

# Appendix Report

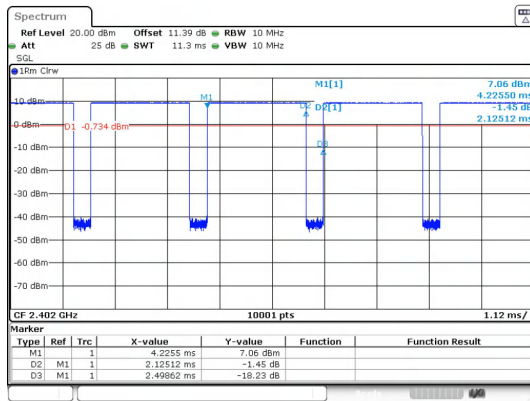
|                |               |
|----------------|---------------|
| Project No.:   | CISR250320171 |
| Test Engineer: | James Wang    |
| Supervised by: | Rory Huang    |

## 1) Duty Cycle

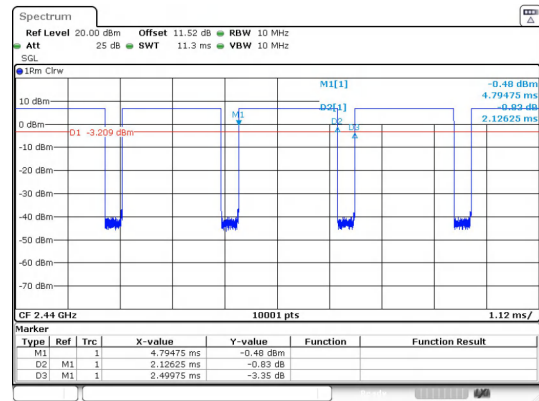
### Test Result

| Mode   | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|--------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| BLE 1M | 0       | 2.125        | 2.499       | 85.05          | 0.8505              | 0.7033                 | 0.4706 |
|        | 19      | 2.126        | 2.500       | 85.06          | 0.8506              | 0.7027                 | 0.4704 |
|        | 39      | 2.126        | 2.500       | 85.06          | 0.8506              | 0.7027                 | 0.4704 |
| BLE 2M | 0       | 1.069        | 1.873       | 57.06          | 0.5706              | 2.4367                 | 0.9355 |
|        | 19      | 1.069        | 1.873       | 57.06          | 0.5706              | 2.4367                 | 0.9355 |
|        | 39      | 1.069        | 1.874       | 57.02          | 0.5702              | 2.4397                 | 0.9355 |

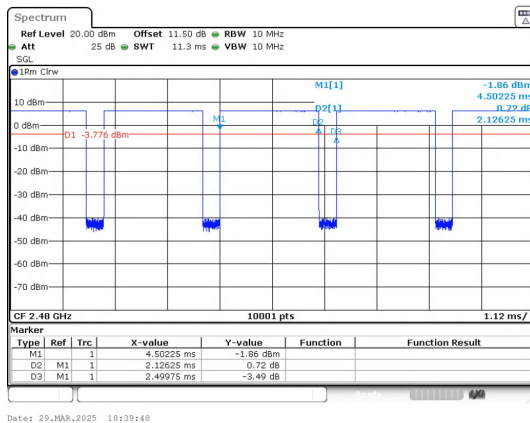
### Test Graphs



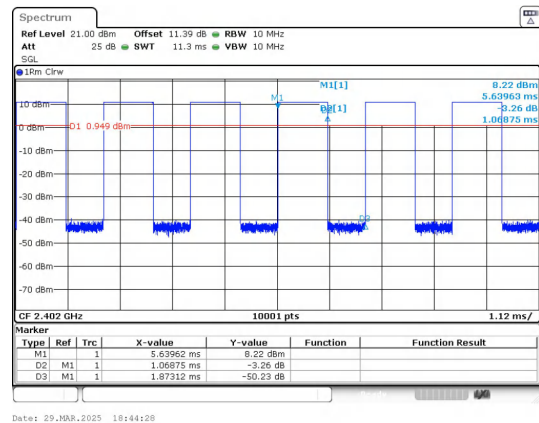
BLE 1M\_Channel 0



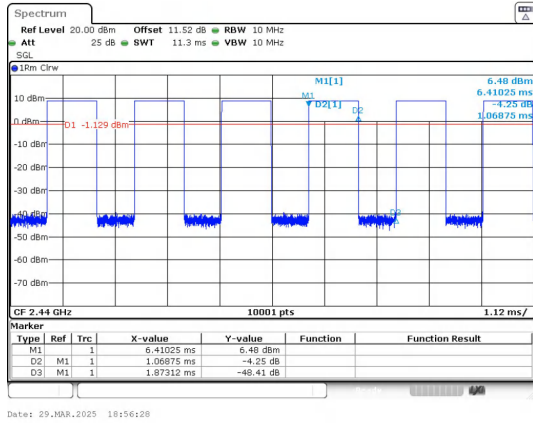
BLE 1M\_Channel 19



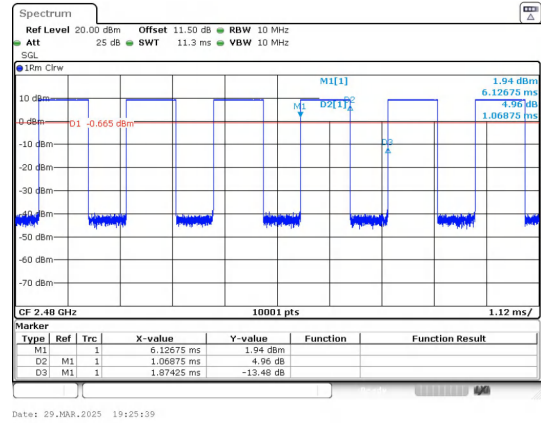
BLE 1M\_Channel 39



BLE 2M\_Channel 0



BLE 2M\_Channel 19



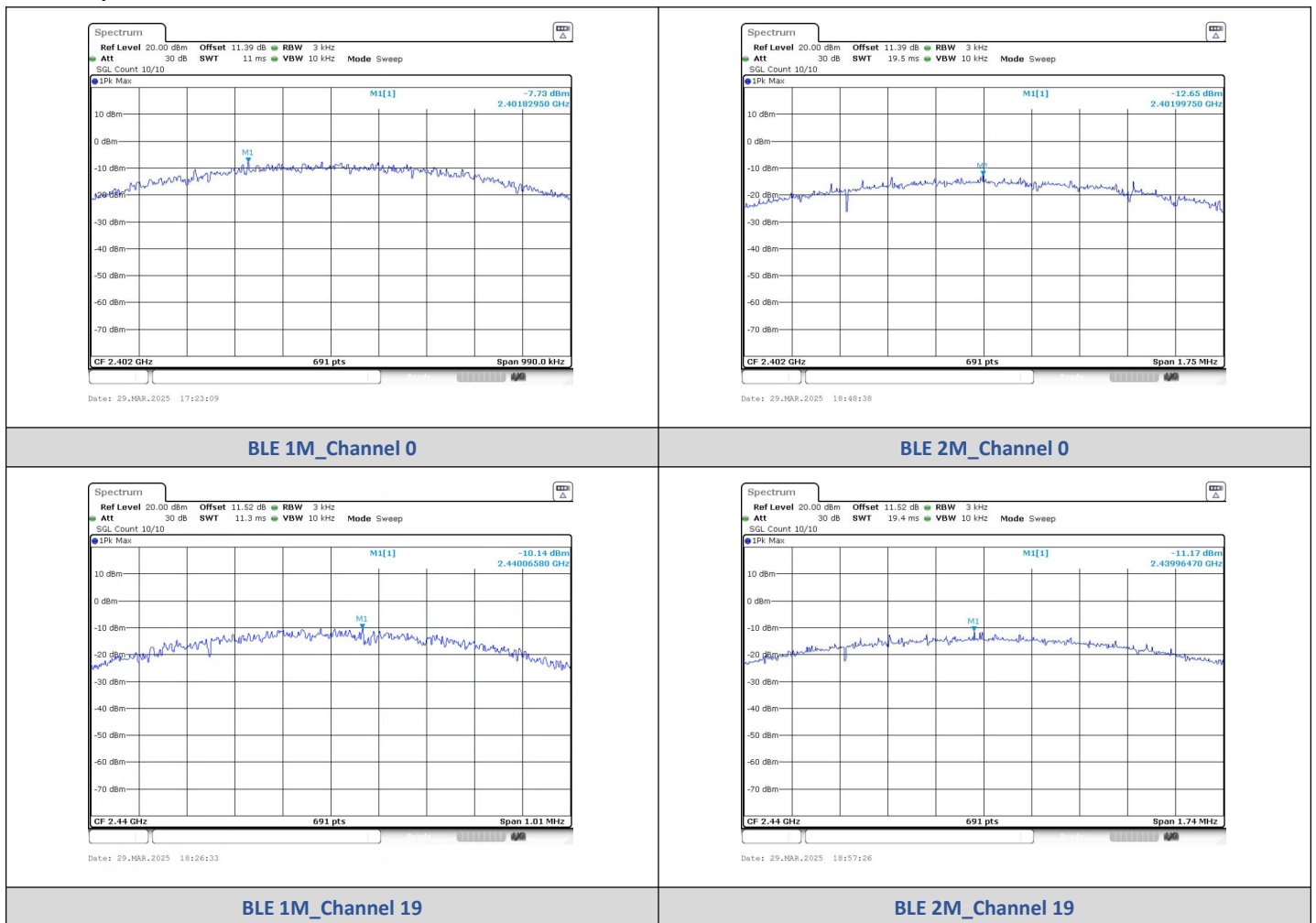
BLE 2M\_Channel 39

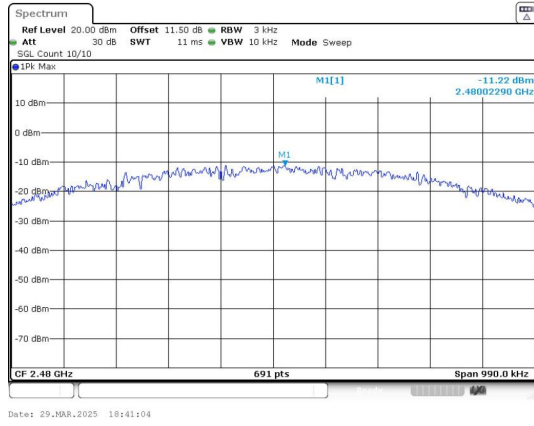
## 2) Power Spectral Density

### Test Result

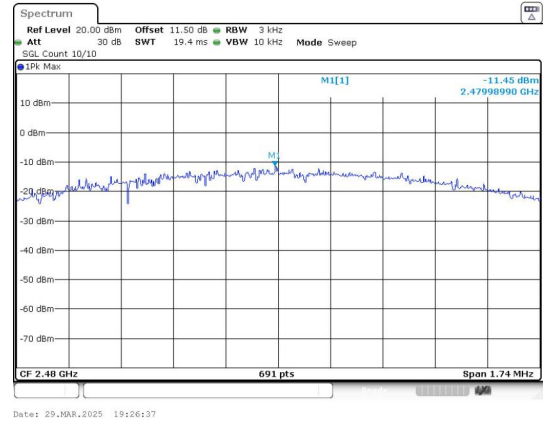
| Mode   | Channel | PSD (dBm/3kHz) | Limit (dBm/3kHz) | Result |
|--------|---------|----------------|------------------|--------|
| BLE 1M | 0       | -7.730         | ≤8               | PASS   |
| BLE 1M | 19      | -10.140        | ≤8               | PASS   |
| BLE 1M | 39      | -11.220        | ≤8               | PASS   |
| BLE 2M | 0       | -12.650        | ≤8               | PASS   |
| BLE 2M | 19      | -11.170        | ≤8               | PASS   |
| BLE 2M | 39      | -11.450        | ≤8               | PASS   |

### Test Graphs





BLE 1M\_Channel 39



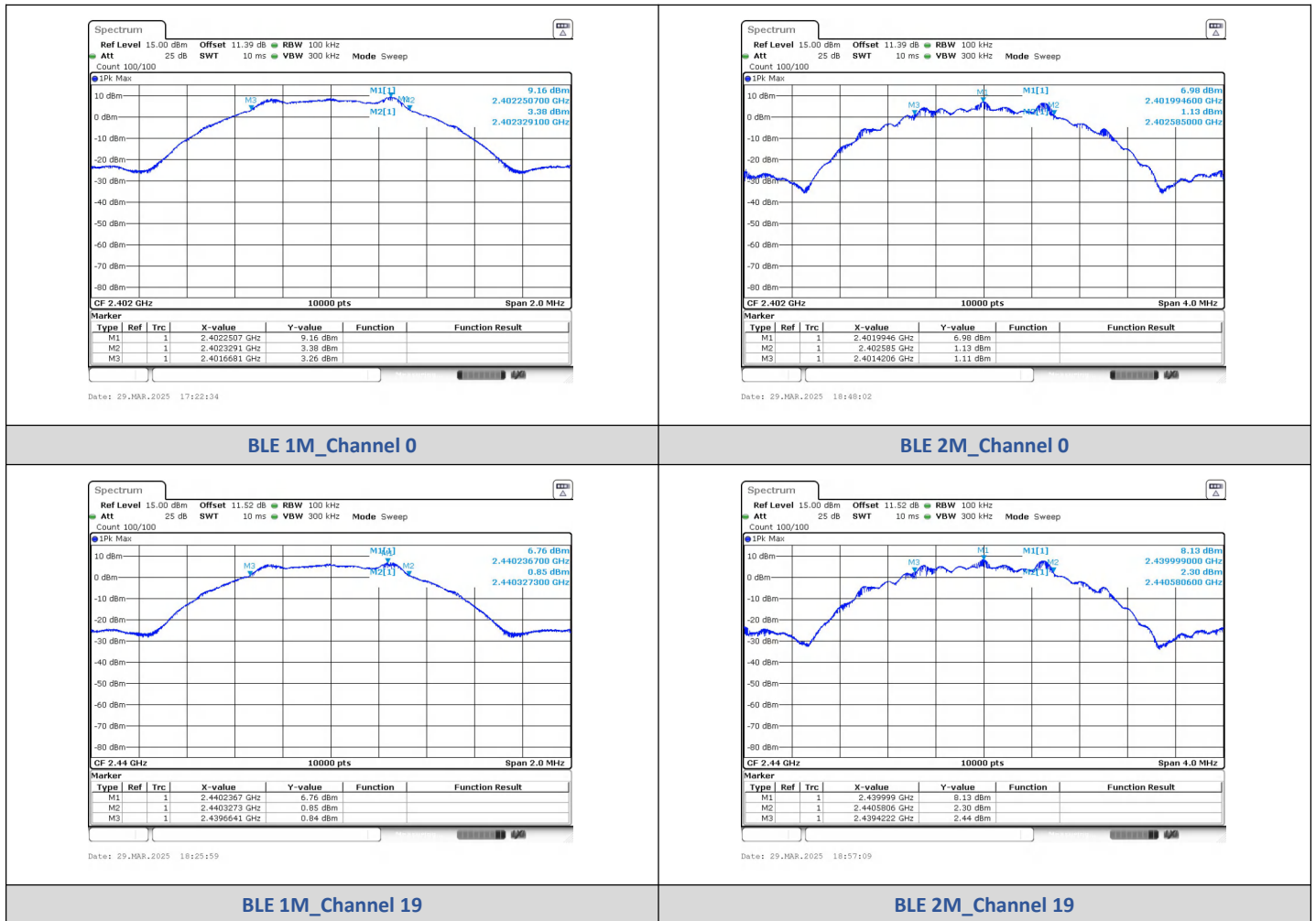
BLE 2M\_Channel 39

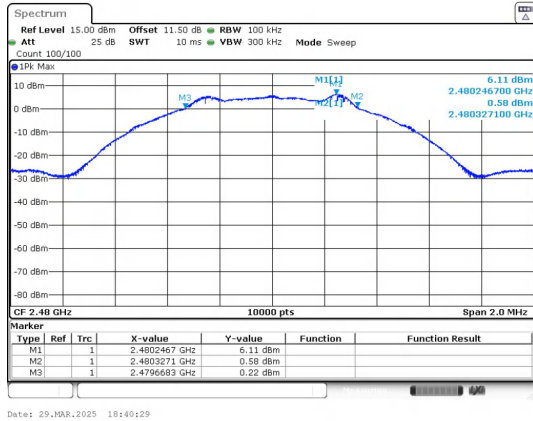
### 3) 6dB Bandwidth

#### Test Result

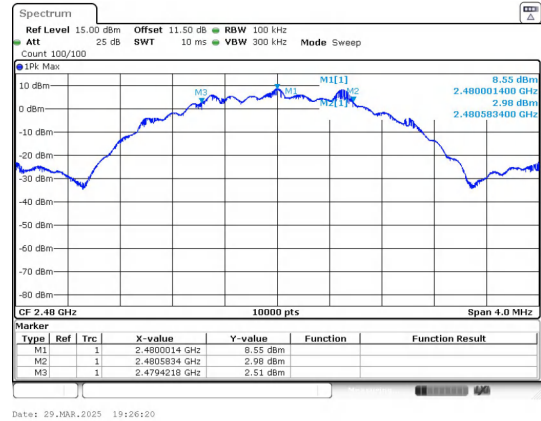
| Mode   | Channel | Center Frequency (MHz) | 6 dB Bandwidth (MHz) | Limit (MHz) | Result |
|--------|---------|------------------------|----------------------|-------------|--------|
| BLE 1M | 0       | 2402                   | 0.6600               | ≥0.5        | PASS   |
|        | 19      | 2440                   | 0.6700               |             | PASS   |
|        | 39      | 2480                   | 0.6600               |             | PASS   |
| BLE 2M | 0       | 2402                   | 1.170                |             | PASS   |
|        | 19      | 2440                   | 1.160                |             | PASS   |
|        | 39      | 2480                   | 1.160                |             | PASS   |

#### Test Graphs





BLE 1M\_Channel 39



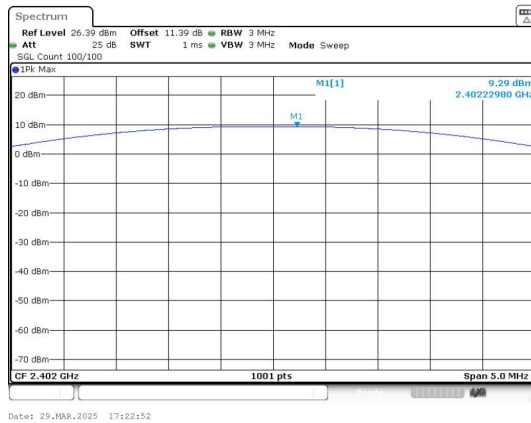
BLE 2M\_Channel 39

## 4) Conducted Output Power

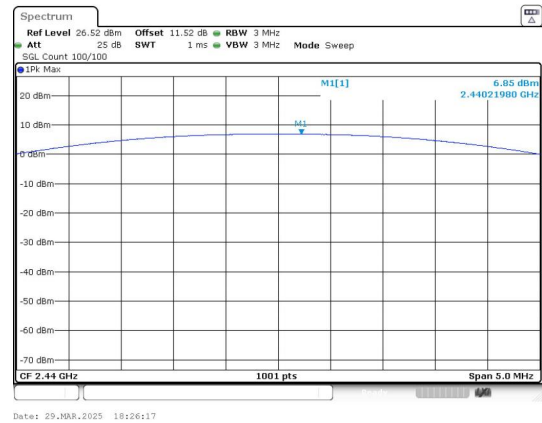
### Test Result

| Mode   | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Limit (dBm) | Result |
|--------|---------|-------------------------|------------------------|-------------|--------|
| BLE 1M | 0       | 9.29                    | 8.49                   | ≤30         | PASS   |
|        | 19      | 6.85                    | 4.84                   | ≤30         | PASS   |
|        | 39      | 6.26                    | 4.23                   | ≤30         | PASS   |
| BLE 2M | 0       | 7.75                    | 5.96                   | ≤30         | PASS   |
|        | 19      | 9.06                    | 8.05                   | ≤30         | PASS   |
|        | 39      | 8.67                    | 7.36                   | ≤30         | PASS   |

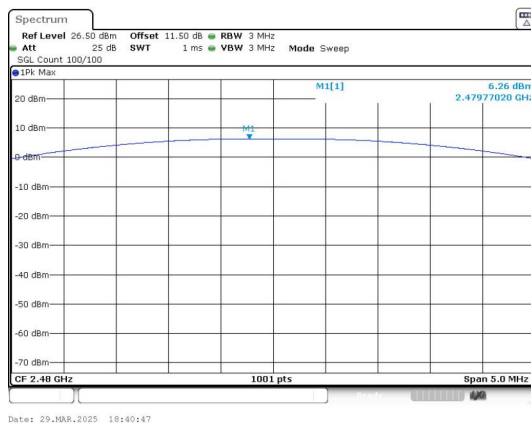
### Test Graphs



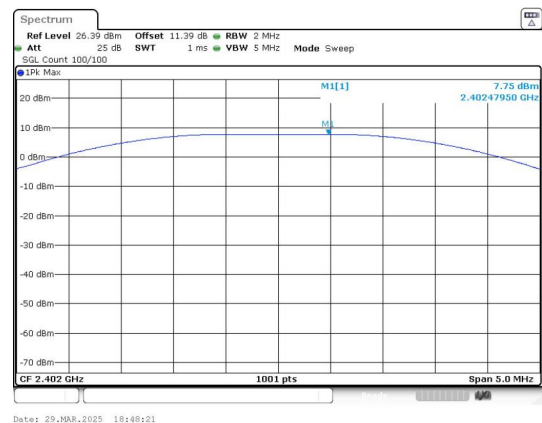
Peak Output Power  
BLE 1M\_Channel 0



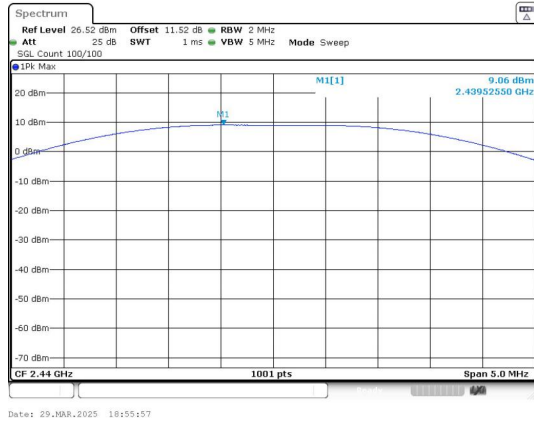
Peak Output Power  
BLE 1M\_Channel 19



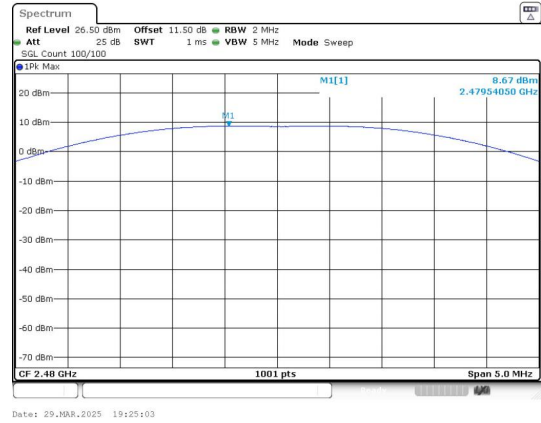
Peak Output Power  
BLE 1M\_Channel 39



Peak Output Power  
BLE 2M\_Channel 0



Peak Output Power  
BLE 2M\_Channel 19



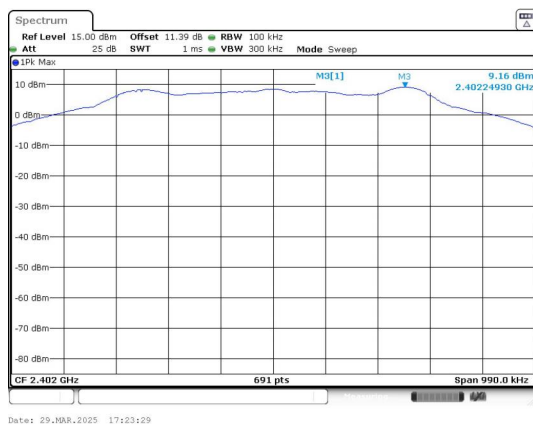
Peak Output Power  
BLE 2M\_Channel 39

## 5) Conducted Out Of Band Emission

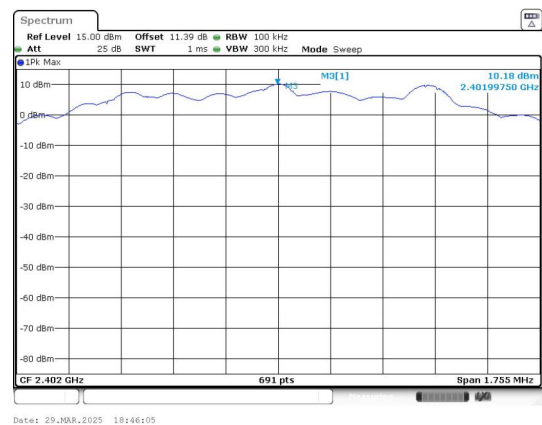
### Test Result

| Mode   | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|--------|---------|------------------------------|--------------------------|-------------|-----------------|--------|
| BLE 1M | 0       | 2400.00                      | -43.290                  | -10.84      | -32.450         | PASS   |
|        |         | 6269.59                      | -52.861                  | -10.84      | -42.021         | PASS   |
|        | 19      | 250.15                       | -48.131                  | -13.34      | -34.791         | PASS   |
|        | 39      | 2483.50                      | -50.330                  | -13.87      | -36.460         | PASS   |
|        |         | 6957.09                      | -52.097                  | -13.87      | -38.227         | PASS   |
| BLE 2M | 0       | 2400.00                      | -22.620                  | -9.82       | -12.800         | PASS   |
|        |         | 22043.1                      | -53.191                  | -9.82       | -43.371         | PASS   |
|        | 19      | 549.79                       | -48.963                  | -11.91      | -37.053         | PASS   |
|        | 39      | 2483.50                      | -48.360                  | -11.51      | -36.850         | PASS   |
|        |         | 16313.4                      | -53.124                  | -11.51      | -41.614         | PASS   |

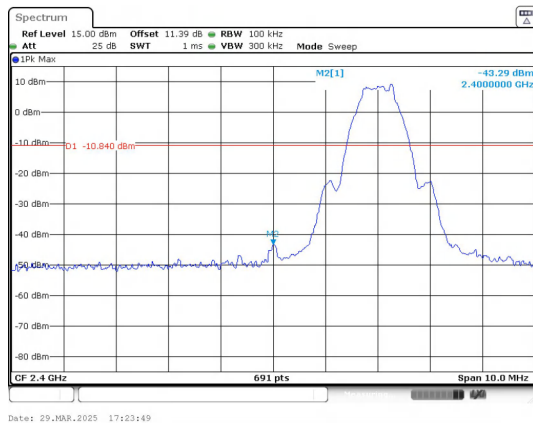
### Test Graphs



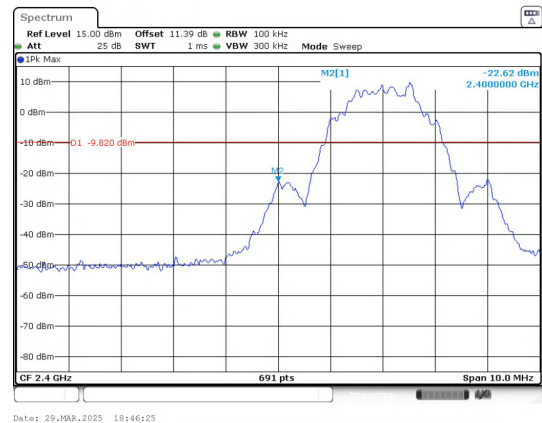
In-Band Reference Level  
BLE 1M\_Channel 0



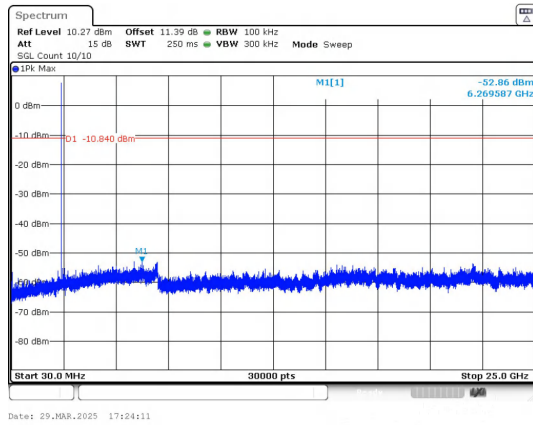
In-Band Reference Level  
BLE 2M\_Channel 0



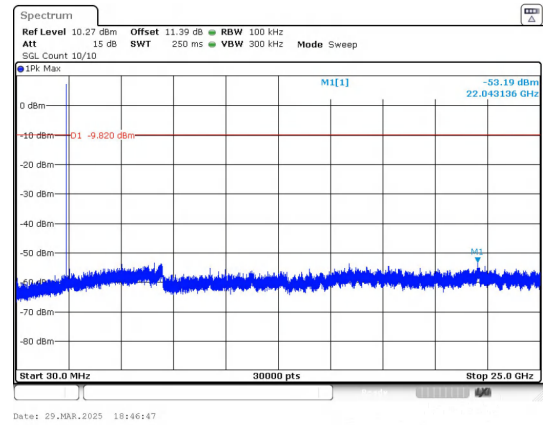
Out Of Band Emission  
BLE 1M\_Channel 0



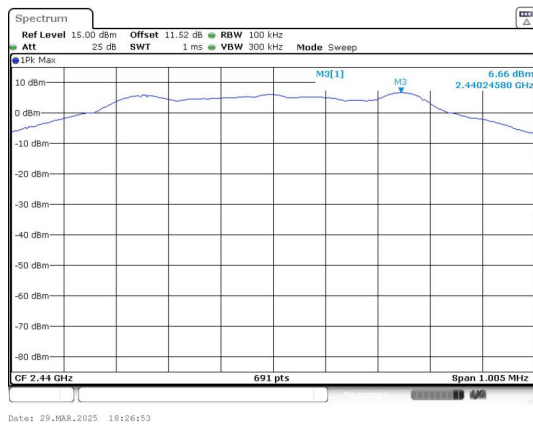
Out Of Band Emission  
BLE 2M\_Channel 0



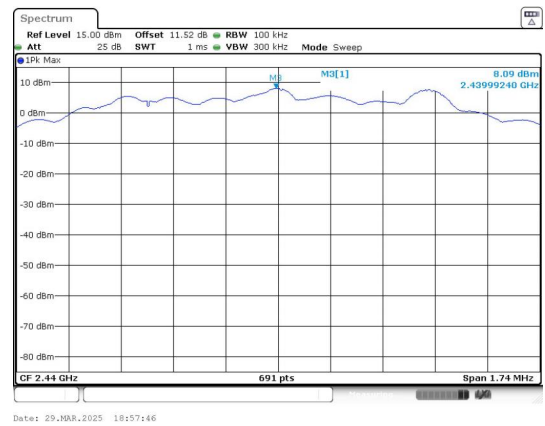
30.0 MHz - 25000.0 MHz  
BLE 1M\_Channel 0



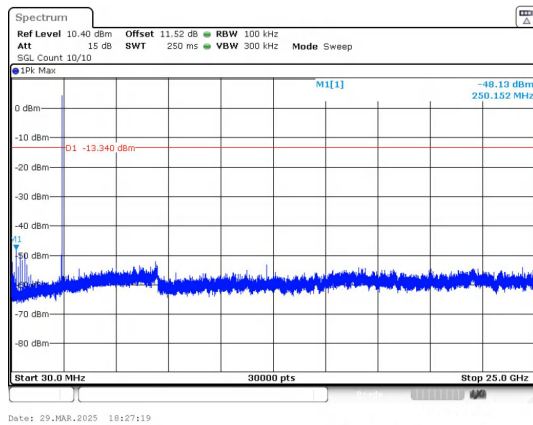
30.0 MHz - 25000.0 MHz  
BLE 2M\_Channel 0



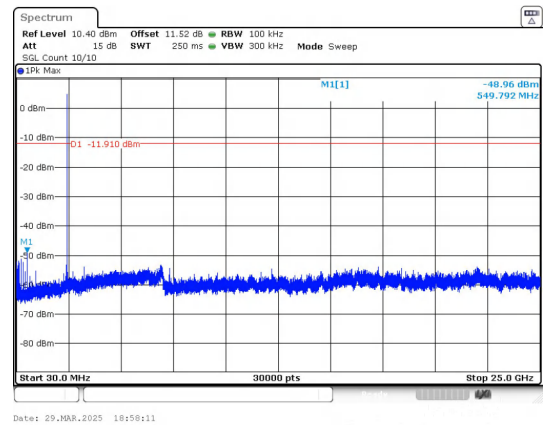
In-Band Reference Level  
BLE 1M\_Channel 19



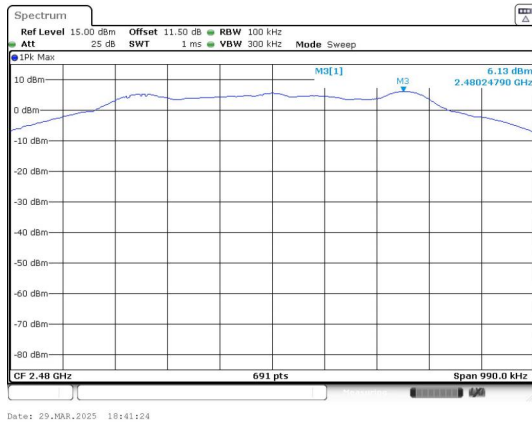
In-Band Reference Level  
BLE 2M\_Channel 19



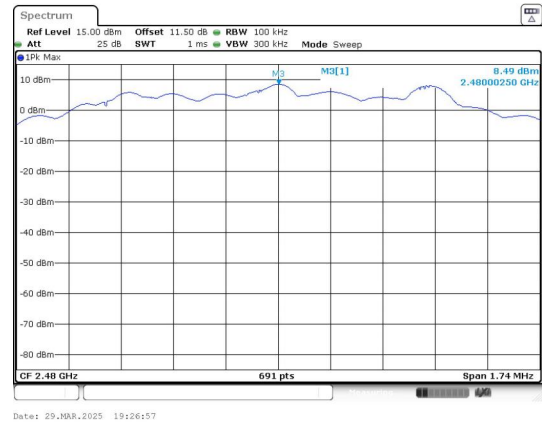
30.0 MHz - 25000.0 MHz  
BLE 1M\_Channel 19



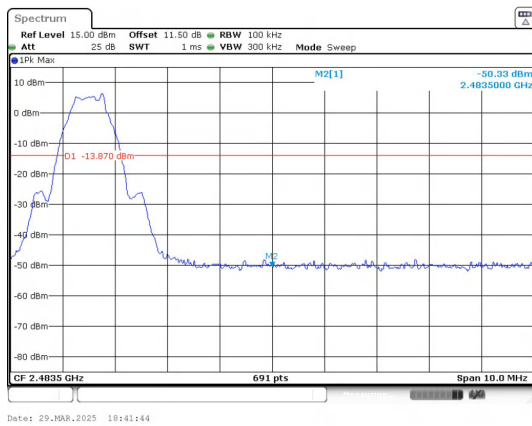
30.0 MHz - 25000.0 MHz  
BLE 2M\_Channel 19



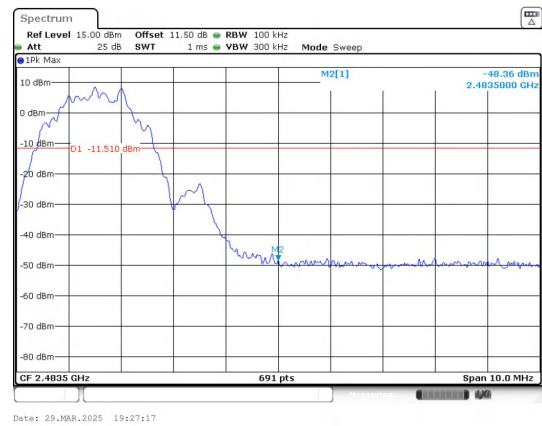
**In-Band Reference Level  
BLE 1M\_Channel 39**



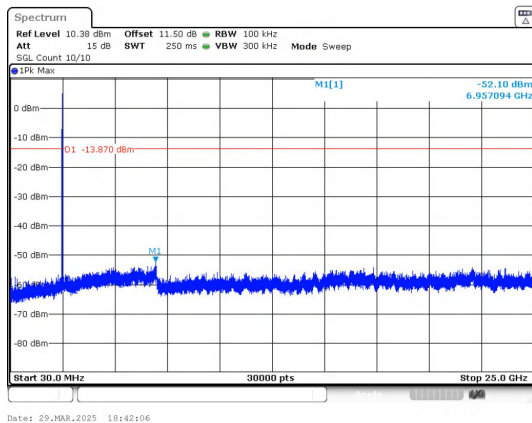
**In-Band Reference Level  
BLE 2M\_Channel 39**



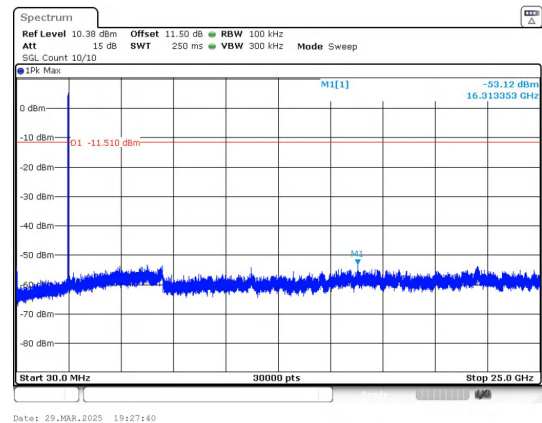
**Out Of Band Emission  
BLE 1M\_Channel 39**



**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**

-----End of the report-----