



## Appendix C

### RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: WIFI Repeater

Trade Mark: N/A

Test Model: P9M

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 24.6° C     |
| Relative Humidity: | 52.4%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Emiya lin   |
| Supervised by:     | Simba Haung |



## 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 .....       | 13   |
| 2.1 Test Result .....                        | 13   |
| 3 -6dB Bandwidth .....                       | 14   |
| 3.1 Test Result .....                        | 14   |
| 3.2 Test Graphs .....                        | 15   |
| 4 Maximum Power Spectral Density Level ..... | 24   |
| 4.1 Test Result .....                        | 24   |
| 4.2 Test Graphs .....                        | 25   |
| 5 Band Edge .....                            | 34   |
| 5.1 Test Result .....                        | 34   |
| 5.2 Test Graphs .....                        | 35   |
| 6 Conducted RF Spurious Emission .....       | 47   |
| 6.1 Test Result .....                        | 47   |
| 6.2 Test Graphs .....                        | 48   |
| 7 Restrict Band .....                        | 66   |
| 7.1 Test Result .....                        | 66   |
| 7.2 Test Graphs .....                        | 68   |

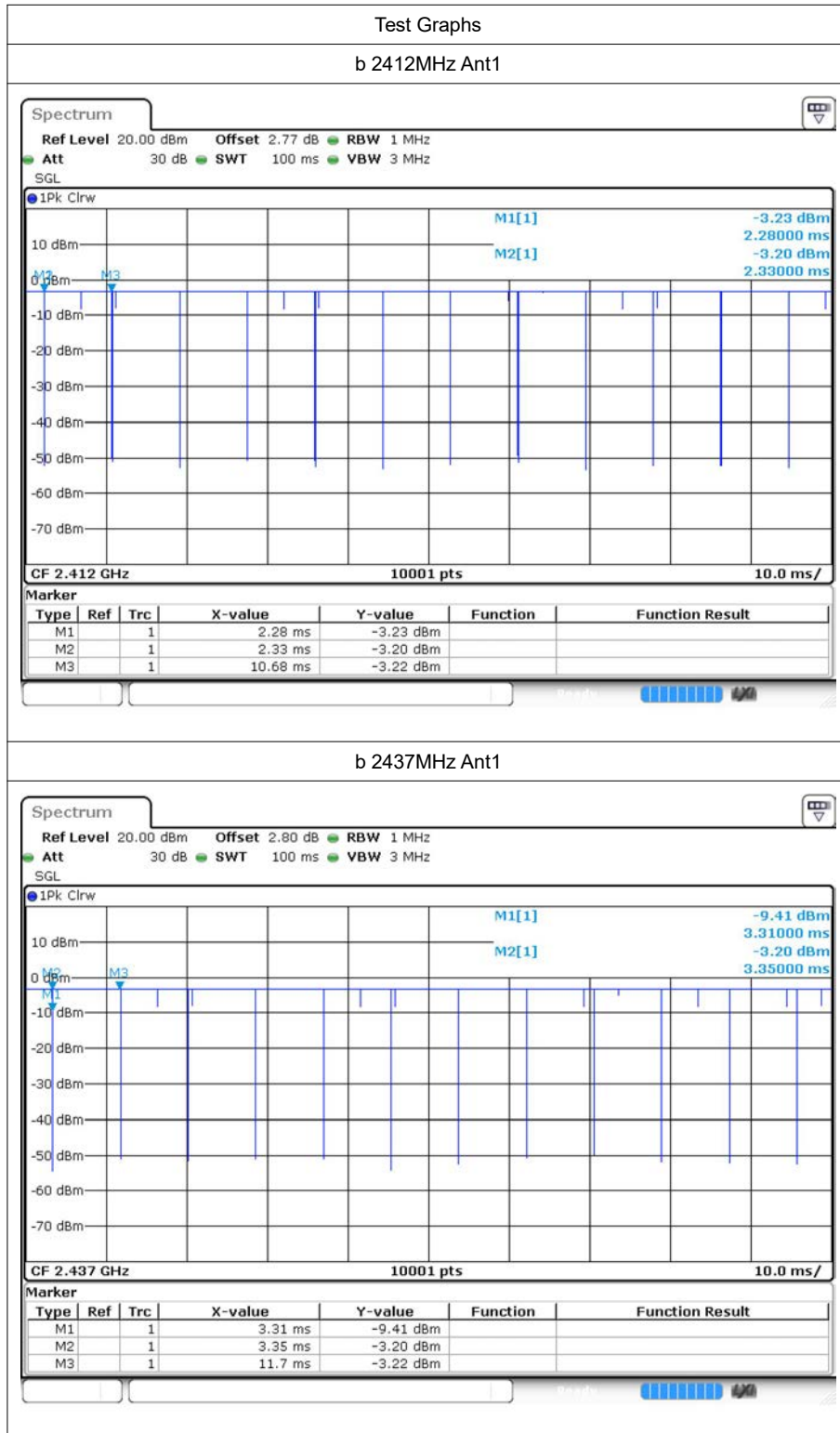


# 1 Duty Cycle

## 1.1 Test Result

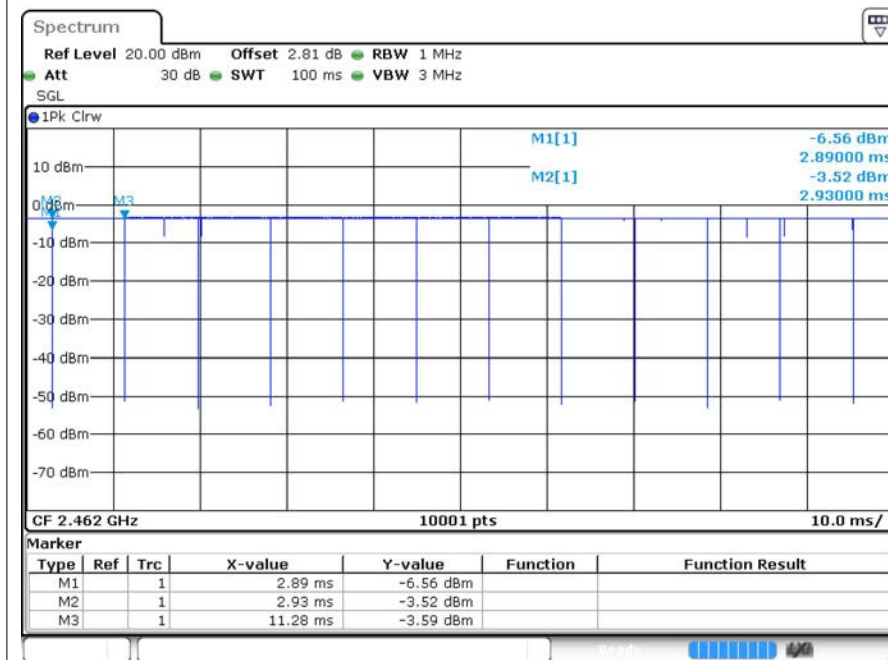
| Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor | 1/T (kHz) |
|------|-----------------|---------|----------------|-------------------|-----------|
| b    | 2412            | Ant1    | 99.59          | 0.02              | 0.12      |
| b    | 2437            | Ant1    | 99.59          | 0.02              | 0.12      |
| b    | 2462            | Ant1    | 99.6           | 0.02              | 0.12      |
| g    | 2412            | Ant1    | 86.89          | 0.61              | 4.55      |
| g    | 2437            | Ant1    | 86.92          | 0.61              | 4.76      |
| g    | 2462            | Ant1    | 86.85          | 0.61              | 4.76      |
| n20  | 2412            | Ant1    | 87.54          | 0.58              | 4.35      |
| n20  | 2437            | Ant1    | 87.49          | 0.58              | 4.35      |
| n20  | 2462            | Ant1    | 87.47          | 0.58              | 4.35      |
| n40  | 2422            | Ant1    | 82.88          | 0.82              | 鑑?        |
| n40  | 2437            | Ant1    | 86.54          | 0.63              | 4.35      |
| n40  | 2452            | Ant1    | 86.32          | 0.64              | 鑑?        |
| ax20 | 2412            | Ant1    | 87.41          | 0.58              | 4.35      |
| ax20 | 2437            | Ant1    | 87.4           | 0.58              | 4.17      |
| ax20 | 2462            | Ant1    | 87.38          | 0.59              | 4.35      |
| ax40 | 2422            | Ant1    | 82.41          | 0.84              | 4.55      |
| ax40 | 2437            | Ant1    | 86.03          | 0.65              | 4.76      |
| ax40 | 2452            | Ant1    | 85.33          | 0.69              | 4.35      |

## 1.2 Test Graphs

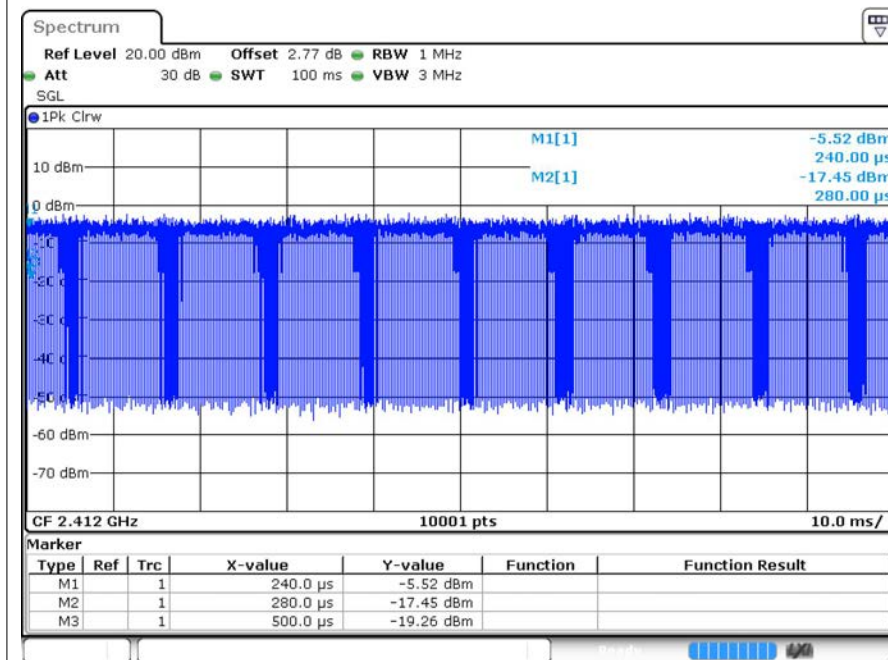


## Test Graphs

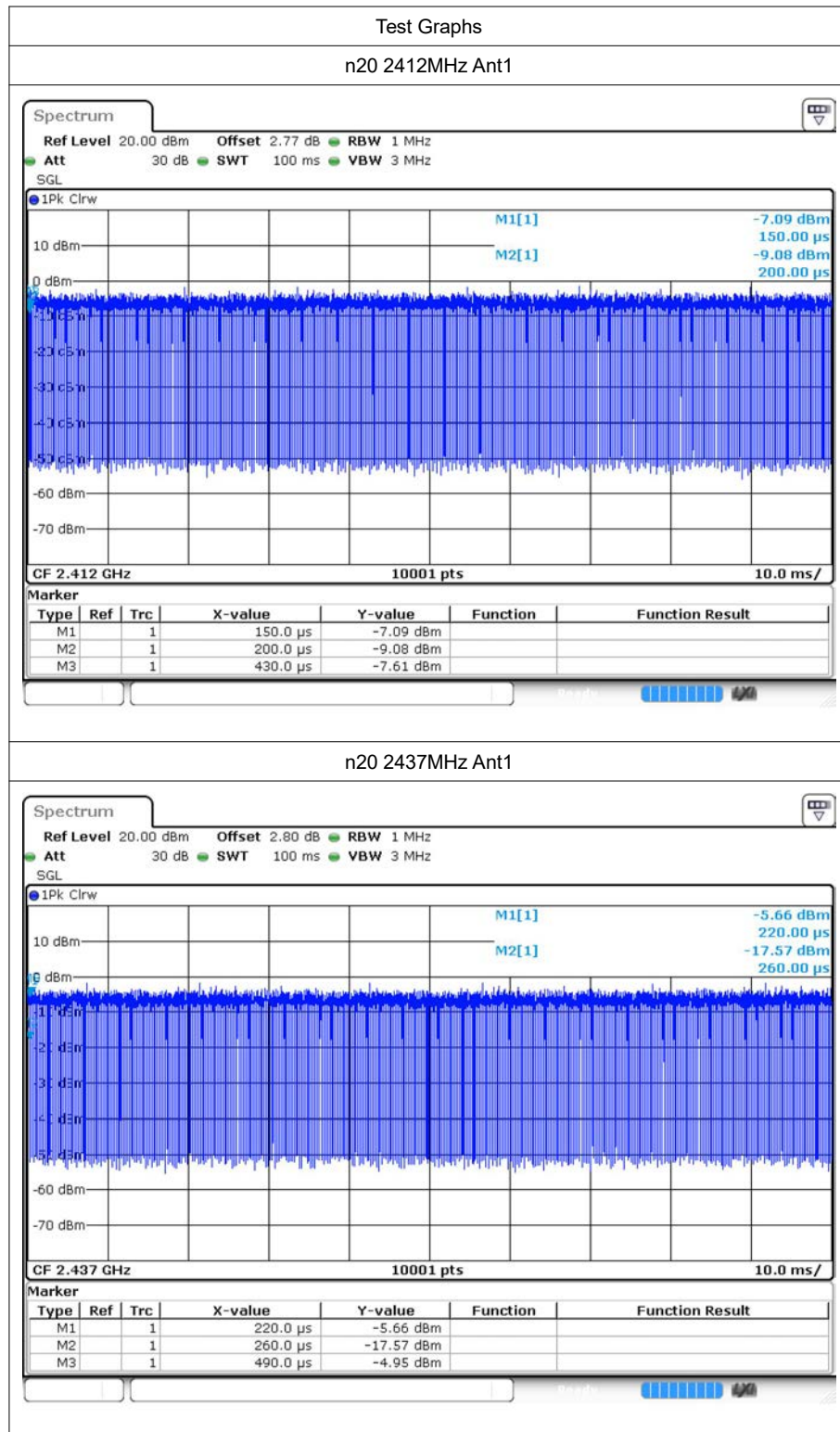
b 2462MHz Ant1

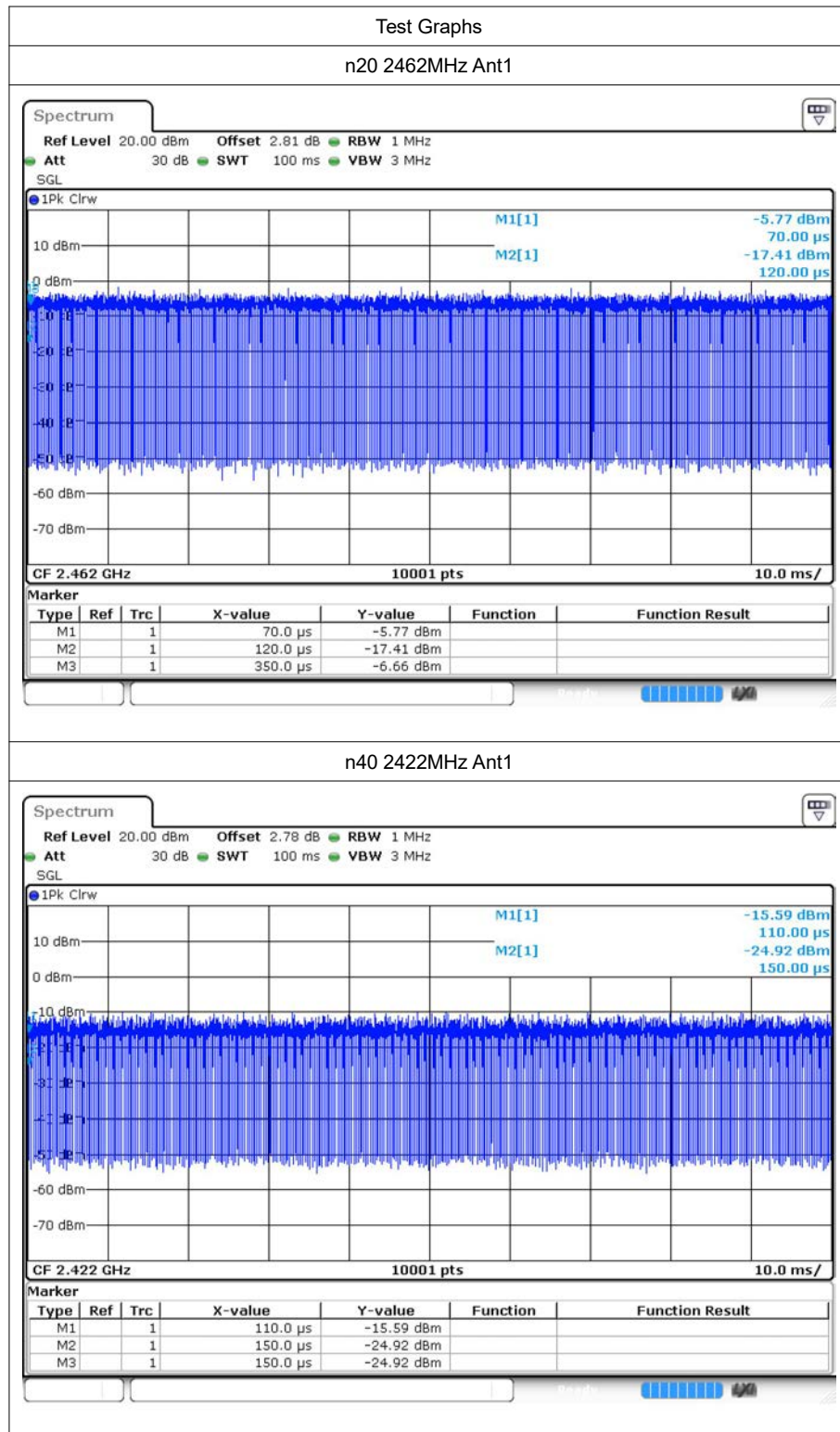


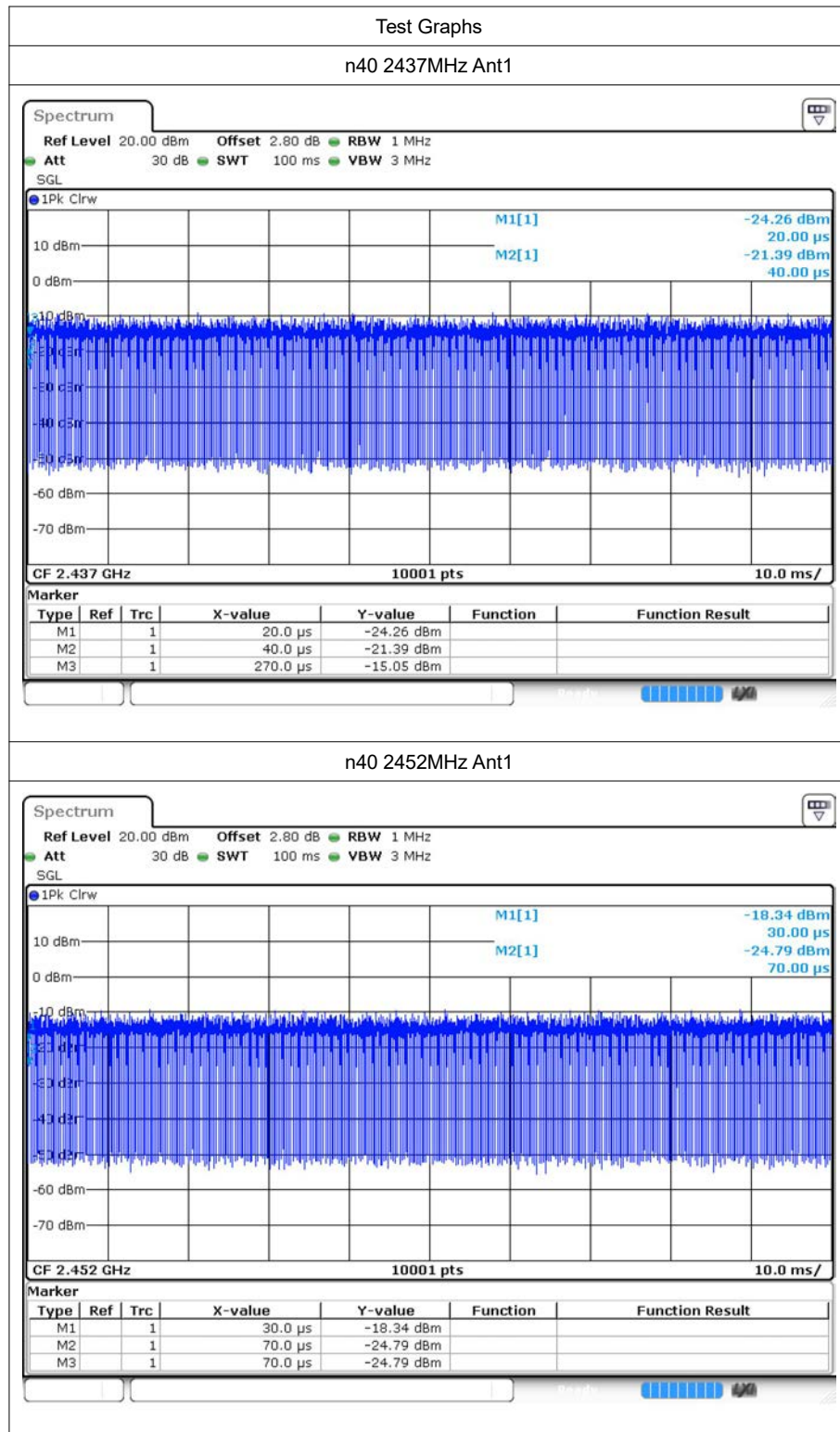
g 2412MHz Ant1

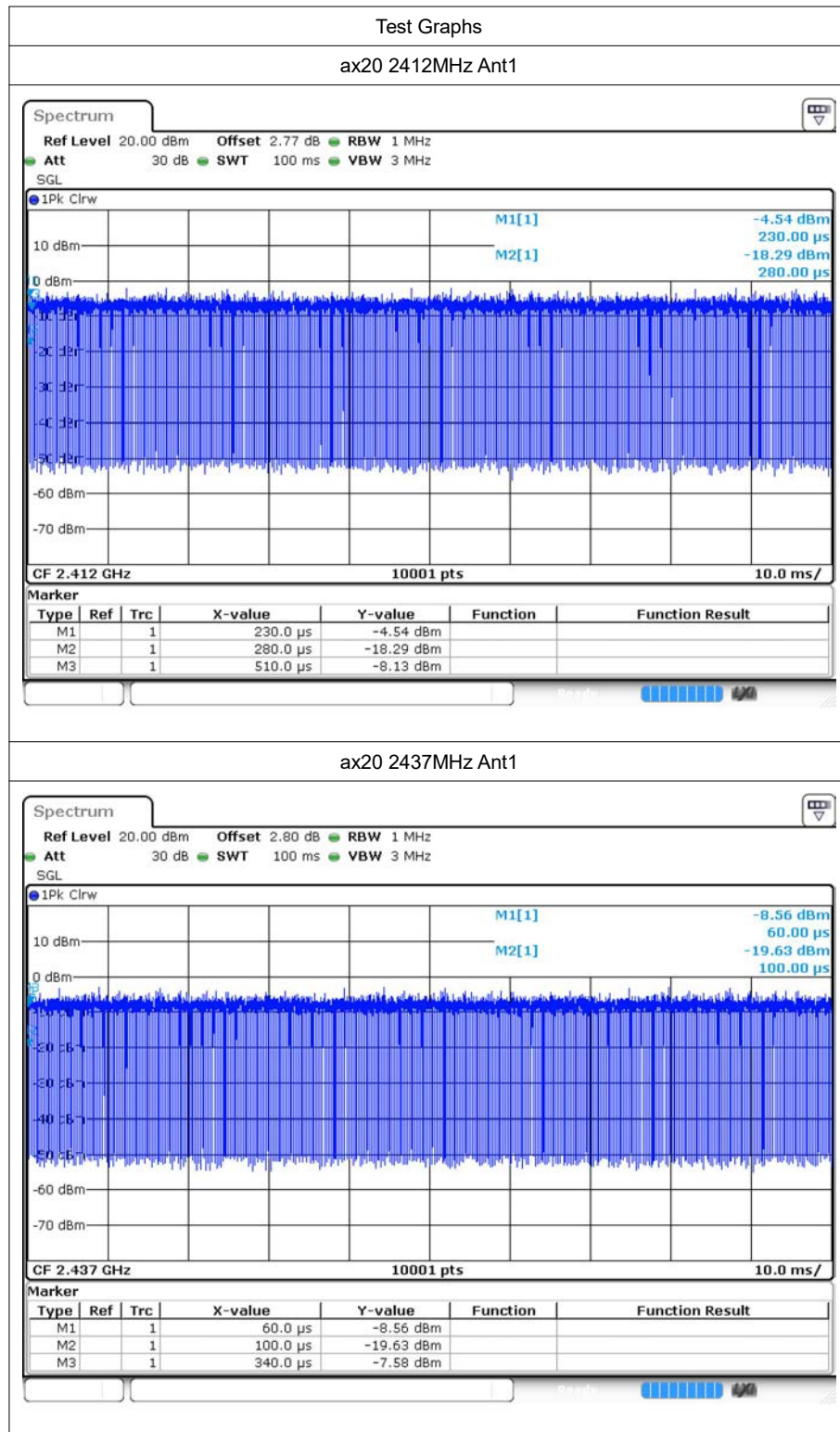


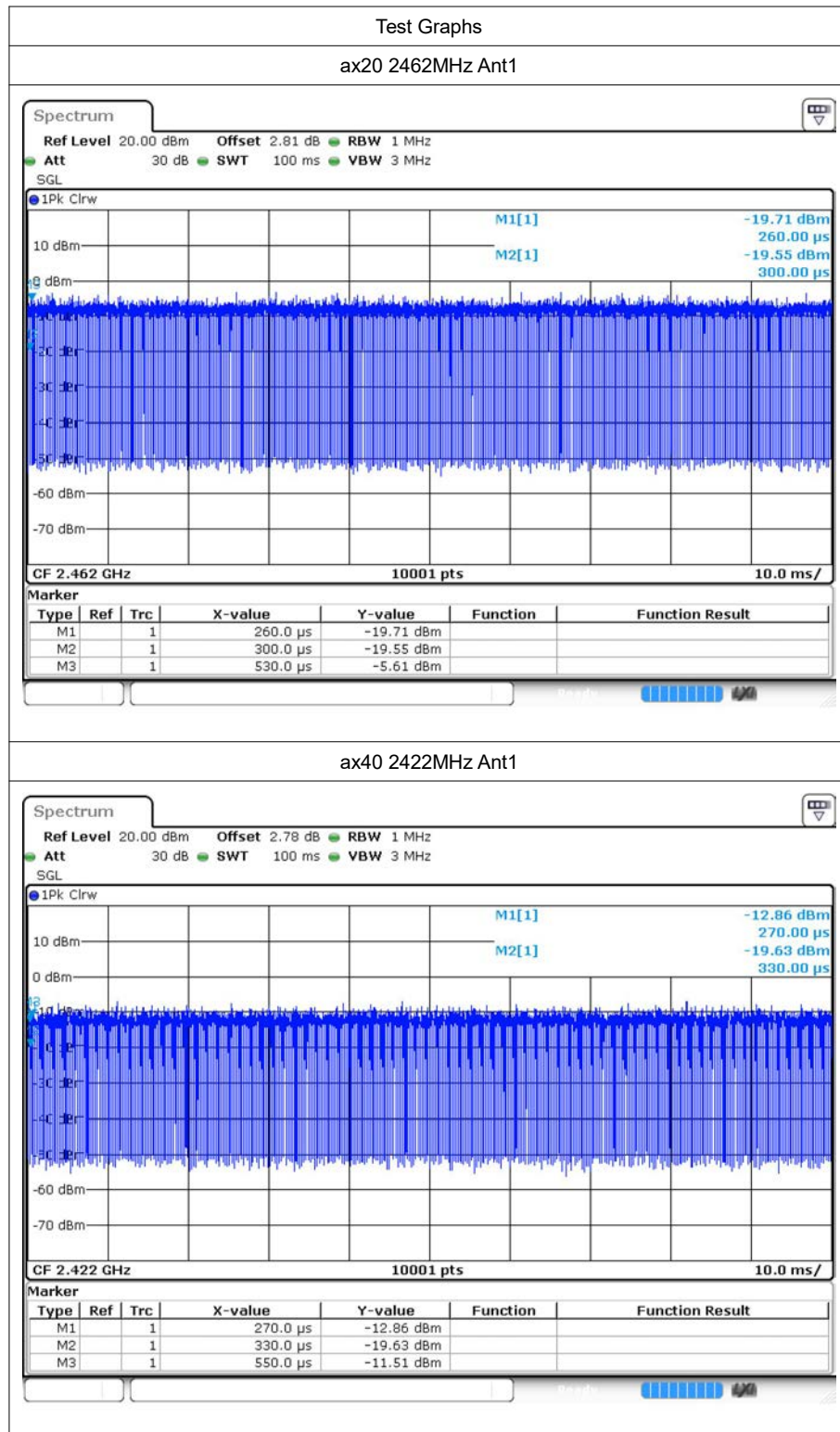


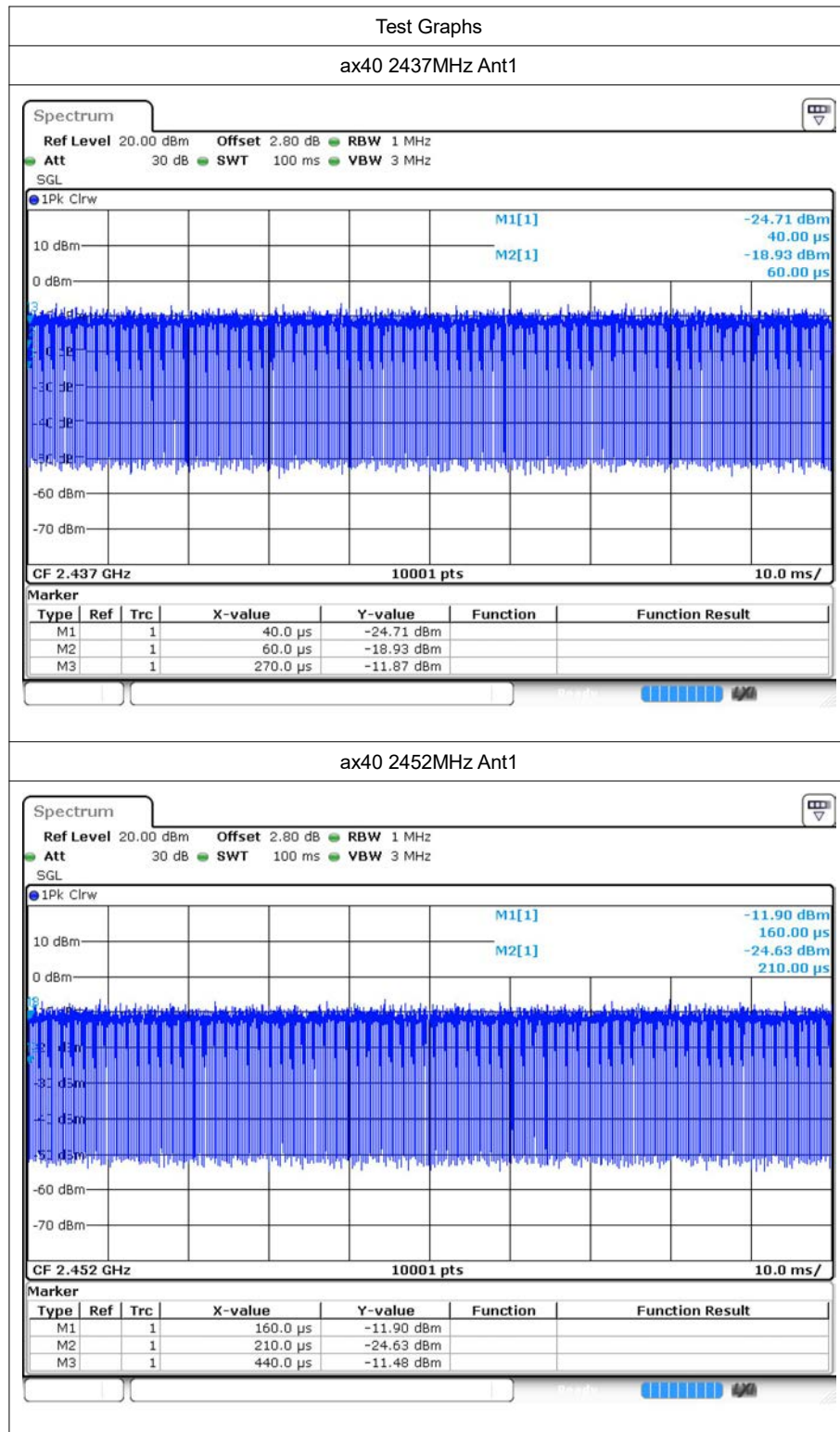












## 2 Maximum Conducted Output Power

### 2.1 Test Result

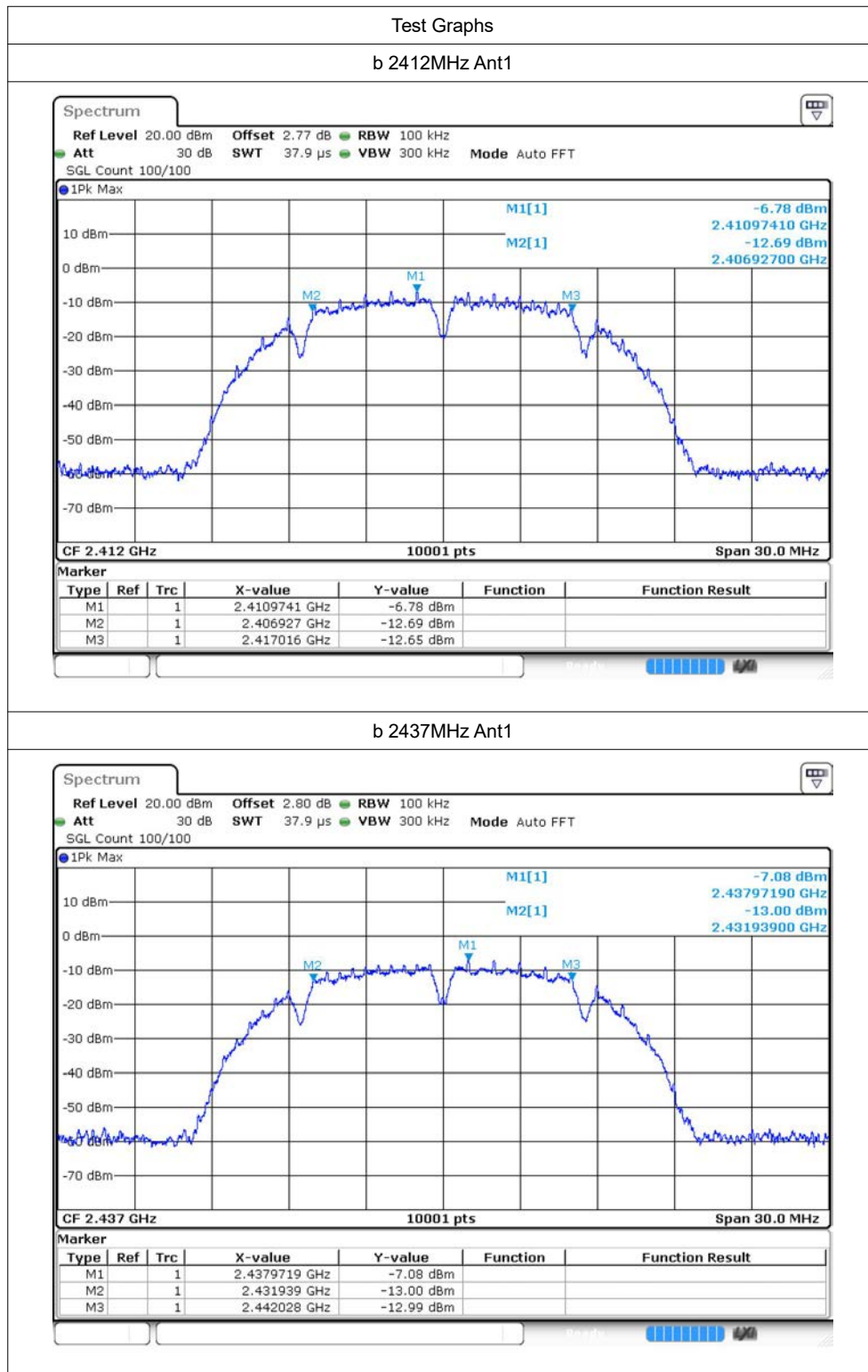
| Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|------|-----------------|---------|-----------------------|-------------|---------|
| b    | 2412            | Ant1    | 7.31                  | 30          | Pass    |
| b    | 2437            | Ant1    | 7.23                  | 30          | Pass    |
| b    | 2462            | Ant1    | 7.12                  | 30          | Pass    |
| g    | 2412            | Ant1    | 7.45                  | 30          | Pass    |
| g    | 2437            | Ant1    | 7.25                  | 30          | Pass    |
| g    | 2462            | Ant1    | 7                     | 30          | Pass    |
| n20  | 2412            | Ant1    | 7.31                  | 30          | Pass    |
| n20  | 2437            | Ant1    | 7.21                  | 30          | Pass    |
| n20  | 2462            | Ant1    | 7.22                  | 30          | Pass    |
| n40  | 2422            | Ant1    | 6.64                  | 30          | Pass    |
| n40  | 2437            | Ant1    | 7.04                  | 30          | Pass    |
| n40  | 2452            | Ant1    | 7.02                  | 30          | Pass    |
| ax20 | 2412            | Ant1    | 7.68                  | 30          | Pass    |
| ax20 | 2437            | Ant1    | 6.65                  | 30          | Pass    |
| ax20 | 2462            | Ant1    | 6.77                  | 30          | Pass    |
| ax40 | 2422            | Ant1    | 6.89                  | 30          | Pass    |
| ax40 | 2437            | Ant1    | 7.38                  | 30          | Pass    |
| ax40 | 2452            | Ant1    | 7.51                  | 30          | Pass    |

### 3 -6dB Bandwidth

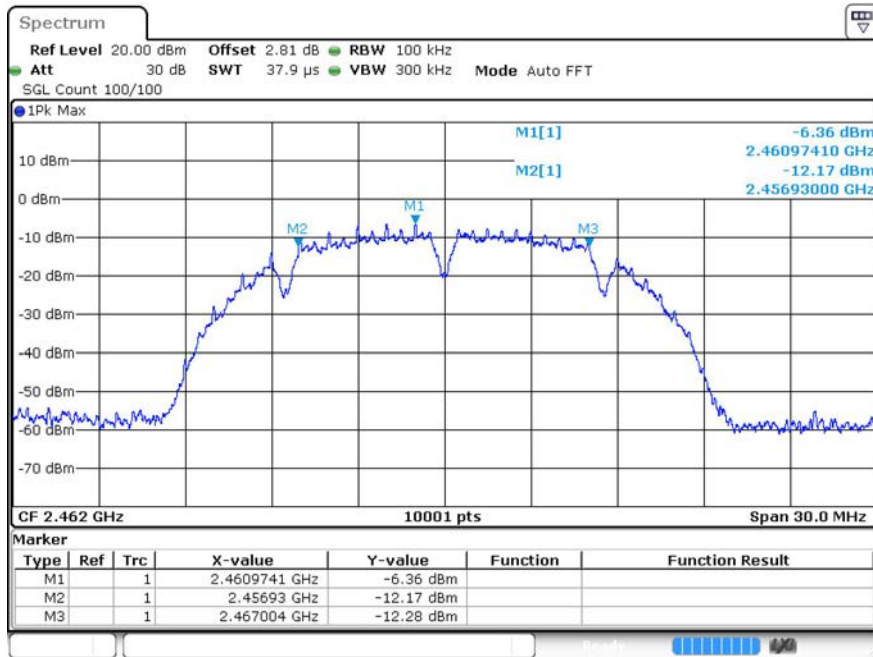
#### 3.1 Test Result

| Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|------|-----------------|---------|-----------------------|-----------------------------|---------|
| b    | 2412            | Ant1    | 10.089                | 0.5                         | Pass    |
| b    | 2437            | Ant1    | 10.089                | 0.5                         | Pass    |
| b    | 2462            | Ant1    | 10.074                | 0.5                         | Pass    |
| g    | 2412            | Ant1    | 13.857                | 0.5                         | Pass    |
| g    | 2437            | Ant1    | 15.114                | 0.5                         | Pass    |
| g    | 2462            | Ant1    | 15.111                | 0.5                         | Pass    |
| n20  | 2412            | Ant1    | 12.666                | 0.5                         | Pass    |
| n20  | 2437            | Ant1    | 13.854                | 0.5                         | Pass    |
| n20  | 2462            | Ant1    | 15.117                | 0.5                         | Pass    |
| n40  | 2422            | Ant1    | 33.852                | 0.5                         | Pass    |
| n40  | 2437            | Ant1    | 35.076                | 0.5                         | Pass    |
| n40  | 2452            | Ant1    | 30.42                 | 0.5                         | Pass    |
| ax20 | 2412            | Ant1    | 15.414                | 0.5                         | Pass    |
| ax20 | 2437            | Ant1    | 15.072                | 0.5                         | Pass    |
| ax20 | 2462            | Ant1    | 15.117                | 0.5                         | Pass    |
| ax40 | 2422            | Ant1    | 33.852                | 0.5                         | Pass    |
| ax40 | 2437            | Ant1    | 35.052                | 0.5                         | Pass    |
| ax40 | 2452            | Ant1    | 35.064                | 0.5                         | Pass    |

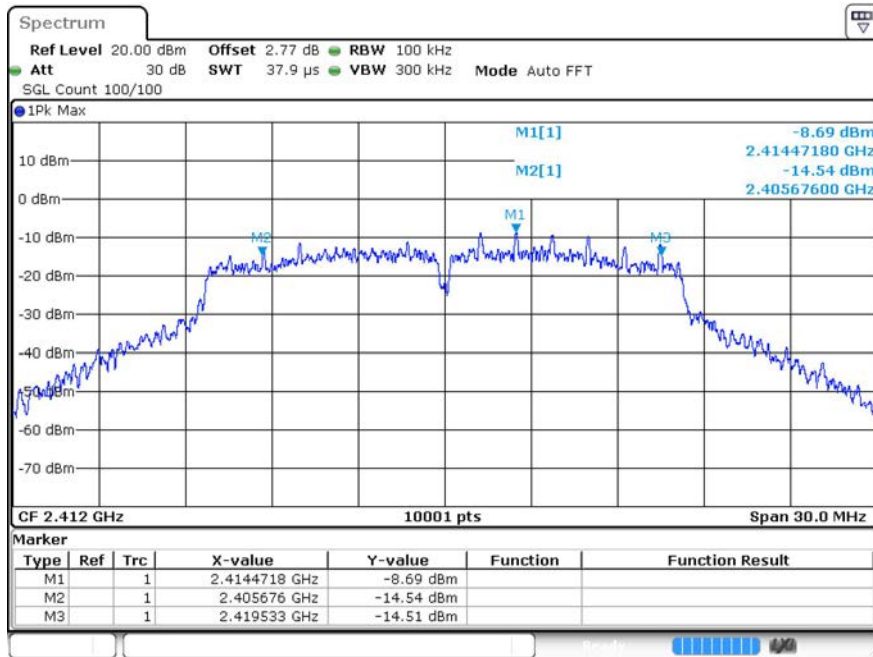
## 3.2 Test Graphs



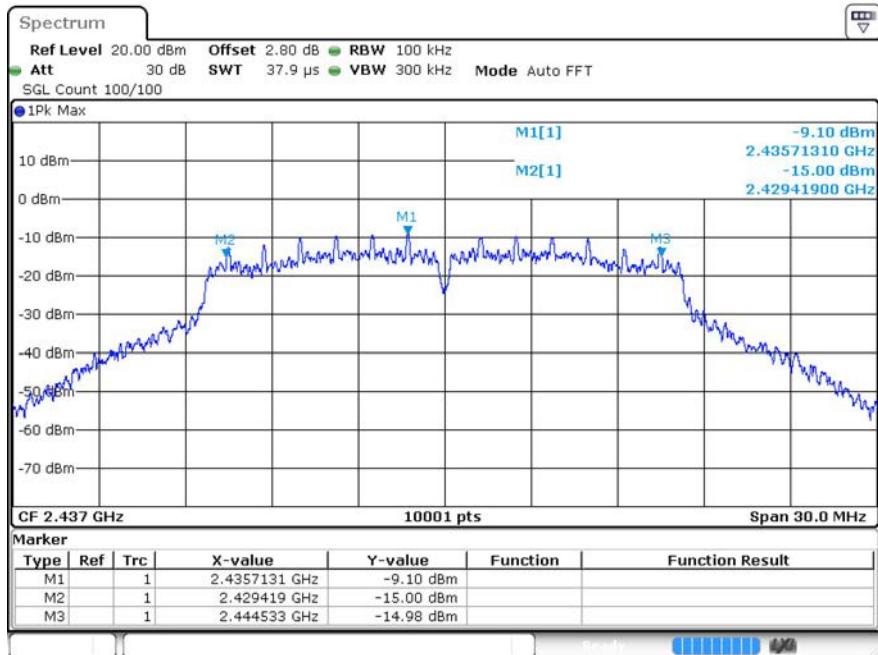
b 2462MHz Ant1



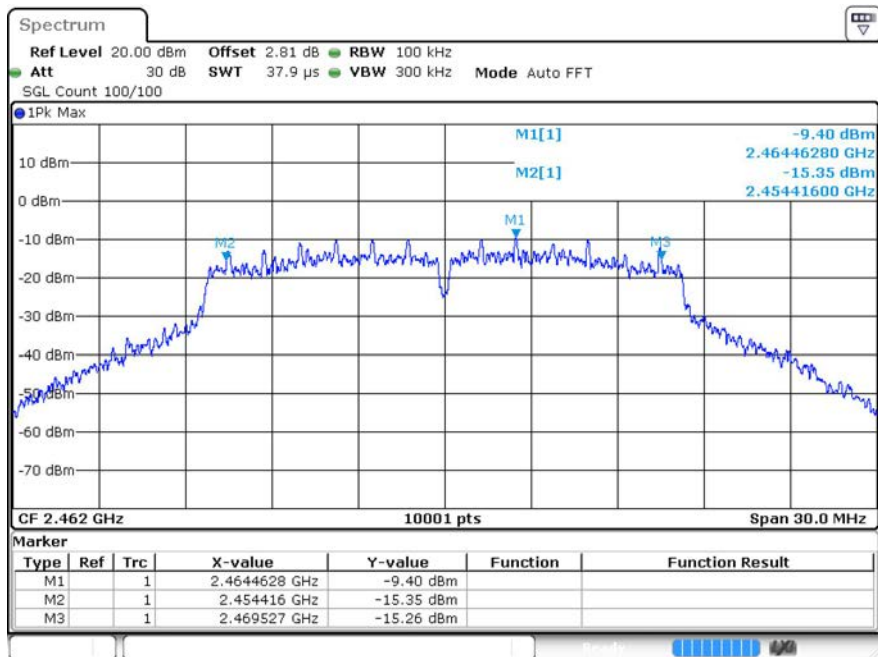
g 2412MHz Ant1



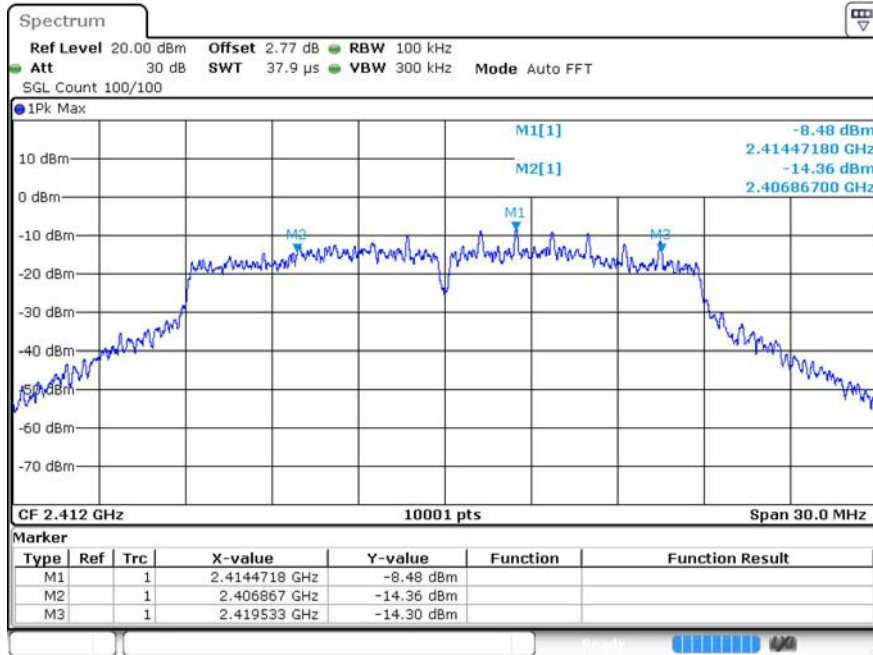
g 2437MHz Ant1



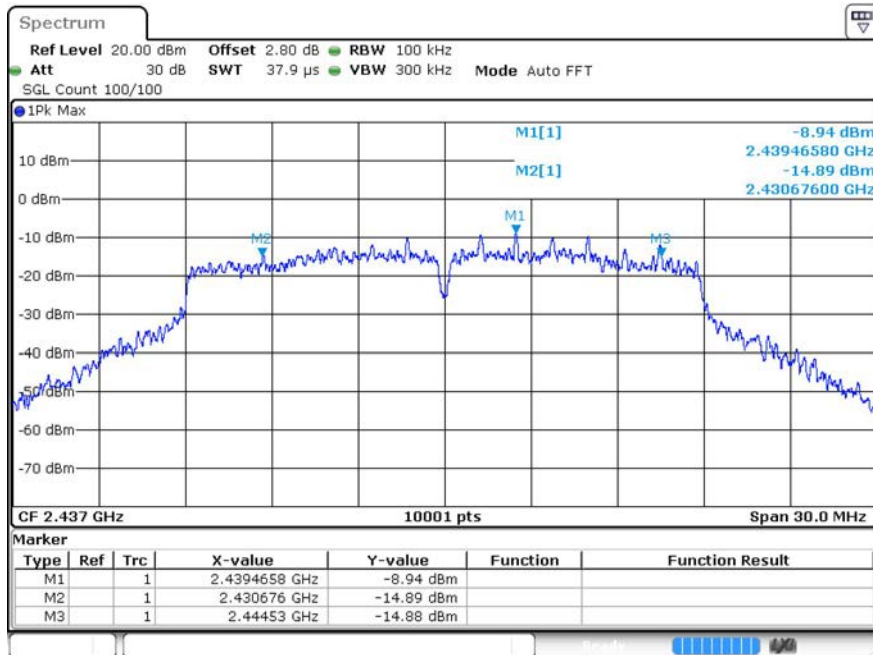
g 2462MHz Ant1



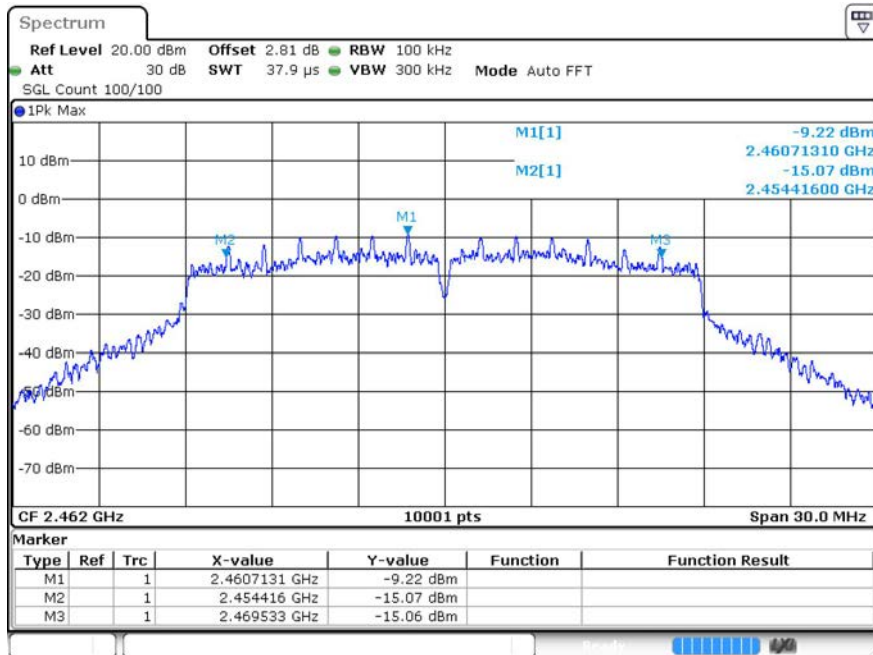
n20 2412MHz Ant1



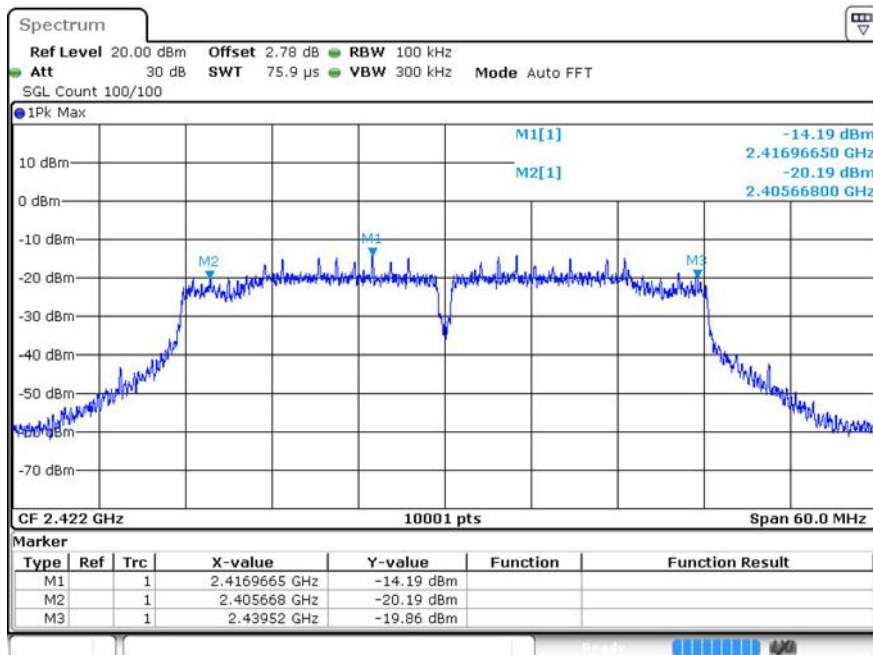
n20 2437MHz Ant1



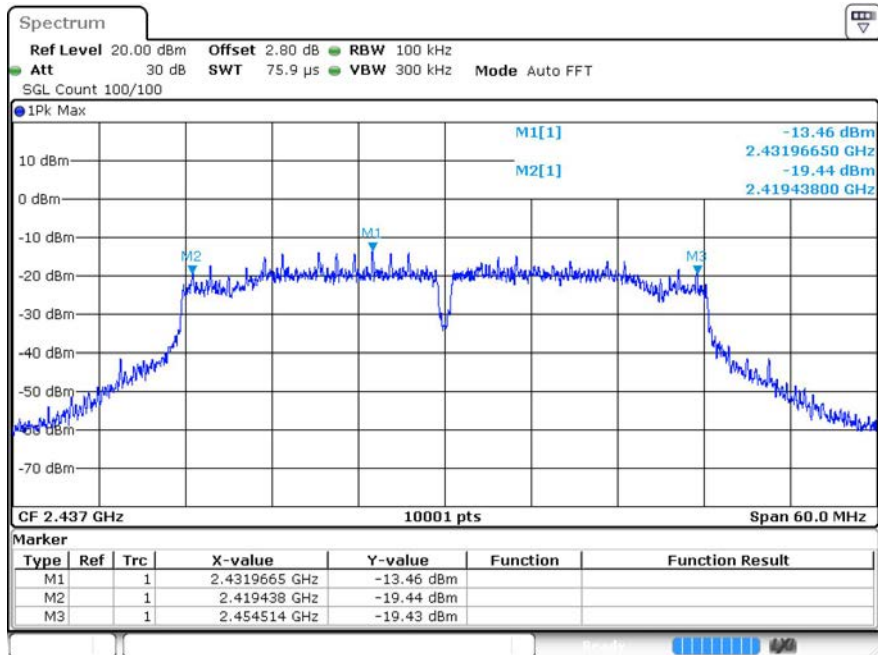
n20 2462MHz Ant1



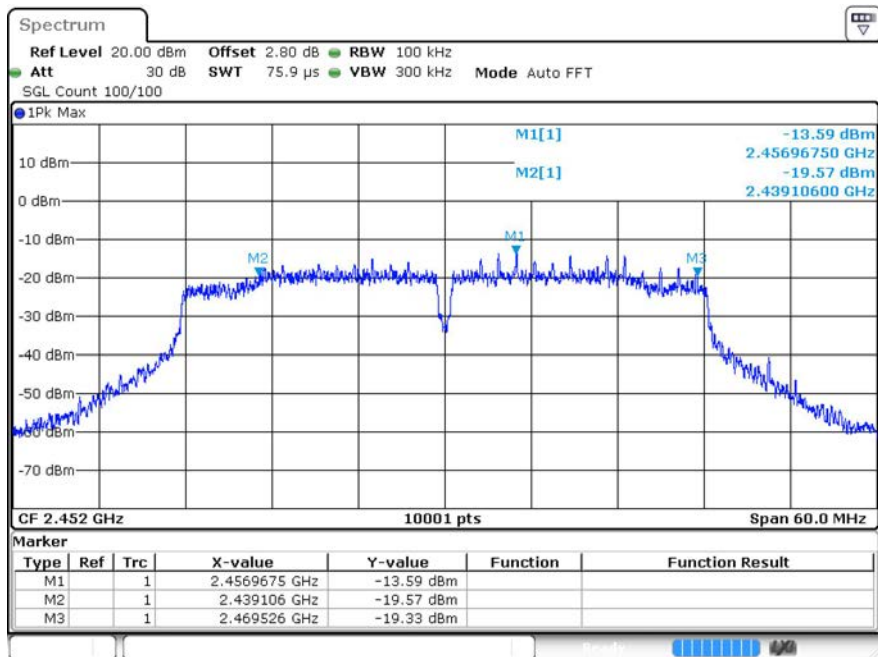
n40 2422MHz Ant1



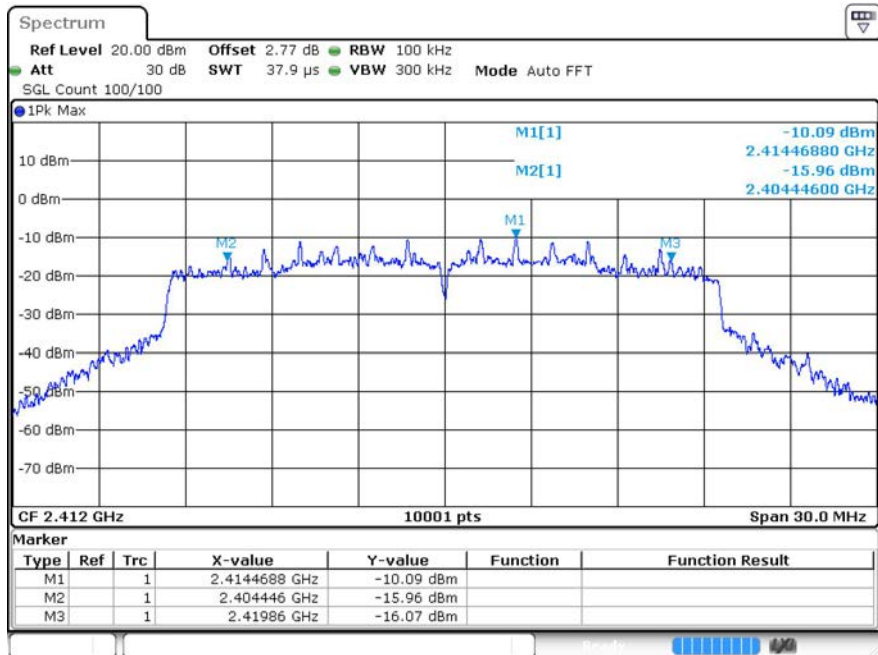
n40 2437MHz Ant1



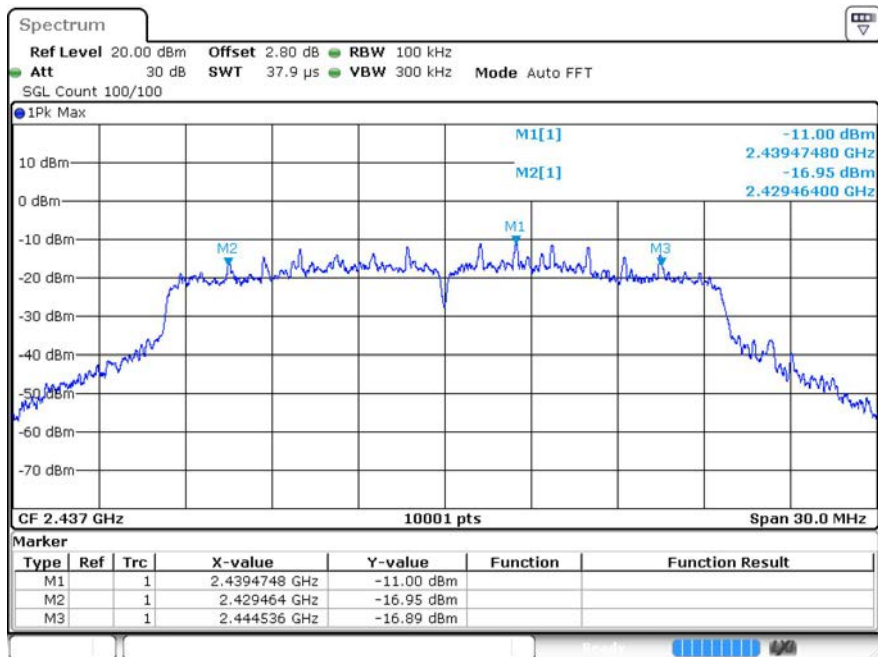
n40 2452MHz Ant1



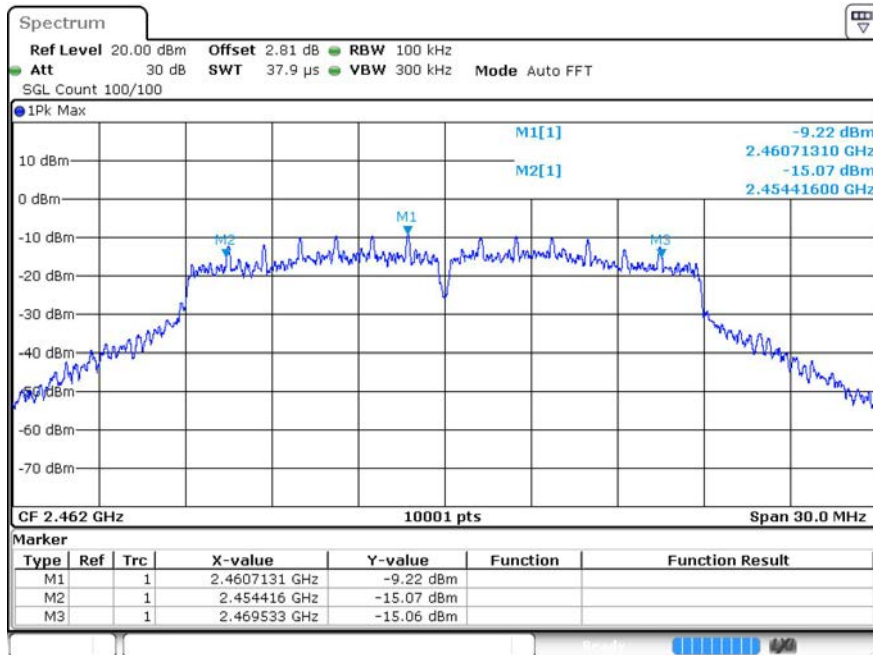
ax20 2412MHz Ant1



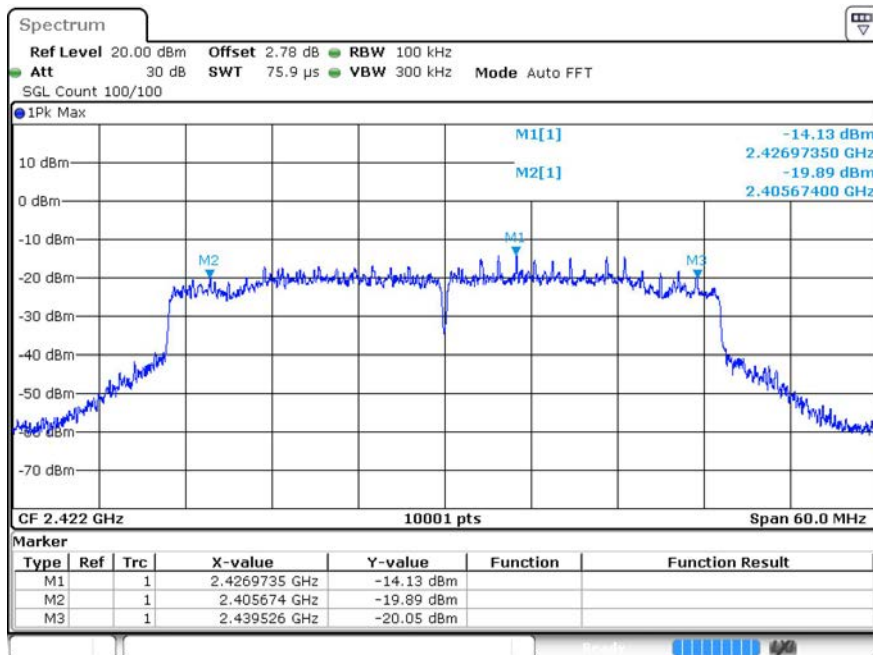
ax20 2437MHz Ant1



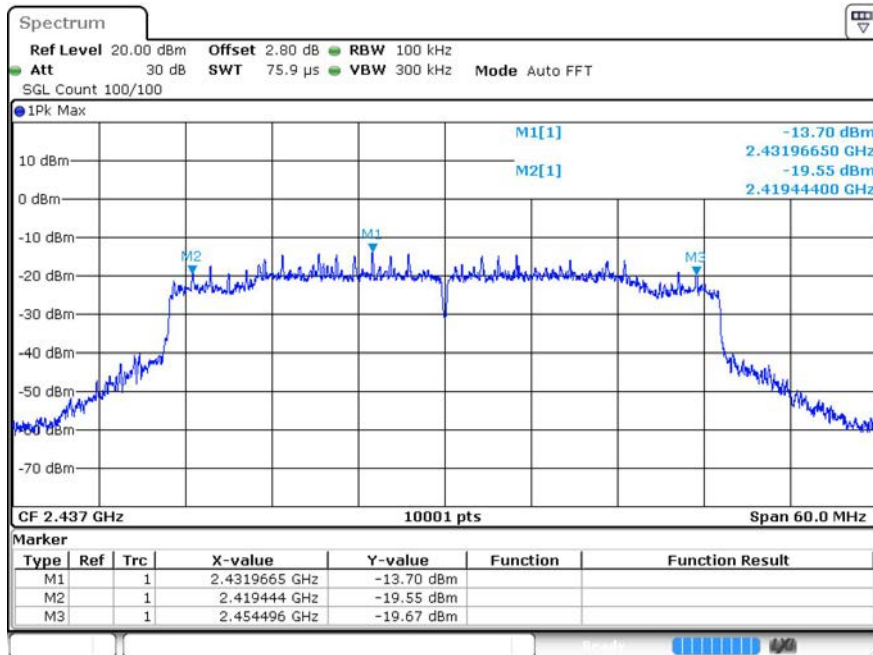
ax20 2462MHz Ant1



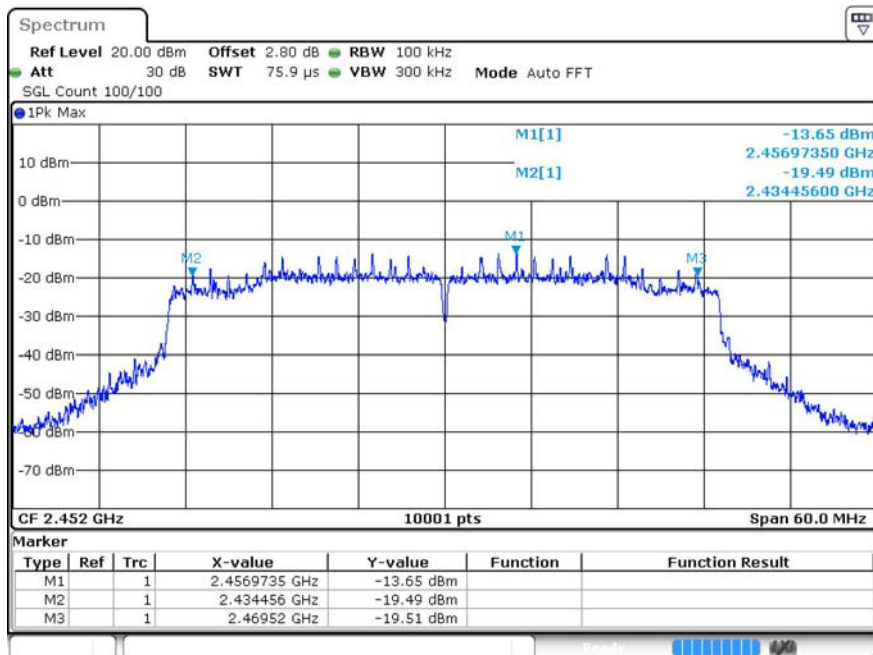
ax40 2422MHz Ant1



ax40 2437MHz Ant1



ax40 2452MHz Ant1

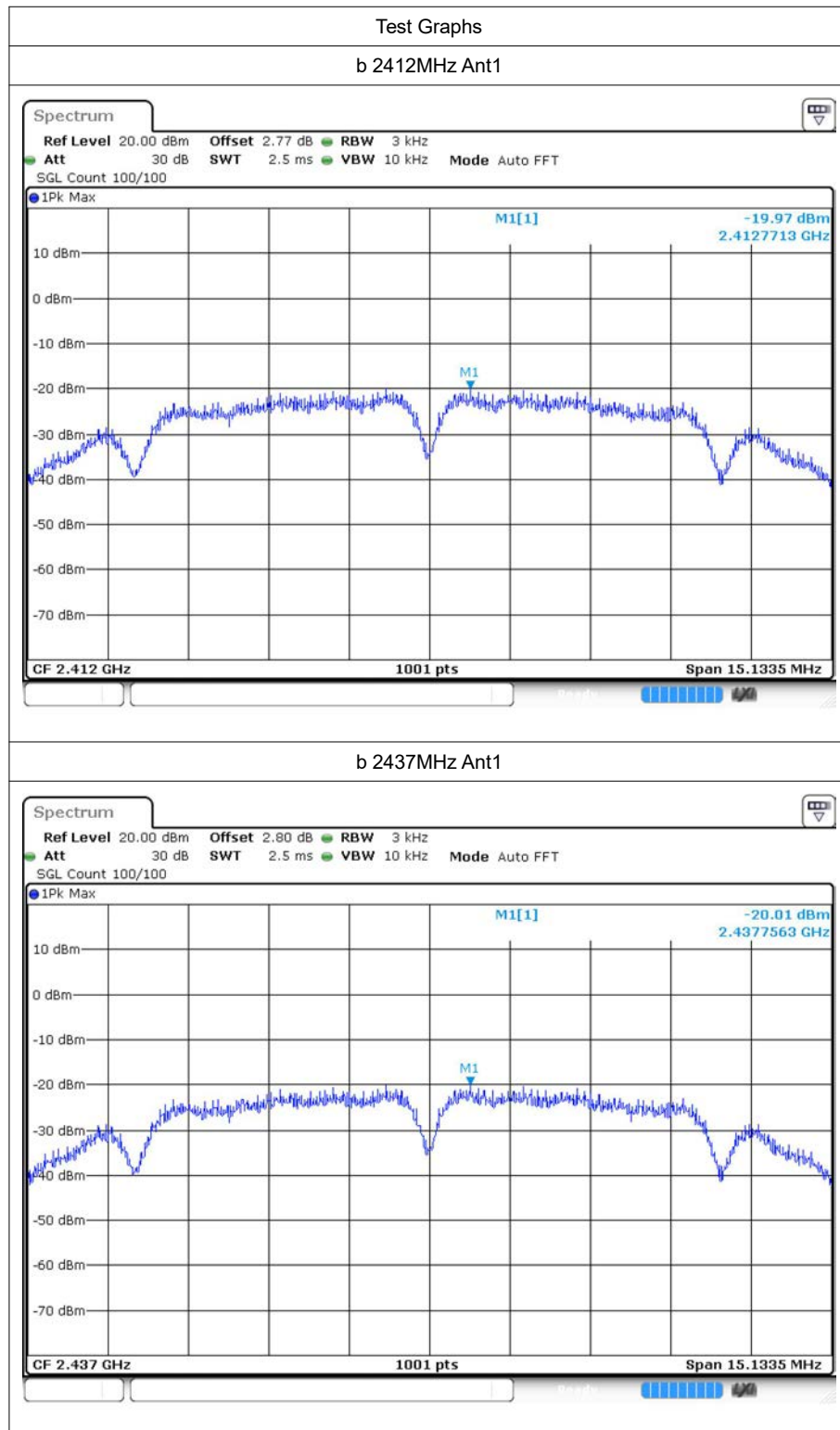


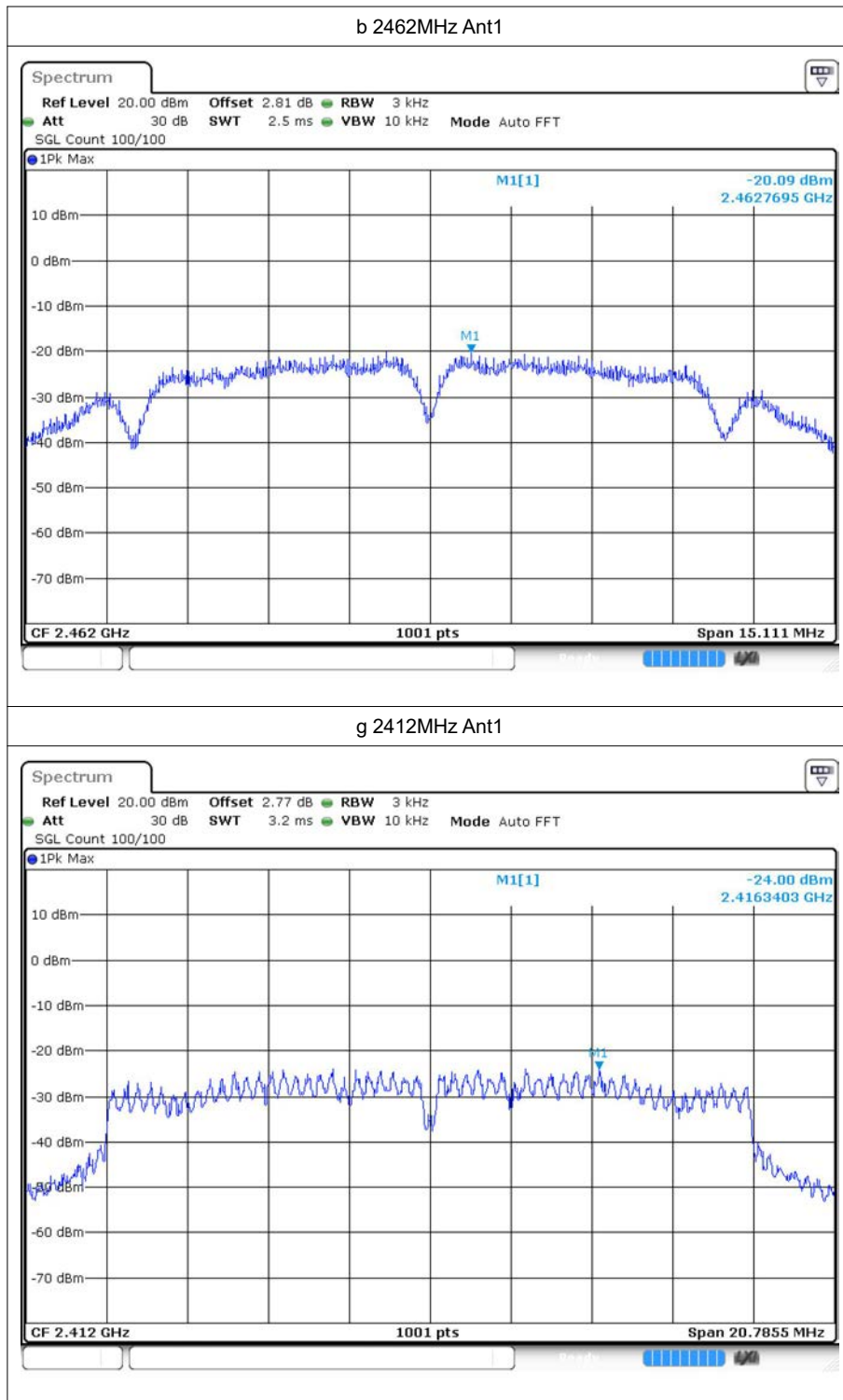
## 4 Maximum Power Spectral Density Level

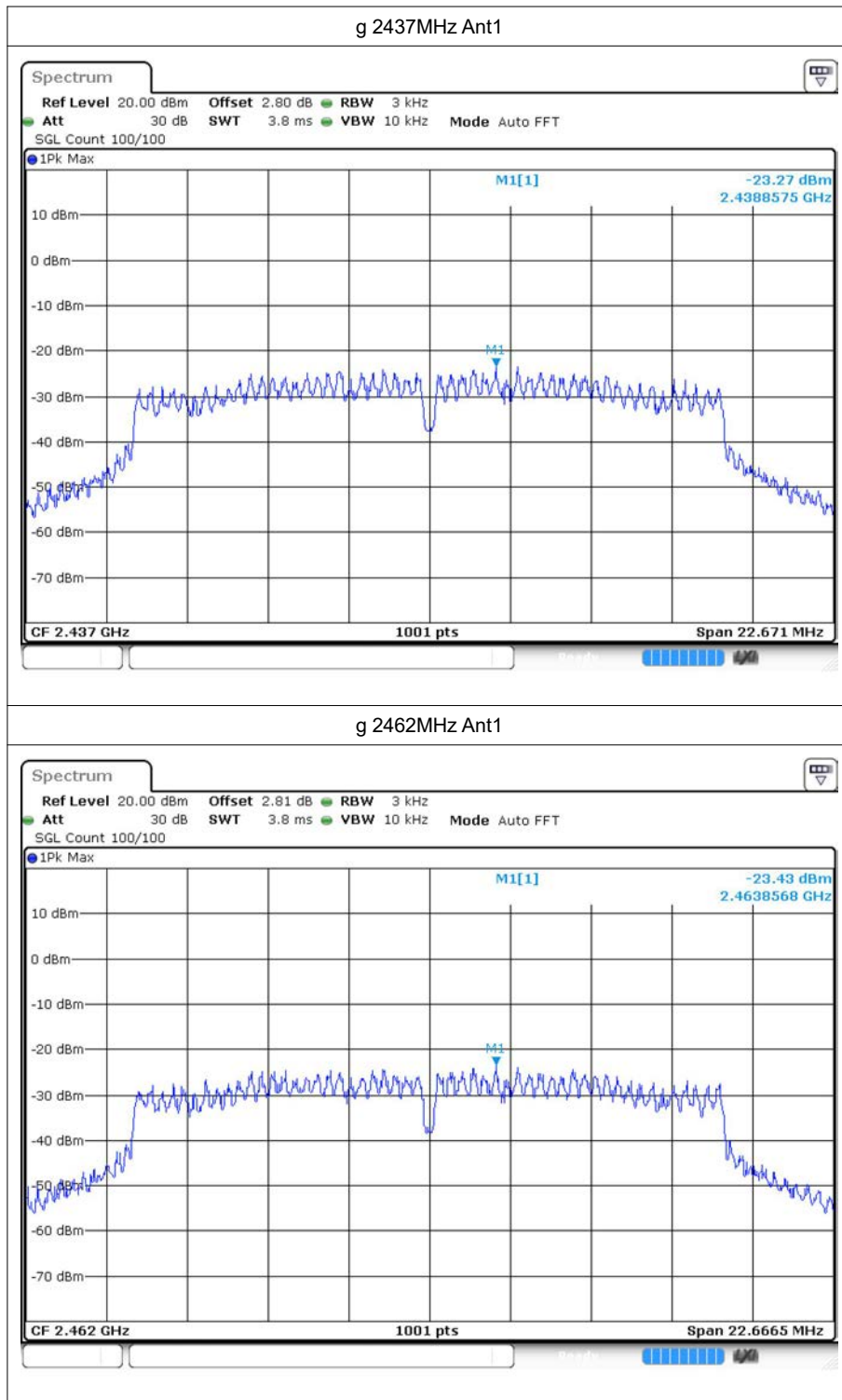
### 4.1 Test Result

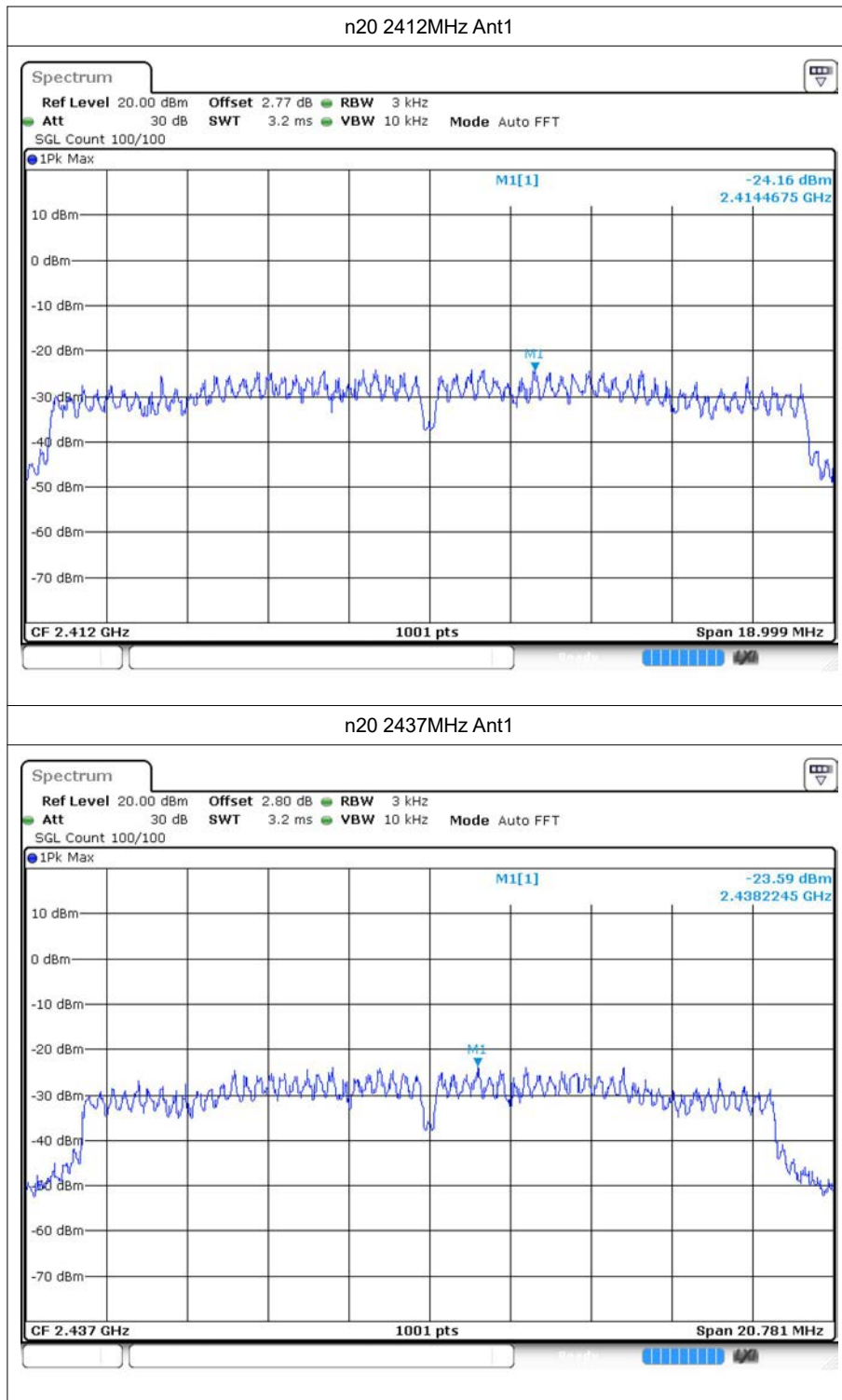
| Mode | Frequency (MHz) | Antenna | Conducted PSD<br>(dBm/3-100kHz) | Limit<br>(dBm/3kHz) | Verdict |
|------|-----------------|---------|---------------------------------|---------------------|---------|
| b    | 2412            | Ant1    | -19.97                          | ≤8                  | Pass    |
| b    | 2437            | Ant1    | -20.01                          | ≤8                  | Pass    |
| b    | 2462            | Ant1    | -20.09                          | ≤8                  | Pass    |
| g    | 2412            | Ant1    | -24                             | ≤8                  | Pass    |
| g    | 2437            | Ant1    | -23.27                          | ≤8                  | Pass    |
| g    | 2462            | Ant1    | -23.43                          | ≤8                  | Pass    |
| n20  | 2412            | Ant1    | -24.16                          | ≤8                  | Pass    |
| n20  | 2437            | Ant1    | -23.59                          | ≤8                  | Pass    |
| n20  | 2462            | Ant1    | -23.56                          | ≤8                  | Pass    |
| n40  | 2422            | Ant1    | -27.77                          | ≤8                  | Pass    |
| n40  | 2437            | Ant1    | -26.7                           | ≤8                  | Pass    |
| n40  | 2452            | Ant1    | -27.45                          | ≤8                  | Pass    |
| ax20 | 2412            | Ant1    | -11.24                          | ≤8                  | Pass    |
| ax20 | 2437            | Ant1    | -11                             | ≤8                  | Pass    |
| ax20 | 2462            | Ant1    | -11.07                          | ≤8                  | Pass    |
| ax40 | 2422            | Ant1    | -14.31                          | ≤8                  | Pass    |
| ax40 | 2437            | Ant1    | -14.66                          | ≤8                  | Pass    |
| ax40 | 2452            | Ant1    | -13.61                          | ≤8                  | Pass    |

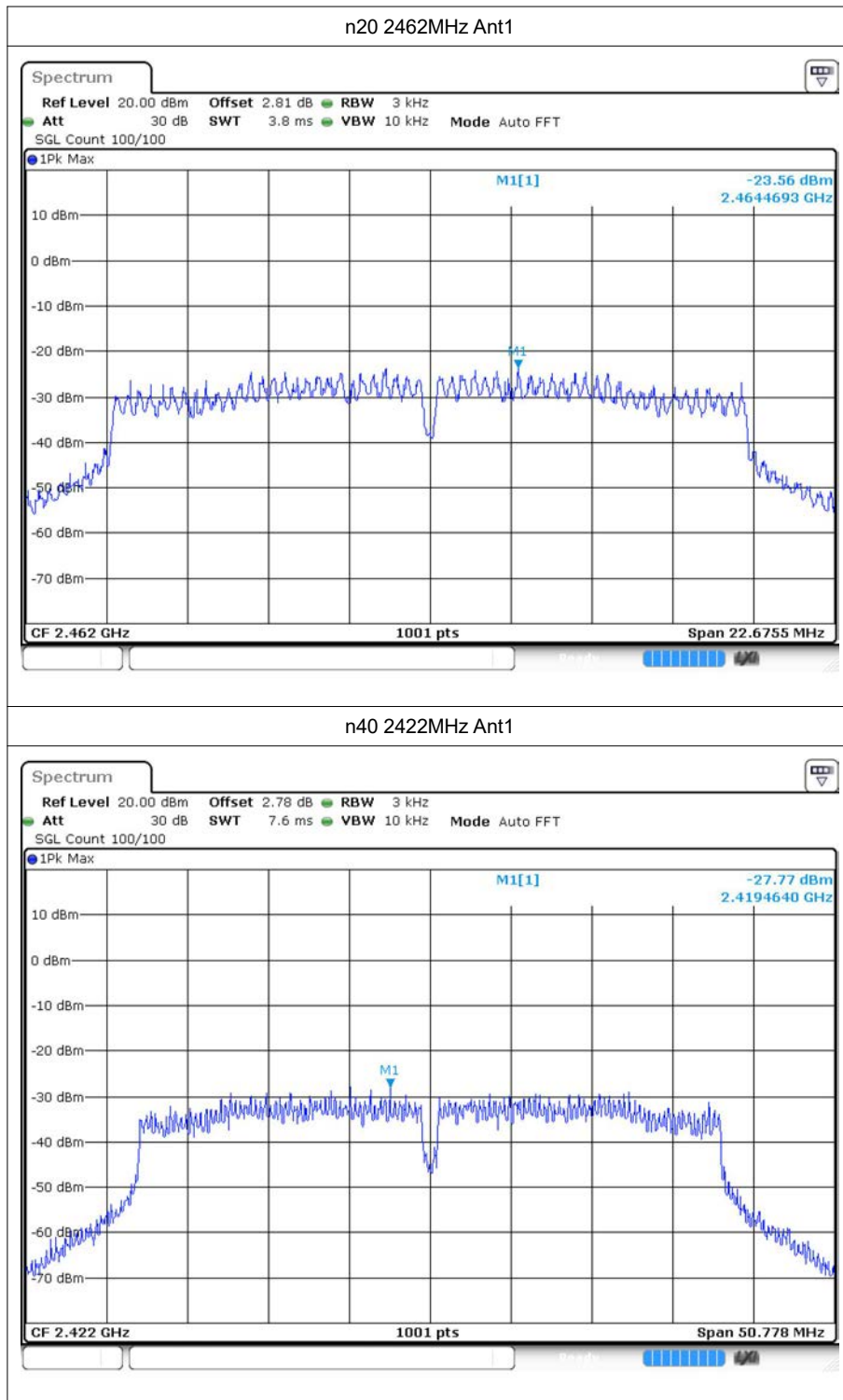
## 4.2 Test Graphs

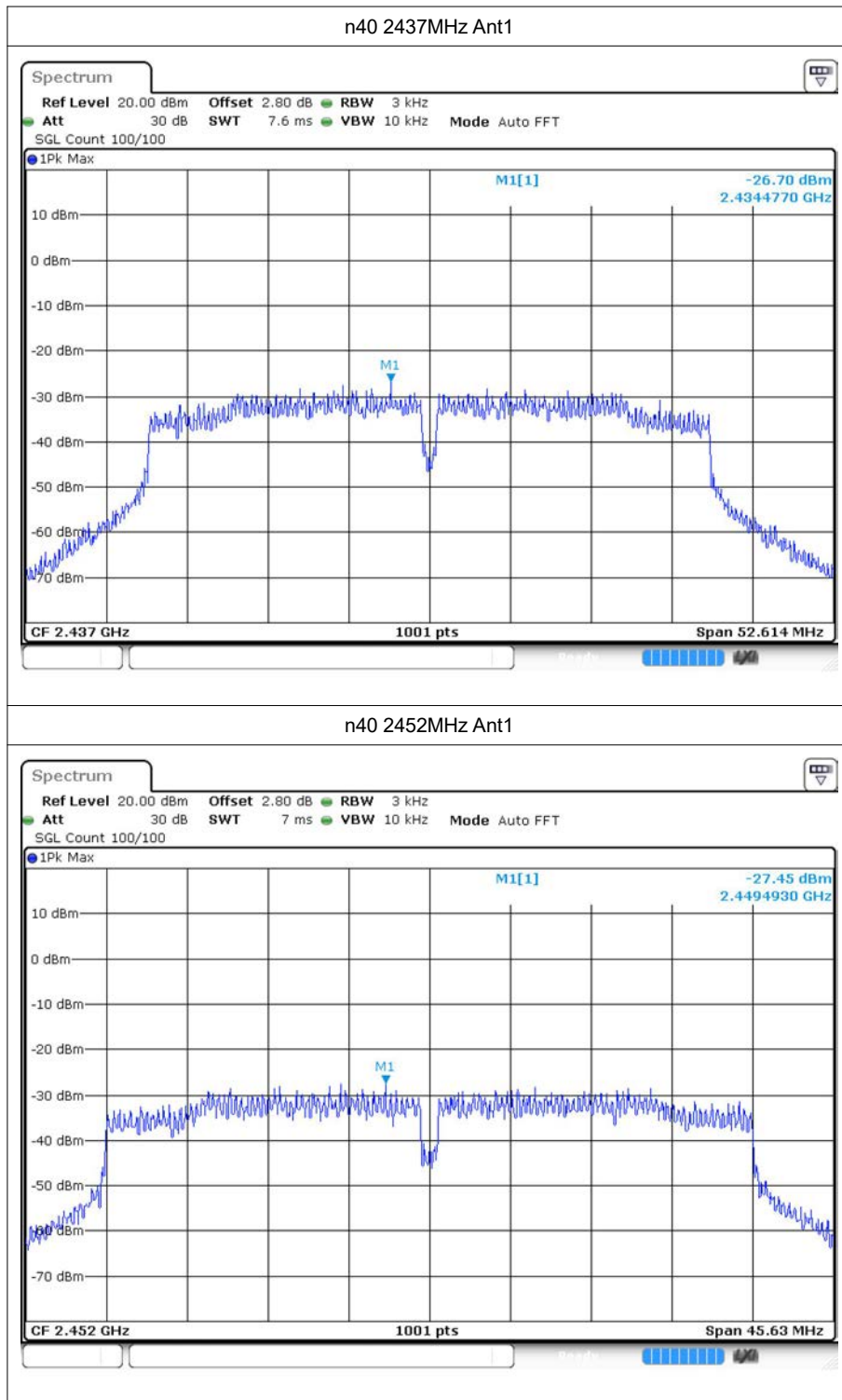


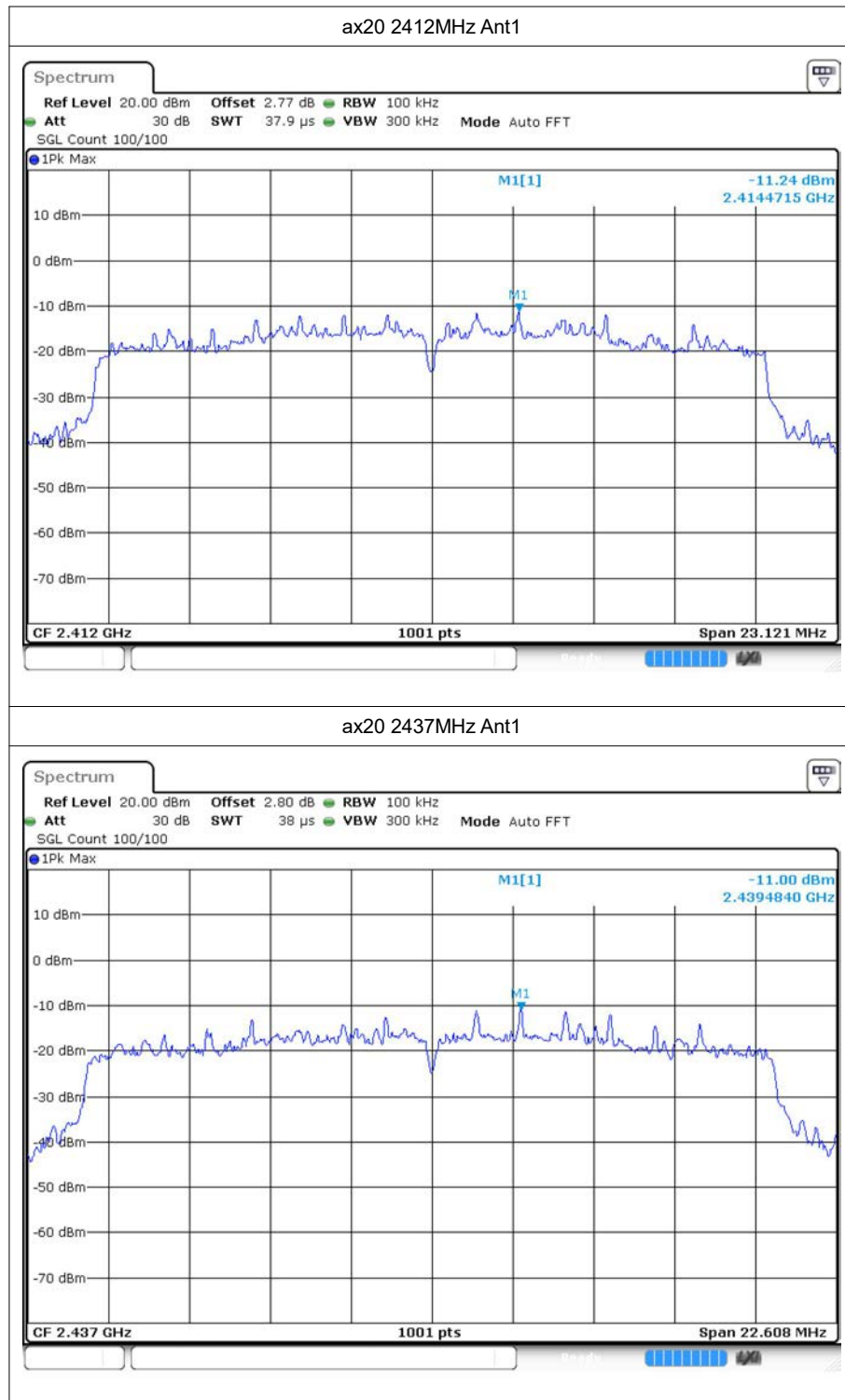


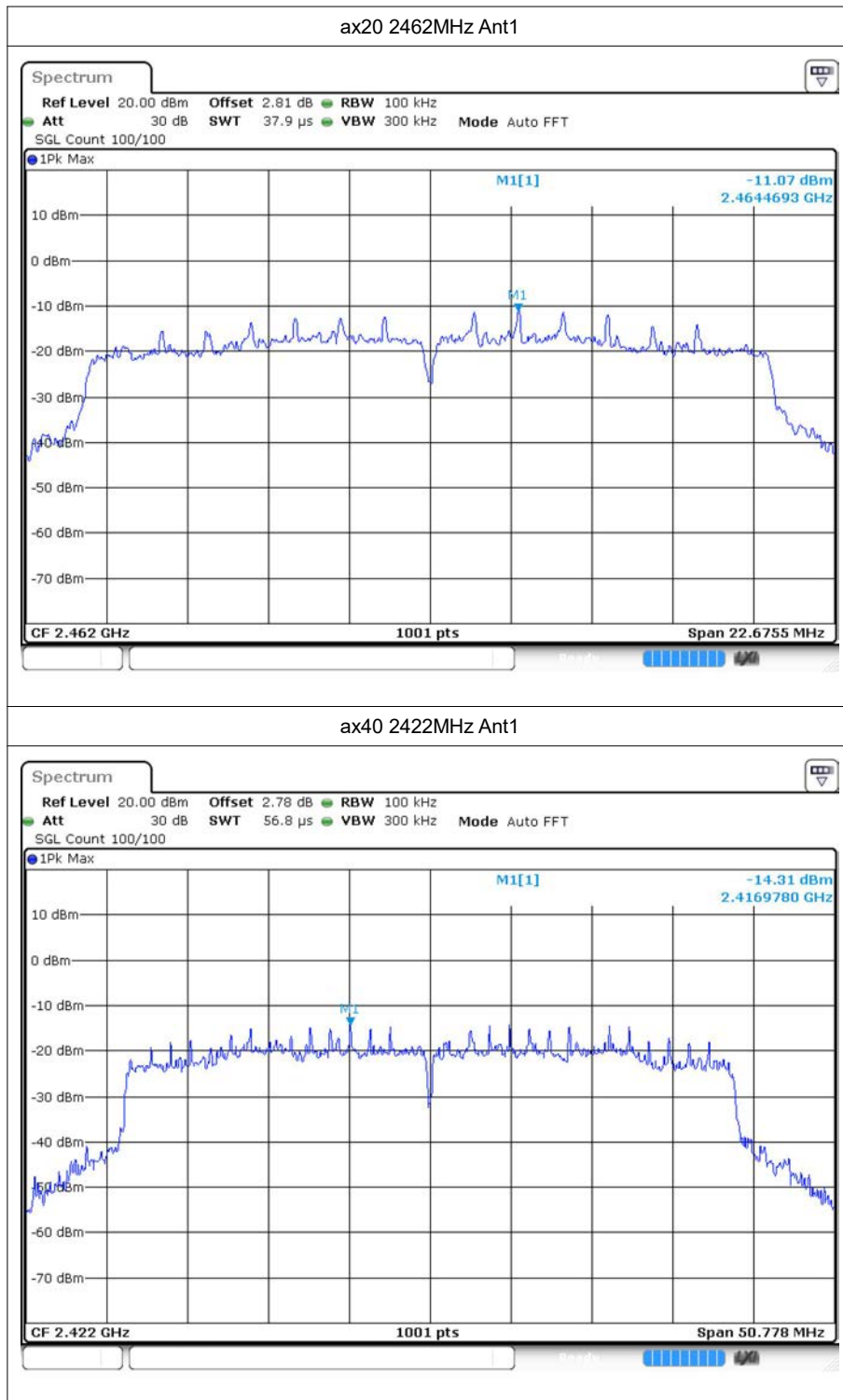


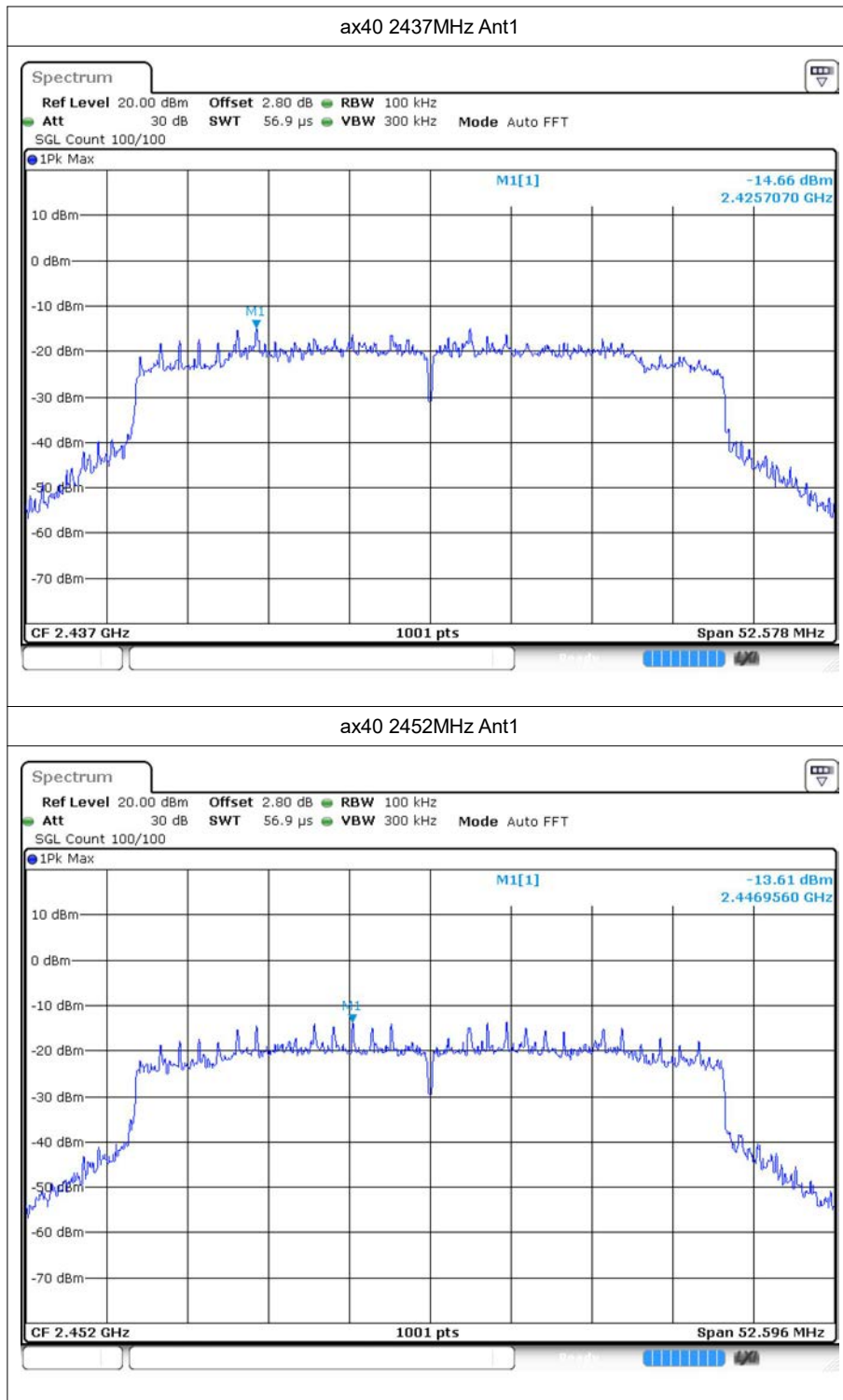










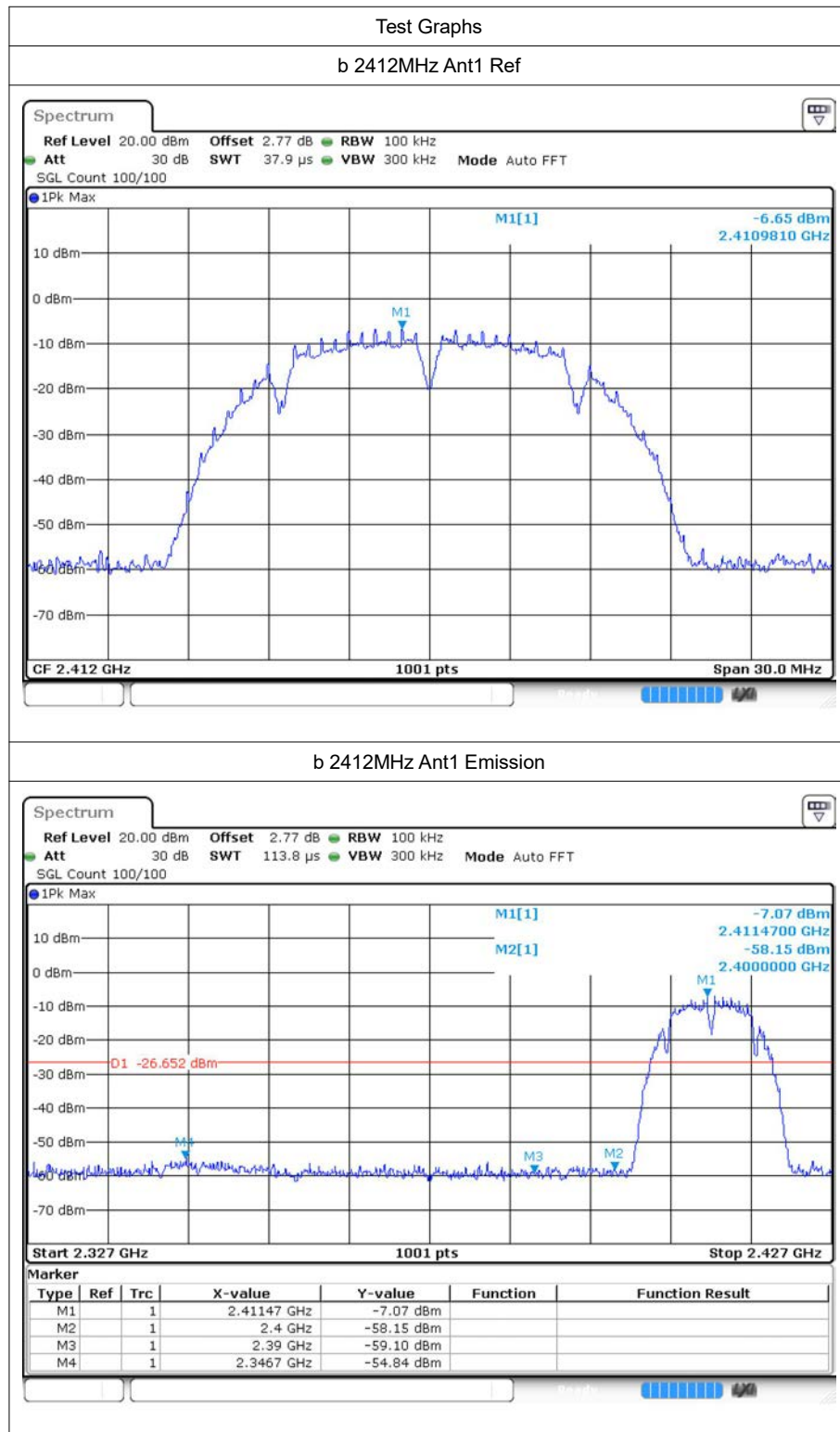


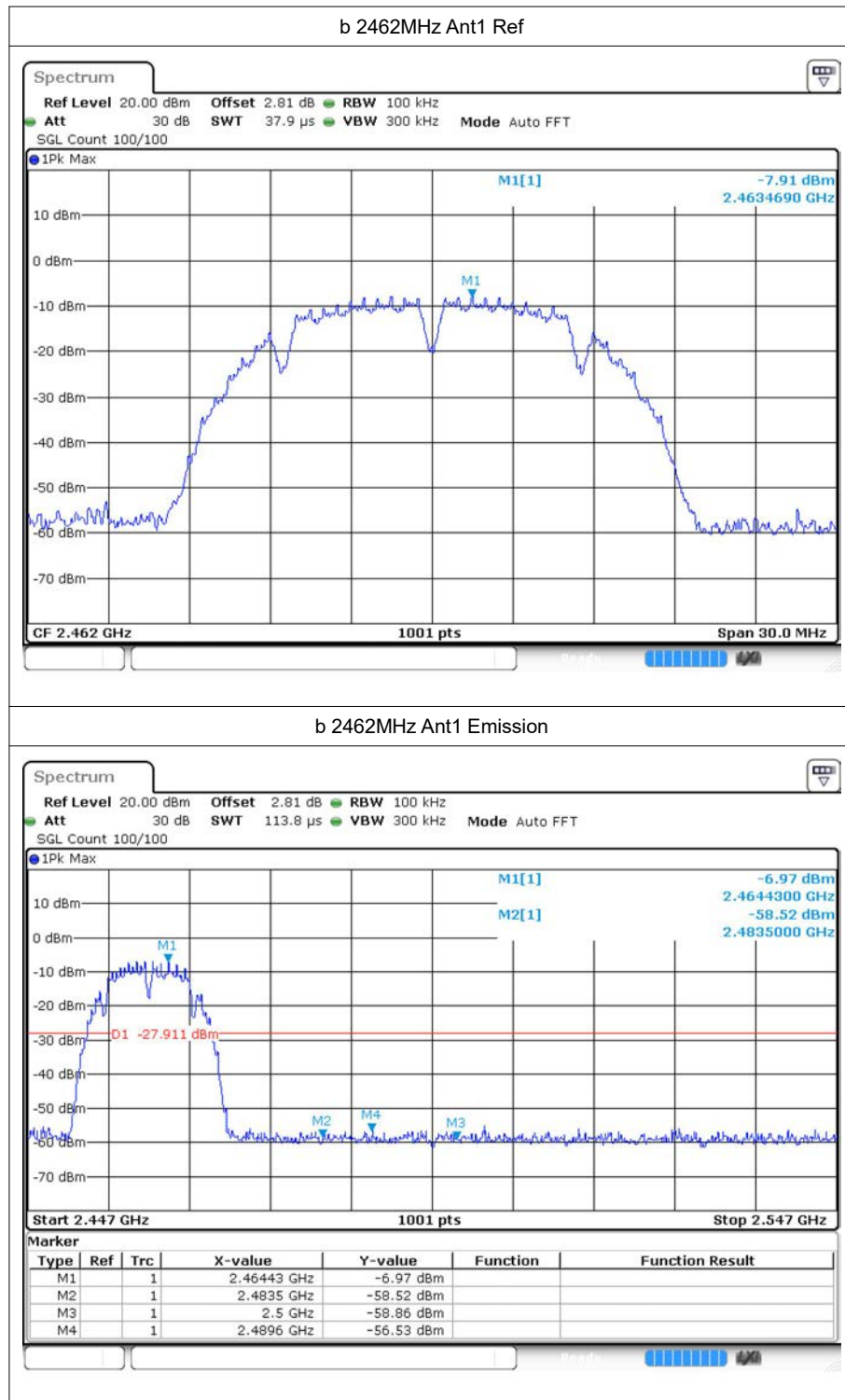
## 5 Band Edge

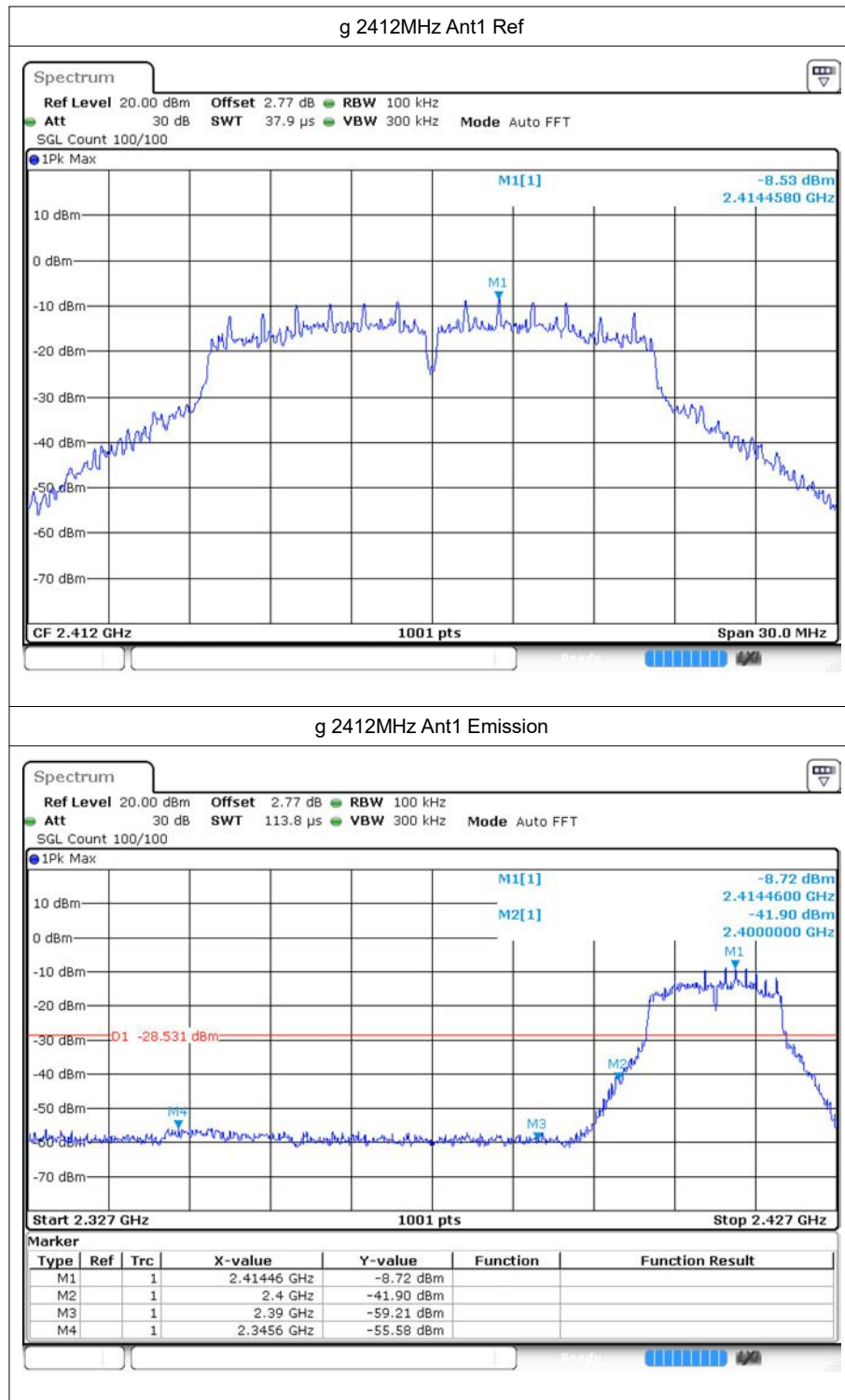
### 5.1 Test Result

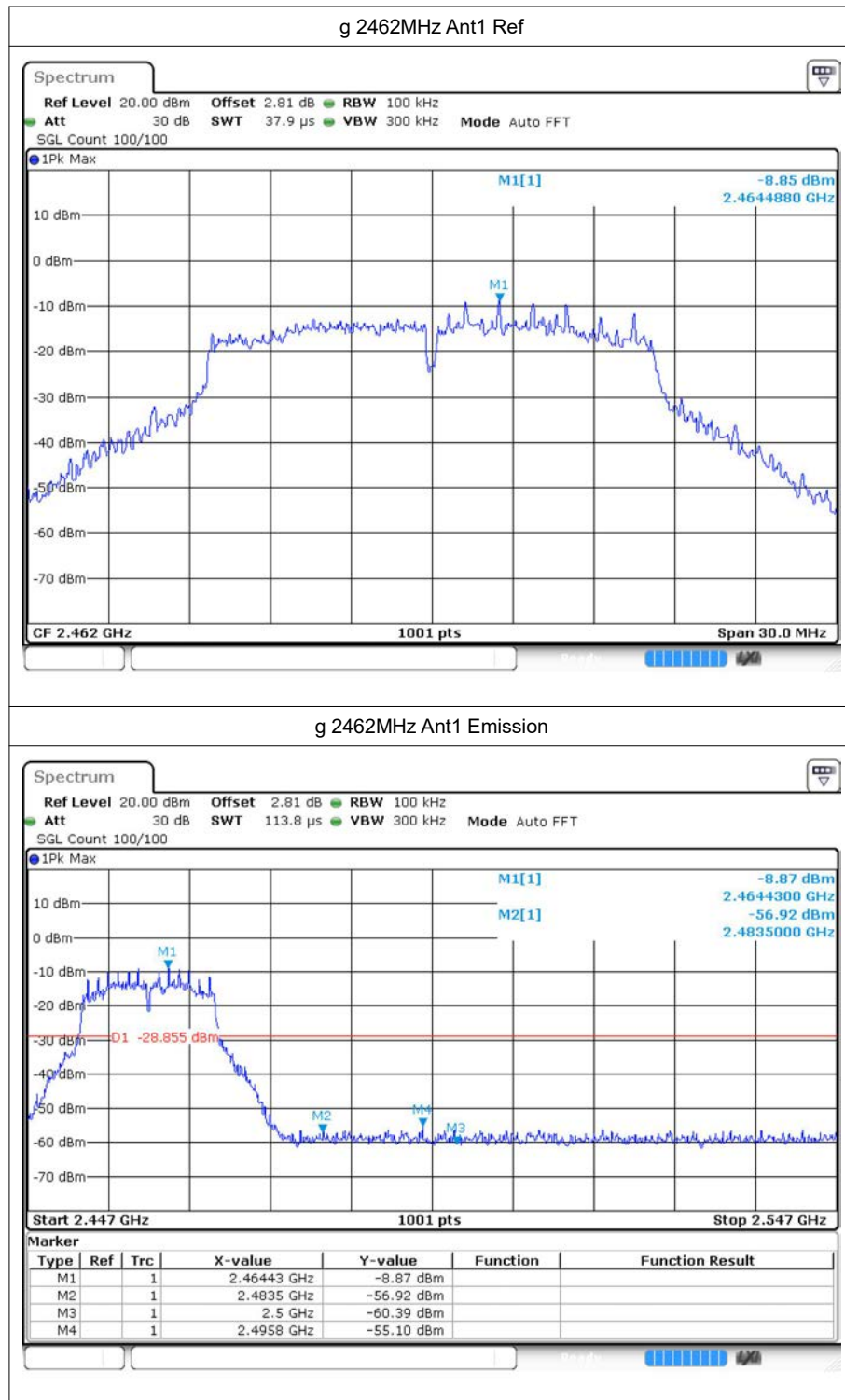
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b    | 2412            | Ant1    | -48.18          | -20         | Pass    |
| b    | 2462            | Ant1    | -48.61          | -20         | Pass    |
| g    | 2412            | Ant1    | -47.05          | -20         | Pass    |
| g    | 2462            | Ant1    | -46.25          | -20         | Pass    |
| n20  | 2412            | Ant1    | -46.31          | -20         | Pass    |
| n20  | 2462            | Ant1    | -46.98          | -20         | Pass    |
| n40  | 2422            | Ant1    | -41.97          | -20         | Pass    |
| n40  | 2452            | Ant1    | -42.66          | -20         | Pass    |
| ax20 | 2412            | Ant1    | -44.05          | -20         | Pass    |
| ax20 | 2462            | Ant1    | -43.98          | -20         | Pass    |
| ax40 | 2422            | Ant1    | -41.42          | -20         | Pass    |
| ax40 | 2452            | Ant1    | -42.5           | -20         | Pass    |

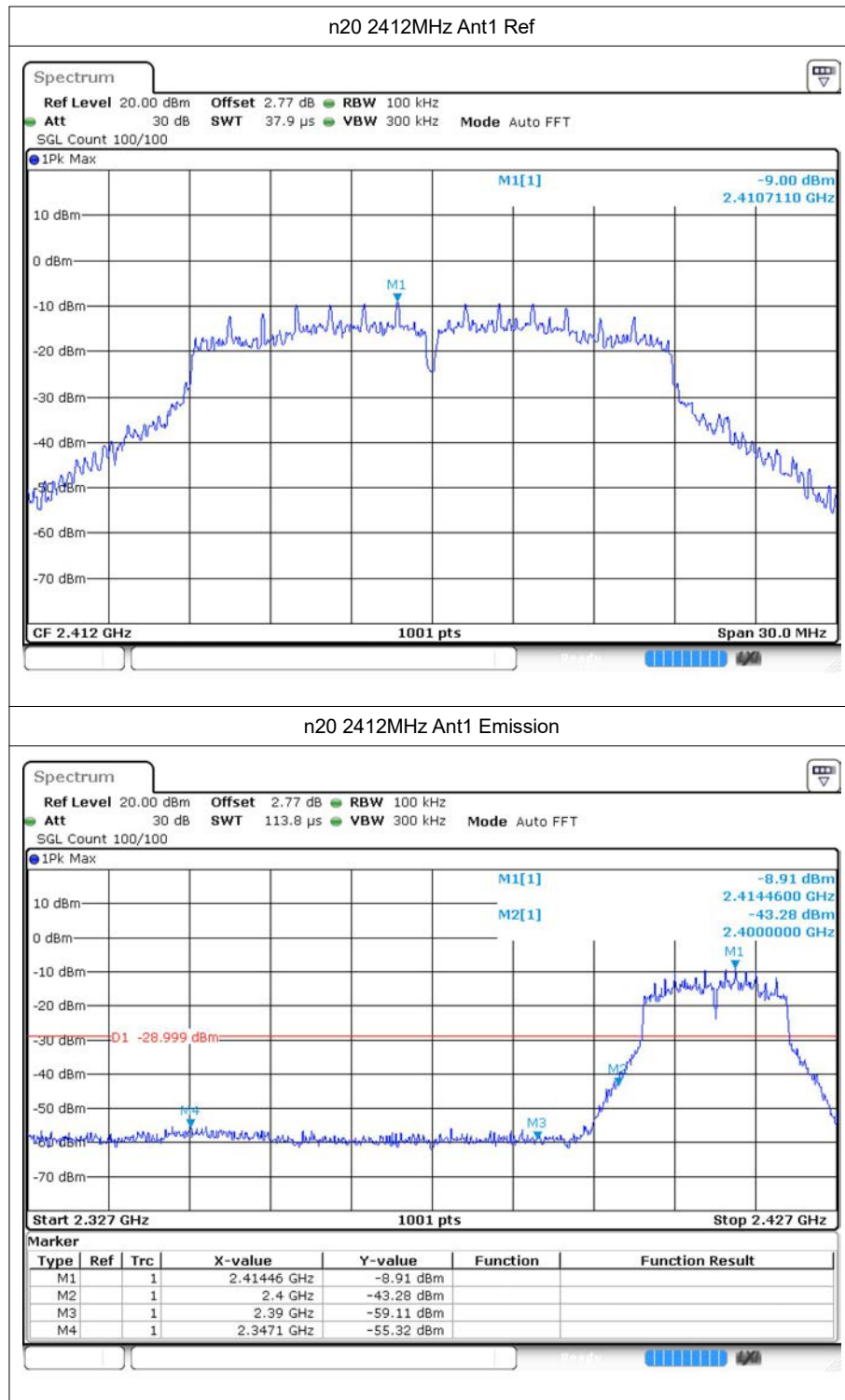
## 5.2 Test Graphs

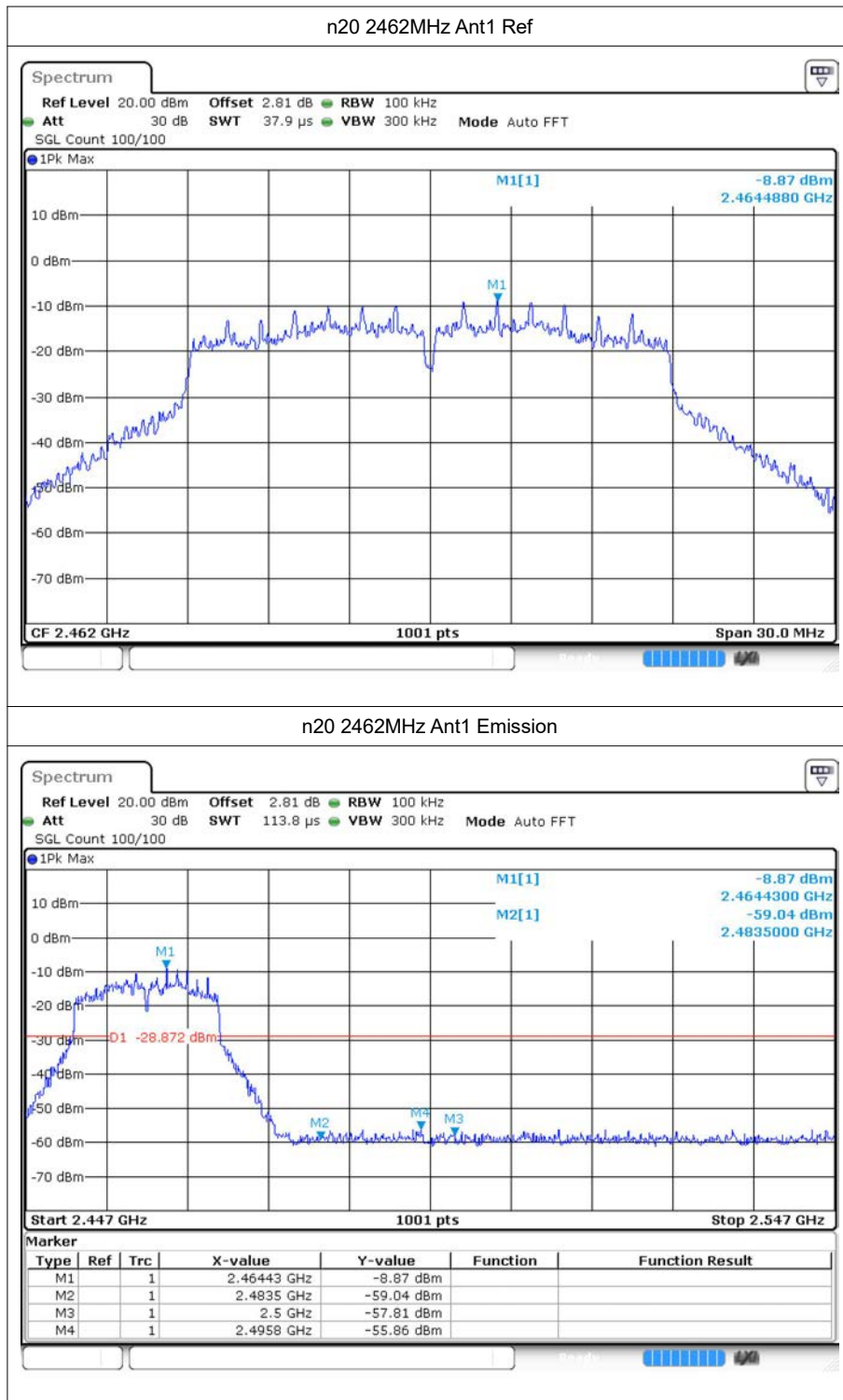


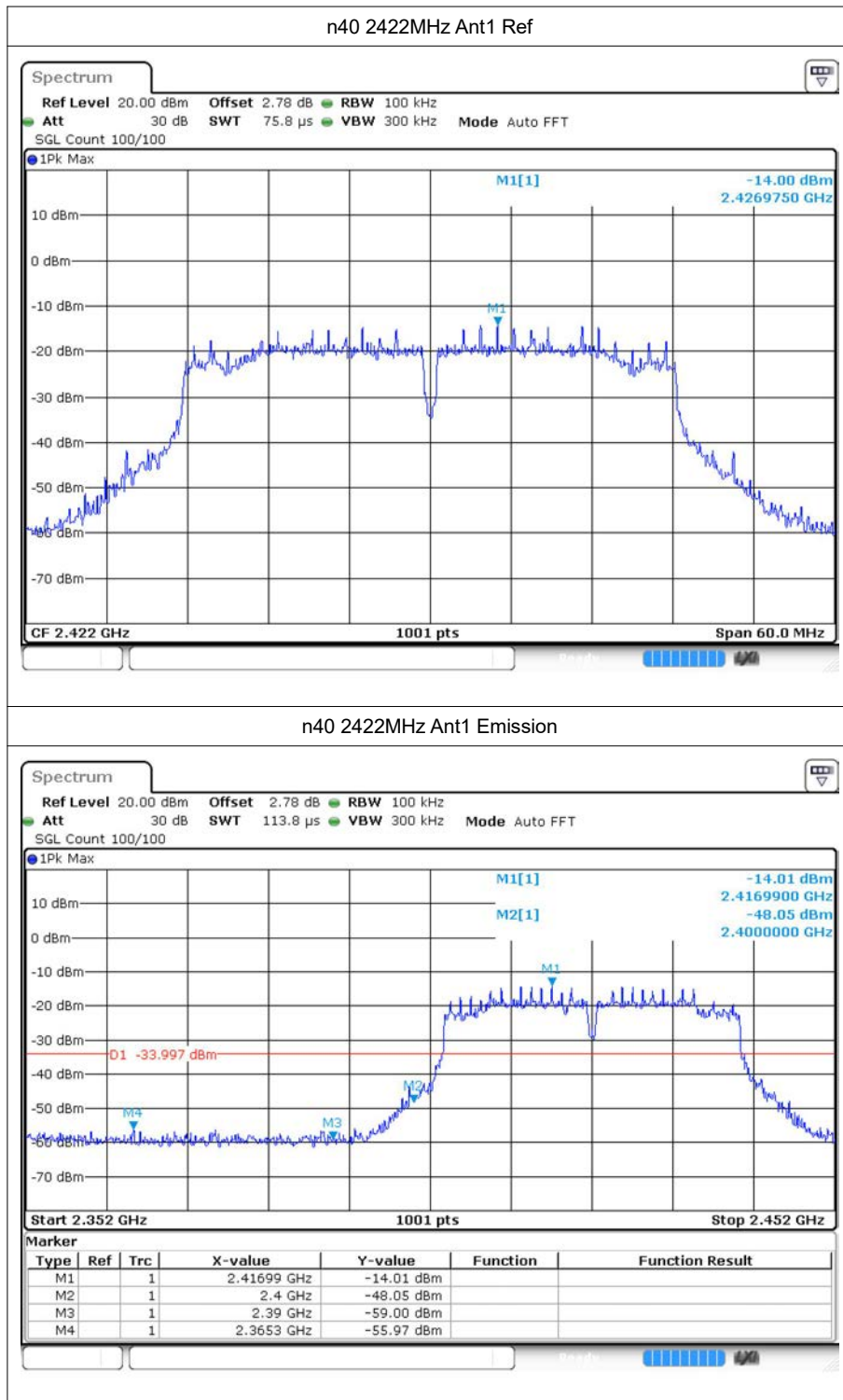


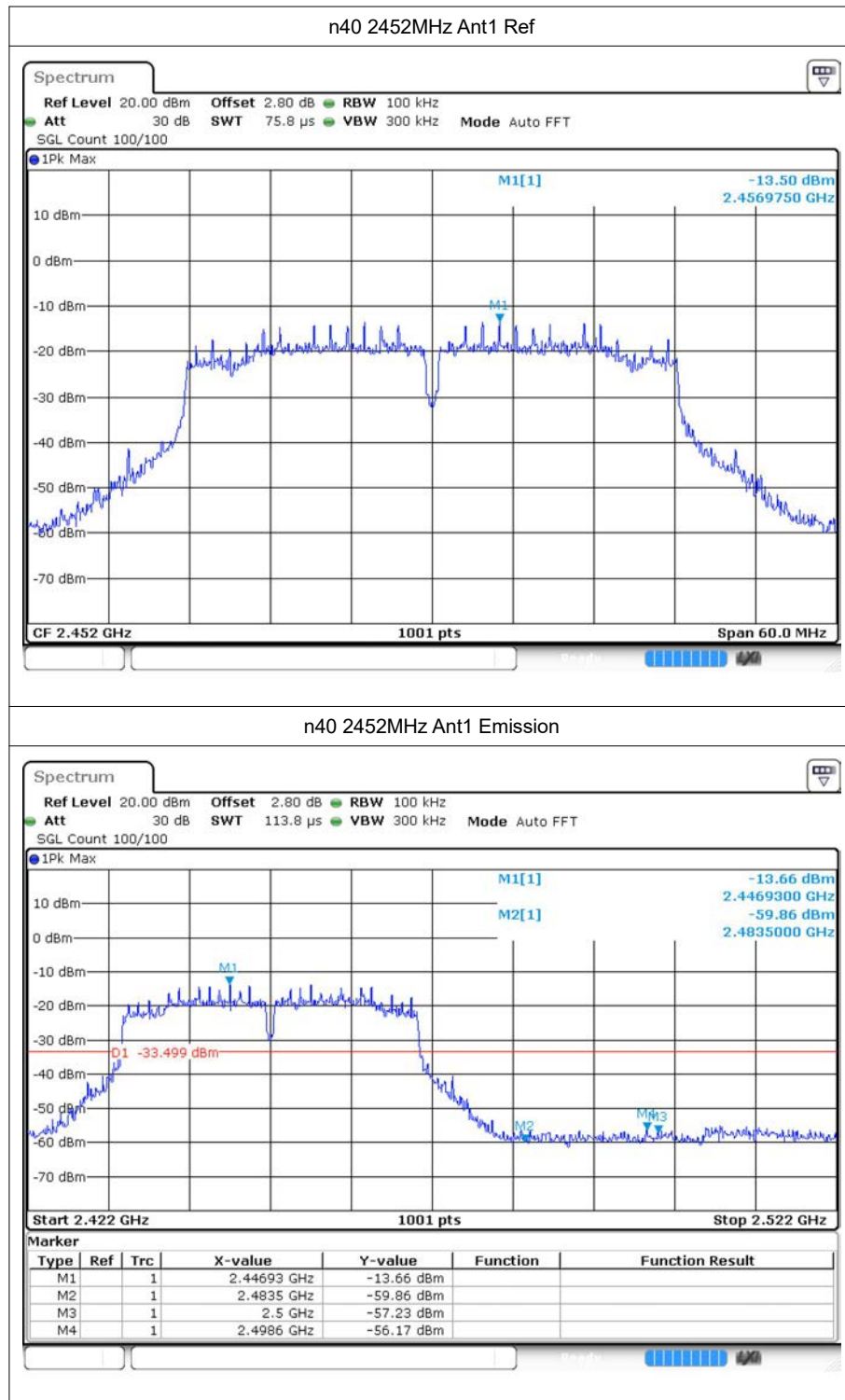


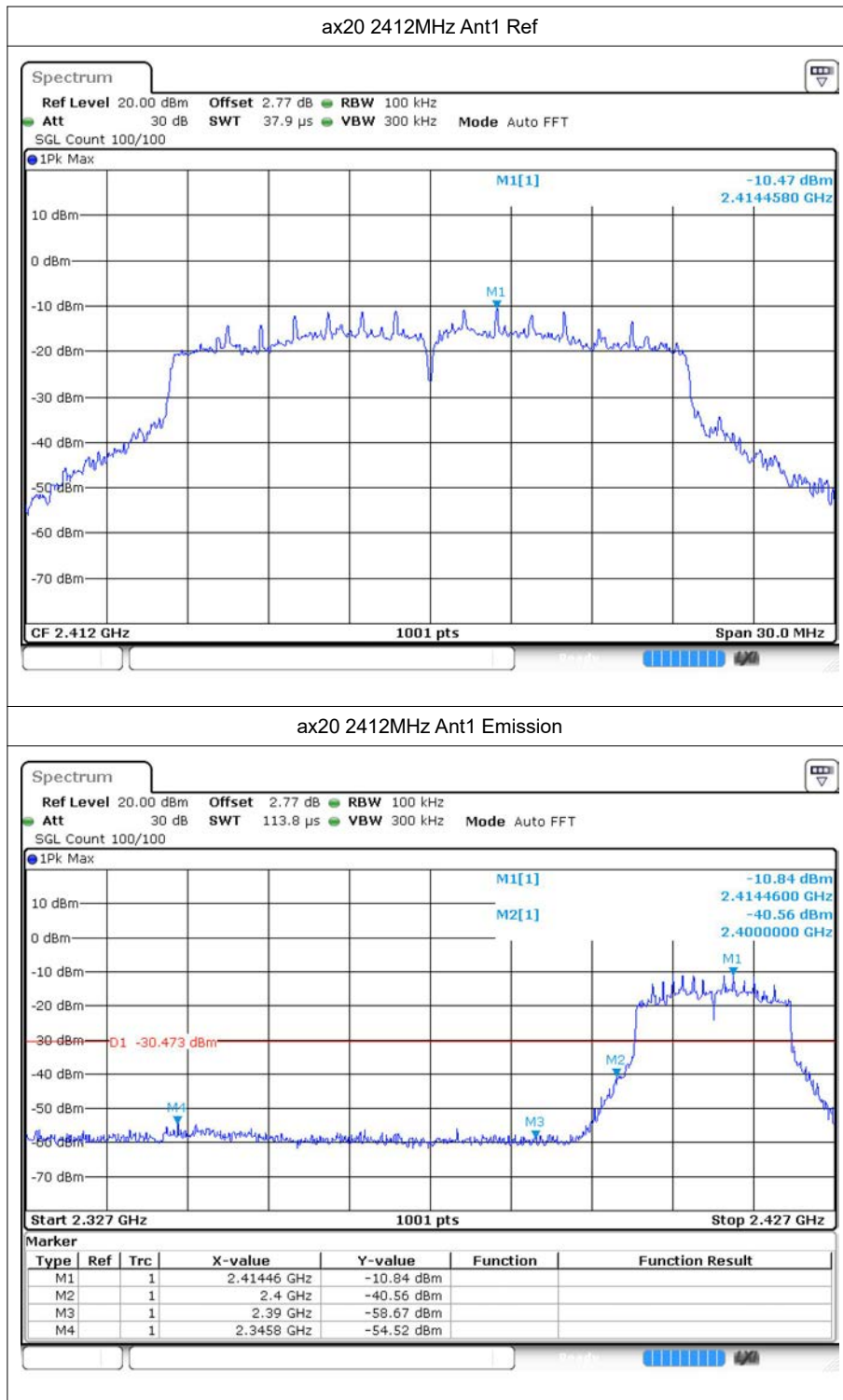


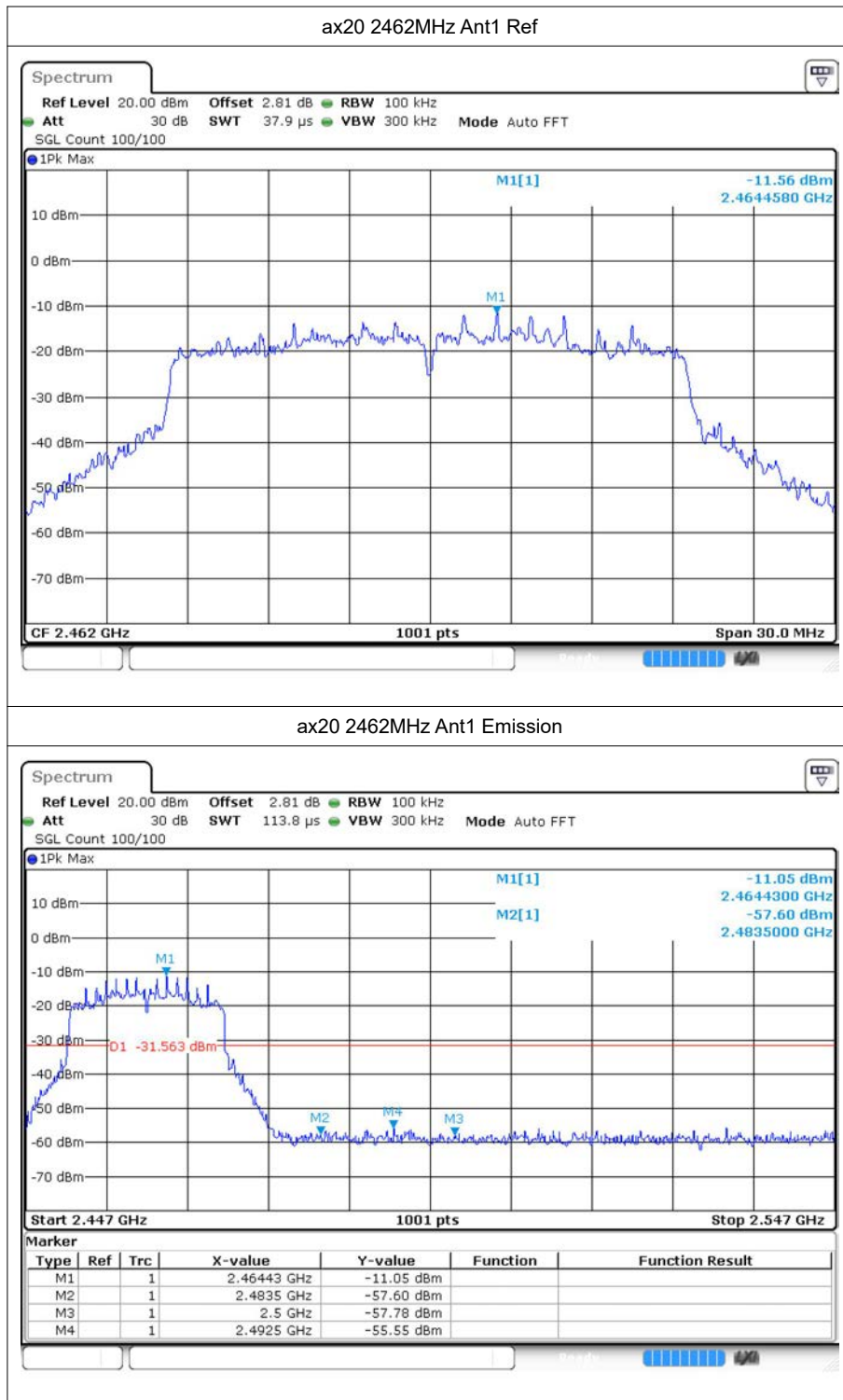


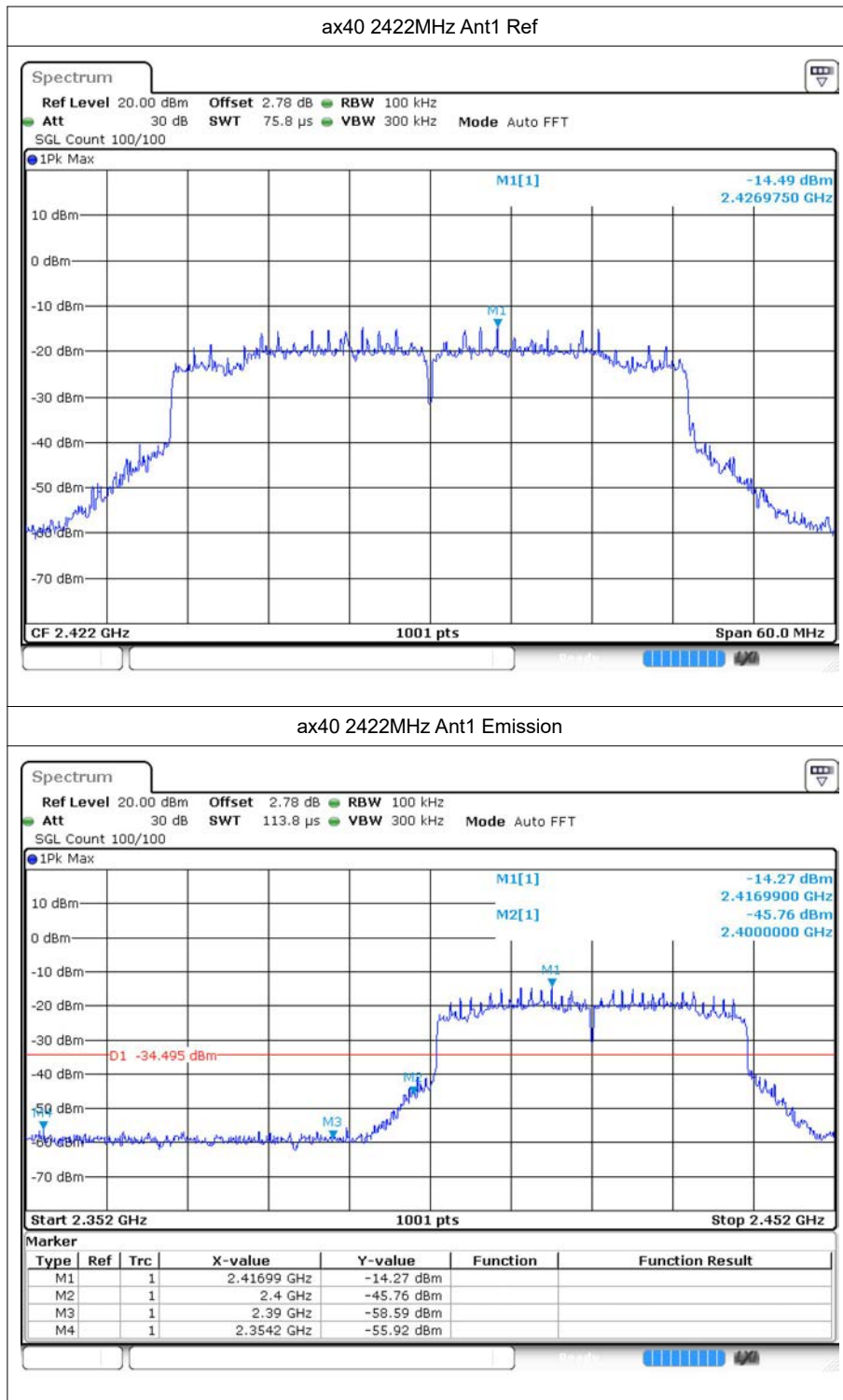


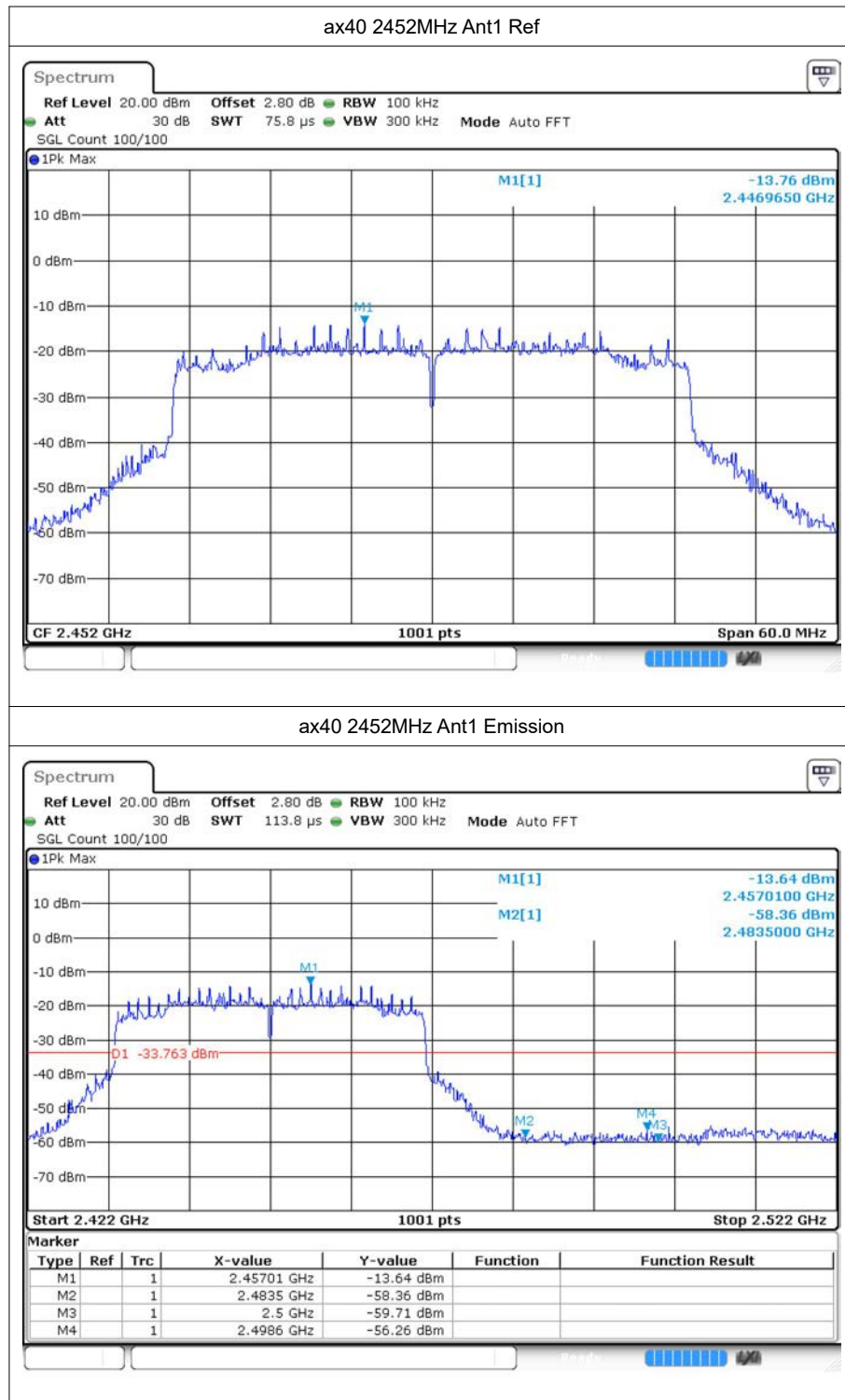














## 6 Conducted RF Spurious Emission

### 6.1 Test Result

| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b    | 2412            | Ant1    | -36.24          | -20         | Pass    |
| b    | 2437            | Ant1    | -34.24          | -20         | Pass    |
| b    | 2462            | Ant1    | -35.69          | -20         | Pass    |
| g    | 2412            | Ant1    | -32.48          | -20         | Pass    |
| g    | 2437            | Ant1    | -33.73          | -20         | Pass    |
| g    | 2462            | Ant1    | -33.47          | -20         | Pass    |
| n20  | 2412            | Ant1    | -34.32          | -20         | Pass    |
| n20  | 2437            | Ant1    | -34.01          | -20         | Pass    |
| n20  | 2462            | Ant1    | -34.32          | -20         | Pass    |
| n40  | 2422            | Ant1    | -29.39          | -20         | Pass    |
| n40  | 2437            | Ant1    | -28.98          | -20         | Pass    |
| n40  | 2452            | Ant1    | -29.79          | -20         | Pass    |
| ax20 | 2412            | Ant1    | -32.67          | -20         | Pass    |
| ax20 | 2437            | Ant1    | -31.22          | -20         | Pass    |
| ax20 | 2462            | Ant1    | -31.56          | -20         | Pass    |
| ax40 | 2422            | Ant1    | -28.85          | -20         | Pass    |
| ax40 | 2437            | Ant1    | -27.88          | -20         | Pass    |
| ax40 | 2452            | Ant1    | -29.55          | -20         | Pass    |

## 6.2 Test Graphs

