

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: BT XPG RGBW LED FLOOD LIGHT

Test Model: BT-RGBW-XPG

Environmental Conditions

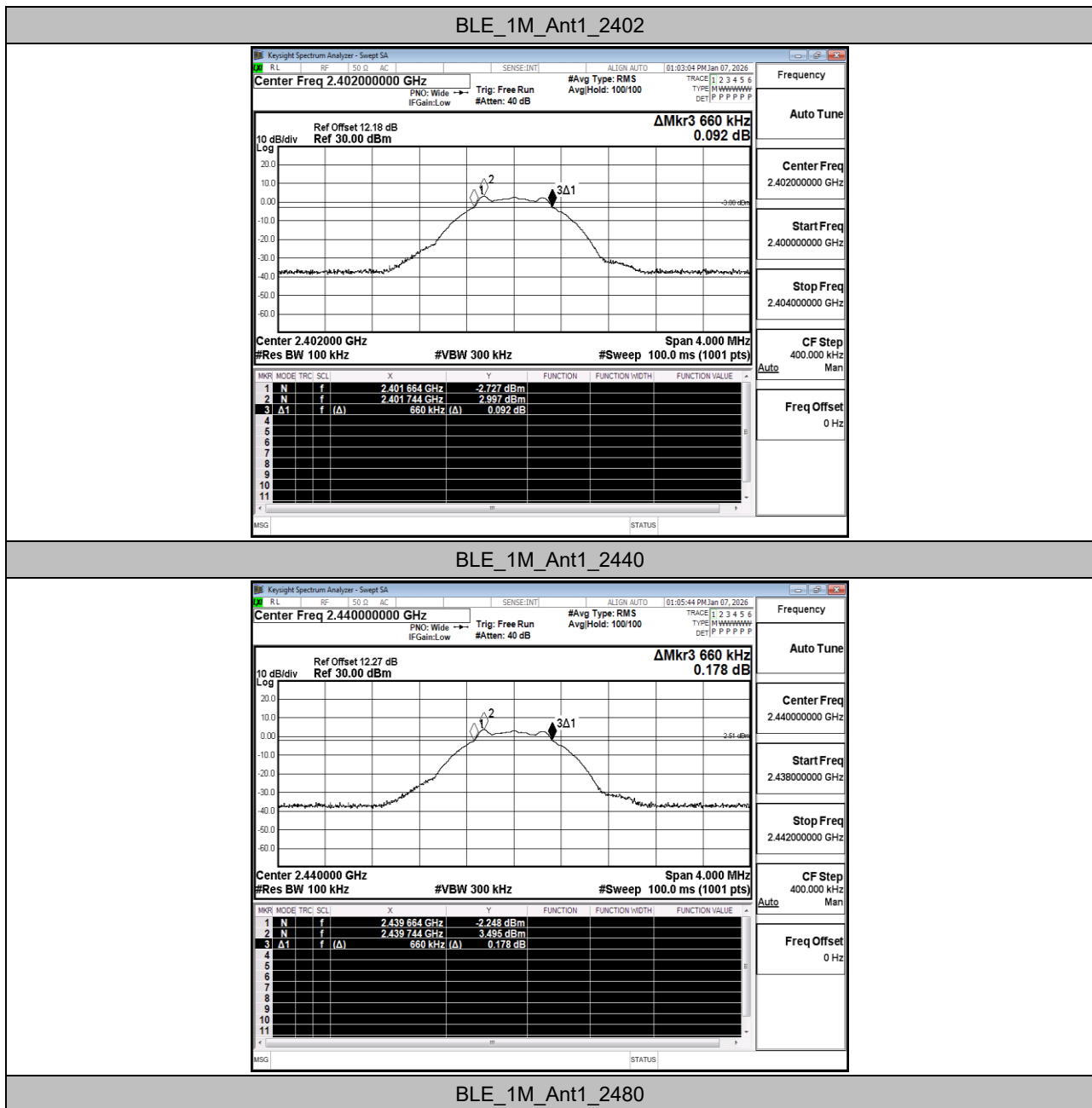
|                    |             |
|--------------------|-------------|
| Temperature:       | 23.8°C      |
| Relative Humidity: | 52.1%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Suichao Lai |
| Supervised by:     | Yan Chen    |

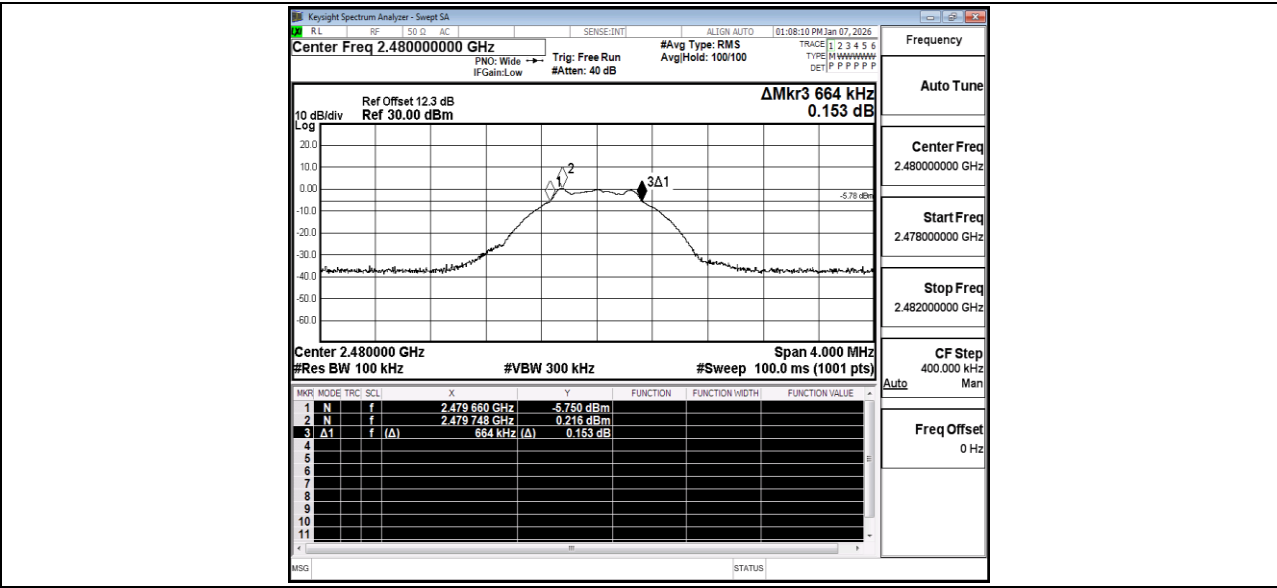
A.1 DTS Bandwidth

Test Result

| TestMode | Antenna | Freq(MHz) | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|-----------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402      | 0.660        | 2401.664 | 2402.324 | 0.5        | PASS    |
|          |         | 2440      | 0.660        | 2439.664 | 2440.324 | 0.5        | PASS    |
|          |         | 2480      | 0.664        | 2479.660 | 2480.324 | 0.5        | PASS    |

## Test Graphs



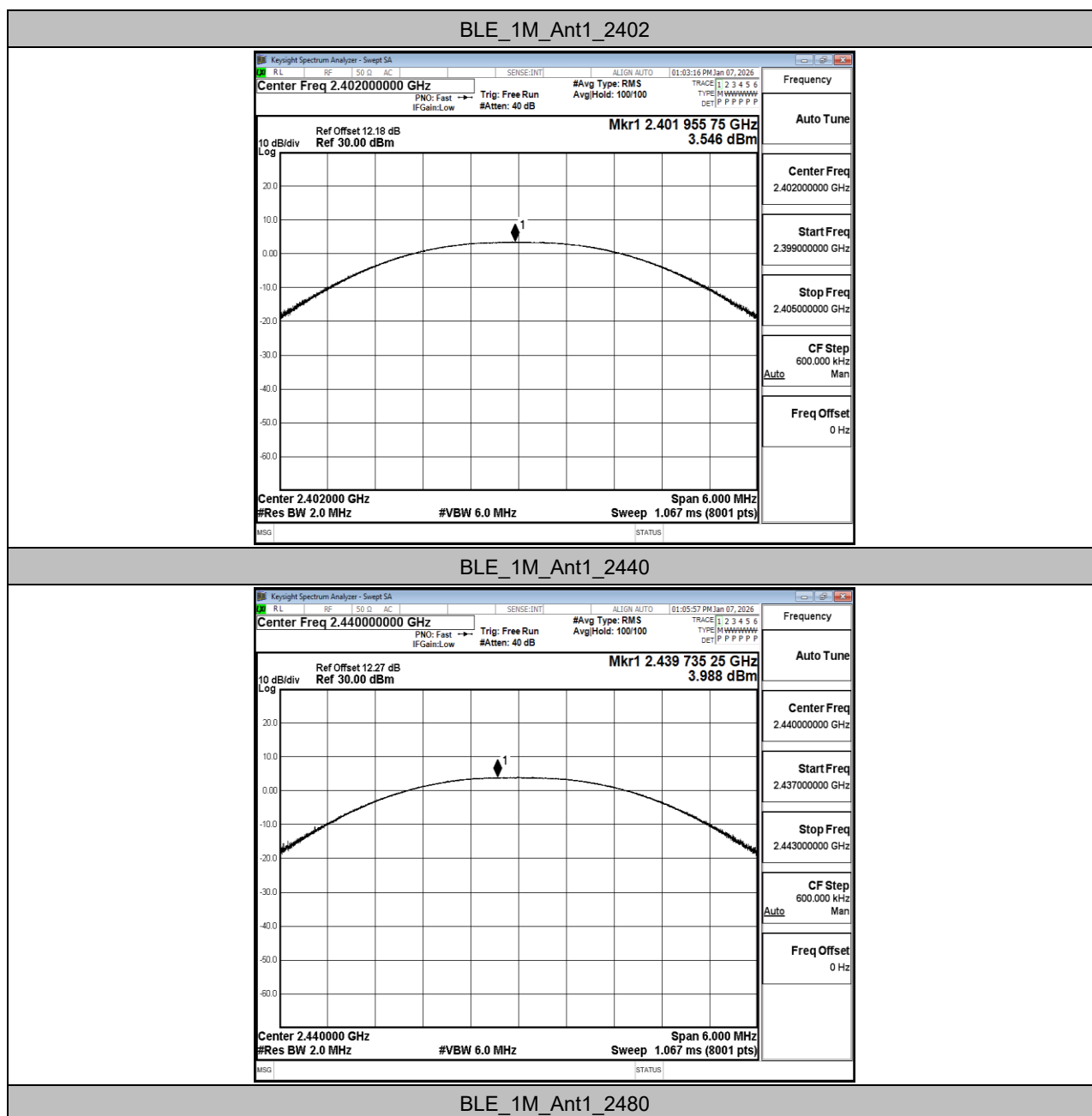


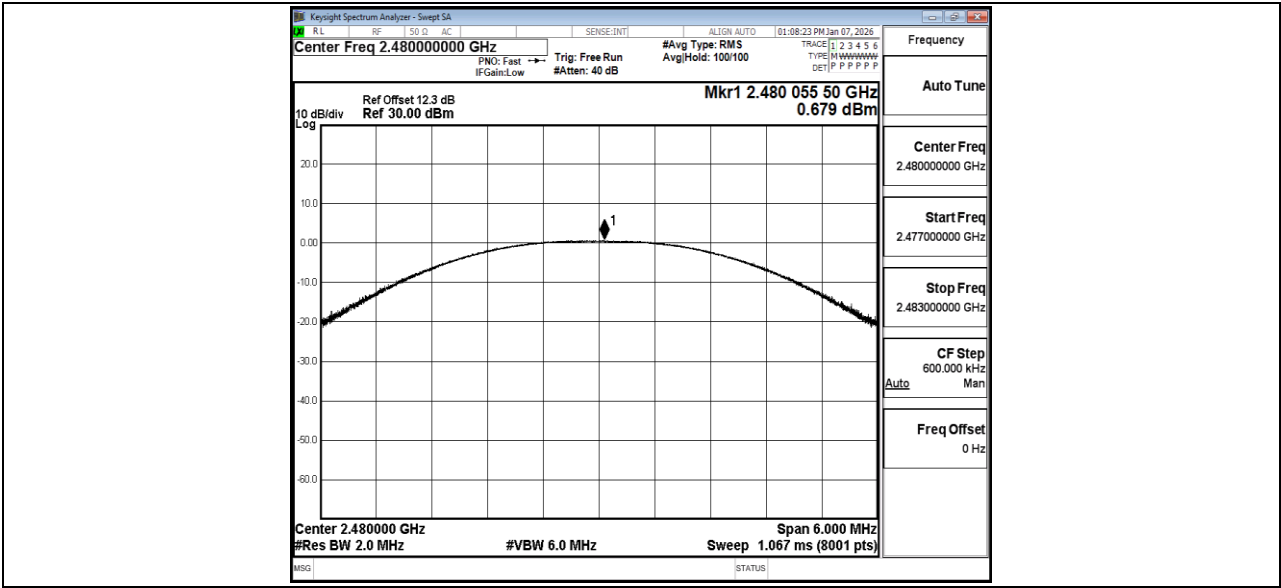
## A.2 Maximum conducted output power

### Test Result Peak

| TestMode | Antenna | Freq(MHz) | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|----------|---------|-----------|---------------------------|----------------------|---------|
| BLE_1M   | Ant1    | 2402      | 3.55                      | ≤30                  | PASS    |
|          |         | 2440      | 3.99                      | ≤30                  | PASS    |
|          |         | 2480      | 0.68                      | ≤30                  | PASS    |

### Test Graphs Peak



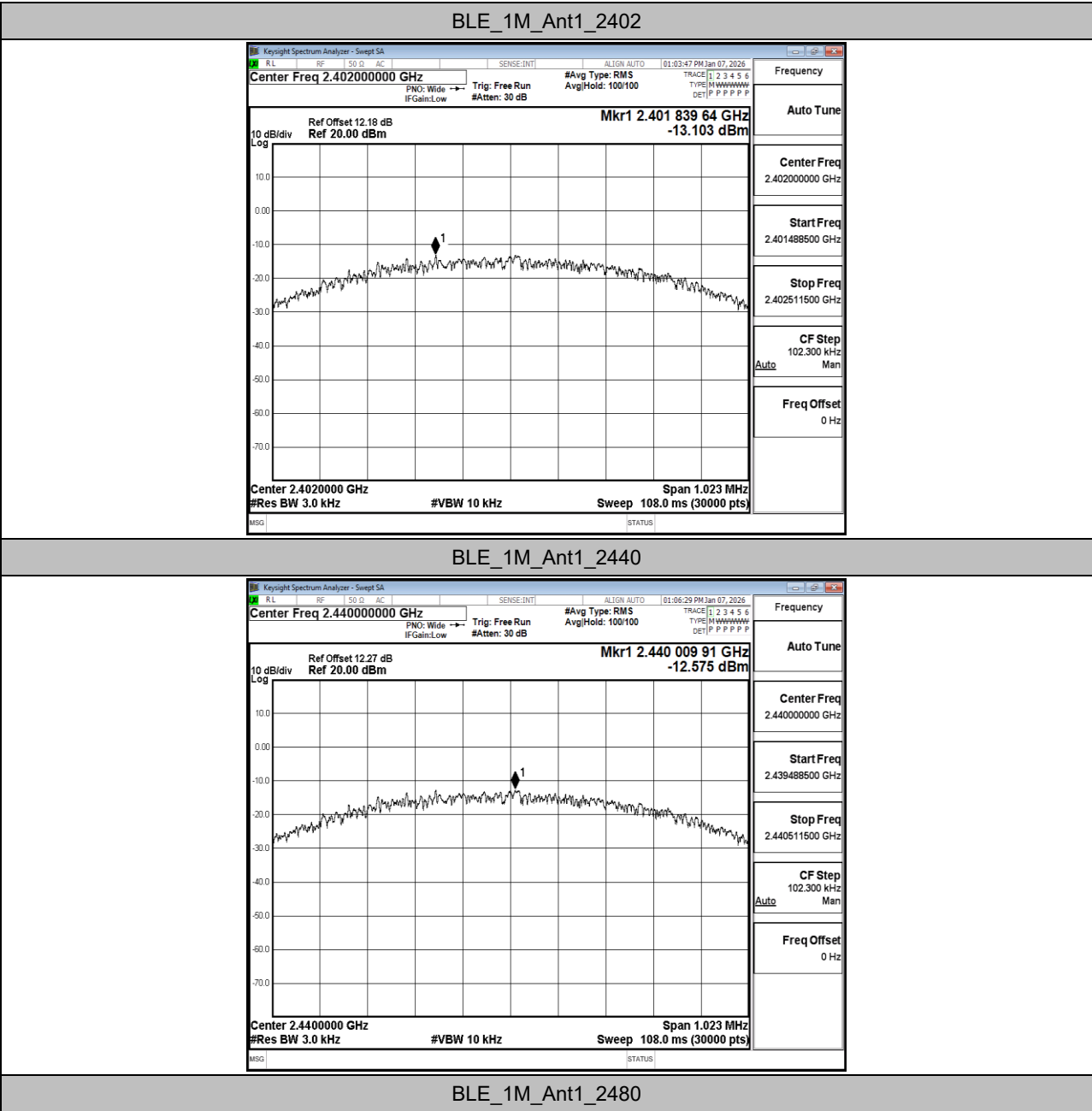


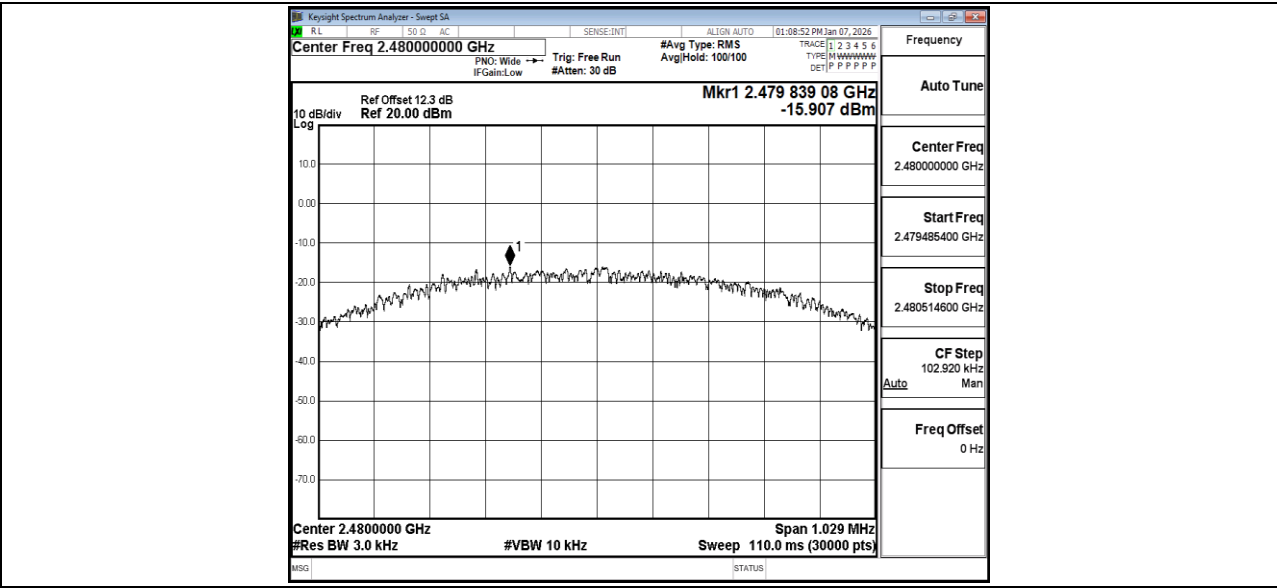
A.3 Maximum power spectral density

Test Result

| TestMode | Antenna | Freq(MHz) | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|-----------|------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402      | -13.10           | ≤8.00           | PASS    |
|          |         | 2440      | -12.58           | ≤8.00           | PASS    |
|          |         | 2480      | -15.91           | ≤8.00           | PASS    |

Test Graphs



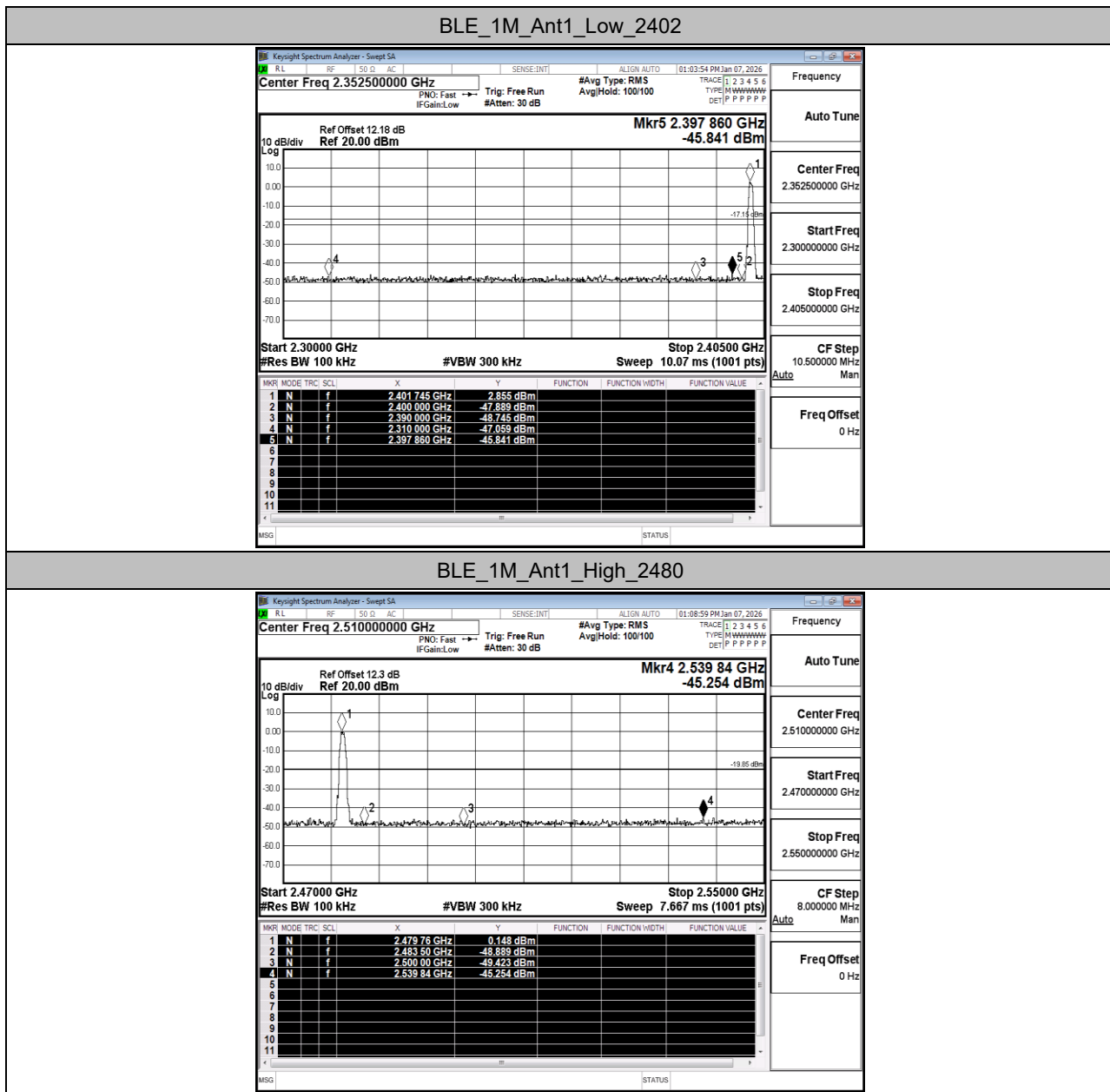


## A.4 Band edge measurements

### Test Result

| TestMode | Antenna | ChName | Freq(MHz) | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|-----------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low    | 2402      | 2.86          | -45.84      | ≤-17.15    | PASS    |
|          |         | High   | 2480      | 0.15          | -45.25      | ≤-19.85    | PASS    |

## Test Graphs

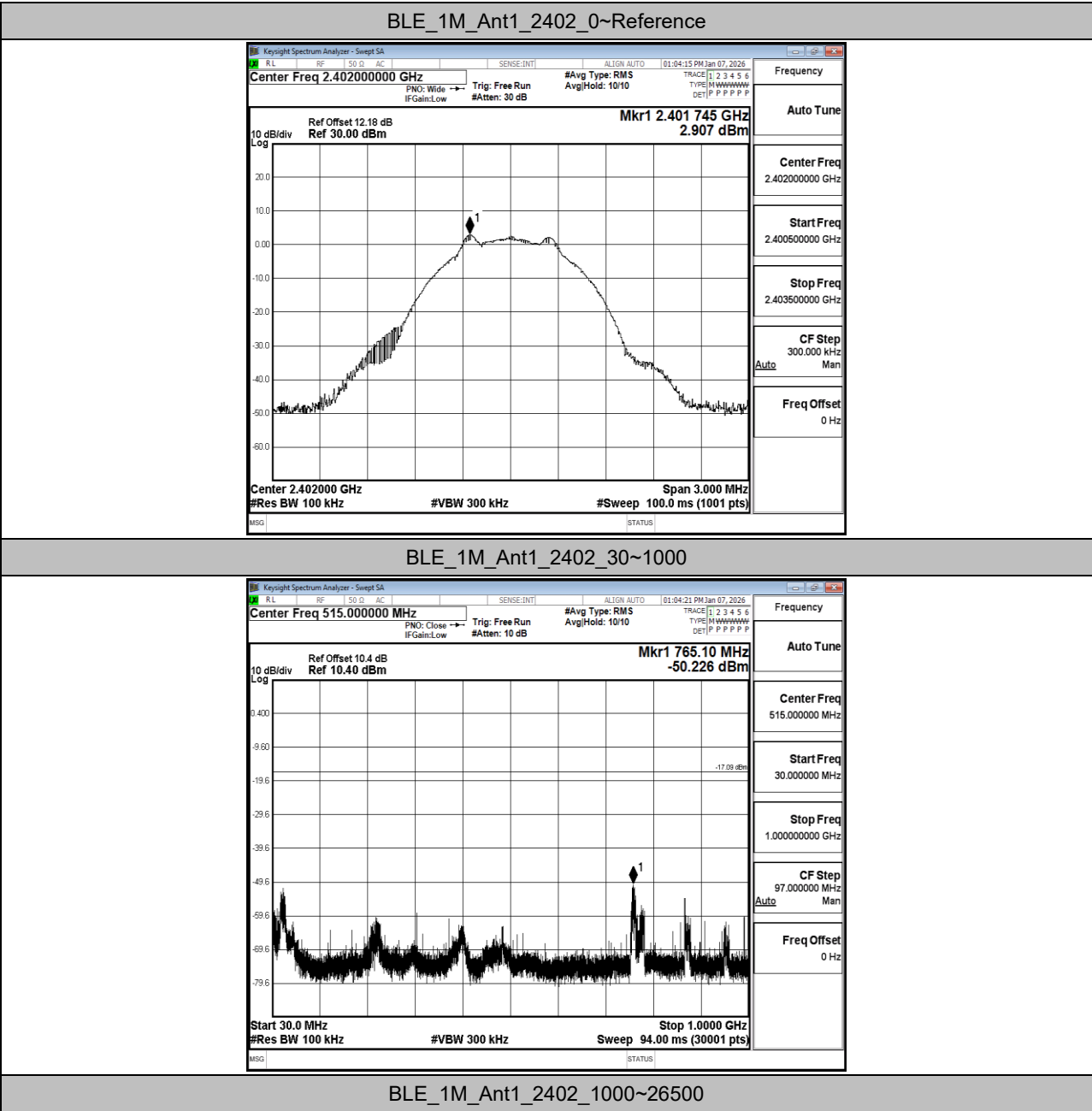


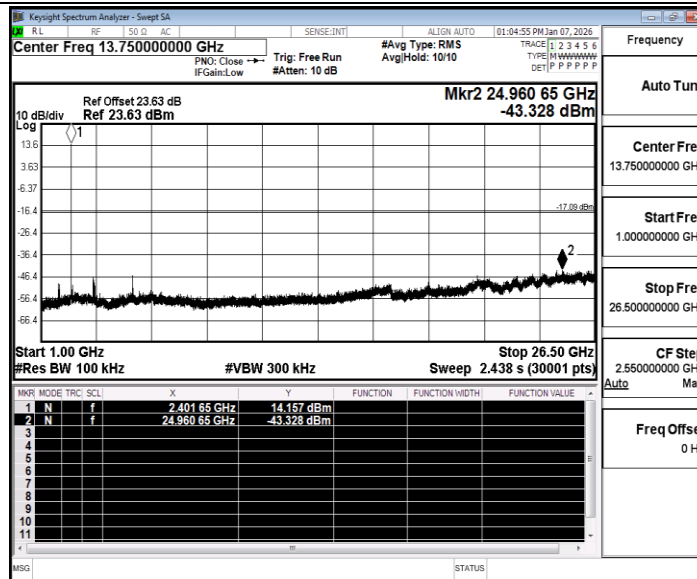
## A.5 Conducted Spurious Emission

### Test Result

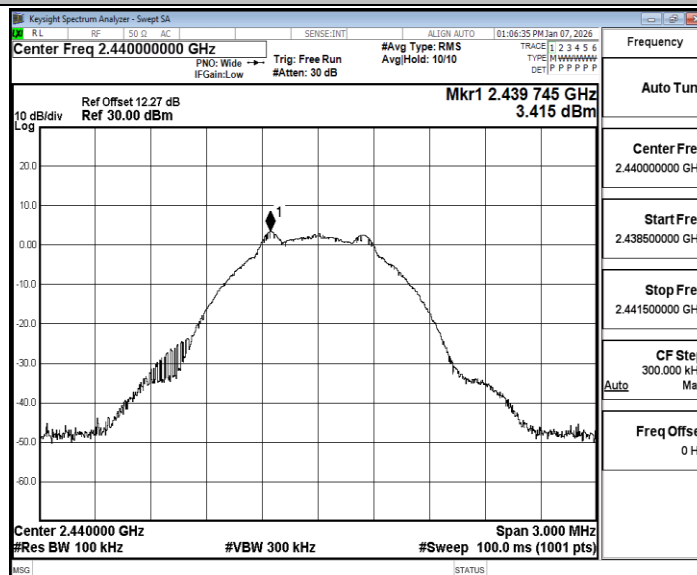
| TestMode | Antenna | Freq(MHz) | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|-----------|--------------------|-------------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402      | Reference          | 2.91              | 2.91        | ---        | PASS    |
|          |         |           | 30~1000            | 2.91              | -50.23      | ≤-17.09    | PASS    |
|          |         |           | 1000~26500         | 2.91              | -43.33      | ≤-17.09    | PASS    |
|          |         | 2440      | Reference          | 3.42              | 3.42        | ---        | PASS    |
|          |         |           | 30~1000            | 3.42              | -51.06      | ≤-16.58    | PASS    |
|          |         |           | 1000~26500         | 3.42              | -40.18      | ≤-16.58    | PASS    |
|          |         | 2480      | Reference          | 0.09              | 0.09        | ---        | PASS    |
|          |         |           | 30~1000            | 0.09              | -52.12      | ≤-19.91    | PASS    |
|          |         |           | 1000~26500         | 0.09              | -43.4       | ≤-19.91    | PASS    |

Test Graphs

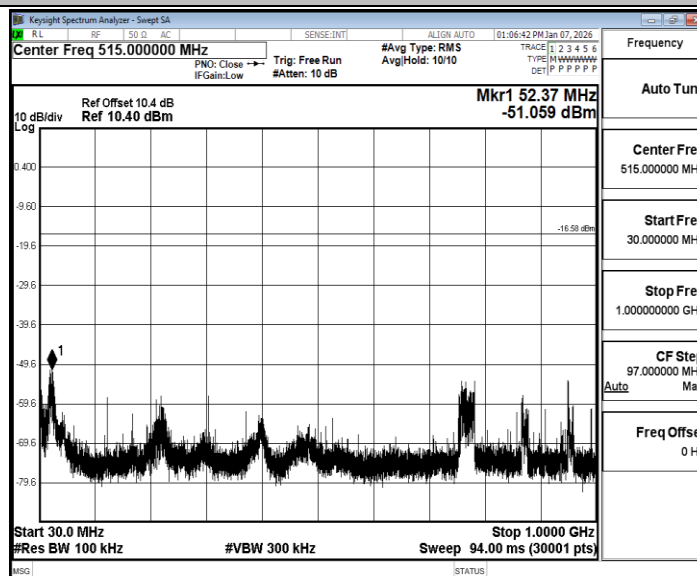




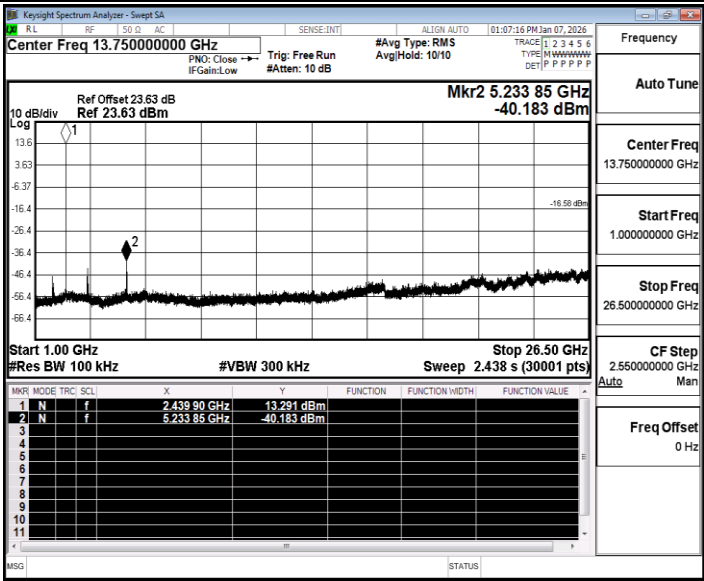
BLE\_1M\_Ant1\_2440\_0~Reference



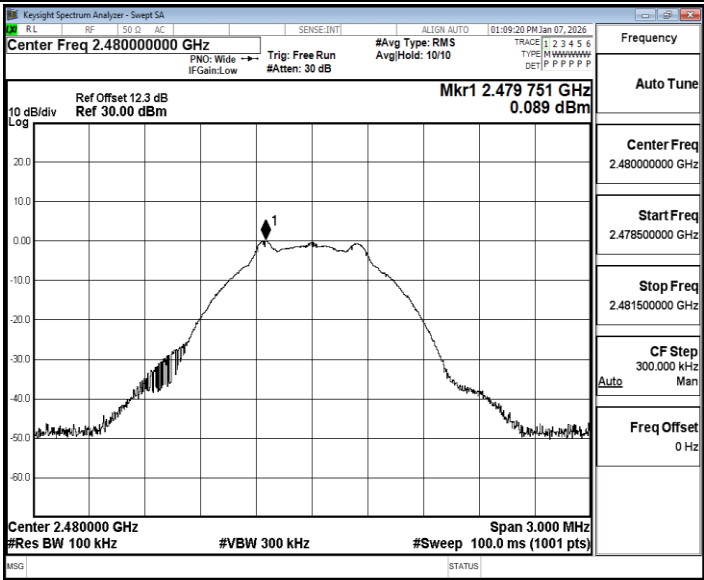
BLE\_1M\_Ant1\_2440\_30~1000



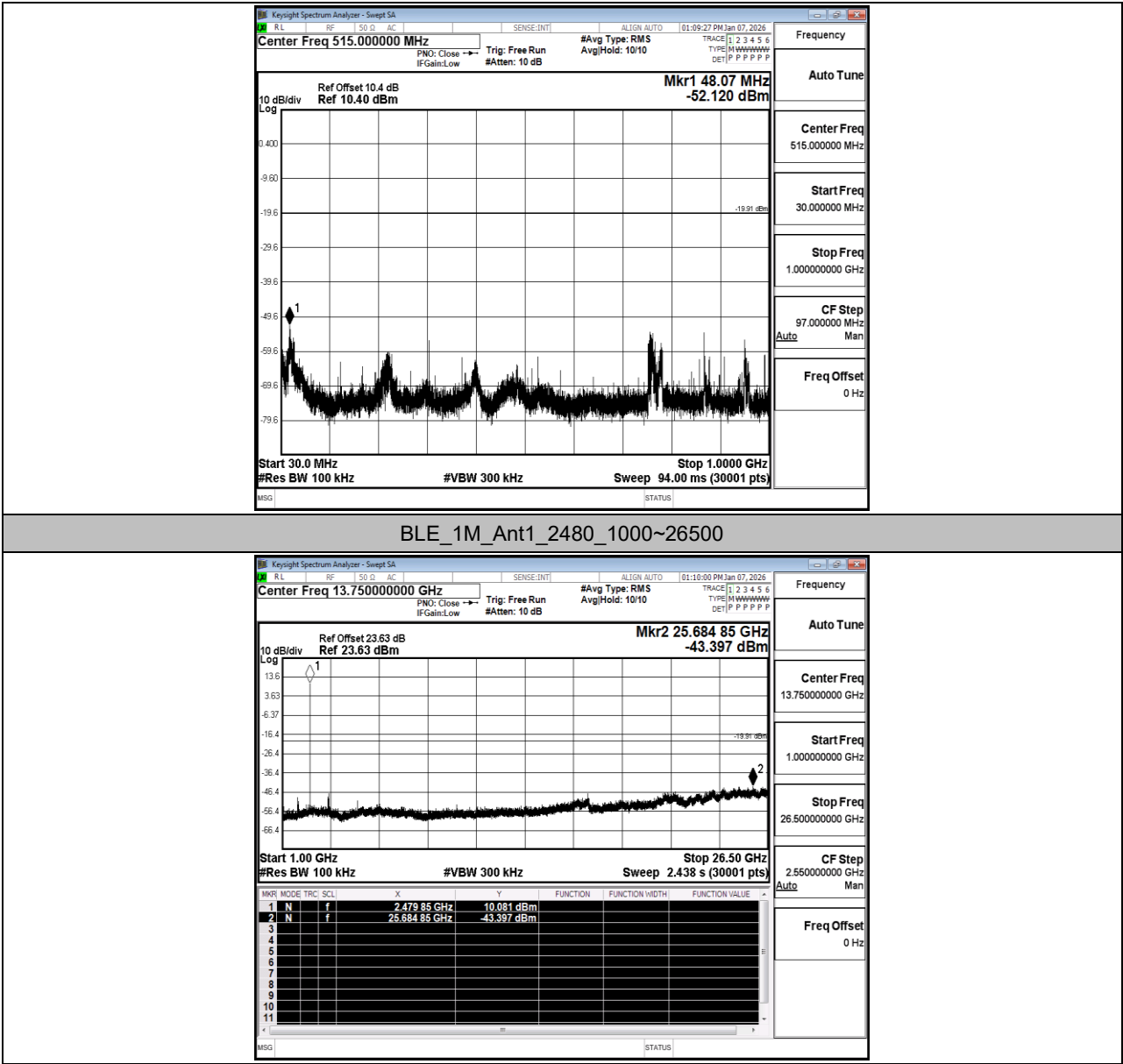
BLE\_1M\_Ant1\_2440\_1000~26500



BLE\_1M\_Ant1\_2480\_0~Reference



BLE\_1M\_Ant1\_2480\_30~1000

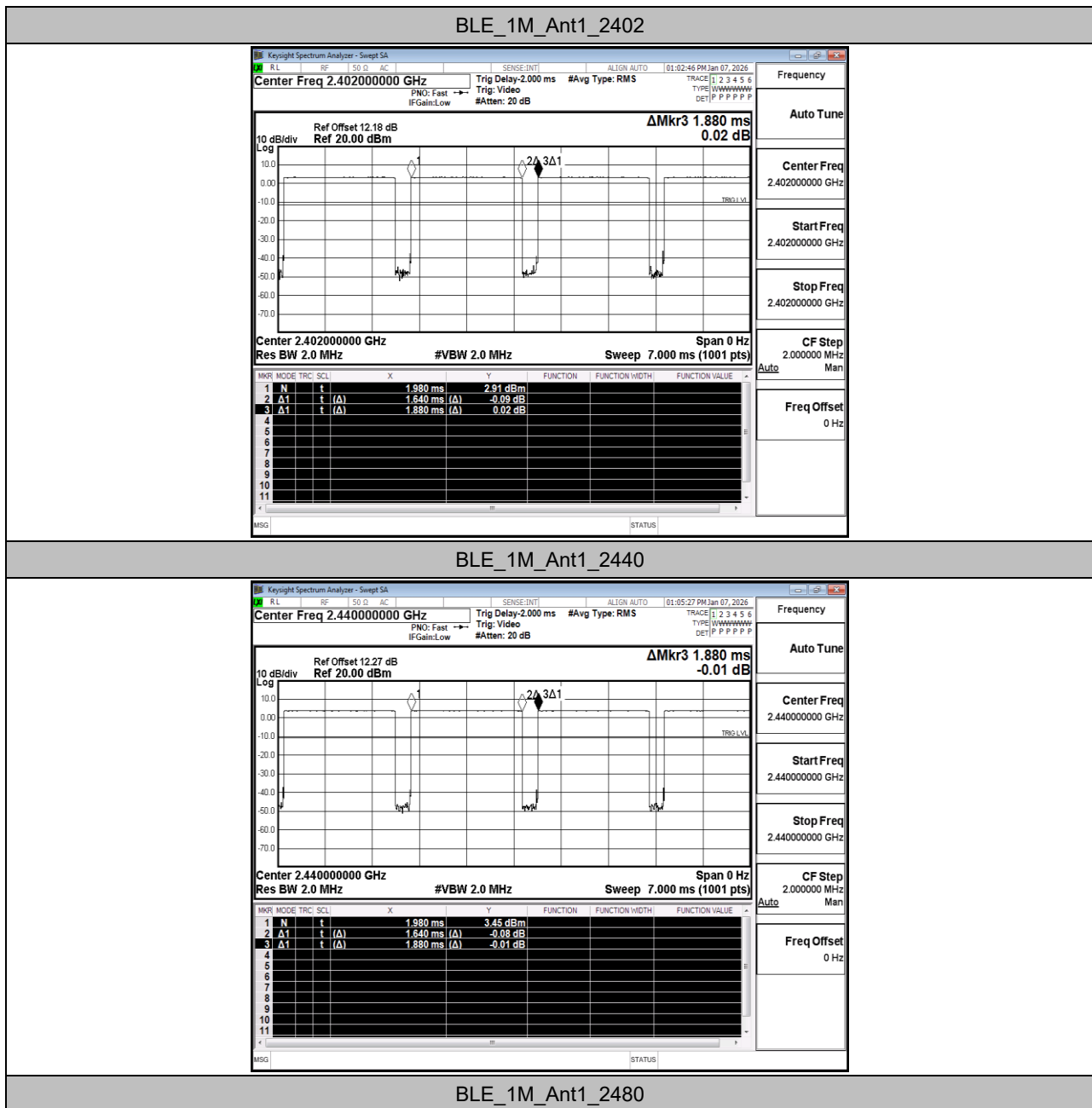


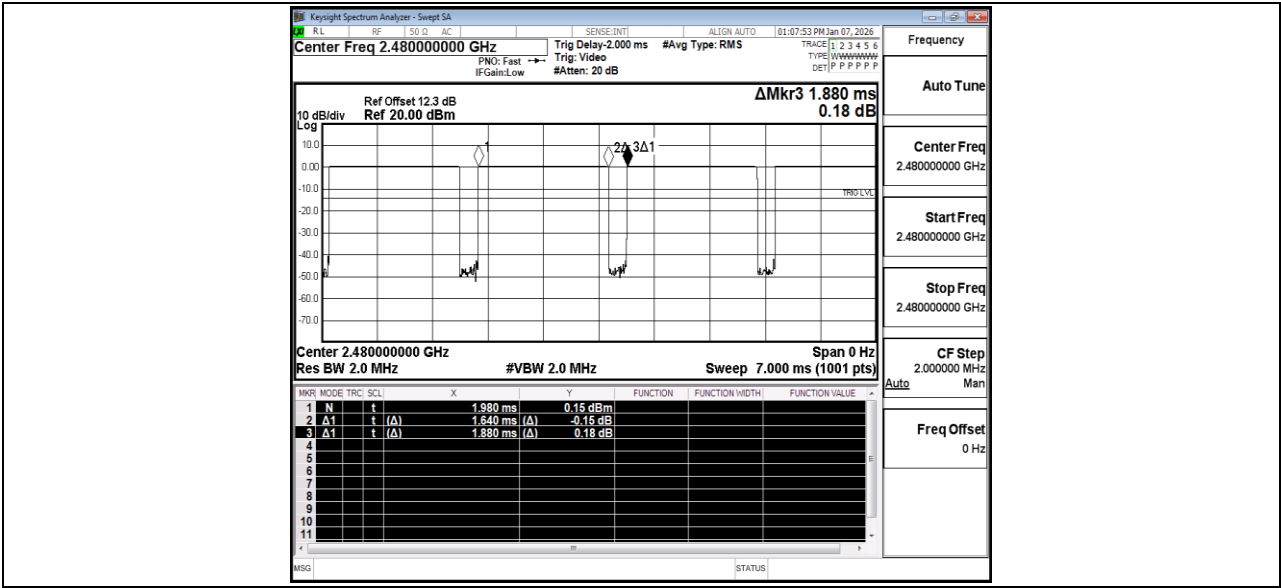
## A.6 Duty Cycle

### Test Result

| TestMode | Antenna | Freq(MHz) | ON Time<br>[ms] | Period<br>[ms] | X      | DC [%] | xFactor | Limit | Verdict |
|----------|---------|-----------|-----------------|----------------|--------|--------|---------|-------|---------|
| BLE_1M   | Ant1    | 2402      | 1.64            | 1.88           | 0.8723 | 87.23  | 0.59    | ---   | ---     |
|          |         | 2440      | 1.64            | 1.88           | 0.8723 | 87.23  | 0.59    | ---   | ---     |
|          |         | 2480      | 1.64            | 1.88           | 0.8723 | 87.23  | 0.59    | ---   | ---     |

## Test Graphs





## A.7 Emissions in Restricted Bands

### Test Result

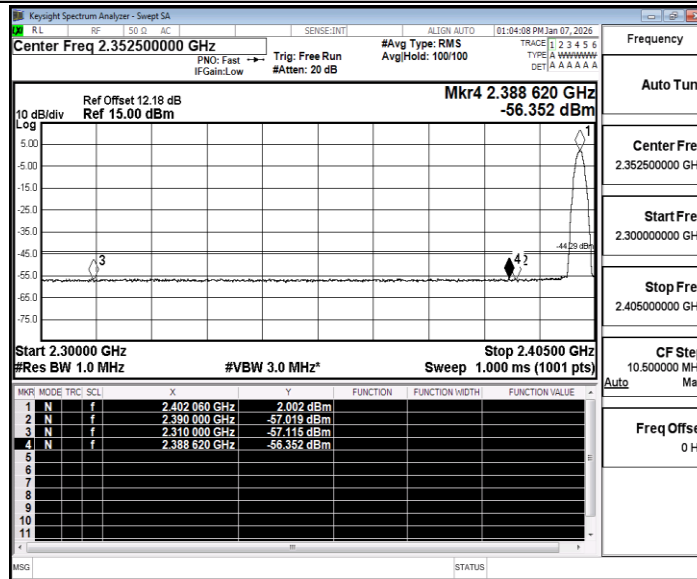
| Test Mode | Antenna | Channel Name | Freq (MHz) | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Gain [dBi] | DC Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|-----------|---------|--------------|------------|----------|------------|--------------|-------------|------------|----------------|-----------------|----------------|---------|
| BLE_1M    | Ant1    | Low          | 2402       | AV       | 2310.000   | -57.12       | ≤-44.29     | 2.00       | 0.59           | 40.73           | ≤54            | PASS    |
|           |         |              |            | AV       | 2388.620   | -56.35       | ≤-44.29     | 2.00       | 0.59           | 41.50           | ≤54            | PASS    |
|           |         |              |            | AV       | 2390.000   | -57.02       | ≤-44.29     | 2.00       | 0.59           | 40.83           | ≤54            | PASS    |
|           |         |              |            | Peak     | 2310.000   | -50.04       | ≤-23.70     | 2.00       | 0              | 47.22           | ≤74            | PASS    |
|           |         |              |            | Peak     | 2385.365   | -45.62       | ≤-23.70     | 2.00       | 0              | 51.64           | ≤74            | PASS    |
|           |         |              |            | Peak     | 2390.000   | -48.36       | ≤-23.70     | 2.00       | 0              | 48.90           | ≤74            | PASS    |
|           |         | High         | 2480       | AV       | 2483.500   | -56.47       | ≤-44.29     | 2.00       | 0.59           | 41.38           | ≤54            | PASS    |
|           |         |              |            | AV       | 2499.200   | -55.78       | ≤-44.29     | 2.00       | 0.59           | 42.07           | ≤54            | PASS    |
|           |         |              |            | AV       | 2500.000   | -57.07       | ≤-44.29     | 2.00       | 0.59           | 40.78           | ≤54            | PASS    |
|           |         |              |            | Peak     | 2483.500   | -49.14       | ≤-23.70     | 2.00       | 0              | 48.12           | ≤74            | PASS    |
|           |         |              |            | Peak     | 2496.320   | -45.46       | ≤-23.70     | 2.00       | 0              | 51.80           | ≤74            | PASS    |
|           |         |              |            | Peak     | 2500.000   | -48.84       | ≤-23.70     | 2.00       | 0              | 48.42           | ≤74            | PASS    |

Note:

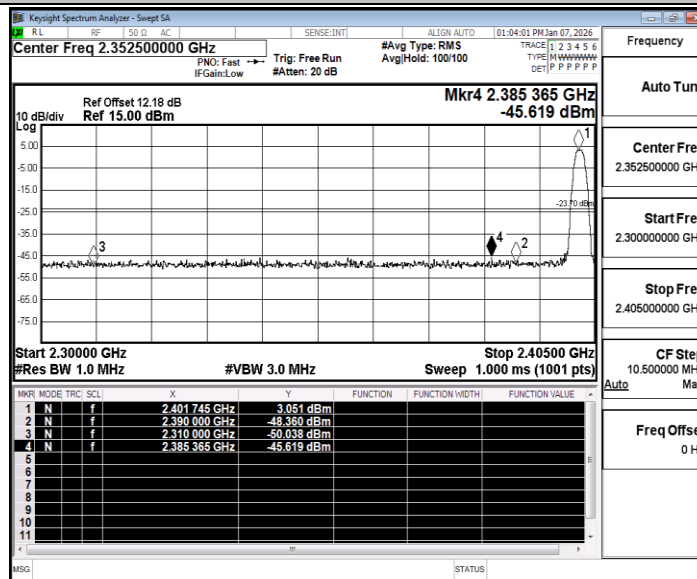
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

## Test Graphs

BLE\_1M\_Ant1\_Low\_2402\_AV



BLE\_1M\_Ant1\_Low\_2402\_Peak



BLE\_1M\_Ant1\_High\_2480\_AV

