Appendix Test Data for BLE (Conducted Measurement)

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron

Test Model: B33

FCC ID: 2BGKB-B33

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	0.684	2401.652	2402.336	0.5	PASS
BLE_1M	Ant1	2440	0.696	2439.652	2440.348	0.5	PASS
BLE_1M	Ant1	2480	0.660	2479.672	2480.332	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

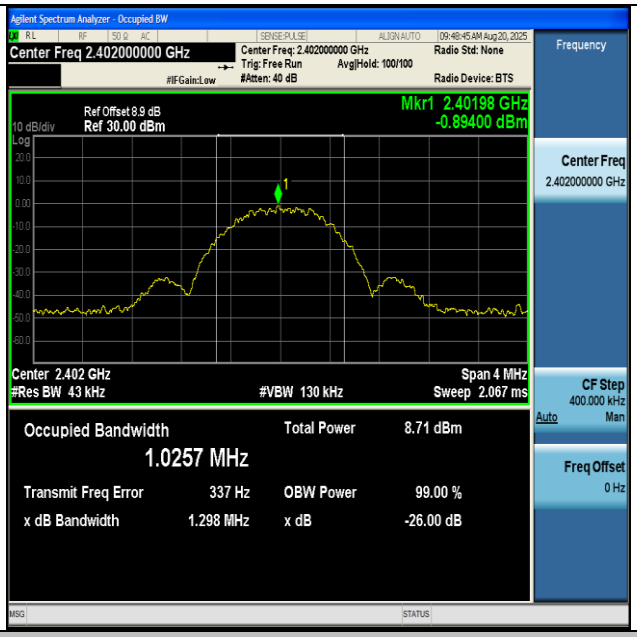
Appendix B: Occupied Channel Bandwidth

Test Result

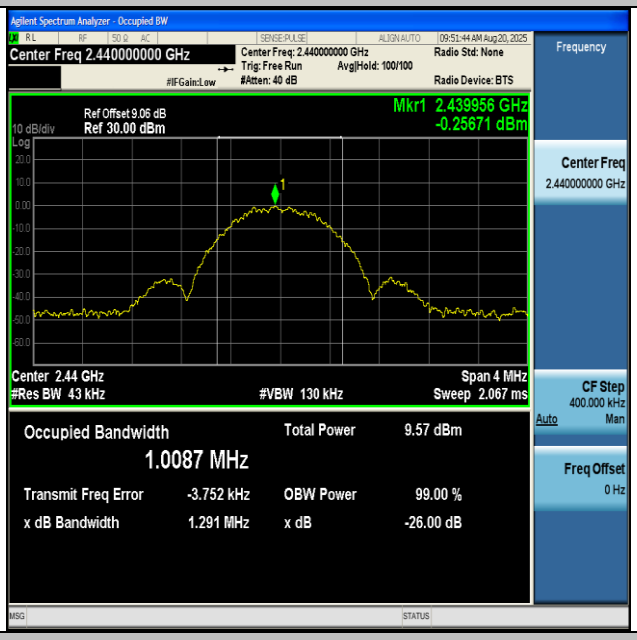
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.0257	2401.4875	2402.5132	---	---
BLE_1M	Ant1	2440	1.0087	2439.4919	2440.5006	---	---
BLE_1M	Ant1	2480	1.0293	2479.4836	2480.5129	---	---

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

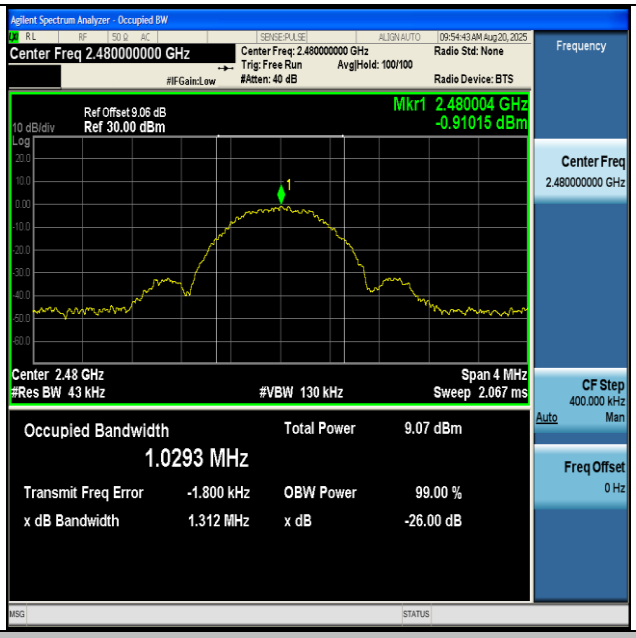
Test Graphs



BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480

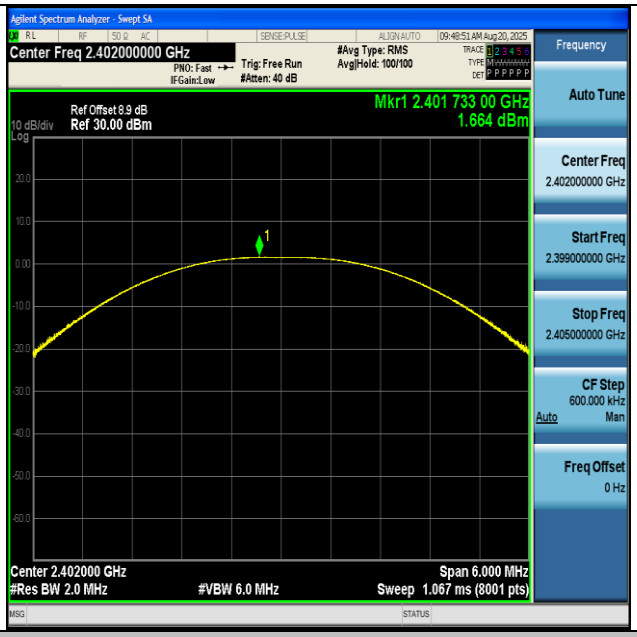
Appendix C: Maximum peak conducted output power

Test Result Peak

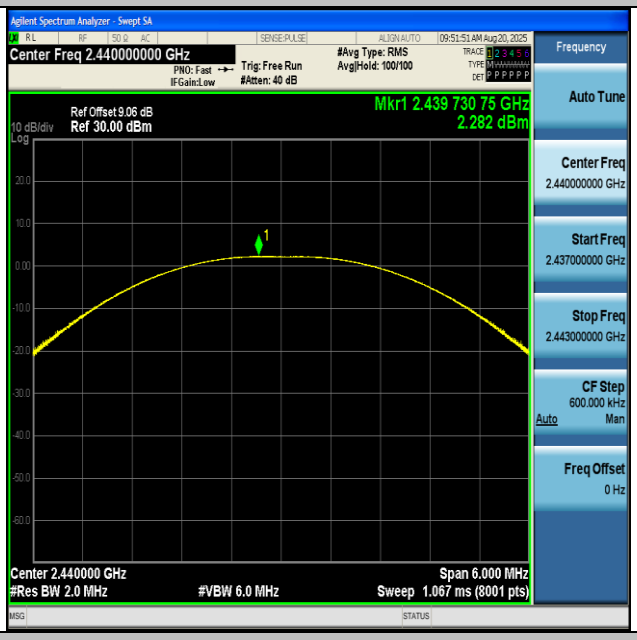
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1M	Ant1	2402	1.66	≤30	PASS
BLE_1M	Ant1	2440	2.28	≤30	PASS
BLE_1M	Ant1	2480	2.08	≤30	PASS

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

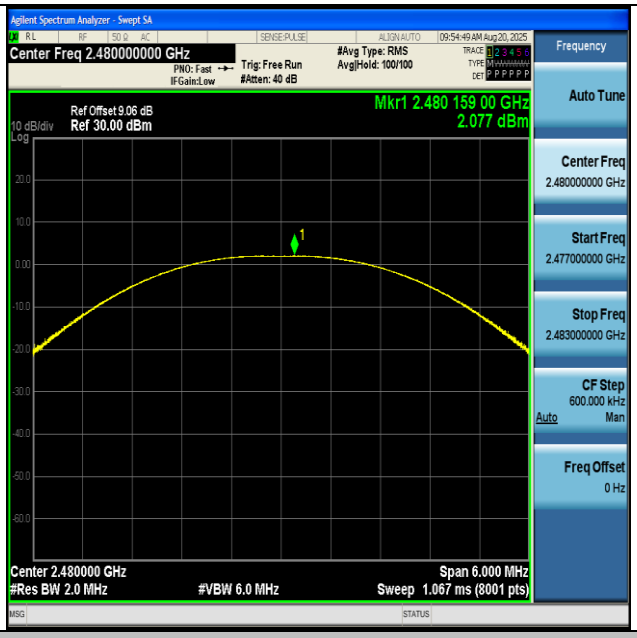
Test Graphs Peak



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS

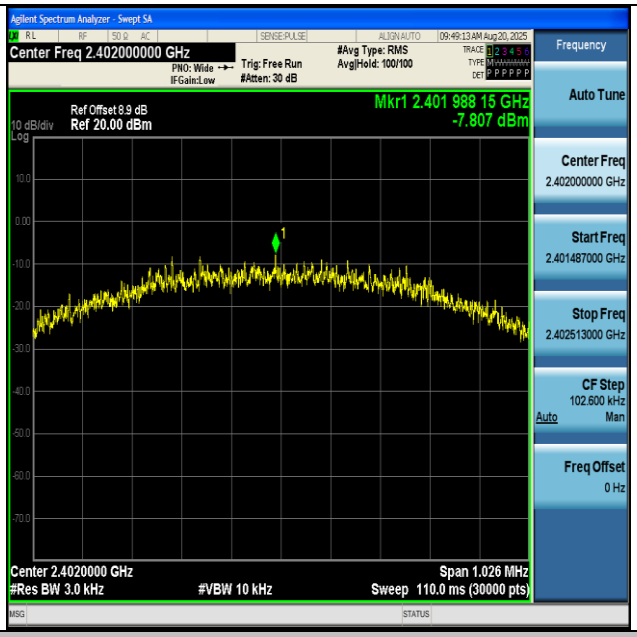
Appendix D: Maximum peak power spectral density

Test Result

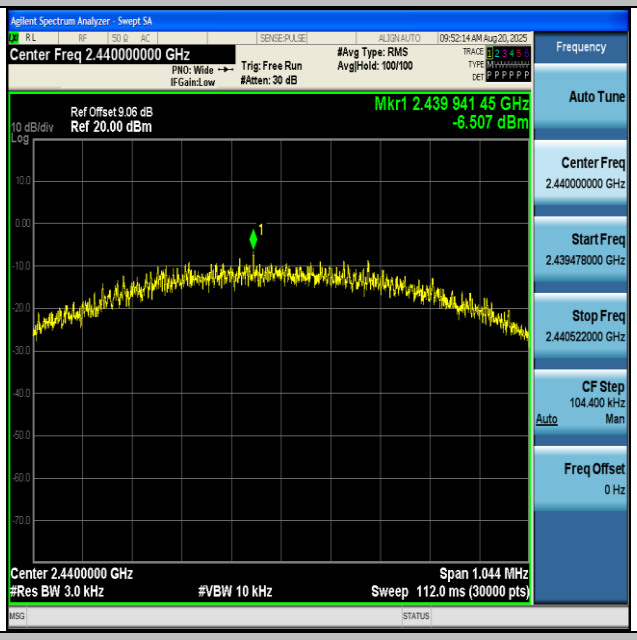
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.81	≤8.00	PASS
BLE_1M	Ant1	2440	-6.51	≤8.00	PASS
BLE_1M	Ant1	2480	-7.54	≤8.00	PASS

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

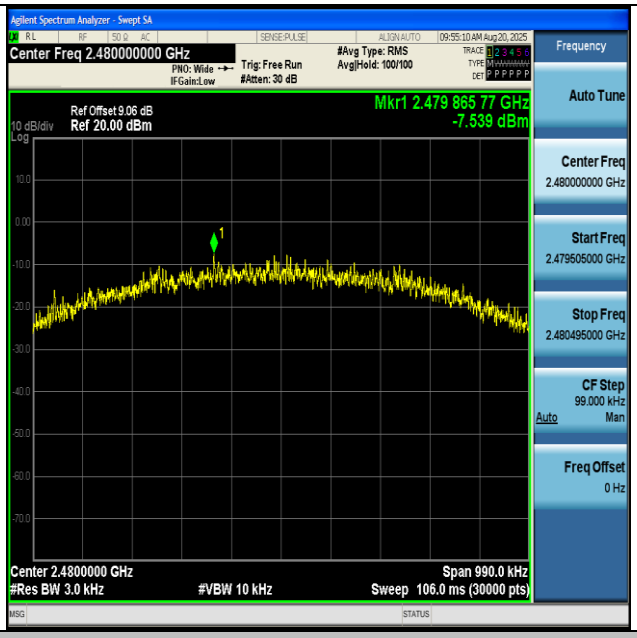
Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS

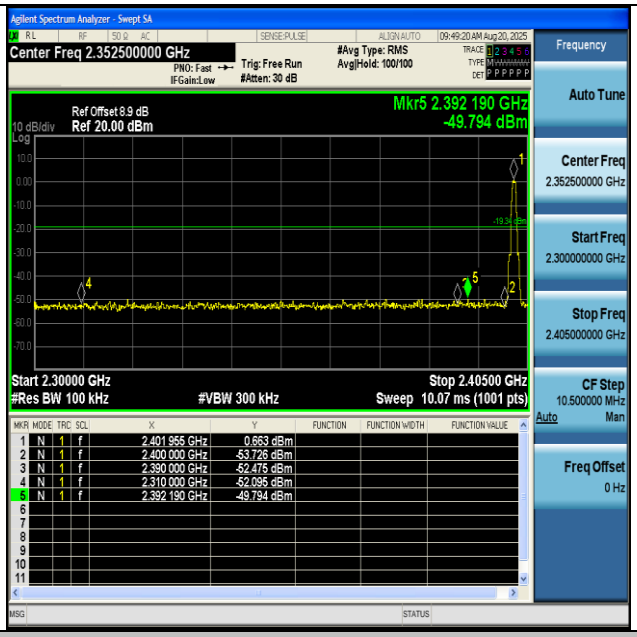
Appendix E: Band edge measurements

Test Result

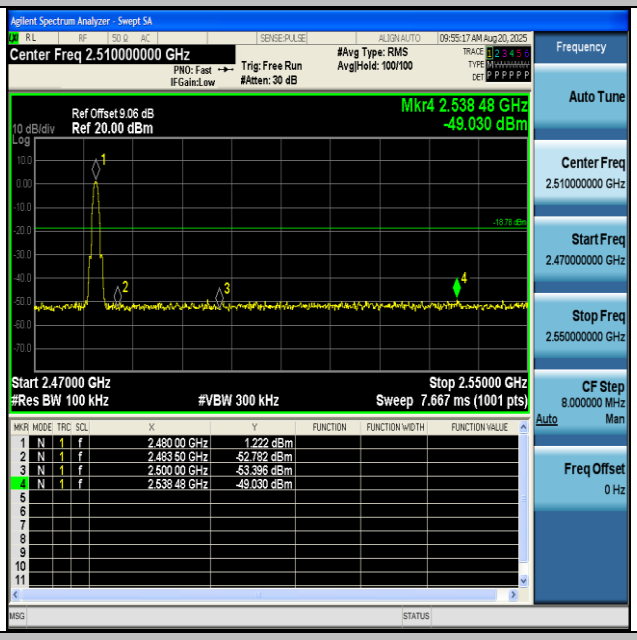
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.66	-49.79	≤-19.34	PASS
BLE_1M	Ant1	High	2480	1.22	-49.03	≤-18.78	PASS

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

Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS

Appendix F: Conducted Spurious Emission

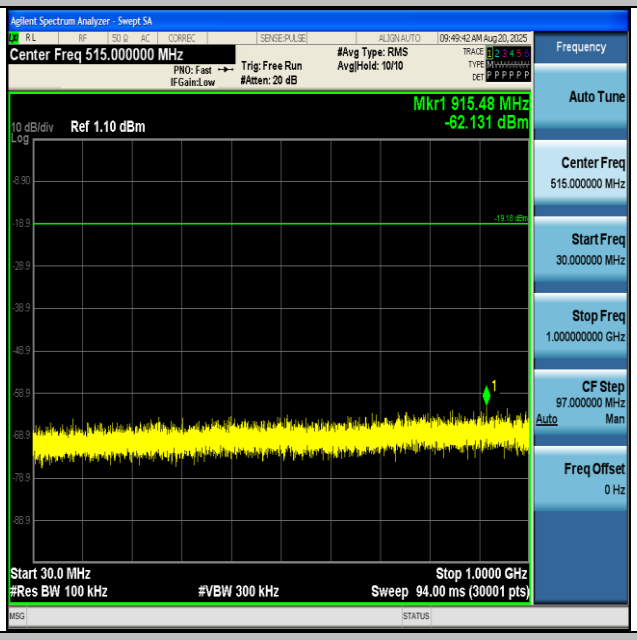
Test Result

Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	0.82	0.82	---	PASS
BLE_1M	Ant1	2402	30~1000	0.82	-62.13	≤-19.18	PASS
BLE_1M	Ant1	2402	1000~26500	0.82	-45.18	≤-19.18	PASS
BLE_1M	Ant1	2440	0~Reference	1.43	1.43	---	PASS
BLE_1M	Ant1	2440	30~1000	1.43	-61.75	≤-18.57	PASS
BLE_1M	Ant1	2440	1000~26500	1.43	-44.13	≤-18.57	PASS
BLE_1M	Ant1	2480	0~Reference	1.08	1.08	---	PASS
BLE_1M	Ant1	2480	30~1000	1.08	-63.03	≤-18.92	PASS
BLE_1M	Ant1	2480	1000~26500	1.08	-44.99	≤-18.92	PASS

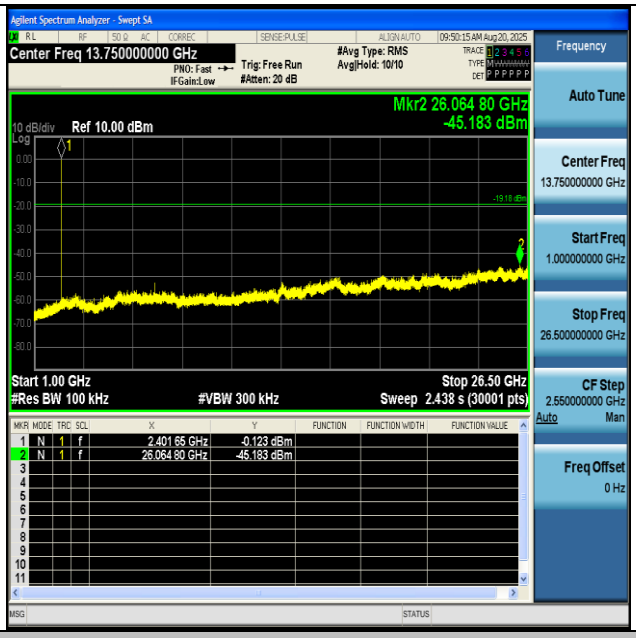
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

Test Graphs

BLE_1M-Ant1-2402-0~Reference-PASS

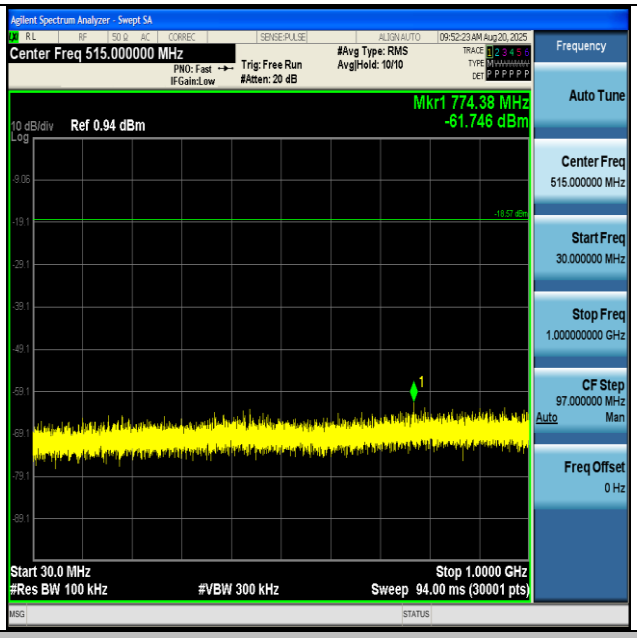


BLE_1M-Ant1-2402-30~1000-PASS

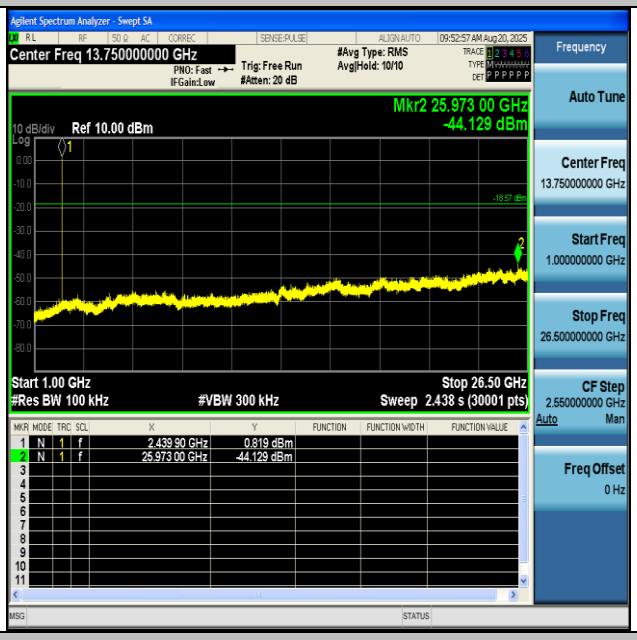


BLE_1M-Ant1-2402-1000~26500-PASS

BLE_1M-Ant1-2440-0~Reference-PASS

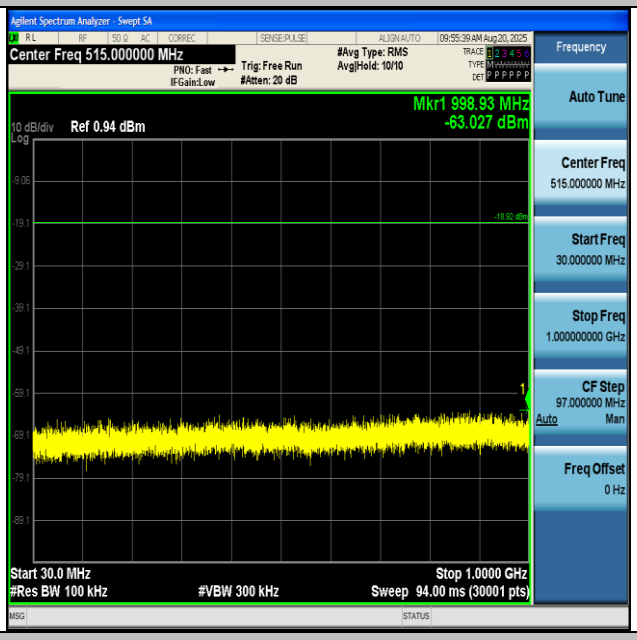


BLE_1M-Ant1-2440-30~1000-PASS

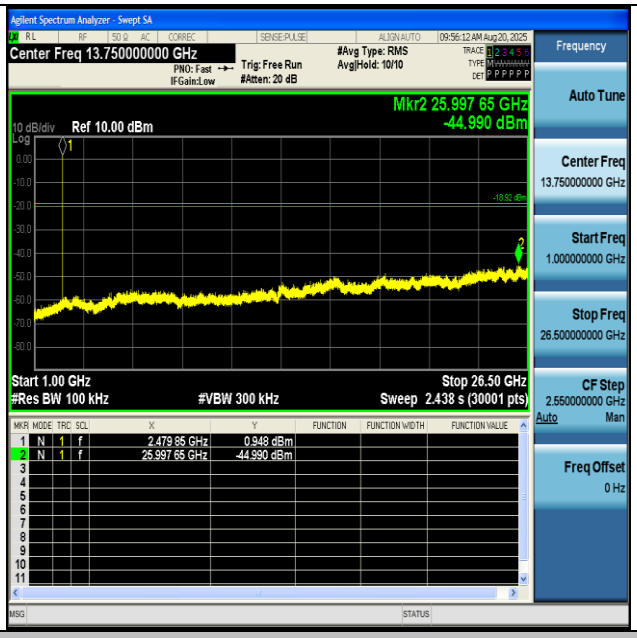


BLE_1M-Ant1-2440-1000~26500-PASS

BLE_1M-Ant1-2480-0~Reference-PASS



BLE_1M-Ant1-2480-30~1000-PASS



BLE_1M-Ant1-2480-1000~26500-PASS

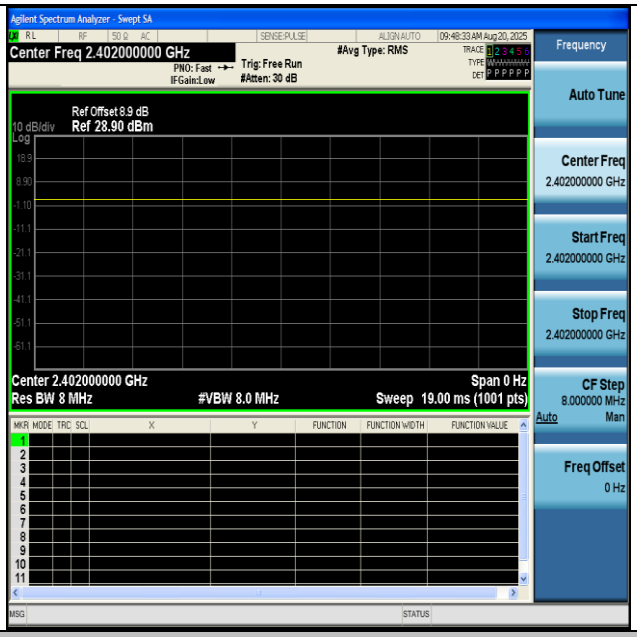
Appendix G: Duty Cycle

Test Result

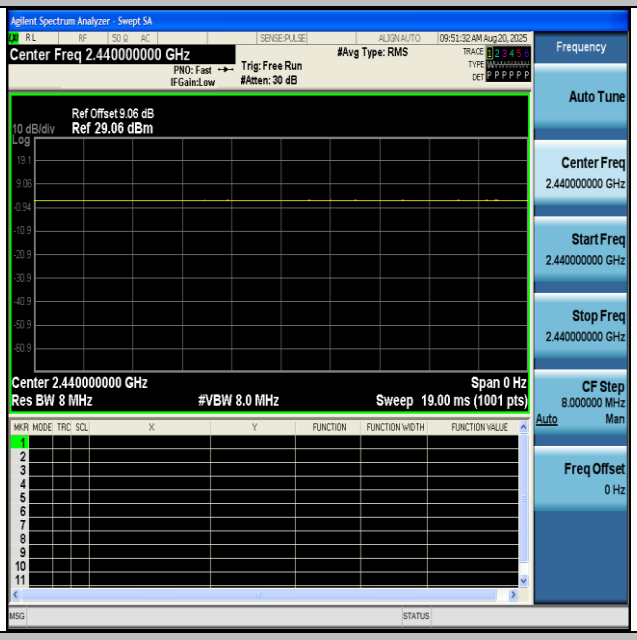
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
BLE_1M	Ant1	2402	19.00	19.00	100.00	0.00
BLE_1M	Ant1	2440	19.00	19.00	100.00	0.00
BLE_1M	Ant1	2480	19.00	19.00	100.00	0.00

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

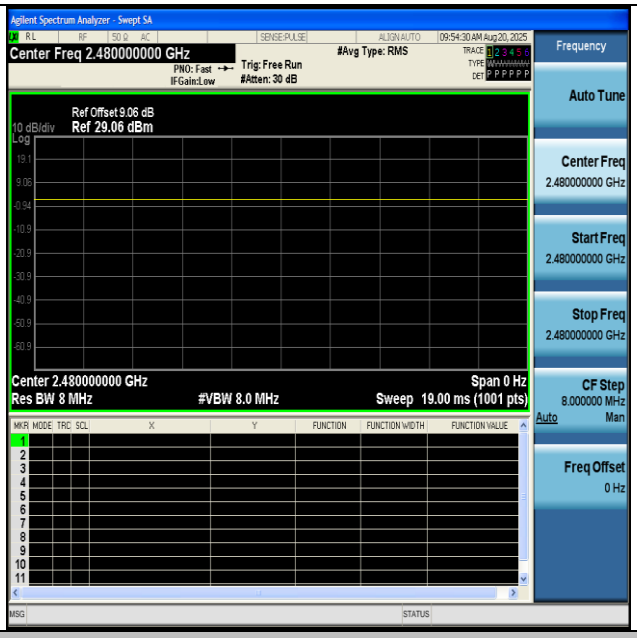
Test Graphs



NTNV-BLE_1M-Ant1-2402



NTNV-BLE_1M-Ant1-2440



NTNV-BLE_1M-Ant1-2480