

## Appendix: Bluetooth LE

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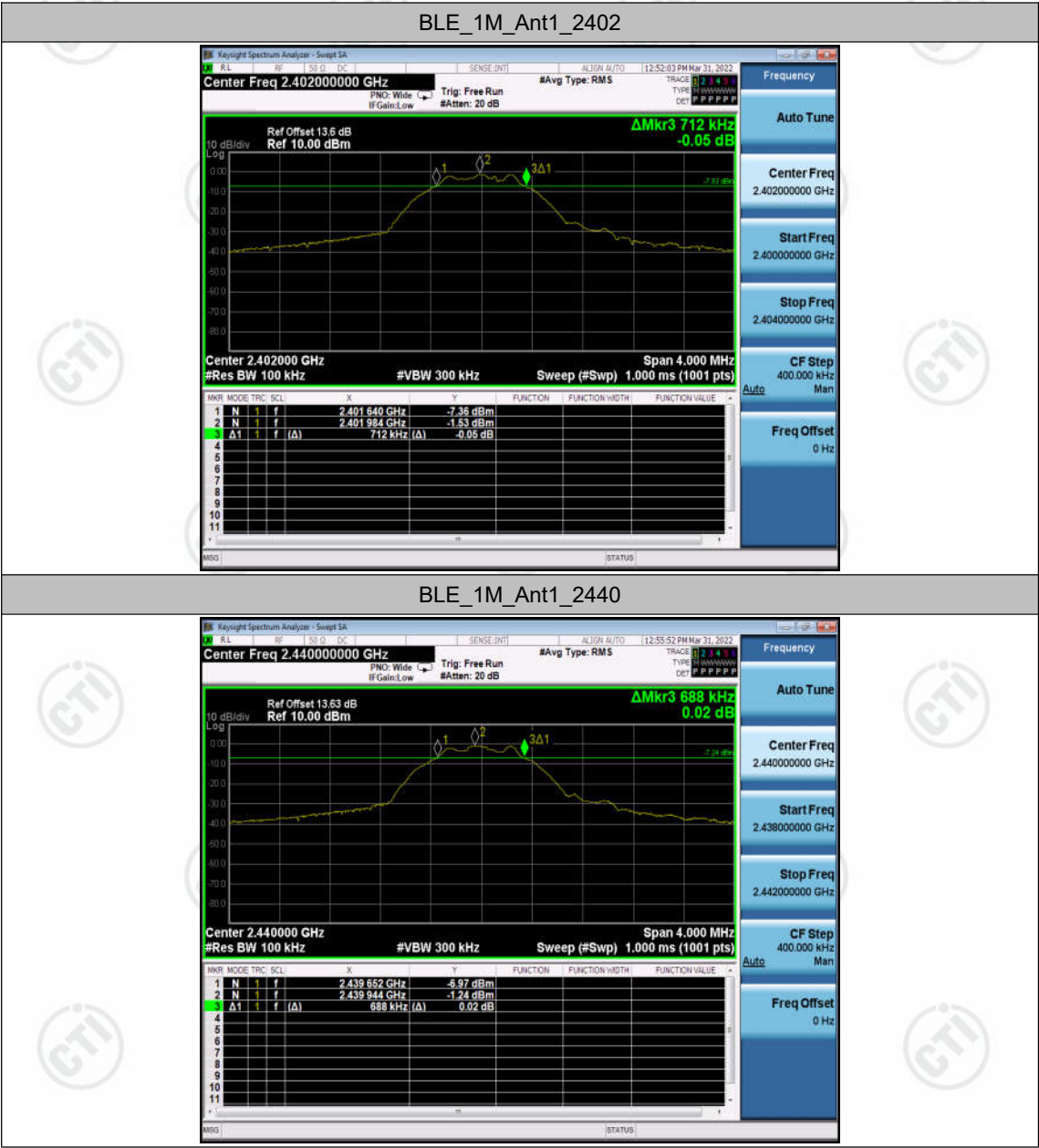
    Test Graphs..... 34

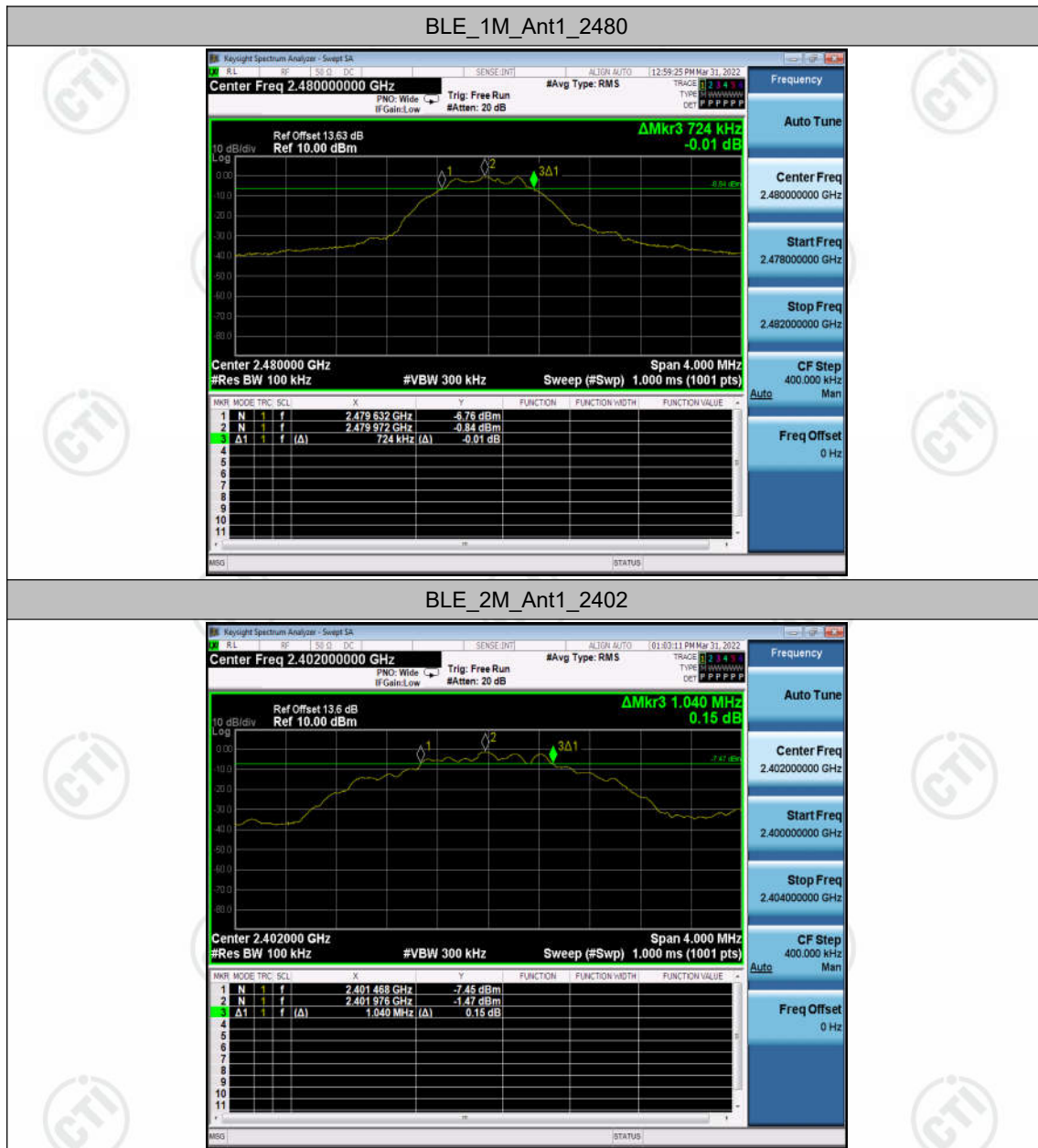
Appendix A: DTS Bandwidth

Test Result

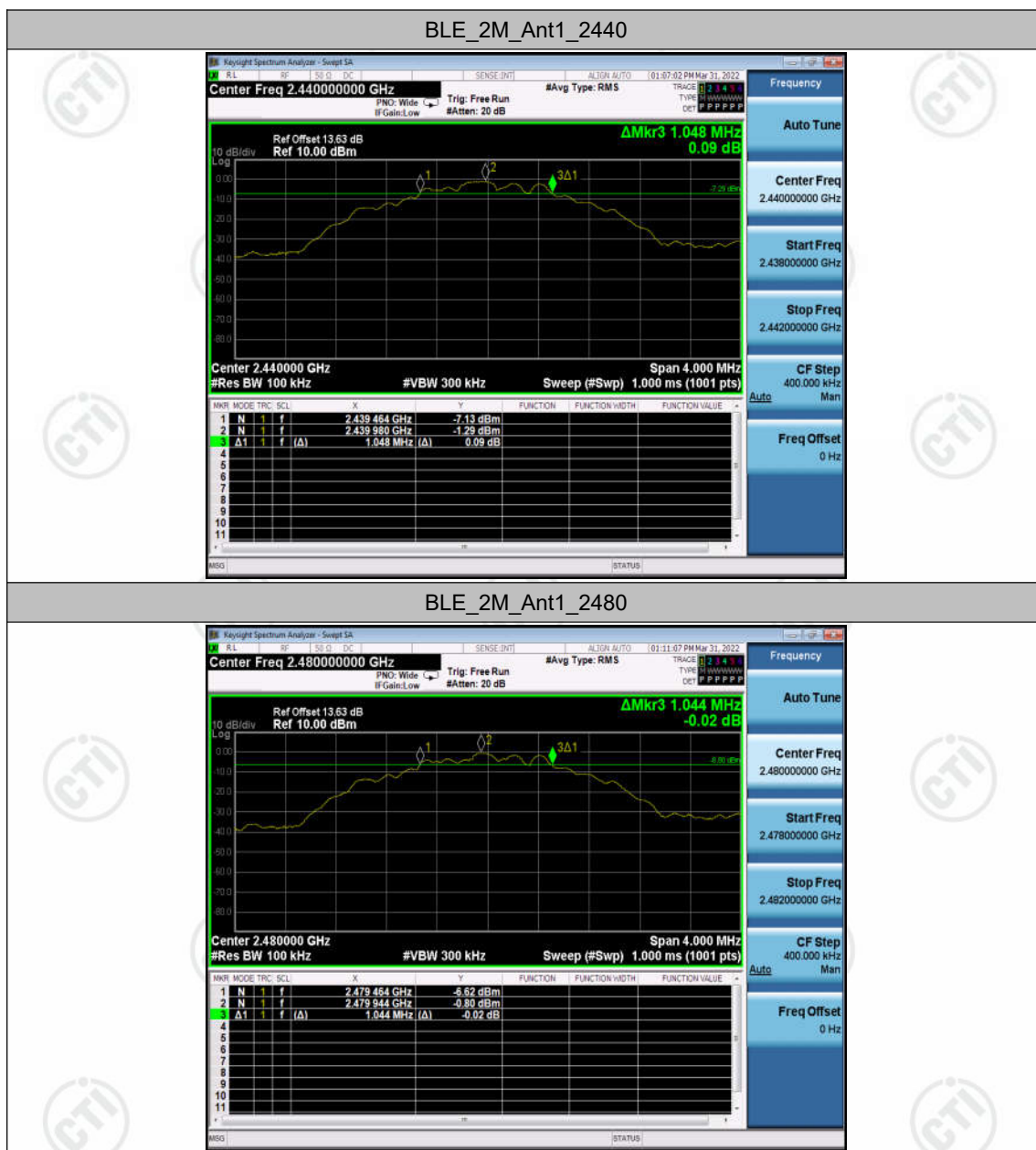
| Test Mode | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|----------------|--------------|----------|----------|------------|---------|
| BLE_1M    | Ant1    | 2402           | 0.712        | 2401.640 | 2402.352 | 0.5        | PASS    |
|           |         | 2440           | 0.688        | 2439.652 | 2440.340 | 0.5        | PASS    |
|           |         | 2480           | 0.724        | 2479.632 | 2480.356 | 0.5        | PASS    |
| BLE_2M    | Ant1    | 2402           | 1.040        | 2401.468 | 2402.508 | 0.5        | PASS    |
|           |         | 2440           | 1.048        | 2439.464 | 2440.512 | 0.5        | PASS    |
|           |         | 2480           | 1.044        | 2479.464 | 2480.508 | 0.5        | PASS    |

Test Graphs







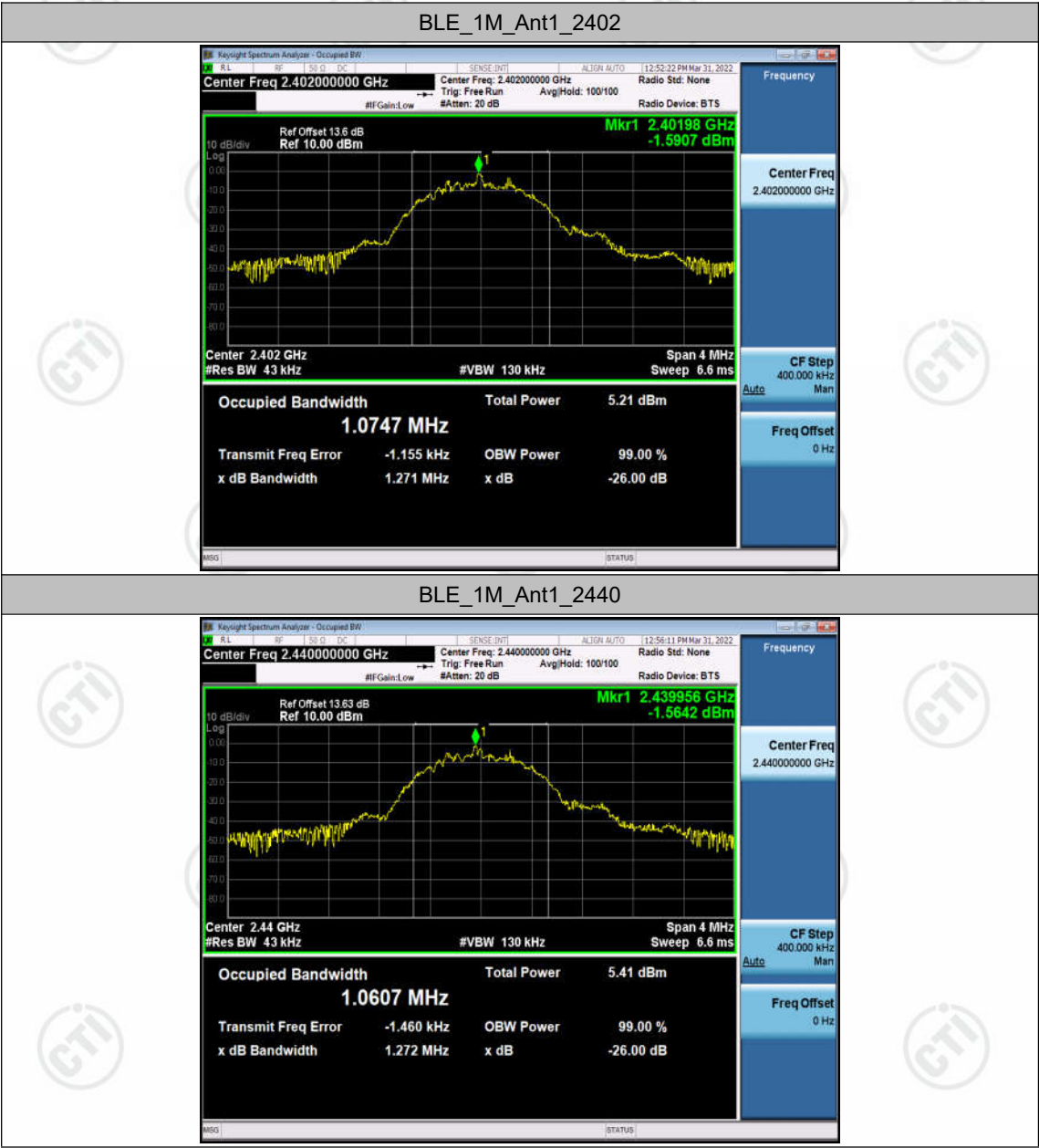


Appendix B: Occupied Channel Bandwidth

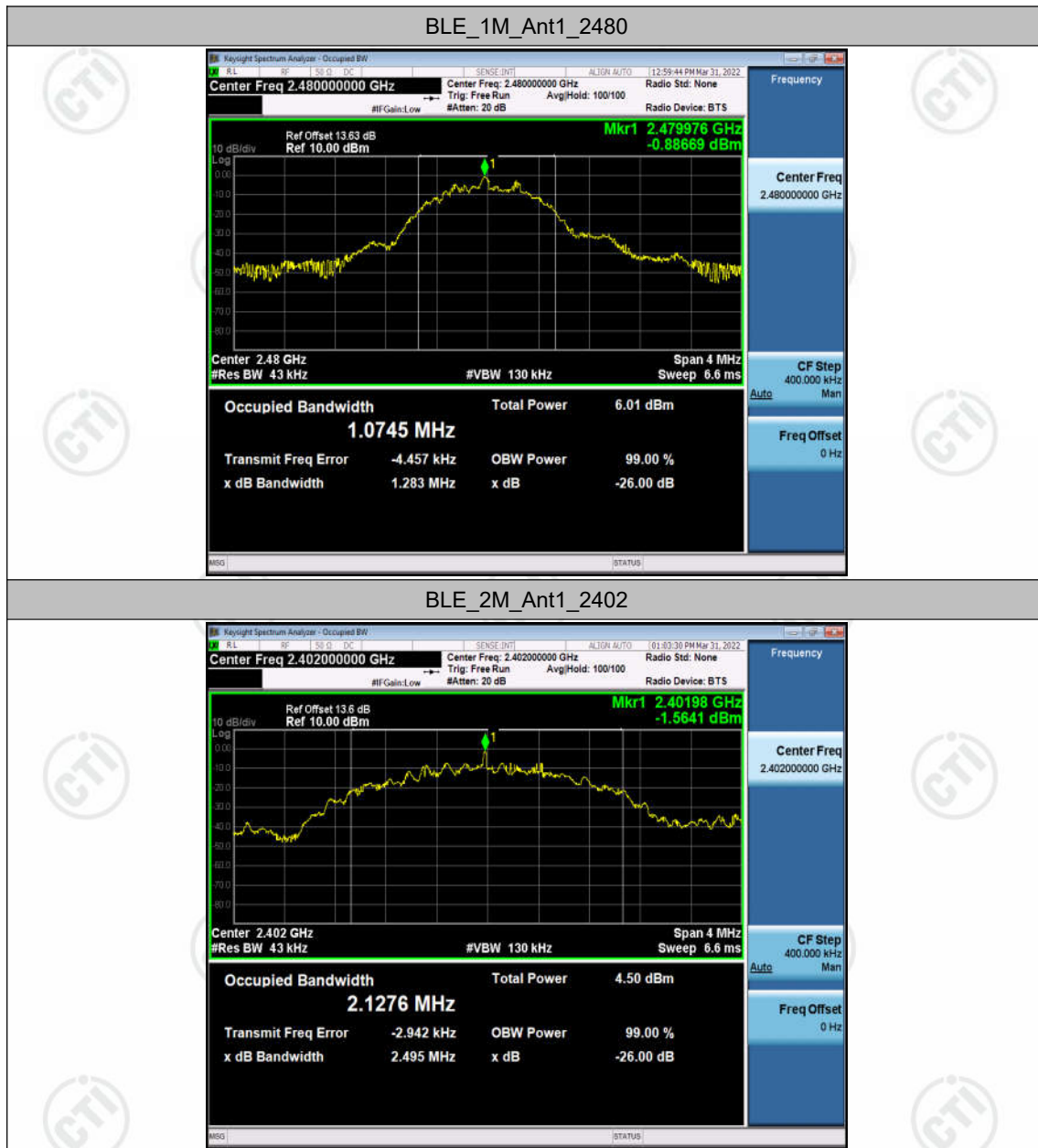
Test Result

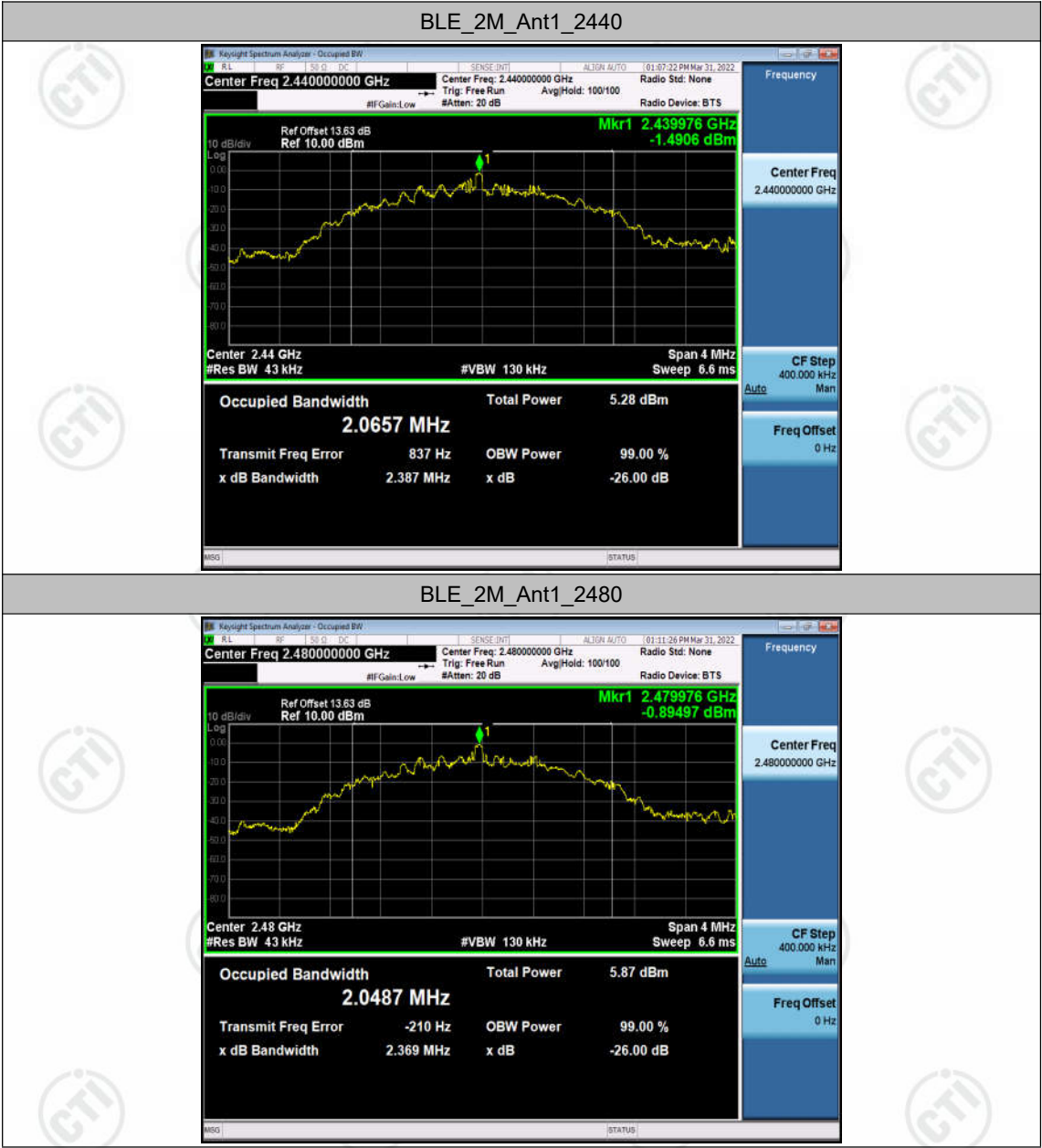
| Test Mode | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|----------------|-----------|----------|----------|------------|---------|
| BLE_1M    | Ant1    | 2402           | 1.0747    | 2401.461 | 2402.536 | ---        | ---     |
|           |         | 2440           | 1.0607    | 2439.468 | 2440.529 | ---        | ---     |
|           |         | 2480           | 1.0745    | 2479.458 | 2480.533 | ---        | ---     |
| BLE_2M    | Ant1    | 2402           | 2.1276    | 2400.933 | 2403.061 | ---        | ---     |
|           |         | 2440           | 2.0657    | 2438.968 | 2441.034 | ---        | ---     |
|           |         | 2480           | 2.0487    | 2478.975 | 2481.024 | ---        | ---     |

Test Graphs







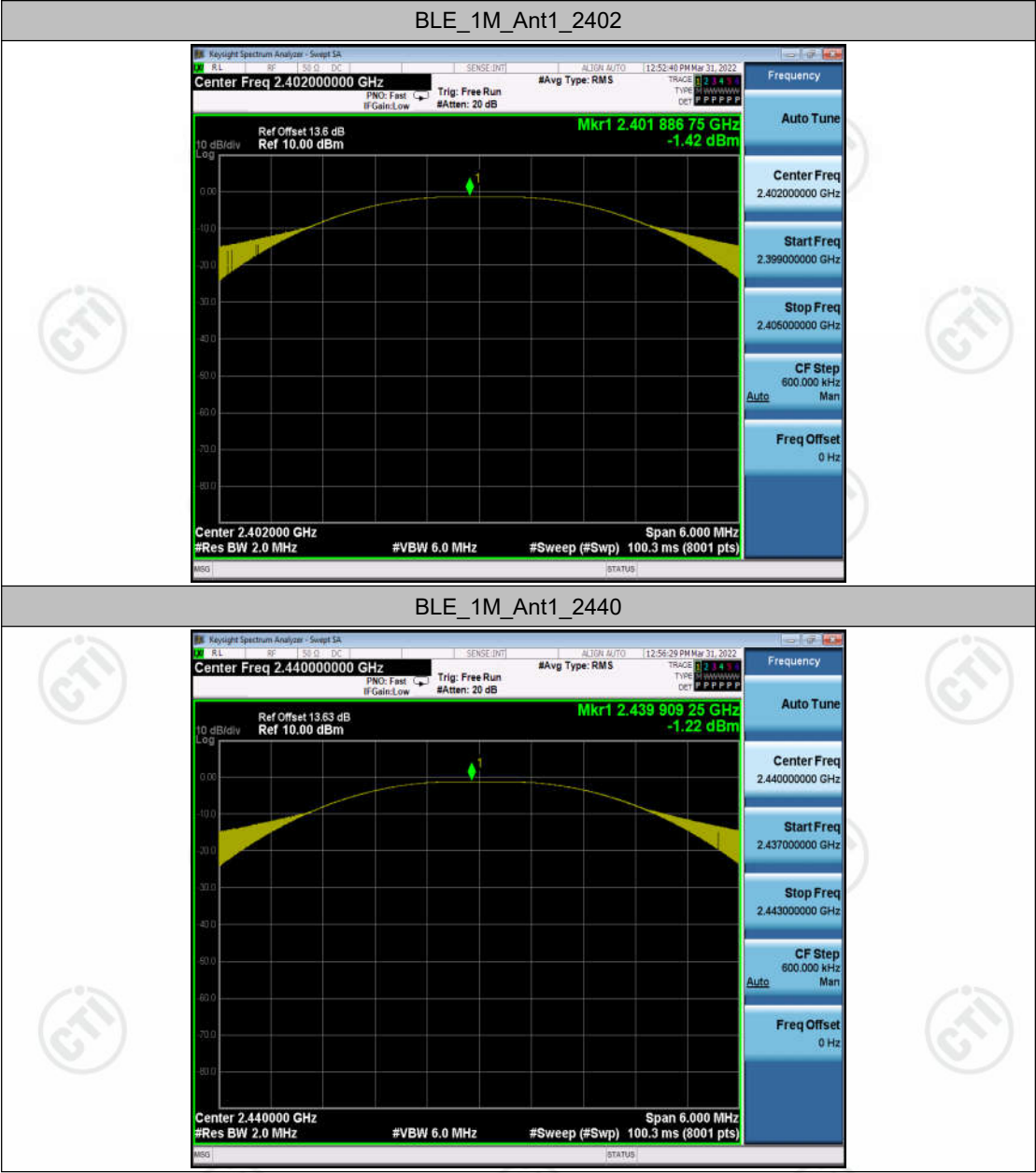


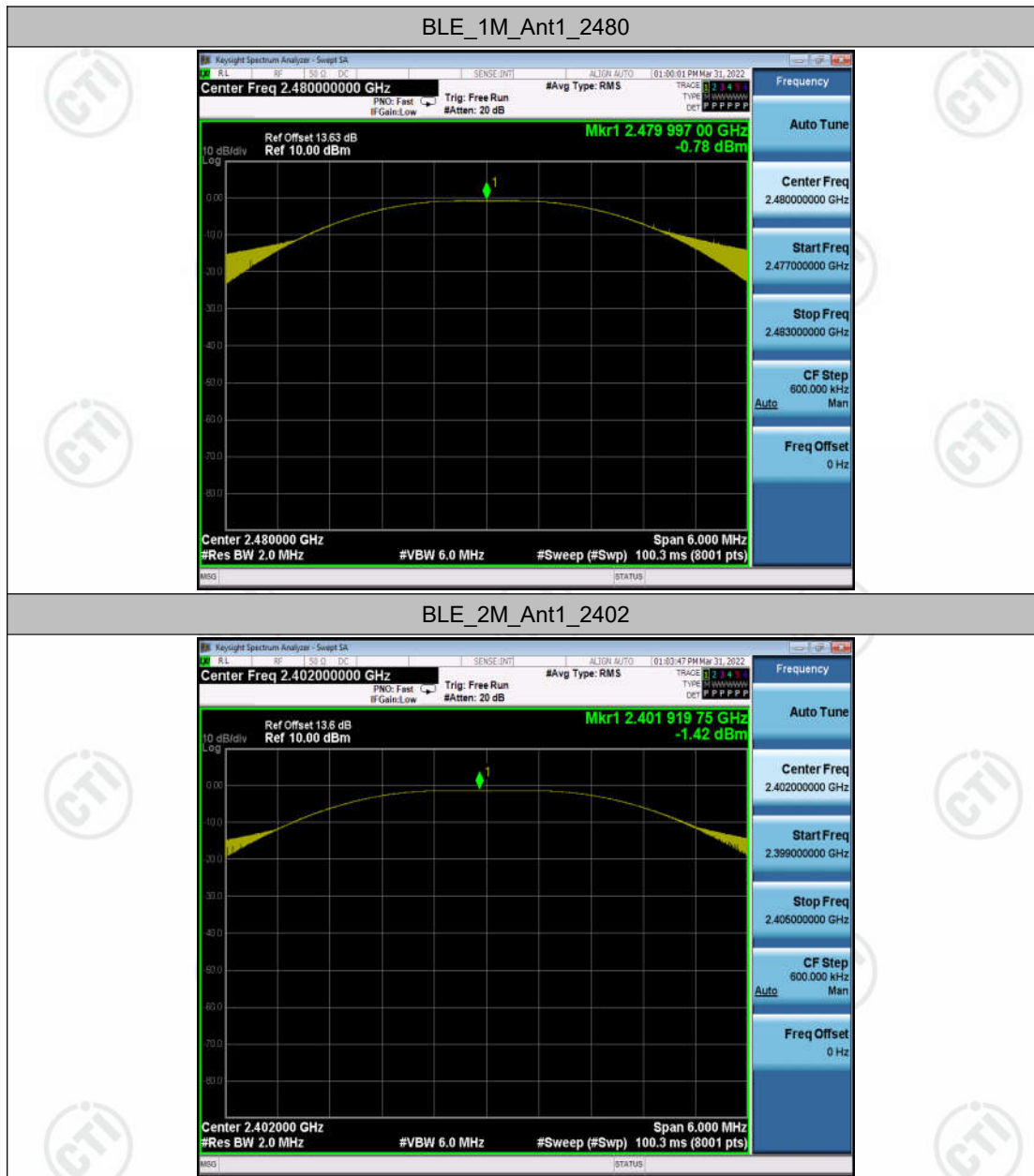
Appendix C: Maximum conducted output power

Test Result Peak

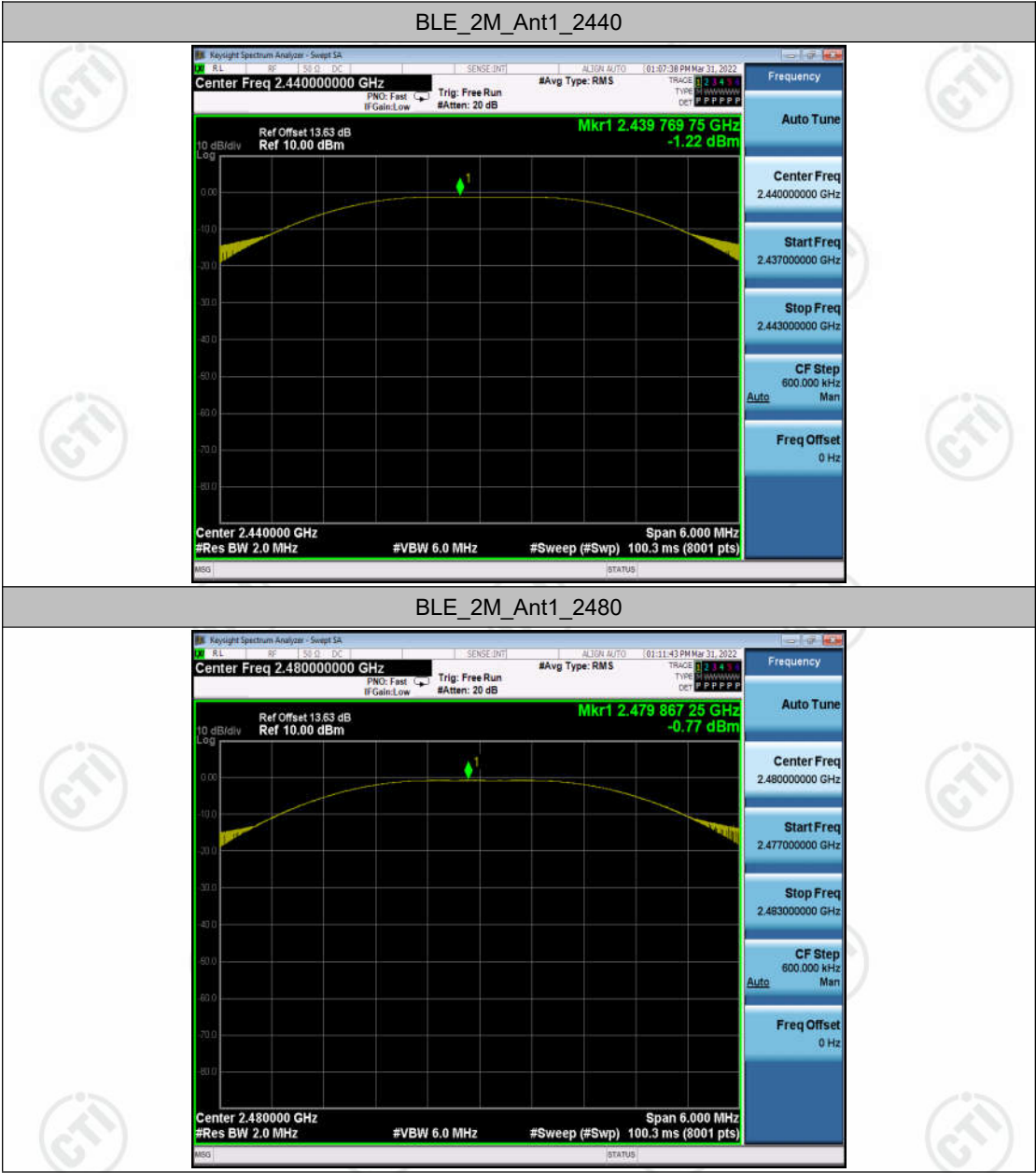
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | -1.42       | ≤30        | PASS    |
|          |         | 2440    | -1.22       | ≤30        | PASS    |
|          |         | 2480    | -0.78       | ≤30        | PASS    |
| BLE_2M   | Ant1    | 2402    | -1.42       | ≤30        | PASS    |
|          |         | 2440    | -1.22       | ≤30        | PASS    |
|          |         | 2480    | -0.77       | ≤30        | PASS    |

Test Graphs Peak







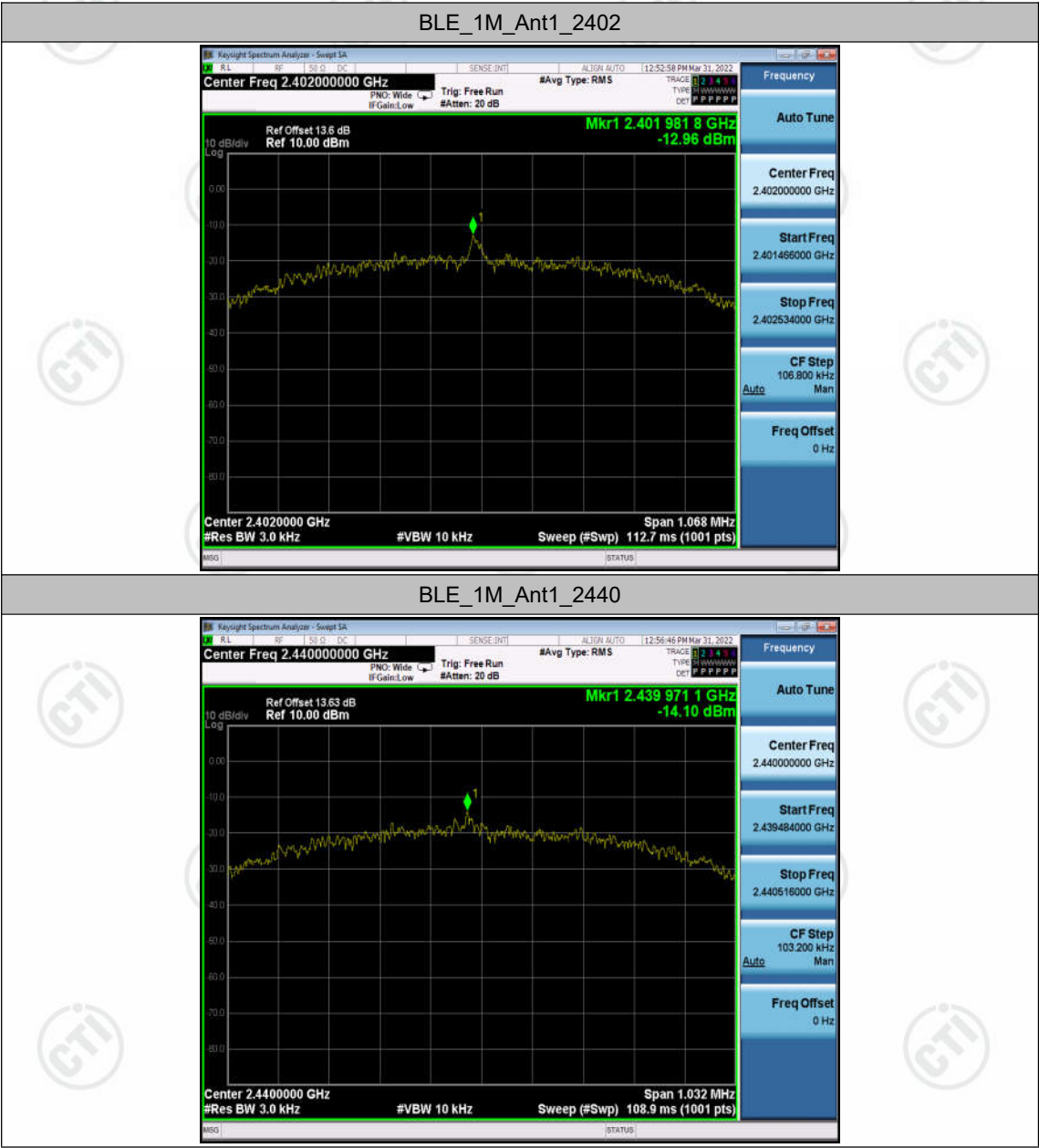


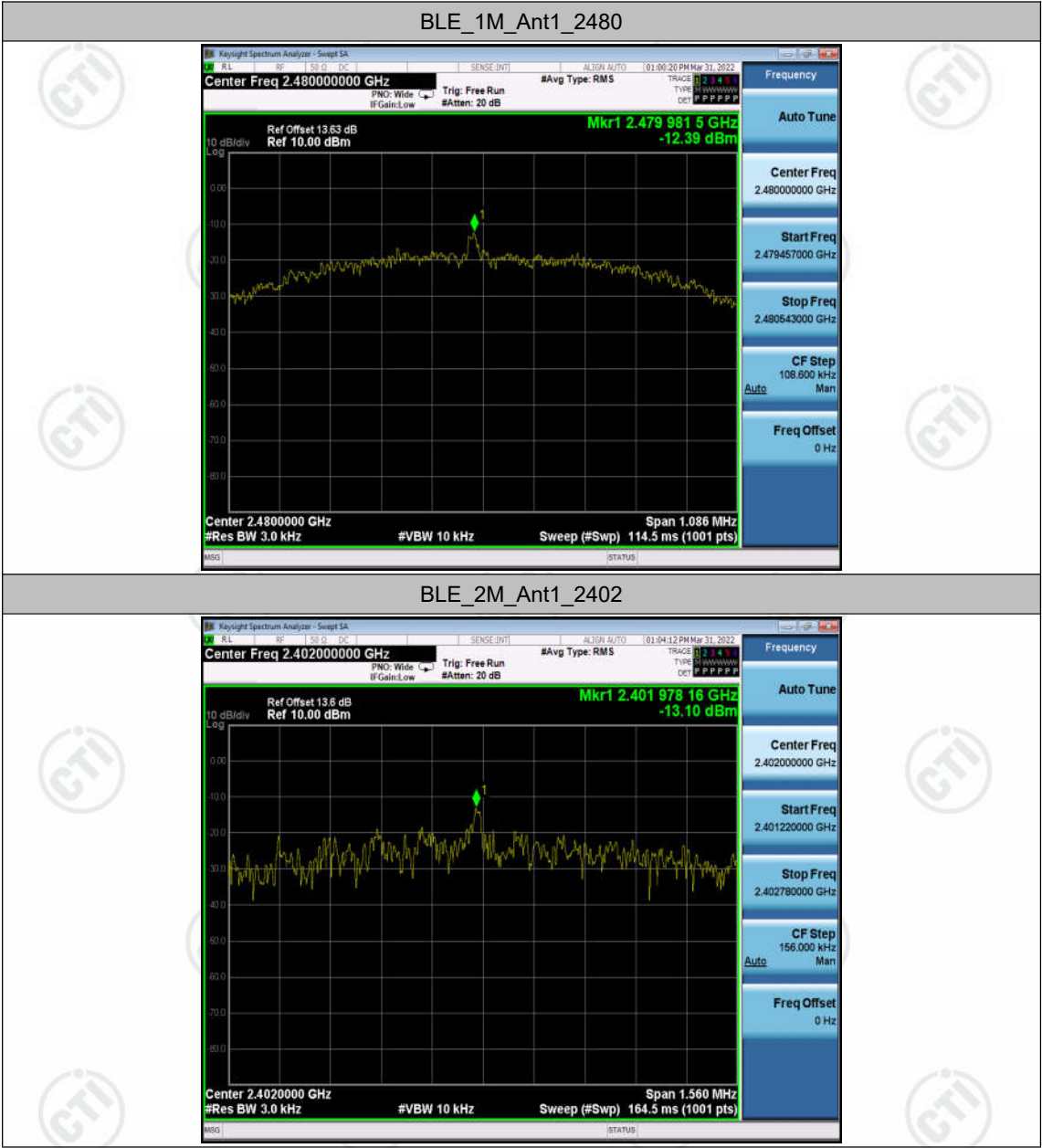
Appendix D: Maximum power spectral density

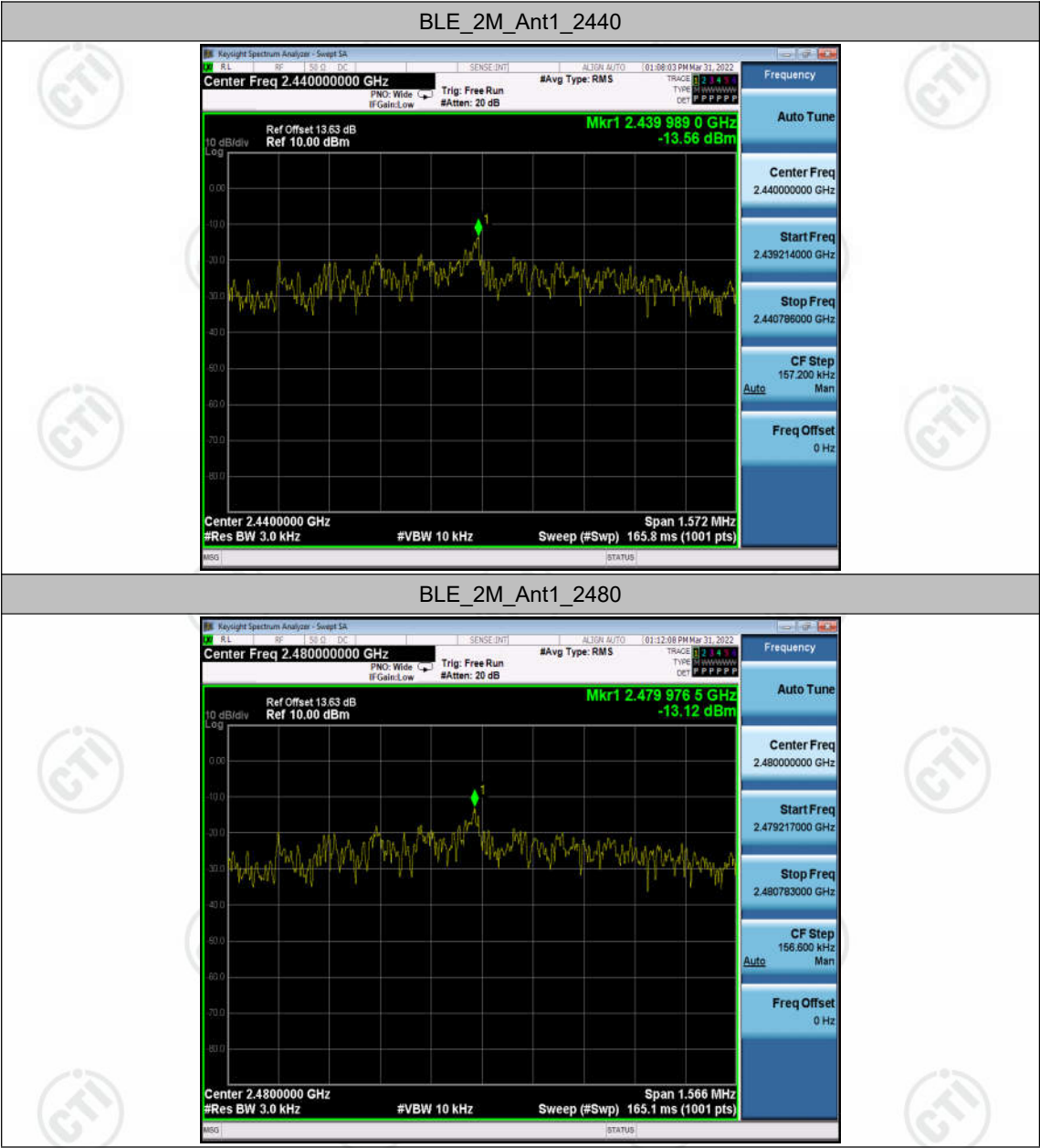
Test Result

| Test Mode | Antenna | Frequency[MHz] | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|----------------|------------------|-----------------|---------|
| BLE_1M    | Ant1    | 2402           | -12.96           | ≤8.00           | PASS    |
|           |         | 2440           | -14.1            | ≤8.00           | PASS    |
|           |         | 2480           | -12.39           | ≤8.00           | PASS    |
| BLE_2M    | Ant1    | 2402           | -13.1            | ≤8.00           | PASS    |
|           |         | 2440           | -13.56           | ≤8.00           | PASS    |
|           |         | 2480           | -13.12           | ≤8.00           | PASS    |

Test Graphs









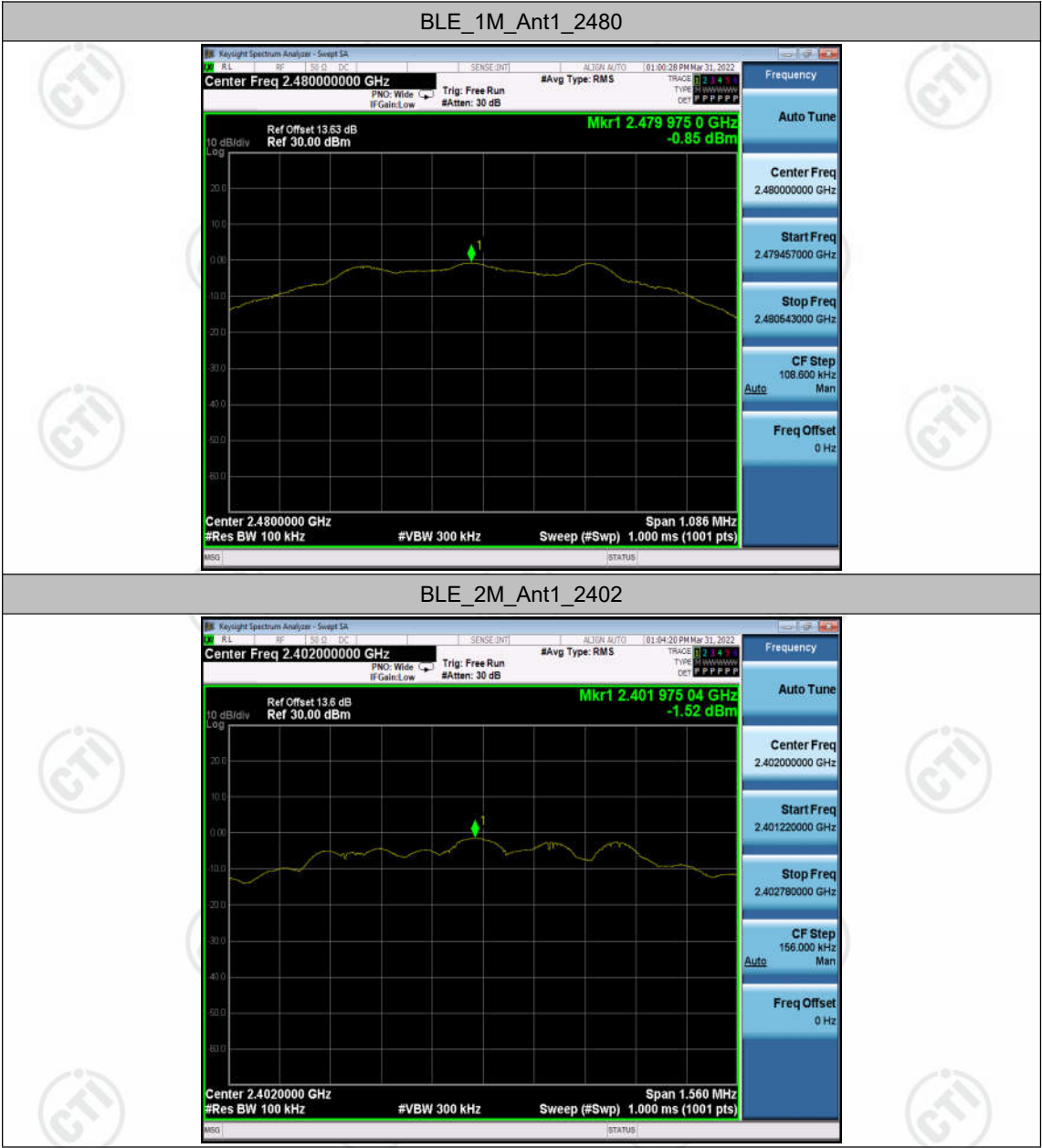
Appendix E: Reference level measurement

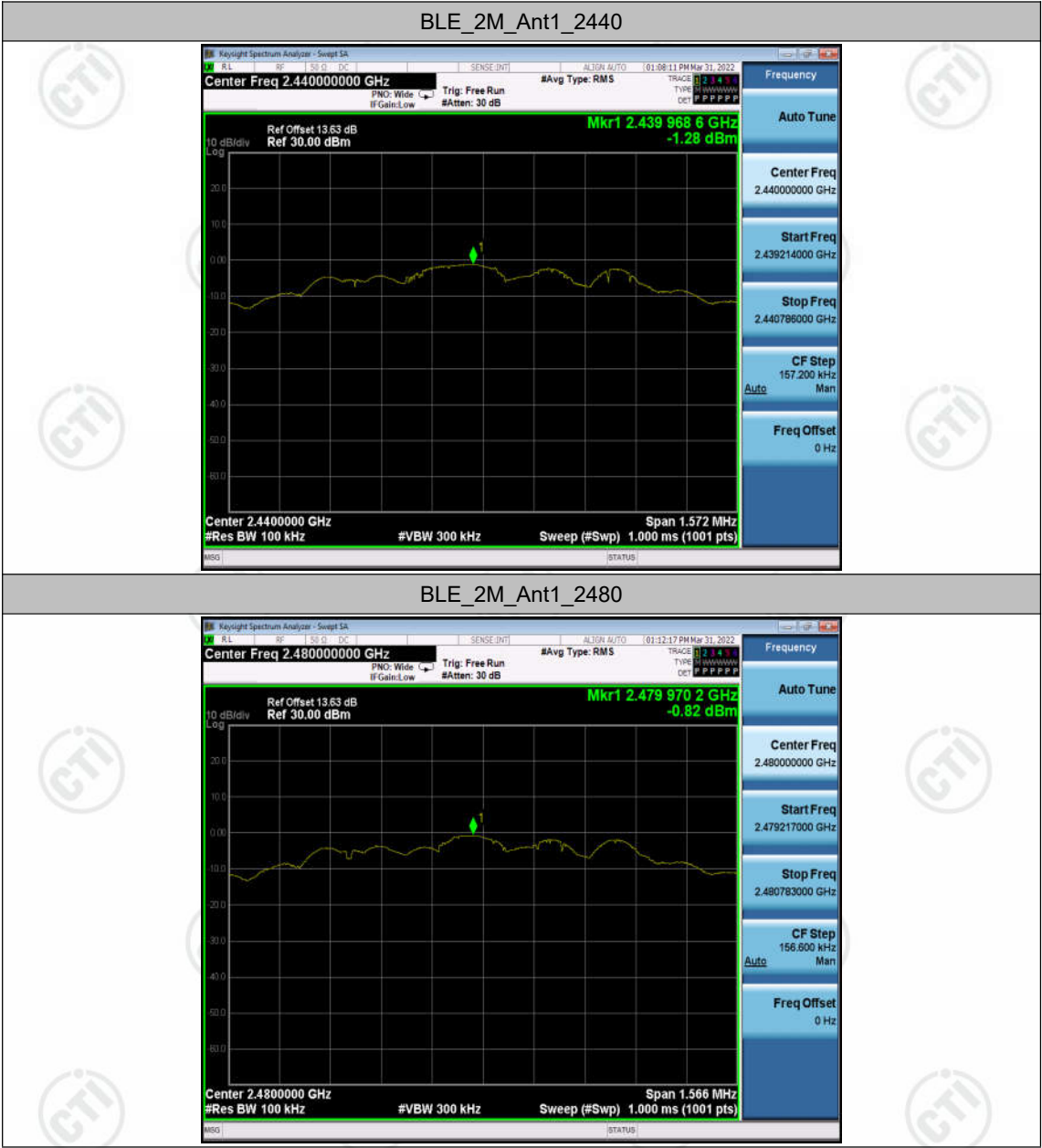
Test Result

| Test Mode | Antenna | Freq(MHz) | Max.Point[MHz] | Result[dBm] |
|-----------|---------|-----------|----------------|-------------|
| BLE_1M    | Ant1    | 2402      | 2401.99        | -1.54       |
|           |         | 2440      | 2439.94        | -1.28       |
|           |         | 2480      | 2479.98        | -0.85       |
| BLE_2M    | Ant1    | 2402      | 2401.98        | -1.52       |
|           |         | 2440      | 2439.97        | -1.28       |
|           |         | 2480      | 2479.97        | -0.82       |

Test Graphs







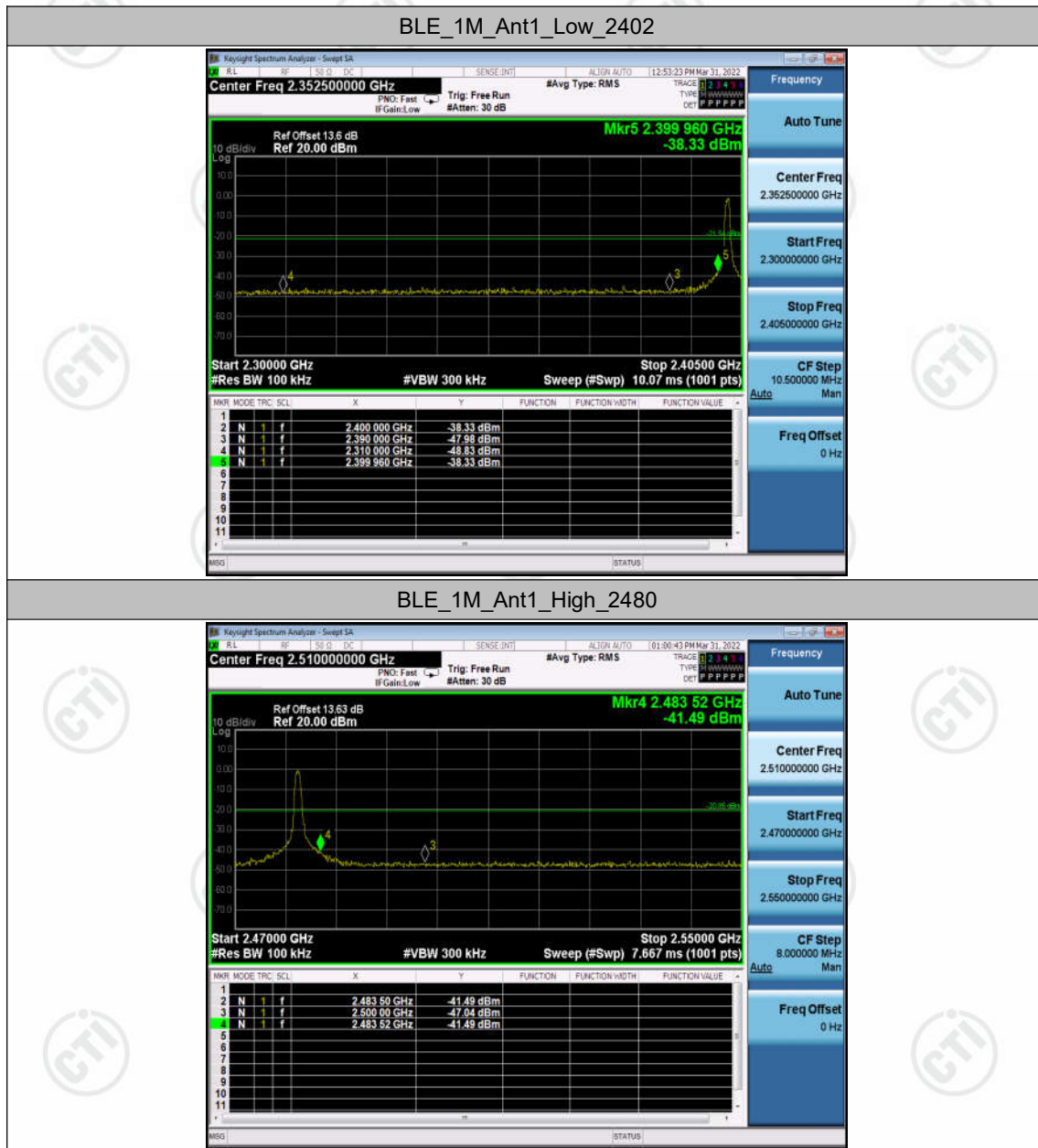
Appendix F: Band edge measurements

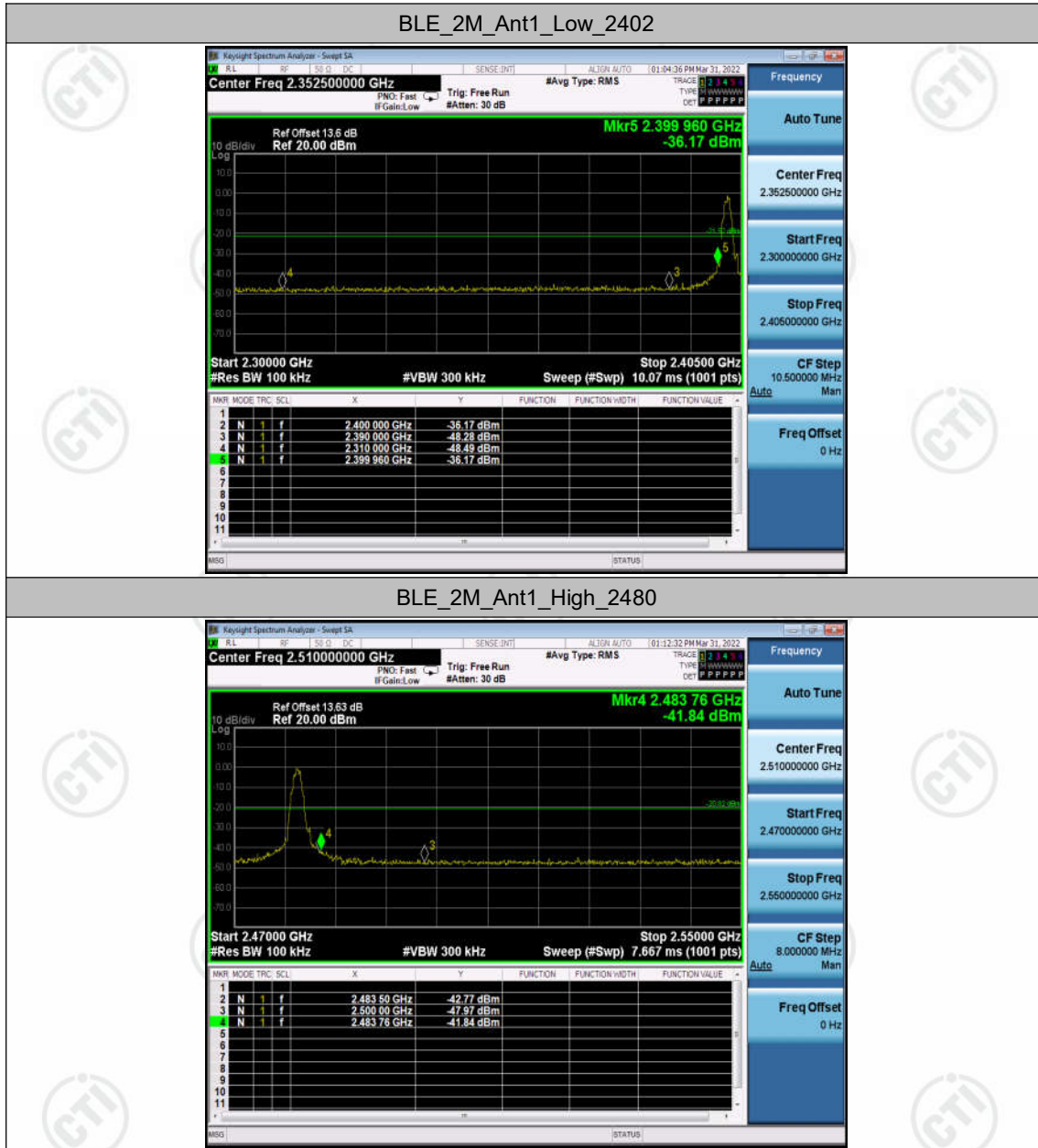
Test Result

| Test Mode | Antenna | ChName | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------|----------------|---------------|-------------|------------|---------|
| BLE_1M    | Ant1    | Low    | 2402           | -1.54         | -38.33      | ≤-21.54    | PASS    |
|           |         | High   | 2480           | -0.85         | -41.5       | ≤-20.85    | PASS    |
| BLE_2M    | Ant1    | Low    | 2402           | -1.52         | -36.17      | ≤-21.52    | PASS    |
|           |         | High   | 2480           | -0.82         | -41.84      | ≤-20.82    | PASS    |



## Test Graphs



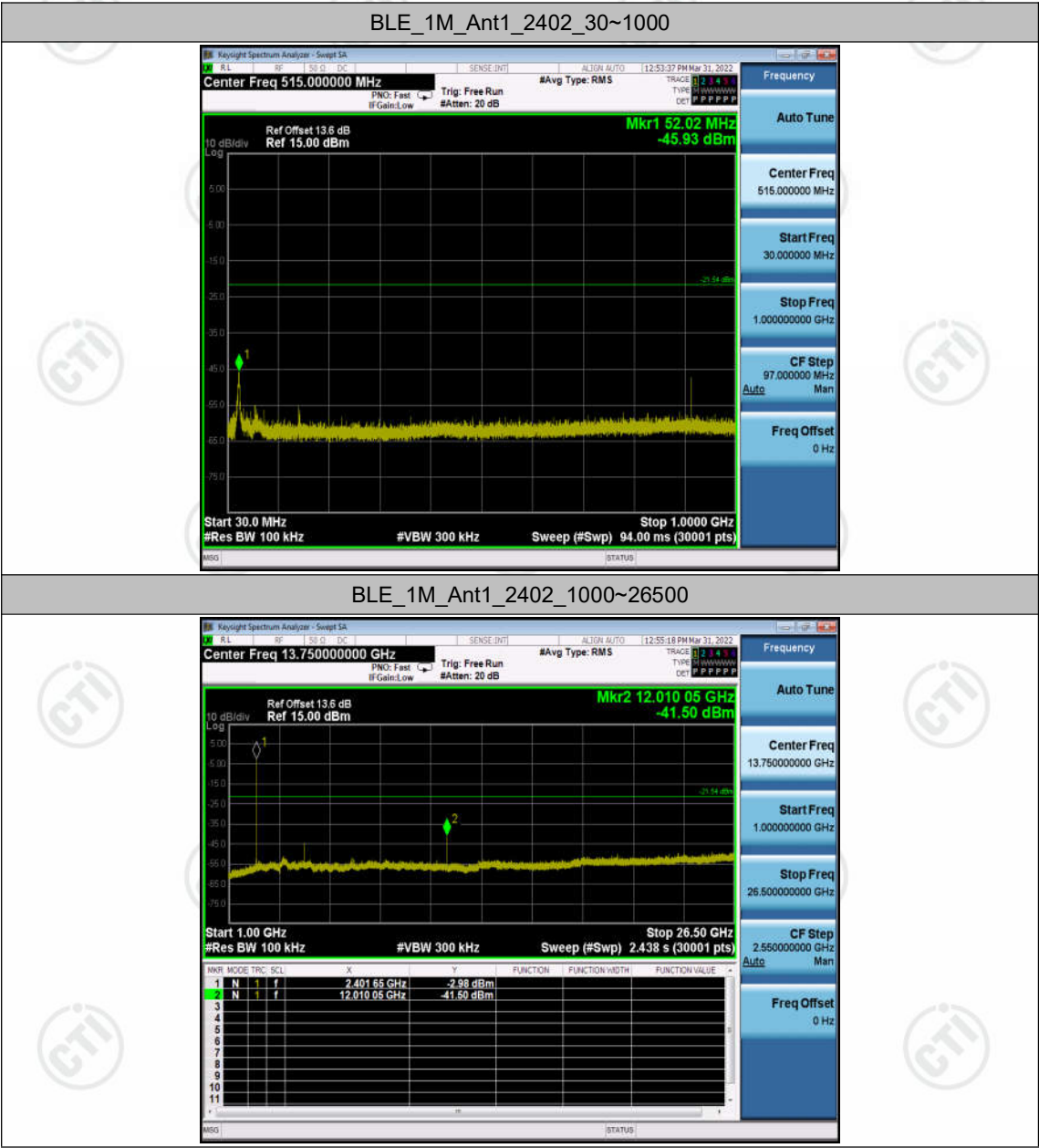


Appendix G: Conducted Spurious Emission

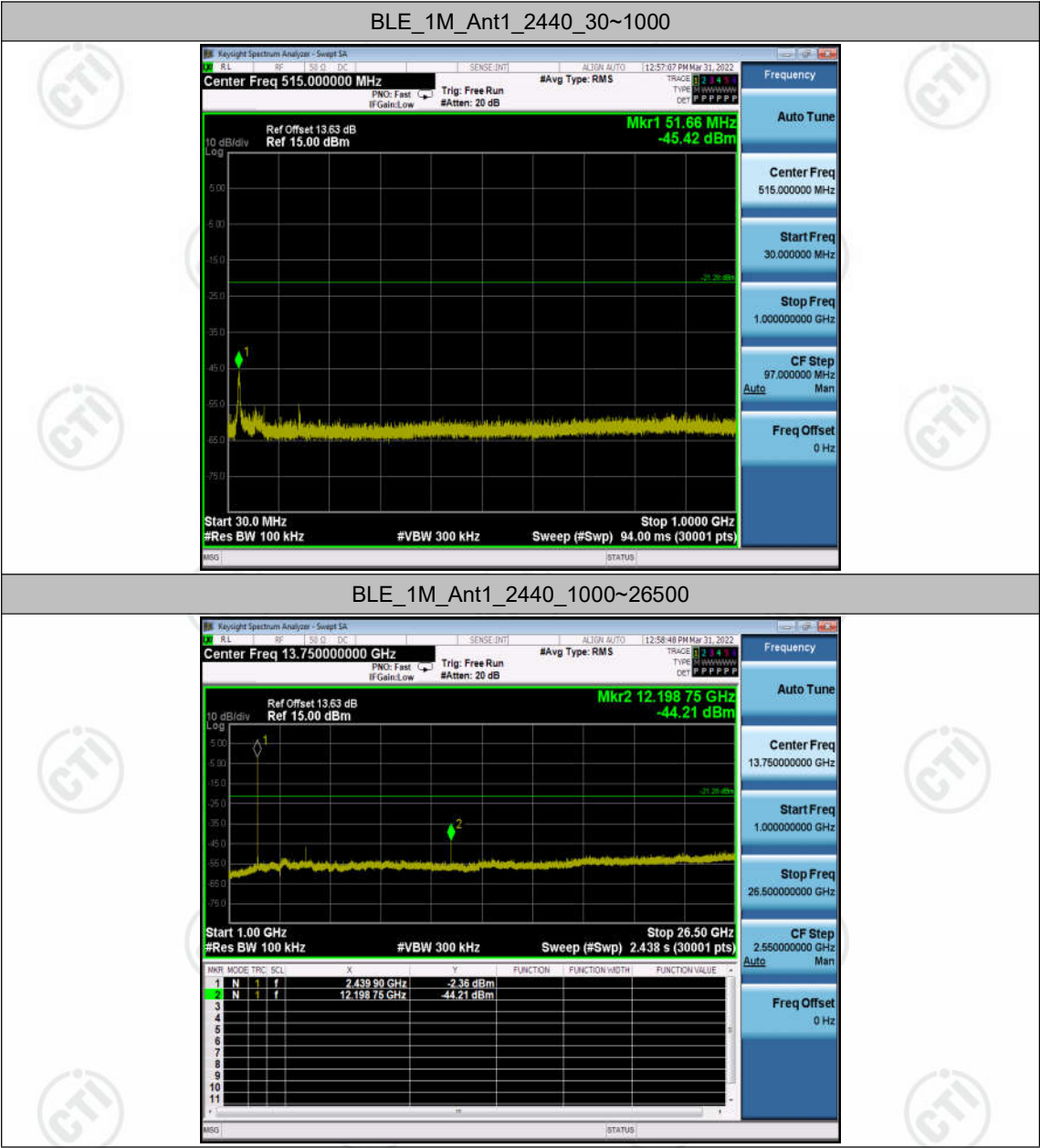
Test Result

| Test Mode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit[dBm] | Verdict |
|-----------|---------|----------------|-----------------|----------------|--------------|------------|---------|
| BLE_1M    | Ant1    | 2402           | 30~1000         | -1.54          | -45.93       | ≤-21.54    | PASS    |
|           |         |                | 1000~26500      | -1.54          | -41.5        | ≤-21.54    | PASS    |
|           |         | 2440           | 30~1000         | -1.28          | -45.42       | ≤-21.28    | PASS    |
|           |         |                | 1000~26500      | -1.28          | -44.21       | ≤-21.28    | PASS    |
|           |         | 2480           | 30~1000         | -0.85          | -45.85       | ≤-20.85    | PASS    |
|           |         |                | 1000~26500      | -0.85          | -42.76       | ≤-20.85    | PASS    |
| BLE_2M    | Ant1    | 2402           | 30~1000         | -1.52          | -46.76       | ≤-21.52    | PASS    |
|           |         |                | 1000~26500      | -1.52          | -40.05       | ≤-21.52    | PASS    |
|           |         | 2440           | 30~1000         | -1.28          | -46.45       | ≤-21.28    | PASS    |
|           |         |                | 1000~26500      | -1.28          | -42.07       | ≤-21.28    | PASS    |
|           |         | 2480           | 30~1000         | -0.82          | -46.2        | ≤-20.82    | PASS    |
|           |         |                | 1000~26500      | -0.82          | -45.17       | ≤-20.82    | PASS    |

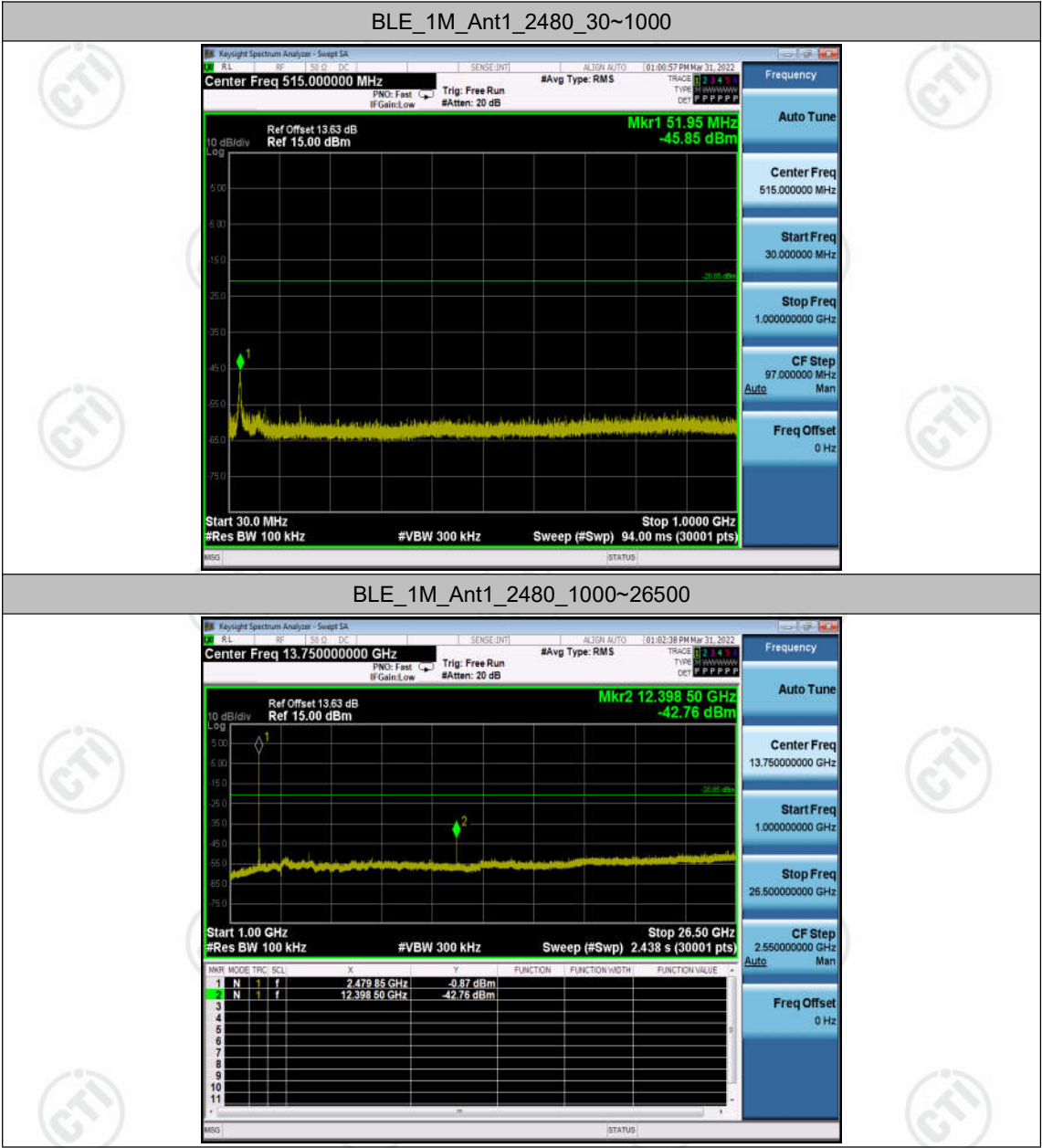
Test Graphs

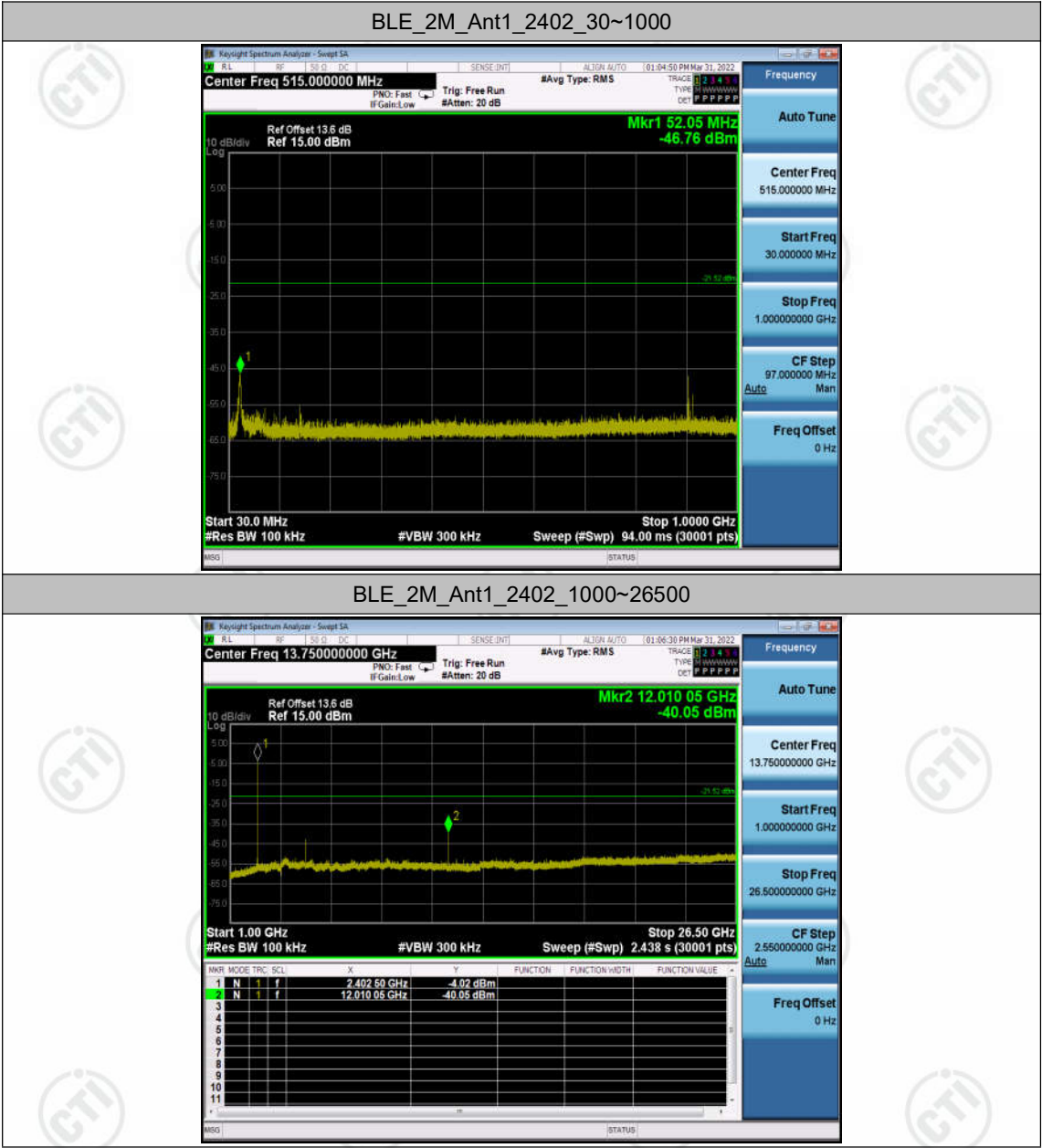


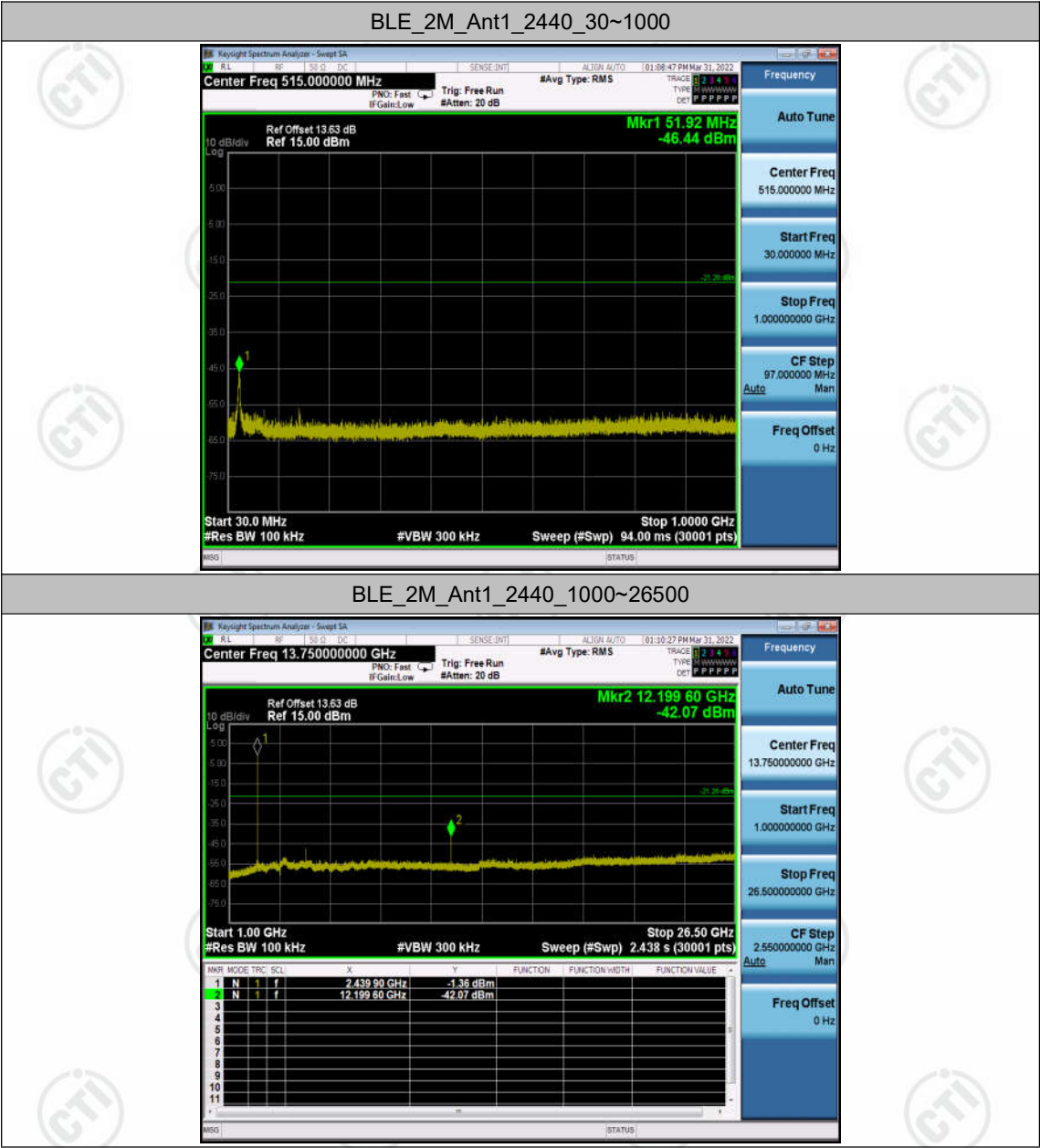


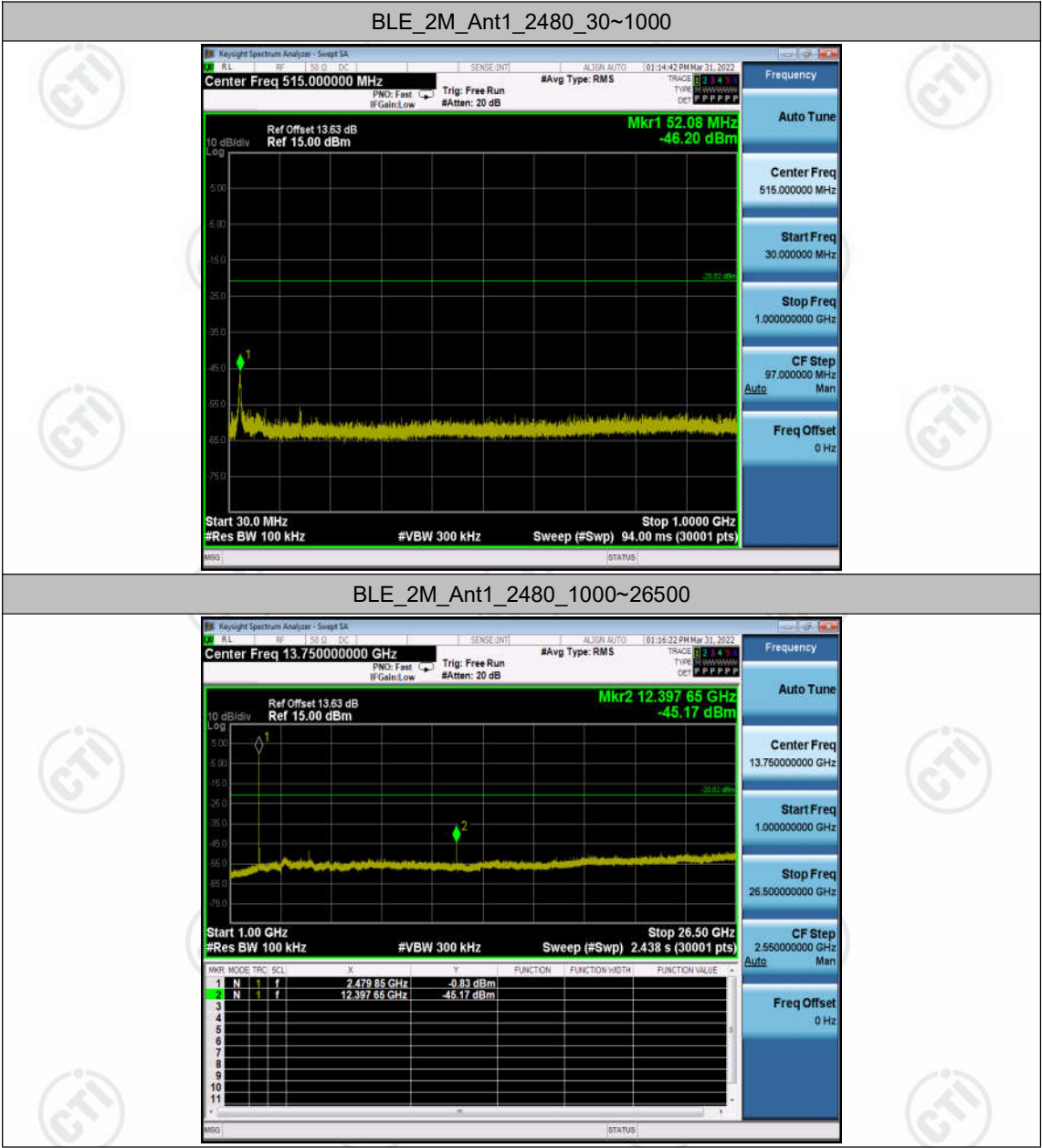












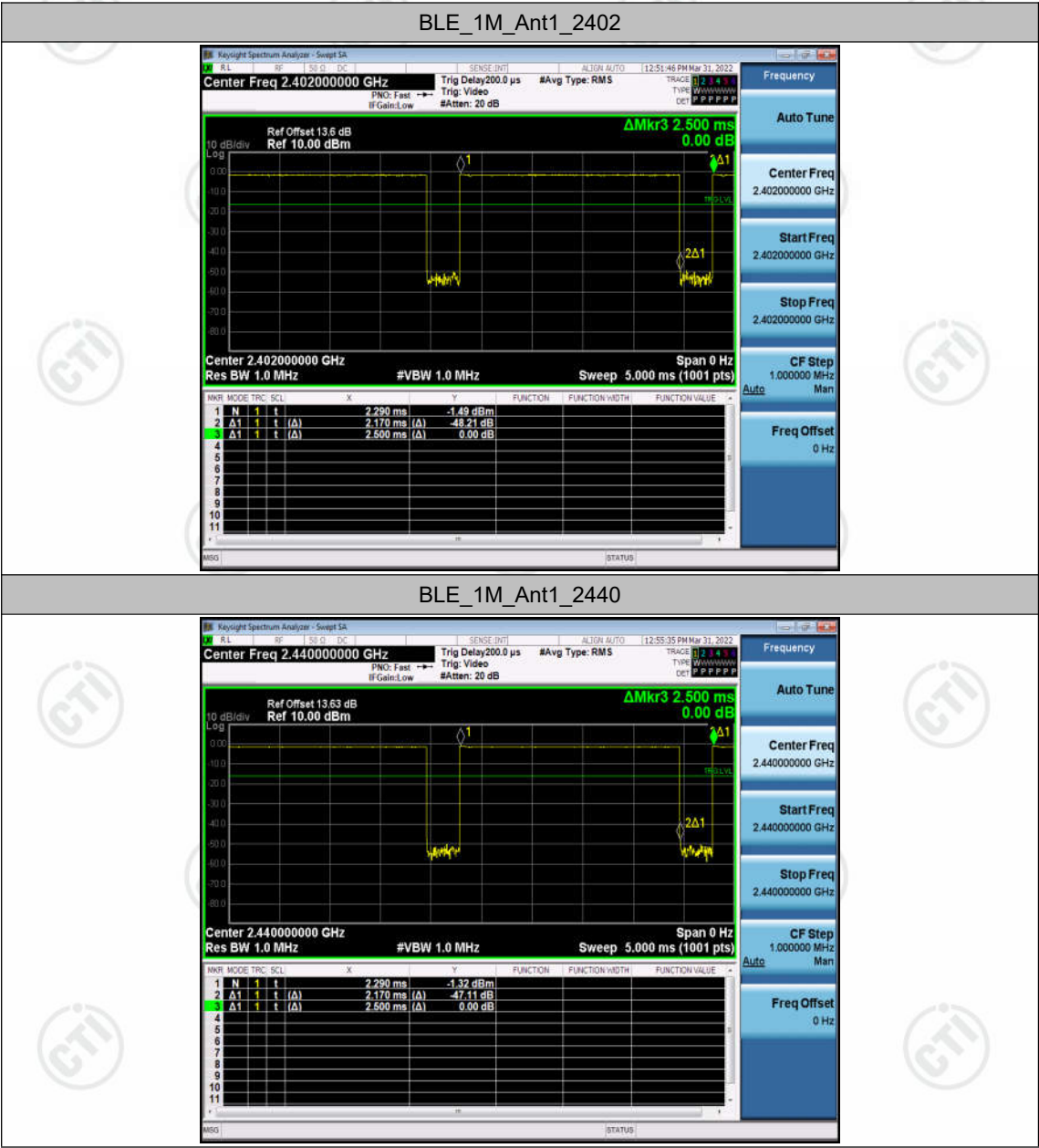
Appendix H: Duty Cycle

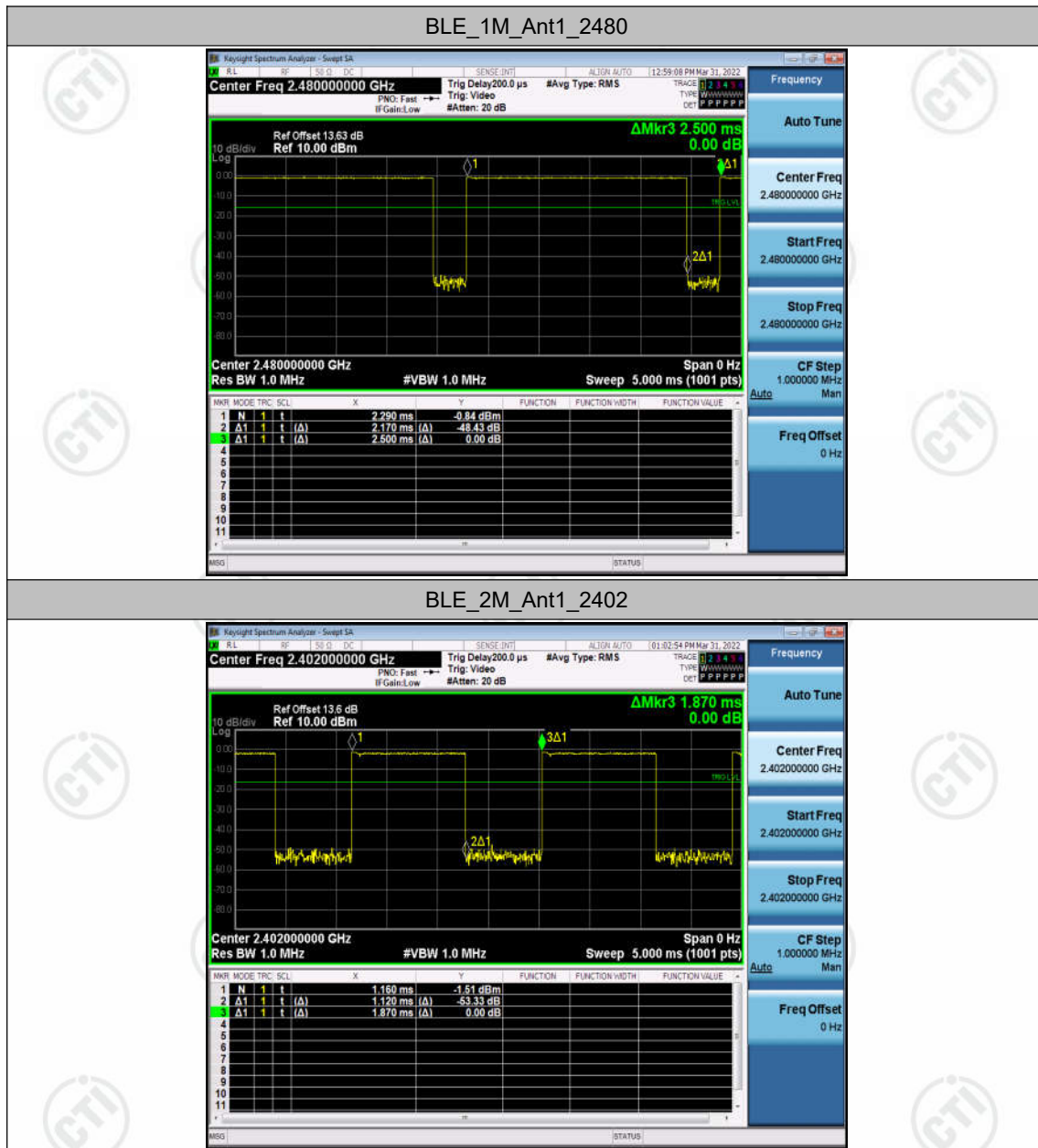
Test Result

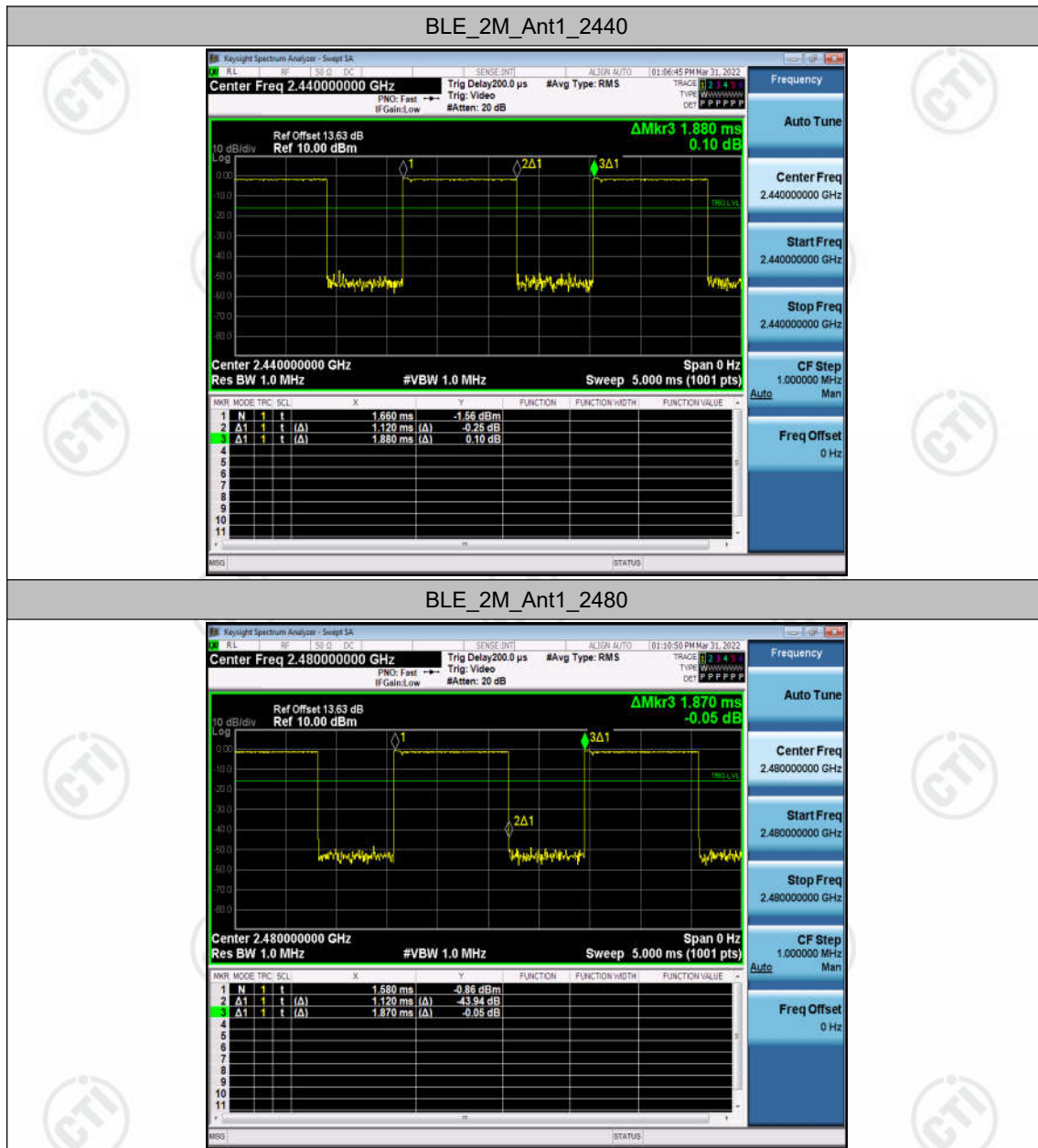
| Test Mode | Antenna | Frequency[MHz] | ON Time [ms] | Period [ms] | Duty Cycle [%] | Duty Cycle Factor[dB] |
|-----------|---------|----------------|--------------|-------------|----------------|-----------------------|
| BLE_1M    | Ant1    | 2402           | 2.17         | 2.50        | 86.80          | 0.61                  |
|           |         | 2440           | 2.17         | 2.50        | 86.80          | 0.61                  |
|           |         | 2480           | 2.17         | 2.50        | 86.80          | 0.61                  |
| BLE_2M    | Ant1    | 2402           | 1.12         | 1.87        | 59.89          | 2.23                  |
|           |         | 2440           | 1.12         | 1.88        | 59.57          | 2.25                  |
|           |         | 2480           | 1.12         | 1.87        | 59.89          | 2.23                  |



Test Graphs







\*\*\* End of Report \*\*\*