



## Appendix B

### RF Test Data for BLE (Conducted Measurement)

Product Name: 4G Phone

Test Model: HIT-01

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.5° C   |
| Relative Humidity: | 52.2%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Ling Zhu  |
| Supervised by:     | Li huan   |

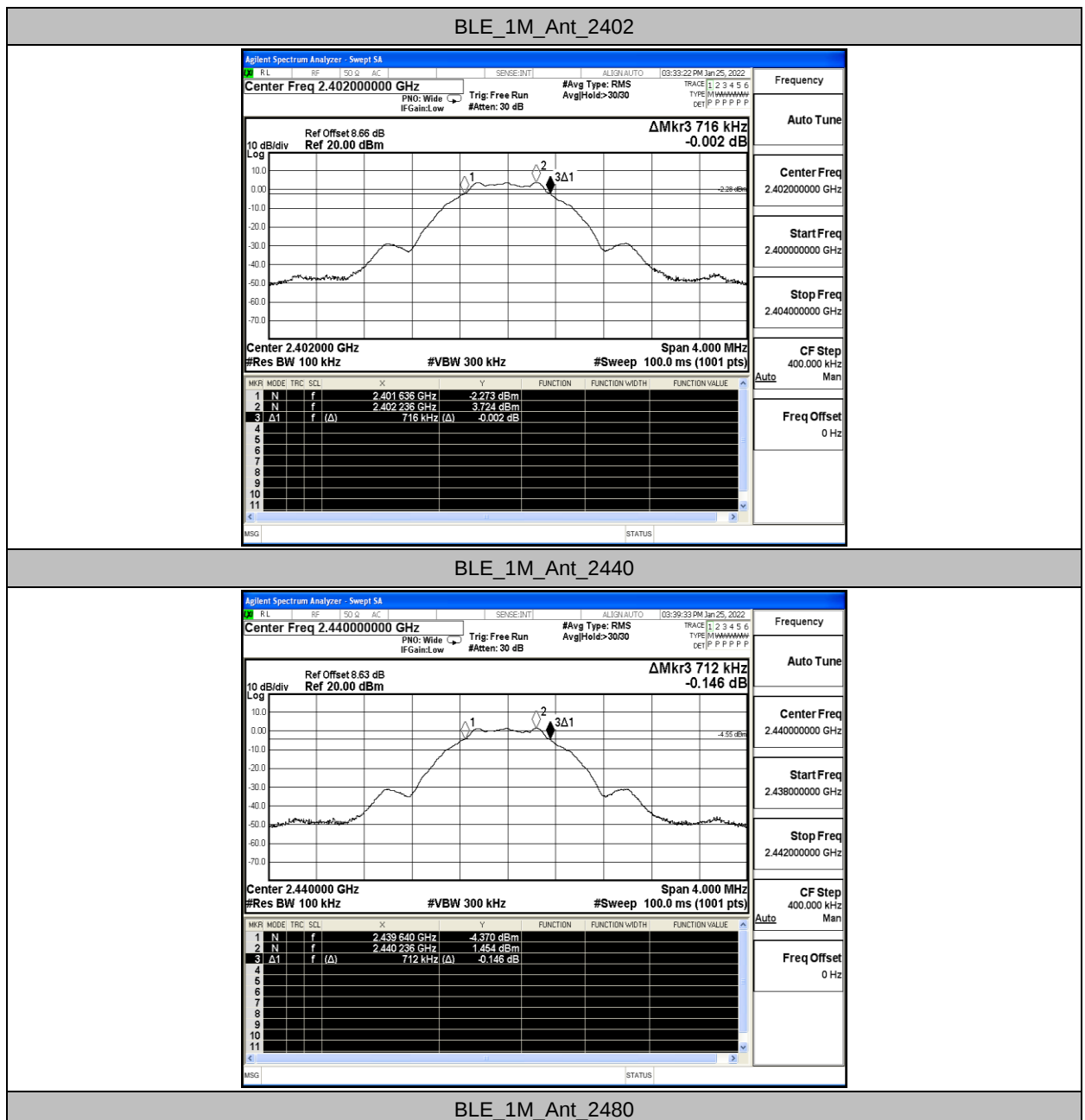


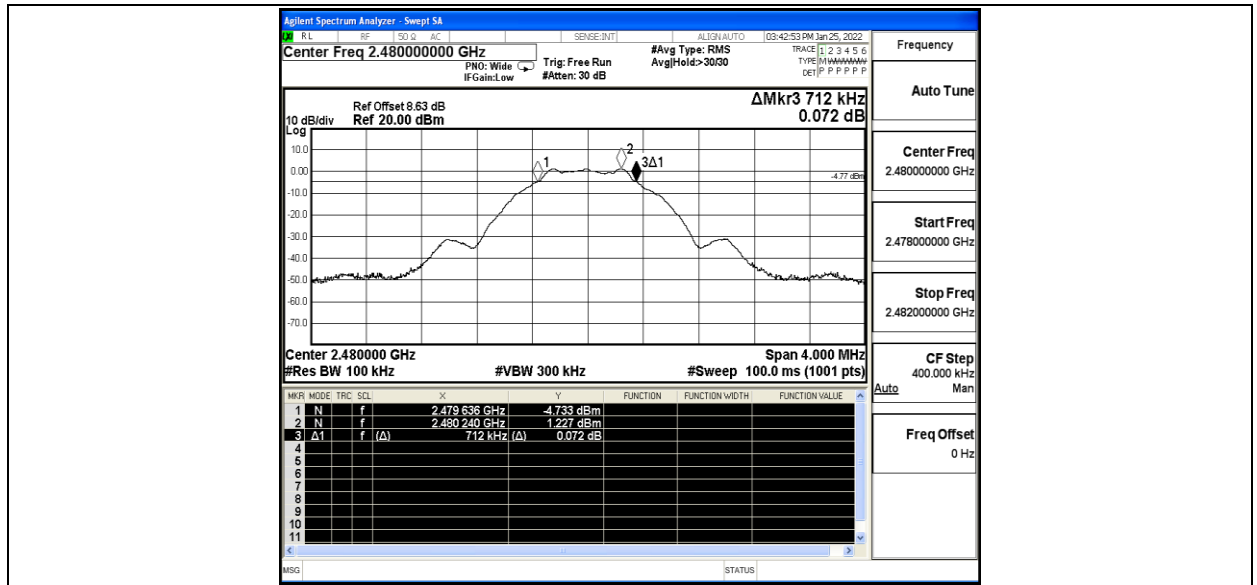
## B.1 6dB Bandwidth

### Test Result

| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant     | 2402    | 0.716        | 2401.636 | 2402.352 | 0.5        | PASS    |
|          |         | 2440    | 0.712        | 2439.640 | 2440.352 | 0.5        | PASS    |
|          |         | 2480    | 0.712        | 2479.636 | 2480.348 | 0.5        | PASS    |

### Test Graphs





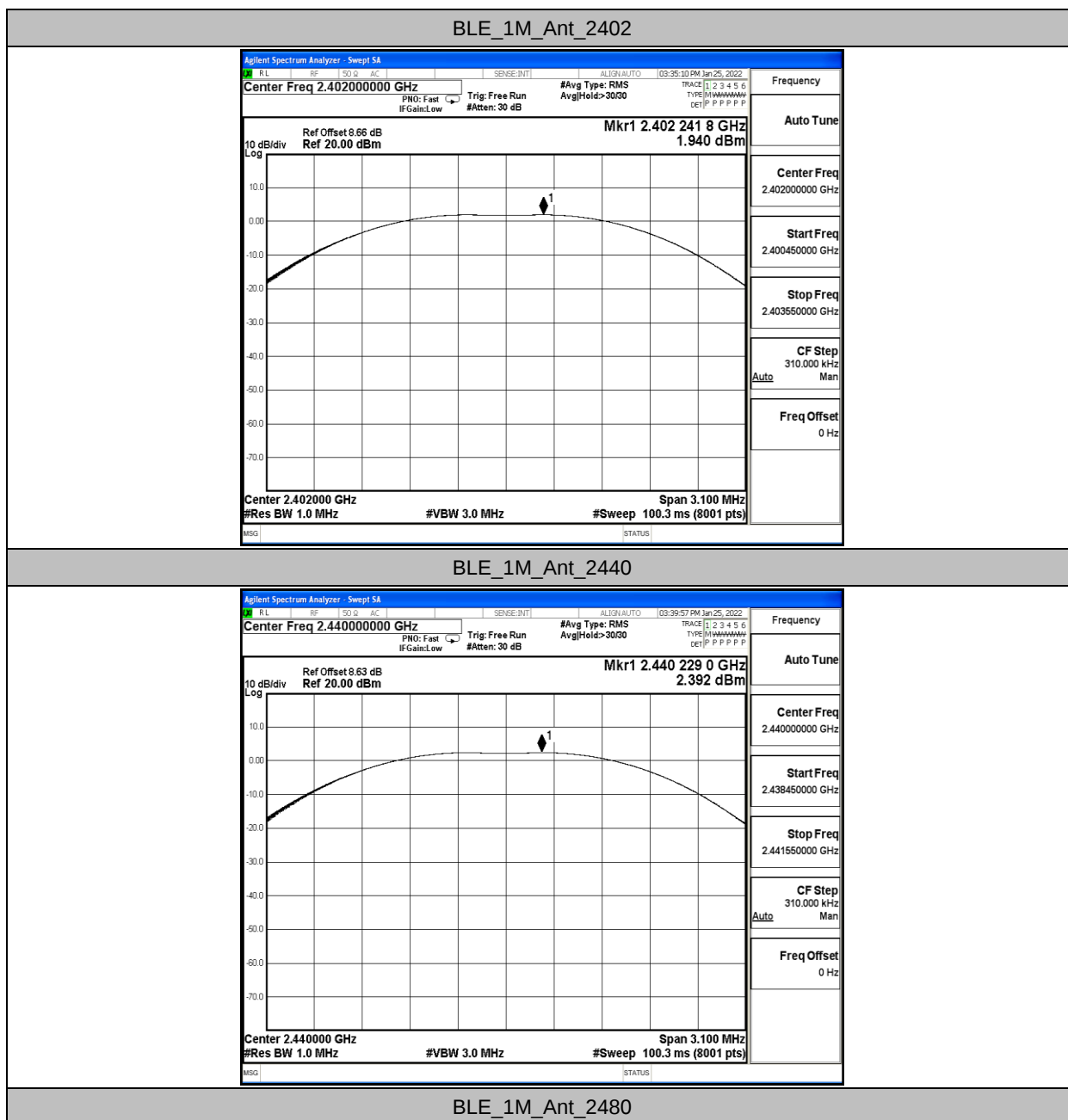


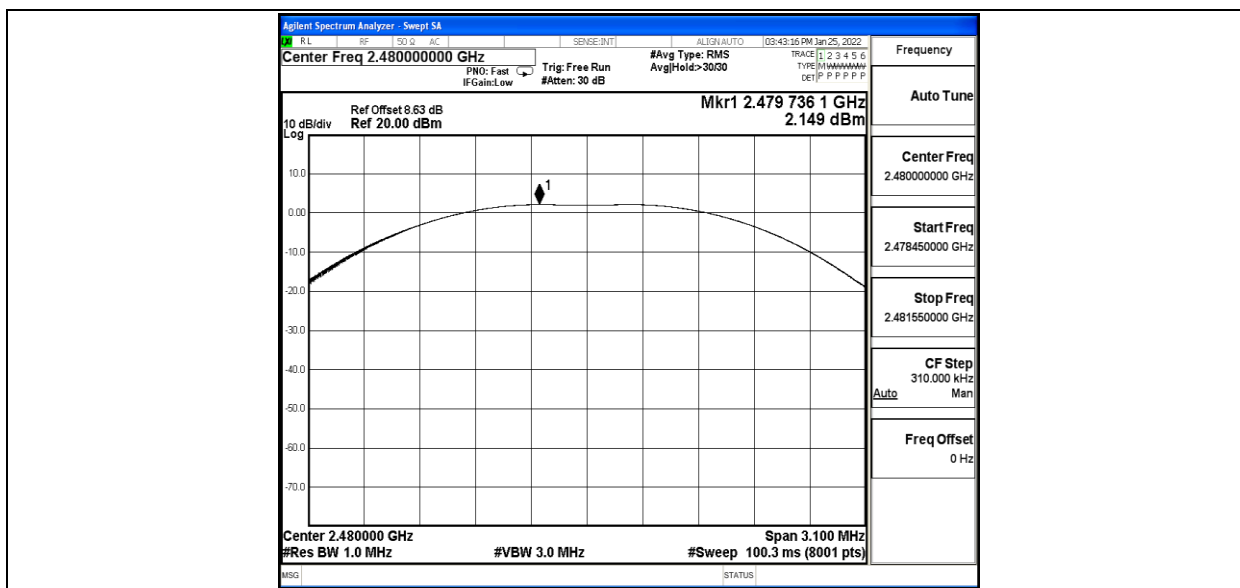
## B.2 Maximum conducted output power

### Test Result

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant     | 2402    | 1.94        | ≤30        | PASS    |
|          |         | 2440    | <b>2.39</b> | ≤30        | PASS    |
|          |         | 2480    | 2.15        | ≤30        | PASS    |

### Test Graphs





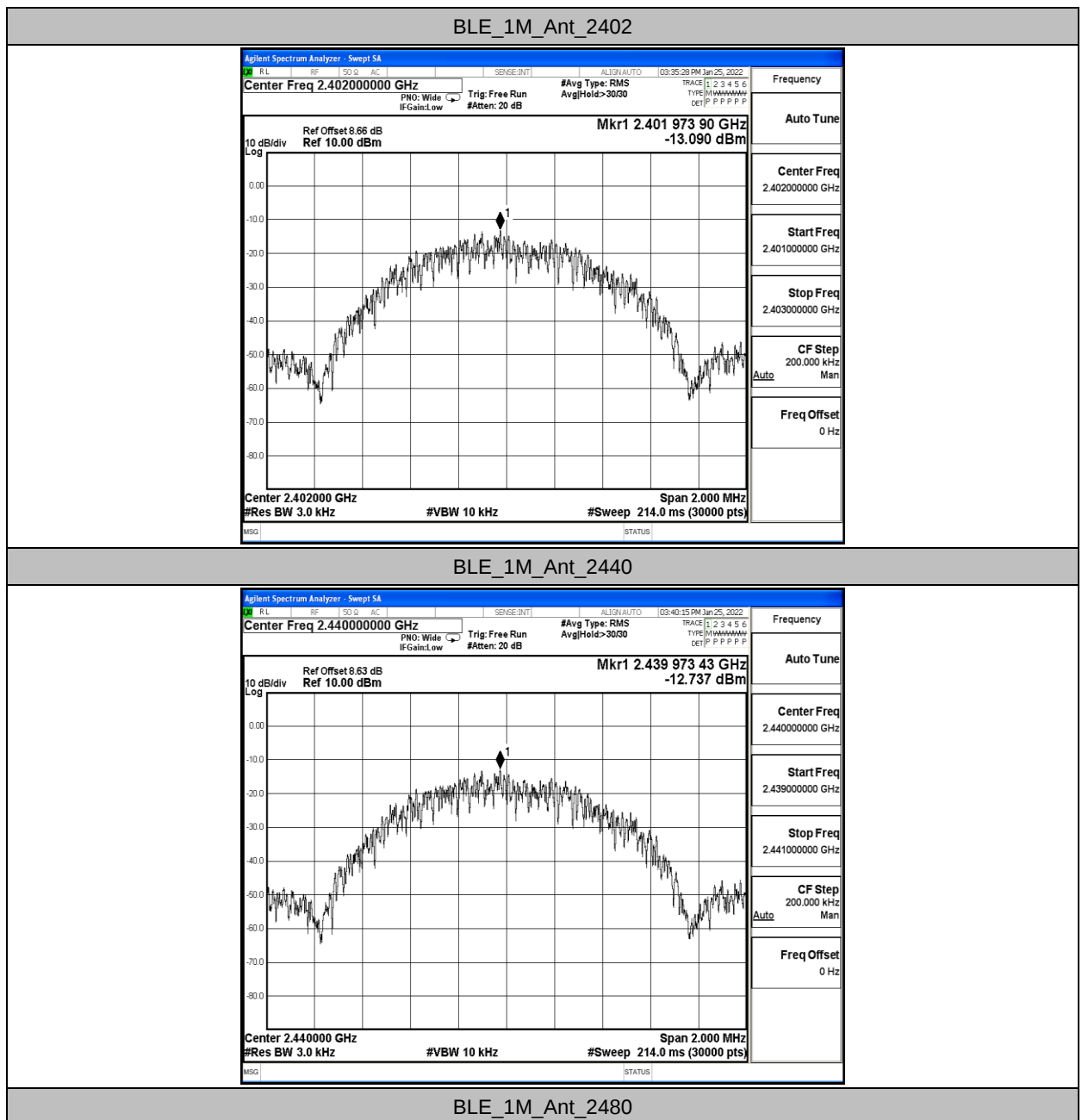


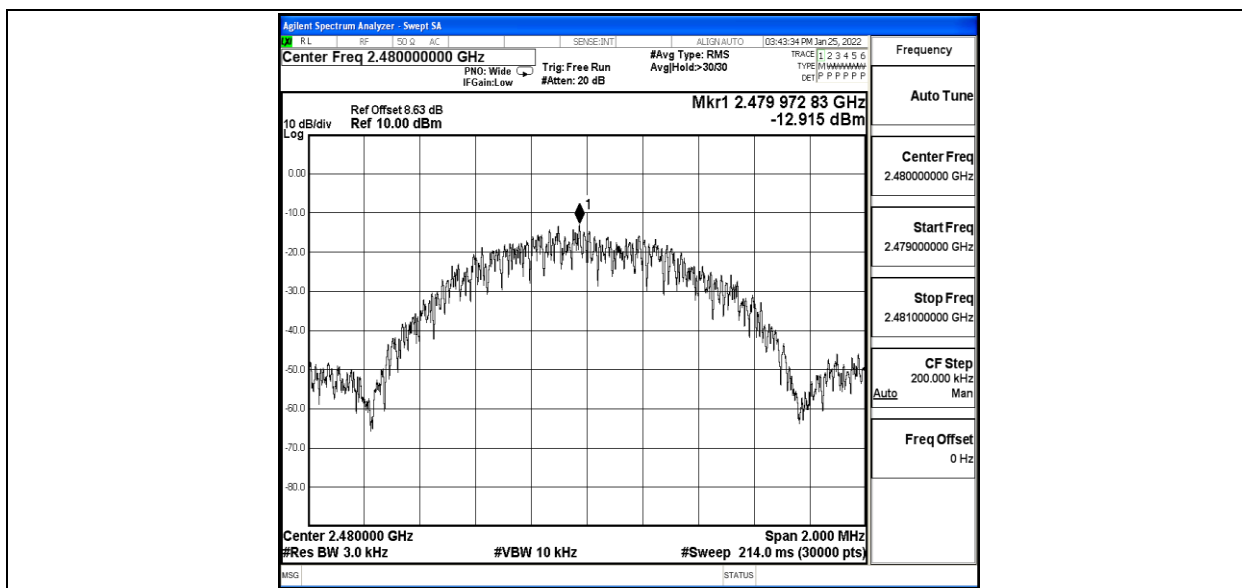
## B.3 Maximum power spectral density

### Test Result

| TestMode | Antenna | Channel | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|------------------|-----------------|---------|
| BLE_1M   | Ant     | 2402    | -13.09           | ≤8.00           | PASS    |
|          |         | 2440    | -12.74           | ≤8.00           | PASS    |
|          |         | 2480    | -12.92           | ≤8.00           | PASS    |

### Test Graphs





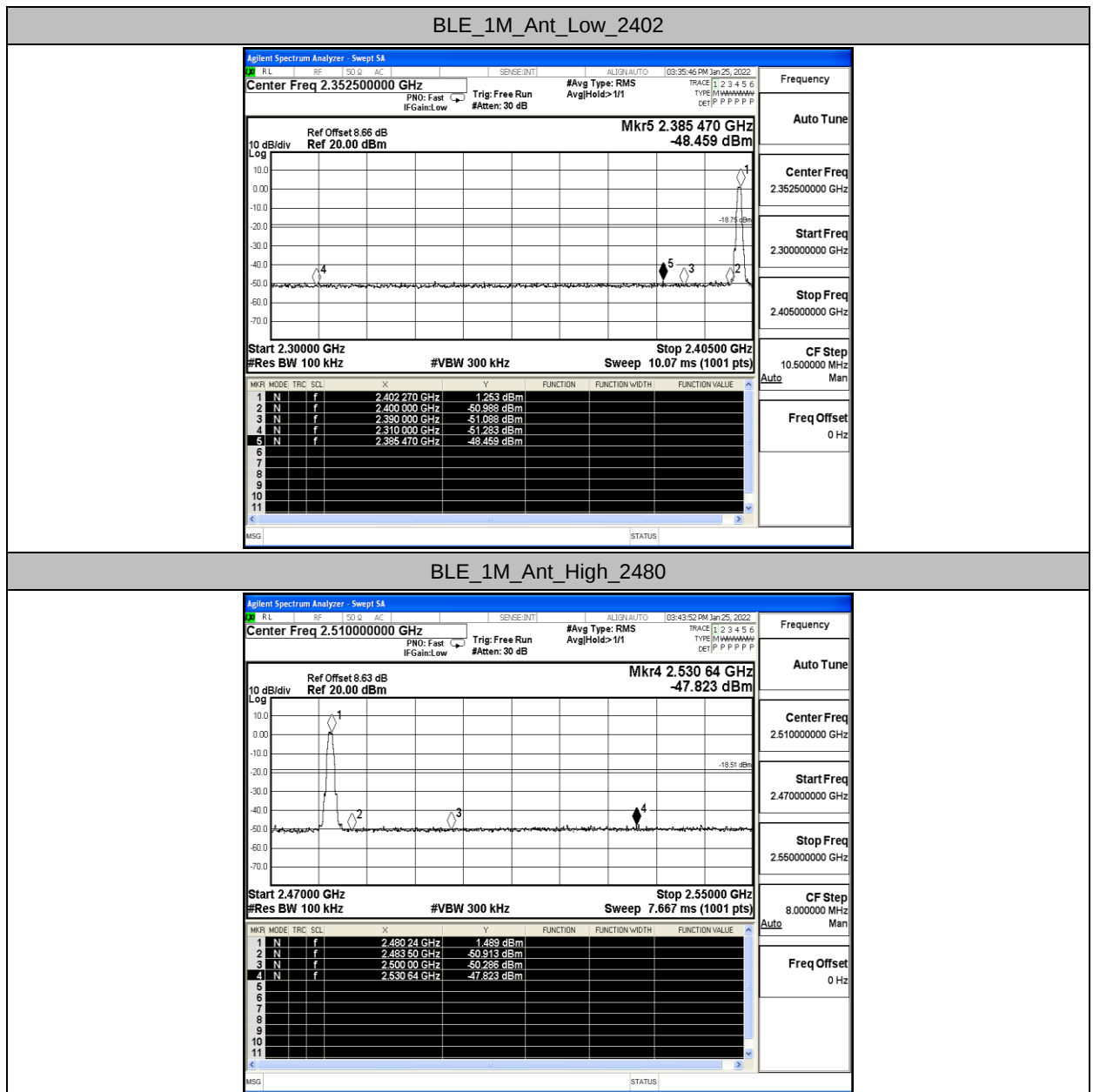


## B.4 Band edge measurements

### Test Result

| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|---------|---------------|-------------|------------|---------|
| BLE_1M   | Ant     | Low    | 2402    | 1.25          | -48.46      | ≤-18.75    | PASS    |
|          |         | High   | 2480    | 1.49          | -47.82      | ≤-18.51    | PASS    |

### Test Graphs



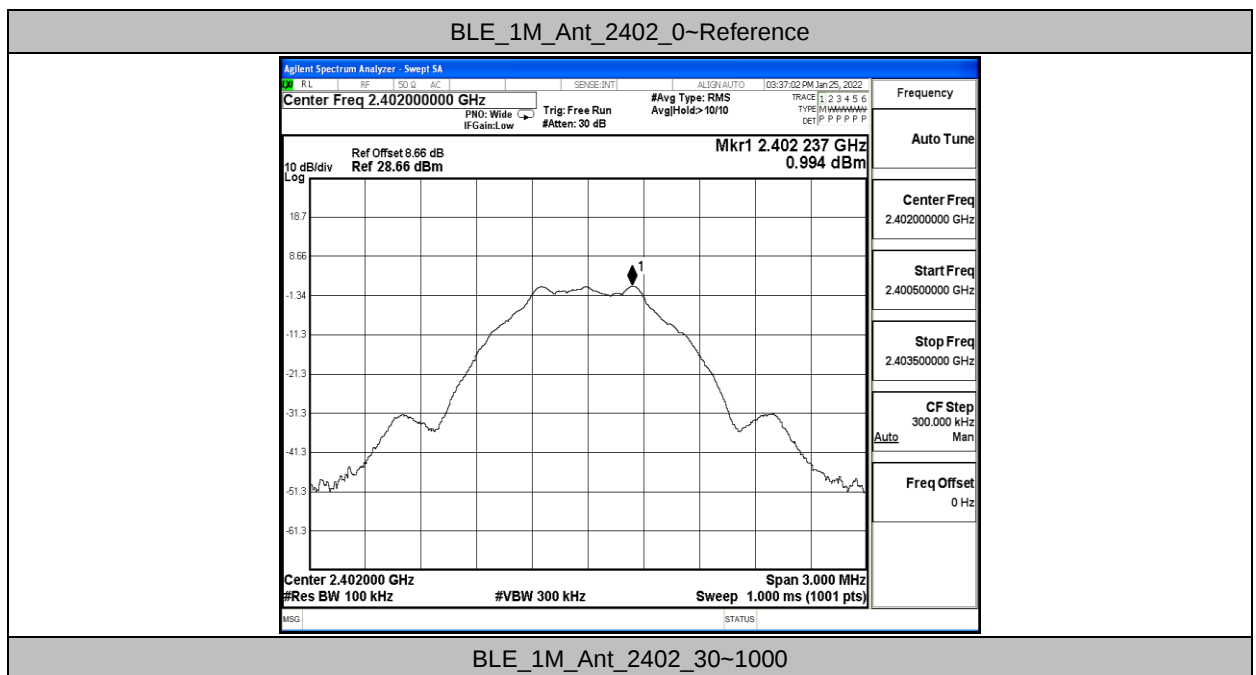


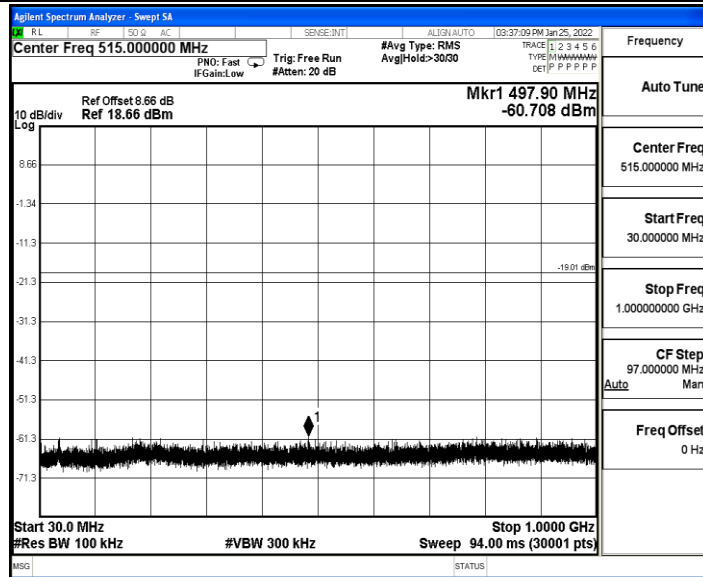
## B.5 Conducted Spurious Emission

### Test Result

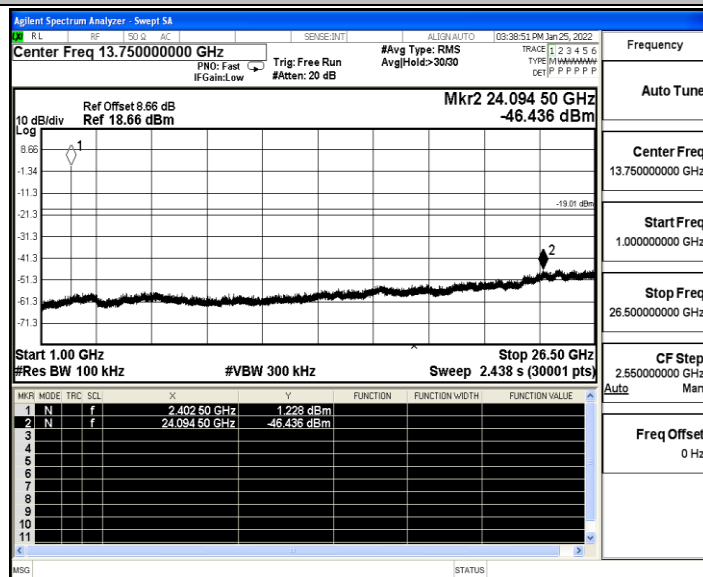
| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-----------------|----------------|-------------|------------|---------|
| BLE_1M   | Ant     | 2402    | Reference       | 0.99           | 0.99        | ---        | PASS    |
|          |         |         | 30~1000         | 0.99           | -60.71      | ≤-19.01    | PASS    |
|          |         |         | 1000~26500      | 0.99           | -46.44      | ≤-19.01    | PASS    |
|          |         | 2440    | Reference       | 1.47           | 1.47        | ---        | PASS    |
|          |         |         | 30~1000         | 1.47           | -58.93      | ≤-18.53    | PASS    |
|          |         |         | 1000~26500      | 1.47           | -45.97      | ≤-18.53    | PASS    |
|          |         | 2480    | Reference       | 1.23           | 1.23        | ---        | PASS    |
|          |         |         | 30~1000         | 1.23           | -60.01      | ≤-18.77    | PASS    |
|          |         |         | 1000~26500      | 1.23           | -46.1       | ≤-18.77    | PASS    |

### Test Graphs

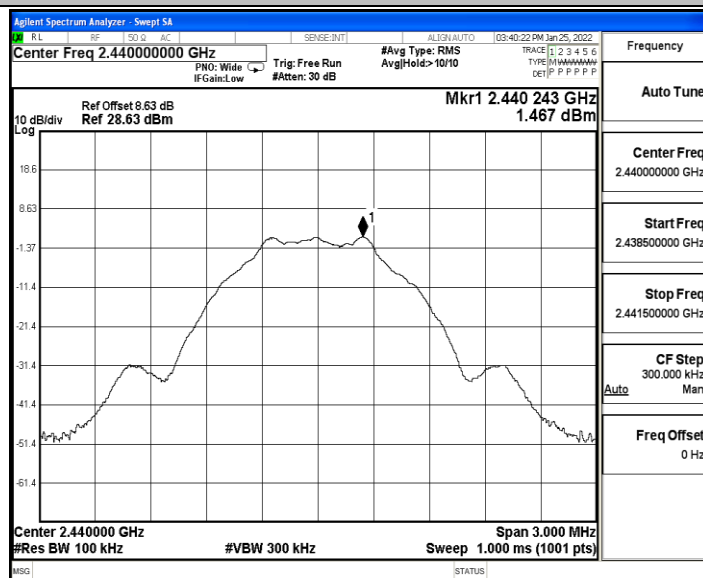




BLE\_1M\_Ant\_2402\_1000-26500

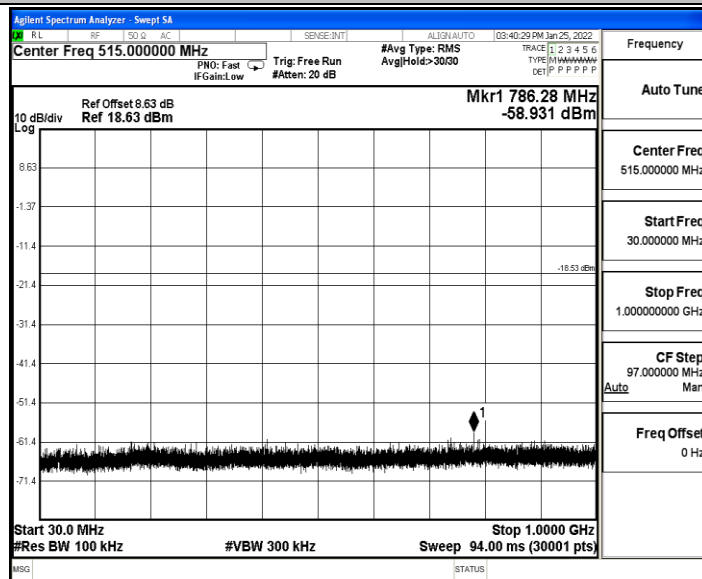


BLE\_1M\_Ant\_2440\_0-Reference

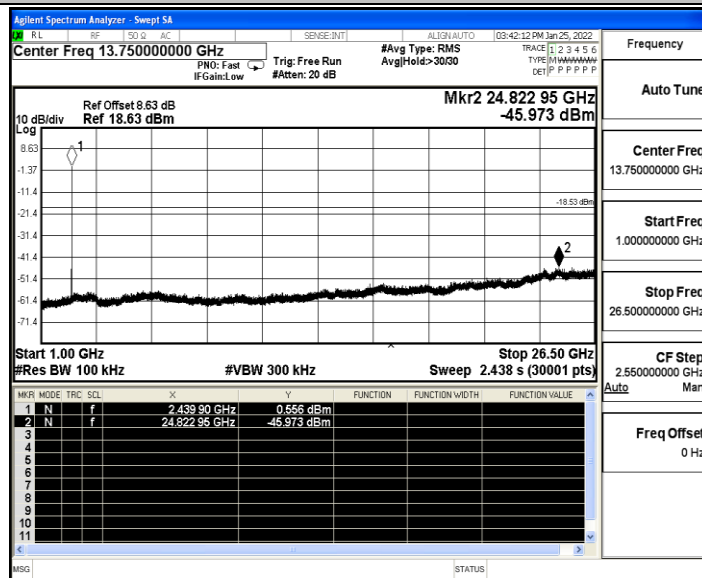




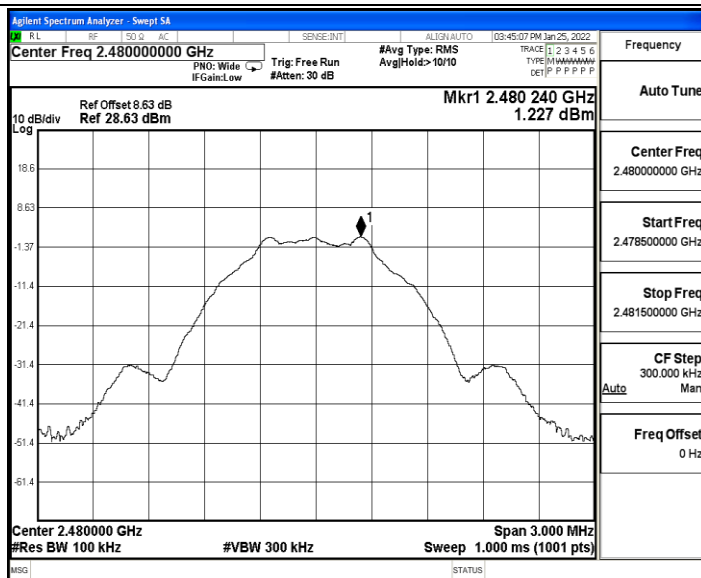
## BLE\_1M\_Ant\_2440\_30~1000



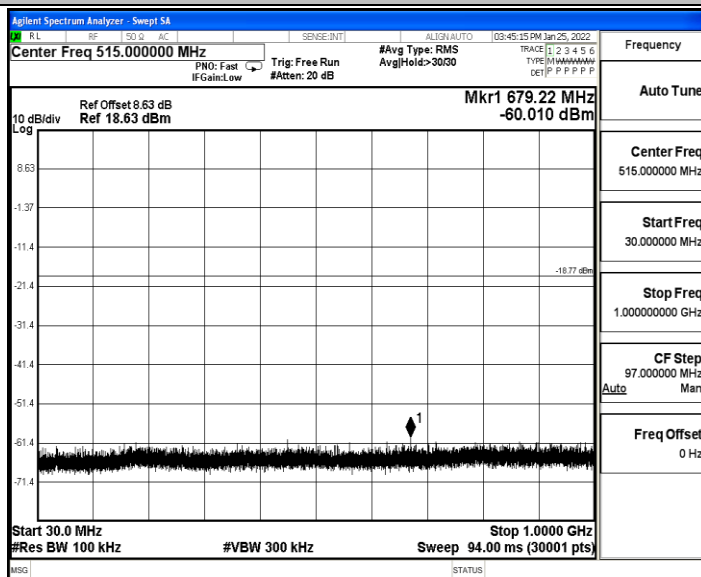
## BLE\_1M\_Ant\_2440\_1000~26500



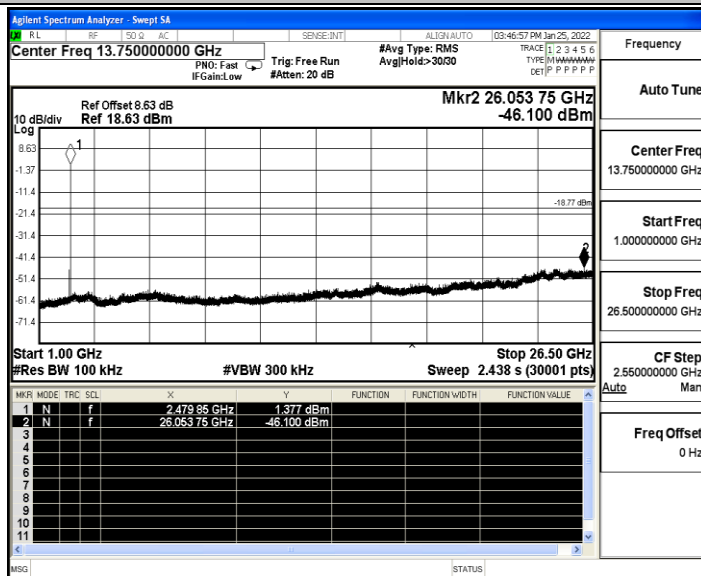
## BLE\_1M\_Ant\_2480\_0~Reference



BLE\_1M\_Ant\_2480\_30~1000



BLE\_1M\_Ant\_2480\_1000~26500



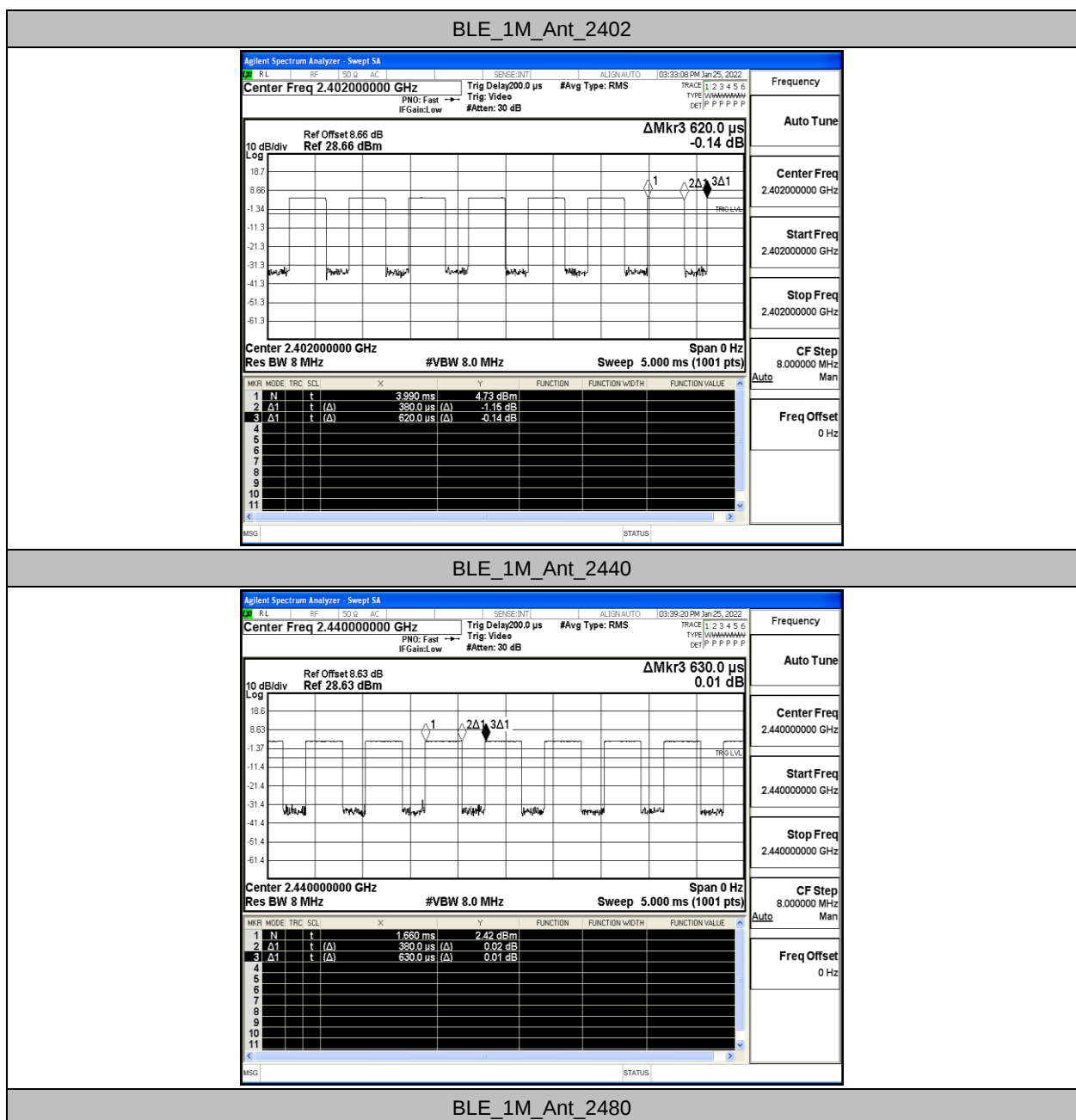


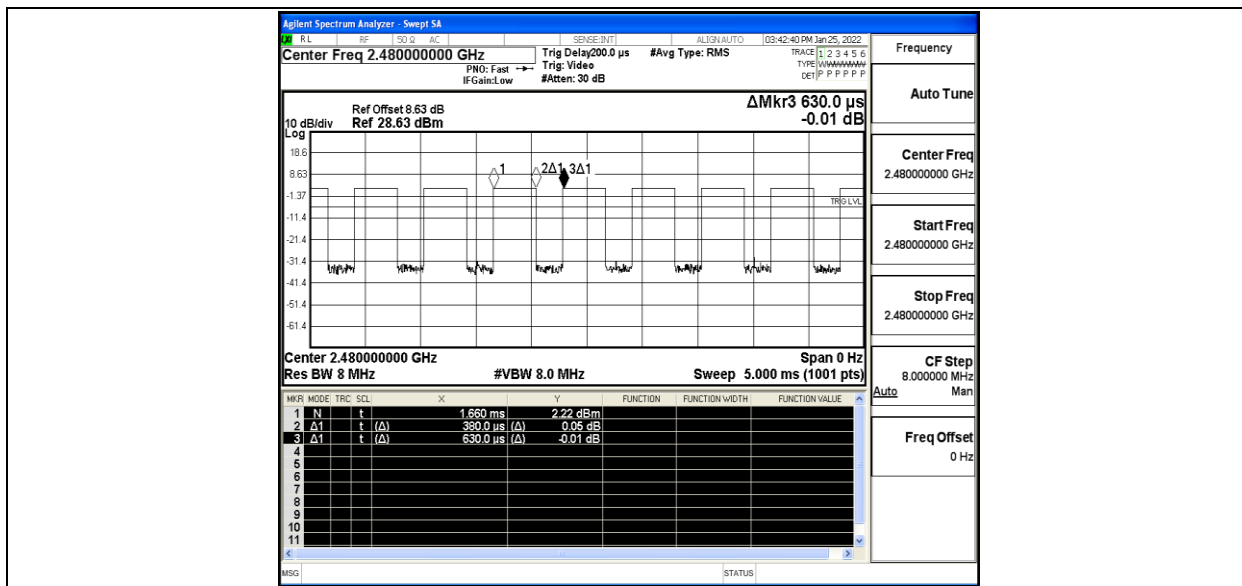
## B.6 Duty Cycle

### Test Result

| TestMode | Antenna | Channel | ON Time<br>[ms] | Period<br>[ms] | X      | DC [%] | xFactor | Limit | Verdict |
|----------|---------|---------|-----------------|----------------|--------|--------|---------|-------|---------|
| BLE_1M   | Ant     | 2402    | 0.38            | 0.62           | 0.6129 | 61.29  | 2.13    | ---   | ---     |
|          |         | 2440    | 0.38            | 0.63           | 0.6032 | 60.32  | 2.20    | ---   | ---     |
|          |         | 2480    | 0.38            | 0.63           | 0.6032 | 60.32  | 2.20    | ---   | ---     |

### Test Graphs







## B.7 Emissions in Restricted Bands

### Test Result

| TestMode | Antenna | ChName | Channel | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Verdict |
|----------|---------|--------|---------|----------|----------------|-----------------|--------------------|-------------------|---------|
| BLE_1M   | Ant     | Low    | 2402    | AV       | 2310.000       | -47.41          | 47.79              | ≤54               | PASS    |
|          |         |        |         | AV       | 2384.420       | -46.73          | 48.47              | ≤54               | PASS    |
|          |         |        |         | AV       | 2390.000       | -46.94          | 48.26              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2310.000       | -39.55          | 55.65              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2375.075       | -36.85          | 58.35              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2390.000       | -38.69          | 56.51              | ≤74               | PASS    |
|          |         | High   | 2480    | AV       | 2483.500       | -46.01          | 49.19              | ≤54               | PASS    |
|          |         |        |         | AV       | 2483.600       | -45.92          | 49.28              | ≤54               | PASS    |
|          |         |        |         | AV       | 2500.000       | -46.52          | 48.68              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2483.500       | -37.9           | 57.30              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2495.280       | -35.63          | 59.57              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2500.000       | -38.16          | 57.04              | ≤74               | PASS    |

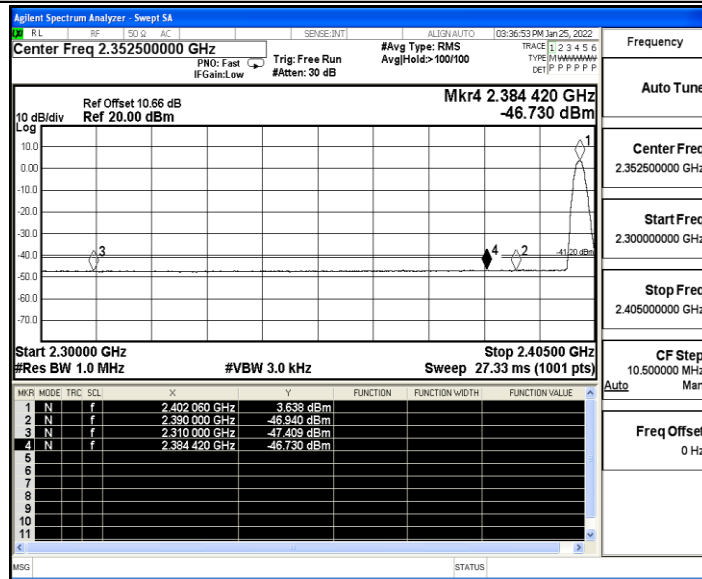
Note:

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.

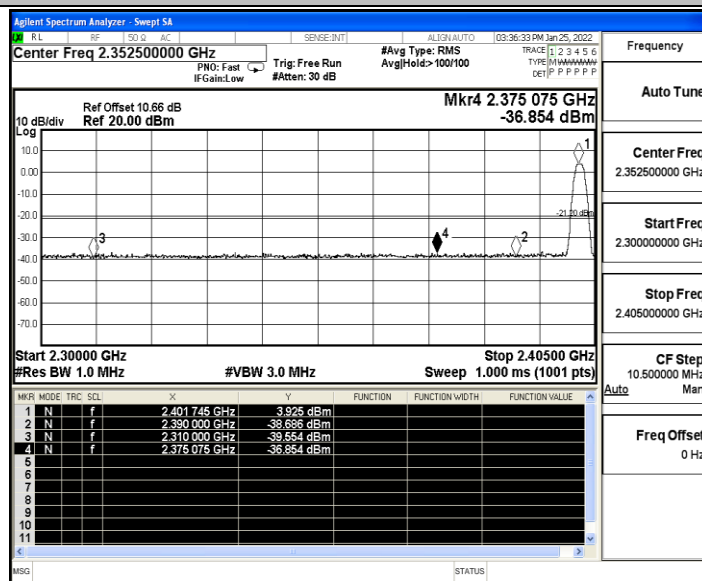


## Test Graphs

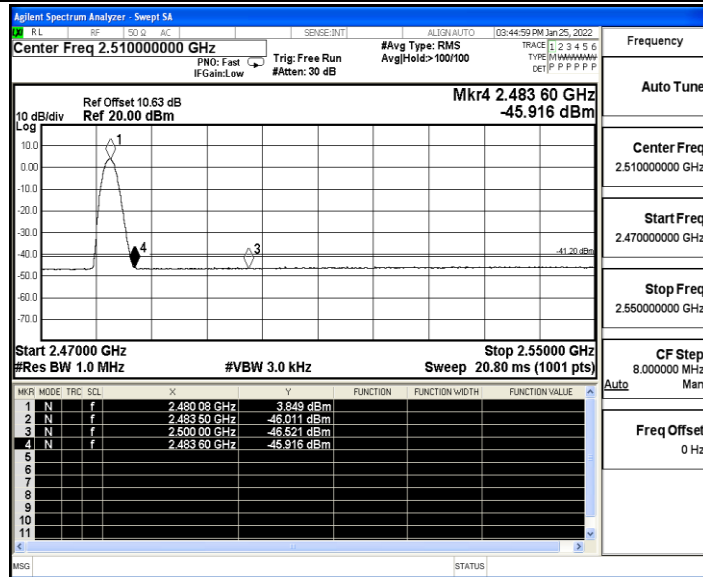
BLE\_1M\_Ant\_Low\_2402\_AV



BLE\_1M\_Ant\_Low\_2402\_Peak



BLE\_1M\_Ant\_High\_2480\_AV



## BLE\_1M\_Ant\_High\_2480\_Peak

