

Appendix Test Data for BLE (Conducted Measurement)

Product Name: Portable Smart Label Printer

Trade Mark: MakeID

Test Model: P53

FCC ID: 2BLKN-P53

Environmental Conditions

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

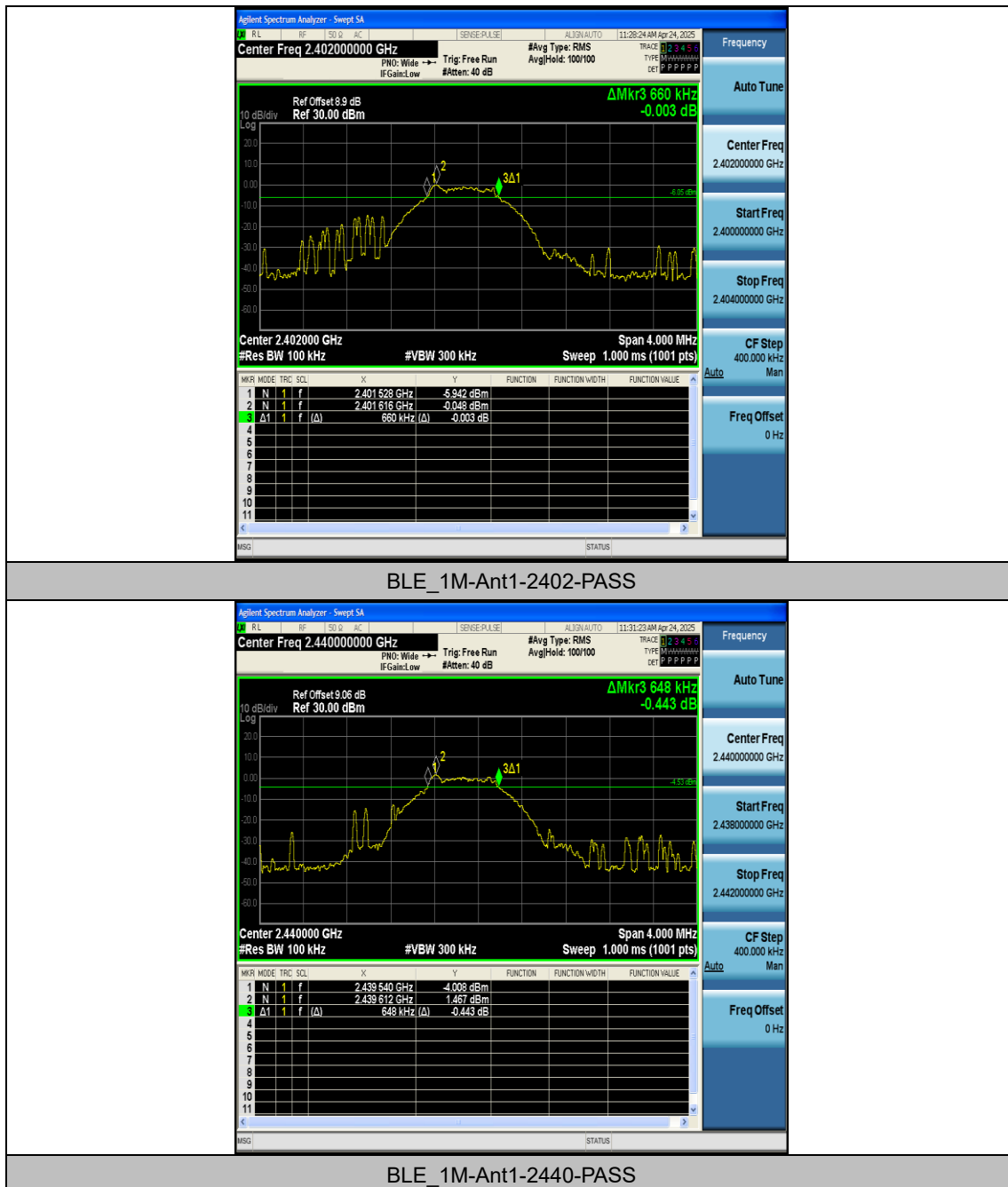
Appendix A: DTS Bandwidth

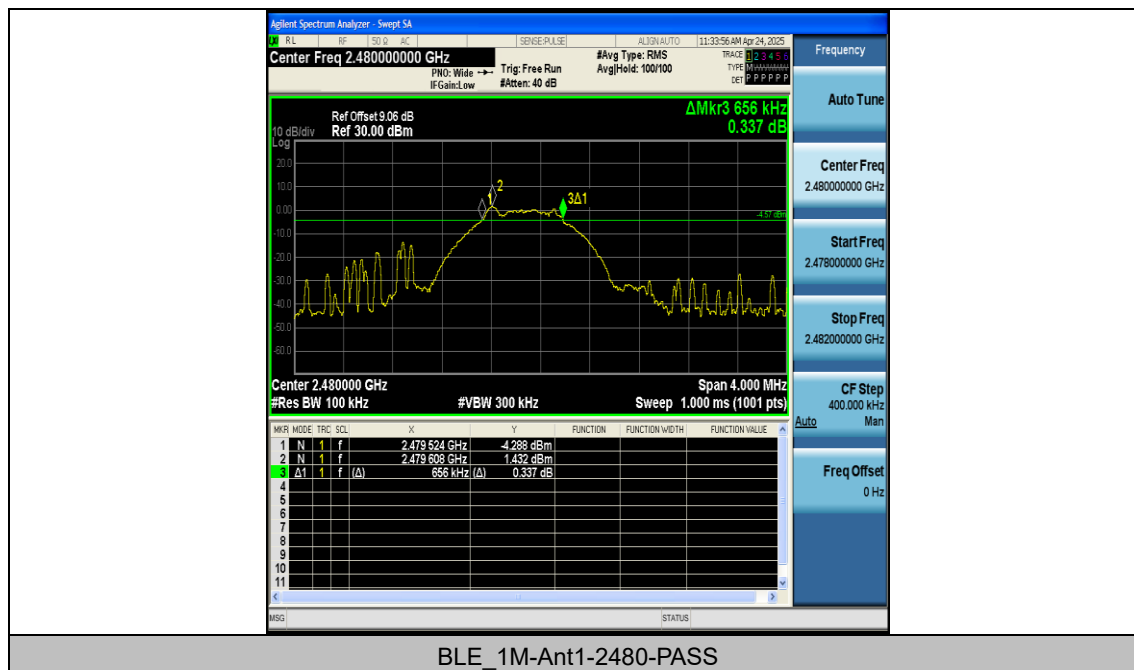
Test Result

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.528	2402.188	0.5	PASS
BLE_1M	Ant1	2440	0.648	2439.540	2440.188	0.5	PASS
BLE_1M	Ant1	2480	0.656	2479.524	2480.180	0.5	PASS

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

Test Graphs





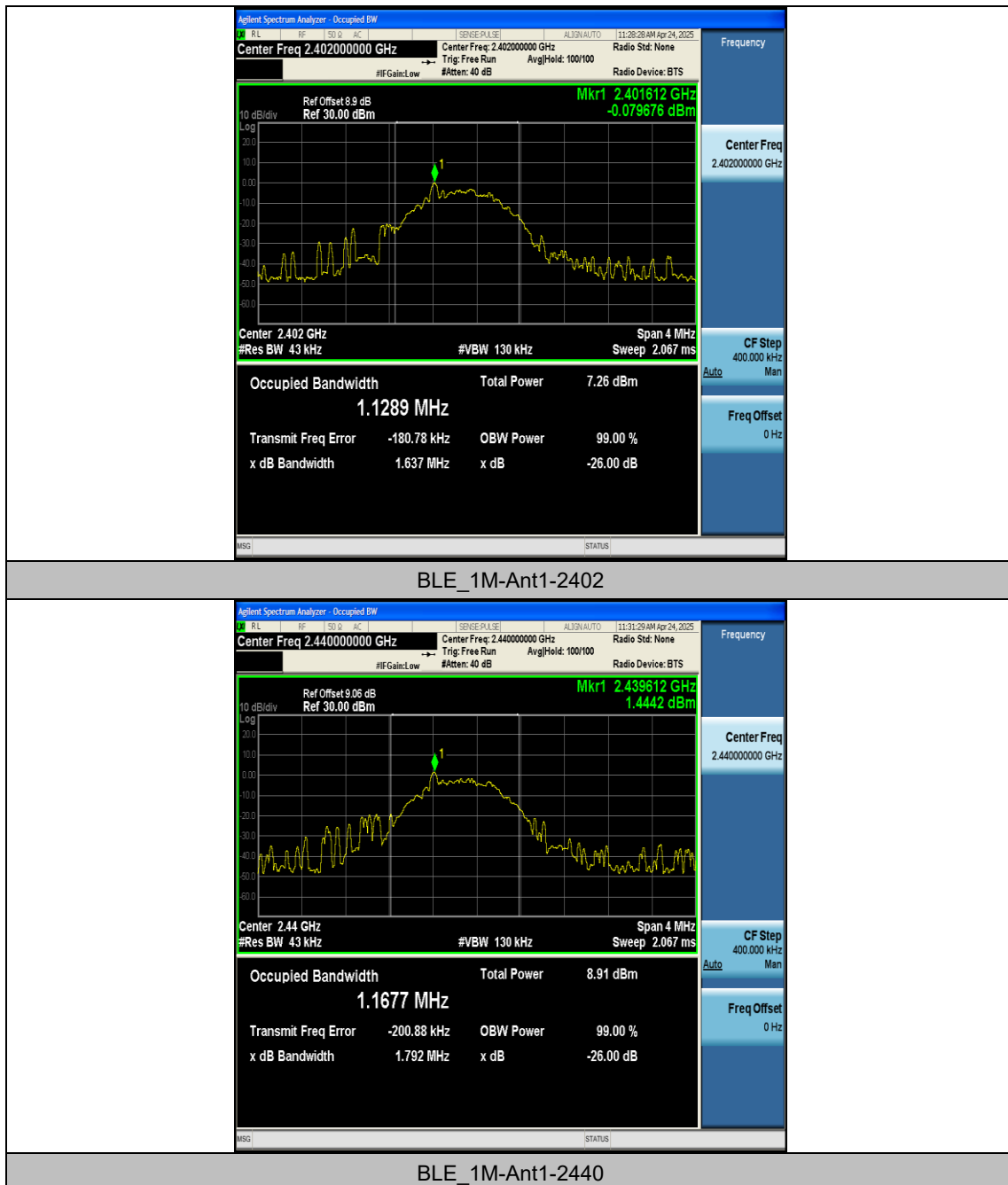
Appendix B: Occupied Channel Bandwidth

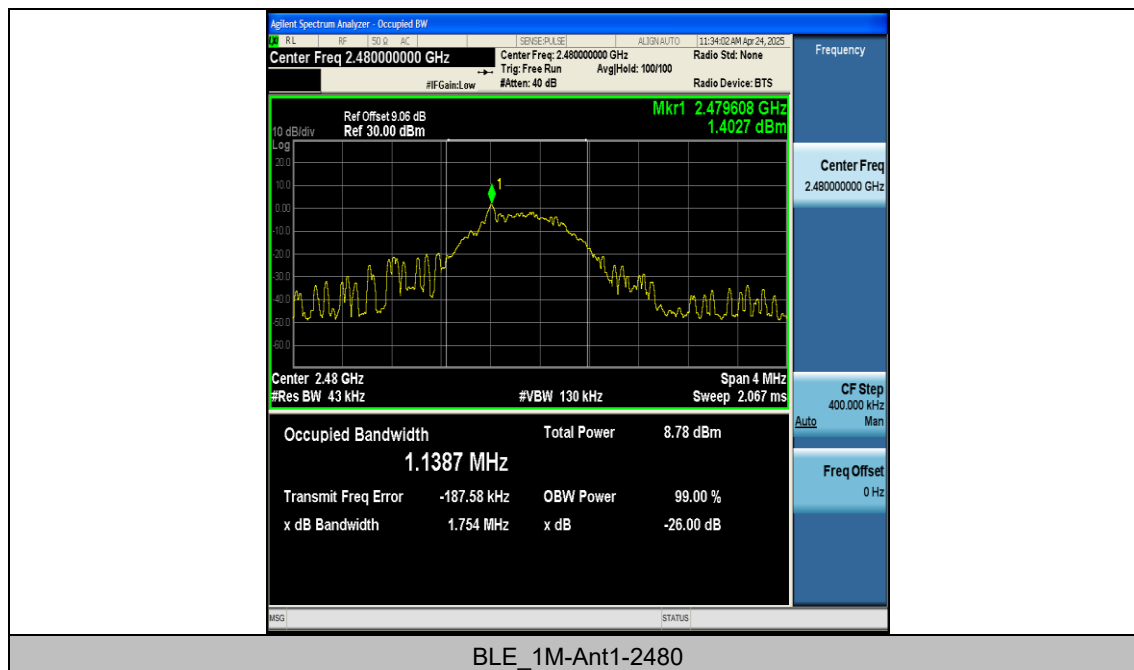
Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.1289	2401.2548	2402.3837	---	---
BLE_1M	Ant1	2440	1.1677	2439.2153	2440.3830	---	---
BLE_1M	Ant1	2480	1.1387	2479.2431	2480.3818	---	---

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

Test Graphs





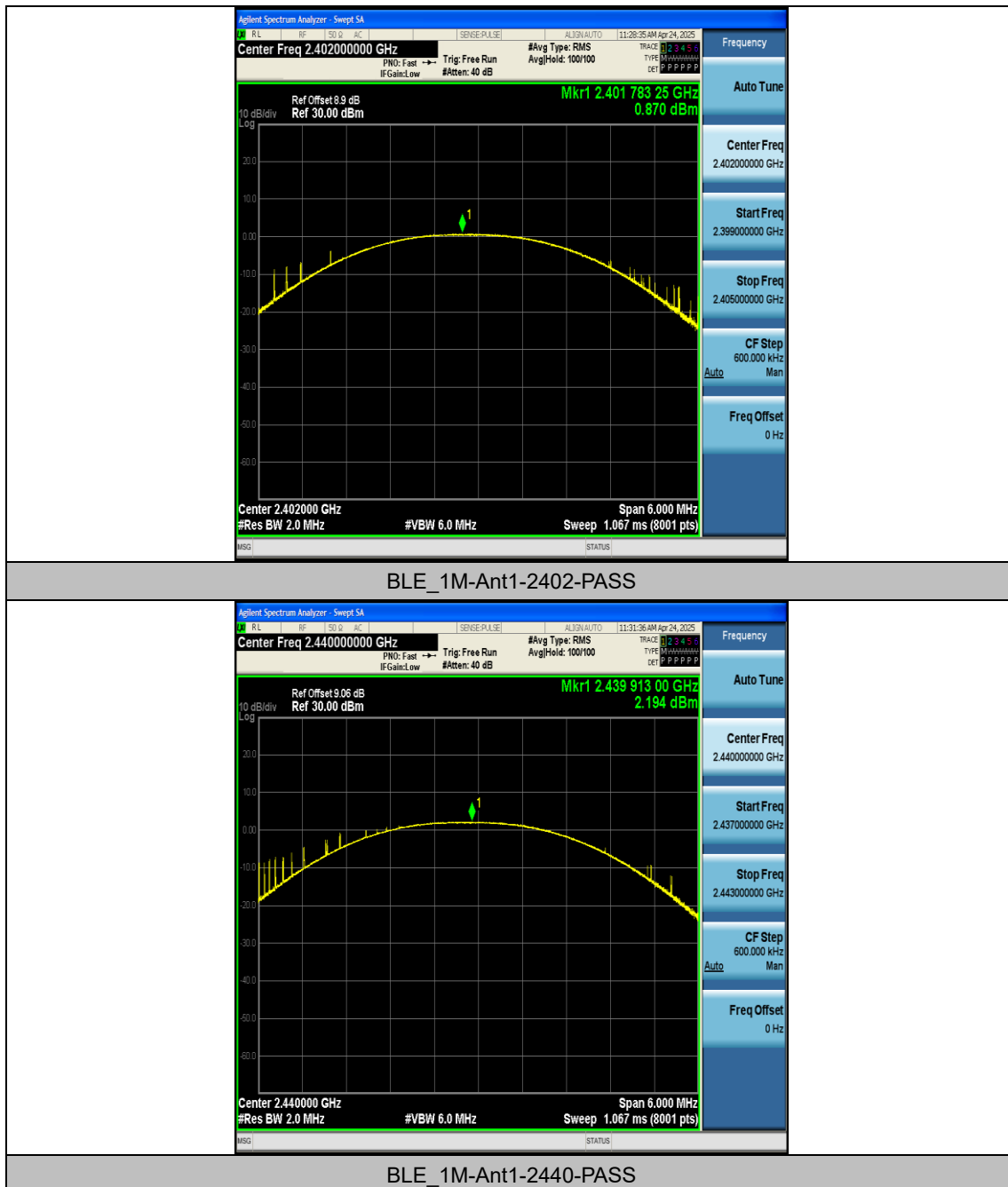
Appendix C: Maximum peak conducted output power

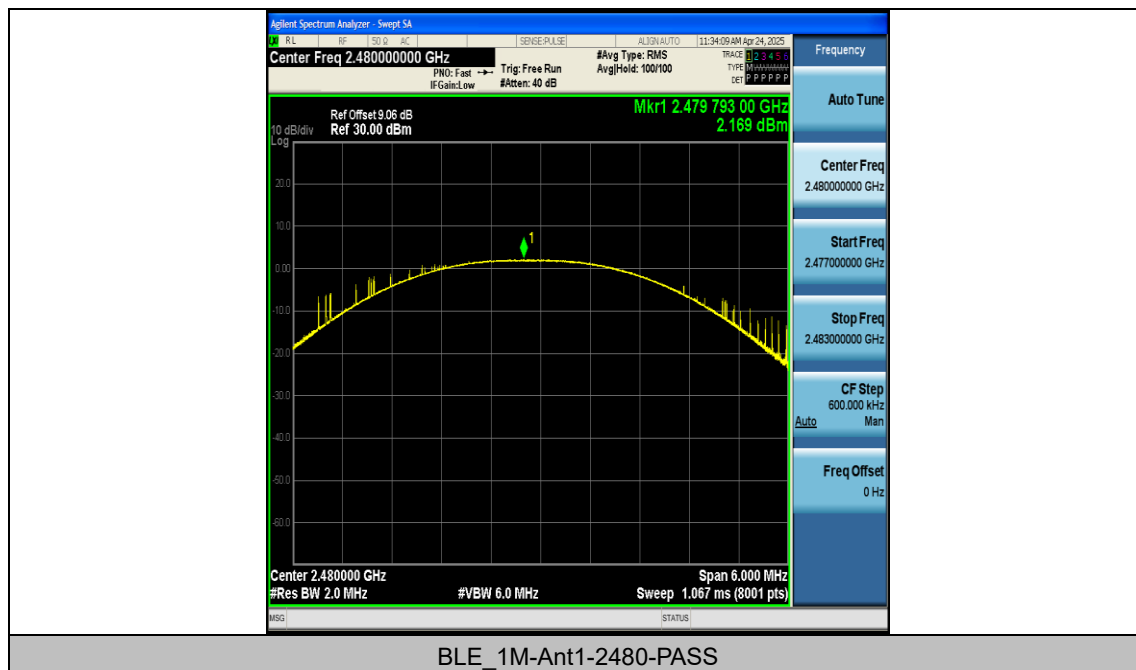
Test Result Peak

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0.87	≤30	PASS
BLE_1M	Ant1	2440	2.19	≤30	PASS
BLE_1M	Ant1	2480	2.17	≤30	PASS

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

Test Graphs Peak





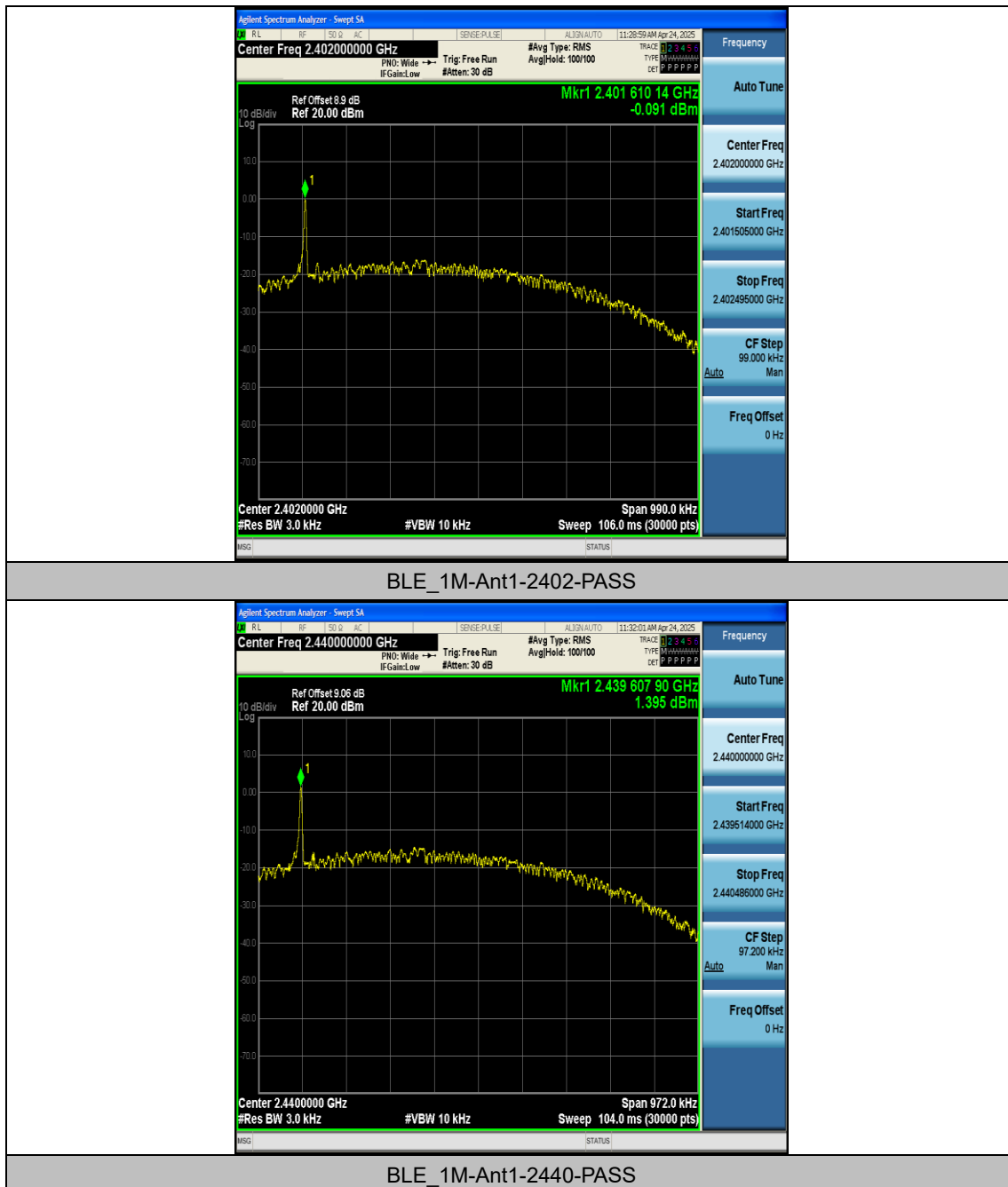
Appendix D: Maximum peak power spectral density

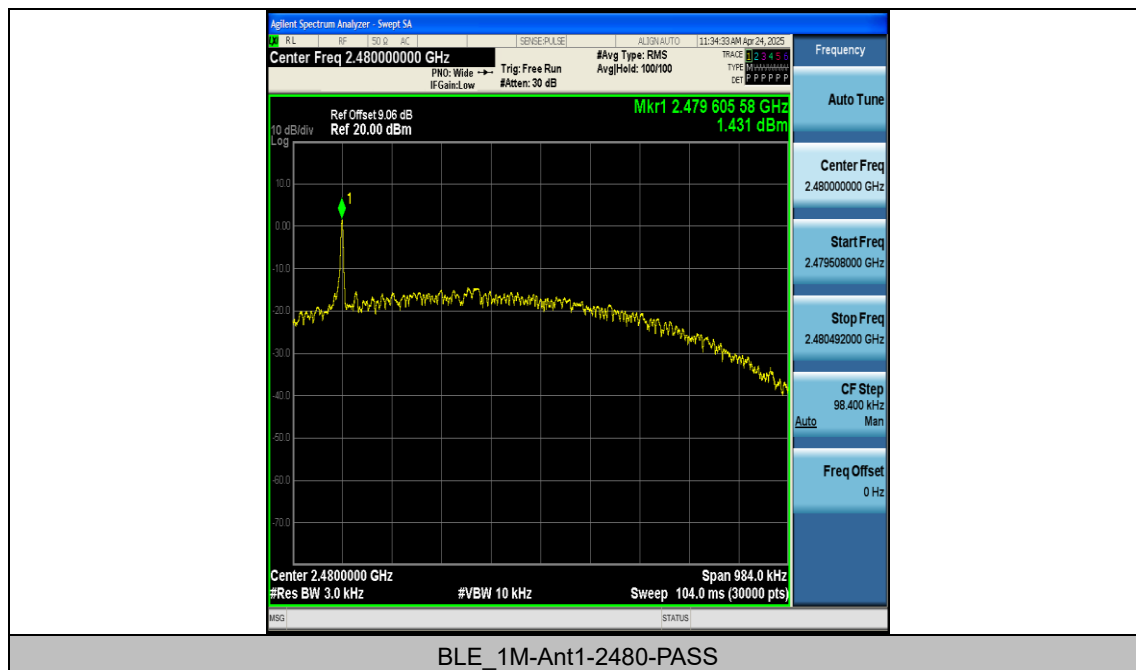
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-0.09	≤8.00	PASS
BLE_1M	Ant1	2440	1.40	≤8.00	PASS
BLE_1M	Ant1	2480	1.43	≤8.00	PASS

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

Test Graphs





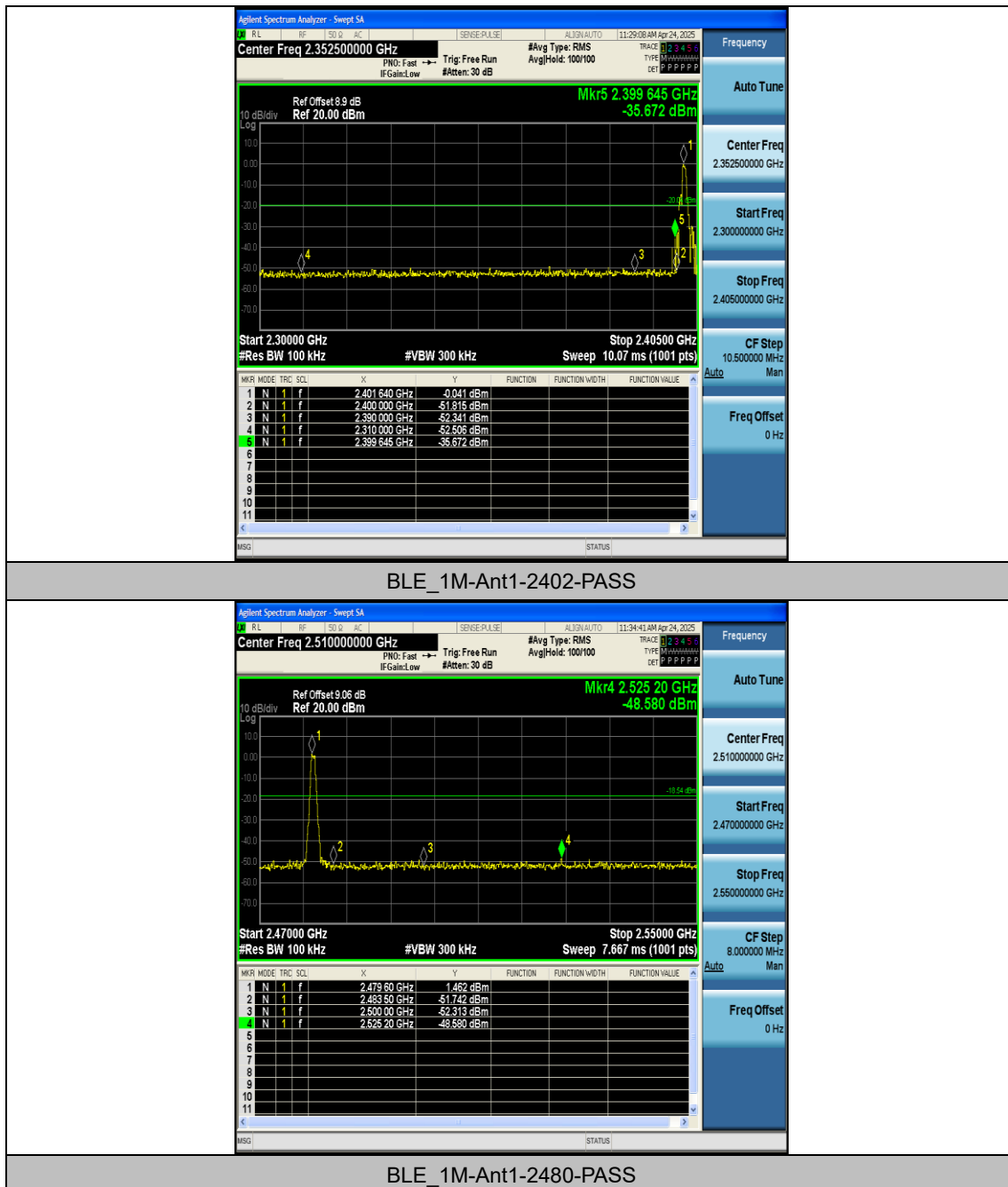
Appendix E: Band edge measurements

Test Result

Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.04	-35.67	≤ -20.04	PASS
BLE_1M	Ant1	High	2480	1.46	-48.58	≤ -18.54	PASS

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

Test Graphs



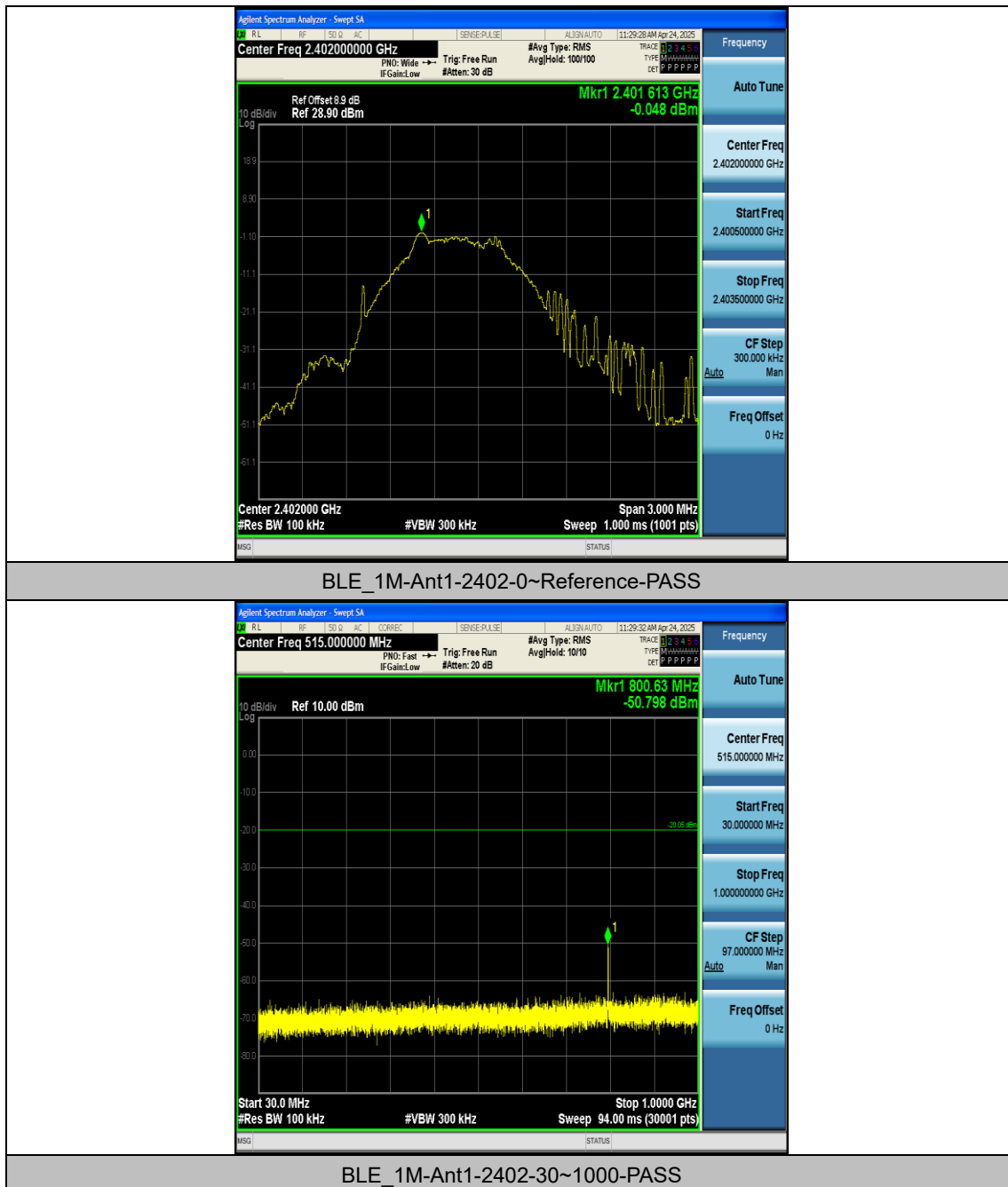
Appendix F: Conducted Spurious Emission

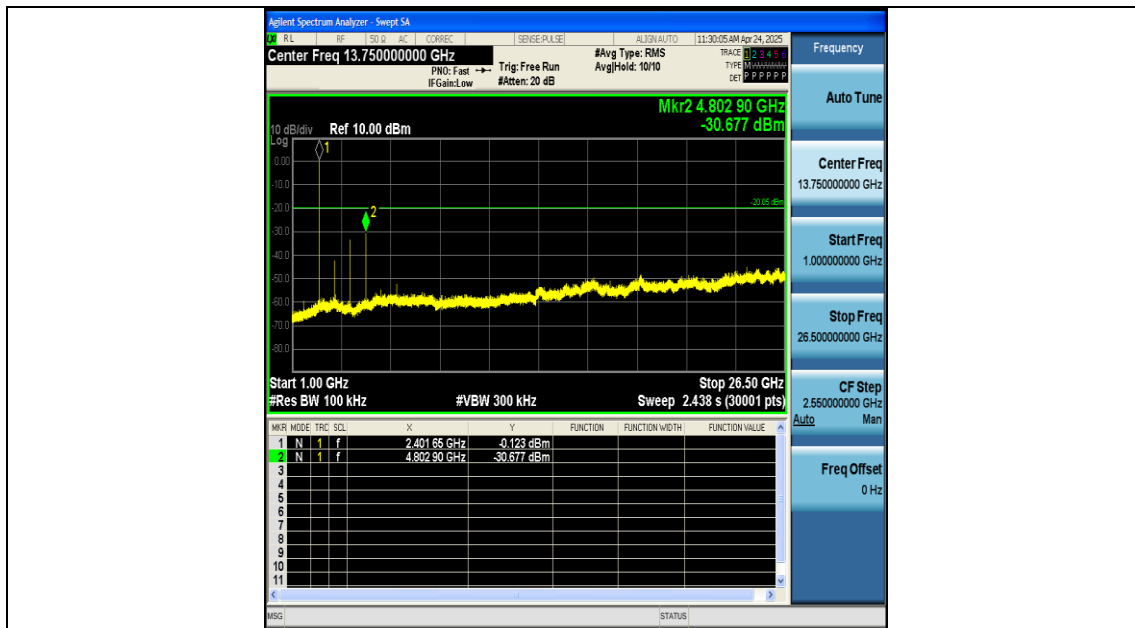
Test Result

Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-0.05	-0.05	---	PASS
BLE_1M	Ant1	2402	30~1000	-0.05	-50.8	≤-20.05	PASS
BLE_1M	Ant1	2402	1000~26500	-0.05	-30.68	≤-20.05	PASS
BLE_1M	Ant1	2440	0~Reference	1.42	1.42	---	PASS
BLE_1M	Ant1	2440	30~1000	1.42	-50.2	≤-18.58	PASS
BLE_1M	Ant1	2440	1000~26500	1.42	-30.66	≤-18.58	PASS
BLE_1M	Ant1	2480	0~Reference	1.45	1.45	---	PASS
BLE_1M	Ant1	2480	30~1000	1.45	-50.94	≤-18.55	PASS
BLE_1M	Ant1	2480	1000~26500	1.45	-33.56	≤-18.55	PASS

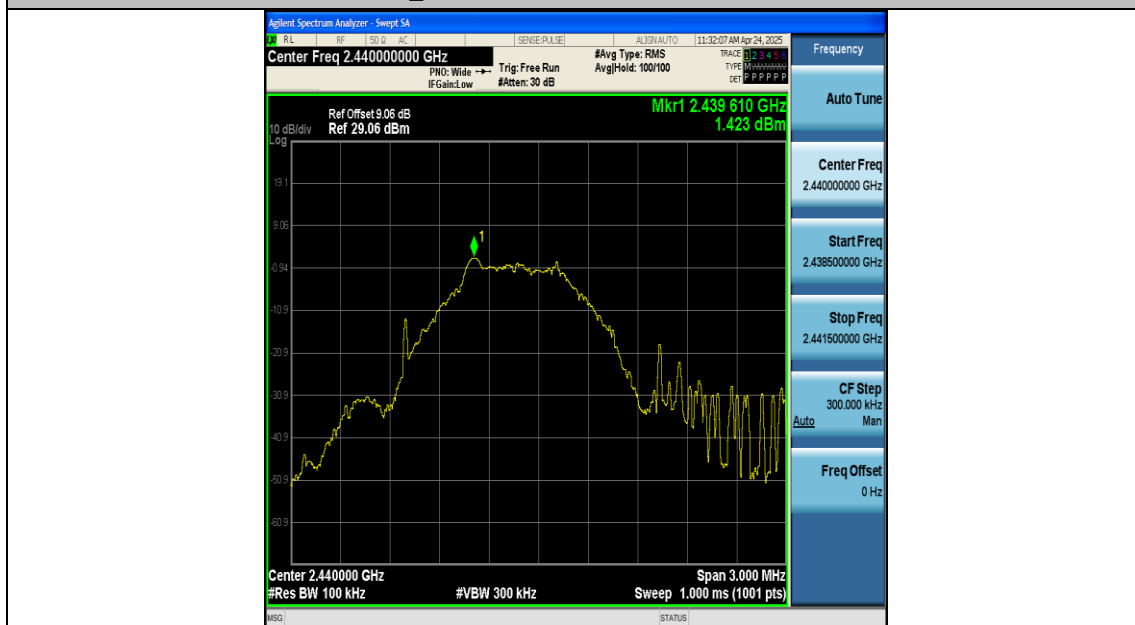
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

Test Graphs

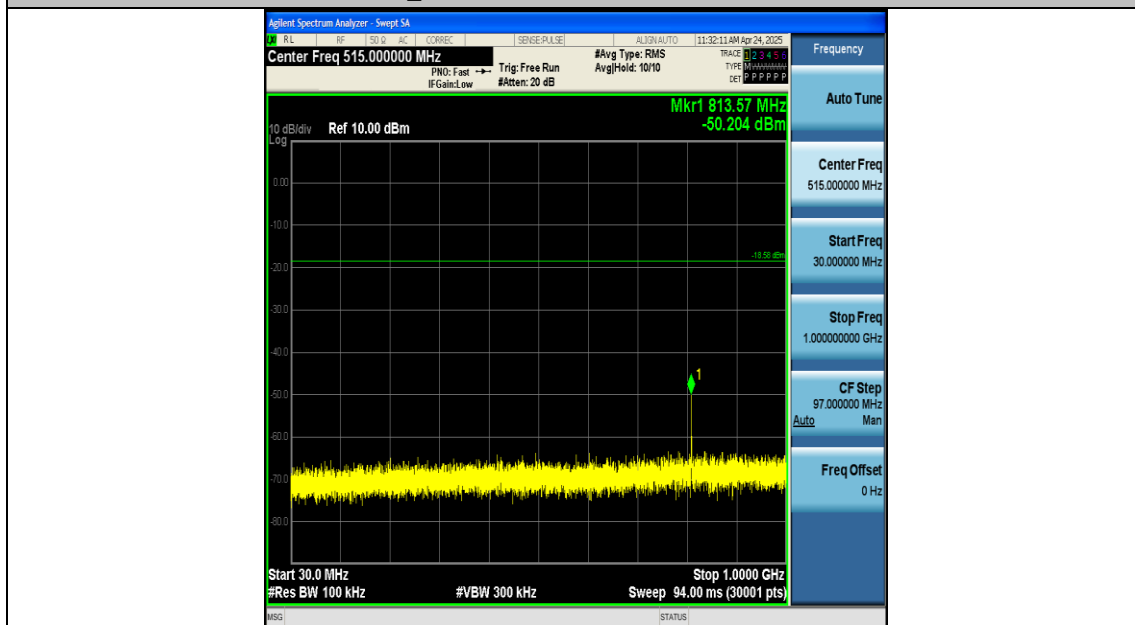




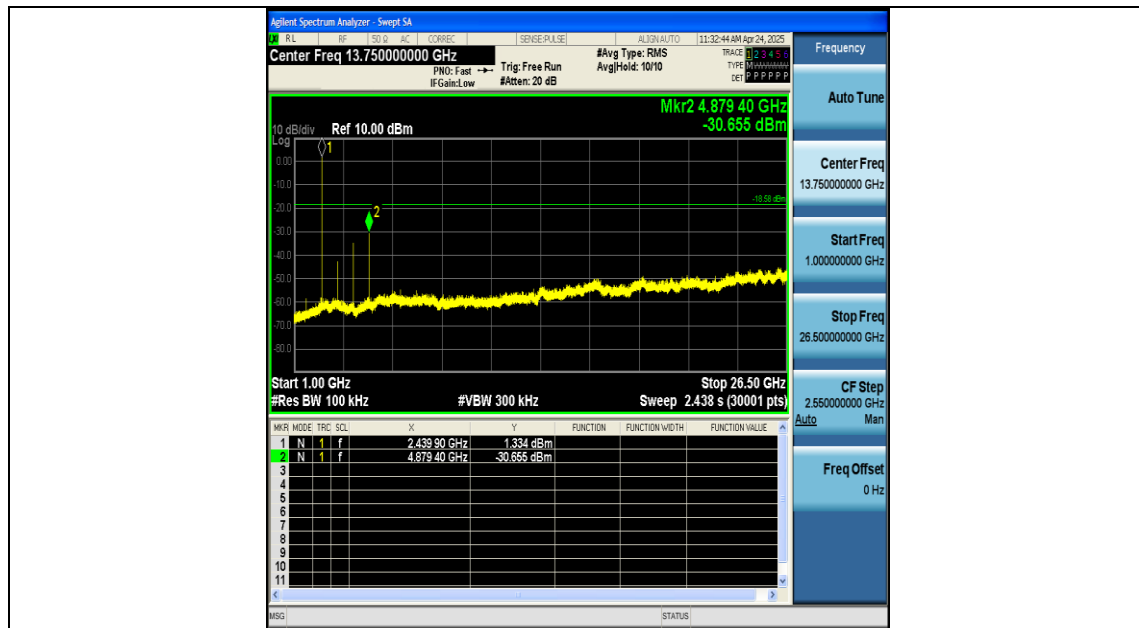
BLE_1M-Ant1-2402-1000~26500-PASS



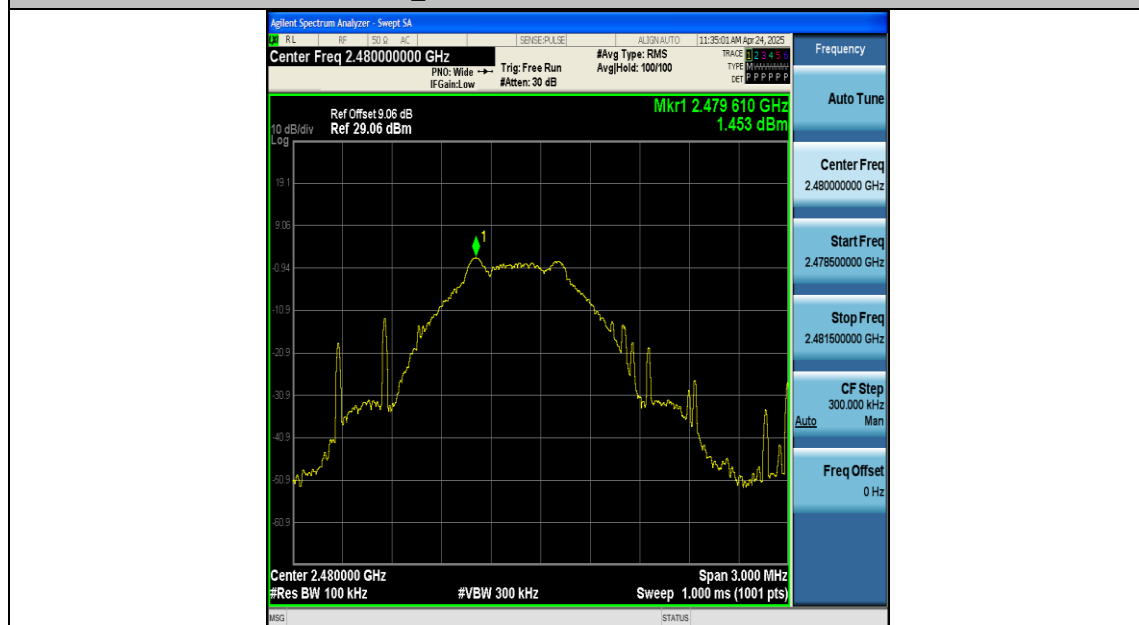
BLE_1M-Ant1-2440-0~Reference-PASS



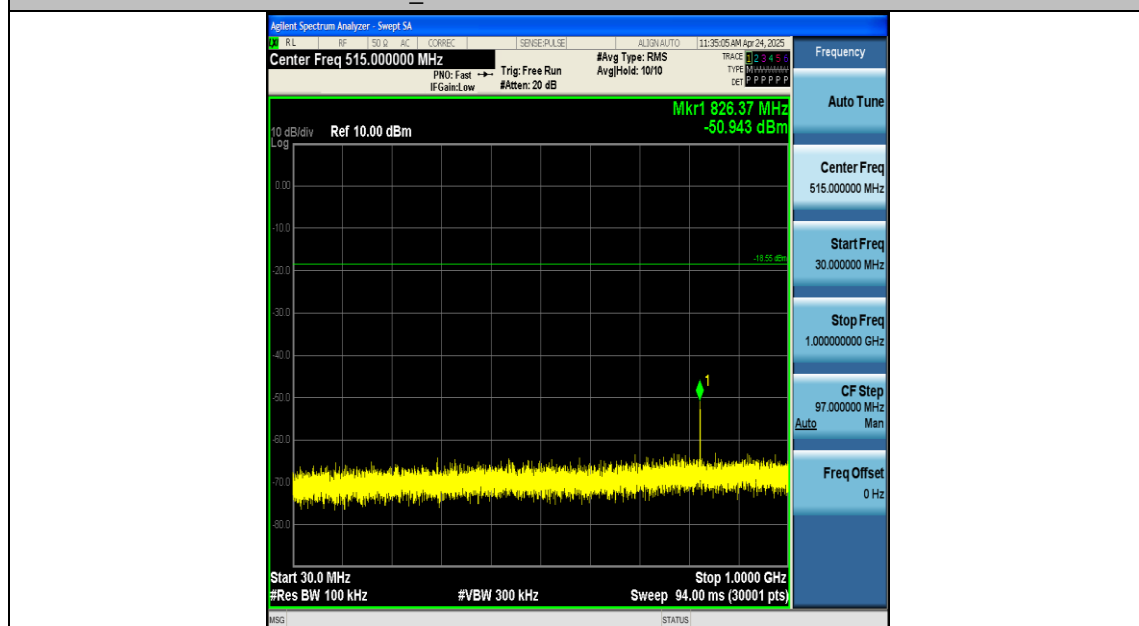
BLE_1M-Ant1-2440-30~1000-PASS



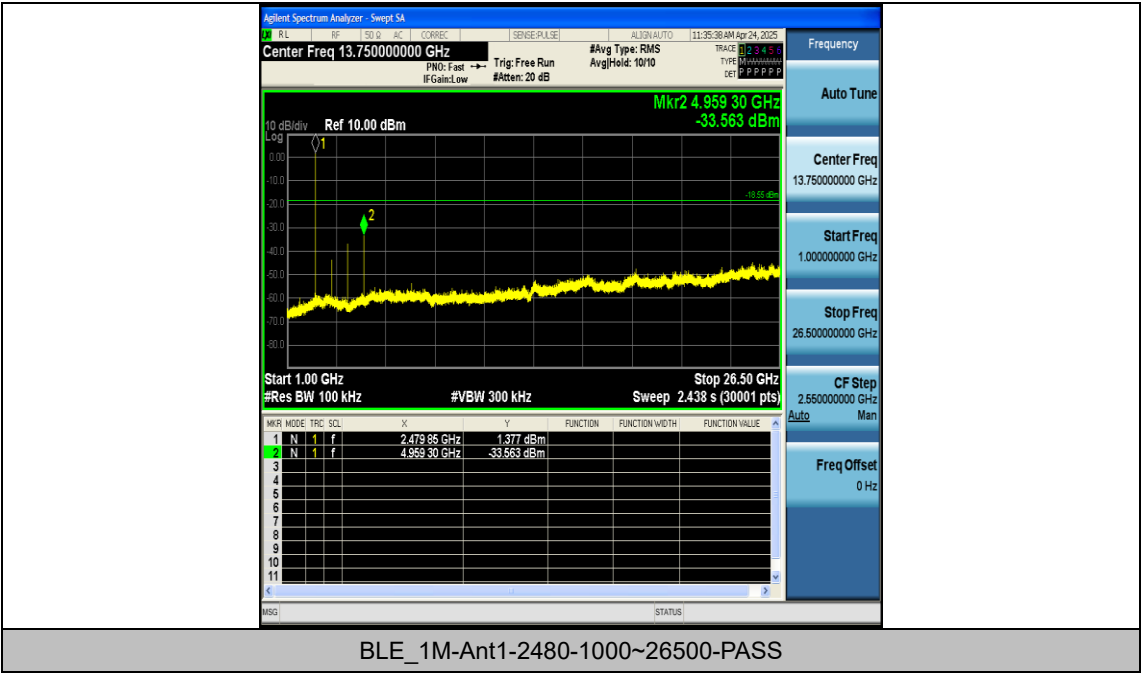
BLE_1M-Ant1-2440-1000~26500-PASS



BLE_1M-Ant1-2480-0~Reference-PASS



BLE_1M-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

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

Test Graphs

