



Appendix B

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

Product Name: M5PoECAM

Trade Mark: M5STACK

Test Model: M5PoECAM-W

Environmental Conditions

| | |
|--------------------|-------------|
| Temperature: | 18.3° C |
| Relative Humidity: | 50.6% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Simba Huang |
| Supervised by: | Seal Chen |



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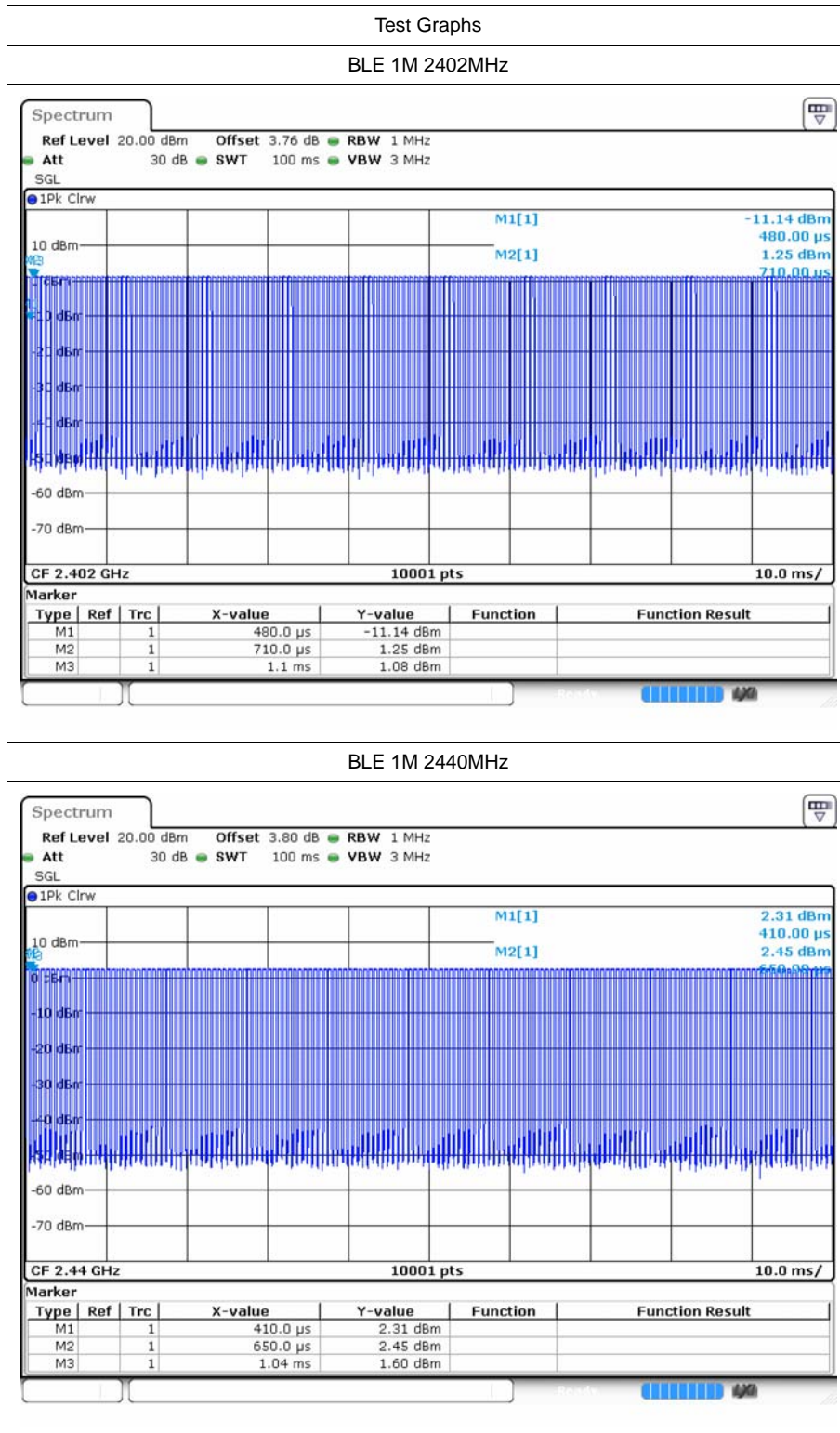


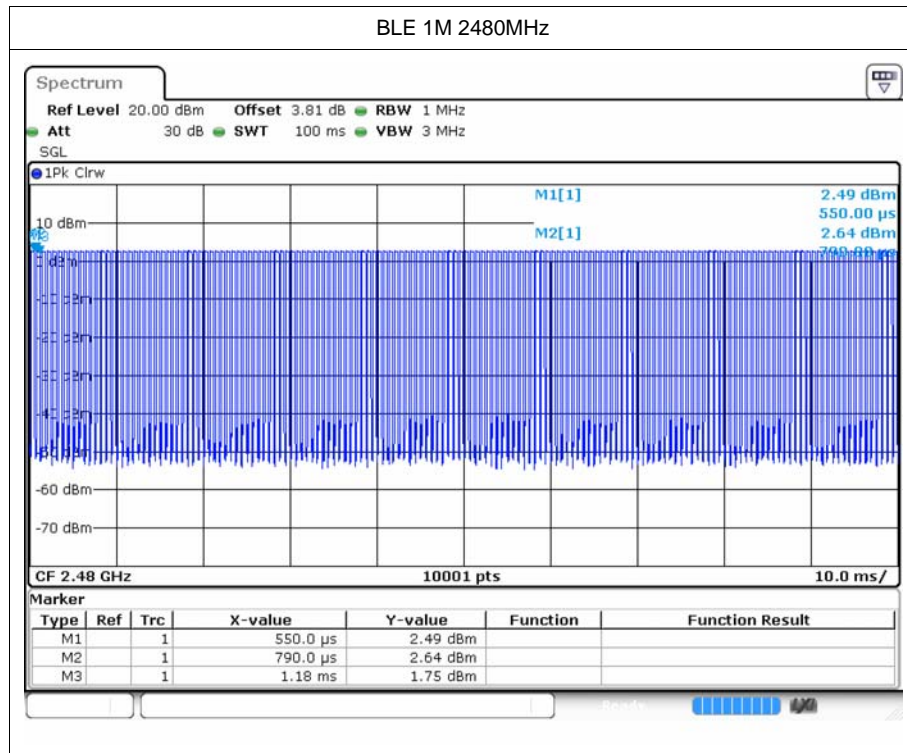
1 Duty Cycle

1.1 Test Result

| Mode | Frequency (MHz) | Duty Cycle (%) | 1/T (kHz) |
|--------|-----------------|----------------|-----------|
| BLE 1M | 2402 | 64.79 | 2.56 |
| BLE 1M | 2440 | 63.99 | 2.56 |
| BLE 1M | 2480 | 64.26 | 2.56 |

1.2 Test Graphs





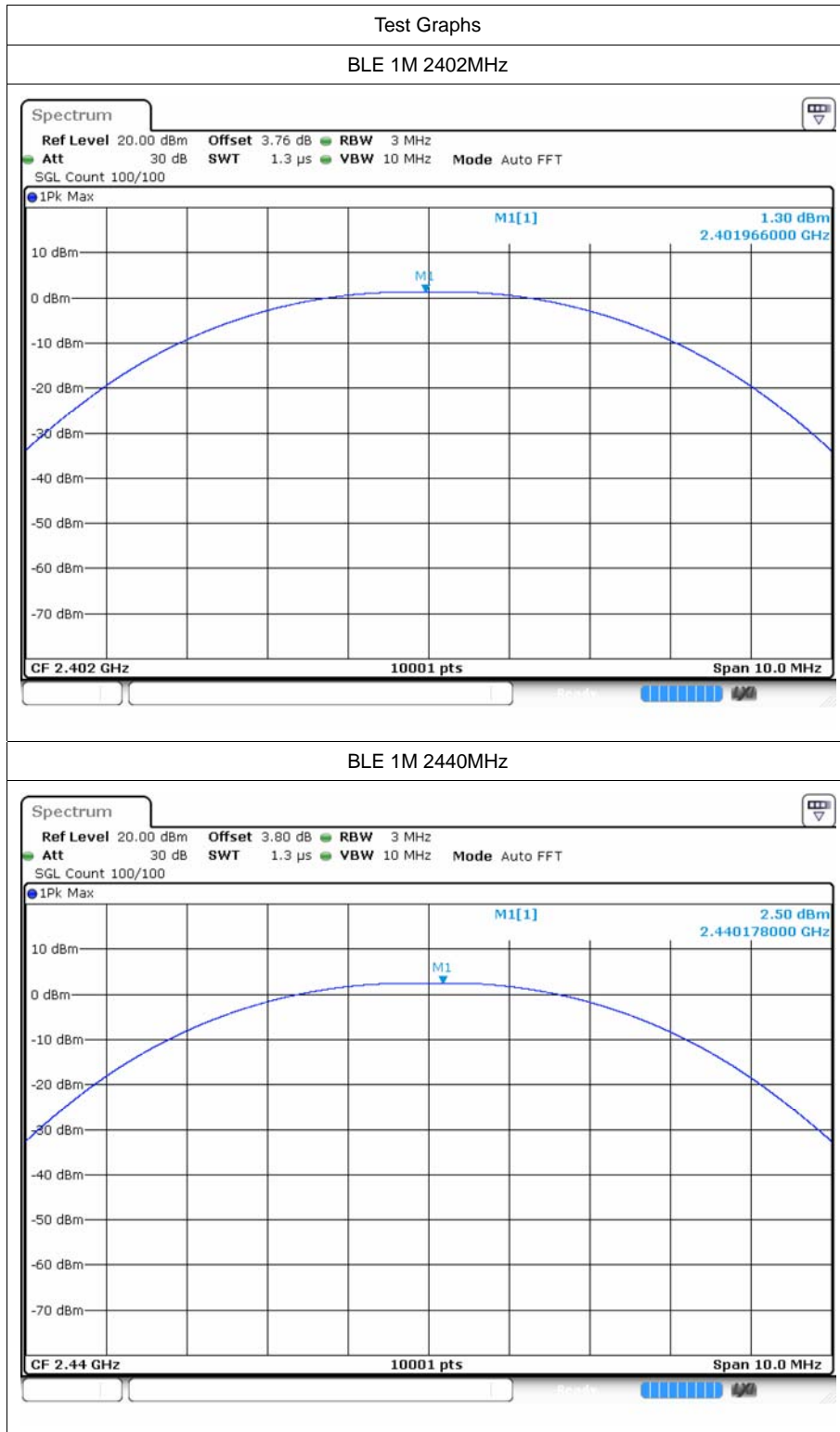


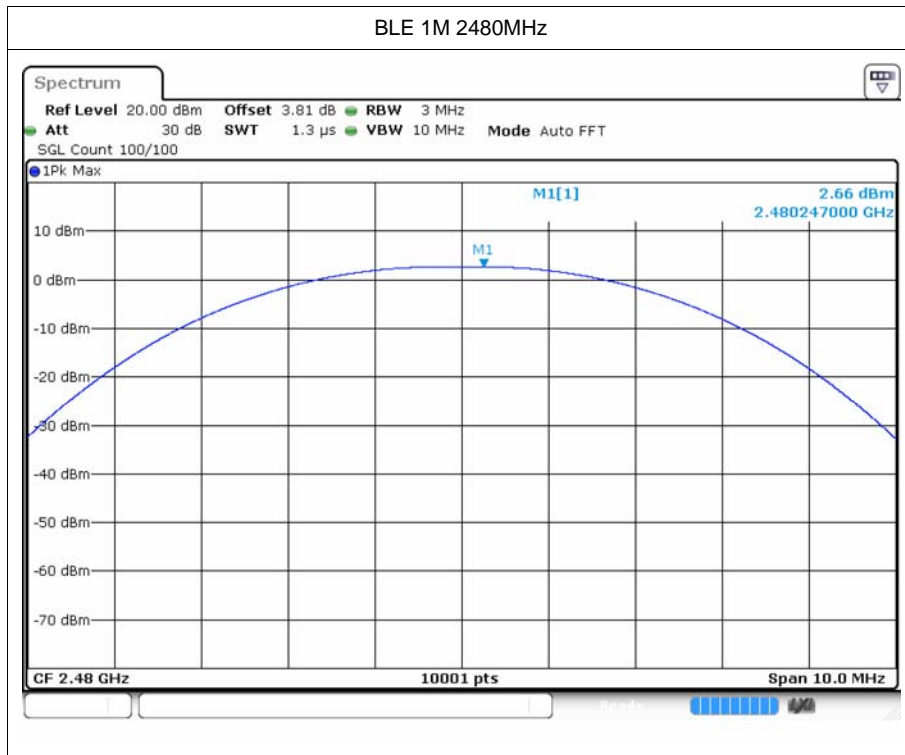
2 Maximum Conducted Output Power

2.1 Test Result

| Mode | Frequency (MHz) | Conducted Power (dBm) | Limit (dBm) | Verdict |
|--------|-----------------|-----------------------|-------------|---------|
| BLE 1M | 2402 | 1.3 | 30 | Pass |
| BLE 1M | 2440 | 2.5 | 30 | Pass |
| BLE 1M | 2480 | 2.66 | 30 | Pass |

2.2 Test Graphs





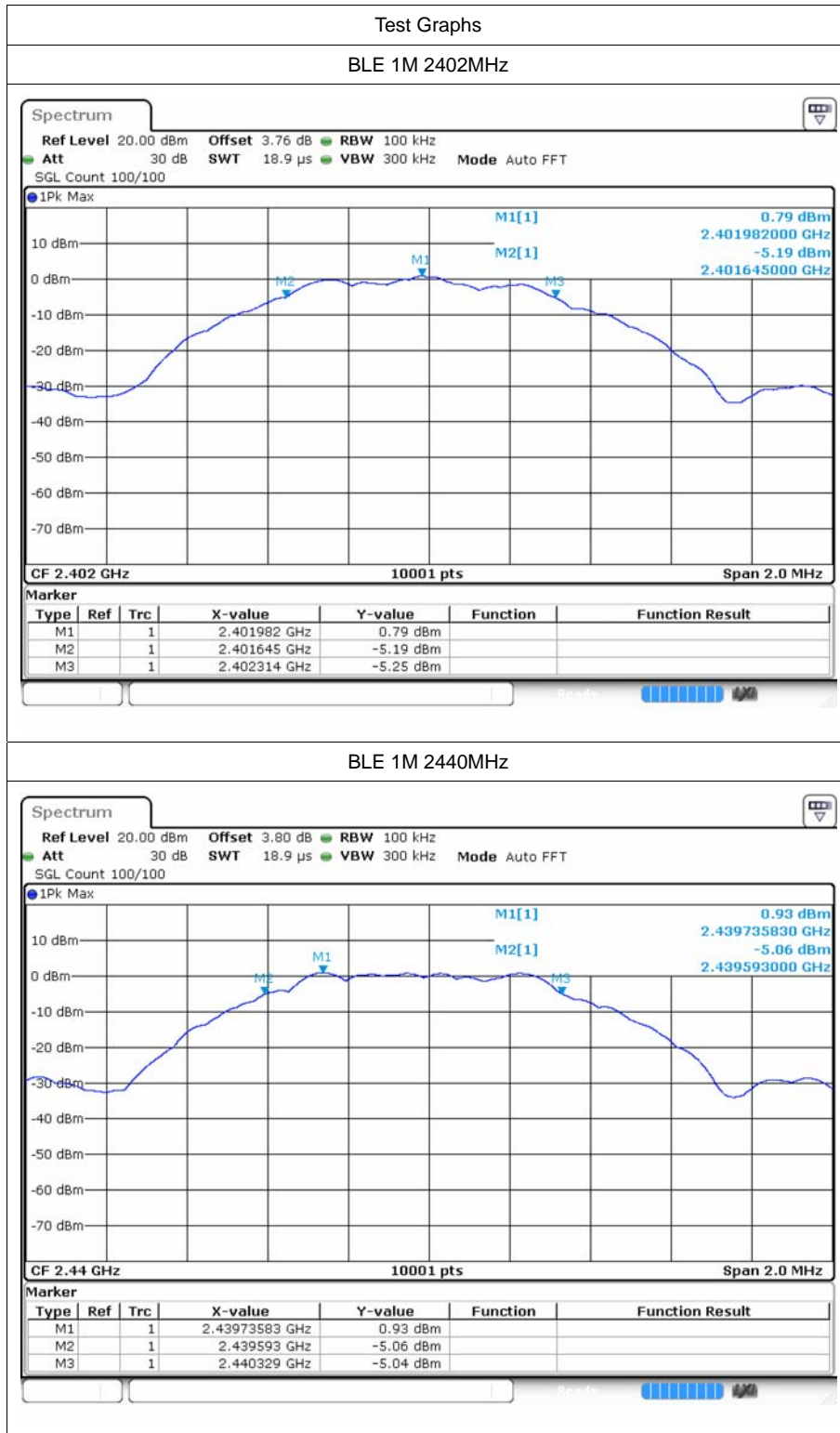


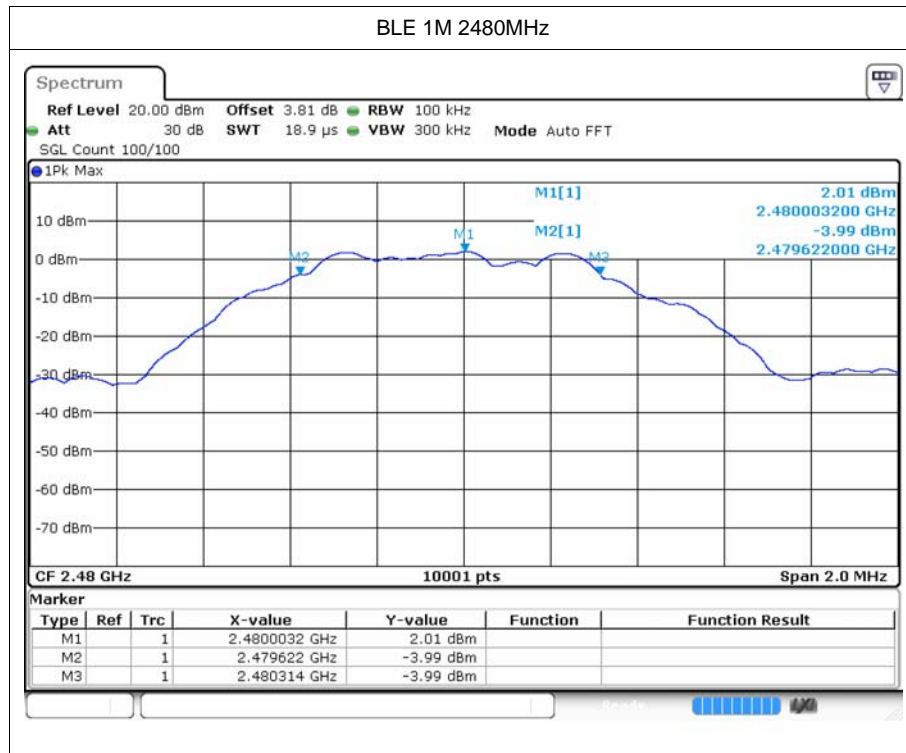
3 -6dB Bandwidth

3.1 Test Result

| Mode | Frequency (MHz) | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|--------|-----------------|-----------------------|-----------------------------|---------|
| BLE 1M | 2402 | 0.669 | 0.5 | Pass |
| BLE 1M | 2440 | 0.737 | 0.5 | Pass |
| BLE 1M | 2480 | 0.692 | 0.5 | Pass |

3.2 Test Graphs





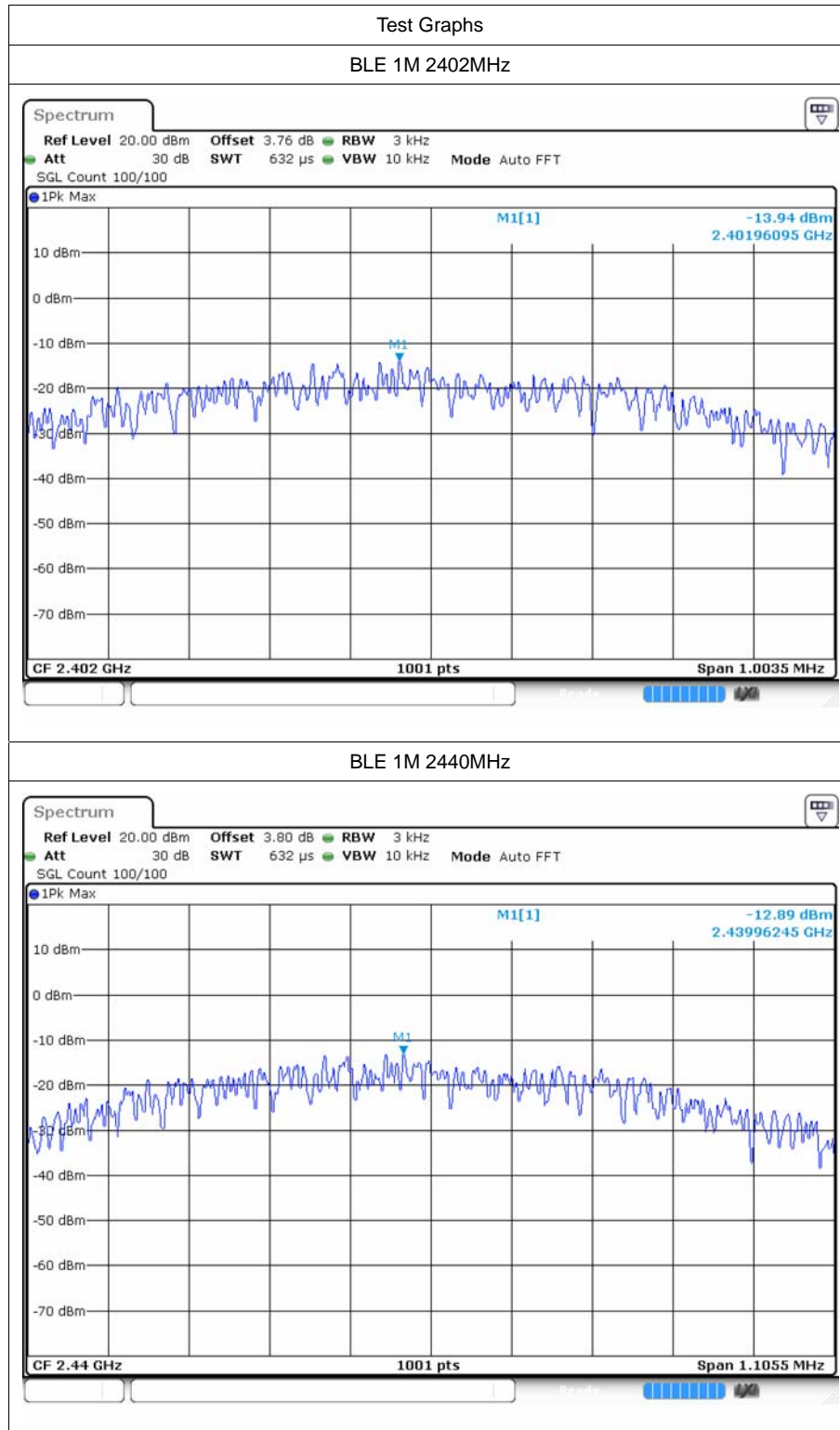


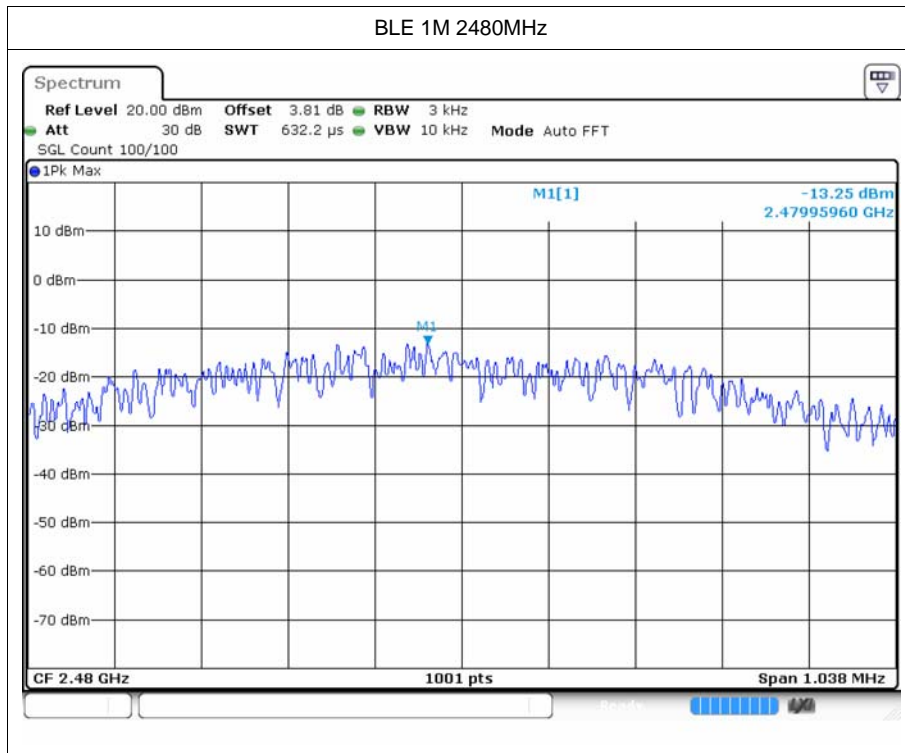
4 Maximum Power Spectral Density Level

4.1 Test Result

| Mode | Frequency (MHz) | Conducted PSD (dBm/3-100kHz) | Limit (dBm/3kHz) | Verdict |
|--------|-----------------|---------------------------------|---------------------|---------|
| BLE 1M | 2402 | -13.94 | ≤8 | Pass |
| BLE 1M | 2440 | -12.89 | ≤8 | Pass |
| BLE 1M | 2480 | -13.25 | ≤8 | Pass |

4.2 Test Graphs





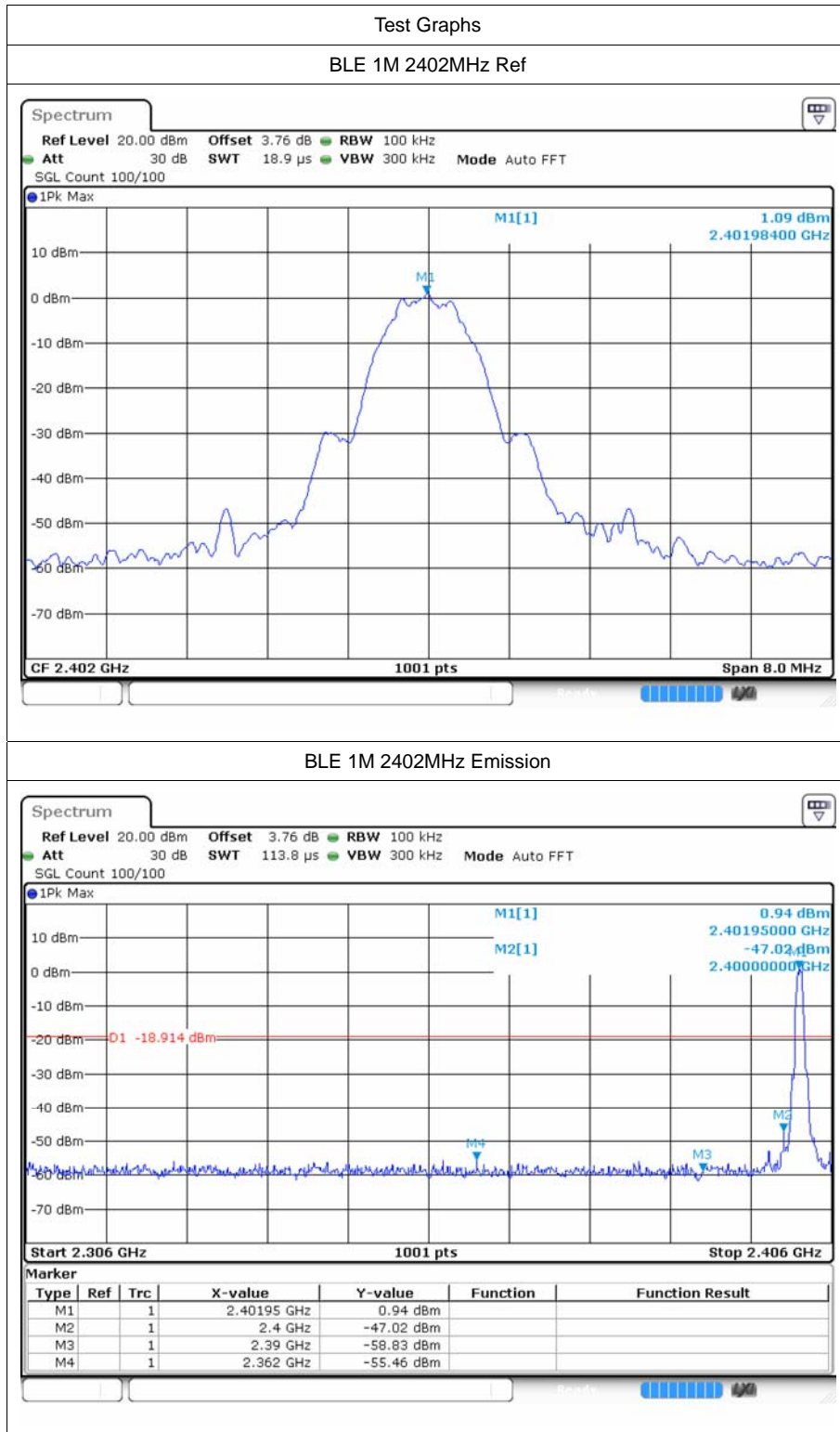


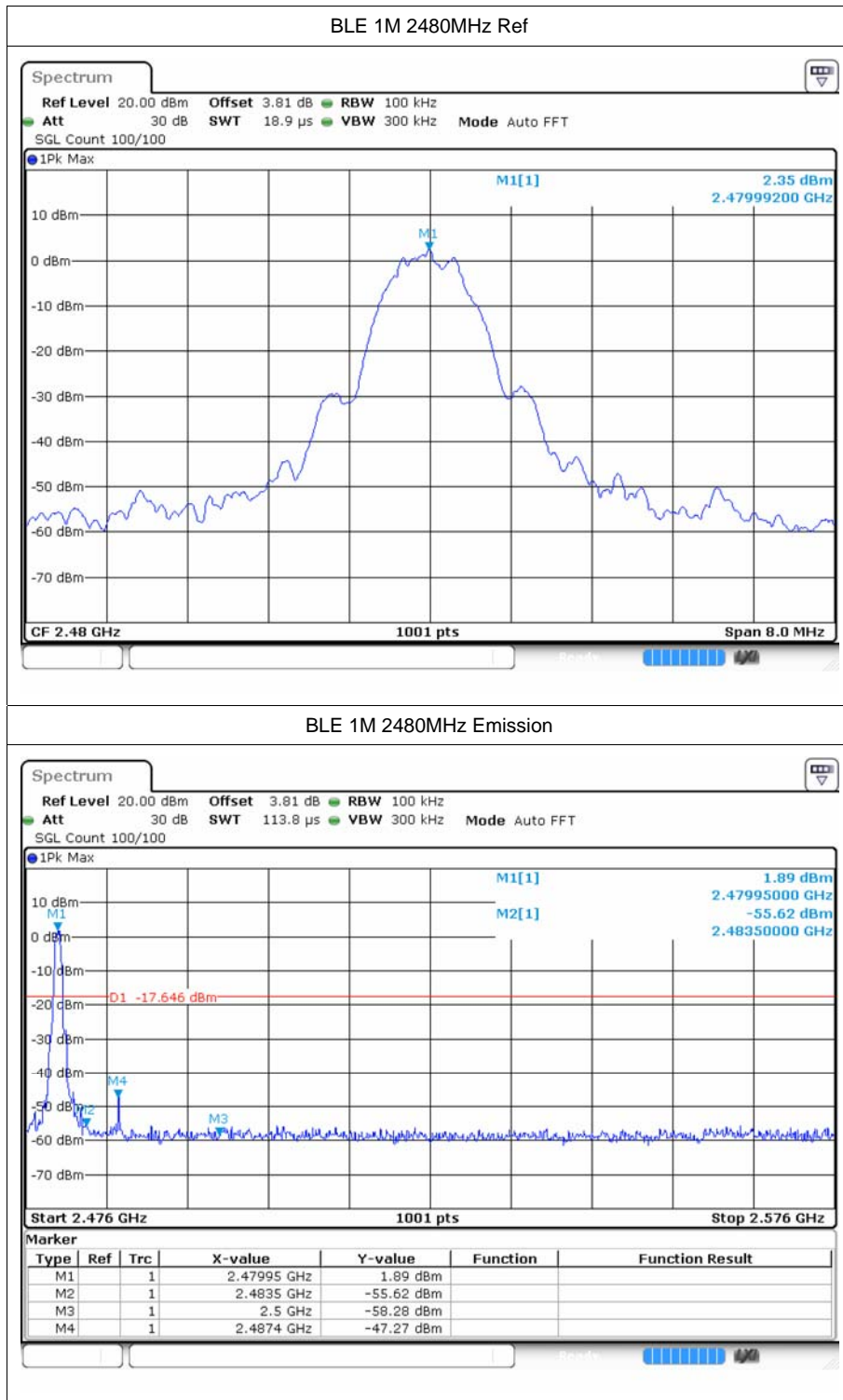
5 Band Edge

5.1 Test Result

| Mode | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402 | -56.55 | -20 | Pass |
| BLE 1M | 2480 | -49.62 | -20 | Pass |

5.2 Test Graphs





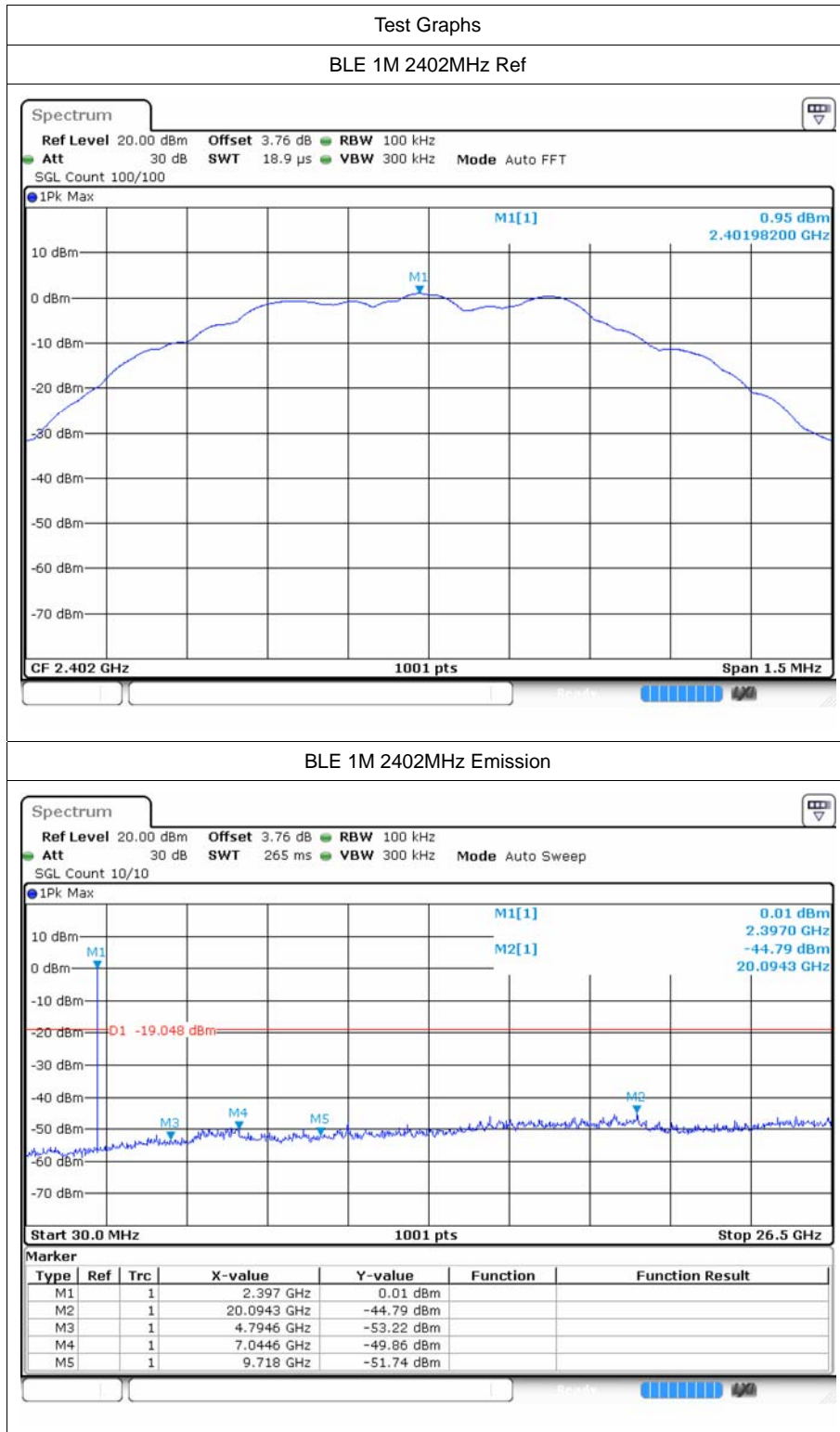


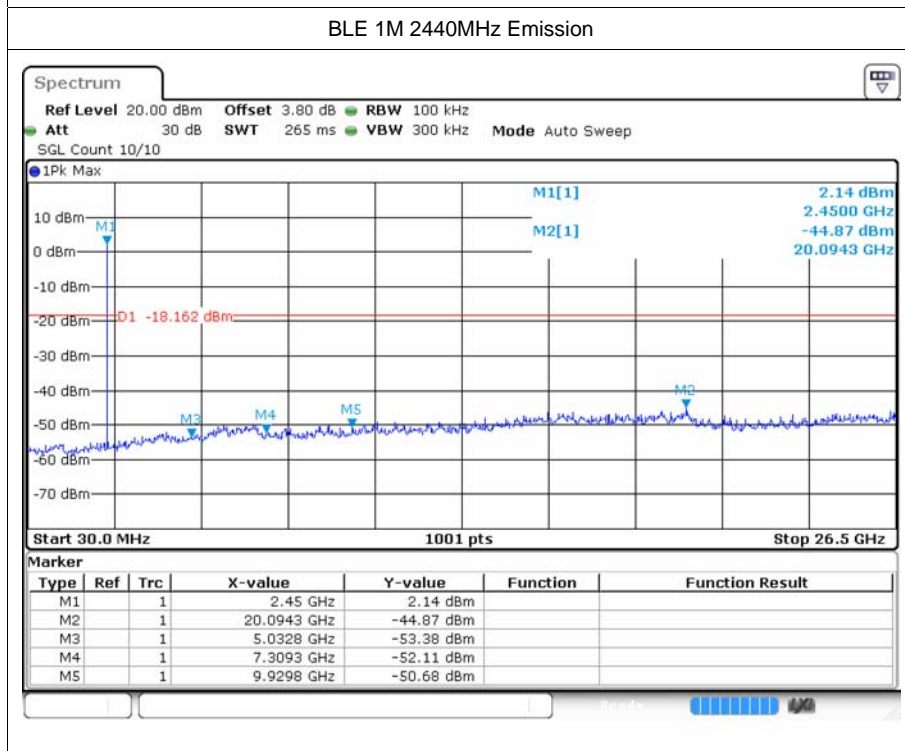
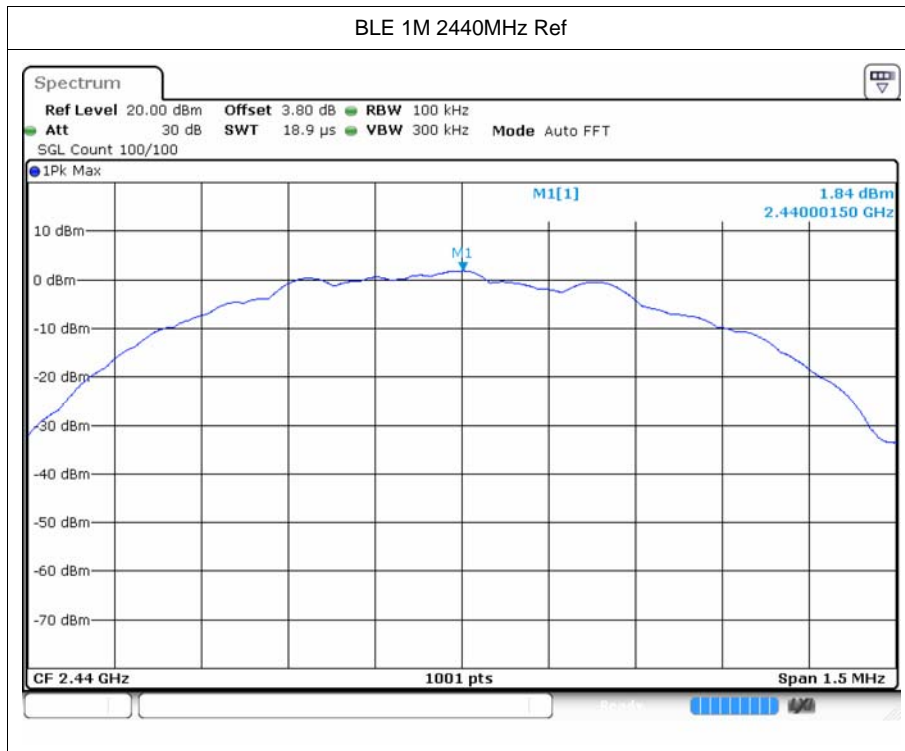
6 Conducted RF Spurious Emission

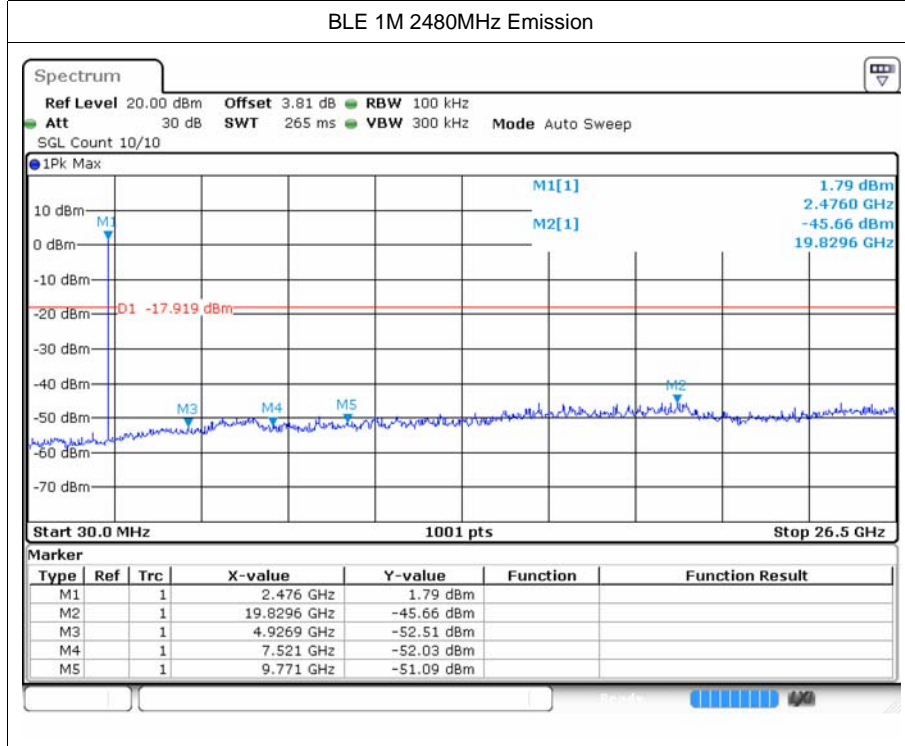
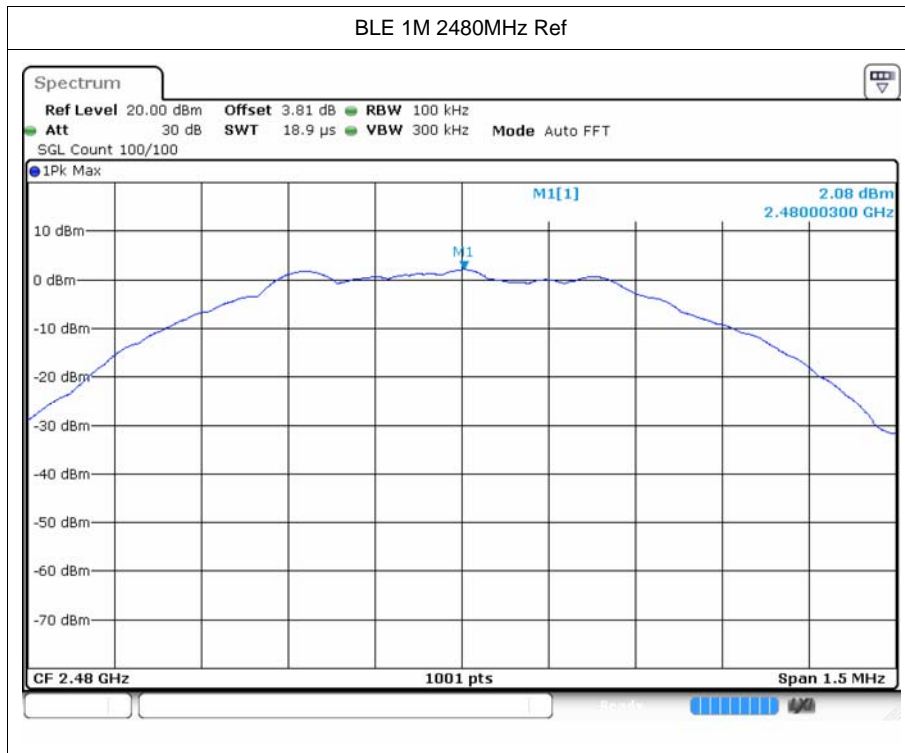
6.1 Test Result

| Mode | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402 | -45.73 | -20 | Pass |
| BLE 1M | 2440 | -46.7 | -20 | Pass |
| BLE 1M | 2480 | -47.73 | -20 | Pass |

6.2 Test Graphs







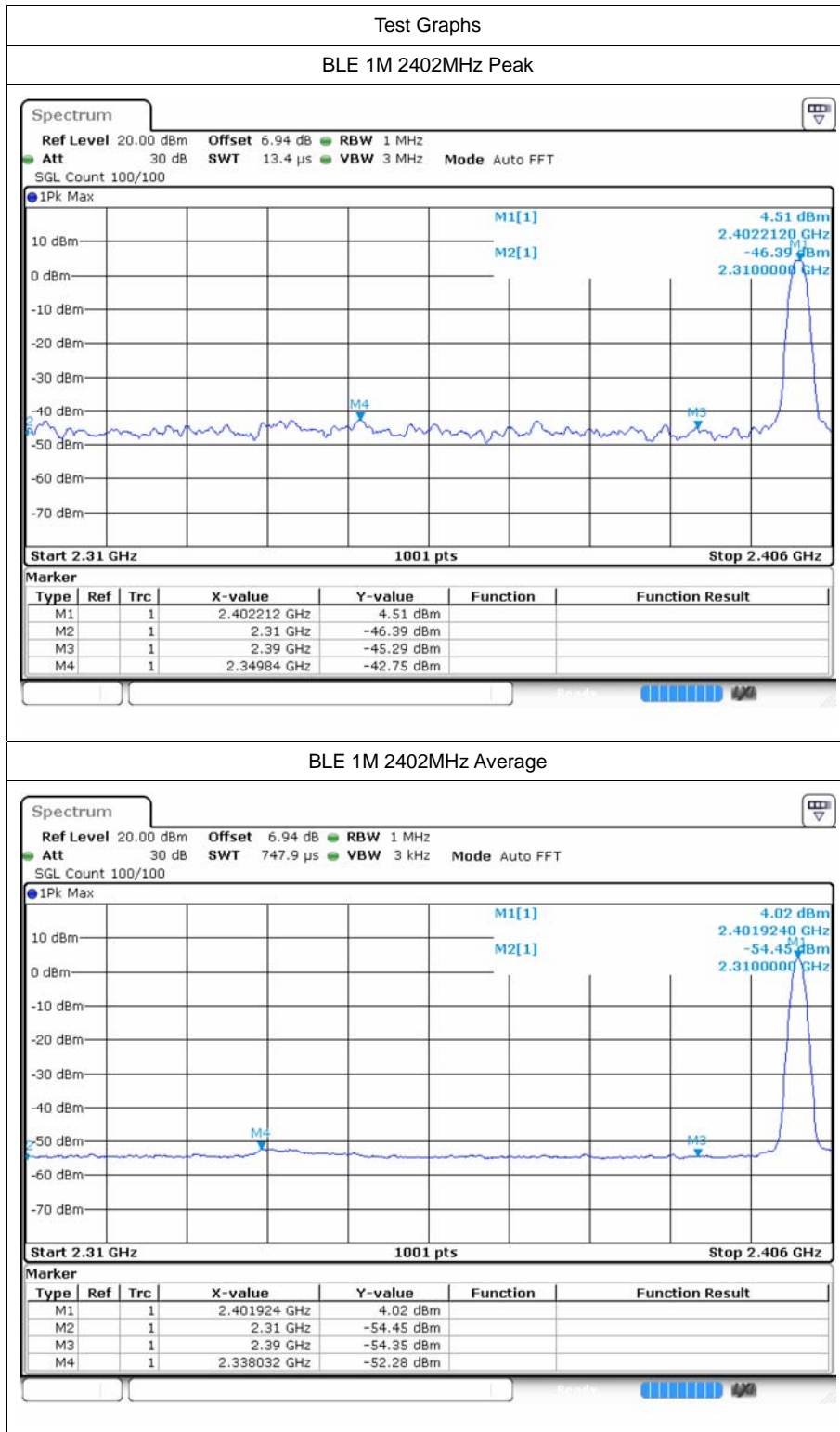


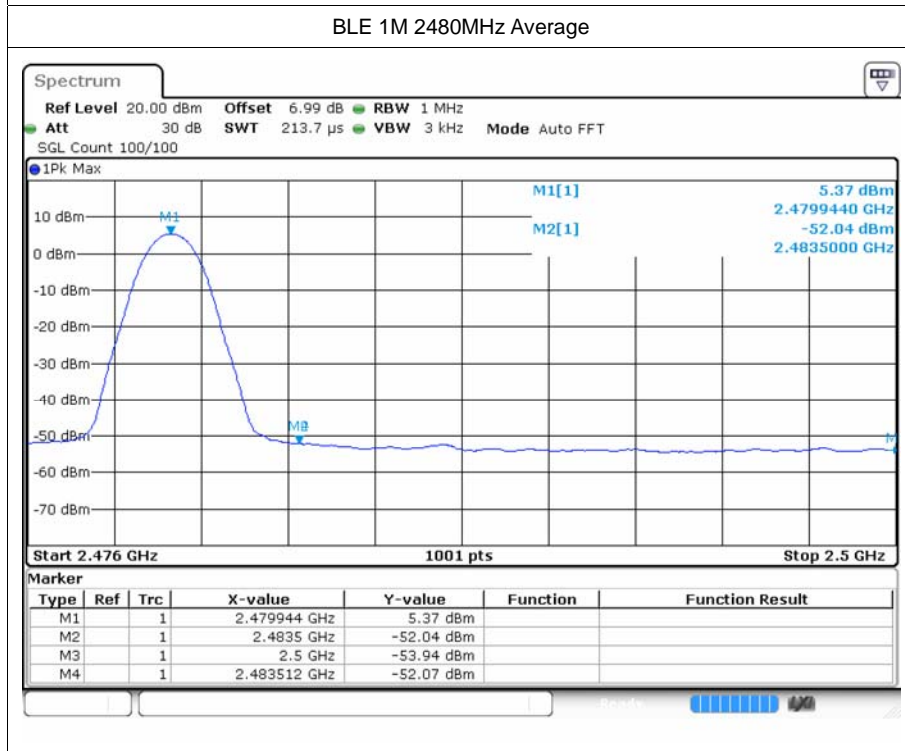
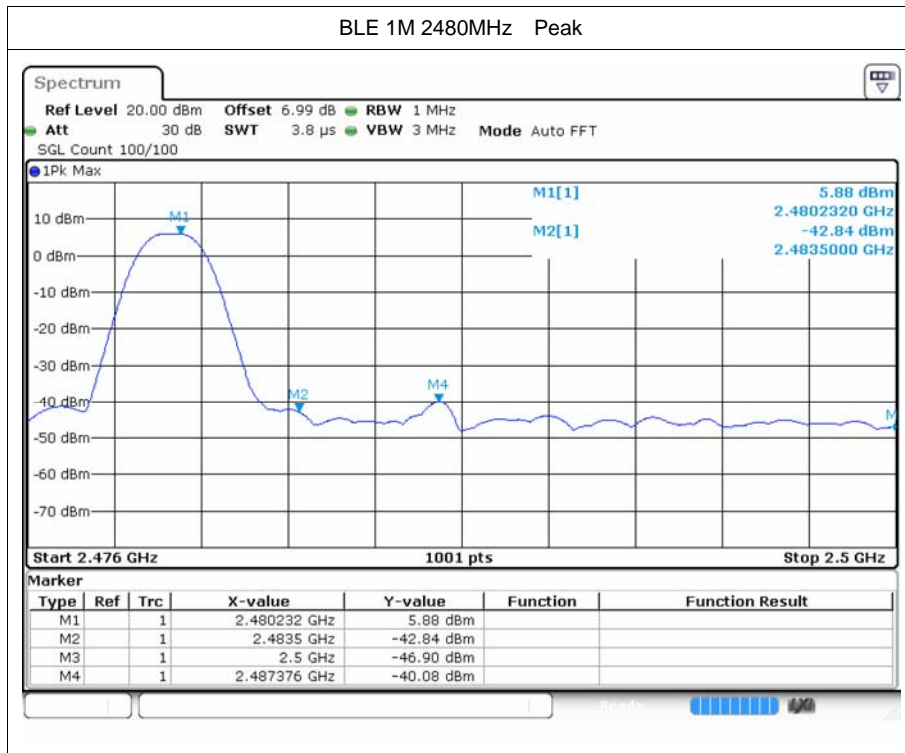
7 Restrict Band

7.1 Test Result

| Mode | Frequency (MHz) | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|--------|-----------------|-----------------|-------------|------------|------------|----------|----------------|---------|
| BLE 1M | 2402 | 2310 | -46.39 | 3.18 | 52.05 | Peak | 74 | Pass |
| BLE 1M | 2402 | 2310 | -54.44 | 3.18 | 44 | Average | 54 | Pass |
| BLE 1M | 2402 | 2349.84 | -42.74 | 3.18 | 55.7 | Peak | 74 | Pass |
| BLE 1M | 2402 | 2338.032 | -52.27 | 3.18 | 46.17 | Average | 54 | Pass |
| BLE 1M | 2402 | 2390 | -45.29 | 3.18 | 53.15 | Peak | 74 | Pass |
| BLE 1M | 2402 | 2390 | -54.35 | 3.18 | 44.09 | Average | 54 | Pass |
| BLE 1M | 2480 | 2483.5 | -42.96 | 3.18 | 55.48 | Peak | 74 | Pass |
| BLE 1M | 2480 | 2483.5 | -52.06 | 3.18 | 46.38 | Average | 54 | Pass |
| BLE 1M | 2480 | 2487.376 | -40.07 | 3.18 | 58.37 | Peak | 74 | Pass |
| BLE 1M | 2480 | 2483.512 | -52.06 | 3.18 | 46.38 | Average | 54 | Pass |
| BLE 1M | 2480 | 2500 | -46.89 | 3.18 | 51.55 | Peak | 74 | Pass |
| BLE 1M | 2480 | 2500 | -53.94 | 3.18 | 44.5 | Average | 54 | Pass |

7.2 Test Graphs





---The End---