



Appendix Test Data for BLE (Conducted Measurement)

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron, Lemokey

Test Model: Q11 Ultra

FCC ID: 2BGKB-Q11ULTRA

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	0.668	2401.664	2402.332	0.5	PASS
BLE_1M	Ant1	2440	0.684	2439.660	2440.344	0.5	PASS
BLE_1M	Ant1	2480	0.676	2479.660	2480.336	0.5	PASS

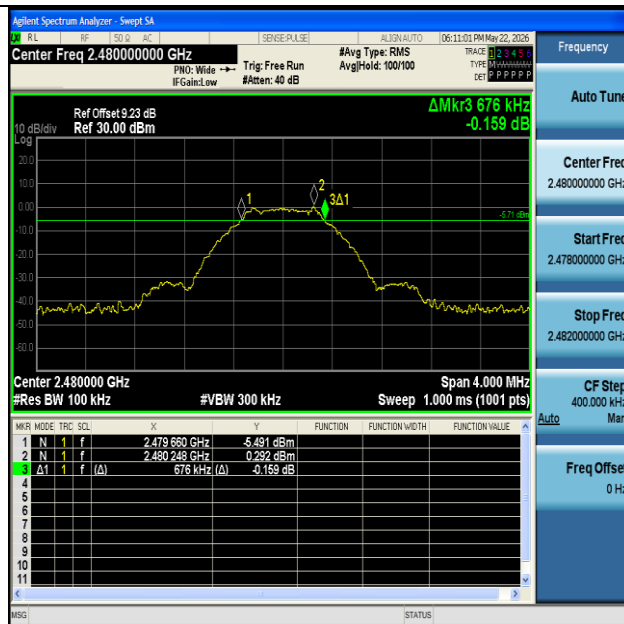
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





BLE_1M-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	1.0172	2401.4884	2402.5056	---	---
BLE_1M	Ant1	2440	1.0330	2439.4857	2440.5187	---	---
BLE_1M	Ant1	2480	1.0091	2479.4927	2480.5018	---	---

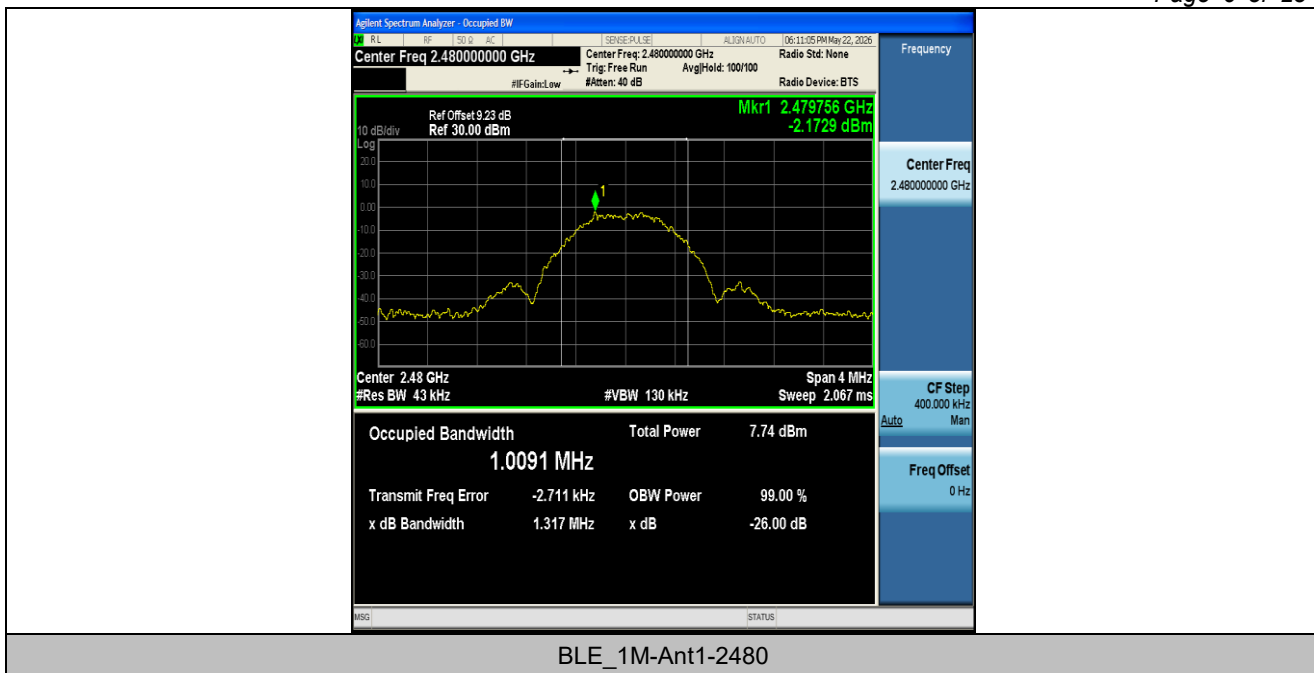
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





BLE_1M-Ant1-2480





Appendix C: Maximum peak conducted output power

Test Result Peak

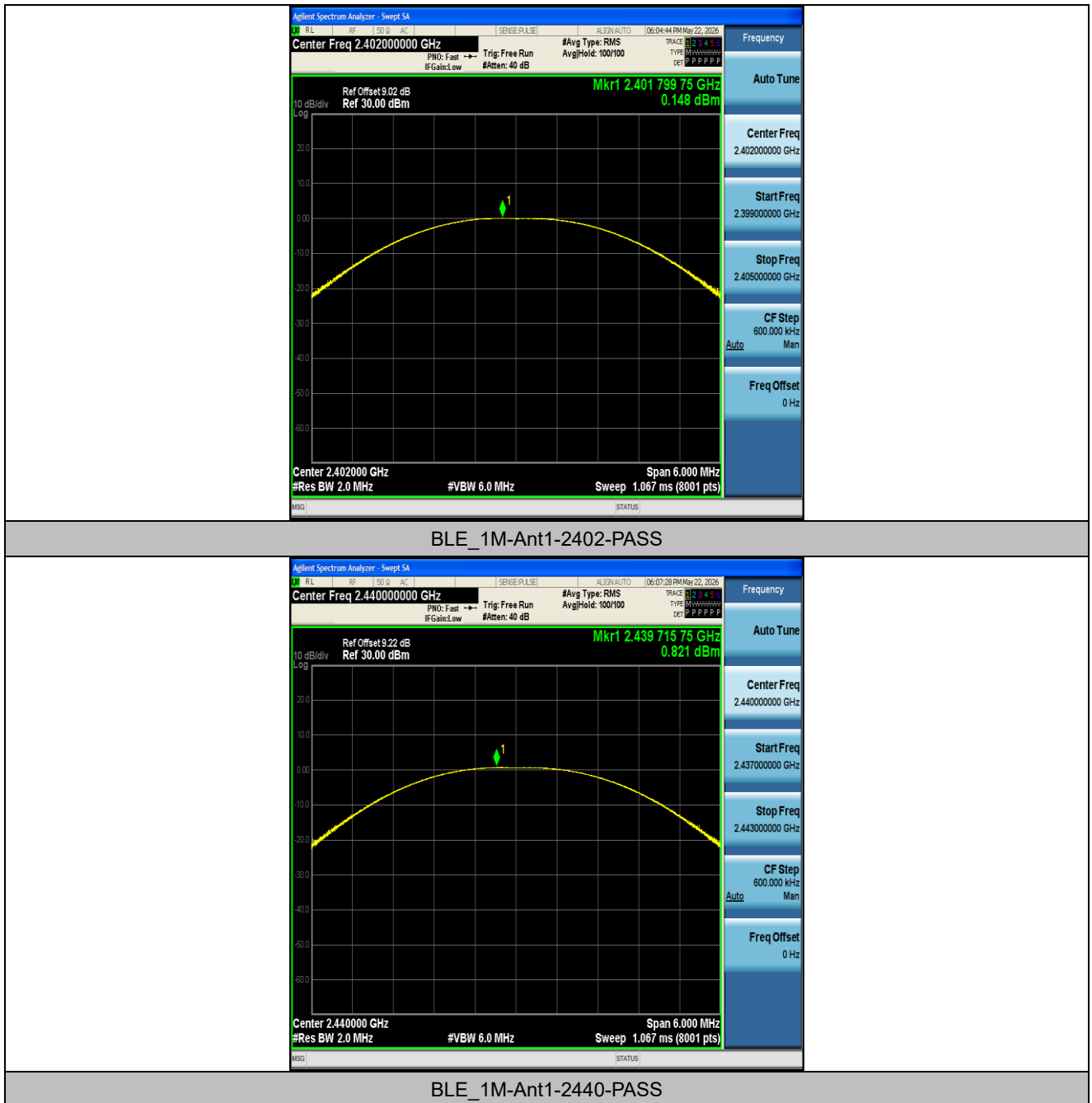
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0.15	≤30	PASS
BLE_1M	Ant1	2440	0.82	≤30	PASS
BLE_1M	Ant1	2480	0.83	≤30	PASS

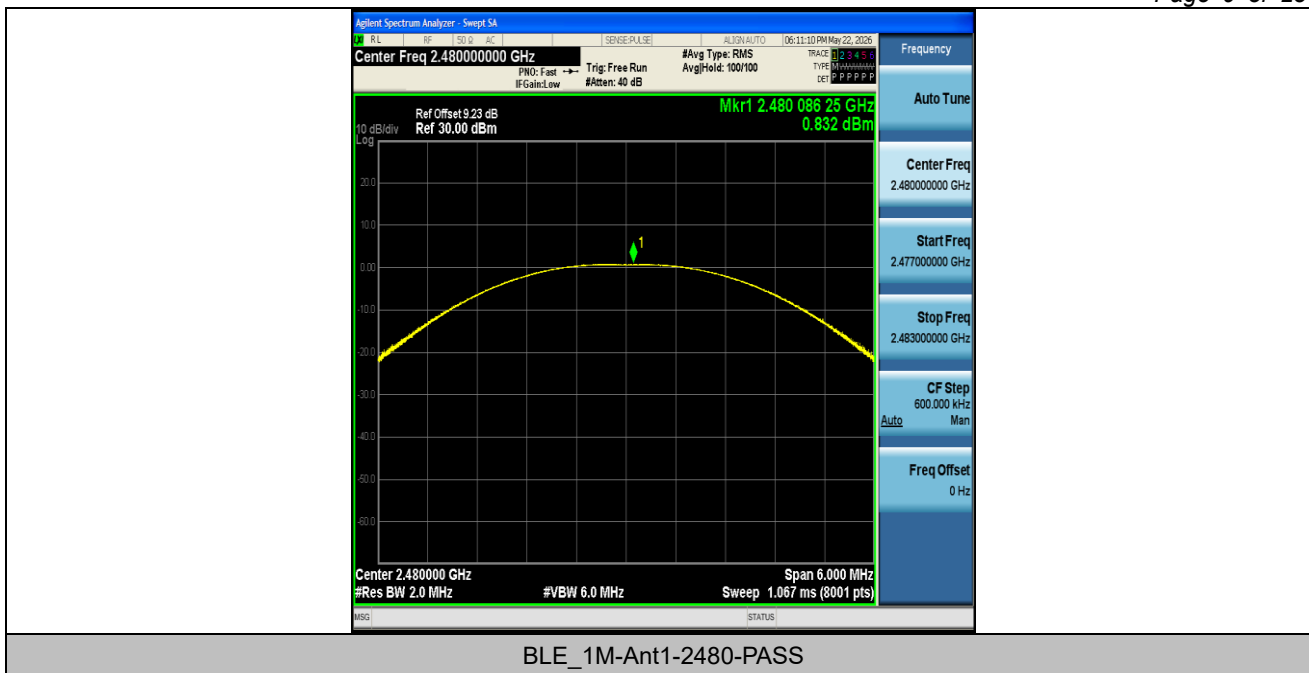
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs Peak







Appendix D: Maximum peak power spectral density

Test Result

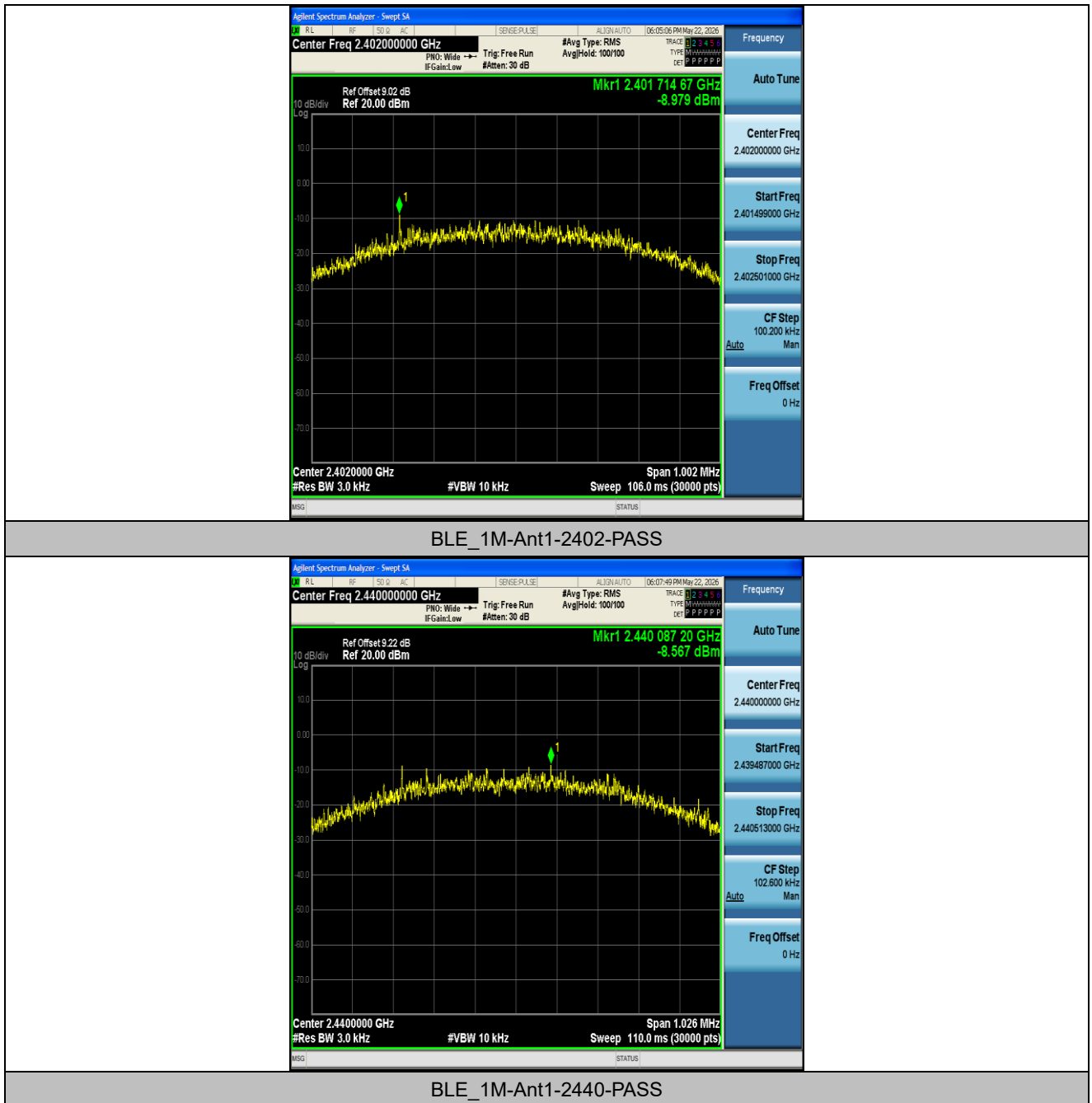
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-8.98	≤8.00	PASS
BLE_1M	Ant1	2440	-8.57	≤8.00	PASS
BLE_1M	Ant1	2480	-9.58	≤8.00	PASS

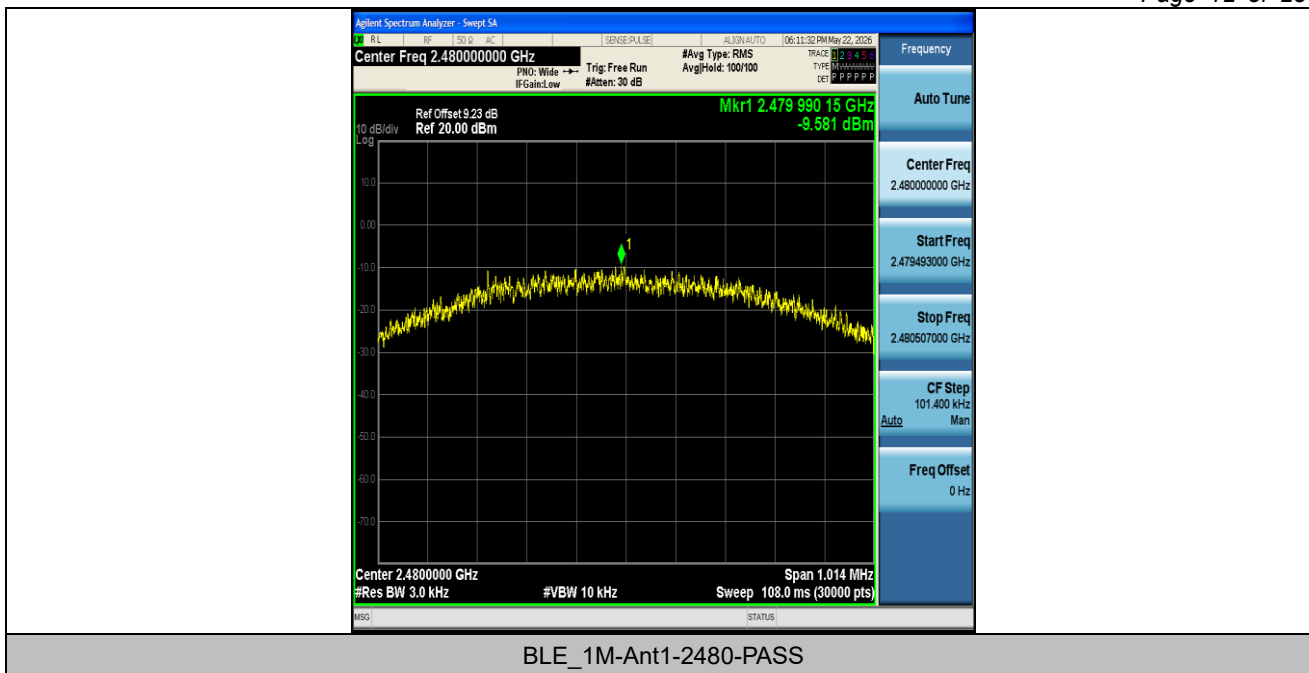
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix E: Band edge measurements

Test Result

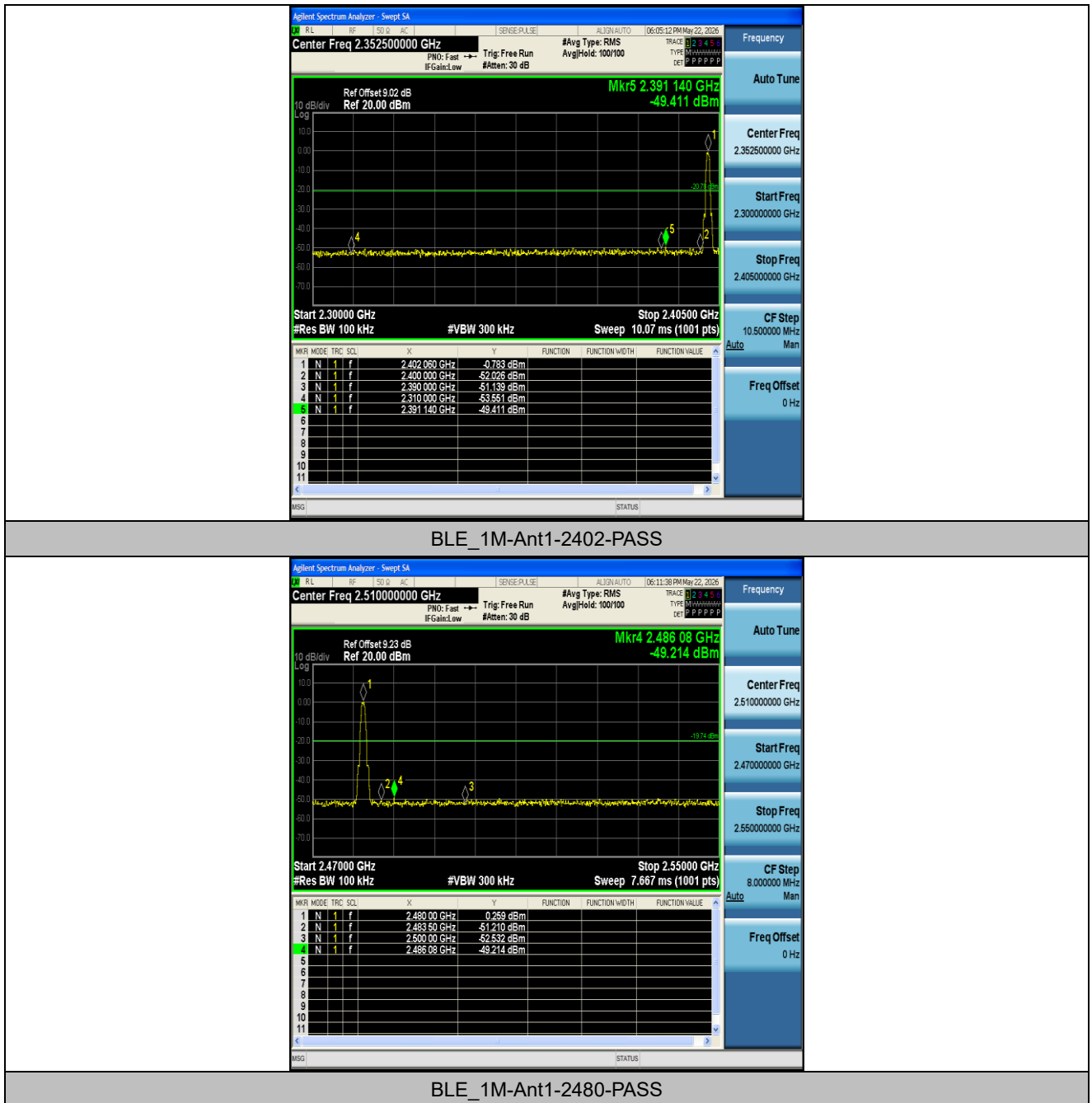
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.78	-49.41	≤ -20.78	PASS
BLE_1M	Ant1	High	2480	0.26	-49.21	≤ -19.74	PASS

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





Test Graphs





Appendix F: Conducted Spurious Emission

Test Result

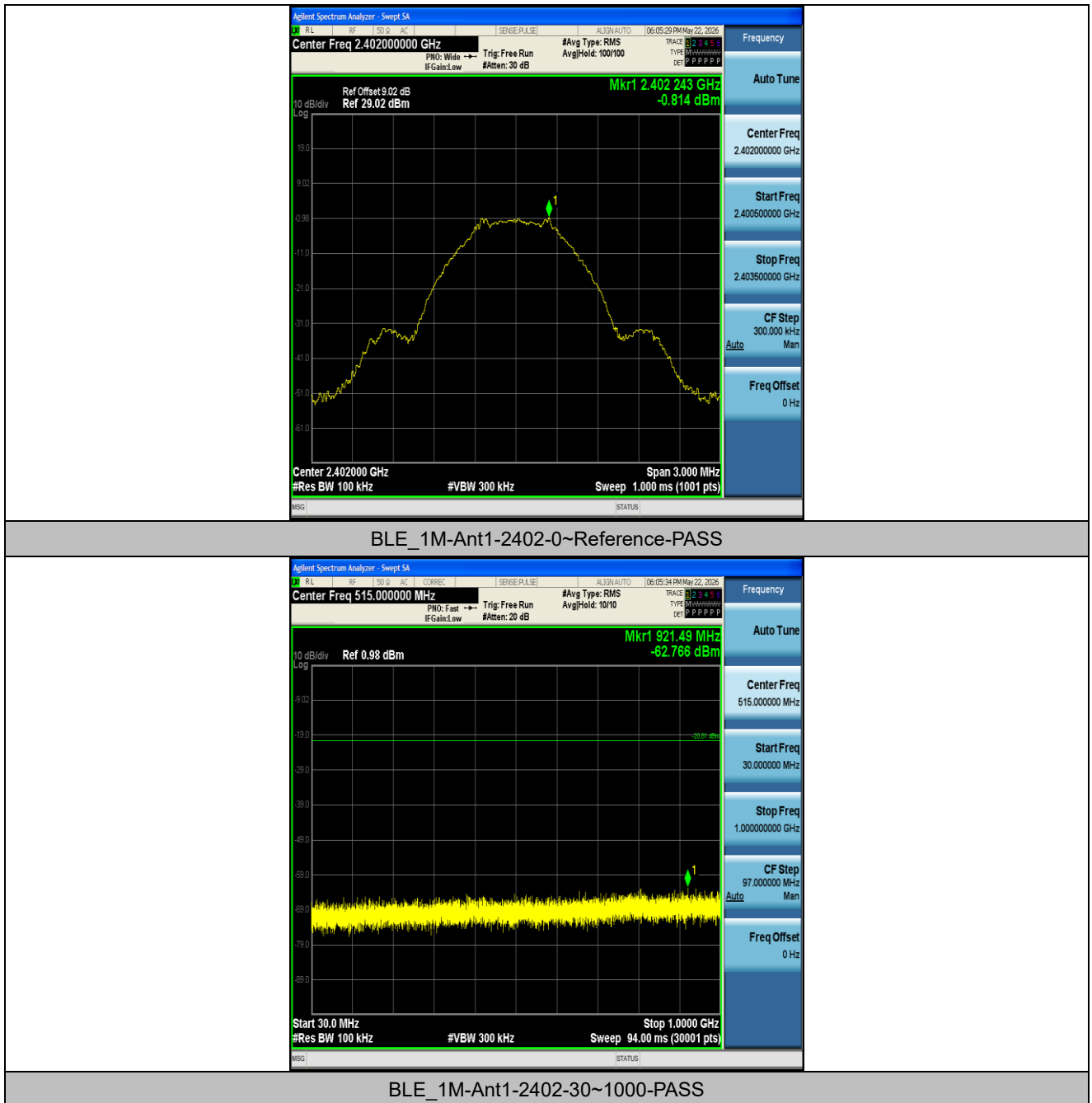
Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-0.81	-0.81	---	PASS
BLE_1M	Ant1	2402	30~1000	-0.81	-62.77	≤-20.81	PASS
BLE_1M	Ant1	2402	1000~26500	-0.81	-37.33	≤-20.81	PASS
BLE_1M	Ant1	2440	0~Reference	0.14	0.14	---	PASS
BLE_1M	Ant1	2440	30~1000	0.14	-61.41	≤-19.86	PASS
BLE_1M	Ant1	2440	1000~26500	0.14	-37.9	≤-19.86	PASS
BLE_1M	Ant1	2480	0~Reference	-0.17	-0.17	---	PASS
BLE_1M	Ant1	2480	30~1000	-0.17	-62.91	≤-20.17	PASS
BLE_1M	Ant1	2480	1000~26500	-0.17	-37.61	≤-20.17	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.



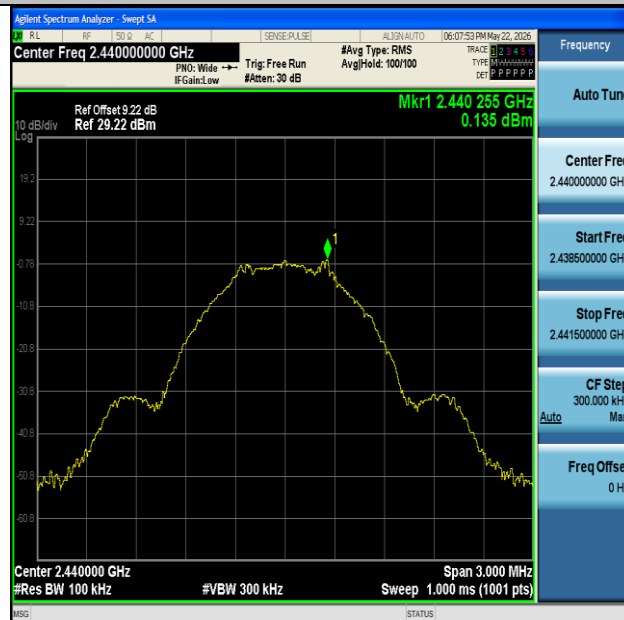


Test Graphs



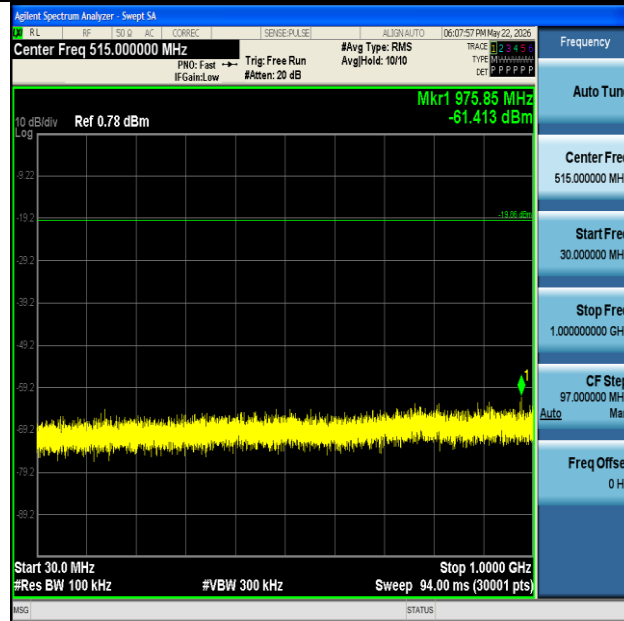


BLE_1M-Ant1-2402-1000~26500-PASS



BLE_1M-Ant1-2440-0~Reference-PASS



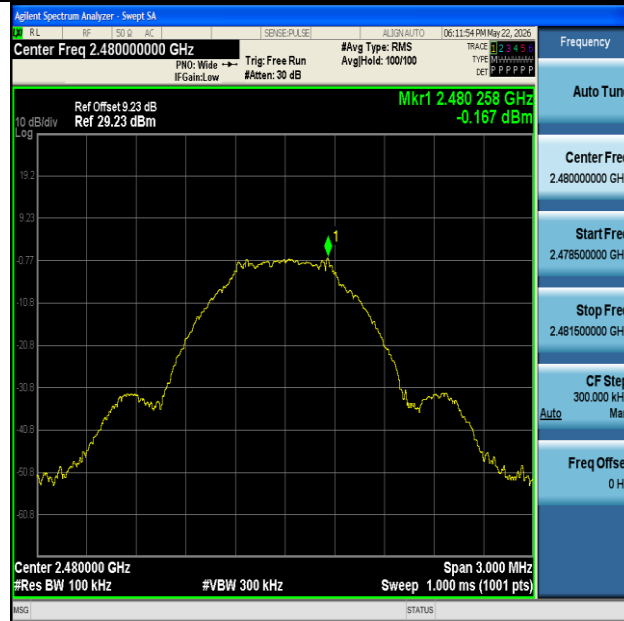


BLE_1M-Ant1-2440-30~1000-PASS

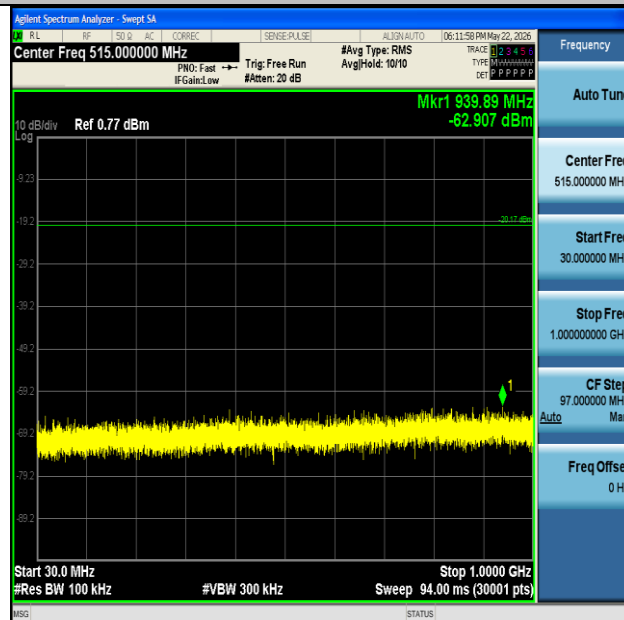


BLE_1M-Ant1-2440-1000~26500-PASS



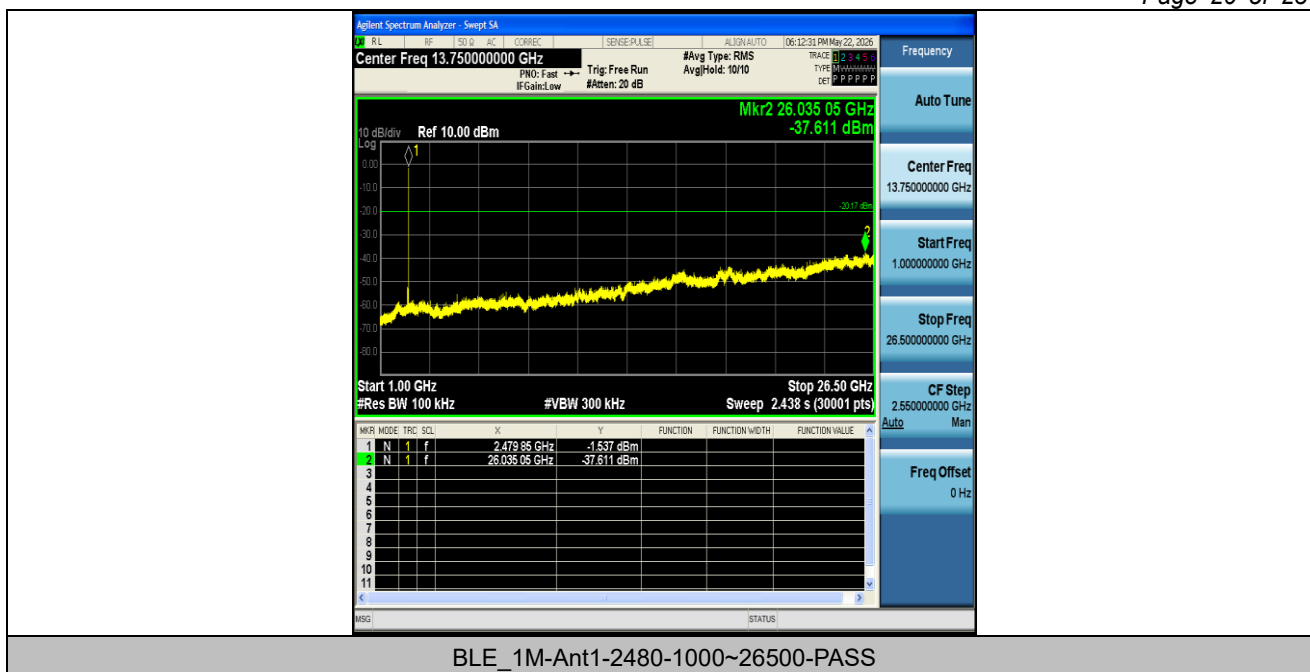


BLE_1M-Ant1-2480-0~Reference-PASS



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

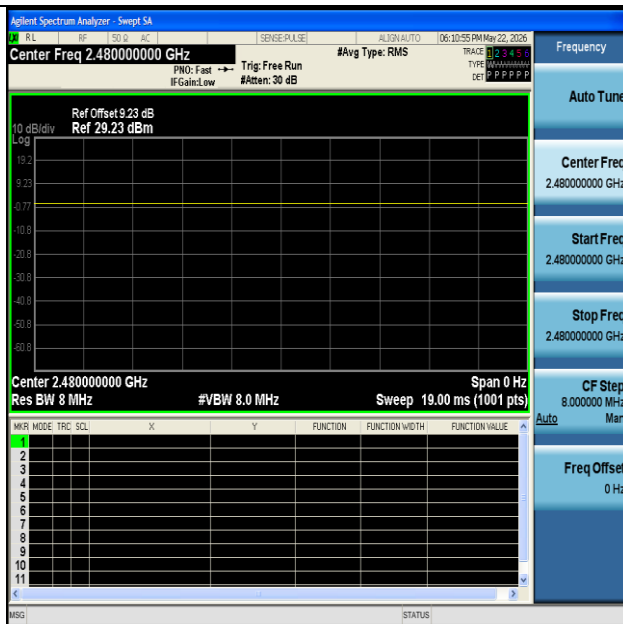
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





NTNV-BLE_1M-Ant1-2480

