



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: LED BULB

Test Model: LM530

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Wunder. Wu
Supervised by:	Libu



A.1 6dB Bandwidth

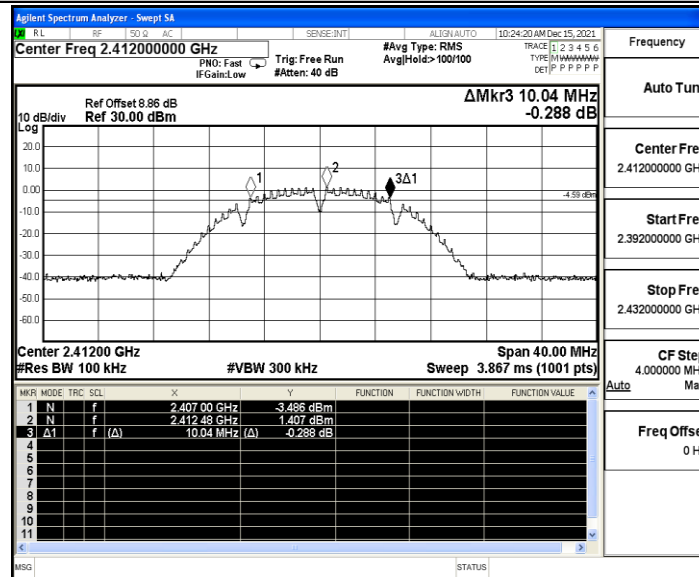
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.040	2407.000	2417.040	0.5	PASS
		2437	10.080	2431.960	2442.040	0.5	PASS
		2462	10.080	2456.960	2467.040	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.320	2428.840	2445.160	0.5	PASS
		2462	16.360	2453.800	2470.160	0.5	PASS
11N20SISO	Ant1	2412	17.600	2403.200	2420.800	0.5	PASS
		2437	17.600	2428.200	2445.800	0.5	PASS
		2462	17.560	2453.200	2470.760	0.5	PASS
11N40SISO	Ant1	2422	36.080	2404.080	2440.160	0.5	PASS
		2437	35.840	2419.080	2454.920	0.5	PASS
		2452	36.080	2433.840	2469.920	0.5	PASS

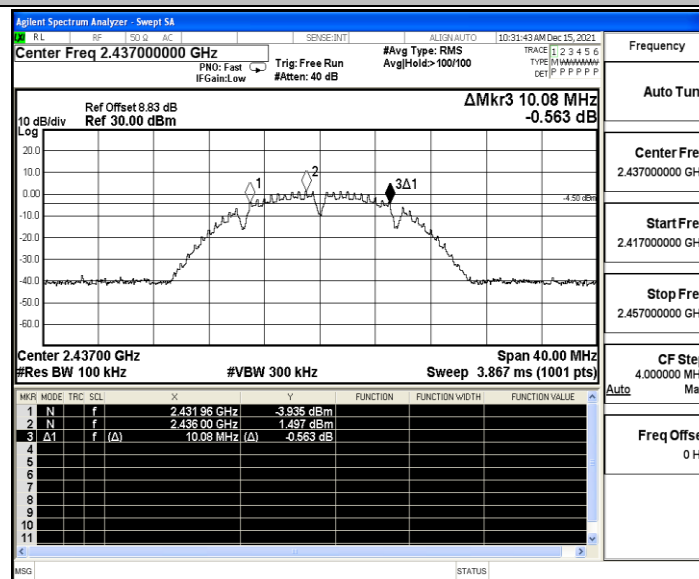


Test Graphs

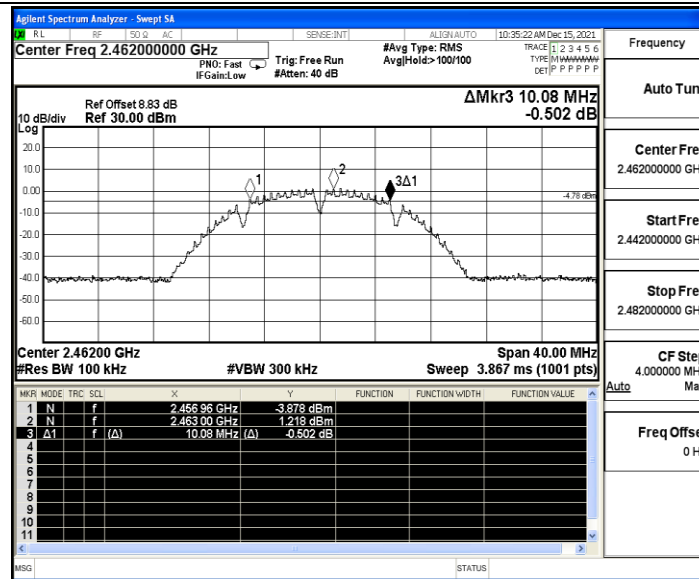
11B_Ant1_2412



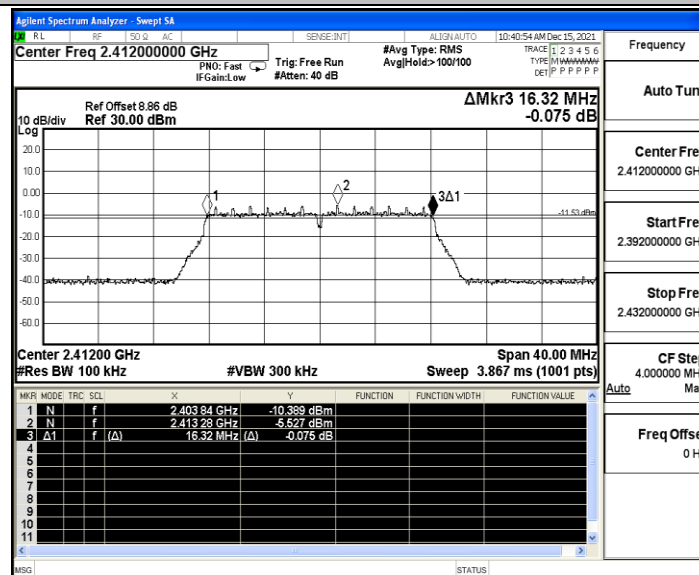
11B_Ant1_2437



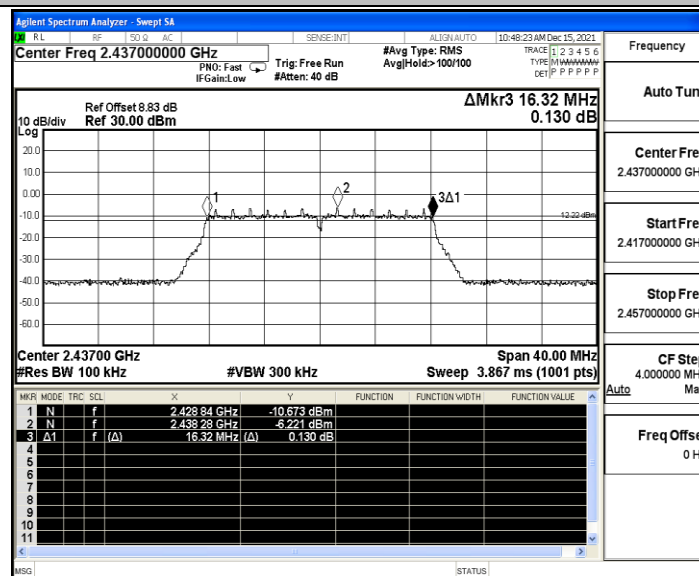
11B_Ant1_2462



11G_Ant1_2412

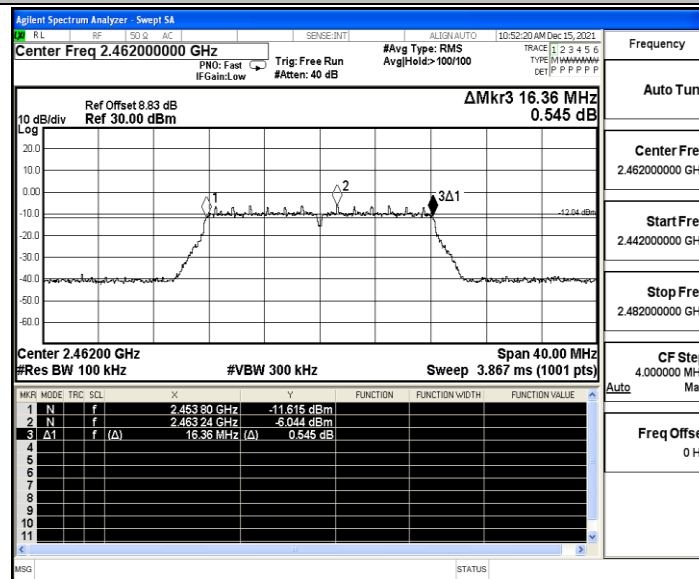


11G_Ant1_2437

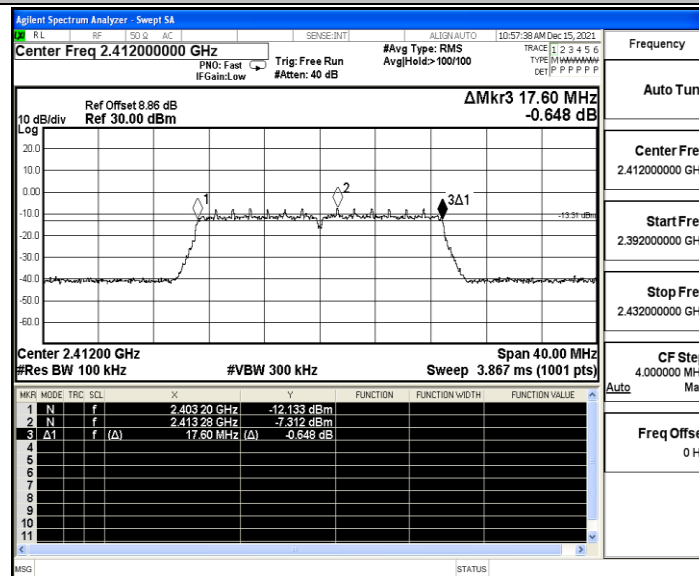




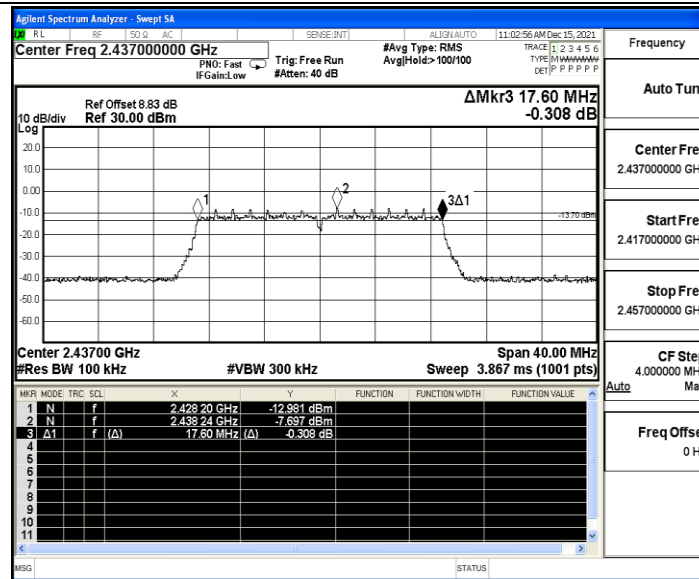
11G_Ant1_2462



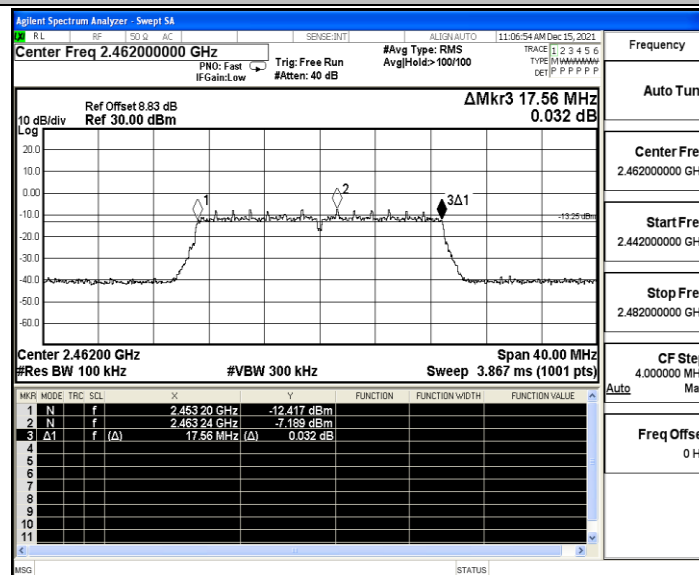
11N20SISO_Ant1_2412



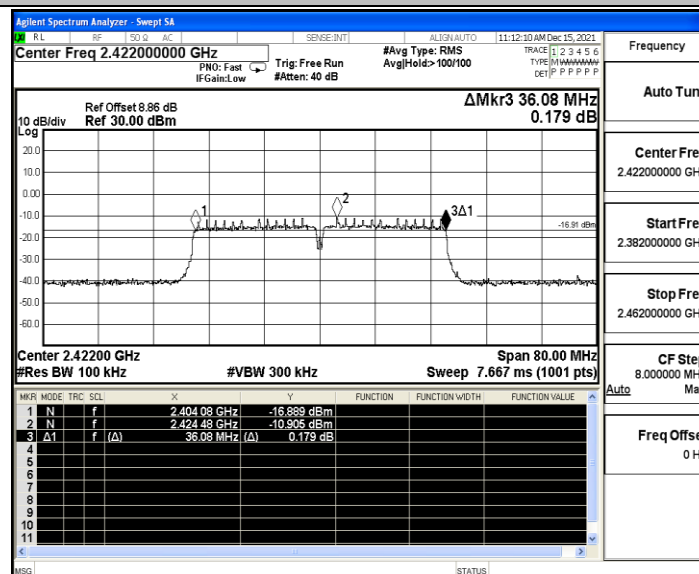
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

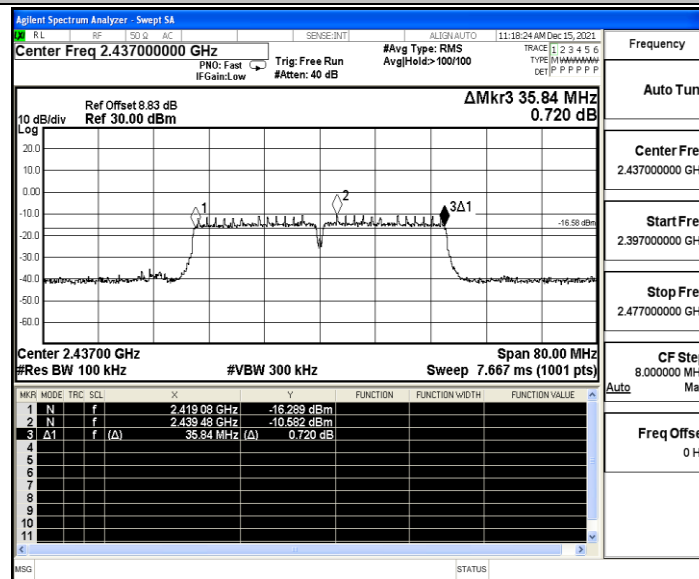


11N40SISO_Ant1_2422

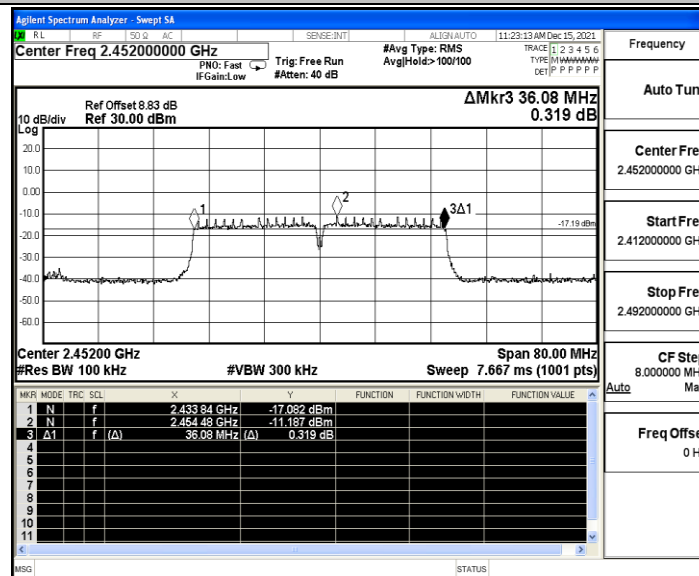




11N40SISO_Ant1_2437



11N40SISO_Ant1_2452





A.2 Maximum conducted output power

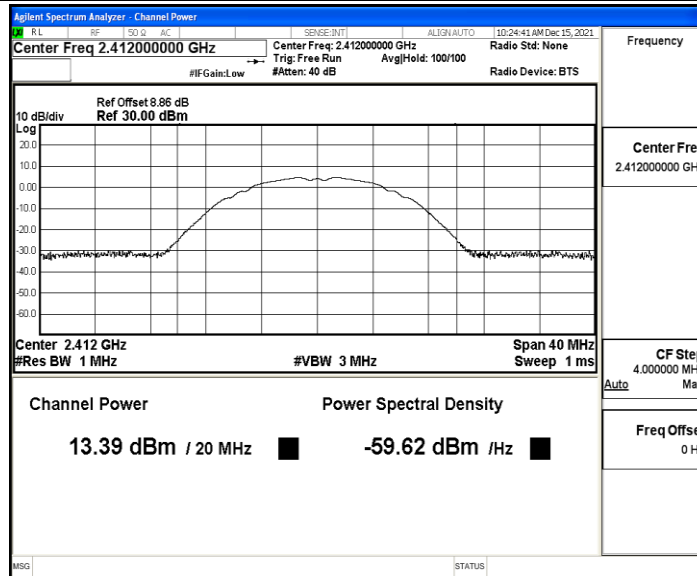
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	13.39	≤30	PASS
		2437	13.48	≤30	PASS
		2462	13.23	≤30	PASS
11G	Ant1	2412	12.63	≤30	PASS
		2437	12.06	≤30	PASS
		2462	12.28	≤30	PASS
11N20SISO	Ant1	2412	11.10	≤30	PASS
		2437	10.64	≤30	PASS
		2462	10.89	≤30	PASS
11N40SISO	Ant1	2422	10.13	≤30	PASS
		2437	10.63	≤30	PASS
		2452	9.97	≤30	PASS

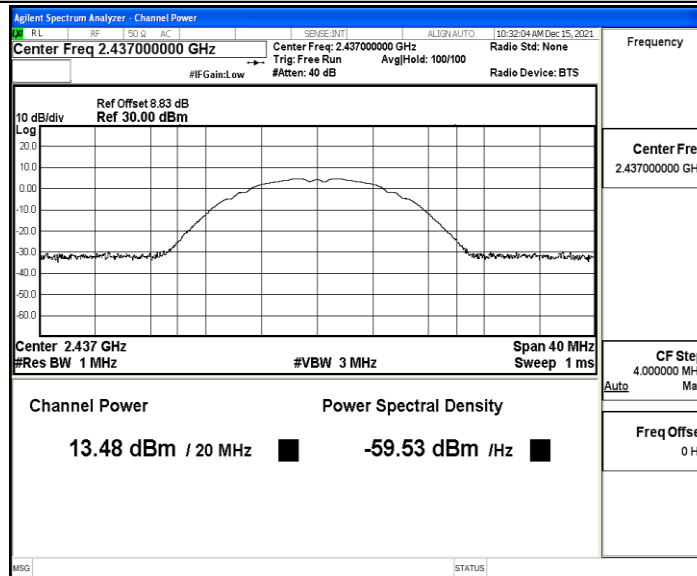


Test Graphs

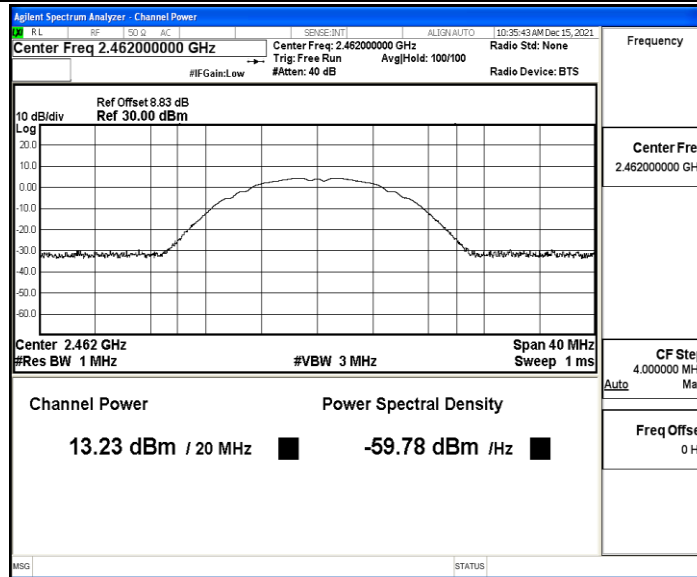
11B_Ant1_2412



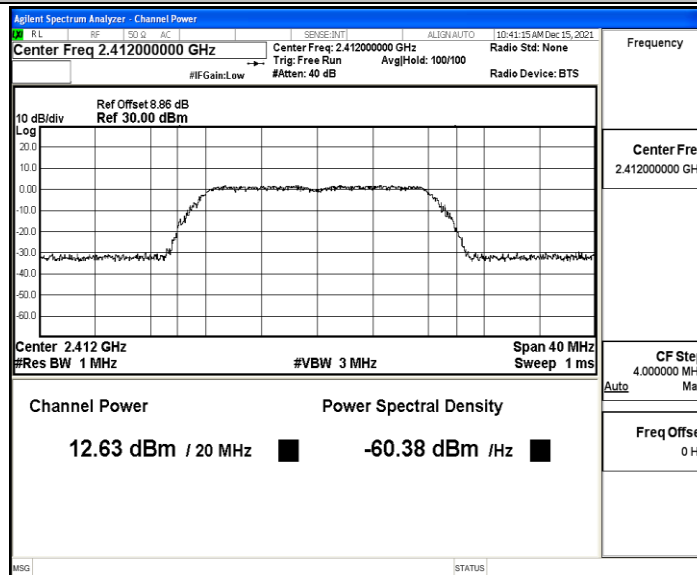
11B_Ant1_2437



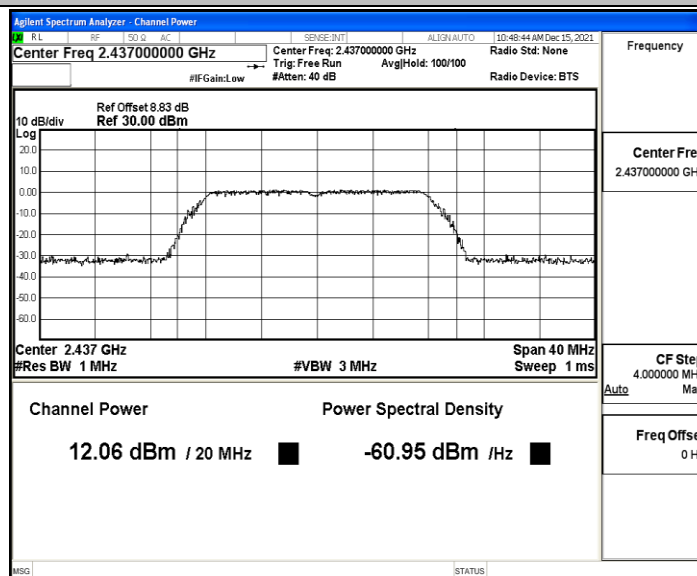
11B_Ant1_2462



11G_Ant1_2412

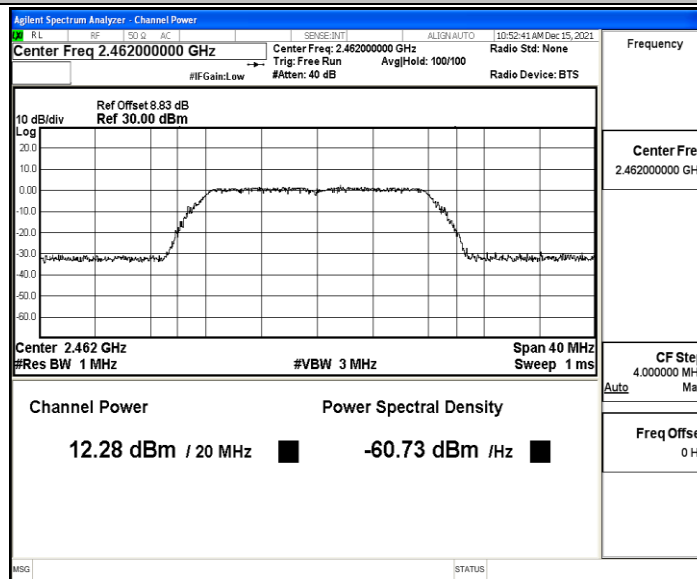


11G_Ant1_2437

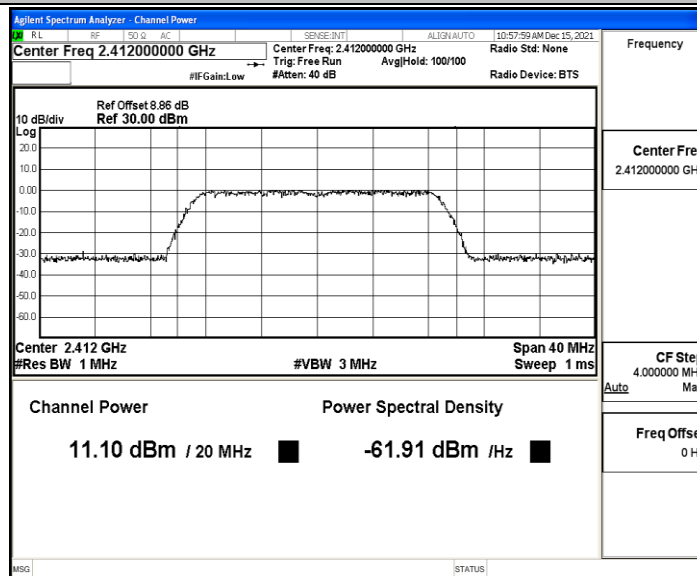




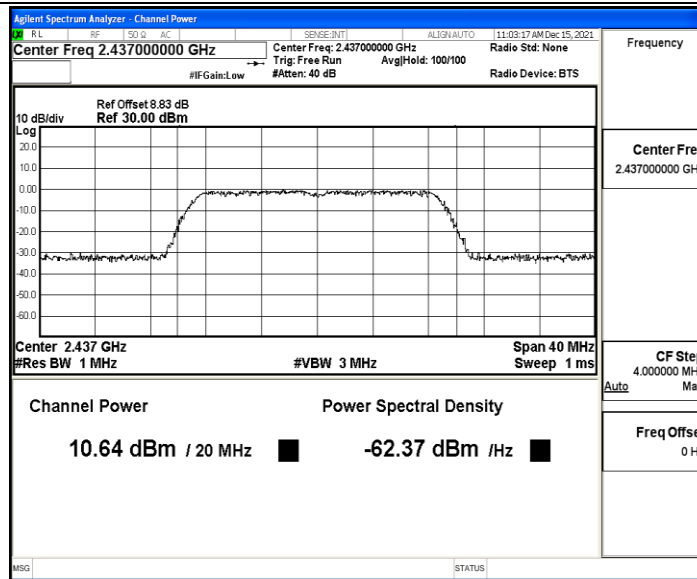
11G_Ant1_2462



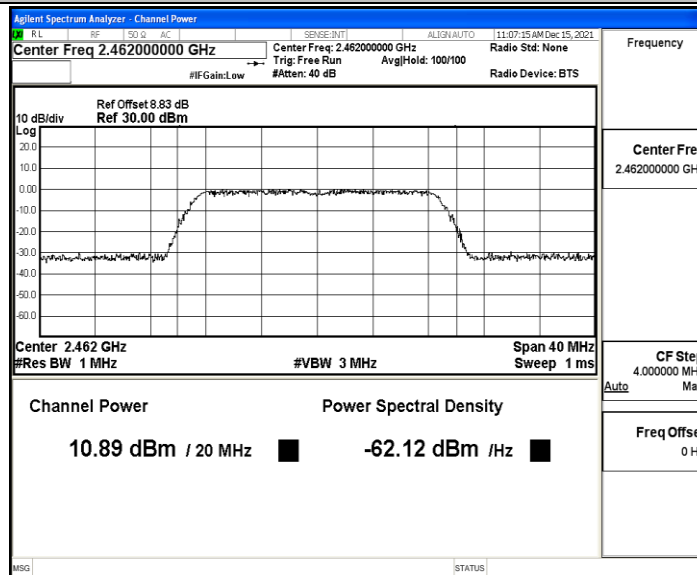
11N20SISO_Ant1_2412



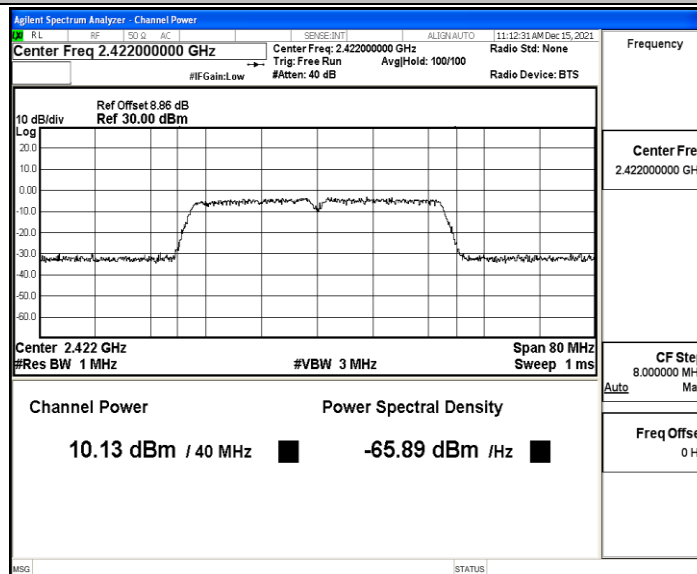
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

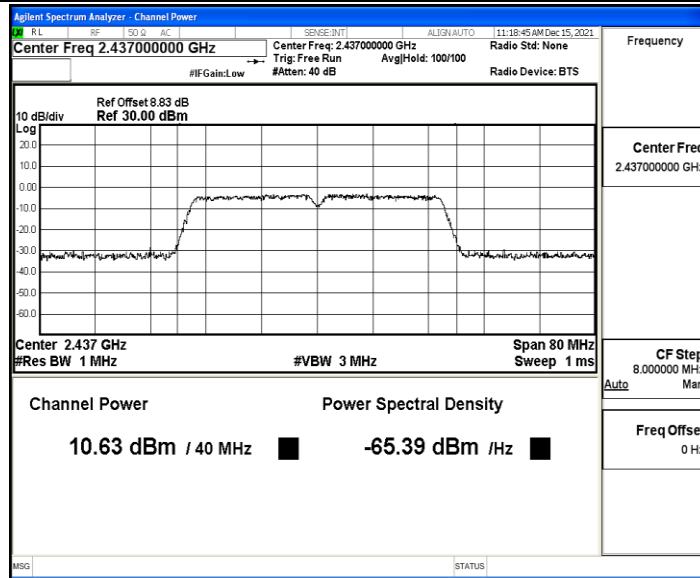


11N40SISO_Ant1_2422

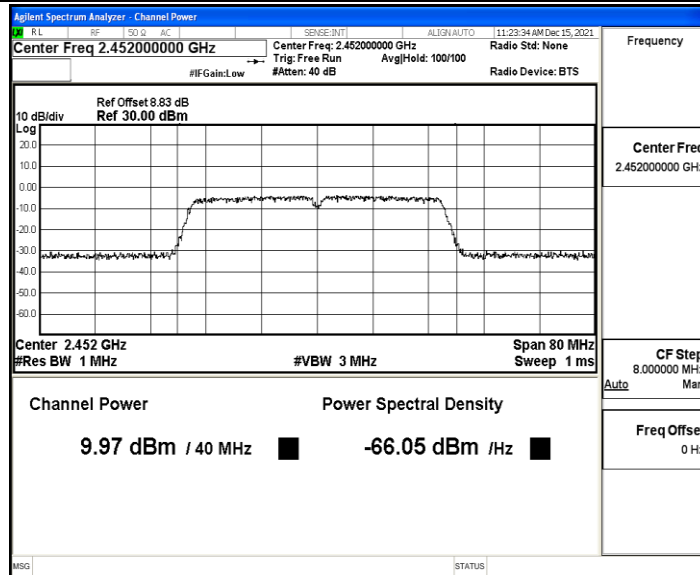




11N40SISO_Ant1_2437



11N40SISO_Ant1_2452

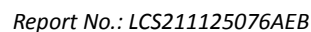




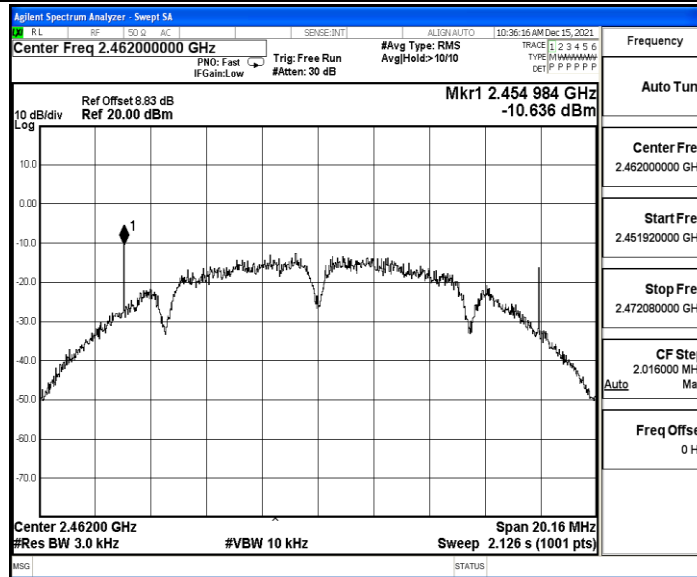
A.3 Maximum power spectral density

Test Result

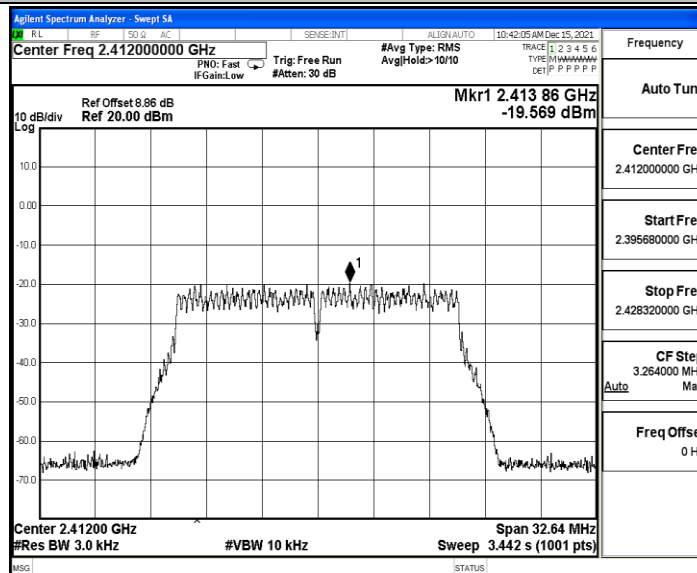
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.89	≤8	PASS
		2437	-10.92	≤8	PASS
		2462	-10.64	≤8	PASS
11G	Ant1	2412	-19.57	≤8	PASS
		2437	-20.64	≤8	PASS
		2462	-19.59	≤8	PASS
11N20SISO	Ant1	2412	-20.04	≤8	PASS
		2437	-21.94	≤8	PASS
		2462	-20.21	≤8	PASS
11N40SISO	Ant1	2422	-24.55	≤8	PASS
		2437	-24.46	≤8	PASS
		2452	-24.43	≤8	PASS



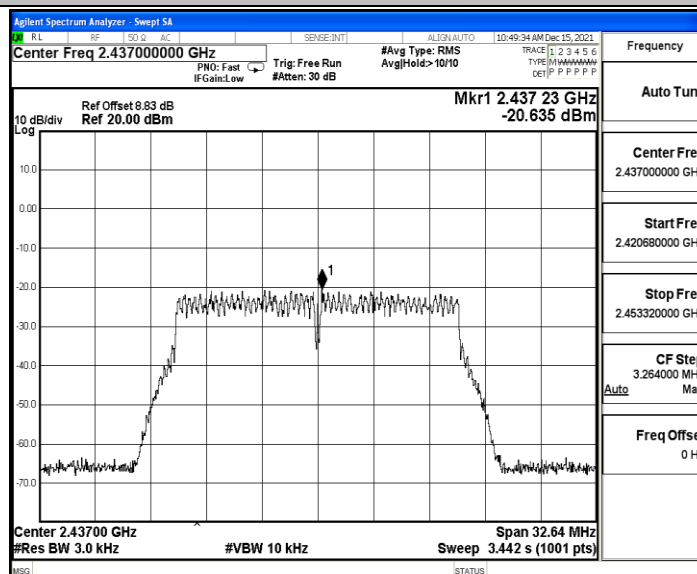
The figure displays two Agilent Spectrum Analyzer (SA) screenshots, labeled 11B_Ant1_2412 and 11B_Ant1_2437. Both plots show a signal with a peak at approximately 2.412 GHz and 2.437 GHz respectively. The reference level is 20.00 dBm, and the resolution bandwidth (RBW) is 3.0 kHz. The plots are centered at 2.41200000 GHz and 2.437000000 GHz respectively. The frequency span is 20.08 MHz for the first plot and 20.16 MHz for the second. The peak is marked with a '1' and labeled 'Mkr1'. The peak level is -11.891 dBm for the first plot and -10.919 dBm for the second. The plots show a signal with a peak at approximately 2.412 GHz and 2.437 GHz respectively. The reference level is 20.00 dBm, and the resolution bandwidth (RBW) is 3.0 kHz. The plots are centered at 2.41200000 GHz and 2.437000000 GHz respectively. The frequency span is 20.08 MHz for the first plot and 20.16 MHz for the second. The peak is marked with a '1' and labeled 'Mkr1'. The peak level is -11.891 dBm for the first plot and -10.919 dBm for the second.



11G_Ant1_2412

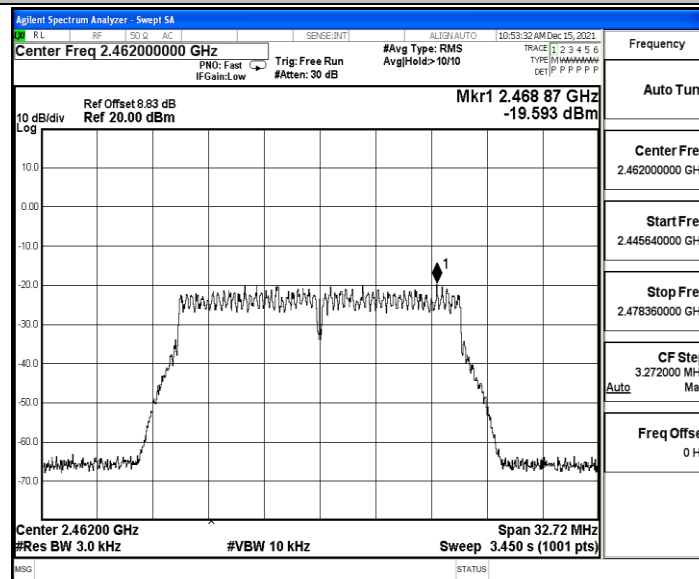


11G_Ant1_2437

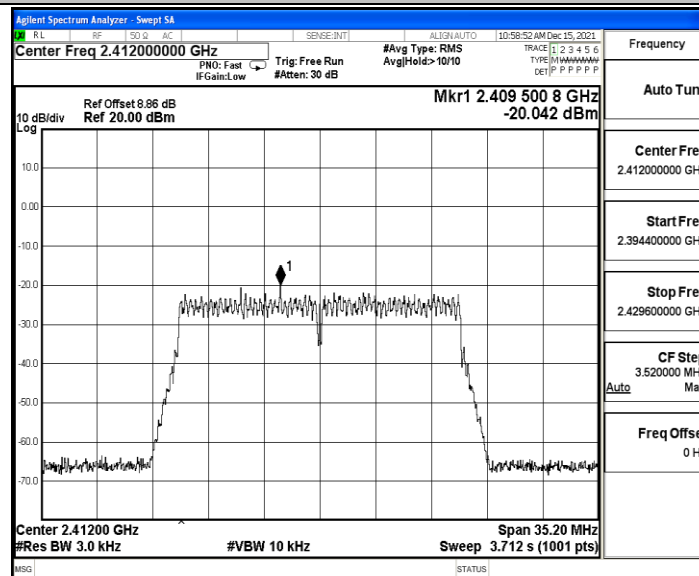




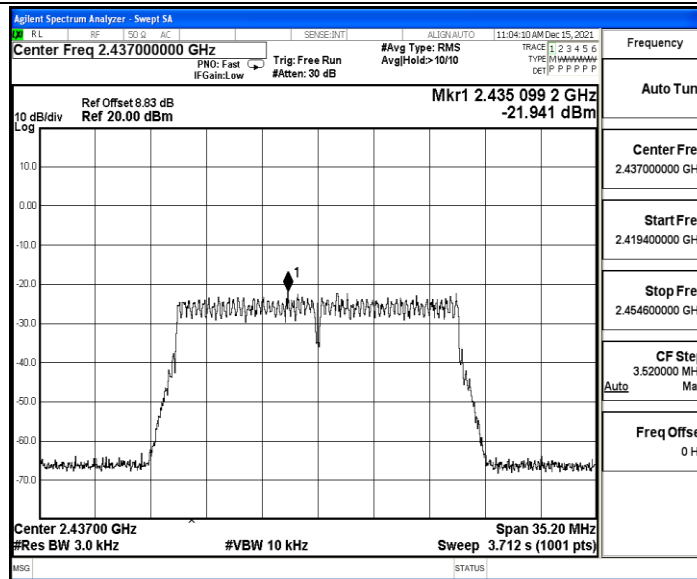
11G_Ant1_2462



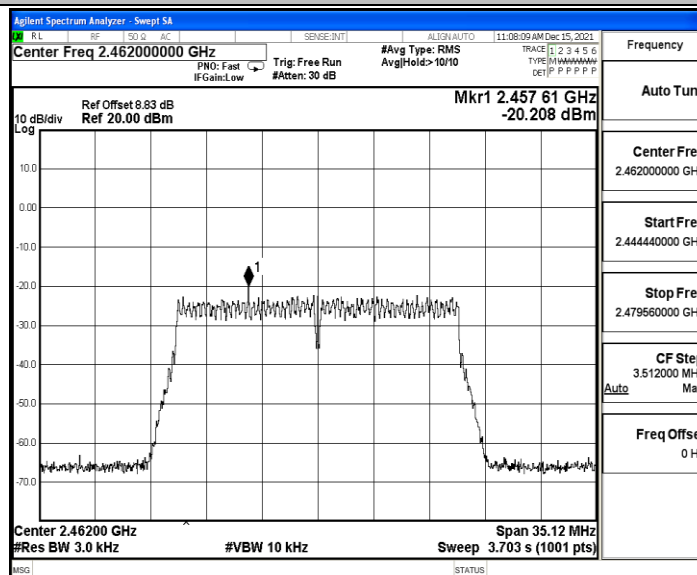
11N20SISO_Ant1_2412



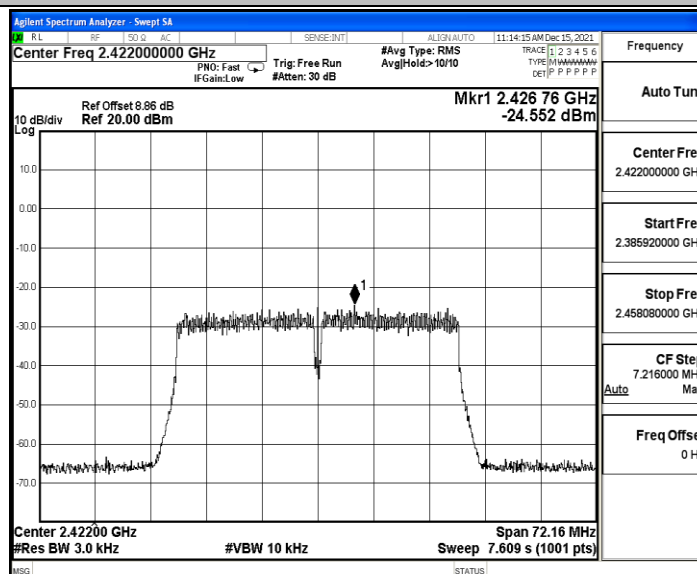
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

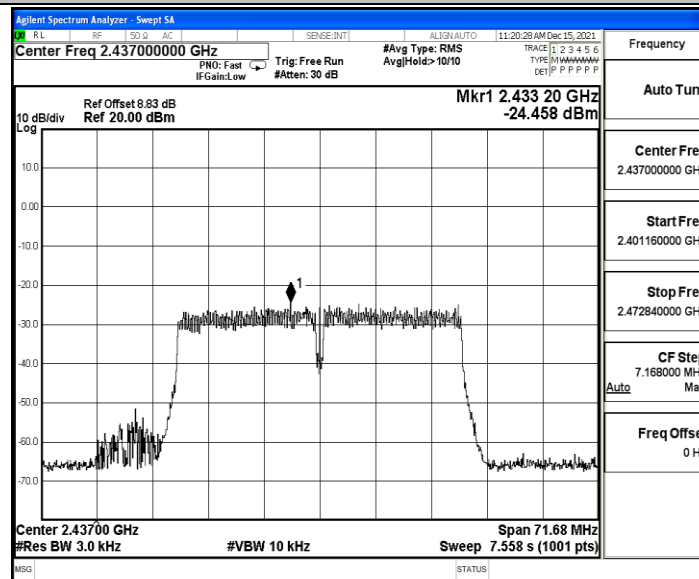


11N40SISO_Ant1_2422

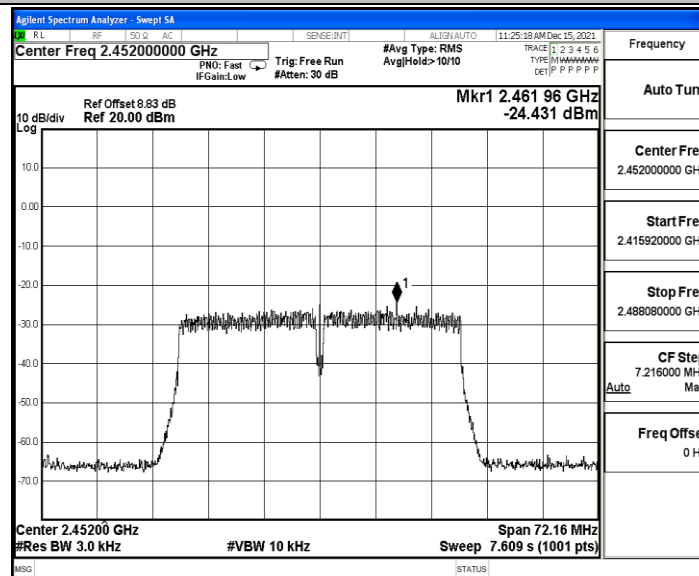




11N40SISO_Ant1_2437



11N40SISO_Ant1_2452





A.4 Band edge measurements

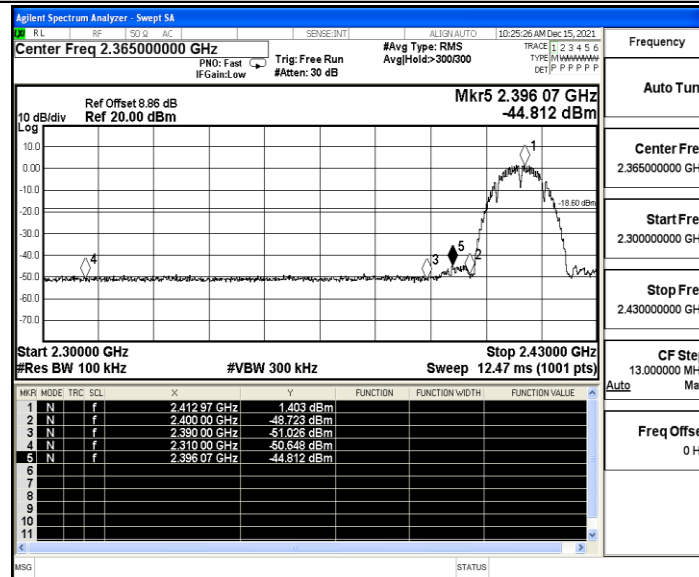
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	1.40	-44.81	≤ -18.6	PASS
		High	2462	0.76	-47.17	≤ -19.25	PASS
11G	Ant1	Low	2412	-6.07	-46.55	≤ -26.07	PASS
		High	2462	-6.33	-47.06	≤ -26.33	PASS
11N20SISO	Ant1	Low	2412	-7.17	-47.51	≤ -27.17	PASS
		High	2462	-7.43	-47.65	≤ -27.43	PASS
11N40SISO	Ant1	Low	2422	-10.89	-48.28	≤ -30.89	PASS
		High	2452	-11.12	-47.44	≤ -31.12	PASS

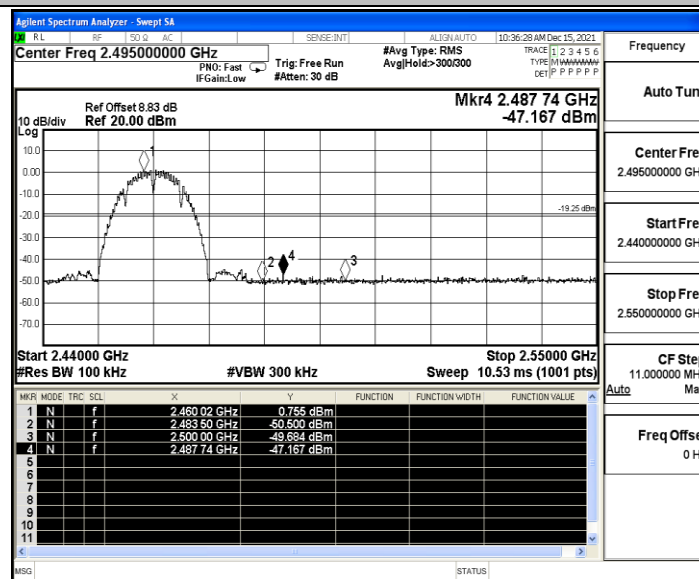


Test Graphs

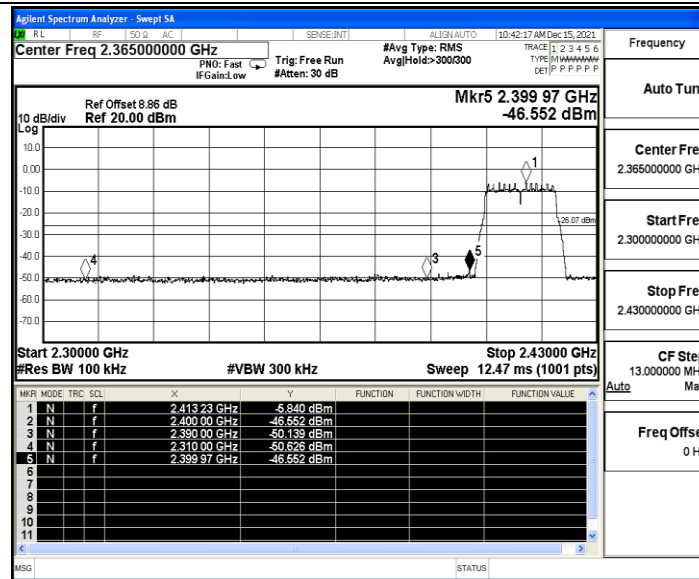
11B_Ant1_Low_2412



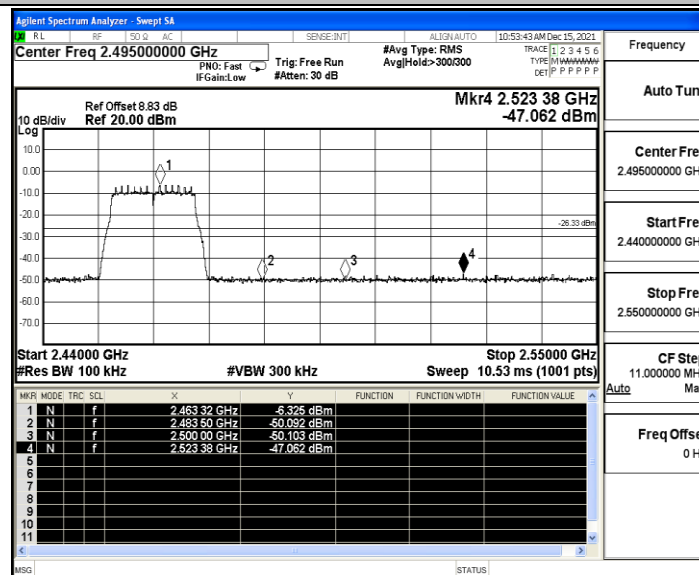
11B_Ant1_High_2462



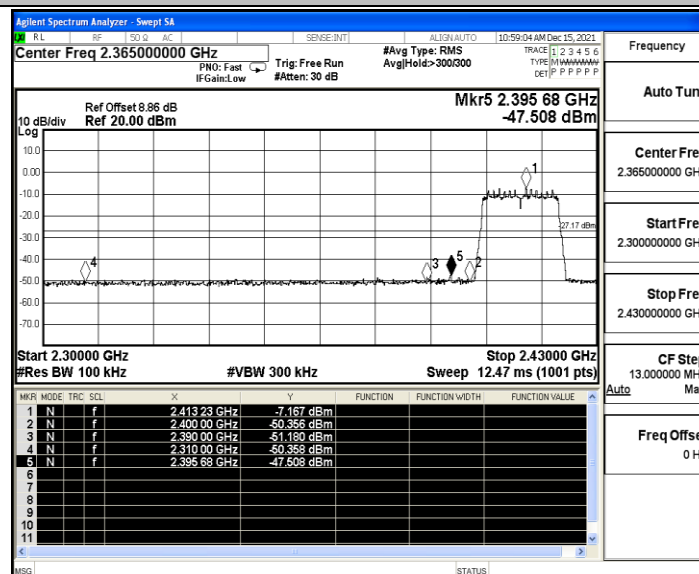
11G_Ant1_Low_2412



11G_Ant1_High_2462

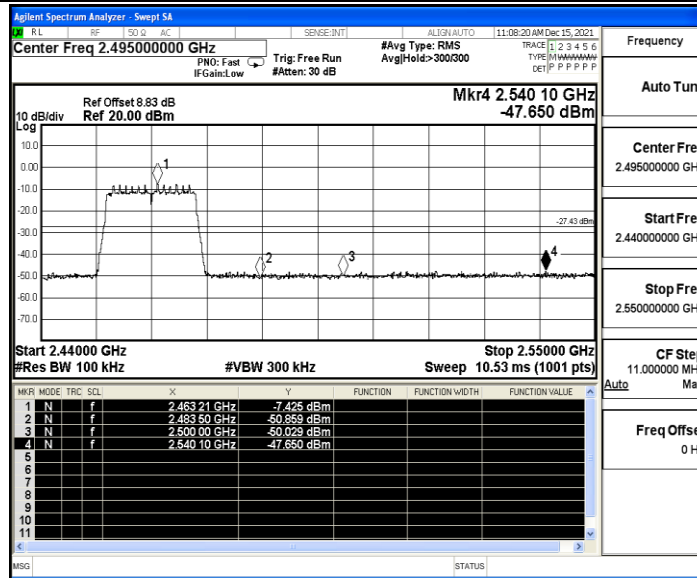


11N20SISO_Ant1_Low_2412

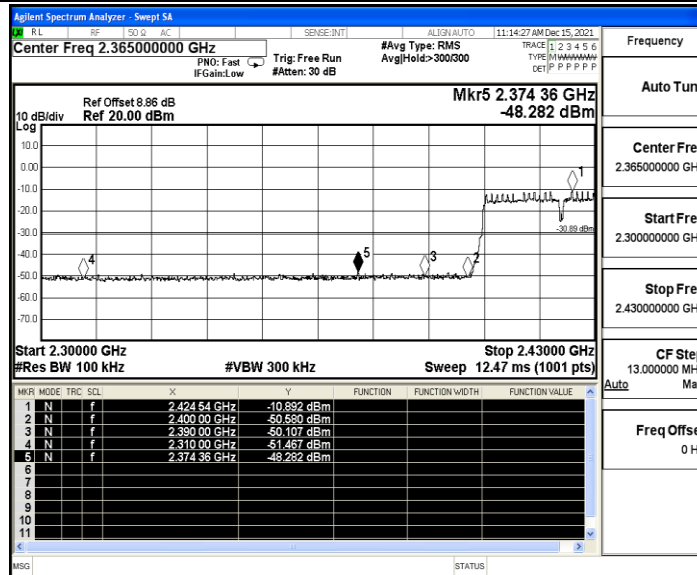




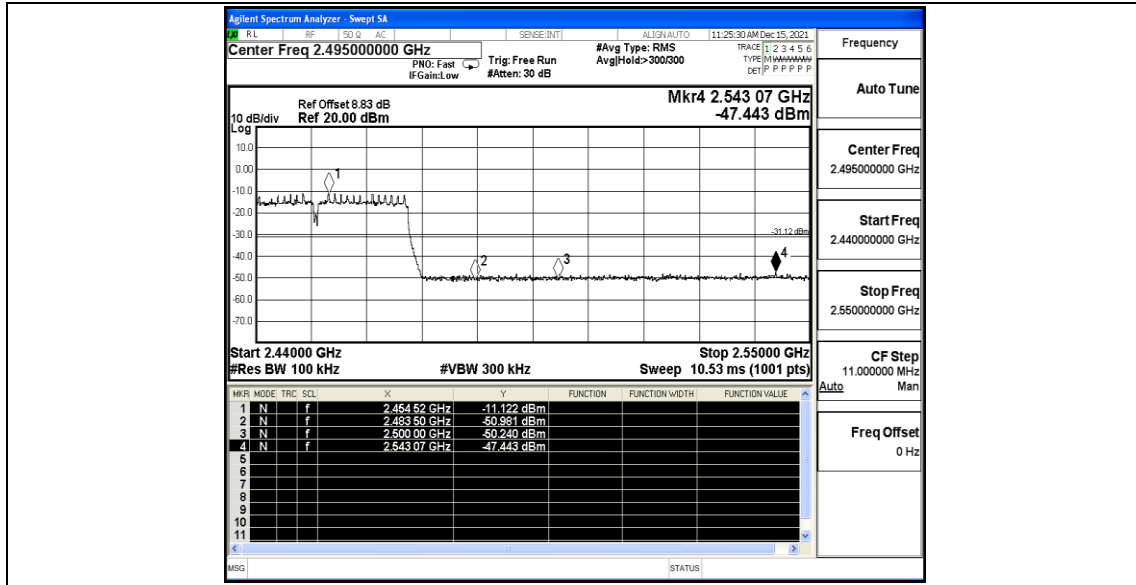
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452





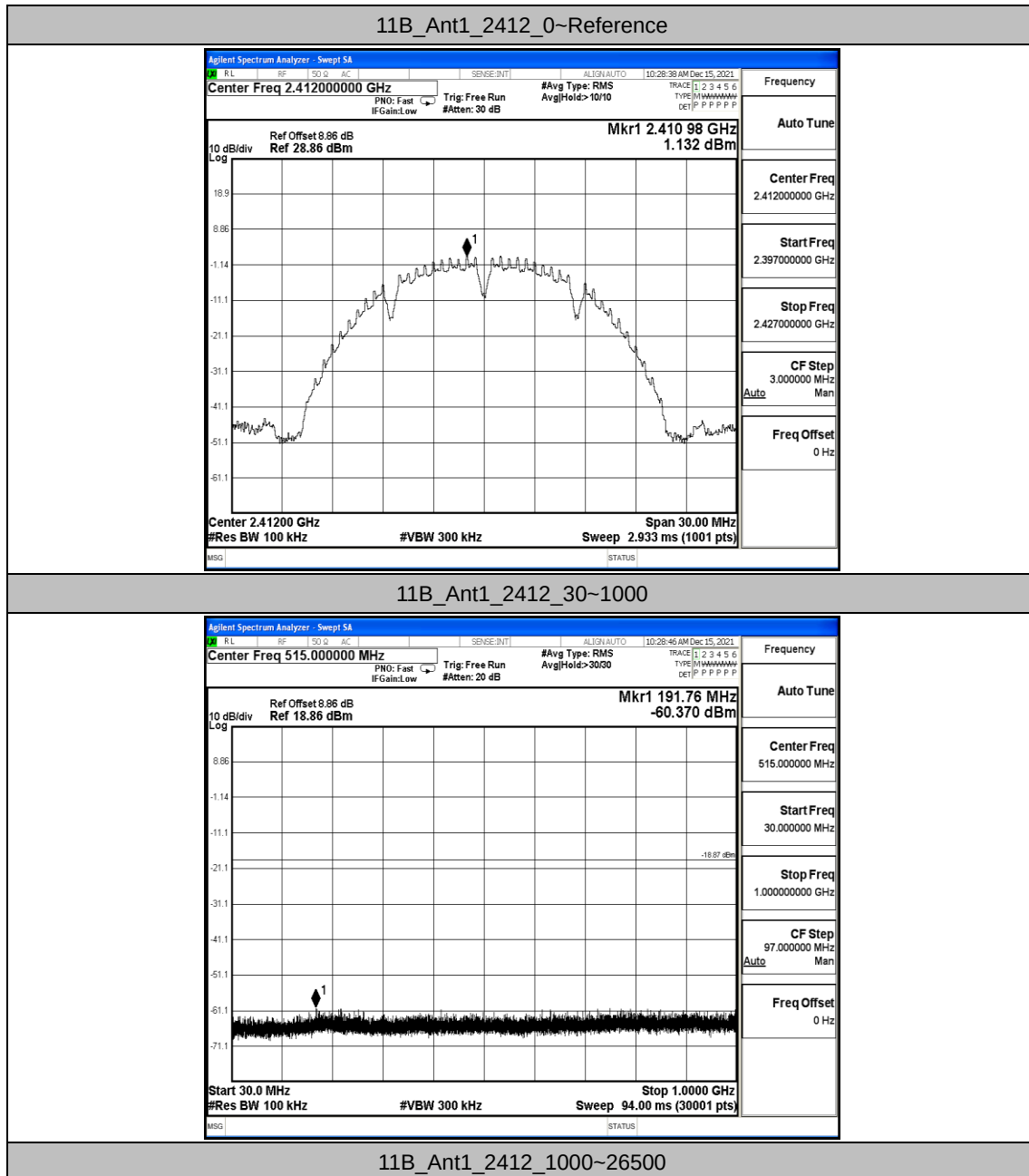
A.5 Conducted Spurious Emission

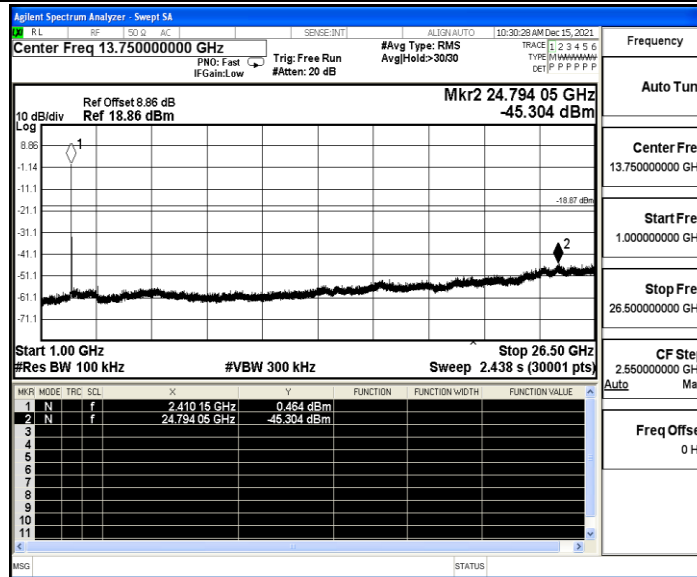
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	1.13	1.13	---	PASS
			30~1000	1.13	-60.37	≤-18.87	PASS
			1000~26500	1.13	-45.3	≤-18.87	PASS
		2437	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-60.03	≤-18.66	PASS
			1000~26500	1.34	-45.54	≤-18.66	PASS
		2462	Reference	1.17	1.17	---	PASS
			30~1000	1.17	-60.04	≤-18.83	PASS
			1000~26500	1.17	-45.02	≤-18.83	PASS
11G	Ant1	2412	Reference	-5.68	-5.68	---	PASS
			30~1000	-5.68	-60.29	≤-25.68	PASS
			1000~26500	-5.68	-45.85	≤-25.68	PASS
		2437	Reference	-6.62	-6.62	---	PASS
			30~1000	-6.62	-60.32	≤-26.62	PASS
			1000~26500	-6.62	-45.58	≤-26.62	PASS
		2462	Reference	-5.82	-5.82	---	PASS
			30~1000	-5.82	-60.2	≤-25.82	PASS
			1000~26500	-5.82	-45.45	≤-25.82	PASS
11N20SISO	Ant1	2412	Reference	-6.96	-6.96	---	PASS
			30~1000	-6.96	-59.75	≤-26.96	PASS
			1000~26500	-6.96	-44.58	≤-26.96	PASS
		2437	Reference	-7.82	-7.82	---	PASS
			30~1000	-7.82	-59.47	≤-27.82	PASS
			1000~26500	-7.82	-45.79	≤-27.82	PASS
		2462	Reference	-7.54	-7.54	---	PASS
			30~1000	-7.54	-60.09	≤-27.54	PASS
			1000~26500	-7.54	-45.26	≤-27.54	PASS
11N40SISO	Ant1	2422	Reference	-10.99	-10.99	---	PASS
			30~1000	-10.99	-60.13	≤-30.99	PASS
			1000~26500	-10.99	-45.61	≤-30.99	PASS
		2437	Reference	-10.78	-10.78	---	PASS
			30~1000	-10.78	-60.17	≤-30.78	PASS
			1000~26500	-10.78	-45.14	≤-30.78	PASS
		2452	Reference	-11.33	-11.33	---	PASS
			30~1000	-11.33	-59.95	≤-31.33	PASS
			1000~26500	-11.33	-46.02	≤-31.33	PASS

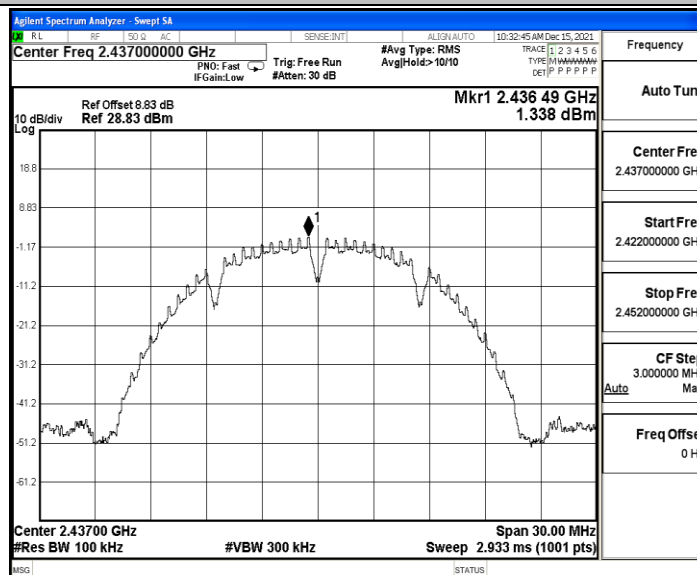


Test Graphs

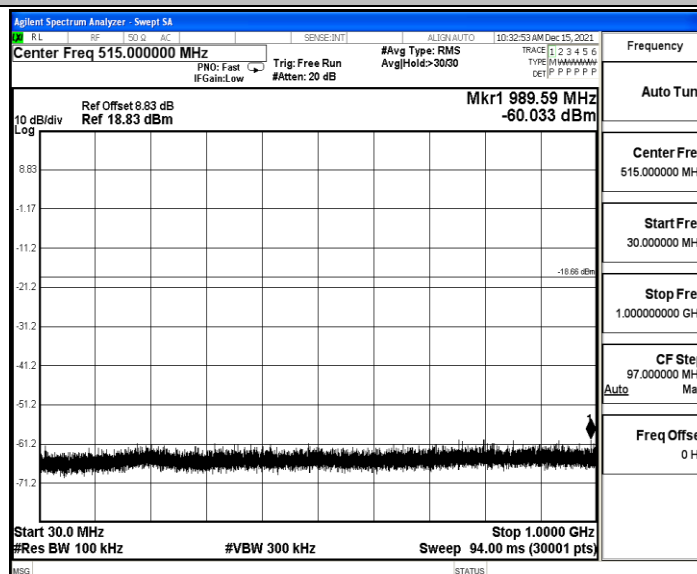




11B_Ant1_2437_0~Reference

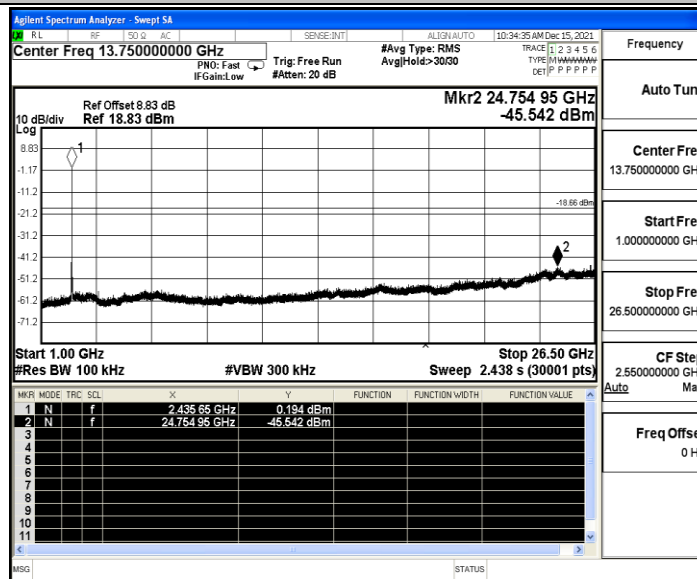


11B_Ant1_2437_30~1000

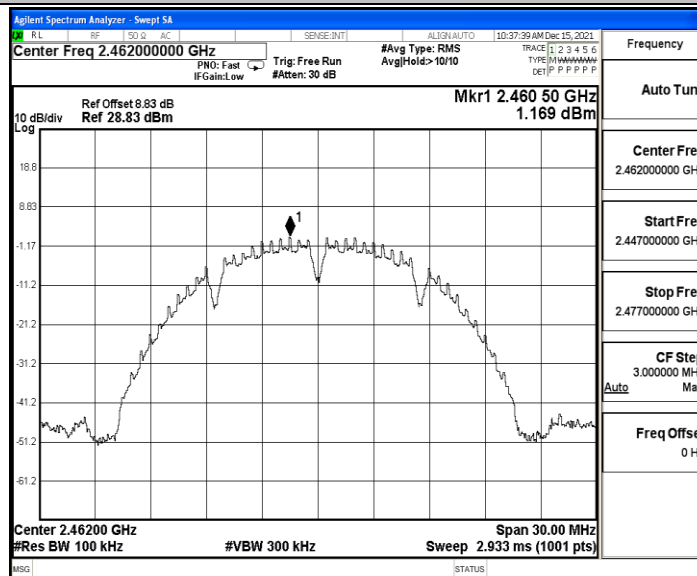




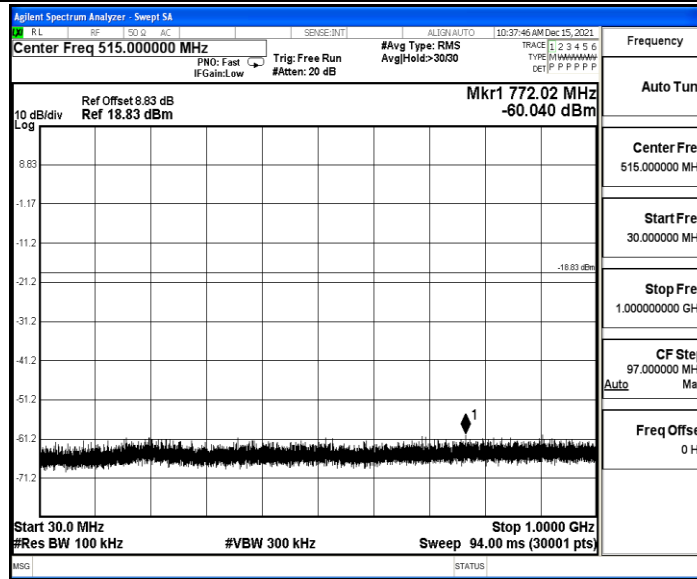
11B_Ant1_2437_1000~26500



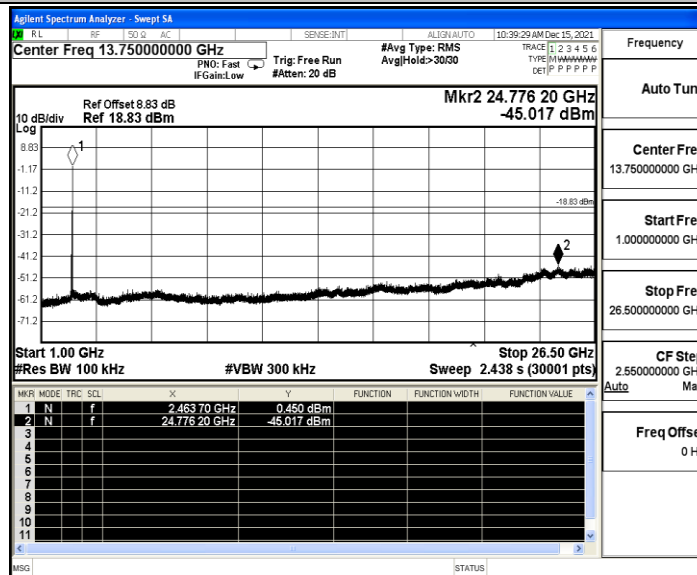
11B_Ant1_2462_0~Reference



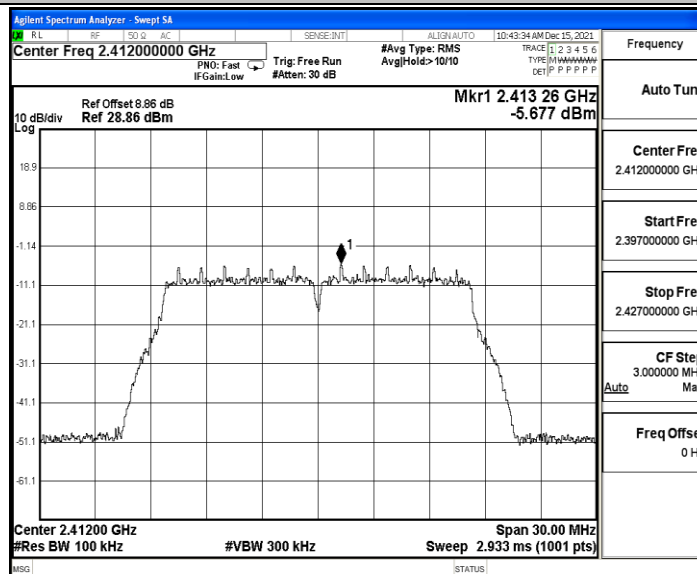
11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500

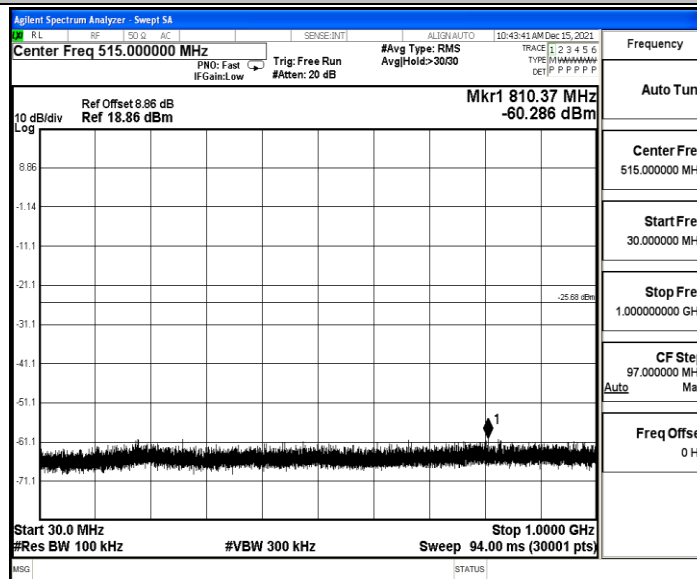


11G_Ant1_2412_0~Reference

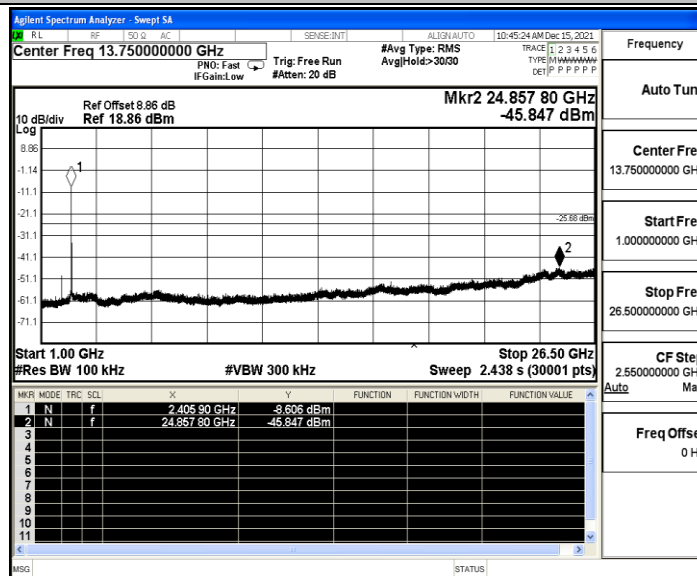




11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference