



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

Product Name: LED light

Trade Mark: SIGNCOMPLEX

Test Model: SC-DL20-S11-A1-02RGB

FCC ID: ZR3-SKPT1UHL

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	9.120	2407.200	2416.320	0.5	PASS
11B	Ant1	2437	9.080	2432.240	2441.320	0.5	PASS
11B	Ant1	2462	9.120	2457.200	2466.320	0.5	PASS
11G	Ant1	2412	17.320	2402.920	2420.240	0.5	PASS
11G	Ant1	2437	10.440	2431.600	2442.040	0.5	PASS
11G	Ant1	2462	16.800	2453.040	2469.840	0.5	PASS
11N20SISO	Ant1	2412	15.360	2404.080	2419.440	0.5	PASS
11N20SISO	Ant1	2437	15.360	2429.040	2444.400	0.5	PASS
11N20SISO	Ant1	2462	15.880	2453.880	2469.760	0.5	PASS

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





Test Graphs





11B-Ant1-2462-PASS

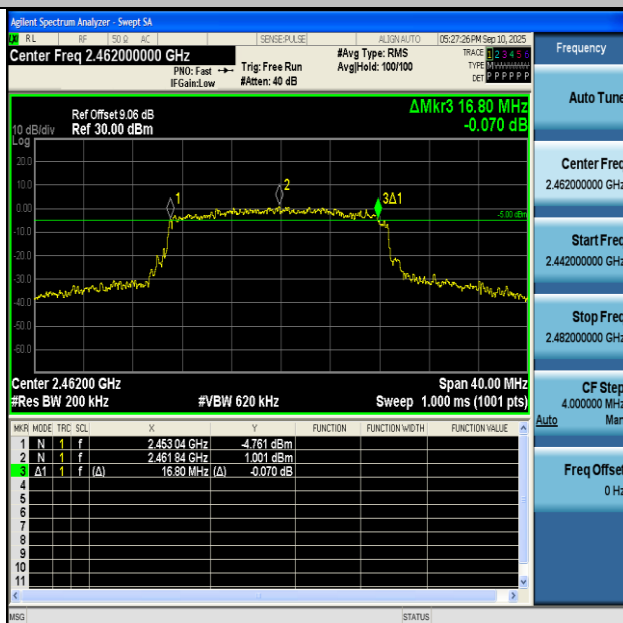


11G-Ant1-2412-PASS





11G-Ant1-2437-PASS



11G-Ant1-2462-PASS



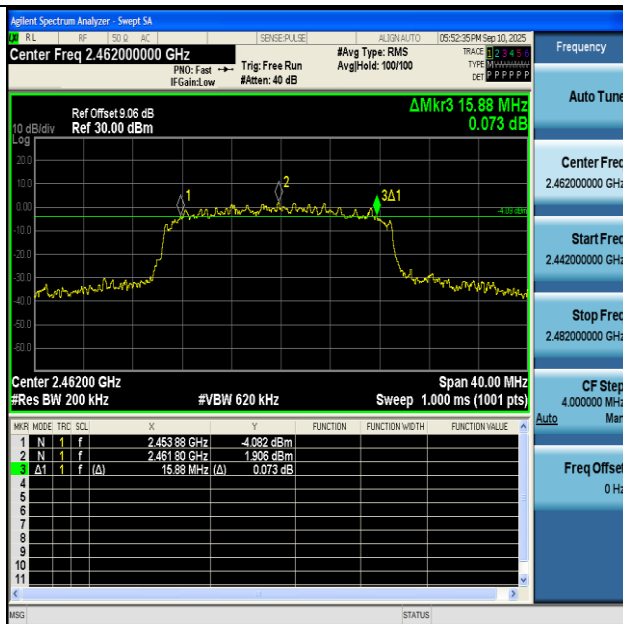


11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS





11N20SISO-Ant1-2462-PASS





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	14.233	2404.6807	2418.9137	---	---
11B	Ant1	2437	14.053	2429.7269	2443.7799	---	---
11B	Ant1	2462	14.341	2454.6320	2468.9730	---	---
11G	Ant1	2412	17.427	2403.0051	2420.4321	---	---
11G	Ant1	2437	17.363	2428.0355	2445.3985	---	---
11G	Ant1	2462	17.442	2453.0662	2470.5082	---	---
11N20SISO	Ant1	2412	17.853	2402.9226	2420.7756	---	---
11N20SISO	Ant1	2437	17.756	2427.9723	2445.7283	---	---
11N20SISO	Ant1	2462	17.892	2452.9033	2470.7953	---	---

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



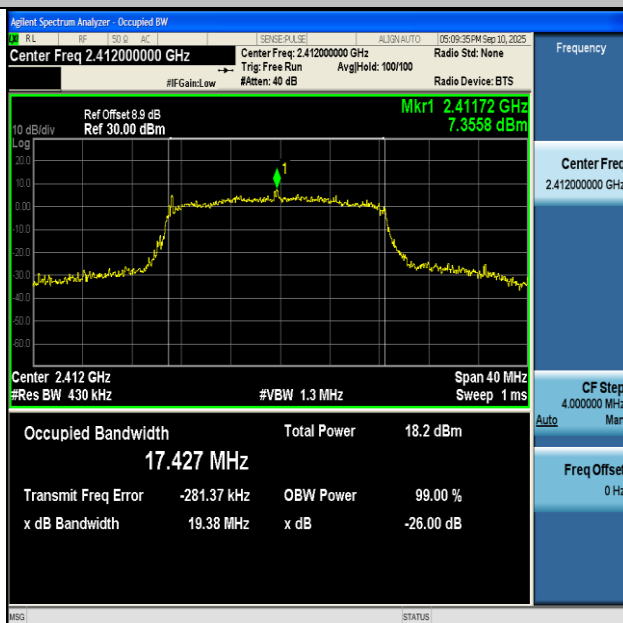


Test Graphs



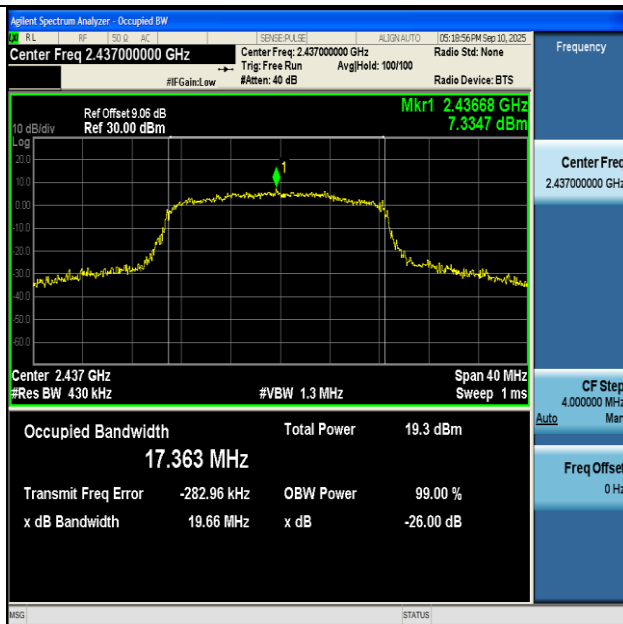


11B-Ant1-2462

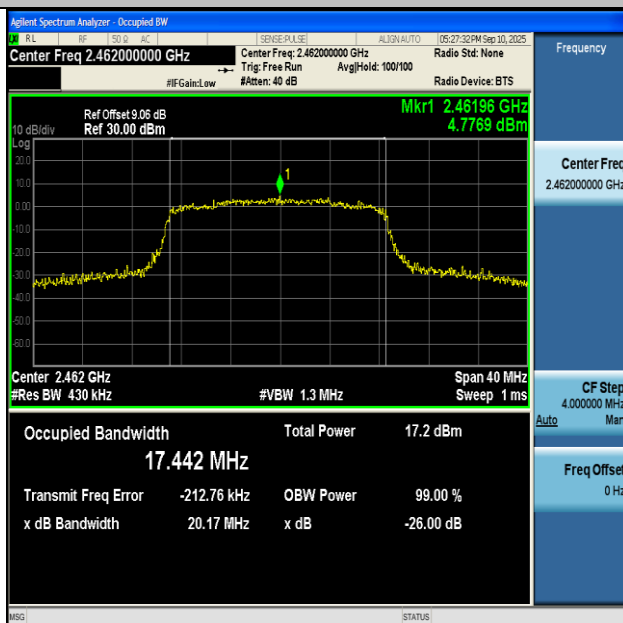


11G-Ant1-2412



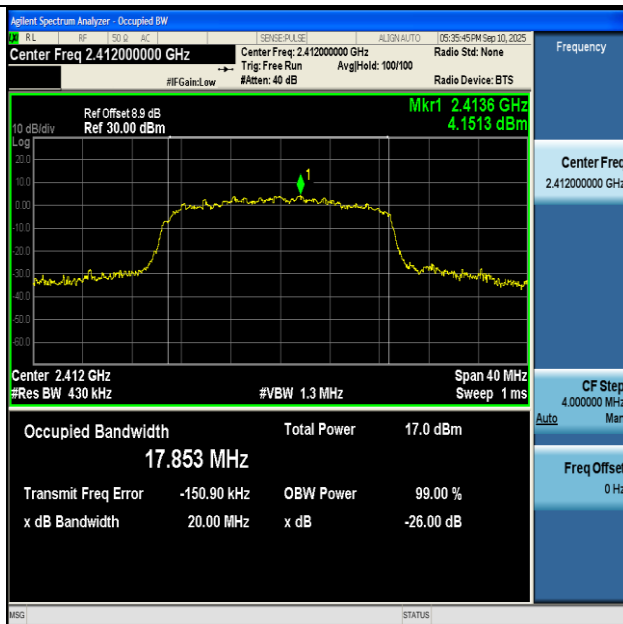


11G-Ant1-2437

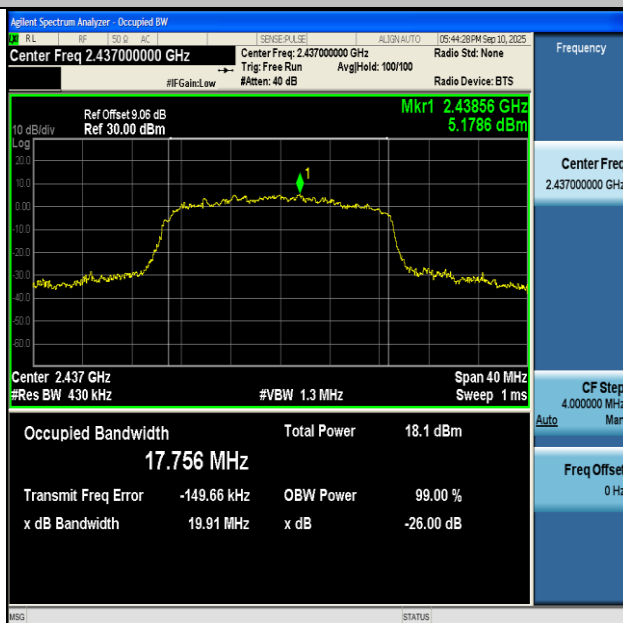


11G-Ant1-2462



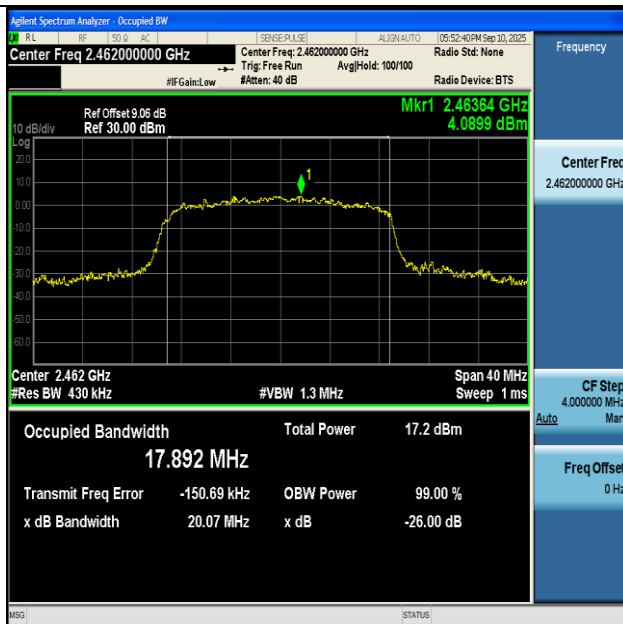


11N20SISO-Ant1-2412



11N20SISO-Ant1-2437





11N20SISO-Ant1-2462



Appendix C: Maximum Average conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11B	Ant1	2412	12.47	≤30.00	PASS
11B	Ant1	2437	13.72	≤30.00	PASS
11B	Ant1	2462	12.66	≤30.00	PASS
11G	Ant1	2412	11.85	≤30.00	PASS
11G	Ant1	2437	12.92	≤30.00	PASS
11G	Ant1	2462	10.95	≤30.00	PASS
11N20SISO	Ant1	2412	11.05	≤30.00	PASS
11N20SISO	Ant1	2437	12.08	≤30.00	PASS
11N20SISO	Ant1	2462	10.90	≤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

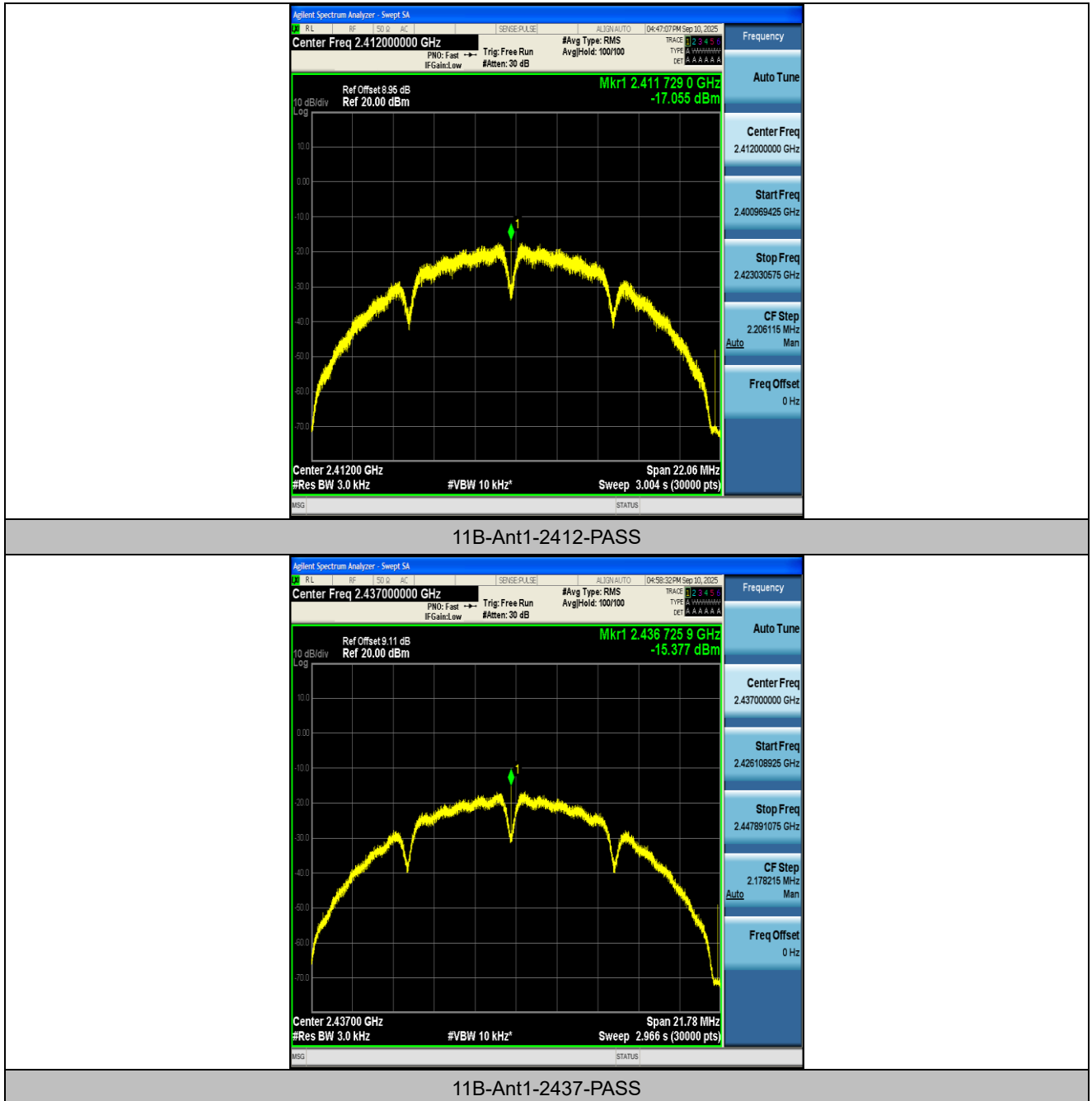
Test Mode	Antenna	Frequency [MHz]	Raw. Data [dBm/3-100kHz]	Dc. Factor	Result [dBm/3-100kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-17.11	0.05	-17.06	≤8.00	PASS
11B	Ant1	2437	-15.43	0.05	-15.38	≤8.00	PASS
11B	Ant1	2462	-16.75	0.05	-16.70	≤8.00	PASS
11G	Ant1	2412	-12.10	0.05	-12.05	≤8.00	PASS
11G	Ant1	2437	-11.24	0.04	-11.20	≤8.00	PASS
11G	Ant1	2462	-13.22	0.05	-13.17	≤8.00	PASS
11N20SISO	Ant1	2412	-11.89	0.26	-11.63	≤8.00	PASS
11N20SISO	Ant1	2437	-10.72	0.26	-10.46	≤8.00	PASS
11N20SISO	Ant1	2462	-11.78	0.00	-11.78	≤8.00	PASS

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



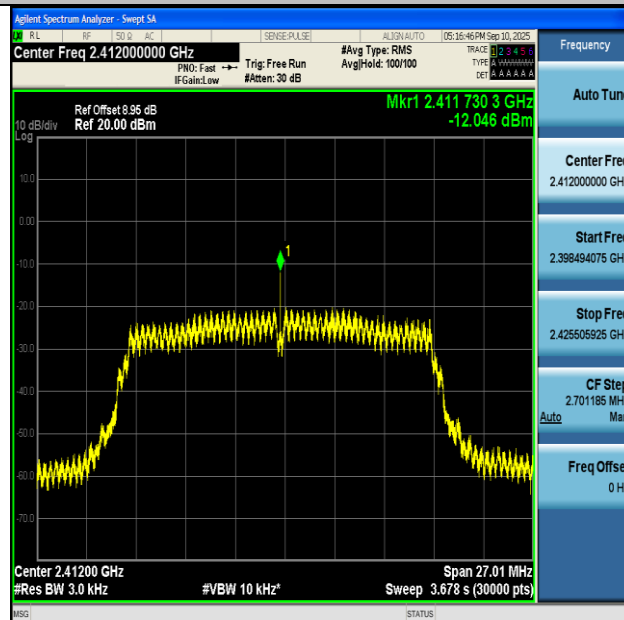


Test Graphs



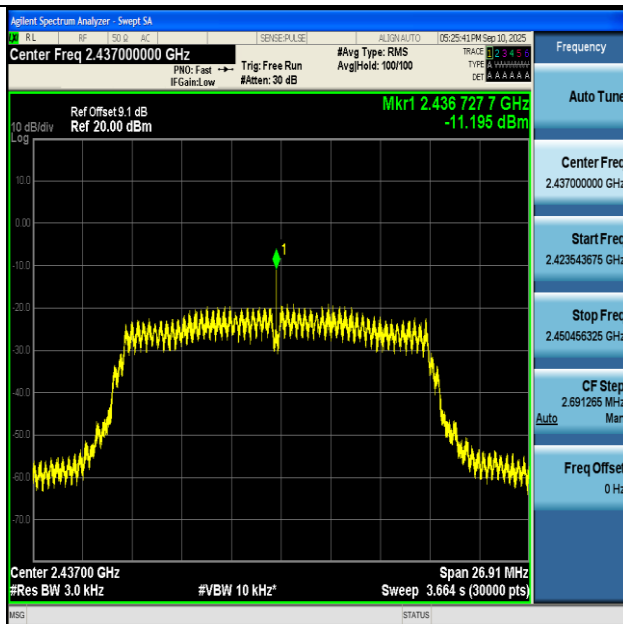


11B-Ant1-2462-PASS

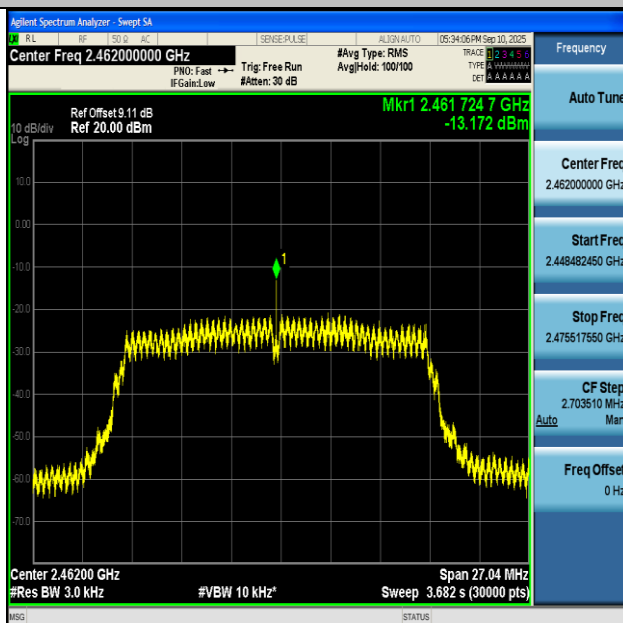


11G-Ant1-2412-PASS



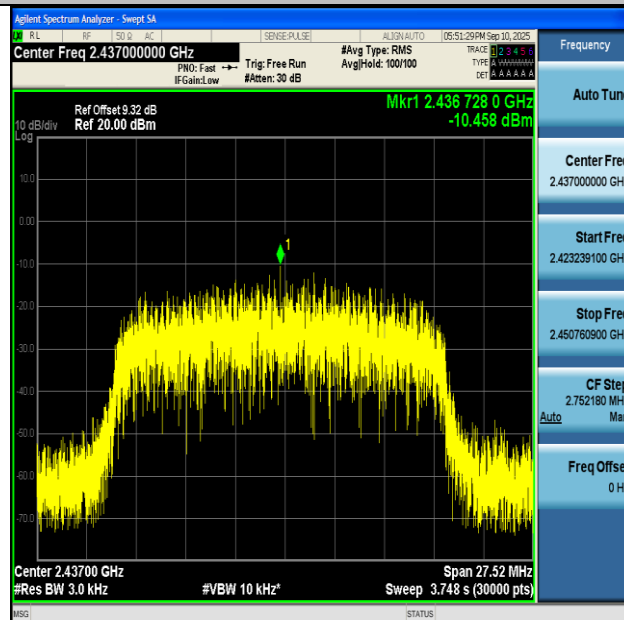
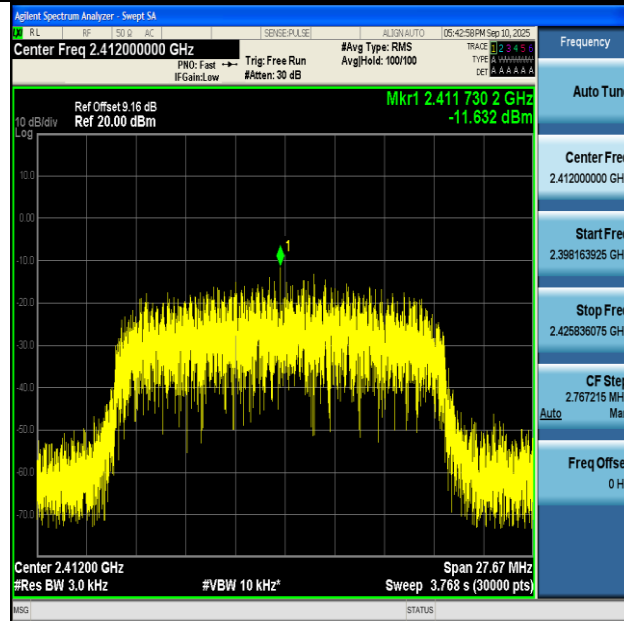


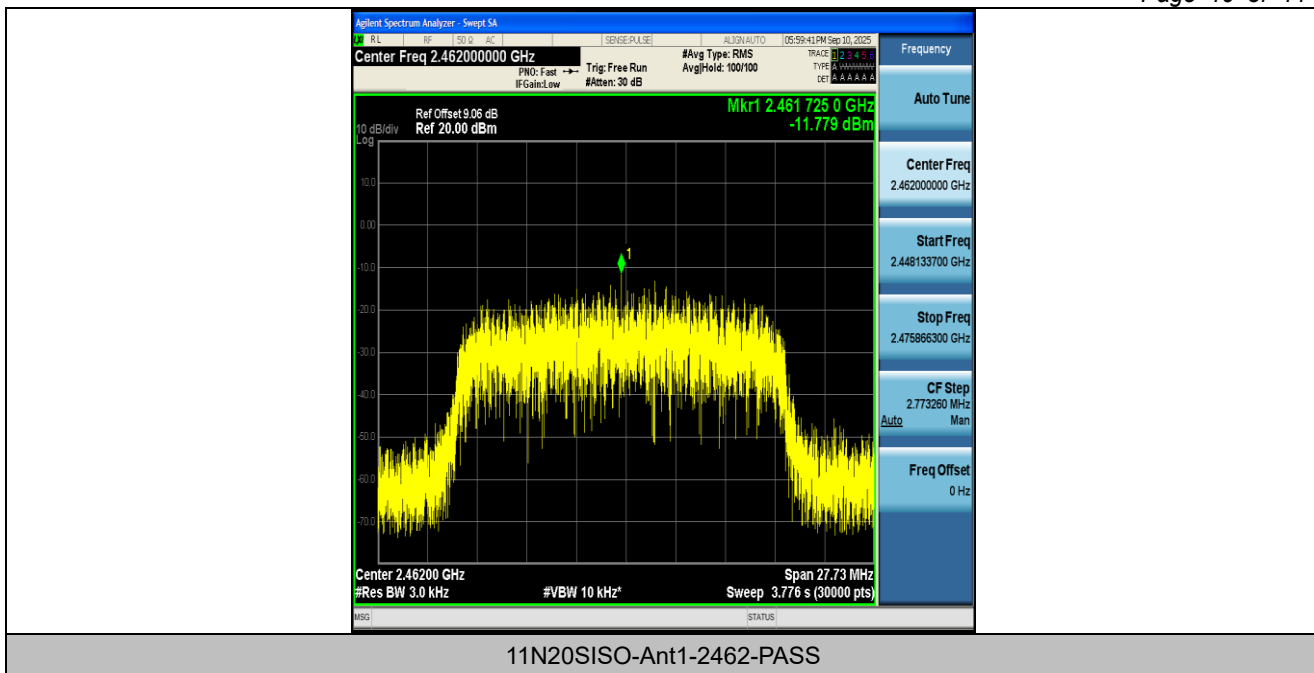
11G-Ant1-2437-PASS



11G-Ant1-2462-PASS









Appendix E: Band edge measurements

Test Result

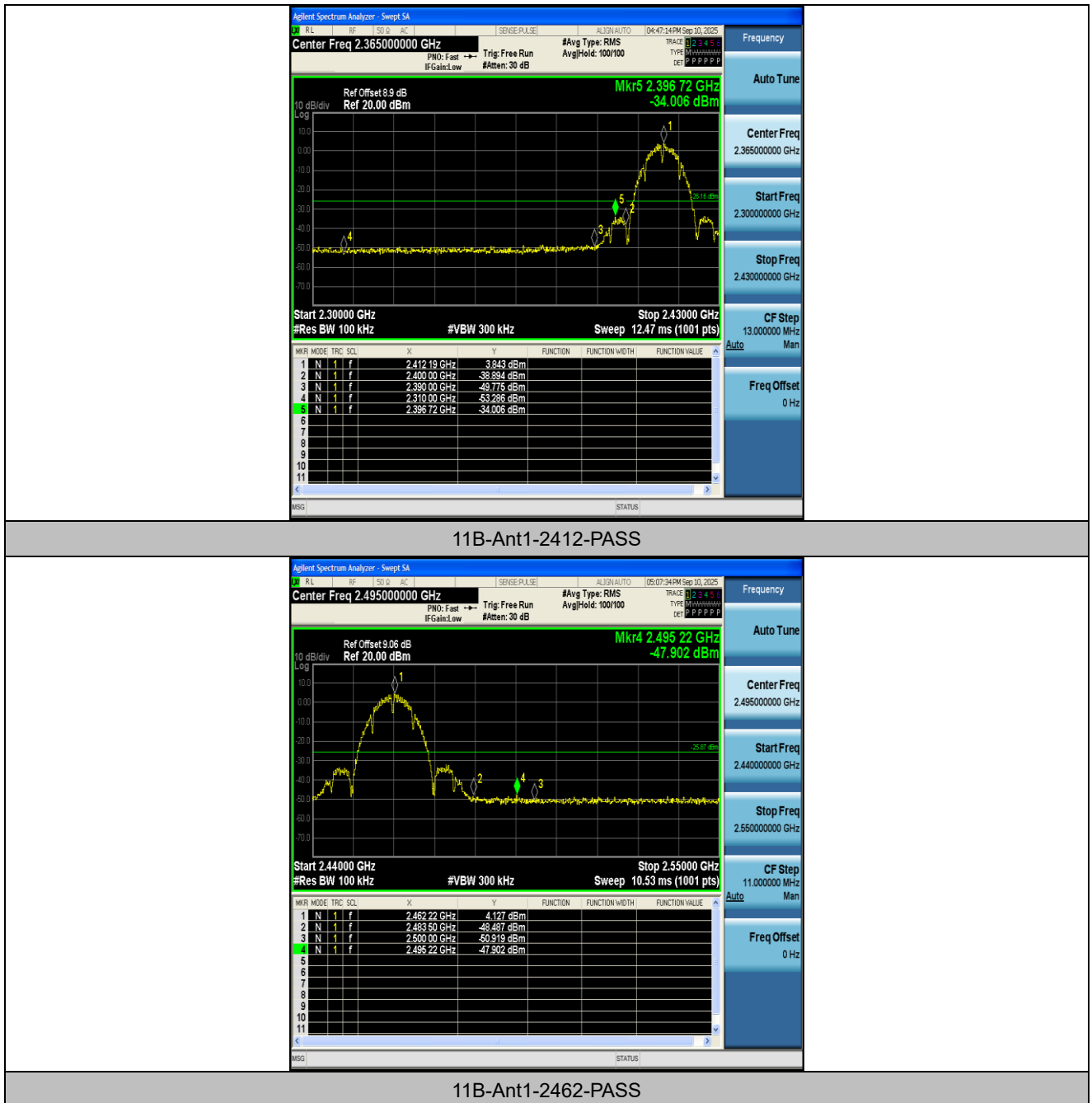
Test Mode	Antenna	Ch. Name	Frequency.[MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	3.84	-34.01	≤-26.16	PASS
11B	Ant1	High	2462	4.13	-47.9	≤-25.87	PASS
11G	Ant1	Low	2412	0.24	-32.85	≤-29.76	PASS
11G	Ant1	High	2462	0.14	-37.92	≤-29.86	PASS
11N20SISO	Ant1	Low	2412	0.83	-35.18	≤-29.17	PASS
11N20SISO	Ant1	High	2462	0.94	-43.81	≤-29.06	PASS

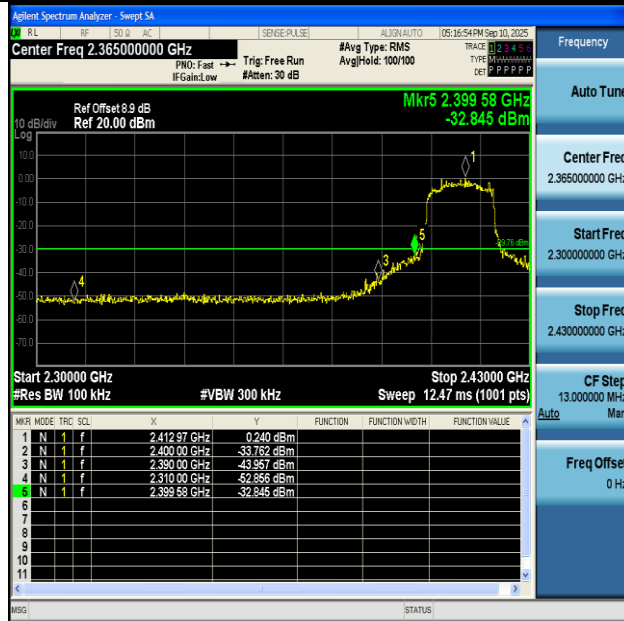
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



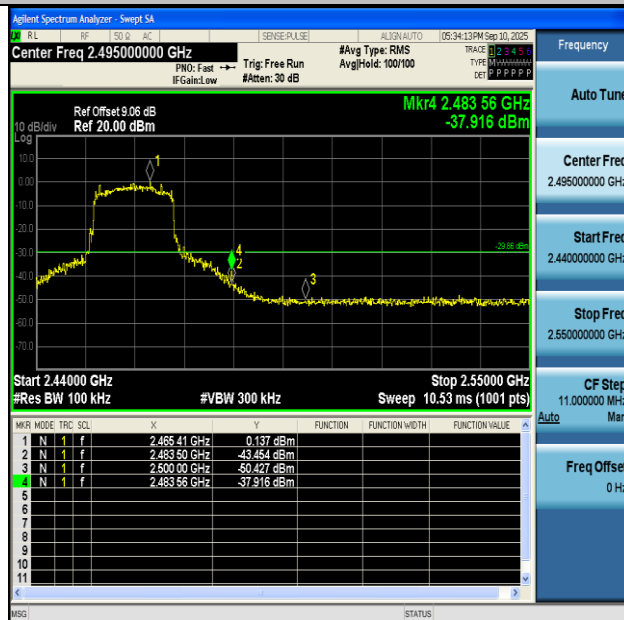


Test Graphs



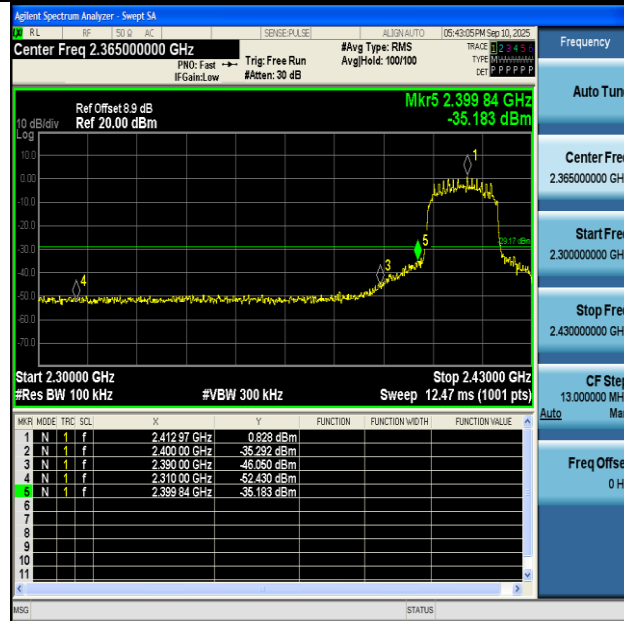


11G-Ant1-2412-PASS

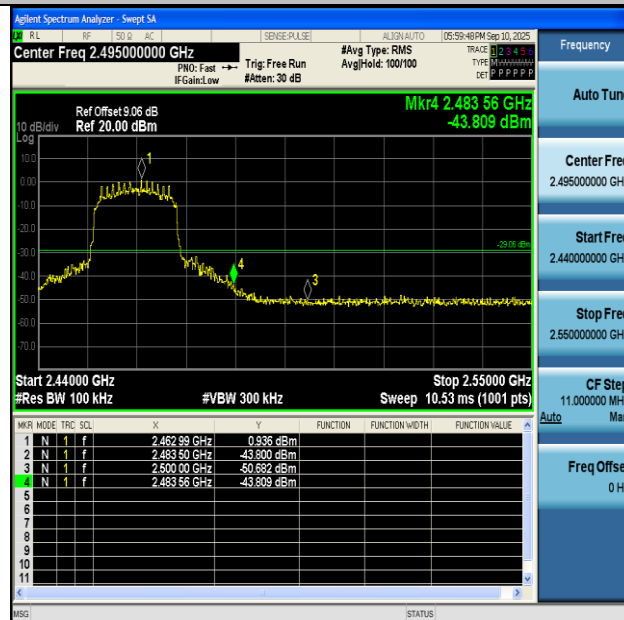


11G-Ant1-2462-PASS





11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2462-PASS





Appendix F: Conducted Spurious Emission

Test Result

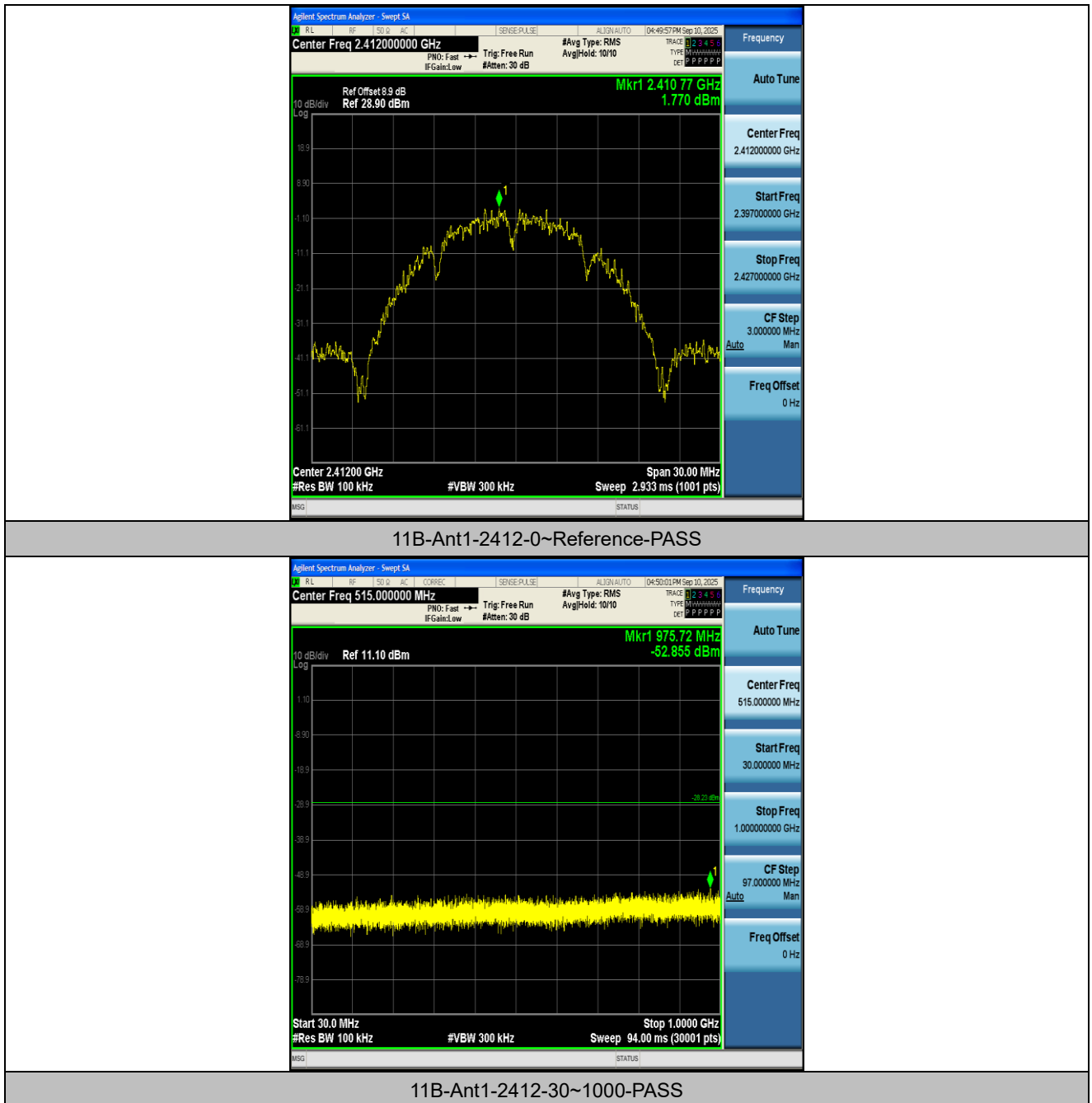
Test Mode	Antenna	Frequency [MHz]	Freq. Range [Mhz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	0~Reference	1.77	1.77	---	PASS
11B	Ant1	2412	30~1000	1.77	-52.86	≤-28.23	PASS
11B	Ant1	2412	1000~26500	1.77	-34.68	≤-28.23	PASS
11B	Ant1	2437	0~Reference	5.04	5.04	---	PASS
11B	Ant1	2437	30~1000	5.04	-53.27	≤-24.96	PASS
11B	Ant1	2437	1000~26500	5.04	-35.51	≤-24.96	PASS
11B	Ant1	2462	0~Reference	2.84	2.84	---	PASS
11B	Ant1	2462	30~1000	2.84	-52.6	≤-27.16	PASS
11B	Ant1	2462	1000~26500	2.84	-34.96	≤-27.16	PASS
11G	Ant1	2412	0~Reference	-1.31	-1.31	---	PASS
11G	Ant1	2412	30~1000	-1.31	-52.79	≤-31.31	PASS
11G	Ant1	2412	1000~26500	-1.31	-34.95	≤-31.31	PASS
11G	Ant1	2437	0~Reference	-1.23	-1.23	---	PASS
11G	Ant1	2437	30~1000	-1.23	-53.11	≤-31.23	PASS
11G	Ant1	2437	1000~26500	-1.23	-35.56	≤-31.23	PASS
11G	Ant1	2462	0~Reference	-2.08	-2.08	---	PASS
11G	Ant1	2462	30~1000	-2.08	-53.11	≤-32.08	PASS
11G	Ant1	2462	1000~26500	-2.08	-35.09	≤-32.08	PASS
11N20SISO	Ant1	2412	0~Reference	-0.21	-0.21	---	PASS
11N20SISO	Ant1	2412	30~1000	-0.21	-52.47	≤-30.21	PASS
11N20SISO	Ant1	2412	1000~26500	-0.21	-34.73	≤-30.21	PASS
11N20SISO	Ant1	2437	0~Reference	0.20	0.20	---	PASS
11N20SISO	Ant1	2437	30~1000	0.20	-52.25	≤-29.8	PASS
11N20SISO	Ant1	2437	1000~26500	0.20	-35.31	≤-29.8	PASS
11N20SISO	Ant1	2462	0~Reference	0.50	0.50	---	PASS
11N20SISO	Ant1	2462	30~1000	0.50	-52.11	≤-29.5	PASS
11N20SISO	Ant1	2462	1000~26500	0.50	-34.61	≤-29.5	PASS

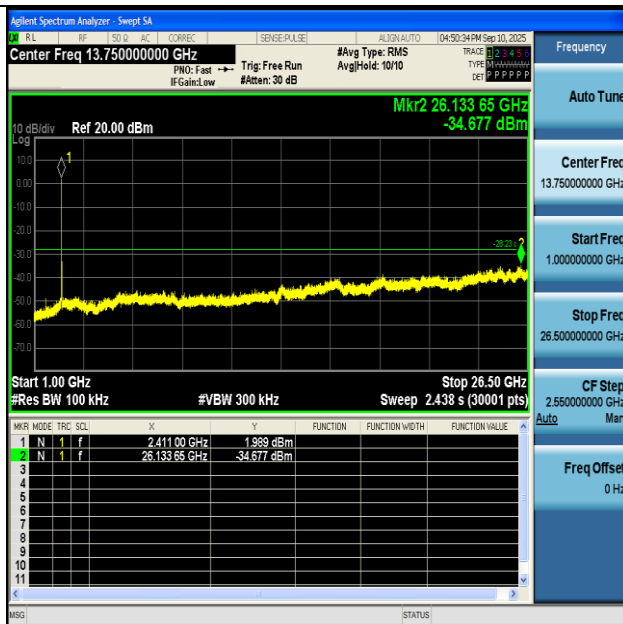
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



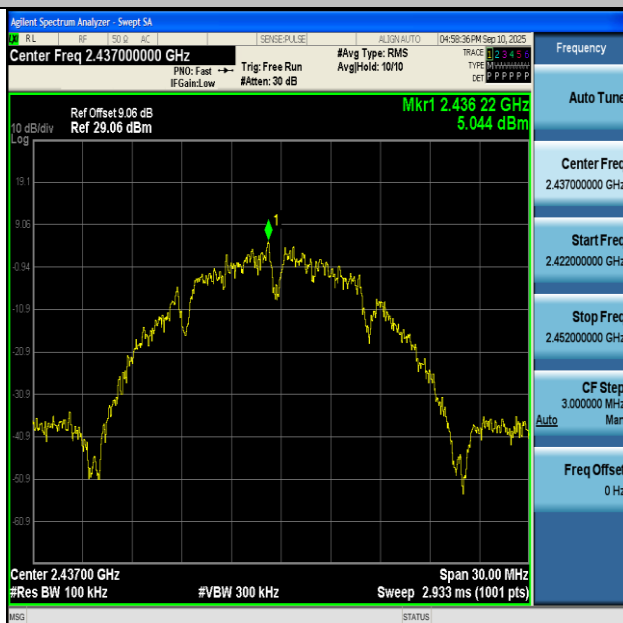


Test Graphs



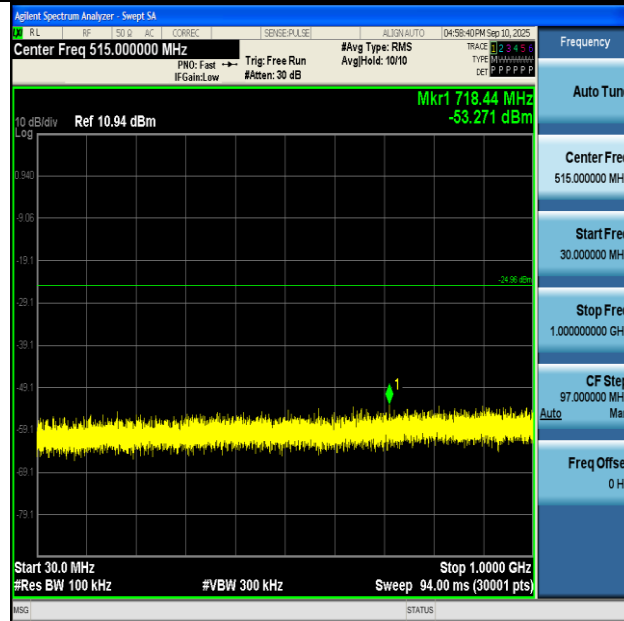


11B-Ant1-2412-1000~26500-PASS

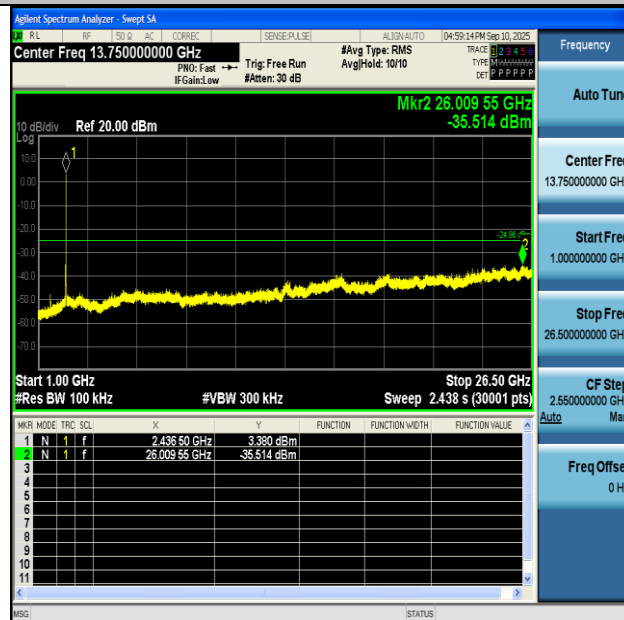


11B-Ant1-2437-0~Reference-PASS





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

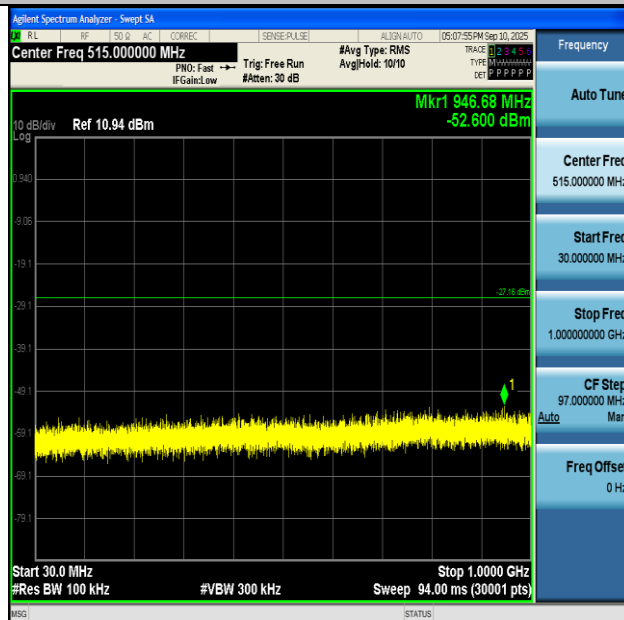


11B-Ant1-2437-1000~26500-PASS



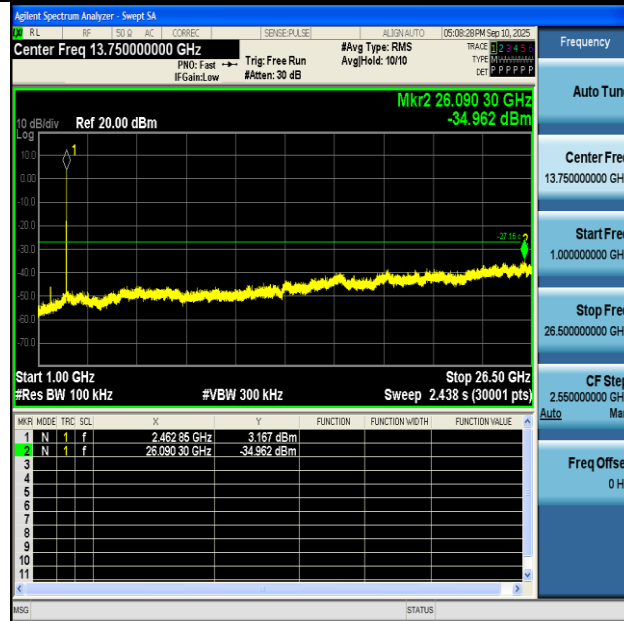


11B-Ant1-2462-0~Reference-PASS

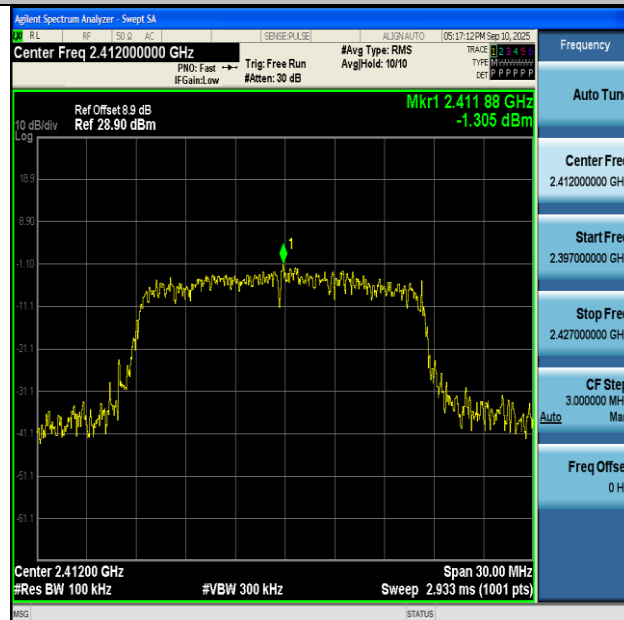


11B-Ant1-2462-30~1000-PASS



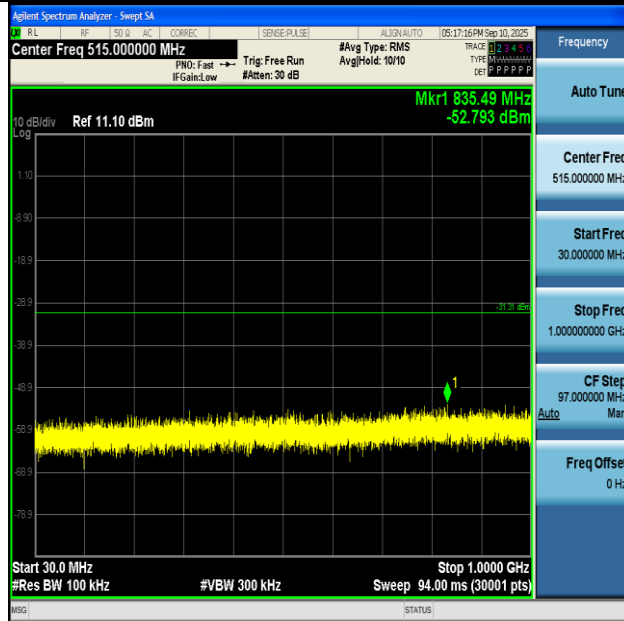


11B-Ant1-2462-1000~26500-PASS

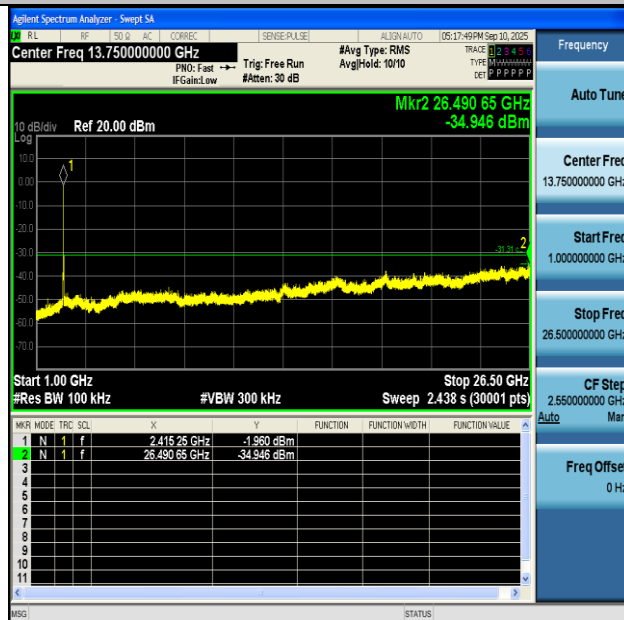


11G-Ant1-2412-0~Reference-PASS



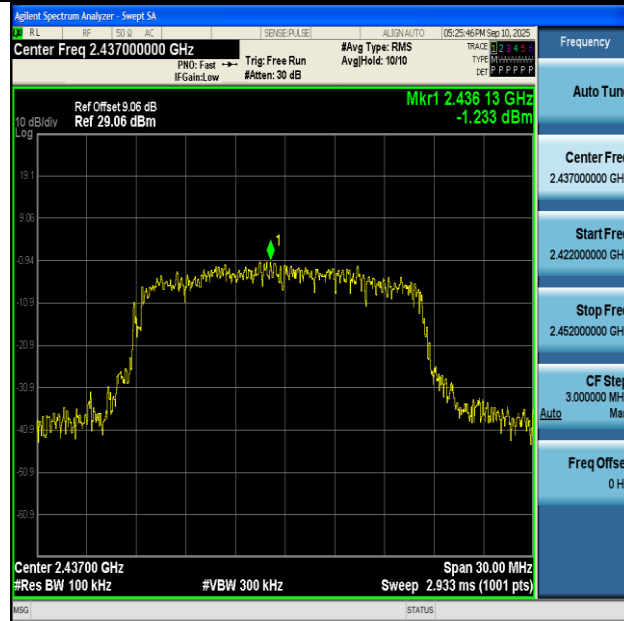


11G-Ant1-2412-30~1000-PASS

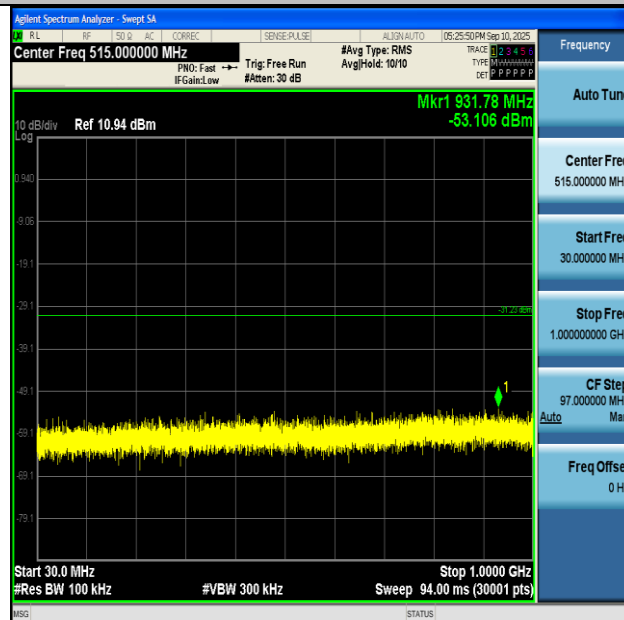


11G-Ant1-2412-1000~26500-PASS



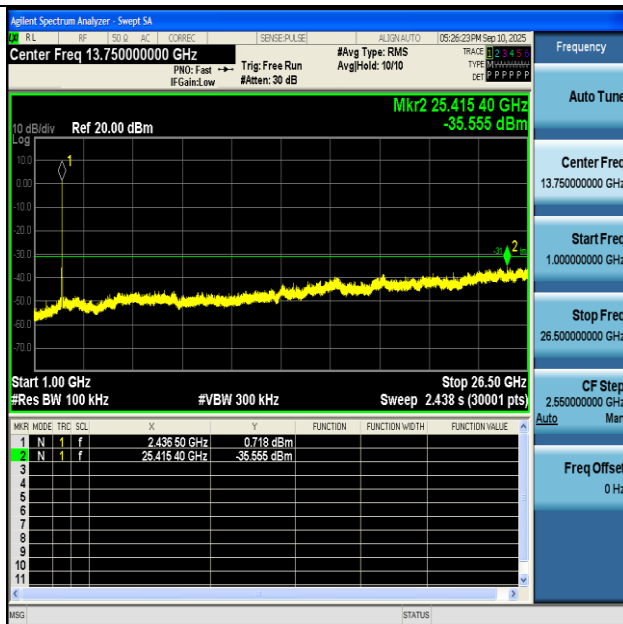


11G-Ant1-2437-0~Reference-PASS

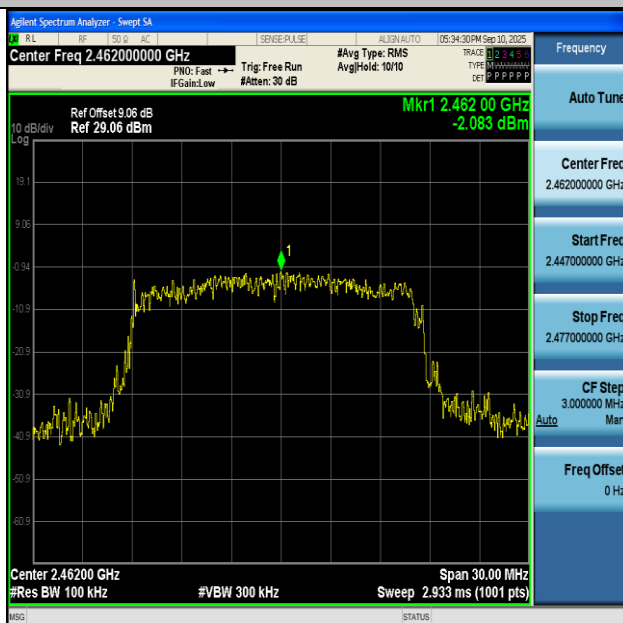


11G-Ant1-2437-30~1000-PASS



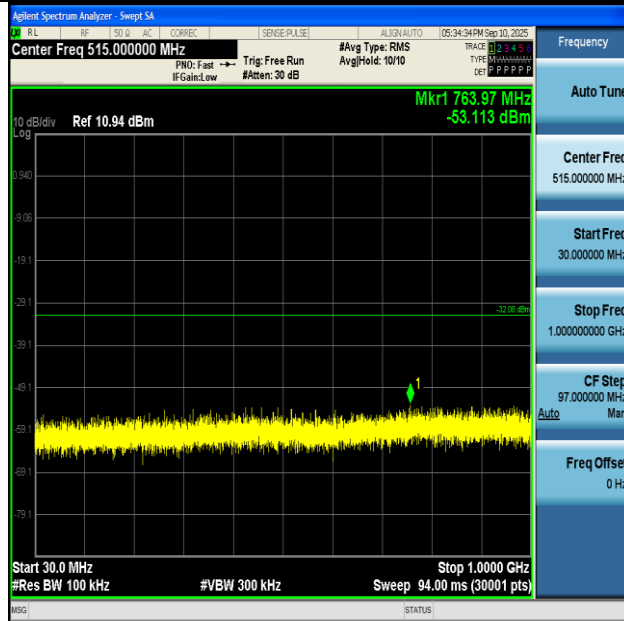


11G-Ant1-2437-1000~26500-PASS

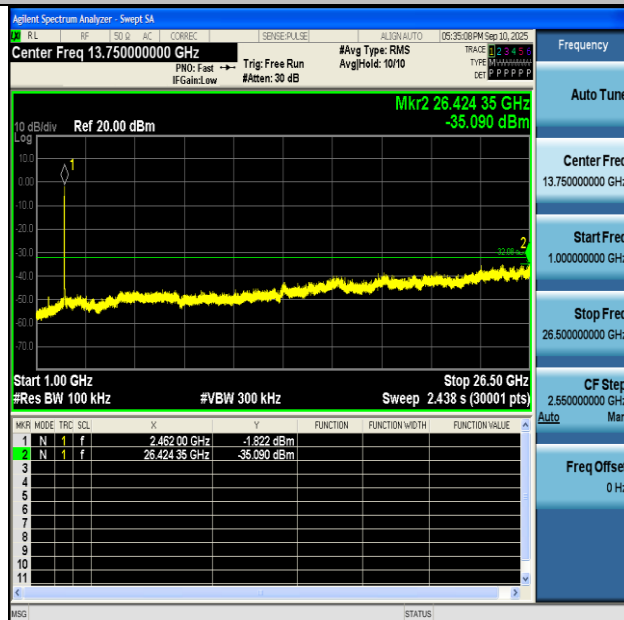


11G-Ant1-2462-0~Reference-PASS



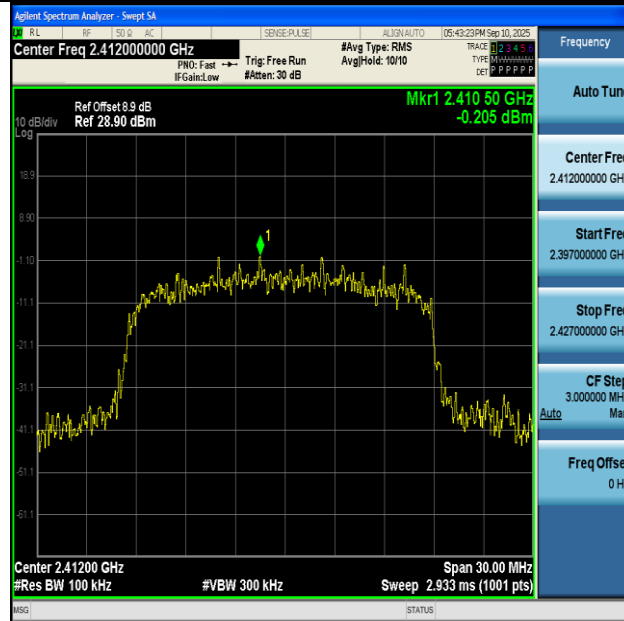


11G-Ant1-2462-30~1000-PASS

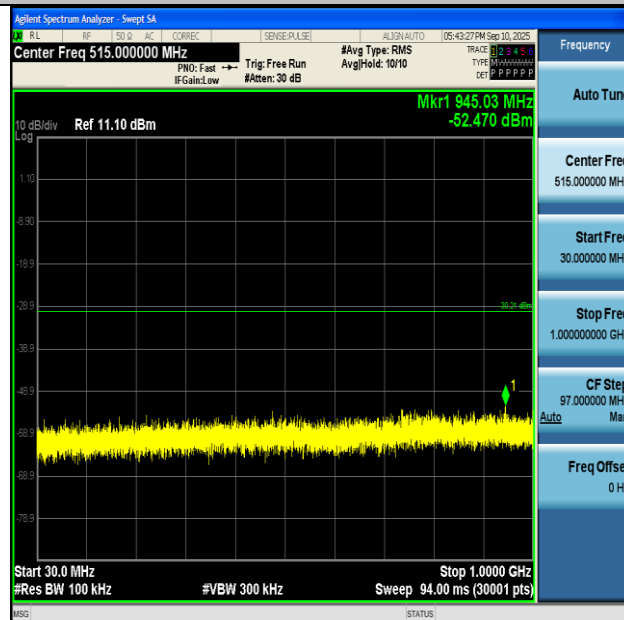


11G-Ant1-2462-1000~26500-PASS



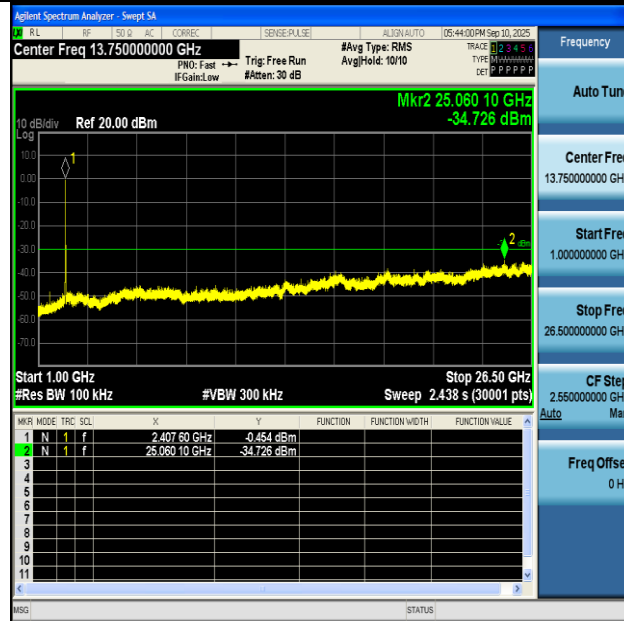


11N20SISO-Ant1-2412-0~Reference-PASS

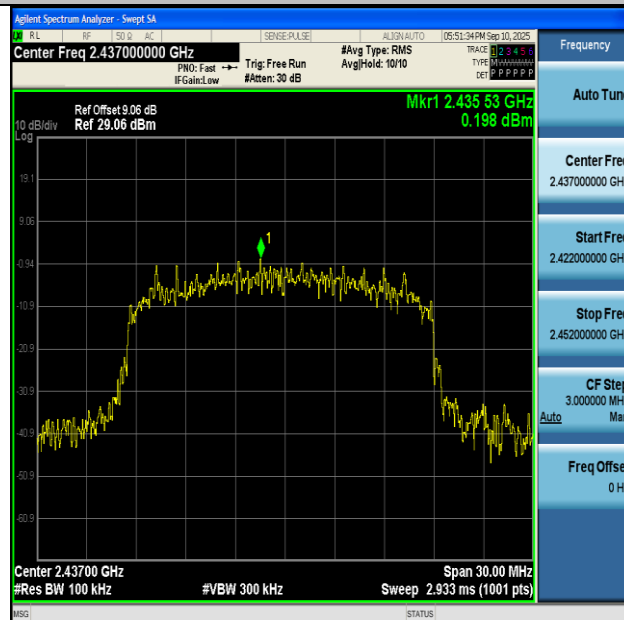


11N20SISO-Ant1-2412-30~1000-PASS



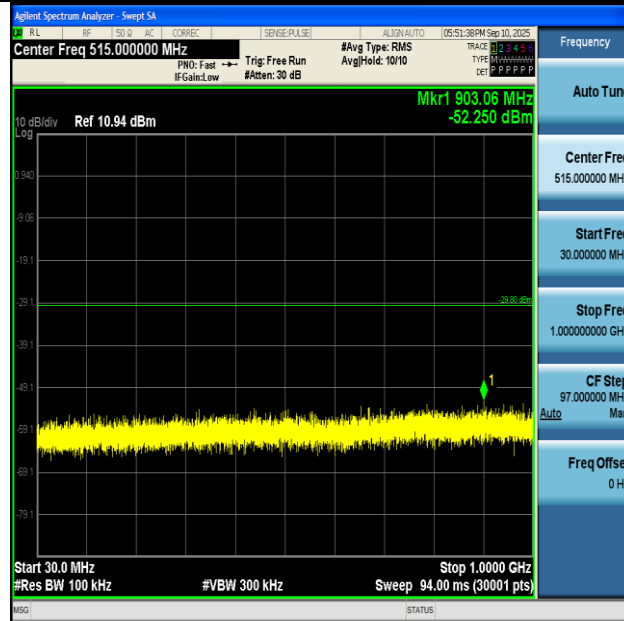


11N20SISO-Ant1-2412-1000~26500-PASS

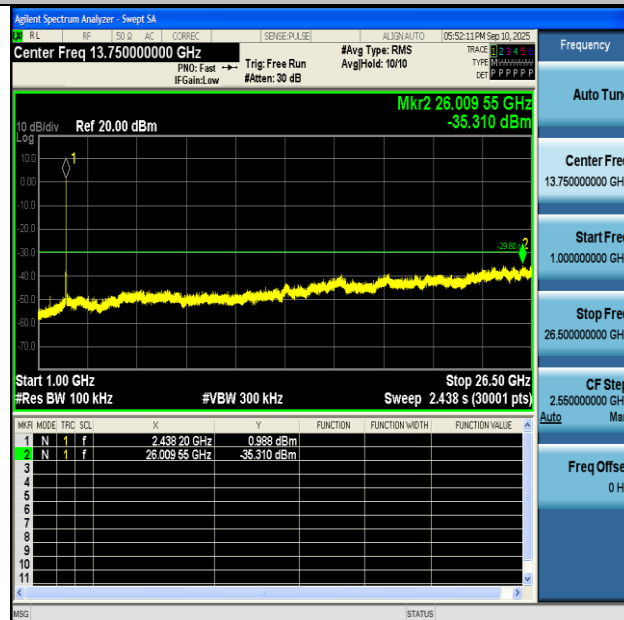


11N20SISO-Ant1-2437-0~Reference-PASS



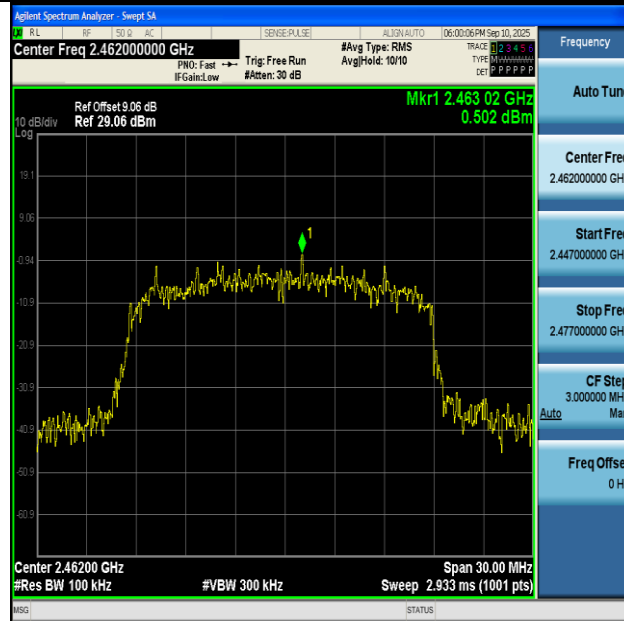


11N20SISO-Ant1-2437-30~1000-PASS

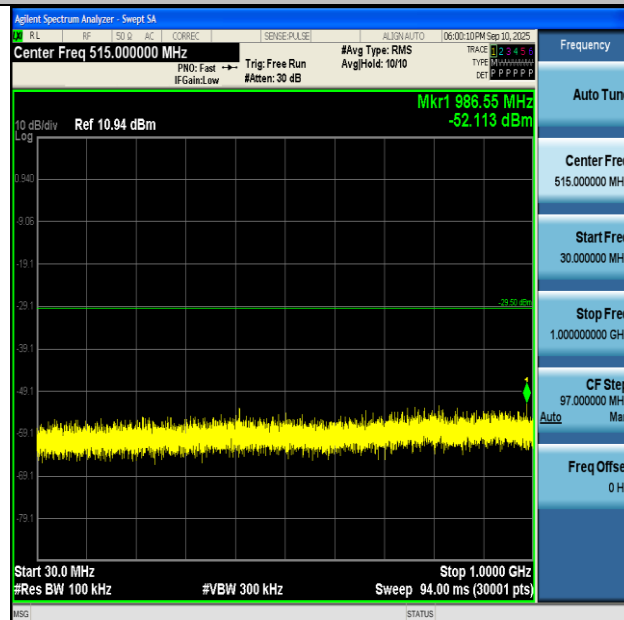


11N20SISO-Ant1-2437-1000~26500-PASS



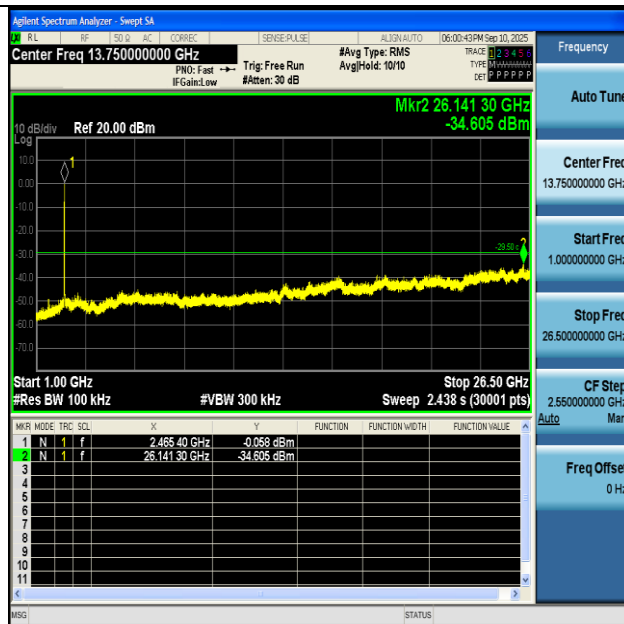


11N20SISO-Ant1-2462-0~Reference-PASS



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





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





Appendix G: Duty Cycle

Test Result

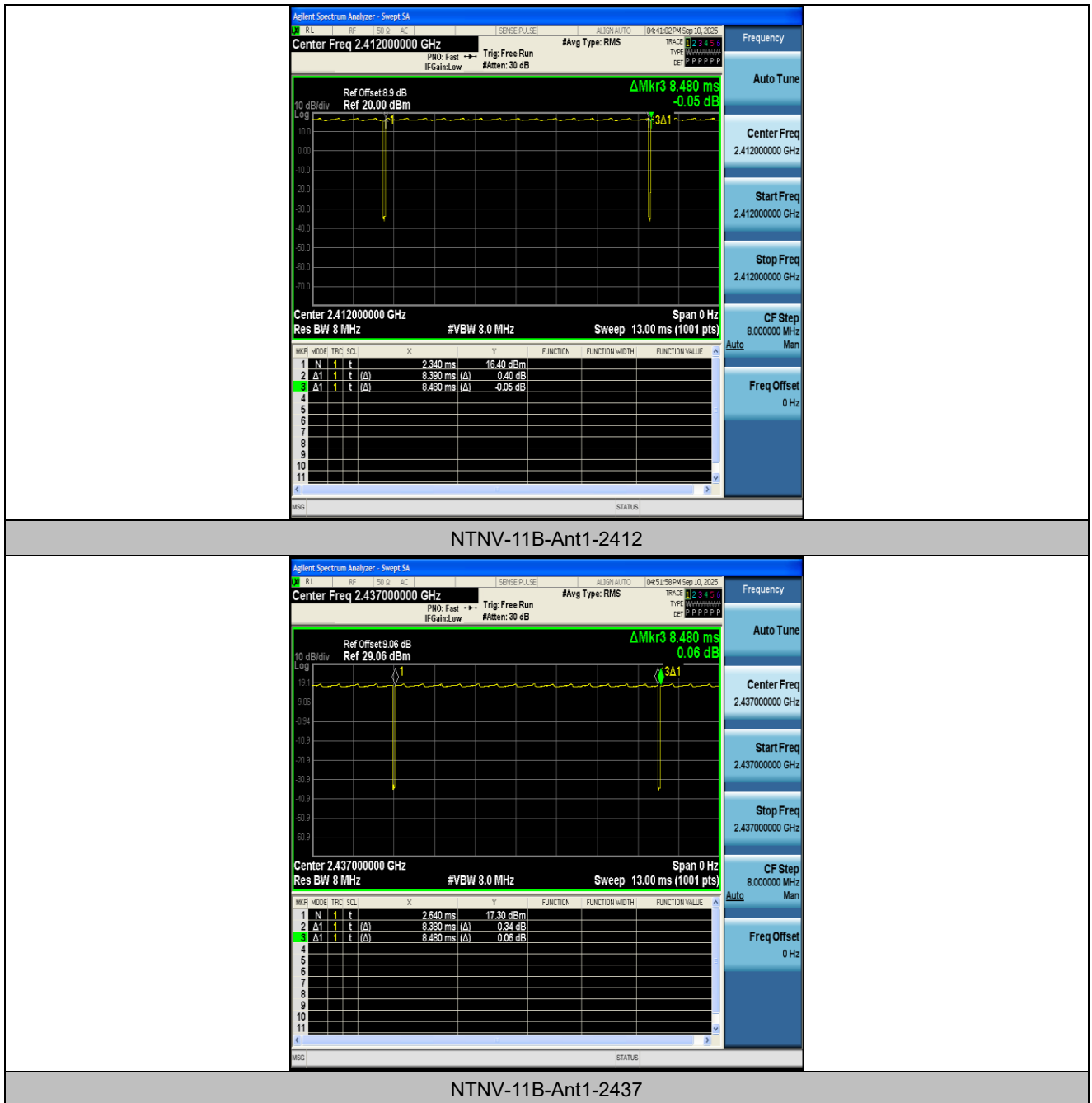
Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.39	8.48	98.94	0.05
11B	Ant1	2437	8.38	8.48	98.82	0.05
11B	Ant1	2462	8.39	8.48	98.94	0.05
11G	Ant1	2412	5.48	5.54	98.92	0.05
11G	Ant1	2437	5.49	5.54	99.10	0.04
11G	Ant1	2462	5.48	5.54	98.92	0.05
11N20SISO	Ant1	2412	0.16	0.17	94.12	0.26
11N20SISO	Ant1	2437	0.16	0.17	94.12	0.26
11N20SISO	Ant1	2462	0.16	0.17	94.12	0.26

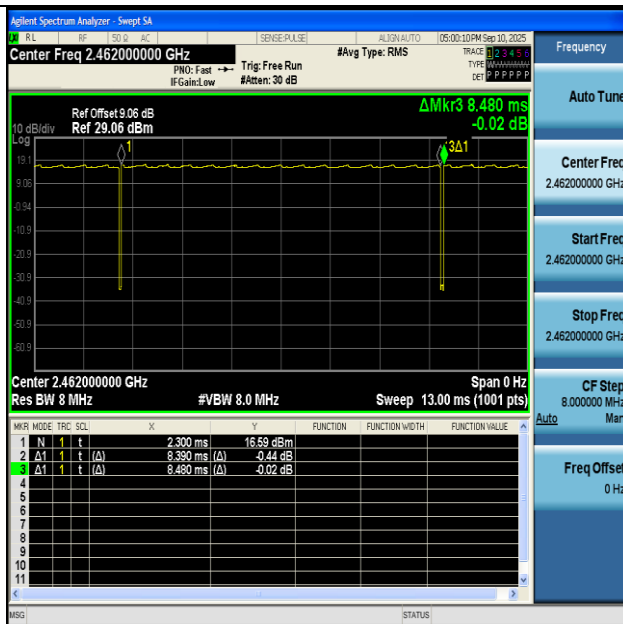
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



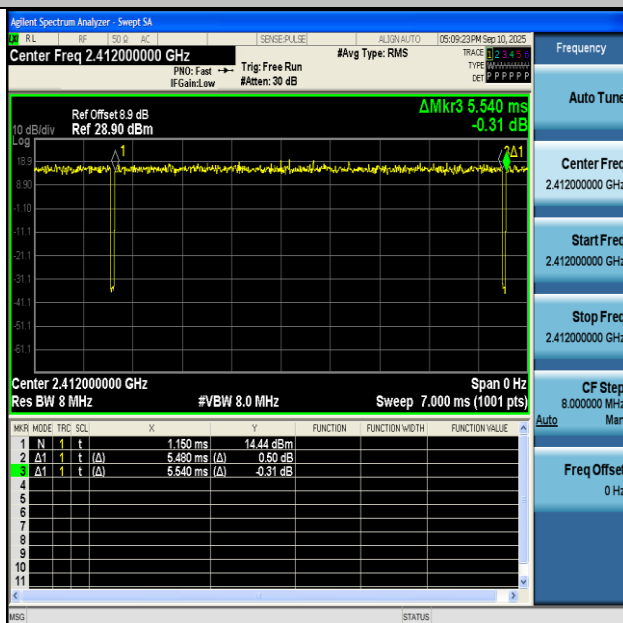


Test Graphs



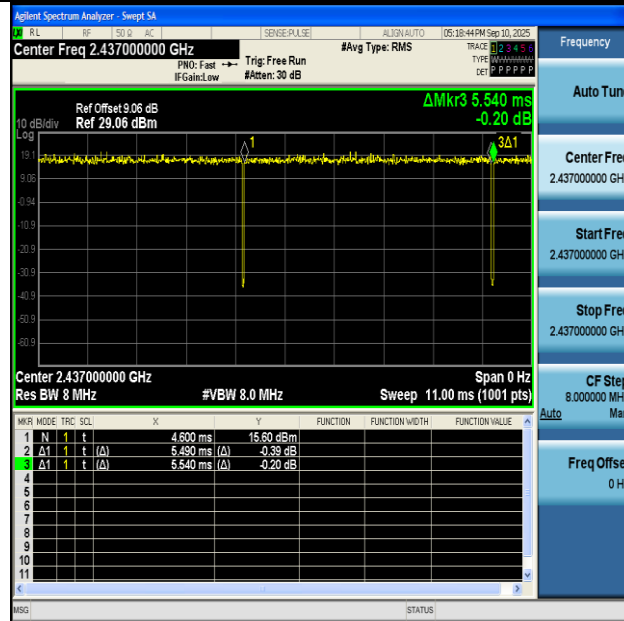


NTNV-11B-Ant1-2462

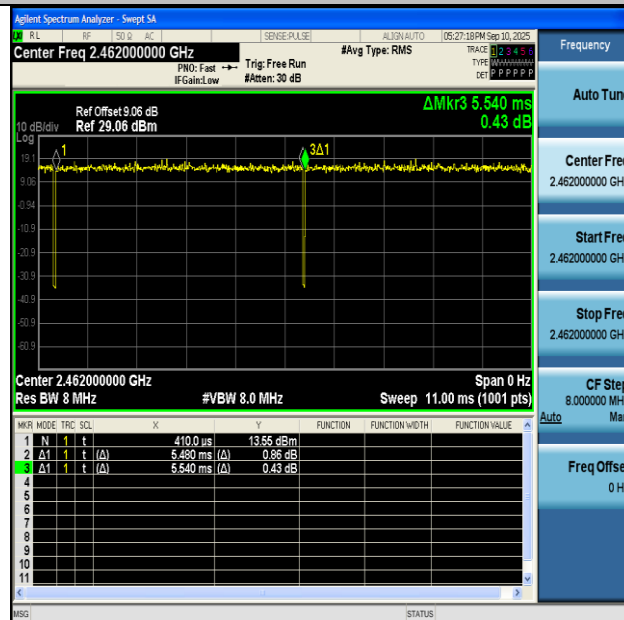


NTNV-11G-Ant1-2412



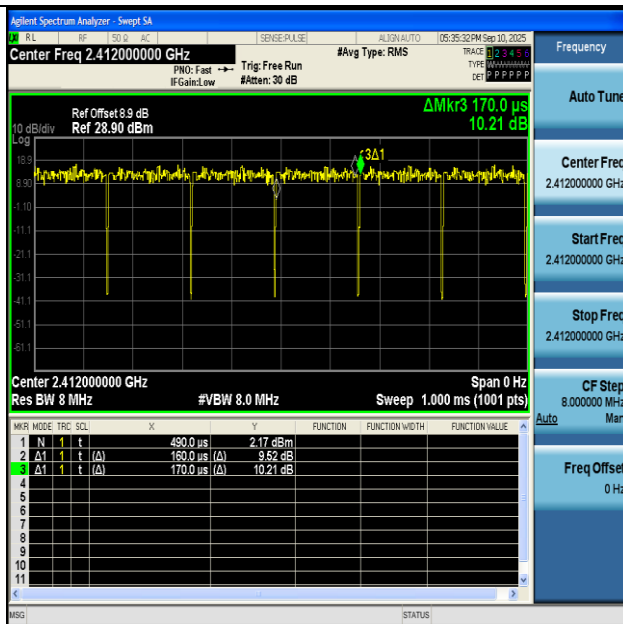


NTNV-11G-Ant1-2437

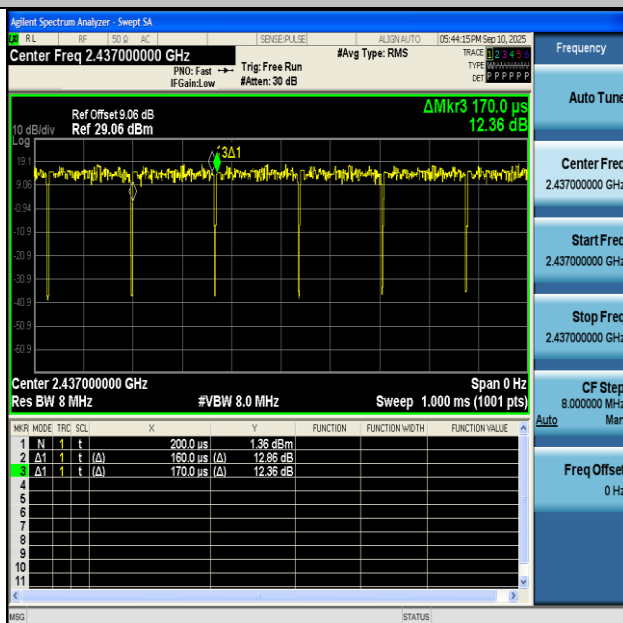


NTNV-11G-Ant1-2462



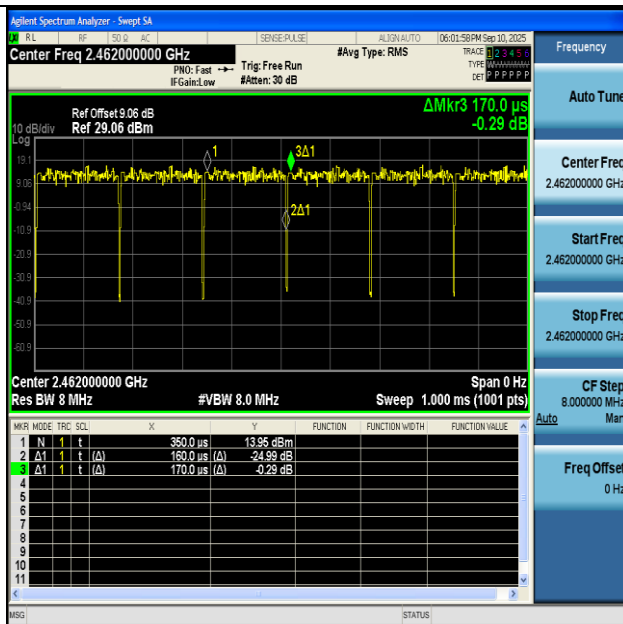


NTNV-11N20SISO-Ant1-2412



NTNV-11N20SISO-Ant1-2437





NTNV-11N20SISO-Ant1-2462

