Appendix Test Data

Report No.:	18220WC30259202	Test Sample No.:	1-2-2
Start Test Date:	2023.12.20	Finish Test Date:	2023.12.23
Test Engineer:	Hayman Chen	Auditor:	Rick Luo
Temperature:	23.7℃	Relative Humidity:	43%
Pressure:	101kPa		

Appendix A: DTS Bandwidth

Test Result

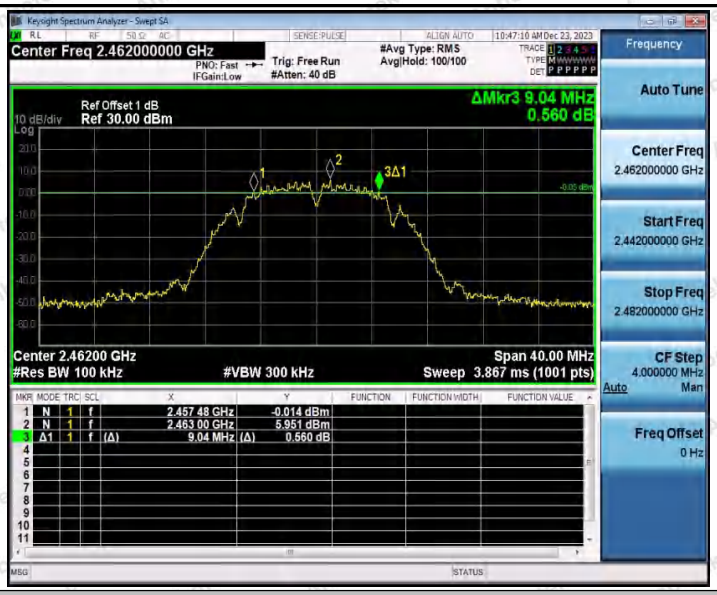
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.080	2407.480	2416.560	0.5	PASS
		2437	9.120	2432.440	2441.560	0.5	PASS
		2462	9.040	2457.480	2466.520	0.5	PASS
11G	Ant1	2412	13.800	2405.680	2419.480	0.5	PASS
		2437	14.160	2430.360	2444.520	0.5	PASS
		2462	15.080	2454.440	2469.520	0.5	PASS
11N20SISO	Ant1	2412	17.000	2403.520	2420.520	0.5	PASS
		2437	12.880	2431.640	2444.520	0.5	PASS
		2462	14.440	2455.120	2469.560	0.5	PASS
11N40SISO	Ant1	2422	35.040	2404.480	2439.520	0.5	PASS
		2437	35.120	2419.480	2454.600	0.5	PASS
		2452	34.960	2434.560	2469.520	0.5	PASS

Test Graphs

11B_Ant1_2412

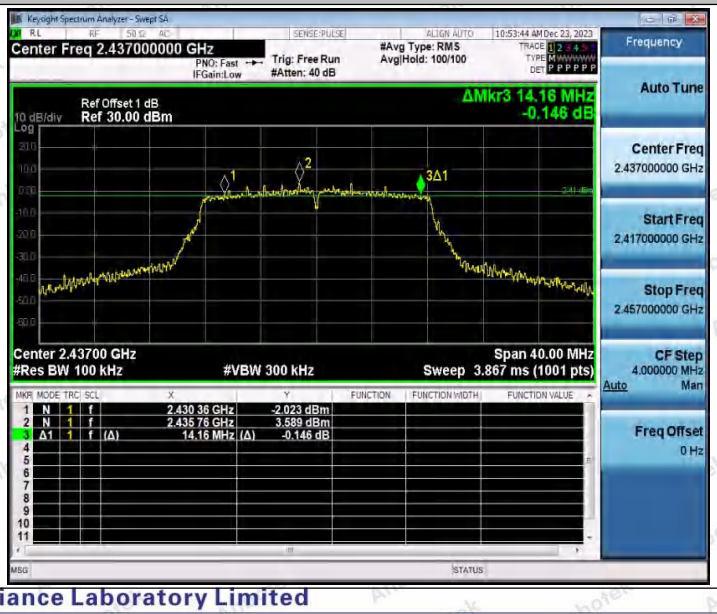
11B_Ant1_2437

11B_Ant1_2462



11G_Ant1_2412

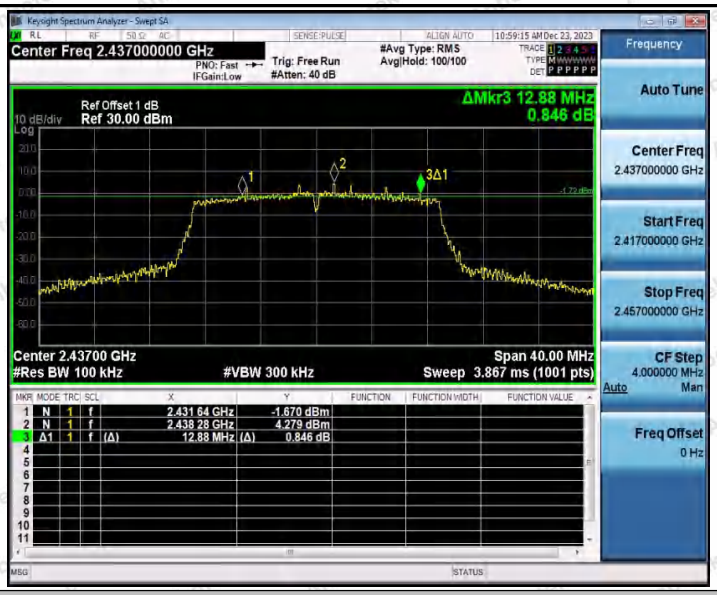
11G_Ant1_2437



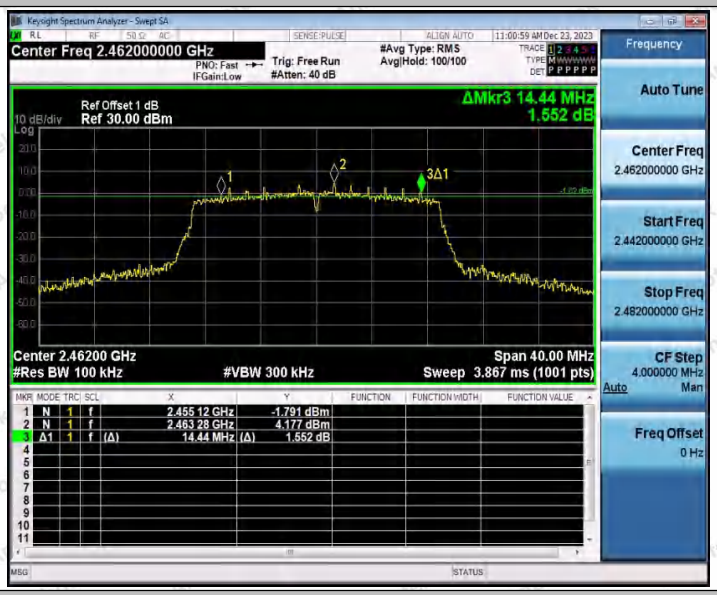
11G_Ant1_2462

11N20SISO_Ant1_2412

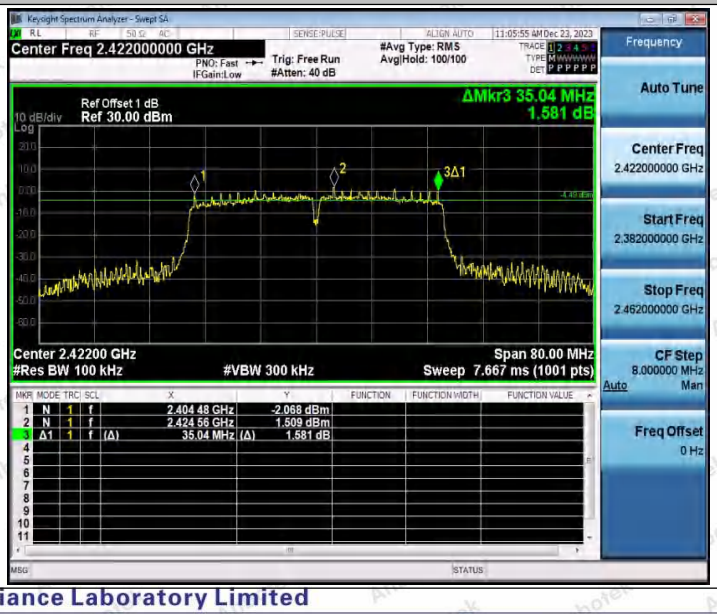
11N20SISO_Ant1_2437



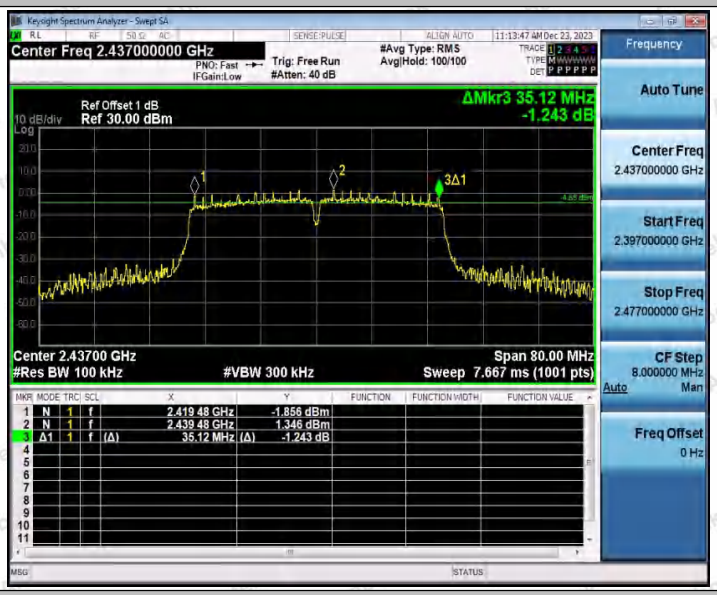
11N20SISO_Ant1_2462



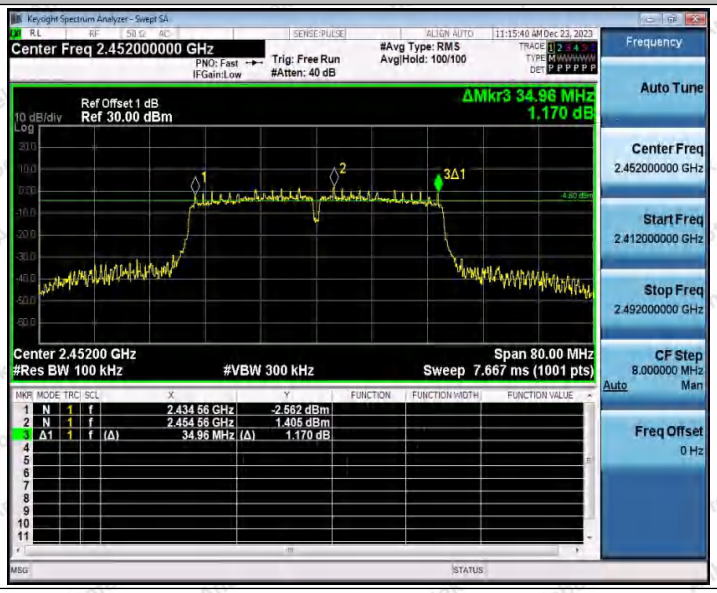
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



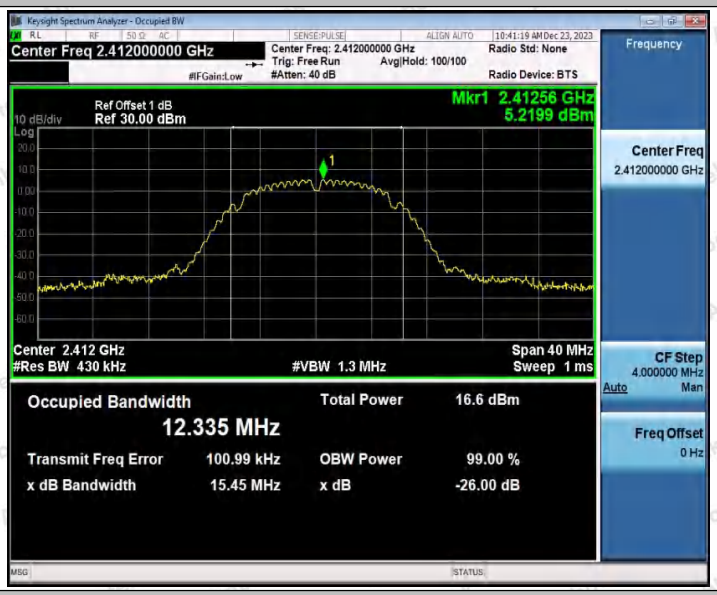
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.335	2405.9335	2418.2685	---	---
		2437	12.310	2430.9136	2443.2236	---	---
		2462	12.281	2455.8802	2468.1612	---	---
11G	Ant1	2412	16.850	2403.6542	2420.5042	---	---
		2437	16.849	2428.6631	2445.5121	---	---
		2462	16.816	2453.6069	2470.4229	---	---
11N20SISO	Ant1	2412	17.782	2403.1599	2420.9419	---	---
		2437	17.708	2428.1804	2445.8884	---	---
		2462	17.731	2453.1464	2470.8774	---	---
11N40SISO	Ant1	2422	35.966	2404.1961	2440.1621	---	---
		2437	35.998	2419.1504	2455.1484	---	---
		2452	35.985	2434.0932	2470.0782	---	---

Test Graphs

11B_Ant1_2412

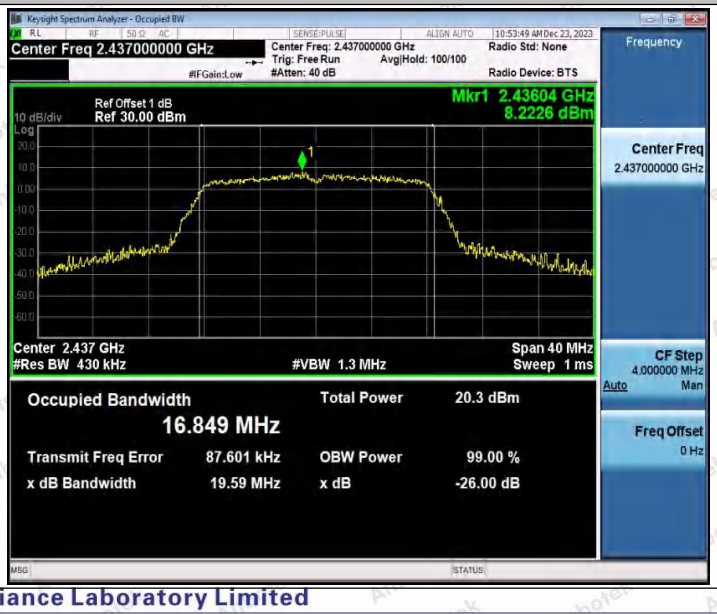


11B_Ant1_2437

11B_Ant1_2462

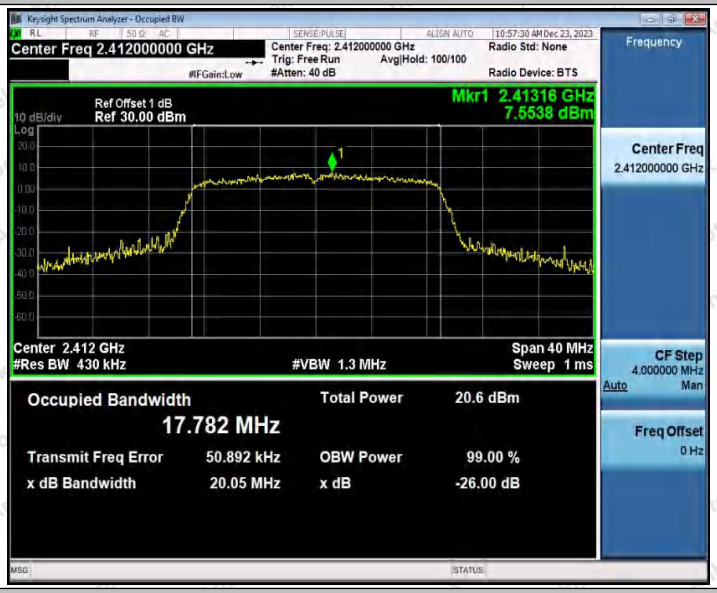
11G_Ant1_2412

11G_Ant1_2437



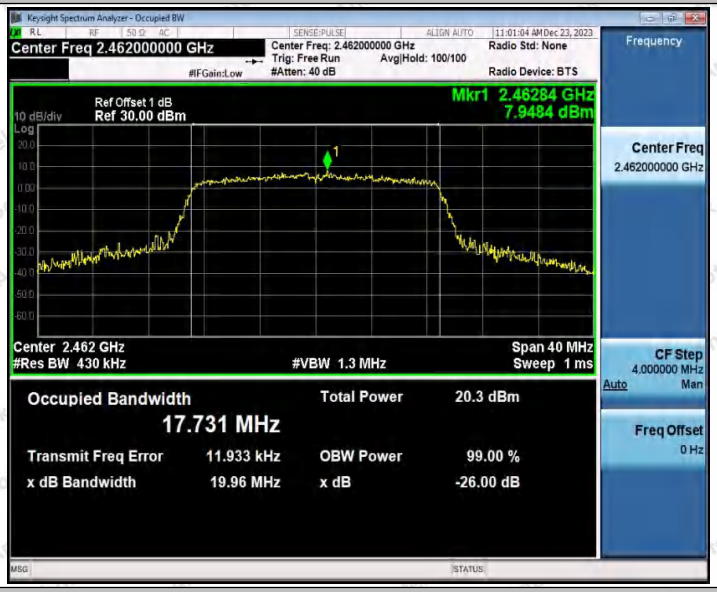
11G_Ant1_2462

11N20SISO_Ant1_2412

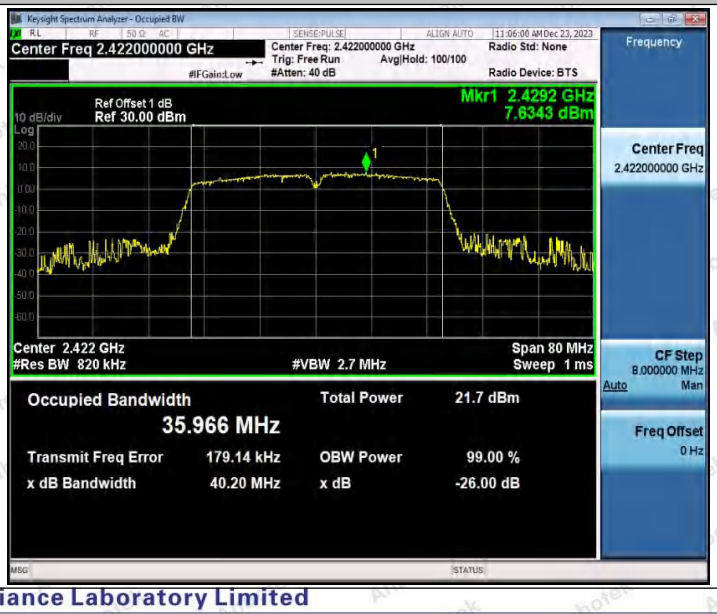


11N20SISO_Ant1_2437

11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437

11N40SISO_Ant1_2452

Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Frequency[MHz]	Average Output Power[dBm]	Conducted Limit[dBm]
11B	Ant1	2412	14.05	≤30.00
		2437	14.17	≤30.00
		2462	14.28	≤30.00
11G	Ant1	2412	13.40	≤30.00
		2437	13.83	≤30.00
		2462	13.78	≤30.00
11N20SISO	Ant1	2412	14.55	≤30.00
		2437	13.99	≤30.00
		2462	14.15	≤30.00
11N40SISO	Ant1	2422	**14.82**	≤30.00
		2437	14.62	≤30.00
		2452	14.67	≤30.00

Note：The Duty Cycle Factor(10*log(1/D)) and cable loss are compensated in the graph.

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/30kHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-8.43	-18.43	≤8.00	PASS
		2437	-7.86	-17.86	≤8.00	PASS
		2462	-7.49	-17.49	≤8.00	PASS
11G	Ant1	2412	-9.65	-19.65	≤8.00	PASS
		2437	-8.84	-18.84	≤8.00	PASS
		2462	-9.39	-19.39	≤8.00	PASS
11N20SISO	Ant1	2412	-9.07	-19.07	≤8.00	PASS
		2437	-9.2	-19.2	≤8.00	PASS
		2462	-9.09	-19.09	≤8.00	PASS
11N40SISO	Ant1	2422	-11.35	-21.35	≤8.00	PASS
		2437	-11.99	-21.99	≤8.00	PASS
		2452	-11.76	-21.76	≤8.00	PASS

Note:

1. The Duty Cycle Factor(10*log(1/D)) and cable loss are compensated in the graph.
2. PSD(dBm/3kHz)= PSD(dBm/30kHz)- (10*log(30/3))

Test Graphs

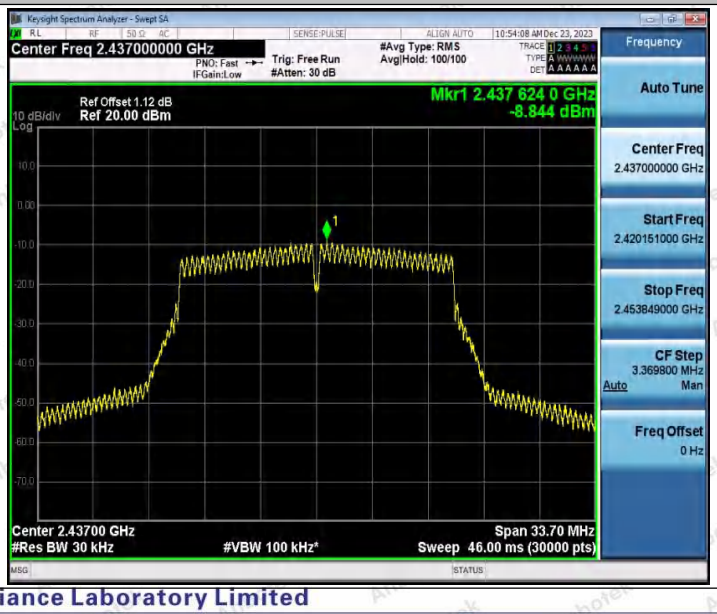
11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462

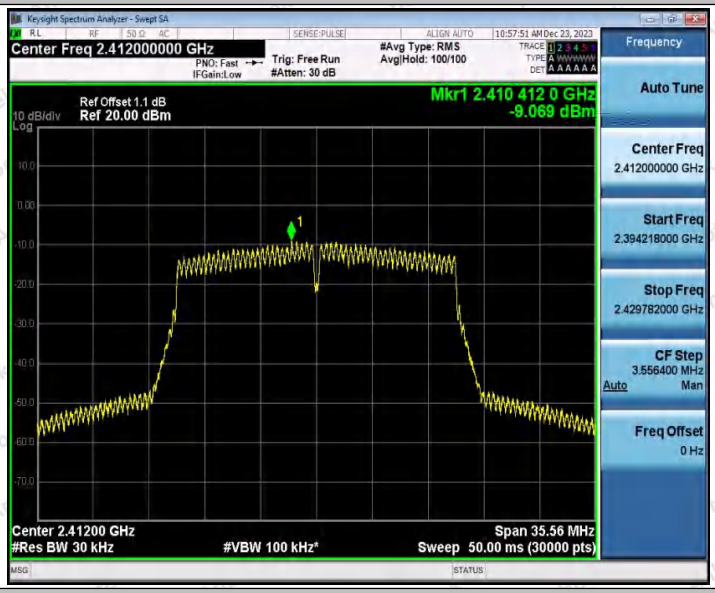
11G_Ant1_2412

11G_Ant1_2437



11G_Ant1_2462

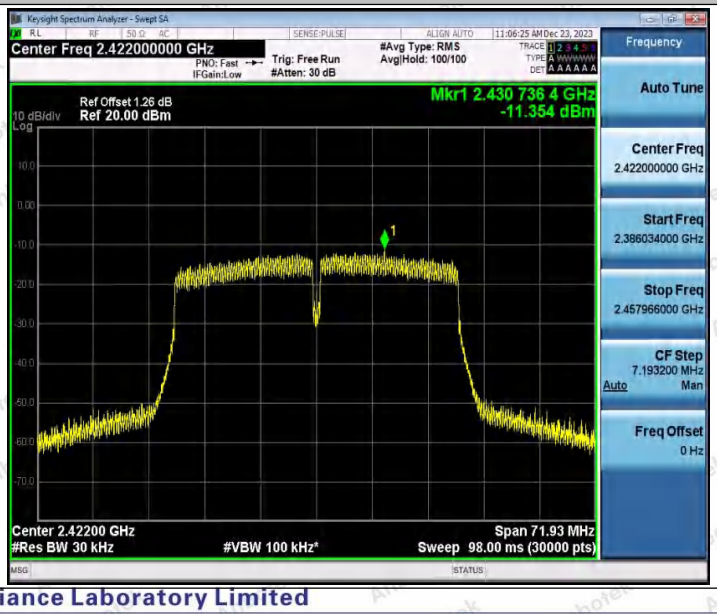
11N20SISO_Ant1_2412



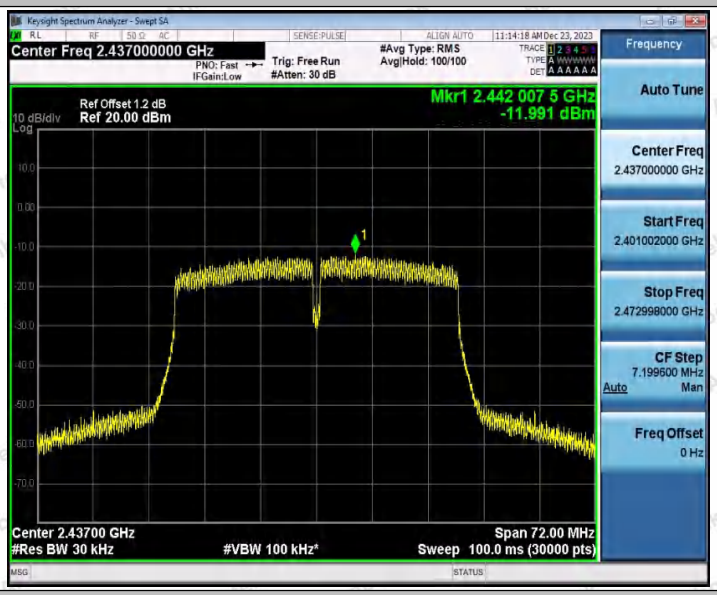
11N20SISO_Ant1_2437

11N20SISO_Ant1_2462

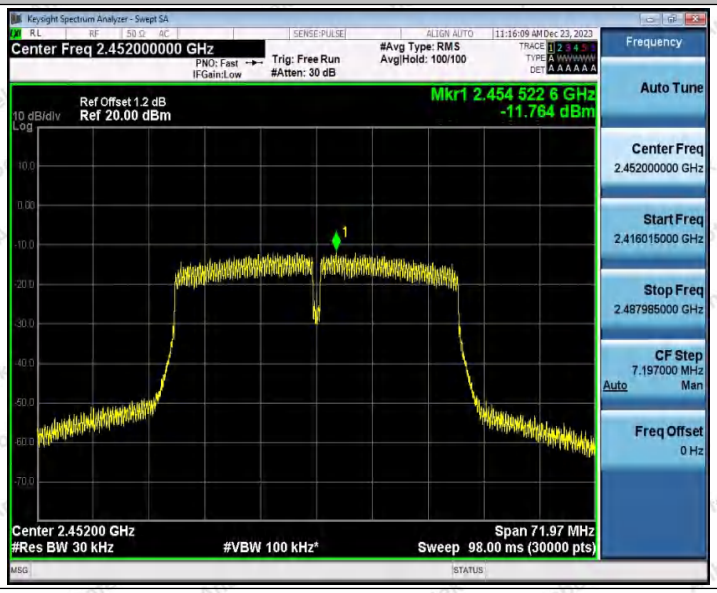
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



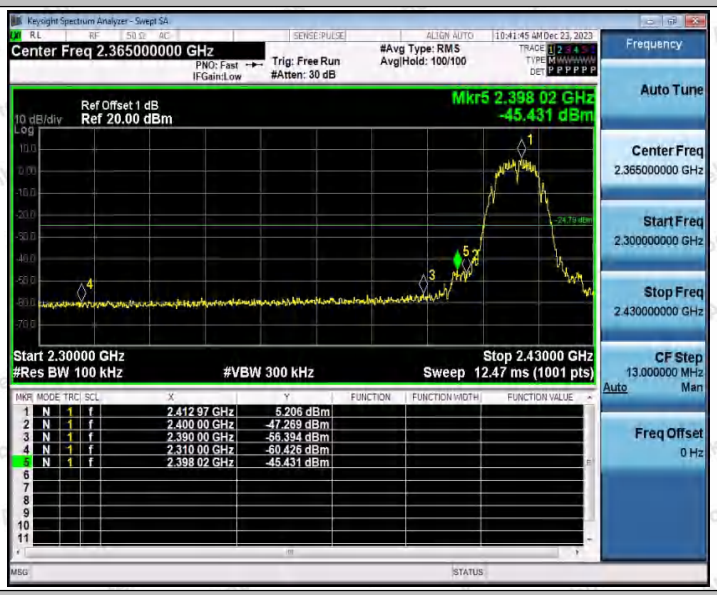
Appendix E: Band edge measurements

Test Result

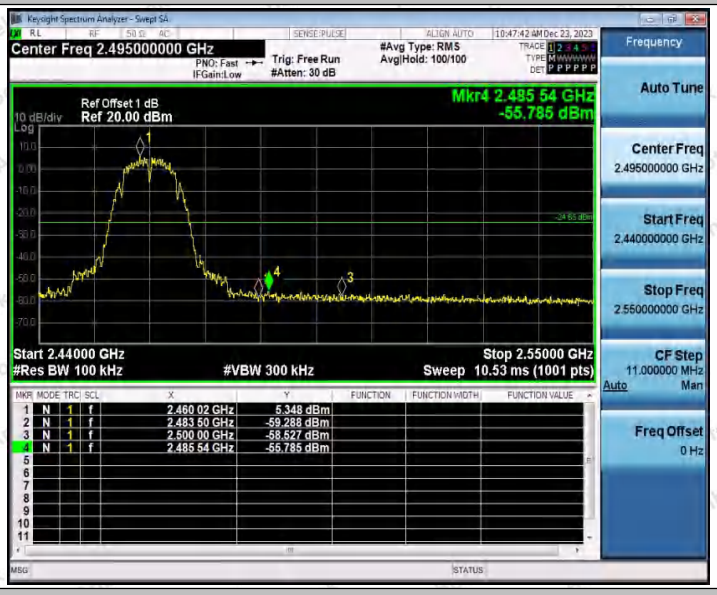
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.21	-45.43	≤-24.79	PASS
		High	2462	5.35	-55.79	≤-24.65	PASS
11G	Ant1	Low	2412	1.97	-35.2	≤-28.03	PASS
		High	2462	2.47	-48.13	≤-27.53	PASS
11N20SISO	Ant1	Low	2412	4.23	-33.23	≤-25.77	PASS
		High	2462	3.75	-46.61	≤-26.25	PASS
11N40SISO	Ant1	Low	2422	1.19	-33.41	≤-28.81	PASS
		High	2452	1.22	-36.06	≤-28.78	PASS

Test Graphs

11B_Ant1_Low_2412

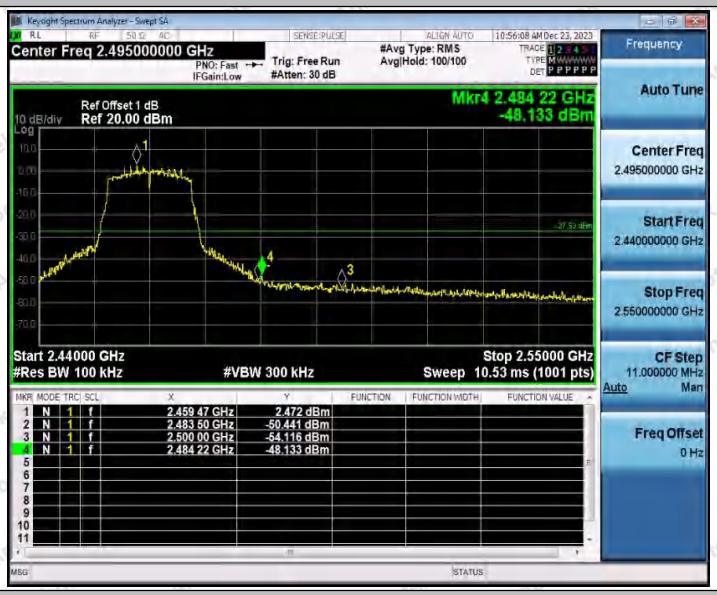


11B_Ant1_High_2462

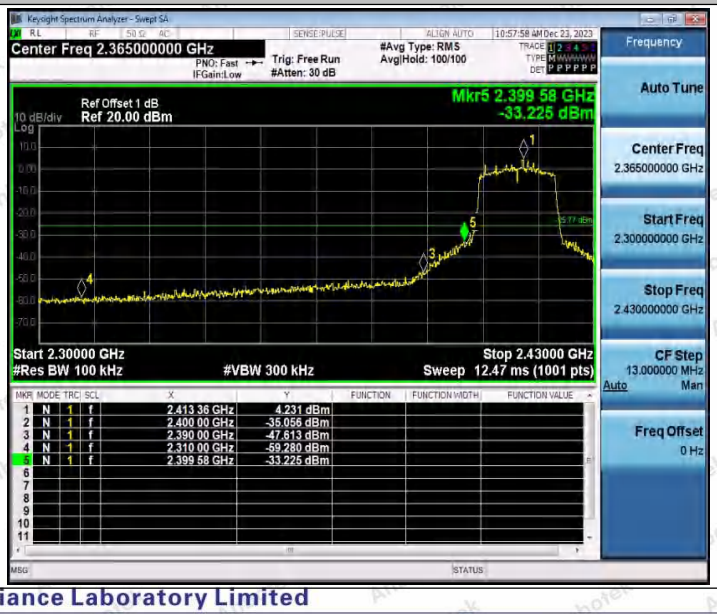


11G_Ant1_Low_2412

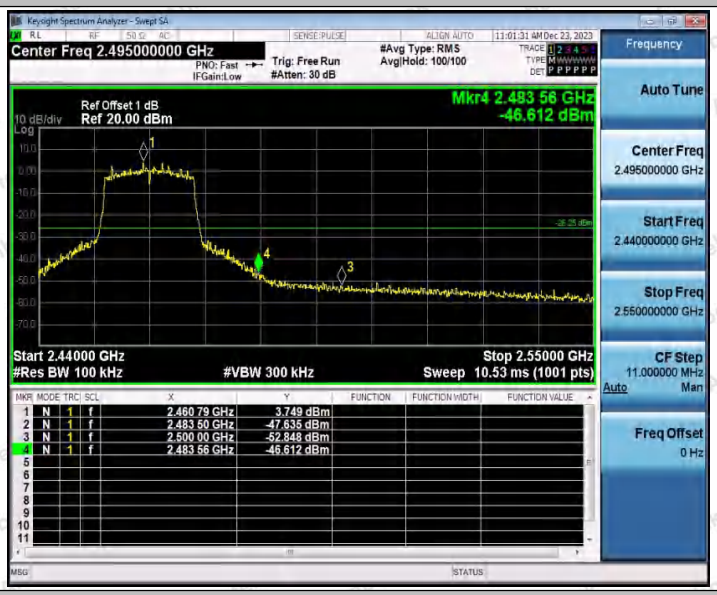
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422

11N40SISO_Ant1_High_2452

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.495000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
11:16:16 AM Dec 23, 2023
Ref Offset 1 dB
10 dB/div Ref 20.00 dBm
Log
Mkr4 2.484 55 GHz
-36.056 dBm
Start 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 10.53 ms (1001 pts)
1 N 1 f 2.454 52 GHz 1.223 dBm
2 N 1 f 2.483 50 GHz -44.112 dBm
3 N 1 f 2.500 00 GHz -54.795 dBm
4 N 1 f 2.484 55 GHz -36.056 dBm
Frequency
Auto Tune
Center Freq
2.495000000 GHz
Start Freq
2.440000000 GHz
Stop Freq
2.550000000 GHz
CF Step
11.000000 MHz
Auto Man
Freq Offset
0 Hz

Appendix F: Conducted Spurious Emission

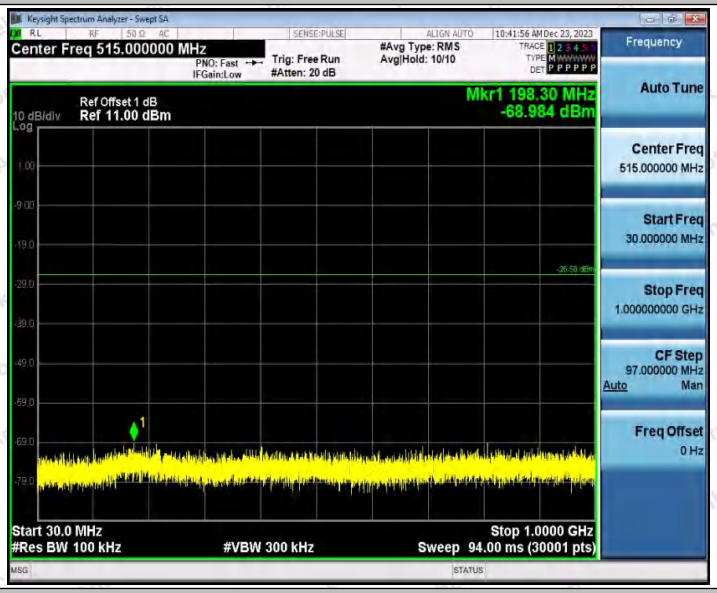
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.42	3.42	---	PASS
			30~1000	3.42	-68.98	≤-26.58	PASS
			1000~26500	3.42	-53.85	≤-26.58	PASS
		2437	Reference	4.16	4.16	---	PASS
			30~1000	4.16	-67.76	≤-25.84	PASS
			1000~26500	4.16	-53.57	≤-25.84	PASS
		2462	Reference	4.82	4.82	---	PASS
			30~1000	4.82	-68.97	≤-25.18	PASS
			1000~26500	4.82	-53.53	≤-25.18	PASS
11G	Ant1	2412	Reference	0.94	0.94	---	PASS
			30~1000	0.94	-69.61	≤-29.06	PASS
			1000~26500	0.94	-54.08	≤-29.06	PASS
		2437	Reference	0.09	0.09	---	PASS
			30~1000	0.09	-69.18	≤-29.91	PASS
			1000~26500	0.09	-53.74	≤-29.91	PASS
		2462	Reference	1.55	1.55	---	PASS
			30~1000	1.55	-68.87	≤-28.45	PASS
			1000~26500	1.55	-53.97	≤-28.45	PASS
11N20SISO	Ant1	2412	Reference	2.21	2.21	---	PASS
			30~1000	2.21	-69.15	≤-27.79	PASS
			1000~26500	2.21	-53.72	≤-27.79	PASS
		2437	Reference	1.09	1.09	---	PASS
			30~1000	1.09	-69.03	≤-28.91	PASS
			1000~26500	1.09	-54.03	≤-28.91	PASS
		2462	Reference	2.91	2.91	---	PASS
			30~1000	2.91	-69.56	≤-27.09	PASS
			1000~26500	2.91	-53.24	≤-27.09	PASS
11N40SISO	Ant1	2422	Reference	-0.26	-0.26	---	PASS
			30~1000	-0.26	-69.65	≤-30.26	PASS
			1000~26500	-0.26	-53.13	≤-30.26	PASS
		2437	Reference	-0.34	-0.34	---	PASS
			30~1000	-0.34	-69.49	≤-30.34	PASS
			1000~26500	-0.34	-53.19	≤-30.34	PASS
		2452	Reference	0.83	0.83	---	PASS
			30~1000	0.83	-69.33	≤-29.17	PASS
			1000~26500	0.83	-53.79	≤-29.17	PASS

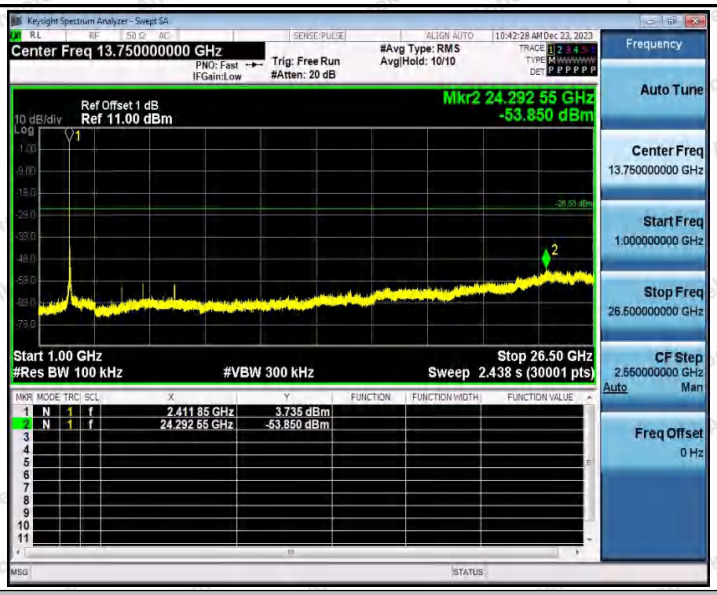
Test Graphs

11B_Ant1_2412_0~Reference

11B_Ant1_2412_30~1000

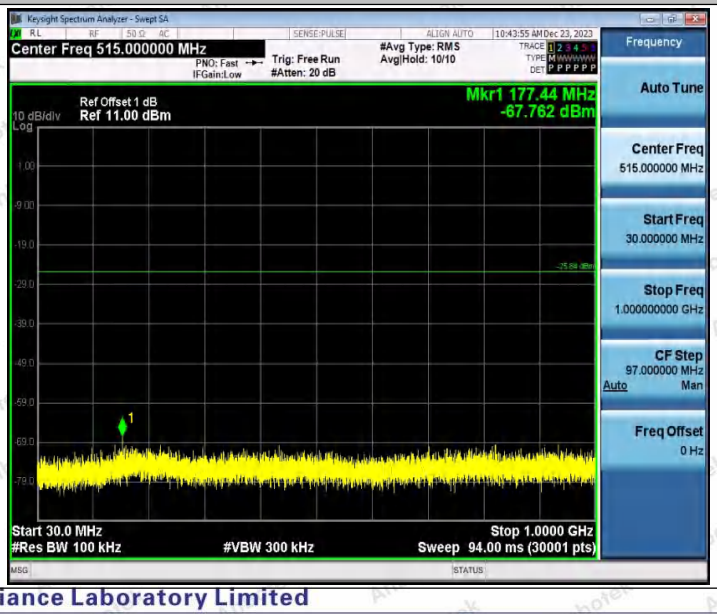


11B_Ant1_2412_1000~26500

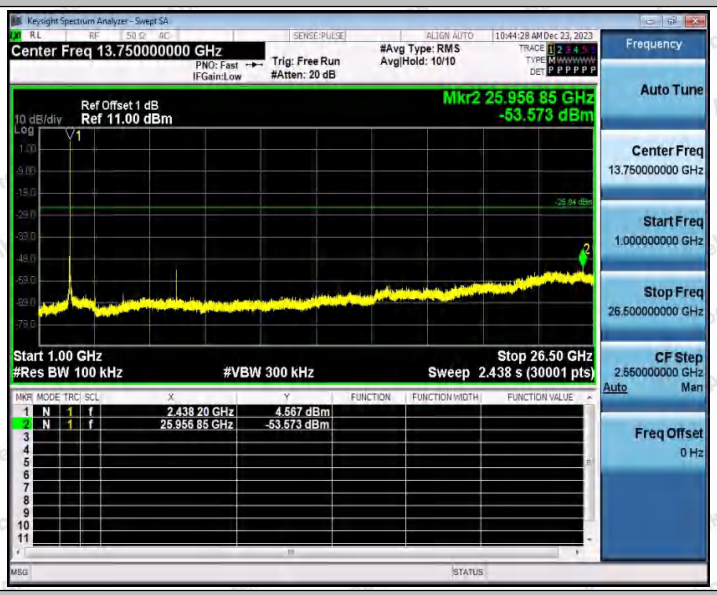


11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000

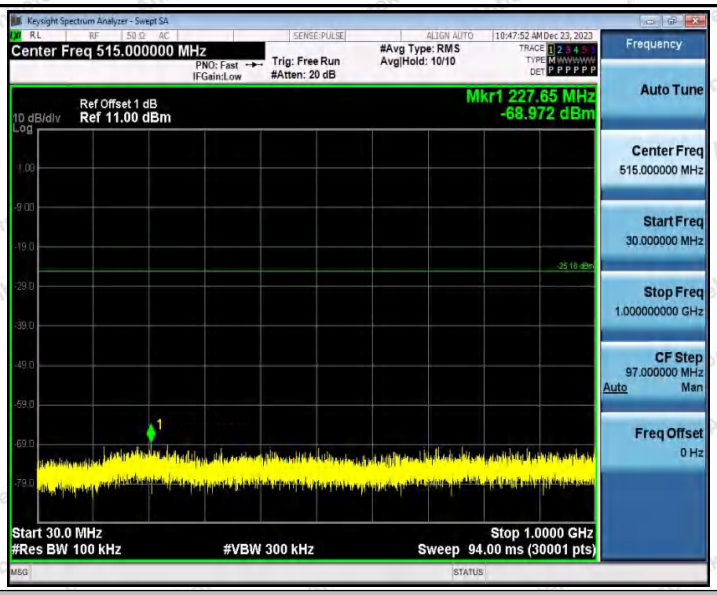


11B_Ant1_2437_1000~26500

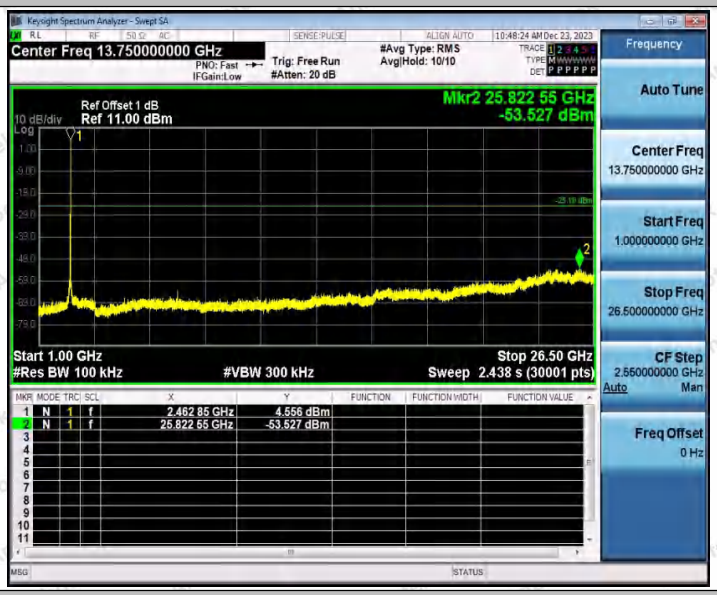


11B_Ant1_2462_0~Reference

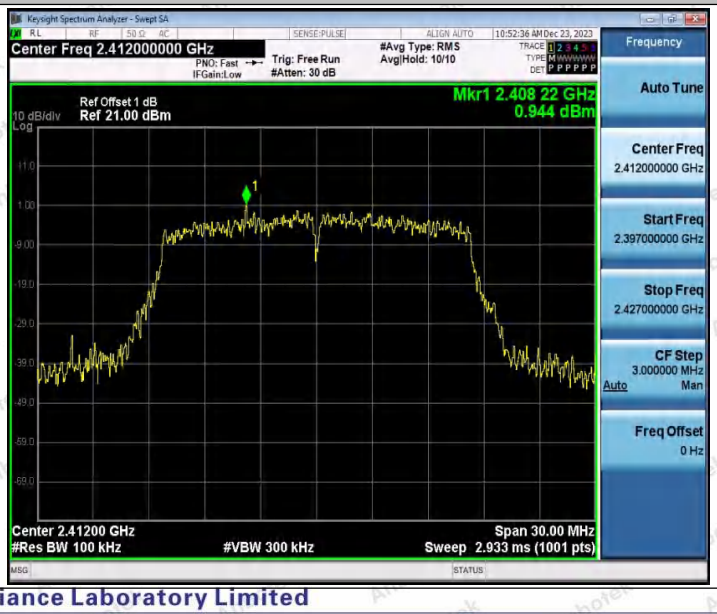
11B_Ant1_2462_30~1000



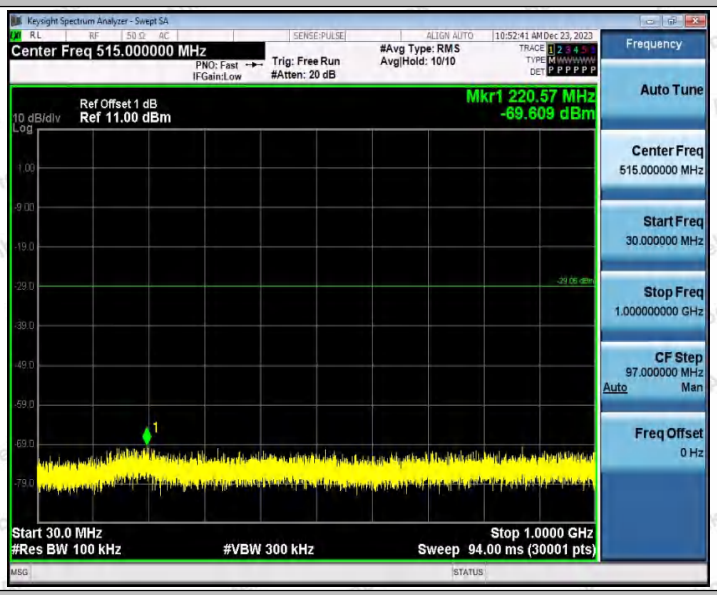
11B_Ant1_2462_1000~26500



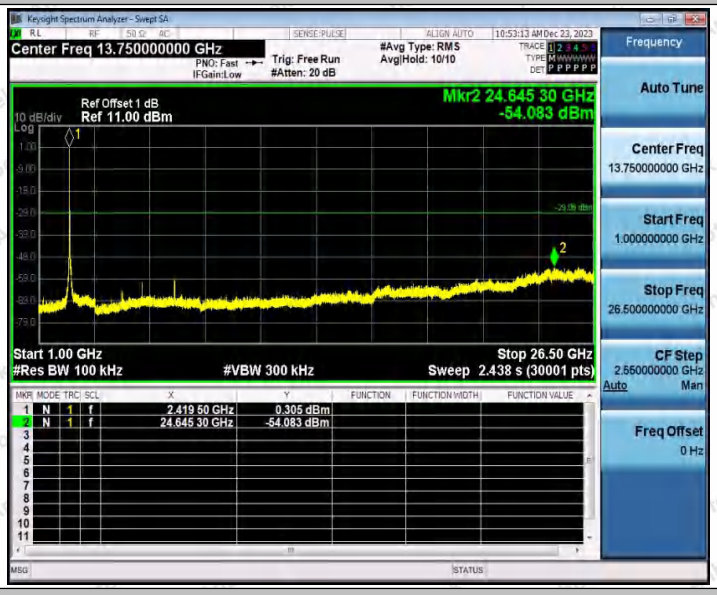
11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000

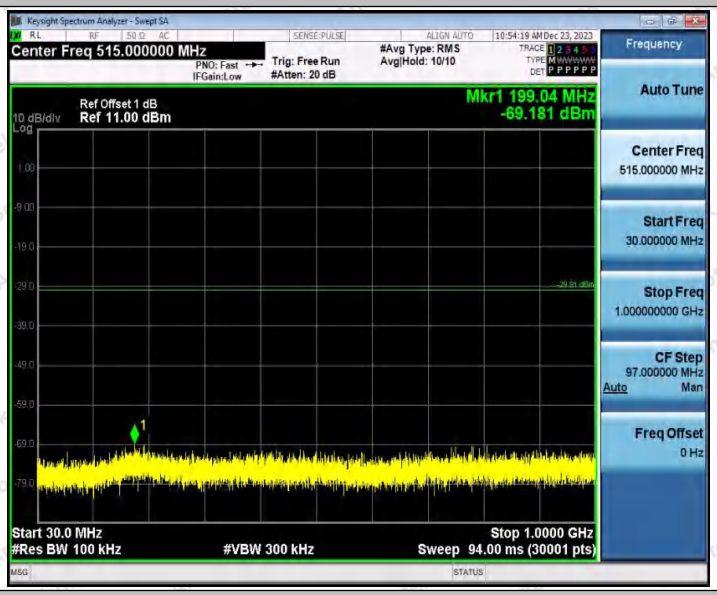


11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference

11G_Ant1_2437_30~1000



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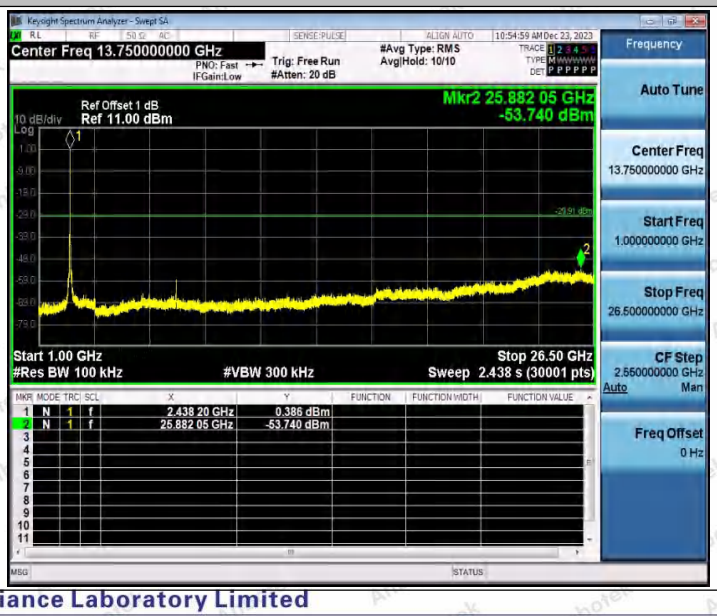

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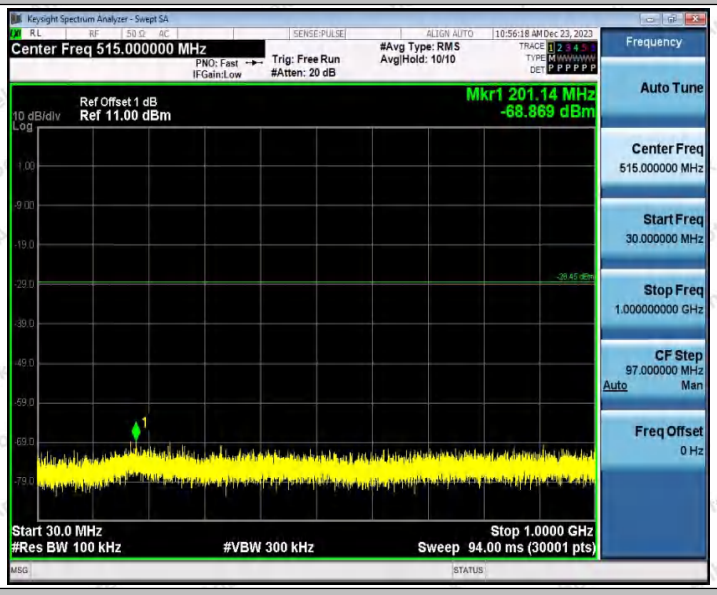

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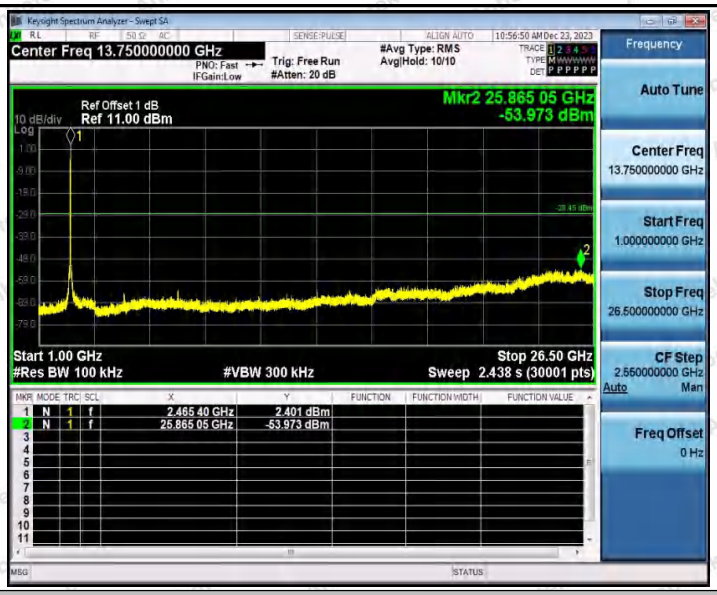
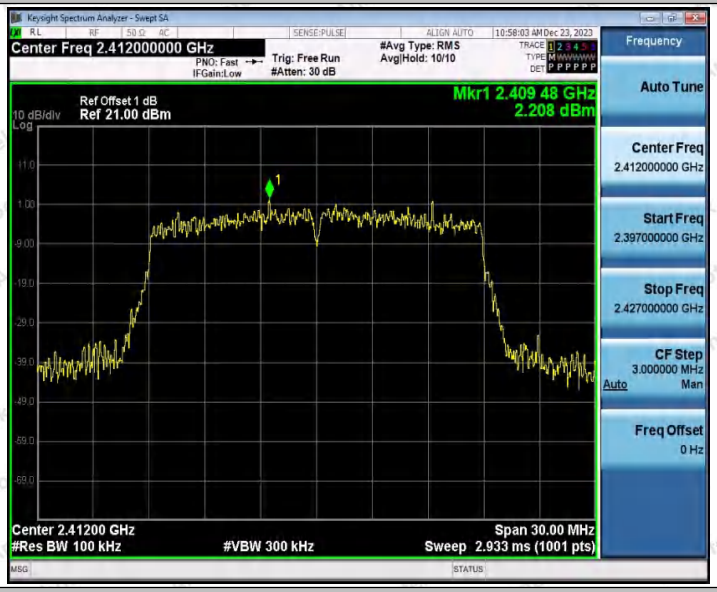


11N20SISO_Ant1_2412_0~Reference



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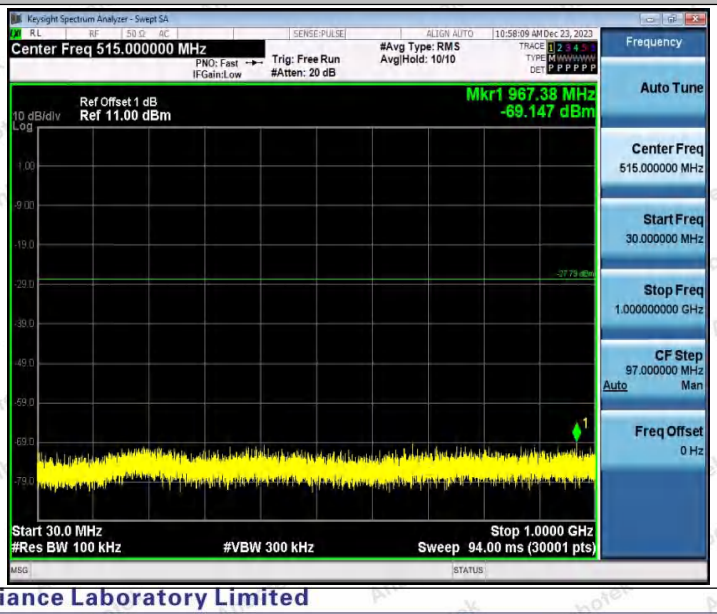

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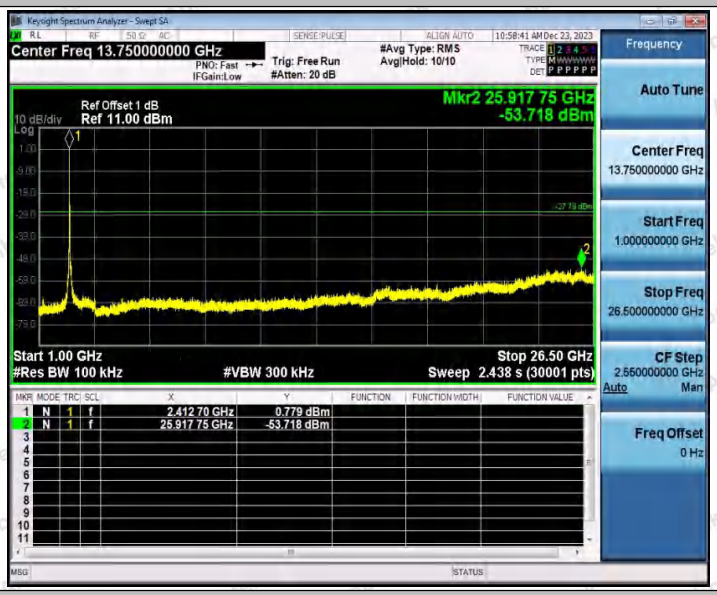

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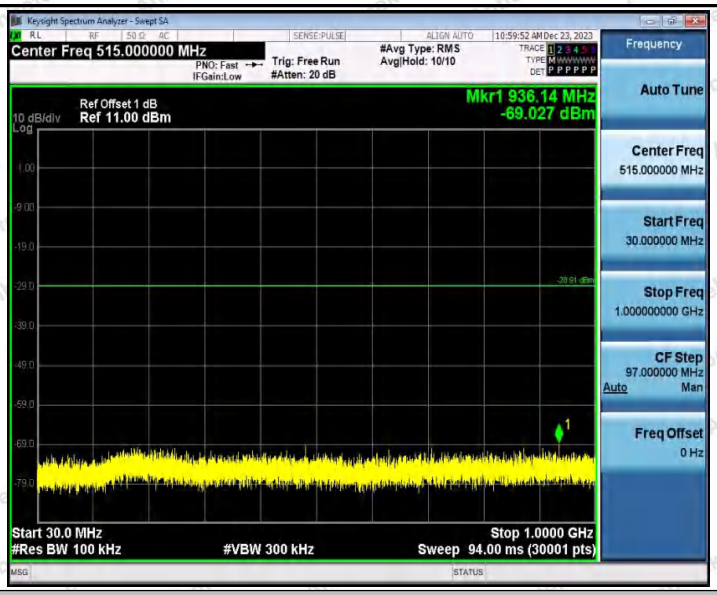
11N20SISO_Ant1_2437_30~1000



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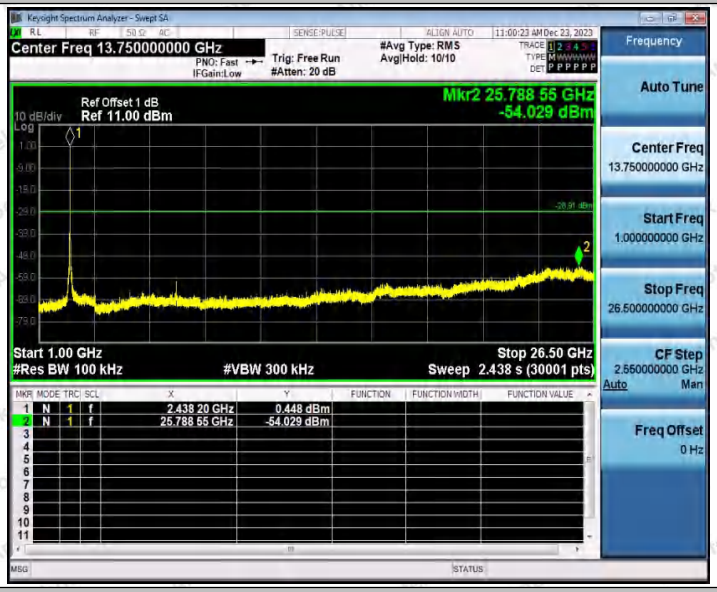

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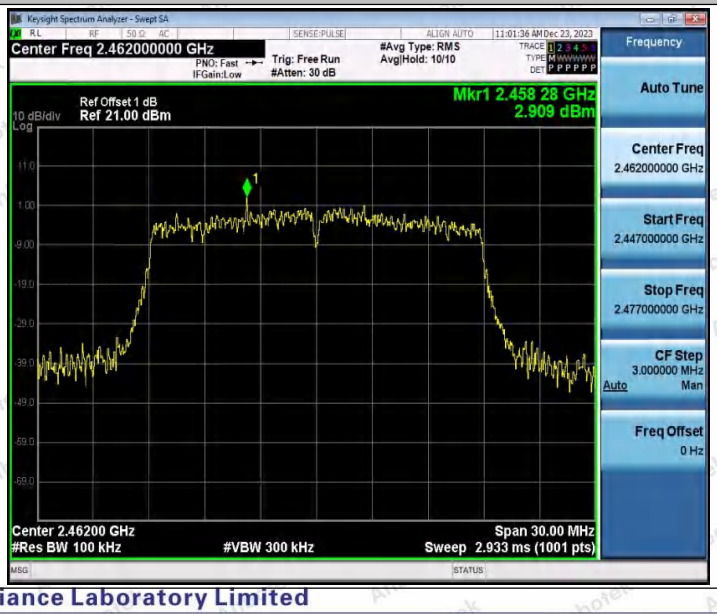

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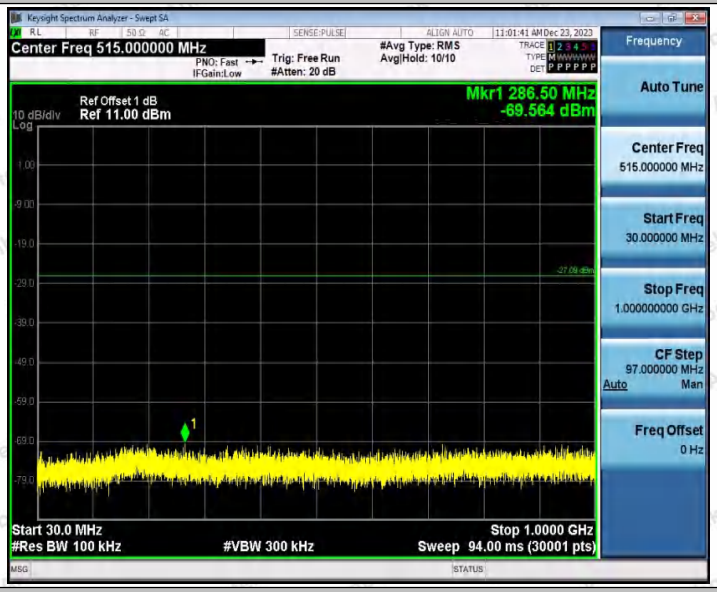

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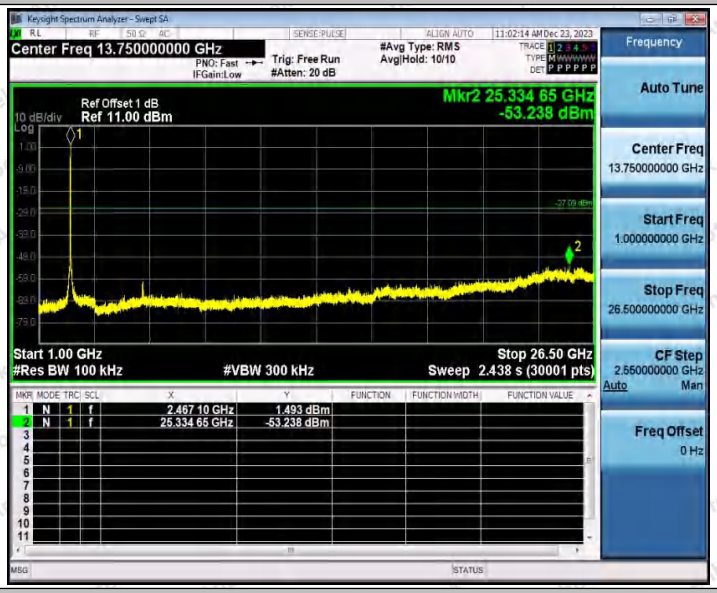

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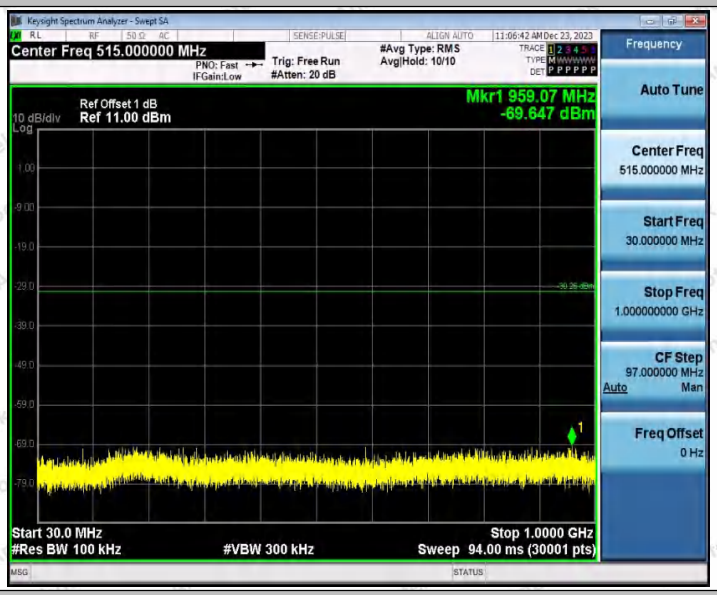

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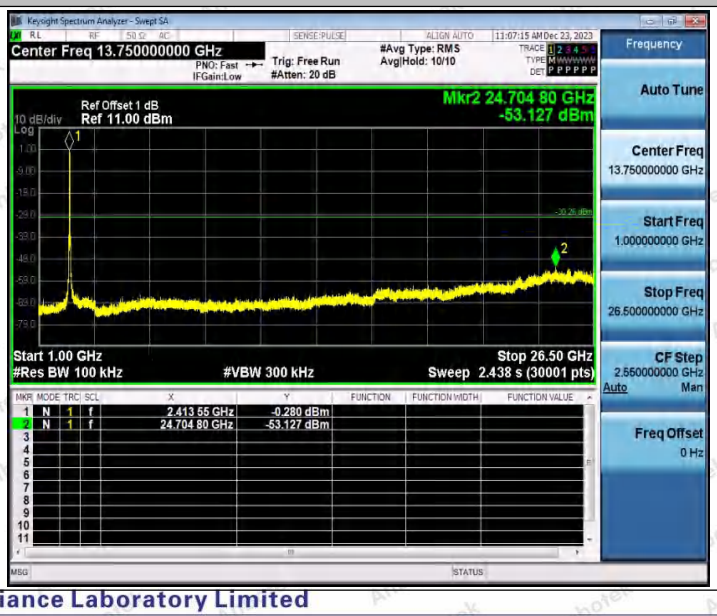

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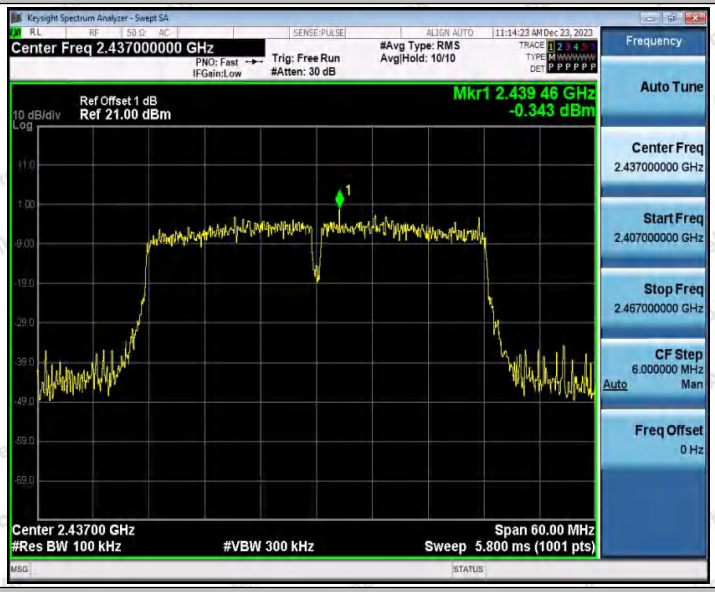

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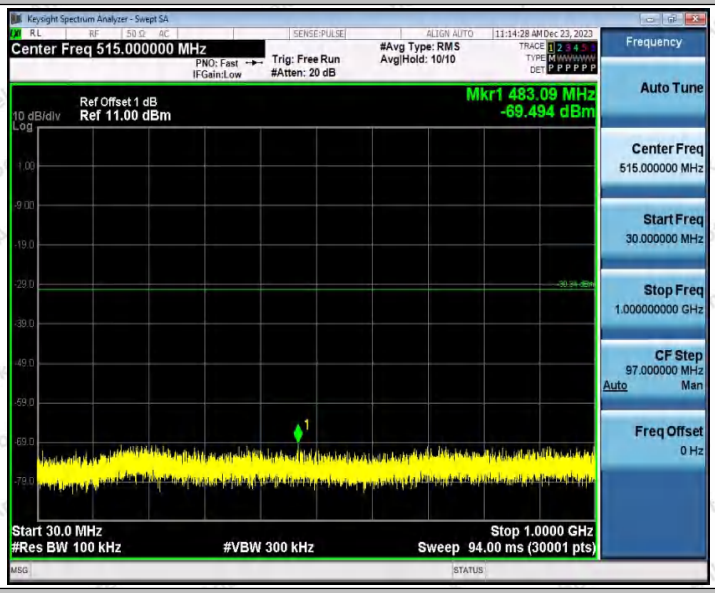

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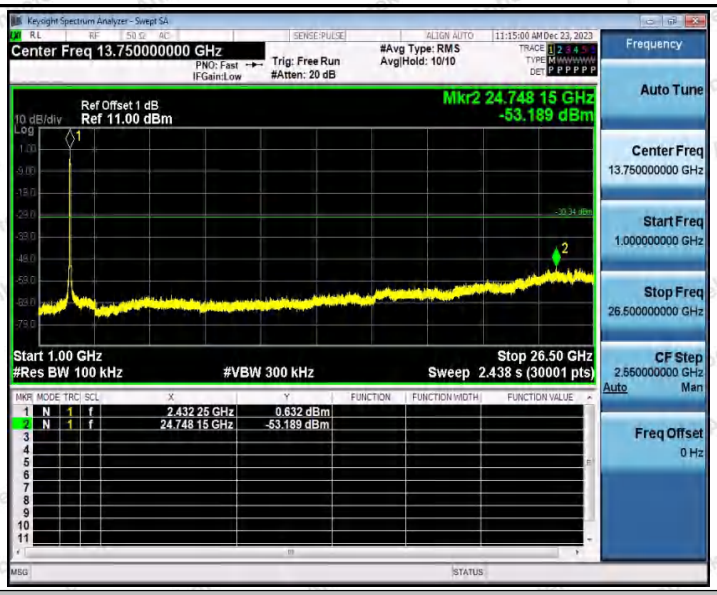
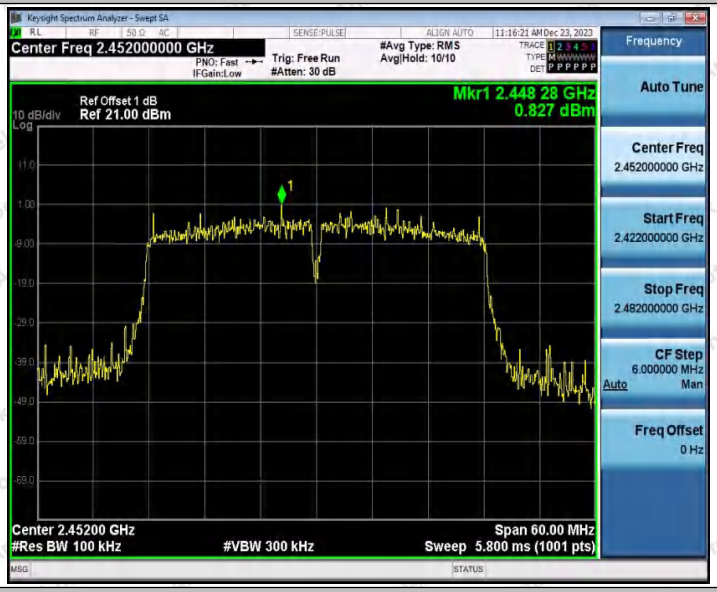


11N40SISO_Ant1_2452_0~Reference



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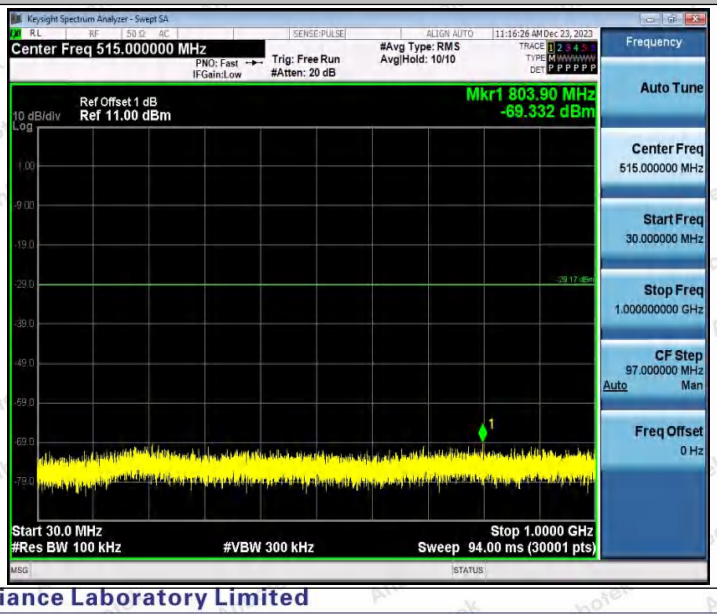

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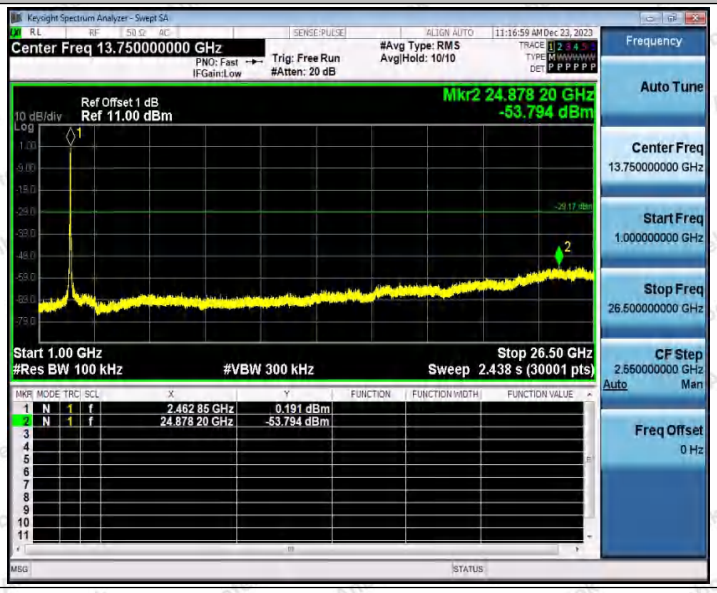


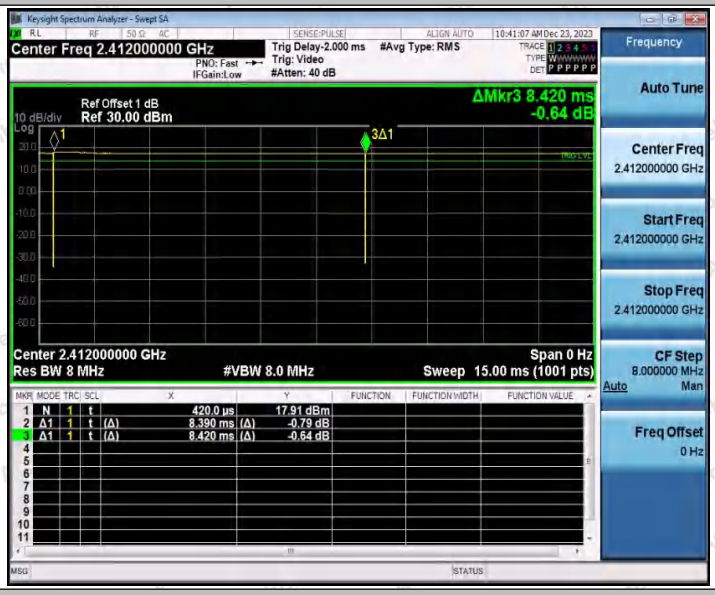
Appendix G: Duty Cycle

Test Result

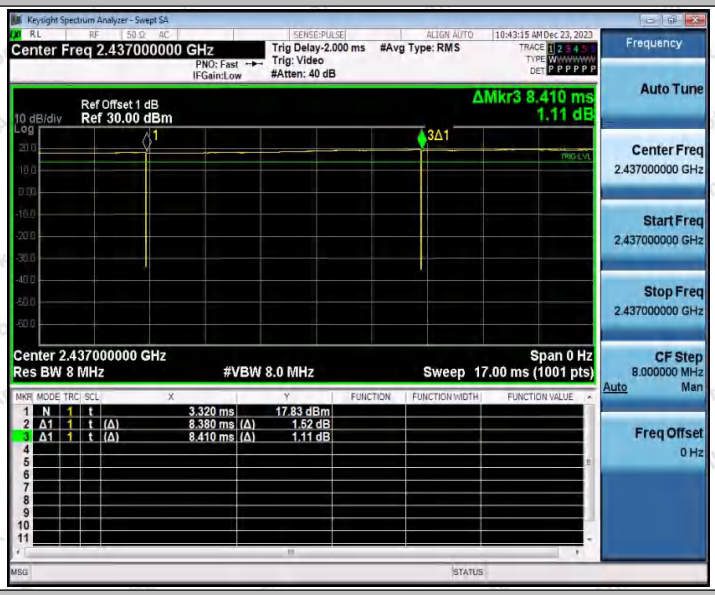
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.39	8.42	99.64	0.02
		2437	8.38	8.41	99.64	0.02
		2462	8.39	8.42	99.64	0.02
11G	Ant1	2412	1.39	1.43	97.20	0.12
		2437	1.39	1.43	97.20	0.12
		2462	1.39	1.43	97.20	0.12
11N20SISO	Ant1	2412	1.30	1.33	97.74	0.10
		2437	1.30	1.33	97.74	0.10
		2462	1.30	1.33	97.74	0.10
11N40SISO	Ant1	2422	0.64	0.68	94.12	0.26
		2437	0.65	0.68	95.59	0.20
		2452	0.65	0.68	95.59	0.20

Test Graphs

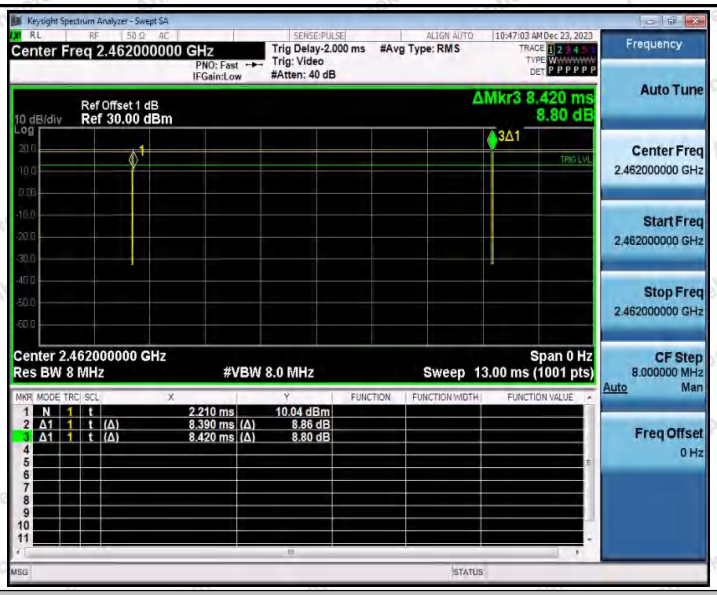
11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



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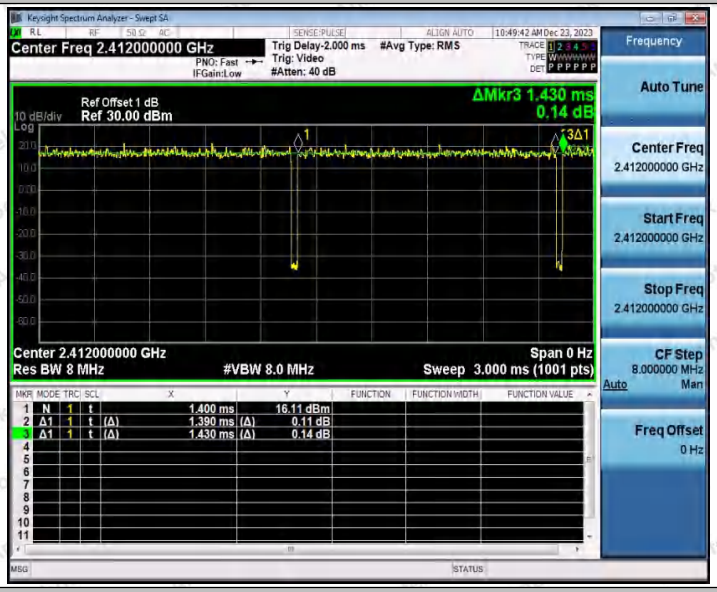

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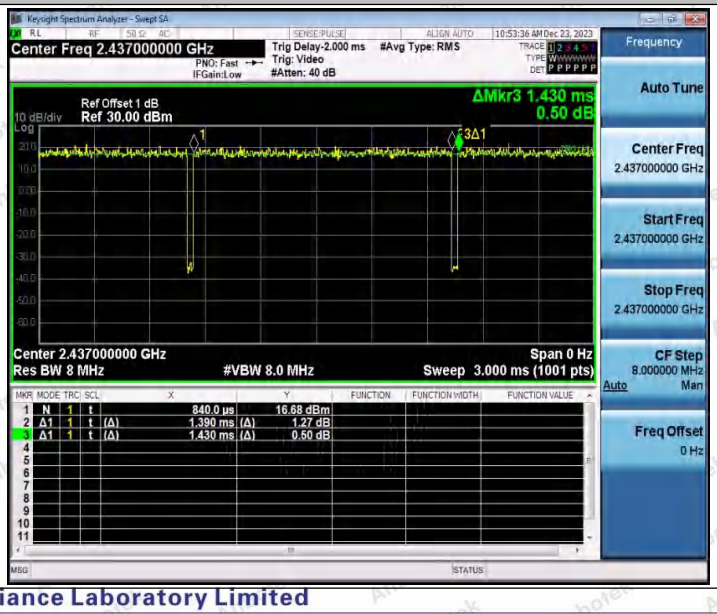

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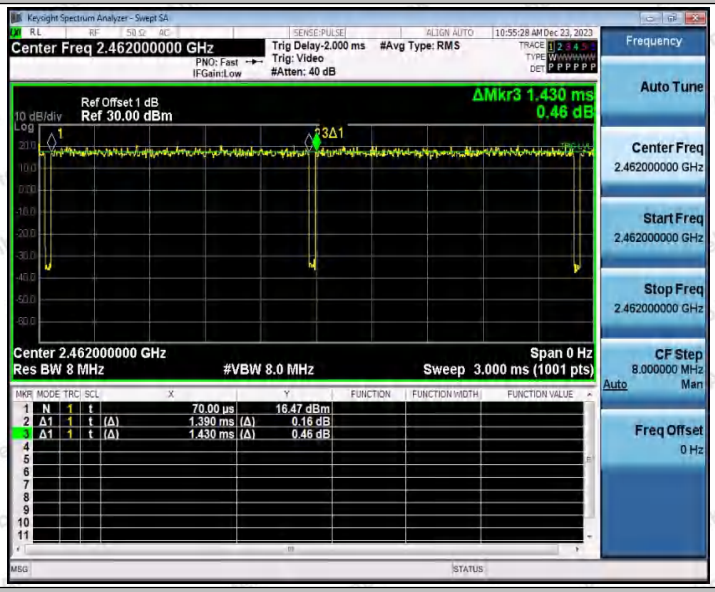

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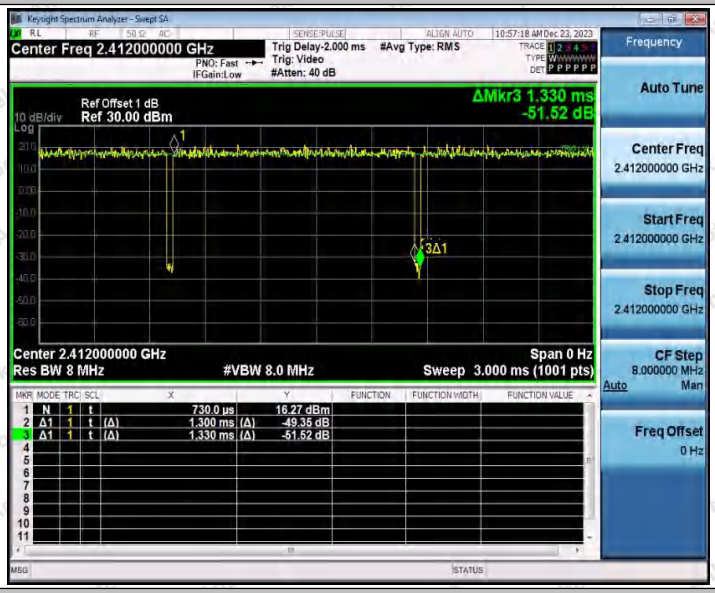

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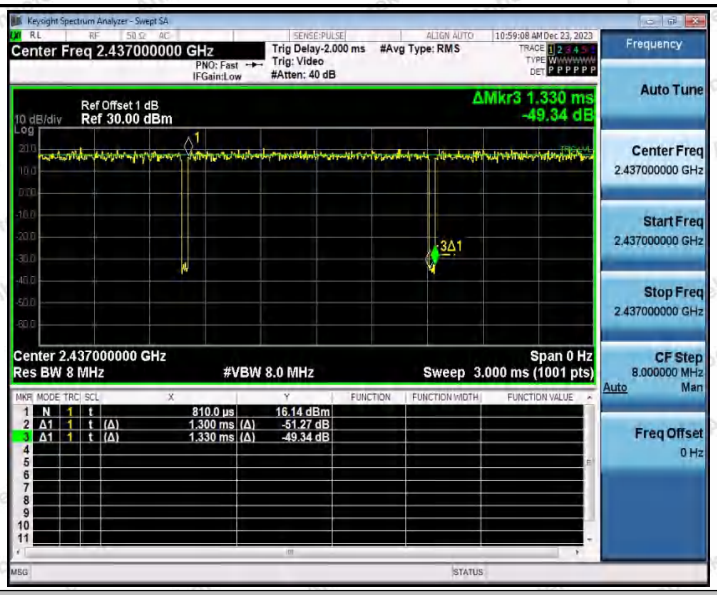
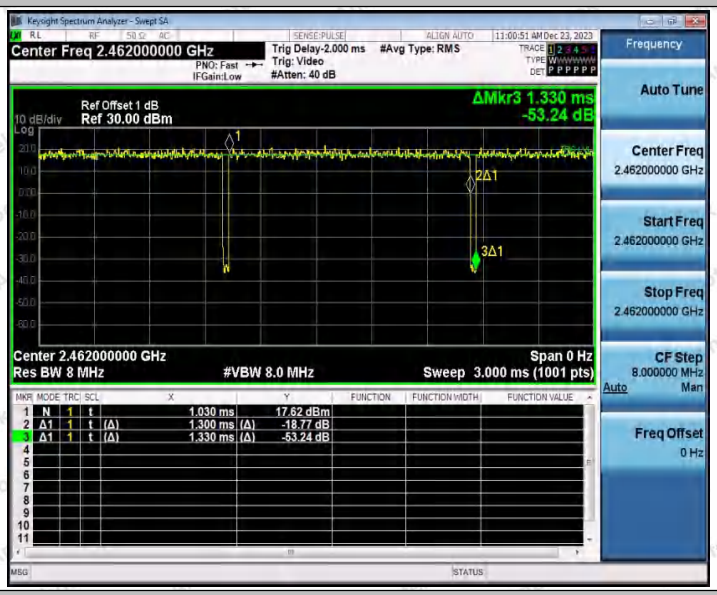


11N20SISO_Ant1_2462



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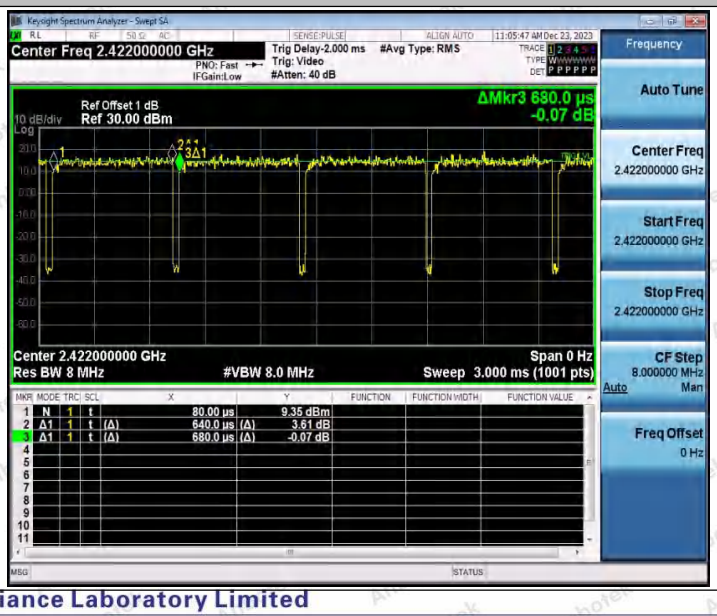

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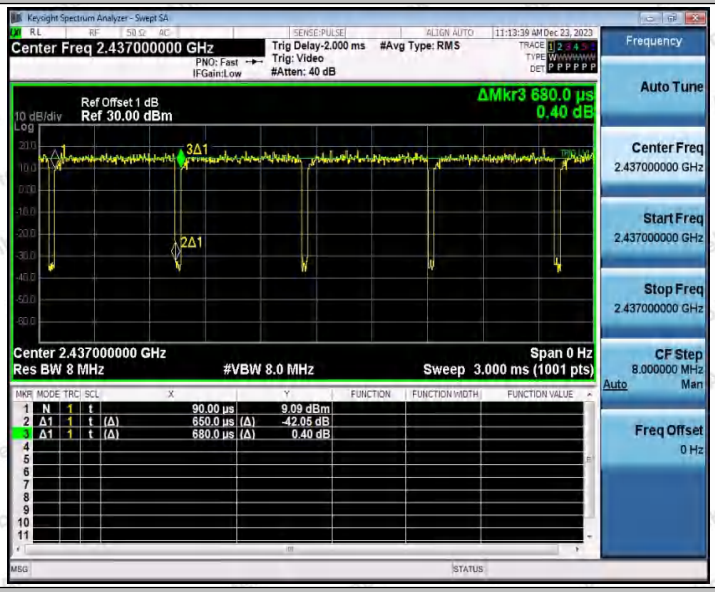

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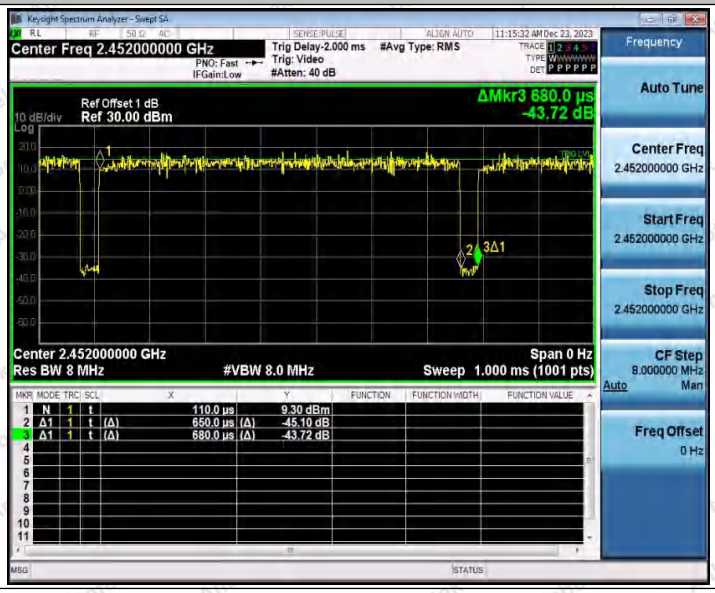

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