



## Appendix B

### RF Test Data for BT LE (Conducted Measurement)

Product Name: Smartwatch

Test Model: M63

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.8° C   |
| Relative Humidity: | 52.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Summer Wu |
| Supervised by:     | Nick Peng |





## B.1 DTS Bandwidth

### Test Result

| TestMode | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------|----------|----------|------------|---------|
| BLE      | Ant     | 2402           | 0.668        | 2401.672 | 2402.340 | 0.5        | PASS    |
|          |         | 2440           | 0.660        | 2439.660 | 2440.320 | 0.5        | PASS    |
|          |         | 2480           | 0.660        | 2479.672 | 2480.332 | 0.5        | PASS    |



## Test Graphs

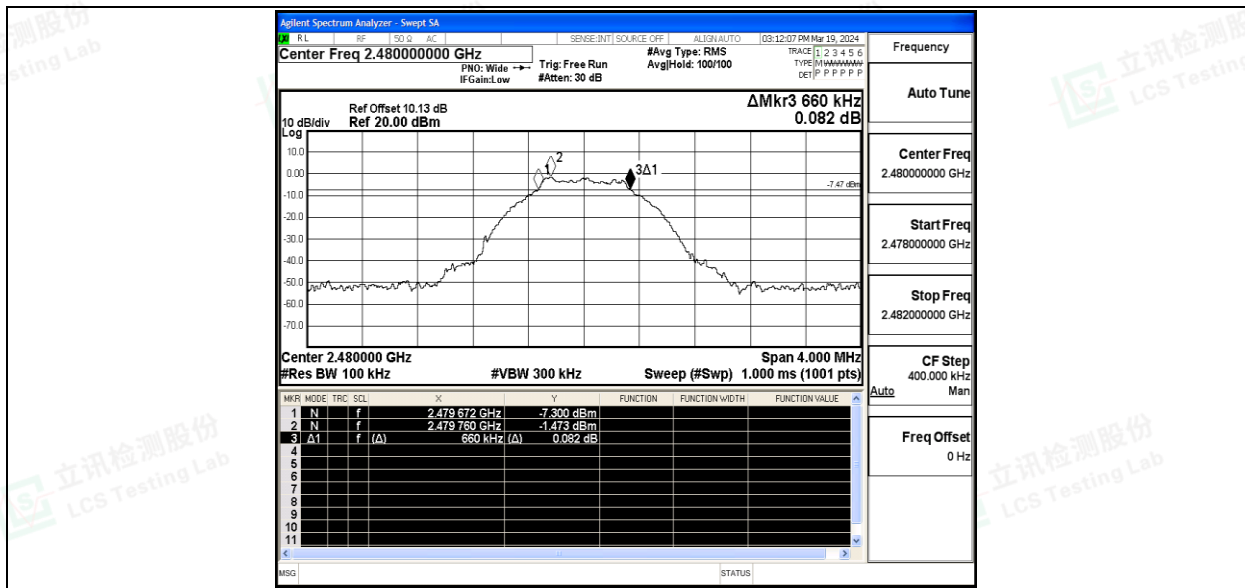


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## B.2 Maximum conducted output power

### Test Result

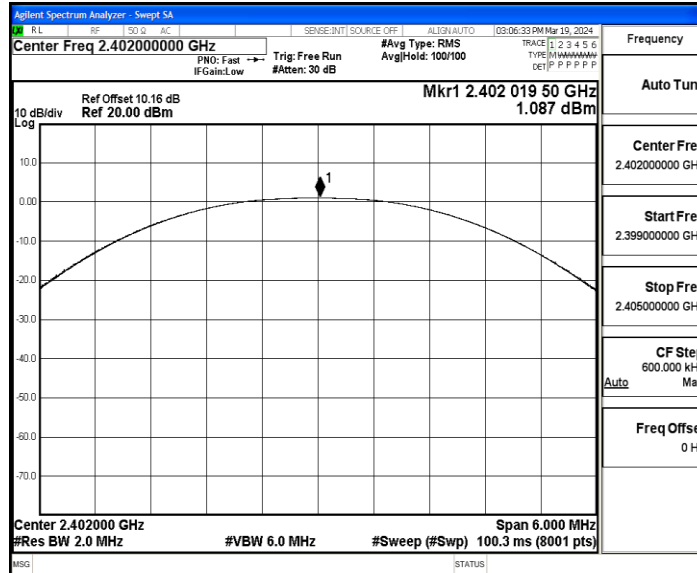
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE      | Ant     | 2402    | 1.09        | ≤30        | PASS    |
|          |         | 2440    | 0.84        | ≤30        | PASS    |
|          |         | 2480    | -0.69       | ≤30        | PASS    |



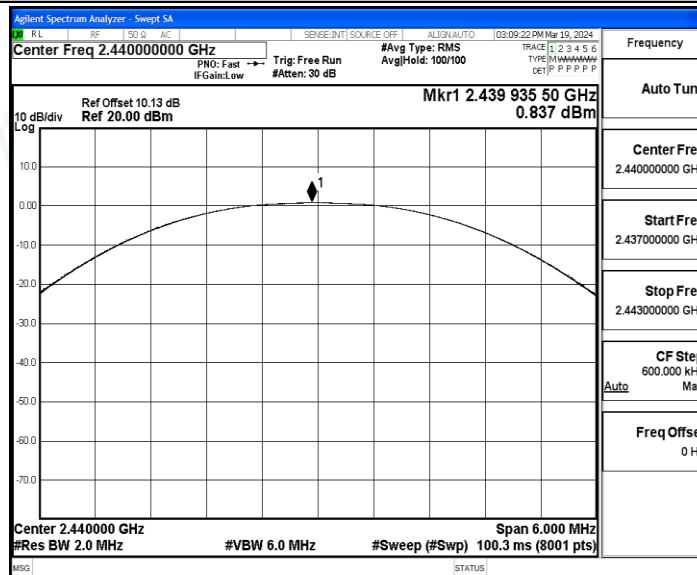


## Test Graphs

BLE\_Ant\_2402



BLE\_Ant\_2440



BLE\_Ant\_2480

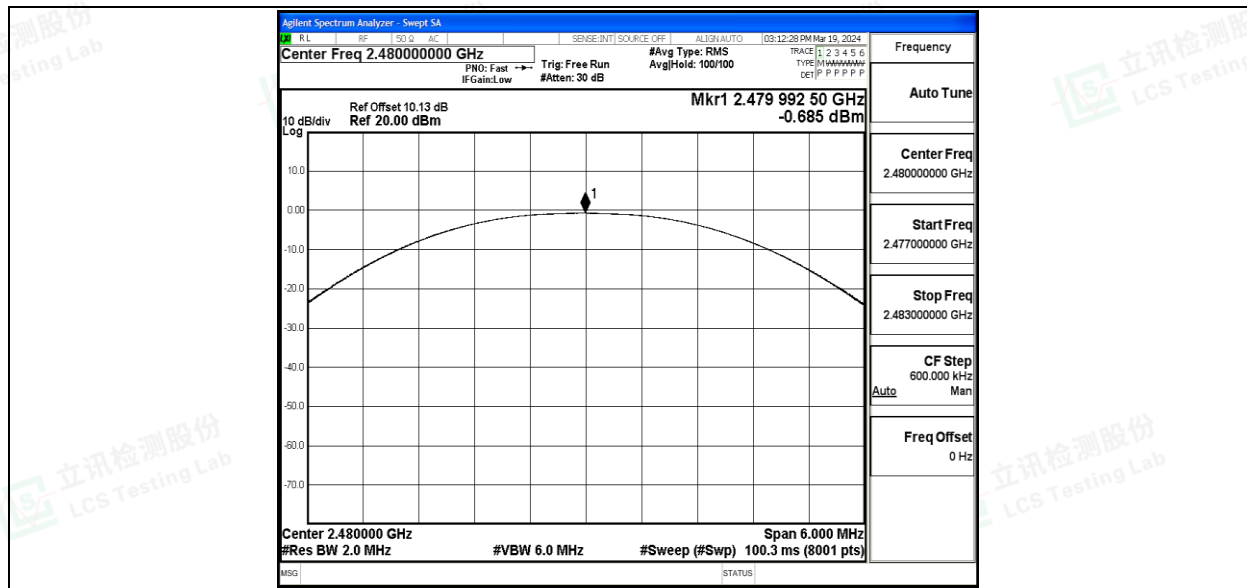


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### B.3 Maximum power spectral density

#### Test Result

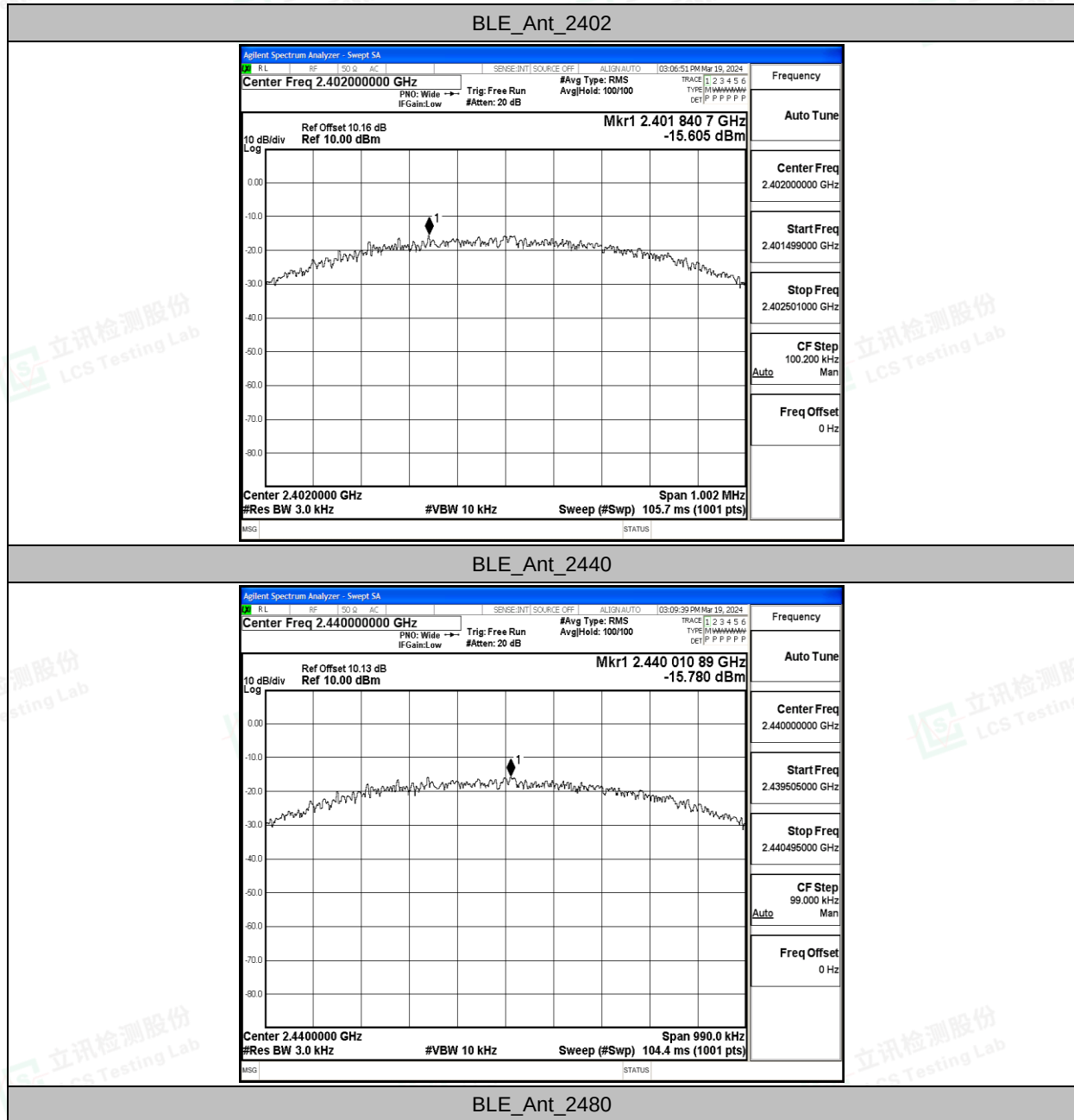
| TestMode | Antenna | Frequency[MHz] | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|----------------|------------------|-----------------|---------|
| BLE      | Ant     | 2402           | -15.61           | ≤8.00           | PASS    |
|          |         | 2440           | -15.78           | ≤8.00           | PASS    |
|          |         | 2480           | -17.45           | ≤8.00           | PASS    |







## Test Graphs

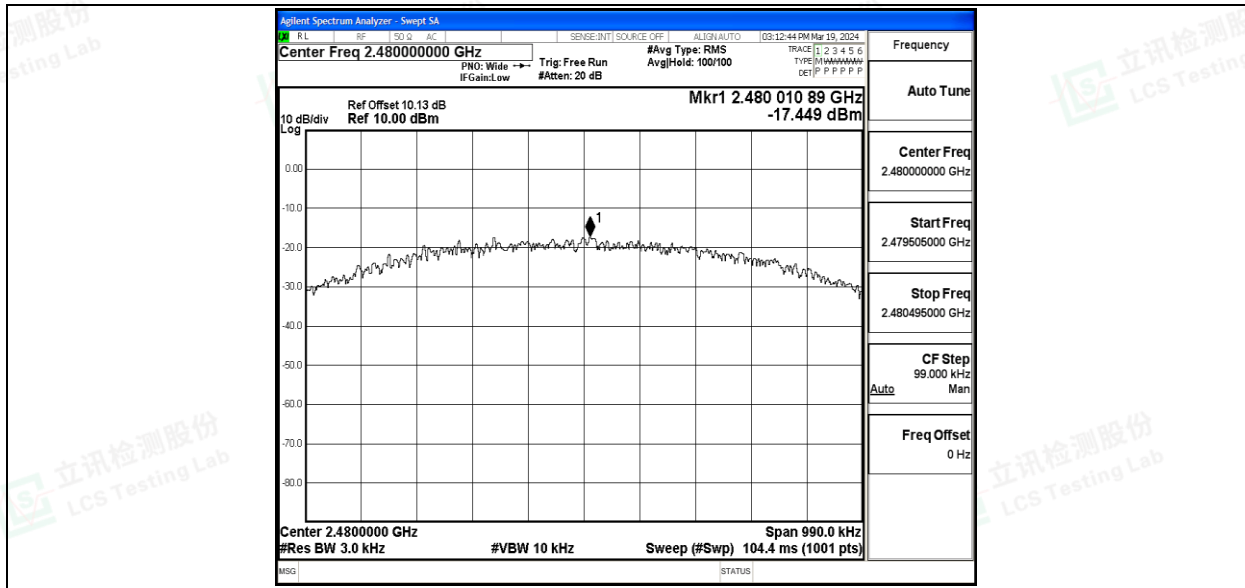


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## B.4 Band edge measurements

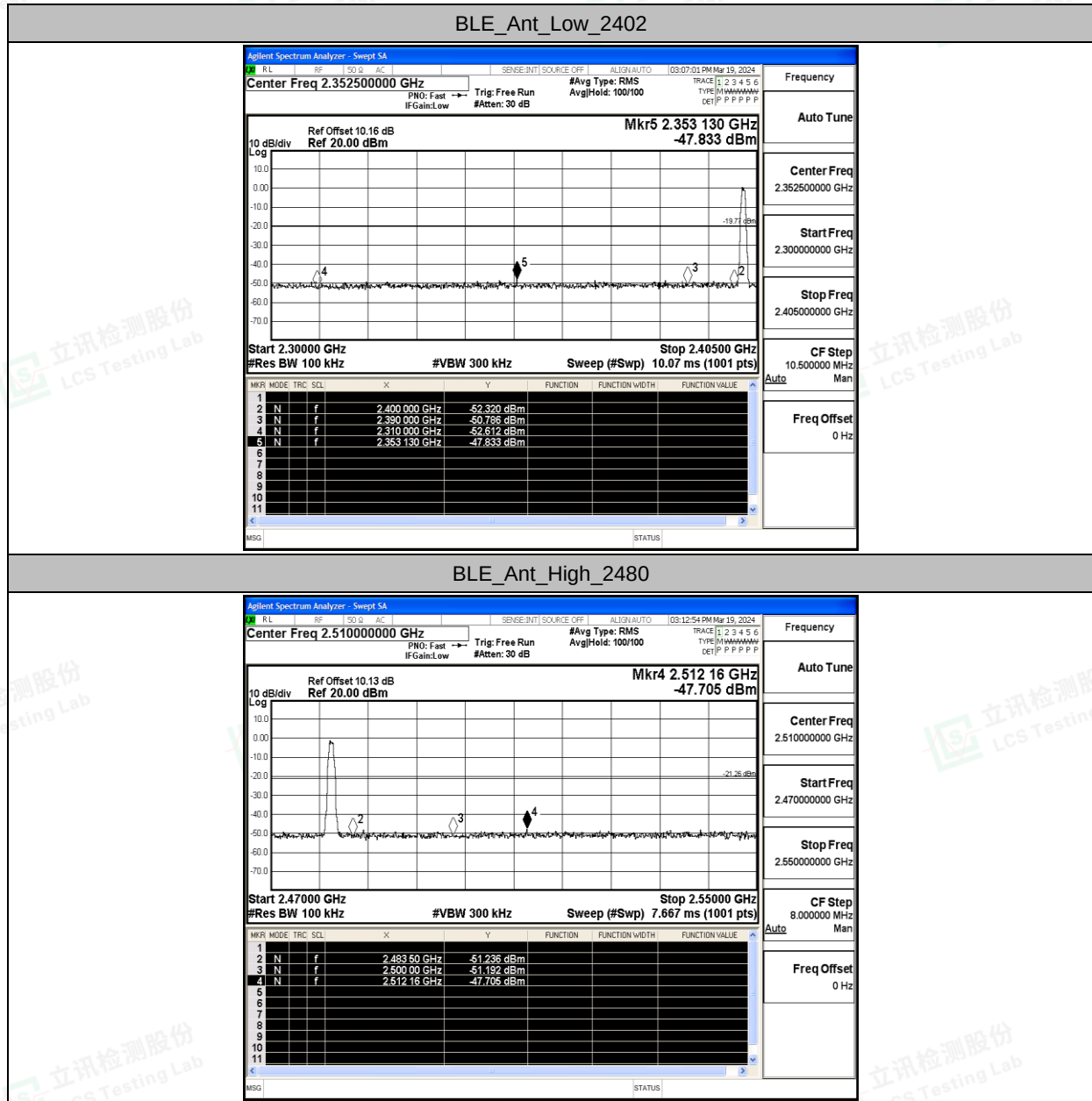
### Test Result

| TestMode | Antenna | ChName | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm]    | Verdict |
|----------|---------|--------|----------------|---------------|-------------|---------------|---------|
| BLE      | Ant     | Low    | 2402           | 0.23          | -47.83      | $\leq -19.77$ | PASS    |
|          |         | High   | 2480           | -1.26         | -47.71      | $\leq -21.26$ | PASS    |





## Test Graphs



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## B.5 Conducted Spurious Emission

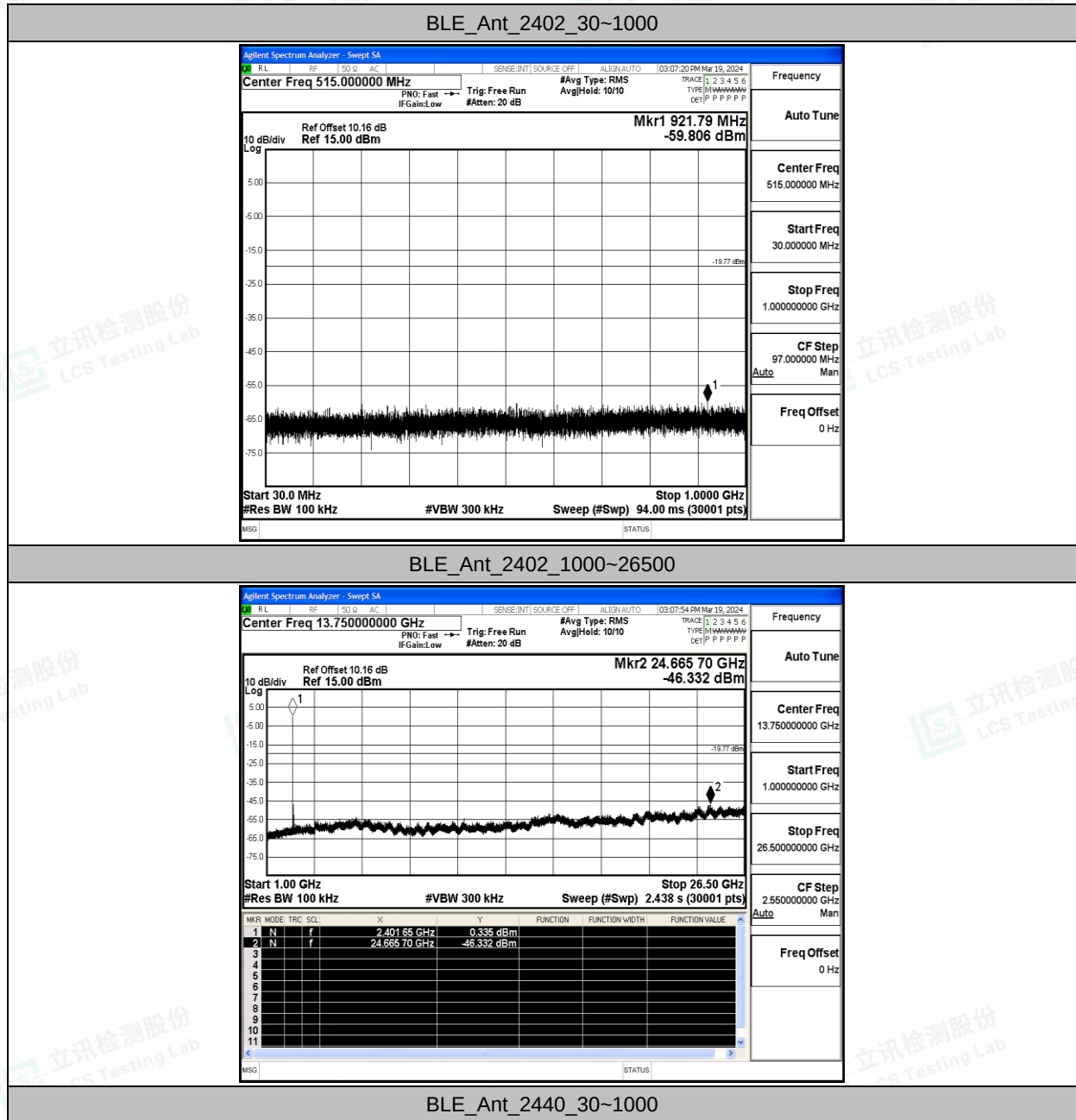
### Test Result

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|----------------|-----------------|----------------|-------------|------------|---------|
| BLE      | Ant     | 2402           | 30~1000         | 0.23           | -59.81      | ≤-19.77    | PASS    |
|          |         |                | 1000~26500      | 0.23           | -46.33      | ≤-19.77    | PASS    |
|          |         | 2440           | 30~1000         | 0.23           | -59.85      | ≤-19.77    | PASS    |
|          |         |                | 1000~26500      | 0.23           | -47.22      | ≤-19.77    | PASS    |
|          |         | 2480           | 30~1000         | -1.26          | -60.02      | ≤-21.26    | PASS    |
|          |         |                | 1000~26500      | -1.26          | -46.75      | ≤-21.26    | PASS    |





## Test Graphs

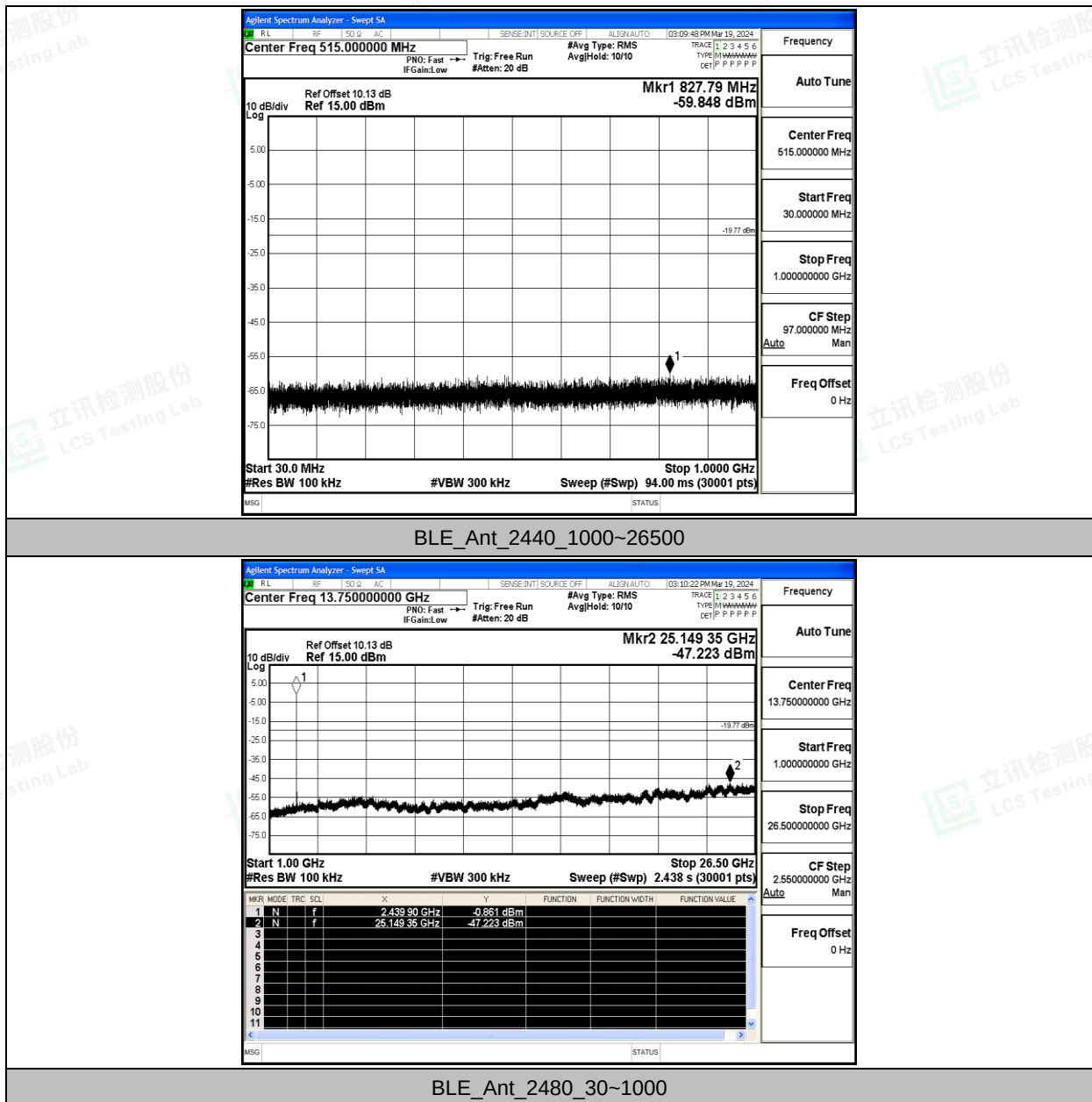


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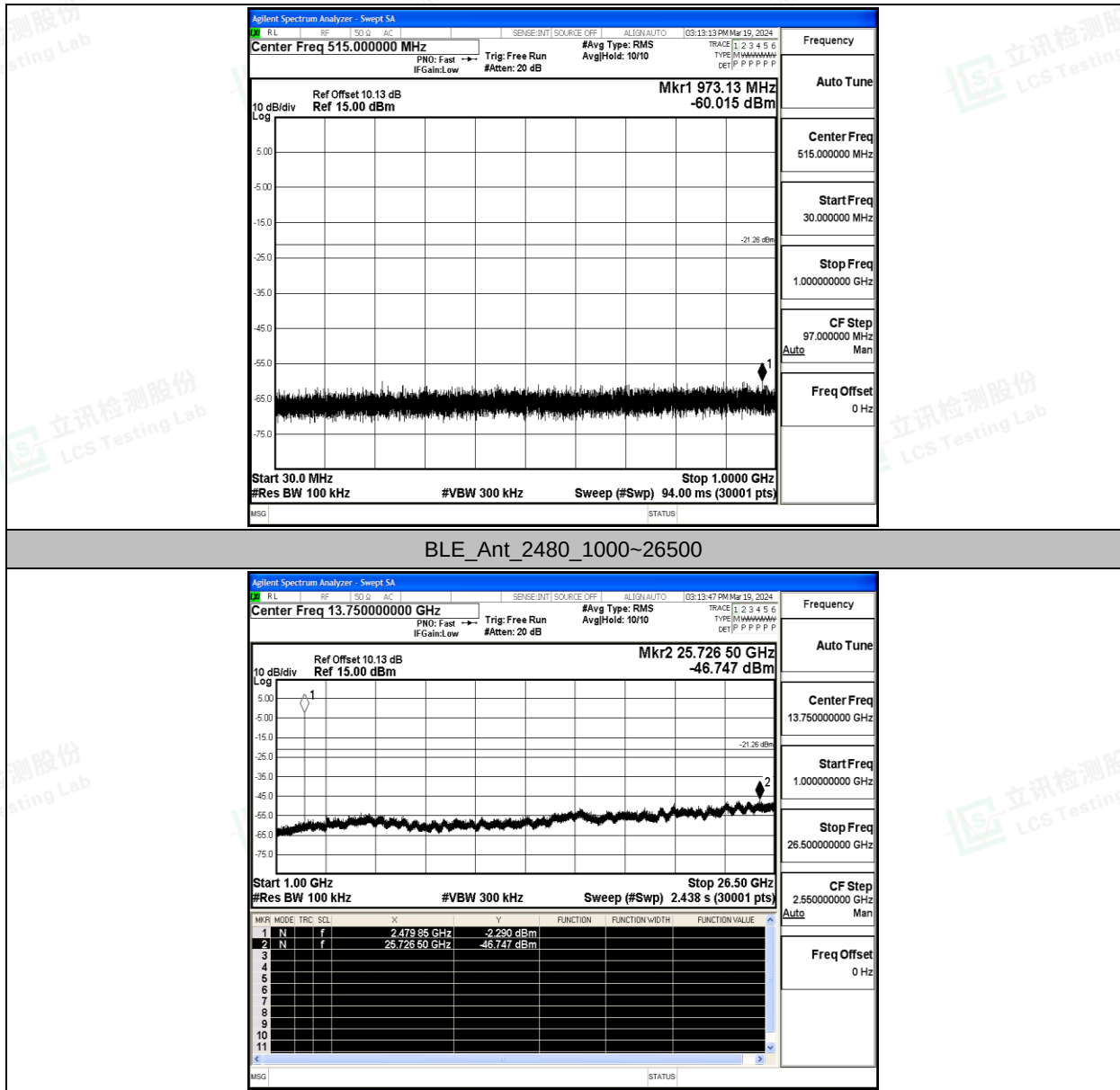


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## Reference level measurement

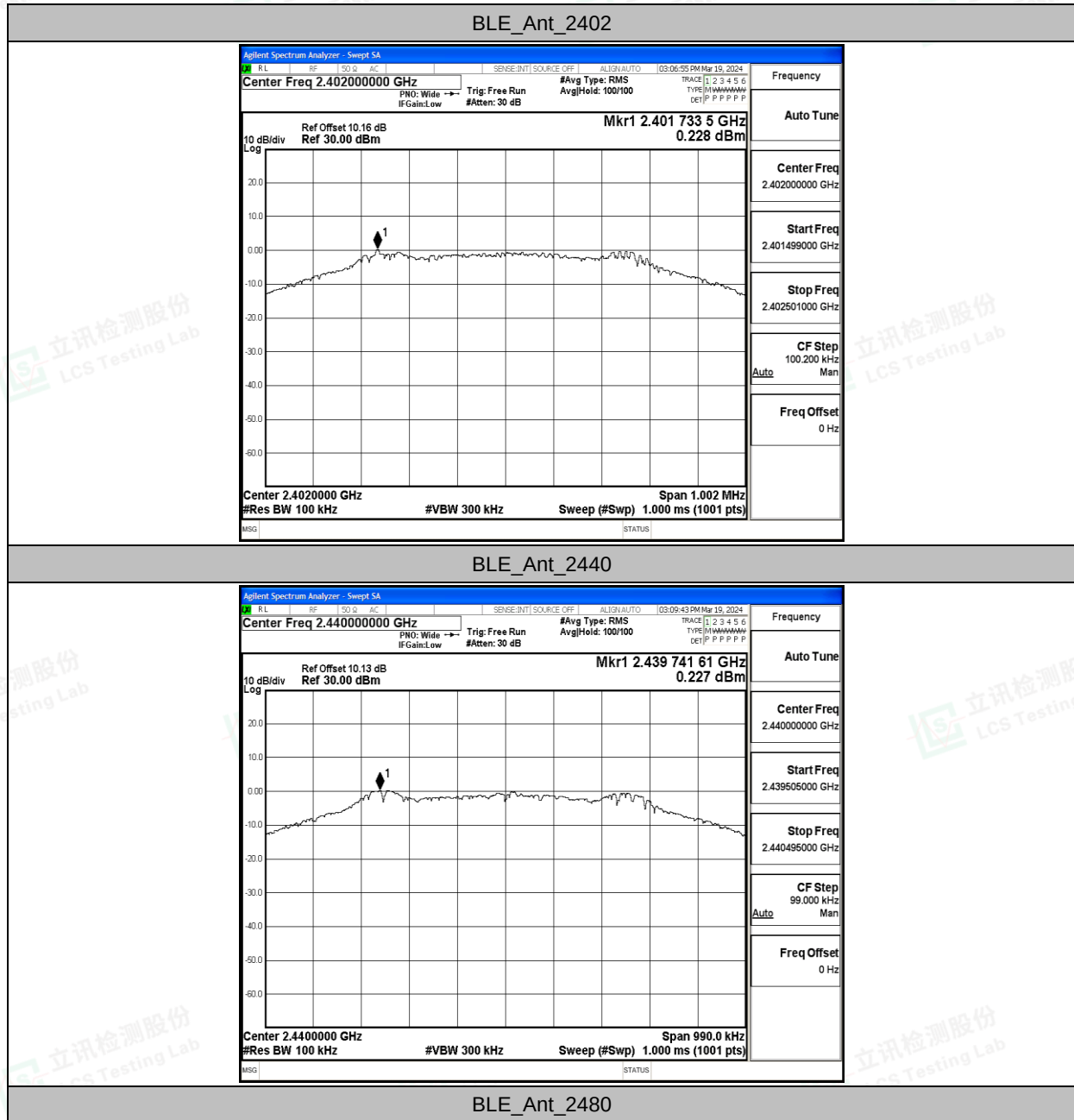
### Test Result

| TestMode | Antenna | Freq(MHz) | Max.Point[MHz] | Result[dBm] |
|----------|---------|-----------|----------------|-------------|
| BLE      | Ant     | 2402      | 2401.73        | 0.23        |
|          |         | 2440      | 2439.74        | 0.23        |
|          |         | 2480      | 2479.75        | -1.26       |





## Test Graphs

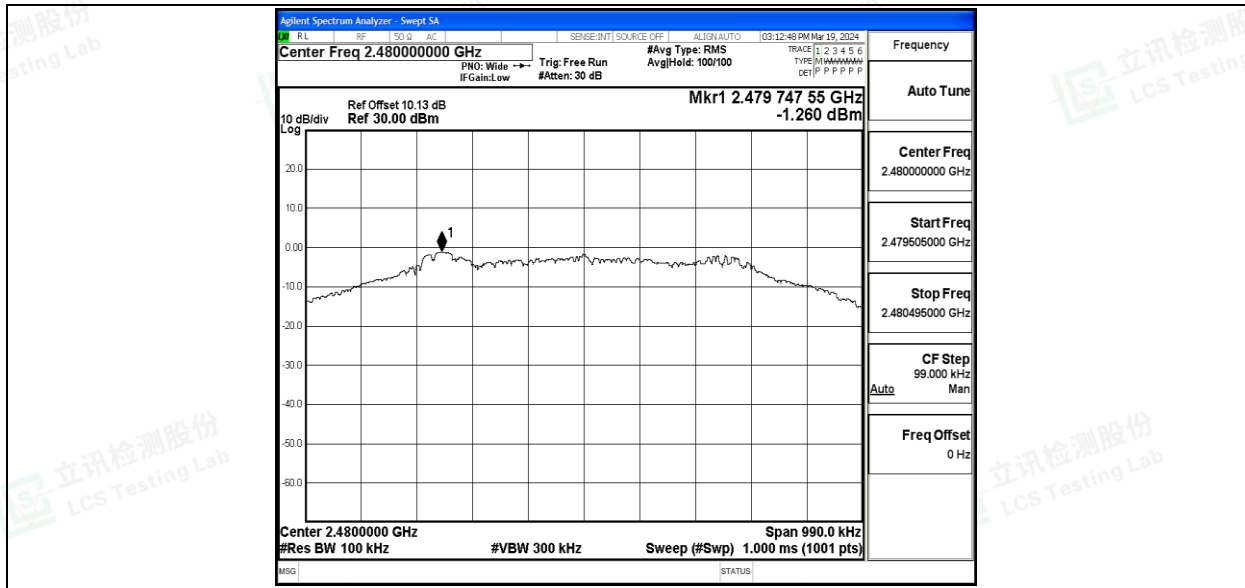


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## B.6 Duty Cycle

### Test Result

| TestMode | Antenna | Frequency[MHz] | ON Time [ms] | Period [ms] | Duty Cycle [%] | Duty Cycle Factor[dB] | 1/T Factor[dB] |
|----------|---------|----------------|--------------|-------------|----------------|-----------------------|----------------|
| BLE      | Ant     | 2402           | 1.64         | 1.88        | 87.23          | 0.59                  | 0.61           |
|          |         | 2440           | 1.64         | 1.88        | 87.23          | 0.59                  | 0.61           |
|          |         | 2480           | 1.64         | 1.88        | 87.23          | 0.59                  | 0.61           |





## Test Graphs

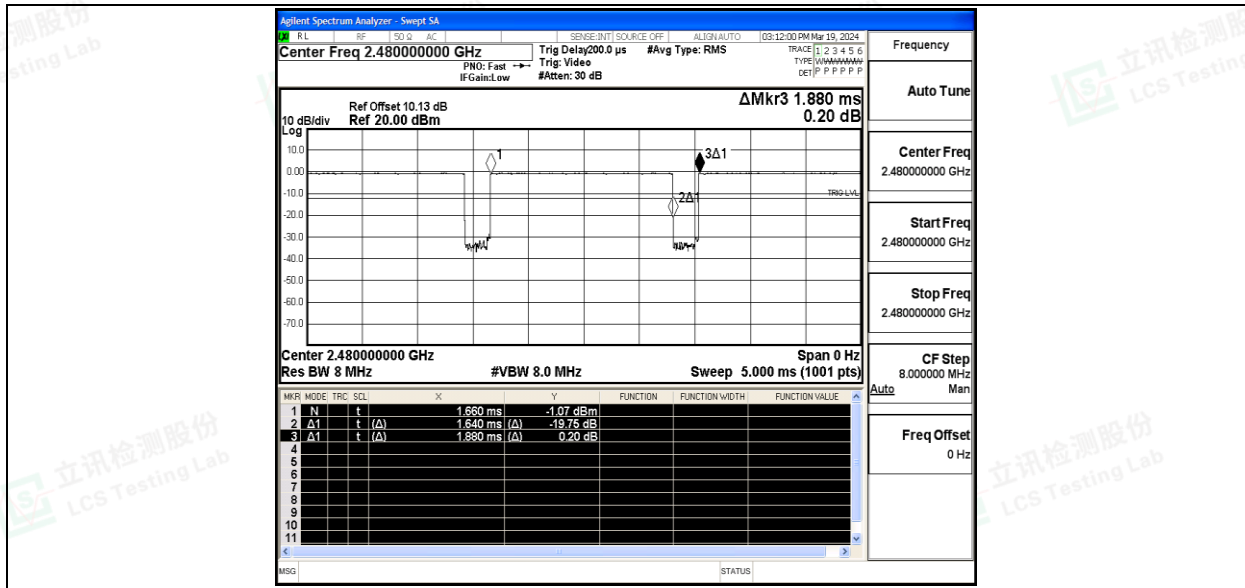


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## B.7 Emissions in Restricted Bands

### Test Result

| Test Mode | Antenna | Channel Name | Frequency [MHz] | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|-----------|---------|--------------|-----------------|----------|------------|--------------|-------------|-----------------|----------------|---------|
| BLE       | Ant     | Low          | 2402            | AV       | 2310.000   | -47.81       | ≤-41.20     | 47.39           | ≤54            | PASS    |
|           |         |              |                 | AV       | 2368.250   | -46.4        | ≤-41.20     | 48.80           | ≤54            | PASS    |
|           |         |              |                 | AV       | 2390.000   | -47.17       | ≤-41.20     | 48.03           | ≤54            | PASS    |
|           |         |              |                 | Peak     | 2310.000   | -39.55       | ≤-21.20     | 55.65           | ≤74            | PASS    |
|           |         |              |                 | Peak     | 2345.675   | -36.7        | ≤-21.20     | 58.50           | ≤74            | PASS    |
|           |         |              |                 | Peak     | 2390.000   | -40.7        | ≤-21.20     | 54.50           | ≤74            | PASS    |
|           |         | High         | 2480            | AV       | 2483.500   | -46.94       | ≤-41.20     | 48.26           | ≤54            | PASS    |
|           |         |              |                 | AV       | 2497.840   | -46.4        | ≤-41.20     | 48.80           | ≤54            | PASS    |
|           |         |              |                 | AV       | 2500.000   | -47.7        | ≤-41.20     | 47.50           | ≤54            | PASS    |
|           |         |              |                 | Peak     | 2483.500   | -39.58       | ≤-21.20     | 55.62           | ≤74            | PASS    |
|           |         |              |                 | Peak     | 2498.720   | -36.54       | ≤-21.20     | 58.66           | ≤74            | PASS    |
|           |         |              |                 | Peak     | 2500.000   | -40.26       | ≤-21.20     | 54.94           | ≤74            | PASS    |

Note:

1. The Antenna Gain is compensated in the graph. The Correction Factor 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



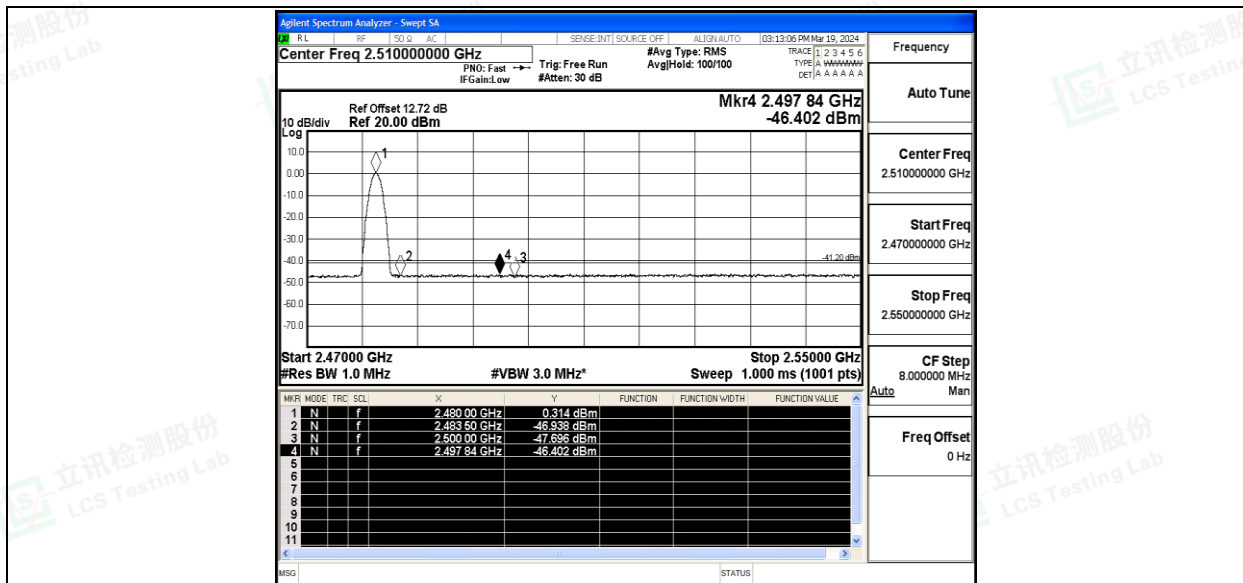
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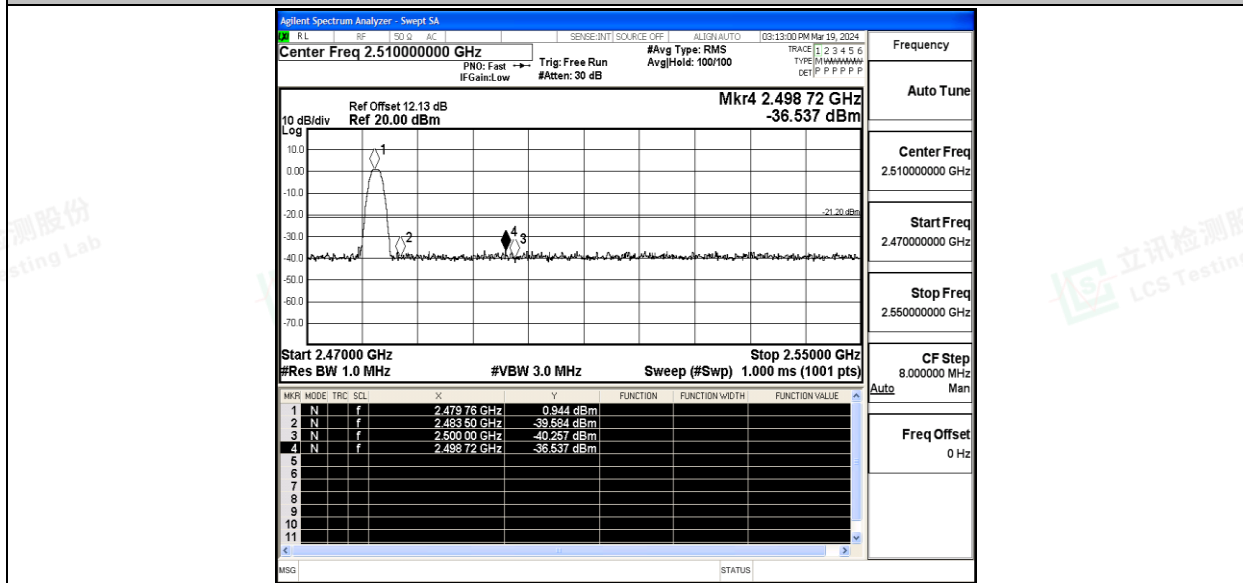
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## BLE\_Ant\_High\_2480\_Peak



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