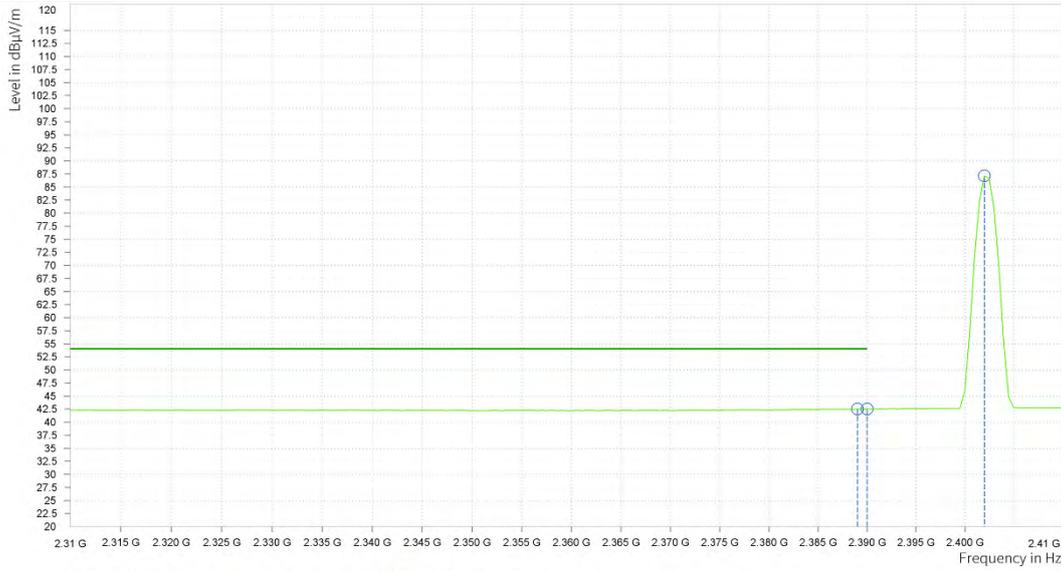




**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 2,389.000       | 42.49              | 54.00              | 11.51           | 37.08           | V            | 86.9          | 1.00               |
| 5  | 2,390.000       | 42.49              | 54.00              | 11.51           | 37.10           | V            | 203.9         | 2.00               |
| 5  | 2,402.000       | 87.15              |                    |                 | 37.26           | V            | 132.2         | 2.00               |



**REMARKS:**

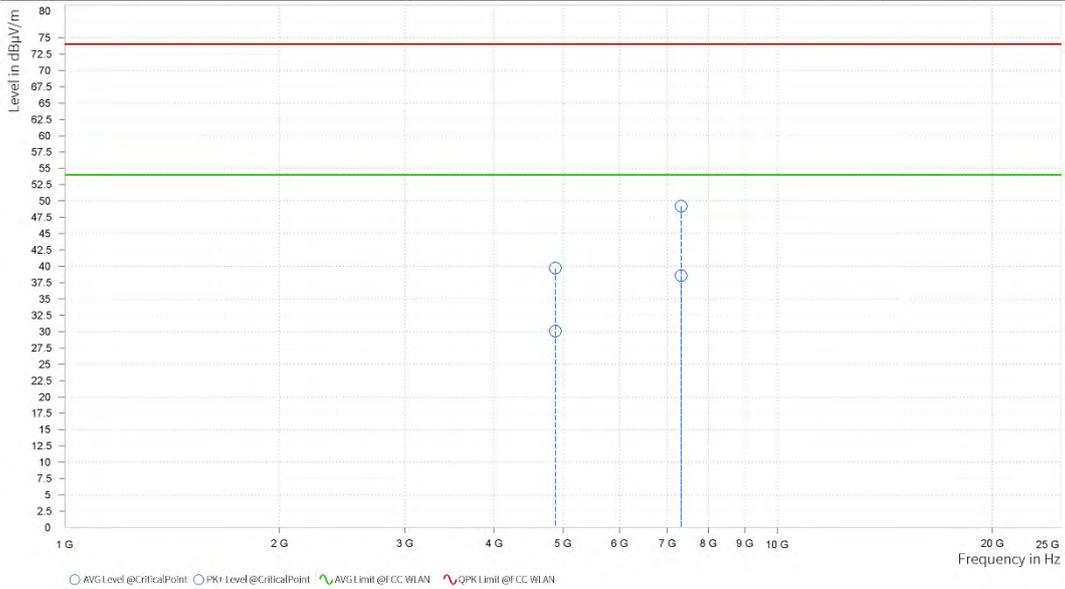
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2402MHz: Fundamental frequency.



|                        |               |                          |              |
|------------------------|---------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 19 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                          | Average (AV) |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

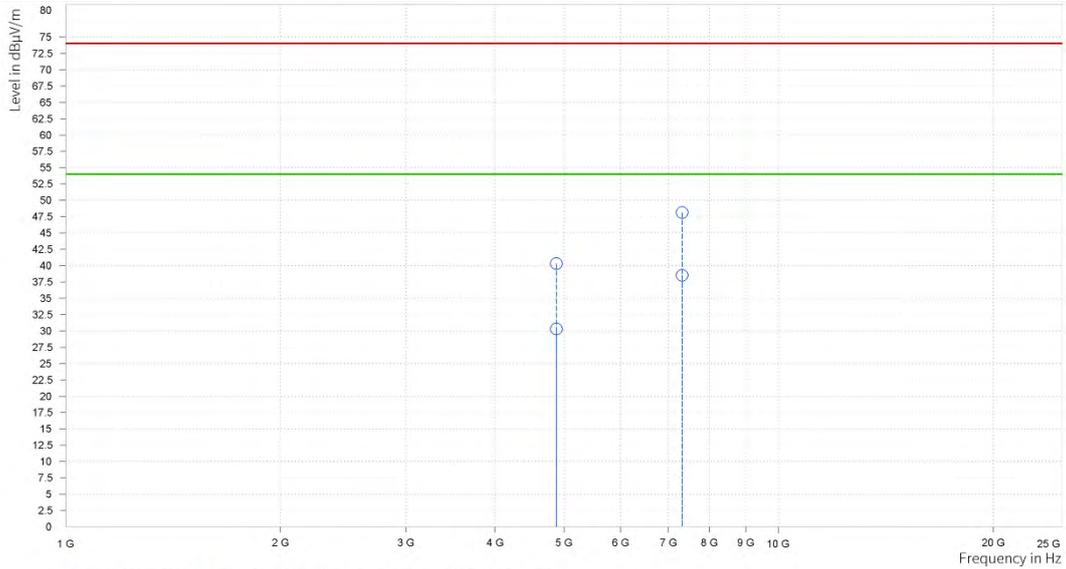
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+: QPK Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|-------------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 3  | 4,880.000       | 39.73              | 74.00                   | 34.27           | 30.06              | 54.00              | 23.94           | 18.40           | H            | 359.1         | 1.00               |
| 3  | 7,320.000       | 49.19              | 74.00                   | 24.81           | 38.58              | 54.00              | 15.42           | 25.45           | H            | 359           | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+: QPK Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|-------------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 3  | 4,880.000       | 40.29              | 74.00                   | 33.71           | 30.30              | 54.00              | 23.70           | 18.40           | V            | 359           | 2.00               |
| 3  | 7,320.000       | 48.12              | 74.00                   | 25.88           | 38.54              | 54.00              | 15.46           | 25.45           | V            | 236.2         | 1.00               |



**REMARKS:**

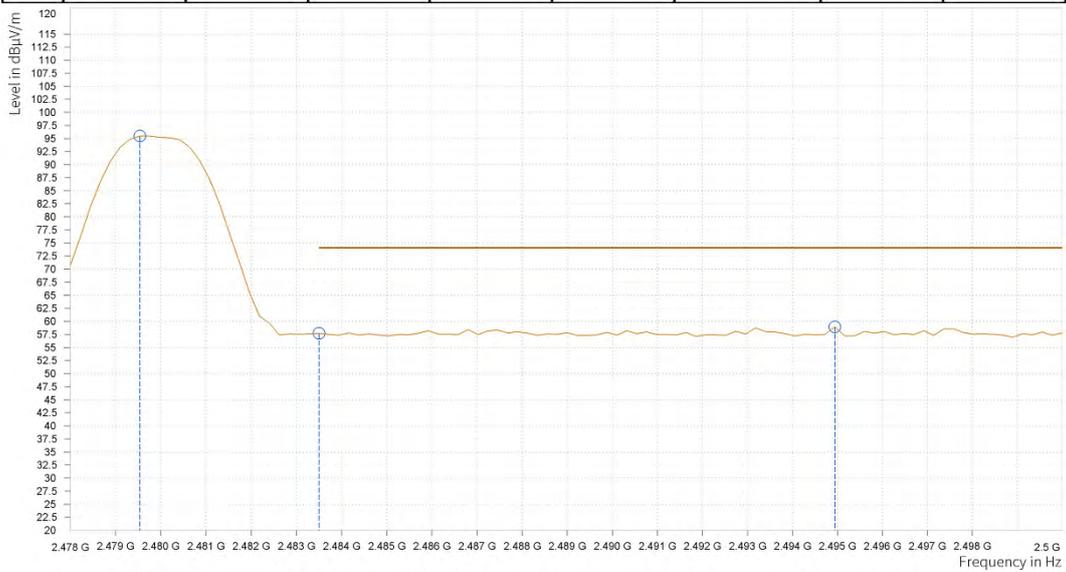
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.



|                        |               |                          |              |
|------------------------|---------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 39 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                          | Average (AV) |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.540       | 95.46              |                    |                 | 37.87           | H            | 175.4         | 1.00               |
| 6  | 2,483.500       | 57.70              | 74.00              | 16.30           | 37.88           | H            | 359           | 1.00               |
| 6  | 2,494.940       | 58.95              | 74.00              | 15.05           | 37.90           | H            | 86.9          | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

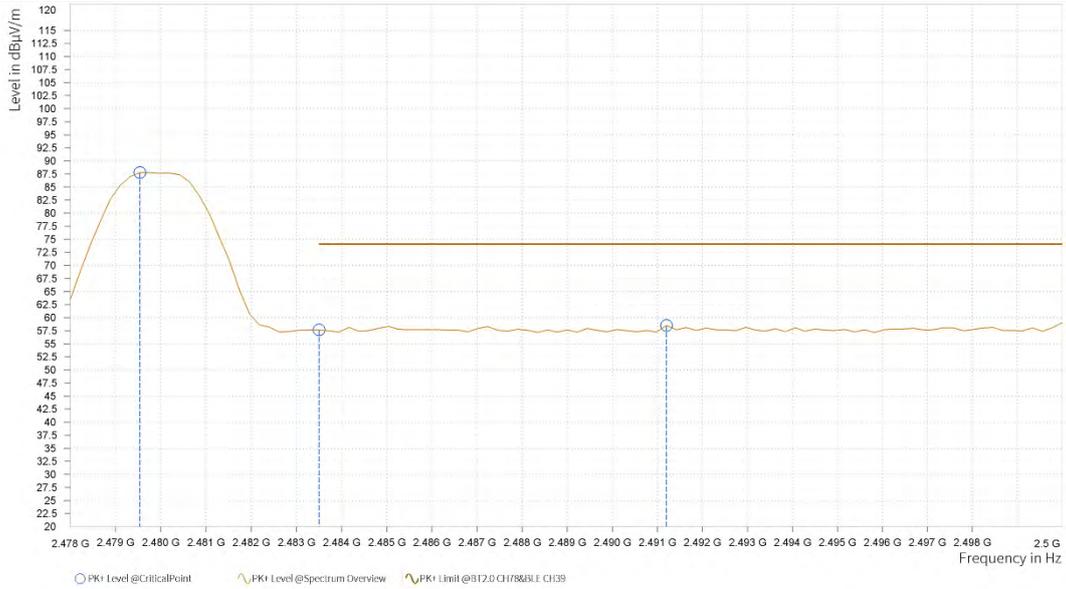
| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.760       | 92.18              |                    |                 | 37.87           | H            | 170.5         | 1.00               |
| 6  | 2,483.500       | 43.38              | 54.00              | 10.62           | 37.88           | H            | 128.6         | 1.00               |
| 6  | 2,495.600       | 43.49              | 54.00              | 10.51           | 37.90           | H            | 215.8         | 2.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.540       | 87.76              |                    |                 | 37.87           | V            | 127.4         | 1.00               |
| 6  | 2,483.500       | 57.63              | 74.00              | 16.37           | 37.88           | V            | 304.4         | 2.00               |
| 6  | 2,491.200       | 58.50              | 74.00              | 15.50           | 37.90           | V            | 261.3         | 2.00               |





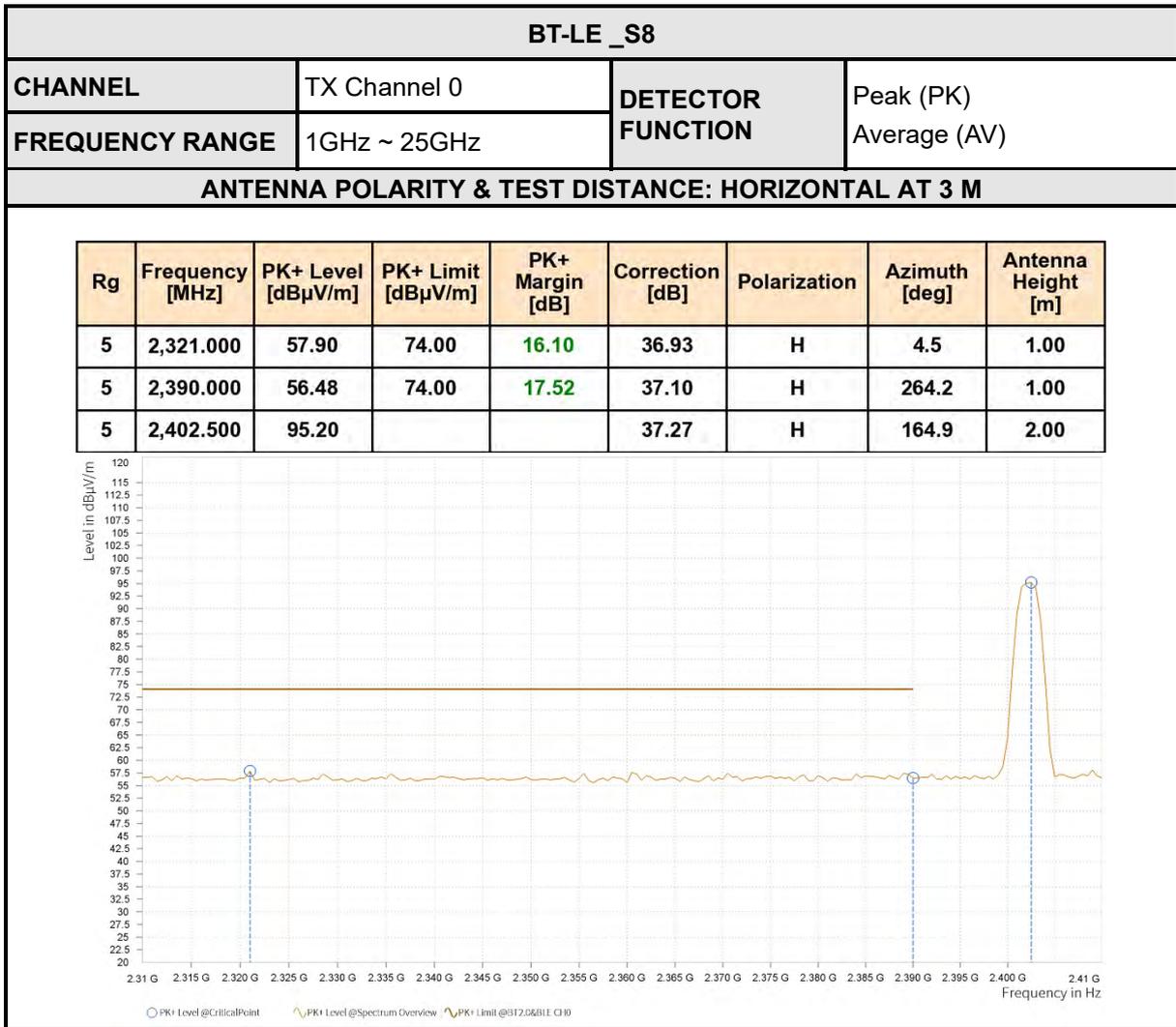
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.980       | 83.62              |                    |                 | 37.87           | V            | 217.1         | 1.00               |
| 6  | 2,483.500       | 43.38              | 54.00              | 10.62           | 37.88           | V            | 262.4         | 1.00               |
| 6  | 2,499.340       | 43.47              | 54.00              | 10.53           | 37.91           | V            | 171.8         | 2.00               |



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.





**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

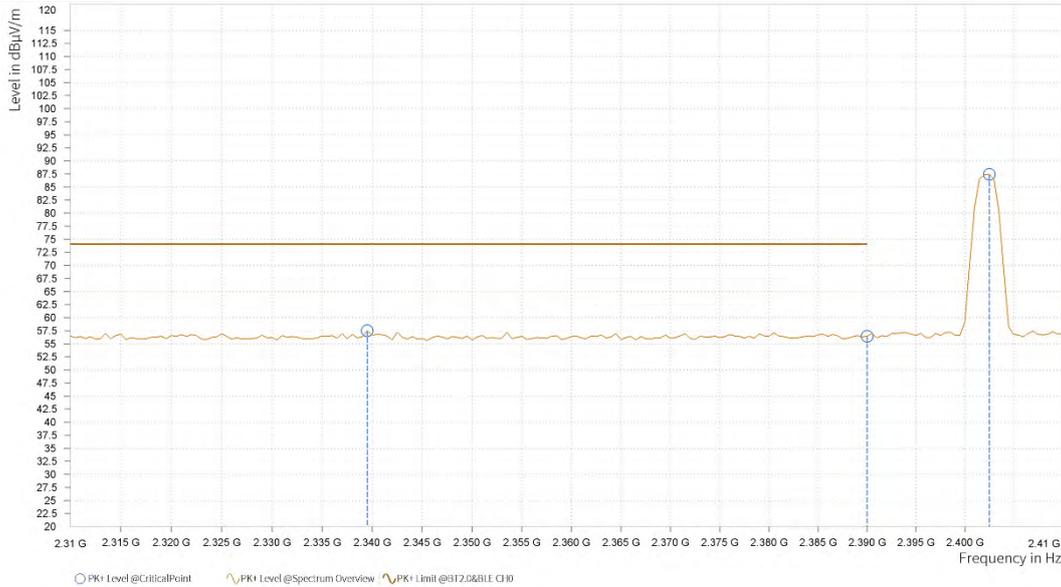
| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 2,389.500       | 42.50              | 54.00              | 11.50           | 37.09           | H            | 353.5         | 2.00               |
| 5  | 2,390.000       | 42.49              | 54.00              | 11.51           | 37.10           | H            | 24.2          | 1.00               |
| 5  | 2,402.000       | 92.97              |                    |                 | 37.26           | H            | 163           | 1.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

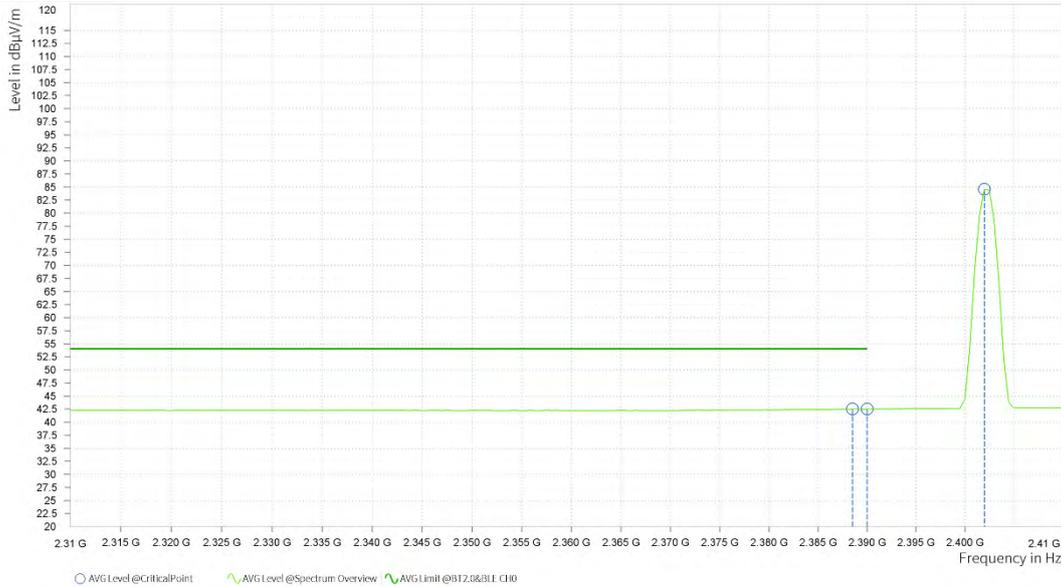
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 2,339.500       | 57.49              | 74.00              | 16.51           | 36.90           | V            | 165.8         | 1.00               |
| 5  | 2,390.000       | 56.44              | 74.00              | 17.56           | 37.10           | V            | 299.3         | 1.00               |
| 5  | 2,402.500       | 87.44              |                    |                 | 37.27           | V            | 33.1          | 2.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 2,388.500       | 42.51              | 54.00              | 11.49           | 37.08           | V            | 166.6         | 2.00               |
| 5  | 2,390.000       | 42.49              | 54.00              | 11.51           | 37.10           | V            | 31.4          | 1.00               |
| 5  | 2,402.000       | 84.60              |                    |                 | 37.26           | V            | 31.4          | 1.00               |



REMARKS:

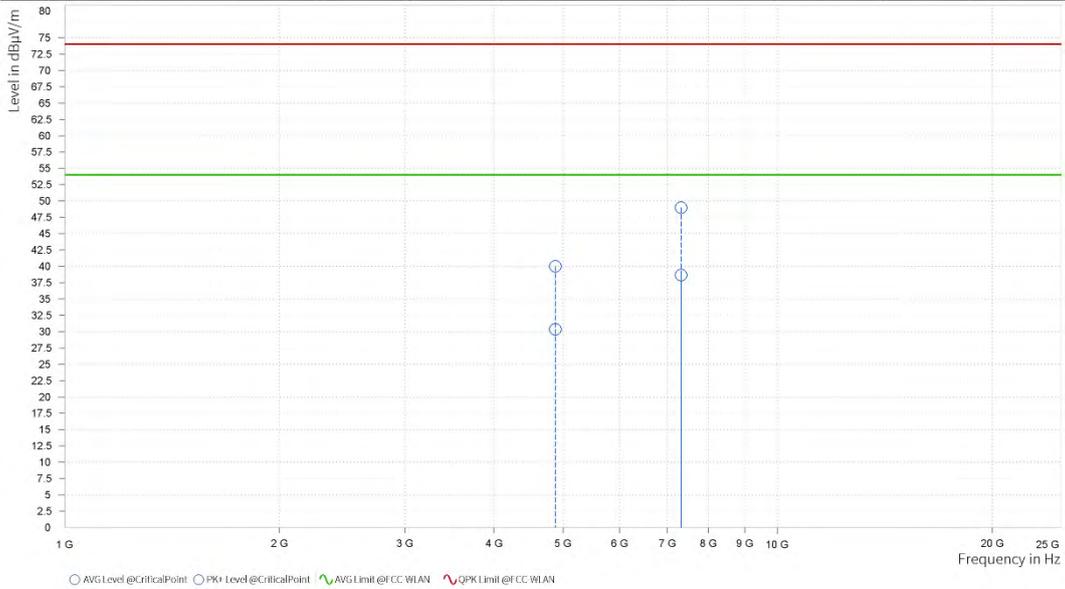
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor.
2. Margin value = Limit value–Emission level.
3. 2402MHz: Fundamental frequency.



|                        |               |                          |              |
|------------------------|---------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 19 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                          | Average (AV) |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

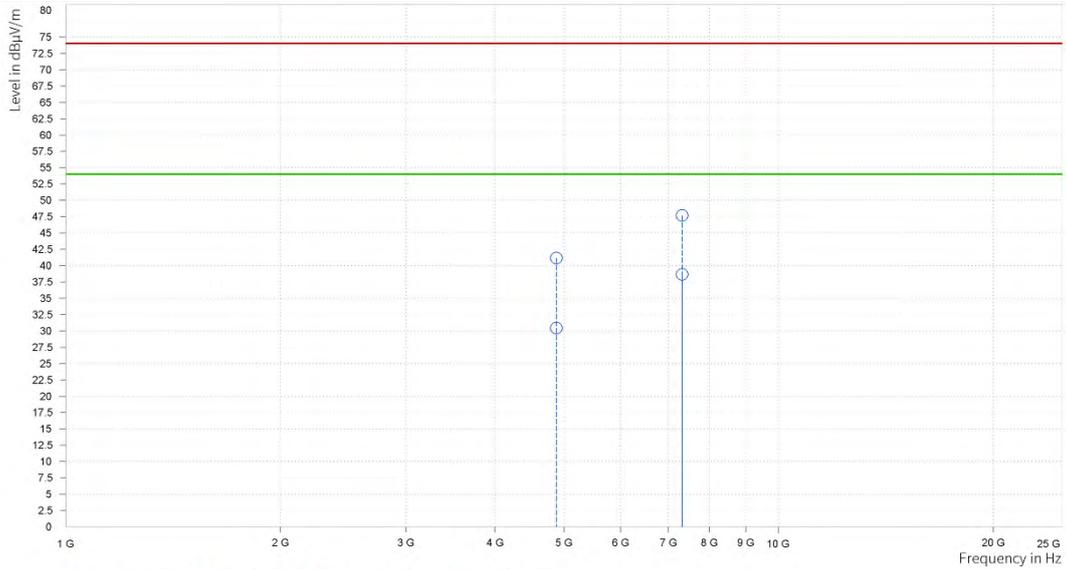
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+: QPK Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|-------------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 3  | 4,880.000       | 40.02              | 74.00                   | 33.98           | 30.35              | 54.00              | 23.65           | 18.40           | H            | 125           | 2.00               |
| 3  | 7,320.000       | 48.99              | 74.00                   | 25.01           | 38.66              | 54.00              | 15.34           | 25.45           | H            | 359           | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+: QPK Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|-------------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 3  | 4,880.000       | 41.16              | 74.00                   | 32.84           | 30.44              | 54.00              | 23.56           | 18.40           | V            | 359.1         | 1.00               |
| 3  | 7,320.000       | 47.68              | 74.00                   | 26.32           | 38.65              | 54.00              | 15.35           | 25.45           | V            | 1             | 1.00               |



**REMARKS:**

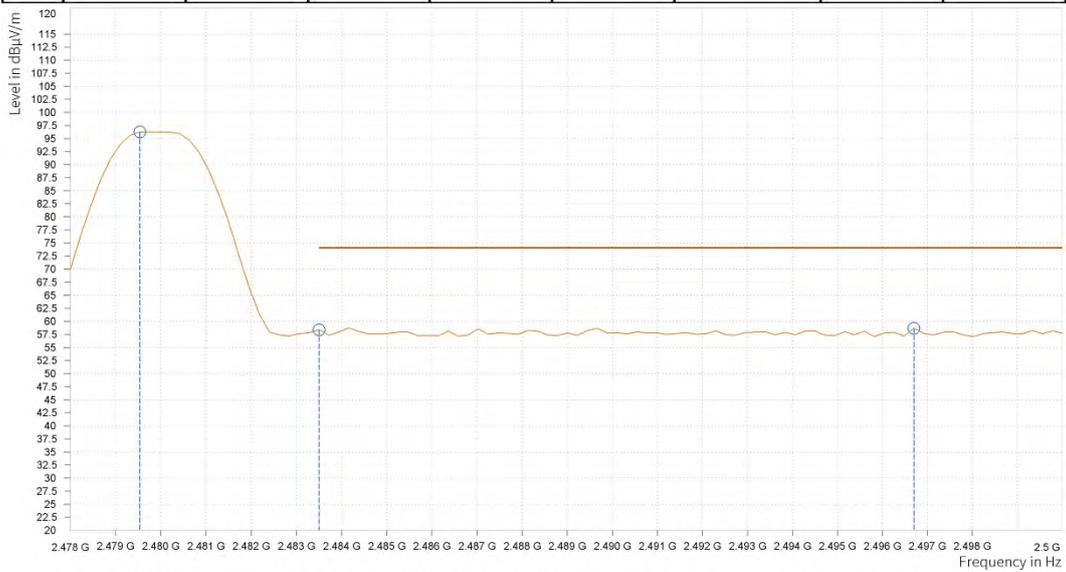
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.



|                        |               |                              |              |
|------------------------|---------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 39 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                              | Average (AV) |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.540       | 96.25              |                    |                 | 37.87           | H            | 165.8         | 1.00               |
| 6  | 2,483.500       | 58.40              | 74.00              | 15.60           | 37.88           | H            | 132.5         | 1.00               |
| 6  | 2,496.700       | 58.68              | 74.00              | 15.32           | 37.91           | H            | 297.4         | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

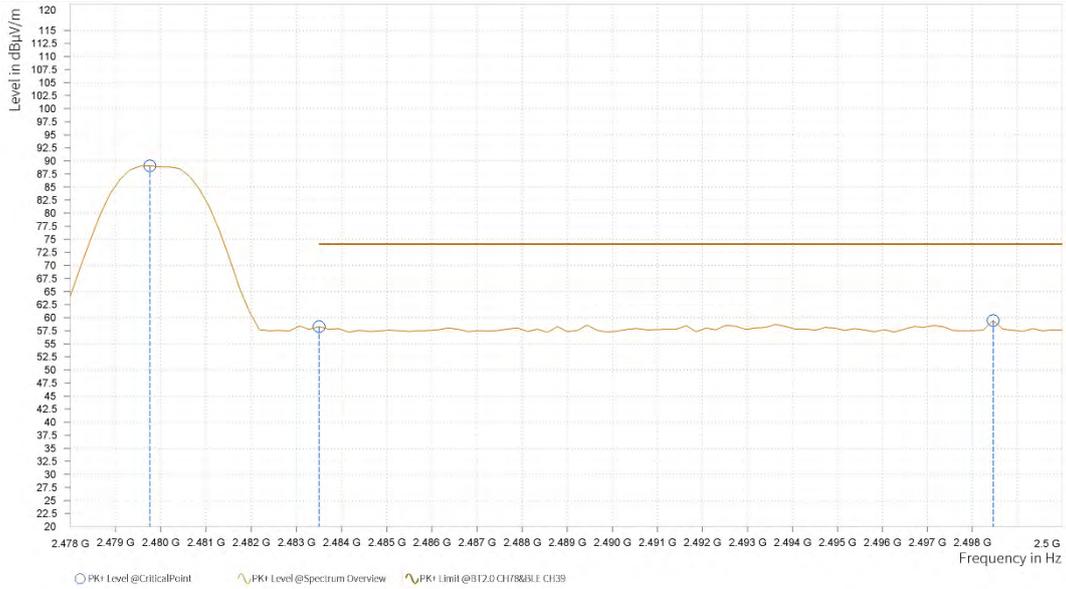
| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.980       | 94.71              |                    |                 | 37.87           | H            | 168.5         | 1.00               |
| 6  | 2,483.500       | 43.44              | 54.00              | 10.56           | 37.88           | H            | 33.2          | 1.00               |
| 6  | 2,498.680       | 43.49              | 54.00              | 10.51           | 37.91           | H            | 1             | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.760       | 89.06              |                    |                 | 37.87           | V            | 233.8         | 1.00               |
| 6  | 2,483.500       | 58.26              | 74.00              | 15.74           | 37.88           | V            | 301.1         | 1.00               |
| 6  | 2,498.460       | 59.45              | 74.00              | 14.55           | 37.91           | V            | 32.2          | 2.00               |





**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 6  | 2,479.980       | 87.39              |                    |                 | 37.87           | V            | 237.4         | 1.00               |
| 6  | 2,483.500       | 43.41              | 54.00              | 10.59           | 37.88           | V            | 1             | 2.00               |
| 6  | 2,498.900       | 43.49              | 54.00              | 10.51           | 37.91           | V            | 68            | 1.00               |



**REMARKS:**

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.

**3.3 6 dB BANDWIDTH MEASUREMENT****3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT**

The minimum 6dB Bandwidth Measurement is 0.5 MHz.

**3.3.2 TEST INSTRUMENTS**

| <b>Equipment</b>                   | <b>Manufacturer</b> | <b>Model No.</b> | <b>Serial No.</b> | <b>Last Cal.</b> | <b>Next Cal.</b> |
|------------------------------------|---------------------|------------------|-------------------|------------------|------------------|
| EMI Test Receiver                  | R&S                 | ESW 44           | 101973            | Mar.28,24        | Mar.27,26        |
| Open Switch and Control Unit       | R&S                 | OSP-B157W8       | 100836            | N/A              | N/A              |
| Vector Signal Generator            | R&S                 | SMBV100B         | 102176            | Mar.29,24        | Mar.28,26        |
| Signal Generator                   | R&S                 | SMB100A03        | 182185            | Mar.29,24        | Mar.28,26        |
| WIDEBANDRADIO COMMUNICATION TESTER | R&S                 | CMW500           | 169399            | Jun.19,24        | Jun.18,26        |
| Hygrothermograph                   | DELI                | 20210528         | SZ015             | Sep.06,23        | Sep.05,25        |
| PC                                 | LENOVO              | E14              | HRSW0024          | N/A              | N/A              |
| CABLE                              | R&S                 | J12J103539-00-1  | SEP-03-20-069     | Apr.27,24        | Apr.26,25        |
| CABLE                              | R&S                 | J12J103539-00-1  | SEP-03-20-069     | Apr.26,25        | Apr.25,26        |
| CABLE                              | R&S                 | J12J103539-00-1  | SEP-03-20-070     | Apr.27,24        | Apr.26,25        |
| CABLE                              | R&S                 | J12J103539-00-1  | SEP-03-20-070     | Apr.26,25        | Apr.25,26        |
| Test Software                      | EMC32               | EMC32            | N/A               | N/A              | N/A              |
| Temperature Chamber                | votsch              | VT4002           | 58566078100050    | May.30,24        | May.29,26        |
| Power Meter                        | R&S                 | NRX              | 102380            | Mar.28,24        | Mar.27,26        |
| Power Meter probe                  | R&S                 | NRP6A            | 102942            | Mar.28,24        | Mar.27,26        |
| EMI Test Receiver                  | R&S                 | ESW 44           | 101973            | Mar.28,24        | Mar.27,26        |

**NOTE:**

1. The calibration interval of the above test instruments is 12/ 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.



### 3.3.3 TEST PROCEDURE

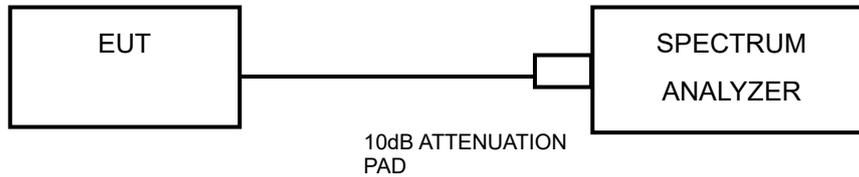
1. Set RBW = shall be in the range of 1% to 5% of the 0BW but not less than 100 kHz.
2. Set the video bandwidth (VBW)  $\geq 3$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



### 3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

### 3.3.5 TEST SETUP



### 3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

### 3.3.7 TEST RESULTS

Please Refer to Appendix A/B Of this test report..

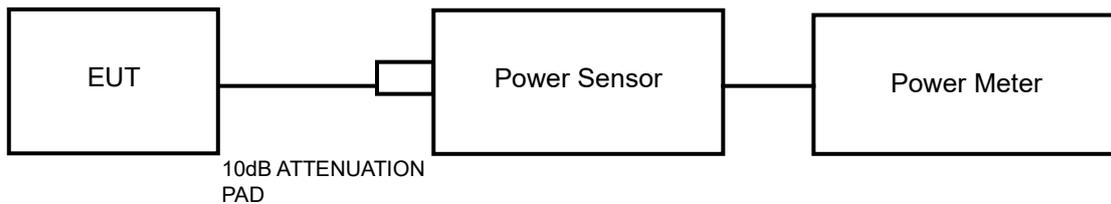


### 3.4 CONDUCTED OUTPUT POWER

#### 3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

#### 3.4.2 TEST SETUP



#### 3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

#### 3.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

#### 3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 3.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



**BUREAU VERITAS** Test Report No.: PSZ-QBJ2504140315RF07

### 3.4.7 TEST RESULTS

#### 3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix A/B Of this test report..



**Test Report No.: PSZ-QBJ2504140315RF07**

### 3.4.7.2 AVERAGE OUTPUT POWER (FOR REFERENCE)

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

Please Refer to Appendix A/B Of this test report..

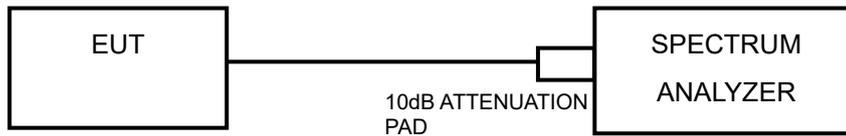


### 3.5 POWER SPECTRAL DENSITY MEASUREMENT

#### 3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

#### 3.5.2 TEST SETUP



#### 3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

#### 3.5.4 TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 3 kHz, VBW  $\geq 3 \times$  RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

#### 3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 3.5.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



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### 3.5.7 TEST RESULTS

Please Refer to Appendix A/B Of this test report..

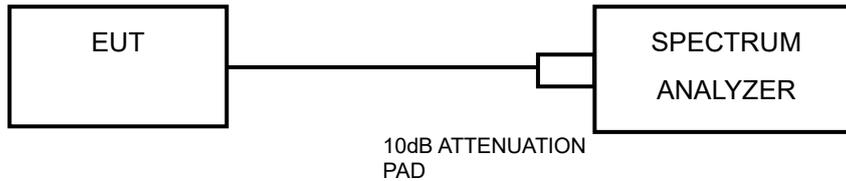


### 3.6 OUT OF BAND EMISSION MEASUREMENT

#### 3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

#### 3.6.2 TEST SETUP



#### 3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

#### 3.6.4 TEST PROCEDURE

##### MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW  $\geq$  300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.



## **MEASUREMENT PROCEDURE OOB**

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

### **3.6.5 DEVIATION FROM TEST STANDARD**

No deviation.

### **3.6.6 EUT OPERATING CONDITION**

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

### **3.6.7 TEST RESULTS**

The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

Please Refer to Appendix A/B Of this test report..



### **3.7 ANTENNA REQUIREMENTS**

#### **3.7.1 STANDARD APPLICABLE**

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **3.7.2 ANTENNA CONNECTED CONSTRUCTION**

An embedded-in antenna design is used.

#### **3.7.3 ANTENNA GAIN**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit and PSD limit.



## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



Test Report No.: PSZ-QBJ2504140315RF07

## **5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications are made to the EUT by the lab during the test.



## 6 APPENDIX A:WIFI DTS BANDWIDTH

### TEST RESULT

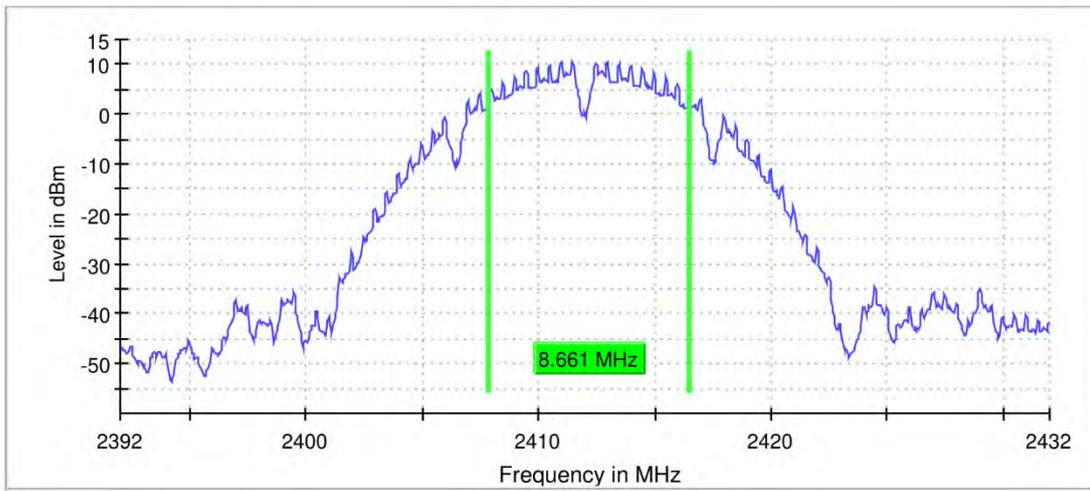
| TestMode | Antenna | Frequency[MHz] | DTS<br>BW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------------|----------|----------|------------|---------|
| 11B      | ANT6    | 2412           | 8.661              | 2407.870 | 2416.531 | 0.5        | PASS    |
|          | ANT6    | 2437           | 8.160              | 2432.870 | 2441.030 | 0.5        | PASS    |
|          | ANT6    | 2462           | 8.160              | 2457.870 | 2466.030 | 0.5        | PASS    |
| 11G      | ANT6    | 2412           | 15.419             | 2404.365 | 2419.785 | 0.5        | PASS    |
|          | ANT6    | 2437           | 15.219             | 2429.365 | 2444.584 | 0.5        | PASS    |
|          | ANT6    | 2462           | 15.219             | 2454.365 | 2469.584 | 0.5        | PASS    |
| 11N20    | ANT6    | 2412           | 15.569             | 2404.365 | 2419.935 | 0.5        | PASS    |
|          | ANT6    | 2437           | 15.219             | 2429.365 | 2444.584 | 0.5        | PASS    |
|          | ANT6    | 2462           | 15.219             | 2454.365 | 2469.584 | 0.5        | PASS    |



### TEST GRAPHS

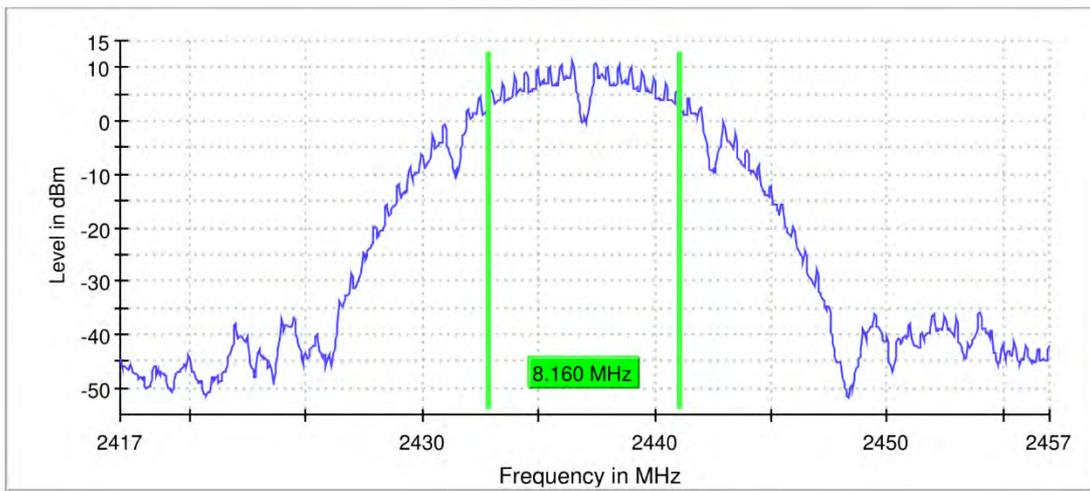
11B\_ANT6\_2412

6 dB Bandwidth

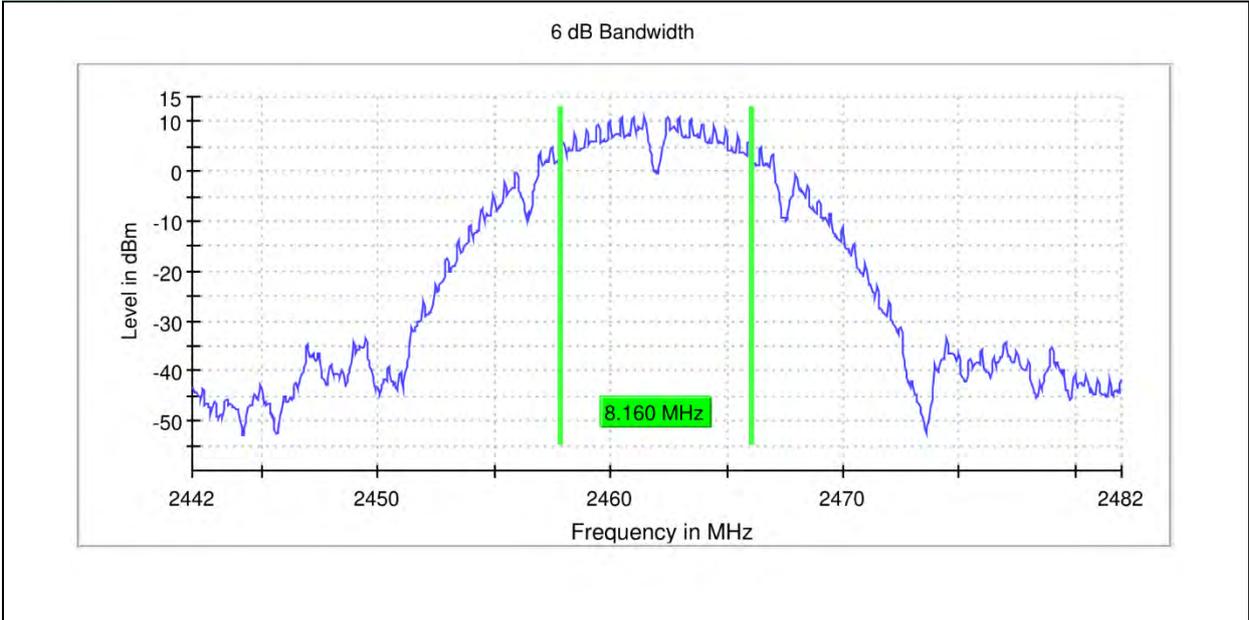


11B\_ANT6\_2437

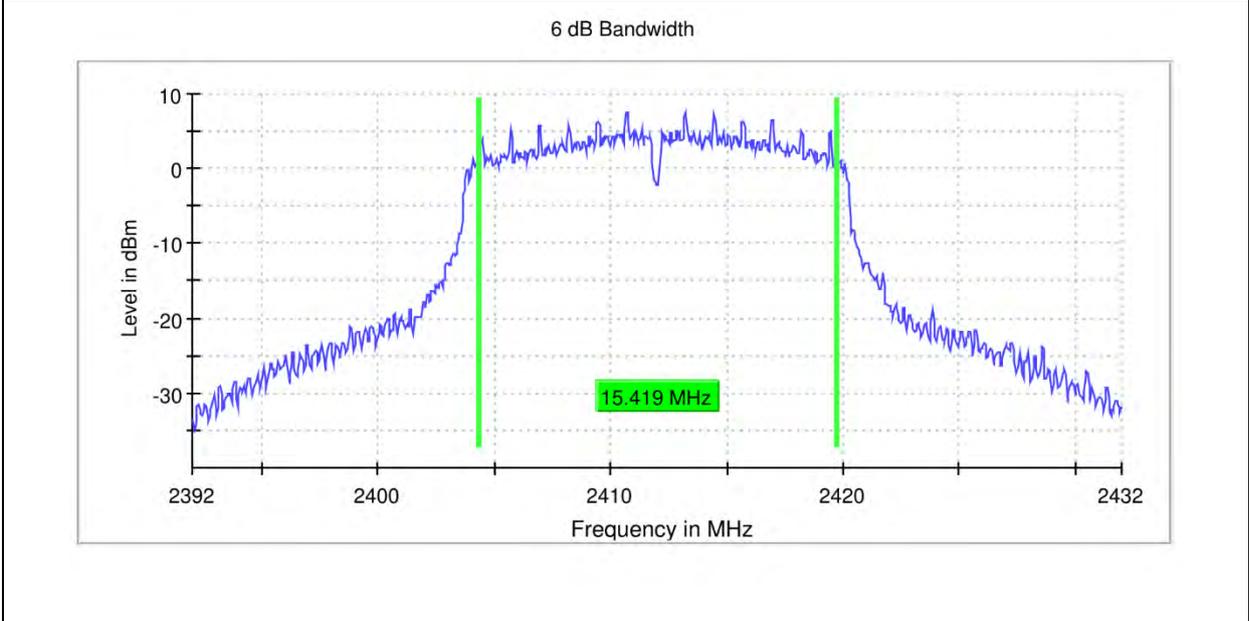
6 dB Bandwidth



11B\_ANT6\_2462



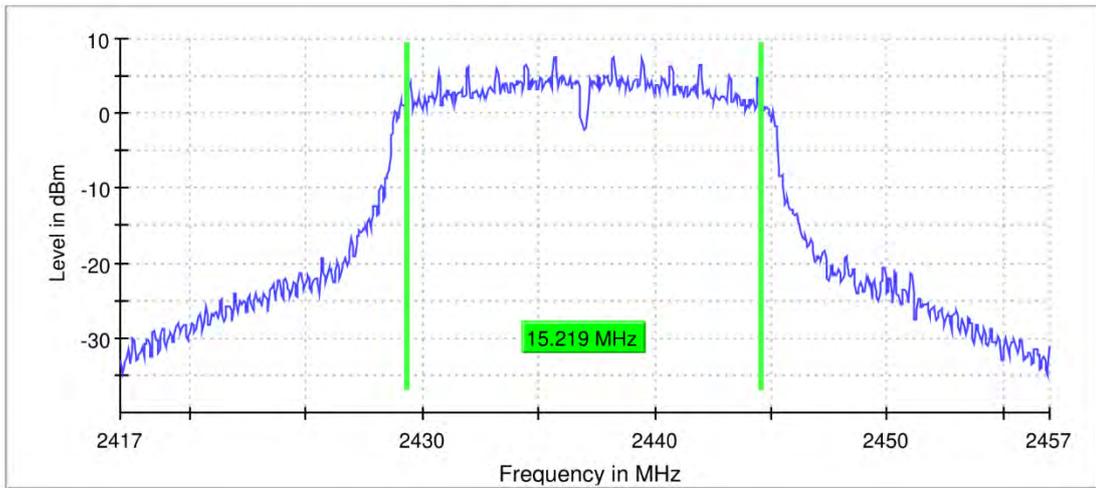
11G\_ANT6\_2412



11G\_ANT6\_2437

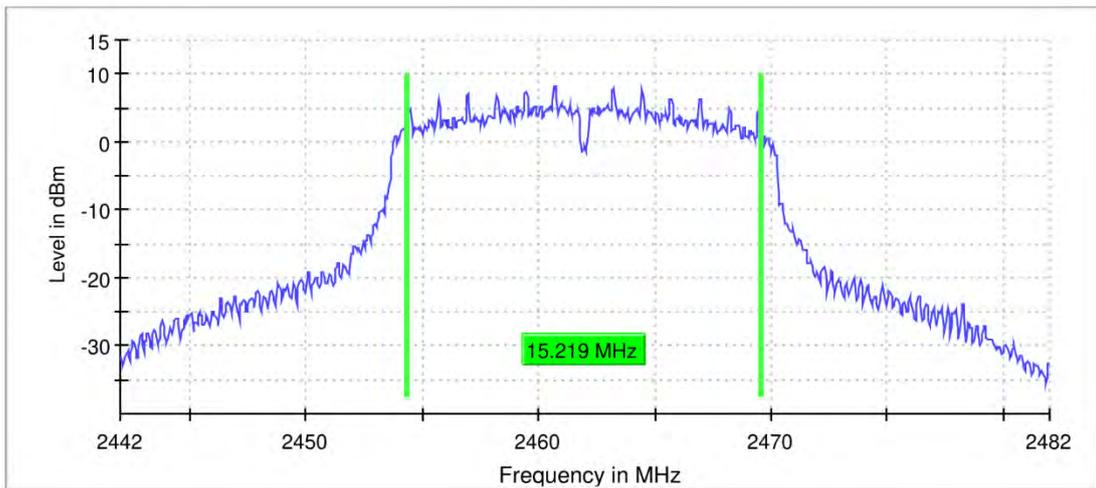


6 dB Bandwidth



11G\_ANT6\_2462

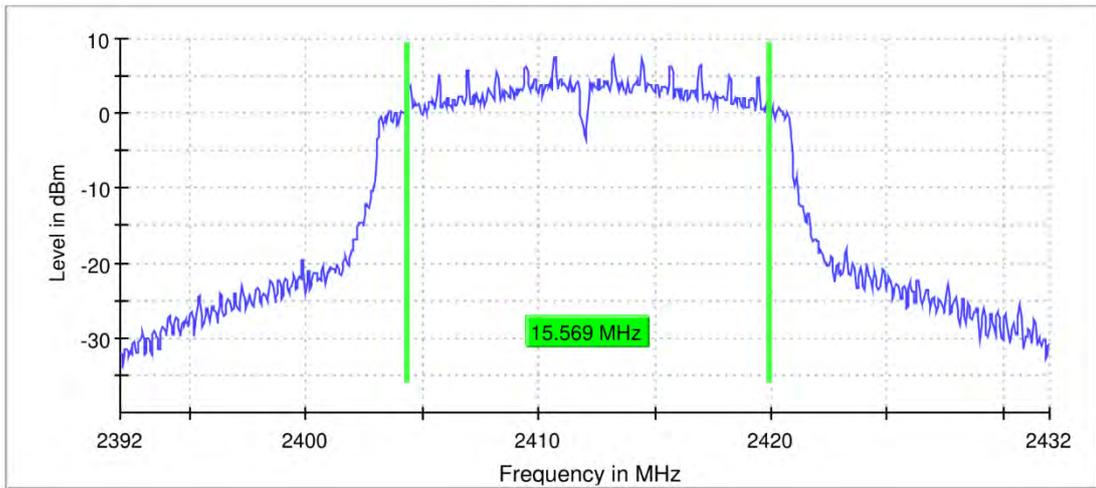
6 dB Bandwidth



11N20\_ANT6\_2412

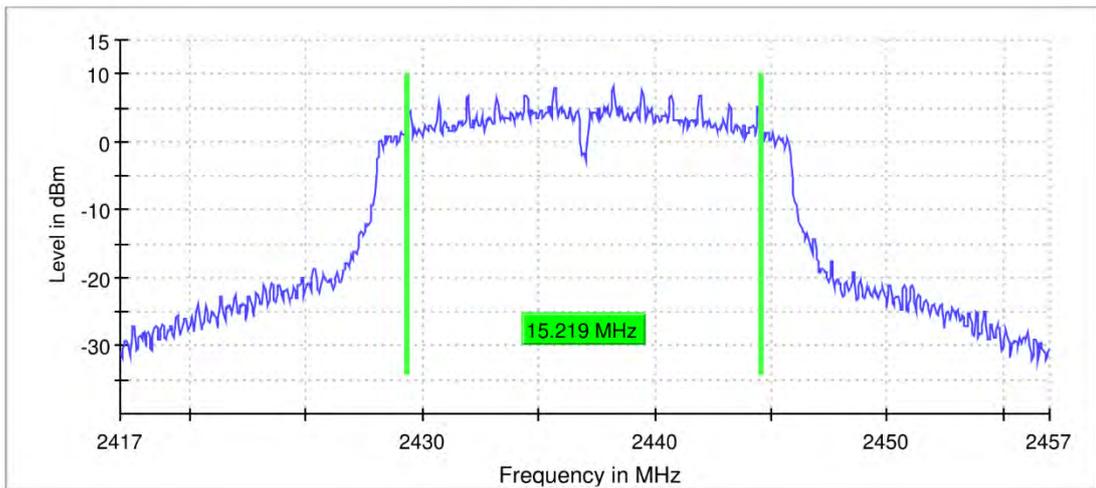


6 dB Bandwidth



11N20\_ANT6\_2437

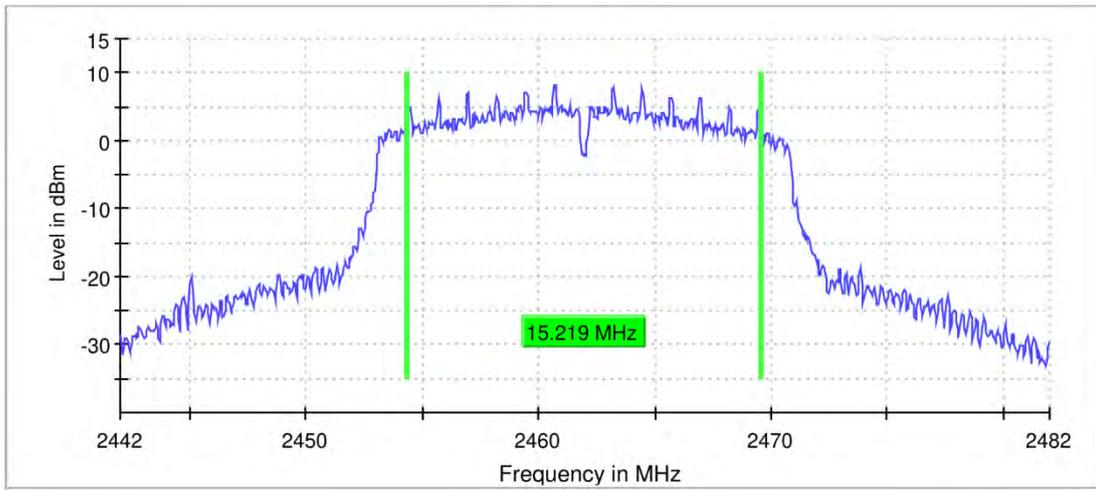
6 dB Bandwidth



11N20\_ANT6\_2462



6 dB Bandwidth



20M

RBW 200.000 kHz

VBW 1.000 MHz



## OBW BANDWIDTH

### TEST RESULT

| TestMode | Antenna | Frequency[MHz] | OBW<br>BW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|--------------------|----------|----------|------------|---------|
| 11B      | ANT6    | 2412           | 13.233             | 2405.434 | 2418.667 | ---        | PASS    |
|          | ANT6    | 2437           | 13.133             | 2430.434 | 2443.566 | ---        | PASS    |
|          | ANT6    | 2462           | 13.233             | 2455.333 | 2468.566 | ---        | PASS    |
| 11G      | ANT6    | 2412           | 16.742             | 2403.629 | 2420.371 | ---        | PASS    |
|          | ANT6    | 2437           | 16.742             | 2428.629 | 2445.371 | ---        | PASS    |
|          | ANT6    | 2462           | 16.642             | 2453.629 | 2470.271 | ---        | PASS    |
| 11N20    | ANT6    | 2412           | 17.744             | 2403.128 | 2420.872 | ---        | PASS    |
|          | ANT6    | 2437           | 17.744             | 2428.128 | 2445.872 | ---        | PASS    |
|          | ANT6    | 2462           | 17.845             | 2453.028 | 2470.872 | ---        | PASS    |



### TEST GRAPHS

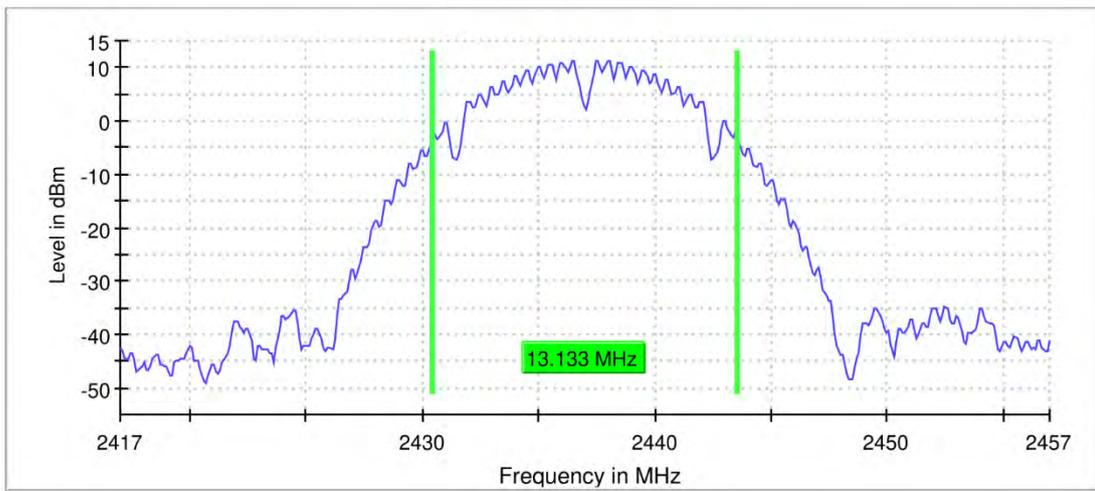
11B\_ANT6\_2412

99 % Bandwidth

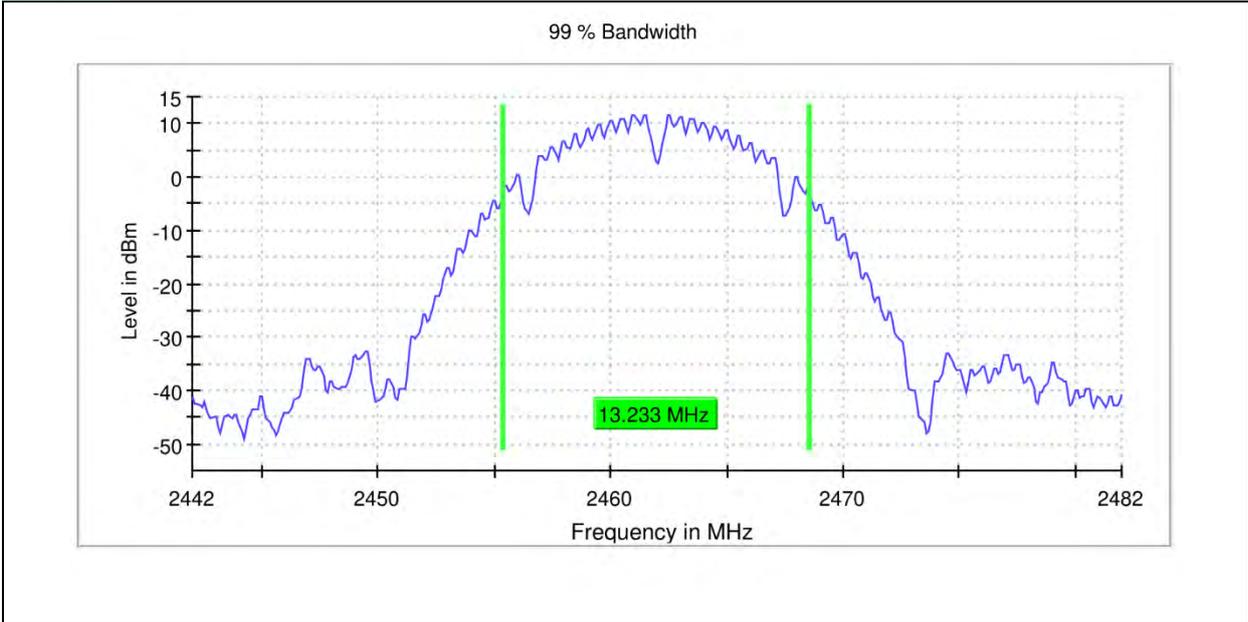


11B\_ANT6\_2437

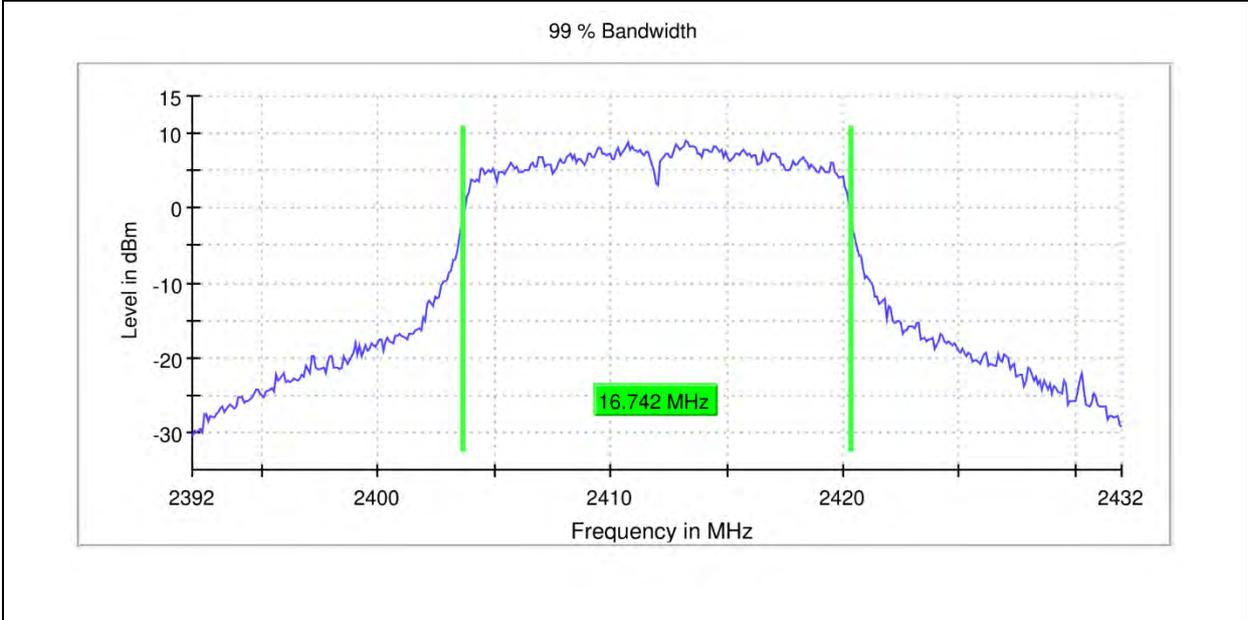
99 % Bandwidth



11B\_ANT6\_2462



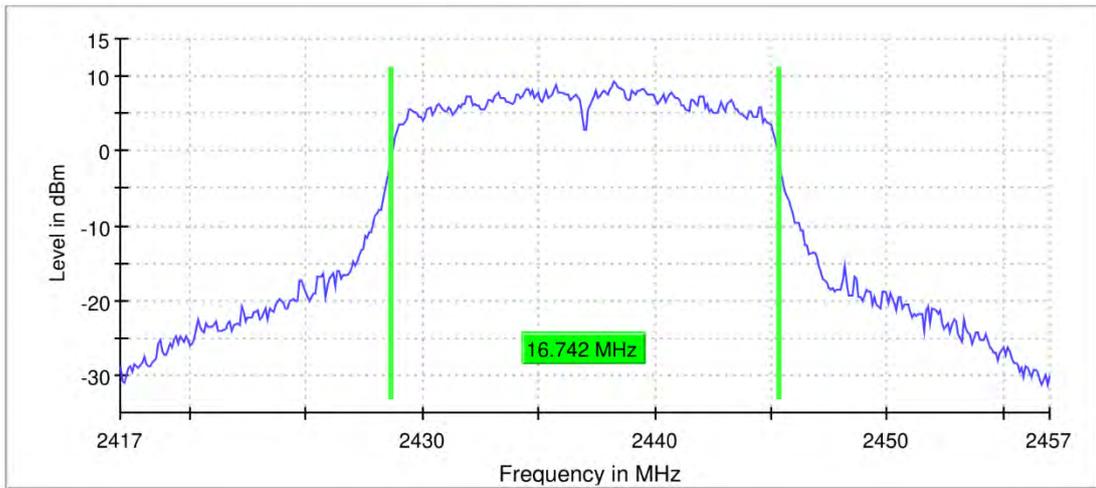
11G\_ANT6\_2412



11G\_ANT6\_2437

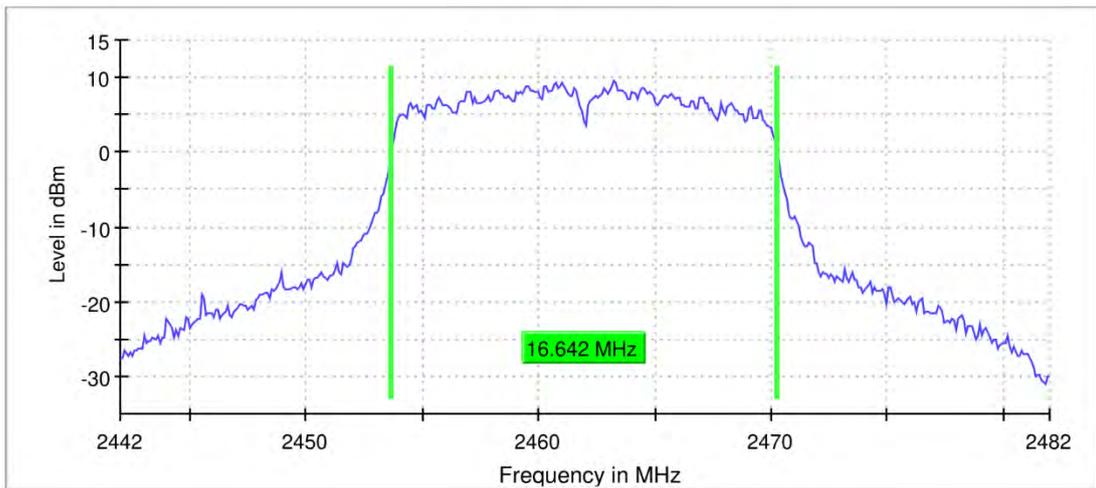


99 % Bandwidth



11G\_ANT6\_2462

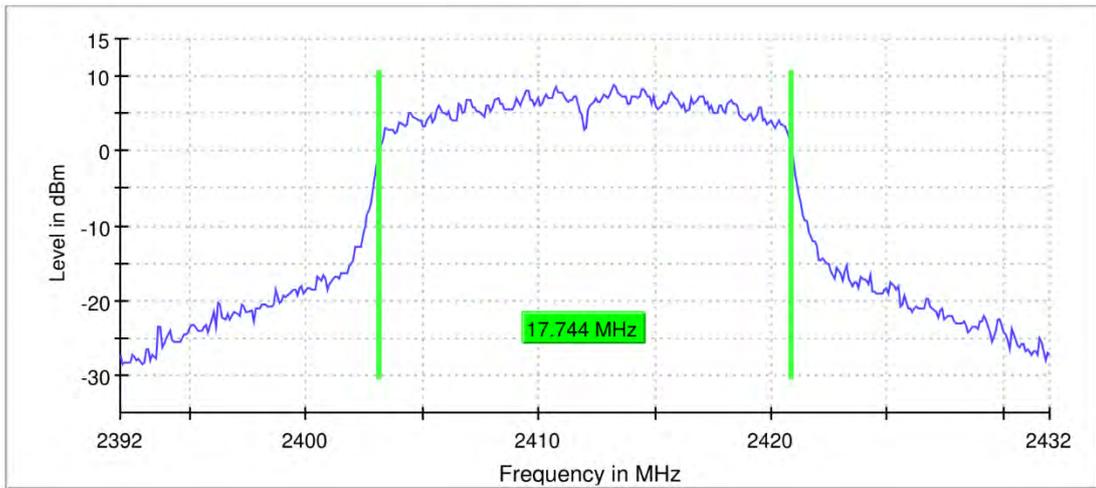
99 % Bandwidth



11N20\_ANT6\_2412

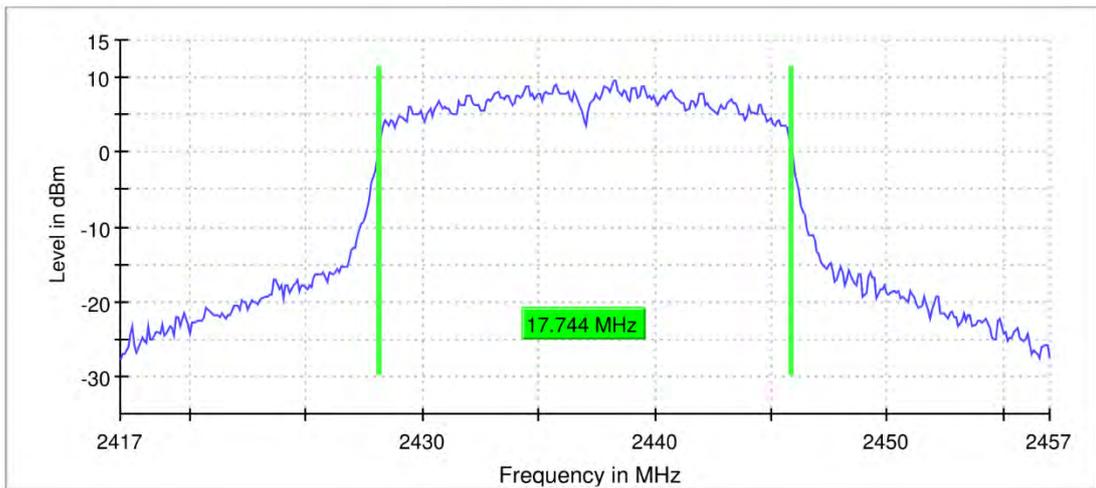


99 % Bandwidth

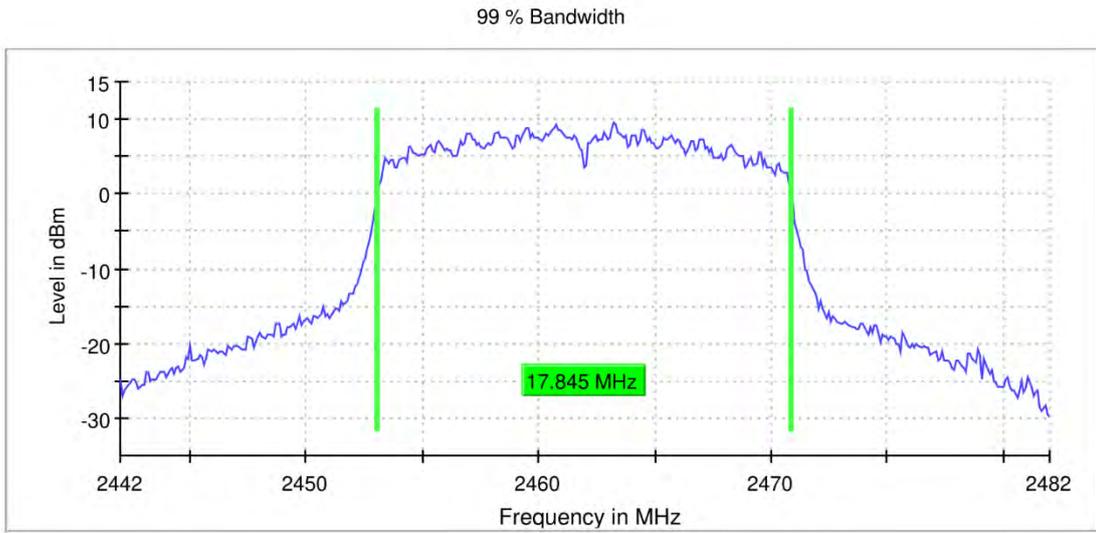


11N20\_ANT6\_2437

99 % Bandwidth



11N20\_ANT6\_2462



20M

RBW 200.000 kHz

VBW 1.000 MHz



**MAXIMUM CONDUCTED OUTPUT POWER**

**TEST RESULT**

| TestMode | TX Mod. | Frequency [MHz] | Peak power [dBm] | MAX Peak power [mw] | Limit [dBm] | Verdict |
|----------|---------|-----------------|------------------|---------------------|-------------|---------|
|          |         |                 | ANT6             |                     |             |         |
| 11B      | SISO    | 2412            | 21.18            | 131.22              | ≤30.00      | PASS    |
|          |         | 2437            | 20.33            | 107.89              | ≤30.00      | PASS    |
|          |         | 2462            | 20.95            | 124.45              | ≤30.00      | PASS    |
| 11g      | SISO    | 2412            | 24.44            | 277.97              | ≤30.00      | PASS    |
|          |         | 2437            | 24.78            | 300.61              | ≤30.00      | PASS    |
|          |         | 2462            | 24.58            | 287.08              | ≤30.00      | PASS    |
| 11N20    | SISO    | 2412            | 24.41            | 276.06              | ≤30.00      | PASS    |
|          |         | 2437            | 24.84            | 304.79              | ≤30.00      | PASS    |
|          |         | 2462            | 24.47            | 279.90              | ≤30.00      | PASS    |

| TestMode | TX Mod. | Freq. [MHz] | Avg.power [dBm] | Power Setting |
|----------|---------|-------------|-----------------|---------------|
|          |         |             | ANT6            |               |
| 11B      | SISO    | 2412        | 18.86           | 18.5          |
|          |         | 2437        | 18.07           | 18.5          |
|          |         | 2462        | 18.53           | 18.5          |
| 11g      | SISO    | 2412        | 17.16           | 16            |
|          |         | 2437        | 16.93           | 16            |
|          |         | 2462        | 15.74           | 16            |
| 11N20    | SISO    | 2412        | 16.19           | 15            |
|          |         | 2437        | 16.77           | 15            |
|          |         | 2462        | 14.70           | 15            |



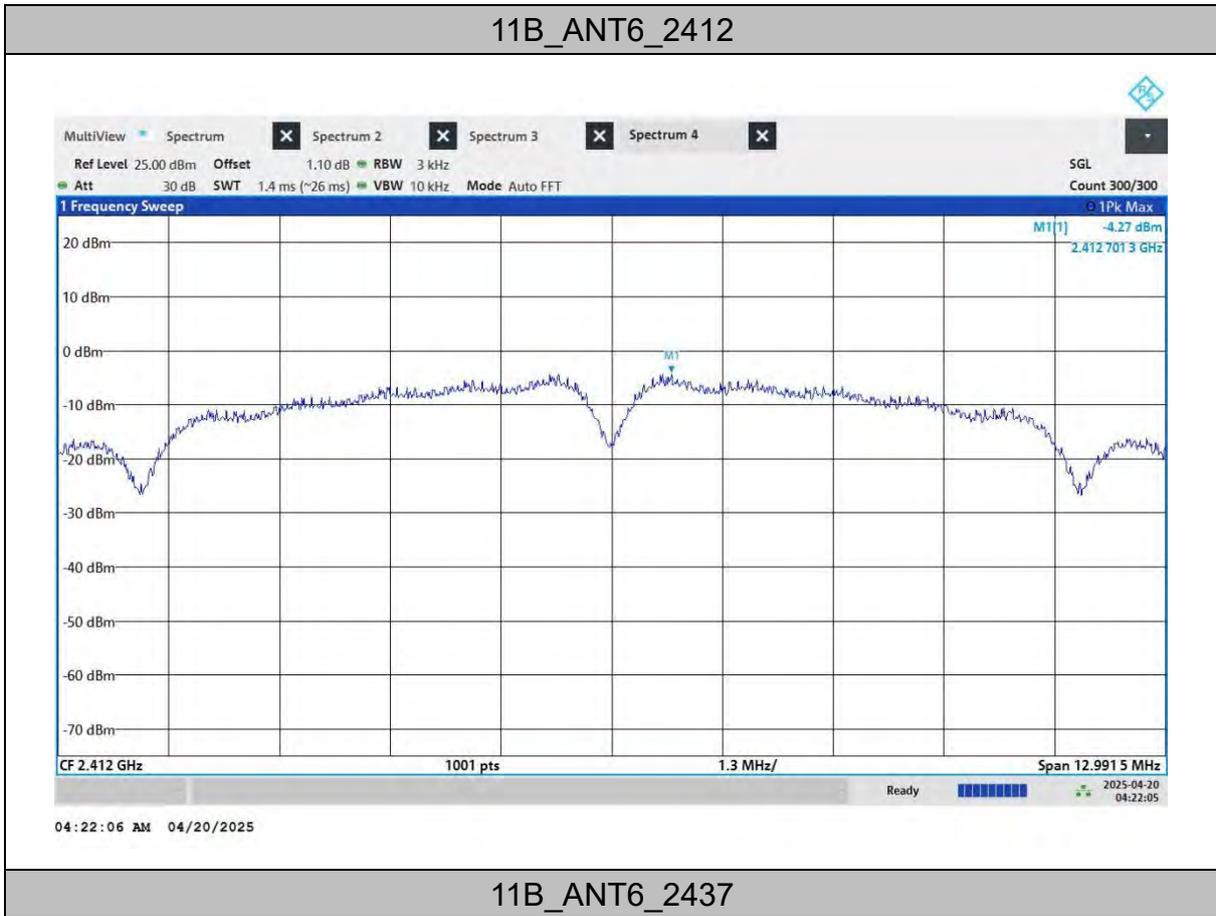
### MAXIMUM POWER SPECTRAL DENSITY

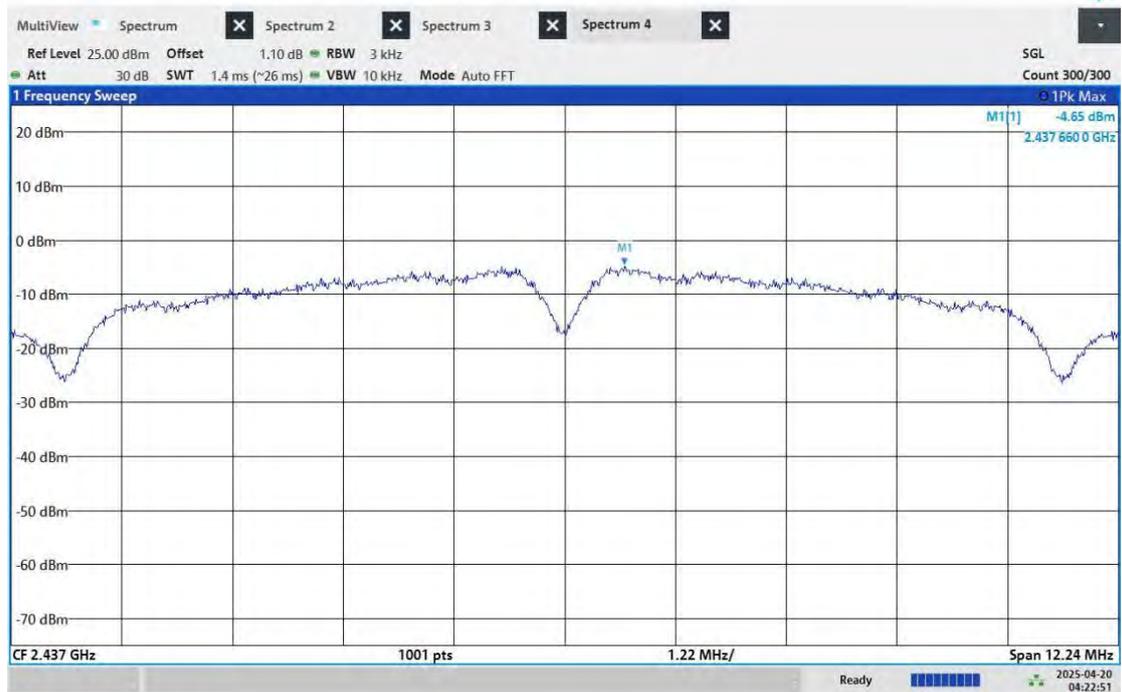
#### TEST RESULT

| TestMode | Antenna | Frequency<br>[MHz] | Result<br>[dBm/3kHz] | Limit<br>[dBm/3kHz] | Verdict |
|----------|---------|--------------------|----------------------|---------------------|---------|
| 11B      | ANT6    | 2412               | -4.27                | ≤8.00               | PASS    |
|          | ANT6    | 2437               | -4.65                | ≤8.00               | PASS    |
|          | ANT6    | 2462               | -3.50                | ≤8.00               | PASS    |
| 11G      | ANT6    | 2412               | -6.41                | ≤8.00               | PASS    |
|          | ANT6    | 2437               | -7.18                | ≤8.00               | PASS    |
|          | ANT6    | 2462               | -6.75                | ≤8.00               | PASS    |
| 11N20    | ANT6    | 2412               | -8.55                | ≤8.00               | PASS    |
|          | ANT6    | 2437               | -7.58                | ≤8.00               | PASS    |
|          | ANT6    | 2462               | -7.29                | ≤8.00               | PASS    |



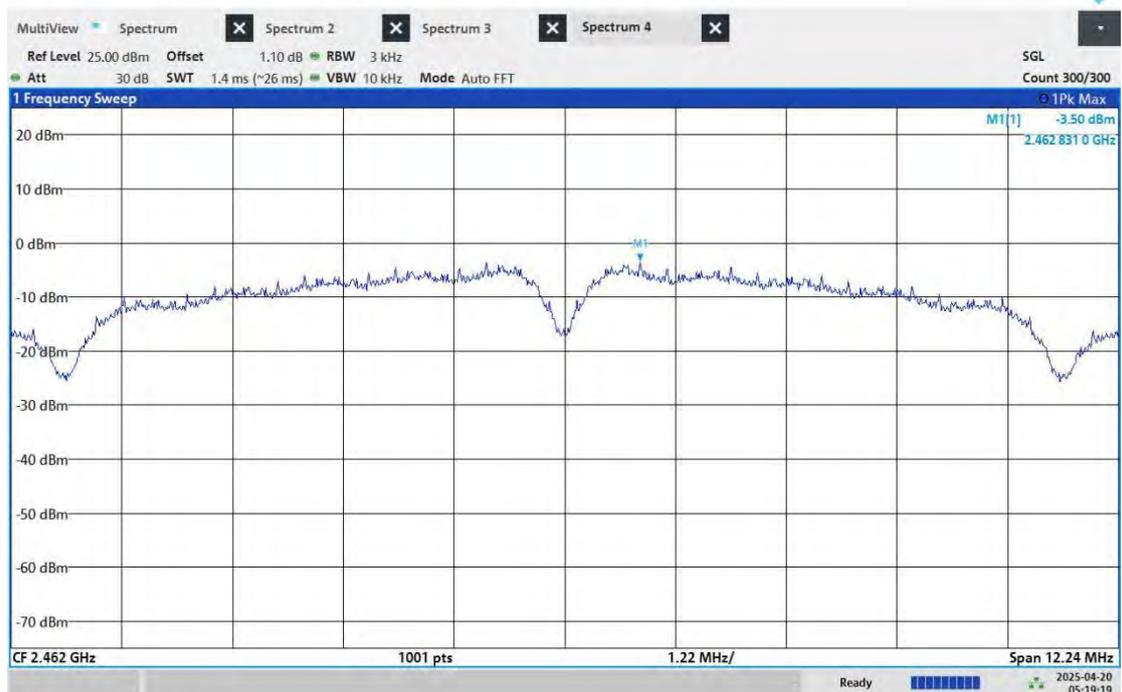
### TEST GRAPHS





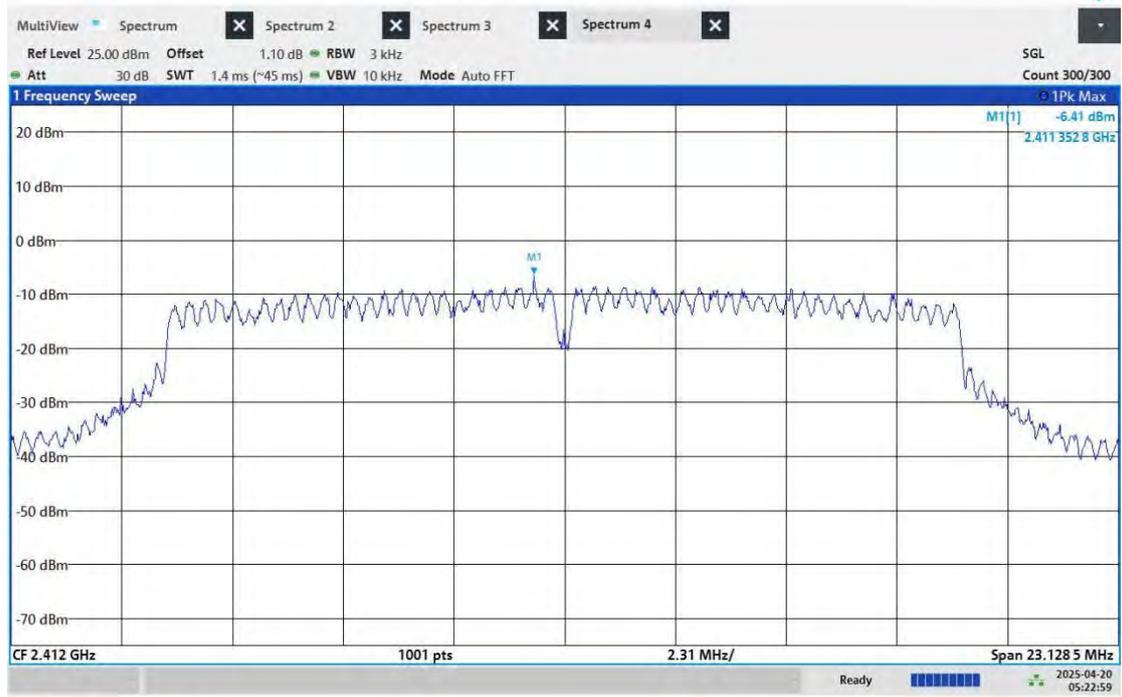
04:22:52 AM 04/20/2025

### 11B\_ANT6\_2462



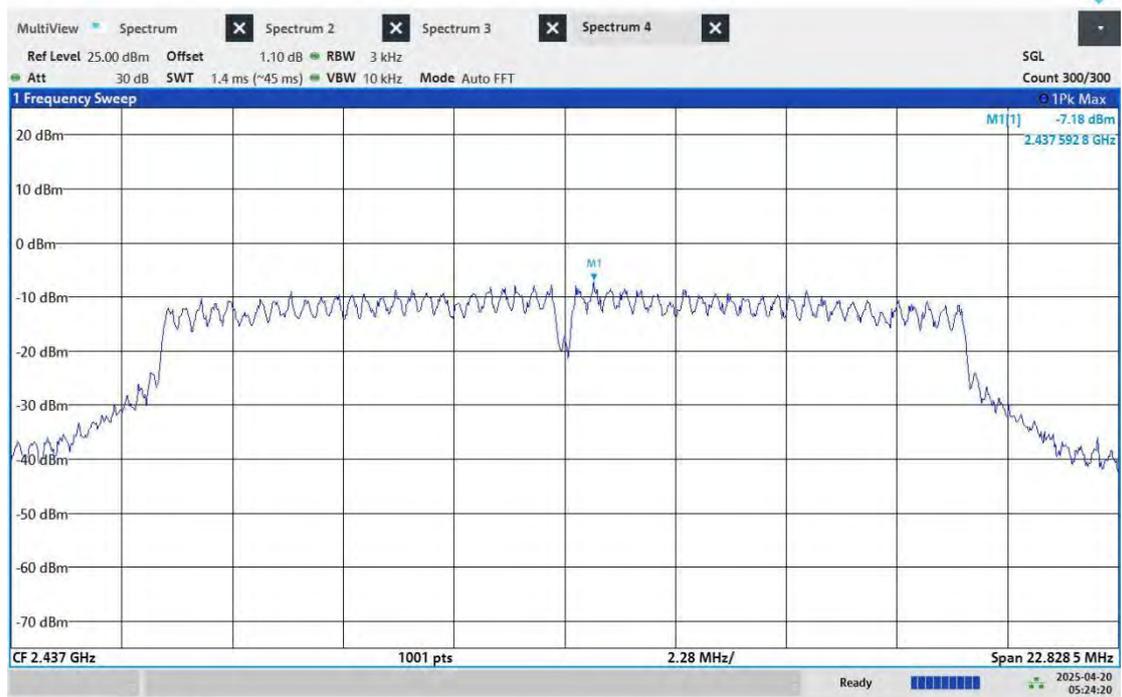
05:19:20 AM 04/20/2025

### 11G\_ANT6\_2412



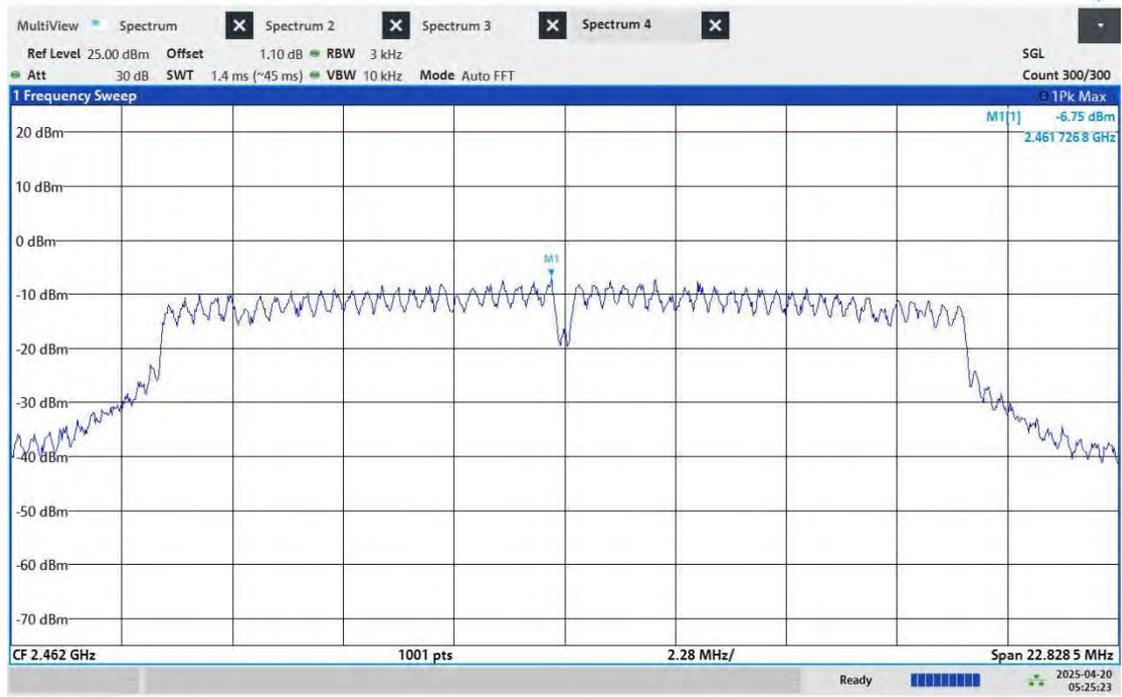
05:23:00 AM 04/20/2025

### 11G\_ANT6\_2437



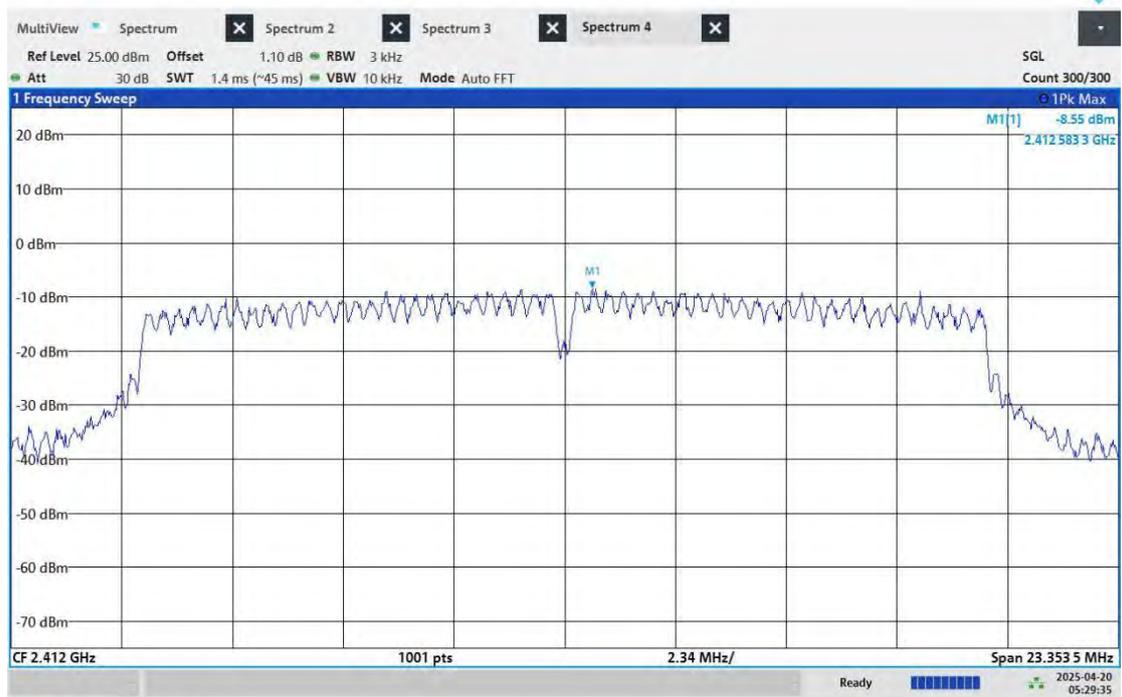
05:24:21 AM 04/20/2025

### 11G\_ANT6\_2462



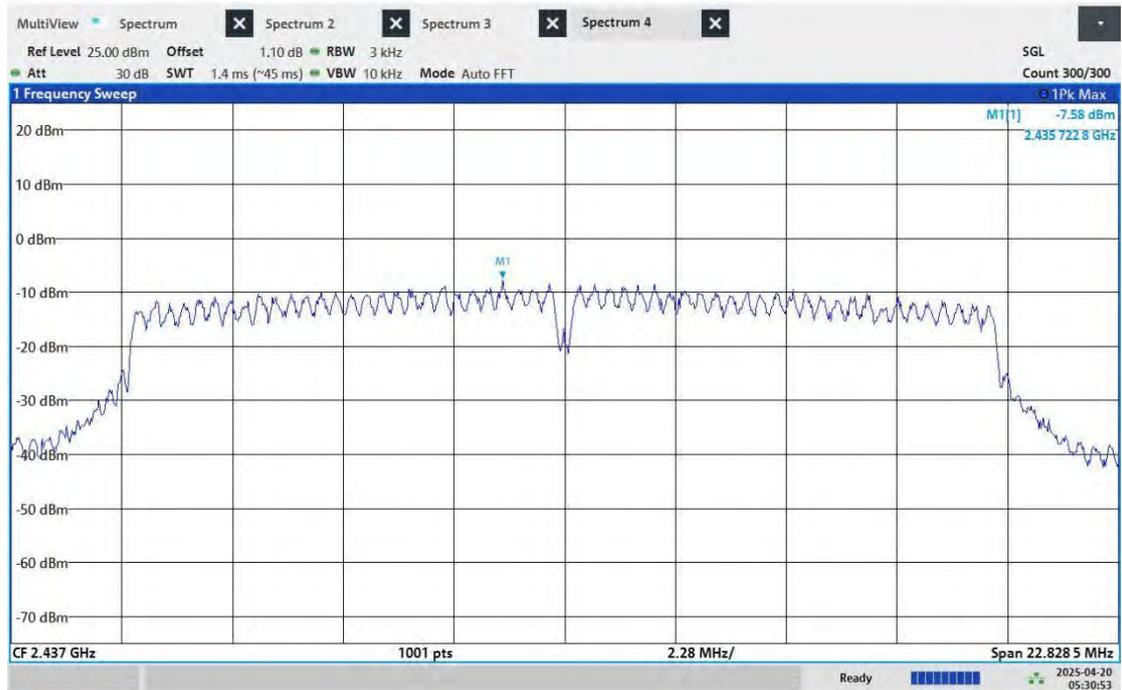
05:25:23 AM 04/20/2025

11N20\_ANT6\_2412



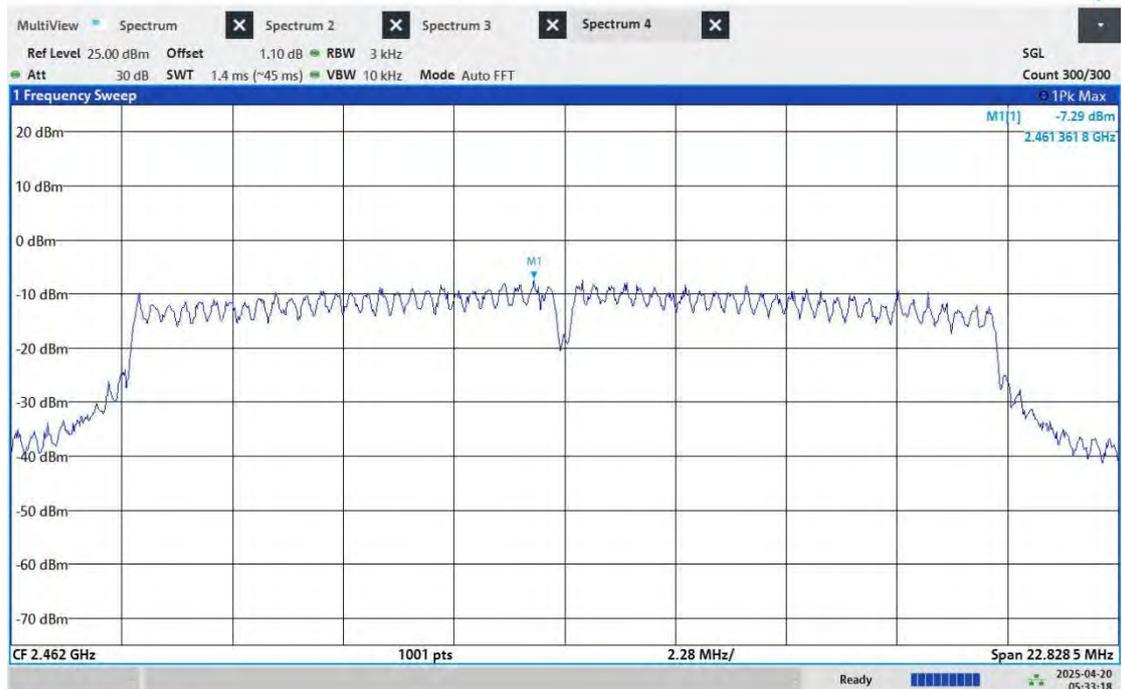
05:29:35 AM 04/20/2025

11N20\_ANT6\_2437



05:30:53 AM 04/20/2025

11N20\_ANT6\_2462



05:33:18 AM 04/20/2025



## BAND EDGE MEASUREMENTS

### TEST RESULT

| TestMode | Antenna | ChName | Frequency [MHz] | Result [dBm]   | Limit [dBm]    | Verdict |
|----------|---------|--------|-----------------|----------------|----------------|---------|
| 11B      | ANT6    | Low    | 2412            | See test graph | See test graph | PASS    |
|          | ANT6    | High   | 2462            | See test graph | See test graph | PASS    |
| 11G      | ANT6    | Low    | 2412            | See test graph | See test graph | PASS    |
|          | ANT6    | High   | 2462            | See test graph | See test graph | PASS    |
| 11N20    | ANT6    | Low    | 2412            | See test graph | See test graph | PASS    |
|          | ANT6    | High   | 2462            | See test graph | See test graph | PASS    |

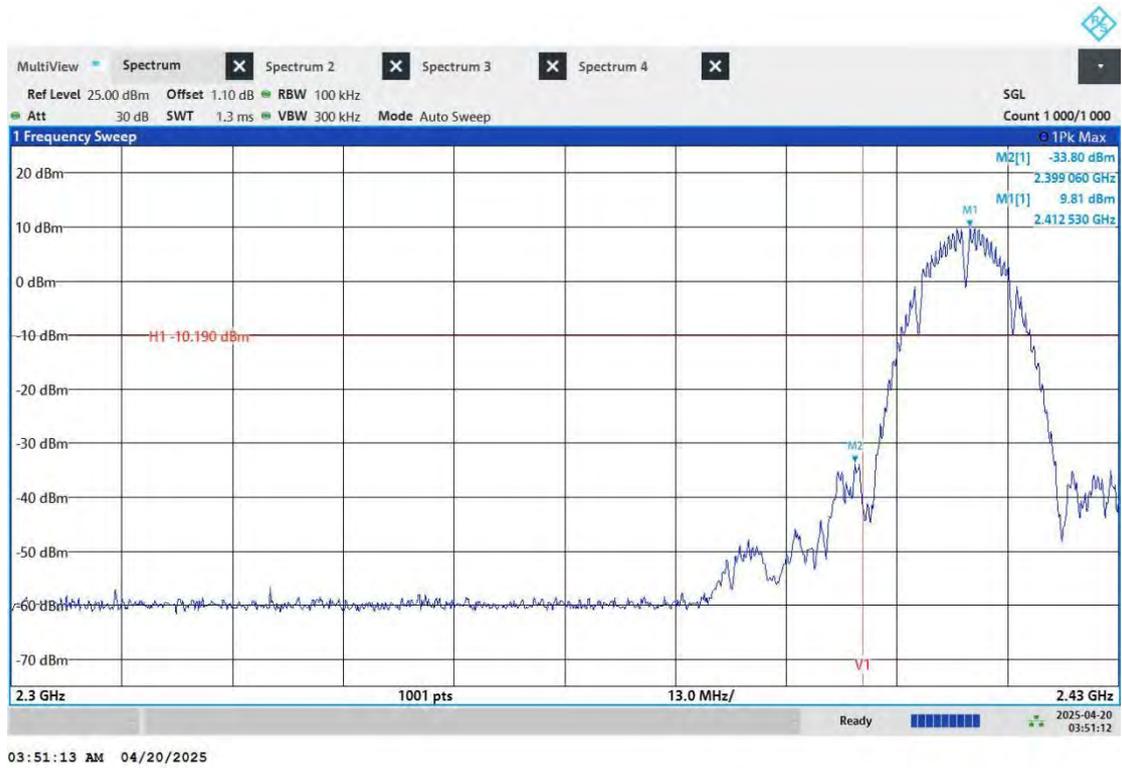


BUREAU  
VERITAS

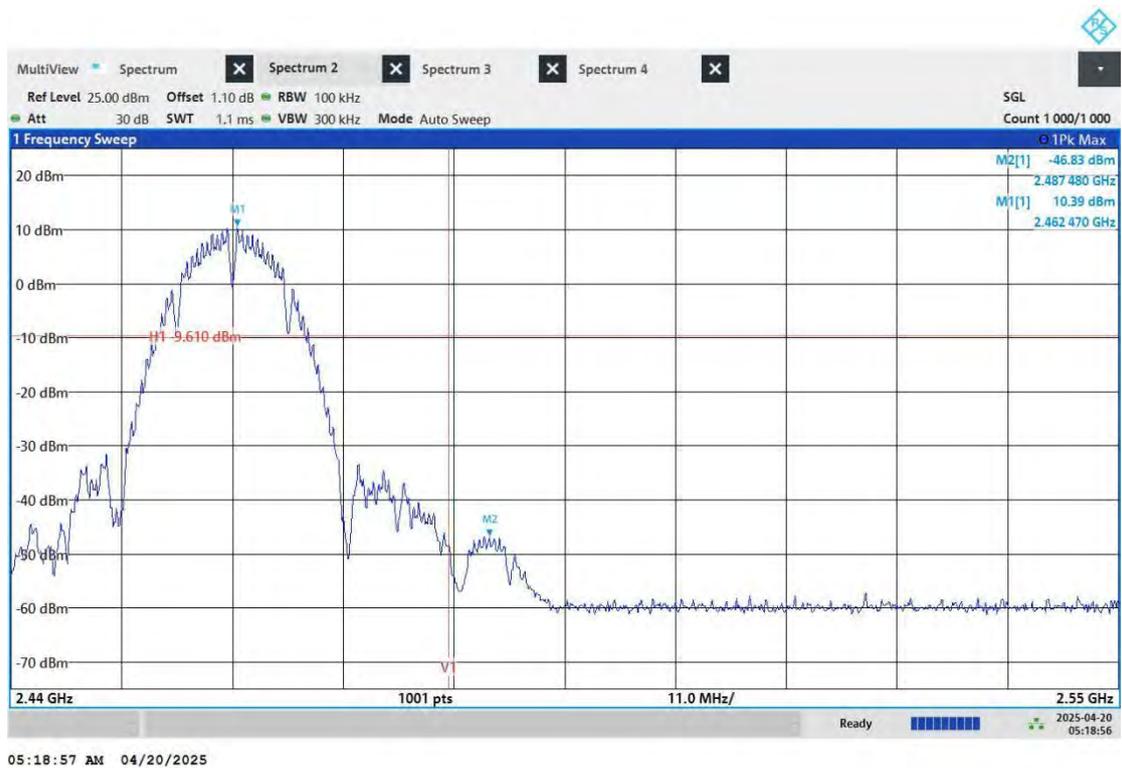
Test Report No.: PSZ-QBJ2504140315RF07

### TEST GRAPHS

#### 11B-CDD\_ANT6\_Low\_2412



#### 11B-CDD\_ANT6\_High\_2462

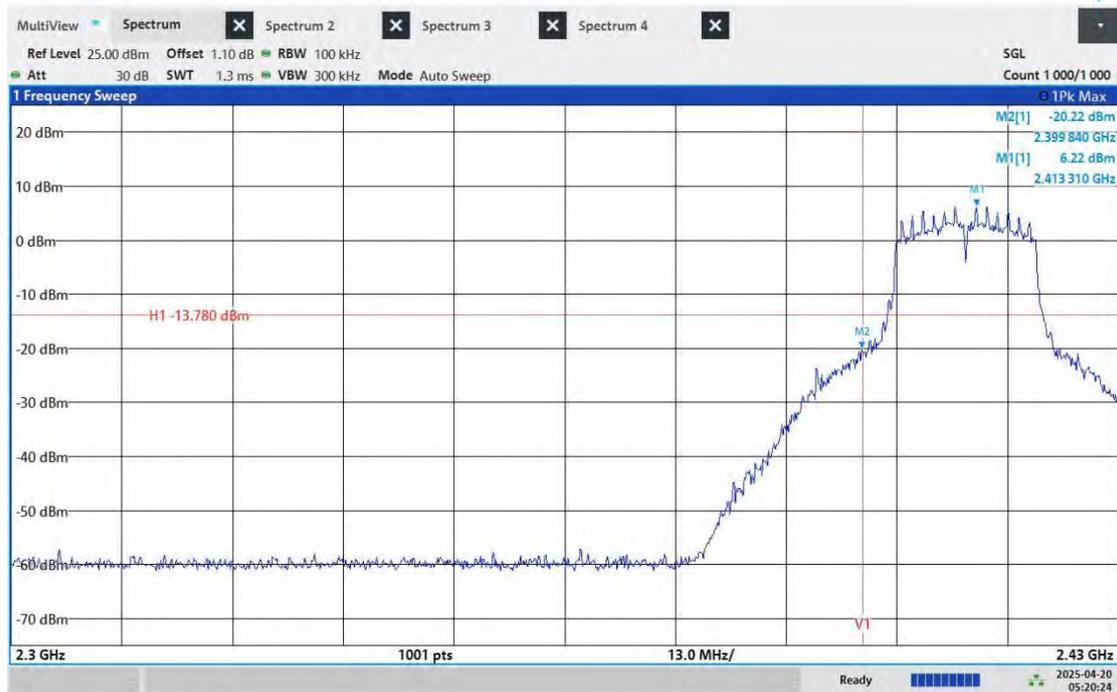


#### 11G-CDD\_ANT6\_Low\_2412

Huarui 7layers High Technology  
(Suzhou) Co., Ltd.

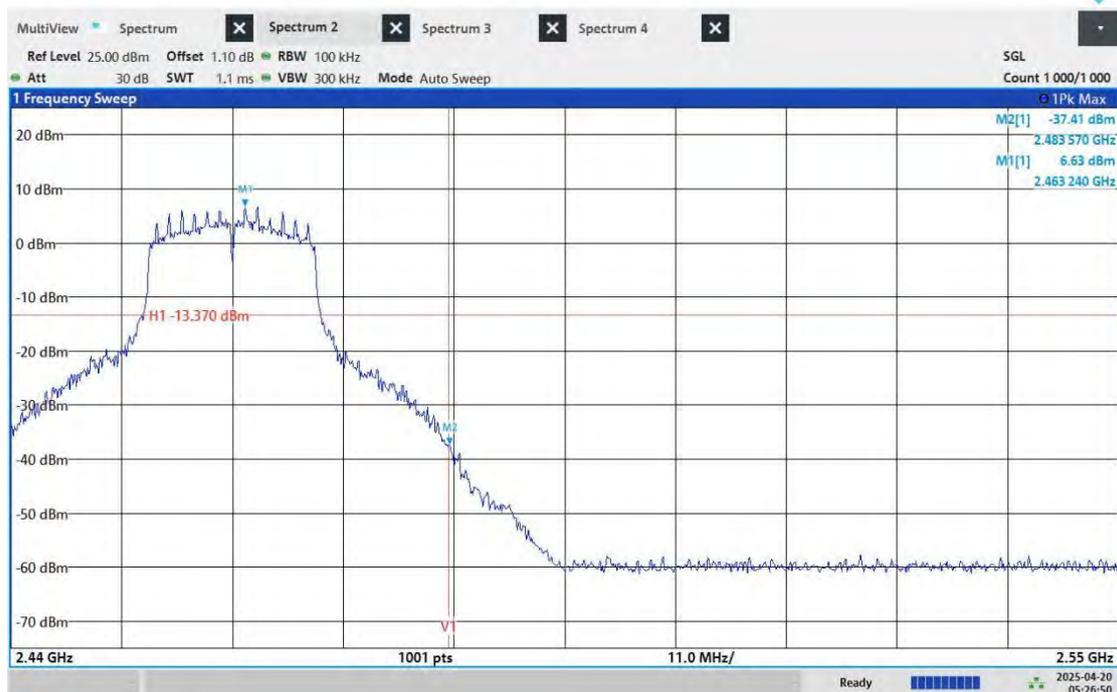
Tower N, Innovation Center, 88 Zuyi Road, High-tech  
District, Suzhou City, Anhui Province, China

Tel: +86 (0557) 368 1008



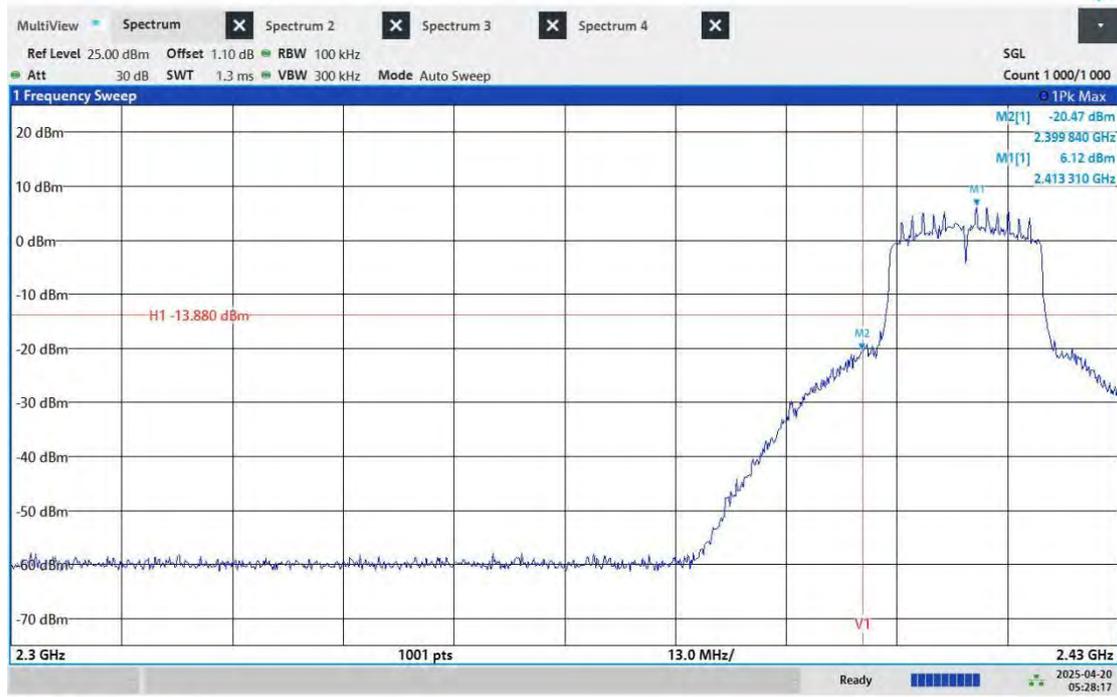
05:20:25 AM 04/20/2025

### 11G-CDD\_ANT6\_High\_2462

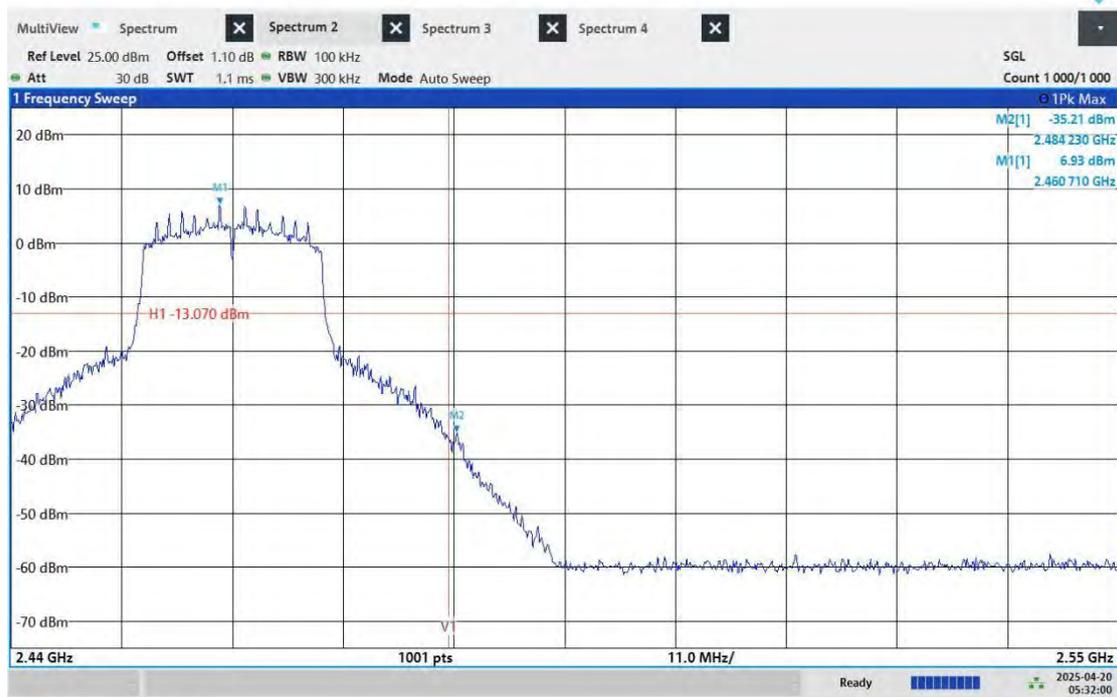


05:26:50 AM 04/20/2025

### 11N20SISO\_ANT6\_Low\_2412



11N20SISO\_ANT6\_High\_2462





## CONDUCTED SPURIOUS EMISSION

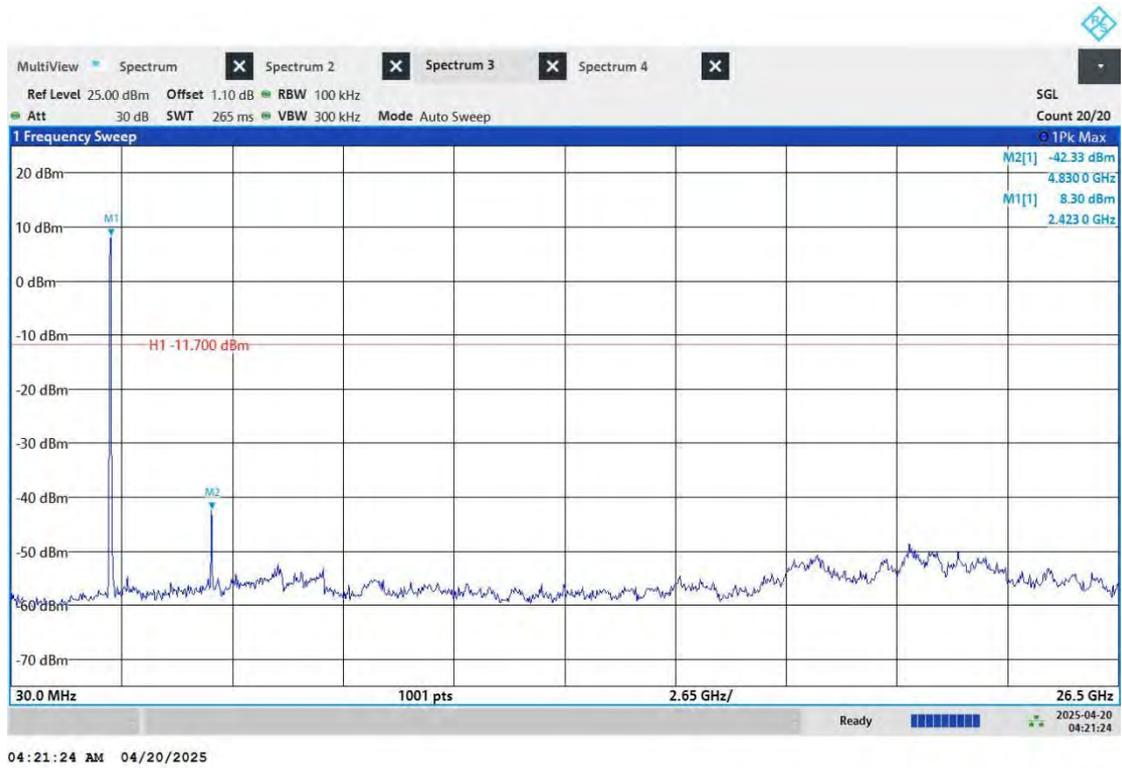
### TEST RESULT

| TestMode | Antenna | Frequency[MHz] | FreqRange [Mhz] | Result [dBm]   | Limit [dBm]    | Verdict |
|----------|---------|----------------|-----------------|----------------|----------------|---------|
| 11B      | ANT6    | 2412           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2437           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2462           | 30~260000       | See test graph | See test graph | PASS    |
| 11G      | ANT6    | 2412           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2437           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2462           | 30~260000       | See test graph | See test graph | PASS    |
| 11N20    | ANT6    | 2412           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2437           | 30~260000       | See test graph | See test graph | PASS    |
|          | ANT6    | 2462           | 30~260000       | See test graph | See test graph | PASS    |

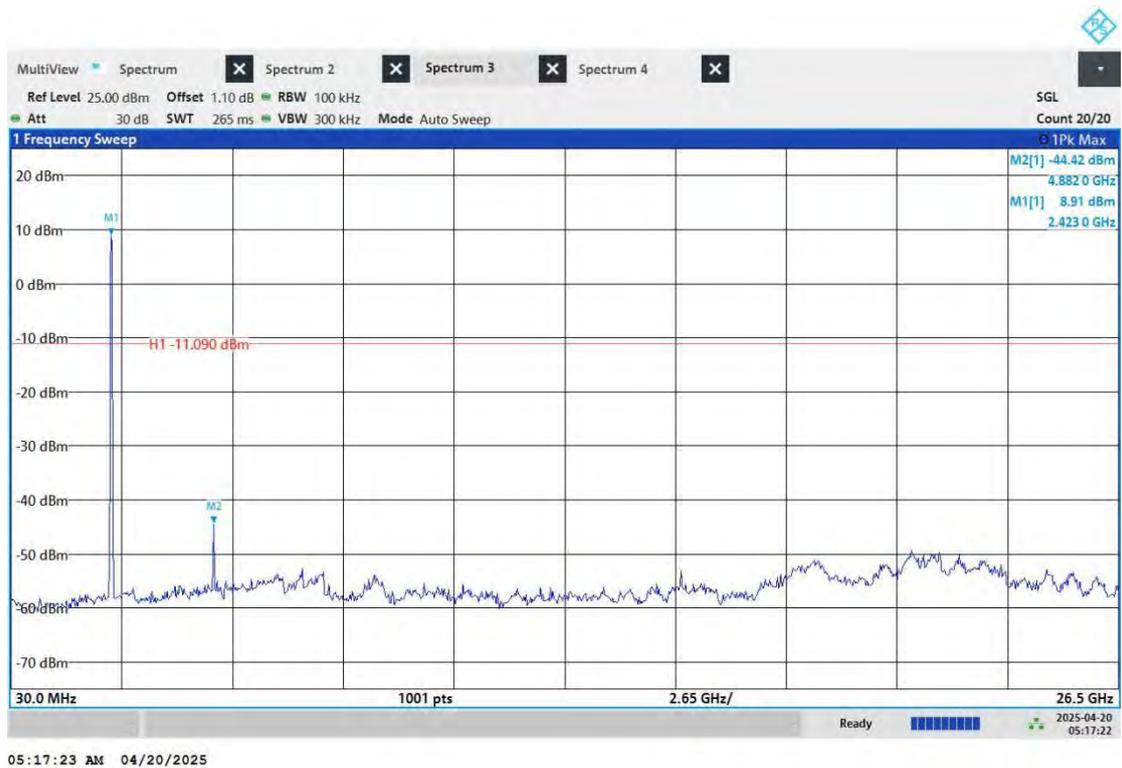


TEST GRAPHS

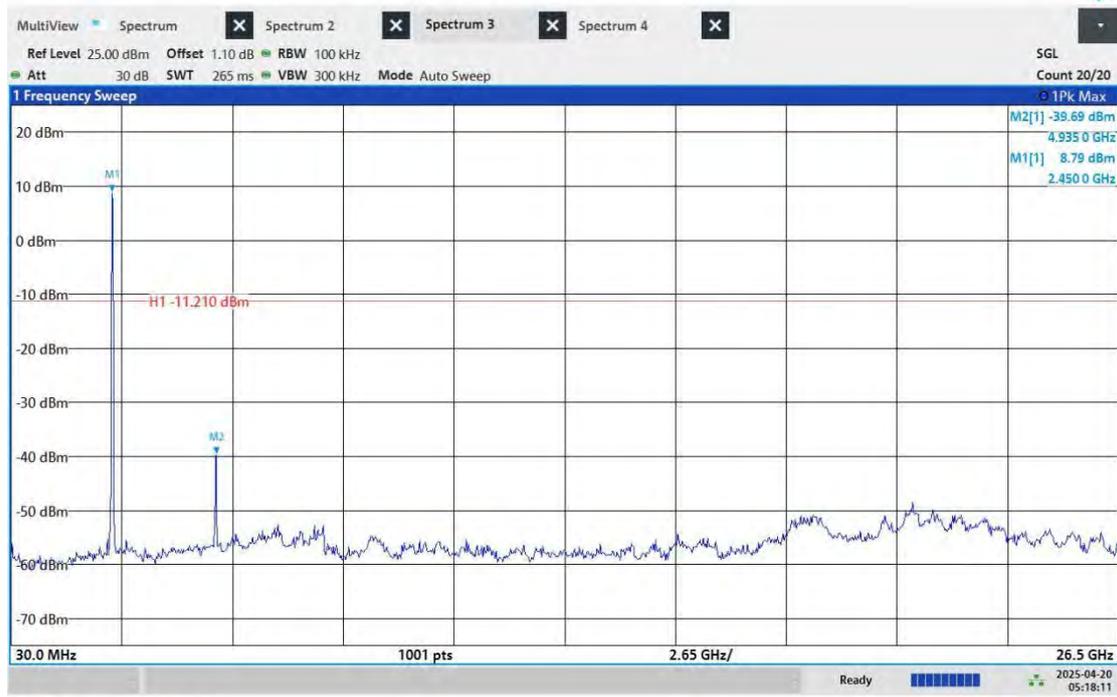
11B\_ANT6\_2412\_30~260000



11B\_ANT6\_2437\_30~260000

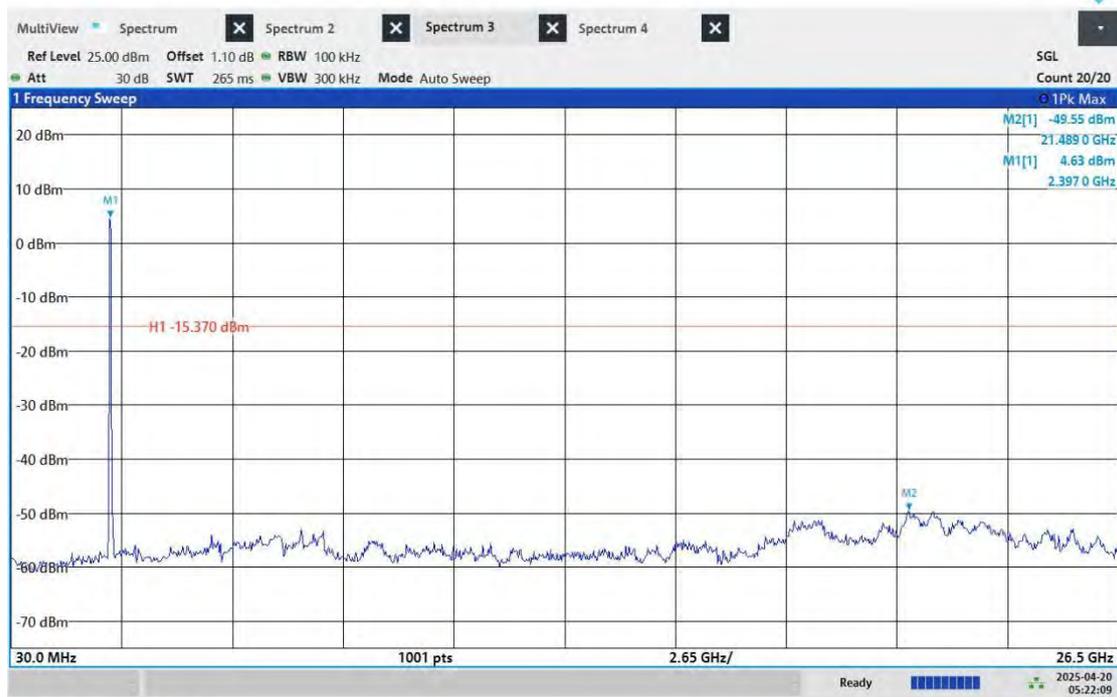


11B\_ANT6\_2462\_30~260000



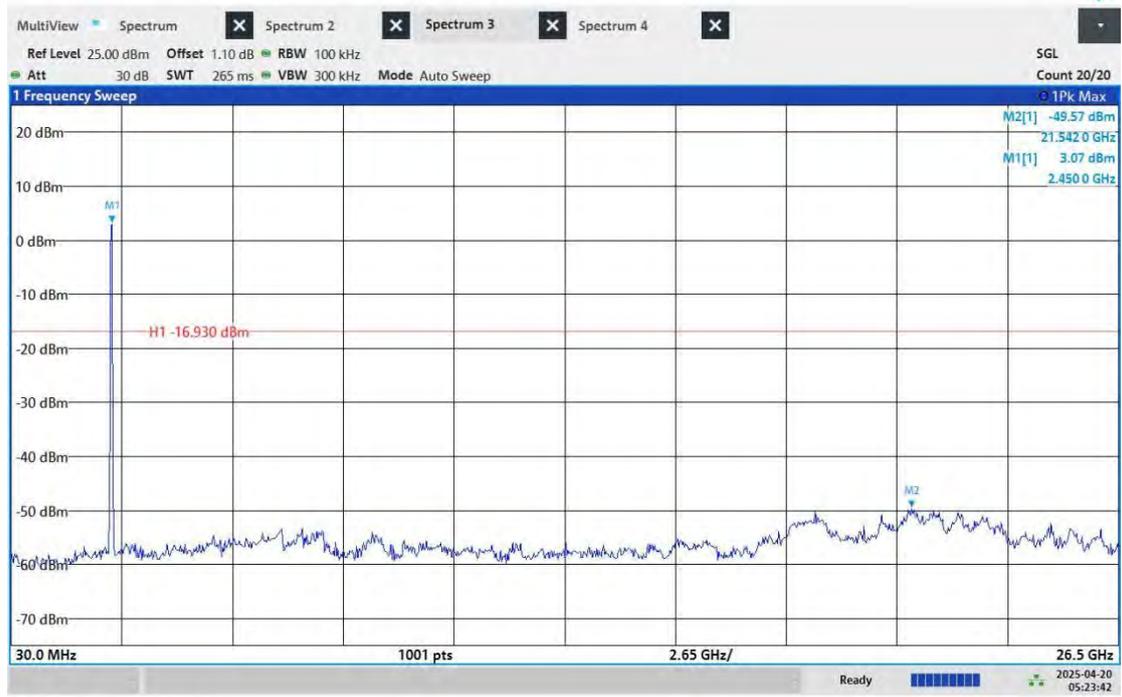
05:18:11 AM 04/20/2025

11G\_ANT6\_2412\_30~260000



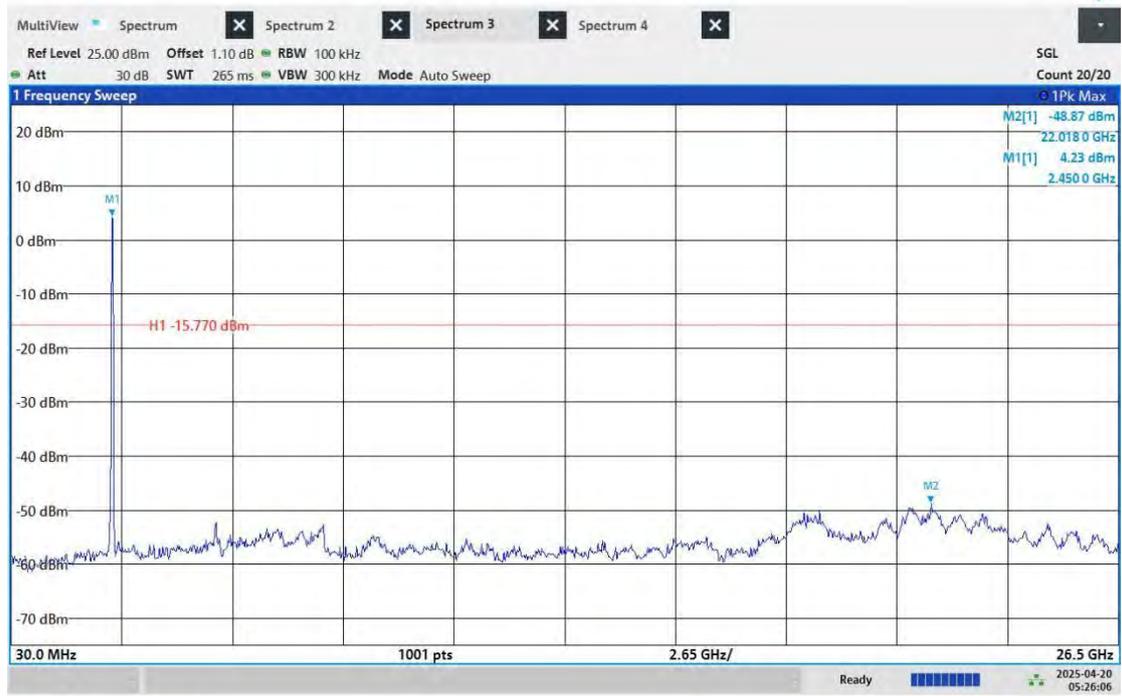
05:22:10 AM 04/20/2025

11G\_ANT6\_2437\_30~260000



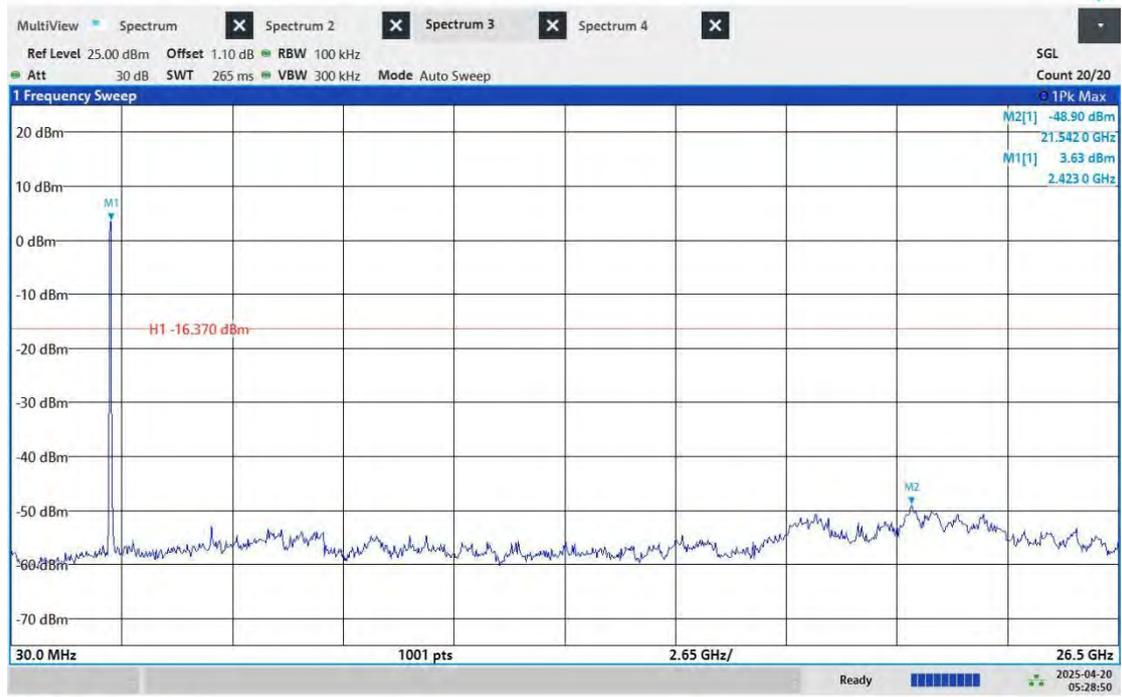
05:23:43 AM 04/20/2025

11G\_ANT6\_2462\_30~260000



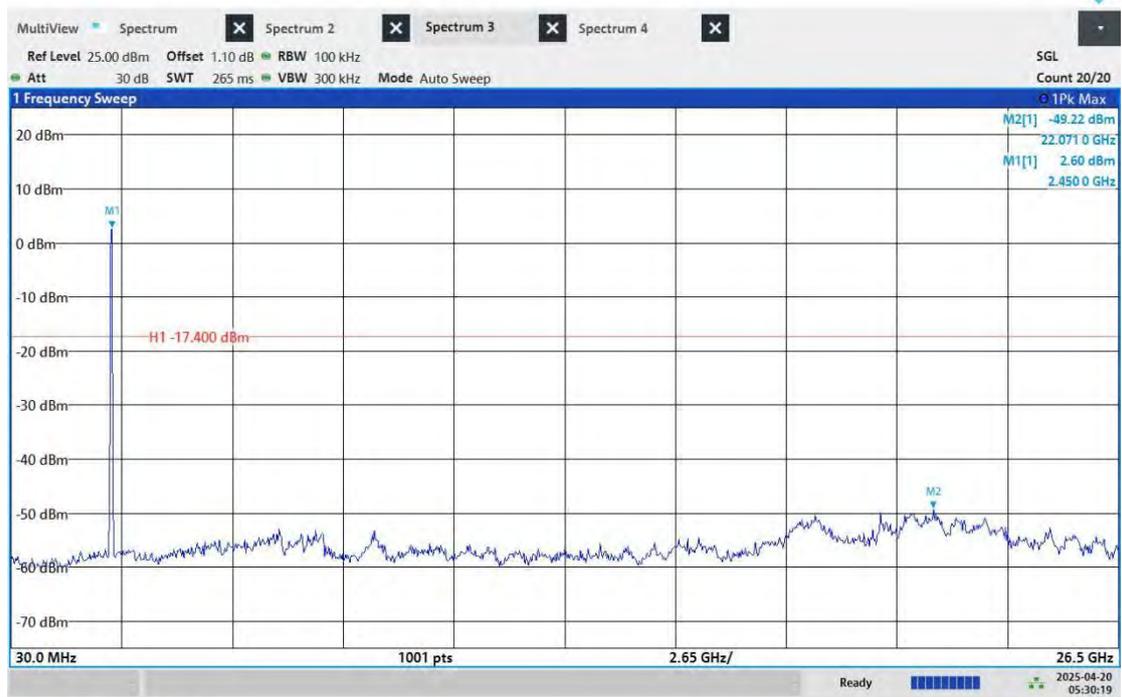
05:26:06 AM 04/20/2025

11N20\_ANT6\_2412\_30~260000



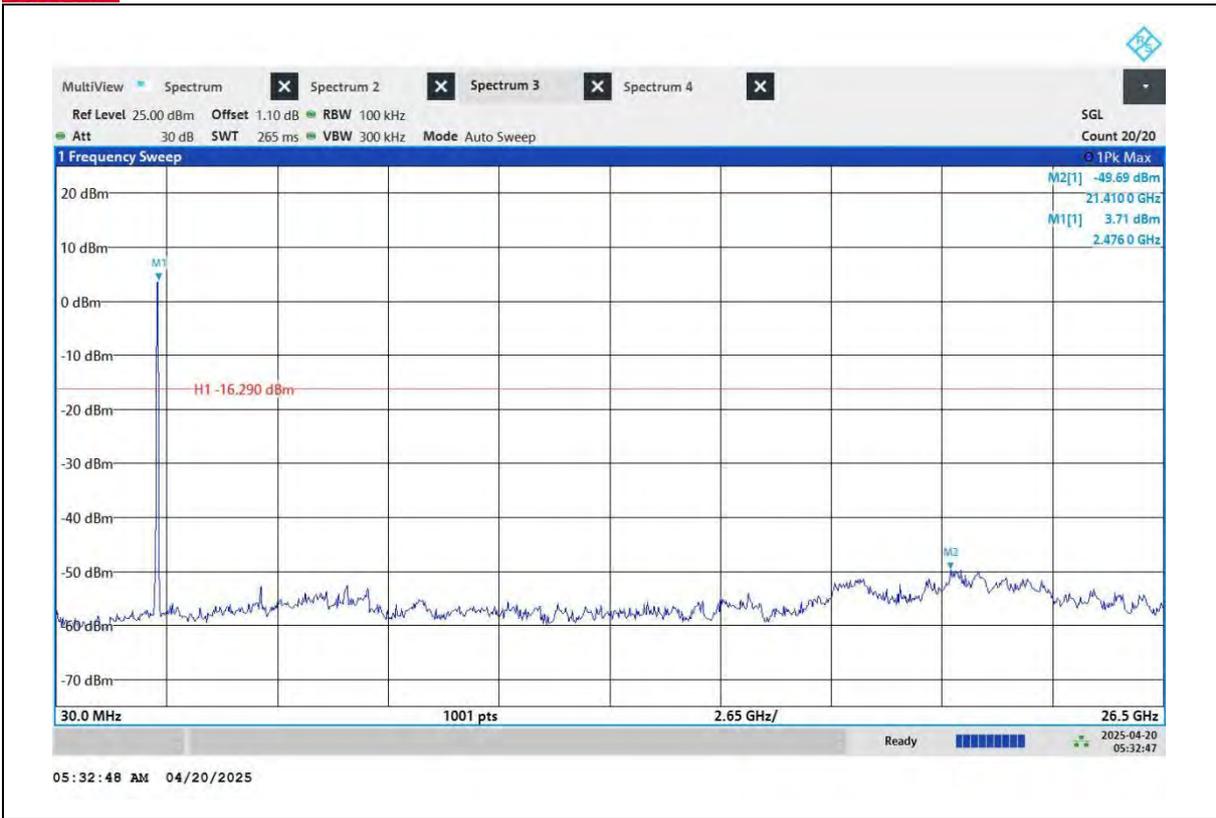
05:28:50 AM 04/20/2025

11N20\_ANT6\_2437\_30~260000



05:30:20 AM 04/20/2025

11N20\_ANT6\_2462\_30~260000





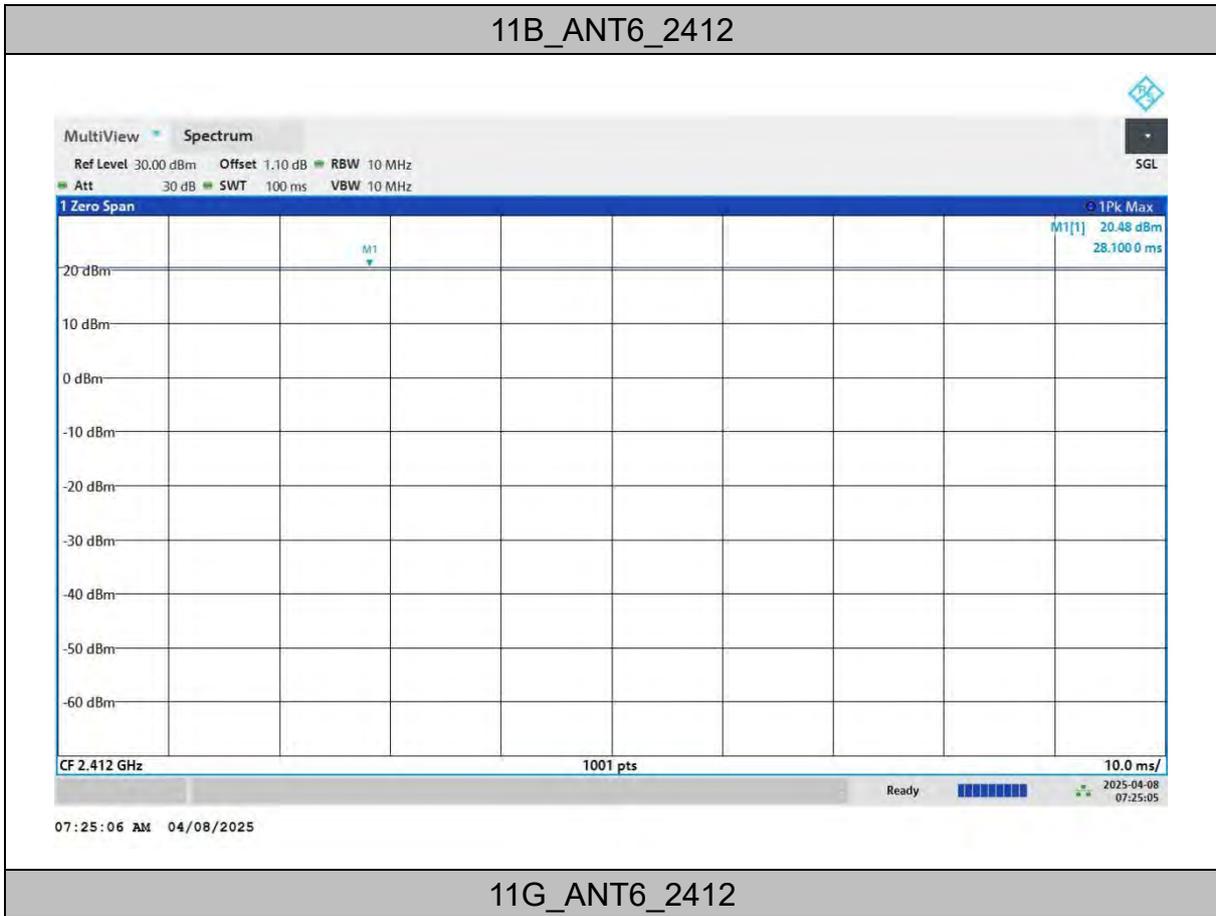
## DUTY CYCLE

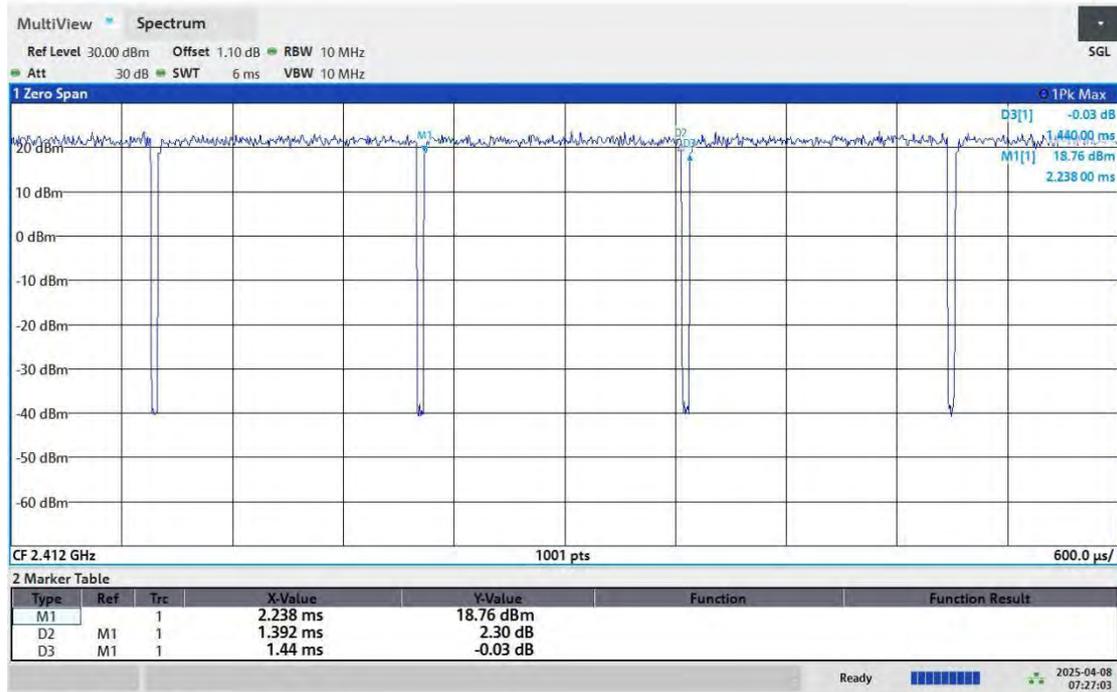
### TEST RESULT

| TestMode | Antenna | Frequency[MHz] | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | dutycycle factor |
|----------|---------|----------------|----------------------------|--------------------------|----------------|------------------|
| 11B      | ANT6    | 2412           | 100                        | 100                      | 100            | 0                |
| 11G      | ANT6    | 2412           | 1.392                      | 1.44                     | 96.67          | 0.15             |
| 11N20    | ANT6    | 2412           | 1.302                      | 1.344                    | 96.88          | 0.14             |



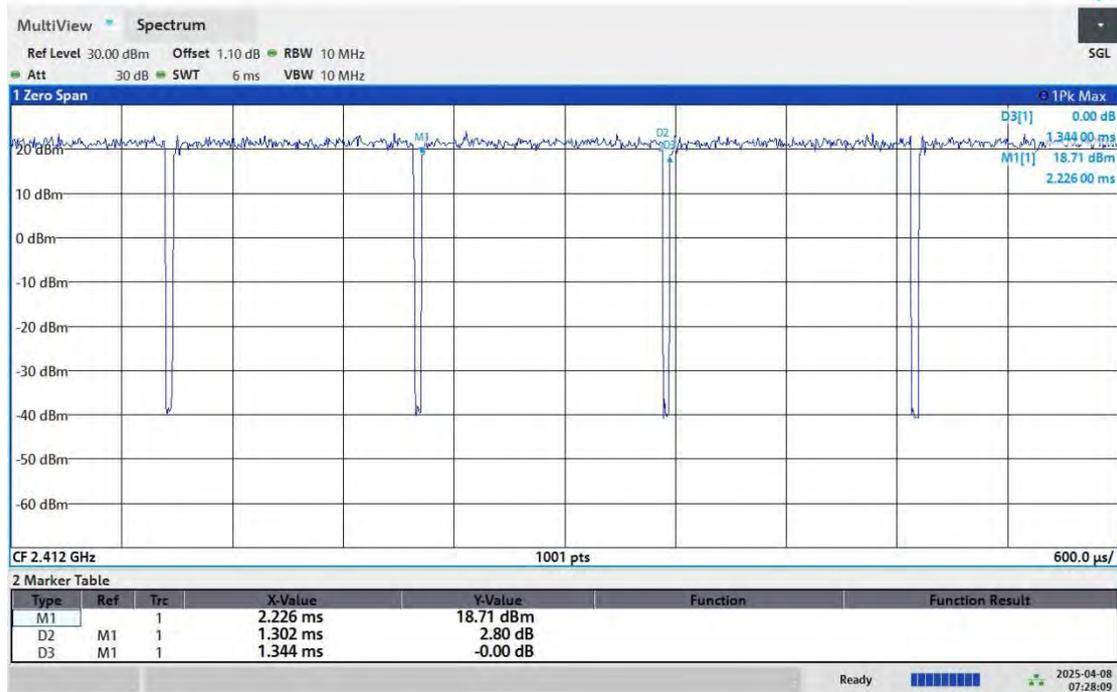
### TEST GRAPHS





07:27:04 AM 04/08/2025

### 11N20\_ANT6\_2412



07:28:09 AM 04/08/2025



## 7 APPENDIX B:BLE

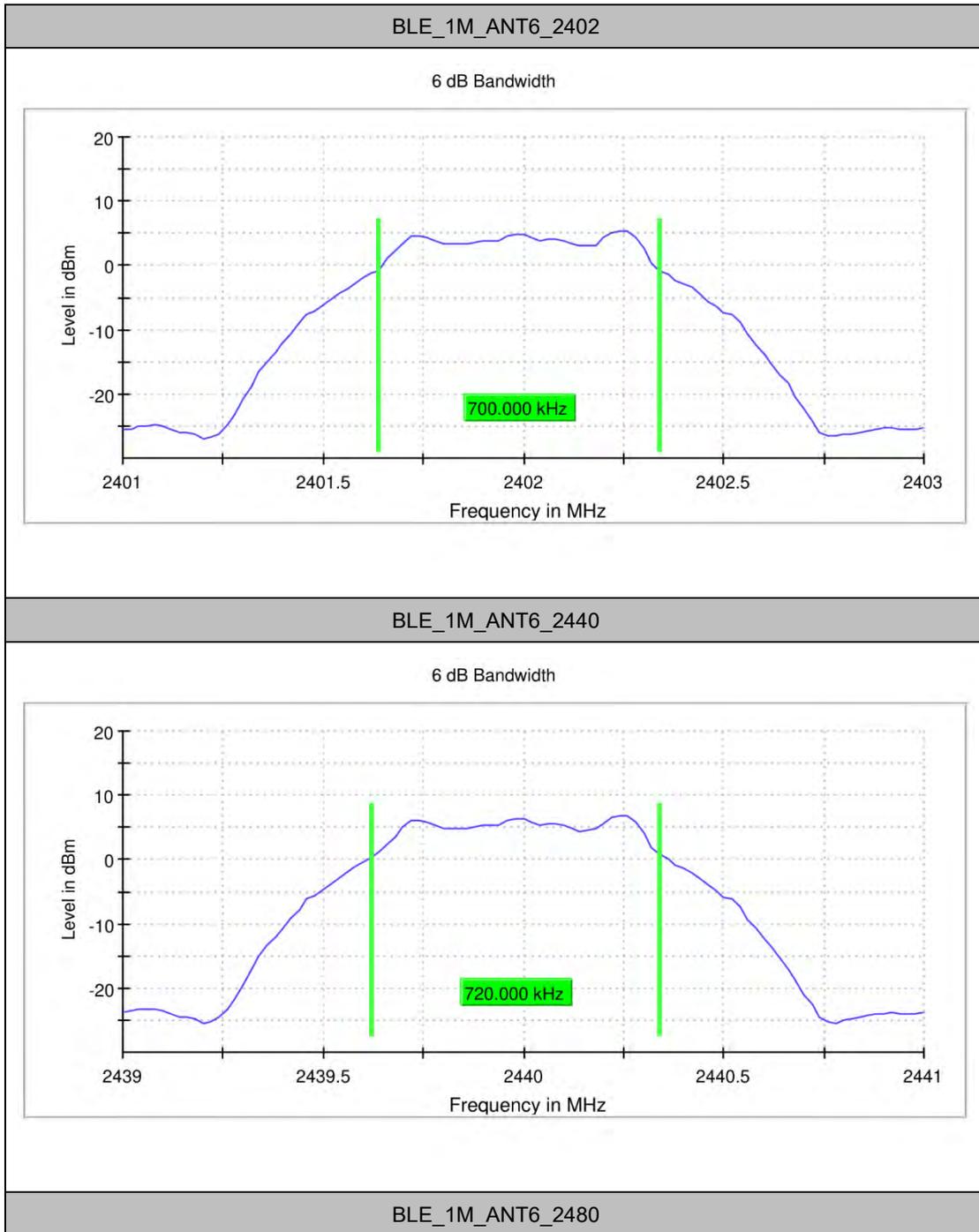
### DTS BANDWIDTH

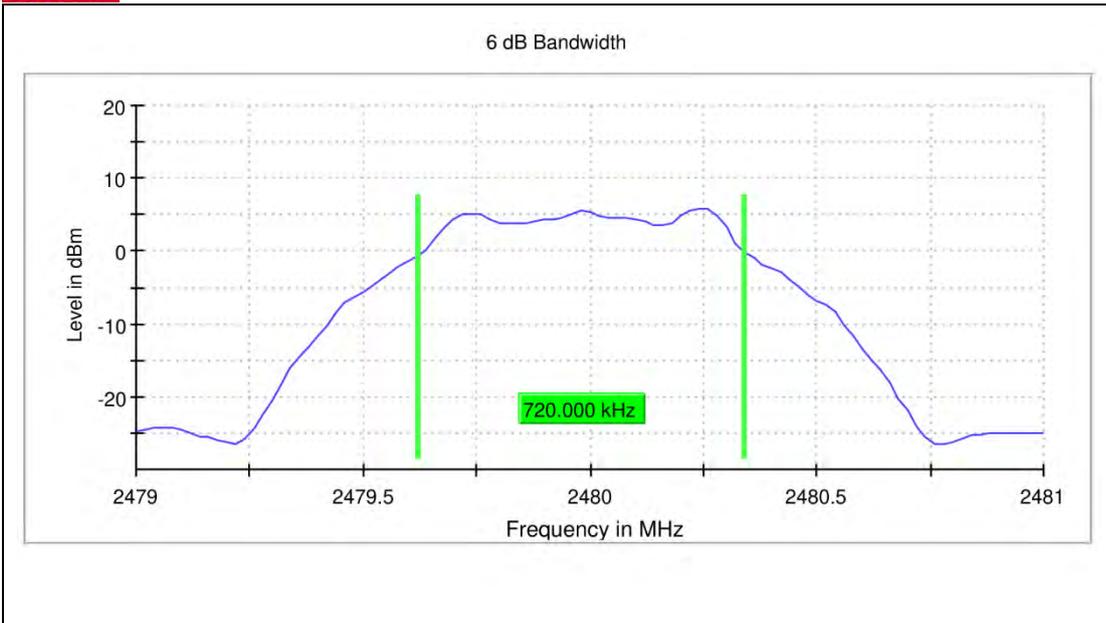
#### TEST RESULT

| TestMode | Antenna | Channel | DTS BW<br>[MHz] | FL[MHz]  | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-----------------|----------|---------|------------|---------|
| BLE_1M   | ANT6    | 2402    | 0.700           | 2401.640 | 2402.34 | 0.5        | PASS    |
|          |         | 2440    | 0.720           | 2439.620 | 2440.34 | 0.5        | PASS    |
|          |         | 2480    | 0.720           | 2479.620 | 2480.34 | 0.5        | PASS    |
| BLE_2M   | ANT6    | 2404    | 1.240           | 2403.360 | 2404.60 | 0.5        | PASS    |
|          |         | 2440    | 1.280           | 2439.360 | 2440.64 | 0.5        | PASS    |
|          |         | 2478    | 1.280           | 2477.360 | 2478.64 | 0.5        | PASS    |
| BLE-S2   | ANT6    | 2402    | 0.720           | 2401.640 | 2402.36 | 0.5        | PASS    |
|          |         | 2440    | 0.740           | 2439.620 | 2440.36 | 0.5        | PASS    |
|          |         | 2480    | 0.720           | 2479.640 | 2480.36 | 0.5        | PASS    |
| BLE_S8   | ANT6    | 2402    | 0.740           | 2401.620 | 2402.36 | 0.5        | PASS    |
|          |         | 2440    | 0.740           | 2439.620 | 2440.36 | 0.5        | PASS    |
|          |         | 2480    | 0.740           | 2479.620 | 2480.36 | 0.5        | PASS    |

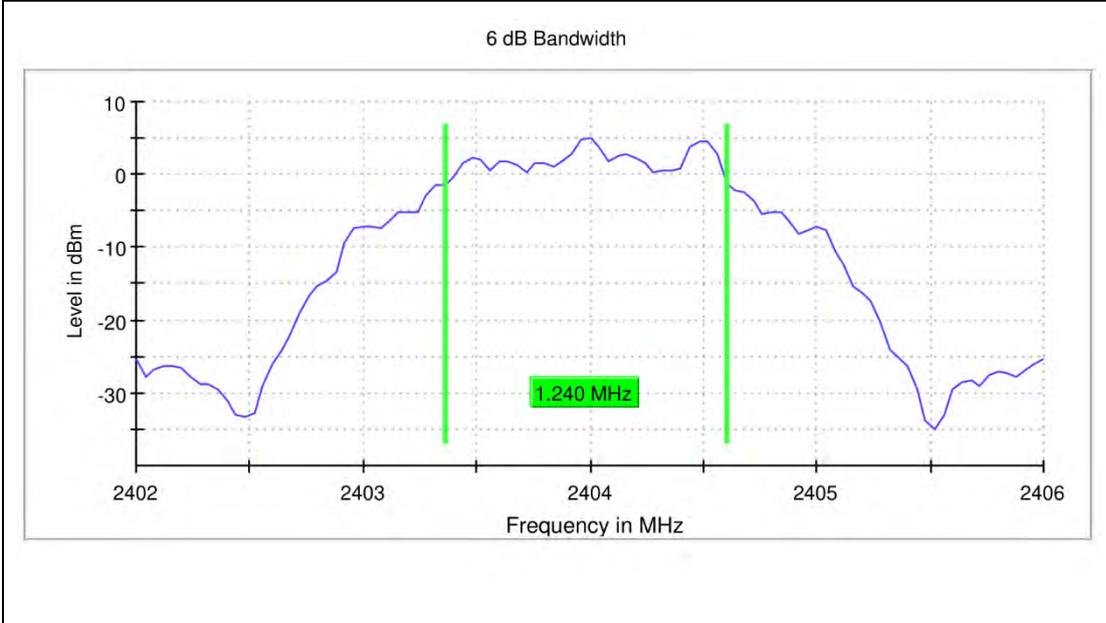


### TEST GRAPHS

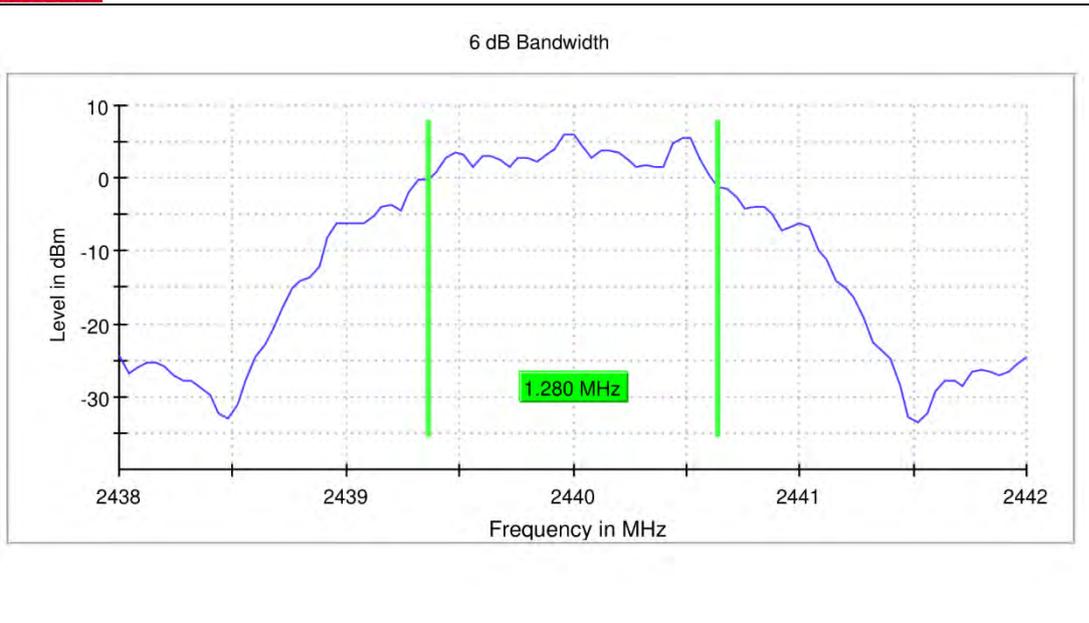




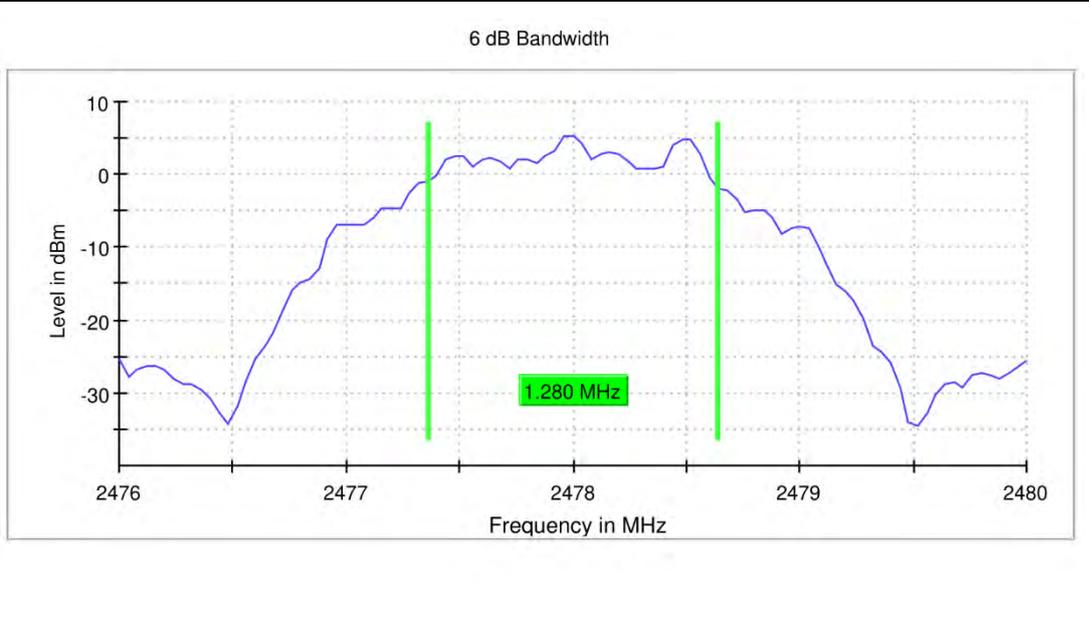
BLE\_2M\_ANT6\_2404



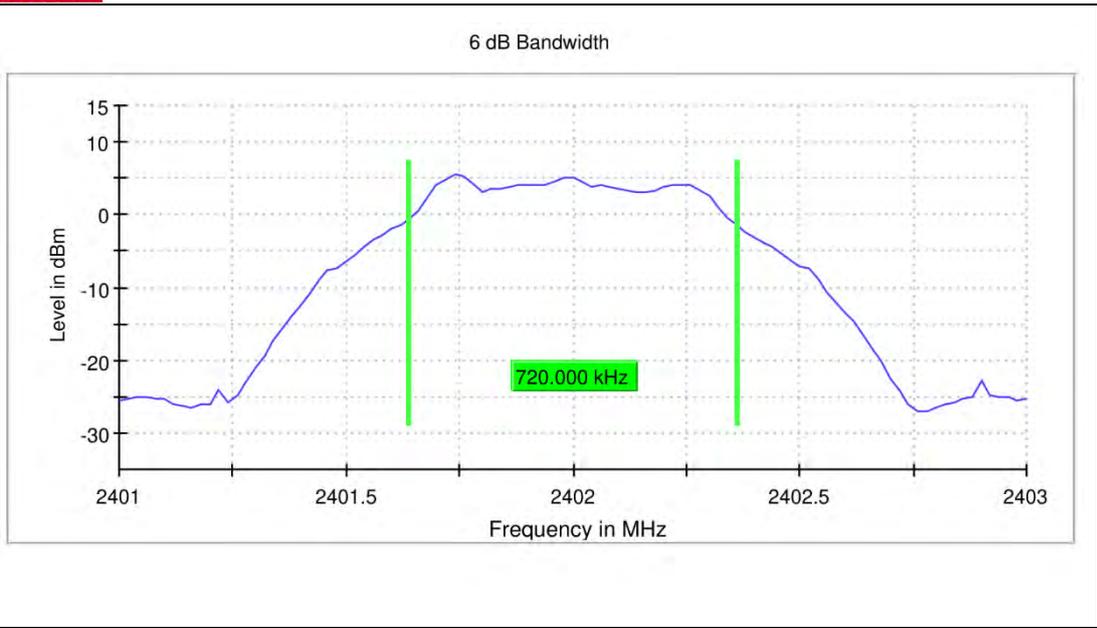
BLE\_2M\_ANT6\_2440



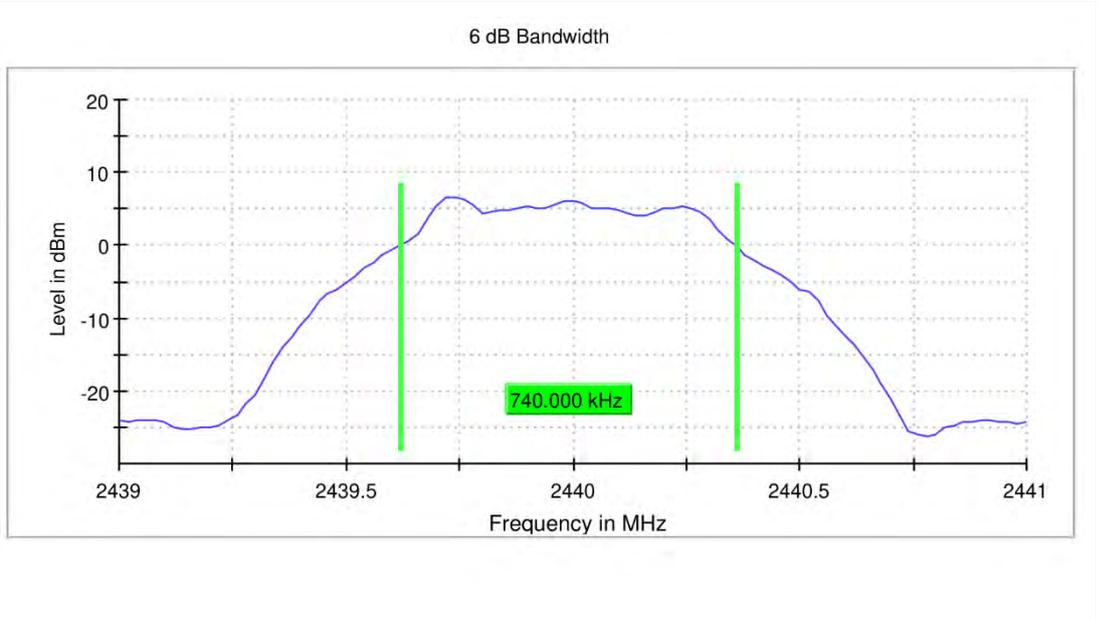
BLE\_2M\_ANT6\_2478



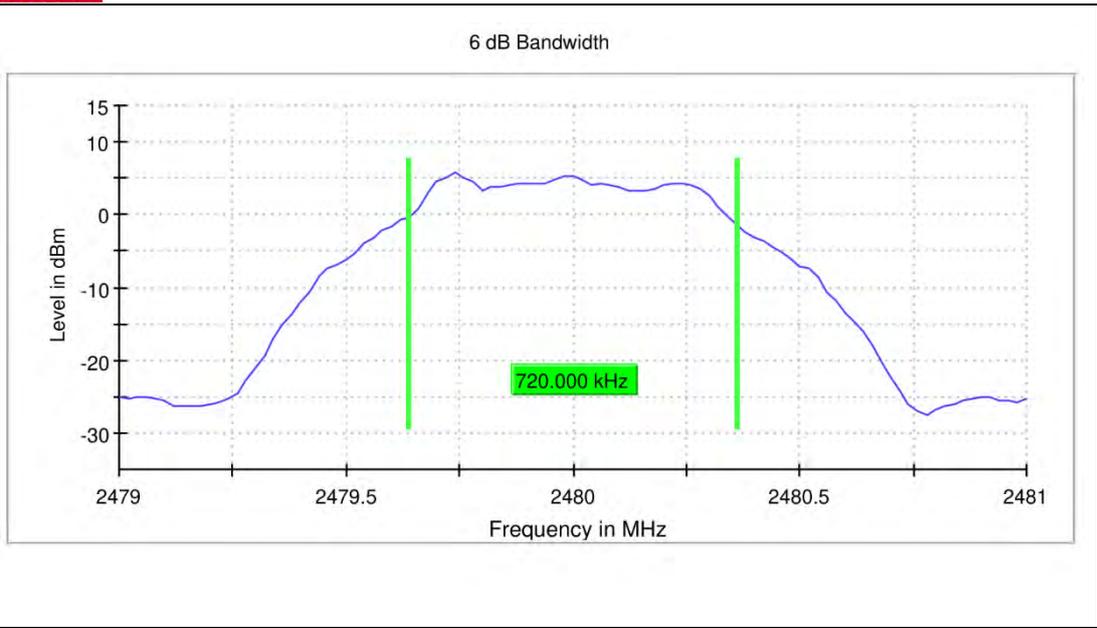
BLE\_S2\_ANT6\_2402



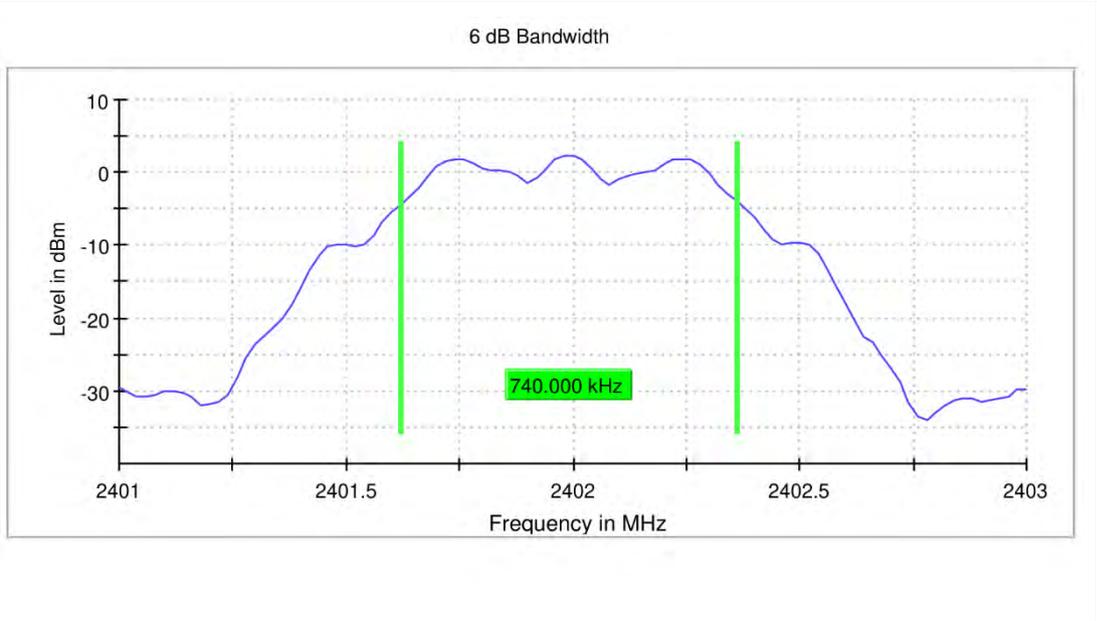
BLE\_S2\_ANT6\_2440



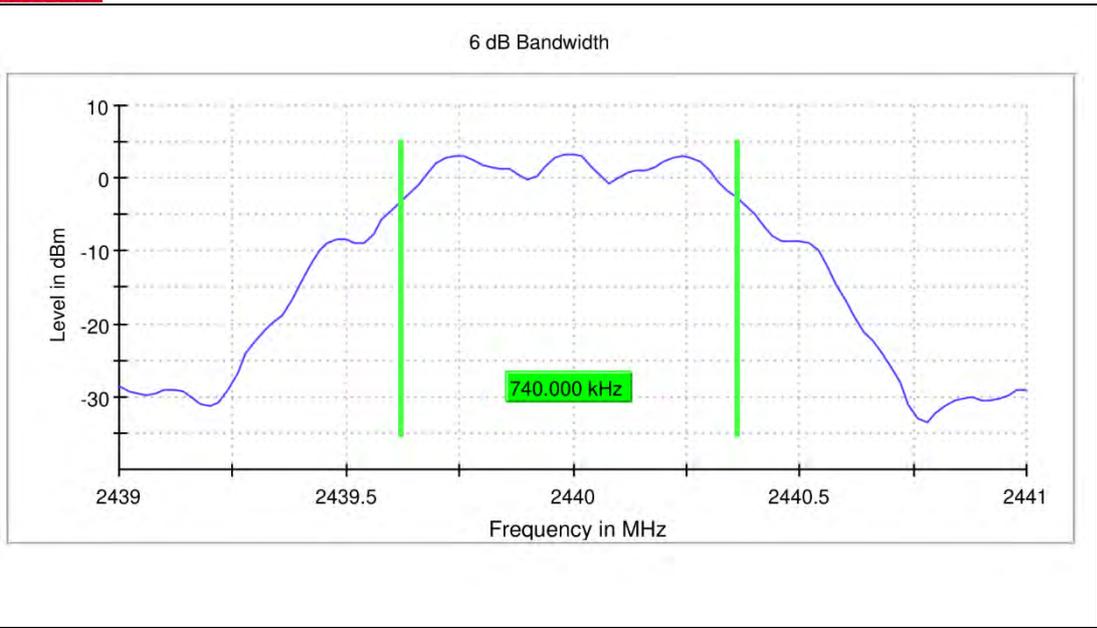
BLE\_S2\_ANT6\_2480



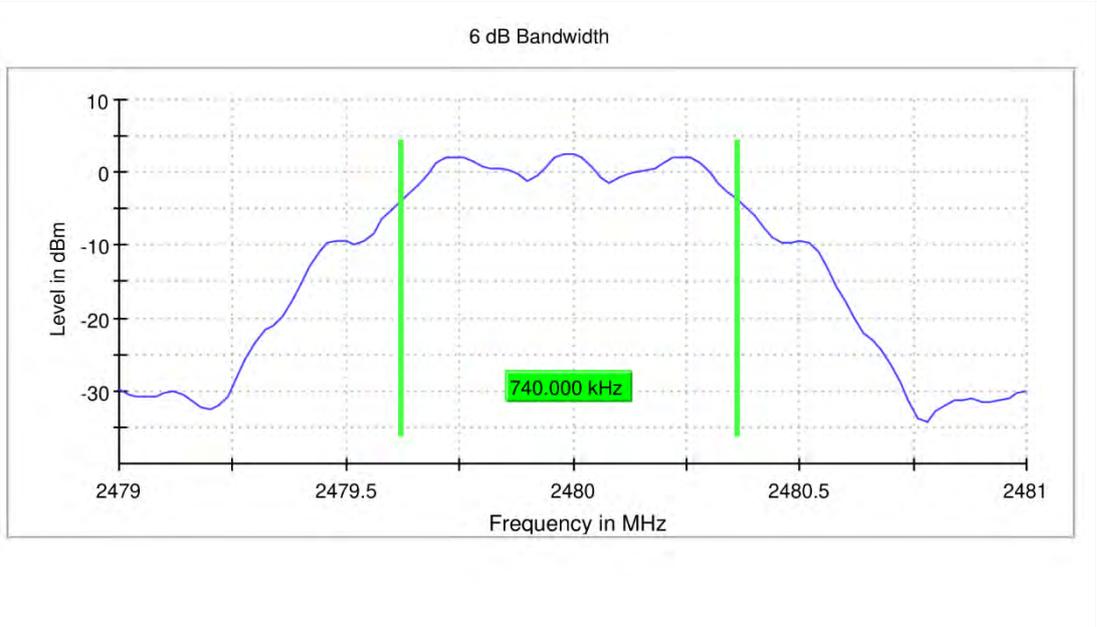
BLE\_S8\_ANT6\_2402



BLE\_S8\_ANT6\_2440



BLE\_S8\_ANT6\_2480



RBW 100.000 kHz

VBW 300.000 kHz



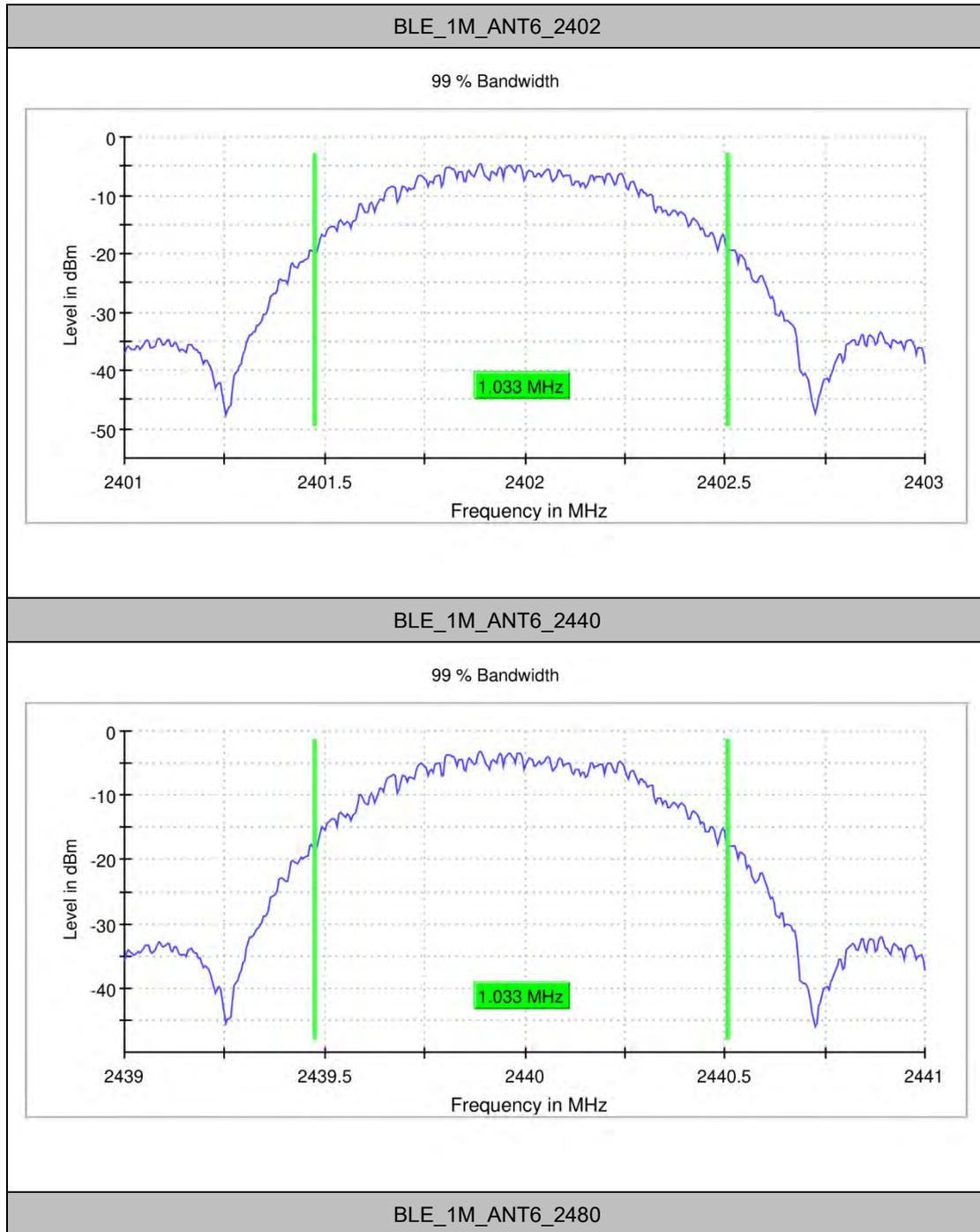
## OCCUPIED CHANNEL BANDWIDTH

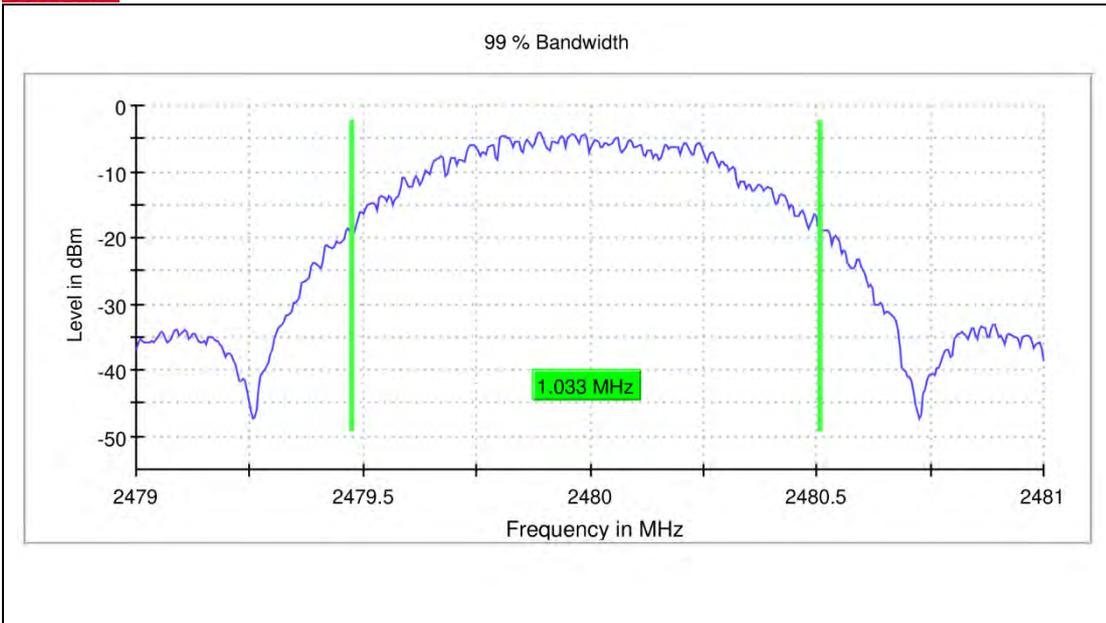
### TEST RESULT

| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-----------|----------|---------|------------|---------|
| BLE_1M   | ANT6    | 2402    | 1.033     | 2401.476 | 2402.51 | 2400-24835 | PASS    |
|          |         | 2440    | 1.033     | 2439.476 | 2440.51 | 2400-24835 | PASS    |
|          |         | 2480    | 1.033     | 2479.476 | 2480.51 | 2400-24835 | PASS    |
| BLE_2M   | ANT6    | 2404    | 2.075     | 2402.962 | 2405.04 | 2400-24835 | PASS    |
|          |         | 2440    | 2.065     | 2438.962 | 2441.03 | 2400-24835 | PASS    |
|          |         | 2478    | 2.065     | 2476.962 | 2479.03 | 2400-24835 | PASS    |
| BLE-S2   | ANT6    | 2402    | 1.023     | 2401.481 | 2402.50 | 2400-24835 | PASS    |
|          |         | 2440    | 1.028     | 2439.476 | 2440.50 | 2400-24835 | PASS    |
|          |         | 2480    | 1.023     | 2479.481 | 2480.50 | 2400-24835 | PASS    |
| BLE_S8   | ANT6    | 2402    | 1.053     | 2401.461 | 2402.51 | 2400-24835 | PASS    |
|          |         | 2440    | 1.053     | 2439.461 | 2440.51 | 2400-24835 | PASS    |
|          |         | 2480    | 1.053     | 2479.461 | 2480.51 | 2400-24835 | PASS    |

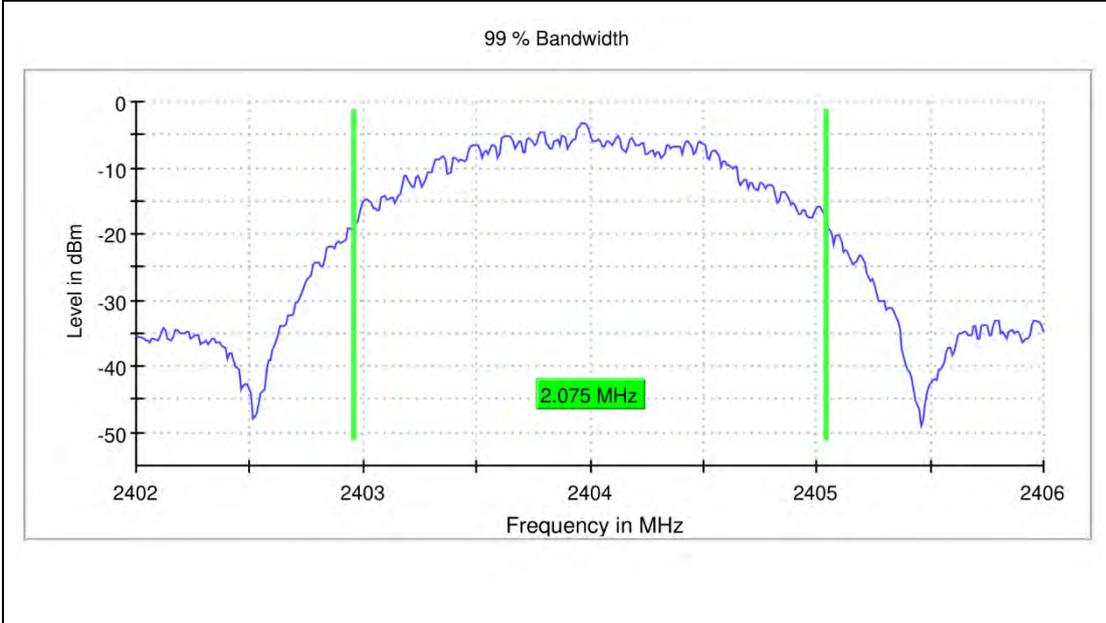


### TEST GRAPHS

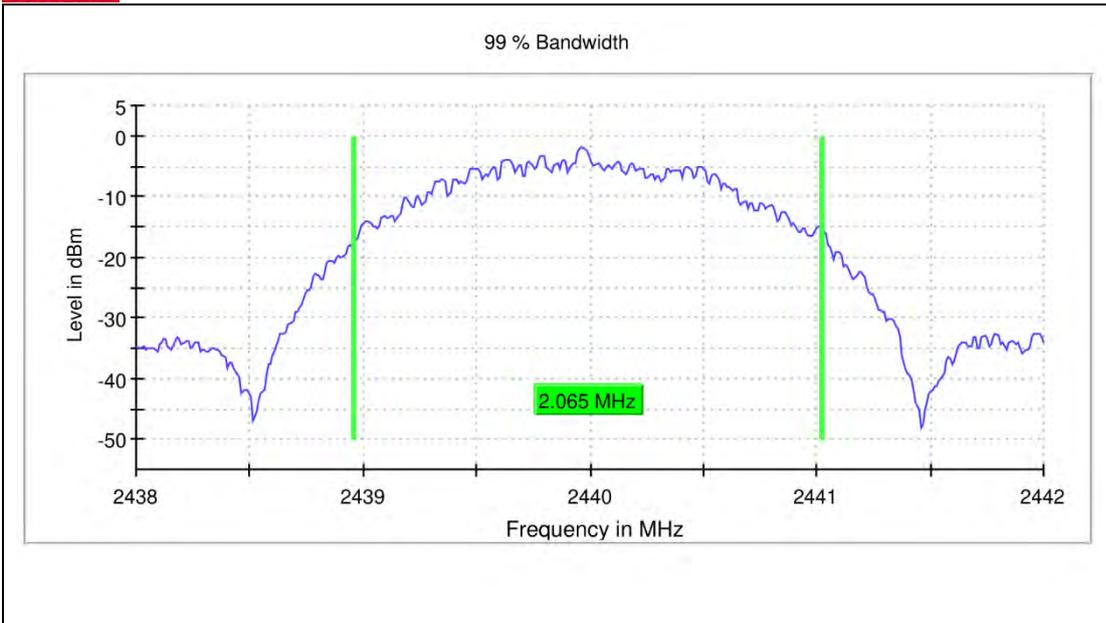




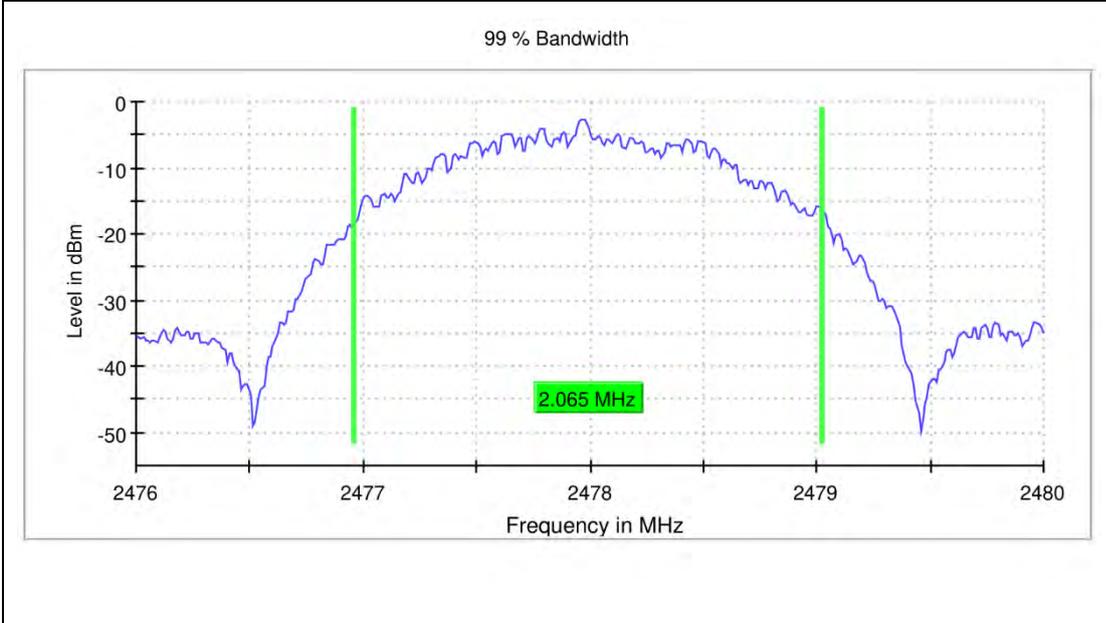
BLE\_2M\_ANT6\_2404



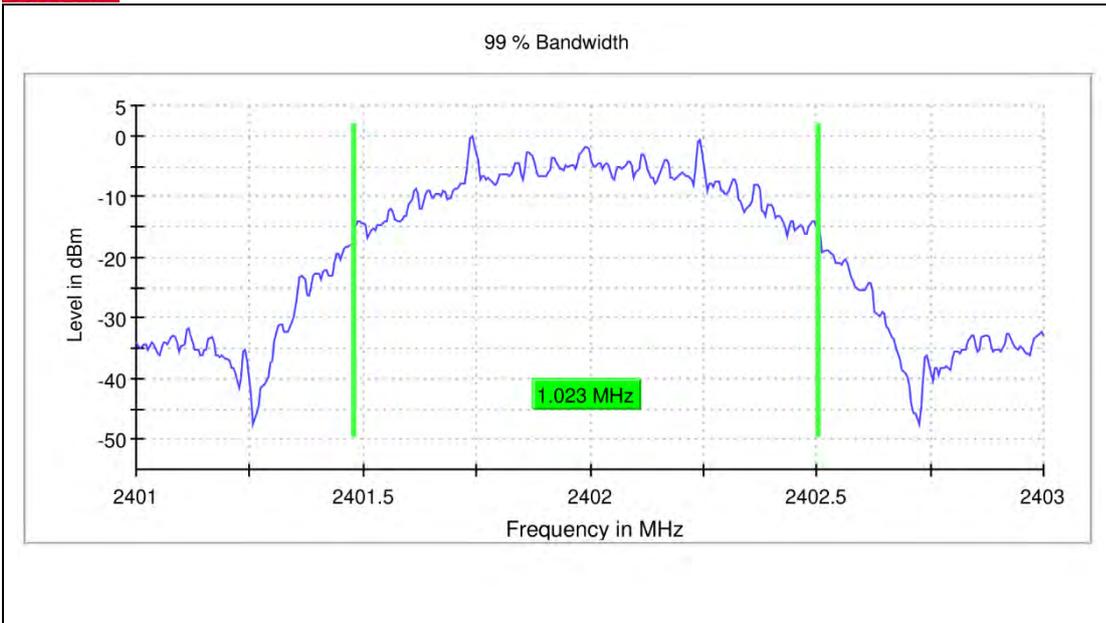
BLE\_2M\_ANT6\_2440



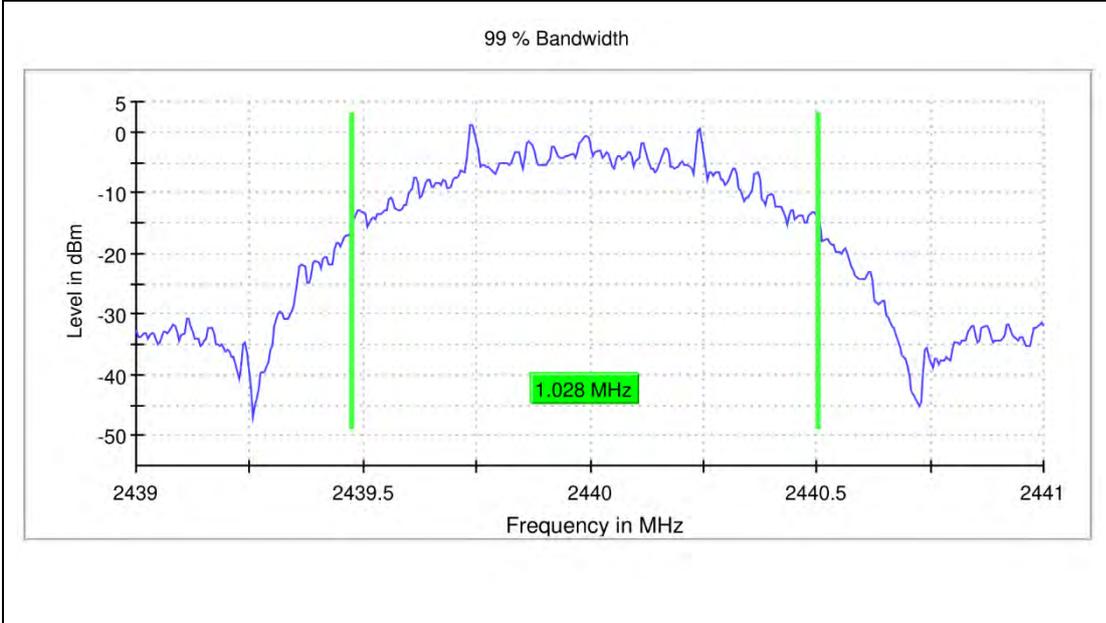
BLE\_2M\_ANT6\_2478



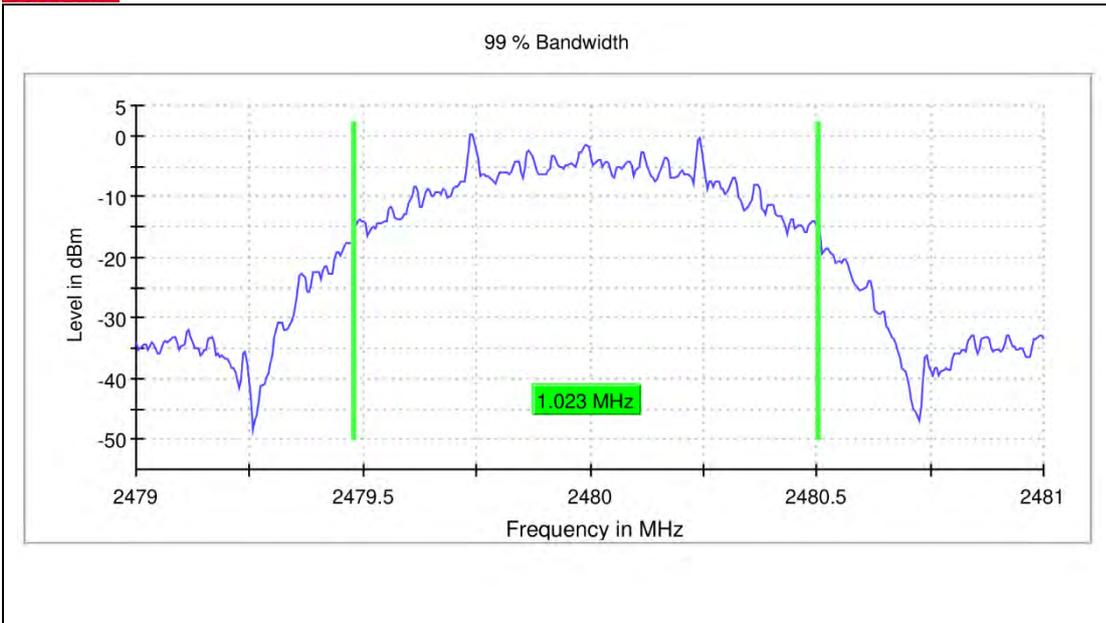
BLE\_S2\_ANT6\_2402



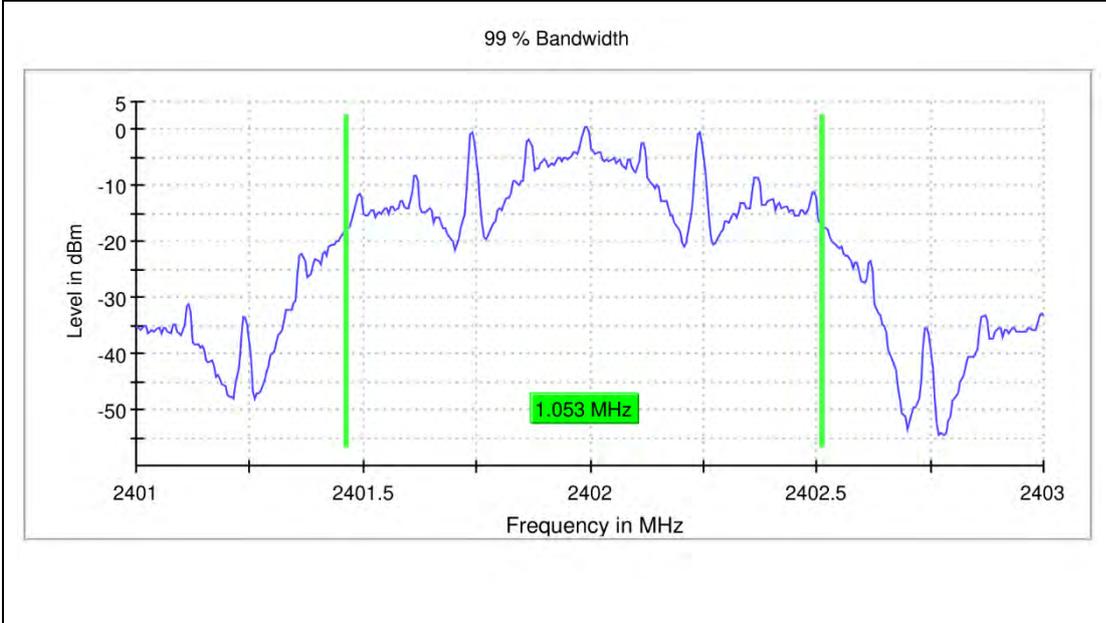
BLE\_S2\_ANT6\_2440



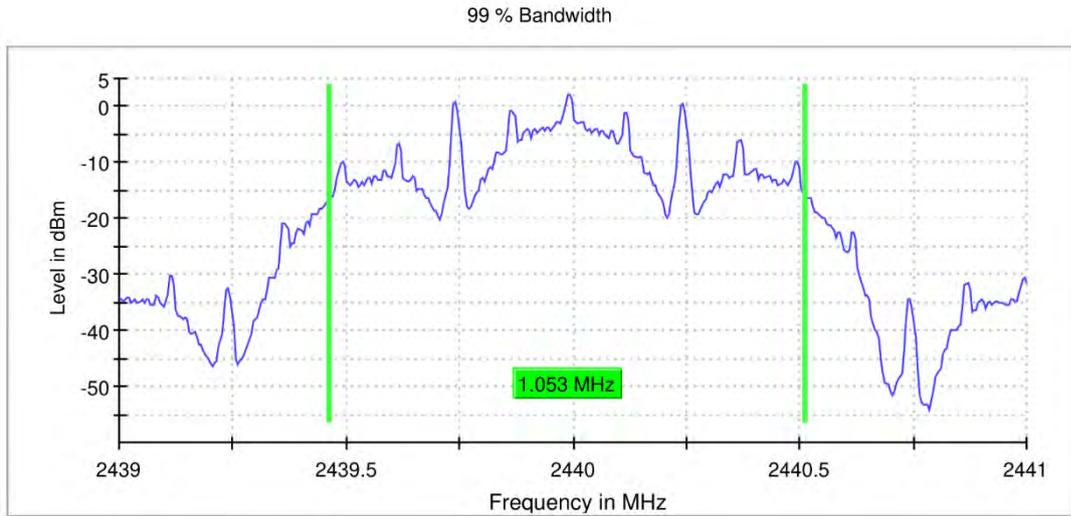
BLE\_S2\_ANT6\_2480



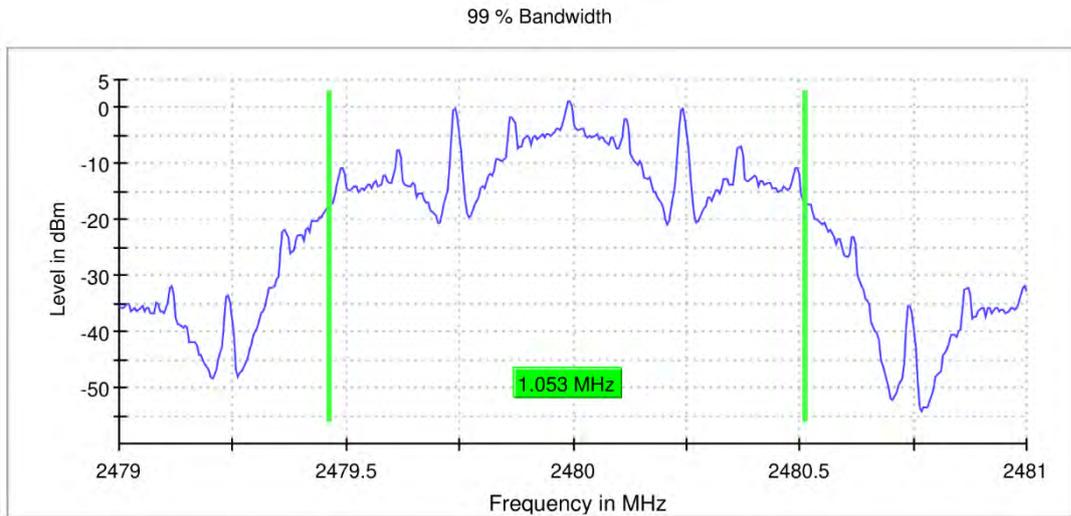
BLE\_S8\_ANT6\_2402



BLE\_S8\_ANT6\_2440



BLE\_S8\_ANT6\_2480



RBW 30.000 kHz

VBW 100.000 kHz



### MAXIMUM CONDUCTED OUTPUT POWER

### TEST RESULT

| TestMode | Antenna | Channel | Average power [dBm] | Peak power [dBm] | Peak power [mw] | Limit [dBm] | Verdict | Power Setting |
|----------|---------|---------|---------------------|------------------|-----------------|-------------|---------|---------------|
| BLE_1M   | ANT6    | 2402    | 5.227               | 5.529            | 3.57            | ≤30         | PASS    | 7             |
|          |         | 2440    | 5.898               | 6.275            | 4.24            | ≤30         | PASS    | 7             |
|          |         | 2480    | 5.108               | 5.412            | 3.48            | ≤30         | PASS    | 7             |
| BLE_2M   | ANT6    | 2402    | 6.04                | 5.798            | 3.80            | ≤30         | PASS    | 7             |
|          |         | 2440    | 6.416               | 6.335            | 4.30            | ≤30         | PASS    | 7             |
|          |         | 2480    | 5.979               | 5.533            | 3.58            | ≤30         | PASS    | 7             |
| BLE_125k | ANT6    | 2402    | 5.272               | 5.559            | 3.60            | ≤30         | PASS    | 7             |
|          |         | 2440    | 5.893               | 6.251            | 4.22            | ≤30         | PASS    | 7             |
|          |         | 2480    | 5.104               | 5.402            | 3.47            | ≤30         | PASS    | 7             |
| BLE_500K | ANT6    | 2402    | 5.23                | 5.596            | 3.63            | ≤30         | PASS    | 7             |
|          |         | 2440    | 5.861               | 6.277            | 4.24            | ≤30         | PASS    | 7             |
|          |         | 2480    | 5.084               | 5.432            | 3.49            | ≤30         | PASS    | 7             |



### MAXIMUM POWER SPECTRAL DENSITY

### TEST RESULT

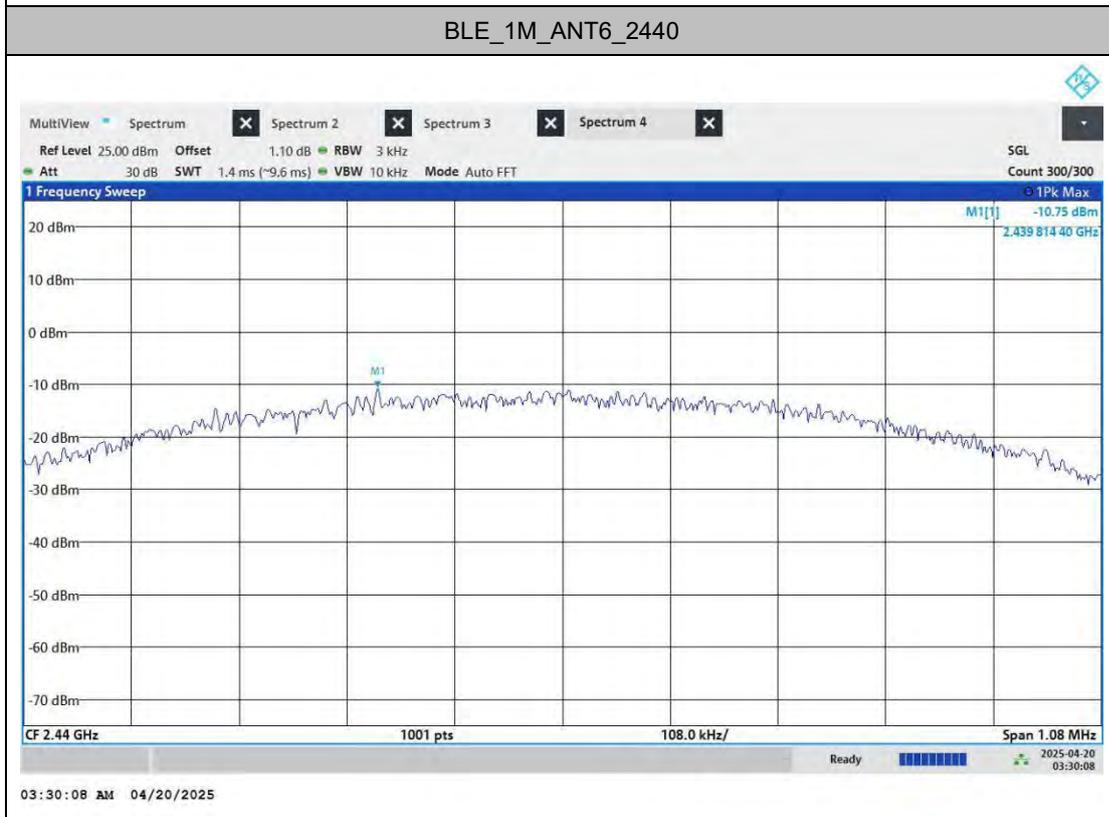
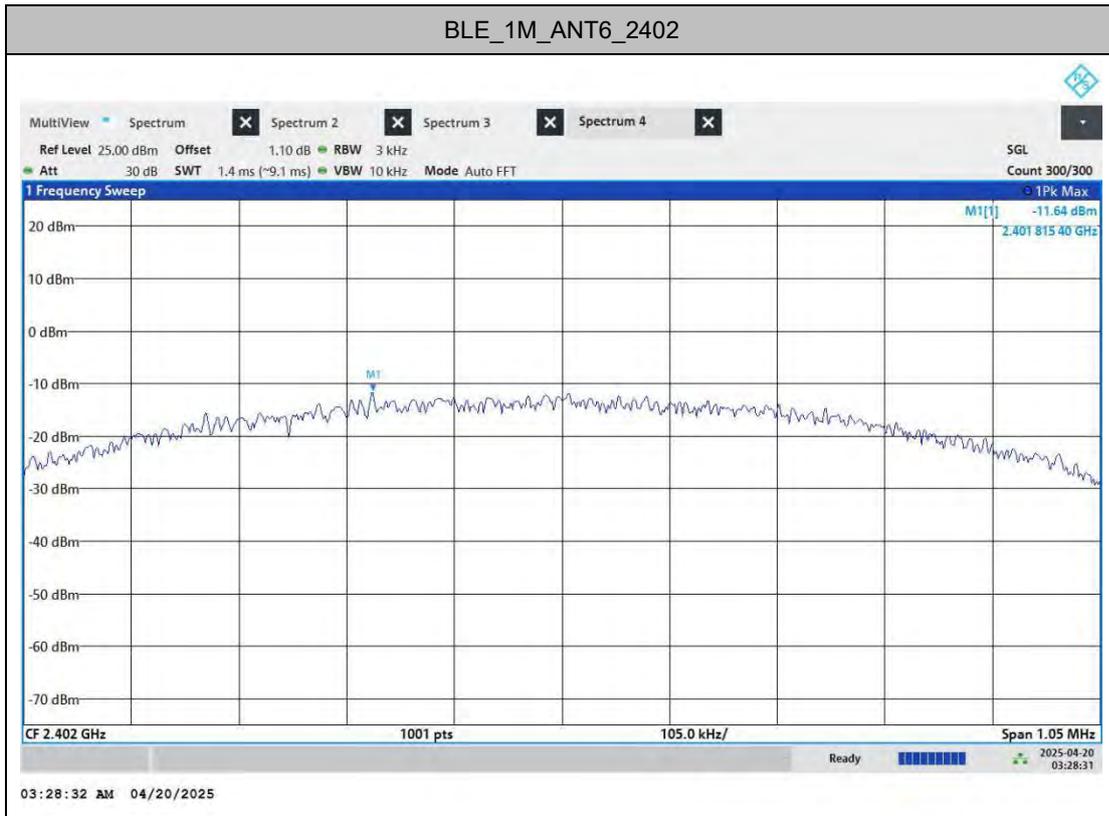
| TestMode | Antenna | Channel | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|------------------|-----------------|---------|
| BLE_1M   | ANT6    | 2402    | -11.64           | ≤8              | PASS    |
|          |         | 2440    | -10.75           | ≤8              | PASS    |
|          |         | 2480    | -11.92           | ≤8              | PASS    |
| BLE_2M   | ANT6    | 2404    | -13.76           | ≤8              | PASS    |
|          |         | 2440    | -12.92           | ≤8              | PASS    |
|          |         | 2478    | -13.94           | ≤8              | PASS    |
| BLE_S2   | ANT6    | 2402    | -1.7             | ≤8              | PASS    |
|          |         | 2440    | -0.93            | ≤8              | PASS    |
|          |         | 2480    | -2.43            | ≤8              | PASS    |
| BLE_S8   | ANT6    | 2402    | -1.39            | ≤8              | PASS    |
|          |         | 2440    | -0.45            | ≤8              | PASS    |
|          |         | 2480    | -1.51            | ≤8              | PASS    |



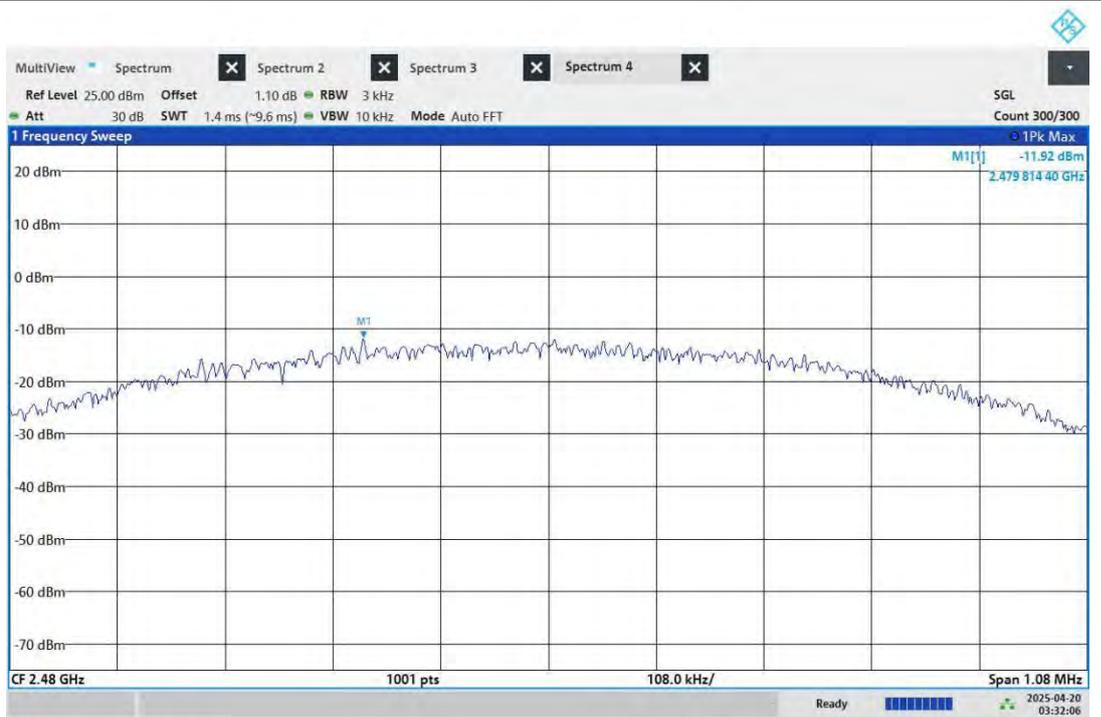
BUREAU  
VERITAS

Test Report No.: PSZ-QBJ2504140315RF07

# TEST GRAPHS

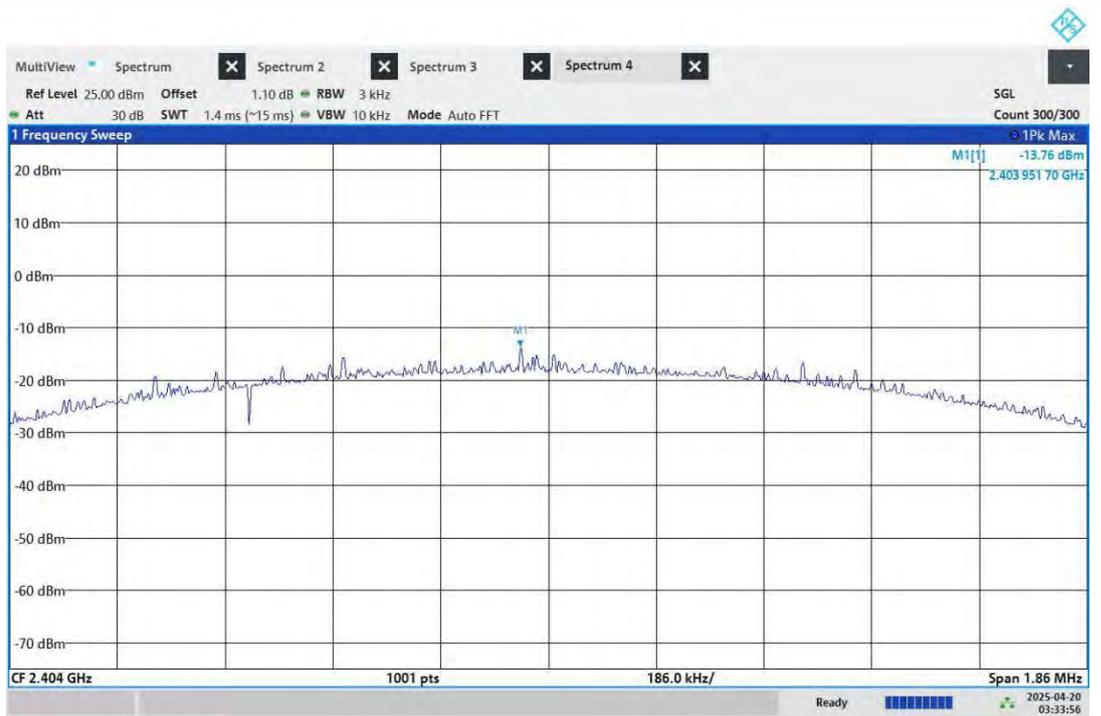


BLE\_1M\_ANT6\_2480



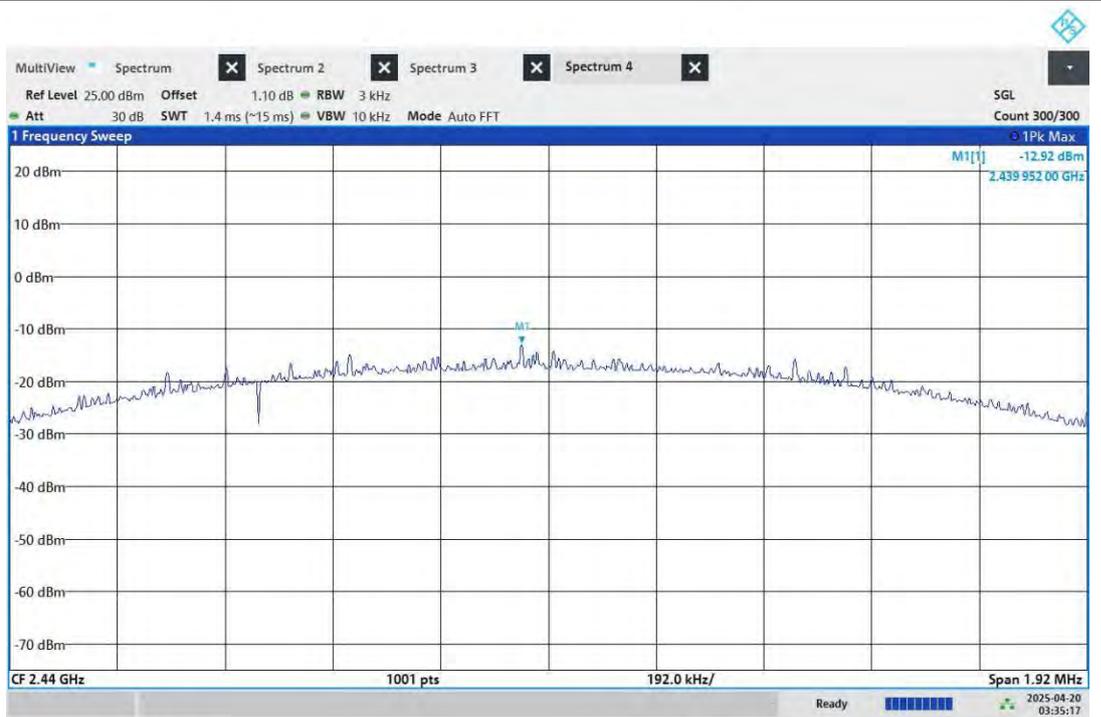
03:32:06 AM 04/20/2025

BLE\_2M\_ANT6\_2404



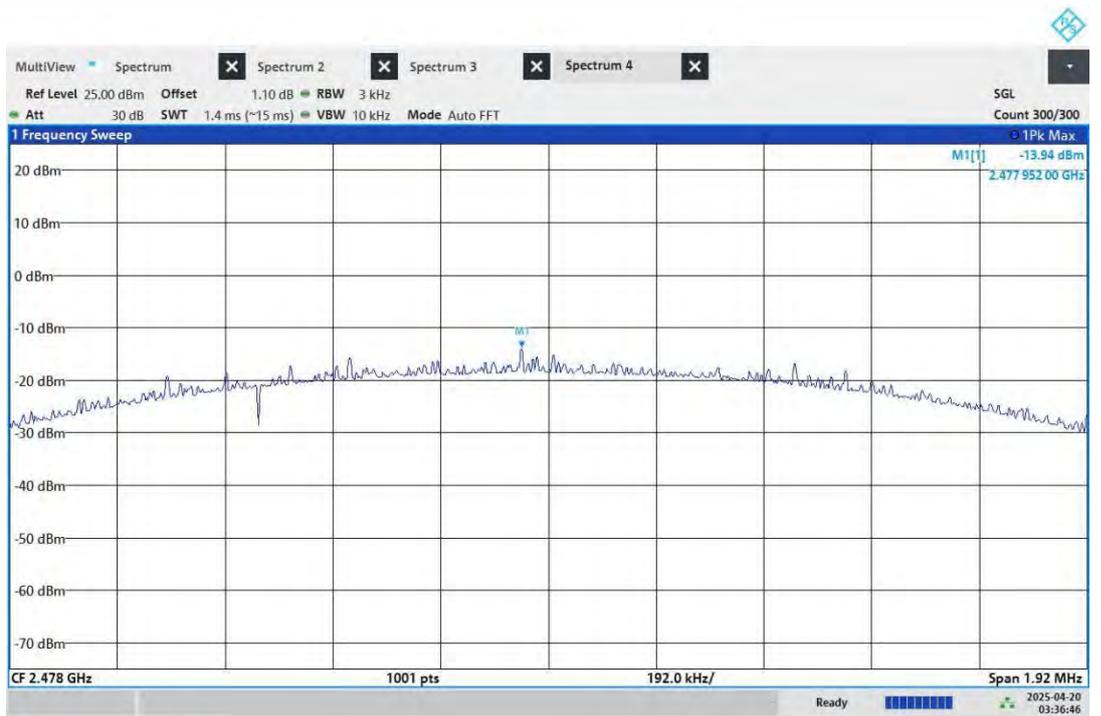
03:33:56 AM 04/20/2025

BLE\_2M\_ANT6\_2440



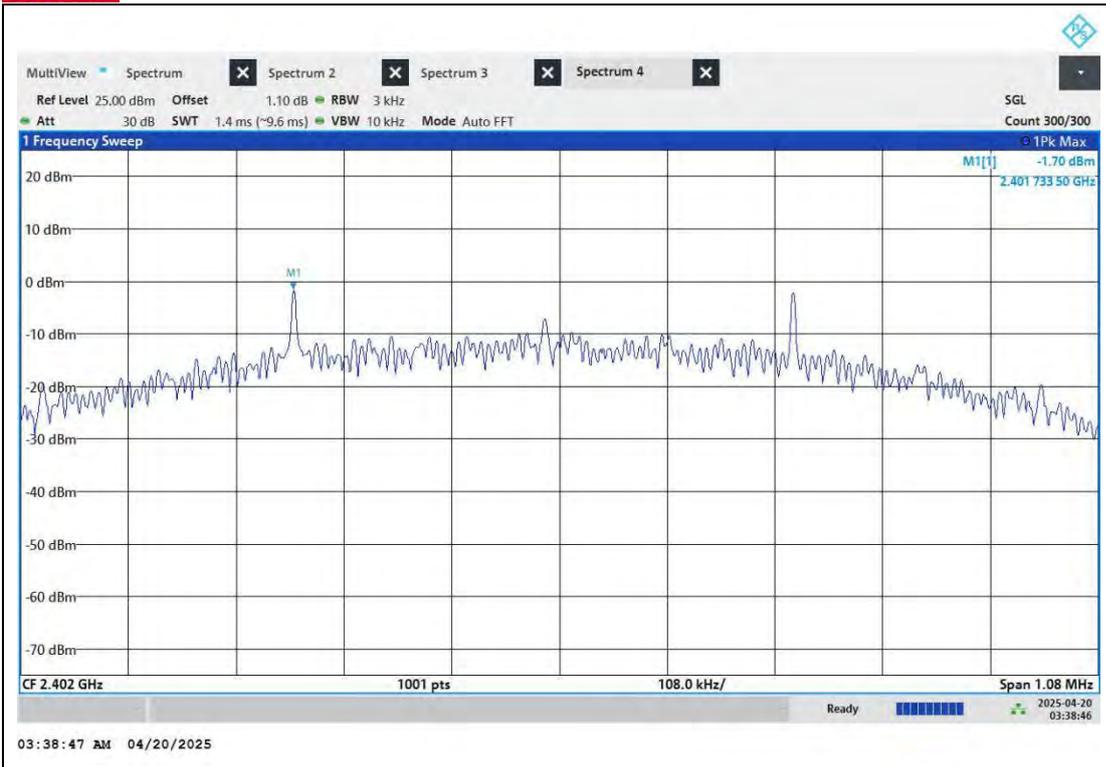
03:35:18 AM 04/20/2025

BLE\_2M\_ANT6\_2478

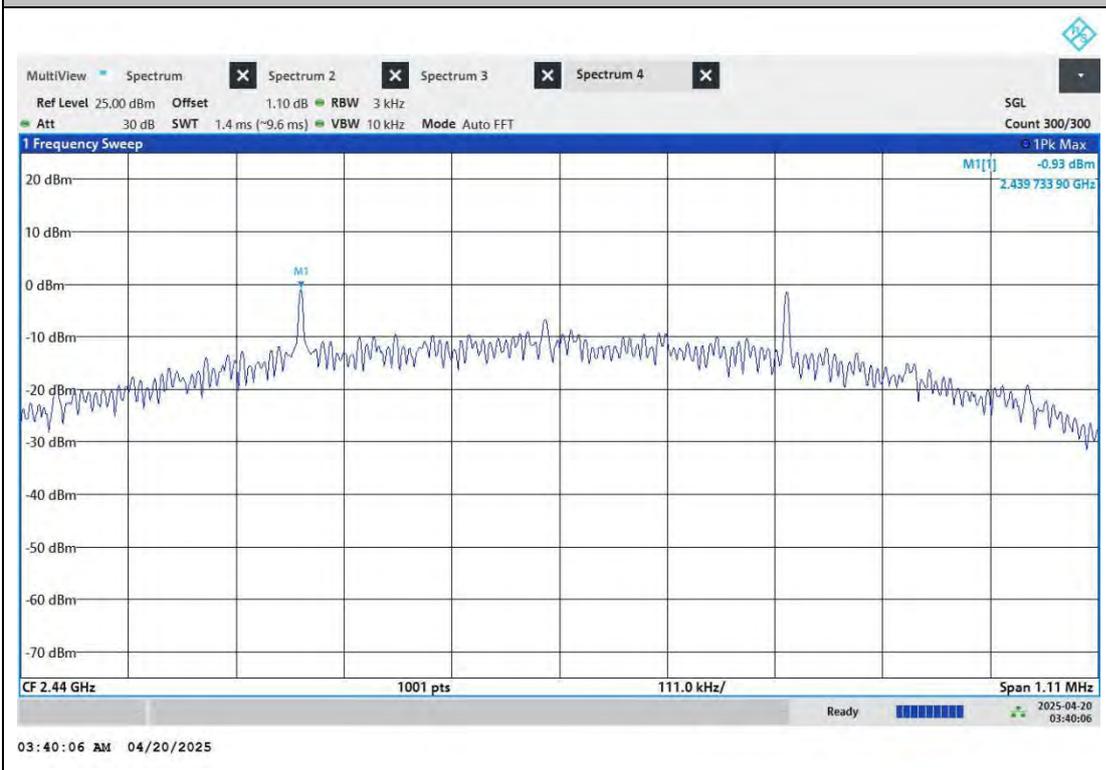


03:36:47 AM 04/20/2025

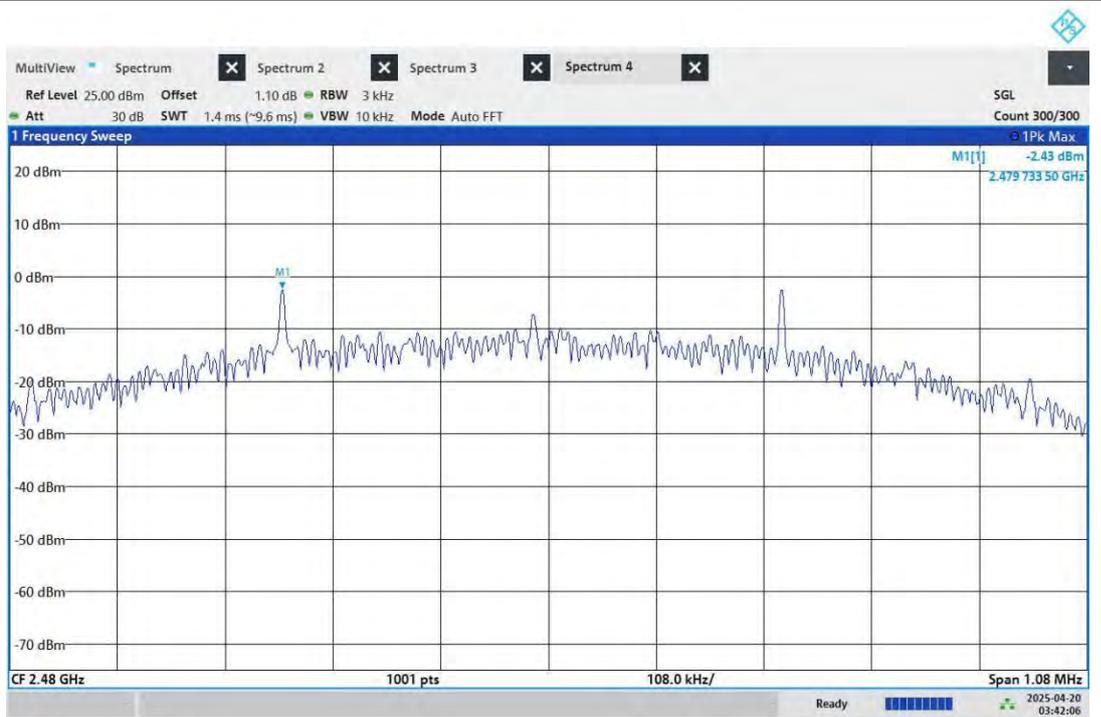
BLE\_S2\_ANT6\_2402



BLE\_S2\_ANT6\_2440

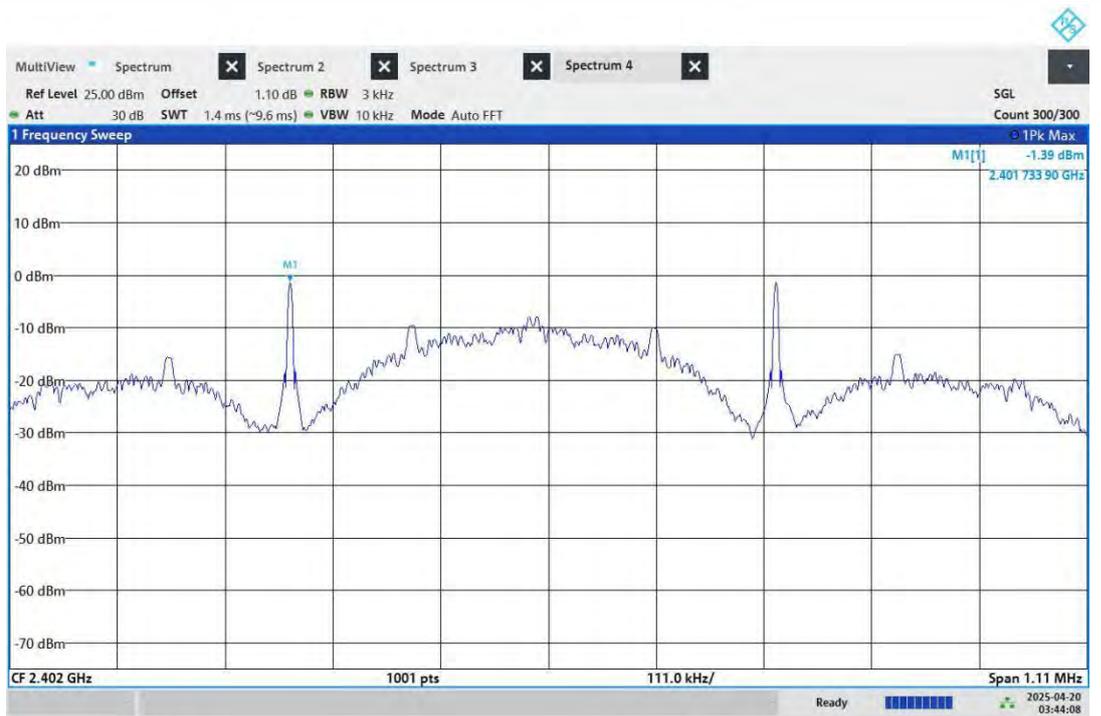


BLE\_S2\_ANT6\_2480



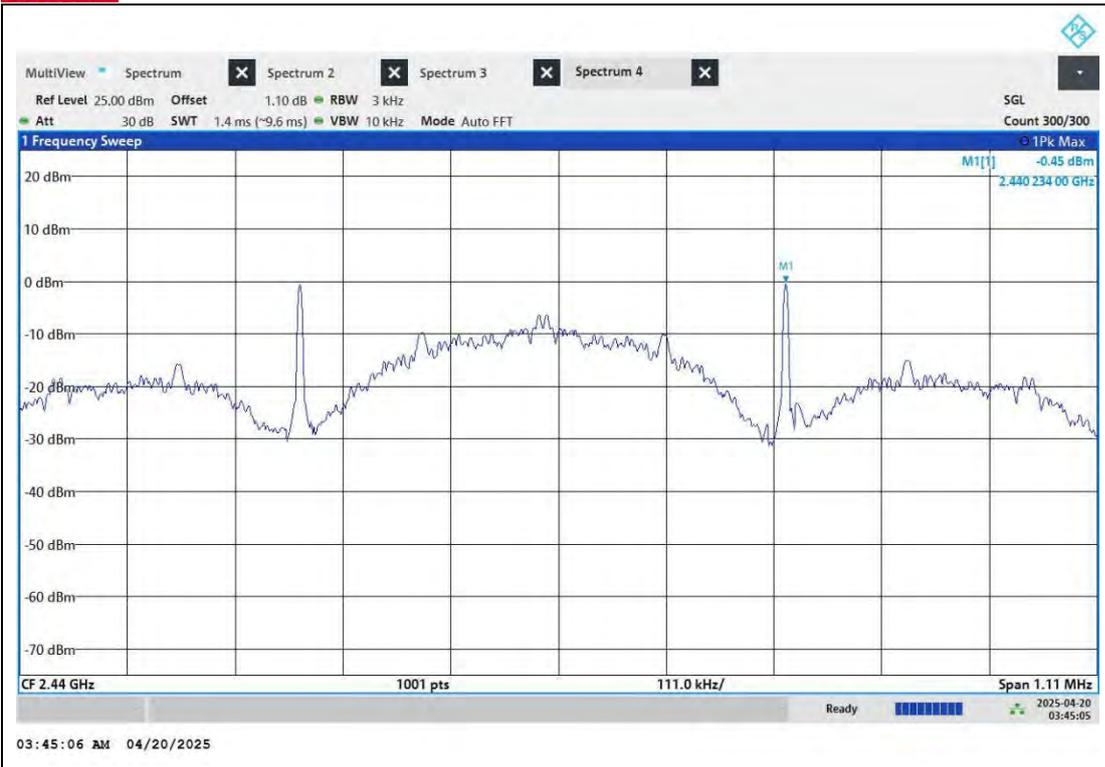
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BLE\_S8\_ANT6\_2402

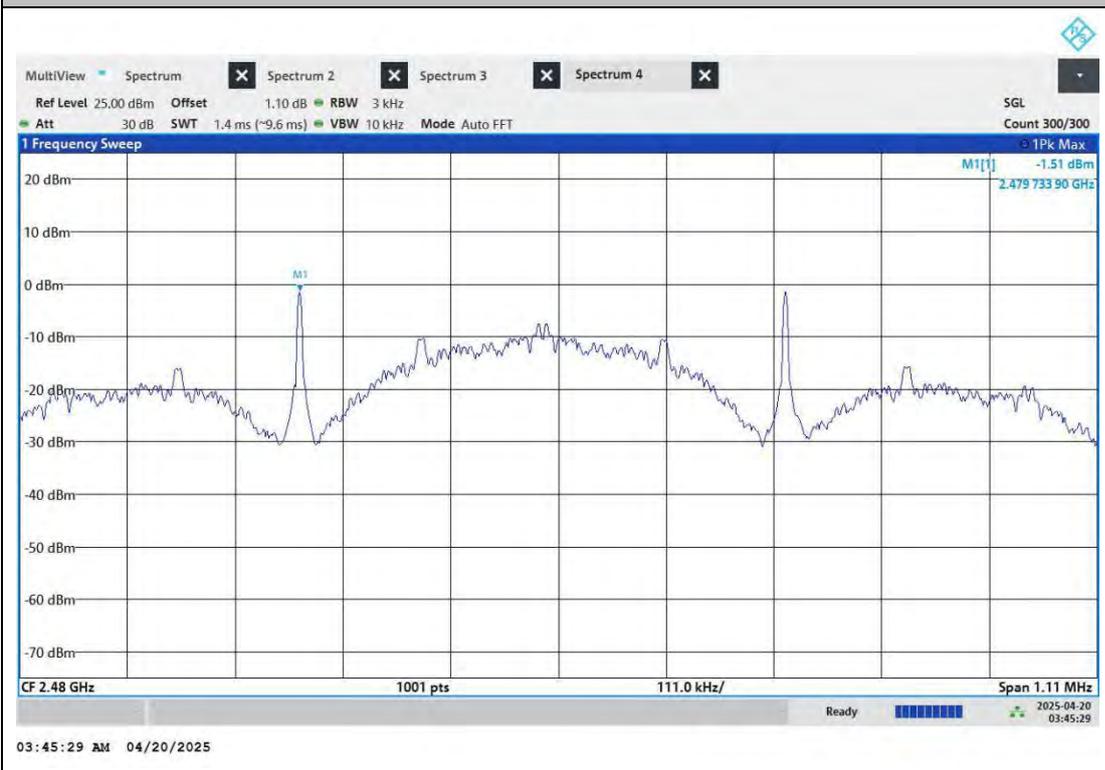


03:44:08 AM 04/20/2025

BLE\_S8\_ANT6\_2440



BLE\_S8\_ANT6\_2480





## BAND EDGE MEASUREMENTS

### TEST RESULT

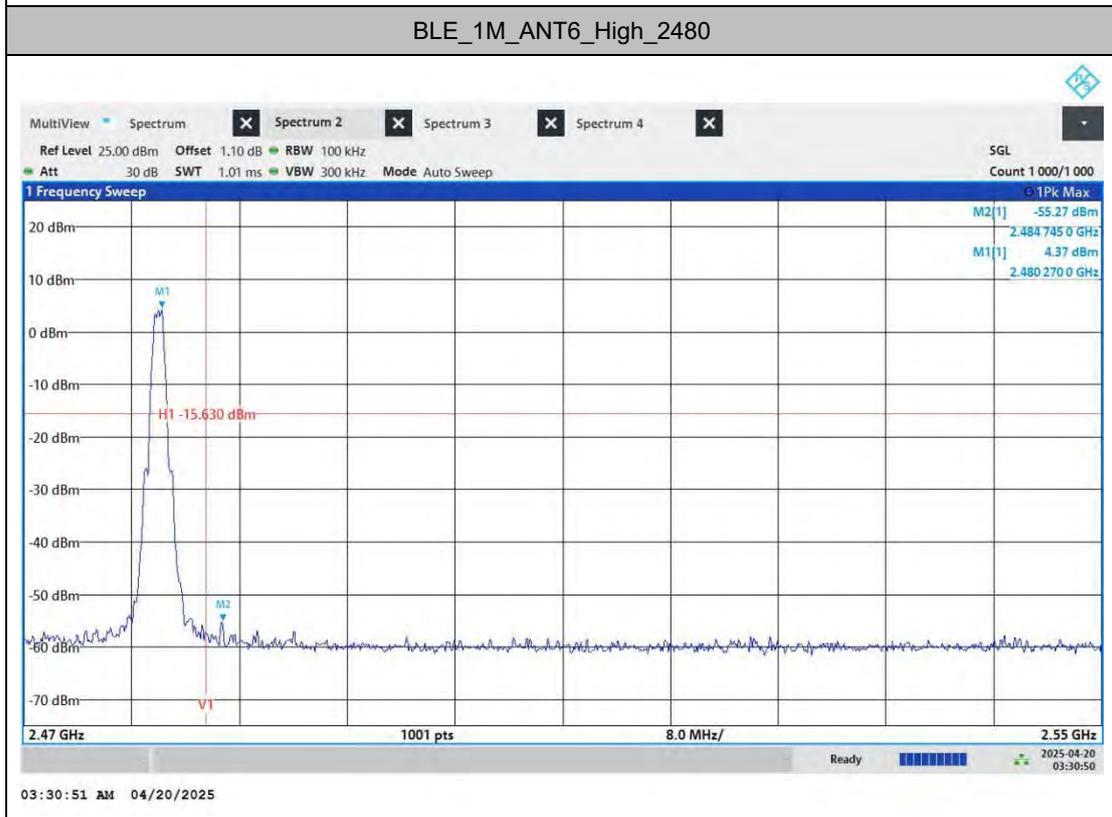
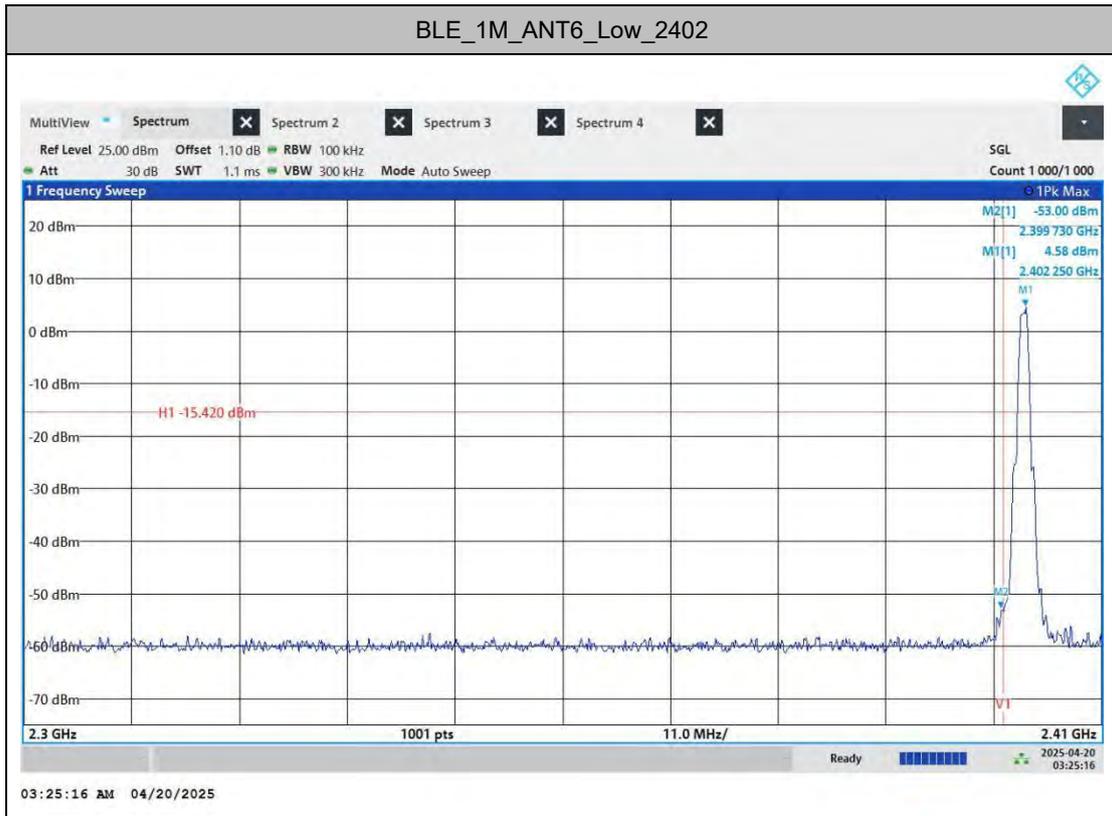
| TestMode | Antenna | ChName | Channel | Result[dBm]    | Limit[dBm]     | Verdict |
|----------|---------|--------|---------|----------------|----------------|---------|
| BLE_1M   | ANT6    | Low    | 2402    | See test graph | See test graph | PASS    |
|          |         | High   | 2480    | See test graph | See test graph | PASS    |
| BLE_2M   | ANT6    | Low    | 2402    | See test graph | See test graph | PASS    |
|          |         | High   | 2480    | See test graph | See test graph | PASS    |
| BLE_S2   | ANT6    | Low    | 2402    | See test graph | See test graph | PASS    |
|          |         | High   | 2480    | See test graph | See test graph | PASS    |
| BLE_S8   | ANT6    | Low    | 2402    | See test graph | See test graph | PASS    |
|          |         | High   | 2480    | See test graph | See test graph | PASS    |



BUREAU  
VERITAS

Test Report No.: PSZ-QBJ2504140315RF07

# TEST GRAPHS



### BLE\_2M\_ANT6\_Low\_2404