

## **Appendix for Bluetooth BLE mode**

Product Name: Rugged handheld

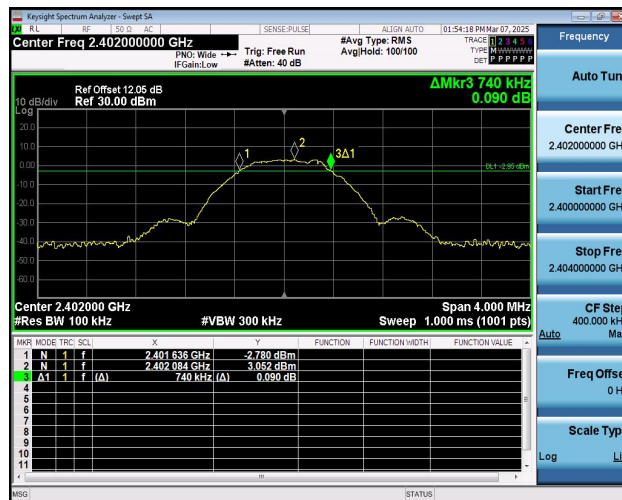
Model No: UA60

## Appendix A: DTS Bandwidth

### Test Result

| TestMode | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402           | 0.740        | 2401.636 | 2402.376 | 0.5        | PASS    |
| BLE_1M   | Ant1    | 2440           | 0.744        | 2439.636 | 2440.380 | 0.5        | PASS    |
| BLE_1M   | Ant1    | 2480           | 0.748        | 2479.632 | 2480.380 | 0.5        | PASS    |
| BLE_2M   | Ant1    | 2402           | 1.284        | 2401.376 | 2402.660 | 0.5        | PASS    |
| BLE_2M   | Ant1    | 2440           | 1.144        | 2439.440 | 2440.584 | 0.5        | PASS    |
| BLE_2M   | Ant1    | 2480           | 1.124        | 2479.432 | 2480.556 | 0.5        | PASS    |

## Test Graphs



BLE\_1M-Ant1-2402-PASS



BLE\_1M-Ant1-2440-PASS



BLE\_1M-Ant1-2480-PASS



BLE\_2M-Ant1-2402-PASS



BLE\_2M-Ant1-2440-PASS



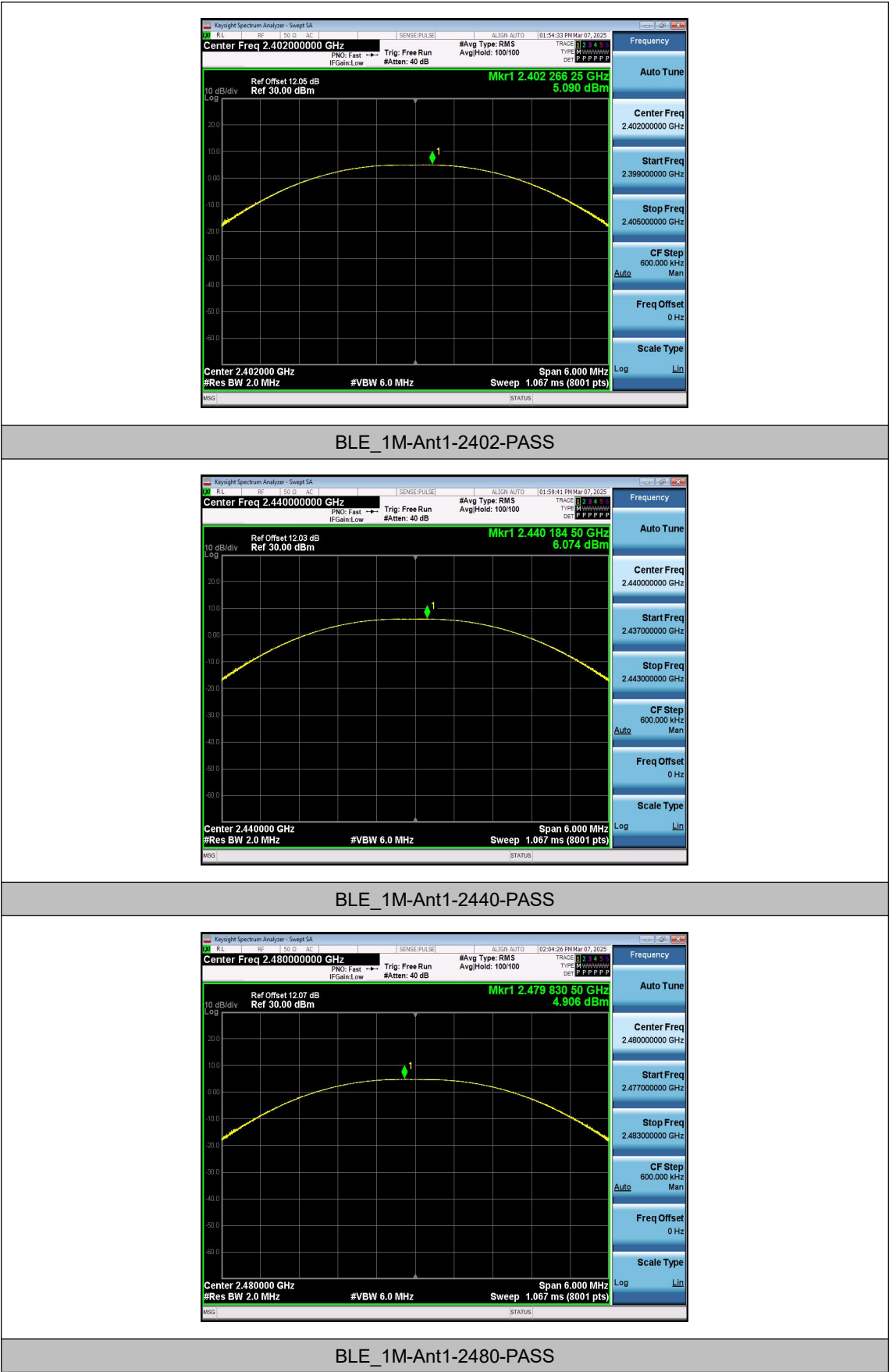
BLE\_2M-Ant1-2480-PASS

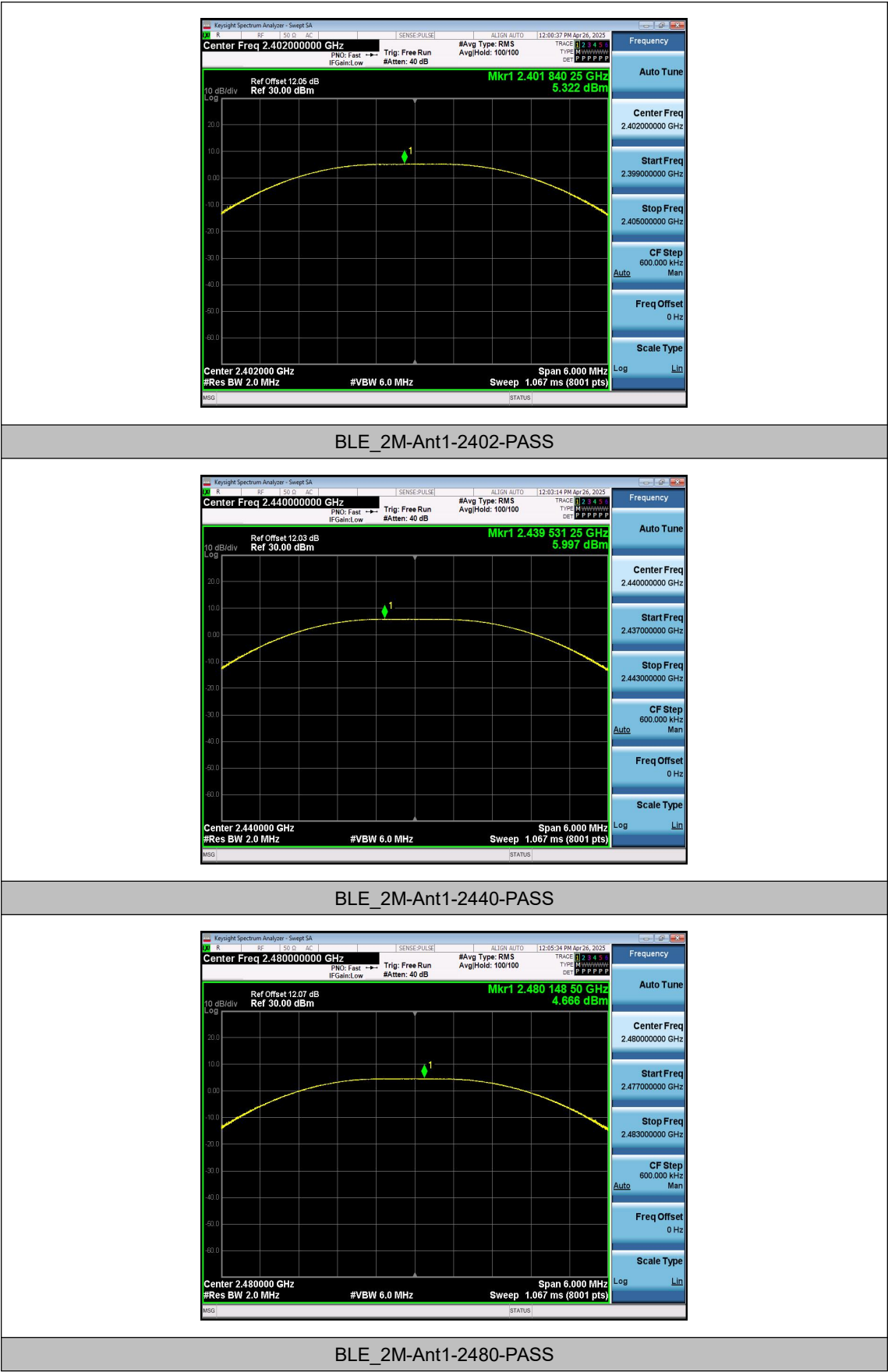
## Appendix B: Maximum conducted output power

### Test Result Peak

| TestMode | Antenna | Frequency[MHz] | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|----------|---------|----------------|---------------------------|----------------------|---------|
| BLE_1M   | Ant1    | 2402           | 5.09                      | ≤30                  | PASS    |
| BLE_1M   | Ant1    | 2440           | 6.07                      | ≤30                  | PASS    |
| BLE_1M   | Ant1    | 2480           | 4.91                      | ≤30                  | PASS    |
| BLE_2M   | Ant1    | 2402           | 5.32                      | ≤30                  | PASS    |
| BLE_2M   | Ant1    | 2440           | 6.00                      | ≤30                  | PASS    |
| BLE_2M   | Ant1    | 2480           | 4.67                      | ≤30                  | PASS    |

Test Graphs Peak





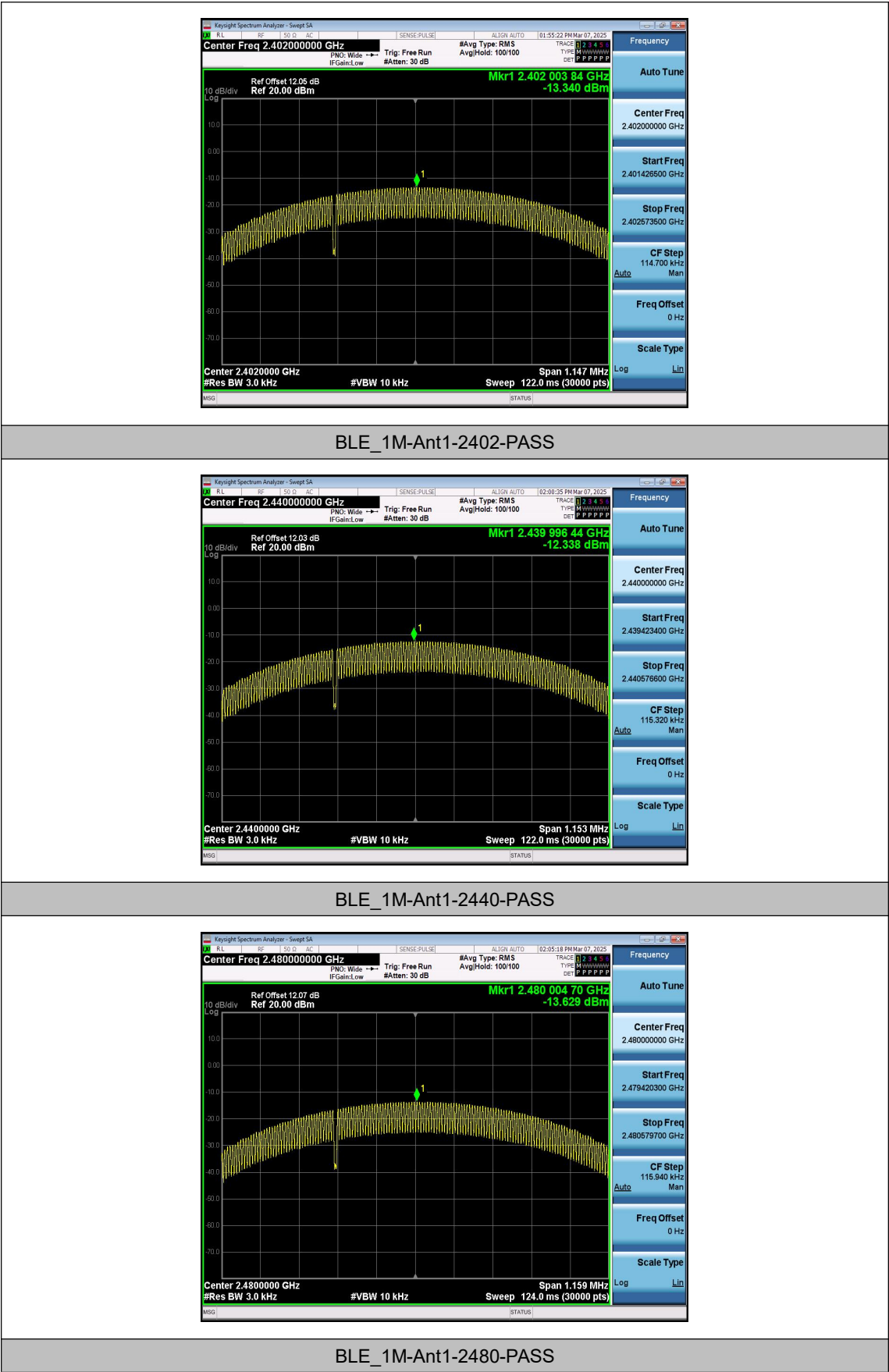
## Appendix C: Maximum power spectral density

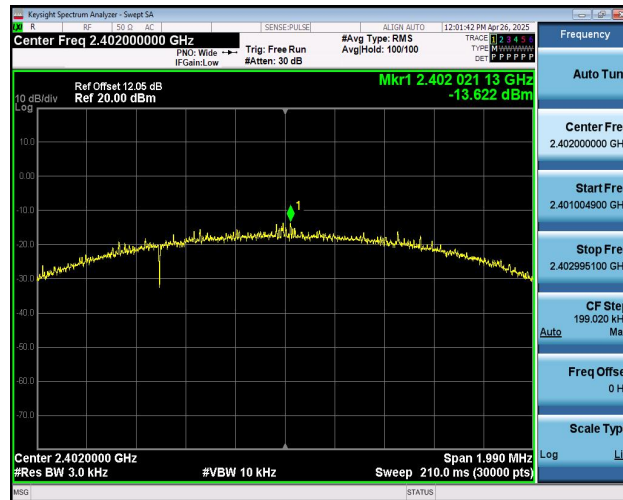
### Test Result

| TestMode | Antenna | Frequency[MHz] | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|----------------|------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402           | -13.34           | ≤8.00           | PASS    |
| BLE_1M   | Ant1    | 2440           | -12.34           | ≤8.00           | PASS    |
| BLE_1M   | Ant1    | 2480           | -13.63           | ≤8.00           | PASS    |
| BLE_2M   | Ant1    | 2402           | -13.62           | ≤8.00           | PASS    |
| BLE_2M   | Ant1    | 2440           | -13.05           | ≤8.00           | PASS    |
| BLE_2M   | Ant1    | 2480           | -14.43           | ≤8.00           | PASS    |



Test Graphs





BLE\_2M-Ant1-2402-PASS



BLE\_2M-Ant1-2440-PASS



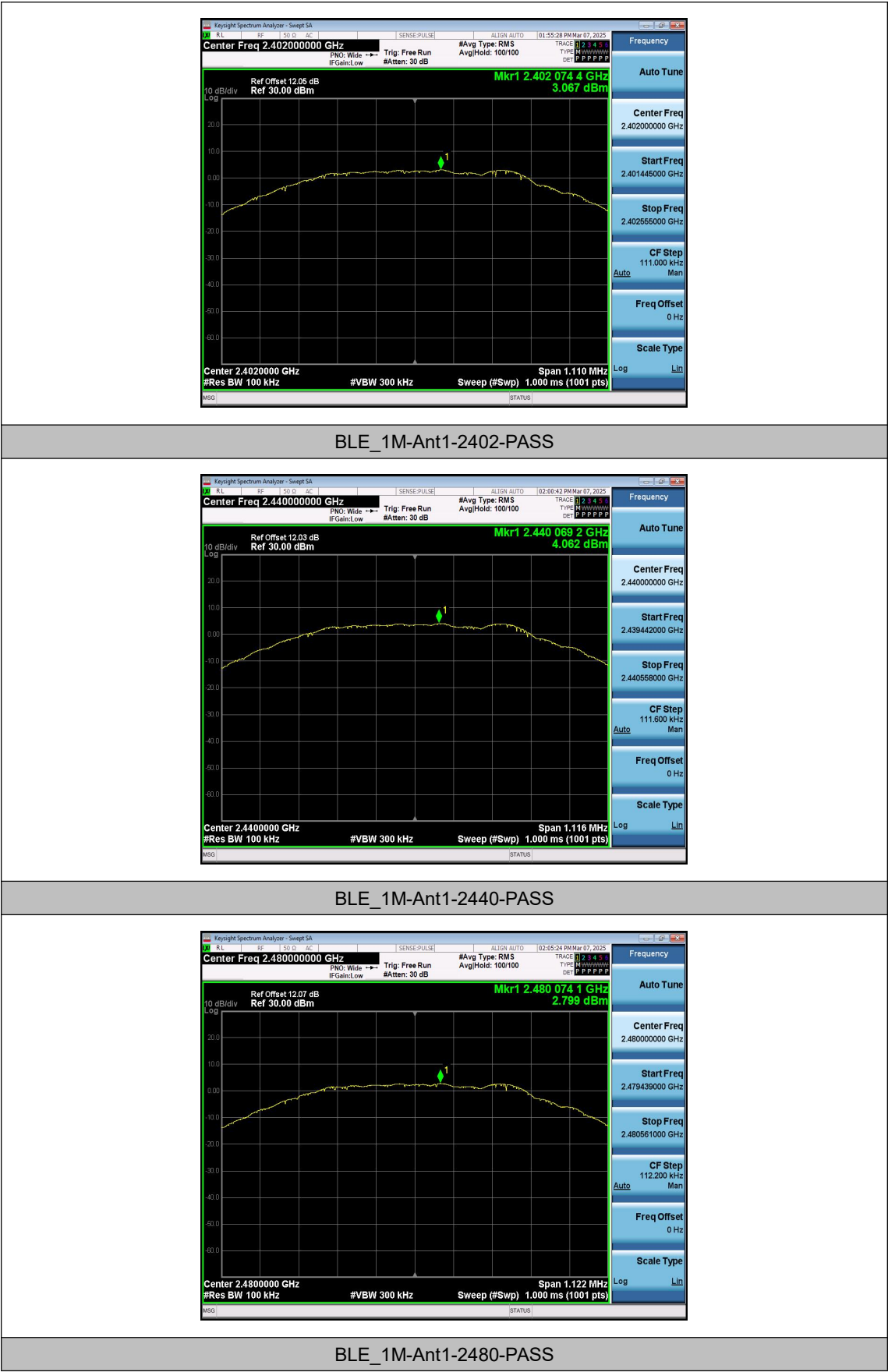
BLE\_2M-Ant1-2480-PASS

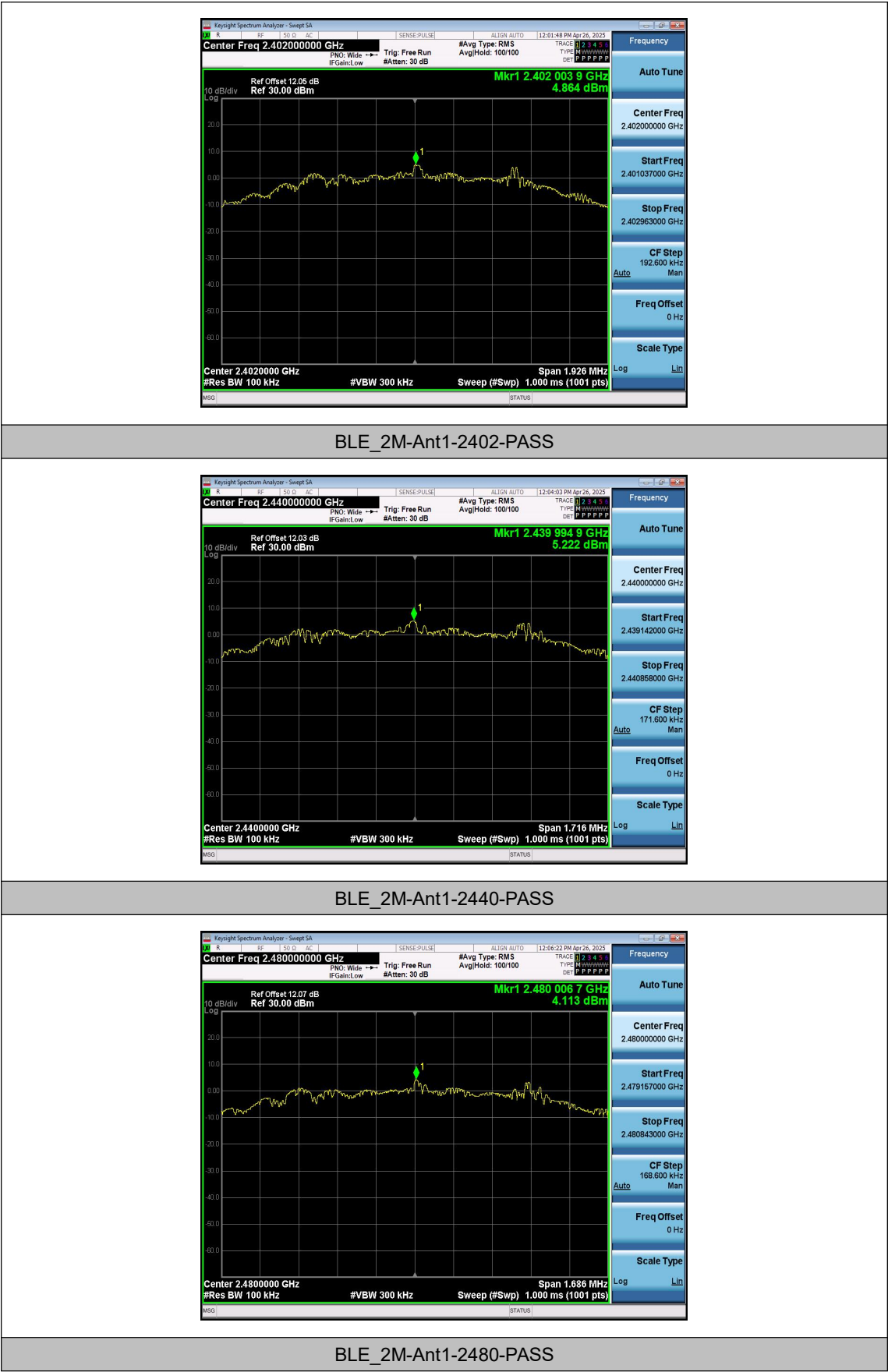
## Appendix D: Reference level measurement

### Test Result

| TestMode | Antenna | Freq(MHz) | Max.Point[MHz] | Result[dBm] |
|----------|---------|-----------|----------------|-------------|
| BLE_1M   | Ant1    | 2402      | 2402.07        | 3.07        |
| BLE_1M   | Ant1    | 2440      | 2440.07        | 4.06        |
| BLE_1M   | Ant1    | 2480      | 2480.07        | 2.80        |
| BLE_2M   | Ant1    | 2402      | 2402.00        | 4.86        |
| BLE_2M   | Ant1    | 2440      | 2439.99        | 5.22        |
| BLE_2M   | Ant1    | 2480      | 2480.01        | 4.11        |

Test Graphs



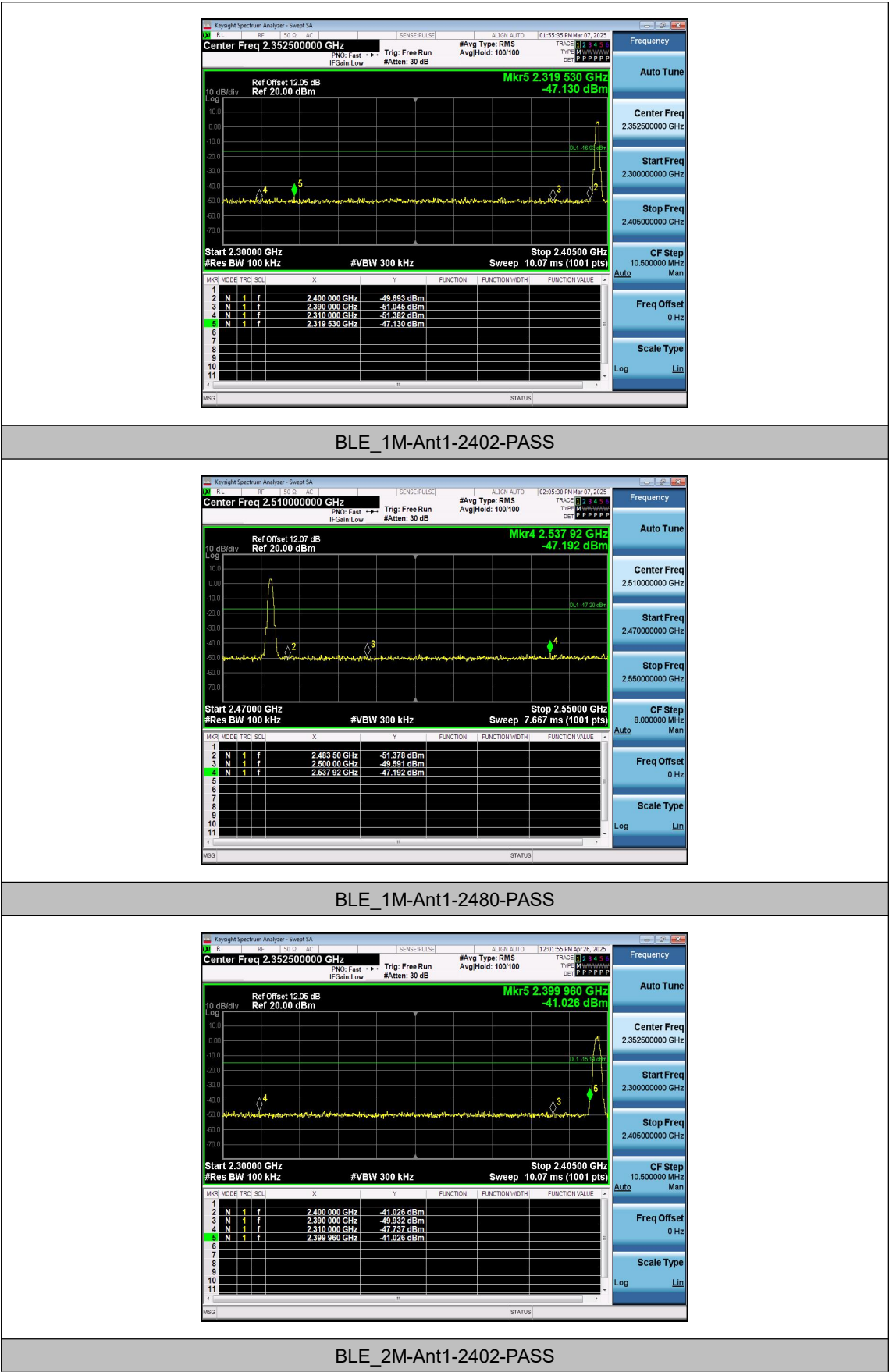


## Appendix E: Band edge measurements

### Test Result

| TestMode | Antenna | ChName | Frequency<br>[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm]    | Verdict |
|----------|---------|--------|--------------------|---------------|-------------|---------------|---------|
| BLE_1M   | Ant1    | Low    | 2402               | 3.07          | -47.13      | $\leq -16.93$ | PASS    |
| BLE_1M   | Ant1    | High   | 2480               | 2.80          | -47.19      | $\leq -17.2$  | PASS    |
| BLE_2M   | Ant1    | Low    | 2402               | 4.86          | -41.03      | $\leq -15.14$ | PASS    |
| BLE_2M   | Ant1    | High   | 2480               | 4.11          | -46.99      | $\leq -15.89$ | PASS    |

Test Graphs





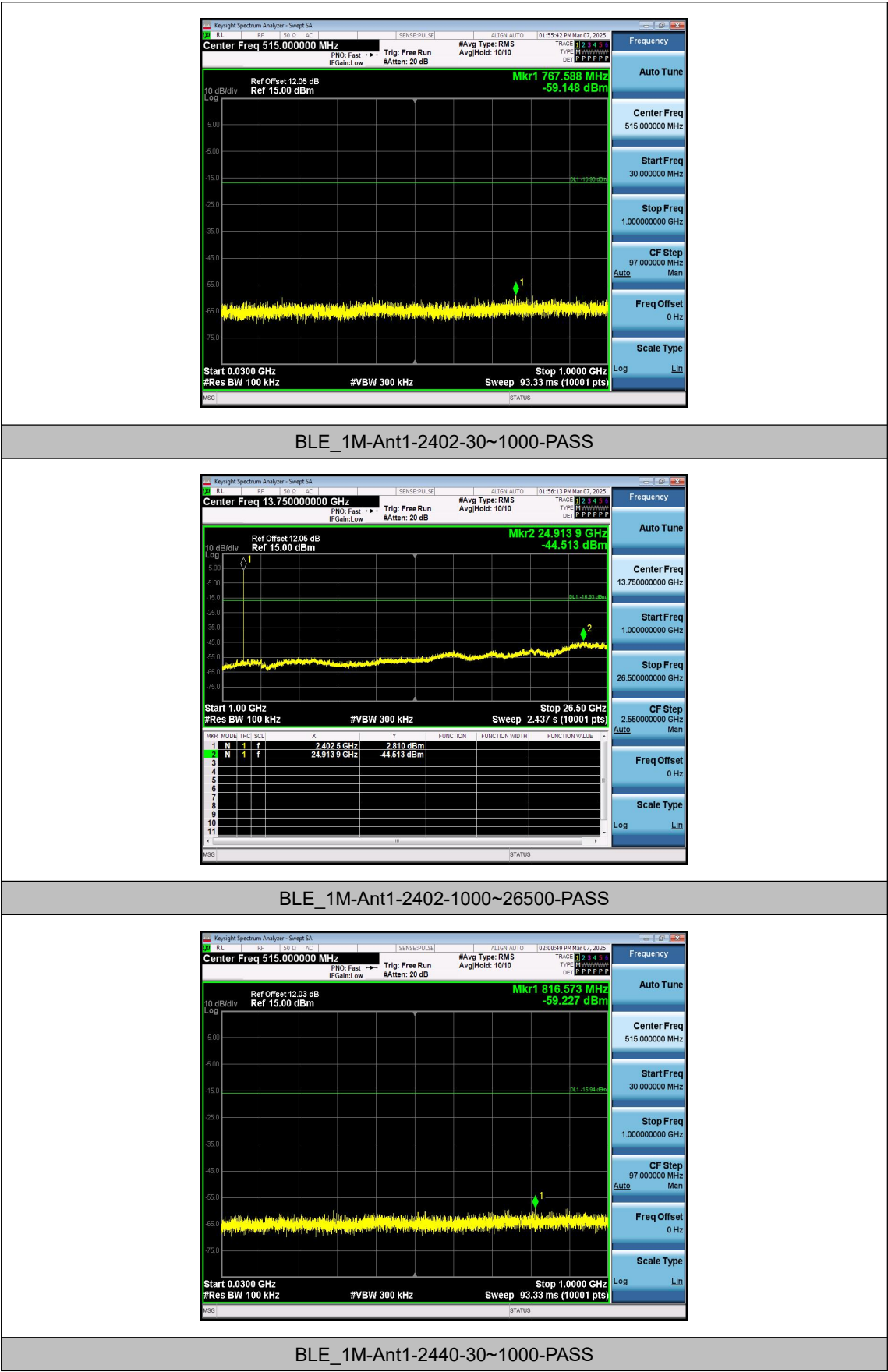


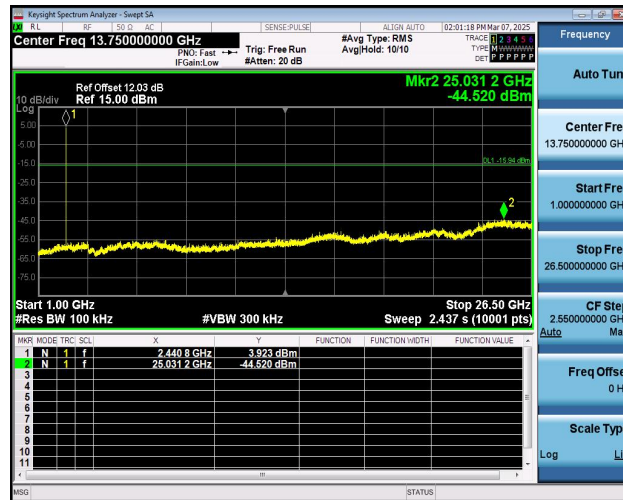
## Appendix F: Conducted Spurious Emission

### Test Result

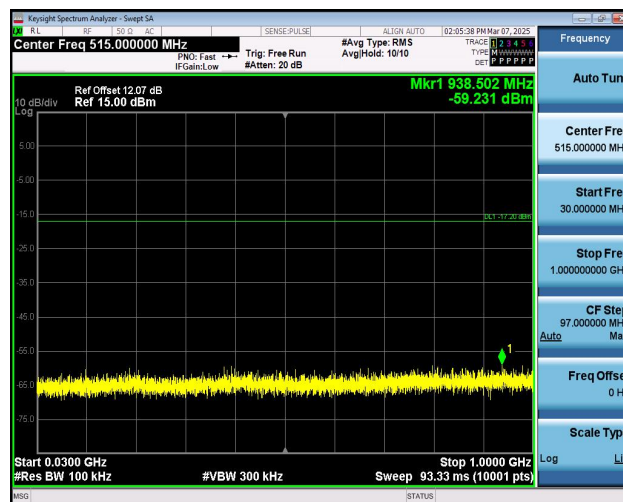
| TestMode | Antenna | Frequency<br>[MHz] | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------------------|--------------------|-------------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402               | 30~1000            | 3.07              | -59.15      | ≤-16.93    | PASS    |
| BLE_1M   | Ant1    | 2402               | 1000~26500         | 3.07              | -44.51      | ≤-16.93    | PASS    |
| BLE_1M   | Ant1    | 2440               | 30~1000            | 4.06              | -59.23      | ≤-15.94    | PASS    |
| BLE_1M   | Ant1    | 2440               | 1000~26500         | 4.06              | -44.52      | ≤-15.94    | PASS    |
| BLE_1M   | Ant1    | 2480               | 30~1000            | 2.80              | -59.23      | ≤-17.2     | PASS    |
| BLE_1M   | Ant1    | 2480               | 1000~26500         | 2.80              | -43.69      | ≤-17.2     | PASS    |
| BLE_2M   | Ant1    | 2402               | 30~1000            | 4.86              | -58.49      | ≤-15.14    | PASS    |
| BLE_2M   | Ant1    | 2402               | 1000~26500         | 4.86              | -44.1       | ≤-15.14    | PASS    |
| BLE_2M   | Ant1    | 2440               | 30~1000            | 5.22              | -58.64      | ≤-14.78    | PASS    |
| BLE_2M   | Ant1    | 2440               | 1000~26500         | 5.22              | -44.48      | ≤-14.78    | PASS    |
| BLE_2M   | Ant1    | 2480               | 30~1000            | 4.11              | -59.41      | ≤-15.89    | PASS    |
| BLE_2M   | Ant1    | 2480               | 1000~26500         | 4.11              | -43.84      | ≤-15.89    | PASS    |

Test Graphs

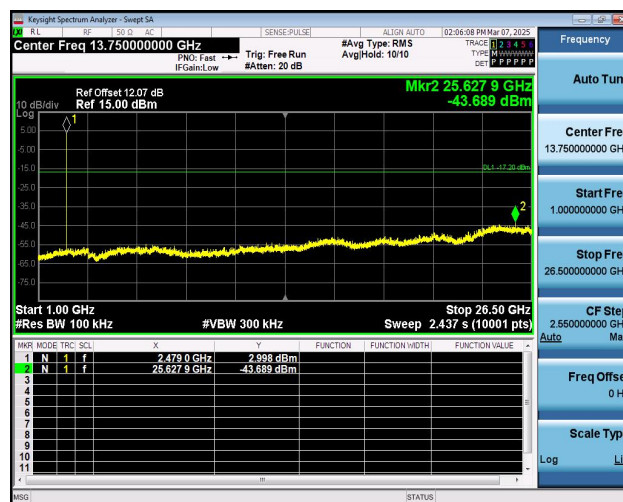




BLE\_1M-Ant1-2440-1000~26500-PASS



BLE\_1M-Ant1-2480-30~1000-PASS



BLE\_1M-Ant1-2480-1000~26500-PASS

