# Appendix Test Data for BLE (Conducted Measurement)

**Product Name: TGAone Air conduction Bluetooth headset**

**Trade Mark: N/A**

**Test Model: TGAone**

**FCC ID: 2BF9J-TGAONE**

# Environmental Conditions

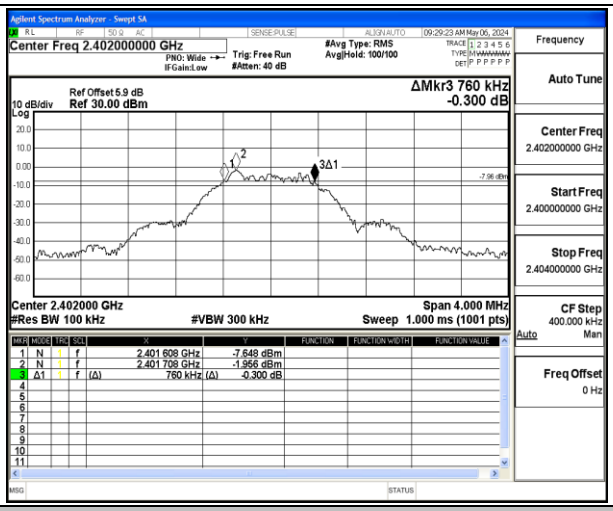
| | |
|---|---|
| Temperature: | 22.8° C |
| Relative Humidity: | 56% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Allen Lai |
| Supervised by: | Hugo Chen |
| NOTE | N/A |

## Appendix A: DTS Bandwidth

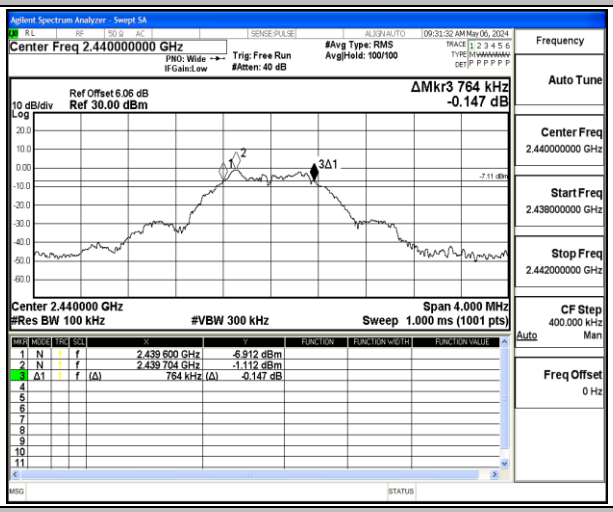
### Test Result

| TestMode | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | 0.760 | 2401.608 | 2402.368 | 0.5 | PASS |
| BLE_1M | Ant1 | 2440 | 0.764 | 2439.600 | 2440.364 | 0.5 | PASS |
| BLE_1M | Ant1 | 2480 | 0.764 | 2479.600 | 2480.364 | 0.5 | PASS |

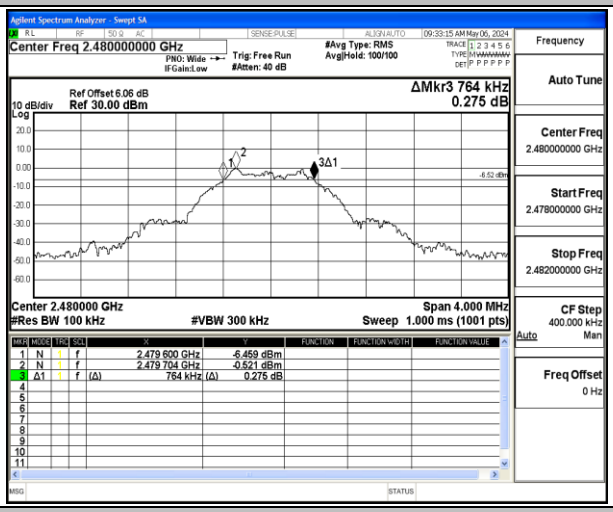
## Test Graphs




BLE_1M-Ant1-2402-PASS




BLE_1M-Ant1-2440-PASS



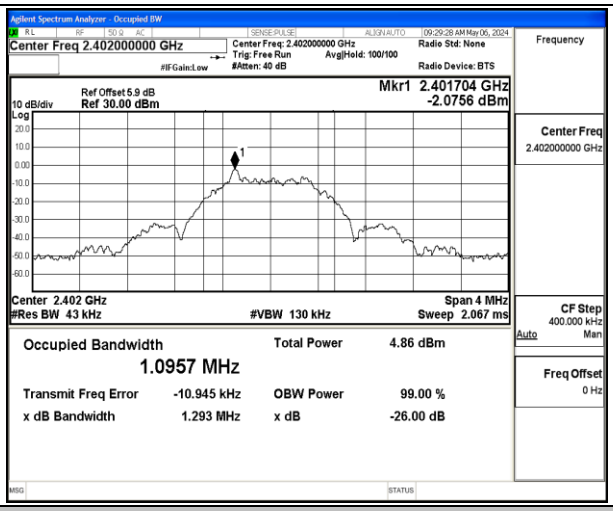

BLE_1M-Ant1-2480-PASS

# Appendix B: Occupied Channel Bandwidth

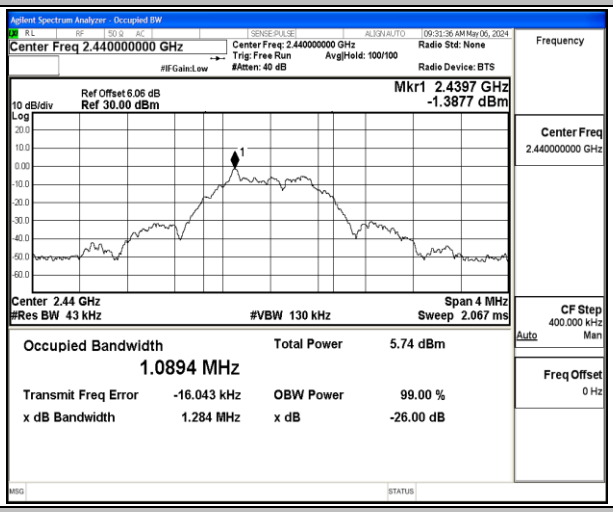
## Test Result

| TestMode | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | 1.0957 | 2401.4412 | 2402.5369 | --- | --- |
| BLE_1M | Ant1 | 2440 | 1.0894 | 2439.4393 | 2440.5287 | --- | --- |
| BLE_1M | Ant1 | 2480 | 1.0866 | 2479.4403 | 2480.5269 | --- | --- |

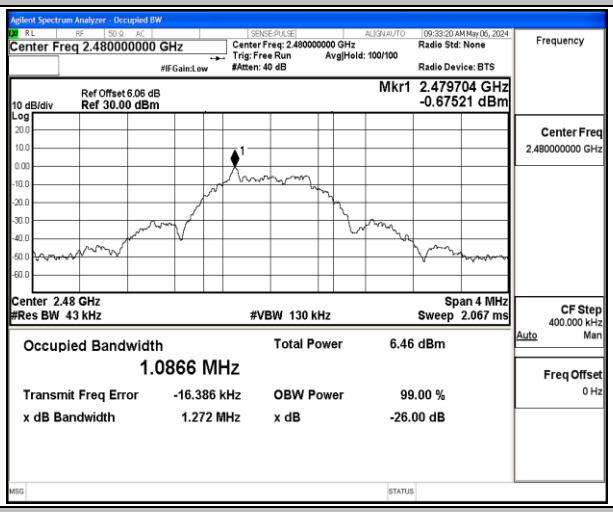
## Test Graphs




BLE_1M-Ant1-2402




BLE_1M-Ant1-2440



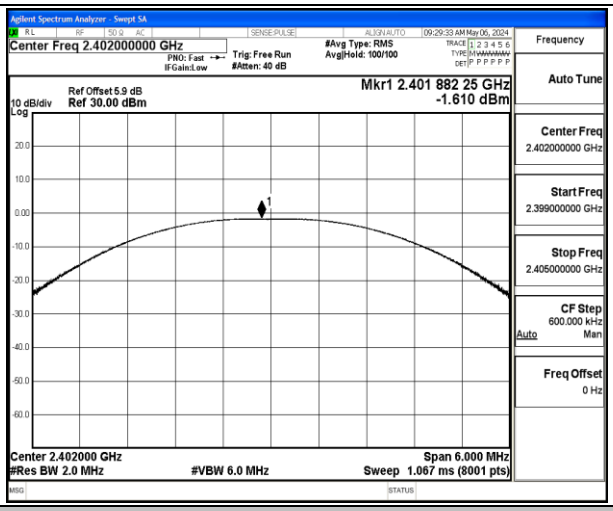

BLE_1M-Ant1-2480

# Appendix C: Maximum peak conducted output power

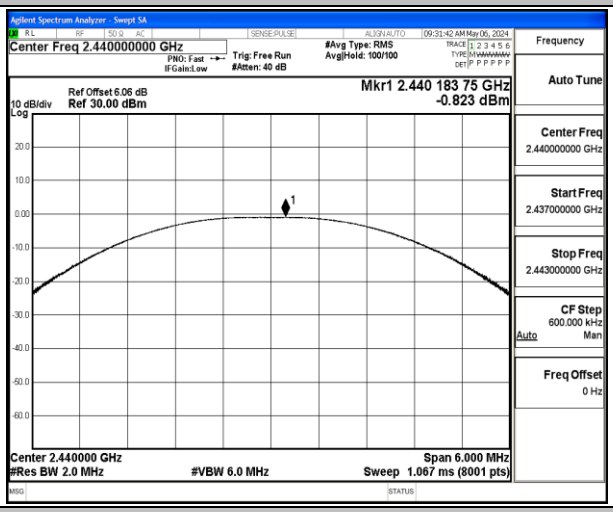
## Test Result Peak

| TestMode | Antenna | Frequency[MHz] | Conducted Peak Powert[dBm] | Conducted Limit[dBm] | Verdict |
|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | -1.61 | ≤30 | PASS |
| BLE_1M | Ant1 | 2440 | -0.82 | ≤30 | PASS |
| BLE_1M | Ant1 | 2480 | -0.15 | ≤30 | PASS |

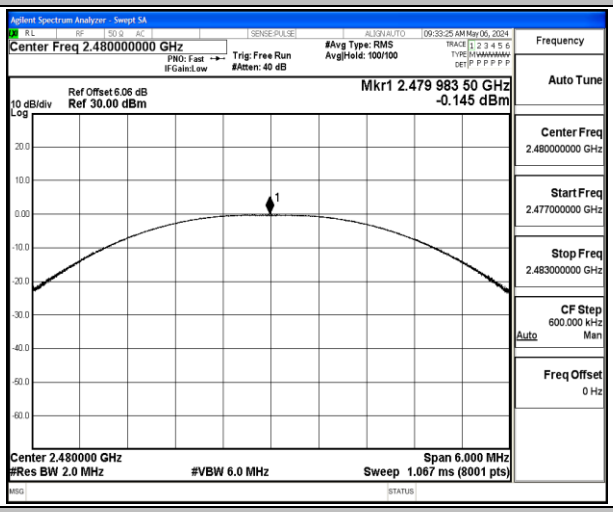
## Test Graphs Peak




BLE_1M-Ant1-2402-PASS




BLE_1M-Ant1-2440-PASS



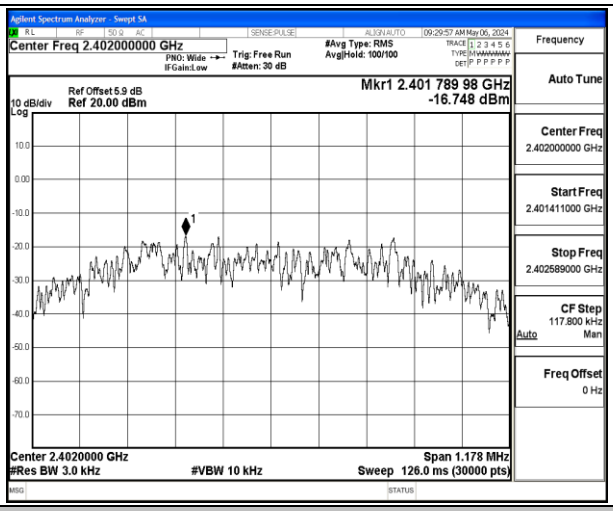

BLE_1M-Ant1-2480-PASS

# Appendix D: Maximum peak power spectral density

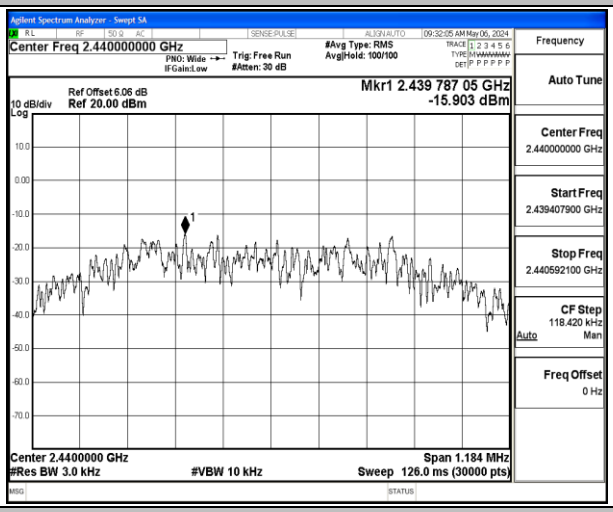
## Test Result

| TestMode | Antenna | Frequency[MHz] | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | -16.75 | ≤8.00 | PASS |
| BLE_1M | Ant1 | 2440 | -15.90 | ≤8.00 | PASS |
| BLE_1M | Ant1 | 2480 | -15.34 | ≤8.00 | PASS |

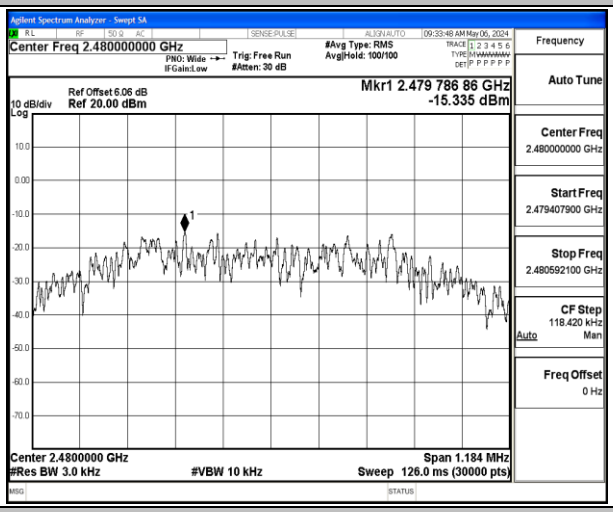
## Test Graphs




BLE_1M-Ant1-2402-PASS




BLE_1M-Ant1-2440-PASS



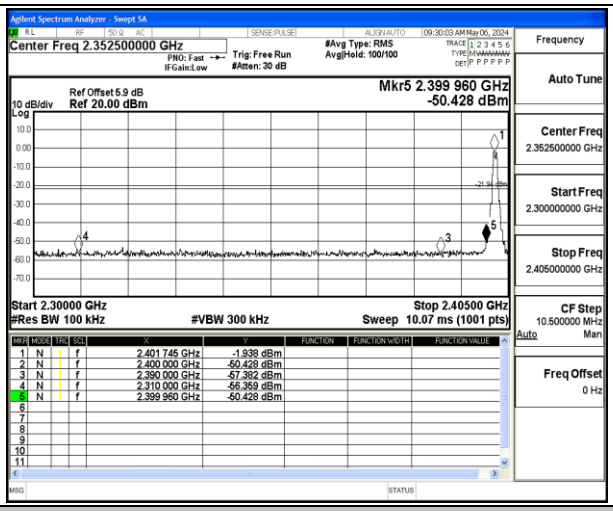

BLE_1M-Ant1-2480-PASS

# Appendix E: Band edge measurements

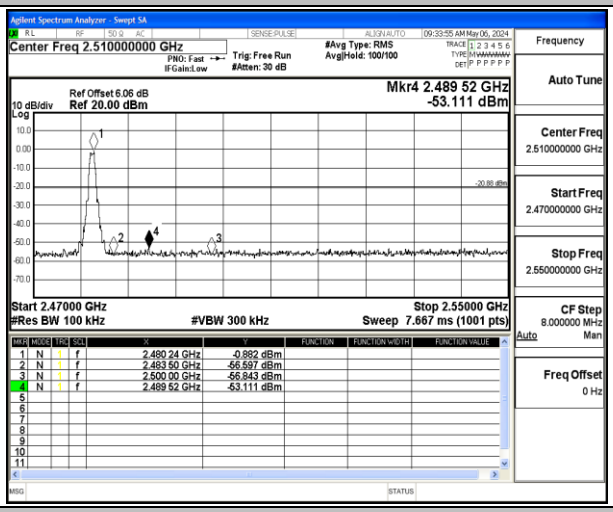
## Test Result

| TestMode | Antenna | ChName | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | Low | 2402 | -1.94 | -50.43 | ≤-21.94 | PASS |
| BLE_1M | Ant1 | High | 2480 | -0.88 | -53.11 | ≤-20.88 | PASS |

## Test Graphs




BLE_1M-Ant1-2402-PASS



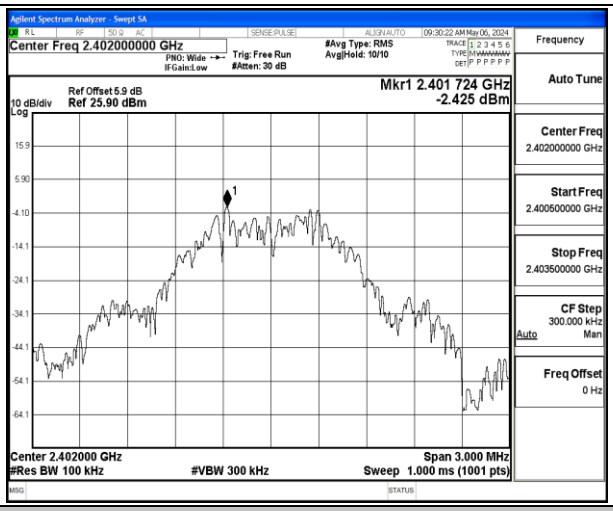

BLE_1M-Ant1-2480-PASS

# Appendix F: Conducted Spurious Emission

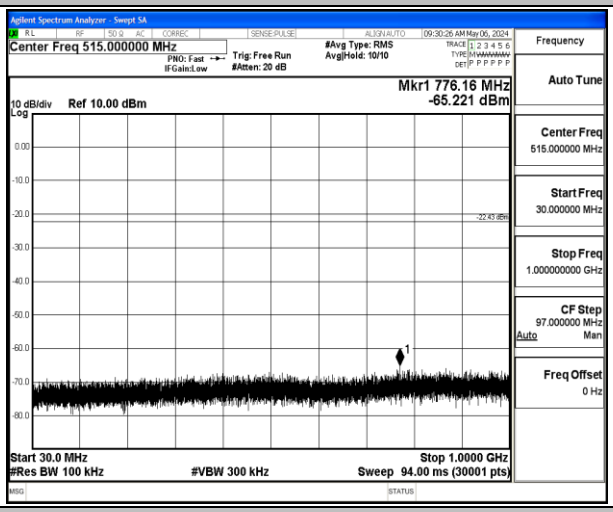
## Test Result

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | 0~Reference | -2.43 | -2.43 | --- | PASS |
| BLE_1M | Ant1 | 2402 | 30~1000 | -2.43 | -65.22 | ≤-22.43 | PASS |
| BLE_1M | Ant1 | 2402 | 1000~26500 | -2.43 | -53.17 | ≤-22.43 | PASS |
| BLE_1M | Ant1 | 2440 | 0~Reference | -1.59 | -1.59 | --- | PASS |
| BLE_1M | Ant1 | 2440 | 30~1000 | -1.59 | -65.79 | ≤-21.59 | PASS |
| BLE_1M | Ant1 | 2440 | 1000~26500 | -1.59 | -52.68 | ≤-21.59 | PASS |
| BLE_1M | Ant1 | 2480 | 0~Reference | -1.48 | -1.48 | --- | PASS |
| BLE_1M | Ant1 | 2480 | 30~1000 | -1.48 | -65.59 | ≤-21.48 | PASS |
| BLE_1M | Ant1 | 2480 | 1000~26500 | -1.48 | -53.59 | ≤-21.48 | PASS |

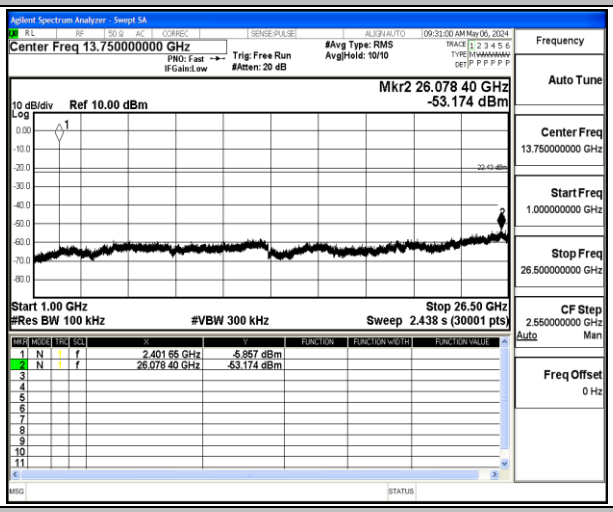
## Test Graphs



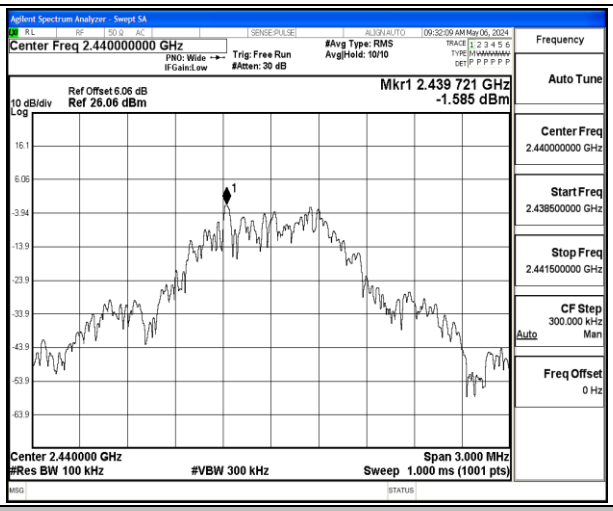

BLE_1M-Ant1-2402-0~Reference-PASS



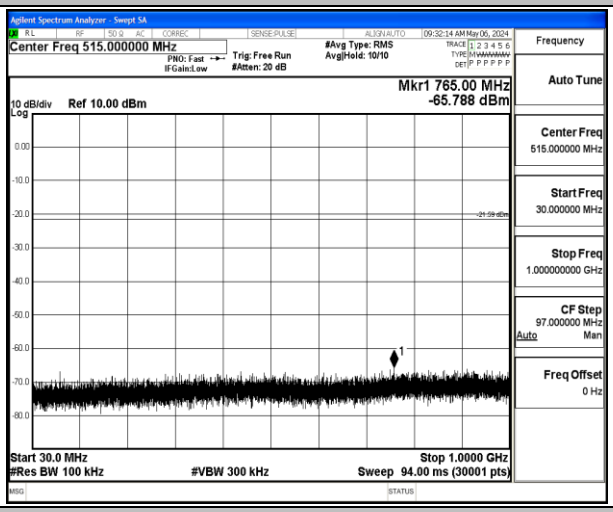

BLE_1M-Ant1-2402-30~1000-PASS



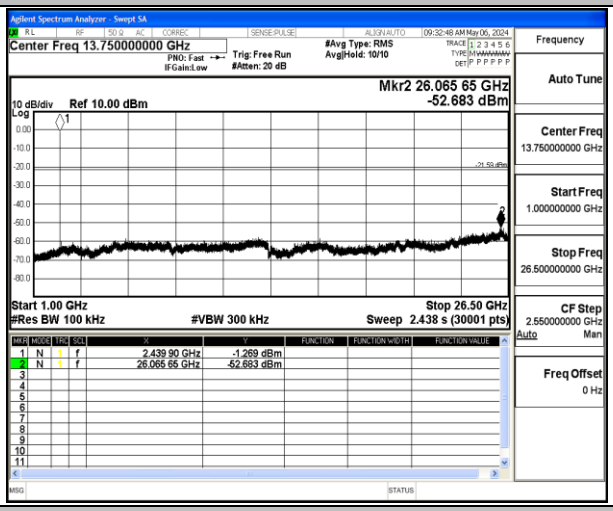

BLE_1M-Ant1-2402-1000~26500-PASS



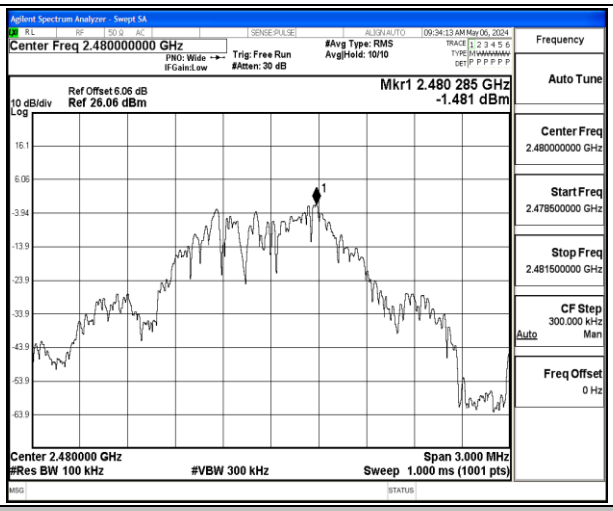

BLE_1M-Ant1-2440-0~Reference-PASS



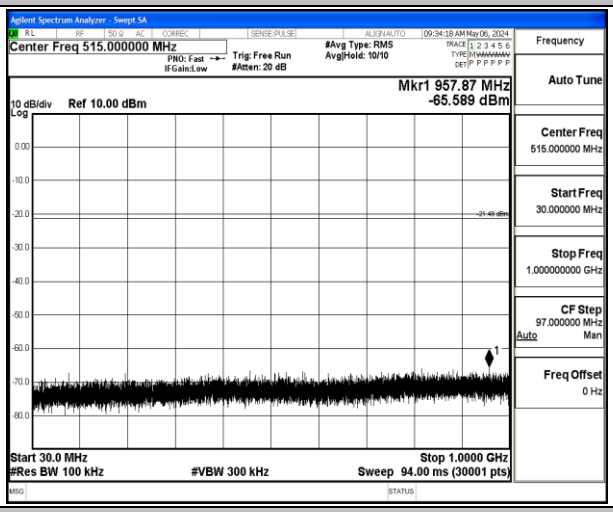

BLE_1M-Ant1-2440-30~1000-PASS



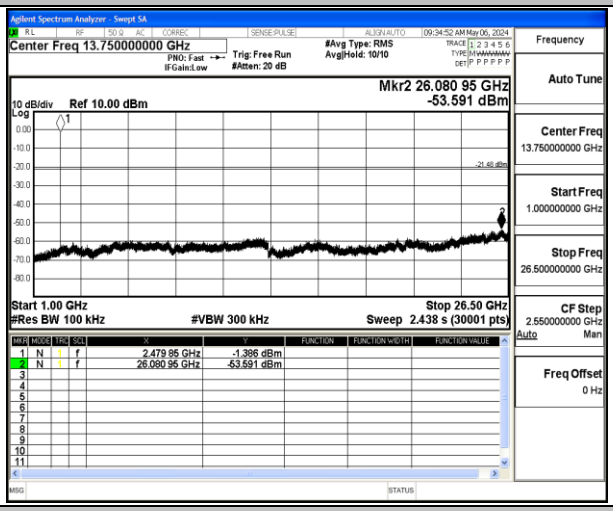

BLE_1M-Ant1-2440-1000~26500-PASS




BLE_1M-Ant1-2480-0~Reference-PASS




BLE_1M-Ant1-2480-30~1000-PASS



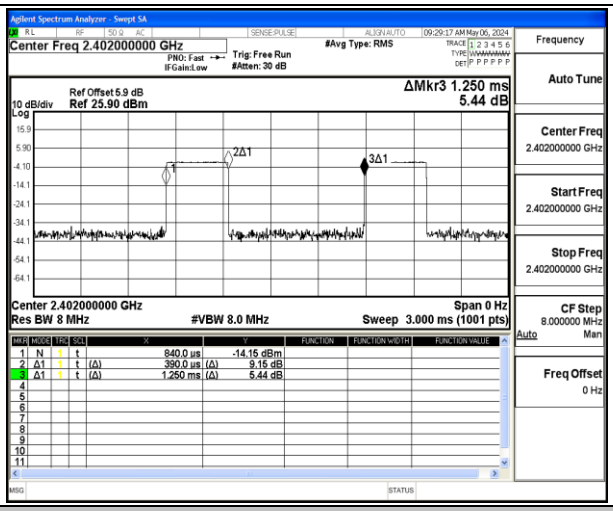

BLE_1M-Ant1-2480-1000~26500-PASS

# Appendix G: Duty Cycle

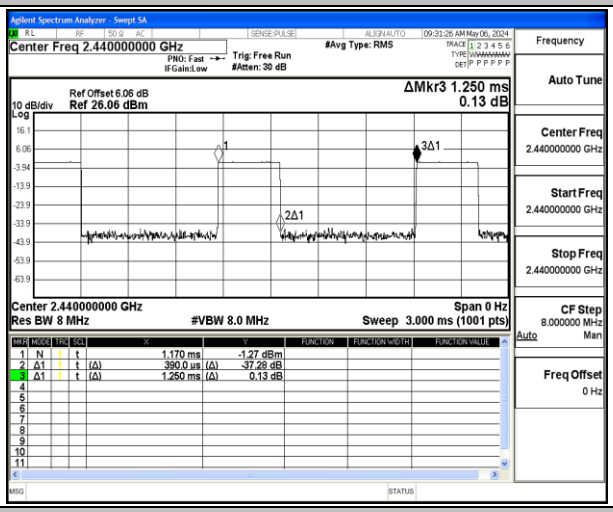
## Test Result

| TestMode | Antenna | Frequency[MHz] | ON Time [ms] | Period [ms] | Duty Cycle [%] | Duty Cycle Factor[dB] |
|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | 0.39 | 1.25 | 31.20 | 5.06 |
| BLE_1M | Ant1 | 2440 | 0.39 | 1.25 | 31.20 | 5.06 |
| BLE_1M | Ant1 | 2480 | 0.39 | 1.26 | 30.95 | 5.09 |

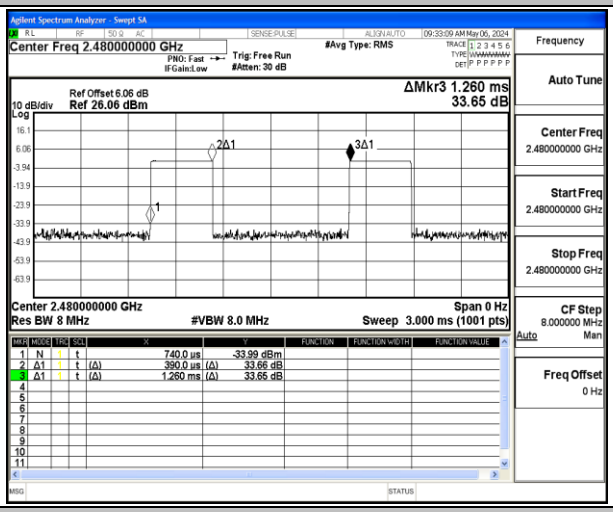
## Test Graphs




NTNV-BLE_1M-Ant1-2402




NTNV-BLE_1M-Ant1-2440




NTNV-BLE_1M-Ant1-2480

# Appendix H: Emissions in Restricted Bands

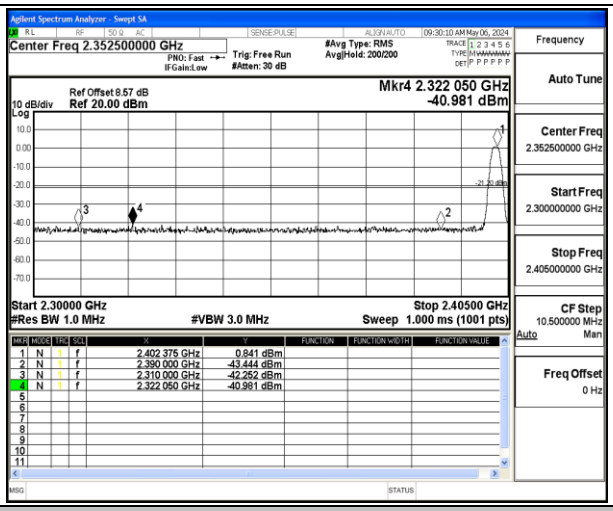
## Test Result

| TestMode | Antenna | ChName | Frequency[MHz] | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | Low | 2402 | Peak | 2390.000 | -43.44 | ≤-21.20 | 51.76 | ≤74 | PASS |
| BLE_1M | Ant1 | Low | 2402 | Peak | 2310.000 | -42.25 | ≤-21.20 | 52.95 | ≤74 | PASS |
| BLE_1M | Ant1 | Low | 2402 | Peak | 2322.050 | -40.98 | ≤-21.20 | 54.22 | ≤74 | PASS |
| BLE_1M | Ant1 | Low | 2402 | AV | 2390.000 | -47.12 | ≤-41.20 | 48.08 | ≤54 | PASS |
| BLE_1M | Ant1 | Low | 2402 | AV | 2310.000 | -48.45 | ≤-41.20 | 46.75 | ≤54 | PASS |
| BLE_1M | Ant1 | Low | 2402 | AV | 2386.730 | -46.74 | ≤-41.20 | 48.46 | ≤54 | PASS |
| BLE_1M | Ant1 | High | 2480 | Peak | 2483.500 | -42.77 | ≤-21.20 | 52.43 | ≤74 | PASS |
| BLE_1M | Ant1 | High | 2480 | Peak | 2500.000 | -42.44 | ≤-21.20 | 52.76 | ≤74 | PASS |
| BLE_1M | Ant1 | High | 2480 | Peak | 2499.520 | -40.91 | ≤-21.20 | 54.29 | ≤74 | PASS |
| BLE_1M | Ant1 | High | 2480 | AV | 2483.500 | -46.32 | ≤-41.20 | 48.88 | ≤54 | PASS |
| BLE_1M | Ant1 | High | 2480 | AV | 2500.000 | -47.17 | ≤-41.20 | 48.03 | ≤54 | PASS |
| BLE_1M | Ant1 | High | 2480 | AV | 2498.080 | -45.81 | ≤-41.20 | 49.39 | ≤54 | PASS |

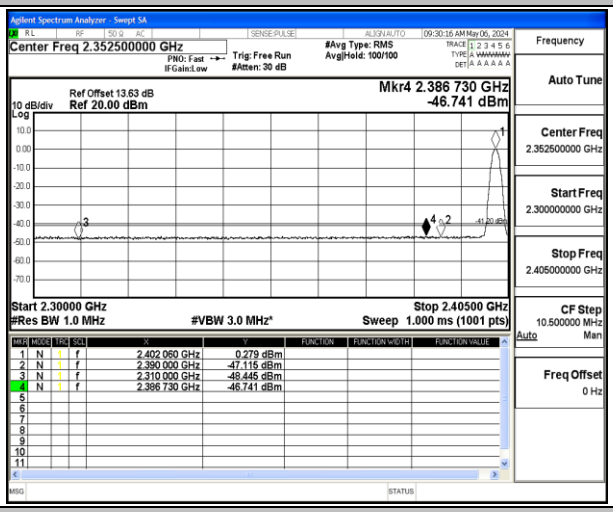
Note：

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.

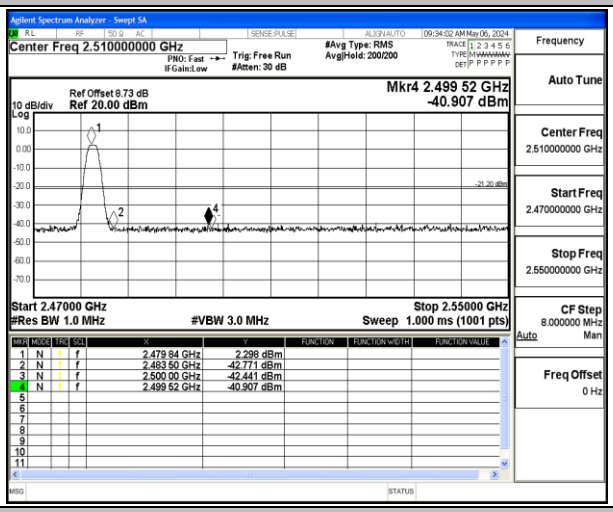
## Test Graphs



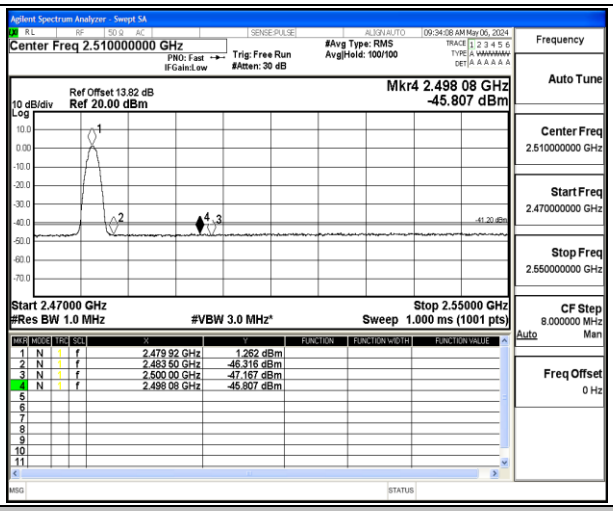

BLE_1M-Ant1-2402-PASS




BLE_1M-Ant1-2402-PASS




BLE_1M-Ant1-2480-PASS




BLE_1M-Ant1-2480-PASS