



Appendix Test Data for WLAN(2. 4G) (Conducted Measurement)

Product Name: Wireless Car Adapter

Trade Mark: **acer**

Test Model: TC02A

FCC ID: 2A2P5-TC02A

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Max Zhang
NOTE	N/A

Appendix A: DTS Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	8.520	2407.600	2416.120	0.5	PASS
11B	Ant1	2437	8.520	2433.080	2441.600	0.5	PASS
11B	Ant1	2462	9.480	2457.600	2467.080	0.5	PASS
11G	Ant1	2412	16.320	2403.920	2420.240	0.5	PASS
11G	Ant1	2437	16.080	2428.920	2445.000	0.5	PASS
11G	Ant1	2462	16.280	2453.960	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.280	2420.920	0.5	PASS
11N20SISO	Ant1	2437	16.920	2428.560	2445.480	0.5	PASS
11N20SISO	Ant1	2462	17.600	2453.320	2470.920	0.5	PASS
11N40SISO	Ant1	2422	36.080	2404.000	2440.080	0.5	PASS
11N40SISO	Ant1	2437	35.280	2419.320	2454.600	0.5	PASS
11N40SISO	Ant1	2452	36.400	2433.840	2470.240	0.5	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





11B-Ant1-2462-PASS



11G-Ant1-2412-PASS





11G-Ant1-2437-PASS



11G-Ant1-2462-PASS





11N20SISO-Ant1-2412-PASS

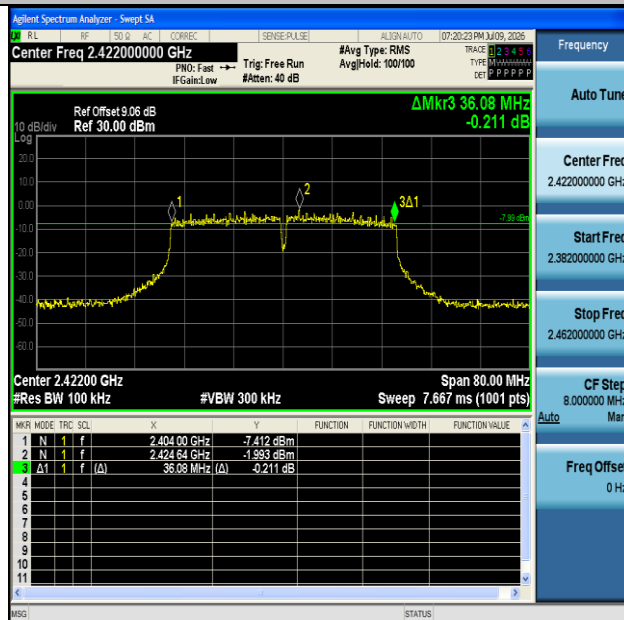


11N20SISO-Ant1-2437-PASS



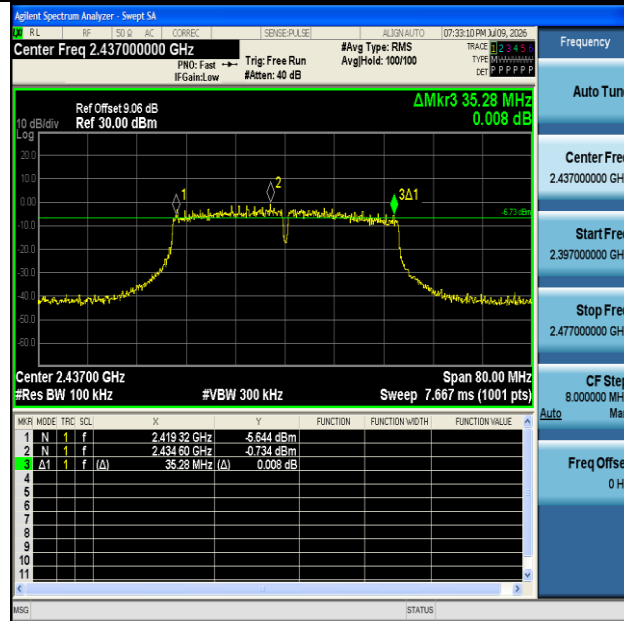


11N20SISO-Ant1-2462-PASS

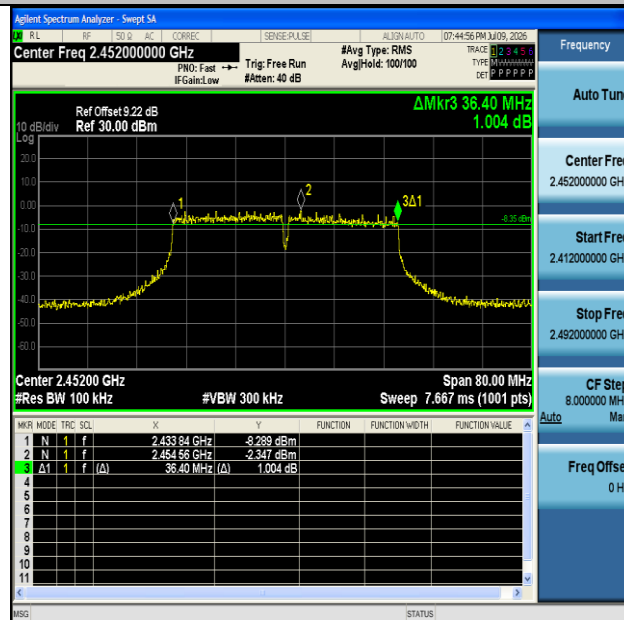


11N40SISO-Ant1-2422-PASS





11N40SISO-Ant1-2437-PASS



11N40SISO-Ant1-2452-PASS





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	13.205	2405.5315	2418.7365	---	---
11B	Ant1	2437	13.106	2430.5548	2443.6608	---	---
11B	Ant1	2462	13.286	2455.5424	2468.8284	---	---
11G	Ant1	2412	17.503	2403.2691	2420.7721	---	---
11G	Ant1	2437	17.280	2428.3654	2445.6454	---	---
11G	Ant1	2462	17.481	2453.4220	2470.9030	---	---
11N20SISO	Ant1	2412	18.273	2402.9137	2421.1867	---	---
11N20SISO	Ant1	2437	18.174	2427.9460	2446.1200	---	---
11N20SISO	Ant1	2462	18.374	2452.9568	2471.3308	---	---
11N40SISO	Ant1	2422	36.615	2403.8002	2440.4152	---	---
11N40SISO	Ant1	2437	36.546	2418.7845	2455.3305	---	---
11N40SISO	Ant1	2452	36.831	2433.6516	2470.4826	---	---

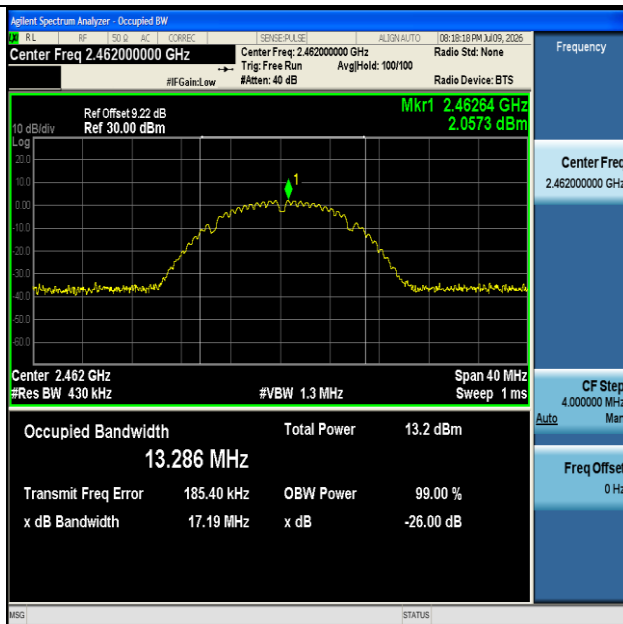
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



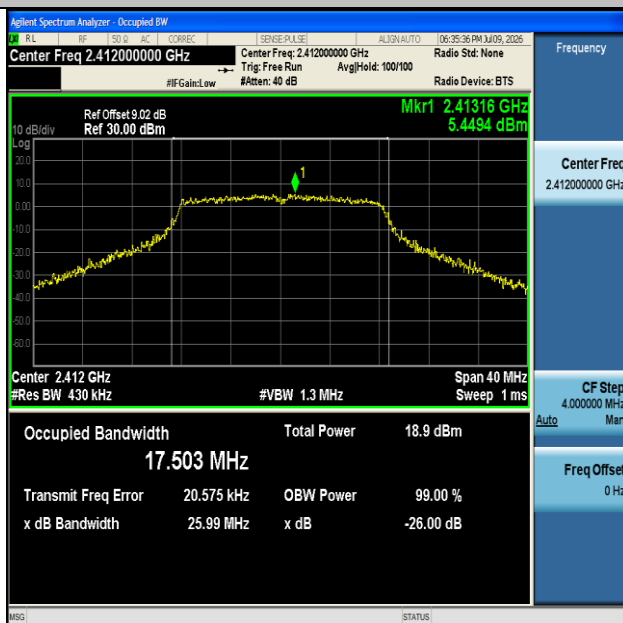


Test Graphs



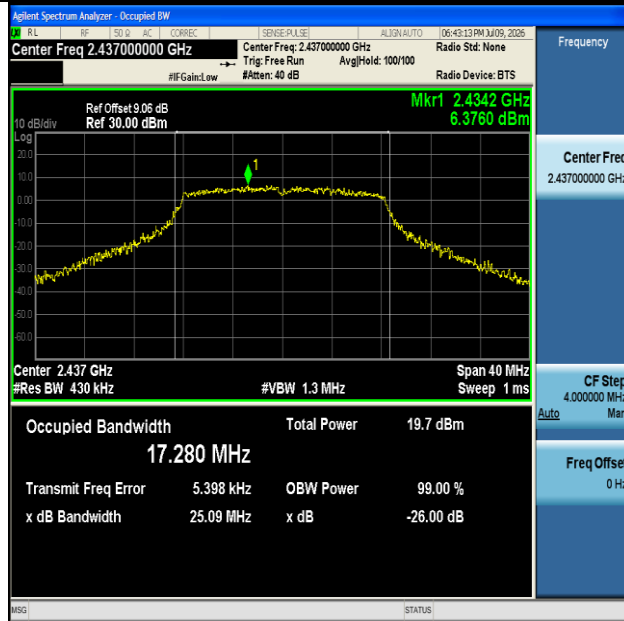


11B-Ant1-2462



11G-Ant1-2412



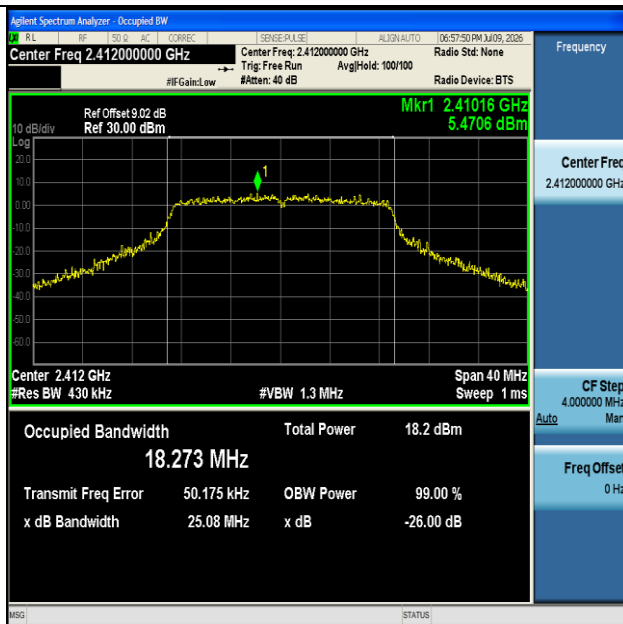


11G-Ant1-2437

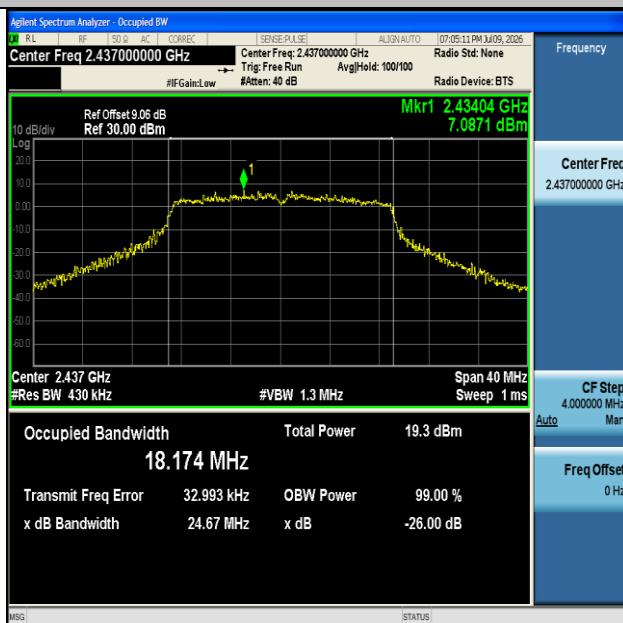


11G-Ant1-2462



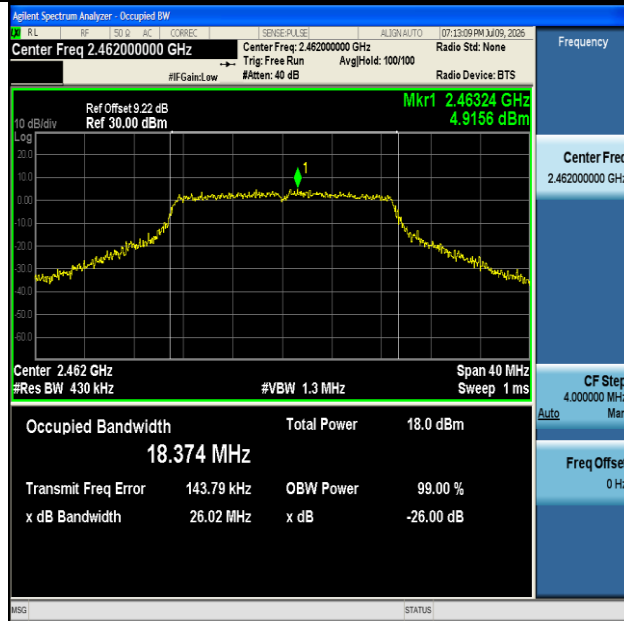


11N20SISO-Ant1-2412

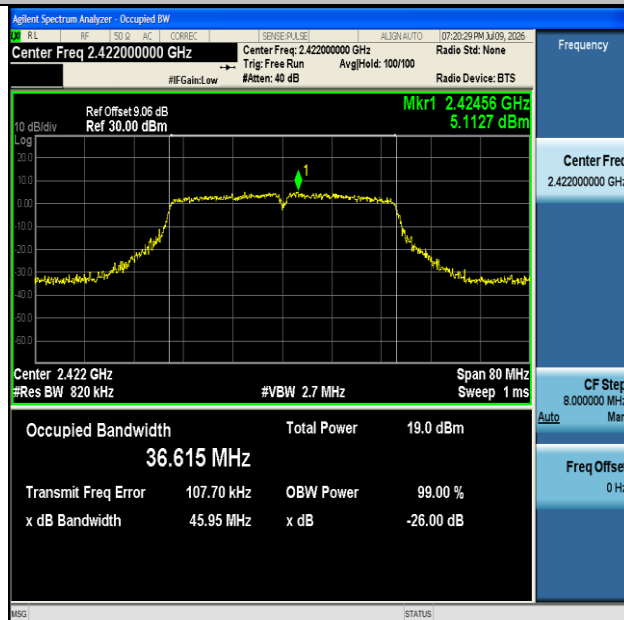


11N20SISO-Ant1-2437



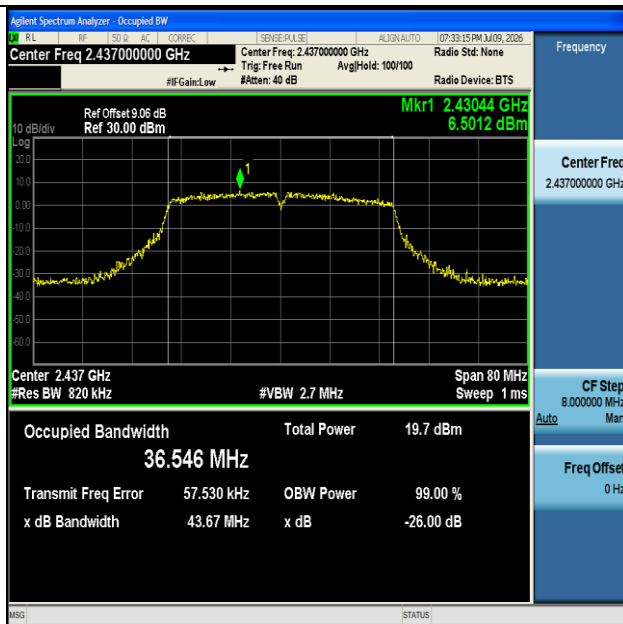


11N20SISO-Ant1-2462

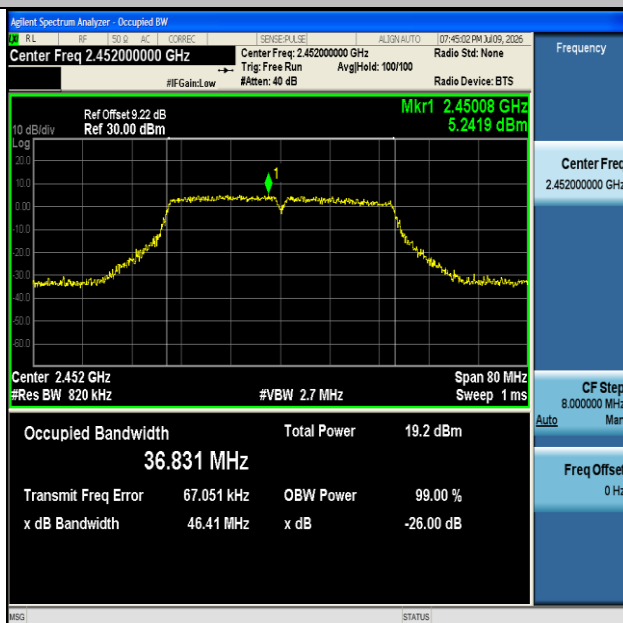


11N40SISO-Ant1-2422





11N40SISO-Ant1-2437



11N40SISO-Ant1-2452





Appendix C: Maximum Peak conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11B	Ant1	2412	14.30	≤30.00	PASS
11B	Ant1	2437	14.38	≤30.00	PASS
11B	Ant1	2462	12.91	≤30.00	PASS
11G	Ant1	2412	19.86	≤30.00	PASS
11G	Ant1	2437	20.62	≤30.00	PASS
11G	Ant1	2462	19.31	≤30.00	PASS
11N20SISO	Ant1	2412	18.92	≤30.00	PASS
11N20SISO	Ant1	2437	19.94	≤30.00	PASS
11N20SISO	Ant1	2462	18.85	≤30.00	PASS
11N40SISO	Ant1	2422	19.13	≤30.00	PASS
11N40SISO	Ant1	2437	19.75	≤30.00	PASS
11N40SISO	Ant1	2452	19.29	≤30.00	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + Duty Cycle Factor(dB)





Appendix C: Maximum Average conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11B	Ant1	2412	12.12	≤30.00	PASS
11B	Ant1	2437	12.01	≤30.00	PASS
11B	Ant1	2462	10.27	≤30.00	PASS
11G	Ant1	2412	13.52	≤30.00	PASS
11G	Ant1	2437	14.20	≤30.00	PASS
11G	Ant1	2462	12.38	≤30.00	PASS
11N20SISO	Ant1	2412	11.36	≤30.00	PASS
11N20SISO	Ant1	2437	12.55	≤30.00	PASS
11N20SISO	Ant1	2462	11.85	≤30.00	PASS
11N40SISO	Ant1	2422	11.59	≤30.00	PASS
11N40SISO	Ant1	2437	12.32	≤30.00	PASS
11N40SISO	Ant1	2452	12.21	≤30.00	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + Duty Cycle Factor(dB)





Appendix D: Maximum Average power spectral density

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-8.59	≤8.00	PASS
11B	Ant1	2437	-9.34	≤8.00	PASS
11B	Ant1	2462	-11.30	≤8.00	PASS
11G	Ant1	2412	-11.43	≤8.00	PASS
11G	Ant1	2437	-10.52	≤8.00	PASS
11G	Ant1	2462	-11.66	≤8.00	PASS
11N20SISO	Ant1	2412	-12.80	≤8.00	PASS
11N20SISO	Ant1	2437	-11.41	≤8.00	PASS
11N20SISO	Ant1	2462	-13.19	≤8.00	PASS
11N40SISO	Ant1	2422	-15.06	≤8.00	PASS
11N40SISO	Ant1	2437	-13.83	≤8.00	PASS
11N40SISO	Ant1	2452	-14.93	≤8.00	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + Duty Cycle Factor(dB)



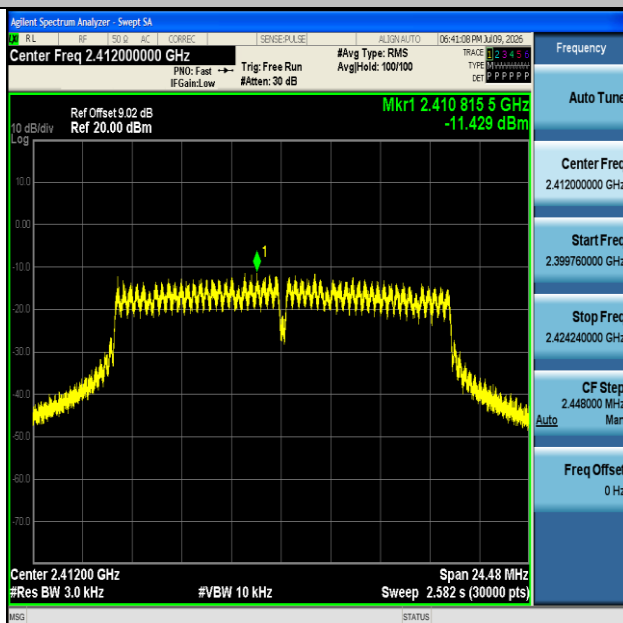


Test Graphs



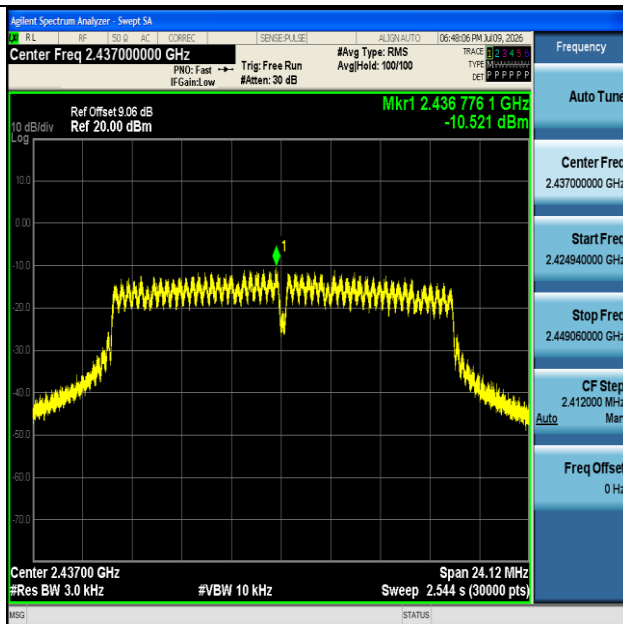


11B-Ant1-2462-PASS

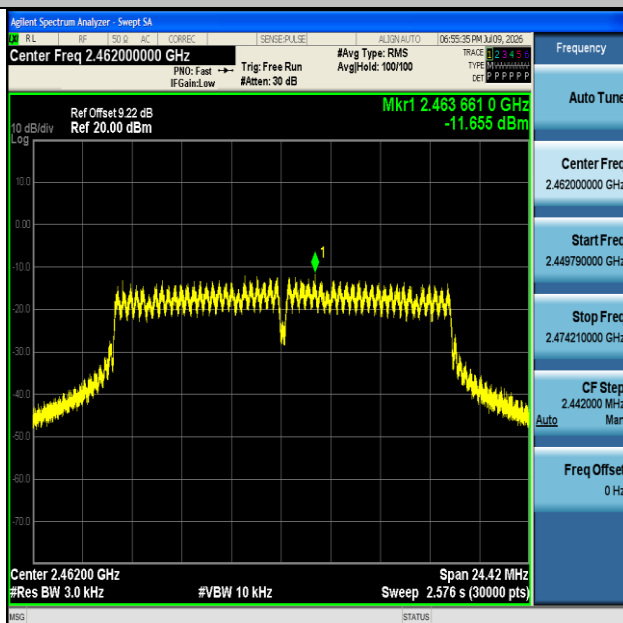


11G-Ant1-2412-PASS



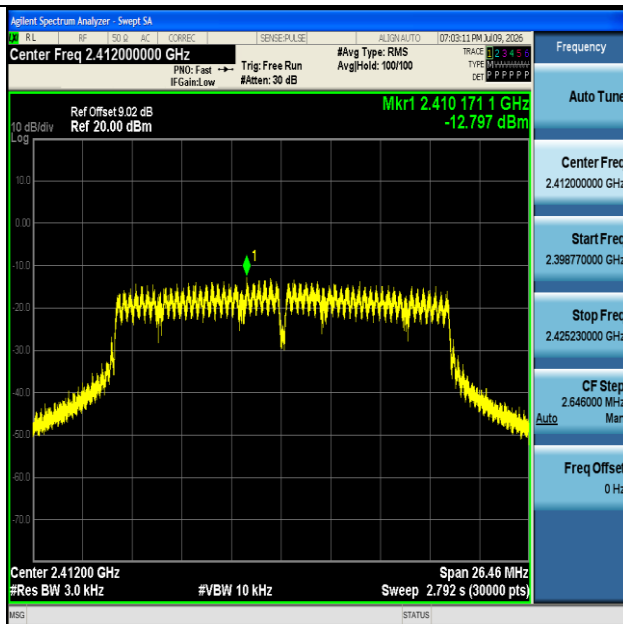


11G-Ant1-2437-PASS

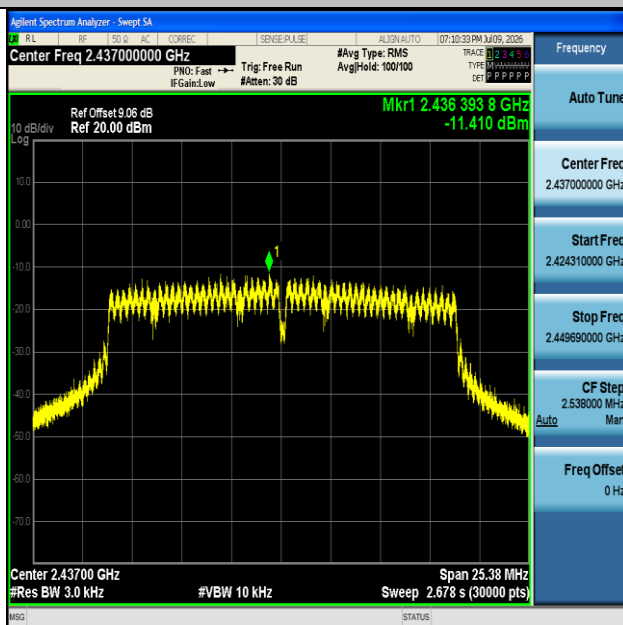


11G-Ant1-2462-PASS



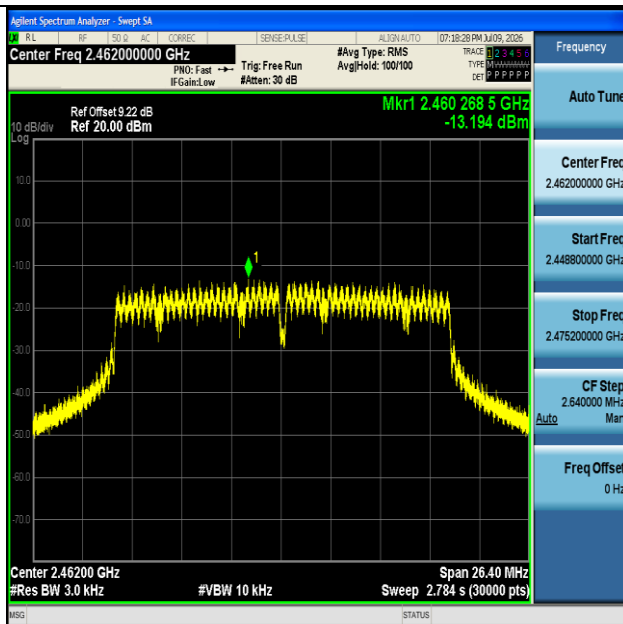


11N20SISO-Ant1-2412-PASS

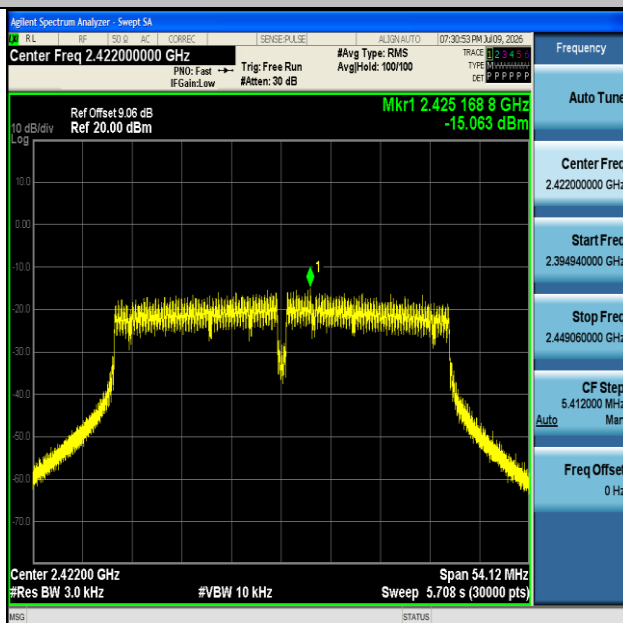


11N20SISO-Ant1-2437-PASS



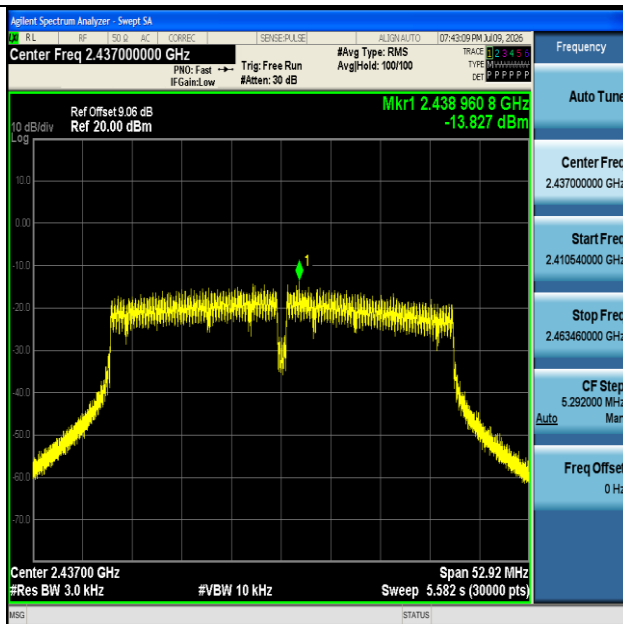


11N20SISO-Ant1-2462-PASS

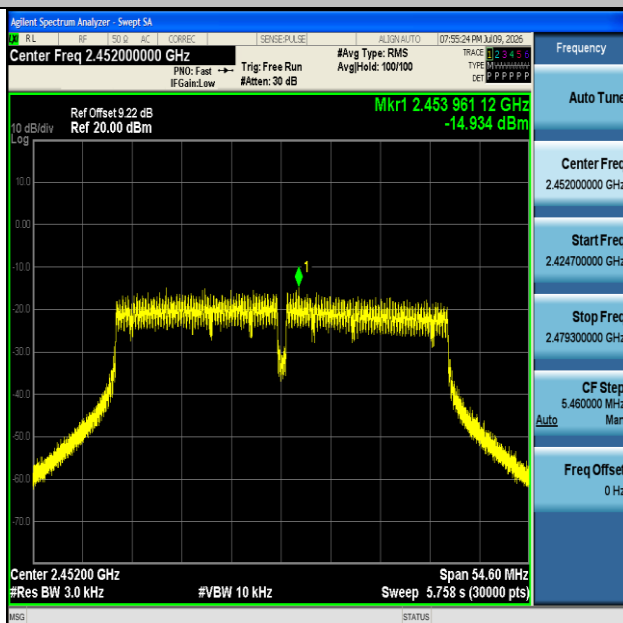


11N40SISO-Ant1-2422-PASS





11N40SISO-Ant1-2437-PASS



11N40SISO-Ant1-2452-PASS





Appendix E: Band edge measurements

Test Result

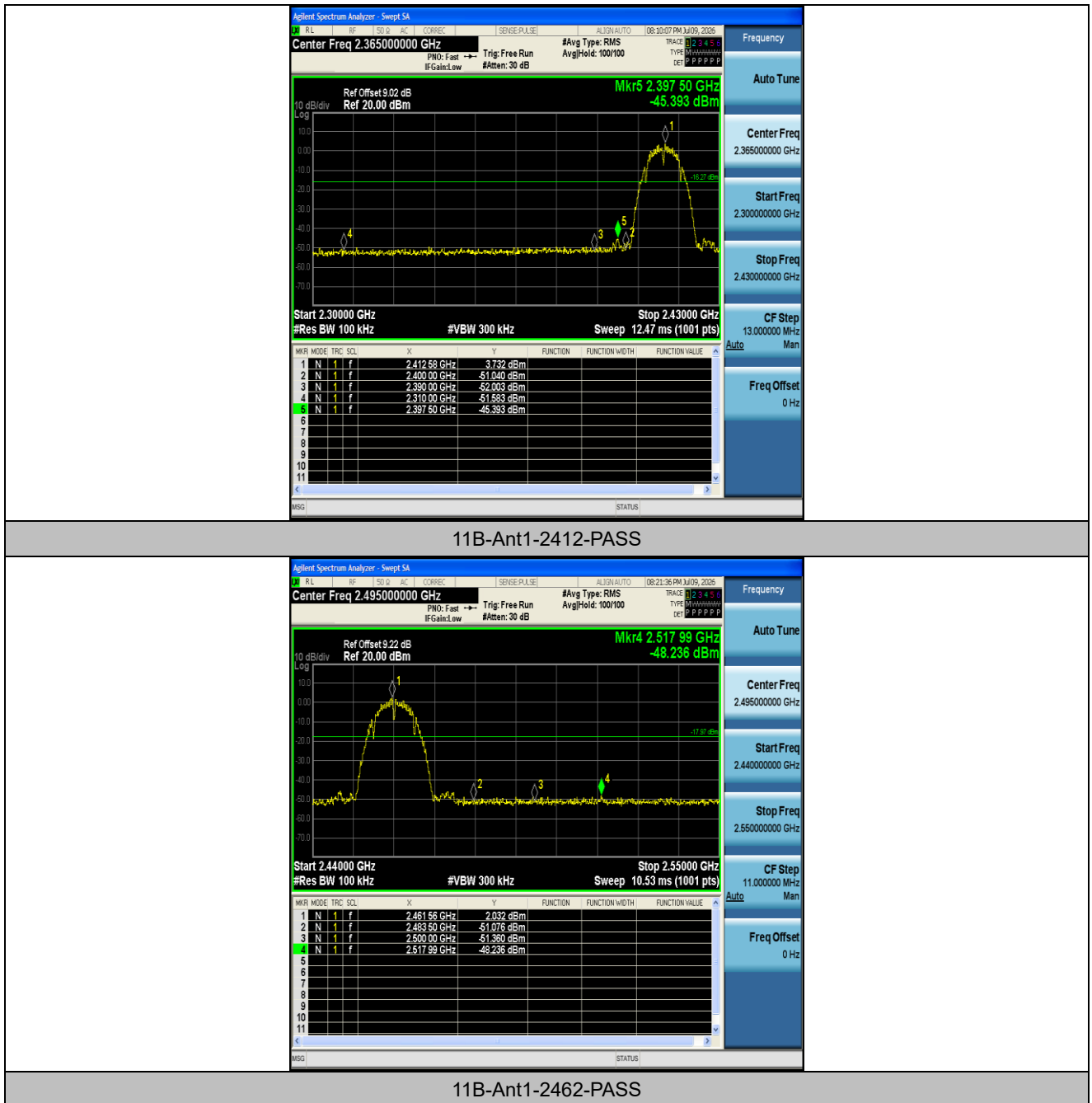
Test Mode	Antenna	Ch. Name	Frequency.[MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	3.73	-45.39	≤-16.27	PASS
11B	Ant1	High	2462	2.03	-48.24	≤-17.97	PASS
11G	Ant1	Low	2412	1.89	-26.3	≤-18.11	PASS
11G	Ant1	High	2462	0.56	-46.02	≤-19.44	PASS
11N20SISO	Ant1	Low	2412	0.95	-28.6	≤-19.05	PASS
11N20SISO	Ant1	High	2462	-0.09	-47.23	≤-20.09	PASS
11N40SISO	Ant1	Low	2422	-2.03	-32.63	≤-22.03	PASS
11N40SISO	Ant1	High	2452	-1.74	-44.72	≤-21.74	PASS

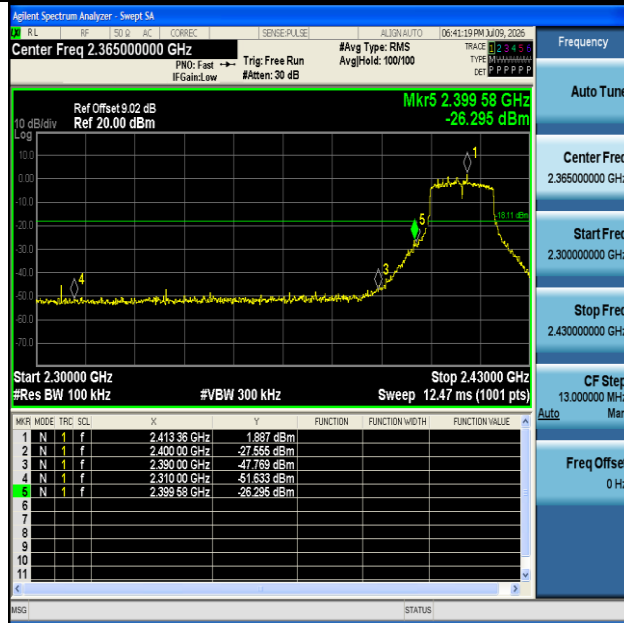
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



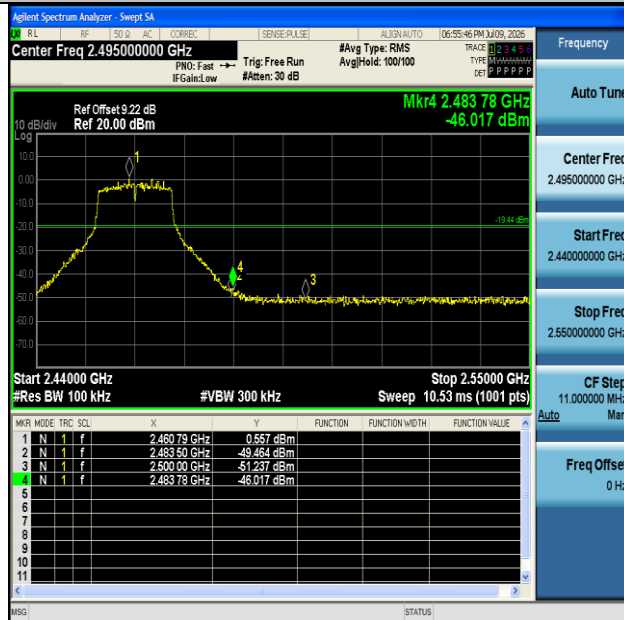


Test Graphs



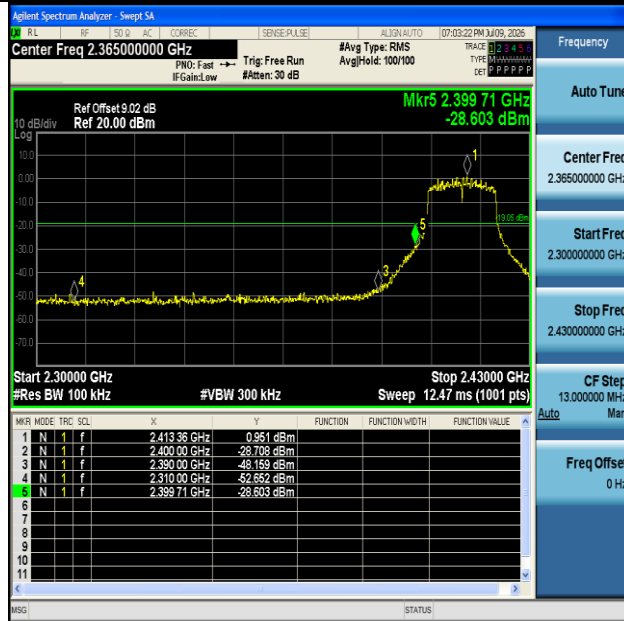


11G-Ant1-2412-PASS

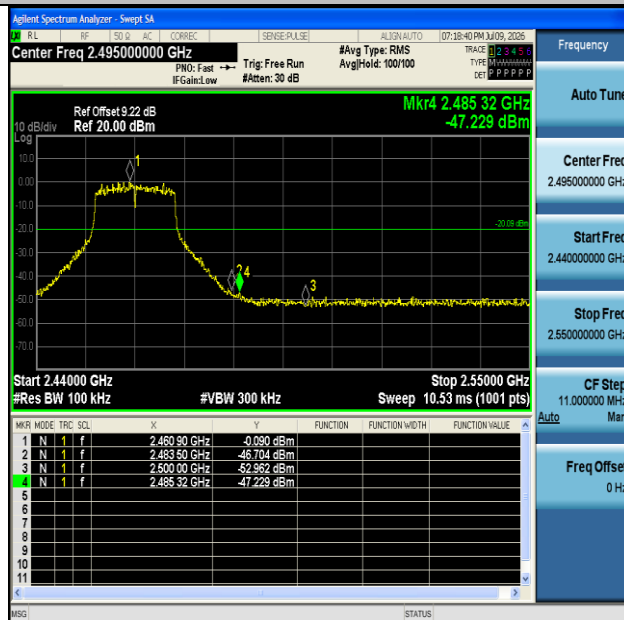


11G-Ant1-2462-PASS





11N20SISO-Ant1-2412-PASS

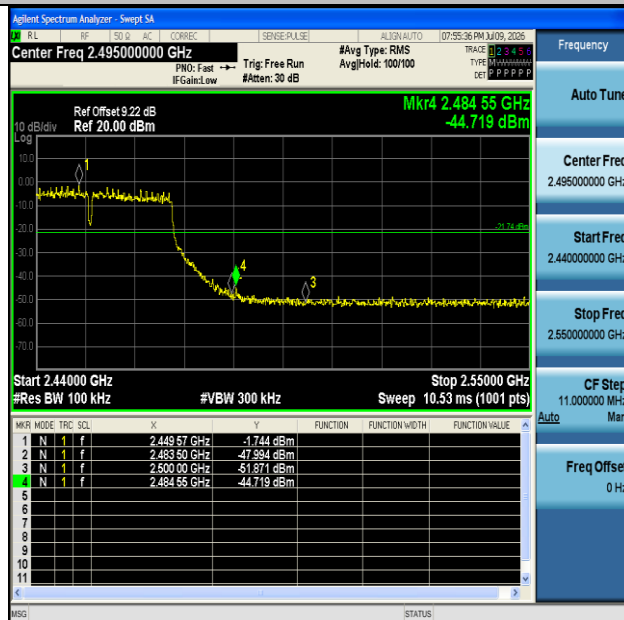


11N20SISO-Ant1-2462-PASS





11N40SISO-Ant1-2422-PASS



11N40SISO-Ant1-2452-PASS





Appendix F: Conducted Spurious Emission

Test Result

Test Mode	Antenna	Frequency [MHz]	Freq. Range [Mhz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	3.39	-62.4	≤-16.61	PASS
11B	Ant1	2412	1000~26500	3.39	-37.43	≤-16.61	PASS
11B	Ant1	2437	30~1000	3.60	-62.52	≤-16.4	PASS
11B	Ant1	2437	1000~26500	3.60	-37.39	≤-16.4	PASS
11B	Ant1	2462	30~1000	1.78	-62.54	≤-18.22	PASS
11B	Ant1	2462	1000~26500	1.78	-36.24	≤-18.22	PASS
11G	Ant1	2412	30~1000	0.79	-62.1	≤-19.21	PASS
11G	Ant1	2412	1000~26500	0.79	-36.76	≤-19.21	PASS
11G	Ant1	2437	30~1000	2.48	-61.76	≤-17.52	PASS
11G	Ant1	2437	1000~26500	2.48	-36.92	≤-17.52	PASS
11G	Ant1	2462	30~1000	0.68	-62.67	≤-19.32	PASS
11G	Ant1	2462	1000~26500	0.68	-37.26	≤-19.32	PASS
11N20SISO	Ant1	2412	30~1000	0.99	-61.84	≤-19.01	PASS
11N20SISO	Ant1	2412	1000~26500	0.99	-37.12	≤-19.01	PASS
11N20SISO	Ant1	2437	30~1000	2.26	-62.5	≤-17.74	PASS
11N20SISO	Ant1	2437	1000~26500	2.26	-36.91	≤-17.74	PASS
11N20SISO	Ant1	2462	30~1000	0.19	-62.89	≤-19.81	PASS
11N20SISO	Ant1	2462	1000~26500	0.19	-37.43	≤-19.81	PASS
11N40SISO	Ant1	2422	30~1000	-2.31	-62.8	≤-22.31	PASS
11N40SISO	Ant1	2422	1000~26500	-2.31	-37.33	≤-22.31	PASS
11N40SISO	Ant1	2437	30~1000	-0.97	-62.11	≤-20.97	PASS
11N40SISO	Ant1	2437	1000~26500	-0.97	-37.42	≤-20.97	PASS
11N40SISO	Ant1	2452	30~1000	-1.88	-62.37	≤-21.88	PASS
11N40SISO	Ant1	2452	1000~26500	-1.88	-36.95	≤-21.88	PASS

Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.





Test Graphs

Ref





11B-Ant1-2462-PASS



11G-Ant1-2412-PASS





11G-Ant1-2437-PASS



11G-Ant1-2462-PASS





11N20SISO-Ant1-2412-PASS

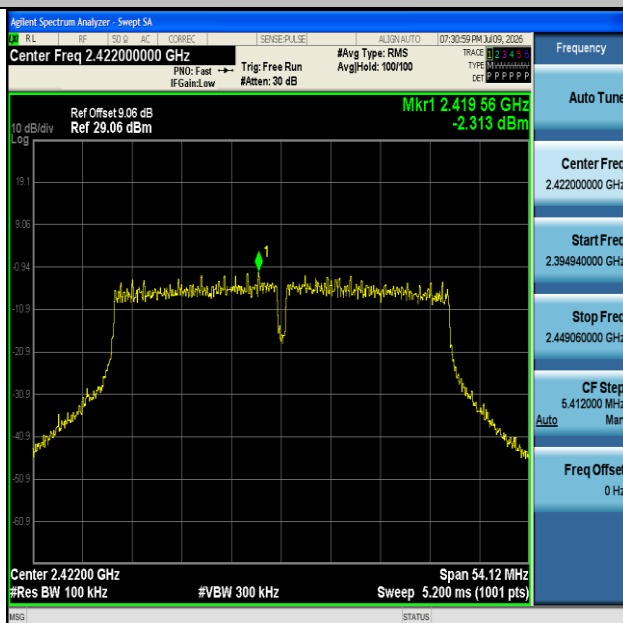


11N20SISO-Ant1-2437-PASS





11N20SISO-Ant1-2462-PASS

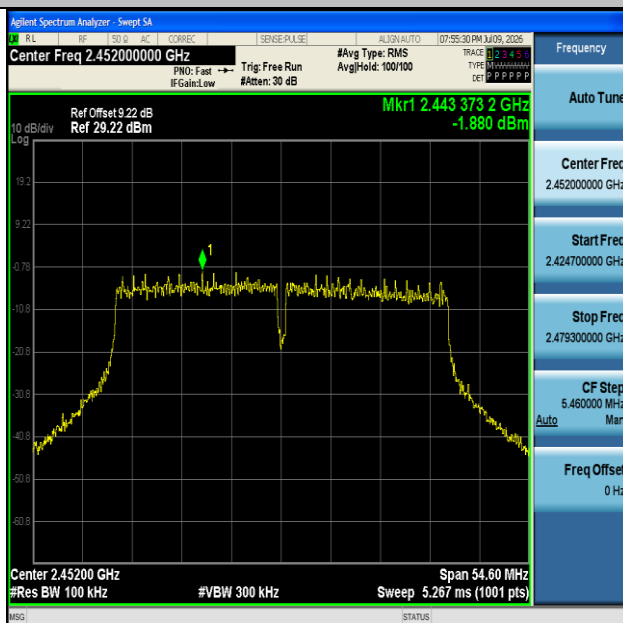


11N40SISO-Ant1-2422-PASS



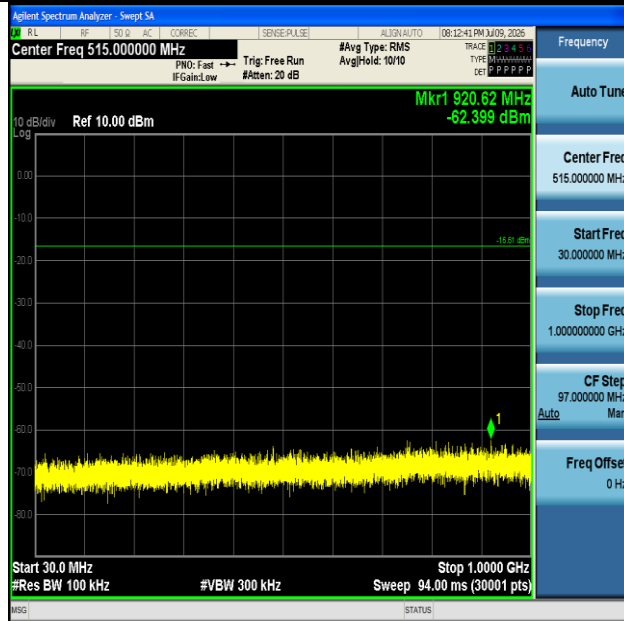


11N40SISO-Ant1-2437-PASS

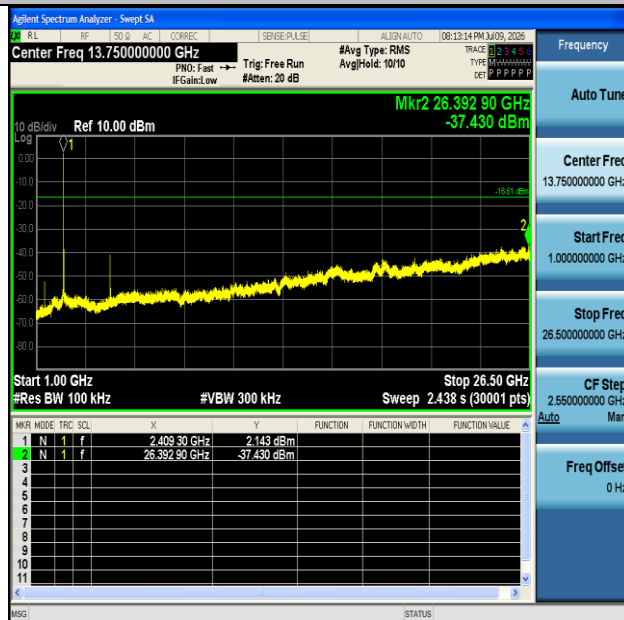


11N40SISO-Ant1-2452-PASS



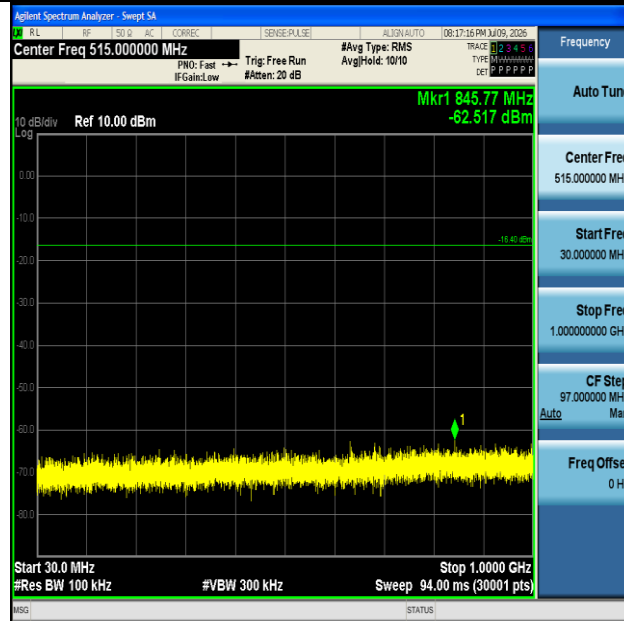


11B-Ant1-2412-30~1000-PASS

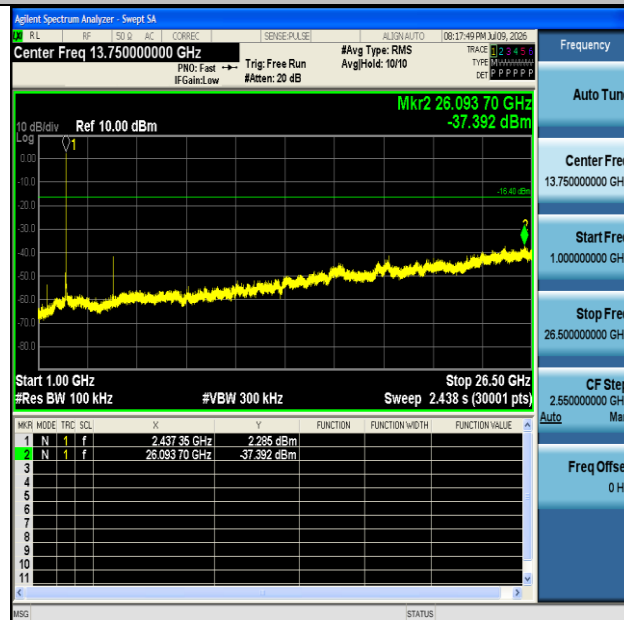


11B-Ant1-2412-1000~26500-PASS



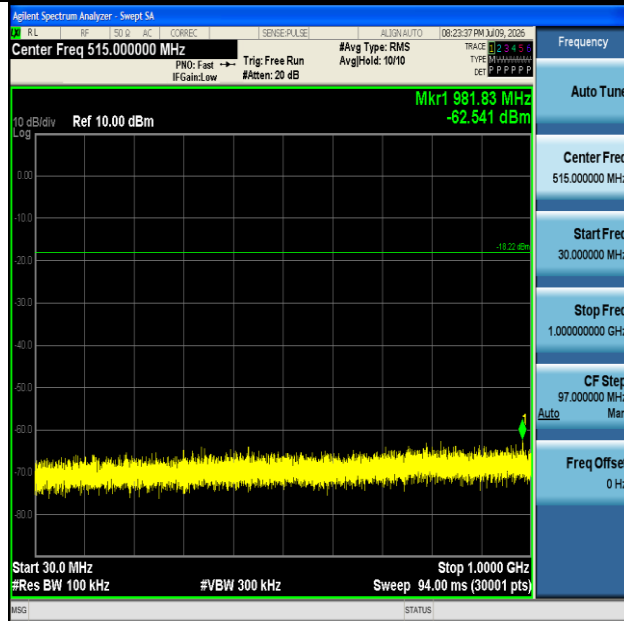


11B-Ant1-2437-30~1000-PASS

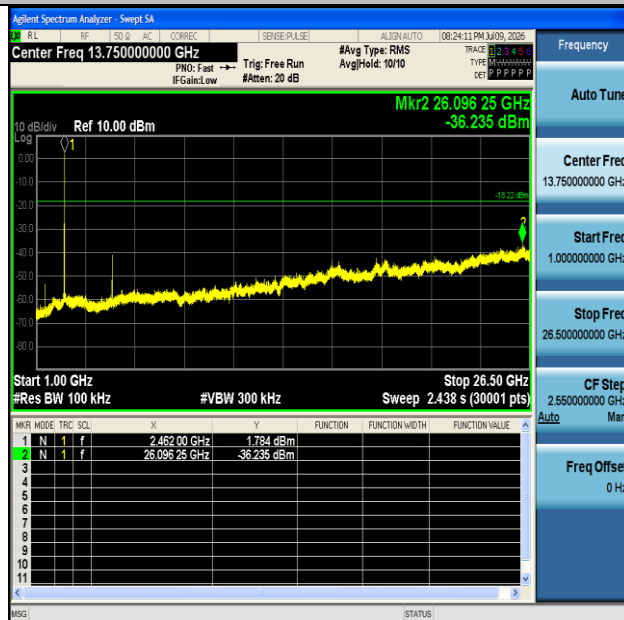


11B-Ant1-2437-1000~26500-PASS



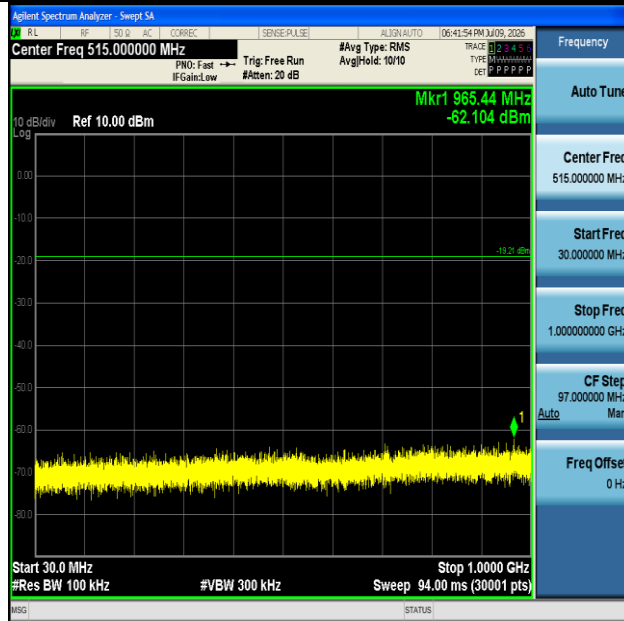


11B-Ant1-2462-30~1000-PASS

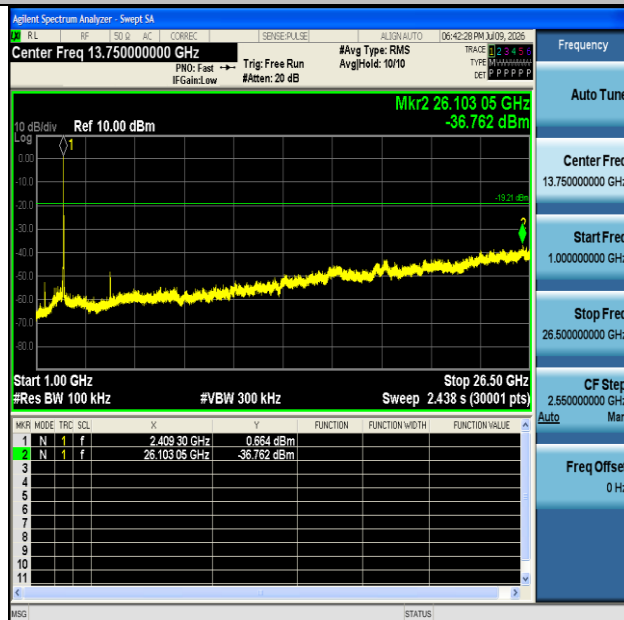


11B-Ant1-2462-1000~26500-PASS



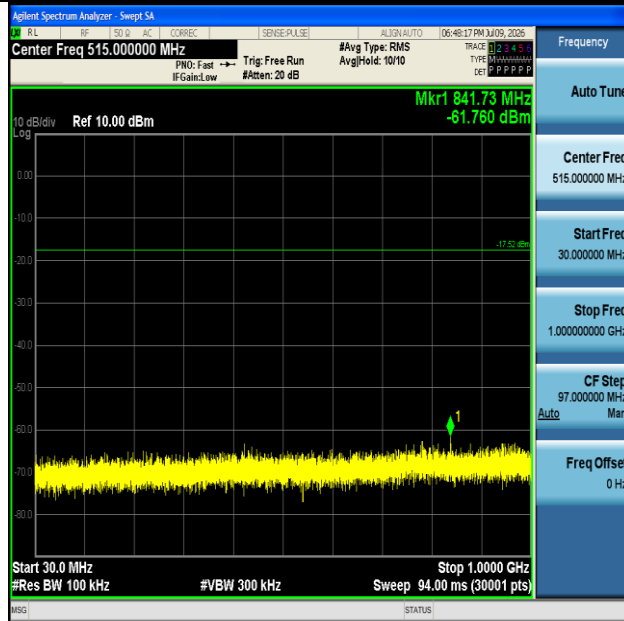


11G-Ant1-2412-30~1000-PASS

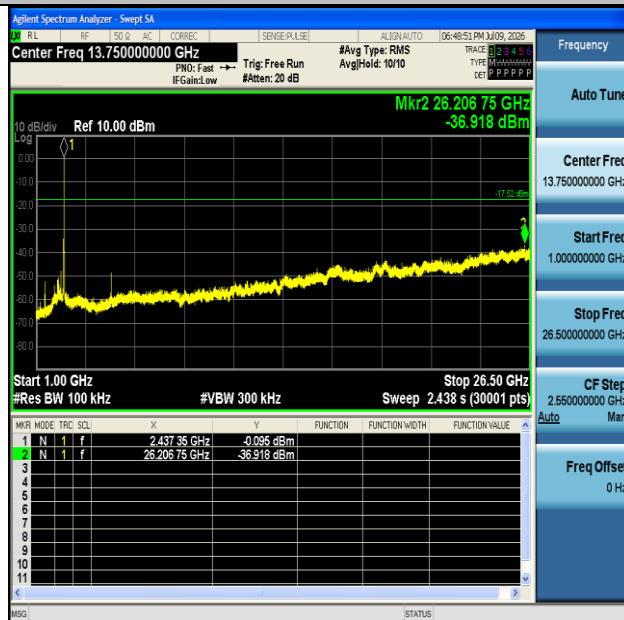


11G-Ant1-2412-1000~26500-PASS



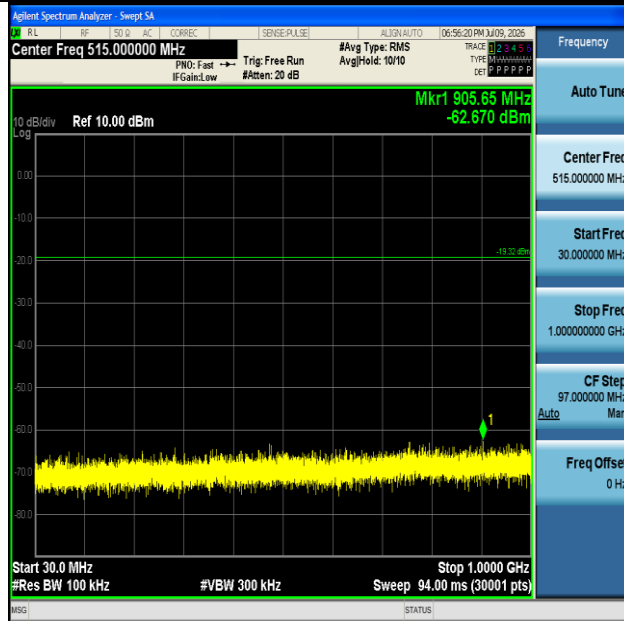


11G-Ant1-2437-30~1000-PASS

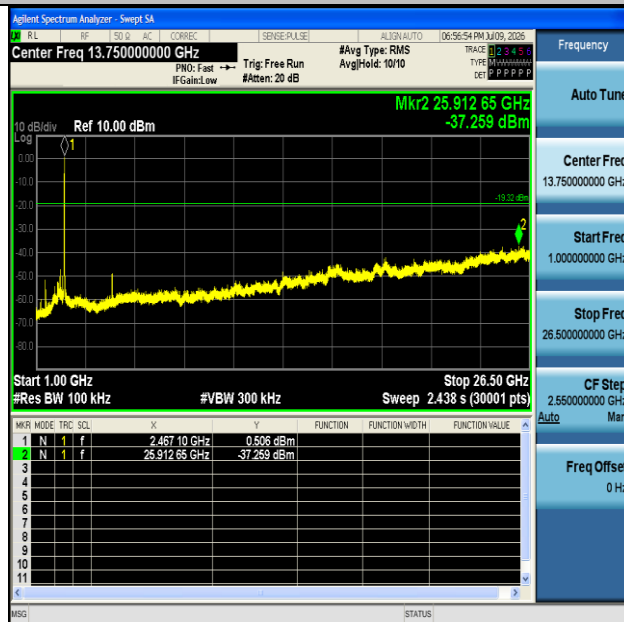


11G-Ant1-2437-1000~26500-PASS



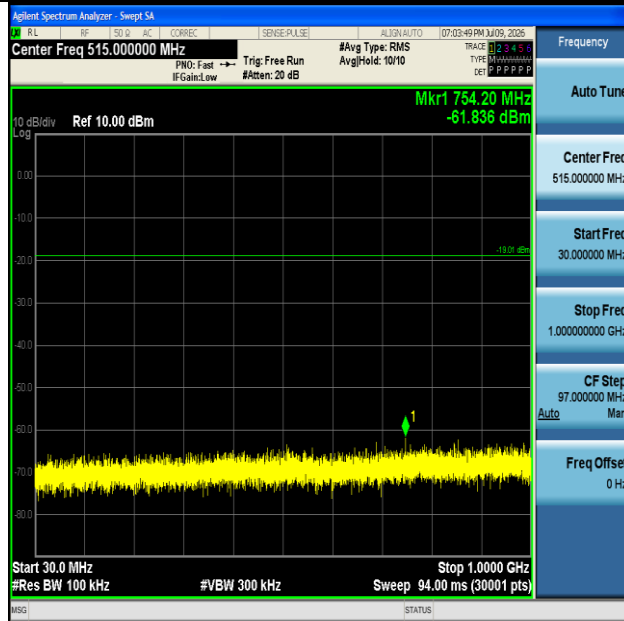


11G-Ant1-2462-30~1000-PASS

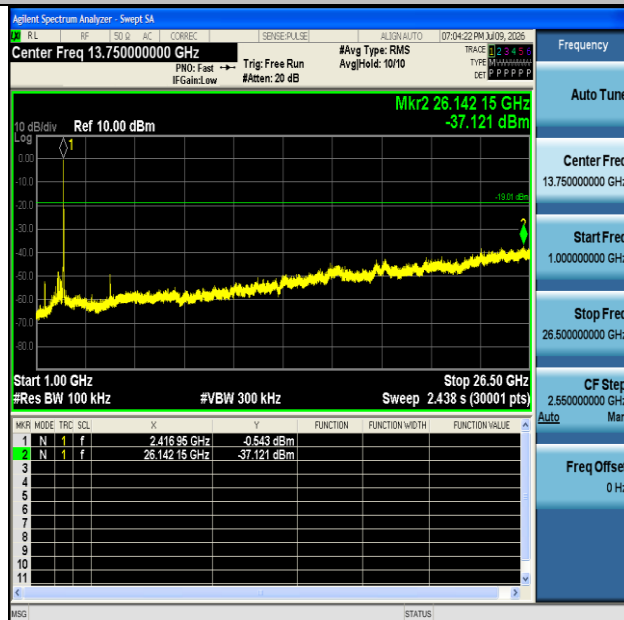


11G-Ant1-2462-1000~26500-PASS



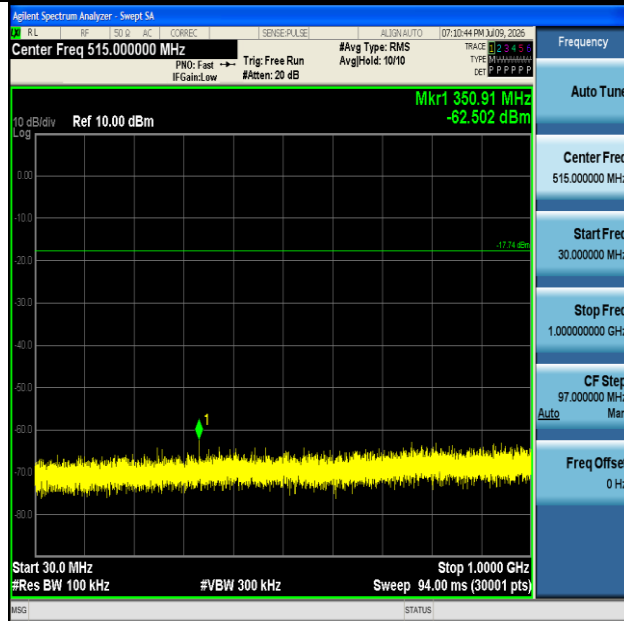


11N20SISO-Ant1-2412-30~1000-PASS

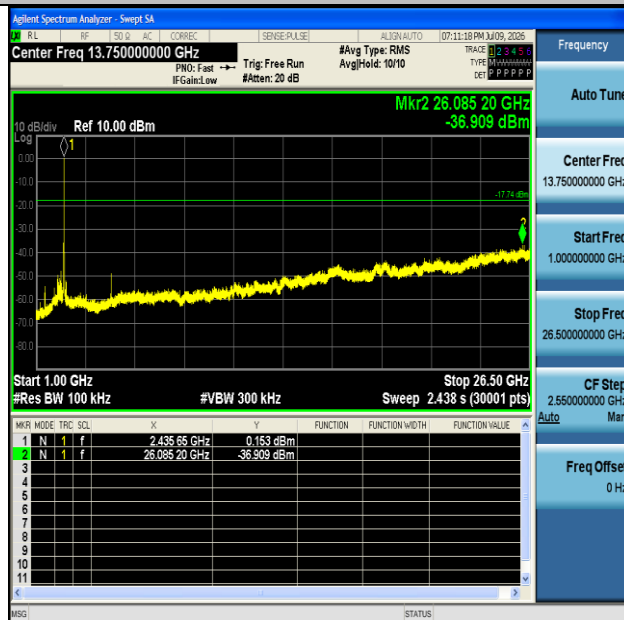


11N20SISO-Ant1-2412-1000~26500-PASS



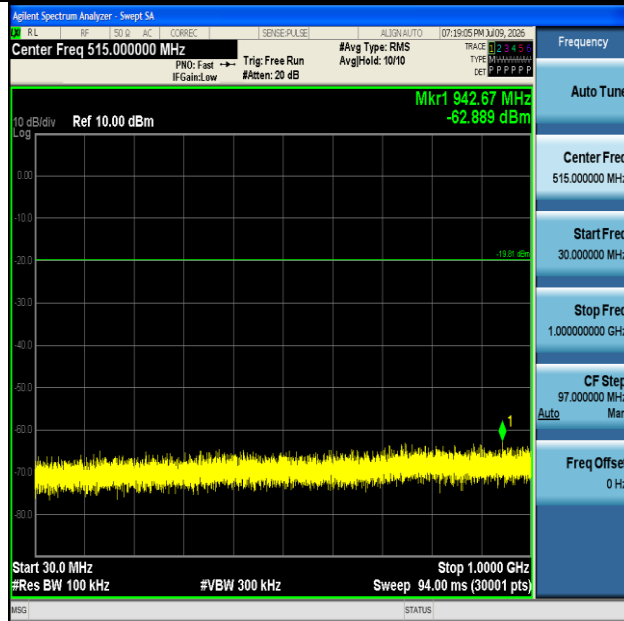


11N20SISO-Ant1-2437-30~1000-PASS

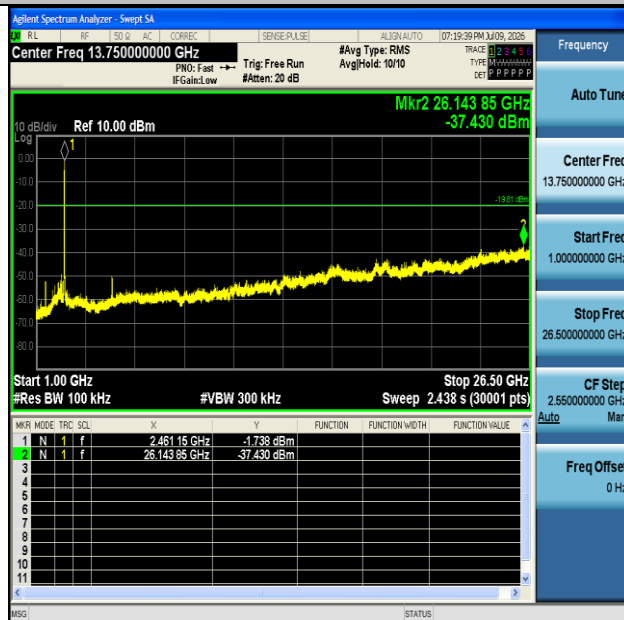


11N20SISO-Ant1-2437-1000~26500-PASS



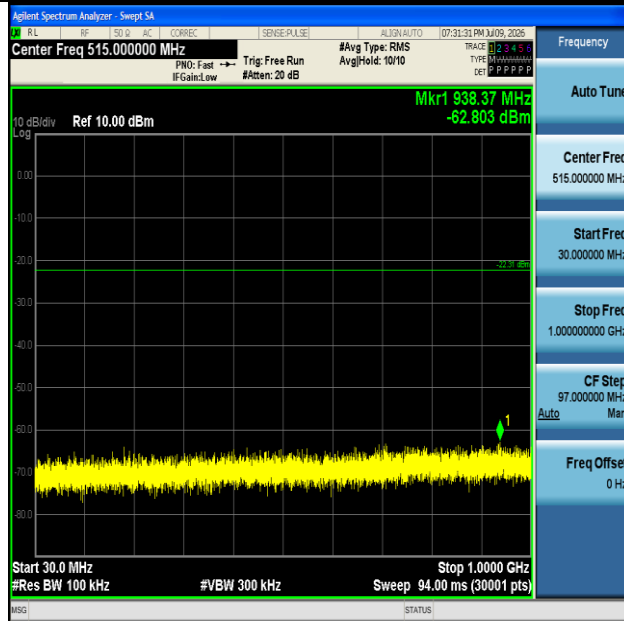


11N20SISO-Ant1-2462-30~1000-PASS

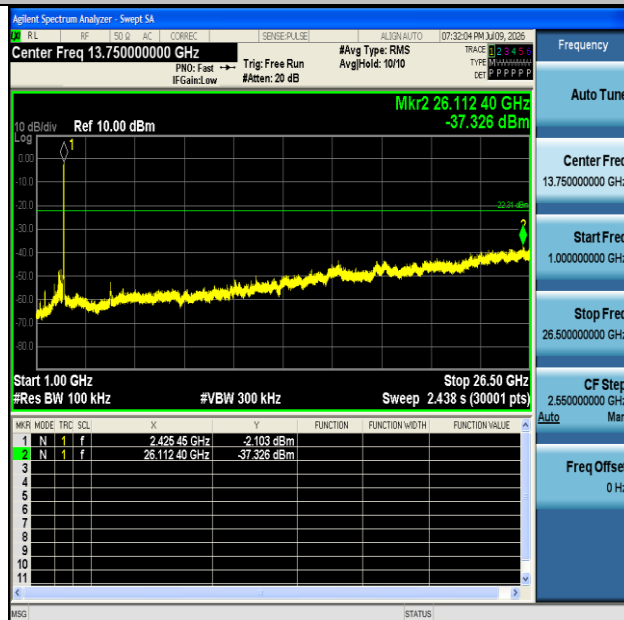


11N20SISO-Ant1-2462-1000~26500-PASS



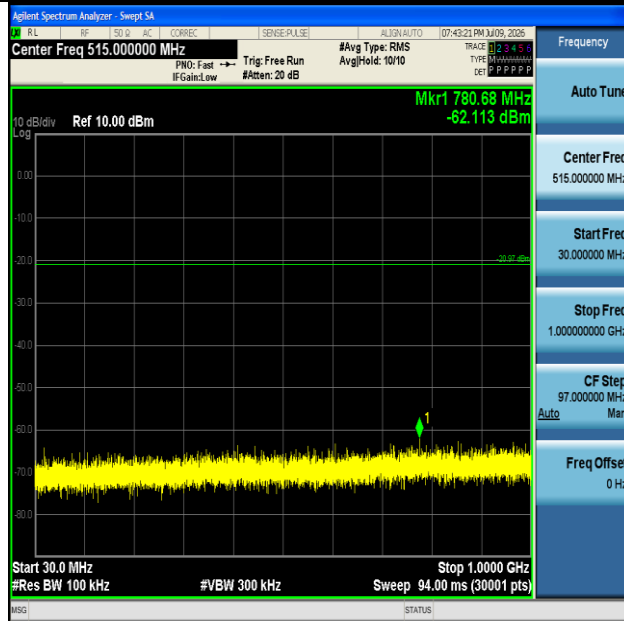


11N40SISO-Ant1-2422-30~1000-PASS

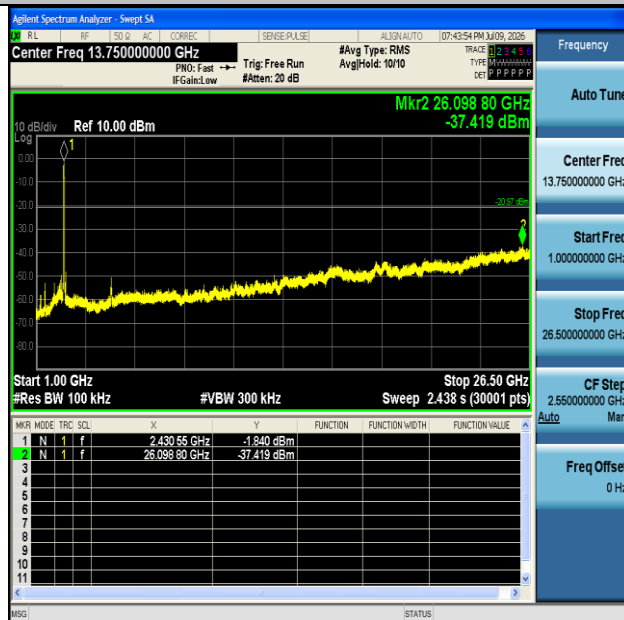


11N40SISO-Ant1-2422-1000~26500-PASS



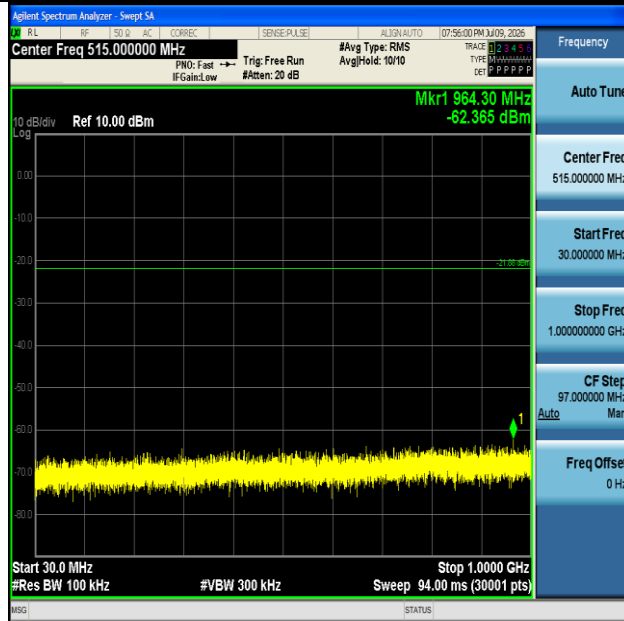


11N40SISO-Ant1-2437-30~1000-PASS

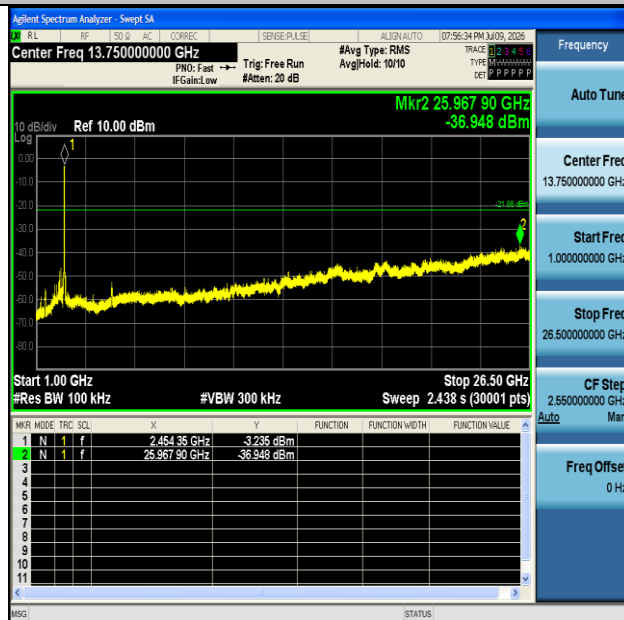


11N40SISO-Ant1-2437-1000~26500-PASS





11N40SISO-Ant1-2452-30~1000-PASS



11N40SISO-Ant1-2452-1000~26500-PASS





Appendix G: Duty Cycle

Test Result

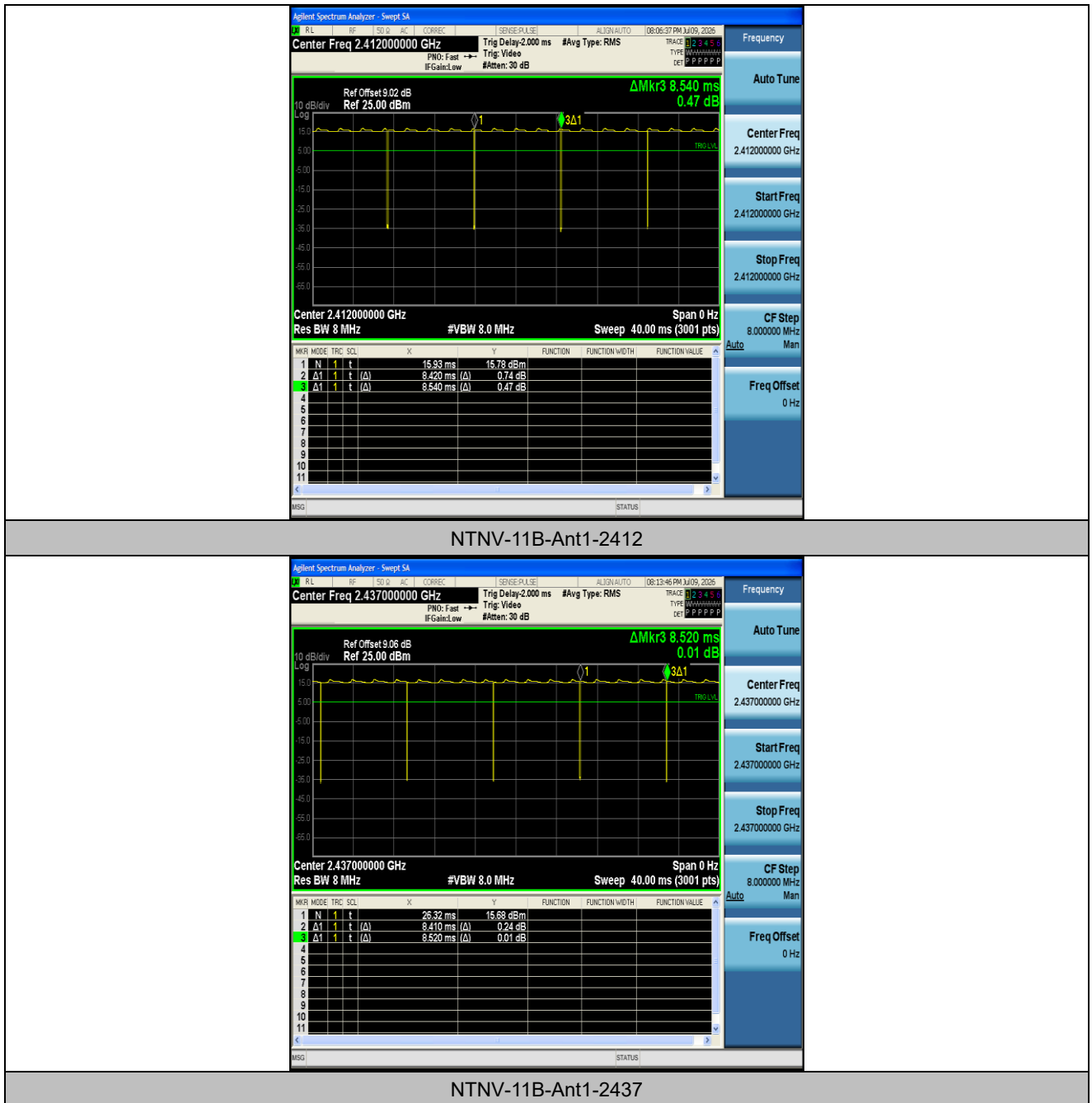
Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.42	8.54	98.59	0.06
11B	Ant1	2437	8.41	8.52	98.71	0.06
11B	Ant1	2462	8.42	8.65	97.34	0.12
11G	Ant1	2412	1.39	1.53	90.85	0.42
11G	Ant1	2437	1.40	1.58	88.61	0.53
11G	Ant1	2462	1.40	1.57	89.17	0.50
11N20SISO	Ant1	2412	0.54	0.70	77.14	1.13
11N20SISO	Ant1	2437	0.54	0.62	87.10	0.60
11N20SISO	Ant1	2462	0.55	0.73	75.34	1.23
11N40SISO	Ant1	2422	0.53	0.66	80.30	0.95
11N40SISO	Ant1	2437	0.52	0.69	75.36	1.23
11N40SISO	Ant1	2452	0.53	0.71	74.65	1.27

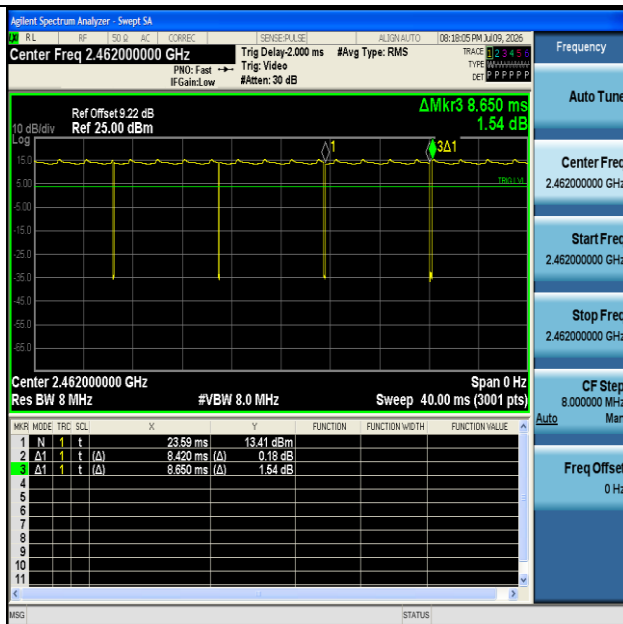
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



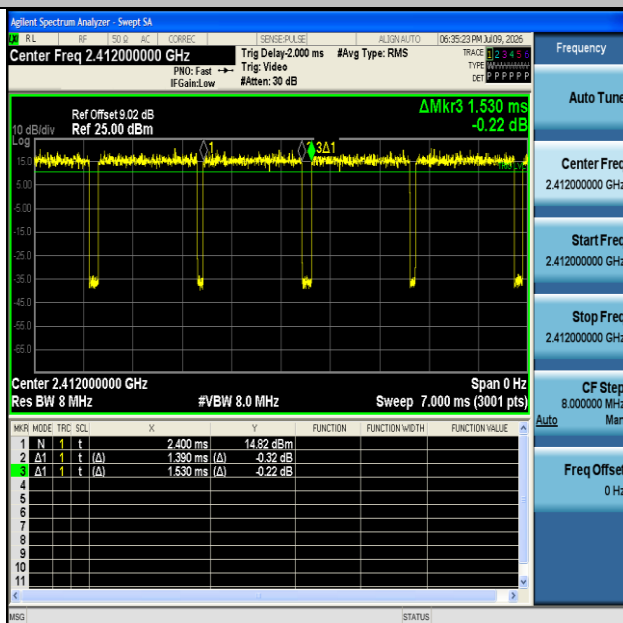


Test Graphs



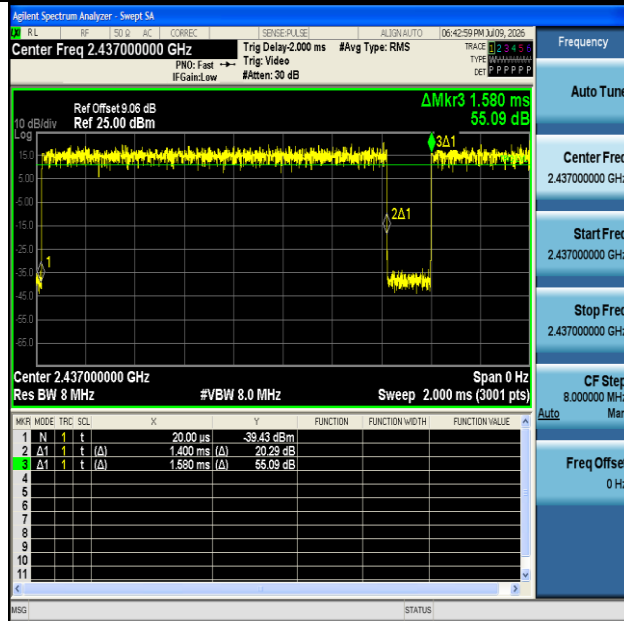


NTNV-11B-Ant1-2462

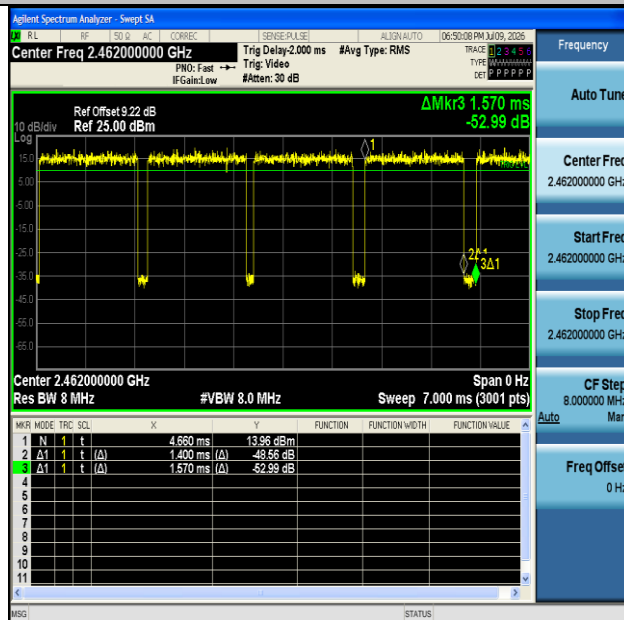


NTNV-11G-Ant1-2412



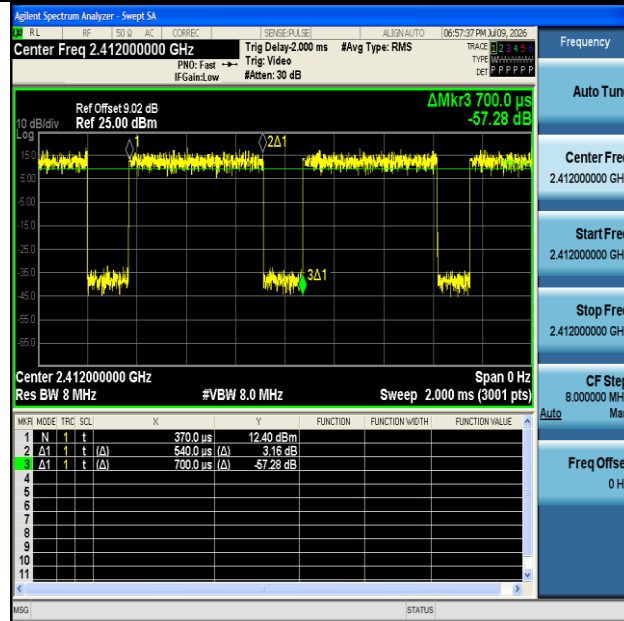


NTNV-11G-Ant1-2437

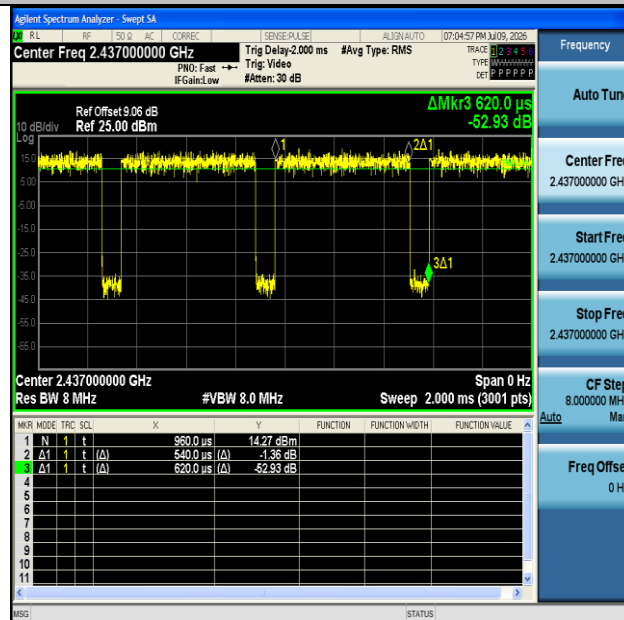


NTNV-11G-Ant1-2462





NTNV-11N20SISO-Ant1-2412



NTNV-11N20SISO-Ant1-2437

