

**RF Test Data for BT(BLE) (Conducted Measurement)****Product Name: Massager machine****Trade Mark: F-MACHINE****Test Model: TREMBLR****FCC ID: 2AN4K-BT-1****Environmental Conditions**

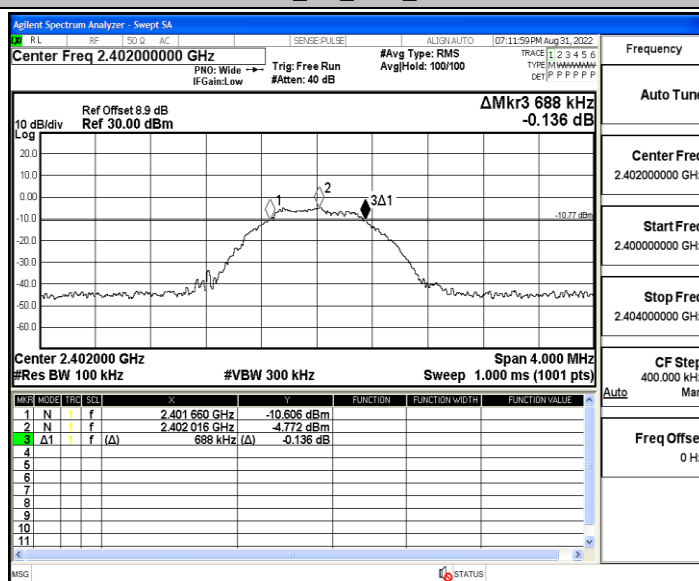
|                    |           |
|--------------------|-----------|
| Temperature:       | 25.5°C    |
| Relative Humidity: | 55%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Anna Hu   |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

**Appendix A: DTS Bandwidth****Test Result**

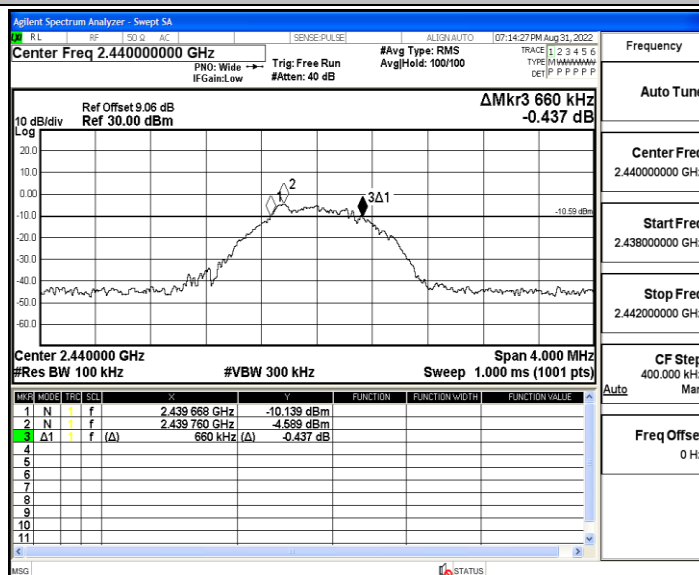
| TestMode | Antenna | Channel | DTS BW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|-----------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.688           | 2401.660 | 2402.348 | 0.5        | PASS    |
|          |         | 2440    | 0.660           | 2439.668 | 2440.328 | 0.5        | PASS    |
|          |         | 2480    | 0.672           | 2479.668 | 2480.340 | 0.5        | PASS    |

## Test Graphs

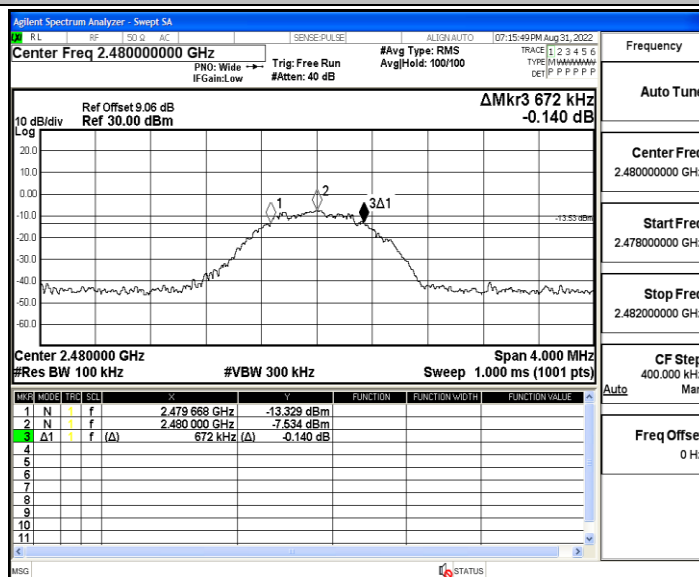
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480



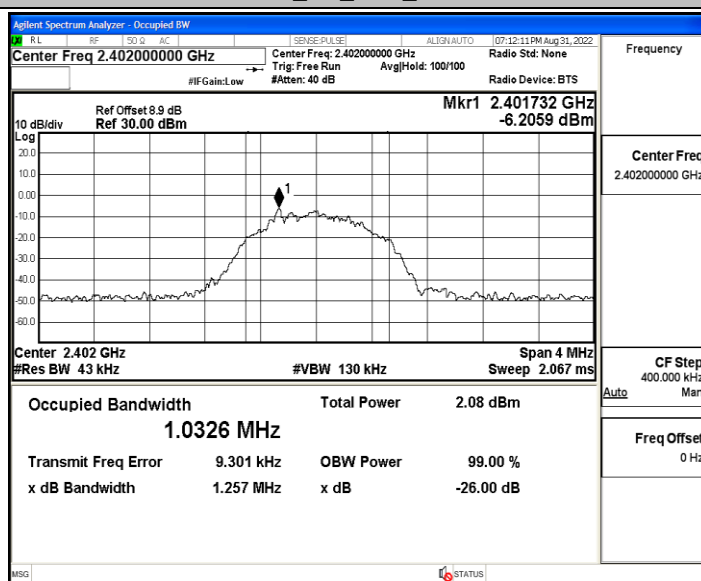
## Appendix B: Occupied Channel Bandwidth

### Test Result

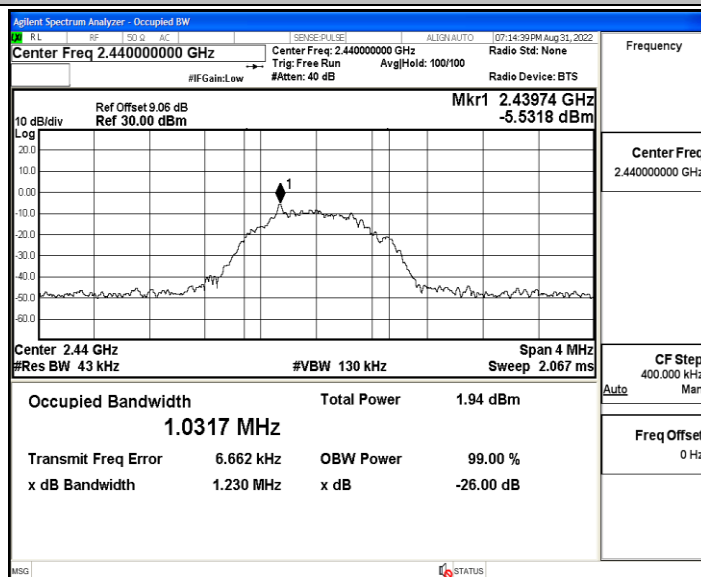
| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|-----------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 1.0326    | 2401.493 | 2402.526 | ---        | ---     |
|          |         | 2440    | 1.0317    | 2439.491 | 2440.523 | ---        | ---     |
|          |         | 2480    | 1.0328    | 2479.490 | 2480.523 | ---        | ---     |

## Test Graphs

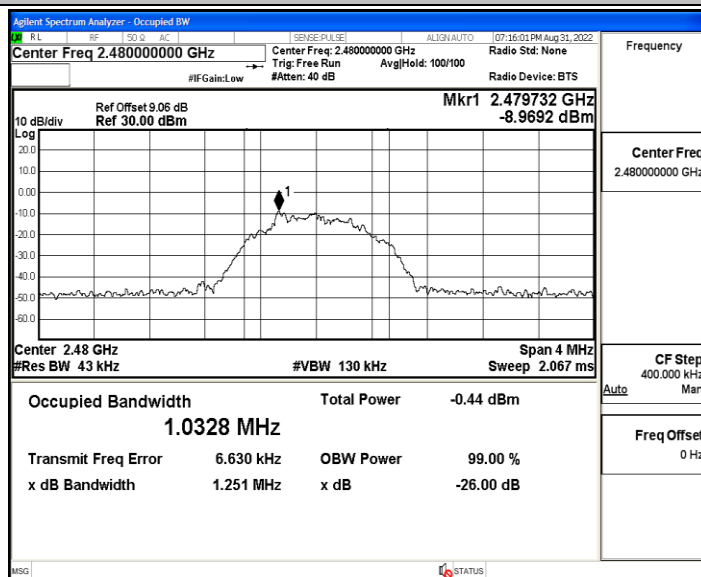
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480



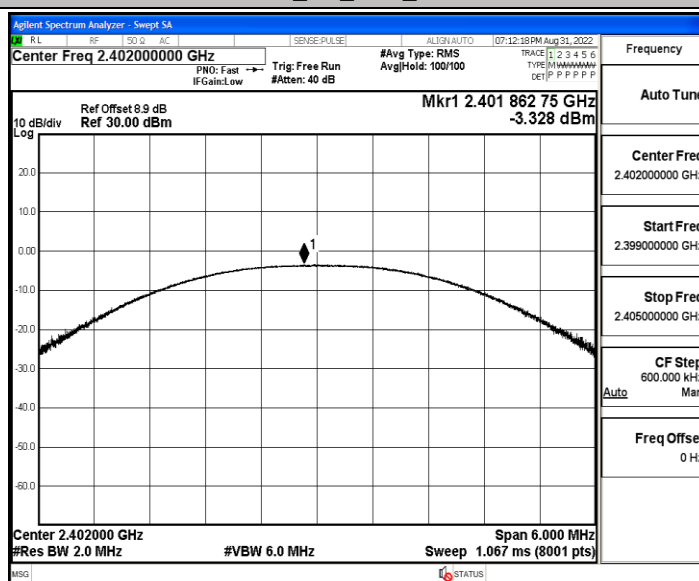
## Appendix C: Maximum Peak conducted output power

### Test Result

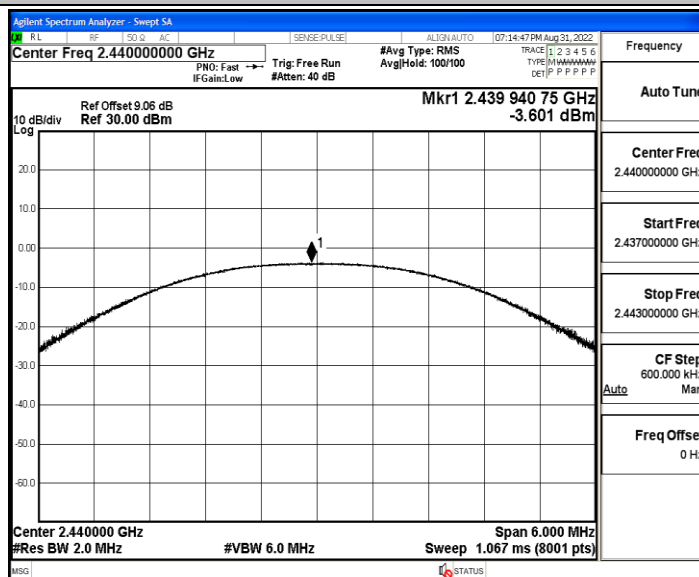
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | -3.33       | ≤30        | PASS    |
|          |         | 2440    | -3.6        | ≤30        | PASS    |
|          |         | 2480    | -6.03       | ≤30        | PASS    |

## Test Graphs

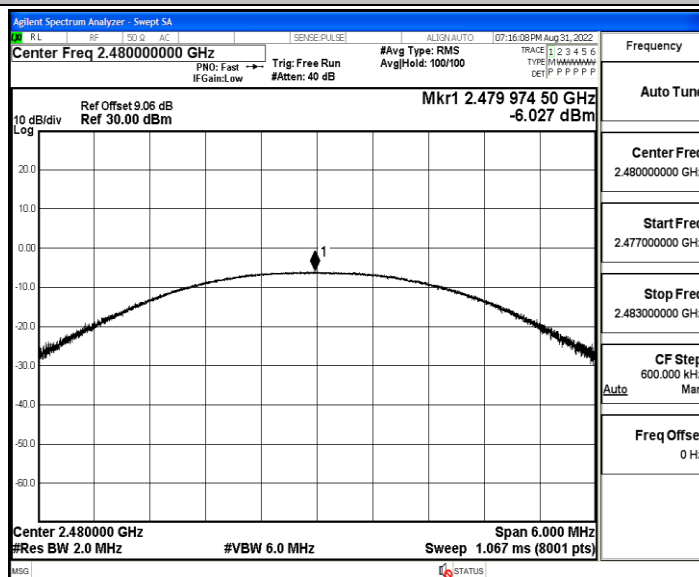
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480



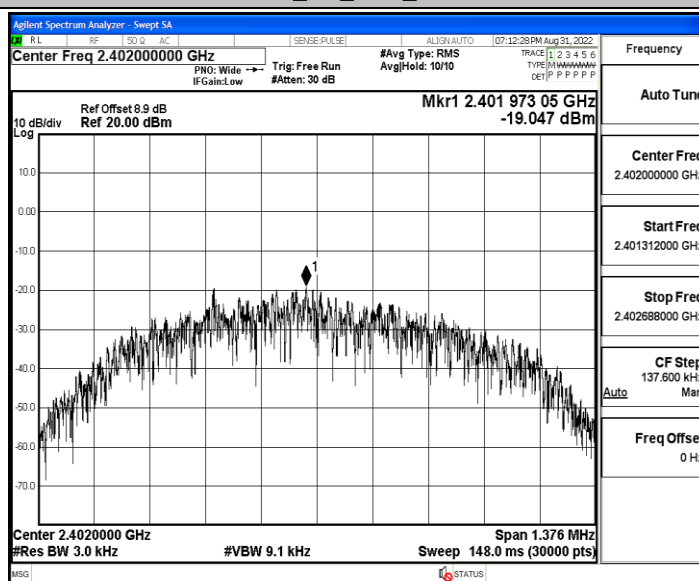
## Appendix D: Maximum power spectral density

### Test Result

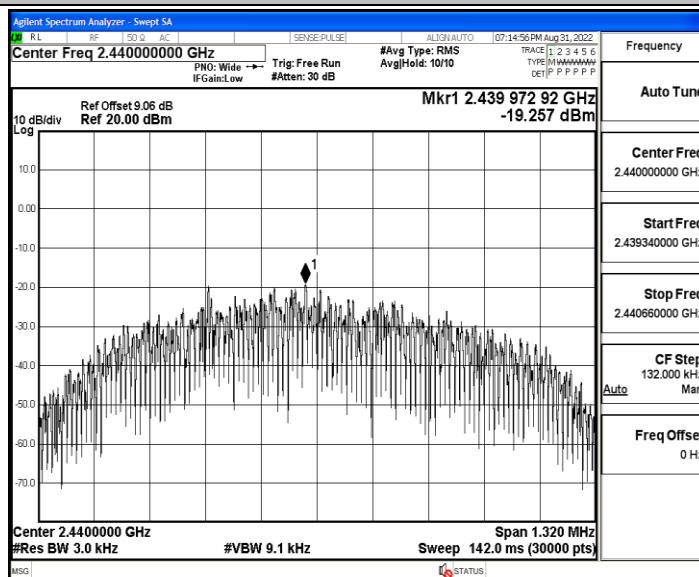
| TestMode | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|----------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402    | -19.05               | ≤8.00           | PASS    |
|          |         | 2440    | -19.26               | ≤8.00           | PASS    |
|          |         | 2480    | -21.8                | ≤8.00           | PASS    |

## Test Graphs

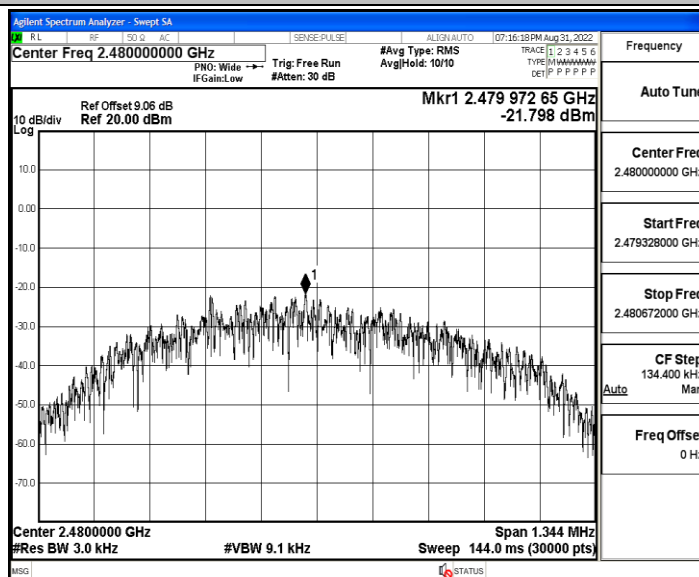
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480



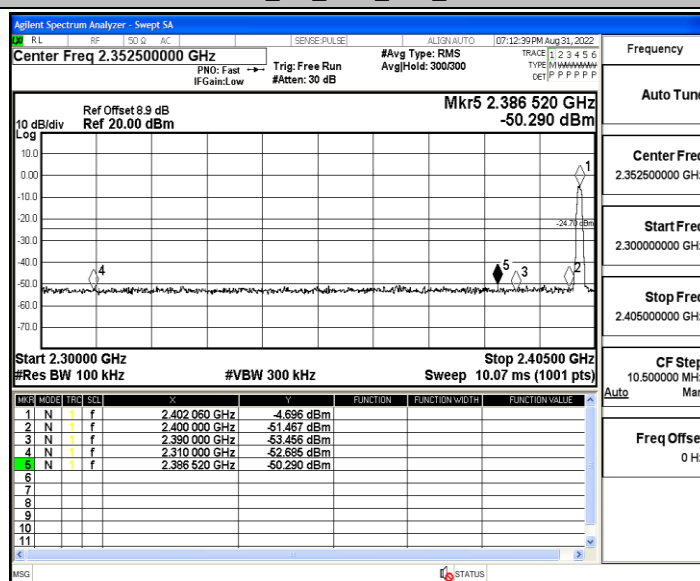
## Appendix E: Band edge measurements

### Test Result

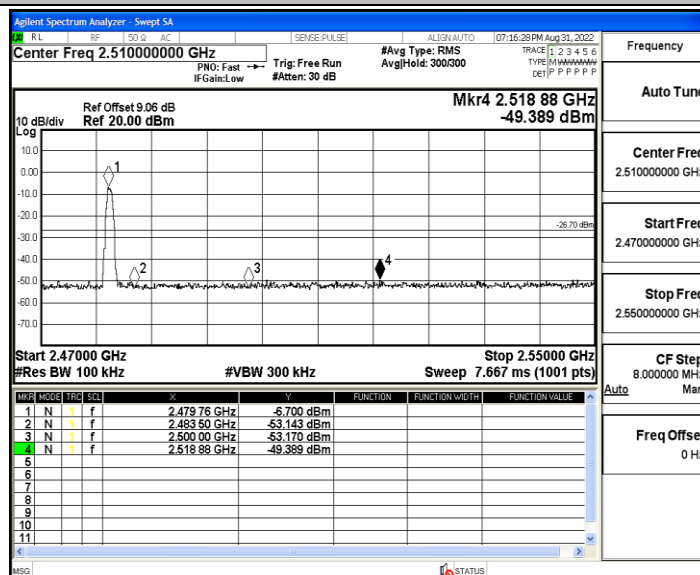
| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|---------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | -4.70         | -50.29      | ≤-24.7     | PASS    |
|          |         | High   | 2480    | -6.70         | -49.39      | ≤-26.7     | PASS    |

## Test Graphs

BLE\_1M\_Ant1\_Low\_2402



BLE\_1M\_Ant1\_High\_2480



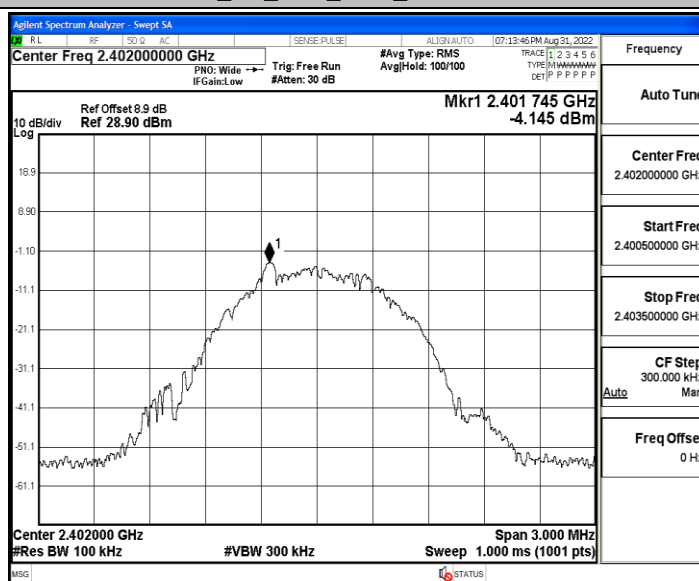
## Appendix F: Conducted Spurious Emission

### Test Result

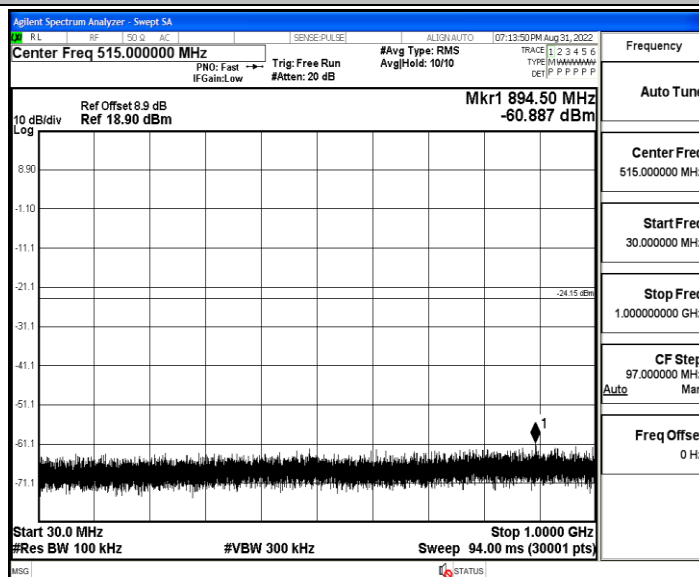
| TestMode | Antenna | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|--------------------|-------------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | Reference          | -4.15             | -4.15       | ---        | PASS    |
|          |         |         | 30~1000            | -4.15             | -60.89      | ≤-24.15    | PASS    |
|          |         |         | 1000~26500         | -4.15             | -52.36      | ≤-24.15    | PASS    |
|          |         | 2440    | Reference          | -5.56             | -5.56       | ---        | PASS    |
|          |         |         | 30~1000            | -5.56             | -62.1       | ≤-25.56    | PASS    |
|          |         |         | 1000~26500         | -5.56             | -51.44      | ≤-25.56    | PASS    |
|          |         | 2480    | Reference          | -6.77             | -6.77       | ---        | PASS    |
|          |         |         | 30~1000            | -6.77             | -61.26      | ≤-26.77    | PASS    |
|          |         |         | 1000~26500         | -6.77             | -51.75      | ≤-26.77    | PASS    |

## Test Graphs

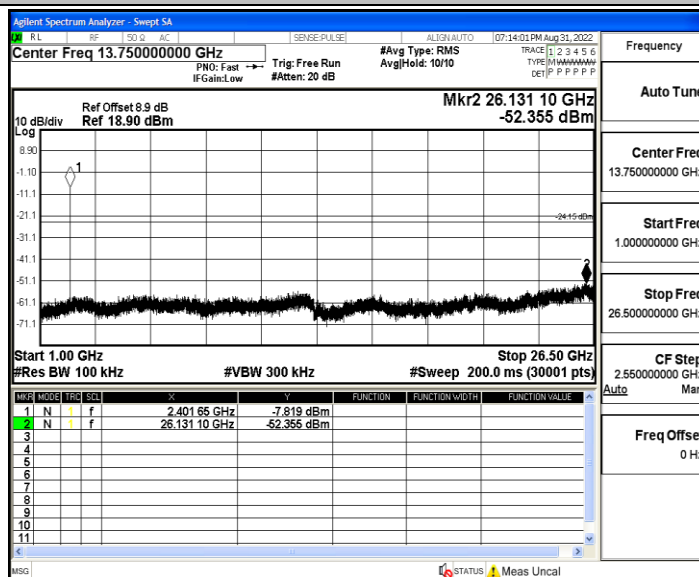
BLE\_1M\_Ant1\_2402\_0~Reference



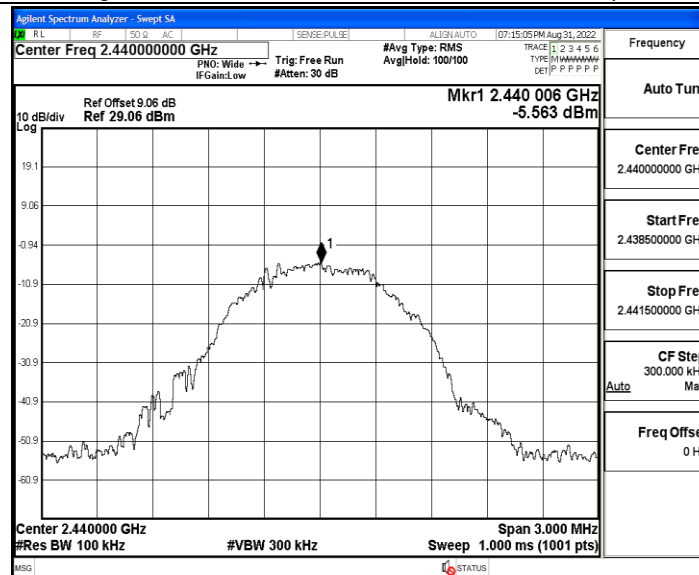
BLE\_1M\_Ant1\_2402\_30~1000



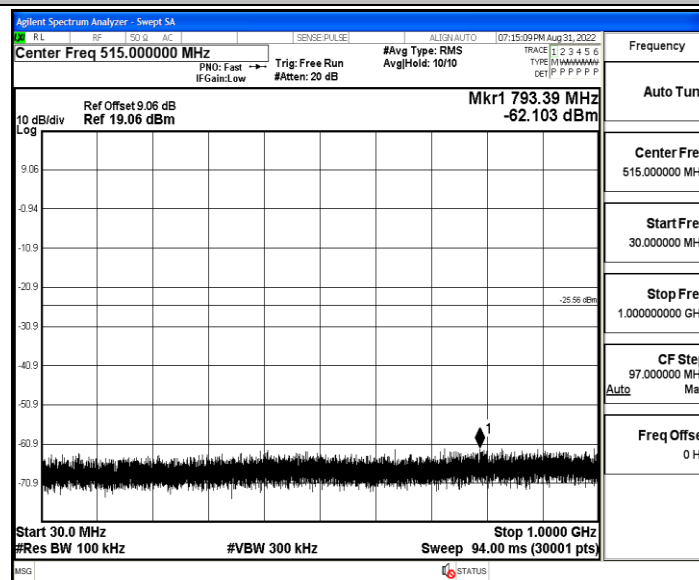
BLE\_1M\_Ant1\_2402\_1000~26500



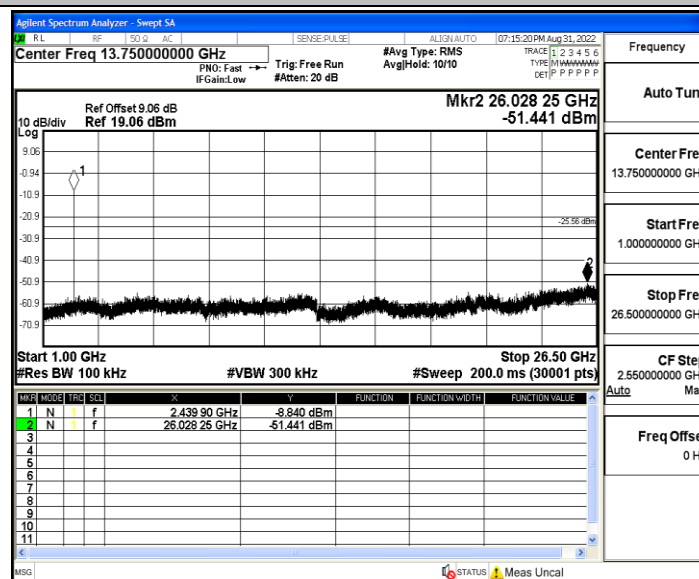
BLE\_1M\_Ant1\_2440\_0~Reference



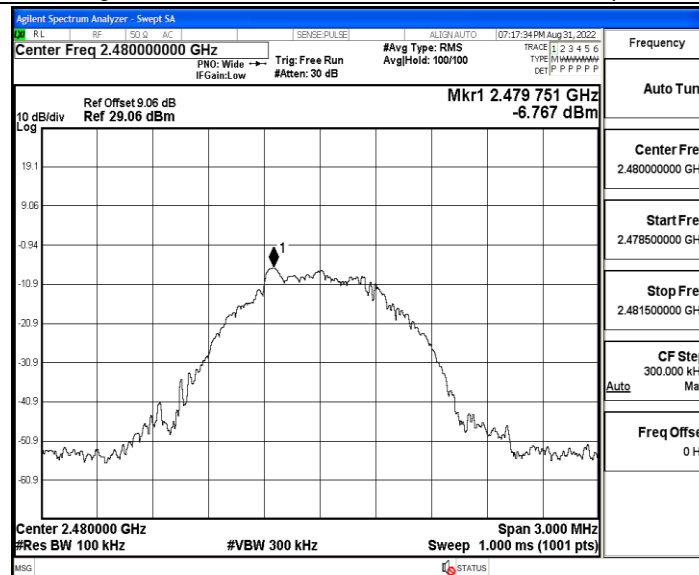
BLE\_1M\_Ant1\_2440\_30~1000



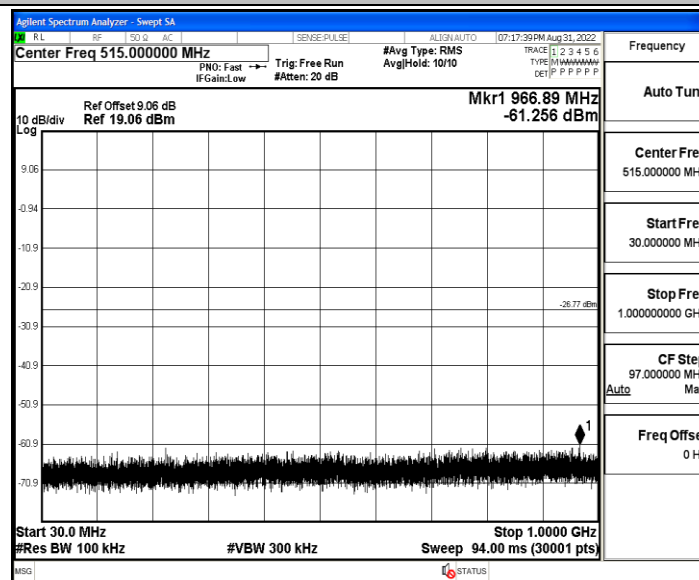
BLE\_1M\_Ant1\_2440\_1000~26500



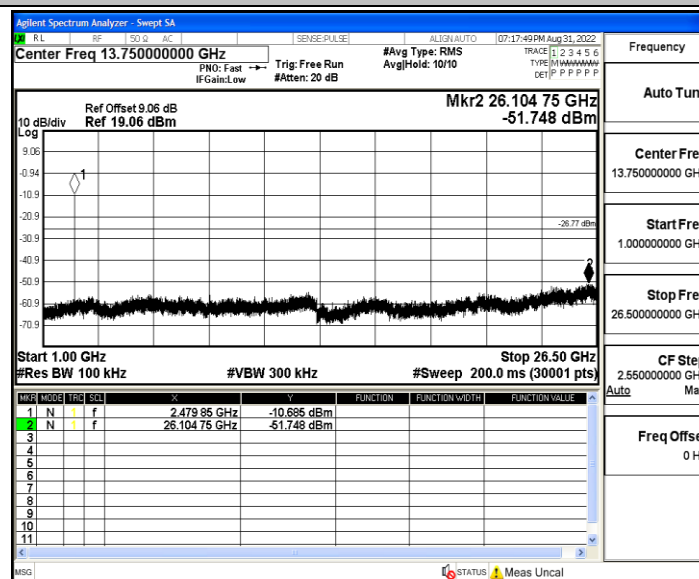
BLE\_1M\_Ant1\_2480\_0~Reference



BLE\_1M\_Ant1\_2480\_30~1000



BLE\_1M\_Ant1\_2480\_1000~26500



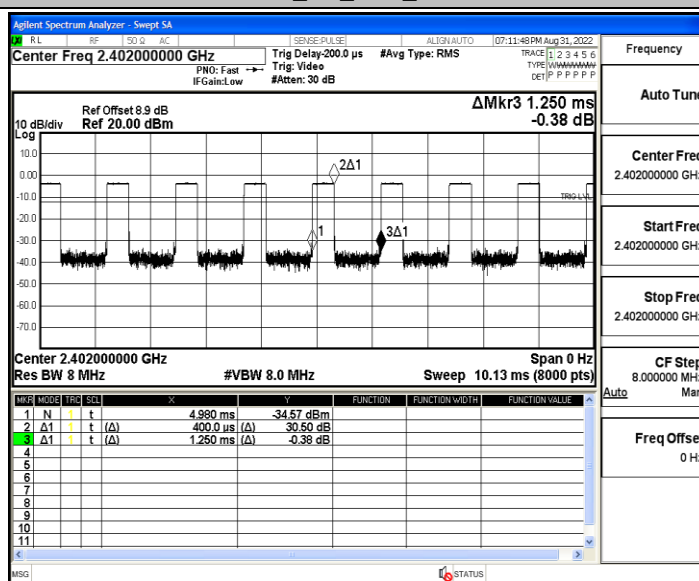
## Appendix G: Duty Cycle

### Test Result

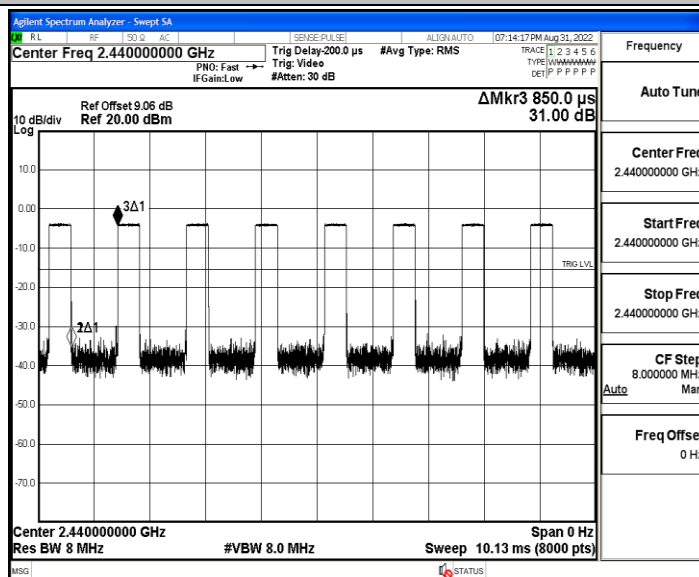
| TestMode | Antenna | Channel | Transmission<br>Duration [ms] | Transmission<br>Period [ms] | Duty Cycle<br>[%] | 1/T[kHz] |
|----------|---------|---------|-------------------------------|-----------------------------|-------------------|----------|
| BLE_1M   | Ant1    | 2402    | 0.40                          | 1.25                        | 32.00             | 2.50     |
|          |         | 2440    | 0.00                          | 0.85                        | 100               | $\infty$ |
|          |         | 2480    | 0.39                          | 1.25                        | 31.20             | 2.56     |

## Test Graphs

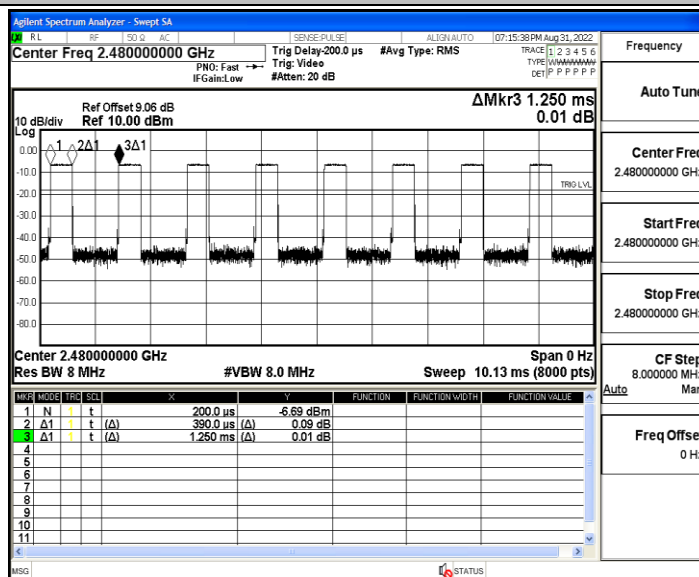
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480



## Appendix H: Emissions in Restricted Bands

### Test Result

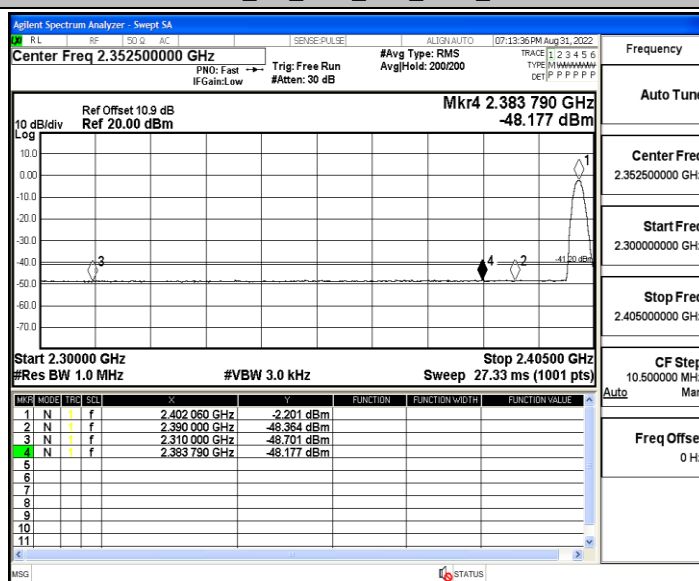
| TestMode | Antenna | ChName | Channel | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------|---------|----------|----------------|-----------------|----------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | AV       | 2310.000       | -48.7           | ≤-41.20        | PASS    |
|          |         |        |         | AV       | 2383.790       | -48.18          | ≤-41.20        | PASS    |
|          |         |        |         | AV       | 2390.000       | -48.36          | ≤-41.20        | PASS    |
|          |         |        |         | Peak     | 2310.000       | -40.4           | ≤-21.20        | PASS    |
|          |         |        |         | Peak     | 2343.785       | -38.26          | ≤-21.20        | PASS    |
|          |         |        |         | Peak     | 2390.000       | -41.35          | ≤-21.20        | PASS    |
|          |         | High   | 2480    | AV       | 2483.500       | -48.1           | ≤-41.20        | PASS    |
|          |         |        |         | AV       | 2498.320       | -47.48          | ≤-41.20        | PASS    |
|          |         |        |         | AV       | 2500.000       | -47.83          | ≤-41.20        | PASS    |
|          |         |        |         | Peak     | 2483.500       | -40.49          | ≤-21.20        | PASS    |
|          |         |        |         | Peak     | 2487.120       | -38.07          | ≤-21.20        | PASS    |
|          |         |        |         | Peak     | 2500.000       | -40.9           | ≤-21.20        | PASS    |

#### Note:

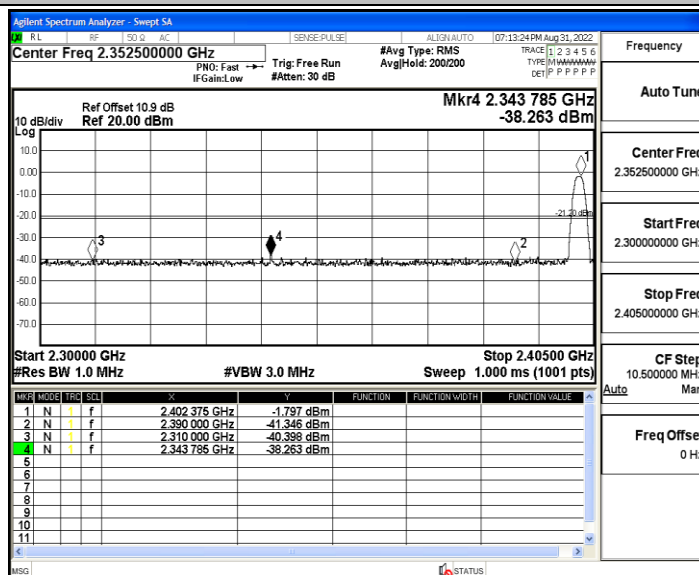
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

## Test Graphs

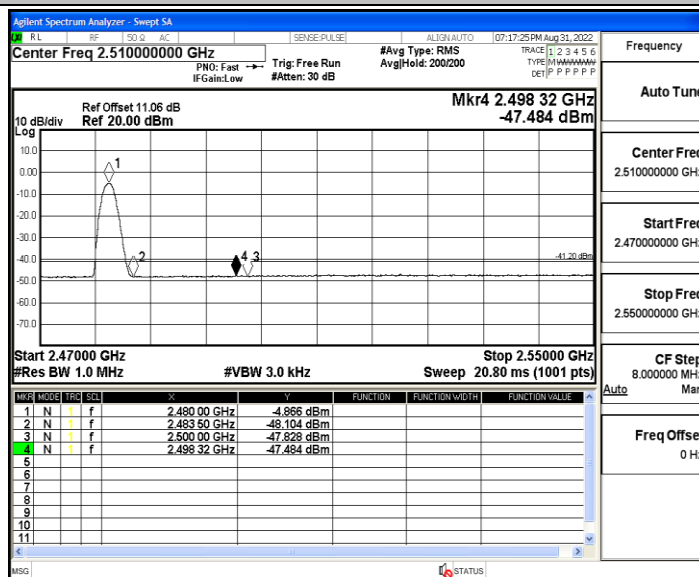
BLE\_1M\_Ant1\_Low\_2402\_AV



BLE\_1M\_Ant1\_Low\_2402\_Peak



BLE\_1M\_Ant1\_High\_2480\_AV



BLE\_1M\_Ant1\_High\_2480\_Peak

