



Appendix Test Data for 16QAM (Conducted Measurement)

Product Name: 2.4GHz Digital Wireless System(Monitor+Camera)

Trade Mark:  (TVH),  (AgriEyes),  (LITLED),  (NSD),
 (TECHNI-POWER),  (BUYERS PRODUCTS COMPANY),
 (DUN-BRI GROUP),  (PROSIGNAL)
Test Model: CW0101+MW0101
FCC ID: 2BRPZ128

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
16QAM	Ant1	2403	2.810	2401.680	2404.490	0.5	PASS
16QAM	Ant1	2441	3.240	2439.470	2442.710	0.5	PASS
16QAM	Ant1	2478	3.320	2476.430	2479.750	0.5	PASS
BPSK	Ant1	2403	3.020	2401.580	2404.600	0.5	PASS
BPSK	Ant1	2441	3.200	2439.340	2442.540	0.5	PASS
BPSK	Ant1	2478	3.100	2476.420	2479.520	0.5	PASS
QPSK	Ant1	2403	2.960	2401.580	2404.540	0.5	PASS
QPSK	Ant1	2441	3.100	2439.520	2442.620	0.5	PASS
QPSK	Ant1	2478	3.140	2476.480	2479.620	0.5	PASS

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





Test Graphs





16QAM-Ant1-2478-PASS



BPSK-Ant1-2403-PASS





BPSK-Ant1-2441-PASS



BPSK-Ant1-2478-PASS





QPSK-Ant1-2403-PASS



QPSK-Ant1-2441-PASS





QPSK-Ant1-2478-PASS





Appendix B: Occupied Channel Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
16QAM	Ant1	2403	3.9771	2401.0094	2404.9865	---	---
16QAM	Ant1	2441	3.9475	2439.0317	2442.9792	---	---
16QAM	Ant1	2478	3.9938	2475.9922	2479.9860	---	---
BPSK	Ant1	2403	3.9295	2401.0384	2404.9679	---	---
BPSK	Ant1	2441	3.9179	2439.0255	2442.9434	---	---
BPSK	Ant1	2478	3.9101	2476.0543	2479.9644	---	---
QPSK	Ant1	2403	3.9576	2401.0245	2404.9821	---	---
QPSK	Ant1	2441	3.9572	2439.0140	2442.9712	---	---
QPSK	Ant1	2478	3.9605	2476.0202	2479.9807	---	---

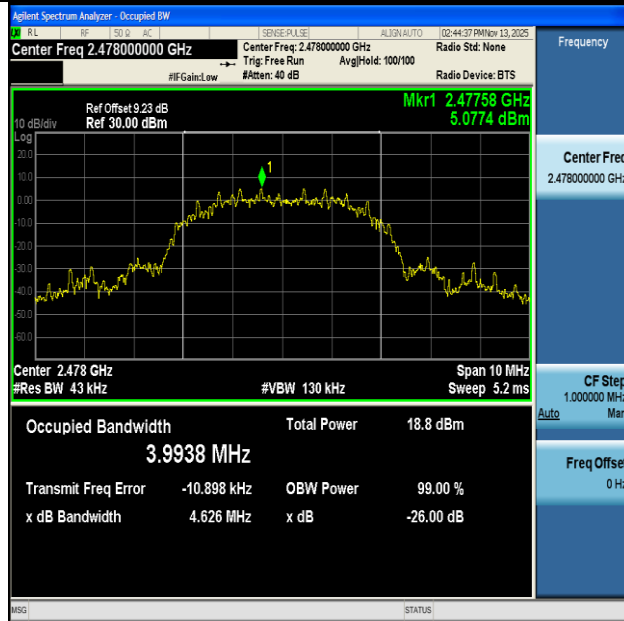
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





16QAM-Ant1-2478



BPSK-Ant1-2403





BPSK-Ant1-2441



BPSK-Ant1-2478



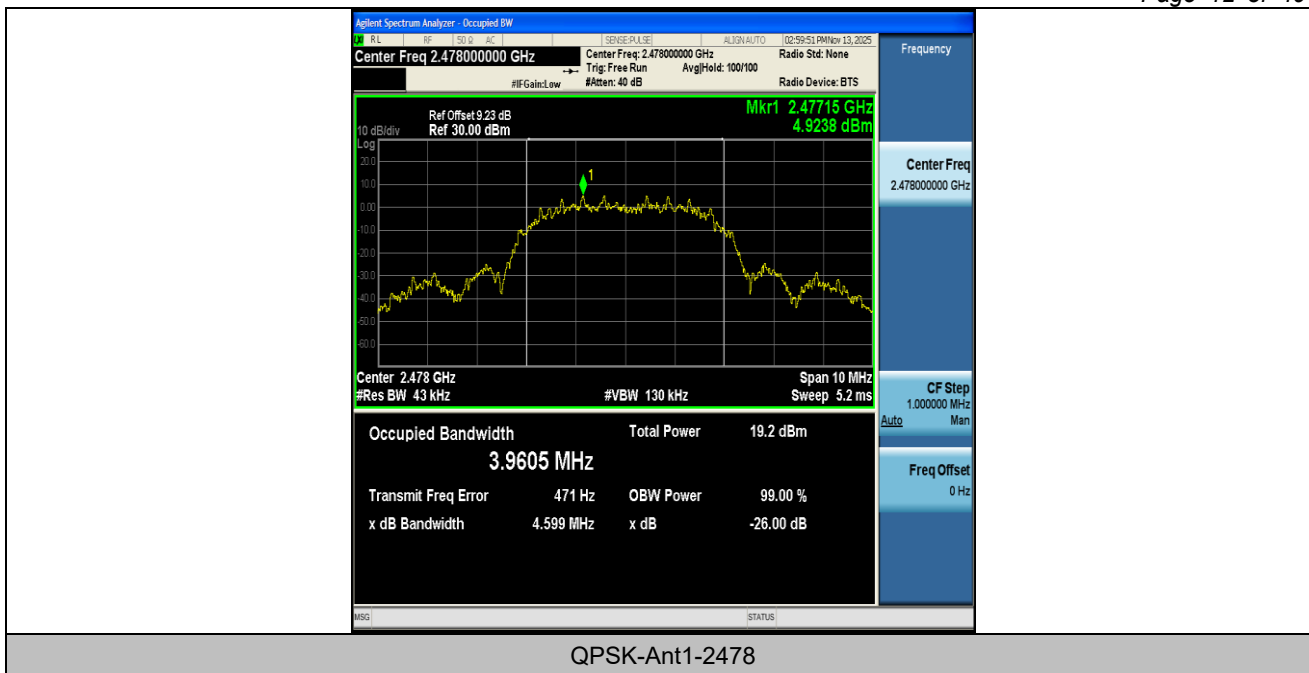


QPSK-Ant1-2403



QPSK-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result Peak

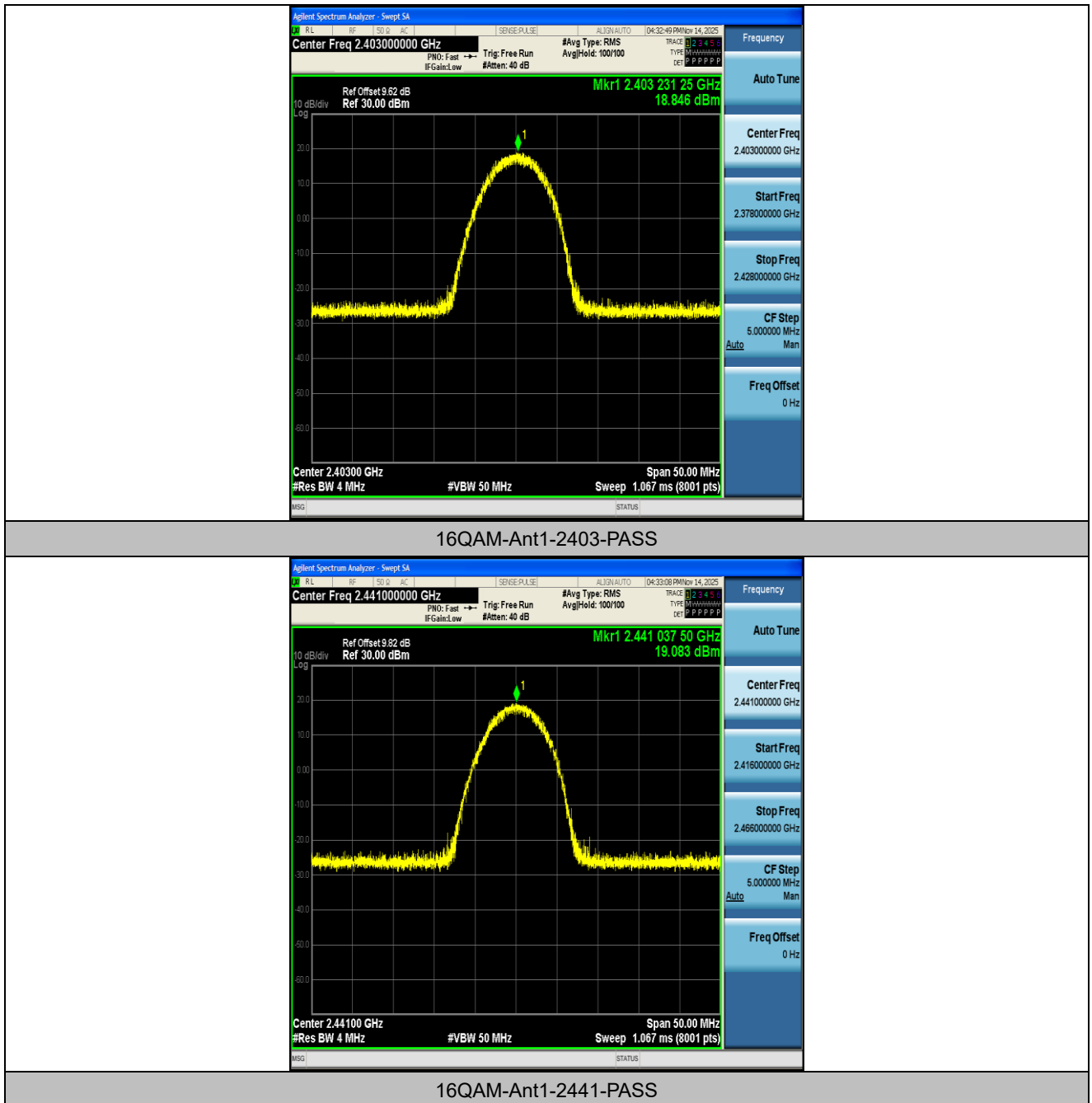
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
16QAM	Ant1	2403	18.85	≤30	PASS
16QAM	Ant1	2441	19.08	≤30	PASS
16QAM	Ant1	2478	18.38	≤30	PASS
BPSK	Ant1	2403	16.59	≤30	PASS
BPSK	Ant1	2441	16.53	≤30	PASS
BPSK	Ant1	2478	15.82	≤30	PASS
QPSK	Ant1	2403	17.86	≤30	PASS
QPSK	Ant1	2441	17.61	≤30	PASS
QPSK	Ant1	2478	17.03	≤30	PASS

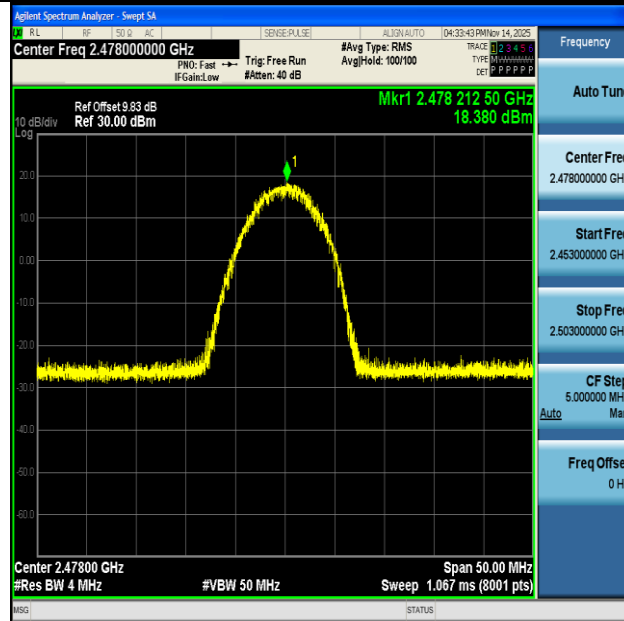
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



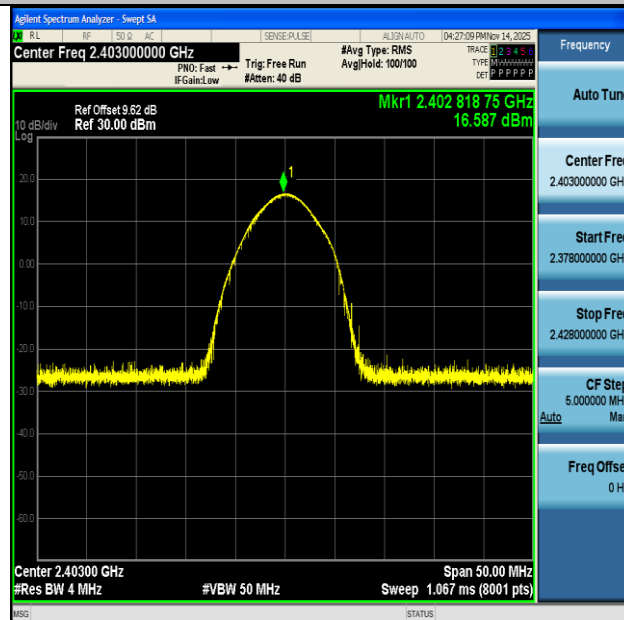


Test Graphs Peak



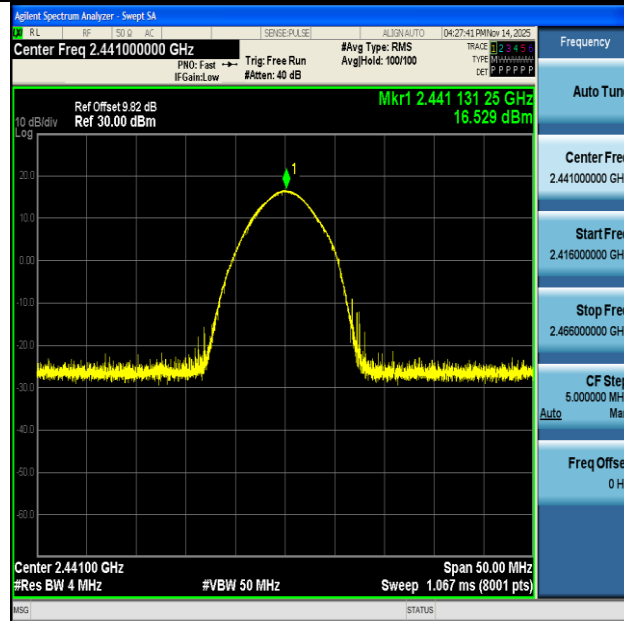


16QAM-Ant1-2478-PASS

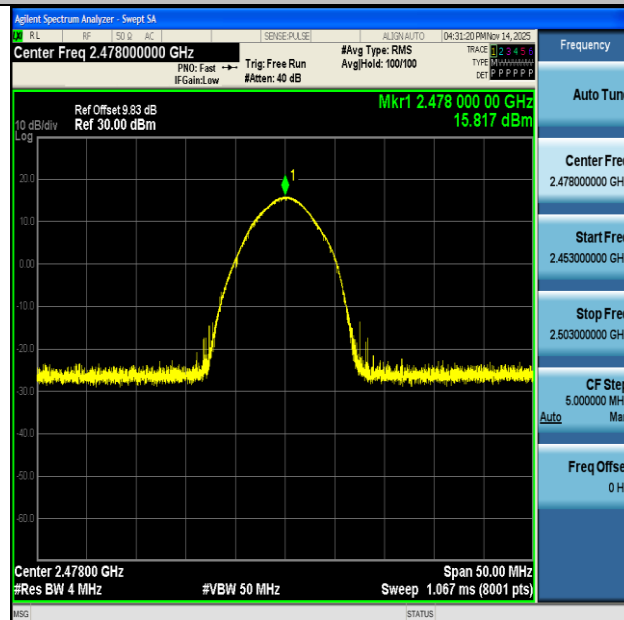


BPSK-Ant1-2403-PASS



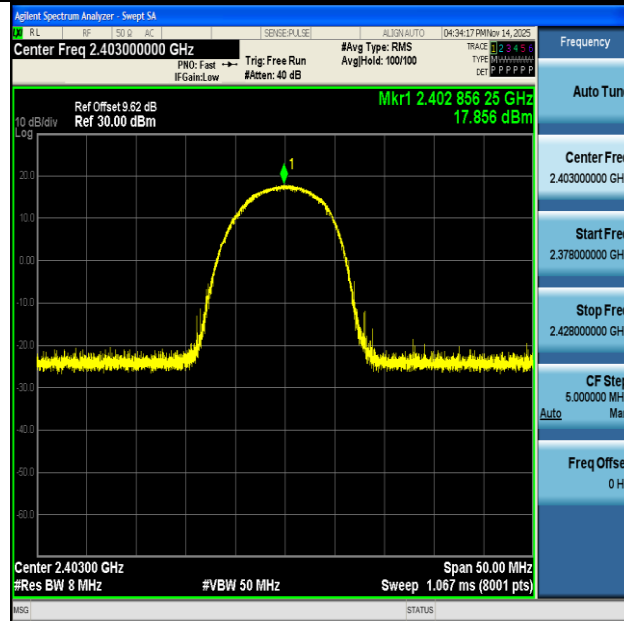


BPSK-Ant1-2441-PASS

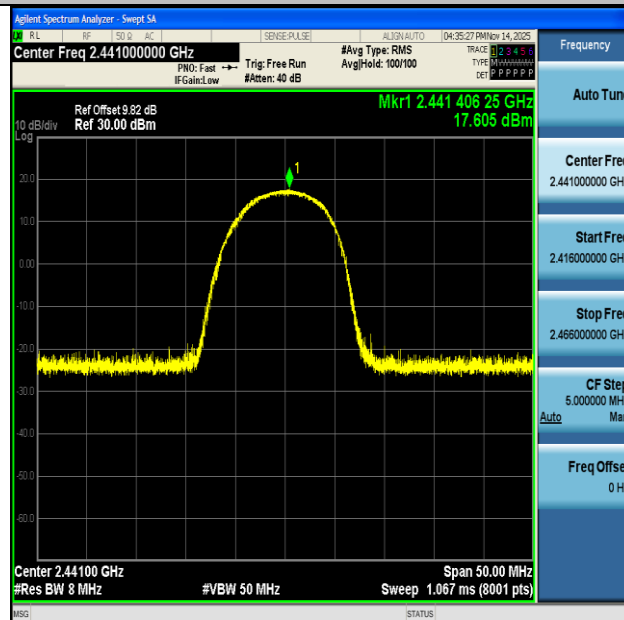


BPSK-Ant1-2478-PASS



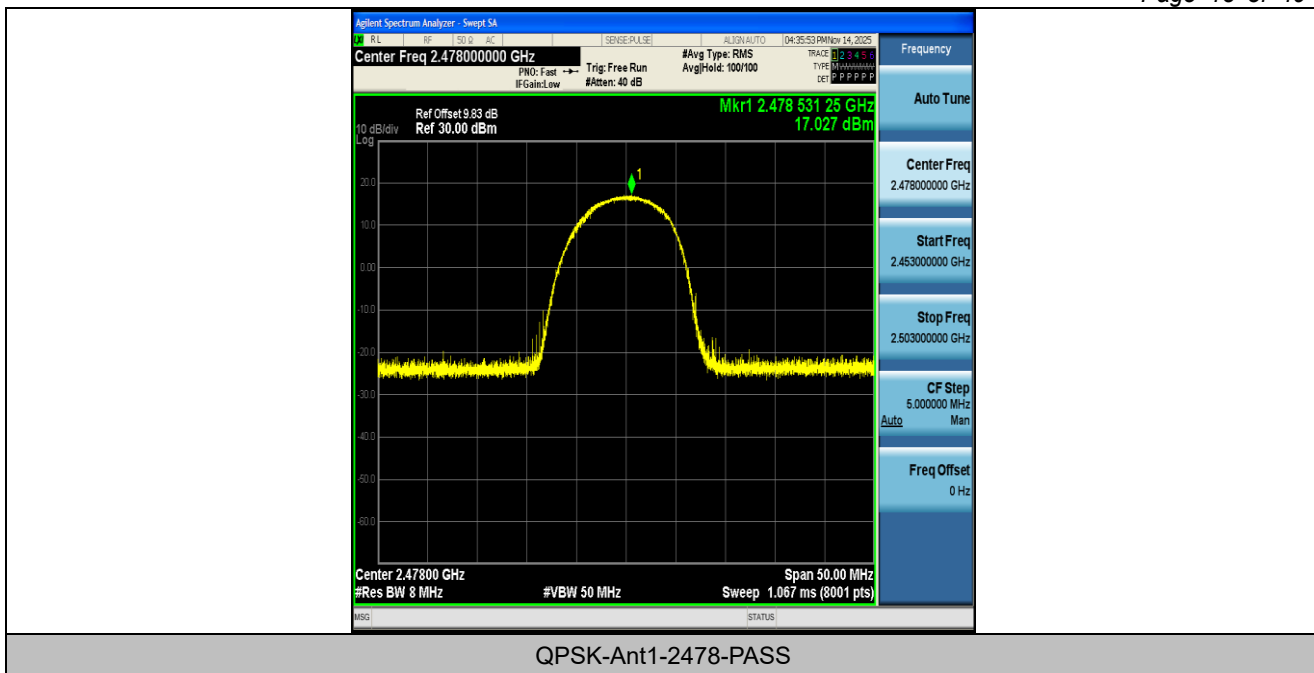


QPSK-Ant1-2403-PASS



QPSK-Ant1-2441-PASS







Appendix D: Maximum peak power spectral density

Test Result

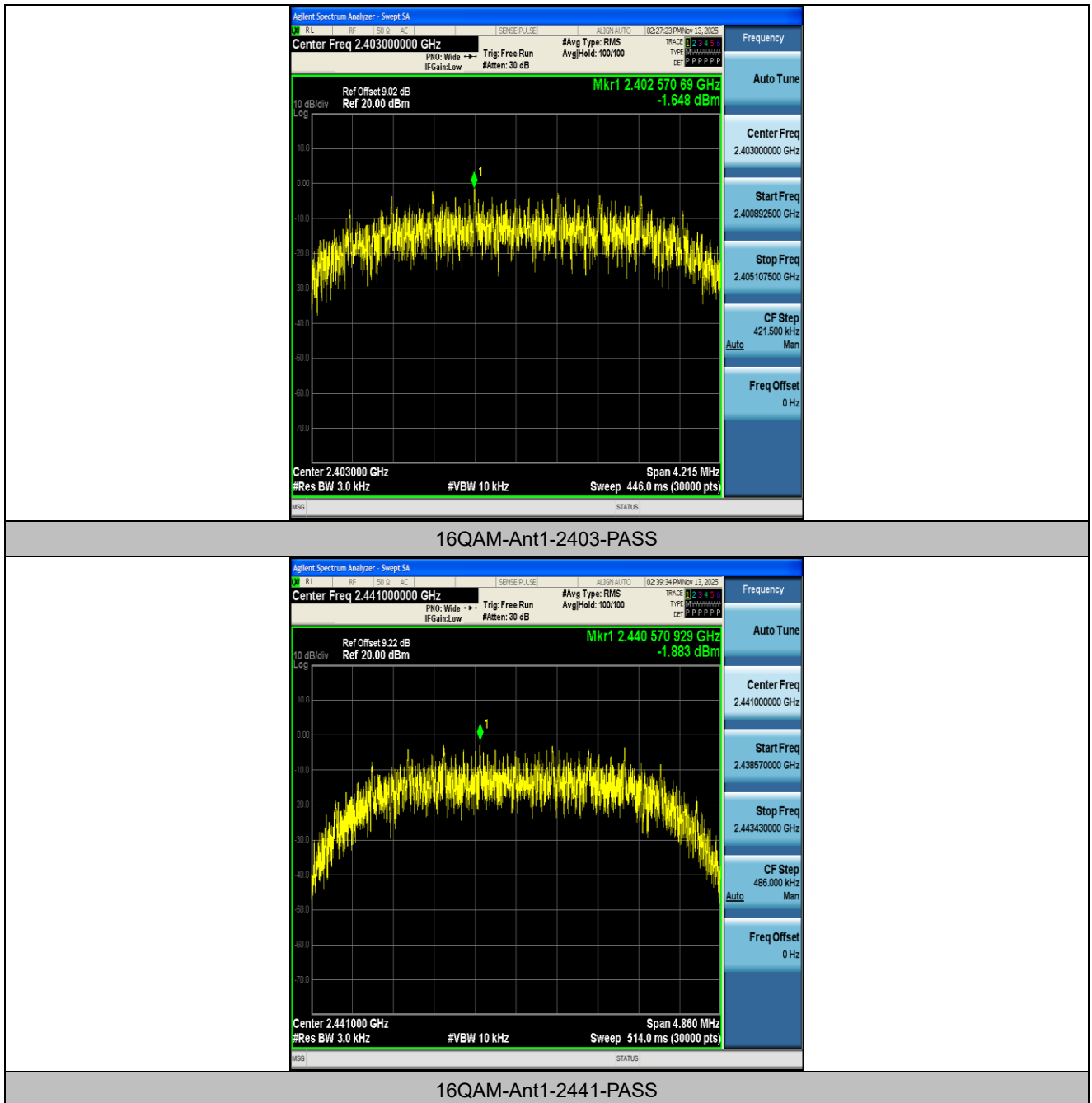
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
16QAM	Ant1	2403	-1.65	≤8.00	PASS
16QAM	Ant1	2441	-1.88	≤8.00	PASS
16QAM	Ant1	2478	-2.66	≤8.00	PASS
BPSK	Ant1	2403	-1.97	≤8.00	PASS
BPSK	Ant1	2441	-2.42	≤8.00	PASS
BPSK	Ant1	2478	-2.96	≤8.00	PASS
QPSK	Ant1	2403	-2.01	≤8.00	PASS
QPSK	Ant1	2441	-2.52	≤8.00	PASS
QPSK	Ant1	2478	-3.01	≤8.00	PASS

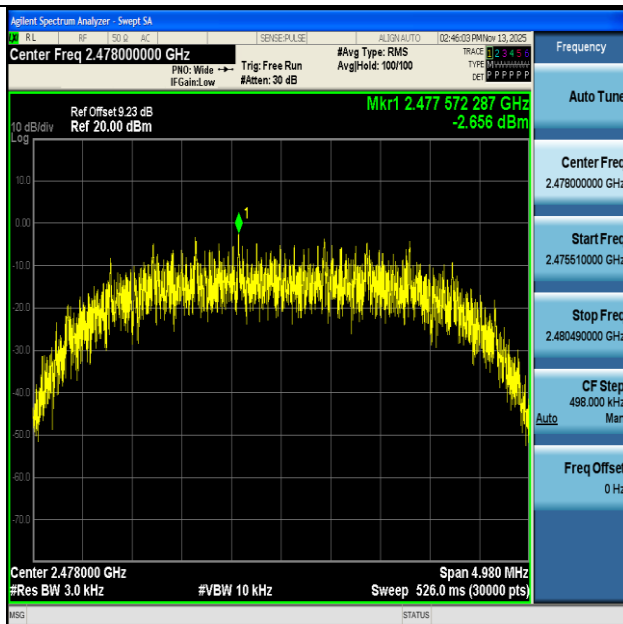
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



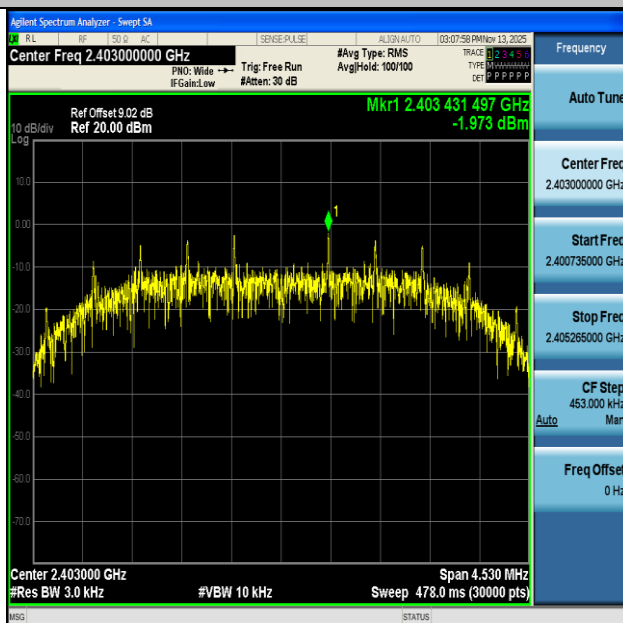


Test Graphs



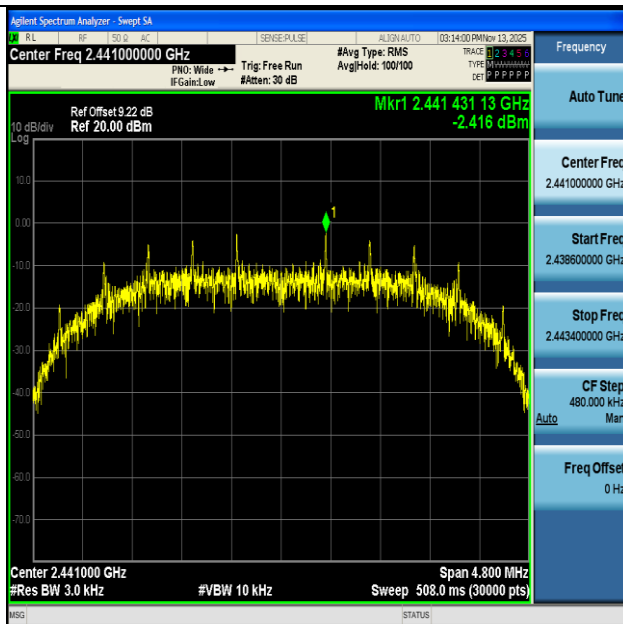


16QAM-Ant1-2478-PASS

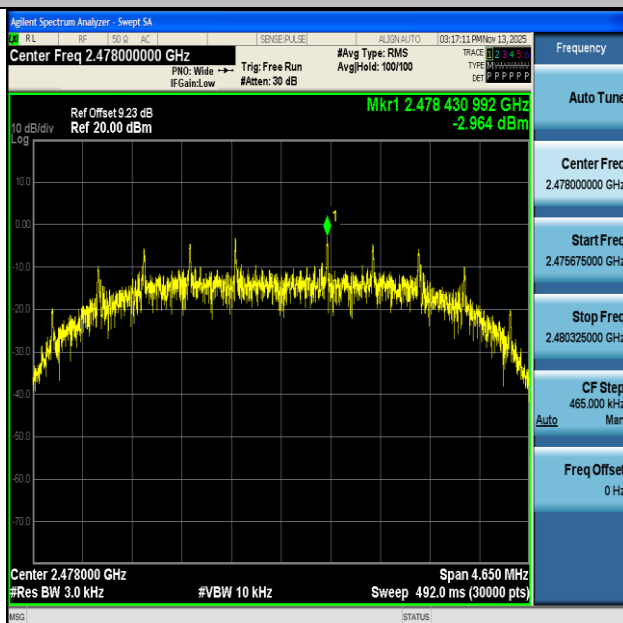


BPSK-Ant1-2403-PASS



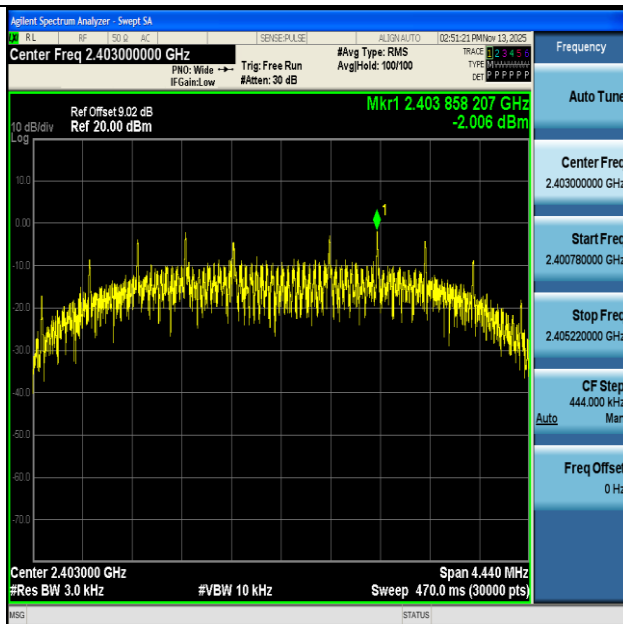


BPSK-Ant1-2441-PASS

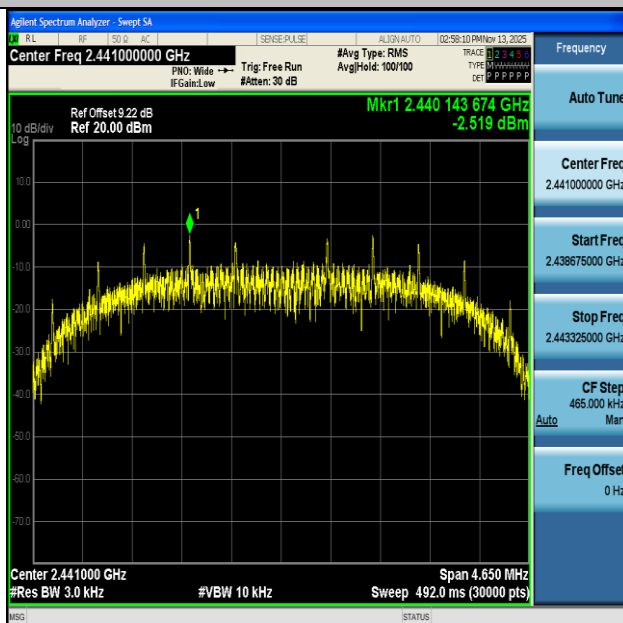


BPSK-Ant1-2478-PASS



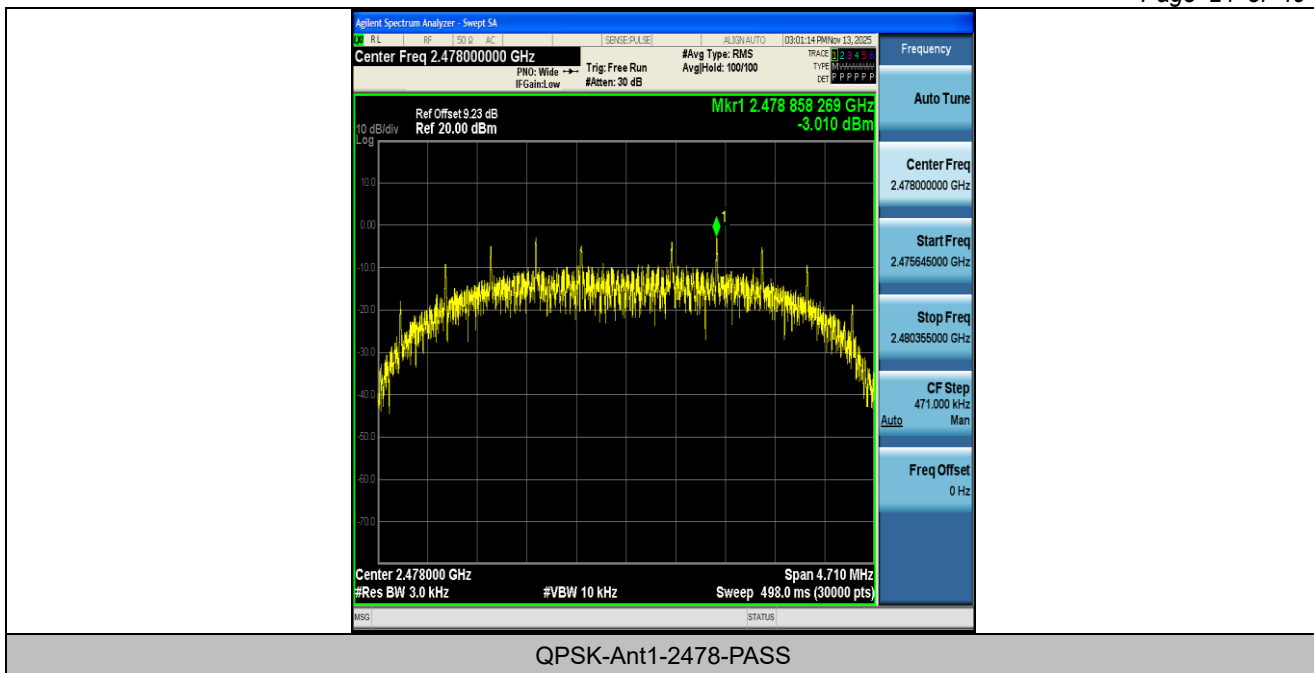


QPSK-Ant1-2403-PASS



QPSK-Ant1-2441-PASS







Appendix E: Band edge measurements

Test Result

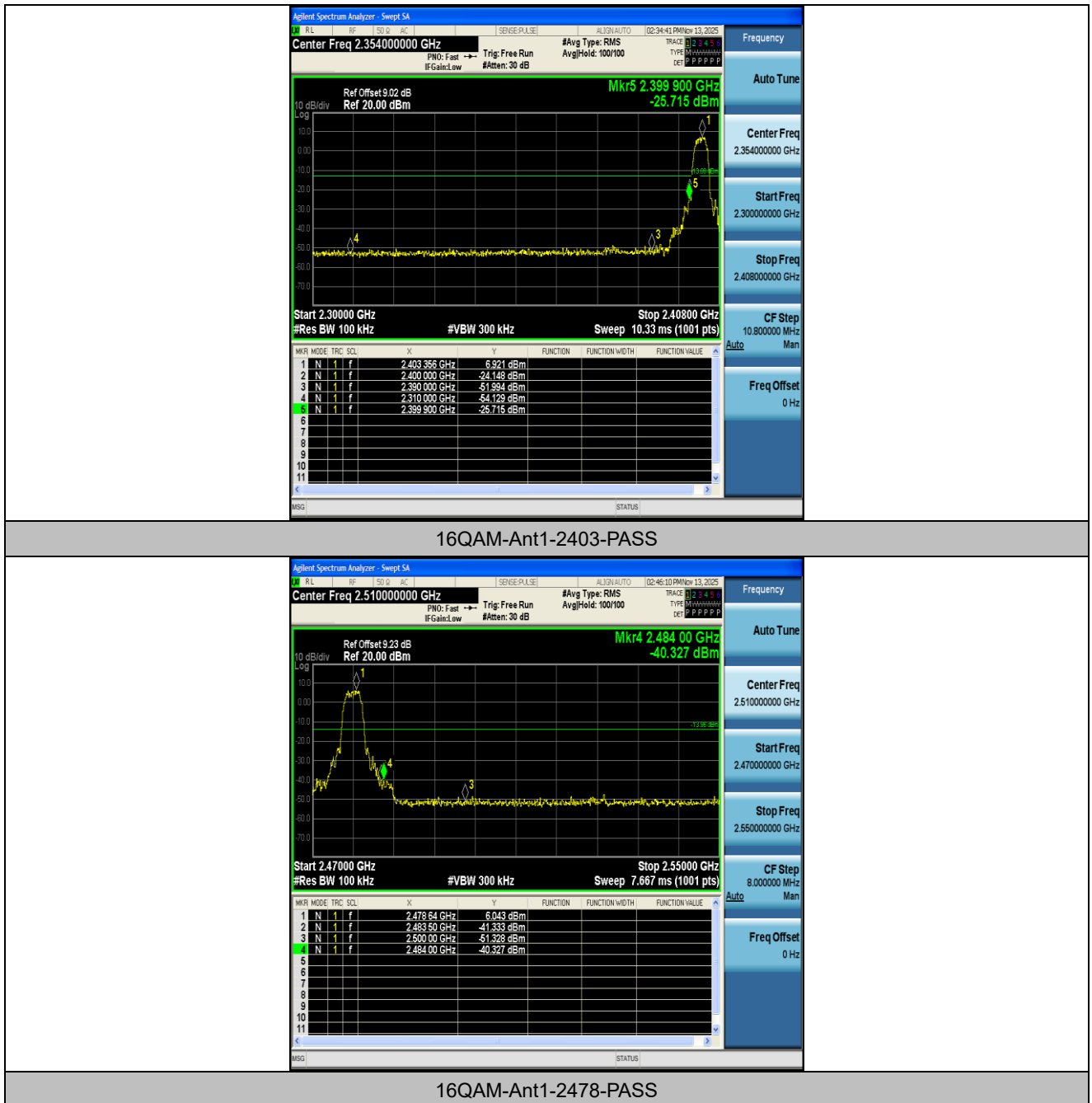
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
16QAM	Ant1	Low	2403	6.92	-25.72	≤-13.08	PASS
16QAM	Ant1	High	2478	6.04	-40.33	≤-13.96	PASS
BPSK	Ant1	Low	2403	9.24	-23.41	≤-10.76	PASS
BPSK	Ant1	High	2478	6.84	-41.21	≤-13.16	PASS
QPSK	Ant1	Low	2403	8.57	-25.26	≤-11.43	PASS
QPSK	Ant1	High	2478	8.06	-41.48	≤-11.94	PASS

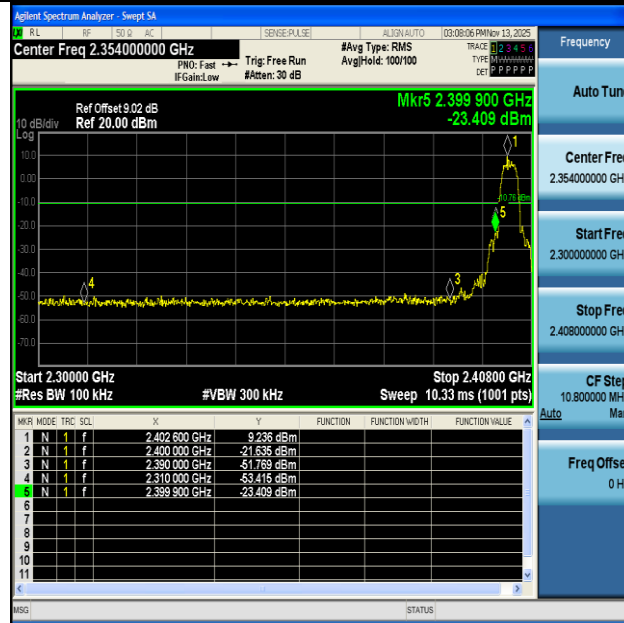
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



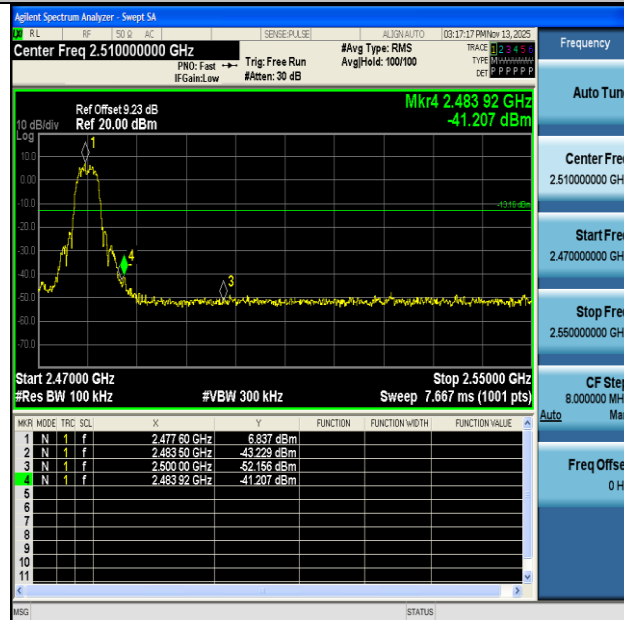


Test Graphs





BPSK-Ant1-2403-PASS

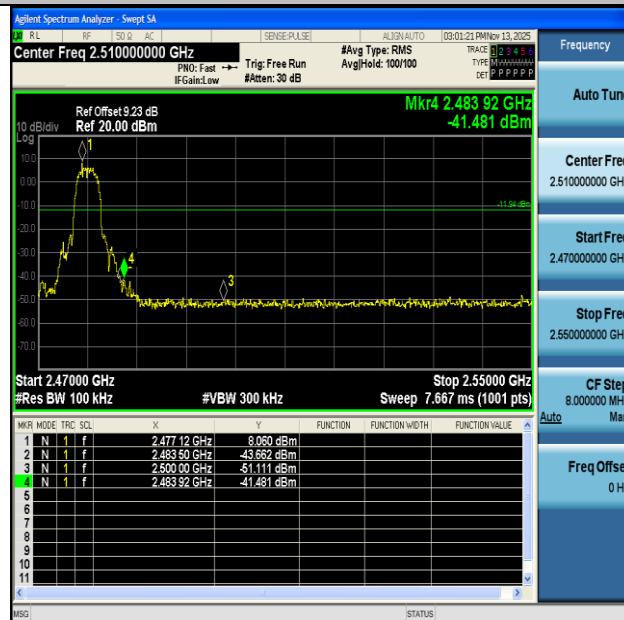


BPSK-Ant1-2478-PASS





QPSK-Ant1-2403-PASS



QPSK-Ant1-2478-PASS





Appendix F: Conducted Spurious Emission

Test Result

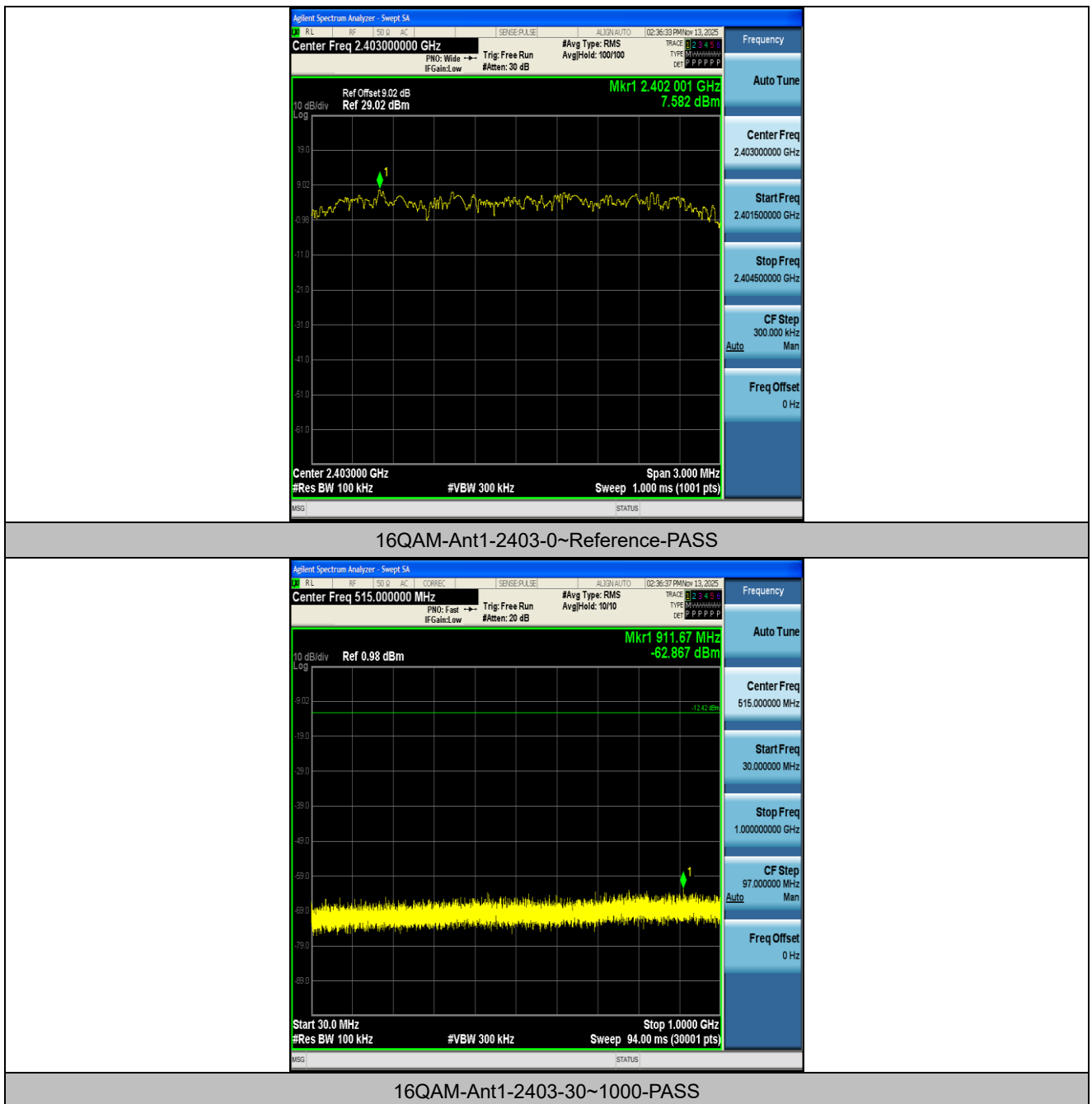
Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
16QAM	Ant1	2403	0~Reference	7.58	7.58	---	PASS
16QAM	Ant1	2403	30~1000	7.58	-62.87	≤-12.42	PASS
16QAM	Ant1	2403	1000~26500	7.58	-37.36	≤-12.42	PASS
16QAM	Ant1	2441	0~Reference	7.90	7.90	---	PASS
16QAM	Ant1	2441	30~1000	7.90	-62.58	≤-12.1	PASS
16QAM	Ant1	2441	1000~26500	7.90	-37.27	≤-12.1	PASS
16QAM	Ant1	2478	0~Reference	6.25	6.25	---	PASS
16QAM	Ant1	2478	30~1000	6.25	-63.22	≤-13.75	PASS
16QAM	Ant1	2478	1000~26500	6.25	-37.67	≤-13.75	PASS
BPSK	Ant1	2403	0~Reference	8.31	8.31	---	PASS
BPSK	Ant1	2403	30~1000	8.31	-52.46	≤-11.69	PASS
BPSK	Ant1	2403	1000~26500	8.31	-27.36	≤-11.69	PASS
BPSK	Ant1	2441	0~Reference	7.30	7.30	---	PASS
BPSK	Ant1	2441	30~1000	7.30	-53.05	≤-12.7	PASS
BPSK	Ant1	2441	1000~26500	7.30	-27.95	≤-12.7	PASS
BPSK	Ant1	2478	0~Reference	7.29	7.29	---	PASS
BPSK	Ant1	2478	30~1000	7.29	-52.06	≤-12.71	PASS
BPSK	Ant1	2478	1000~26500	7.29	-27.81	≤-12.71	PASS
QPSK	Ant1	2403	0~Reference	8.35	8.35	---	PASS
QPSK	Ant1	2403	30~1000	8.35	-63.15	≤-11.65	PASS
QPSK	Ant1	2403	1000~26500	8.35	-37.99	≤-11.65	PASS
QPSK	Ant1	2441	0~Reference	7.99	7.99	---	PASS
QPSK	Ant1	2441	30~1000	7.99	-62.61	≤-12.01	PASS
QPSK	Ant1	2441	1000~26500	7.99	-37.28	≤-12.01	PASS
QPSK	Ant1	2478	0~Reference	7.38	7.38	---	PASS
QPSK	Ant1	2478	30~1000	7.38	-62.83	≤-12.62	PASS
QPSK	Ant1	2478	1000~26500	7.38	-37.94	≤-12.62	PASS

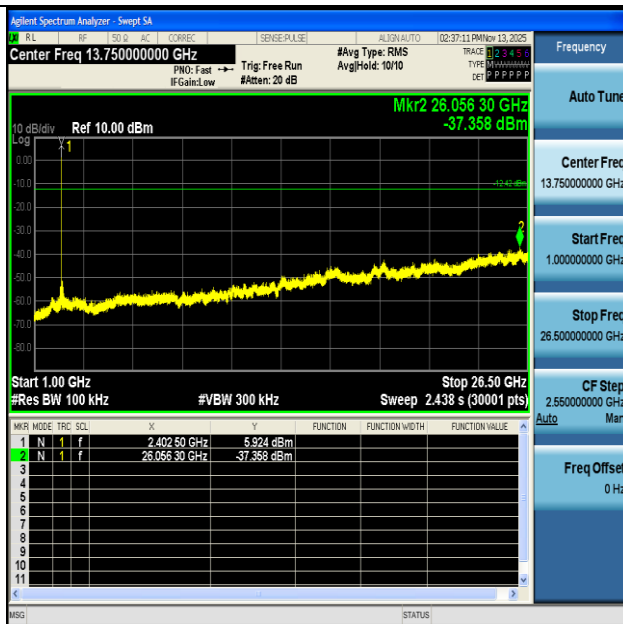
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



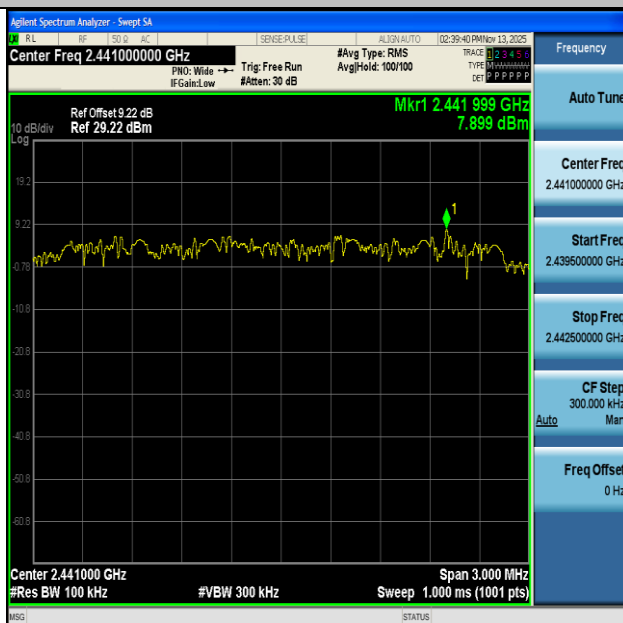


Test Graphs





16QAM-Ant1-2403-1000~26500-PASS

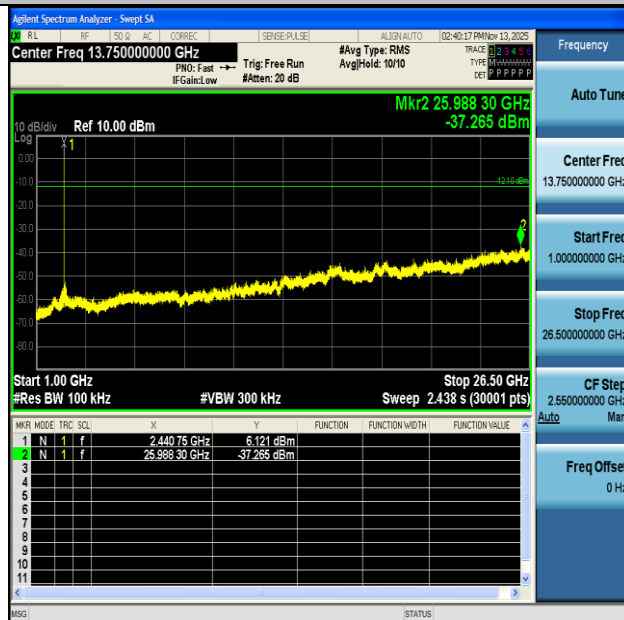


16QAM-Ant1-2441-0~Reference-PASS



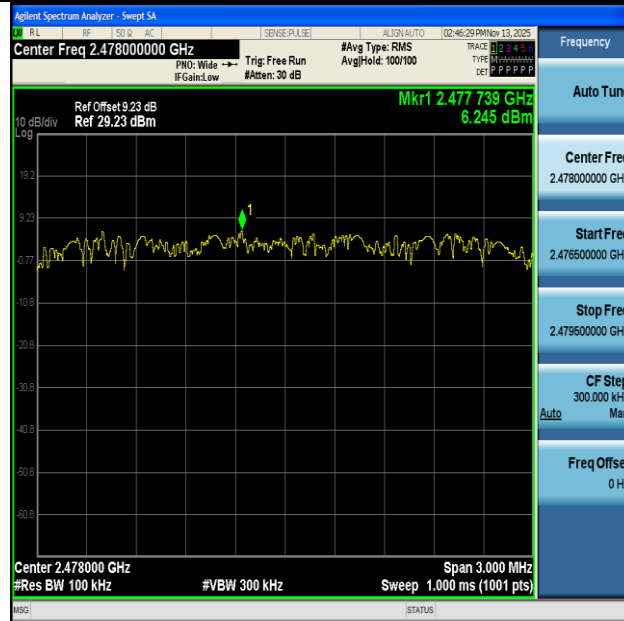


16QAM-Ant1-2441-30~1000-PASS

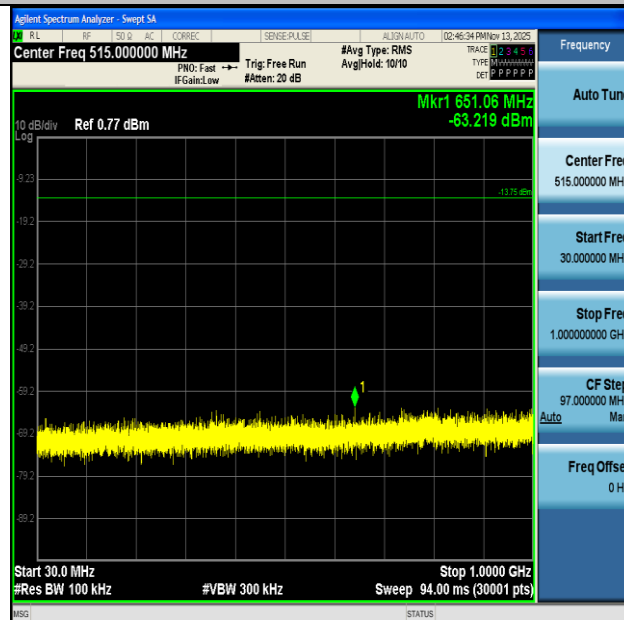


16QAM-Ant1-2441-1000~26500-PASS



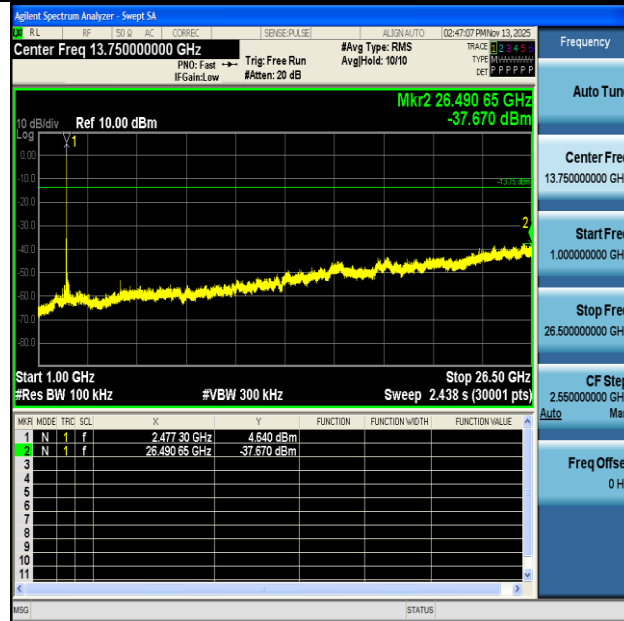


16QAM-Ant1-2478-0~Reference-PASS

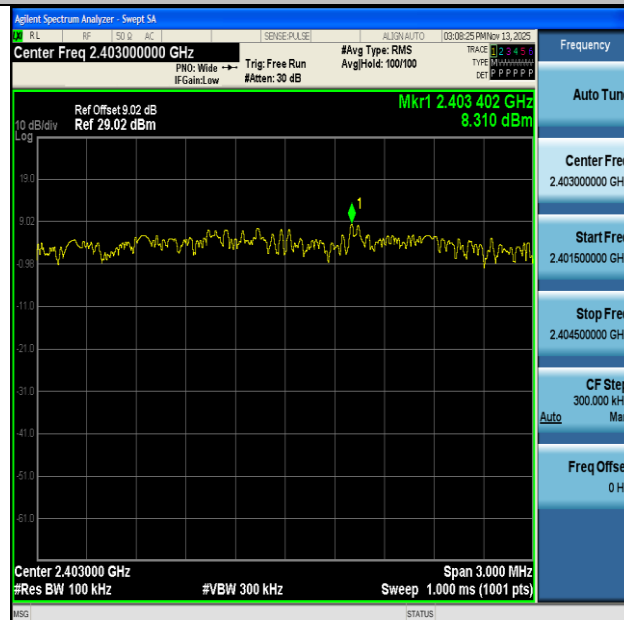


16QAM-Ant1-2478-30~1000-PASS



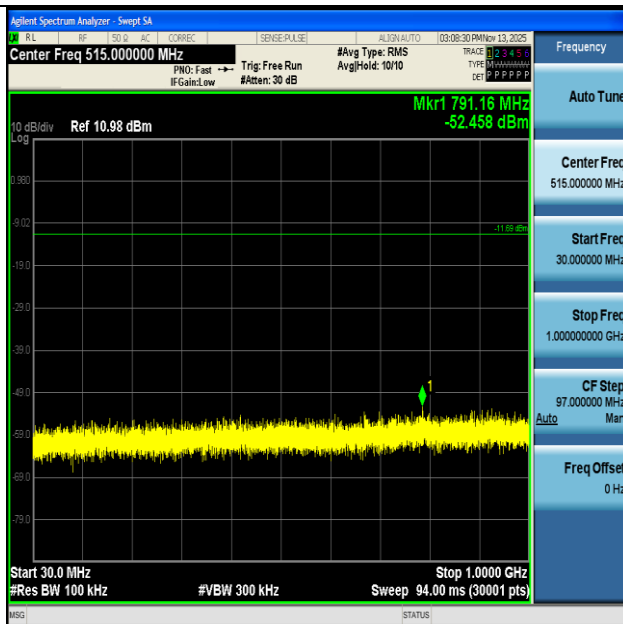


16QAM-Ant1-2478-1000~26500-PASS

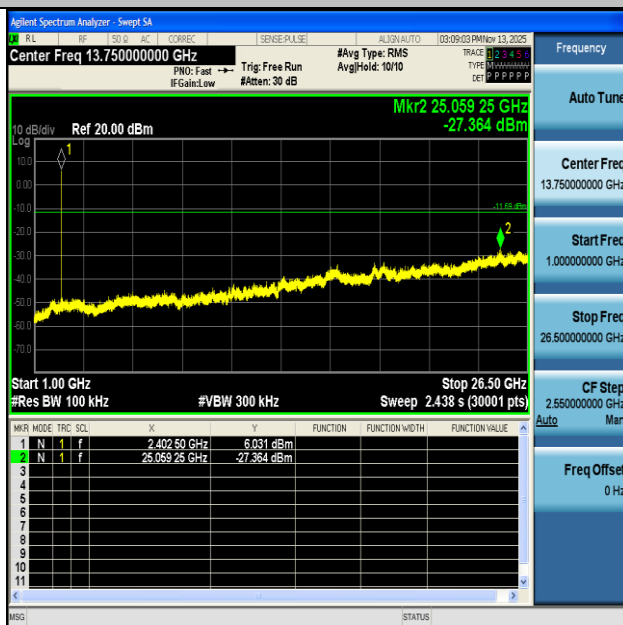


BPSK-Ant1-2403-0~Reference-PASS



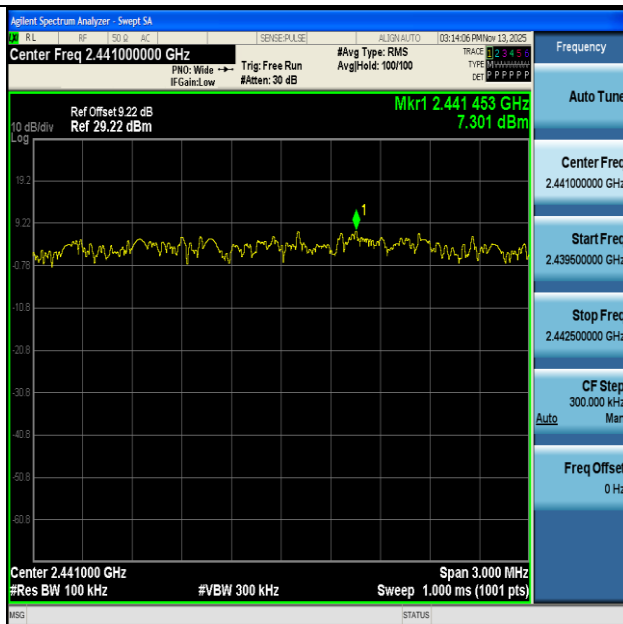


BPSK-Ant1-2403-30~1000-PASS

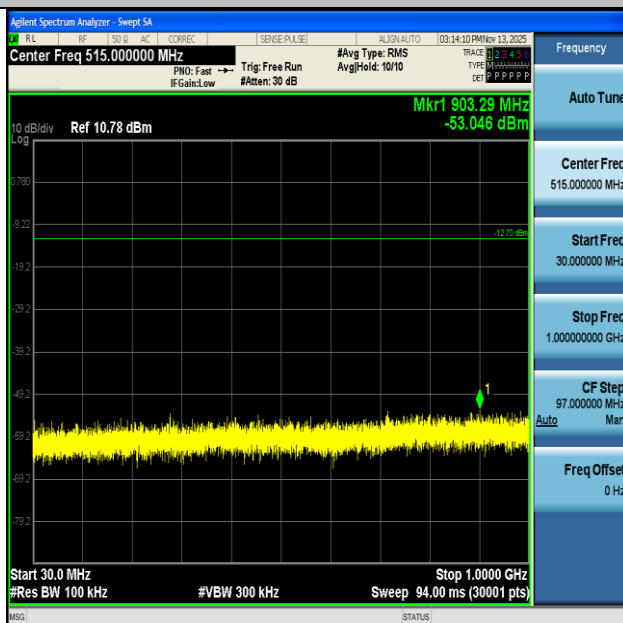


BPSK-Ant1-2403-1000~26500-PASS



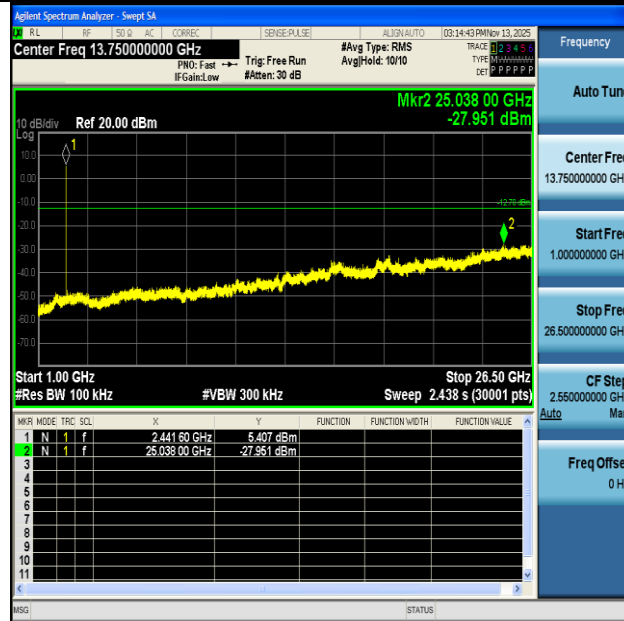


BPSK-Ant1-2441-0~Reference-PASS

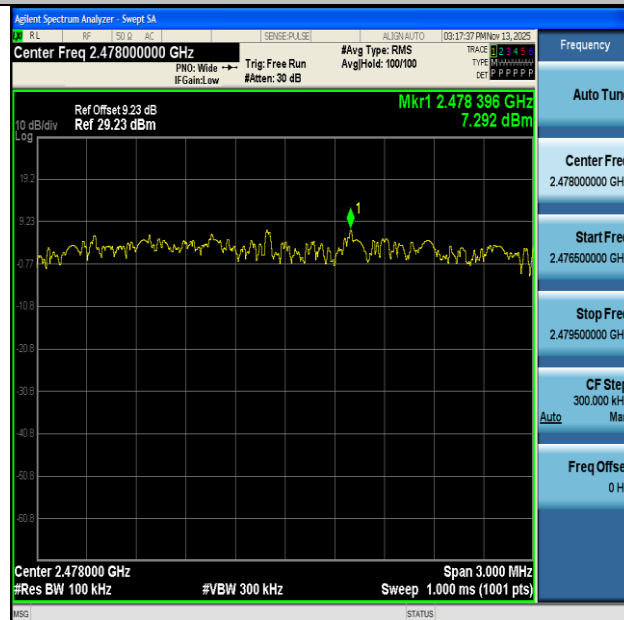


BPSK-Ant1-2441-30~1000-PASS



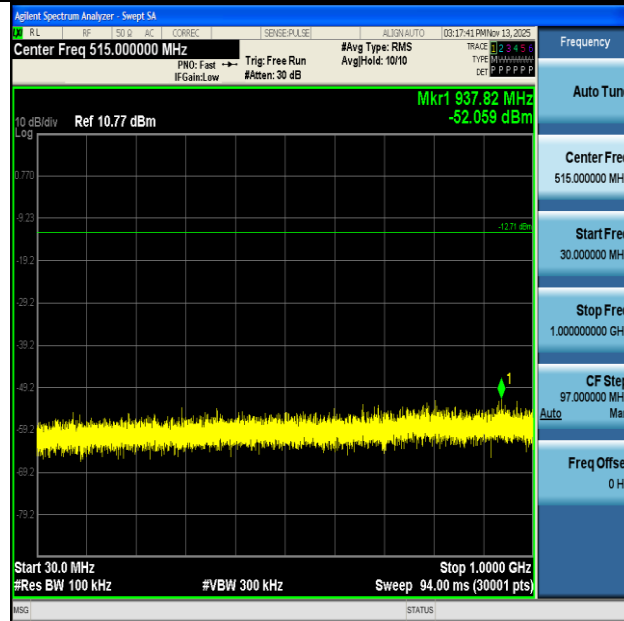


BPSK-Ant1-2441-1000~26500-PASS



BPSK-Ant1-2478-0~Reference-PASS



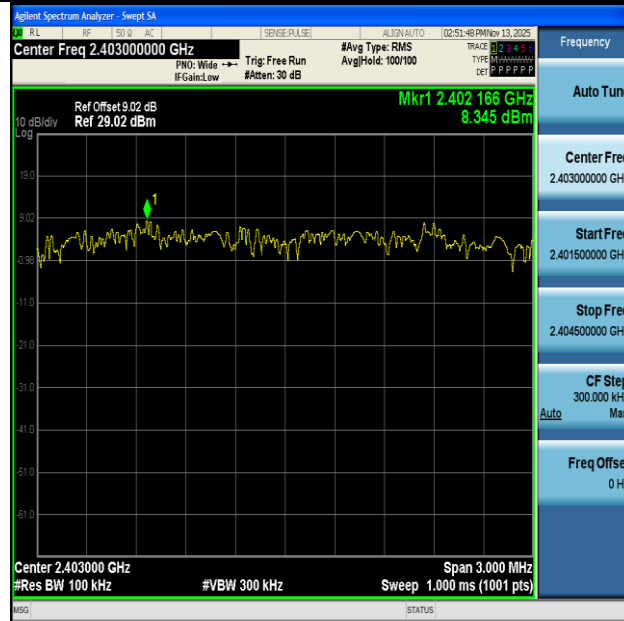


BPSK-Ant1-2478-30~1000-PASS

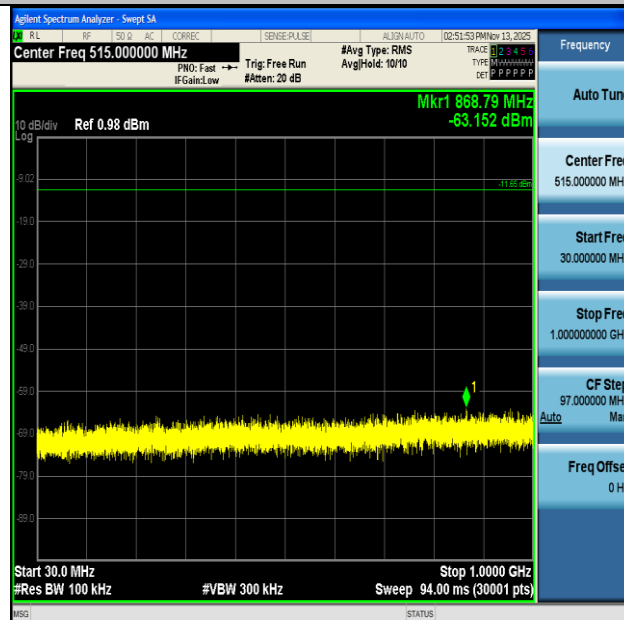


BPSK-Ant1-2478-1000~26500-PASS



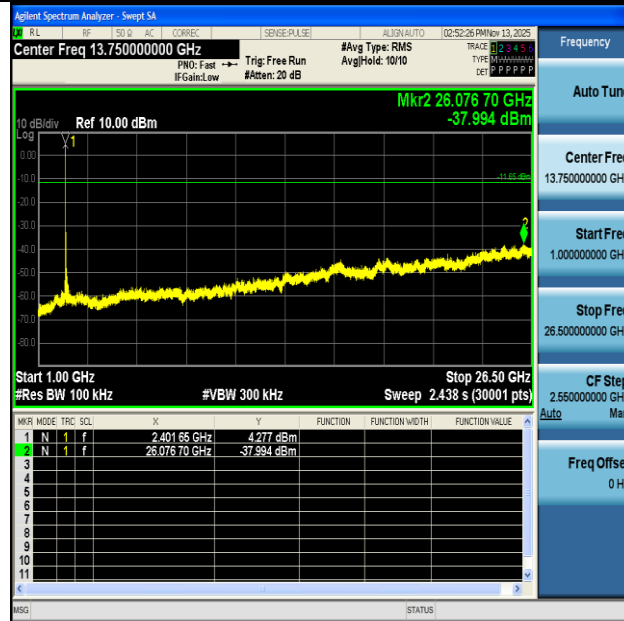


QPSK-Ant1-2403-0~Reference-PASS

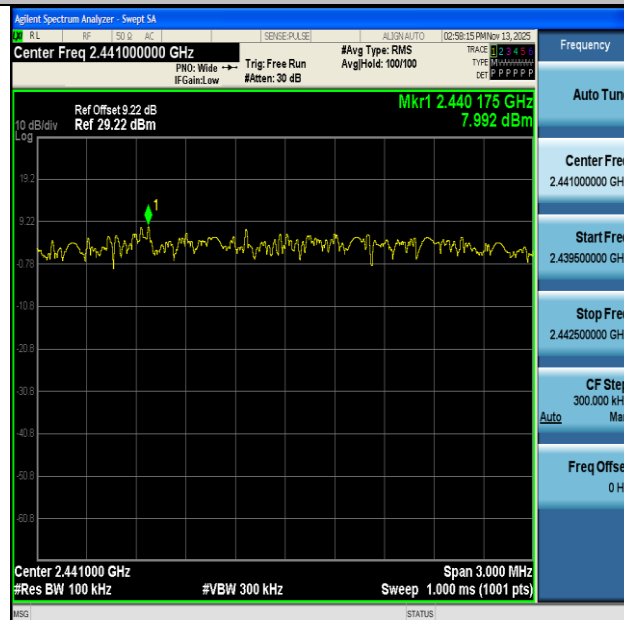


QPSK-Ant1-2403-30~1000-PASS



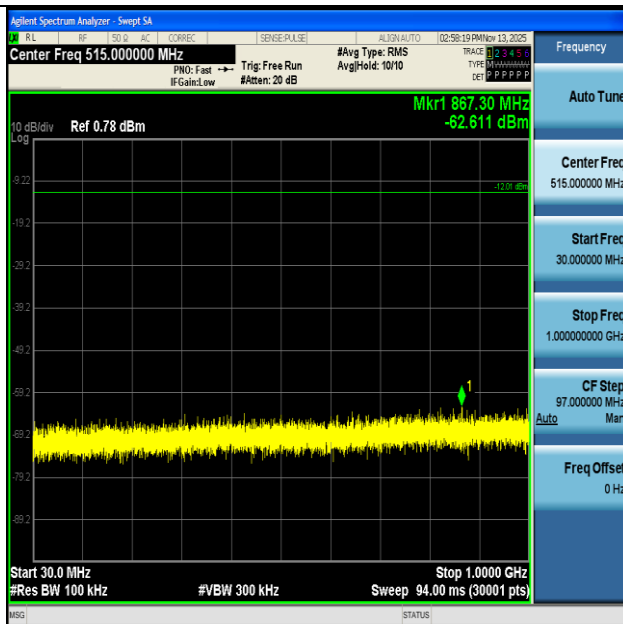


QPSK-Ant1-2403-1000~26500-PASS

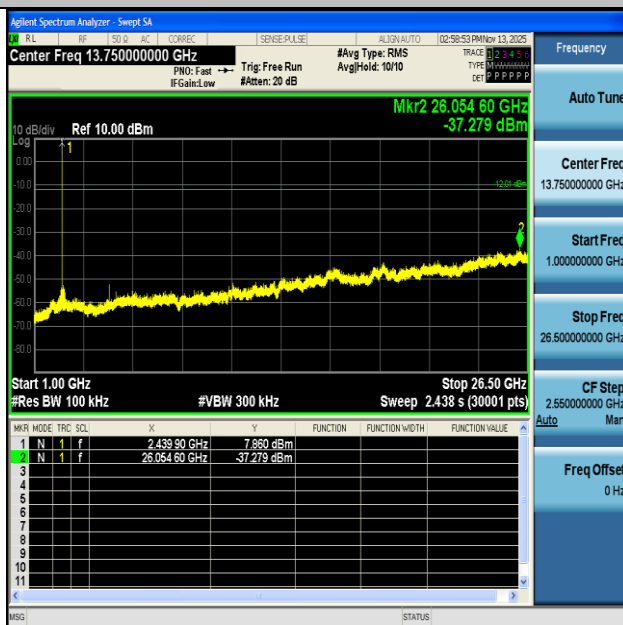


QPSK-Ant1-2441-0~Reference-PASS



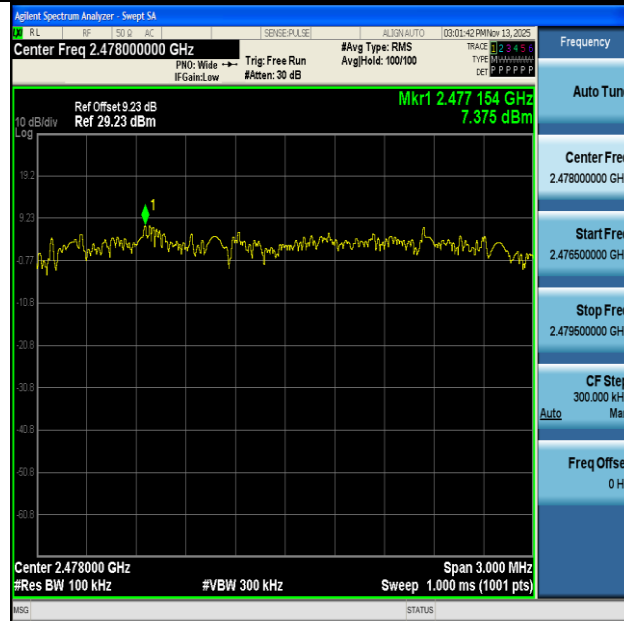


QPSK-Ant1-2441-30~1000-PASS

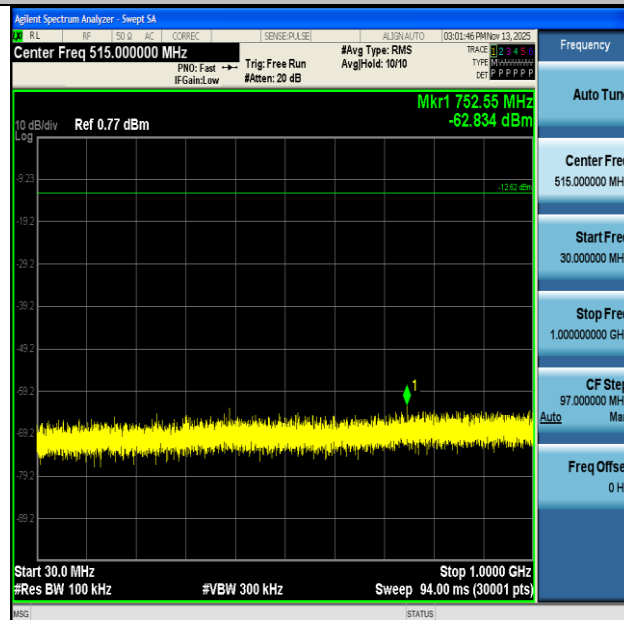


QPSK-Ant1-2441-1000~26500-PASS



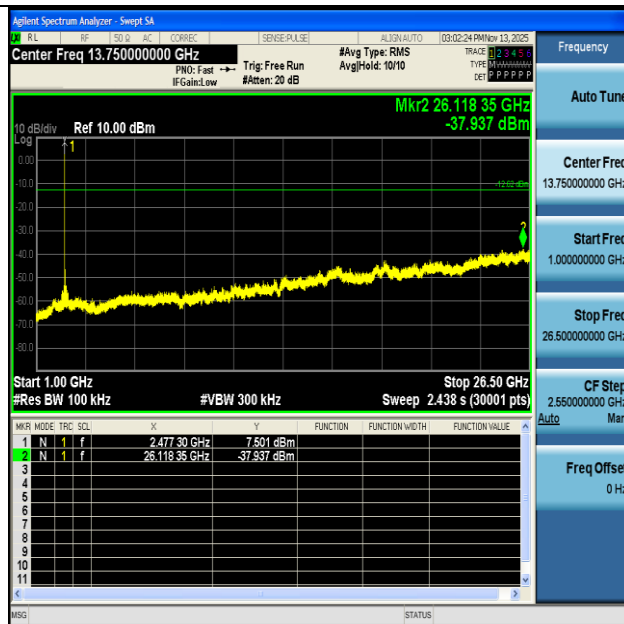


QPSK-Ant1-2478-0~Reference-PASS



QPSK-Ant1-2478-30~1000-PASS





QPSK-Ant1-2478-1000~26500-PASS





Appendix G: Duty Cycle

Test Result

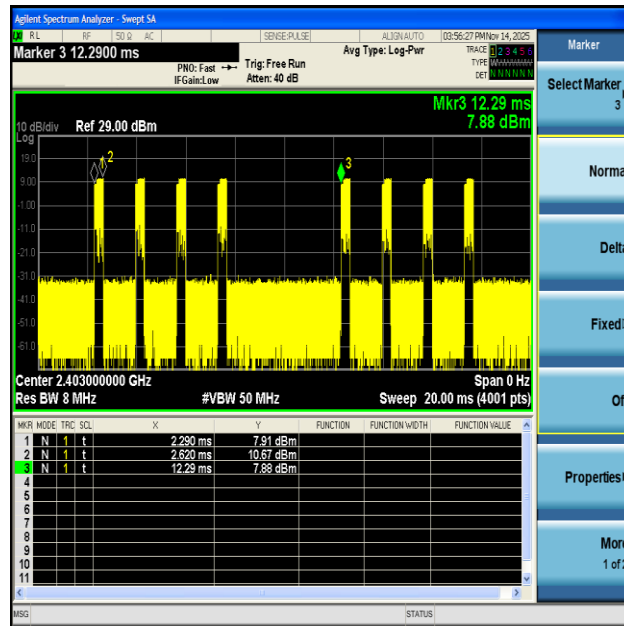
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
16QAM	Ant1	2403	1.32	10.00	13.20	8.79
16QAM	Ant1	2441	1.44	10.01	14.39	8.42
16QAM	Ant1	2478	1.44	10.00	14.40	8.42
BPSK	Ant1	2403	1.65	10.04	16.43	7.84
BPSK	Ant1	2441	1.35	10.00	13.50	8.70
BPSK	Ant1	2478	1.80	10.01	17.98	7.45
QPSK	Ant1	2403	1.73	10.00	17.30	7.62
QPSK	Ant1	2441	1.74	10.05	17.31	7.62
QPSK	Ant1	2478	1.59	10.01	15.88	7.99

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

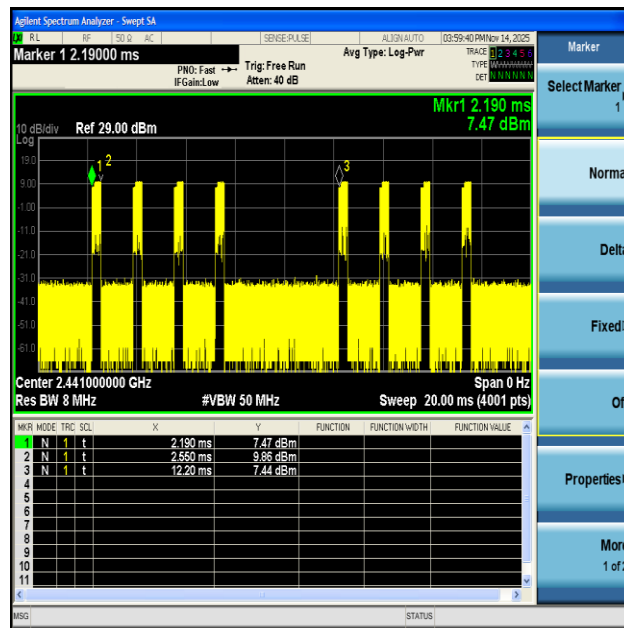




Test Graphs

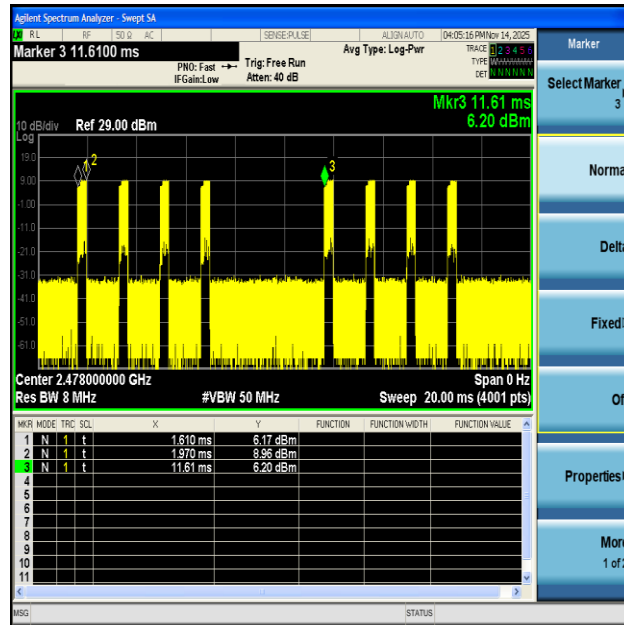


NTNV-16QAM-Ant1-2403

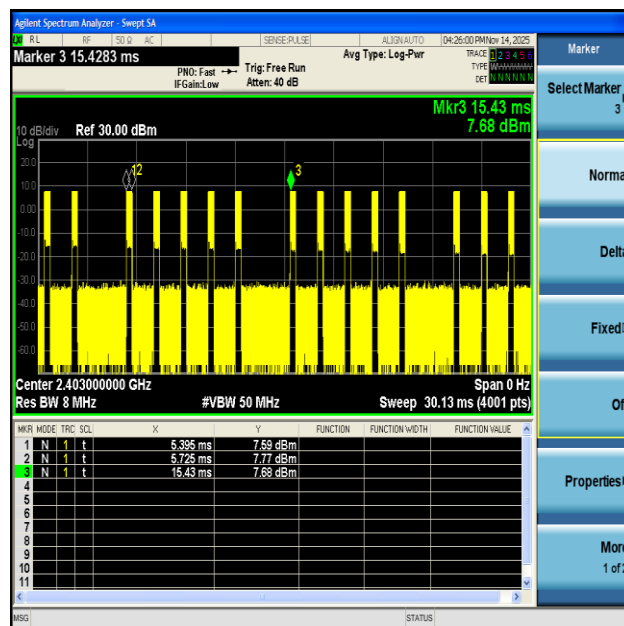


NTNV-16QAM-Ant1-2441



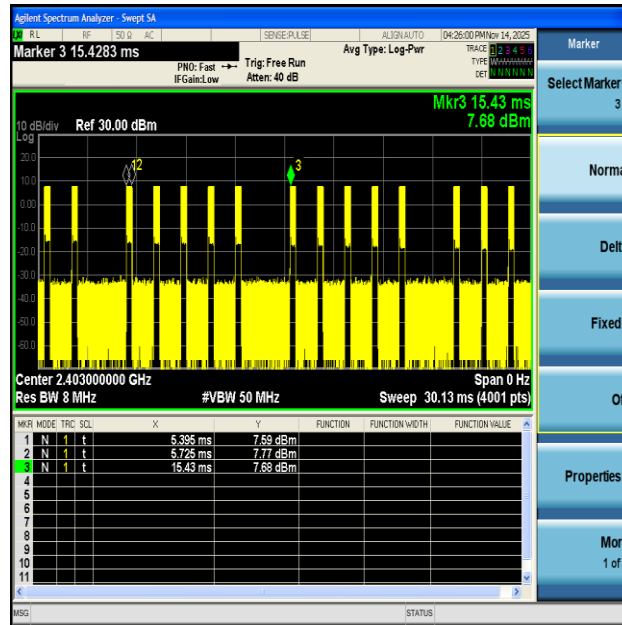


NTNV-16QAM-Ant1-2478

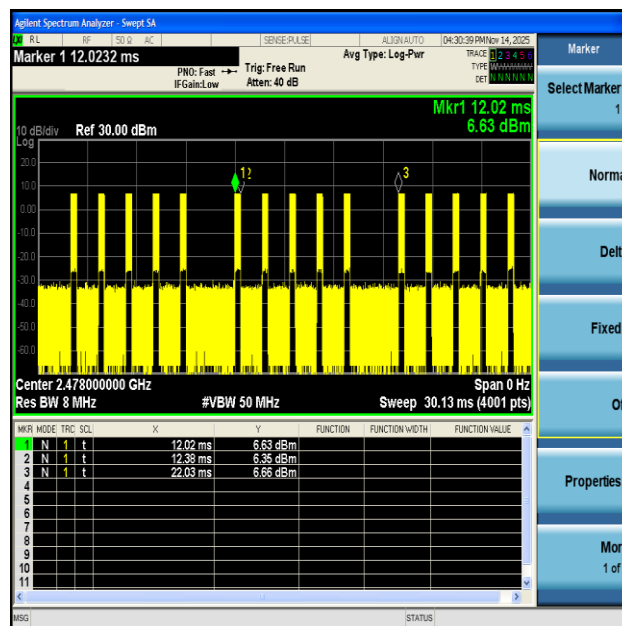


NTNV-BPSK-Ant1-2403



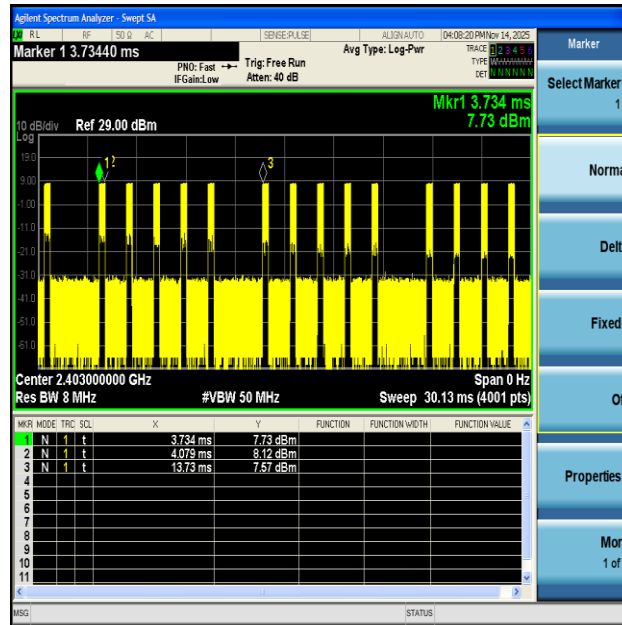


NTNV-BPSK-Ant1-2441

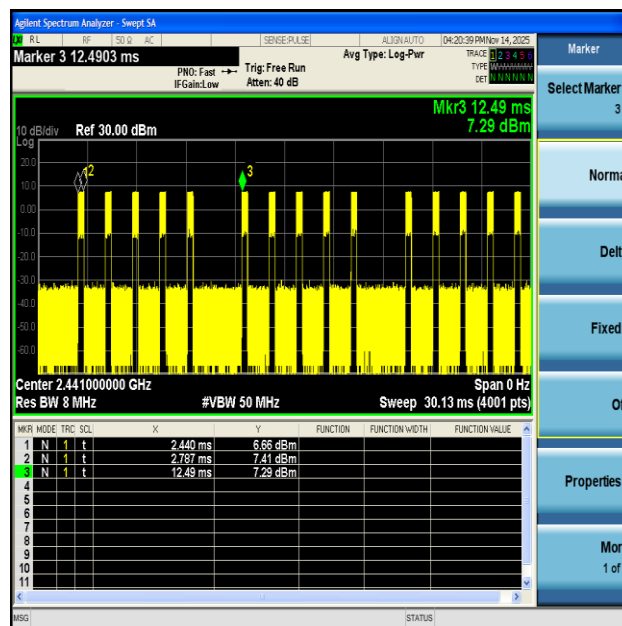


NTNV-BPSK-Ant1-2478



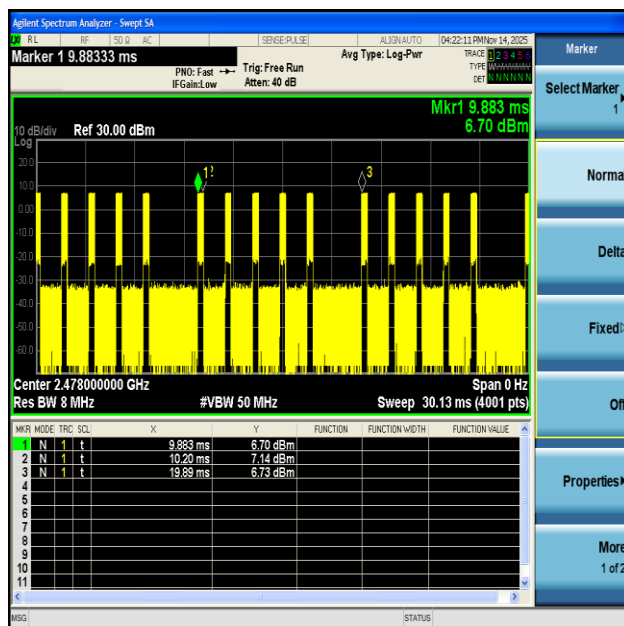


NTNV-QPSK-Ant1-2403



NTNV-QPSK-Ant1-2441





NTNV-QPSK-Ant1-2478

