

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

Product Name: video cam

Trade Mark: /

Test Model: MT-09

FCC ID: 2BOAB-MT09

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

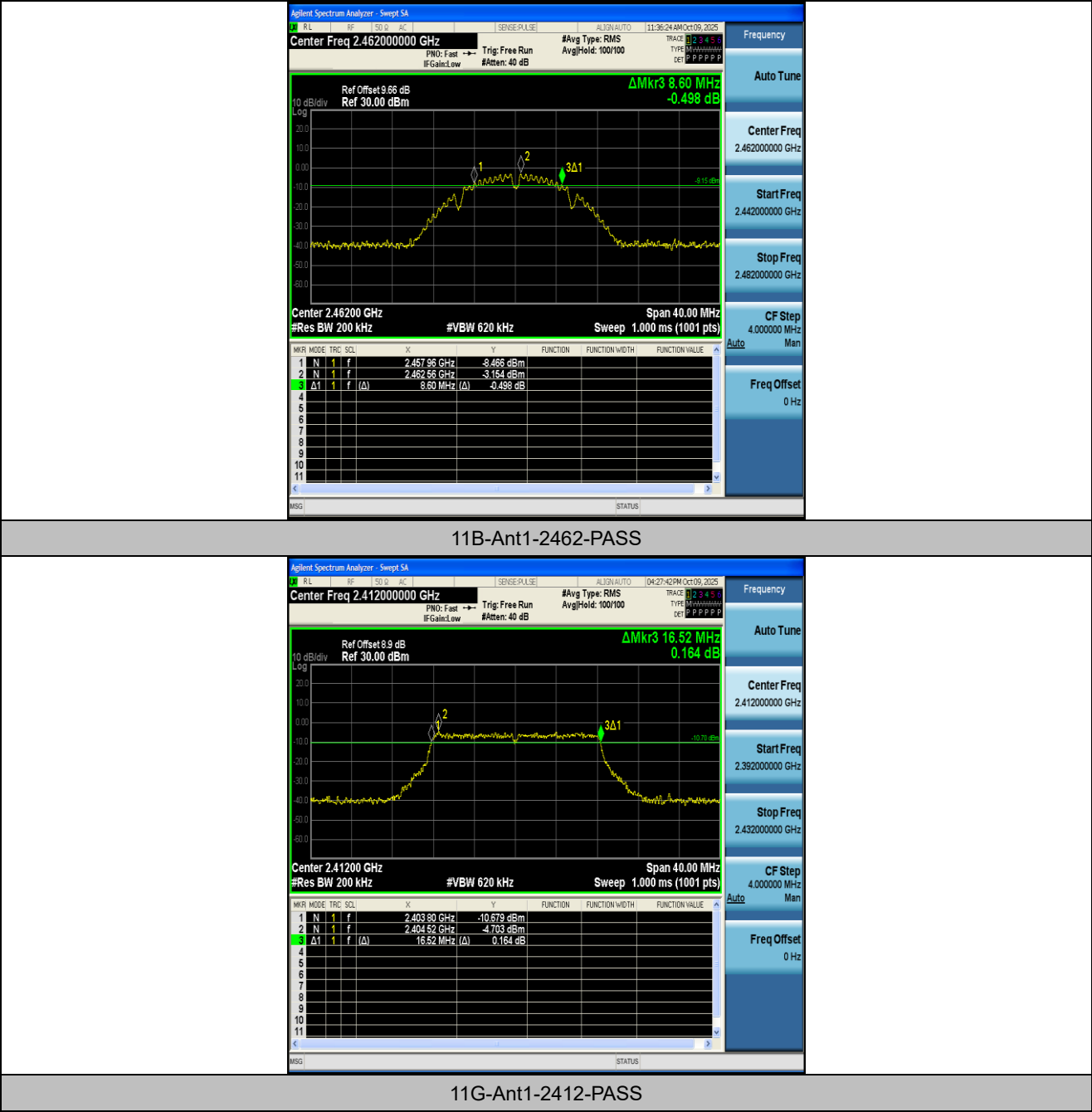
Test Result

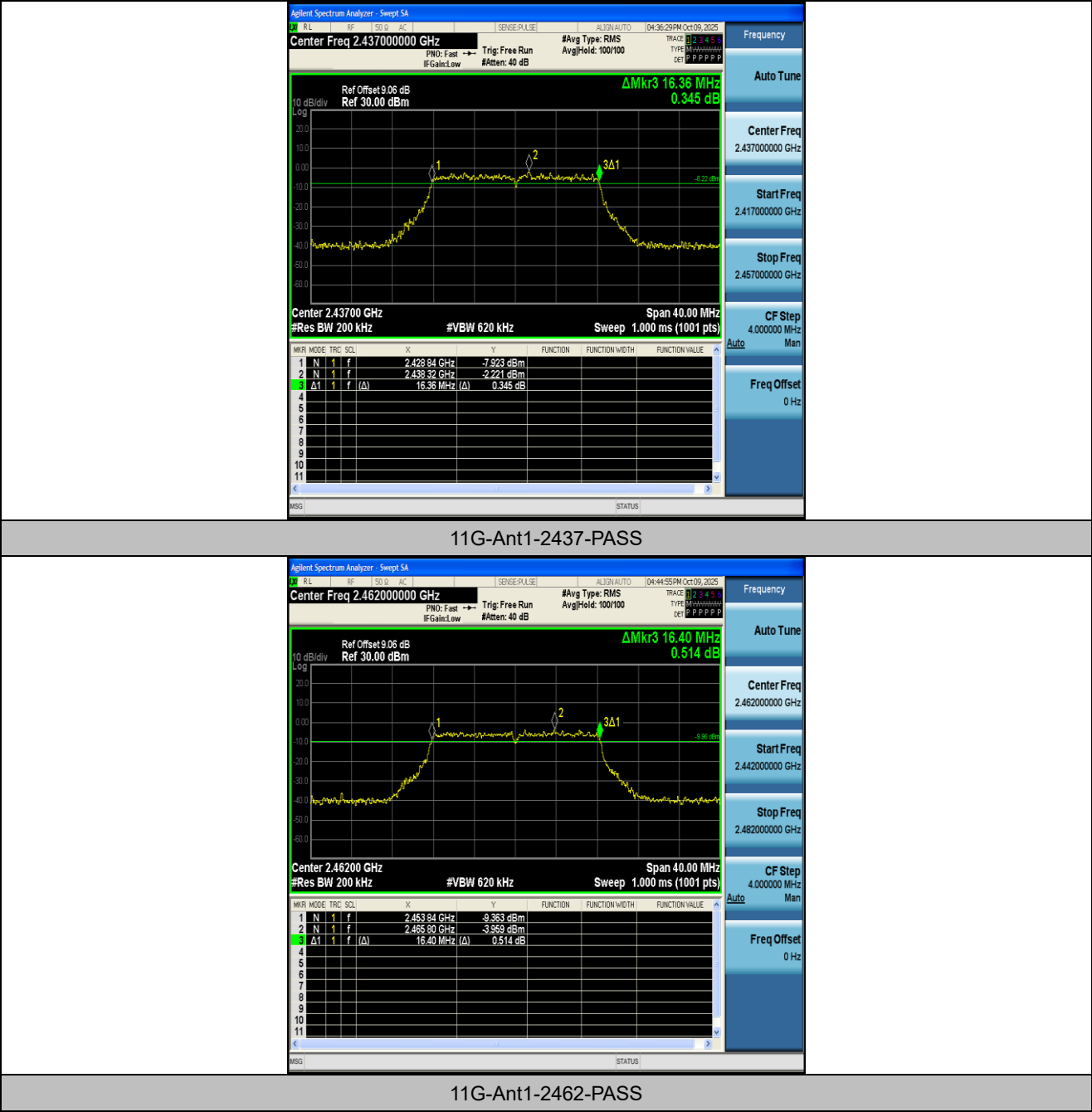
Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	9.080	2407.520	2416.600	0.5	PASS
11B	Ant1	2437	9.040	2432.520	2441.560	0.5	PASS
11B	Ant1	2462	8.600	2457.960	2466.560	0.5	PASS
11G	Ant1	2412	16.520	2403.800	2420.320	0.5	PASS
11G	Ant1	2437	16.360	2428.840	2445.200	0.5	PASS
11G	Ant1	2462	16.400	2453.840	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.680	2403.160	2420.840	0.5	PASS
11N20SISO	Ant1	2437	17.520	2428.320	2445.840	0.5	PASS
11N20SISO	Ant1	2462	17.480	2453.320	2470.800	0.5	PASS

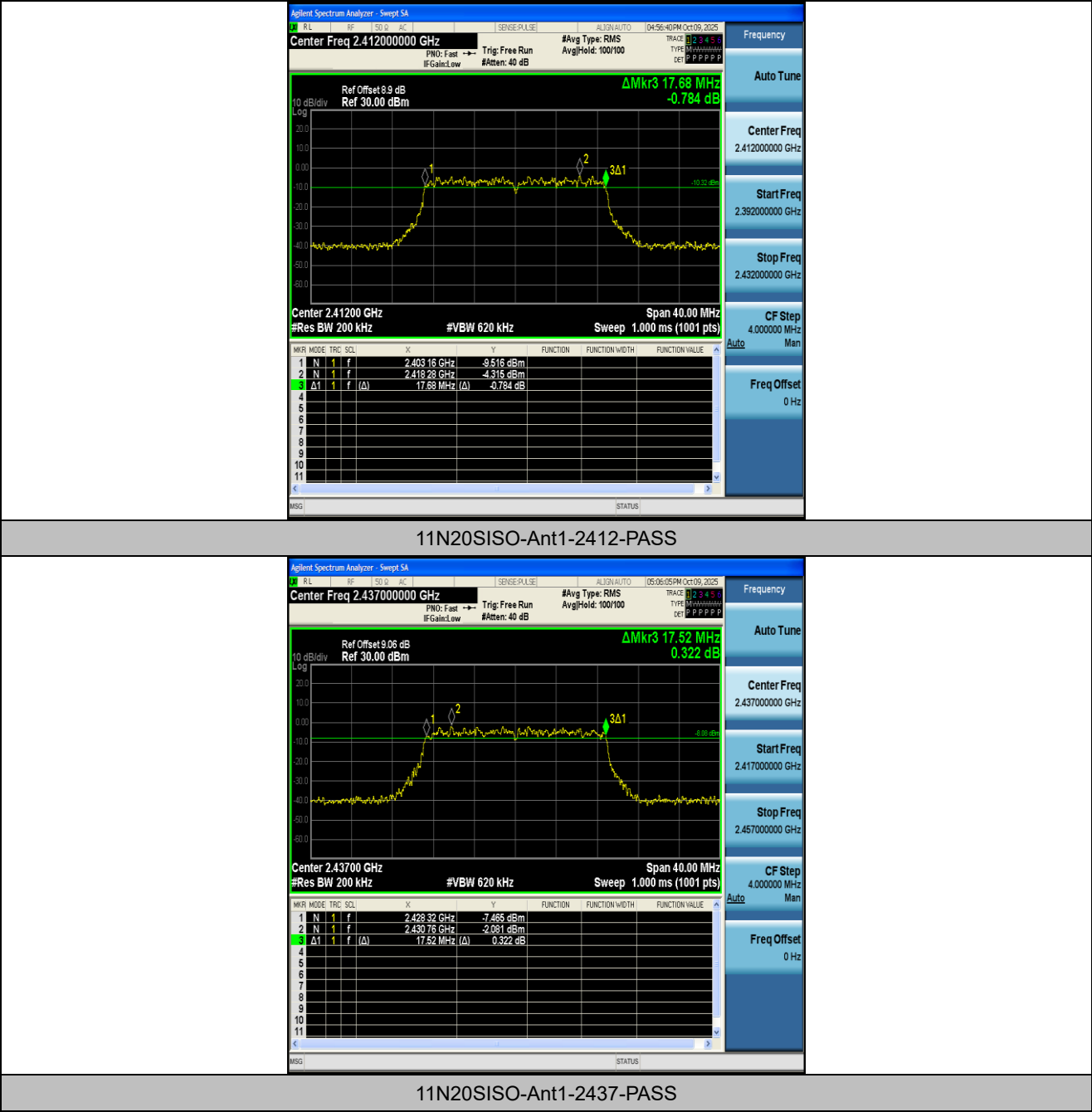
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

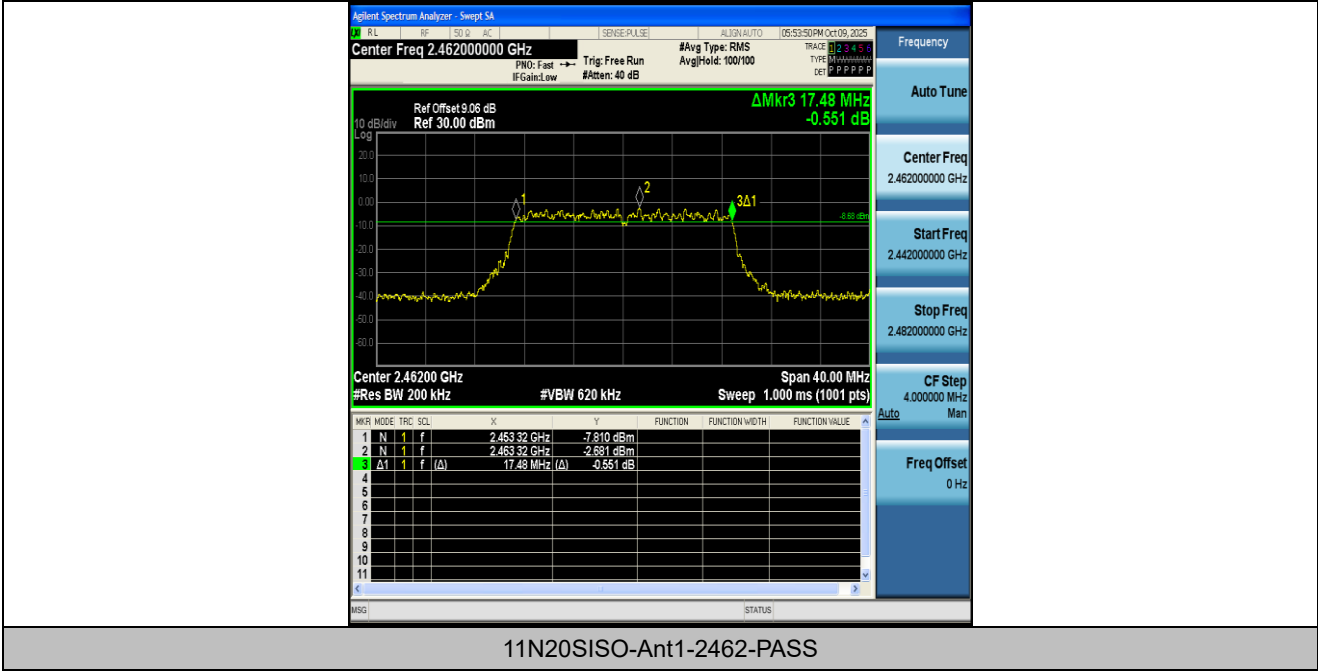
Test Graphs











Appendix B: Occupied Channel Bandwidth

Test Result

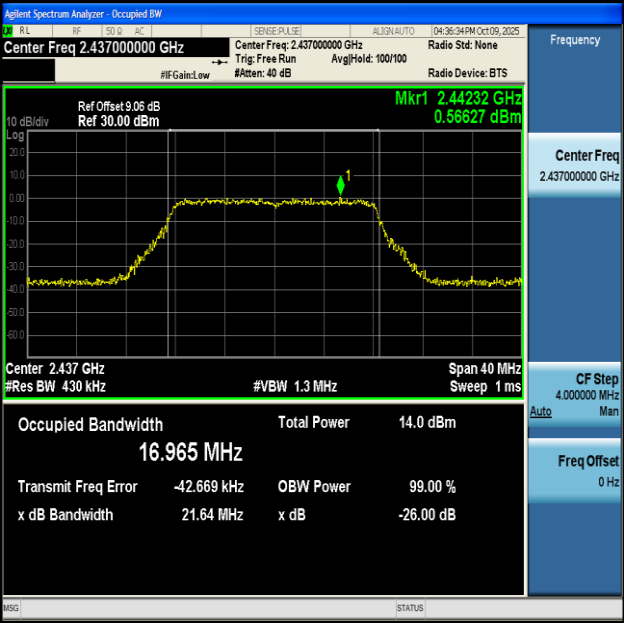
Test Mode	Antenna	Channel Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	14.262	2404.9832	2419.2452	---	---
11B	Ant1	2437	13.841	2430.0917	2443.9327	---	---
11B	Ant1	2462	14.052	2455.0263	2469.0783	---	---
11G	Ant1	2412	17.030	2403.5588	2420.5888	---	---
11G	Ant1	2437	16.965	2428.4748	2445.4398	---	---
11G	Ant1	2462	17.127	2453.4472	2470.5742	---	---
11N20SISO	Ant1	2412	17.834	2403.1220	2420.9560	---	---
11N20SISO	Ant1	2437	17.769	2428.1674	2445.9364	---	---
11N20SISO	Ant1	2462	17.888	2453.0816	2470.9696	---	---

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

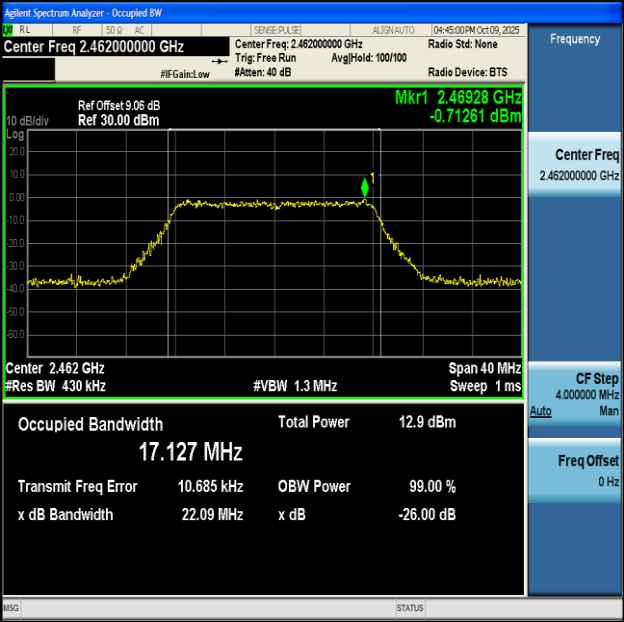
Test Graphs



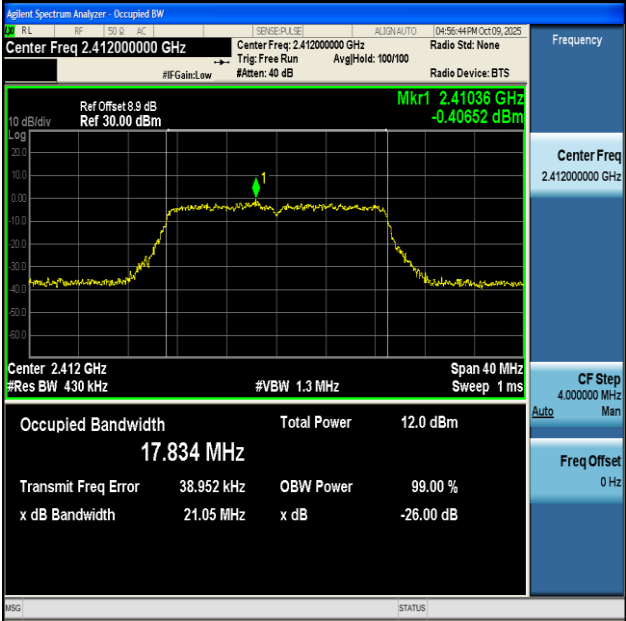
	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Trig: Free Run #F-Gain: Low #Atten: 40 dB Ref Offset: 9.66 dB Ref 30.00 dBm Mkr1 2.46156 GHz -2.9279 dBm 10 dB/div Log Center 2.462 GHz #Res BW 430 kHz #VBW 1.3 MHz Span 40 MHz Sweep 1 ms Occupied Bandwidth 14.052 MHz Total Power 8.04 dBm Transmit Freq Error 52.279 kHz OBW Power 99.00 % x dB Bandwidth 17.88 MHz x dB -26.00 dB Frequency Center Freq 2.462000000 GHz CF Step 4.0000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS	
11B-Ant1-2462		
	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Center Freq: 2.412000000 GHz Trig: Free Run #F-Gain: Low #Atten: 40 dB Ref Offset: 8.9 dB Ref 30.00 dBm Mkr1 2.41788 GHz -1.2700 dBm 10 dB/div Log Center 2.412 GHz #Res BW 430 kHz #VBW 1.3 MHz Span 40 MHz Sweep 1 ms Occupied Bandwidth 17.030 MHz Total Power 12.3 dBm Transmit Freq Error 73.748 kHz OBW Power 99.00 % x dB Bandwidth 21.77 MHz x dB -26.00 dB Frequency Center Freq 2.412000000 GHz CF Step 4.0000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS	
11G-Ant1-2412		



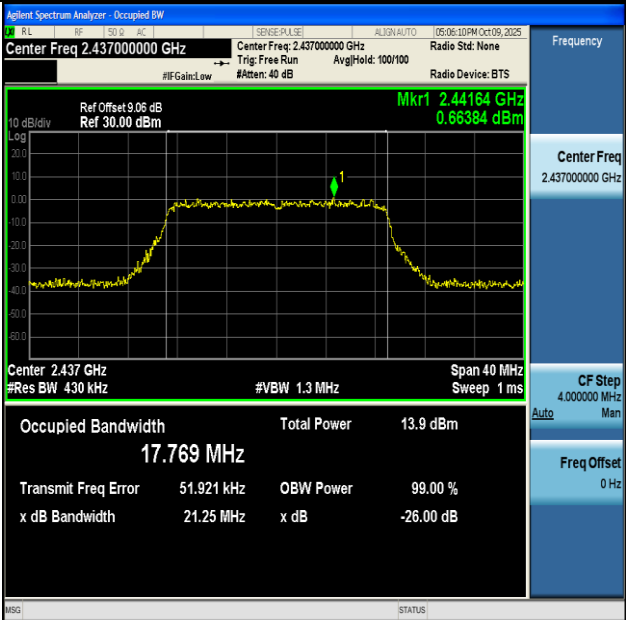
11G-Ant1-2437



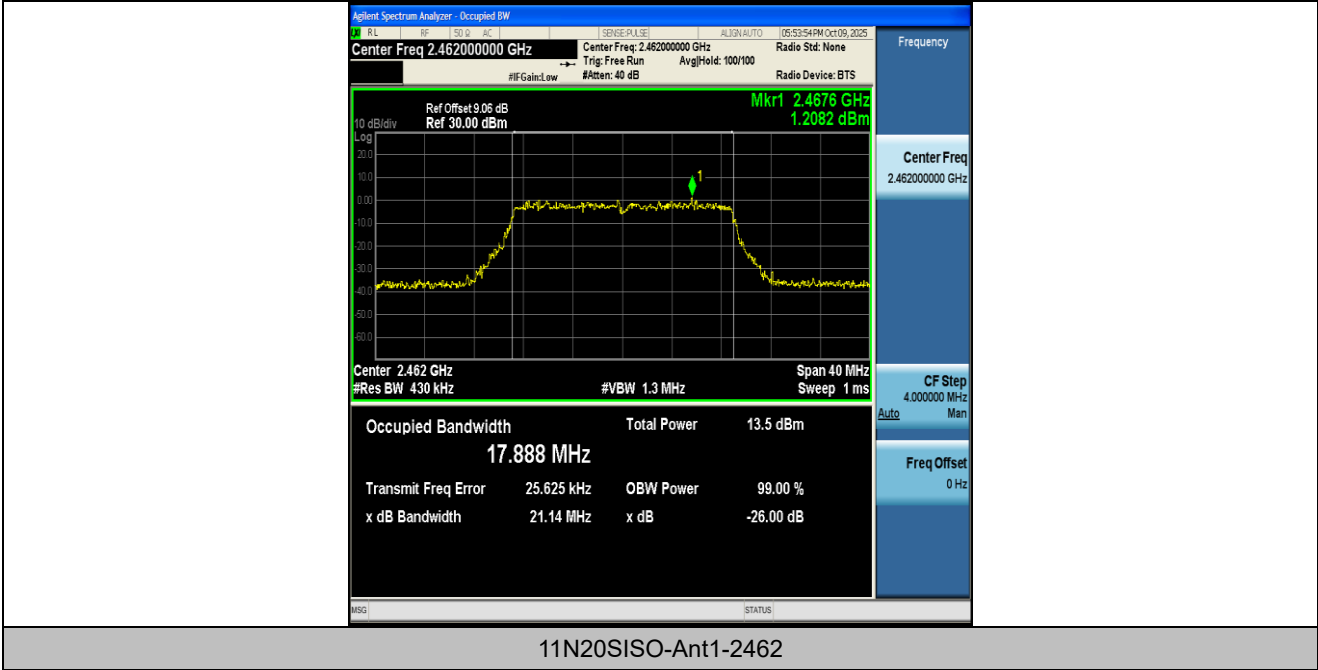
11G-Ant1-2462



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	3.50	≤30.00	PASS
11B	Ant1	2437	5.98	≤30.00	PASS
11B	Ant1	2462	4.95	≤30.00	PASS
11G	Ant1	2412	6.37	≤30.00	PASS
11G	Ant1	2437	7.63	≤30.00	PASS
11G	Ant1	2462	6.92	≤30.00	PASS
11N20SISO	Ant1	2412	5.34	≤30.00	PASS
11N20SISO	Ant1	2437	3.89	≤30.00	PASS
11N20SISO	Ant1	2462	5.91	≤30.00	PASS

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

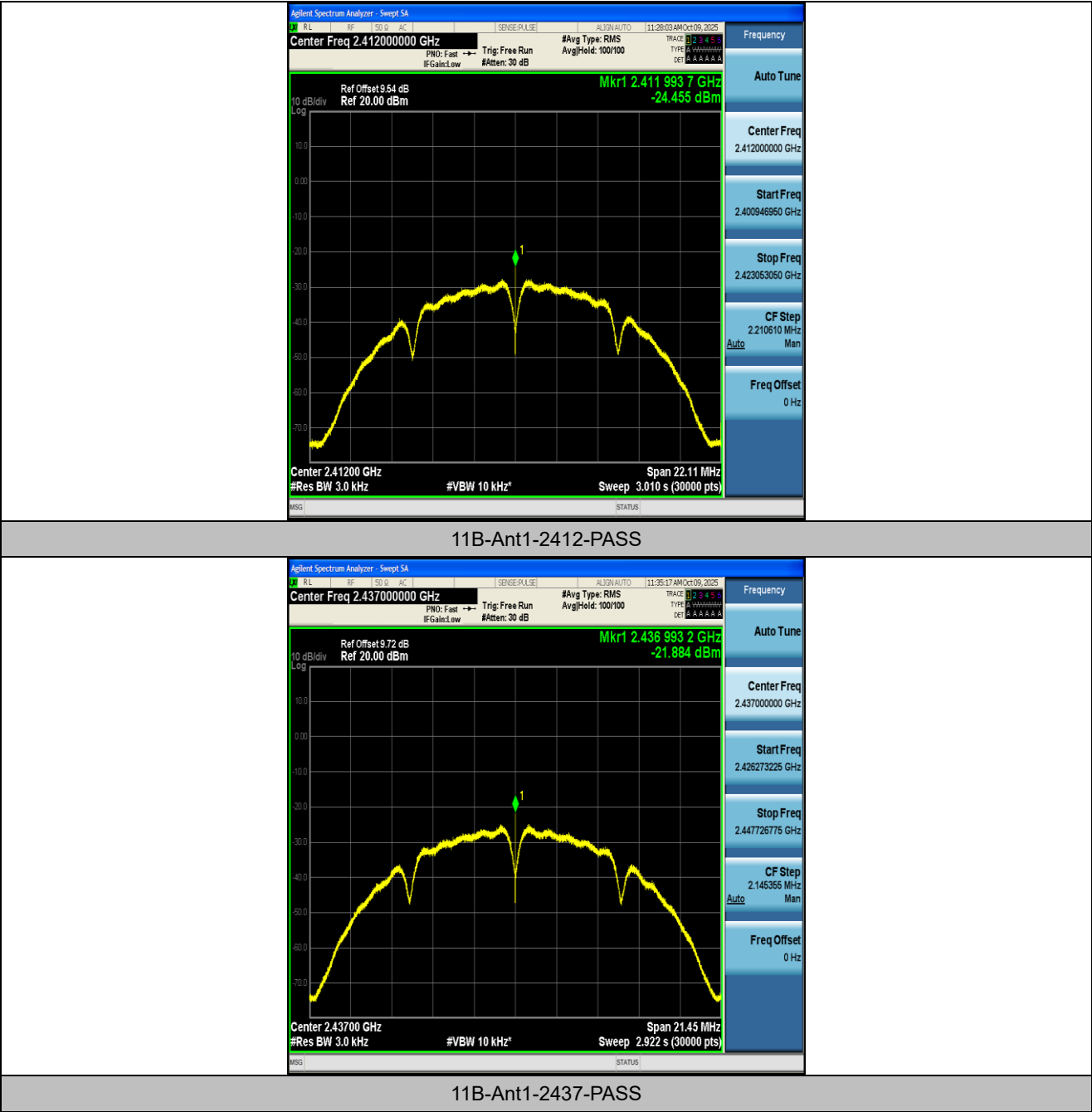
Appendix D: Maximum Average power spectral density

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	-24.50	0.04	-24.46	≤8.00	PASS
11B	Ant1	2437	-21.94	0.06	-21.88	≤8.00	PASS
11B	Ant1	2462	-22.99	0.05	-22.94	≤8.00	PASS
11G	Ant1	2412	-20.84	0.34	-20.50	≤8.00	PASS
11G	Ant1	2437	-19.28	0.00	-19.28	≤8.00	PASS
11G	Ant1	2462	-20.51	0.34	-20.17	≤8.00	PASS
11N20SISO	Ant1	2412	-26.20	3.39	-22.81	≤8.00	PASS
11N20SISO	Ant1	2437	-23.74	0.00	-23.74	≤8.00	PASS
11N20SISO	Ant1	2462	-23.59	2.40	-21.19	≤8.00	PASS

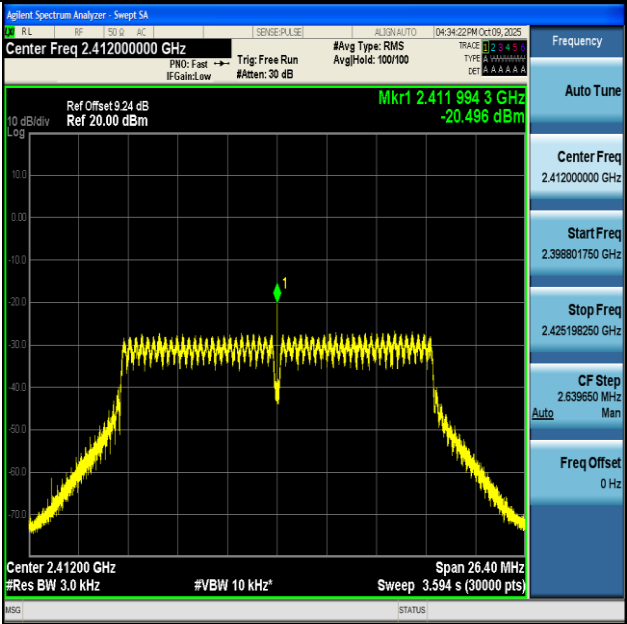
Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + Duty Cycle Factor(dB)

Test Graphs

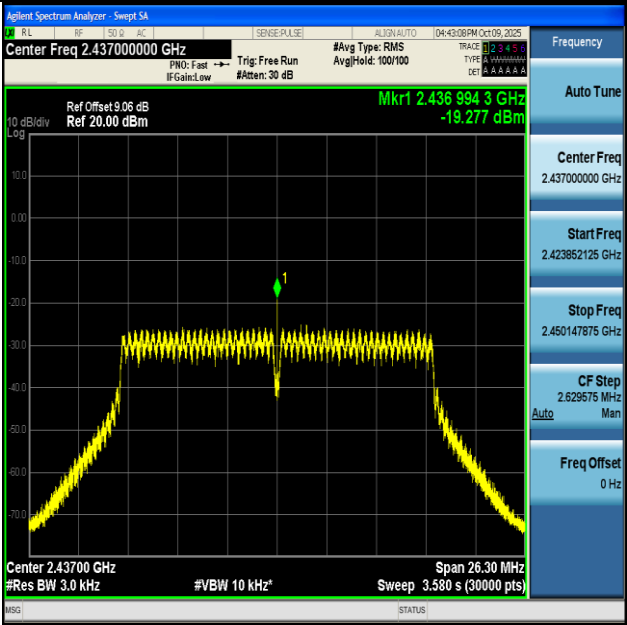




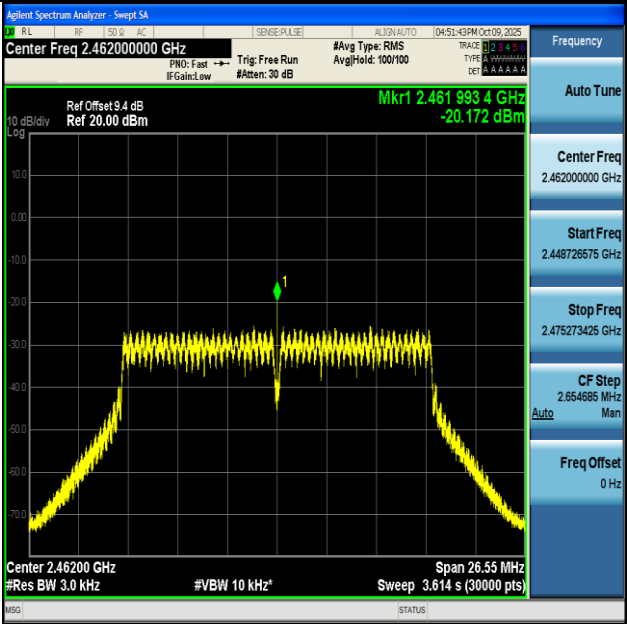
11B-Ant1-2462-PASS



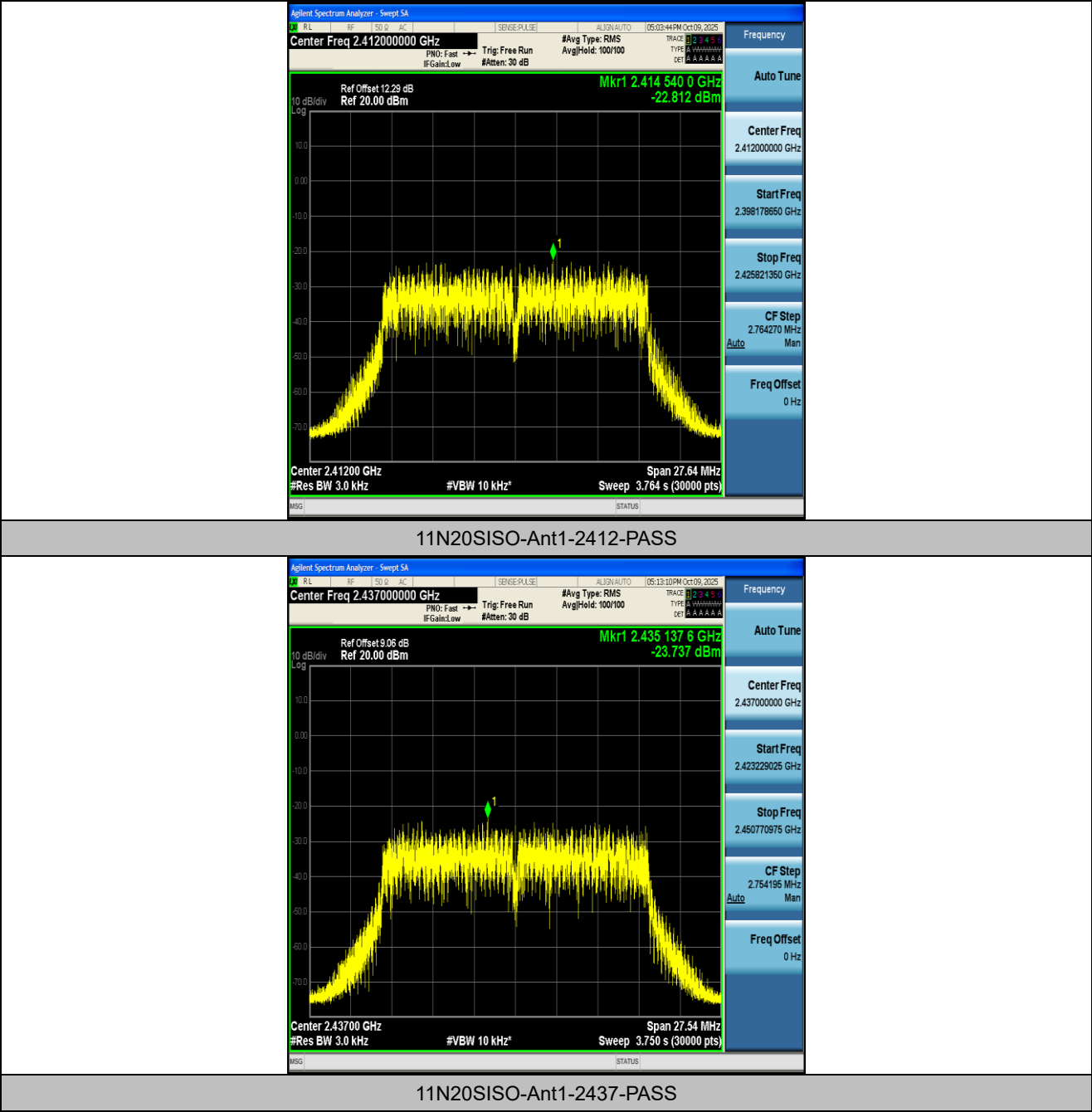
11G-Ant1-2412-PASS

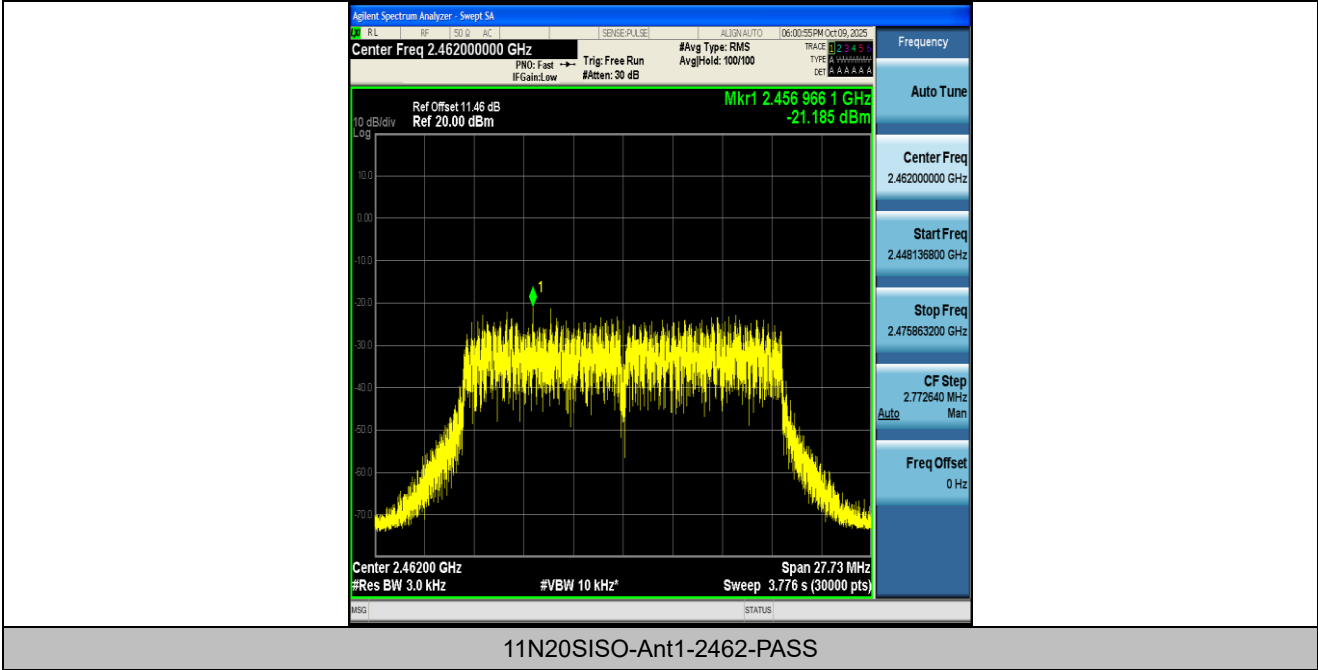


11G-Ant1-2437-PASS



11G-Ant1-2462-PASS





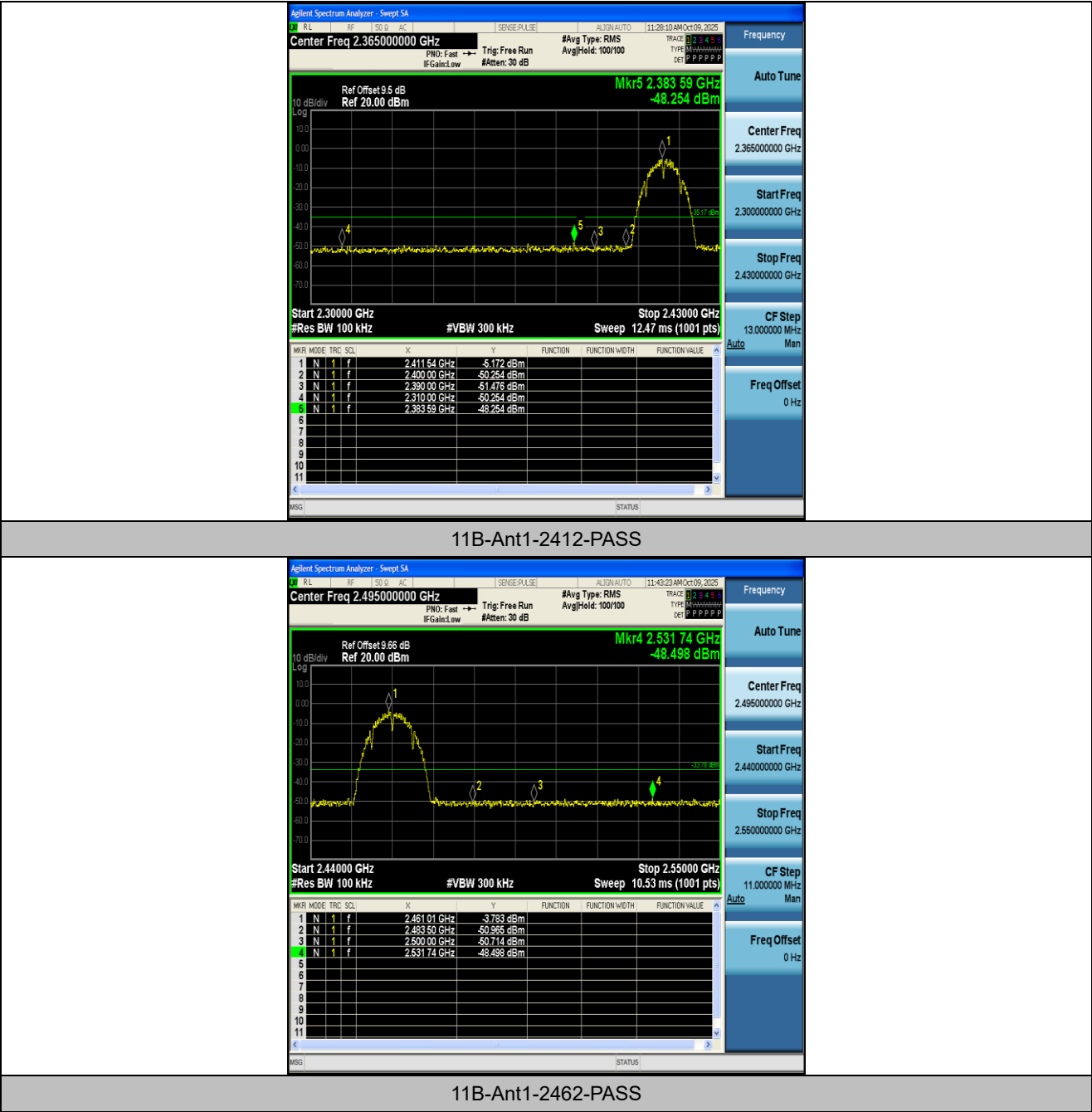
Appendix E: Band edge measurements

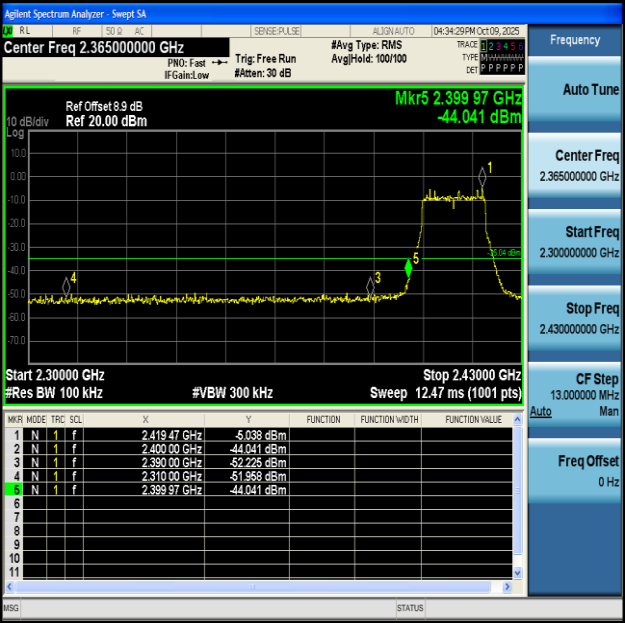
Test Result

Test Mode	Antenna	Ch. Name	Frequency.[MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	-5.17	-48.25	≤-35.17	PASS
11B	Ant1	High	2462	-3.78	-48.5	≤-33.78	PASS
11G	Ant1	Low	2412	-5.04	-44.04	≤-35.04	PASS
11G	Ant1	High	2462	-5.45	-48.6	≤-35.45	PASS
11N20SISO	Ant1	Low	2412	-5.81	-45.33	≤-35.81	PASS
11N20SISO	Ant1	High	2462	-3.27	-49.21	≤-33.27	PASS

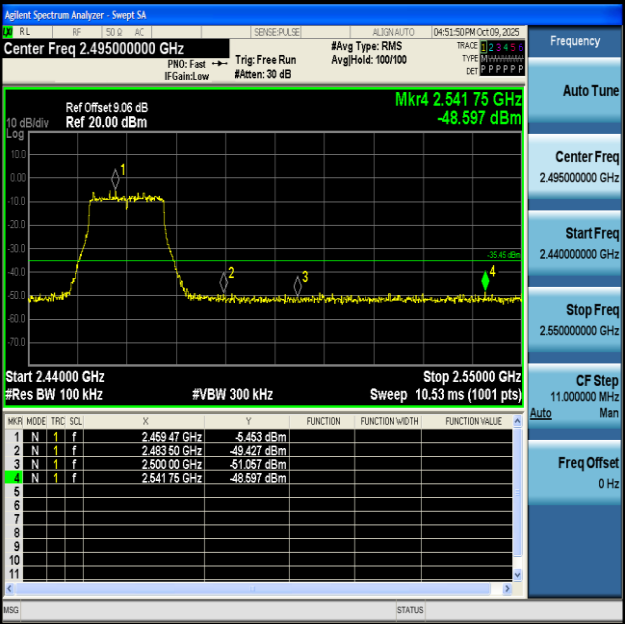
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

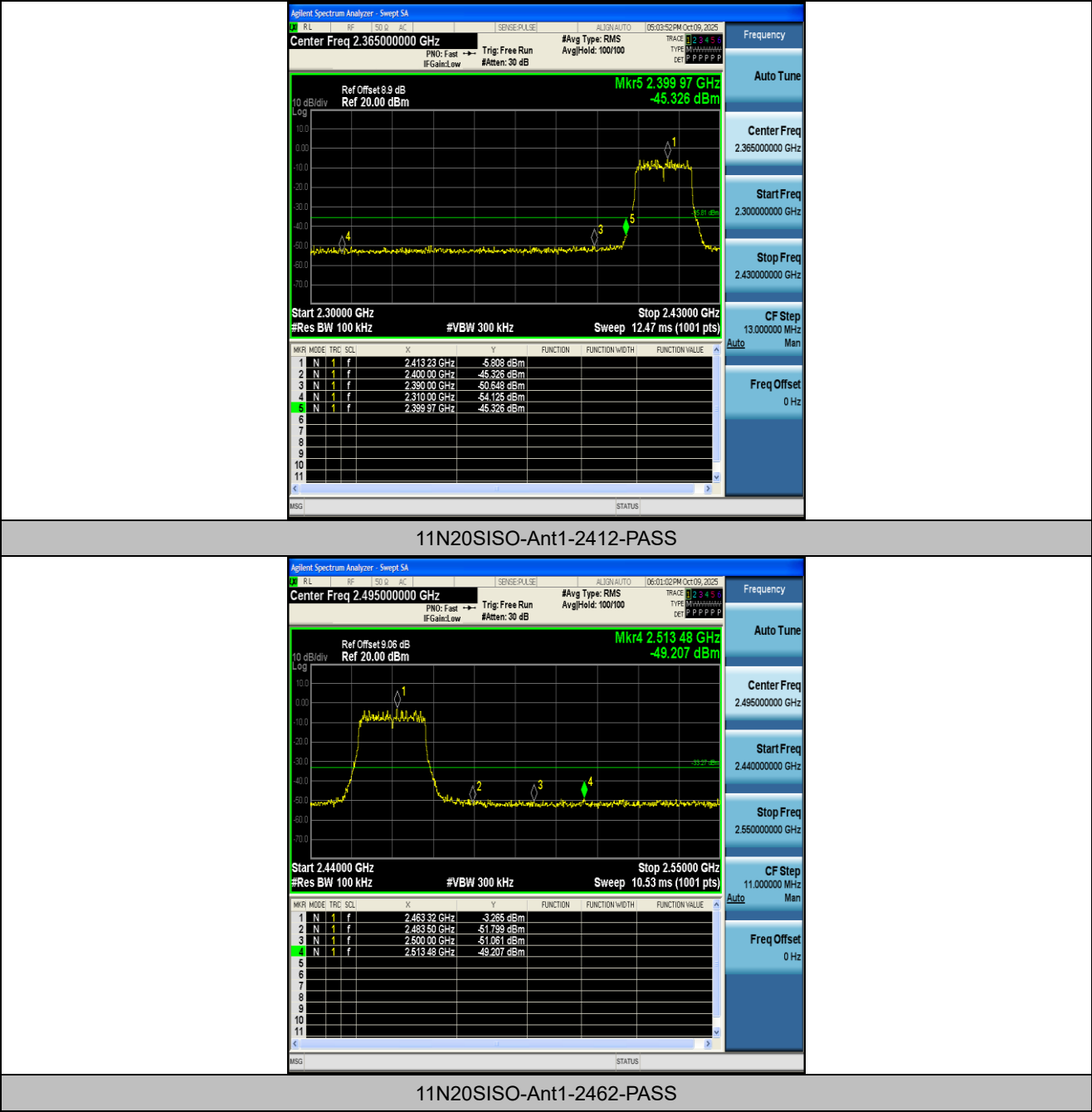




11G-Ant1-2412-PASS



11G-Ant1-2462-PASS



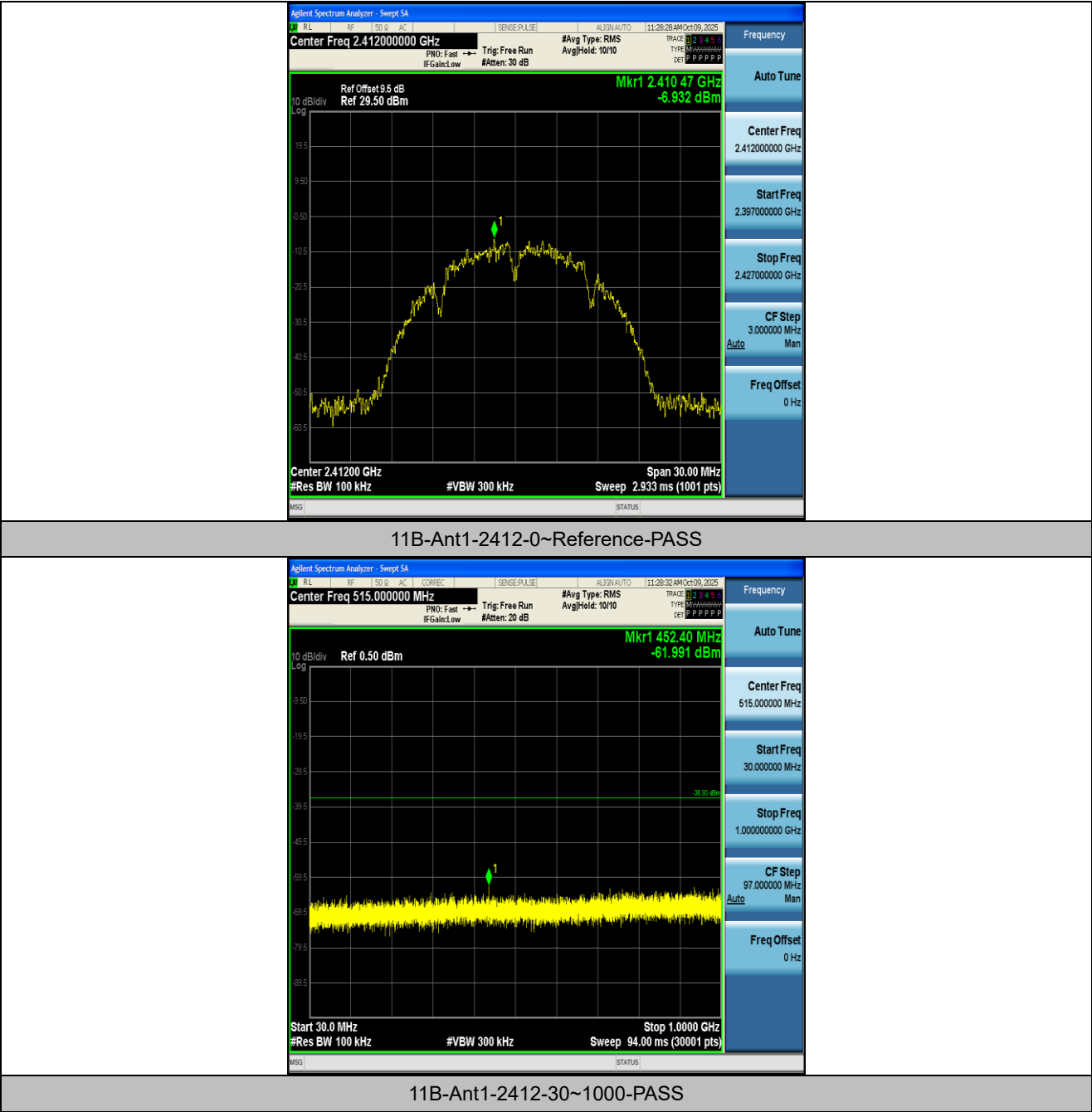
Appendix F: Conducted Spurious Emission

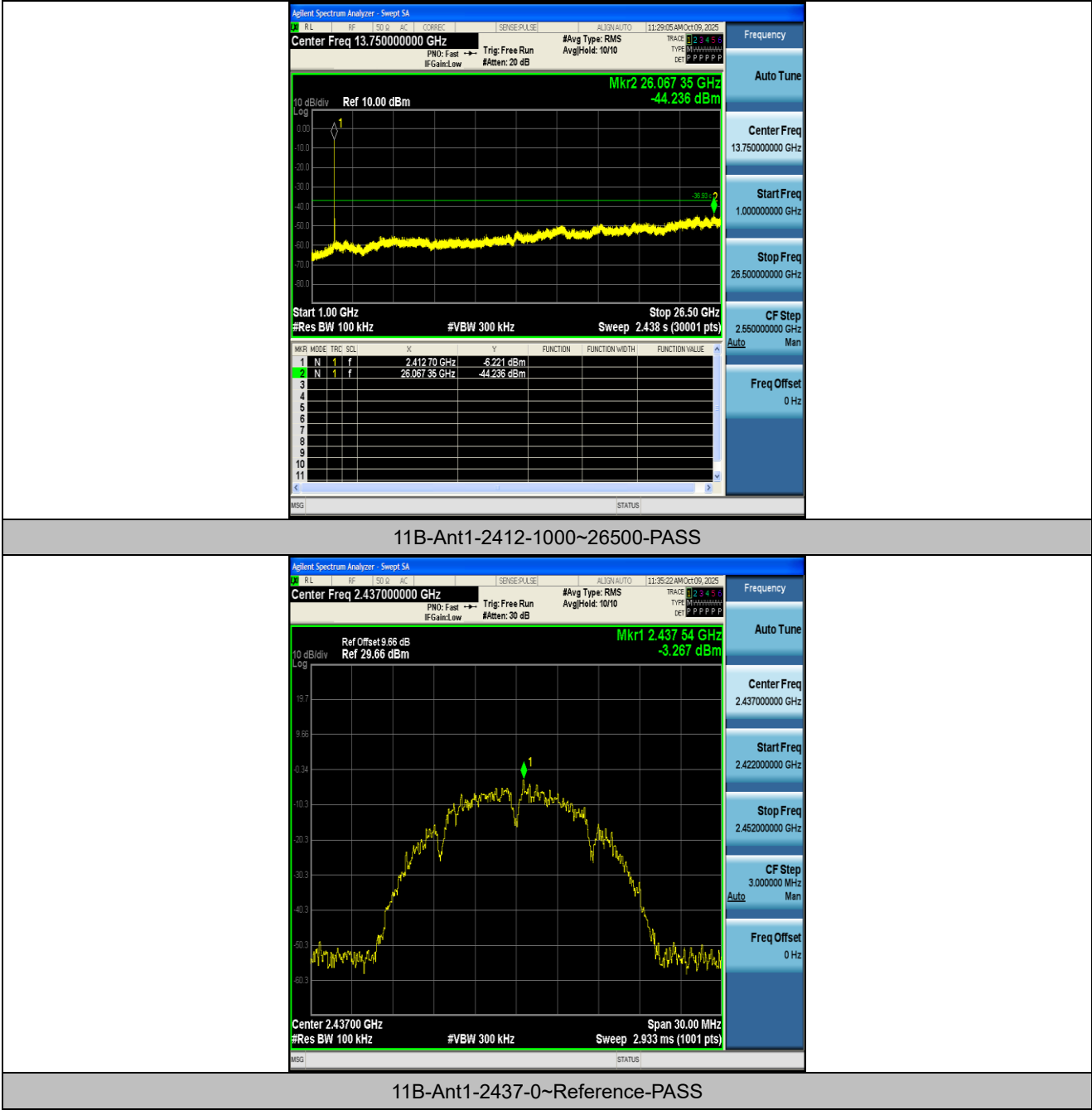
Test Result

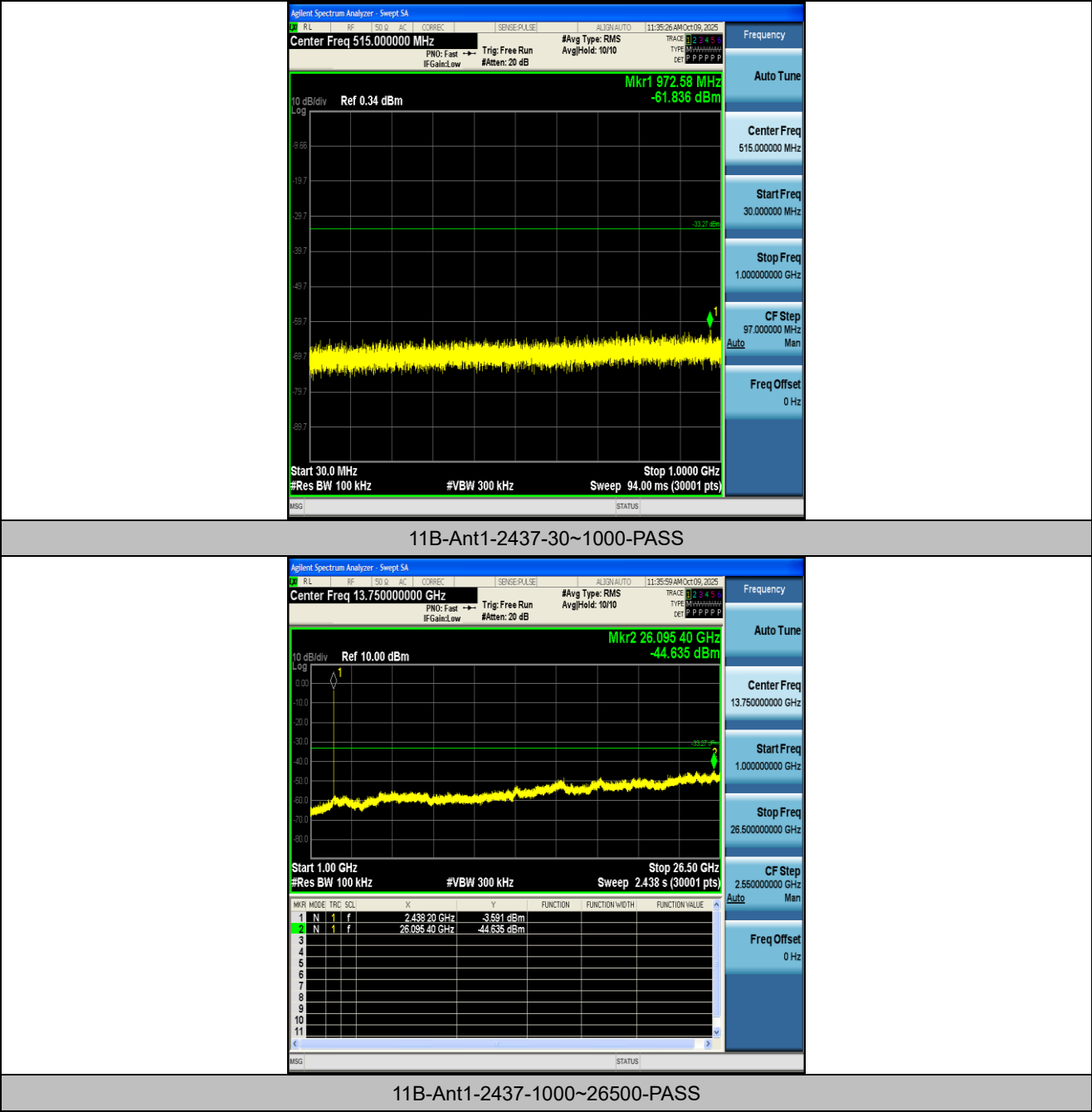
Test Mode	Antenna	Frequency [MHz]	Freq. Range [Mhz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	0~Reference	-6.93	-6.93	---	PASS
11B	Ant1	2412	30~1000	-6.93	-61.99	≤ -36.93	PASS
11B	Ant1	2412	1000~26500	-6.93	-44.24	≤ -36.93	PASS
11B	Ant1	2437	0~Reference	-3.27	-3.27	---	PASS
11B	Ant1	2437	30~1000	-3.27	-61.84	≤ -33.27	PASS
11B	Ant1	2437	1000~26500	-3.27	-44.64	≤ -33.27	PASS
11B	Ant1	2462	0~Reference	-4.64	-4.64	---	PASS
11B	Ant1	2462	30~1000	-4.64	-62.92	≤ -34.64	PASS
11B	Ant1	2462	1000~26500	-4.64	-44.71	≤ -34.64	PASS
11G	Ant1	2412	0~Reference	-8.58	-8.58	---	PASS
11G	Ant1	2412	30~1000	-8.58	-62.96	≤ -38.58	PASS
11G	Ant1	2412	1000~26500	-8.58	-45.62	≤ -38.58	PASS
11G	Ant1	2437	0~Reference	-6.86	-6.86	---	PASS
11G	Ant1	2437	30~1000	-6.86	-62.7	≤ -36.86	PASS
11G	Ant1	2437	1000~26500	-6.86	-44.7	≤ -36.86	PASS
11G	Ant1	2462	0~Reference	-6.54	-6.54	---	PASS
11G	Ant1	2462	30~1000	-6.54	-62.98	≤ -36.54	PASS
11G	Ant1	2462	1000~26500	-6.54	-44.43	≤ -36.54	PASS
11N20SISO	Ant1	2412	0~Reference	-6.16	-6.16	---	PASS
11N20SISO	Ant1	2412	30~1000	-6.16	-62.73	≤ -36.16	PASS
11N20SISO	Ant1	2412	1000~26500	-6.16	-45.21	≤ -36.16	PASS
11N20SISO	Ant1	2437	0~Reference	-3.65	-3.65	---	PASS
11N20SISO	Ant1	2437	30~1000	-3.65	-62.23	≤ -33.65	PASS
11N20SISO	Ant1	2437	1000~26500	-3.65	-44.66	≤ -33.65	PASS
11N20SISO	Ant1	2462	0~Reference	-4.16	-4.16	---	PASS
11N20SISO	Ant1	2462	30~1000	-4.16	-62.65	≤ -34.16	PASS
11N20SISO	Ant1	2462	1000~26500	-4.16	-45.48	≤ -34.16	PASS

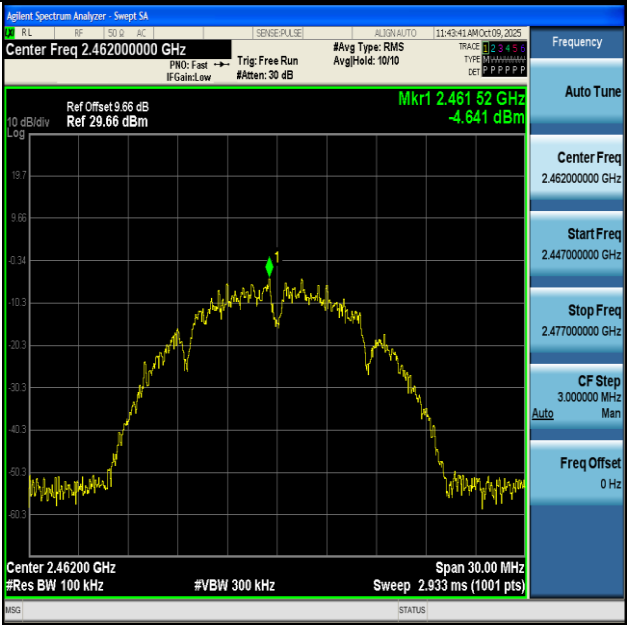
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

Test Graphs

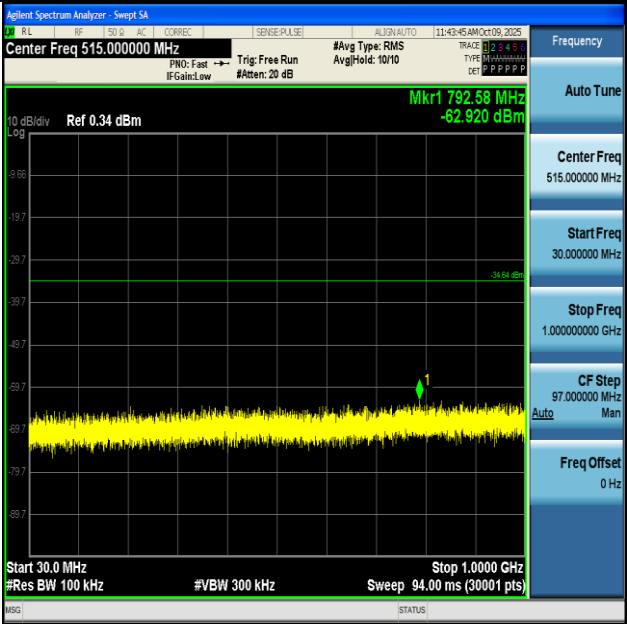




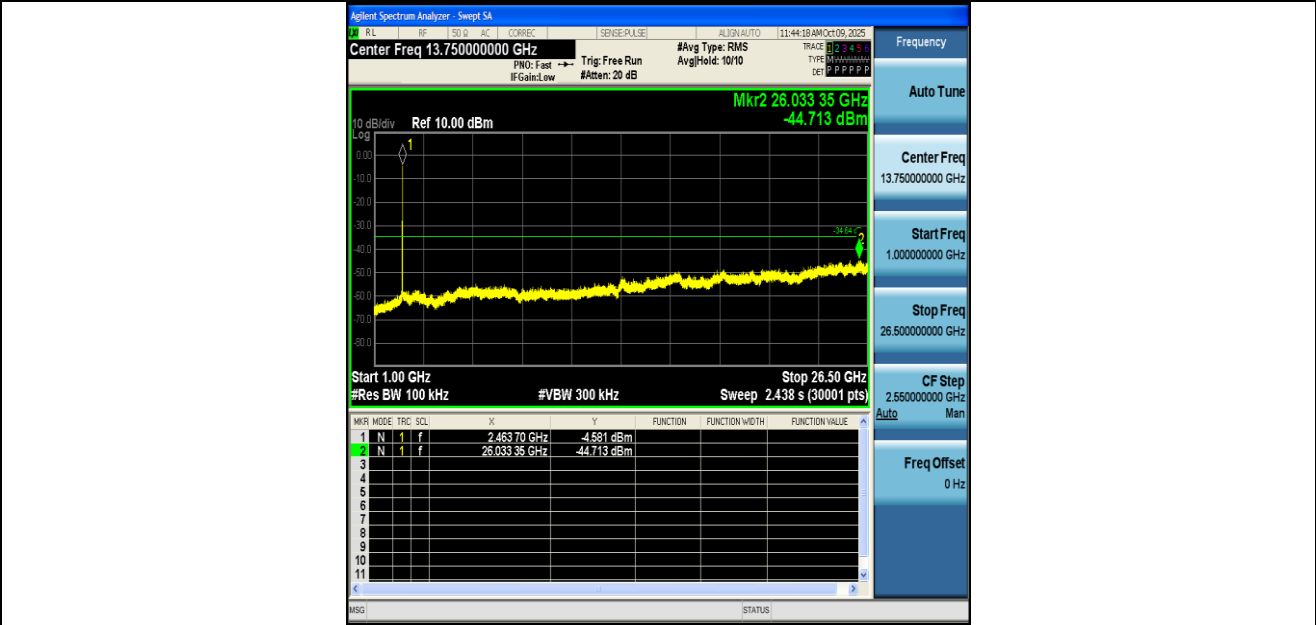




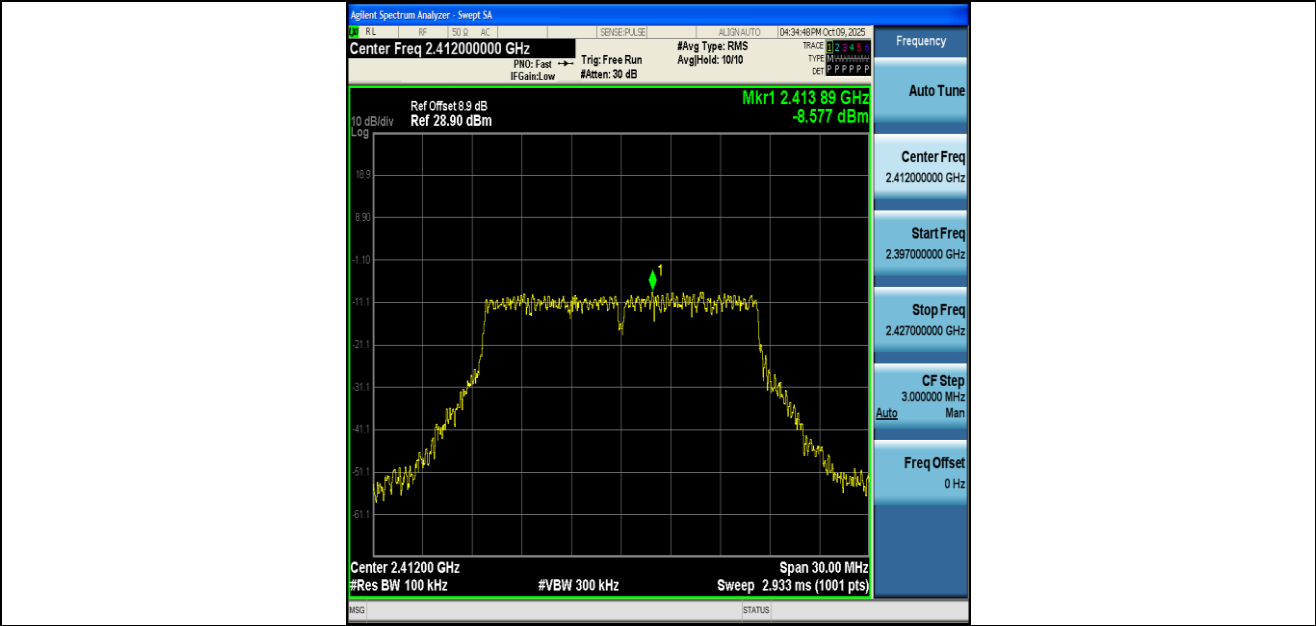
11B-Ant1-2462-0~Reference-PASS



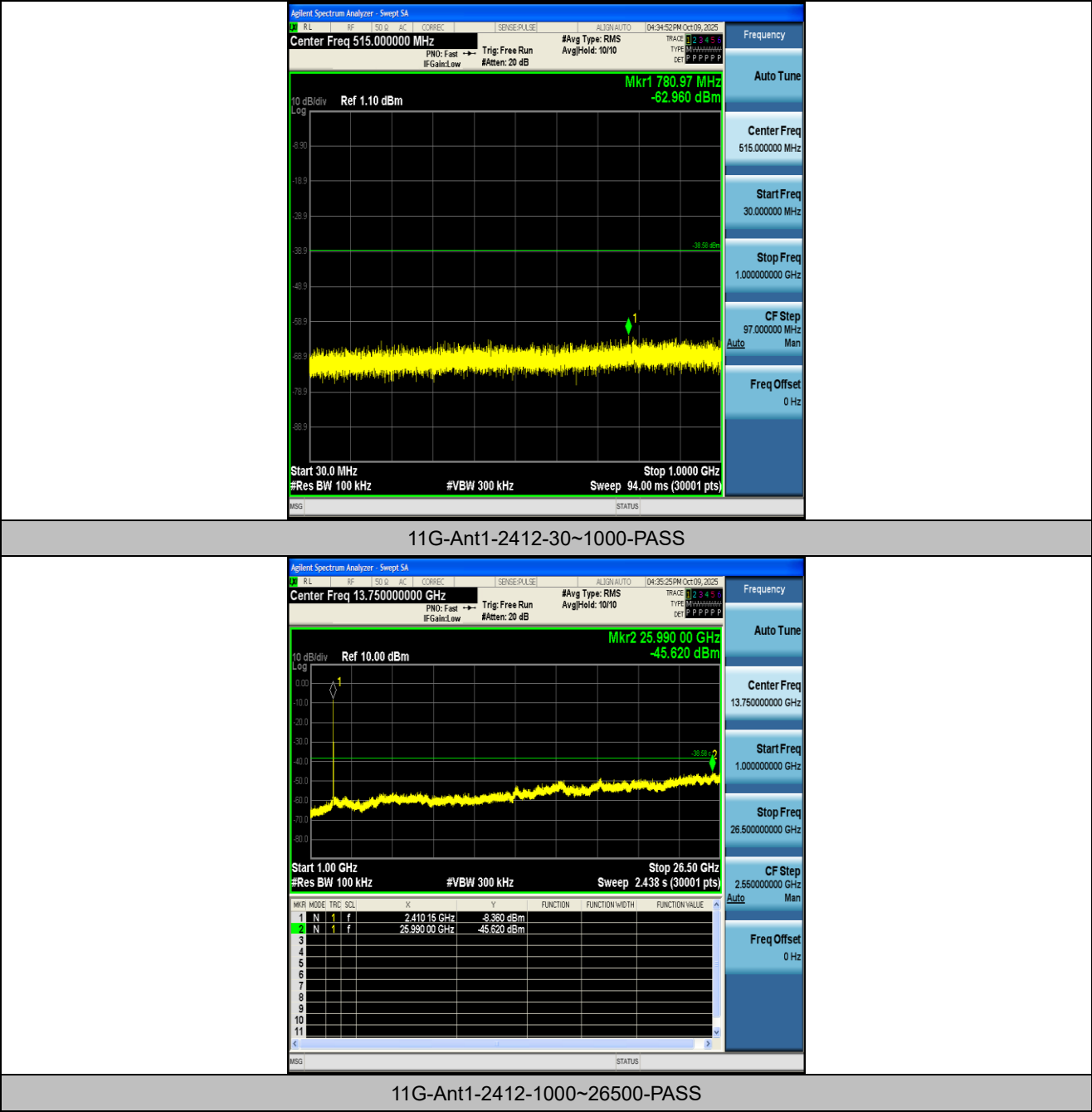
11B-Ant1-2462-30~1000-PASS

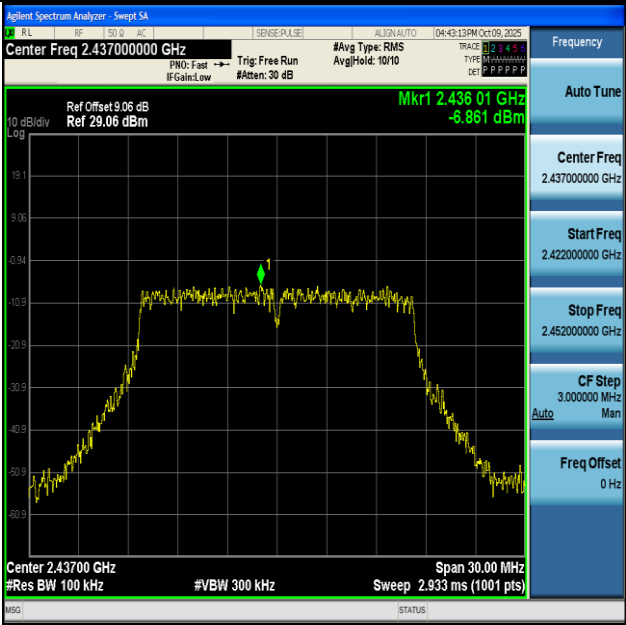


11B-Ant1-2462-1000~26500-PASS

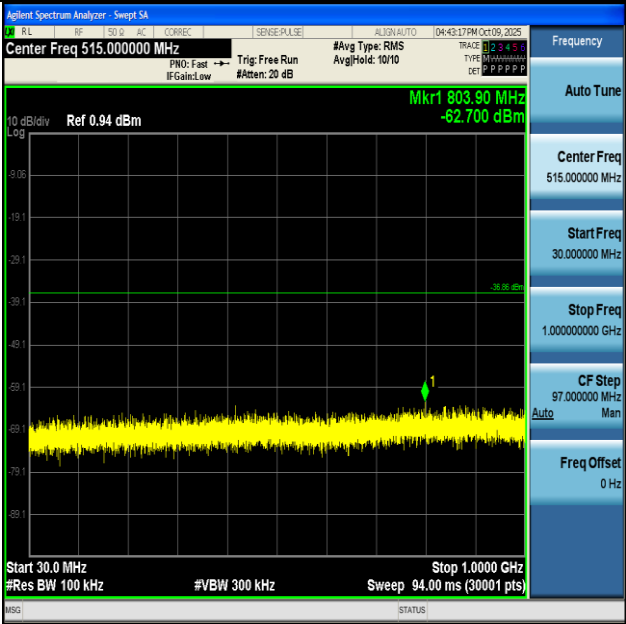


11G-Ant1-2412-0~Reference-PASS

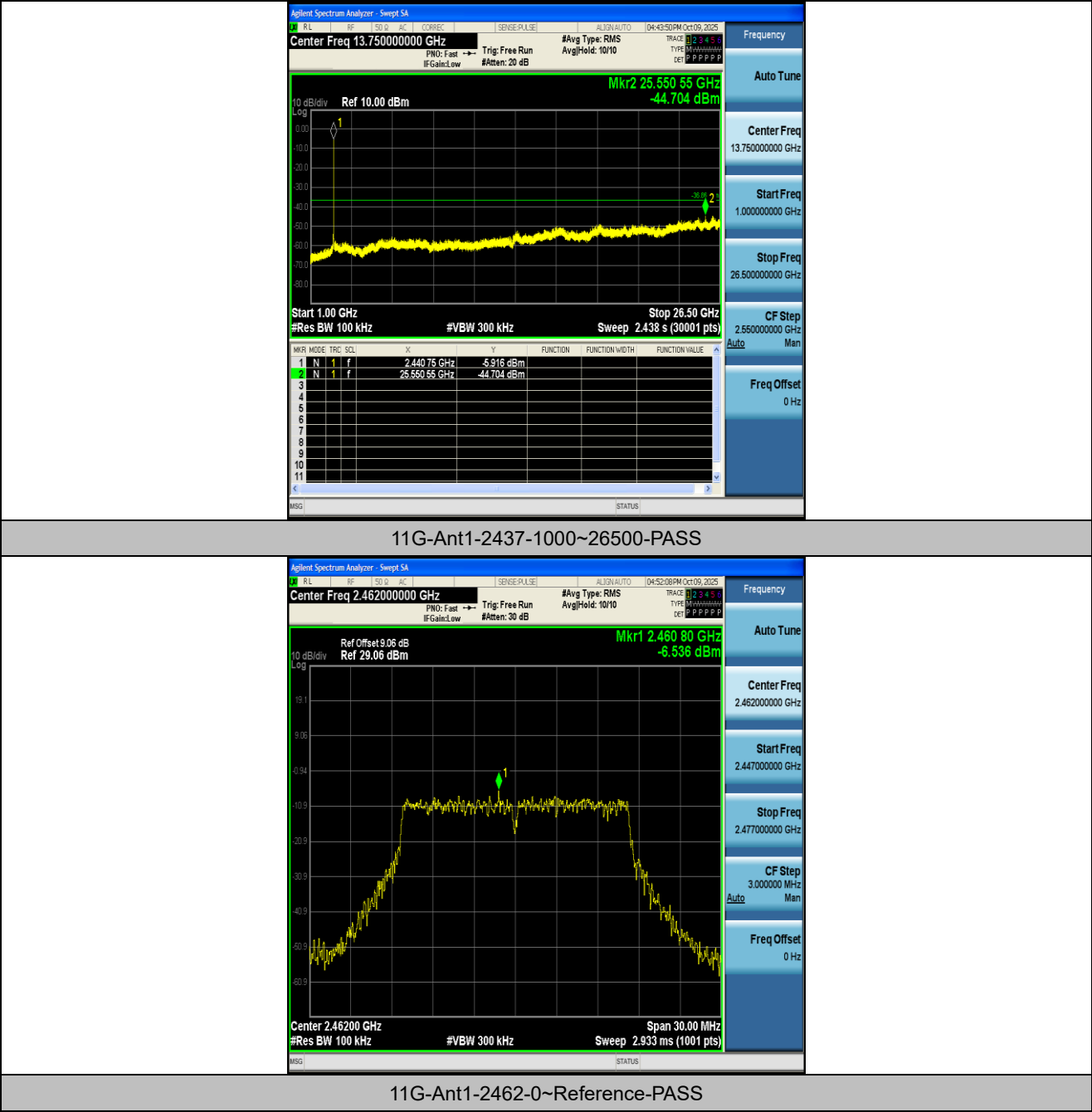


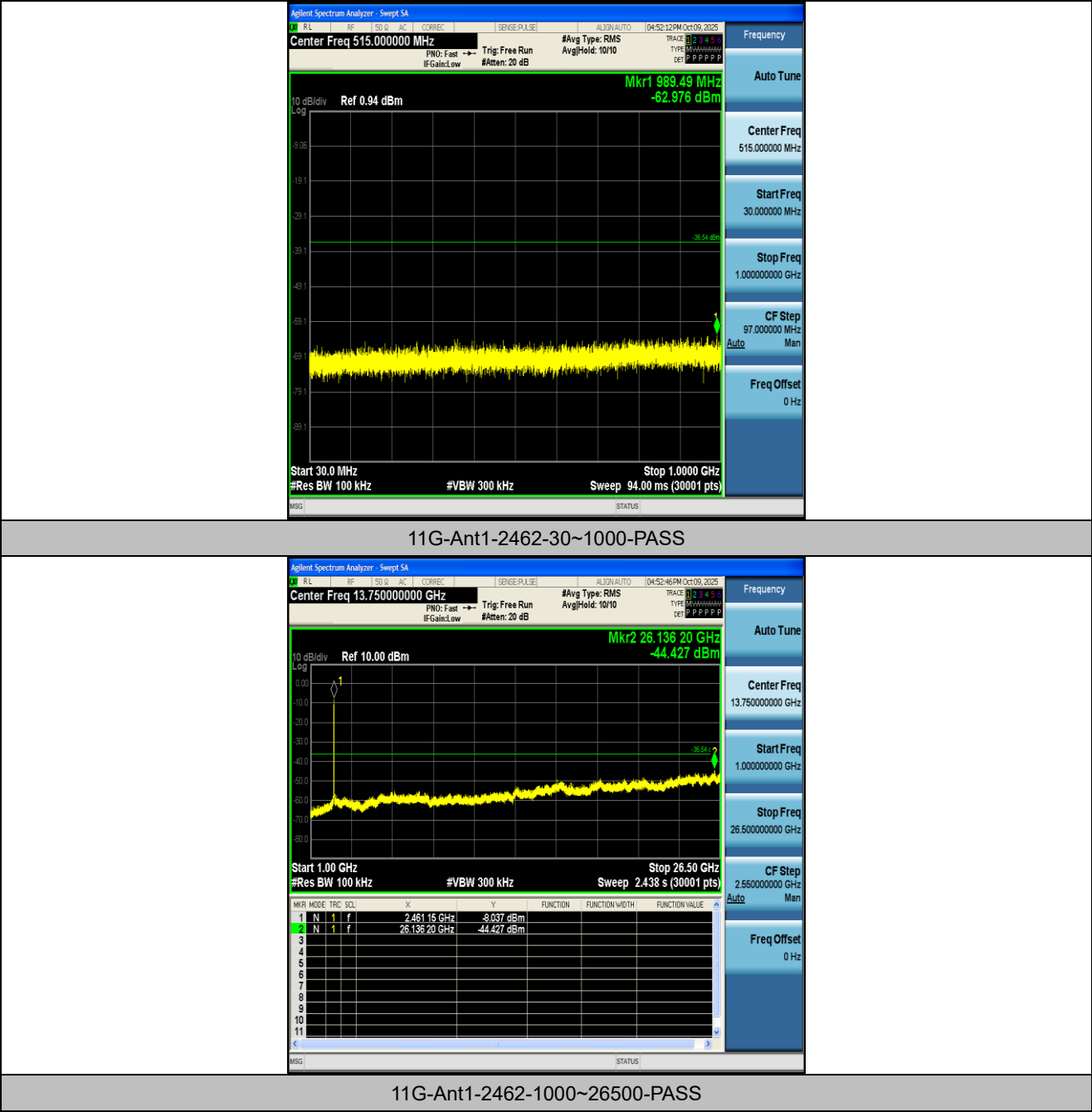


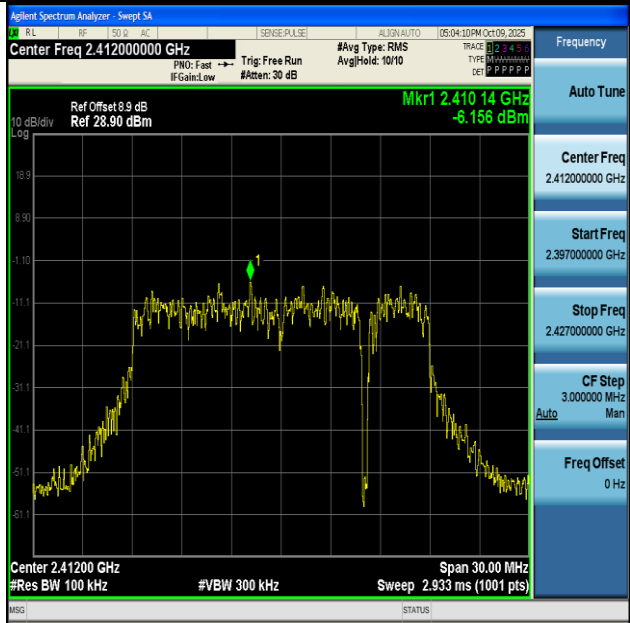
11G-Ant1-2437-0~Reference-PASS



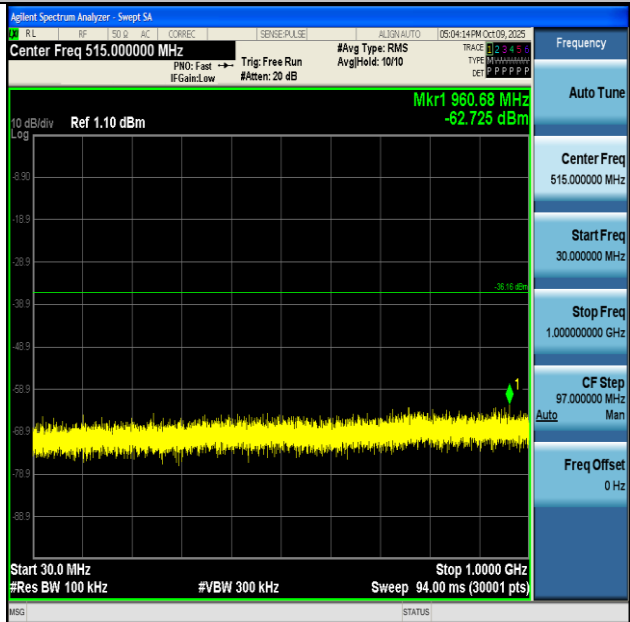
11G-Ant1-2437-30~1000-PASS



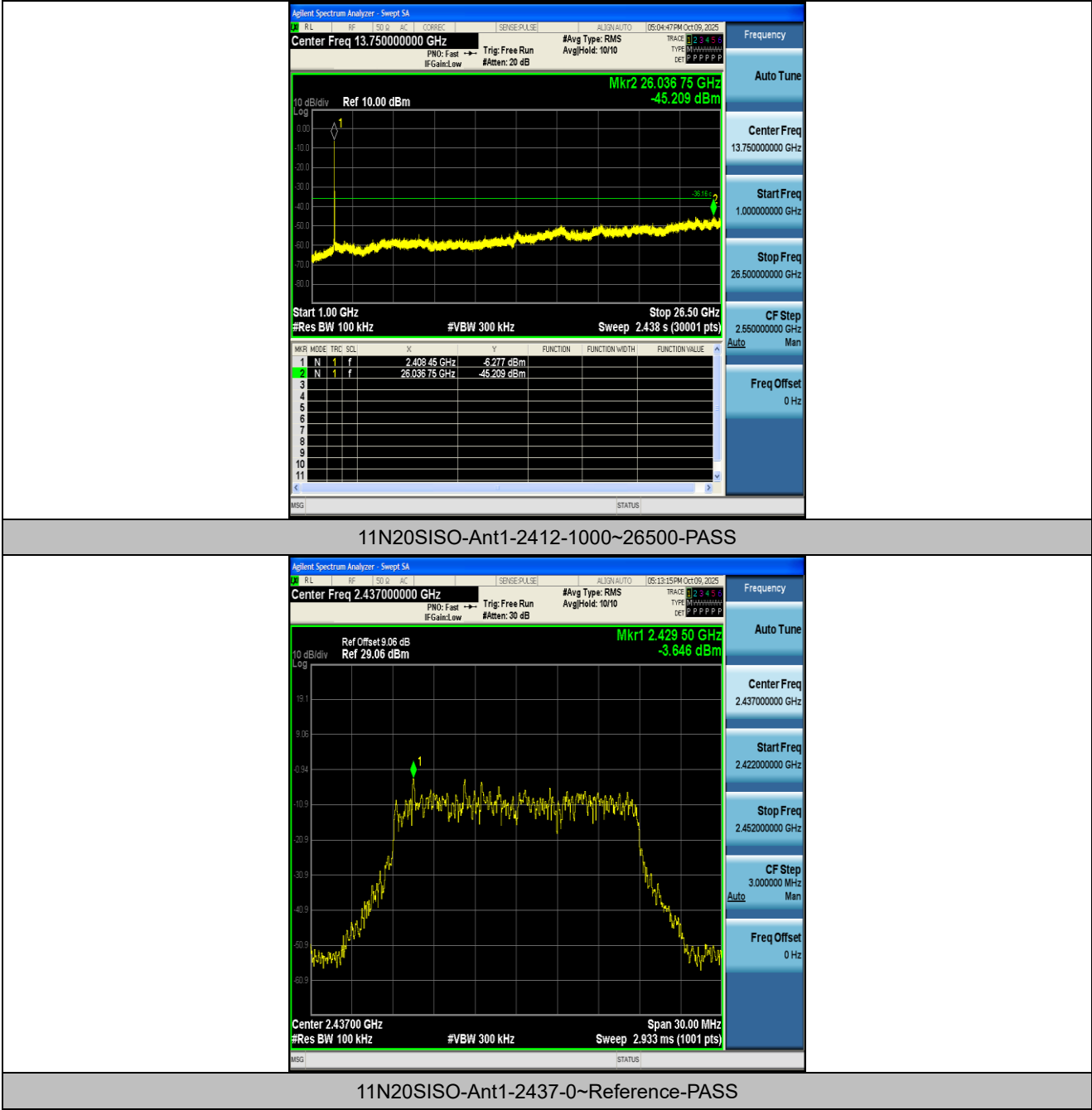


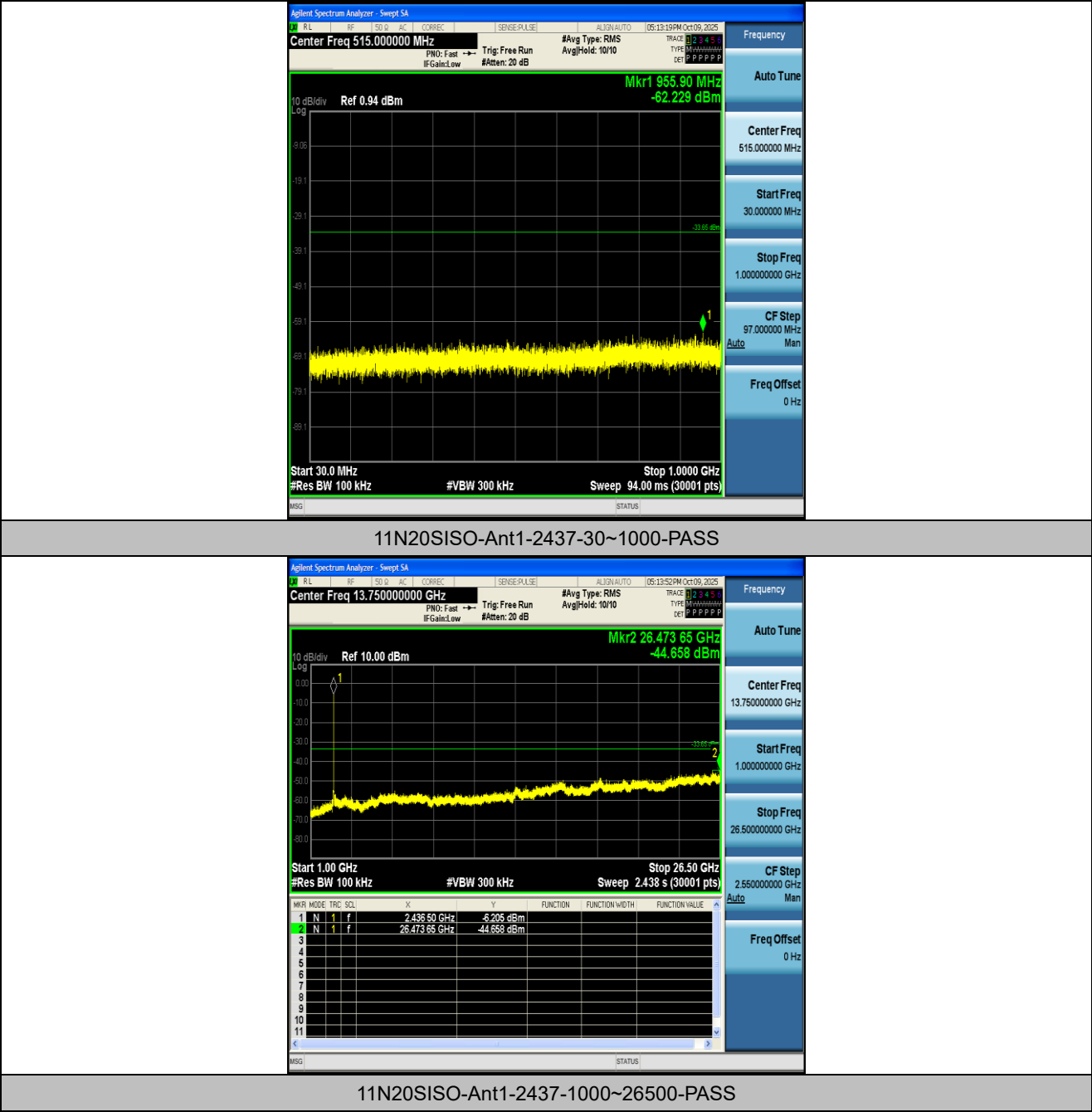


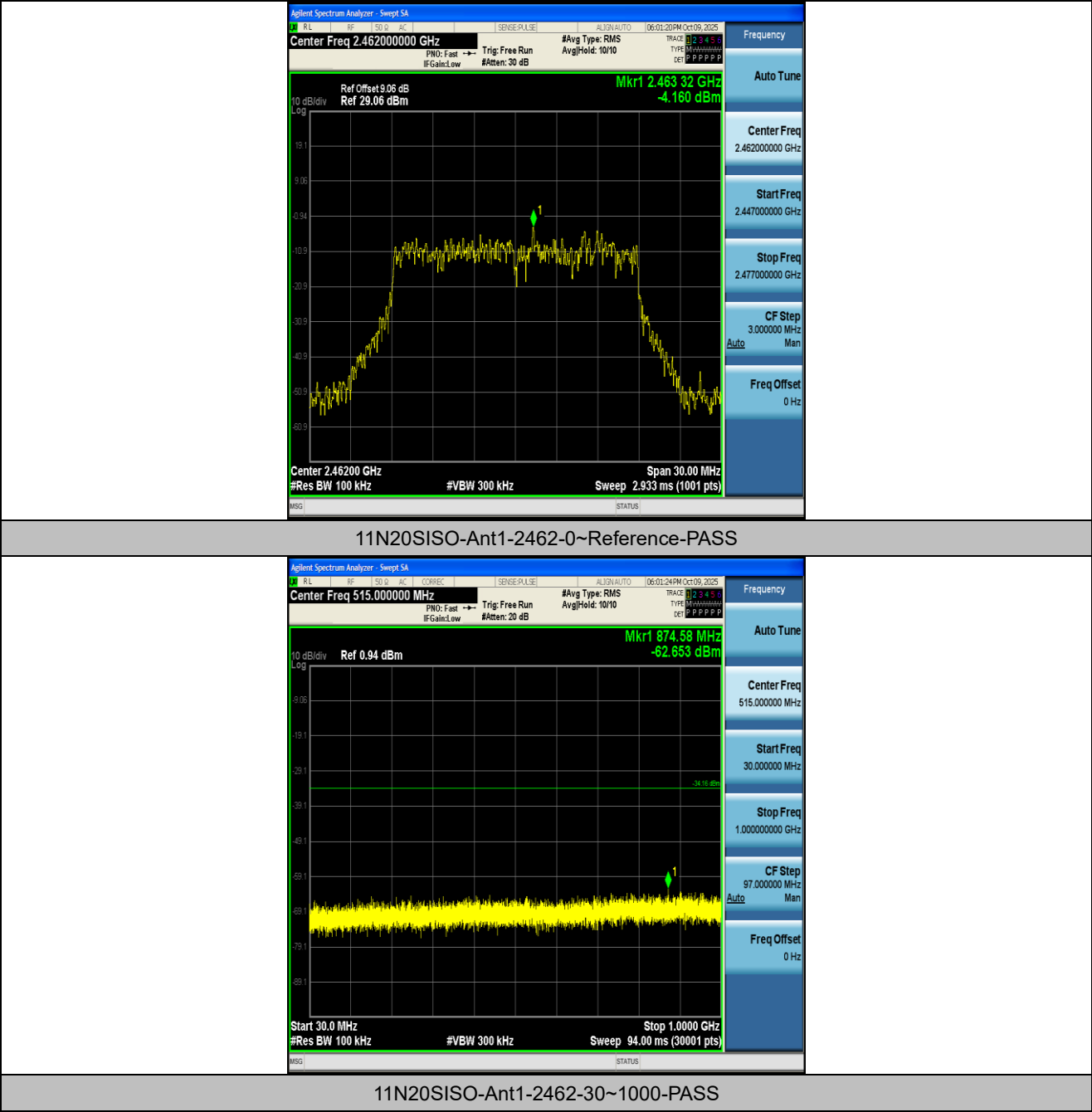
11N20SISO-Ant1-2412-0~Reference-PASS

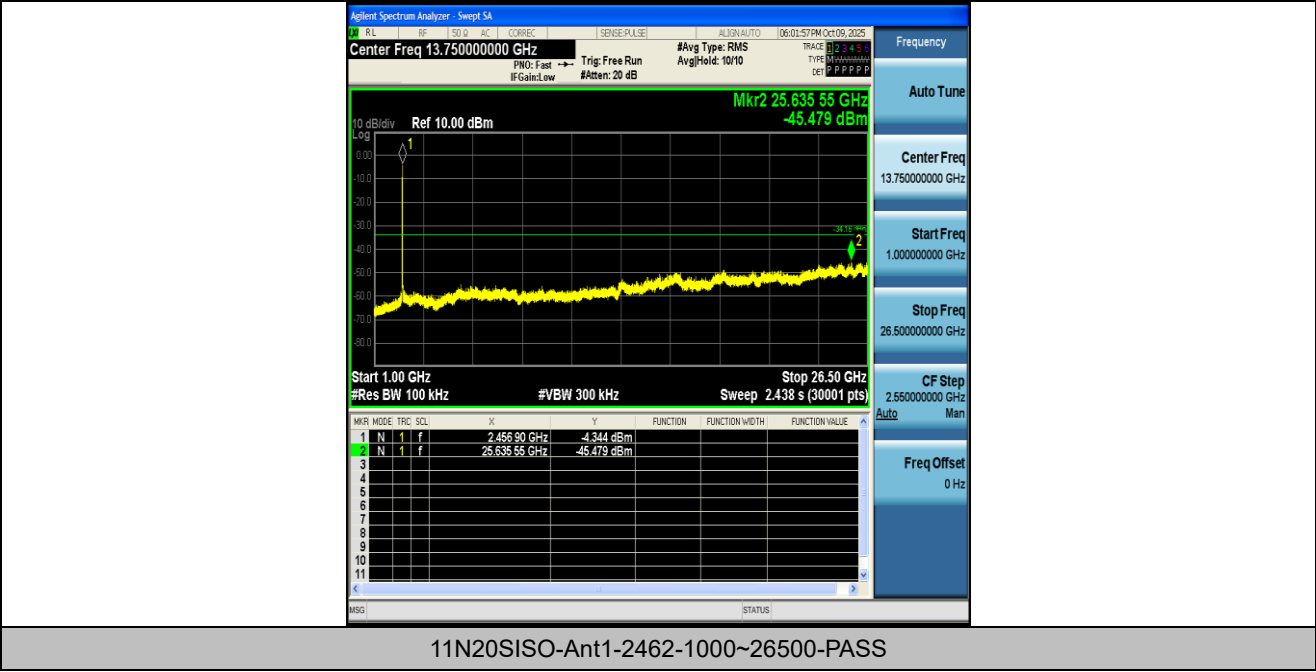


11N20SISO-Ant1-2412-30~1000-PASS









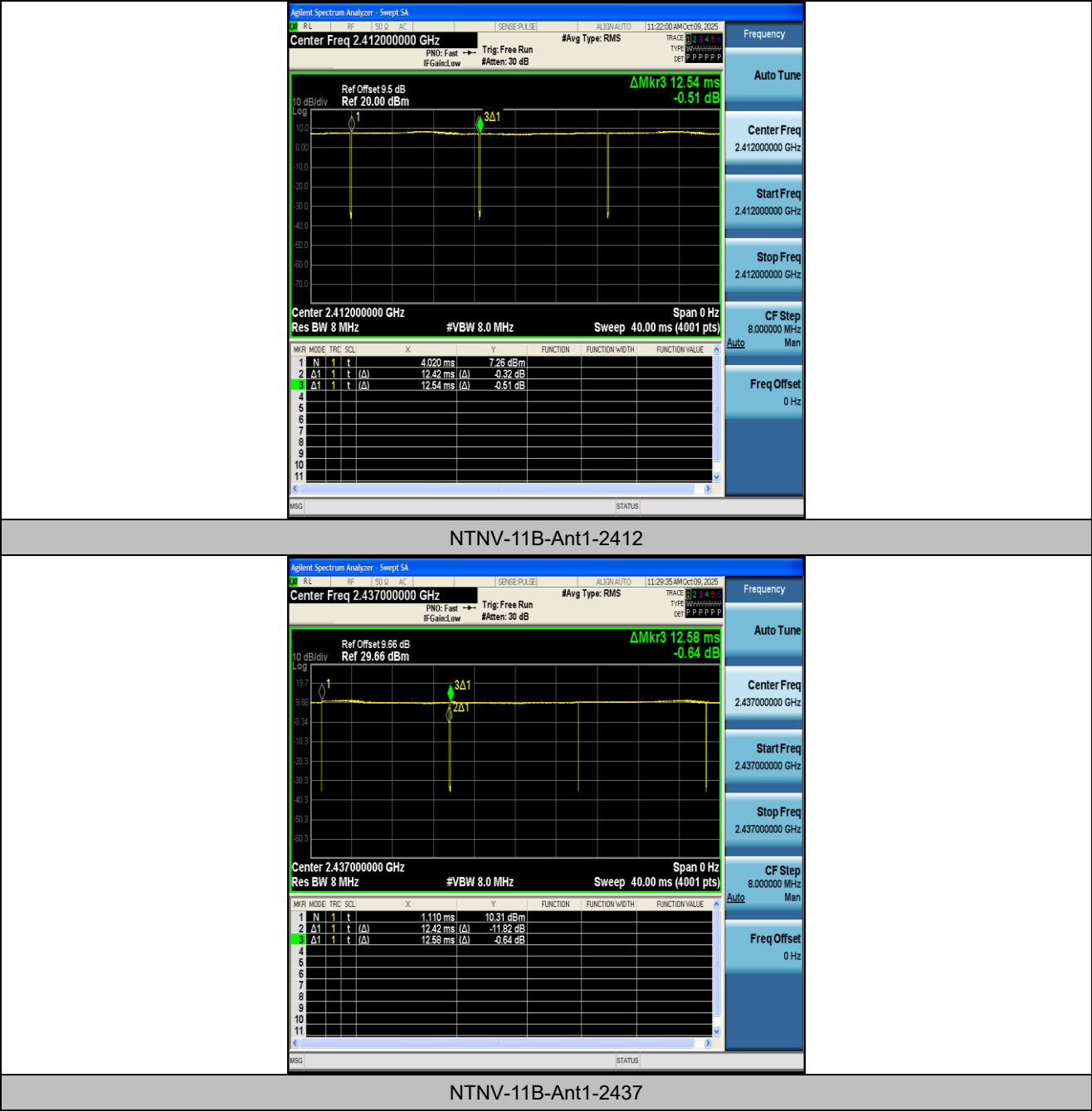
Appendix G: Duty Cycle

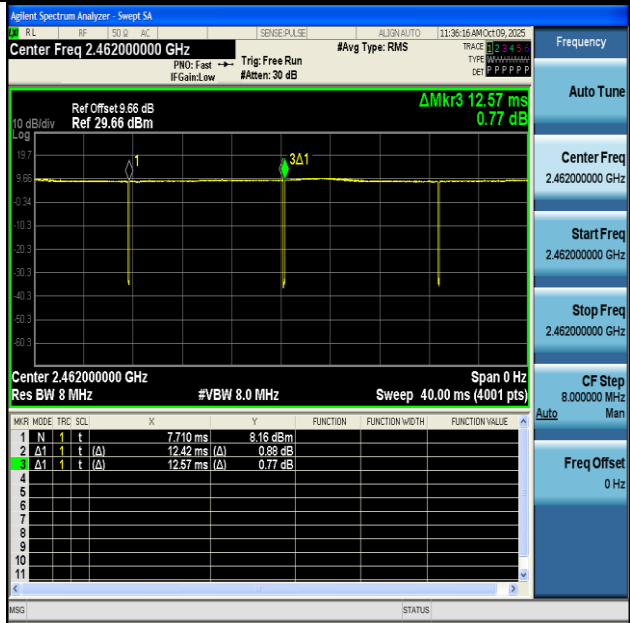
Test Result

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	12.42	12.54	99.04	0.04
11B	Ant1	2437	12.42	12.58	98.73	0.06
11B	Ant1	2462	12.42	12.57	98.81	0.05
11G	Ant1	2412	2.06	2.23	92.38	0.34
11G	Ant1	2437	2.06	2.28	90.35	0.44
11G	Ant1	2462	2.07	2.24	92.41	0.34
11N20SISO	Ant1	2412	0.22	0.48	45.83	3.39
11N20SISO	Ant1	2437	0.23	0.48	47.92	3.19
11N20SISO	Ant1	2462	0.23	0.40	57.50	2.40

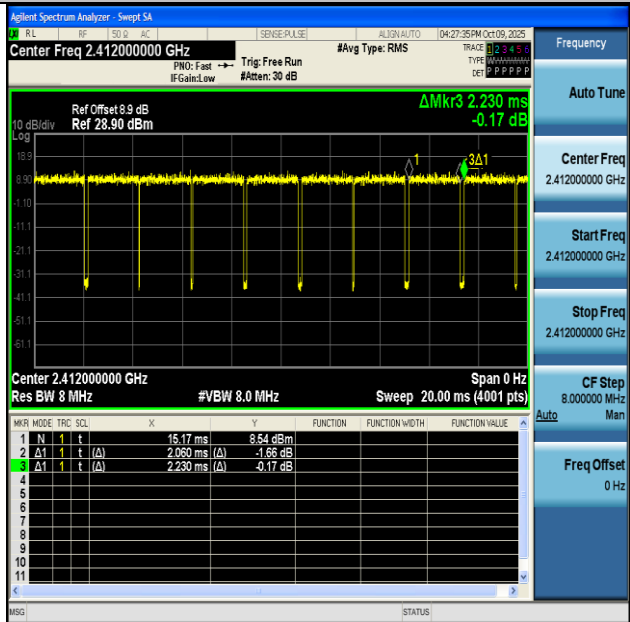
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

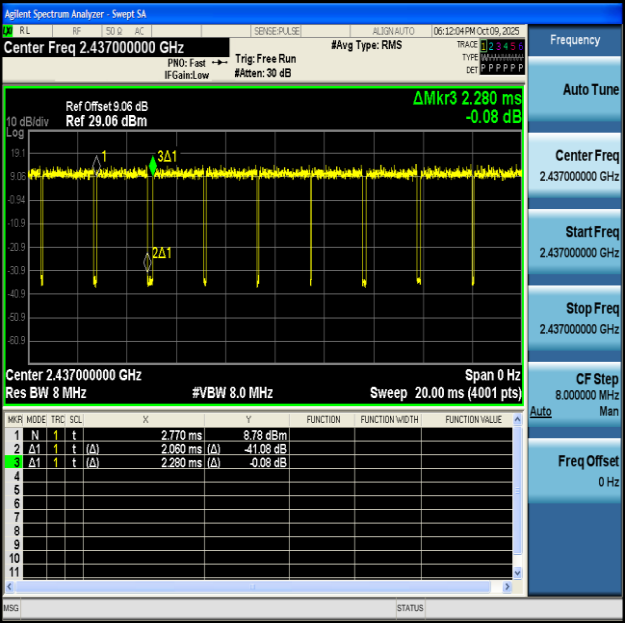




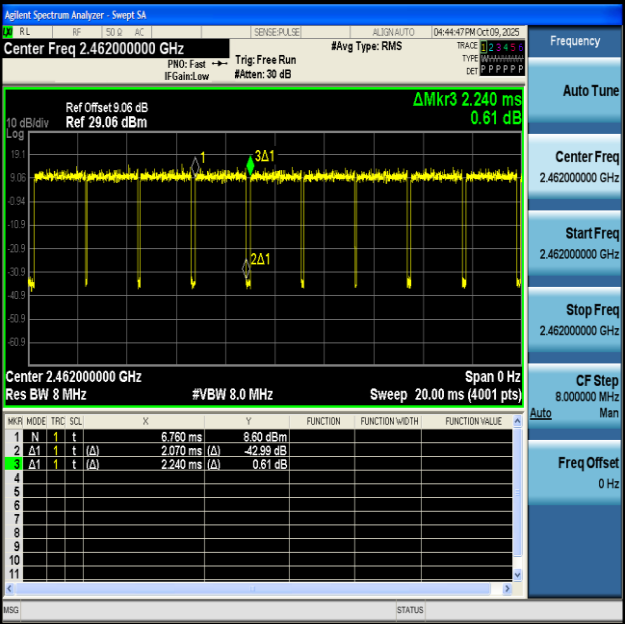
NTNV-11B-Ant1-2462



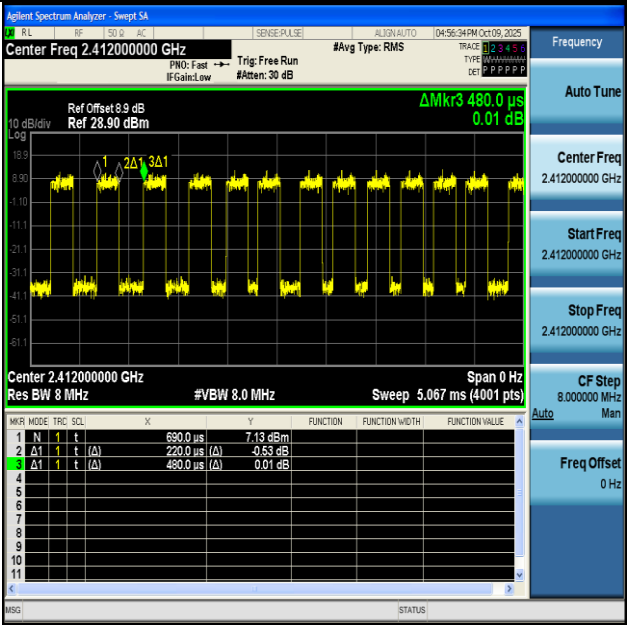
NTNV-11G-Ant1-2412



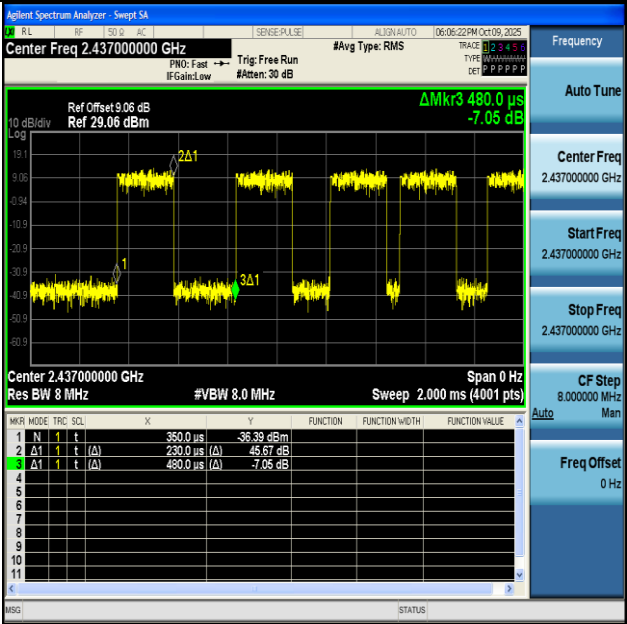
NTNV-11G-Ant1-2437



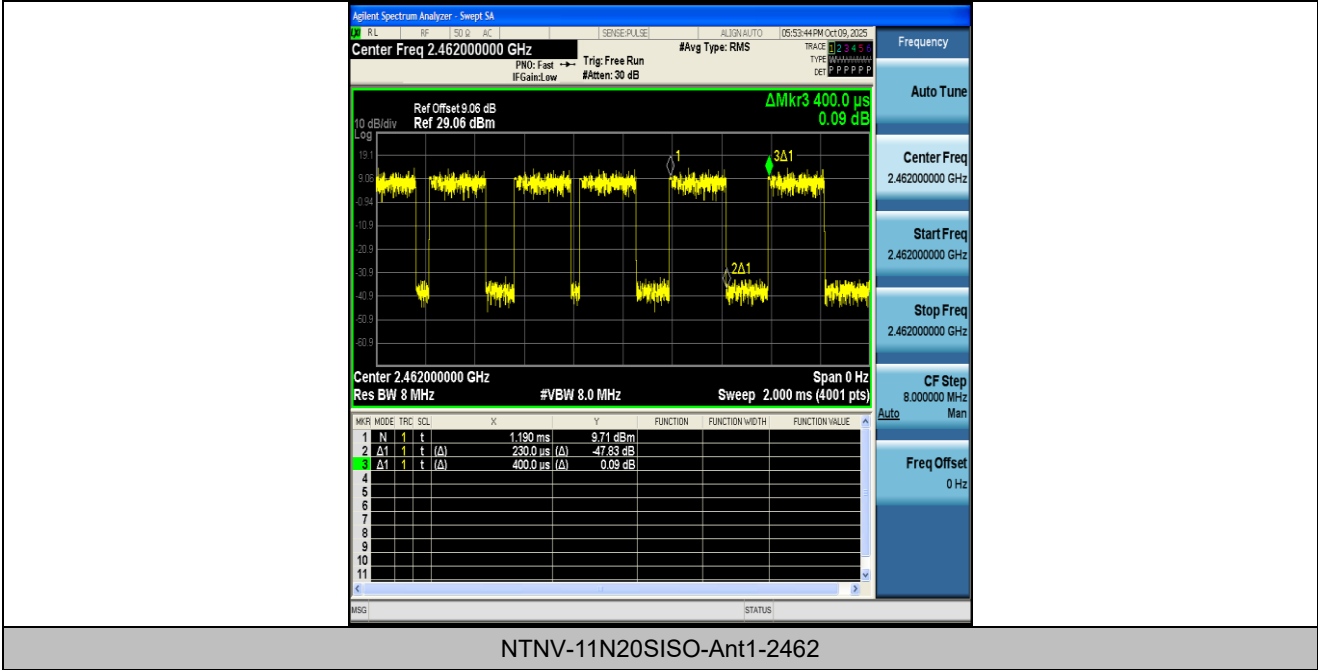
NTNV-11G-Ant1-2462



NTNV-11N20SISO-Ant1-2412



NTNV-11N20SISO-Ant1-2437



NTNV-11N20SISO-Ant1-2462