

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Permanent Outdoor Lights  
Test Model: JG-001W-10

Environmental Conditions

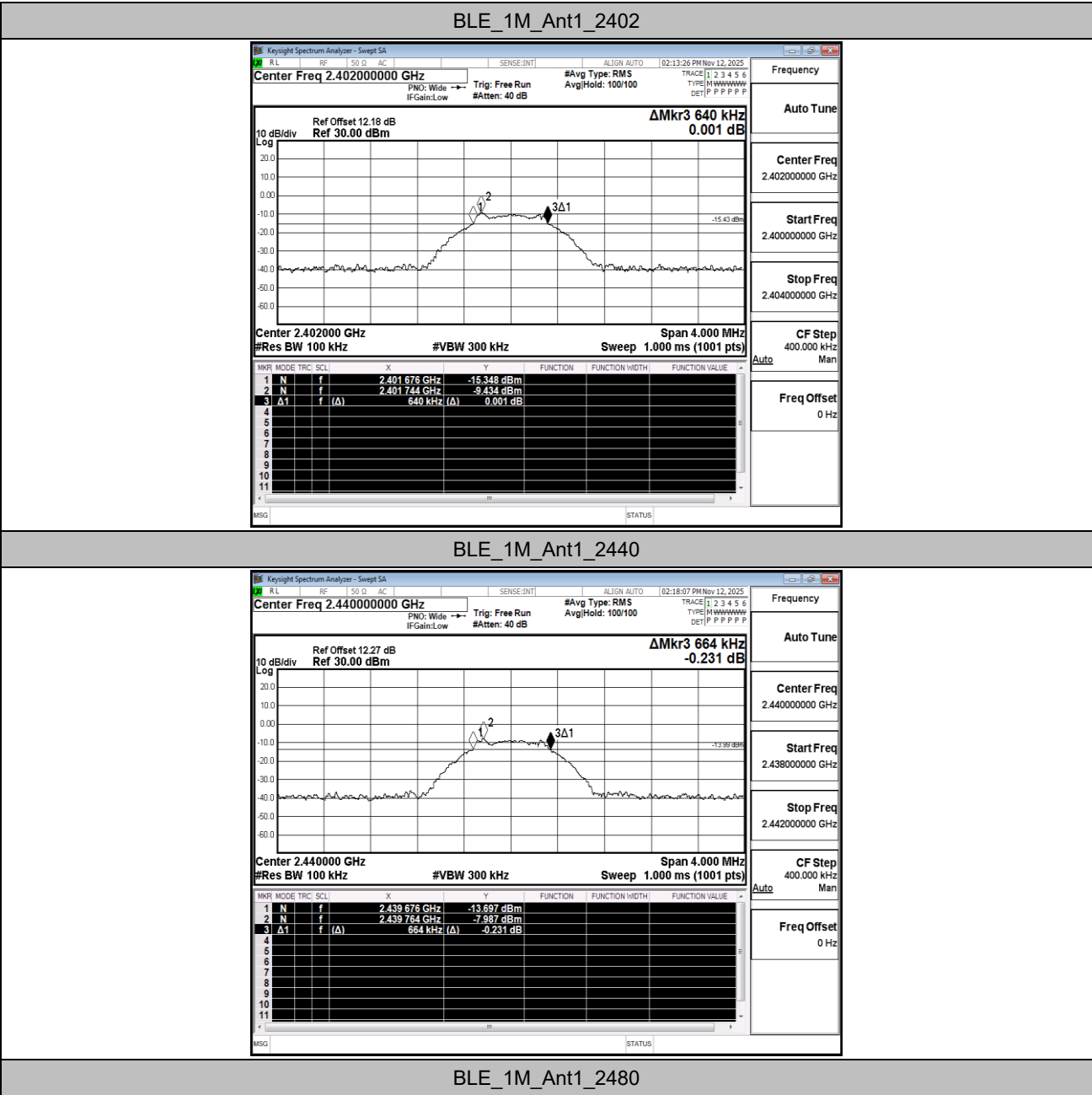
|                    |             |
|--------------------|-------------|
| Temperature:       | 23.6°C      |
| Relative Humidity: | 52.3%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Suichao Lai |
| Supervised by:     | Yan Chen    |

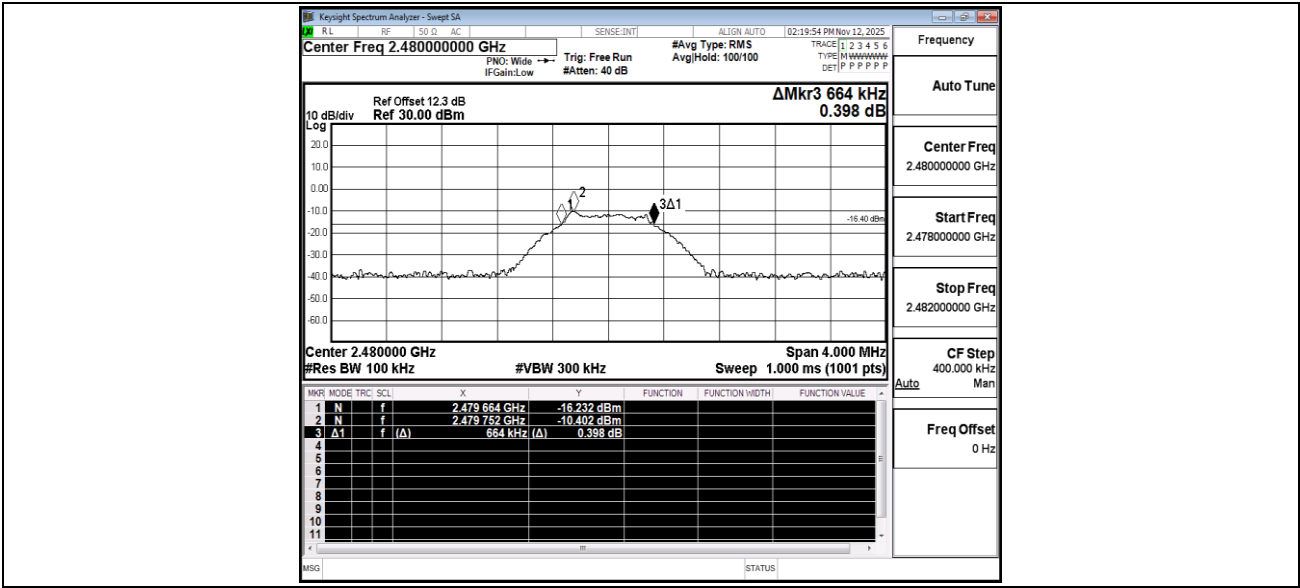
## A.1 -6dB Bandwidth

### Test Result

| TestMode | Antenna | Freq(MHz) | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|-----------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402      | 0.640        | 2401.676 | 2402.316 | 0.5        | PASS    |
|          |         | 2440      | 0.664        | 2439.676 | 2440.340 | 0.5        | PASS    |
|          |         | 2480      | 0.664        | 2479.664 | 2480.328 | 0.5        | PASS    |

Test Graphs



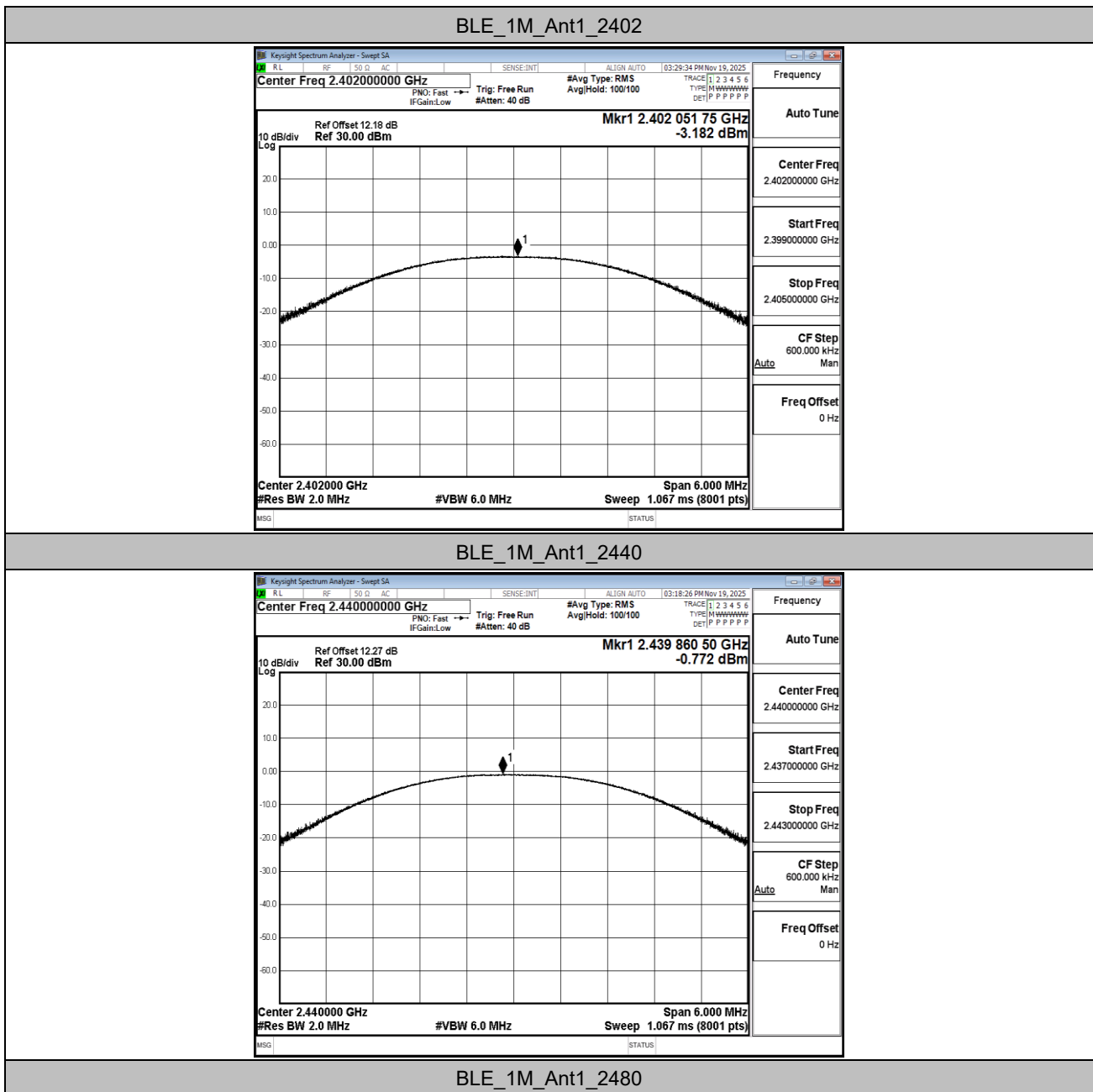


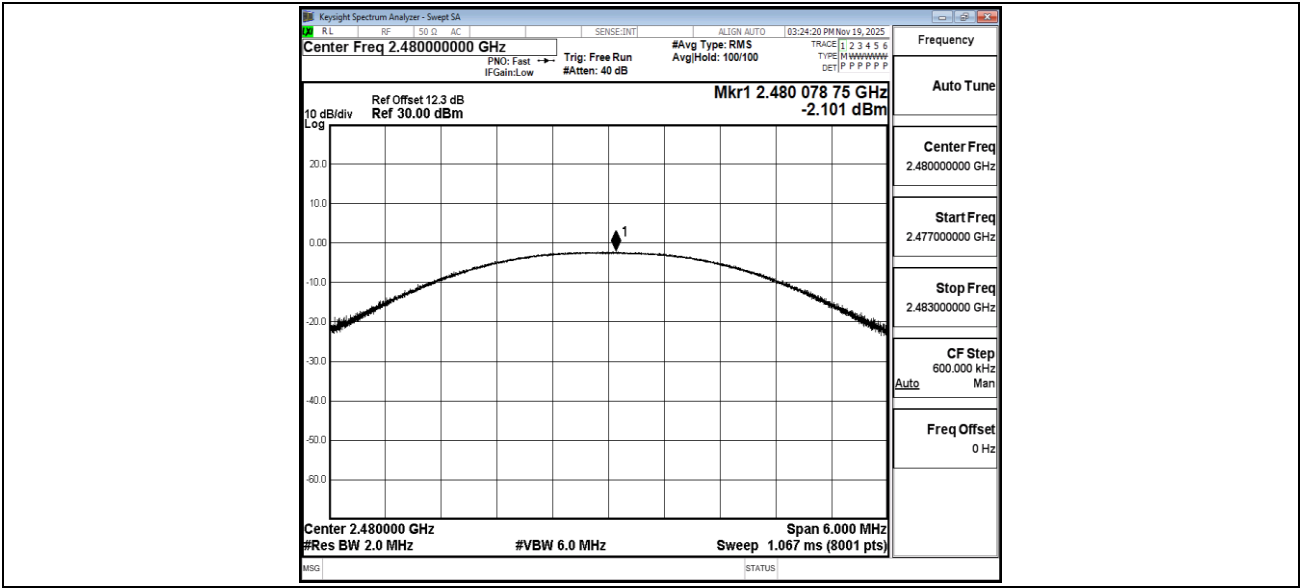
## A.2 Maximum Peak Conducted Output Power

### Test Result Peak

| TestMode | Antenna | Freq(MHz) | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|----------|---------|-----------|---------------------------|----------------------|---------|
| BLE_1M   | Ant1    | 2402      | -3.18                     | ≤30                  | PASS    |
|          |         | 2440      | -0.77                     | ≤30                  | PASS    |
|          |         | 2480      | -2.10                     | ≤30                  | PASS    |

### Test Graphs Peak



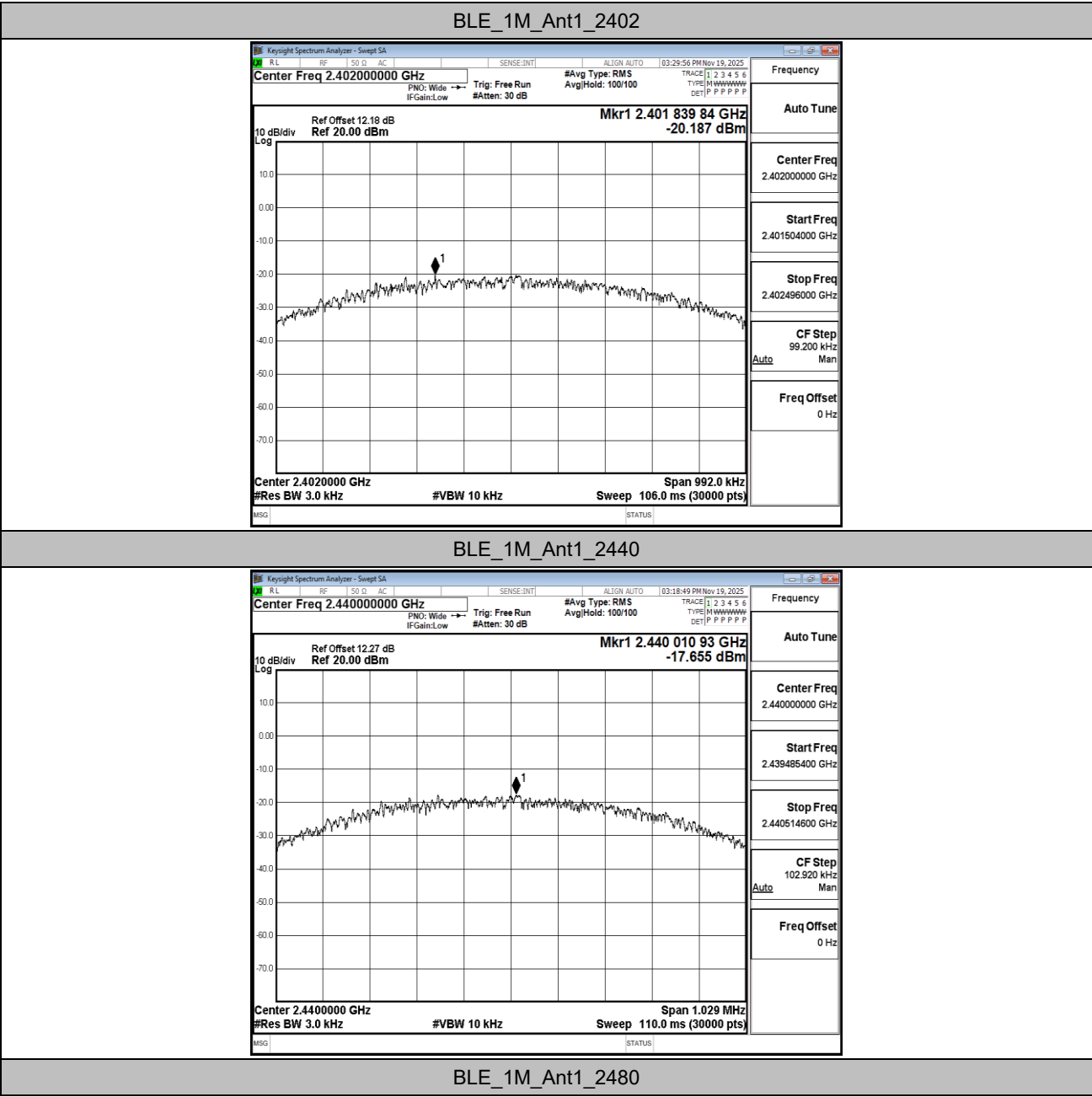


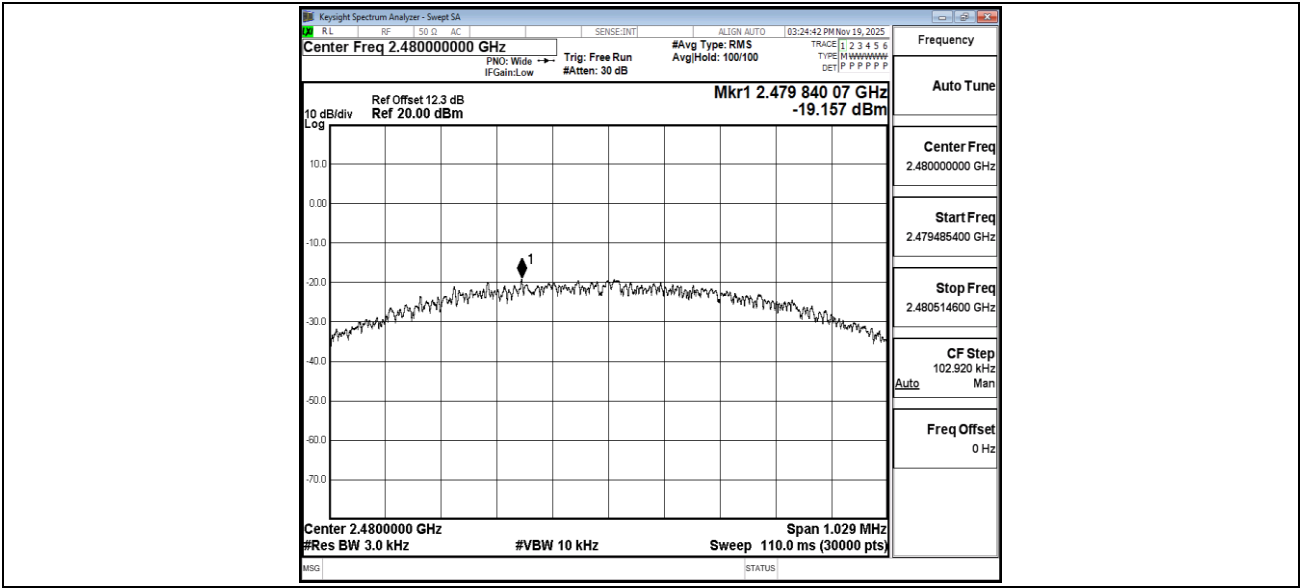
### A.3 Maximum Power Spectral Density Level

Test Result

| TestMode | Antenna | Freq(MHz) | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|-----------|------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402      | -20.19           | ≤8.00           | PASS    |
|          |         | 2440      | -17.66           | ≤8.00           | PASS    |
|          |         | 2480      | -19.16           | ≤8.00           | PASS    |

Test Graphs



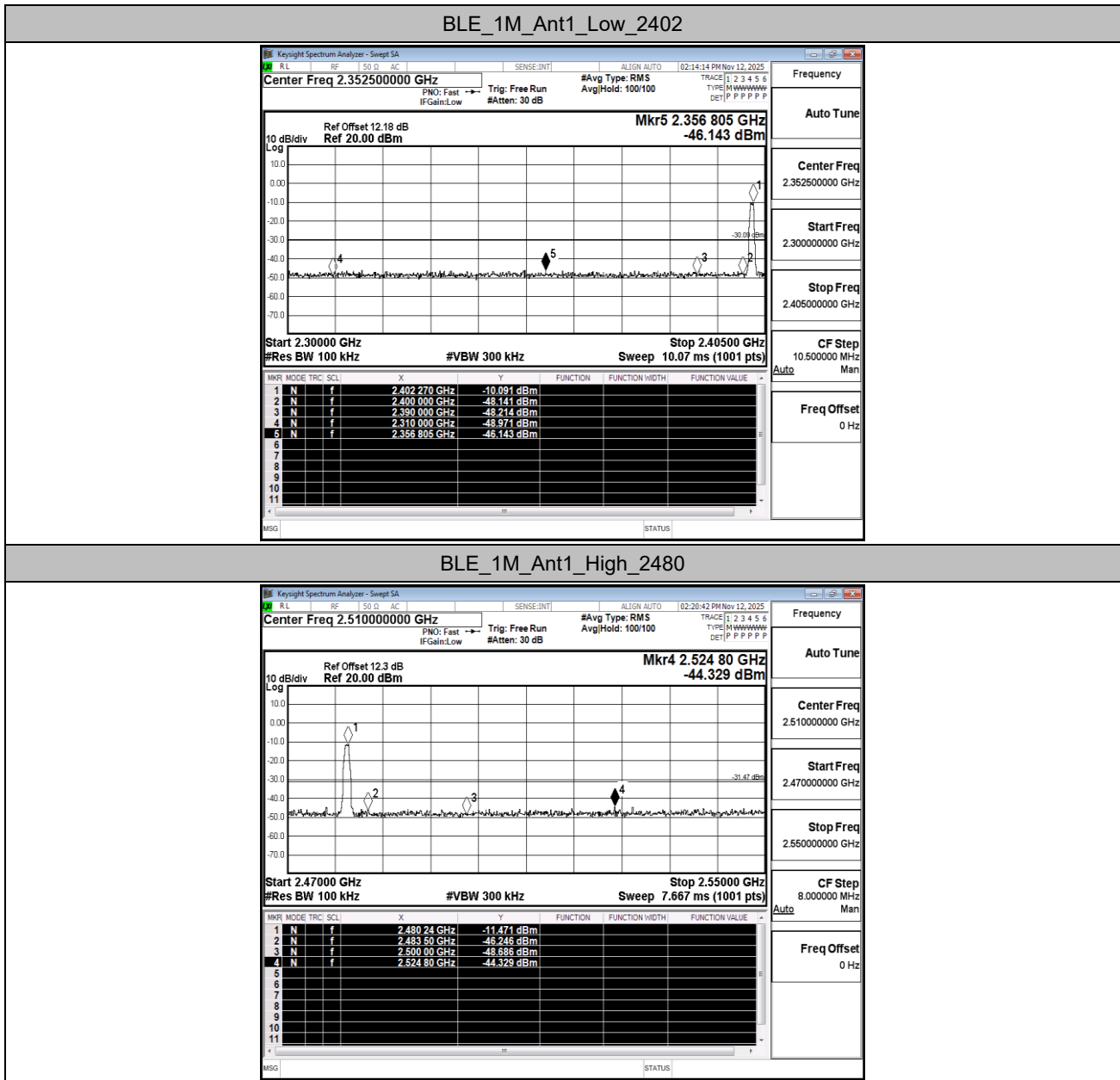


## A.4 Band Edge

### Test Result

| TestMode | Antenna | ChName | Freq(MHz) | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|-----------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low    | 2402      | -10.09        | -46.14      | ≤-30.09    | PASS    |
|          |         | High   | 2480      | -11.47        | -44.33      | ≤-31.47    | PASS    |

## Test Graphs

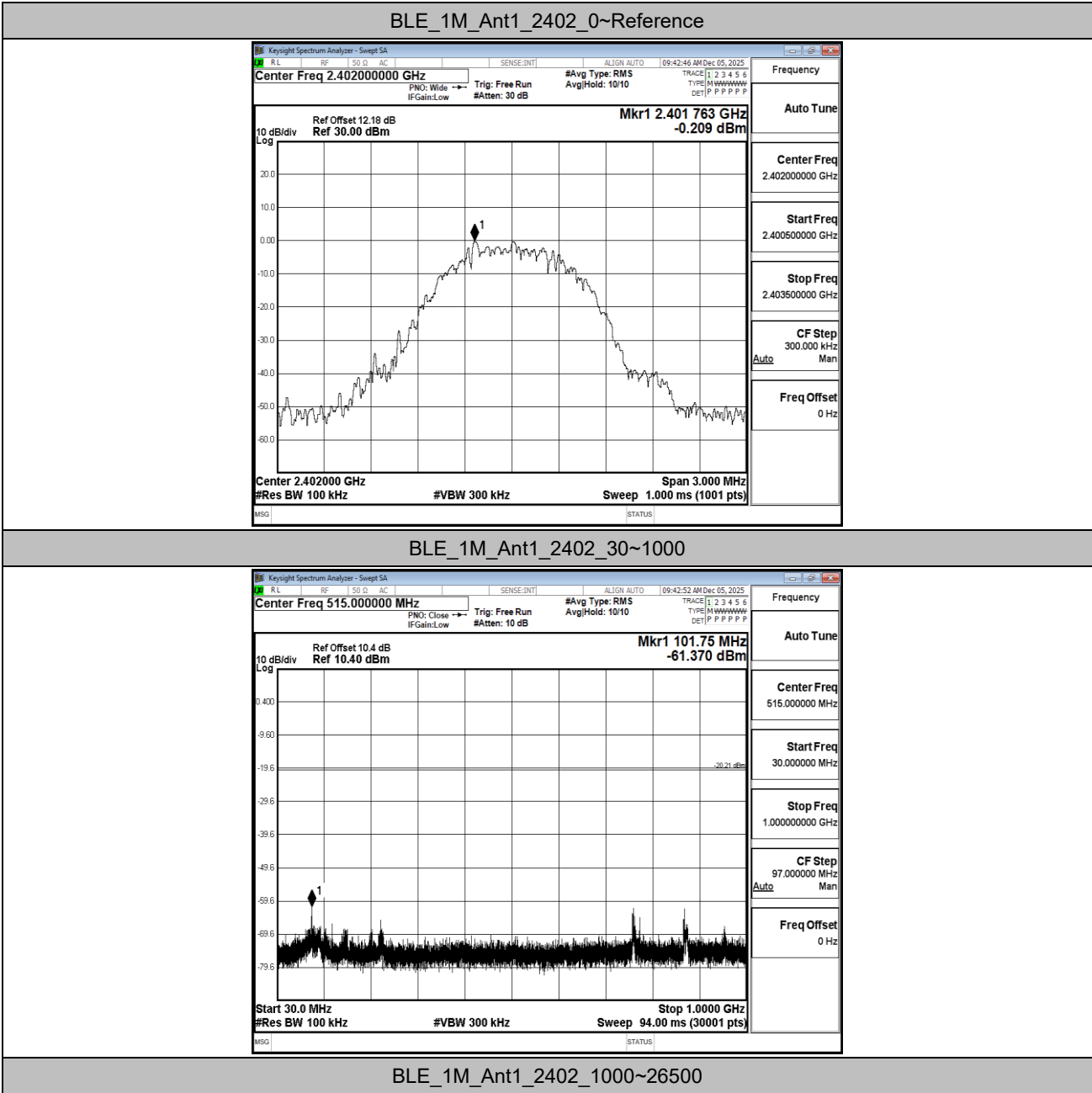


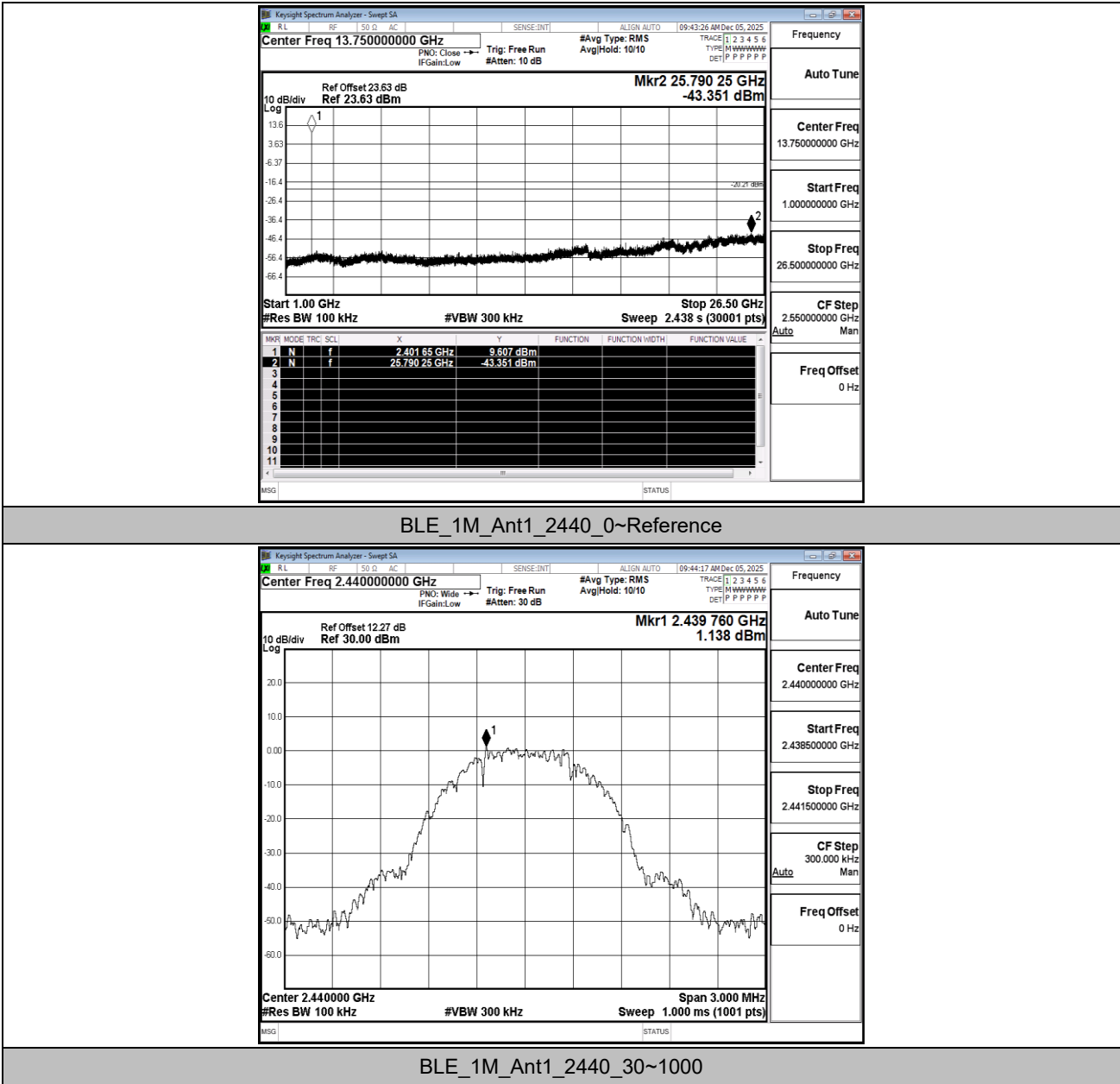
## A.5 Conducted RF Spurious Emission

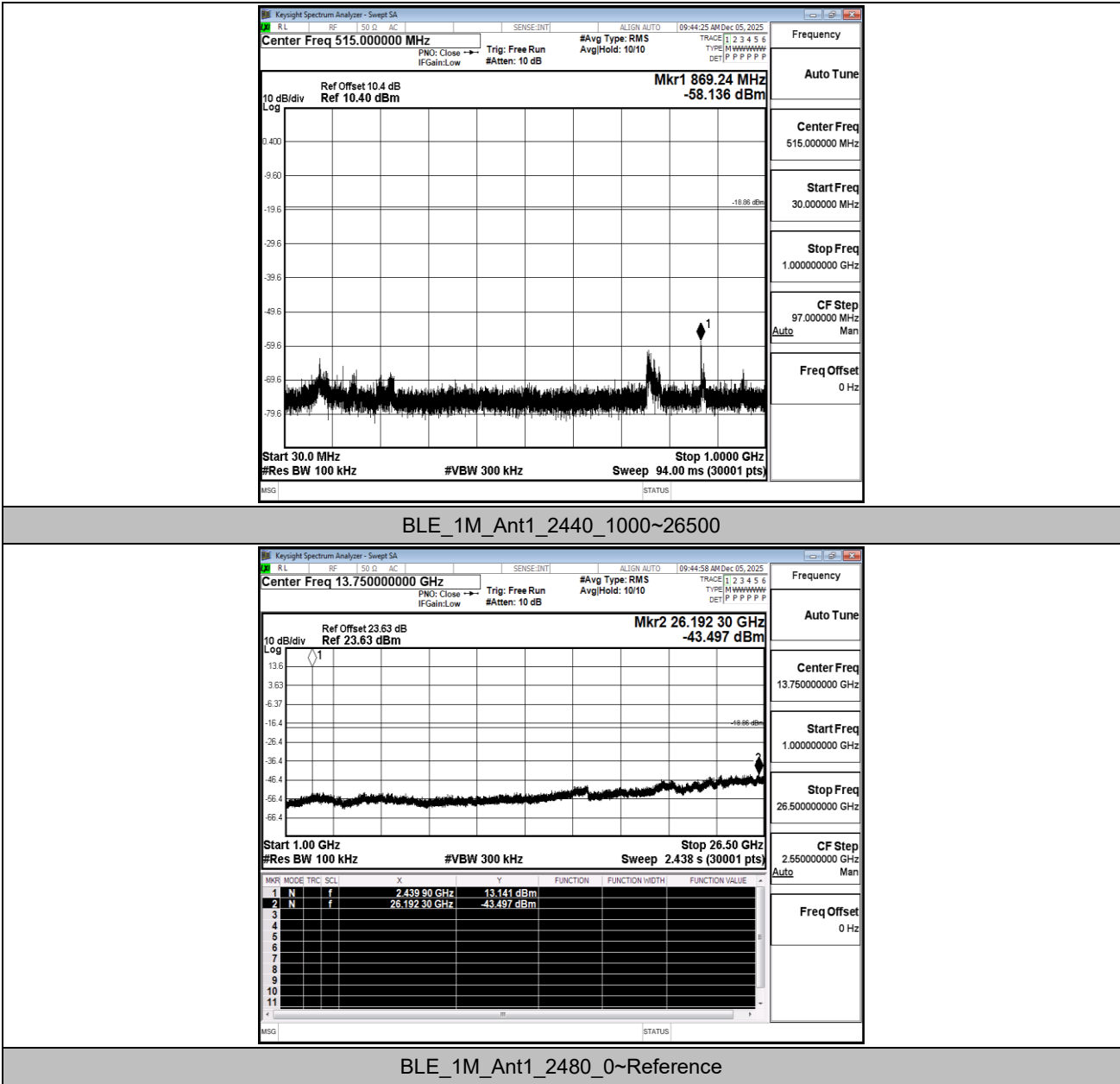
### Test Result

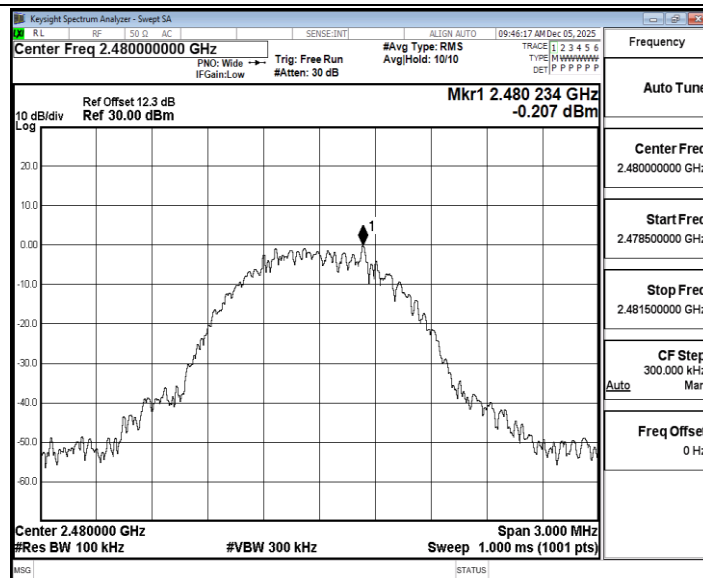
| TestMode | Antenna | Freq(MHz) | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|-----------|--------------------|-------------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402      | Reference          | -0.21             | -0.21       | ---        | PASS    |
|          |         |           | 30~1000            | -0.21             | -61.37      | ≤-20.21    | PASS    |
|          |         |           | 1000~26500         | -0.21             | -43.35      | ≤-20.21    | PASS    |
|          |         | 2440      | Reference          | 1.14              | 1.14        | ---        | PASS    |
|          |         |           | 30~1000            | 1.14              | -58.14      | ≤-18.86    | PASS    |
|          |         |           | 1000~26500         | 1.14              | -43.5       | ≤-18.86    | PASS    |
|          |         | 2480      | Reference          | -0.21             | -0.21       | ---        | PASS    |
|          |         |           | 30~1000            | -0.21             | -61.1       | ≤-20.21    | PASS    |
|          |         |           | 1000~26500         | -0.21             | -43.4       | ≤-20.21    | PASS    |

Test Graphs

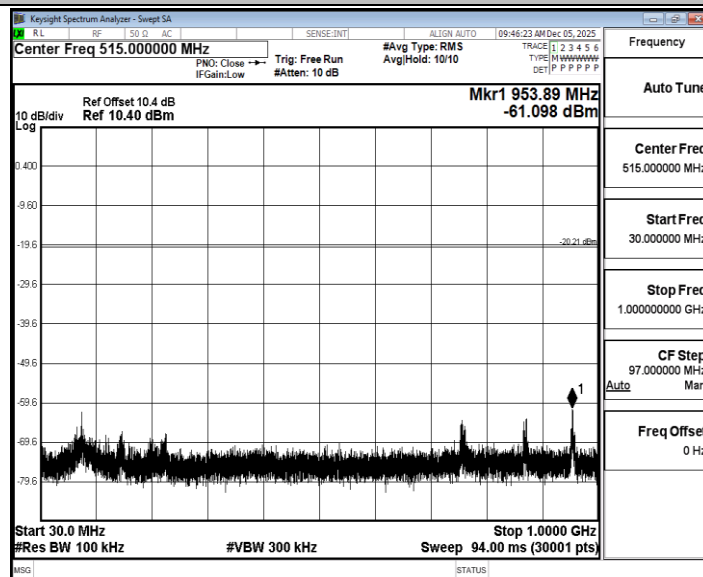




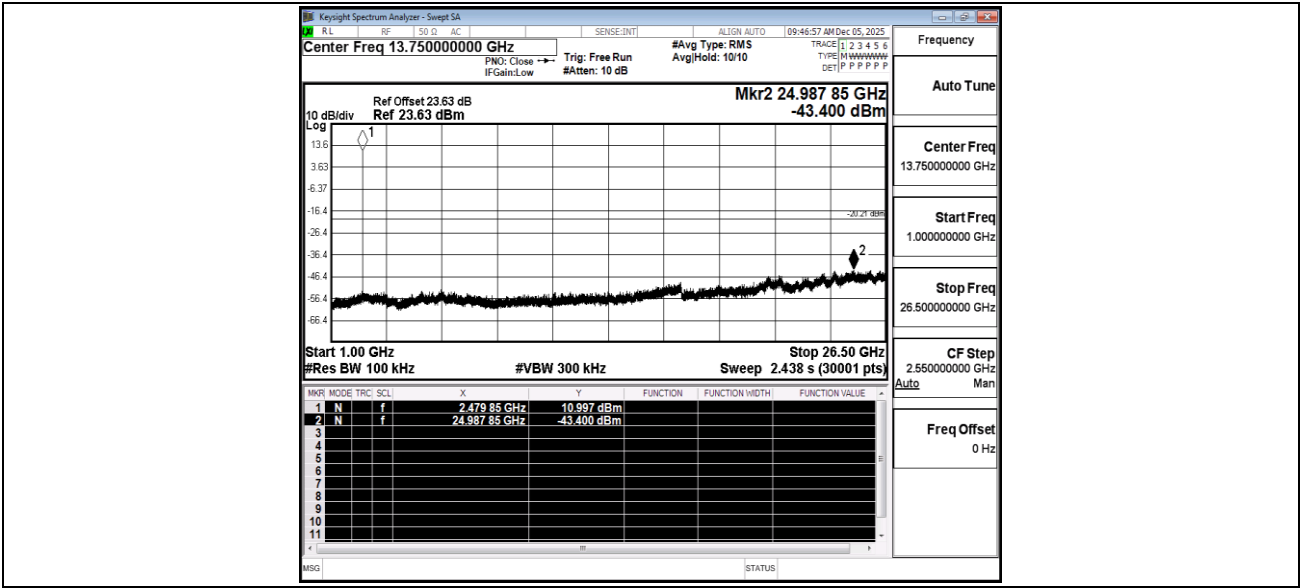




BLE\_1M\_Ant1\_2480\_30~1000



BLE\_1M\_Ant1\_2480\_1000~26500

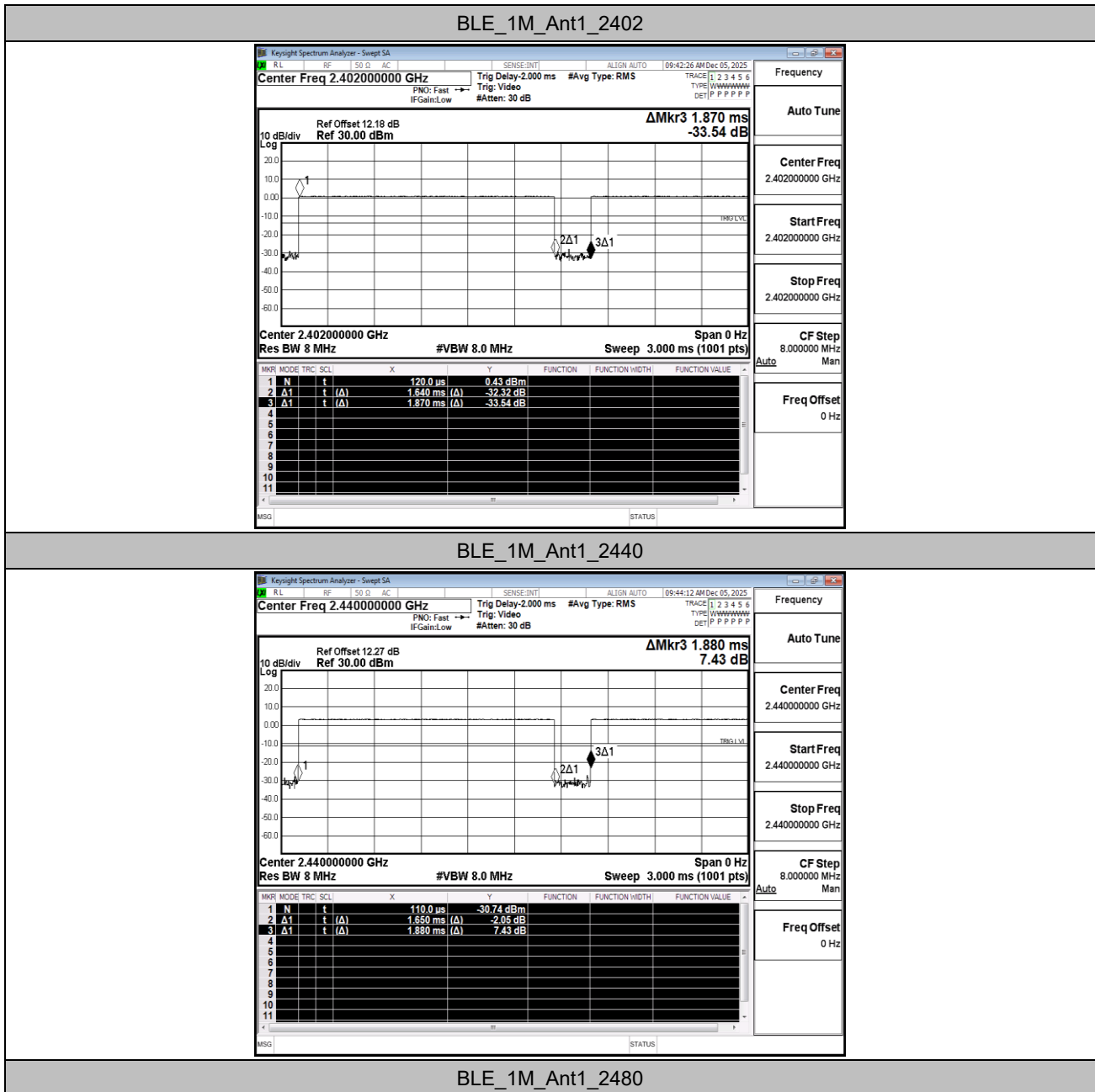


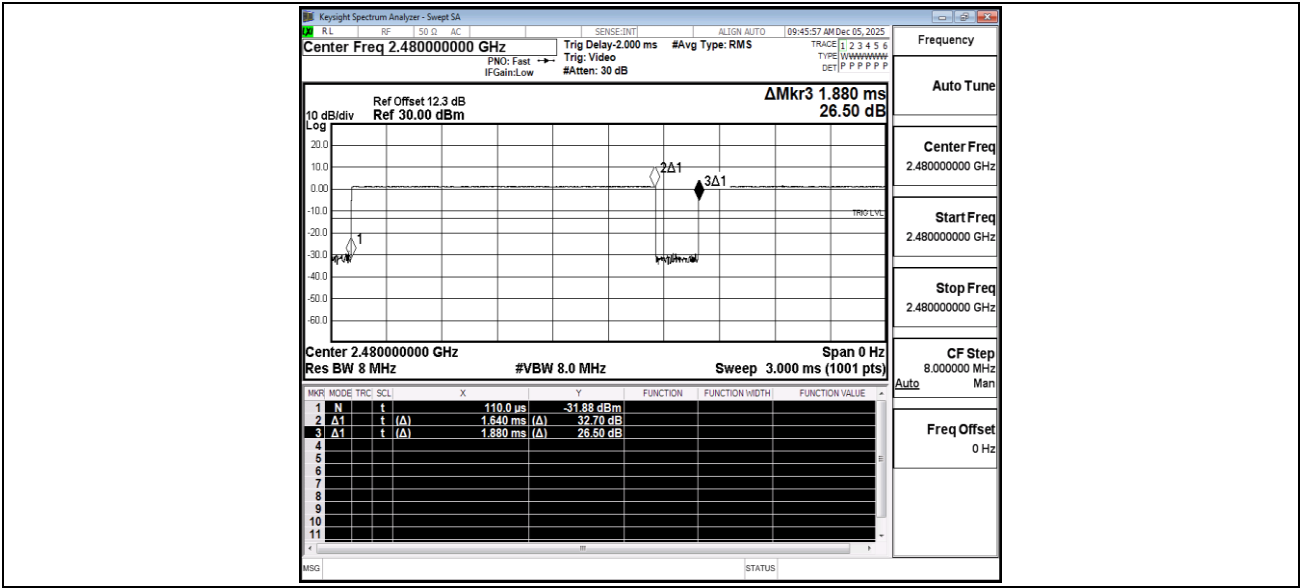
## A.6 Duty Cycle

### Test Result

| TestMode | Antenna | Freq(MHz) | ON Time<br>[ms] | Period<br>[ms] | X      | DC [%] | xFactor | Limit | Verdict |
|----------|---------|-----------|-----------------|----------------|--------|--------|---------|-------|---------|
| BLE_1M   | Ant1    | 2402      | 1.64            | 1.87           | 0.8770 | 87.70  | 0.57    | ---   | ---     |
|          |         | 2440      | 1.65            | 1.88           | 0.8777 | 87.77  | 0.57    | ---   | ---     |
|          |         | 2480      | 1.64            | 1.88           | 0.8723 | 87.23  | 0.59    | ---   | ---     |

## Test Graphs





## A.7 Restrict Band

### Test Result

| TestMode | Antenna | ChName | 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   | -56.98       | ≤-44.27     | 2.50       | 0.57           | 41.29           | ≤54            | PASS    |
|          |         |        |           | AV       | 2335.700   | -55.94       | ≤-44.27     | 2.50       | 0.57           | 42.33           | ≤54            | PASS    |
|          |         |        |           | AV       | 2390.000   | -56.81       | ≤-44.27     | 2.50       | 0.57           | 41.46           | ≤54            | PASS    |
|          |         |        |           | Peak     | 2310.000   | -49.36       | ≤-23.70     | 2.50       | 0.00           | 48.34           | ≤74            | PASS    |
|          |         |        |           | Peak     | 2331.605   | -44.98       | ≤-23.70     | 2.50       | 0.00           | 52.72           | ≤74            | PASS    |
|          |         |        |           | Peak     | 2390.000   | -50.04       | ≤-23.70     | 2.50       | 0.00           | 47.66           | ≤74            | PASS    |
|          |         | High   | 2480      | AV       | 2483.500   | -55.43       | ≤-44.29     | 2.50       | 0.59           | 42.86           | ≤54            | PASS    |
|          |         |        |           | AV       | 2483.520   | -55.43       | ≤-44.29     | 2.50       | 0.59           | 42.86           | ≤54            | PASS    |
|          |         |        |           | AV       | 2500.000   | -56.63       | ≤-44.29     | 2.50       | 0.59           | 41.66           | ≤54            | PASS    |
|          |         |        |           | Peak     | 2483.500   | -48.29       | ≤-23.70     | 2.50       | 0.00           | 49.41           | ≤74            | PASS    |
|          |         |        |           | Peak     | 2488.160   | -45.28       | ≤-23.70     | 2.50       | 0.00           | 52.42           | ≤74            | PASS    |
|          |         |        |           | Peak     | 2500.000   | -48.11       | ≤-23.70     | 2.50       | 0.00           | 49.59           | ≤74            | PASS    |

Note:

1. 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

