



## Appendix C

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

Product Name: DRIVING RECORDER

Trade Mark: N/A

Test Model: XC909

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 25.6° 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 .....       | 10   |
| 2.1 Test Result .....                        | 10   |
| 3 -6dB Bandwidth .....                       | 11   |
| 3.1 Test Result .....                        | 11   |
| 3.2 Test Graphs .....                        | 12   |
| 4 Maximum Power Spectral Density Level ..... | 18   |
| 4.1 Test Result .....                        | 18   |
| 4.2 Test Graphs .....                        | 19   |
| 5 Band Edge .....                            | 25   |
| 5.1 Test Result .....                        | 25   |
| 5.2 Test Graphs .....                        | 26   |
| 6 Conducted RF Spurious Emission .....       | 34   |
| 6.1 Test Result .....                        | 34   |
| 6.2 Test Graphs .....                        | 35   |
| 7 Restrict Band .....                        | 47   |
| 7.1 Test Result .....                        | 47   |
| 7.2 Test Graphs .....                        | 49   |

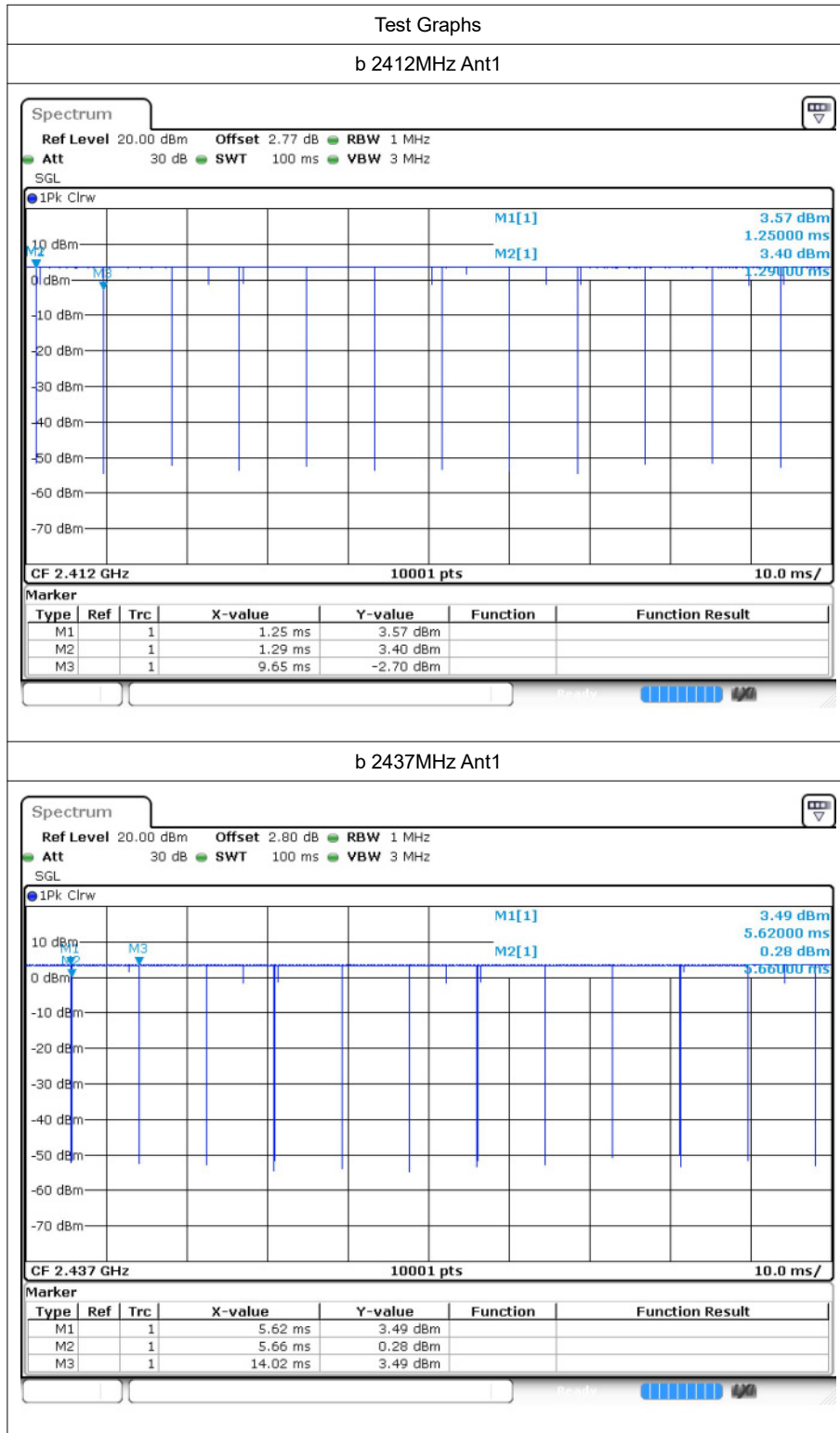


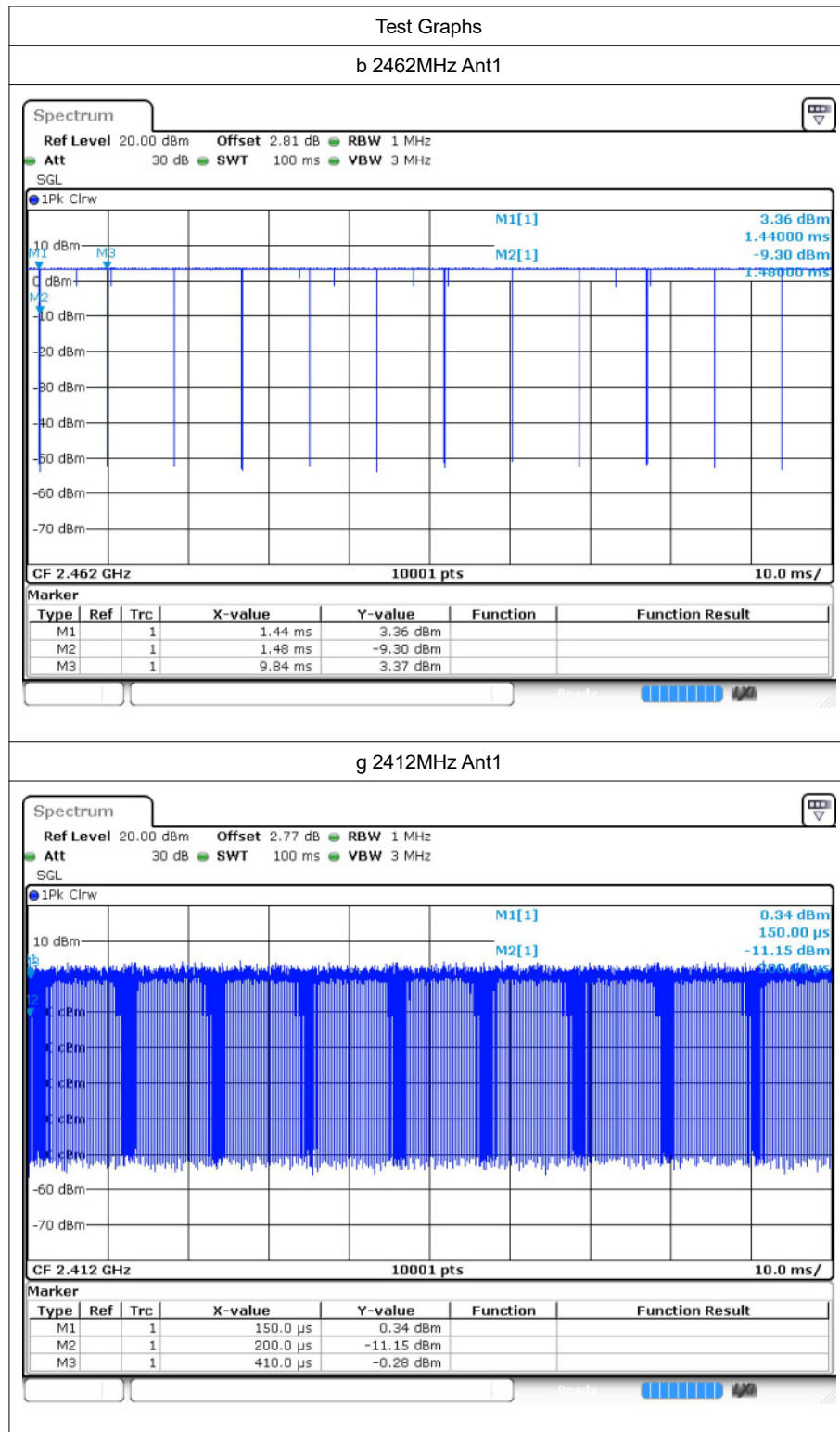
# 1 Duty Cycle

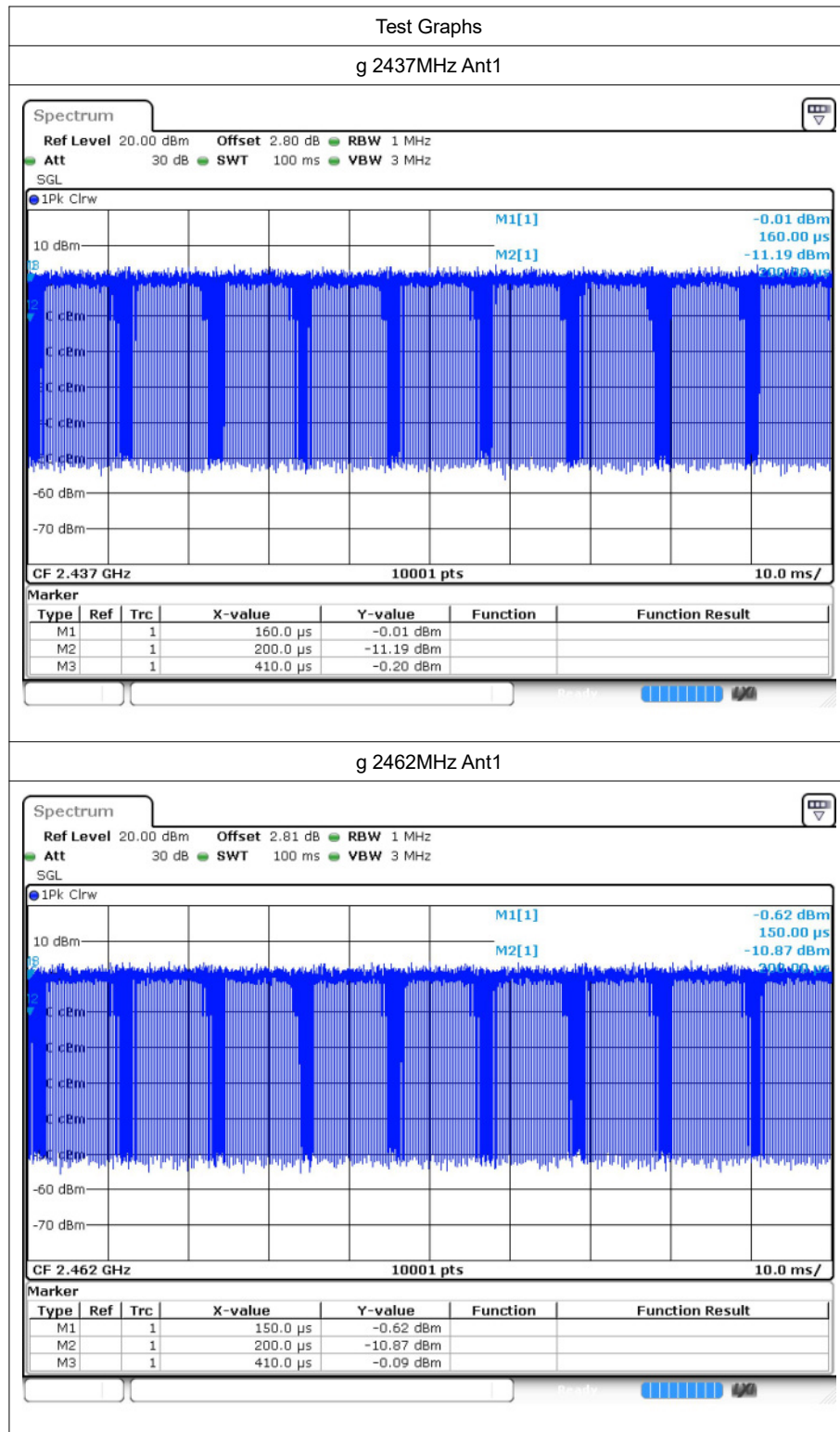
## 1.1 Test Result

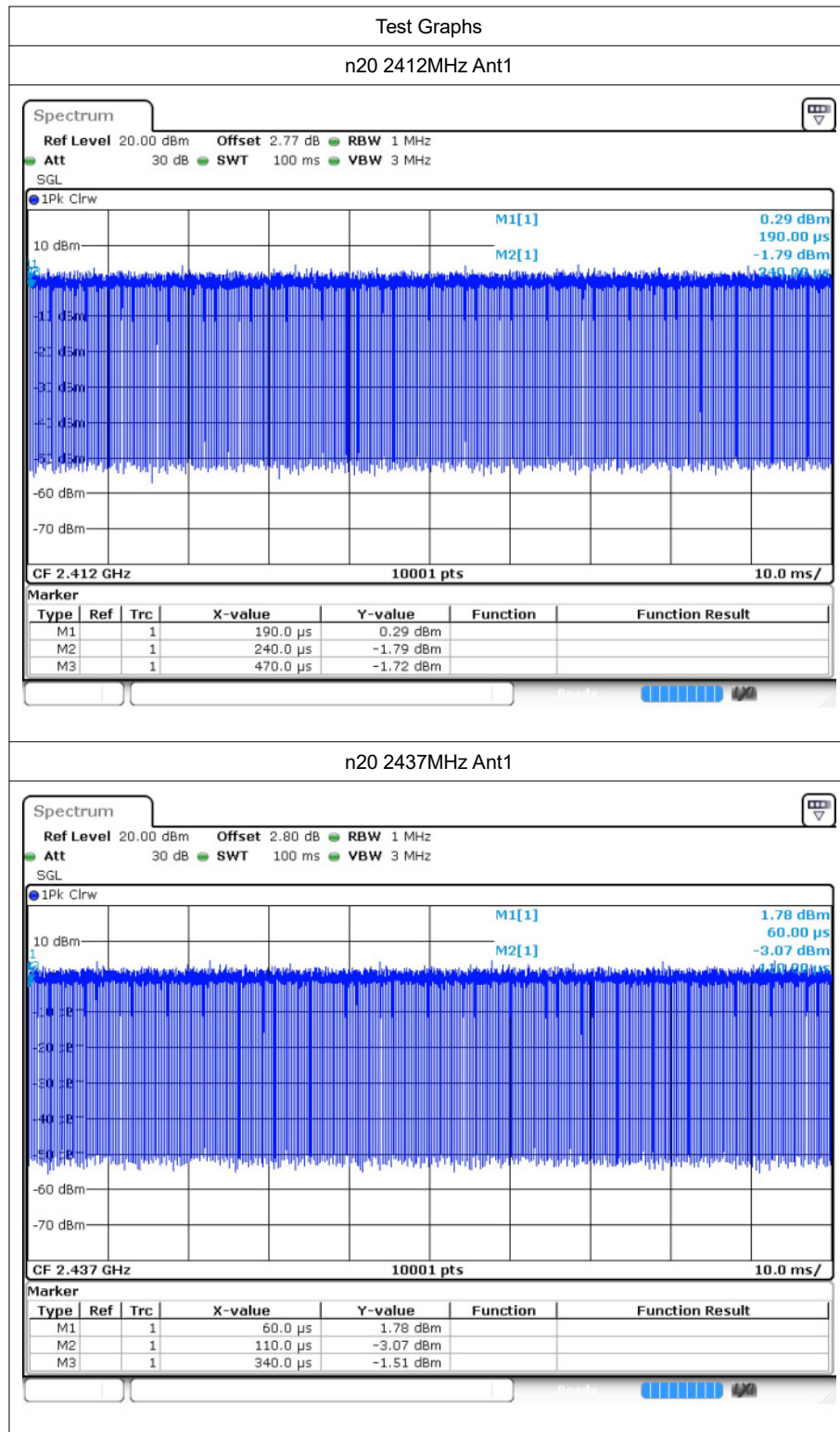
| Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor | 1/T (kHz) |
|------|-----------------|---------|----------------|-------------------|-----------|
| b    | 2412            | Ant1    | 99.61          | 0.02              | 0.12      |
| b    | 2437            | Ant1    | 99.6           | 0.02              | 0.12      |
| b    | 2462            | Ant1    | 99.61          | 0.02              | 0.12      |
| g    | 2412            | Ant1    | 86.94          | 0.61              | 4.76      |
| g    | 2437            | Ant1    | 86.93          | 0.61              | 4.76      |
| g    | 2462            | Ant1    | 87.05          | 0.6               | 4.76      |
| n20  | 2412            | Ant1    | 87.57          | 0.58              | 4.35      |
| n20  | 2437            | Ant1    | 87.6           | 0.57              | 4.35      |
| n20  | 2462            | Ant1    | 87.45          | 0.58              | 4.35      |
| n40  | 2422            | Ant1    | 87.98          | 0.56              | 4.17      |
| n40  | 2437            | Ant1    | 88.05          | 0.55              | 4         |
| n40  | 2452            | Ant1    | 88             | 0.56              | 4.17      |

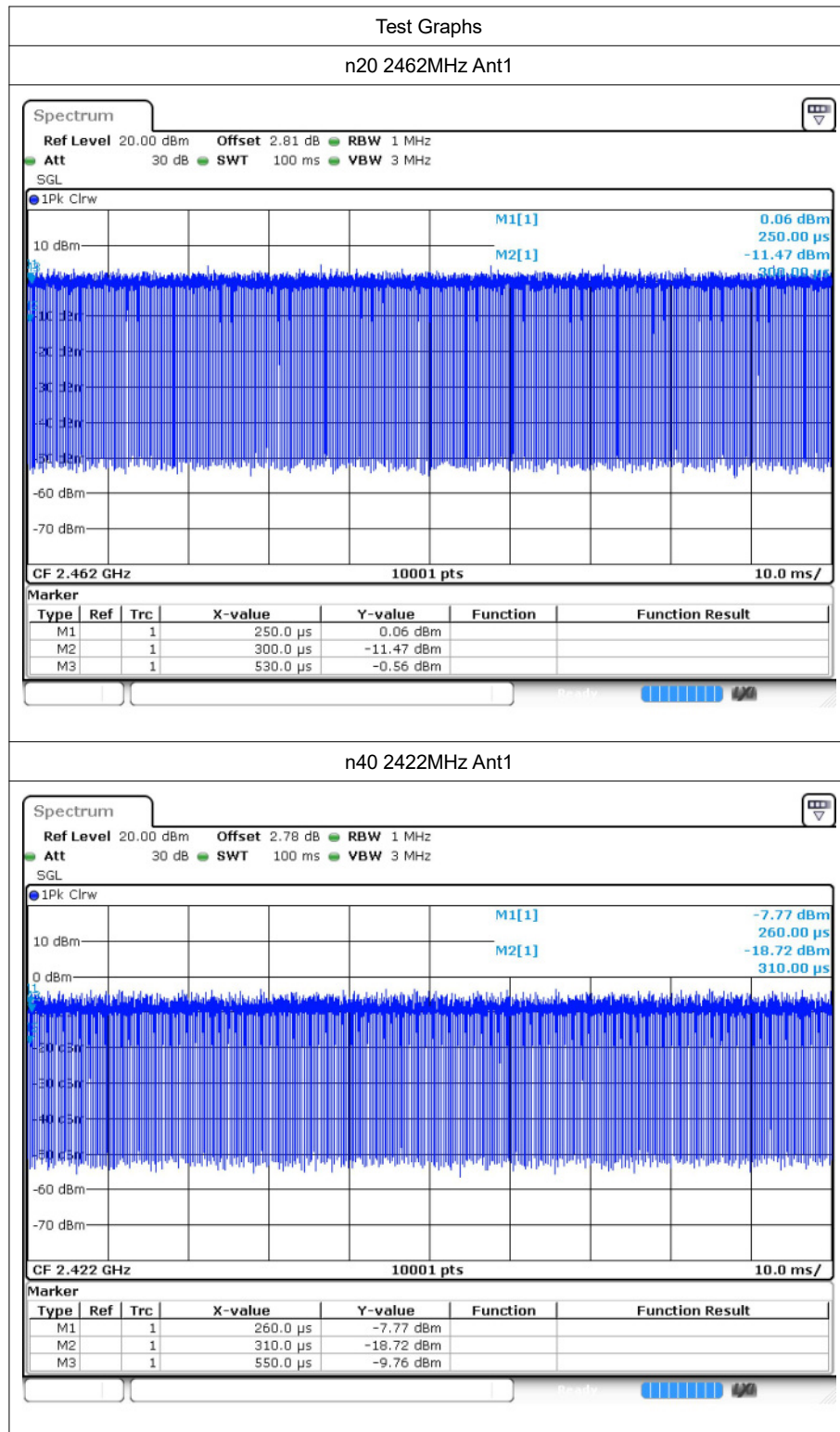
## 1.2 Test Graphs

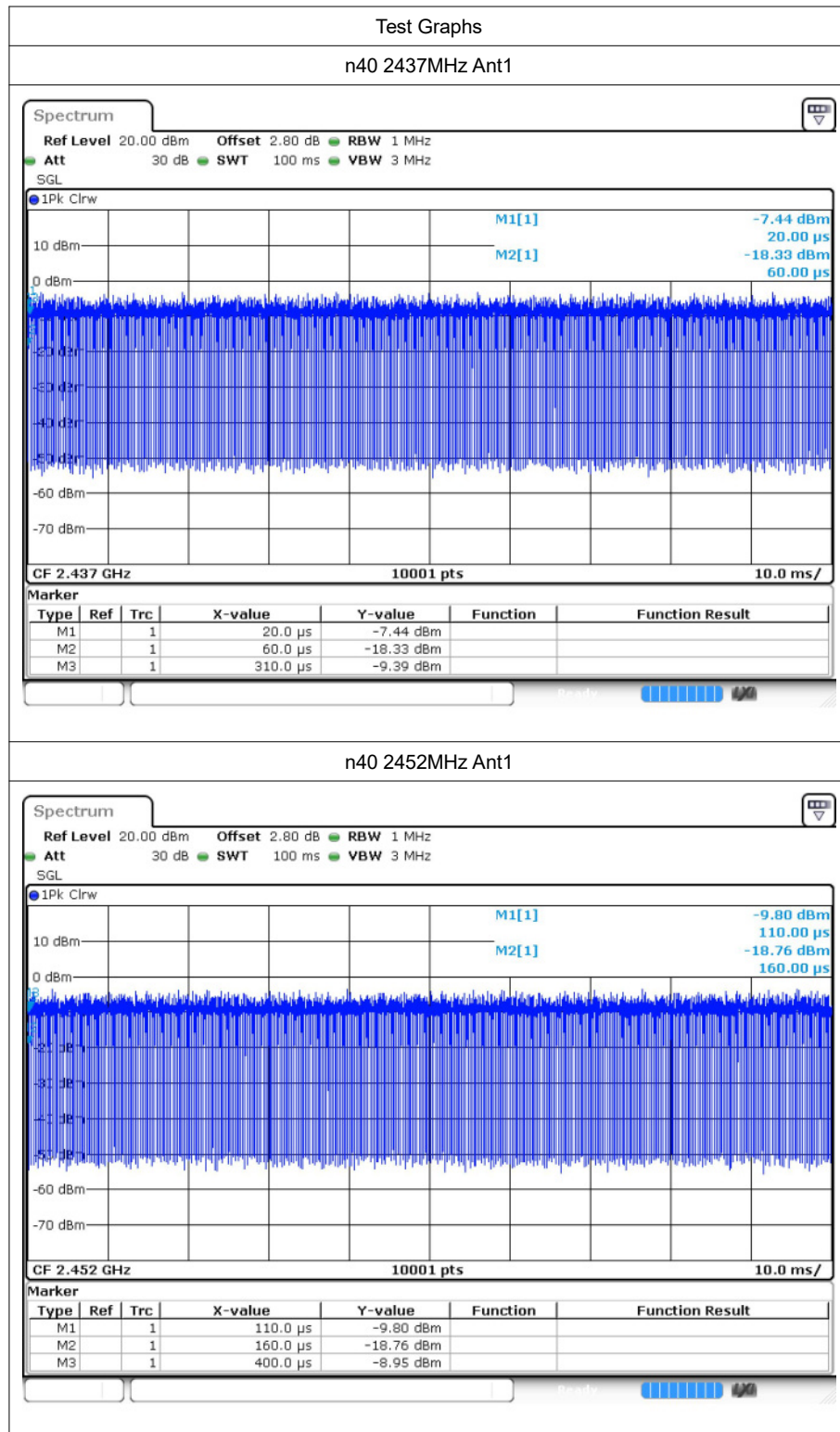












## 2 Maximum Conducted Output Power

### 2.1 Test Result

| Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|------|-----------------|---------|-----------------------|-------------|---------|
| b    | 2412            | Ant1    | 14.01                 | 30          | Pass    |
| b    | 2437            | Ant1    | 13.92                 | 30          | Pass    |
| b    | 2462            | Ant1    | 13.89                 | 30          | Pass    |
| g    | 2412            | Ant1    | 13.73                 | 30          | Pass    |
| g    | 2437            | Ant1    | 13.66                 | 30          | Pass    |
| g    | 2462            | Ant1    | 13.66                 | 30          | Pass    |
| n20  | 2412            | Ant1    | 13.41                 | 30          | Pass    |
| n20  | 2437            | Ant1    | 13.48                 | 30          | Pass    |
| n20  | 2462            | Ant1    | 13.33                 | 30          | Pass    |
| n40  | 2422            | Ant1    | 13.24                 | 30          | Pass    |
| n40  | 2437            | Ant1    | 13.15                 | 30          | Pass    |
| n40  | 2452            | Ant1    | 13.11                 | 30          | Pass    |

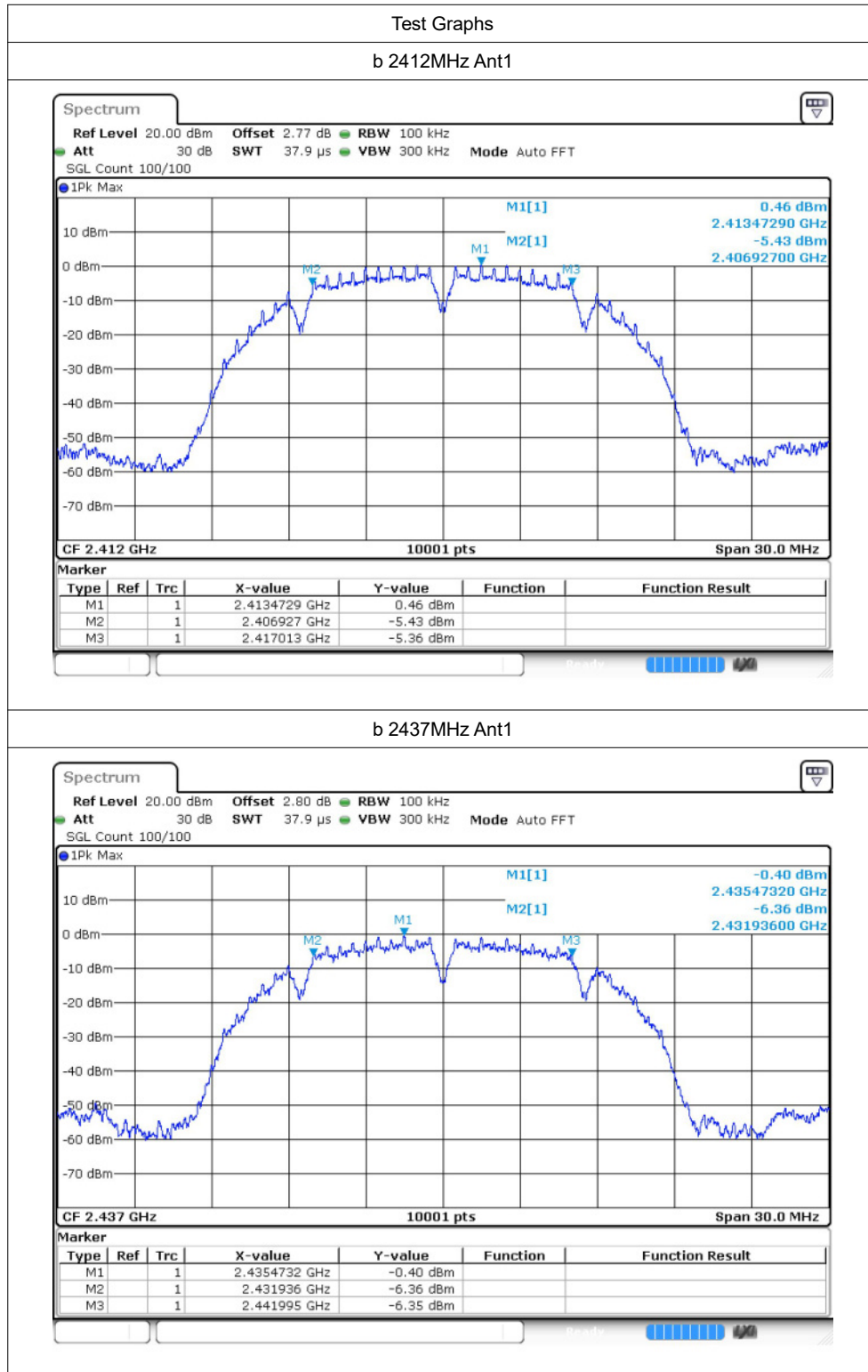


### 3 -6dB Bandwidth

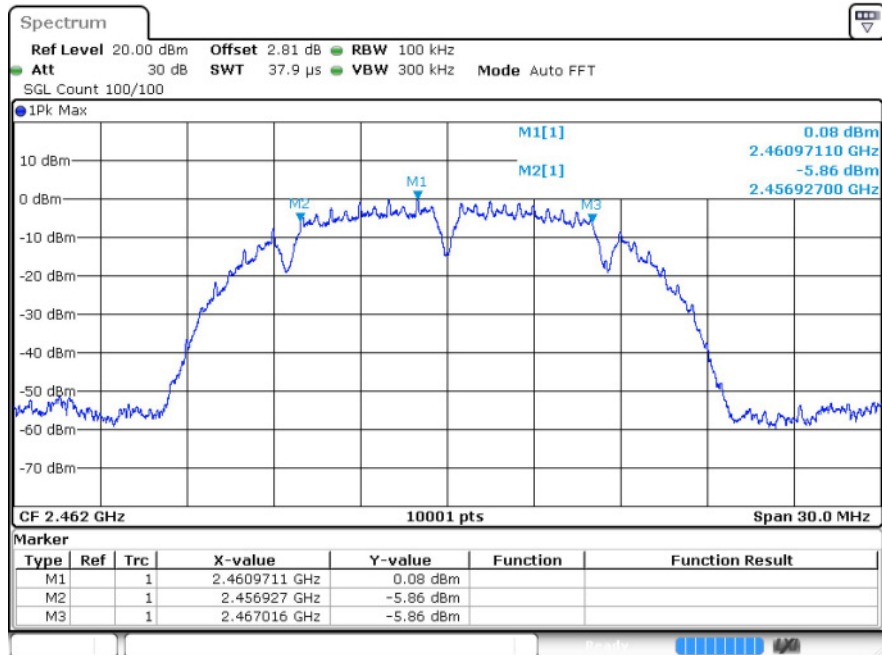
#### 3.1 Test Result

| Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|------|-----------------|---------|-----------------------|-----------------------------|---------|
| b    | 2412            | Ant1    | 10.086                | 0.5                         | Pass    |
| b    | 2437            | Ant1    | 10.059                | 0.5                         | Pass    |
| b    | 2462            | Ant1    | 10.089                | 0.5                         | Pass    |
| g    | 2412            | Ant1    | 13.215                | 0.5                         | Pass    |
| g    | 2437            | Ant1    | 15.108                | 0.5                         | Pass    |
| g    | 2462            | Ant1    | 15.114                | 0.5                         | Pass    |
| n20  | 2412            | Ant1    | 15.117                | 0.5                         | Pass    |
| n20  | 2437            | Ant1    | 15.099                | 0.5                         | Pass    |
| n20  | 2462            | Ant1    | 15.066                | 0.5                         | Pass    |
| n40  | 2422            | Ant1    | 35.028                | 0.5                         | Pass    |
| n40  | 2437            | Ant1    | 35.064                | 0.5                         | Pass    |
| n40  | 2452            | Ant1    | 35.07                 | 0.5                         | Pass    |

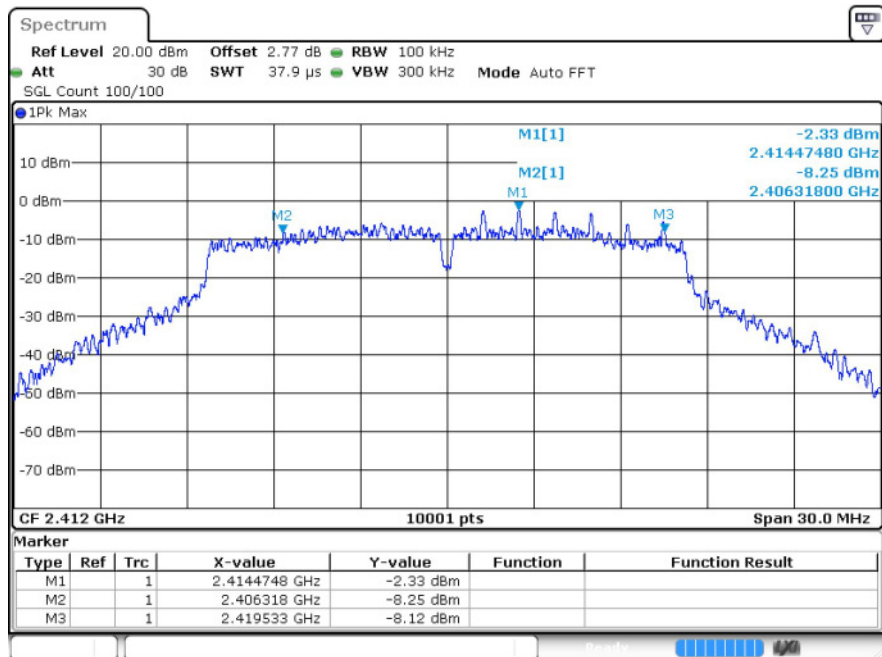
## 3.2 Test Graphs



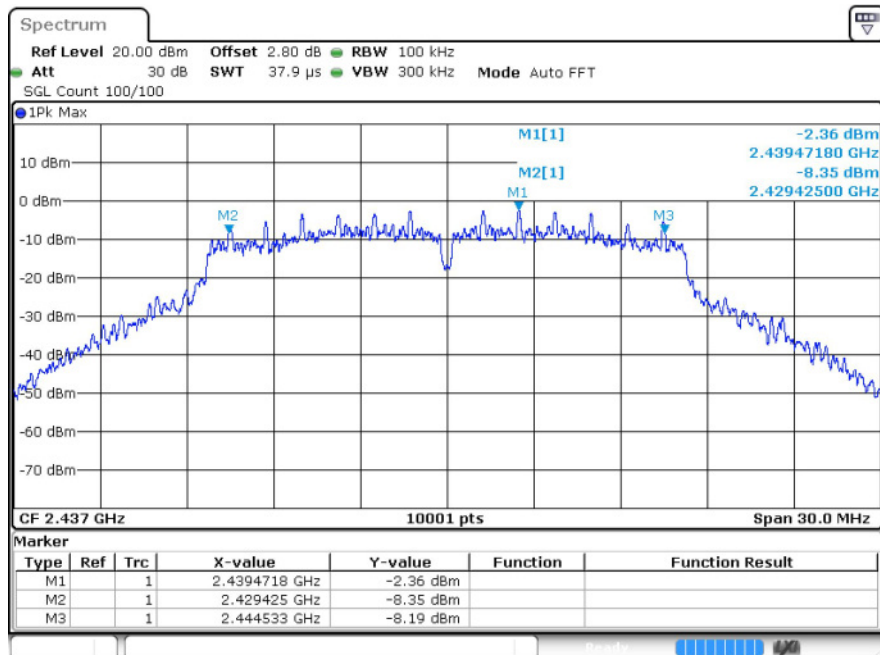
b 2462MHz Ant1



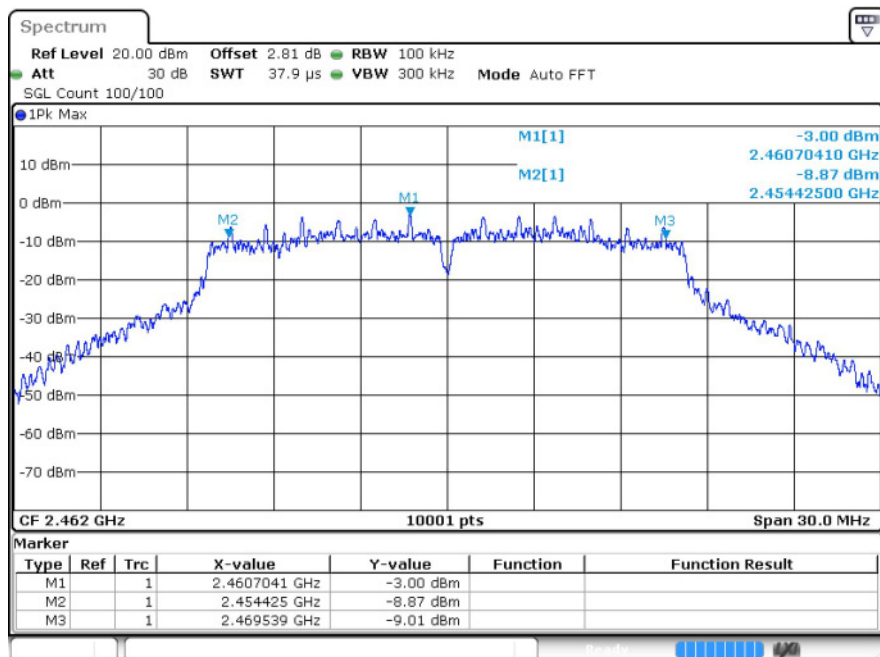
g 2412MHz Ant1

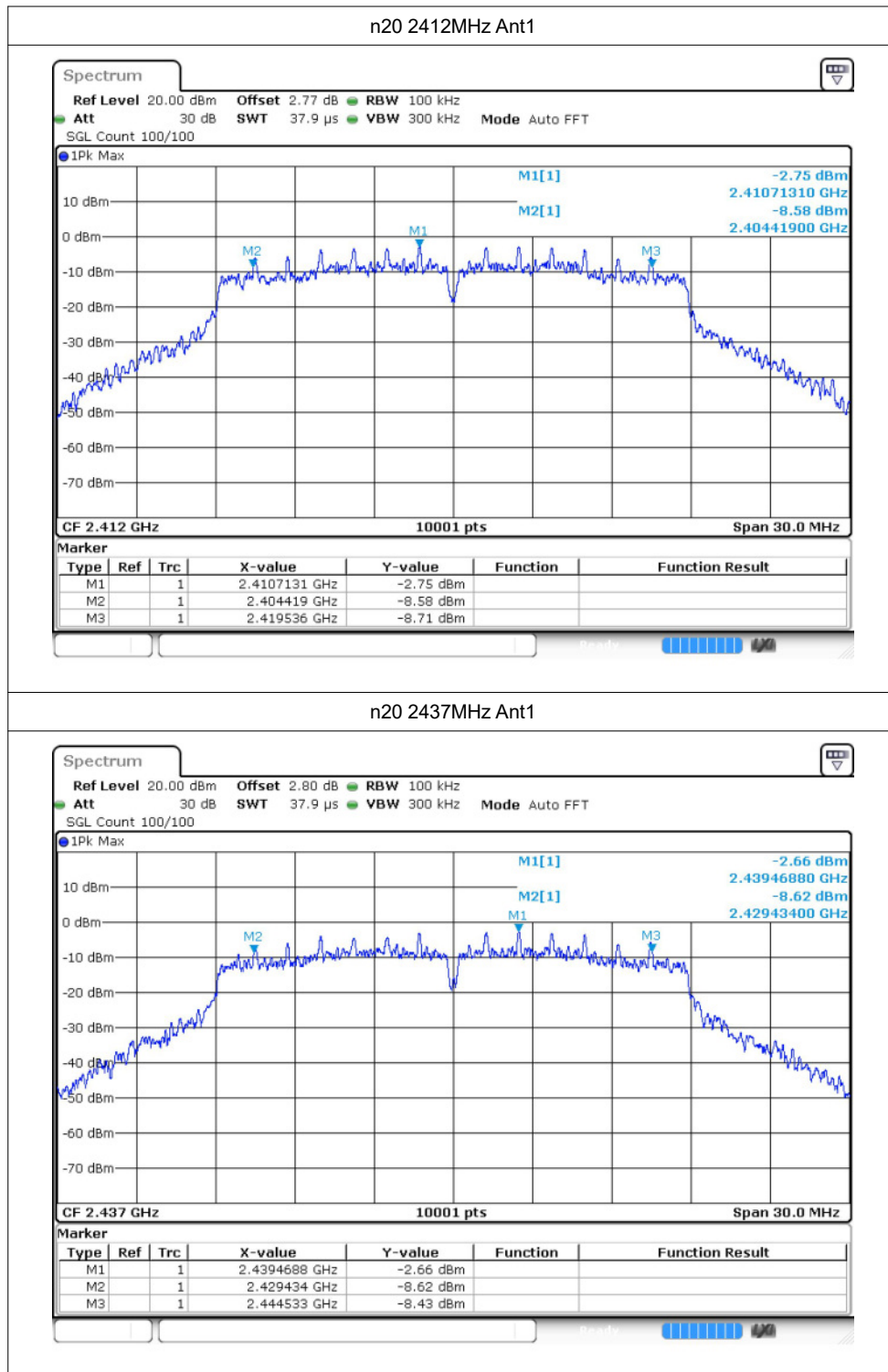


g 2437MHz Ant1

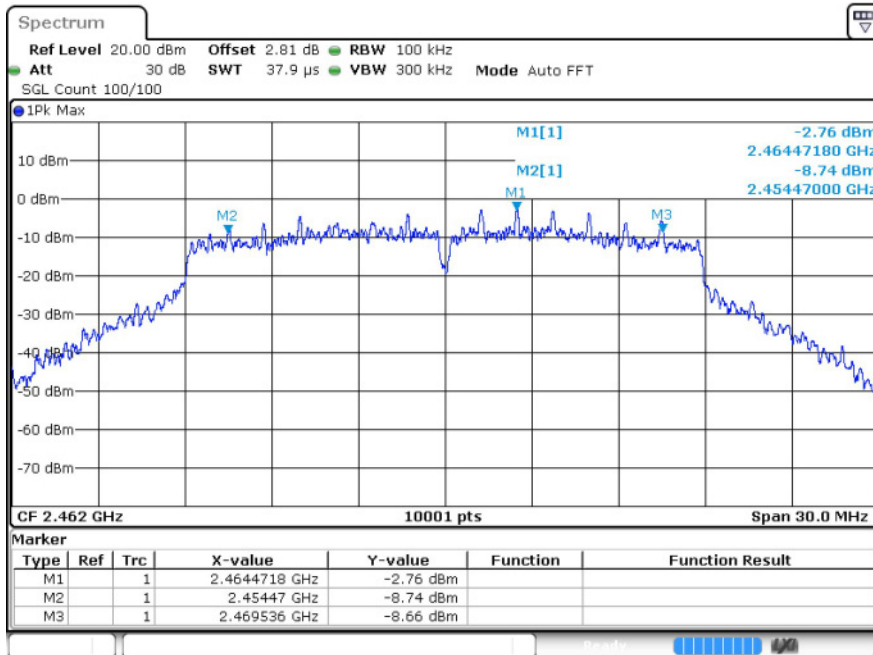


g 2462MHz Ant1

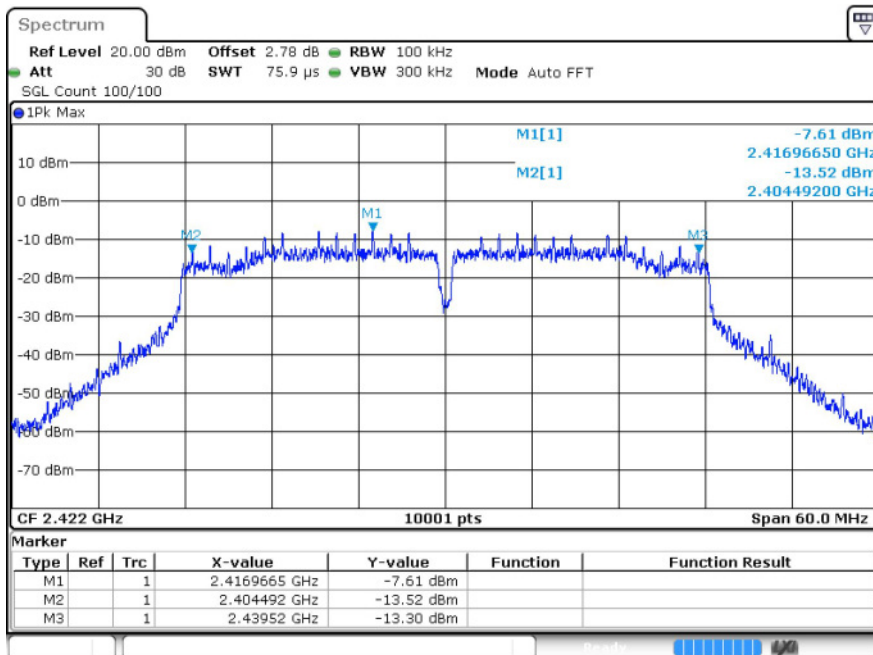


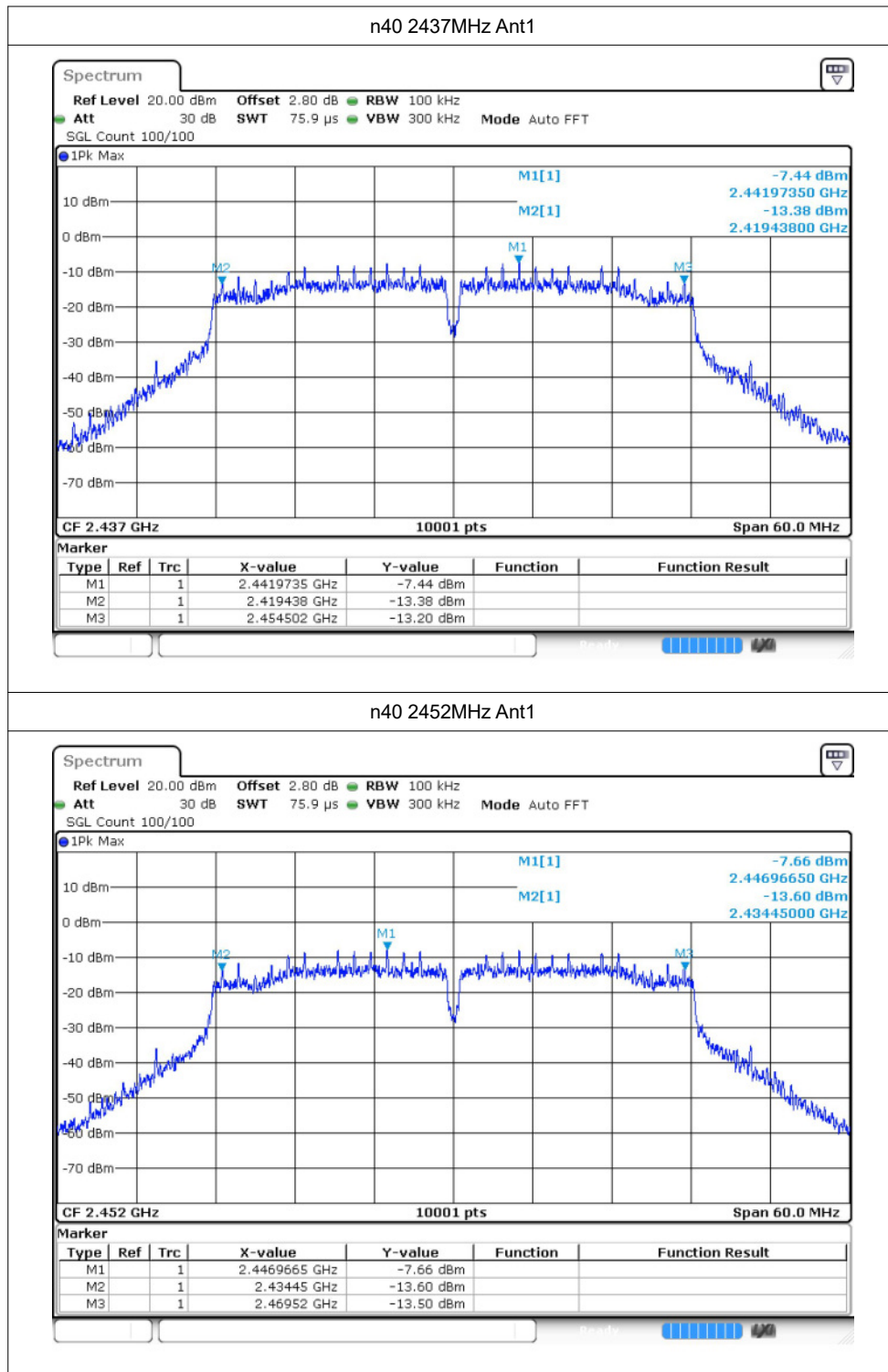


n20 2462MHz Ant1



n40 2422MHz Ant1



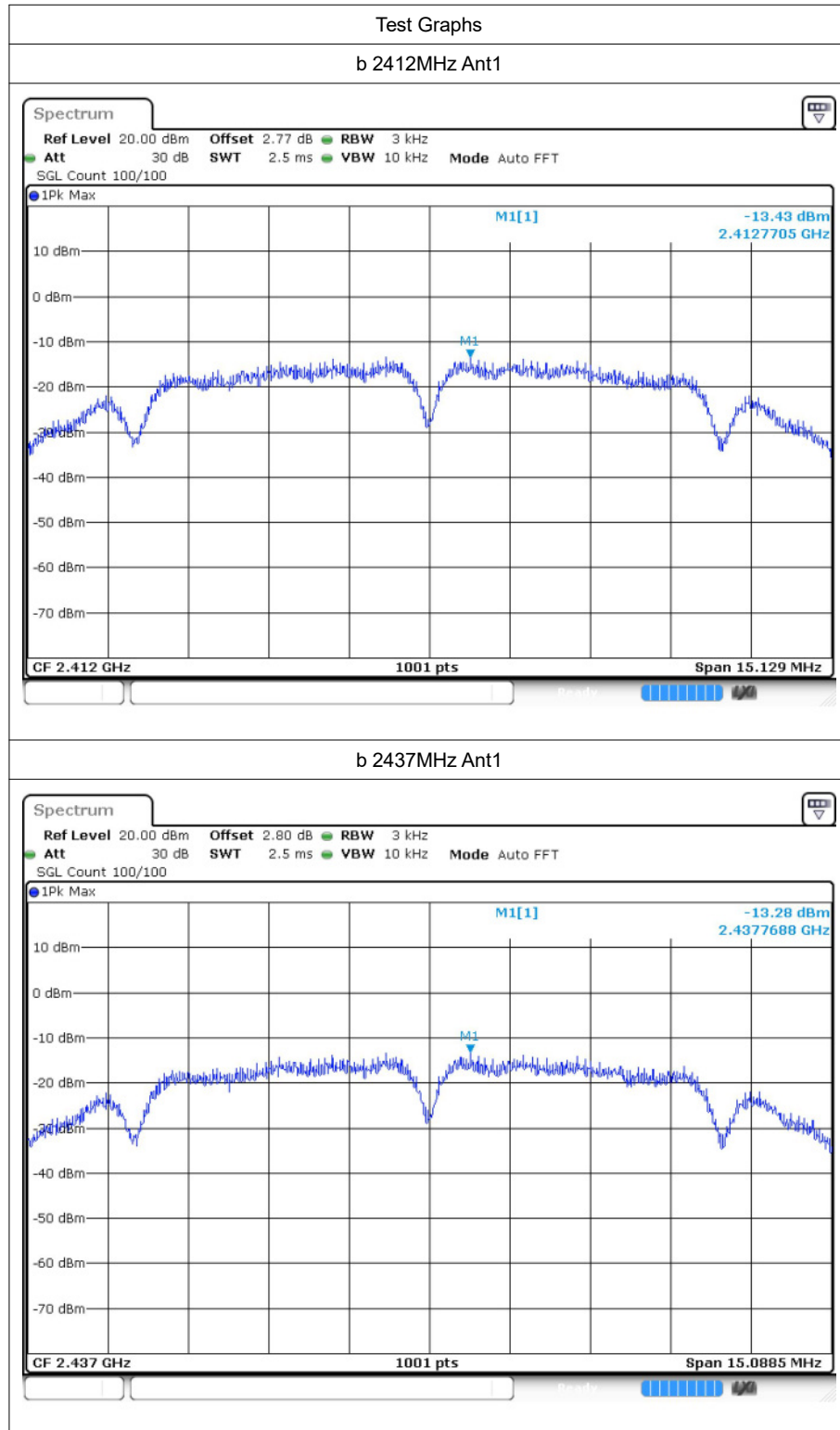


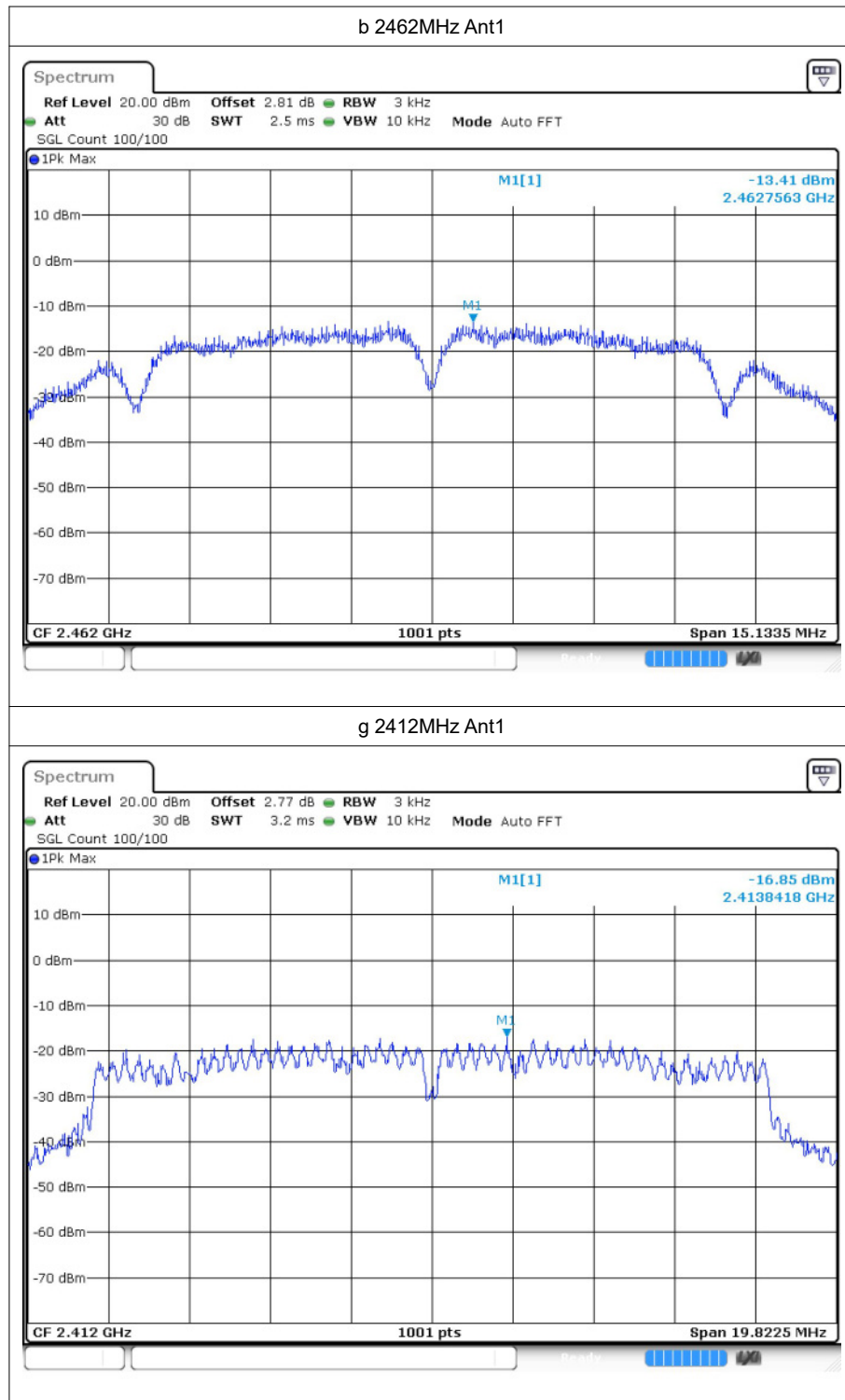
## 4 Maximum Power Spectral Density Level

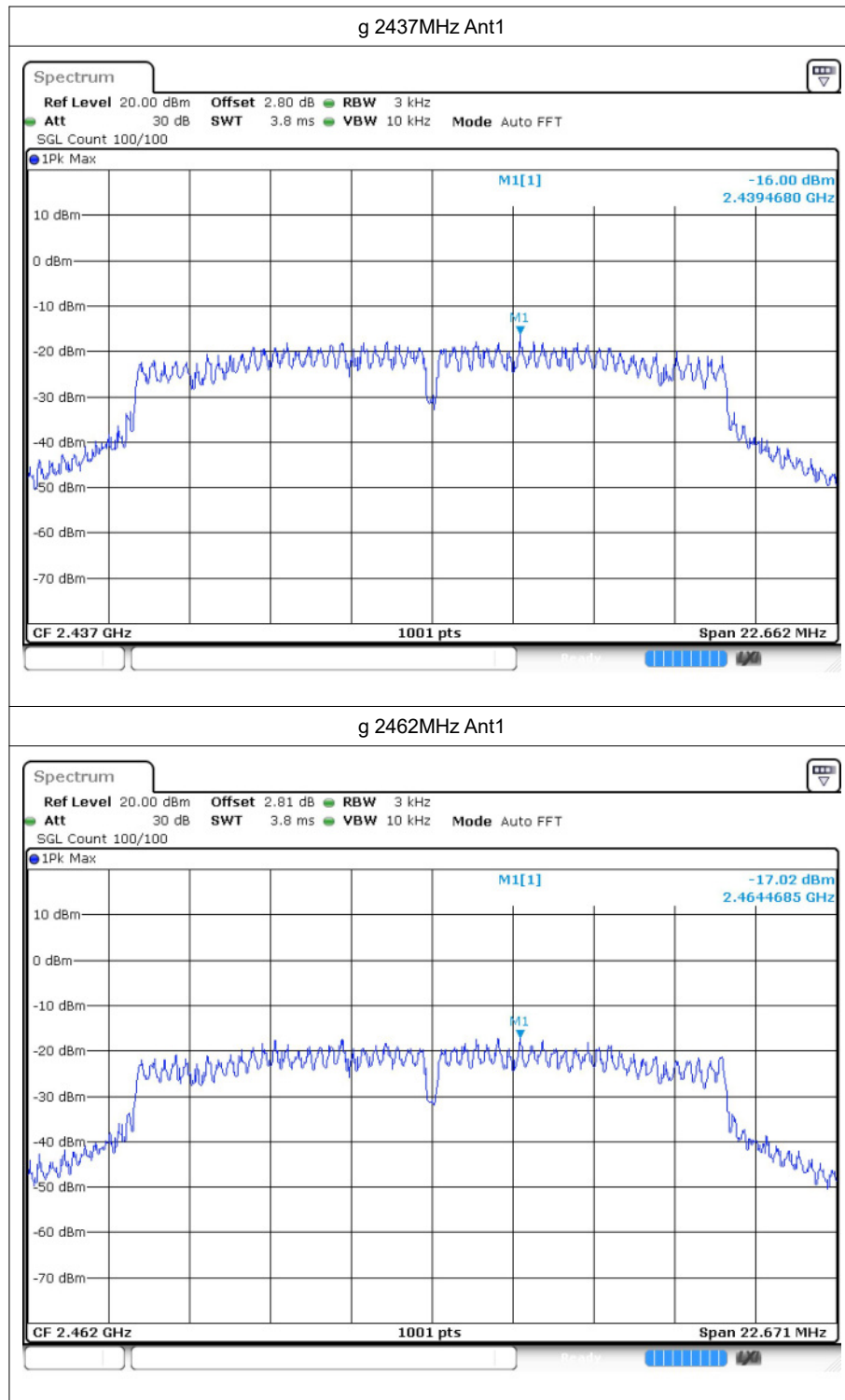
### 4.1 Test Result

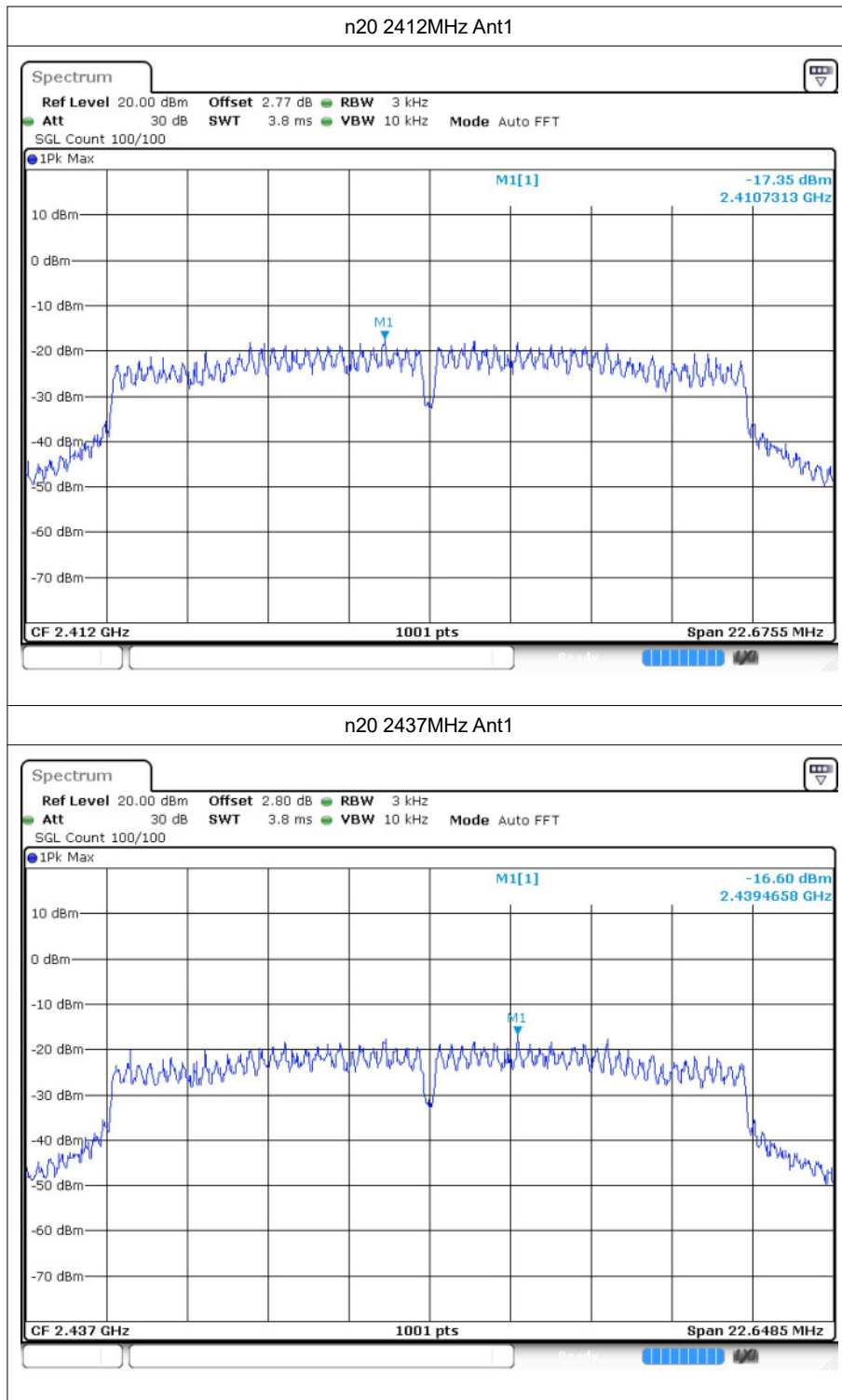
| Mode | Frequency (MHz) | Antenna | Conducted PSD<br>(dBm/3-100kHz) | Limit<br>(dBm/3kHz) | Verdict |
|------|-----------------|---------|---------------------------------|---------------------|---------|
| b    | 2412            | Ant1    | -13.43                          | $\leq 8$            | Pass    |
| b    | 2437            | Ant1    | -13.28                          | $\leq 8$            | Pass    |
| b    | 2462            | Ant1    | -13.41                          | $\leq 8$            | Pass    |
| g    | 2412            | Ant1    | -16.85                          | $\leq 8$            | Pass    |
| g    | 2437            | Ant1    | -16                             | $\leq 8$            | Pass    |
| g    | 2462            | Ant1    | -17.02                          | $\leq 8$            | Pass    |
| n20  | 2412            | Ant1    | -17.35                          | $\leq 8$            | Pass    |
| n20  | 2437            | Ant1    | -16.6                           | $\leq 8$            | Pass    |
| n20  | 2462            | Ant1    | -17.52                          | $\leq 8$            | Pass    |
| n40  | 2422            | Ant1    | -22.35                          | $\leq 8$            | Pass    |
| n40  | 2437            | Ant1    | -21.49                          | $\leq 8$            | Pass    |
| n40  | 2452            | Ant1    | -21.13                          | $\leq 8$            | Pass    |

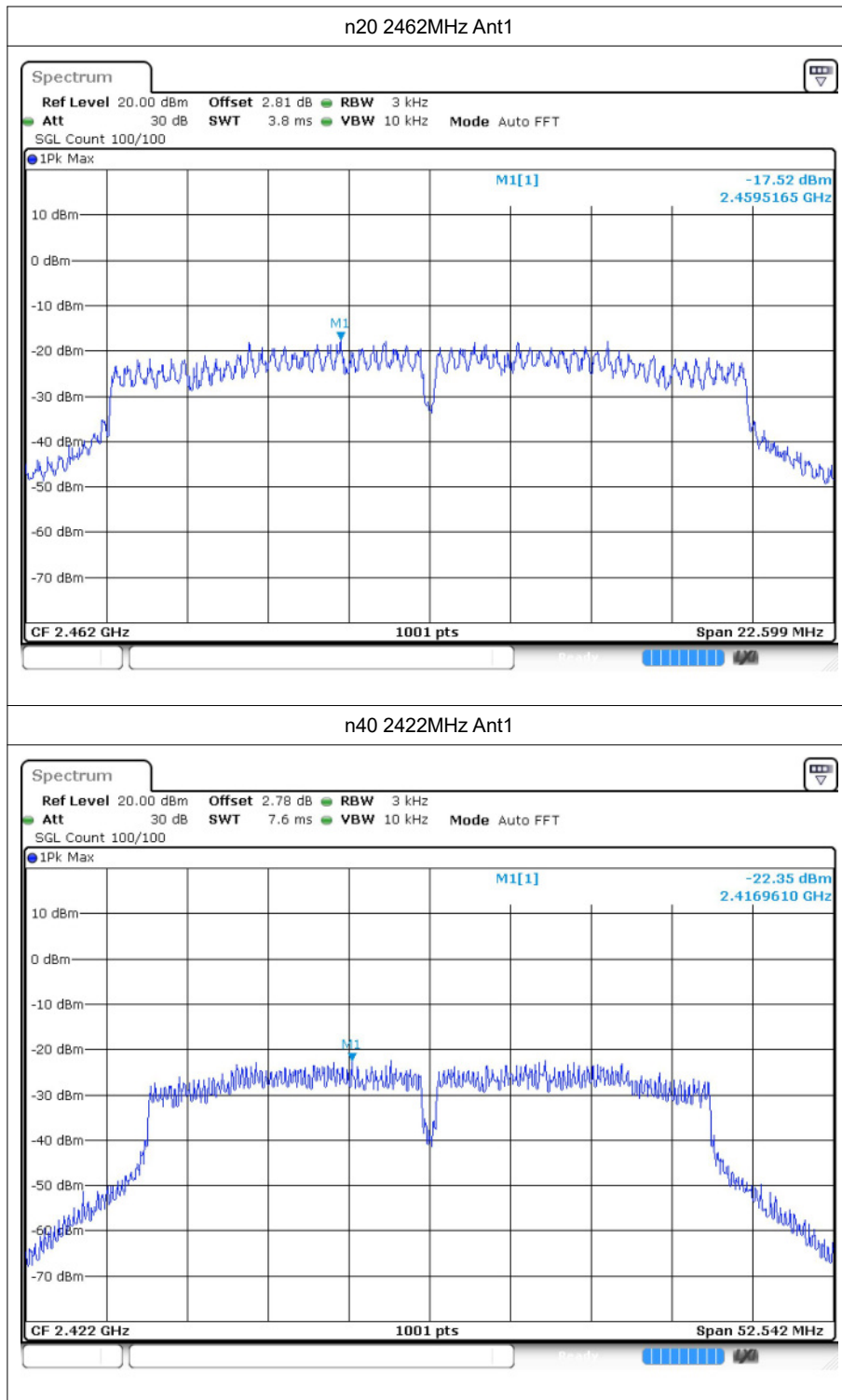
## 4.2 Test Graphs

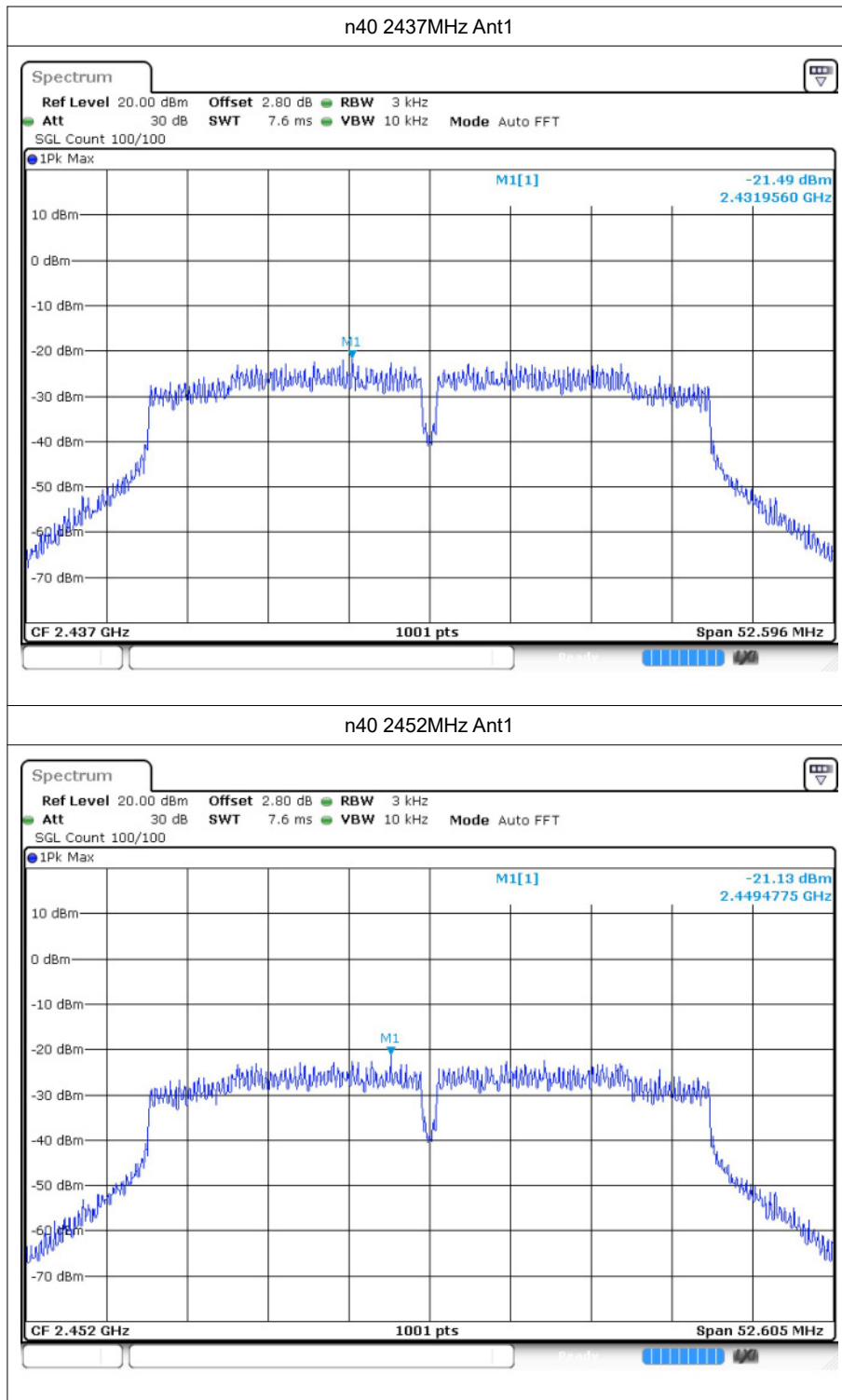












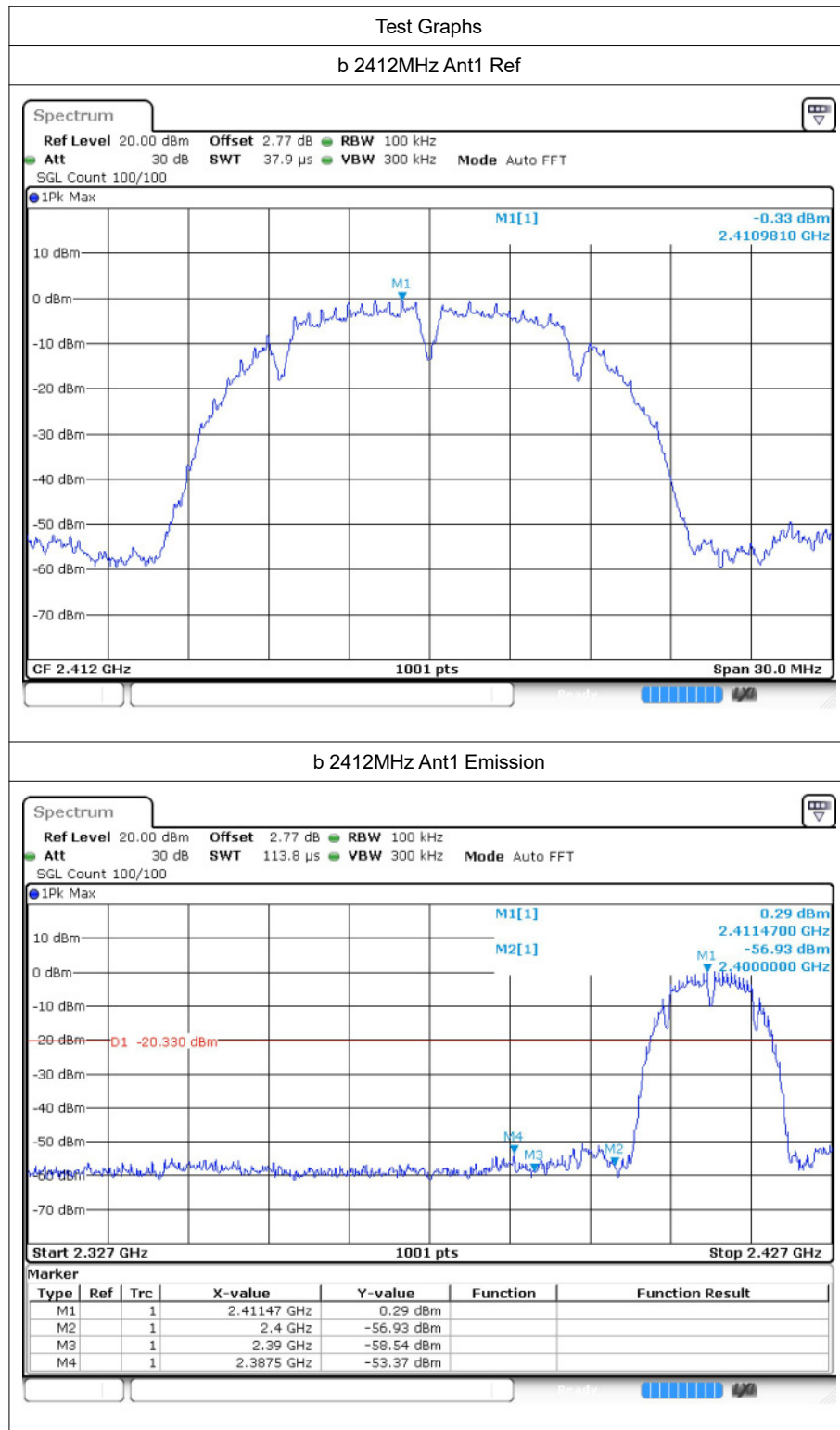


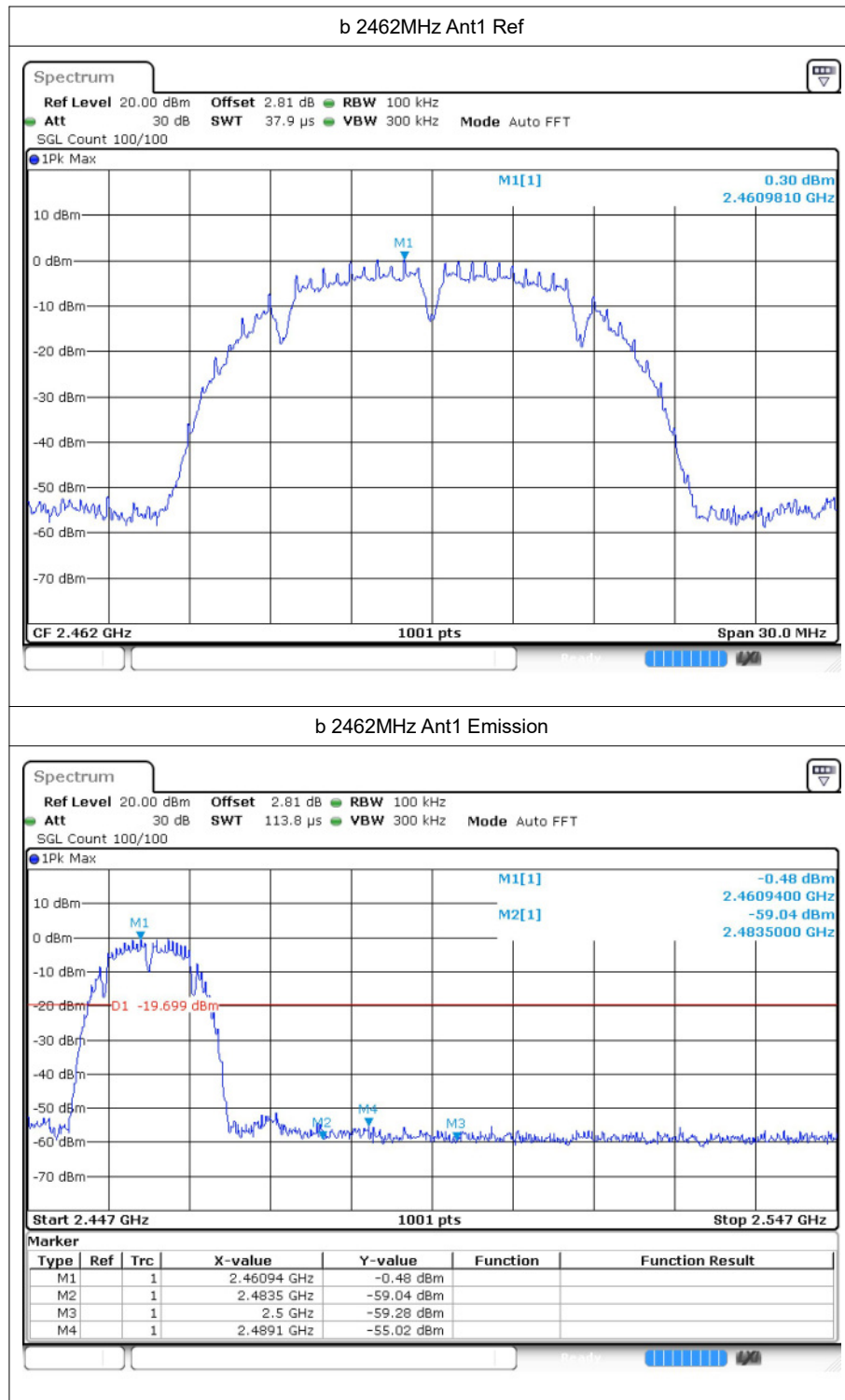
## 5 Band Edge

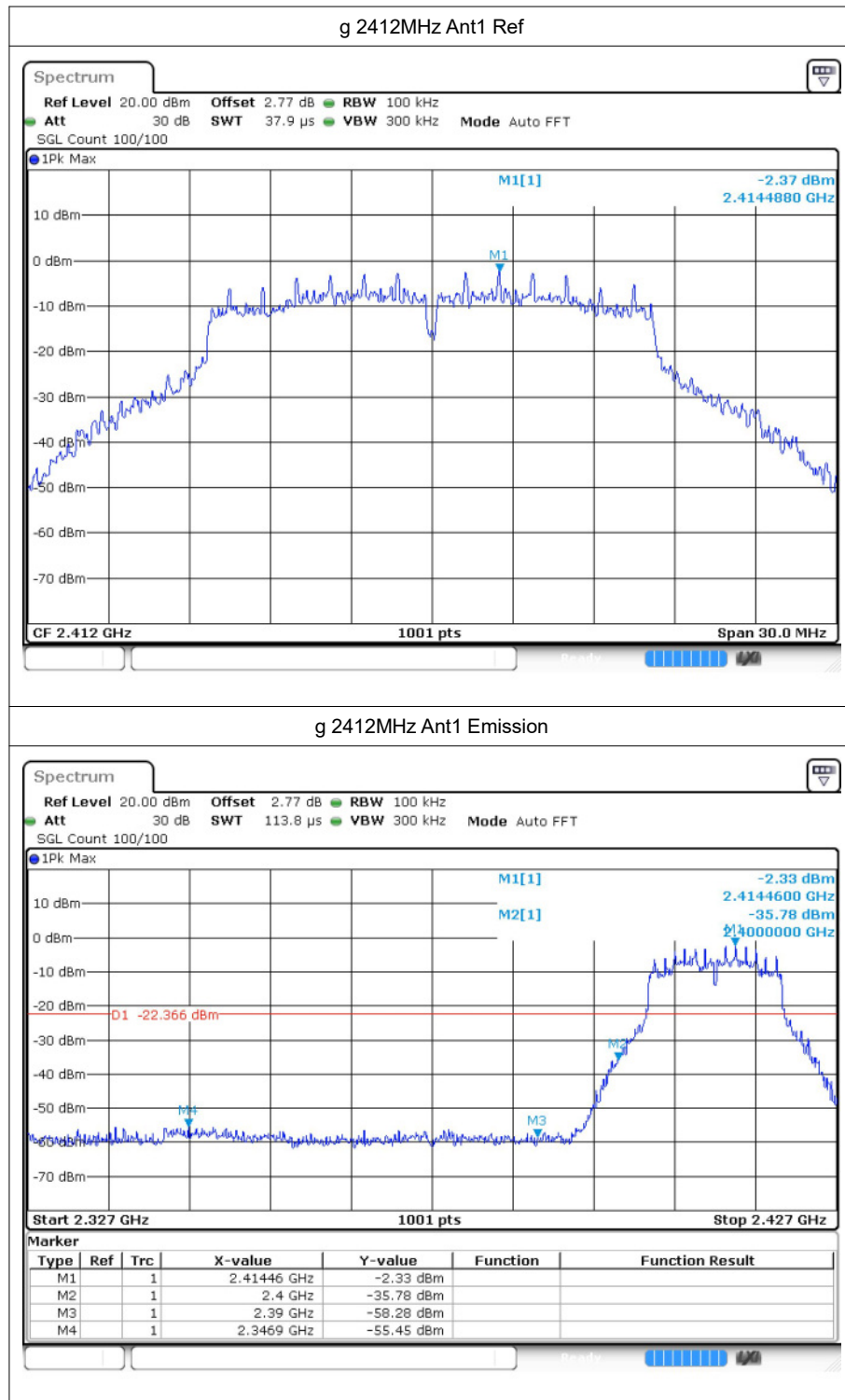
### 5.1 Test Result

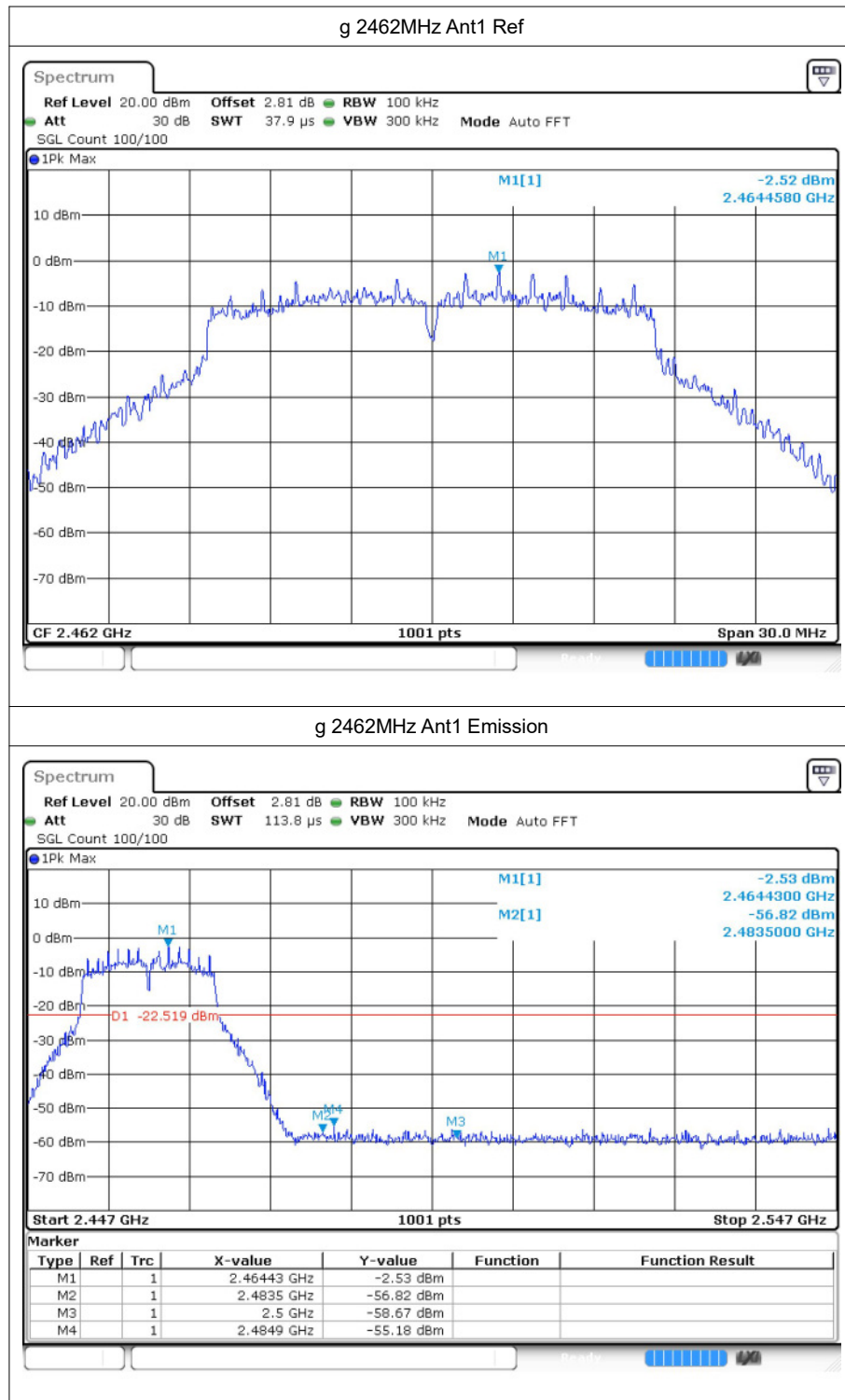
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b    | 2412            | Ant1    | -53.04          | -20         | Pass    |
| b    | 2462            | Ant1    | -55.31          | -20         | Pass    |
| g    | 2412            | Ant1    | -53.08          | -20         | Pass    |
| g    | 2462            | Ant1    | -52.66          | -20         | Pass    |
| n20  | 2412            | Ant1    | -52.34          | -20         | Pass    |
| n20  | 2462            | Ant1    | -53.87          | -20         | Pass    |
| n40  | 2422            | Ant1    | -49.23          | -20         | Pass    |
| n40  | 2452            | Ant1    | -48.82          | -20         | Pass    |

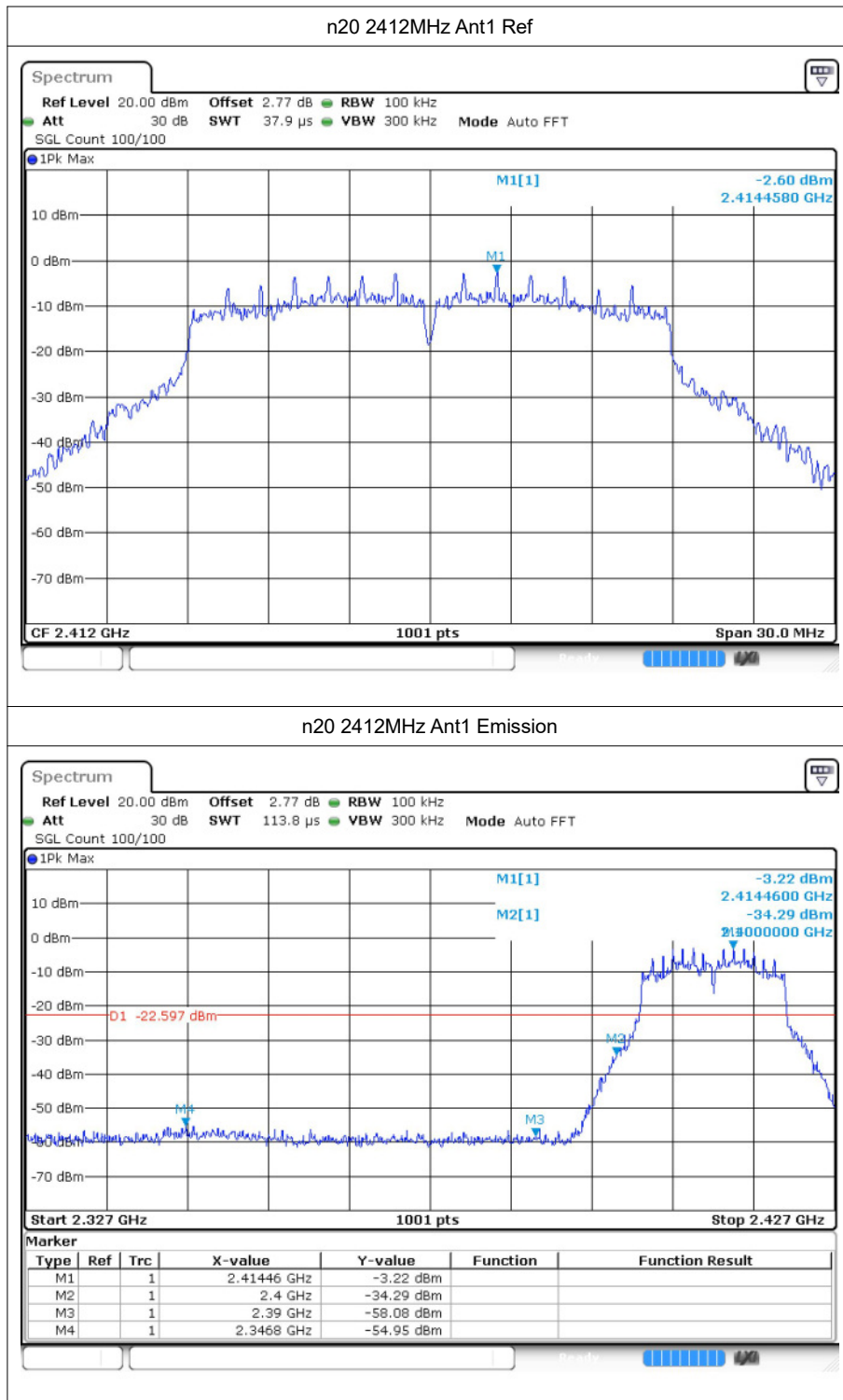
## 5.2 Test Graphs

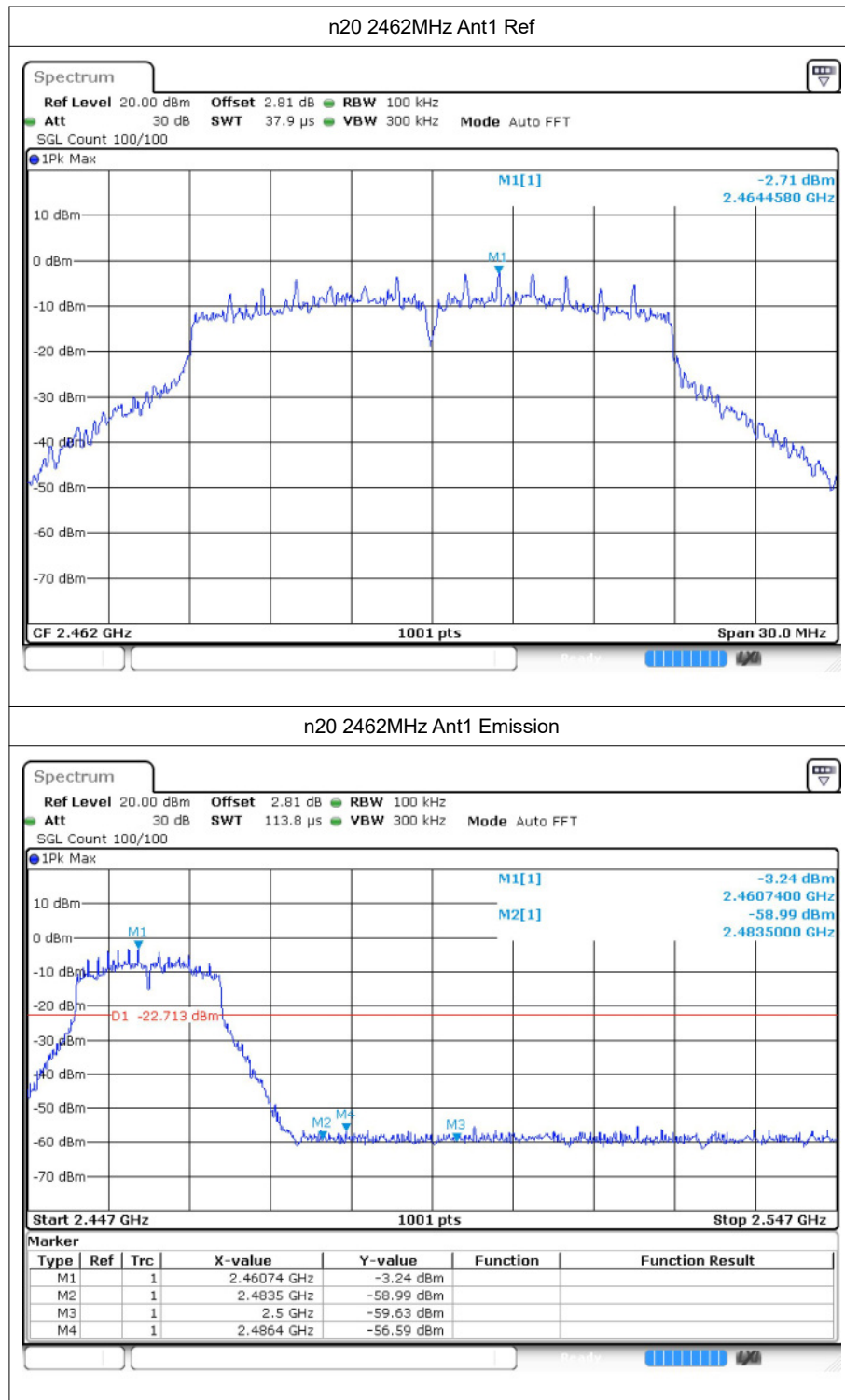


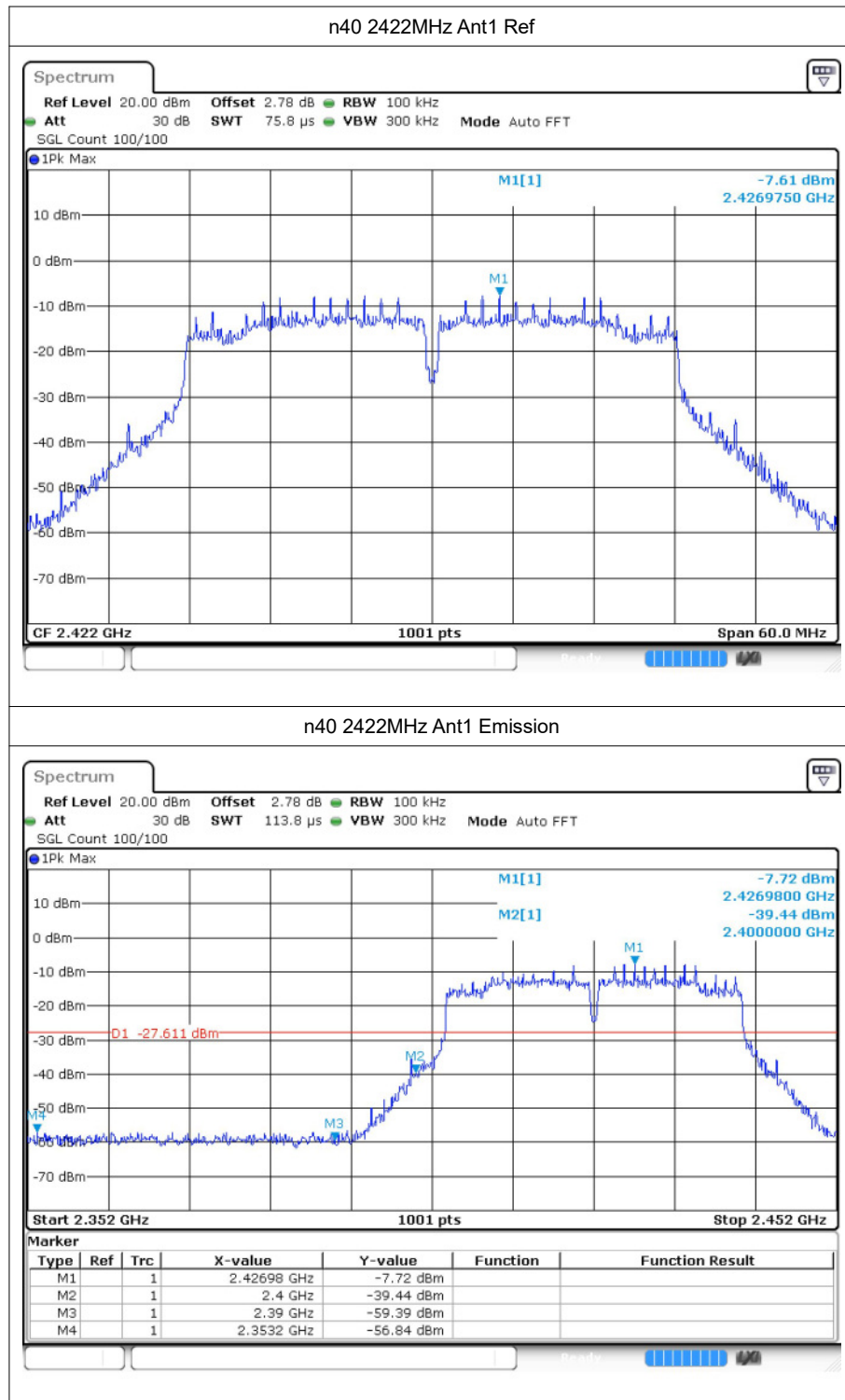


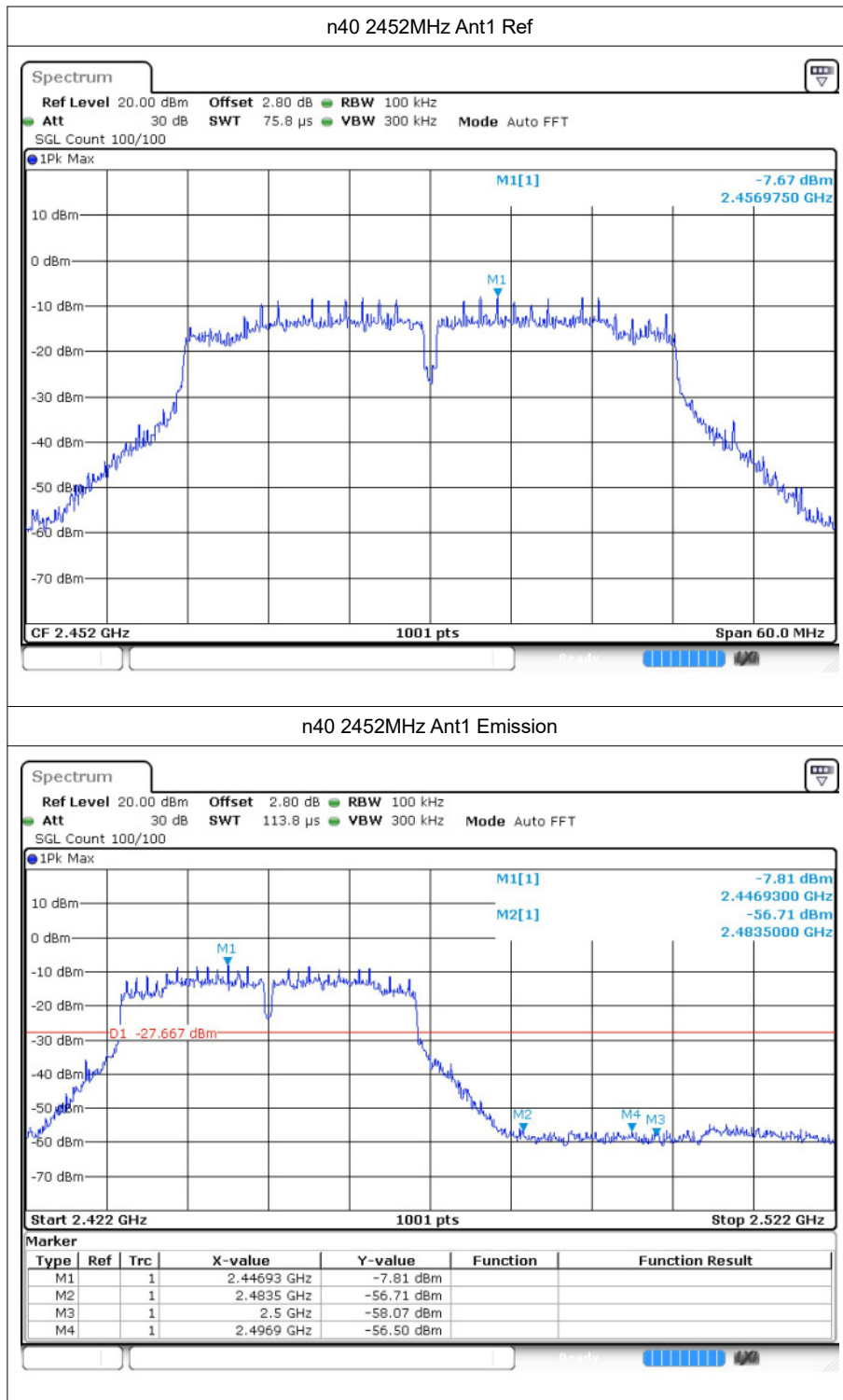












## 6 Conducted RF Spurious Emission

### 6.1 Test Result

| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b    | 2412            | Ant1    | -42.4           | -20         | Pass    |
| b    | 2437            | Ant1    | -43.79          | -20         | Pass    |
| b    | 2462            | Ant1    | -42.25          | -20         | Pass    |
| g    | 2412            | Ant1    | -41.25          | -20         | Pass    |
| g    | 2437            | Ant1    | -40.55          | -20         | Pass    |
| g    | 2462            | Ant1    | -40.26          | -20         | Pass    |
| n20  | 2412            | Ant1    | -40.18          | -20         | Pass    |
| n20  | 2437            | Ant1    | -40.6           | -20         | Pass    |
| n20  | 2462            | Ant1    | -40.52          | -20         | Pass    |
| n40  | 2422            | Ant1    | -35.16          | -20         | Pass    |
| n40  | 2437            | Ant1    | -35.21          | -20         | Pass    |
| n40  | 2452            | Ant1    | -35.63          | -20         | Pass    |