



## Appendix Test Data for BLE (Conducted Measurement)

Product Name: Wireless Mechanical Keyboard

Trade Mark: Keychron, Lemokey

Test Model: K3 HE

FCC ID: 2BGKB-K3HE

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.5°C    |
| 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<br>[MHz] | DTS BW<br>[MHz] | FL<br>[MHz] | FH<br>[MHz] | Limit<br>[MHz] | Verdict |
|-----------|---------|--------------------|-----------------|-------------|-------------|----------------|---------|
| BLE_1M    | Ant1    | 2402               | 0.680           | 2401.668    | 2402.348    | 0.5            | PASS    |
| BLE_1M    | Ant1    | 2440               | 0.660           | 2439.664    | 2440.324    | 0.5            | PASS    |
| BLE_1M    | Ant1    | 2480               | 0.712           | 2479.648    | 2480.360    | 0.5            | PASS    |

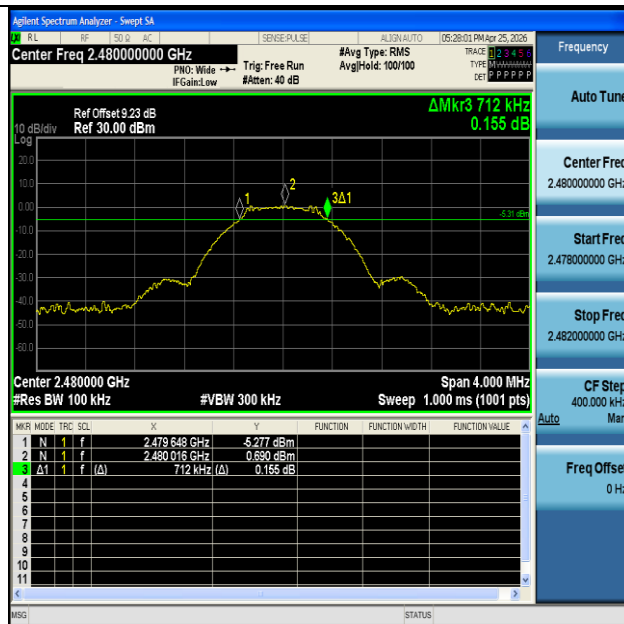
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





## Test Graphs





BLE\_1M-Ant1-2480-PASS





## Appendix B: Occupied Channel Bandwidth

### Test Result

| Test Mode | Antenna | Frequency<br>[MHz] | OCB<br>[MHz] | FL<br>[MHz] | FH<br>[MHz] | Limit<br>[MHz] | Verdict |
|-----------|---------|--------------------|--------------|-------------|-------------|----------------|---------|
| BLE_1M    | Ant1    | 2402               | 1.0179       | 2401.4919   | 2402.5098   | ---            | ---     |
| BLE_1M    | Ant1    | 2440               | 1.0179       | 2439.4829   | 2440.5008   | ---            | ---     |
| BLE_1M    | Ant1    | 2480               | 1.0289       | 2479.4839   | 2480.5128   | ---            | ---     |

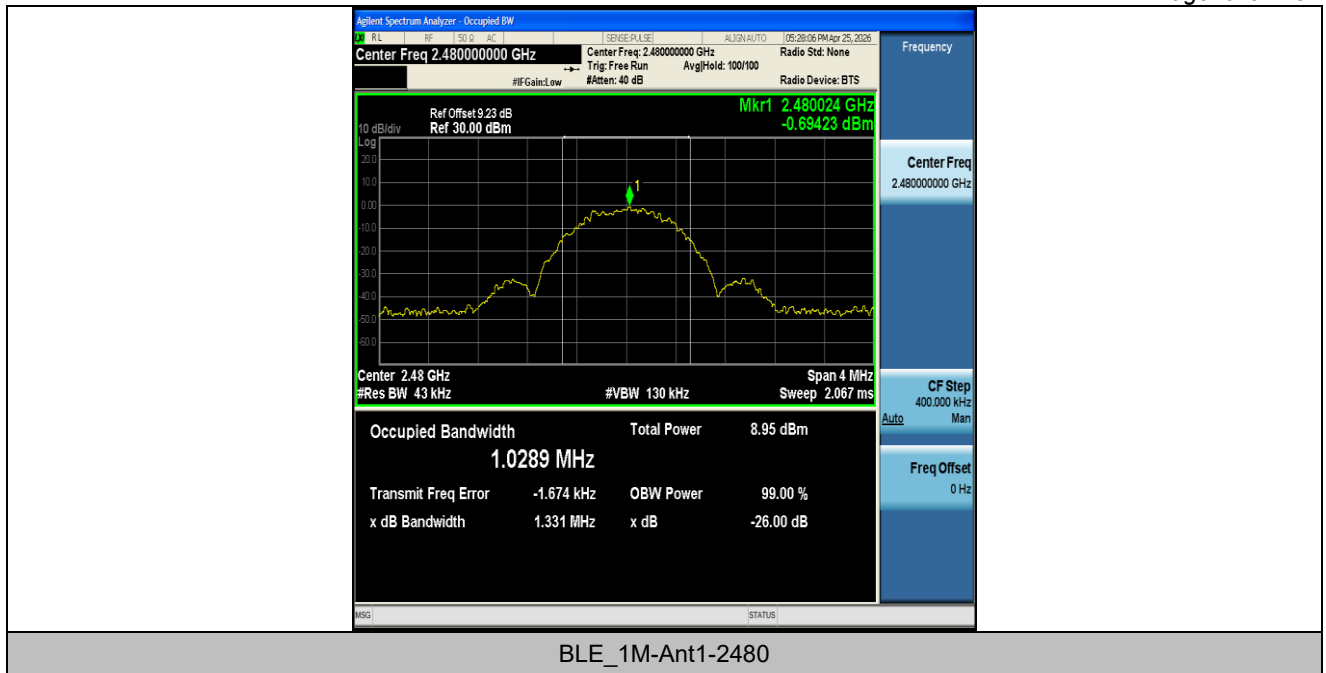
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





## Test Graphs







## Appendix C: Maximum peak conducted output power

### Test Result Peak

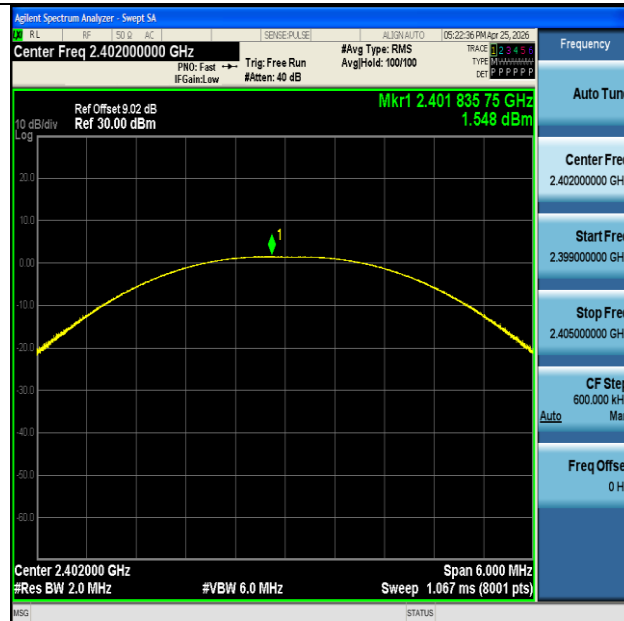
| Test Mode | Antenna | Frequency [MHz] | Conducted Peak Power [dBm] | Conducted Limit [dBm] | Verdict |
|-----------|---------|-----------------|----------------------------|-----------------------|---------|
| BLE_1M    | Ant1    | 2402            | 1.55                       | ≤30                   | PASS    |
| BLE_1M    | Ant1    | 2440            | 2.05                       | ≤30                   | PASS    |
| BLE_1M    | Ant1    | 2480            | 1.90                       | ≤30                   | PASS    |

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

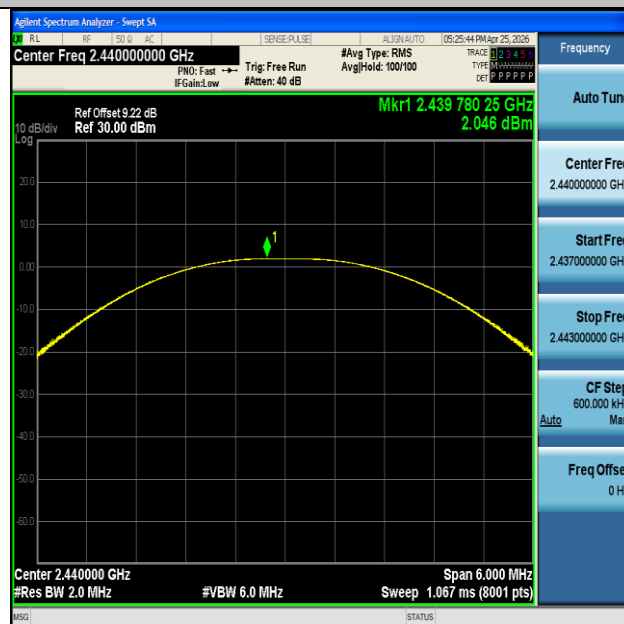




## Test Graphs Peak

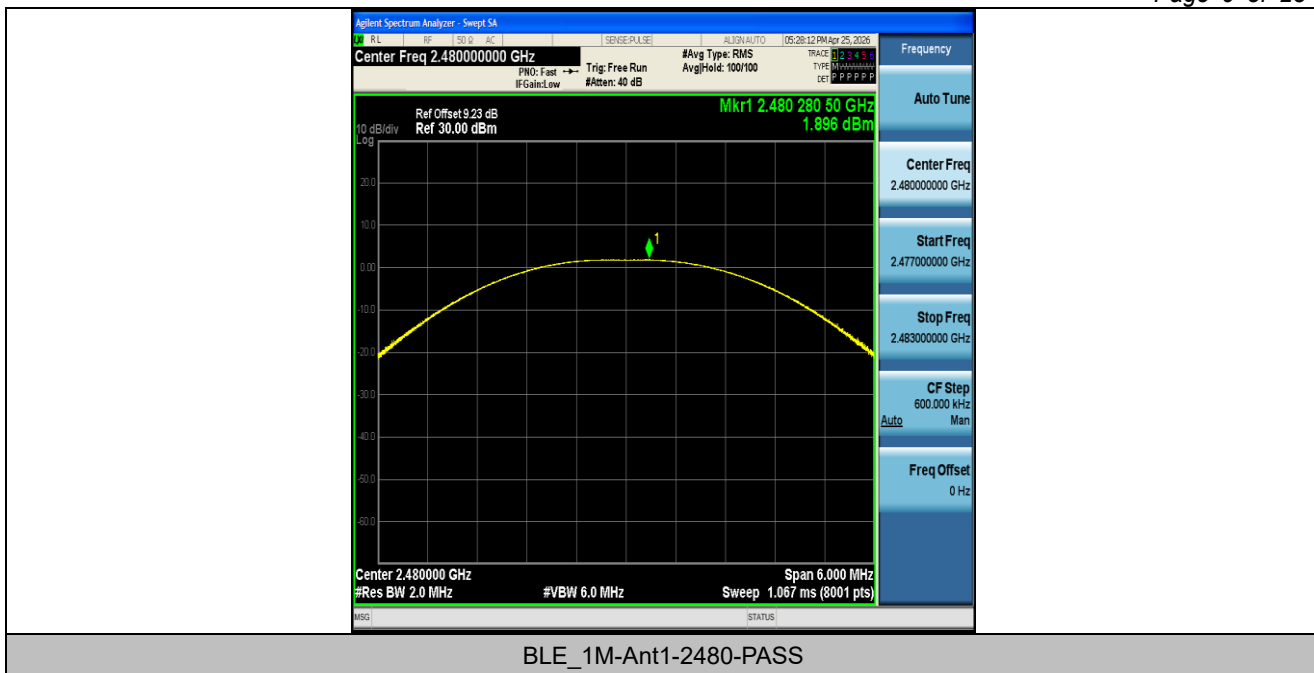


BLE\_1M-Ant1-2402-PASS



BLE\_1M-Ant1-2440-PASS







## Appendix D: Maximum peak power spectral density

### Test Result

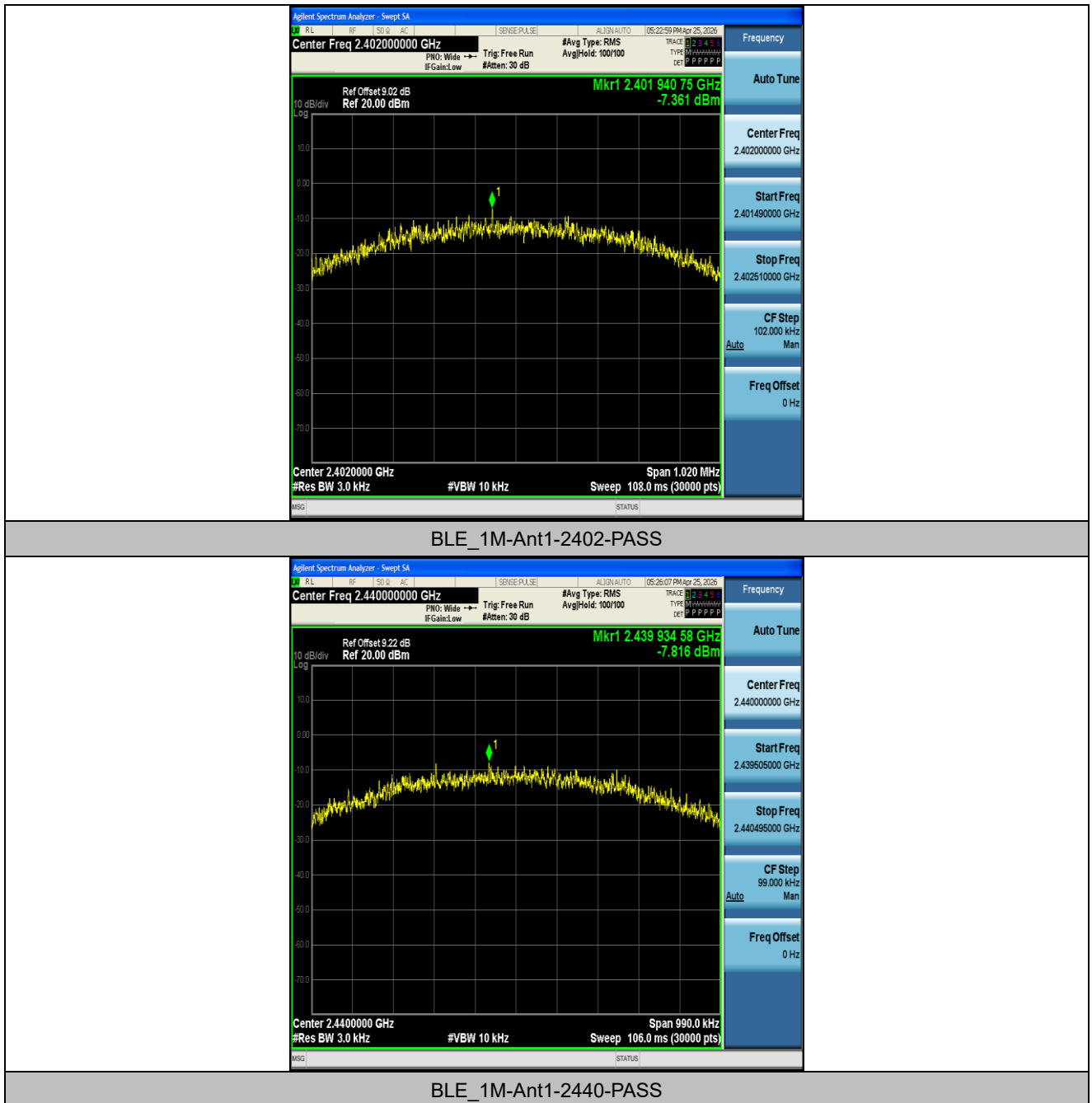
| Test Mode | Antenna | Frequency<br>[MHz] | Result<br>[dBm/3kHz] | Limit<br>[dBm/3kHz] | Verdict |
|-----------|---------|--------------------|----------------------|---------------------|---------|
| BLE_1M    | Ant1    | 2402               | -7.36                | ≤8.00               | PASS    |
| BLE_1M    | Ant1    | 2440               | -7.82                | ≤8.00               | PASS    |
| BLE_1M    | Ant1    | 2480               | -8.09                | ≤8.00               | PASS    |

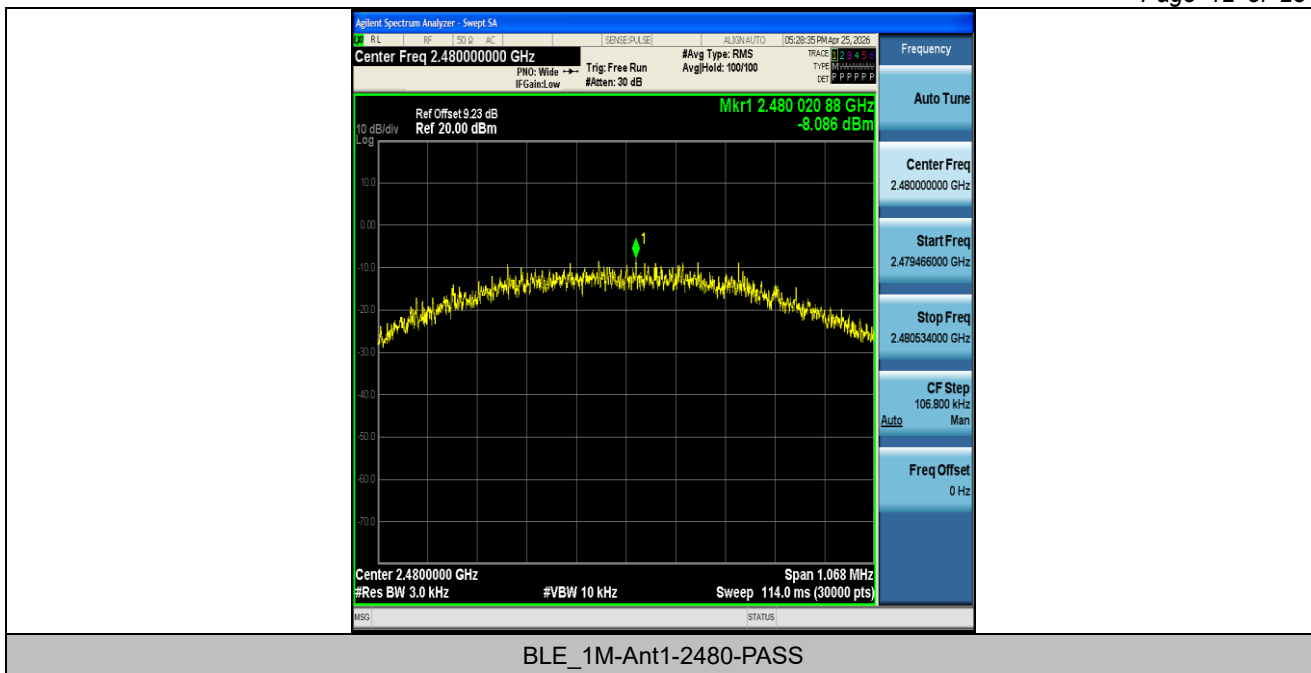
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





## Test Graphs







## Appendix E: Band edge measurements

### Test Result

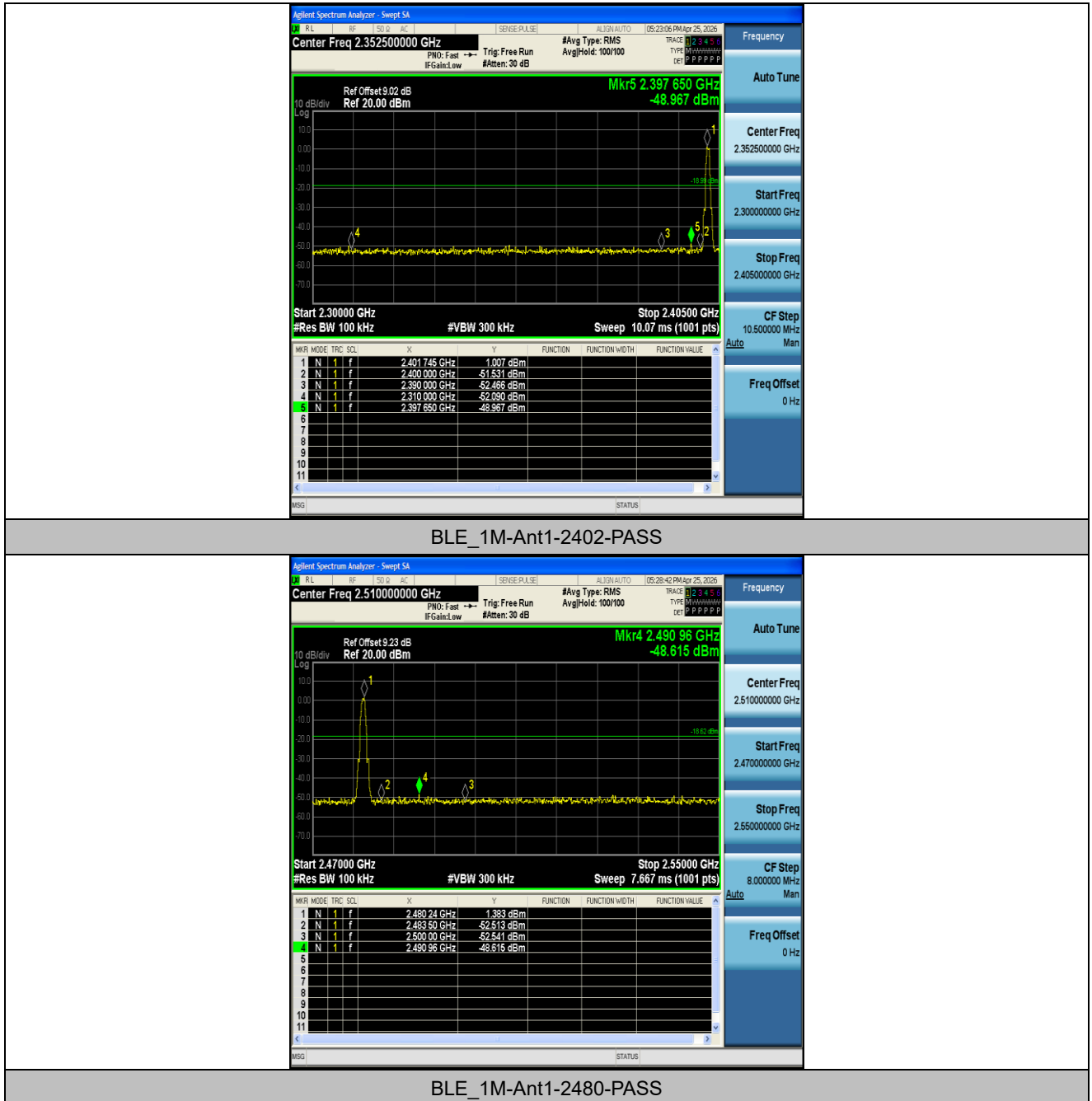
| Test Mode | Antenna | Ch. Name | Frequency [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|----------|-----------------|------------------|--------------|-------------|---------|
| BLE_1M    | Ant1    | Low      | 2402            | 1.01             | -48.97       | ≤-18.99     | PASS    |
| BLE_1M    | Ant1    | High     | 2480            | 1.38             | -48.62       | ≤-18.62     | PASS    |

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





## Test Graphs





## Appendix F: Conducted Spurious Emission

### Test Result

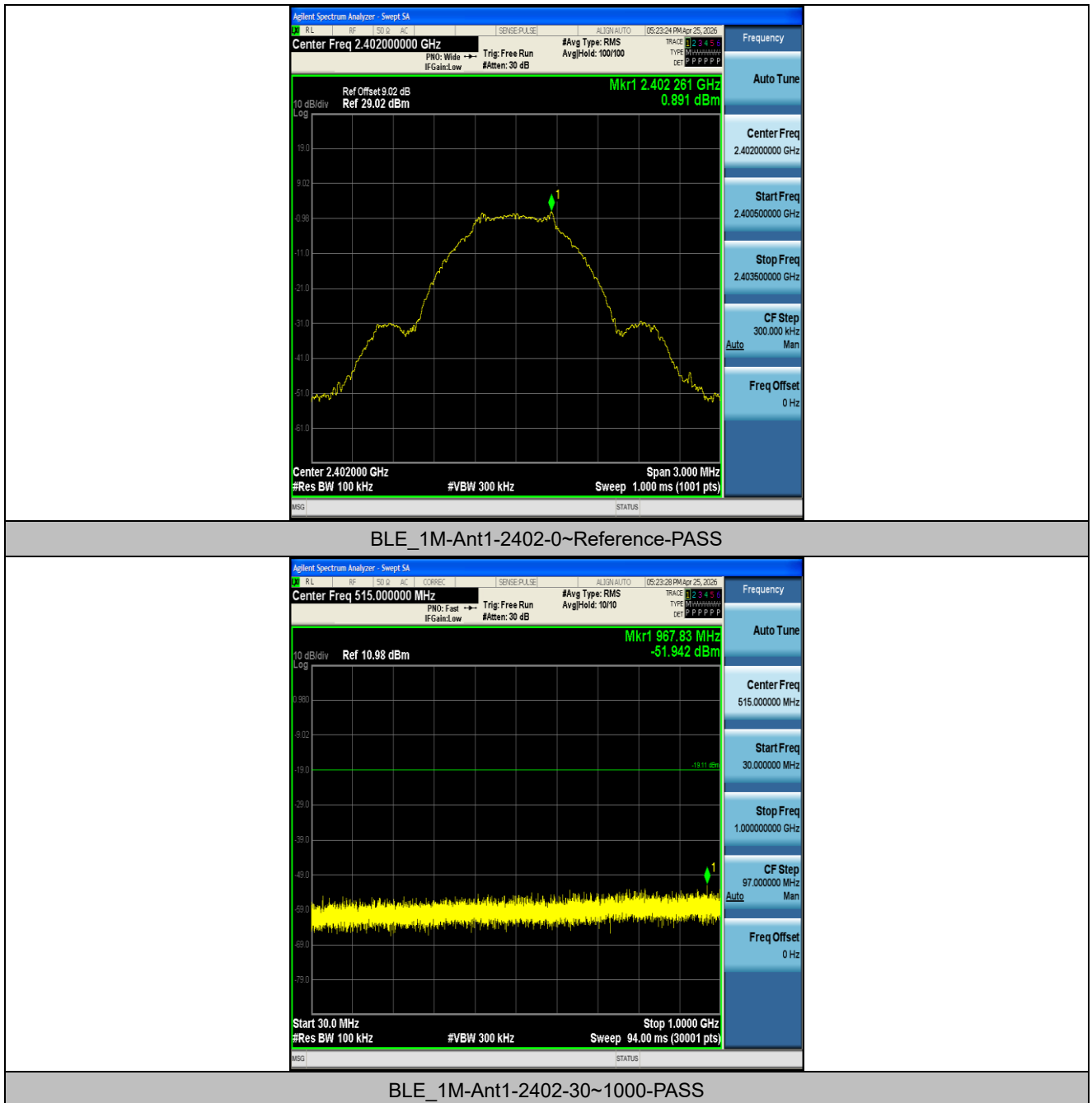
| Test Mode | Antenna | Frequency [MHz] | Freq. Range [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|-----------------|-------------------|------------------|--------------|-------------|---------|
| BLE_1M    | Ant1    | 2402            | 0~Reference       | 0.89             | 0.89         | ---         | PASS    |
| BLE_1M    | Ant1    | 2402            | 30~1000           | 0.89             | -51.94       | ≤-19.11     | PASS    |
| BLE_1M    | Ant1    | 2402            | 1000~26500        | 0.89             | -26.98       | ≤-19.11     | PASS    |
| BLE_1M    | Ant1    | 2440            | 0~Reference       | 0.90             | 0.90         | ---         | PASS    |
| BLE_1M    | Ant1    | 2440            | 30~1000           | 0.90             | -51.59       | ≤-19.1      | PASS    |
| BLE_1M    | Ant1    | 2440            | 1000~26500        | 0.90             | -27.77       | ≤-19.1      | PASS    |
| BLE_1M    | Ant1    | 2480            | 0~Reference       | 0.48             | 0.48         | ---         | PASS    |
| BLE_1M    | Ant1    | 2480            | 30~1000           | 0.48             | -51.77       | ≤-19.52     | PASS    |
| BLE_1M    | Ant1    | 2480            | 1000~26500        | 0.48             | -27.15       | ≤-19.52     | PASS    |

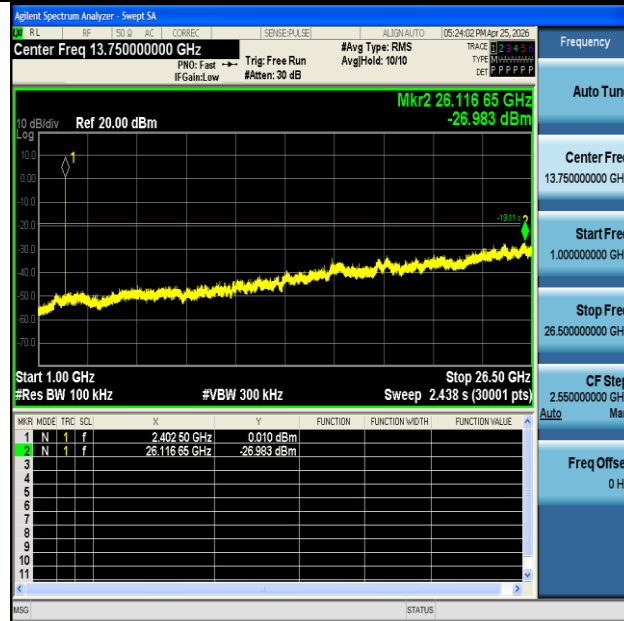
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



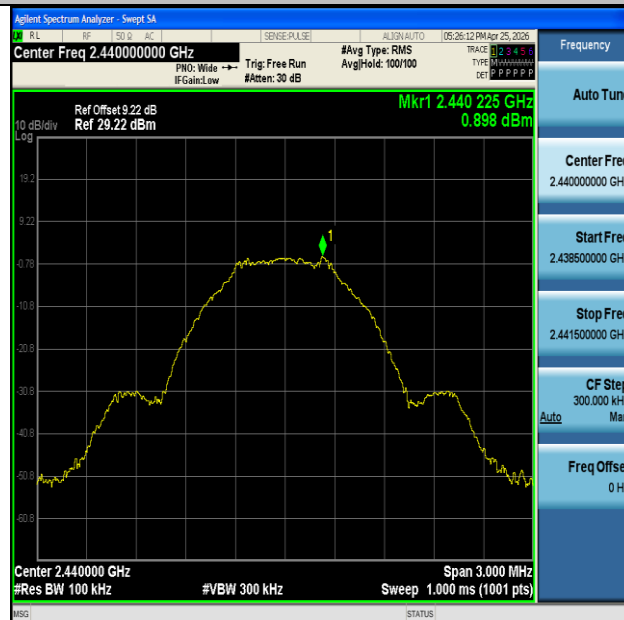


## Test Graphs



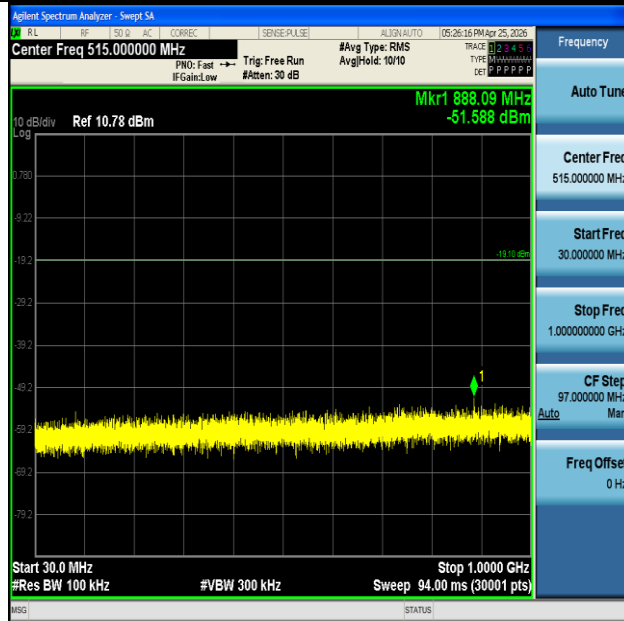


BLE\_1M-Ant1-2402-1000~26500-PASS

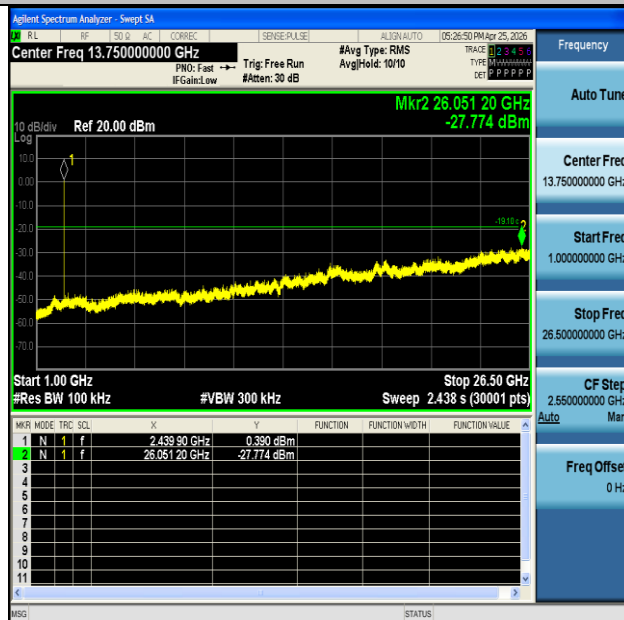


BLE\_1M-Ant1-2440-0~Reference-PASS





BLE\_1M-Ant1-2440-30~1000-PASS

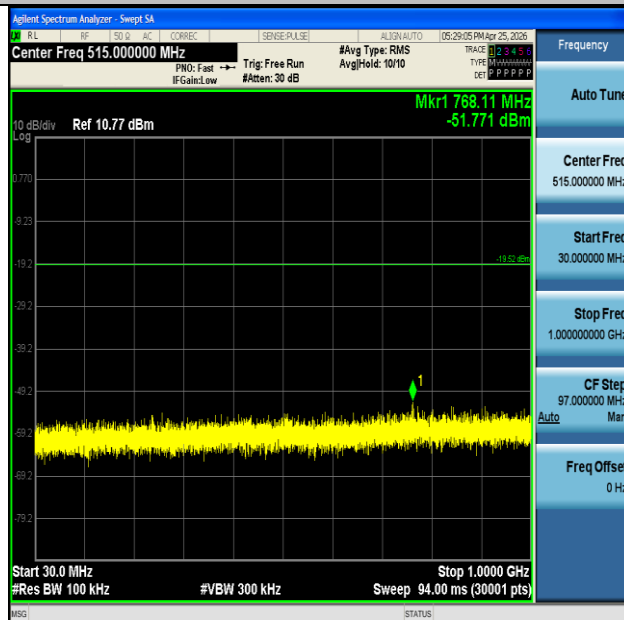


BLE\_1M-Ant1-2440-1000~26500-PASS



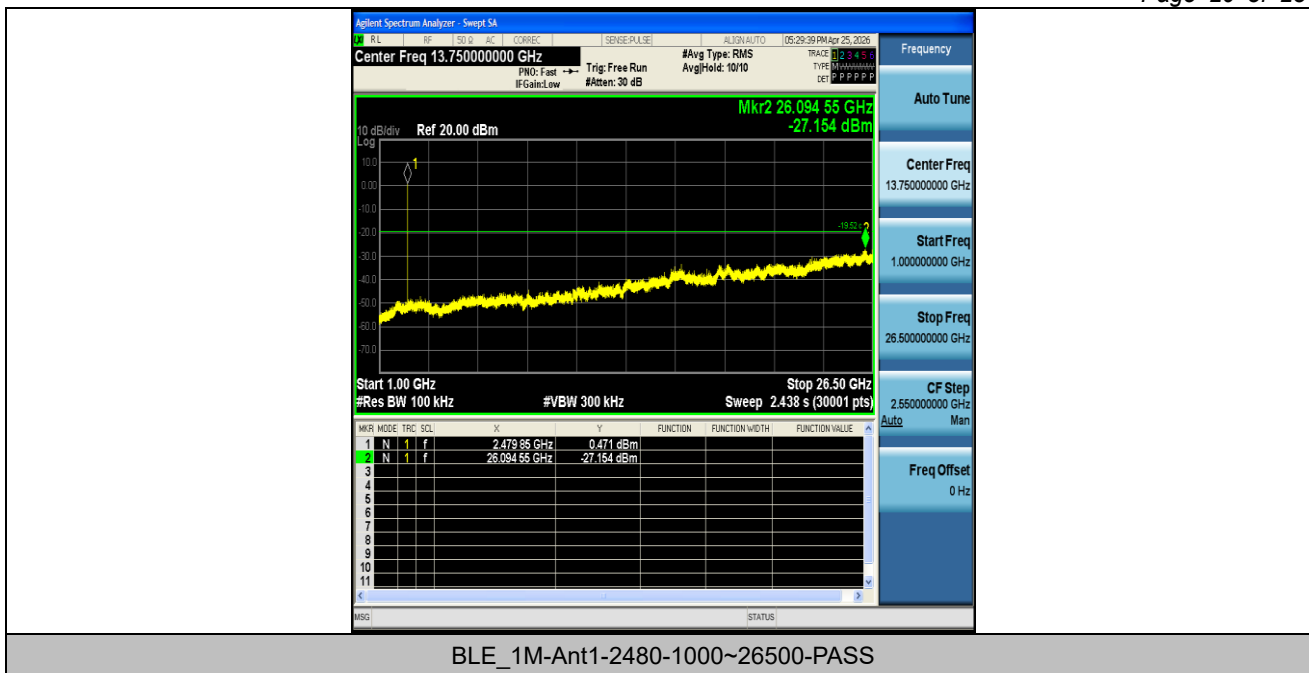


BLE\_1M-Ant1-2480-0~Reference-PASS



BLE\_1M-Ant1-2480-30~1000-PASS







## Appendix G: Duty Cycle

### Test Result

| Test Mode | Antenna | Frequency<br>[MHz] | ON Time<br>[ms] | Period<br>[ms] | Duty Cycle<br>[%] | Duty Cycle<br>Factor<br>[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



