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℃
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	0.704	2401.644	2402.348	0.5	PASS
BLE_1M	Ant1	2440	0.708	2439.644	2440.352	0.5	PASS
BLE_1M	Ant1	2480	0.700	2479.664	2480.364	0.5	PASS
BLE_2M	Ant1	2402	1.092	2401.476	2402.568	0.5	PASS
BLE_2M	Ant1	2440	1.088	2439.468	2440.556	0.5	PASS
BLE_2M	Ant1	2480	1.076	2479.476	2480.552	0.5	PASS
BLE_125K	Ant1	2402	0.632	2401.700	2402.332	0.5	PASS
BLE_125K	Ant1	2440	0.628	2439.704	2440.332	0.5	PASS
BLE_125K	Ant1	2480	0.720	2479.656	2480.376	0.5	PASS
BLE_500K	Ant1	2402	0.692	2401.672	2402.364	0.5	PASS
BLE_500K	Ant1	2440	0.724	2439.648	2440.372	0.5	PASS
BLE_500K	Ant1	2480	0.660	2479.696	2480.356	0.5	PASS

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

Test Graphs

BLE_1M-Ant1-2402-PASS

BLE_1M-Ant1-2440-PASS

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

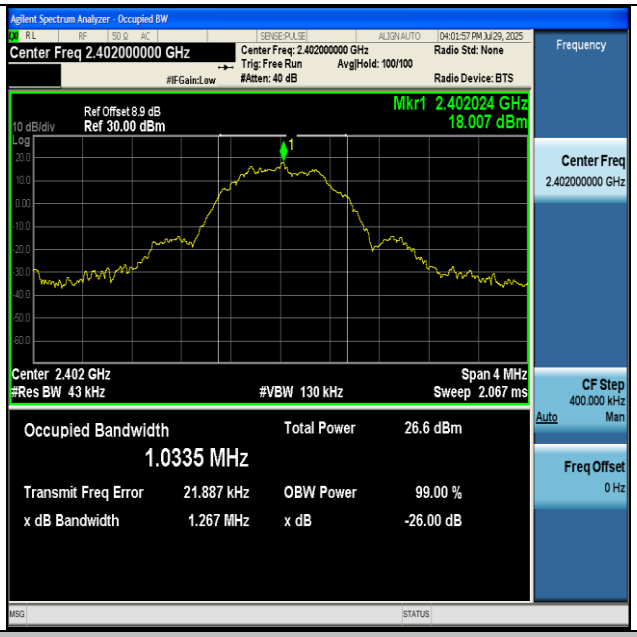
Appendix B: Occupied Channel Bandwidth

Test Result

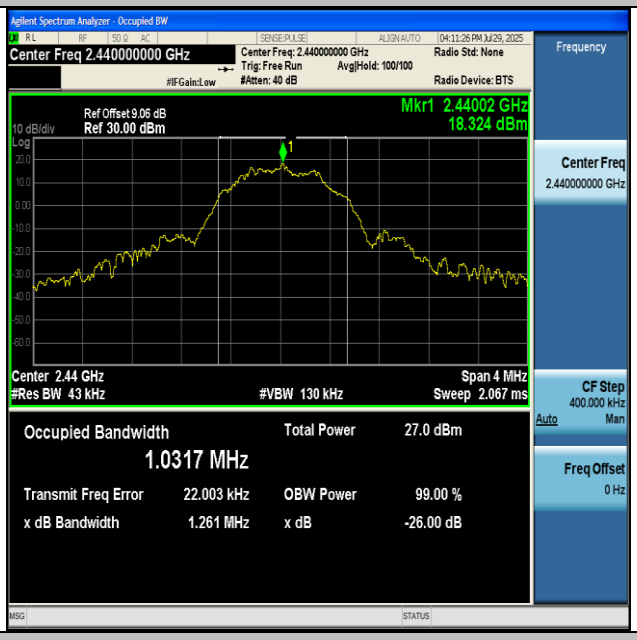
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.0335	2401.5051	2402.5386	---	---
BLE_1M	Ant1	2440	1.0317	2439.5062	2440.5379	---	---
BLE_1M	Ant1	2480	1.0249	2479.5095	2480.5344	---	---
BLE_2M	Ant1	2402	2.0755	2400.9930	2403.0685	---	---
BLE_2M	Ant1	2440	2.0705	2439.0012	2441.0717	---	---
BLE_2M	Ant1	2480	2.0602	2479.0030	2481.0632	---	---
BLE_125K	Ant1	2402	1.0620	2401.4820	2402.5440	---	---
BLE_125K	Ant1	2440	1.0600	2439.4847	2440.5447	---	---
BLE_125K	Ant1	2480	1.0577	2479.4844	2480.5421	---	---
BLE_500K	Ant1	2402	1.0188	2401.5060	2402.5248	---	---
BLE_500K	Ant1	2440	1.0286	2439.5050	2440.5336	---	---
BLE_500K	Ant1	2480	1.0246	2479.5023	2480.5269	---	---

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

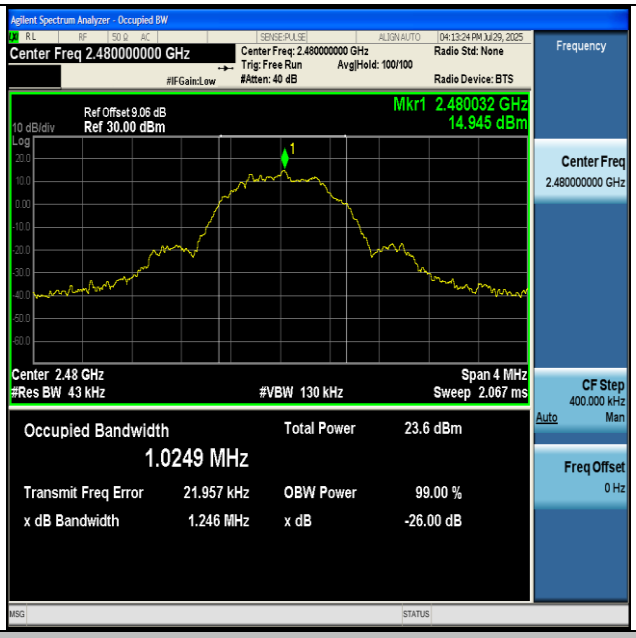
Test Graphs



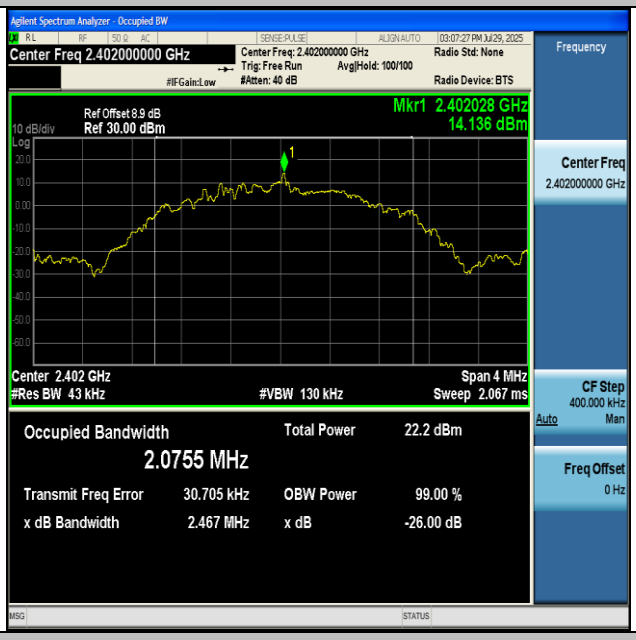
BLE_1M-Ant1-2402



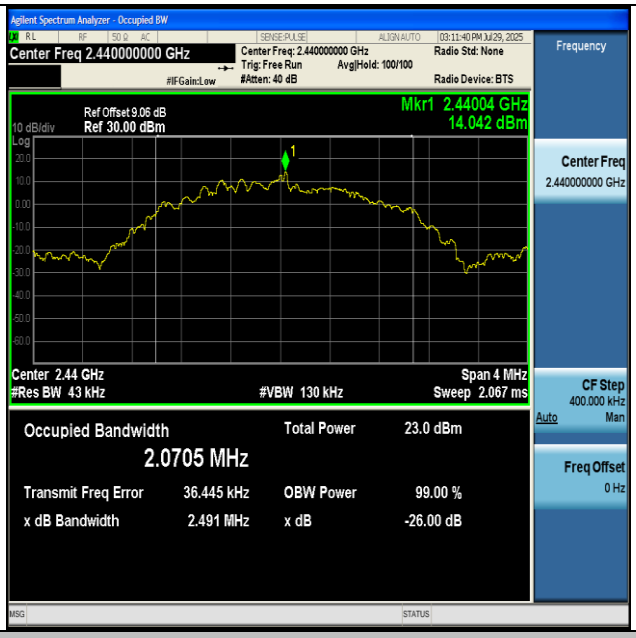
BLE_1M-Ant1-2440



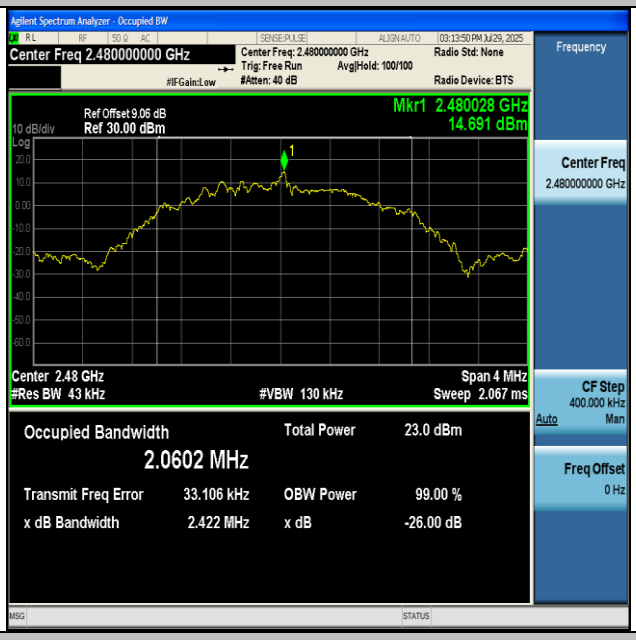
BLE_1M-Ant1-2480



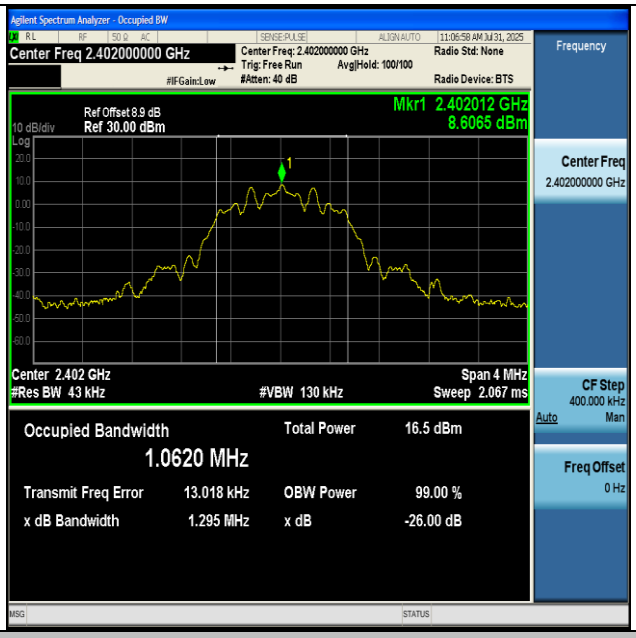
BLE_2M-Ant1-2402



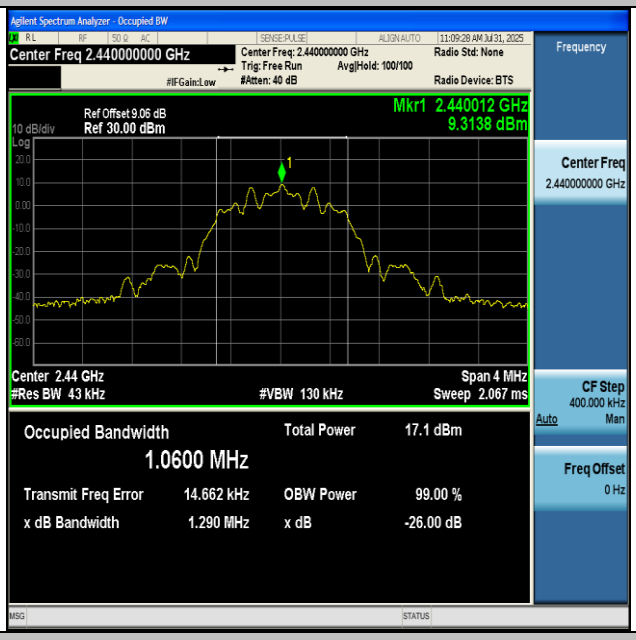
BLE_2M-Ant1-2440



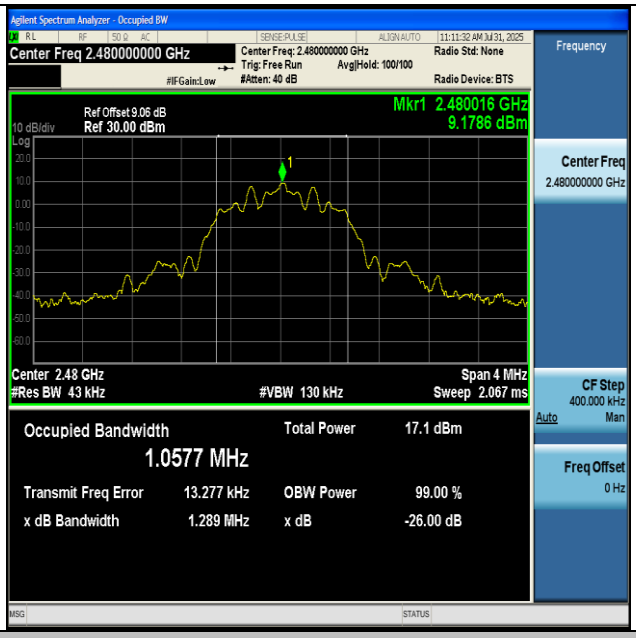
BLE_2M-Ant1-2480



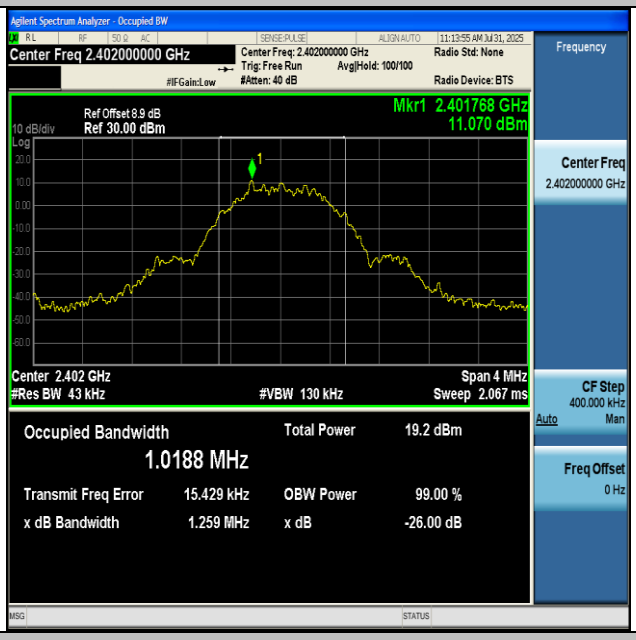
BLE_125K-Ant1-2402



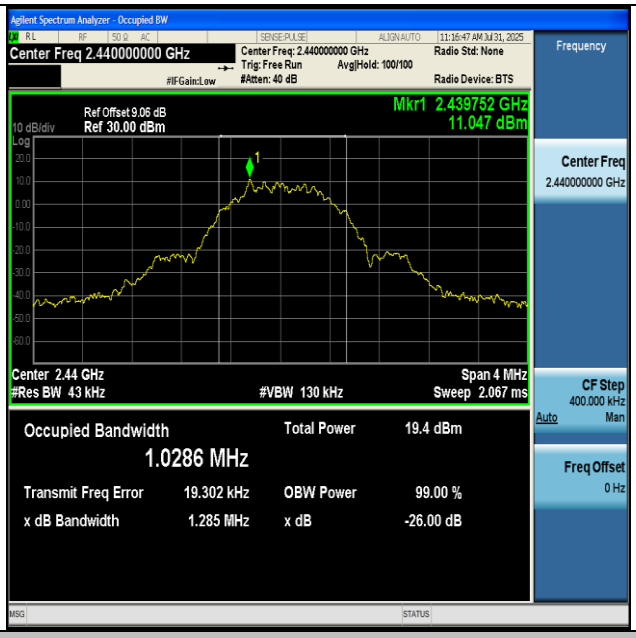
BLE_125K-Ant1-2440



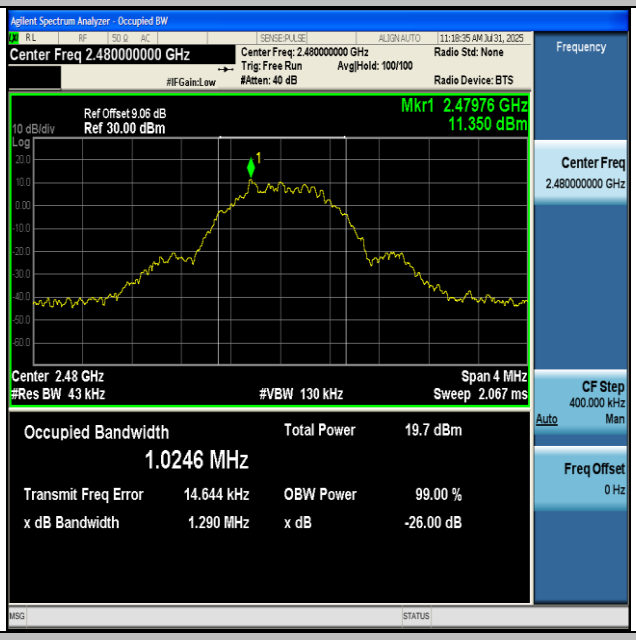
BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



BLE_500K-Ant1-2440



BLE_500K-Ant1-2480

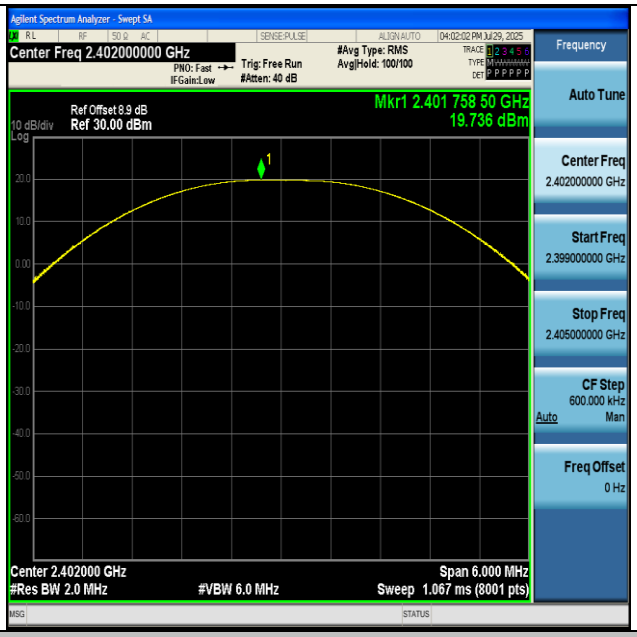
Appendix C: Maximum peak conducted output power

Test Result Peak

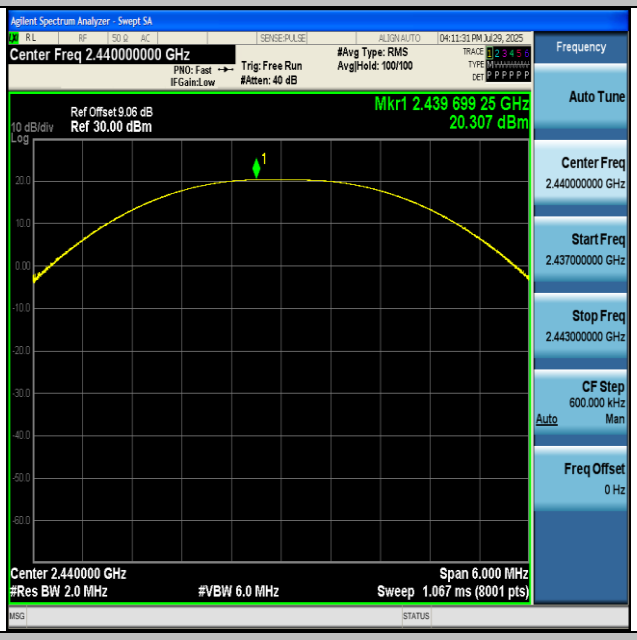
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	19.74	≤30	PASS
BLE_1M	Ant1	2440	20.31	≤30	PASS
BLE_1M	Ant1	2480	16.86	≤30	PASS
BLE_2M	Ant1	2402	16.39	≤30	PASS
BLE_2M	Ant1	2440	17.03	≤30	PASS
BLE_2M	Ant1	2480	16.92	≤30	PASS
BLE_125K	Ant1	2402	12.39	≤30	PASS
BLE_125K	Ant1	2440	13.01	≤30	PASS
BLE_125K	Ant1	2480	12.86	≤30	PASS
BLE_500K	Ant1	2402	12.42	≤30	PASS
BLE_500K	Ant1	2440	13.03	≤30	PASS
BLE_500K	Ant1	2480	12.88	≤30	PASS

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

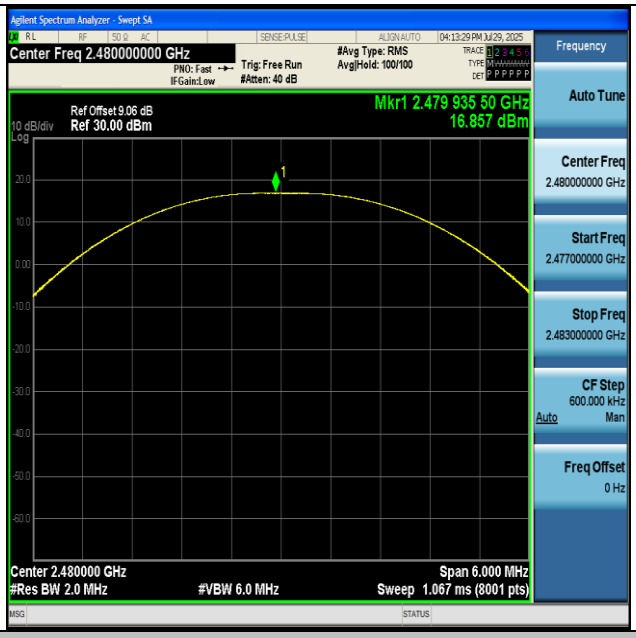
Test Graphs Peak



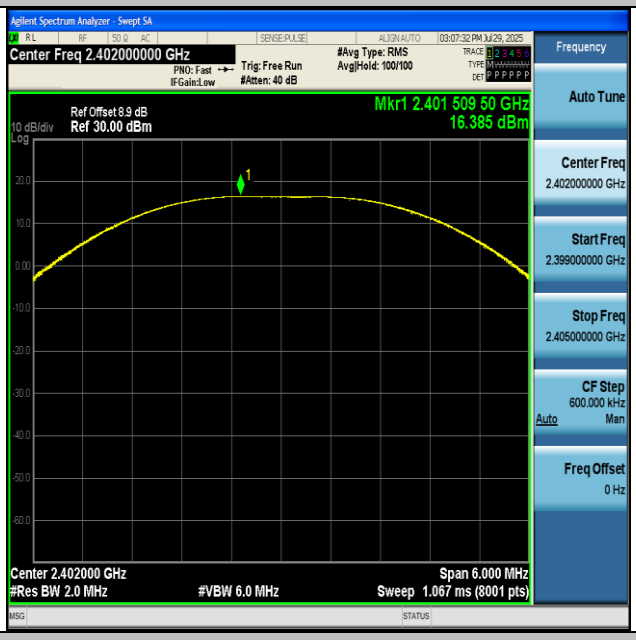
BLE_1M-Ant1-2402-PASS



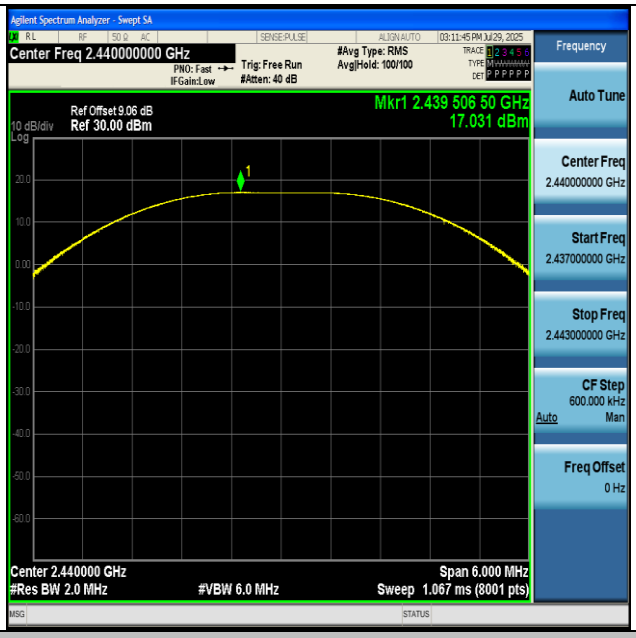
BLE_1M-Ant1-2440-PASS



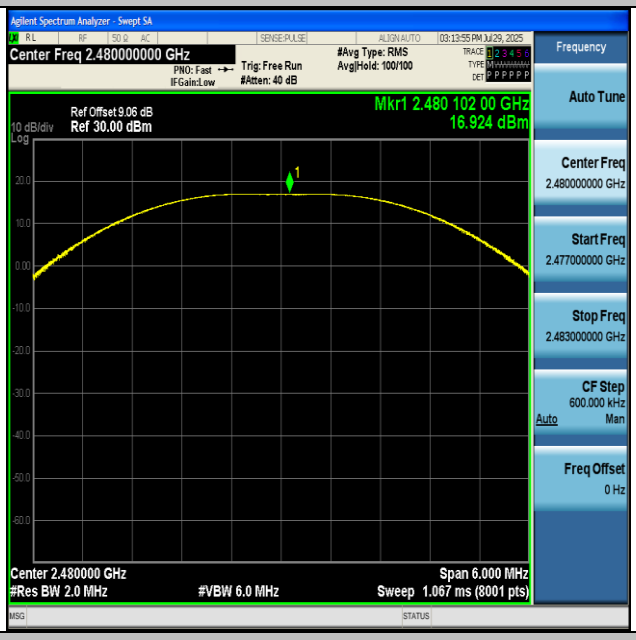
BLE_1M-Ant1-2480-PASS



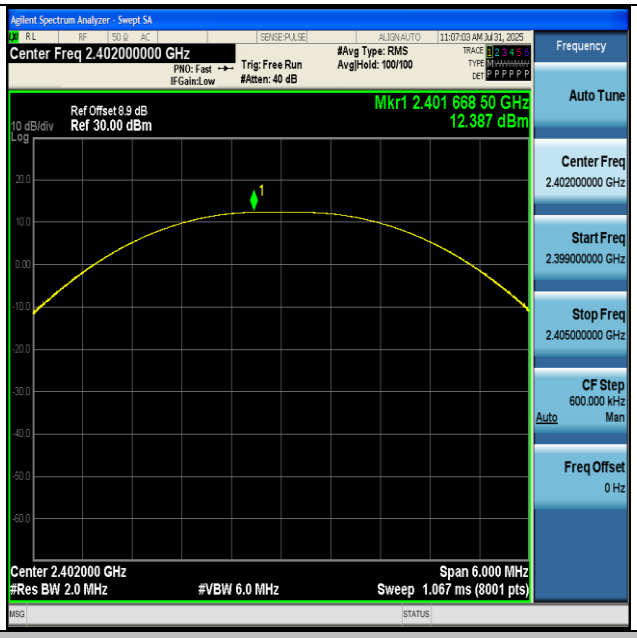
BLE_2M-Ant1-2402-PASS



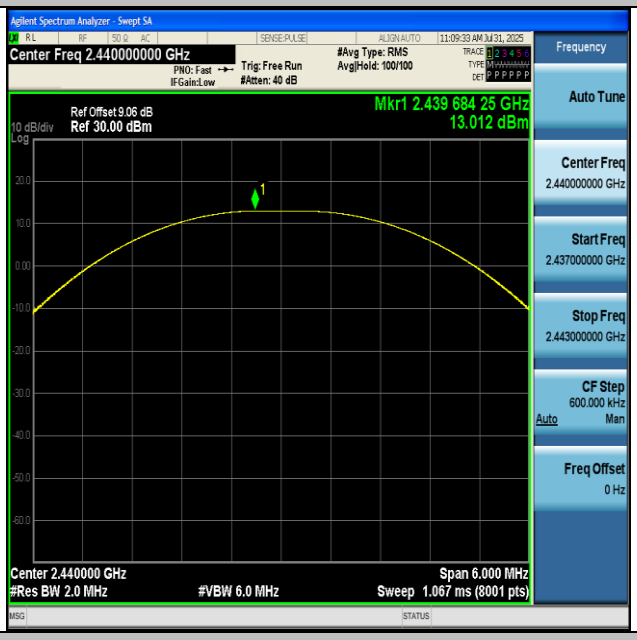
BLE_2M-Ant1-2440-PASS



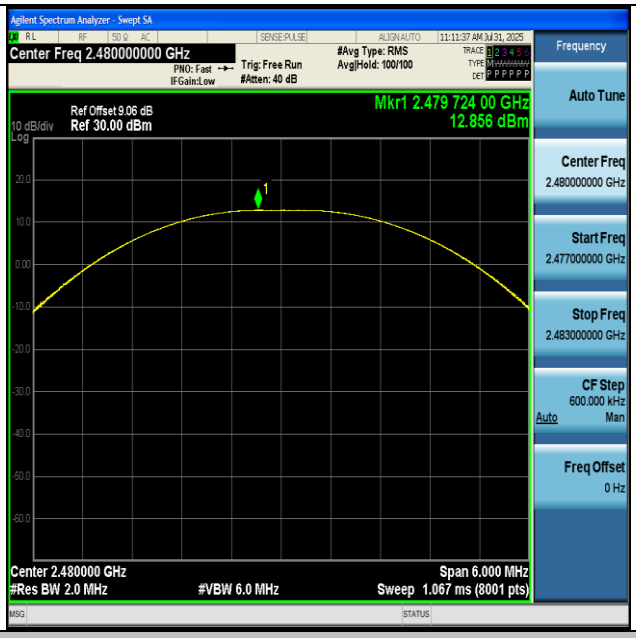
BLE_2M-Ant1-2480-PASS



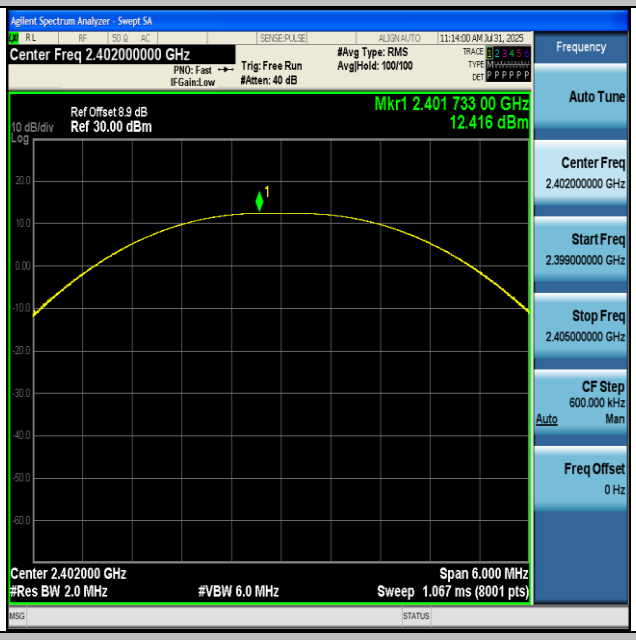
BLE_125K-Ant1-2402-PASS



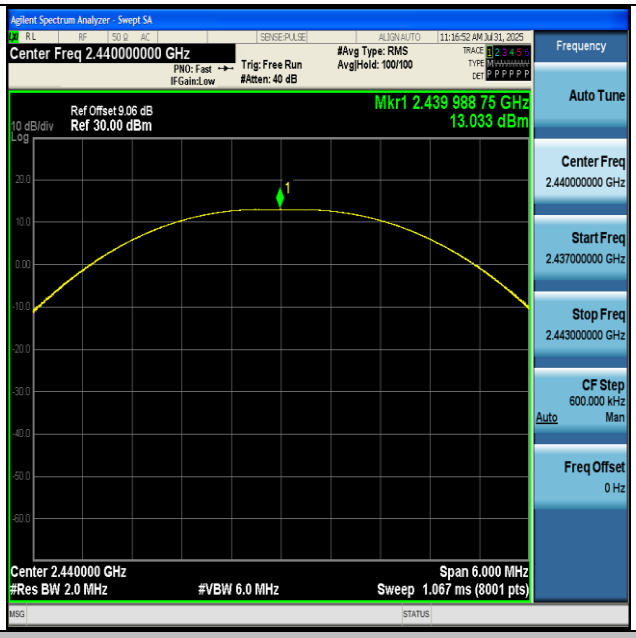
BLE_125K-Ant1-2440-PASS



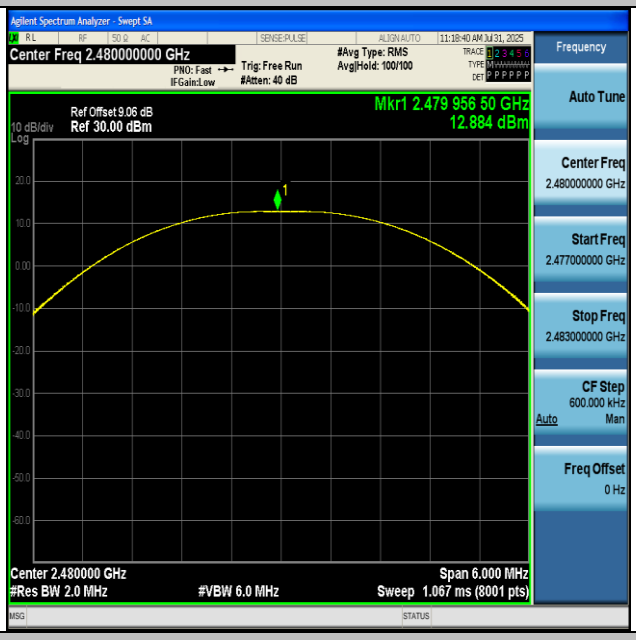
BLE_125K-Ant1-2480-PASS



BLE_500K-Ant1-2402-PASS



BLE_500K-Ant1-2440-PASS



BLE_500K-Ant1-2480-PASS

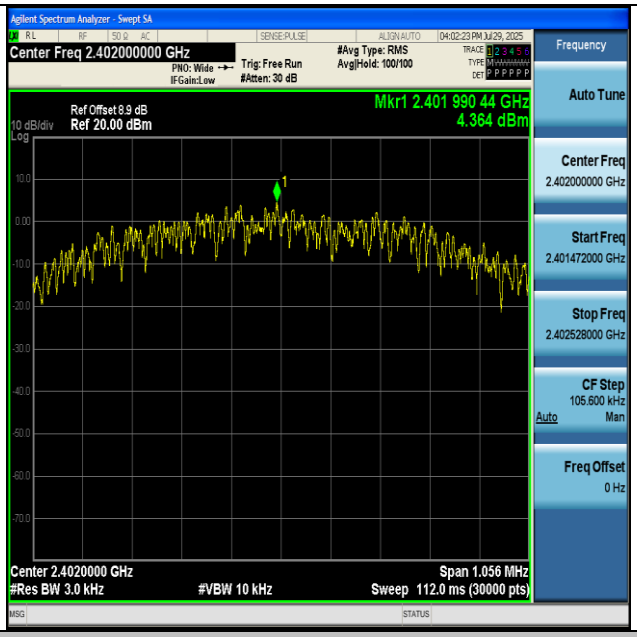
Appendix D: Maximum peak power spectral density

Test Result

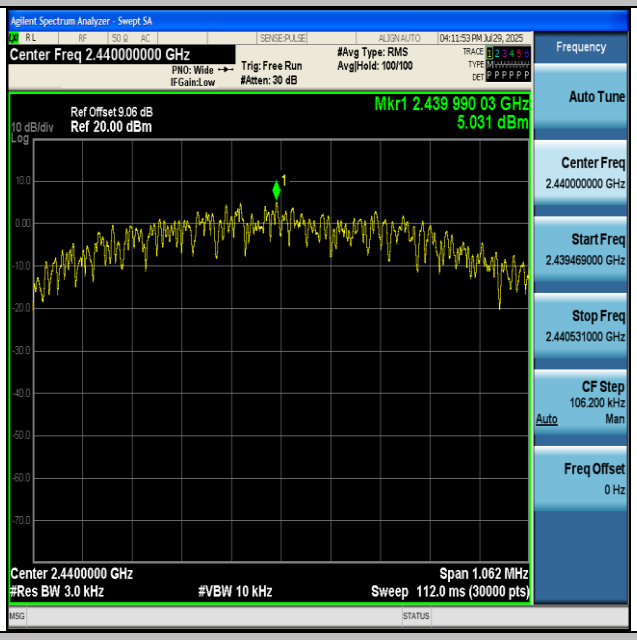
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	4.36	≤8.00	PASS
BLE_1M	Ant1	2440	5.03	≤8.00	PASS
BLE_1M	Ant1	2480	1.45	≤8.00	PASS
BLE_2M	Ant1	2402	0.02	≤8.00	PASS
BLE_2M	Ant1	2440	0.80	≤8.00	PASS
BLE_2M	Ant1	2480	0.63	≤8.00	PASS
BLE_125K	Ant1	2402	6.38	≤8.00	PASS
BLE_125K	Ant1	2440	6.94	≤8.00	PASS
BLE_125K	Ant1	2480	6.82	≤8.00	PASS
BLE_500K	Ant1	2402	6.30	≤8.00	PASS
BLE_500K	Ant1	2440	6.88	≤8.00	PASS
BLE_500K	Ant1	2480	6.76	≤8.00	PASS

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

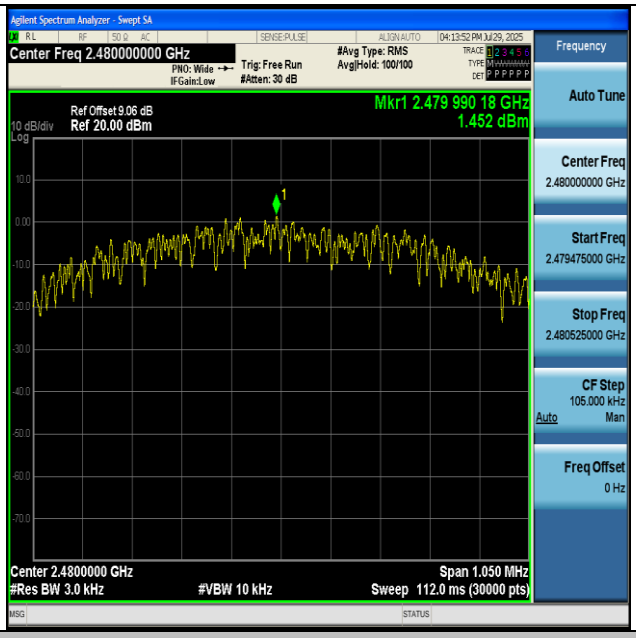
Test Graphs



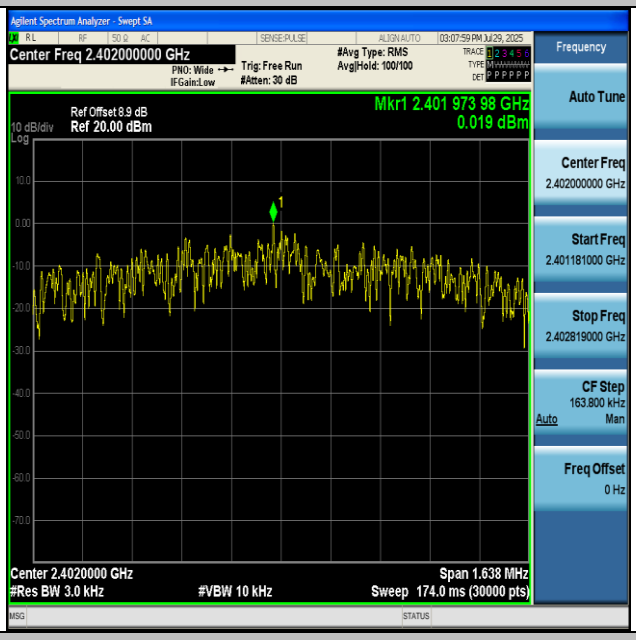
BLE_1M-Ant1-2402-PASS



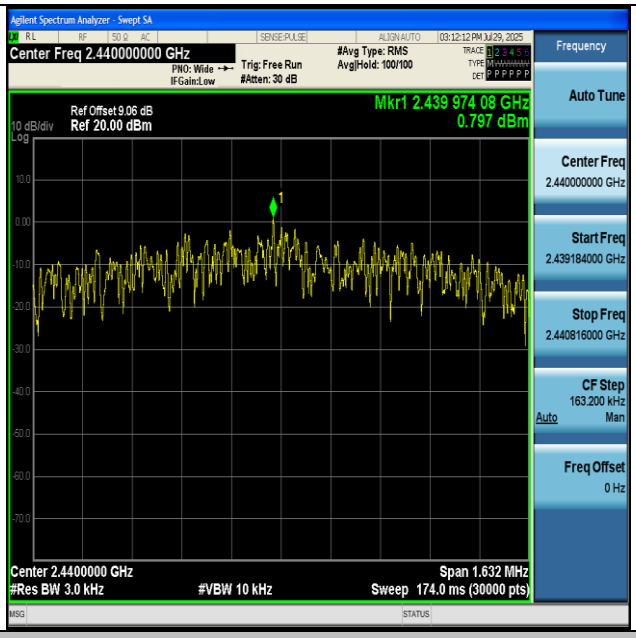
BLE_1M-Ant1-2440-PASS



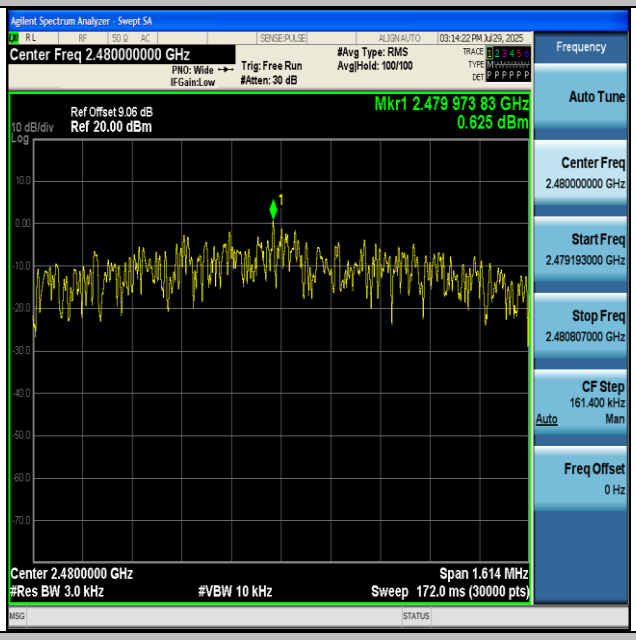
BLE_1M-Ant1-2480-PASS



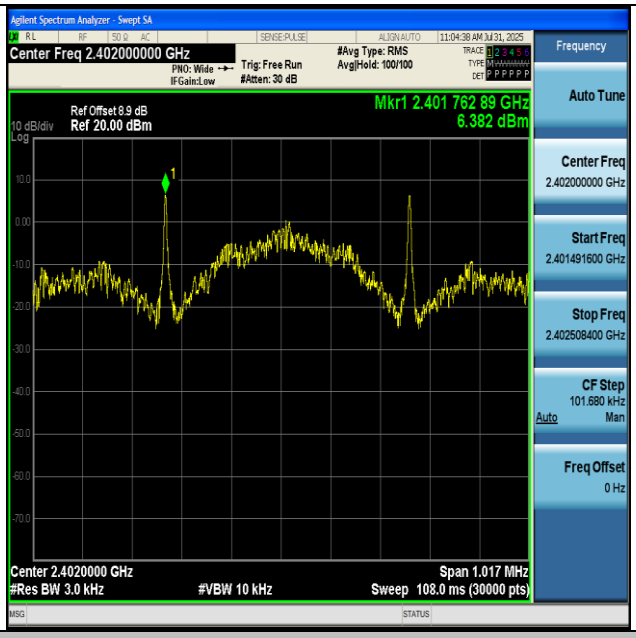
BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



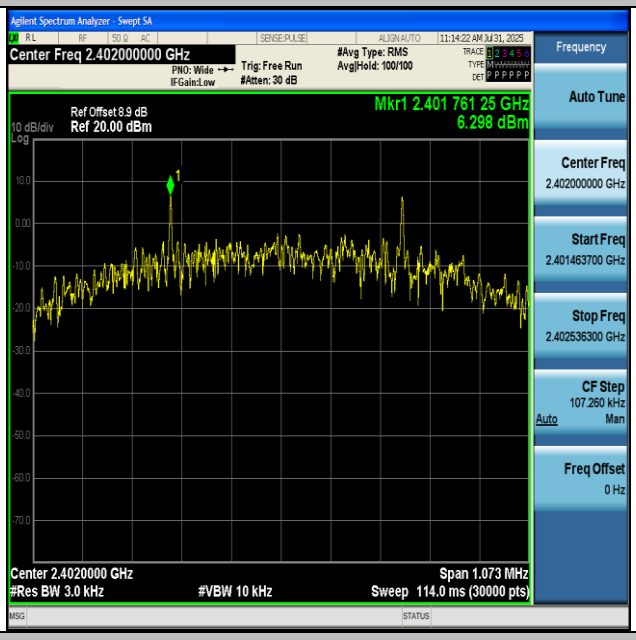
BLE_2M-Ant1-2480-PASS



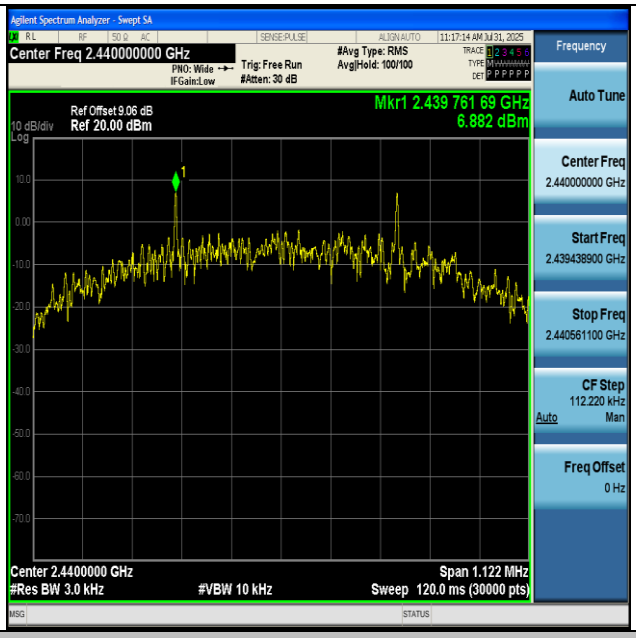
BLE_125K-Ant1-2402-PASS

BLE_125K-Ant1-2440-PASS

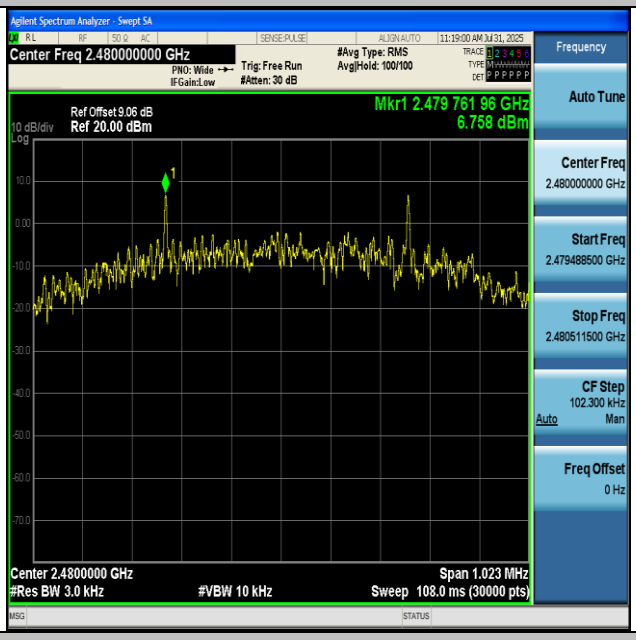
BLE_125K-Ant1-2480-PASS



BLE_500K-Ant1-2402-PASS



BLE_500K-Ant1-2440-PASS



BLE_500K-Ant1-2480-PASS

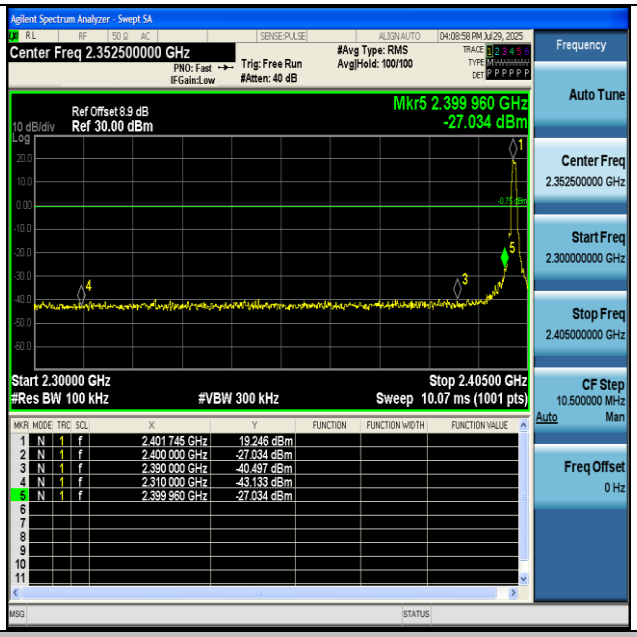
Appendix E: Band edge measurements

Test Result

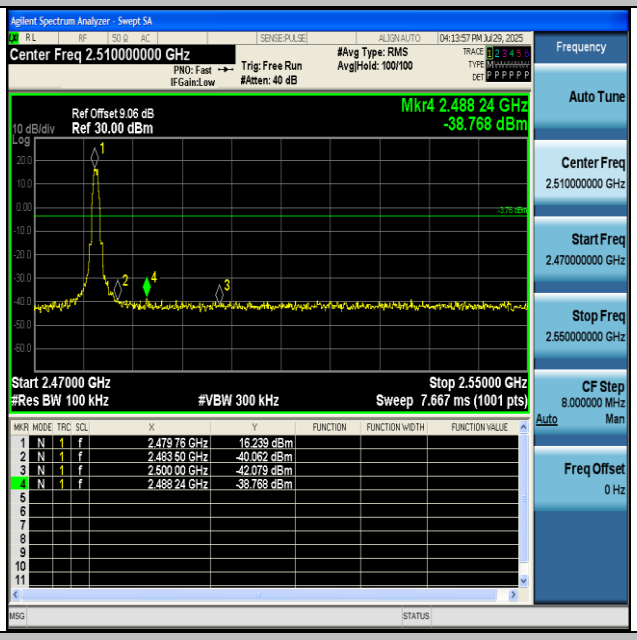
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	19.25	-27.03	≤-0.75	PASS
BLE_1M	Ant1	High	2480	16.24	-38.77	≤-3.76	PASS
BLE_2M	Ant1	Low	2402	16.18	-15.3	≤-3.82	PASS
BLE_2M	Ant1	High	2480	15.92	-35.89	≤-4.08	PASS
BLE_125K	Ant1	Low	2402	8.75	-40.2	≤-11.26	PASS
BLE_125K	Ant1	High	2480	11.74	-44.81	≤-8.26	PASS
BLE_500K	Ant1	Low	2402	11.50	-37.82	≤-8.5	PASS
BLE_500K	Ant1	High	2480	12.49	-45.4	≤-7.51	PASS

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

Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS