



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Wireless Router

Test Model: TR200

Environmental Conditions

Temperature:	21.6° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan



A.1 Duty Cycle

Test Result

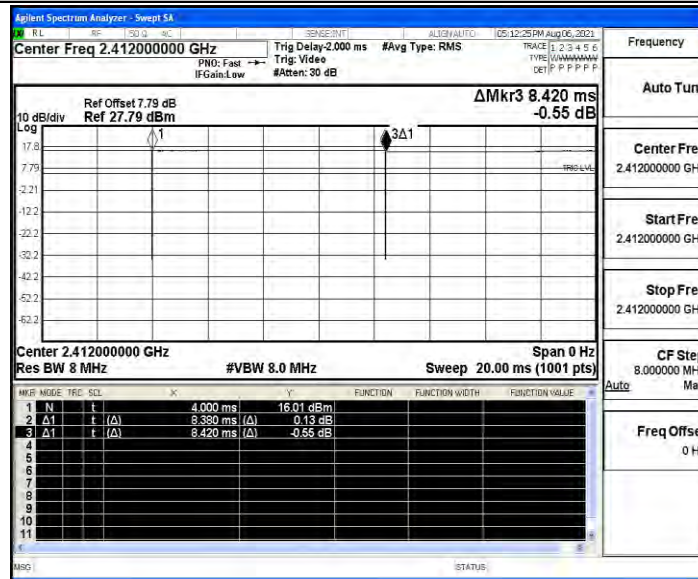
ANT1

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	ANT1	2412	8.38	8.42	99.52	---	PASS
		2437	8.38	8.42	99.52	---	PASS
		2462	8.38	8.42	99.52	---	PASS
11G	ANT1	2412	1.39	1.44	96.53	---	PASS
		2437	1.39	1.44	96.53	---	PASS
		2462	1.39	1.44	96.53	---	PASS
11N20SISO	ANT1	2412	1.30	1.35	96.30	---	PASS
		2437	1.30	1.35	96.30	---	PASS
		2462	1.30	1.35	96.30	---	PASS
11N40SISO	ANT1	2422	0.64	0.68	94.12	---	PASS
		2437	0.64	0.68	94.12	---	PASS
		2452	0.64	0.68	94.12	---	PASS

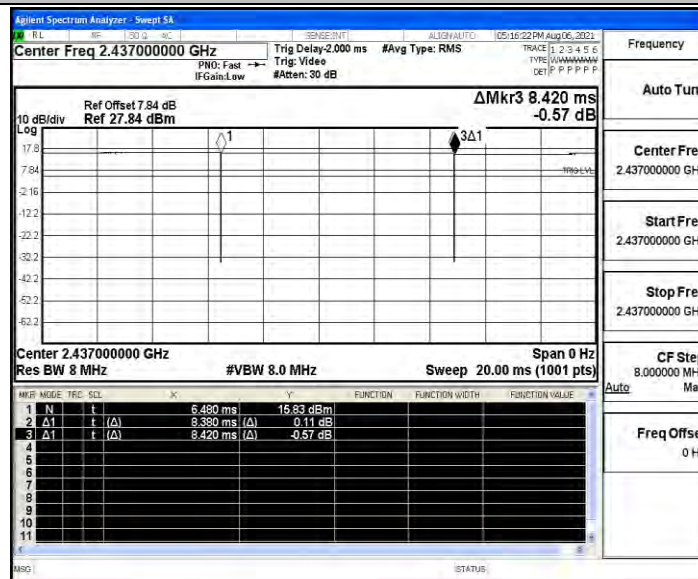


Test Graphs

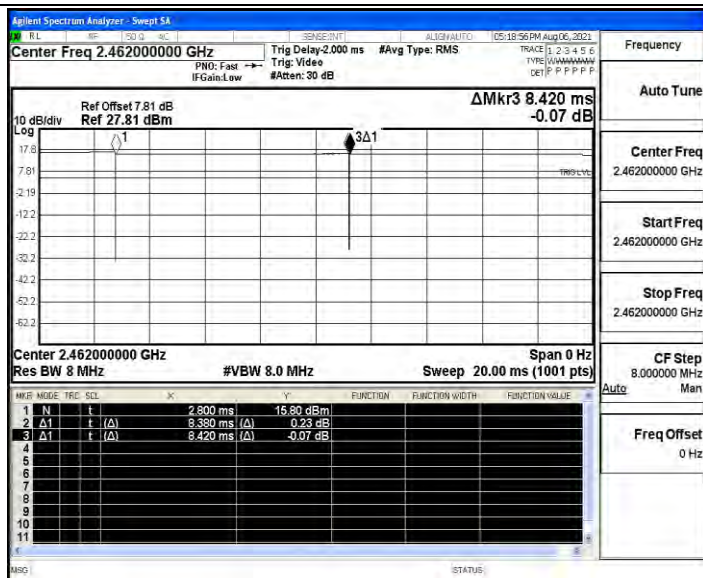
11B_ANT1_2412



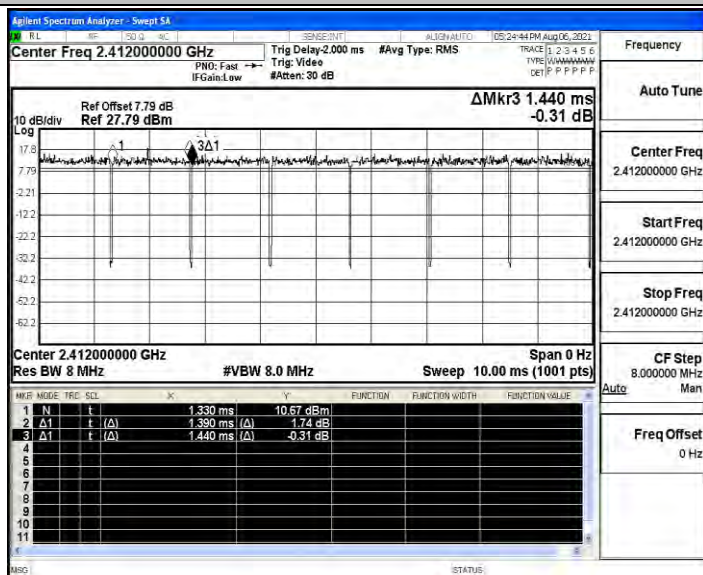
11B_ANT1_2437



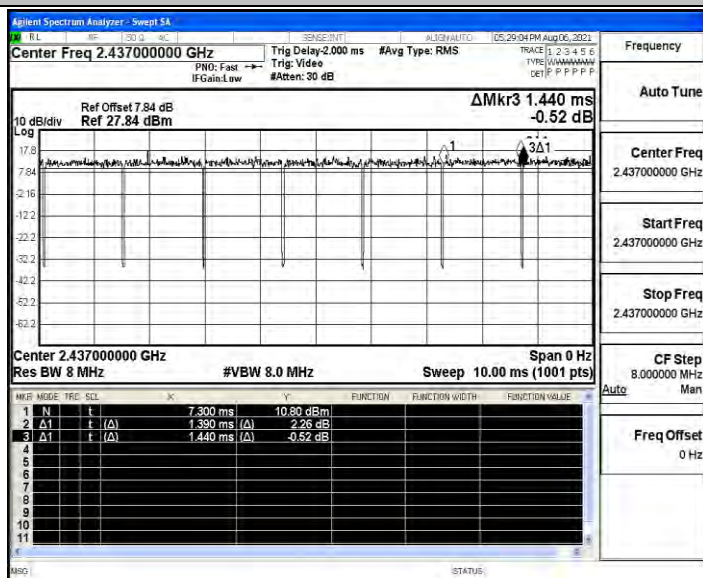
11B_ANT1_2462



11G_ANT1_2412

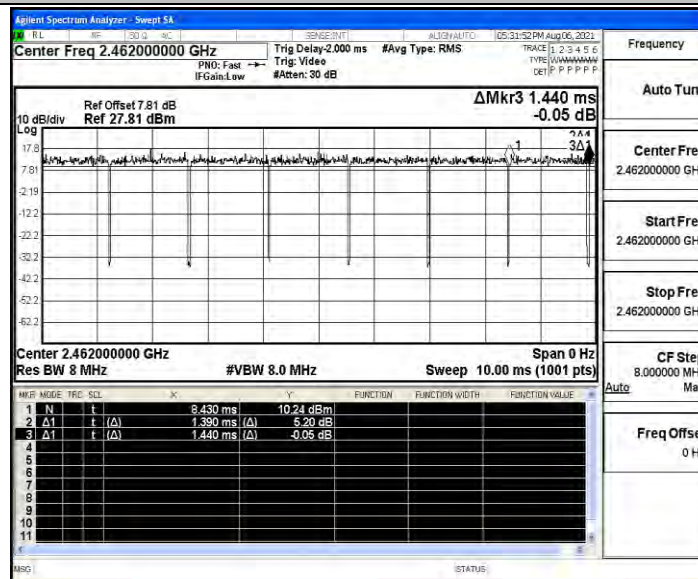


11G_ANT1_2437

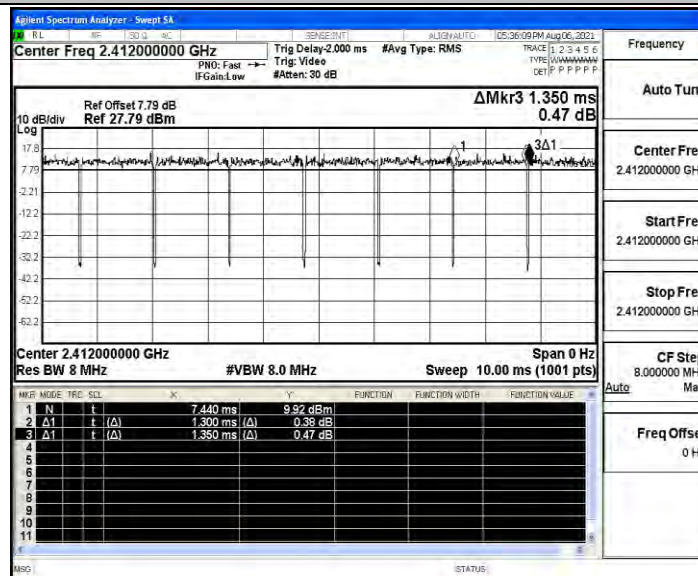




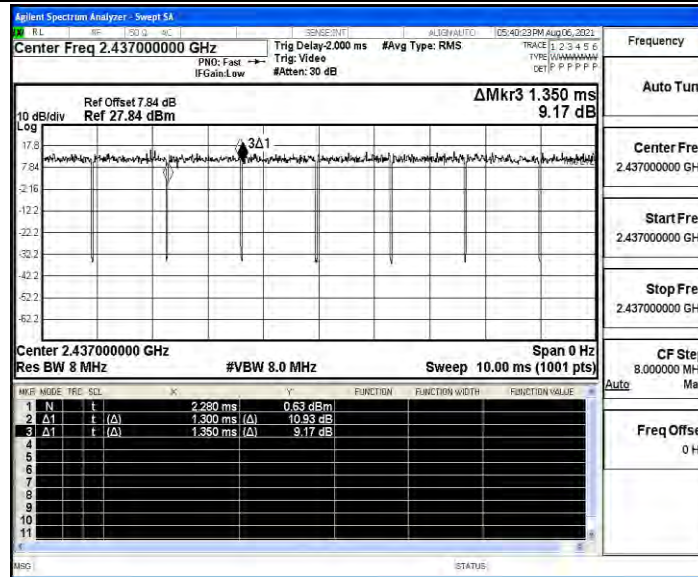
11G_ANT1_2462



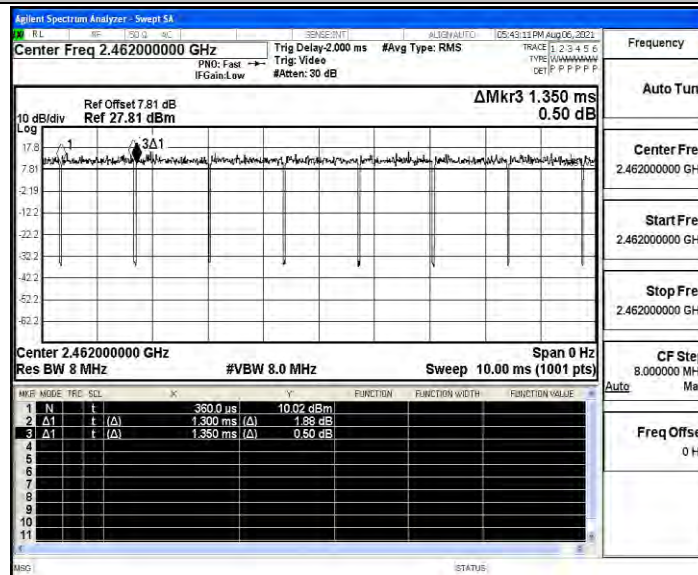
11N20SISO_ANT1_2412



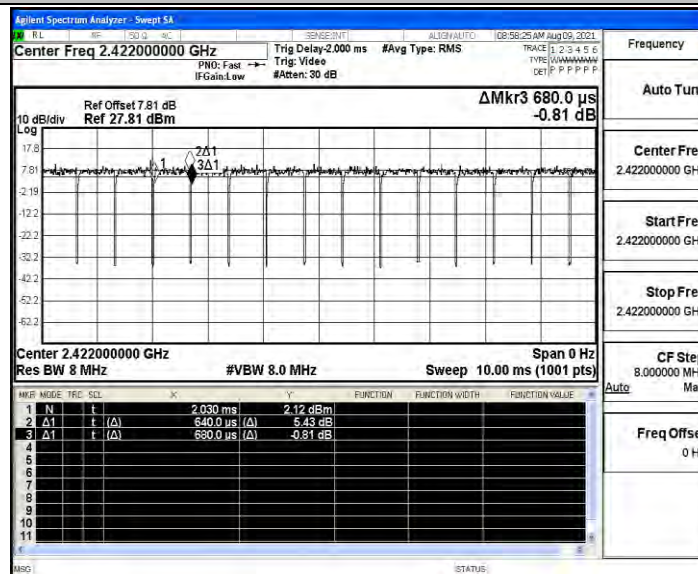
11N20SISO_ANT1_2437



11N20SISO_ANT1_2462

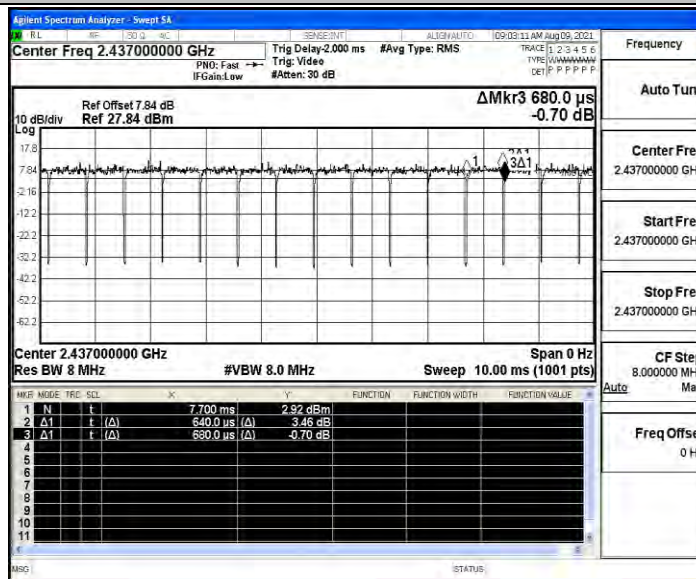


11N40SISO_ANT1_2422

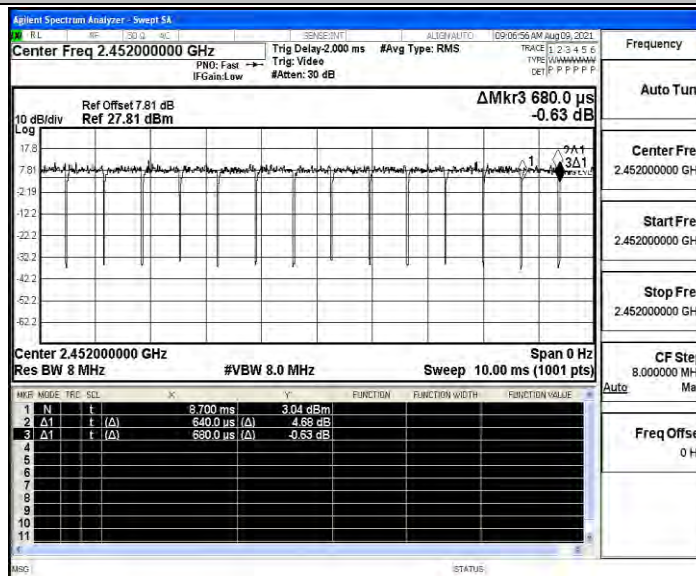




11N40SISO_ANT1_2437



11N40SISO_ANT1_2452





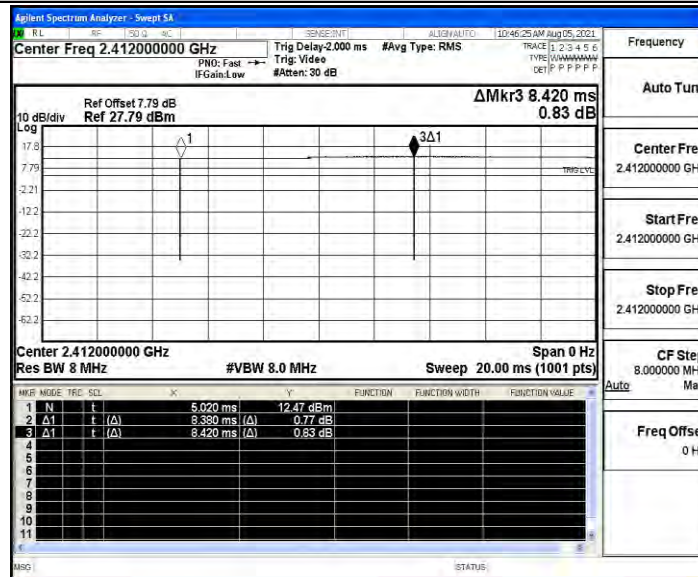
ANT2

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	ANT2	2412	8.38	8.42	99.52	---	PASS
		2437	16.78	16.83	99.70	---	PASS
		2462	30.00	30.00	100.00	---	PASS
11G	ANT2	2412	1.39	1.43	97.20	---	PASS
		2437	1.39	1.43	97.20	---	PASS
		2462	1.39	1.43	97.20	---	PASS
11N20SISO	ANT2	2412	1.30	1.34	97.01	---	PASS
		2437	1.30	1.34	97.01	---	PASS
		2462	1.30	1.34	97.01	---	PASS
11N40SISO	ANT2	2422	0.64	0.68	94.12	---	PASS
		2437	0.64	0.68	94.12	---	PASS
		2452	0.64	0.68	94.12	---	PASS

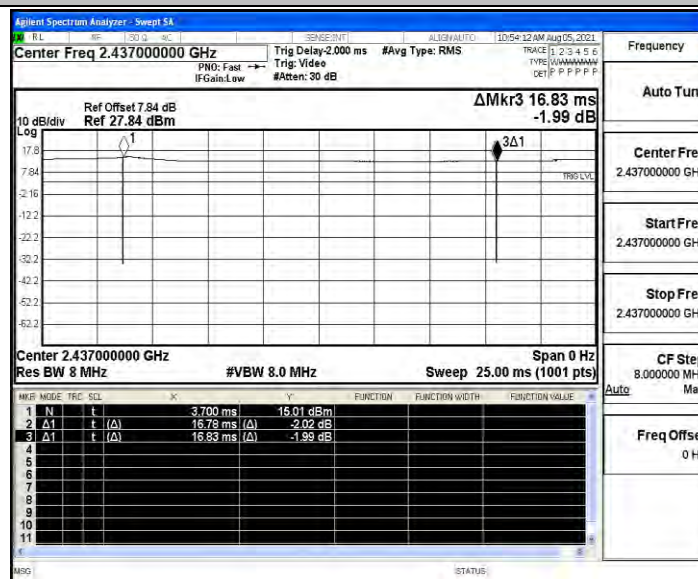


Test Graphs

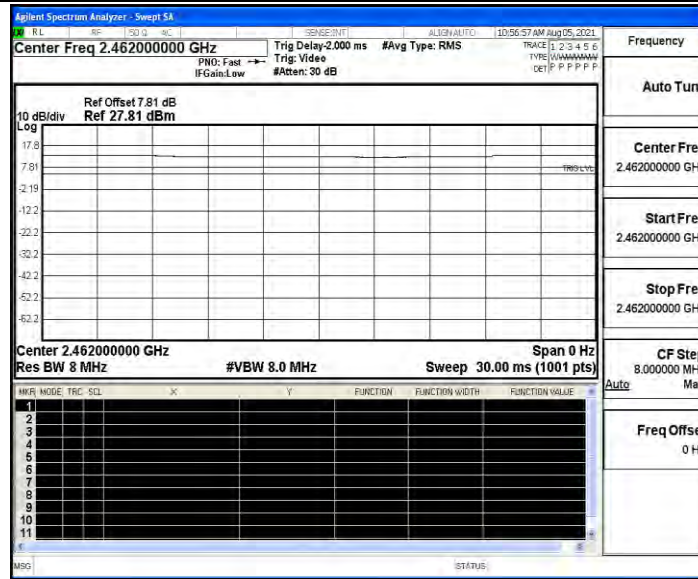
11B_ANT2_2412



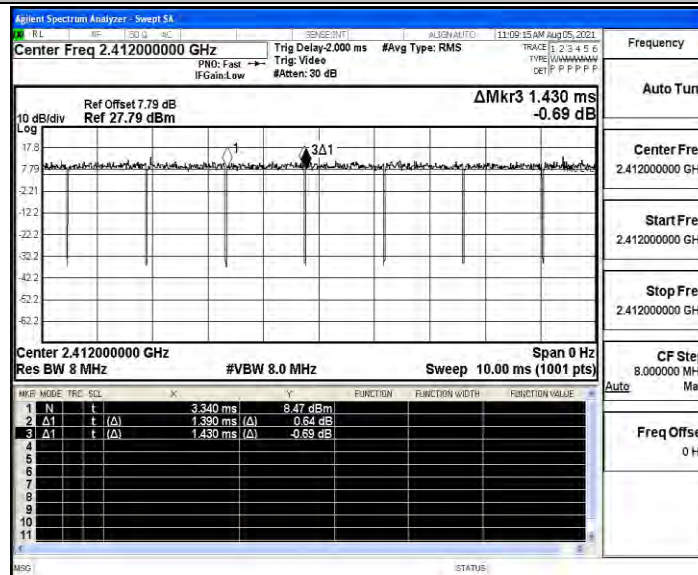
11B_ANT2_2437



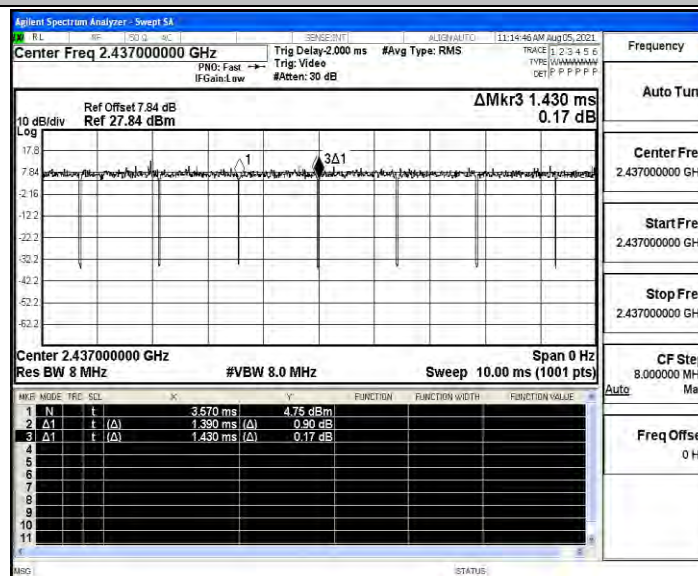
11B_ANT2_2462



11G_ANT2_2412

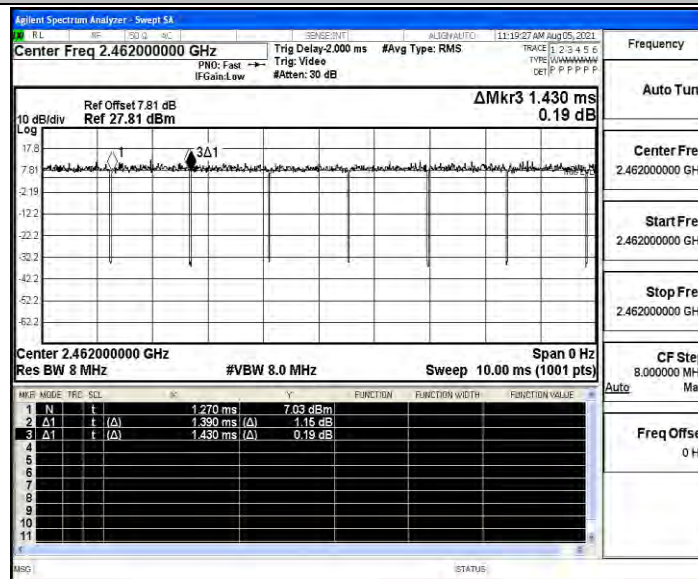


11G_ANT2_2437

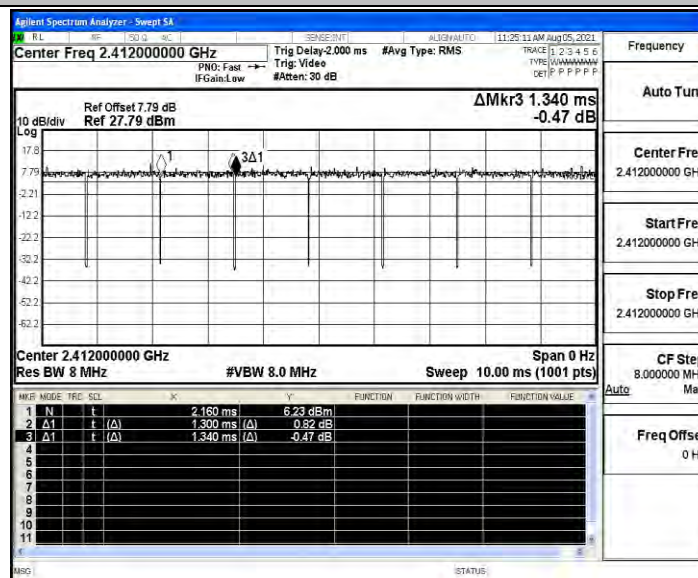




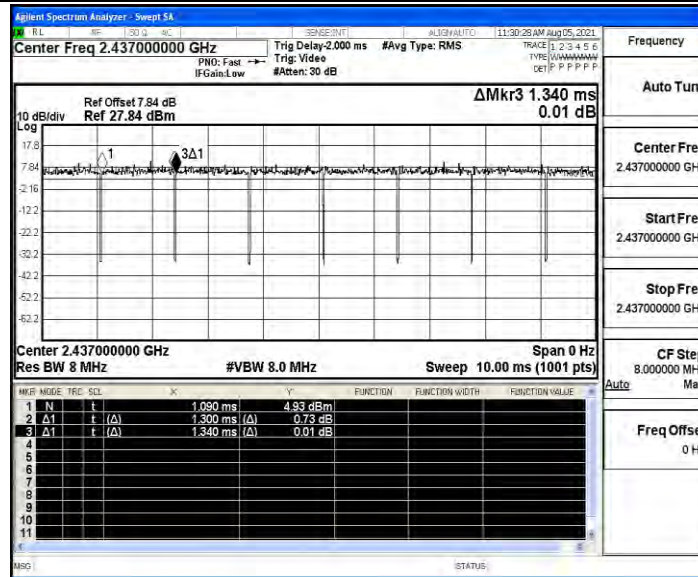
11G_ANT2_2462



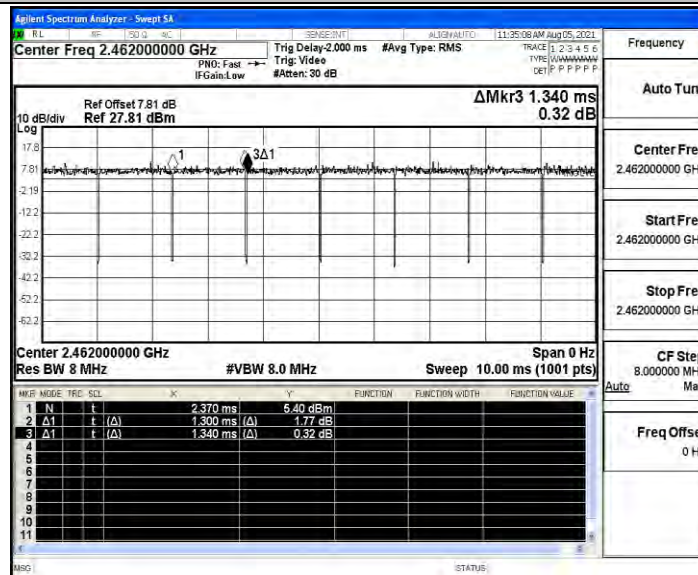
11N20SISO_ANT2_2412



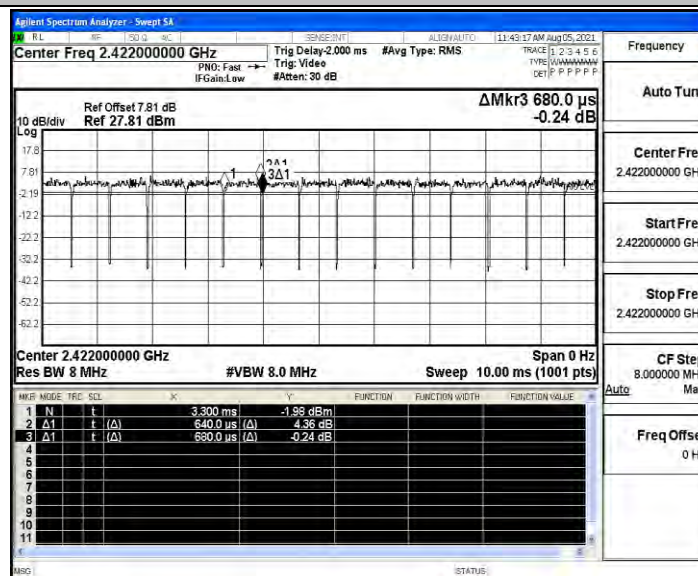
11N20SISO_ANT2_2437



11N20SISO_ANT2_2462

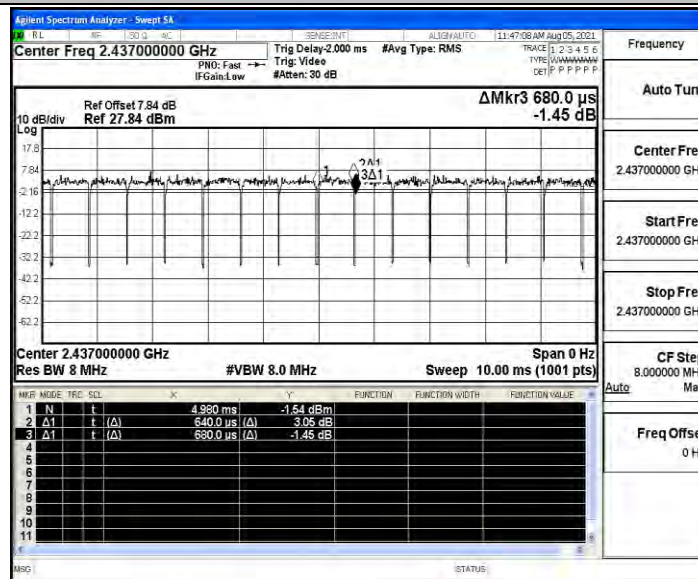


11N40SISO_ANT2_2422

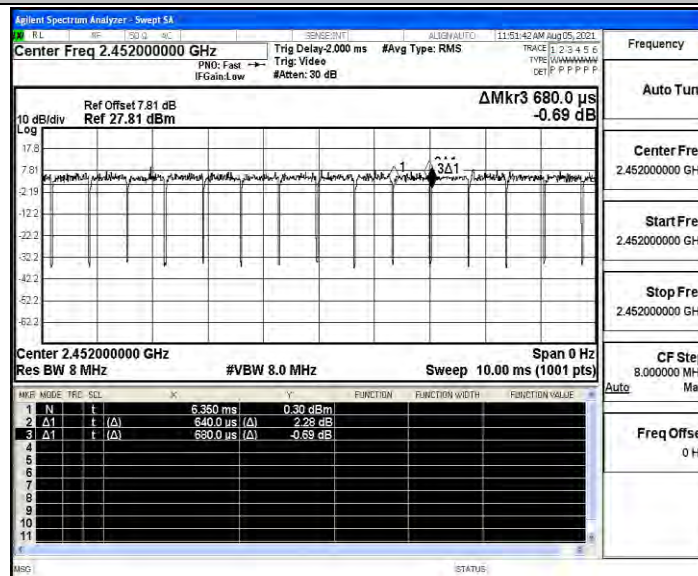




11N40SISO_ANT2_2437



11N40SISO_ANT2_2452





A.2 Maximum conducted output power

Test Result

Mode	Channel	Peak Power [dBm]			Limit [dBm]	Verdict
		ANT1	ANT2	Sum		
11B	LCH	15.04	15.32	/	30	PASS
	MCH	15.09	15.26	/	30	PASS
	HCH	14.75	14.75	/	30	PASS
11G	LCH	15.18	14.66	/	30	PASS
	MCH	15.11	14.64	/	30	PASS
	HCH	15.05	14.31	/	30	PASS
11N20	LCH	14.83	14.23	17.55	30	PASS
	MCH	14.74	14.29	17.53	30	PASS
	HCH	14.95	14.15	17.58	30	PASS
11N40	LCH	14.67	14.31	17.50	30	PASS
	MCH	14.74	14.26	17.52	30	PASS
	HCH	14.40	14.24	17.33	30	PASS



A.3 Maximum power spectral density

Test Result

Mode	Channel	PSD Level [dBm/3KHz]		Limit [dBm/3KHz]	Verdict
		ANT1	ANT2		
11B	LCH	-9.09	-10.93	8	PASS
	MCH	-10.16	-10.48	8	PASS
	HCH	-10.21	-11.29	8	PASS
11G	LCH	-15.47	-18.2	8	PASS
	MCH	-16.49	-17.48	8	PASS
	HCH	-16.52	-15.96	8	PASS
11N20	LCH	-16.61	-17.87	8	PASS
	MCH	-16.79	-17.79	8	PASS
	HCH	-16.99	-17.3	8	PASS
11N40	LCH	-20.09	-25.14	8	PASS
	MCH	-19.13	-20.37	8	PASS
	HCH	-19.95	-24.51	8	PASS

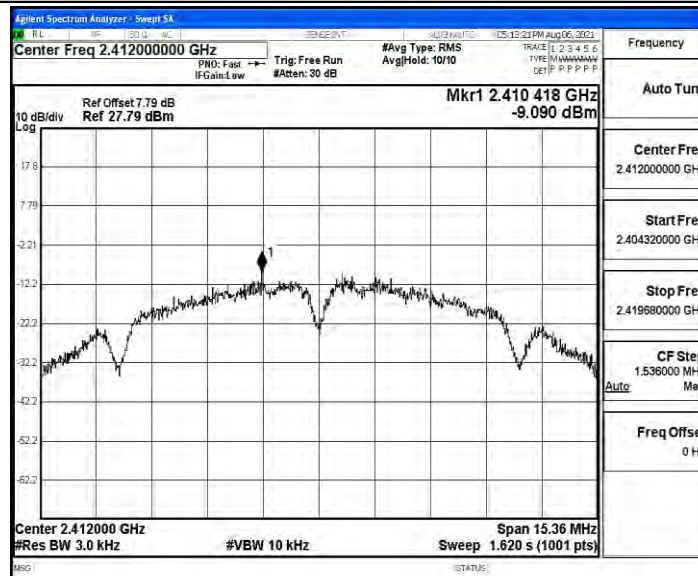
Mode	Channel	MIMO PSD [dBm/3KHz]			Limit [dBm/3KHz]	Verdict
		ANT1	ANT2	Sum		
11N20	LCH	-16.61	-17.87	-14.18	8	PASS
	MCH	-16.79	-17.79	-14.25	8	PASS
	HCH	-16.99	-17.3	-14.13	8	PASS
11N40	LCH	-20.09	-25.14	-18.91	8	PASS
	MCH	-19.13	-20.37	-16.70	8	PASS
	HCH	-19.95	-24.51	-18.65	8	PASS



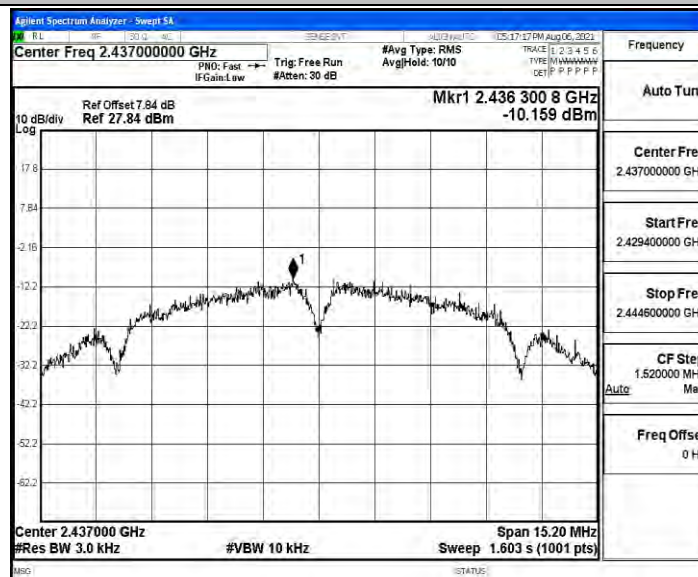
Test Graphs

ANT1

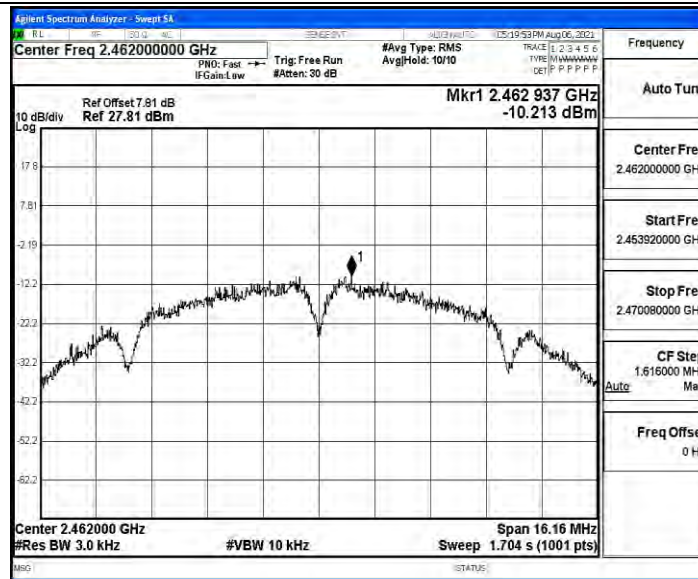
11B_ANT1_2412



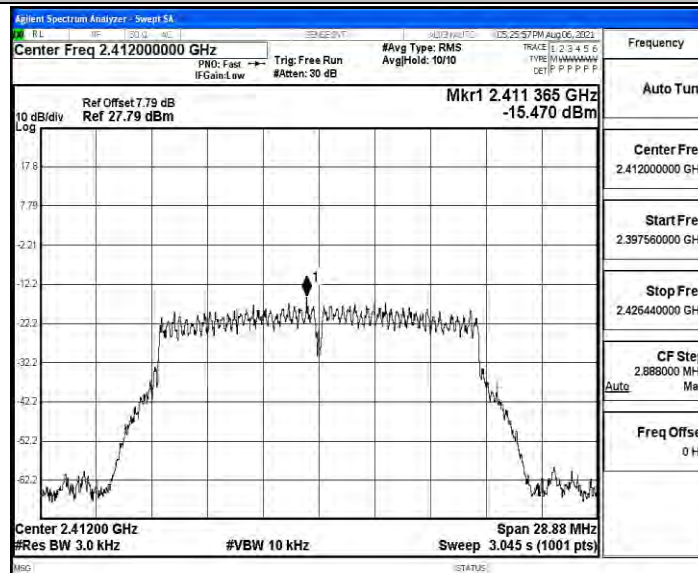
11B_ANT1_2437



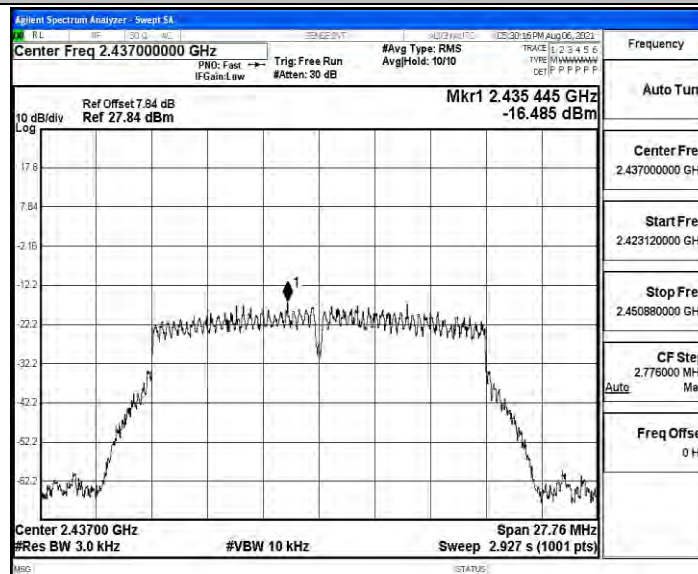
11B_ANT1_2462



11G_ANT1_2412

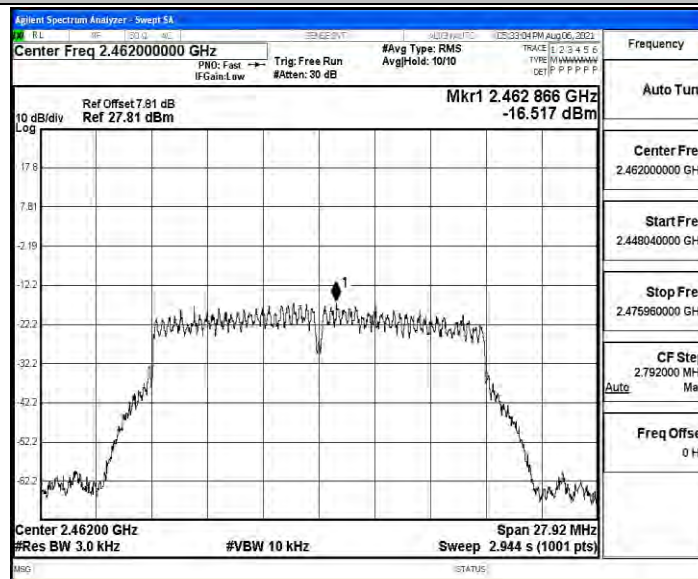


11G_ANT1_2437

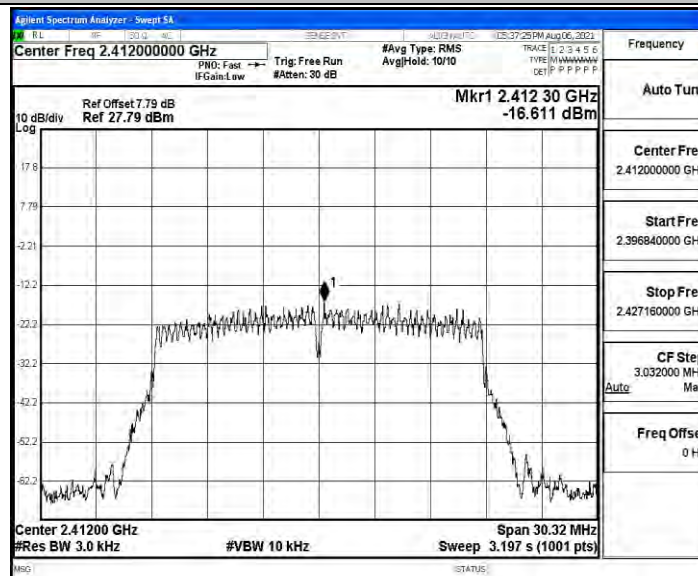




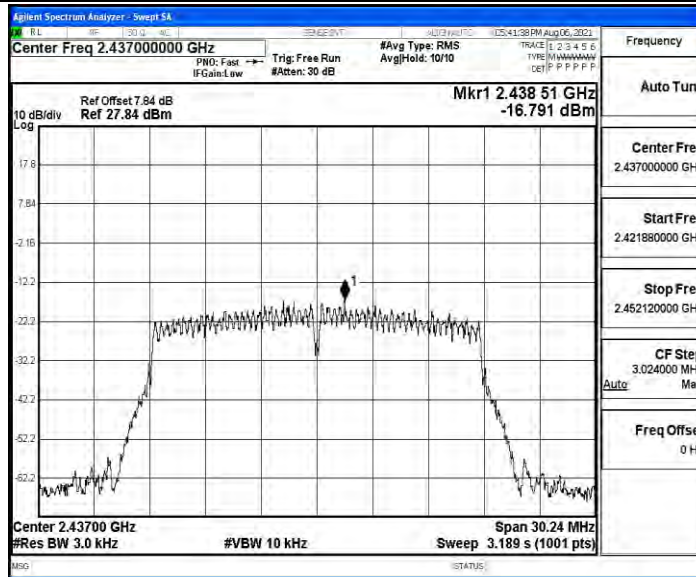
11G_ANT1_2462



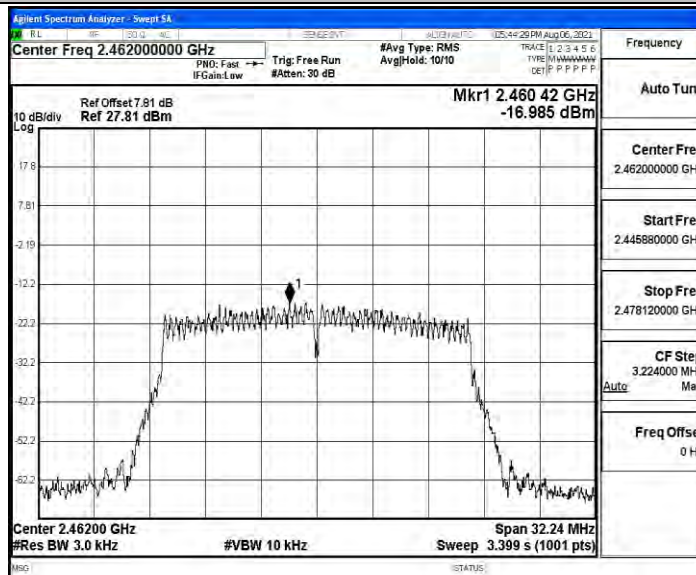
11N20SISO_ANT1_2412



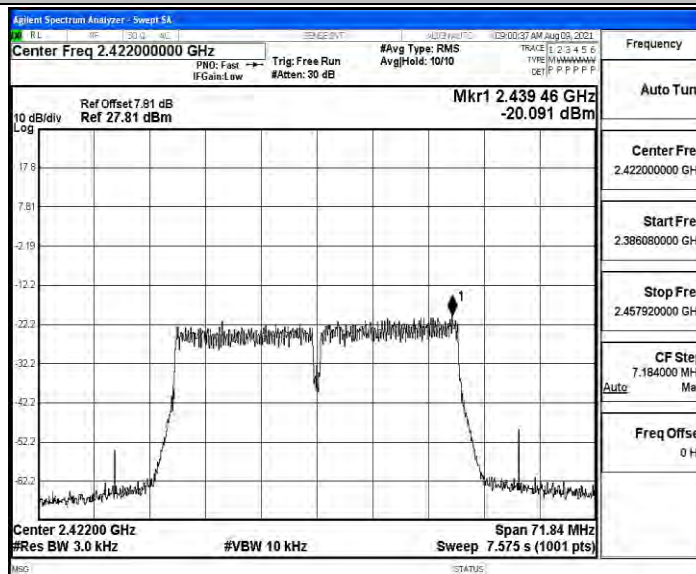
11N20SISO_ANT1_2437



11N20SISO_ANT1_2462

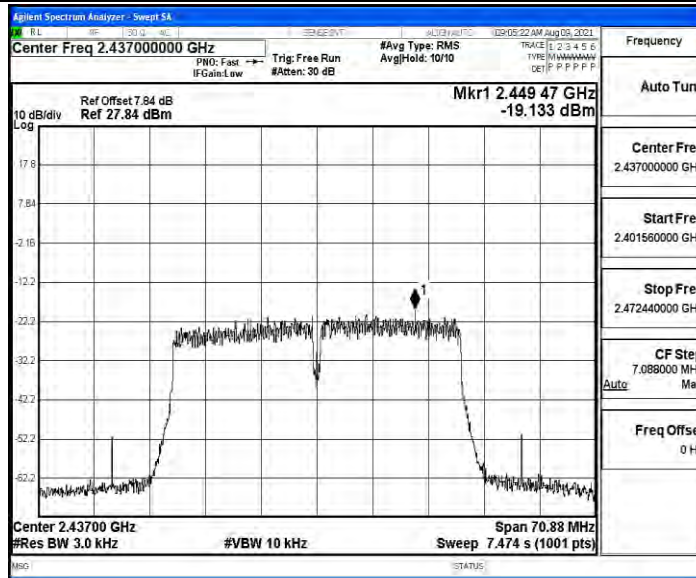


11N40SISO_ANT1_2422

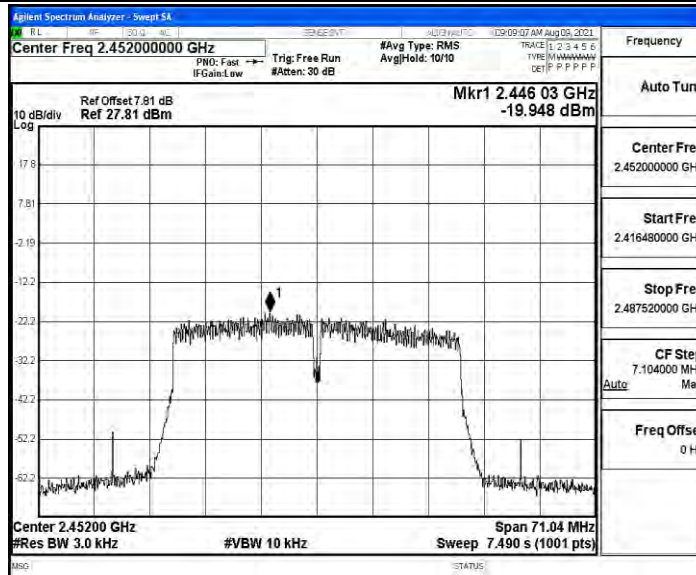




11N40SISO_ANT1_2437

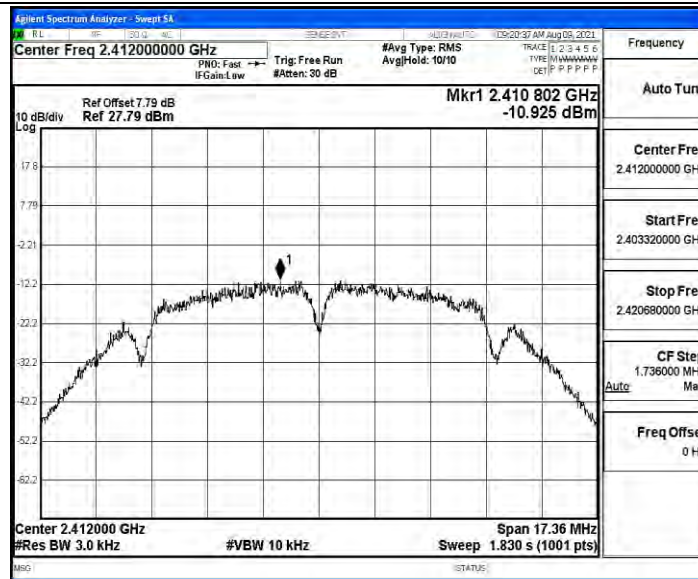


11N40SISO_ANT1_2452

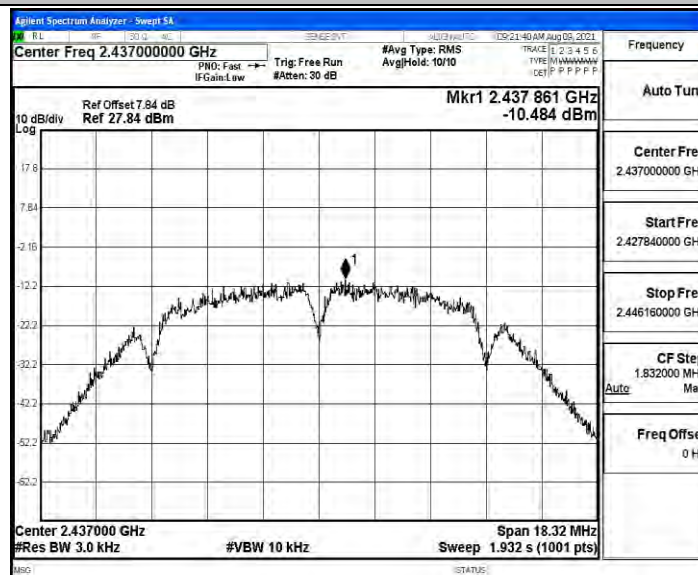


ANT2

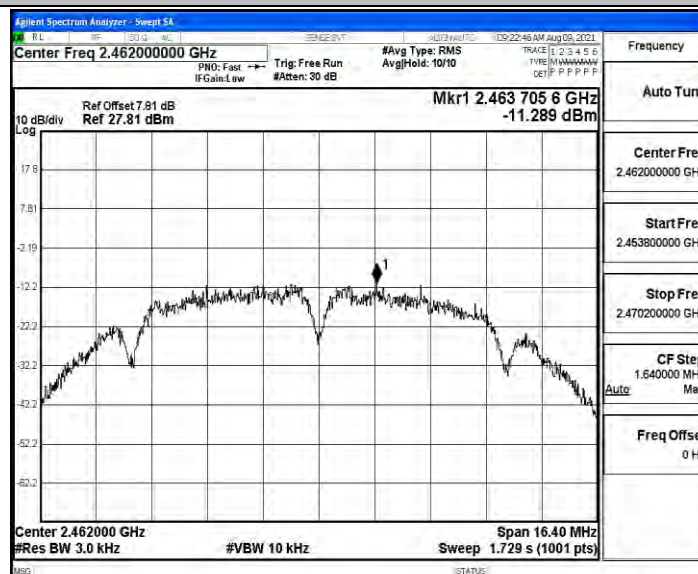
11B_ANT2_2412



11B_ANT2_2437

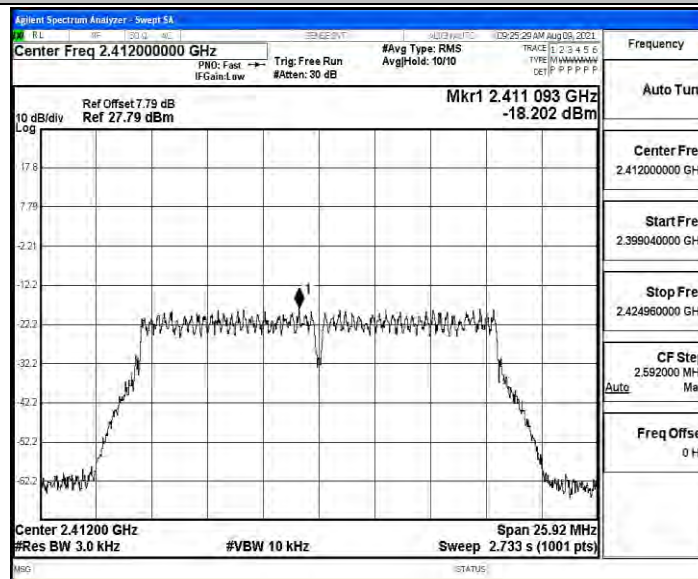


11B_ANT2_2462

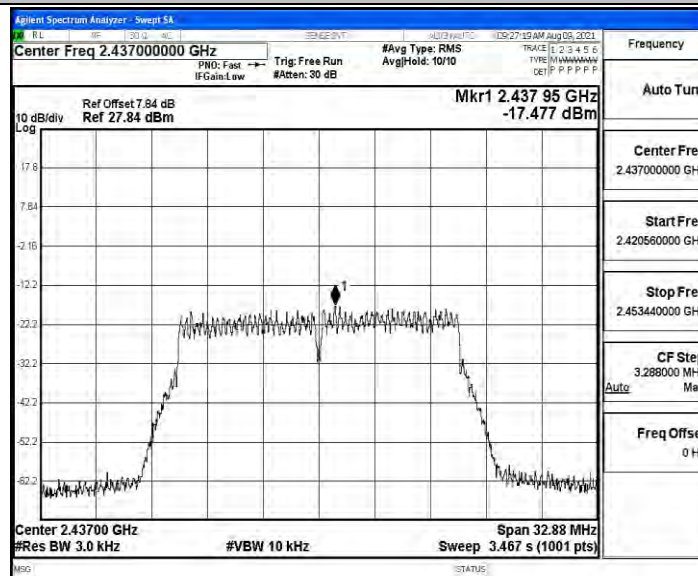




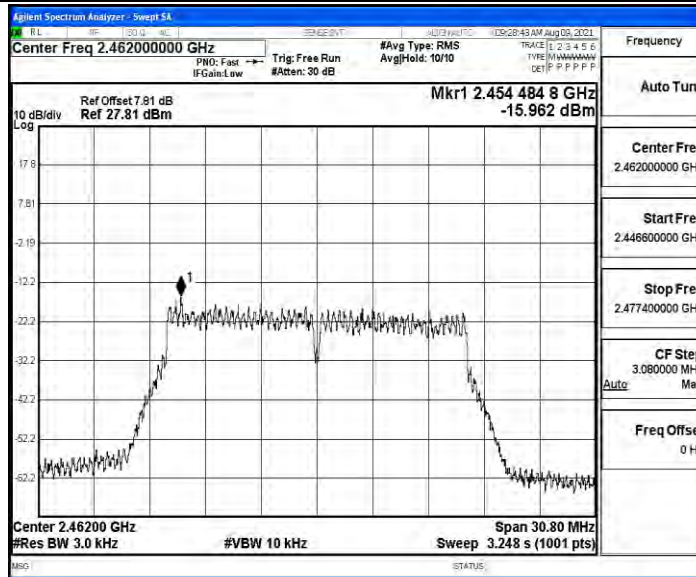
11G_ANT2_2412



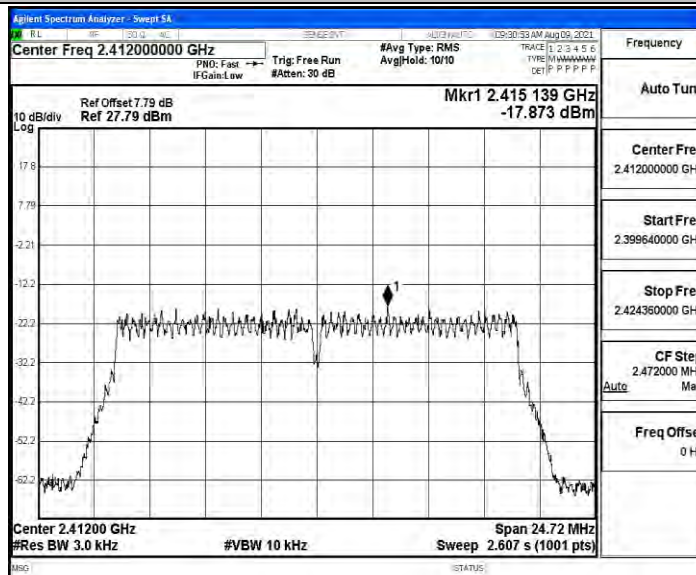
11G_ANT2_2437



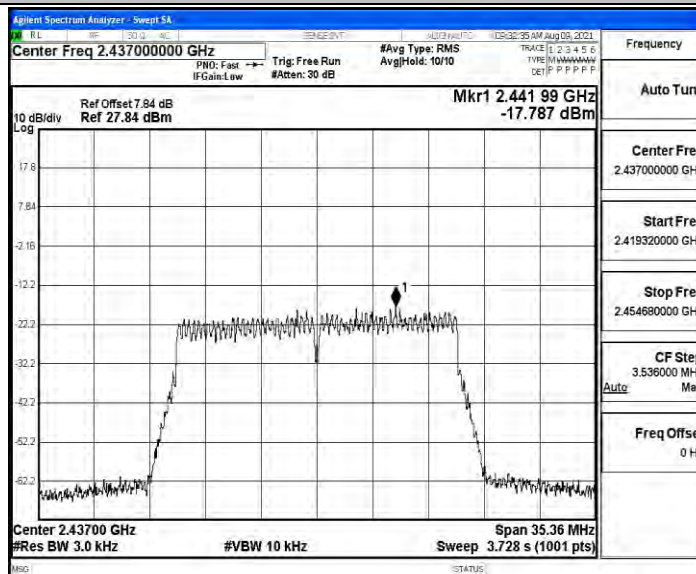
11G_ANT2_2462



11N20SISO_ANT2_2412

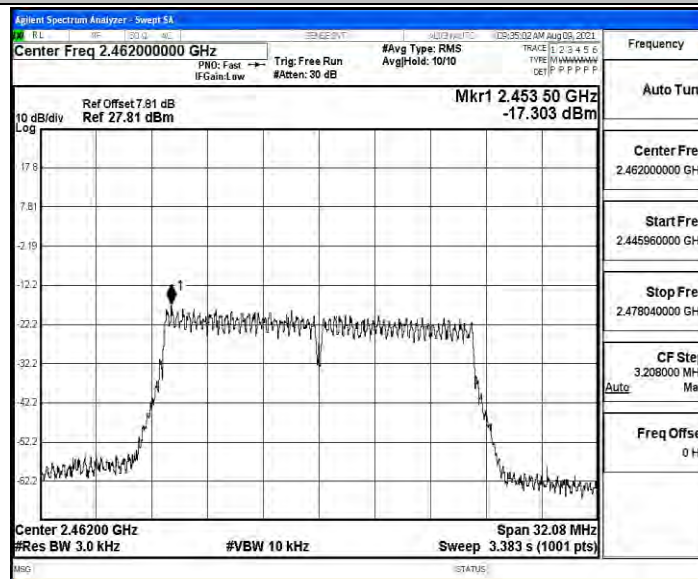


11N20SISO_ANT2_2437

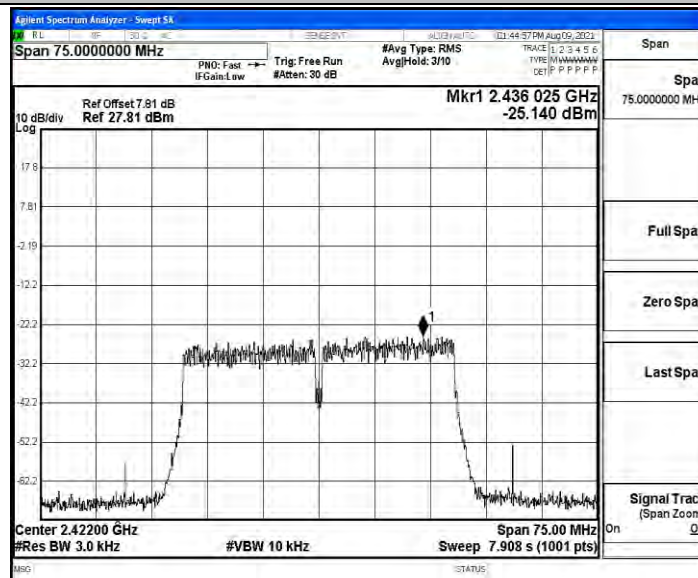




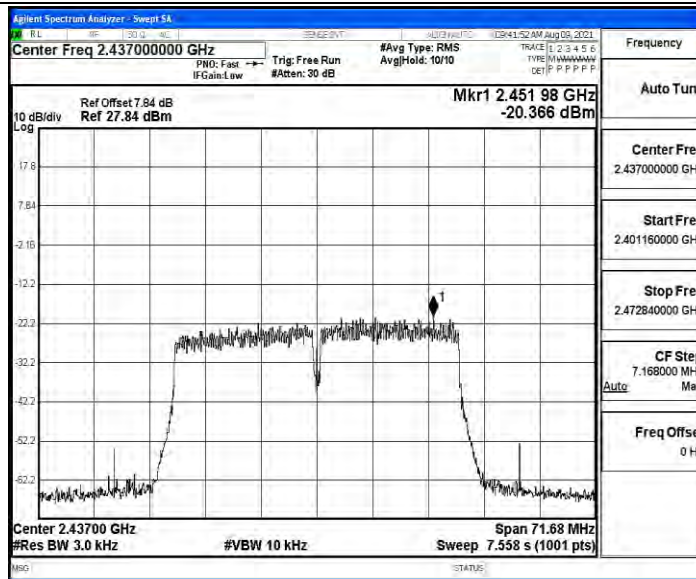
11N20SISO_ANT2_2462



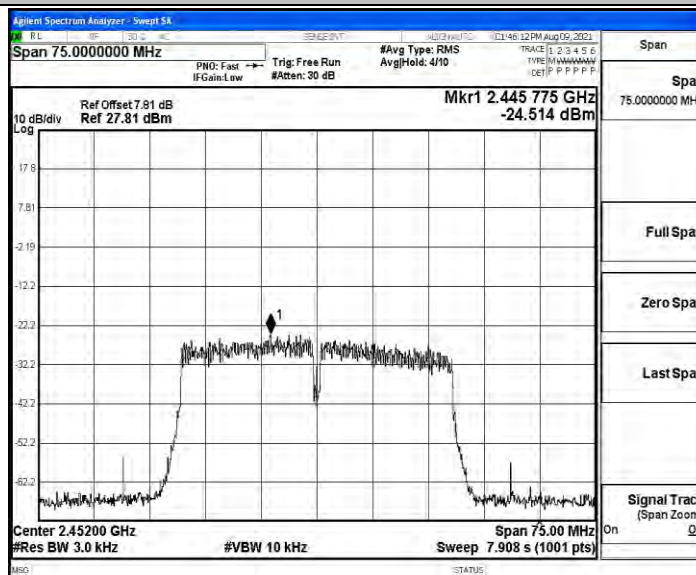
11N40SISO_ANT2_2422



11N40SISO_ANT2_2437



11N40SISO_ANT2_2452





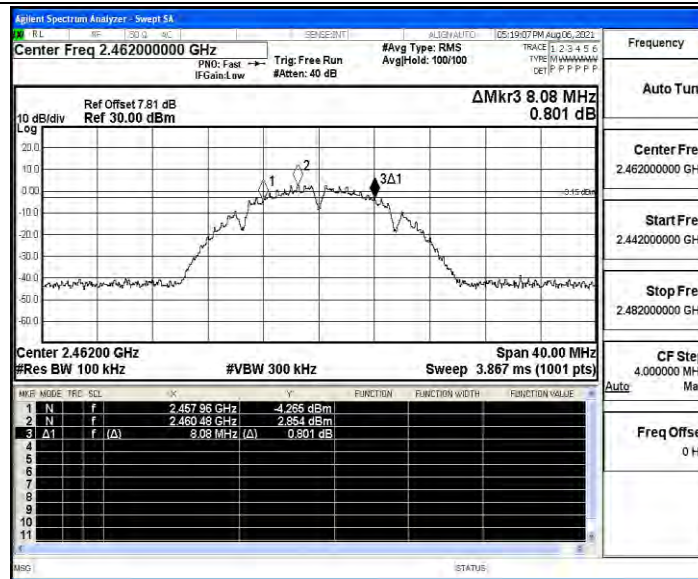
A.4 6dB Bandwidth

Test Result

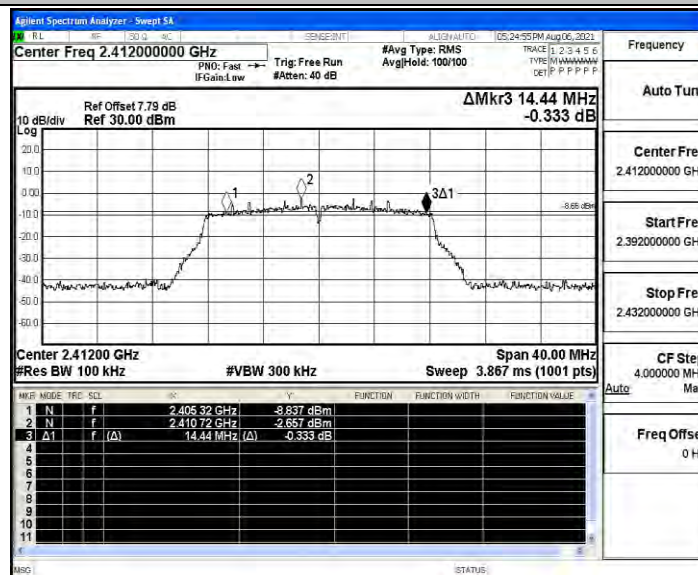
ANT1

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT1	2412	7.680	2407.920	2415.600	0.5	PASS
		2437	7.600	2433.440	2441.040	0.5	PASS
		2462	8.080	2457.960	2466.040	0.5	PASS
11G	ANT1	2412	14.440	2405.320	2419.760	0.5	PASS
		2437	13.880	2429.680	2443.560	0.5	PASS
		2462	13.960	2454.400	2468.360	0.5	PASS
11N20SISO	ANT1	2412	15.160	2404.440	2419.600	0.5	PASS
		2437	15.120	2429.440	2444.560	0.5	PASS
		2462	16.120	2453.440	2469.560	0.5	PASS
11N40SISO	ANT1	2422	35.920	2404.320	2440.240	0.5	PASS
		2437	35.440	2419.560	2455.000	0.5	PASS
		2452	35.520	2434.080	2469.600	0.5	PASS

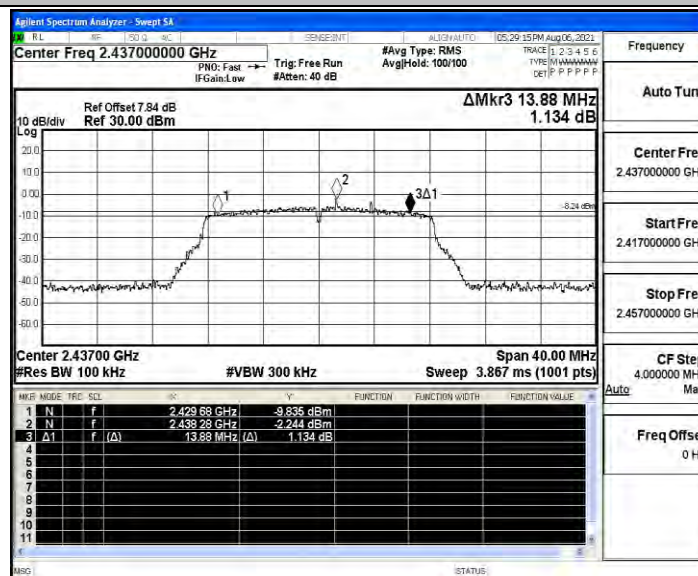




11G_ANT1_2412

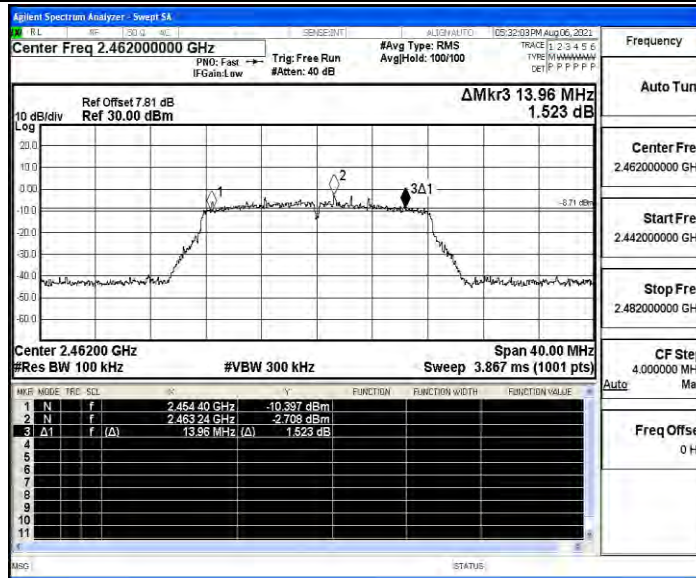


11G_ANT1_2437

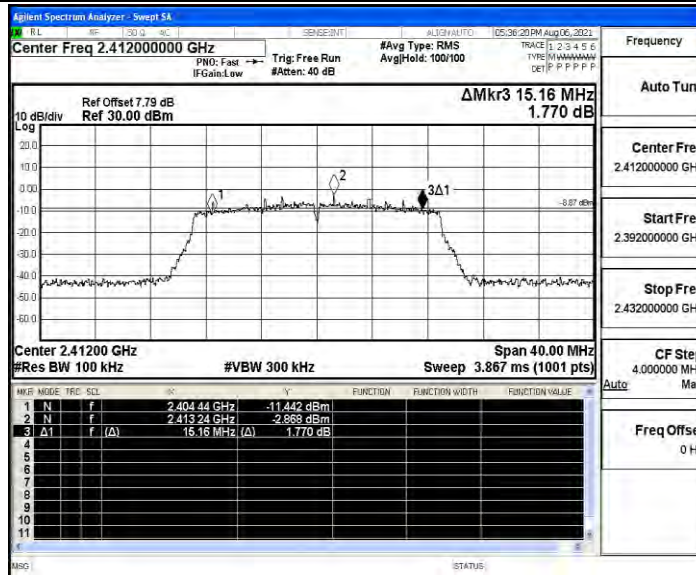




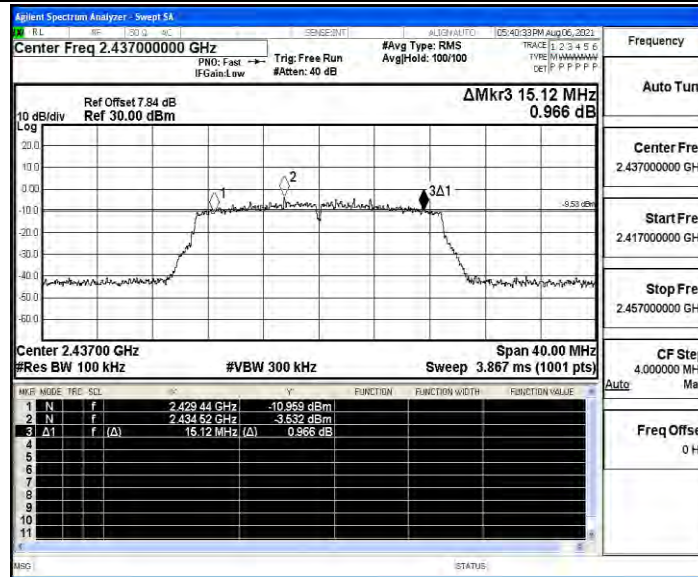
11G_ANT1_2462



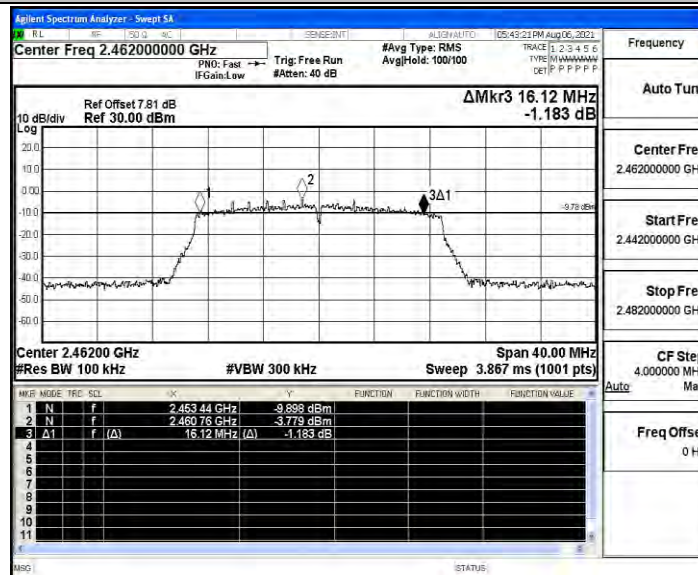
11N20SISO_ANT1_2412



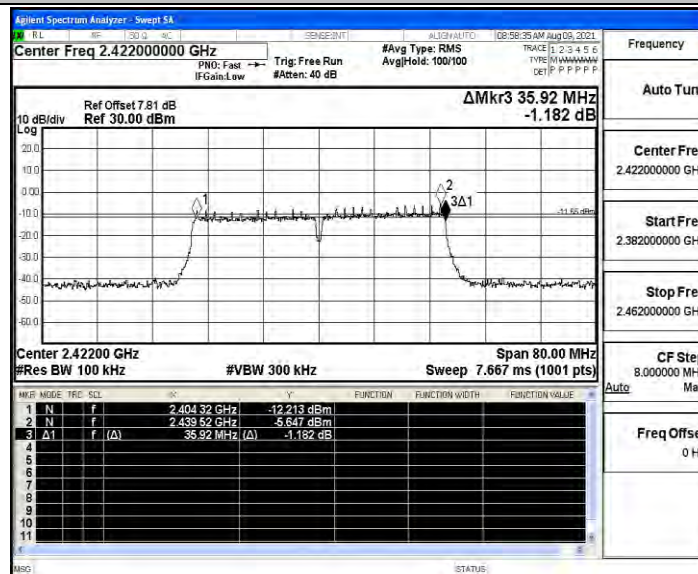
11N20SISO_ANT1_2437



11N20SISO_ANT1_2462

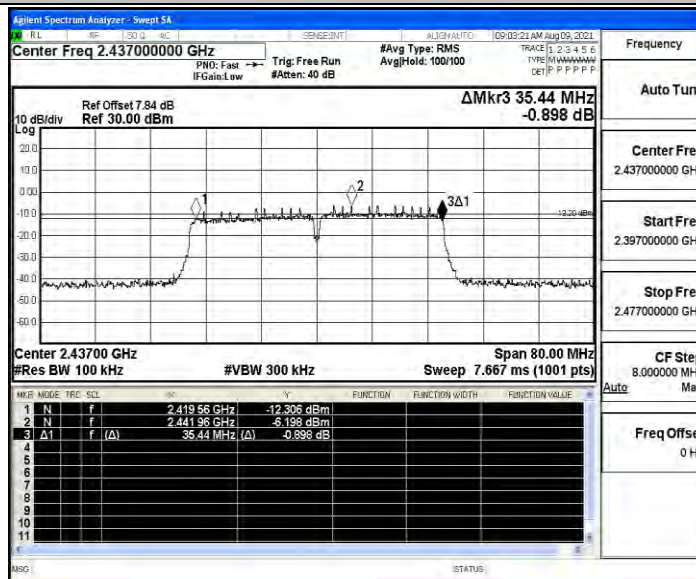


11N40SISO_ANT1_2422

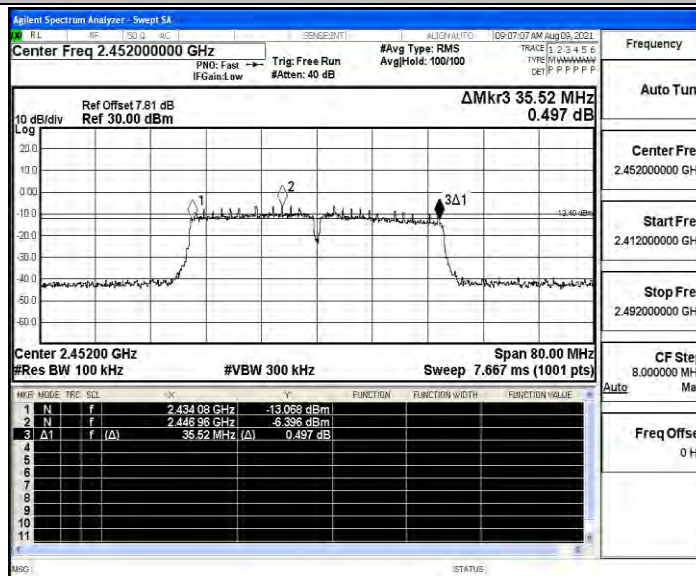




11N40SISO_ANT1_2437



11N40SISO_ANT1_2452





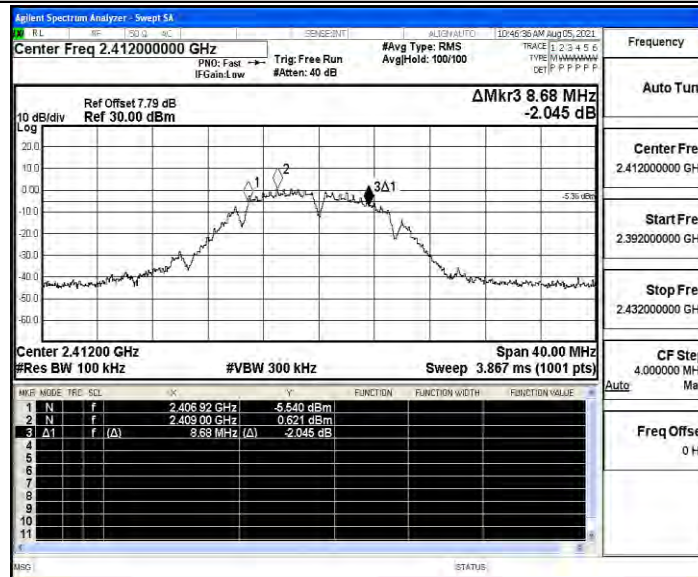
ANT2

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT2	2412	8.680	2406.920	2415.600	0.5	PASS
		2437	9.160	2432.440	2441.600	0.5	PASS
		2462	8.200	2456.920	2465.120	0.5	PASS
11G	ANT2	2412	12.960	2404.080	2417.040	0.5	PASS
		2437	16.440	2428.800	2445.240	0.5	PASS
		2462	15.400	2454.200	2469.600	0.5	PASS
11N20SISO	ANT2	2412	12.360	2403.440	2415.800	0.5	PASS
		2437	17.680	2428.200	2445.880	0.5	PASS
		2462	16.040	2453.480	2469.520	0.5	PASS
11N40SISO	ANT2	2422	15.280	2404.320	2419.600	0.5	PASS
		2437	35.840	2419.400	2455.240	0.5	PASS
		2452	18.880	2449.440	2468.320	0.5	PASS

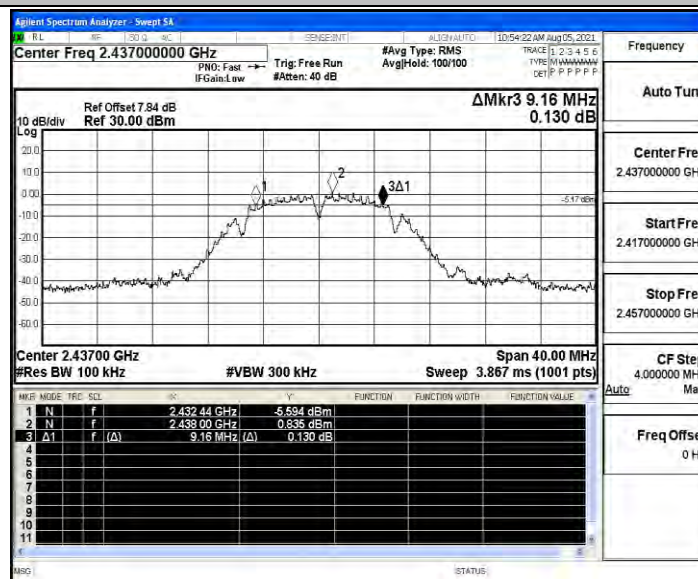


Test Graphs

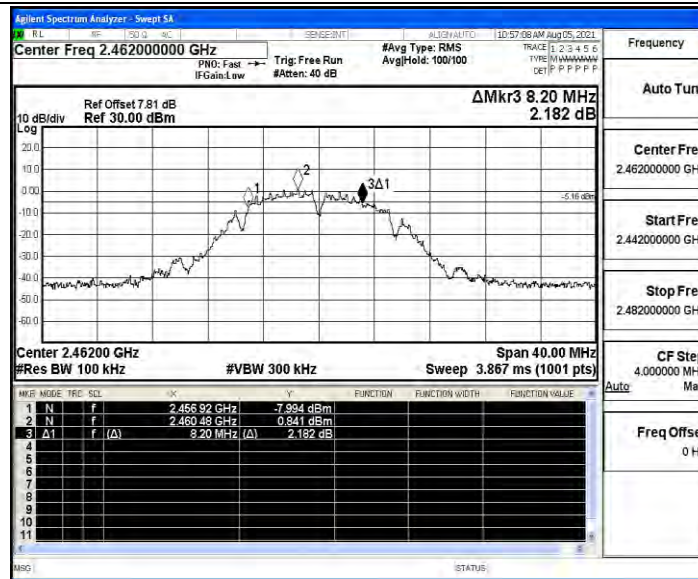
11B_ANT2_2412



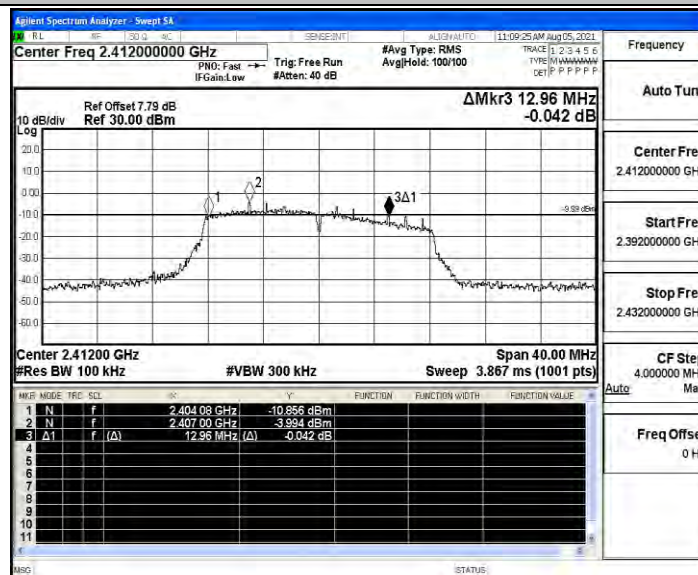
11B_ANT2_2437



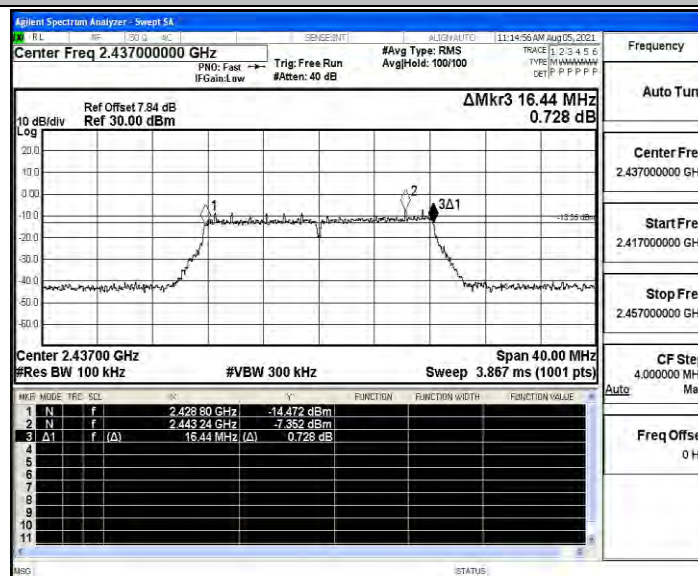
11B_ANT2_2462



11G_ANT2_2412

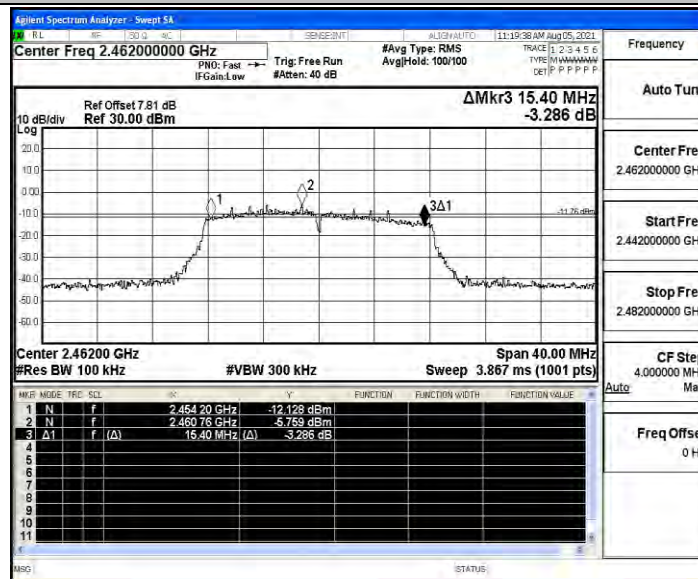


11G_ANT2_2437

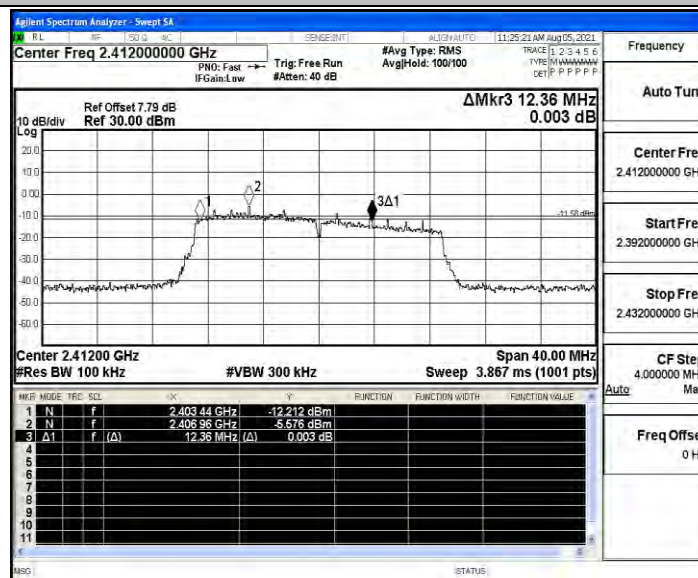




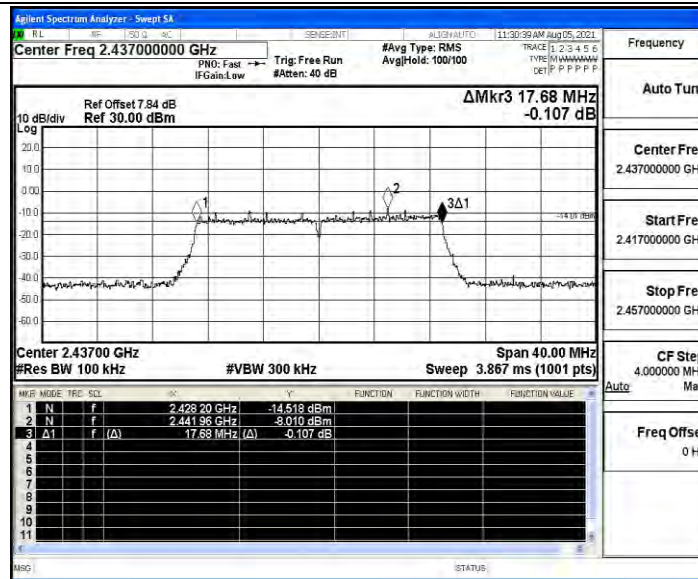
11G_ANT2_2462



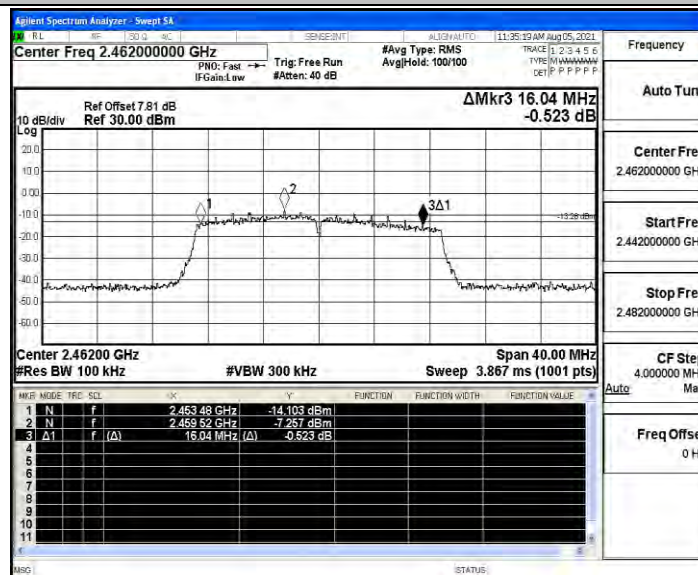
11N20SISO_ANT2_2412



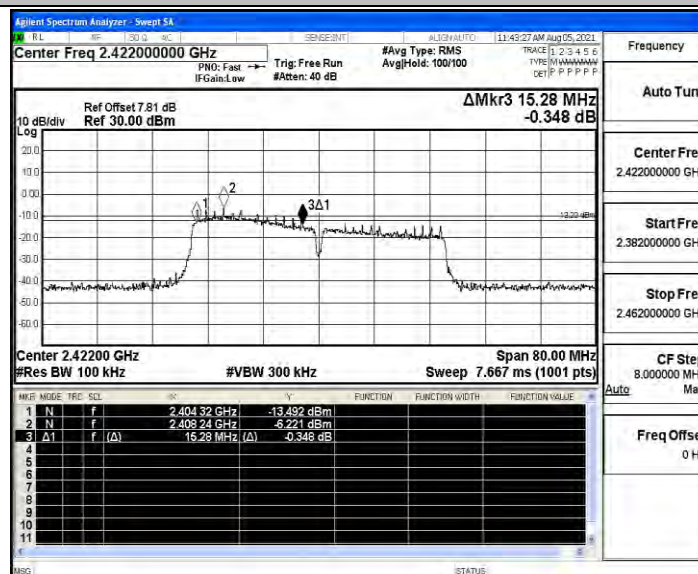
11N20SISO_ANT2_2437



11N20SISO_ANT2_2462

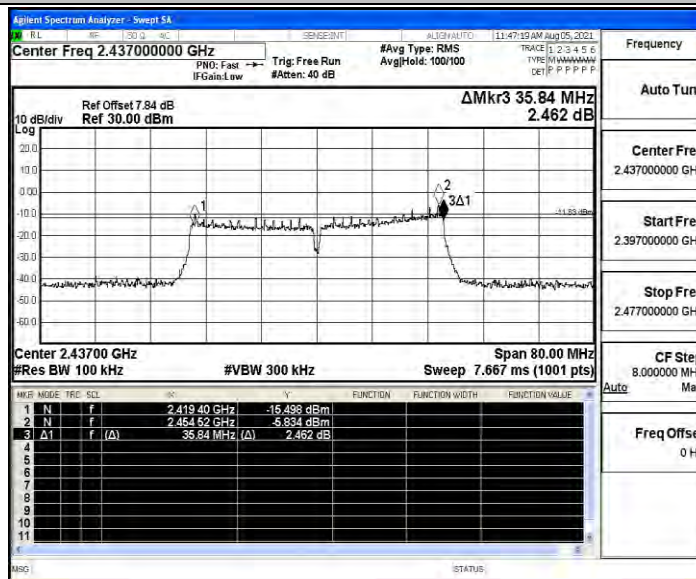


11N40SISO_ANT2_2422

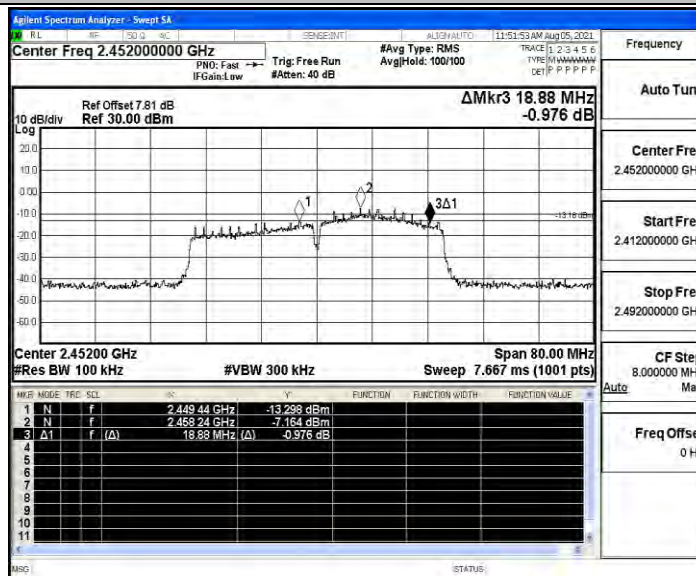




11N40SISO_ANT2_2437



11N40SISO_ANT2_2452





A.5 Occupied Channel Bandwidth

Test Result

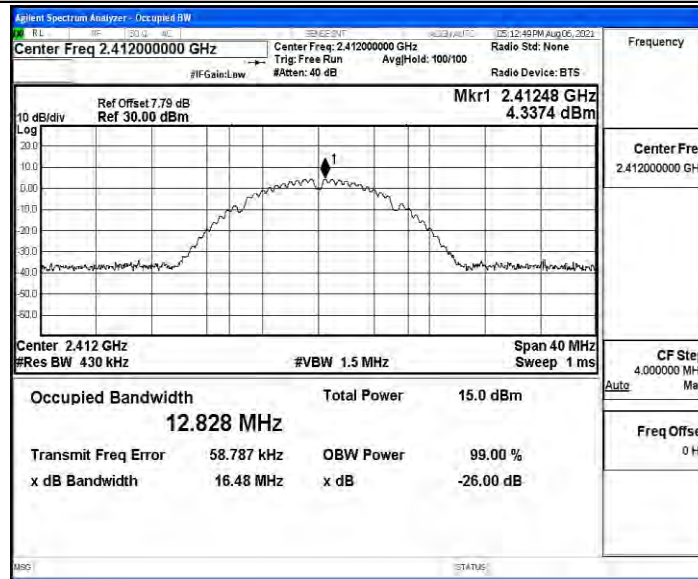
ANT1

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT1	2412	12.828	2405.645	2418.473	---	PASS
		2437	12.847	2430.578	2443.425	---	PASS
		2462	12.845	2455.527	2468.372	---	PASS
11G	ANT1	2412	16.753	2403.657	2420.410	---	PASS
		2437	16.746	2428.620	2445.366	---	PASS
		2462	16.798	2453.565	2470.363	---	PASS
11N20SISO	ANT1	2412	17.795	2403.158	2420.953	---	PASS
		2437	17.843	2428.062	2445.905	---	PASS
		2462	17.814	2453.071	2470.885	---	PASS
11N40SISO	ANT1	2422	36.476	2403.888	2440.364	---	PASS
		2437	36.287	2418.984	2455.271	---	PASS
		2452	36.146	2433.845	2469.991	---	PASS

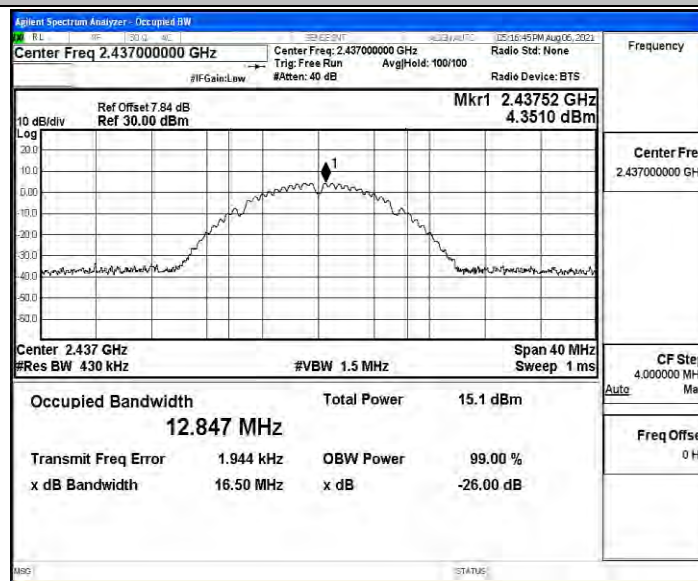


Test Graphs

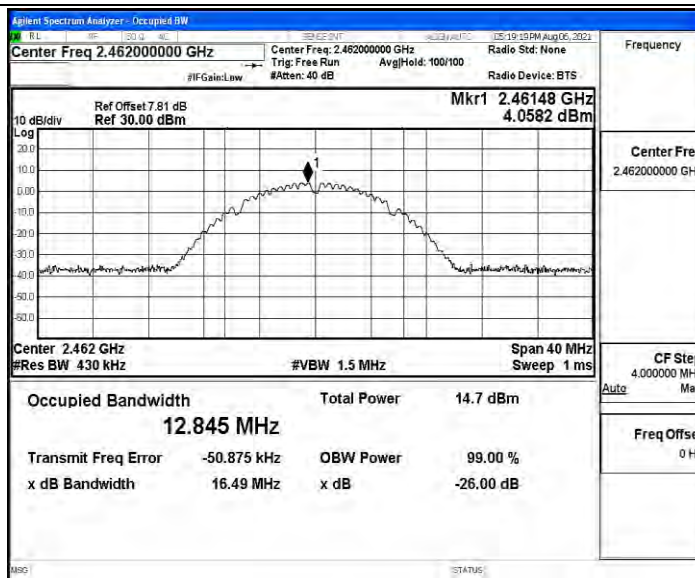
11B_ANT1_2412



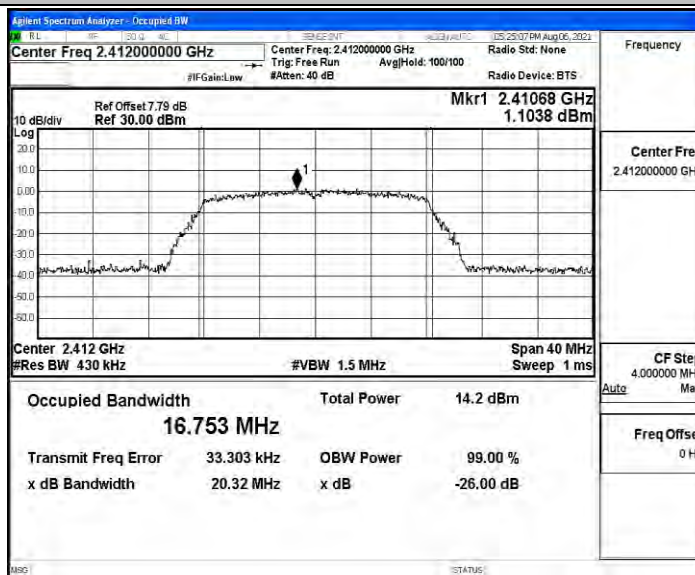
11B_ANT1_2437



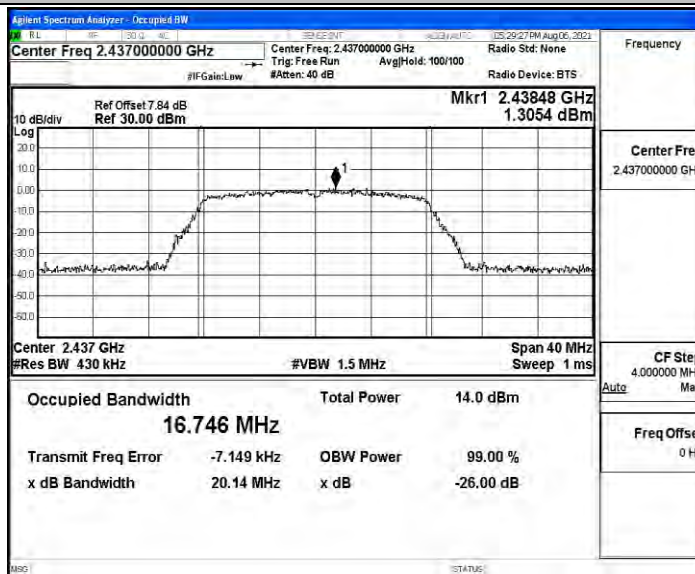
11B_ANT1_2462



11G_ANT1_2412

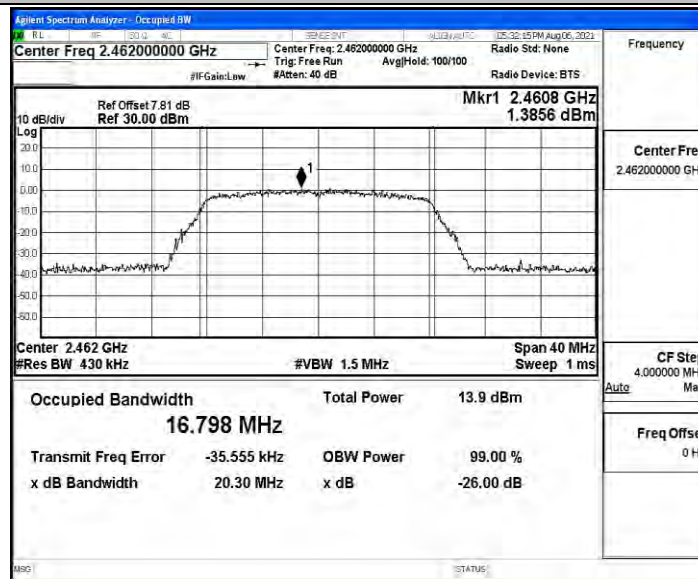


11G_ANT1_2437

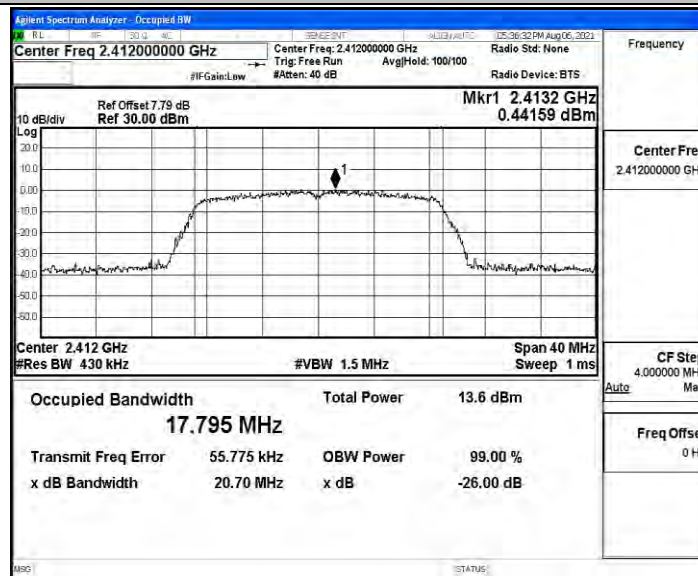




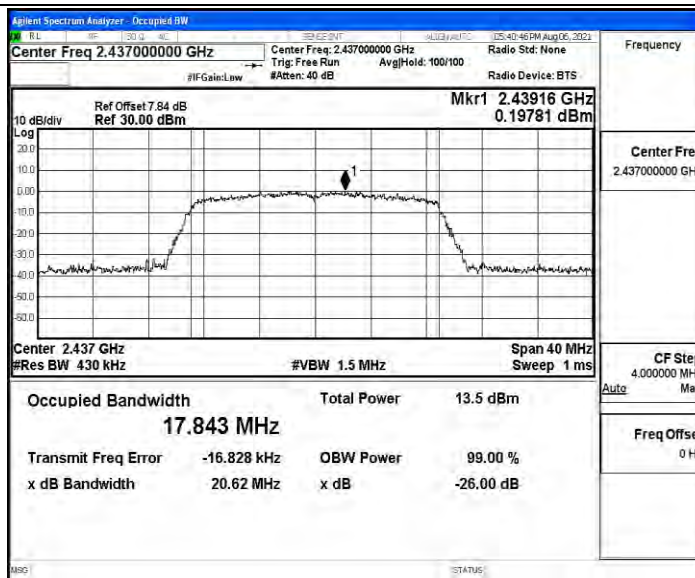
11G_ANT1_2462



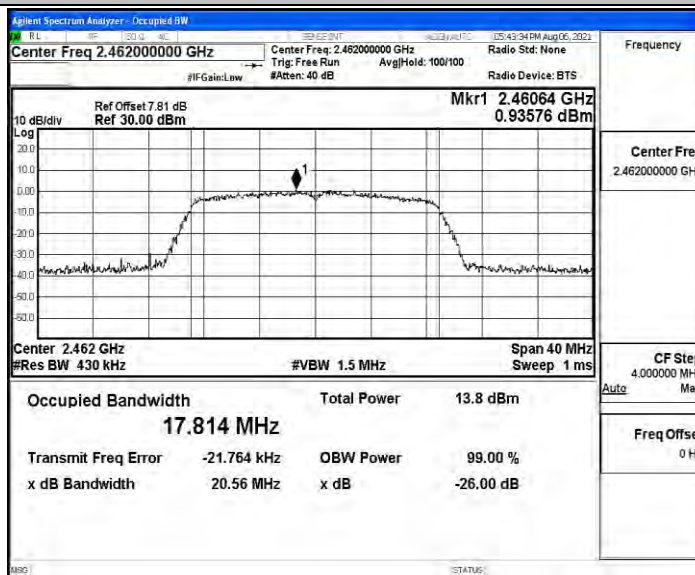
11N20SISO_ANT1_2412



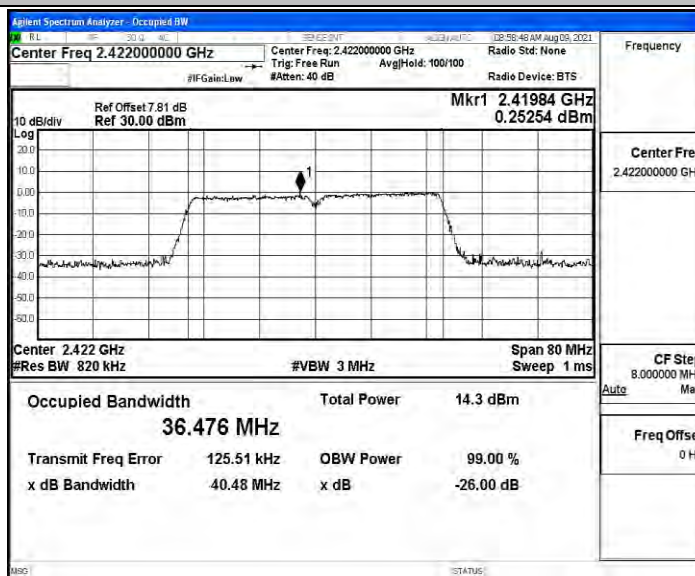
11N20SISO_ANT1_2437



11N20SISO_ANT1_2462

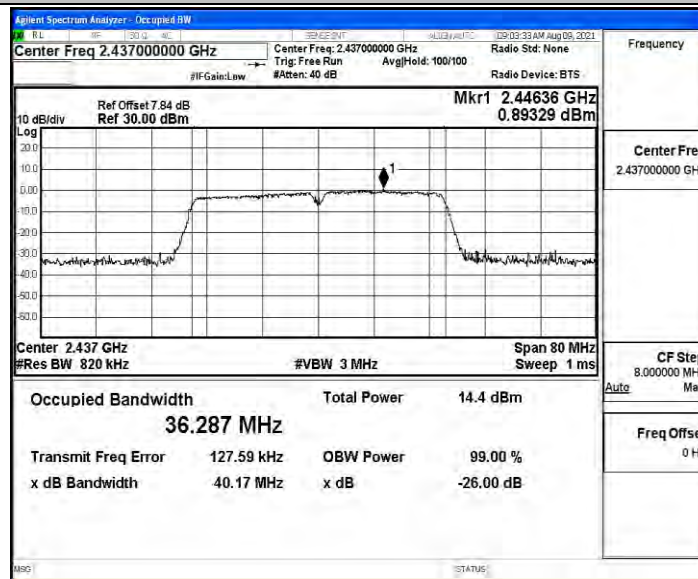


11N40SISO_ANT1_2422

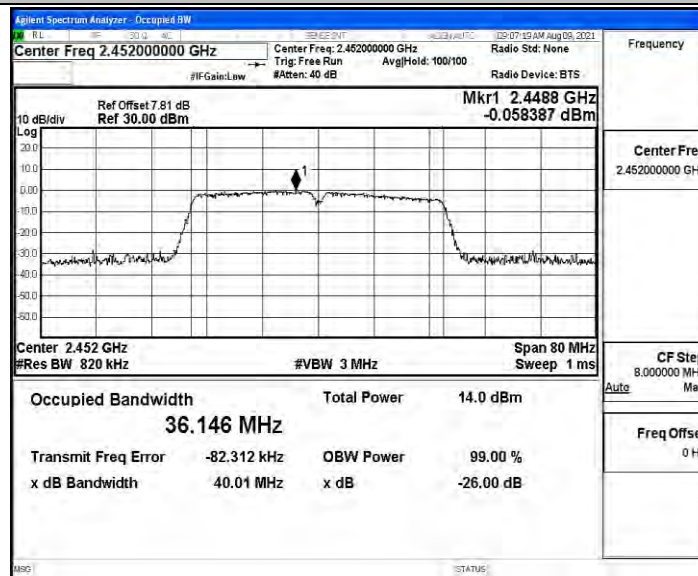




11N40SISO_ANT1_2437



11N40SISO_ANT1_2452





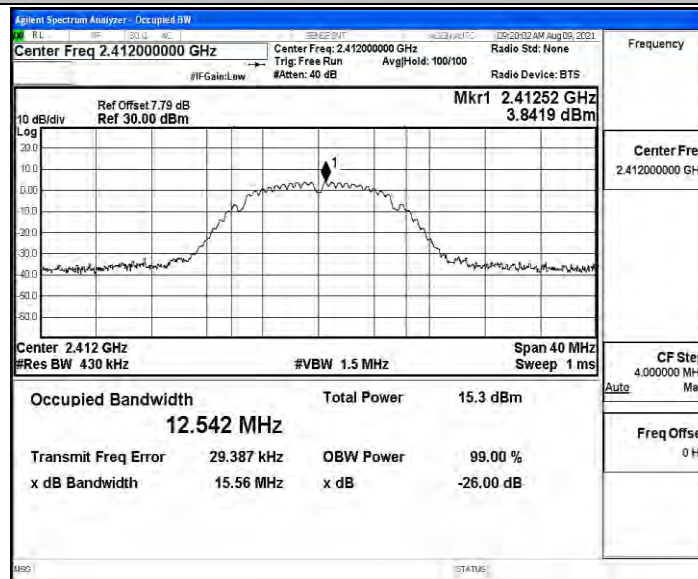
ANT2

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT2	2412	12.542	2405.758	2418.300	---	PASS
		2437	12.462	2430.903	2443.365	---	PASS
		2462	12.654	2455.501	2468.155	---	PASS
11G	ANT2	2412	17.160	2403.459	2420.619	---	PASS
		2437	17.108	2428.540	2445.648	---	PASS
		2462	17.125	2453.299	2470.424	---	PASS
11N20SISO	ANT2	2412	18.042	2402.997	2421.039	---	PASS
		2437	17.985	2428.069	2446.054	---	PASS
		2462	17.984	2452.898	2470.882	---	PASS
11N40SISO	ANT2	2422	36.511	2403.926	2440.437	---	PASS
		2437	36.331	2418.938	2455.269	---	PASS
		2452	36.112	2433.846	2469.958	---	PASS

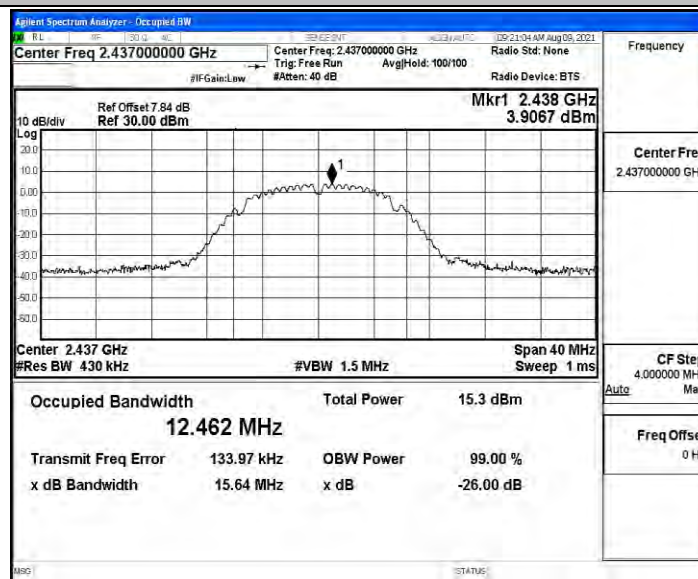


Test Graphs

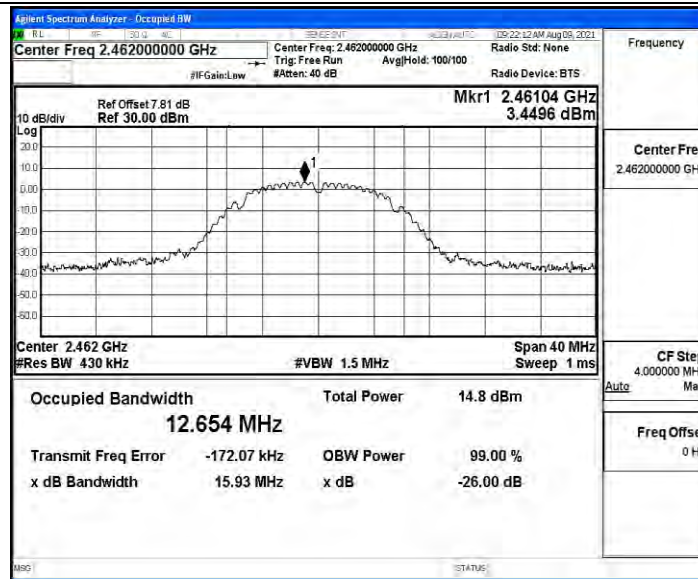
11B_ANT2_2412



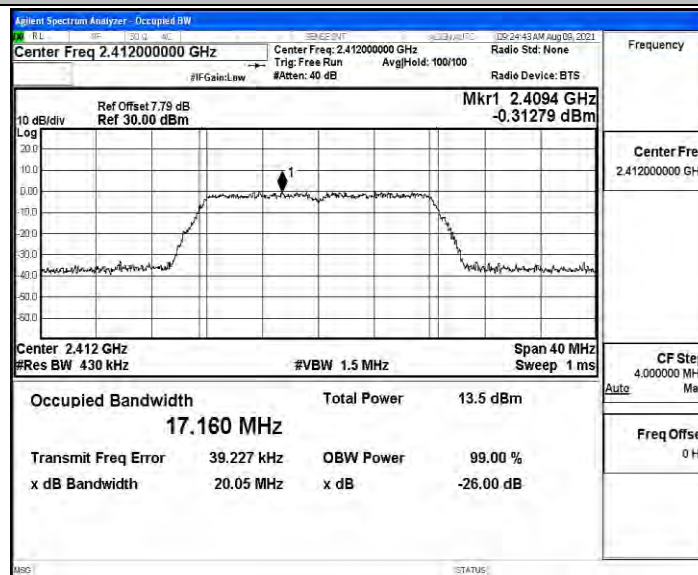
11B_ANT2_2437



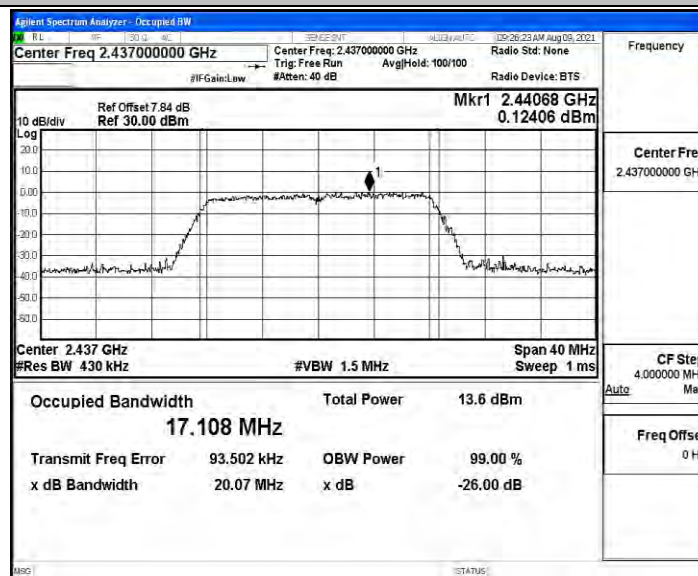
11B_ANT2_2462



11G_ANT2_2412

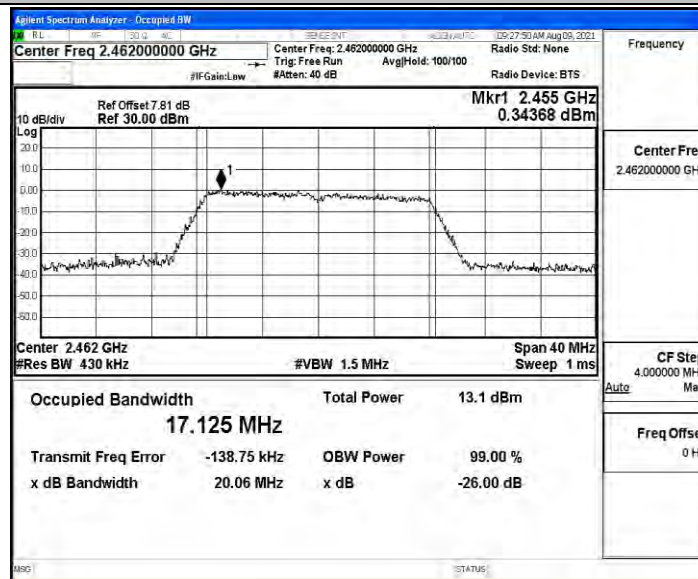


11G_ANT2_2437

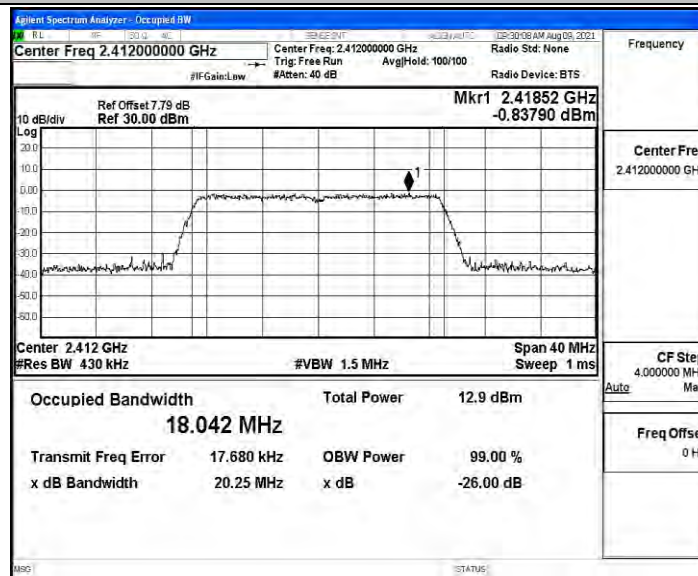




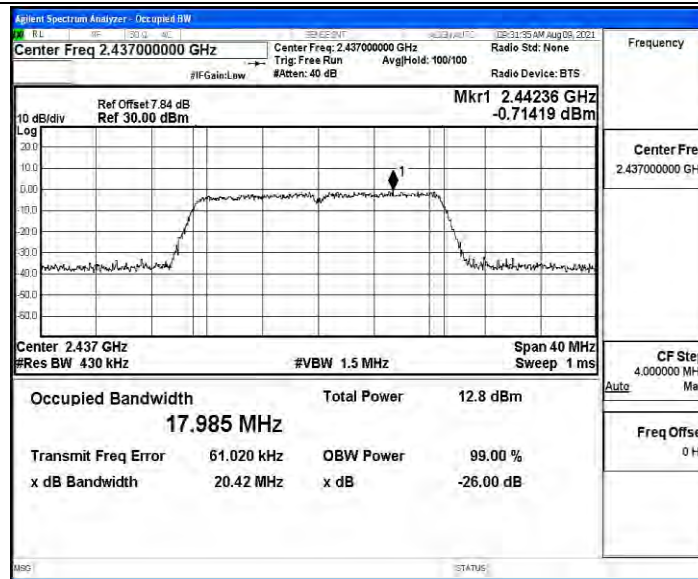
11G_ANT2_2462



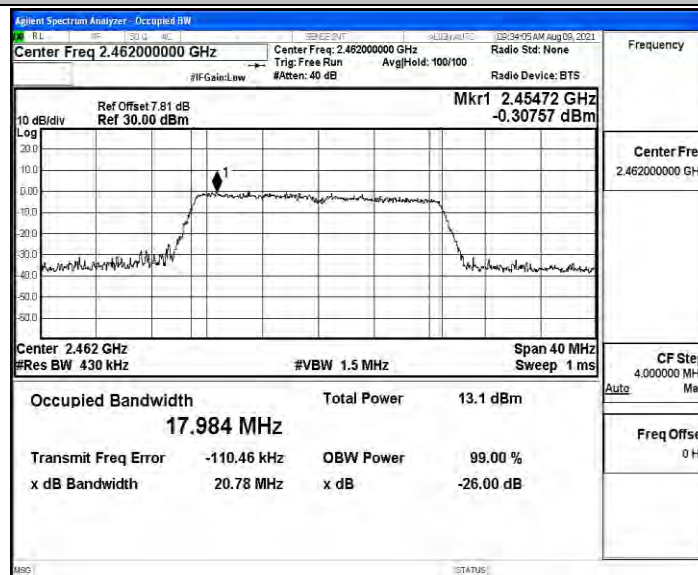
11N20SISO_ANT2_2412



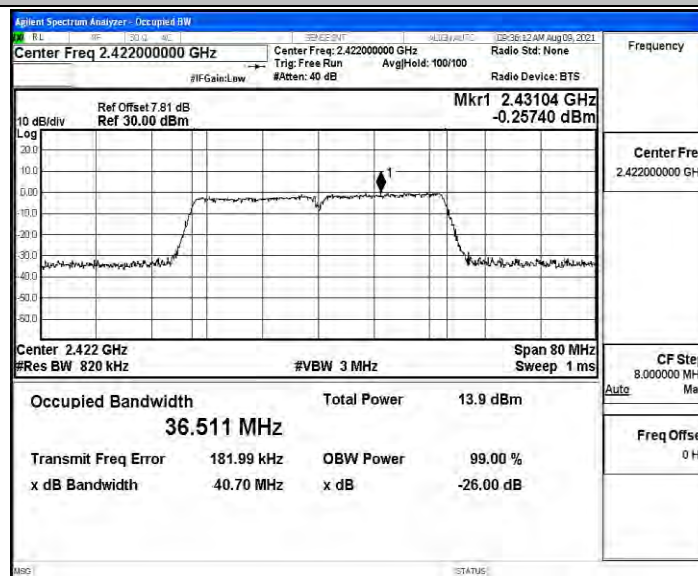
11N20SISO_ANT2_2437



11N20SISO_ANT2_2462

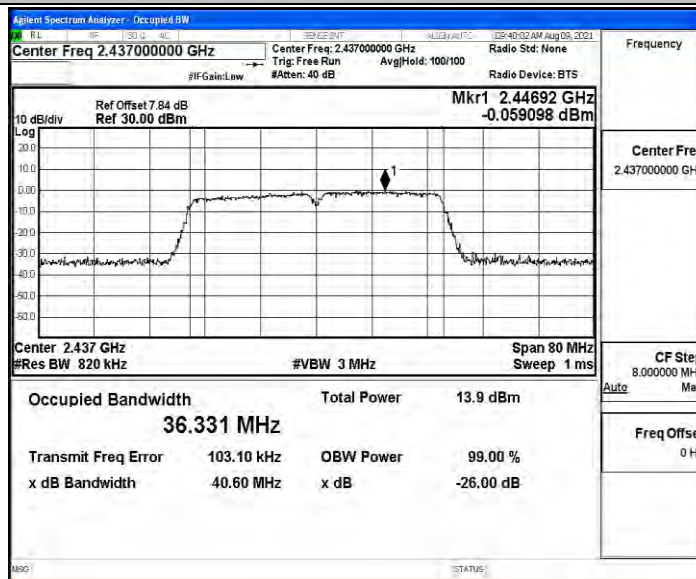


11N40SISO_ANT2_2422

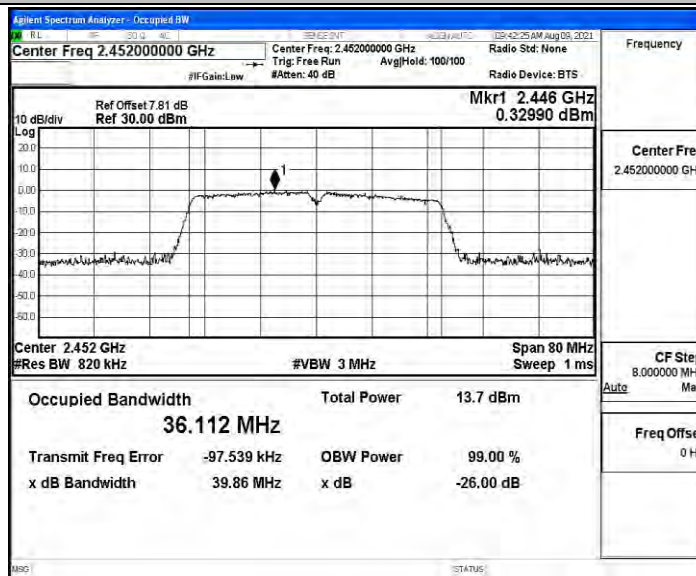




11N40SISO_ANT2_2437



11N40SISO_ANT2_2452





A.6 Conducted Spurious Emission

Test Result

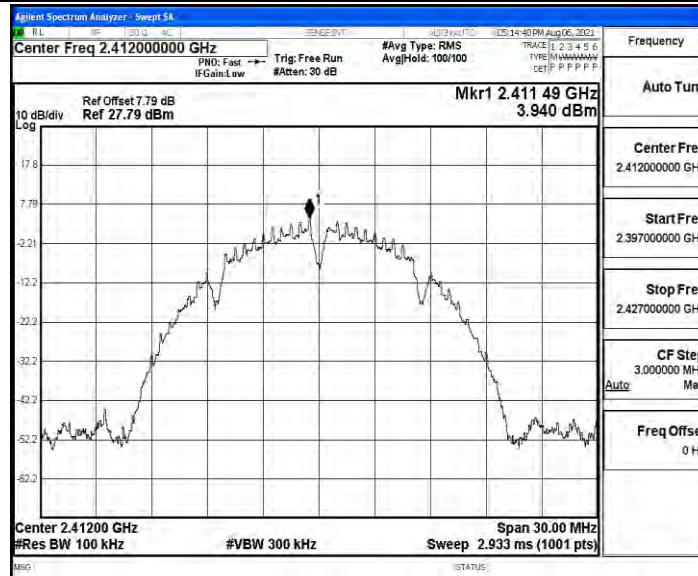
ANT1

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT1	2412	Reference	3.94	3.94	---	PASS
			30~1000	3.94	-61.05	≤ -16.06	PASS
			1000~26500	3.94	-45.5	≤ -16.06	PASS
		2437	Reference	3.35	3.35	---	PASS
			30~1000	3.35	-61.12	≤ -16.65	PASS
			1000~26500	3.35	-47.08	≤ -16.65	PASS
		2462	Reference	3.67	3.67	---	PASS
			30~1000	3.67	-61.28	≤ -16.33	PASS
			1000~26500	3.67	-47.54	≤ -16.33	PASS
11G	ANT1	2412	Reference	-3.31	-3.31	---	PASS
			30~1000	-3.31	-61.06	≤ -23.31	PASS
			1000~26500	-3.31	-43.59	≤ -23.31	PASS
		2437	Reference	-2.45	-2.45	---	PASS
			30~1000	-2.45	-59.84	≤ -22.45	PASS
			1000~26500	-2.45	-47.9	≤ -22.45	PASS
		2462	Reference	-2.96	-2.96	---	PASS
			30~1000	-2.96	-60.69	≤ -22.96	PASS
			1000~26500	-2.96	-47.7	≤ -22.96	PASS
11N20SISO	ANT1	2412	Reference	-3.04	-3.04	---	PASS
			30~1000	-3.04	-60.85	≤ -23.04	PASS
			1000~26500	-3.04	-47.09	≤ -23.04	PASS
		2437	Reference	-3.80	-3.80	---	PASS
			30~1000	-3.80	-60.67	≤ -23.8	PASS
			1000~26500	-3.80	-46.6	≤ -23.8	PASS
		2462	Reference	-3.31	-3.31	---	PASS
			30~1000	-3.31	-60.06	≤ -23.31	PASS
			1000~26500	-3.31	-46.98	≤ -23.31	PASS
11N40SISO	ANT1	2422	Reference	-6.07	-6.07	---	PASS
			30~1000	-6.07	-61.8	≤ -26.07	PASS
			1000~26500	-6.07	-47.43	≤ -26.07	PASS
		2437	Reference	-6.37	-6.37	---	PASS
			30~1000	-6.37	-60.99	≤ -26.37	PASS
			1000~26500	-6.37	-46.74	≤ -26.37	PASS
		2452	Reference	-5.84	-5.84	---	PASS
			30~1000	-5.84	-60.91	≤ -25.84	PASS
			1000~26500	-5.84	-46.98	≤ -25.84	PASS

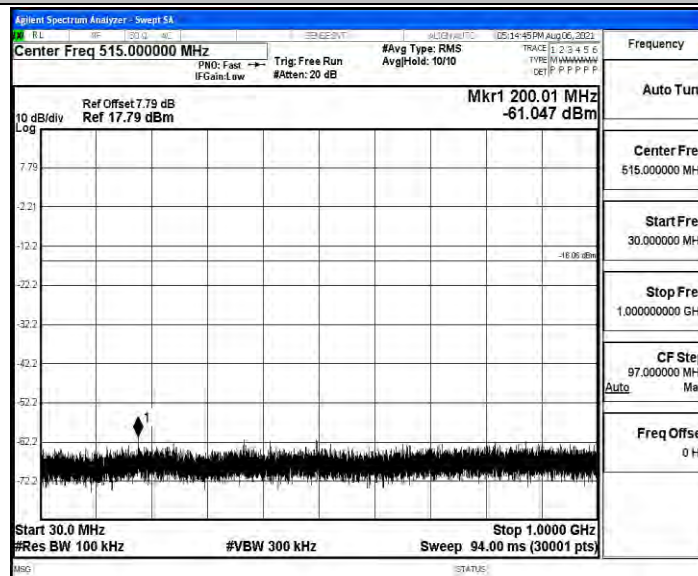


Test Graphs

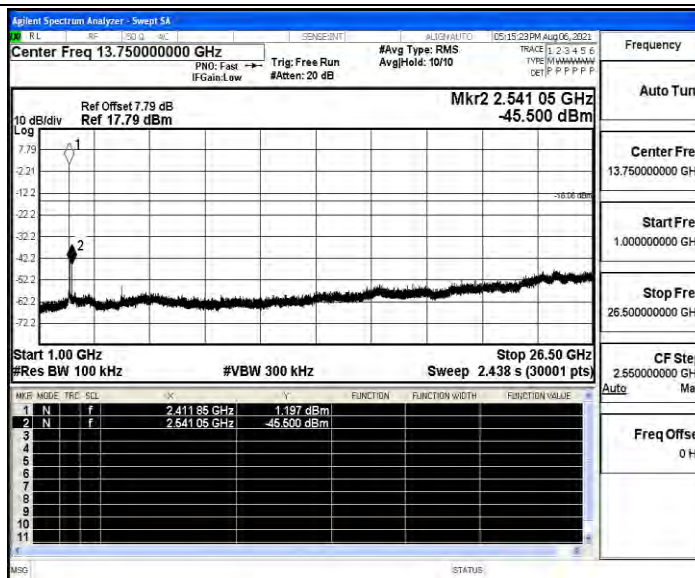
11B_ANT1_2412_0~Reference



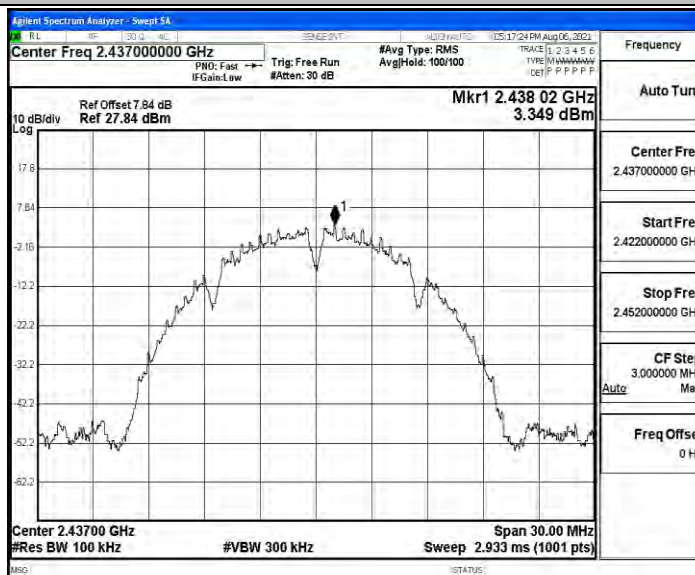
11B_ANT1_2412_30~1000



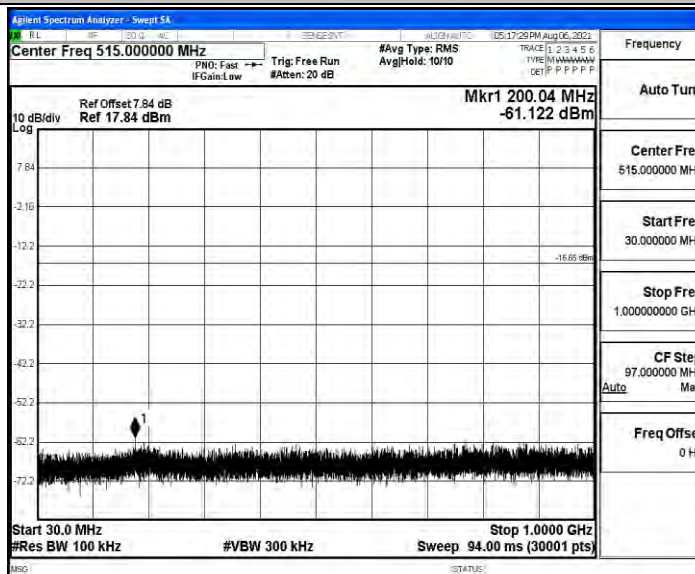
11B_ANT1_2412_1000~26500



11B_ANT1_2437_0~Reference

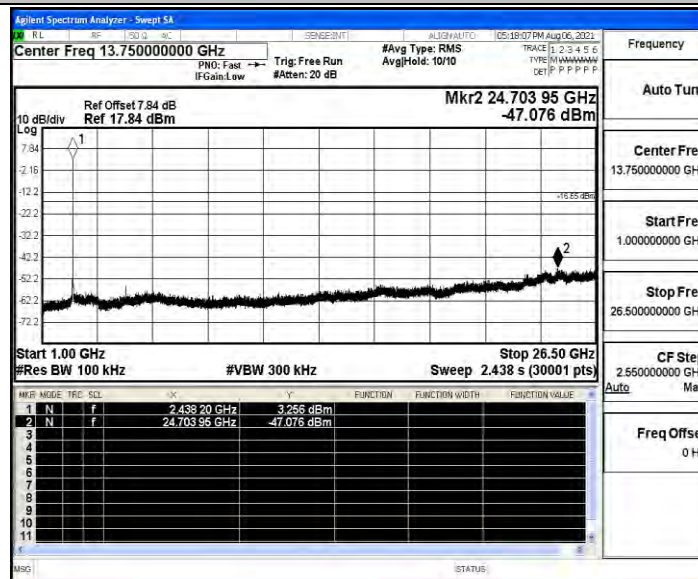


11B_ANT1_2437_30~1000

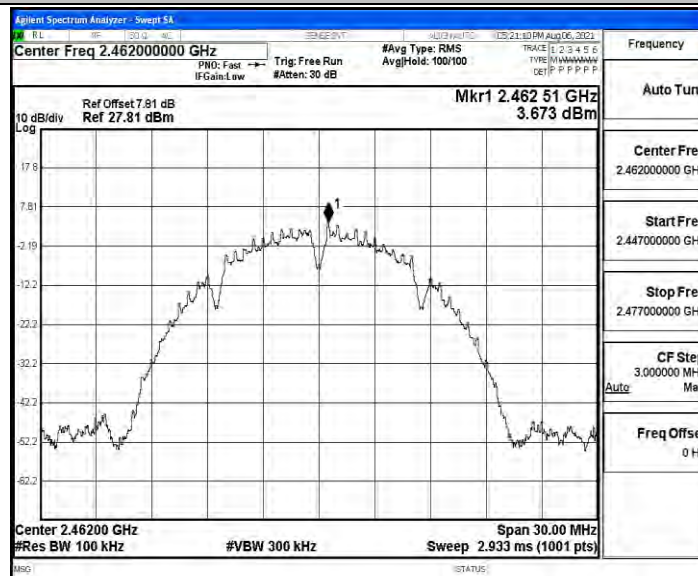




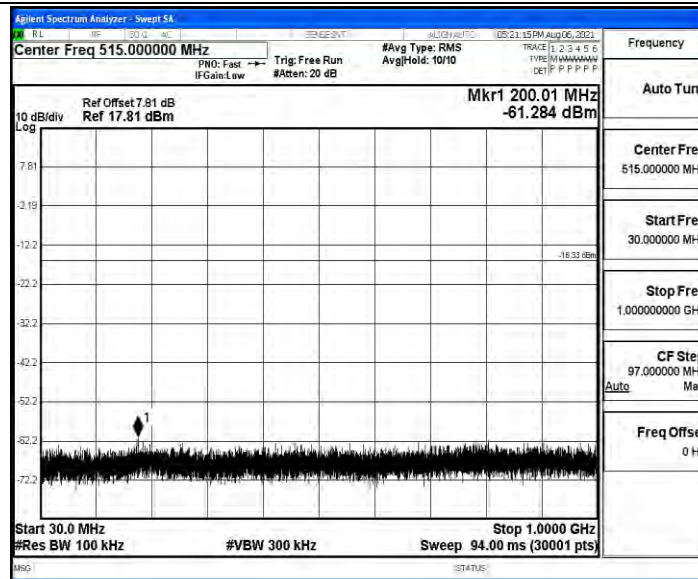
11B_ANT1_2437_1000~26500



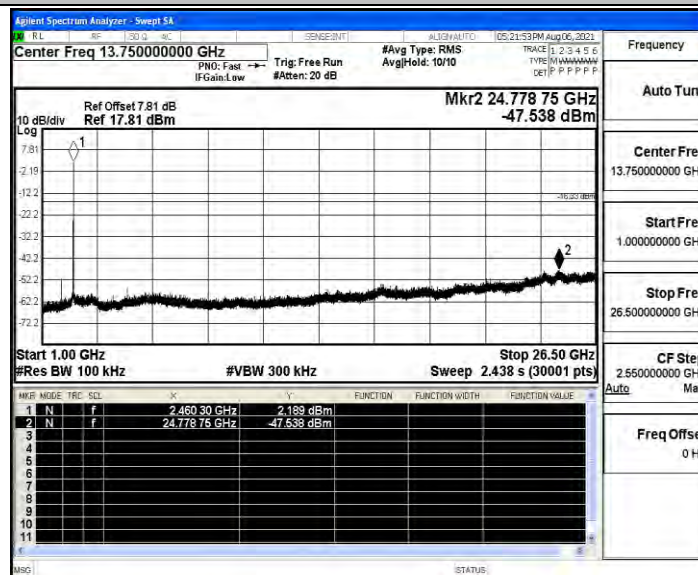
11B_ANT1_2462_0~Reference



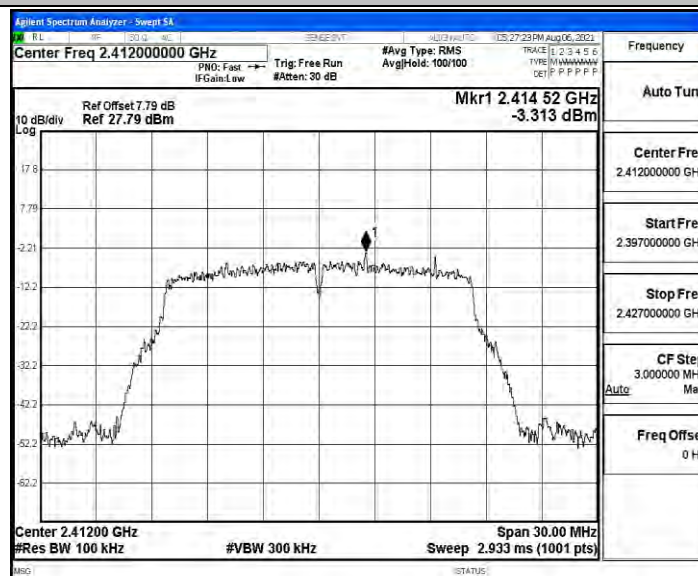
11B_ANT1_2462_30~1000



11B_ANT1_2462_1000~26500

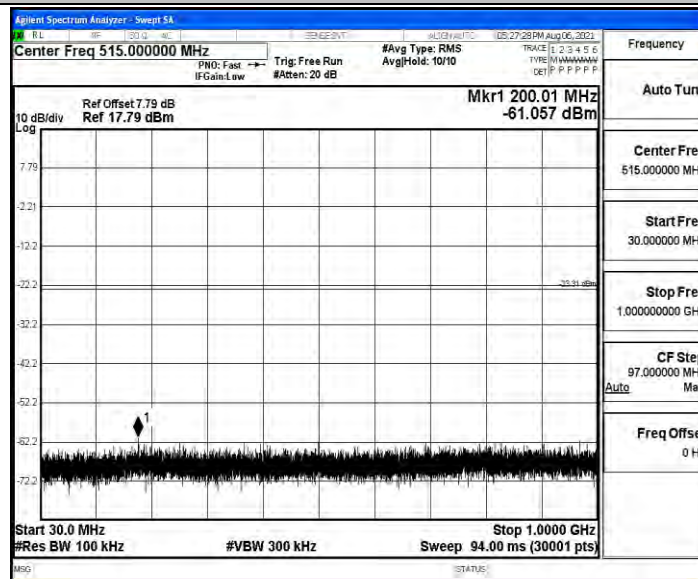


11G_ANT1_2412_0~Reference

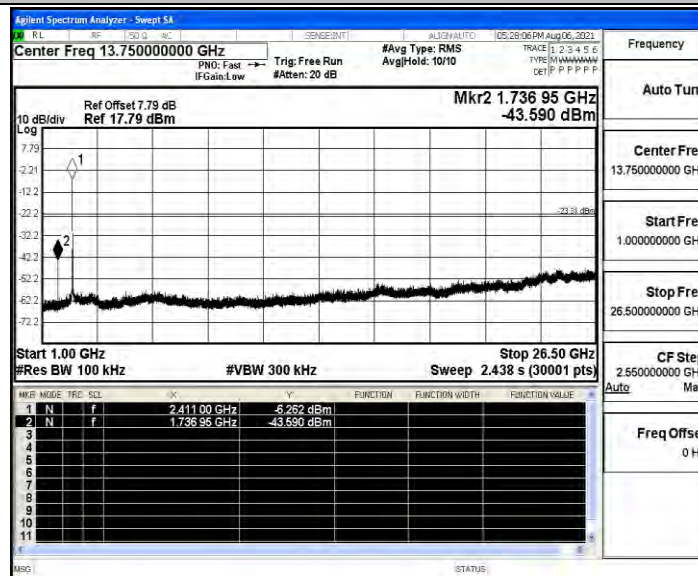




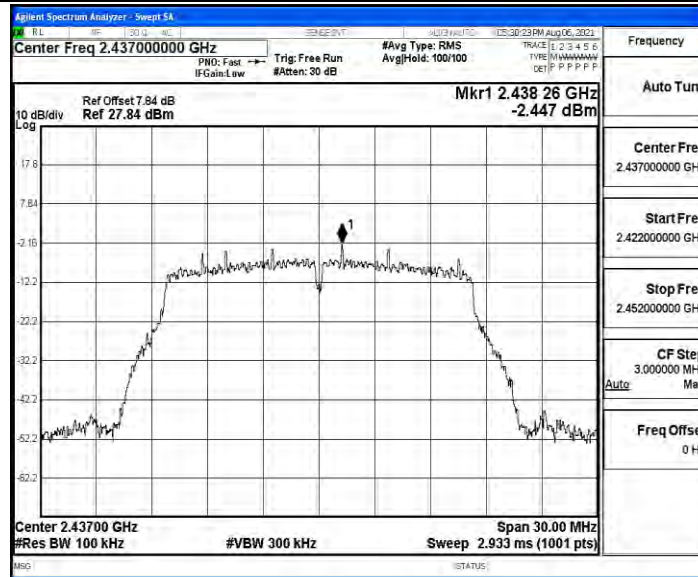
11G_ANT1_2412_30~1000



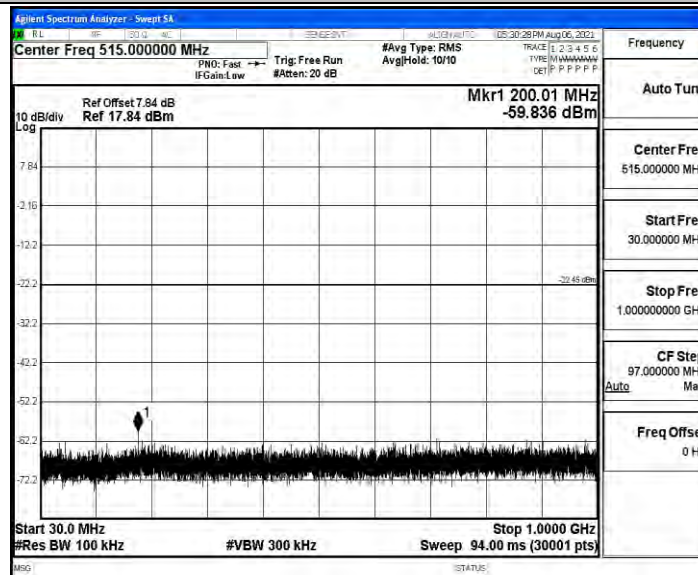
11G_ANT1_2412_1000~26500



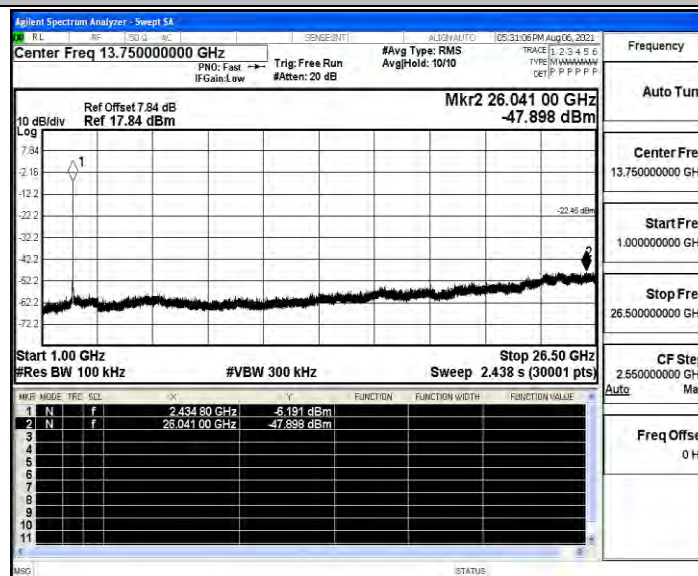
11G_ANT1_2437_0~Reference



11G_ANT1_2437_30~1000

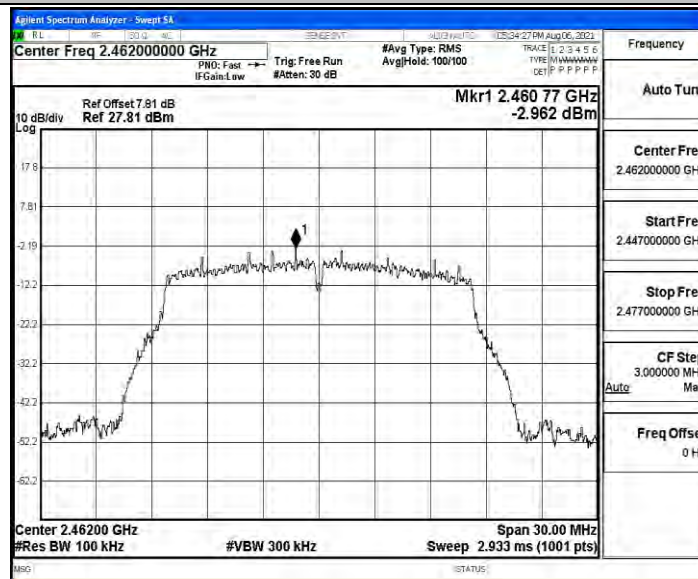


11G_ANT1_2437_1000~26500

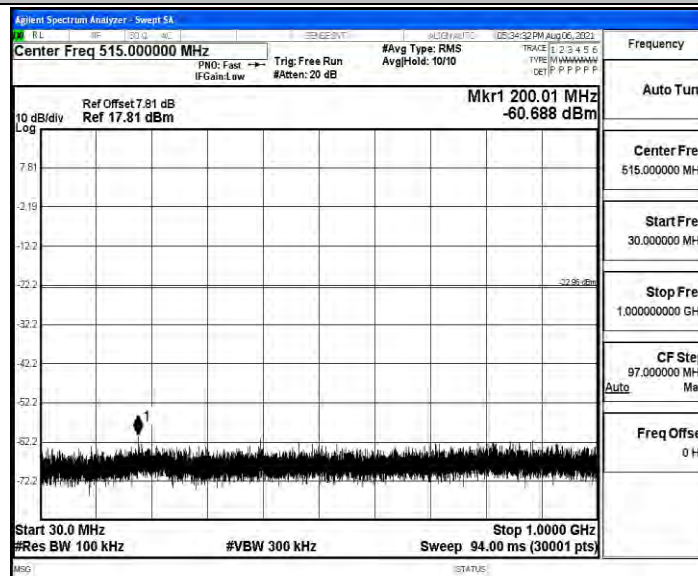




11G_ANT1_2462_0~Reference



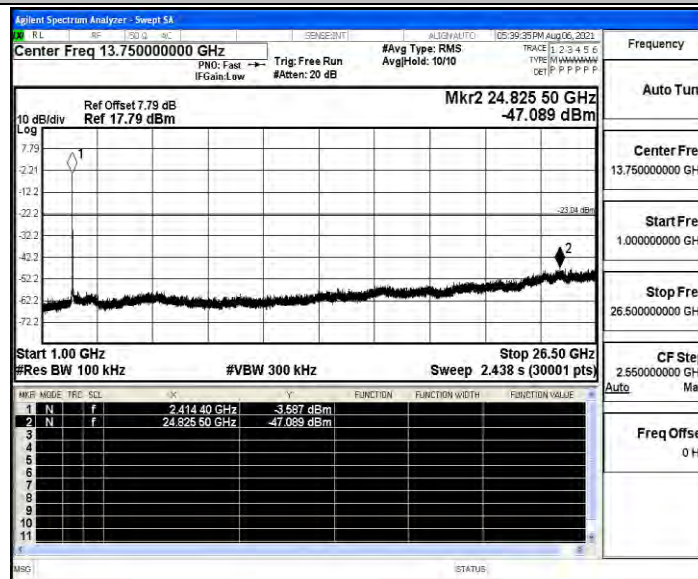
11G_ANT1_2462_30~1000



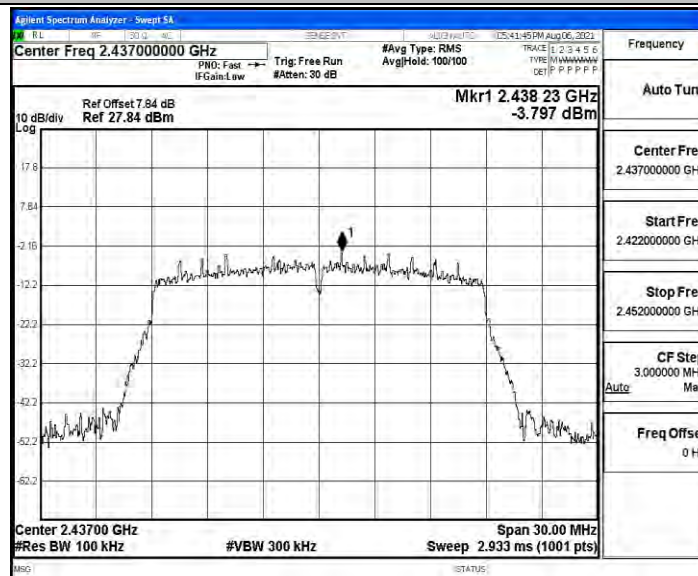
11G_ANT1_2462_1000~26500



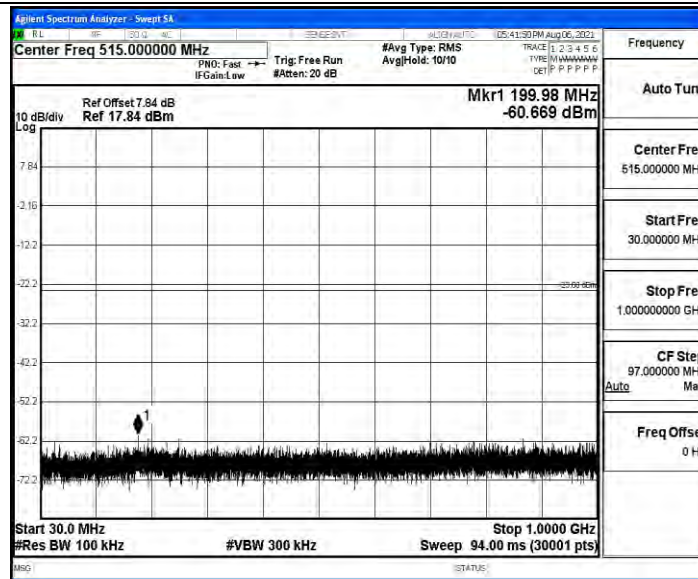
11N20SISO_ANT1_2412_1000~26500



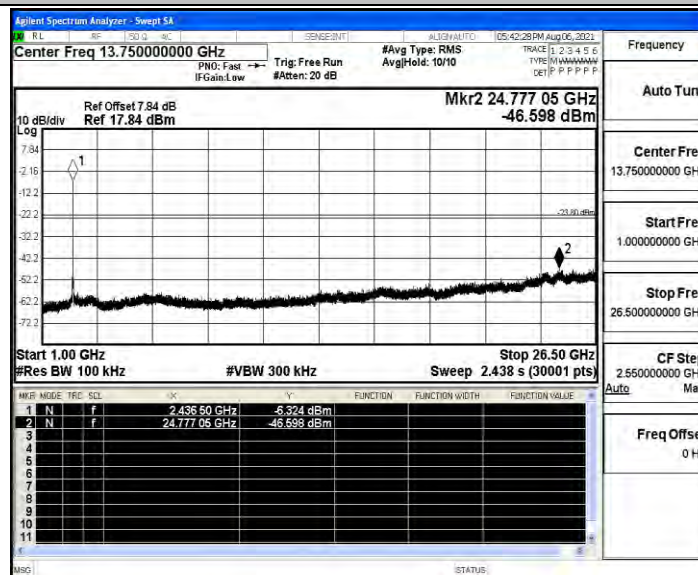
11N20SISO_ANT1_2437_0~Reference



11N20SISO_ANT1_2437_30~1000



11N20SISO_ANT1_2437_1000~26500



11N20SISO_ANT1_2462_0~Reference

