FCC Appendix RF Test Data

FCC ID	**:**	**2BO56-ZA001**
Company:	**:**	**Shenzhen Xingbiao Hang Technology Co., Ltd.**
EUT	**:**	**Dual WiFi three-in-one closed small system**
Model Number	**:**	**ZA001**
Report No.	**:**	**CTA25041800503**
Reviewed By	**:**	**Eric Wang**

Appendix A: DTS Bandwidth

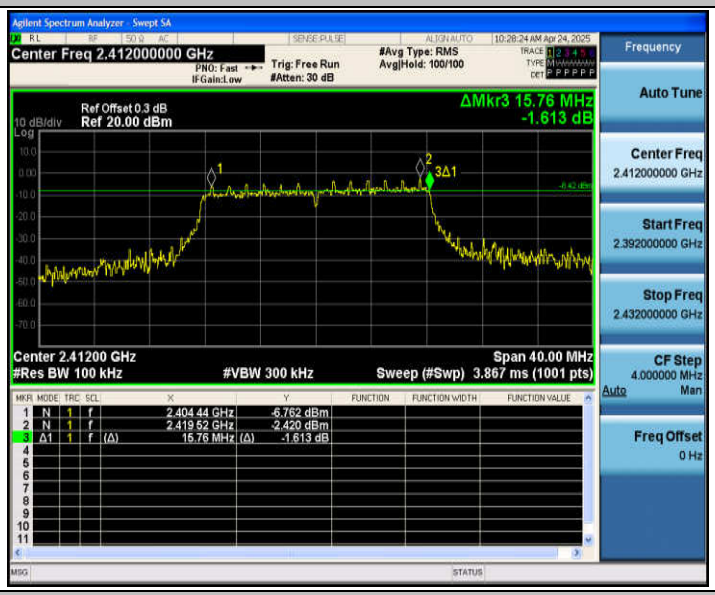
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.040	2407.440	2416.480	0.5	PASS
		2437	9.560	2431.960	2441.520	0.5	PASS
		2462	9.560	2456.960	2466.520	0.5	PASS
11G	Ant1	2412	15.760	2404.440	2420.200	0.5	PASS
		2437	15.720	2429.440	2445.160	0.5	PASS
		2462	16.040	2454.120	2470.160	0.5	PASS
11N20SISO	Ant1	2412	16.160	2404.440	2420.600	0.5	PASS
		2437	16.040	2429.440	2445.480	0.5	PASS
		2462	16.880	2453.720	2470.600	0.5	PASS
11N40SISO	Ant1	2422	35.760	2404.480	2440.240	0.5	PASS
		2437	35.120	2419.480	2454.600	0.5	PASS
		2452	35.200	2434.320	2469.520	0.5	PASS
11AX20SISO	Ant1	2412	16.200	2404.440	2420.640	0.5	PASS
		2437	16.040	2429.480	2445.520	0.5	PASS
		2462	16.160	2454.360	2470.520	0.5	PASS
11AX40SISO	Ant1	2422	35.440	2404.480	2439.920	0.5	PASS
		2437	35.120	2419.480	2454.600	0.5	PASS
		2452	35.120	2434.400	2469.520	0.5	PASS

Test Graphs

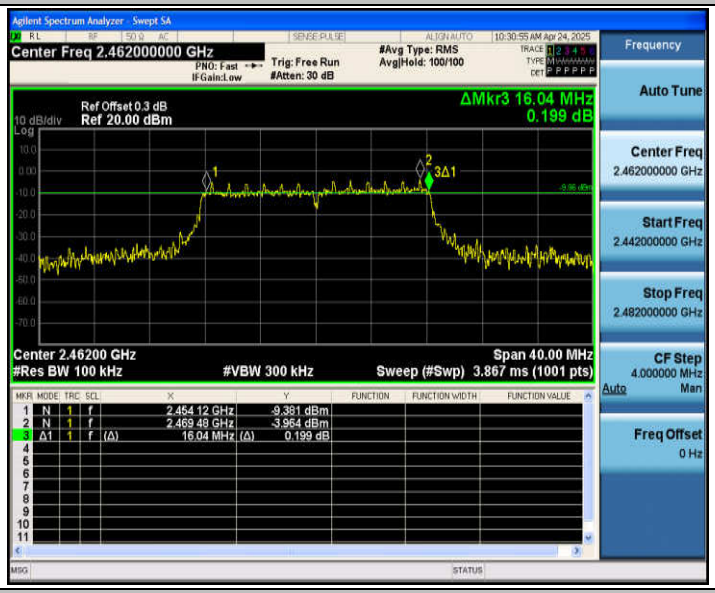
11B_Ant1_2412
11B_Ant1_2437
11B_Ant1_2462

11G_Ant1_2412



11G_Ant1_2437

11G_Ant1_2462

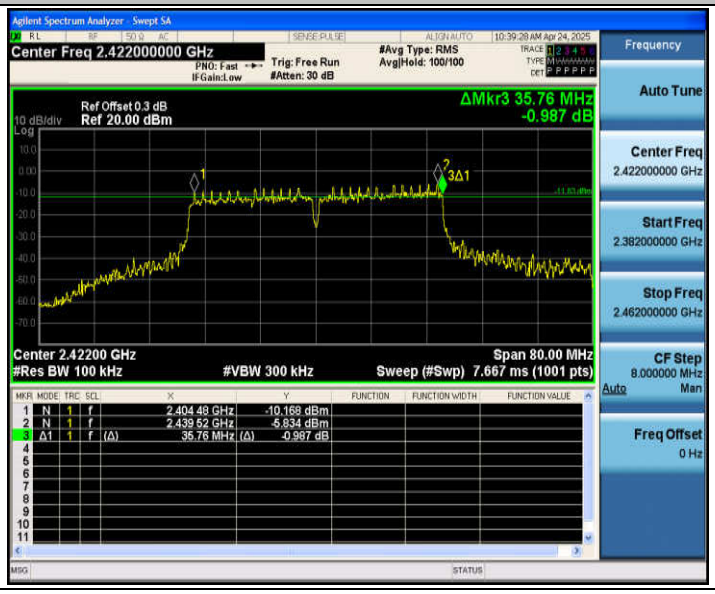


11N20SISO_Ant1_2412

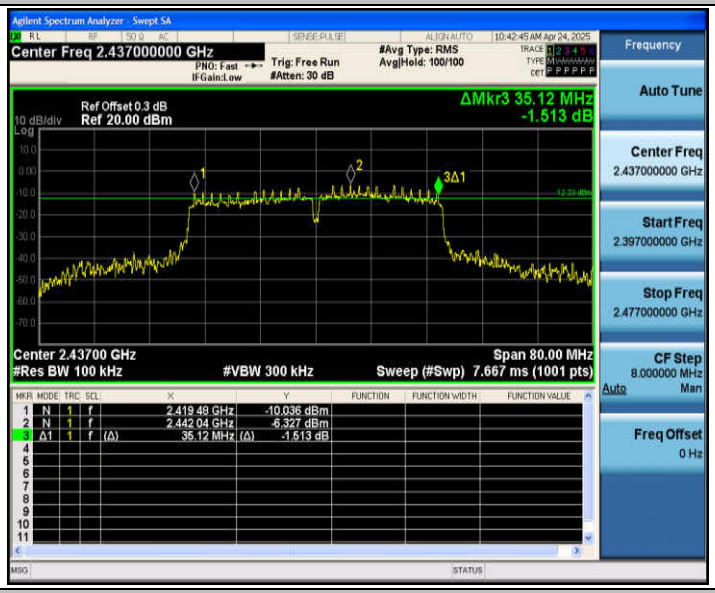
11N20SISO_Ant1_2437

11N20SISO_Ant1_2462

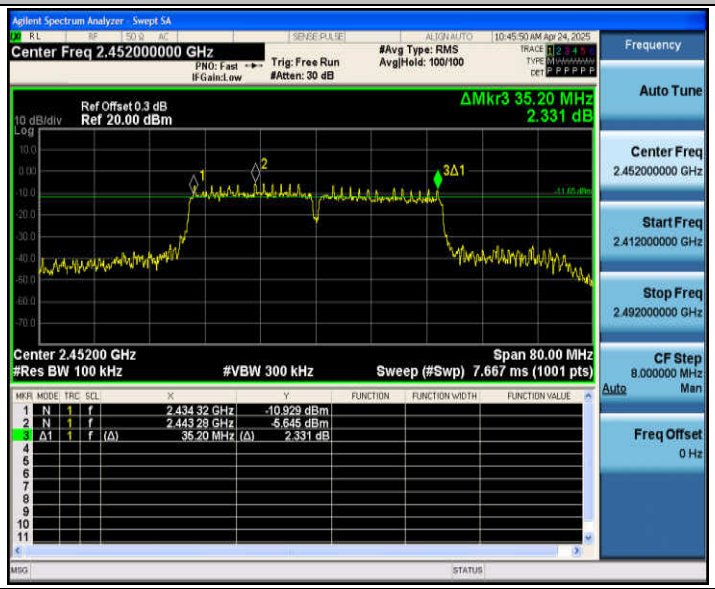
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452

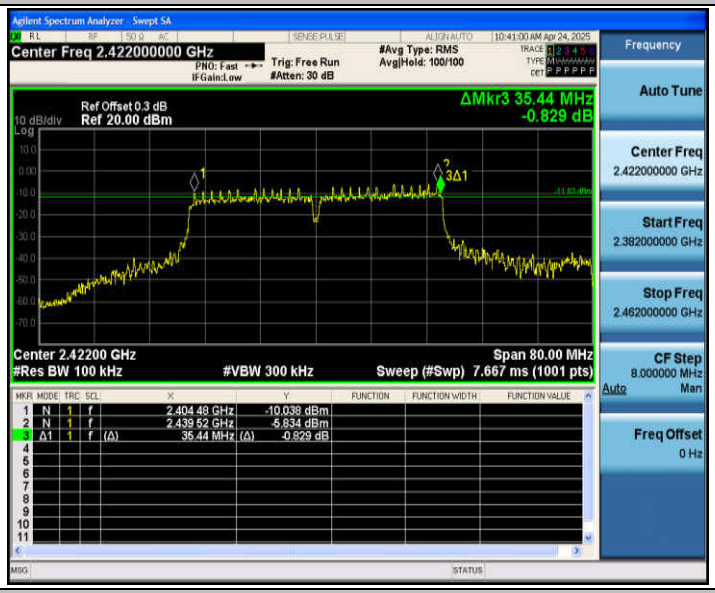


11AX20SISO_Ant1_2412

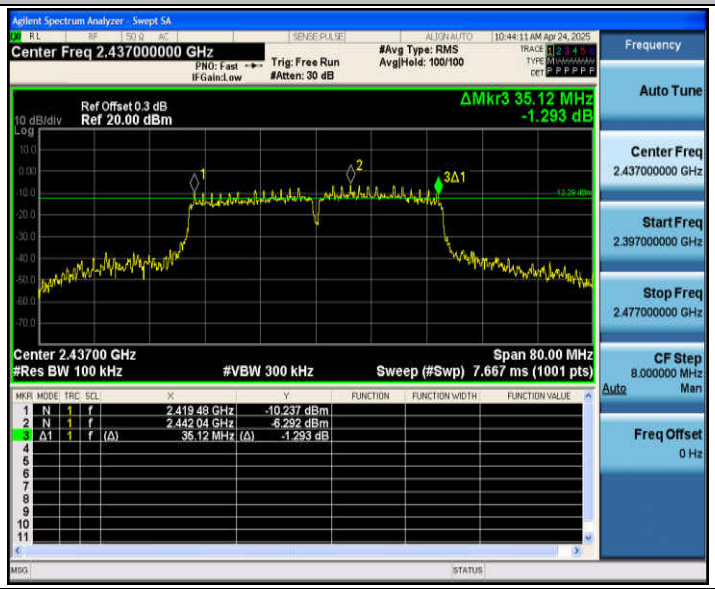
11AX20SISO_Ant1_2437

11AX20SISO_Ant1_2462

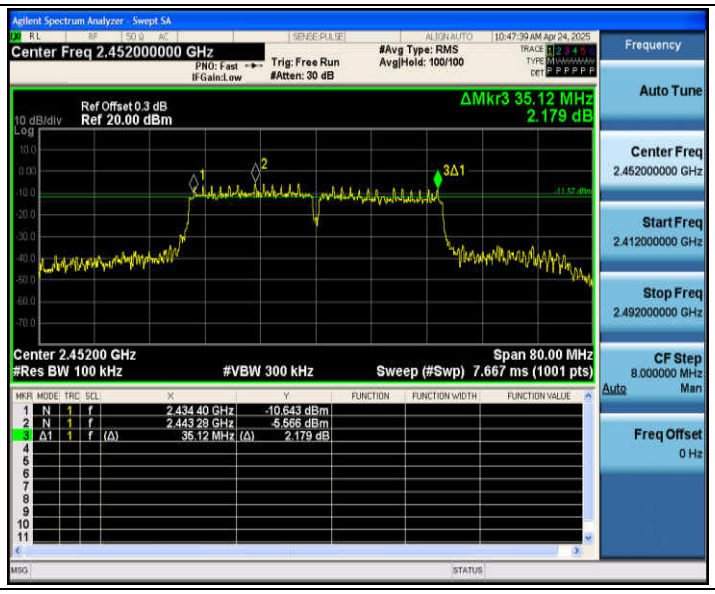
11AX40SISO_Ant1_2422



11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
10:47:39 AM Apr 24, 2025
Ref Offset 0.3 dB
10 dB/div
Ref 20.00 dBm
Log
ΔMkr3 35.12 MHz
2.179 dB
Center 2.45200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 80.00 MHz
Sweep (#Swp) 7.667 ms (1001 pts)
1 N 1 f 2.434 40 GHz -10.643 dBm
2 N 1 f 2.443 28 GHz -5.566 dBm
3 Δ1 1 f (Δ) 35.12 MHz (Δ) 2.179 dB
Frequency
Auto Tune
Center Freq
2.452000000 GHz
Start Freq
2.412000000 GHz
Stop Freq
2.492000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

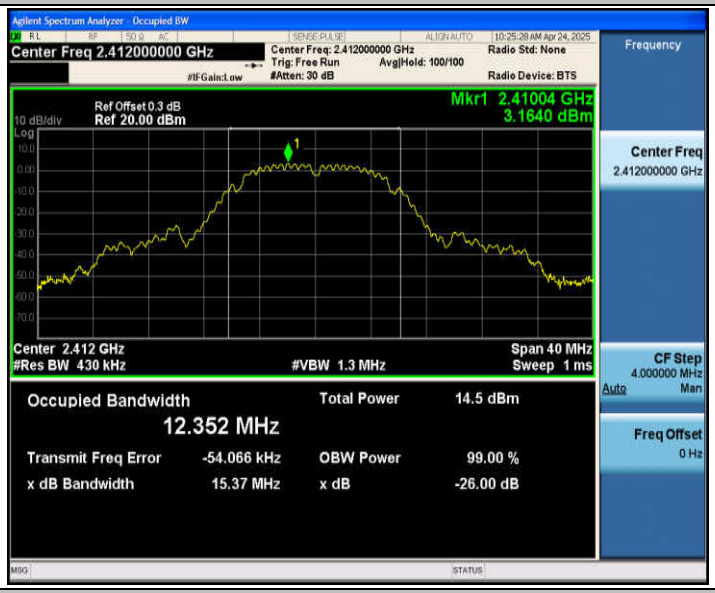
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.352	2405.7699	2418.1219	---	---
		2437	11.582	2431.0031	2442.5851	---	---
		2462	12.712	2455.4527	2468.1647	---	---
11G	Ant1	2412	16.791	2403.7689	2420.5599	---	---
		2437	16.677	2428.8029	2445.4799	---	---
		2462	16.931	2453.6323	2470.5633	---	---
11N20SISO	Ant1	2412	17.929	2403.2524	2421.1814	---	---
		2437	17.603	2428.3252	2445.9282	---	---
		2462	18.042	2453.1251	2471.1671	---	---
11N40SISO	Ant1	2422	36.379	2404.1569	2440.5359	---	---
		2437	36.074	2419.0563	2455.1303	---	---
		2452	36.361	2433.8391	2470.2001	---	---
11AX20SISO	Ant1	2412	17.887	2403.2369	2421.1239	---	---
		2437	17.644	2428.3097	2445.9537	---	---
		2462	18.010	2453.1455	2471.1555	---	---
11AX40SISO	Ant1	2422	36.428	2404.1777	2440.6057	---	---
		2437	36.061	2419.0799	2455.1409	---	---
		2452	36.389	2433.8363	2470.2253	---	---

Test Graphs

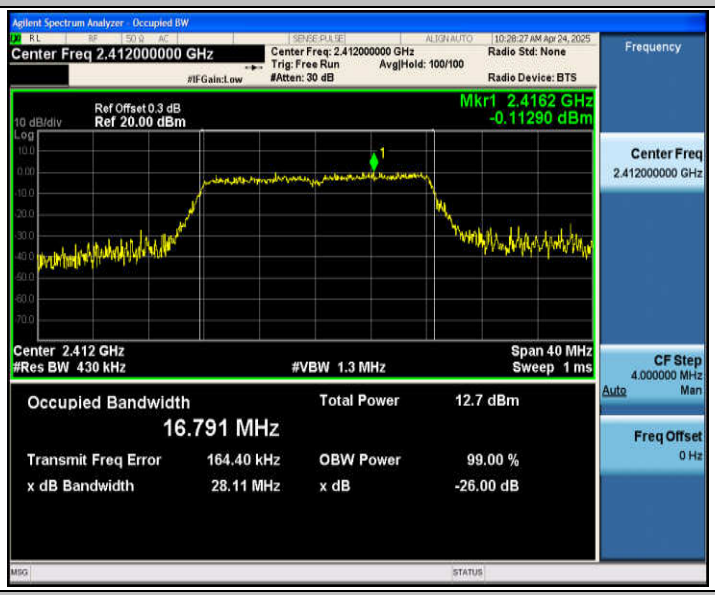
11B_Ant1_2412



11B_Ant1_2437

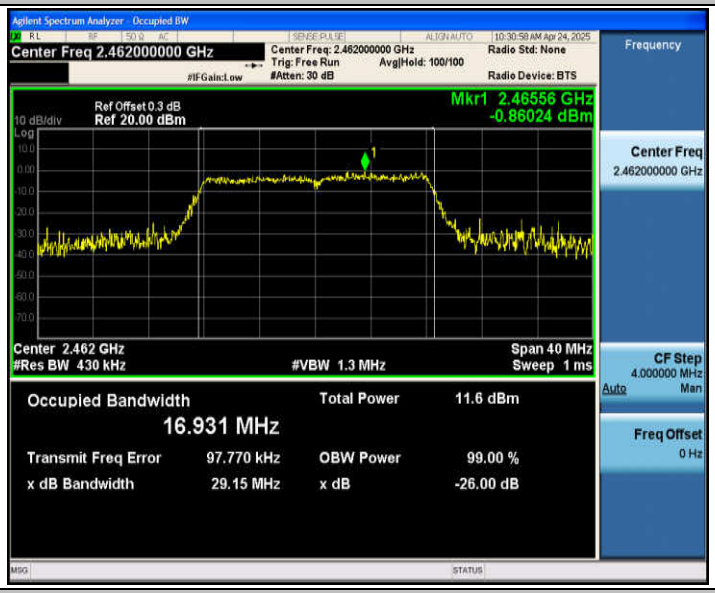
11B_Ant1_2462

11G_Ant1_2412

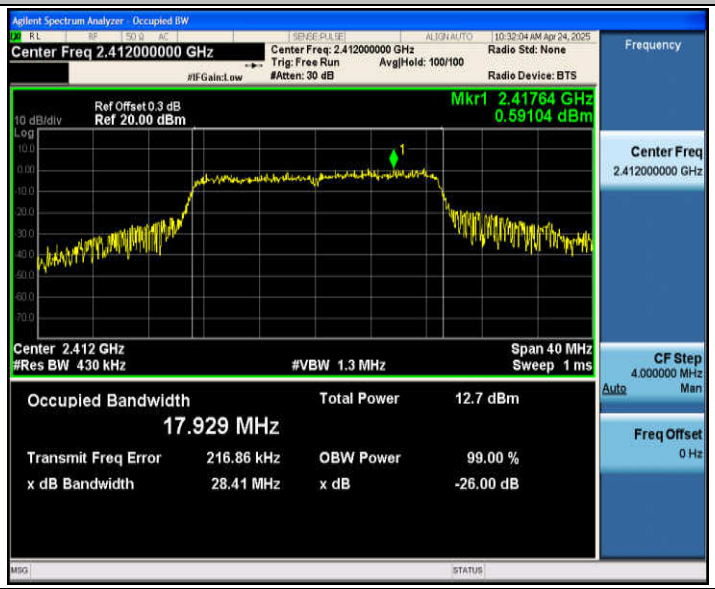


11G_Ant1_2437

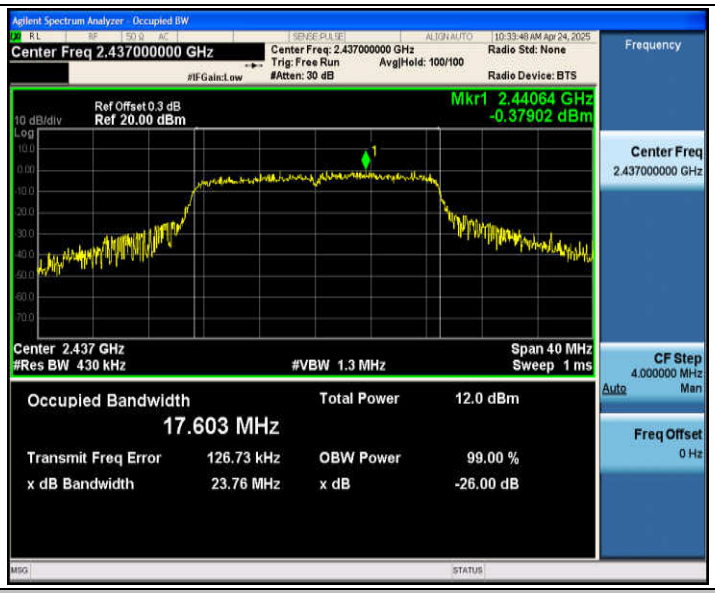
11G_Ant1_2462



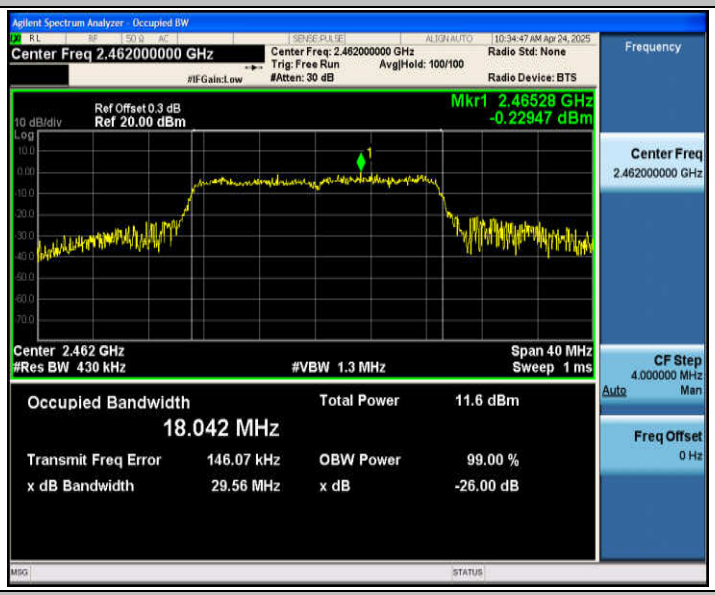
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437

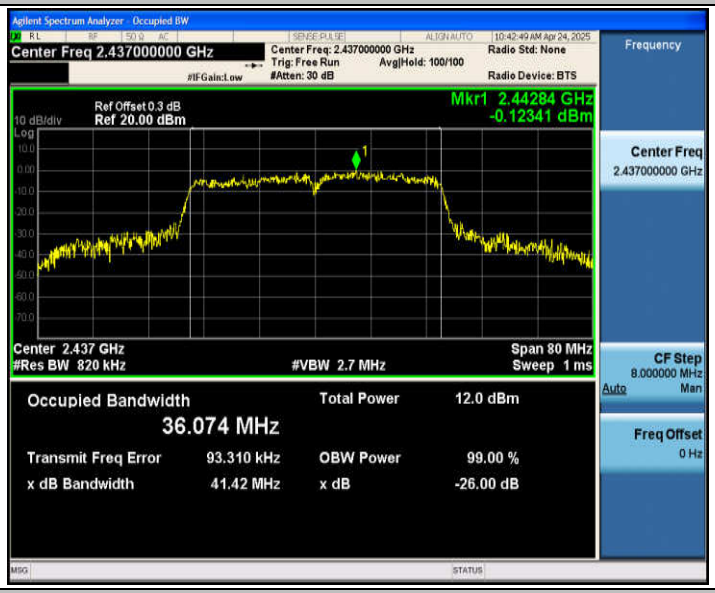


11N20SISO_Ant1_2462

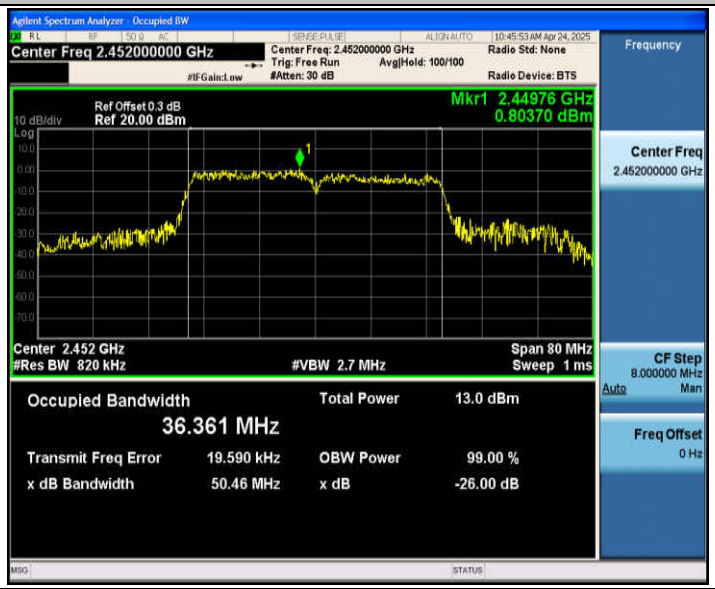


11N40SISO_Ant1_2422

11N40SISO_Ant1_2437

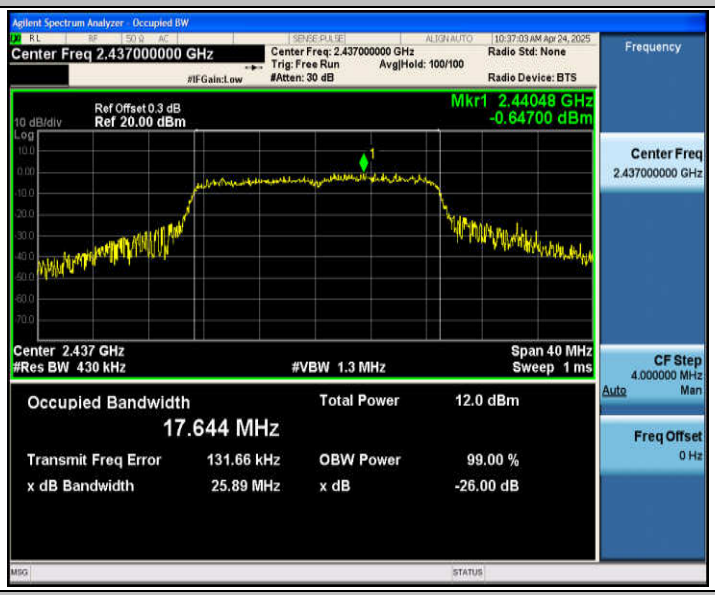


11N40SISO_Ant1_2452



11AX20SISO_Ant1_2412

11AX20SISO_Ant1_2437



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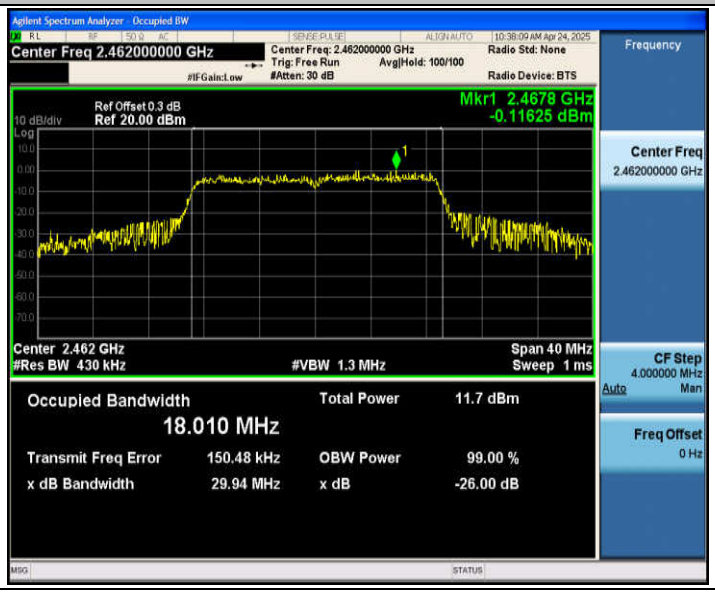
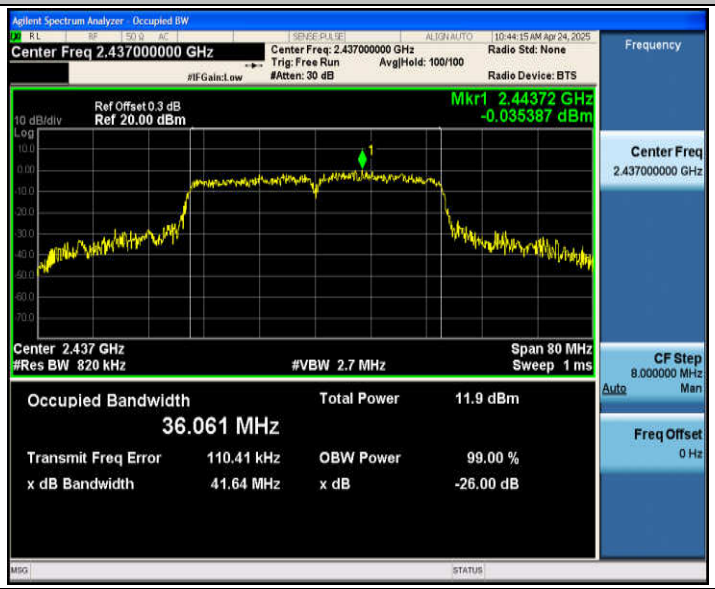
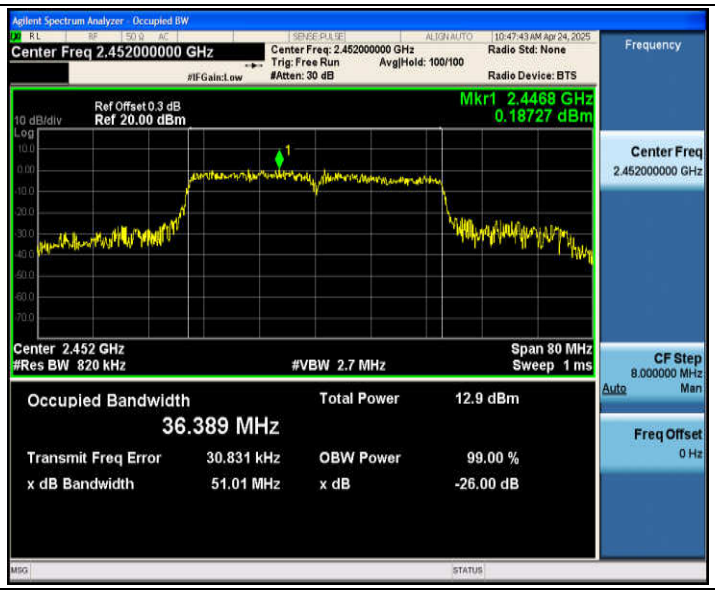


11AX40SISO_Ant1_2422

11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.452000000 GHz
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
10:47:43 AM Apr 24, 2025
Frequency
Ref Offset 0.3 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.4468 GHz
0.18727 dBm
Center 2.452 GHz
#Res BW 820 kHz
#VBW 2.7 MHz
Span 80 MHz
Sweep 1 ms
Occupied Bandwidth
36.389 MHz
Total Power 12.9 dBm
Transmit Freq Error 30.831 kHz
OBW Power 99.00 %
x dB Bandwidth 51.01 MHz
x dB -26.00 dB
Center Freq
2.452000000 GHz
CF Step
8.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Peak power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	14.34	≤30.00	PASS
		2437	13.40	≤30.00	PASS
		2462	13.57	≤30.00	PASS
11G	Ant1	2412	13.04	≤30.00	PASS
		2437	12.68	≤30.00	PASS
		2462	12.18	≤30.00	PASS
11N20SISO	Ant1	2412	13.30	≤30.00	PASS
		2437	12.59	≤30.00	PASS
		2462	12.34	≤30.00	PASS
11N40SISO	Ant1	2422	12.68	≤30.00	PASS
		2437	11.98	≤30.00	PASS
		2452	13.00	≤30.00	PASS
11AX20SISO	Ant1	2412	13.20	≤30.00	PASS
		2437	12.54	≤30.00	PASS
		2462	12.09	≤30.00	PASS
11AX40SISO	Ant1	2422	12.46	≤30.00	PASS
		2437	12.05	≤30.00	PASS
		2452	13.10	≤30.00	PASS

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.65	≤8.00	PASS
		2437	-11.85	≤8.00	PASS
		2462	-11.91	≤8.00	PASS
11G	Ant1	2412	-17.42	≤8.00	PASS
		2437	-19.69	≤8.00	PASS
		2462	-18.85	≤8.00	PASS
11N20SISO	Ant1	2412	-17.97	≤8.00	PASS
		2437	-19.47	≤8.00	PASS
		2462	-20.27	≤8.00	PASS
11N40SISO	Ant1	2422	-22.18	≤8.00	PASS
		2437	-22.12	≤8.00	PASS
		2452	-21.94	≤8.00	PASS
11AX20SISO	Ant1	2412	-18.59	≤8.00	PASS
		2437	-19.00	≤8.00	PASS
		2462	-20.40	≤8.00	PASS
11AX40SISO	Ant1	2422	-21.99	≤8.00	PASS
		2437	-22.27	≤8.00	PASS
		2452	-22.34	≤8.00	PASS

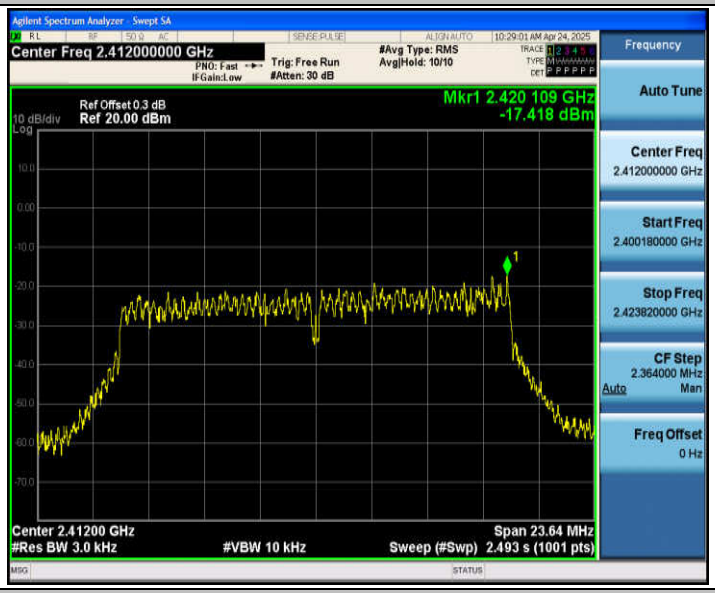
Test Graphs

11B_Ant1_2412

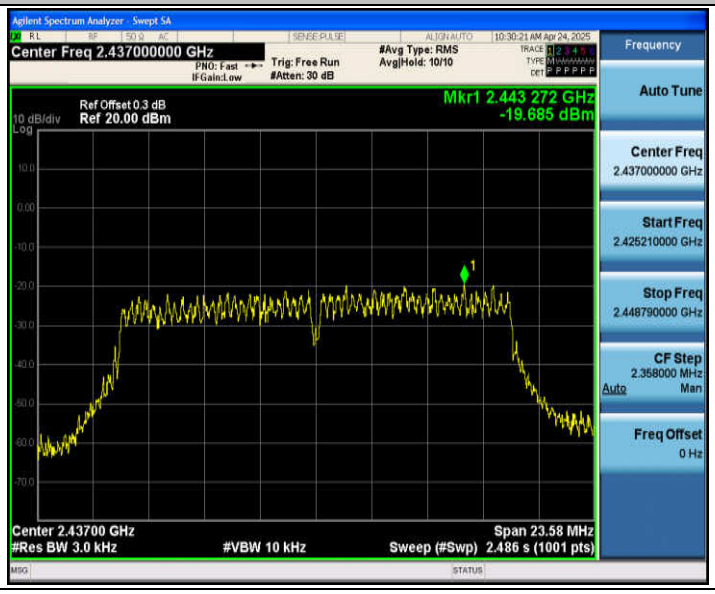
11B_Ant1_2437

11B_Ant1_2462

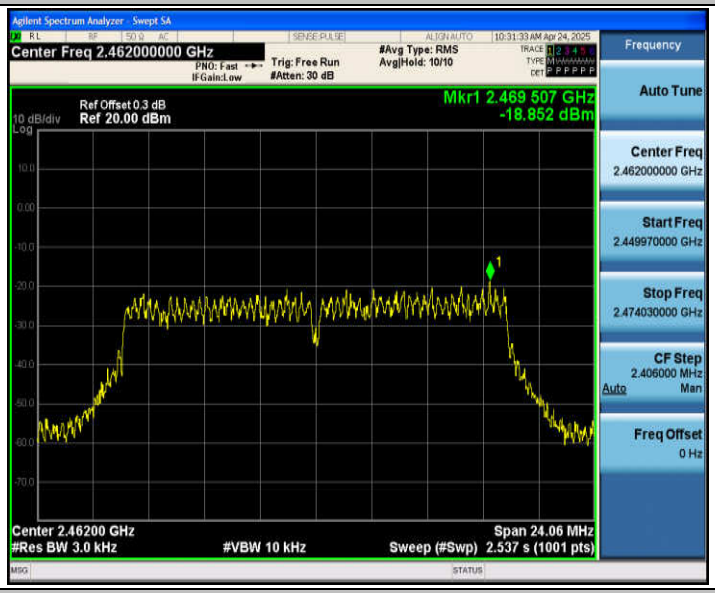
11G_Ant1_2412



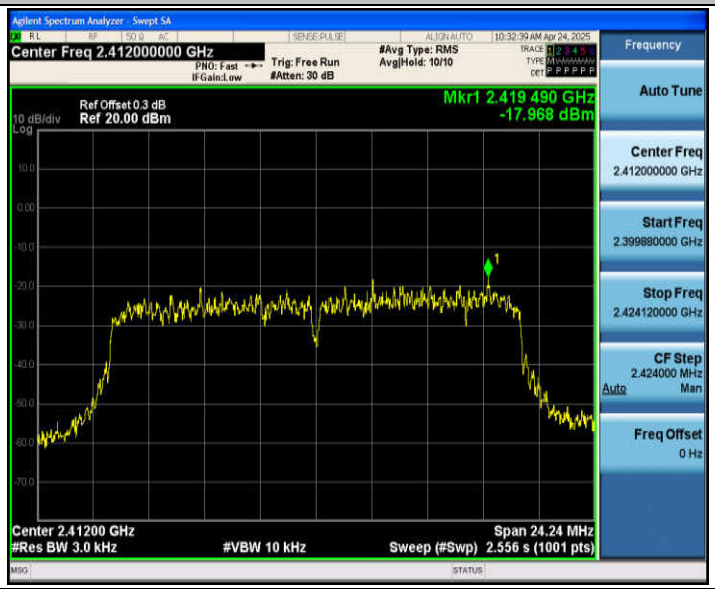
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



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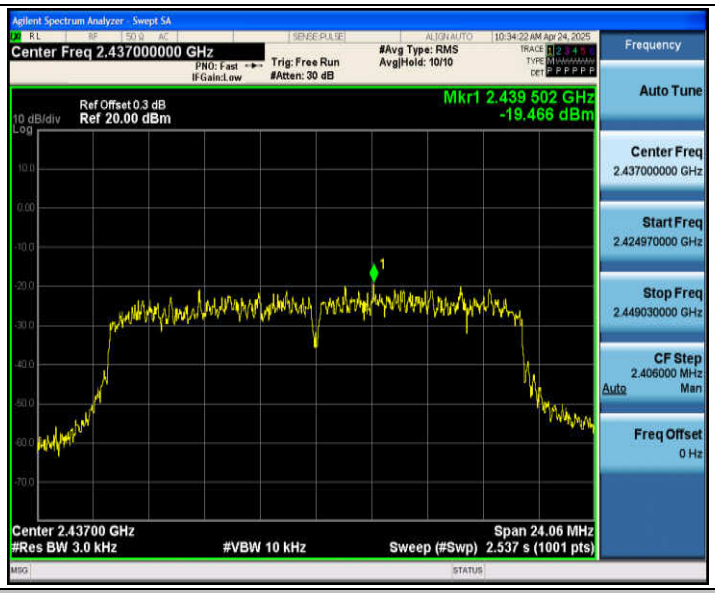

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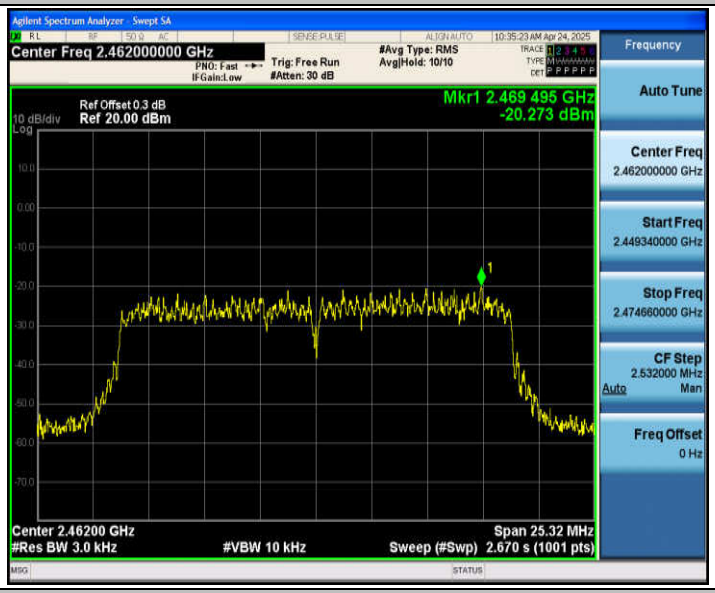
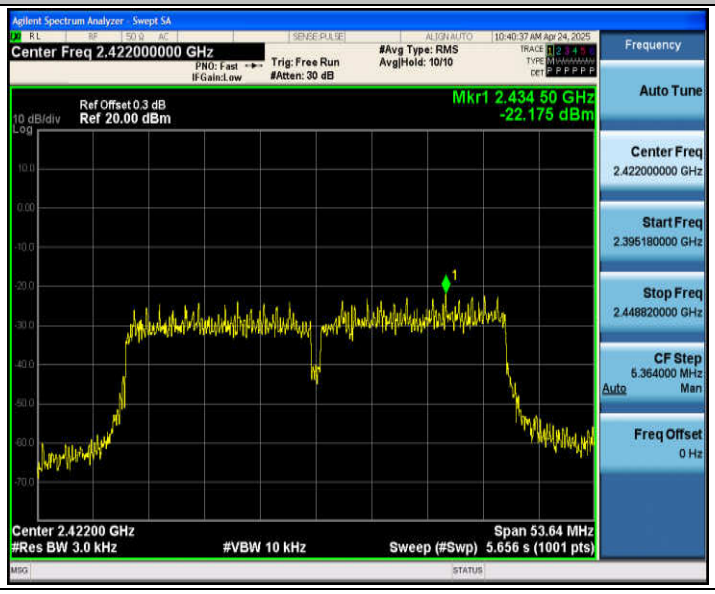
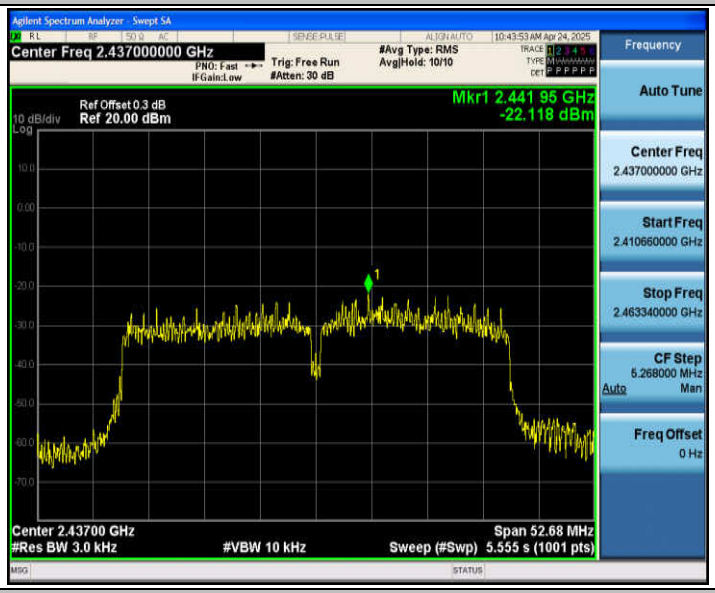


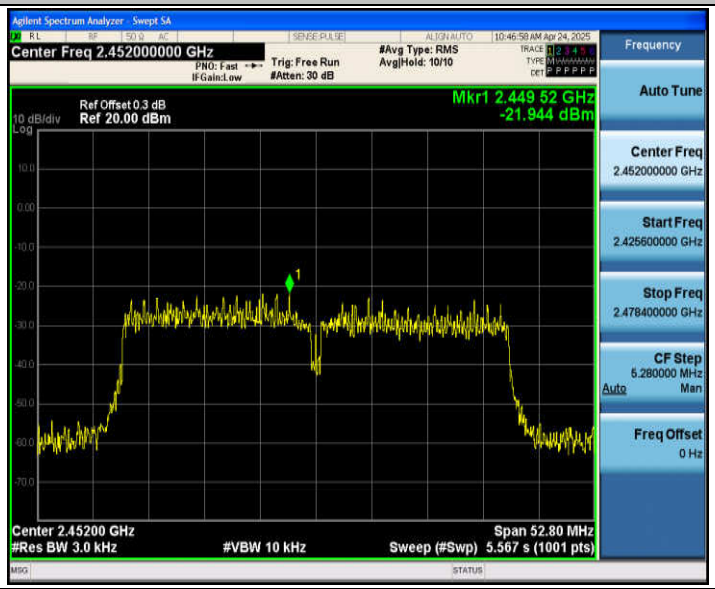
11N40SISO_Ant1_2422



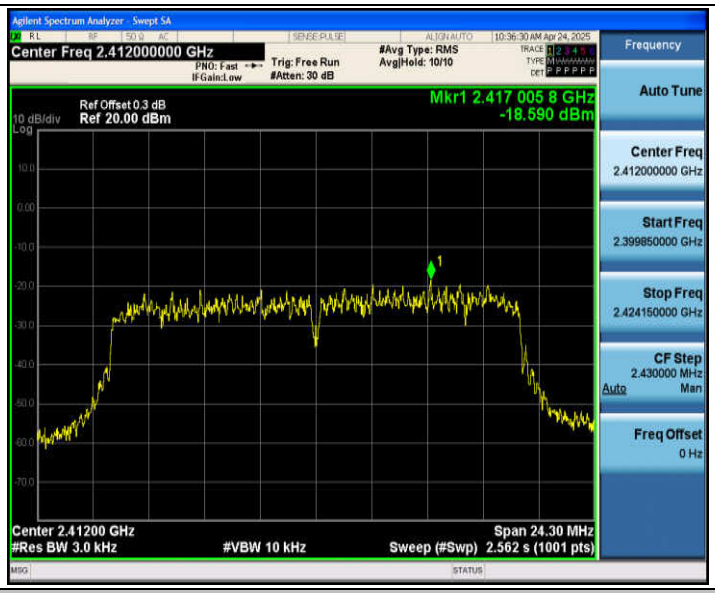
11N40SISO_Ant1_2437



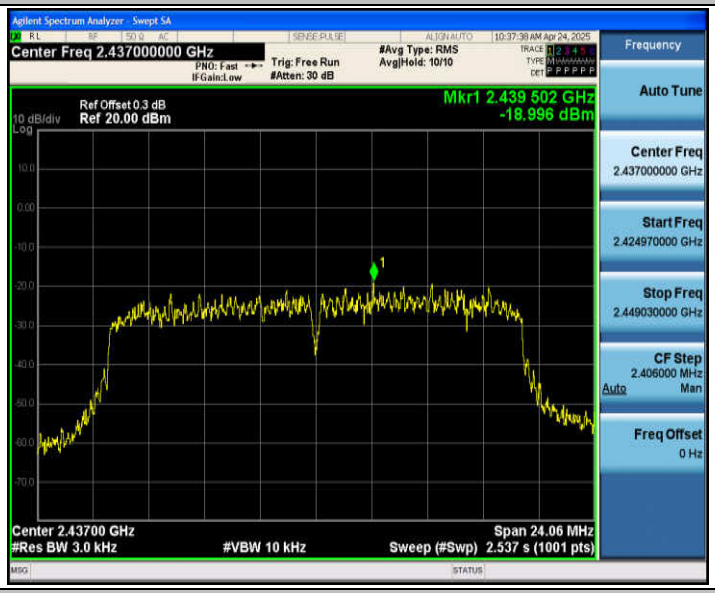
11N40SISO_Ant1_2452



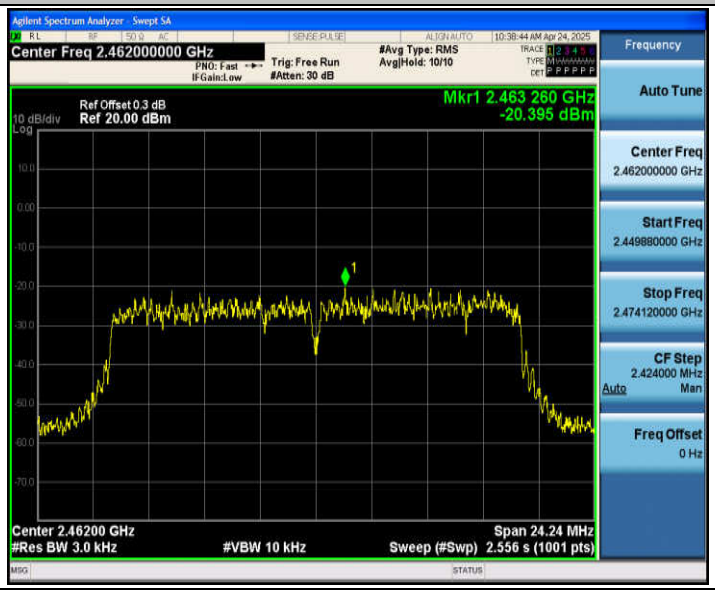
11AX20SISO_Ant1_2412



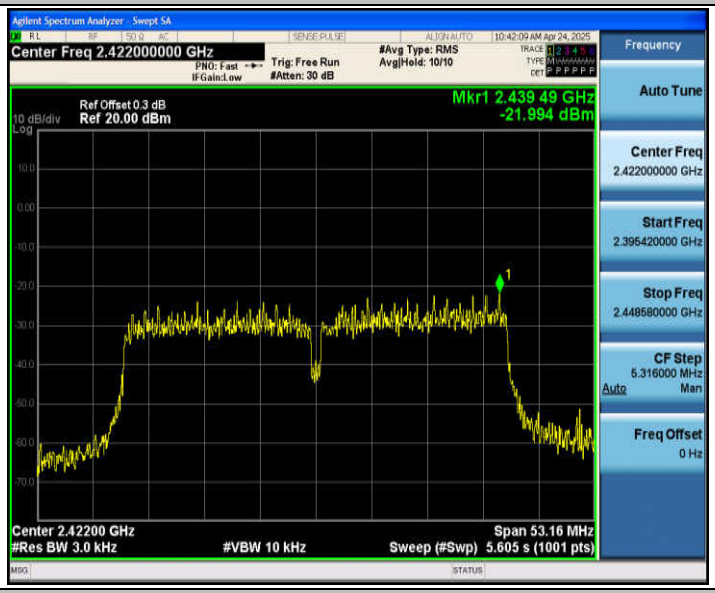
11AX20SISO_Ant1_2437



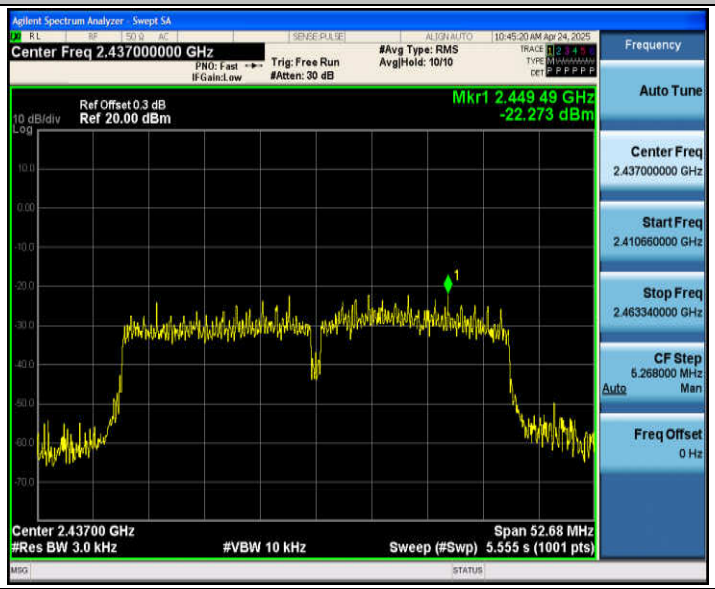
11AX20SISO_Ant1_2462



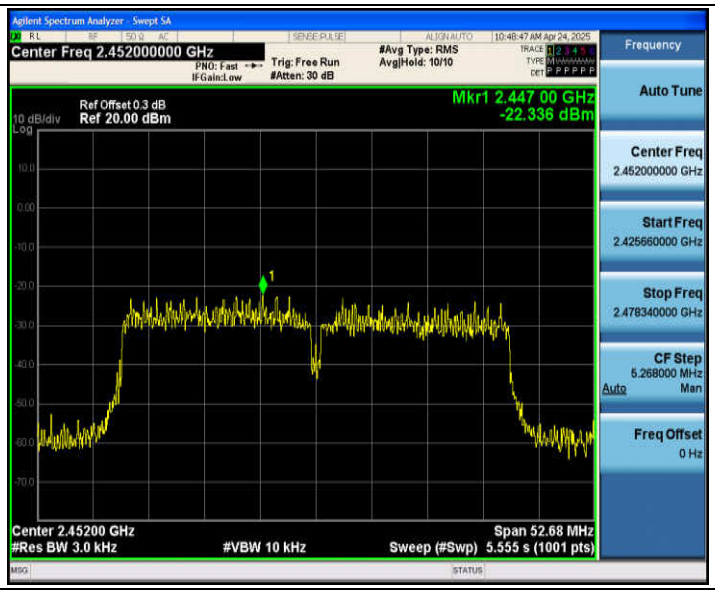
11AX40SISO_Ant1_2422



11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
10:48:47 AM Apr 24, 2025
Frequency
Auto Tune
Center Freq
2.452000000 GHz
Start Freq
2.425660000 GHz
Stop Freq
2.478340000 GHz
CF Step
5.268000 MHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 0.3 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.447 00 GHz
-22.336 dBm
Center 2.45200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 52.68 MHz
Sweep (#Swp) 5.555 s (1001 pts)

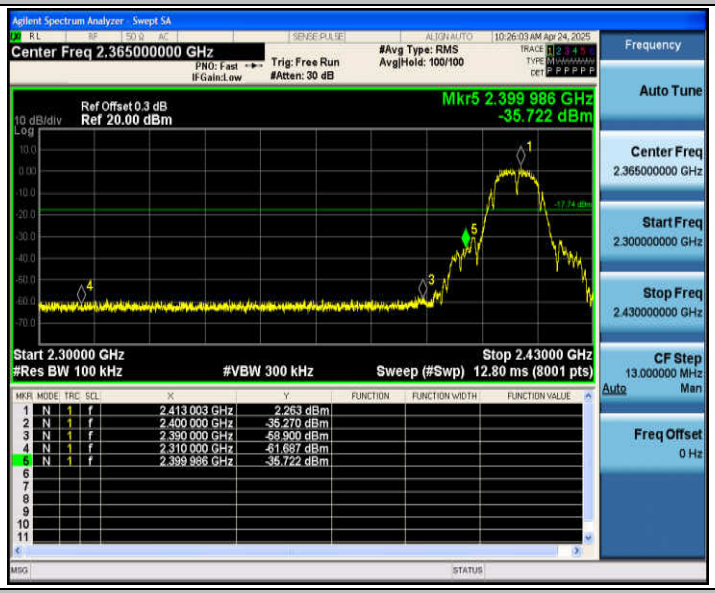
Appendix E: Band edge measurements

Test Result

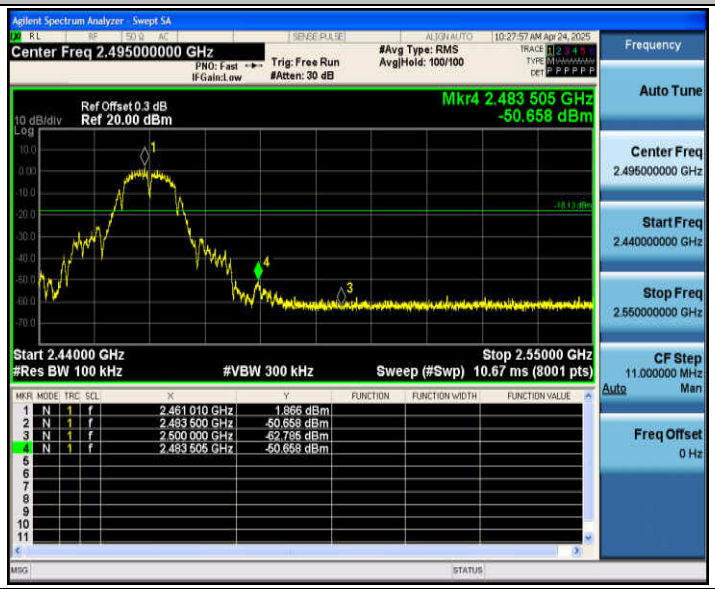
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	2.26	-35.72	≤-17.74	PASS
		High	2462	1.87	-50.66	≤-18.13	PASS
11G	Ant1	Low	2412	-2.52	-36.79	≤-22.52	PASS
		High	2462	-3.81	-40.85	≤-23.81	PASS
11N20SISO	Ant1	Low	2412	-2.37	-36.17	≤-22.37	PASS
		High	2462	-3.94	-40.39	≤-23.94	PASS
11N40SISO	Ant1	Low	2422	-5.84	-39.83	≤-25.84	PASS
		High	2452	-5.57	-36.07	≤-25.57	PASS
11AX20SISO	Ant1	Low	2412	-2.97	-35.98	≤-22.97	PASS
		High	2462	-3.68	-39.67	≤-23.68	PASS
11AX40SISO	Ant1	Low	2422	-5.80	-39.54	≤-25.8	PASS
		High	2452	-5.88	-36.33	≤-25.88	PASS

Test Graphs

11B_Ant1_Low_2412

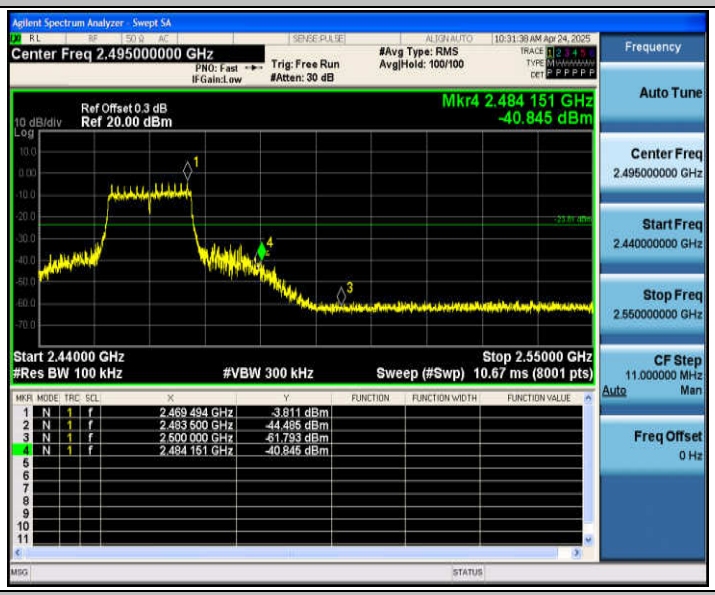


11B_Ant1_High_2462

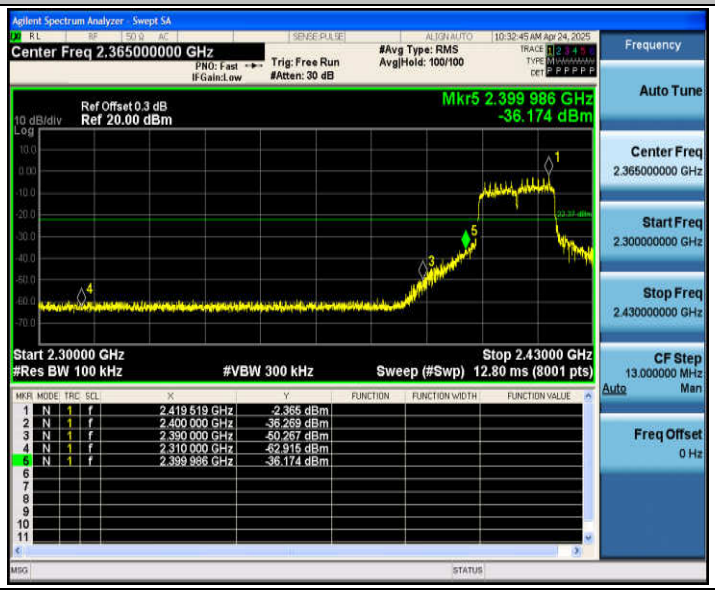


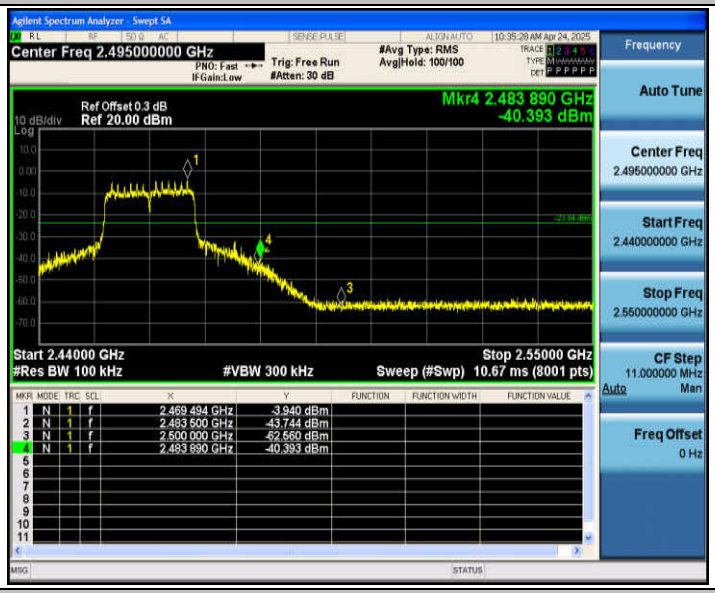
11G_Ant1_Low_2412

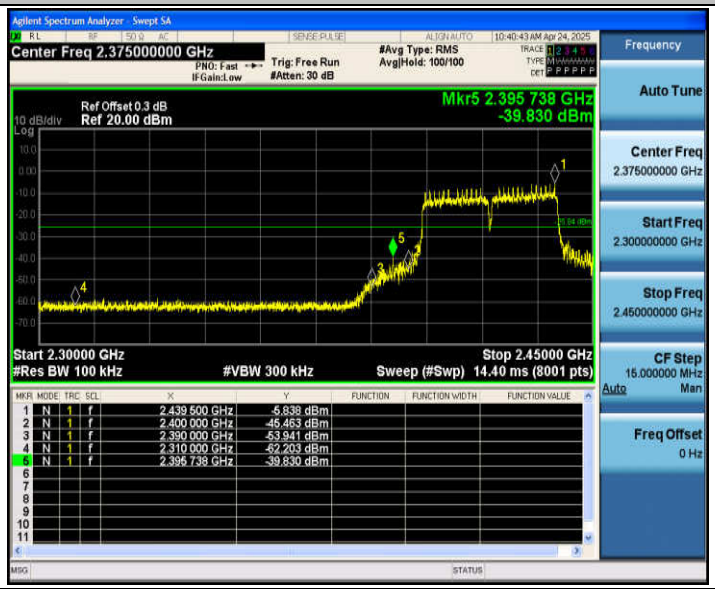
11G_Ant1_High_2462



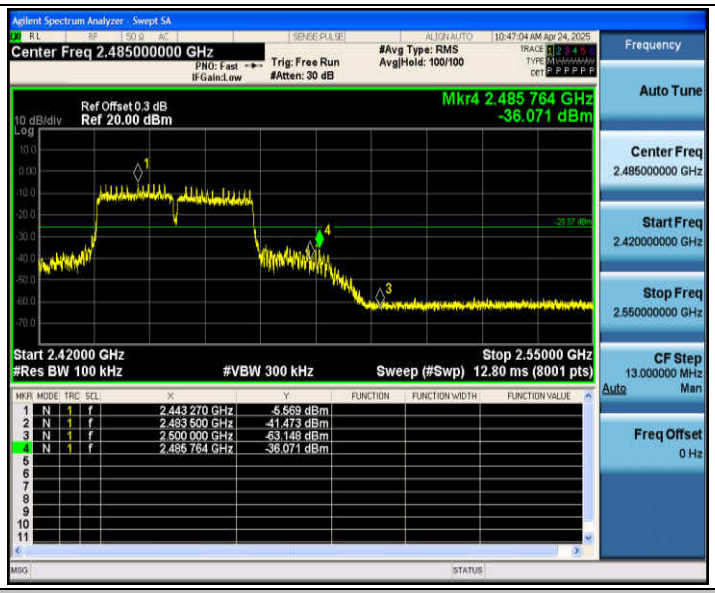
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462


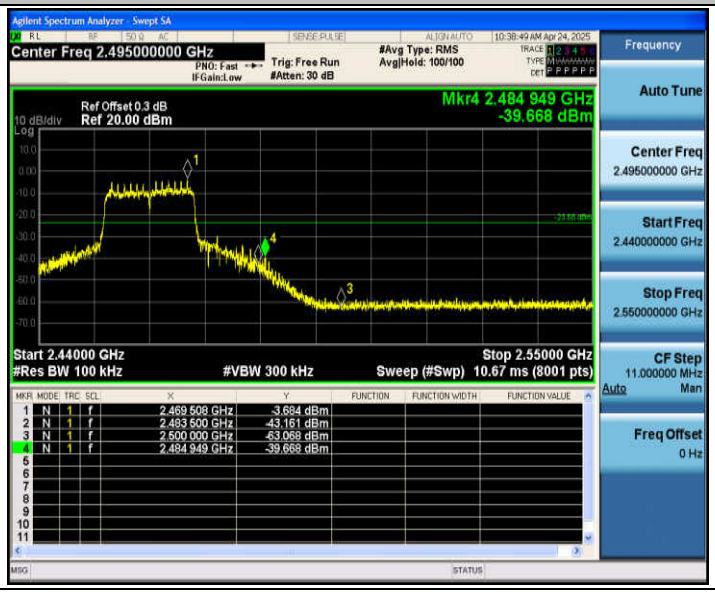
11N40SISO_Ant1_Low_2422


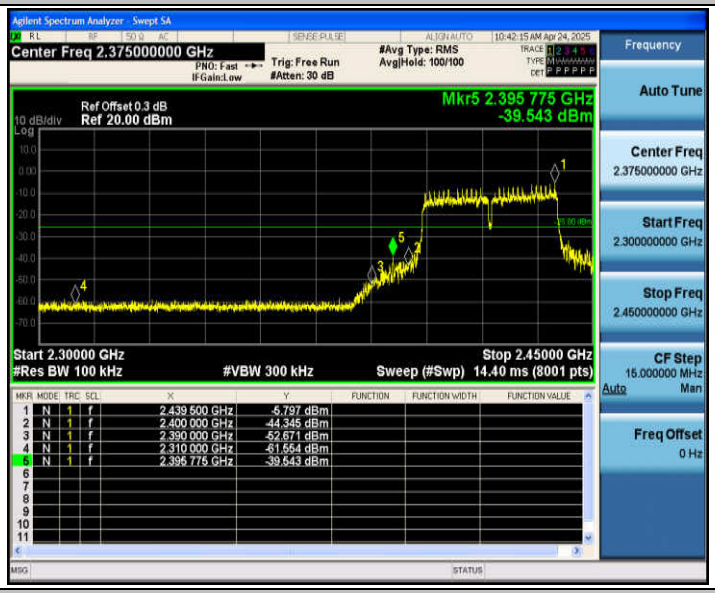
11N40SISO_Ant1_High_2452

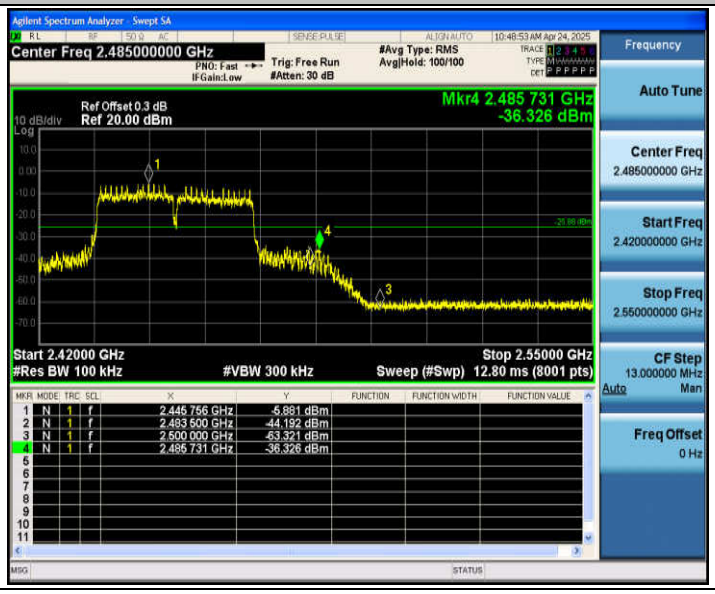


11AX20SISO_Ant1_Low_2412

11AX20SISO_Ant1_High_2462



11AX40SISO_Ant1_Low_2422


11AX40SISO_Ant1_High_2452


Appendix F: Conducted Spurious Emission

Test Result

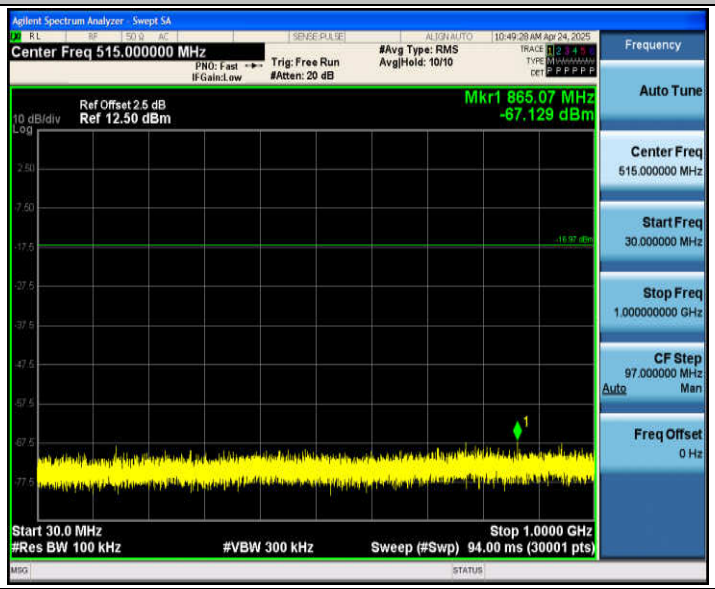
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.03	3.03	---	PASS
			30~1000	3.03	-67.13	≤-16.97	PASS
			1000~26500	3.03	-38.92	≤-16.97	PASS
		2437	Reference	1.57	1.57	---	PASS
			30~1000	1.57	-68.27	≤-18.43	PASS
			1000~26500	1.57	-37.24	≤-18.43	PASS
		2462	Reference	2.59	2.59	---	PASS
			30~1000	2.59	-67.36	≤-17.41	PASS
			1000~26500	2.59	-31.14	≤-17.41	PASS
11G	Ant1	2412	Reference	-1.05	-1.05	---	PASS
			30~1000	-1.05	-67.47	≤-21.05	PASS
			1000~26500	-1.05	-49.55	≤-21.05	PASS
		2437	Reference	-1.86	-1.86	---	PASS
			30~1000	-1.86	-68.1	≤-21.86	PASS
			1000~26500	-1.86	-49.22	≤-21.86	PASS
		2462	Reference	-2.47	-2.47	---	PASS
			30~1000	-2.47	-67.63	≤-22.47	PASS
			1000~26500	-2.47	-44.65	≤-22.47	PASS
11N20SISO	Ant1	2412	Reference	-1.07	-1.07	---	PASS
			30~1000	-1.07	-67.93	≤-21.07	PASS
			1000~26500	-1.07	-49.43	≤-21.07	PASS
		2437	Reference	-1.79	-1.79	---	PASS
			30~1000	-1.79	-68.05	≤-21.79	PASS
			1000~26500	-1.79	-47.09	≤-21.79	PASS
		2462	Reference	-2.83	-2.83	---	PASS
			30~1000	-2.83	-67.1	≤-22.83	PASS
			1000~26500	-2.83	-44.27	≤-22.83	PASS
11N40SISO	Ant1	2422	Reference	-4.92	-4.92	---	PASS
			30~1000	-4.92	-67.69	≤-24.92	PASS
			1000~26500	-4.92	-51.41	≤-24.92	PASS
		2437	Reference	-4.41	-4.41	---	PASS
			30~1000	-4.41	-68.42	≤-24.41	PASS
			1000~26500	-4.41	-52.22	≤-24.41	PASS
		2452	Reference	-3.75	-3.75	---	PASS
			30~1000	-3.75	-66.6	≤-23.75	PASS
			1000~26500	-3.75	-51.93	≤-23.75	PASS
11AX20SISO	Ant1	2412	Reference	-0.32	-0.32	---	PASS

			30~1000	-0.32	-67.99	≤-20.32	PASS
			1000~26500	-0.32	-52.05	≤-20.32	PASS
		2437	Reference	-1.77	-1.77	---	PASS
			30~1000	-1.77	-68.27	≤-21.77	PASS
			1000~26500	-1.77	-49.84	≤-21.77	PASS
		2462	Reference	-2.22	-2.22	---	PASS
			30~1000	-2.22	-58.71	≤-22.22	PASS
			1000~26500	-2.22	-44.33	≤-22.22	PASS
11AX40SISO	Ant1	2422	Reference	-5.00	-5.00	---	PASS
			30~1000	-5.00	-67.69	≤-25	PASS
			1000~26500	-5.00	-49.42	≤-25	PASS
		2437	Reference	-4.23	-4.23	---	PASS
			30~1000	-4.23	-67.3	≤-24.23	PASS
			1000~26500	-4.23	-51.54	≤-24.23	PASS
		2452	Reference	-4.39	-4.39	---	PASS
			30~1000	-4.39	-68.03	≤-24.39	PASS
			1000~26500	-4.39	-47.26	≤-24.39	PASS

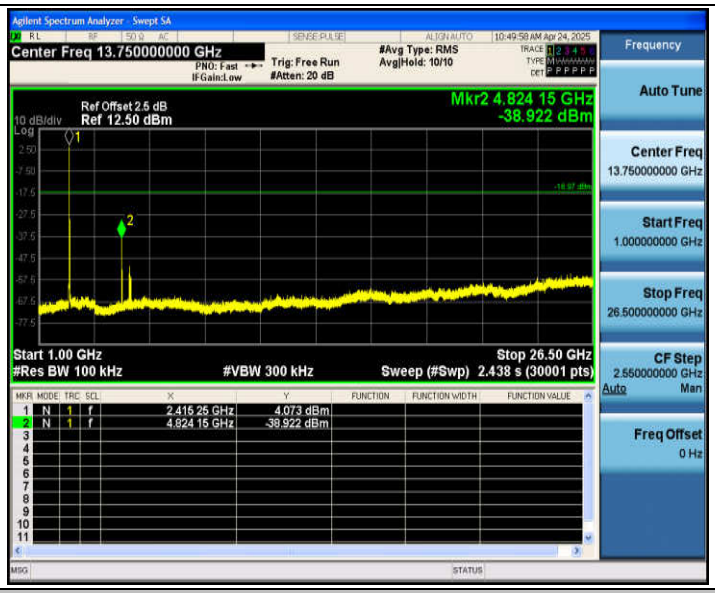
Test Graphs

11B_Ant1_2412_0~Reference

11B_Ant1_2412_30~1000

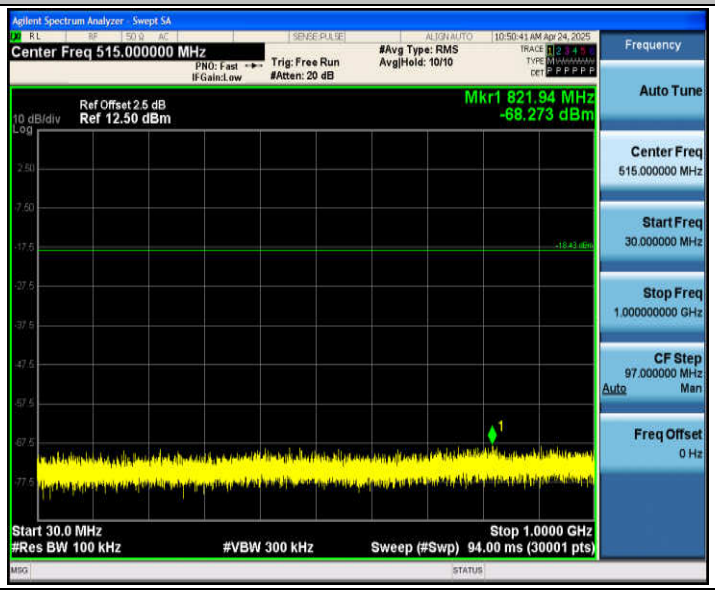


11B_Ant1_2412_1000~26500

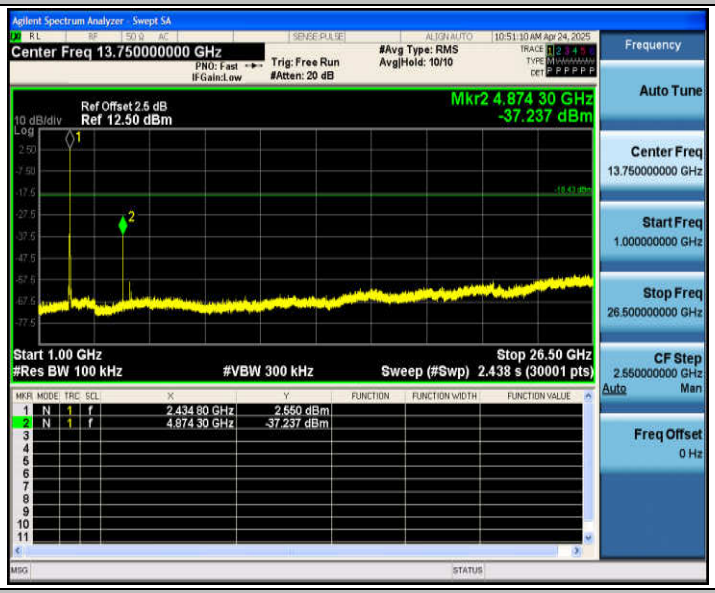


11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000

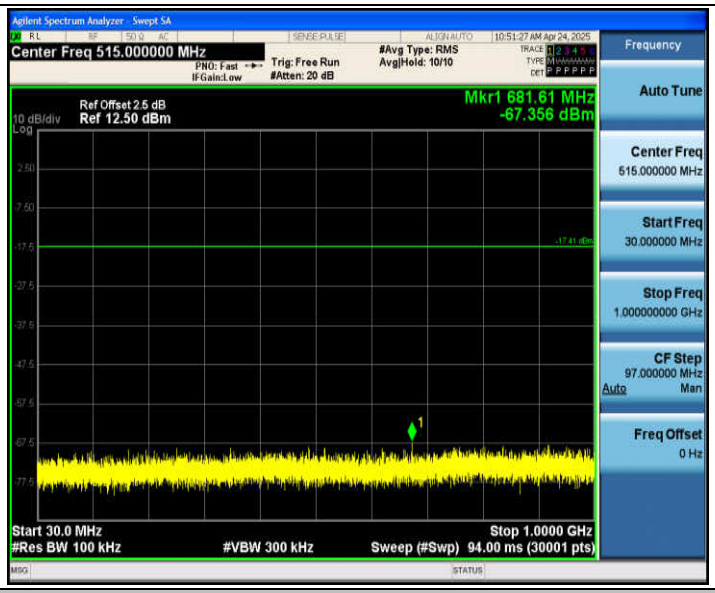


11B_Ant1_2437_1000~26500

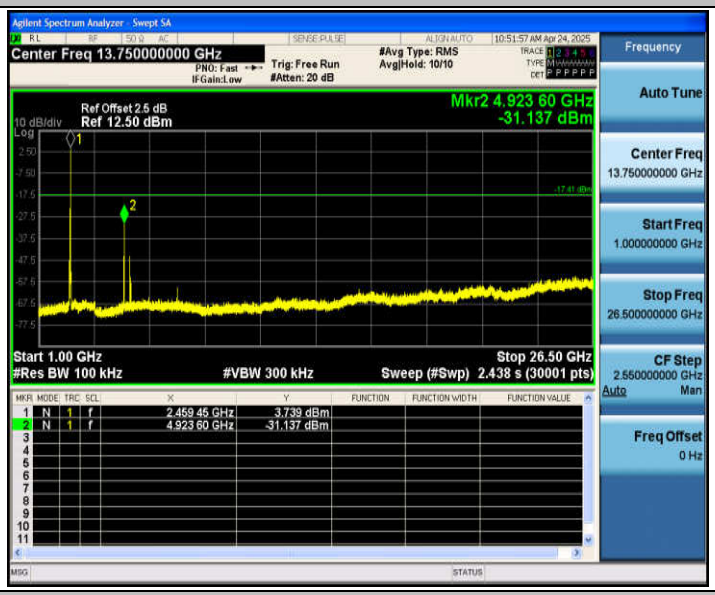


11B_Ant1_2462_0~Reference

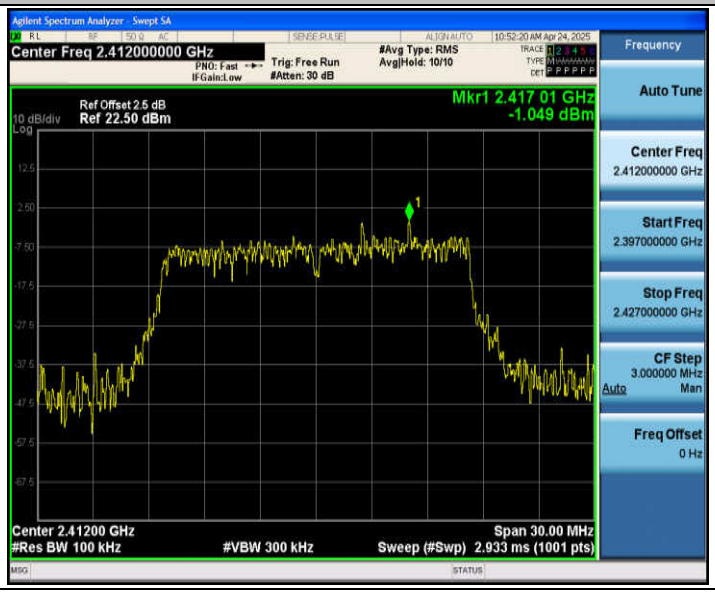
11B_Ant1_2462_30~1000



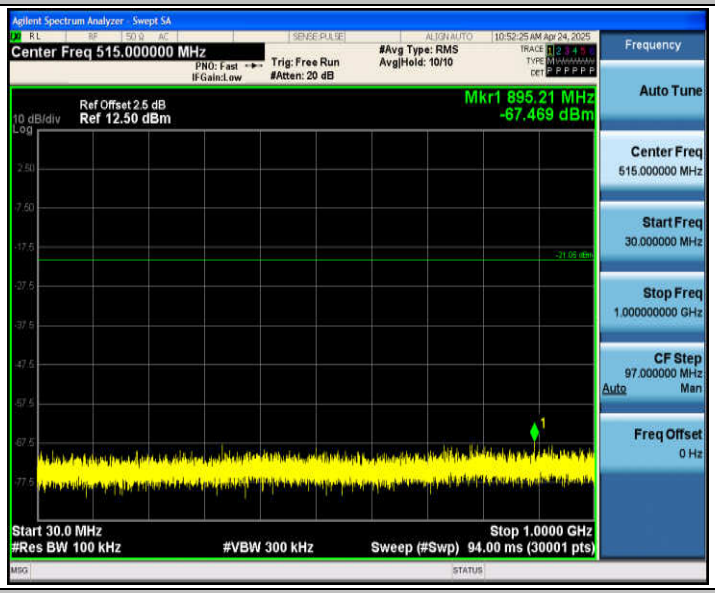
11B_Ant1_2462_1000~26500



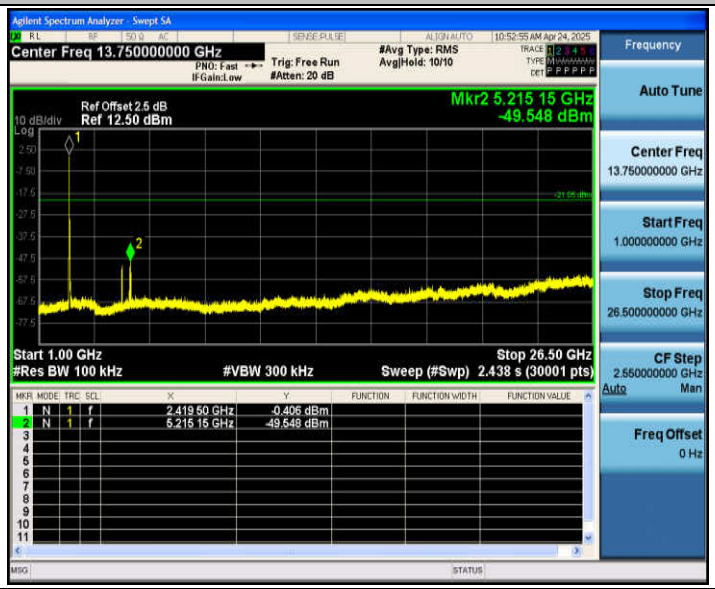
11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference