

Appendix Test Data for BLE (Conducted Measurement)

Product Name: IoT Radio Board

Trade Mark: Rigado

Test Model: R-21-0

FCC ID: 2AUPX04

Environmental Conditions

Temperature:	23.5°C
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
BLE_1M	Ant1	2402	0.668	2401.684	2402.352	0.5	PASS
BLE_1M	Ant1	2440	0.644	2439.712	2440.356	0.5	PASS
BLE_1M	Ant1	2480	0.728	2479.652	2480.380	0.5	PASS
BLE_2M	Ant1	2402	1.128	2401.460	2402.588	0.5	PASS
BLE_2M	Ant1	2440	1.104	2439.492	2440.596	0.5	PASS
BLE_2M	Ant1	2480	1.168	2479.440	2480.608	0.5	PASS
BLE_125K	Ant1	2402	0.716	2401.672	2402.388	0.5	PASS
BLE_125K	Ant1	2440	0.628	2439.708	2440.336	0.5	PASS
BLE_125K	Ant1	2480	0.696	2479.672	2480.368	0.5	PASS
BLE_500K	Ant1	2402	0.684	2401.672	2402.356	0.5	PASS
BLE_500K	Ant1	2440	0.692	2439.672	2440.364	0.5	PASS
BLE_500K	Ant1	2480	0.700	2479.676	2480.376	0.5	PASS

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

Test Graphs





BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS





BLE_125K-Ant1-2480-PASS



BLE_500K-Ant1-2402-PASS



Appendix B: Occupied Channel Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.0639	2401.4932	2402.5571	---	---
BLE_1M	Ant1	2440	1.0609	2439.4969	2440.5578	---	---
BLE_1M	Ant1	2480	1.0576	2479.4994	2480.5570	---	---
BLE_2M	Ant1	2402	2.0990	2400.9820	2403.0810	---	---
BLE_2M	Ant1	2440	2.0856	2438.9994	2441.0850	---	---
BLE_2M	Ant1	2480	2.0869	2479.0005	2481.0874	---	---
BLE_125K	Ant1	2402	1.0817	2401.4777	2402.5594	---	---
BLE_125K	Ant1	2440	1.0773	2439.4800	2440.5573	---	---
BLE_125K	Ant1	2480	1.0753	2479.4805	2480.5558	---	---
BLE_500K	Ant1	2402	1.0438	2401.4950	2402.5388	---	---
BLE_500K	Ant1	2440	1.0521	2439.4895	2440.5416	---	---
BLE_500K	Ant1	2480	1.0299	2479.5050	2480.5349	---	---

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

Test Graphs







BLE_2M-Ant1-2440

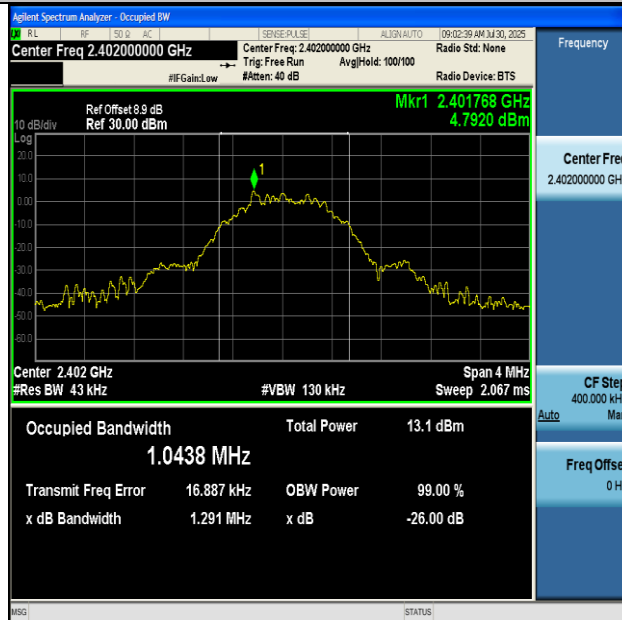


BLE_2M-Ant1-2480





BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



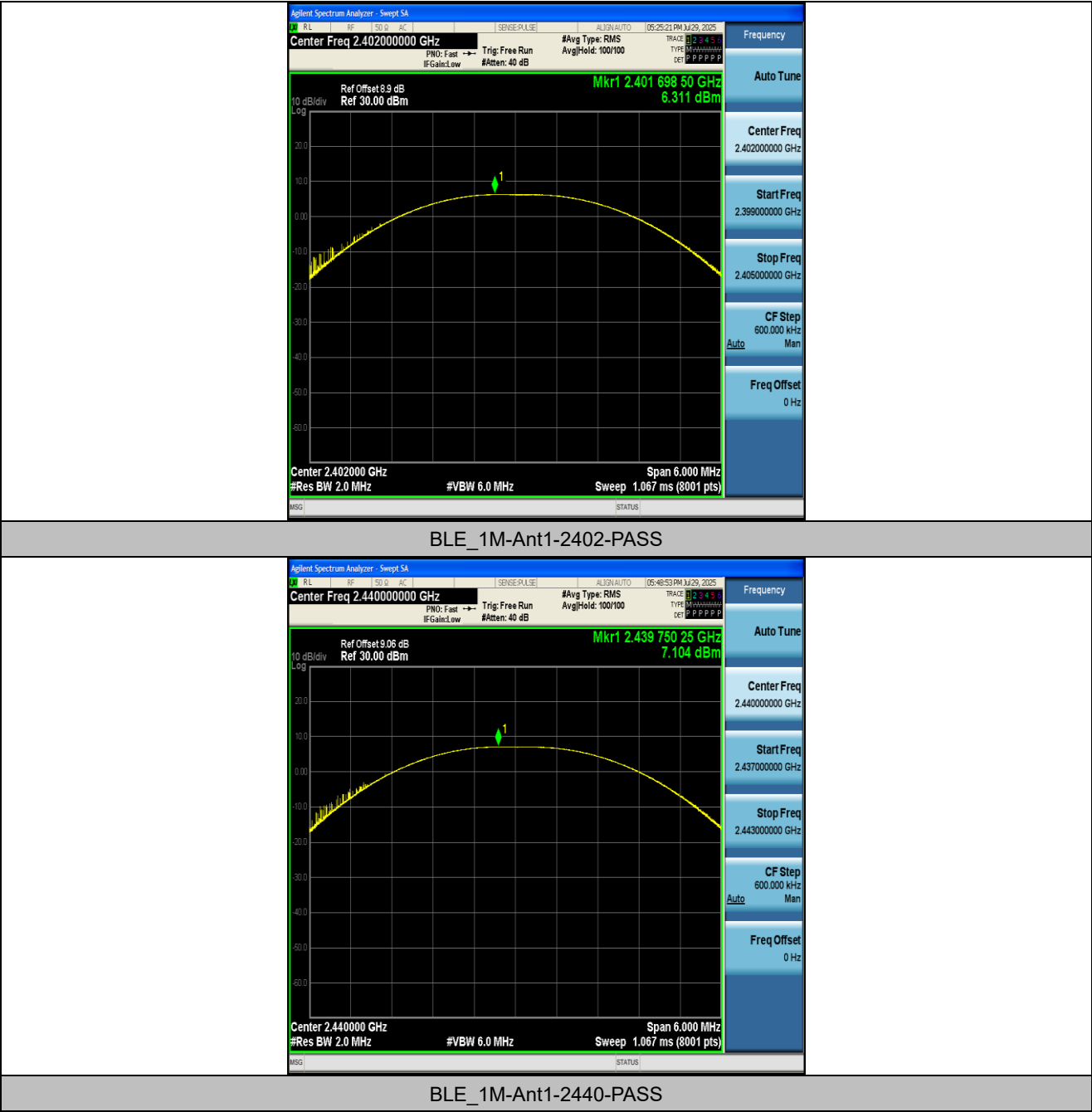
Appendix C: Maximum peak conducted output power

Test Result Peak

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	6.31	≤30	PASS
BLE_1M	Ant1	2440	7.10	≤30	PASS
BLE_1M	Ant1	2480	7.12	≤30	PASS
BLE_2M	Ant1	2402	6.32	≤30	PASS
BLE_2M	Ant1	2440	7.09	≤30	PASS
BLE_2M	Ant1	2480	7.10	≤30	PASS
BLE_125K	Ant1	2402	6.31	≤30	PASS
BLE_125K	Ant1	2440	7.10	≤30	PASS
BLE_125K	Ant1	2480	7.08	≤30	PASS
BLE_500K	Ant1	2402	6.30	≤30	PASS
BLE_500K	Ant1	2440	7.08	≤30	PASS
BLE_500K	Ant1	2480	7.08	≤30	PASS

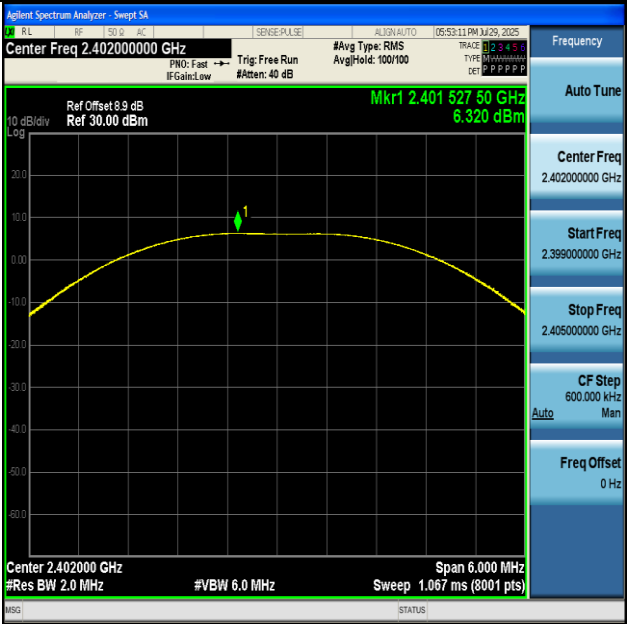
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs Peak





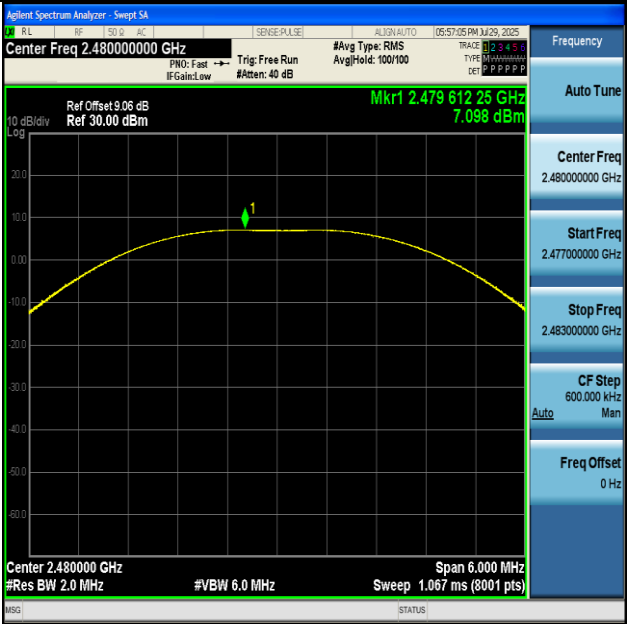
BLE_1M-Ant1-2480-PASS



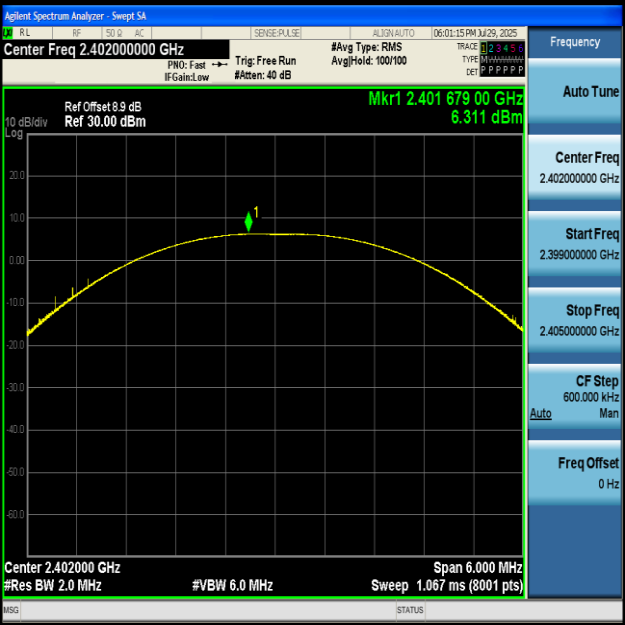
BLE_2M-Ant1-2402-PASS



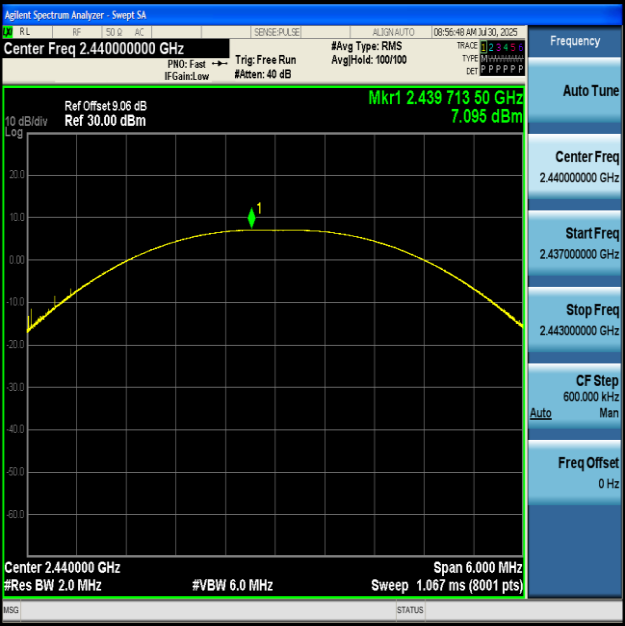
BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS



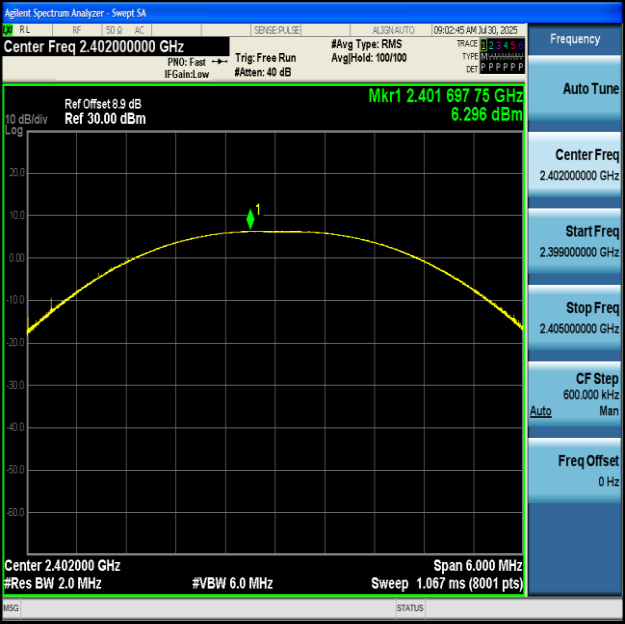
BLE_125K-Ant1-2402-PASS



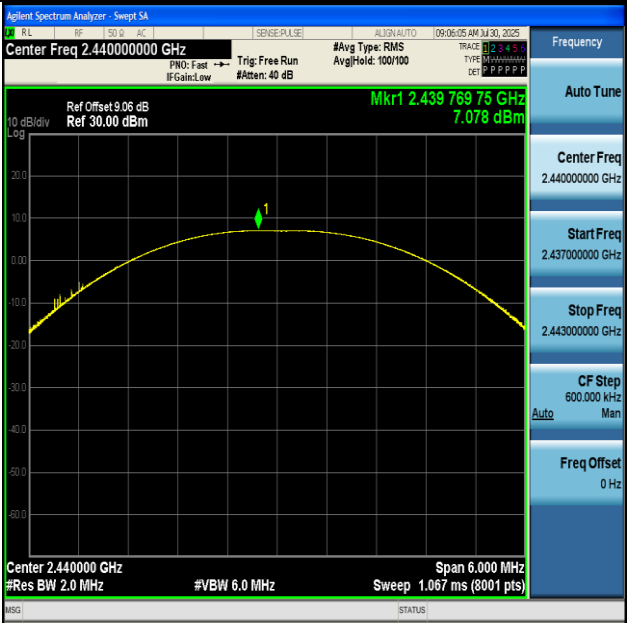
BLE_125K-Ant1-2440-PASS



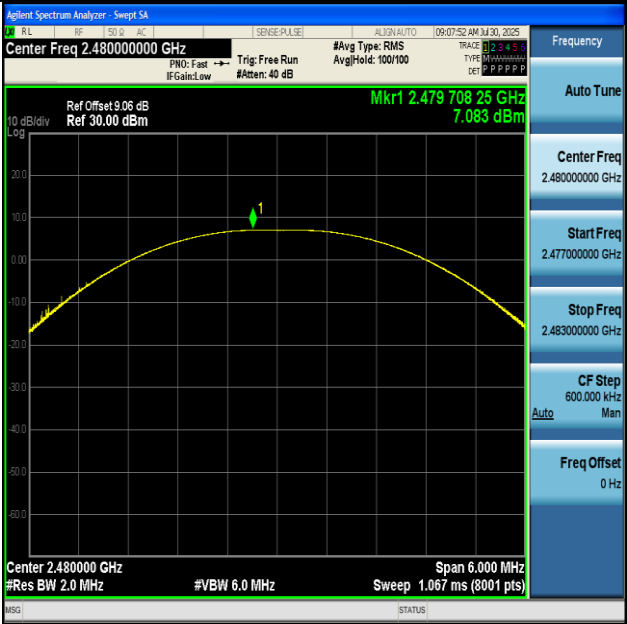
BLE_125K-Ant1-2480-PASS



BLE_500K-Ant1-2402-PASS



BLE_500K-Ant1-2440-PASS



BLE_500K-Ant1-2480-PASS

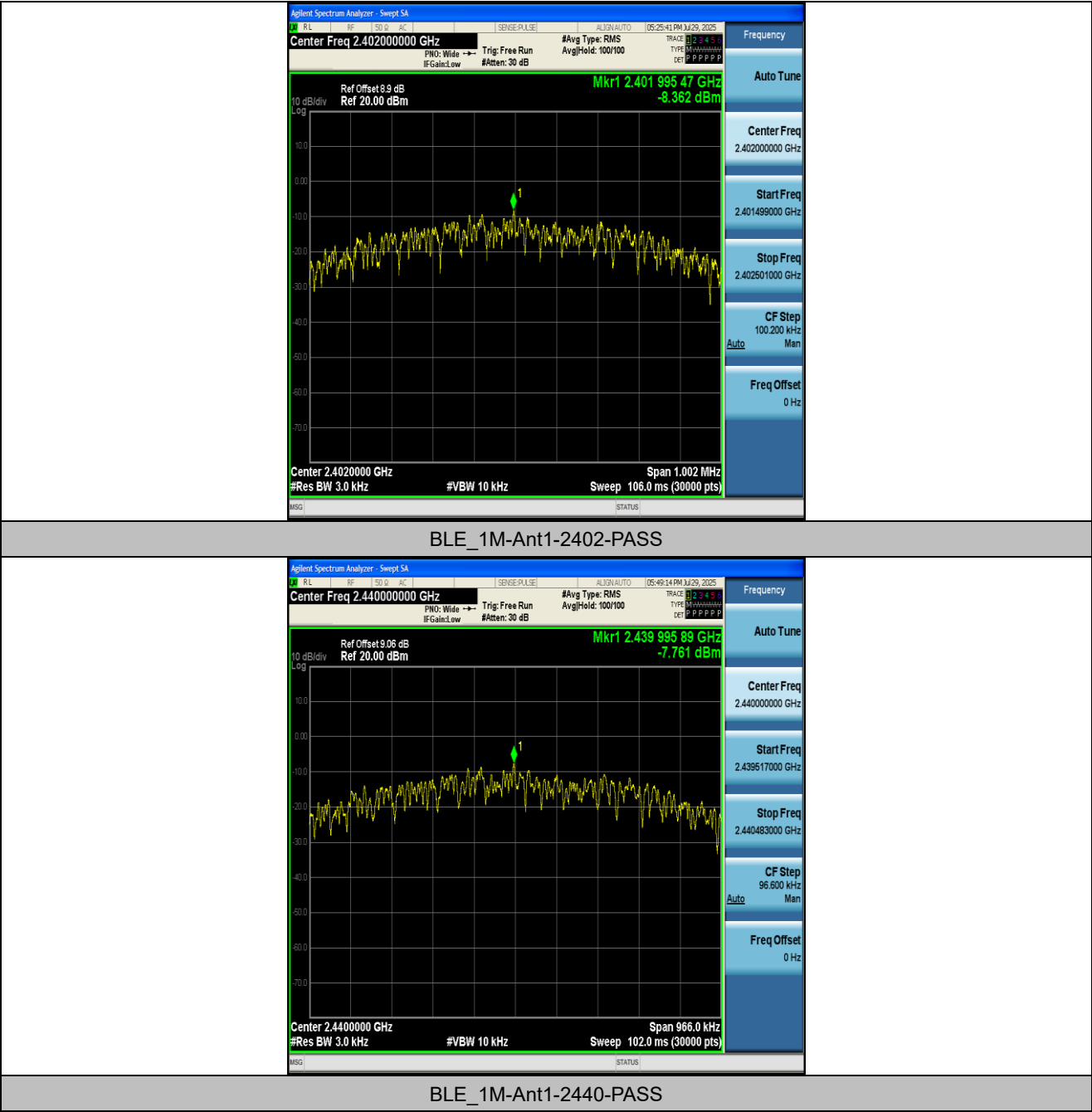
Appendix D: Maximum peak power spectral density

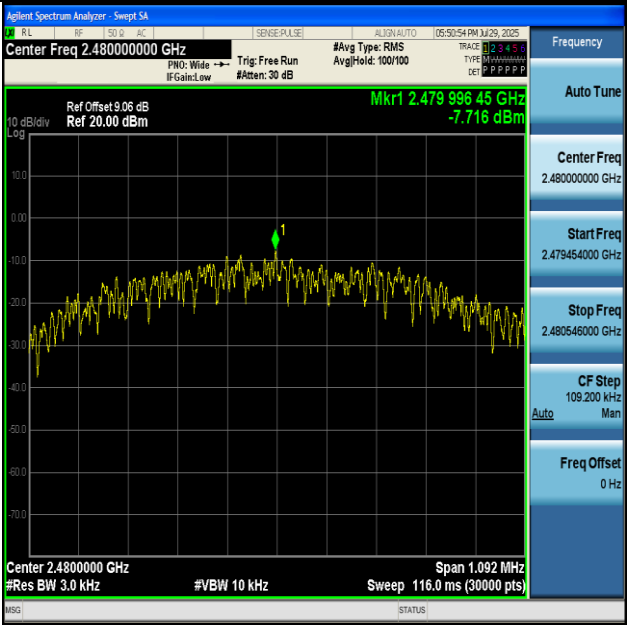
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-8.36	≤8.00	PASS
BLE_1M	Ant1	2440	-7.76	≤8.00	PASS
BLE_1M	Ant1	2480	-7.72	≤8.00	PASS
BLE_2M	Ant1	2402	-11.96	≤8.00	PASS
BLE_2M	Ant1	2440	-11.32	≤8.00	PASS
BLE_2M	Ant1	2480	-11.22	≤8.00	PASS
BLE_125K	Ant1	2402	0.09	≤8.00	PASS
BLE_125K	Ant1	2440	0.89	≤8.00	PASS
BLE_125K	Ant1	2480	0.95	≤8.00	PASS
BLE_500K	Ant1	2402	0.02	≤8.00	PASS
BLE_500K	Ant1	2440	0.81	≤8.00	PASS
BLE_500K	Ant1	2480	0.88	≤8.00	PASS

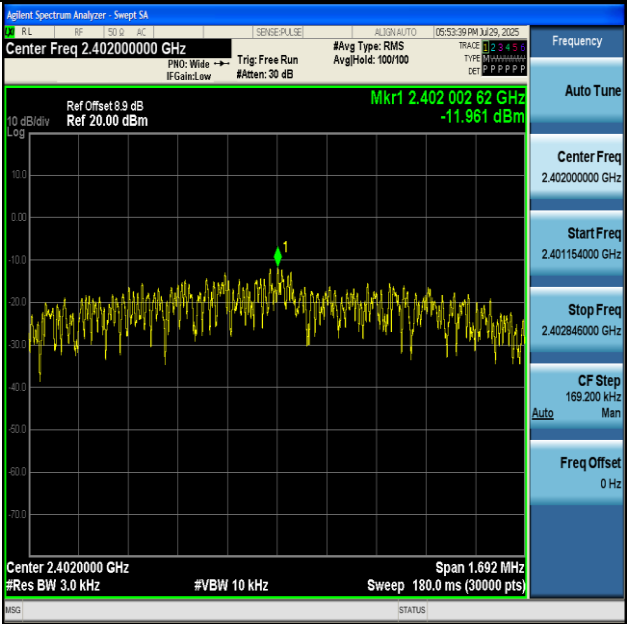
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

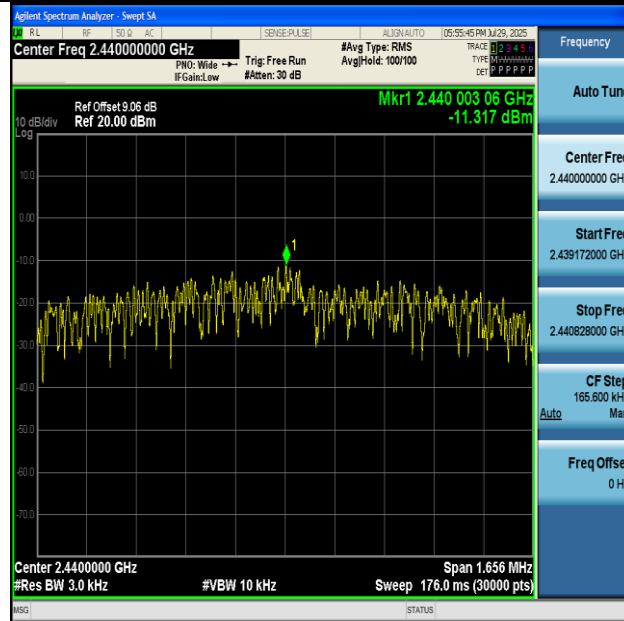




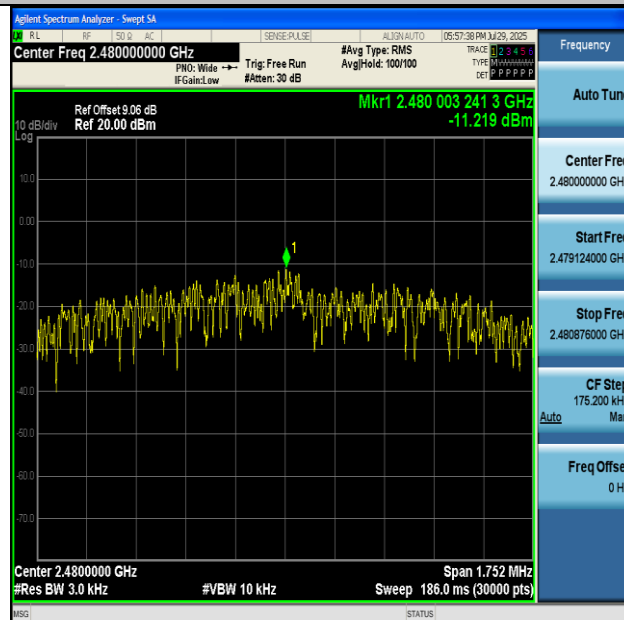
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



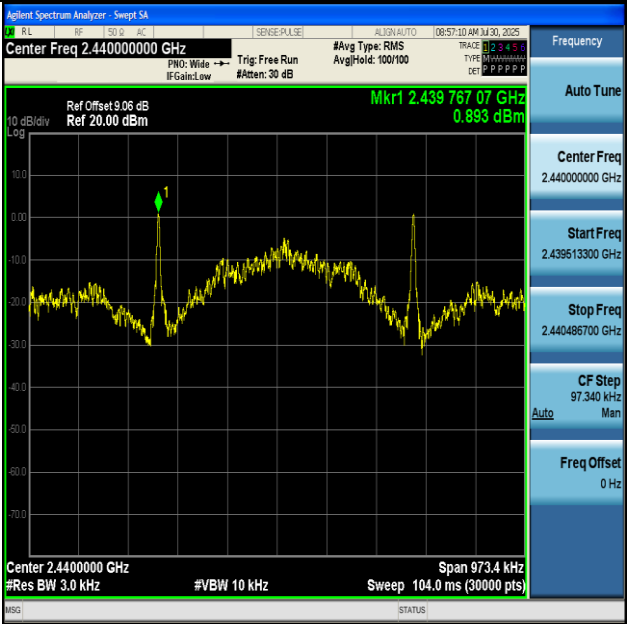
BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS



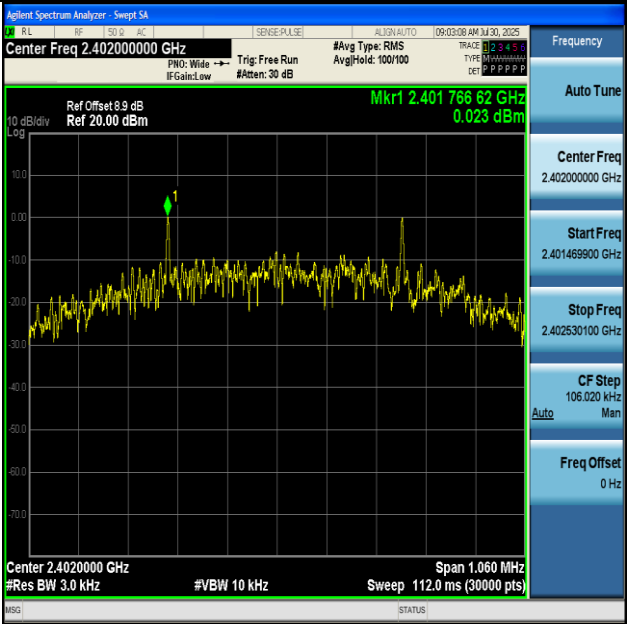
BLE_125K-Ant1-2402-PASS



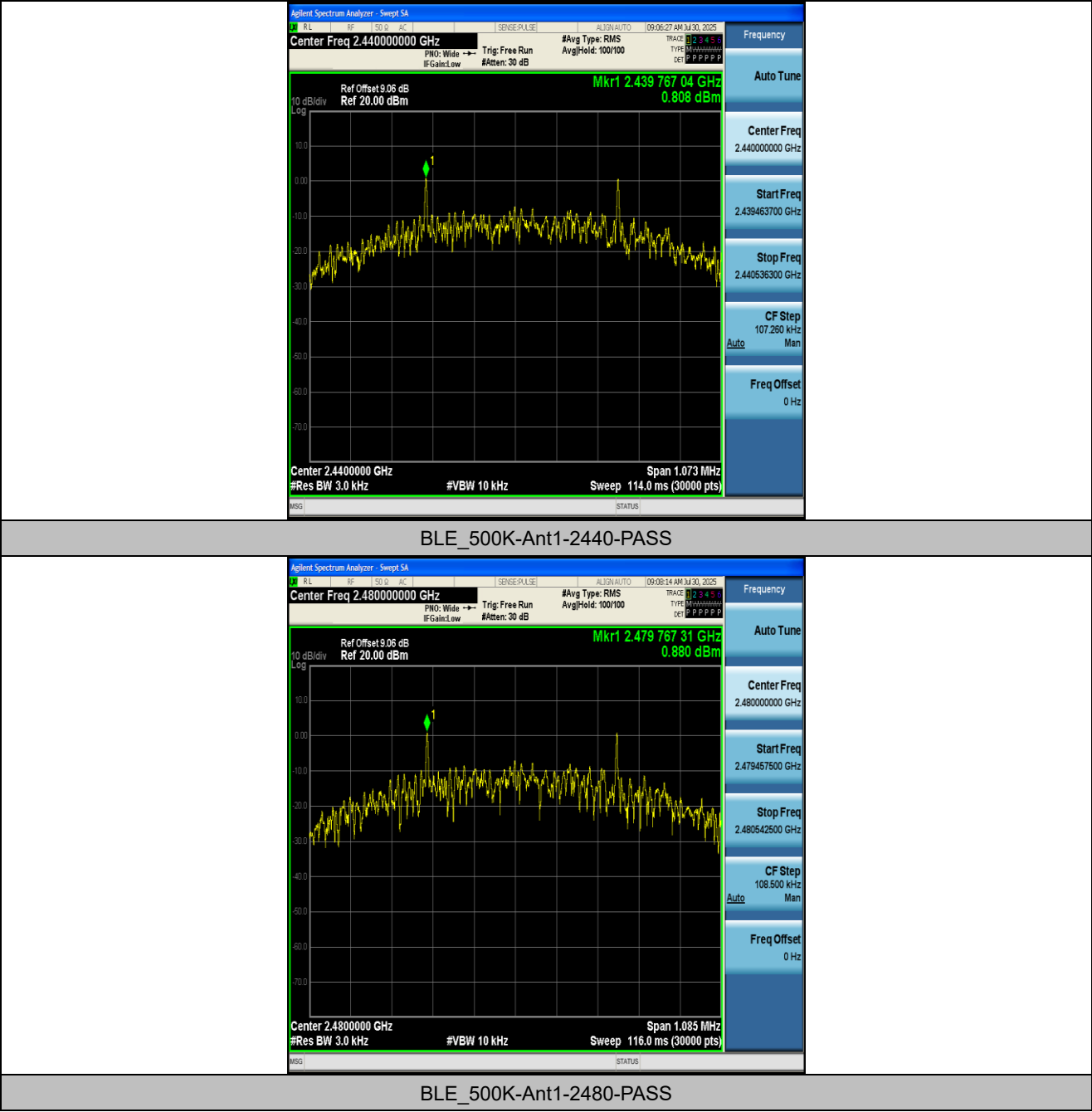
BLE_125K-Ant1-2440-PASS



BLE_125K-Ant1-2480-PASS



BLE_500K-Ant1-2402-PASS



Appendix E: Band edge measurements

Test Result

Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	6.08	-35.72	≤-13.93	PASS
BLE_1M	Ant1	High	2480	7.04	-40.2	≤-12.96	PASS
BLE_2M	Ant1	Low	2402	6.11	-25.02	≤-13.89	PASS
BLE_2M	Ant1	High	2480	6.79	-43.02	≤-13.21	PASS
BLE_125K	Ant1	Low	2402	2.97	-42.12	≤-17.03	PASS
BLE_125K	Ant1	High	2480	3.55	-45.28	≤-16.45	PASS
BLE_500K	Ant1	Low	2402	5.80	-39.88	≤-14.2	PASS
BLE_500K	Ant1	High	2480	5.85	-41.19	≤-14.15	PASS

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

Test Graphs

