



## Appendix B

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

Product Name: Transmitter Kit v2

Trade Mark: TESLOGIC

Test Model: Transmitter Kit v2 for Model 3 ('21+) / Highland / Y (All)

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 25.5° C     |
| Relative Humidity: | 52.2%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Simba Huang |
| Supervised by:     | Seal Chen   |



## Contents

|                                              | Page |
|----------------------------------------------|------|
| <b>COVER PAGE</b>                            |      |
| 1 Duty Cycle .....                           | 3    |
| 1.1 Test Result .....                        | 3    |
| 1.2 Test Graphs .....                        | 4    |
| 2 Maximum Conducted Output Power .....       | 6    |
| 2.1 Test Result .....                        | 6    |
| 2.2 Test Graphs .....                        | 7    |
| 3 -6dB Bandwidth .....                       | 9    |
| 3.1 Test Result .....                        | 9    |
| 3.2 Test Graphs .....                        | 10   |
| 4 Maximum Power Spectral Density Level ..... | 12   |
| 4.1 Test Result .....                        | 12   |
| 4.2 Test Graphs .....                        | 13   |
| 5 Band Edge .....                            | 15   |
| 5.1 Test Result .....                        | 15   |
| 5.2 Test Graphs .....                        | 16   |
| 6 Conducted RF Spurious Emission .....       | 18   |
| 6.1 Test Result .....                        | 18   |
| 6.2 Test Graphs .....                        | 19   |
| 7 Restrict Band .....                        | 22   |
| 7.1 Test Result .....                        | 22   |
| 7.2 Test Graphs .....                        | 23   |

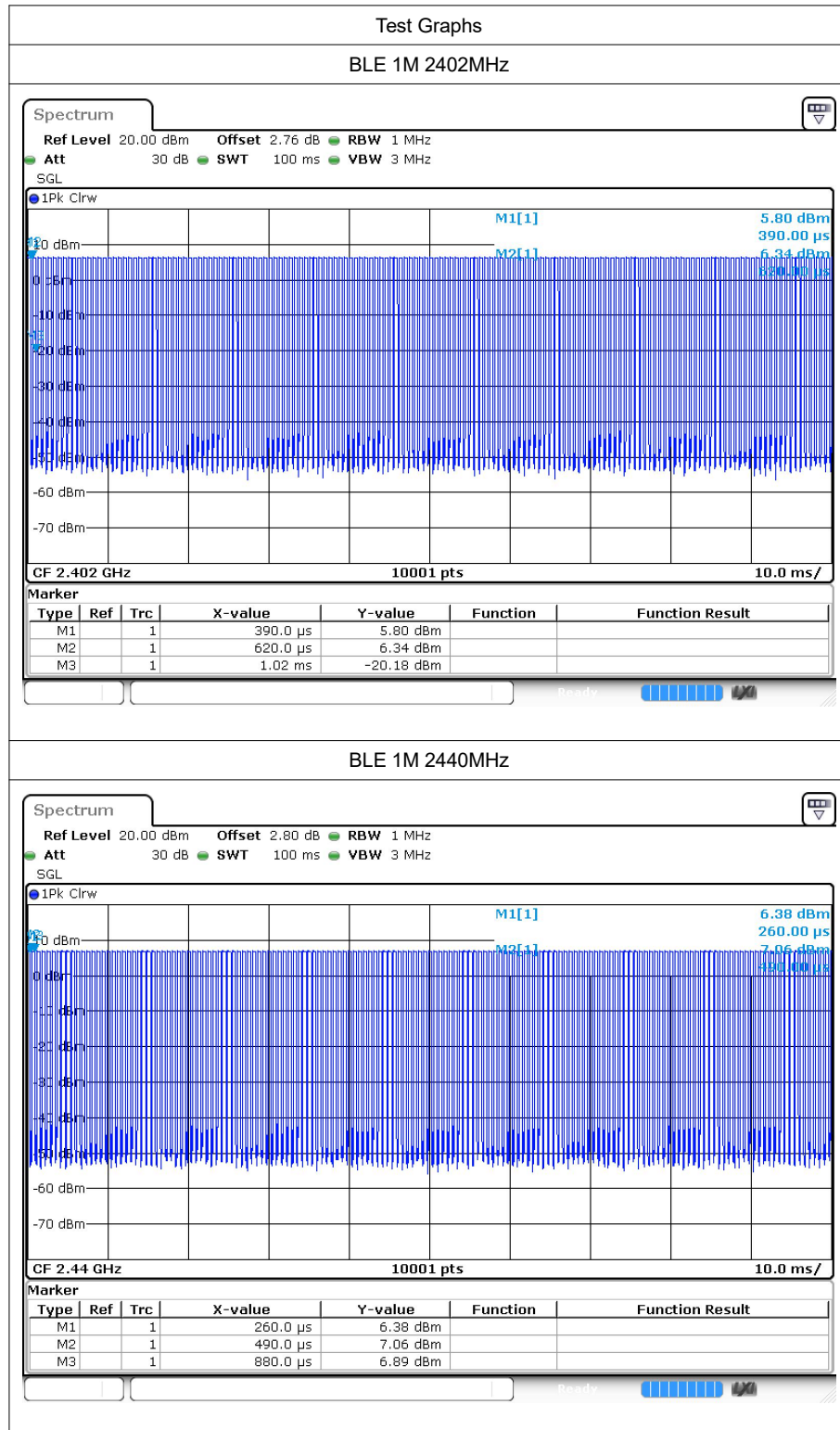


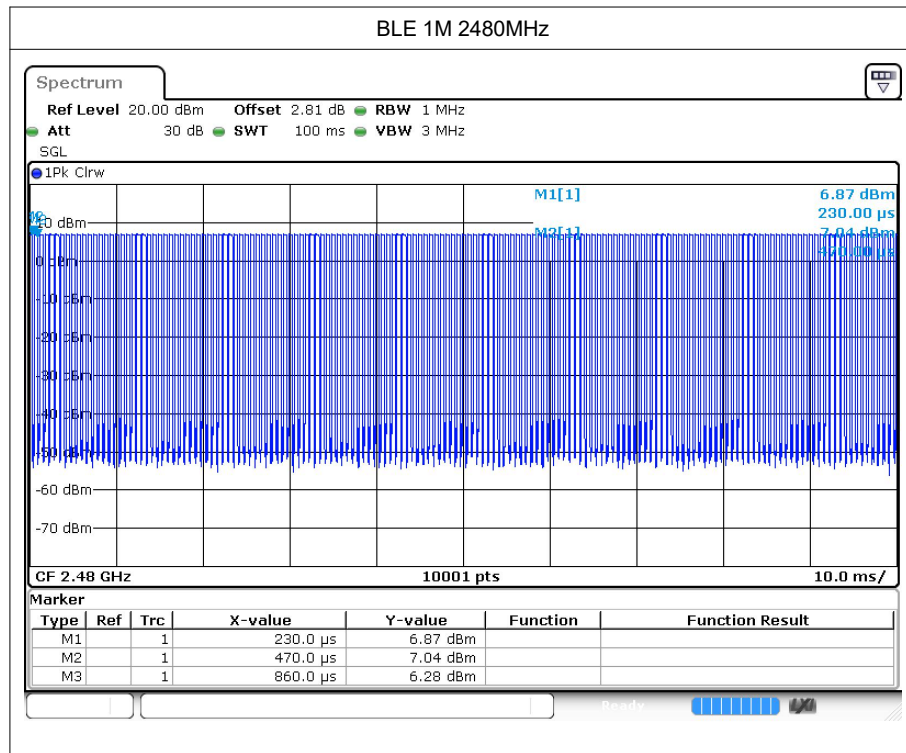
# 1 Duty Cycle

## 1.1 Test Result

| Mode   | Frequency (MHz) | Duty Cycle (%) | 1/T (kHz) |
|--------|-----------------|----------------|-----------|
| BLE 1M | 2402            | 64.8           | 2.5       |
| BLE 1M | 2440            | 64             | 2.56      |
| BLE 1M | 2480            | 64             | 2.56      |

## 1.2 Test Graphs





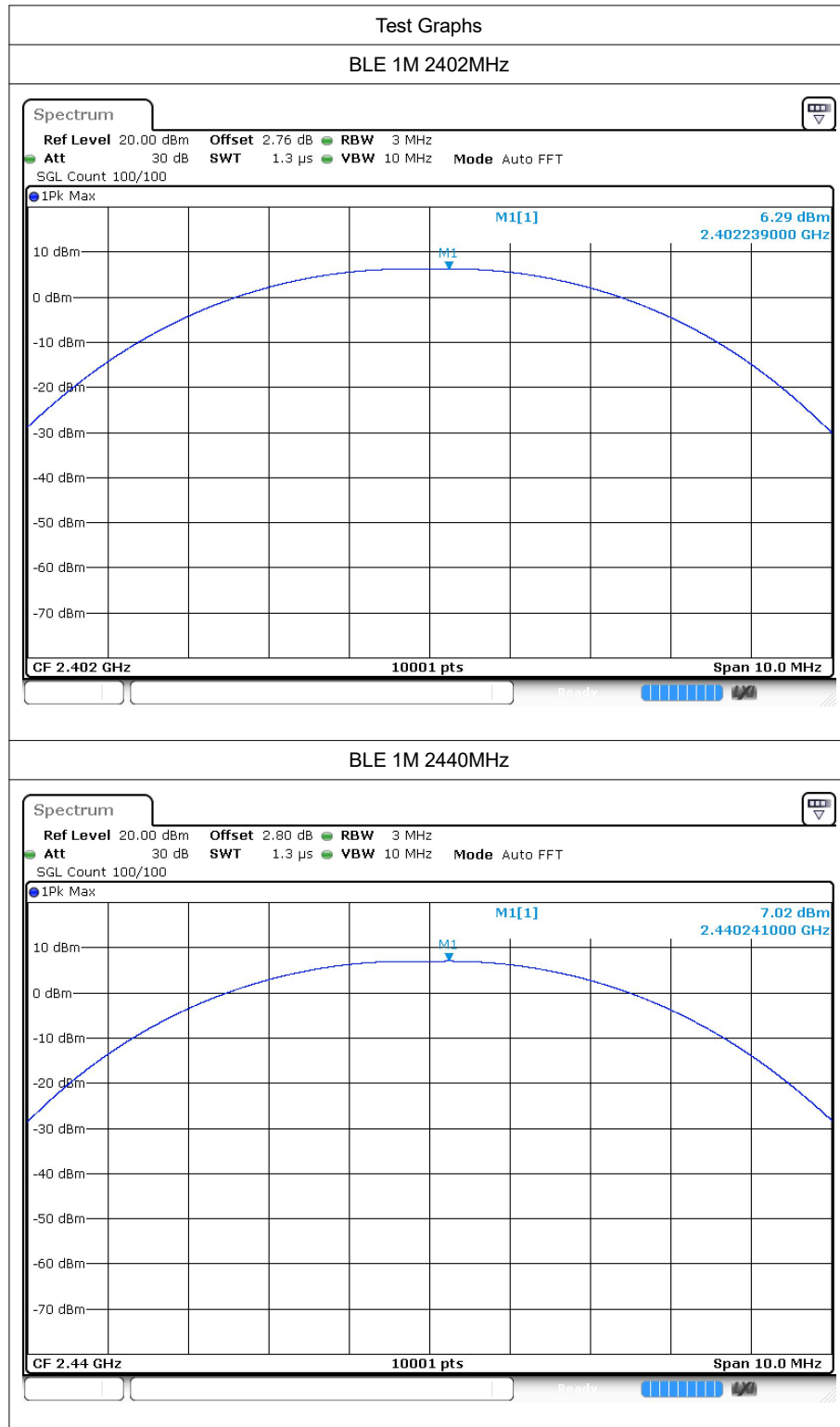


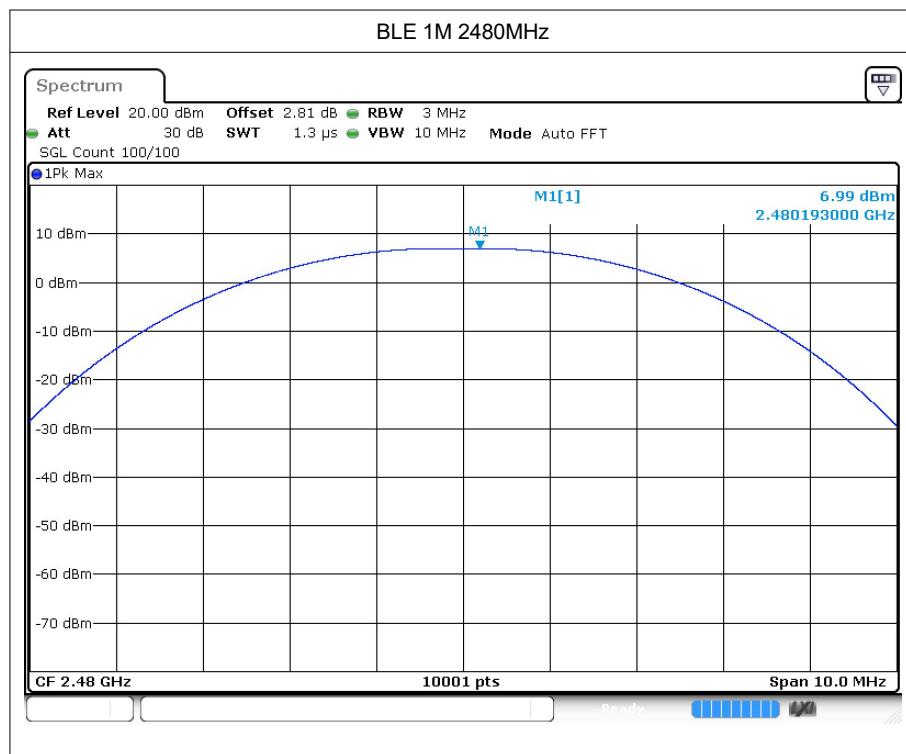
## 2 Maximum Conducted Output Power

### 2.1 Test Result

| Mode   | Frequency (MHz) | Conducted Power<br>(dBm) | Limit (dBm) | Verdict |
|--------|-----------------|--------------------------|-------------|---------|
| BLE 1M | 2402            | 6.29                     | 30          | Pass    |
| BLE 1M | 2440            | 7.02                     | 30          | Pass    |
| BLE 1M | 2480            | 6.99                     | 30          | Pass    |

## 2.2 Test Graphs





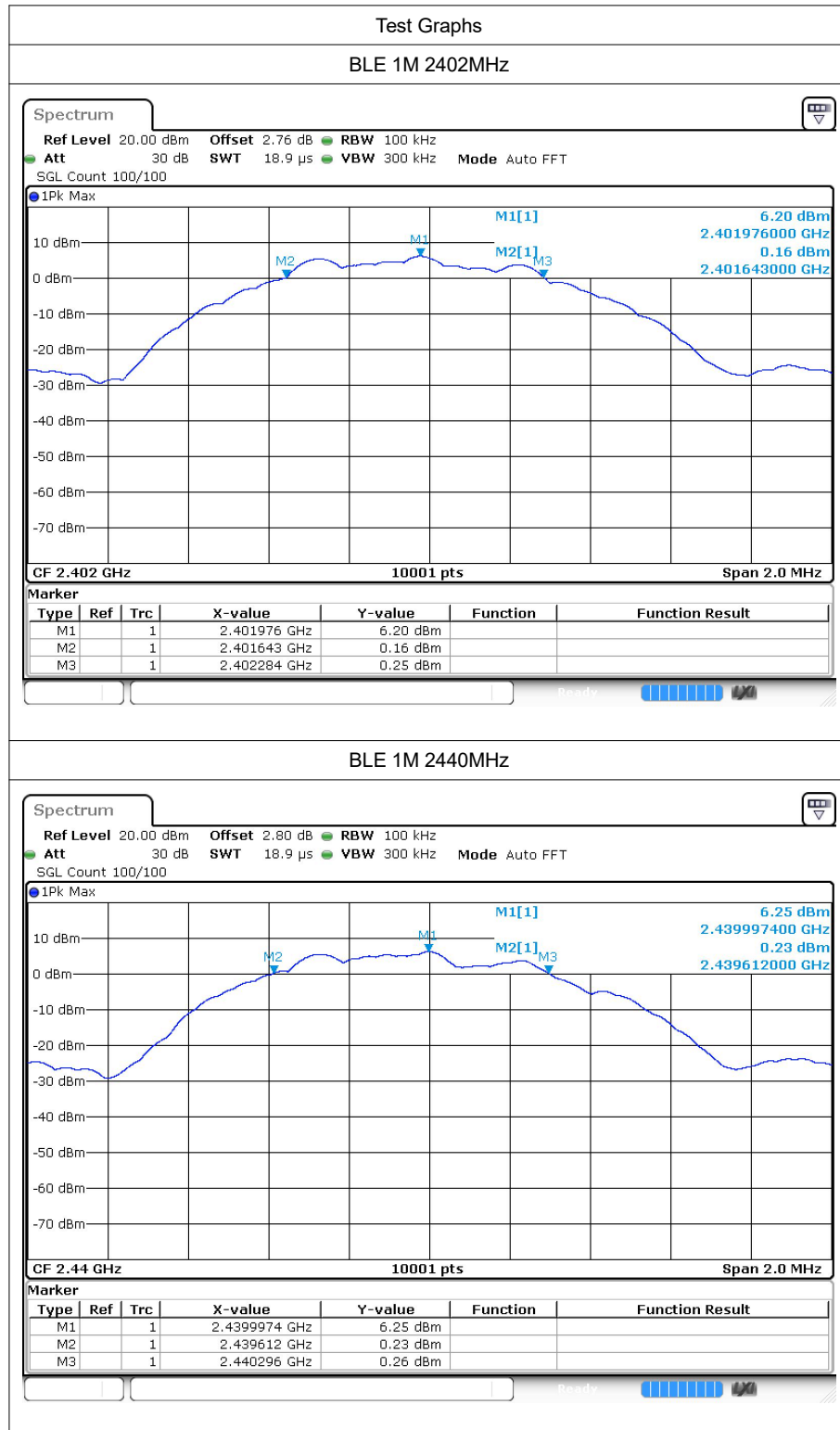


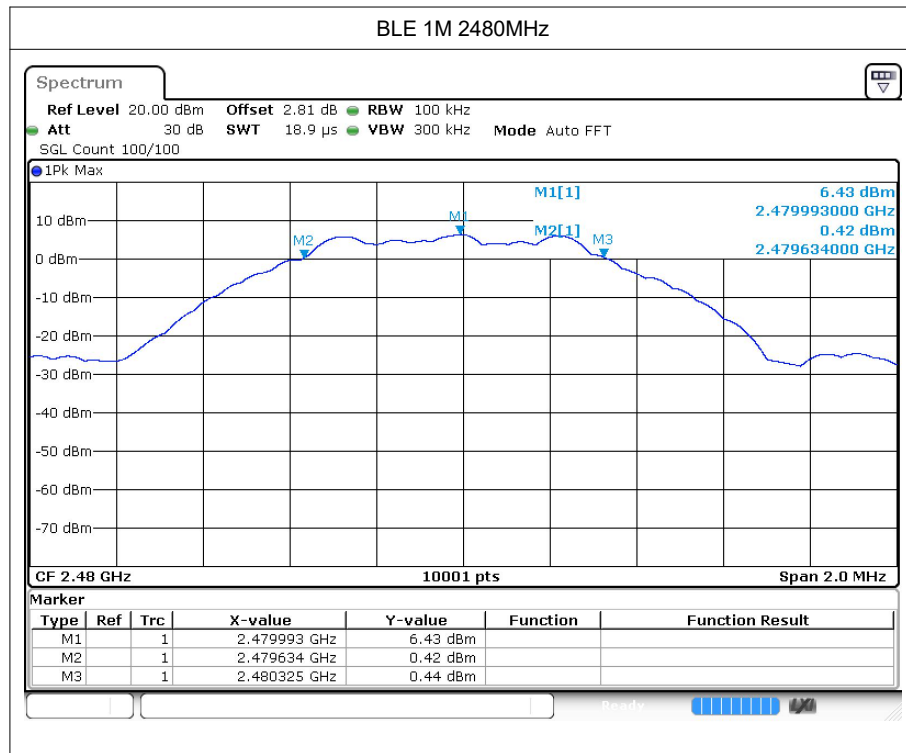
### 3 -6dB Bandwidth

#### 3.1 Test Result

| Mode   | Frequency (MHz) | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|--------|-----------------|-----------------------|-----------------------------|---------|
| BLE 1M | 2402            | 0.641                 | 0.5                         | Pass    |
| BLE 1M | 2440            | 0.684                 | 0.5                         | Pass    |
| BLE 1M | 2480            | 0.691                 | 0.5                         | Pass    |

### 3.2 Test Graphs





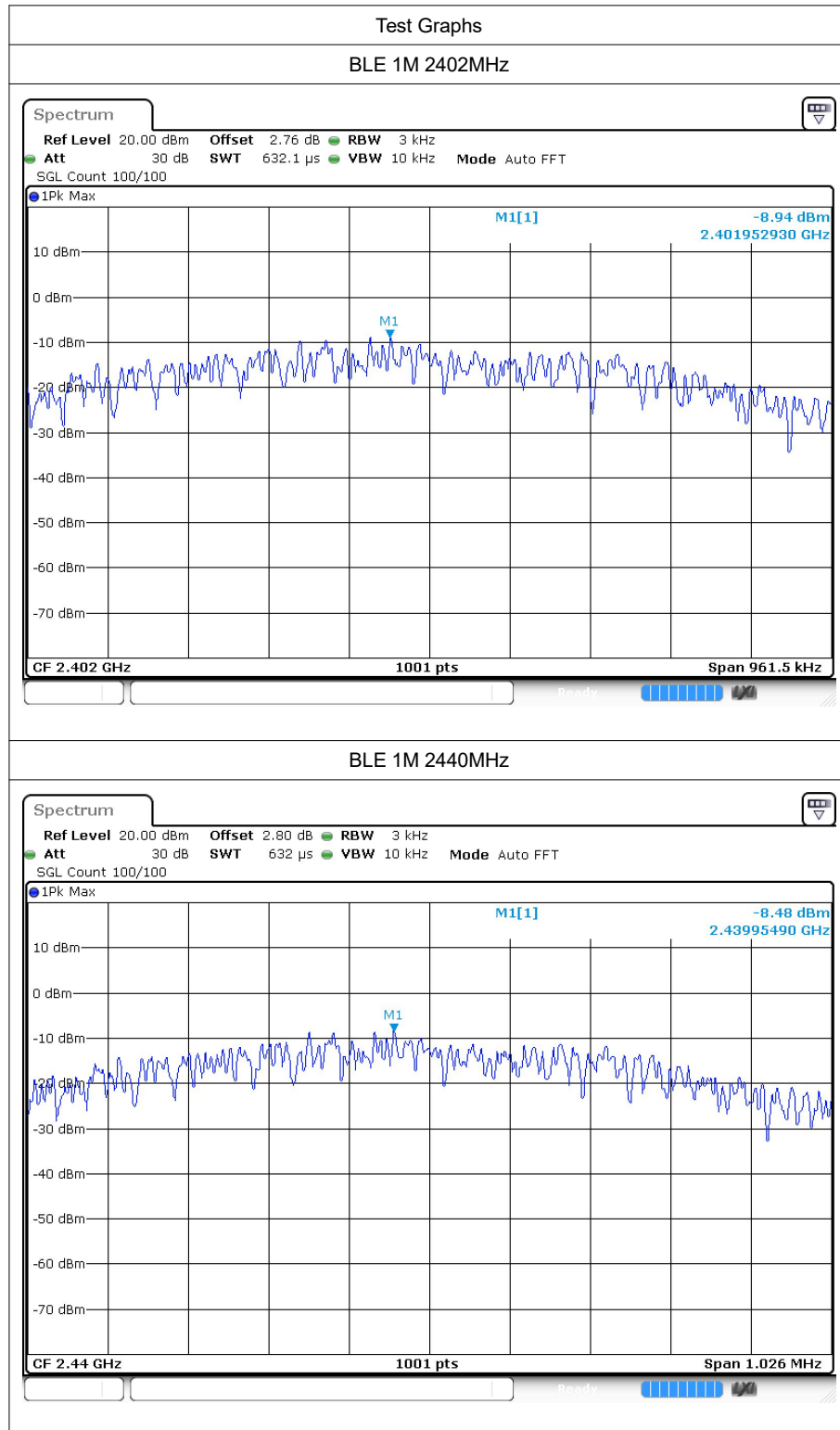


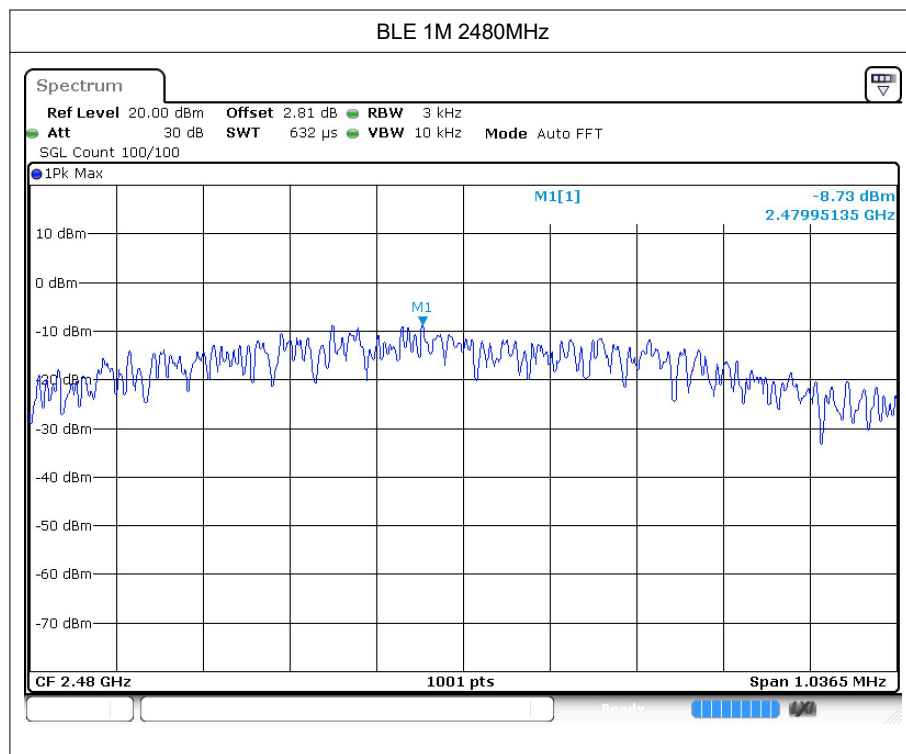
## 4 Maximum Power Spectral Density Level

### 4.1 Test Result

| Mode   | Frequency (MHz) | Conducted PSD<br>(dBm/3-100kHz) | Limit<br>(dBm/3kHz) | Verdict |
|--------|-----------------|---------------------------------|---------------------|---------|
| BLE 1M | 2402            | -8.94                           | $\leq 8$            | Pass    |
| BLE 1M | 2440            | -8.48                           | $\leq 8$            | Pass    |
| BLE 1M | 2480            | -8.73                           | $\leq 8$            | Pass    |

## 4.2 Test Graphs





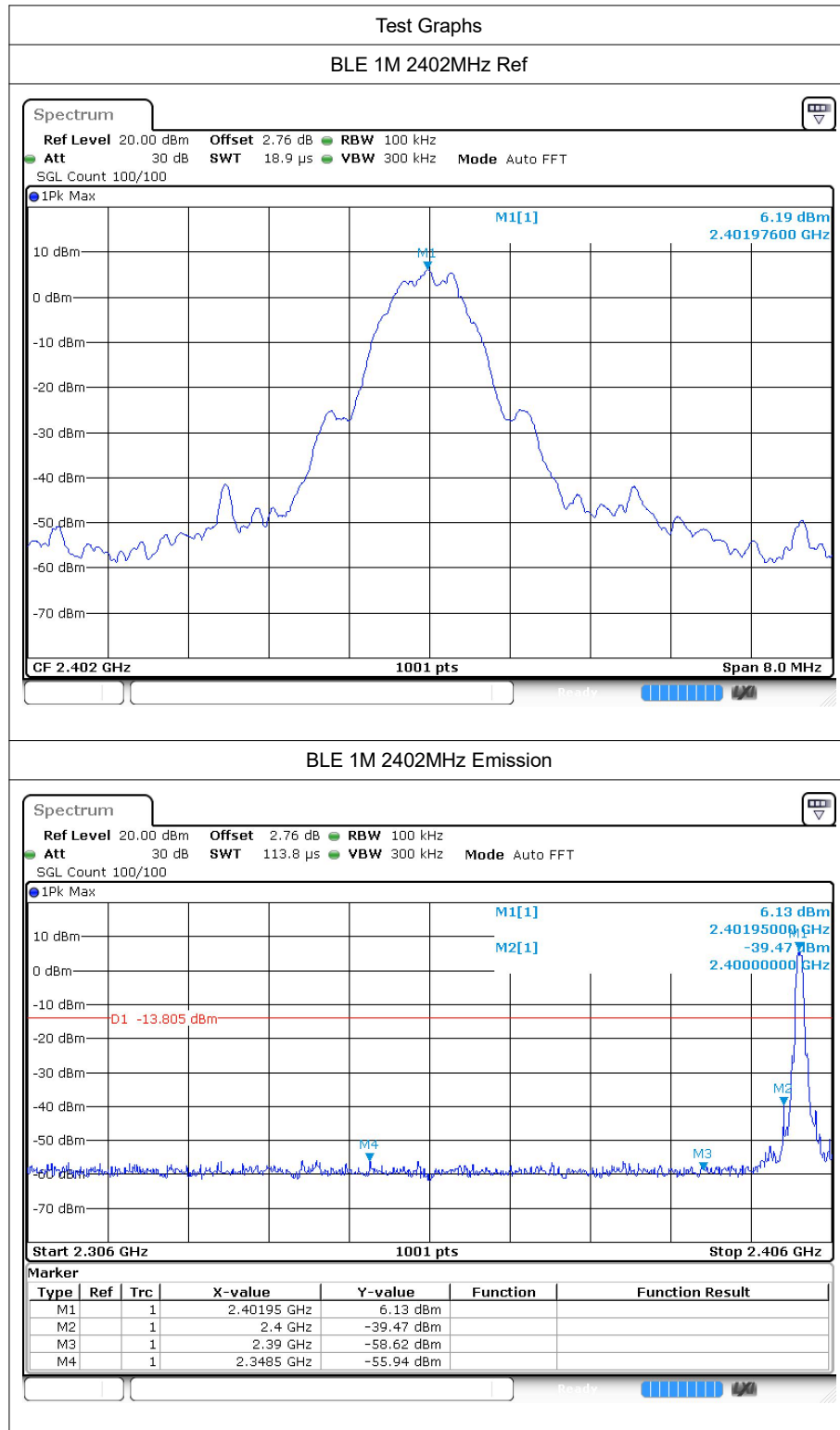


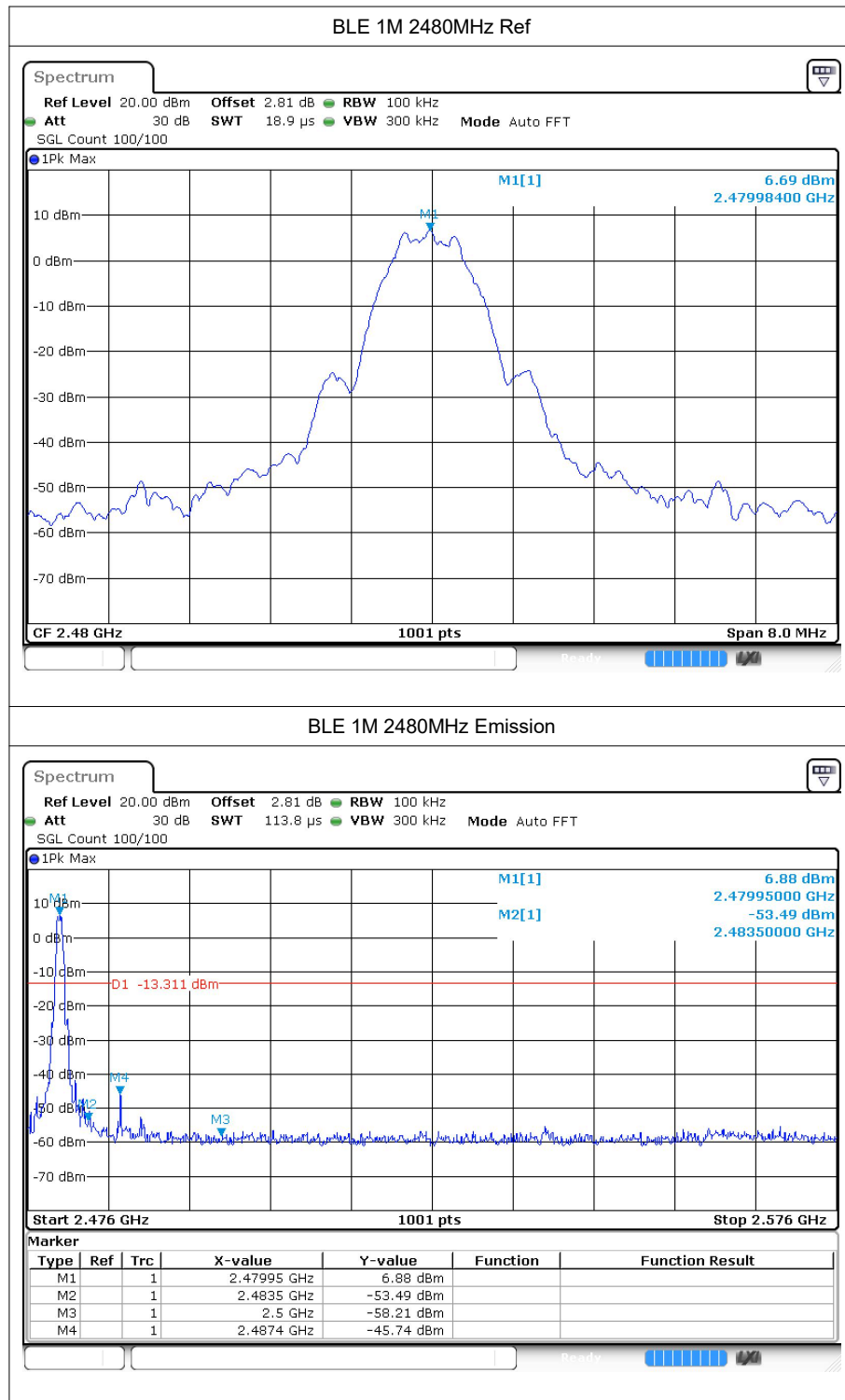
## 5 Band Edge

### 5.1 Test Result

| Mode   | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402            | -62.13          | -20         | Pass    |
| BLE 1M | 2480            | -52.43          | -20         | Pass    |

## 5.2 Test Graphs





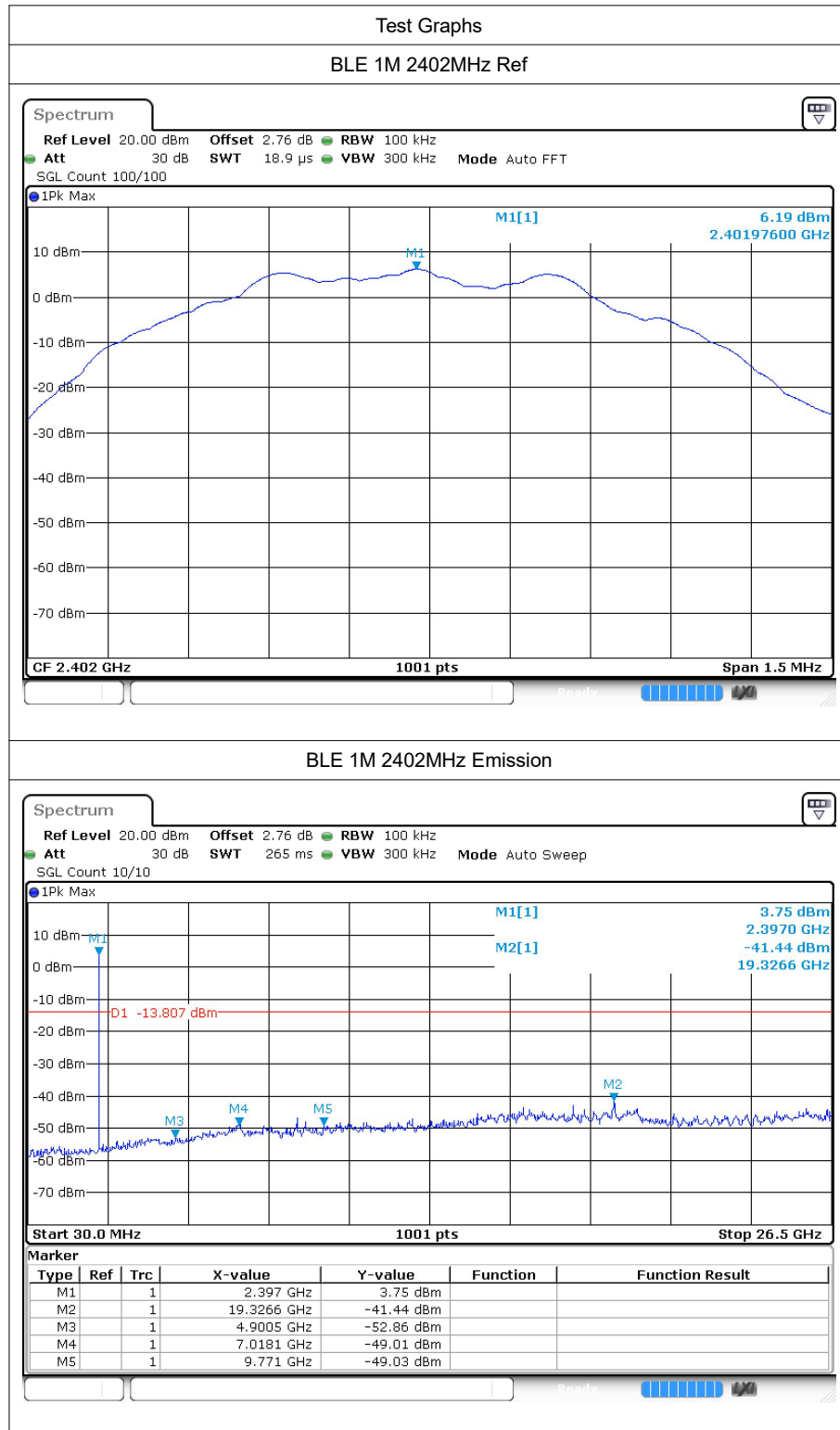


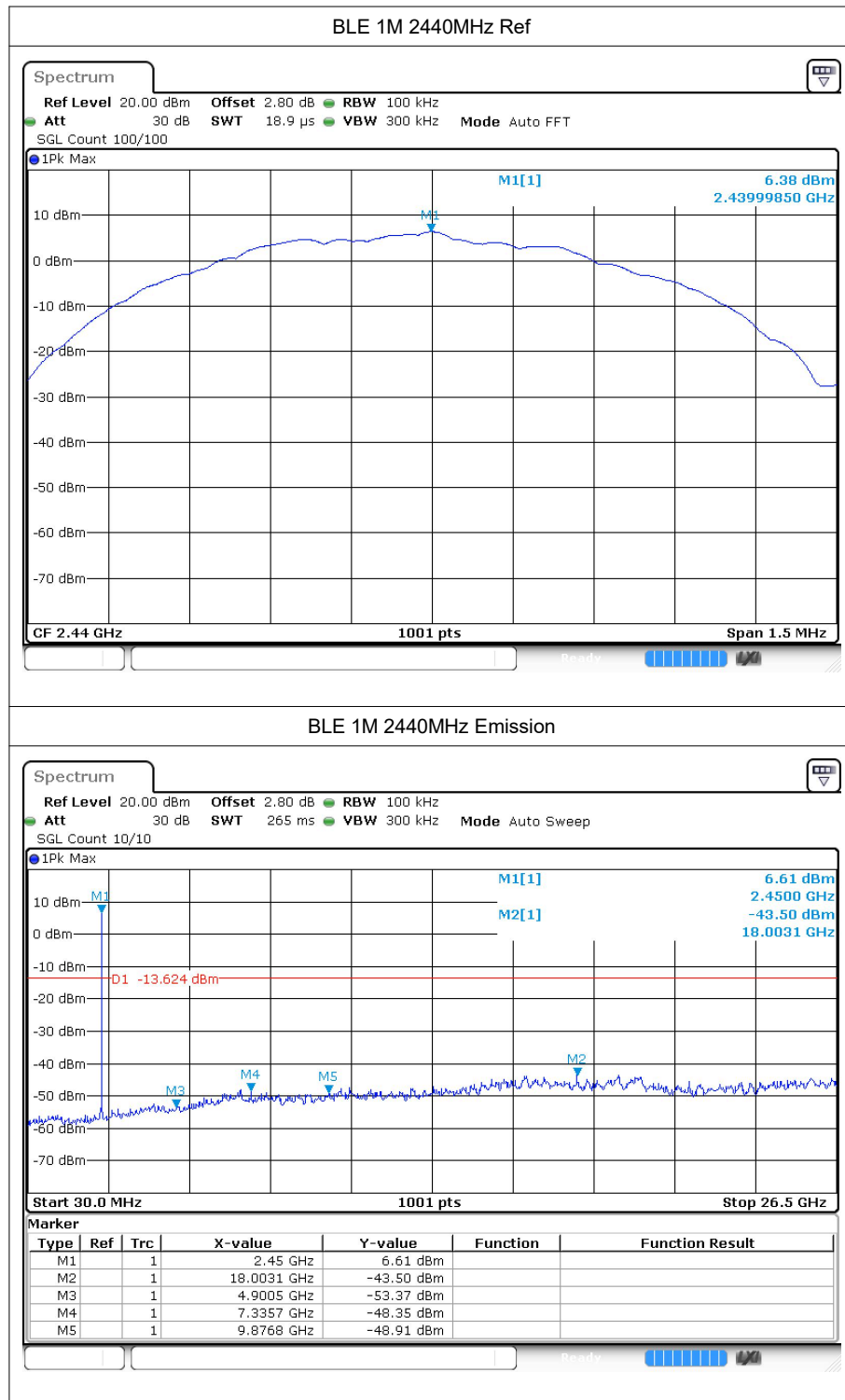
## 6 Conducted RF Spurious Emission

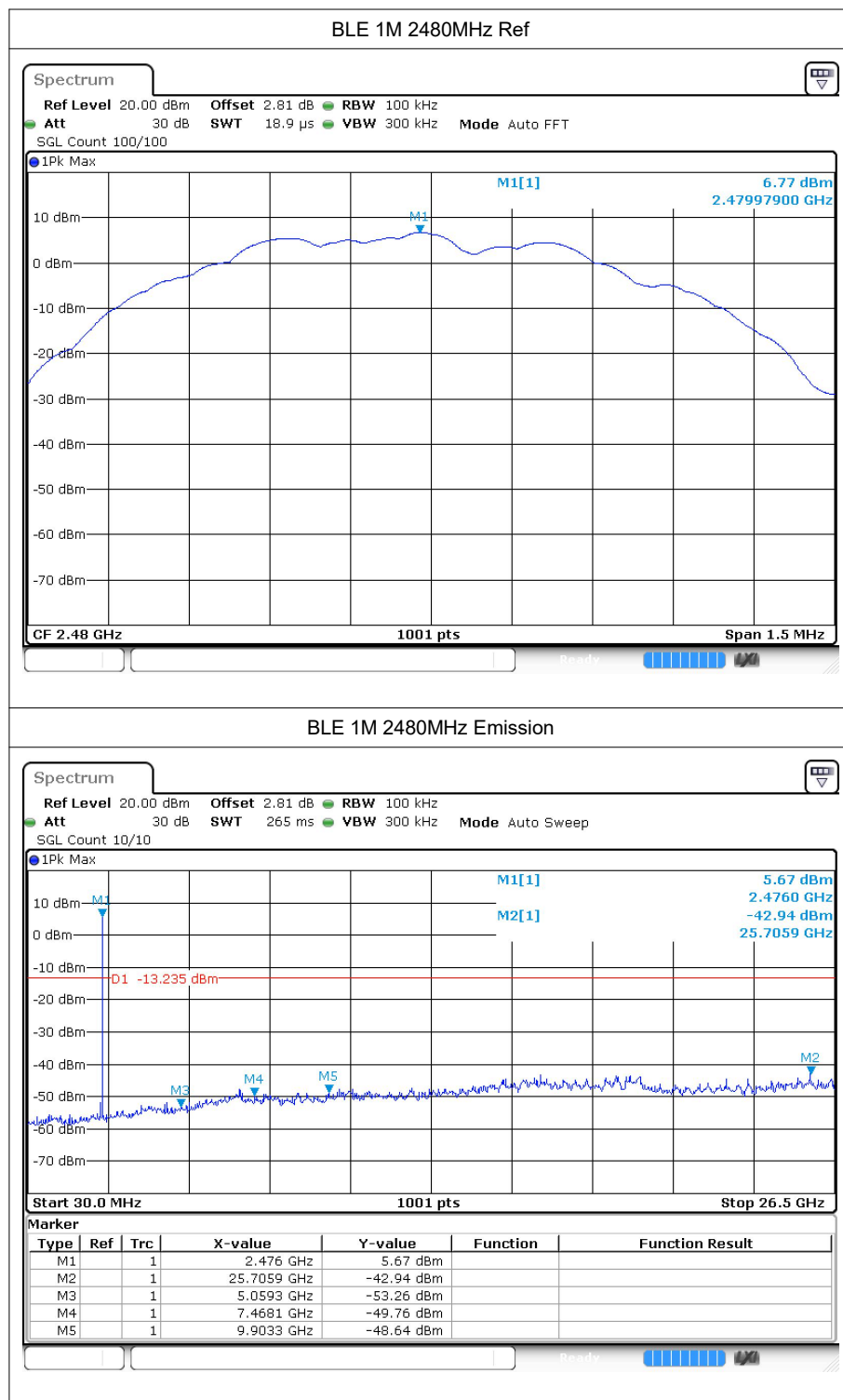
### 6.1 Test Result

| Mode   | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402            | -47.63          | -20         | Pass    |
| BLE 1M | 2440            | -49.88          | -20         | Pass    |
| BLE 1M | 2480            | -49.7           | -20         | Pass    |

## 6.2 Test Graphs







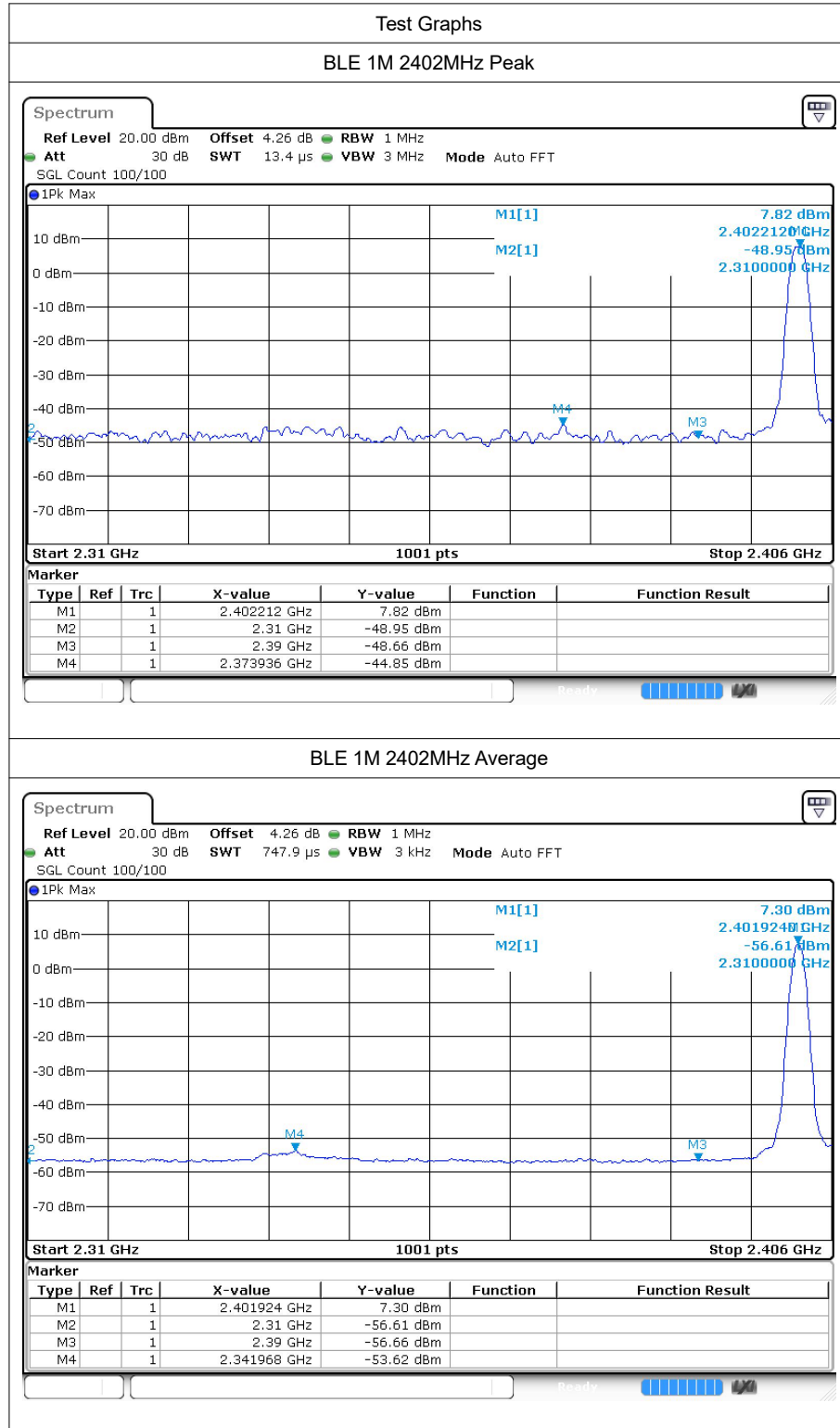


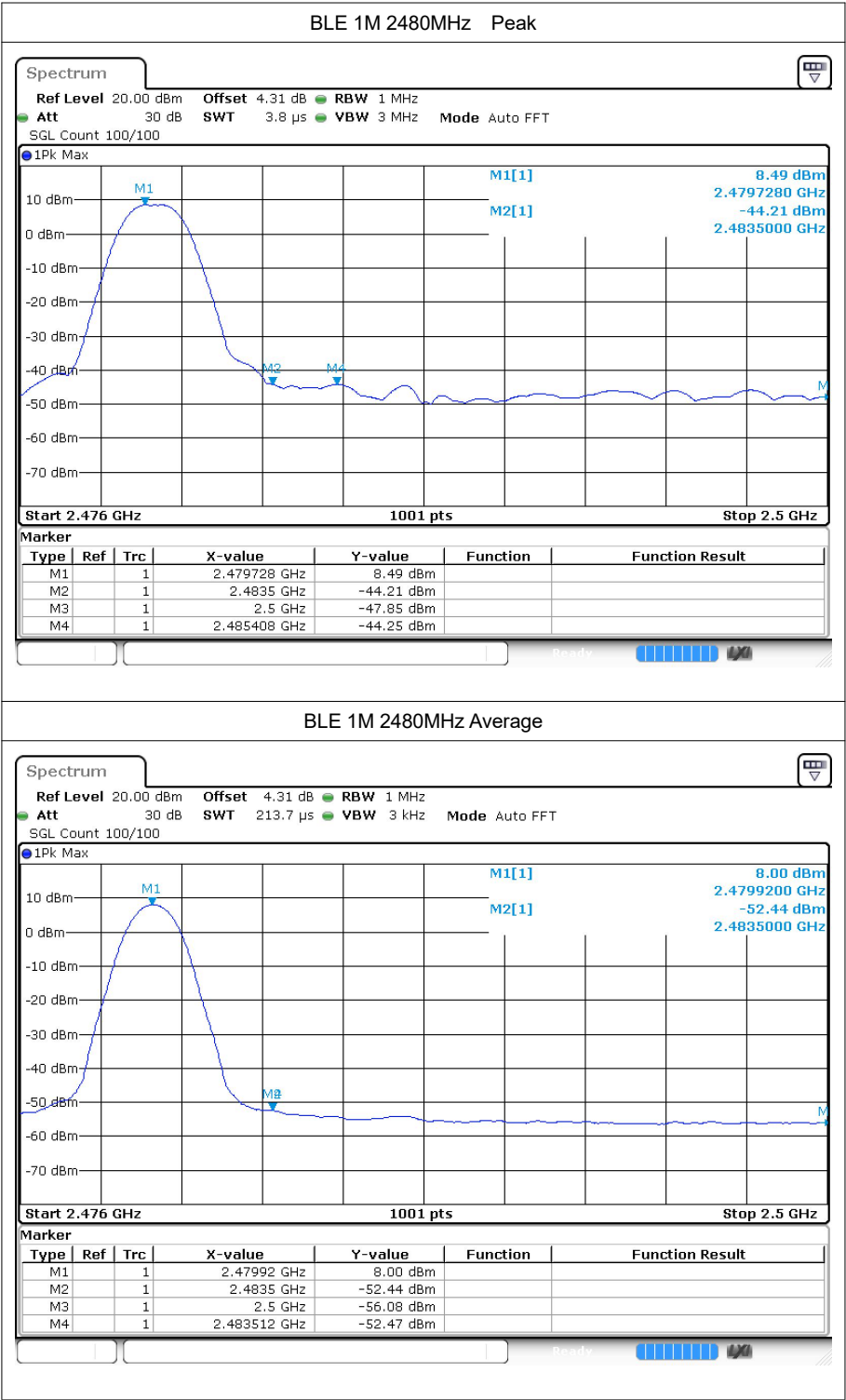
## 7 Restrict Band

### 7.1 Test Result

| Mode   | Frequency<br>(MHz) | Spur Freq<br>(MHz) | Power<br>(dBm) | Gain<br>(dBi) | E<br>(dBuV/m) | Detector | Limit<br>(dBuV/m) | Verdict |
|--------|--------------------|--------------------|----------------|---------------|---------------|----------|-------------------|---------|
| BLE 1M | 2402               | 2310               | -48.94         | 2             | 48.32         | Peak     | 74                | Pass    |
| BLE 1M | 2402               | 2310               | -56.61         | 2             | 40.65         | Average  | 54                | Pass    |
| BLE 1M | 2402               | 2373.936           | -44.85         | 2             | 52.41         | Peak     | 74                | Pass    |
| BLE 1M | 2402               | 2341.968           | -53.61         | 2             | 43.65         | Average  | 54                | Pass    |
| BLE 1M | 2402               | 2390               | -48.66         | 2             | 48.6          | Peak     | 74                | Pass    |
| BLE 1M | 2402               | 2390               | -56.66         | 2             | 40.6          | Average  | 54                | Pass    |
| BLE 1M | 2480               | 2483.5             | -44.26         | 2             | 53            | Peak     | 74                | Pass    |
| BLE 1M | 2480               | 2483.5             | -52.47         | 2             | 44.79         | Average  | 54                | Pass    |
| BLE 1M | 2480               | 2485.408           | -44.24         | 2             | 53.02         | Peak     | 74                | Pass    |
| BLE 1M | 2480               | 2483.512           | -52.47         | 2             | 44.79         | Average  | 54                | Pass    |
| BLE 1M | 2480               | 2500               | -47.85         | 2             | 49.41         | Peak     | 74                | Pass    |
| BLE 1M | 2480               | 2500               | -56.08         | 2             | 41.18         | Average  | 54                | Pass    |

## 7.2 Test Graphs





---The End---