



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Trail camera

Test Model: REVEAL SK

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	51.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan



A.1 Duty Cycle

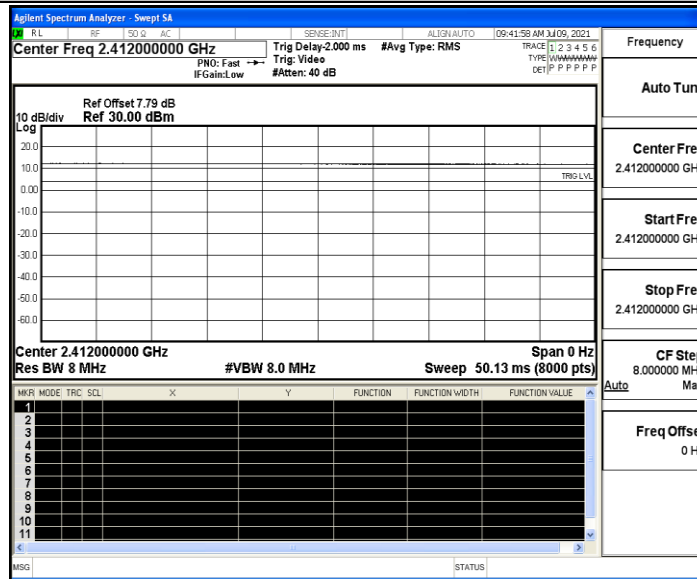
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	50.00	50.00	100.00	---	PASS
		2437	50.00	50.00	100.00	---	PASS
		2462	50.00	50.00	100.00	---	PASS
11G	Ant1	2412	50.00	50.00	100.00	---	PASS
		2437	50.00	50.00	100.00	---	PASS
		2462	50.00	50.00	100.00	---	PASS
11N20SISO	Ant1	2412	50.00	50.00	100.00	---	PASS
		2437	50.00	50.00	100.00	---	PASS
		2462	50.00	50.00	100.00	---	PASS

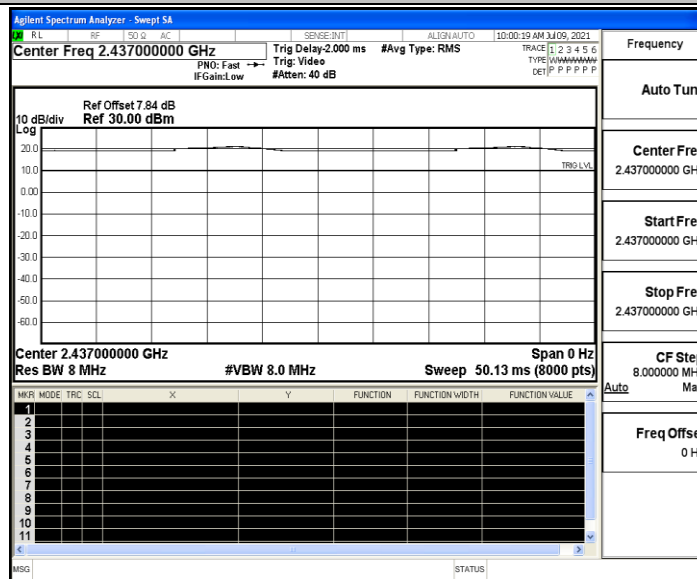


Test Graphs

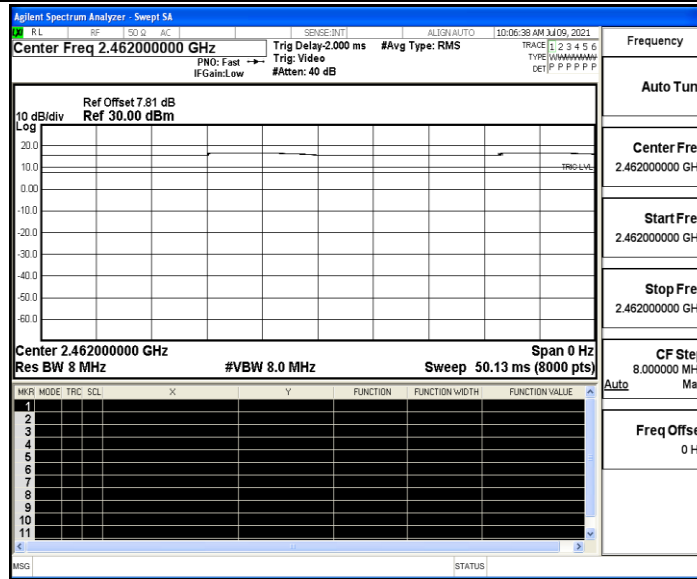
11B_Ant1_2412



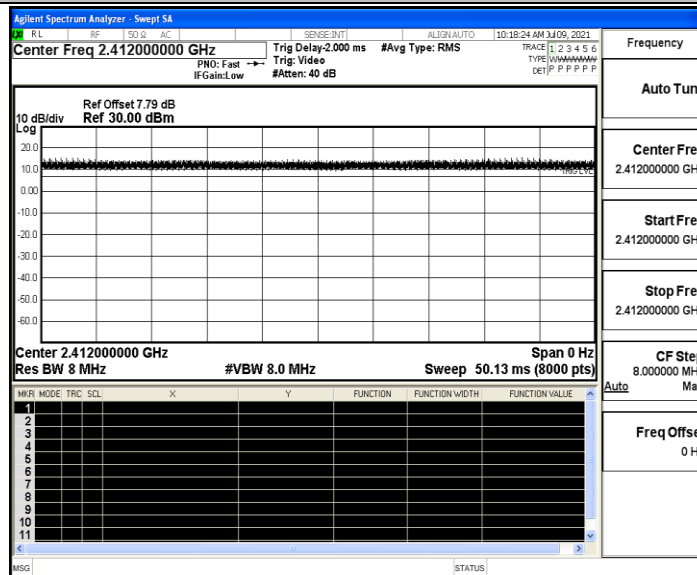
11B_Ant1_2437



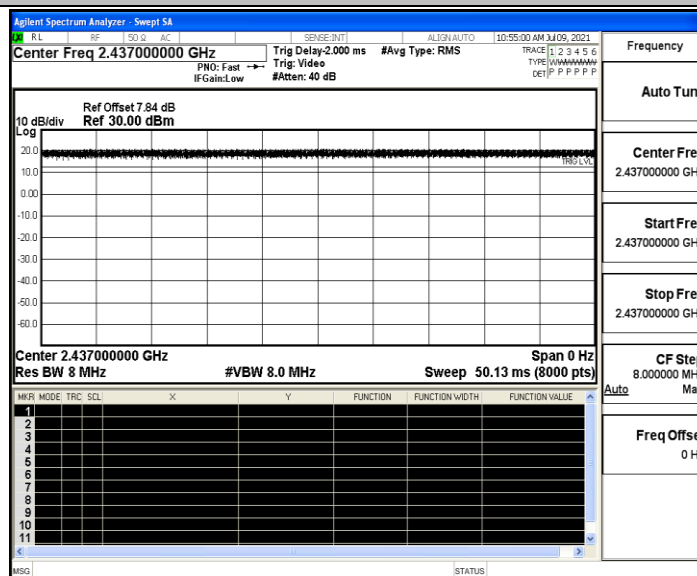
11B_Ant1_2462



11G_Ant1_2412

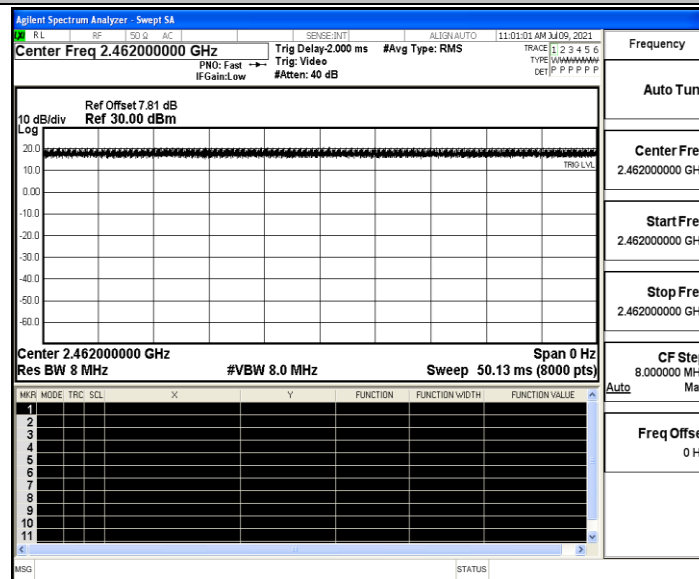


11G_Ant1_2437

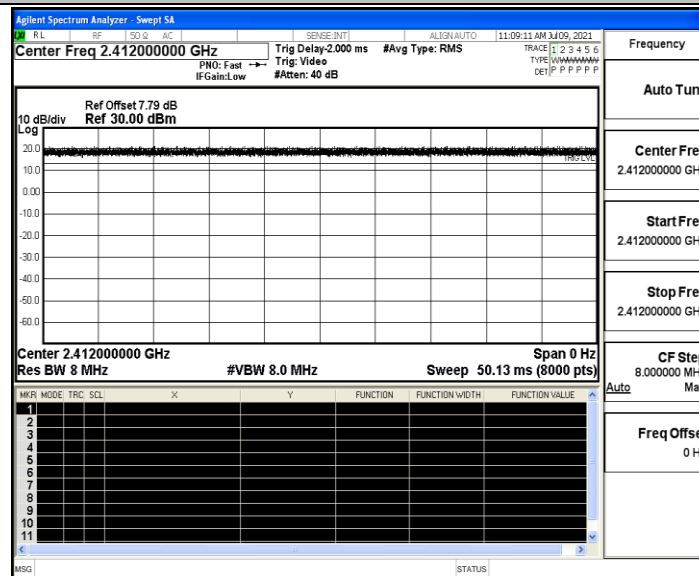




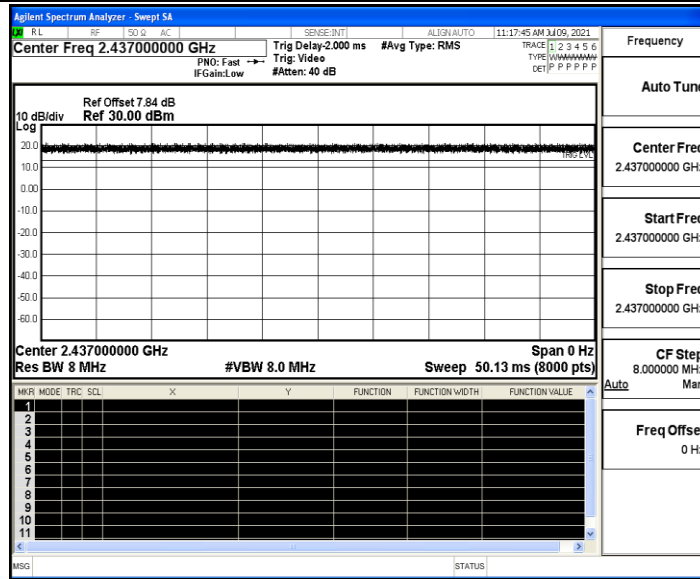
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.10	≤30	PASS
		2437	15.46	≤30	PASS
		2462	15.55	≤30	PASS
11G	Ant1	2412	13.45	≤30	PASS
		2437	14.94	≤30	PASS
		2462	14.23	≤30	PASS
11N20SISO	Ant1	2412	14.60	≤30	PASS
		2437	14.79	≤30	PASS
		2462	13.98	≤30	PASS



A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.59	≤8	PASS
		2437	-12.62	≤8	PASS
		2462	-12.06	≤8	PASS
11G	Ant1	2412	-13.41	≤8	PASS
		2437	-12.8	≤8	PASS
		2462	-13.43	≤8	PASS
11N20SISO	Ant1	2412	-13.07	≤8	PASS
		2437	-12.82	≤8	PASS
		2462	-13.74	≤8	PASS

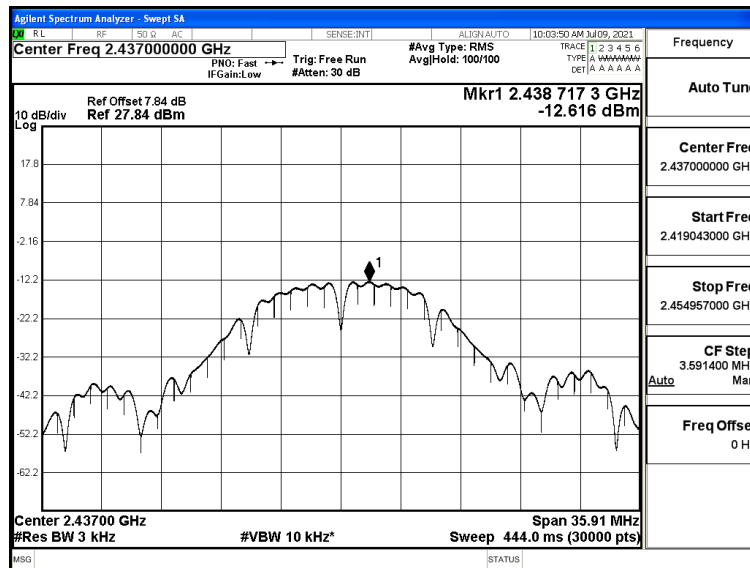


Test Graphs

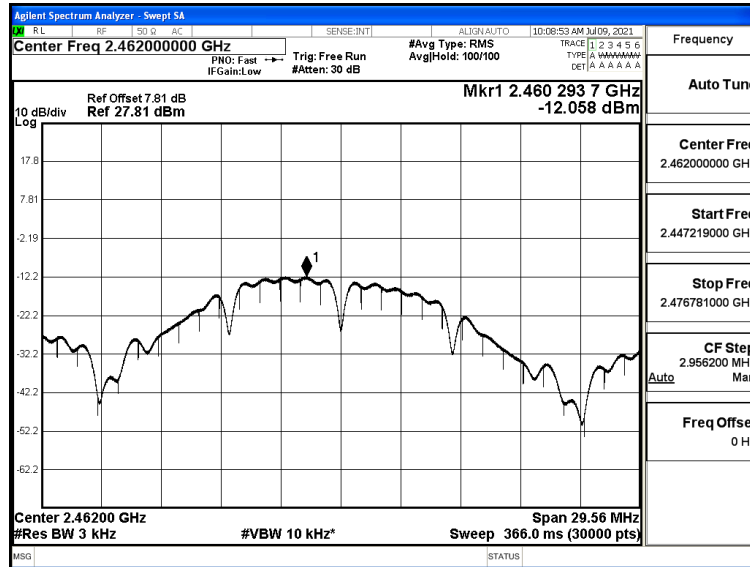
11B_Ant1_2412



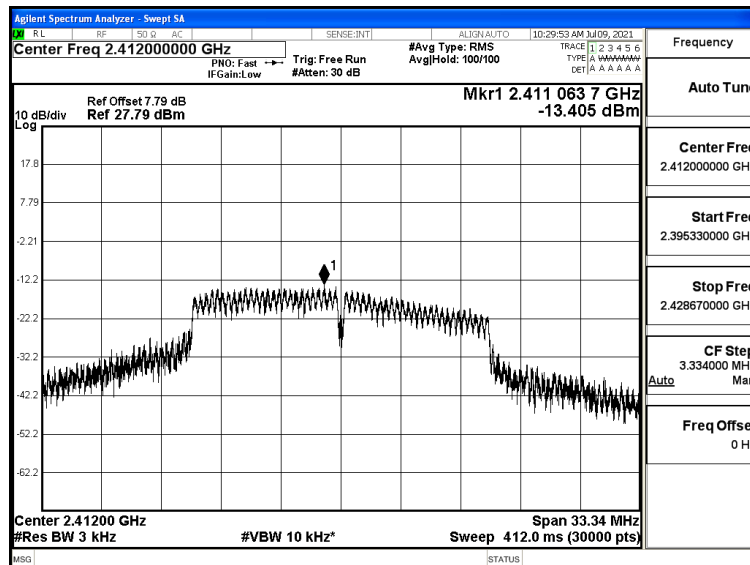
11B_Ant1_2437



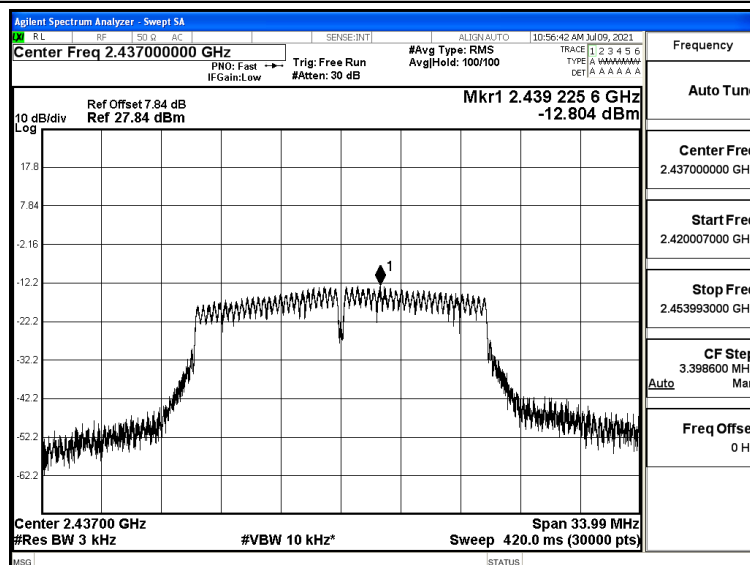
11B_Ant1_2462



11G_Ant1_2412

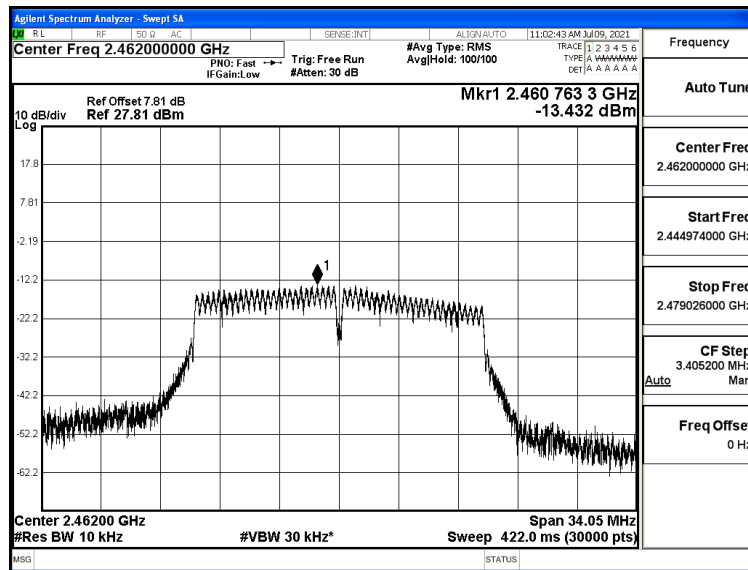


11G_Ant1_2437

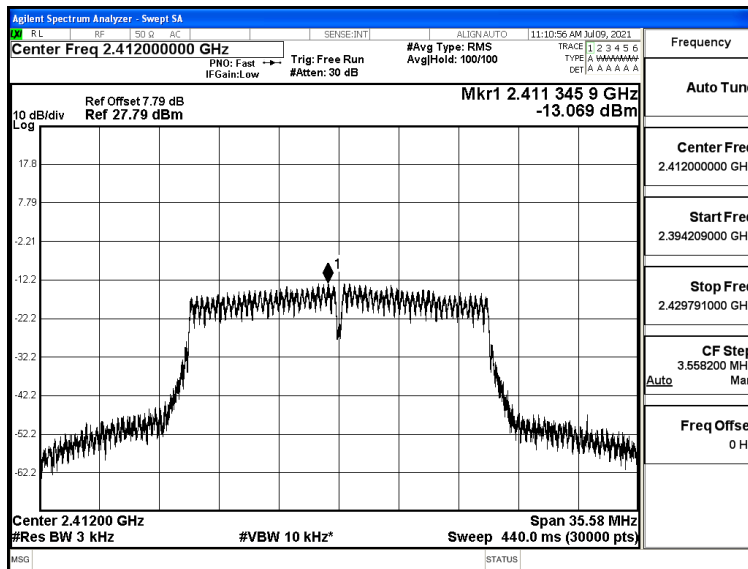




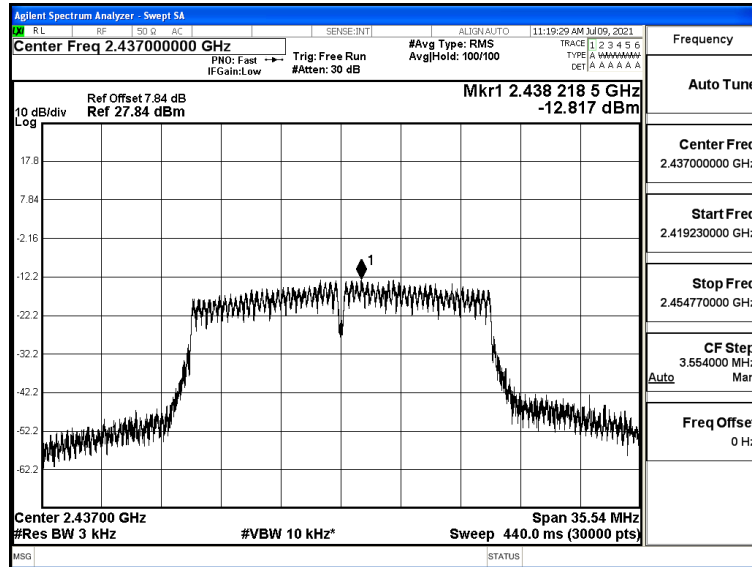
11G_Ant1_2462



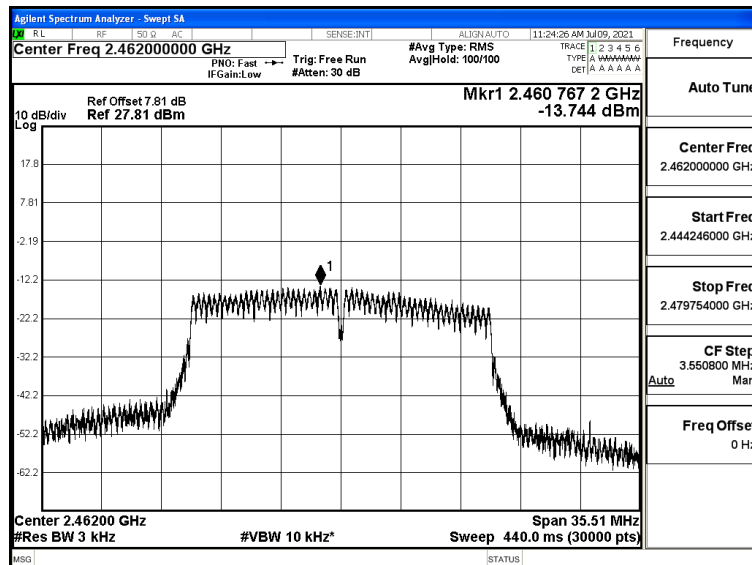
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





A.4 6dB Bandwidth

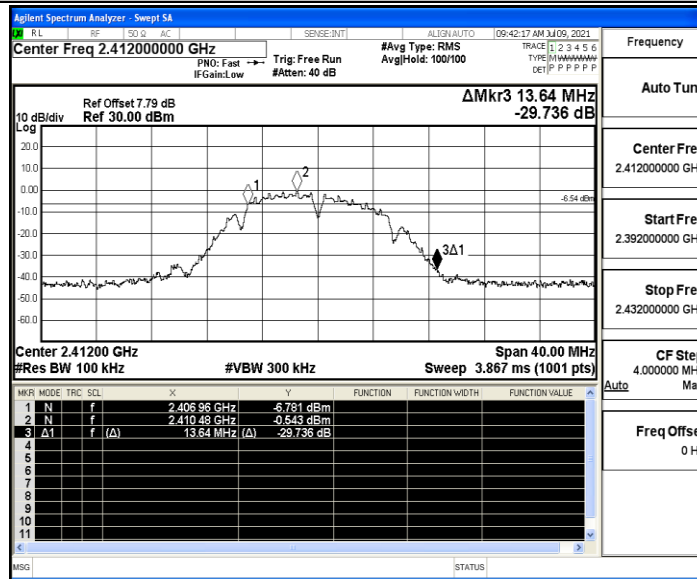
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.600	2406.960	2415.560	0.5	PASS
		2437	9.720	2432.400	2442.120	0.5	PASS
		2462	8.720	2456.880	2465.600	0.5	PASS
11G	Ant1	2412	12.440	2403.760	2416.200	0.5	PASS
		2437	16.480	2428.800	2445.280	0.5	PASS
		2462	16.200	2453.720	2469.920	0.5	PASS
11N20SISO	Ant1	2412	17.680	2403.160	2420.840	0.5	PASS
		2437	17.440	2428.440	2445.880	0.5	PASS
		2462	17.400	2453.080	2470.480	0.5	PASS

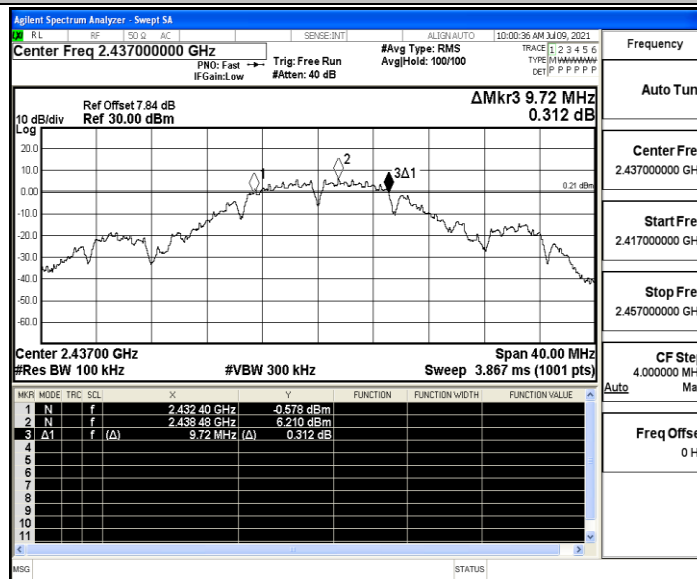


Test Graphs

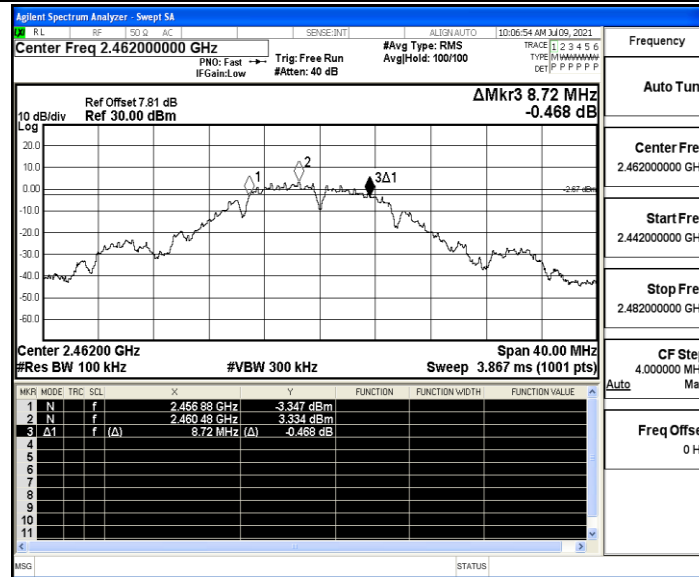
11B_Ant1_2412



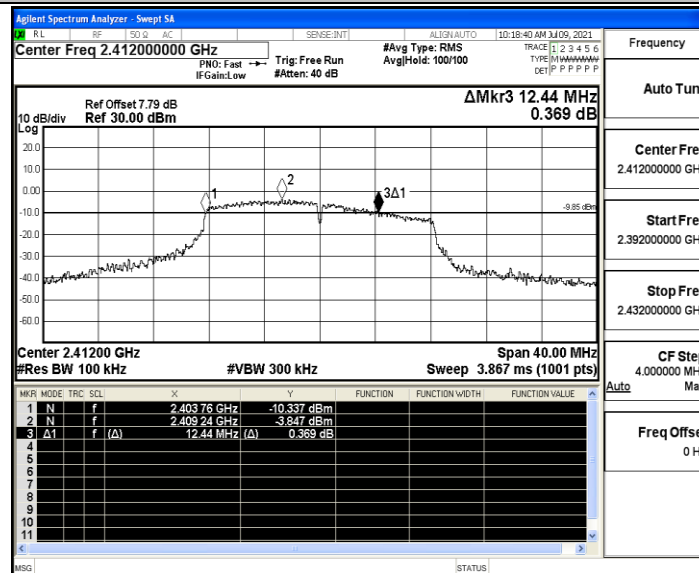
11B_Ant1_2437



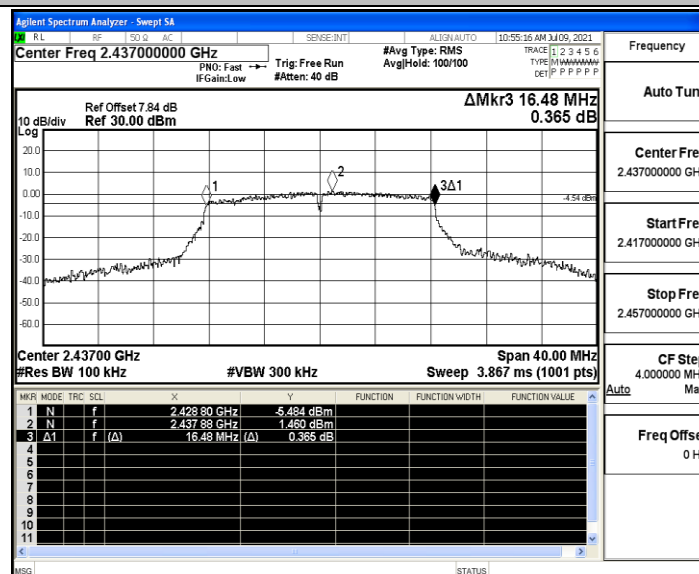
11B_Ant1_2462



11G_Ant1_2412

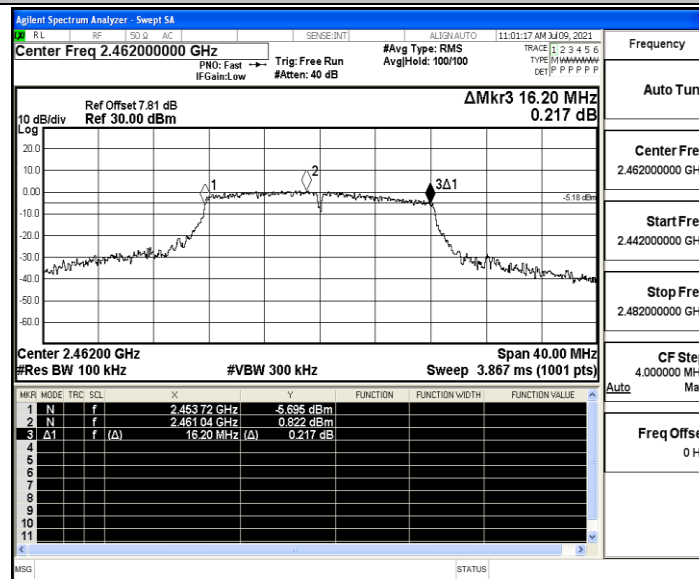


11G_Ant1_2437

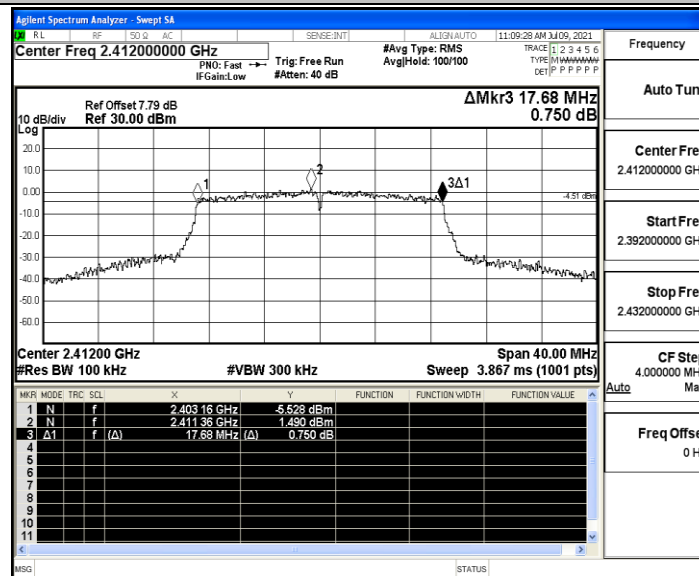




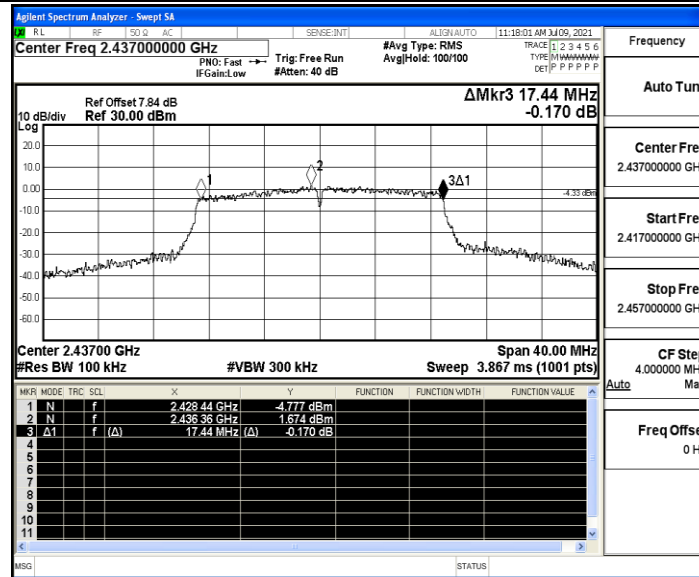
11G_Ant1_2462



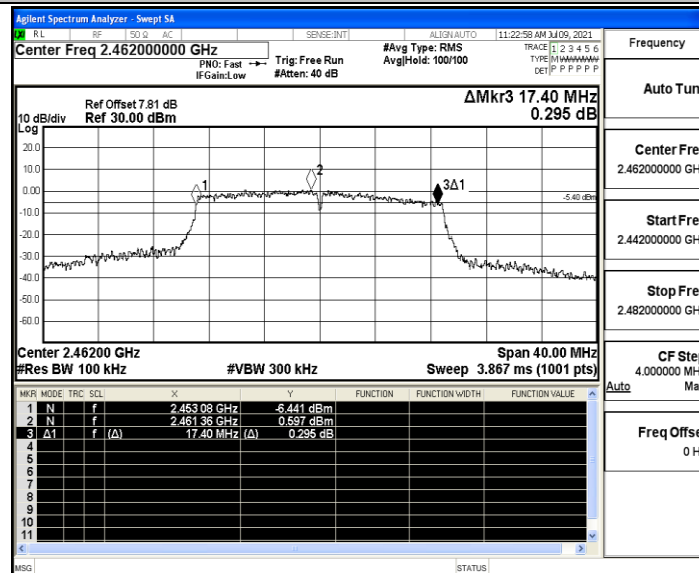
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





A.5 Conducted Spurious Emission

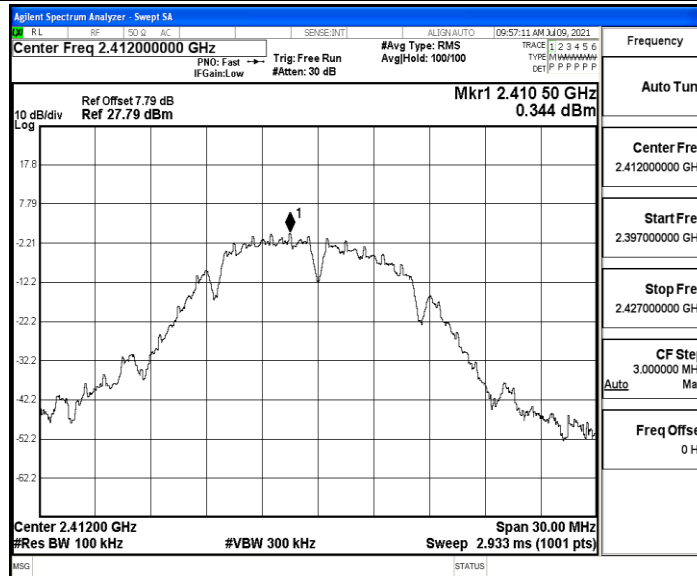
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	0.34	0.34	---	PASS
			30~1000	0.34	-61.79	≤-19.66	PASS
			1000~26500	0.34	-48.14	≤-19.66	PASS
		2437	Reference	5.22	5.22	---	PASS
			30~1000	5.22	-61.23	≤-14.78	PASS
			1000~26500	5.22	-47.44	≤-14.78	PASS
		2462	Reference	3.41	3.41	---	PASS
			30~1000	3.41	-62.01	≤-16.59	PASS
			1000~26500	3.41	-47.25	≤-16.59	PASS
11G	Ant1	2412	Reference	1.17	1.17	---	PASS
			30~1000	1.17	-61.62	≤-18.83	PASS
			1000~26500	1.17	-47.59	≤-18.83	PASS
		2437	Reference	1.39	1.39	---	PASS
			30~1000	1.39	-61.44	≤-18.61	PASS
			1000~26500	1.39	-47.67	≤-18.61	PASS
		2462	Reference	0.69	0.69	---	PASS
			30~1000	0.69	-61.6	≤-19.31	PASS
			1000~26500	0.69	-47.67	≤-19.31	PASS
11N20SISO	Ant1	2412	Reference	1.17	1.17	---	PASS
			30~1000	1.17	-62.06	≤-18.83	PASS
			1000~26500	1.17	-47.96	≤-18.83	PASS
		2437	Reference	1.33	1.33	---	PASS
			30~1000	1.33	-61.86	≤-18.67	PASS
			1000~26500	1.33	-47.09	≤-18.67	PASS
		2462	Reference	0.40	0.40	---	PASS
			30~1000	0.40	-61.38	≤-19.6	PASS
			1000~26500	0.40	-47.61	≤-19.6	PASS

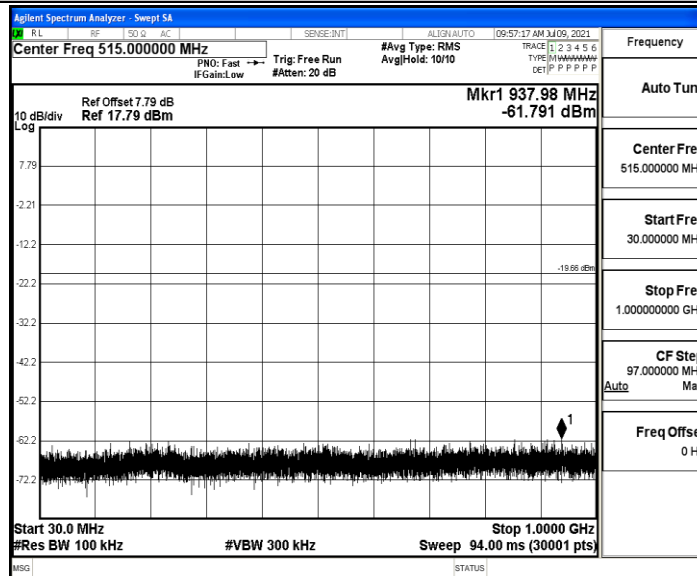


Test Graphs

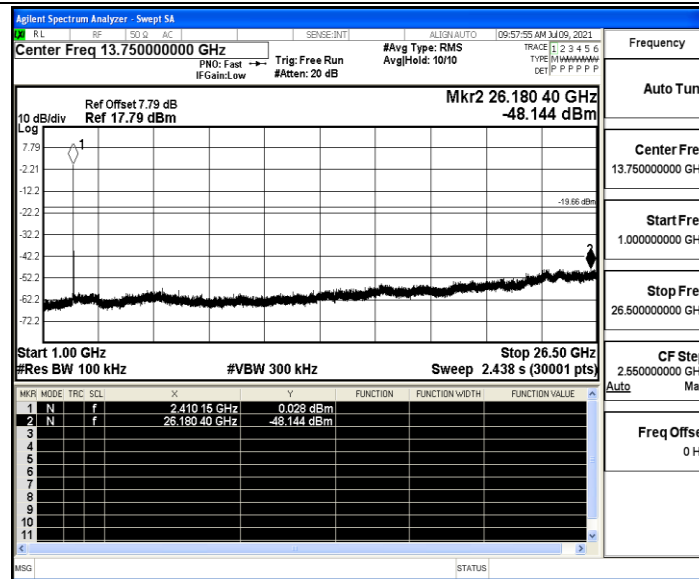
11B_Ant1_2412_0~Reference



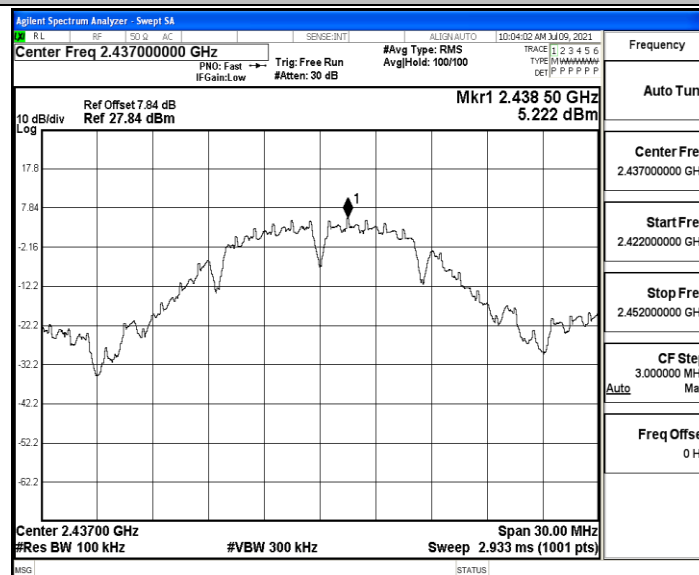
11B_Ant1_2412_30~1000



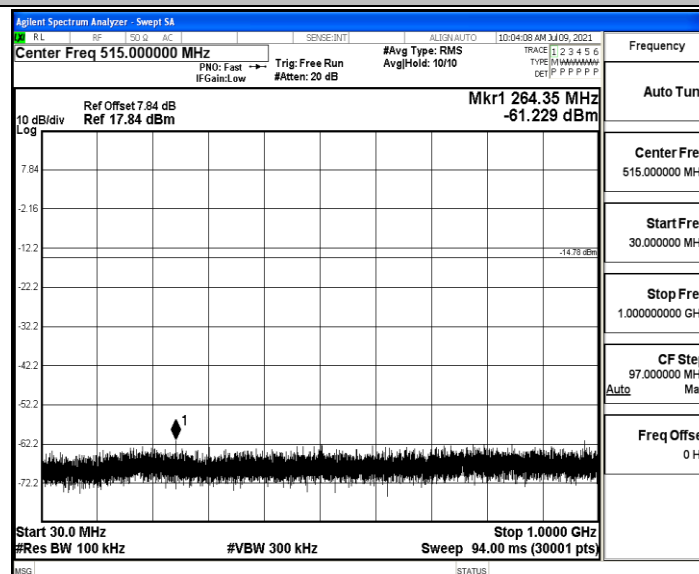
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference

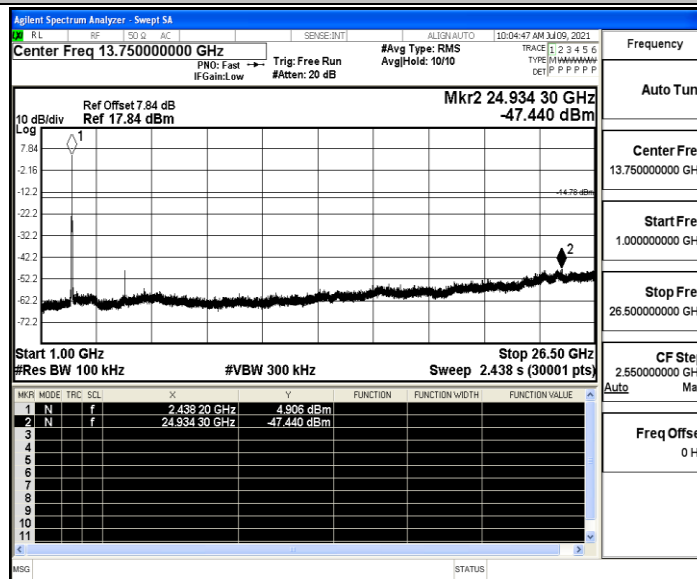


11B_Ant1_2437_30~1000

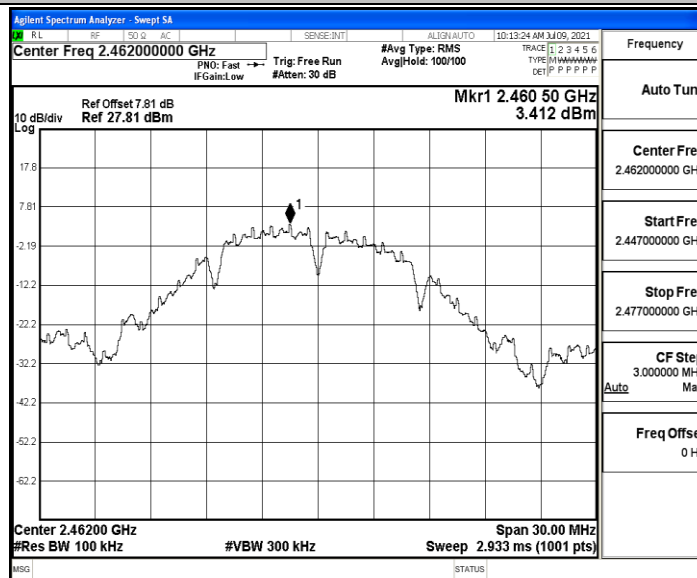




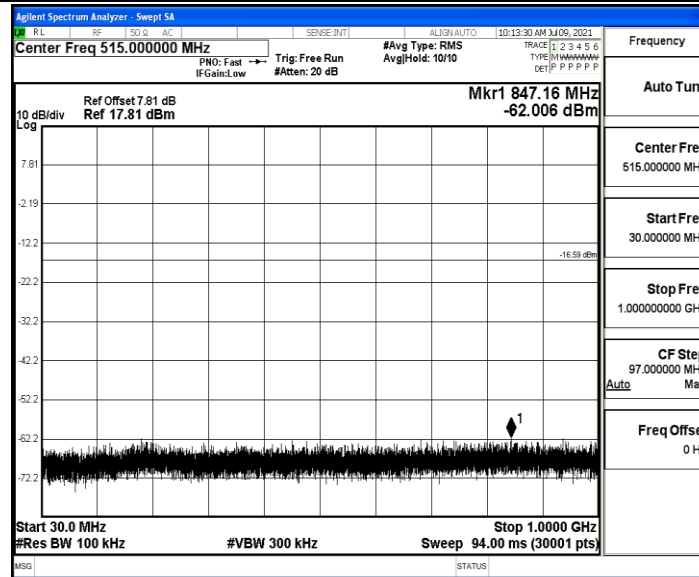
11B_Ant1_2437_1000~26500



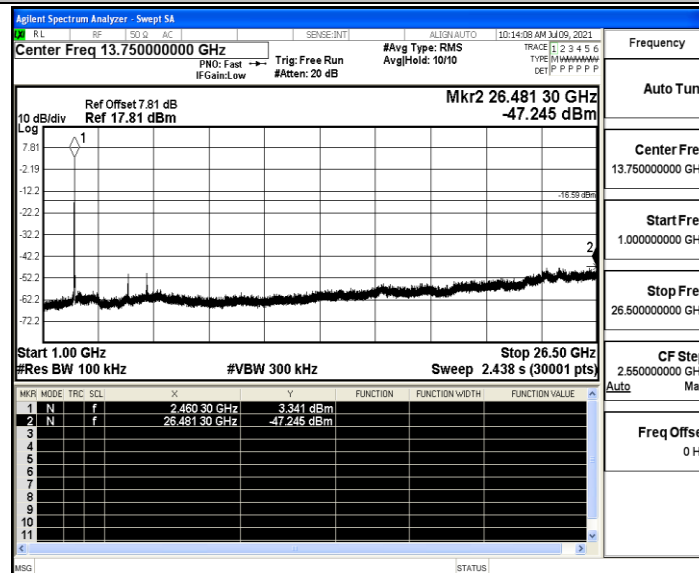
11B_Ant1_2462_0~Reference



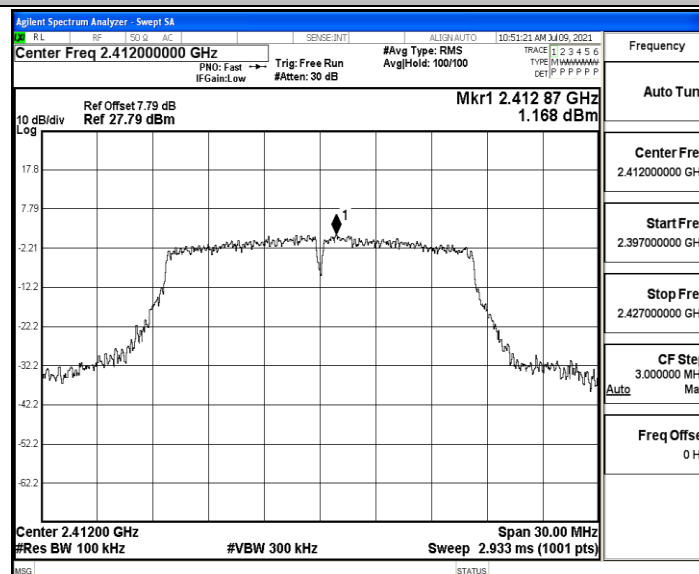
11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500

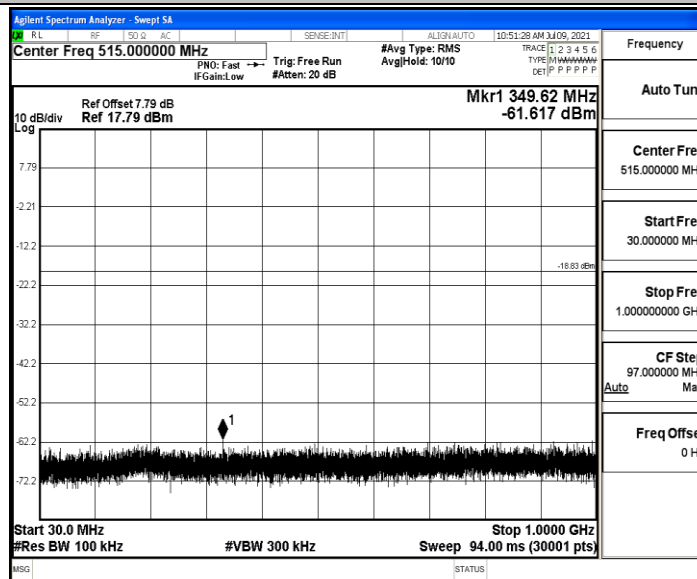


11G_Ant1_2412_0-Reference

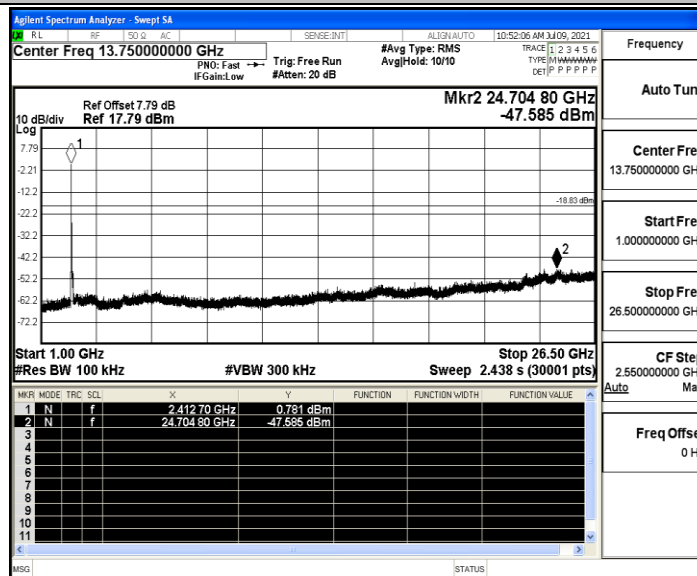




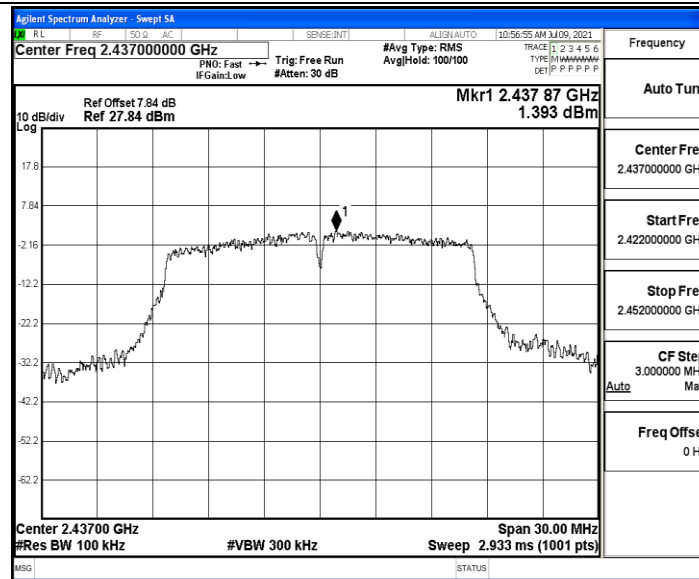
11G_Ant1_2412_30~1000



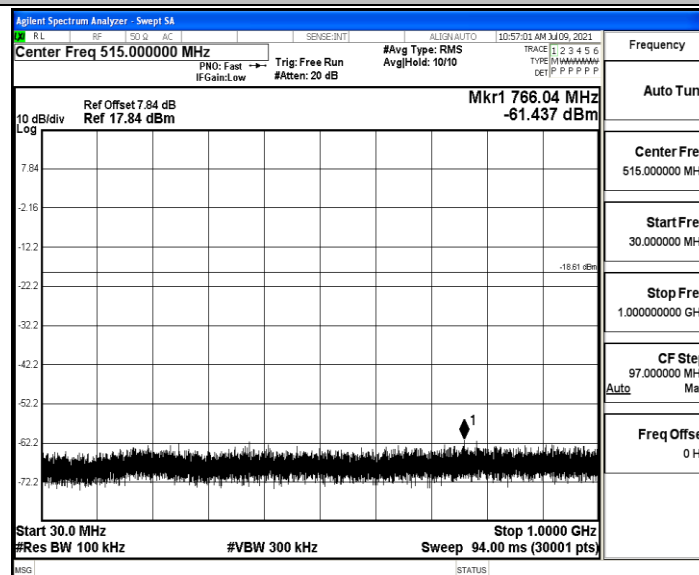
11G_Ant1_2412_1000~26500



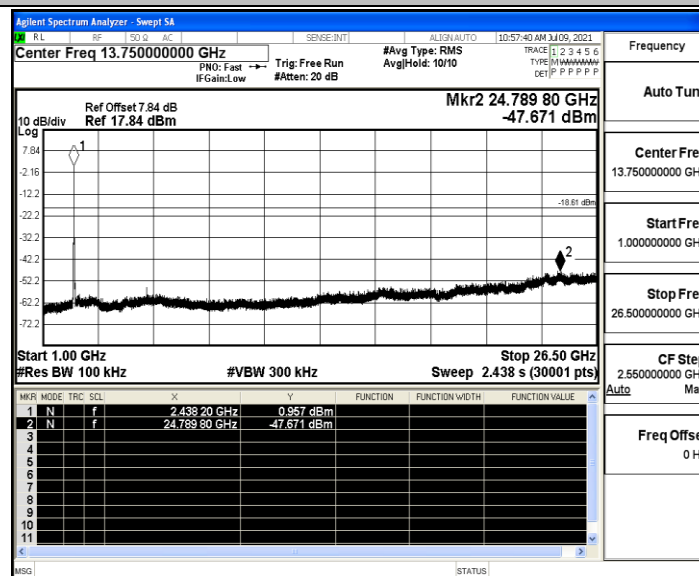
11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000

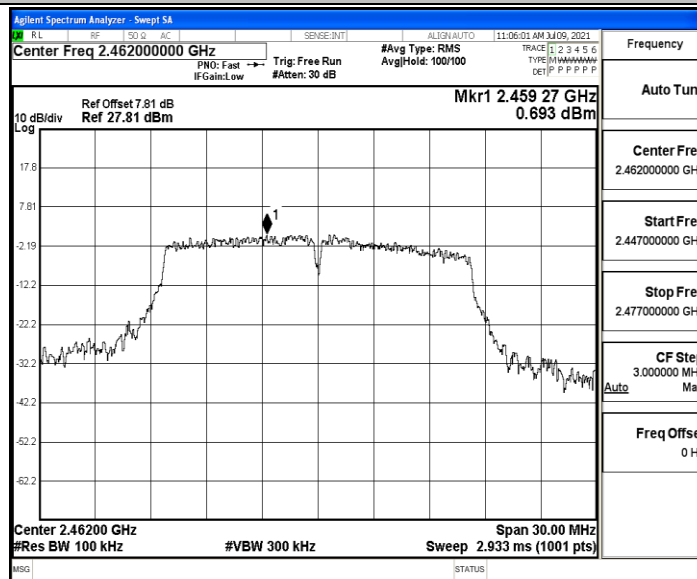


11G_Ant1_2437_1000~26500

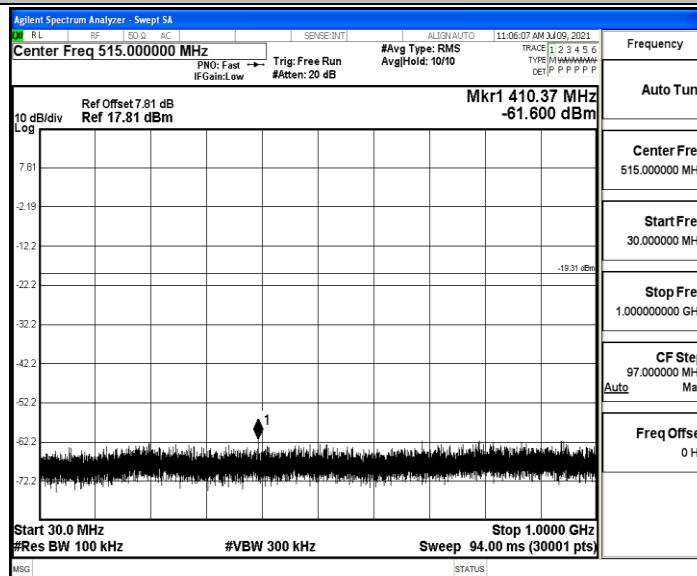




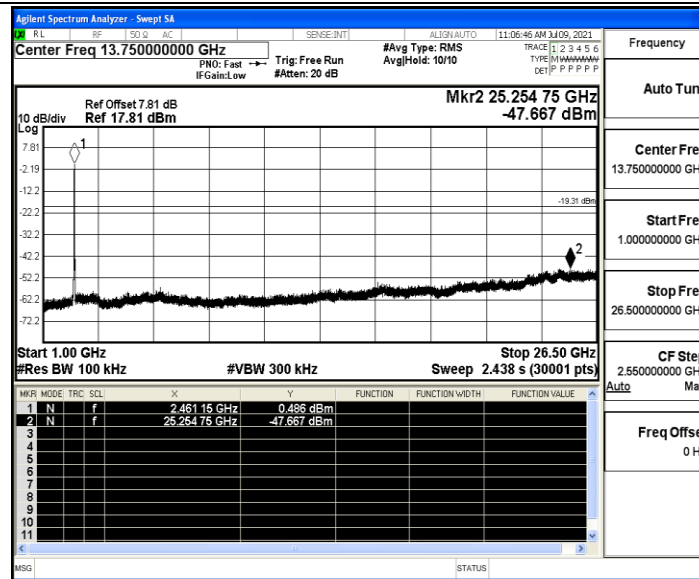
11G_Ant1_2462_0~Reference



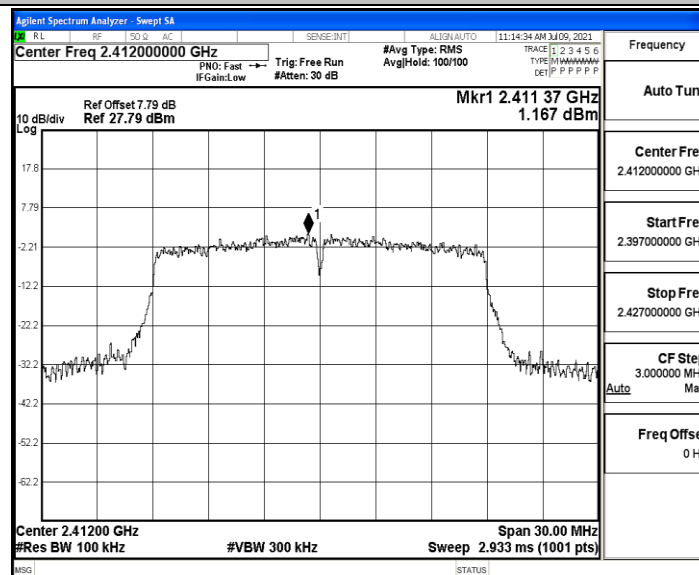
11G_Ant1_2462_30~1000



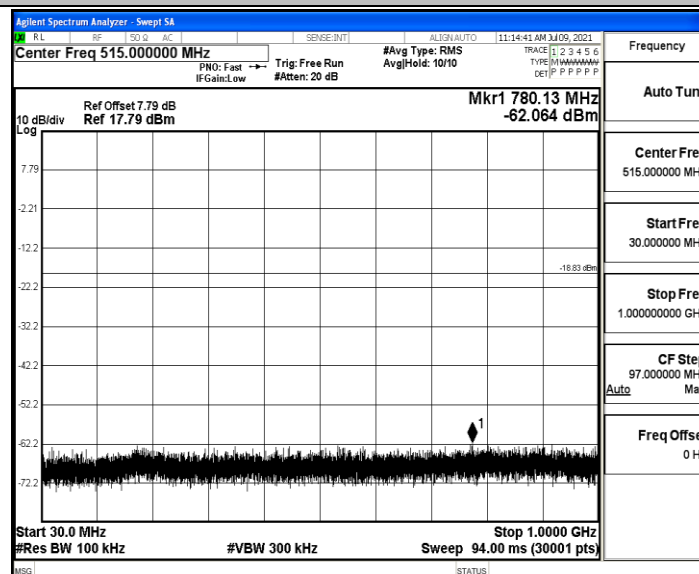
11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0-Reference

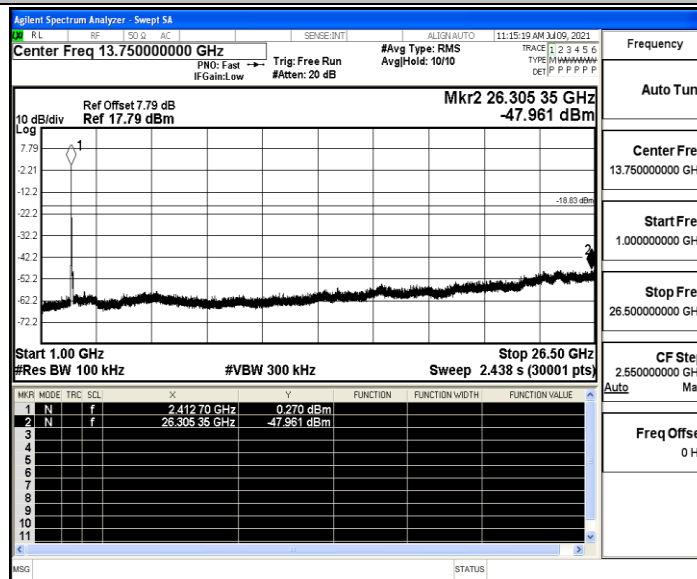


11N20SISO_Ant1_2412_30-1000

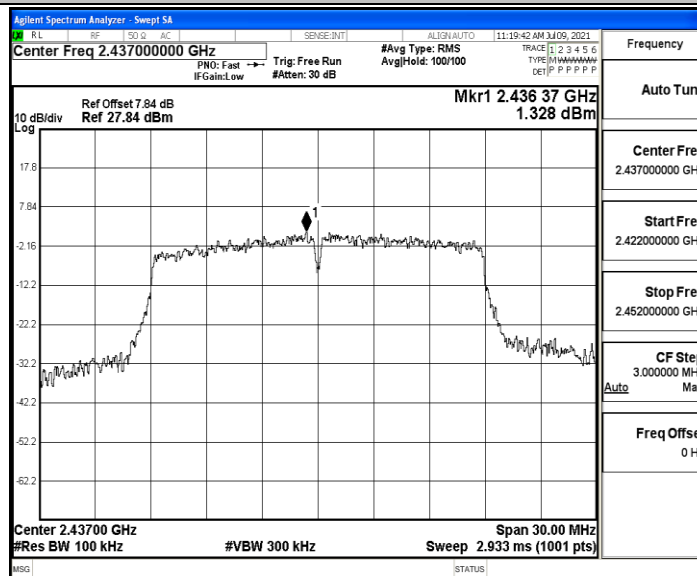




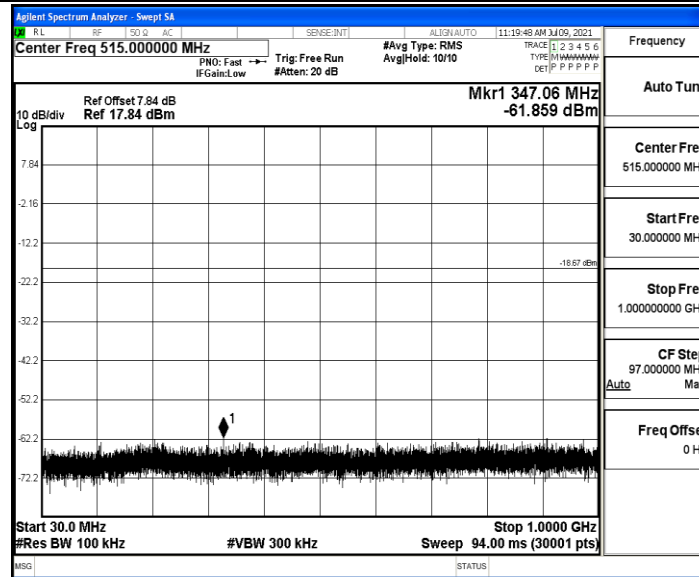
11N20SISO_Ant1_2412_1000~26500



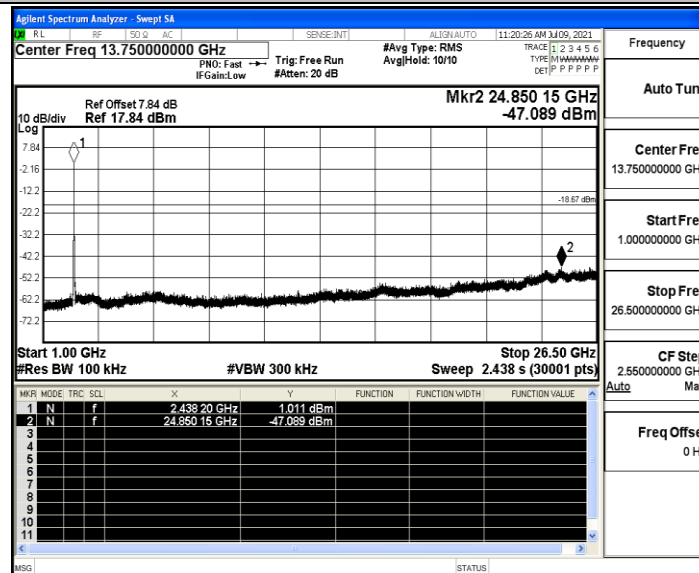
11N20SISO_Ant1_2437_0~Reference



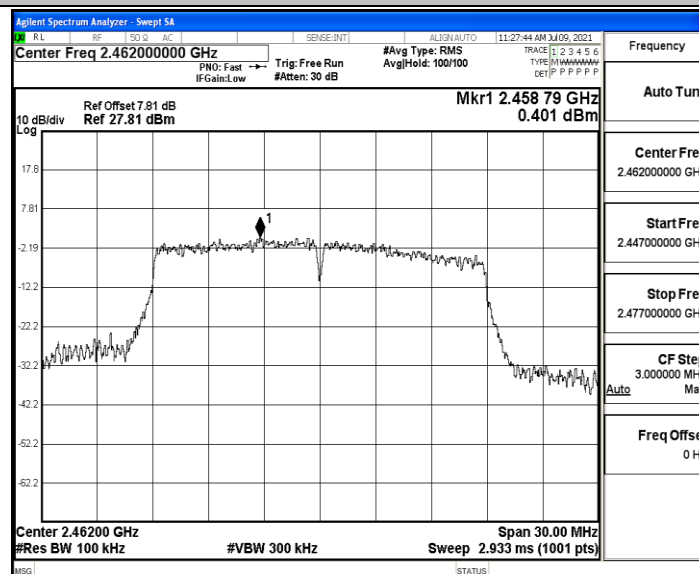
11N20SISO_Ant1_2437_30~1000



11N20SISO_Ant1_2437_1000~26500

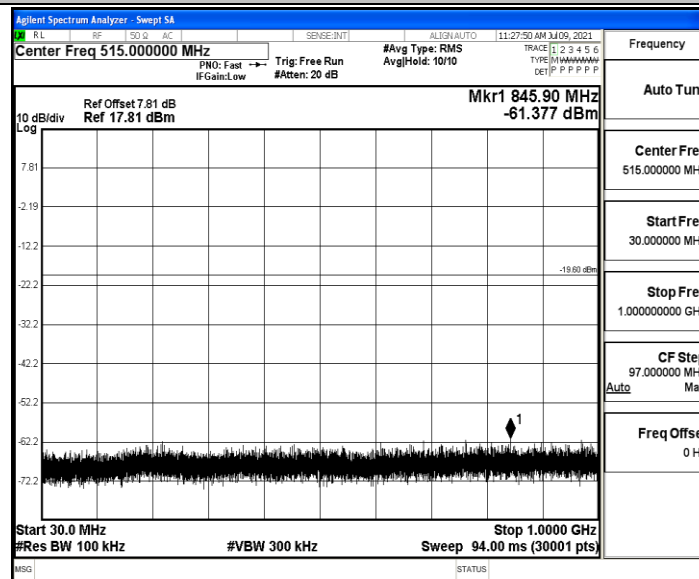


11N20SISO_Ant1_2462_0~Reference

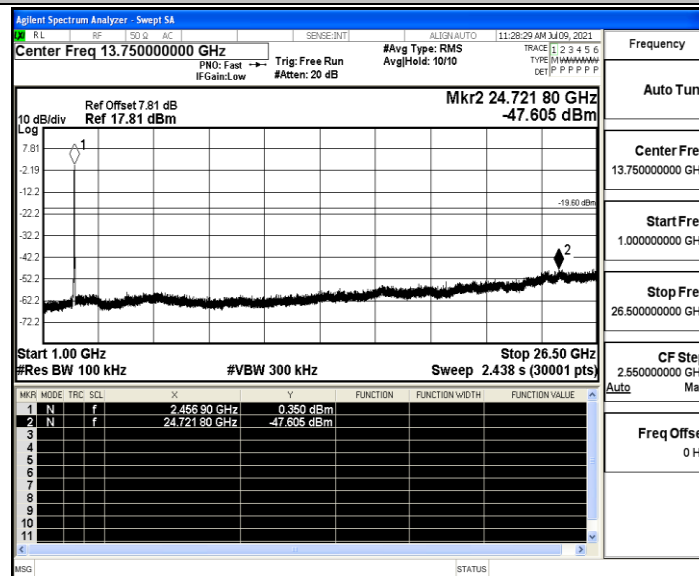




11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500





A.6 Band edge measurements

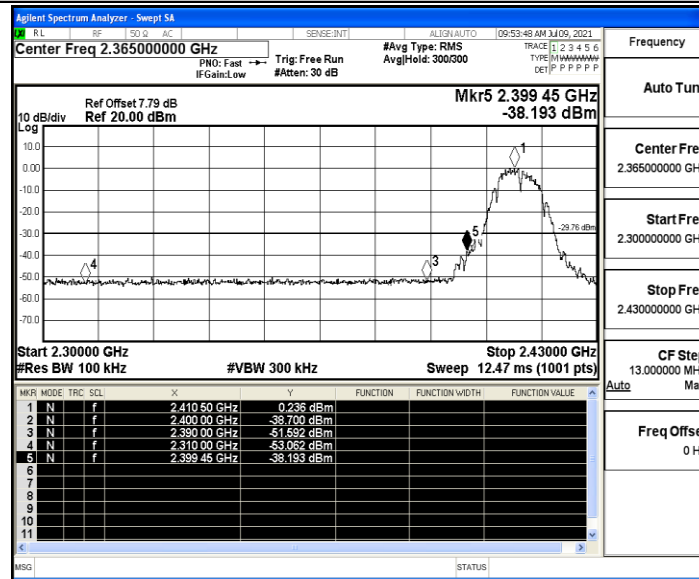
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	0.24	-38.19	≤ -29.76	PASS
		High	2462	5.50	-26.13	≤ -24.5	PASS
11G	Ant1	Low	2412	1.54	-30.18	≤ -28.46	PASS
		High	2462	0.79	-41.1	≤ -29.21	PASS
11N20SISO	Ant1	Low	2412	1.43	-28.79	≤ -28.57	PASS
		High	2462	1.12	-41.17	≤ -28.88	PASS

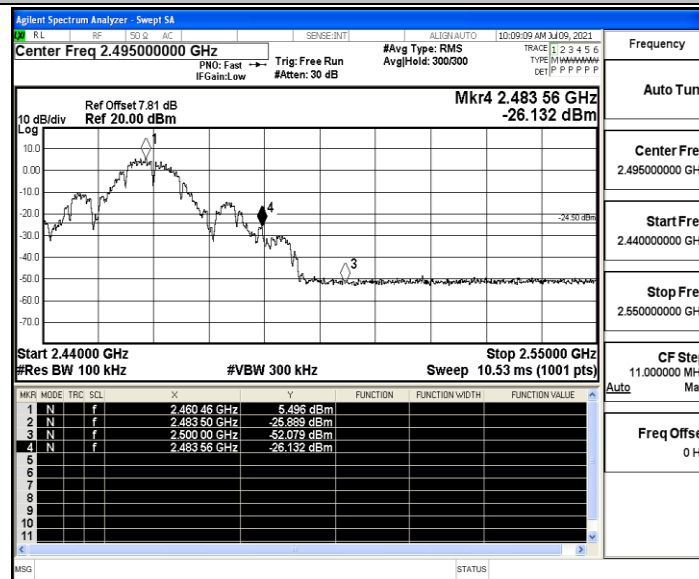


Test Graphs

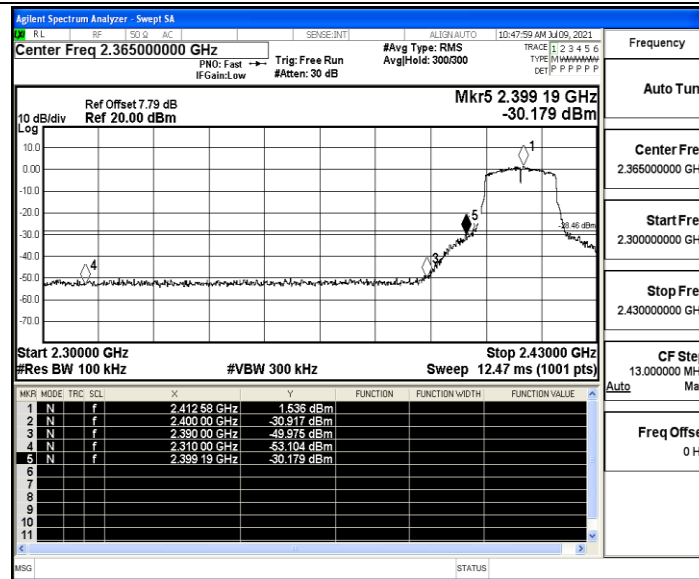
11B_Ant1_Low_2412



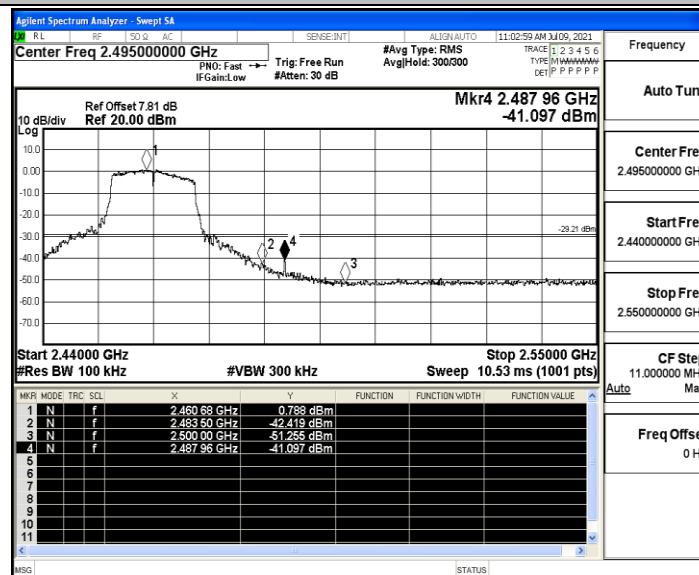
11B_Ant1_High_2462



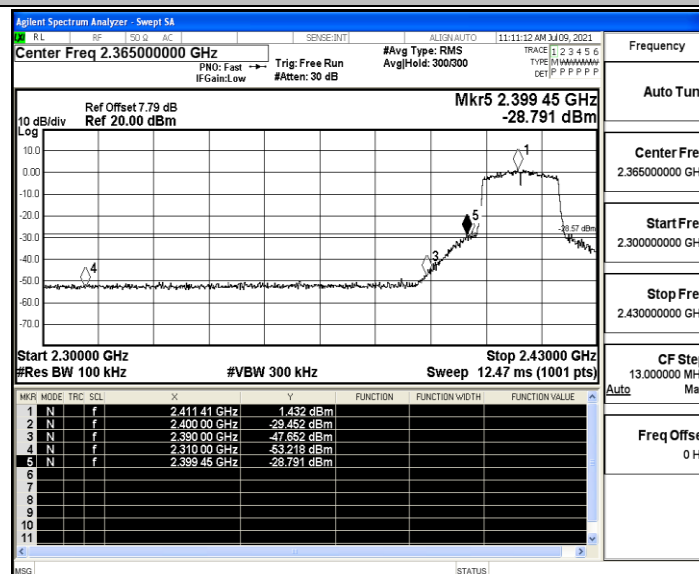
11G_Ant1_Low_2412

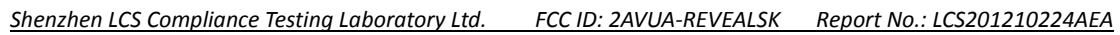


11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412





Agilent Spectrum Analyzer - Swept SA

RL RF ISO AC SENSE INT ALIGN AUTO 11:24:42 AM 3/09, 2021

Center Freq 2.49500000 GHz #Avg Type: RMS Avg/Hold: 300/300

PNO: Fast Trig: Free Run #Atten: 30 dB

Ref Offset 7.81 dB Ref 20.00 dBm

Mkr4 2.487 96 GHz -41.171 dBm

10 dB/div Log

Start 2.44000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.55000 GHz Sweep 10.53 ms (1001 pts)

MRK	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.459 14 GHz	-1.117 dBm			
2	N		f	2.483 50 GHz	-44.086 dBm			
3	N		f	2.500 00 GHz	-51.681 dBm			
4	N		f	2.487 96 GHz	-41.171 dBm			
5								
6								
7								
8								
9								
10								
11								

MEG STATUS

Frequency

Auto Tune

Center Freq 2.49500000 GHz

Start Freq 2.44000000 GHz

Stop Freq 2.55000000 GHz

CF Step 11.000000 MHz

Freq Offset 0 Hz



A.7 Emissions in Restricted Bands

Test Result

TestMode	ChName	Channel	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Low	2412	AV	2310.000	-49.39	≤-41.20	PASS
			AV	2389.960	-48.61	≤-41.20	PASS
			AV	2390.000	-48.61	≤-41.20	PASS
			Peak	2310.000	-44.31	≤-21.20	PASS
			Peak	2386.320	-39.49	≤-21.20	PASS
			Peak	2390.000	-40.98	≤-21.20	PASS
	High	2462	AV	2483.500	-46.45	≤-41.20	PASS
			AV	2487.630	-44.11	≤-41.20	PASS
			AV	2500.000	-48.39	≤-41.20	PASS
			Peak	2483.500	-40.79	≤-21.20	PASS
			Peak	2486.640	-37.61	≤-21.20	PASS
			Peak	2500.000	-41.26	≤-21.20	PASS
11G	Low	2412	AV	2310.000	-49.37	≤-41.20	PASS
			AV	2389.960	-46.43	≤-41.20	PASS
			AV	2390.000	-46.43	≤-41.20	PASS
			Peak	2310.000	-43.54	≤-21.20	PASS
			Peak	2386.710	-38.17	≤-21.20	PASS
			Peak	2390.000	-39.88	≤-21.20	PASS
	High	2462	AV	2483.500	-45.8	≤-41.20	PASS
			AV	2487.960	-43.85	≤-41.20	PASS
			AV	2500.000	-48.41	≤-41.20	PASS
			Peak	2483.500	-41.43	≤-21.20	PASS
			Peak	2483.670	-37.49	≤-21.20	PASS
			Peak	2500.000	-43.31	≤-21.20	PASS
11N20 SISO	Low	2412	AV	2310.000	-49.36	≤-41.20	PASS
			AV	2389.960	-45	≤-41.20	PASS
			AV	2390.000	-45.01	≤-41.20	PASS
			Peak	2310.000	-46.15	≤-21.20	PASS
			Peak	2388.790	-37.61	≤-21.20	PASS
			Peak	2390.000	-41.12	≤-21.20	PASS
	High	2462	AV	2483.500	-47.67	≤-41.20	PASS
			AV	2487.410	-47.56	≤-41.20	PASS
			AV	2500.000	-48.41	≤-41.20	PASS
			Peak	2483.500	-41.8	≤-21.20	PASS
			Peak	2483.890	-38.65	≤-21.20	PASS
			Peak	2500.000	-41.98	≤-21.20	PASS



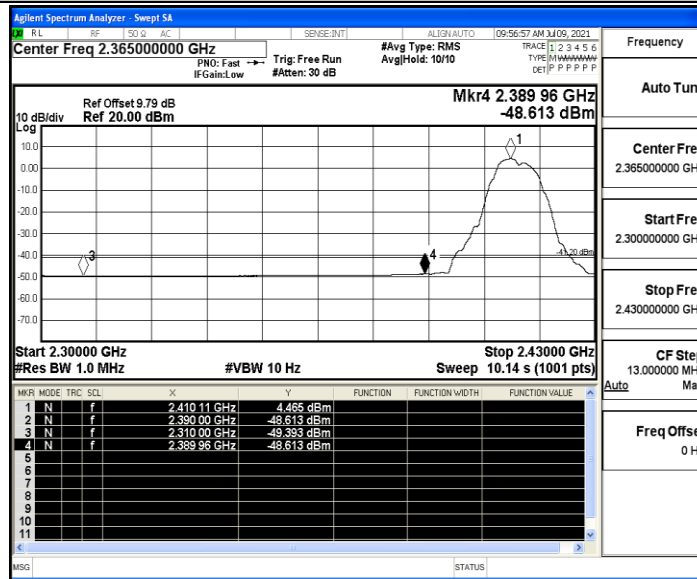
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

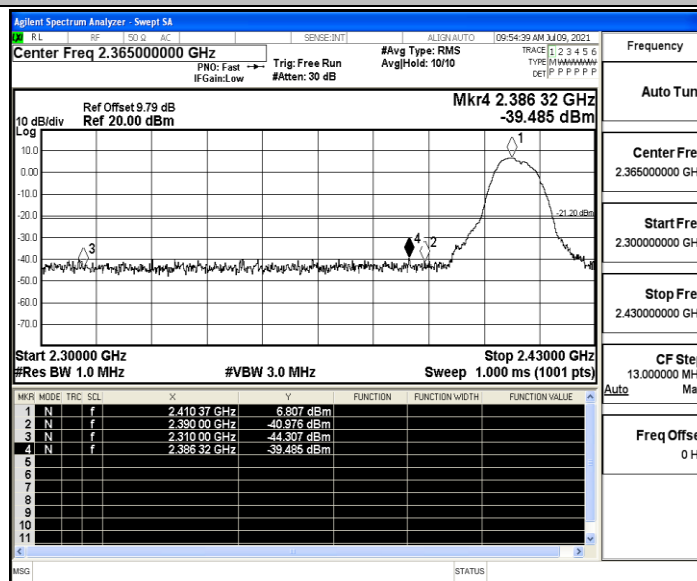


Test Graphs

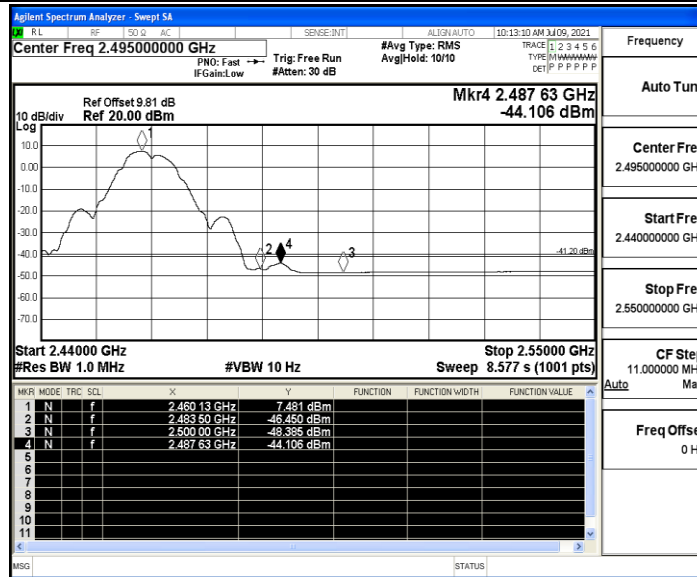
11B_Ant1_Low_2412_AV



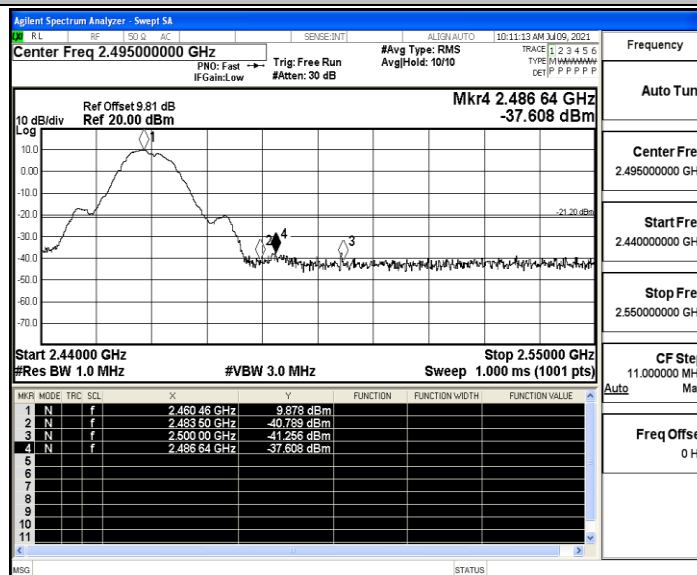
11B_Ant1_Low_2412_Peak



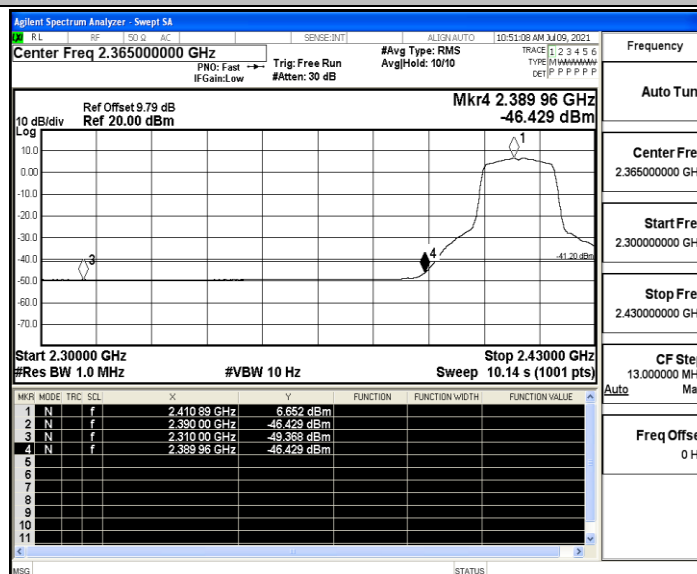
11B_Ant1_High_2462_AV



11B_Ant1_High_2462_Peak

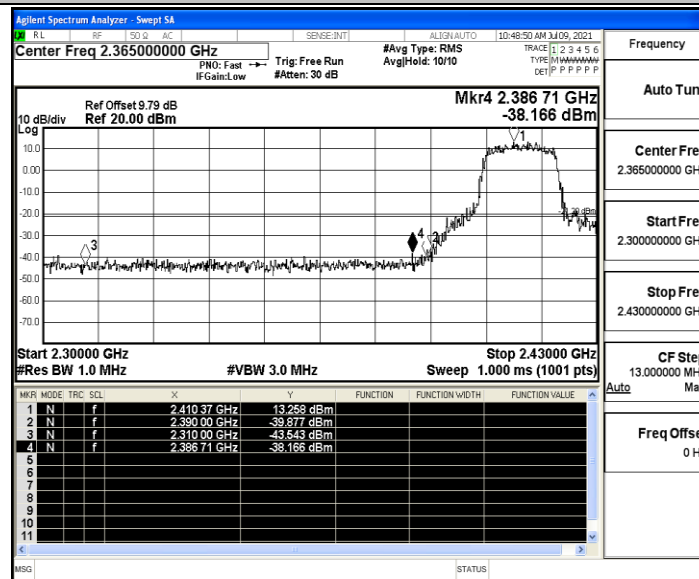


11G_Ant1_Low_2412_AV

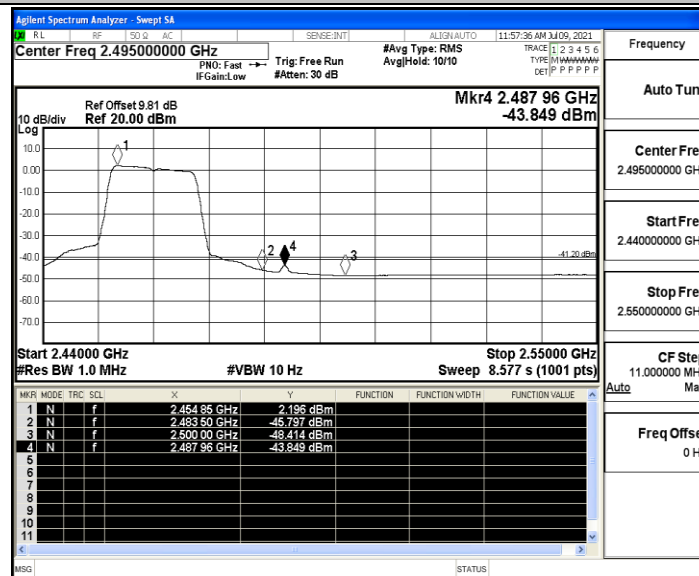




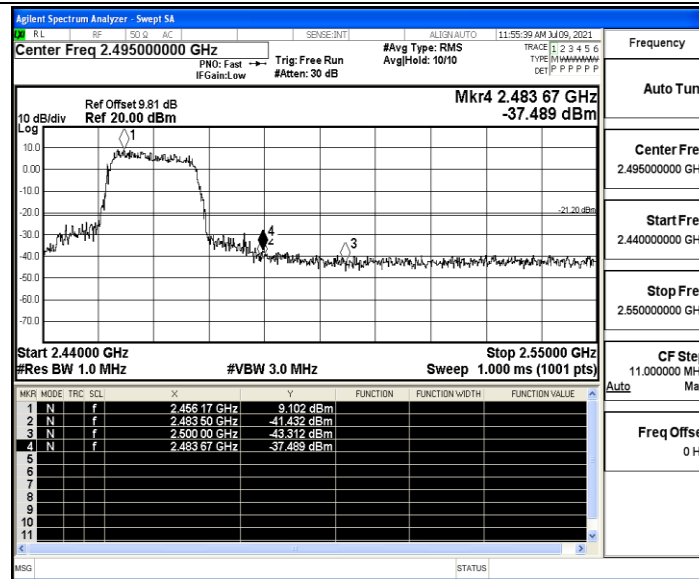
11G_Ant1_Low_2412_Peak



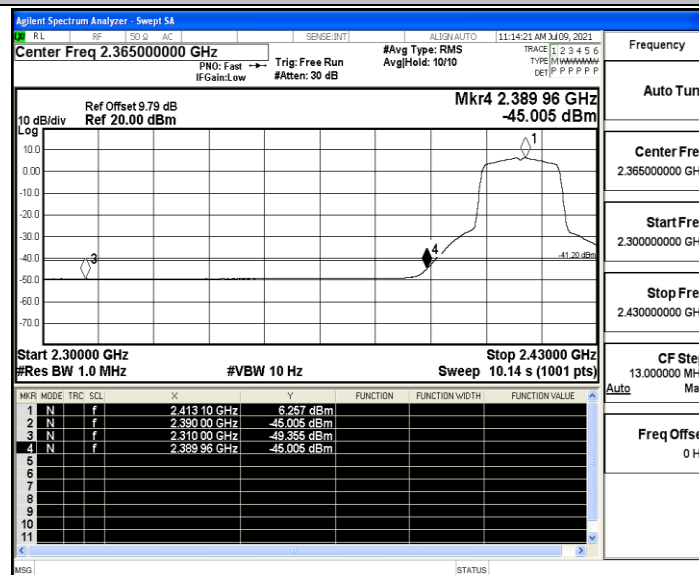
11G_Ant1_High_2462_AV



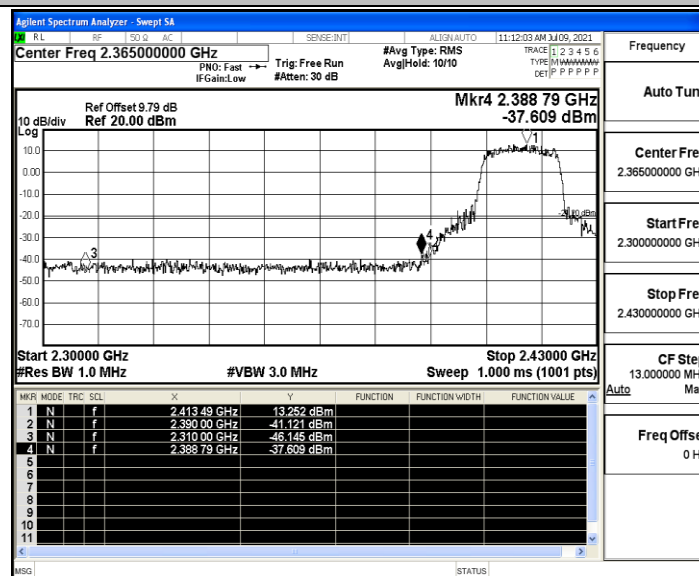
11G_Ant1_High_2462_Peak

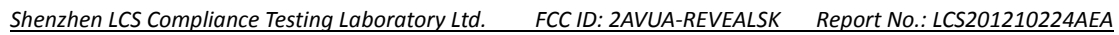


11N20SISO_Ant1_Low_2412_AV



11N20SISO_Ant1_Low_2412_Peak



[illegible]

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.495000000 GHz

Ref Offset 9.81 dB
Ref 20.00 dBm

Mkr 2.483 89 GHz
-38.646 dBm

Start 2.440000 GHz
#Res BW 1.0 MHz

Stop 2.550000 GHz
#VBW 3.0 MHz

Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCN	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.444 62 GHz	9.515 dBm			
2	N	f		2.483 50 GHz	-41.798 dBm			
3	N	f		2.500 00 GHz	-41.978 dBm			
4	N	f		2.483 89 GHz	-38.646 dBm			
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tun

Center Freq 2.495000000 GHz

Start Freq 2.440000000 GHz

Stop Freq 2.550000000 GHz

CF Stop 11.000000 MHz

Freq Offset 0 Hz