Appendix: 2.4G WIFI

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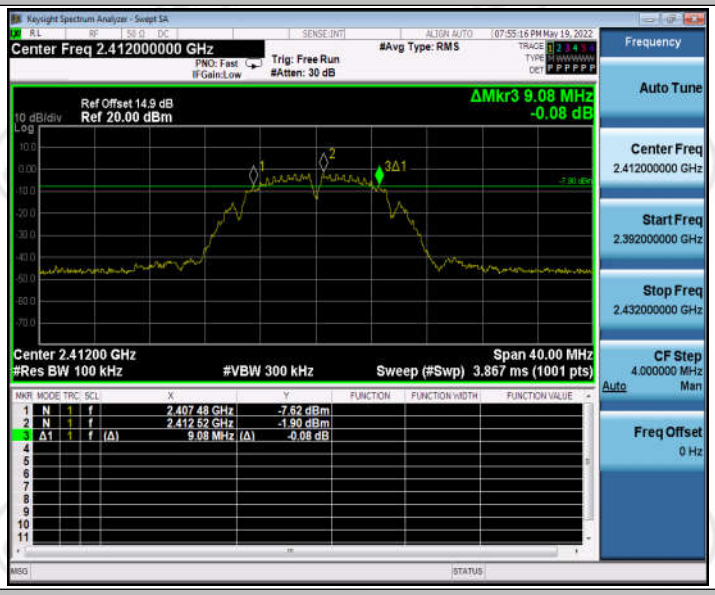
Appendix A: DTS Bandwidth

Test Result

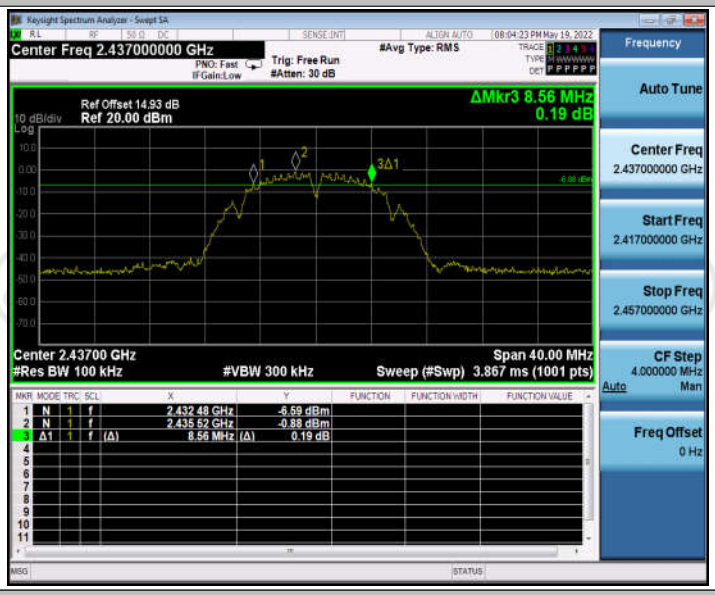
Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.080	2407.480	2416.560	0.5	PASS
		2437	8.560	2432.480	2441.040	0.5	PASS
		2462	8.560	2457.960	2466.520	0.5	PASS
11G	Ant1	2412	16.440	2403.800	2420.240	0.5	PASS
		2437	16.360	2428.800	2445.160	0.5	PASS
		2462	16.360	2453.840	2470.200	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.200	2420.840	0.5	PASS
		2437	17.320	2428.200	2445.520	0.5	PASS
		2462	17.320	2453.480	2470.800	0.5	PASS

Test Graphs

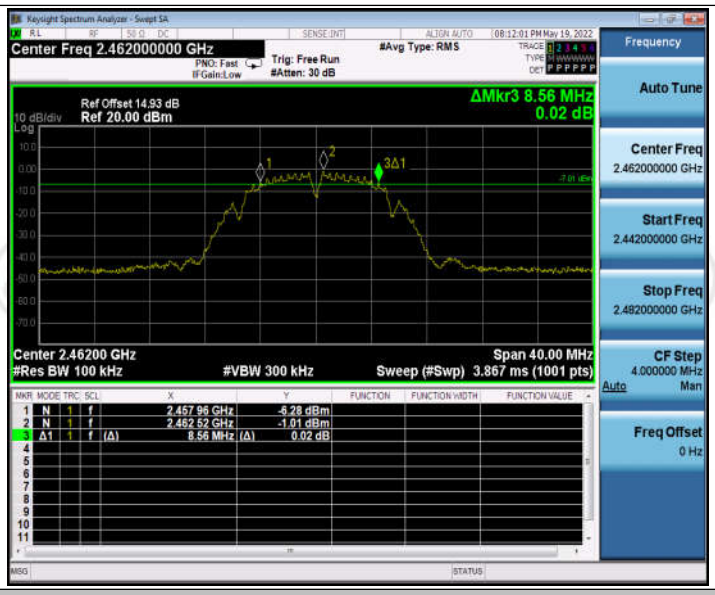
11B_Ant1_2412



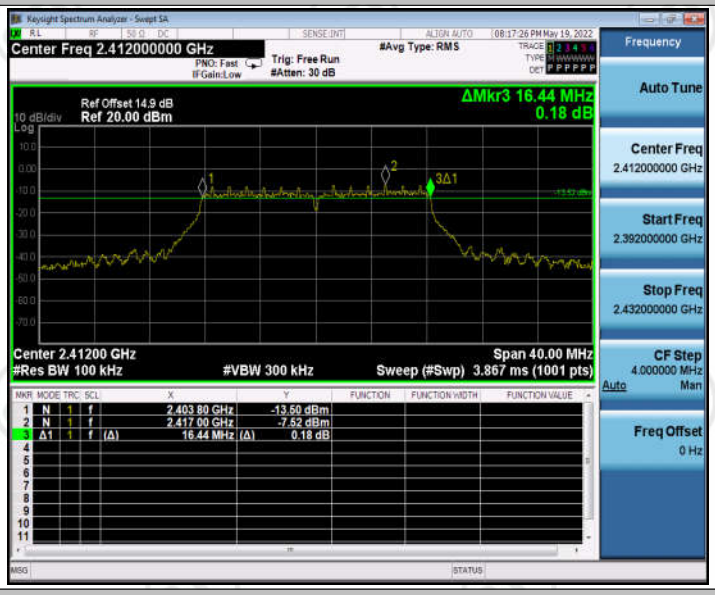
11B_Ant1_2437



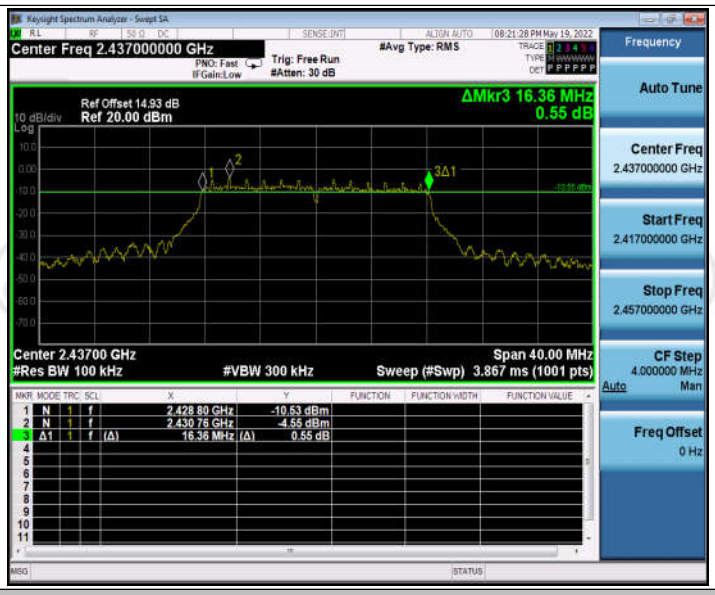
11B_Ant1_2462



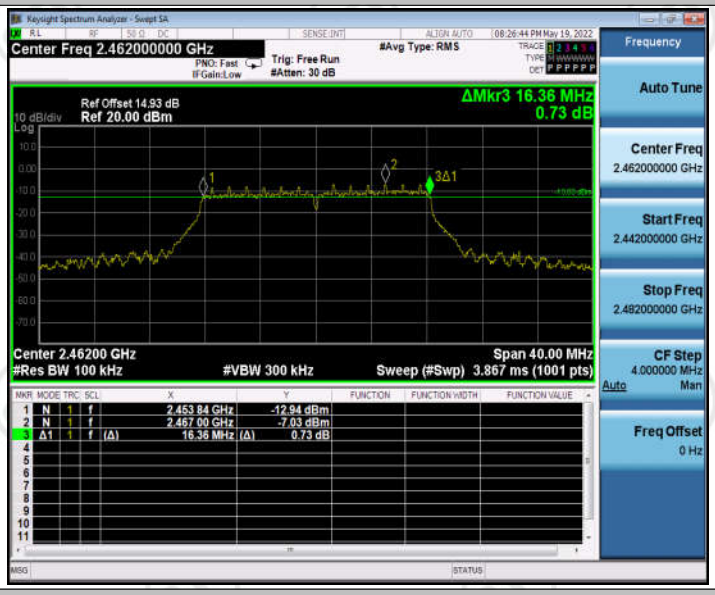
11G_Ant1_2412



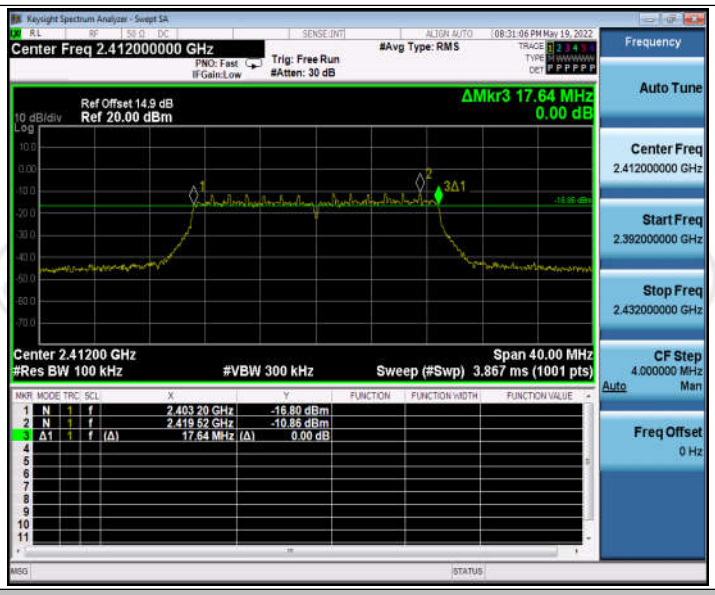
11G_Ant1_2437



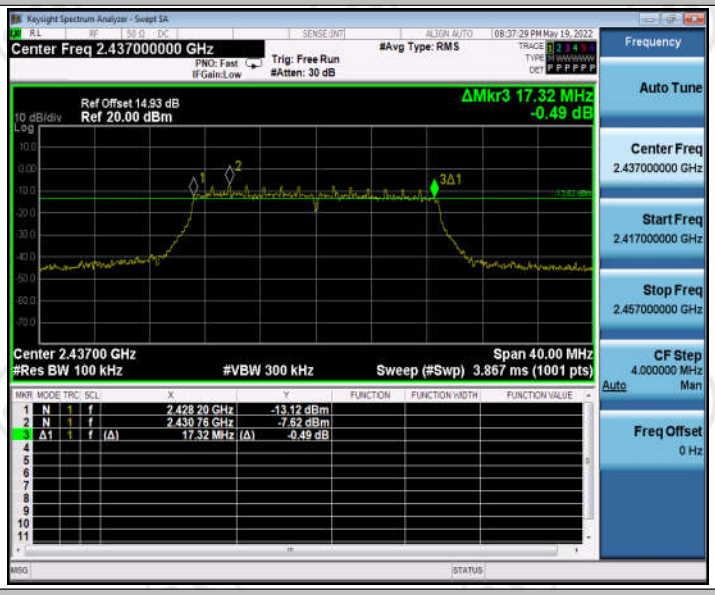
11G_Ant1_2462



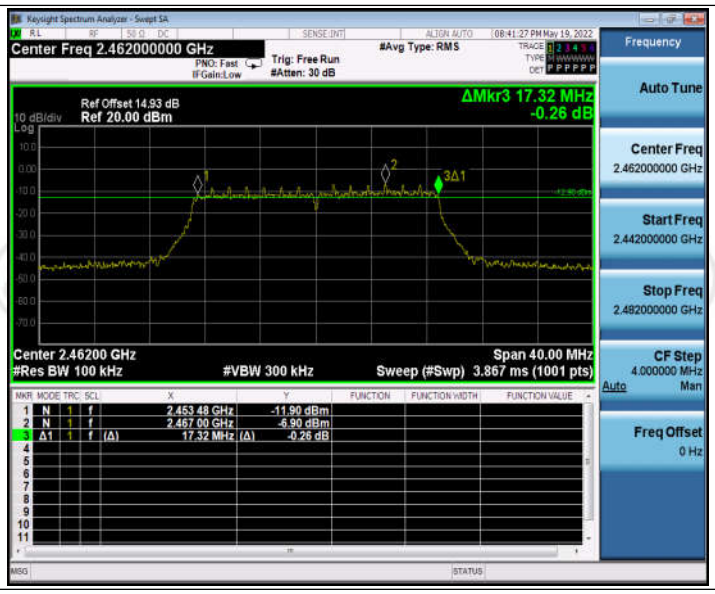
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
08:41:27 PM May 19, 2022
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.442000000 GHz
Stop Freq
2.482000000 GHz
CF Step
4.000000 MHz
Auto Man
Freq Offset
0 Hz
Ref Offset 14.93 dB
10 dB/div Ref 20.00 dBm
Log
ΔMkr3 17.32 MHz
-0.26 dB
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 40.00 MHz
Sweep (#Swp) 3.867 ms (1001 pts)
1 N 1 f 2.453 48 GHz -11.90 dBm
2 N 1 f 2.467 00 GHz -6.90 dBm
3 Δ1 1 f (Δ) 17.32 MHz (Δ) -0.26 dB
MSG
STATUS

Appendix B: Occupied Channel Bandwidth

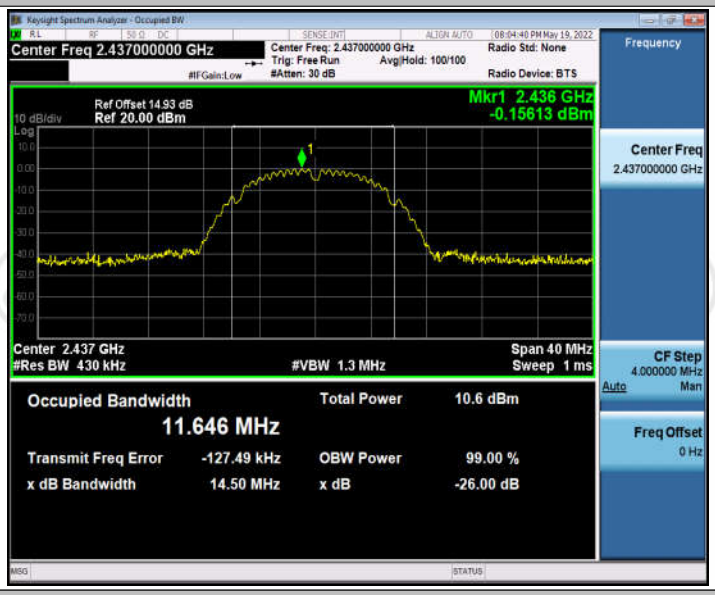
Test Result

Test Mode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.896	2406.106	2418.002	---	---
		2437	11.646	2431.050	2442.696	---	---
		2462	11.805	2456.205	2468.010	---	---
11G	Ant1	2412	17.417	2403.345	2420.762	---	---
		2437	17.208	2428.280	2445.488	---	---
		2462	17.250	2453.430	2470.680	---	---
11N20SISO	Ant1	2412	18.151	2403.009	2421.160	---	---
		2437	17.984	2427.940	2445.924	---	---
		2462	18.100	2453.040	2471.140	---	---

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

Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.462000000 GHz
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 14.93 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.46956 GHz
-3.9338 dBm
Center Freq
2.462000000 GHz
Center 2.462 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 40 MHz
Sweep 1 ms
CF Step
4.000000 MHz
Auto
Man
Occupied Bandwidth
18.100 MHz
Total Power
9.46 dBm
Transmit Freq Error
89.602 kHz
OBW Power
99.00 %
x dB Bandwidth
21.46 MHz
x dB
-26.00 dB
Freq Offset
0 Hz

Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Set Power	Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	---	9.43	≤30.00	PASS
		2437	---	9.48	≤30.00	PASS
		2462	---	9.42	≤30.00	PASS
11G	Ant1	2412	---	9.39	≤30.00	PASS
		2437	---	9.30	≤30.00	PASS
		2462	---	9.45	≤30.00	PASS
11N20SISO	Ant1	2412	---	9.34	≤30.00	PASS
		2437	---	9.15	≤30.00	PASS
		2462	---	9.43	≤30.00	PASS

Appendix D: Maximum power spectral density

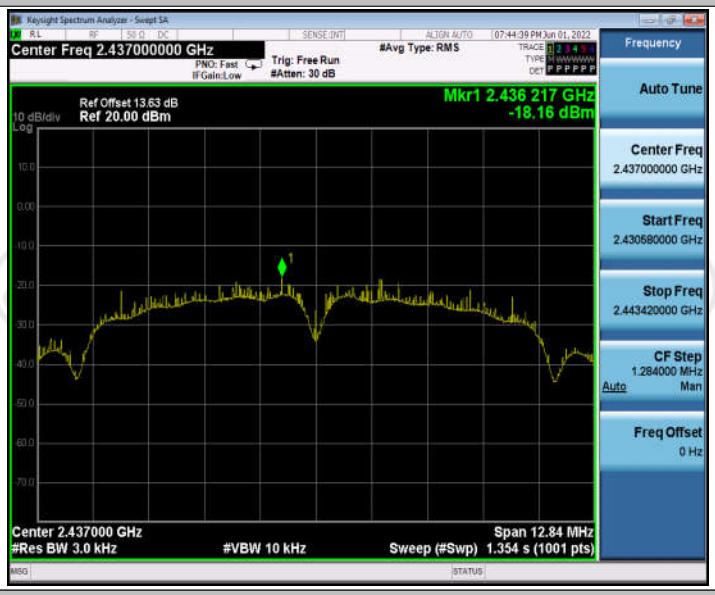
Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-17.36	≤8.00	PASS
		2437	-18.16	≤8.00	PASS
		2462	-17.15	≤8.00	PASS
11G	Ant1	2412	-22.14	≤8.00	PASS
		2437	-22.83	≤8.00	PASS
		2462	-23.12	≤8.00	PASS
11N20SISO	Ant1	2412	-23.48	≤8.00	PASS
		2437	-22.65	≤8.00	PASS
		2462	-24.31	≤8.00	PASS

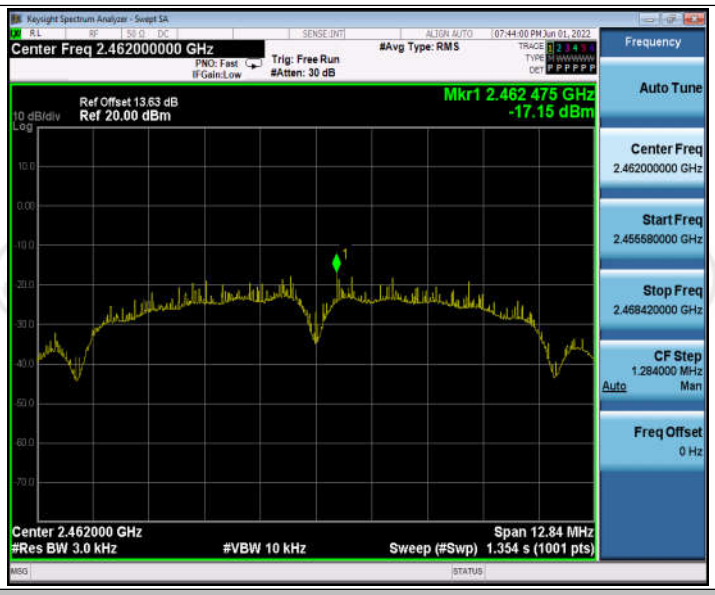
Test Graphs

11B_Ant1_2412

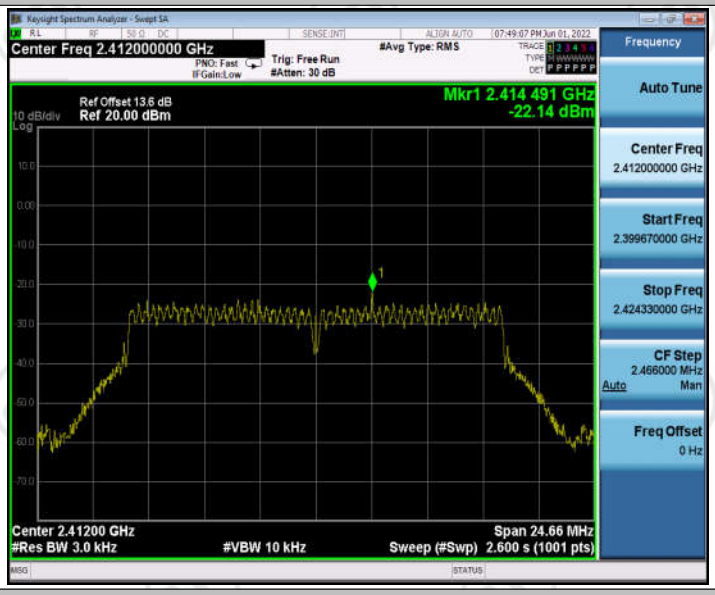
11B_Ant1_2437



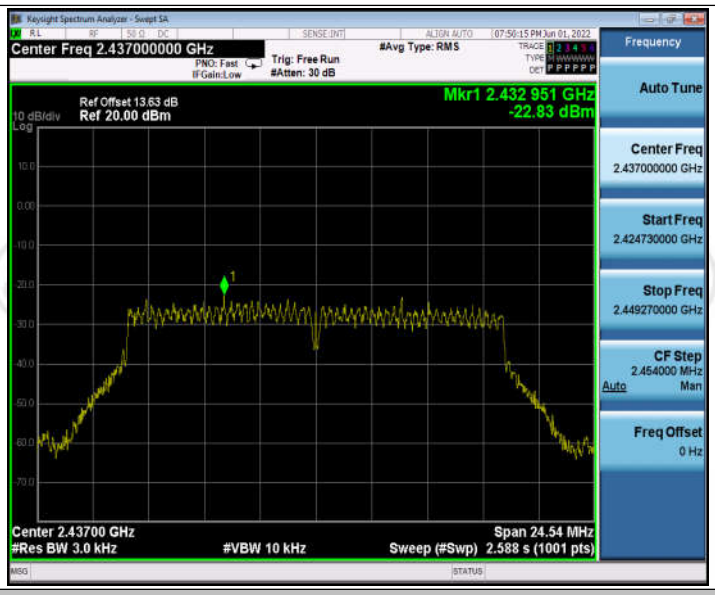
11B_Ant1_2462



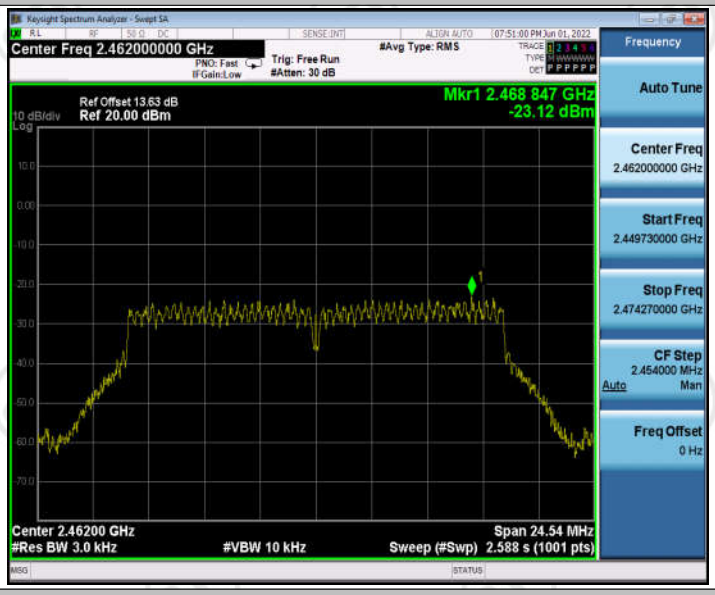
11G_Ant1_2412



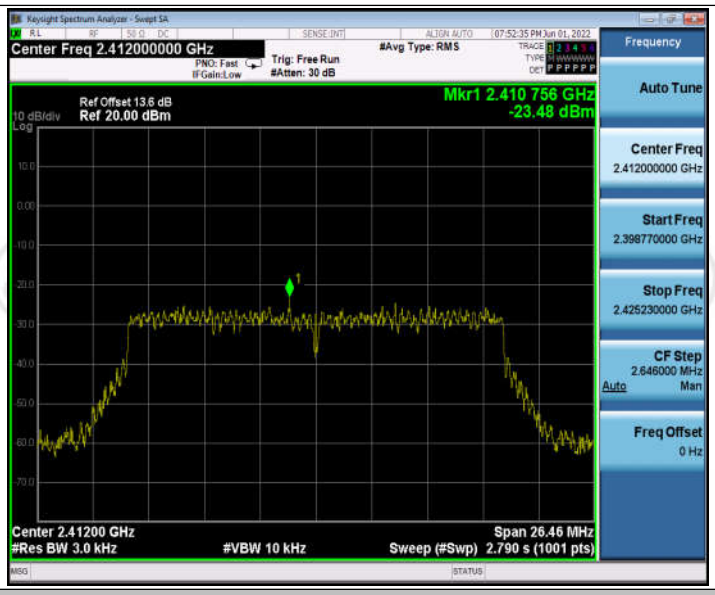
11G_Ant1_2437



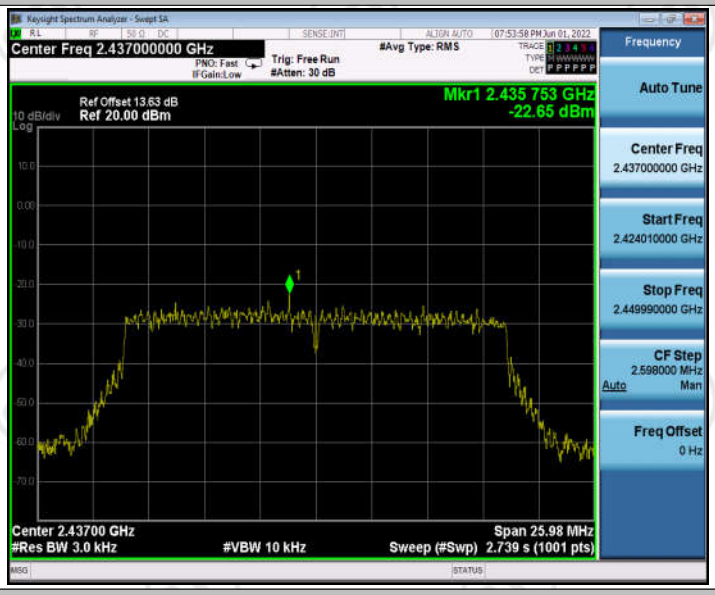
11G_Ant1_2462



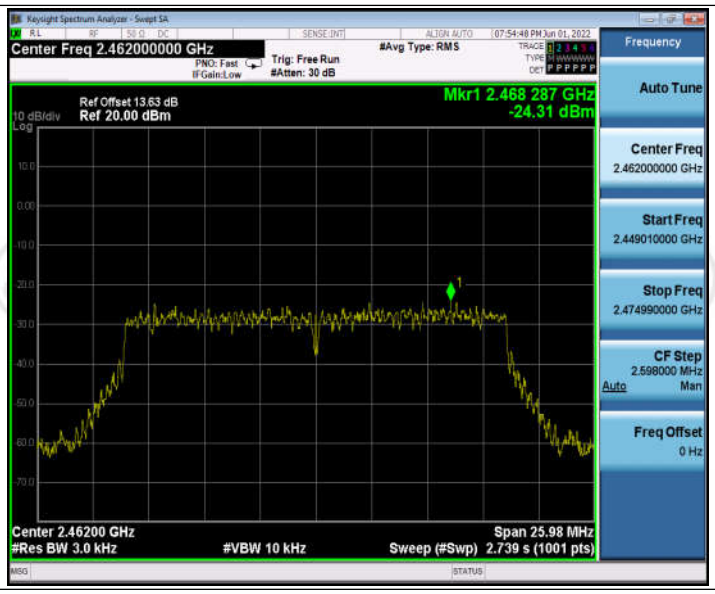
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Ref Offset 13.63 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.468 287 GHz
-24.31 dBm
Center 2.46200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 25.98 MHz
Sweep (#Swp) 2.739 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.449010000 GHz
Stop Freq
2.474990000 GHz
CF Step
2.598000 MHz
Auto
Man
Freq Offset
0 Hz

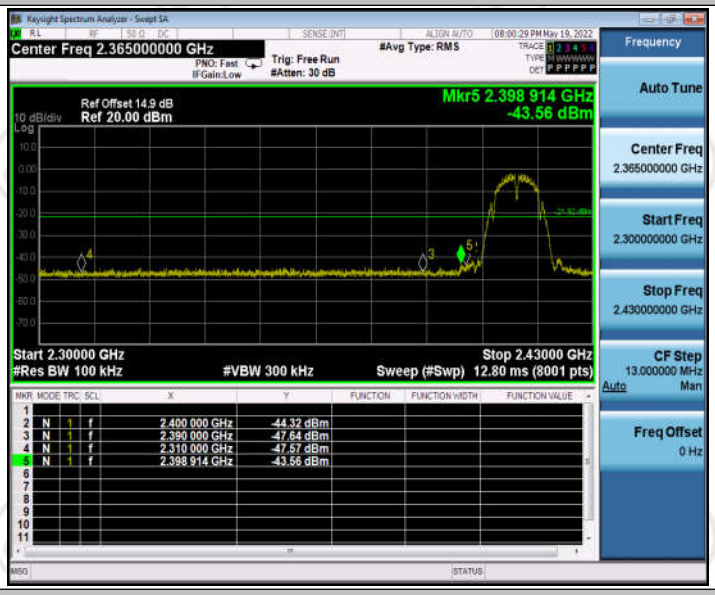
Appendix E: Band edge measurements

Test Result

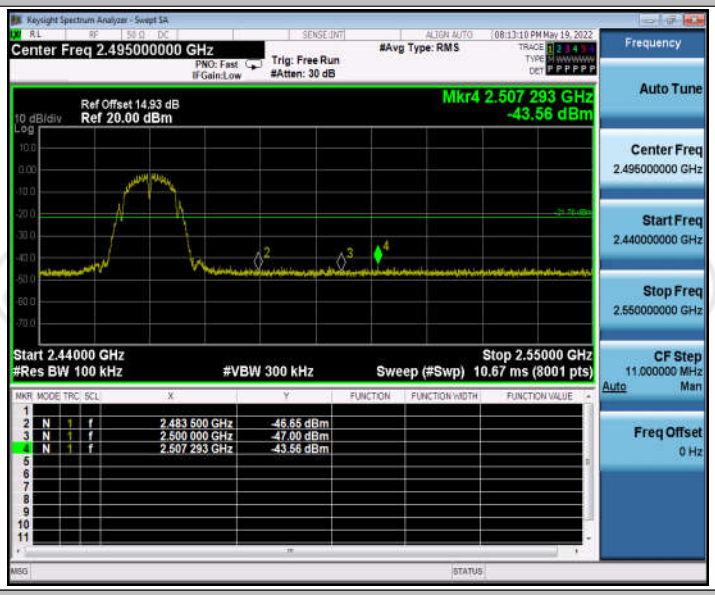
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	-1.92	-43.56	≤-21.92	PASS
		High	2462	-1.76	-43.56	≤-21.76	PASS
11G	Ant1	Low	2412	-7.49	-37.68	≤-27.49	PASS
		High	2462	-8.20	-43.43	≤-28.2	PASS
11N20SISO	Ant1	Low	2412	-8.43	-41.92	≤-28.43	PASS
		High	2462	-7.93	-43.79	≤-27.93	PASS

Test Graphs

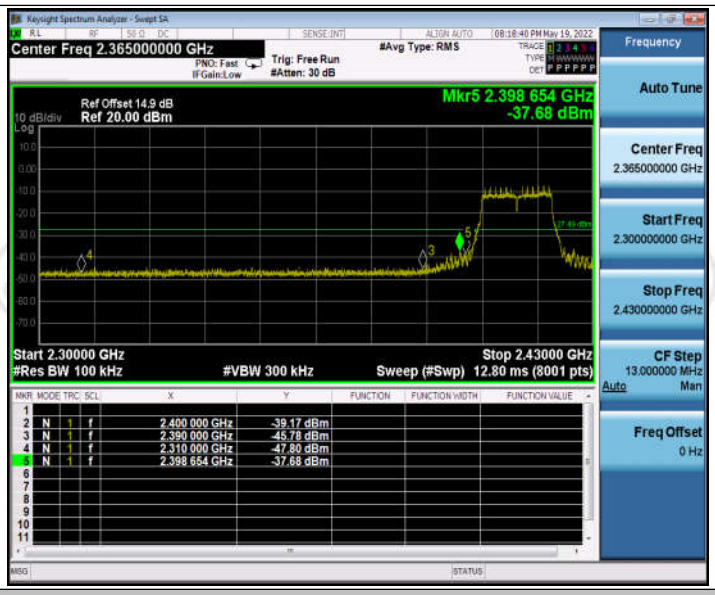
11B_Ant1_Low_2412



11B_Ant1_High_2462



11G_Ant1_Low_2412



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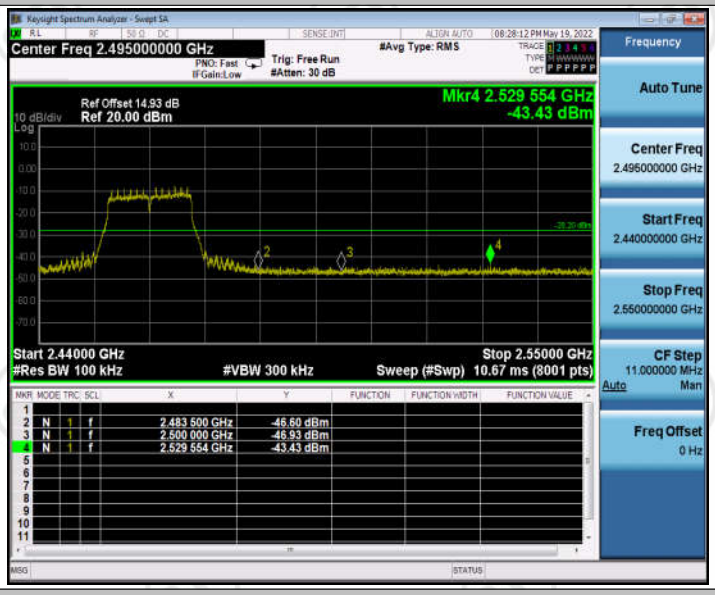
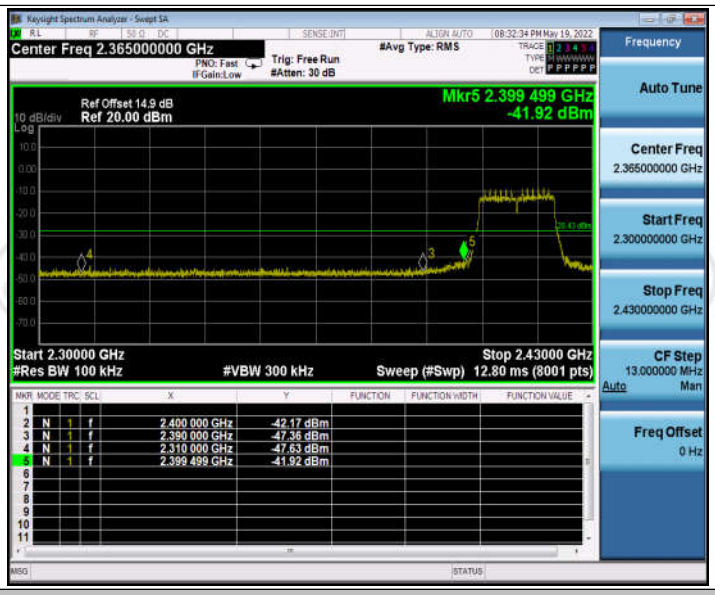
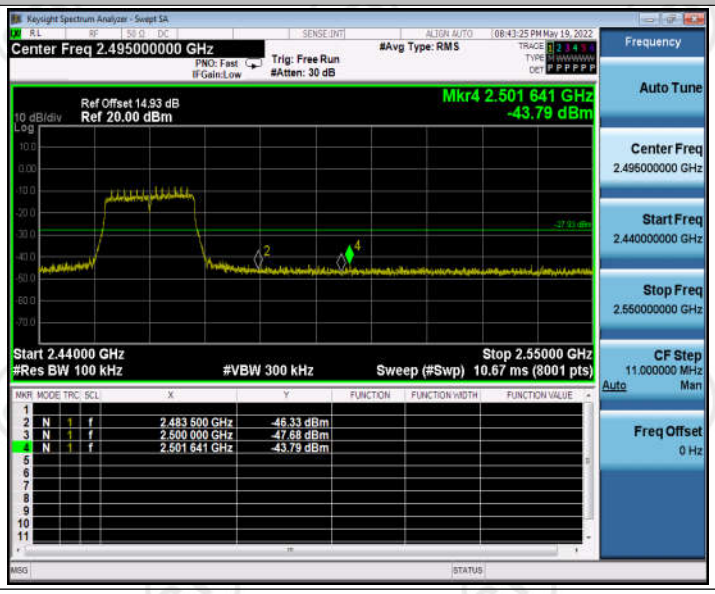


11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



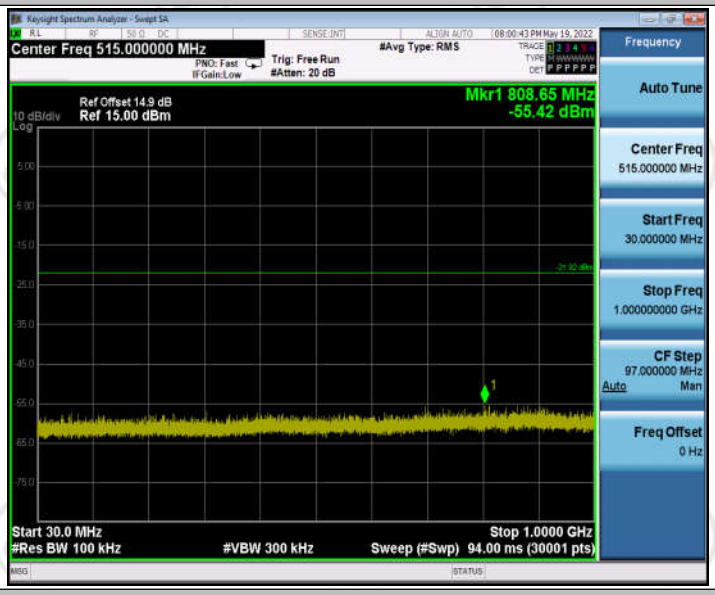
Appendix F: Conducted Spurious Emission

Test Result

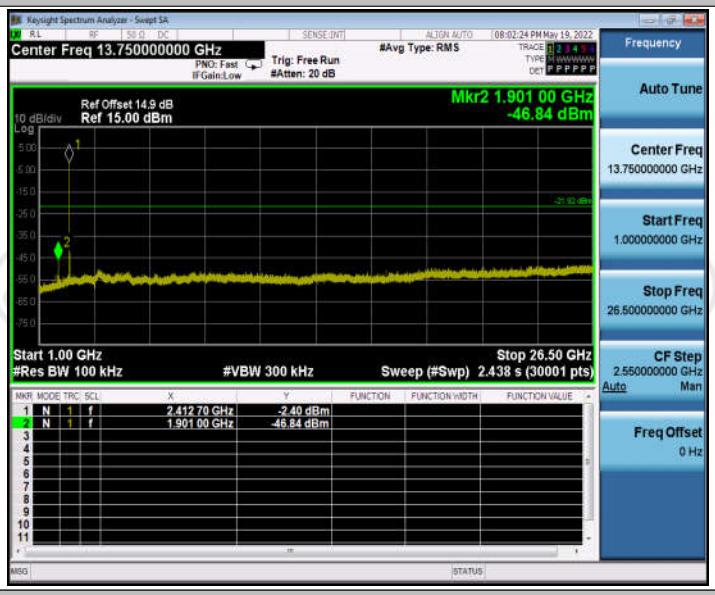
Test Mode	Antenna	Frequency [MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	-1.92	-55.42	≤-21.92	PASS
			1000~26500	-1.92	-46.84	≤-21.92	PASS
		2437	30~1000	-0.90	-55.45	≤-20.9	PASS
			1000~26500	-0.90	-47.86	≤-20.9	PASS
		2462	30~1000	-1.76	-52.07	≤-21.76	PASS
			1000~26500	-1.76	-46.97	≤-21.76	PASS
11G	Ant1	2412	30~1000	-7.49	-54.76	≤-27.49	PASS
			1000~26500	-7.49	-47.95	≤-27.49	PASS
		2437	30~1000	-7.53	-50.08	≤-27.53	PASS
			1000~26500	-7.53	-47.29	≤-27.53	PASS
		2462	30~1000	-8.20	-55.4	≤-28.2	PASS
			1000~26500	-8.20	-46.54	≤-28.2	PASS
11N20SISO	Ant1	2412	30~1000	-8.43	-53.91	≤-28.43	PASS
			1000~26500	-8.43	-47.07	≤-28.43	PASS
		2437	30~1000	-7.62	-53.55	≤-27.62	PASS
			1000~26500	-7.62	-47.55	≤-27.62	PASS
		2462	30~1000	-7.93	-49.44	≤-27.93	PASS
			1000~26500	-7.93	-47.89	≤-27.93	PASS

Test Graphs

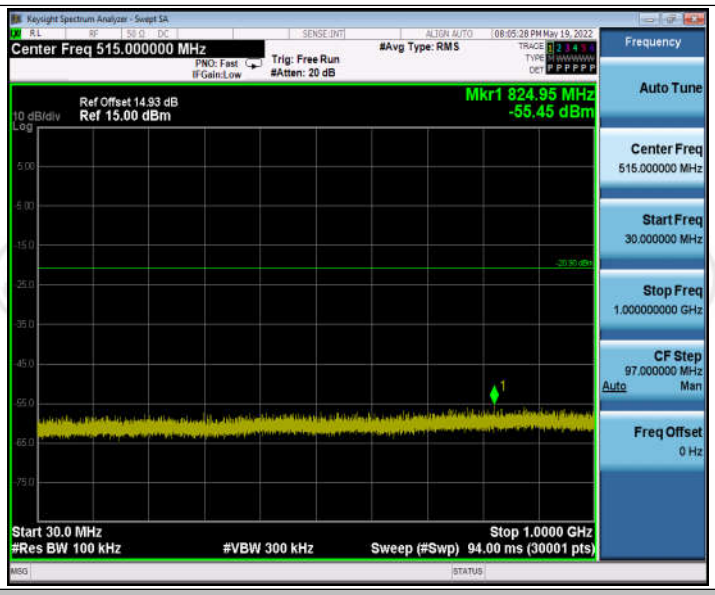
11B_Ant1_2412_30~1000



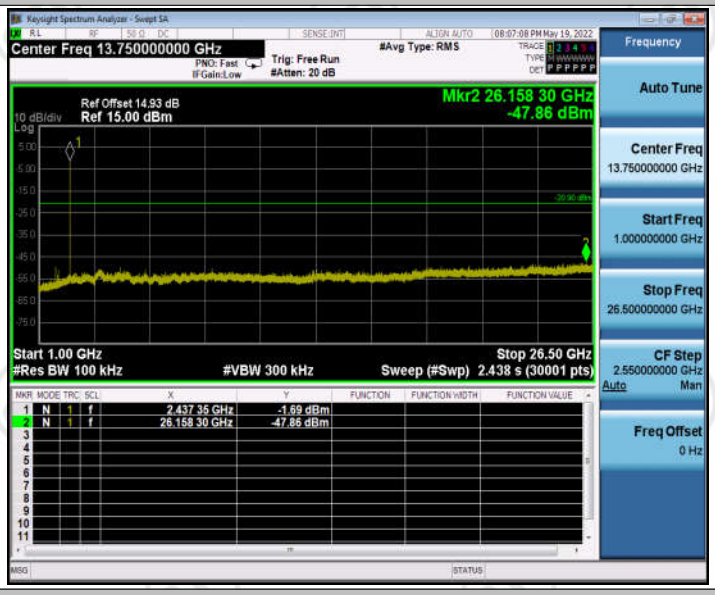
11B_Ant1_2412_1000~26500



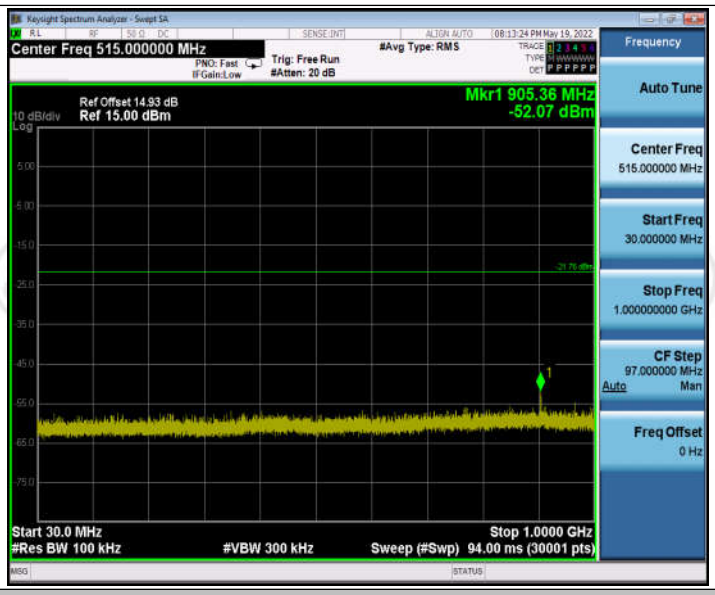
11B_Ant1_2437_30~1000



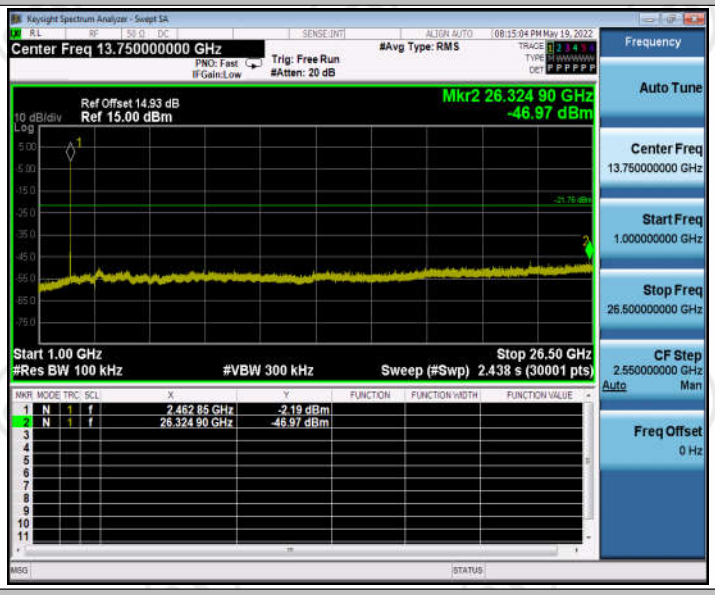
11B_Ant1_2437_1000~26500



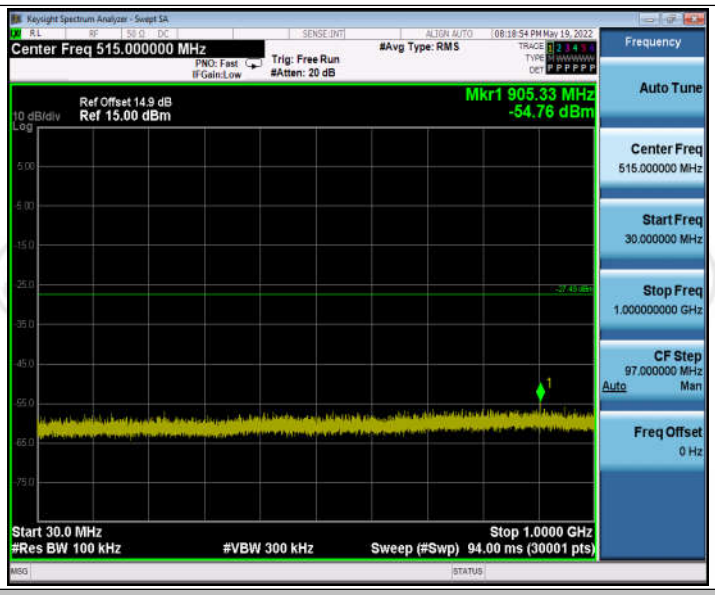
11B_Ant1_2462_30~1000



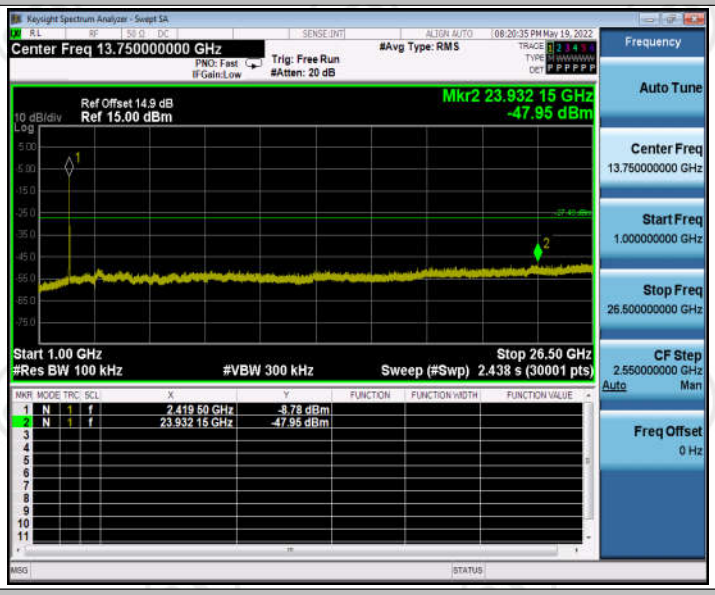
11B_Ant1_2462_1000~26500



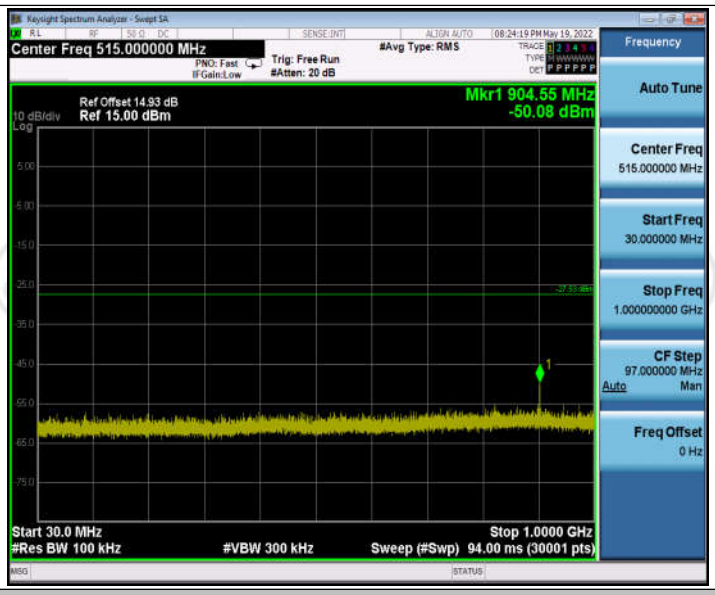
11G_Ant1_2412_30~1000



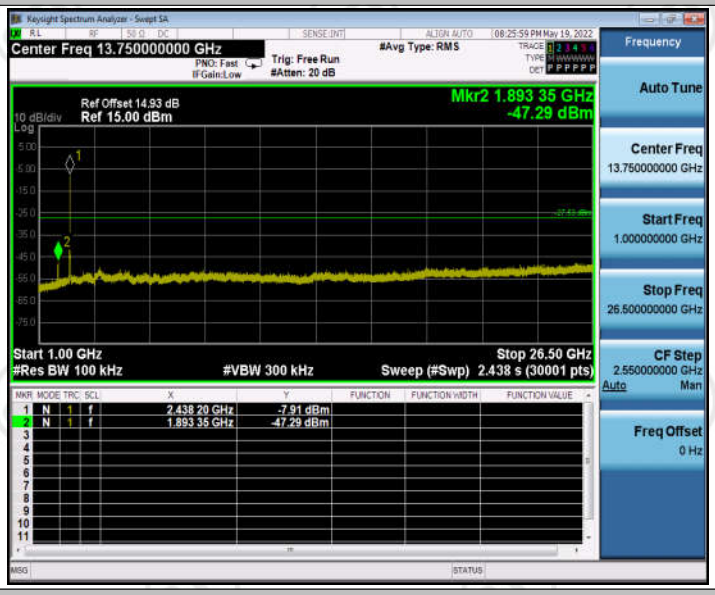
11G_Ant1_2412_1000~26500



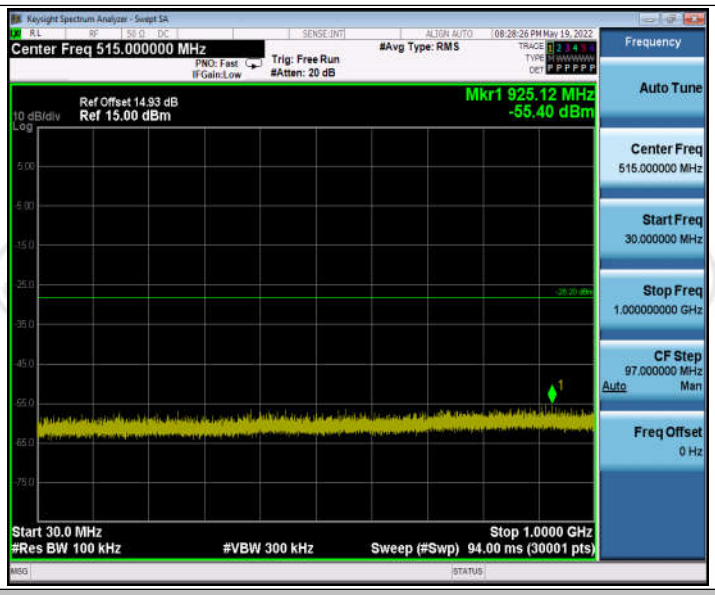
11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500



11G_Ant1_2462_30~1000



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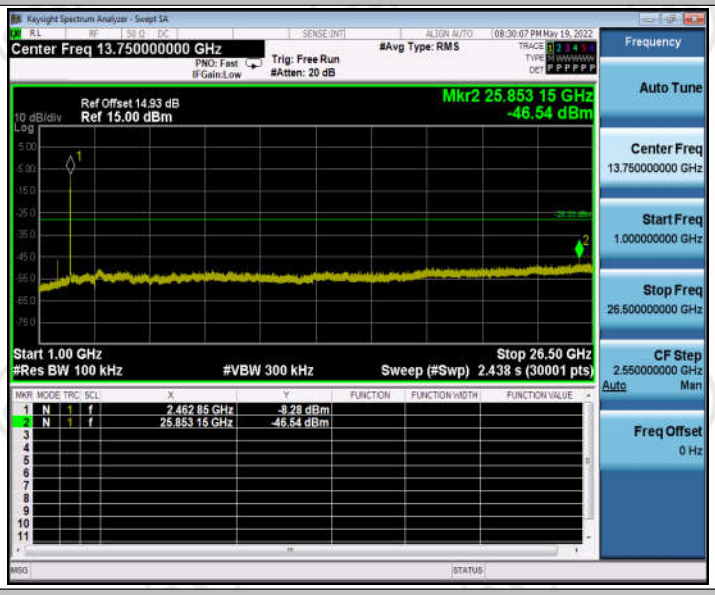

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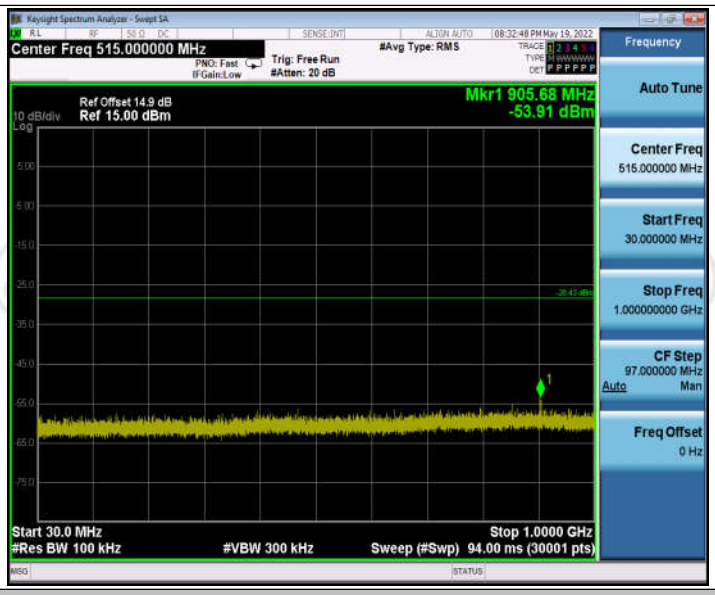

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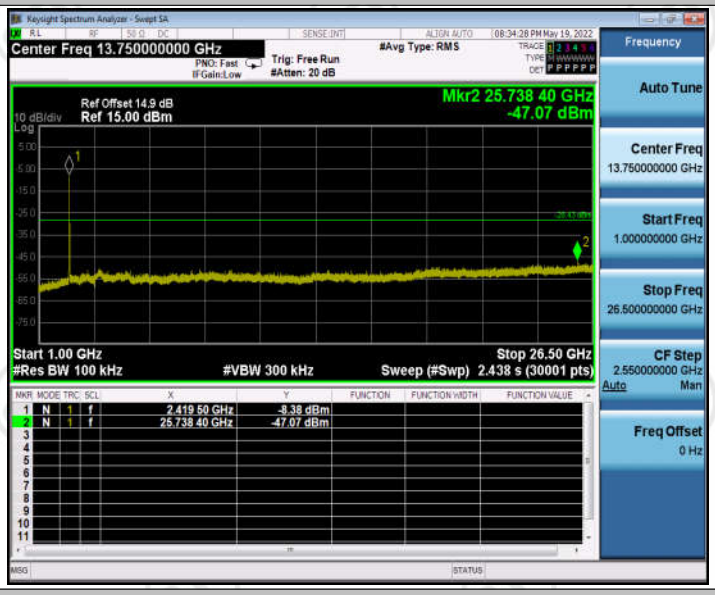

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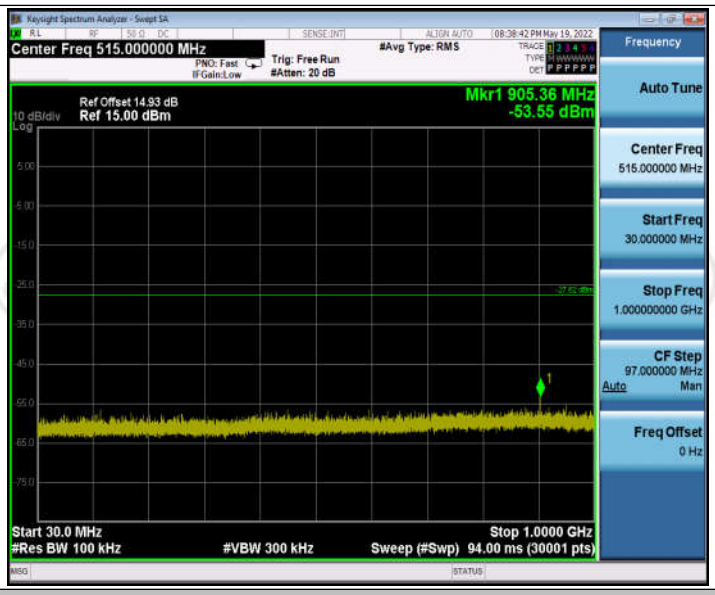

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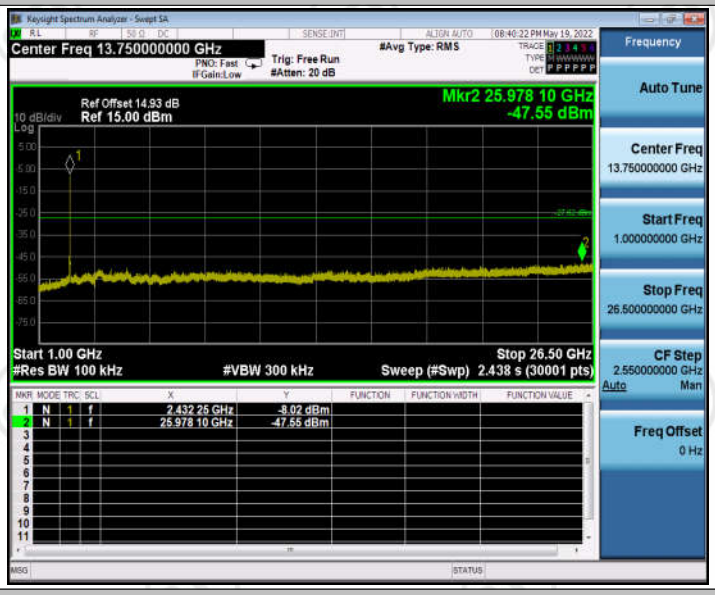
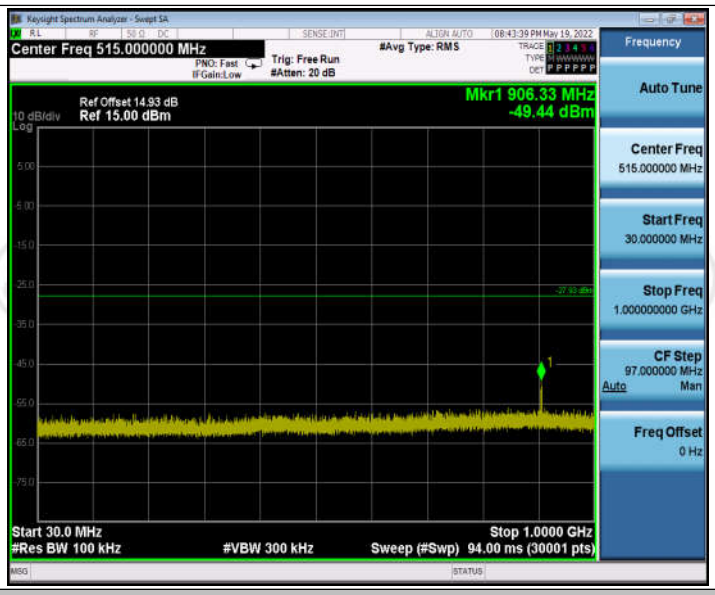


11N20SISO_Ant1_2462_30~1000



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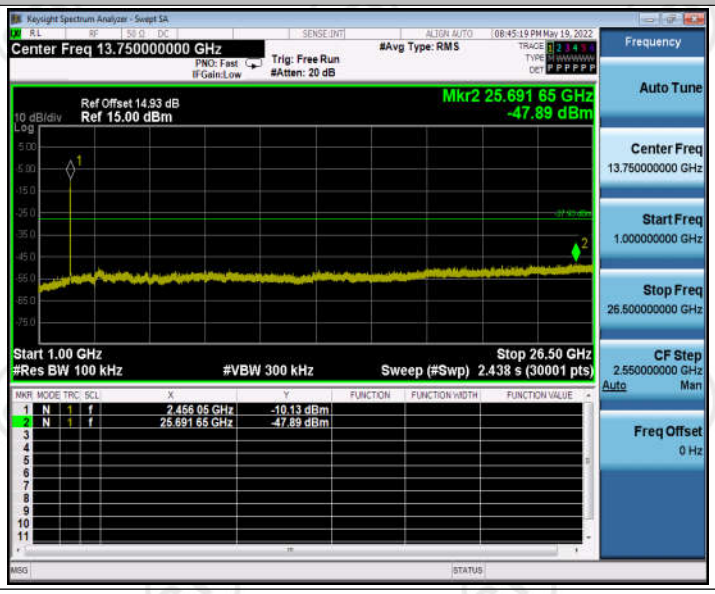


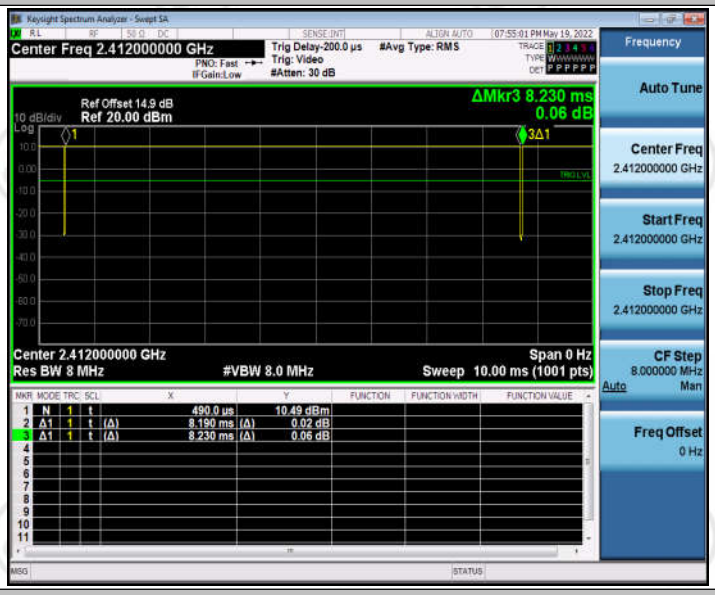
Appendix G: Duty Cycle

Test Result

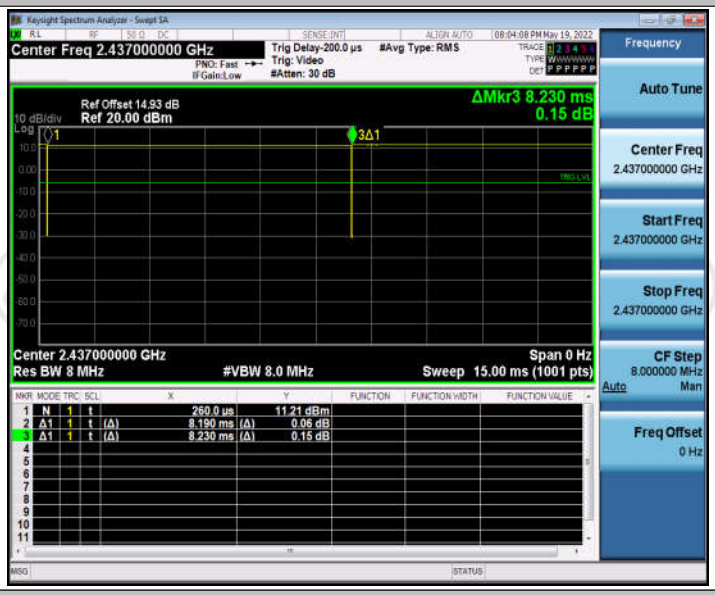
Test Mode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B	Ant1	2412	8.19	8.23	99.51
		2437	8.19	8.23	99.51
		2462	8.19	8.24	99.39
11G	Ant1	2412	1.36	1.41	96.45
		2437	1.36	1.41	96.45
		2462	1.36	1.40	97.14
11N20SISO	Ant1	2412	1.27	1.32	96.21
		2437	1.27	1.32	96.21
		2462	1.28	1.34	95.52

Test Graphs

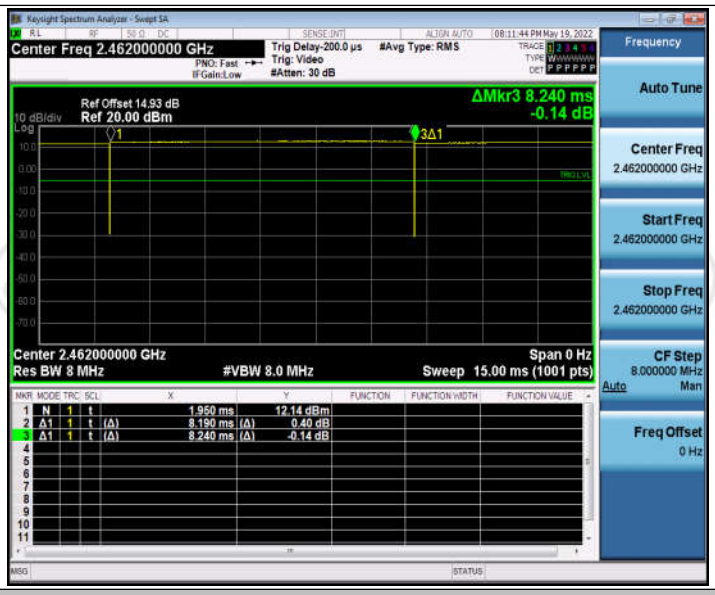
11B_Ant1_2412



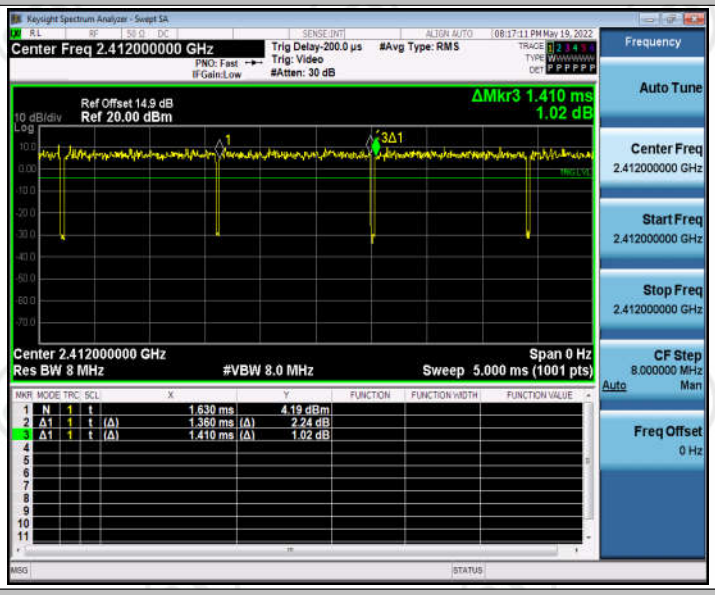
11B_Ant1_2437



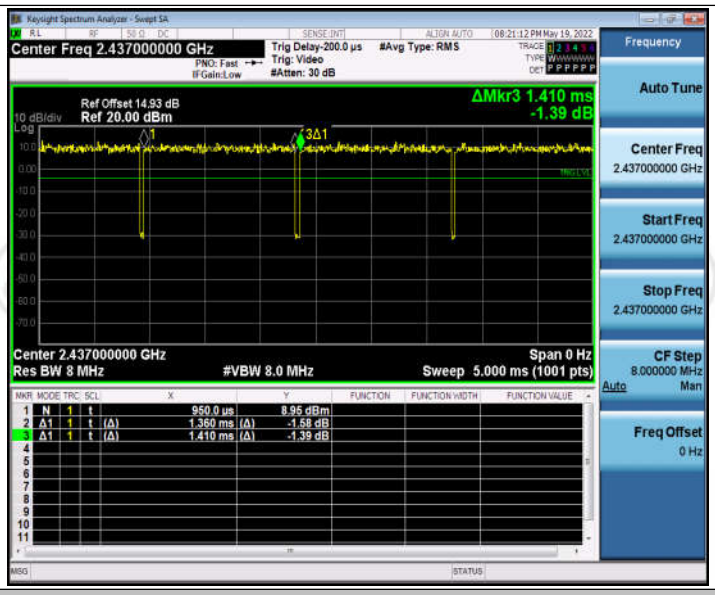
11B_Ant1_2462



11G_Ant1_2412



11G_Ant1_2437



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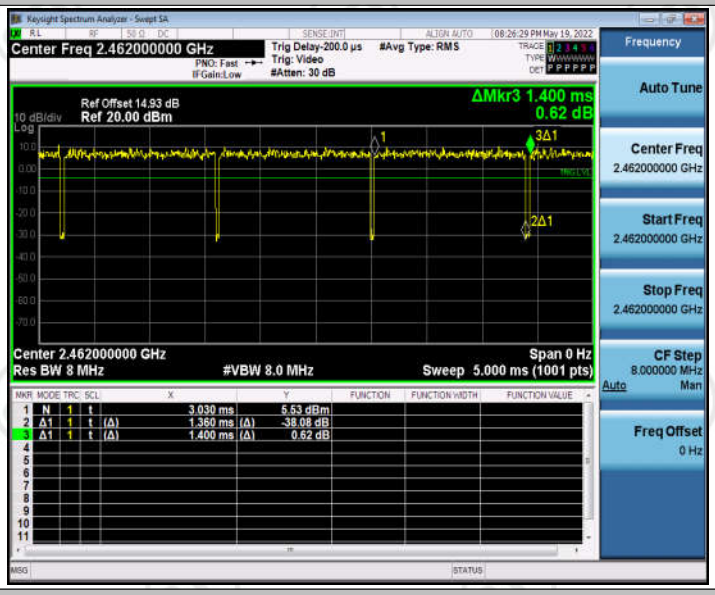

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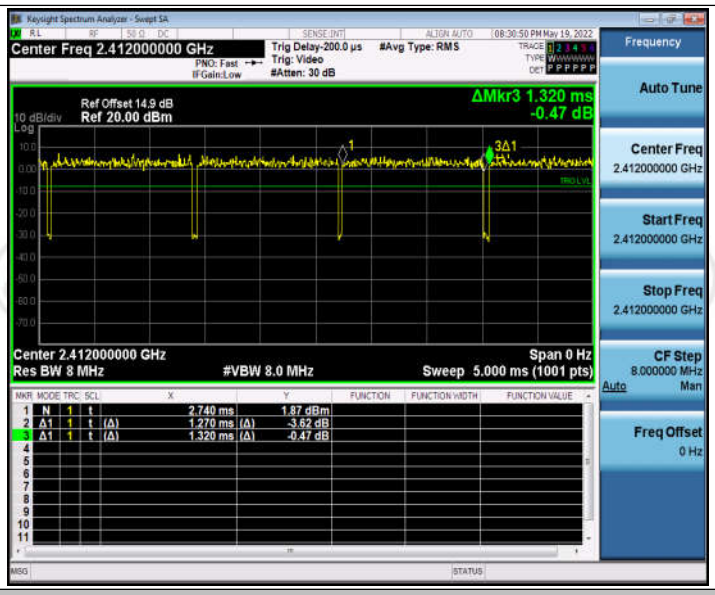

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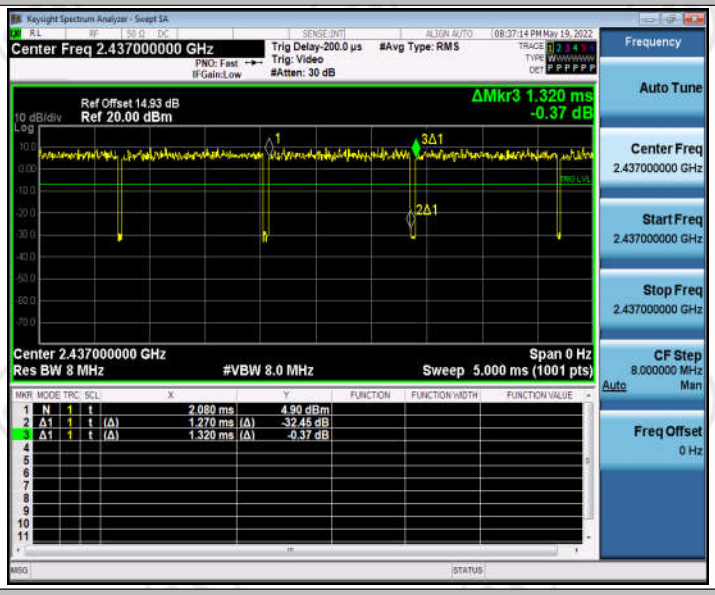

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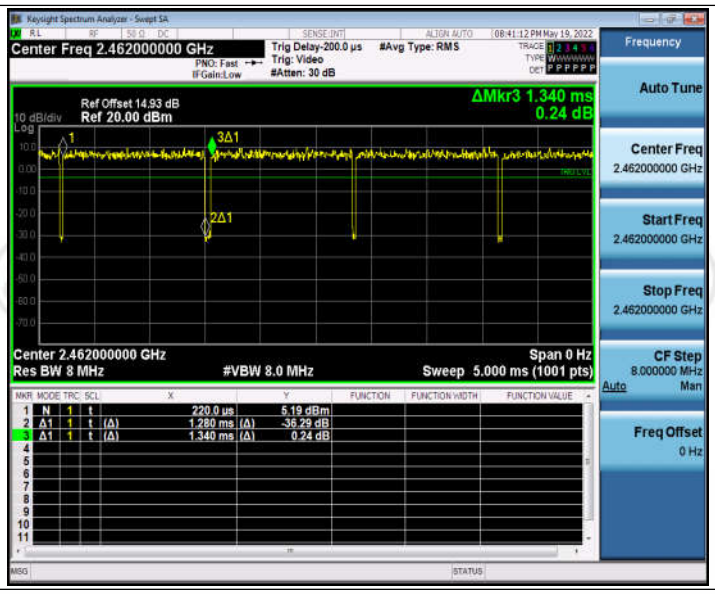

END OF REPORT