# Appendix B

| | |
|---|---|
| Report No.: | CISRR24082720002 |
| FCC ID: | 2BGWM-DUPODS-S200 |
| Product Name: | Xiaodu Smart open earphones |
| Model No.: | DuPods S200 |
| Test Engineer: | Lucas Huang |
| Supervised by: | Rory Huang |

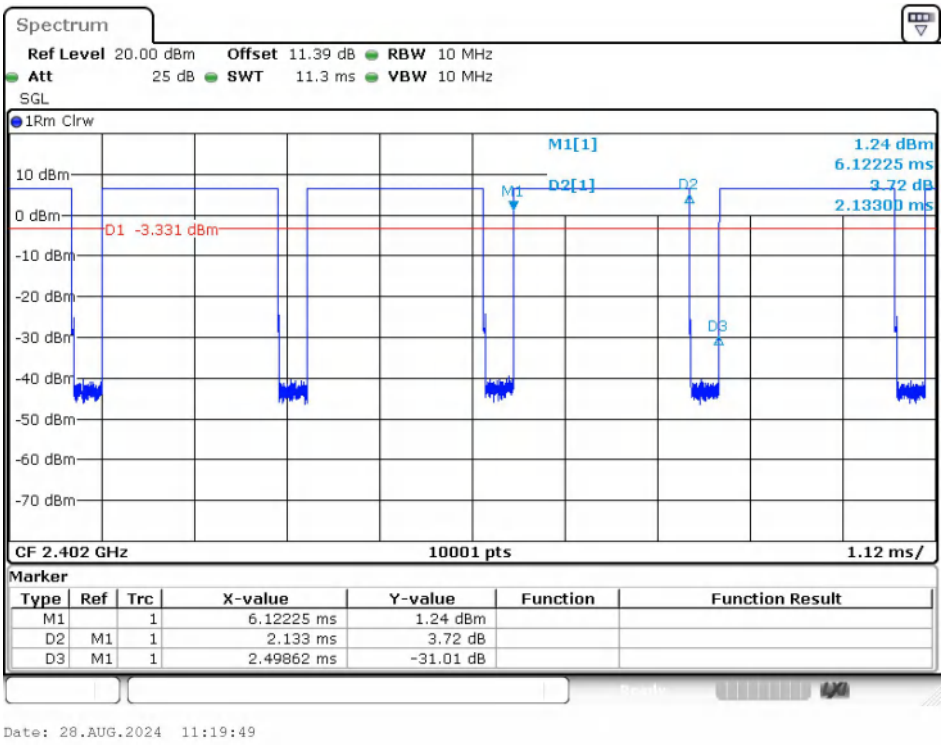
# 1) Duty Cycle

**Right:**

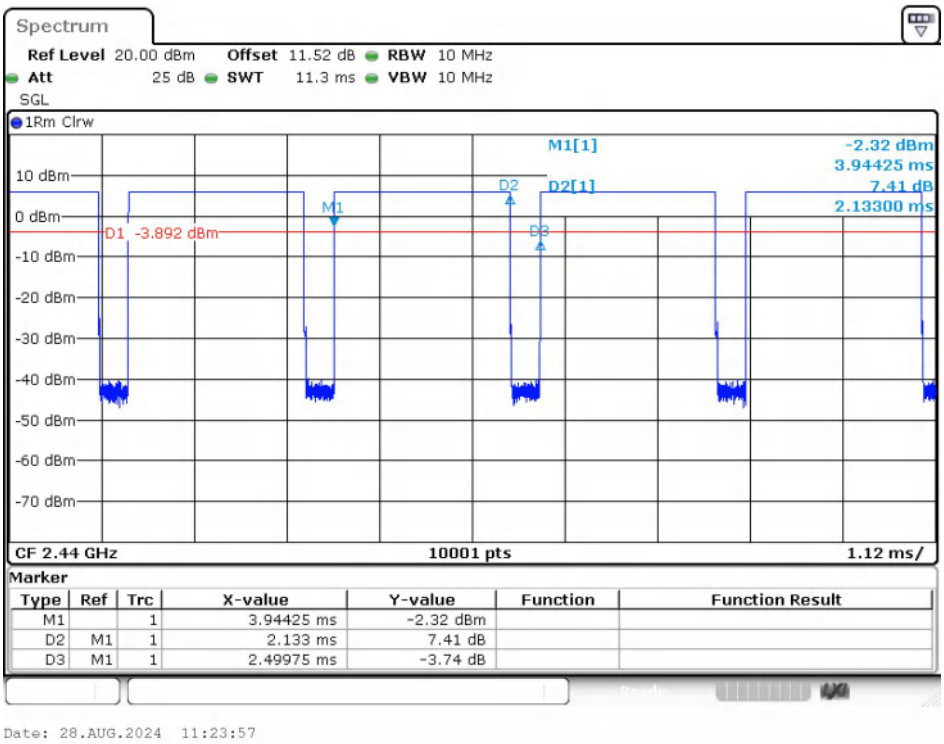
**Test Result**

| Mode | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T |
|---|---|---|---|---|---|---|---|
| BLE 1M | 0 | 2.133 | 2.499 | 85.37 | 0.8537 | 0.6869 | 0.47 |
| | 19 | 2.133 | 2.500 | 85.33 | 0.8533 | 0.689 | 0.47 |
| | 39 | 2.133 | 2.499 | 85.37 | 0.8537 | 0.6869 | 0.47 |
| BLE 2M | 0 | 1.081 | 2.500 | 43.25 | 0.4325 | 3.6401 | 0.93 |
| | 19 | 1.081 | 2.499 | 43.27 | 0.4327 | 3.6381 | 0.93 |
| | 39 | 1.081 | 2.499 | 43.27 | 0.4327 | 3.6381 | 0.93 |

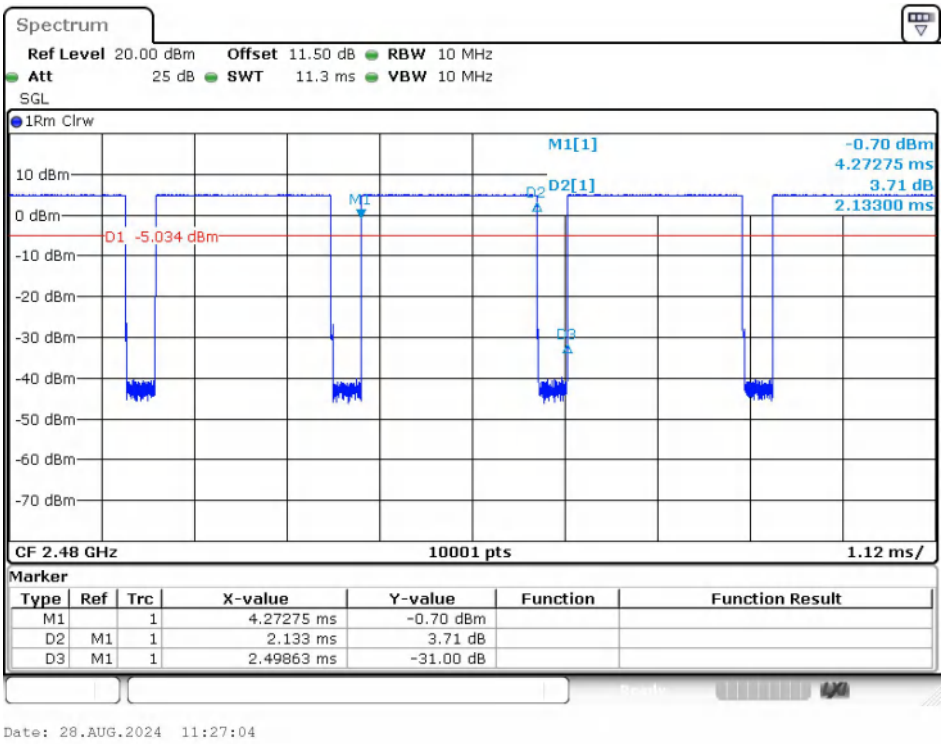
**Test Graphs**



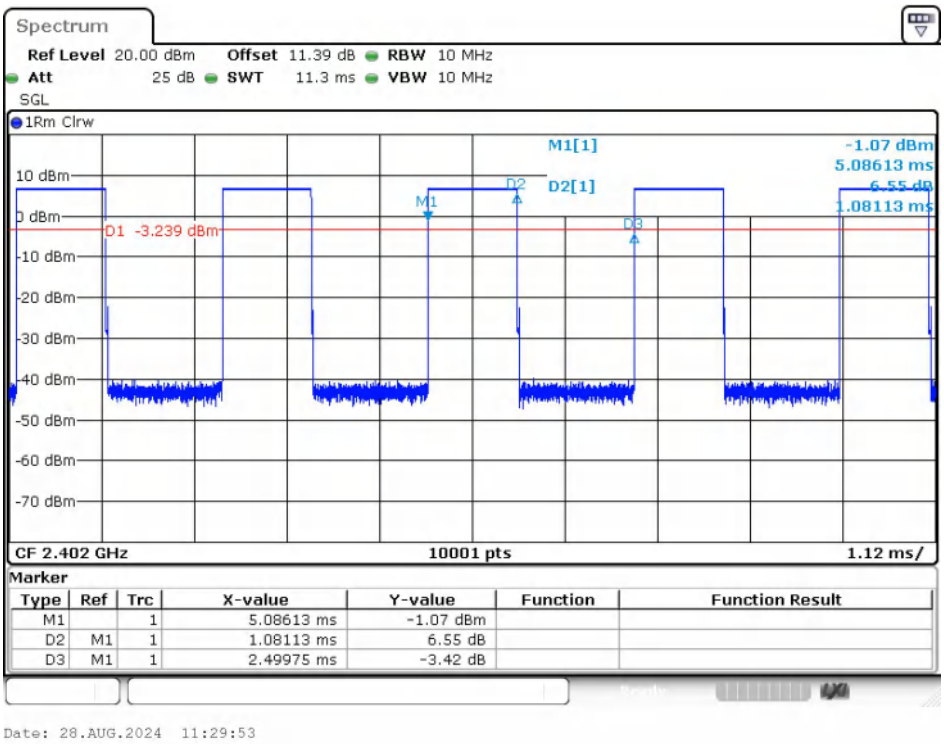

BLE 1M_Channel 0



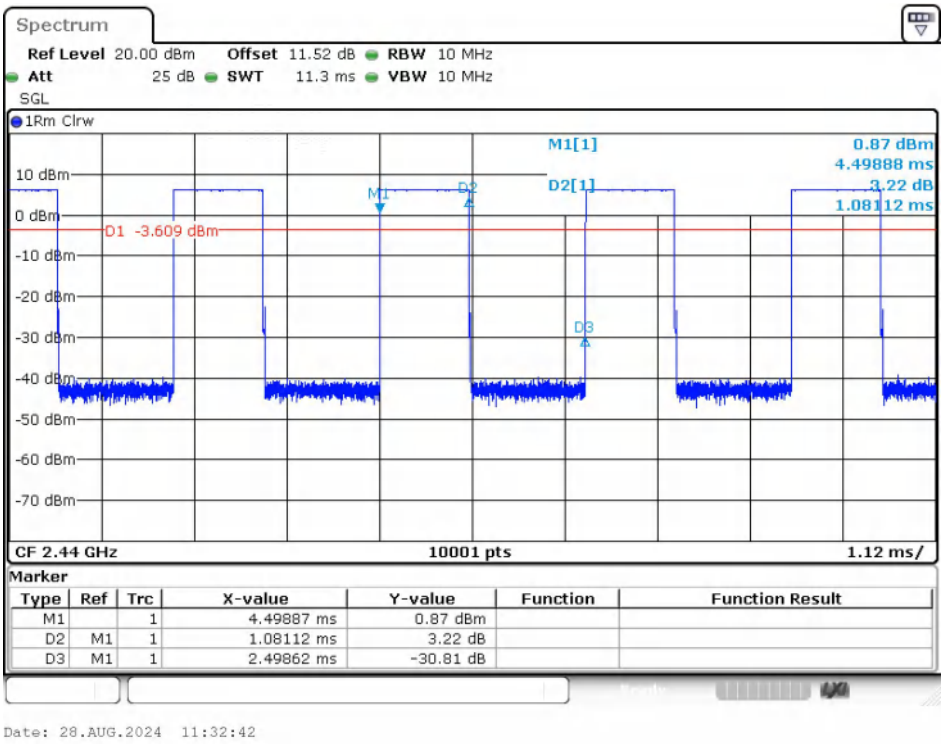

**BLE 1M_Channel 19**



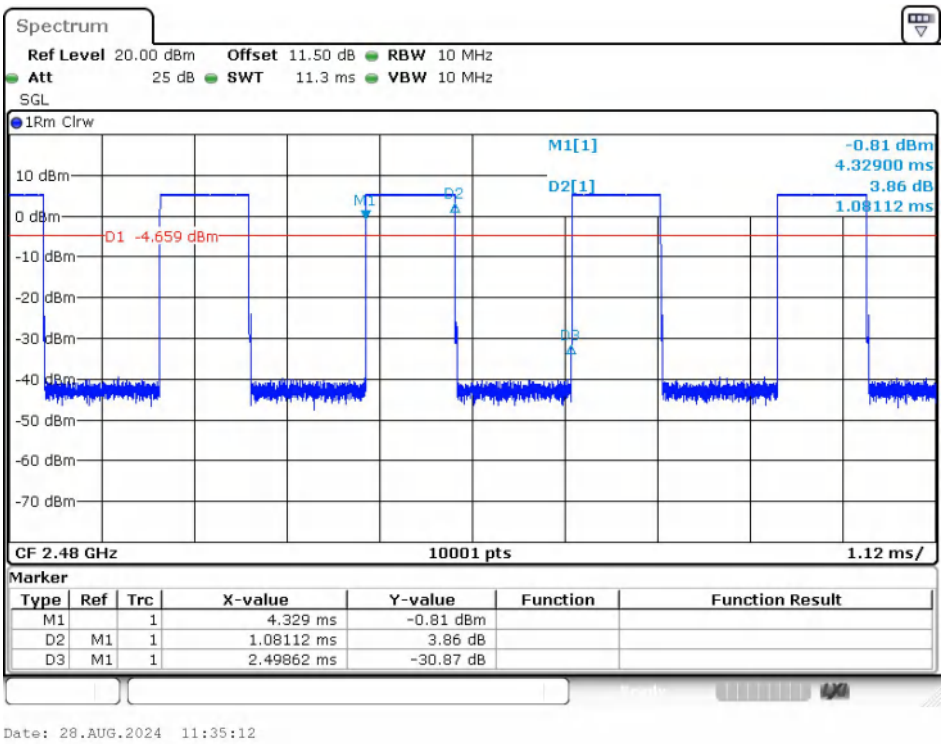

**BLE 1M_Channel 39**




**BLE 2M_Channel 0**




**BLE 2M_Channel 19**



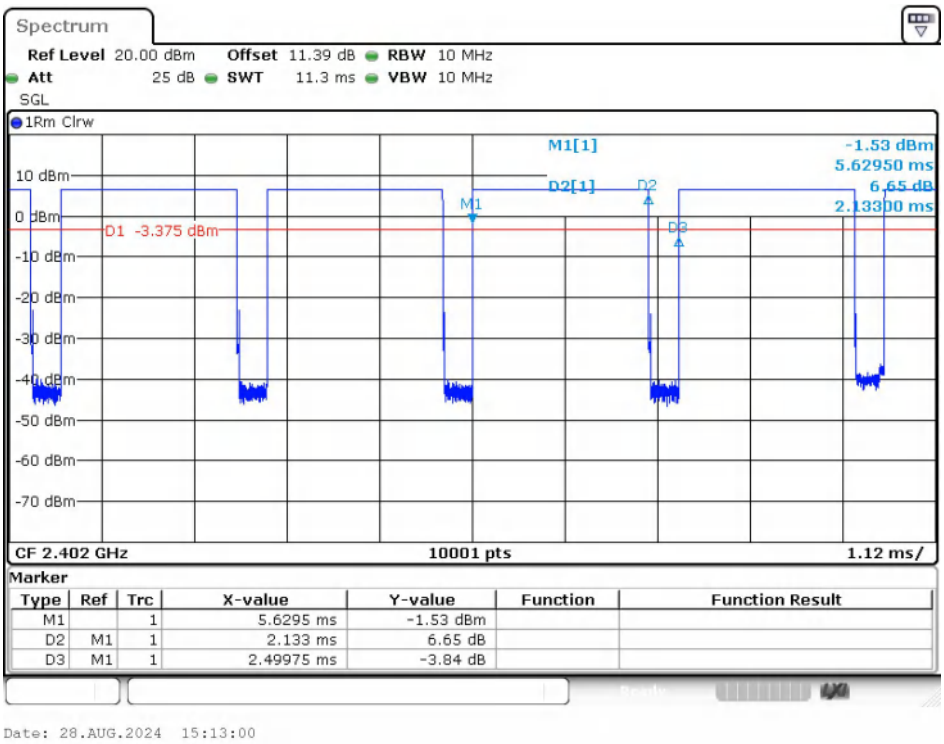

BLE 2M_Channel 39

**Left:**

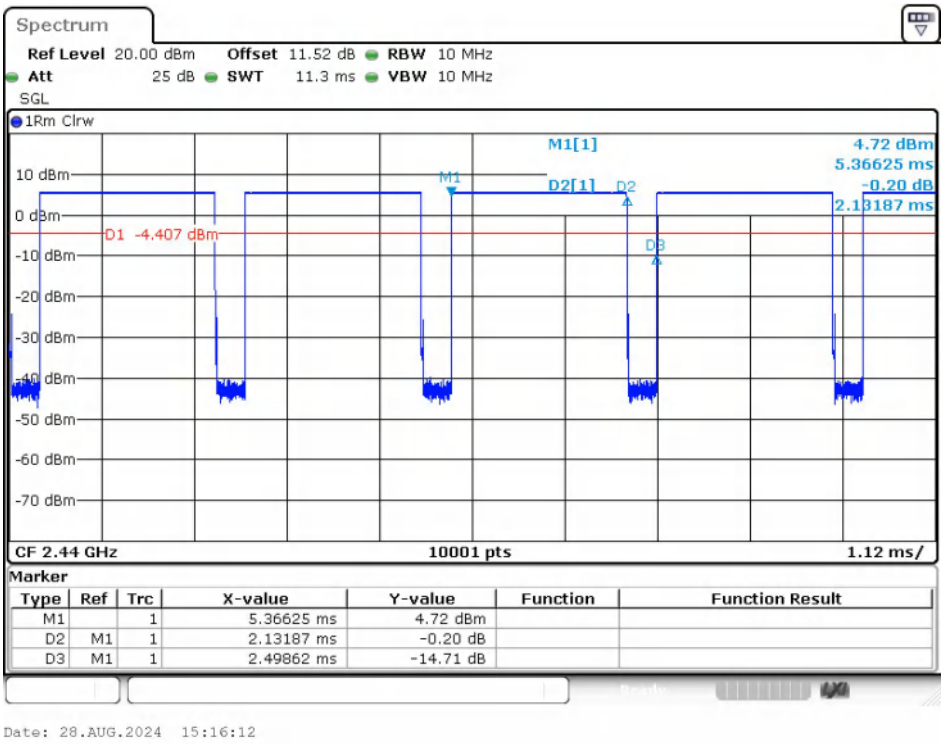
**Test Result**

| Mode | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T |
|---|---|---|---|---|---|---|---|
| BLE 1M | 0 | 2.133 | 2.500 | 85.33 | 0.8533 | 0.689 | 0.47 |
| | 19 | 2.132 | 2.499 | 85.32 | 0.8532 | 0.6895 | 0.47 |
| | 39 | 2.132 | 2.499 | 85.32 | 0.8532 | 0.6895 | 0.47 |
| BLE 2M | 0 | 1.081 | 2.499 | 43.27 | 0.4327 | 3.6381 | 0.93 |
| | 19 | 1.077 | 2.488 | 43.28 | 0.4328 | 3.6371 | 0.93 |
| | 39 | 1.080 | 2.499 | 43.22 | 0.4322 | 3.6432 | 0.93 |

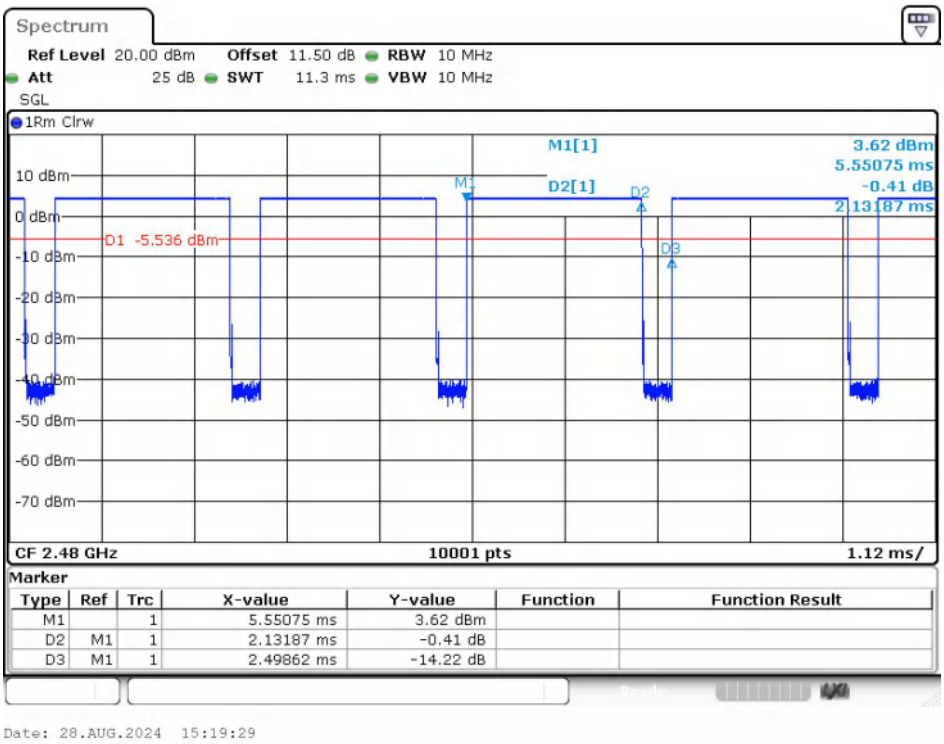
**Test Graphs**



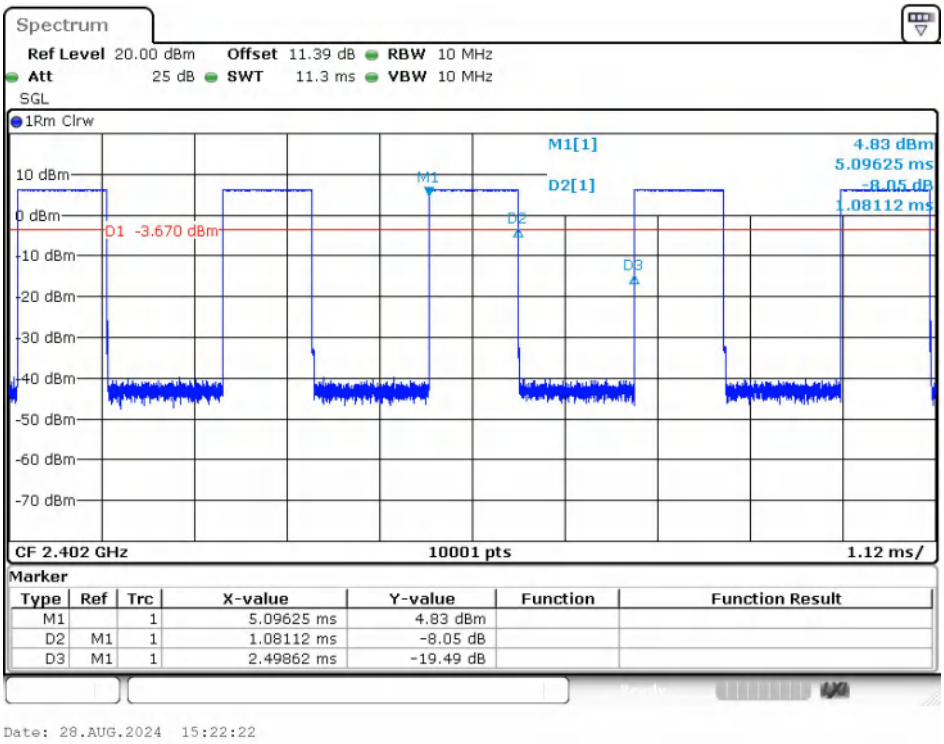

**BLE 1M_Channel 0**



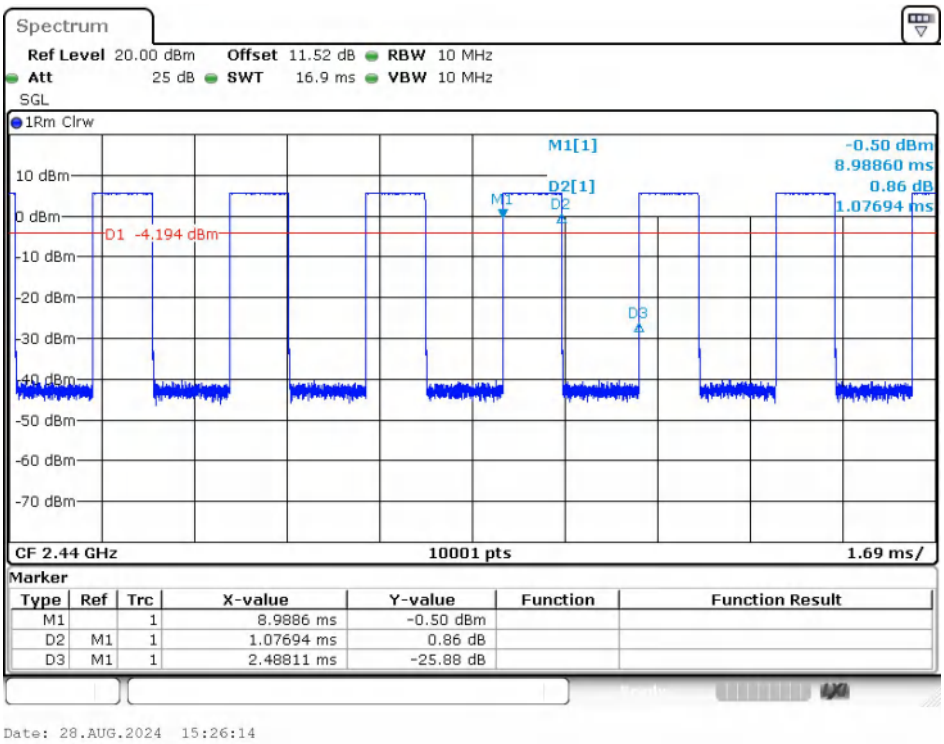

**BLE 1M_Channel 19**



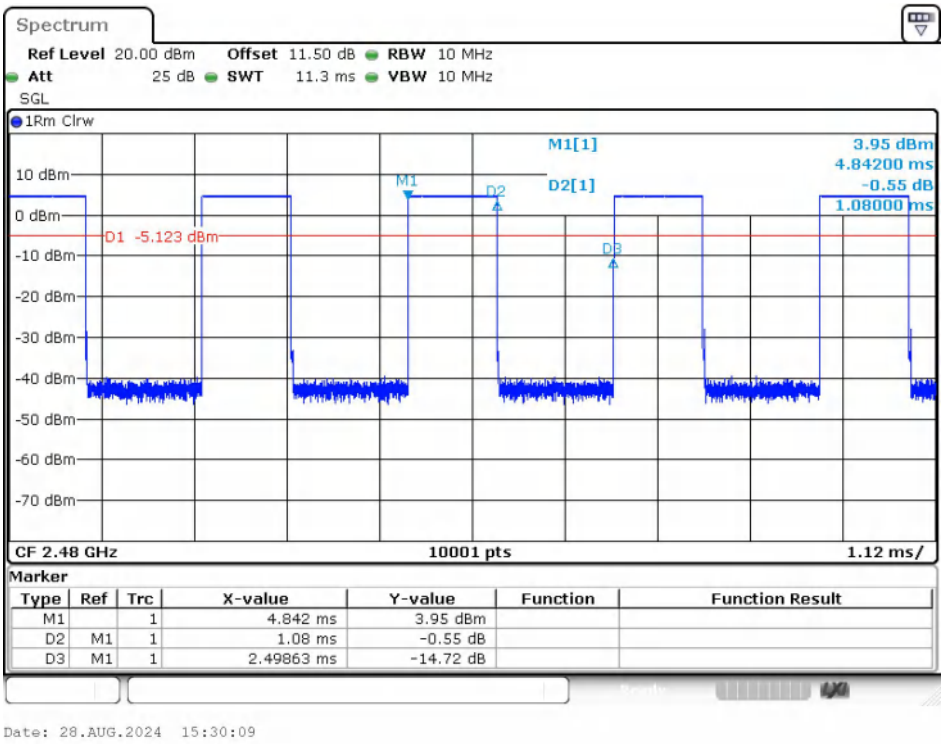

**BLE 1M_Channel 39**




**BLE 2M_Channel 0**




**BLE 2M_Channel 19**




**BLE 2M_Channel 39**

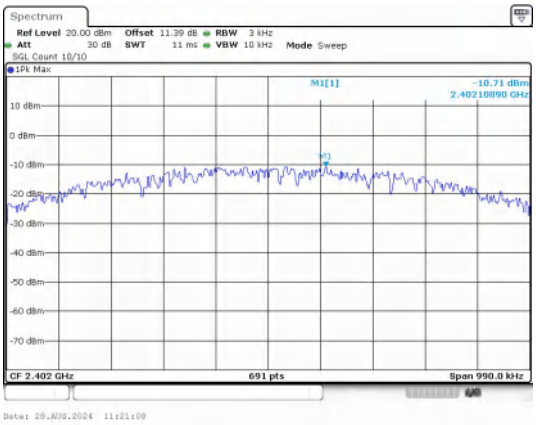
# 2) Power Spectral Density

**Right:**

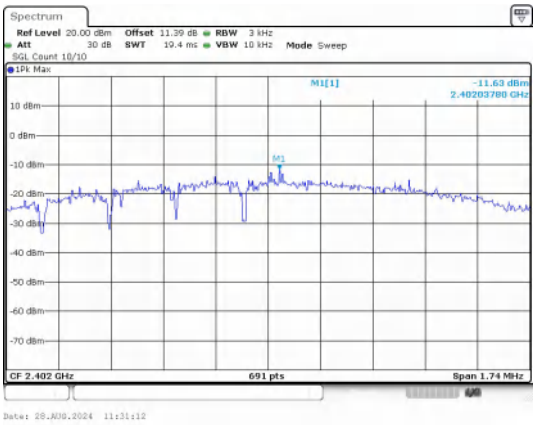
**Test Result**

| Mode | Channel | PSD (dBm/3kHz) | Limit (dBm/3kHz) | Result |
|---|---|---|---|---|
| BLE 1M | 0 | -10.715 | ≤8 | PASS |
| BLE 1M | 19 | -11.187 | ≤8 | PASS |
| BLE 1M | 39 | -12.439 | ≤8 | PASS |
| BLE 2M | 0 | -11.630 | ≤8 | PASS |
| BLE 2M | 19 | -13.517 | ≤8 | PASS |
| BLE 2M | 39 | -14.745 | ≤8 | PASS |

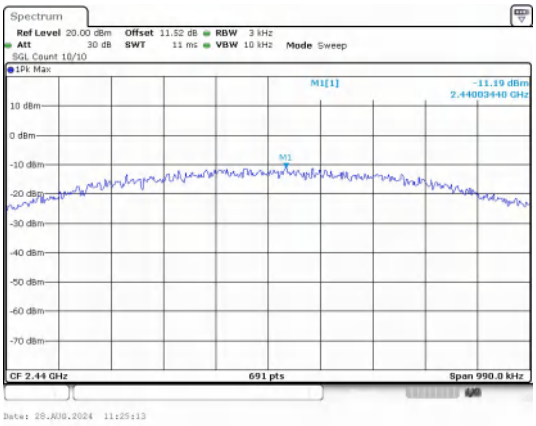
**Test Graphs**



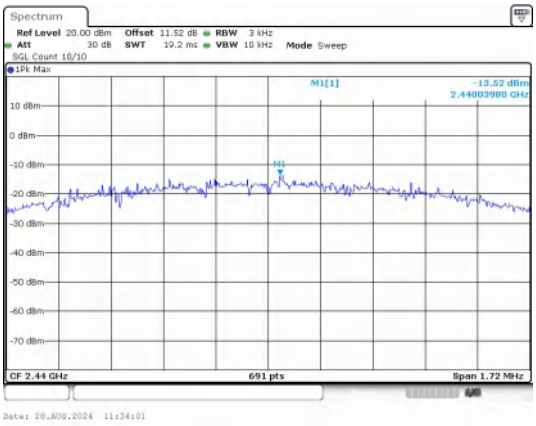

BLE 1M_Channel 0



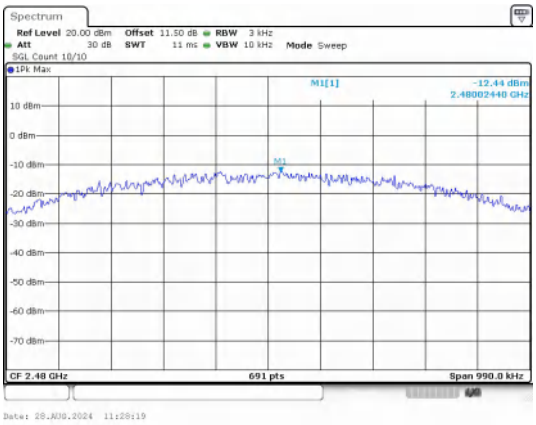

BLE 2M_Channel 0



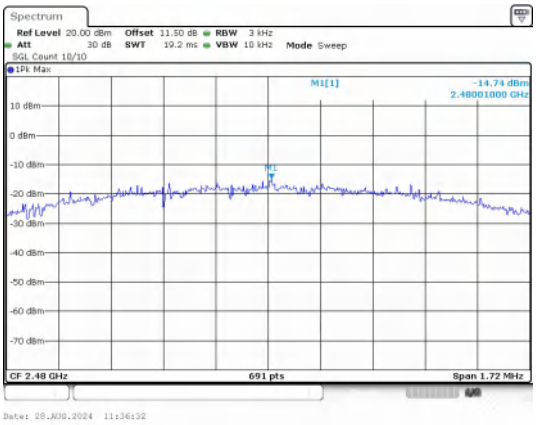

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39



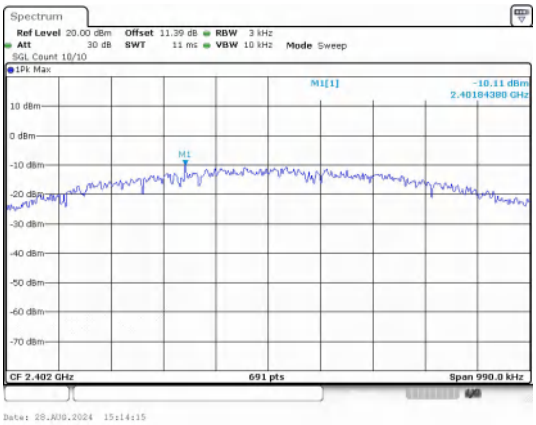

BLE 2M_Channel 39

**Left:**

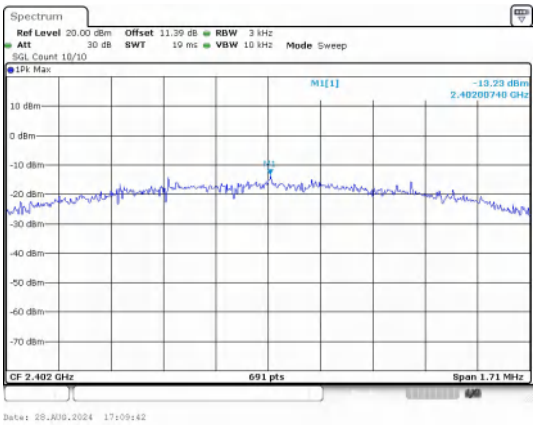
**Test Result**

| Mode | Channel | PSD (dBm/3kHz) | Limit (dBm/3kHz) | Result |
|---|---|---|---|---|
| BLE 1M | 0 | -10.112 | ≤8 | PASS |
| BLE 1M | 19 | -11.102 | ≤8 | PASS |
| BLE 1M | 39 | -12.089 | ≤8 | PASS |
| BLE 2M | 0 | -13.232 | ≤8 | PASS |
| BLE 2M | 19 | -12.710 | ≤8 | PASS |
| BLE 2M | 39 | -14.983 | ≤8 | PASS |

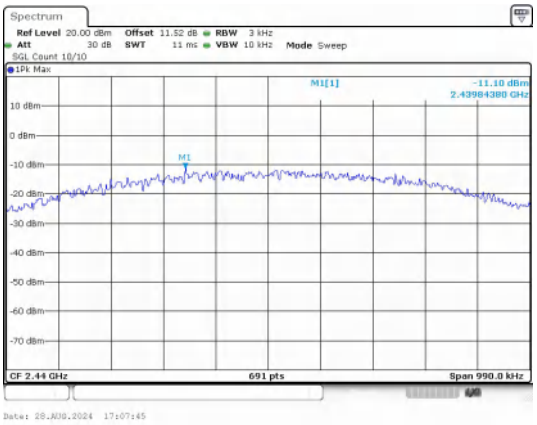
**Test Graphs**



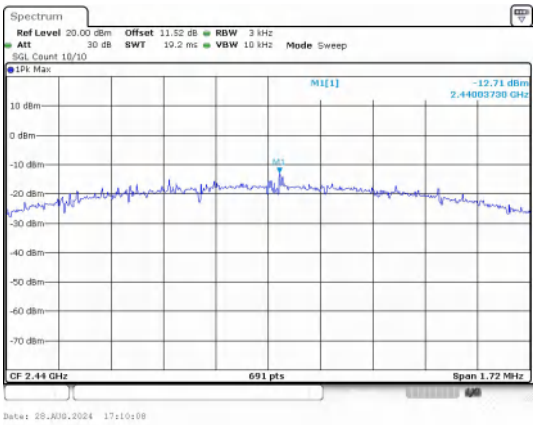

BLE 1M_Channel 0



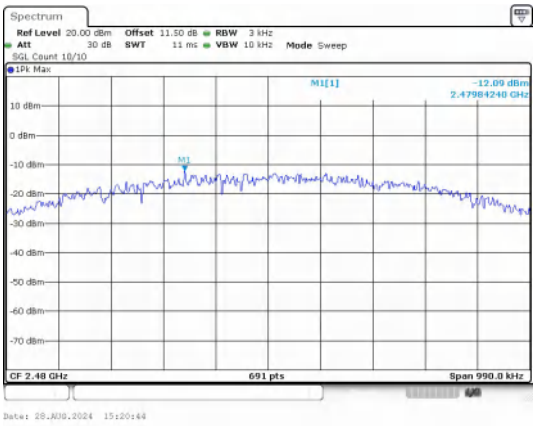

BLE 2M_Channel 0



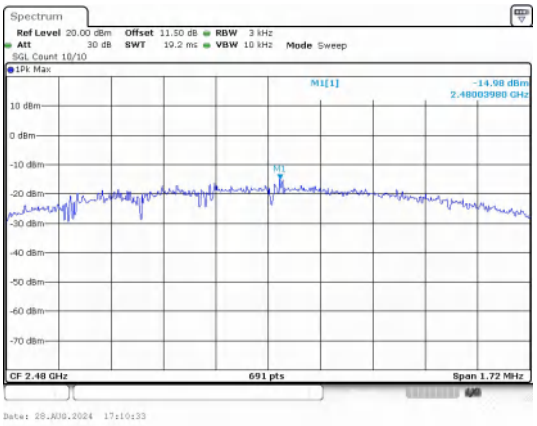

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39




BLE 2M_Channel 39

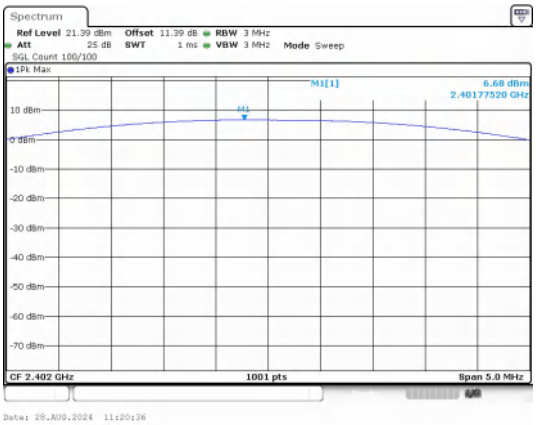
# 3) Conducted Output Power

**Right:**

**Test Result**

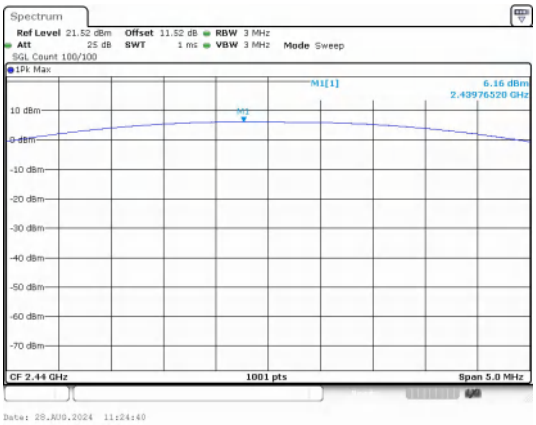
| Mode | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Limit (dBm) | Result |
|---|---|---|---|---|---|
| BLE 1M | 0 | 6.68 | 4.65 | ≤30 | PASS |
| | 19 | 6.17 | 4.14 | ≤30 | PASS |
| | 39 | 5.06 | 3.20 | ≤30 | PASS |
| BLE 2M | 0 | 6.86 | 4.85 | ≤30 | PASS |
| | 19 | 6.48 | 4.44 | ≤30 | PASS |
| | 39 | 5.42 | 3.48 | ≤30 | PASS |

**Test Graphs**



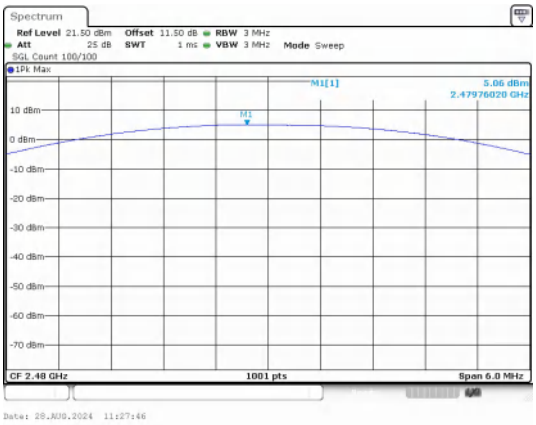

Peak Output Power

BLE 1M_Channel 0



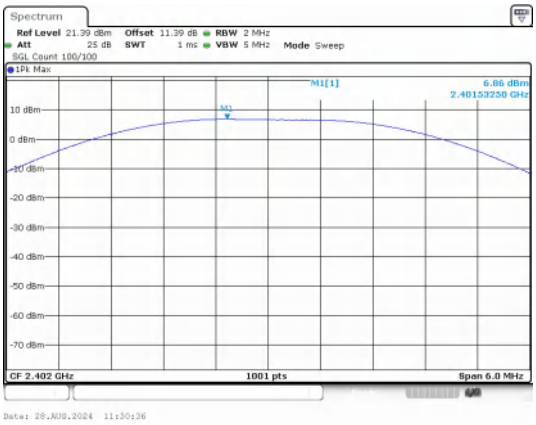

Peak Output Power

BLE 1M_Channel 19



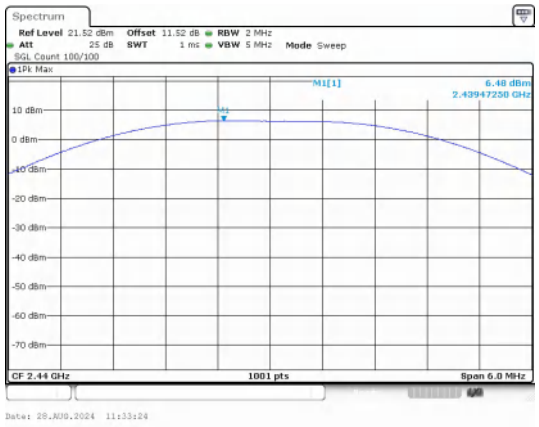

Peak Output Power

BLE 1M_Channel 39



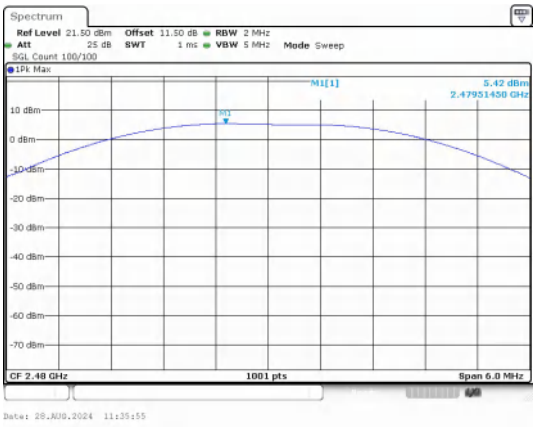

Peak Output Power

BLE 2M_Channel 0




Peak Output Power

BLE 2M_Channel 19




Peak Output Power

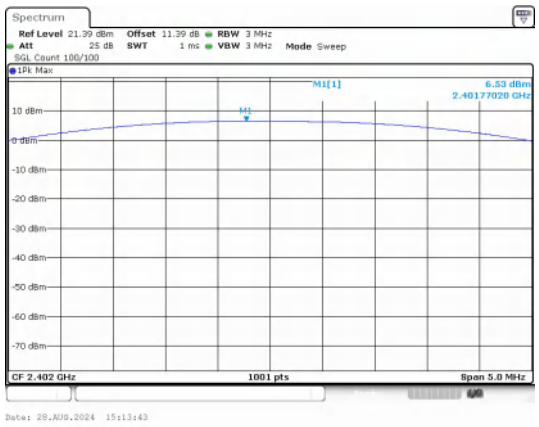
BLE 2M_Channel 39

**Left:**

**Test Result**

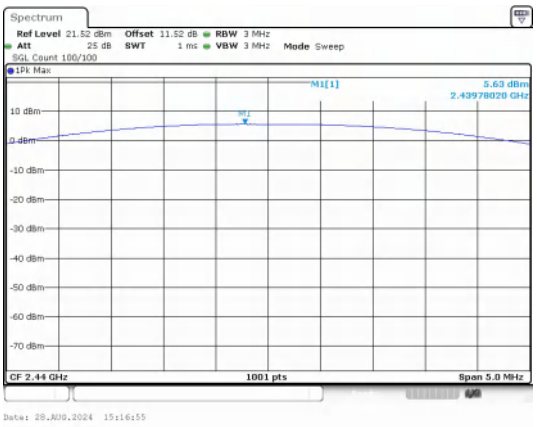
| Mode | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Limit (dBm) | Result |
|---|---|---|---|---|---|
| BLE 1M | 0 | 6.53 | 4.49 | ≤30 | PASS |
| | 19 | 5.63 | 3.66 | ≤30 | PASS |
| | 39 | 4.56 | 2.86 | ≤30 | PASS |
| BLE 2M | 0 | 6.45 | 4.42 | ≤30 | PASS |
| | 19 | 5.91 | 3.90 | ≤30 | PASS |
| | 39 | 4.92 | 3.10 | ≤30 | PASS |

**Test Graphs**



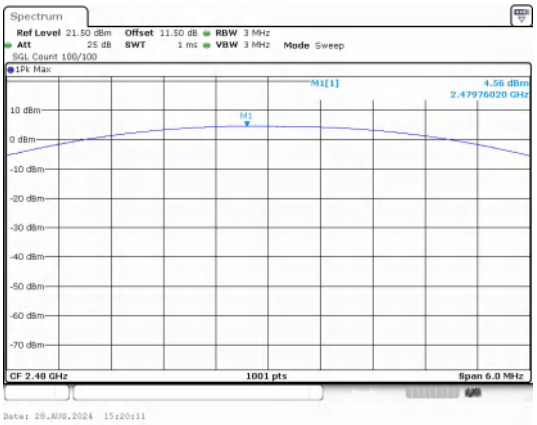

Peak Output Power

BLE 1M_Channel 0



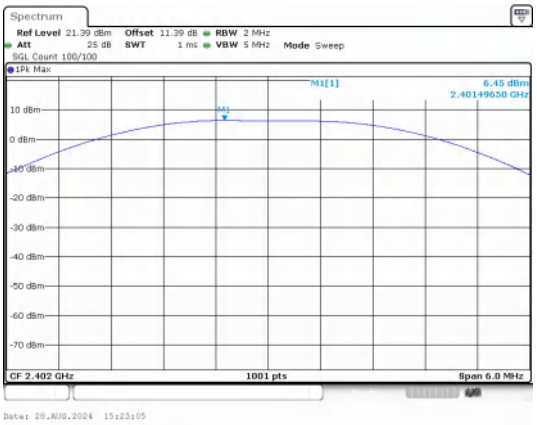

Peak Output Power

BLE 1M_Channel 19



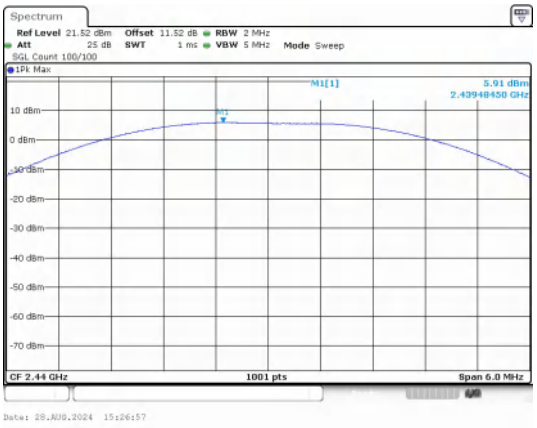

**Peak Output Power**

**BLE 1M_Channel 39**



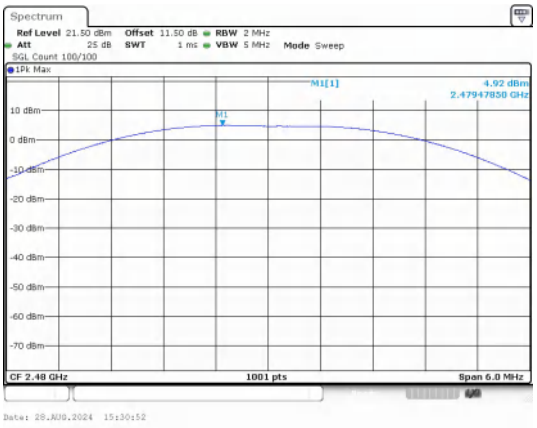

**Peak Output Power**

**BLE 2M_Channel 0**




**Peak Output Power**

**BLE 2M_Channel 19**




**Peak Output Power**

**BLE 2M_Channel 39**

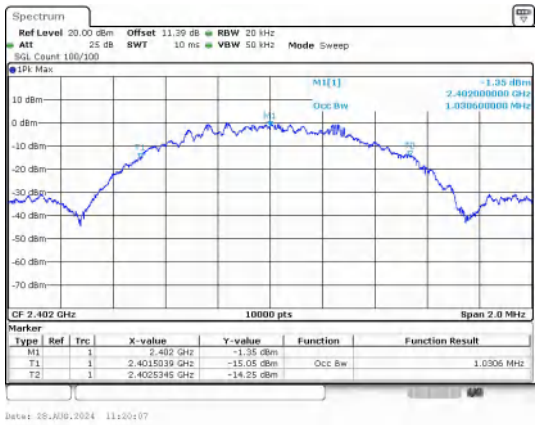
# 4) 99% Bandwidth

**Right:**

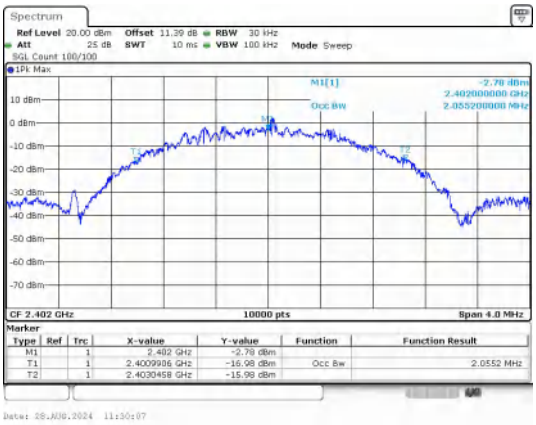
**Test Result**

| Mode | Channel | Center Frequency (MHz) | 99% BW (MHz) |
|---|---|---|---|
| BLE 1M | 0 | 2402 | 1.0310 |
| BLE 1M | 19 | 2440 | 1.0310 |
| BLE 1M | 39 | 2480 | 1.0350 |
| BLE 2M | 0 | 2402 | 2.0550 |
| BLE 2M | 19 | 2440 | 2.0560 |
| BLE 2M | 39 | 2480 | 2.0560 |

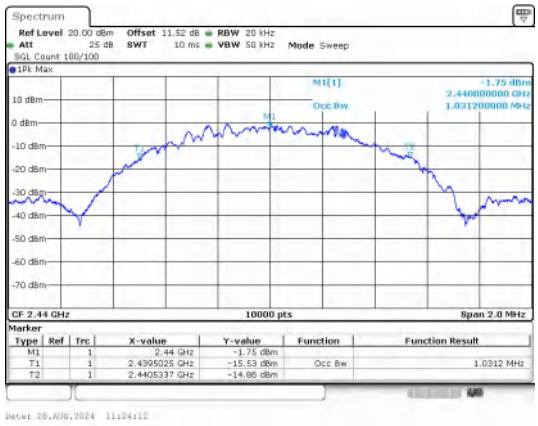
**Test Graphs**



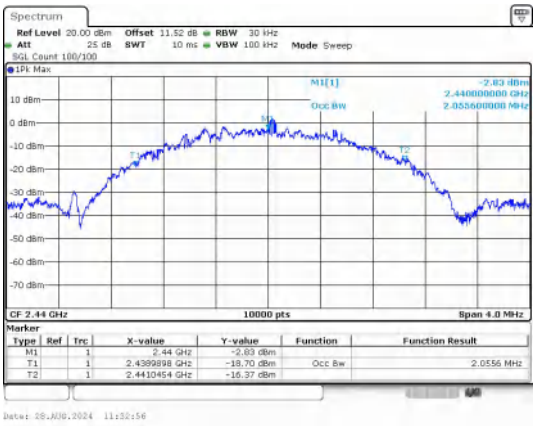

BLE 1M_Channel 0



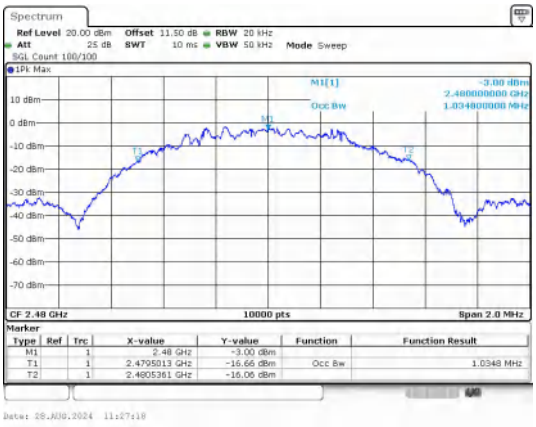

BLE 2M_Channel 0



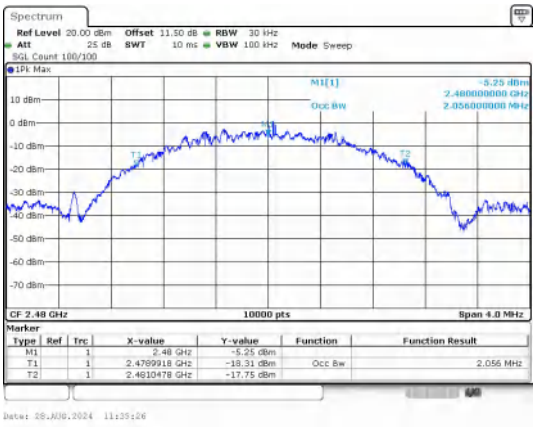

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39



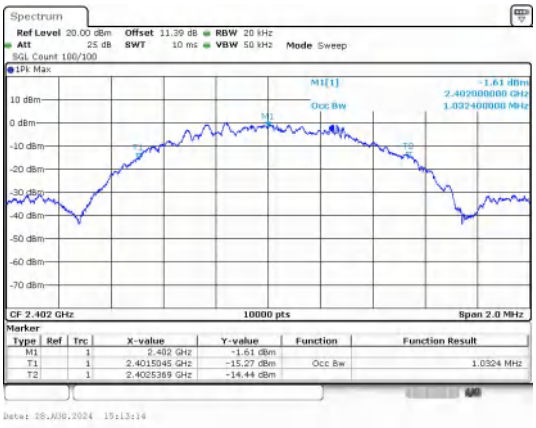

BLE 2M_Channel 39

**Left:**

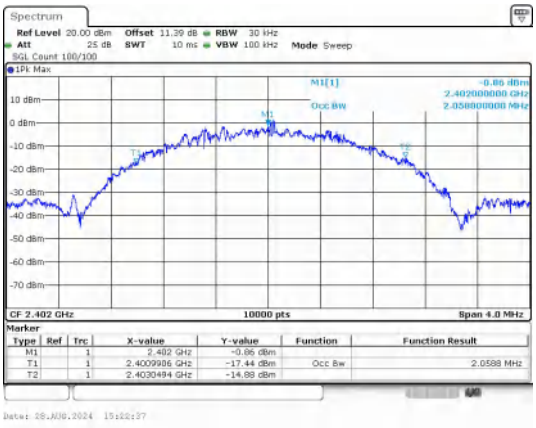
**Test Result**

| Mode | Channel | Center Frequency (MHz) | 99% BW (MHz) |
|---|---|---|---|
| BLE 1M | 0 | 2402 | 1.0320 |
| BLE 1M | 19 | 2440 | 1.0330 |
| BLE 1M | 39 | 2480 | 1.0320 |
| BLE 2M | 0 | 2402 | 2.0590 |
| BLE 2M | 19 | 2440 | 2.0520 |
| BLE 2M | 39 | 2480 | 2.0490 |

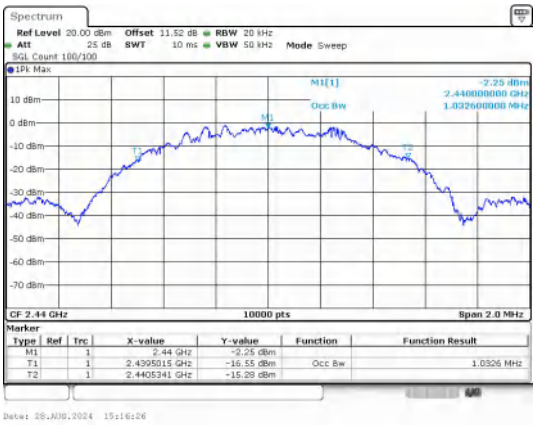
**Test Graphs**



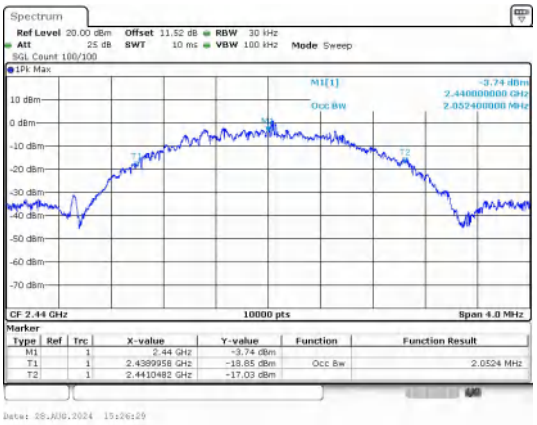

BLE 1M_Channel 0



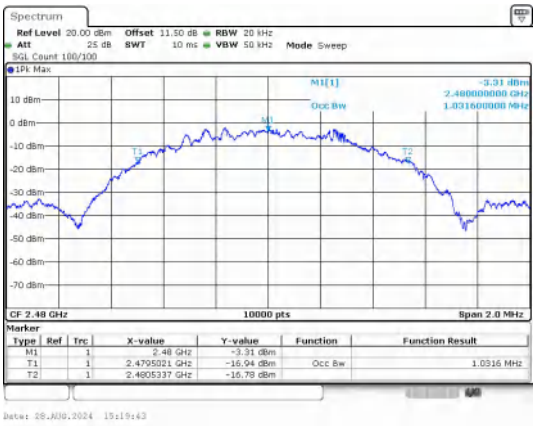

BLE 2M_Channel 0



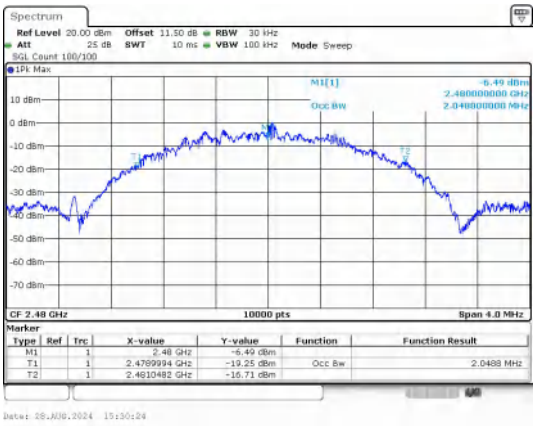

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39




BLE 2M_Channel 39

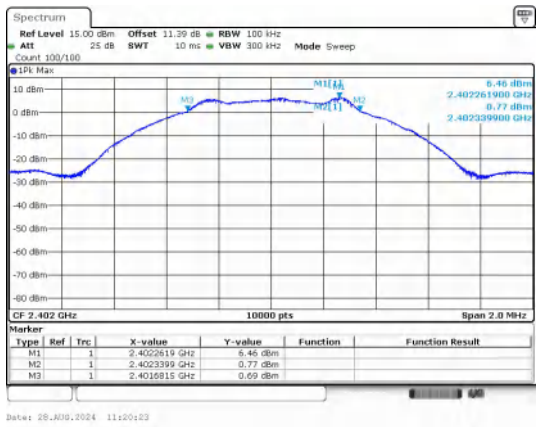
# 5) 6dB Bandwidth

**Right:**

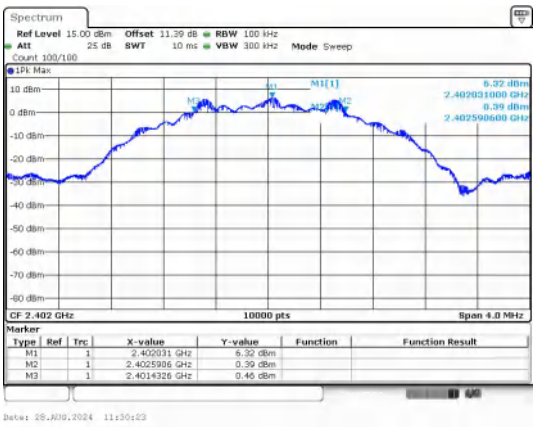
**Test Result**

| Mode | Channel | Center Frequency (MHz) | 6 dB Bandwidth (MHz) | Limit (MHz) | Result |
|---|---|---|---|---|---|
| BLE 1M | 0 | 2402 | 0.6600 | ≥0.5 | PASS |
| | 19 | 2440 | 0.6600 | | PASS |
| | 39 | 2480 | 0.6600 | | PASS |
| BLE 2M | 0 | 2402 | 1.160 | | PASS |
| | 19 | 2440 | 1.150 | | PASS |
| | 39 | 2480 | 1.150 | | PASS |

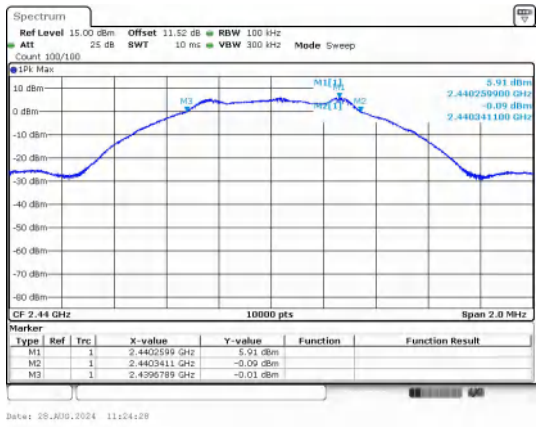
**Test Graphs**



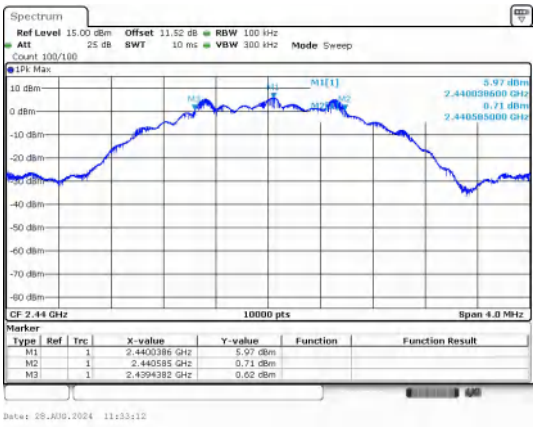

BLE 1M_Channel 0



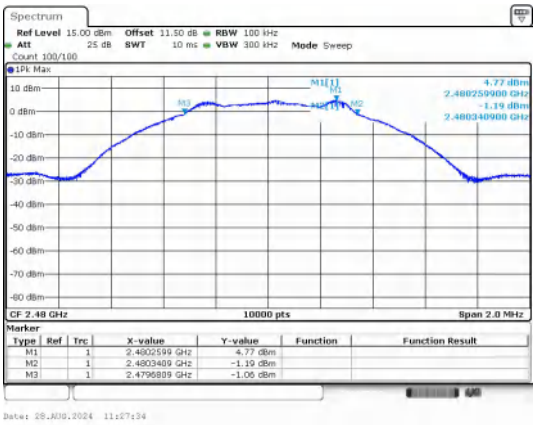

BLE 2M_Channel 0



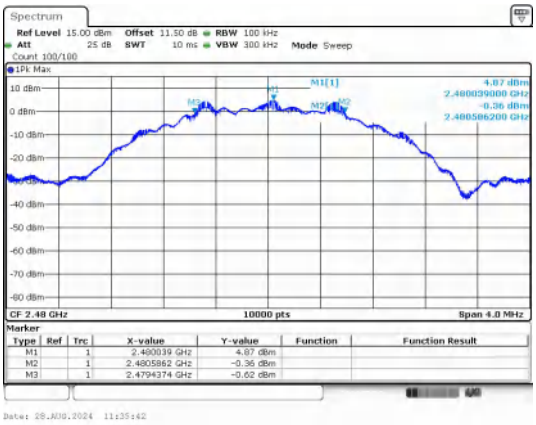

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39



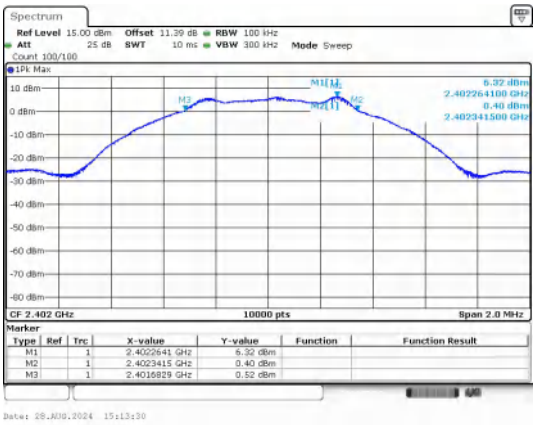

BLE 2M_Channel 39

**Left:**

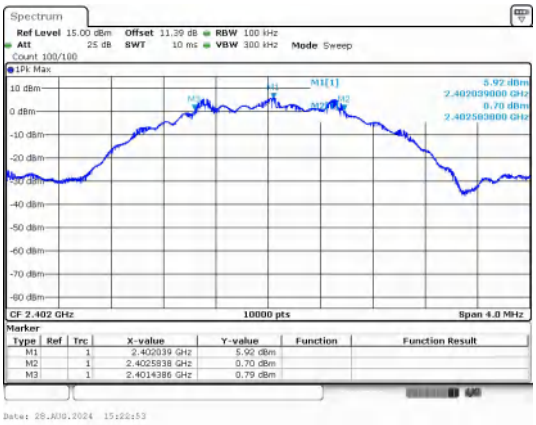
**Test Result**

| Mode | Channel | Center Frequency (MHz) | 6 dB Bandwidth (MHz) | Limit (MHz) | Result |
|---|---|---|---|---|---|
| BLE 1M | 0 | 2402 | 0.6600 | ≥0.5 | PASS |
| | 19 | 2440 | 0.6600 | | PASS |
| | 39 | 2480 | 0.6600 | | PASS |
| BLE 2M | 0 | 2402 | 1.140 | | PASS |
| | 19 | 2440 | 1.150 | | PASS |
| | 39 | 2480 | 1.150 | | PASS |

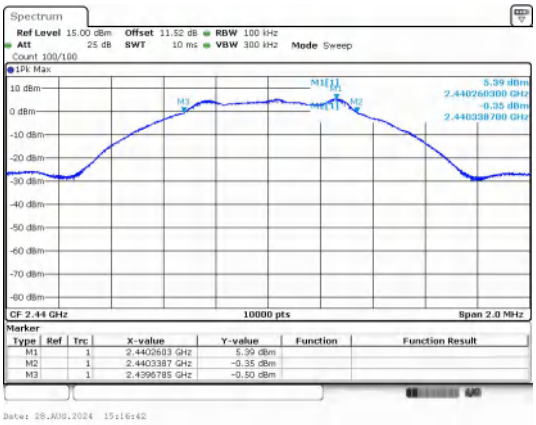
**Test Graphs**



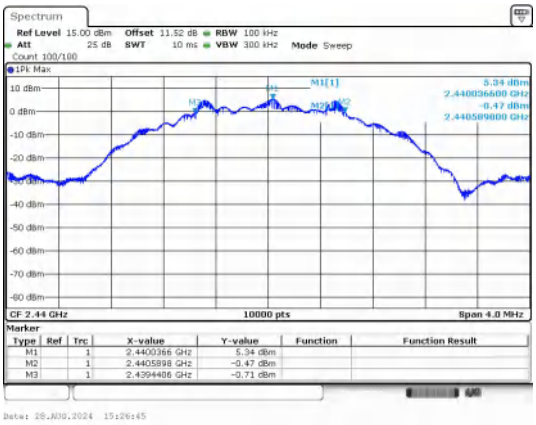

BLE 1M_Channel 0



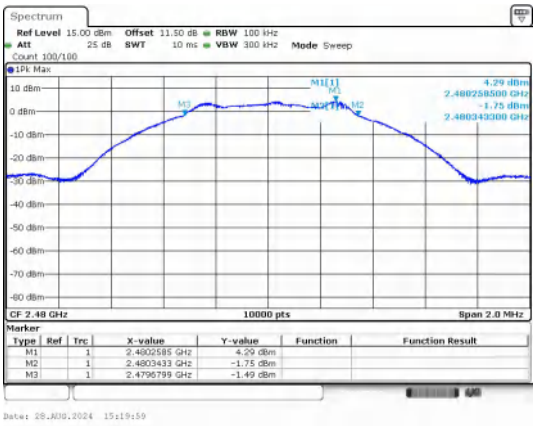

BLE 2M_Channel 0



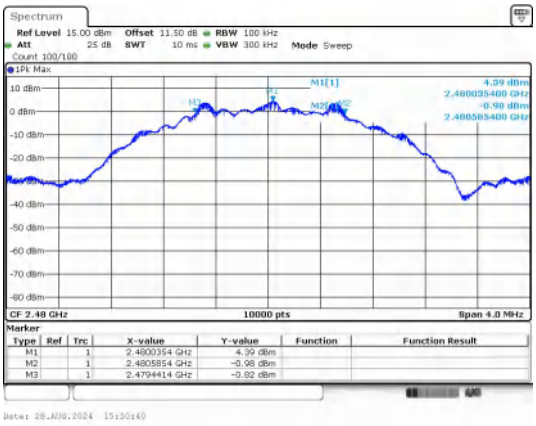

BLE 1M_Channel 19




BLE 2M_Channel 19




BLE 1M_Channel 39




BLE 2M_Channel 39

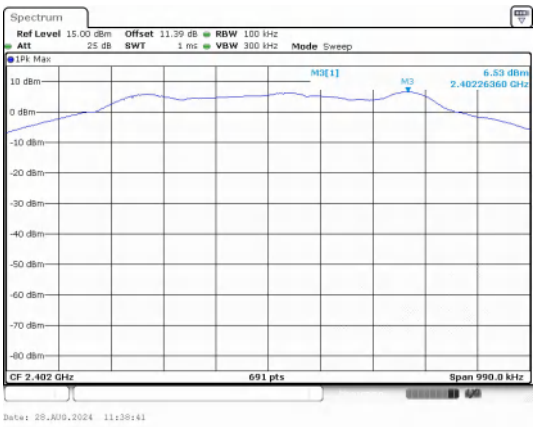
# 6) Conducted Out Of Band Emission

**Right:**

**Test Result**

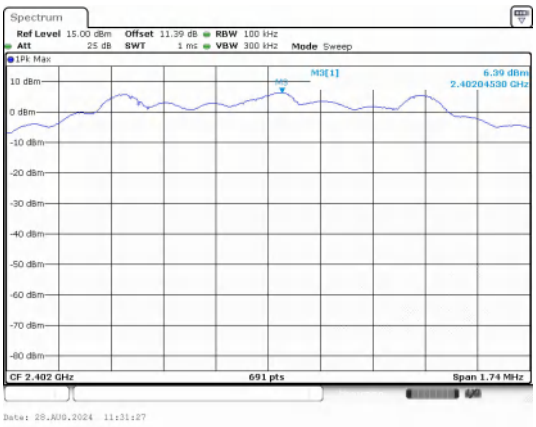
| Mode | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|---|---|---|---|---|---|---|
| BLE 1M | 0 | 2399.00 | -39.176 | -13.47 | -25.706 | PASS |
| | | 2400.00 | -48.638 | -13.47 | -35.168 | PASS |
| | | 7206.80 | -39.601 | -13.47 | -26.131 | PASS |
| | 19 | 2247.75 | -42.601 | -14.1 | -28.501 | PASS |
| | 39 | 2287.70 | -41.400 | -15.24 | -26.160 | PASS |
| | | 2483.50 | -45.557 | -15.24 | -30.317 | PASS |
| BLE 2M | 0 | 2400.00 | -28.559 | -13.61 | -14.949 | PASS |
| | | 7205.13 | -42.659 | -13.61 | -29.049 | PASS |
| | 19 | 2248.58 | -44.912 | -14.02 | -30.892 | PASS |
| | 39 | 2483.50 | -49.900 | -15.12 | -34.780 | PASS |
| | | 9914.37 | -43.464 | -15.12 | -28.344 | PASS |

**Test Graphs**



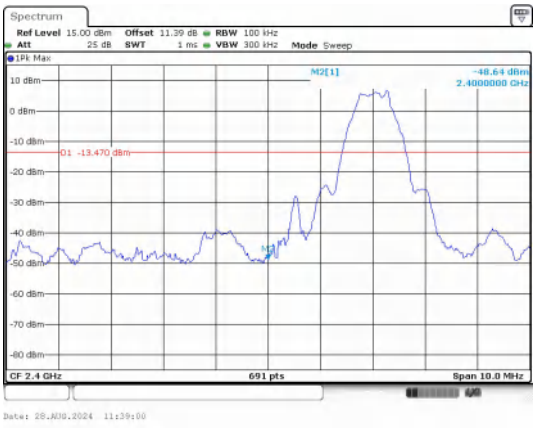

In-Band Reference Level

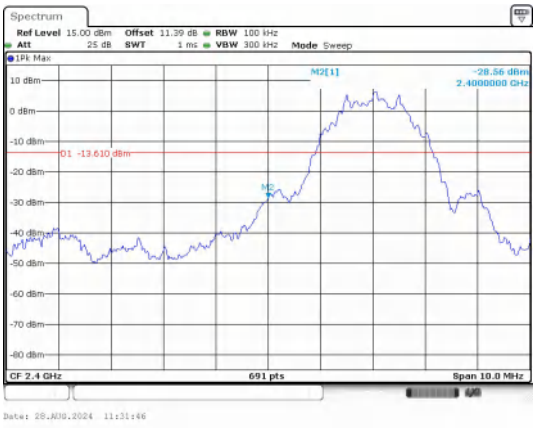
BLE 1M_Channel 0

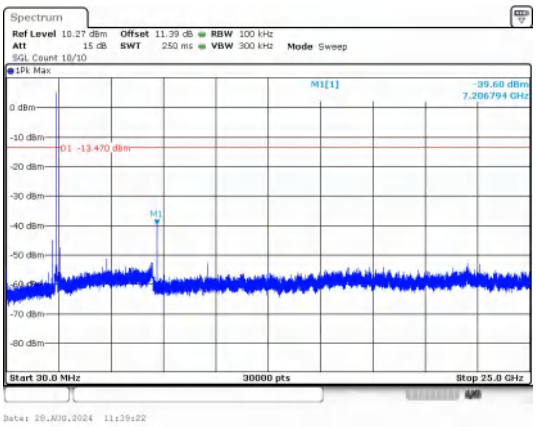
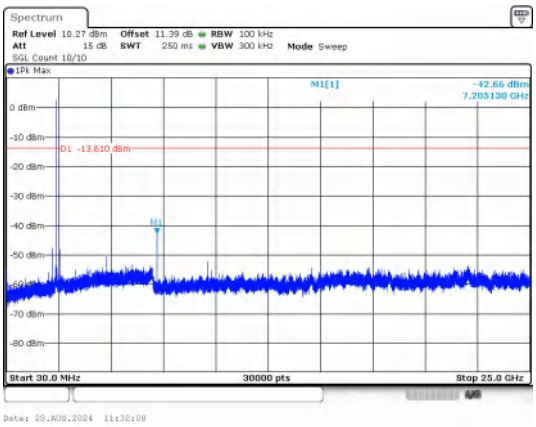
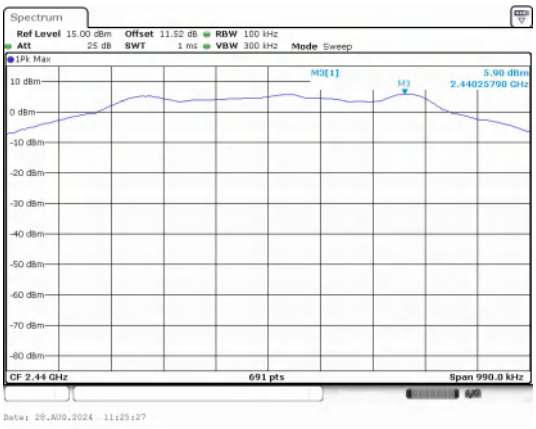
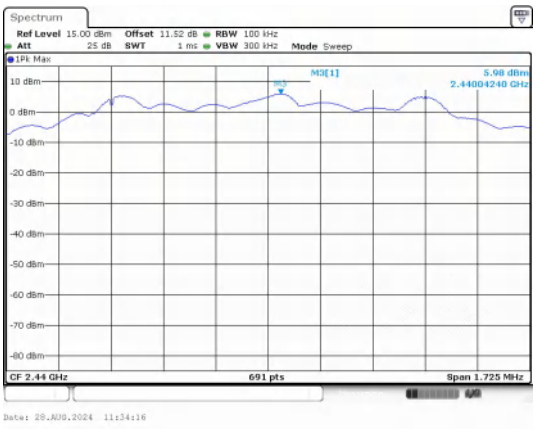
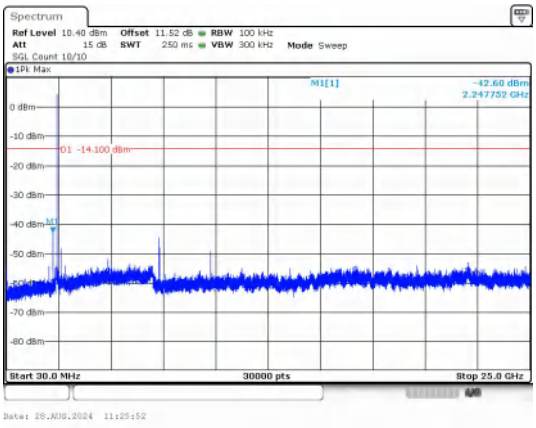
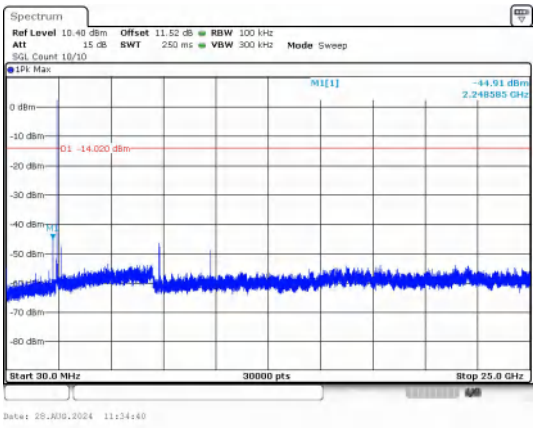


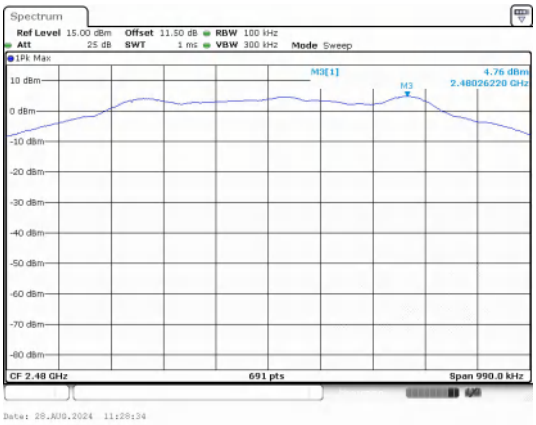

In-Band Reference Level

BLE 2M_Channel 0



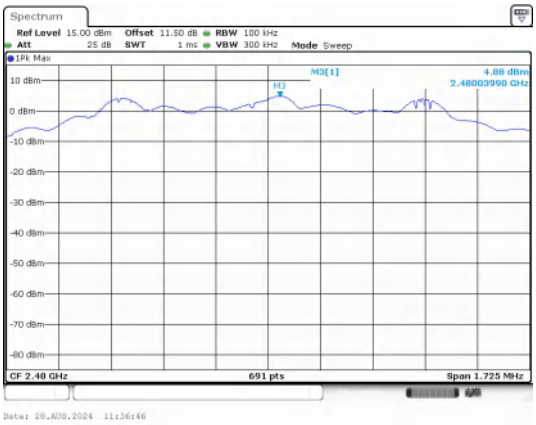



| Out Of Band Emission<br>BLE 1M_Channel 0 | Out Of Band Emission<br>BLE 2M_Channel 0 |
|---|---|
|  |  |
| 30.0 MHz - 25000.0 MHz<br>BLE 1M_Channel 0 | 30.0 MHz - 25000.0 MHz<br>BLE 2M_Channel 0 |
|  |  |
| In-Band Reference Level<br>BLE 1M_Channel 19 | In-Band Reference Level<br>BLE 2M_Channel 19 |
|  |  |
| 30.0 MHz - 25000.0 MHz<br>BLE 1M_Channel 19 | 30.0 MHz - 25000.0 MHz<br>BLE 2M_Channel 19 |



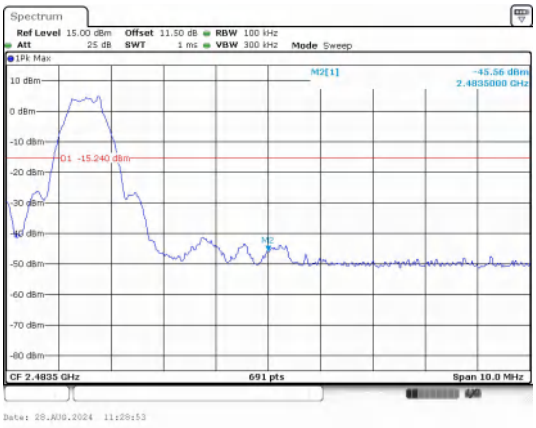

In-Band Reference Level

BLE 1M_Channel 39



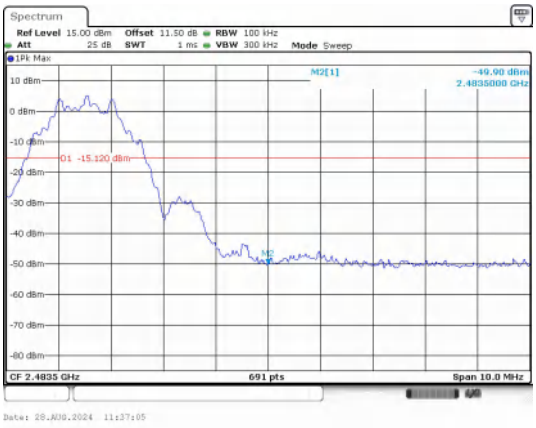

In-Band Reference Level

BLE 2M_Channel 39



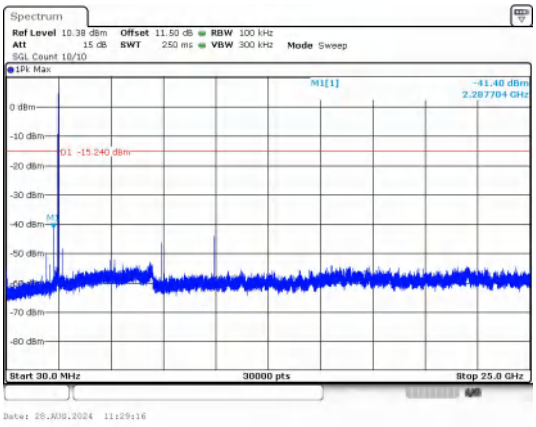

Out Of Band Emission

BLE 1M_Channel 39



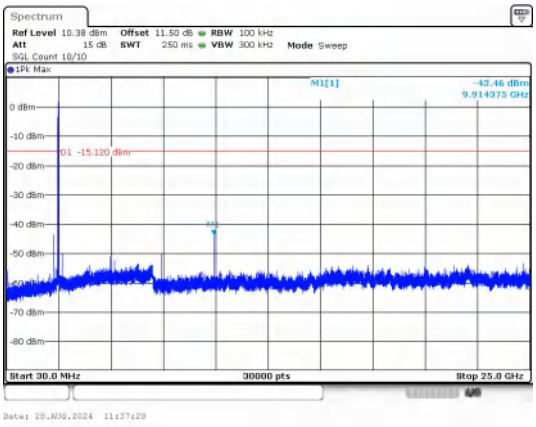

Out Of Band Emission

BLE 2M_Channel 39




30.0 MHz - 25000.0 MHz

BLE 1M_Channel 39




30.0 MHz - 25000.0 MHz

BLE 2M_Channel 39

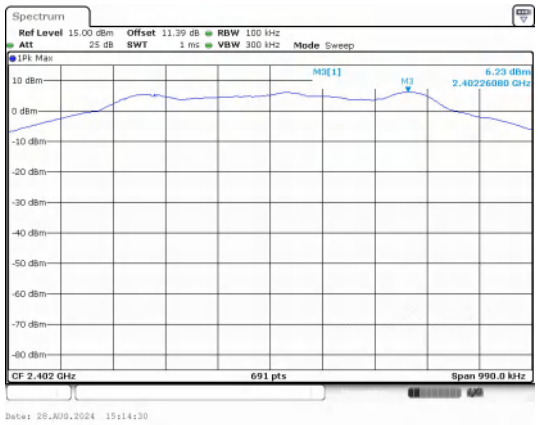
**Left:**

**Test Result**

| Mode | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|---|---|---|---|---|---|---|

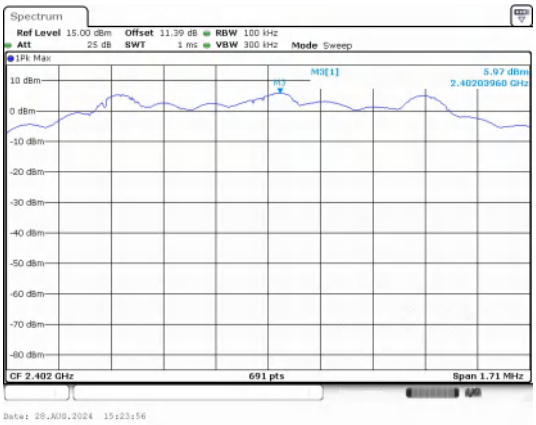
| | | | | | | |
|---|---|---|---|---|---|---|
| BLE 1M | 0 | 2399.00 | -39.694 | -13.77 | -25.924 | PASS |
| | | 2400.00 | -45.590 | -13.77 | -31.820 | PASS |
| | | 7206.80 | -41.177 | -13.77 | -27.407 | PASS |
| | 19 | 2247.75 | -43.217 | -14.62 | -28.597 | PASS |
| | 39 | 2287.70 | -41.827 | -15.71 | -26.117 | PASS |
| | | 2483.50 | -47.147 | -15.71 | -31.437 | PASS |
| BLE 2M | 0 | 2400.00 | -26.136 | -14.03 | -12.106 | PASS |
| | | 7207.63 | -37.378 | -14.03 | -23.348 | PASS |
| | 19 | 7314.17 | -45.123 | -14.64 | -30.483 | PASS |
| | 39 | 2287.70 | -43.950 | -15.62 | -28.330 | PASS |
| | | 2483.50 | -49.514 | -15.62 | -33.894 | PASS |

**Test Graphs**



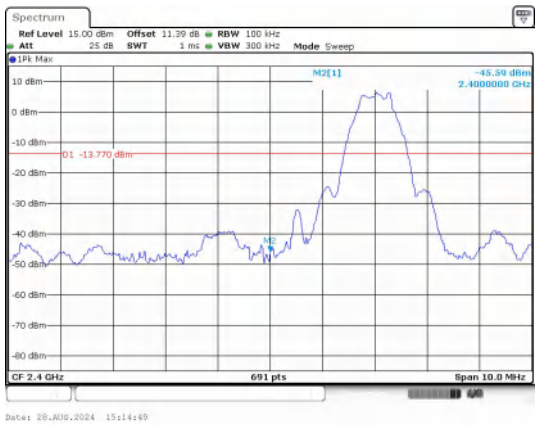

In-Band Reference Level

BLE 1M_Channel 0



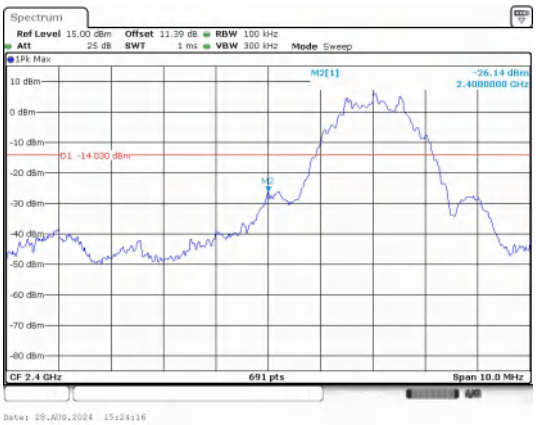

In-Band Reference Level

BLE 2M_Channel 0



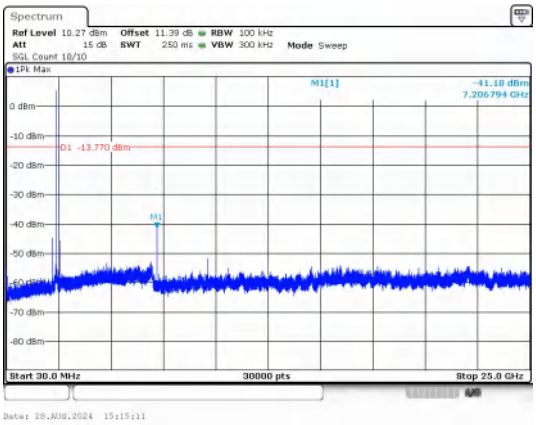

Out Of Band Emission

BLE 1M_Channel 0



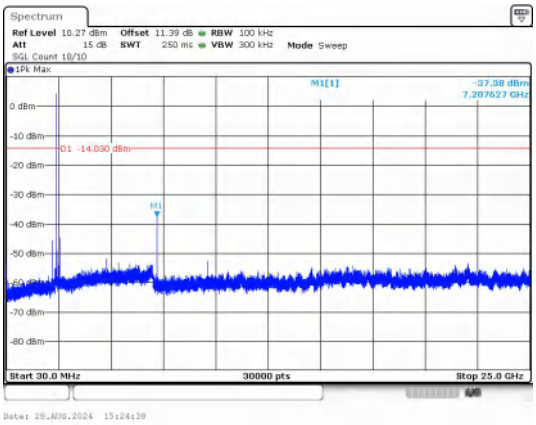

Out Of Band Emission

BLE 2M_Channel 0



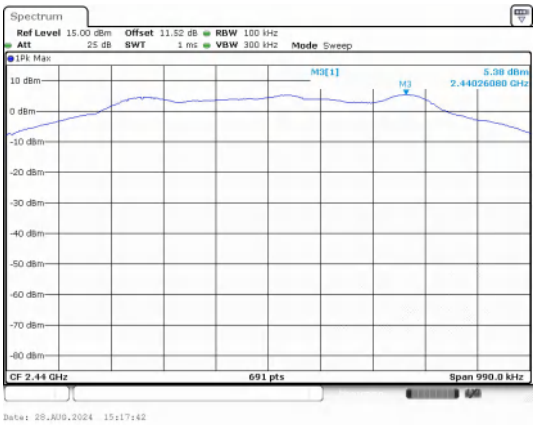

30.0 MHz - 25000.0 MHz

BLE 1M_Channel 0



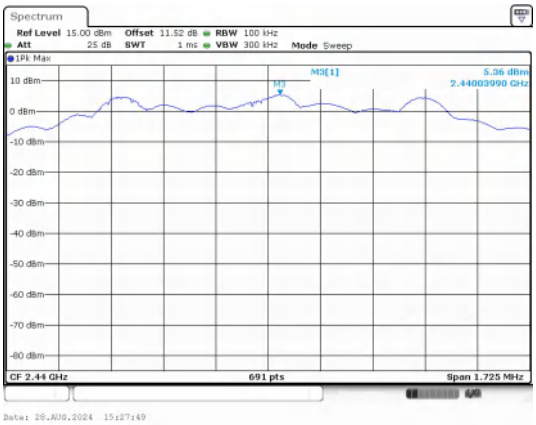

30.0 MHz - 25000.0 MHz

BLE 2M_Channel 0



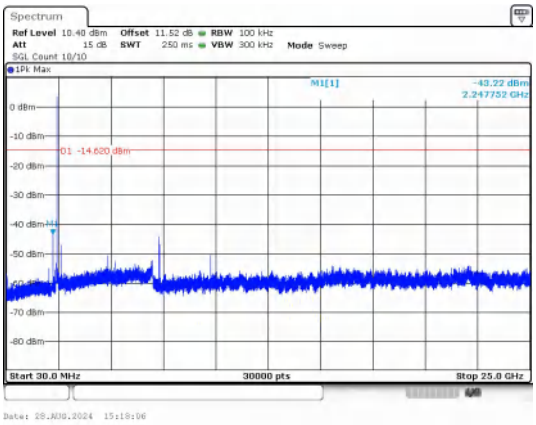

In-Band Reference Level

BLE 1M_Channel 19



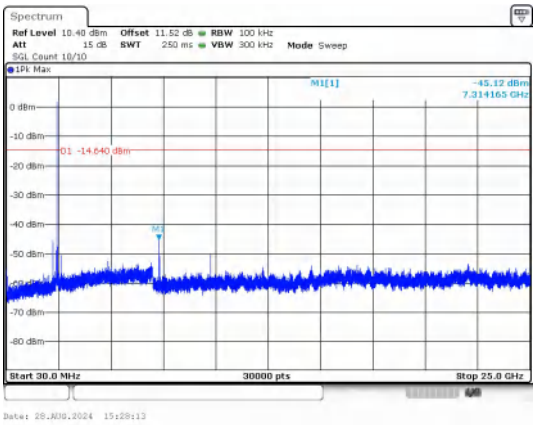

In-Band Reference Level

BLE 2M_Channel 19



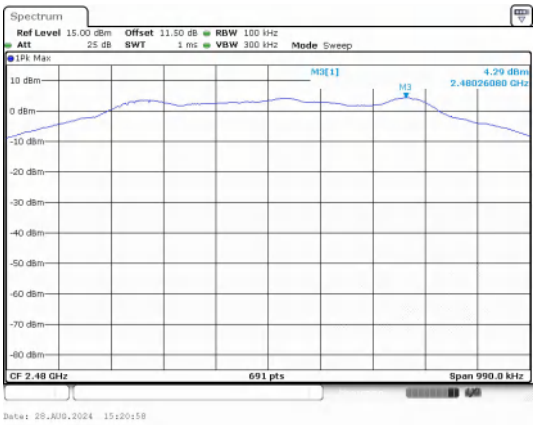

30.0 MHz - 25000.0 MHz

BLE 1M_Channel 19



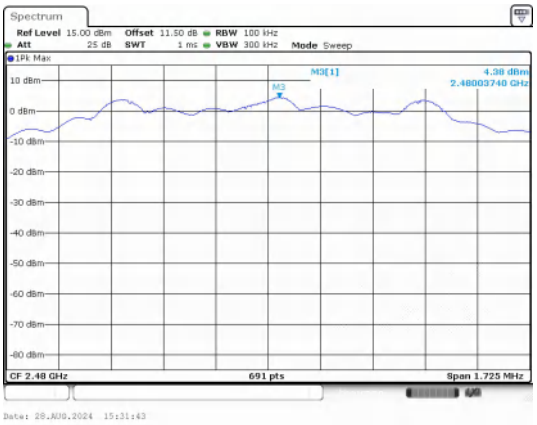

30.0 MHz - 25000.0 MHz

BLE 2M_Channel 19



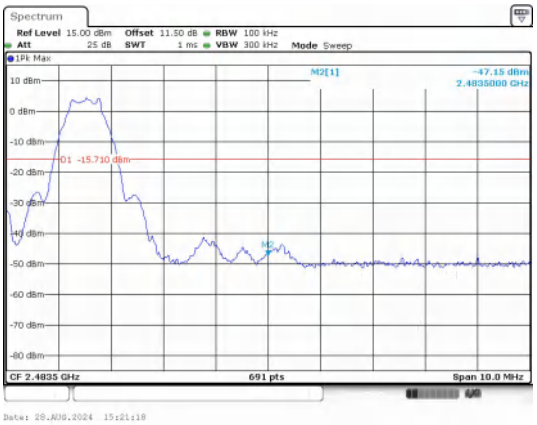

**In-Band Reference Level**

**BLE 1M_Channel 39**



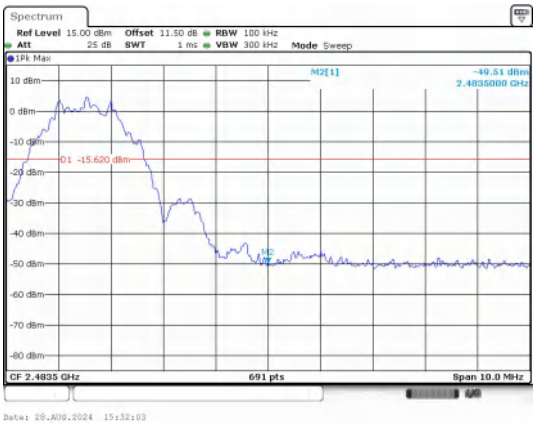

**In-Band Reference Level**

**BLE 2M_Channel 39**



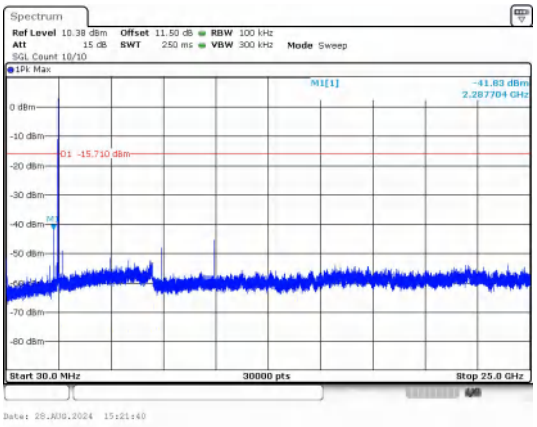

**Out Of Band Emission**

**BLE 1M_Channel 39**



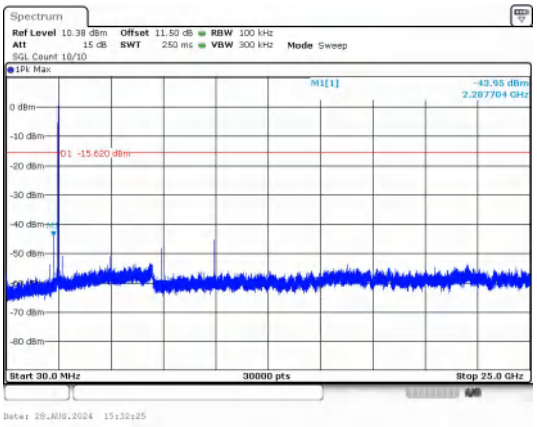

**Out Of Band Emission**

**BLE 2M_Channel 39**




**30.0 MHz - 25000.0 MHz**

**BLE 1M_Channel 39**




**30.0 MHz - 25000.0 MHz**

**BLE 2M_Channel 39**