

## Appendix Test Data for BLE (Conducted Measurement)

**Product Name: Wireless Mechanical Keyboard**

**Trade Mark: Keychron**

**Test Model: K7 Max**

**FCC ID: 2ASF4-K7MAX**

### Environmental Conditions

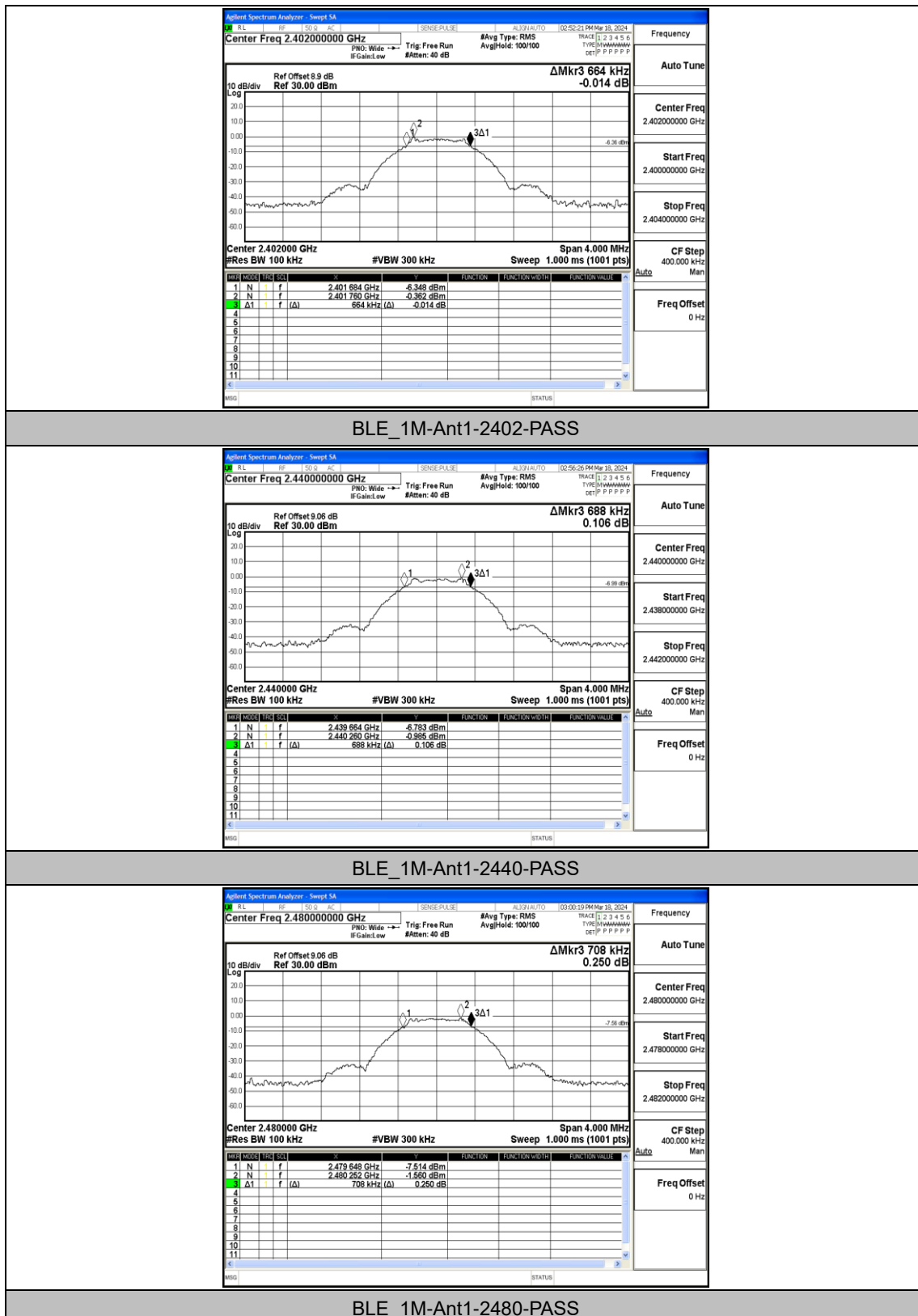
|                    |           |
|--------------------|-----------|
| Temperature:       | 22.8° C   |
| Relative Humidity: | 56%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Anna Hu   |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

## Appendix A: DTS Bandwidth

### Test Result

| TestMode | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402           | 0.664        | 2401.684 | 2402.348 | 0.5        | PASS    |
| BLE_1M   | Ant1    | 2440           | 0.688        | 2439.664 | 2440.352 | 0.5        | PASS    |
| BLE_1M   | Ant1    | 2480           | 0.708        | 2479.648 | 2480.356 | 0.5        | PASS    |

## Test Graphs

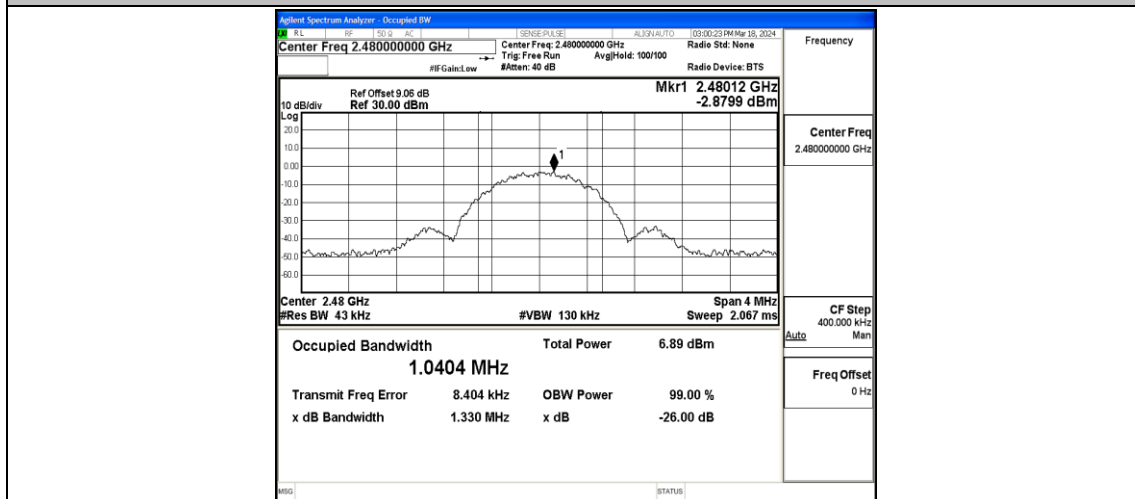
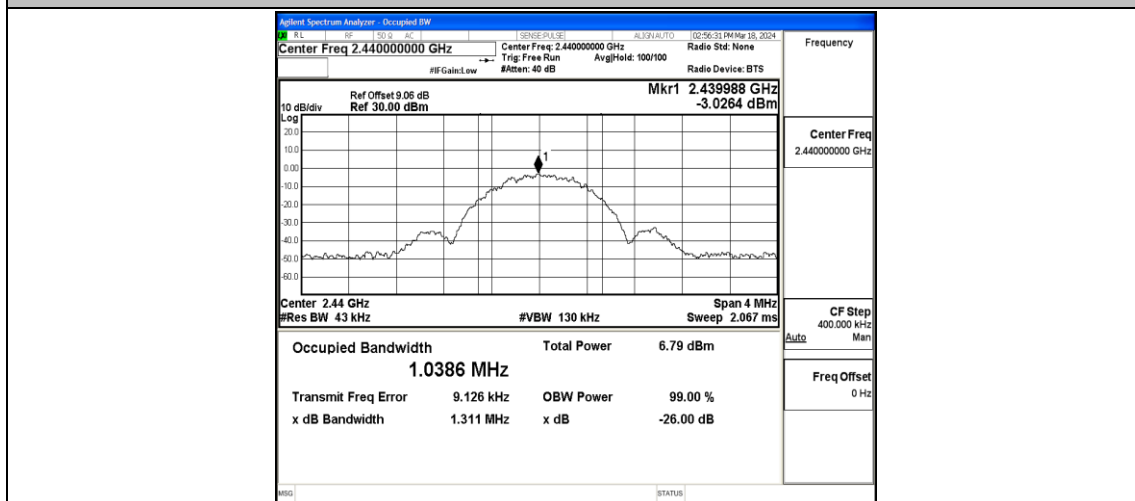
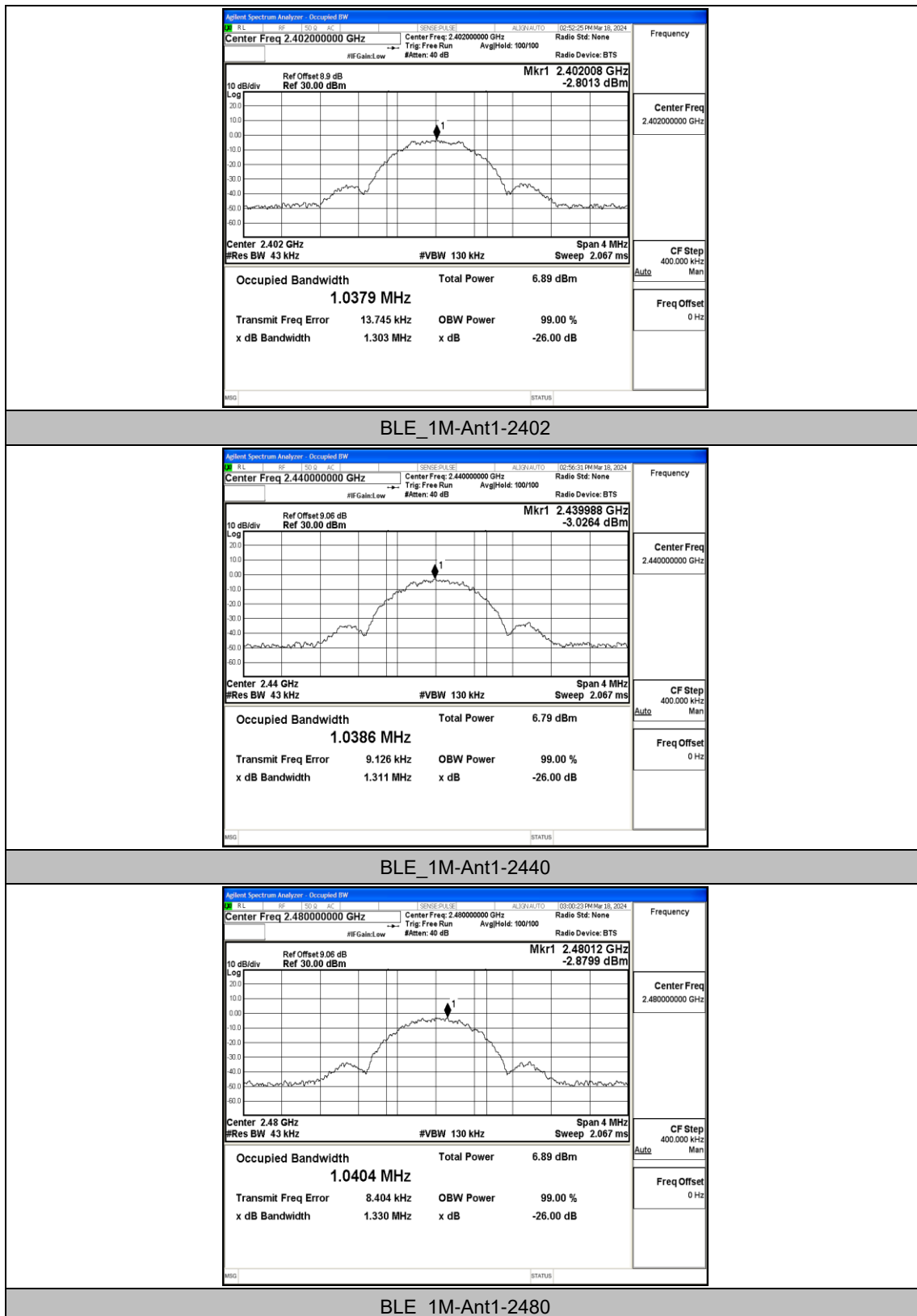


## Appendix B: Occupied Channel Bandwidth

### Test Result

| TestMode | Antenna | Frequency[MHz] | OCB<br>[MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------|-----------|-----------|------------|---------|
| BLE_1M   | Ant1    | 2402           | 1.0379       | 2401.4948 | 2402.5327 | ---        | ---     |
| BLE_1M   | Ant1    | 2440           | 1.0386       | 2439.4898 | 2440.5284 | ---        | ---     |
| BLE_1M   | Ant1    | 2480           | 1.0404       | 2479.4882 | 2480.5286 | ---        | ---     |

## Test Graphs

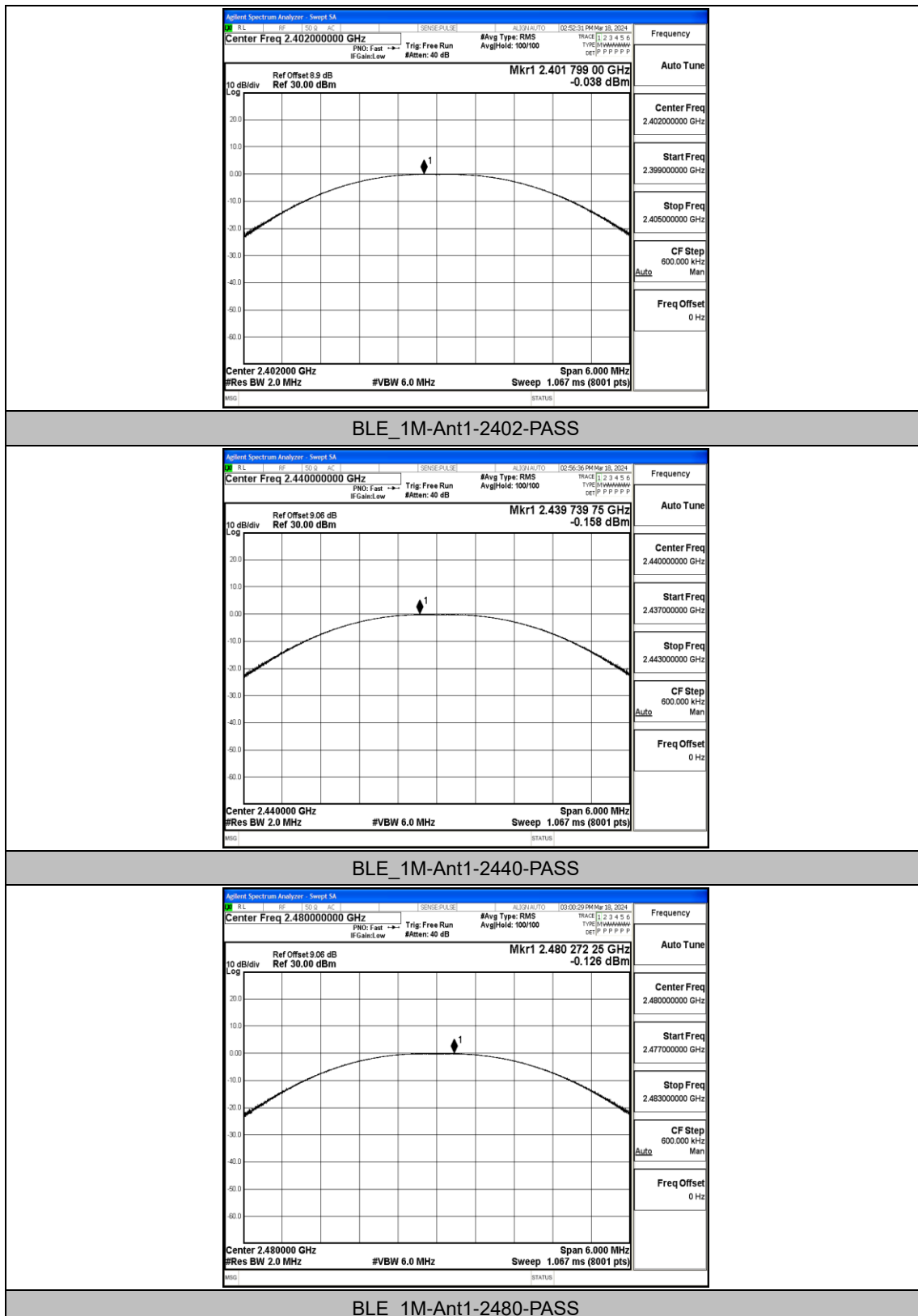


## Appendix C: Maximum peak conducted output power

### Test Result Peak

| TestMode | Antenna | Frequency[MHz] | Conducted<br>Peak<br>Power[dBm] | Conducted<br>Limit[dBm] | Verdict |
|----------|---------|----------------|---------------------------------|-------------------------|---------|
| BLE_1M   | Ant1    | 2402           | -0.04                           | ≤30                     | PASS    |
| BLE_1M   | Ant1    | 2440           | -0.16                           | ≤30                     | PASS    |
| BLE_1M   | Ant1    | 2480           | -0.13                           | ≤30                     | PASS    |

## Test Graphs Peak

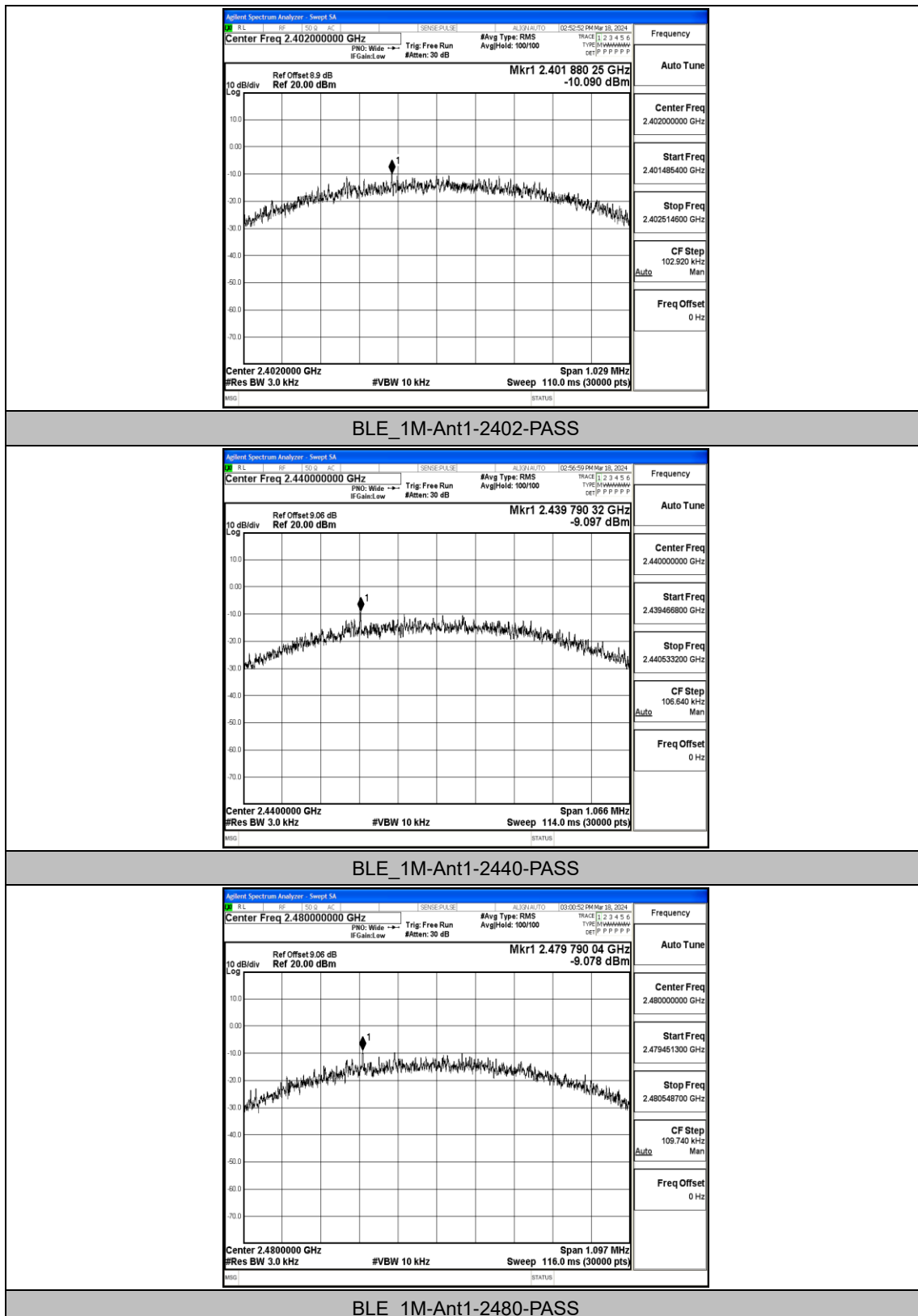


## Appendix D: Maximum peak power spectral density

### Test Result

| TestMode | Antenna | Frequency[MHz] | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|----------------|------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402           | -10.09           | ≤8.00           | PASS    |
| BLE_1M   | Ant1    | 2440           | -9.10            | ≤8.00           | PASS    |
| BLE_1M   | Ant1    | 2480           | -9.08            | ≤8.00           | PASS    |

## Test Graphs

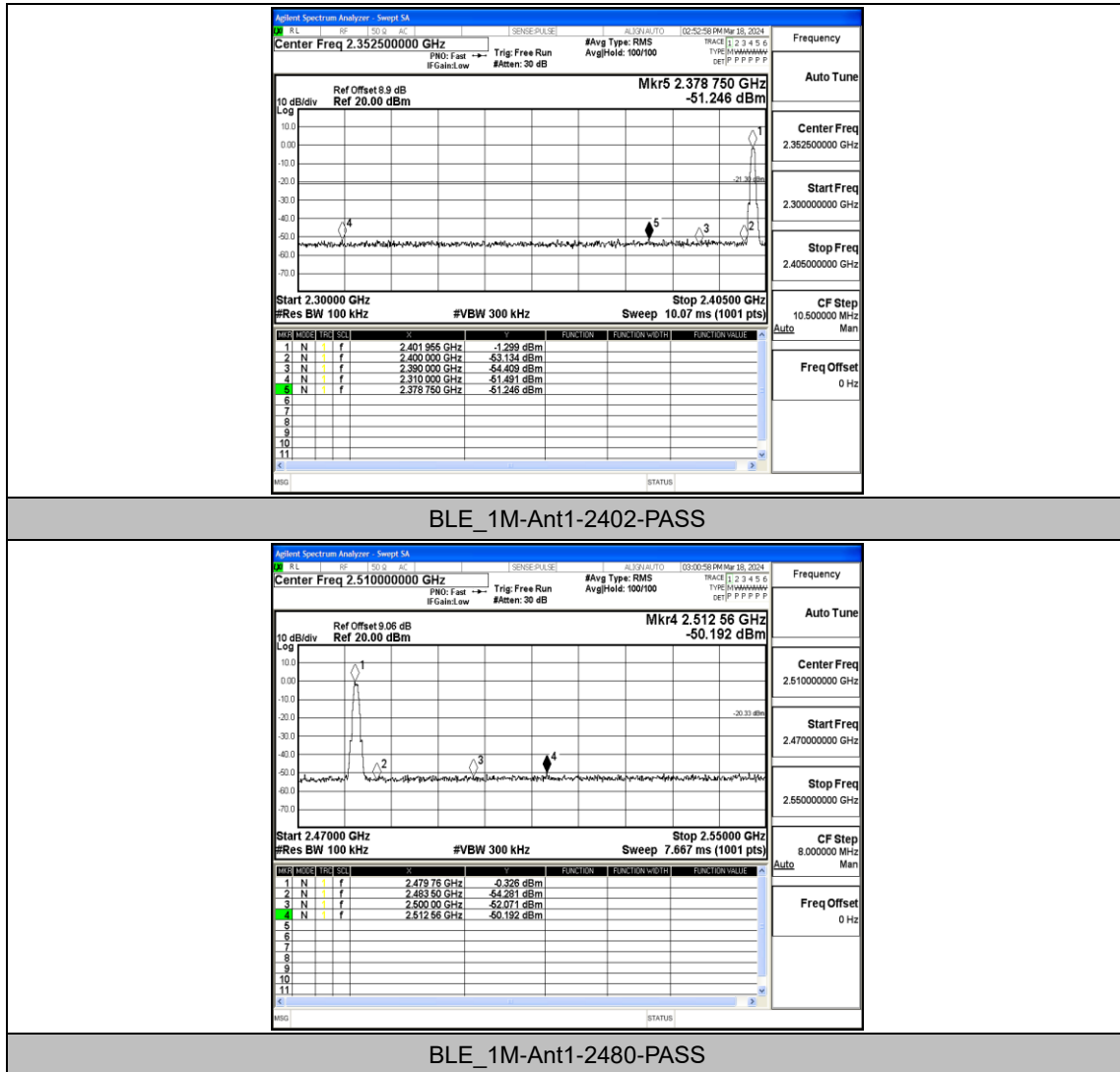


## Appendix E: Band edge measurements

### Test Result

| TestMode | Antenna | Channel | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|----------------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low     | 2402           | -1.30         | -51.25      | ≤-21.3     | PASS    |
| BLE_1M   | Ant1    | High    | 2480           | -0.33         | -50.19      | ≤-20.33    | PASS    |

## Test Graphs

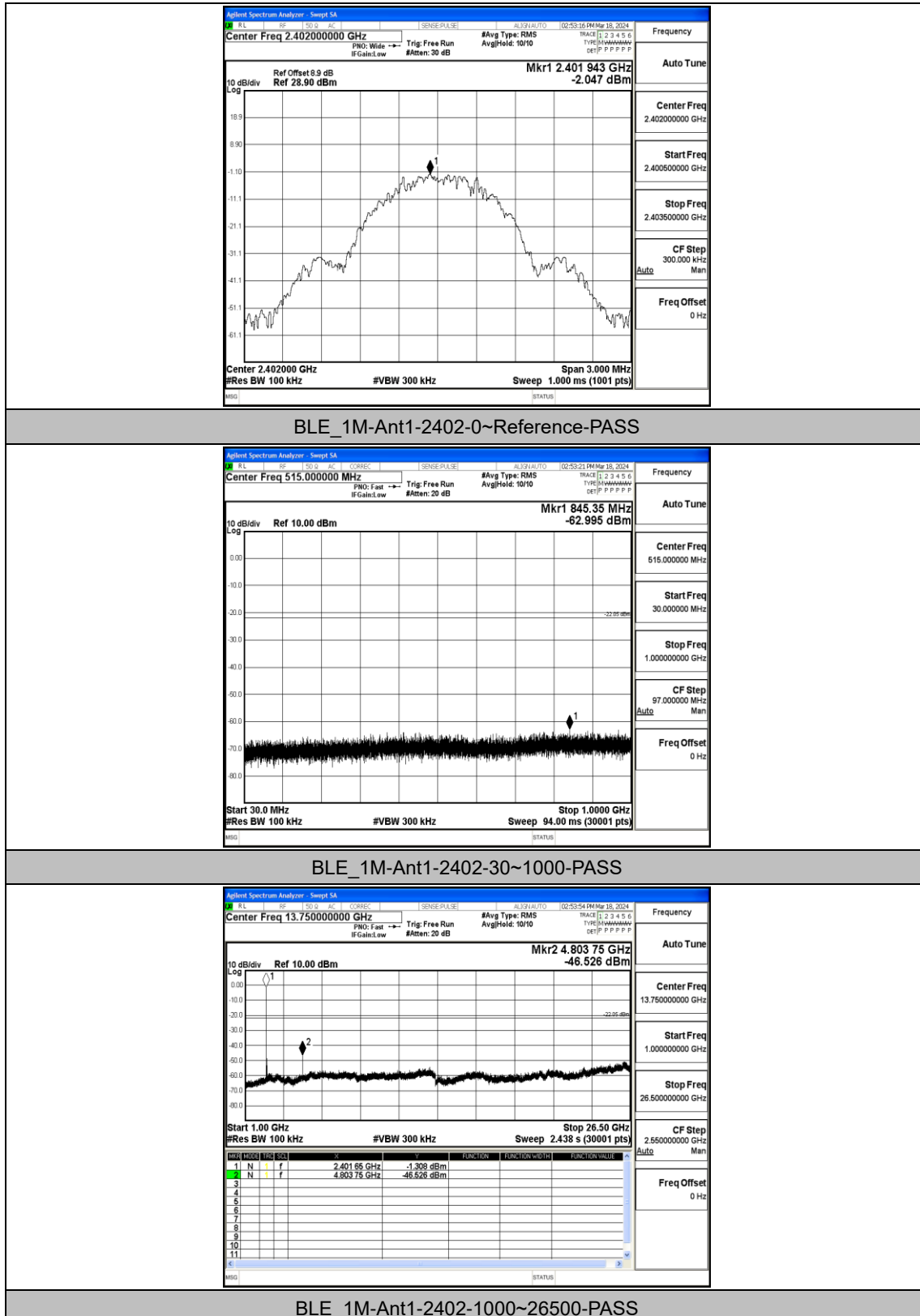


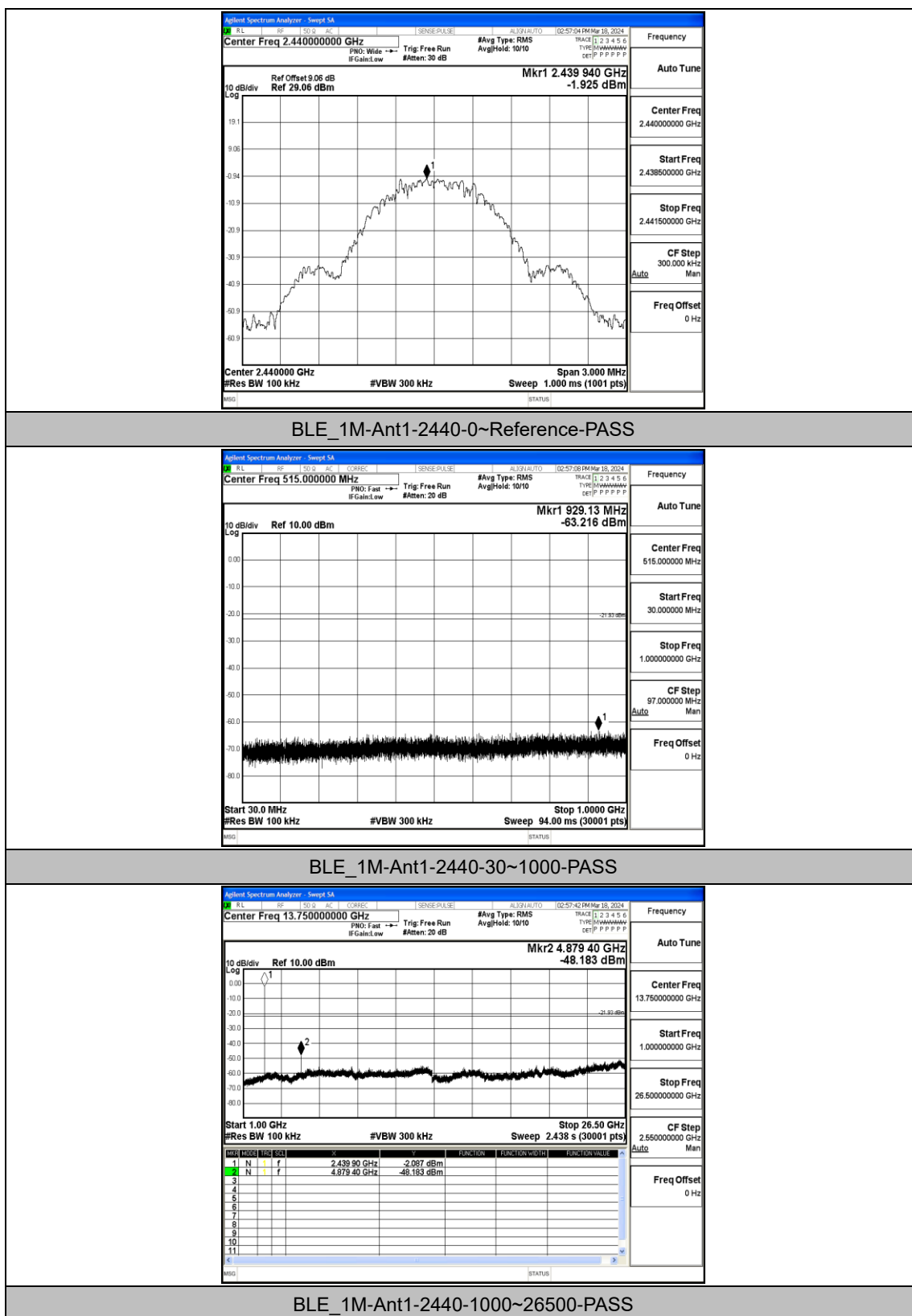
## Appendix F: Conducted Spurious Emission

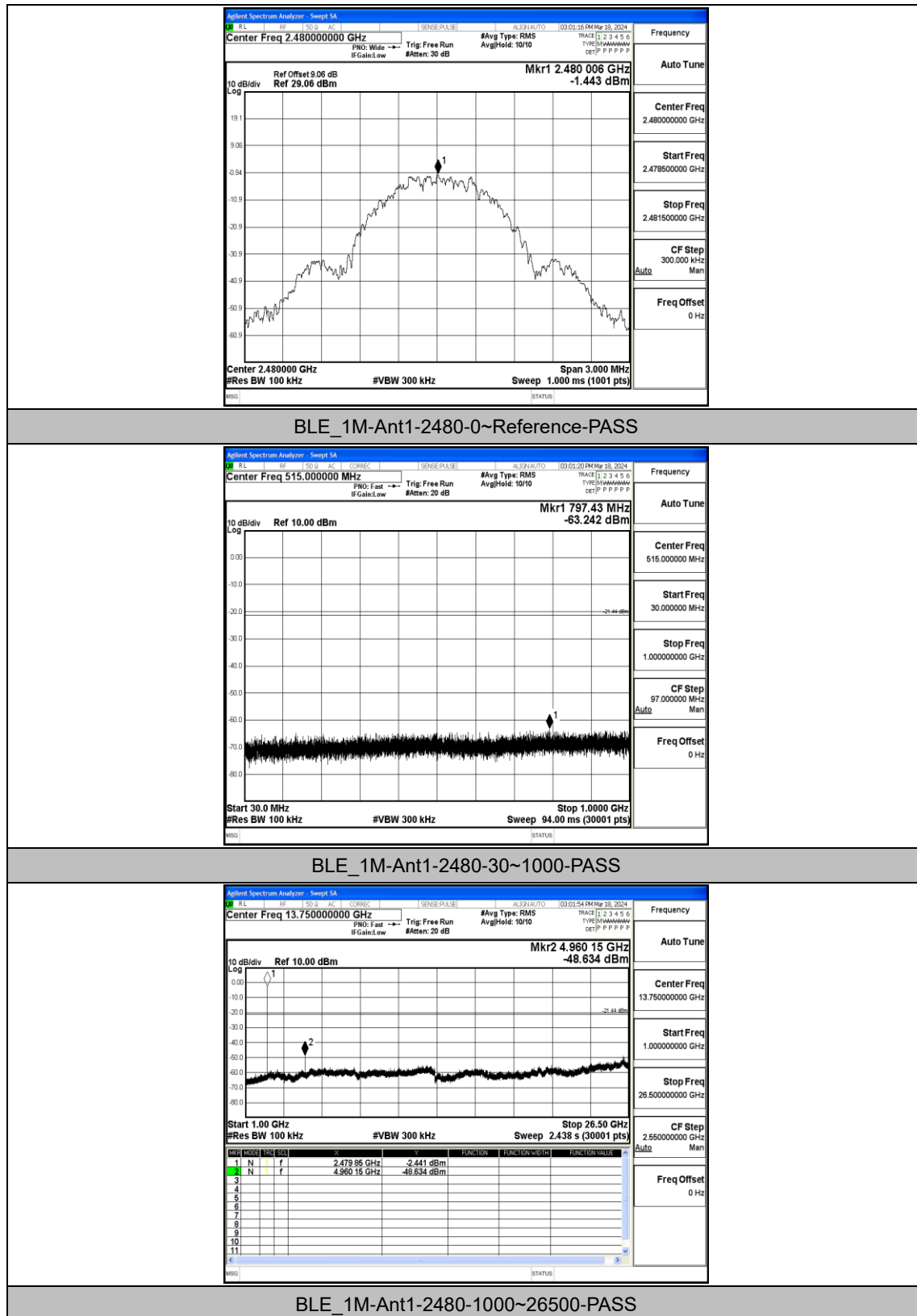
### Test Result

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|----------------|-----------------|----------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402           | 0~Reference     | -2.05          | -2.05       | ---        | PASS    |
| BLE_1M   | Ant1    | 2402           | 30~1000         | -2.05          | -63         | ≤-22.05    | PASS    |
| BLE_1M   | Ant1    | 2402           | 1000~26500      | -2.05          | -46.53      | ≤-22.05    | PASS    |
| BLE_1M   | Ant1    | 2440           | 0~Reference     | -1.93          | -1.93       | ---        | PASS    |
| BLE_1M   | Ant1    | 2440           | 30~1000         | -1.93          | -63.22      | ≤-21.93    | PASS    |
| BLE_1M   | Ant1    | 2440           | 1000~26500      | -1.93          | -48.18      | ≤-21.93    | PASS    |
| BLE_1M   | Ant1    | 2480           | 0~Reference     | -1.44          | -1.44       | ---        | PASS    |
| BLE_1M   | Ant1    | 2480           | 30~1000         | -1.44          | -63.24      | ≤-21.44    | PASS    |
| BLE_1M   | Ant1    | 2480           | 1000~26500      | -1.44          | -48.63      | ≤-21.44    | PASS    |

## Test Graphs







## Appendix G: Duty Cycle

### Test Result

| TestMode | Antenna | Frequency[MHz] | ON Time<br>[ms] | Period<br>[ms] | Duty Cycle<br>[%] |
|----------|---------|----------------|-----------------|----------------|-------------------|
| BLE_1M   | Ant1    | 2402           | 19.00           | 19.00          | 100               |
| BLE_1M   | Ant1    | 2440           | 19.00           | 19.00          | 100               |
| BLE_1M   | Ant1    | 2480           | 19.00           | 19.00          | 100               |

## Test Graphs



## Appendix H: Emissions in Restricted Bands

### Test Result

| TestMode | Antenna | ChName | Frequency [MHz] | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|----------|---------|--------|-----------------|----------|------------|--------------|-------------|-----------------|----------------|---------|
| BLE_1M   | Ant1    | Low    | 2402            | Peak     | 2390.000   | -41.17       | ≤-21.20     | 54.03           | ≤74            | PASS    |
| BLE_1M   | Ant1    | Low    | 2402            | Peak     | 2310.000   | -45.25       | ≤-21.20     | 49.95           | ≤74            | PASS    |
| BLE_1M   | Ant1    | Low    | 2402            | Peak     | 2389.985   | -41.17       | ≤-21.20     | 54.03           | ≤74            | PASS    |
| BLE_1M   | Ant1    | Low    | 2402            | AV       | 2390.000   | -50.42       | ≤-41.20     | 44.78           | ≤54            | PASS    |
| BLE_1M   | Ant1    | Low    | 2402            | AV       | 2310.000   | -50.59       | ≤-41.20     | 44.61           | ≤54            | PASS    |
| BLE_1M   | Ant1    | Low    | 2402            | AV       | 2378.540   | -49.55       | ≤-41.20     | 45.65           | ≤54            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | Peak     | 2483.500   | -44.55       | ≤-21.20     | 50.65           | ≤74            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | Peak     | 2500.000   | -42.27       | ≤-21.20     | 52.93           | ≤74            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | Peak     | 2497.200   | -40.49       | ≤-21.20     | 54.71           | ≤74            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | AV       | 2483.500   | -49.9        | ≤-41.20     | 45.30           | ≤54            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | AV       | 2500.000   | -49.53       | ≤-41.20     | 45.67           | ≤54            | PASS    |
| BLE_1M   | Ant1    | High   | 2480            | AV       | 2497.680   | -49.13       | ≤-41.20     | 46.07           | ≤54            | 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

