



Appendix C

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: 4G Phone

Test Model: HIT-01

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li huan

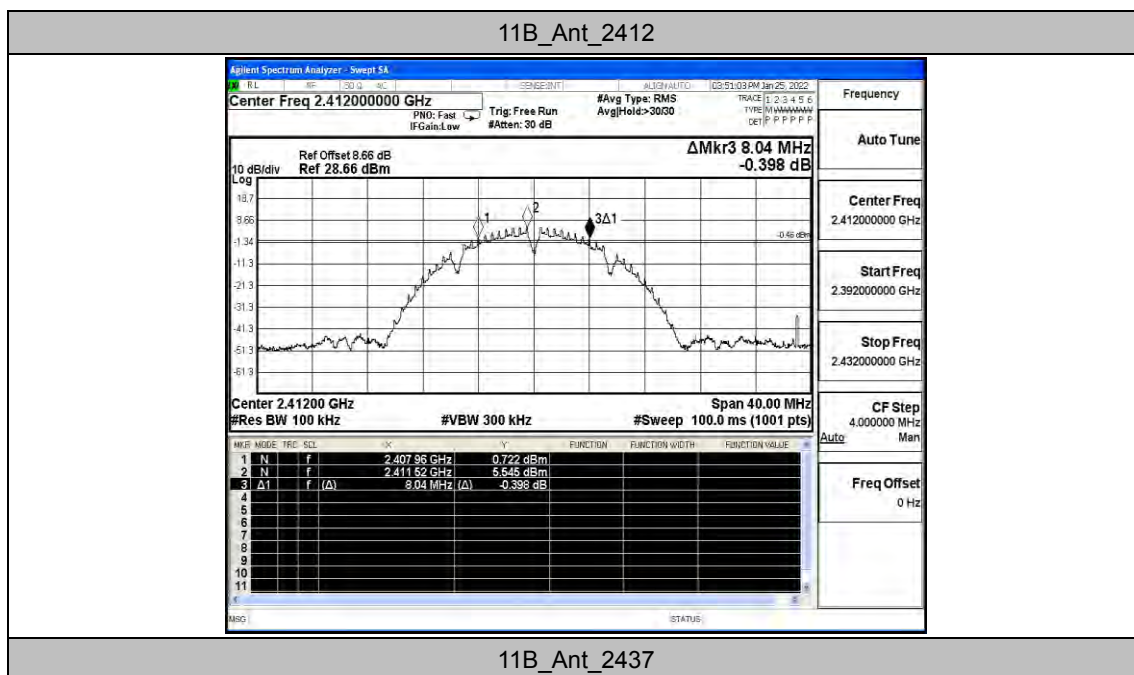


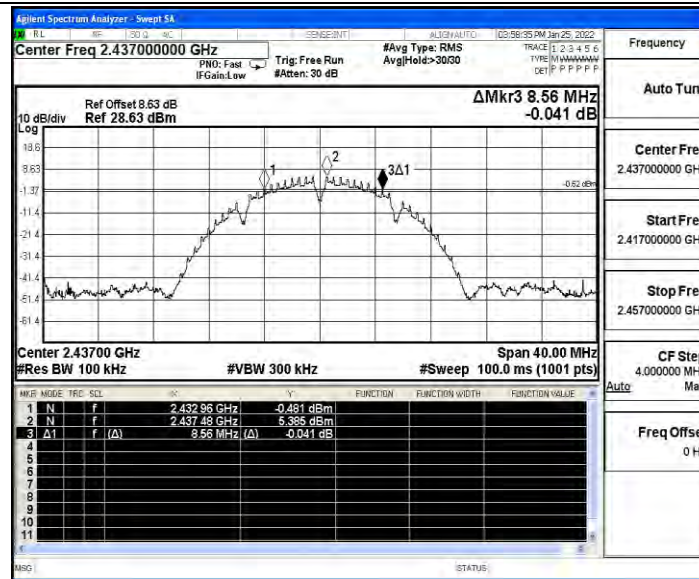
C.1 6dB Bandwidth

Test Result

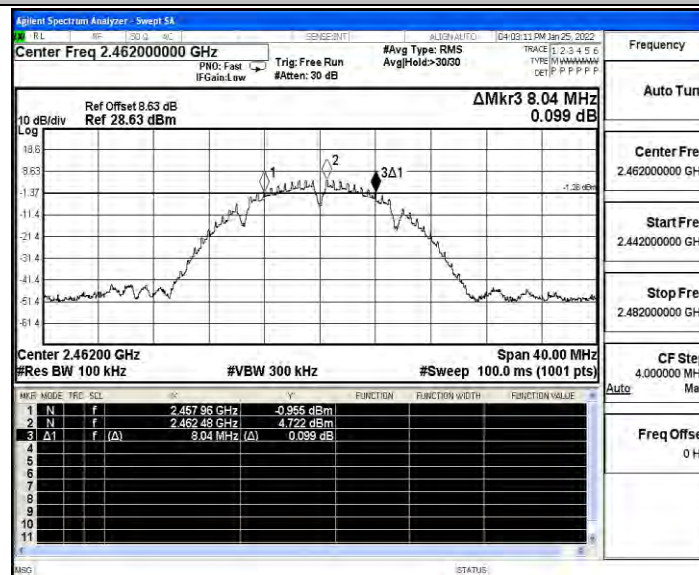
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant	2412	8.040	2407.960	2416.000	0.5	PASS
		2437	8.560	2432.960	2441.520	0.5	PASS
		2462	8.040	2457.960	2466.000	0.5	PASS
11G	Ant	2412	15.440	2404.120	2419.560	0.5	PASS
		2437	15.280	2429.440	2444.720	0.5	PASS
		2462	15.400	2454.120	2469.520	0.5	PASS
11N20SISO	Ant	2412	15.640	2403.880	2419.520	0.5	PASS
		2437	16.080	2429.440	2445.520	0.5	PASS
		2462	15.280	2454.240	2469.520	0.5	PASS
11N40SISO	Ant	2422	35.120	2404.400	2439.520	0.5	PASS
		2437	35.040	2419.480	2454.520	0.5	PASS
		2452	35.040	2434.480	2469.520	0.5	PASS

Test Graphs

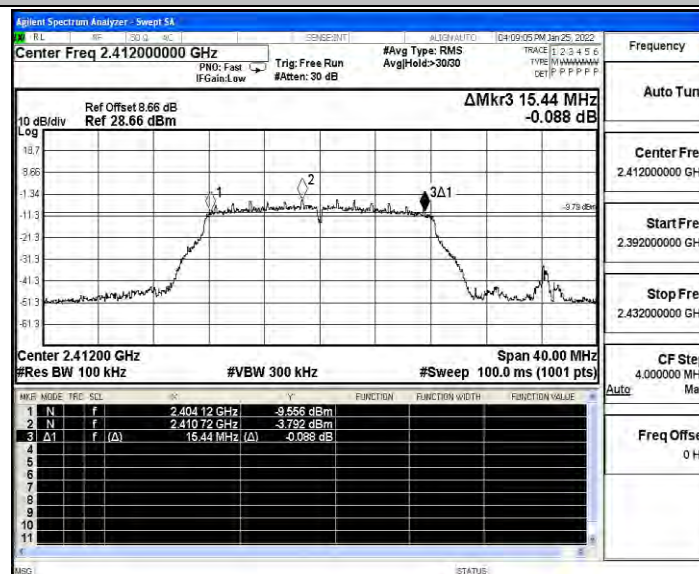




11B_Ant_2462

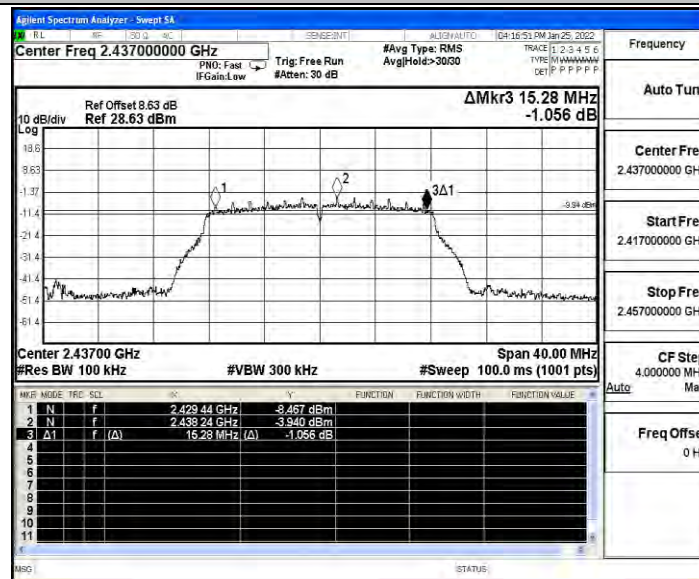


11G_Ant_2412

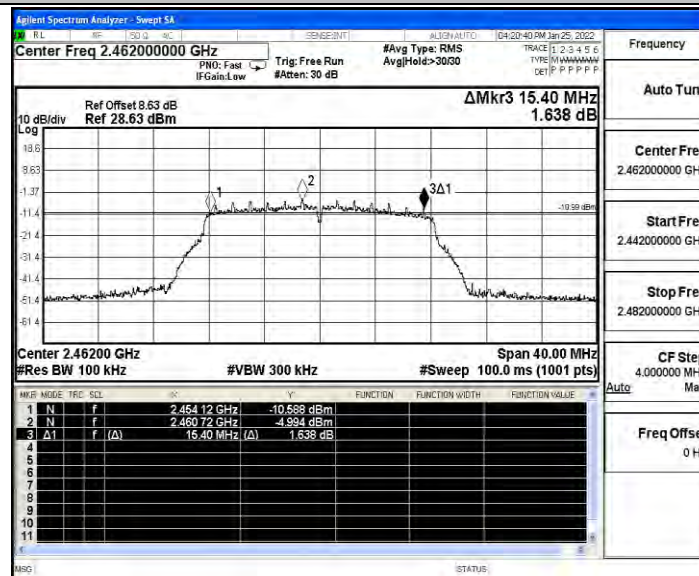




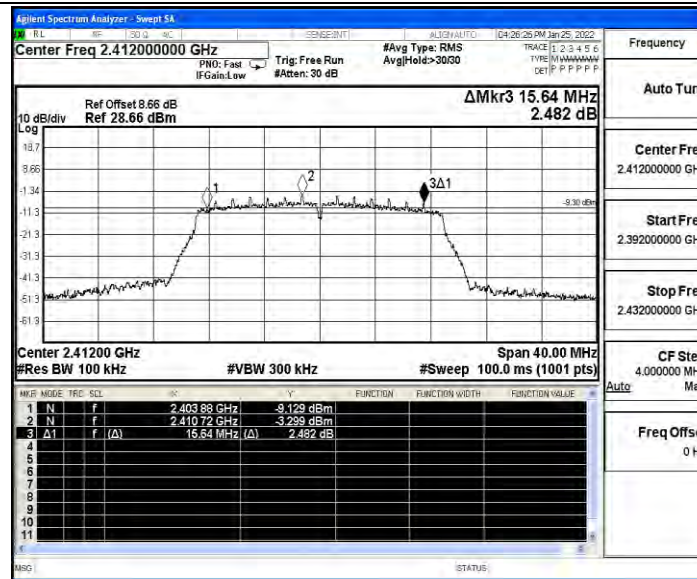
11G_Ant_2437



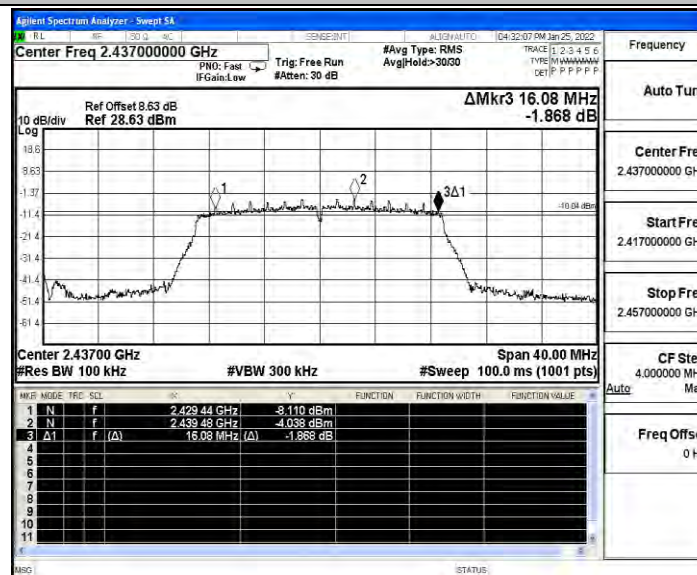
11G_Ant_2462



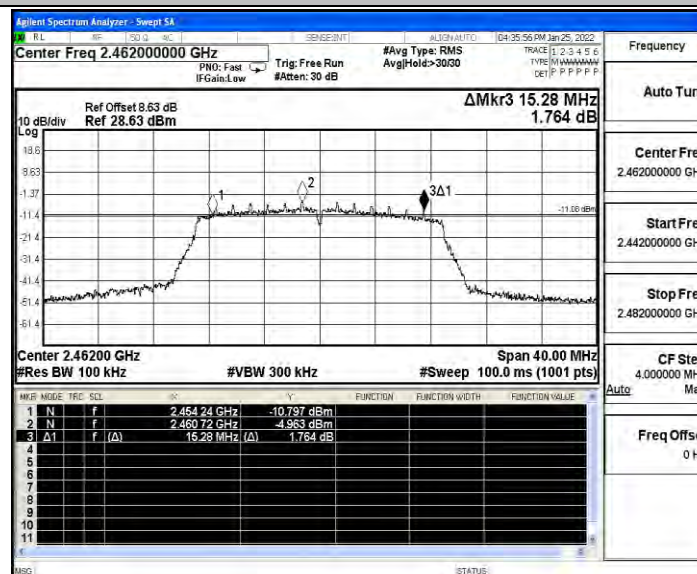
11N20SISO_Ant_2412



11N20SISO_Ant_2437

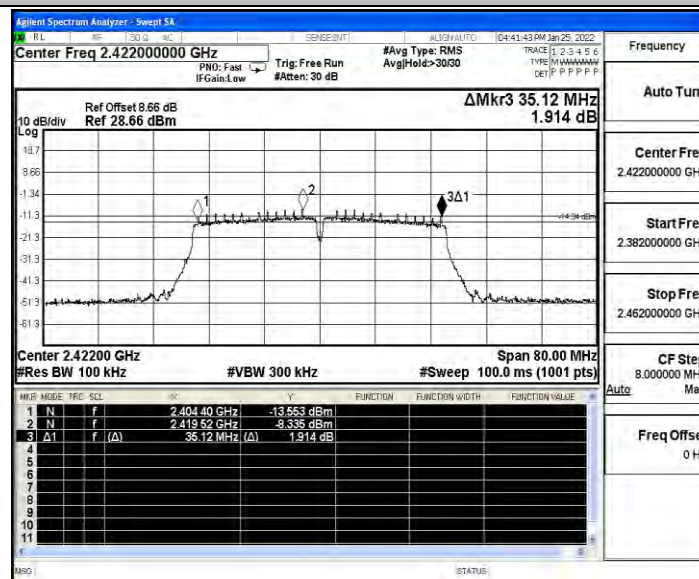


11N20SISO_Ant_2462

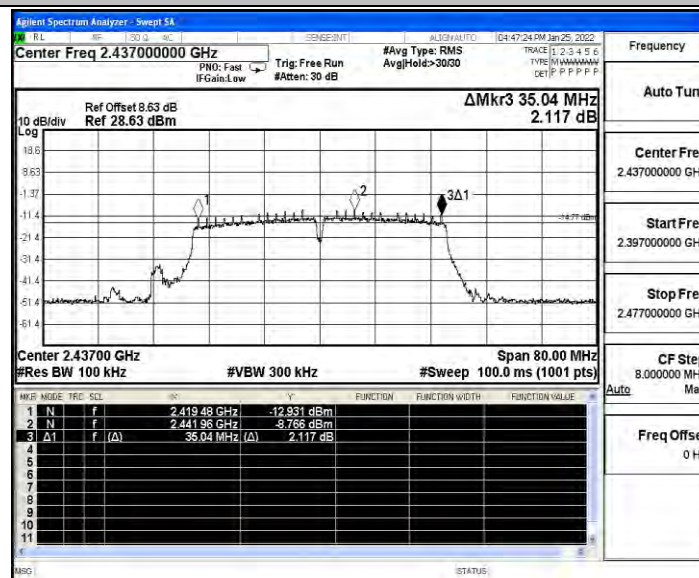




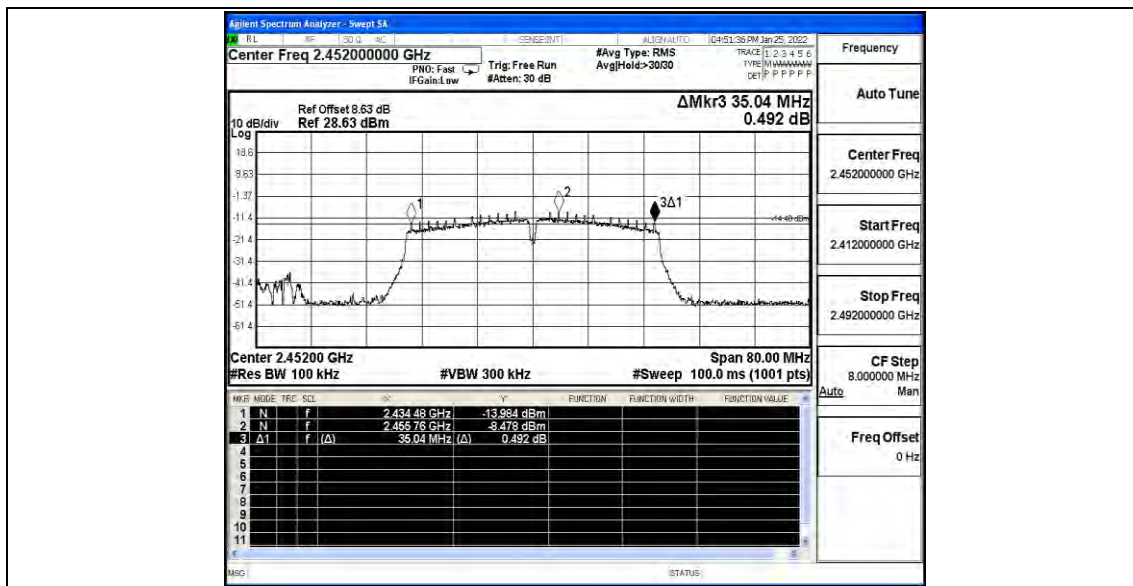
11N40SISO_Ant_2422



11N40SISO_Ant_2437



11N40SISO_Ant_2452





C.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant	2412	16.63	≤30.00	PASS
		2437	16.51	≤30.00	PASS
		2462	15.66	≤30.00	PASS
11G	Ant	2412	14.90	≤30.00	PASS
		2437	14.85	≤30.00	PASS
		2462	13.66	≤30.00	PASS
11N20SISO	Ant	2412	15.23	≤30.00	PASS
		2437	14.62	≤30.00	PASS
		2462	13.50	≤30.00	PASS
11N40SISO	Ant	2422	13.16	≤30.00	PASS
		2437	12.86	≤30.00	PASS
		2452	12.48	≤30.00	PASS



C.3 Maximum power spectral density

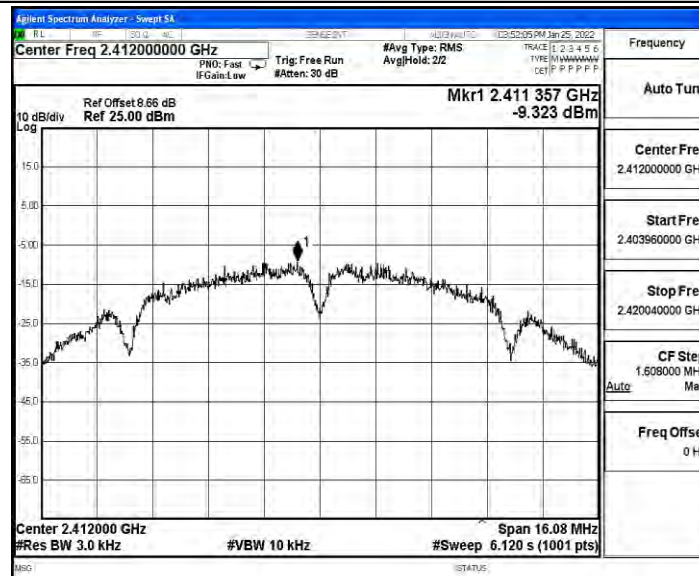
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant	2412	-9.32	≤8.00	PASS
		2437	-8.73	≤8.00	PASS
		2462	-8.85	≤8.00	PASS
11G	Ant	2412	-17.21	≤8.00	PASS
		2437	-18.46	≤8.00	PASS
		2462	-19.09	≤8.00	PASS
11N20SISO	Ant	2412	-18.31	≤8.00	PASS
		2437	-18.67	≤8.00	PASS
		2462	-20.29	≤8.00	PASS
11N40SISO	Ant	2422	-23.59	≤8.00	PASS
		2437	-23.97	≤8.00	PASS
		2452	-22.78	≤8.00	PASS

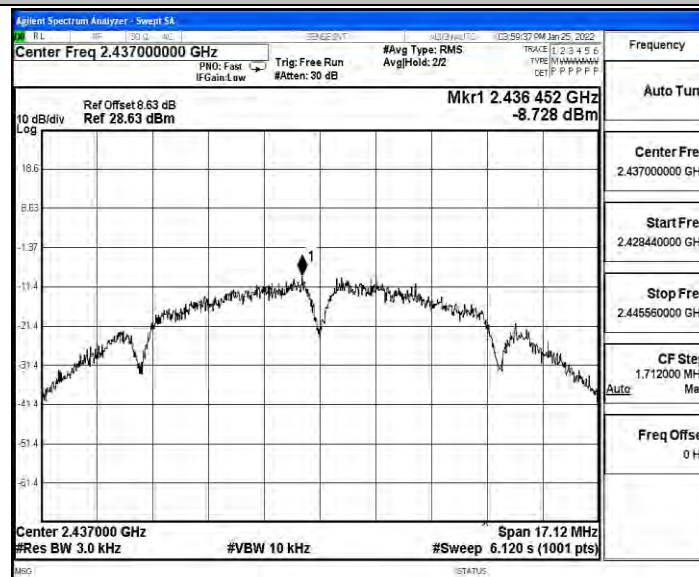


Test Graphs

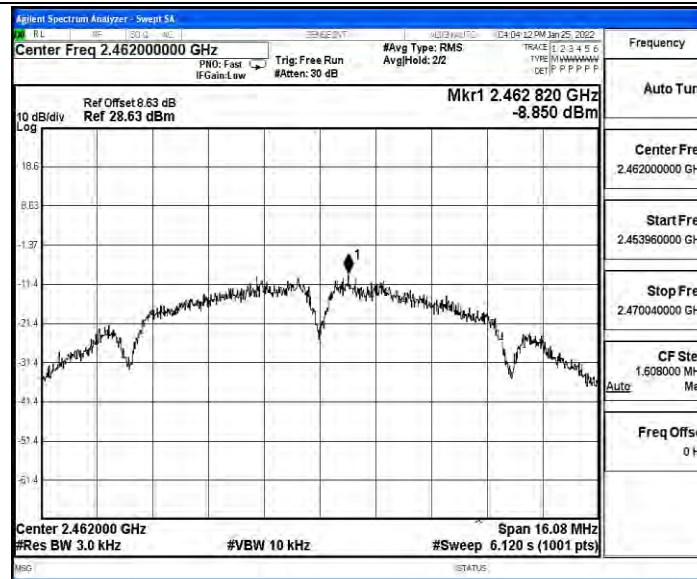
11B_Ant_2412



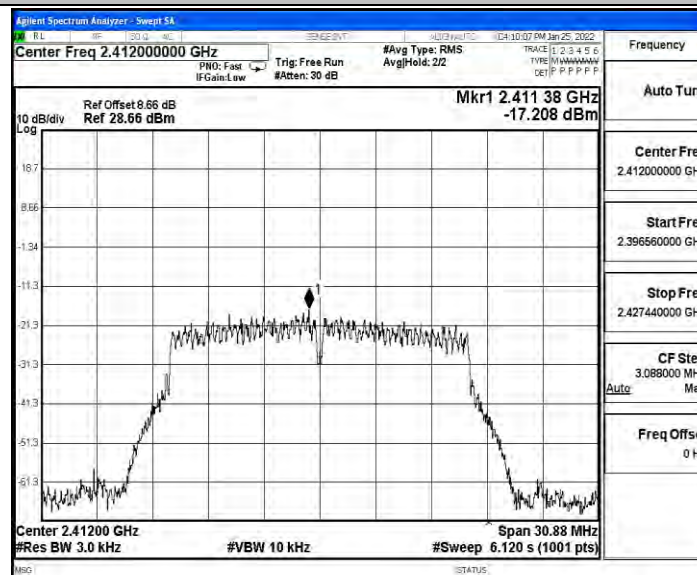
11B_Ant_2437



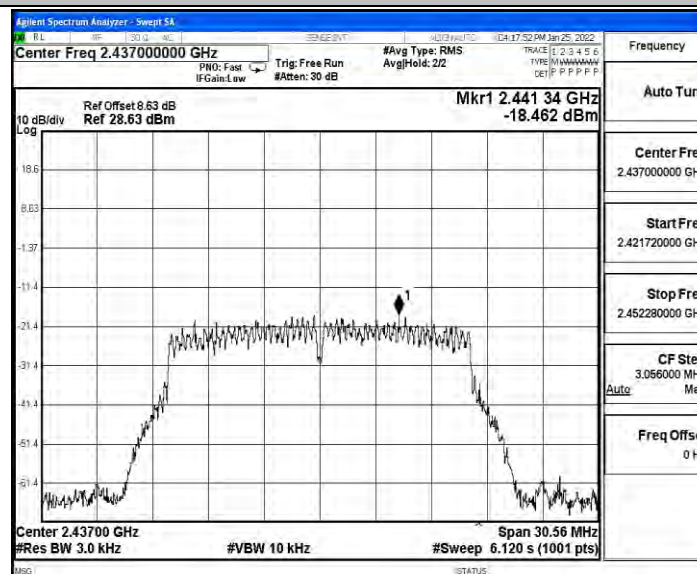
11B_Ant_2462

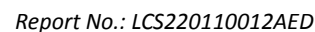


11G_Ant_2412



11G_Ant_2437





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.46200000 GHz

Ref Offset 8.63 dB
Ref 28.63 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
AvgFold: 22

Trace 1 2 3 4 5 6
Type: BW Noise
Det: P P P P P

Frequency

Auto Tun

Center Freq
2.462000000 GHz

Start Freq
2.446800000 GHz

Stop Freq
2.477400000 GHz

CF Stop
3.080000 MHz
Auto

Freq Offset
0 Hz

10 dB/div
Log

18.6
8.63
-1.37
-11.4
-21.4
-31.4
-41.3
-51.4
-61.4

Center 2.462000 GHz
Res BW 3.0 kHz

#VBW 10 kHz

Span 30.80 MHz
6.120 s (1001 pts)

Mkr1 2.462 862.4 GHz
-19.088 dBm

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.41200000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Att: 30 dB #Avg Type: RMS Avg Fold: 2/2

Frequency Auto Tun

Center Freq 2.41200000 GHz

Start Freq 2.396360000 GHz

Stop Freq 2.427640000 GHz

CF Stop 3.1280000 MHz

Auto

Freq Offset 0 Hz

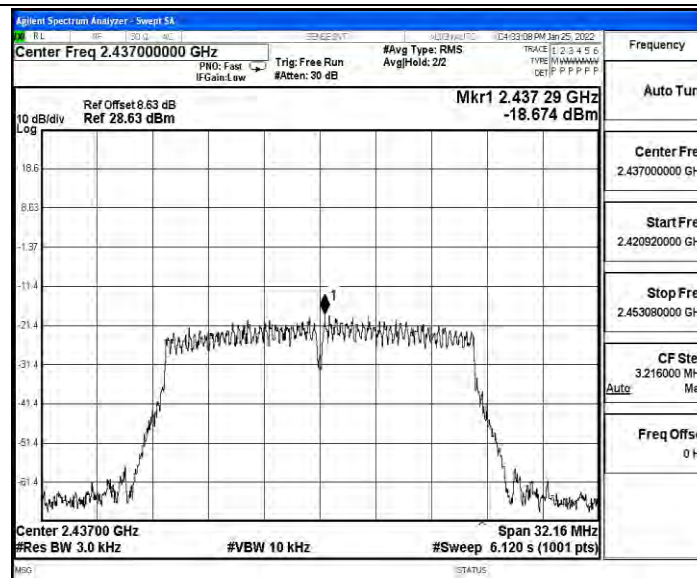
10 dB/div Ref Offset 8.66 dB Ref 28.66 dBm

Mkr1 2.411 34 GHz -18.313 dBm

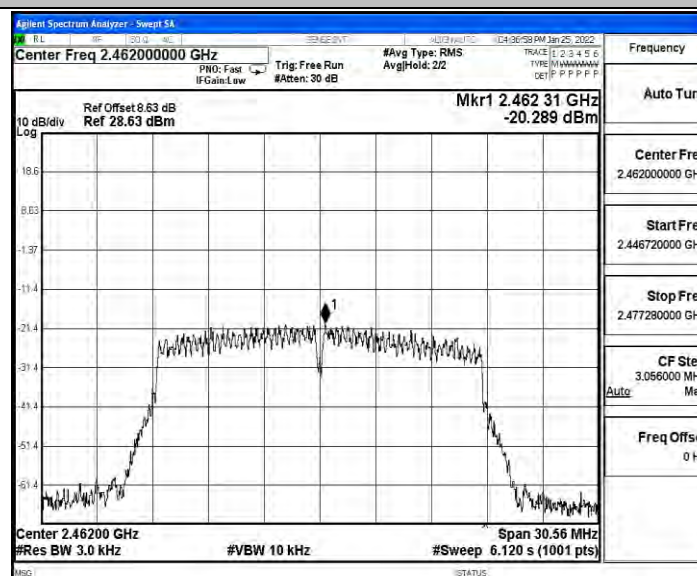
Center 2.412000 GHz Span 31.28 MHz

Res BW 3.0 kHz #VBW 10 kHz #Sweep 6.120 s (1001 pts)

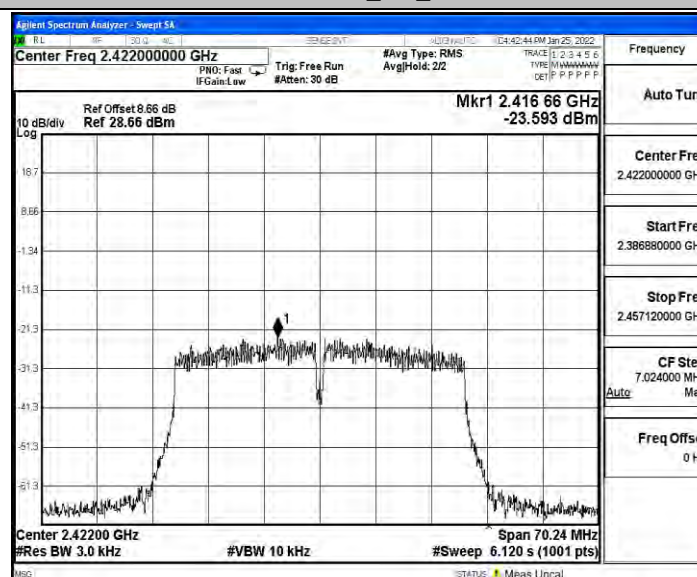
12



11N20SISO_Ant_2462

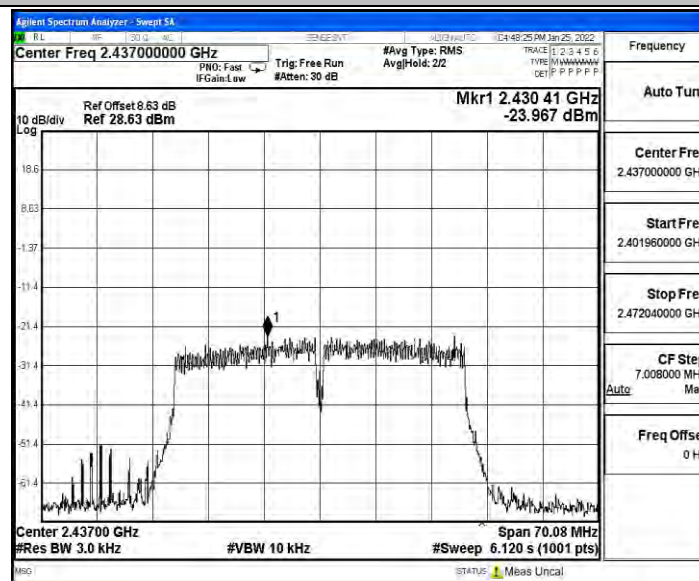


11N40SISO_Ant_2422

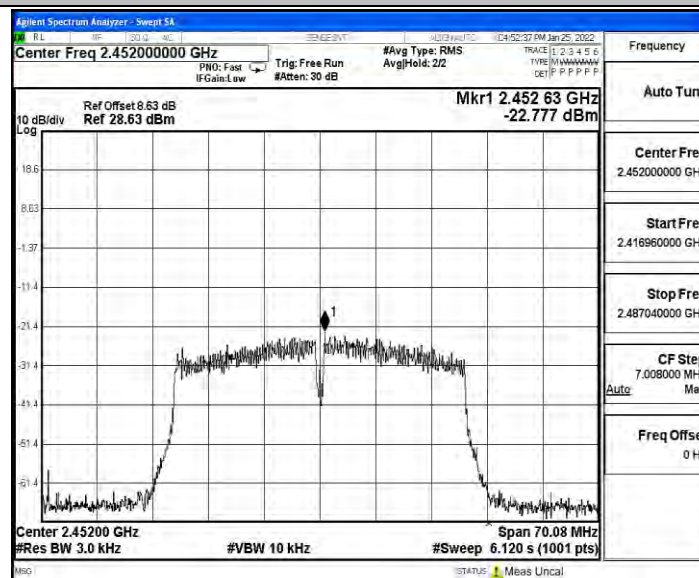




11N40SISO_Ant_2437



11N40SISO_Ant_2452





C.4 Band edge measurements

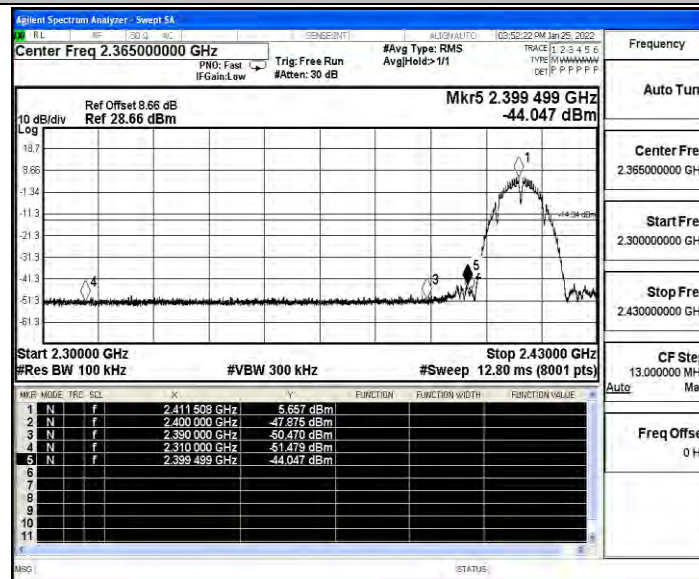
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant	Low	2412	5.66	-44.05	≤ -14.34	PASS
		High	2462	4.80	-47.75	≤ -15.2	PASS
11G	Ant	Low	2412	-3.68	-42.77	≤ -23.68	PASS
		High	2462	-4.74	-48.22	≤ -24.74	PASS
11N20SISO	Ant	Low	2412	-2.96	-43.39	≤ -22.96	PASS
		High	2462	-4.68	-48	≤ -24.68	PASS
11N40SISO	Ant	Low	2422	-8.22	-45.98	≤ -28.22	PASS
		High	2452	-8.30	-48.03	≤ -28.3	PASS

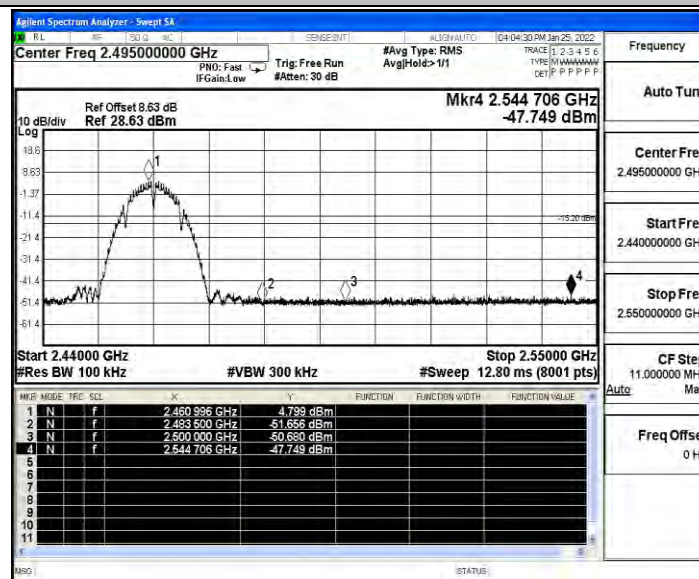


Test Graphs

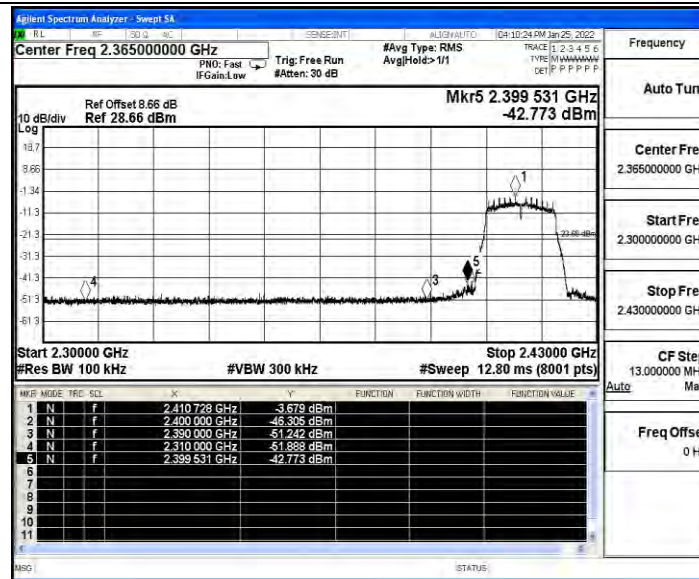
11B_Ant_Low_2412



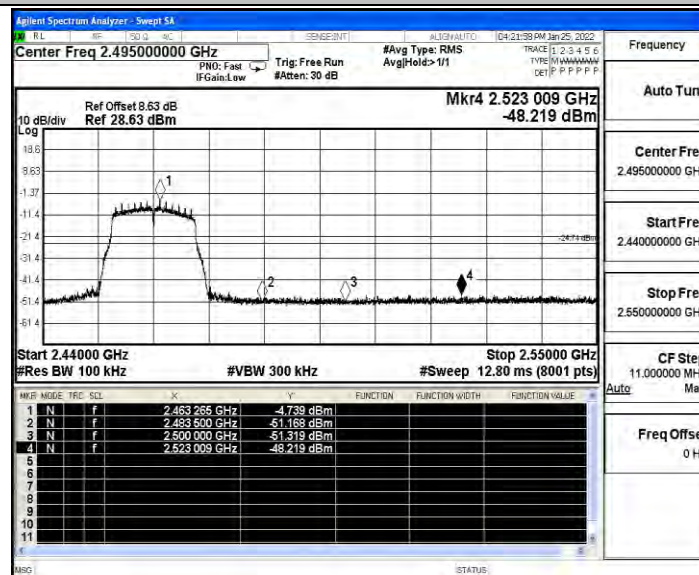
11B_Ant_High_2462



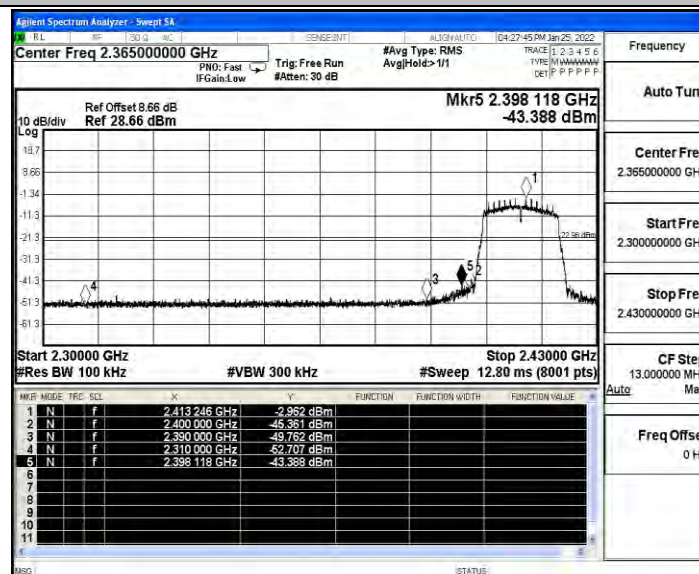
11G_Ant_Low_2412



11G_Ant_High_2462

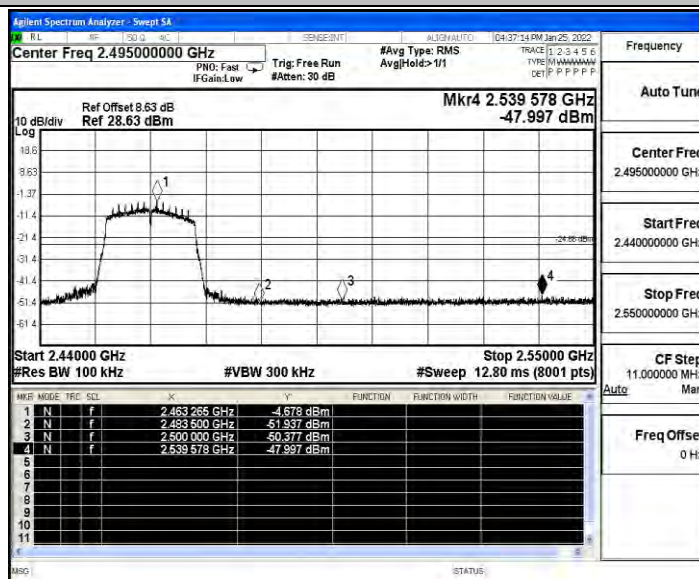


11N20SISO_Ant_Low_2412

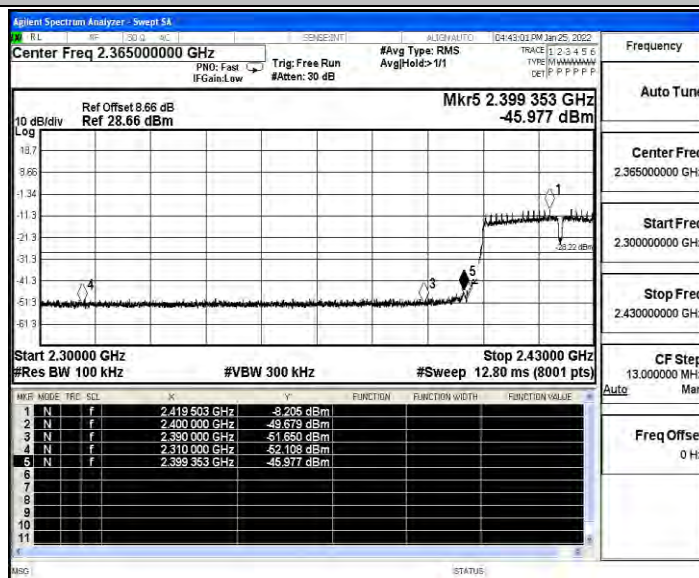




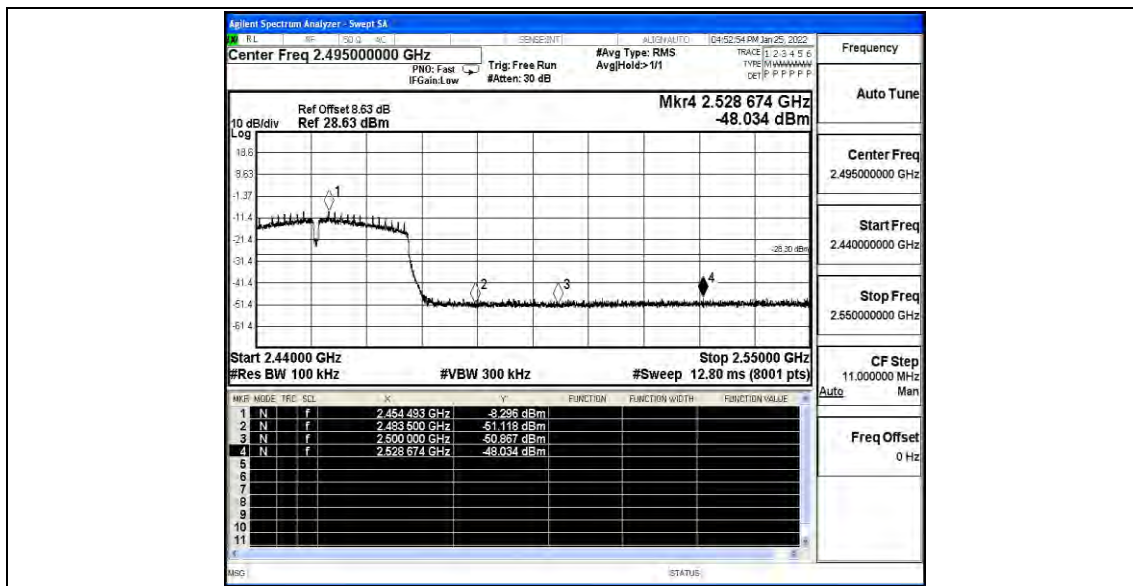
11N20SISO_Ant_High_2462



11N40SISO_Ant_Low_2422



11N40SISO_Ant_High_2452





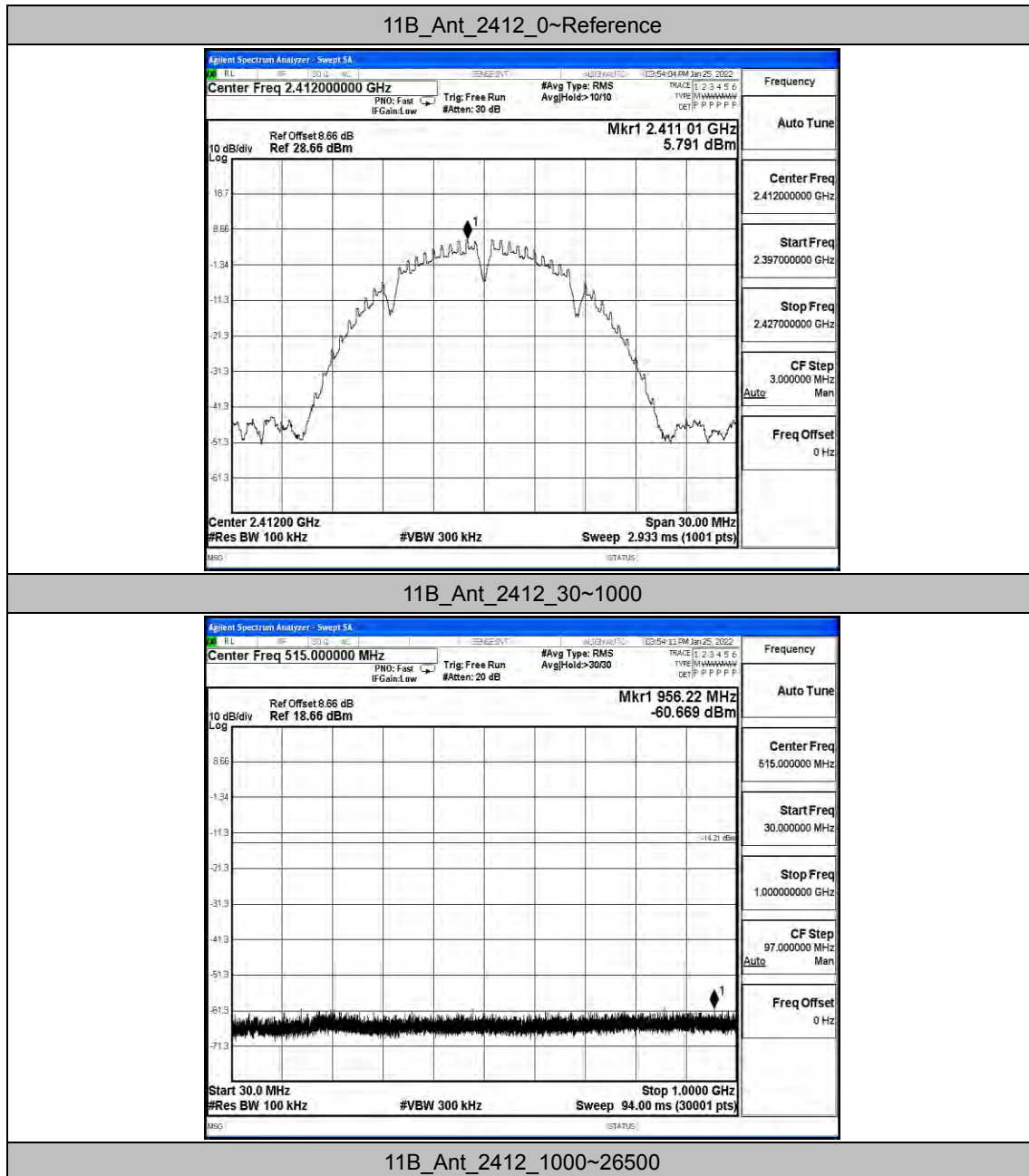
C.5 Conducted Spurious Emission

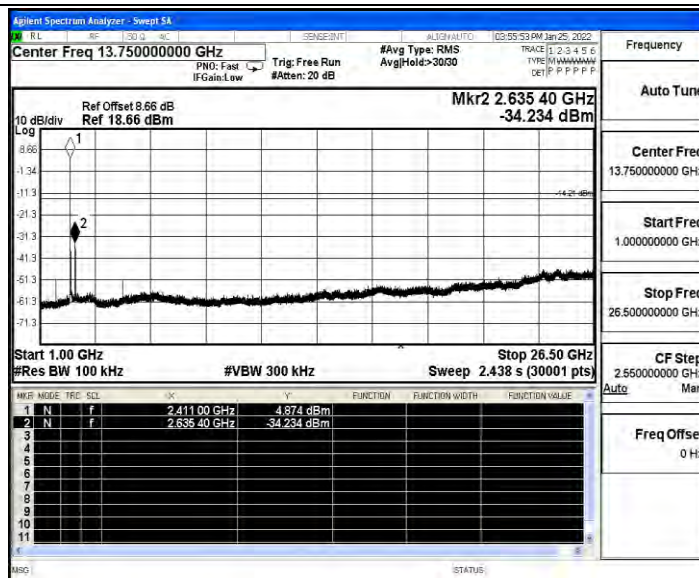
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant	2412	Reference	5.79	5.79	---	PASS
			30~1000	5.79	-60.67	≤-14.21	PASS
			1000~26500	5.79	-34.23	≤-14.21	PASS
		2437	Reference	5.42	5.42	---	PASS
			30~1000	5.42	-60.9	≤-14.58	PASS
			1000~26500	5.42	-42.05	≤-14.58	PASS
		2462	Reference	4.33	4.33	---	PASS
			30~1000	4.33	-60.93	≤-15.67	PASS
			1000~26500	4.33	-46.04	≤-15.67	PASS
11G	Ant	2412	Reference	-3.63	-3.63	---	PASS
			30~1000	-3.63	-60.58	≤-23.63	PASS
			1000~26500	-3.63	-45.52	≤-23.63	PASS
		2437	Reference	-3.55	-3.55	---	PASS
			30~1000	-3.55	-60.12	≤-23.55	PASS
			1000~26500	-3.55	-46.3	≤-23.55	PASS
		2462	Reference	-4.79	-4.79	---	PASS
			30~1000	-4.79	-60.28	≤-24.79	PASS
			1000~26500	-4.79	-45.67	≤-24.79	PASS
11N20SISO	Ant	2412	Reference	-3.07	-3.07	---	PASS
			30~1000	-3.07	-60.48	≤-23.07	PASS
			1000~26500	-3.07	-45.15	≤-23.07	PASS
		2437	Reference	-3.44	-3.44	---	PASS
			30~1000	-3.44	-60.84	≤-23.44	PASS
			1000~26500	-3.44	-46.67	≤-23.44	PASS
		2462	Reference	-5.12	-5.12	---	PASS
			30~1000	-5.12	-45.48	≤-25.12	PASS
			1000~26500	-5.12	-46.17	≤-25.12	PASS
11N40SISO	Ant	2422	Reference	-8.22	-8.22	---	PASS
			30~1000	-8.22	-60.41	≤-28.22	PASS
			1000~26500	-8.22	-45.68	≤-28.22	PASS
		2437	Reference	-8.61	-8.61	---	PASS
			30~1000	-8.61	-60.74	≤-28.61	PASS
			1000~26500	-8.61	-45.75	≤-28.61	PASS
		2452	Reference	-8.11	-8.11	---	PASS
			30~1000	-8.11	-60.11	≤-28.11	PASS
			1000~26500	-8.11	-45.29	≤-28.11	PASS

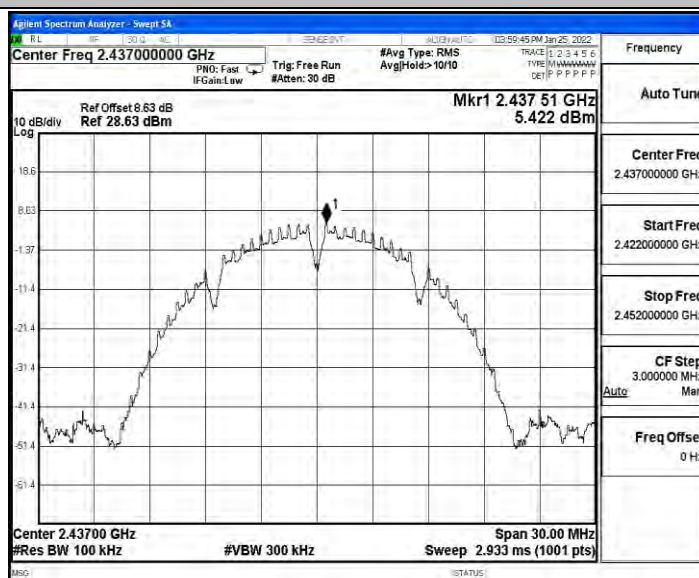


Test Graphs

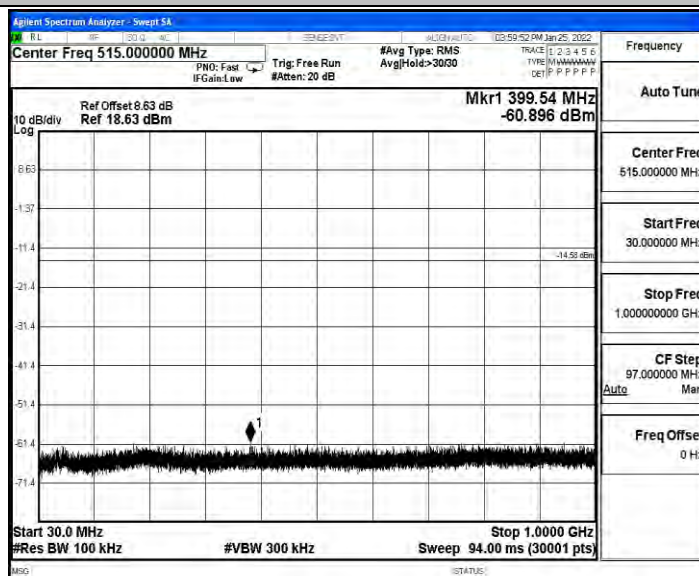




11B_Ant_2437_0~Reference

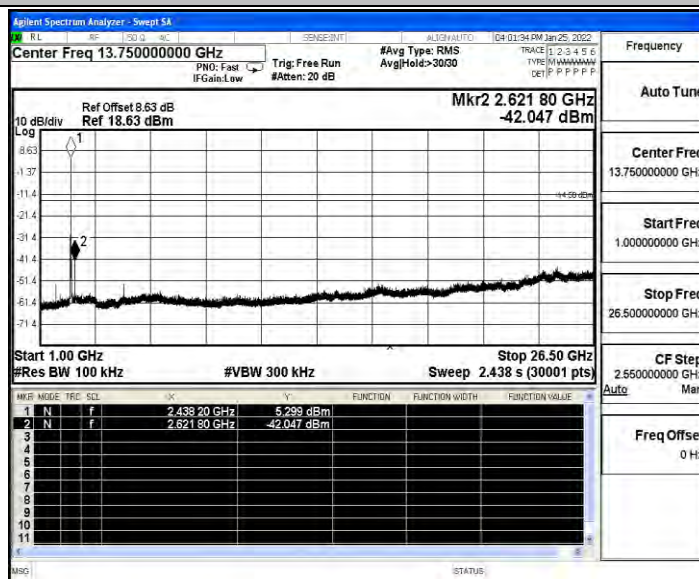


11B_Ant_2437_30~1000

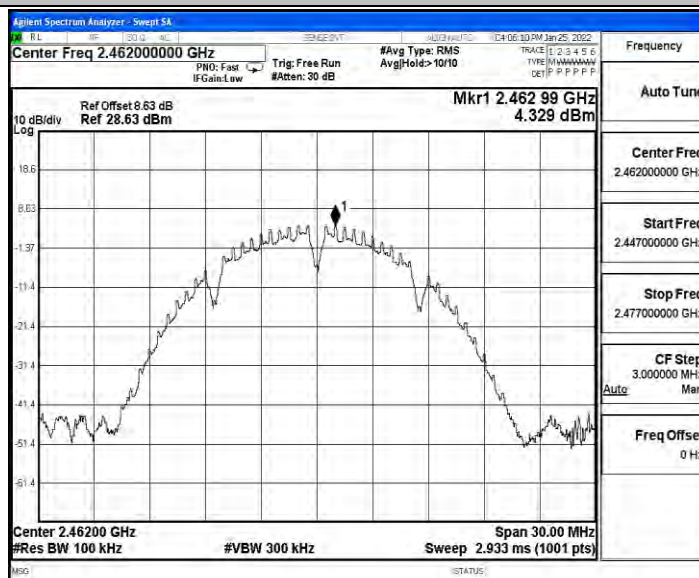




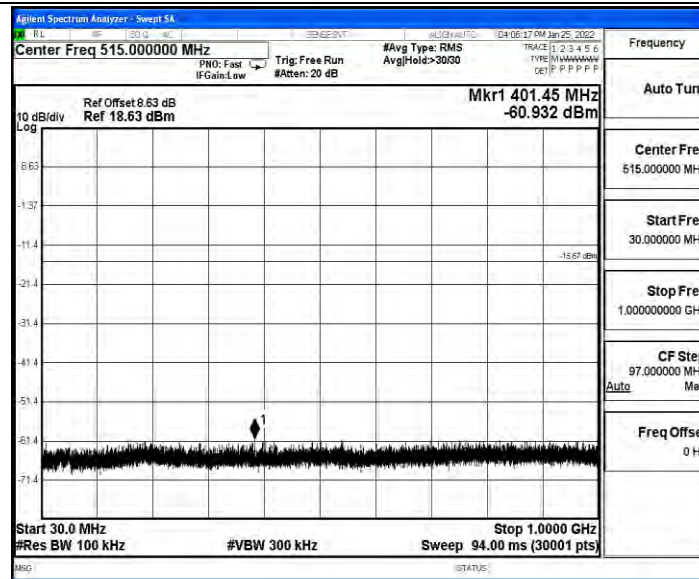
11B_Ant_2437_1000~26500



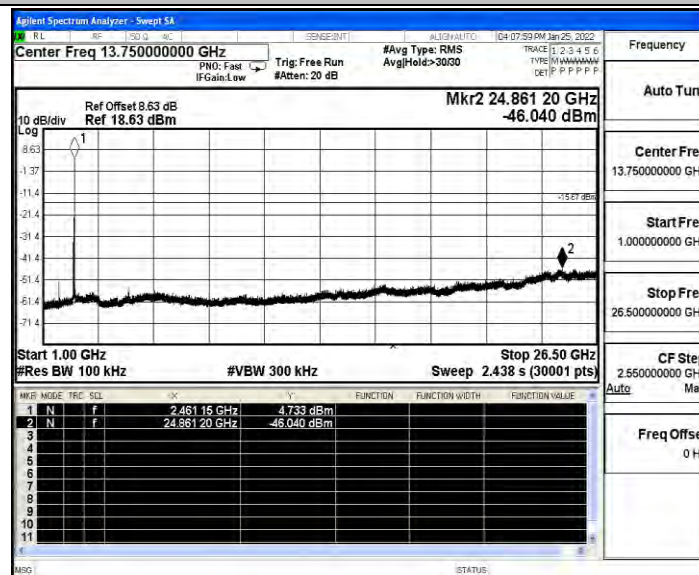
11B_Ant_2462_0~Reference



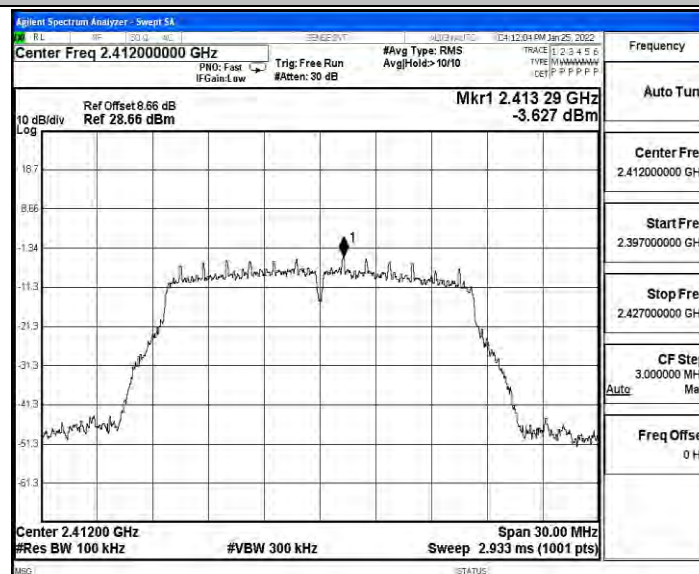
11B_Ant_2462_30~1000



11B_Ant_2462_1000~26500

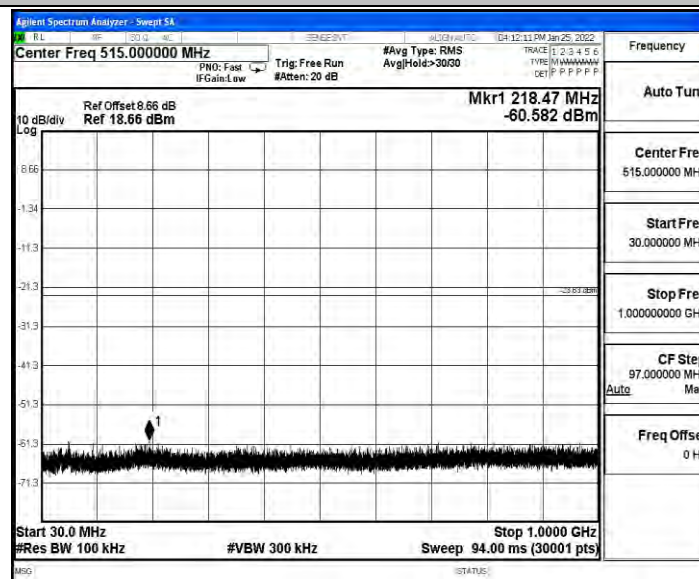


11G_Ant_2412_0~Reference

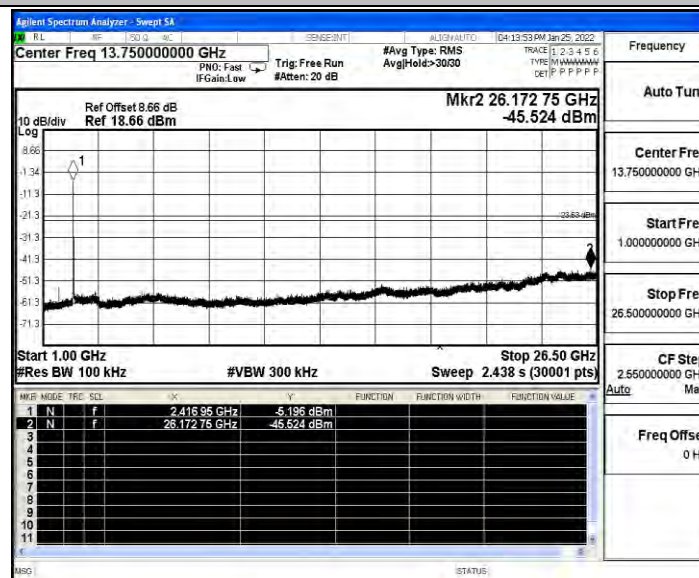




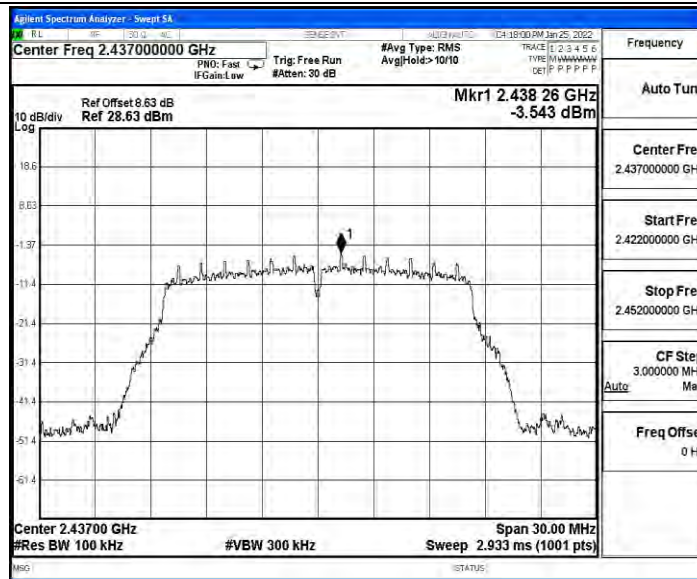
11G_Ant_2412_30~1000



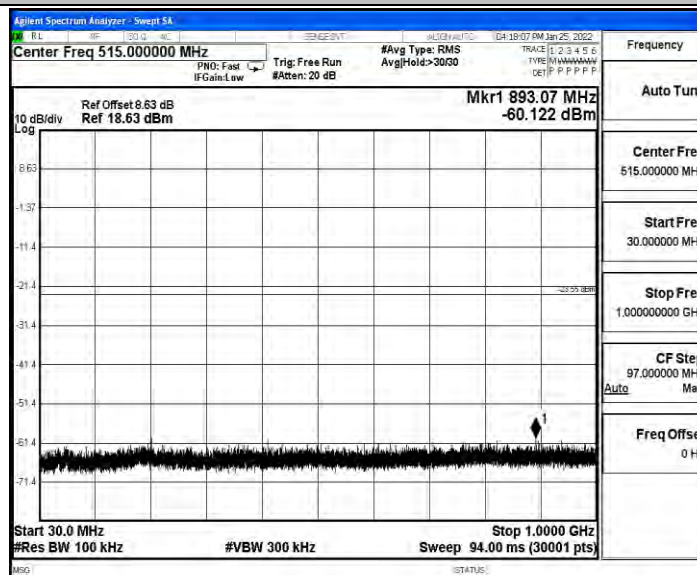
11G_Ant_2412_1000~26500



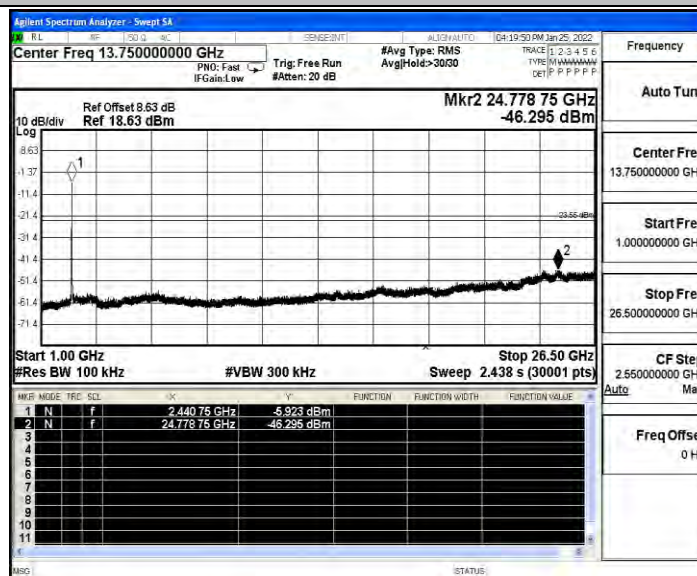
11G_Ant_2437_0~Reference



11G_Ant_2437_30~1000

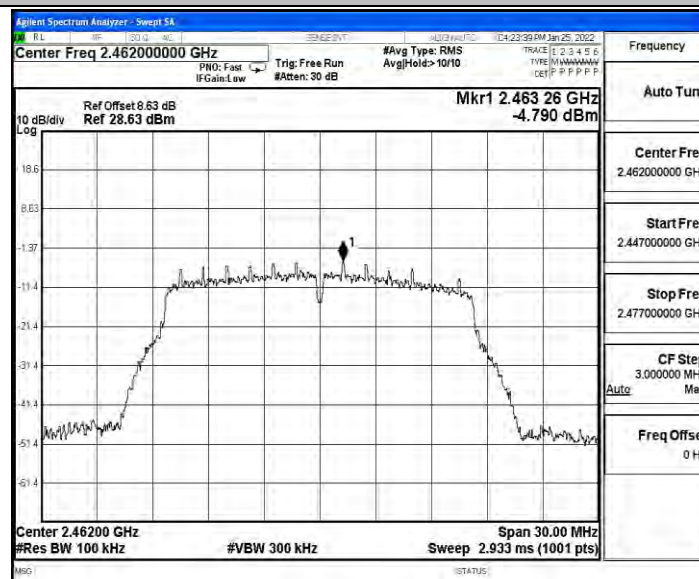


11G_Ant_2437_1000~26500

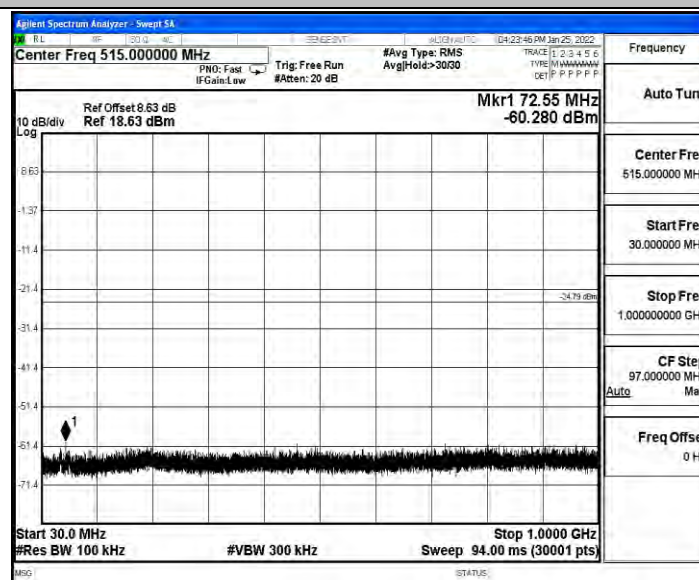




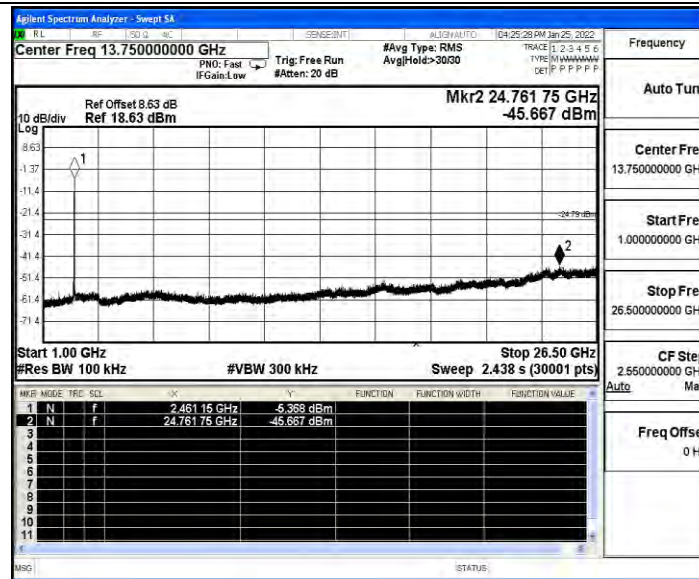
11G_Ant_2462_0~Reference



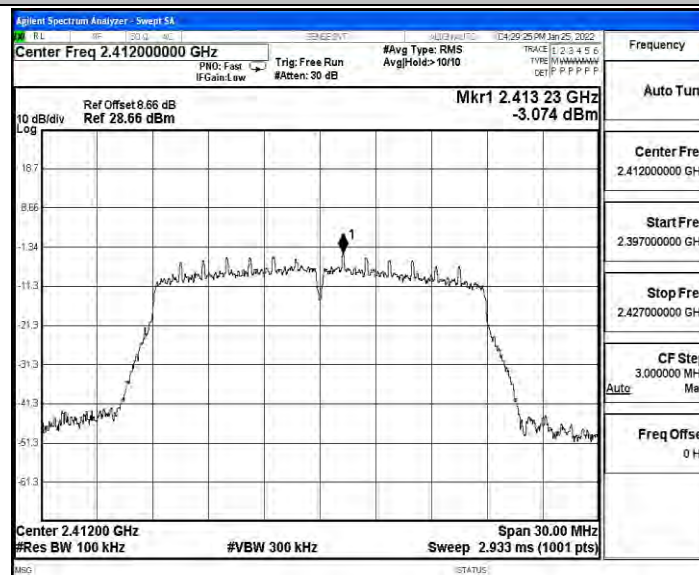
11G_Ant_2462_30~1000



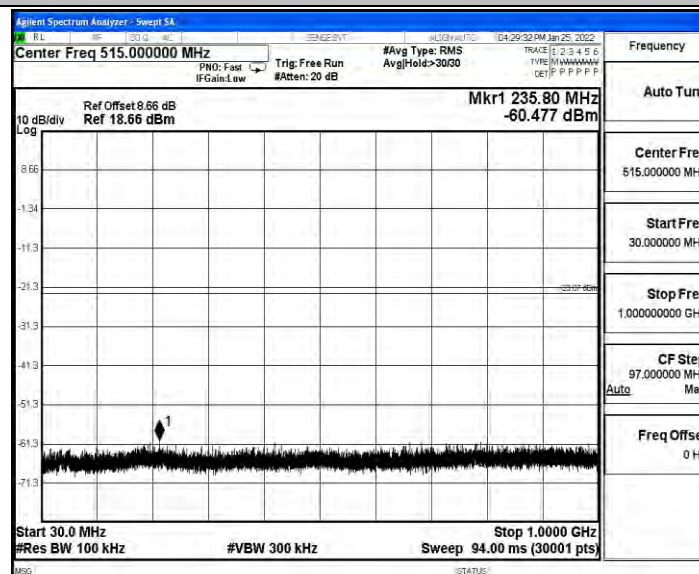
11G_Ant_2462_1000~26500



11N20SISO_Ant_2412_0~Reference

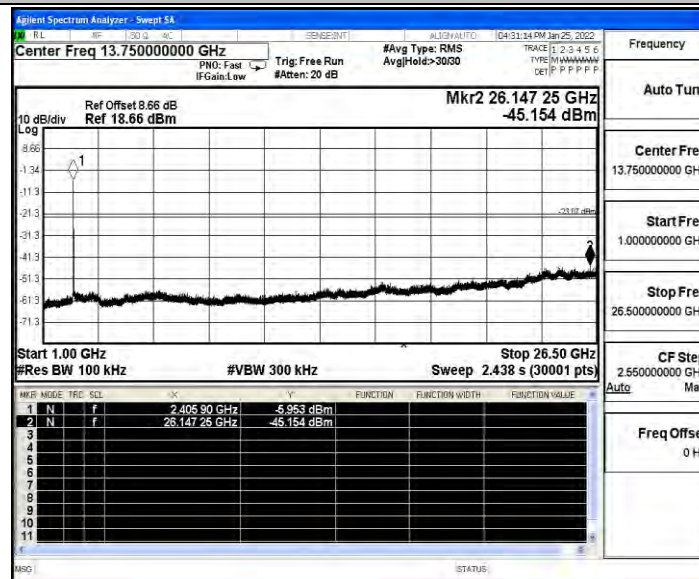


11N20SISO_Ant_2412_30~1000

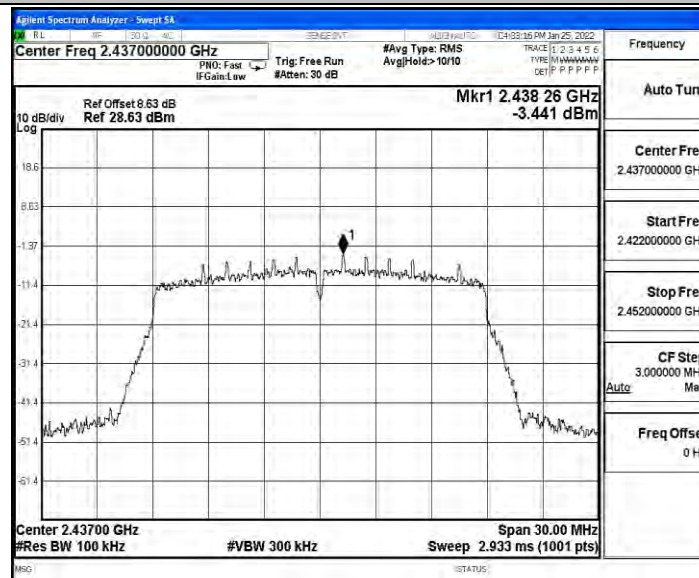




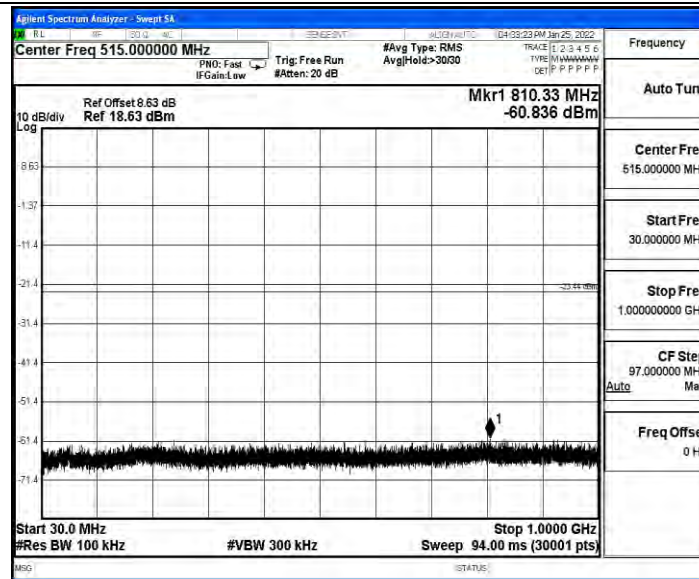
11N20SISO_Ant_2412_1000~26500



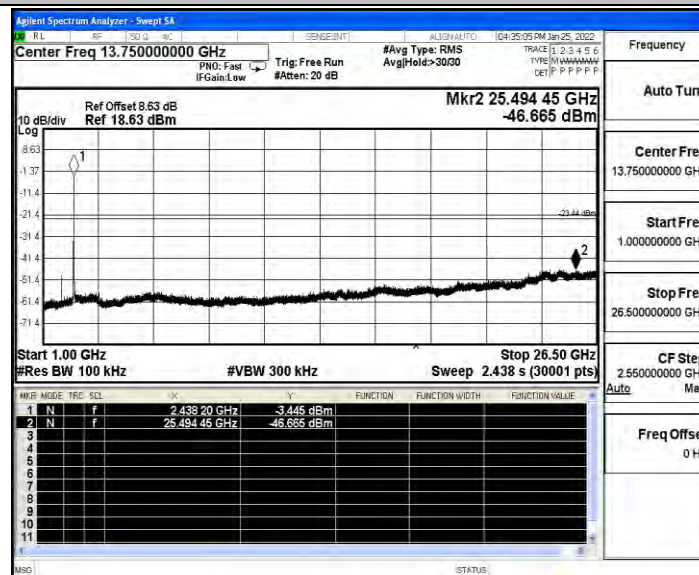
11N20SISO_Ant_2437_0~Reference



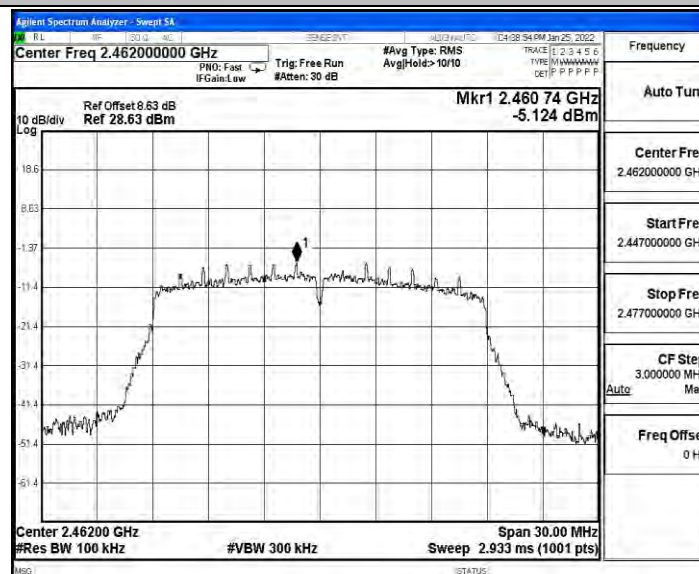
11N20SISO_Ant_2437_30~1000



11N20SISO_Ant_2437_1000~26500

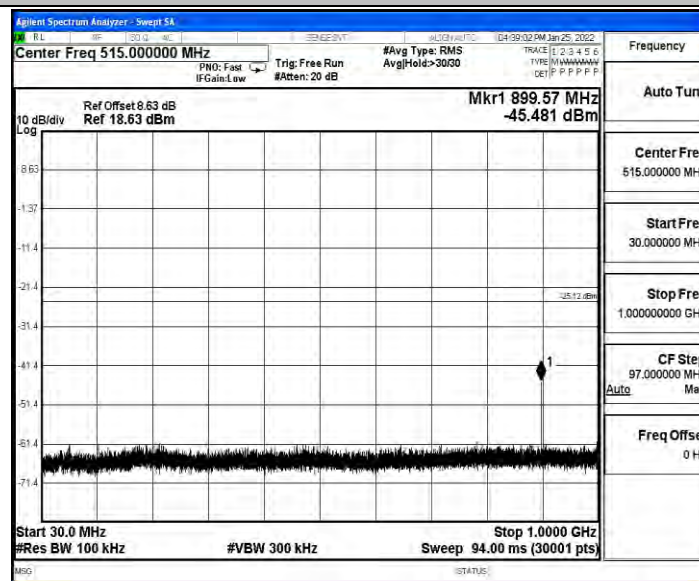


11N20SISO_Ant_2462_0~Reference

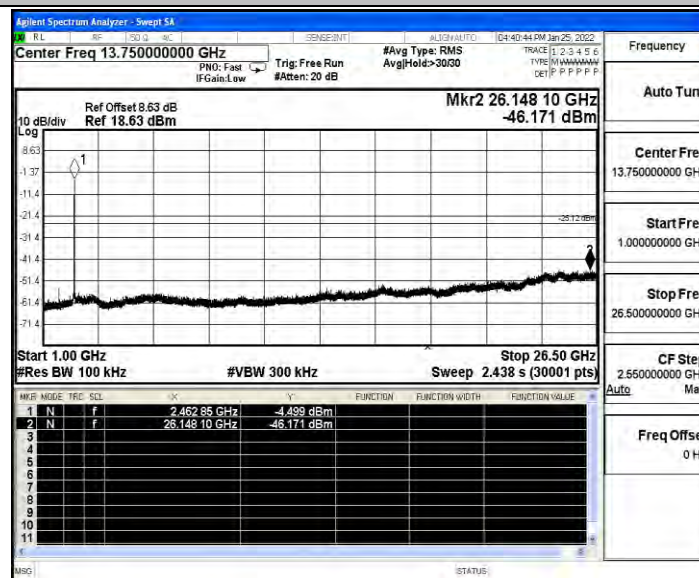




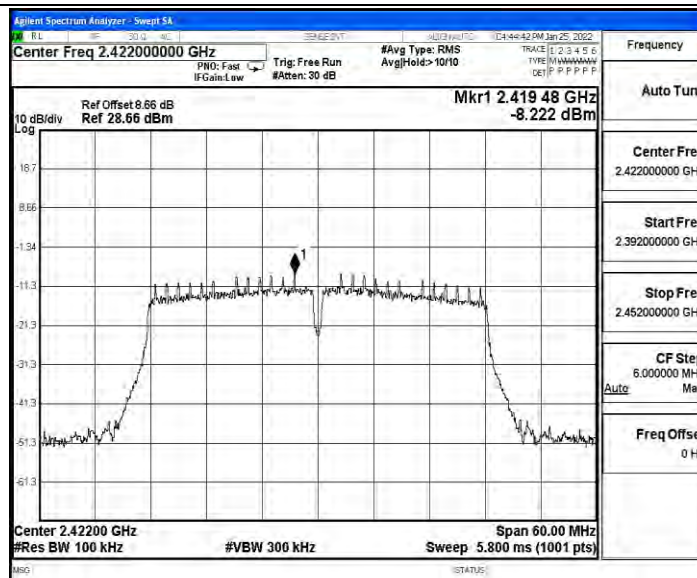
11N20SISO_Ant_2462_30~1000



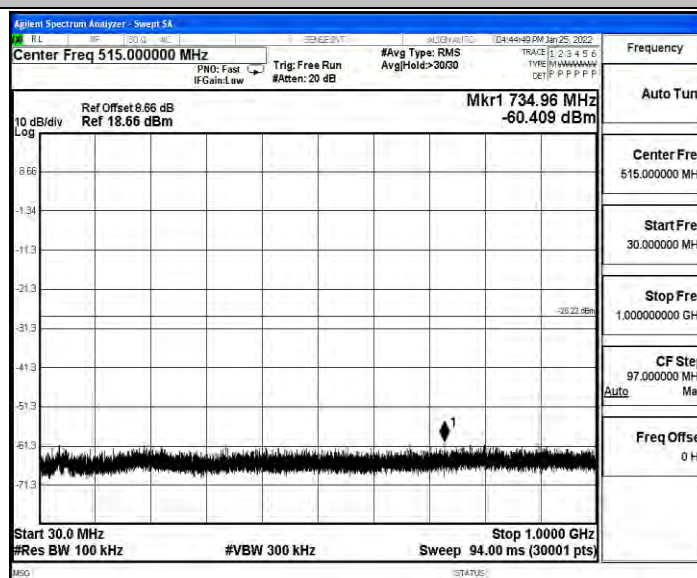
11N20SISO_Ant_2462_1000~26500



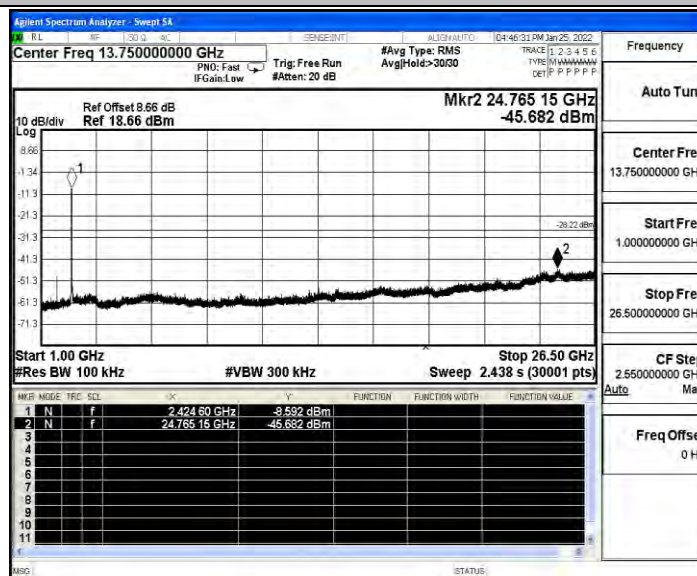
11N40SISO_Ant_2422_0~Reference



11N40SISO_Ant_2422_30~1000

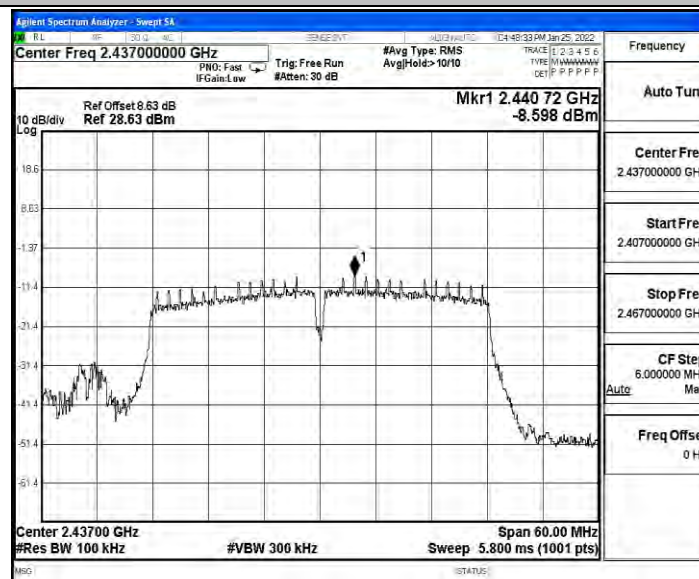


11N40SISO_Ant_2422_1000~26500

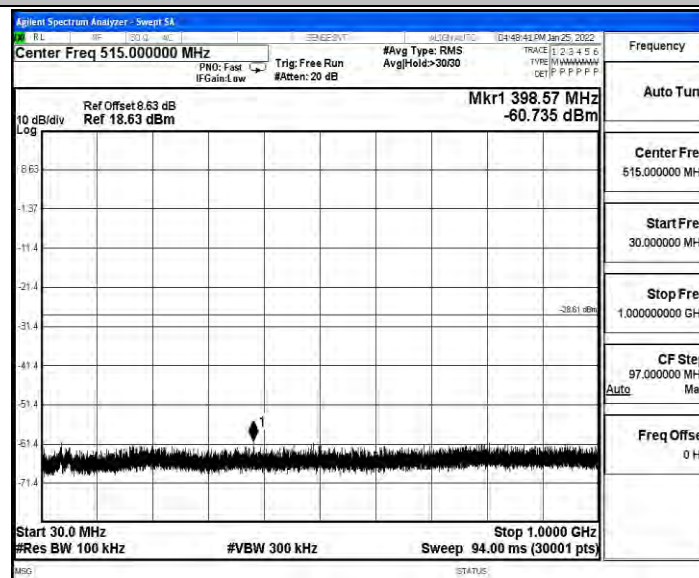




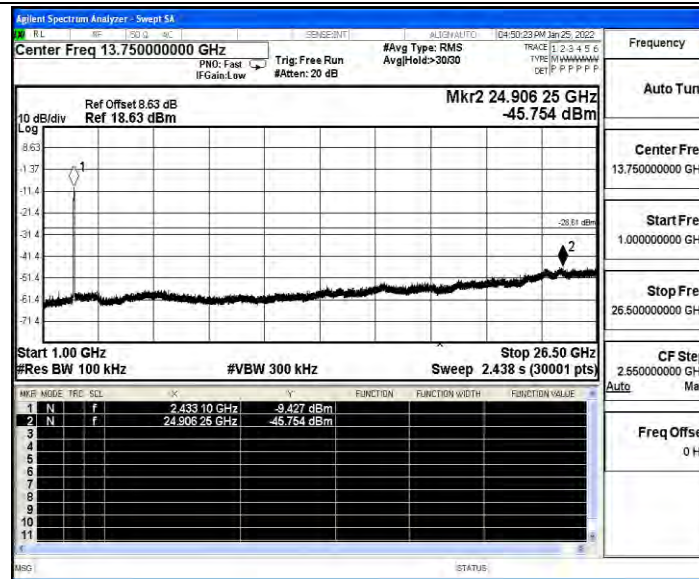
11N40SISO_Ant_2437_0~Reference



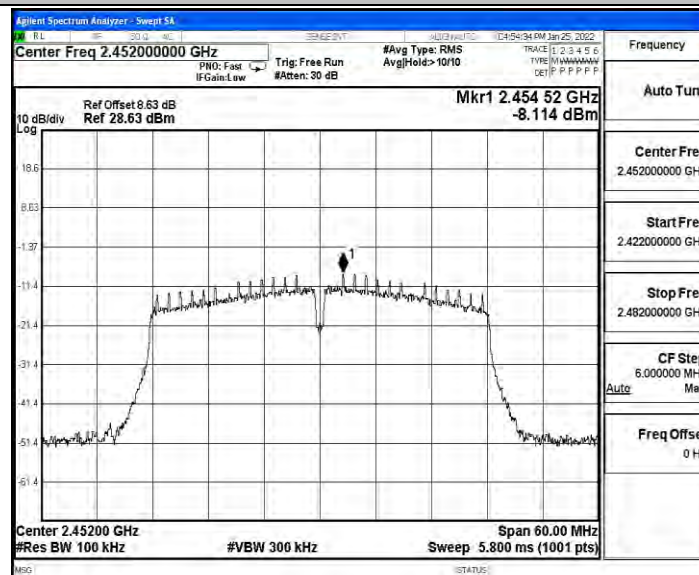
11N40SISO_Ant_2437_30~1000



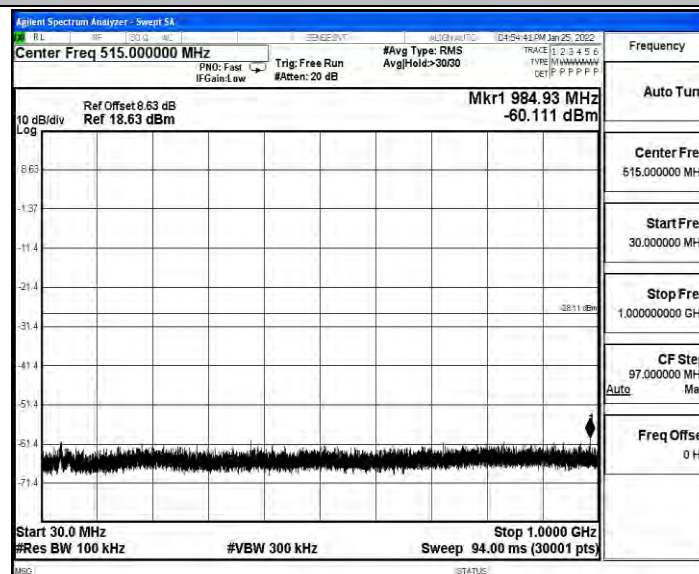
11N40SISO_Ant_2437_1000~26500



11N40SISO_Ant_2452_0~Reference

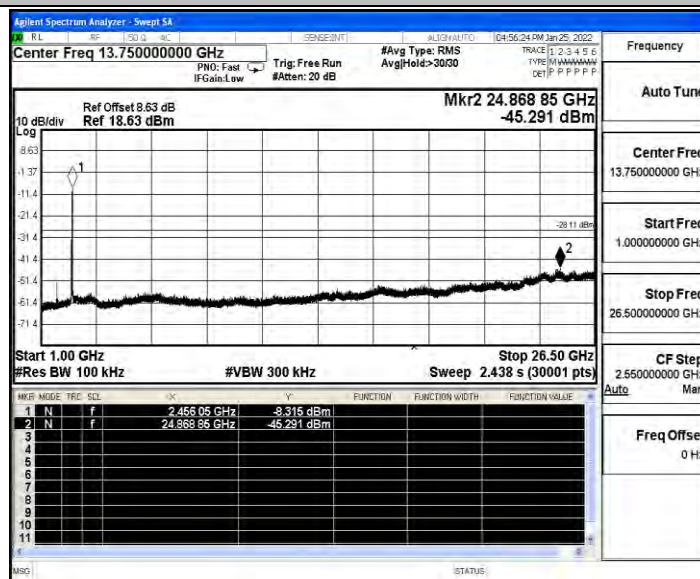


11N40SISO_Ant_2452_30~1000





11N40SISO_Ant_2452_1000~26500





C.6 Duty Cycle

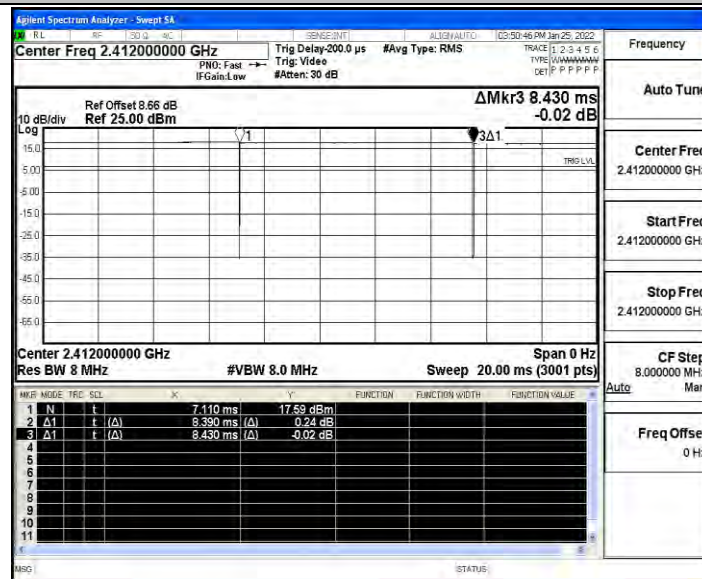
Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant	2412	8.39	8.43	99.53	---	---
		2437	8.39	8.42	99.64	---	---
		2462	8.38	8.42	99.52	---	---
11G	Ant	2412	1.39	1.44	96.53	---	---
		2437	1.39	1.43	97.20	---	---
		2462	1.39	1.44	96.53	---	---
11N20SISO	Ant	2412	1.30	1.35	96.30	---	---
		2437	1.30	1.34	97.01	---	---
		2462	1.30	1.35	96.30	---	---
11N40SISO	Ant	2422	0.65	0.70	92.86	---	---
		2437	0.65	0.69	94.20	---	---
		2452	0.65	0.69	94.20	---	---

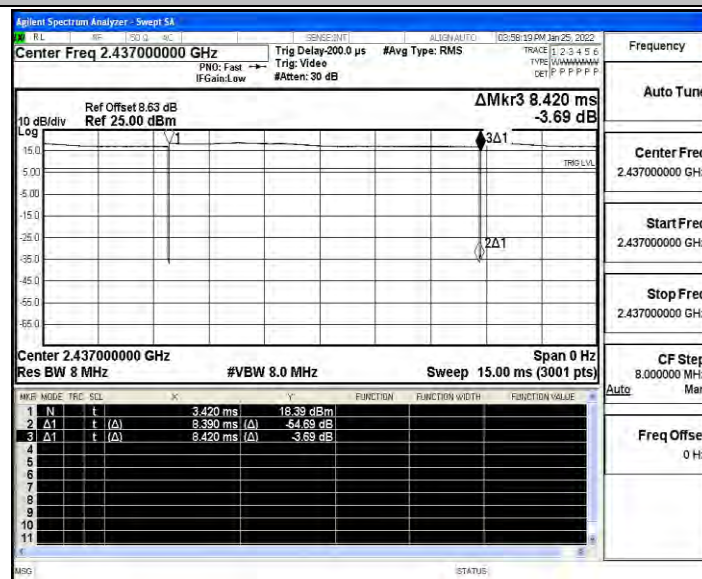


Test Graphs

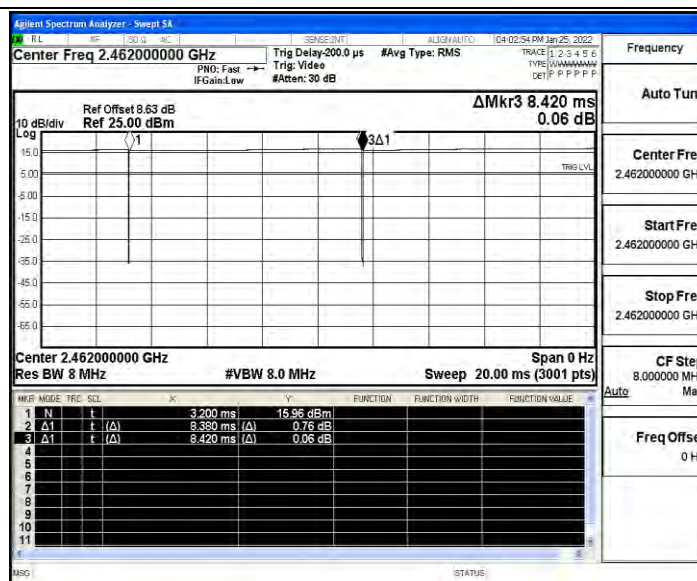
11B_Ant_2412



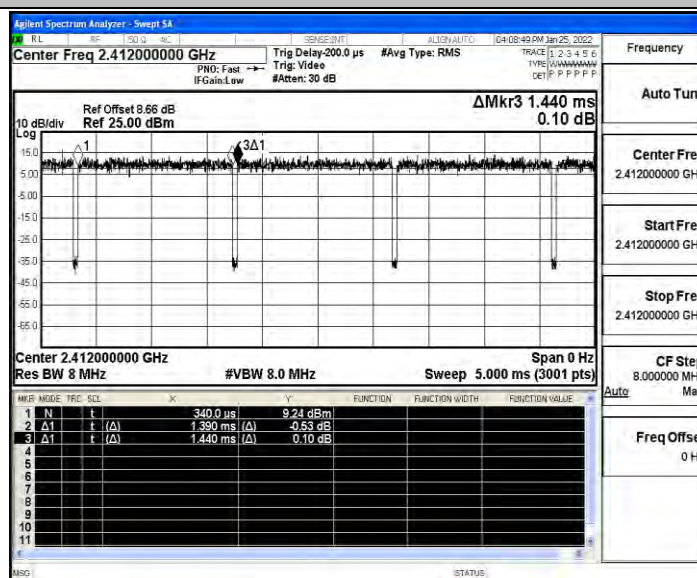
11B_Ant_2437



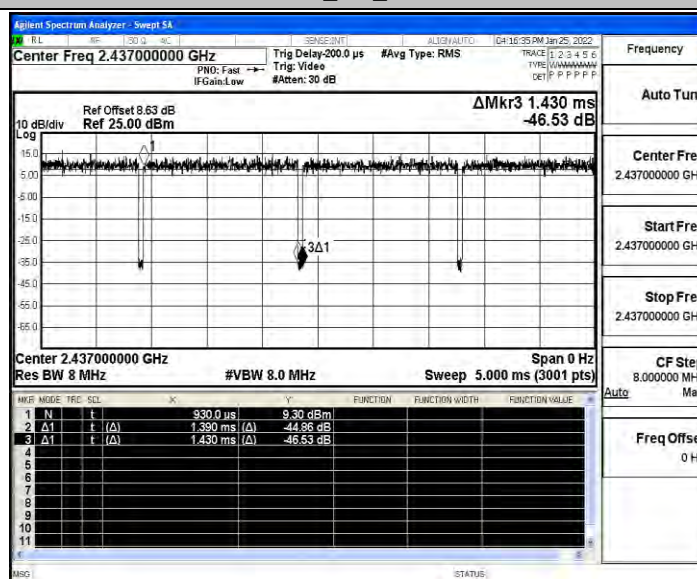
11B_Ant_2462



11G_Ant_2412

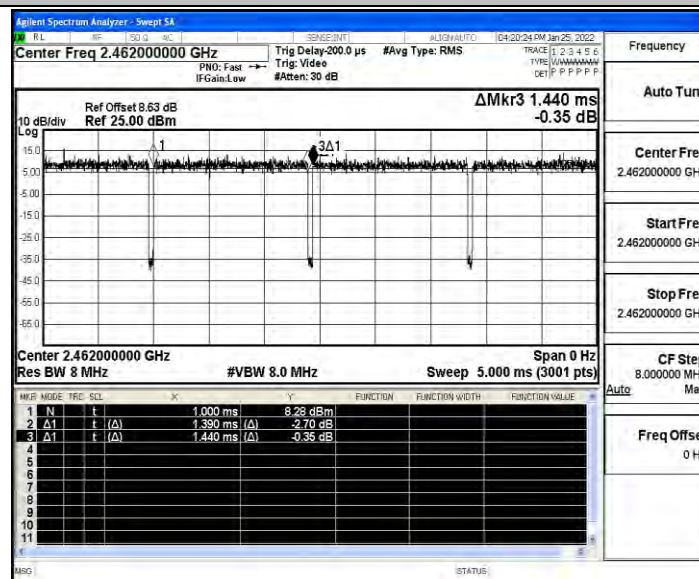


11G_Ant_2437

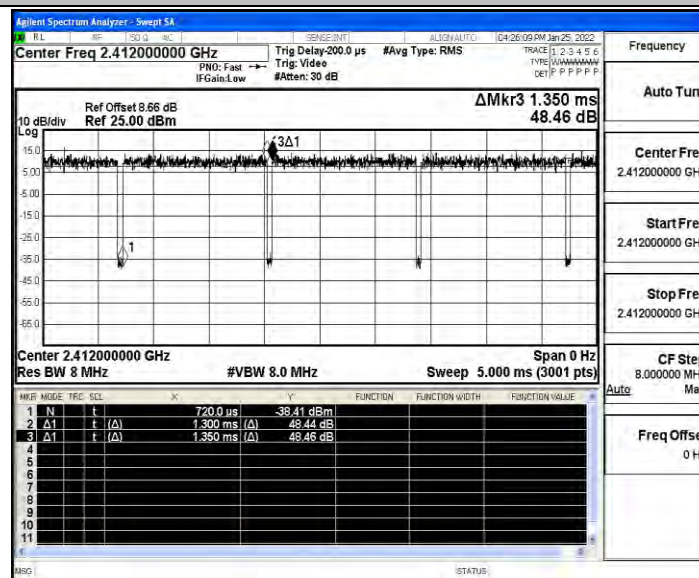




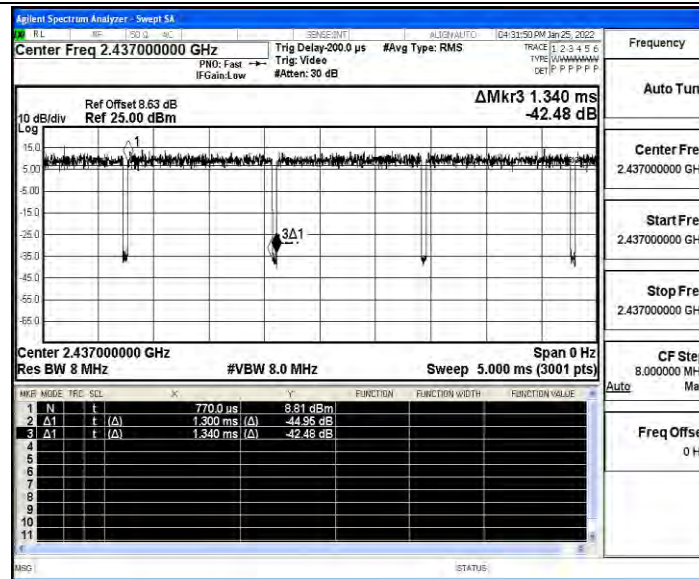
11G_Ant_2462



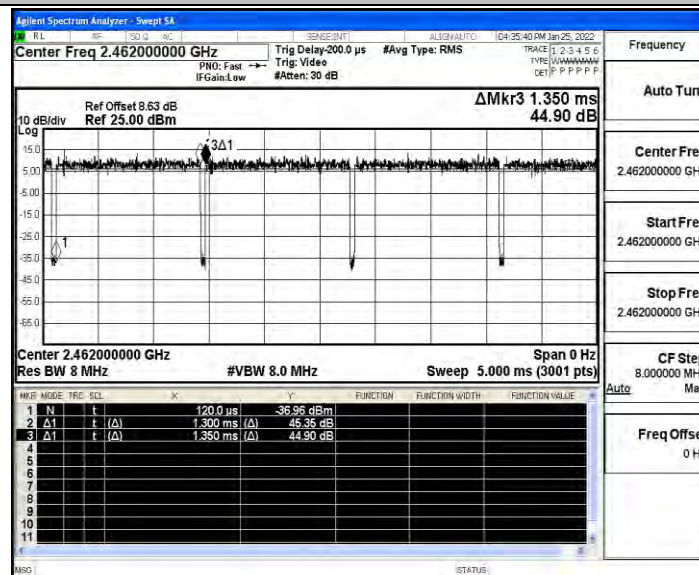
11N20SISO_Ant_2412



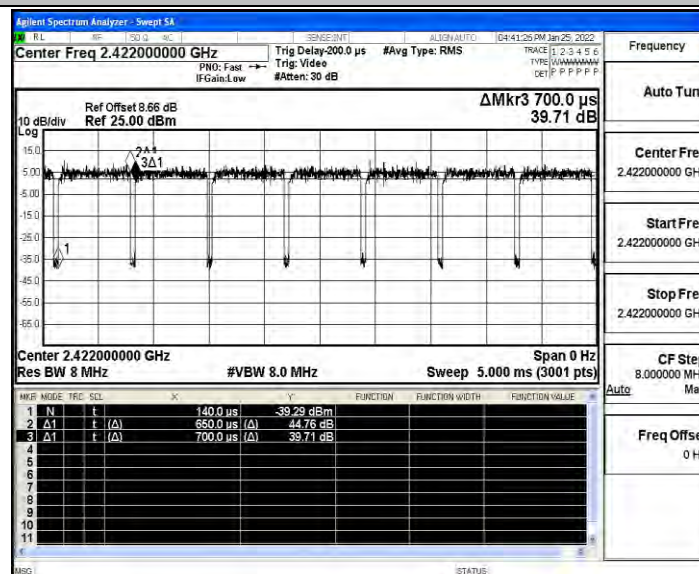
11N20SISO_Ant_2437



11N20ISO_Ant_2462

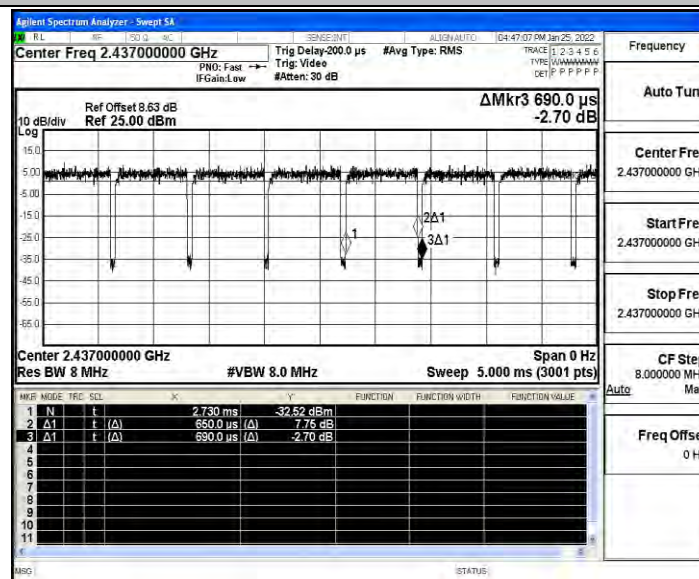


11N40ISO_Ant_2422

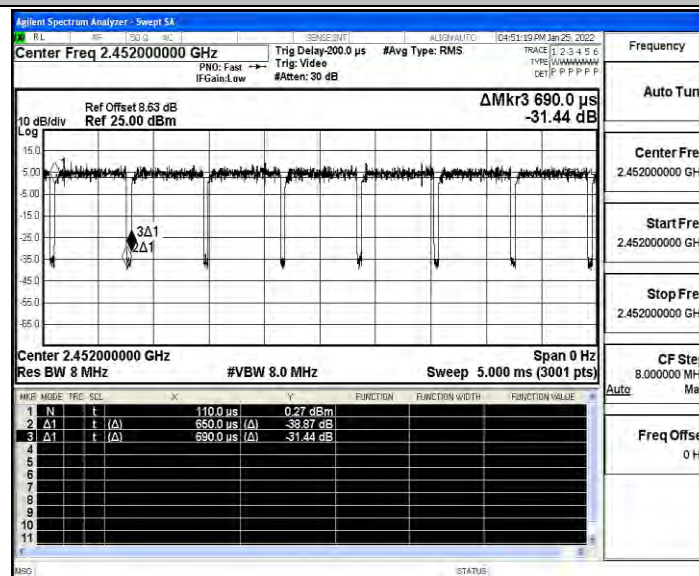




11N40SISO_Ant_2437



11N40SISO_Ant_2452





C.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant	Low	2412	AV	2310.000	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2389.830	-48.19	≤-41.20	47.01	≤54	PASS
				AV	2390.000	-48.31	≤-41.20	46.89	≤54	PASS
				Peak	2310.000	-37.95	≤-21.20	57.25	≤74	PASS
				Peak	2362.400	-36.53	≤-21.20	58.67	≤74	PASS
				Peak	2390.000	-37.91	≤-21.20	57.29	≤74	PASS
		High	2462	AV	2483.500	-47.63	≤-41.20	47.57	≤54	PASS
				AV	2487.080	-47.5	≤-41.20	47.70	≤54	PASS
				AV	2500.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2483.500	-37.57	≤-21.20	57.63	≤74	PASS
				Peak	2497.860	-36.14	≤-21.20	59.06	≤74	PASS
				Peak	2500.000	-37.46	≤-21.20	57.74	≤74	PASS
11G	Ant	Low	2412	AV	2310.000	-48.43	≤-41.20	46.77	≤54	PASS
				AV	2389.180	-47.72	≤-41.20	47.48	≤54	PASS
				AV	2390.000	-47.88	≤-41.20	47.32	≤54	PASS
				Peak	2310.000	-38.1	≤-21.20	57.10	≤74	PASS
				Peak	2369.290	-36.1	≤-21.20	59.10	≤74	PASS
				Peak	2390.000	-36.6	≤-21.20	58.60	≤74	PASS
		High	2462	AV	2483.500	-47.5	≤-41.20	47.70	≤54	PASS
				AV	2488.510	-47.33	≤-41.20	47.87	≤54	PASS
				AV	2500.000	-47.44	≤-41.20	47.76	≤54	PASS
				Peak	2483.500	-36.54	≤-21.20	58.66	≤74	PASS
				Peak	2485.100	-35.87	≤-21.20	59.33	≤74	PASS
				Peak	2500.000	-37.55	≤-21.20	57.65	≤74	PASS
11N20SIS O	Ant	Low	2412	AV	2310.000	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2389.960	-47.63	≤-41.20	47.57	≤54	PASS
				AV	2390.000	-47.63	≤-41.20	47.57	≤54	PASS
				Peak	2310.000	-38.55	≤-21.20	56.65	≤74	PASS
				Peak	2388.140	-36.14	≤-21.20	59.06	≤74	PASS
				Peak	2390.000	-37.37	≤-21.20	57.83	≤74	PASS
		High	2462	AV	2483.500	-47.35	≤-41.20	47.85	≤54	PASS
				AV	2485.210	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2500.000	-47.55	≤-41.20	47.65	≤54	PASS
				Peak	2483.500	-37.35	≤-21.20	57.85	≤74	PASS
				Peak	2492.690	-35.84	≤-21.20	59.36	≤74	PASS
				Peak	2500.000	-37.54	≤-21.20	57.66	≤74	PASS
11N40SIS	Ant	Low	2422	AV	2310.000	-48.31	≤-41.20	46.89	≤54	PASS



O				AV	2389.570	-47.37	≤-41.20	47.83	≤54	PASS
				AV	2390.000	-47.61	≤-41.20	47.59	≤54	PASS
				Peak	2310.000	-38.49	≤-21.20	56.71	≤74	PASS
				Peak	2389.570	-35.77	≤-21.20	59.43	≤74	PASS
				Peak	2390.000	-37.46	≤-21.20	57.74	≤74	PASS
		High	2452	AV	2483.500	-47.32	≤-41.20	47.88	≤54	PASS
				AV	2484.330	-46.91	≤-41.20	48.29	≤54	PASS
				AV	2500.000	-47.35	≤-41.20	47.85	≤54	PASS
				Peak	2483.500	-36.44	≤-21.20	58.76	≤74	PASS
				Peak	2484.110	-34.79	≤-21.20	60.41	≤74	PASS
				Peak	2500.000	-36.88	≤-21.20	58.32	≤74	PASS

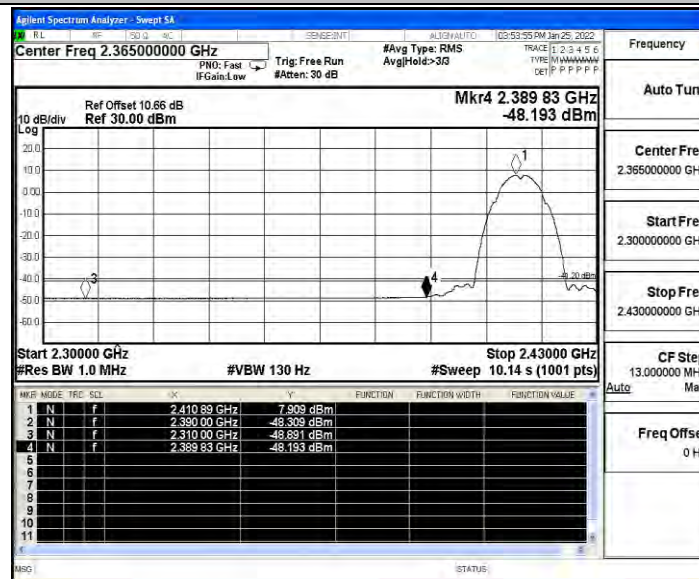
Note:

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.

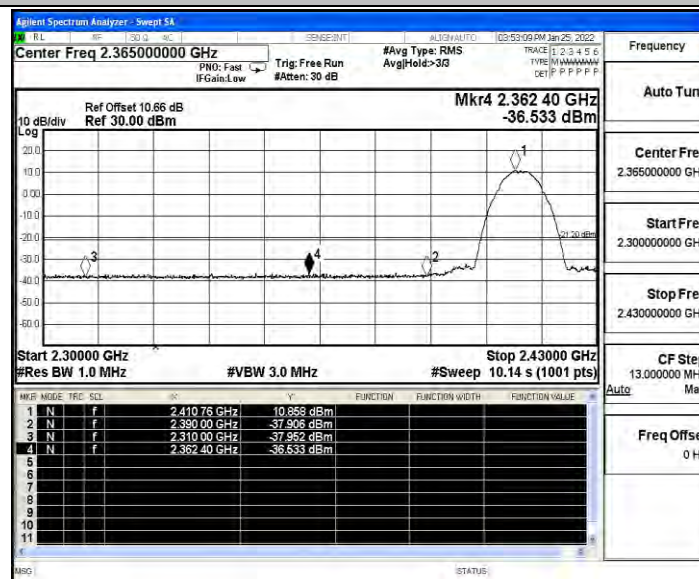


Test Graphs

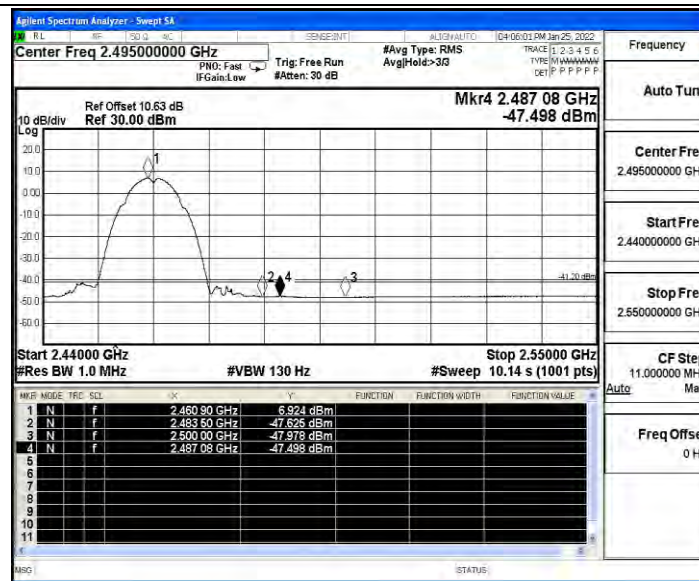
11B_Ant_Low_2412_AV



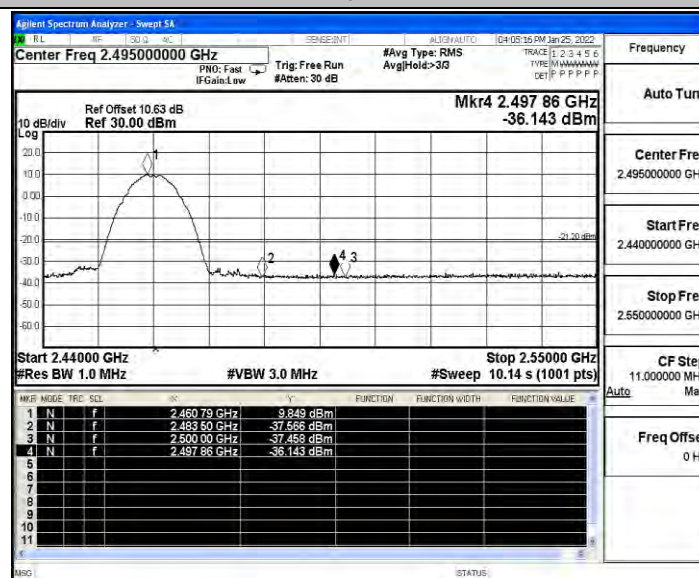
11B_Ant_Low_2412_Peak



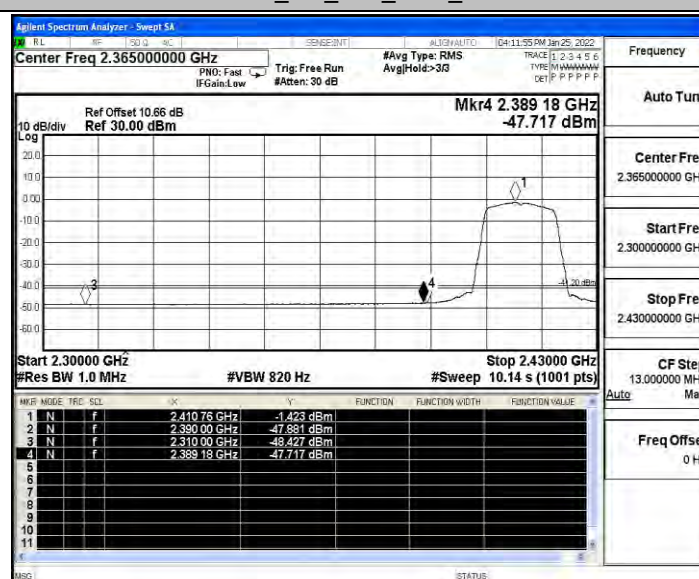
11B_Ant_High_2462_AV



11B_Ant_High_2462_Peak

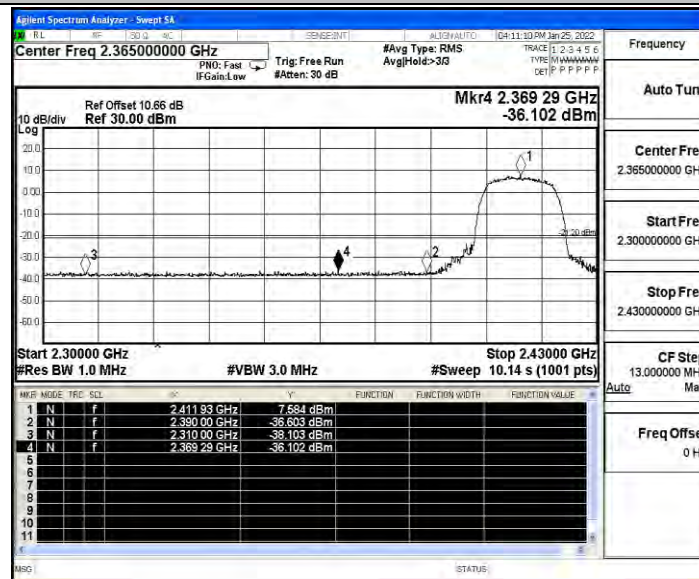


11G_Ant_Low_2412_AV

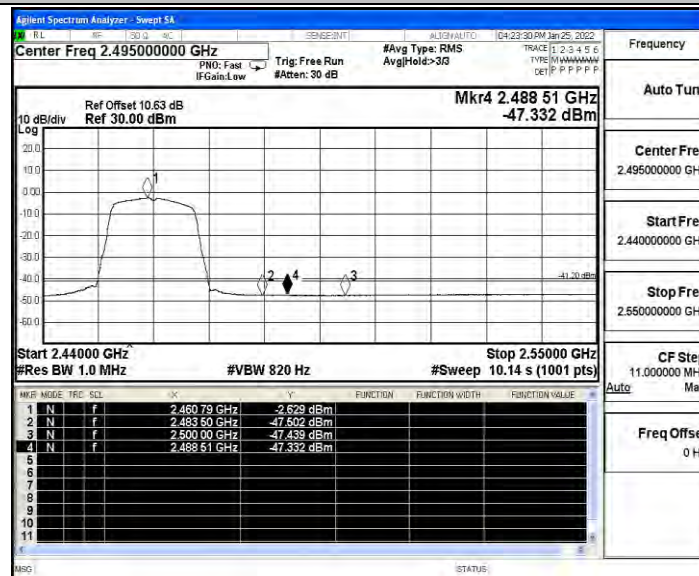




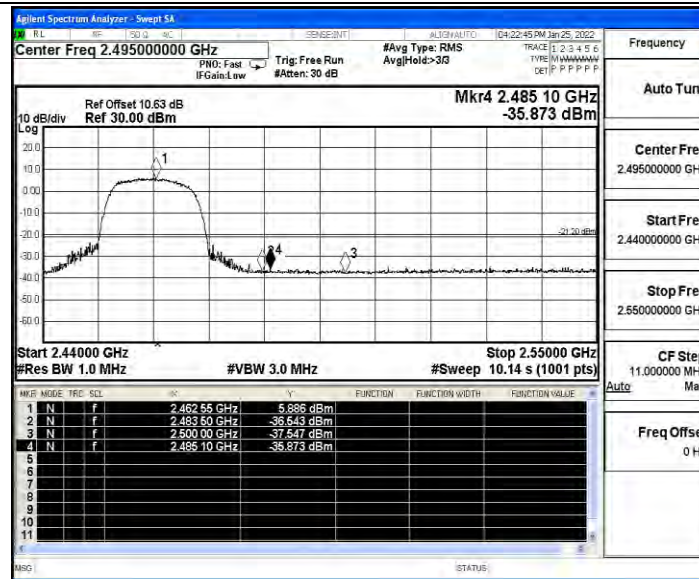
11G_Ant_Low_2412_Peak



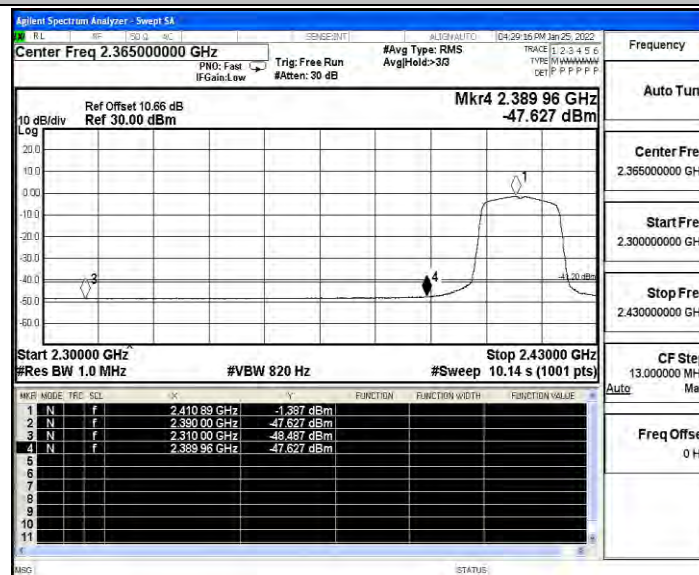
11G_Ant_High_2462_AV



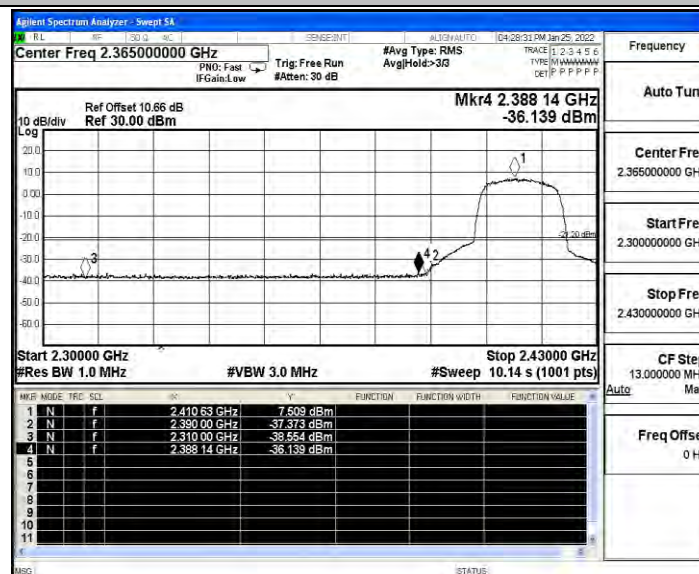
11G_Ant_High_2462_Peak



11N20SISO_Ant_Low_2412_AV

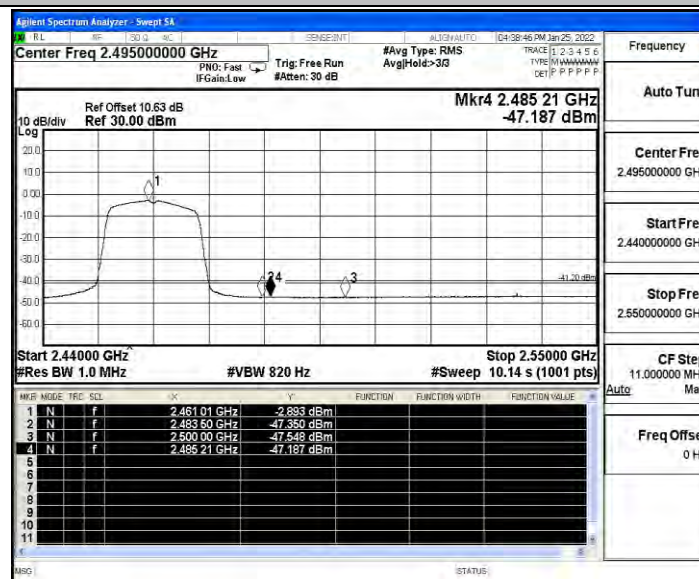


11N20SISO_Ant_Low_2412_Peak

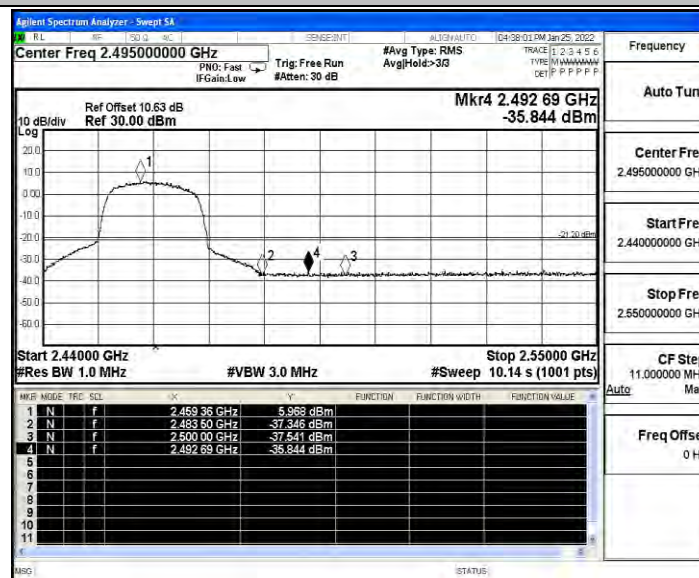




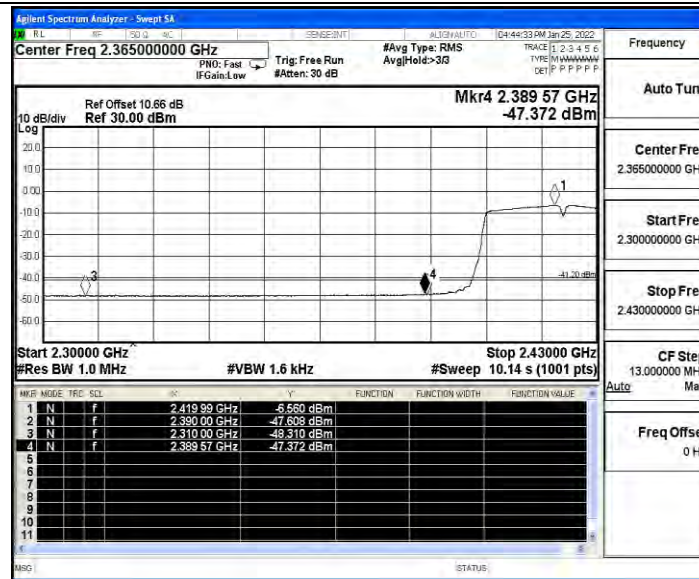
11N20SISO_Ant_High_2462_AV



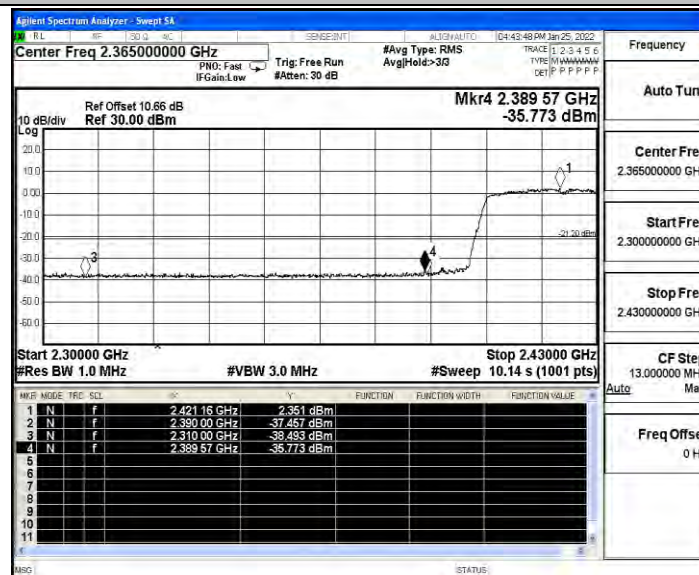
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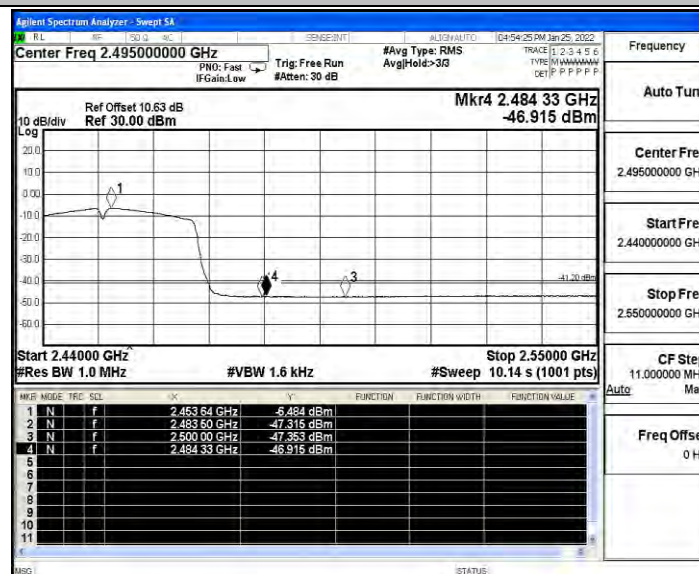
11N40SISO_Ant_Low_2422_AV



11N40SISO_Ant_Low_2422_Peak



11N40SISO_Ant_High_2452_AV





11N40SISO_Ant_High_2452_Peak

