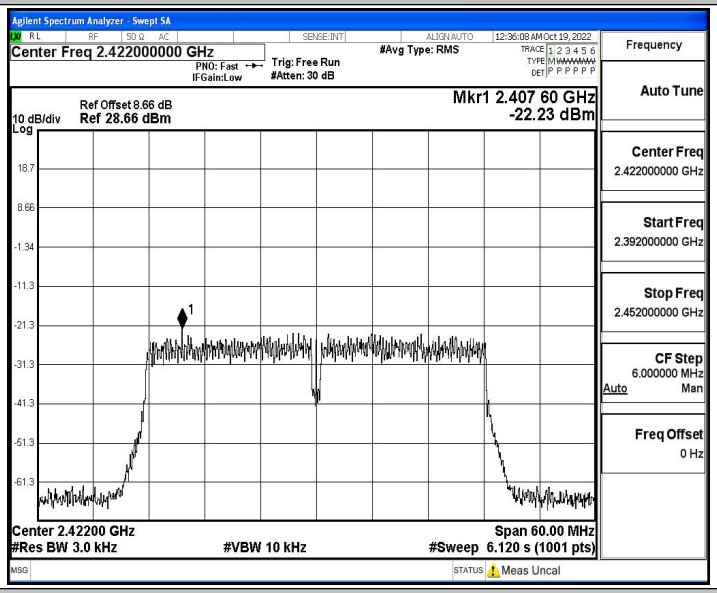
11N20SISO_Ant1_2437



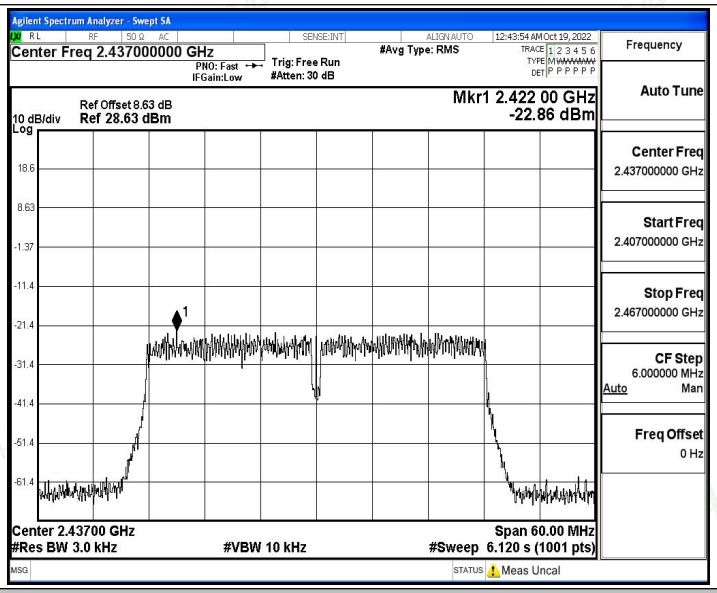
11N20SISO_Ant1_2462



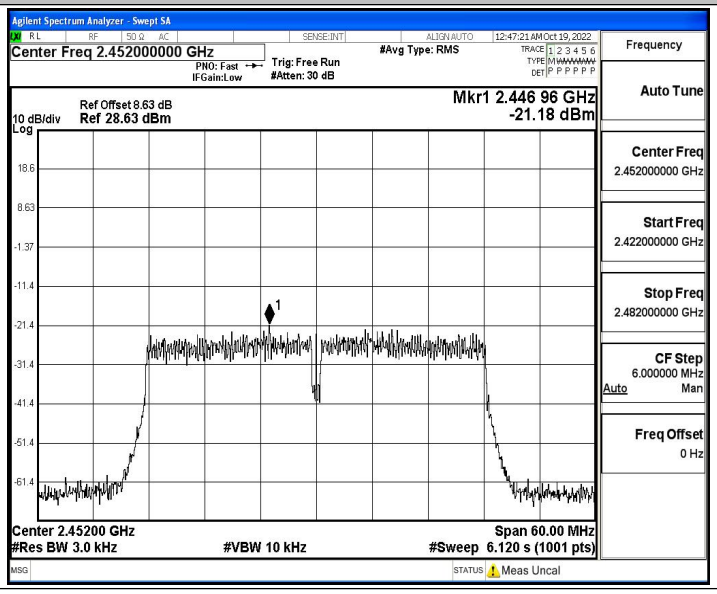
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



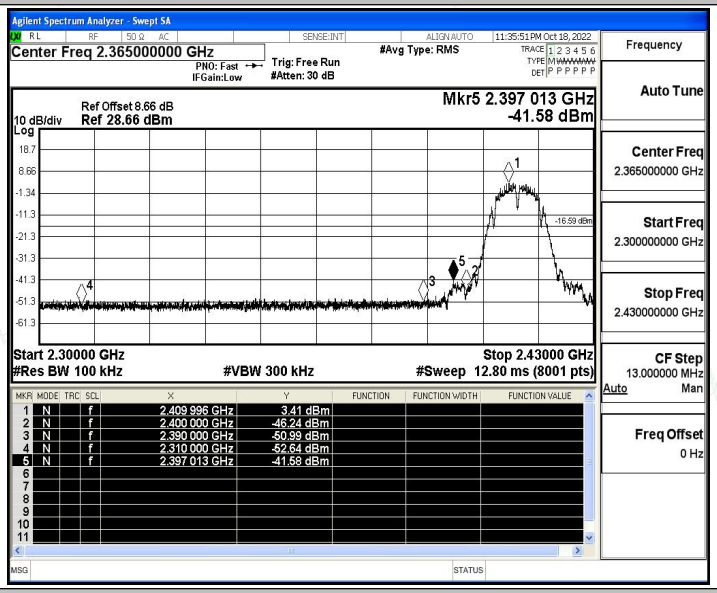
B.4 Band edge measurements

Test Result

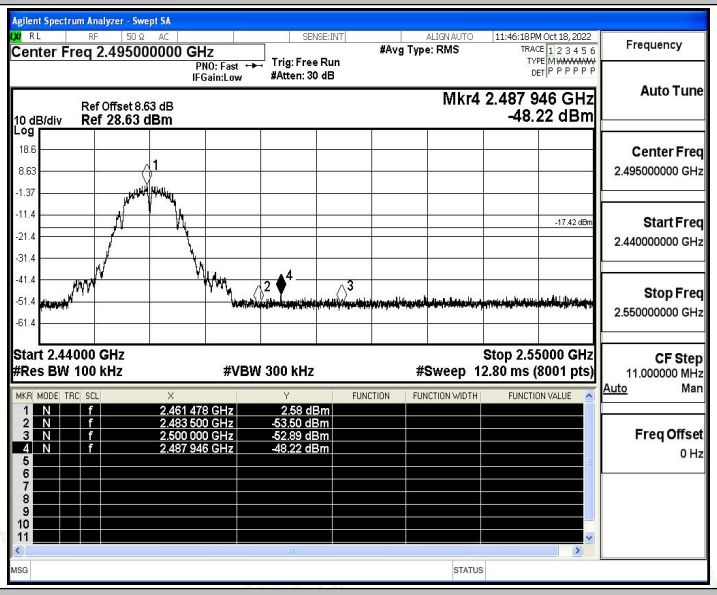
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.41	-41.58	≤-16.59	PASS
		High	2462	2.58	-48.22	≤-17.42	PASS
11G	Ant1	Low	2412	-4.03	-43.43	≤-24.03	PASS
		High	2462	-4.54	-48.1	≤-24.54	PASS
11N20SISO	Ant1	Low	2412	-4.62	-43.45	≤-24.62	PASS
		High	2462	-4.87	-47.74	≤-24.87	PASS
11N40SISO	Ant1	Low	2422	-8.18	-45.09	≤-28.18	PASS
		High	2452	-7.65	-42.76	≤-27.65	PASS

Test Graphs

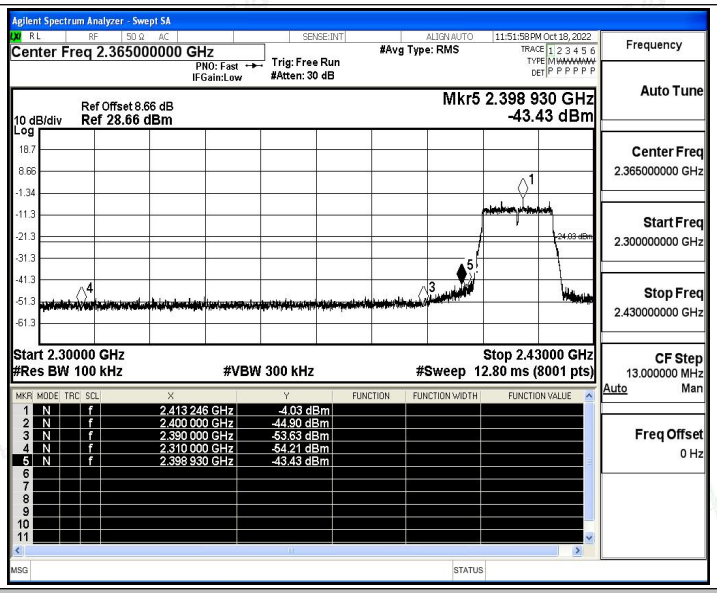
11B_Ant1_Low_2412



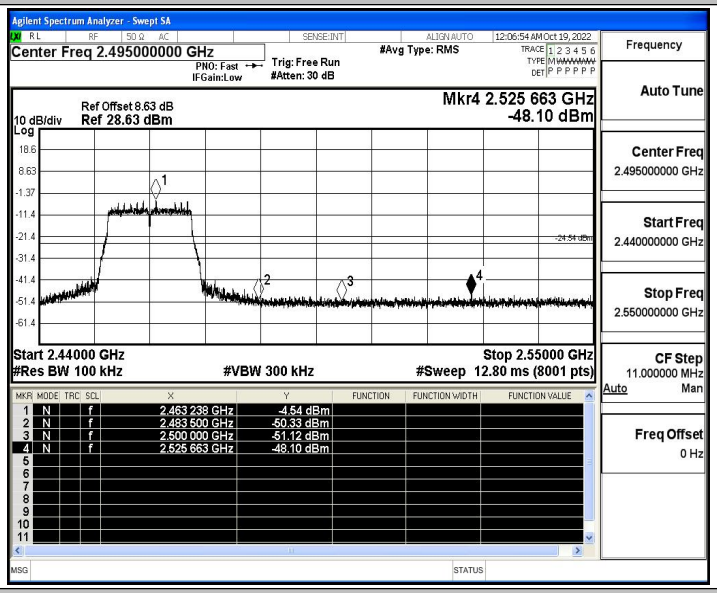
11B_Ant1_High_2462



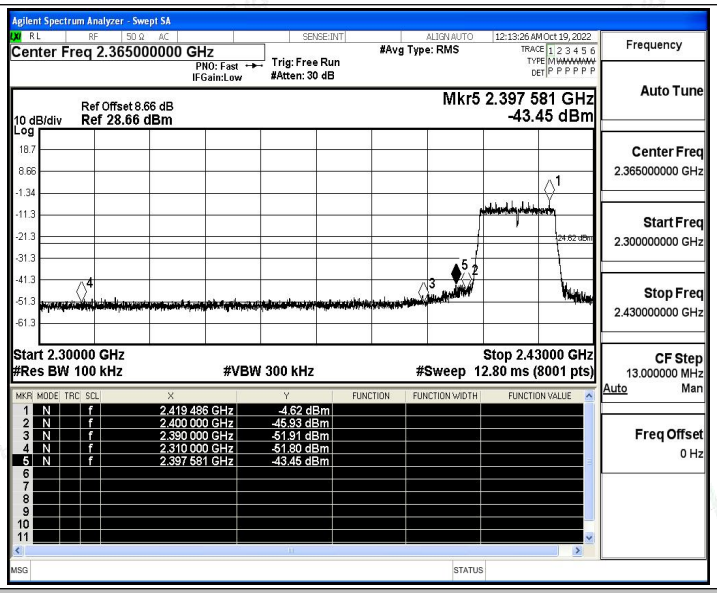
11G_Ant1_Low_2412



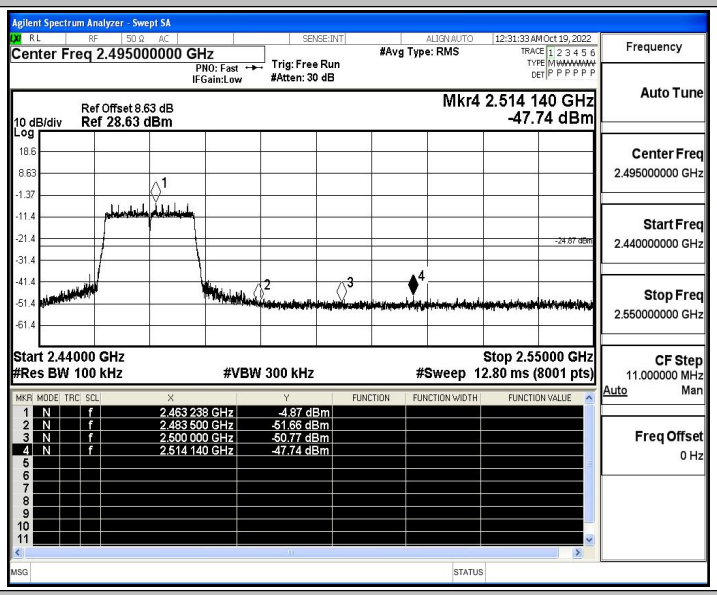
11G_Ant1_High_2462



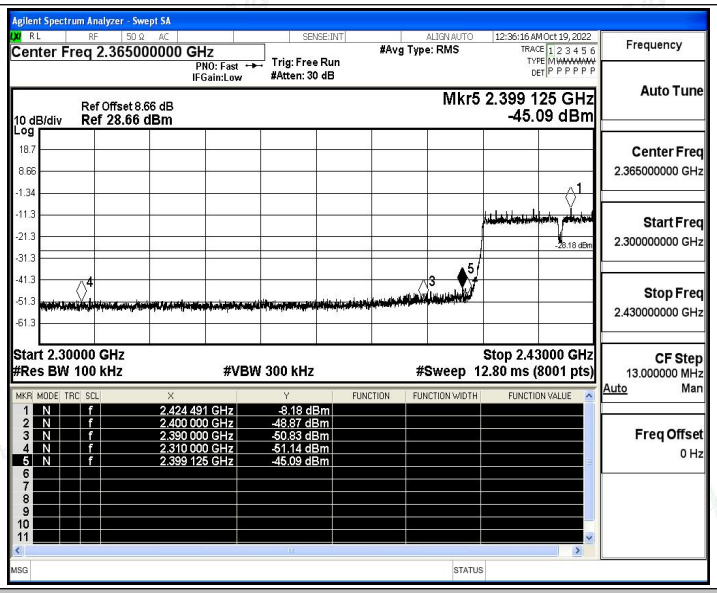
11N20SISO_Ant1_Low_2412



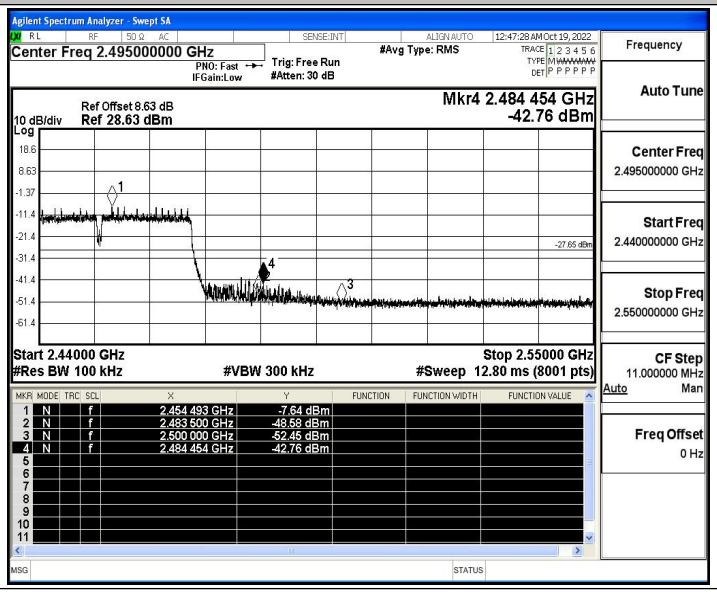
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



B.5 Conducted Spurious Emission

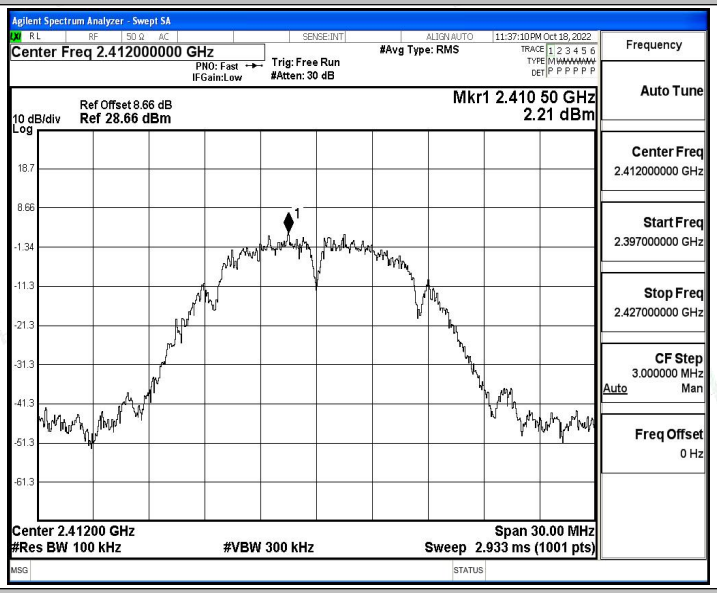
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.21	2.21	---	PASS
			30~1000	2.21	-59.59	≤-17.79	PASS
			1000~26500	2.21	-45.38	≤-17.79	PASS
		2437	Reference	2.94	2.94	---	PASS
			30~1000	2.94	-60.02	≤-17.06	PASS
			1000~26500	2.94	-46.15	≤-17.06	PASS
		2462	Reference	1.78	1.78	---	PASS
			30~1000	1.78	-60.59	≤-18.22	PASS
			1000~26500	1.78	-45.84	≤-18.22	PASS
11G	Ant1	2412	Reference	-7.80	-7.80	---	PASS
			30~1000	-7.80	-59.48	≤-27.8	PASS
			1000~26500	-7.80	-45.67	≤-27.8	PASS
		2437	Reference	-4.95	-4.95	---	PASS
			30~1000	-4.95	-50.76	≤-24.95	PASS
			1000~26500	-4.95	-45.91	≤-24.95	PASS
		2462	Reference	-8.05	-8.05	---	PASS
			30~1000	-8.05	-61.15	≤-28.05	PASS
			1000~26500	-8.05	-46.11	≤-28.05	PASS
11N20SISO	Ant1	2412	Reference	-6.83	-6.83	---	PASS
			30~1000	-6.83	-60.3	≤-26.83	PASS
			1000~26500	-6.83	-46.25	≤-26.83	PASS
		2437	Reference	-7.35	-7.35	---	PASS
			30~1000	-7.35	-61.01	≤-27.35	PASS
			1000~26500	-7.35	-45.87	≤-27.35	PASS
		2462	Reference	-7.75	-7.75	---	PASS
			30~1000	-7.75	-60.32	≤-27.75	PASS
			1000~26500	-7.75	-46.18	≤-27.75	PASS
11N40SISO	Ant1	2422	Reference	-8.28	-8.28	---	PASS
			30~1000	-8.28	-60.99	≤-28.28	PASS
			1000~26500	-8.28	-45.65	≤-28.28	PASS
		2437	Reference	-7.71	-7.71	---	PASS
			30~1000	-7.71	-60.73	≤-27.71	PASS
			1000~26500	-7.71	-45.77	≤-27.71	PASS
		2452	Reference	-7.55	-7.55	---	PASS
			30~1000	-7.55	-60.5	≤-27.55	PASS

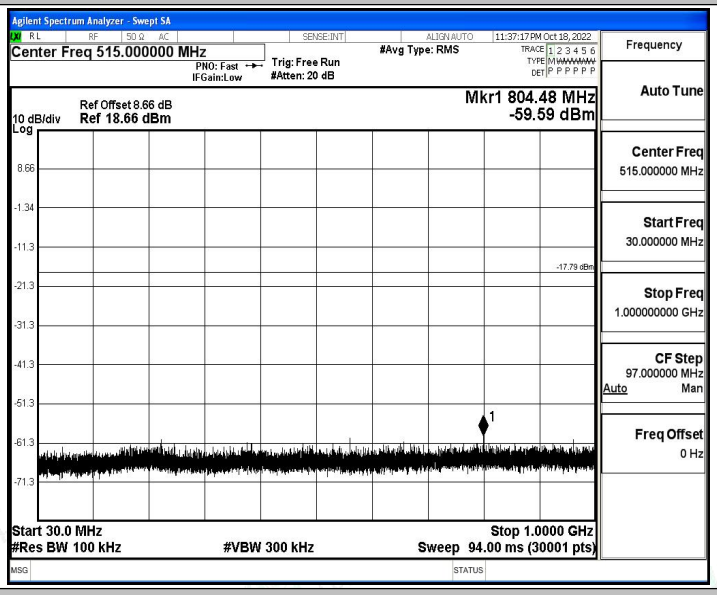
			1000~26500	-7.55	-45.43	≤-27.55	PASS

Test Graphs

11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



11B_Ant1_2412_1000~26500