



## Appendix B

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

Product Name: megaphone

Test Model: PR-0118

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.9° C   |
| Relative Humidity: | 52.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Ling Zhu  |
| Supervised by:     | Li Huan   |





## B.1 DTS Bandwidth

### Test Result

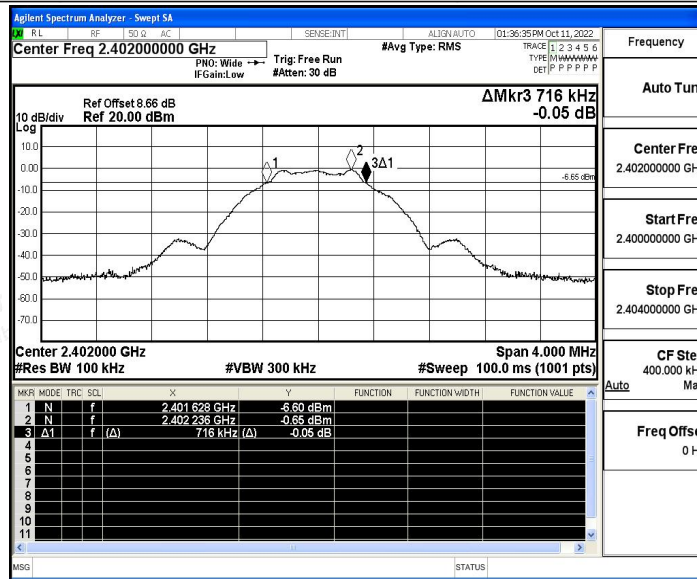
| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.716        | 2401.628 | 2402.344 | 0.5        | PASS    |
|          |         | 2440    | 0.712        | 2439.628 | 2440.340 | 0.5        | PASS    |
|          |         | 2480    | 0.712        | 2479.628 | 2480.340 | 0.5        | PASS    |



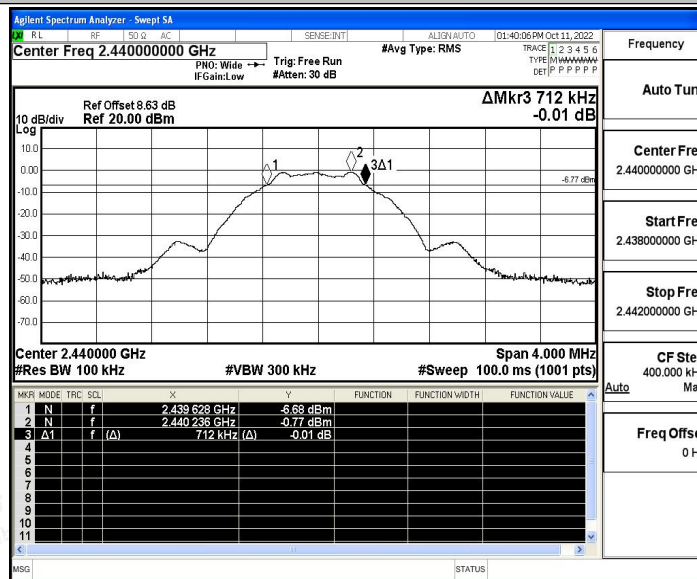


## Test Graphs

BLE\_1M\_Ant1\_2402

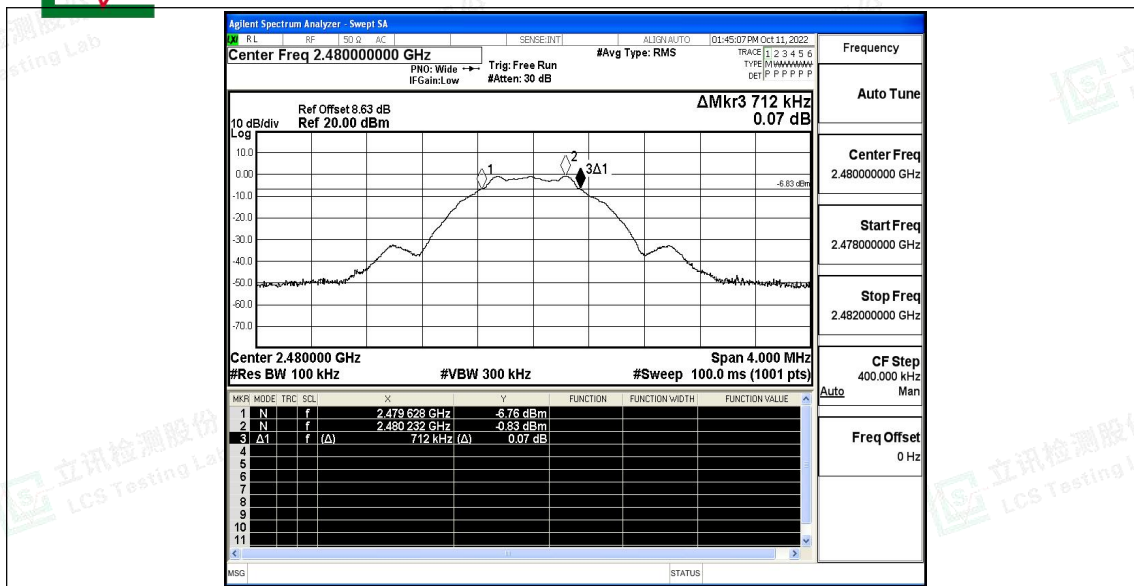


BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







## B.2 Maximum conducted output power

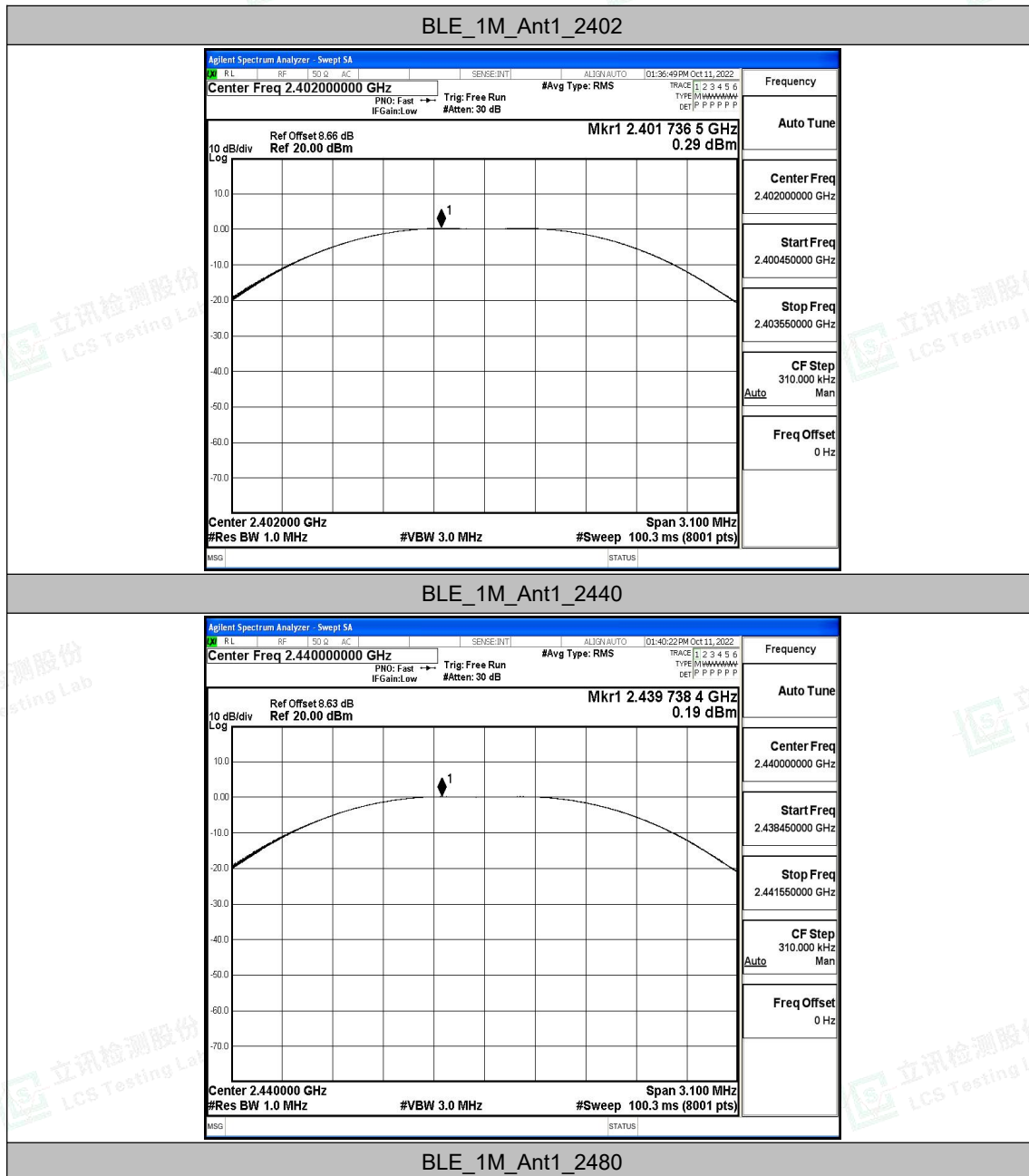
### Test Result

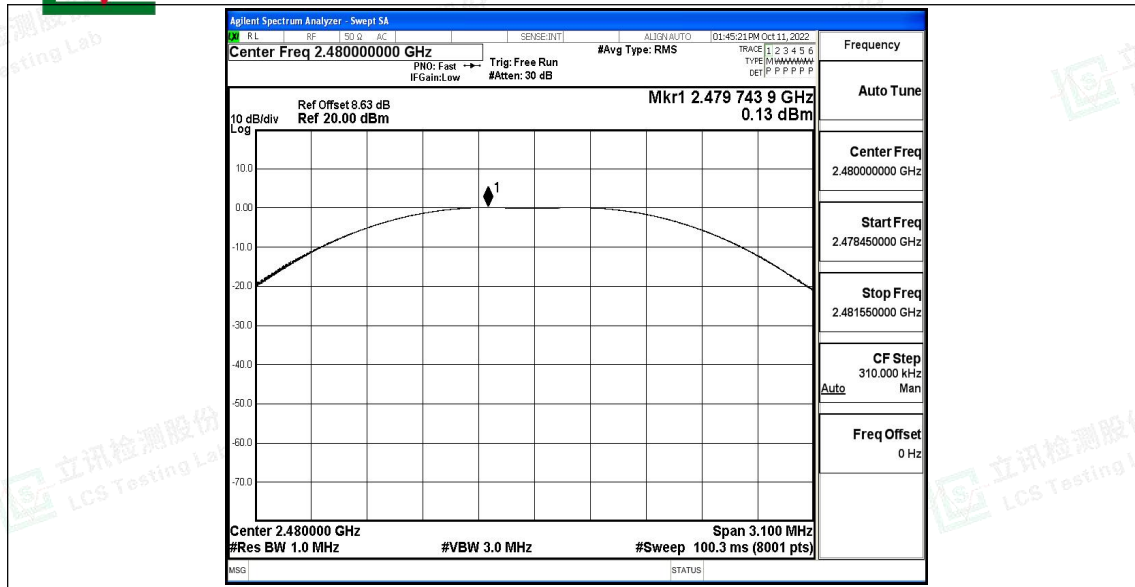
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.29        | ≤30        | PASS    |
|          |         | 2440    | 0.19        | ≤30        | PASS    |
|          |         | 2480    | 0.13        | ≤30        | PASS    |





## Test Graphs







## B.3 Maximum power spectral density

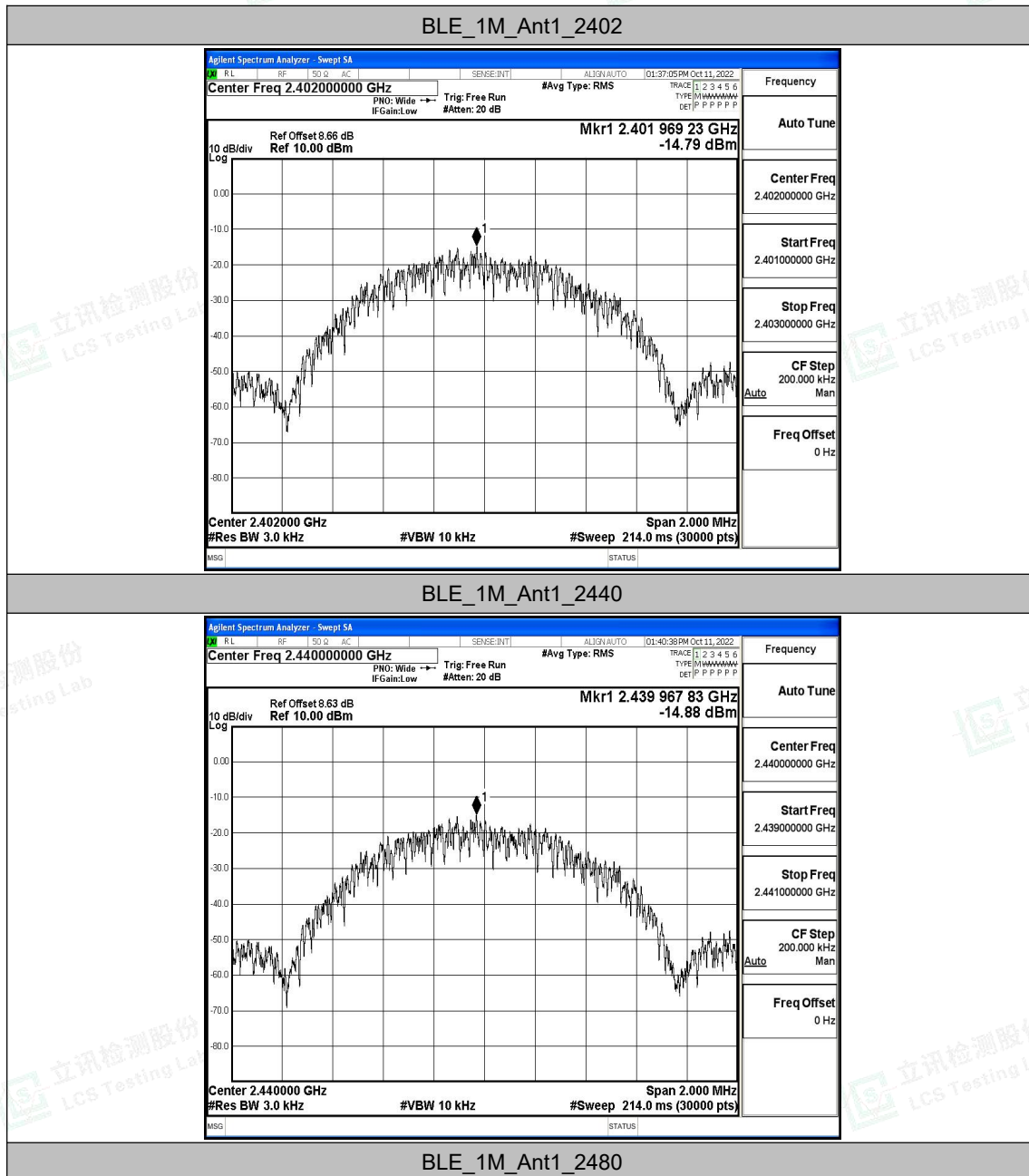
### Test Result

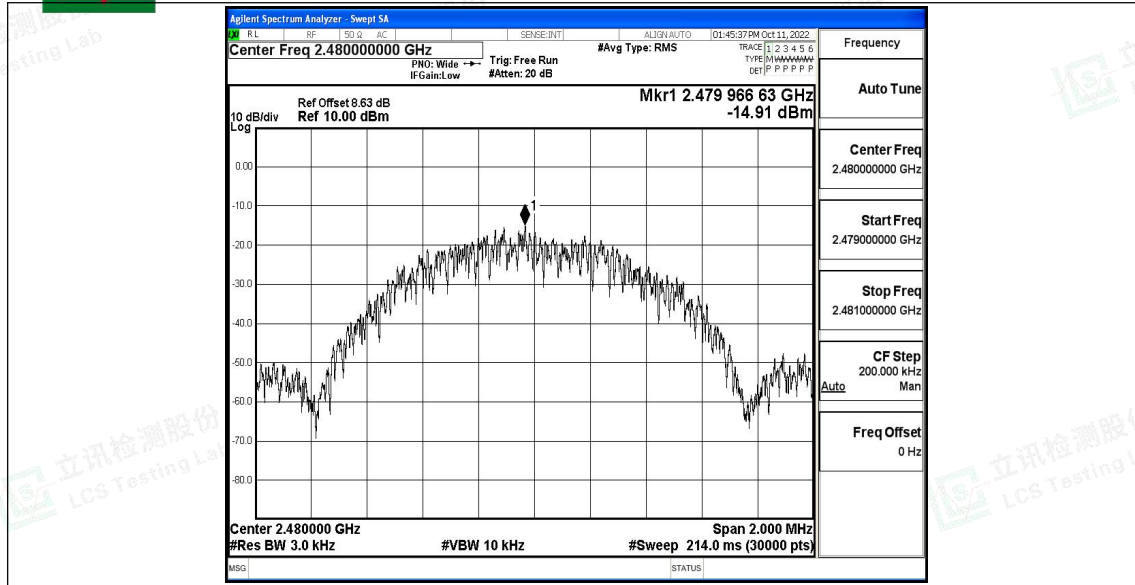
| TestMode | Antenna | Channel | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402    | -14.79           | ≤8.00           | PASS    |
|          |         | 2440    | -14.88           | ≤8.00           | PASS    |
|          |         | 2480    | -14.91           | ≤8.00           | PASS    |





## Test Graphs







## B.4 Band edge measurements

### Test Result

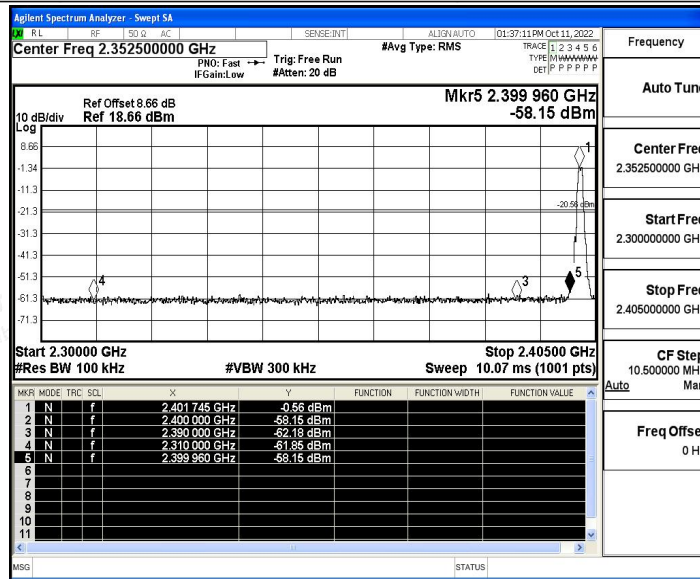
| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|--------|---------|---------------|-------------|------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | -0.56         | -58.15      | ≤-20.56    | PASS    |
|          |         | High   | 2480    | -0.93         | -57.12      | ≤-20.93    | PASS    |



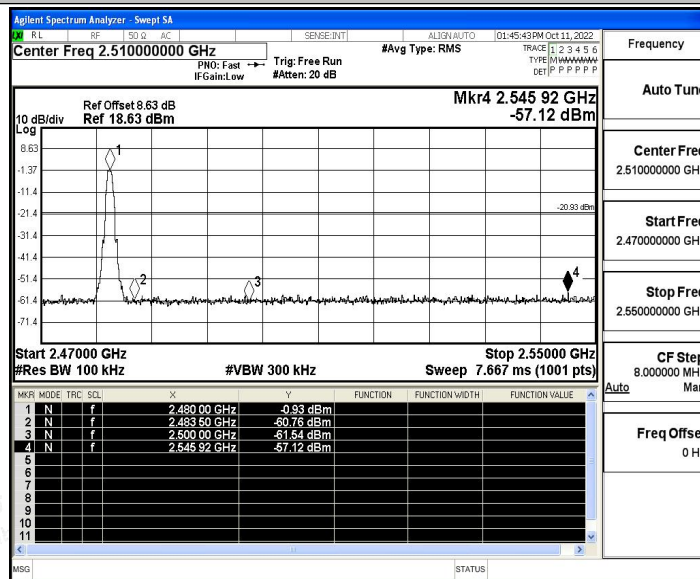


## Test Graphs

BLE\_1M\_Ant1\_Low\_2402



BLE\_1M\_Ant1\_High\_2480



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## B.5 Conducted Spurious Emission

### Test Result

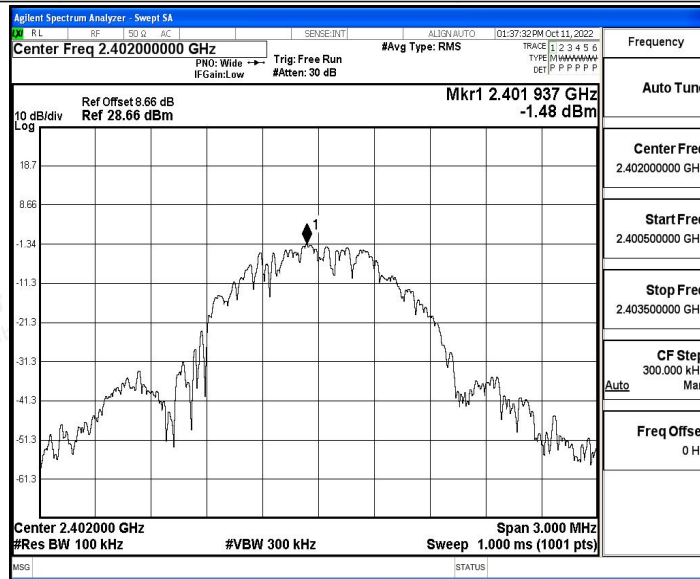
| TestMode | Antenna | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|--------------------|-------------------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | Reference          | -1.48             | -1.48       | ---        | PASS    |
|          |         |         | 30~1000            | -1.48             | -60.22      | ≤-21.48    | PASS    |
|          |         |         | 1000~26500         | -1.48             | -46.03      | ≤-21.48    | PASS    |
|          |         | 2440    | Reference          | -1.45             | -1.45       | ---        | PASS    |
|          |         |         | 30~1000            | -1.45             | -60.33      | ≤-21.45    | PASS    |
|          |         |         | 1000~26500         | -1.45             | -46         | ≤-21.45    | PASS    |
|          |         | 2480    | Reference          | -1.02             | -1.02       | ---        | PASS    |
|          |         |         | 30~1000            | -1.02             | -60.63      | ≤-21.02    | PASS    |
|          |         |         | 1000~26500         | -1.02             | -45.61      | ≤-21.02    | PASS    |



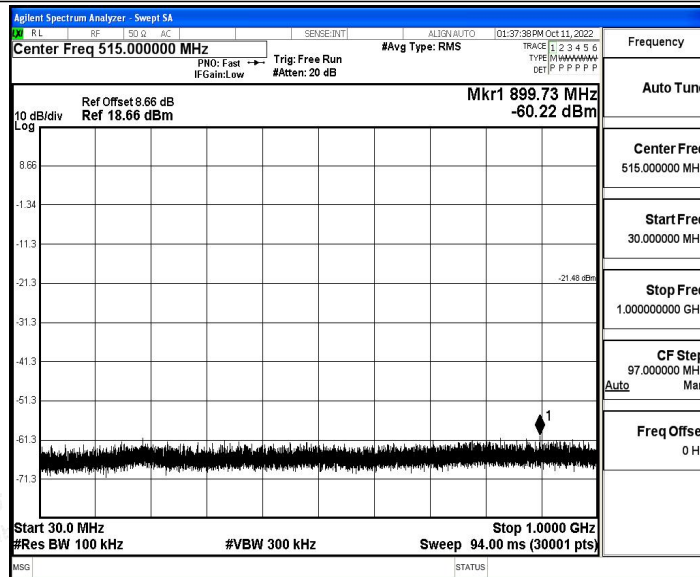


## Test Graphs

BLE\_1M\_Ant1\_2402\_0~Reference

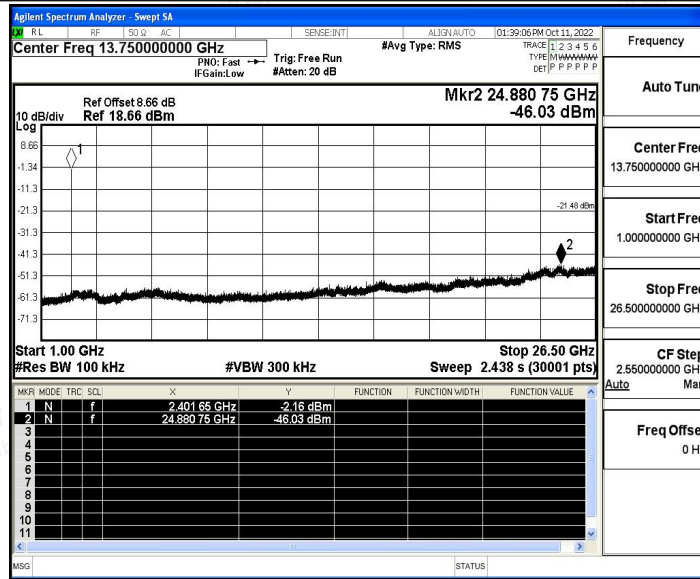


BLE\_1M\_Ant1\_2402\_30~1000

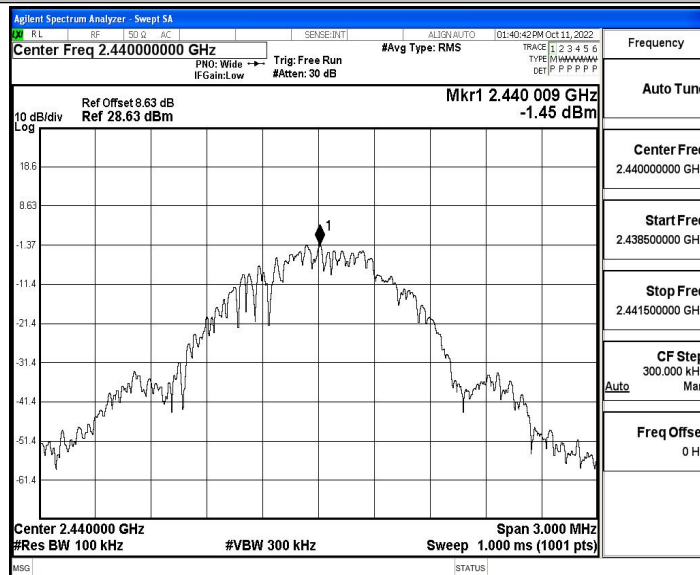


BLE\_1M\_Ant1\_2402\_1000~26500





BLE\_1M\_Ant1\_2440\_0~Reference



BLE\_1M\_Ant1\_2440\_30~1000

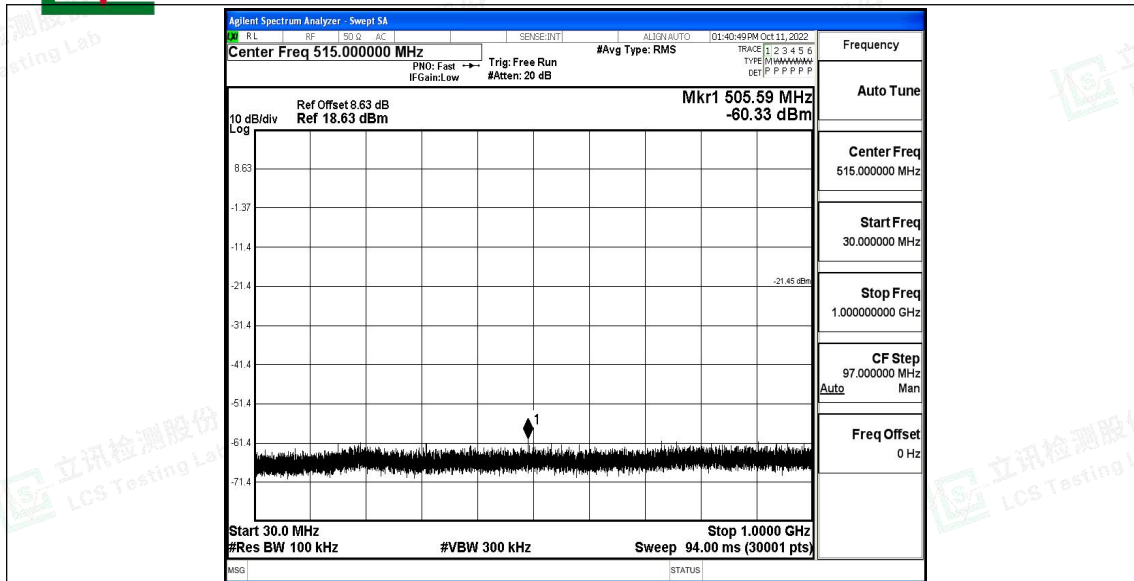


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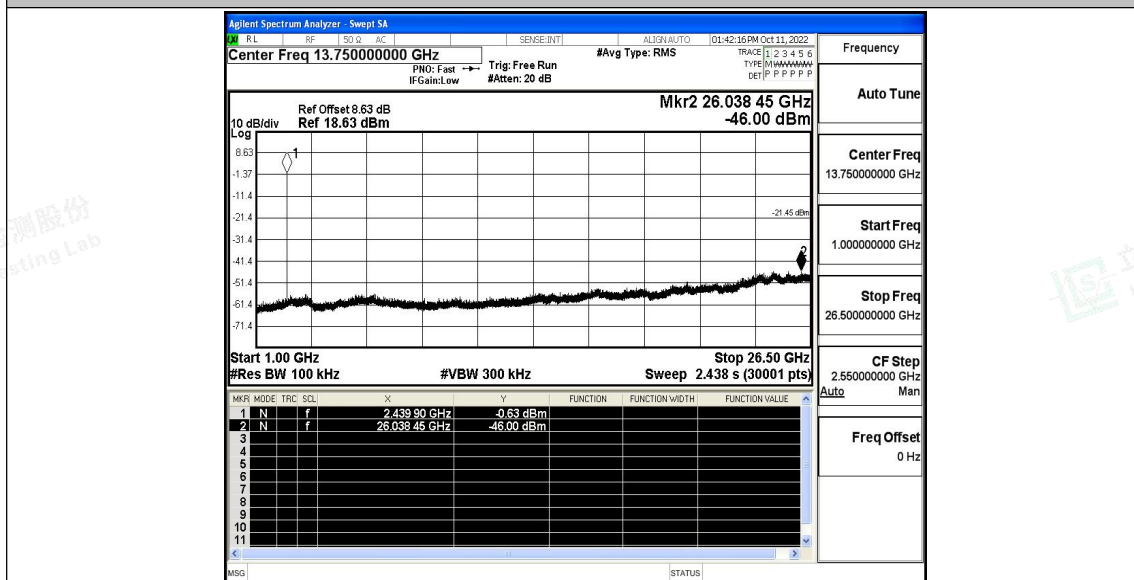
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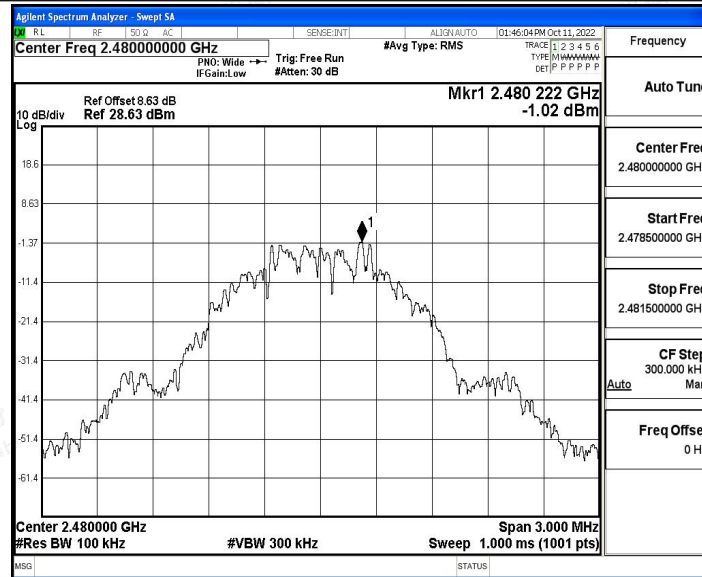


BLE\_1M\_Ant1\_2440\_1000~26500

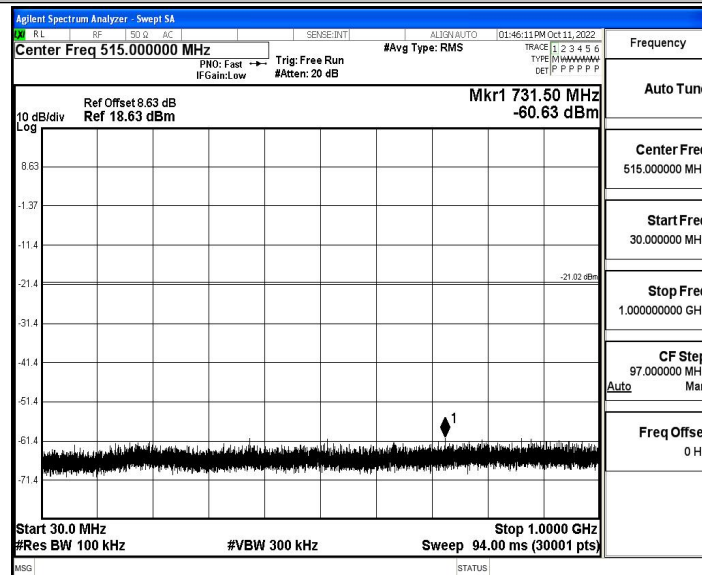


BLE\_1M\_Ant1\_2480\_0~Reference



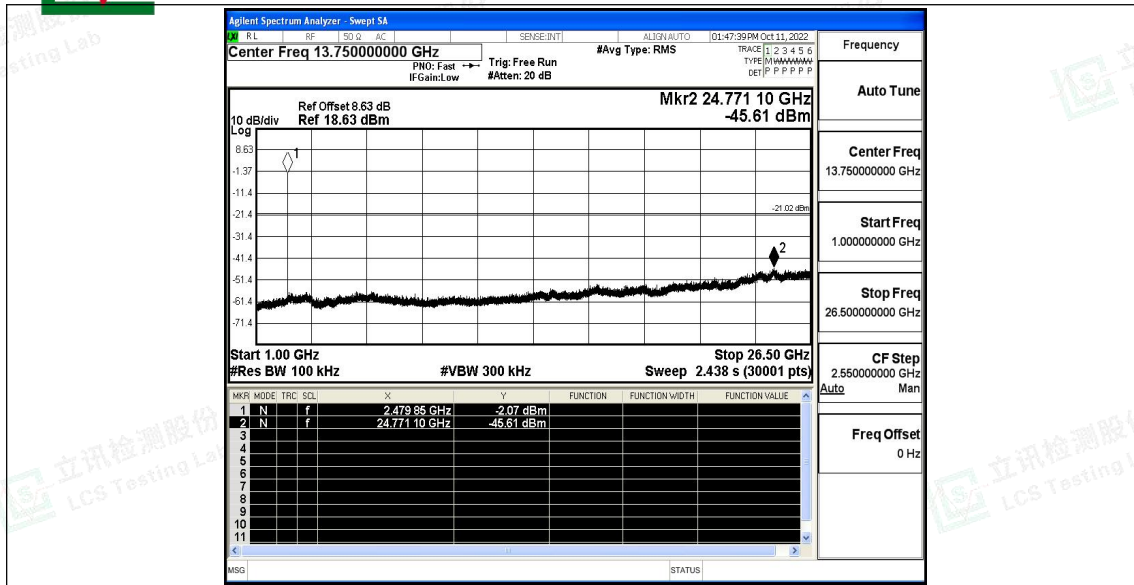


BLE\_1M\_Ant1\_2480\_30~1000



BLE\_1M\_Ant1\_2480\_1000~26500







## B.6 Duty Cycle

### Test Result

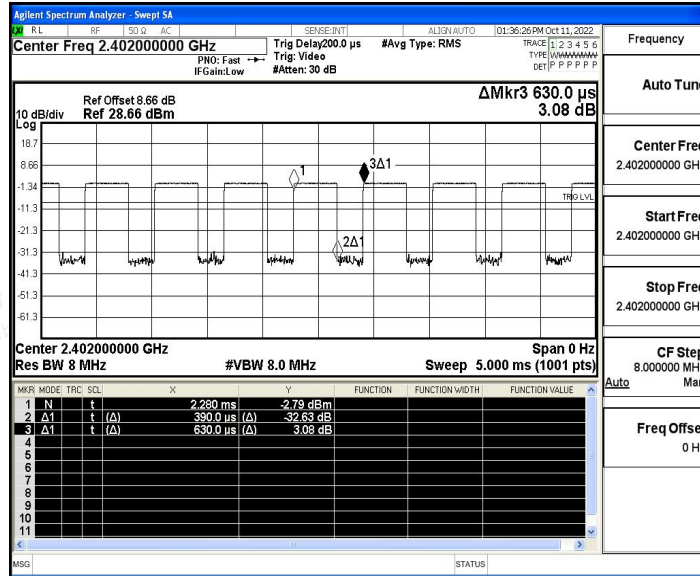
| TestMode | Antenna | Channel | ON Time<br>[ms] | Period<br>[ms] | X      | DC<br>[%] | xFactor | 1/T  | Limit | Verdict |
|----------|---------|---------|-----------------|----------------|--------|-----------|---------|------|-------|---------|
| BLE_1M   | Ant1    | 2402    | 0.39            | 0.63           | 0.6190 | 61.90     | 2.08    | 2.56 | ---   | ---     |
|          |         | 2440    | 0.38            | 0.62           | 0.6129 | 61.29     | 2.13    | 2.63 | ---   | ---     |
|          |         | 2480    | 0.39            | 0.63           | 0.6190 | 61.90     | 2.08    | 2.56 | ---   | ---     |



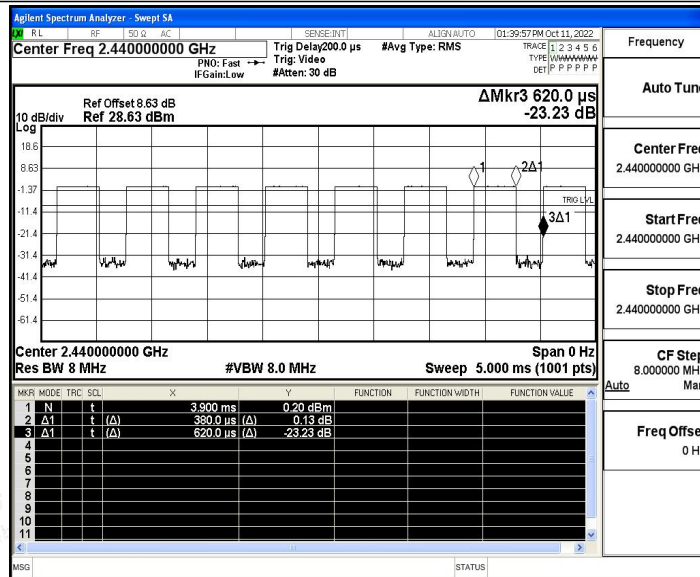


## Test Graphs

BLE\_1M\_Ant1\_2402

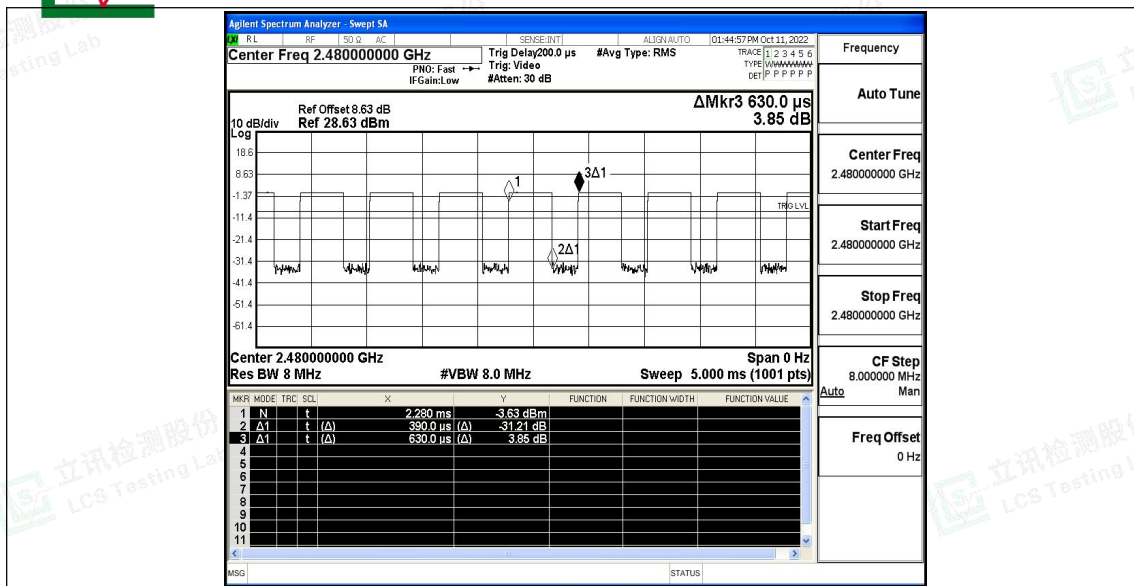


BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480







## 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       | -57.26          | ≤-41.20        | 37.94              | ≤54               | PASS    |
|          |         |        |         | AV       | 2364.050       | -56.56          | ≤-41.20        | 38.64              | ≤54               | PASS    |
|          |         |        |         | AV       | 2390.000       | -56.87          | ≤-41.20        | 38.33              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2310.000       | -50.14          | ≤-21.20        | 45.06              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2389.460       | -47.92          | ≤-21.20        | 47.28              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2390.000       | -50.38          | ≤-21.20        | 44.82              | ≤74               | PASS    |
|          |         | High   | 2480    | AV       | 2483.500       | -53.51          | ≤-41.20        | 41.69              | ≤54               | PASS    |
|          |         |        |         | AV       | 2483.520       | -53.51          | ≤-41.20        | 41.69              | ≤54               | PASS    |
|          |         |        |         | AV       | 2500.000       | -56.61          | ≤-41.20        | 38.59              | ≤54               | PASS    |
|          |         |        |         | Peak     | 2483.500       | -49.52          | ≤-21.20        | 45.68              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2494.400       | -47.61          | ≤-21.20        | 47.59              | ≤74               | PASS    |
|          |         |        |         | Peak     | 2500.000       | -49.26          | ≤-21.20        | 45.94              | ≤74               | PASS    |

#### Note:

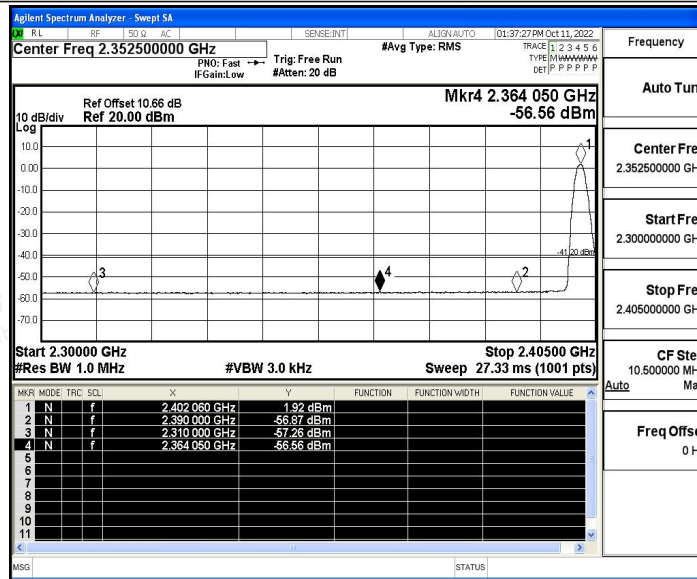
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



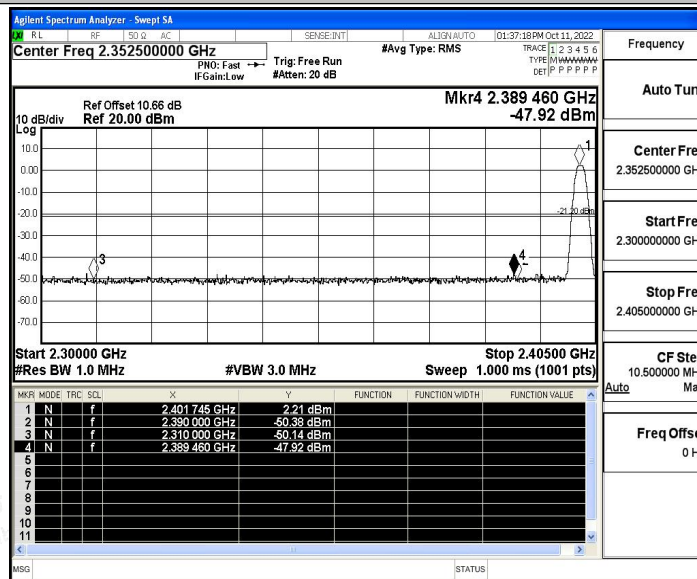


## Test Graphs

BLE\_1M\_Ant1\_Low\_2402\_AV



BLE\_1M\_Ant1\_Low\_2402\_Peak



BLE\_1M\_Ant1\_High\_2480\_AV



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