Appendix Test Data

Report No.:	1812C40014612503	Test Sample No.:	1-2-2
Start Test Date:	2024.10.12	Finish Test Date:	2024.10.14
Test Engineer:	Joker Huang	Auditor:	Justin Feng
Temperature:	22.4℃	Relative Humidity:	54%
Pressure:	101kPa		

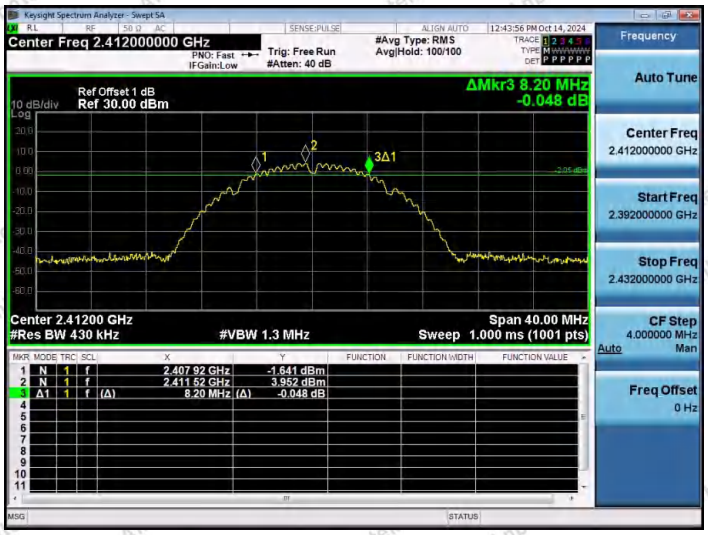
Appendix A: 6dB Bandwidth

Test Result

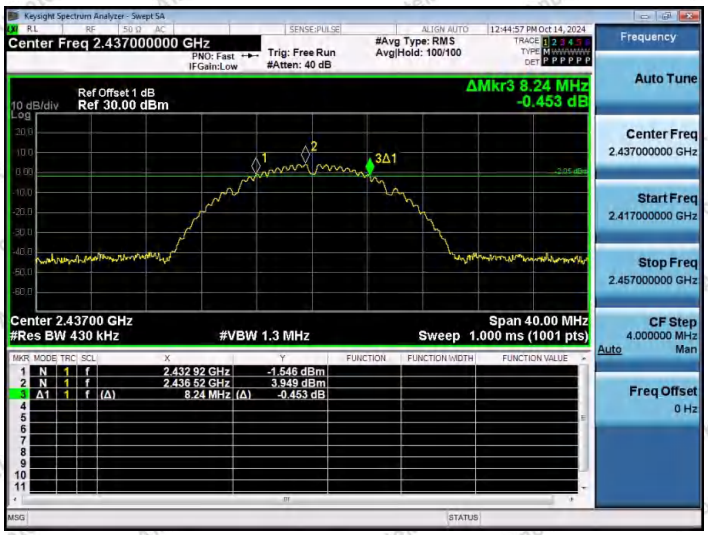
TestMode	Antenna	Frequency[MHz]	6dB BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant2	2412	8.200	2407.920	2416.120	0.5	PASS
11B	Ant1	2412	8.200	2407.920	2416.120	0.5	PASS
11B	Ant1	2437	8.240	2432.920	2441.160	0.5	PASS
11B	Ant2	2437	8.240	2432.920	2441.160	0.5	PASS
11B	Ant1	2462	8.200	2457.920	2466.120	0.5	PASS
11B	Ant2	2462	8.200	2457.920	2466.120	0.5	PASS
11G	Ant1	2412	16.160	2403.920	2420.080	0.5	PASS
11G	Ant2	2412	16.080	2403.960	2420.040	0.5	PASS
11G	Ant1	2437	16.120	2428.920	2445.040	0.5	PASS
11G	Ant2	2437	16.000	2429.000	2445.000	0.5	PASS
11G	Ant1	2462	16.120	2453.960	2470.080	0.5	PASS
11G	Ant2	2462	15.840	2454.080	2469.920	0.5	PASS
11N20MIMO	Ant1	2412	17.360	2403.320	2420.680	0.5	PASS
11N20MIMO	Ant2	2412	17.360	2403.320	2420.680	0.5	PASS
11N20MIMO	Ant1	2437	17.160	2428.480	2445.640	0.5	PASS
11N20MIMO	Ant2	2437	17.400	2428.320	2445.720	0.5	PASS
11N20MIMO	Ant1	2462	17.000	2453.360	2470.360	0.5	PASS
11N20MIMO	Ant2	2462	17.040	2453.520	2470.560	0.5	PASS
11N40MIMO	Ant1	2422	35.680	2404.320	2440.000	0.5	PASS
11N40MIMO	Ant2	2422	32.320	2405.200	2437.520	0.5	PASS
11N40MIMO	Ant1	2437	36.080	2419.000	2455.080	0.5	PASS
11N40MIMO	Ant2	2437	36.000	2419.080	2455.080	0.5	PASS
11N40MIMO	Ant1	2452	34.880	2434.560	2469.440	0.5	PASS
11N40MIMO	Ant2	2452	35.520	2434.240	2469.760	0.5	PASS

Test Graphs

11B-Ant2-2412-PASS

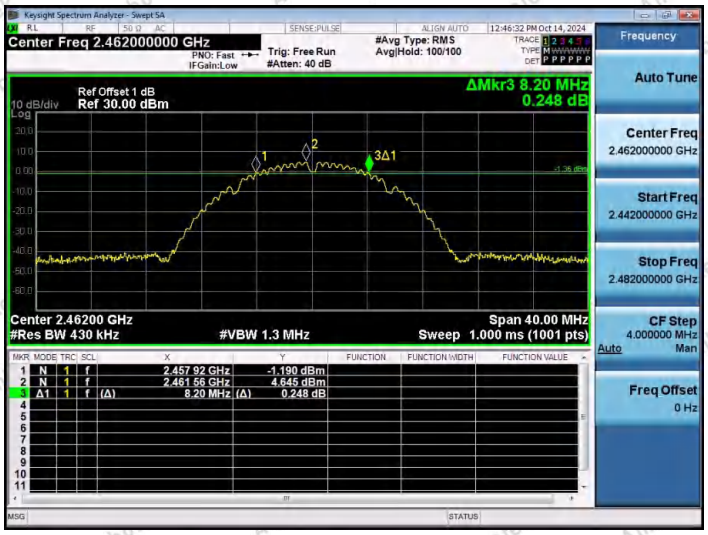


11B-Ant1-2412-PASS



11B-Ant1-2437-PASS

11B-Ant2-2437-PASS



11B-Ant1-2462-PASS

11B-Ant2-2462-PASS

11G-Ant1-2412-PASS

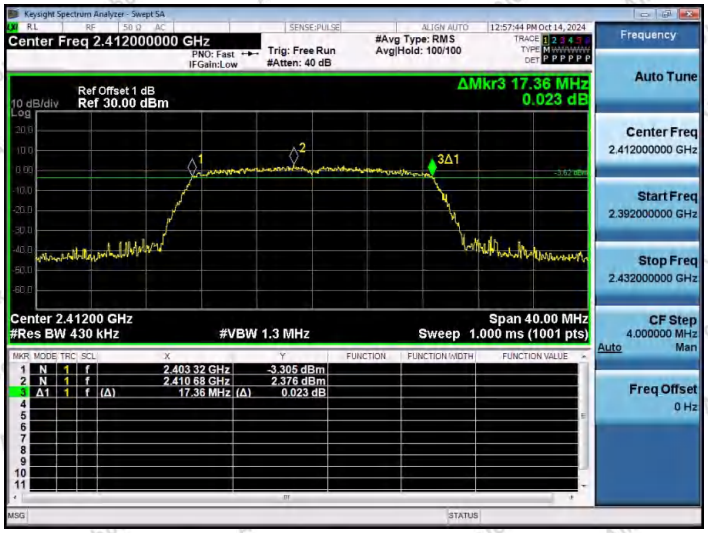
11G-Ant2-2412-PASS

11G-Ant1-2437-PASS

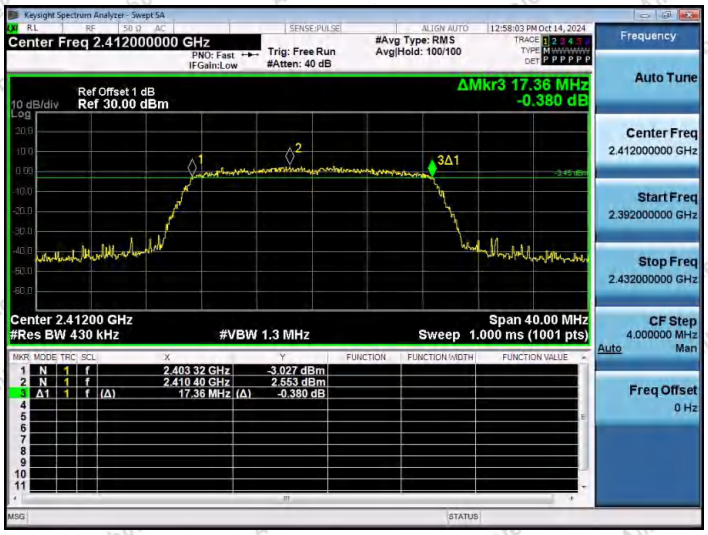
11G-Ant2-2437-PASS

11G-Ant1-2462-PASS

11G-Ant2-2462-PASS



11N20MIMO-Ant1-2412-PASS



11N20MIMO-Ant2-2412-PASS

11N20MIMO-Ant1-2437-PASS

11N20MIMO-Ant2-2437-PASS

11N20MIMO-Ant1-2462-PASS

11N20MIMO-Ant2-2462-PASS

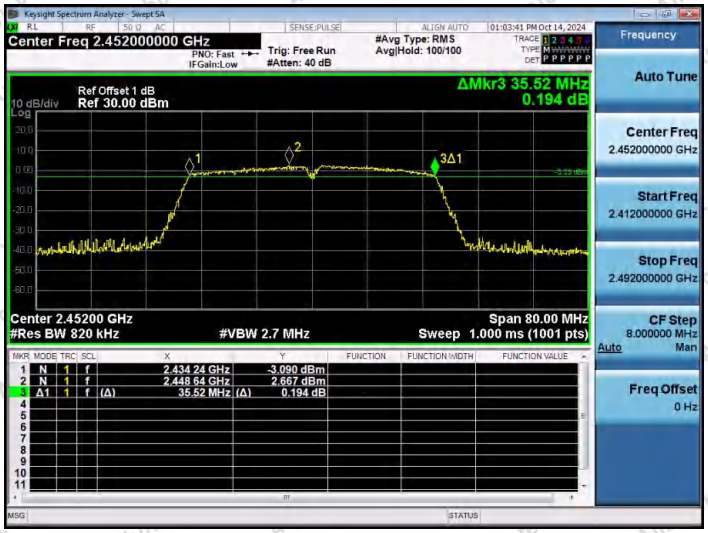
11N40MIMO-Ant1-2422-PASS

11N40MIMO-Ant2-2422-PASS

11N40MIMO-Ant1-2437-PASS

11N40MIMO-Ant2-2437-PASS

11N40MIMO-Ant1-2452-PASS



11N40MIMO-Ant2-2452-PASS

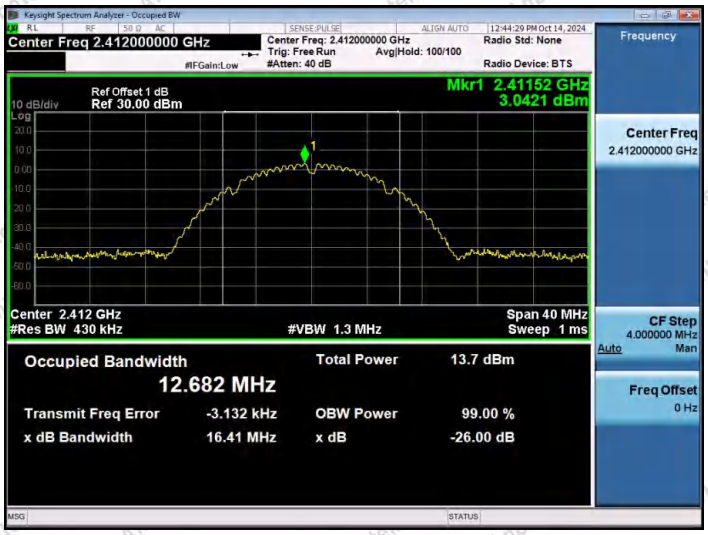
Appendix B: 99% Occupied Bandwidth

Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.681	2405.6582	2418.3392	---	---
11B	Ant2	2412	12.682	2405.6559	2418.3379	---	---
11B	Ant1	2437	12.830	2430.5897	2443.4197	---	---
11B	Ant2	2437	12.820	2430.5937	2443.4137	---	---
11B	Ant1	2462	12.665	2455.6897	2468.3547	---	---
11B	Ant2	2462	12.701	2455.6671	2468.3681	---	---
11G	Ant1	2412	16.773	2403.6514	2420.4244	---	---
11G	Ant2	2412	16.774	2403.6424	2420.4164	---	---
11G	Ant1	2437	16.811	2428.6380	2445.4490	---	---
11G	Ant2	2437	16.750	2428.6728	2445.4228	---	---
11G	Ant1	2462	16.734	2453.6249	2470.3589	---	---
11G	Ant2	2462	16.806	2453.5885	2470.3945	---	---
11N20MIMO	Ant1	2412	17.778	2403.1346	2420.9126	---	---
11N20MIMO	Ant2	2412	17.811	2403.1292	2420.9402	---	---
11N20MIMO	Ant1	2437	17.780	2428.1381	2445.9181	---	---
11N20MIMO	Ant2	2437	17.831	2428.1514	2445.9824	---	---
11N20MIMO	Ant1	2462	17.773	2453.1212	2470.8942	---	---
11N20MIMO	Ant2	2462	17.802	2453.1150	2470.9170	---	---
11N40MIMO	Ant1	2422	36.021	2404.0687	2440.0897	---	---
11N40MIMO	Ant2	2422	35.955	2404.1083	2440.0633	---	---
11N40MIMO	Ant1	2437	36.299	2418.9189	2455.2179	---	---
11N40MIMO	Ant2	2437	36.325	2418.8916	2455.2166	---	---
11N40MIMO	Ant1	2452	36.137	2433.9552	2470.0922	---	---
11N40MIMO	Ant2	2452	36.096	2433.9594	2470.0554	---	---

Test Graphs

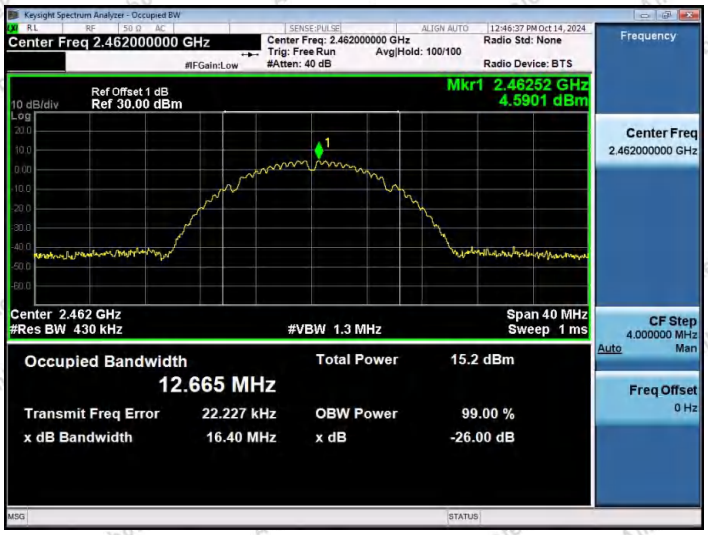
11B-Ant1-2412



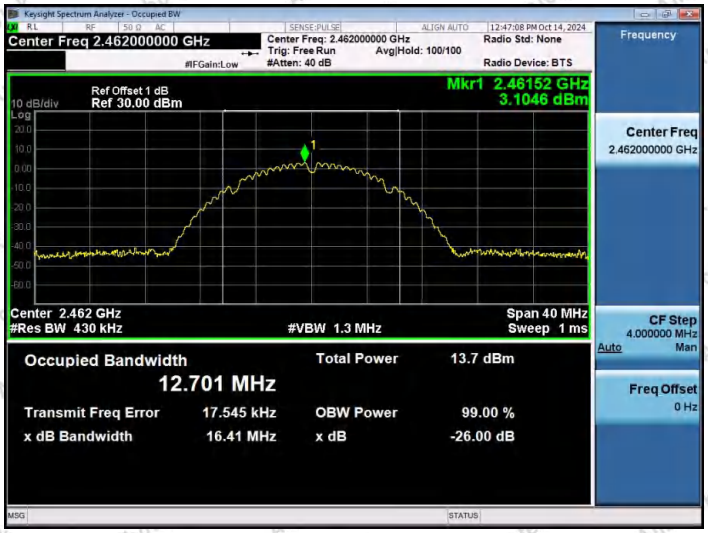
11B-Ant2-2412

11B-Ant1-2437

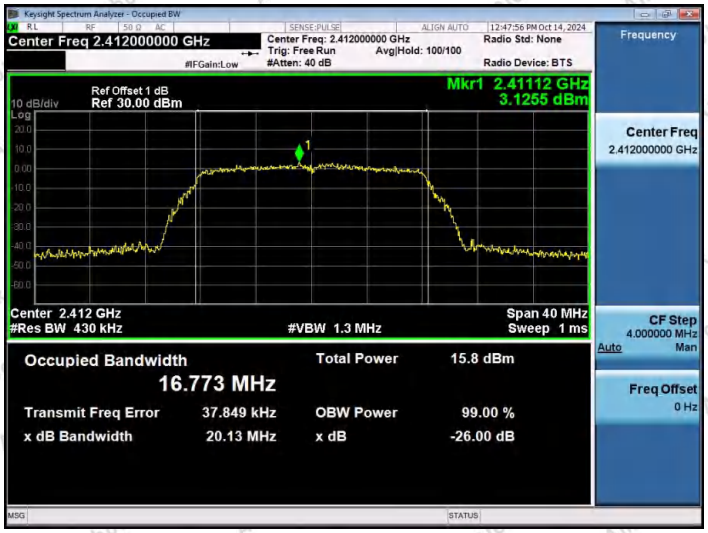
11B-Ant2-2437



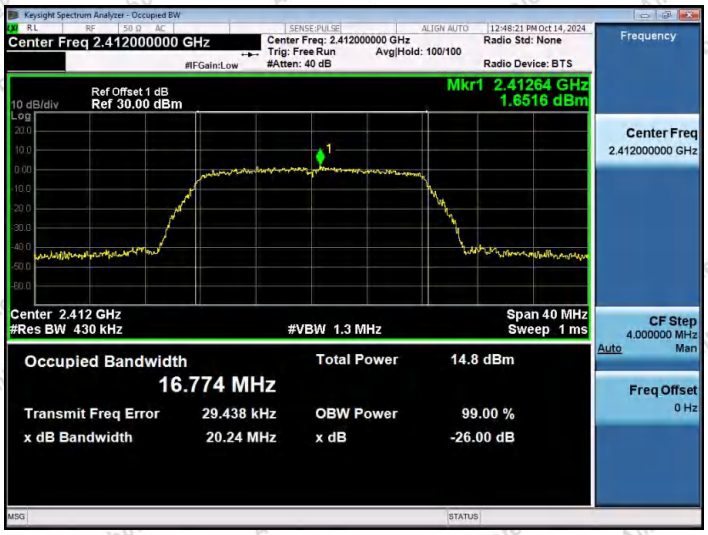
11B-Ant1-2462



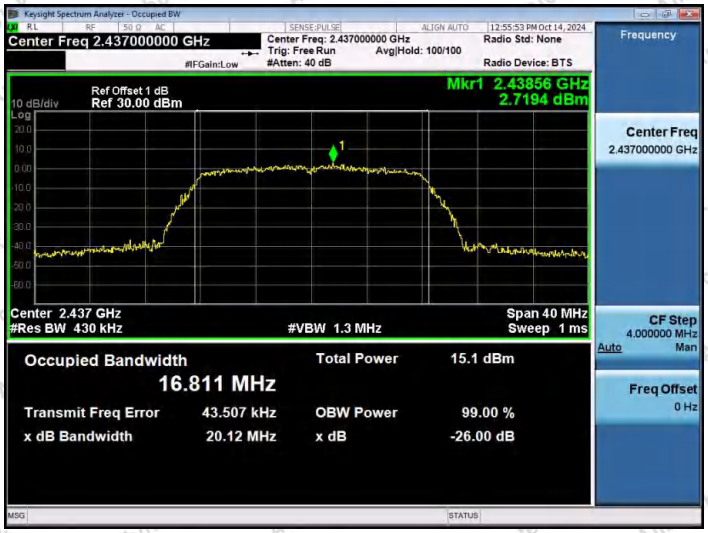
11B-Ant2-2462



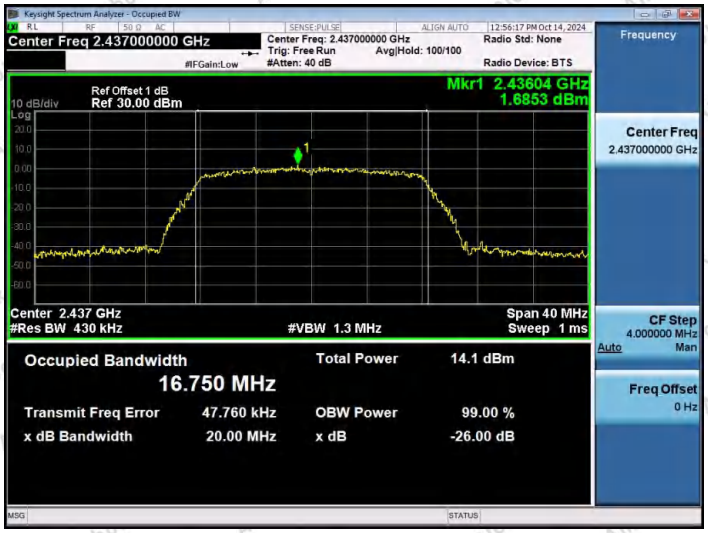
11G-Ant1-2412



11G-Ant2-2412



11G-Ant1-2437



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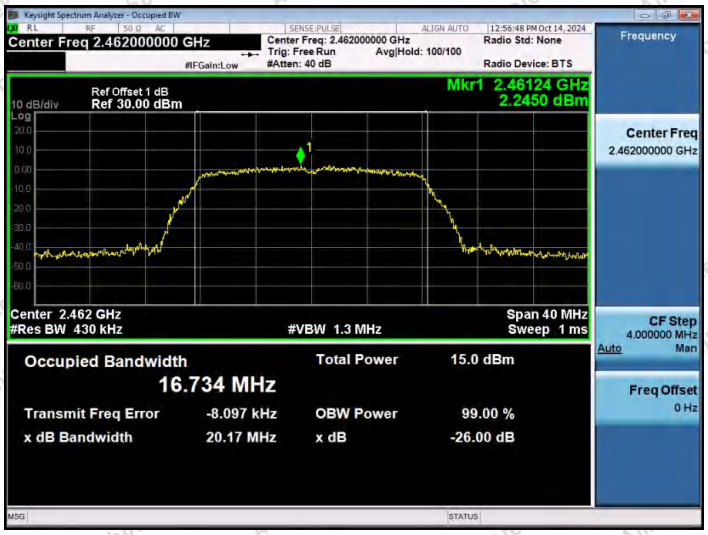
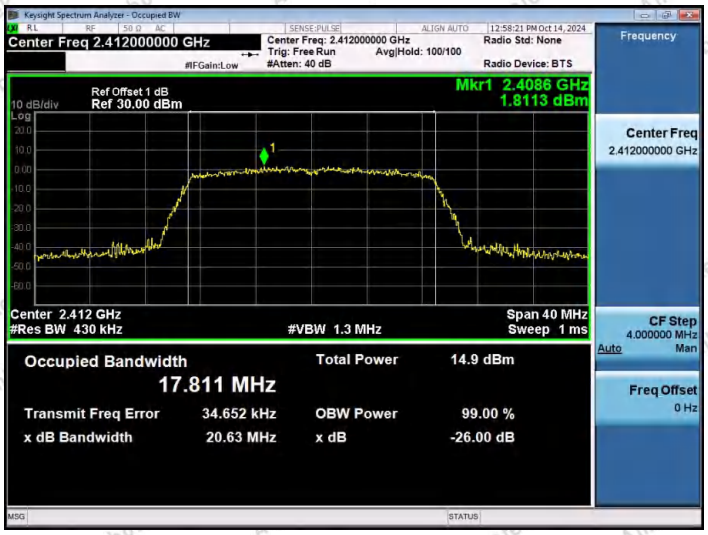


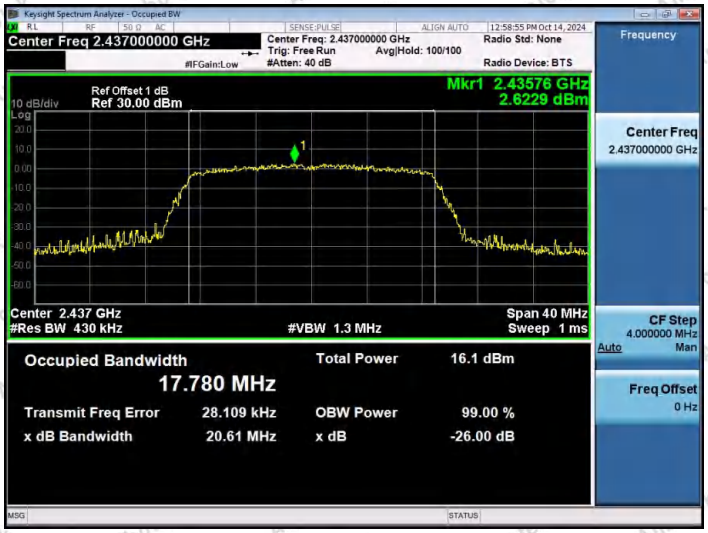
11G-Ant1-2462

11G-Ant2-2462

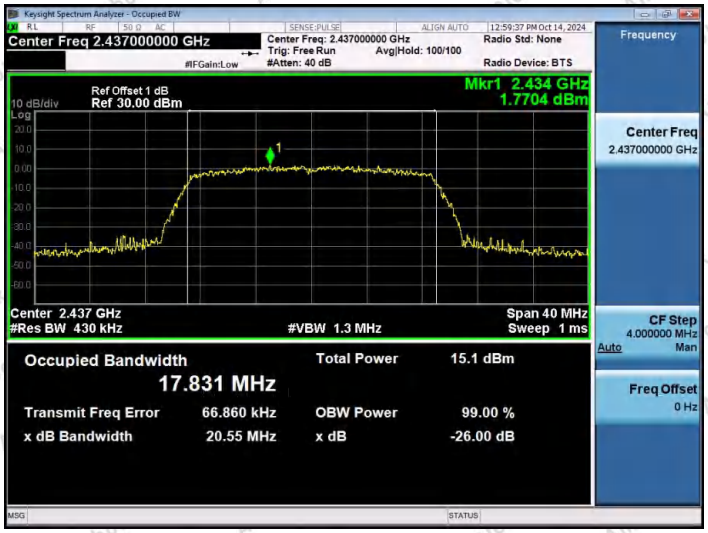
11N20MIMO-Ant1-2412



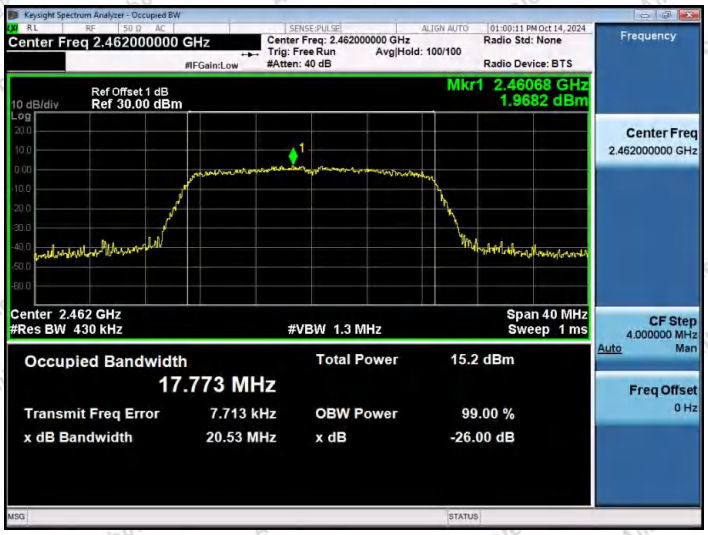
11N20MIMO-Ant2-2412



11N20MIMO-Ant1-2437

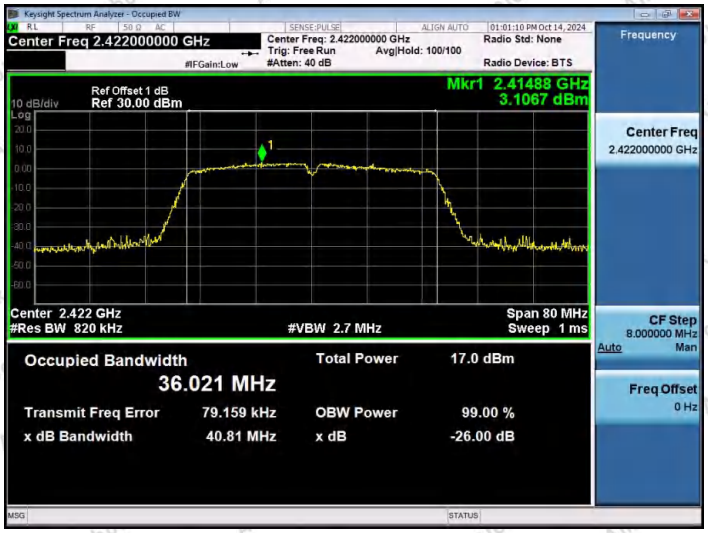


11N20MIMO-Ant2-2437

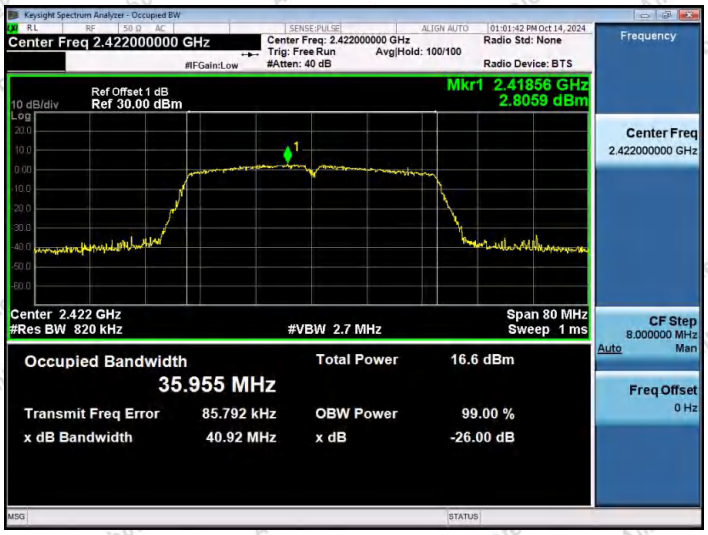


11N20MIMO-Ant1-2462

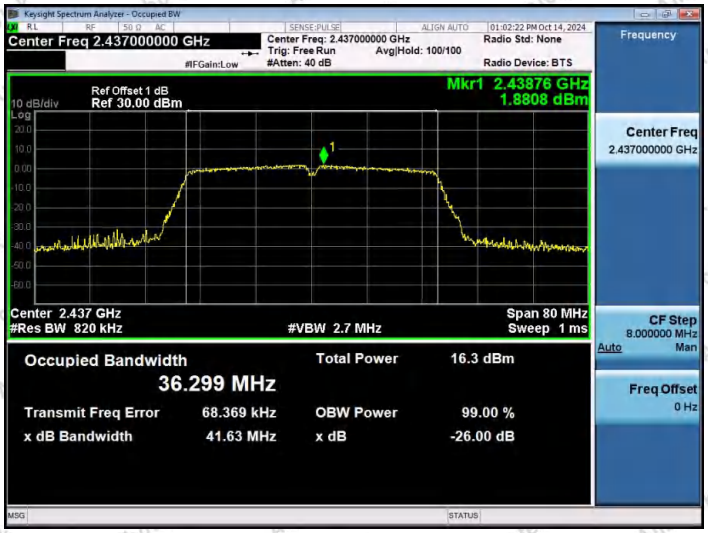
11N20MIMO-Ant2-2462



11N40MIMO-Ant1-2422

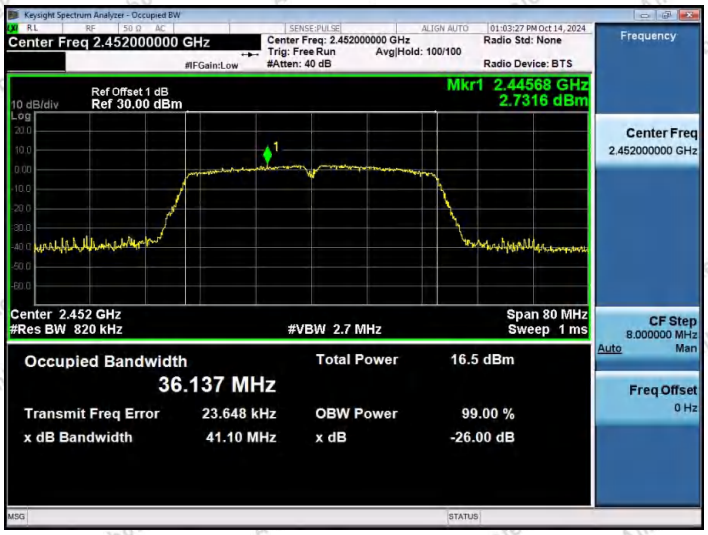


11N40MIMO-Ant2-2422



11N40MIMO-Ant1-2437

11N40MIMO-Ant2-2437



11N40MIMO-Ant1-2452

11N40MIMO-Ant2-2452

Appendix C: Maximum conducted output power

Test Result Average

Test Mode	Antenna	Frequency[MHz]	Set Power	Average power [dBm]	Duty Cycle [%]	DC Factor [dB]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	---	14.24	99.64	0.02	14.26	≤30.00	PASS
11B	Ant2	2412	---	13.38	99.64	0.02	13.40	≤30.00	PASS
11B	Ant1	2437	---	14.33	99.64	0.02	14.35	≤30.00	PASS
11B	Ant2	2437	---	14.06	99.52	0.02	14.08	≤30.00	PASS
11B	Ant1	2462	---	14.83	99.64	0.02	14.85	≤30.00	PASS
11B	Ant2	2462	---	13.27	99.64	0.02	13.29	≤30.00	PASS
11G	Ant1	2412	---	14.68	97.90	0.09	14.77	≤30.00	PASS
11G	Ant2	2412	---	13.85	97.89	0.09	13.94	≤30.00	PASS
11G	Ant1	2437	---	13.98	97.20	0.12	14.10	≤30.00	PASS
11G	Ant2	2437	---	13.03	97.20	0.12	13.15	≤30.00	PASS
11G	Ant1	2462	---	13.87	97.20	0.12	13.99	≤30.00	PASS
11G	Ant2	2462	---	13.36	97.20	0.12	13.48	≤30.00	PASS
11N20MIMO	Ant1	2412	---	14.75	97.01	0.13	14.88	≤30.00	PASS
11N20MIMO	Ant2	2412	---	13.80	97.01	0.13	13.93	≤30.00	PASS
11N20MIMO	total	2412	---	---	---	---	17.44	≤28.83	PASS
11N20MIMO	Ant1	2437	---	14.45	97.74	0.10	14.55	≤30.00	PASS
11N20MIMO	Ant2	2437	---	14.20	97.01	0.13	14.33	≤30.00	PASS
11N20MIMO	total	2437	---	---	---	---	17.45	≤28.83	PASS

11N20MIMO	Ant1	2462	---	14.10	96.99	0.13	14.23	≤30.00	PASS
11N20MIMO	Ant2	2462	---	13.76	97.74	0.10	13.86	≤30.00	PASS
11N20MIMO	total	2462	---	---	---	---	17.06	≤28.83	PASS
11N40MIMO	Ant1	2422	---	14.66	95.59	0.20	14.86	≤30.00	PASS
11N40MIMO	Ant2	2422	---	14.17	94.20	0.26	14.43	≤30.00	PASS
11N40MIMO	total	2422	---	---	---	---	17.66	≤28.83	PASS
11N40MIMO	Ant1	2437	---	14.11	95.59	0.20	14.31	≤30.00	PASS
11N40MIMO	Ant2	2437	---	13.47	94.12	0.26	13.73	≤30.00	PASS
11N40MIMO	total	2437	---	---	---	---	17.04	≤28.83	PASS
11N40MIMO	Ant1	2452	---	14.14	94.20	0.26	14.40	≤30.00	PASS
11N40MIMO	Ant2	2452	---	13.65	95.59	0.20	13.85	≤30.00	PASS
11N40MIMO	total	2452	---	---	---	---	17.14	≤28.83	PASS

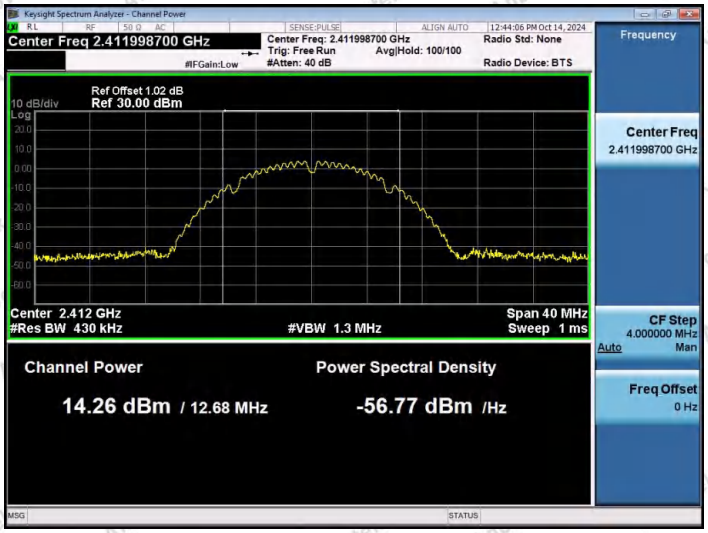
Note：1. The Duty Cycle Factor(10*log(1/D)) and cable loss are compensated in the graph.

2. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$) 2 /N_{ANT}] dBi=7.17＞6dBi,

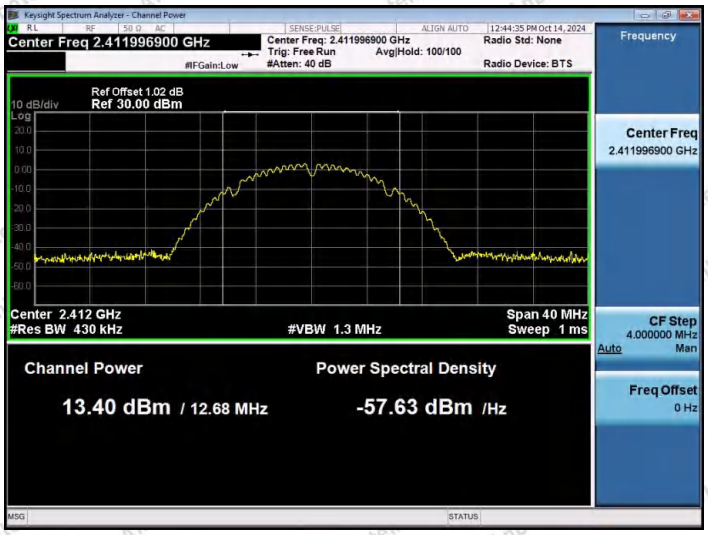
so limit=30-(7.17-6)dBm = 28.83dBm.

3.NOTE: MIMO= 10*LOG((10^ANT1/10)+10^(ANT2/10))

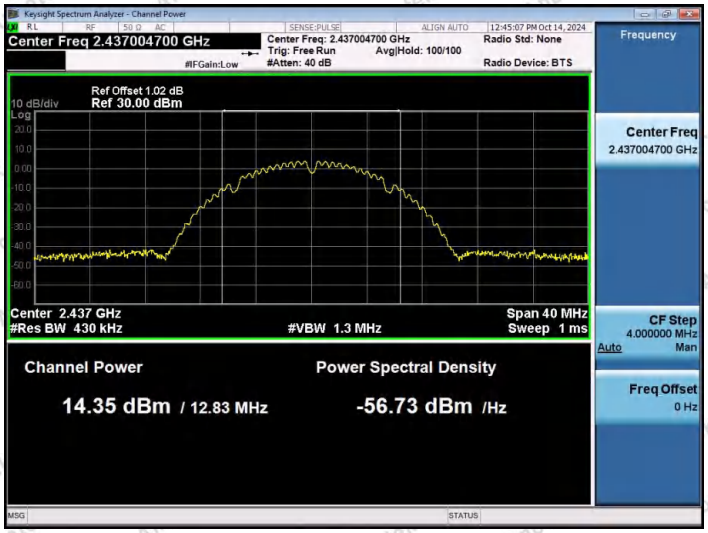
Test Graphs Average



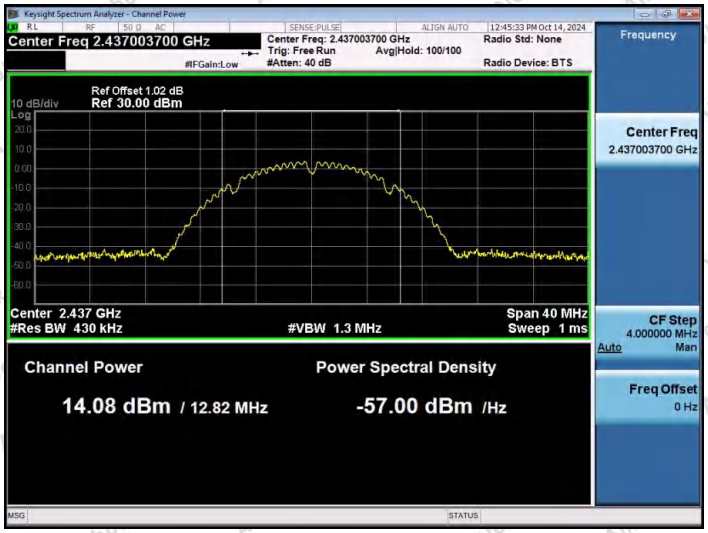
11B-Ant1-2412-PASS



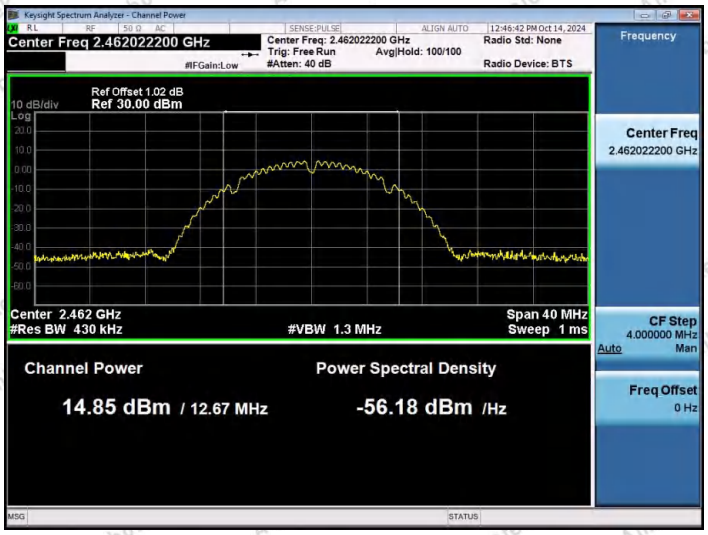
11B-Ant2-2412-PASS



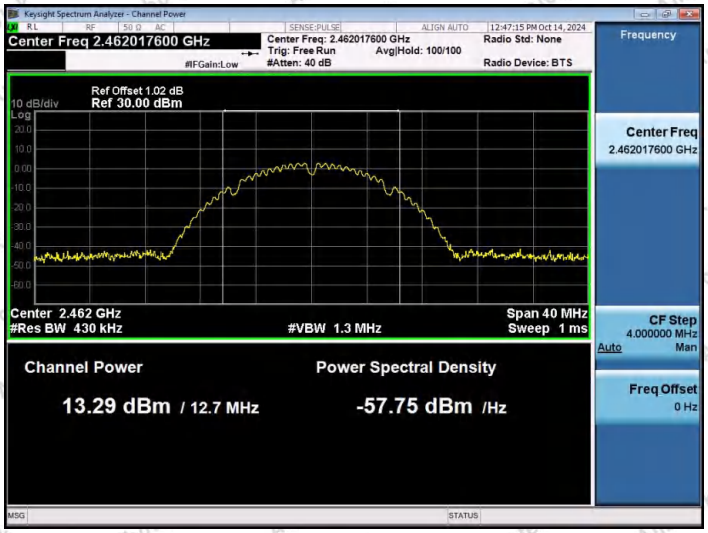
11B-Ant1-2437-PASS



11B-Ant2-2437-PASS

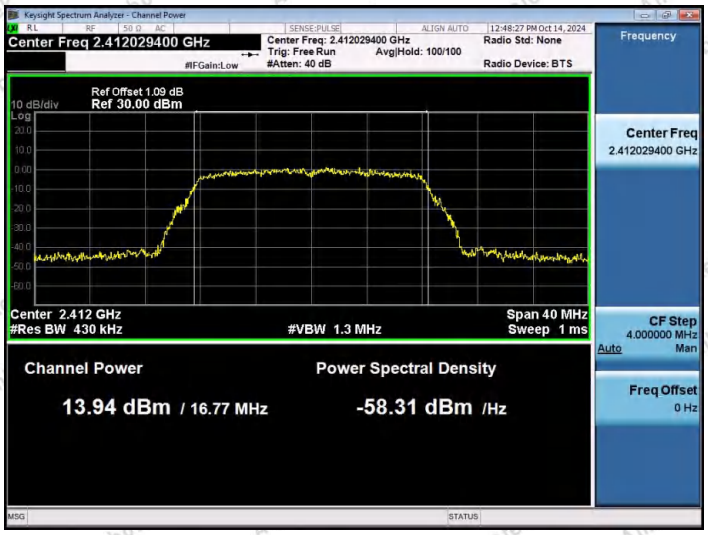


11B-Ant1-2462-PASS

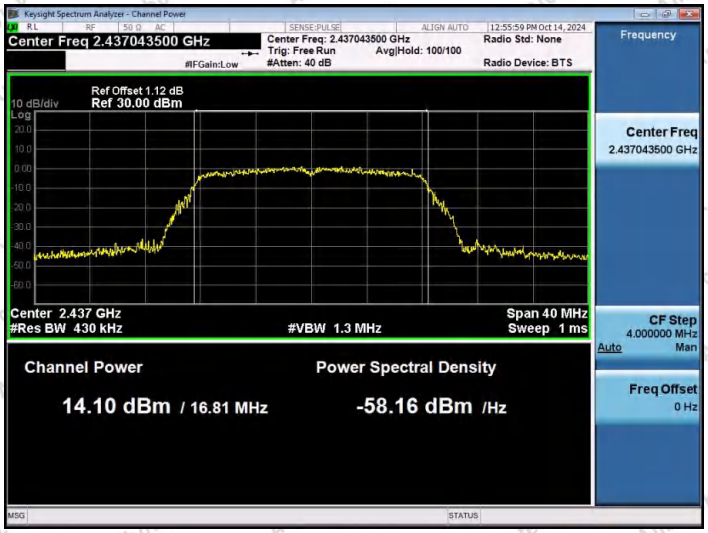


11B-Ant2-2462-PASS

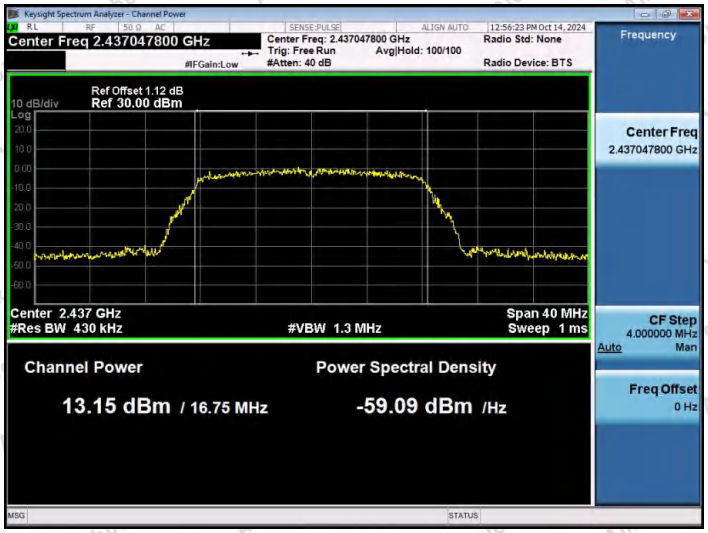
11G-Ant1-2412-PASS



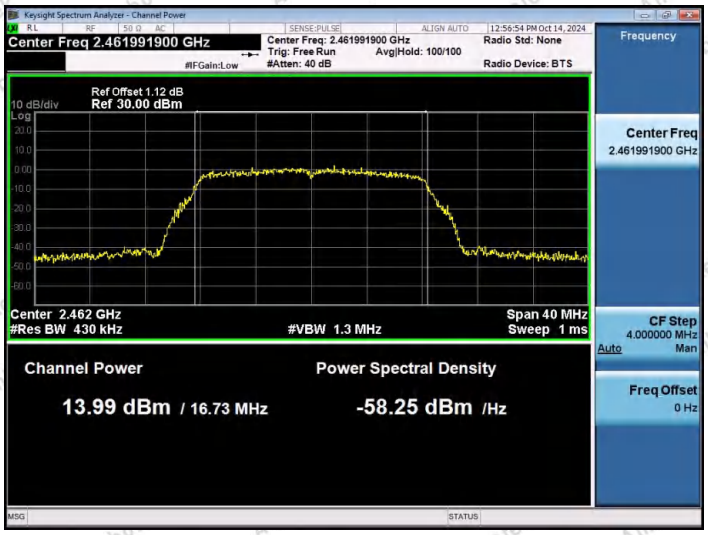
11G-Ant2-2412-PASS



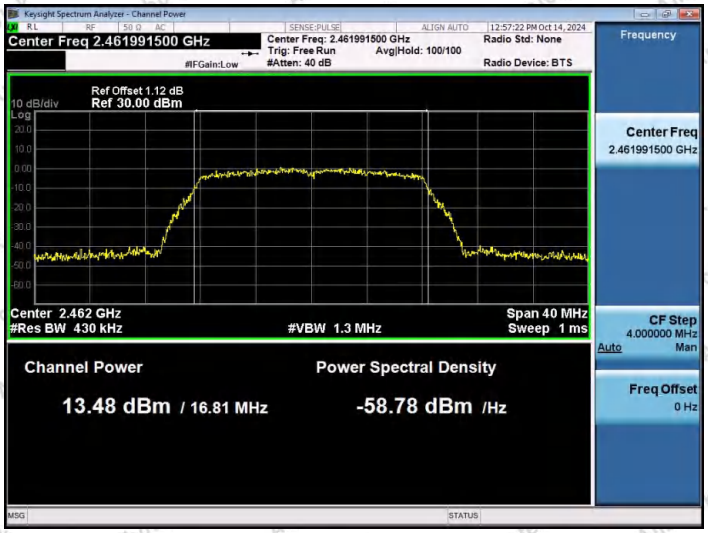
11G-Ant1-2437-PASS



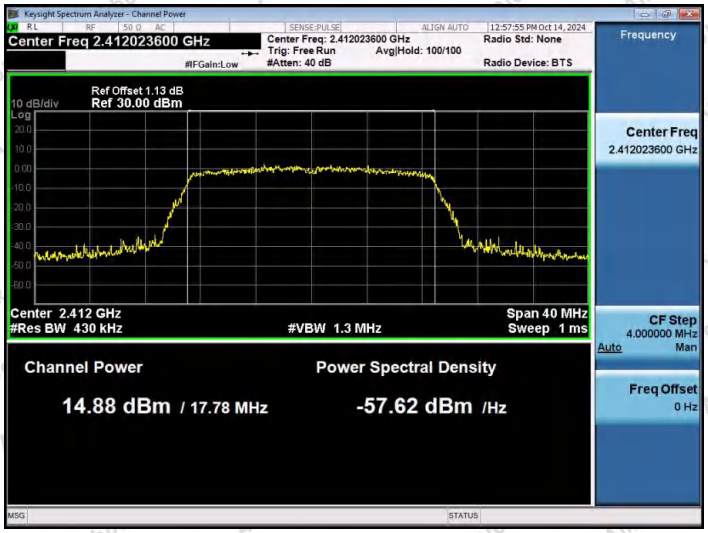
11G-Ant2-2437-PASS



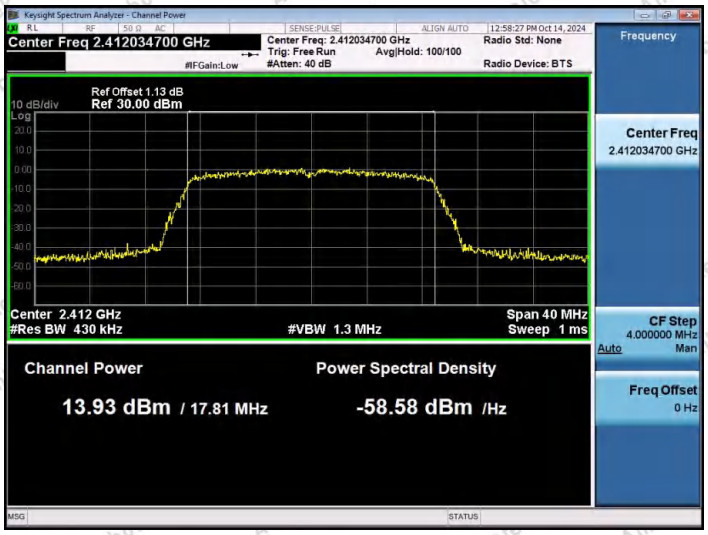
11G-Ant1-2462-PASS



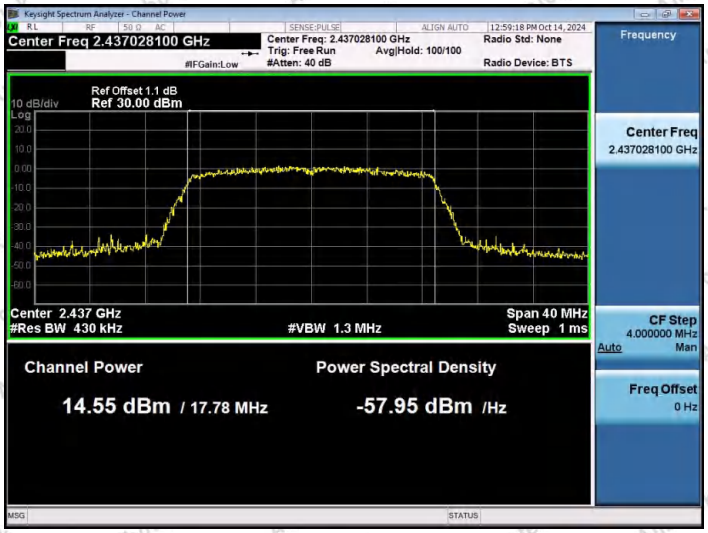
11G-Ant2-2462-PASS



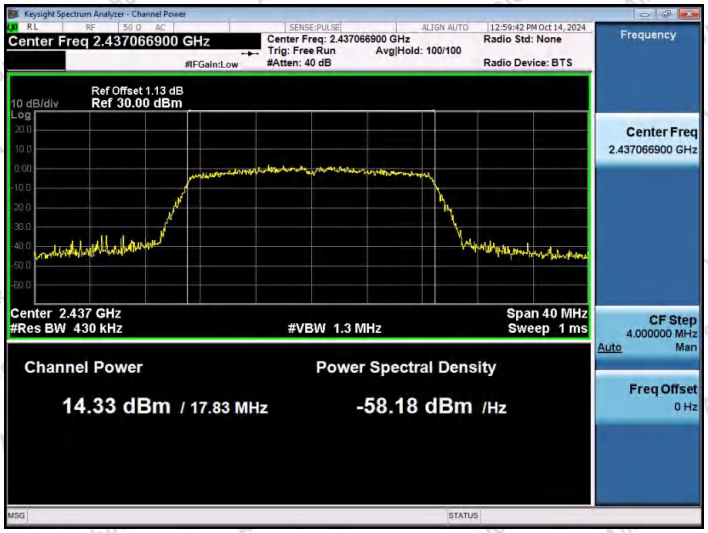
11N20MIMO-Ant1-2412-PASS



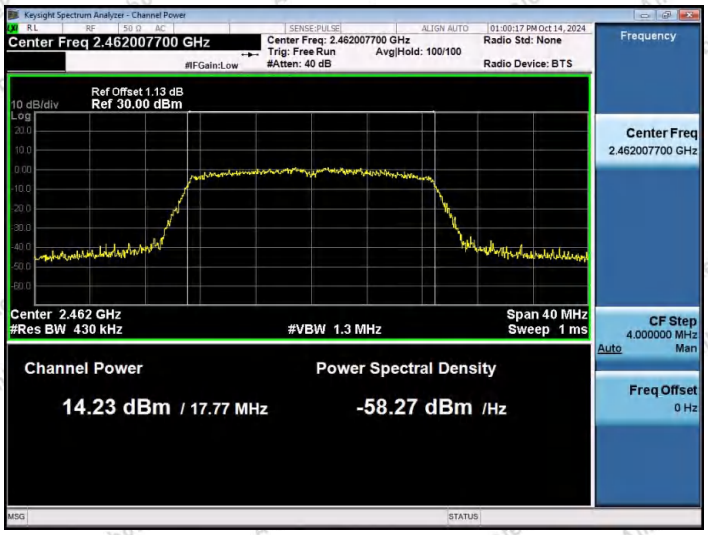
11N20MIMO-Ant2-2412-PASS



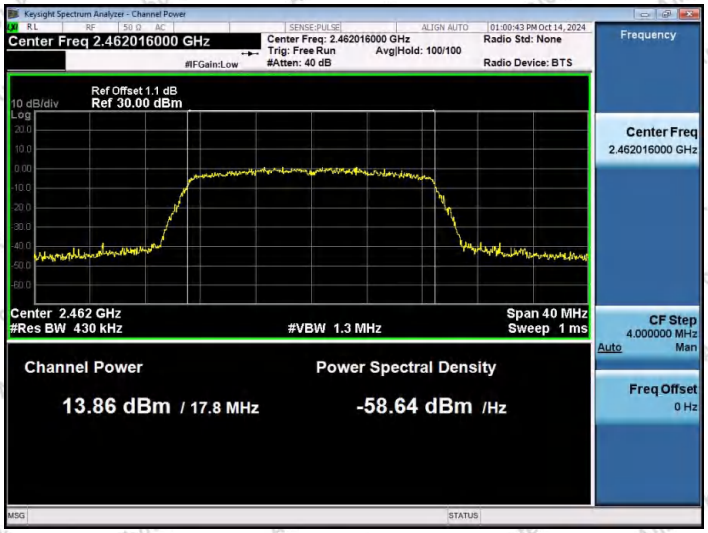
11N20MIMO-Ant1-2437-PASS



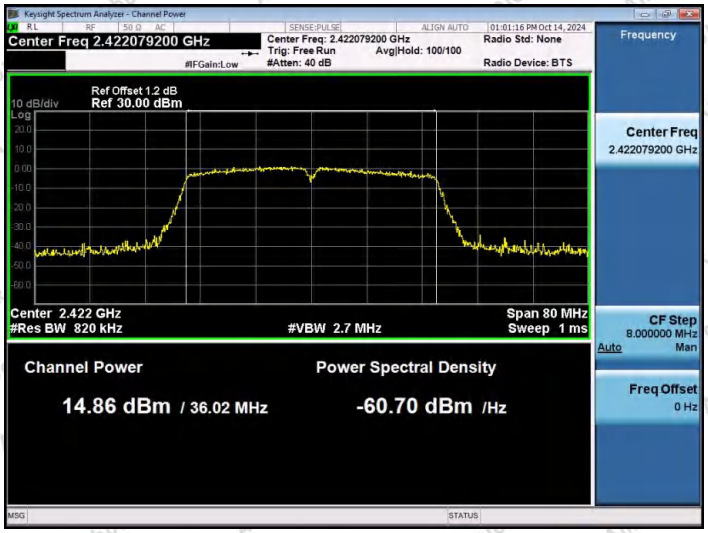
11N20MIMO-Ant2-2437-PASS



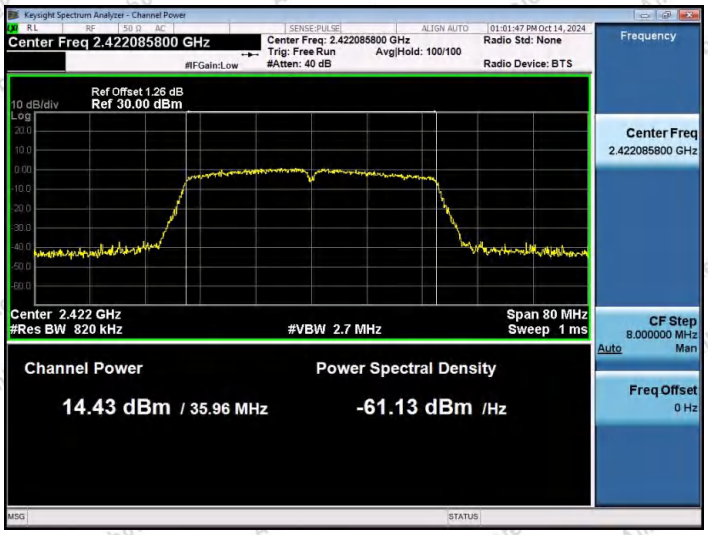
11N20MIMO-Ant1-2462-PASS



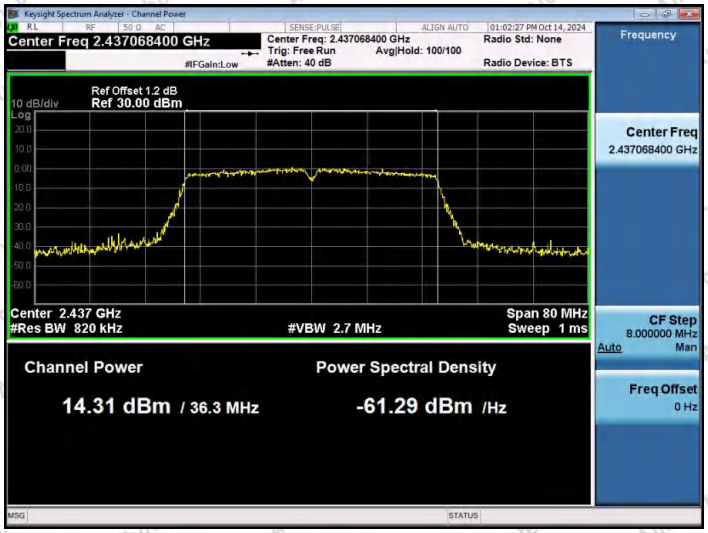
11N20MIMO-Ant2-2462-PASS



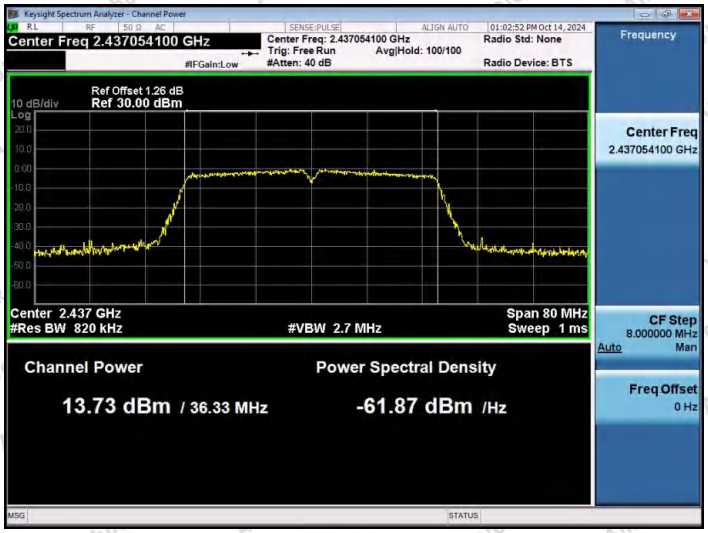
11N40MIMO-Ant1-2422-PASS



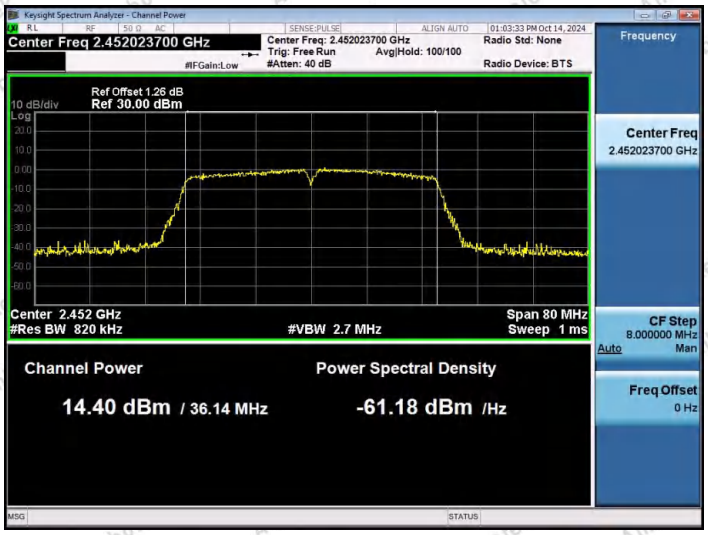
11N40MIMO-Ant2-2422-PASS



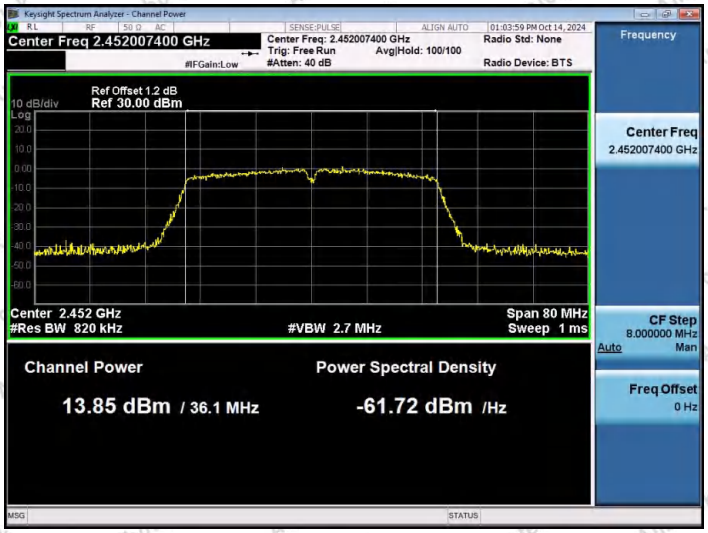
11N40MIMO-Ant1-2437-PASS



11N40MIMO-Ant2-2437-PASS



11N40MIMO-Ant1-2452-PASS



11N40MIMO-Ant2-2452-PASS

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	-9.83	-19.83	≤8.00	PASS
11B	Ant2	2412	-9.55	-19.55	≤8.00	PASS
11B	Ant1	2437	-9.53	-19.53	≤8.00	PASS
11B	Ant2	2437	-10.13	-20.13	≤8.00	PASS
11B	Ant1	2462	-9.45	-19.45	≤8.00	PASS
11B	Ant2	2462	-10.32	-20.32	≤8.00	PASS
11G	Ant1	2412	-15.10	-25.10	≤8.00	PASS
11G	Ant2	2412	-15.74	-25.74	≤8.00	PASS
11G	Ant1	2437	-15.25	-25.25	≤8.00	PASS
11G	Ant2	2437	-16.10	-26.1	≤8.00	PASS
11G	Ant1	2462	-15.25	-25.25	≤8.00	PASS
11G	Ant2	2462	-16.03	-26.03	≤8.00	PASS
11N20MIMO	Ant1	2412	-15.30	-25.30	≤8.00	PASS
11N20MIMO	Ant2	2412	-15.27	-25.27	≤8.00	PASS
11N20MIMO	total	2412	-12.27	-22.27	≤6.83	PASS
11N20MIMO	Ant1	2437	-15.43	-25.43	≤8.00	PASS
11N20MIMO	Ant2	2437	-16.13	-26.13	≤8.00	PASS
11N20MIMO	total	2437	-12.76	-22.76	≤6.83	PASS
11N20MIMO	Ant1	2462	-15.81	-25.81	≤8.00	PASS
11N20MIMO	Ant2	2462	-15.42	-25.42	≤8.00	PASS
11N20MIMO	total	2462	-12.60	-22.60	≤6.83	PASS
11N40MIMO	Ant1	2422	-18.19	-28.19	≤8.00	PASS
11N40MIMO	Ant2	2422	-18.37	-28.37	≤8.00	PASS
11N40MIMO	total	2422	-15.27	-25.27	≤6.83	PASS
11N40MI	Ant1	2437	-18.55	-28.55	≤8.00	PASS

MO						
11N40MI MO	Ant2	2437	-18.61	-28.61	≤8.00	PASS
11N40MI MO	total	2437	-15.57	-25.57	≤6.83	PASS
11N40MI MO	Ant1	2452	-18.19	-28.19	≤8.00	PASS
11N40MI MO	Ant2	2452	-18.82	-28.82	≤8.00	PASS
11N40MI MO	total	2452	-15.48	-25.48	≤6.83	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)).
3. As Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$) 2 /N_{ANT}] dBi=7.17＞6dBi,
   so limit=8-(7.17-6)dBm = 6.83dBm.
4. NOTE: MIMO= 10*LOG((10^ANT1/10)+10^(ANT2/10))

Test Graphs

11B-Ant1-2412-PASS

11B-Ant2-2412-PASS

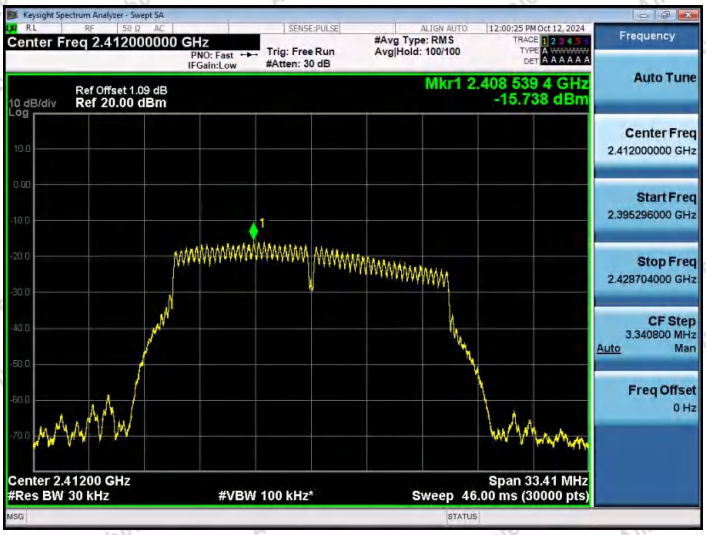
11B-Ant1-2437-PASS

11B-Ant2-2437-PASS

11B-Ant1-2462-PASS

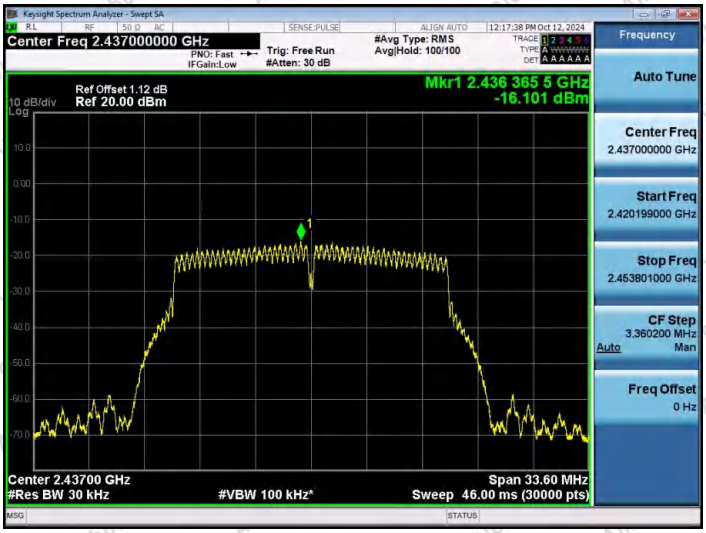
11B-Ant2-2462-PASS

11G-Ant1-2412-PASS

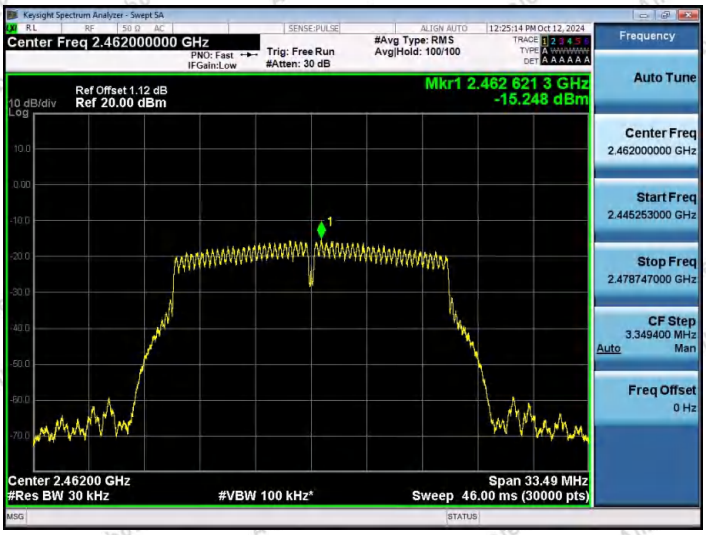


11G-Ant2-2412-PASS

11G-Ant1-2437-PASS



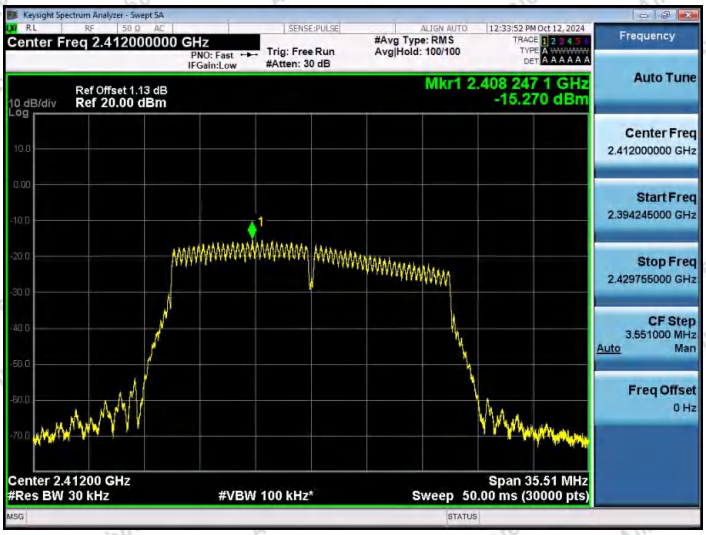
11G-Ant2-2437-PASS



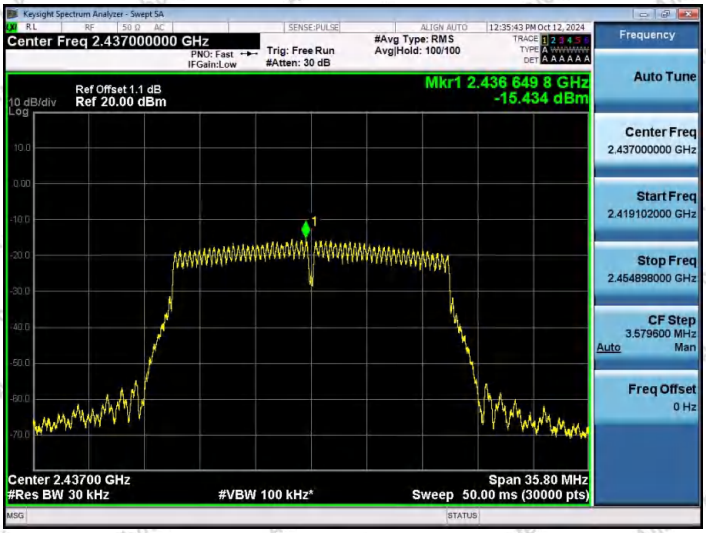
11G-Ant1-2462-PASS

11G-Ant2-2462-PASS

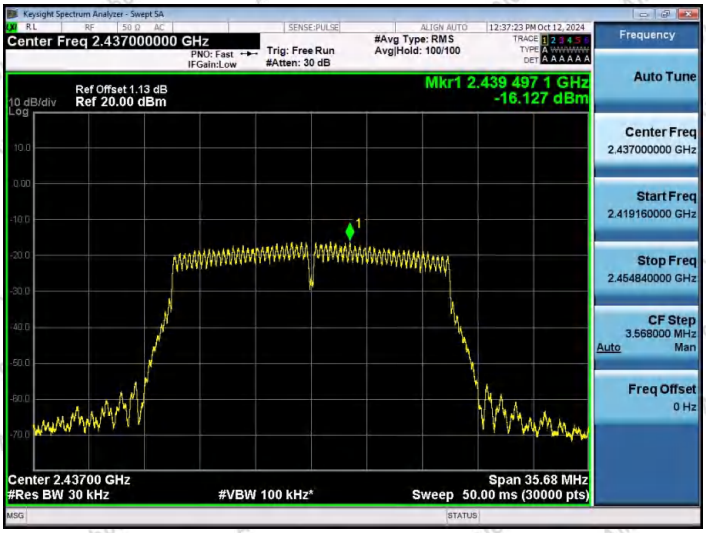
11N20MIMO-Ant1-2412-PASS



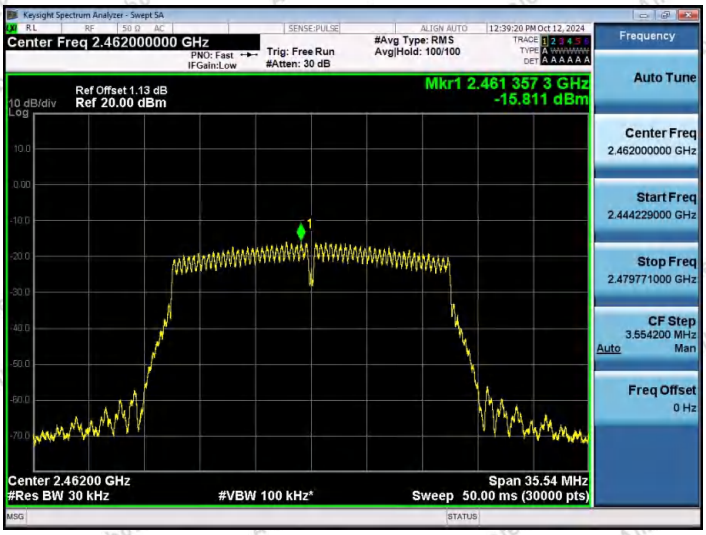
11N20MIMO-Ant2-2412-PASS



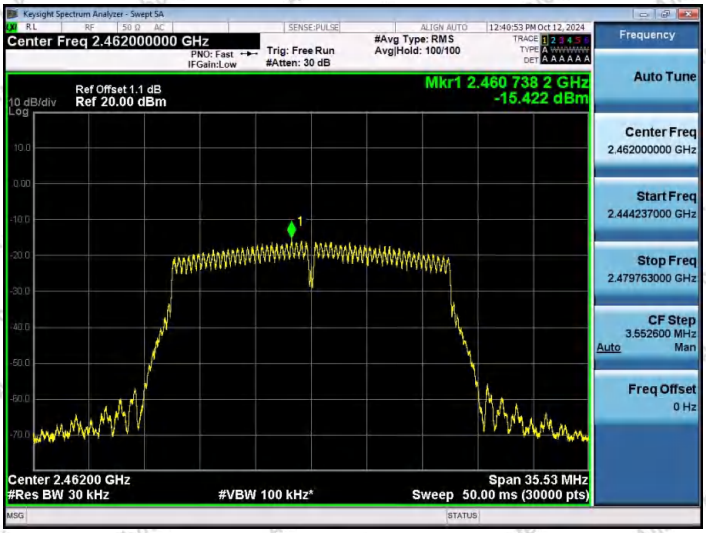
11N20MIMO-Ant1-2437-PASS



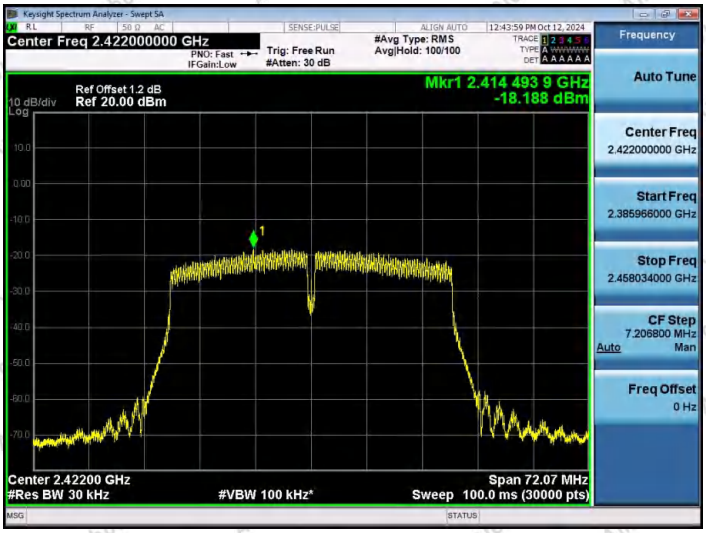
11N20MIMO-Ant2-2437-PASS



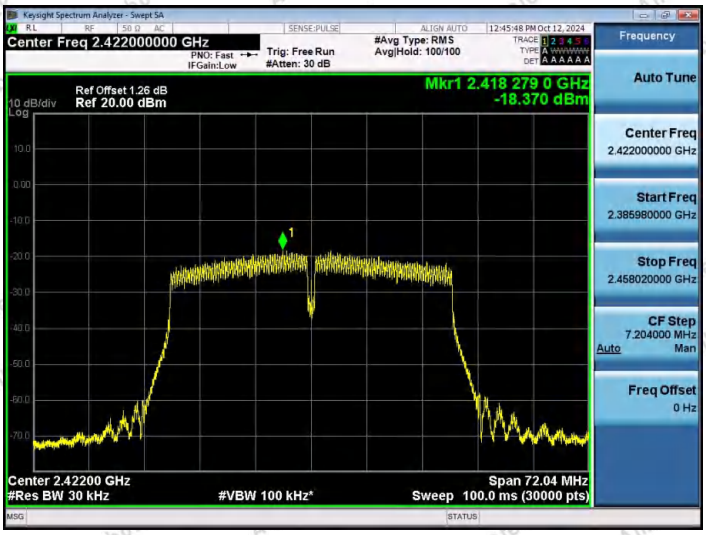
11N20MIMO-Ant1-2462-PASS



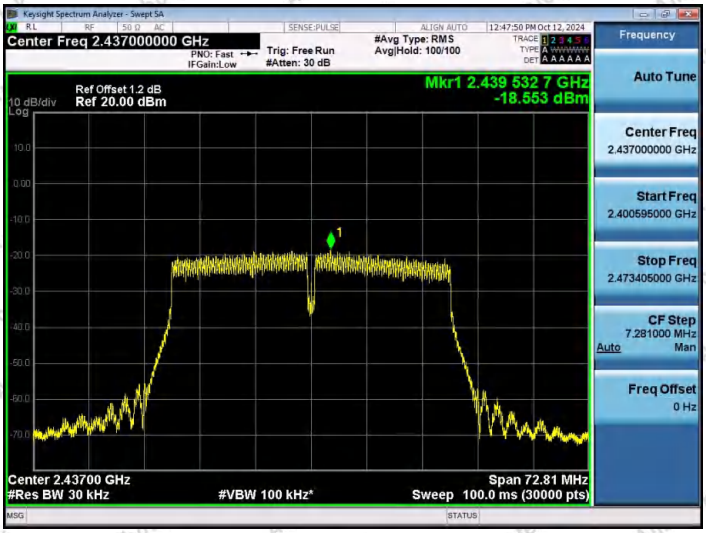
11N20MIMO-Ant2-2462-PASS



11N40MIMO-Ant1-2422-PASS

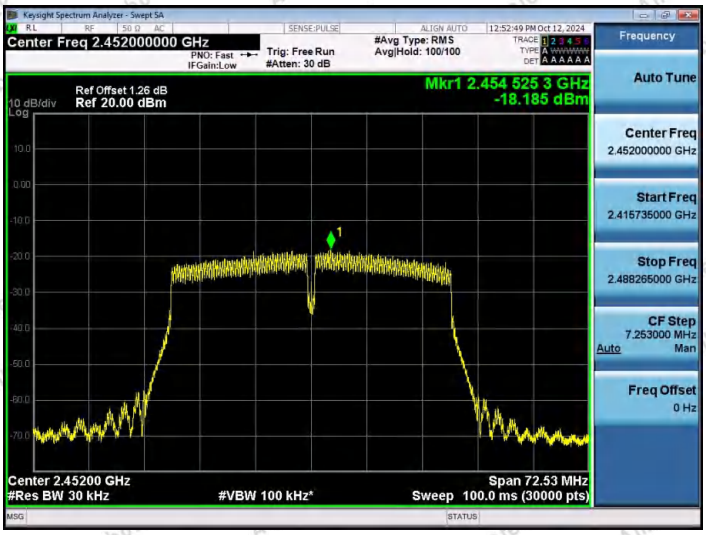


11N40MIMO-Ant2-2422-PASS

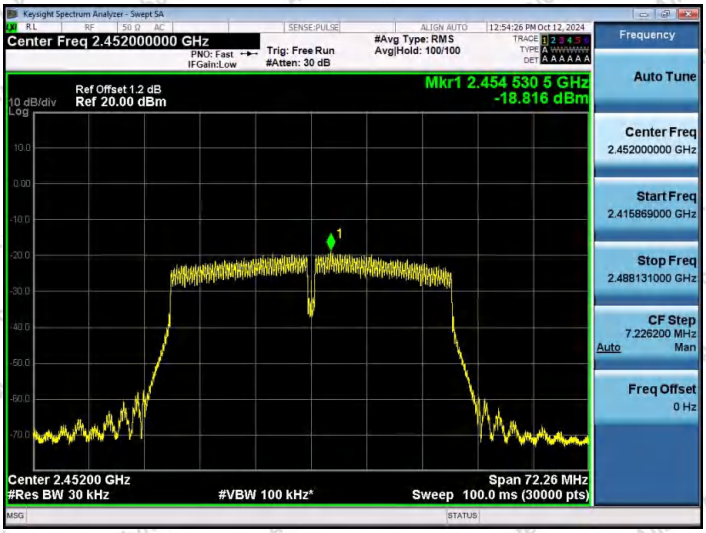


11N40MIMO-Ant1-2437-PASS

11N40MIMO-Ant2-2437-PASS



11N40MIMO-Ant1-2452-PASS



11N40MIMO-Ant2-2452-PASS

Appendix E: Conducted Band edge

Test Result

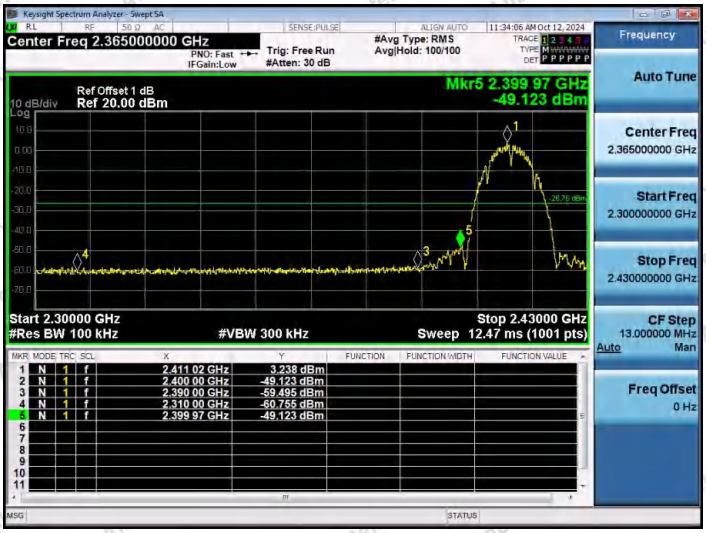
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.24	-49.12	≤-26.76	PASS
11B	Ant2	Low	2412	3.00	-48.98	≤-27.01	PASS
11B	Ant1	High	2462	2.78	-56.33	≤-27.22	PASS
11B	Ant2	High	2462	2.39	-56.37	≤-27.61	PASS
11G	Ant1	Low	2412	-2.43	-47.48	≤-32.43	PASS
11G	Ant2	Low	2412	-3.45	-48.32	≤-33.45	PASS
11G	Ant1	High	2462	-2.89	-56.07	≤-32.89	PASS
11G	Ant2	High	2462	-3.24	-55.2	≤-33.24	PASS
11N20MIMO	Ant1	Low	2412	-2.52	-43.98	≤-32.52	PASS
11N20MIMO	Ant2	Low	2412	-2.94	-43.97	≤-32.94	PASS
11N20MIMO	Ant1	High	2462	-2.74	-55.98	≤-32.74	PASS
11N20MIMO	Ant2	High	2462	-2.35	-56.37	≤-32.35	PASS
11N40MIMO	Ant1	Low	2422	-4.84	-48.28	≤-34.84	PASS
11N40MIMO	Ant2	Low	2422	-5.55	-48.12	≤-35.55	PASS
11N40MIMO	Ant1	High	2452	-5.07	-54.16	≤-35.07	PASS
11N40MIMO	Ant2	High	2452	-6.35	-54.02	≤-36.35	PASS

MIMO

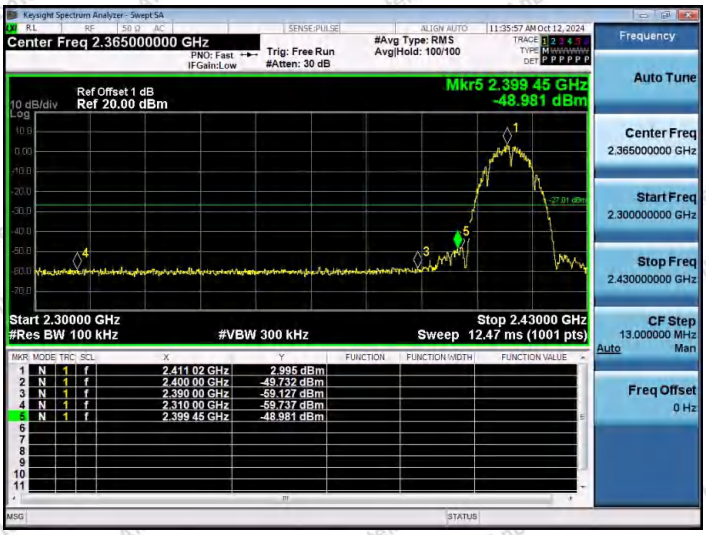
TestMode	ChName	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11N20MIMO	Low	2412	-40.96	≤-32.94	PASS
11N20MIMO	High	2462	-53.16	≤-32.74	PASS
11N40MIMO	Low	2422	-45.19	≤-35.55	PASS
11N40MIMO	High	2452	-51.08	≤-36.35	PASS

NOTE: MIMO= 10*LOG((10^ANT1/10)+10^(ANT2/10))

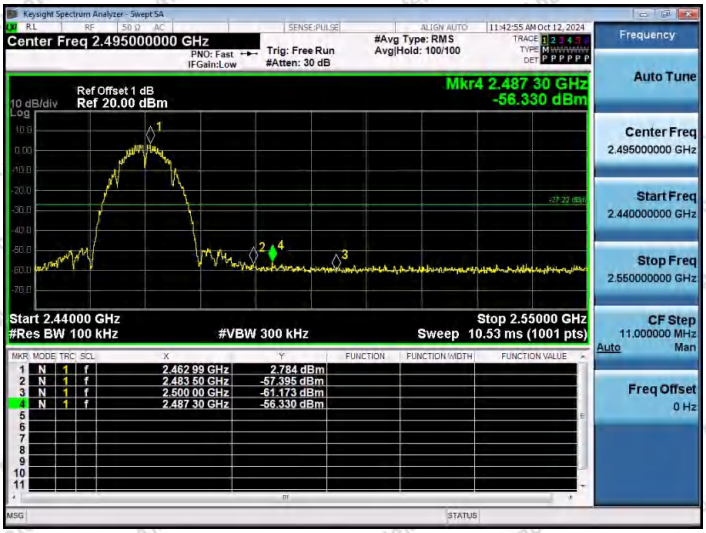
Test Graphs



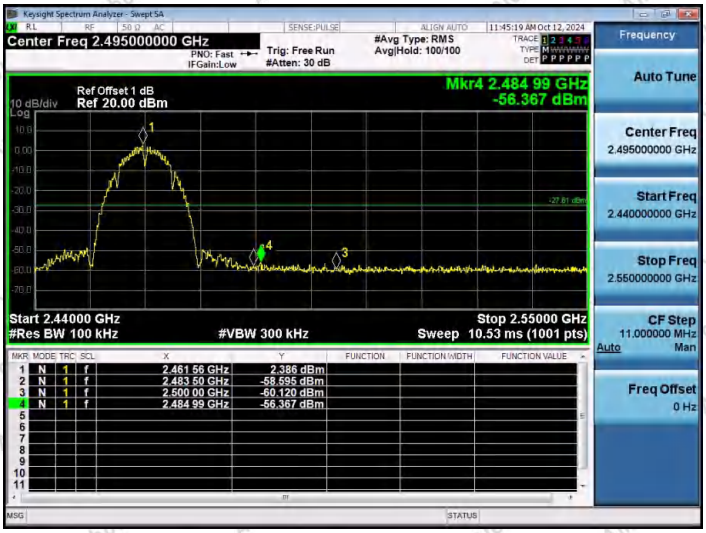
11B-Ant1-2412-PASS



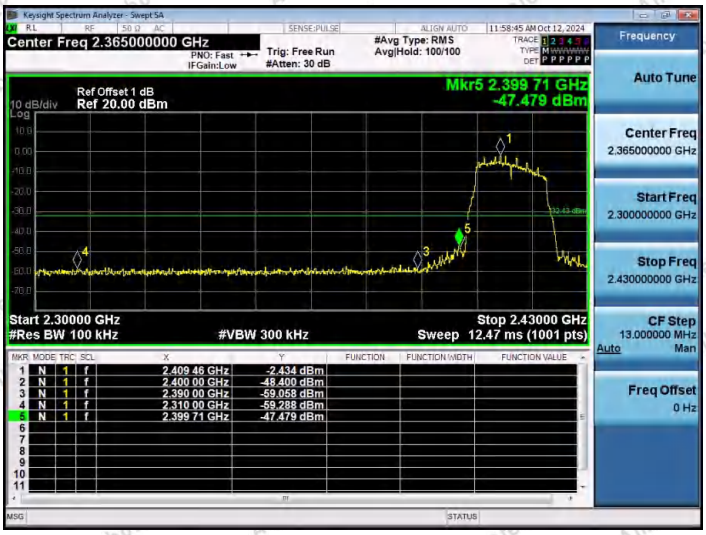
11B-Ant2-2412-PASS



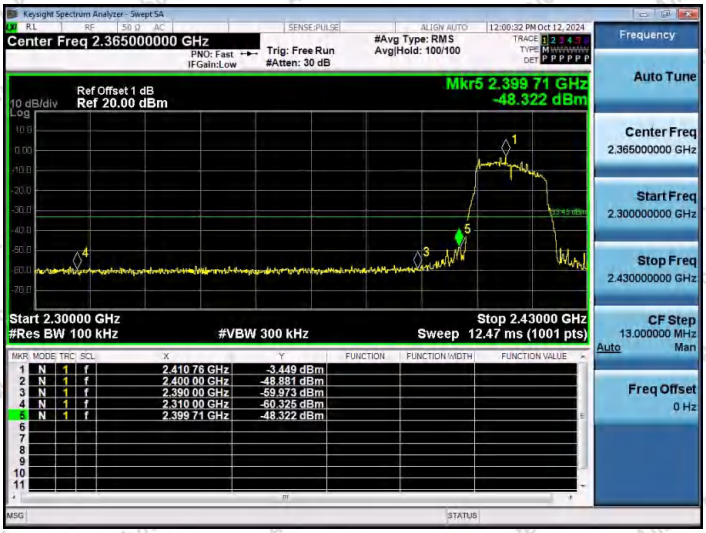
11B-Ant1-2462-PASS



11B-Ant2-2462-PASS



11G-Ant1-2412-PASS



11G-Ant2-2412-PASS