



## Appendix B

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

**Product Name:** Car audio

**Test Model:** SBB-75136

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.7° C   |
| Relative Humidity: | 52.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Monkey Li |
| Supervised by:     | Li huan   |

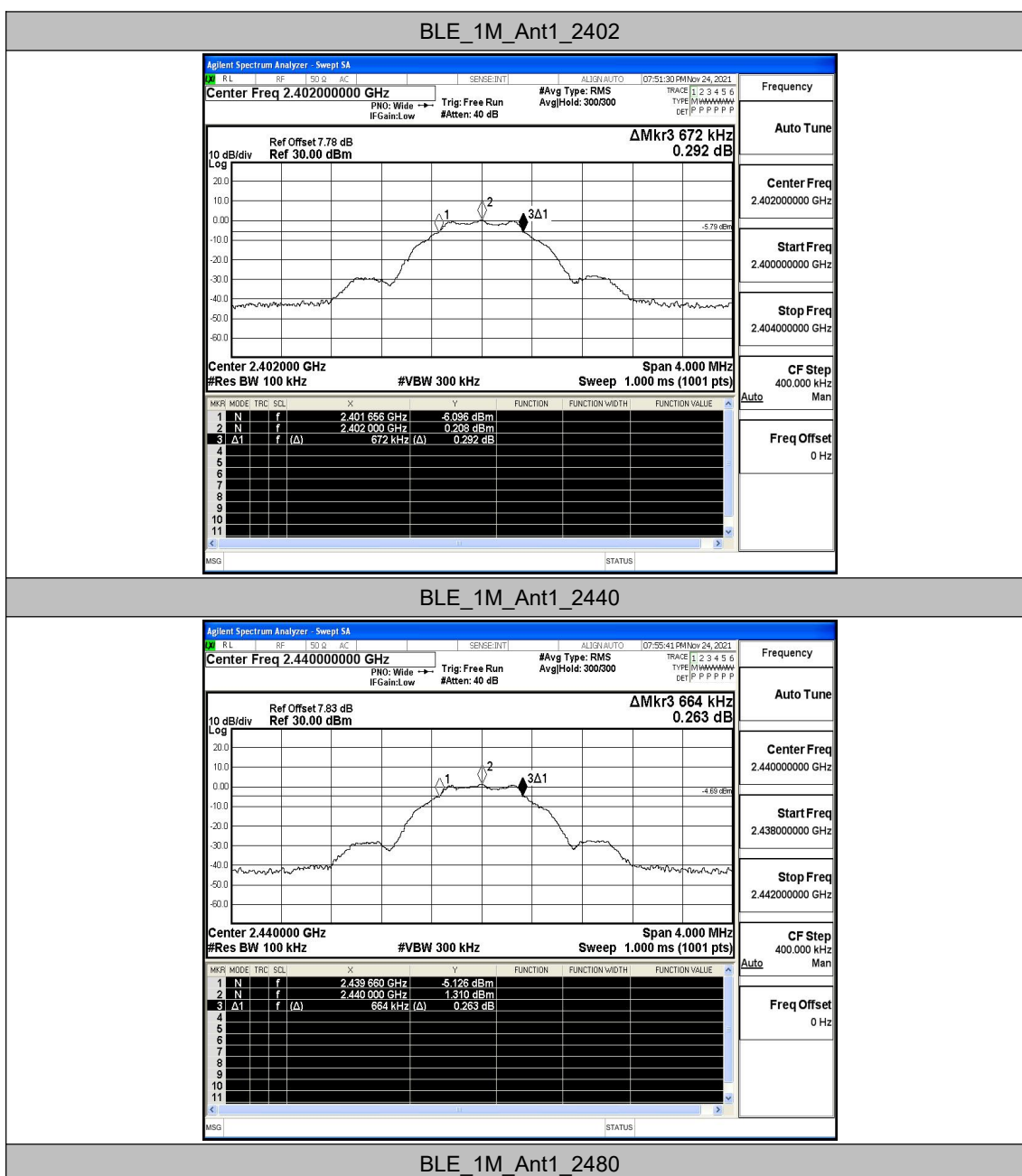


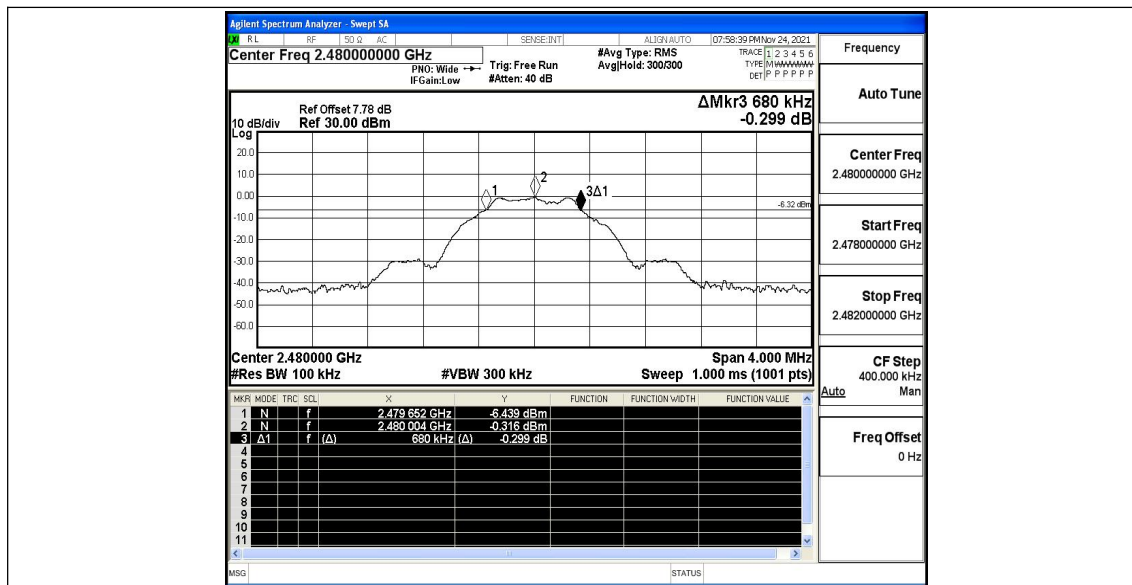
## B.1 6dB Bandwidth

### Test Result

| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.672        | 2401.656 | 2402.328 | ≥0.5       | PASS    |
|          |         | 2440    | 0.664        | 2439.660 | 2440.324 | ≥0.5       | PASS    |
|          |         | 2480    | 0.680        | 2479.652 | 2480.332 | ≥0.5       | PASS    |

### Test Graphs





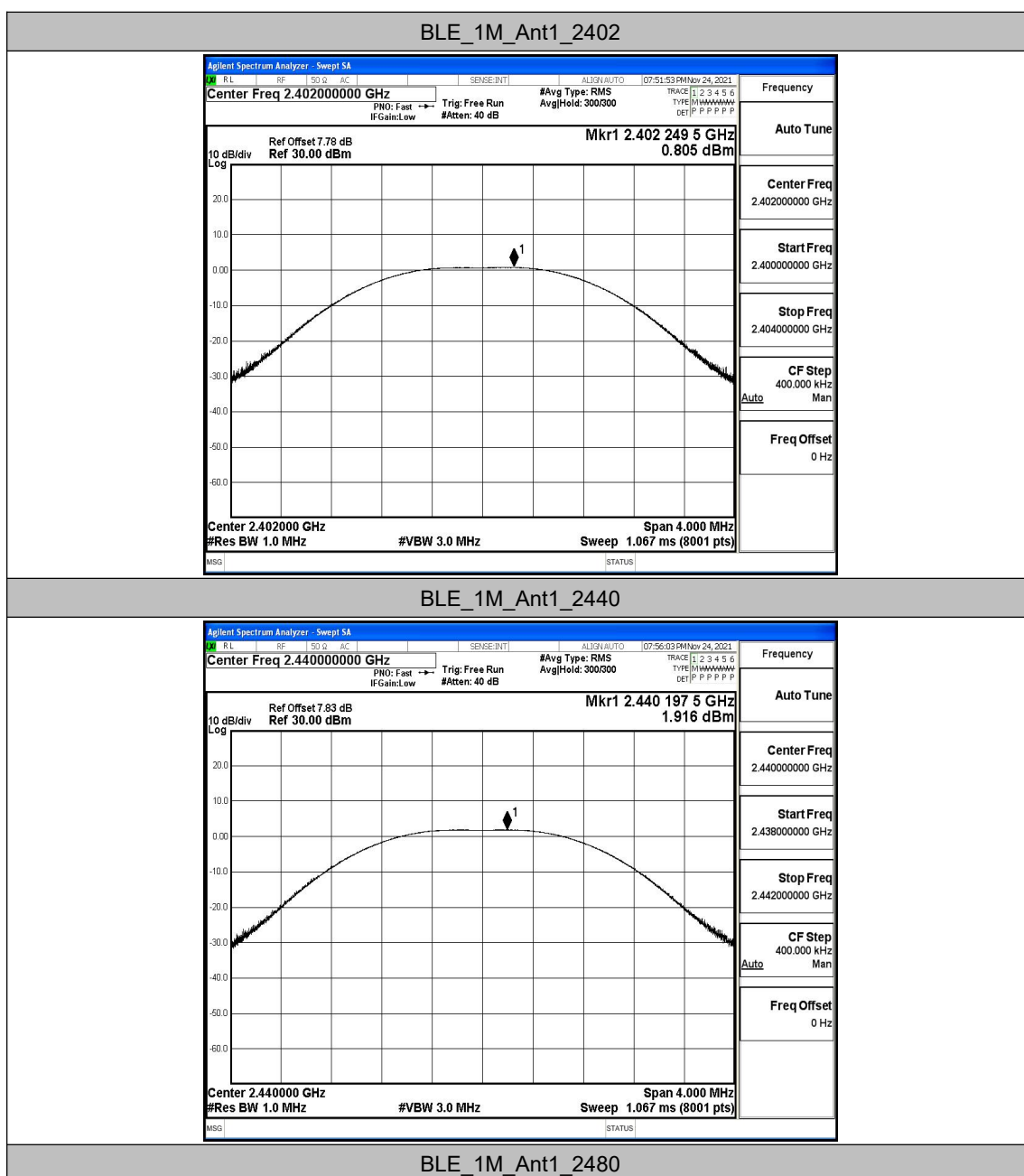


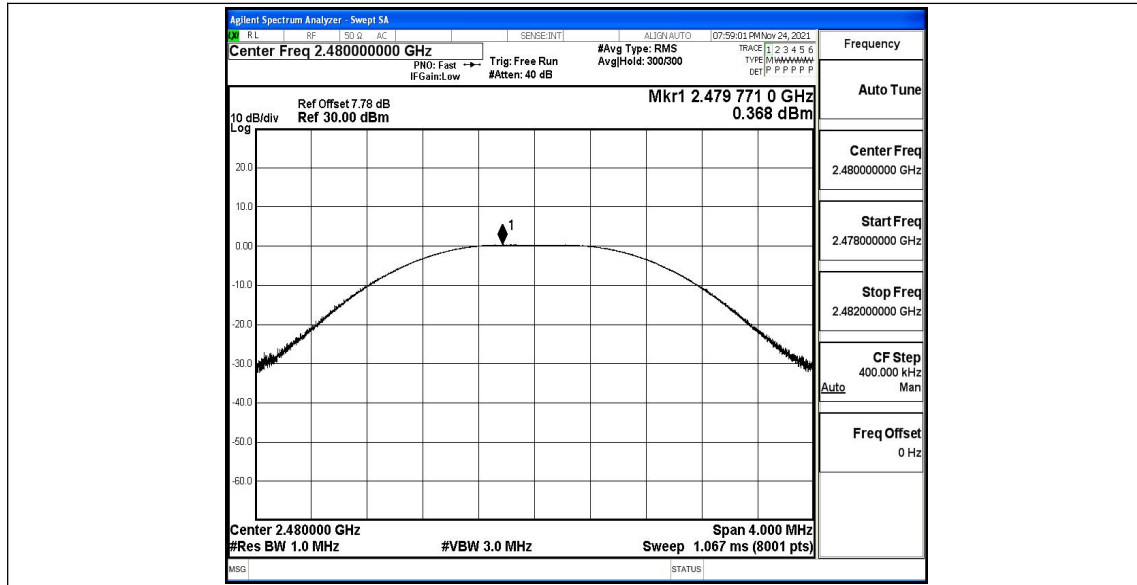
## B.2 Maximum conducted output power

### Test Result

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.81        | ≤30        | PASS    |
|          |         | 2440    | 1.92        | ≤30        | PASS    |
|          |         | 2480    | 0.37        | ≤30        | PASS    |

### Test Graphs





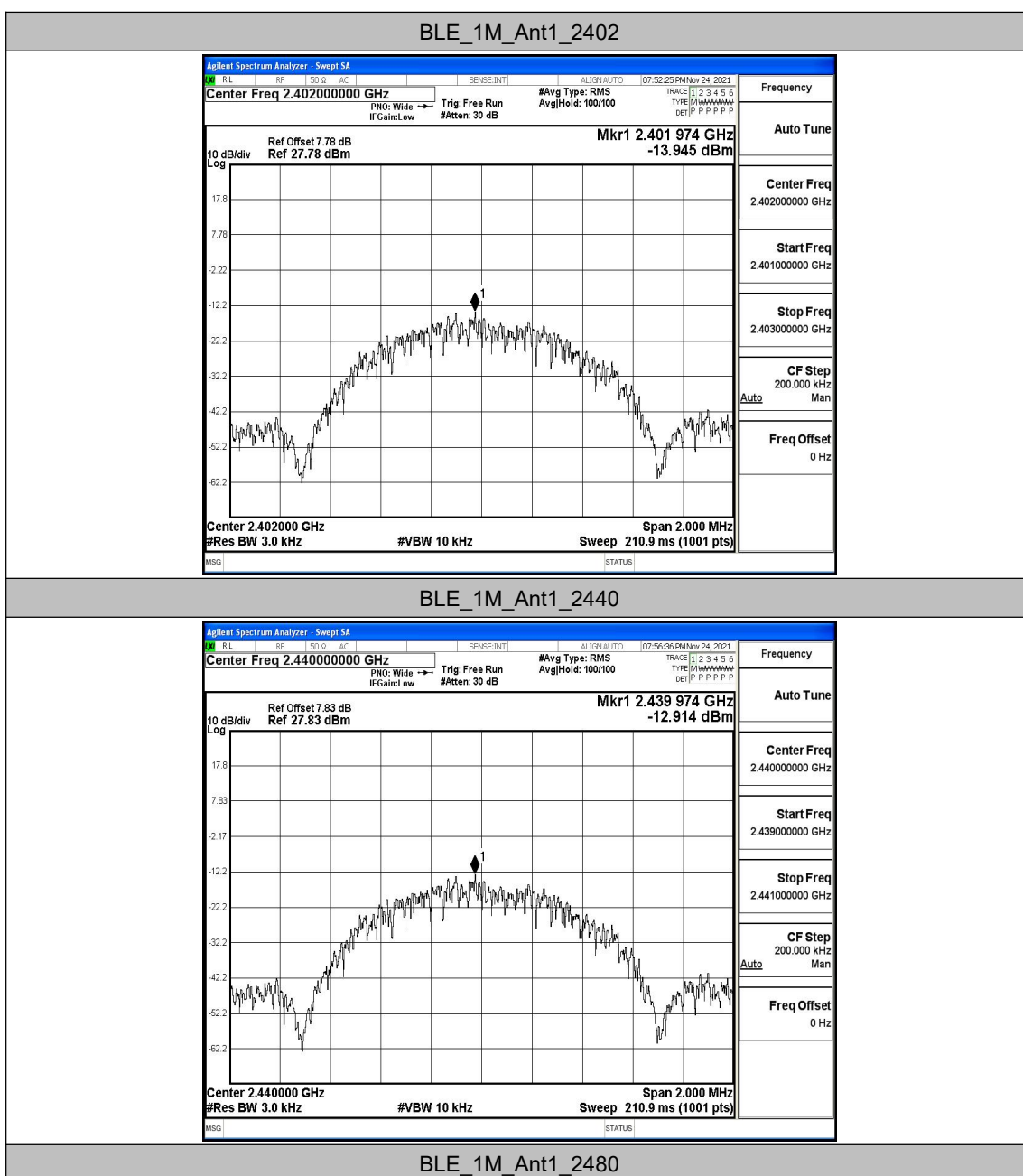


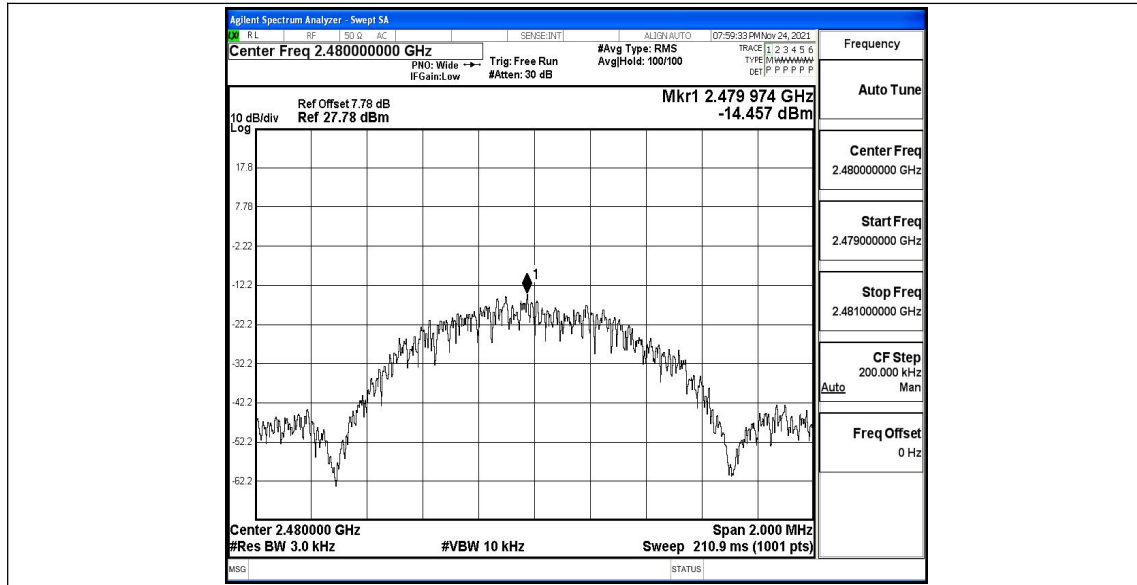
## B.3 Maximum power spectral density

### Test Result

| TestMode | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|----------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402    | -13.95               | ≤8              | PASS    |
|          |         | 2440    | -12.91               | ≤8              | PASS    |
|          |         | 2480    | -14.46               | ≤8              | PASS    |

### Test Graphs





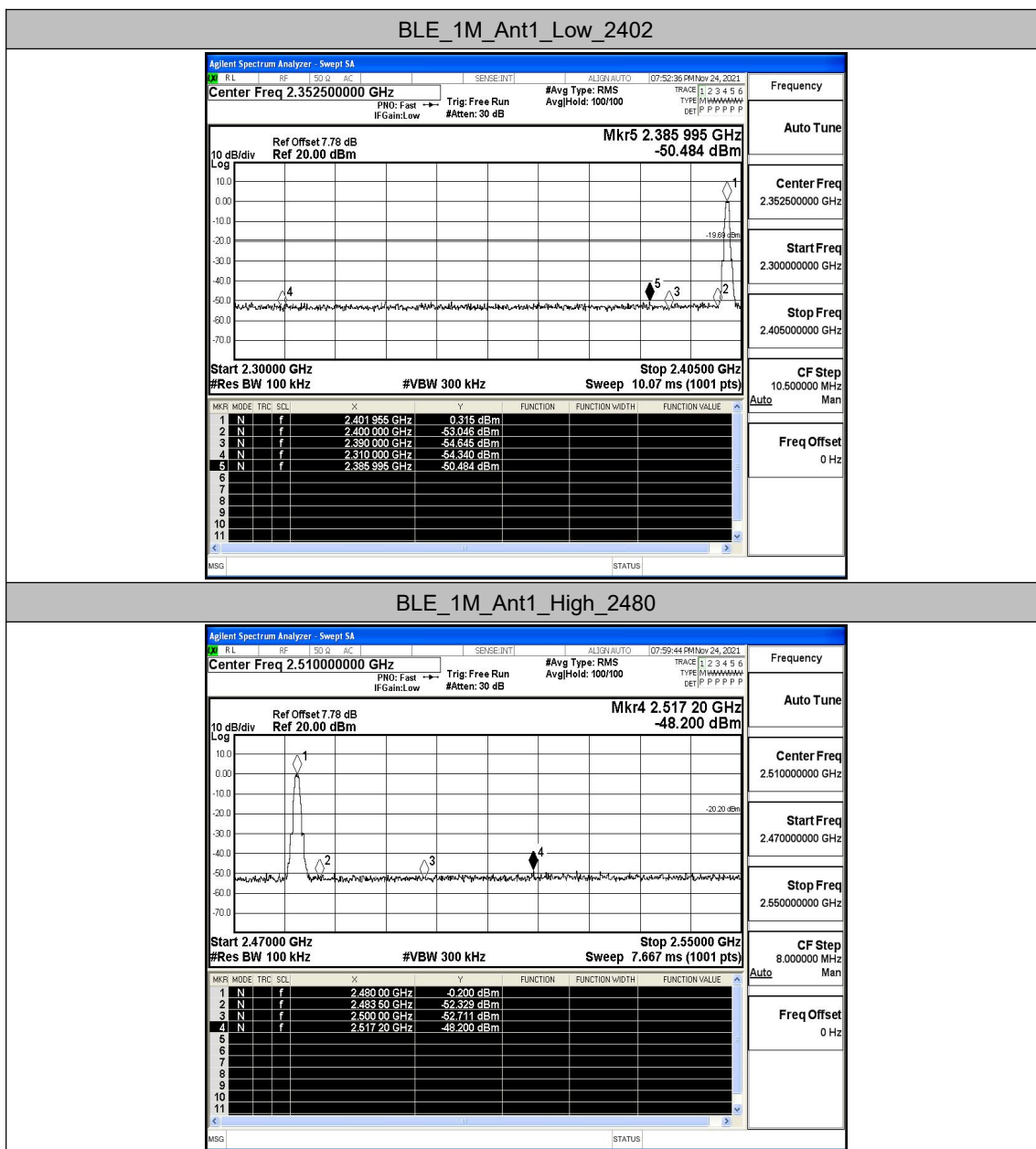


## B.4 Band edge measurements

### Test Result

| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|---------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | 0.32          | -50.48      | ≤-19.69    | PASS    |
|          |         | High   | 2480    | -0.20         | -48.2       | ≤-20.2     | PASS    |

### Test Graphs



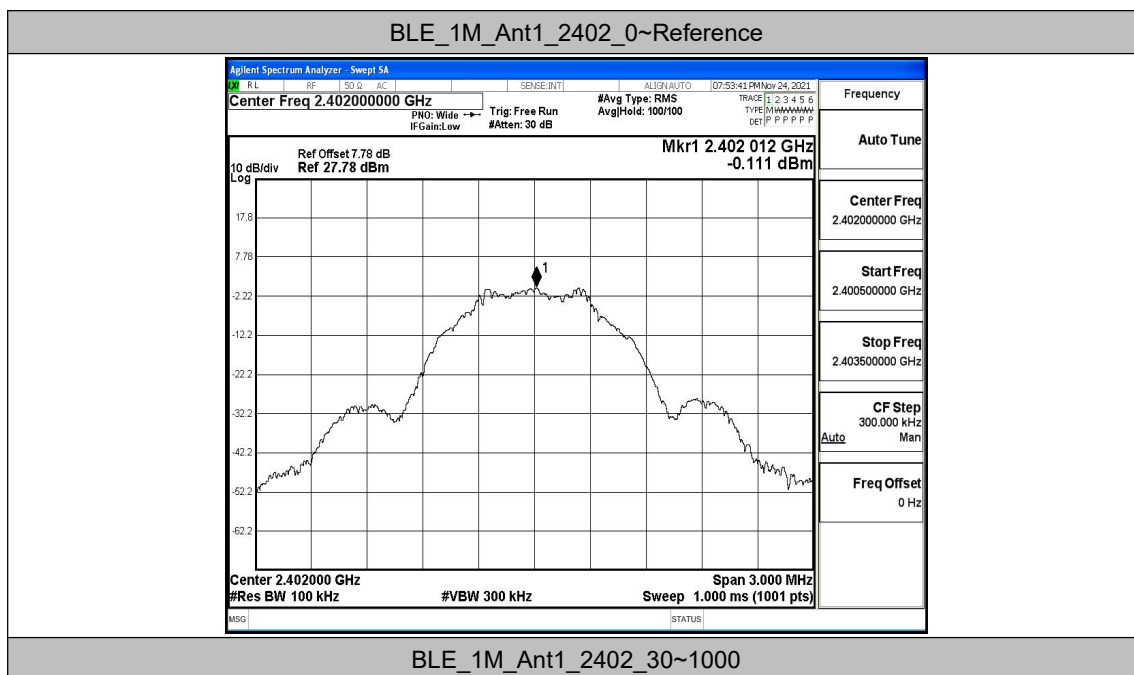


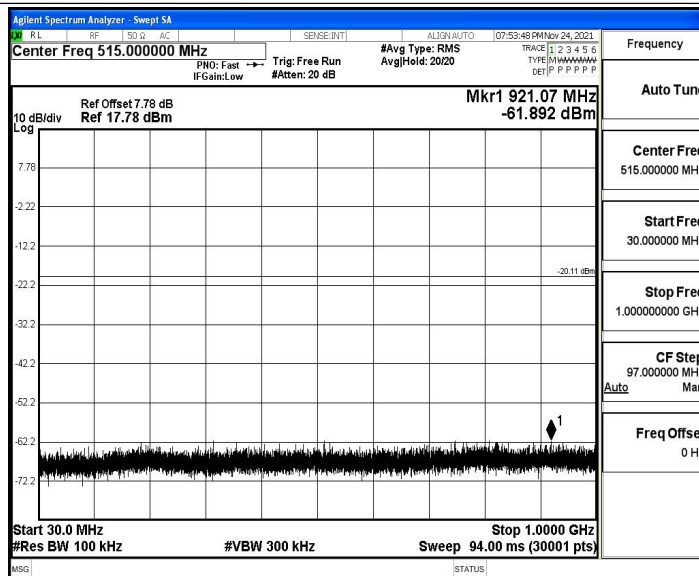
## B.5 Conducted Spurious Emission

### Test Result

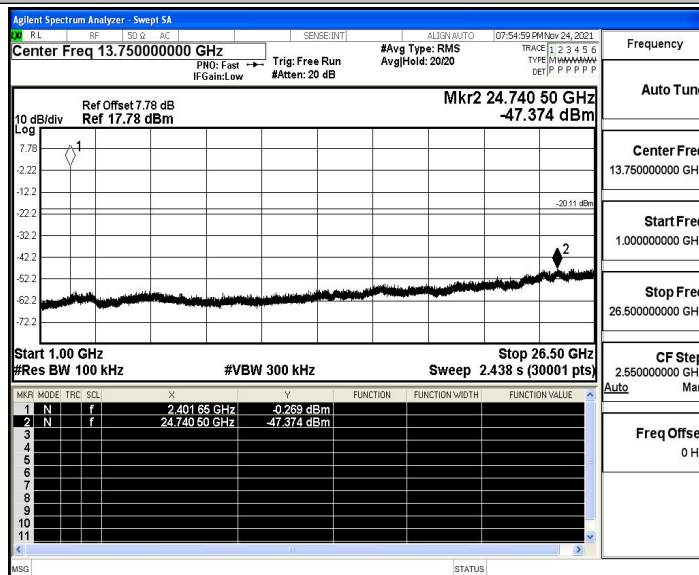
| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-----------------|----------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | Reference       | -0.11          | -0.11       | ---        | PASS    |
|          |         |         | 30~1000         | -0.11          | -61.89      | ≤-20.11    | PASS    |
|          |         |         | 1000~26500      | -0.11          | -47.37      | ≤-20.11    | PASS    |
|          |         | 2440    | Reference       | 1.15           | 1.15        | ---        | PASS    |
|          |         |         | 30~1000         | 1.15           | -61.6       | ≤-18.85    | PASS    |
|          |         |         | 1000~26500      | 1.15           | -46.57      | ≤-18.85    | PASS    |
|          |         | 2480    | Reference       | -0.81          | -0.81       | ---        | PASS    |
|          |         |         | 30~1000         | -0.81          | -61.92      | ≤-20.81    | PASS    |
|          |         |         | 1000~26500      | -0.81          | -47.05      | ≤-20.81    | PASS    |

### Test Graphs

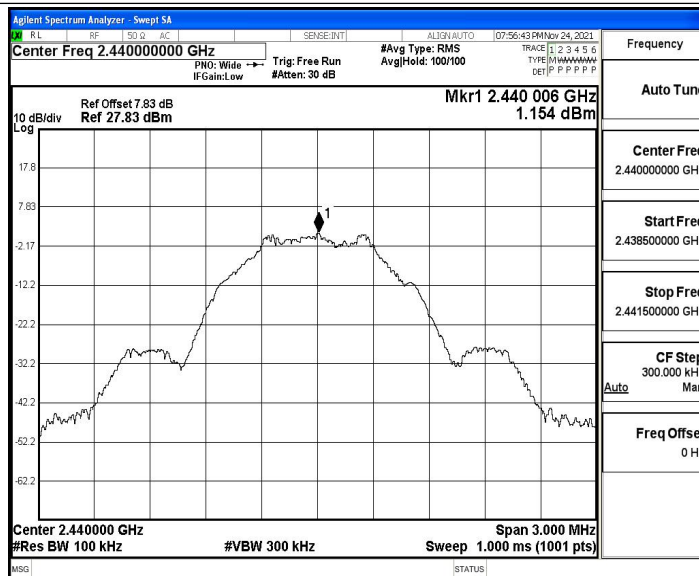




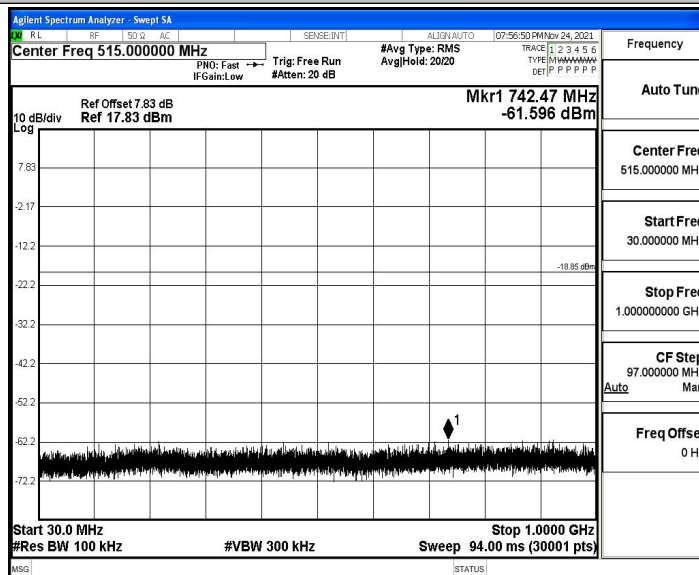
BLE\_1M\_Ant1\_2402\_1000~26500



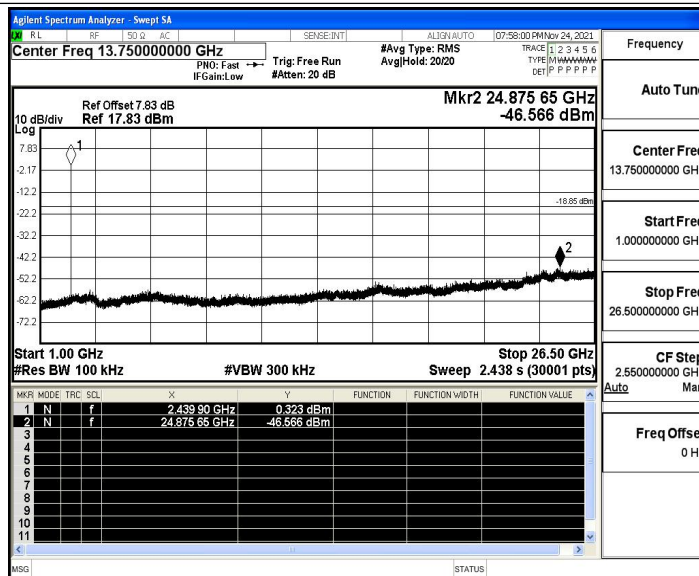
BLE\_1M\_Ant1\_2440\_0~Reference



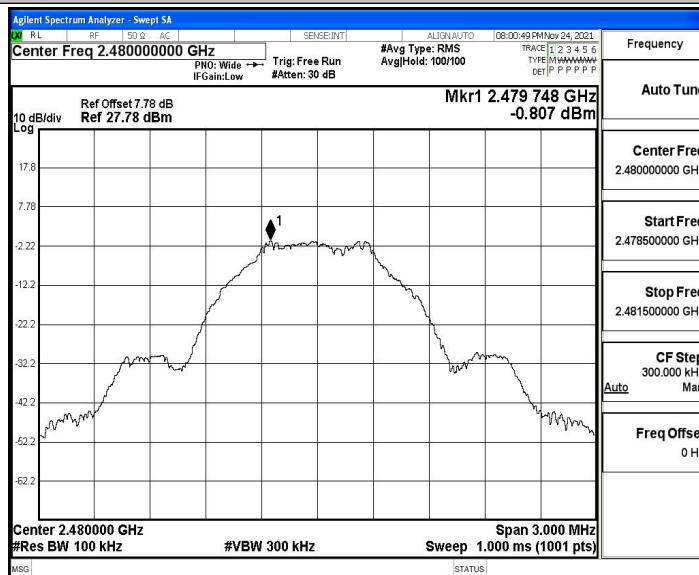
BLE\_1M\_Ant1\_2440\_30~1000



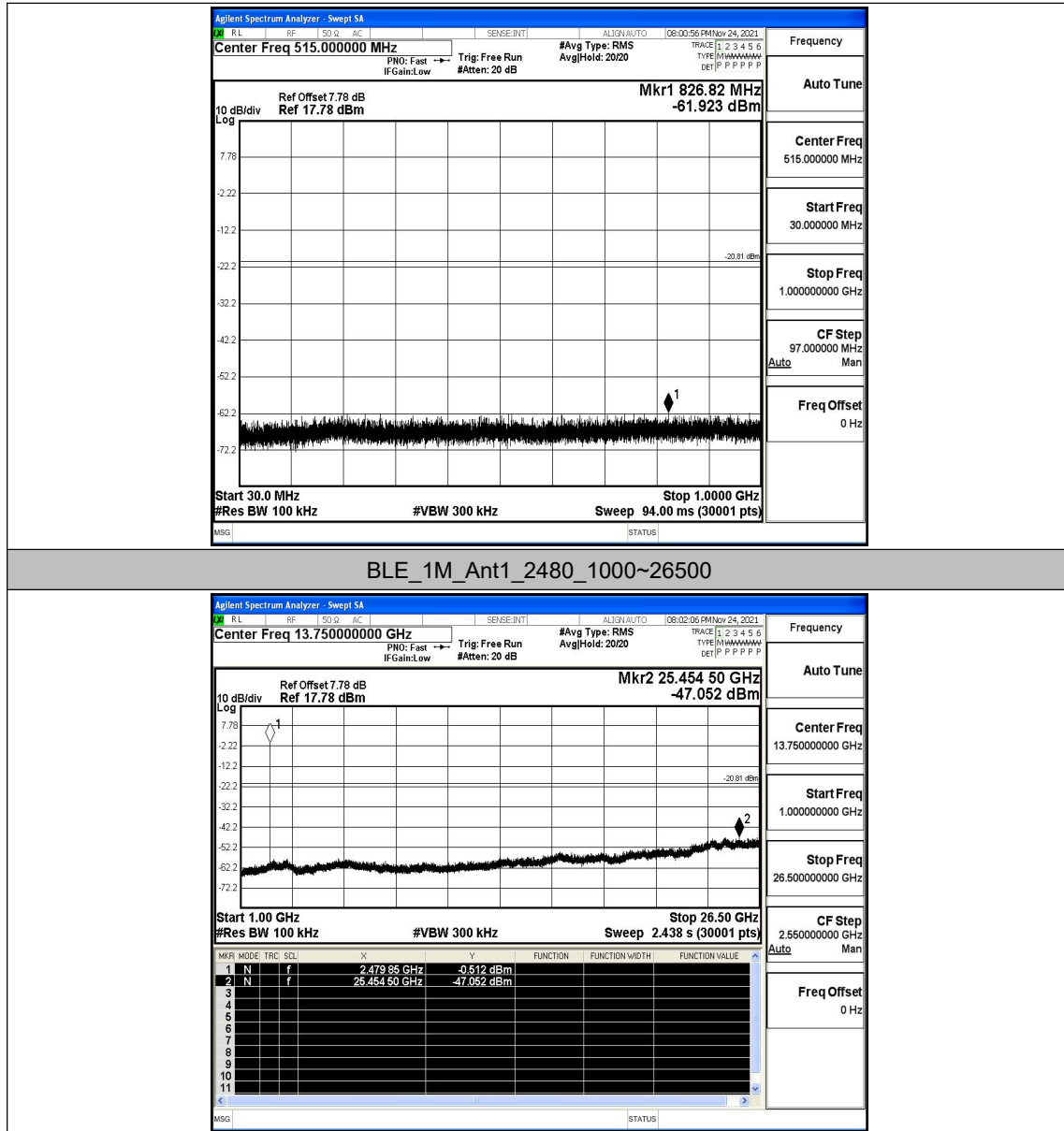
BLE\_1M\_Ant1\_2440\_1000~26500



BLE\_1M\_Ant1\_2480\_0~Reference



BLE\_1M\_Ant1\_2480\_30~1000



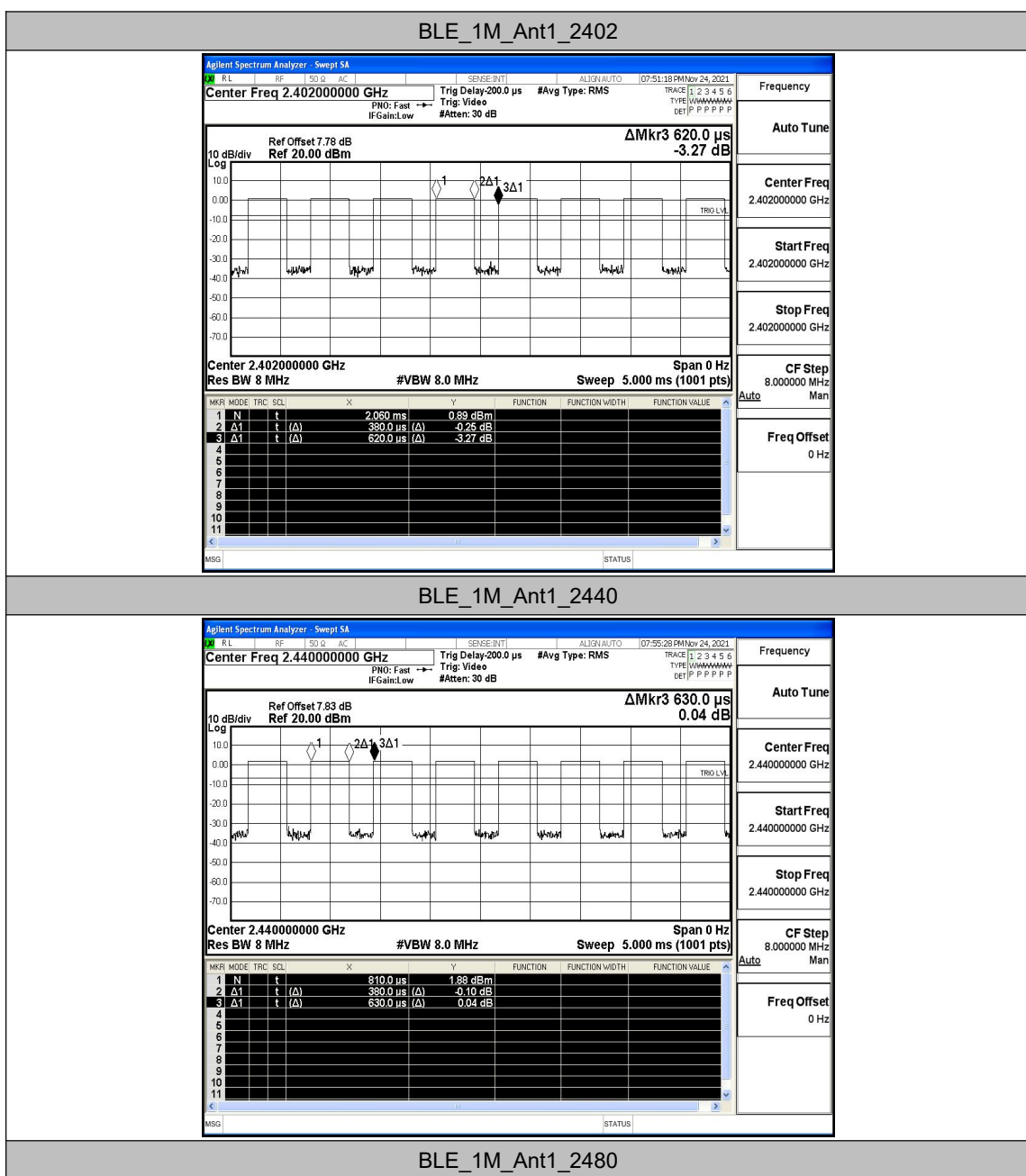


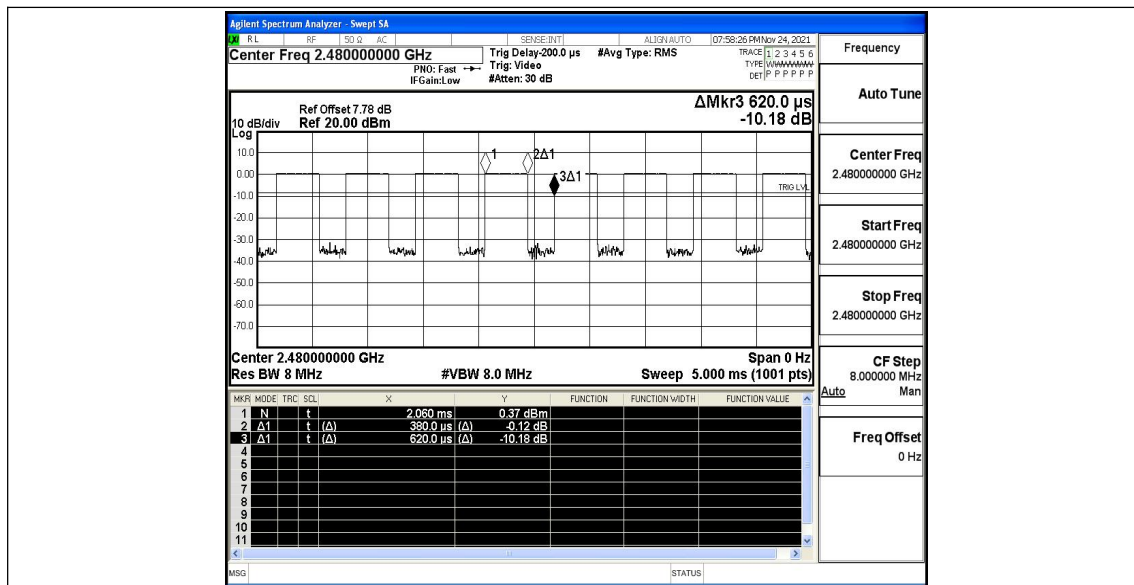
## B.6 Duty Cycle

### Test Result

| TestMode | Antenna | Channel | ON Time [ms] | Period [ms] | X      | DC [%] | xFactor | Limit | Verdict |
|----------|---------|---------|--------------|-------------|--------|--------|---------|-------|---------|
| BLE_1M   | Ant1    | 2402    | 0.38         | 0.62        | 0.6129 | 61.29  | 2.13    | ---   | PASS    |
|          |         | 2440    | 0.38         | 0.63        | 0.6032 | 60.32  | 2.20    | ---   | PASS    |
|          |         | 2480    | 0.38         | 0.62        | 0.6129 | 61.29  | 2.13    | ---   | PASS    |

### Test Graphs







## B.7 Emissions in Restricted Bands

### Test Result

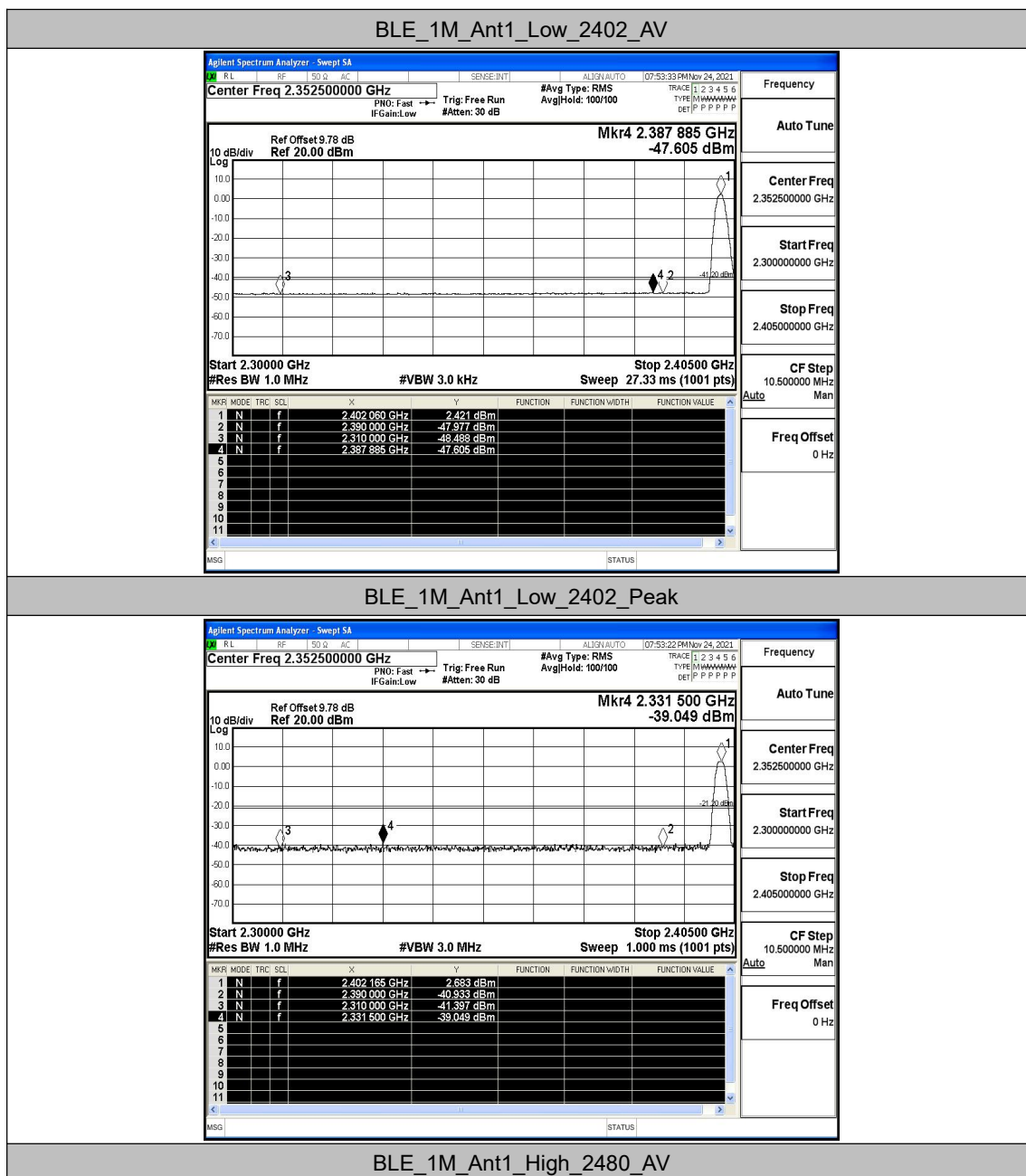
| TestMode | Antenna | ChName | Channel | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Verdict |
|----------|---------|--------|---------|----------|----------------|-----------------|----------------|--------------------|-------------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | AV       | 2310.000       | -48.49          | ≤-41.20        | 46.71              | ≤54               | PASS    |
|          |         |        |         | AV       | 2387.885       | -47.61          | ≤-41.20        | 47.59              | ≤54               | PASS    |
|          |         |        |         | AV       | 2390.000       | -47.98          | ≤-41.20        | 47.22              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2310.000       | -41.4           | ≤-21.20        | 53.80              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2331.500       | -39.05          | ≤-21.20        | 56.15              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2390.000       | -40.93          | ≤-21.20        | 54.27              | ≤74               | PASS    |
|          |         | High   | 2480    | AV       | 2483.500       | -47.41          | ≤-41.20        | 47.79              | ≤54               | PASS    |
|          |         |        |         | AV       | 2497.840       | -47.17          | ≤-41.20        | 48.03              | ≤54               | PASS    |
|          |         |        |         | AV       | 2500.000       | -47.57          | ≤-41.20        | 47.63              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2483.500       | -41.14          | ≤-21.20        | 54.06              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2496.560       | -38.13          | ≤-21.20        | 57.07              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2500.000       | -41.59          | ≤-21.20        | 53.61              | ≤74               | PASS    |

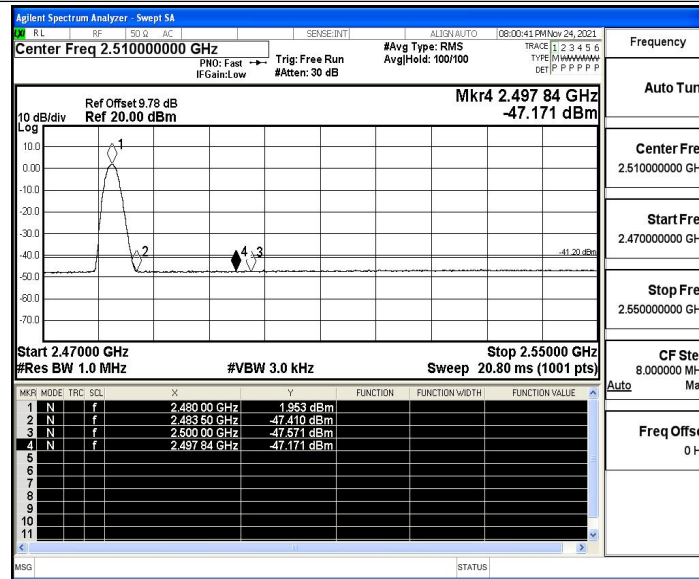
Note:

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\_High\_2480\_Peak

