



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Fishing Sonar dolphin

Test Model: dolphin

Environmental Conditions

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

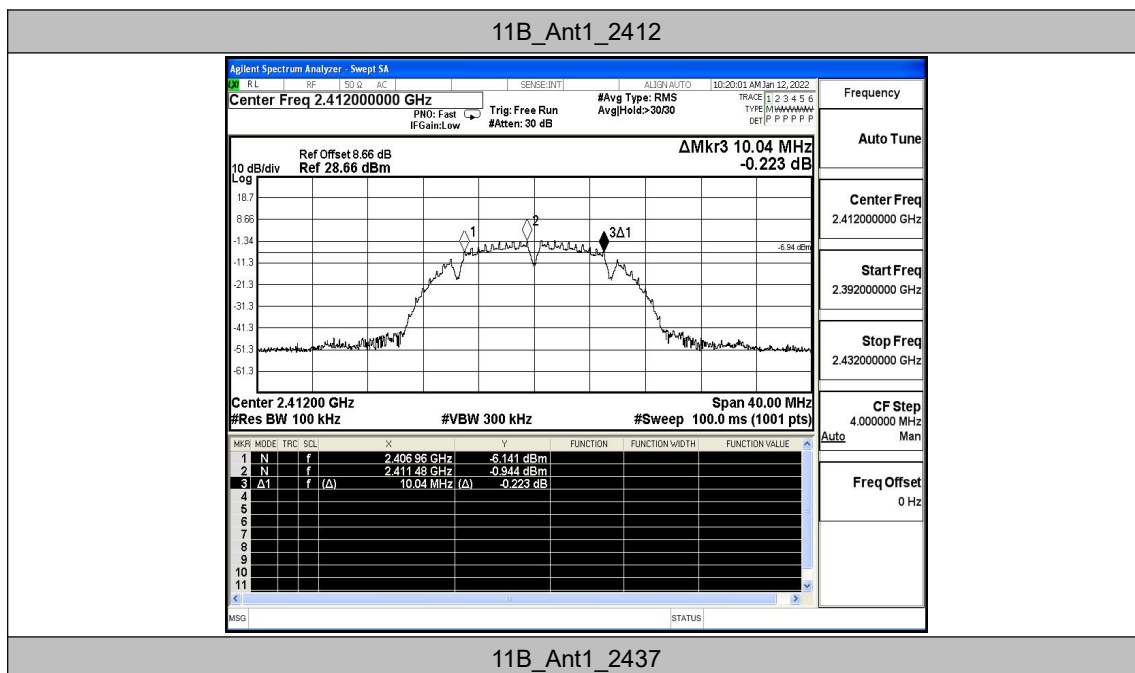


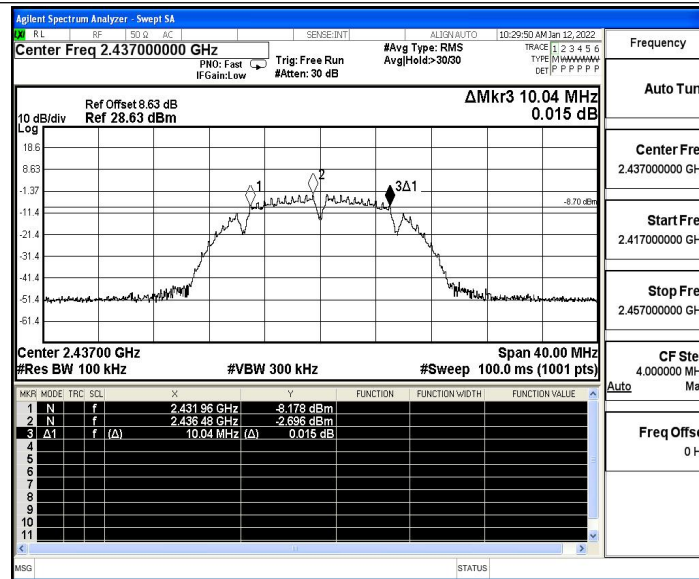
A.1 6dB Bandwidth

Test Result

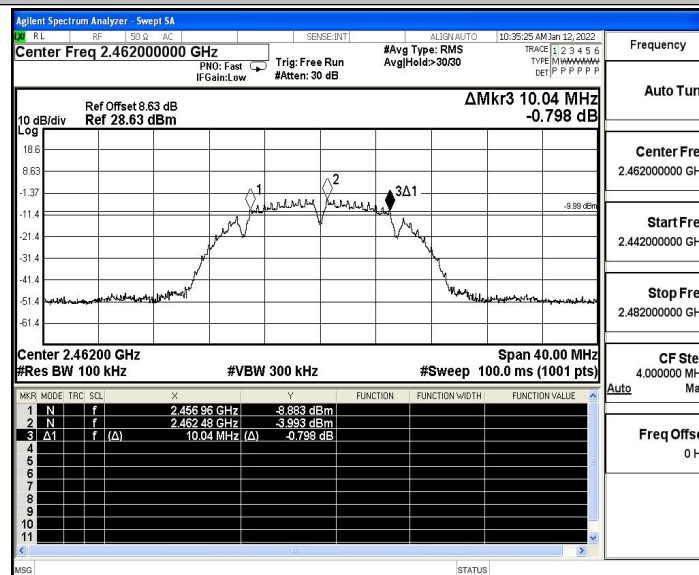
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.040	2406.960	2417.000	0.5	PASS
		2437	10.040	2431.960	2442.000	0.5	PASS
		2462	10.040	2456.960	2467.000	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.320	2428.840	2445.160	0.5	PASS
		2462	16.320	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

Test Graphs

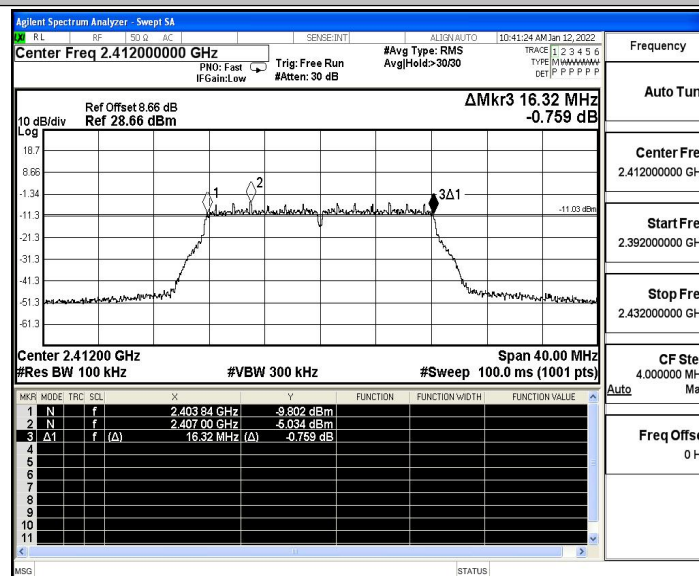




11B_Ant1_2462

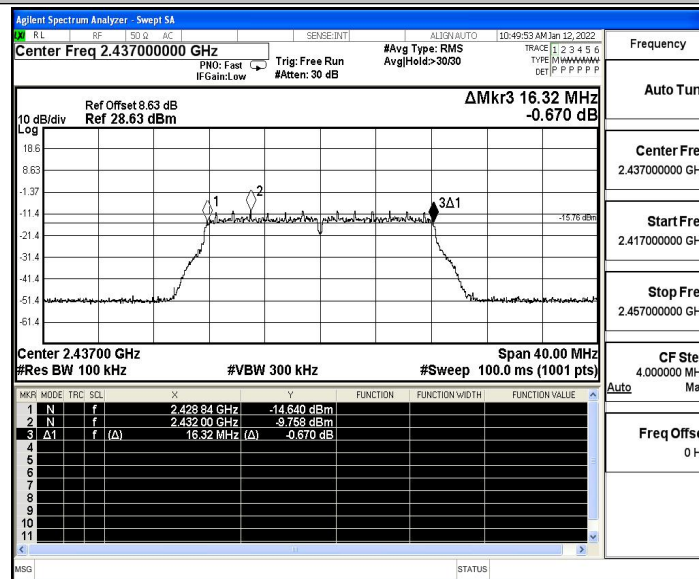


11G_Ant1_2412

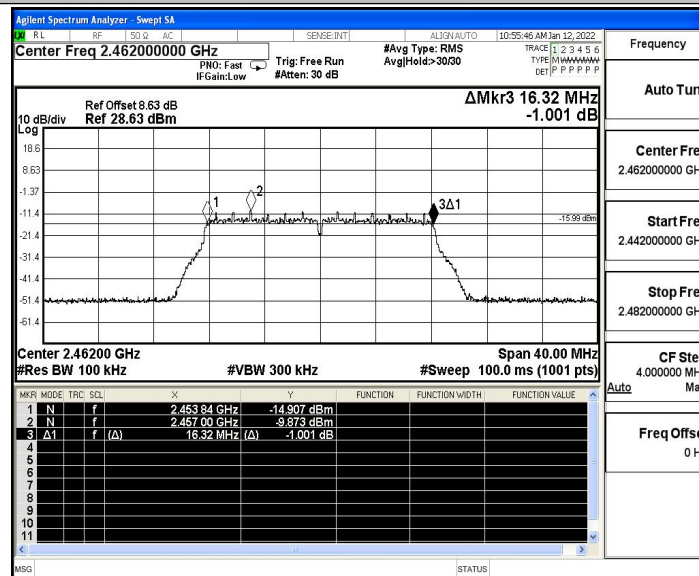




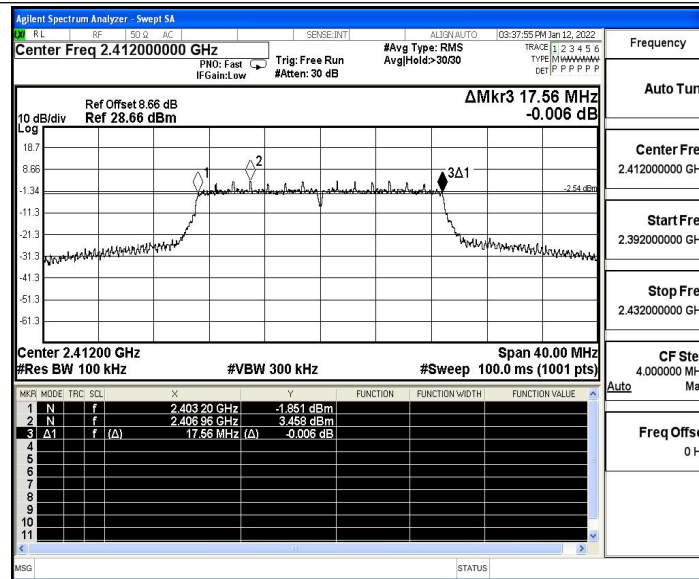
11G_Ant1_2437



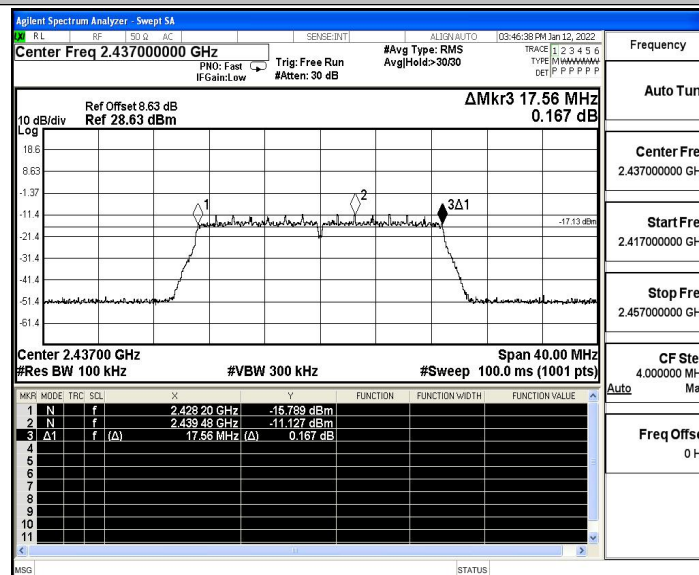
11G_Ant1_2462



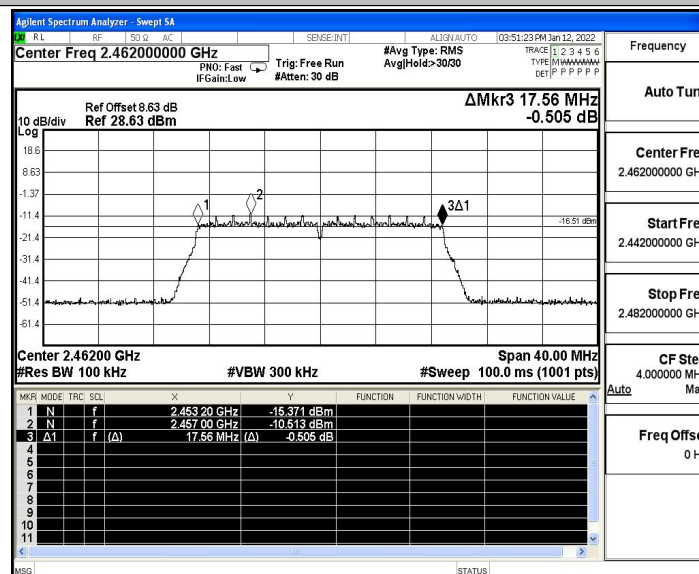
11N20SISO_Ant1_2412



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	7.52	≤30.00	PASS
		2437	7.48	≤30.00	PASS
		2462	7.45	≤30.00	PASS
11G	Ant1	2412	7.41	≤30.00	PASS
		2437	7.49	≤30.00	PASS
		2462	7.37	≤30.00	PASS
11N20SISO	Ant1	2412	7.29	≤30.00	PASS
		2437	7.26	≤30.00	PASS
		2462	7.22	≤30.00	PASS



Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-18.09	≤8.00	PASS
		2437	-18.36	≤8.00	PASS
		2462	-18.73	≤8.00	PASS
11G	Ant1	2412	-24.06	≤8.00	PASS
		2437	-25.93	≤8.00	PASS
		2462	-26.07	≤8.00	PASS
11N20SISO	Ant1	2412	-26.15	≤8.00	PASS
		2437	-24.85	≤8.00	PASS
		2462	-25.83	≤8.00	PASS

11B_Ant1_2412

Agilent Spectrum Analyzer - Sweep SA

RL RF 150 Q AC SENSE INT ALIGN AUTO 11:45:46 AM Jan 12, 2022

Center Freq 2.41200000 GHz #Avg Type: RMS Avg/Hold: 3G Trg: Free Run #Atten: 30 dB

PNO: Fast IF Gain: Low TYPE: WAAAAAAAA DET: P P P P P

Ref Offset 8.66 dB Mkr1 2.412 622 GHz
Ref 25.00 dBm -18.086 dBm

10 dB/div Log

15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0

Center 2.41200 GHz Span 20.08 MHz
#Res BW 3.0 kHz #VBW 10 kHz #Sweep 6.120 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

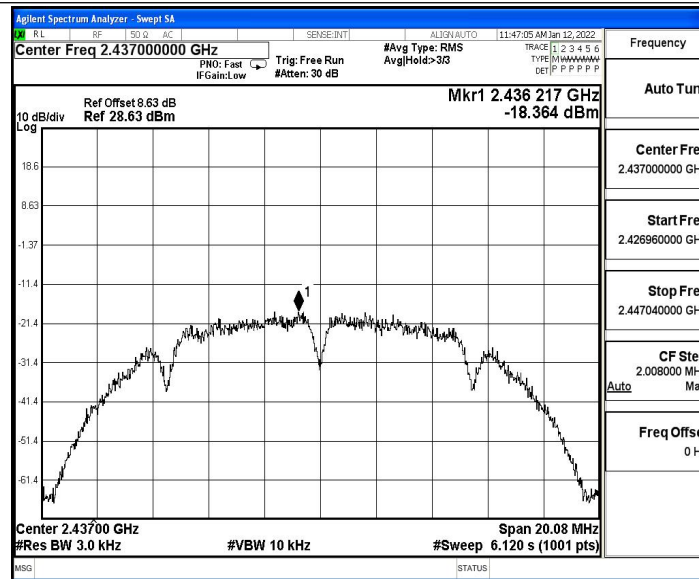
Center Freq 2.41200000 GHz

Start Freq 2.401960000 GHz

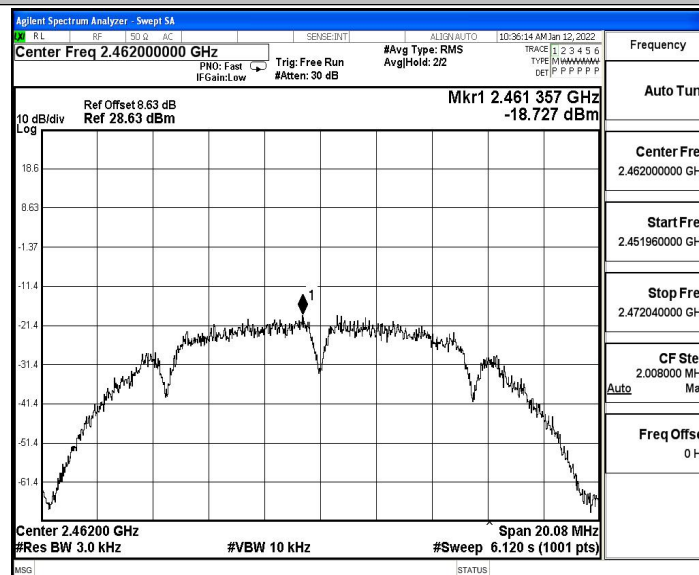
Stop Freq 2.422040000 GHz

CF Step 2.008000 MHz
Auto Man

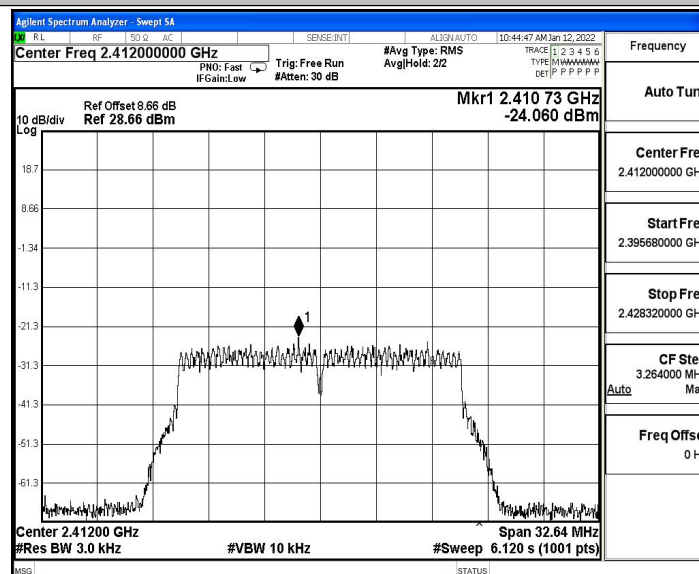
Freq Offset 0 Hz



11B_Ant1_2462

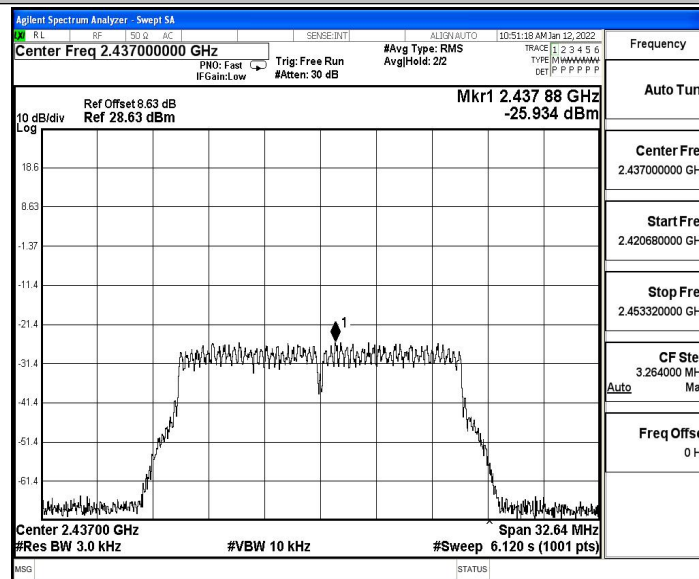


11G_Ant1_2412

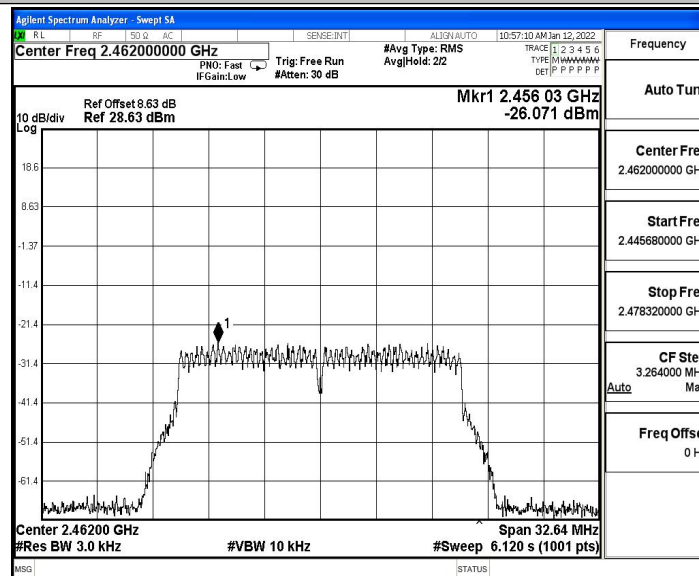




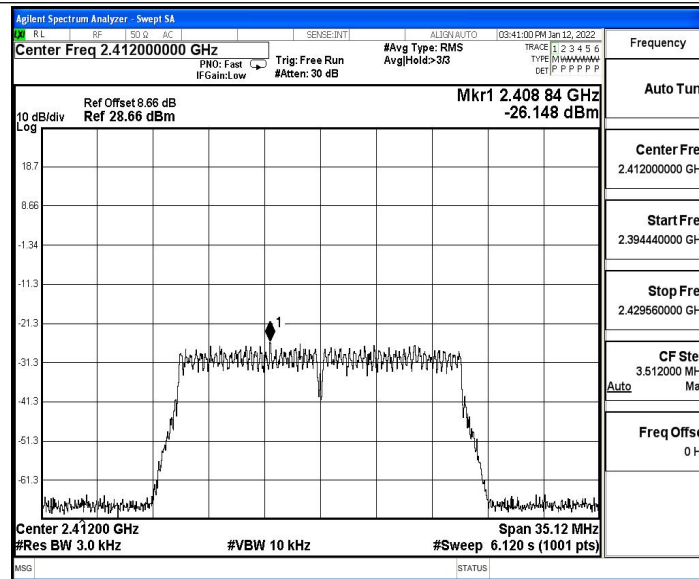
11G_Ant1_2437



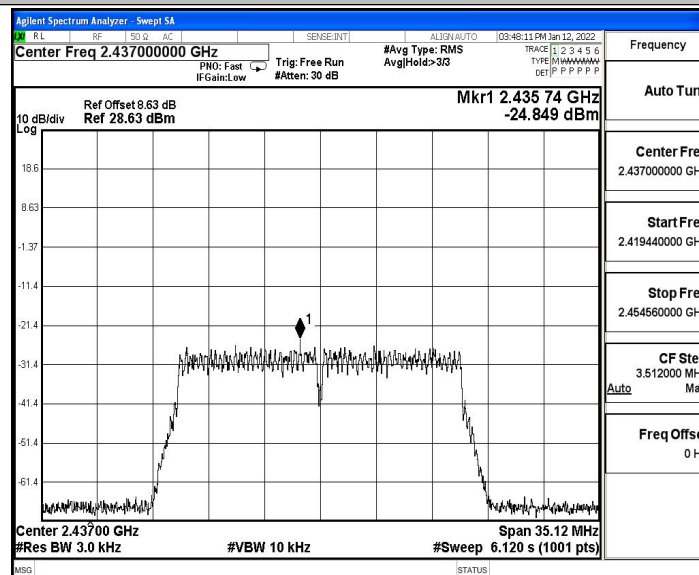
11G_Ant1_2462



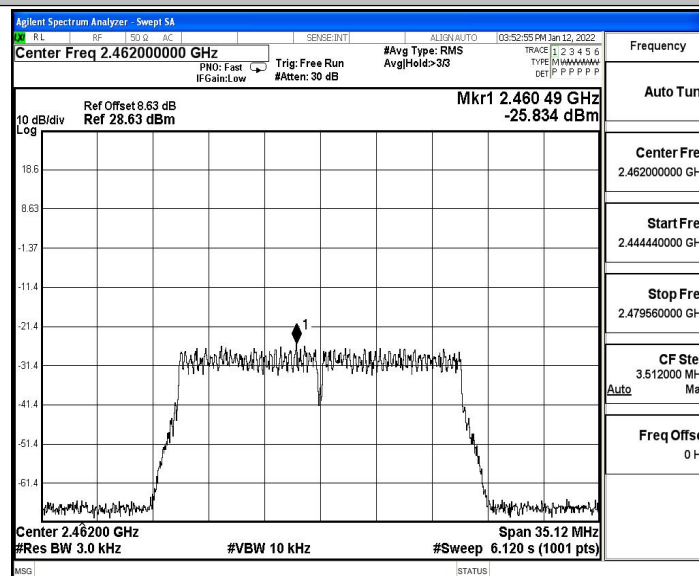
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





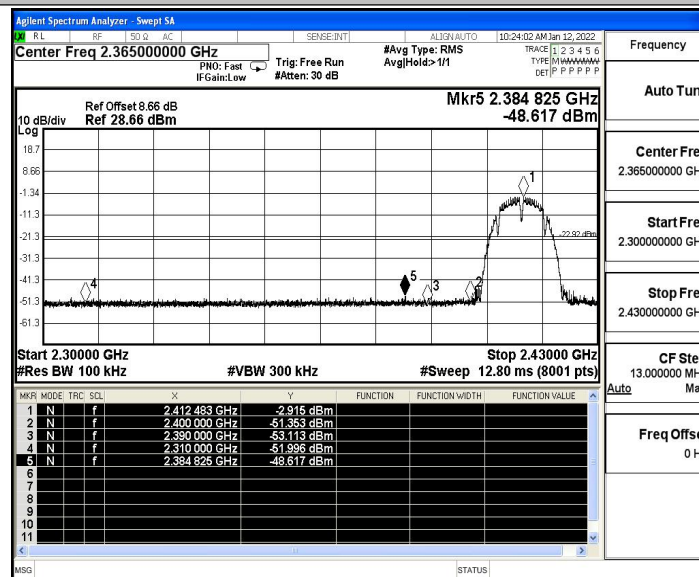
A.4 Band edge measurements

Test Result

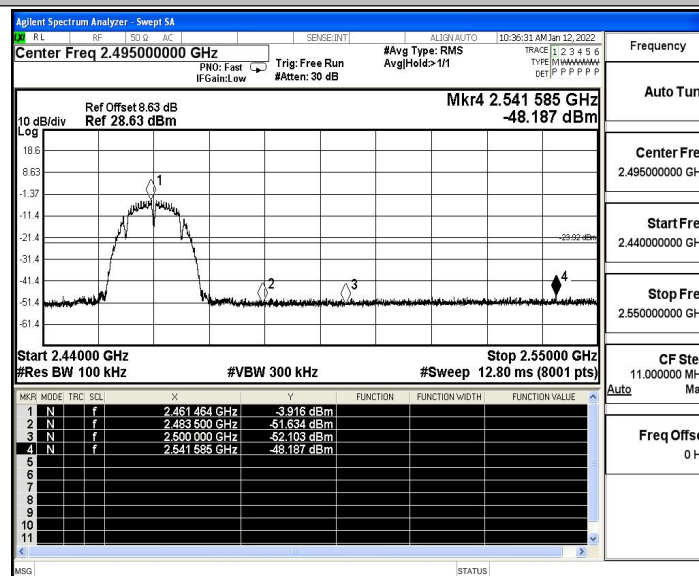
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	-2.92	-48.62	≤-22.92	PASS
		High	2462	-3.92	-48.19	≤-23.92	PASS
11G	Ant1	Low	2412	-9.51	-49.52	≤-29.51	PASS
		High	2462	-9.87	-48.39	≤-29.87	PASS
11N20SISO	Ant1	Low	2412	-10.79	-49.04	≤-30.79	PASS
		High	2462	-10.56	-47.9	≤-30.56	PASS

Test Graphs

11B_Ant1_Low_2412

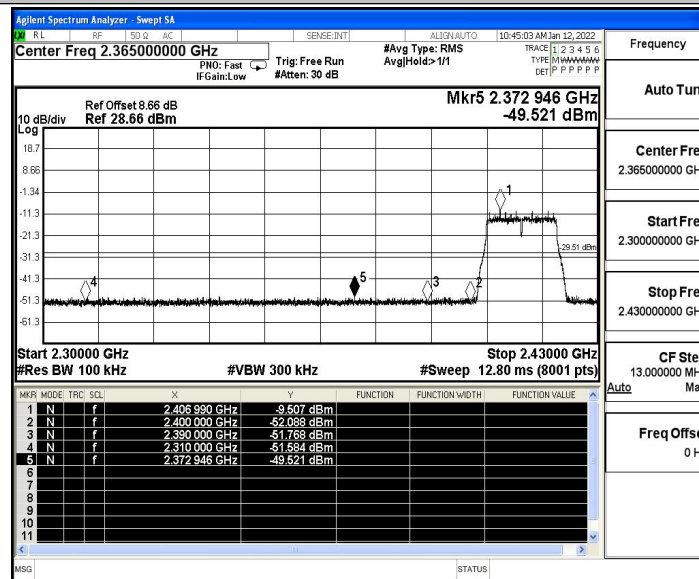


11B_Ant1_High_2462

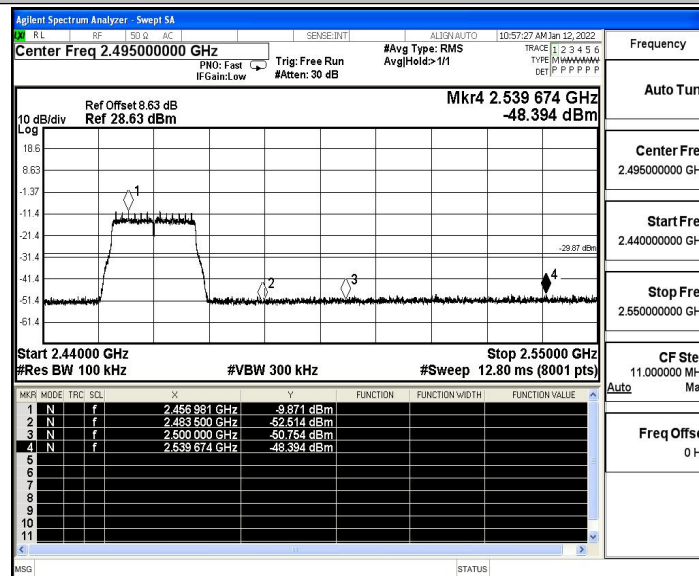




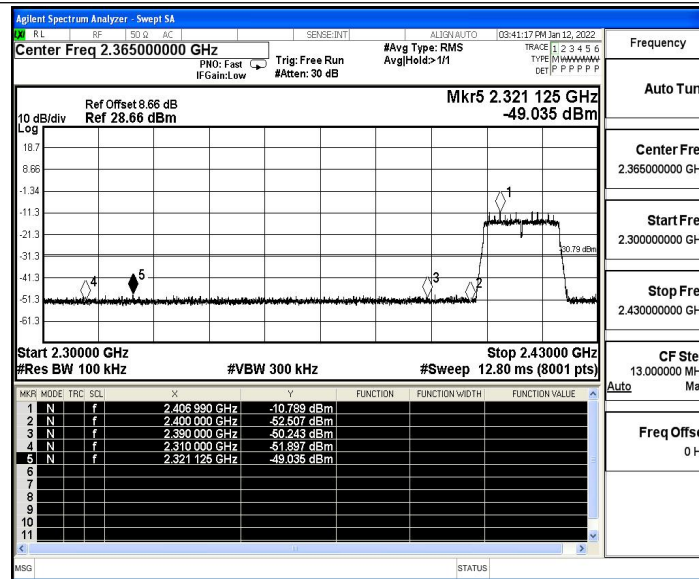
11G_Ant1_Low_2412



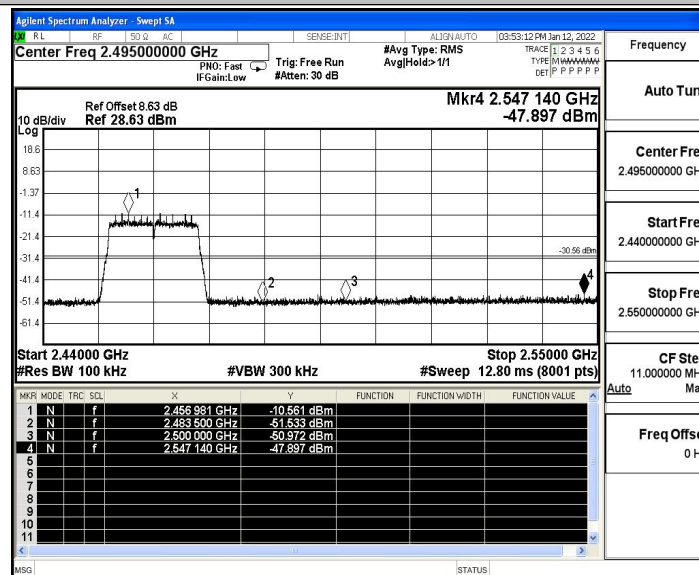
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462





A.5 Conducted Spurious Emission

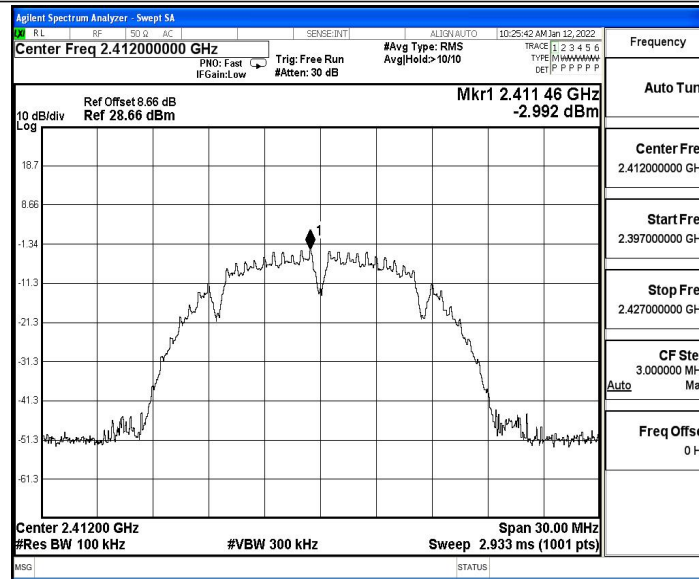
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	-2.99	-2.99	---	PASS
			30~1000	-2.99	-58.89	≤-22.99	PASS
			1000~26500	-2.99	-46.68	≤-22.99	PASS
		2437	Reference	-2.30	-2.30	---	PASS
			30~1000	-2.30	-61.15	≤-22.3	PASS
			1000~26500	-2.30	-46.66	≤-22.3	PASS
		2462	Reference	-4.15	-4.15	---	PASS
			30~1000	-4.15	-60.59	≤-24.15	PASS
			1000~26500	-4.15	-45.96	≤-24.15	PASS
11G	Ant1	2412	Reference	-9.52	-9.52	---	PASS
			30~1000	-9.52	-60.76	≤-29.52	PASS
			1000~26500	-9.52	-46.74	≤-29.52	PASS
		2437	Reference	-10.07	-10.07	---	PASS
			30~1000	-10.07	-60.65	≤-30.07	PASS
			1000~26500	-10.07	-46.26	≤-30.07	PASS
		2462	Reference	-10.68	-10.68	---	PASS
			30~1000	-10.68	-60.66	≤-30.68	PASS
			1000~26500	-10.68	-46.54	≤-30.68	PASS
11N20SISO	Ant1	2412	Reference	-11.20	-11.20	---	PASS
			30~1000	-11.20	-47.27	≤-31.2	PASS
			1000~26500	-11.20	-46.14	≤-31.2	PASS
		2437	Reference	-10.98	-10.98	---	PASS
			30~1000	-10.98	-48.25	≤-30.98	PASS
			1000~26500	-10.98	-46.65	≤-30.98	PASS
		2462	Reference	-10.85	-10.85	---	PASS
			30~1000	-10.85	-47.92	≤-30.85	PASS
			1000~26500	-10.85	-45.56	≤-30.85	PASS

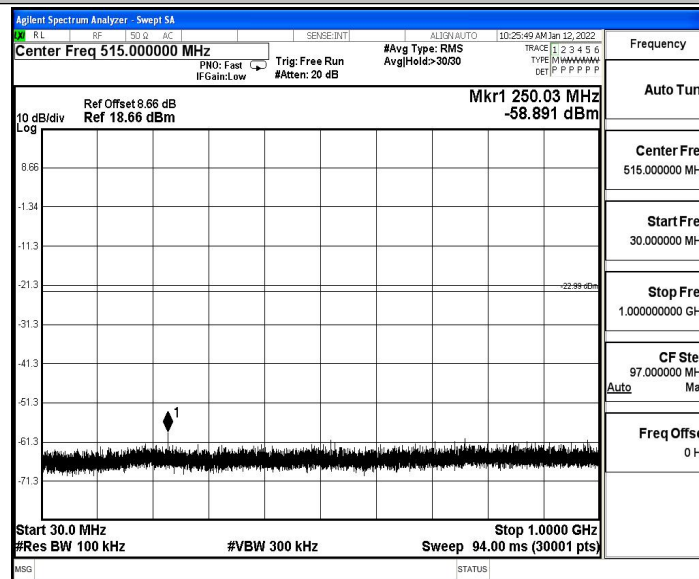


Test Graphs

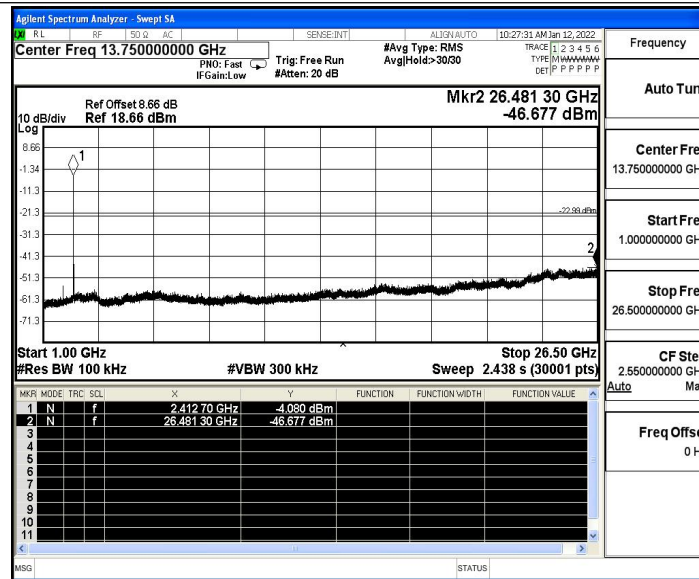
11B_Ant1_2412_0~Reference



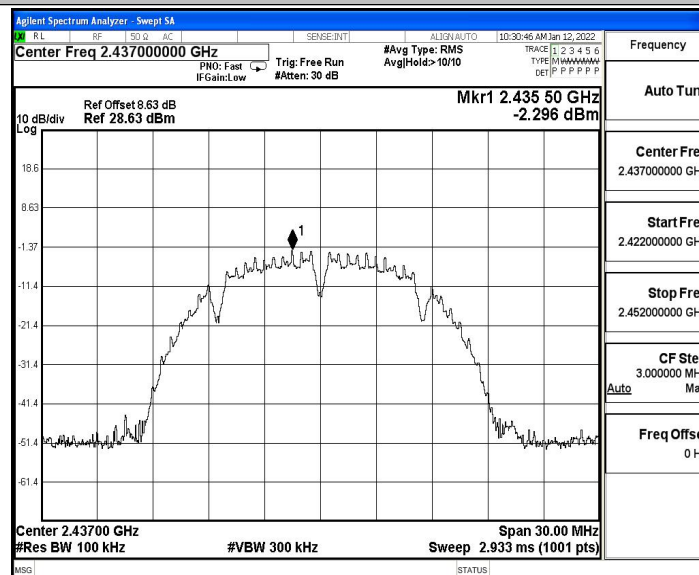
11B_Ant1_2412_30~1000



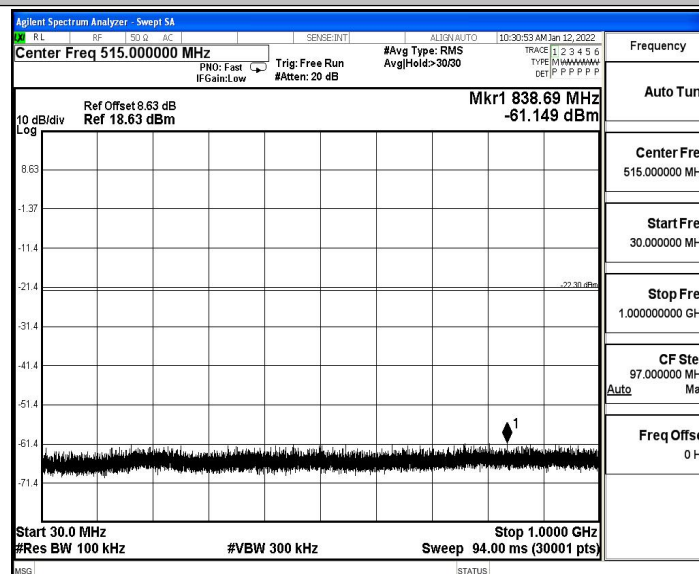
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference

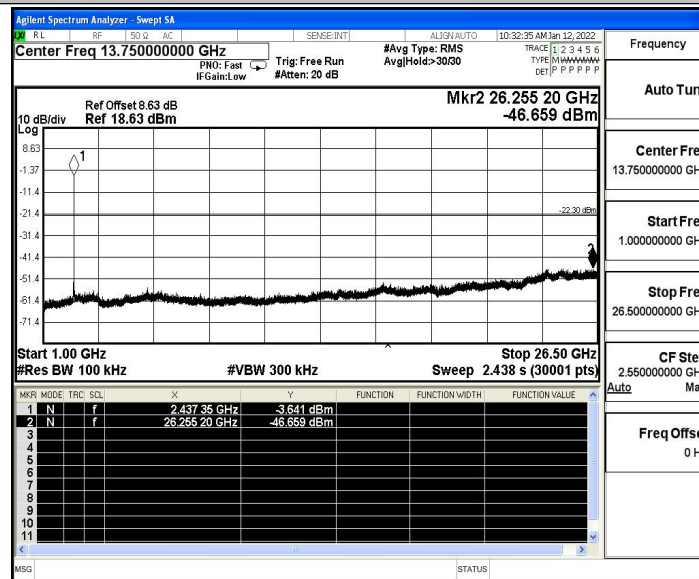


11B_Ant1_2437_30~1000

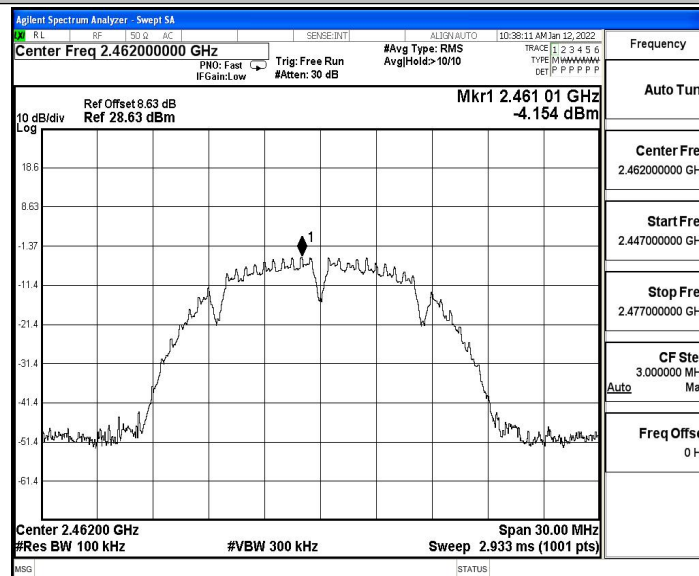




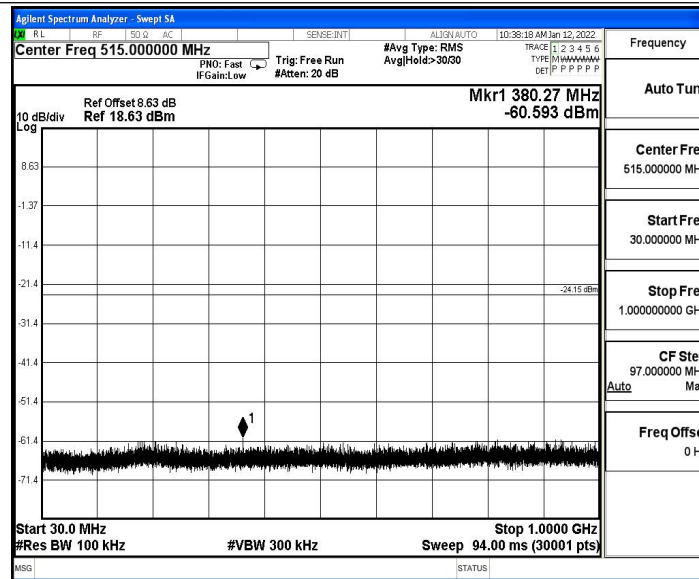
11B_Ant1_2437_1000~26500



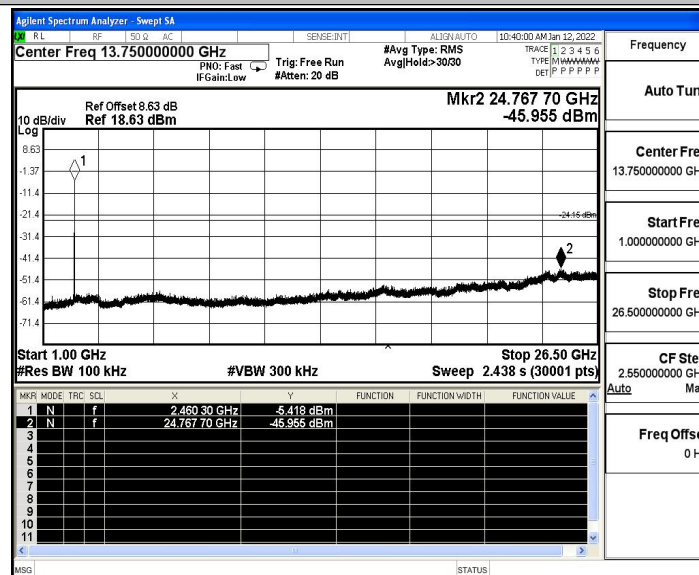
11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

