

Appendix Test Data for BLE (Conducted Measurement)

Product Name: Magnetic wallet

Trade Mark: Suritch

Test Model: SW004F

FCC ID: 2BA3T-SW-004F

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Max Zhang
NOTE	N/A

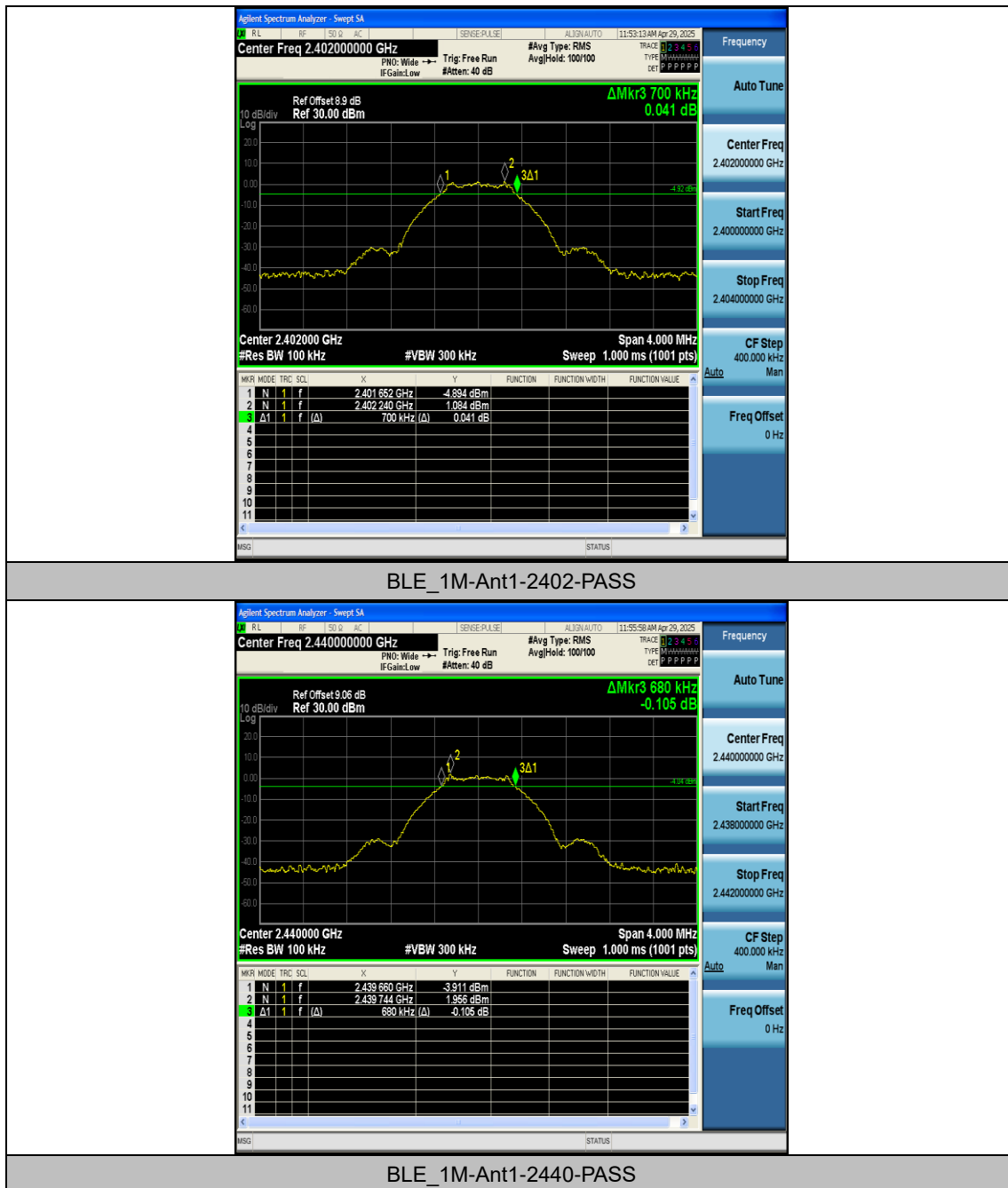
Appendix A: DTS Bandwidth

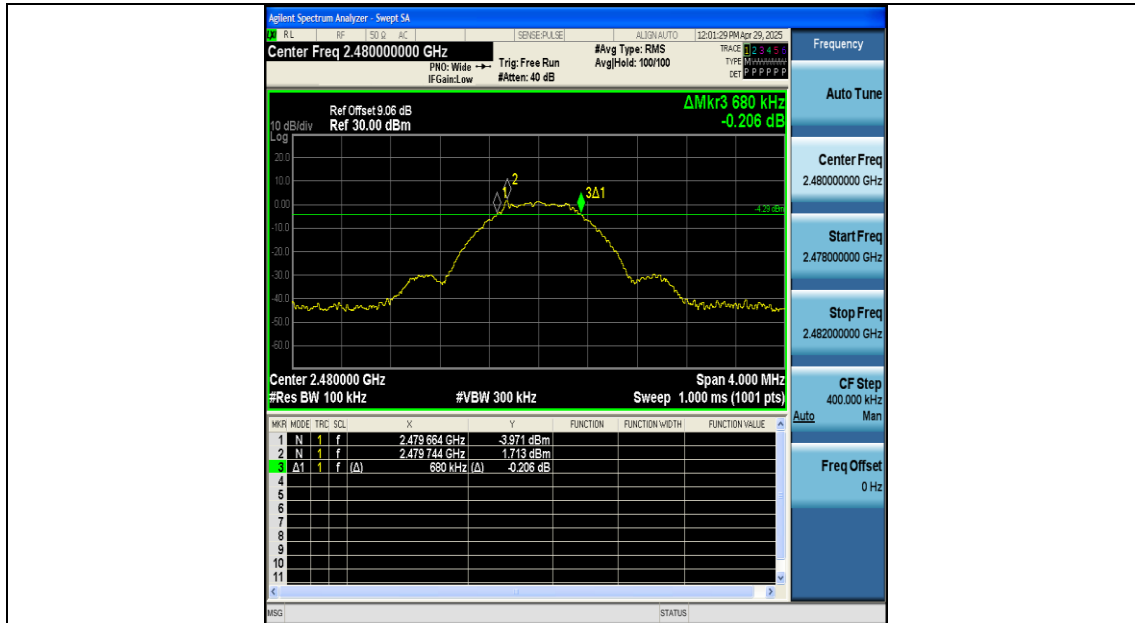
Test Result

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.700	2401.652	2402.352	0.5	PASS
BLE_1M	Ant1	2440	0.680	2439.660	2440.340	0.5	PASS
BLE_1M	Ant1	2480	0.680	2479.664	2480.344	0.5	PASS
BLE_2M	Ant1	2402	1.388	2401.308	2402.696	0.5	PASS
BLE_2M	Ant1	2440	1.280	2439.368	2440.648	0.5	PASS
BLE_2M	Ant1	2480	1.420	2479.316	2480.736	0.5	PASS

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

Test Graphs





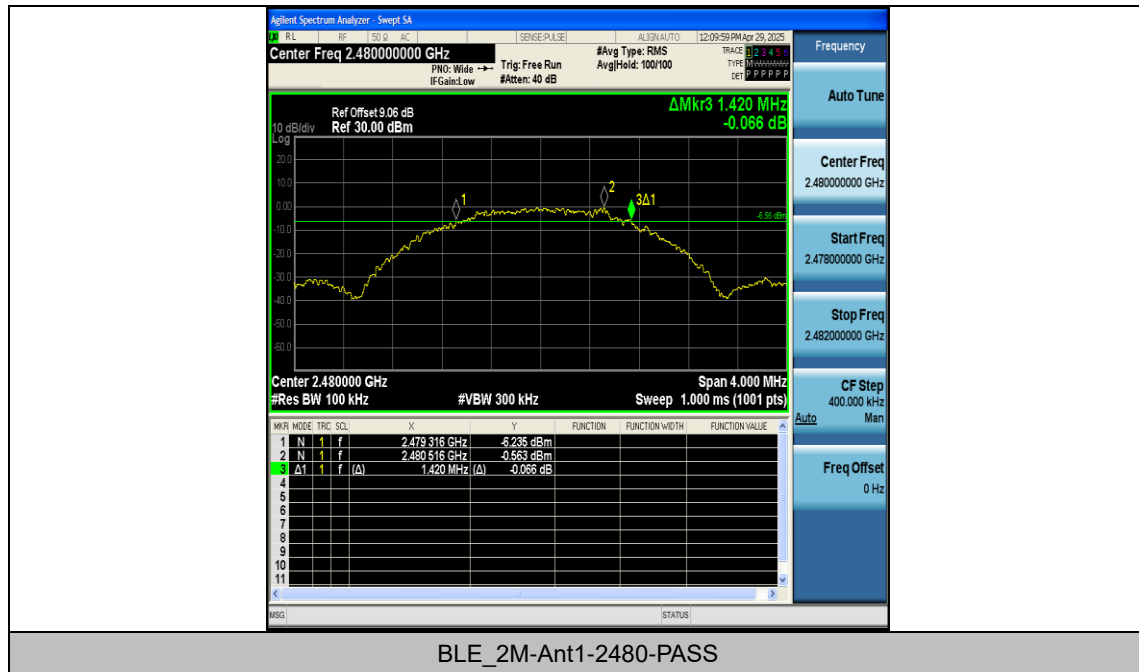
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



Appendix B: Occupied Channel Bandwidth

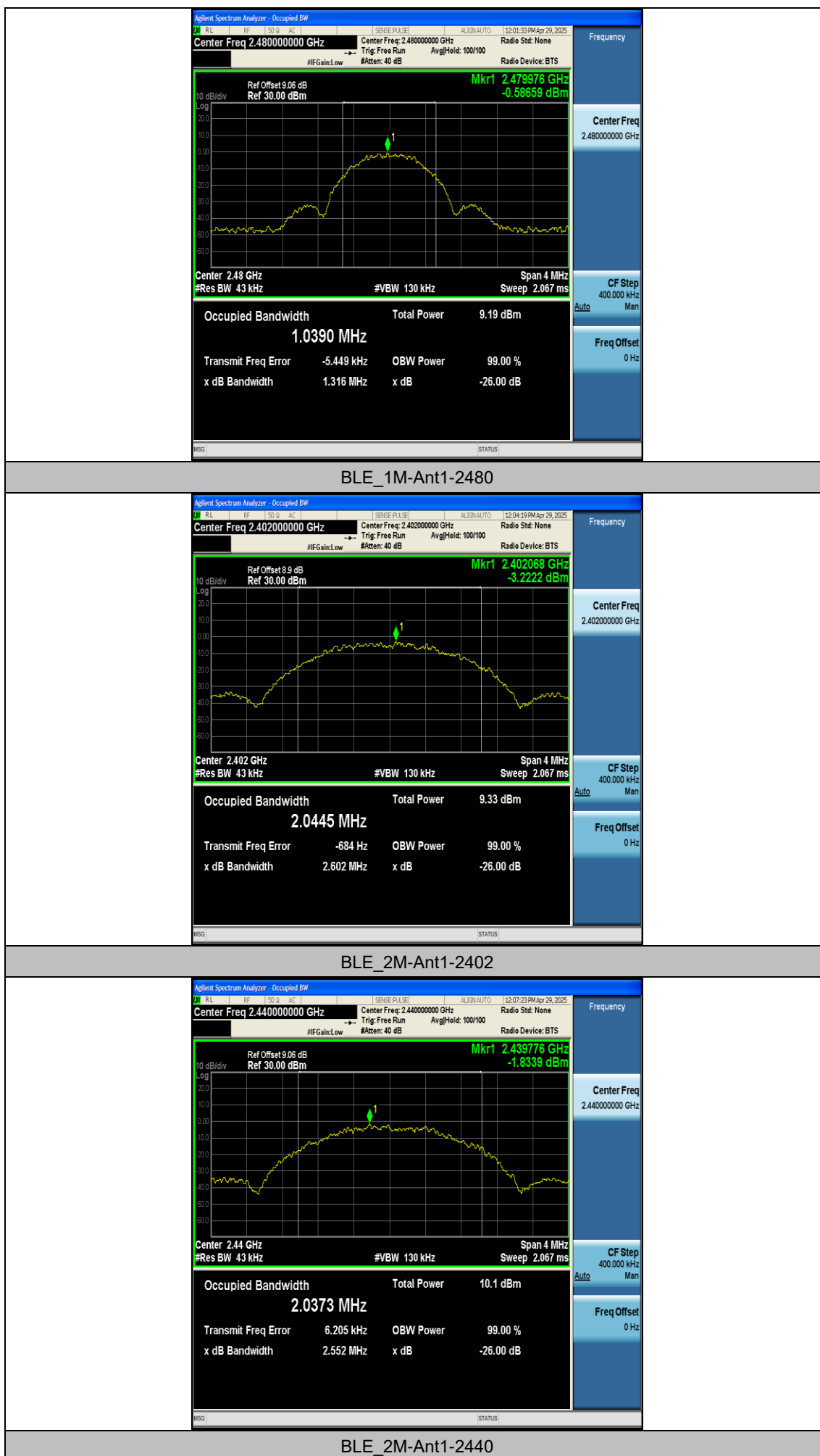
Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.0462	2401.4738	2402.5200	---	---
BLE_1M	Ant1	2440	1.0331	2439.4768	2440.5099	---	---
BLE_1M	Ant1	2480	1.0390	2479.4751	2480.5141	---	---
BLE_2M	Ant1	2402	2.0445	2400.9771	2403.0216	---	---
BLE_2M	Ant1	2440	2.0373	2438.9876	2441.0249	---	---
BLE_2M	Ant1	2480	2.0466	2478.9567	2481.0033	---	---

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

Test Graphs







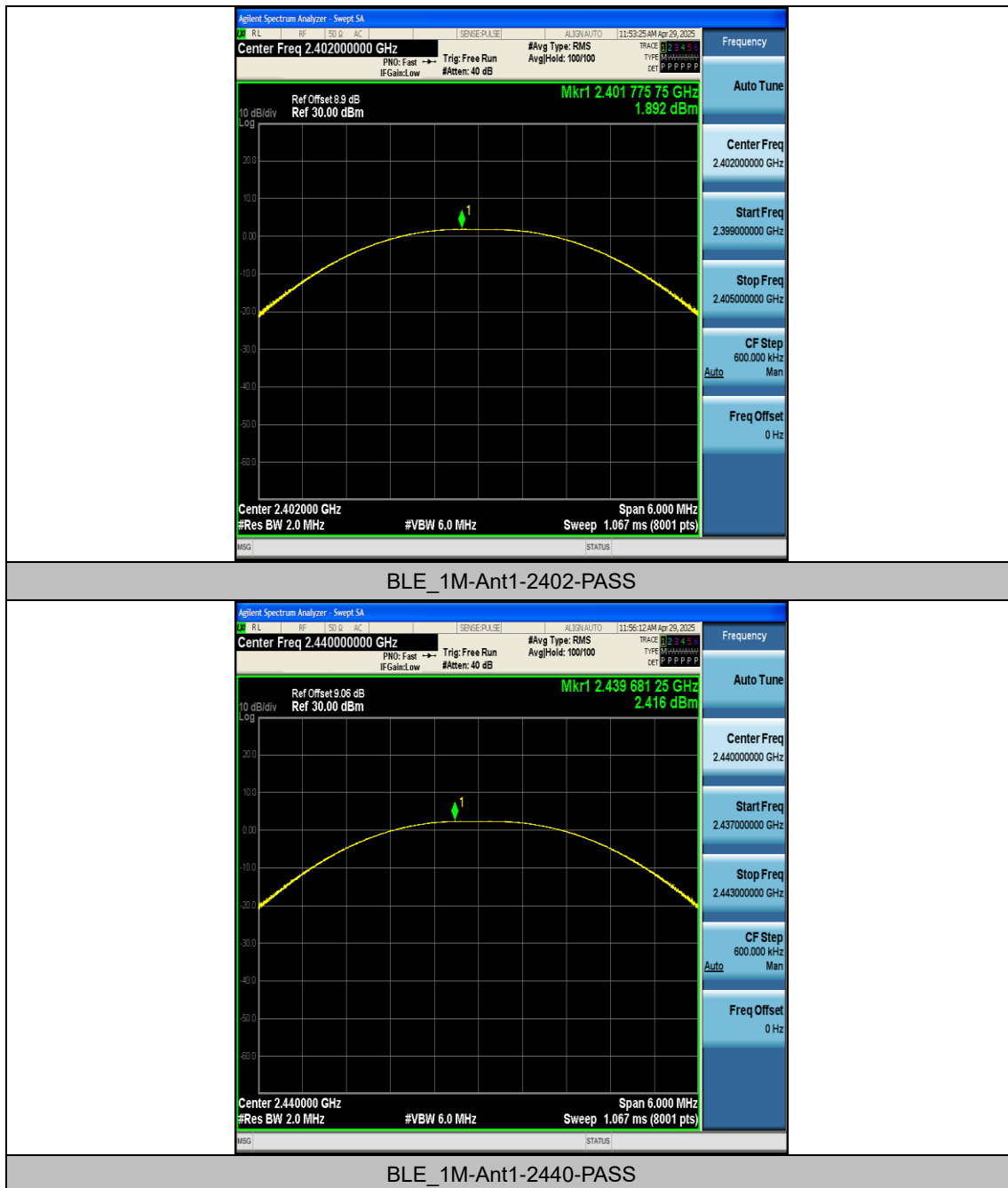
Appendix C: Maximum peak conducted output power

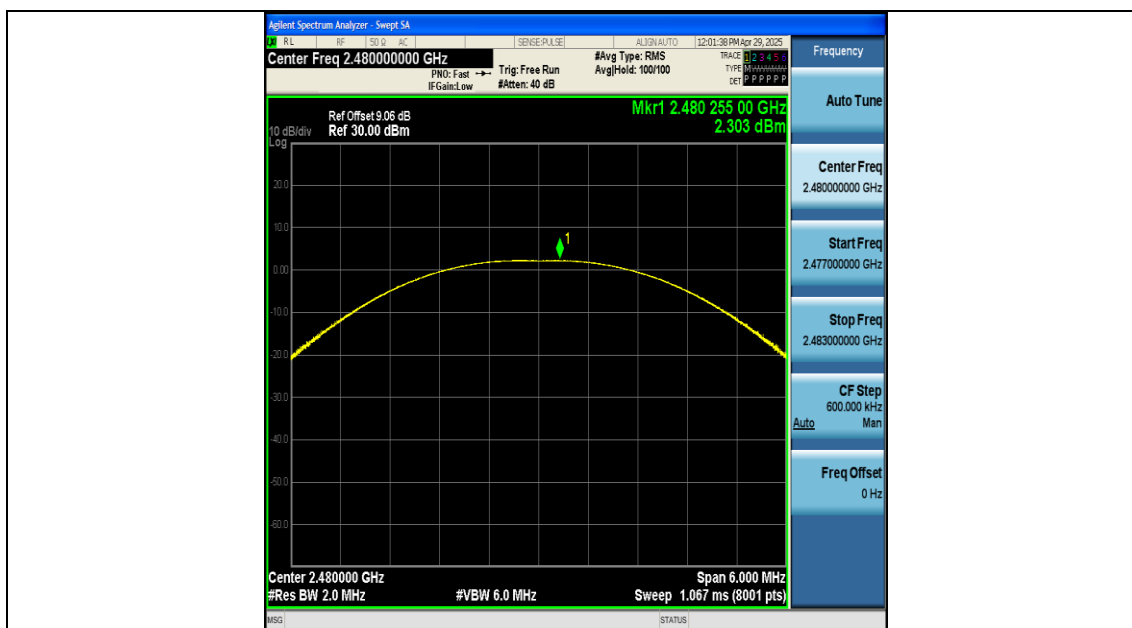
Test Result Peak

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	1.89	≤30	PASS
BLE_1M	Ant1	2440	2.42	≤30	PASS
BLE_1M	Ant1	2480	2.30	≤30	PASS
BLE_2M	Ant1	2402	1.89	≤30	PASS
BLE_2M	Ant1	2440	2.48	≤30	PASS
BLE_2M	Ant1	2480	2.29	≤30	PASS

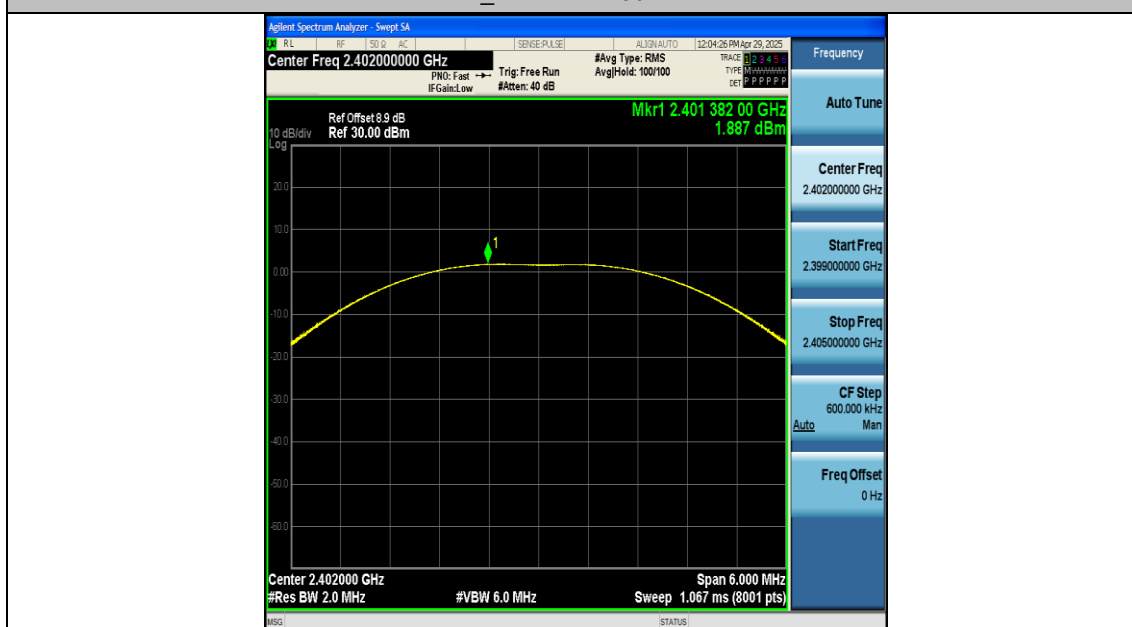
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs Peak

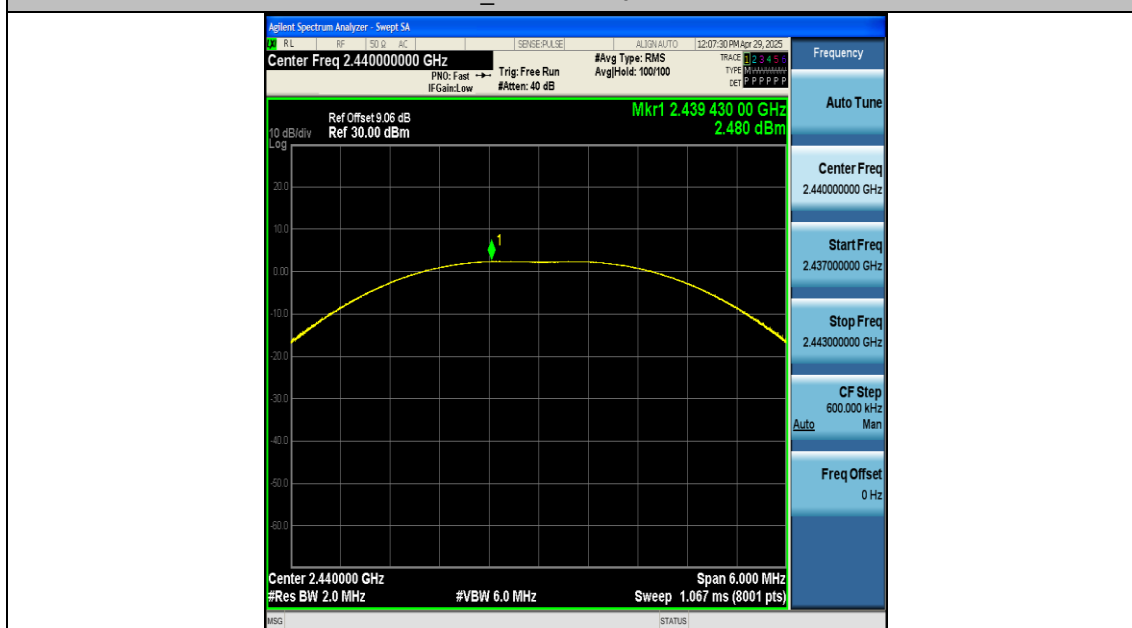




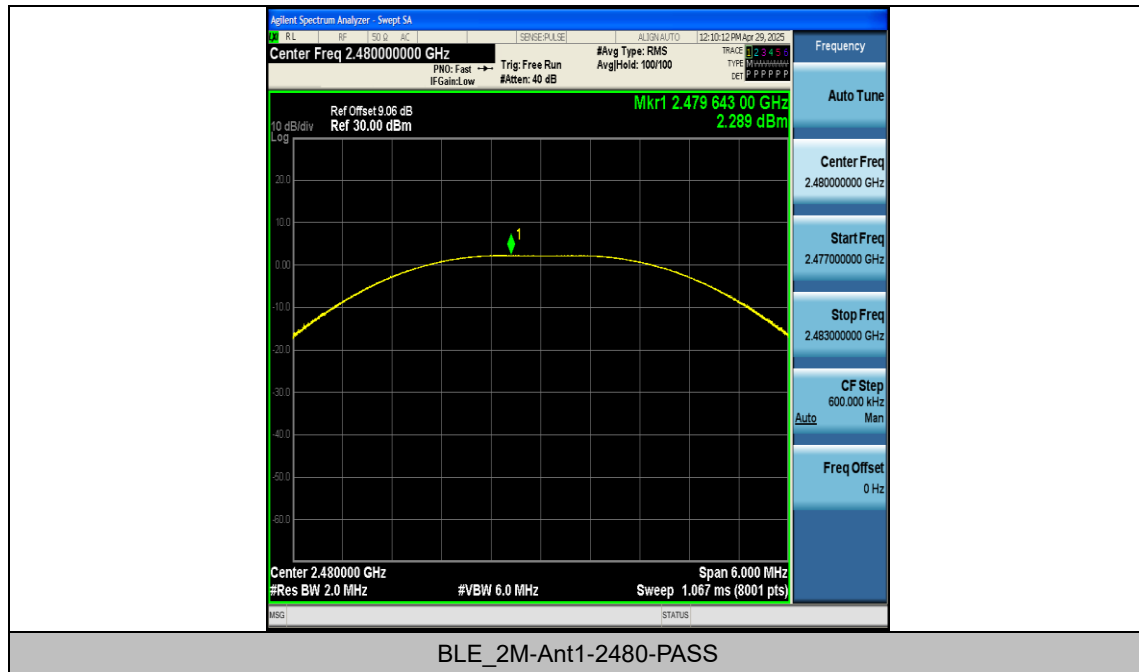
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



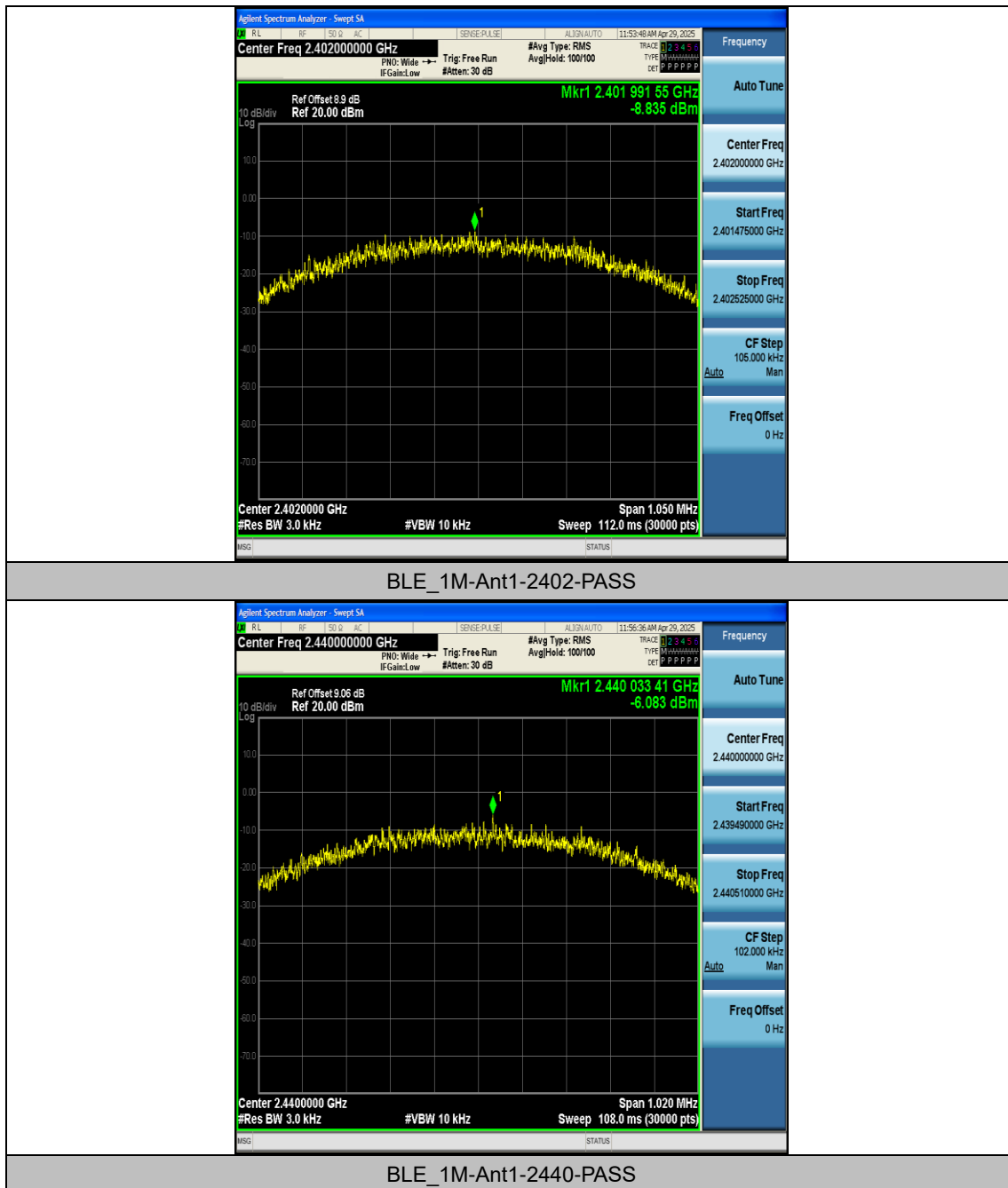
Appendix D: Maximum peak power spectral density

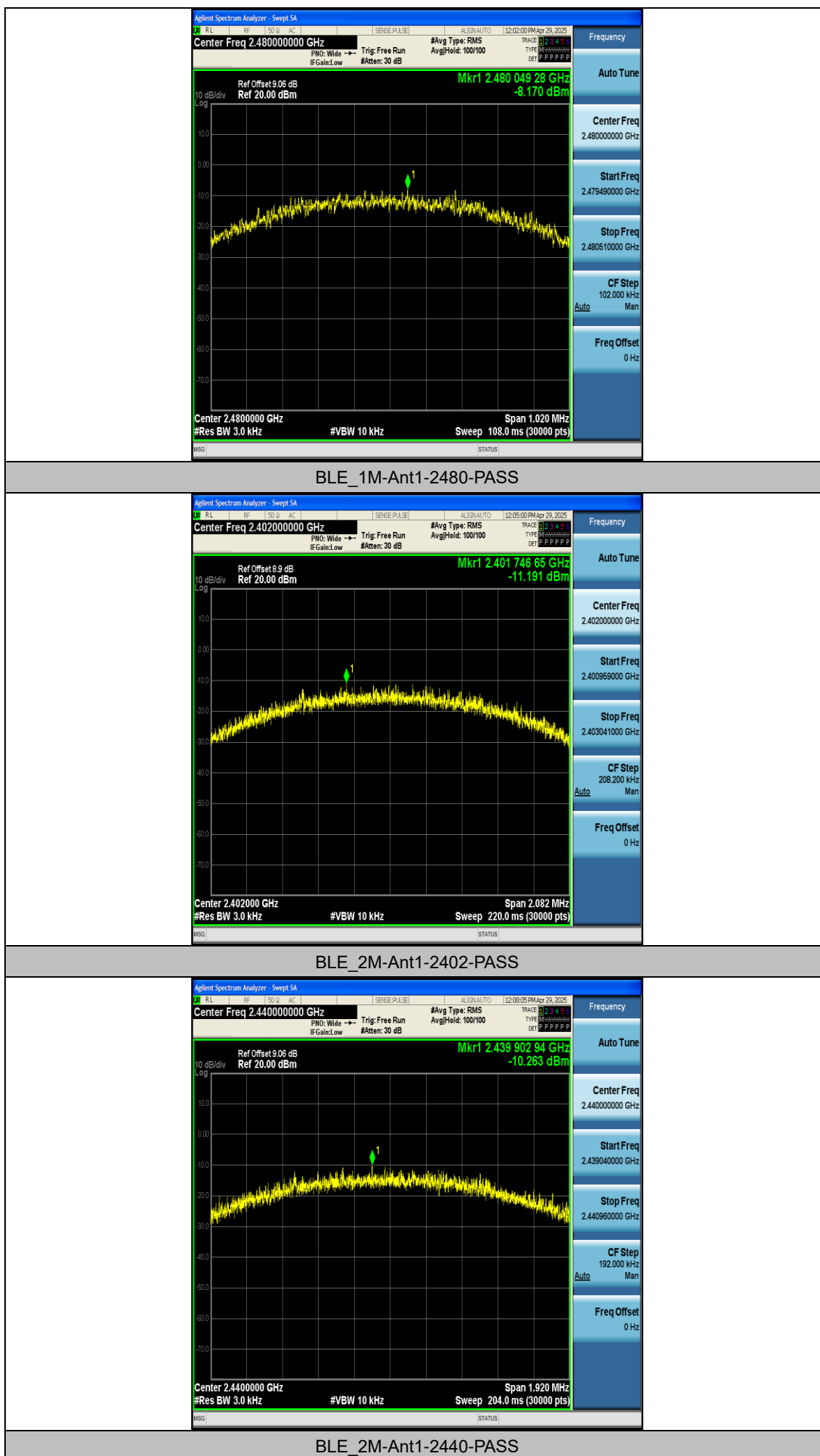
Test Result

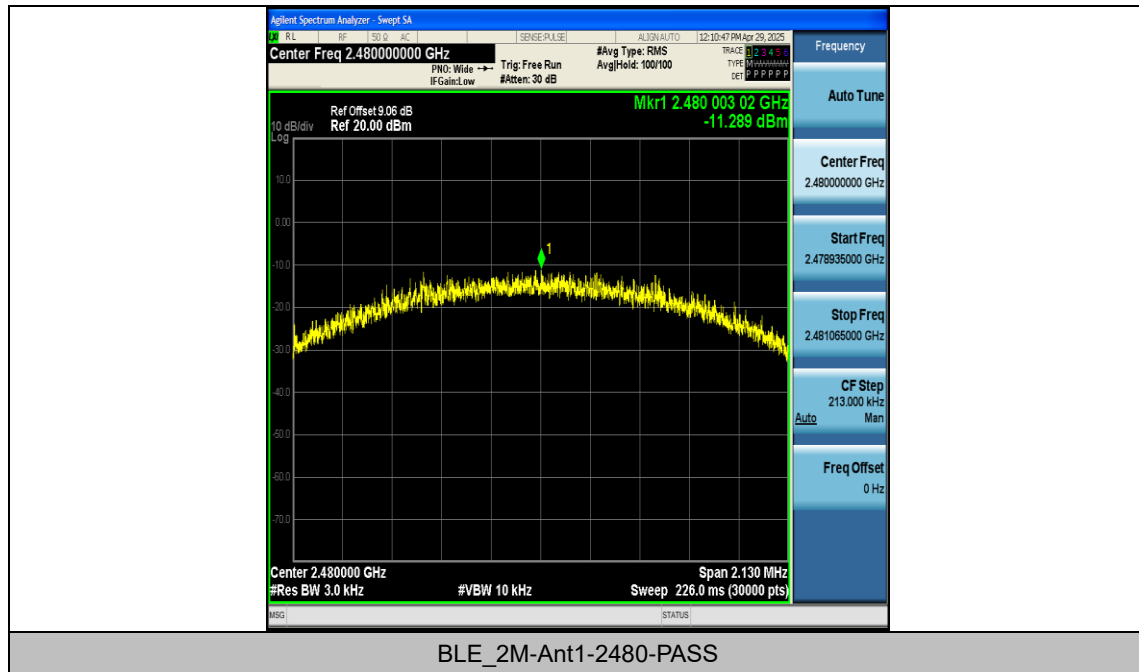
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-8.84	≤8.00	PASS
BLE_1M	Ant1	2440	-6.08	≤8.00	PASS
BLE_1M	Ant1	2480	-8.17	≤8.00	PASS
BLE_2M	Ant1	2402	-11.19	≤8.00	PASS
BLE_2M	Ant1	2440	-10.26	≤8.00	PASS
BLE_2M	Ant1	2480	-11.29	≤8.00	PASS

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

Test Graphs







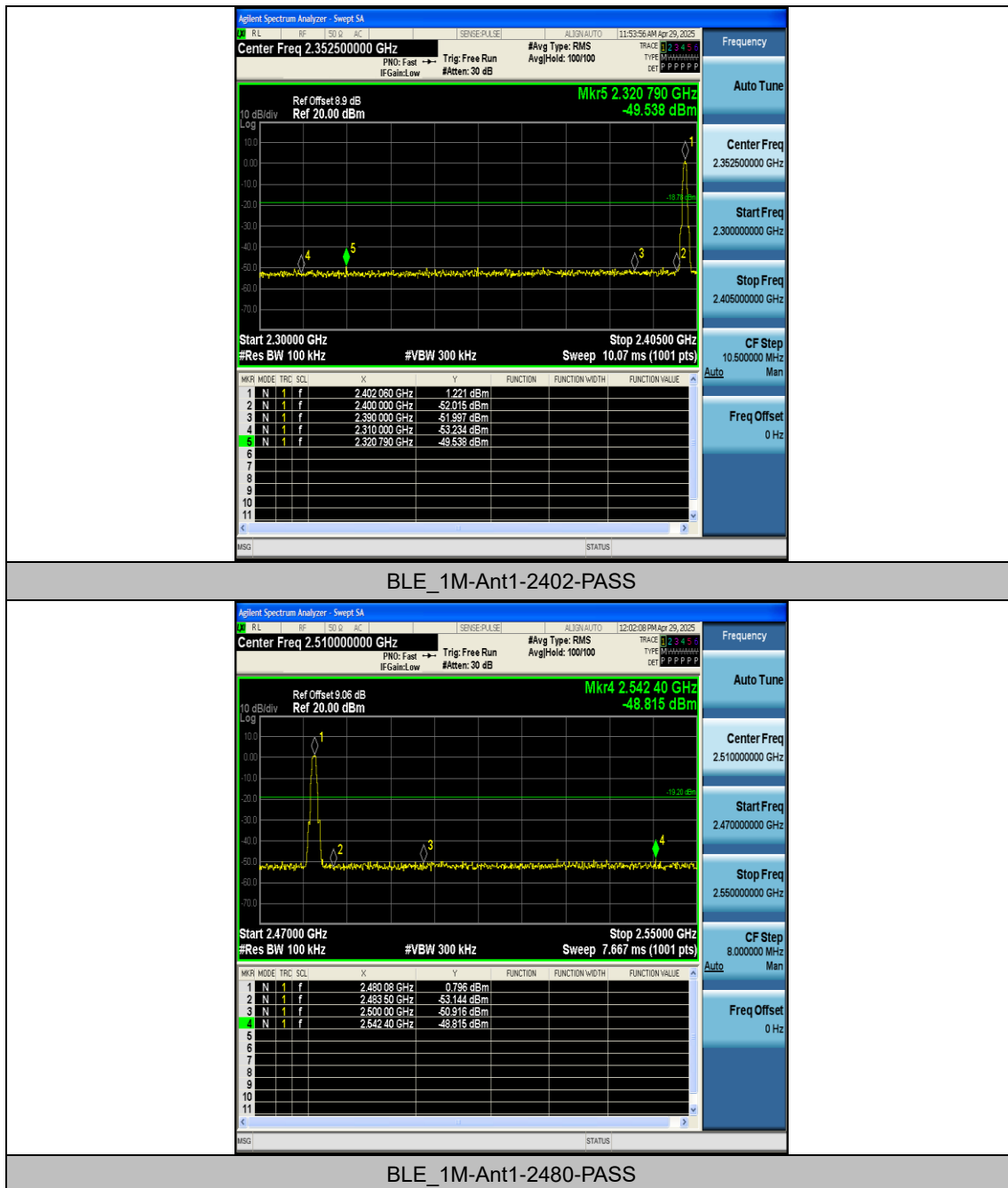
Appendix E: Band edge measurements

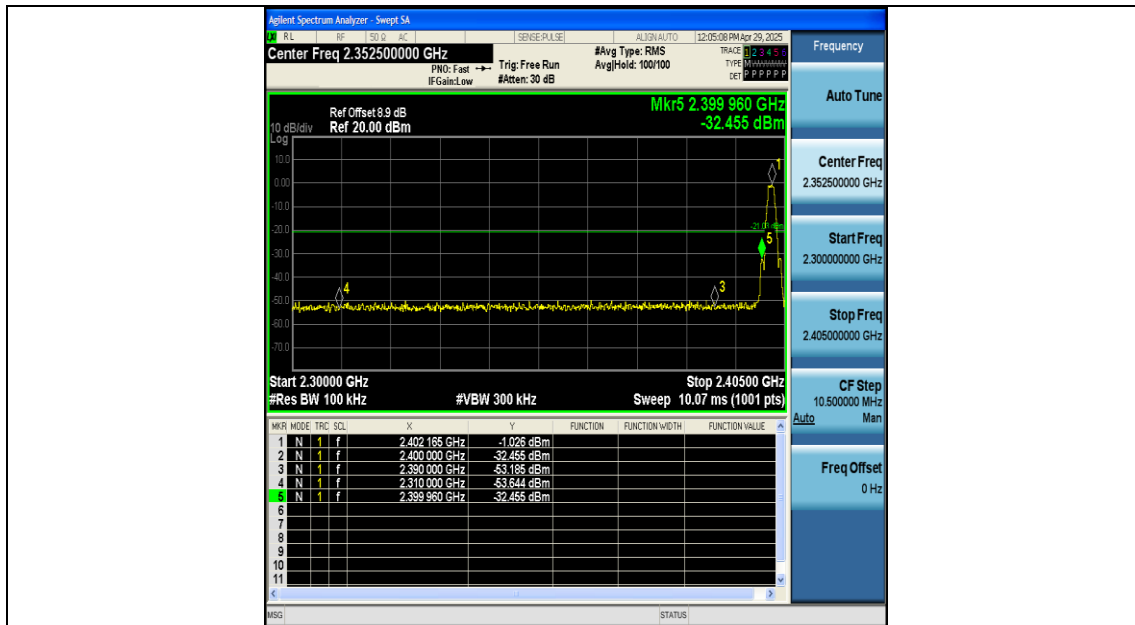
Test Result

Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.22	-49.54	≤-18.78	PASS
BLE_1M	Ant1	High	2480	0.80	-48.82	≤-19.2	PASS
BLE_2M	Ant1	Low	2402	-1.03	-32.46	≤-21.03	PASS
BLE_2M	Ant1	High	2480	-0.12	-48.79	≤-20.12	PASS

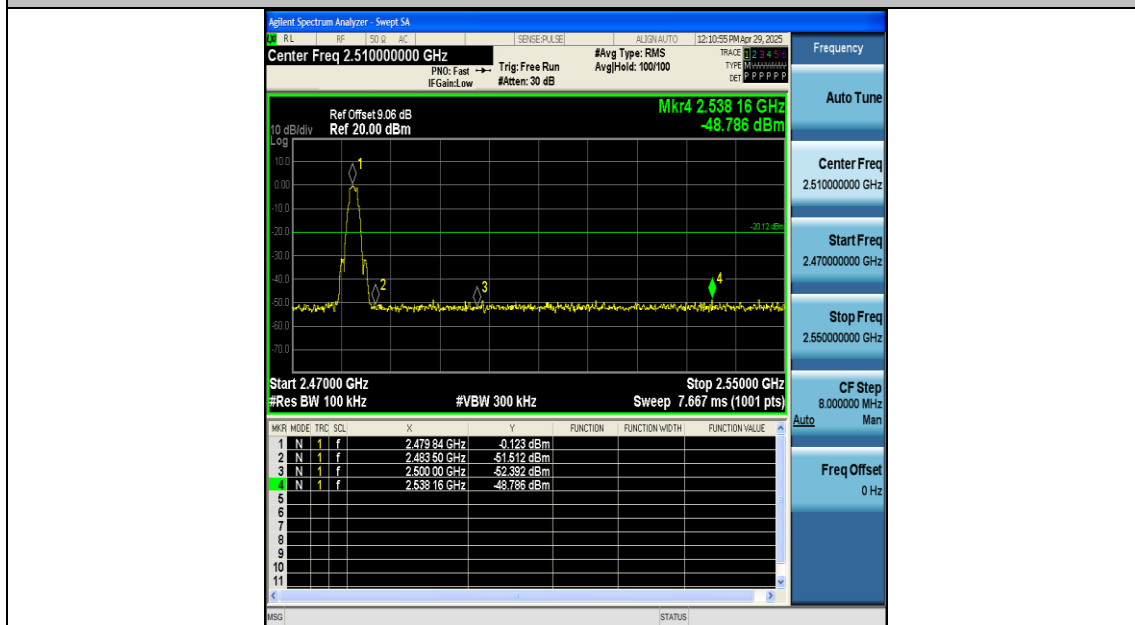
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs





BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2480-PASS

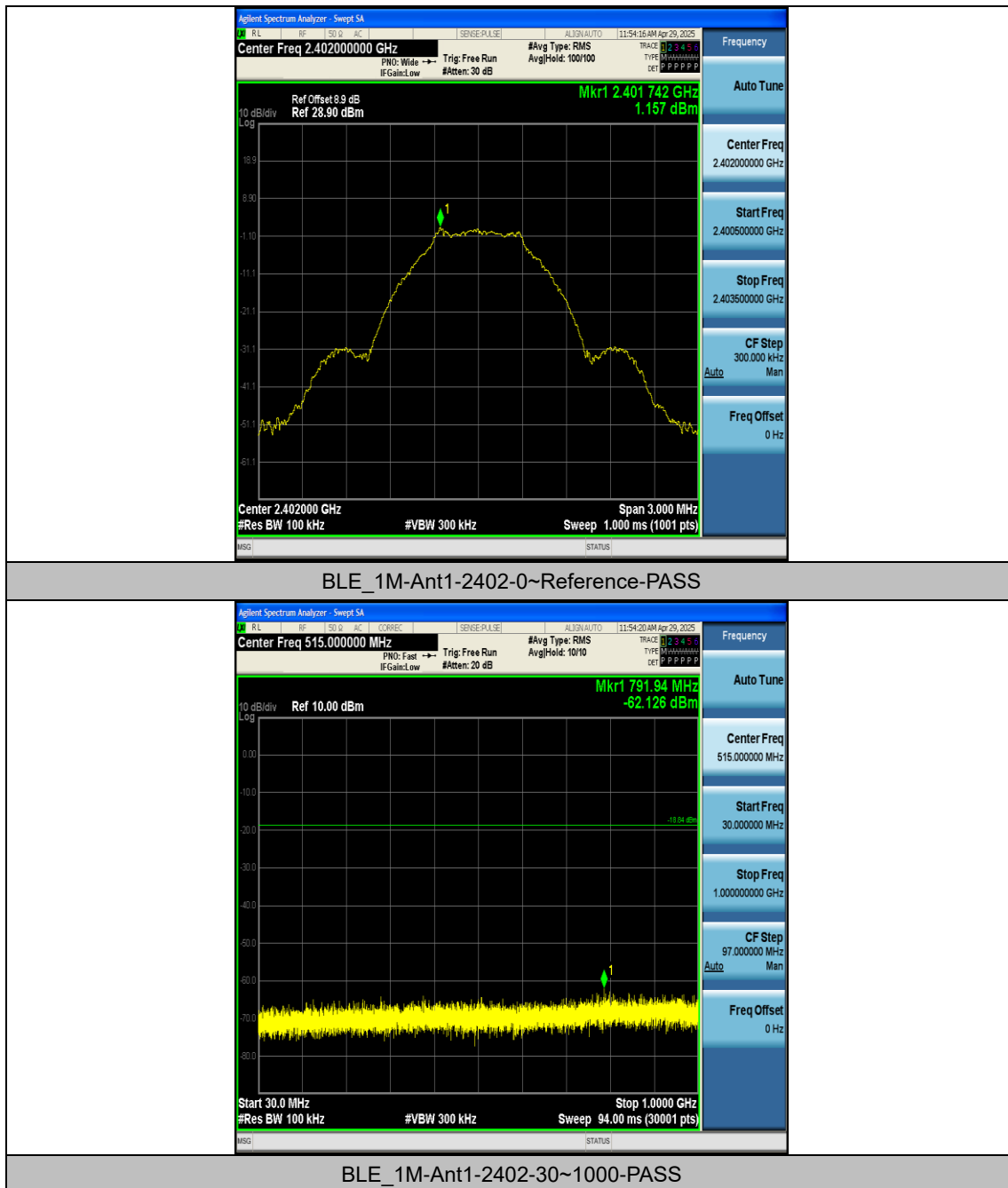
Appendix F: Conducted Spurious Emission

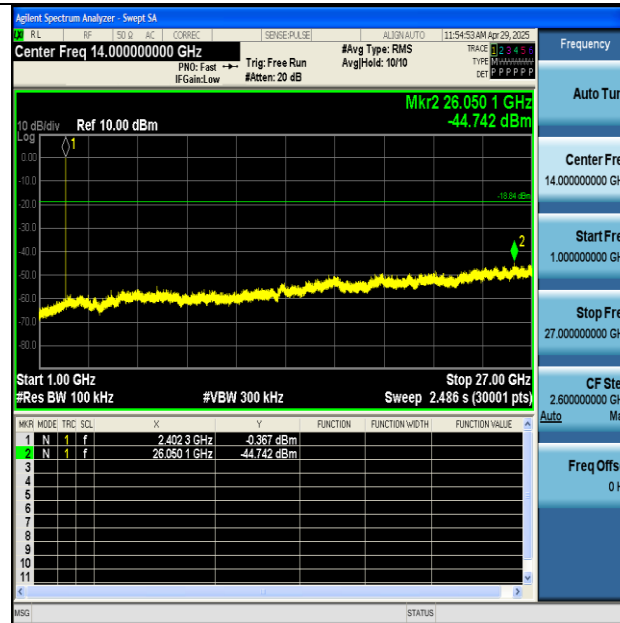
Test Result

Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	1.16	1.16	---	PASS
BLE_1M	Ant1	2402	30~1000	1.16	-62.13	≤-18.84	PASS
BLE_1M	Ant1	2402	1000~40000	1.16	-44.74	≤-18.84	PASS
BLE_1M	Ant1	2440	0~Reference	1.55	1.55	---	PASS
BLE_1M	Ant1	2440	30~1000	1.55	-62.03	≤-18.45	PASS
BLE_1M	Ant1	2440	1000~40000	1.55	-45.53	≤-18.45	PASS
BLE_1M	Ant1	2480	0~Reference	1.64	1.64	---	PASS
BLE_1M	Ant1	2480	30~1000	1.64	-62.62	≤-18.36	PASS
BLE_1M	Ant1	2480	1000~40000	1.64	-45.49	≤-18.36	PASS
BLE_2M	Ant1	2402	0~Reference	-0.94	-0.94	---	PASS
BLE_2M	Ant1	2402	30~1000	-0.94	-62.77	≤-20.94	PASS
BLE_2M	Ant1	2402	1000~40000	-0.94	-44.59	≤-20.94	PASS
BLE_2M	Ant1	2440	0~Reference	0.57	0.57	---	PASS
BLE_2M	Ant1	2440	30~1000	0.57	-62.01	≤-19.43	PASS
BLE_2M	Ant1	2440	1000~40000	0.57	-45.17	≤-19.43	PASS
BLE_2M	Ant1	2480	0~Reference	0.40	0.40	---	PASS
BLE_2M	Ant1	2480	30~1000	0.40	-62.43	≤-19.6	PASS
BLE_2M	Ant1	2480	1000~40000	0.40	-44.99	≤-19.6	PASS

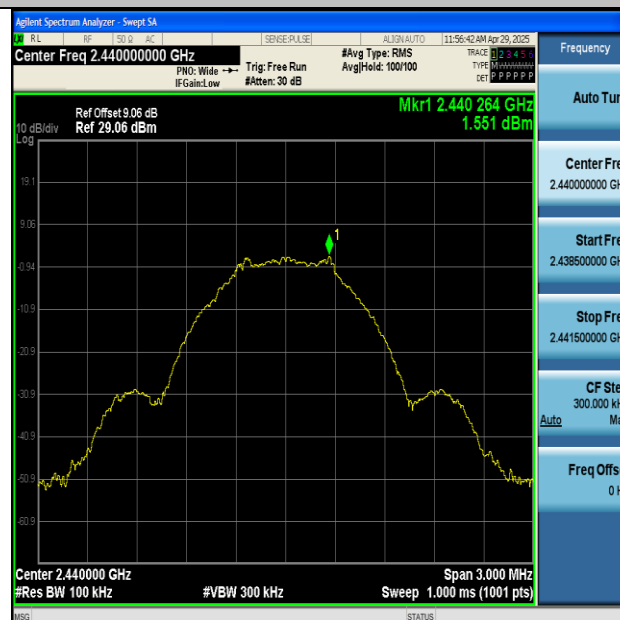
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

Test Graphs

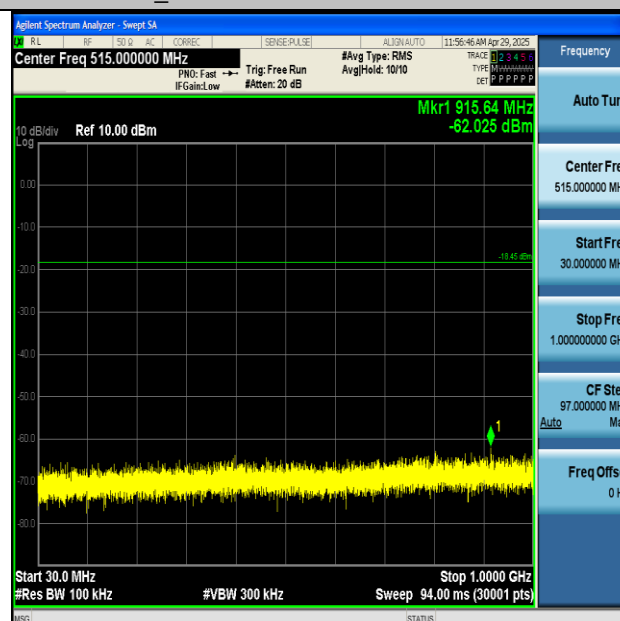




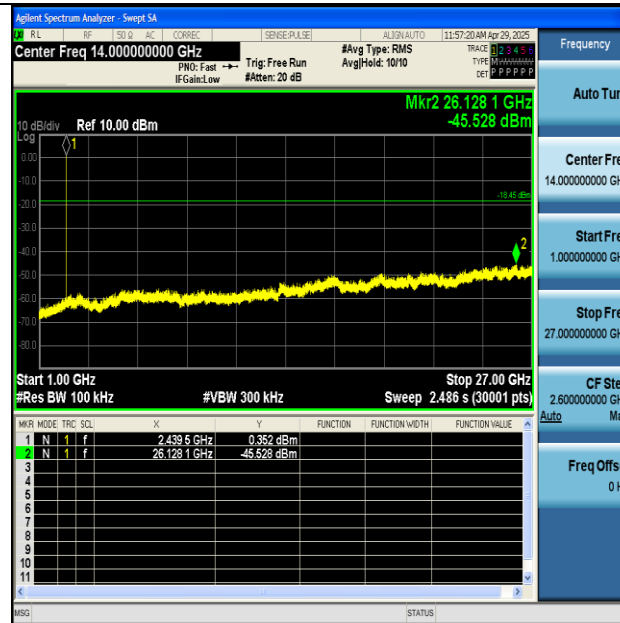
BLE_1M-Ant1-2402-1000~40000-PASS



BLE_1M-Ant1-2440-0~Reference-PASS



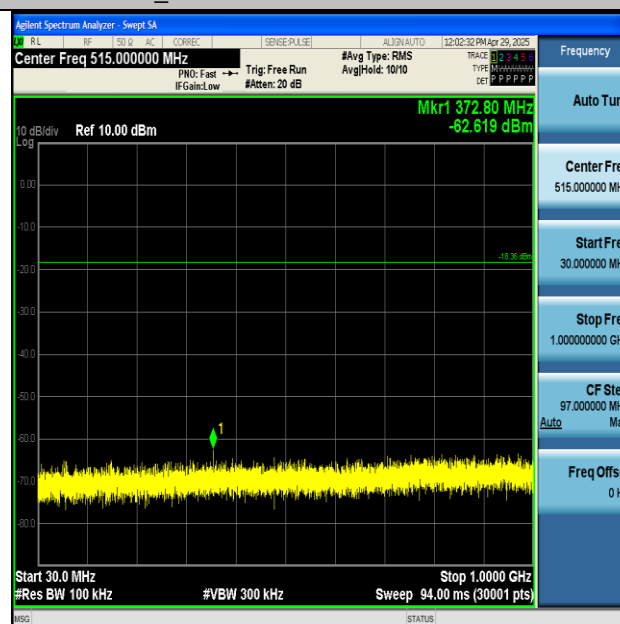
BLE_1M-Ant1-2440-30~1000-PASS



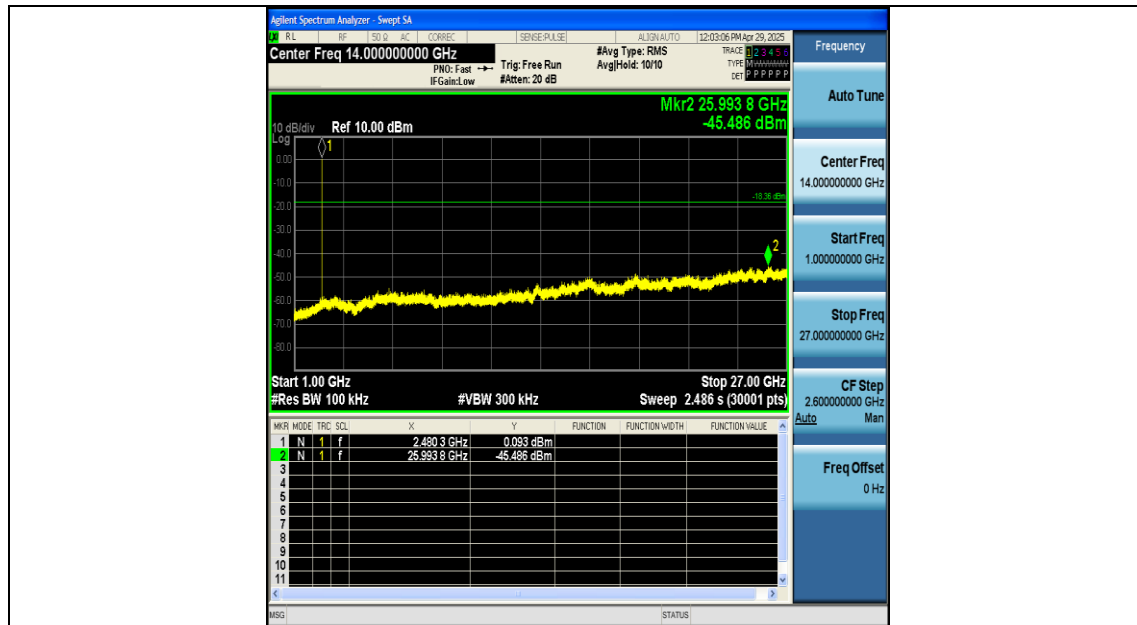
BLE_1M-Ant1-2440-1000~40000-PASS



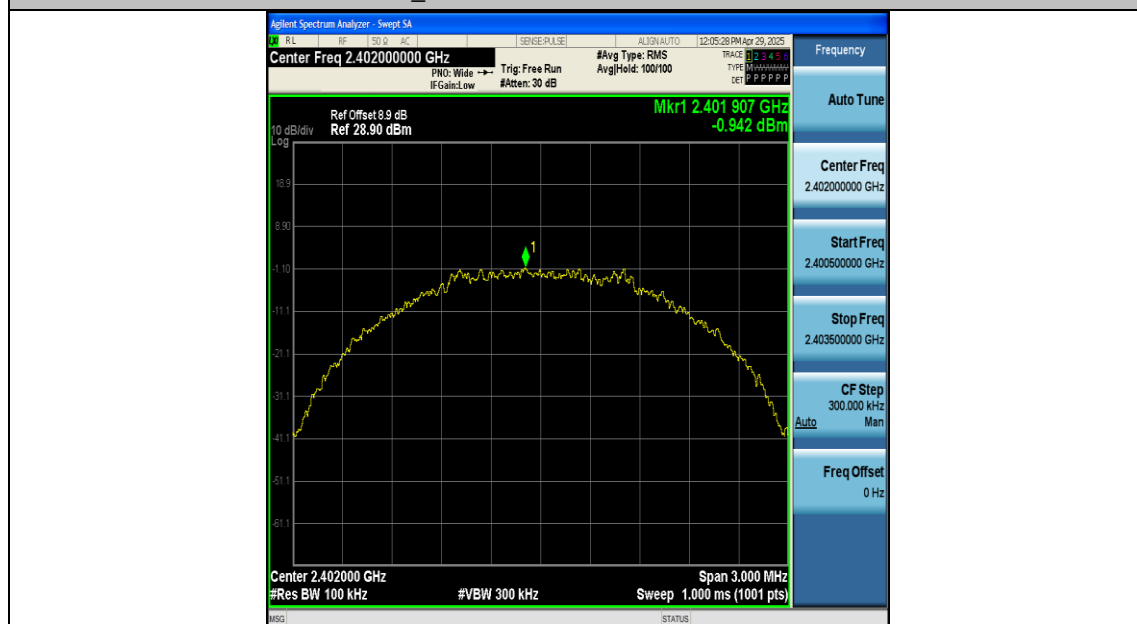
BLE_1M-Ant1-2480-0~Reference-PASS



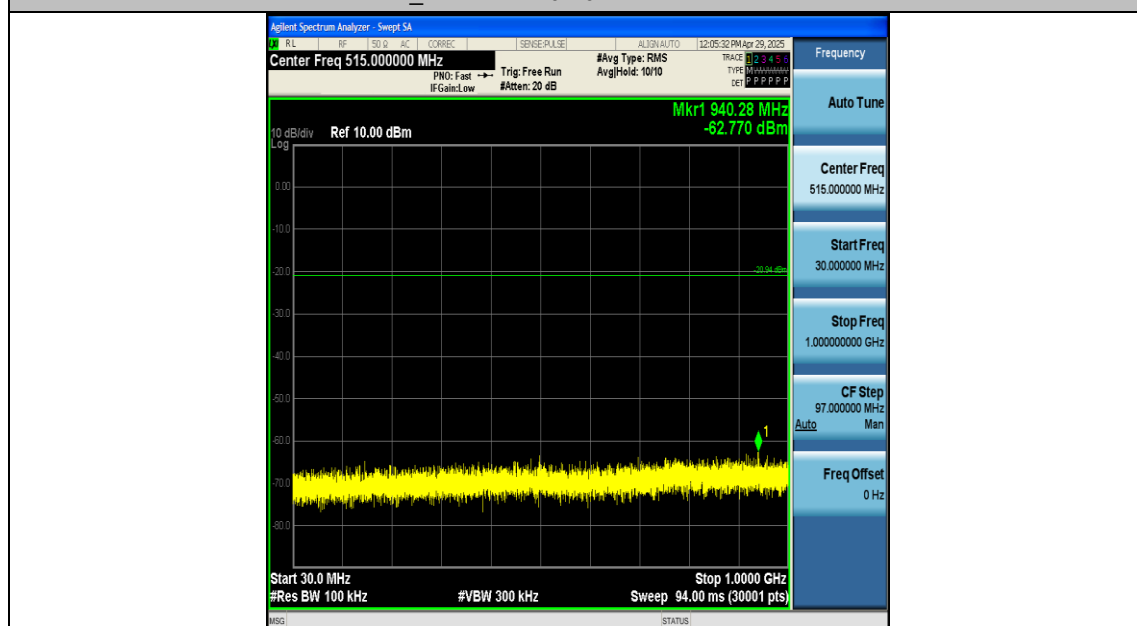
BLE_1M-Ant1-2480-30~1000-PASS



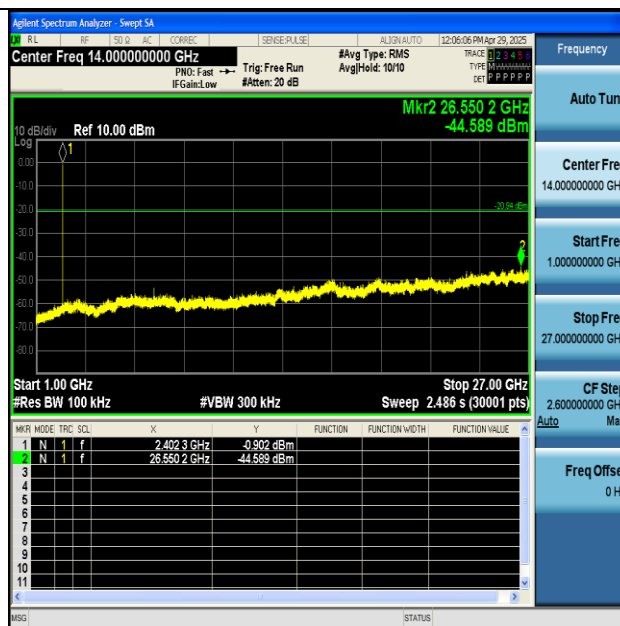
BLE_1M-Ant1-2480-1000~40000-PASS



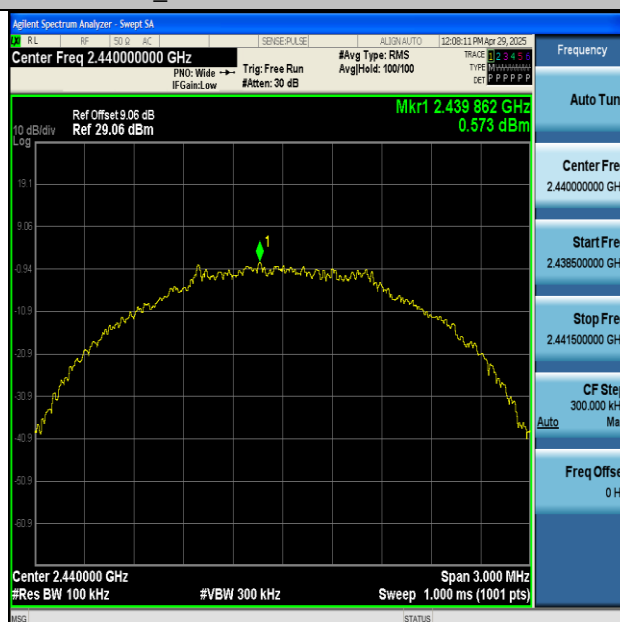
BLE_2M-Ant1-2402-0~Reference-PASS



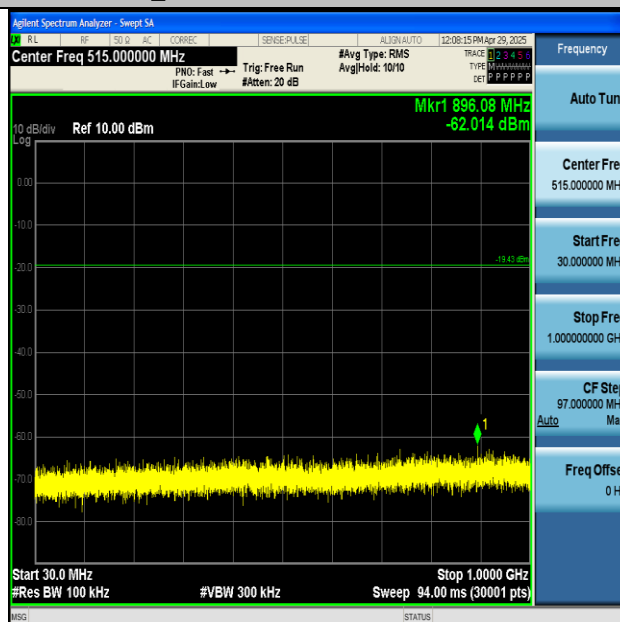
BLE_2M-Ant1-2402-30~1000-PASS



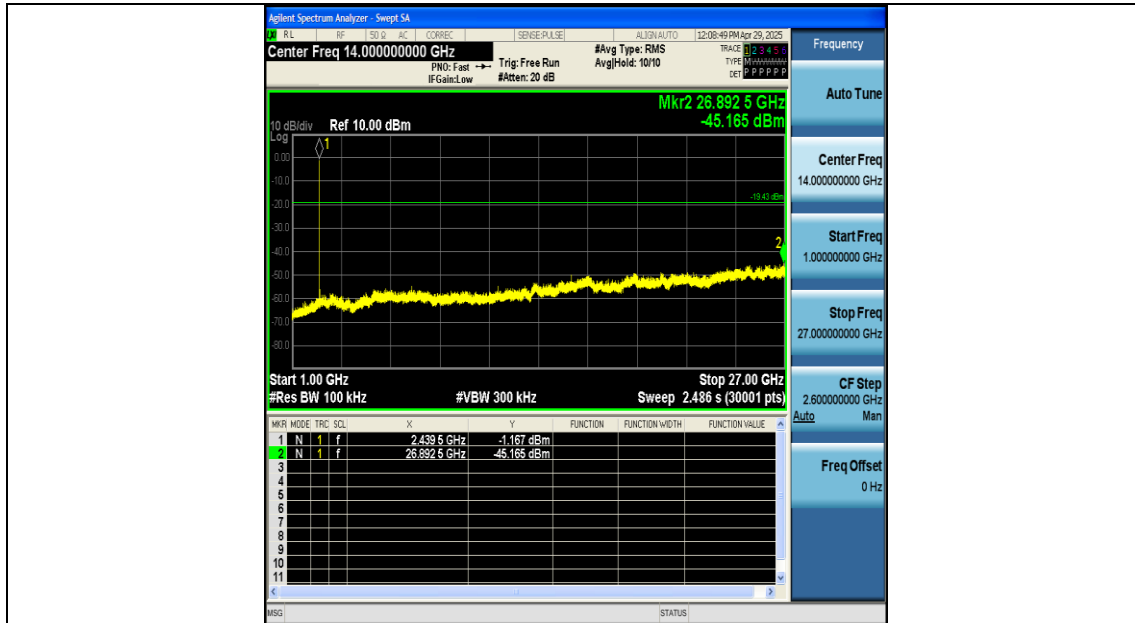
BLE_2M-Ant1-2402-1000~40000-PASS



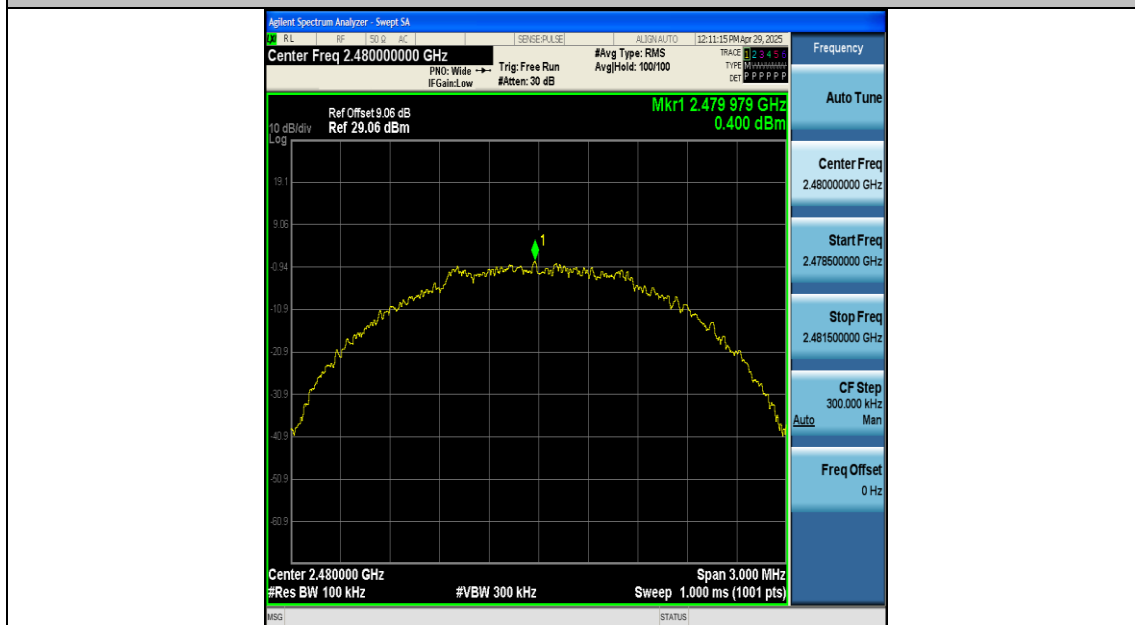
BLE_2M-Ant1-2440-0~Reference-PASS



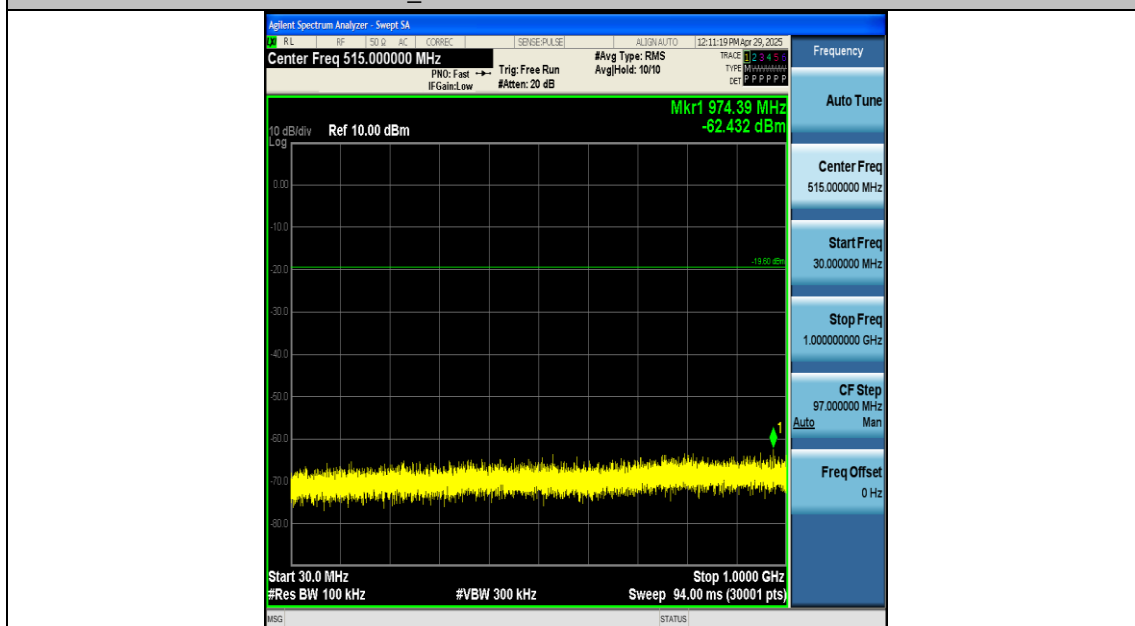
BLE_2M-Ant1-2440-30~1000-PASS



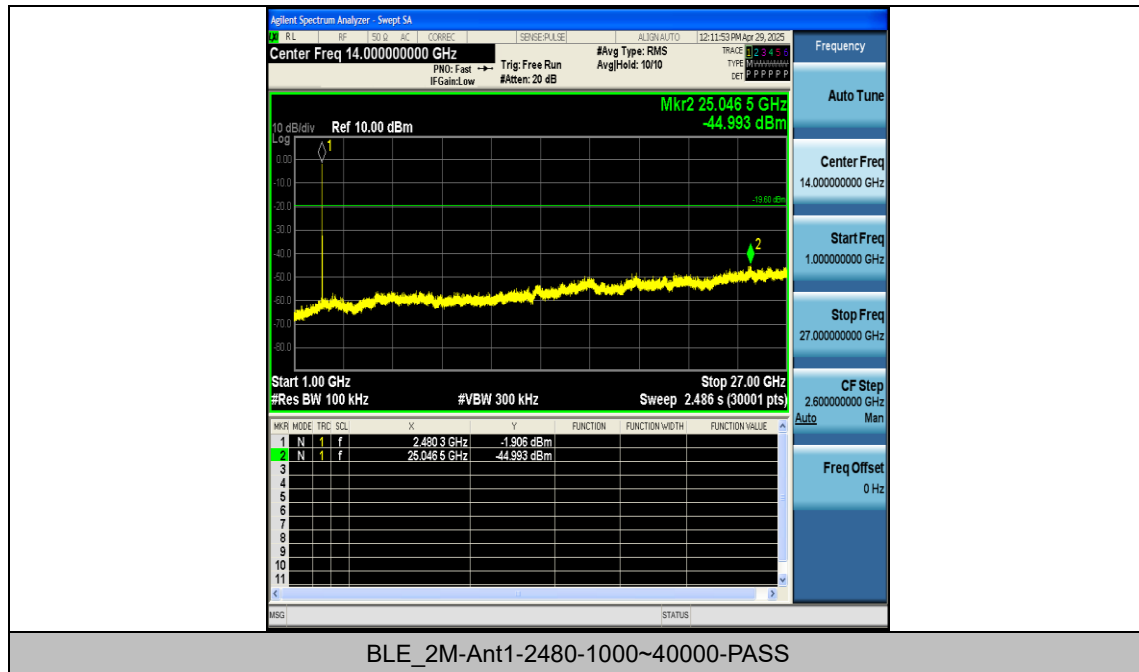
BLE_2M-Ant1-2440-1000~40000-PASS



BLE_2M-Ant1-2480-0~Reference-PASS



BLE_2M-Ant1-2480-30~1000-PASS



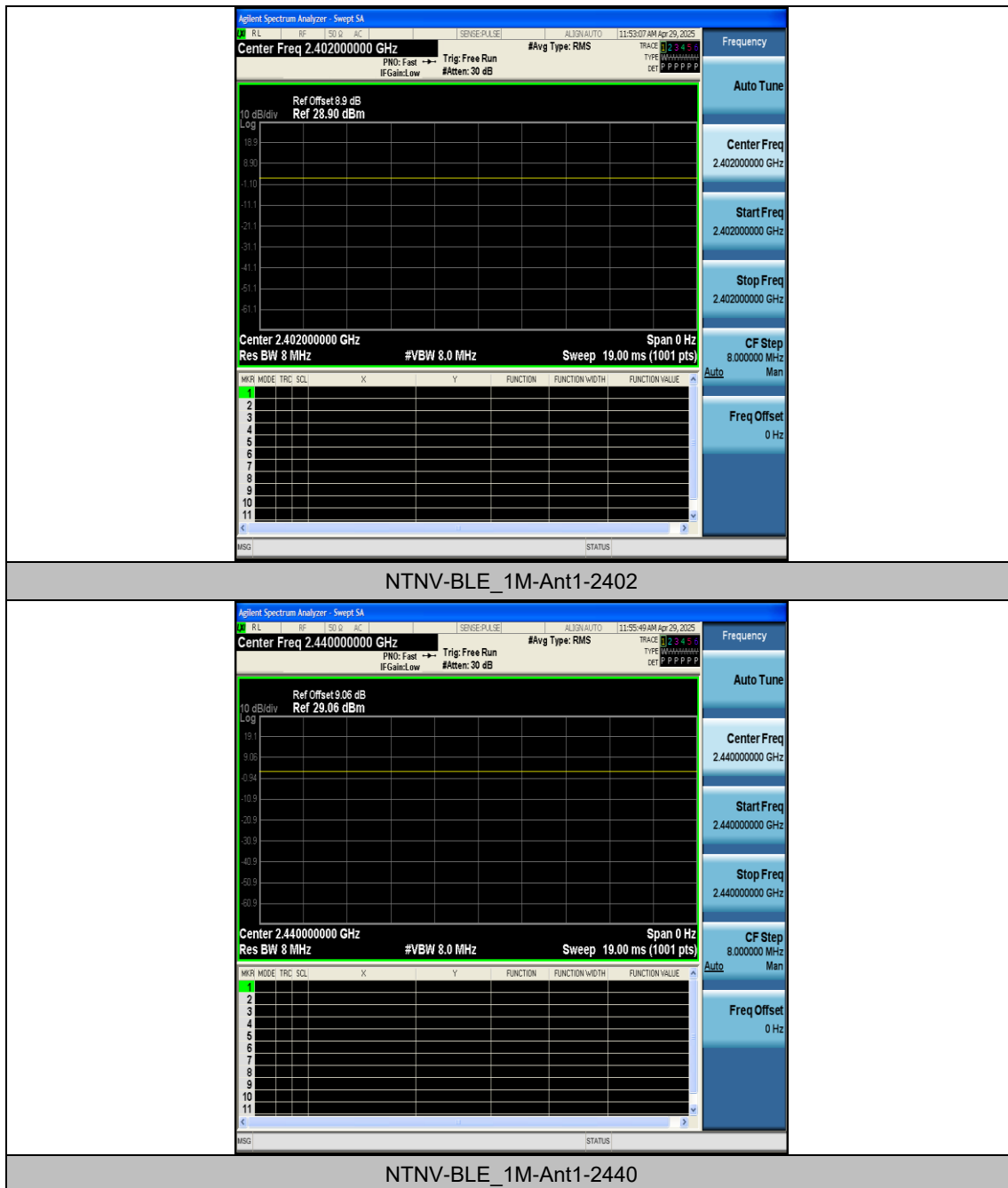
Appendix G: Duty Cycle

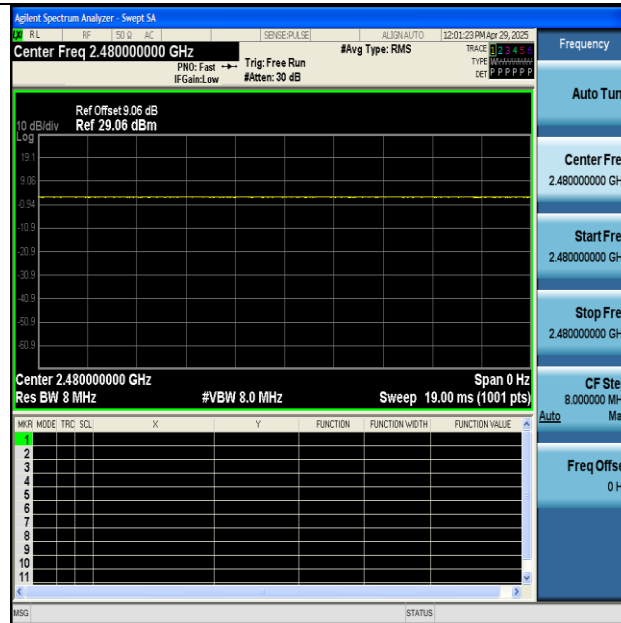
Test Result

Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
BLE_1M	Ant1	2402	19.00	19.00	100.00	0.00
BLE_1M	Ant1	2440	19.00	19.00	100.00	0.00
BLE_1M	Ant1	2480	19.00	19.00	100.00	0.00
BLE_2M	Ant1	2402	19.00	19.00	100.00	0.00
BLE_2M	Ant1	2440	19.00	19.00	100.00	0.00
BLE_2M	Ant1	2480	19.00	19.00	100.00	0.00

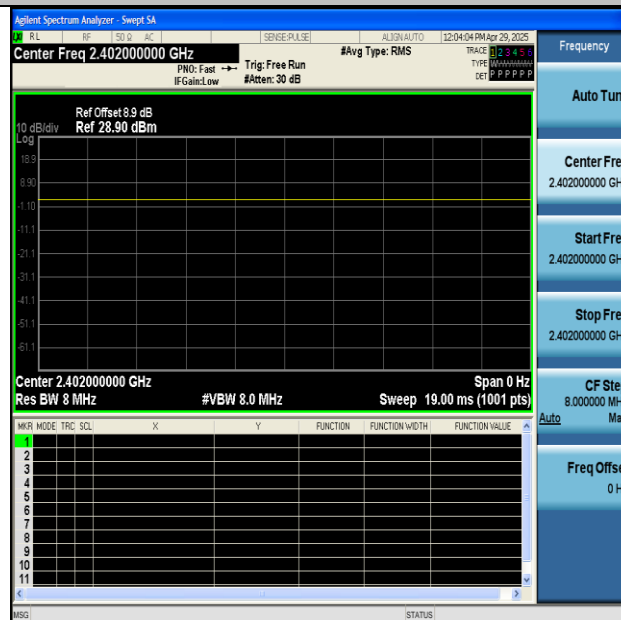
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

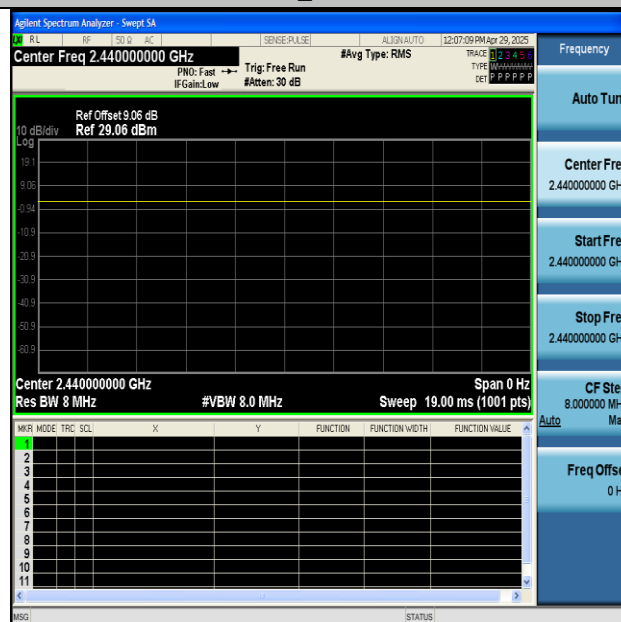




NTNV-BLE_1M-Ant1-2480



NTNV-BLE_2M-Ant1-2402



NTNV-BLE_2M-Ant1-2440

