



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: WIFI LED Bulb

Test Model: MZT-GY001

Environmental Conditions

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



Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.080	2407.440	2416.520	0.5	PASS
		2437	9.520	2432.440	2441.960	0.5	PASS
		2462	9.080	2457.440	2466.520	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.360	2428.800	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

11B_Ant1_2412

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.41200000 GHz

Ref Offset 8.66 dB
Ref 28.66 dBm

ΔMkr3 9.08 MHz
1.161 dB

10 dB/div
Log

Center 2.41200 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100.0 ms (1001 pts)

Span 40.00 MHz

MKR	MODE	TRC	SOL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.407 44 GHz	-3.028 dBm			
2	N	f		2.412 96 GHz	2.738 dBm			
3	Δ1	f	(Δ)	9.08 MHz (Δ)	1.161 dB			
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency

Auto Tune

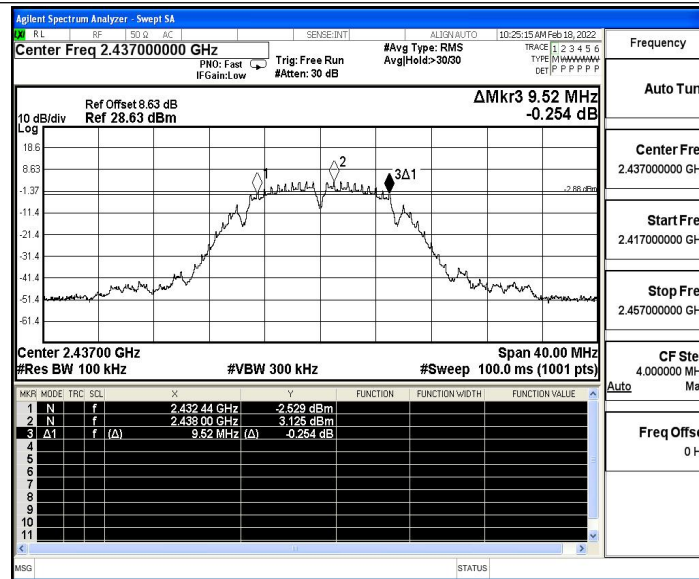
Center Freq
2.412000000 GHz

Start Freq
2.392000000 GHz

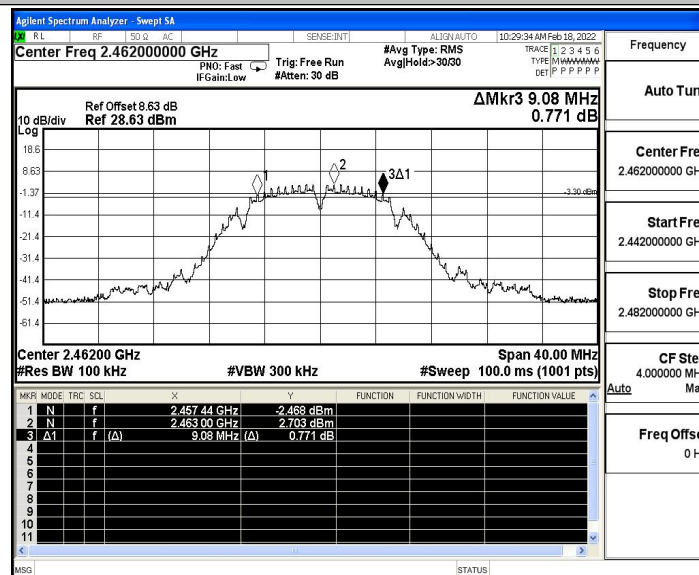
Stop Freq
2.432000000 GHz

CF Stop
4.000000 MHz
Man

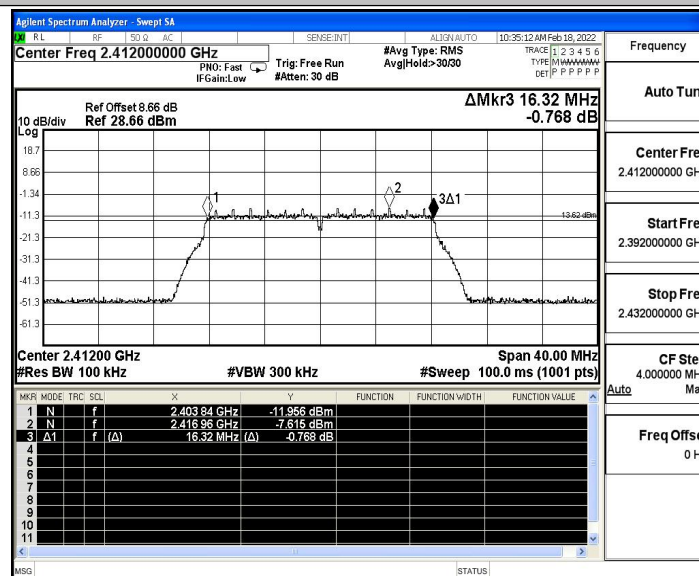
Freq Offset
0 Hz



11B_Ant1_2462

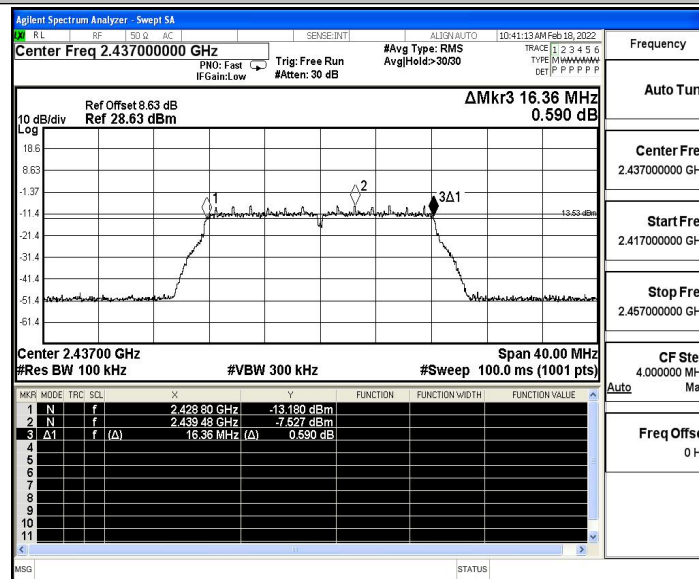


11G_Ant1_2412

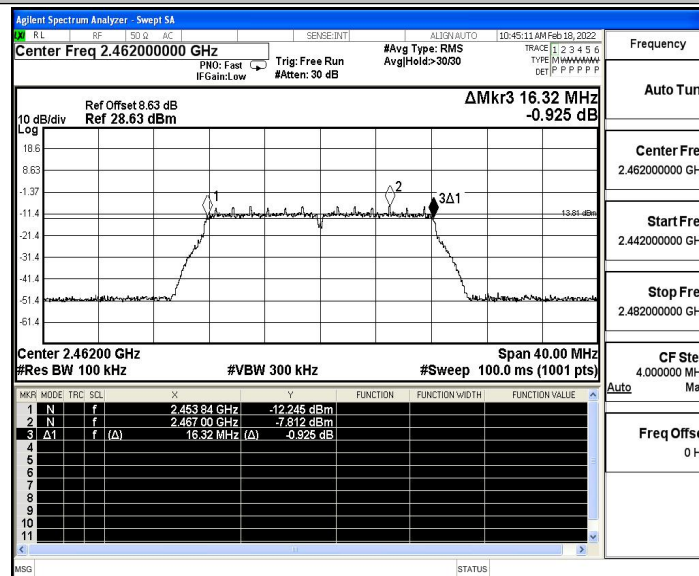




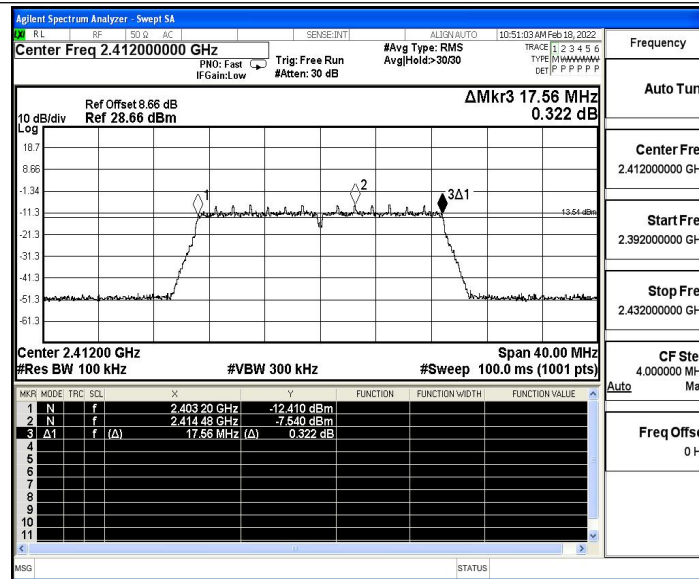
11G_Ant1_2437



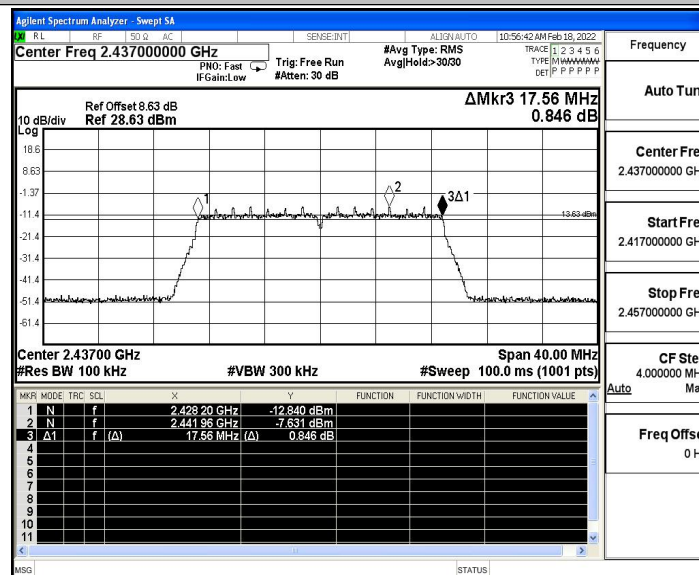
11G_Ant1_2462



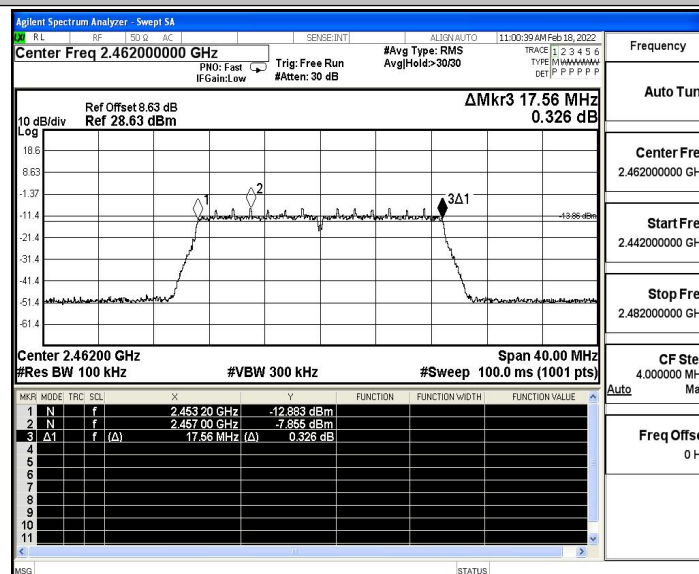
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





A.2 Maximum conducted output power

Test Result

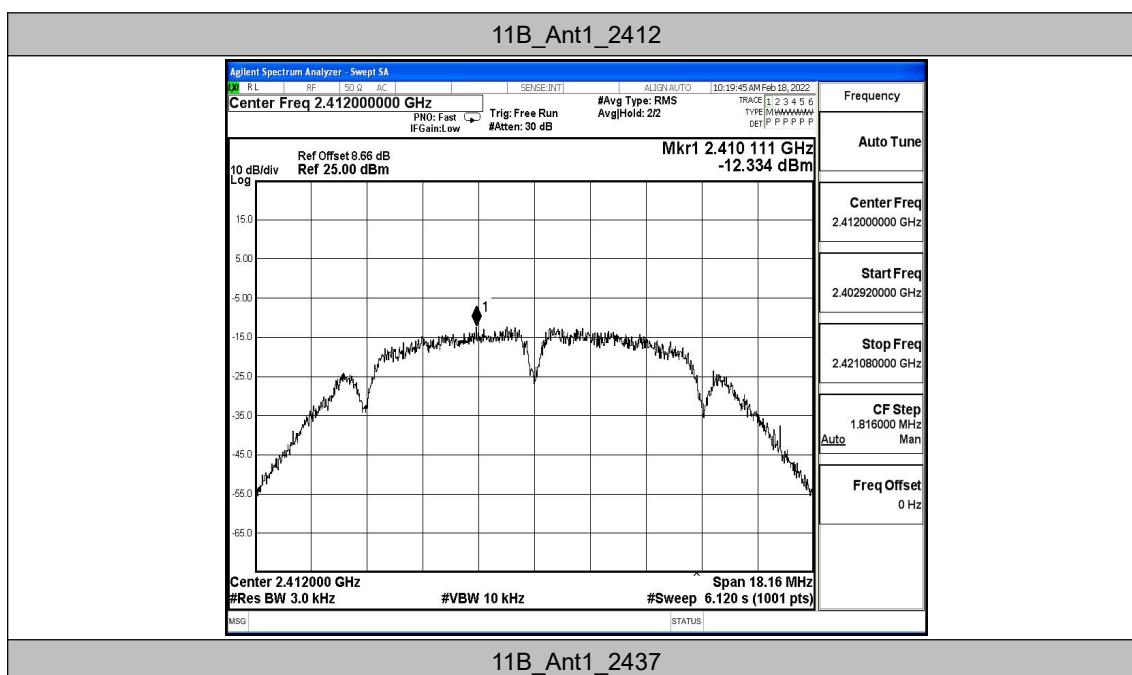
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	14.48	≤30.00	PASS
		2437	14.76	≤30.00	PASS
		2462	14.54	≤30.00	PASS
11G	Ant1	2412	11.87	≤30.00	PASS
		2437	11.97	≤30.00	PASS
		2462	11.64	≤30.00	PASS
11N20SISO	Ant1	2412	11.93	≤30.00	PASS
		2437	11.93	≤30.00	PASS
		2462	11.63	≤30.00	PASS

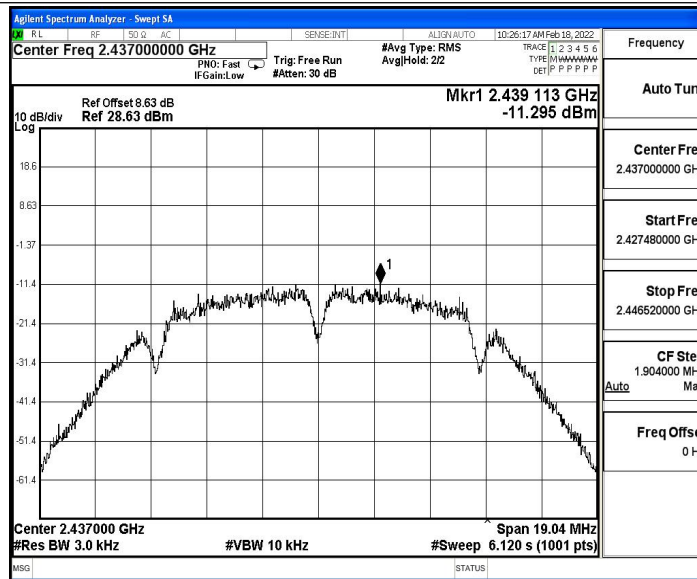
A.3 Maximum power spectral density

Test Result

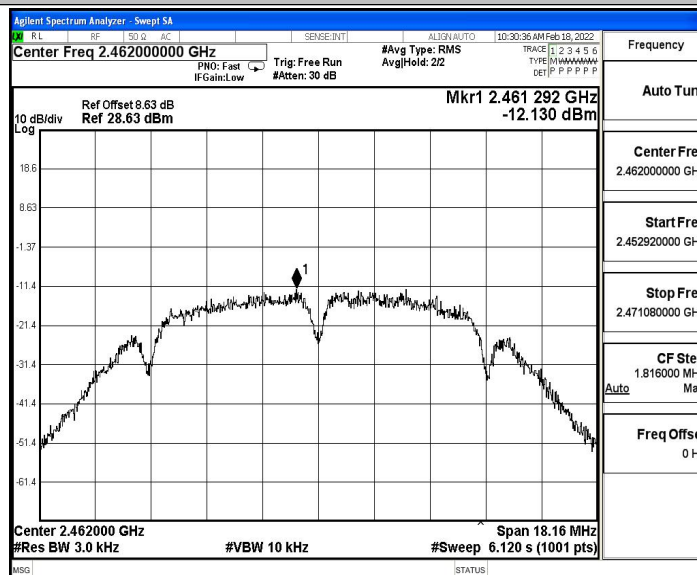
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-12.33	≤8.00	PASS
		2437	-11.3	≤8.00	PASS
		2462	-12.13	≤8.00	PASS
11G	Ant1	2412	-21.55	≤8.00	PASS
		2437	-22.41	≤8.00	PASS
		2462	-21.49	≤8.00	PASS
11N20SISO	Ant1	2412	-21.44	≤8.00	PASS
		2437	-20.68	≤8.00	PASS
		2462	-22.11	≤8.00	PASS

Test Graphs

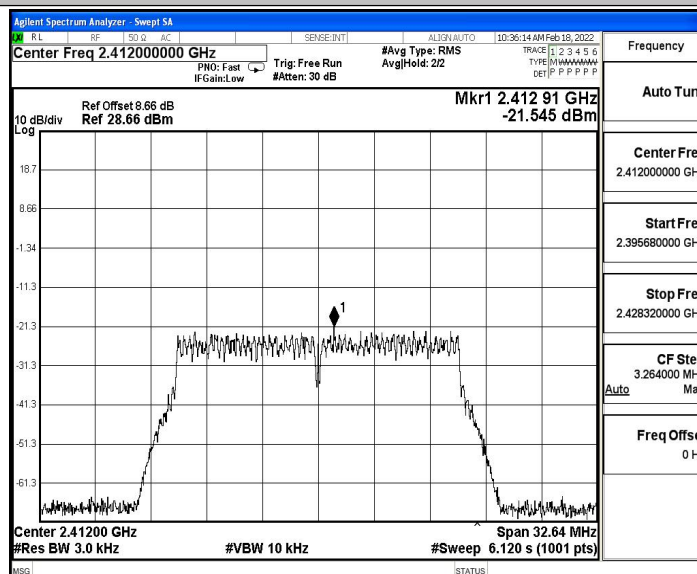




11B_Ant1_2462

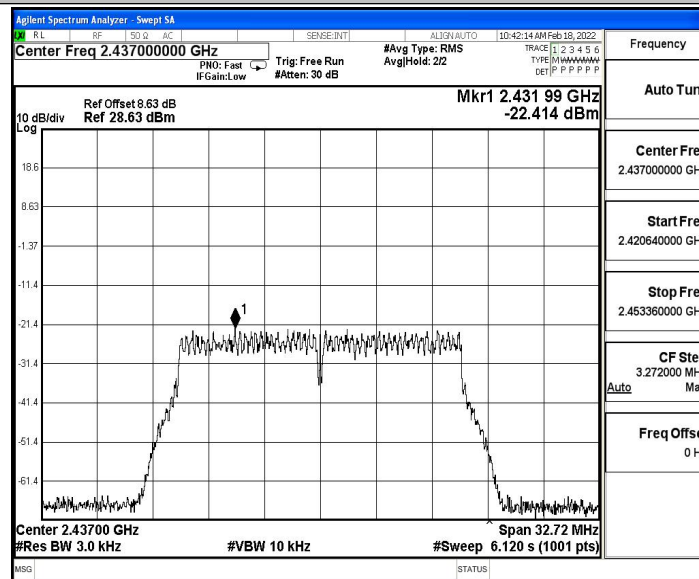


11G_Ant1_2412

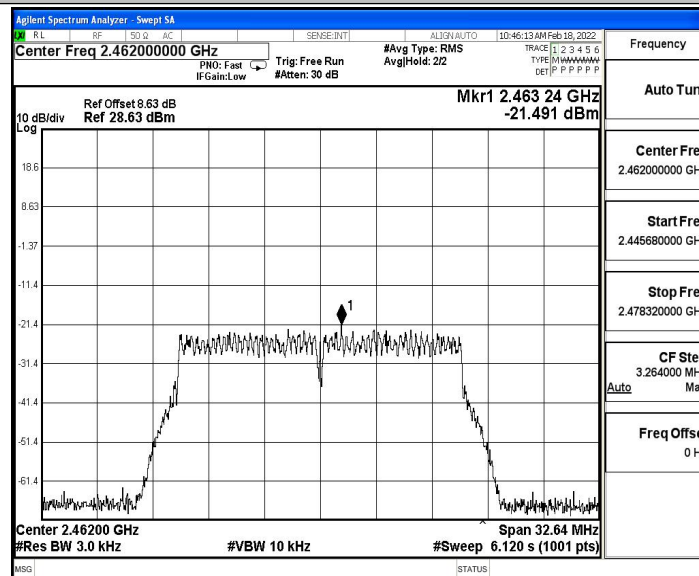




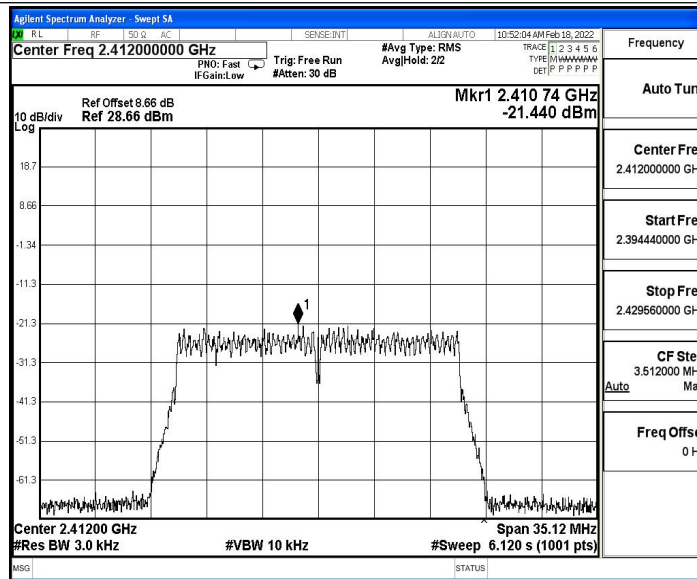
11G_Ant1_2437



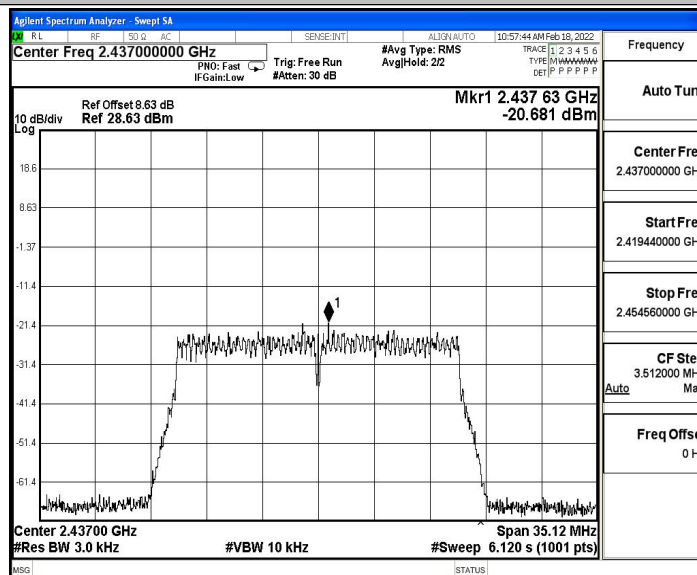
11G_Ant1_2462



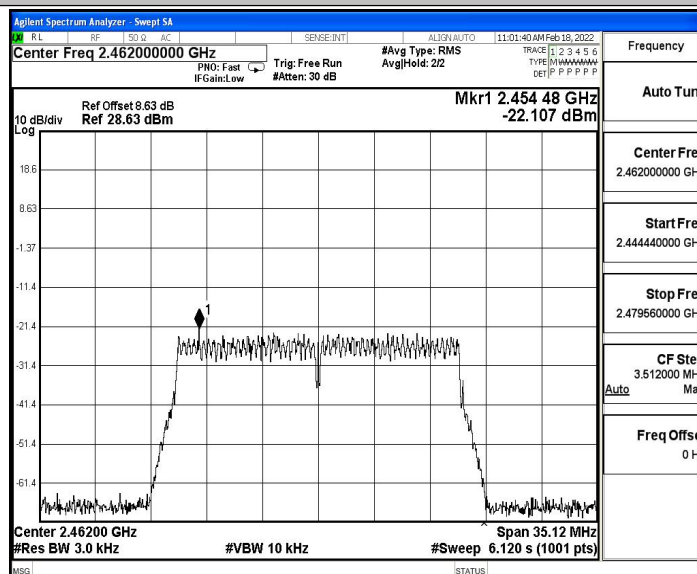
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



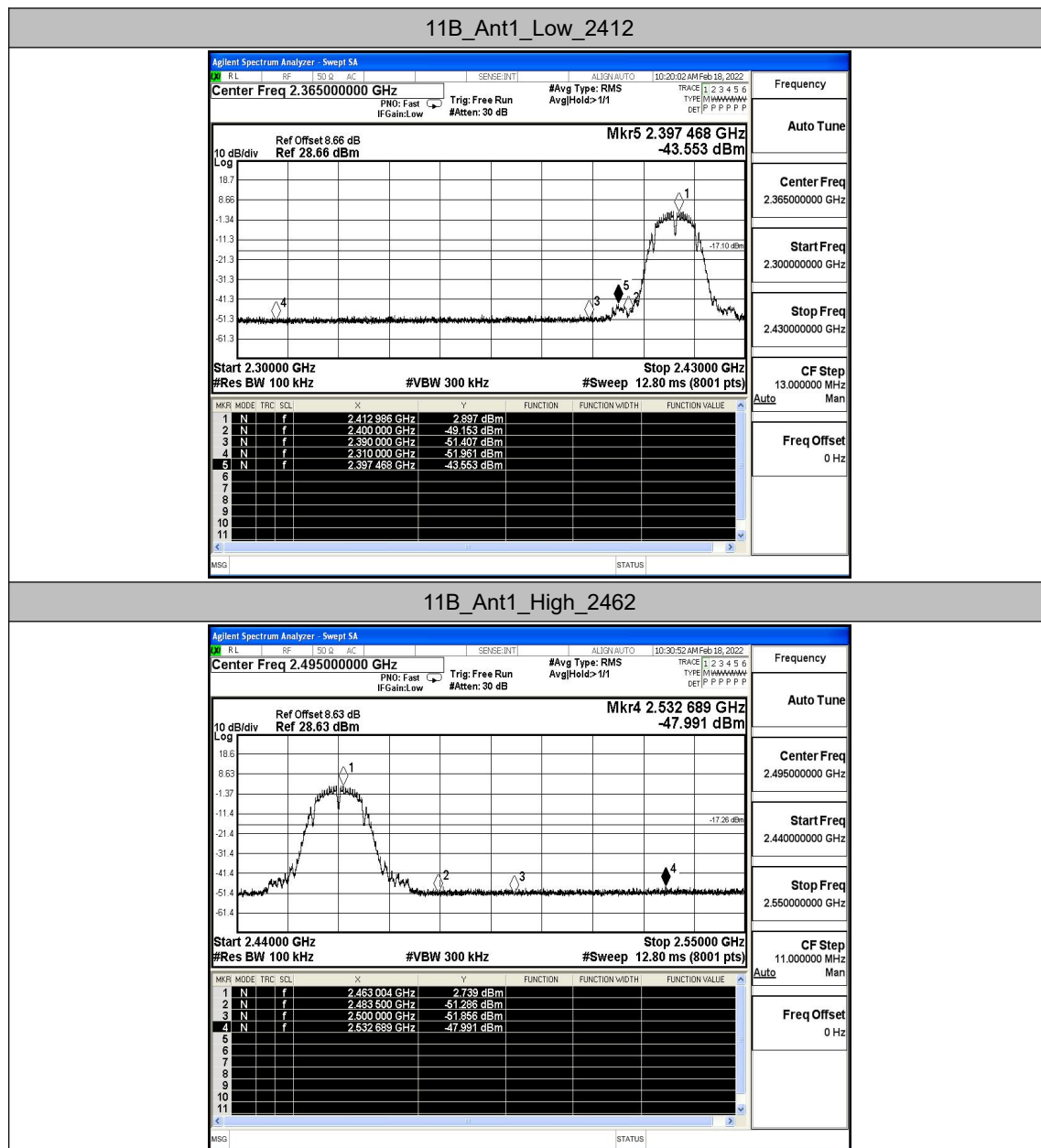


A.4 Band edge measurements

Test Result

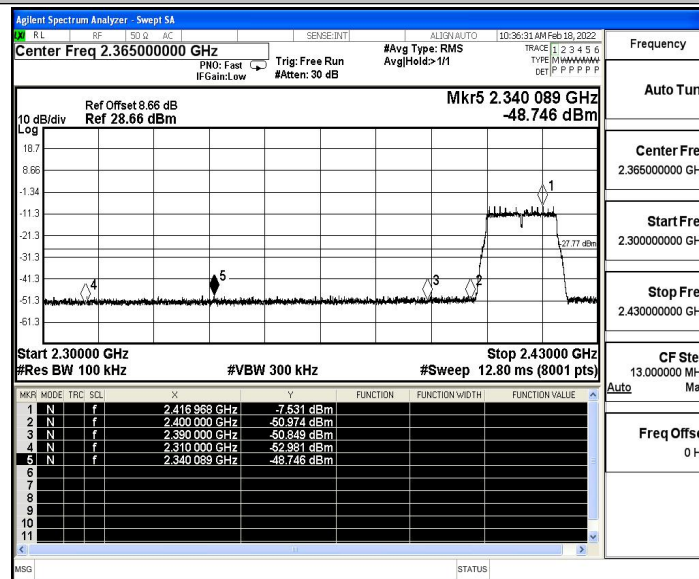
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	2.90	-43.55	≤-17.1	PASS
		High	2462	2.74	-47.99	≤-17.26	PASS
11G	Ant1	Low	2412	-7.77	-48.75	≤-27.77	PASS
		High	2462	-7.48	-47.8	≤-27.48	PASS
11N20SISO	Ant1	Low	2412	-7.36	-48.66	≤-27.36	PASS
		High	2462	-7.38	-47.63	≤-27.38	PASS

Test Graphs

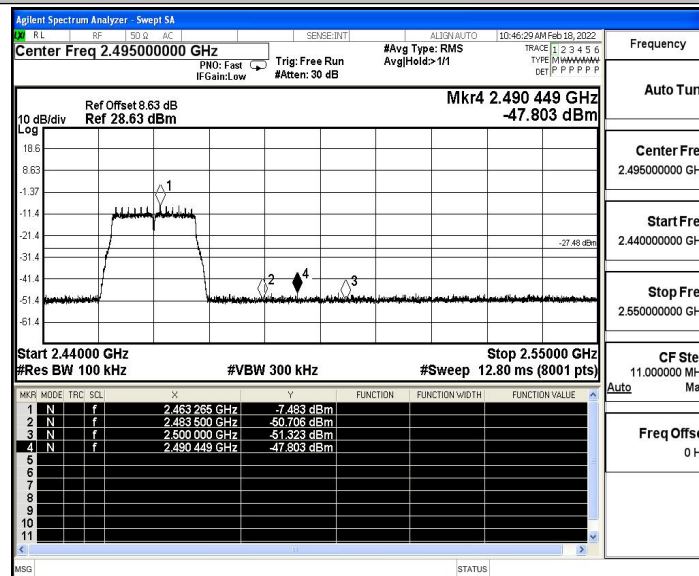




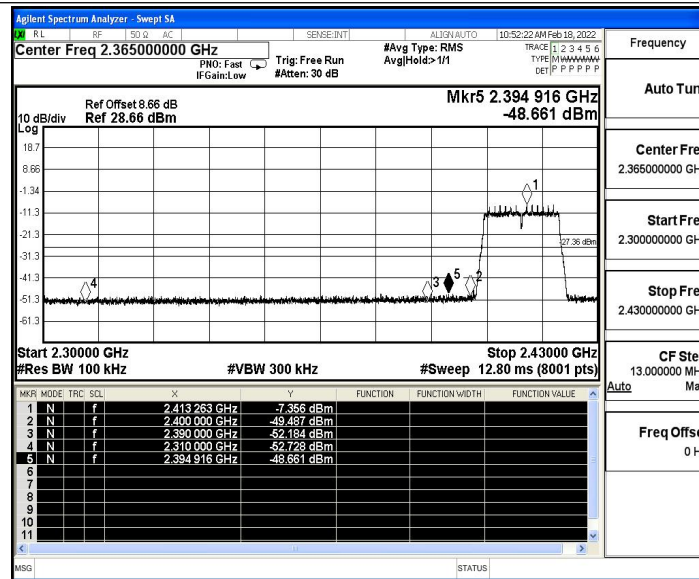
11G_Ant1_Low_2412



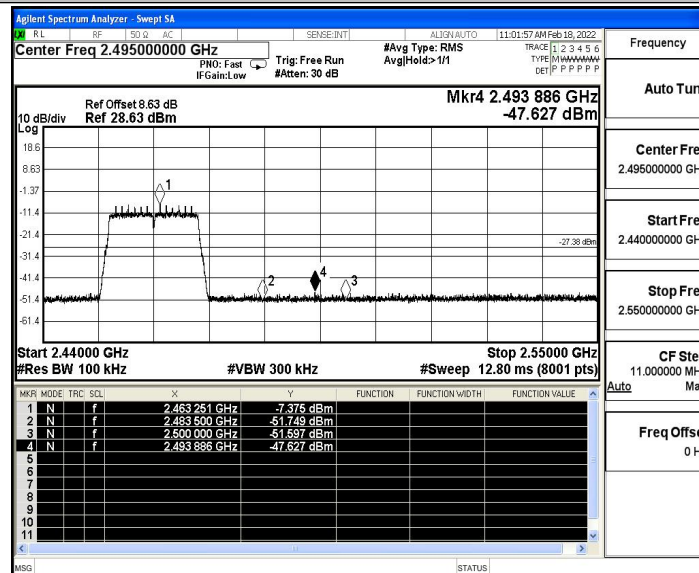
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462





A.5 Conducted Spurious Emission

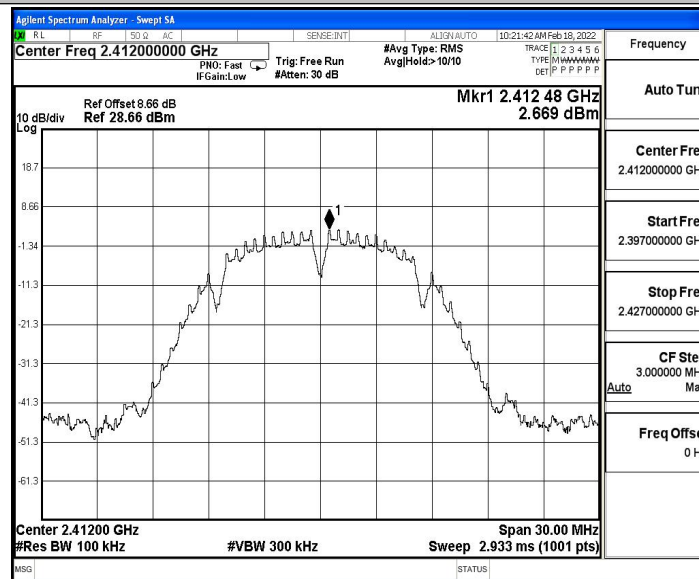
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.67	2.67	---	PASS
			30~1000	2.67	-60.92	≤-17.33	PASS
			1000~26500	2.67	-41.56	≤-17.33	PASS
		2437	Reference	3.25	3.25	---	PASS
			30~1000	3.25	-59.51	≤-16.75	PASS
			1000~26500	3.25	-43.21	≤-16.75	PASS
		2462	Reference	2.71	2.71	---	PASS
			30~1000	2.71	-60.95	≤-17.29	PASS
			1000~26500	2.71	-46.06	≤-17.29	PASS
11G	Ant1	2412	Reference	-7.54	-7.54	---	PASS
			30~1000	-7.54	-60.54	≤-27.54	PASS
			1000~26500	-7.54	-45.51	≤-27.54	PASS
		2437	Reference	-7.68	-7.68	---	PASS
			30~1000	-7.68	-60.49	≤-27.68	PASS
			1000~26500	-7.68	-45.54	≤-27.68	PASS
		2462	Reference	-7.53	-7.53	---	PASS
			30~1000	-7.53	-60.46	≤-27.53	PASS
			1000~26500	-7.53	-46.01	≤-27.53	PASS
11N20SISO	Ant1	2412	Reference	-7.48	-7.48	---	PASS
			30~1000	-7.48	-59.82	≤-27.48	PASS
			1000~26500	-7.48	-46.01	≤-27.48	PASS
		2437	Reference	-7.52	-7.52	---	PASS
			30~1000	-7.52	-59.99	≤-27.52	PASS
			1000~26500	-7.52	-45.99	≤-27.52	PASS
		2462	Reference	-7.39	-7.39	---	PASS
			30~1000	-7.39	-60.63	≤-27.39	PASS
			1000~26500	-7.39	-46.65	≤-27.39	PASS

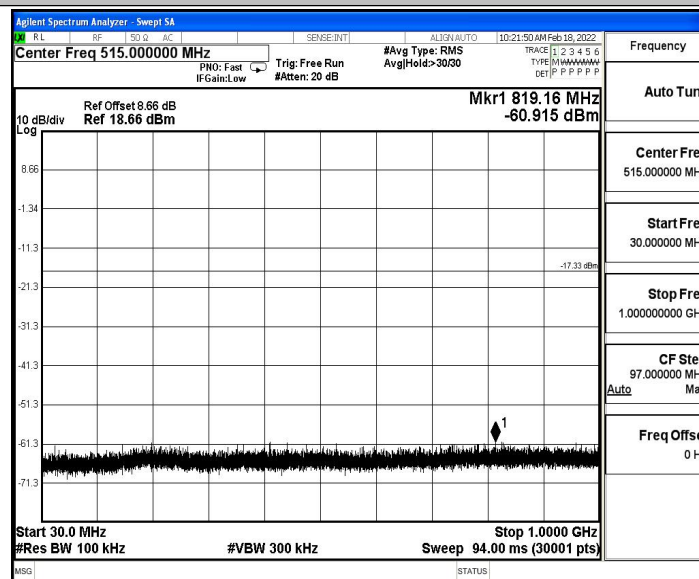


Test Graphs

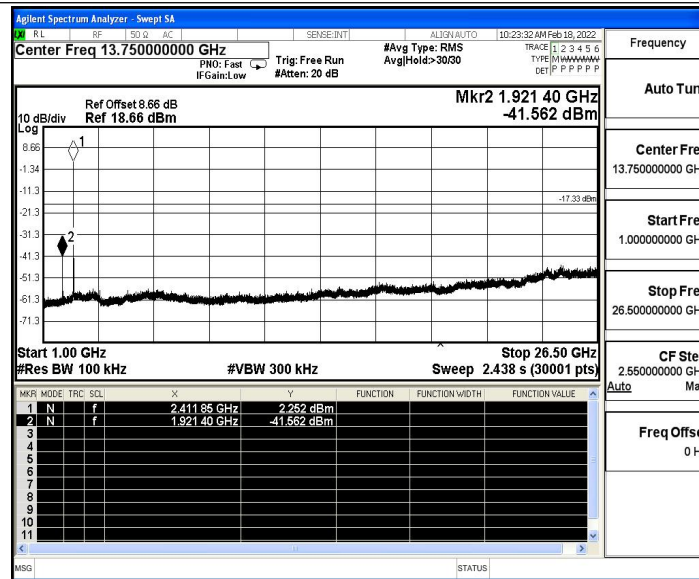
11B_Ant1_2412_0~Reference



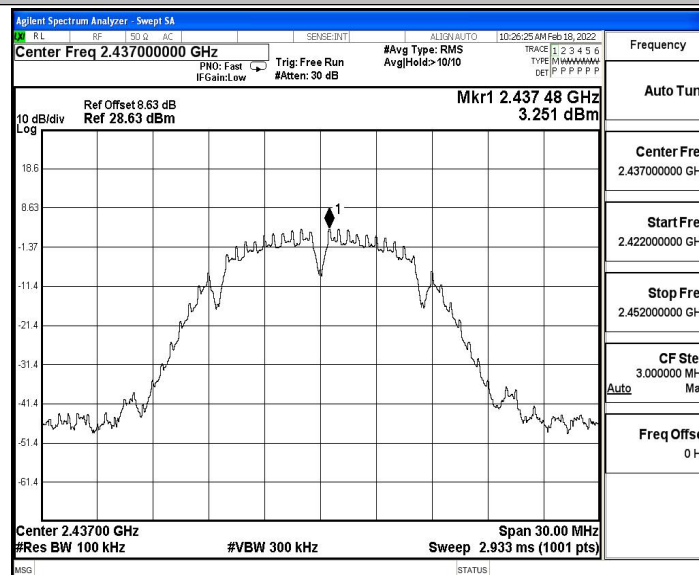
11B_Ant1_2412_30~1000



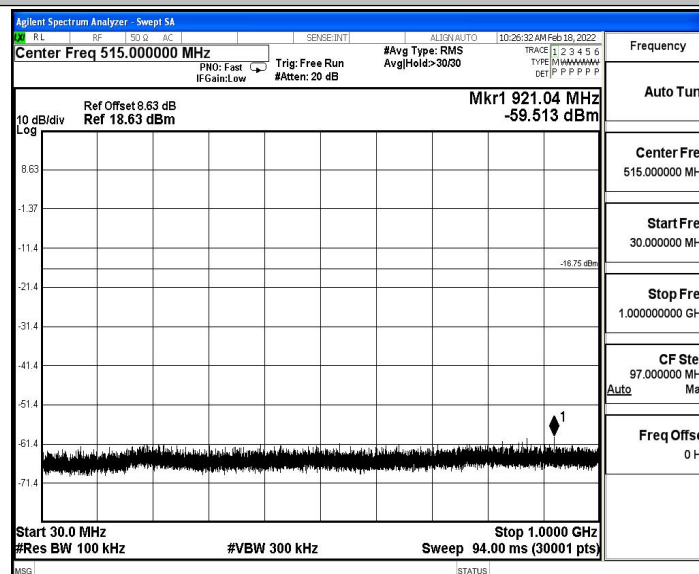
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference

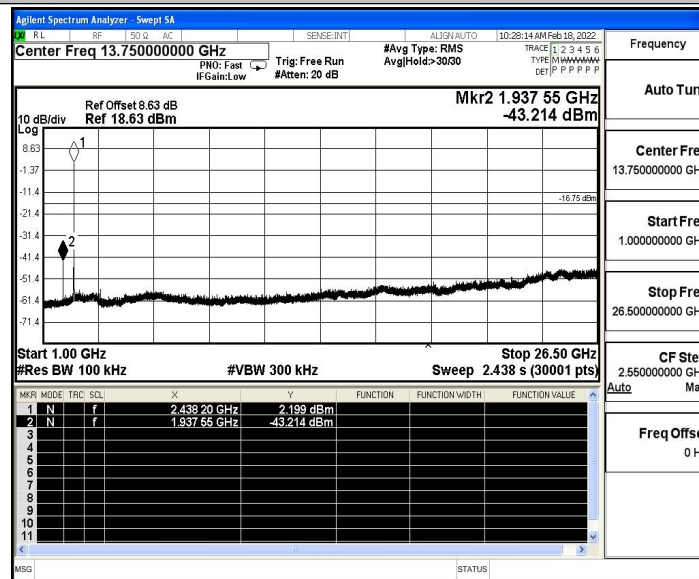


11B_Ant1_2437_30~1000

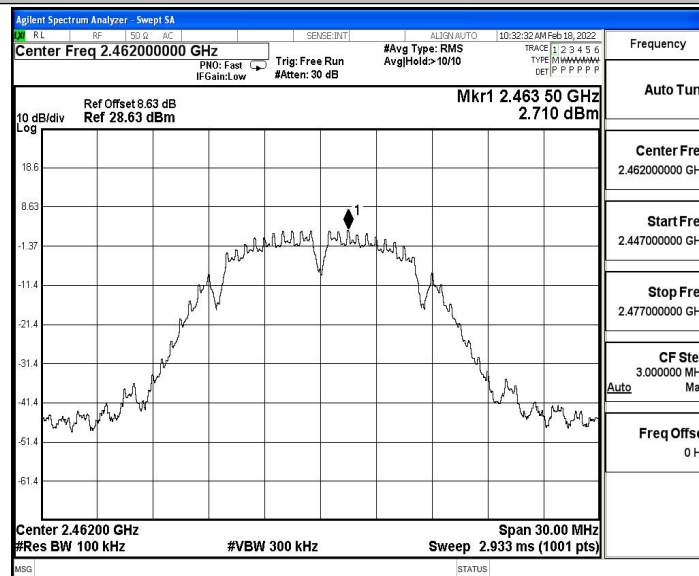




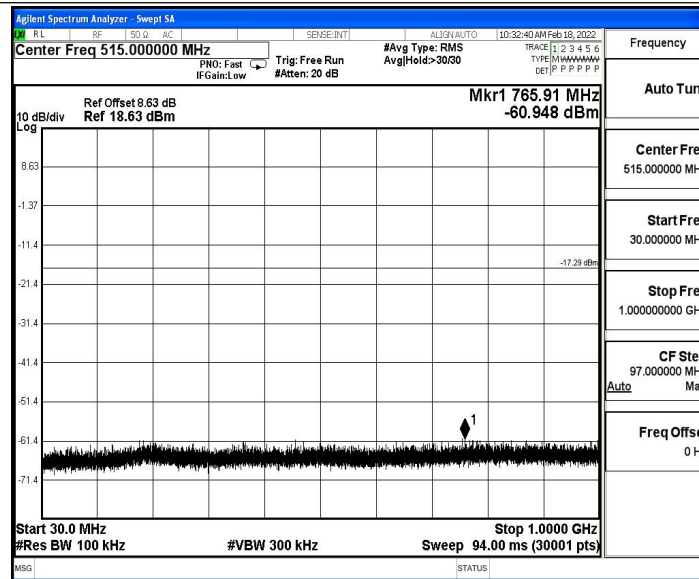
11B_Ant1_2437_1000~26500



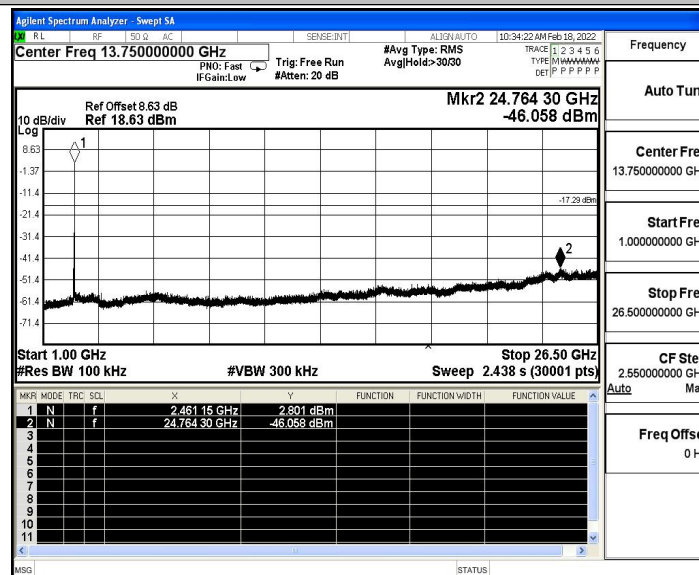
11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

