



Appendix Test Data for WLAN (2.4G) (Conducted Measurement)

Product Name: Remote Control Car

Trade Mark: /

Test Model: KF32

FCC ID: 2AROI-KF32WIFI

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

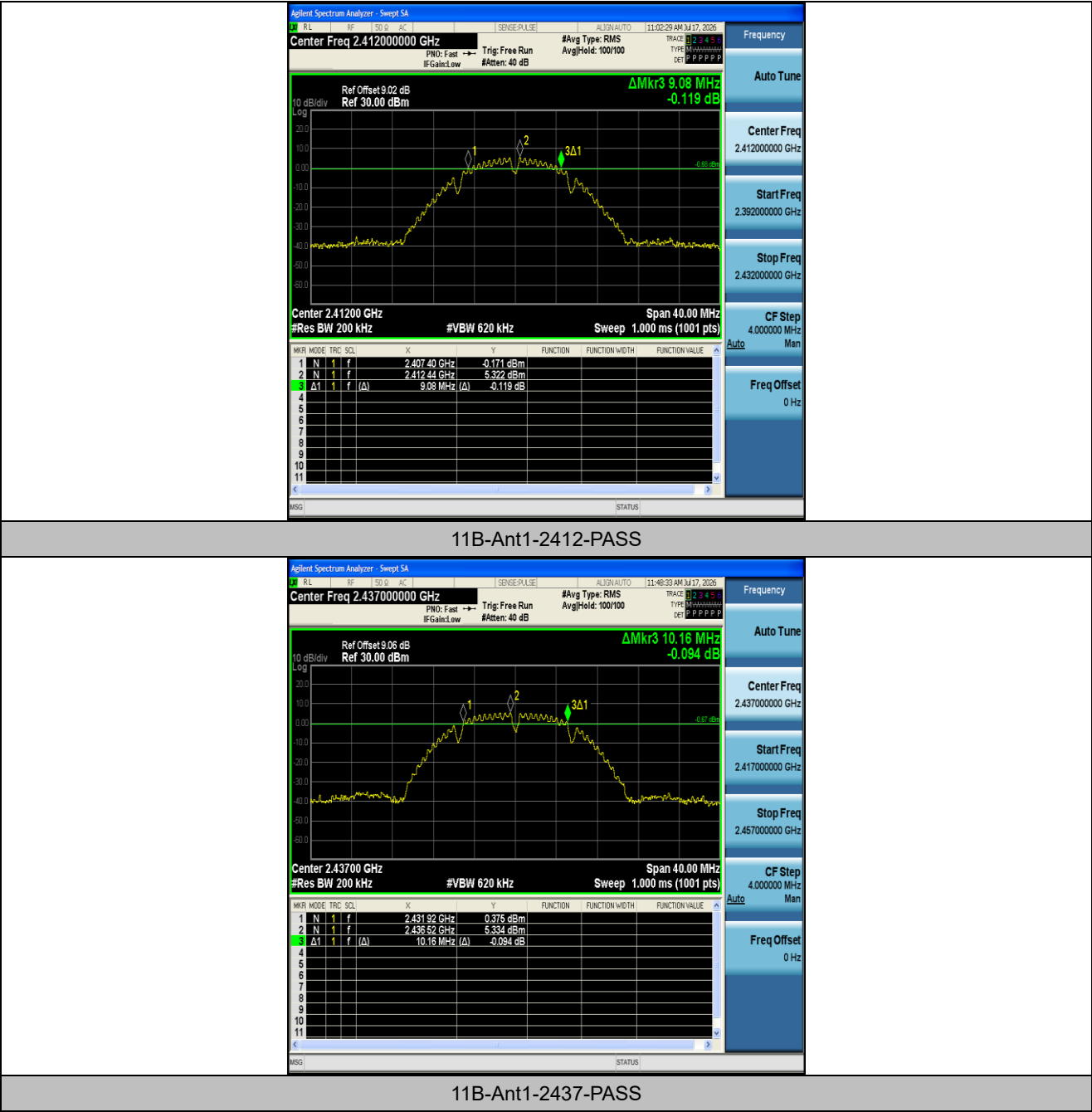
Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	9.080	2407.400	2416.480	0.5	PASS
11B	Ant1	2437	10.160	2431.920	2442.080	0.5	PASS
11B	Ant1	2462	9.120	2457.400	2466.520	0.5	PASS
11G	Ant1	2412	7.720	2407.920	2415.640	0.5	PASS
11G	Ant1	2437	14.240	2429.200	2443.440	0.5	PASS
11G	Ant1	2462	8.840	2457.720	2466.560	0.5	PASS
11N20SISO	Ant1	2412	9.880	2406.880	2416.760	0.5	PASS
11N20SISO	Ant1	2437	12.160	2429.840	2442.000	0.5	PASS
11N20SISO	Ant1	2462	14.920	2454.400	2469.320	0.5	PASS

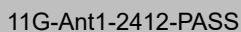
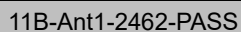
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





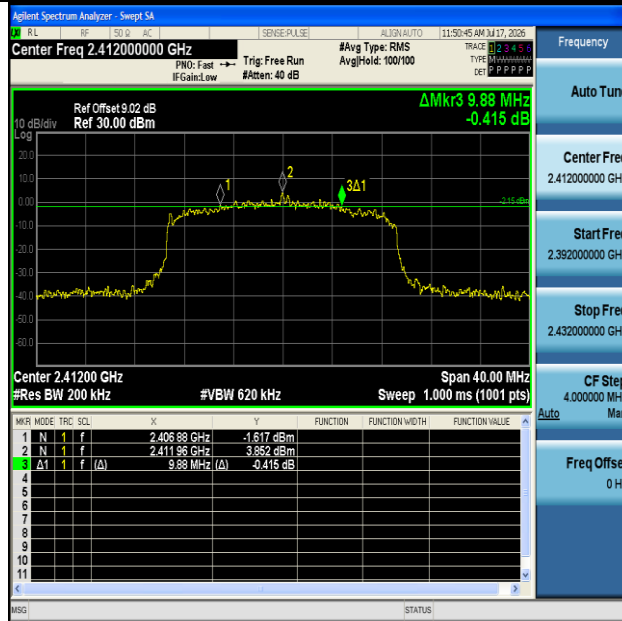


11G-Ant1-2437-PASS

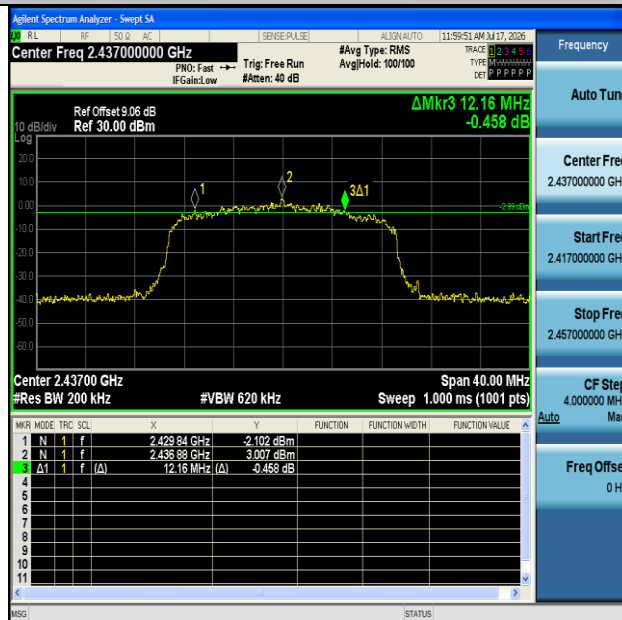


11G-Ant1-2462-PASS



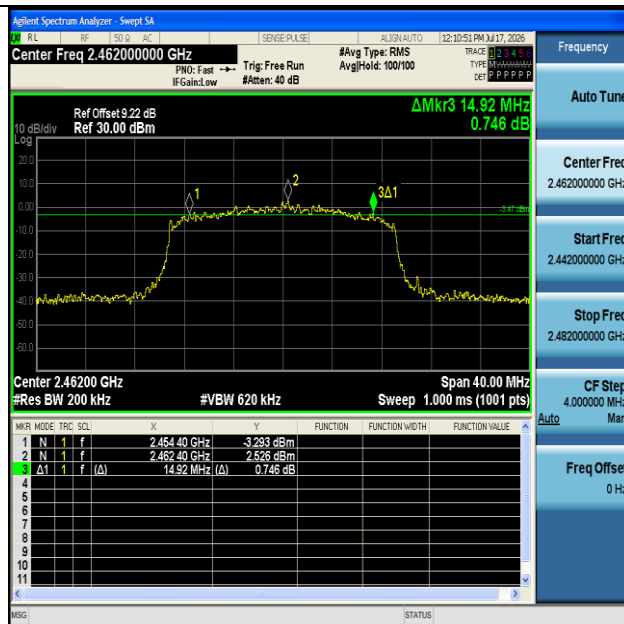


11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS





11N20SISO-Ant1-2462-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	13.513	2405.1645	2418.6775	---	---
11B	Ant1	2437	14.661	2429.5674	2444.2284	---	---
11B	Ant1	2462	13.514	2455.2165	2468.7305	---	---
11G	Ant1	2412	17.227	2403.2847	2420.5117	---	---
11G	Ant1	2437	17.173	2428.3423	2445.5153	---	---
11G	Ant1	2462	17.441	2453.2429	2470.6839	---	---
11N20SISO	Ant1	2412	17.613	2403.0980	2420.7110	---	---
11N20SISO	Ant1	2437	17.592	2428.0682	2445.6602	---	---
11N20SISO	Ant1	2462	17.896	2452.9434	2470.8394	---	---

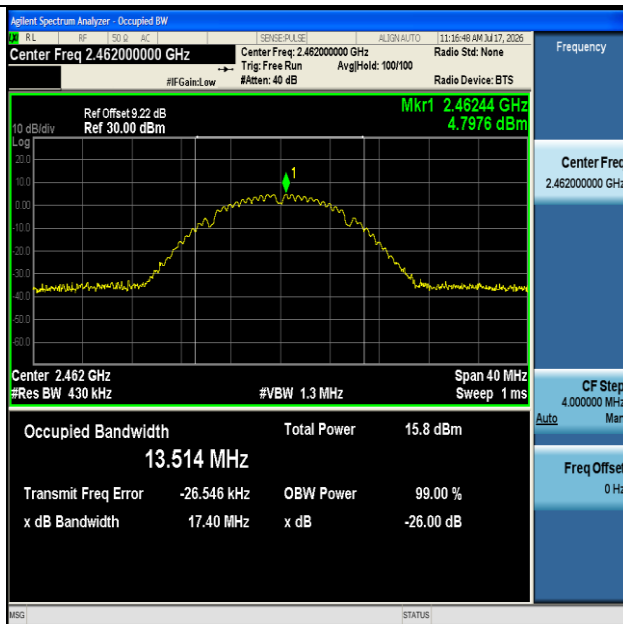
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



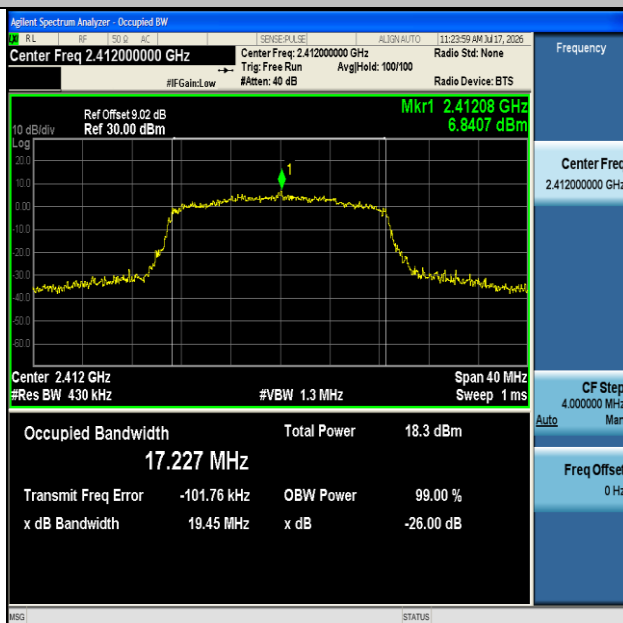


Test Graphs



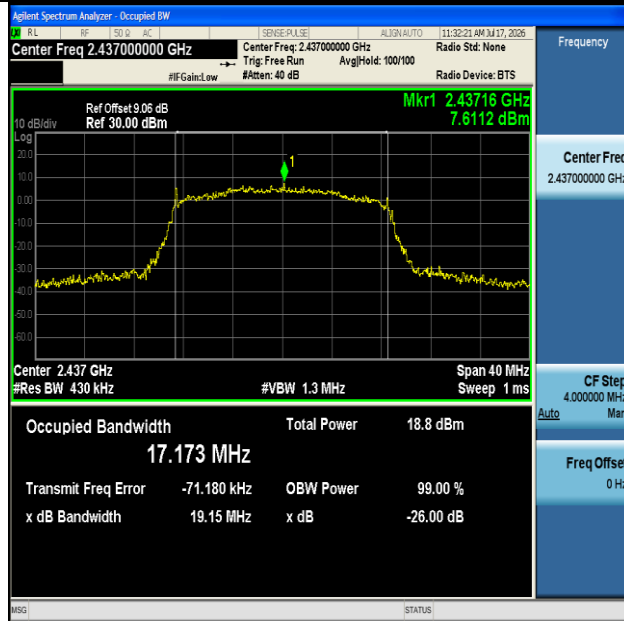


11B-Ant1-2462



11G-Ant1-2412



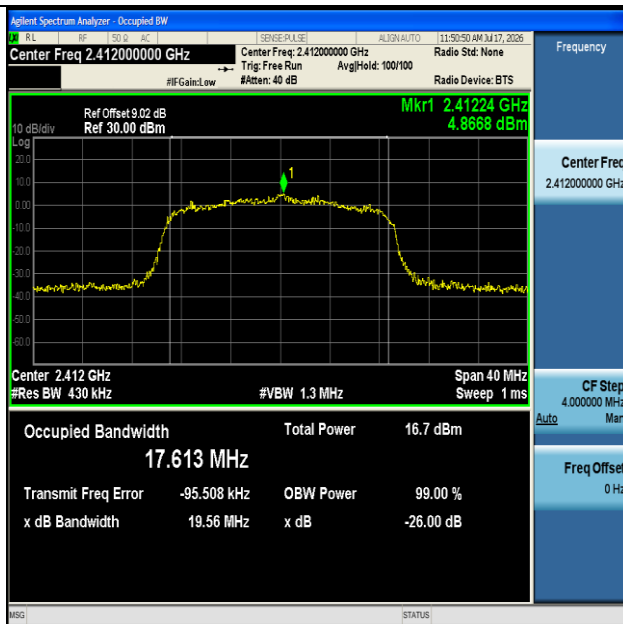


11G-Ant1-2437

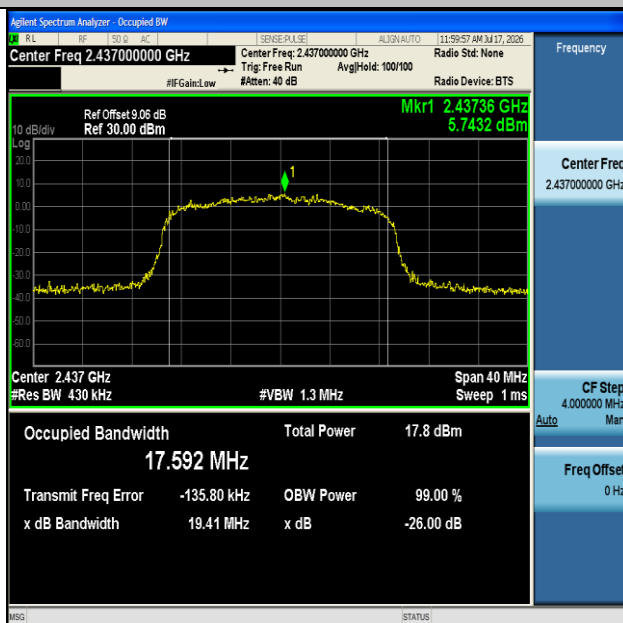


11G-Ant1-2462



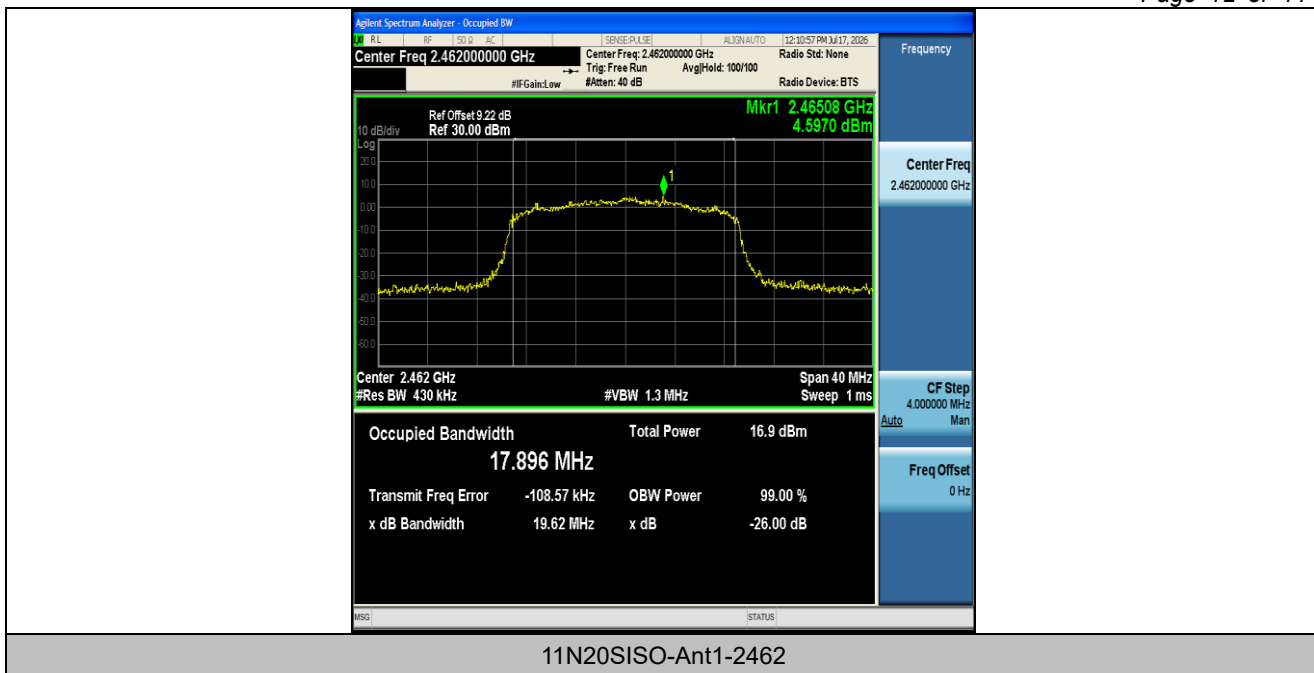


11N20SISO-Ant1-2412



11N20SISO-Ant1-2437







Appendix C: Maximum Average conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11B	Ant1	2412	13.54	≤30.00	PASS
11B	Ant1	2437	14.34	≤30.00	PASS
11B	Ant1	2462	12.89	≤30.00	PASS
11G	Ant1	2412	12.05	≤30.00	PASS
11G	Ant1	2437	12.59	≤30.00	PASS
11G	Ant1	2462	11.35	≤30.00	PASS
11N20SISO	Ant1	2412	10.72	≤30.00	PASS
11N20SISO	Ant1	2437	11.47	≤30.00	PASS
11N20SISO	Ant1	2462	10.02	≤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

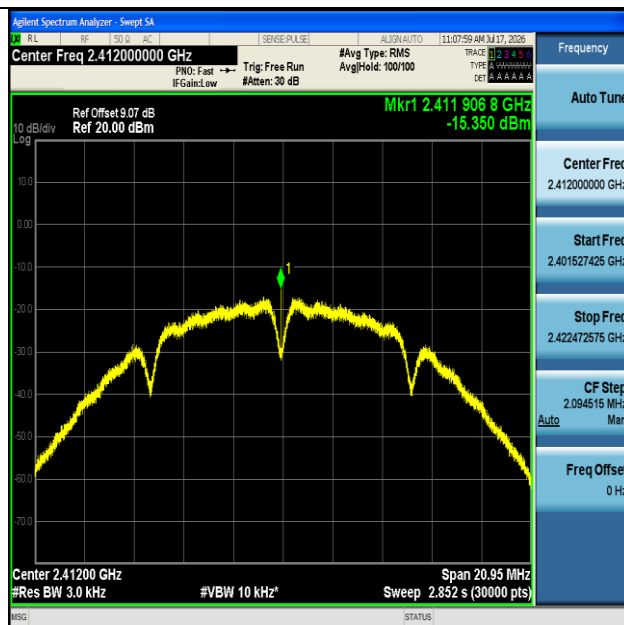
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-15.35	≤8.00	PASS
11B	Ant1	2437	-18.35	≤8.00	PASS
11B	Ant1	2462	-15.54	≤8.00	PASS
11G	Ant1	2412	-11.95	≤8.00	PASS
11G	Ant1	2437	-12.04	≤8.00	PASS
11G	Ant1	2462	-12.73	≤8.00	PASS
11N20SISO	Ant1	2412	-11.34	≤8.00	PASS
11N20SISO	Ant1	2437	-10.52	≤8.00	PASS
11N20SISO	Ant1	2462	-12.04	≤8.00	PASS

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

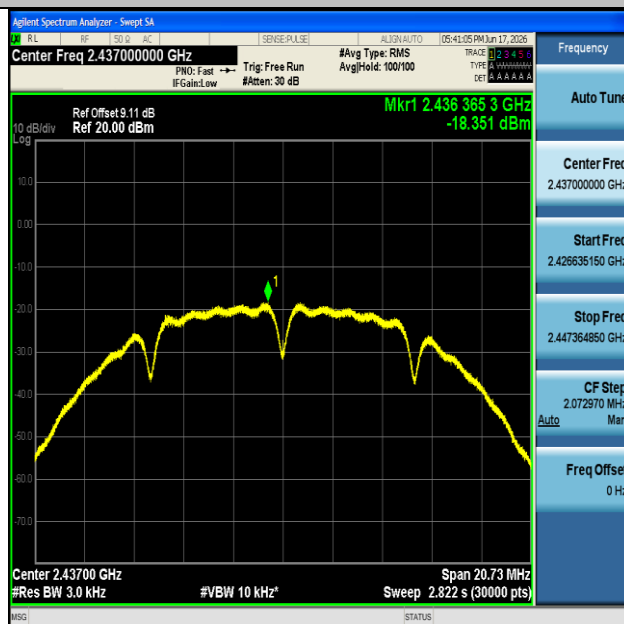




Test Graphs

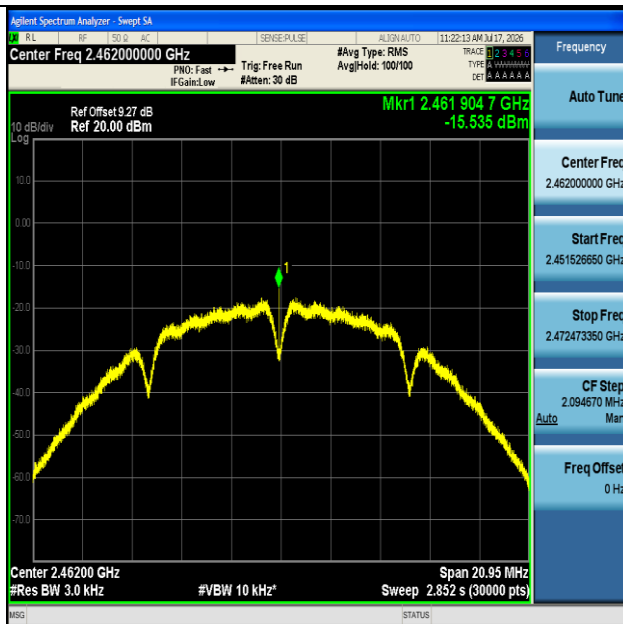


11B-Ant1-2412-PASS

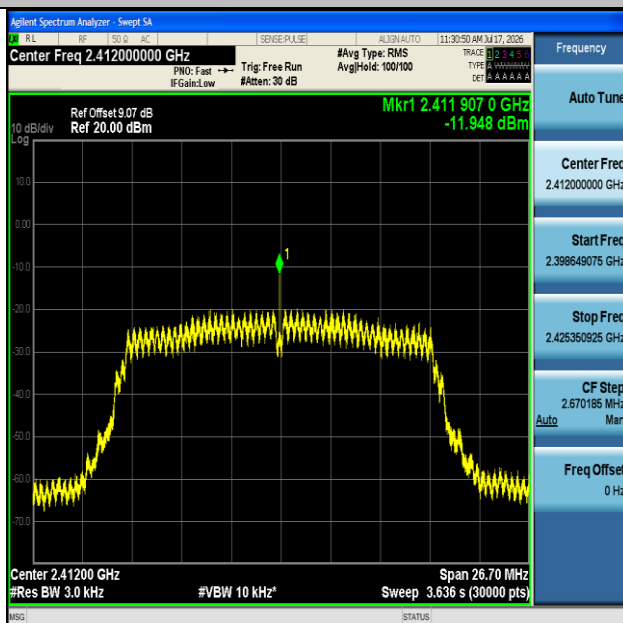


11B-Ant1-2437-PASS



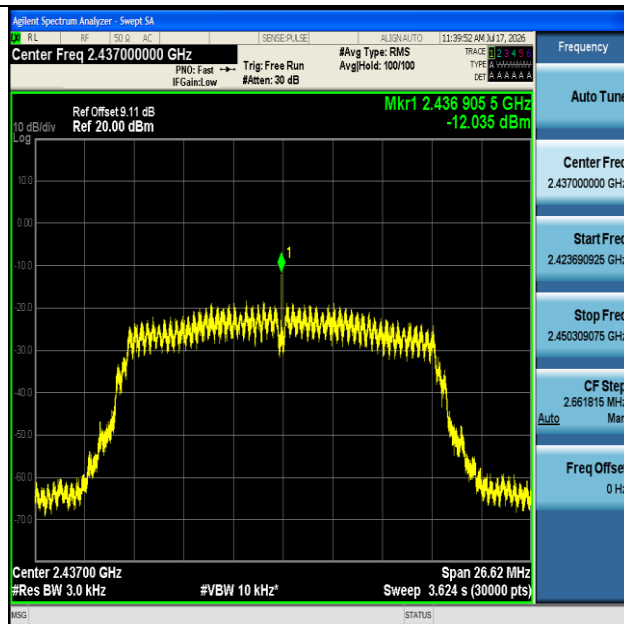


11B-Ant1-2462-PASS

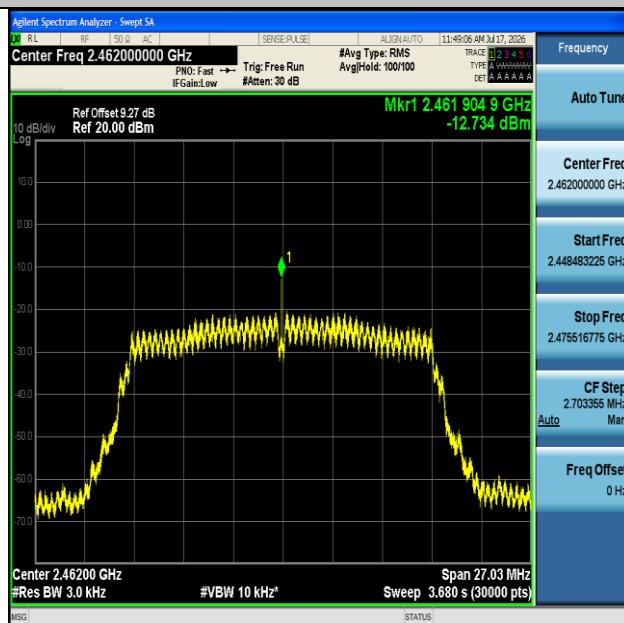


11G-Ant1-2412-PASS



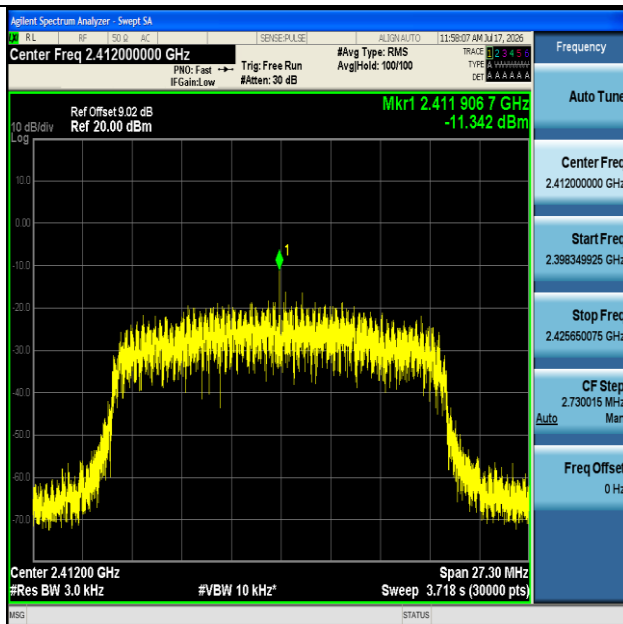


11G-Ant1-2437-PASS

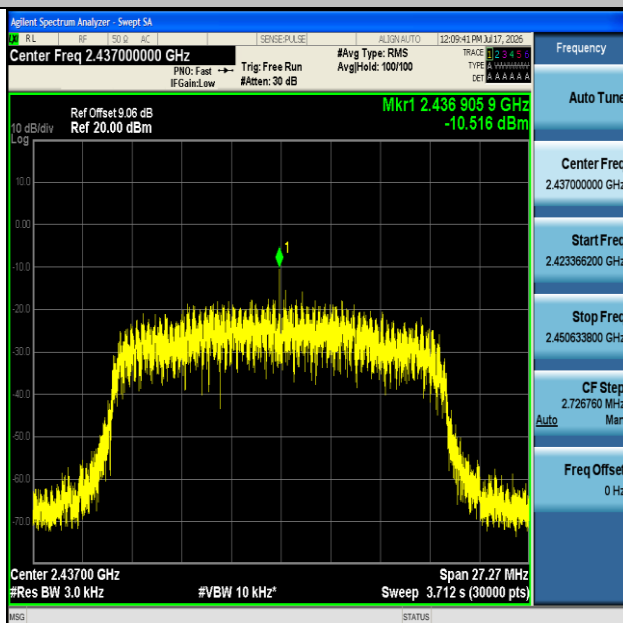


11G-Ant1-2462-PASS



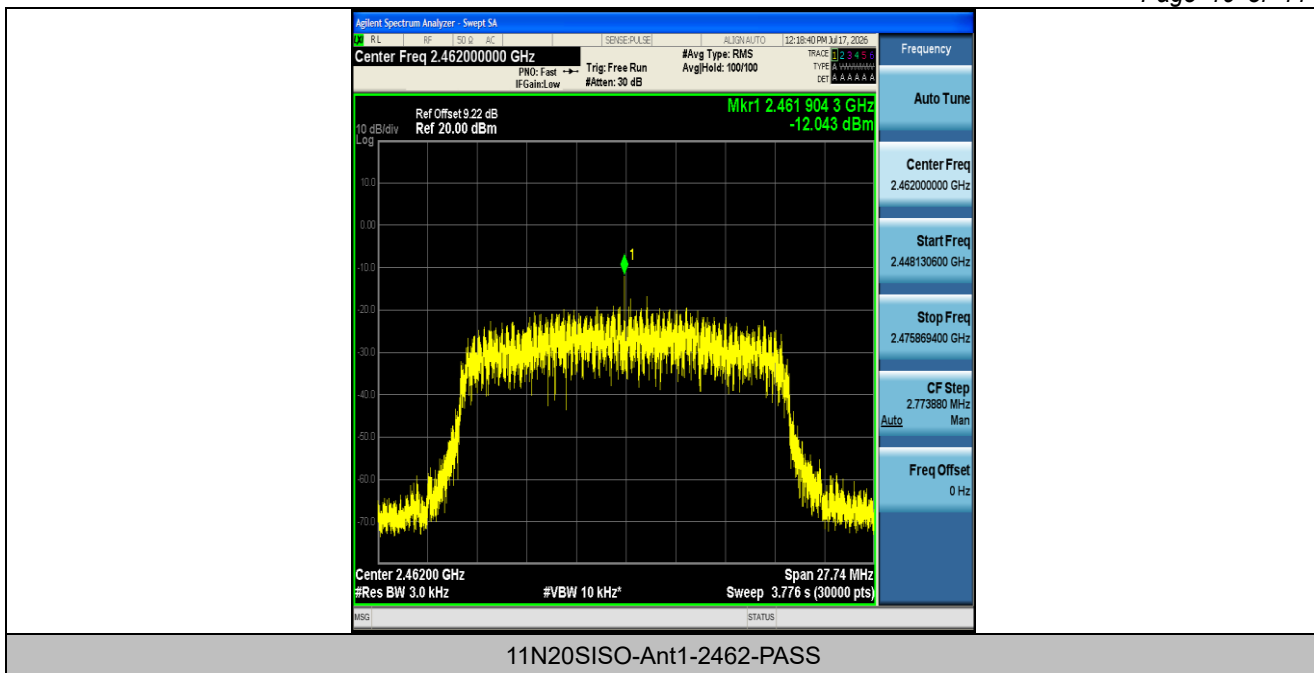


11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS







Appendix E: Band edge measurements

Test Result

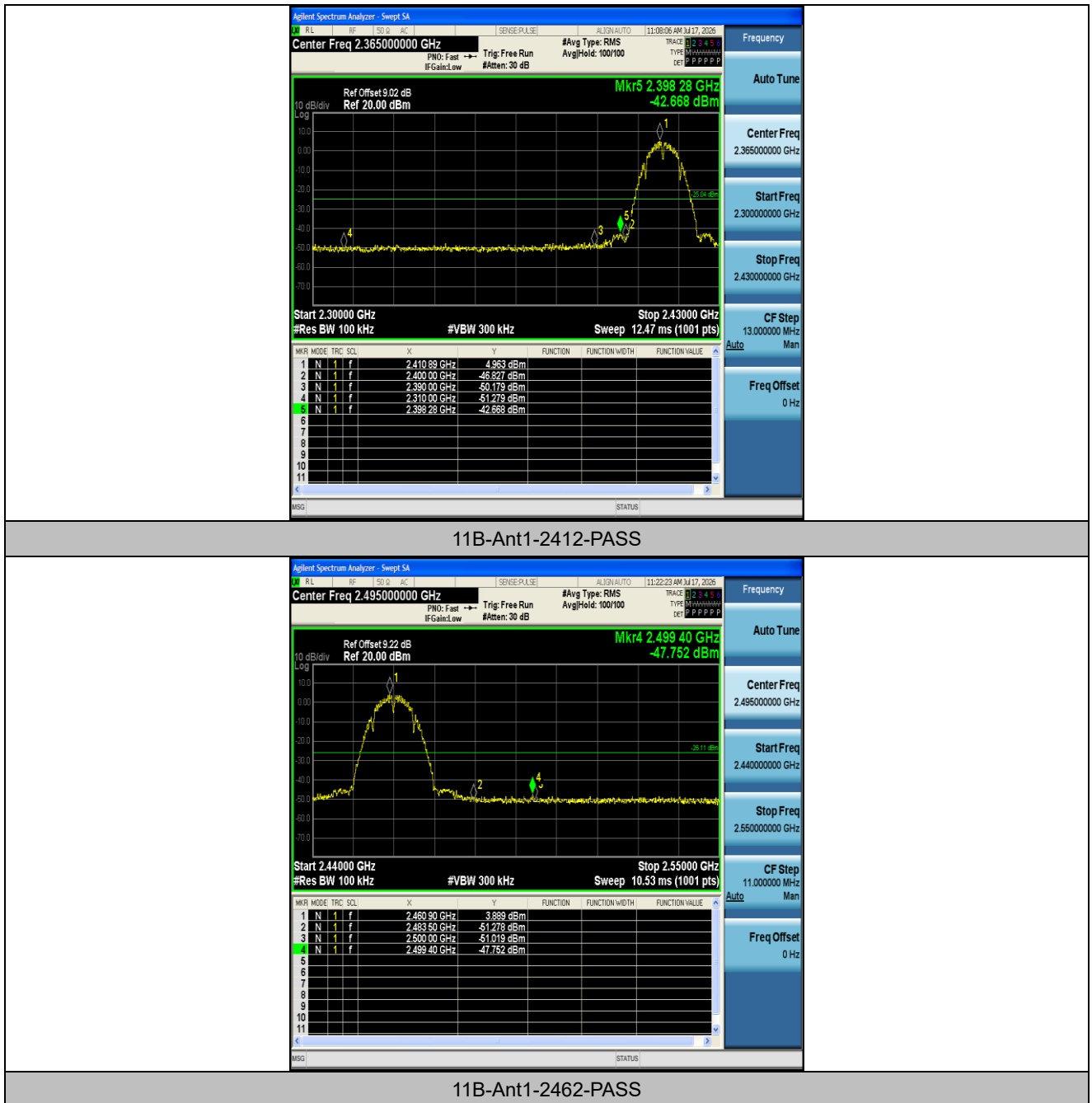
Test Mode	Antenna	Ch. Name	Frequency.[MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	4.96	-42.67	≤-25.04	PASS
11B	Ant1	High	2462	3.89	-47.75	≤-26.11	PASS
11G	Ant1	Low	2412	-0.76	-35.3	≤-30.76	PASS
11G	Ant1	High	2462	-0.59	-46.8	≤-30.59	PASS
11N20SISO	Ant1	Low	2412	0.49	-39.87	≤-29.51	PASS
11N20SISO	Ant1	High	2462	-0.17	-47.98	≤-30.17	PASS

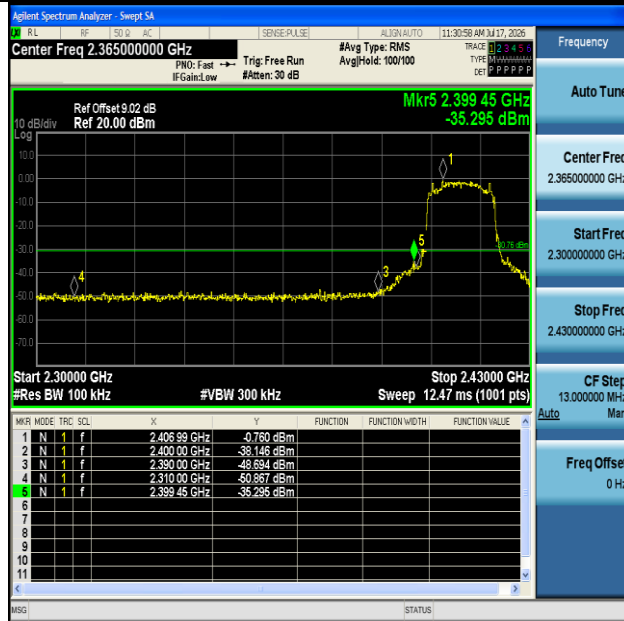
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



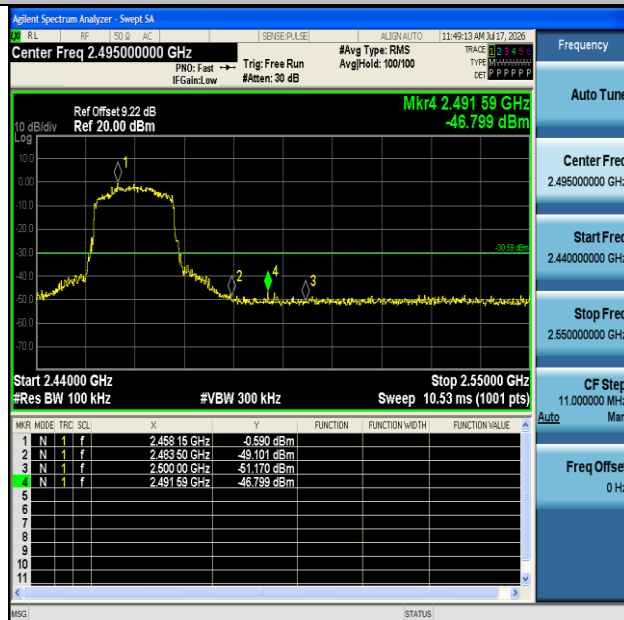


Test Graphs



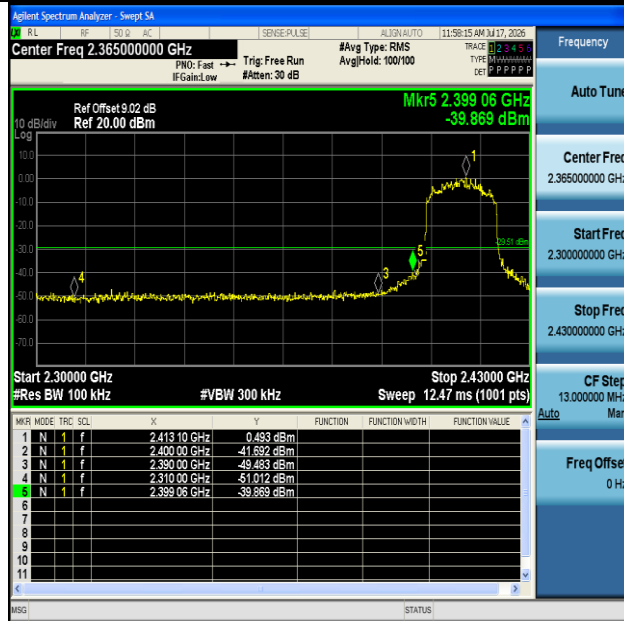


11G-Ant1-2412-PASS

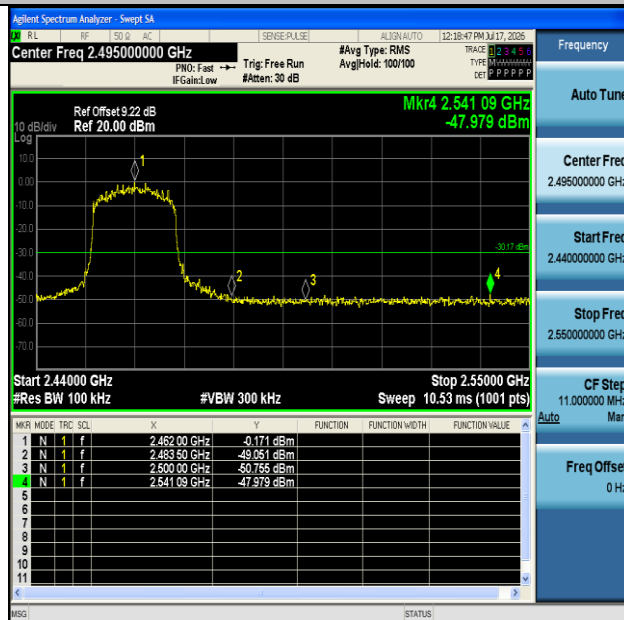


11G-Ant1-2462-PASS





11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2462-PASS





Appendix F: Conducted Spurious Emission

Test Result

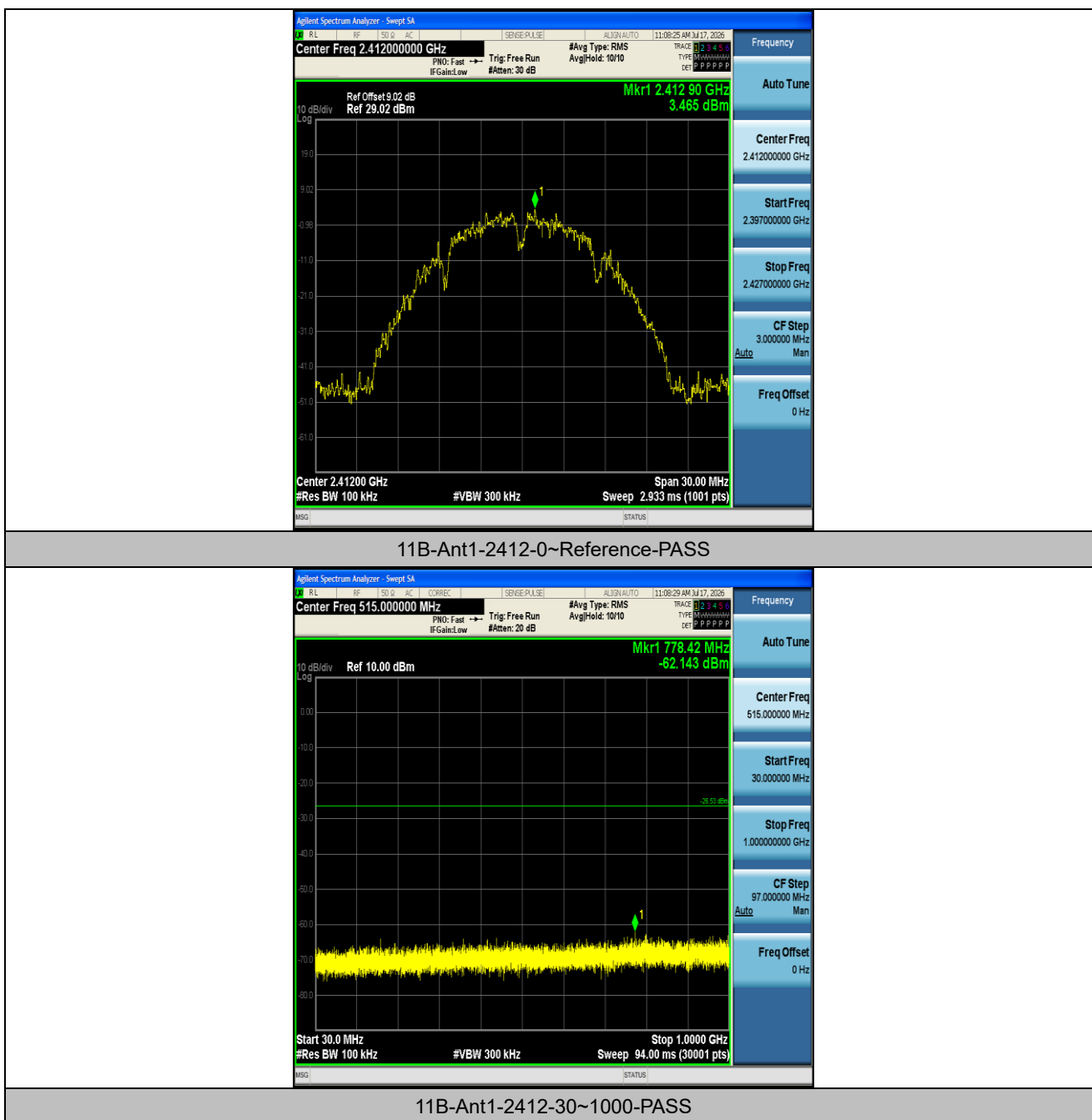
Test Mode	Antenna	Frequency [MHz]	Freq. Range [Mhz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	0~Reference	3.47	3.47	---	PASS
11B	Ant1	2412	30~1000	3.47	-62.14	≤-26.53	PASS
11B	Ant1	2412	1000~26500	3.47	-37.4	≤-26.53	PASS
11B	Ant1	2437	0~Reference	3.46	3.46	---	PASS
11B	Ant1	2437	30~1000	3.46	-62.68	≤-26.54	PASS
11B	Ant1	2437	1000~26500	3.46	-37.43	≤-26.54	PASS
11B	Ant1	2462	0~Reference	2.96	2.96	---	PASS
11B	Ant1	2462	30~1000	2.96	-63.25	≤-27.04	PASS
11B	Ant1	2462	1000~26500	2.96	-37.67	≤-27.04	PASS
11G	Ant1	2412	0~Reference	-1.41	-1.41	---	PASS
11G	Ant1	2412	30~1000	-1.41	-62.5	≤-31.41	PASS
11G	Ant1	2412	1000~26500	-1.41	-37.24	≤-31.41	PASS
11G	Ant1	2437	0~Reference	-0.58	-0.58	---	PASS
11G	Ant1	2437	30~1000	-0.58	-62.53	≤-30.58	PASS
11G	Ant1	2437	1000~26500	-0.58	-37.59	≤-30.58	PASS
11G	Ant1	2462	0~Reference	-1.55	-1.55	---	PASS
11G	Ant1	2462	30~1000	-1.55	-62.52	≤-31.55	PASS
11G	Ant1	2462	1000~26500	-1.55	-37.7	≤-31.55	PASS
11N20SISO	Ant1	2412	0~Reference	0.10	0.10	---	PASS
11N20SISO	Ant1	2412	30~1000	0.10	-62.84	≤-29.9	PASS
11N20SISO	Ant1	2412	1000~26500	0.10	-36.84	≤-29.9	PASS
11N20SISO	Ant1	2437	0~Reference	0.86	0.86	---	PASS
11N20SISO	Ant1	2437	30~1000	0.86	-62.31	≤-29.14	PASS
11N20SISO	Ant1	2437	1000~26500	0.86	-37.07	≤-29.14	PASS
11N20SISO	Ant1	2462	0~Reference	-0.88	-0.88	---	PASS
11N20SISO	Ant1	2462	30~1000	-0.88	-63.06	≤-30.88	PASS
11N20SISO	Ant1	2462	1000~26500	-0.88	-37.47	≤-30.88	PASS

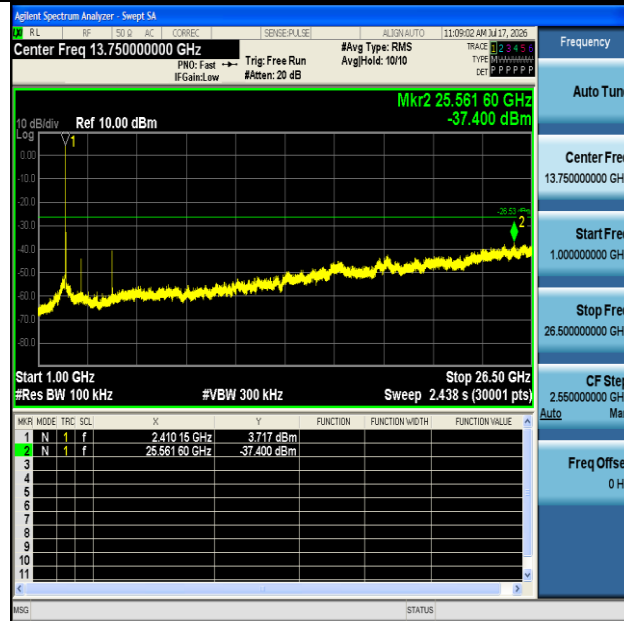
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.





Test Graphs



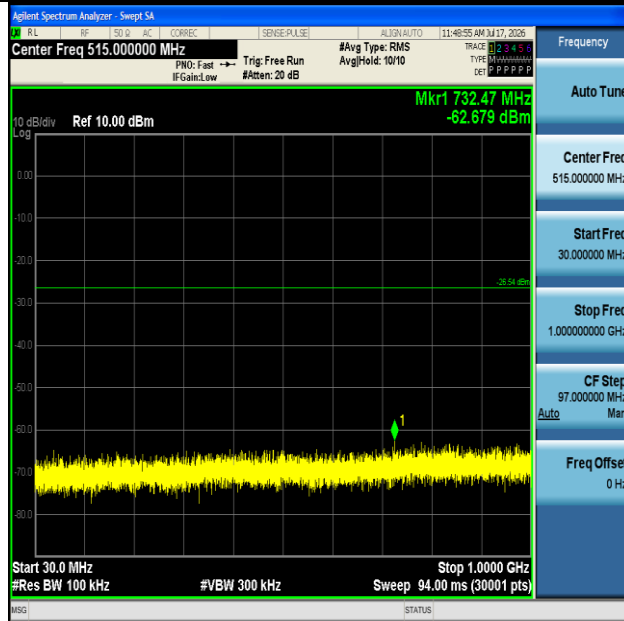


11B-Ant1-2412-1000~26500-PASS

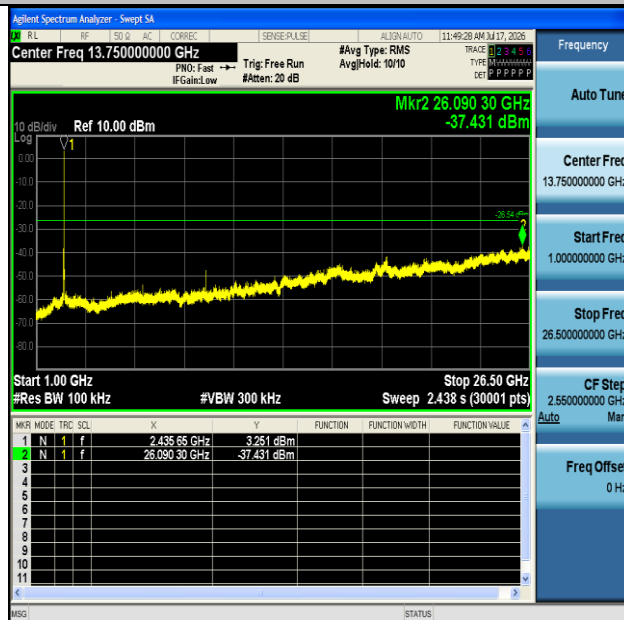


11B-Ant1-2437-0~Reference-PASS



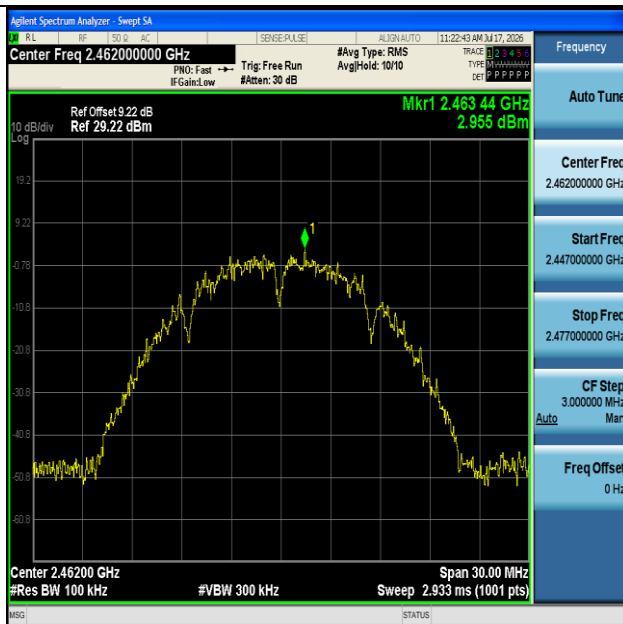


11B-Ant1-2437-30~1000-PASS

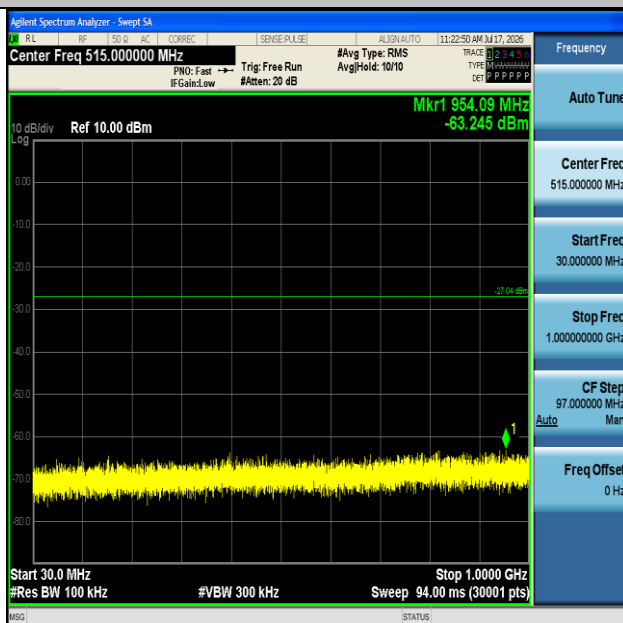


11B-Ant1-2437-1000~26500-PASS



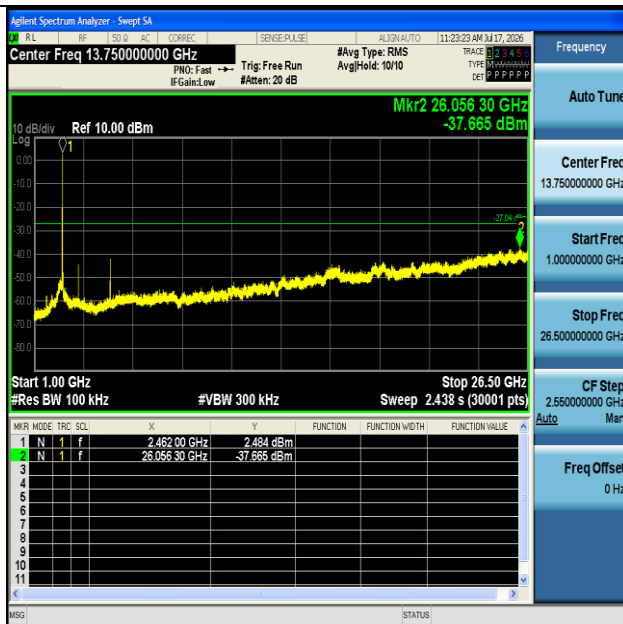


11B-Ant1-2462-0~Reference-PASS

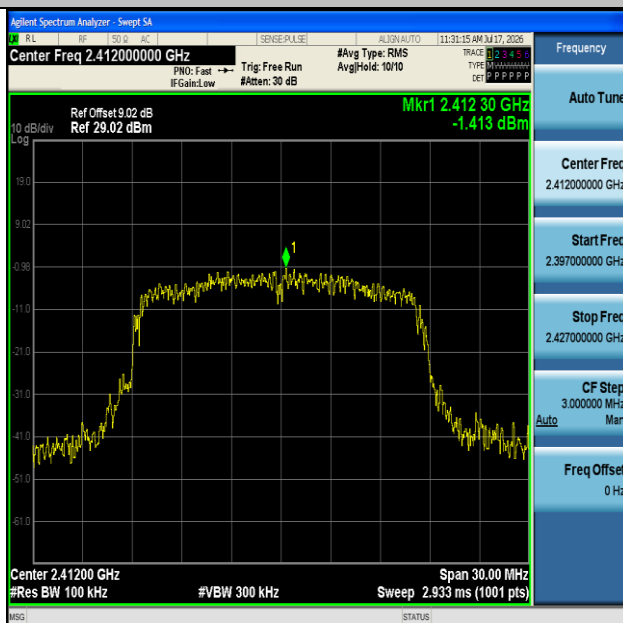


11B-Ant1-2462-30~1000-PASS



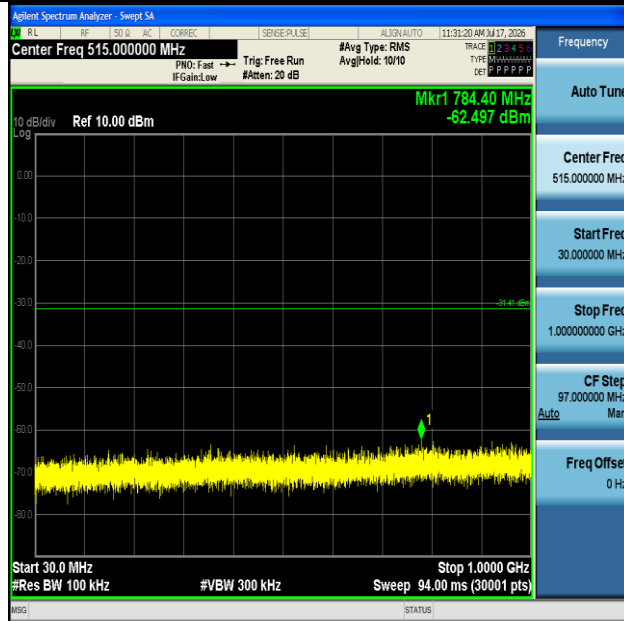


11B-Ant1-2462-1000~26500-PASS

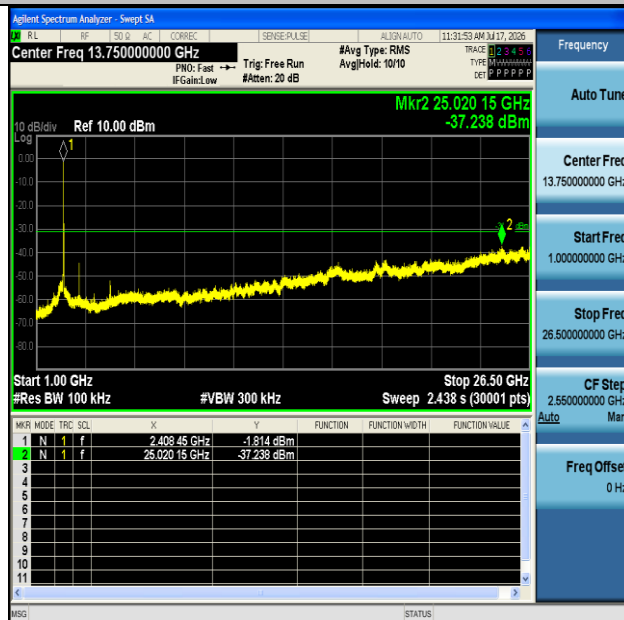


11G-Ant1-2412-0~Reference-PASS



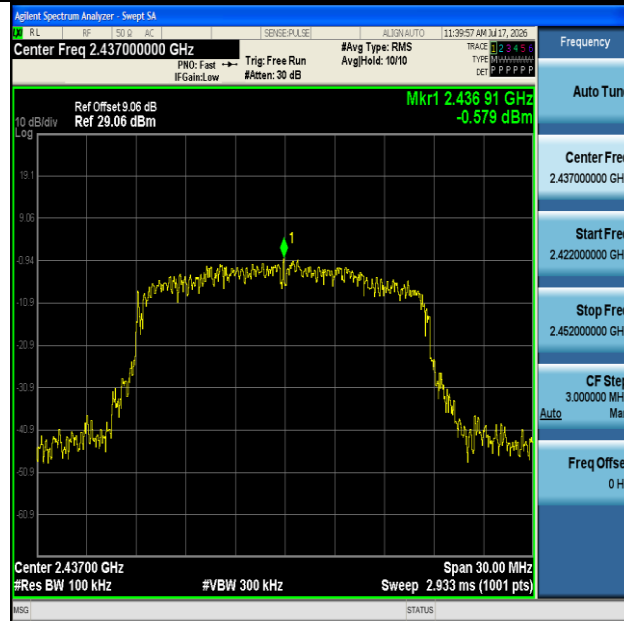


11G-Ant1-2412-30~1000-PASS

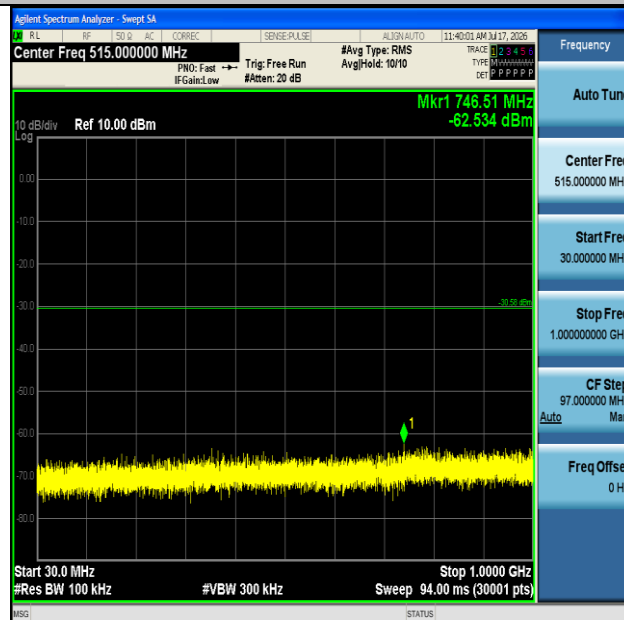


11G-Ant1-2412-1000~26500-PASS



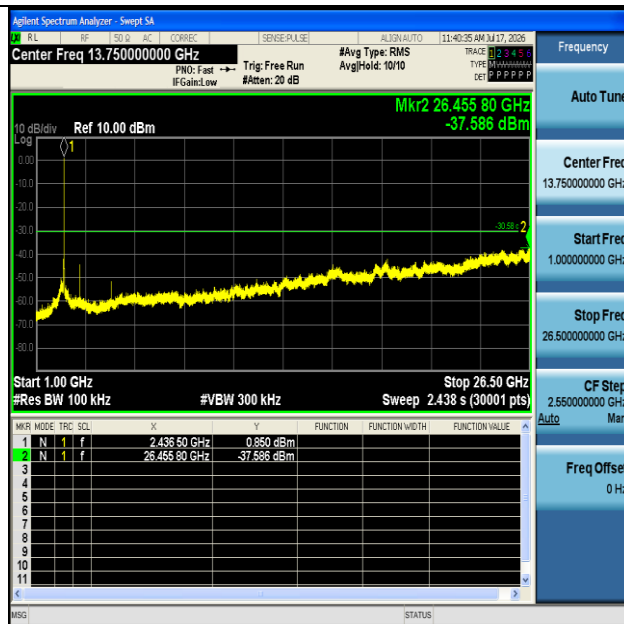


11G-Ant1-2437-0~Reference-PASS

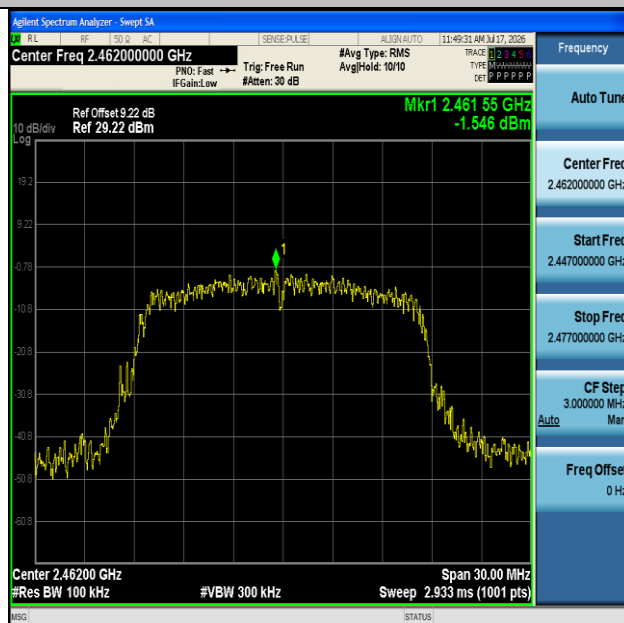


11G-Ant1-2437-30~1000-PASS



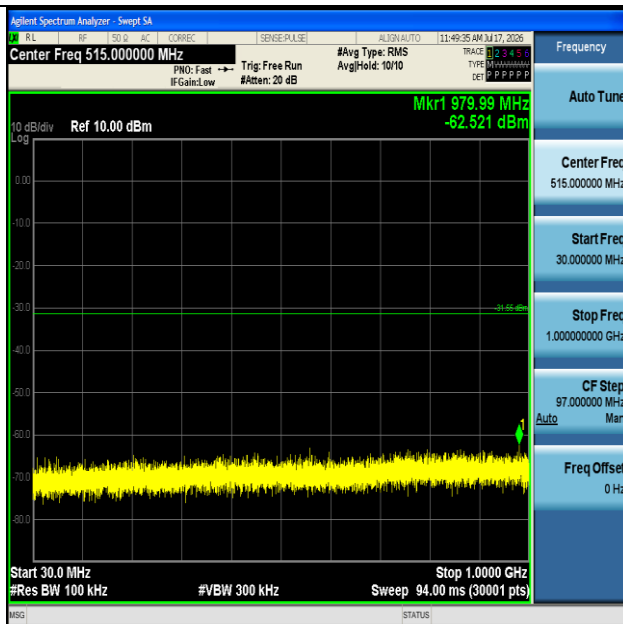


11G-Ant1-2437-1000~26500-PASS

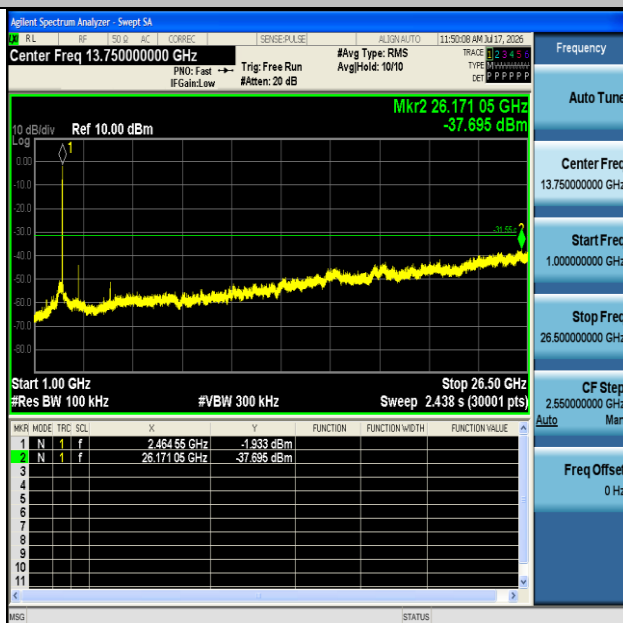


11G-Ant1-2462-0~Reference-PASS



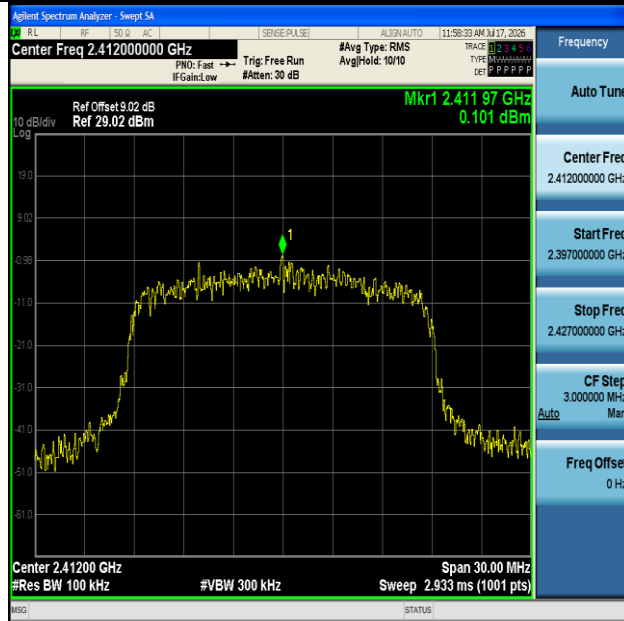


11G-Ant1-2462-30~1000-PASS

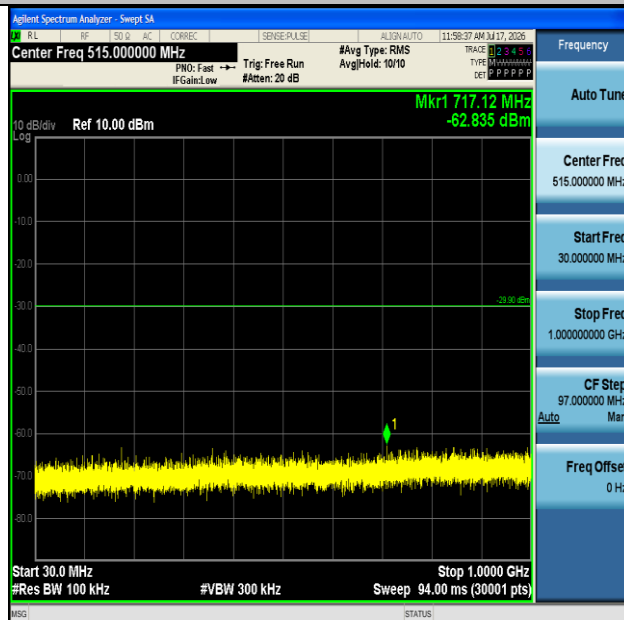


11G-Ant1-2462-1000~26500-PASS



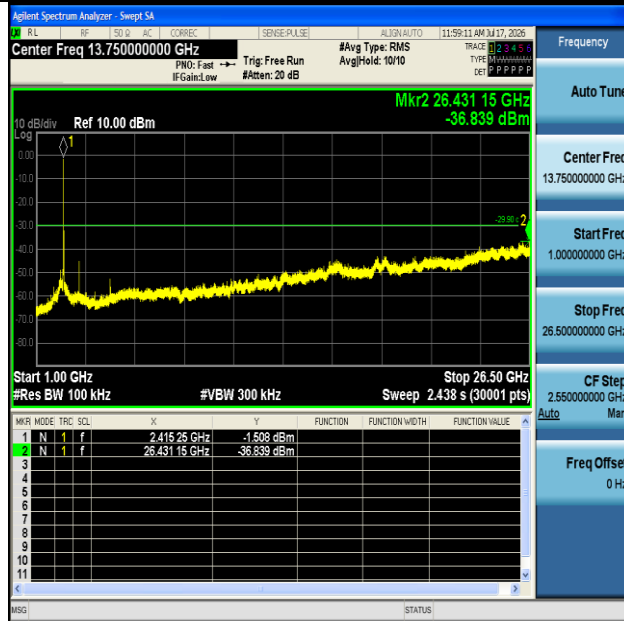


11N20SISO-Ant1-2412-0~Reference-PASS

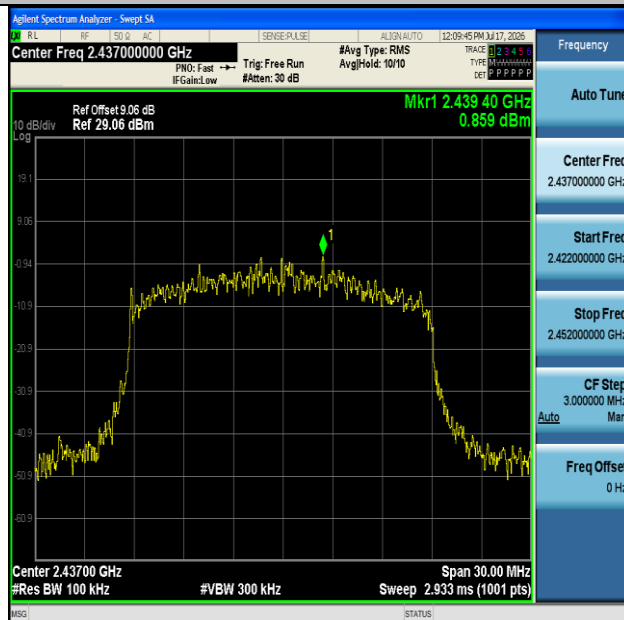


11N20SISO-Ant1-2412-30~1000-PASS



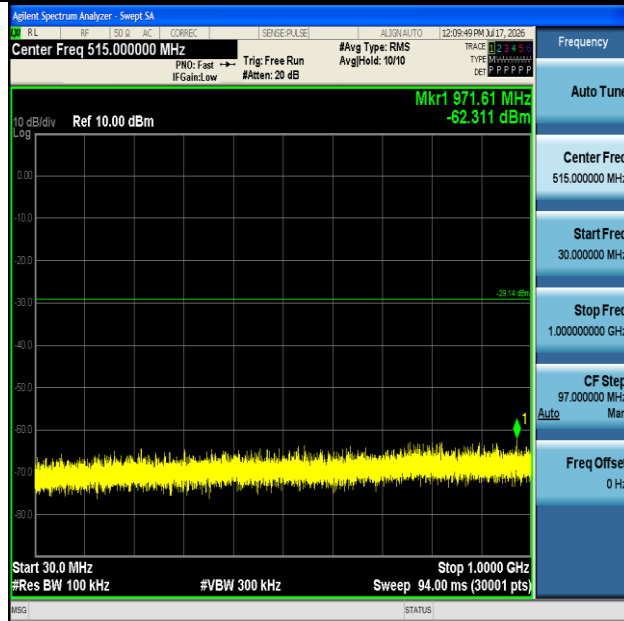


11N20SISO-Ant1-2412-1000~26500-PASS

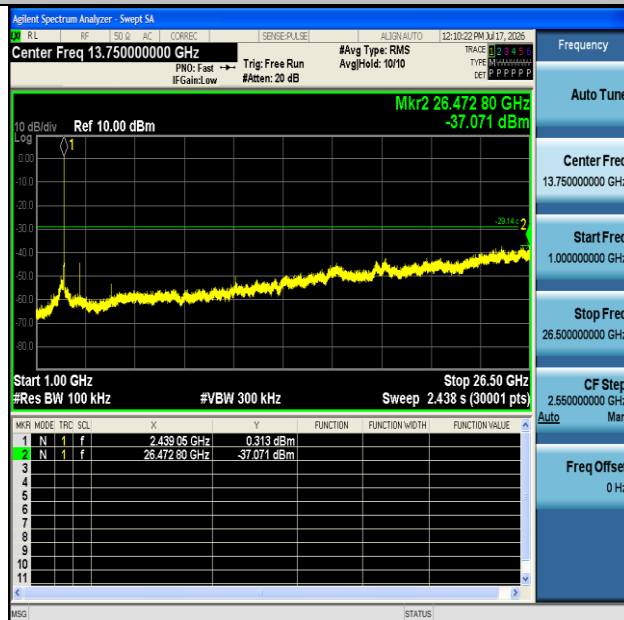


11N20SISO-Ant1-2437-0~Reference-PASS



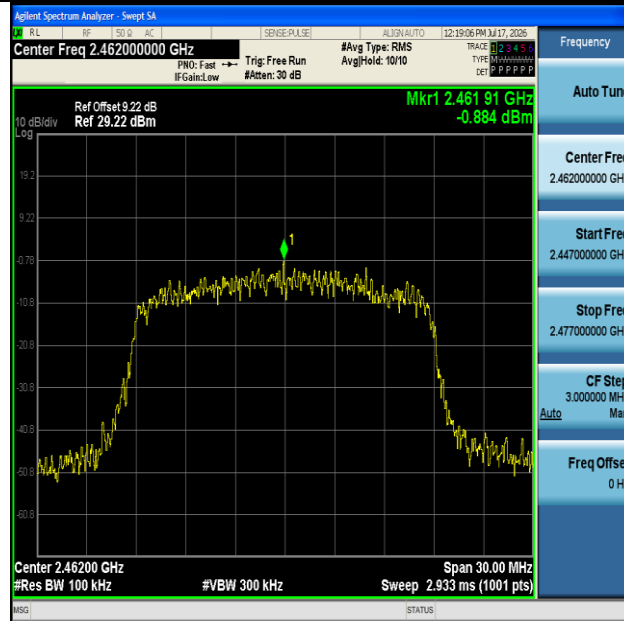


11N20SISO-Ant1-2437-30~1000-PASS

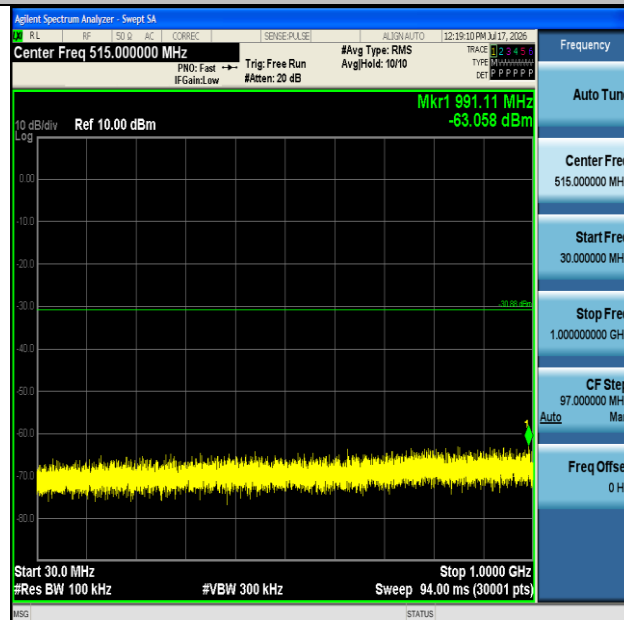


11N20SISO-Ant1-2437-1000~26500-PASS



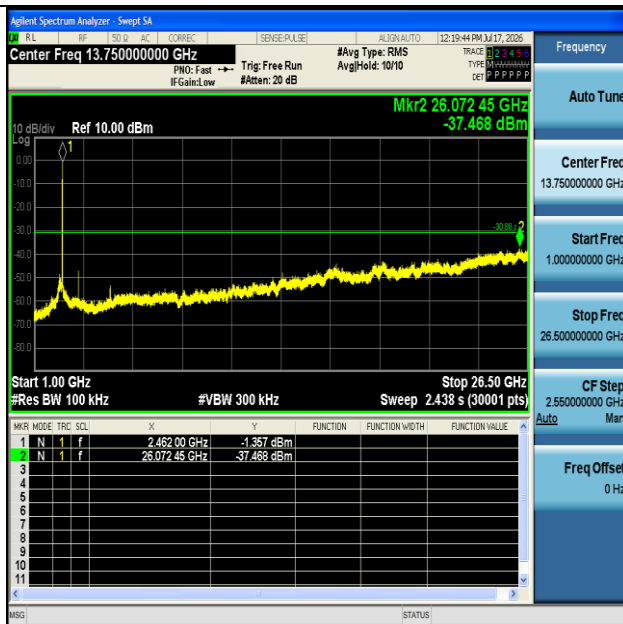


11N20SISO-Ant1-2462-0~Reference-PASS



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





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





Appendix G: Duty Cycle

Test Result

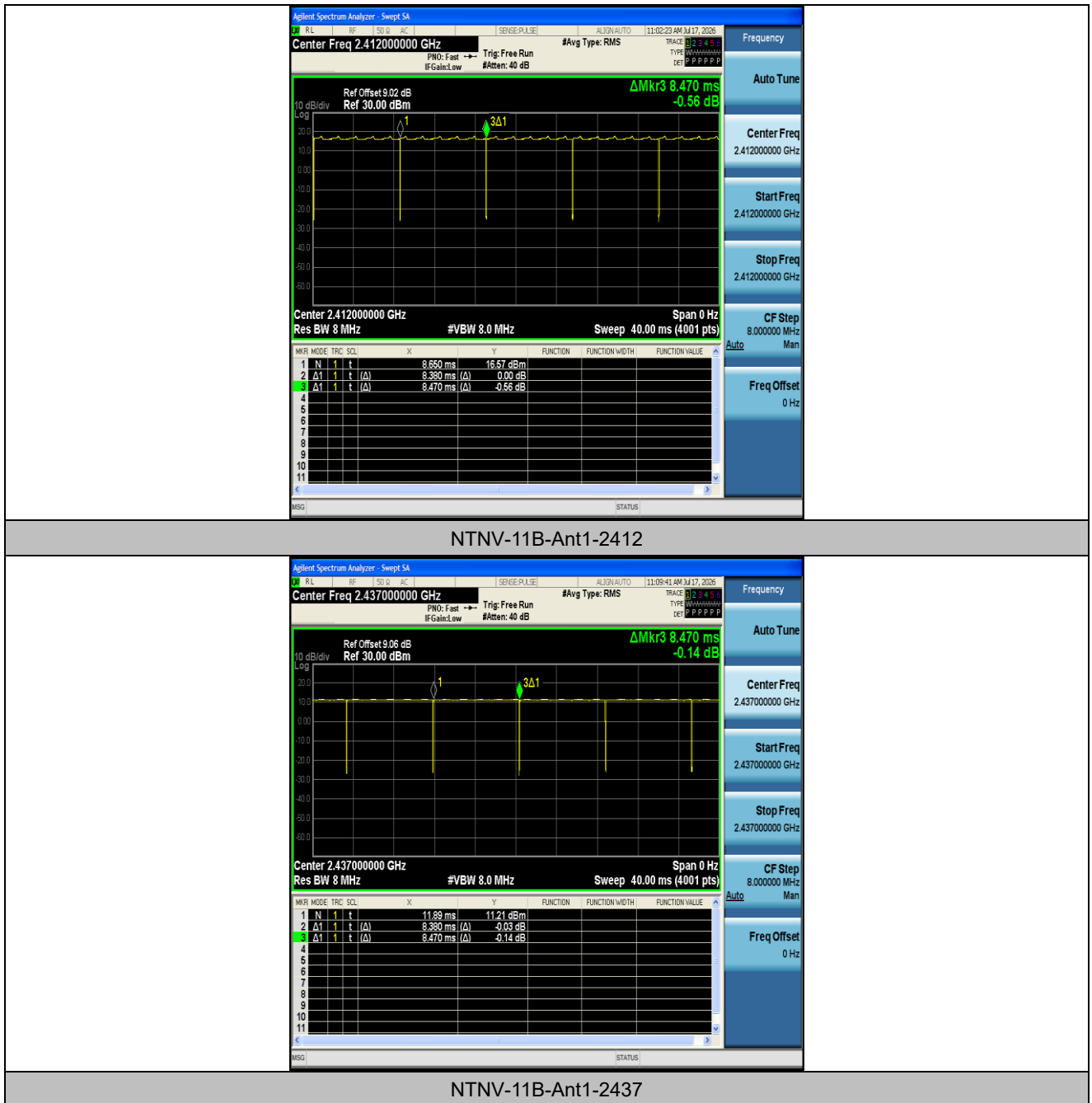
Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.38	8.47	98.94	0.05
11B	Ant1	2437	8.38	8.47	98.94	0.05
11B	Ant1	2462	8.38	8.47	98.94	0.05
11G	Ant1	2412	5.48	5.54	98.92	0.05
11G	Ant1	2437	5.48	5.54	98.92	0.05
11G	Ant1	2462	5.48	5.54	98.92	0.05
11N20SISO	Ant1	2412	40.00	40.00	100.00	0.00
11N20SISO	Ant1	2437	40.00	40.00	100.00	0.00
11N20SISO	Ant1	2462	40.00	40.00	100.00	0.00

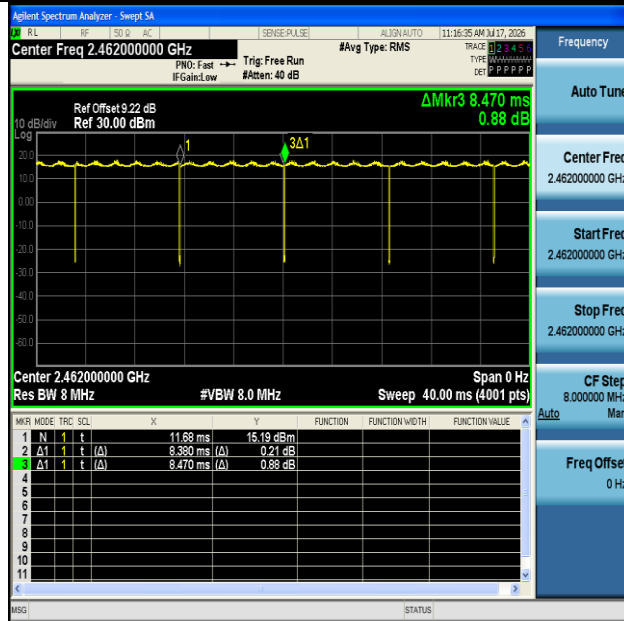
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



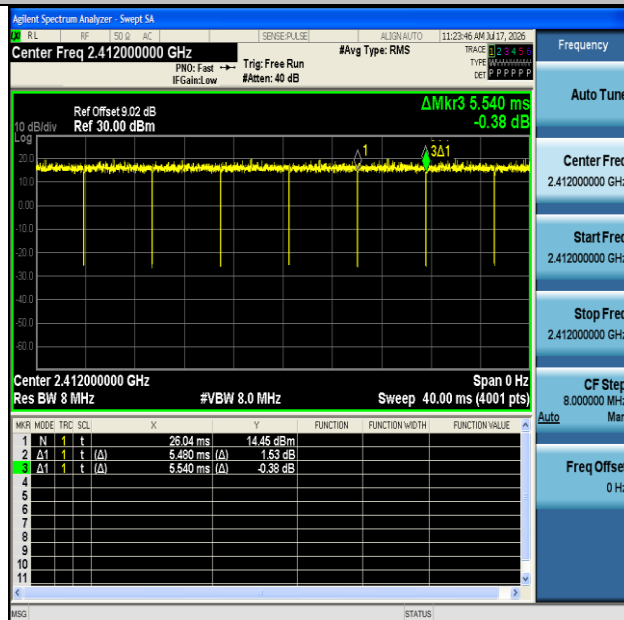


Test Graphs



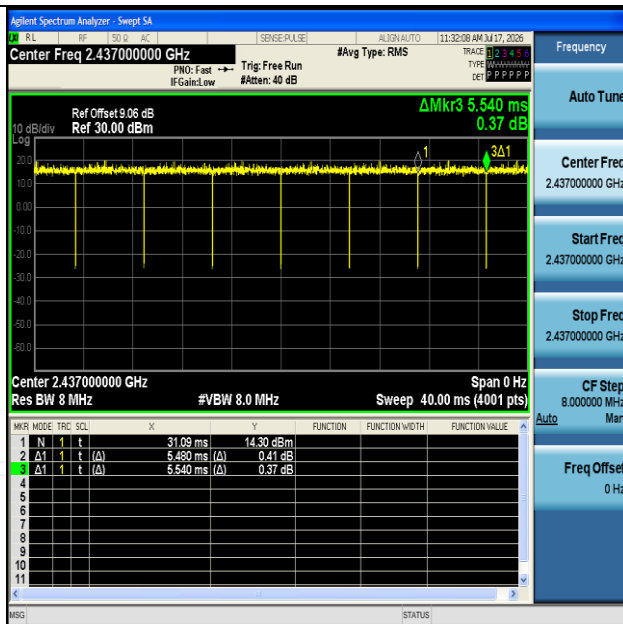


NTNV-11B-Ant1-2462

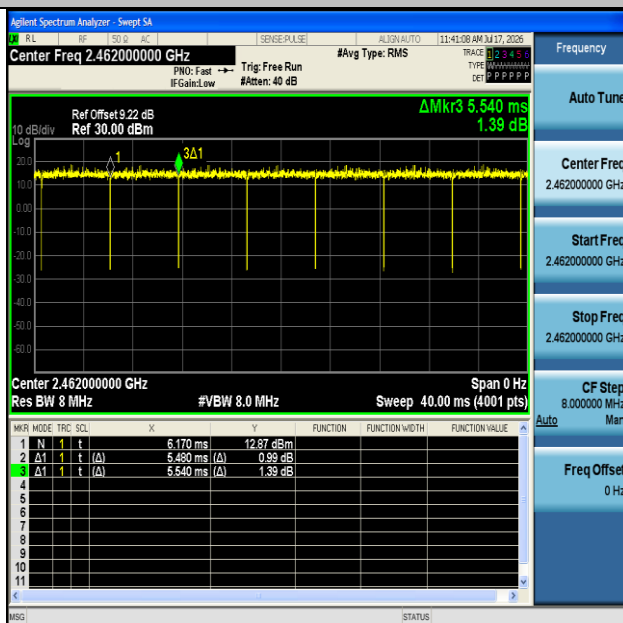


NTNV-11G-Ant1-2412



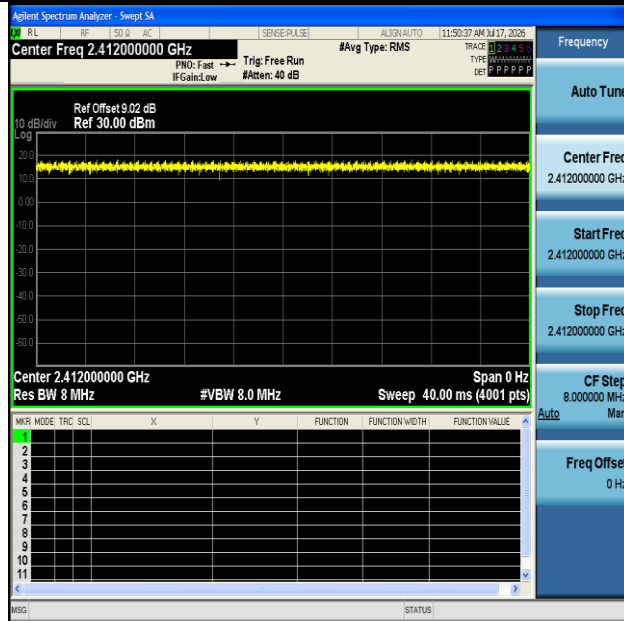


NTNV-11G-Ant1-2437

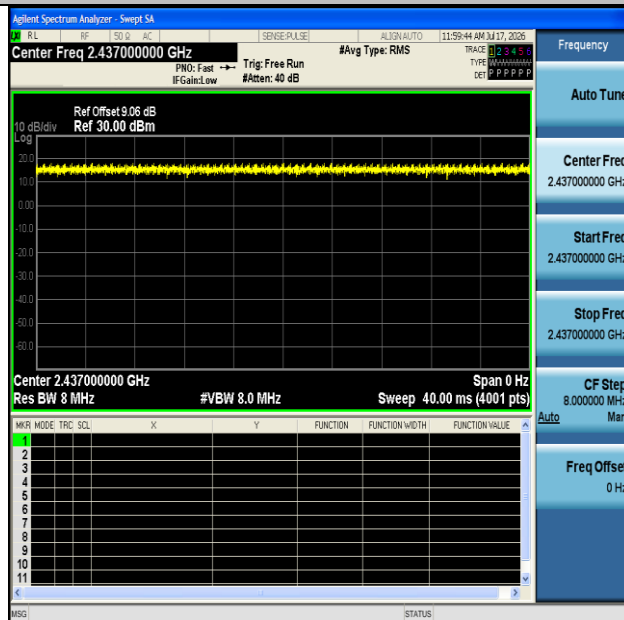


NTNV-11G-Ant1-2462



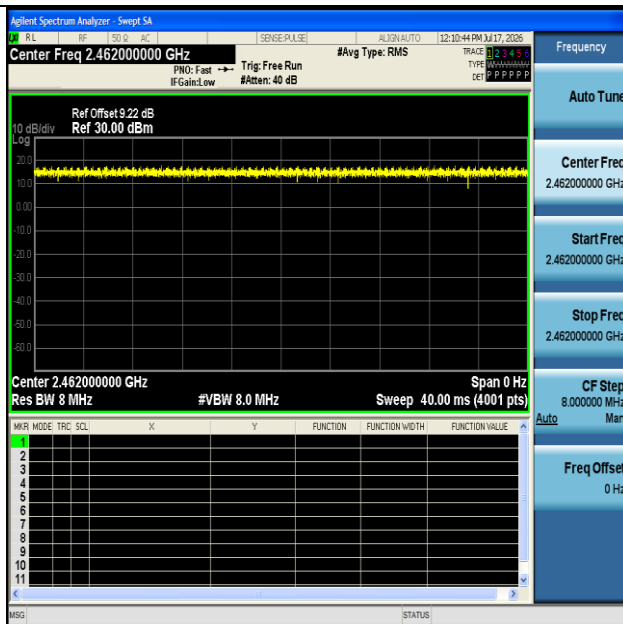


NTNV-11N20SISO-Ant1-2412



NTNV-11N20SISO-Ant1-2437





NTNV-11N20SISO-Ant1-2462

