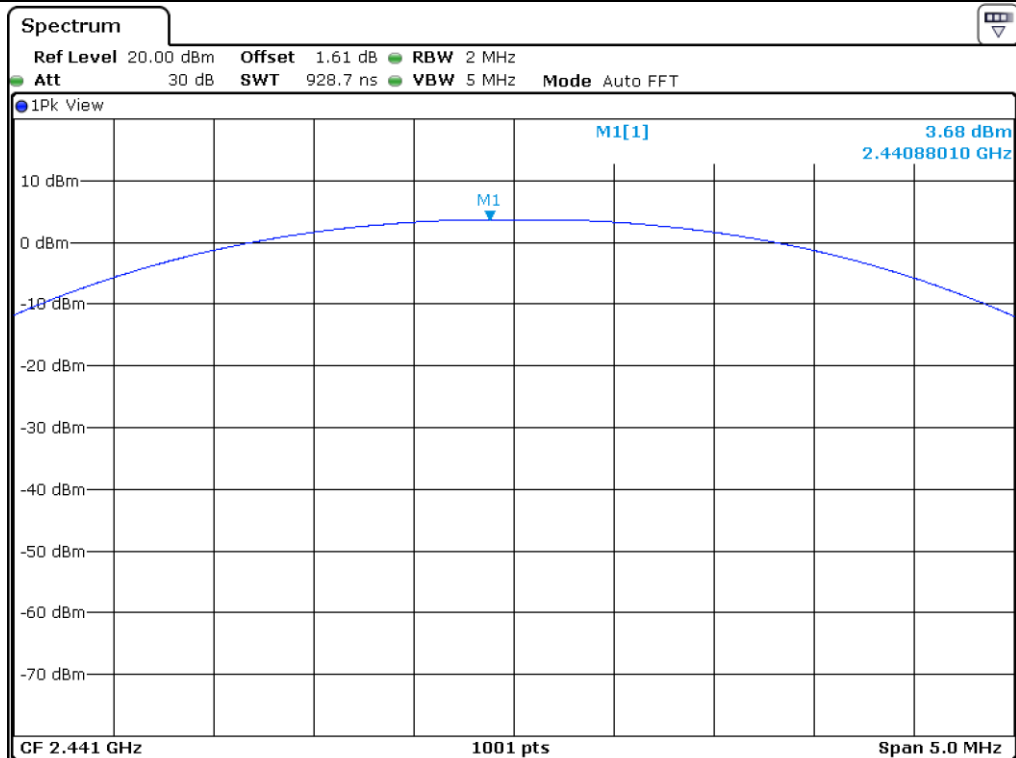
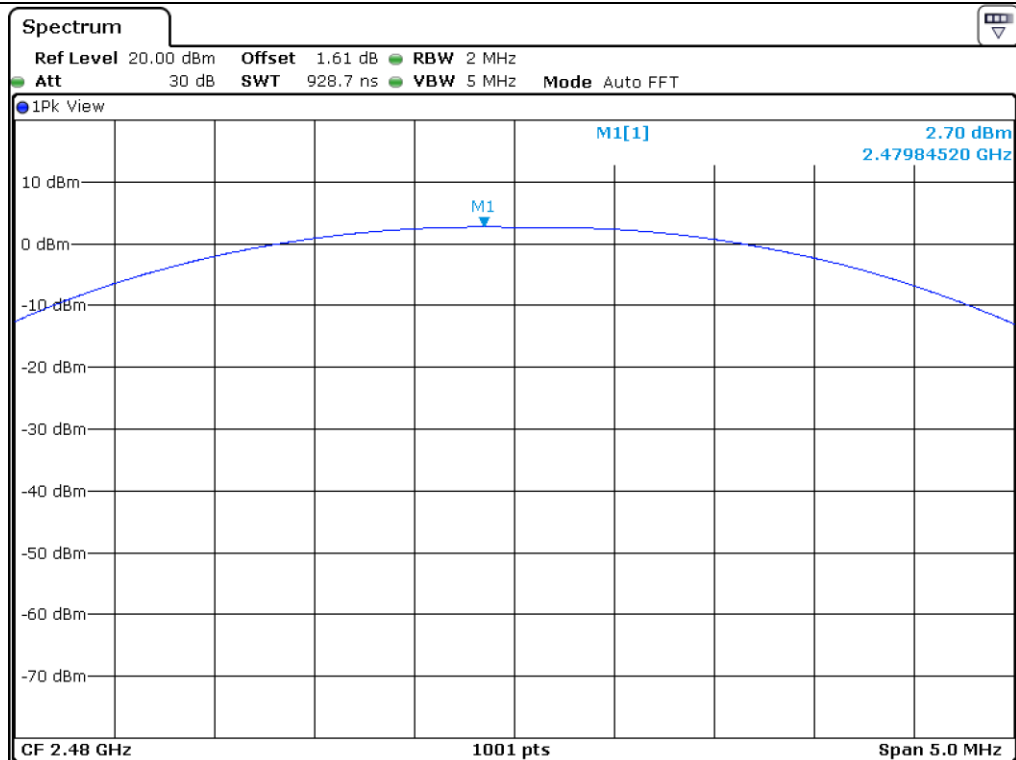




Middle Channel



High Channel

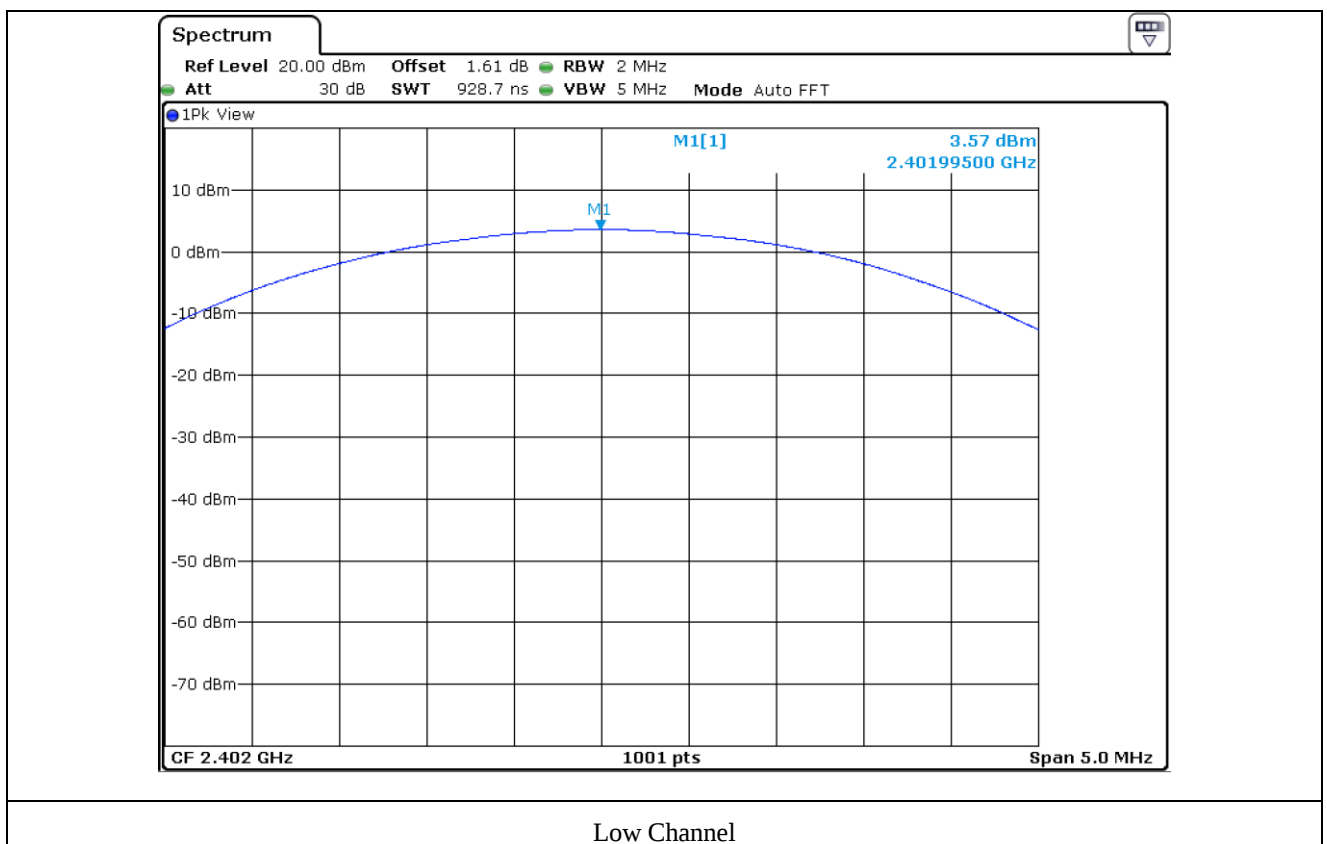
## 11.6 Test data for 3 Mbps

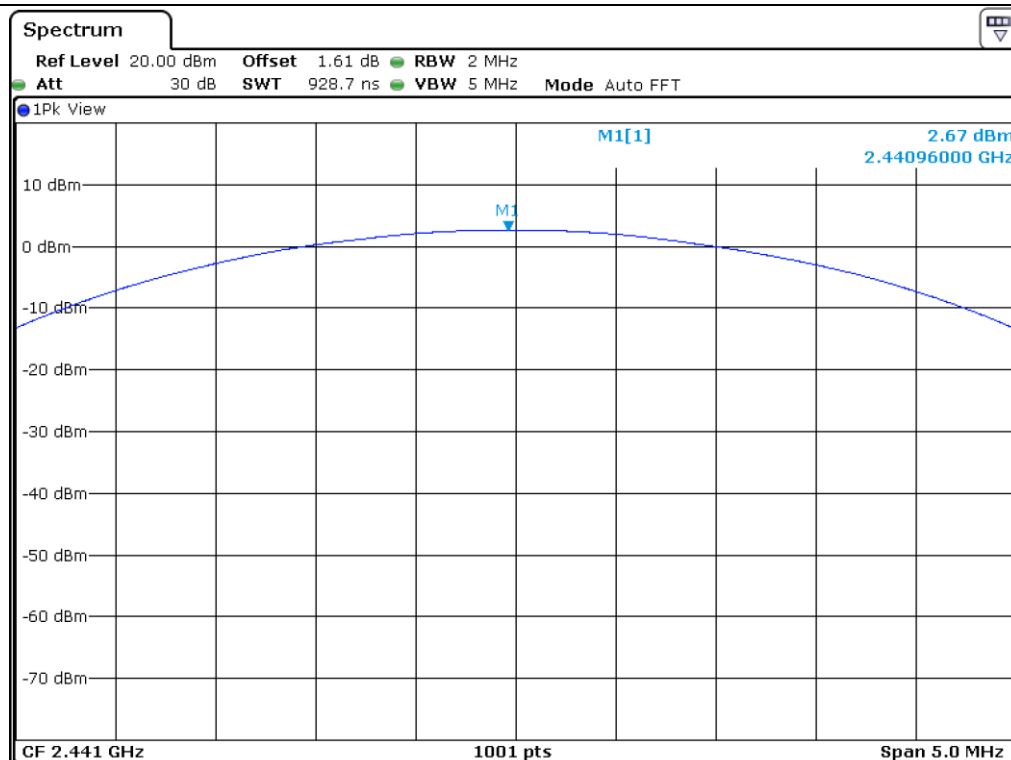
### 11.6.1 Test data for Antenna 0

-. Test Result : Pass

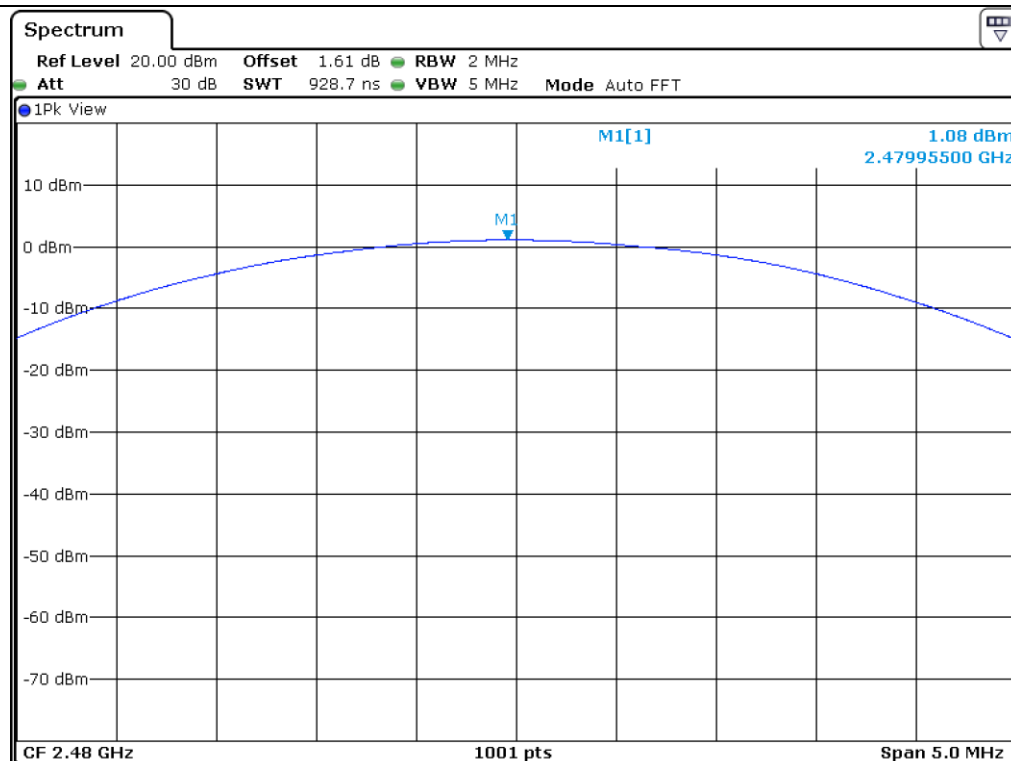
| CHANNEL | FREQUENCY<br>(MHz) | MEASURED VLAUE<br>(dBm) | LIMIT<br>(dBm) | MARGIN<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| LOW     | 2 402.00           | 3.57                    | 21.00          | 17.43          |
| MIDDLE  | 2 441.00           | 2.67                    | 21.00          | 18.33          |
| HIGH    | 2 480.00           | 1.08                    | 21.00          | 19.92          |

Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)





Middle Channel



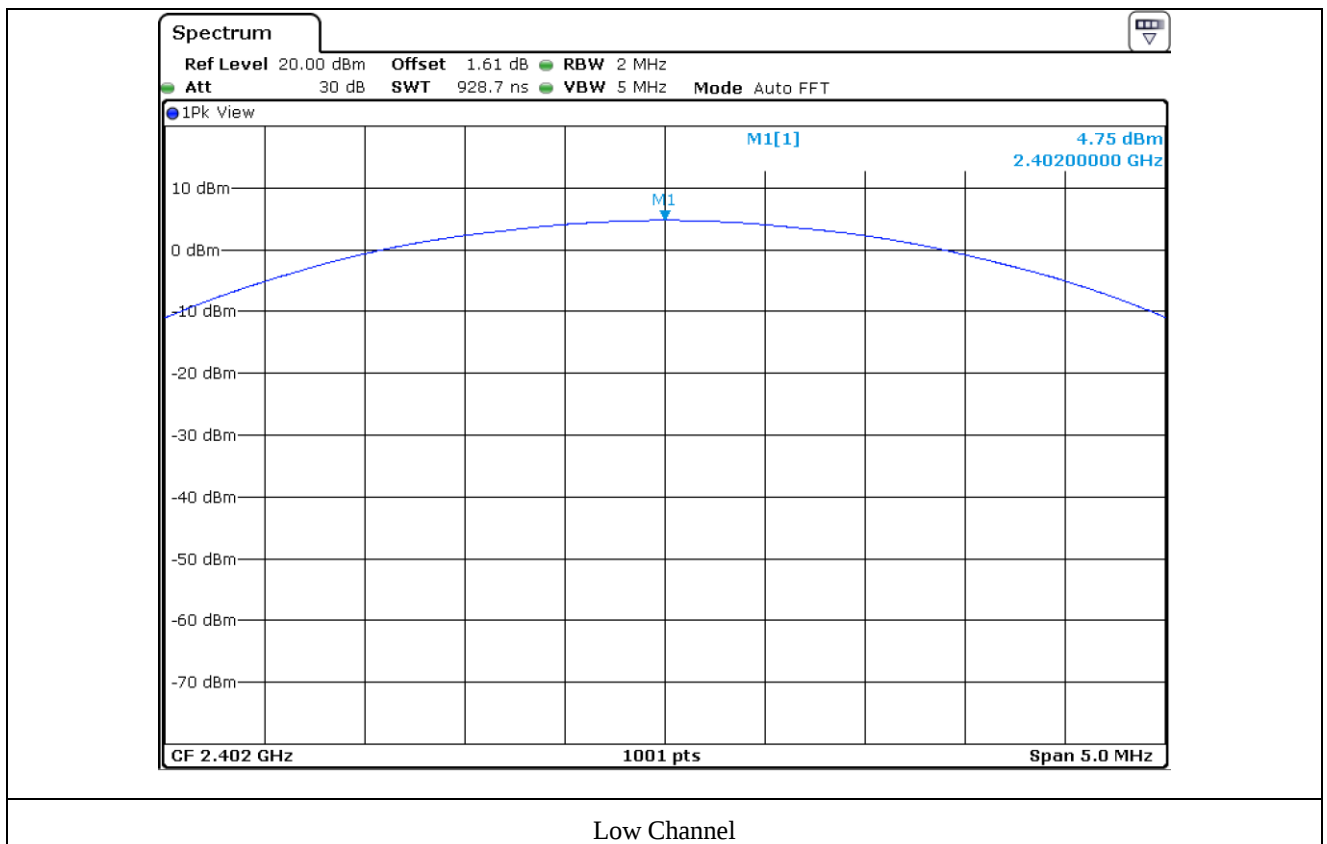
High Channel

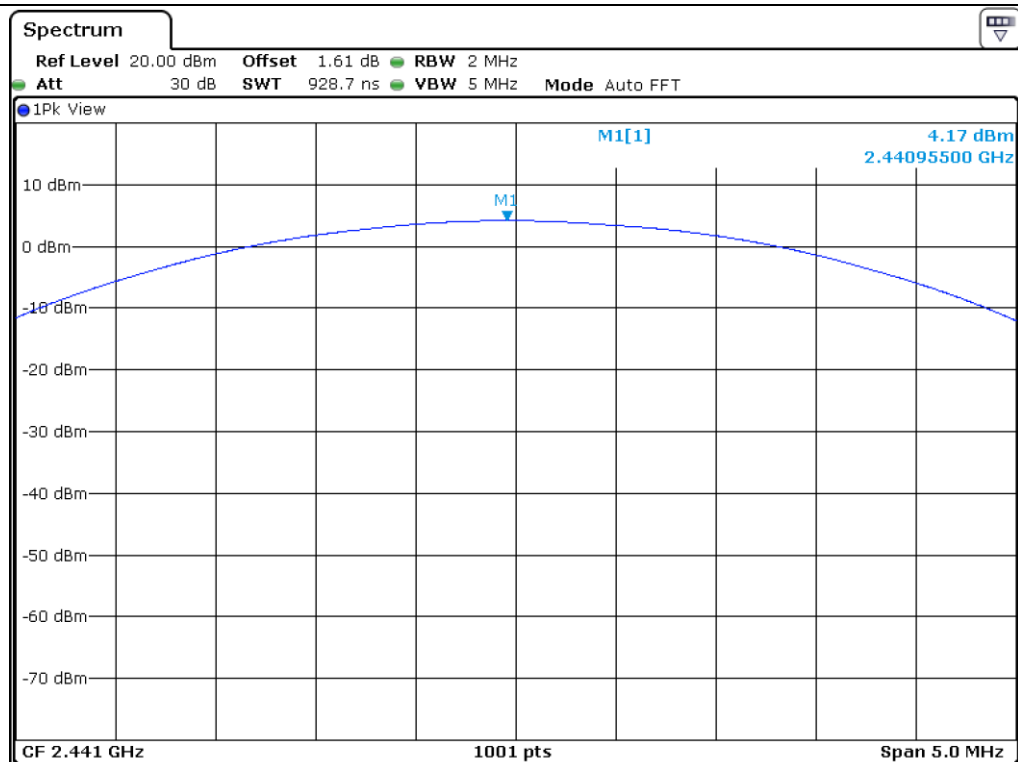
### 11.6.2 Test data for Antenna 1

-. Test Result : Pass

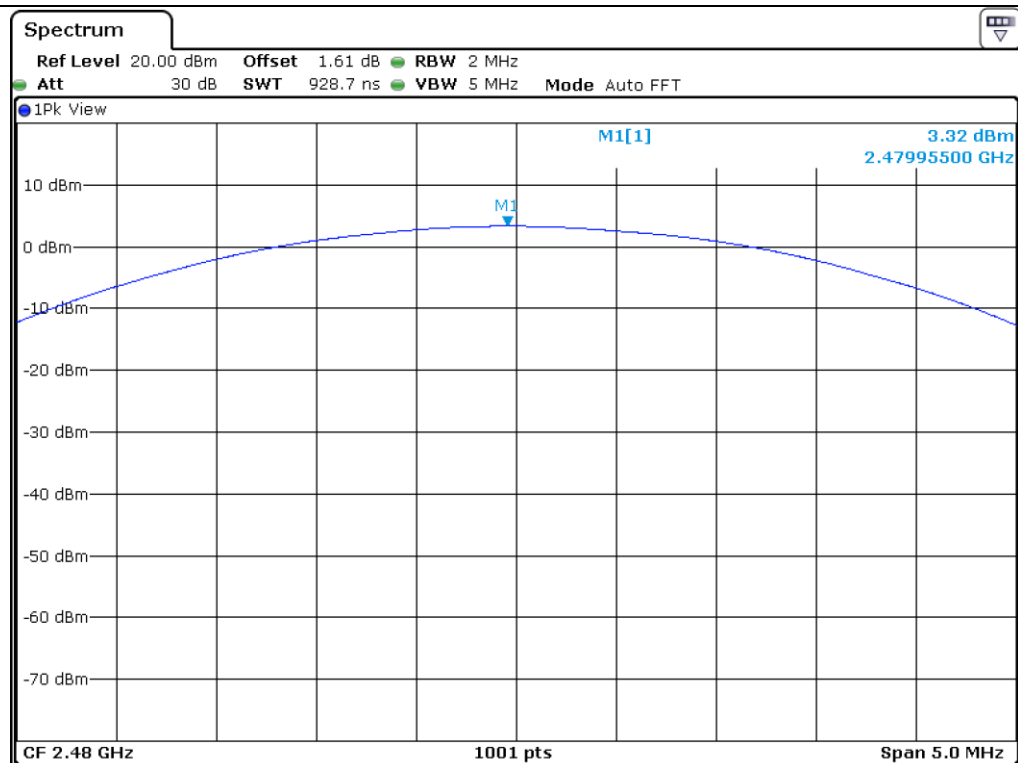
| CHANNEL | FREQUENCY<br>(MHz) | MEASURED VLAUE<br>(dBm) | LIMIT<br>(dBm) | MARGIN<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| LOW     | 2 402.00           | 4.75                    | 21.00          | 16.25          |
| MIDDLE  | 2 441.00           | 4.17                    | 21.00          | 16.83          |
| HIGH    | 2 480.00           | 3.32                    | 21.00          | 17.68          |

Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)





Middle Channel



High Channel

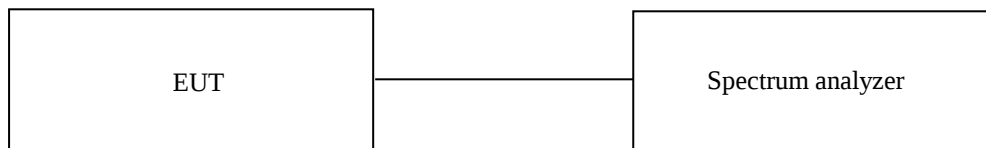
## 12. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

### 12.1 Operating environment

Temperature : 23 °C  
Relative humidity : 45 % R.H.

### 12.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



### 12.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

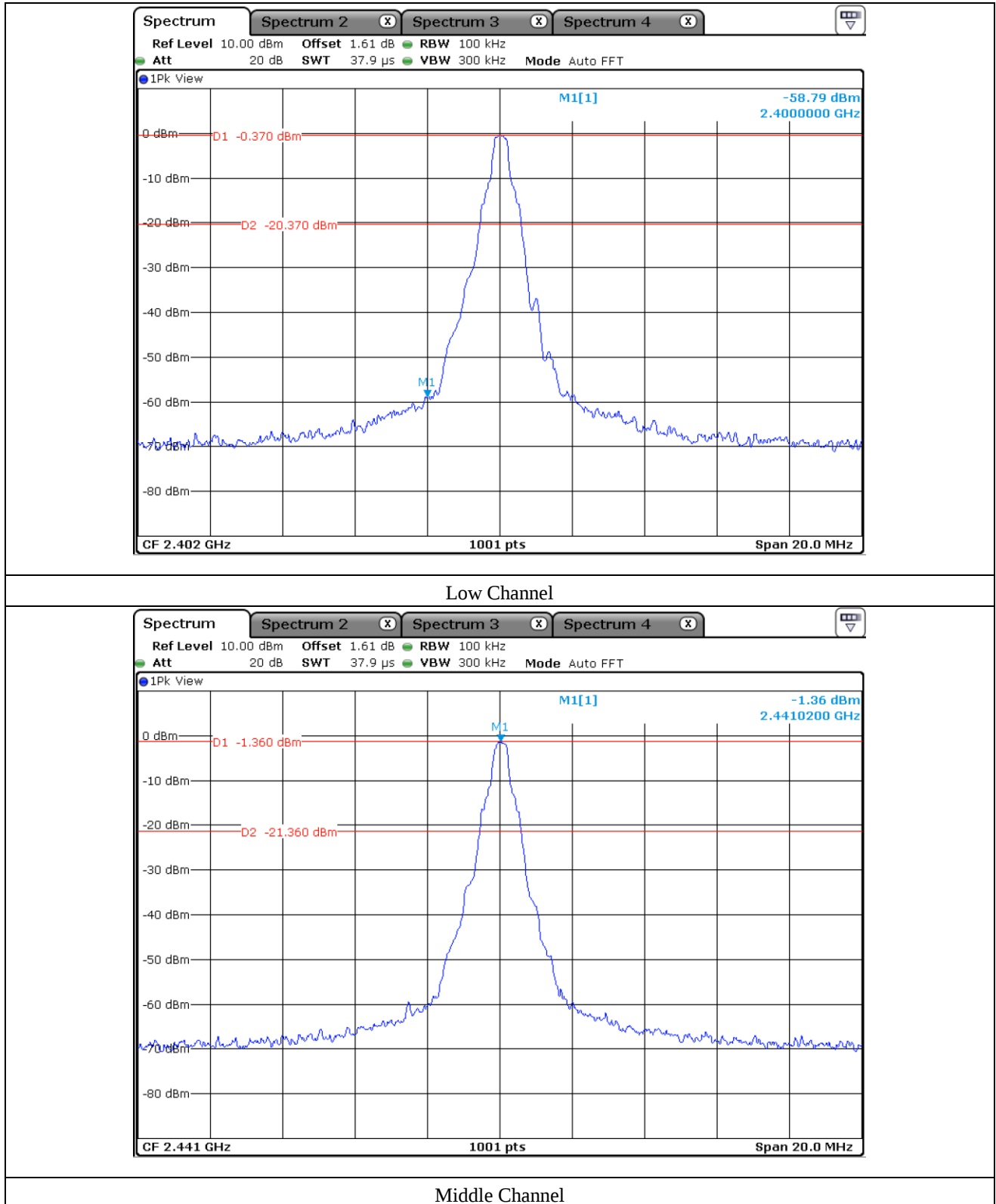
### 12.4 Test Date

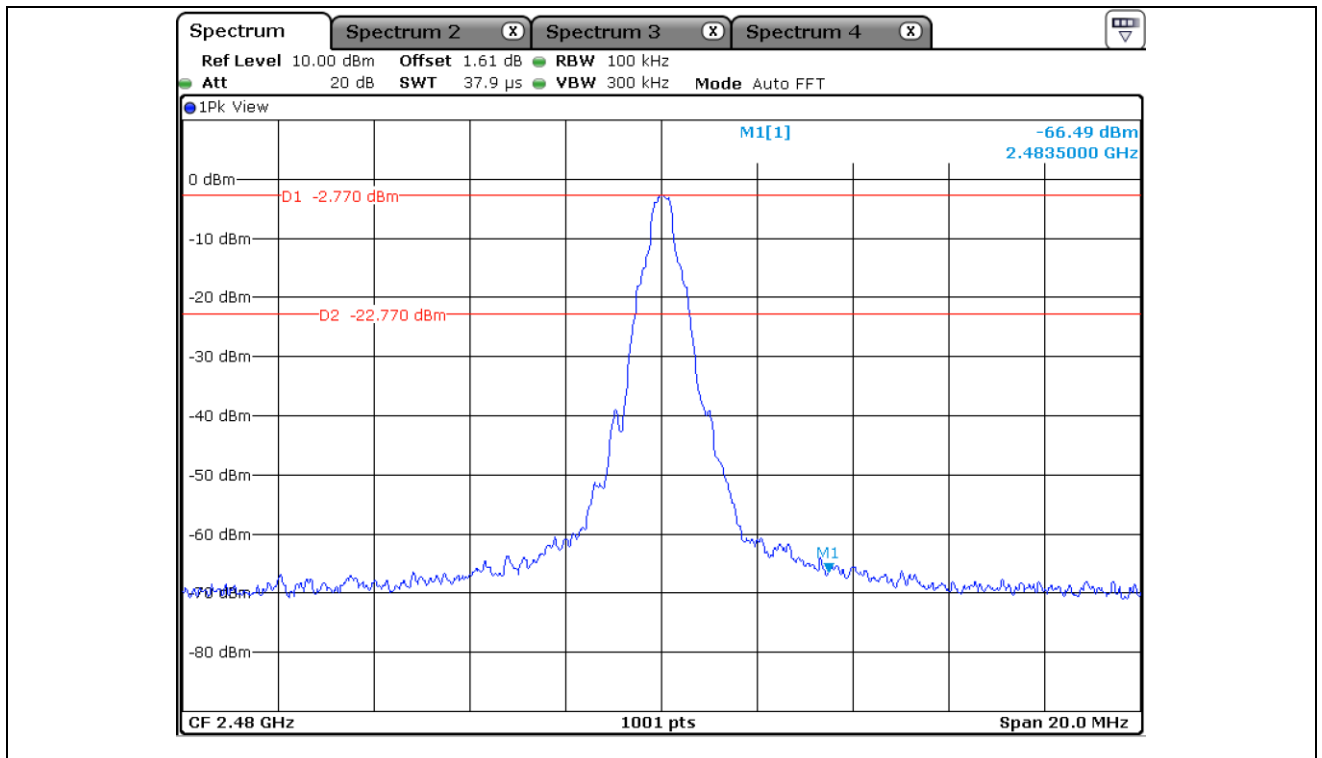
January 11, 2021 ~ January 14, 2021

## 12.5 Test data for conducted emission

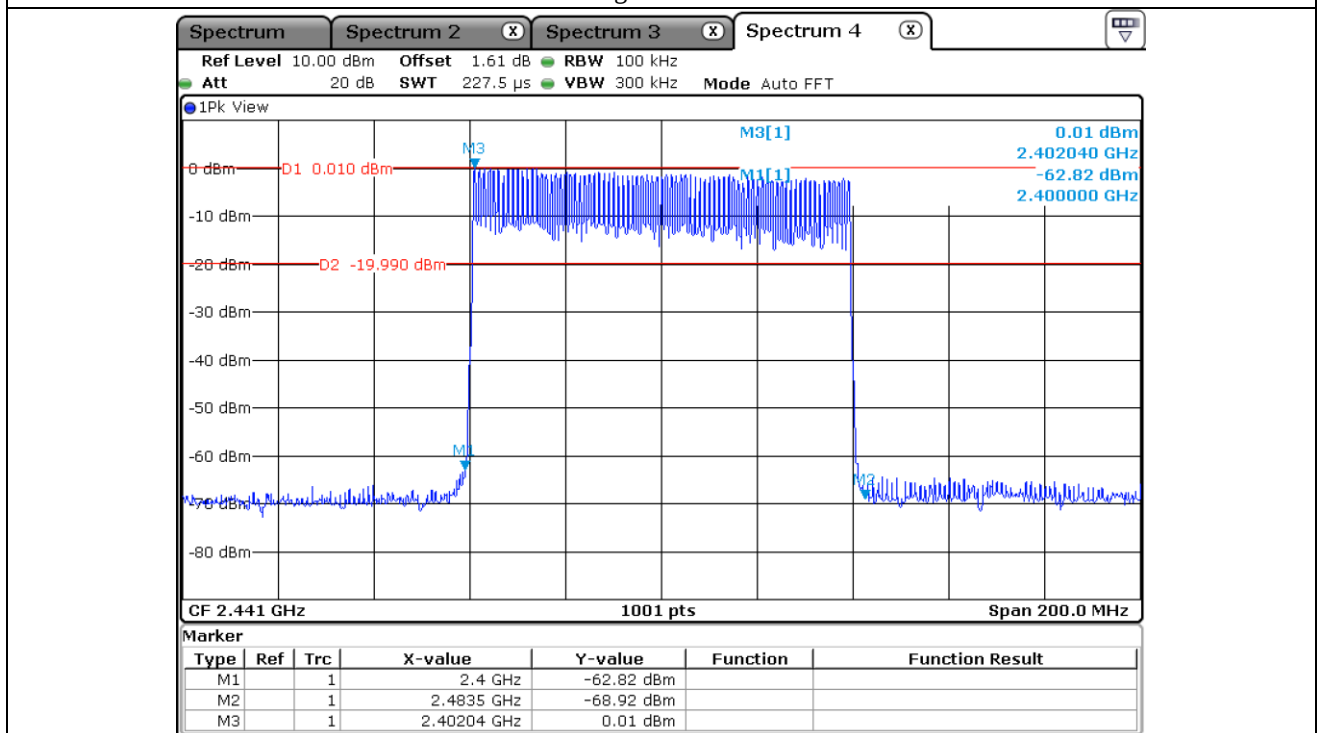
### 12.5.1 Test data for 1 Mbps

#### 12.5.1.1 Test data for Antenna 0

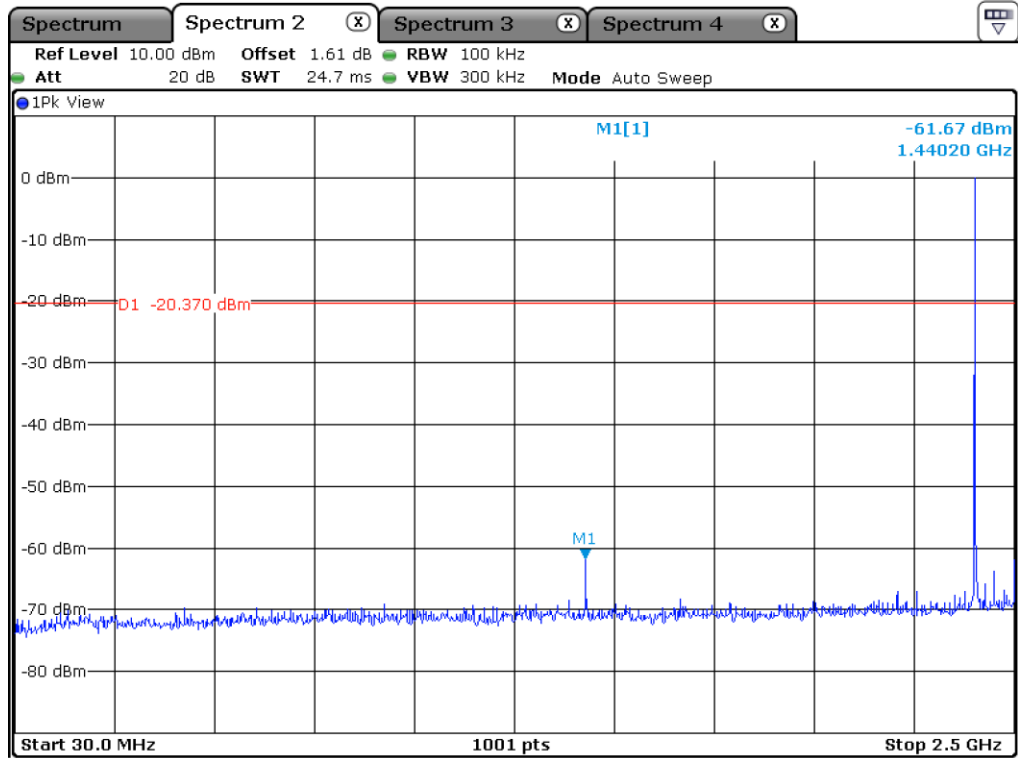




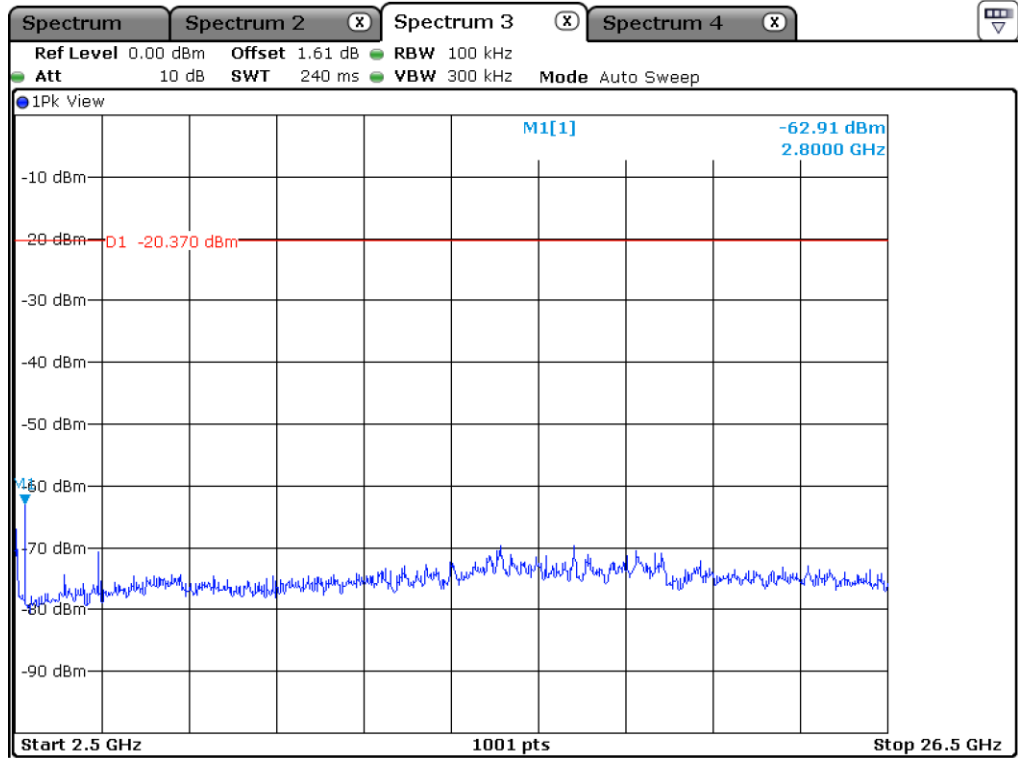
### High Channel



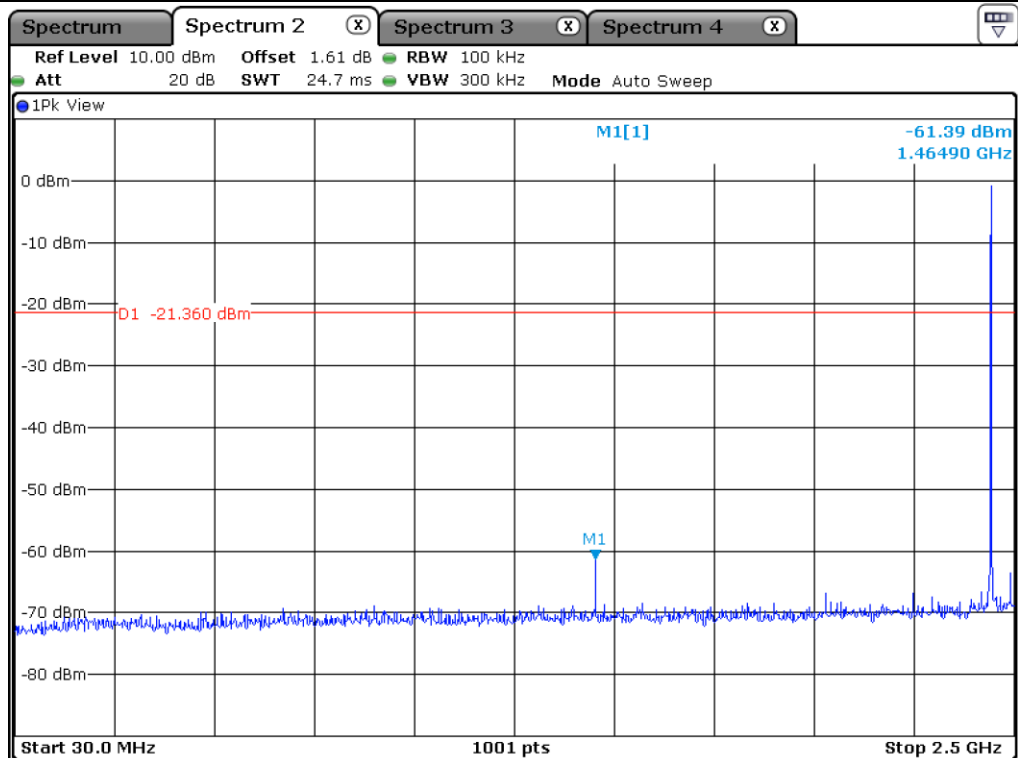
### Hopping Mode



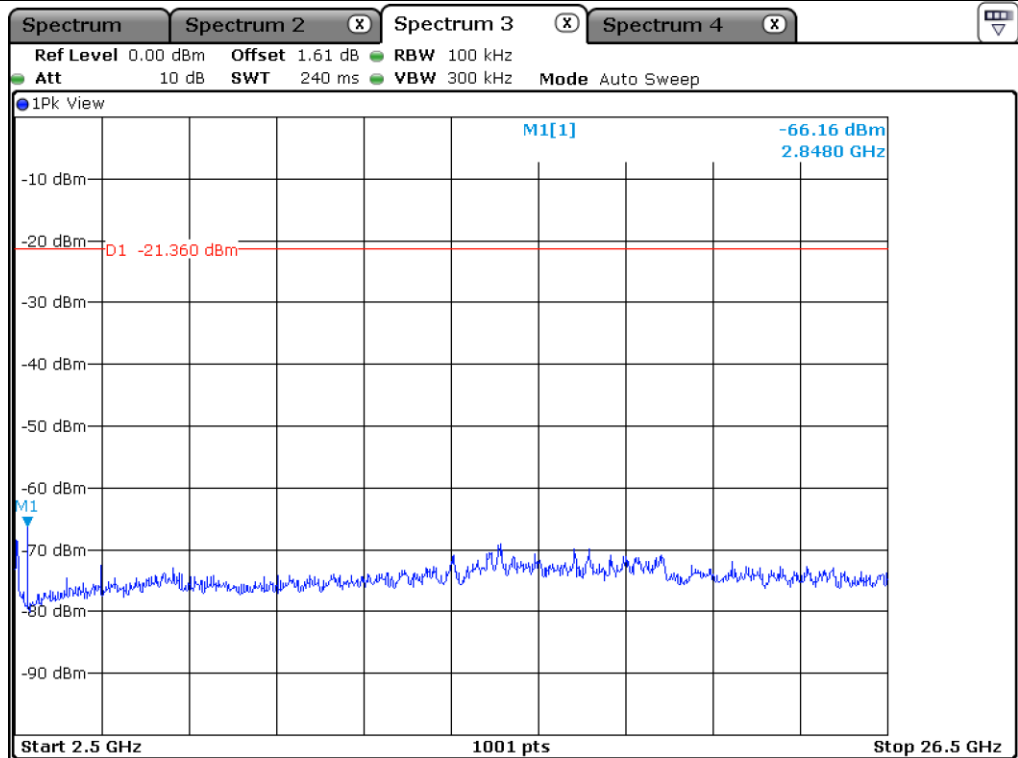
Low Channel



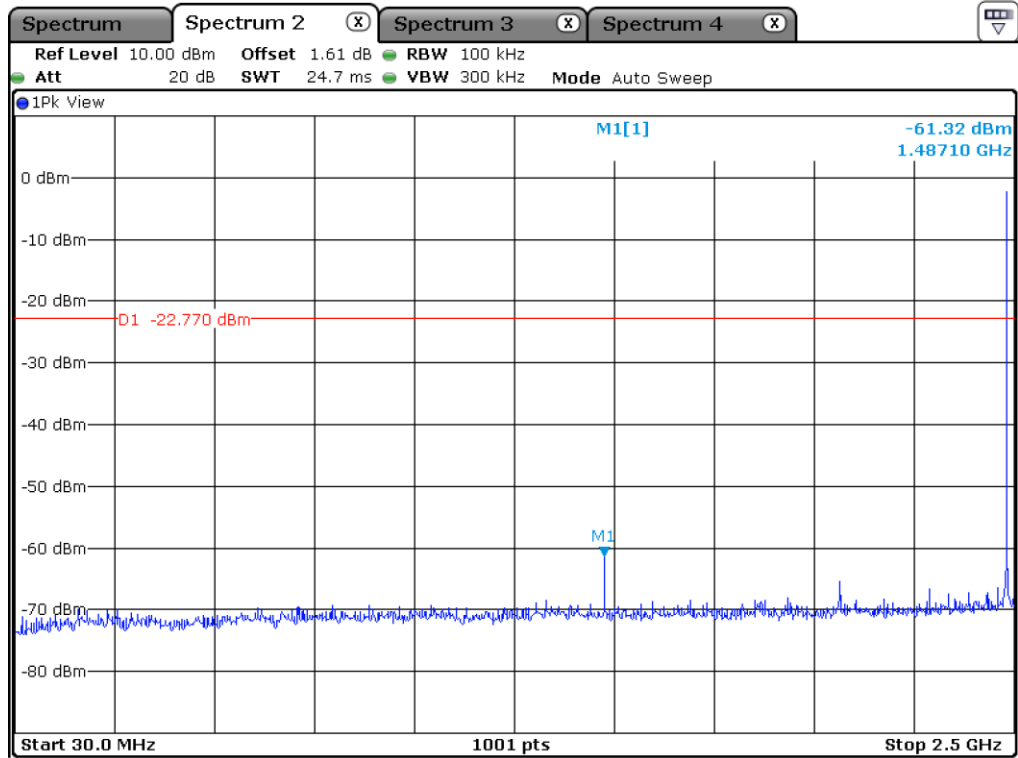
Low Channel



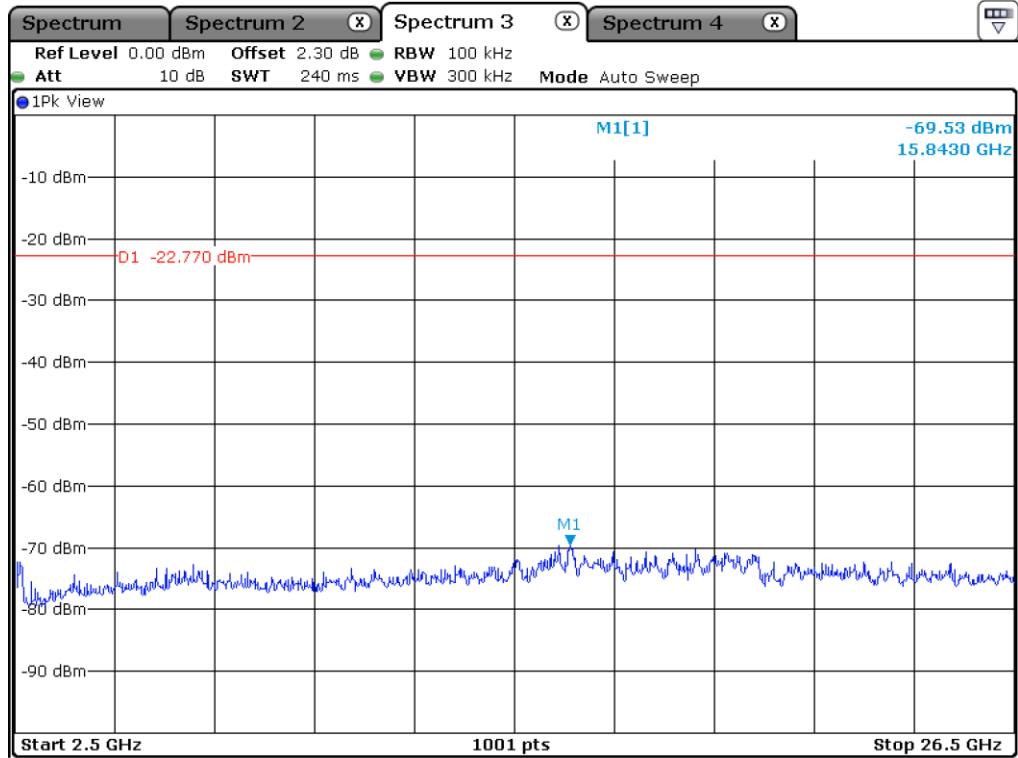
Middle Channel



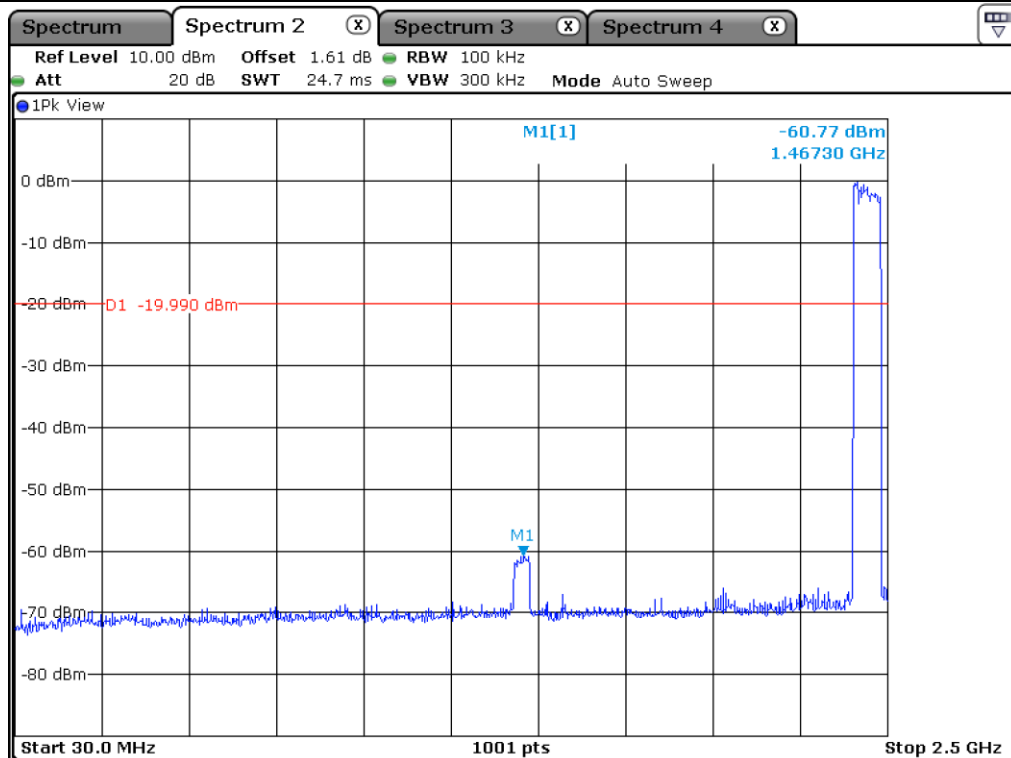
Middle Channel



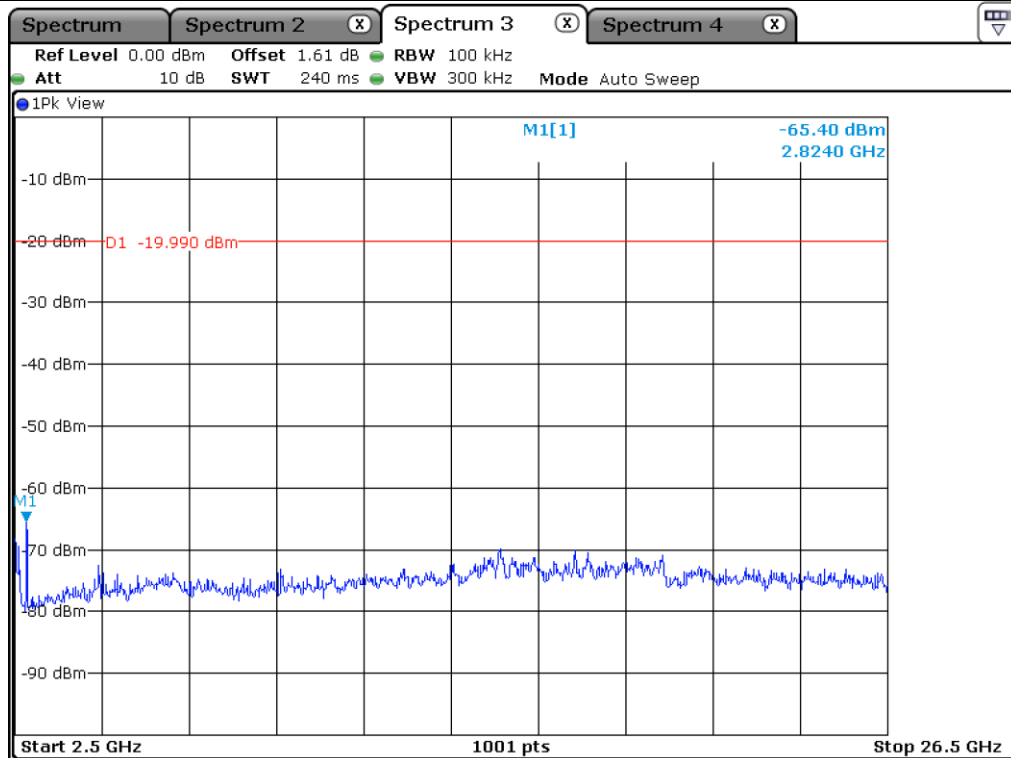
### High Channel



### High Channel

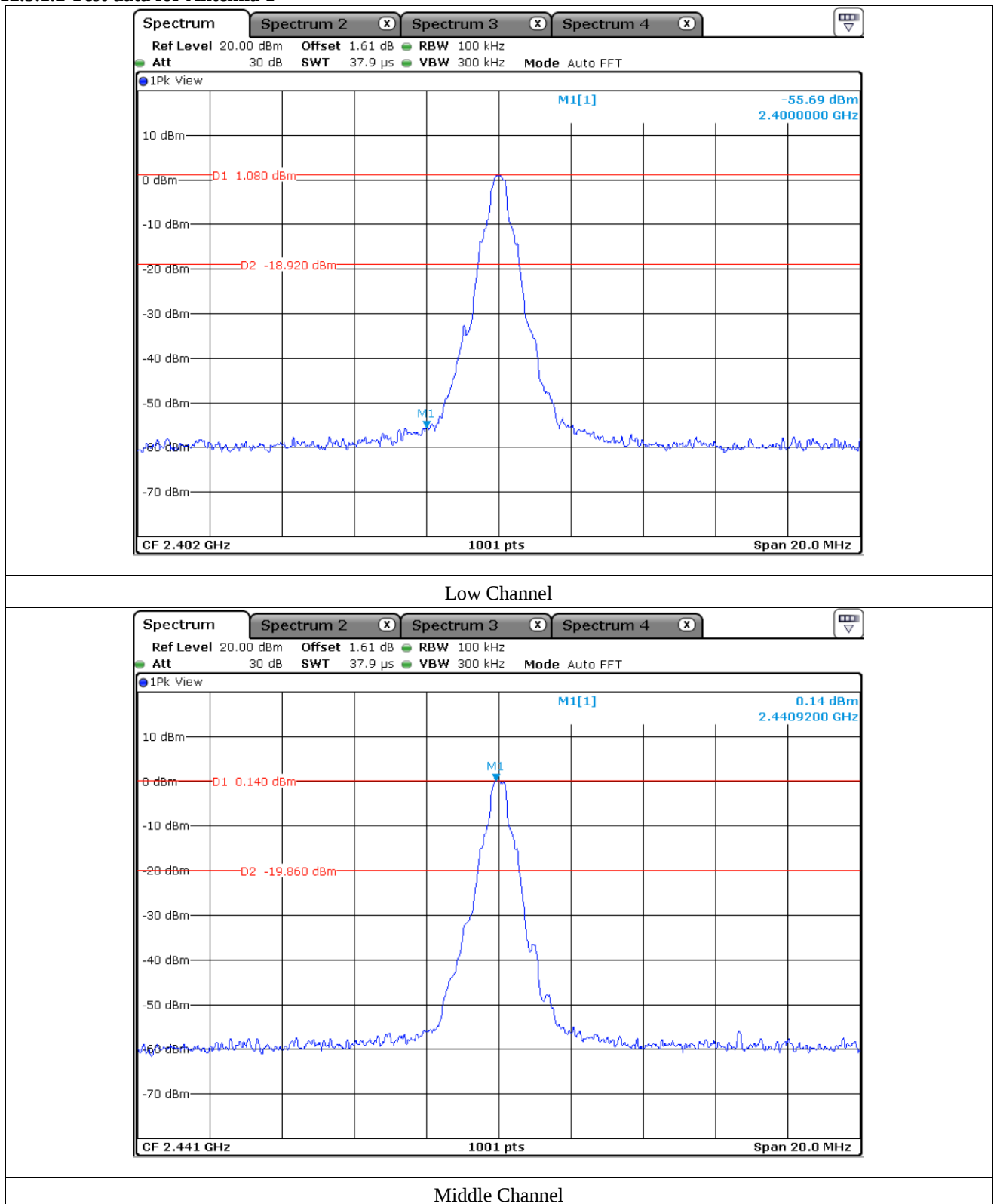


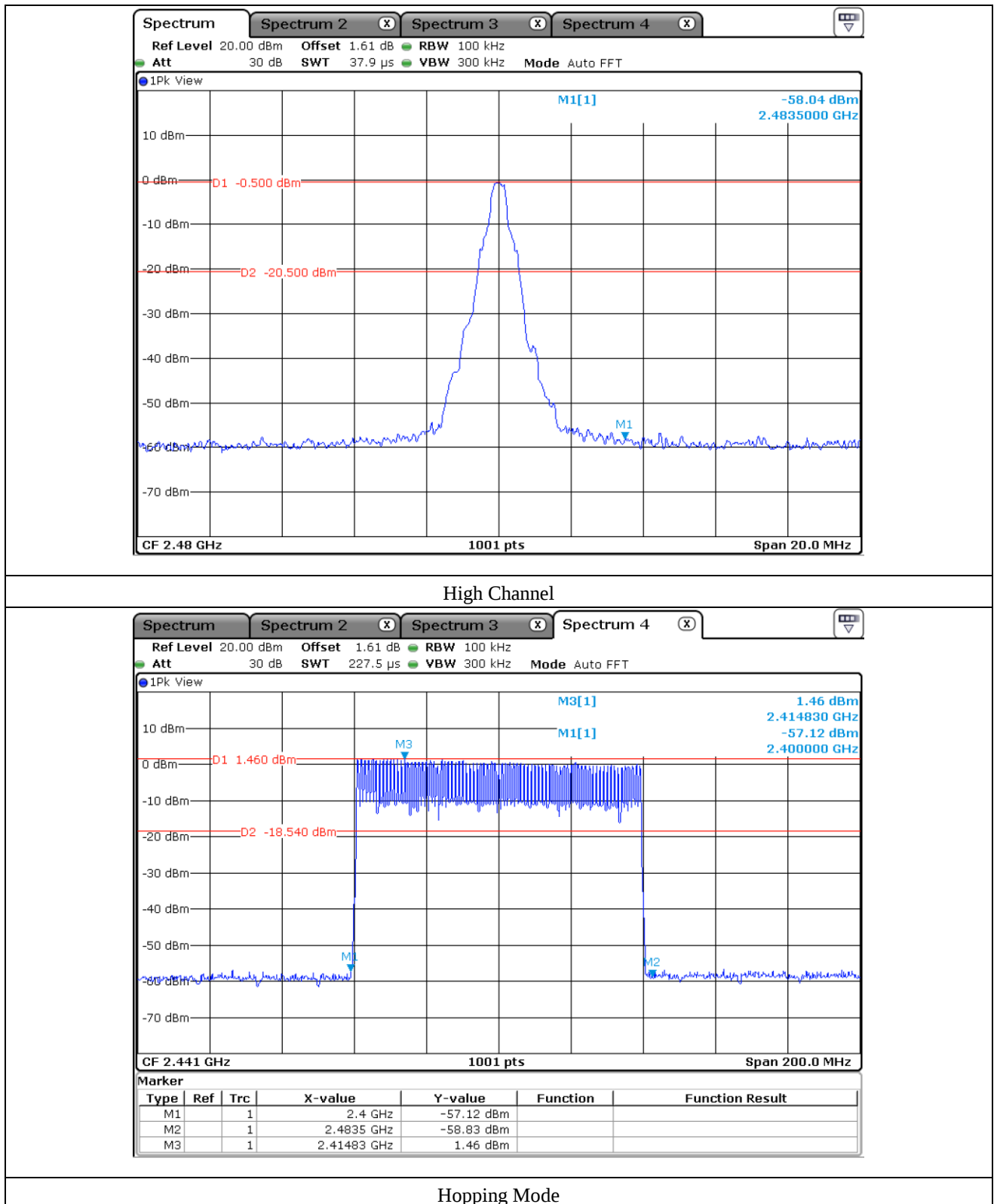
### Hopping Mode

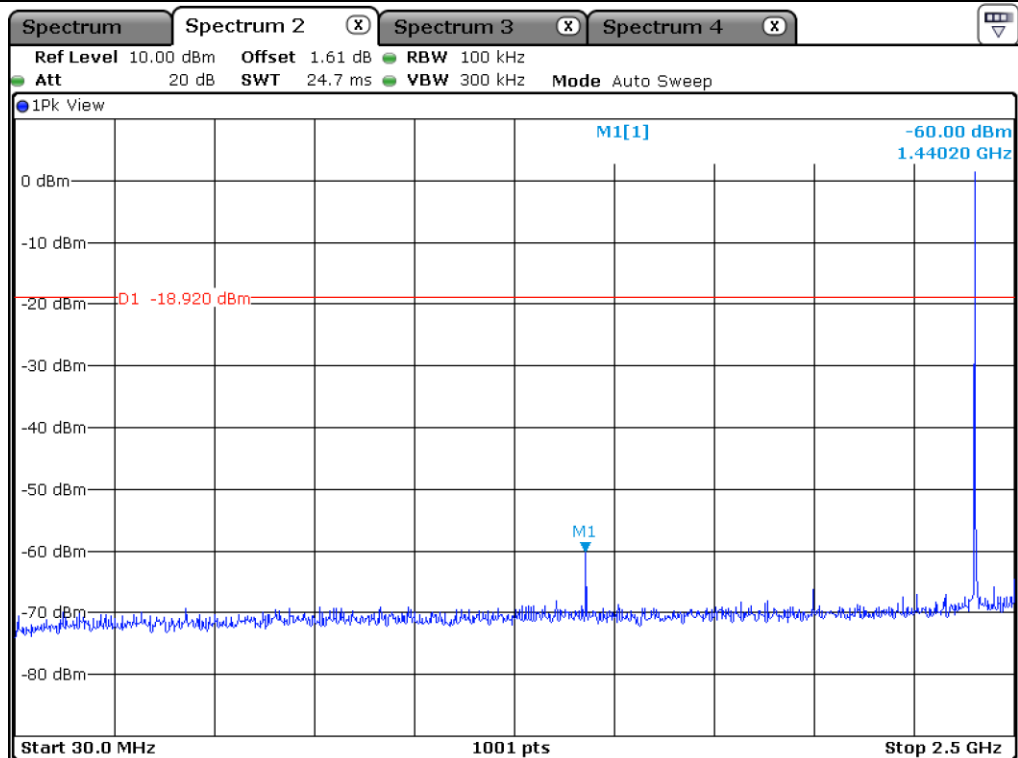


### Hopping Mode

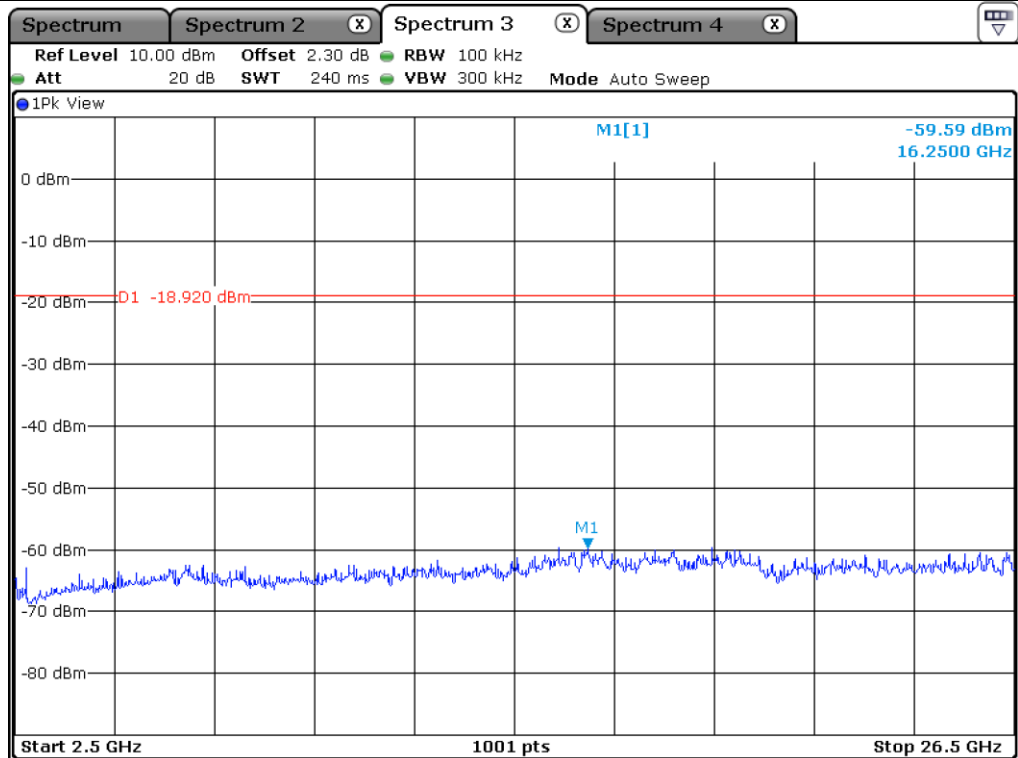
### 12.5.1.2 Test data for Antenna 1



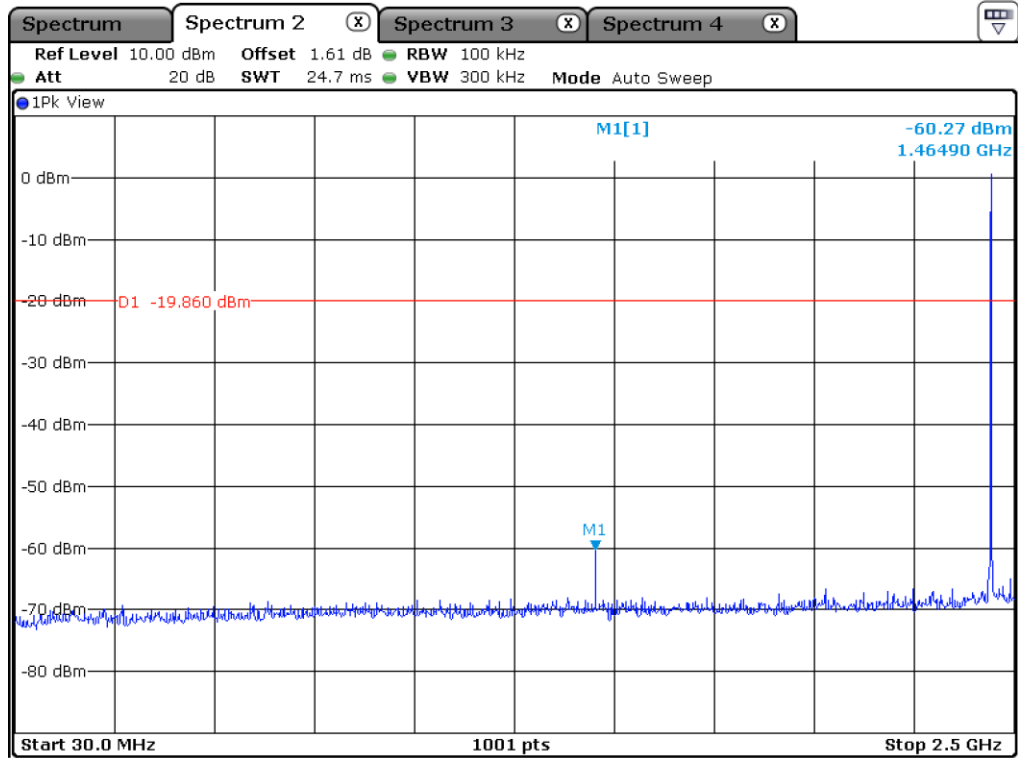




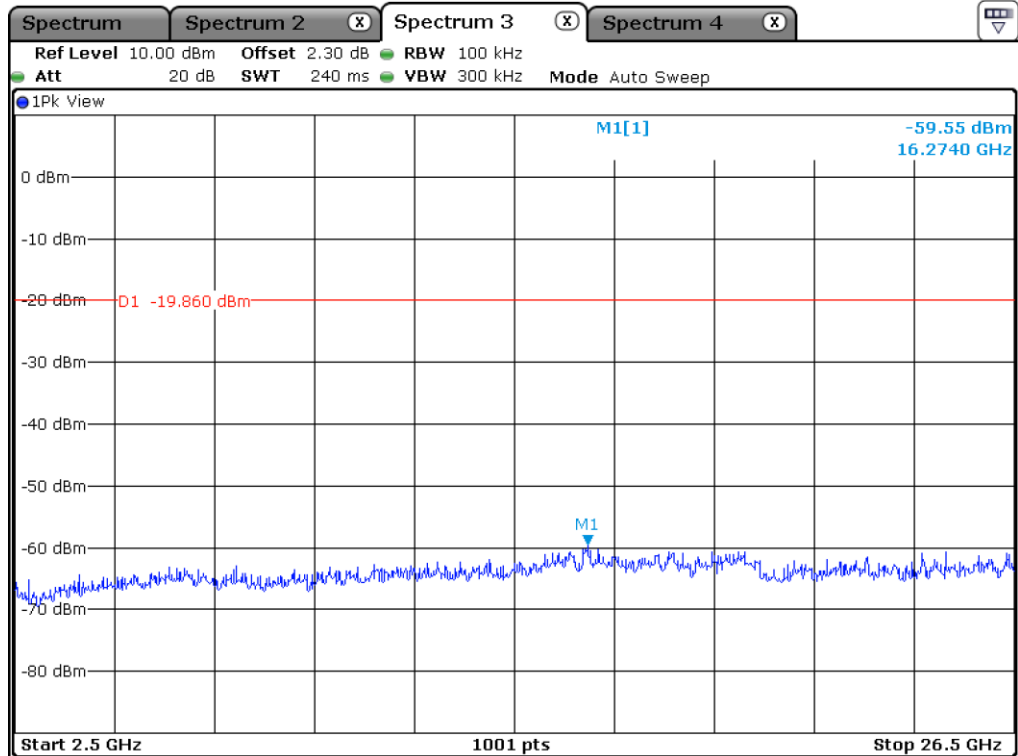
Low Channel



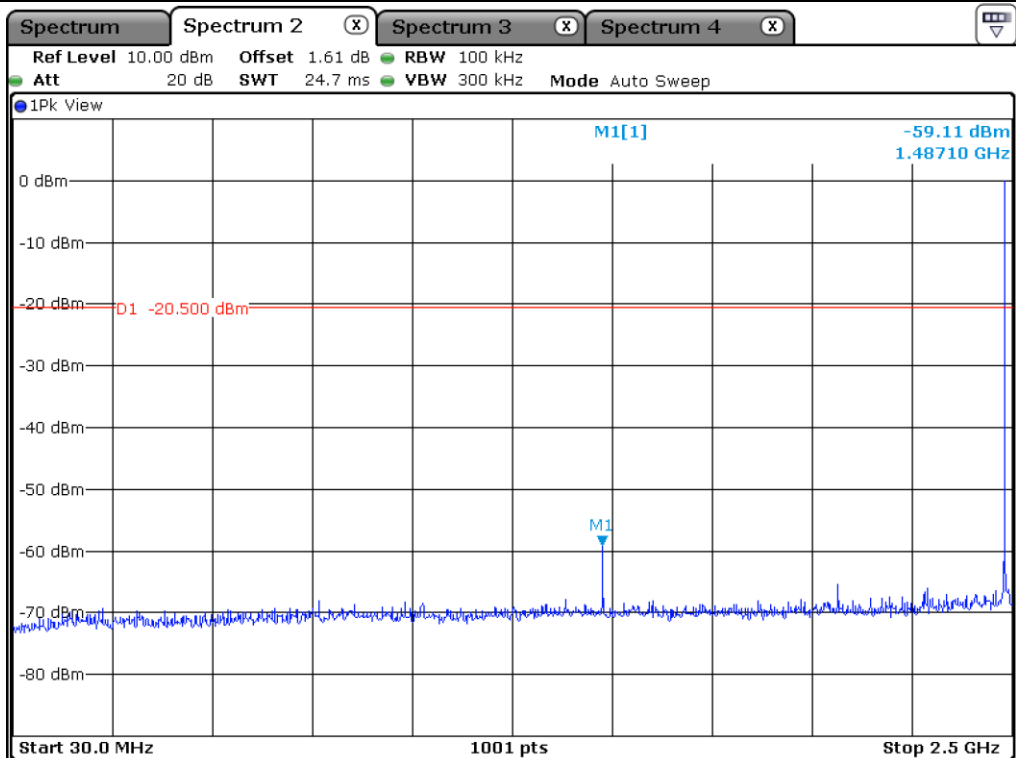
Low Channel



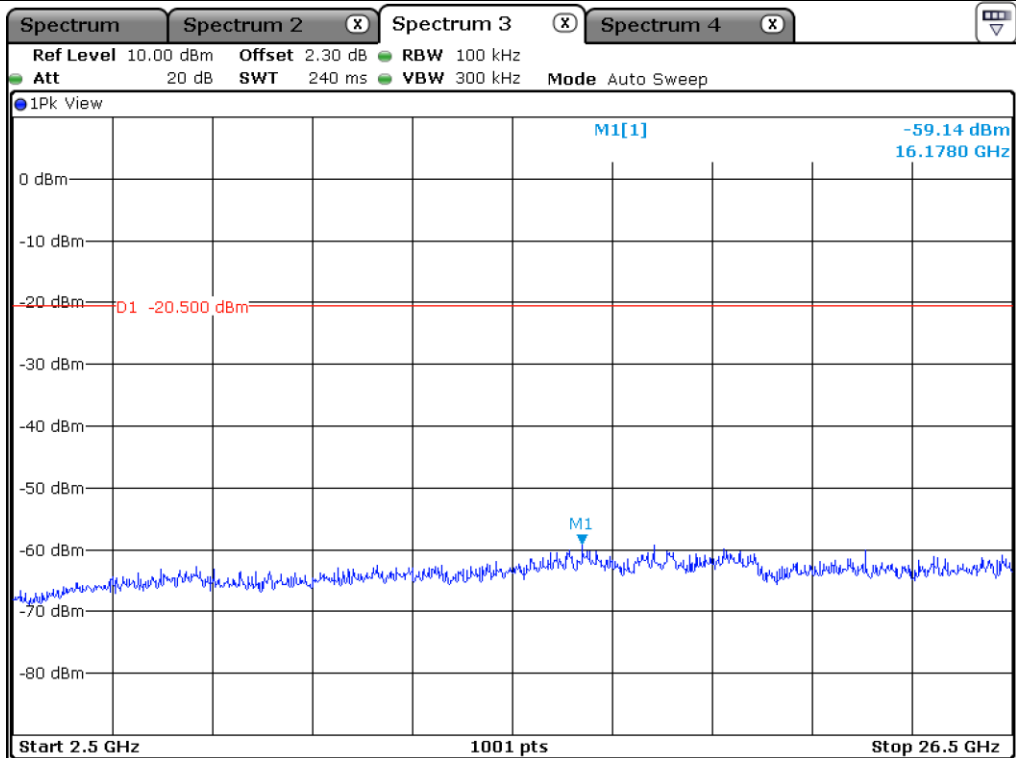
Middle Channel



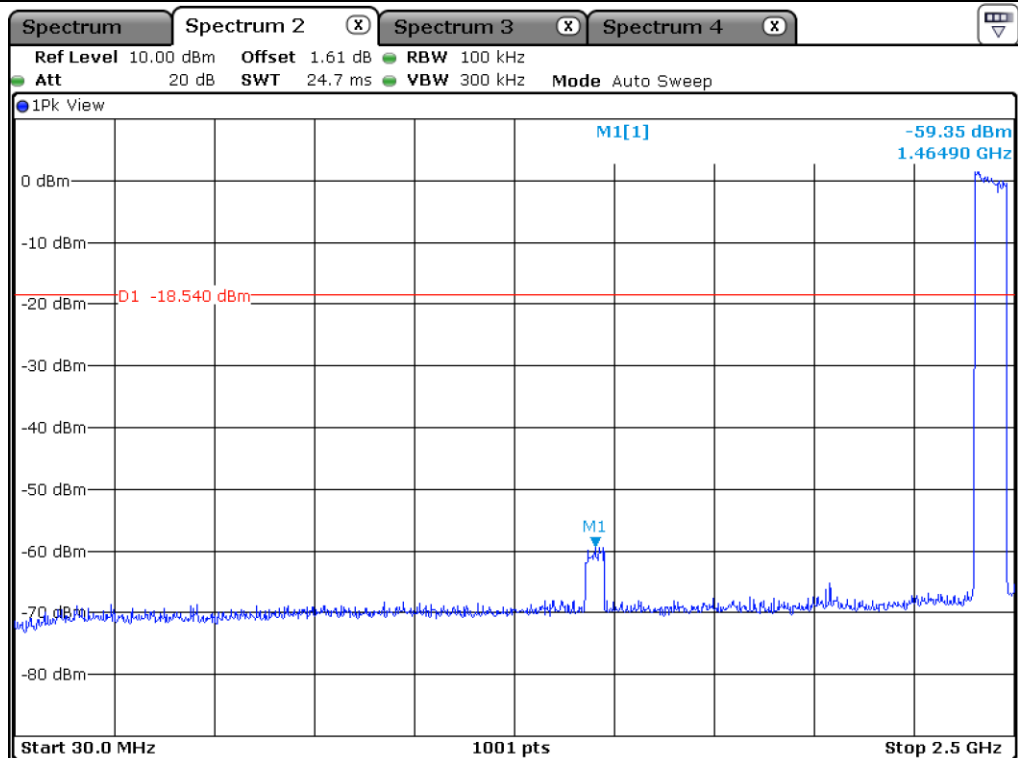
Middle Channel



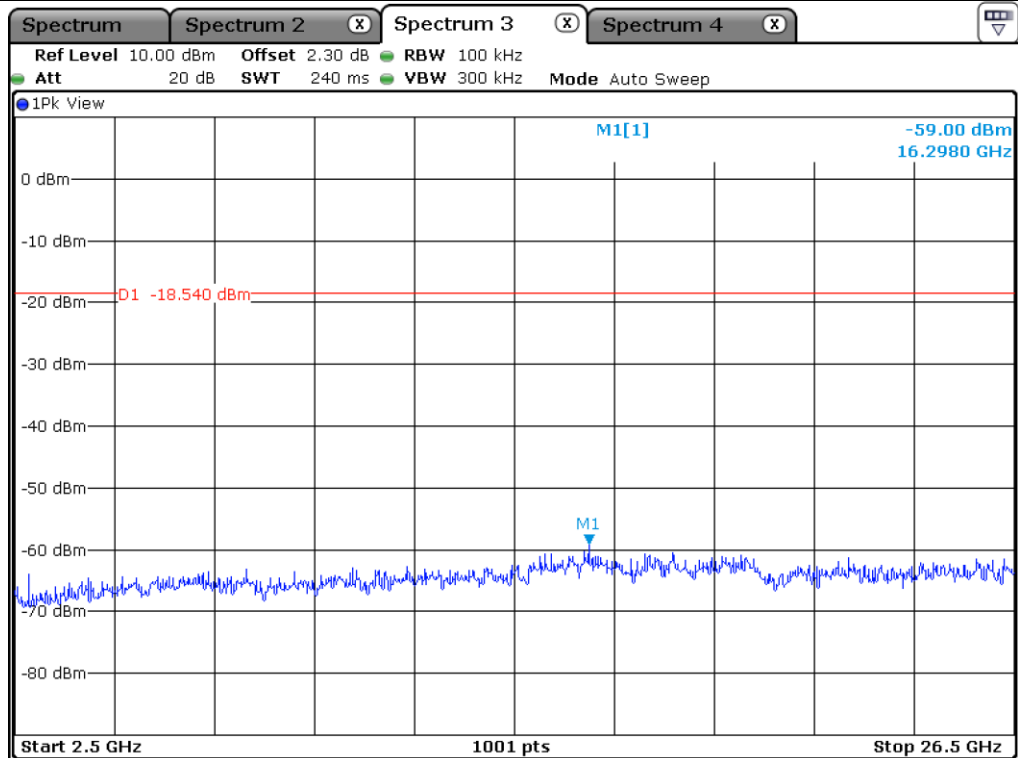
### High Channel



### High Channel



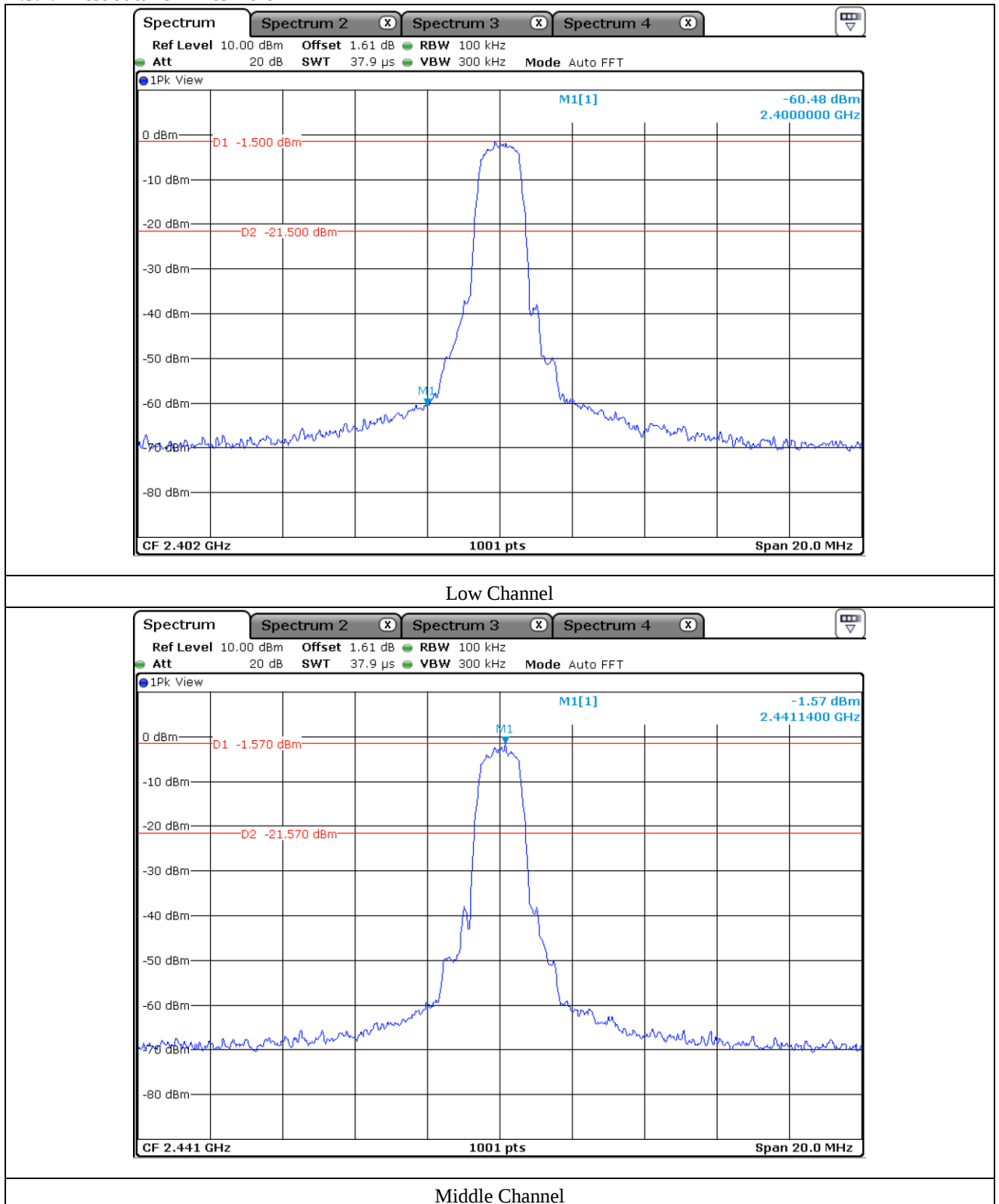
### Hopping Mode

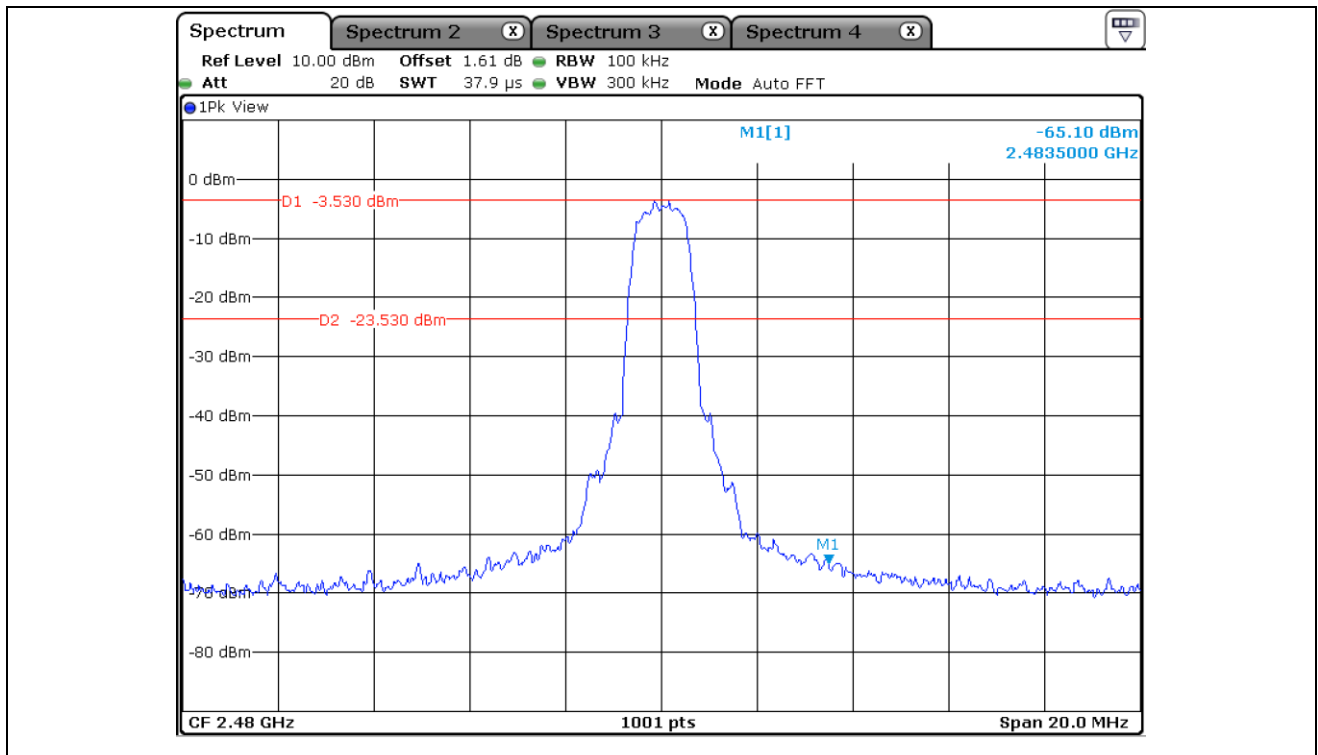


### Hopping Mode

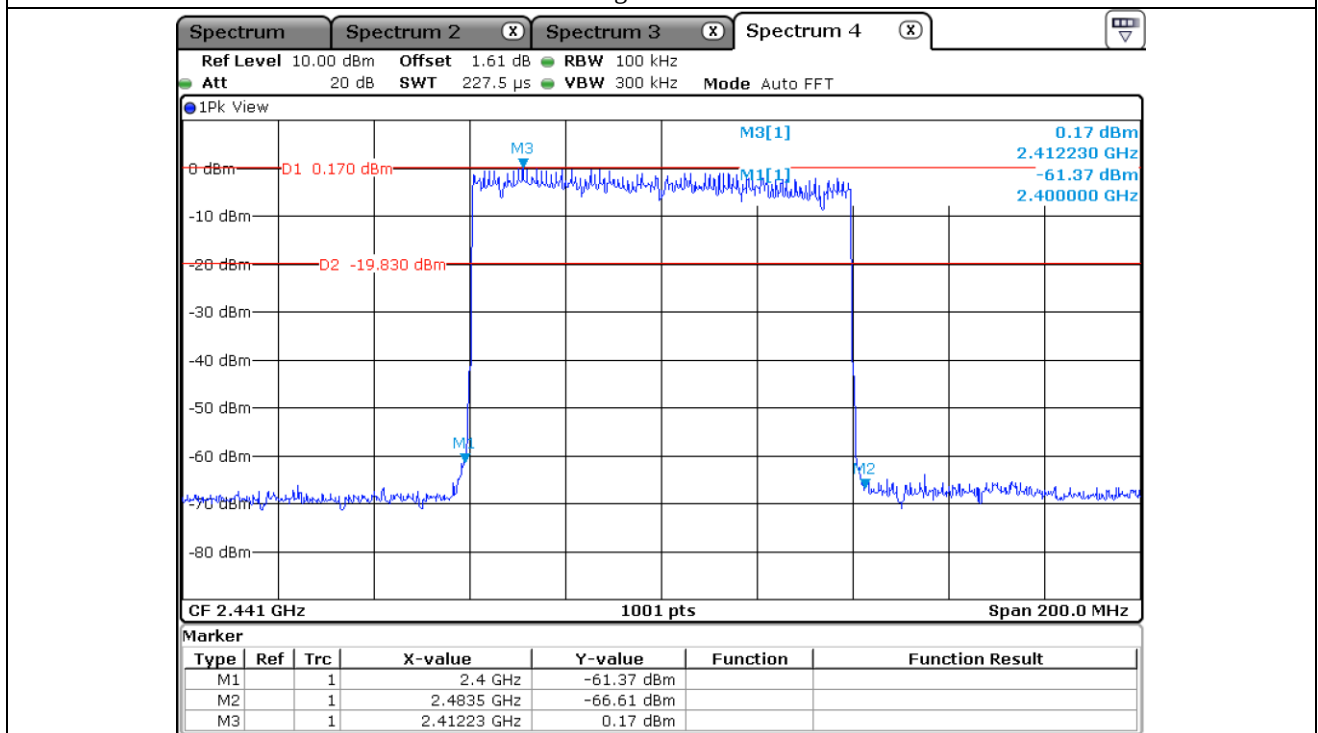
## 12.5.2 Test data for 2 Mbps

### 12.5.2.1 Test data for Antenna 0

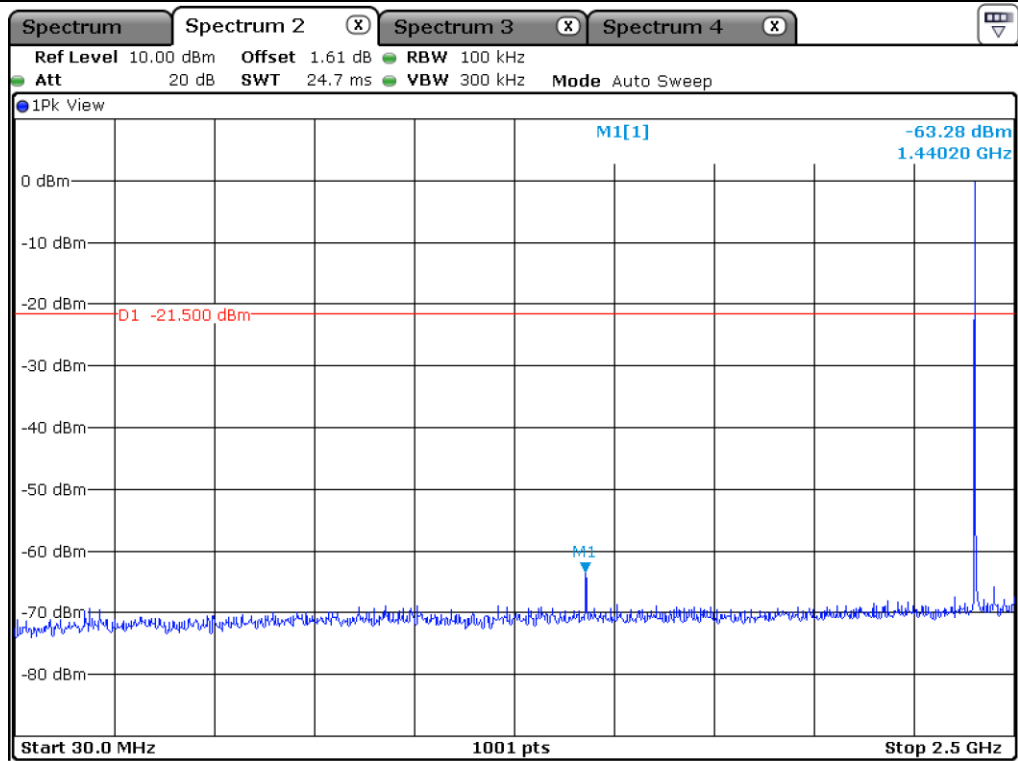




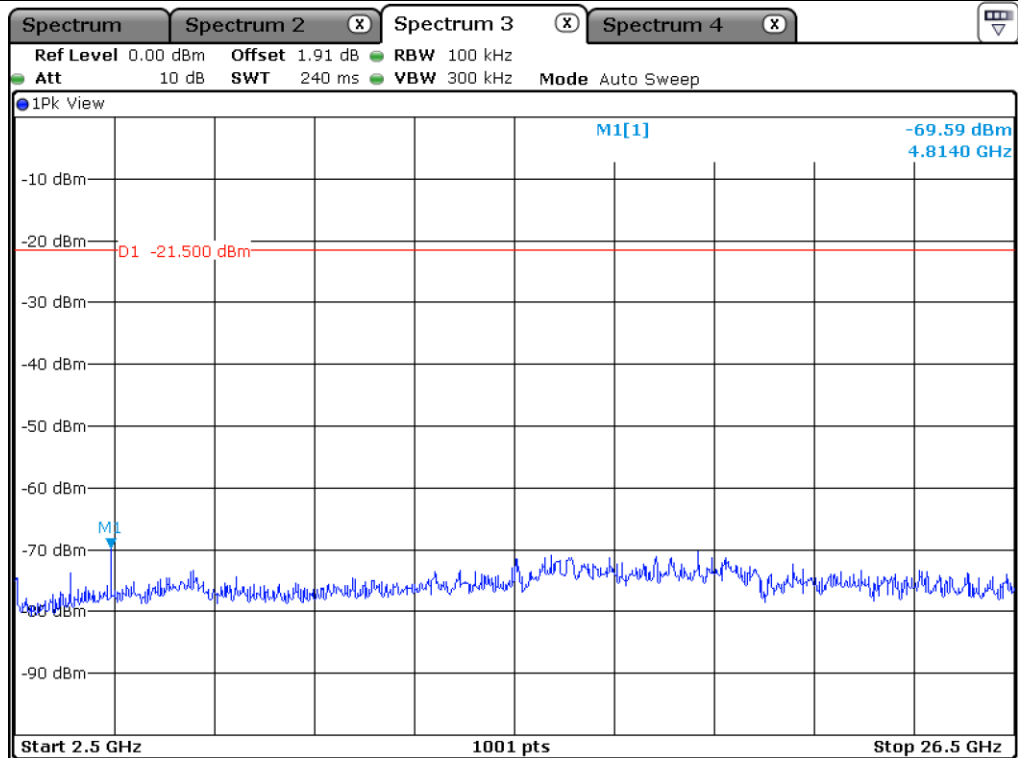
### High Channel



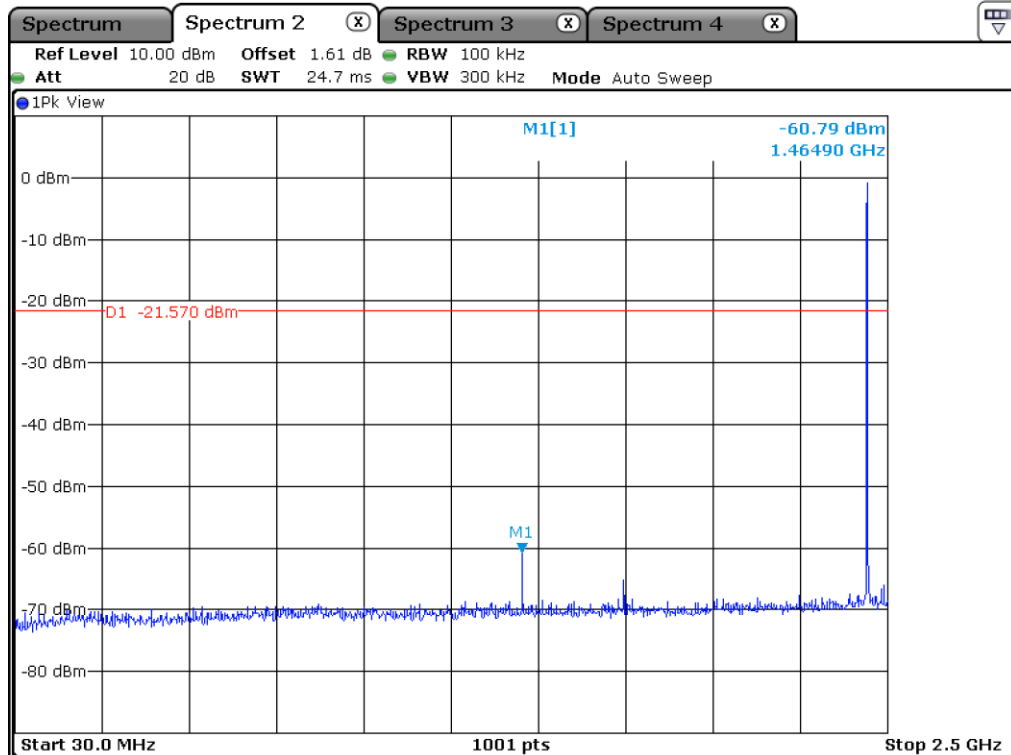
### Hopping Mode



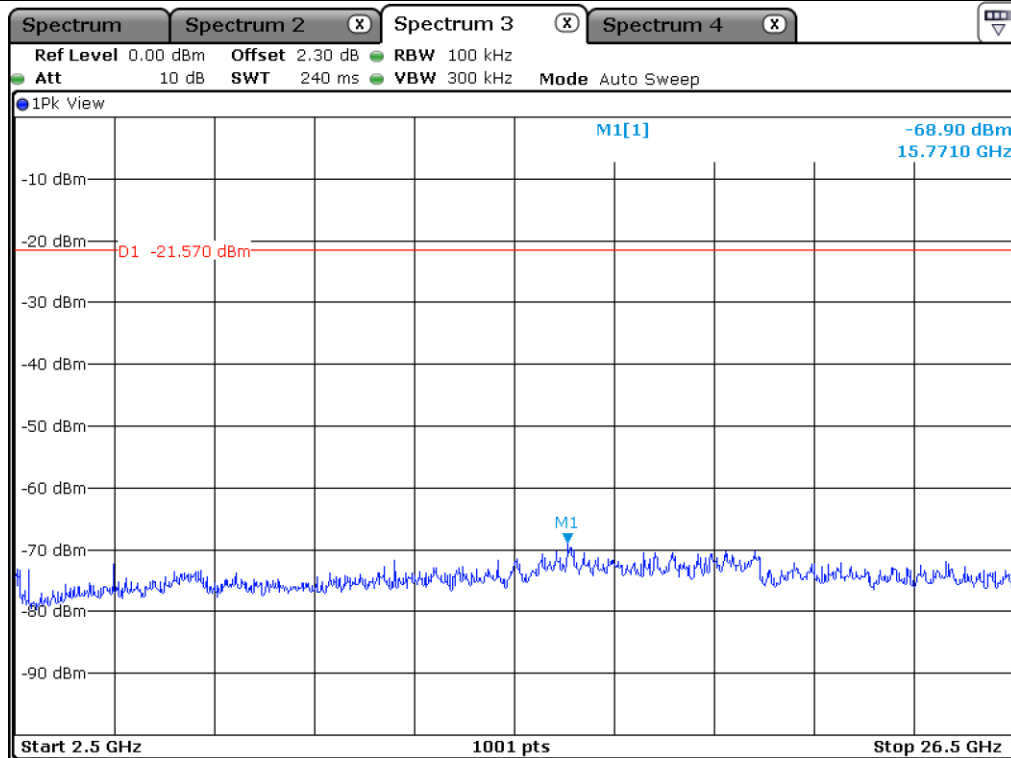
Low Channel



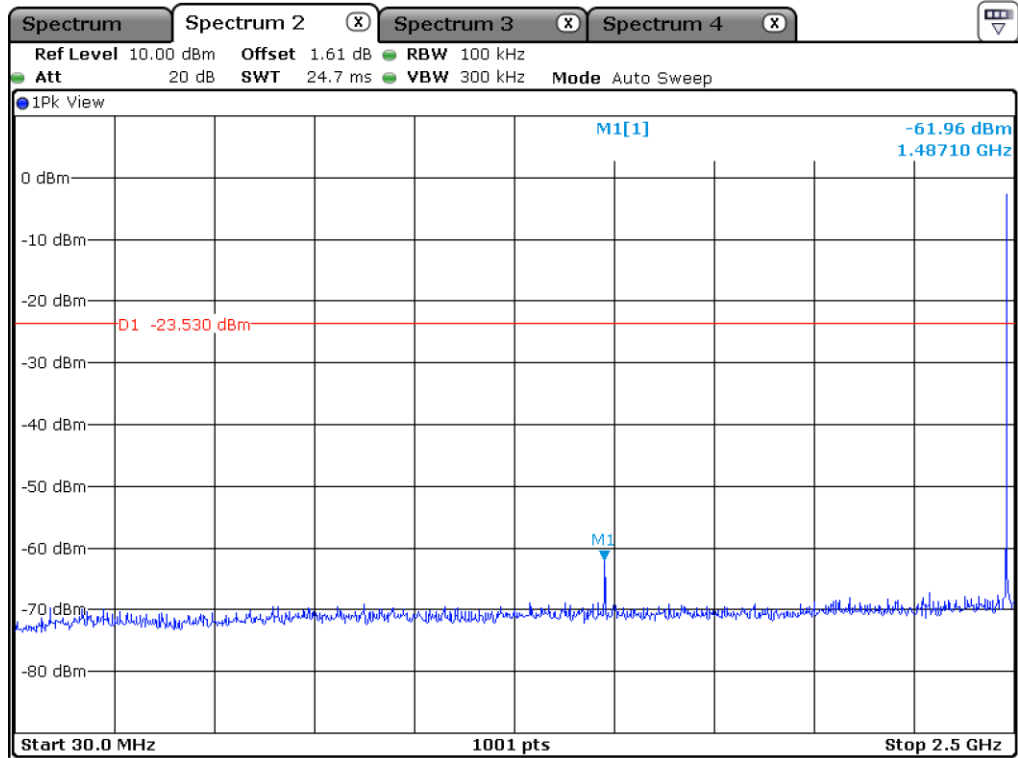
Low Channel



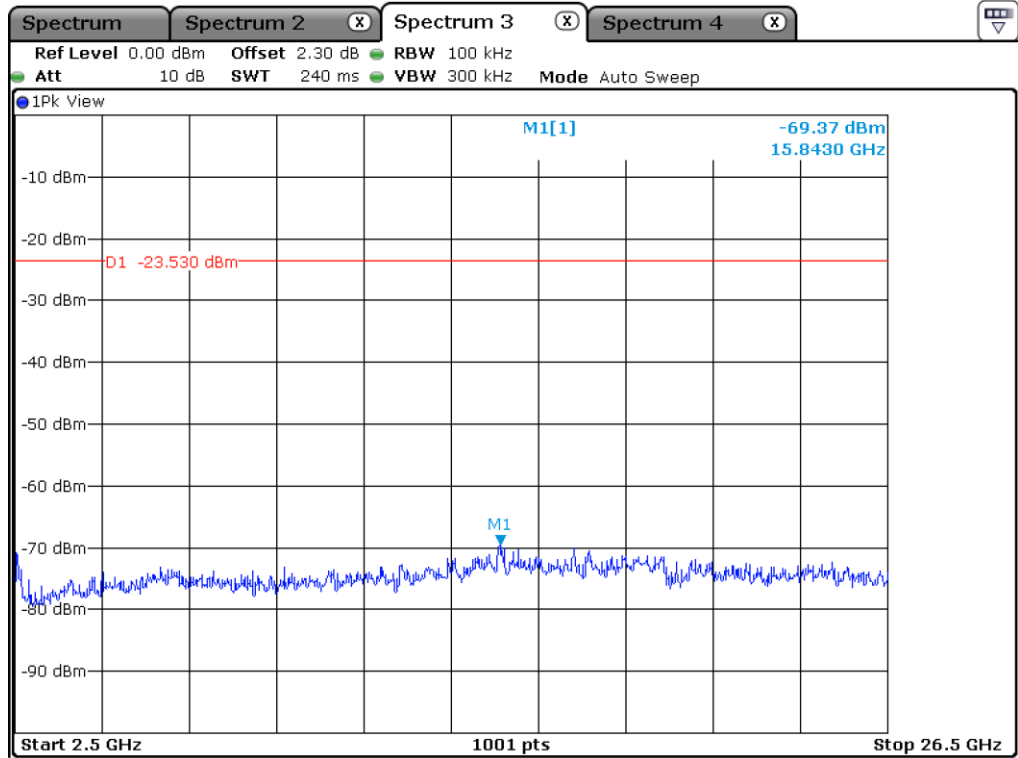
Middle Channel



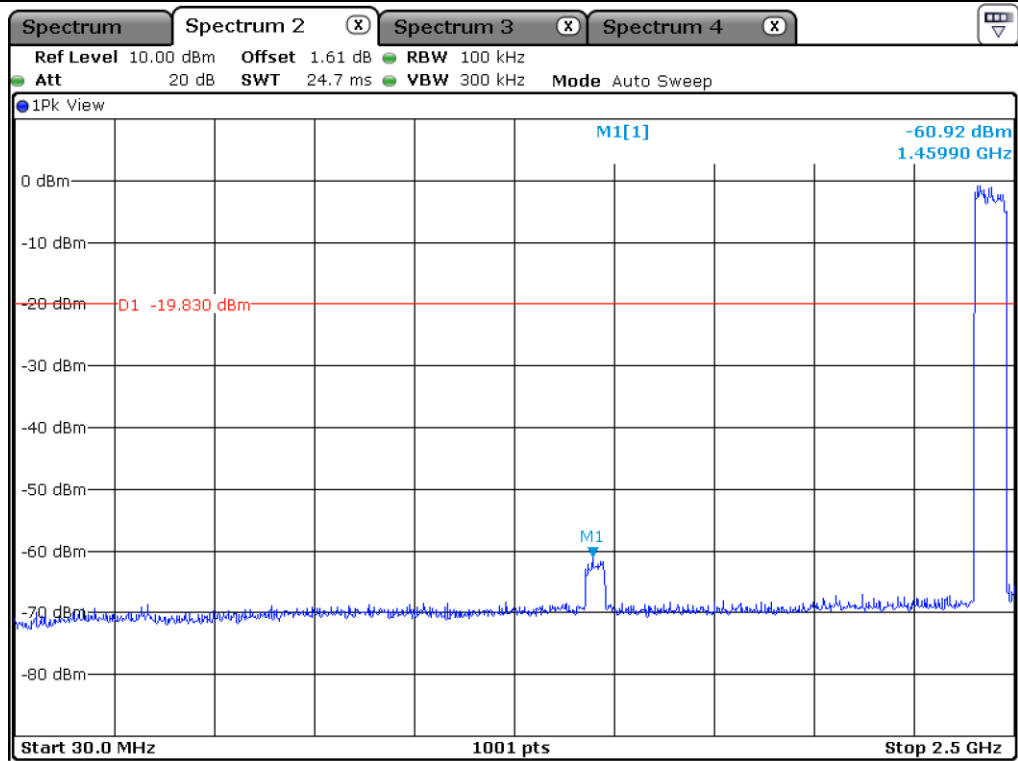
Middle Channel



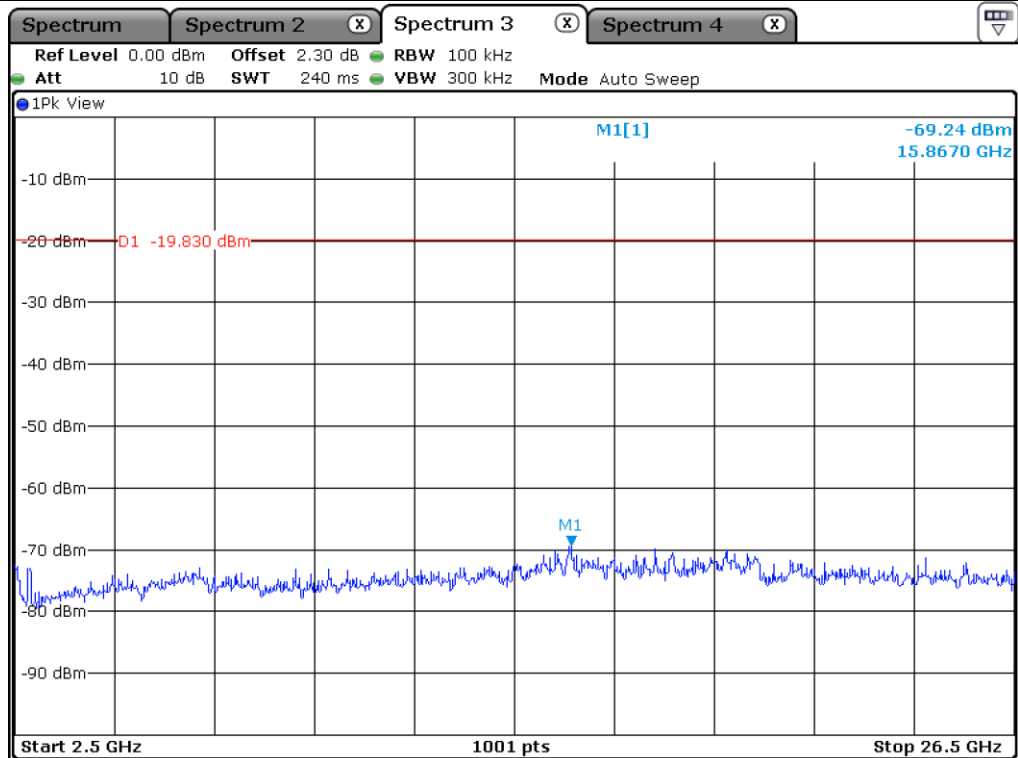
#### High Channel



#### High Channel

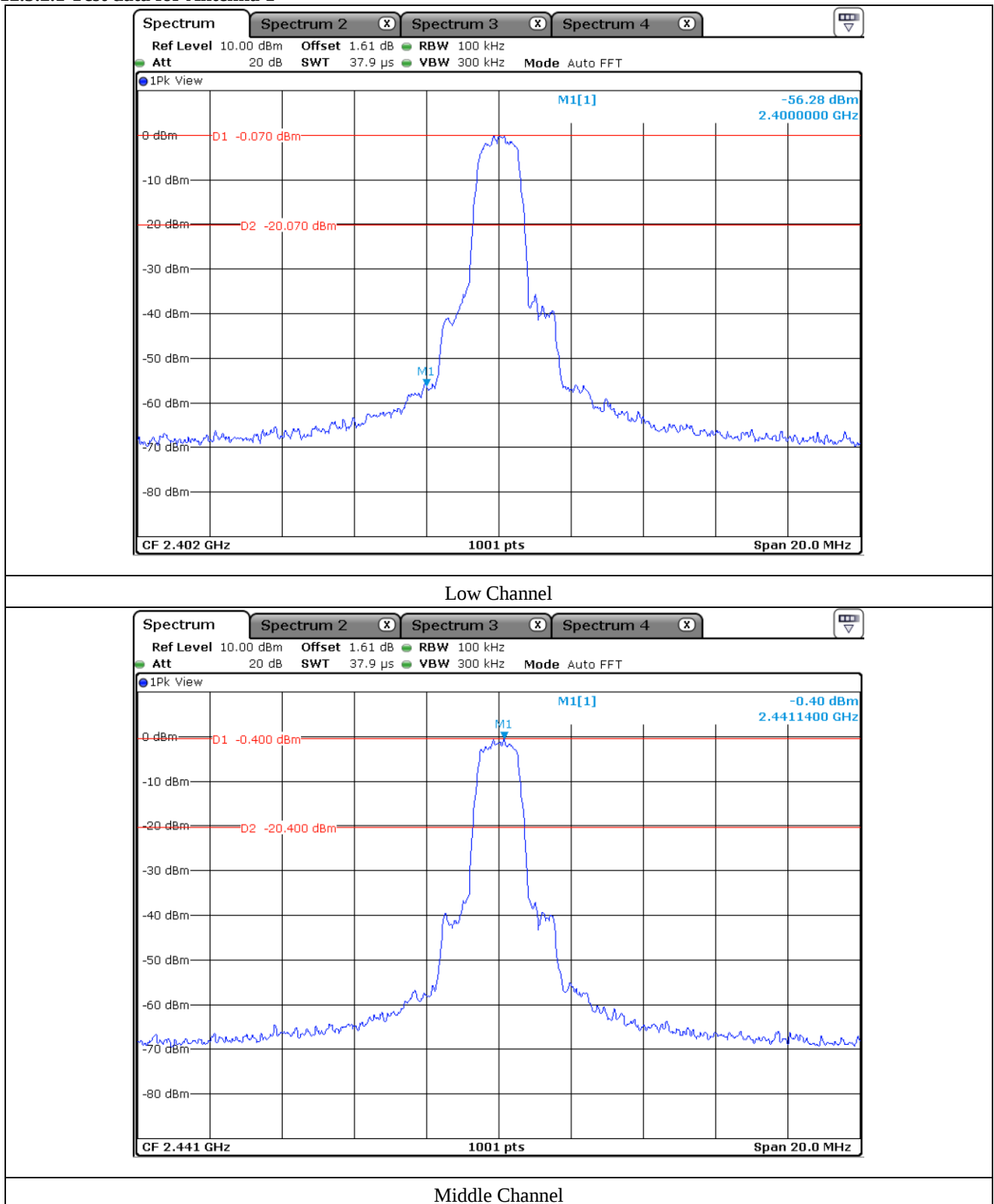


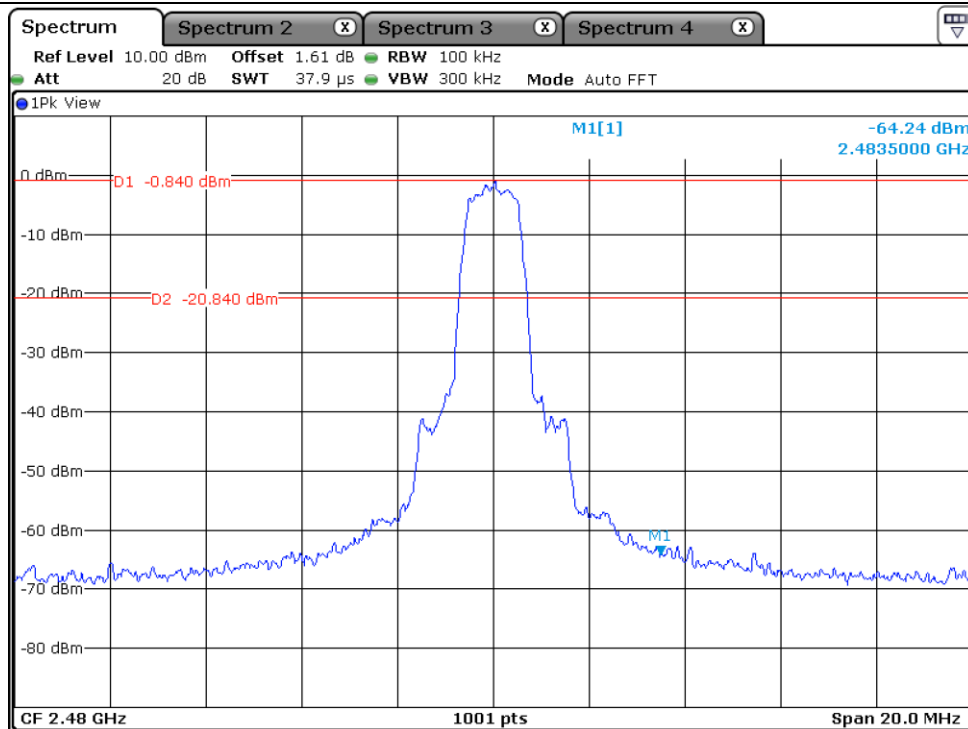
Hopping Mode



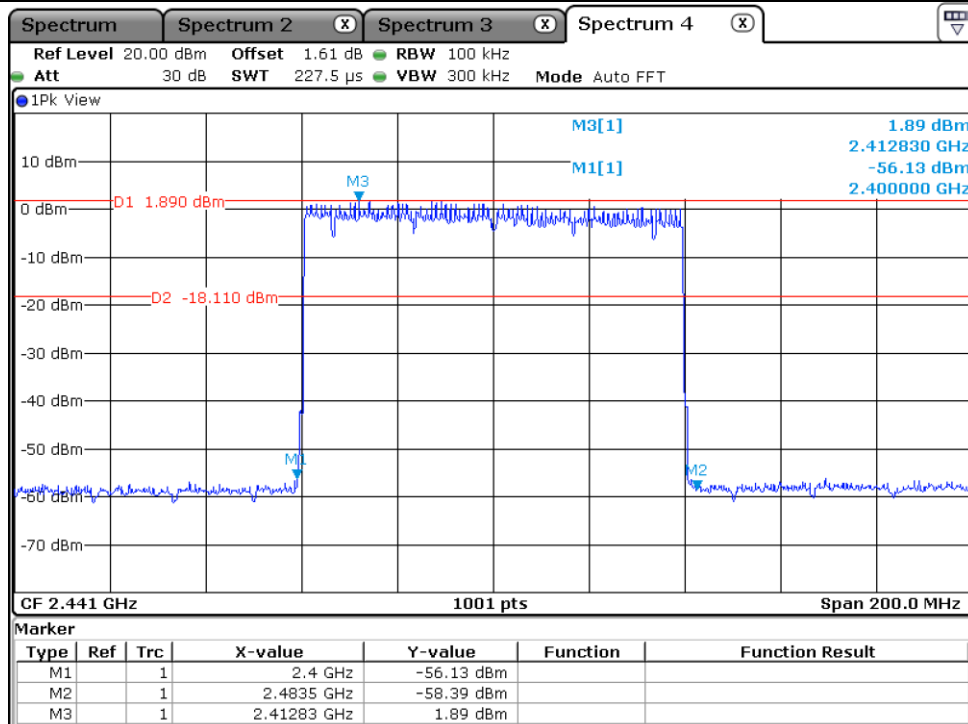
Hopping Mode

### 12.5.2.1 Test data for Antenna 1

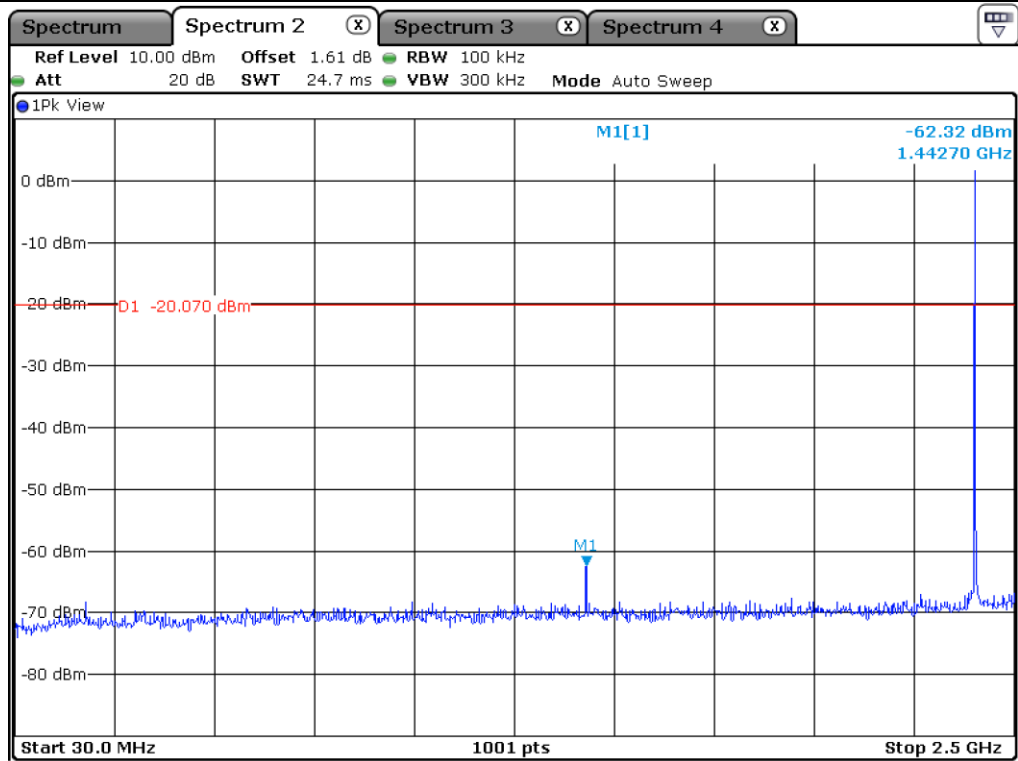




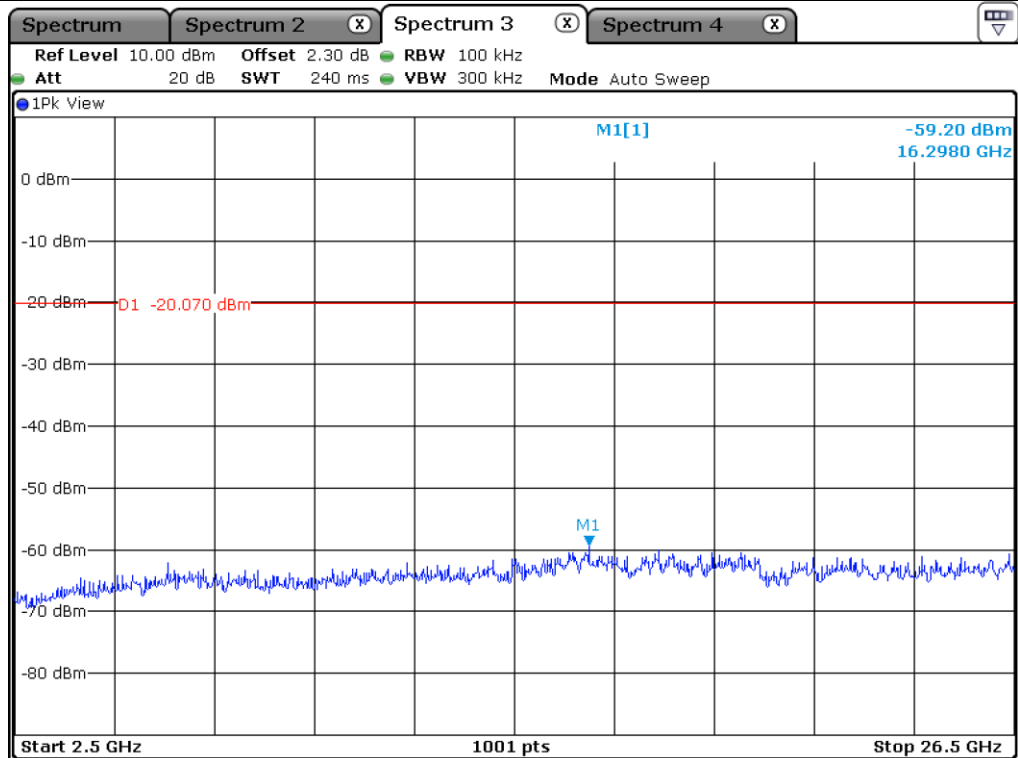
### High Channel



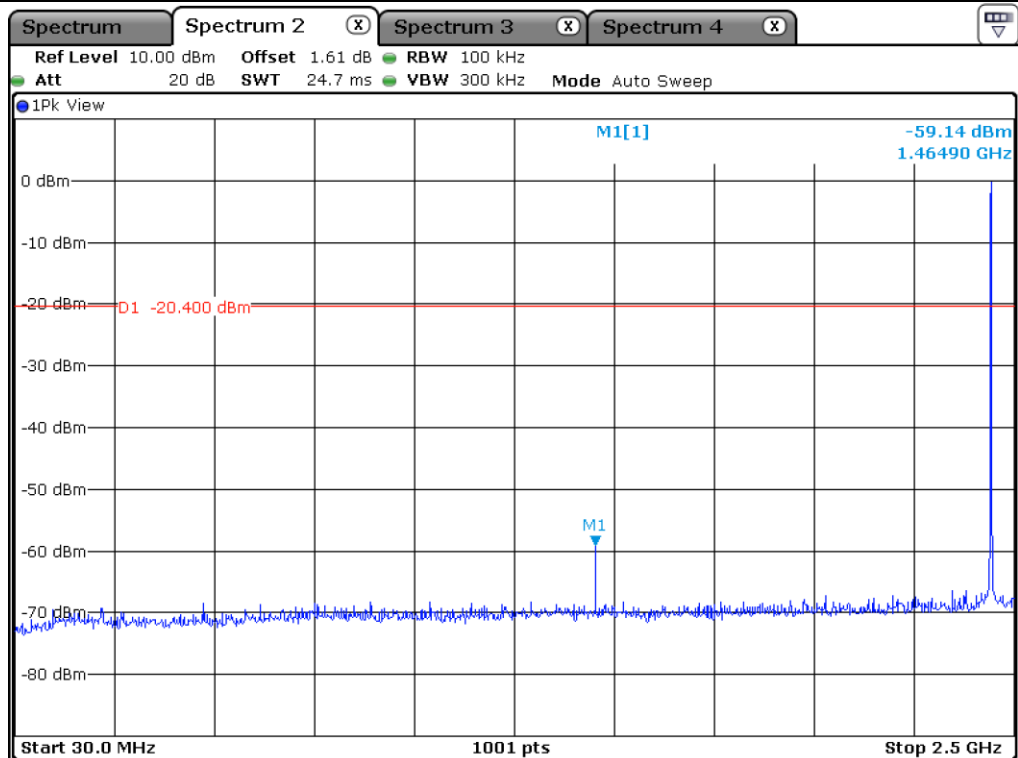
### Hopping Mode



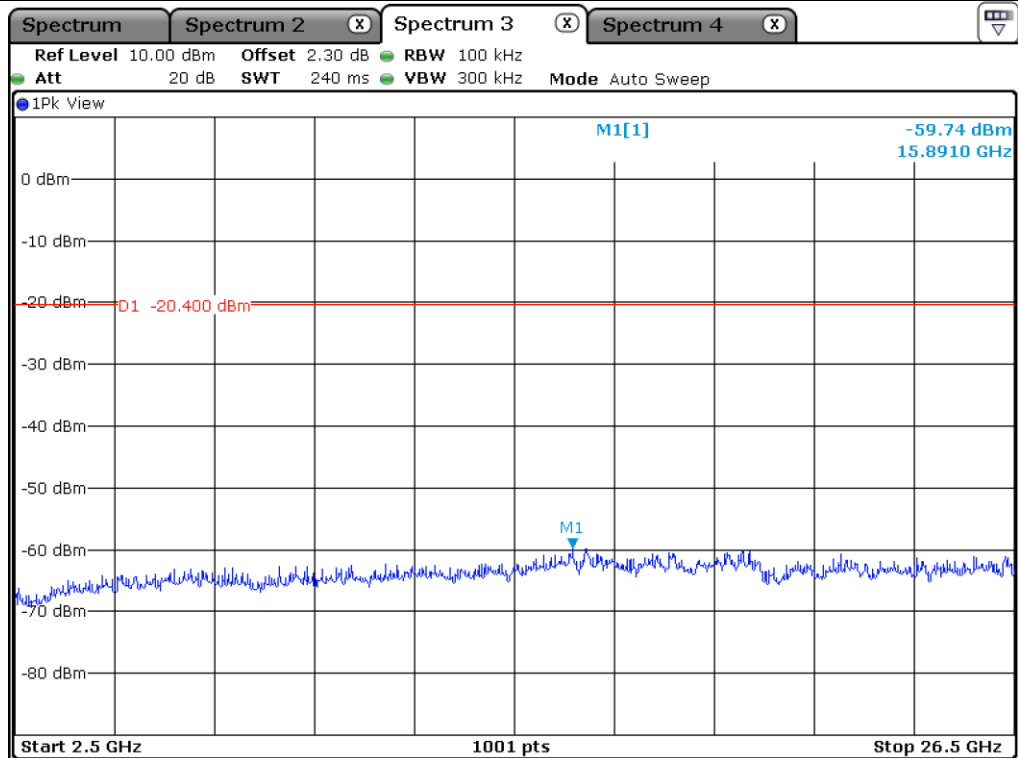
Low Channel



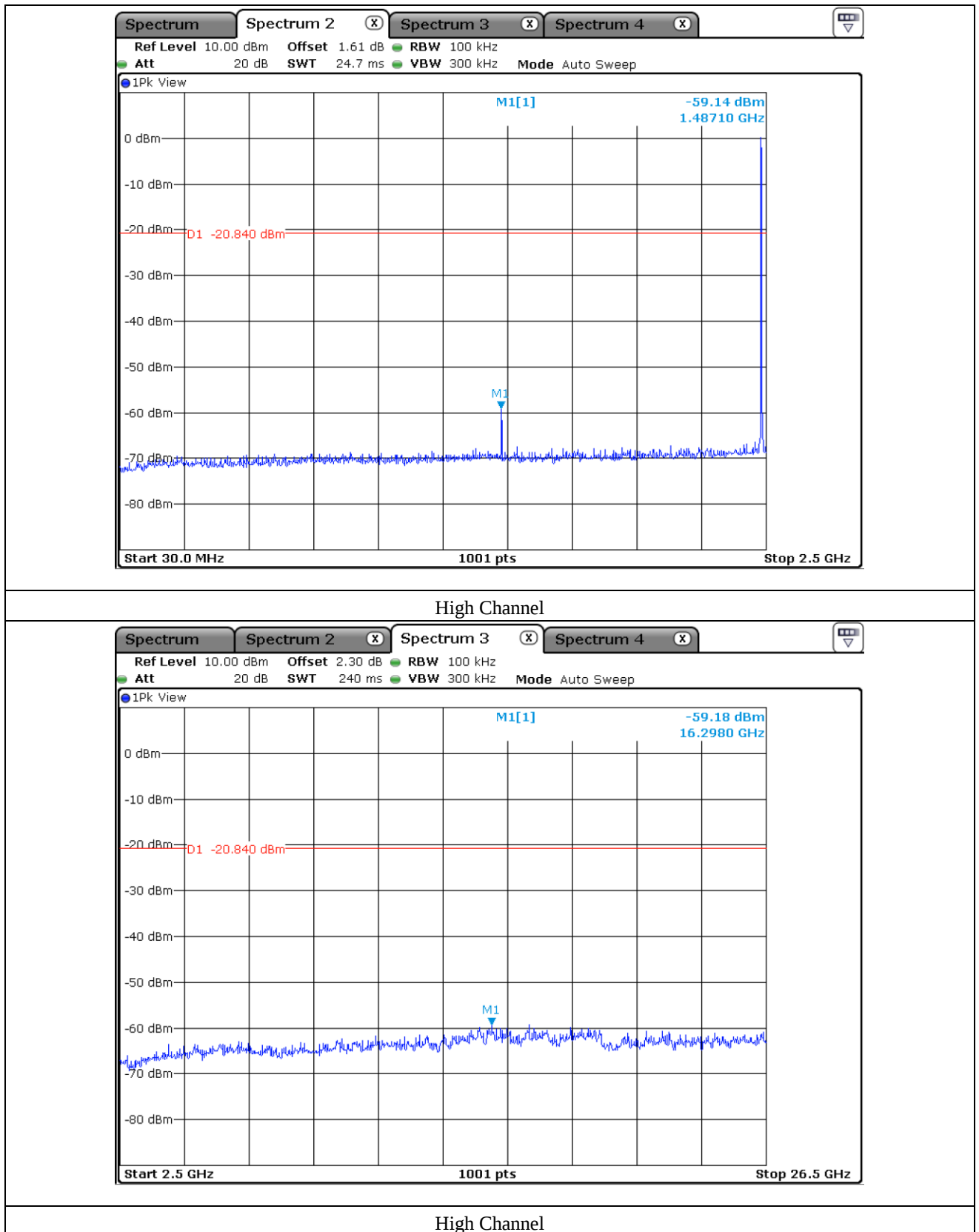
Low Channel

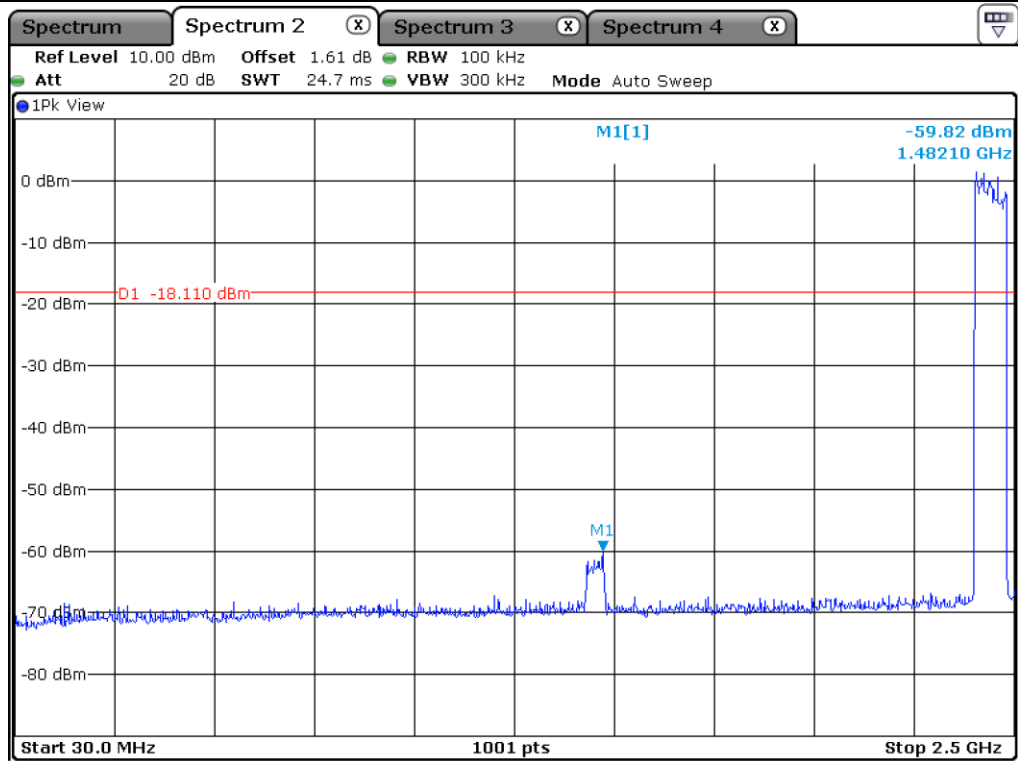


Middle Channel

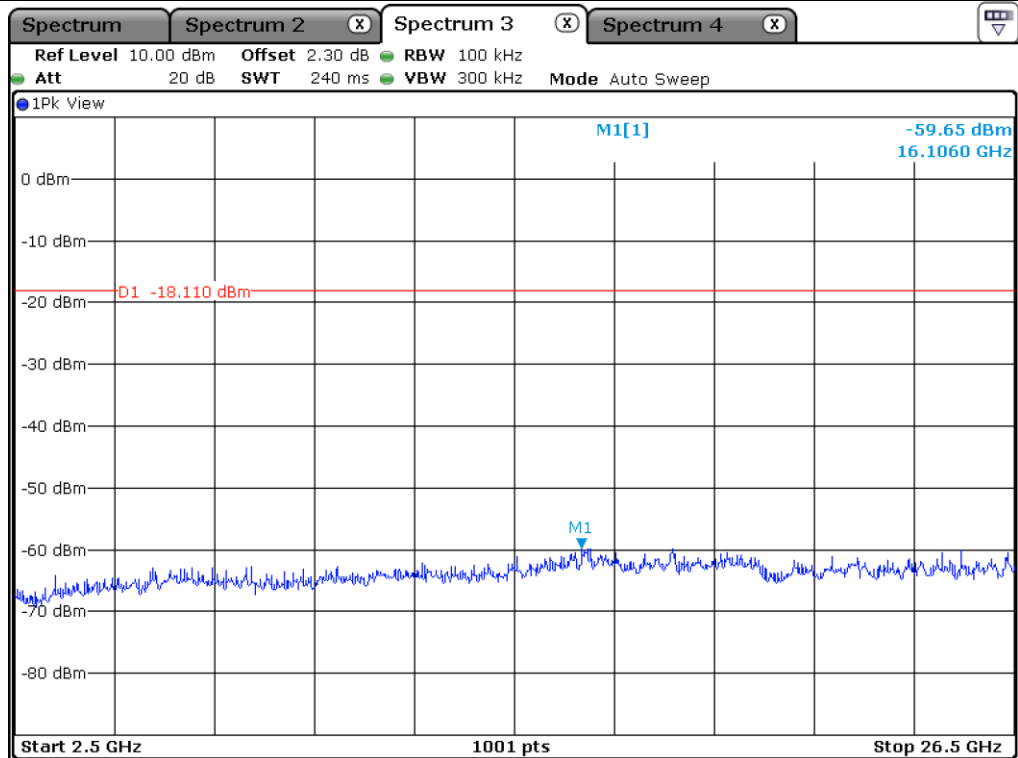


Middle Channel





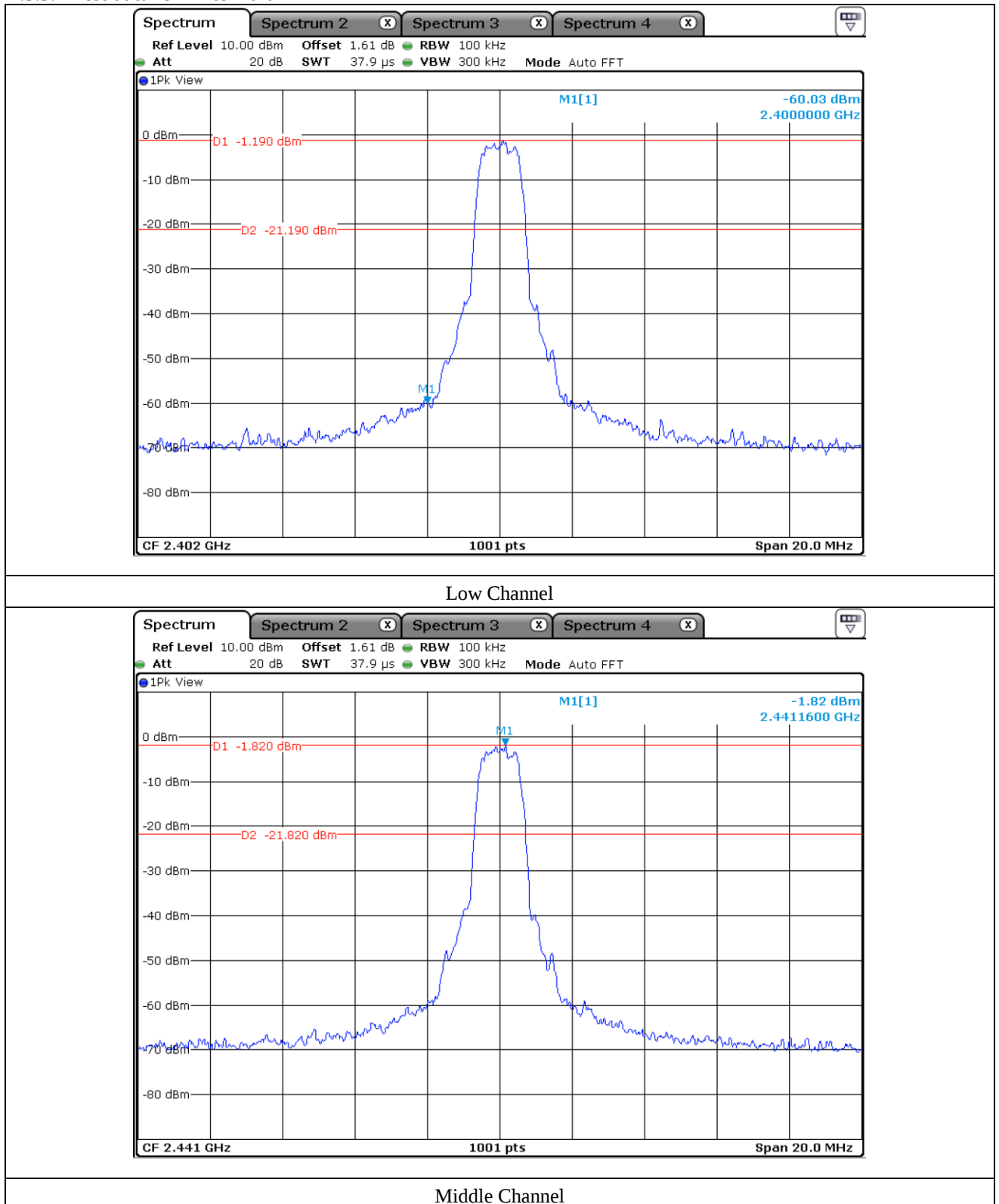
### Hopping Mode

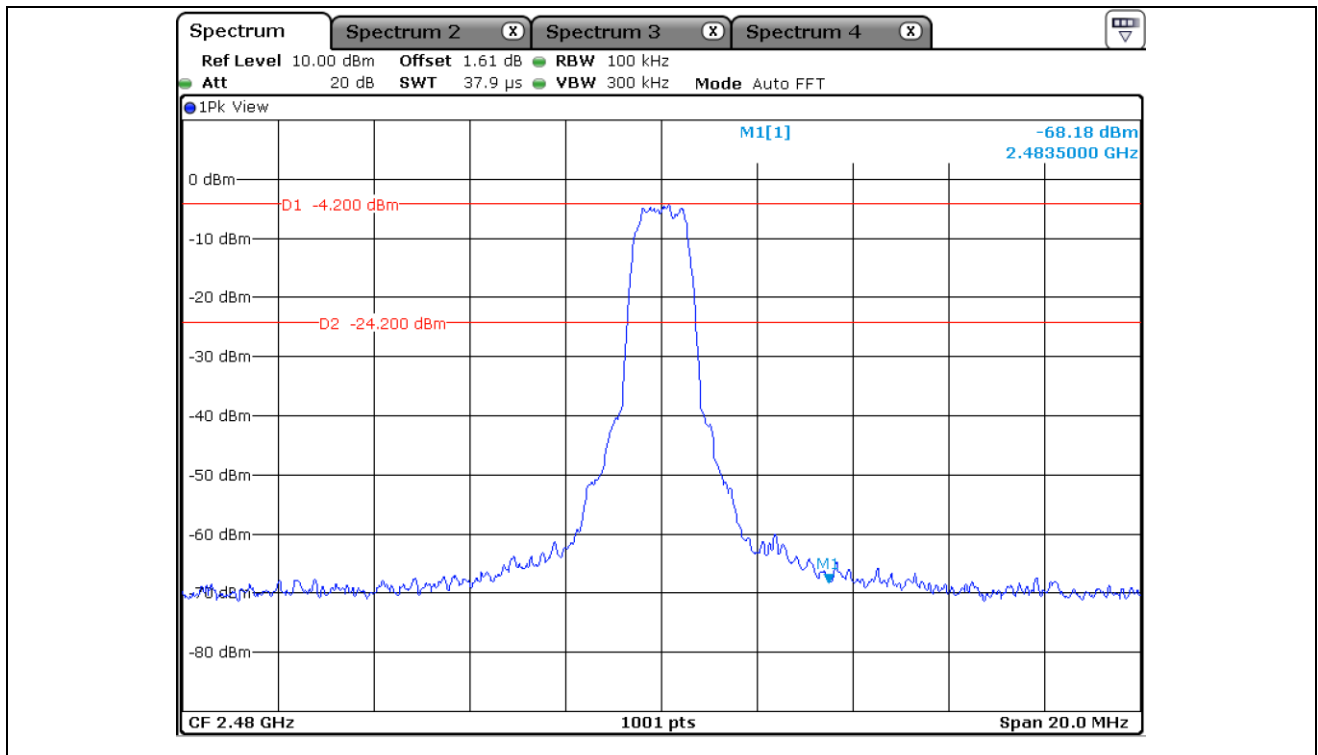


### Hopping Mode

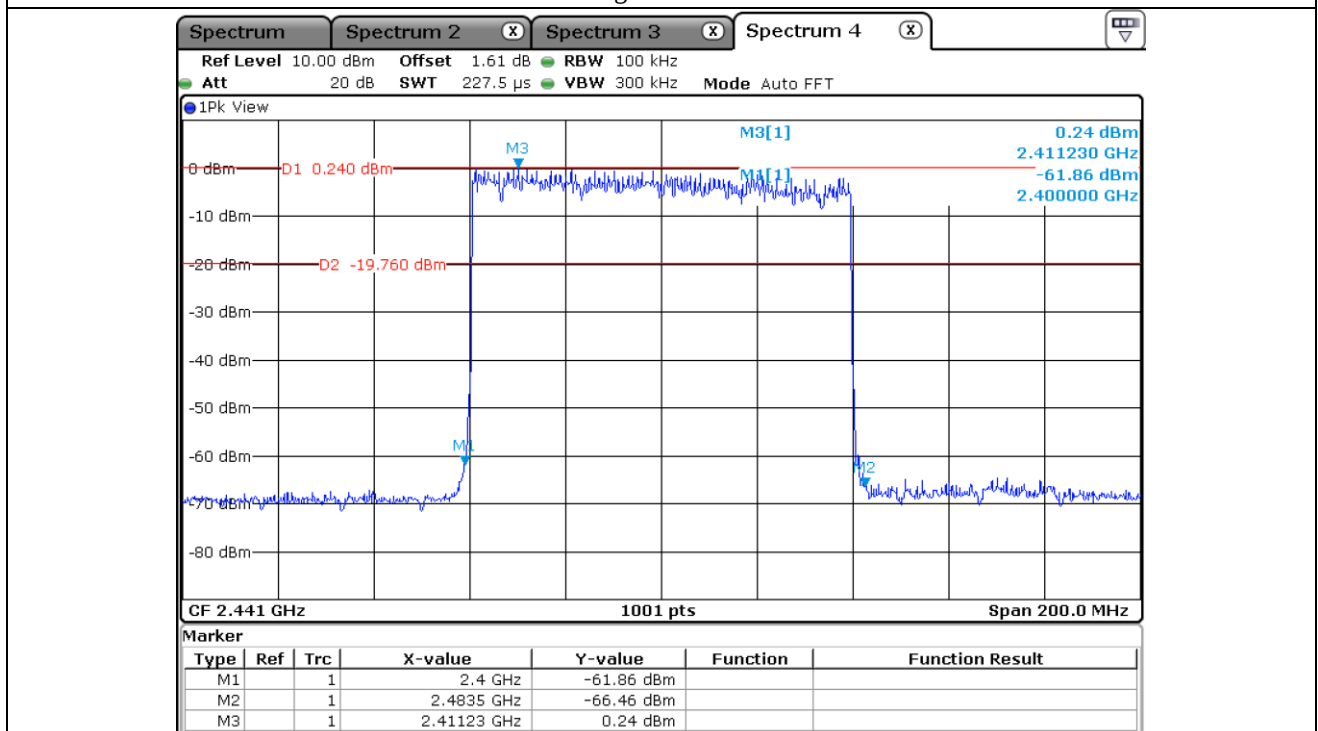
## 12.5.3 Test data for 3 Mbps

### 12.5.3.1 Test data for Antenna 0

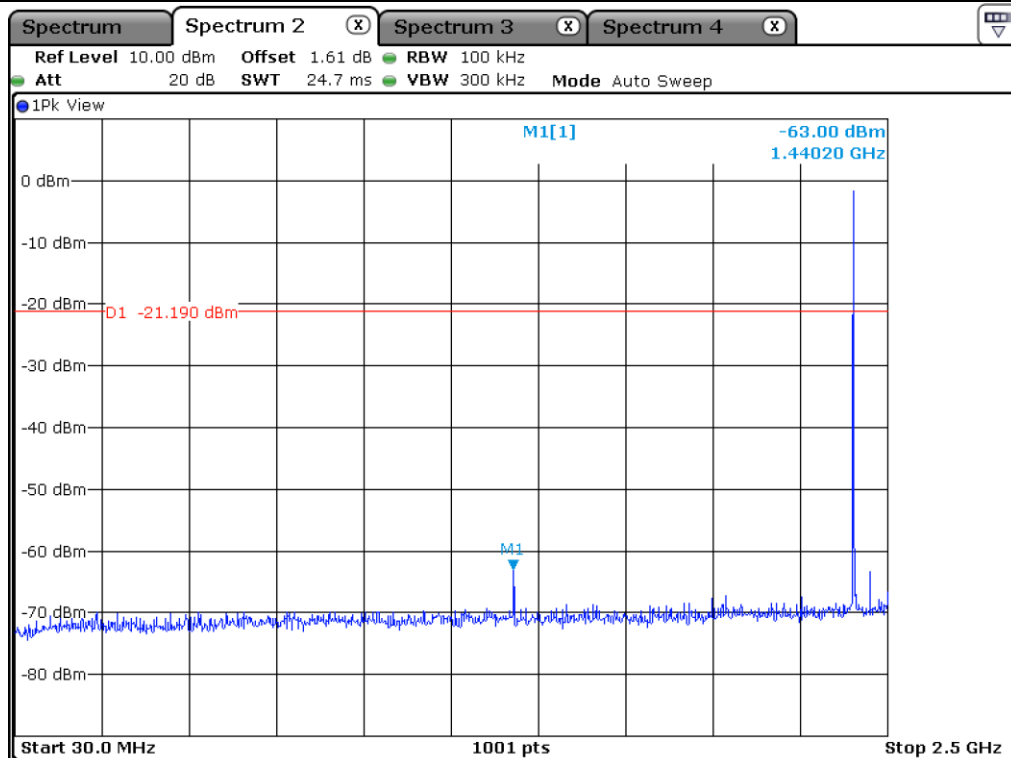




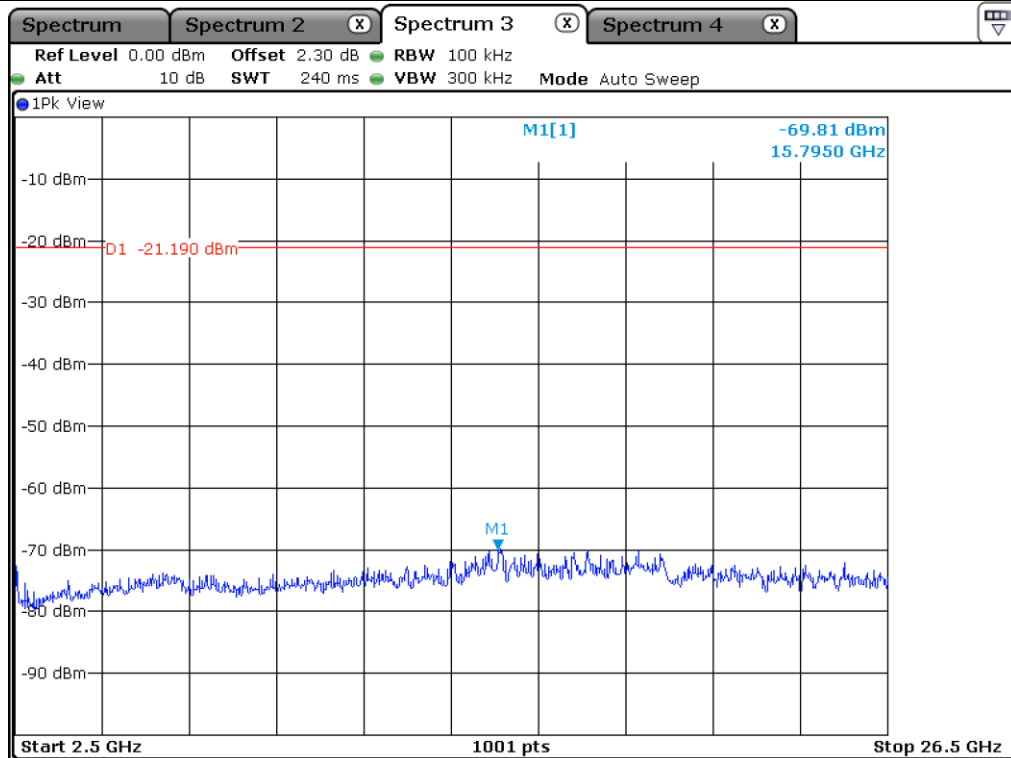
### High Channel



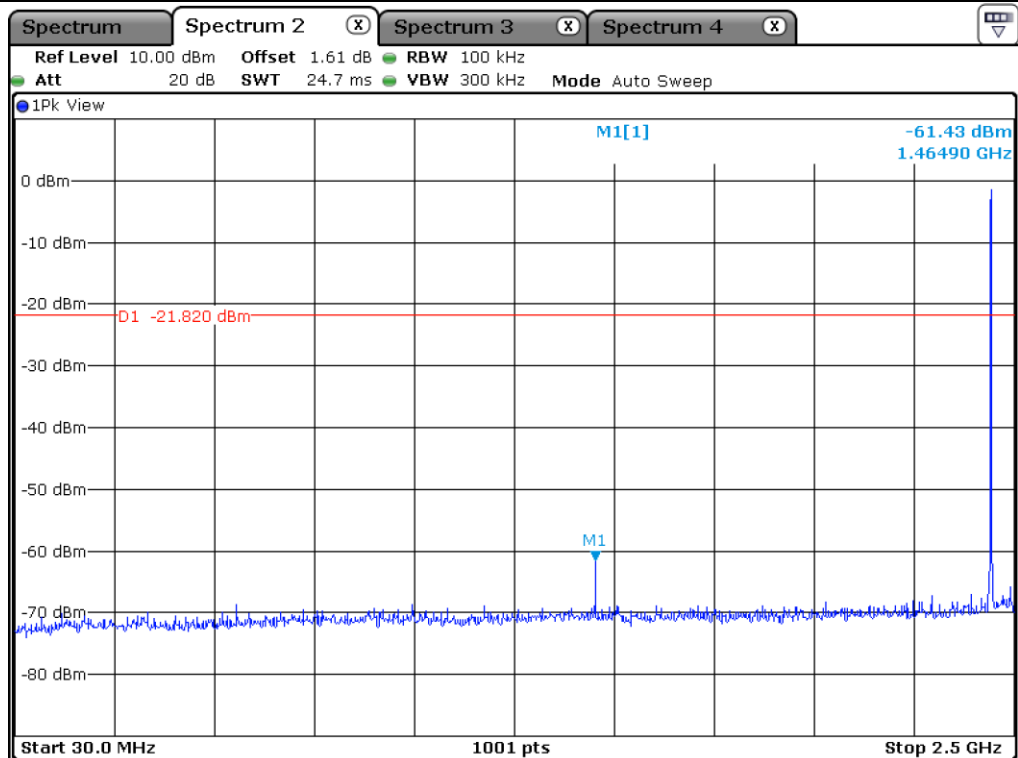
### Hopping Mode



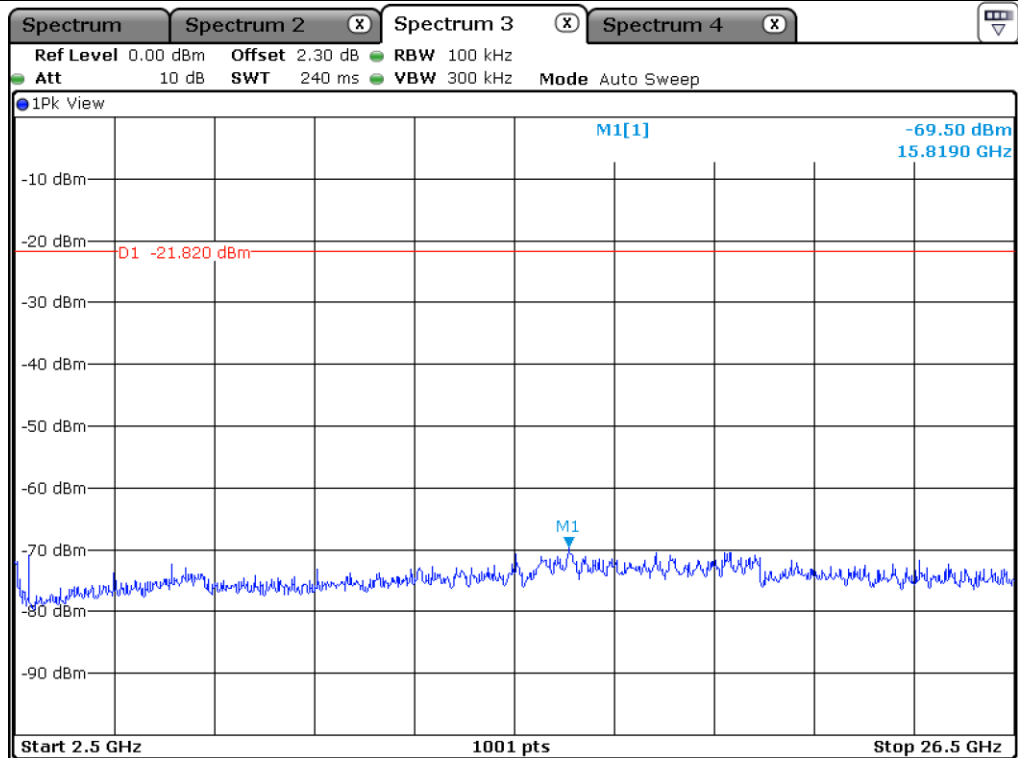
Low Channel



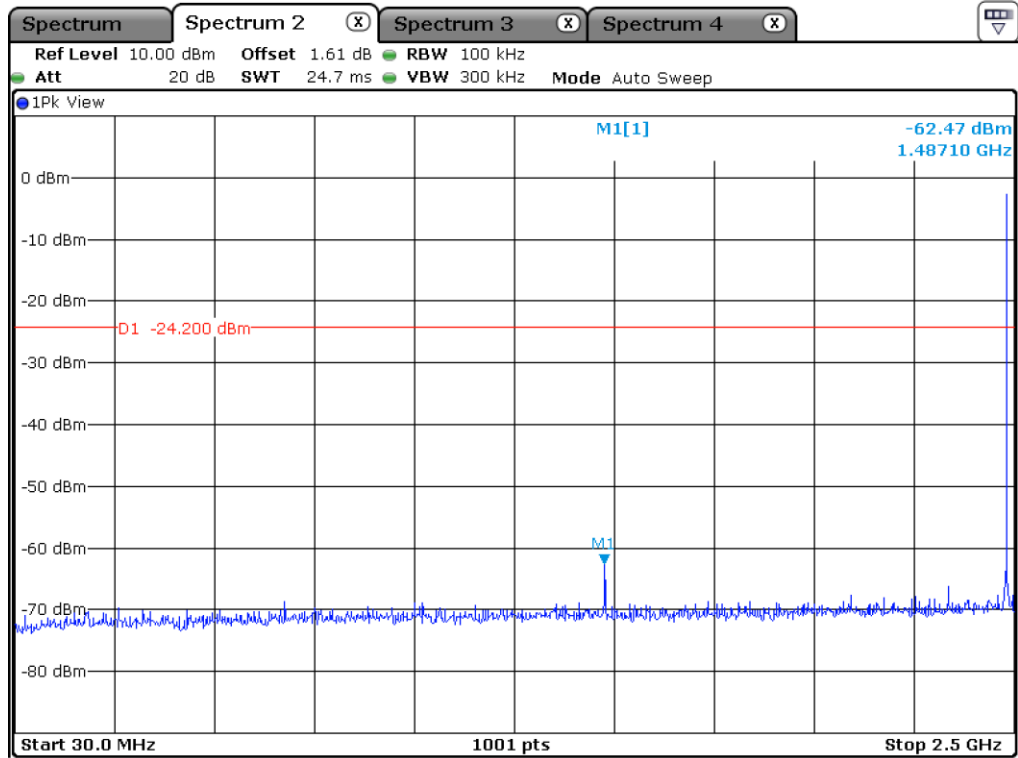
Low Channel



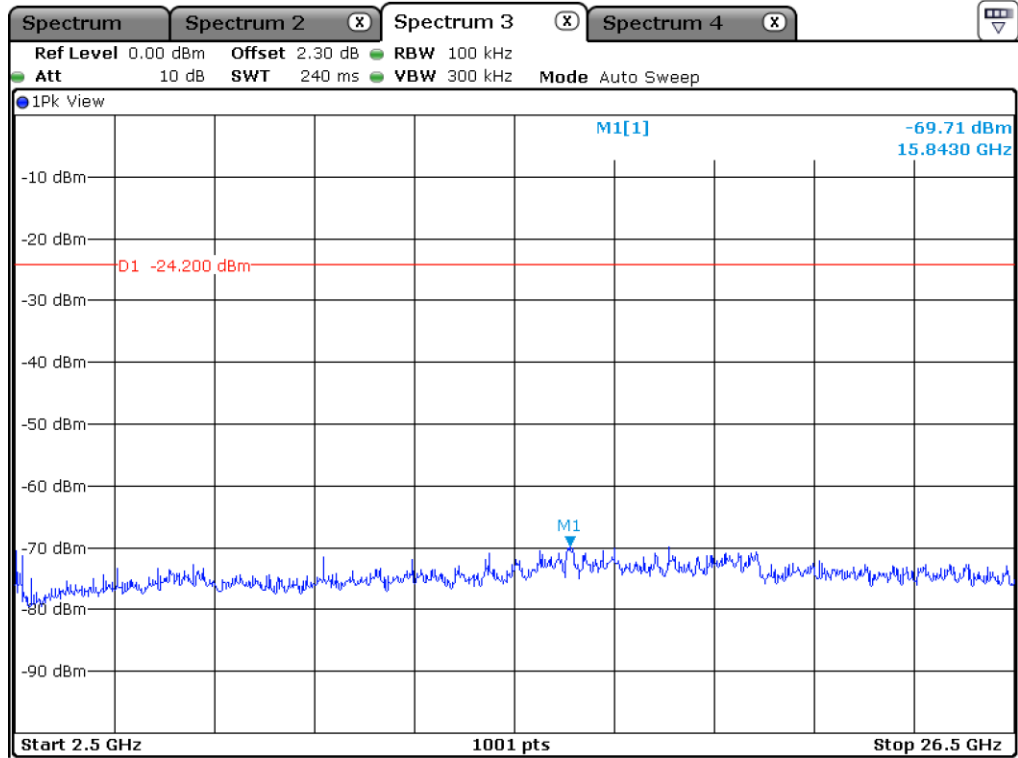
Middle Channel



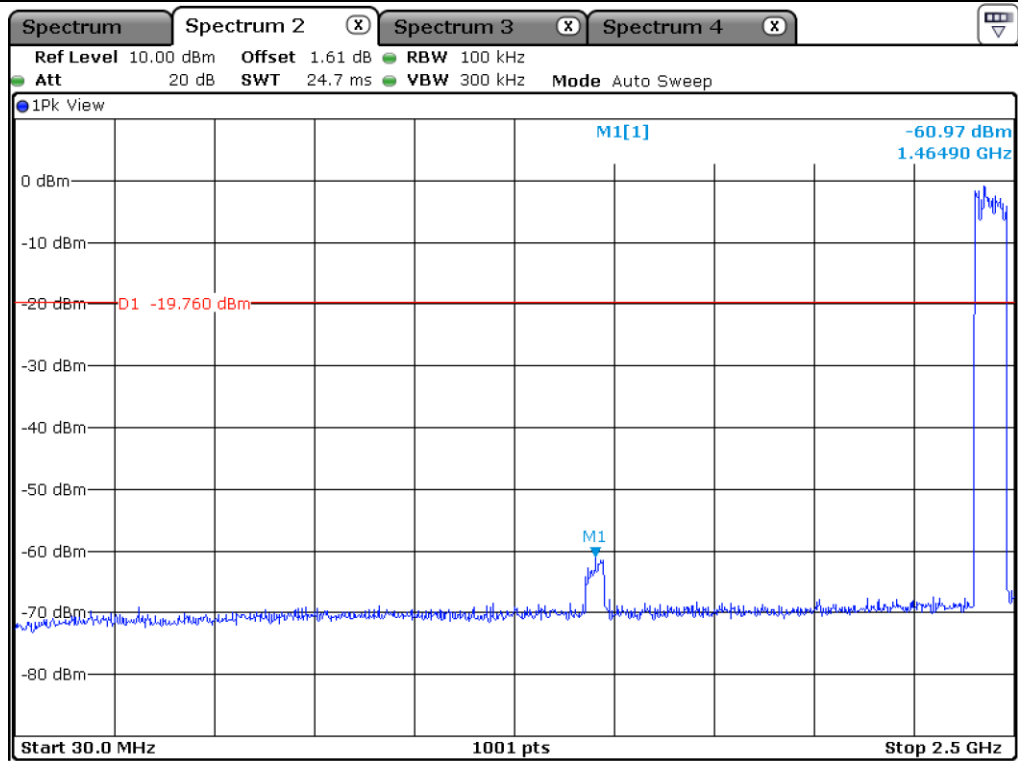
Middle Channel



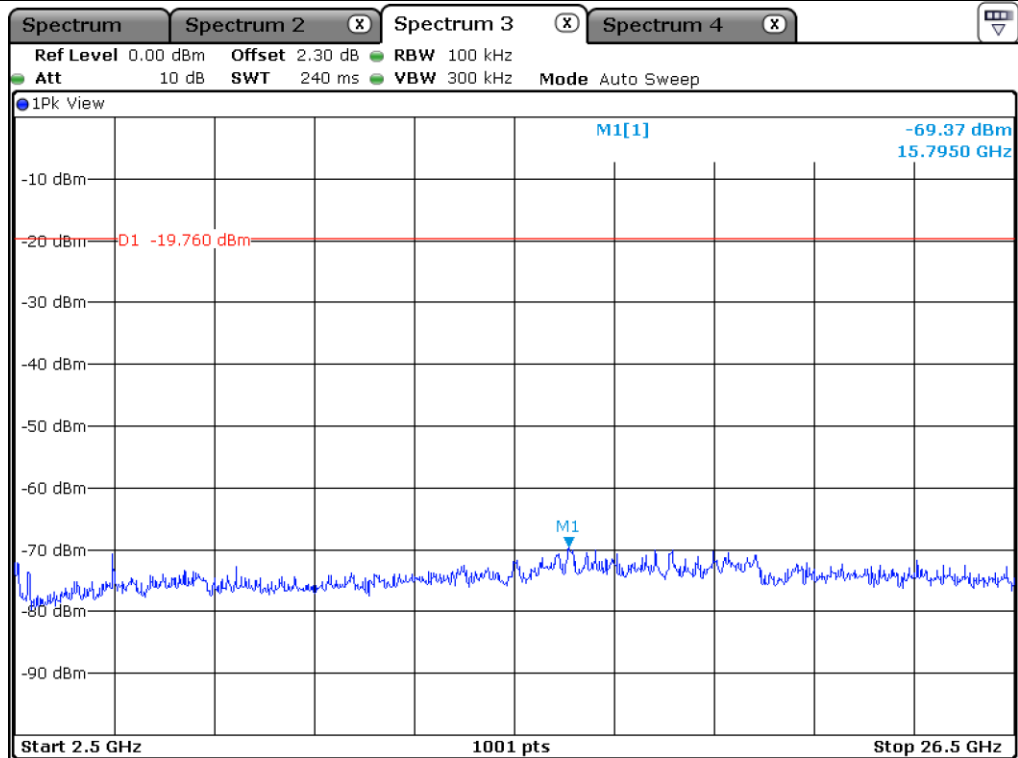
### High Channel



### High Channel

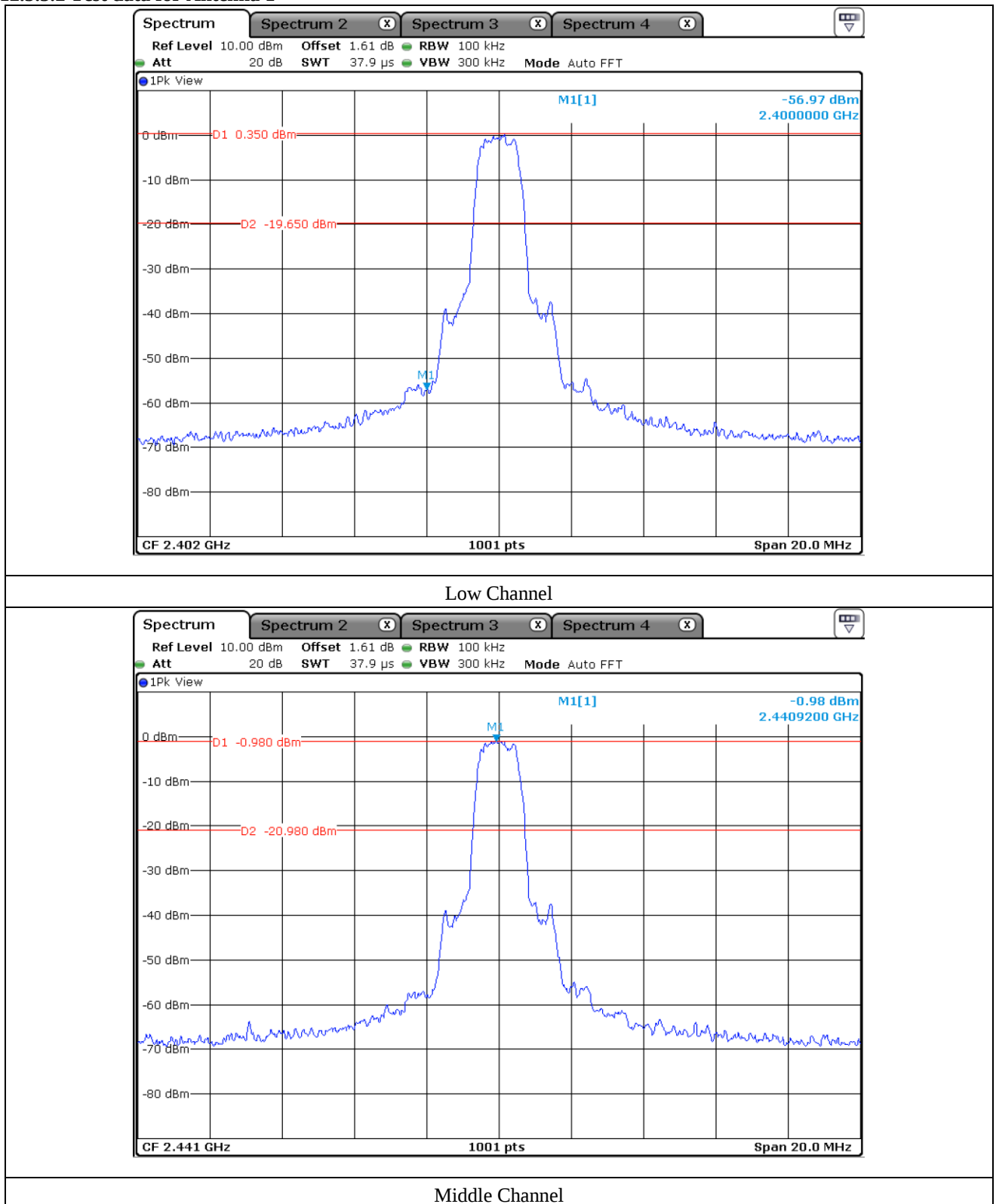


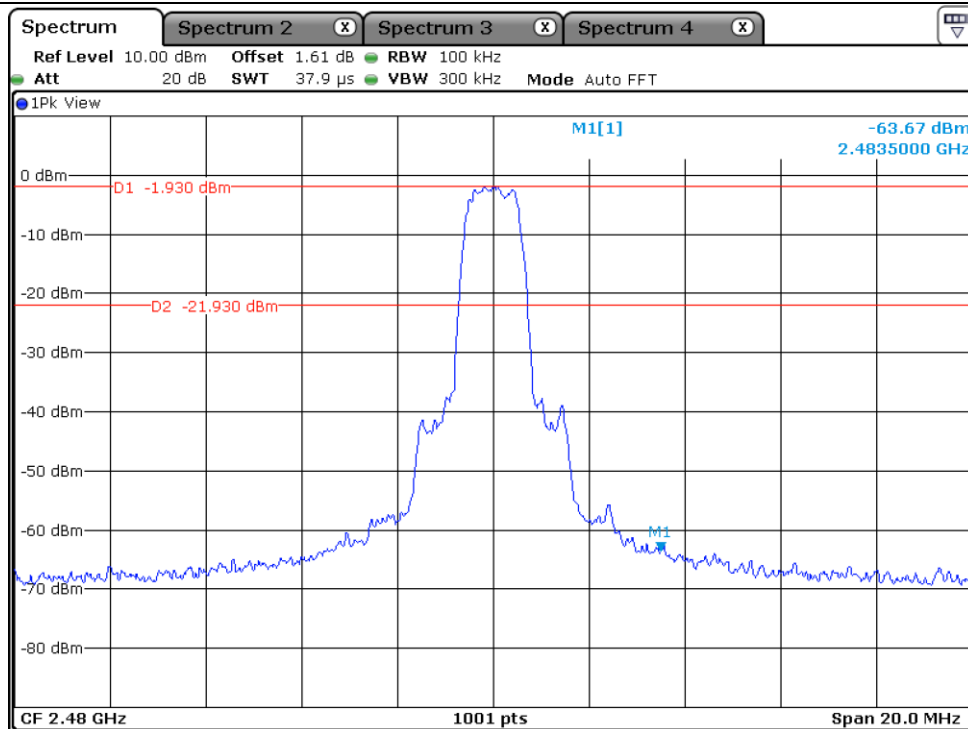
### Hopping Mode



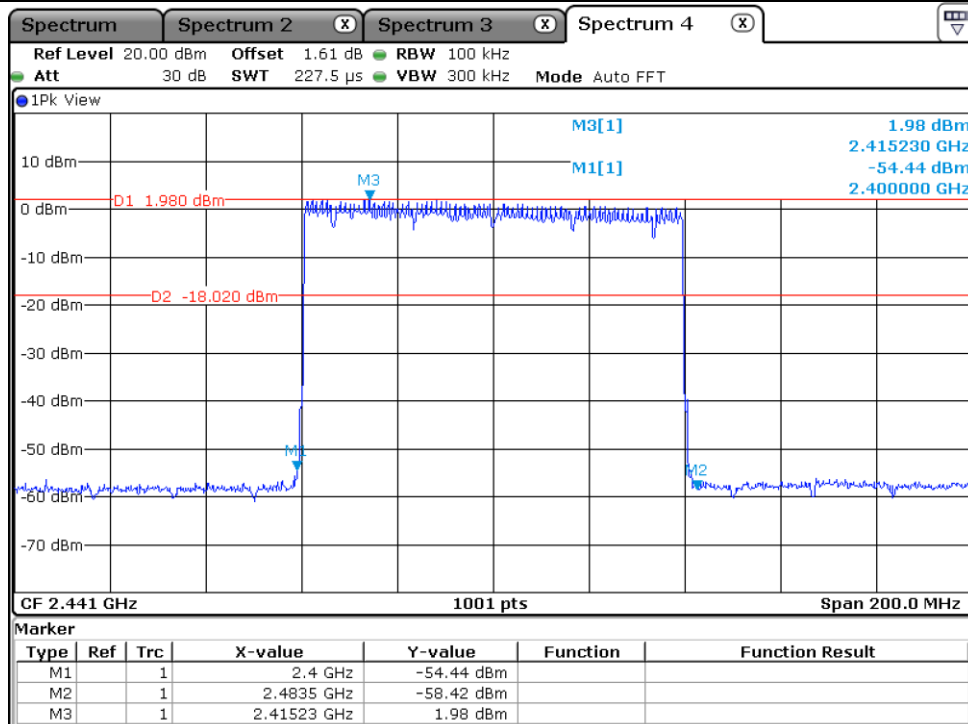
### Hopping Mode

### 12.5.3.2 Test data for Antenna 1

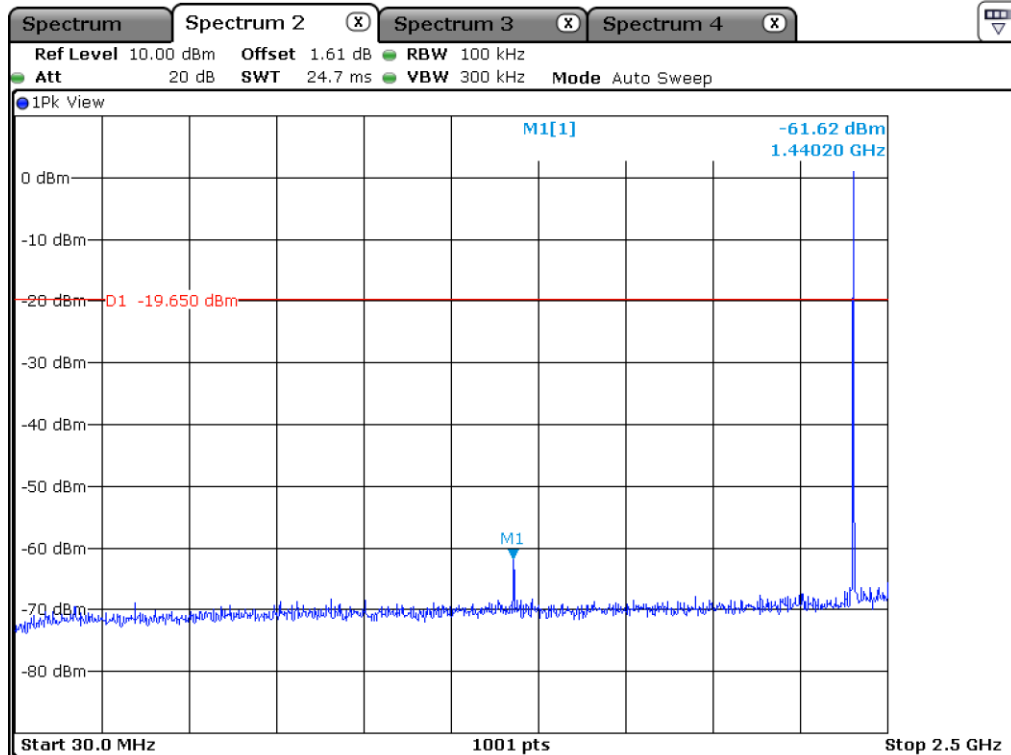




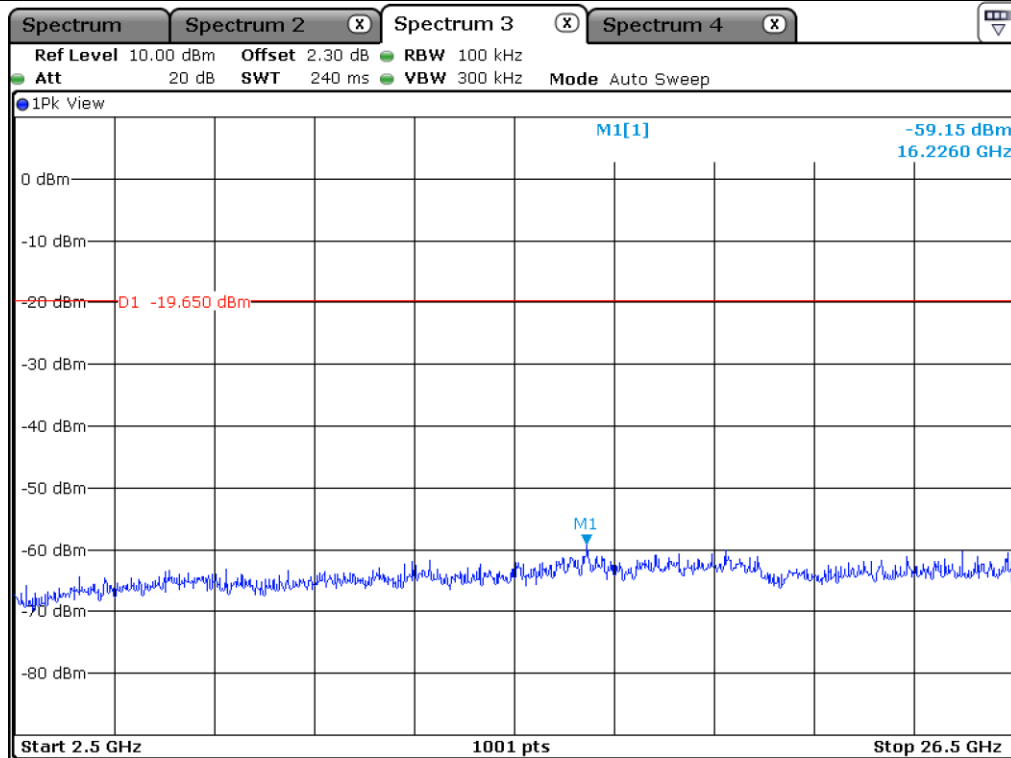
### High Channel



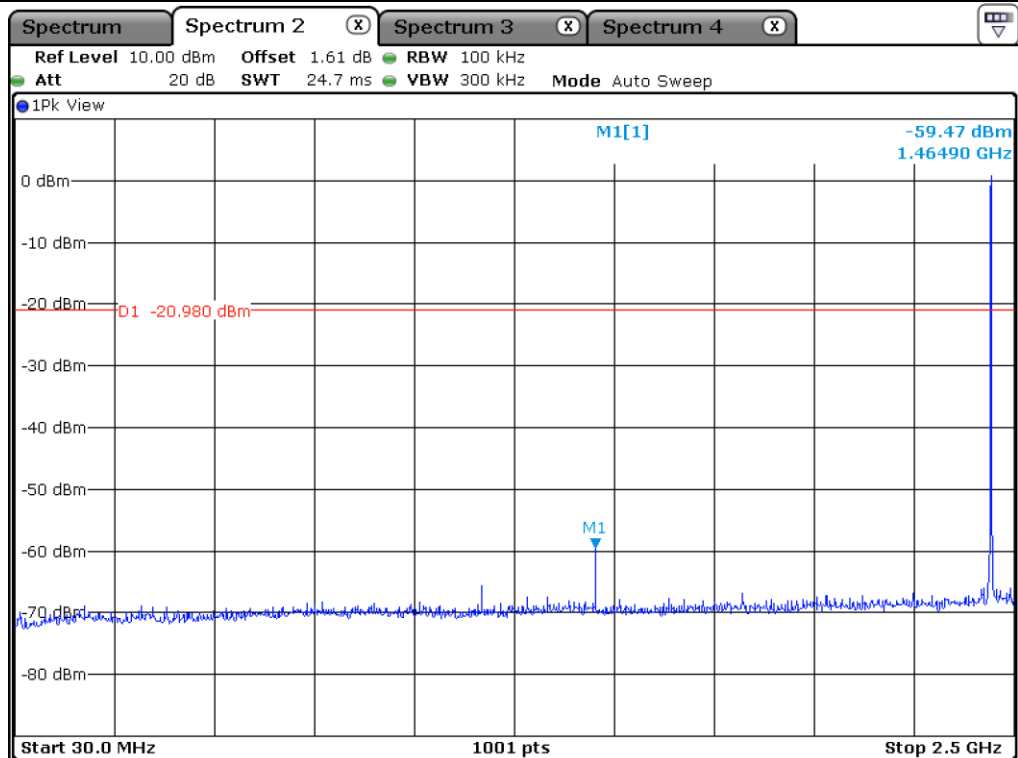
### Hopping Mode



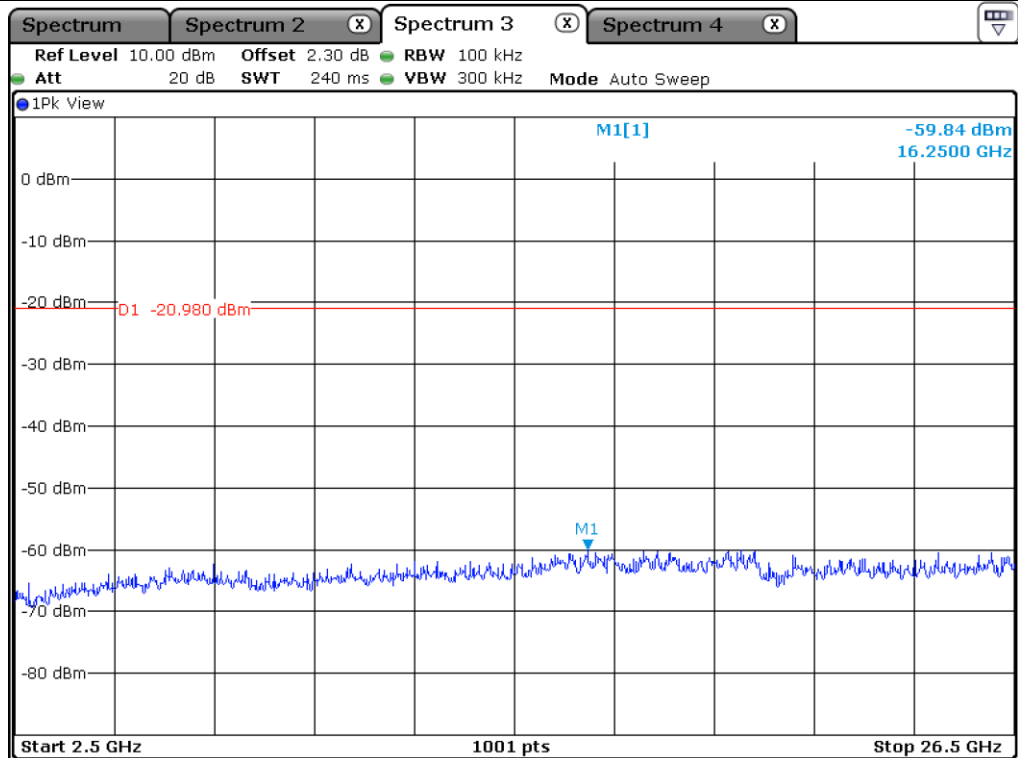
Low Channel



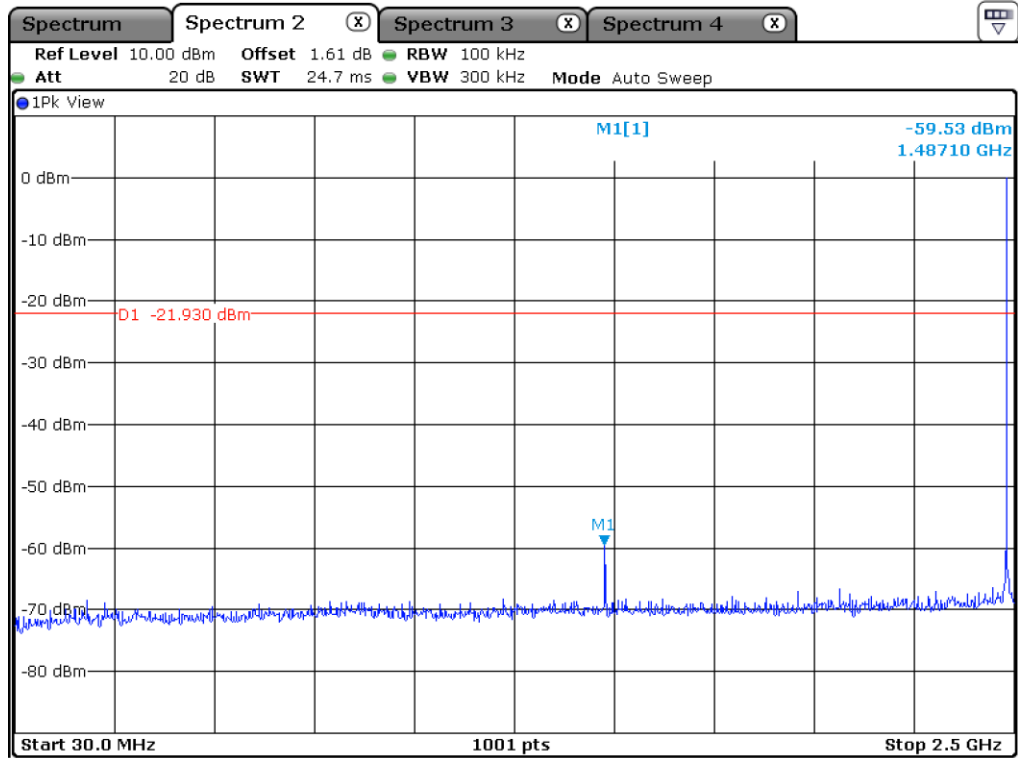
Low Channel



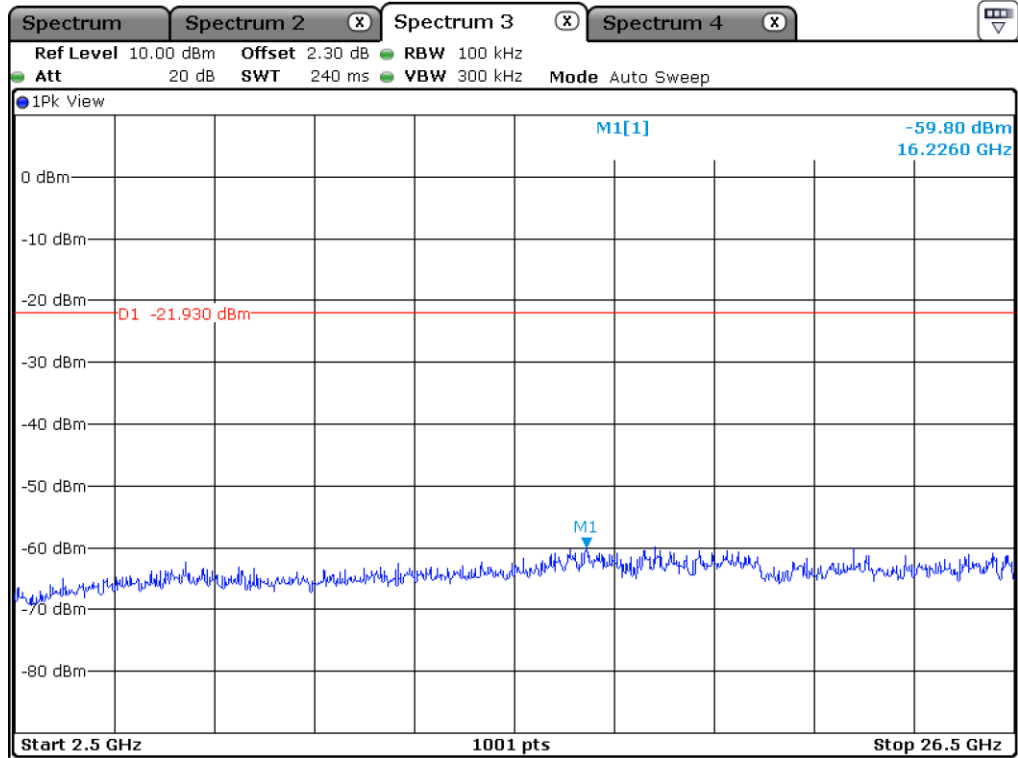
Middle Channel



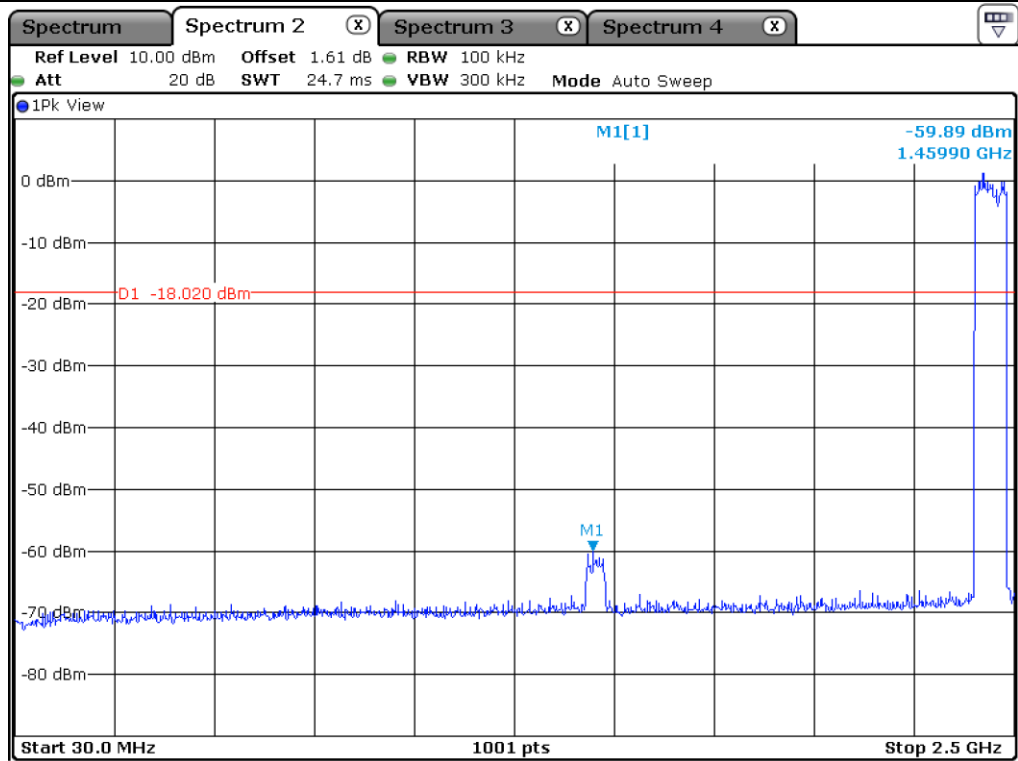
Middle Channel



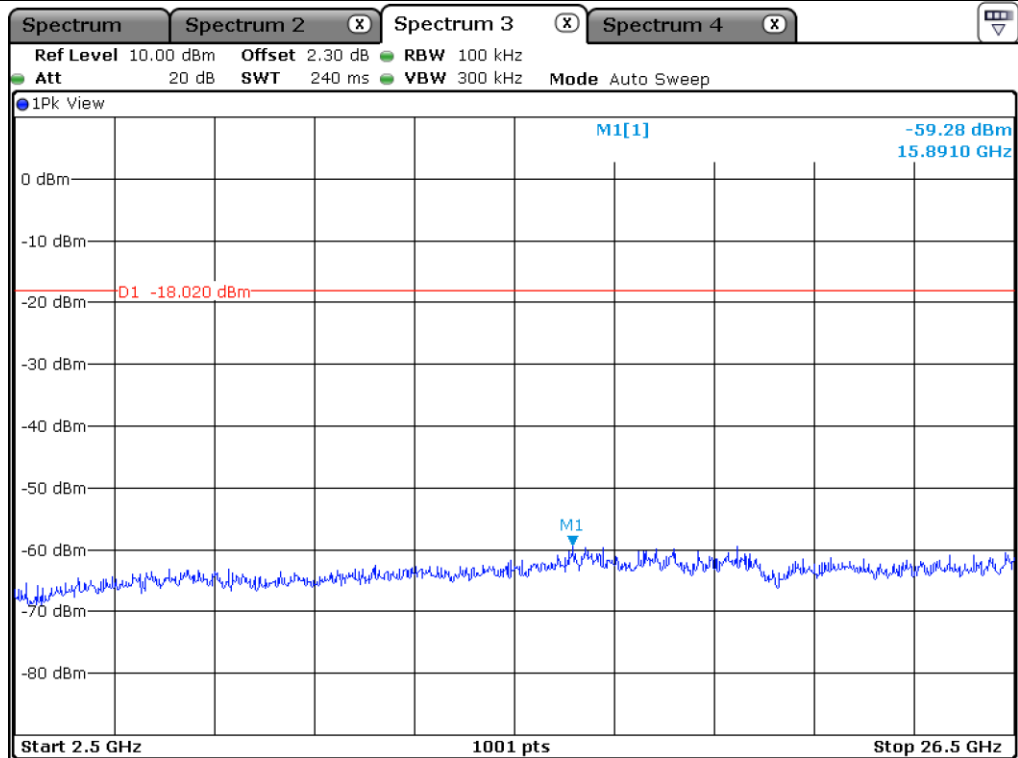
### High Channel



### High Channel



### Hopping Mode



### Hopping Mode

## 12.6 Test data for Transmitting mode radiated emission

### 12.6.1 Radiated Emission which fall in the Restricted Band

#### 12.6.1.1 Test data for 1 Mbps

##### 12.6.1.1.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 77.13 %
- Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 373.177                  | 17.92             | Peak             | H                  | 28.30          | 8.20          | -           | 54.42             | 74.00              | 19.58          |
| 2 342.168                  | 6.92              | Average          | H                  |                |               | 1.13        | 44.55             | 54.00              | 9.45           |
| 2 333.616                  | 18.35             | Peak             | V                  |                |               | -           | 54.85             | 74.00              | 19.15          |
| 2 341.848                  | 6.87              | Average          | V                  |                |               | 1.13        | 44.50             | 54.00              | 9.50           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 487.745                  | 18.45             | Peak             | H                  | 28.70          | 8.23          | -           | 55.38             | 74.00              | 18.62          |
| 2 483.508                  | 6.84              | Average          | H                  |                |               | 1.13        | 44.90             | 54.00              | 9.10           |
| 2 483.953                  | 18.35             | Peak             | V                  |                |               | -           | 55.28             | 74.00              | 18.72          |
| 2 499.992                  | 6.82              | Average          | V                  |                |               | 1.13        | 44.88             | 54.00              | 9.12           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

### 12.6.1.1.2 Test data for Antenna 1

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 77.01 %
- . Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 347.443                  | 18.30             | Peak             | H                  | 28.30          | 8.20          | -           | 54.80             | 74.00              | 19.20          |
| 2 345.844                  | 6.77              | Average          | H                  |                |               | 1.13        | 44.40             | 54.00              | 9.60           |
| 2 340.649                  | 18.12             | Peak             | V                  |                |               | -           | 54.62             | 74.00              | 19.38          |
| 2 342.567                  | 6.91              | Average          | V                  |                |               | 1.13        | 44.54             | 54.00              | 9.46           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 497.503                  | 18.30             | Peak             | H                  | 28.70          | 8.23          | -           | 55.23             | 74.00              | 18.77          |
| 2 489.739                  | 6.54              | Average          | H                  |                |               | 1.13        | 44.60             | 54.00              | 9.40           |
| 2 499.712                  | 18.36             | Peak             | V                  |                |               | -           | 55.29             | 74.00              | 18.71          |
| 2 499.942                  | 6.85              | Average          | V                  |                |               | 1.13        | 44.91             | 54.00              | 9.09           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

## 12.6.1.2 Test data for 2 Mbps

### 12.6.1.2.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 77.13 %
- Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 318.432                  | 18.32             | Peak             | H                  | 28.30          | 8.20          | -           | 54.82             | 74.00              | 19.18          |
| 2 310.360                  | 7.06              | Average          | H                  |                |               | 1.13        | 44.69             | 54.00              | 9.31           |
| 2 386.364                  | 17.93             | Peak             | V                  |                |               | -           | 54.43             | 74.00              | 19.57          |
| 2 346.963                  | 7.03              | Average          | V                  |                |               | 1.13        | 44.66             | 54.00              | 9.34           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 483.953                  | 18.87             | Peak             | H                  | 28.70          | 8.23          | -           | 55.80             | 74.00              | 18.20          |
| 2 483.508                  | 6.76              | Average          | H                  |                |               | 1.13        | 44.82             | 54.00              | 9.18           |
| 2 499.135                  | 18.13             | Peak             | V                  |                |               | -           | 55.06             | 74.00              | 18.94          |
| 2 499.992                  | 6.79              | Average          | V                  |                |               | 1.13        | 44.85             | 54.00              | 9.15           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

### 12.6.1.2.2 Test data for Antenna 1

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 77.01 %
- . Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 351.838                  | 18.07             | Peak             | H                  | 28.30          | 8.20          | -           | 54.57             | 74.00              | 19.43          |
| 2 345.844                  | 6.91              | Average          | H                  |                |               | 1.13        | 44.54             | 54.00              | 9.46           |
| 2 341.848                  | 18.04             | Peak             | V                  |                |               | -           | 54.54             | 74.00              | 19.46          |
| 2 345.045                  | 6.91              | Average          | V                  |                |               | 1.13        | 44.54             | 54.00              | 9.46           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 486.904                  | 18.73             | Peak             | H                  | 28.70          | 8.23          | -           | 55.66             | 74.00              | 18.34          |
| 2 483.607                  | 6.46              | Average          | H                  |                |               | 1.13        | 44.52             | 54.00              | 9.48           |
| 2 499.992                  | 18.42             | Peak             | V                  |                |               | -           | 55.35             | 74.00              | 18.65          |
| 2 499.843                  | 6.66              | Average          | V                  |                |               | 1.13        | 44.72             | 54.00              | 9.28           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

### 12.6.1.3 Test data for 3 Mbps

#### 12.6.1.3.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 77.01 %
- Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 310.919                  | 18.28             | Peak             | H                  | 28.30          | 8.20          | -           | 54.78             | 74.00              | 19.22          |
| 2 336.174                  | 6.84              | Average          | H                  |                |               | 1.13        | 44.47             | 54.00              | 9.53           |
| 2 386.603                  | 18.09             | Peak             | V                  |                |               | --          | 54.59             | 74.00              | 19.41          |
| 2 312.038                  | 6.83              | Average          | V                  |                |               | 1.13        | 44.46             | 54.00              | 9.54           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 499.118                  | 18.55             | Peak             | H                  | 28.70          | 8.23          | -           | 55.48             | 74.00              | 18.52          |
| 2 483.508                  | 6.78              | Average          | H                  |                |               | 1.13        | 44.84             | 54.00              | 9.16           |
| 2 490.448                  | 19.03             | Peak             | V                  |                |               | -           | 55.96             | 74.00              | 18.04          |
| 2 499.975                  | 6.78              | Average          | V                  |                |               | 1.13        | 44.84             | 54.00              | 9.16           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

### 12.6.1.3.2 Test data for Antenna 1

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 77.01 %
- . Result : PASSED

| Frequency<br>(MHz)         | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel  |                   |                  |                    |                |               |             |                   |                    |                |
| 2 318.751                  | 17.85             | Peak             | H                  | 28.30          | 8.20          | -           | 54.35             | 74.00              | 19.65          |
| 2 329.860                  | 6.92              | Average          | H                  |                |               | 1.13        | 44.55             | 54.00              | 9.45           |
| 2 328.661                  | 18.29             | Peak             | V                  |                |               | -           | 54.79             | 74.00              | 19.21          |
| 2 340.410                  | 6.94              | Average          | V                  |                |               | 1.13        | 44.57             | 54.00              | 9.43           |
| Test Data for High Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 2 483.920                  | 18.25             | Peak             | H                  | 28.70          | 8.23          | -           | 55.18             | 74.00              | 18.82          |
| 2 498.723                  | 6.48              | Average          | H                  |                |               | 1.13        | 44.54             | 54.00              | 9.46           |
| 2 496.184                  | 17.96             | Peak             | V                  |                |               | -           | 54.89             | 74.00              | 19.11          |
| 2 499.942                  | 6.73              | Average          | V                  |                |               | 1.13        | 44.79             | 54.00              | 9.21           |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

## 12.6.2 Spurious & Harmonic Radiated Emission above 1 GHz

### 12.6.2.1 Test data for 1 Mbps

#### 12.6.2.1.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 77.13 %
- Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 13.83             | Peak             | H                  | 33.40          | 11.21         | -           | 58.44             | 74.00              | 15.56          |
|                              | 3.30              | Average          | H                  |                |               | 1.13        | 49.04             | 54.00              | 4.96           |
|                              | 13.56             | Peak             | V                  |                |               | -           | 58.17             | 74.00              | 15.83          |
|                              | 4.04              | Average          | V                  |                |               | 1.13        | 49.78             | 54.00              | 4.22           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 13.95             | Peak             | H                  | 33.50          | 11.23         | -           | 58.68             | 74.00              | 15.32          |
|                              | 3.89              | Average          | H                  |                |               | 1.13        | 49.75             | 54.00              | 4.25           |
|                              | 13.14             | Peak             | V                  |                |               | -           | 57.87             | 74.00              | 16.13          |
|                              | 3.60              | Average          | V                  |                |               | 1.13        | 49.46             | 54.00              | 4.54           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.90             | Peak             | H                  | 33.30          | 11.25         | -           | 58.45             | 74.00              | 15.55          |
|                              | 3.95              | Average          | H                  |                |               | 1.13        | 49.63             | 54.00              | 4.37           |
|                              | 14.04             | Peak             | V                  |                |               | -           | 58.59             | 74.00              | 15.41          |
|                              | 3.54              | Average          | V                  |                |               | 1.13        | 49.22             | 54.00              | 4.78           |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

### 12.6.2.1.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 77.01 %
- Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 13.28             | Peak             | H                  | 33.40          | 11.21         | -           | 57.89             | 74.00              | 16.11          |
|                              | 3.54              | Average          | H                  |                |               | 1.13        | 49.28             | 54.00              | 4.72           |
|                              | 13.18             | Peak             | V                  |                |               | -           | 57.79             | 74.00              | 16.21          |
|                              | 3.98              | Average          | V                  |                |               | 1.13        | 49.72             | 54.00              | 4.28           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 13.60             | Peak             | H                  | 33.50          | 11.23         | -           | 58.33             | 74.00              | 15.67          |
|                              | 3.26              | Average          | H                  |                |               | 1.13        | 49.12             | 54.00              | 4.88           |
|                              | 13.54             | Peak             | V                  |                |               | -           | 58.27             | 74.00              | 15.73          |
|                              | 3.11              | Average          | V                  |                |               | 1.13        | 48.97             | 54.00              | 5.03           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.41             | Peak             | H                  | 33.30          | 11.25         | -           | 57.96             | 74.00              | 16.04          |
|                              | 3.37              | Average          | H                  |                |               | 1.13        | 49.05             | 54.00              | 4.95           |
|                              | 13.73             | Peak             | V                  |                |               | -           | 58.28             | 74.00              | 15.72          |
|                              | 3.62              | Average          | V                  |                |               | 1.13        | 49.30             | 54.00              | 4.70           |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

## 12.6.2.2 Test data for 2 Mbps

### 12.6.2.2.1 Test data for Antenna 0

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : 77.13 %
- . Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 13.78             | Peak             | H                  | 33.40          | 11.21         | -           | 58.39             | 74.00              | 15.61          |
|                              | 3.71              | Average          | H                  |                |               | 1.13        | 49.45             | 54.00              | 4.55           |
|                              | 13.66             | Peak             | V                  |                |               | -           | 58.27             | 74.00              | 15.73          |
|                              | 3.12              | Average          | V                  |                |               | 1.13        | 48.86             | 54.00              | 5.14           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 13.75             | Peak             | H                  | 33.50          | 11.23         | -           | 58.48             | 74.00              | 15.52          |
|                              | 3.21              | Average          | H                  |                |               | 1.13        | 49.07             | 54.00              | 4.93           |
|                              | 13.19             | Peak             | V                  |                |               | -           | 57.92             | 74.00              | 16.08          |
|                              | 3.76              | Average          | V                  |                |               | 1.13        | 49.62             | 54.00              | 4.38           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.42             | Peak             | H                  | 33.30          | 11.25         | -           | 57.97             | 74.00              | 16.03          |
|                              | 3.18              | Average          | H                  |                |               | 1.13        | 48.86             | 54.00              | 5.14           |
|                              | 13.67             | Peak             | V                  |                |               | -           | 58.22             | 74.00              | 15.78          |
|                              | 3.26              | Average          | V                  |                |               | 1.13        | 48.94             | 54.00              | 5.06           |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

### 12.6.2.2.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 77.01 %
- Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 14.09             | Peak             | H                  | 33.40          | 11.21         | -           | 58.70             | 74.00              | 15.30          |
|                              | 3.96              | Average          | H                  |                |               | 1.13        | 49.70             | 54.00              | 4.30           |
|                              | 13.82             | Peak             | V                  |                |               | -           | 58.43             | 74.00              | 15.57          |
|                              | 3.49              | Average          | V                  |                |               | 1.13        | 49.23             | 54.00              | 4.77           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 13.44             | Peak             | H                  | 33.50          | 11.23         | -           | 58.17             | 74.00              | 15.83          |
|                              | 3.62              | Average          | H                  |                |               | 1.13        | 49.48             | 54.00              | 4.52           |
|                              | 12.90             | Peak             | V                  |                |               | -           | 57.63             | 74.00              | 16.37          |
|                              | 3.33              | Average          | V                  |                |               | 1.13        | 49.19             | 54.00              | 4.81           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.27             | Peak             | H                  | 33.30          | 11.25         | -           | 57.82             | 74.00              | 16.18          |
|                              | 3.46              | Average          | H                  |                |               | 1.13        | 49.14             | 54.00              | 4.86           |
|                              | 13.14             | Peak             | V                  |                |               | -           | 57.69             | 74.00              | 16.31          |
|                              | 3.05              | Average          | V                  |                |               | 1.13        | 48.73             | 54.00              | 5.27           |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

### 12.6.2.3 Test data for 3 Mbps

#### 12.6.2.3.1 Test data for Antenna 0

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : 77.01 %
- . Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 14.01             | Peak             | H                  | 33.40          | 11.21         | -           | 58.62             | 74.00              | 15.38          |
|                              | 3.02              | Average          | H                  |                |               | 1.13        | 48.76             | 54.00              | 5.24           |
|                              | 13.65             | Peak             | V                  |                |               | -           | 58.26             | 74.00              | 15.74          |
|                              | 3.58              | Average          | V                  |                |               | 1.13        | 49.32             | 54.00              | 4.68           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 14.00             | Peak             | H                  | 33.50          | 11.23         | -           | 58.73             | 74.00              | 15.27          |
|                              | 3.71              | Average          | H                  |                |               | 1.13        | 49.57             | 54.00              | 4.43           |
|                              | 13.35             | Peak             | V                  |                |               | -           | 58.08             | 74.00              | 15.92          |
|                              | 3.29              | Average          | V                  |                |               | 1.13        | 49.15             | 54.00              | 4.85           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.48             | Peak             | H                  | 33.30          | 11.25         | -           | 58.03             | 74.00              | 15.97          |
|                              | 3.69              | Average          | H                  |                |               | 1.13        | 49.37             | 54.00              | 4.63           |
|                              | 13.56             | Peak             | V                  |                |               | -           | 58.11             | 74.00              | 15.89          |
|                              | 3.52              | Average          | V                  |                |               | 1.13        | 49.20             | 54.00              | 4.80           |

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

### 12.6.2.3.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,  
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band  
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 77.01 %
- Result : PASSED

| Frequency<br>(MHz)           | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | C.F<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|-------------------|--------------------|----------------|
| Test Data for Low Channel    |                   |                  |                    |                |               |             |                   |                    |                |
| 4 804.00                     | 13.16             | Peak             | H                  | 33.40          | 11.21         | -           | 57.77             | 74.00              | 16.23          |
|                              | 3.78              | Average          | H                  |                |               | 1.13        | 49.52             | 54.00              | 4.48           |
|                              | 13.24             | Peak             | V                  |                |               | -           | 57.85             | 74.00              | 16.15          |
|                              | 3.25              | Average          | V                  |                |               | 1.13        | 48.99             | 54.00              | 5.01           |
| Test Data for Middle Channel |                   |                  |                    |                |               |             |                   |                    |                |
| 4 882.00                     | 13.46             | Peak             | H                  | 33.50          | 11.23         | -           | 58.19             | 74.00              | 15.81          |
|                              | 3.16              | Average          | H                  |                |               | 1.13        | 49.02             | 54.00              | 4.98           |
|                              | 13.20             | Peak             | V                  |                |               | -           | 57.93             | 74.00              | 16.07          |
|                              | 3.48              | Average          | V                  |                |               | 1.13        | 49.34             | 54.00              | 4.66           |
| Test Data for High Channel   |                   |                  |                    |                |               |             |                   |                    |                |
| 4 960.00                     | 13.55             | Peak             | H                  | 33.30          | 11.25         | -           | 58.10             | 74.00              | 15.90          |
|                              | 3.81              | Average          | H                  |                |               | 1.13        | 49.49             | 54.00              | 4.51           |
|                              | 13.26             | Peak             | V                  |                |               | -           | 57.81             | 74.00              | 16.19          |
|                              | 3.59              | Average          | V                  |                |               | 1.13        | 49.27             | 54.00              | 4.73           |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$

## 13. RADIATED EMISSION TEST

### 13.1 Operating environment

Temperature : 23 °C  
Relative humidity : 45 % R.H.

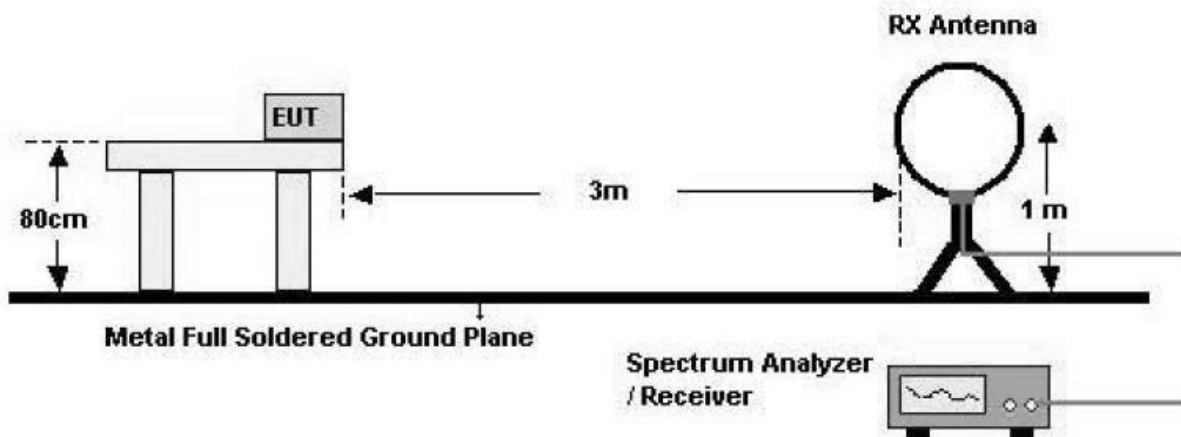
### 13.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

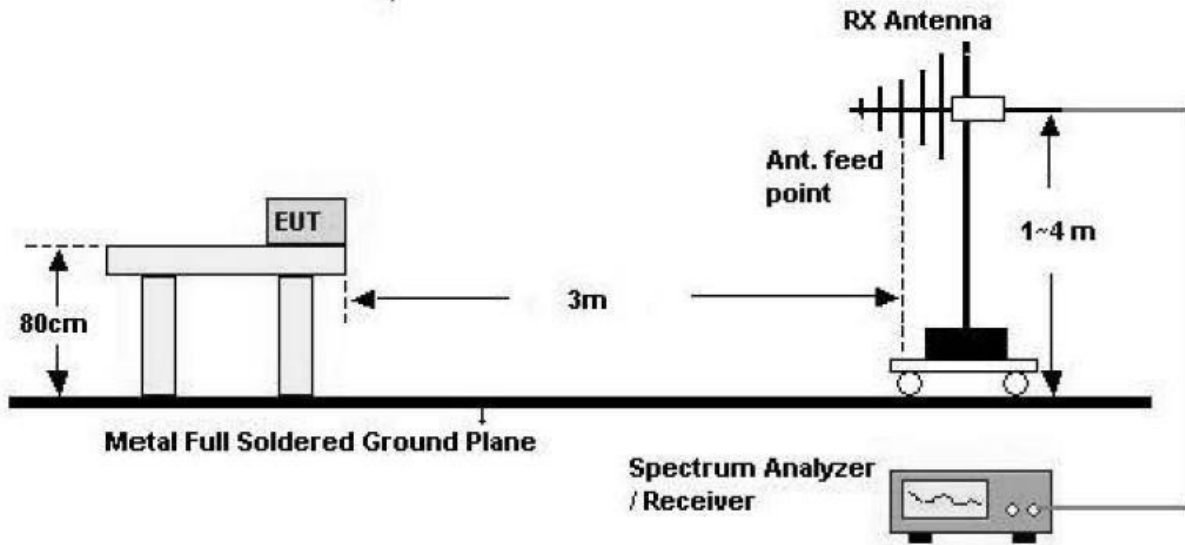
The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

#### - Test Configuration

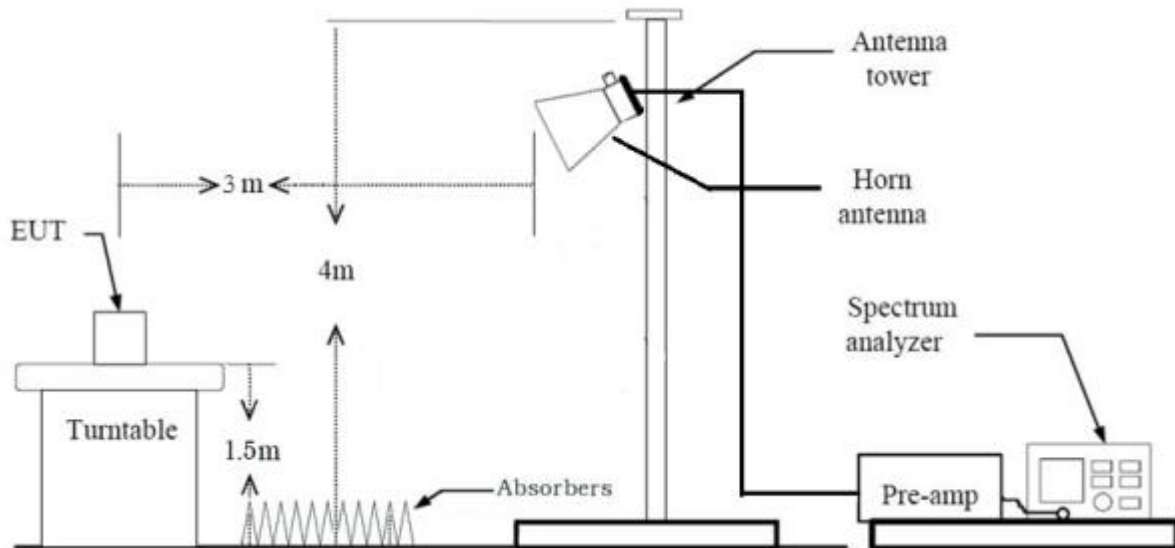
##### 1. Below 30 MHz



2. 30 MHz - 1 GHz



3. Above 1 GHz



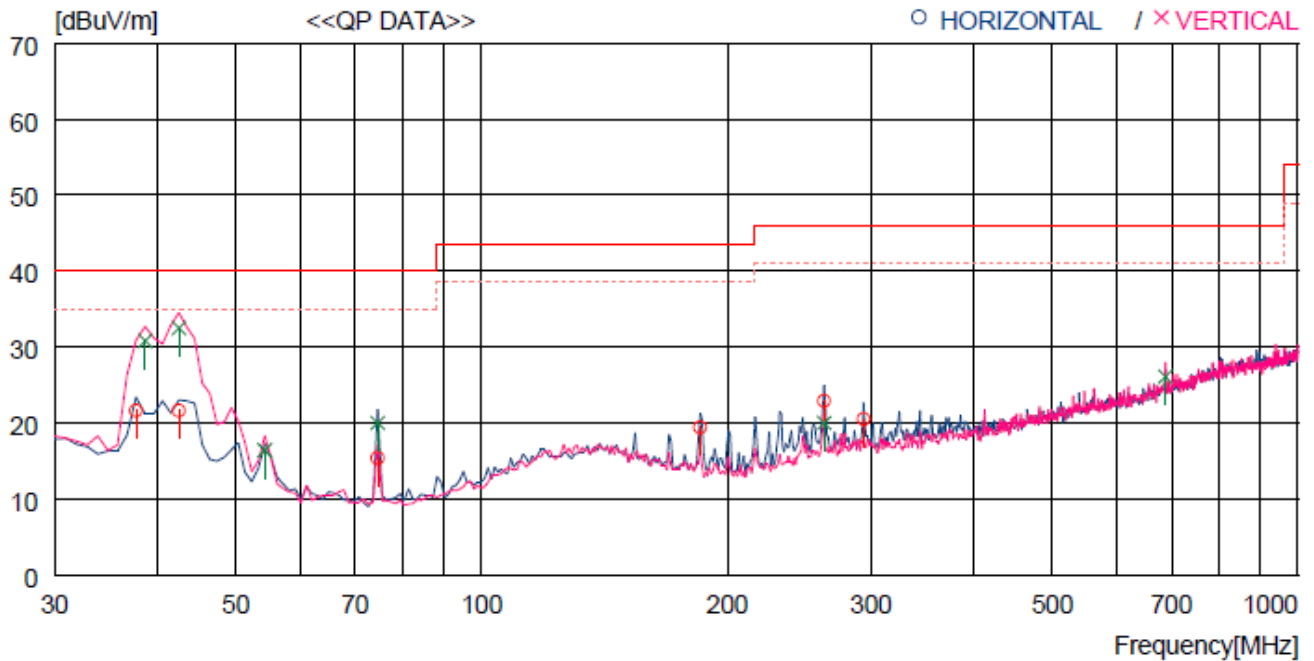
**13.3 Test Date**

January 11, 2021 ~ January 14, 2021

### 13.4 Test data for 30 MHz ~ 1 000 MHz

#### 13.4.1 Test data for Bluetooth 1

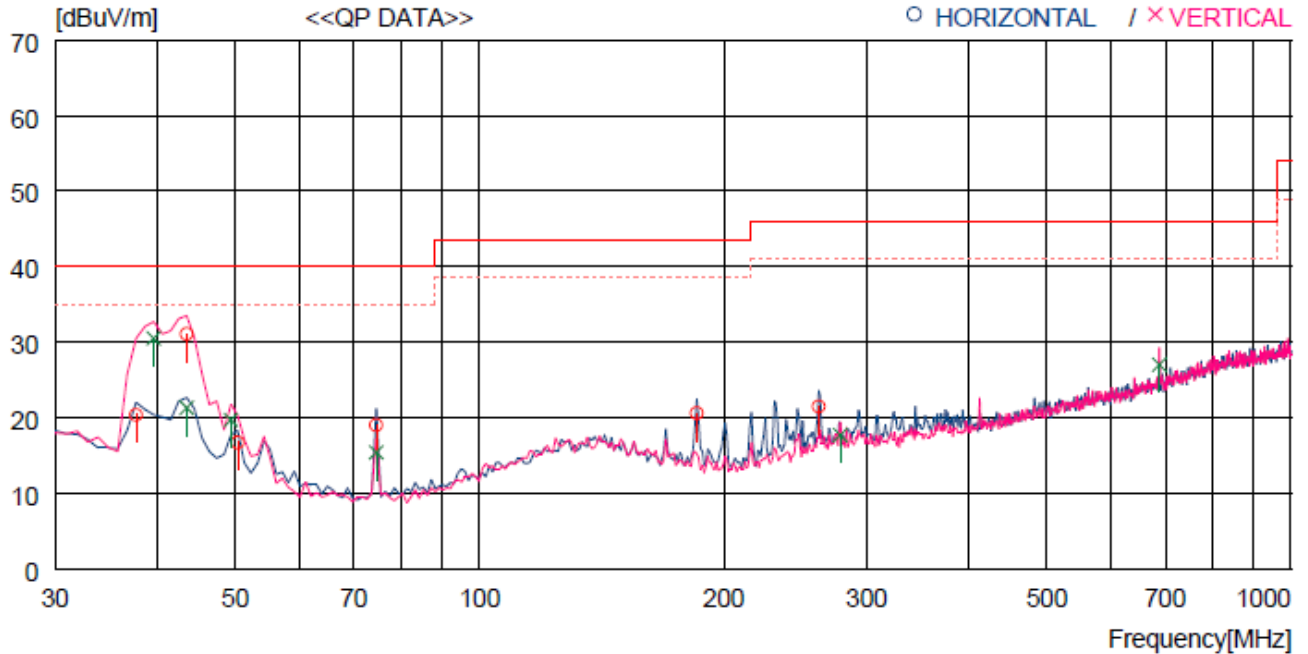
- Resolution bandwidth : 120 kHz
- Frequency range : 30 MHz ~ 1 000 MHz
- Measurement distance : 3 m



| No.                  | FREQ    | READING | ANT    | LOSS | GAIN | RESULT   | LIMIT    | MARGIN | ANTENNA | TABLE |
|----------------------|---------|---------|--------|------|------|----------|----------|--------|---------|-------|
|                      | [MHz]   | QP      | FACTOR | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB]   | [cm]    | [DEG] |
| ---- Horizontal ---- |         |         |        |      |      |          |          |        |         |       |
| 1                    | 37.760  | 34.6    | 18.1   | 0.9  | 32.0 | 21.6     | 40.0     | 18.4   | 300     | 359   |
| 2                    | 42.610  | 36.5    | 16.2   | 0.9  | 32.0 | 21.6     | 40.0     | 18.4   | 300     | 317   |
| 3                    | 74.620  | 33.6    | 12.9   | 1.0  | 32.1 | 15.4     | 40.0     | 24.6   | 400     | 0     |
| 4                    | 185.200 | 33.4    | 16.3   | 1.7  | 32.0 | 19.4     | 43.5     | 24.1   | 200     | 143   |
| 5                    | 262.800 | 34.7    | 18.2   | 2.0  | 32.0 | 22.9     | 46.0     | 23.1   | 200     | 0     |
| 6                    | 293.840 | 31.4    | 19.0   | 2.1  | 32.0 | 20.5     | 46.0     | 25.5   | 200     | 44    |
| ---- Vertical ----   |         |         |        |      |      |          |          |        |         |       |
| 7                    | 38.730  | 44.1    | 17.8   | 0.9  | 32.0 | 30.8     | 40.0     | 9.2    | 100     | 350   |
| 8                    | 42.610  | 47.4    | 16.2   | 0.9  | 32.0 | 32.5     | 40.0     | 7.5    | 100     | 188   |
| 9                    | 54.250  | 34.9    | 12.7   | 0.9  | 32.1 | 16.4     | 40.0     | 23.6   | 100     | 0     |
| 10                   | 74.620  | 38.2    | 12.9   | 1.0  | 32.1 | 20.0     | 40.0     | 20.0   | 400     | 359   |
| 11                   | 262.800 | 31.8    | 18.2   | 2.0  | 32.0 | 20.0     | 46.0     | 26.0   | 200     | 112   |
| 12                   | 687.655 | 29.6    | 25.4   | 3.4  | 32.3 | 26.1     | 46.0     | 19.9   | 100     | 262   |

### 13.4.2 Test data for Bluetooth 2

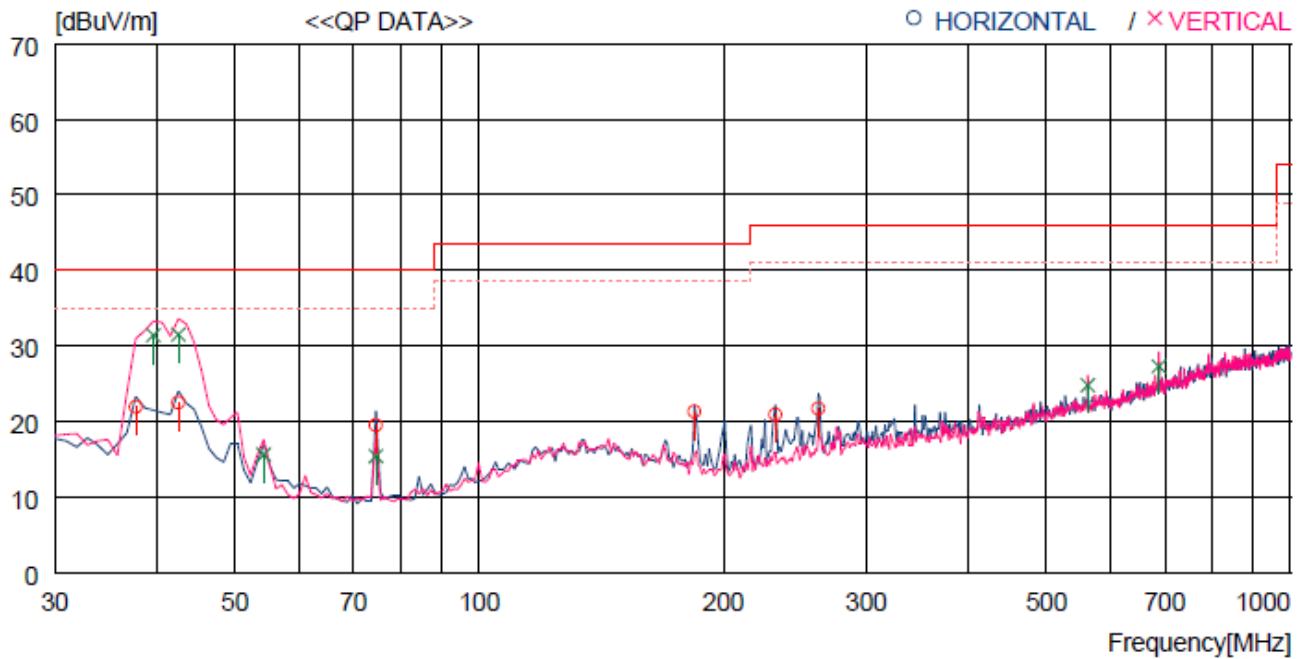
- . Resolution bandwidth : 120 kHz
- . Frequency range : 30 MHz ~ 1 000 MHz
- . Measurement distance : 3 m



| No.                  | FREQ    | READING | ANT    | LOSS | GAIN | RESULT   | LIMIT    | MARGIN | ANTENNA | TABLE |
|----------------------|---------|---------|--------|------|------|----------|----------|--------|---------|-------|
|                      | [MHz]   | [dBuV]  | FACTOR | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB]   | [cm]    | [DEG] |
| ---- Horizontal ---- |         |         |        |      |      |          |          |        |         |       |
| 1                    | 37.760  | 33.4    | 18.1   | 0.9  | 32.0 | 20.4     | 40.0     | 19.6   | 400     | 9     |
| 2                    | 43.580  | 46.4    | 15.8   | 0.9  | 32.0 | 31.1     | 40.0     | 8.9    | 300     | 359   |
| 3                    | 50.370  | 34.8    | 13.1   | 0.9  | 32.1 | 16.7     | 40.0     | 23.3   | 400     | 0     |
| 4                    | 74.620  | 37.2    | 12.9   | 1.0  | 32.1 | 19.0     | 40.0     | 21.0   | 400     | 0     |
| 5                    | 185.200 | 34.6    | 16.3   | 1.7  | 32.0 | 20.6     | 43.5     | 22.9   | 200     | 0     |
| 6                    | 261.830 | 33.4    | 18.1   | 2.0  | 32.0 | 21.5     | 46.0     | 24.5   | 200     | 38    |
| ---- Vertical ----   |         |         |        |      |      |          |          |        |         |       |
| 7                    | 39.700  | 44.2    | 17.4   | 0.9  | 32.0 | 30.5     | 40.0     | 9.5    | 100     | 0     |
| 8                    | 43.580  | 36.6    | 15.8   | 0.9  | 32.0 | 21.3     | 40.0     | 18.7   | 100     | 306   |
| 9                    | 49.400  | 37.5    | 13.4   | 0.9  | 32.1 | 19.7     | 40.0     | 20.3   | 100     | 247   |
| 10                   | 74.620  | 33.6    | 12.9   | 1.0  | 32.1 | 15.4     | 40.0     | 24.6   | 400     | 359   |
| 11                   | 278.320 | 29.1    | 18.6   | 2.0  | 32.0 | 17.7     | 46.0     | 28.3   | 200     | 359   |
| 12                   | 687.655 | 30.5    | 25.4   | 3.4  | 32.3 | 27.0     | 46.0     | 19.0   | 100     | 262   |

### 13.4.3 Test data for Bluetooth 1/2

- . Resolution bandwidth : 120 kHz
- . Frequency range : 30 MHz ~ 1 000 MHz
- . Measurement distance : 3 m



| No.                  | FREQ    | READING | ANT    | LOSS | GAIN | RESULT   | LIMIT    | MARGIN | ANTENNA | TABLE |
|----------------------|---------|---------|--------|------|------|----------|----------|--------|---------|-------|
|                      | [MHz]   | [dBuV]  | FACTOR | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB]   | [cm]    | [DEG] |
| ---- Horizontal ---- |         |         |        |      |      |          |          |        |         |       |
| 1                    | 37.760  | 21.9    | 0.0    | 0.0  | 0.0  | 21.9     | 40.0     | 18.1   | 300     | 359   |
| 2                    | 42.610  | 22.5    | 0.0    | 0.0  | 0.0  | 22.5     | 40.0     | 17.5   | 300     | 359   |
| 3                    | 74.620  | 19.5    | 0.0    | 0.0  | 0.0  | 19.5     | 40.0     | 20.5   | 400     | 12    |
| 4                    | 184.230 | 21.3    | 0.0    | 0.0  | 0.0  | 21.3     | 43.5     | 22.2   | 200     | 11    |
| 5                    | 231.760 | 20.9    | 0.0    | 0.0  | 0.0  | 20.9     | 46.0     | 25.1   | 200     | 0     |
| 6                    | 261.830 | 21.7    | 0.0    | 0.0  | 0.0  | 21.7     | 46.0     | 24.3   | 200     | 350   |
| ---- Vertical ----   |         |         |        |      |      |          |          |        |         |       |
| 7                    | 39.700  | 31.4    | 0.0    | 0.0  | 0.0  | 31.4     | 40.0     | 8.6    | 100     | 0     |
| 8                    | 42.610  | 31.5    | 0.0    | 0.0  | 0.0  | 31.5     | 40.0     | 8.5    | 100     | 269   |
| 9                    | 54.250  | 15.6    | 0.0    | 0.0  | 0.0  | 15.6     | 40.0     | 24.4   | 100     | 254   |
| 10                   | 74.620  | 15.4    | 0.0    | 0.0  | 0.0  | 15.4     | 40.0     | 24.6   | 400     | 359   |
| 11                   | 562.529 | 24.8    | 0.0    | 0.0  | 0.0  | 24.8     | 46.0     | 21.2   | 100     | 0     |
| 12                   | 687.655 | 27.3    | 0.0    | 0.0  | 0.0  | 27.3     | 46.0     | 18.7   | 100     | 240   |

### 13.5 Test data for Below 30 MHz

- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m

| Frequency<br>(MHz)                                                             | Reading<br>(dB $\mu$ V) | Ant. Pol.<br>(H/V) | Ant. Factor<br>(dB/m) | Cable<br>Loss | Amp<br>Gain | Emission<br>Level(dB $\mu$ V/m) | Limits<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|--------------------------------------------------------------------------------|-------------------------|--------------------|-----------------------|---------------|-------------|---------------------------------|--------------------------|----------------|
| Emission from the EUT more than 20 dB below the limit in each frequency range. |                         |                    |                       |               |             |                                 |                          |                |

### 13.6 Test data for above 1 GHz

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode  
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m

| Frequency<br>(MHz)                                                             | Reading<br>(dB $\mu$ V) | Ant. Pol.<br>(H/V) | Ant. Factor<br>(dB/m) | Cable<br>Loss | Amp<br>Gain | Emission<br>Level(dB $\mu$ V/m) | Limits<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|--------------------------------------------------------------------------------|-------------------------|--------------------|-----------------------|---------------|-------------|---------------------------------|--------------------------|----------------|
| Emission from the EUT more than 20 dB below the limit in each frequency range. |                         |                    |                       |               |             |                                 |                          |                |

#### 14. LIST OF TEST EQUIPMENT

| Model Number | Manufacturer      | Description       | Serial Number | Last Cal.(Interval) |
|--------------|-------------------|-------------------|---------------|---------------------|
| FSV40-N      | Rohde & Schwarz   | Signal Analyzer   | 102177        | Apr. 20, 2020 (1Y)  |
| FSW43        | Rohde & Schwarz   | Signal Analyzer   | 104544        | Jul. 15, 2020 (1Y)  |
| ESW          | Rohde & Schwarz   | EMI Test Receiver | 101851        | Mar. 27, 2020 (1Y)  |
| 310N         | Sonoma Instrument | Pre-Amplifier     | 392756        | Oct. 16, 2020 (1Y)  |
| PAM-118A     | Com-Power         | Pre-Amplifier     | 18040081      | Oct. 12, 2020 (1Y)  |
| PAM-840A     | Com-Power         | Pre-Amplifier     | 461339        | Oct. 16, 2020 (1Y)  |
| DT3000-3t    | Innco System      | Turn Table        | DT3000/093    | N/A                 |
| MA-4000XPET  | Innco System      | Antenna Master    | MA4000/509    | N/A                 |
| FMZB 1513    | Schwarzbeck       | Loop Antenna      | 1513-235      | Mar. 24, 2020 (2Y)  |
| HLP-2008     | TDK               | Hybrid Antenna    | 131316        | Feb. 27, 2020 (2Y)  |
| AH-118       | Com-Power         | Horn Antenna      | 10050061      | Oct. 15, 2020 (1Y)  |
| BBHA9170     | Schwarzbeck       | Horn Antenna      | BBHA9170178   | Jan. 07, 2020(1Y)   |
| ESR          | Rohde & Schwarz   | EMI TEST RECEIVER | 102602        | Mar. 17, 2020 (1Y)  |