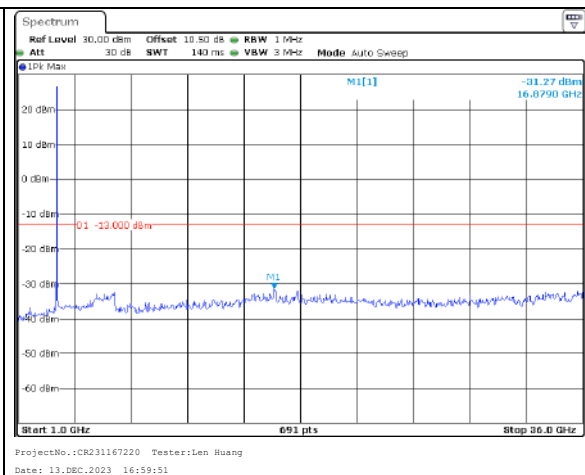
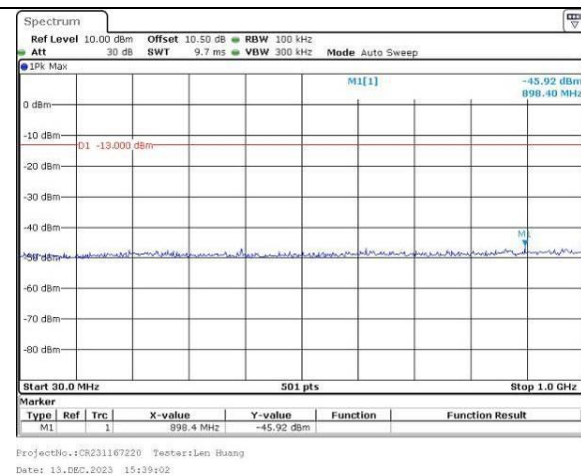


## Spurious Emissions at Antenna Terminal

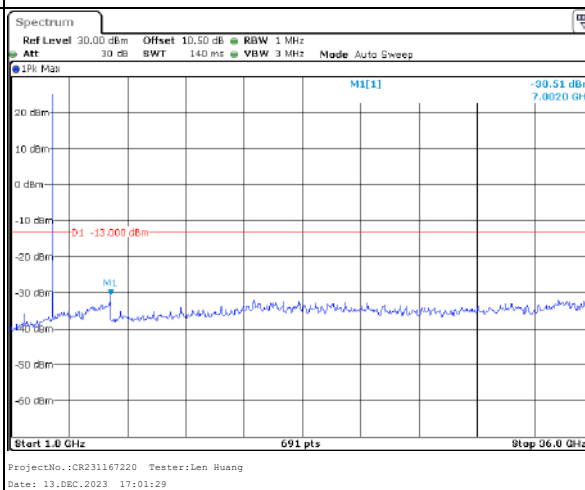
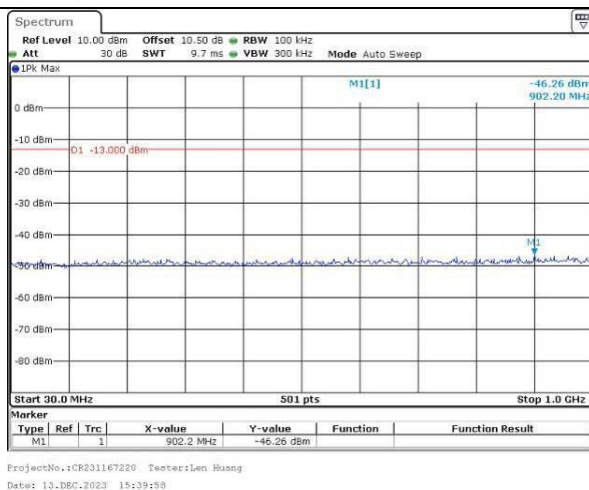
Channel

5MHz Bandwidth QPSK

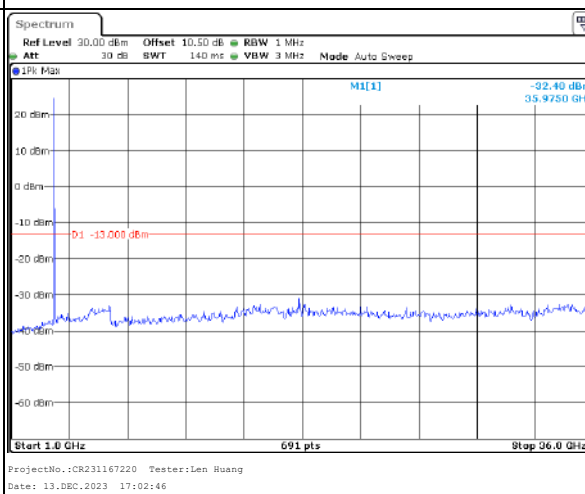
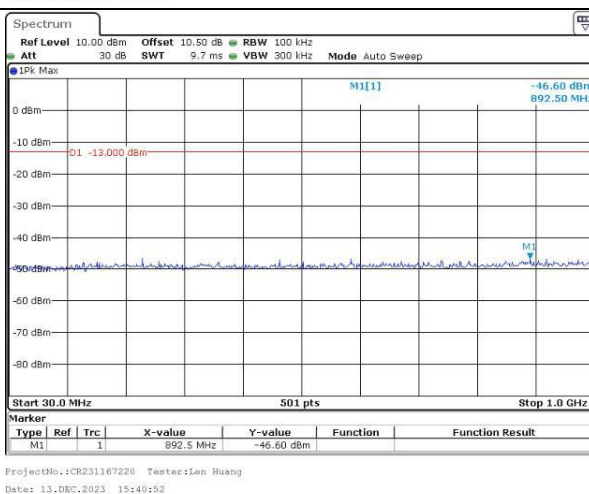
Lowest



Middle



Highest

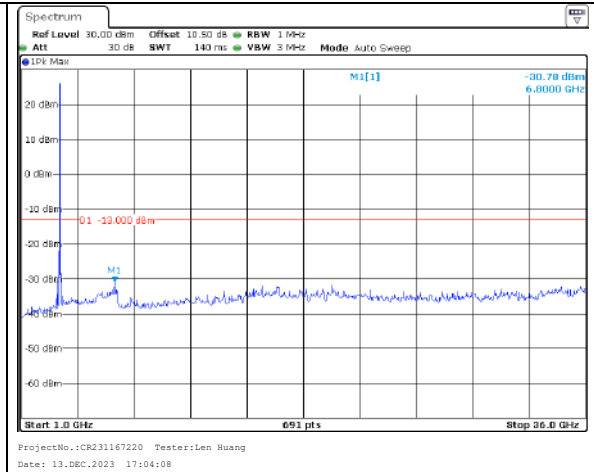
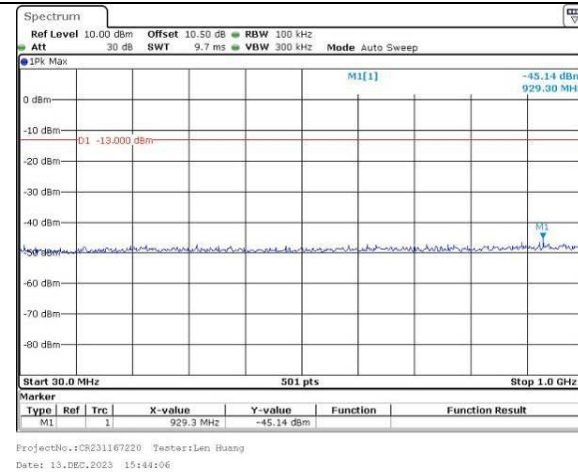


## Spurious Emissions at Antenna Terminal

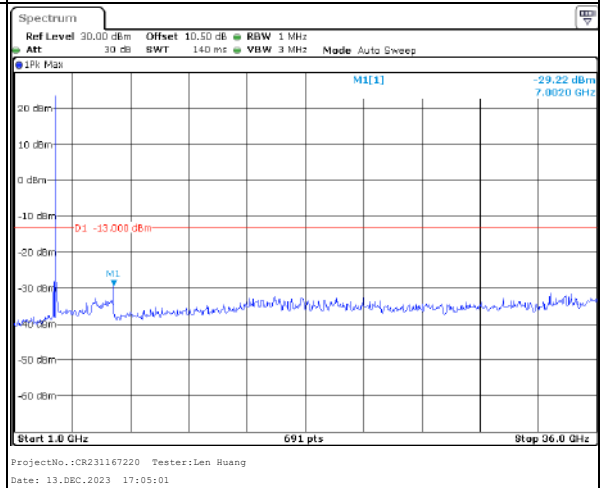
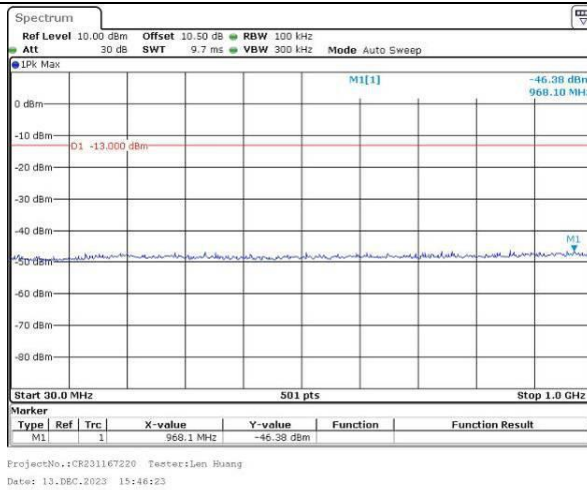
## Channel

## 10MHz Bandwidth QPSK

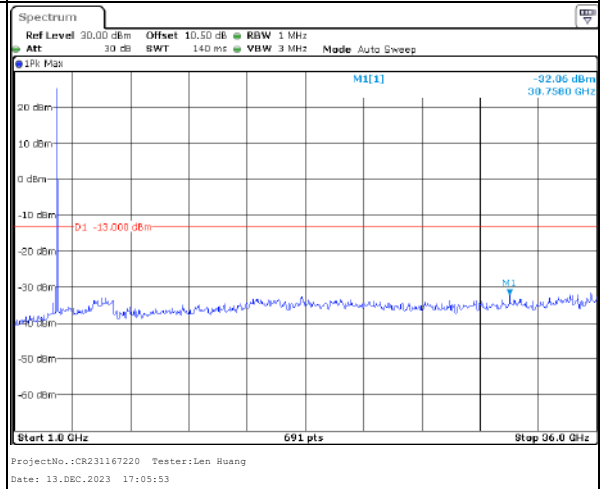
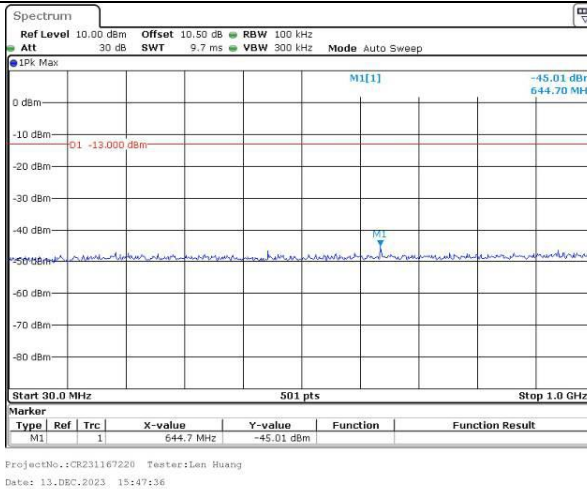
## Lowest



## Middle



## Highest

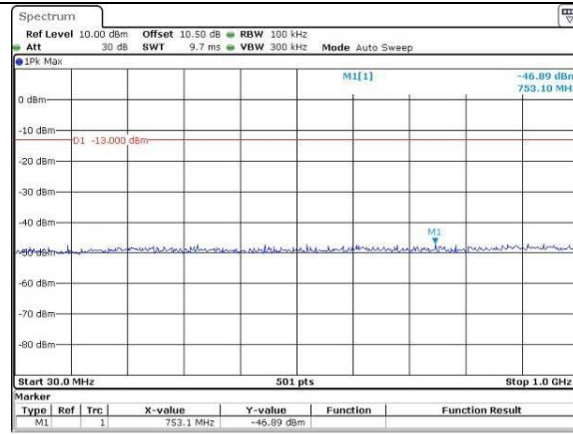


## Spurious Emissions at Antenna Terminal

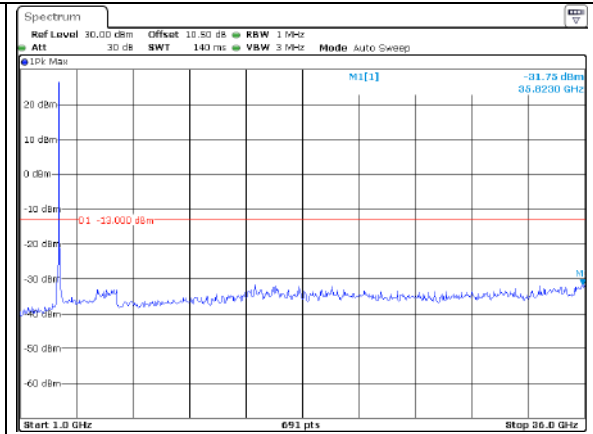
Channel

15MHz Bandwidth QPSK

Lowest

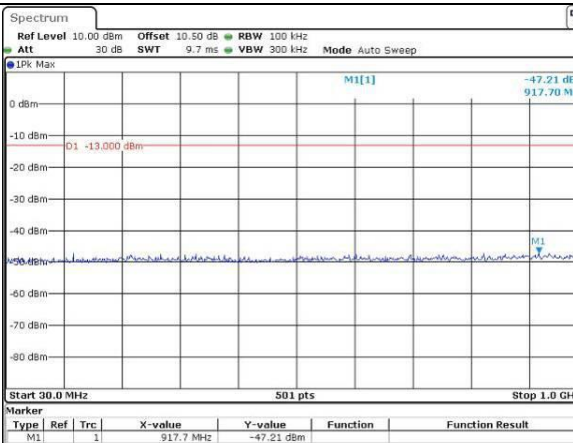


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 13.DEC.2023 15:49:19

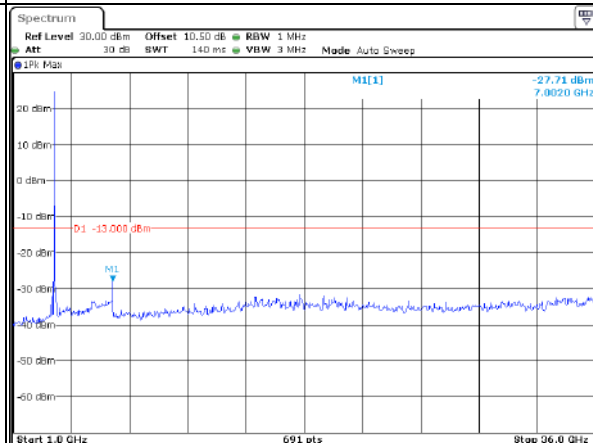


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 13.DEC.2023 17:07:04

Middle

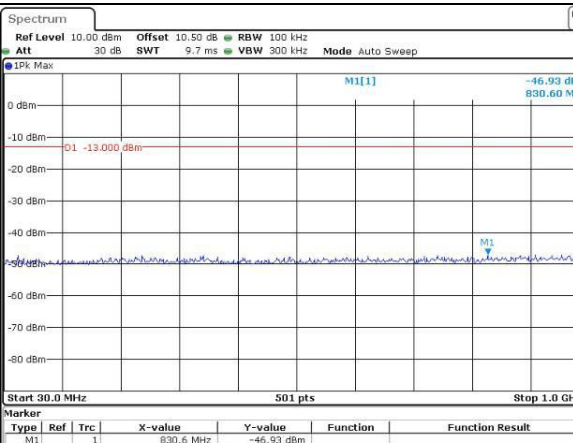


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Date: 13.DEC.2023 15:50:12

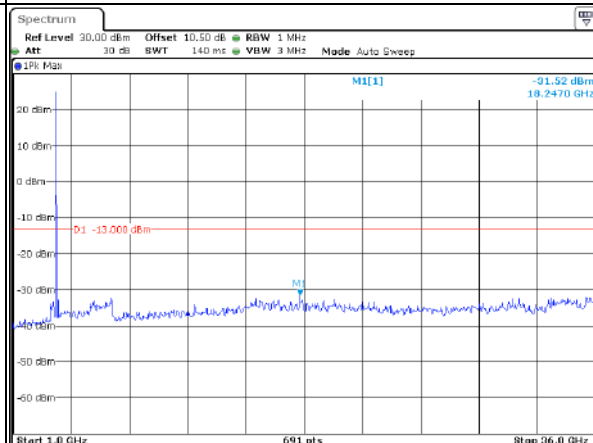


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 13.DEC.2023 17:08:16

Highest



ProjectNo.:CR231167220 Tester:Len Huang  
Date: 13.DEC.2023 15:51:07



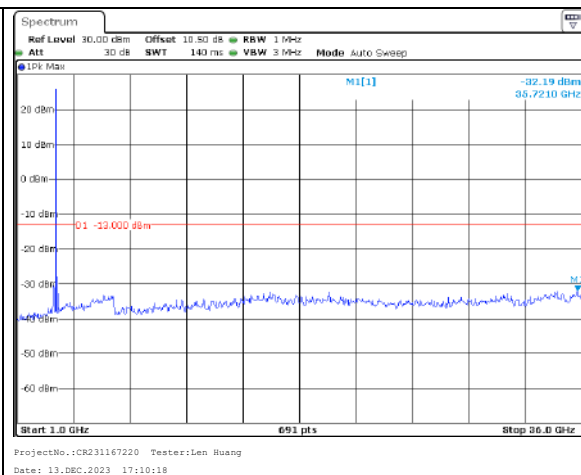
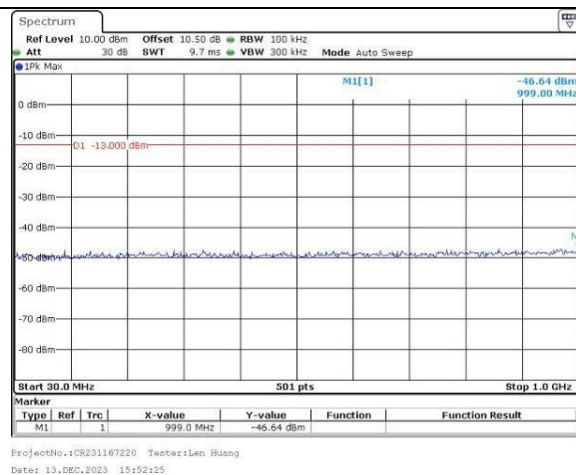
ProjectNo.:CR231167220 Tester:Len Huang  
Date: 13.DEC.2023 17:09:23

## Spurious Emissions at Antenna Terminal

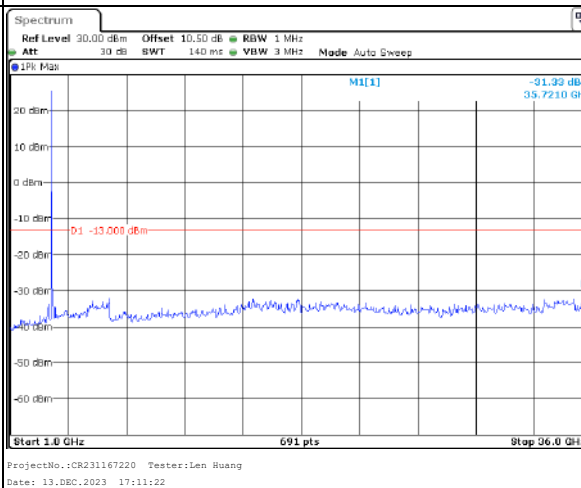
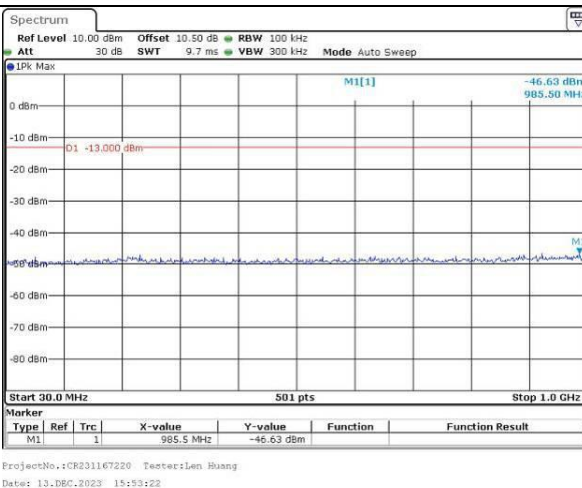
Channel

20MHz Bandwidth QPSK

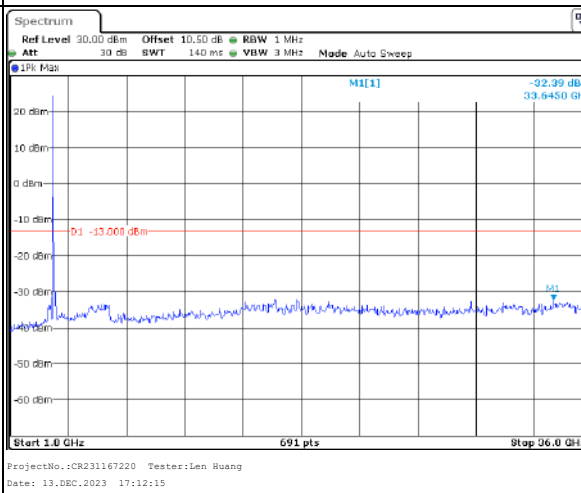
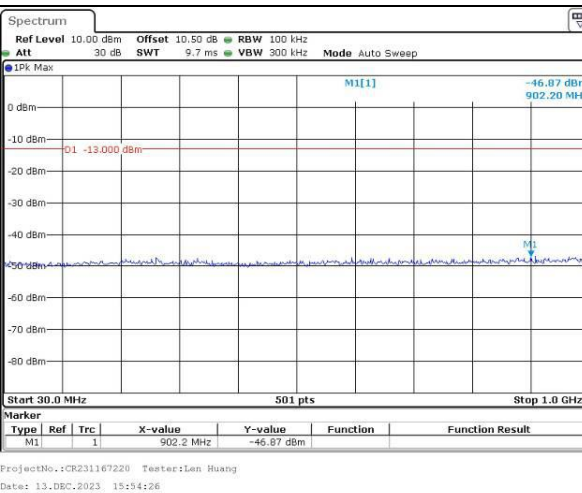
Lowest



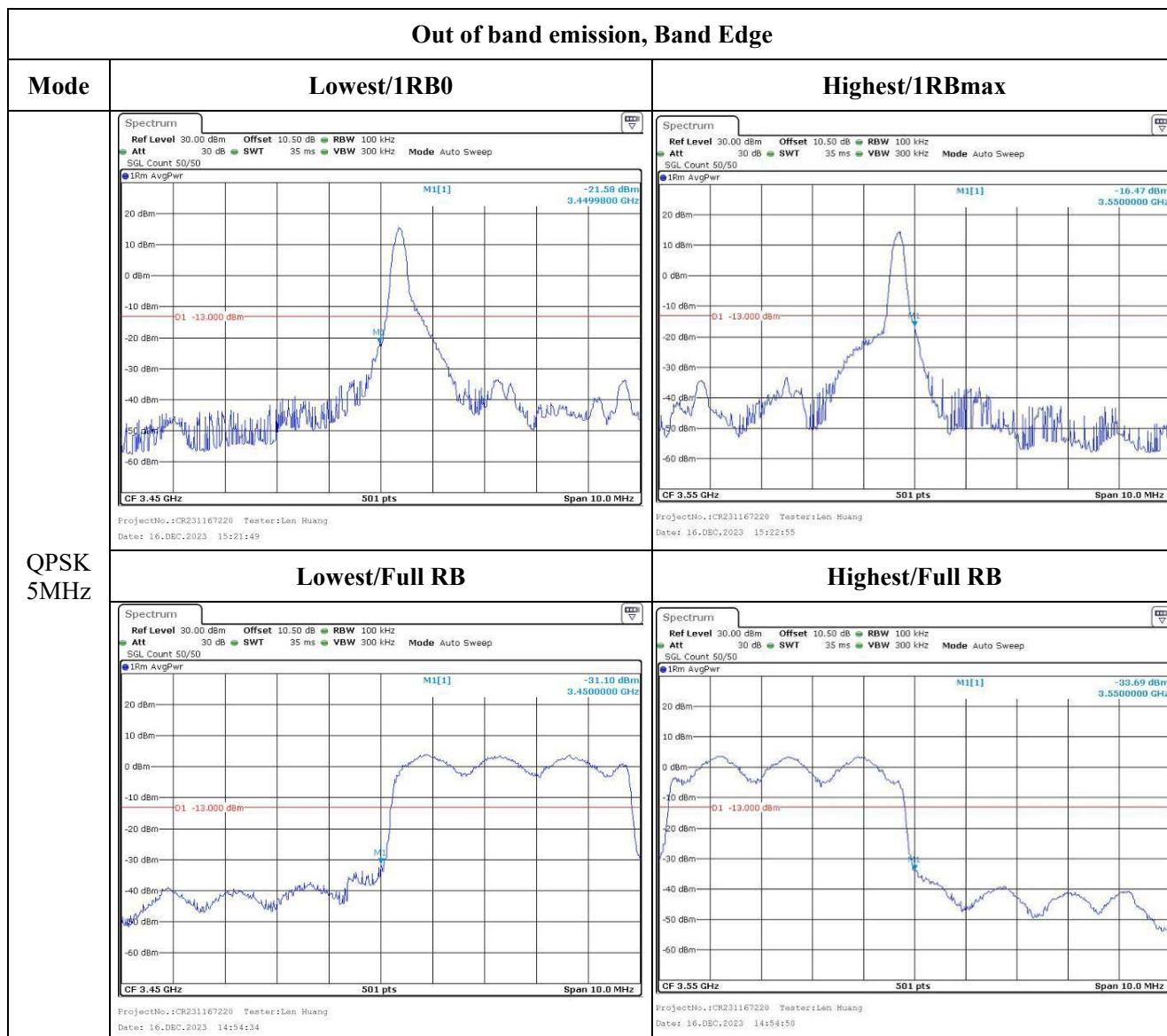
Middle



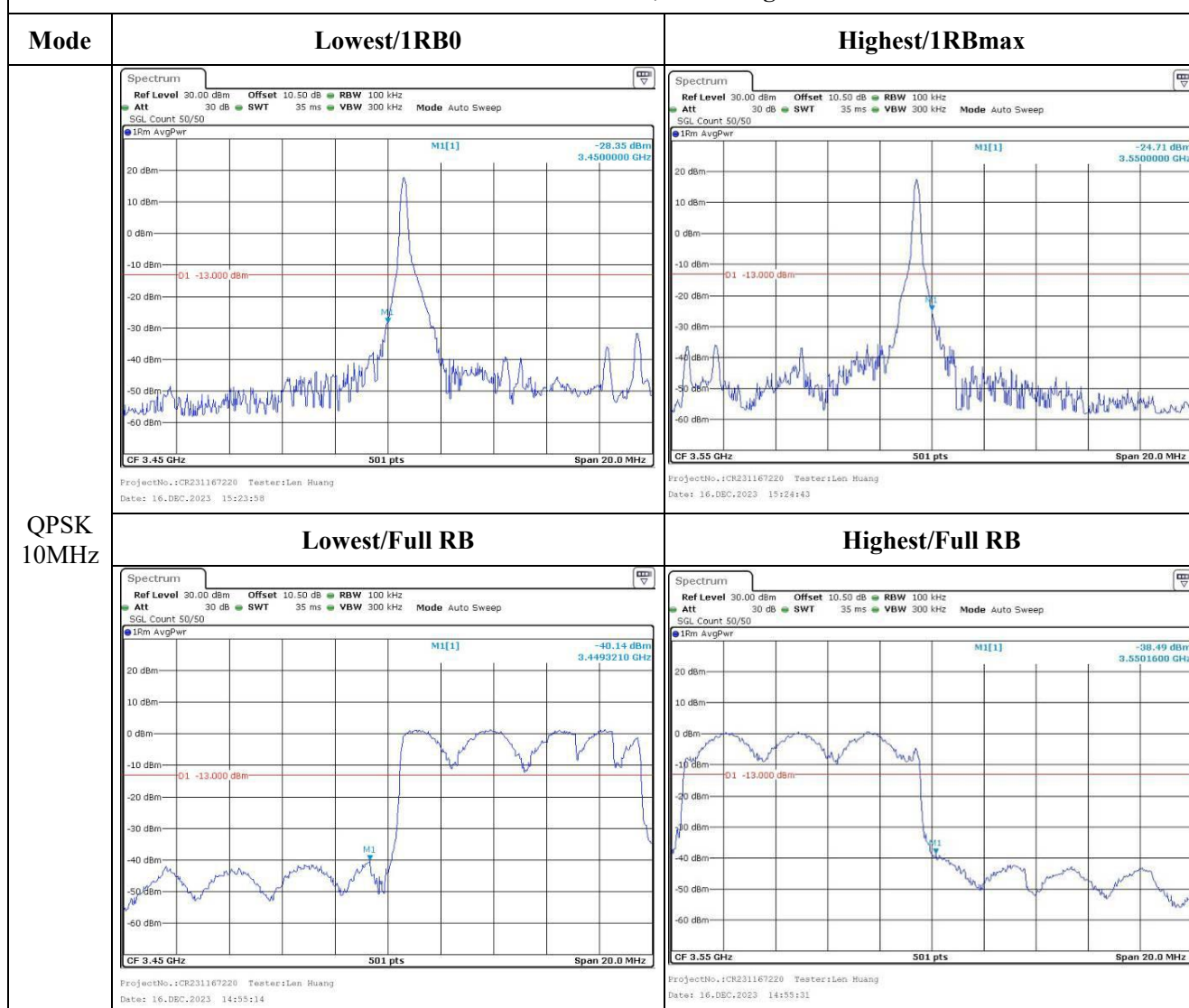
Highest



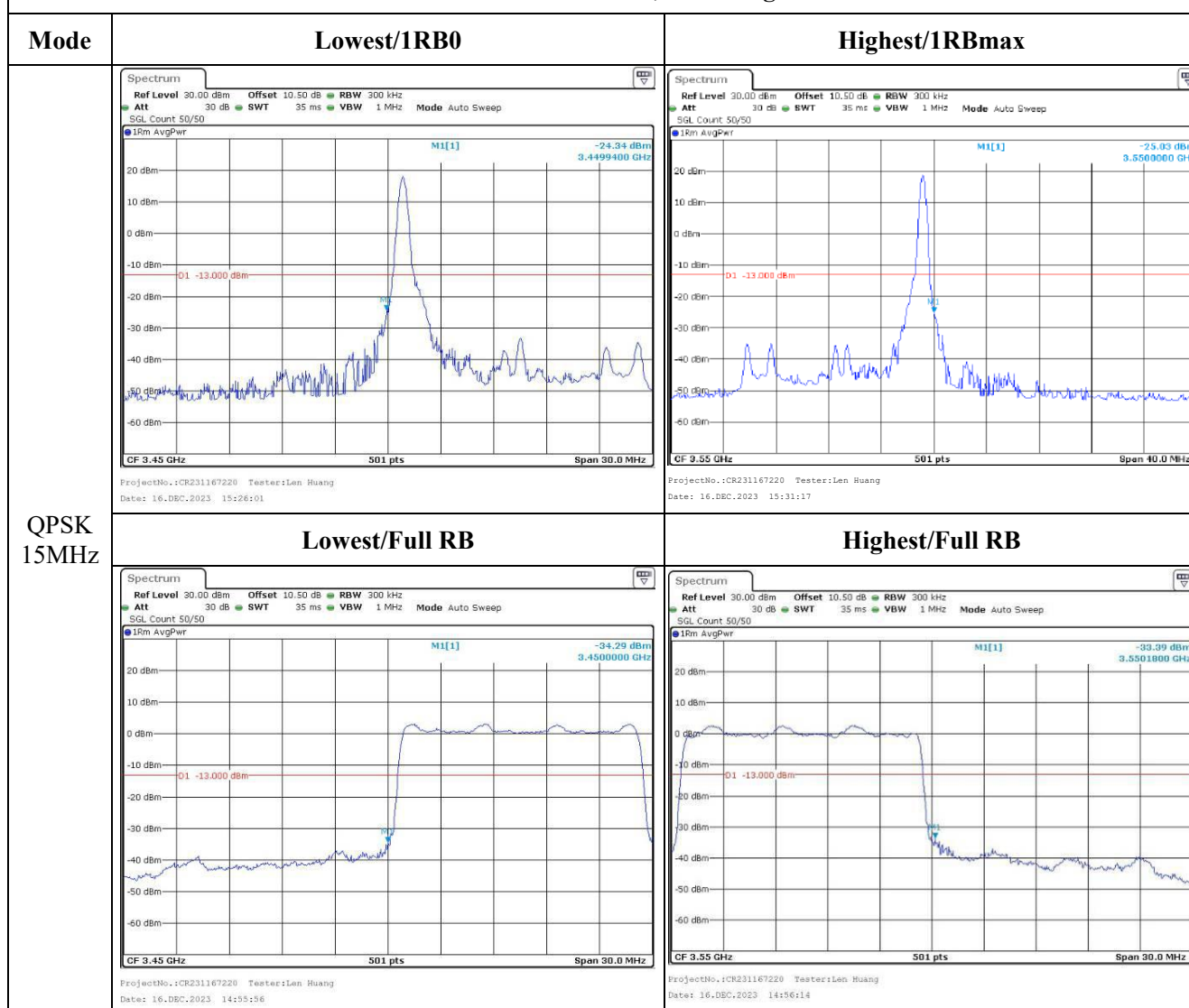
## Out of band emission, Band Edge



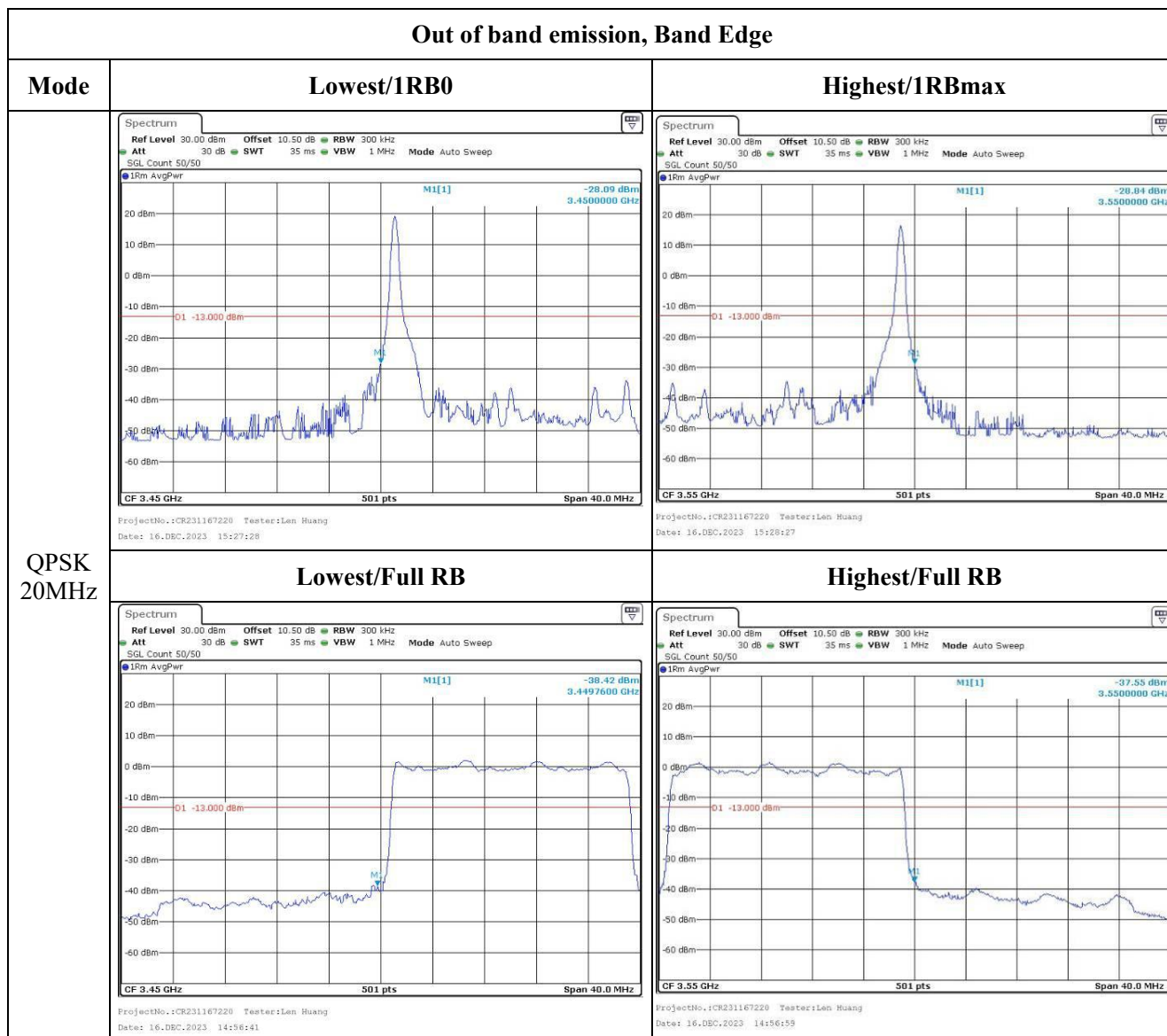
## Out of band emission, Band Edge



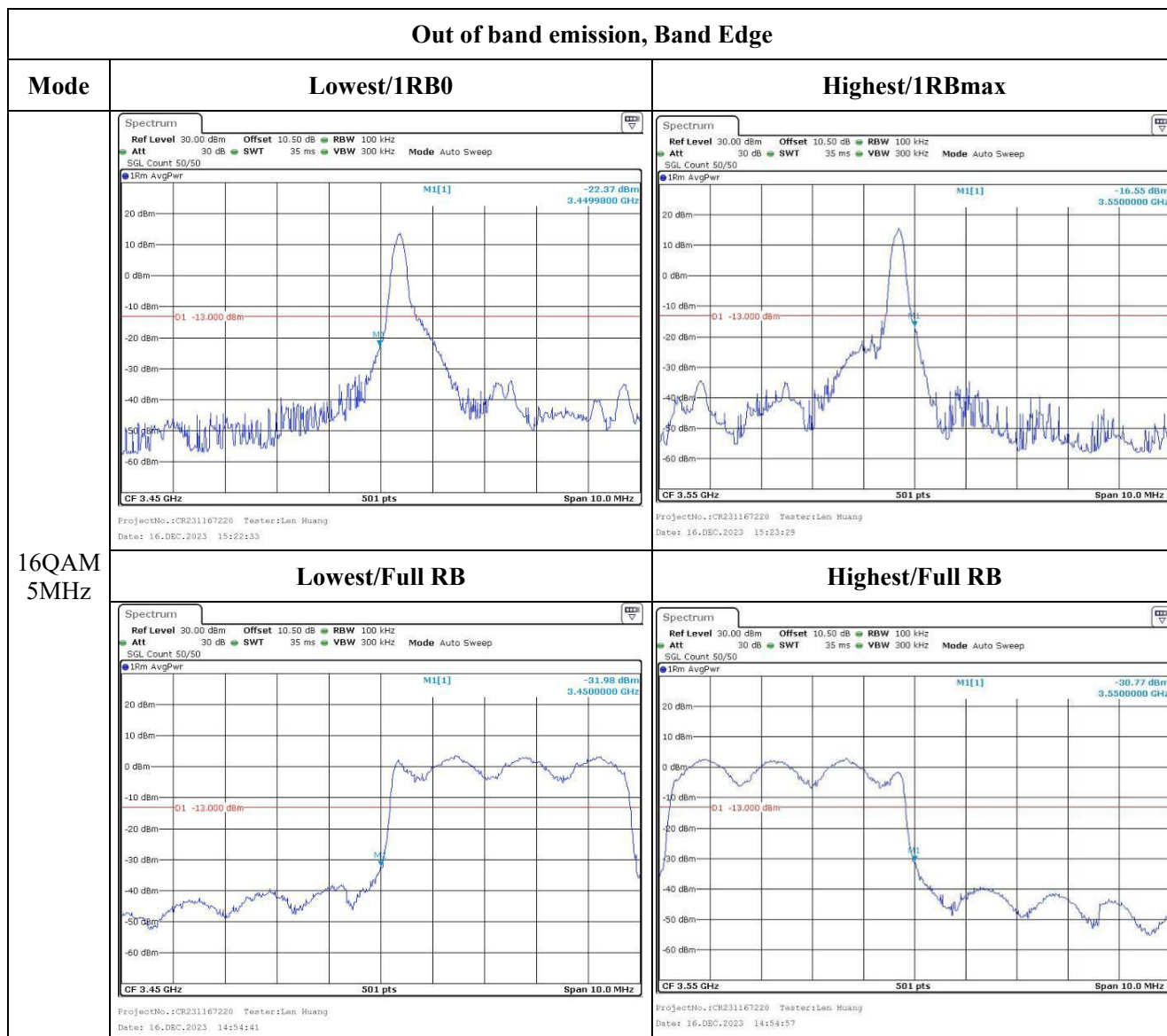
## Out of band emission, Band Edge



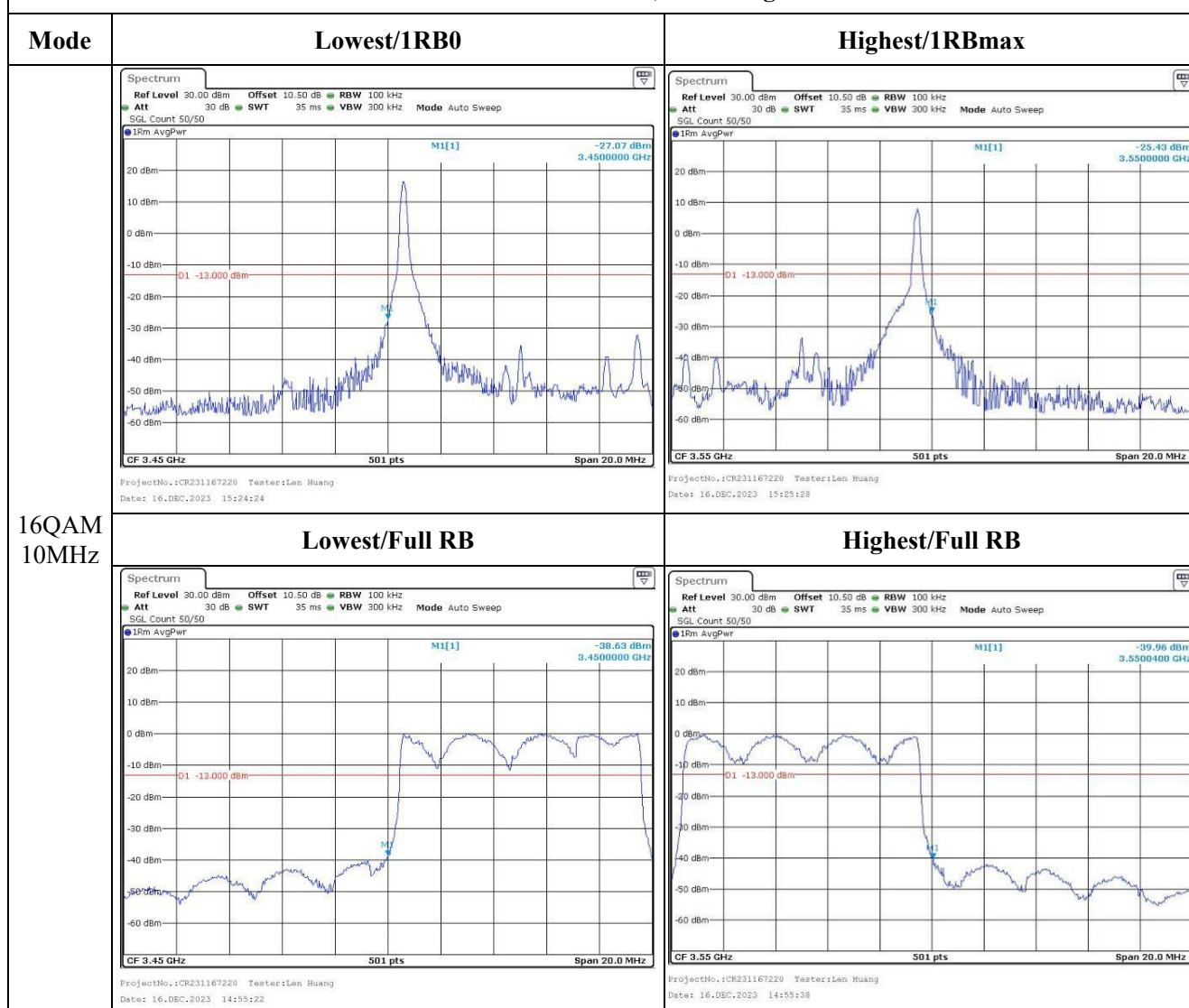
## Out of band emission, Band Edge



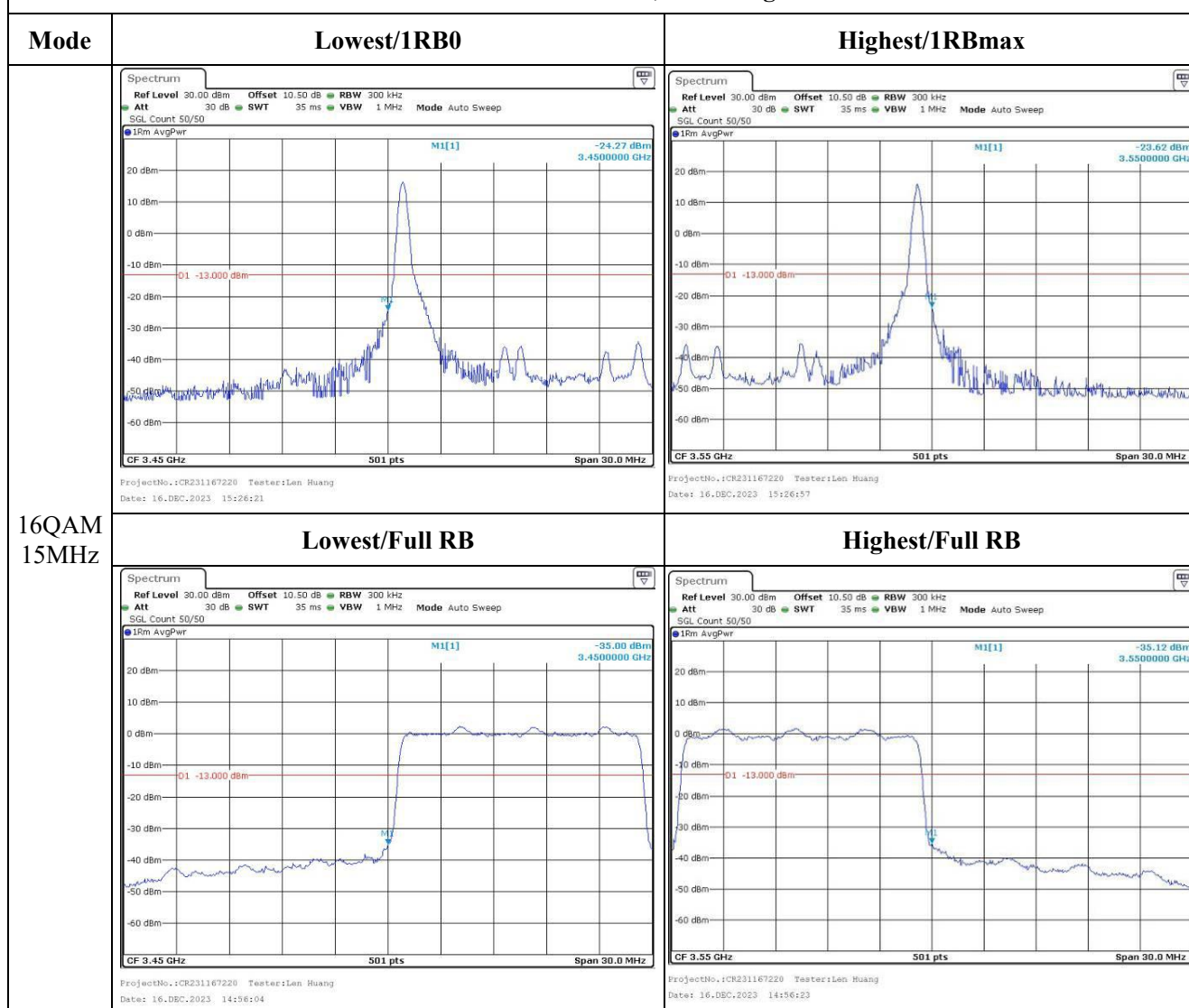
## Out of band emission, Band Edge



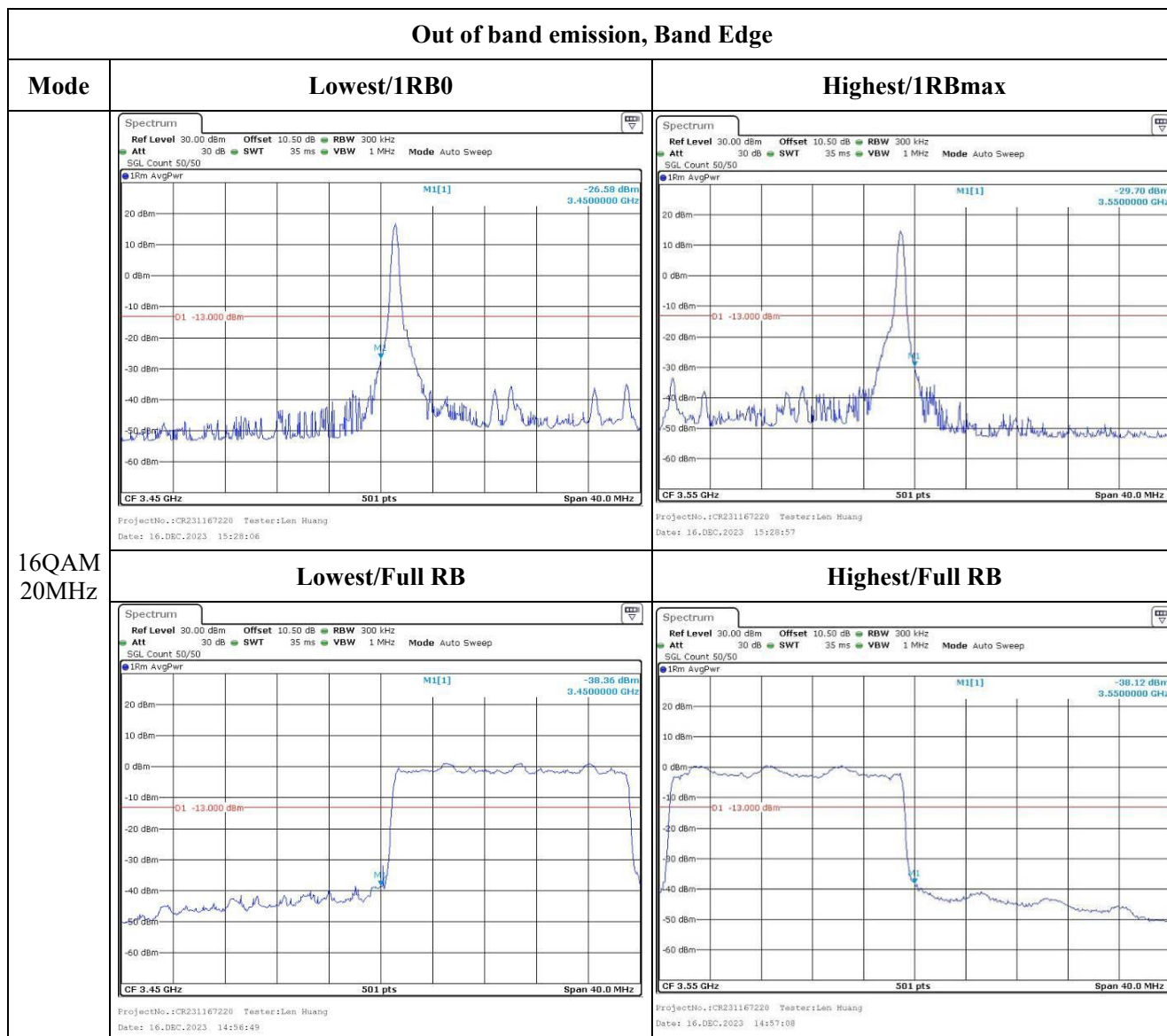
## Out of band emission, Band Edge



## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.16 Antenna Port Test Data and Results for LTE Band 66**

|                |           |              |                       |
|----------------|-----------|--------------|-----------------------|
| Serial Number: | 2DMI-1    | Test Date:   | 2023/11/22~2023/12/21 |
| Test Site:     | RF        | Test Mode:   | Transmitting          |
| Tester:        | Len Huang | Test Result: | <b>Pass</b>           |

**Environmental Conditions:**

|                      |         |                           |       |                        |     |
|----------------------|---------|---------------------------|-------|------------------------|-----|
| Temperature:<br>(°C) | 24.3~26 | Relative Humidity:<br>(%) | 40~55 | ATM Pressure:<br>(kPa) | 101 |
|----------------------|---------|---------------------------|-------|------------------------|-----|

**Test Equipment List and Details:**

| Manufacturer  | Description                         | Model        | Serial Number   | Calibration Date | Calibration Due Date |
|---------------|-------------------------------------|--------------|-----------------|------------------|----------------------|
| R&S           | Spectrum Analyzer                   | FSV40-N      | 102259          | 2023/4/18        | 2024/4/17            |
| zhuoxiang     | Coaxial Cable                       | SMA-178      | 211002          | Each time        | N/A                  |
| Minl-Circuits | Power Splitter                      | ZFRSC-183-S+ | S F448201619    | Each time        | N/A                  |
| R&S           | Wideband Radio Communication Tester | CMW500       | 143458          | 2023/3/31        | 2024/3/30            |
| BACL          | TEMP&HUMI Test Chamber              | BTH-150-40   | 30174           | 2023/3/31        | 2024/3/30            |
| UNI-T         | Multimeter                          | UT39A+       | C210582554      | 2023/9/28        | 2024/9/27            |
| ZHAOXIN       | DC Power Supply                     | RXN-6010D    | 21R6010D0912386 | N/A              | N/A                  |

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

| Operation Bandwidth | Lowest Frequency (MHz) | Middle Frequency (MHz) | Highest Frequency (MHz) |
|---------------------|------------------------|------------------------|-------------------------|
| 1.4MHz              | 1710.7                 | 1745                   | 1779.3                  |
| 3MHz                | 1711.5                 | 1745                   | 1778.5                  |
| 5MHz                | 1712.5                 | 1745                   | 1777.5                  |
| 10MHz               | 1715                   | 1745                   | 1775                    |
| 15MHz               | 1717.5                 | 1745                   | 1772.5                  |
| 20MHz               | 1720                   | 1745                   | 1770                    |

| <b>Test Data:</b>               |                            |                                     |                |                 |                    |                  |
|---------------------------------|----------------------------|-------------------------------------|----------------|-----------------|--------------------|------------------|
| <b>FCC§2.1046;§ 27.50(d)(4)</b> |                            |                                     |                |                 |                    |                  |
| <b>RF Output Power:</b>         |                            |                                     |                |                 |                    |                  |
| Test Bandwidth & Modulation     | Resource Block & RB offset | Conducted Average Output Power(dBm) |                |                 | Maximum EIRP (dBm) | EIRP Limit (dBm) |
|                                 |                            | Lowest Channel                      | Middle Channel | Highest Channel |                    |                  |
| 1.4MHz QPSK                     | RB1#0                      | 22.88                               | 23.26          | 23.44           | 19.89              | 30               |
|                                 | RB1#3                      | 22.88                               | 23.26          | 23.45           |                    |                  |
|                                 | RB1#5                      | 22.89                               | 23.26          | 23.50           |                    |                  |
|                                 | RB3#0                      | 22.92                               | 23.32          | 23.54           |                    |                  |
|                                 | RB3#3                      | 22.93                               | 23.31          | 23.52           |                    |                  |
|                                 | RB6#0                      | 21.91                               | 22.32          | 22.60           |                    |                  |
| 1.4MHz 16QAM                    | RB1#0                      | 21.94                               | 22.34          | 22.71           | 19.08              | 30               |
|                                 | RB1#3                      | 21.95                               | 22.36          | 22.70           |                    |                  |
|                                 | RB1#5                      | 21.97                               | 22.35          | 22.73           |                    |                  |
|                                 | RB3#0                      | 21.97                               | 22.44          | 22.52           |                    |                  |
|                                 | RB3#3                      | 21.97                               | 22.46          | 22.51           |                    |                  |
|                                 | RB6#0                      | 20.87                               | 21.32          | 21.63           |                    |                  |
| 3MHz QPSK                       | RB1#0                      | 22.83                               | 23.34          | 23.44           | 19.86              | 30               |
|                                 | RB1#8                      | 22.83                               | 23.30          | 23.51           |                    |                  |
|                                 | RB1#14                     | 22.90                               | 23.26          | 23.50           |                    |                  |
|                                 | RB6#0                      | 21.89                               | 22.36          | 22.61           |                    |                  |
|                                 | RB6#9                      | 21.92                               | 22.30          | 22.60           |                    |                  |
|                                 | RB15#0                     | 21.90                               | 22.29          | 22.59           |                    |                  |
| 3MHz 16QAM                      | RB1#0                      | 21.95                               | 22.90          | 22.70           | 19.25              | 30               |
|                                 | RB1#8                      | 21.93                               | 22.85          | 22.70           |                    |                  |
|                                 | RB1#14                     | 21.96                               | 22.78          | 22.73           |                    |                  |
|                                 | RB6#0                      | 20.87                               | 21.43          | 21.60           |                    |                  |
|                                 | RB6#9                      | 20.84                               | 21.37          | 21.60           |                    |                  |
|                                 | RB15#0                     | 20.94                               | 21.39          | 21.53           |                    |                  |
| 5MHz QPSK                       | RB1#0                      | 22.92                               | 23.49          | 23.43           | 19.94              | 30               |
|                                 | RB1#13                     | 22.96                               | 23.54          | 23.50           |                    |                  |
|                                 | RB1#24                     | 22.95                               | 23.48          | 23.59           |                    |                  |
|                                 | RB15#0                     | 21.93                               | 22.44          | 22.55           |                    |                  |
|                                 | RB15#10                    | 21.90                               | 22.29          | 22.53           |                    |                  |
|                                 | RB25#0                     | 21.93                               | 22.31          | 22.53           |                    |                  |
| 5MHz 16QAM                      | RB1#0                      | 21.98                               | 22.25          | 22.76           | 19.23              | 30               |
|                                 | RB1#13                     | 21.97                               | 22.24          | 22.82           |                    |                  |
|                                 | RB1#24                     | 21.97                               | 22.20          | 22.88           |                    |                  |
|                                 | RB15#0                     | 20.94                               | 21.45          | 21.56           |                    |                  |
|                                 | RB15#10                    | 20.91                               | 21.31          | 21.53           |                    |                  |
|                                 | RB25#0                     | 20.94                               | 21.39          | 21.56           |                    |                  |
| 10MHz QPSK                      | RB1#0                      | 22.89                               | 23.35          | 23.40           | 19.85              | 30               |

|                                                                 |         |       |       |       |         |      |
|-----------------------------------------------------------------|---------|-------|-------|-------|---------|------|
|                                                                 | RB1#25  | 22.95 | 23.38 | 23.45 |         |      |
|                                                                 | RB1#49  | 22.97 | 23.30 | 23.50 |         |      |
|                                                                 | RB25#0  | 21.90 | 22.40 | 22.52 |         |      |
|                                                                 | RB25#25 | 22.03 | 22.32 | 22.51 |         |      |
|                                                                 | RB50#0  | 22.00 | 22.39 | 22.57 |         |      |
| 10MHz 16QAM                                                     | RB1#0   | 21.92 | 22.89 | 22.61 | 19.26   | 30   |
|                                                                 | RB1#25  | 21.99 | 22.91 | 22.64 |         |      |
|                                                                 | RB1#49  | 22.02 | 22.83 | 22.67 |         |      |
|                                                                 | RB25#0  | 21.03 | 21.42 | 21.57 |         |      |
|                                                                 | RB25#25 | 21.11 | 21.40 | 21.52 |         |      |
|                                                                 | RB50#0  | 20.99 | 21.40 | 21.53 |         |      |
| 15MHz QPSK                                                      | RB1#0   | 22.83 | 23.26 | 23.25 | 19.78   | 30   |
|                                                                 | RB1#38  | 22.90 | 23.34 | 23.40 |         |      |
|                                                                 | RB1#74  | 23.00 | 23.23 | 23.43 |         |      |
|                                                                 | RB36#0  | 21.91 | 22.28 | 22.33 |         |      |
|                                                                 | RB36#39 | 22.06 | 22.30 | 22.38 |         |      |
|                                                                 | RB75#0  | 22.01 | 22.35 | 22.37 |         |      |
| 15MHz 16QAM                                                     | RB1#0   | 22.26 | 22.83 | 22.46 | 19.23   | 30   |
|                                                                 | RB1#38  | 22.41 | 22.88 | 22.61 |         |      |
|                                                                 | RB1#74  | 22.44 | 22.76 | 22.62 |         |      |
|                                                                 | RB36#0  | 20.84 | 21.34 | 21.39 |         |      |
|                                                                 | RB36#39 | 20.98 | 21.30 | 21.42 |         |      |
|                                                                 | RB75#0  | 20.94 | 21.32 | 21.39 |         |      |
| 20MHz QPSK                                                      | RB1#0   | 22.83 | 23.30 | 23.20 | 19.75   | 30   |
|                                                                 | RB1#50  | 22.99 | 23.33 | 23.36 |         |      |
|                                                                 | RB1#99  | 23.01 | 23.12 | 23.40 |         |      |
|                                                                 | RB50#0  | 21.99 | 22.38 | 22.35 |         |      |
|                                                                 | RB50#50 | 22.07 | 22.30 | 22.31 |         |      |
|                                                                 | RB100#0 | 22.00 | 22.33 | 22.32 |         |      |
| 20MHz 16QAM                                                     | RB1#0   | 22.45 | 22.57 | 22.46 | 19.04   | 30   |
|                                                                 | RB1#50  | 22.63 | 22.69 | 22.61 |         |      |
|                                                                 | RB1#99  | 22.68 | 22.47 | 22.63 |         |      |
|                                                                 | RB50#0  | 20.94 | 21.36 | 21.32 |         |      |
|                                                                 | RB50#50 | 21.08 | 21.28 | 21.32 |         |      |
|                                                                 | RB100#0 | 21.01 | 21.34 | 21.32 |         |      |
| Note: EIRP=Conducted Power(dBm) - Lc(dB) + G <sub>T</sub> (dBi) |         |       |       |       |         |      |
|                                                                 |         |       |       |       | Result: | Pass |

| <b>Peak-to-average Ratio(PAR)</b> |                            |                           |                |                 |             |
|-----------------------------------|----------------------------|---------------------------|----------------|-----------------|-------------|
| Test Bandwidth & Modulation       | Resource Block & RB offset | Peak-to-average Ratio(dB) |                |                 | Limit (dB)  |
|                                   |                            | Lowest Channel            | Middle Channel | Highest Channel |             |
| 20MHz QPSK                        | RB1#0                      | 4.09                      | 4.55           | 4.26            | 13          |
|                                   | RB100#0                    | 5.01                      | 5.10           | 4.96            | 13          |
| 20MHz 16QAM                       | RB1#0                      | 5.10                      | 5.33           | 5.13            | 13          |
|                                   | RB100#0                    | 5.97                      | 6.06           | 5.94            | 13          |
| <b>Result:</b>                    |                            |                           |                |                 | <b>Pass</b> |

| <b>FCC §2.1049, §27.53:Occupied Bandwidth</b>                        |                              |                |              |                                |                |              |
|----------------------------------------------------------------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
| Operation Mode                                                       | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|                                                                      | Low Channel                  | Middle channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| 1.4MHz QPSK                                                          | 1.096                        | 1.102          | 1.102        | 1.308                          | 1.320          | 1.284        |
| 1.4MHz 16QAM                                                         | 1.096                        | 1.090          | 1.096        | 1.320                          | 1.290          | 1.296        |
| 3MHz QPSK                                                            | 2.683                        | 2.695          | 2.683        | 2.904                          | 2.892          | 2.916        |
| 3MHz 16QAM                                                           | 2.683                        | 2.683          | 2.683        | 2.904                          | 2.916          | 2.892        |
| 5MHz QPSK                                                            | 4.511                        | 4.511          | 4.511        | 5.000                          | 5.000          | 4.980        |
| 5MHz 16QAM                                                           | 4.511                        | 4.511          | 4.511        | 4.940                          | 4.980          | 5.020        |
| 10MHz QPSK                                                           | 8.942                        | 8.942          | 8.982        | 9.720                          | 9.600          | 9.680        |
| 10MHz 16QAM                                                          | 8.942                        | 8.942          | 8.982        | 9.560                          | 9.640          | 9.640        |
| 15MHz QPSK                                                           | 13.473                       | 13.473         | 13.533       | 14.640                         | 14.760         | 14.820       |
| 15MHz 16QAM                                                          | 13.473                       | 13.533         | 13.533       | 14.700                         | 14.760         | 14.640       |
| 20MHz QPSK                                                           | 17.884                       | 17.884         | 17.964       | 19.360                         | 19.360         | 19.200       |
| 20MHz 16QAM                                                          | 17.884                       | 17.964         | 17.884       | 19.200                         | 19.200         | 19.360       |
| Note: The test plots please refer to the Plots of Occupied Bandwidth |                              |                |              |                                |                |              |

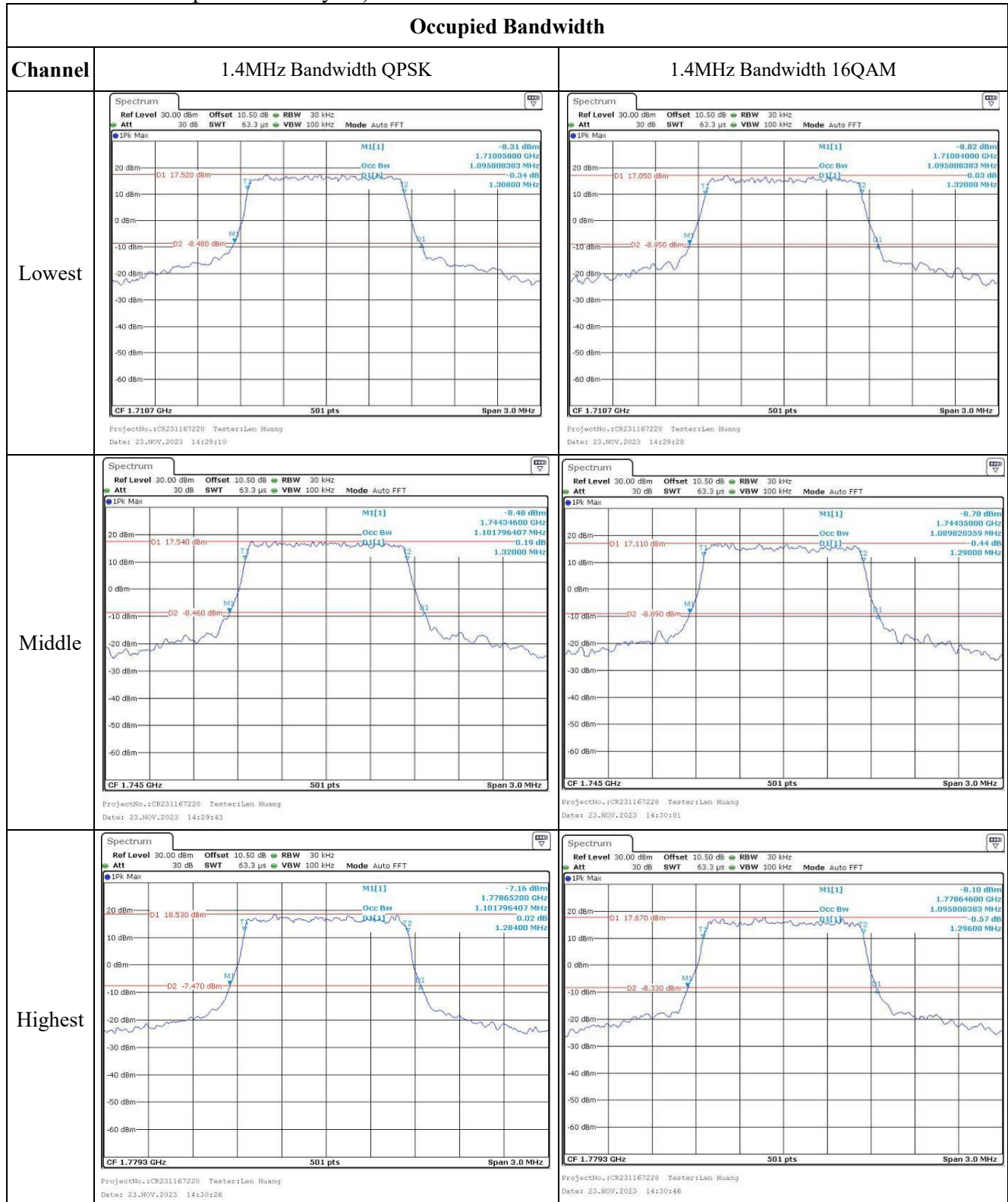
| <b>FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal</b> |                                                                                 |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Result:</b>                                                     | Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal. |

| <b>FCC §2.1051, § 27.53:Out of band emission, Band Edge</b> |                                                                          |
|-------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Result:</b>                                              | Pass, Please refer to the test plots of Out of band emission, Band Edge. |

| FCC §2.1055, §27.54: Frequency Stability |                  |                                                            |                  |         |                  |             |
|------------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Mode:                               | 20M QPSK         | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
| Test Item                                | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                          |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature      | -30              | 3.91                                                       | 1710.149         | 1710.00 | 1779.808         | 1780        |
|                                          | -20              | 3.91                                                       | 1710.051         | 1710.00 | 1779.838         | 1780        |
|                                          | -10              | 3.91                                                       | 1710.138         | 1710.00 | 1779.959         | 1780        |
|                                          | 0                | 3.91                                                       | 1710.095         | 1710.00 | 1779.863         | 1780        |
|                                          | 10               | 3.91                                                       | 1710.053         | 1710.00 | 1779.846         | 1780        |
|                                          | 20               | 3.91                                                       | 1710.129         | 1710.00 | 1779.974         | 1780        |
|                                          | 30               | 3.91                                                       | 1710.055         | 1710.00 | 1779.806         | 1780        |
|                                          | 40               | 3.91                                                       | 1710.102         | 1710.00 | 1779.941         | 1780        |
|                                          | 50               | 3.91                                                       | 1710.085         | 1710.00 | 1779.853         | 1780        |
| Frequency Stability vs. Voltage          | 20               | 3.45                                                       | 1710.091         | 1710.00 | 1779.911         | 1780        |
|                                          | 20               | 4.5                                                        | 1710.020         | 1710.00 | 1779.870         | 1780        |
|                                          |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

| Test Mode:                          | 20M 16QAM        | Test Channel: Lowest for Lower Edge,Highest for Upper Edge |                  |         |                  |             |
|-------------------------------------|------------------|------------------------------------------------------------|------------------|---------|------------------|-------------|
| Test Item                           | Temperature (°C) | Voltage (V <sub>DC</sub> )                                 | Lower Edge (MHz) |         | Upper Edge (MHz) |             |
|                                     |                  |                                                            | Result           | Limit   | Result           | Limit       |
| Frequency Stability vs. Temperature | -30              | 3.91                                                       | 1710.035         | 1710.00 | 1779.969         | 1780        |
|                                     | -20              | 3.91                                                       | 1710.083         | 1710.00 | 1779.915         | 1780        |
|                                     | -10              | 3.91                                                       | 1710.193         | 1710.00 | 1779.882         | 1780        |
|                                     | 0                | 3.91                                                       | 1710.065         | 1710.00 | 1779.990         | 1780        |
|                                     | 10               | 3.91                                                       | 1710.004         | 1710.00 | 1779.984         | 1780        |
|                                     | 20               | 3.91                                                       | 1710.114         | 1710.00 | 1779.896         | 1780        |
|                                     | 30               | 3.91                                                       | 1710.003         | 1710.00 | 1779.996         | 1780        |
|                                     | 40               | 3.91                                                       | 1710.152         | 1710.00 | 1779.905         | 1780        |
|                                     | 50               | 3.91                                                       | 1710.030         | 1710.00 | 1779.887         | 1780        |
| Frequency Stability vs. Voltage     | 20               | 3.45                                                       | 1710.046         | 1710.00 | 1779.893         | 1780        |
|                                     | 20               | 4.5                                                        | 1710.193         | 1710.00 | 1779.972         | 1780        |
|                                     |                  |                                                            |                  |         | <b>Result:</b>   | <b>Pass</b> |

**Test Plot:** (Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):



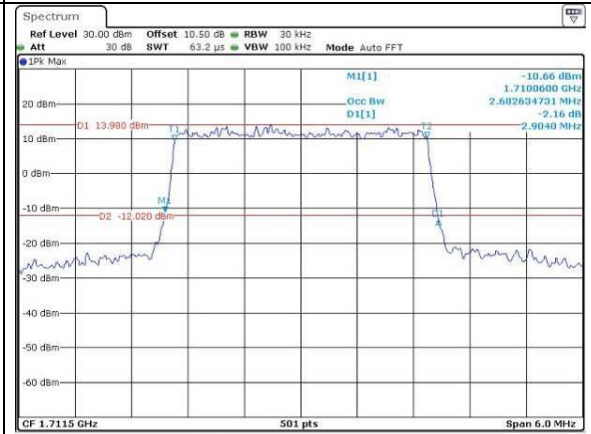
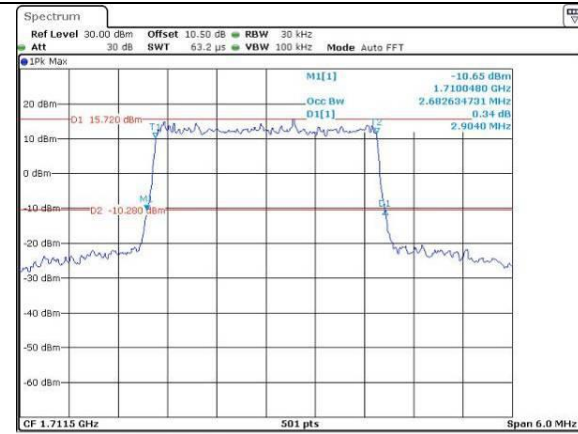
## Occupied Bandwidth

## Channel

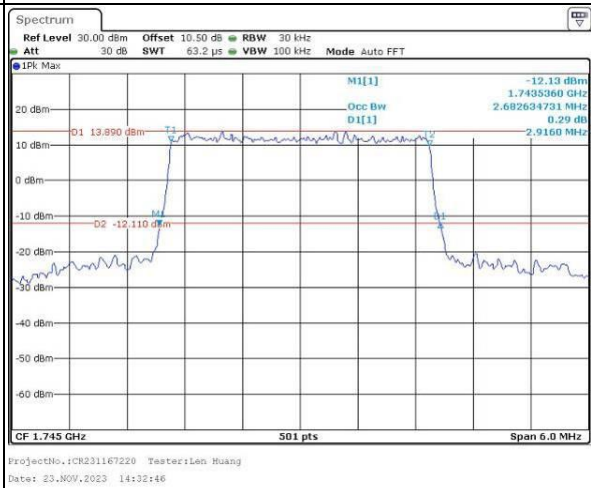
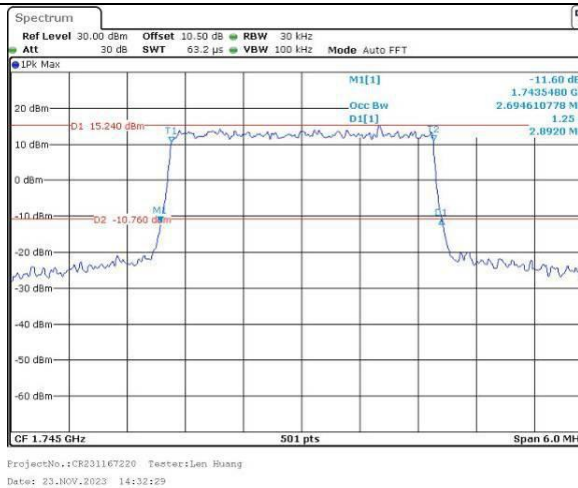
## 3MHz Bandwidth QPSK

## 3MHz Bandwidth 16QAM

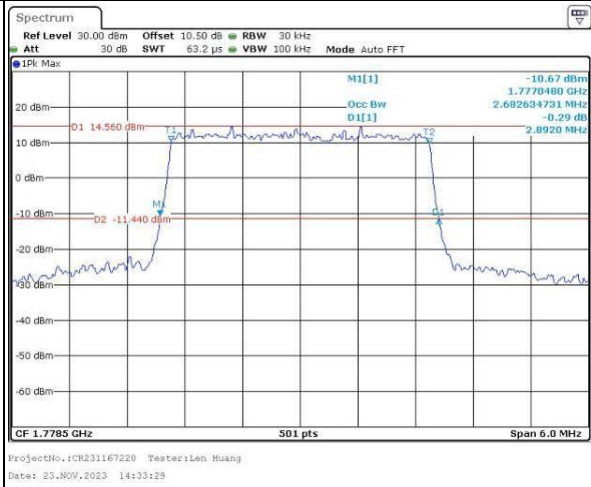
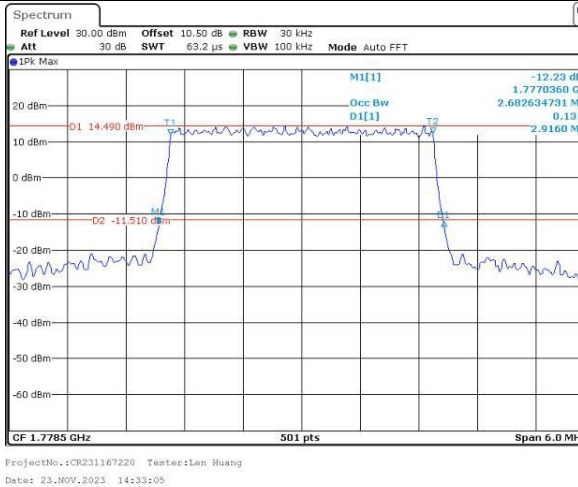
## Lowest



## Middle



## Highest



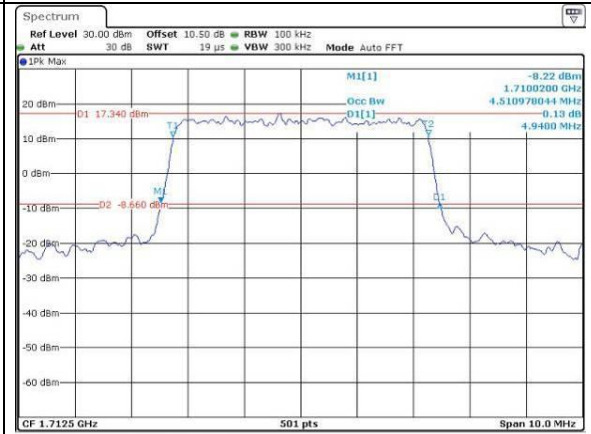
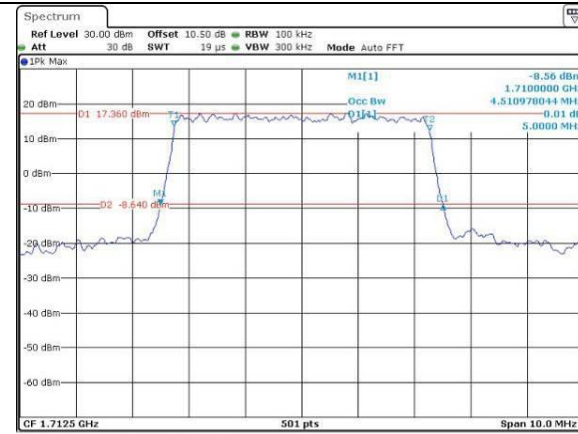
## Occupied Bandwidth

## Channel

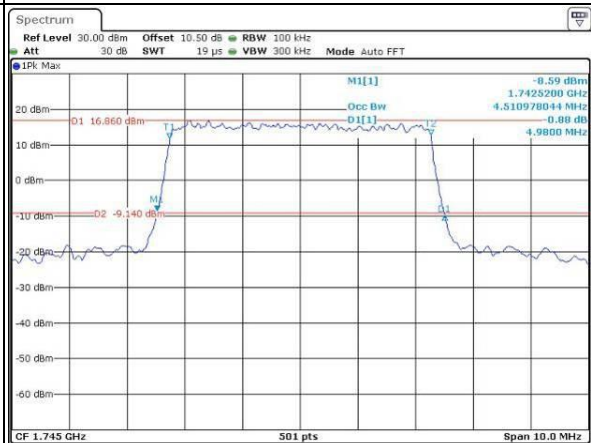
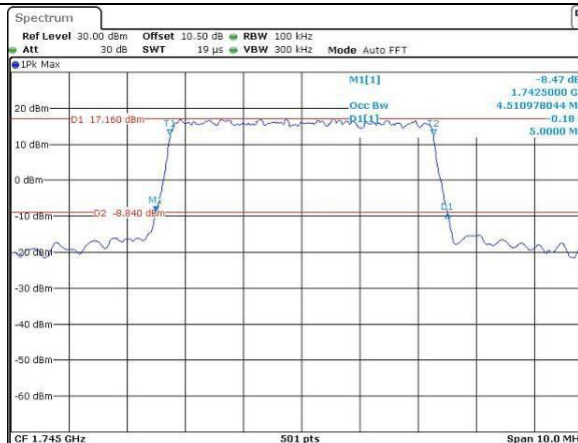
## 5MHz Bandwidth QPSK

## 5MHz Bandwidth 16QAM

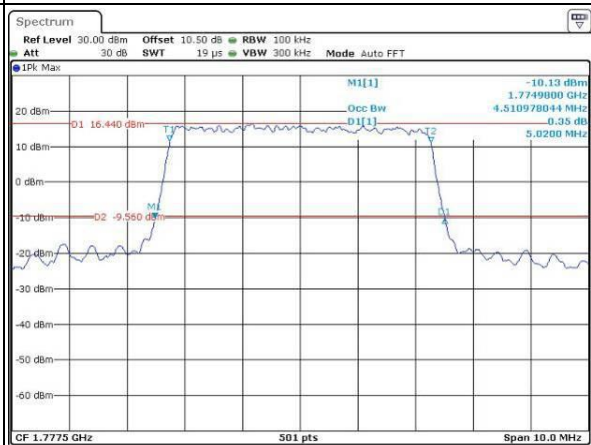
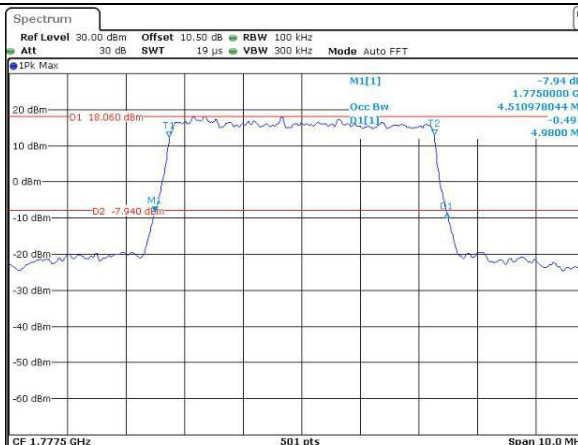
## Lowest



## Middle



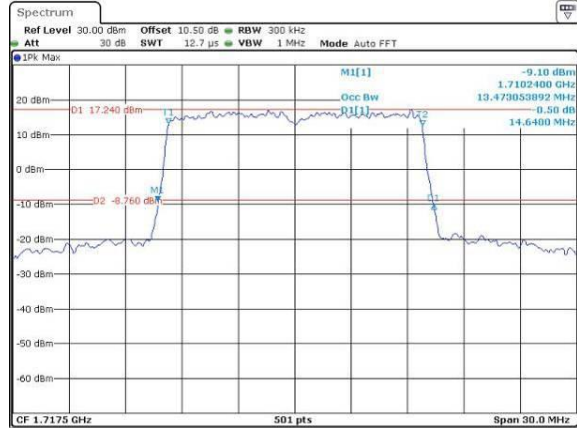
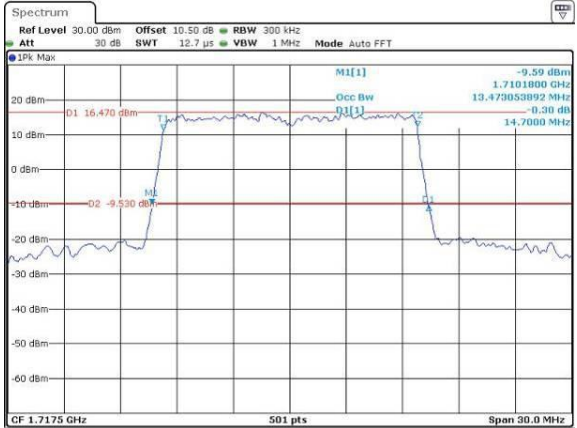
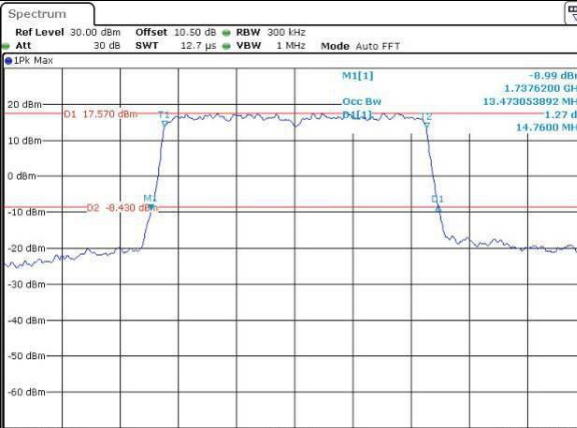
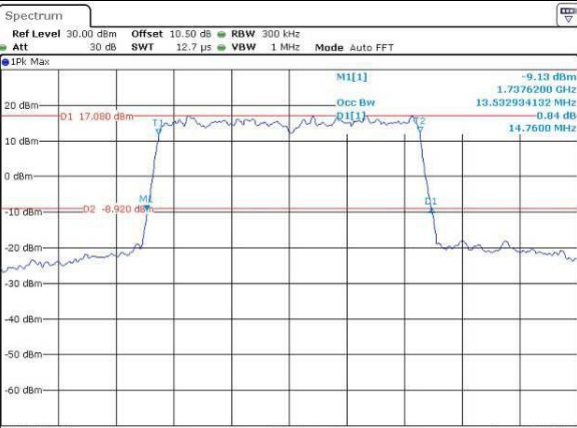
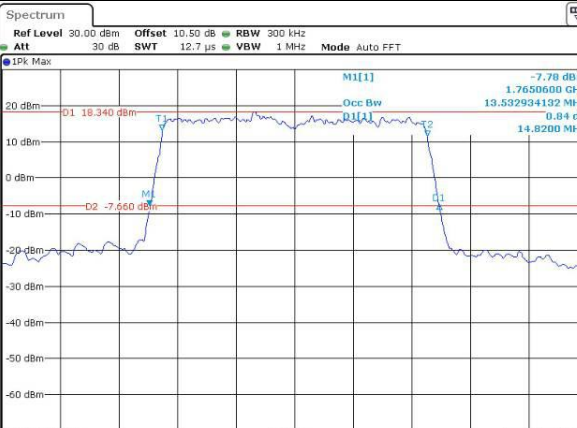
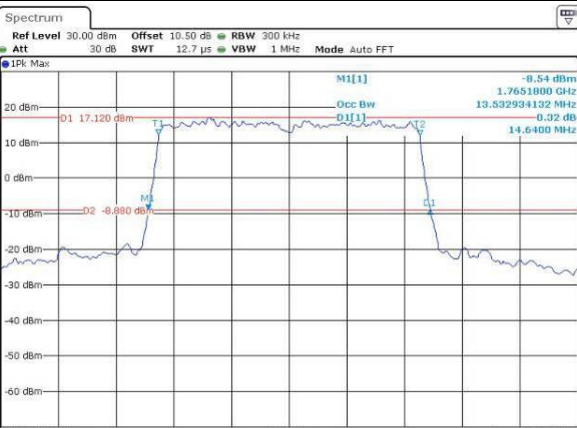
## Highest



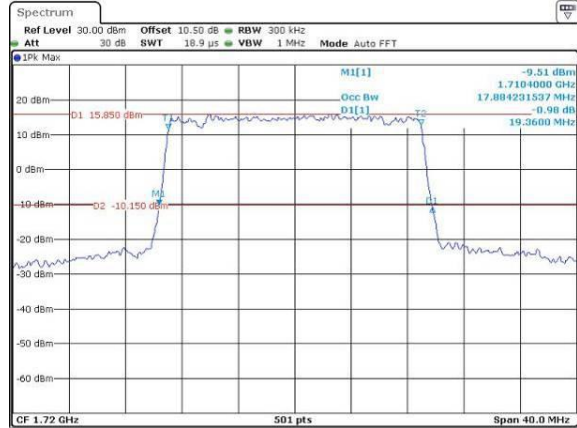
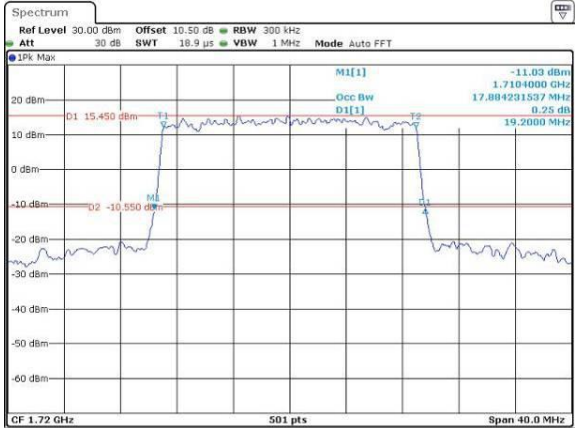
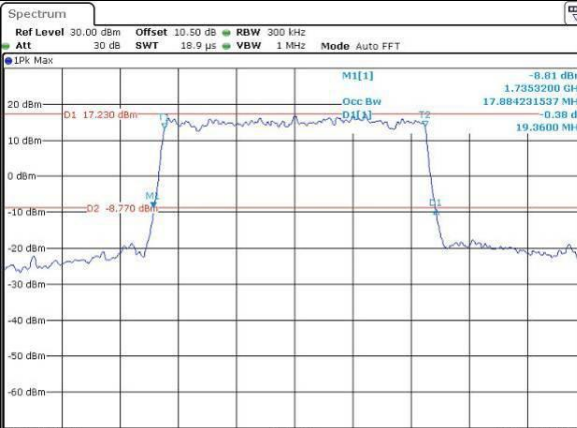
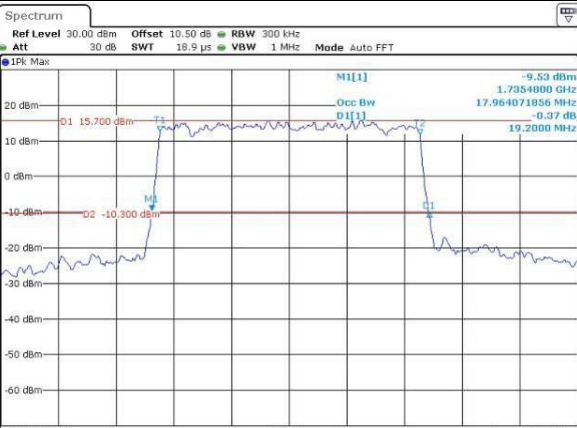
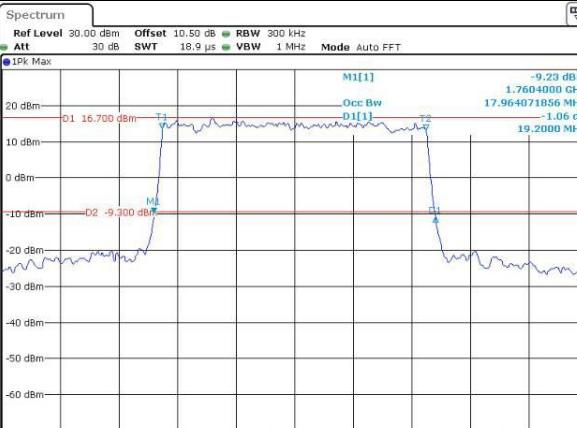
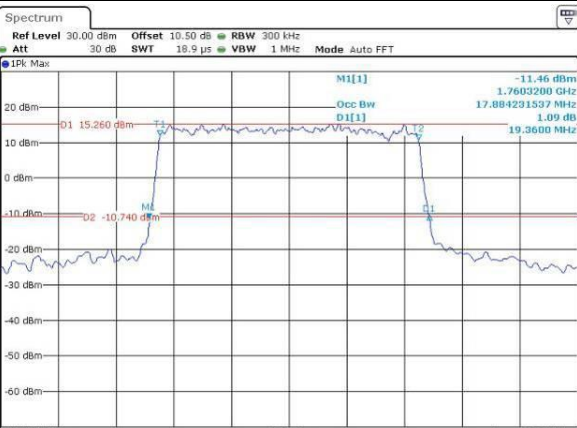
## Occupied Bandwidth

| Channel | 10MHz Bandwidth QPSK                                                          | 10MHz Bandwidth 16QAM                                                         |
|---------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Lowest  | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:50:23</p> | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:50:52</p> |
| Middle  | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:51:24</p> | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:51:50</p> |
| Highest | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:52:22</p> | <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:52:54</p> |

## Occupied Bandwidth

| Channel | 15MHz Bandwidth QPSK                                                                                                                                              | 15MHz Bandwidth 16QAM                                                                                                                                              |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lowest  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:54:52</p>   |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:55:26</p>   |
| Middle  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:56:04</p>  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:56:32</p>  |
| Highest |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:57:01</p> |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:57:32</p> |

## Occupied Bandwidth

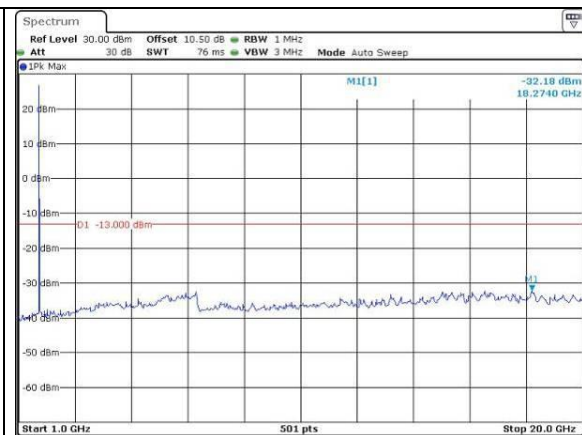
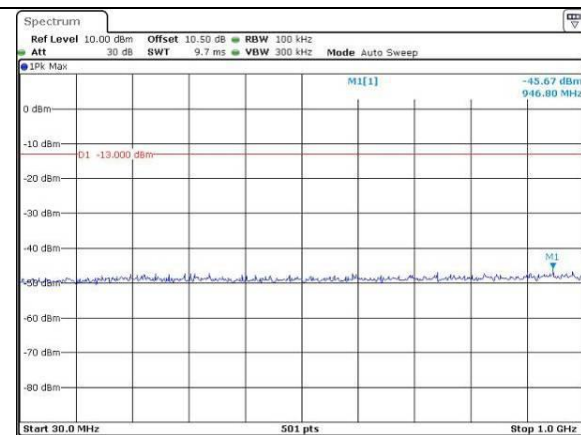
| Channel | 20MHz Bandwidth QPSK                                                                                                                                              | 20MHz Bandwidth 16QAM                                                                                                                                              |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lowest  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:58:43</p>   |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 14:59:17</p>   |
| Middle  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 15:00:02</p>  |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 15:00:37</p>  |
| Highest |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 15:01:09</p> |  <p>ProjectNo.:CR231167220 Tester:Len Huang<br/>Date: 23.NOV.2023 15:01:34</p> |

## Spurious Emissions at Antenna Terminal

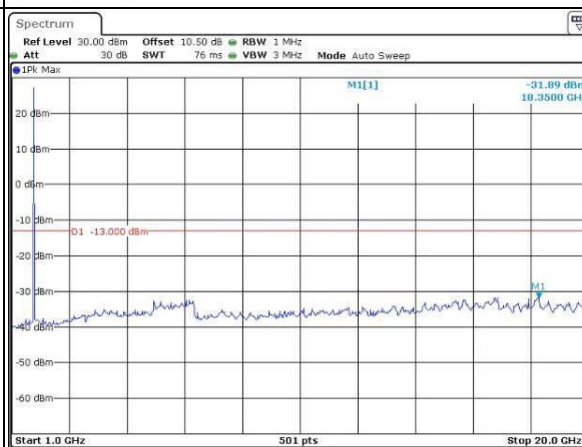
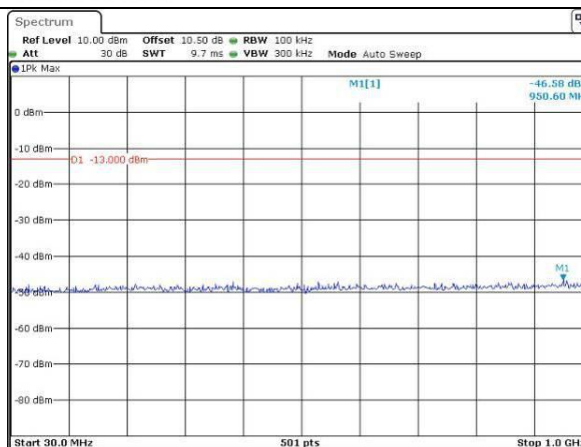
Channel

1.4MHz Bandwidth QPSK

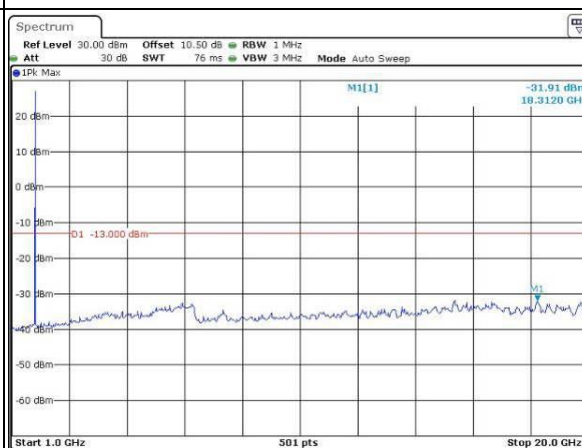
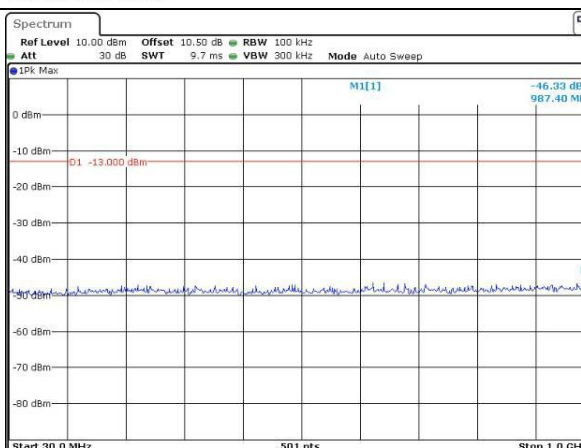
Lowest



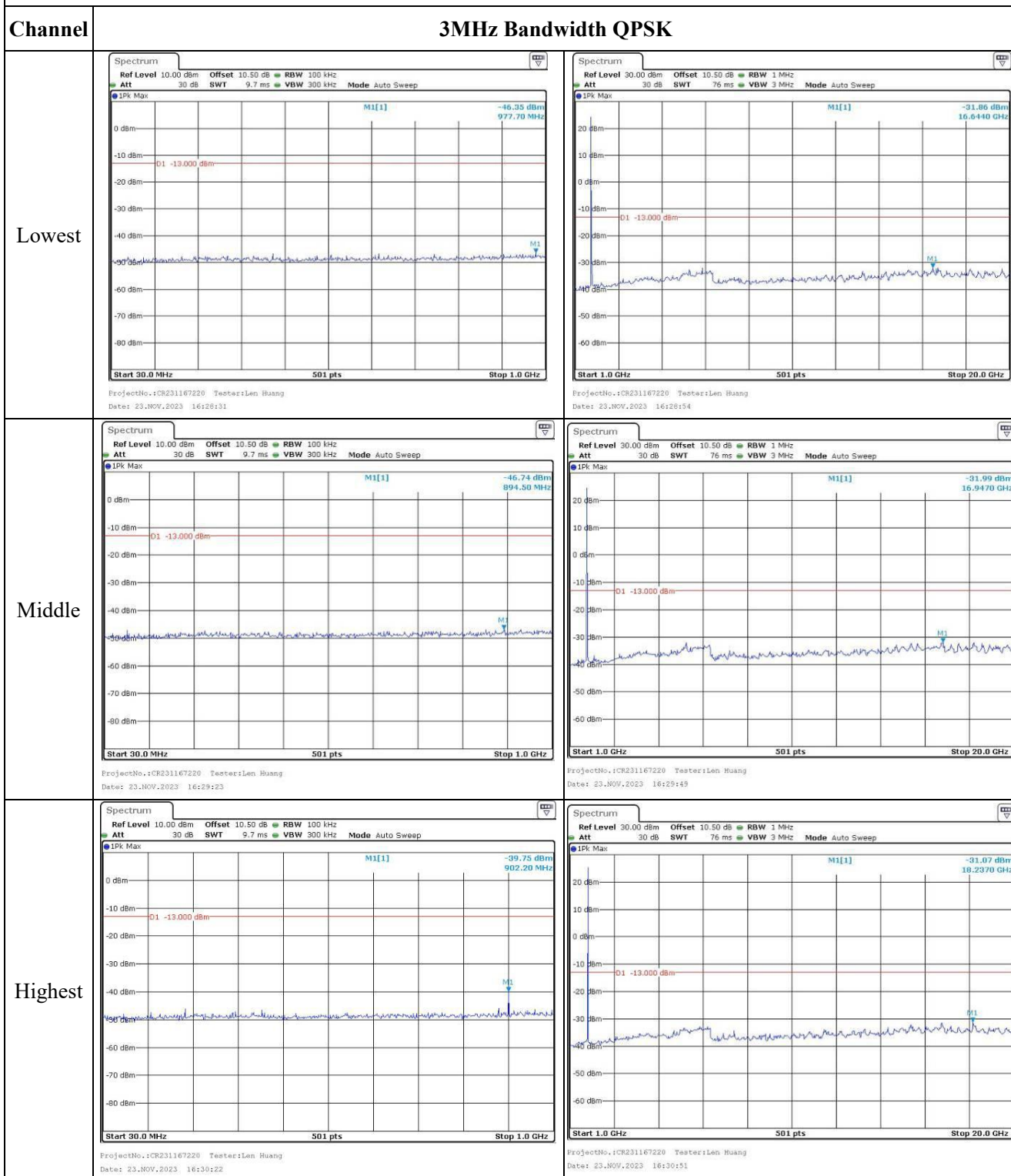
Middle



Highest



## Spurious Emissions at Antenna Terminal

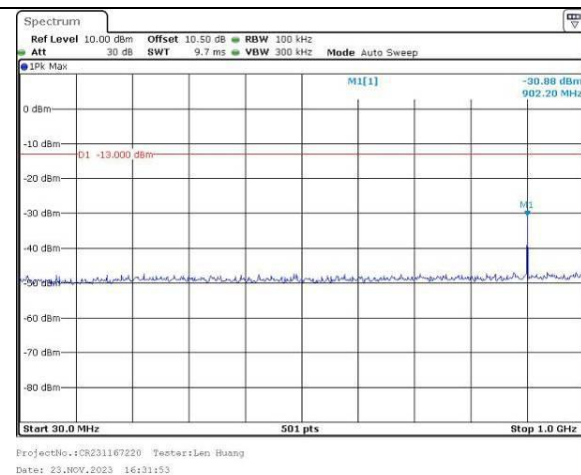


## Spurious Emissions at Antenna Terminal

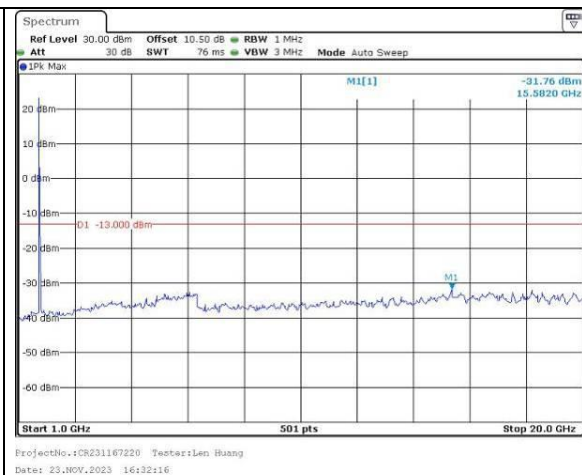
Channel

5MHz Bandwidth QPSK

Lowest

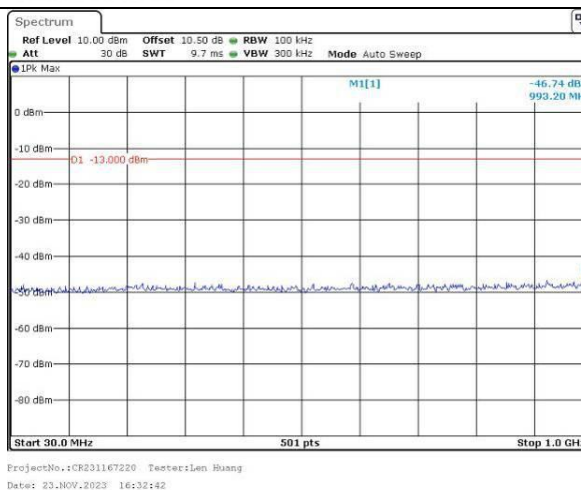


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:31:53

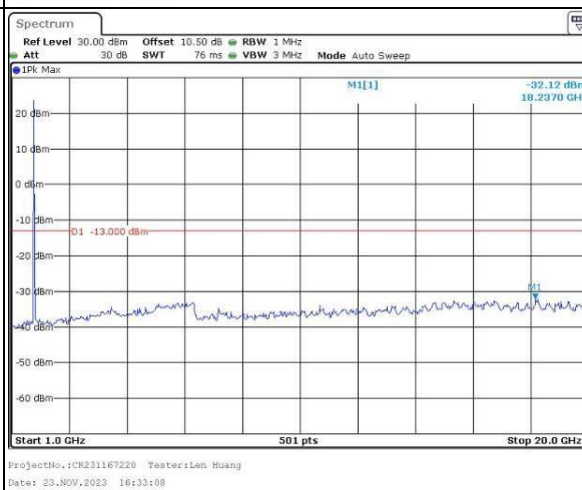


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:32:16

Middle

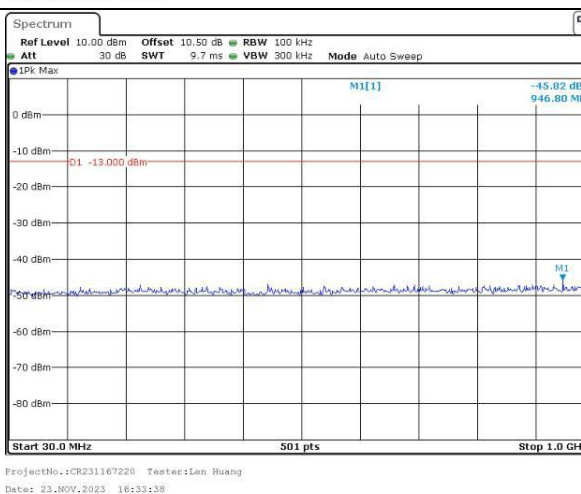


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:32:42

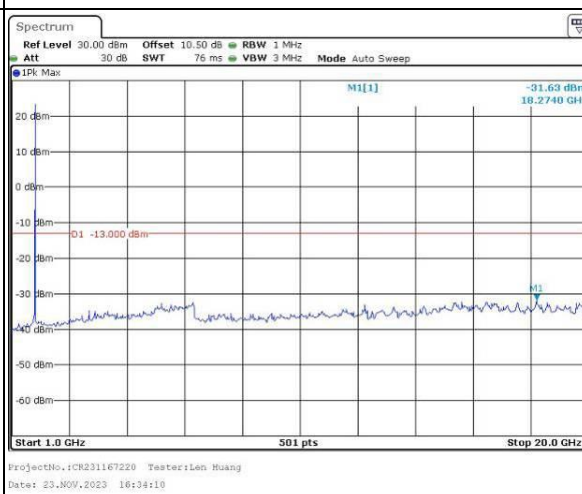


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:33:08

Highest



ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:33:38



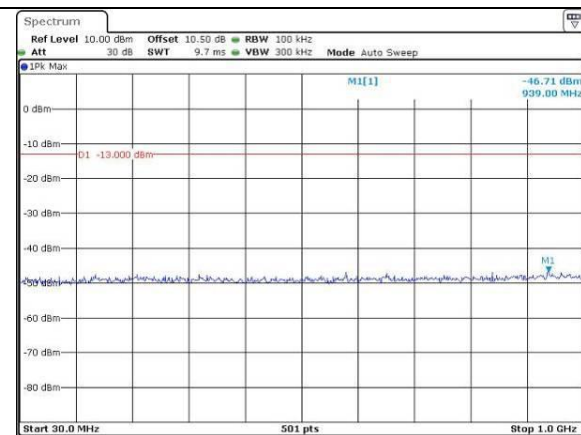
ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:34:18

## Spurious Emissions at Antenna Terminal

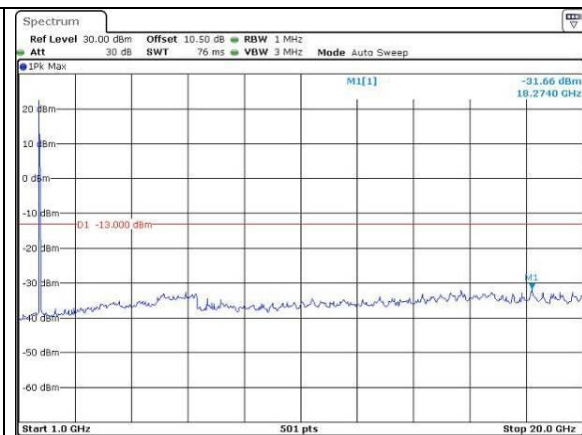
Channel

10MHz Bandwidth QPSK

Lowest

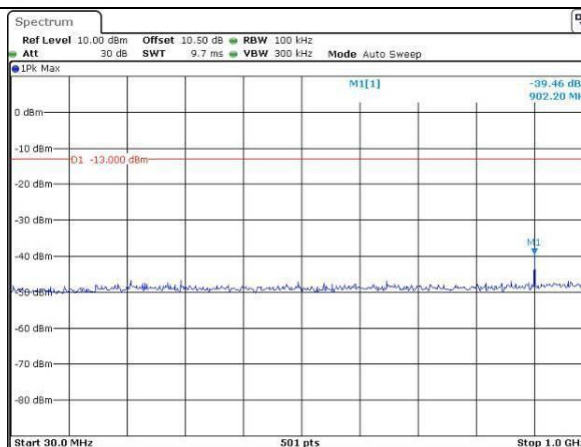


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:35:08

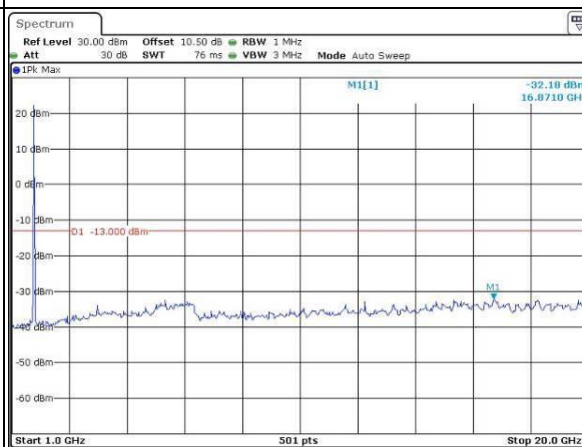


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:35:32

Middle

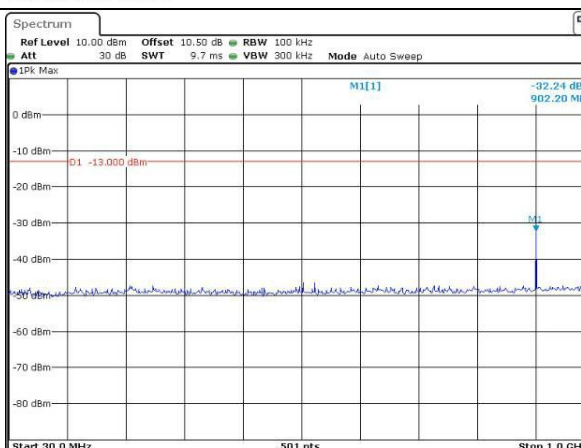


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:35:58

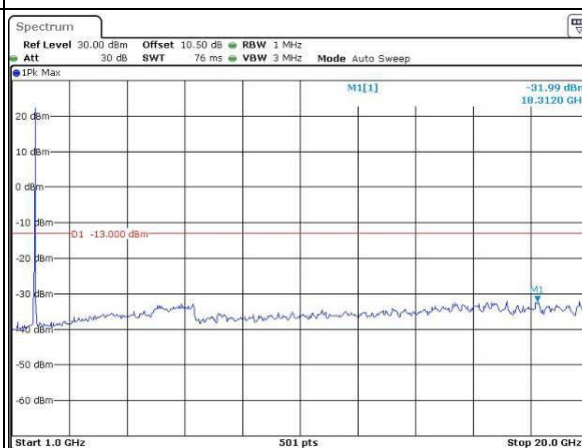


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:36:29

Highest



ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:36:51



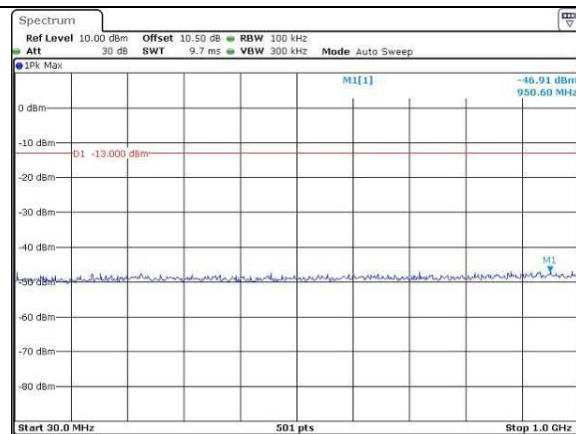
ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:37:28

## Spurious Emissions at Antenna Terminal

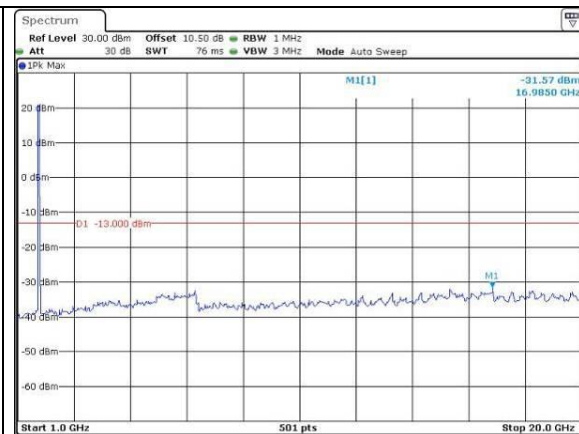
Channel

15MHz Bandwidth QPSK

Lowest

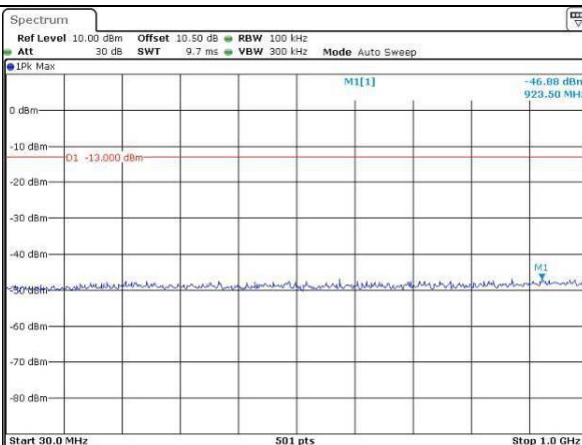


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:38:23

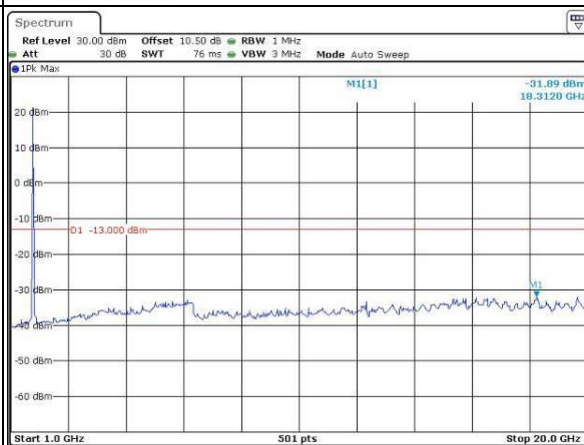


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:38:49

Middle

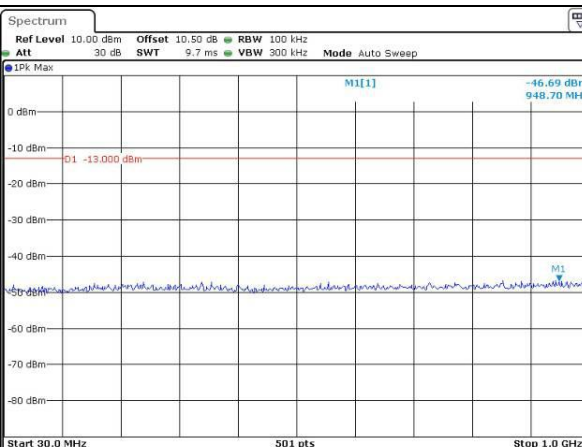


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:39:20

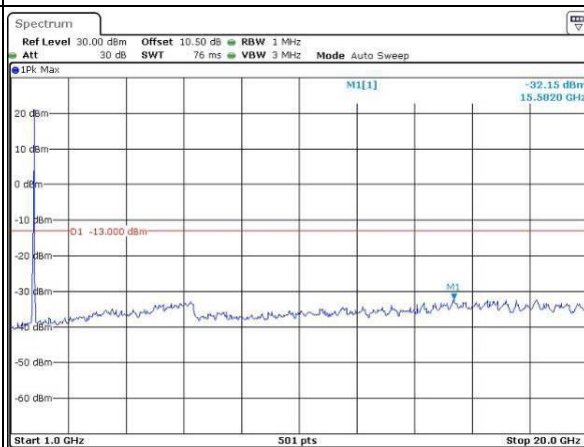


ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:39:43

Highest



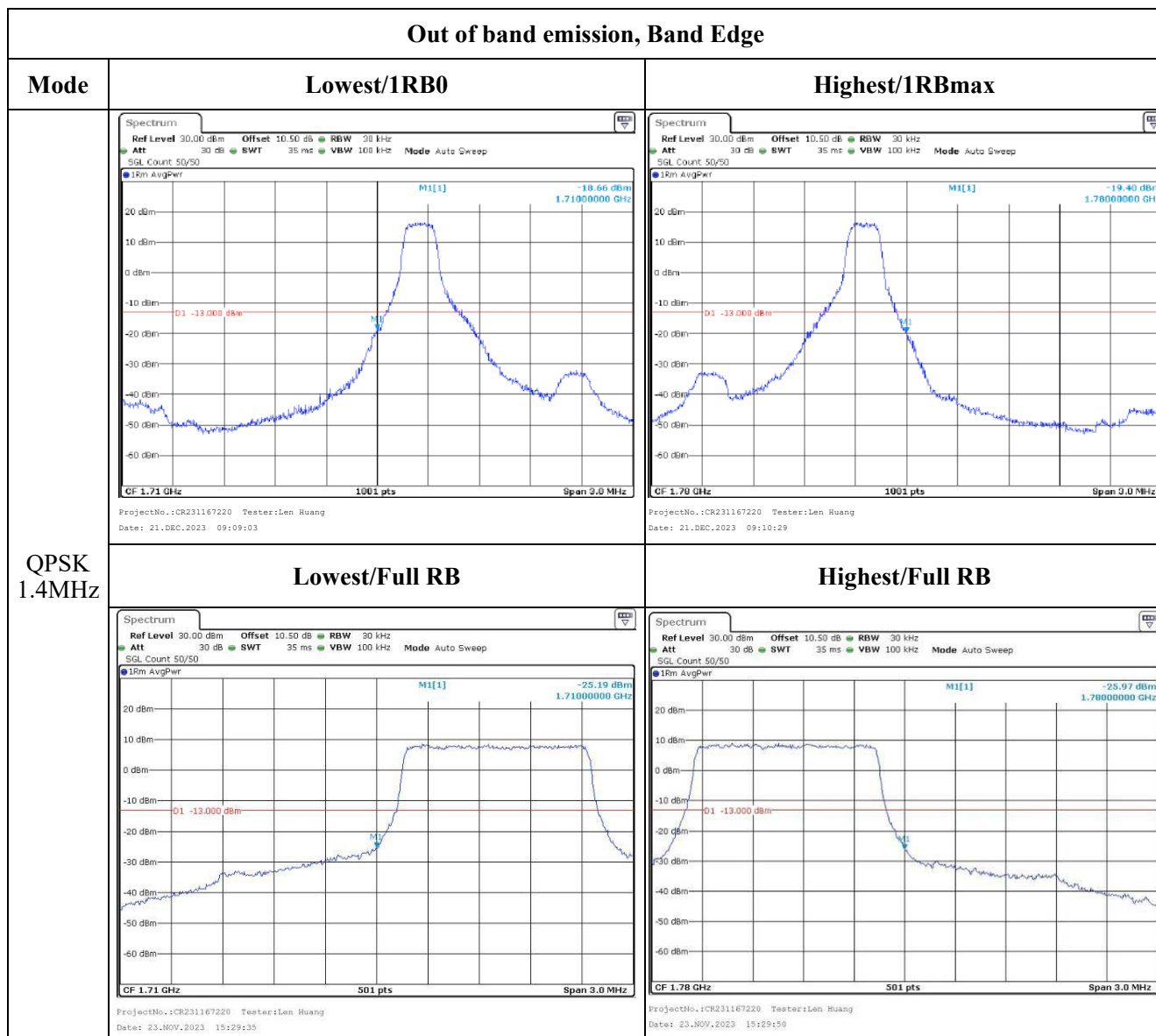
ProjectNo.:CR231167220 Tester:Len Huang  
Date: 23.NOV.2023 16:40:20



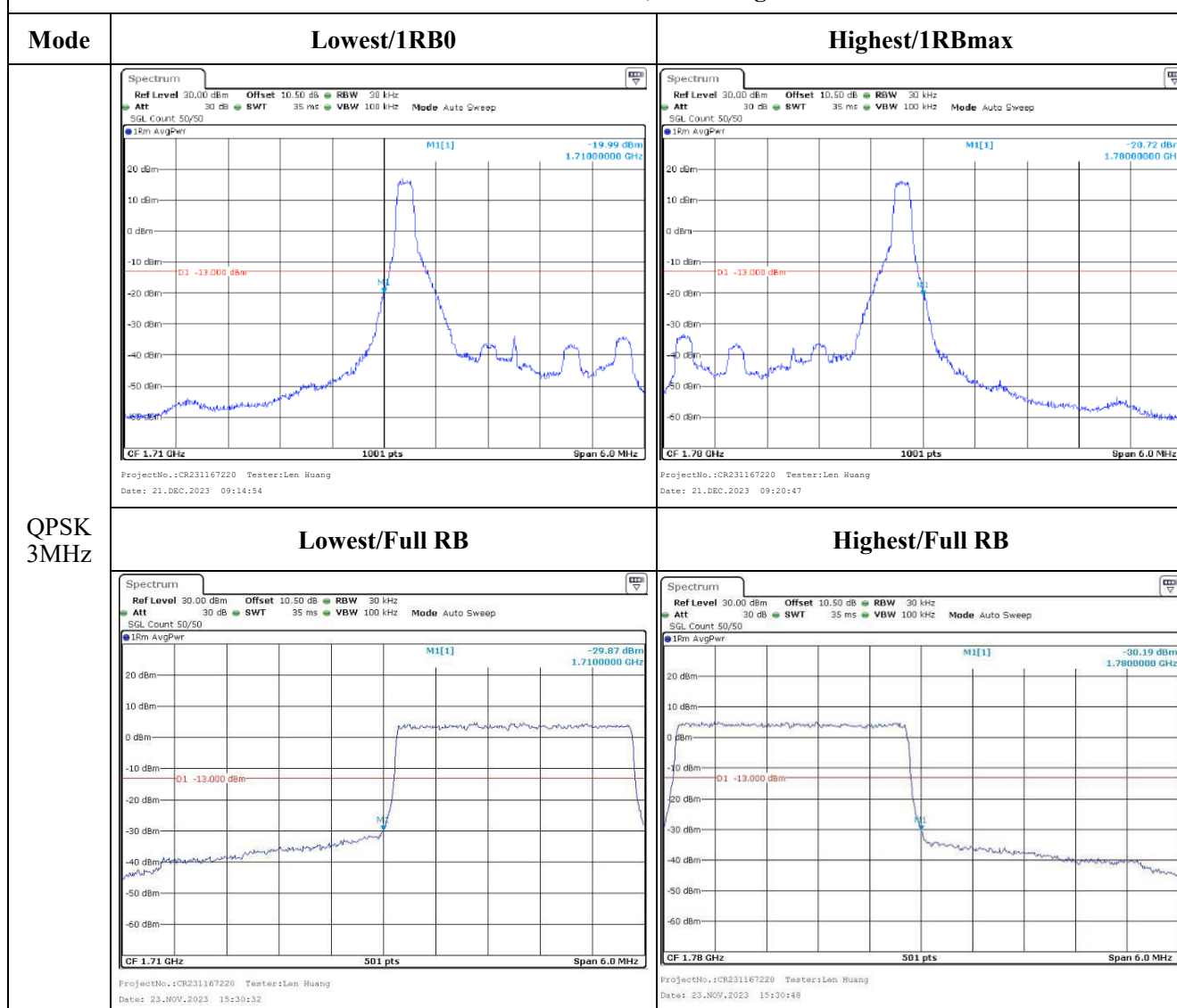
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Date: 23.NOV.2023 16:40:43



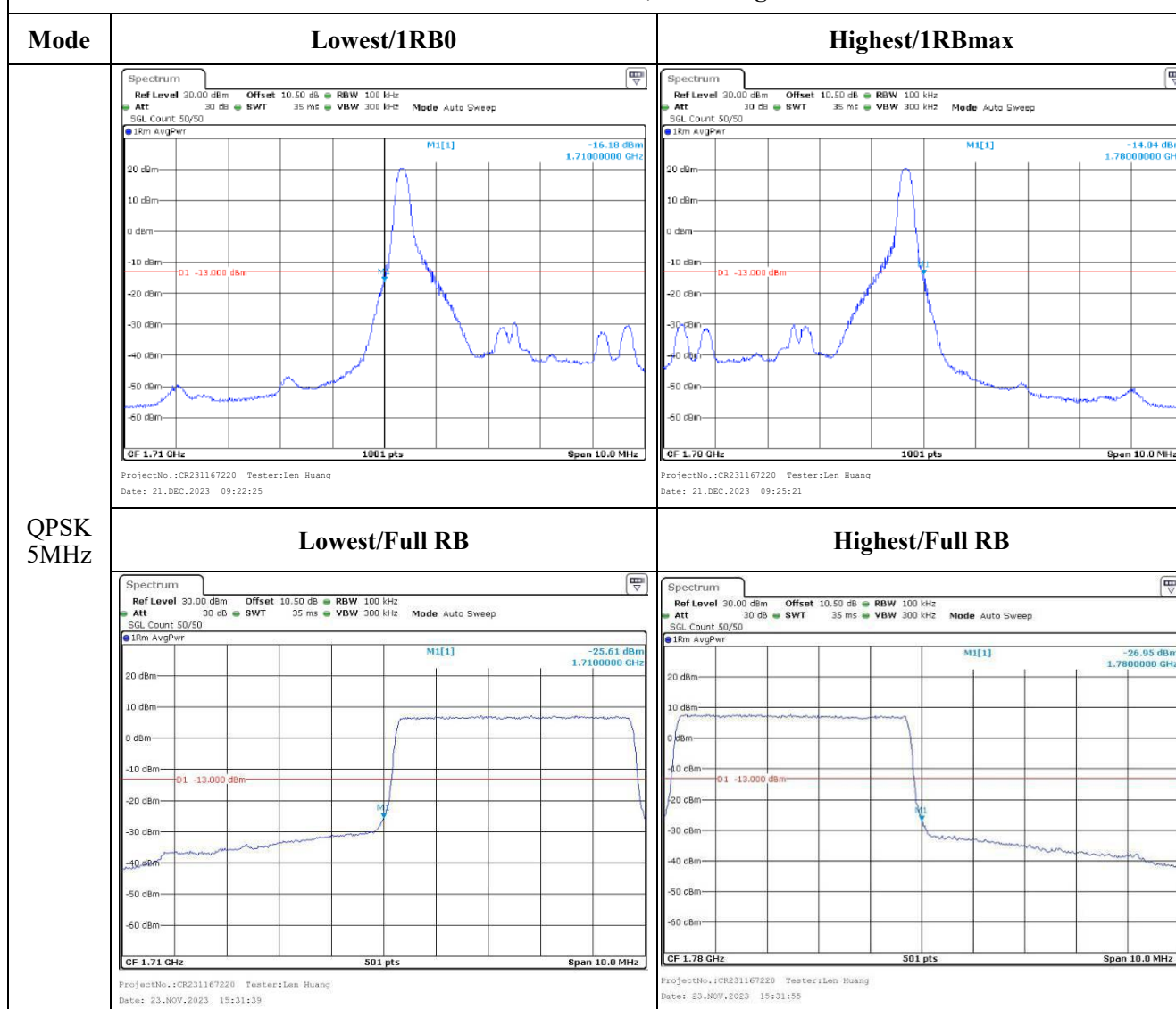
## Out of band emission, Band Edge



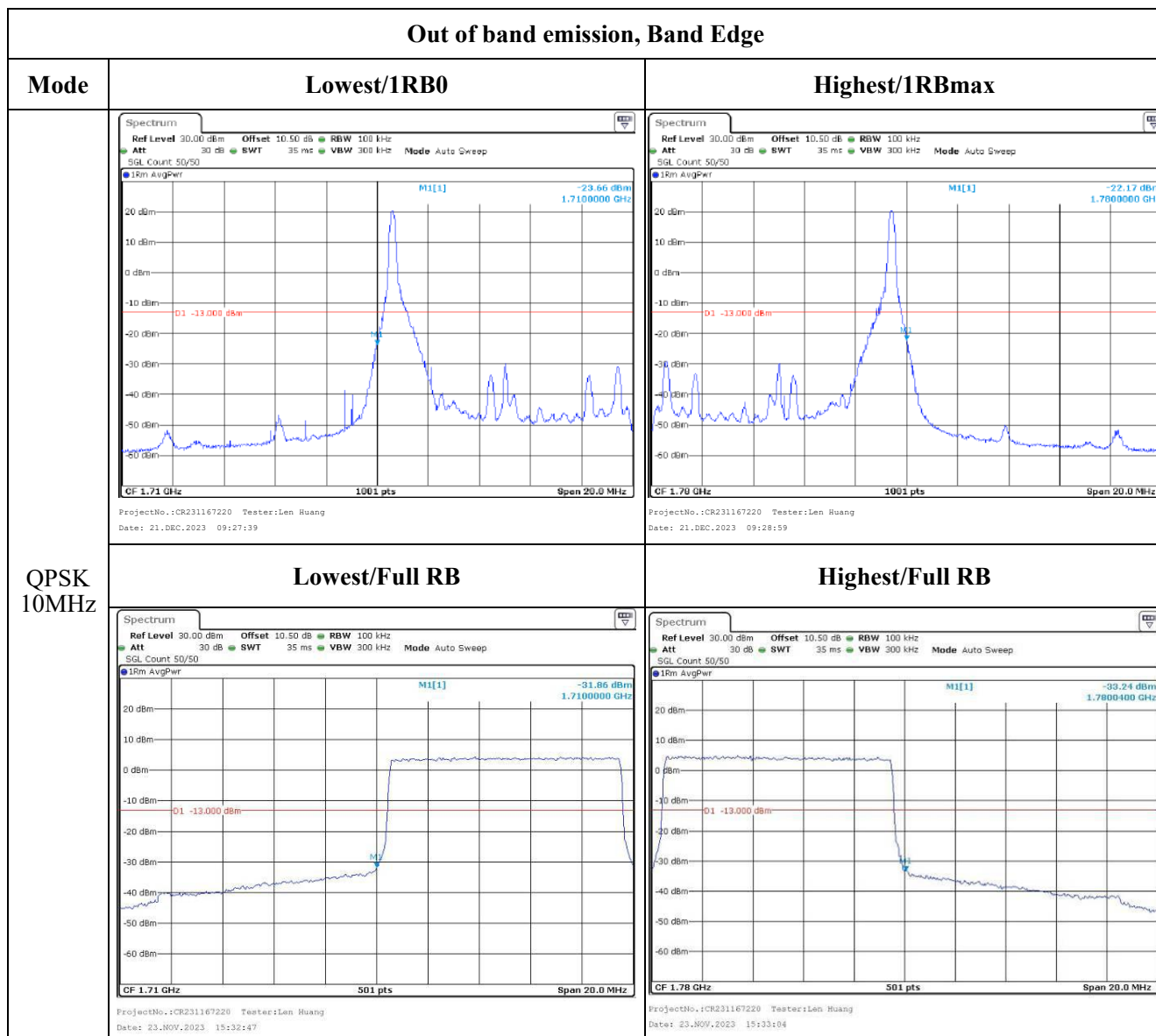
## Out of band emission, Band Edge



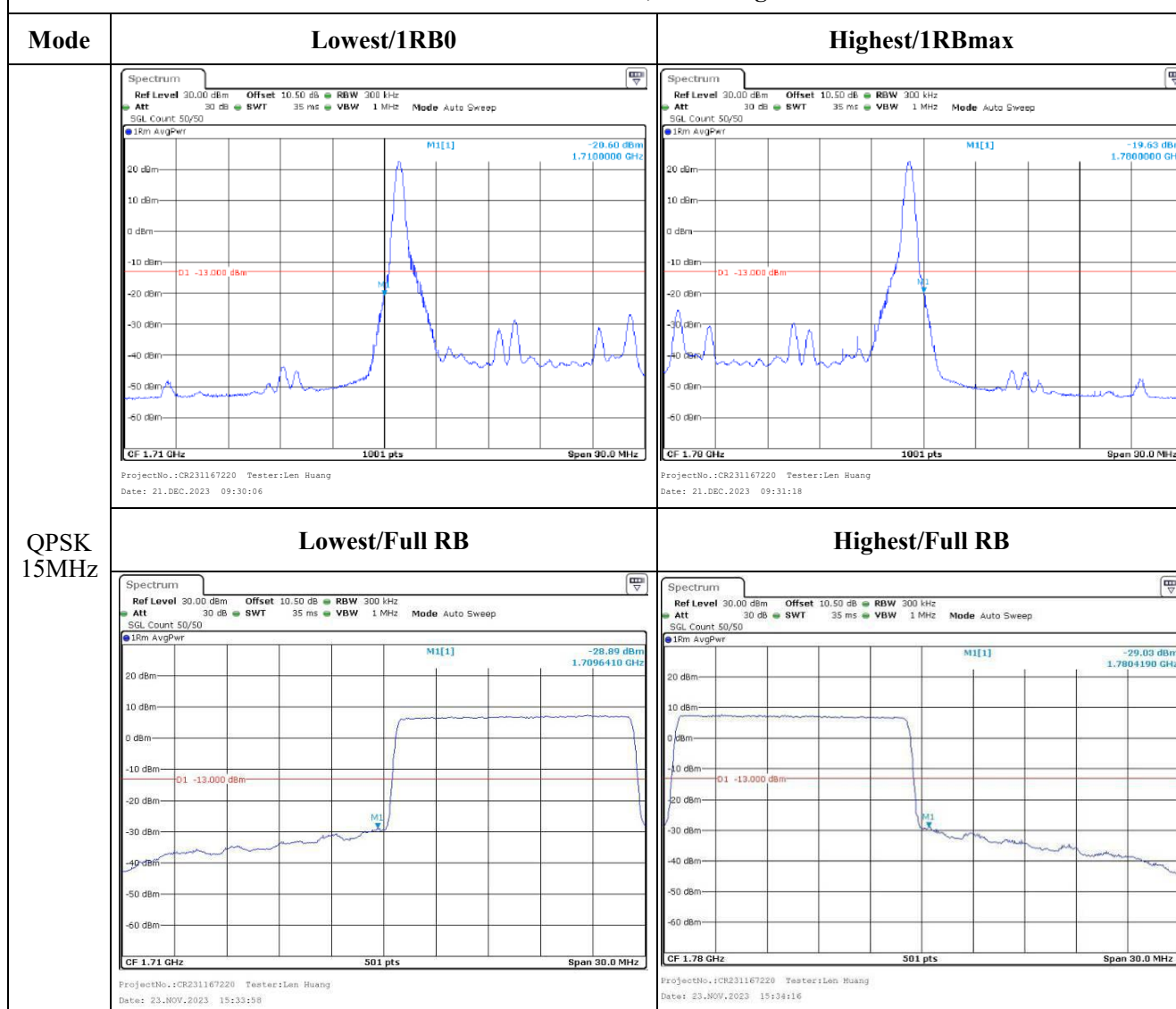
## Out of band emission, Band Edge



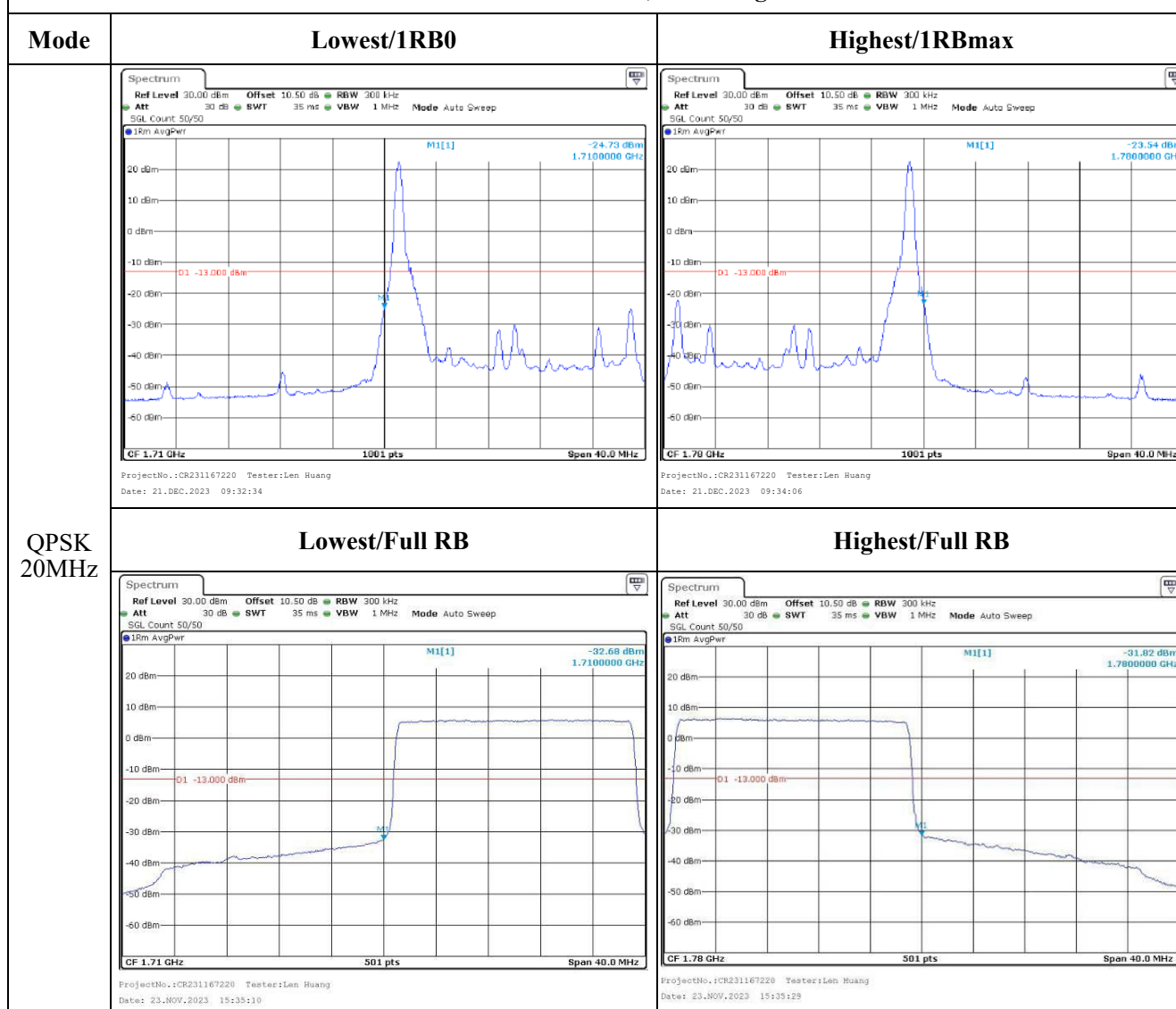
## Out of band emission, Band Edge



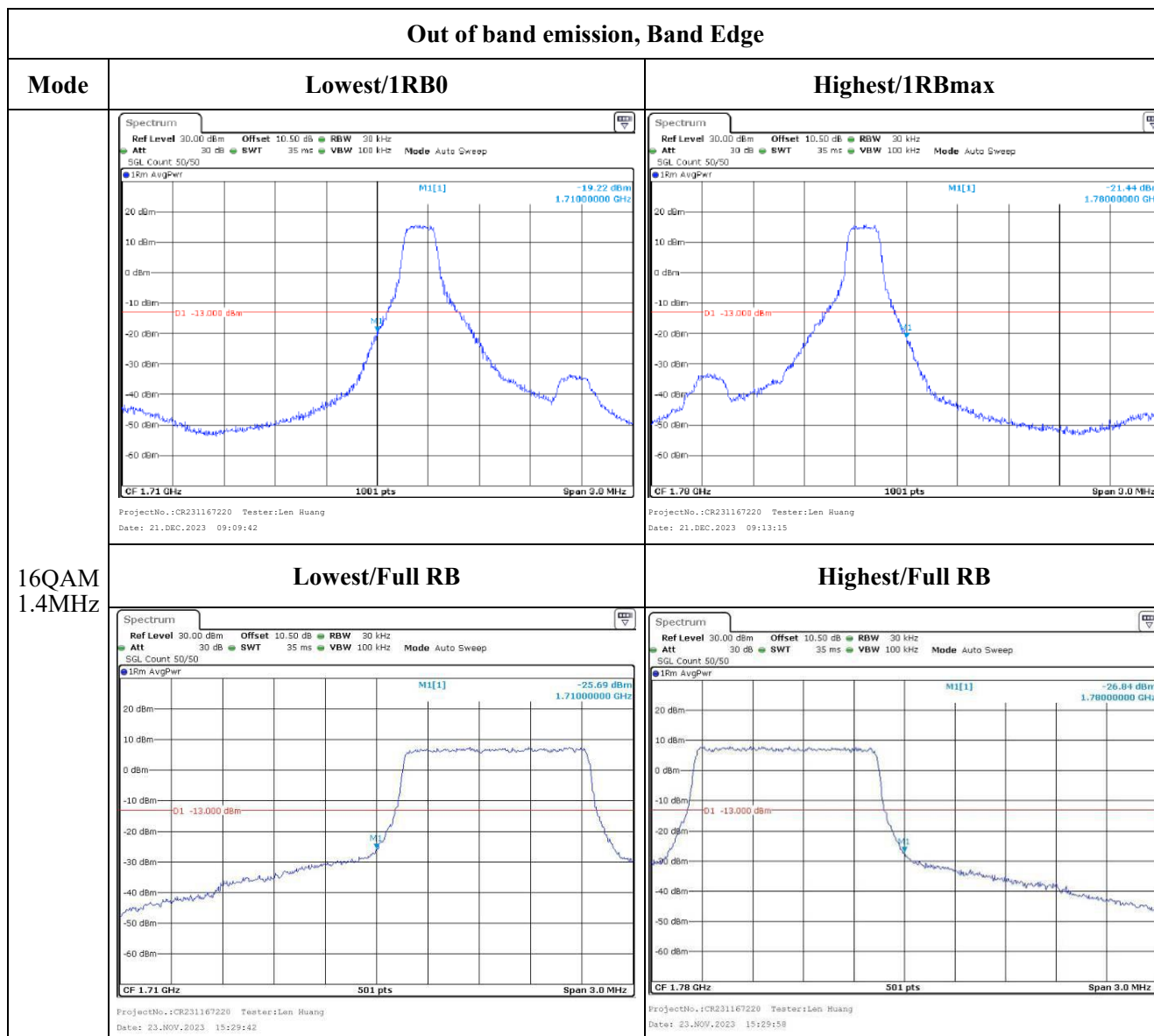
## Out of band emission, Band Edge



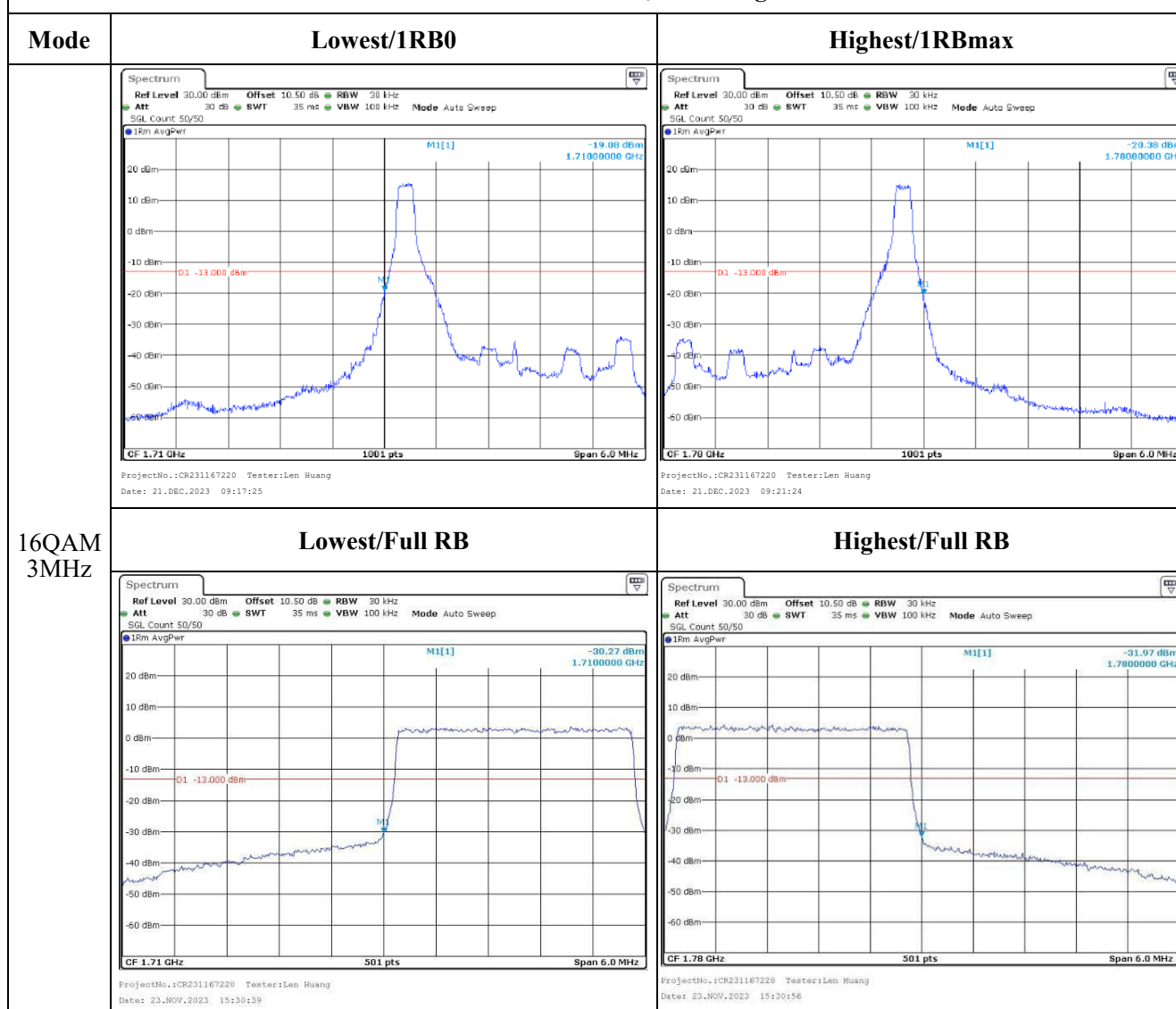
## Out of band emission, Band Edge



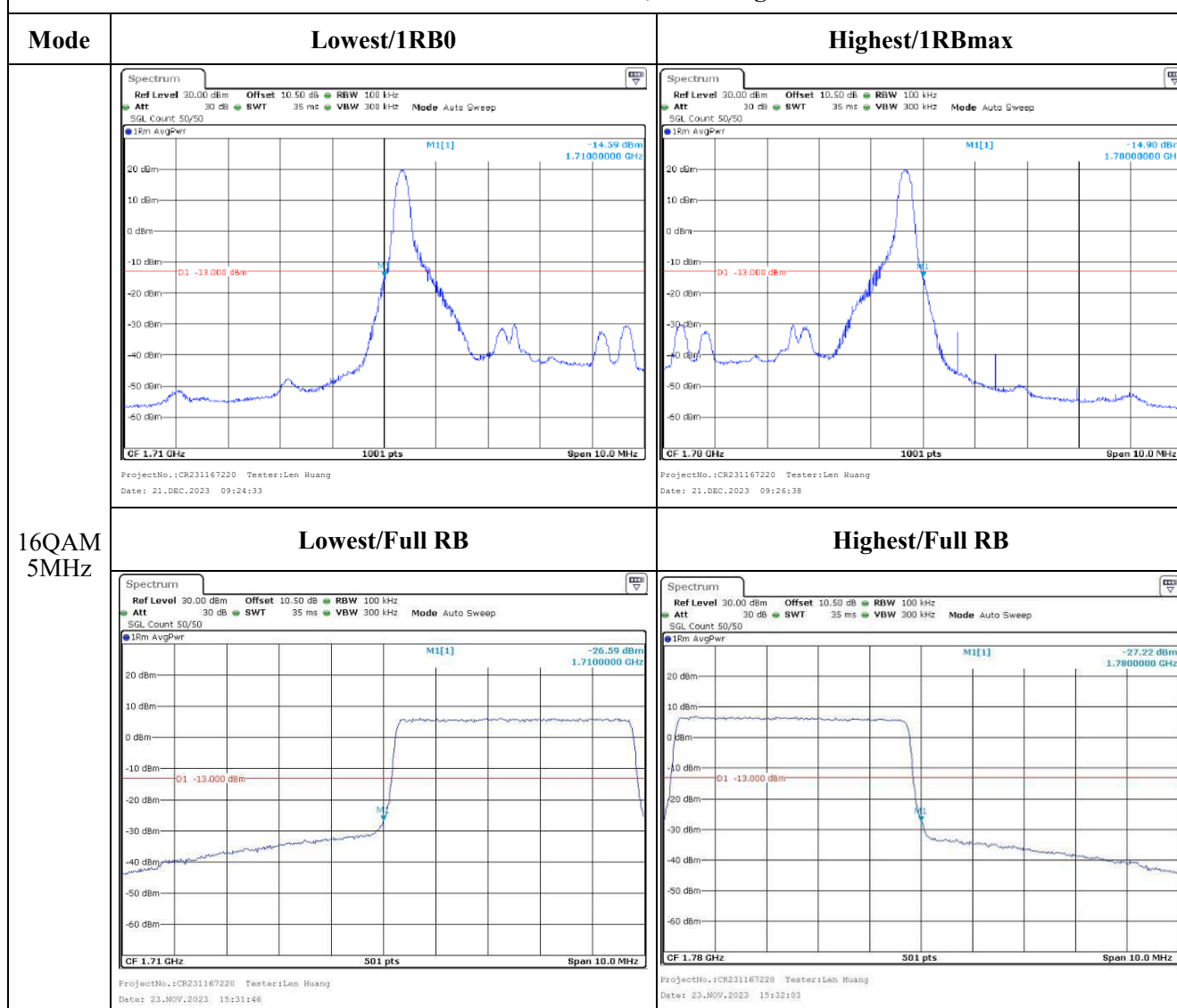
## Out of band emission, Band Edge



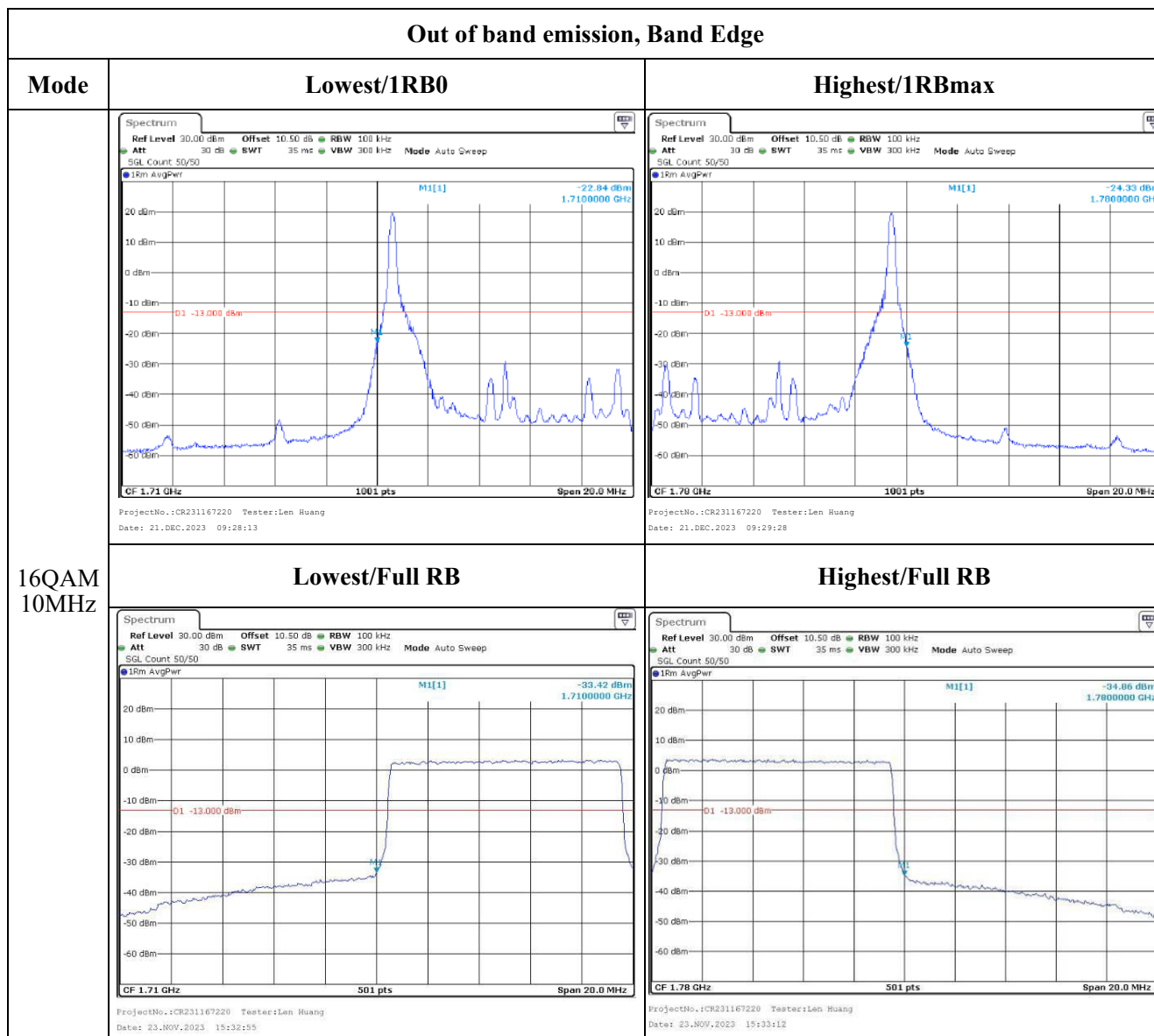
## Out of band emission, Band Edge



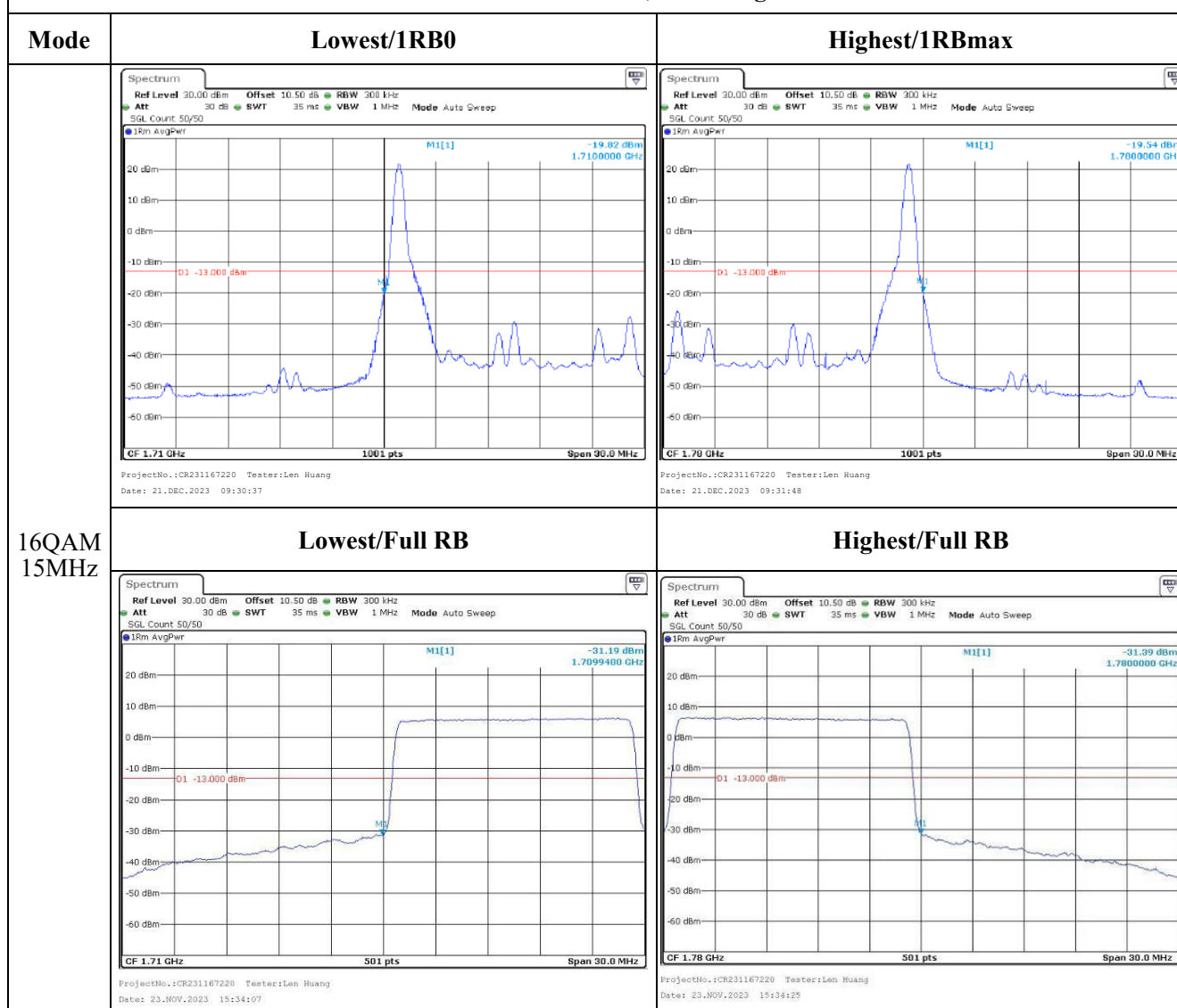
## Out of band emission, Band Edge



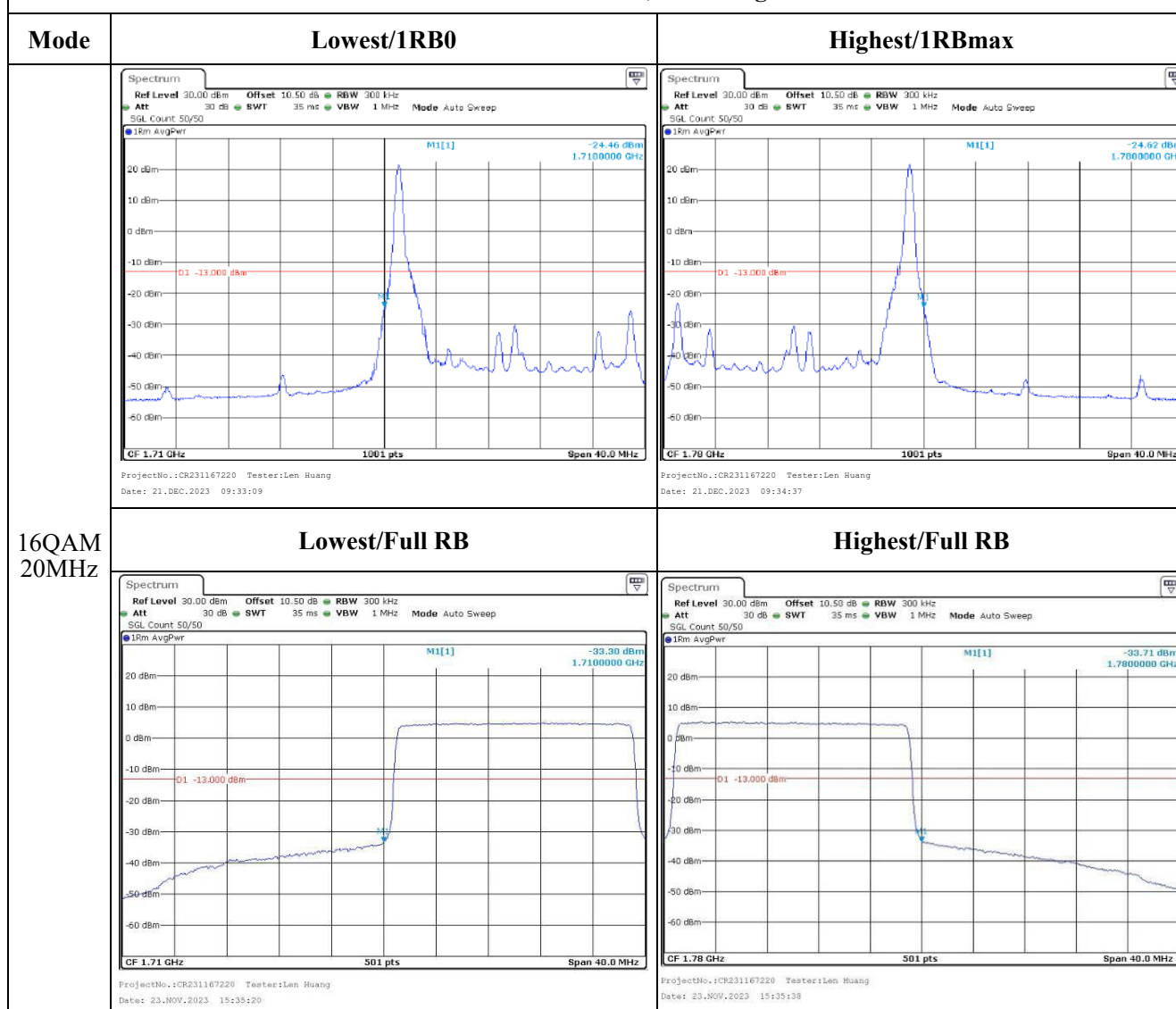
## Out of band emission, Band Edge



## Out of band emission, Band Edge



## Out of band emission, Band Edge



**4.17 Radiated Spurious Emissions**

|                |              |              |                     |
|----------------|--------------|--------------|---------------------|
| Serial Number: | 2DMI-2       | Test Date:   | 2023/12/2~2023/12/3 |
| Test Site:     | 966-2, 966-1 | Test Mode:   | Transmitting        |
| Tester:        | Mack Huang   | Test Result: | Pass                |

**Environmental Conditions:**

|                      |           |                           |       |                           |             |
|----------------------|-----------|---------------------------|-------|---------------------------|-------------|
| Temperature:<br>(°C) | 25.1~26.8 | Relative Humidity:<br>(%) | 51~62 | ATM<br>Pressure:<br>(kPa) | 101.6~101.7 |
|----------------------|-----------|---------------------------|-------|---------------------------|-------------|

**Test Equipment List and Details:**

| Manufacturer      | Description                     | Model                 | Serial Number | Calibration Date | Calibration Due Date |
|-------------------|---------------------------------|-----------------------|---------------|------------------|----------------------|
| <b>Below 1GHz</b> |                                 |                       |               |                  |                      |
| Sunol Sciences    | Antenna                         | JB6                   | A082520-6     | 2023/9/18        | 2026/9/17            |
| R&S               | EMI Test Receiver               | ESR3                  | 102724        | 2023/3/31        | 2024/3/30            |
| TIMES MICROWAVE   | Coaxial Cable                   | LMR-600-UltraFlex     | C-0470-02     | 2023/7/16        | 2024/7/15            |
| TIMES MICROWAVE   | Coaxial Cable                   | LMR-600-UltraFlex     | C-0780-01     | 2023/7/16        | 2024/7/15            |
| Sonoma            | Amplifier                       | 310N                  | 186165        | 2023/7/16        | 2024/7/15            |
| EMCO              | Adjustable Dipole Antenna       | 3121C                 | 9109-756      | N/A              | N/A                  |
| MICRO-COAX        | Coaxial Cable                   | UFA210B-0-0720-300300 | 99G1448       | 2023/7/16        | 2024/7/15            |
| Agilent           | Signal Generator                | E8247C                | MY43321352    | 2023/11/17       | 2024/11/16           |
| <b>Above 1GHz</b> |                                 |                       |               |                  |                      |
| AH                | Double Ridge Guide Horn Antenna | SAS-571               | 1394          | 2023/2/22        | 2026/2/21            |
| R&S               | Spectrum Analyzer               | FSV40                 | 101591        | 2023/3/31        | 2024/3/30            |
| MICRO-COAX        | Coaxial Cable                   | UFA210A-1-1200-70U300 | 217423-008    | 2023/8/6         | 2024/8/5             |
| MICRO-COAX        | Coaxial Cable                   | UFA210A-1-2362-300300 | 235780-001    | 2023/8/6         | 2024/8/5             |
| Mini              | Pre-amplifier                   | ZVA-183-S+            | 5969001149    | 2023/11/8        | 2024/11/7            |
| AH                | Double Ridge Guide Horn Antenna | SAS-571               | 1396          | 2021/10/18       | 2024/10/17           |
| MICRO-COAX        | Coaxial Cable                   | UFA210B-0-0720-300300 | 99G1448       | 2023/7/16        | 2024/7/15            |
| Agilent           | Signal Generator                | E8247C                | MY43321352    | 2023/11/17       | 2024/11/16           |
| PASTERNAK         | Horn Antenna                    | PE9852/2F-20          | 112002        | 2021/2/5         | 2024/2/4             |
| PASTERNAK         | Horn Antenna                    | PE9852/2F-20          | 112001        | 2021/2/5         | 2024/2/4             |
| Quinstar          | Preamplifier                    | QLW-18405536-JO       | 15964001005   | 2023/9/15        | 2024/9/14            |
| PASTERNAK         | Horn Antenna                    | PE9850/2F-20          | 072001        | 2021/2/5         | 2024/2/4             |
| PASTERNAK         | Horn Antenna                    | PE9850/2F-20          | 072002        | 2021/2/5         | 2024/2/4             |
| MICRO-COAX        | Coaxial Cable                   | UFB142A-1-2362-200200 | 235772-001    | 2023/8/6         | 2024/8/5             |

**\* Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

**Cellular Band (30MHz-10GHz):**

| Frequency<br>(MHz)         | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                            |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| GSM 850 Frequency:824.2MHz |                |                               |                               |                              |                    |                            |                |                |
| 622.89                     | H              | 40.68                         | -33.06                        | 0.00                         | 0.48               | -33.54                     | -13.00         | 20.54          |
| 869.99                     | V              | 48.75                         | -17.86                        | 0.00                         | 0.58               | -18.44                     | -13.00         | 5.44           |
| 1648.400                   | H              | 58.65                         | -45.68                        | 8.68                         | 0.80               | -37.80                     | -13.00         | 24.80          |
| 1648.400                   | V              | 57.03                         | -47.38                        | 8.68                         | 0.80               | -39.50                     | -13.00         | 26.50          |
| 2472.600                   | H              | 59.90                         | -40.88                        | 9.38                         | 1.00               | -32.50                     | -13.00         | 19.50          |
| 2472.600                   | V              | 62.25                         | -38.48                        | 9.38                         | 1.00               | -30.10                     | -13.00         | 17.10          |
| 3296.800                   | H              | 39.01                         | -57.67                        | 10.32                        | 1.15               | -48.50                     | -13.00         | 35.50          |
| 3296.800                   | V              | 38.17                         | -58.27                        | 10.32                        | 1.15               | -49.10                     | -13.00         | 36.10          |
| GSM 850 Frequency:836.6MHz |                |                               |                               |                              |                    |                            |                |                |
| 636.31                     | H              | 38.73                         | -34.93                        | 0.00                         | 0.52               | -35.45                     | -13.00         | 22.45          |
| 884.46                     | V              | 48.11                         | -18.27                        | 0.00                         | 0.60               | -18.87                     | -13.00         | 5.87           |
| 1673.200                   | H              | 59.75                         | -44.56                        | 8.71                         | 0.85               | -36.70                     | -13.00         | 23.70          |
| 1673.200                   | V              | 57.65                         | -46.76                        | 8.71                         | 0.85               | -38.90                     | -13.00         | 25.90          |
| 2509.800                   | H              | 61.30                         | -39.31                        | 9.42                         | 1.01               | -30.90                     | -13.00         | 17.90          |
| 2509.800                   | V              | 60.21                         | -40.41                        | 9.42                         | 1.01               | -32.00                     | -13.00         | 19.00          |
| 3346.400                   | H              | 39.09                         | -58.08                        | 10.34                        | 1.16               | -48.90                     | -13.00         | 35.90          |
| 3346.400                   | V              | 39.95                         | -57.08                        | 10.34                        | 1.16               | -47.90                     | -13.00         | 34.90          |
| GSM 850 Frequency:848.8MHz |                |                               |                               |                              |                    |                            |                |                |
| 647.39                     | H              | 34.60                         | -39.00                        | 0.00                         | 0.52               | -39.52                     | -13.00         | 26.52          |
| 893.81                     | V              | 48.04                         | -18.19                        | 0.00                         | 0.66               | -18.85                     | -13.00         | 5.85           |
| 1697.600                   | H              | 60.65                         | -43.64                        | 8.74                         | 0.90               | -35.80                     | -13.00         | 22.80          |
| 1697.600                   | V              | 58.88                         | -45.54                        | 8.74                         | 0.90               | -37.70                     | -13.00         | 24.70          |
| 2546.400                   | H              | 62.27                         | -38.06                        | 9.47                         | 1.01               | -29.60                     | -13.00         | 16.60          |
| 2546.400                   | V              | 61.22                         | -39.06                        | 9.47                         | 1.01               | -30.60                     | -13.00         | 17.60          |
| 3395.200                   | H              | 40.52                         | -57.17                        | 10.36                        | 1.19               | -48.00                     | -13.00         | 35.00          |
| 3395.200                   | V              | 41.59                         | -56.07                        | 10.36                        | 1.19               | -46.90                     | -13.00         | 33.90          |

**PCS Band (30MHz-20GHz):**

| 1850 Band (GSM 1900)         |             |                         |                         |                        |                 |                      |             |             |
|------------------------------|-------------|-------------------------|-------------------------|------------------------|-----------------|----------------------|-------------|-------------|
| Frequency (MHz)              | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method      |                        |                 | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|                              |             |                         | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) |                      |             |             |
| GSM 1900 Frequency:1850.2MHz |             |                         |                         |                        |                 |                      |             |             |
| 210.79                       | H           | 39.46                   | -73.22                  | 0.00                   | 0.26            | -73.48               | -13.00      | 60.48       |
| 64.89                        | V           | 41.49                   | -62.86                  | -7.71                  | 0.14            | -70.71               | -13.00      | 57.71       |
| 3700.400                     | H           | 42.97                   | -54.35                  | 10.60                  | 1.25            | -45.00               | -13.00      | 32.00       |
| 3700.400                     | V           | 41.65                   | -55.65                  | 10.60                  | 1.25            | -46.30               | -13.00      | 33.30       |
| 5550.600                     | H           | 44.21                   | -49.05                  | 11.44                  | 1.49            | -39.10               | -13.00      | 26.10       |
| 5550.600                     | V           | 42.75                   | -50.35                  | 11.44                  | 1.49            | -40.40               | -13.00      | 27.40       |
| GSM 1900 Frequency:1880MHz   |             |                         |                         |                        |                 |                      |             |             |
| 306.64                       | H           | 38.70                   | -71.92                  | 0.00                   | 0.34            | -72.26               | -13.00      | 59.26       |
| 66.73                        | V           | 40.92                   | -62.80                  | -6.73                  | 0.15            | -69.68               | -13.00      | 56.68       |
| 3760.000                     | H           | 42.69                   | -53.72                  | 10.66                  | 1.24            | -44.30               | -13.00      | 31.30       |
| 3760.000                     | V           | 41.27                   | -55.02                  | 10.66                  | 1.24            | -45.60               | -13.00      | 32.60       |
| 5640.000                     | H           | 42.86                   | -50.59                  | 11.33                  | 1.54            | -40.80               | -13.00      | 27.80       |
| 5640.000                     | V           | 43.74                   | -49.59                  | 11.33                  | 1.54            | -39.80               | -13.00      | 26.80       |
| GSM 1900 Frequency:1909.8MHz |             |                         |                         |                        |                 |                      |             |             |
| 210.05                       | H           | 38.89                   | -73.80                  | 0.00                   | 0.26            | -74.06               | -13.00      | 61.06       |
| 58.84                        | V           | 41.65                   | -63.81                  | -10.83                 | 0.14            | -74.78               | -13.00      | 61.78       |
| 3819.600                     | H           | 44.33                   | -51.53                  | 10.72                  | 1.29            | -42.10               | -13.00      | 29.10       |
| 3819.600                     | V           | 42.79                   | -52.93                  | 10.72                  | 1.29            | -43.50               | -13.00      | 30.50       |
| 5729.400                     | H           | 45.65                   | -47.83                  | 11.22                  | 1.59            | -38.20               | -13.00      | 25.20       |
| 5729.400                     | V           | 46.73                   | -46.63                  | 11.22                  | 1.59            | -37.00               | -13.00      | 24.00       |

**WCDMA Band 2(30MHz-20GHz):**

| Frequency<br>(MHz)                  | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                     |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| WCDMA Band II, Frequency:1852.4 MHz |                |                               |                               |                              |                    |                            |                |                |
| 191.75                              | H              | 37.73                         | -74.99                        | 0.00                         | 0.26               | -75.25                     | -13.00         | 62.25          |
| 43.51                               | V              | 38.52                         | -55.85                        | -21.77                       | 0.12               | -77.74                     | -13.00         | 64.74          |
| 3704.800                            | H              | 44.21                         | -53.05                        | 10.60                        | 1.25               | -43.70                     | -13.00         | 30.70          |
| 3704.800                            | V              | 43.08                         | -54.15                        | 10.60                        | 1.25               | -44.80                     | -13.00         | 31.80          |
| 5557.200                            | H              | 43.34                         | -49.94                        | 11.43                        | 1.49               | -40.00                     | -13.00         | 27.00          |
| 5557.200                            | V              | 41.89                         | -51.24                        | 11.43                        | 1.49               | -41.30                     | -13.00         | 28.30          |
| WCDMA Band II, Frequency:1880 MHz   |                |                               |                               |                              |                    |                            |                |                |
| 185.14                              | H              | 37.35                         | -75.24                        | 0.00                         | 0.25               | -75.49                     | -13.00         | 62.49          |
| 43.97                               | V              | 38.75                         | -56.22                        | -21.16                       | 0.12               | -77.50                     | -13.00         | 64.50          |
| 3760.000                            | H              | 44.29                         | -52.12                        | 10.66                        | 1.24               | -42.70                     | -13.00         | 29.70          |
| 3760.000                            | V              | 43.07                         | -53.22                        | 10.66                        | 1.24               | -43.80                     | -13.00         | 30.80          |
| 5640.000                            | H              | 43.36                         | -50.09                        | 11.33                        | 1.54               | -40.30                     | -13.00         | 27.30          |
| 5640.000                            | V              | 42.34                         | -50.99                        | 11.33                        | 1.54               | -41.20                     | -13.00         | 28.20          |
| WCDMA Band II, Frequency:1907.6MHz  |                |                               |                               |                              |                    |                            |                |                |
| 62.65                               | H              | 37.03                         | -66.82                        | -8.89                        | 0.14               | -75.85                     | -13.00         | 62.85          |
| 57.18                               | V              | 38.61                         | -66.05                        | -11.60                       | 0.14               | -77.79                     | -13.00         | 64.79          |
| 3815.200                            | H              | 44.82                         | -51.03                        | 10.72                        | 1.29               | -41.60                     | -13.00         | 28.60          |
| 3815.200                            | V              | 43.56                         | -52.13                        | 10.72                        | 1.29               | -42.70                     | -13.00         | 29.70          |
| 5722.800                            | H              | 44.24                         | -49.25                        | 11.23                        | 1.58               | -39.60                     | -13.00         | 26.60          |
| 5722.800                            | V              | 44.50                         | -48.85                        | 11.23                        | 1.58               | -39.20                     | -13.00         | 26.20          |

**WCDMA Band 4(30MHz-20GHz):**

| Frequency<br>(MHz) | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                    |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| Frequency:         |                |                               | 1712.4                        | MHz                          |                       |                            |                |                |
| 183.84             | H              | 37.61                         | -74.96                        | 0.00                         | 0.25                  | -75.21                     | -13.00         | 62.21          |
| 56.20              | V              | 39.03                         | -65.16                        | -12.05                       | 0.14                  | -77.35                     | -13.00         | 64.35          |
| 3424.800           | H              | 43.87                         | -53.90                        | 10.37                        | 1.17                  | -44.70                     | -13.00         | 31.70          |
| 3424.800           | V              | 45.34                         | -52.40                        | 10.37                        | 1.17                  | -43.20                     | -13.00         | 30.20          |
| 5137.200           | H              | 41.80                         | -51.82                        | 11.28                        | 1.46                  | -42.00                     | -13.00         | 29.00          |
| 5137.200           | V              | 43.08                         | -50.42                        | 11.28                        | 1.46                  | -40.60                     | -13.00         | 27.60          |
| Frequency:         |                |                               | 1732.6                        | MHz                          |                       |                            |                |                |
| 191.07             | H              | 37.52                         | -75.19                        | 0.00                         | 0.26                  | -75.45                     | -13.00         | 62.45          |
| 56.12              | V              | 39.05                         | -65.11                        | -12.08                       | 0.14                  | -77.33                     | -13.00         | 64.33          |
| 3465.200           | H              | 44.57                         | -53.24                        | 10.39                        | 1.15                  | -44.00                     | -13.00         | 31.00          |
| 3465.200           | V              | 45.93                         | -51.84                        | 10.39                        | 1.15                  | -42.60                     | -13.00         | 29.60          |
| 5197.800           | H              | 42.85                         | -51.28                        | 11.32                        | 1.44                  | -41.40                     | -13.00         | 28.40          |
| 5197.800           | V              | 44.00                         | -49.98                        | 11.32                        | 1.44                  | -40.10                     | -13.00         | 27.10          |
| Frequency:         |                |                               | 1752.6                        | MHz                          |                       |                            |                |                |
| 185.79             | H              | 37.34                         | -75.27                        | 0.00                         | 0.26                  | -75.53                     | -13.00         | 62.53          |
| 57.80              | V              | 39.00                         | -65.96                        | -11.31                       | 0.14                  | -77.41                     | -13.00         | 64.41          |
| 3505.200           | H              | 45.60                         | -52.23                        | 10.41                        | 1.18                  | -43.00                     | -13.00         | 30.00          |
| 3505.200           | V              | 47.04                         | -50.73                        | 10.41                        | 1.18                  | -41.50                     | -13.00         | 28.50          |
| 5257.800           | H              | 43.75                         | -49.98                        | 11.35                        | 1.47                  | -40.10                     | -13.00         | 27.10          |
| 5257.800           | V              | 44.63                         | -48.88                        | 11.35                        | 1.47                  | -39.00                     | -13.00         | 26.00          |

**WCDMA Band 5(30MHz-10GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| WCDMA Band 5 Frequency:826.4 MHz |                |                               |                               |                              |                    |                            |                |                |
| 942.02                           | H              | 20.65                         | -47.09                        | 0.00                         | 0.62               | -47.71                     | -13.00         | 34.71          |
| 528.49                           | V              | 20.99                         | -50.63                        | 0.00                         | 0.44               | -51.07                     | -13.00         | 38.07          |
| 1652.800                         | H              | 49.56                         | -54.77                        | 8.68                         | 0.81               | -46.90                     | -13.00         | 33.90          |
| 1652.800                         | V              | 48.24                         | -56.17                        | 8.68                         | 0.81               | -48.30                     | -13.00         | 35.30          |
| 2479.200                         | H              | 45.48                         | -55.28                        | 9.39                         | 1.01               | -46.90                     | -13.00         | 33.90          |
| 2479.200                         | V              | 44.55                         | -56.18                        | 9.39                         | 1.01               | -47.80                     | -13.00         | 34.80          |
| 3305.600                         | H              | 38.46                         | -58.27                        | 10.32                        | 1.15               | -49.10                     | -13.00         | 36.10          |
| 3305.600                         | V              | 39.03                         | -57.47                        | 10.32                        | 1.15               | -48.30                     | -13.00         | 35.30          |
| WCDMA Band 5 Frequency:836.6MHz  |                |                               |                               |                              |                    |                            |                |                |
| 721.83                           | H              | 20.30                         | -52.58                        | 0.00                         | 0.50               | -53.08                     | -13.00         | 40.08          |
| 955.31                           | V              | 21.07                         | -43.98                        | 0.00                         | 0.60               | -44.58                     | -13.00         | 31.58          |
| 1673.200                         | H              | 49.95                         | -54.36                        | 8.71                         | 0.85               | -46.50                     | -13.00         | 33.50          |
| 1673.200                         | V              | 48.35                         | -56.06                        | 8.71                         | 0.85               | -48.20                     | -13.00         | 35.20          |
| 2509.800                         | H              | 44.80                         | -55.81                        | 9.42                         | 1.01               | -47.40                     | -13.00         | 34.40          |
| 2509.800                         | V              | 44.11                         | -56.51                        | 9.42                         | 1.01               | -48.10                     | -13.00         | 35.10          |
| 3346.400                         | H              | 37.69                         | -59.48                        | 10.34                        | 1.16               | -50.30                     | -13.00         | 37.30          |
| 3346.400                         | V              | 38.25                         | -58.78                        | 10.34                        | 1.16               | -49.60                     | -13.00         | 36.60          |
| WCDMA Band 5 Frequency:846.6MHz  |                |                               |                               |                              |                    |                            |                |                |
| 564.86                           | H              | 20.83                         | -53.72                        | 0.00                         | 0.46               | -54.18                     | -13.00         | 41.18          |
| 716.80                           | V              | 21.27                         | -48.28                        | 0.00                         | 0.50               | -48.78                     | -13.00         | 35.78          |
| 1693.200                         | H              | 51.26                         | -53.04                        | 8.73                         | 0.89               | -45.20                     | -13.00         | 32.20          |
| 1693.200                         | V              | 49.98                         | -54.44                        | 8.73                         | 0.89               | -46.60                     | -13.00         | 33.60          |
| 2539.800                         | H              | 46.13                         | -54.25                        | 9.46                         | 1.01               | -45.80                     | -13.00         | 32.80          |
| 2539.800                         | V              | 45.49                         | -54.85                        | 9.46                         | 1.01               | -46.40                     | -13.00         | 33.40          |
| 3386.400                         | H              | 40.32                         | -57.27                        | 10.35                        | 1.18               | -48.10                     | -13.00         | 35.10          |
| 3386.400                         | V              | 40.07                         | -57.47                        | 10.35                        | 1.18               | -48.30                     | -13.00         | 35.30          |

**LTE Bands:**

(The Worst modulation and bandwidth was below)

**LTE Band 2 (30MHz-20GHz):**

| Frequency<br>(MHz)                 | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                    |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| QPSK, 1.4MHz, Frequency:1850.7 MHz |                |                               |                               |                              |                    |                            |                |                |
| 191.70                             | H              | 37.96                         | -74.76                        | 0.00                         | 0.26               | -75.02                     | -13.00         | 62.02          |
| 43.66                              | V              | 39.80                         | -54.76                        | -21.57                       | 0.12               | -76.45                     | -13.00         | 63.45          |
| 3701.400                           | H              | 45.96                         | -51.35                        | 10.60                        | 1.25               | -42.00                     | -13.00         | 29.00          |
| 3701.400                           | V              | 45.34                         | -51.95                        | 10.60                        | 1.25               | -42.60                     | -13.00         | 29.60          |
| 5552.100                           | H              | 50.02                         | -43.25                        | 11.44                        | 1.49               | -33.30                     | -13.00         | 20.30          |
| 5552.100                           | V              | 45.45                         | -47.65                        | 11.44                        | 1.49               | -37.70                     | -13.00         | 24.70          |
| QPSK, 1.4MHz,Frequency:1880 MHz    |                |                               |                               |                              |                    |                            |                |                |
| 185.14                             | H              | 37.60                         | -74.99                        | 0.00                         | 0.25               | -75.24                     | -13.00         | 62.24          |
| 58.19                              | V              | 39.75                         | -65.39                        | -11.13                       | 0.14               | -76.66                     | -13.00         | 63.66          |
| 3760.000                           | H              | 45.89                         | -50.52                        | 10.66                        | 1.24               | -41.10                     | -13.00         | 28.10          |
| 3760.000                           | V              | 44.57                         | -51.72                        | 10.66                        | 1.24               | -42.30                     | -13.00         | 29.30          |
| 5640.000                           | H              | 51.06                         | -42.39                        | 11.33                        | 1.54               | -32.60                     | -13.00         | 19.60          |
| 5640.000                           | V              | 46.34                         | -46.99                        | 11.33                        | 1.54               | -37.20                     | -13.00         | 24.20          |
| QPSK, 1.4MHz,Frequency:1909.3 MHz  |                |                               |                               |                              |                    |                            |                |                |
| 80.43                              | H              | 37.87                         | -72.05                        | 0.00                         | 0.16               | -72.21                     | -13.00         | 59.21          |
| 43.81                              | V              | 39.56                         | -55.20                        | -21.37                       | 0.12               | -76.69                     | -13.00         | 63.69          |
| 3818.600                           | H              | 46.63                         | -49.23                        | 10.72                        | 1.29               | -39.80                     | -13.00         | 26.80          |
| 3818.600                           | V              | 45.28                         | -50.43                        | 10.72                        | 1.29               | -41.00                     | -13.00         | 28.00          |
| 5727.900                           | H              | 53.24                         | -40.24                        | 11.23                        | 1.59               | -30.60                     | -13.00         | 17.60          |
| 5727.900                           | V              | 48.22                         | -45.14                        | 11.23                        | 1.59               | -35.50                     | -13.00         | 22.50          |

**LTE Band 4 (30MHz-20GHz):**

| Frequency<br>(MHz)                 | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                    |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 1.4MHz QPSK, Frequency: 1710.7 MHz |                |                               |                               |                              |                       |                            |                |                |
| 187.09                             | H              | 37.63                         | -75.00                        | 0.00                         | 0.26                  | -75.26                     | -13.00         | 62.26          |
| 44.59                              | V              | 39.71                         | -56.05                        | -20.35                       | 0.12                  | -76.52                     | -13.00         | 63.52          |
| 3421.400                           | H              | 44.46                         | -53.30                        | 10.37                        | 1.17                  | -44.10                     | -13.00         | 31.10          |
| 3421.400                           | V              | 45.93                         | -51.80                        | 10.37                        | 1.17                  | -42.60                     | -13.00         | 29.60          |
| 5132.100                           | H              | 48.06                         | -45.51                        | 11.28                        | 1.47                  | -35.70                     | -13.00         | 22.70          |
| 5132.100                           | V              | 47.05                         | -46.41                        | 11.28                        | 1.47                  | -36.60                     | -13.00         | 23.60          |
| 1.4MHz QPSK, Frequency: 1732.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 184.49                             | H              | 37.70                         | -74.88                        | 0.00                         | 0.25                  | -75.13                     | -13.00         | 62.13          |
| 43.66                              | V              | 39.97                         | -54.59                        | -21.57                       | 0.12                  | -76.28                     | -13.00         | 63.28          |
| 3465.000                           | H              | 46.97                         | -50.84                        | 10.39                        | 1.15                  | -41.60                     | -13.00         | 28.60          |
| 3465.000                           | V              | 48.43                         | -49.34                        | 10.39                        | 1.15                  | -40.10                     | -13.00         | 27.10          |
| 5197.500                           | H              | 48.75                         | -45.38                        | 11.32                        | 1.44                  | -35.50                     | -13.00         | 22.50          |
| 5197.500                           | V              | 47.70                         | -46.28                        | 11.32                        | 1.44                  | -36.40                     | -13.00         | 23.40          |
| 1.4MHz QPSK, Frequency: 1754.3 MHz |                |                               |                               |                              |                       |                            |                |                |
| 183.20                             | H              | 37.81                         | -74.74                        | 0.00                         | 0.25                  | -74.99                     | -13.00         | 61.99          |
| 58.60                              | V              | 39.61                         | -65.73                        | -10.95                       | 0.14                  | -76.82                     | -13.00         | 63.82          |
| 3508.600                           | H              | 47.90                         | -49.92                        | 10.41                        | 1.19                  | -40.70                     | -13.00         | 27.70          |
| 3508.600                           | V              | 49.54                         | -48.22                        | 10.41                        | 1.19                  | -39.00                     | -13.00         | 26.00          |
| 5262.900                           | H              | 50.11                         | -43.59                        | 11.36                        | 1.47                  | -33.70                     | -13.00         | 20.70          |
| 5262.900                           | V              | 48.28                         | -45.19                        | 11.36                        | 1.47                  | -35.30                     | -13.00         | 22.30          |

**LTE Band 5 (30MHz-10GHz):**

| LTE Band 6 (E-UTRA FDD)            |                |                               |                               |                              |                    |                            |                |                |
|------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
| Frequency<br>(MHz)                 | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|                                    |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| QPSK, 1.4MHz, Frequency: 824.7 MHz |                |                               |                               |                              |                    |                            |                |                |
| 589.11                             | H              | 20.61                         | -53.46                        | 0.00                         | 0.48               | -53.94                     | -13.00         | 40.94          |
| 549.25                             | V              | 20.94                         | -50.71                        | 0.00                         | 0.47               | -51.18                     | -13.00         | 38.18          |
| 1649.400                           | H              | 60.45                         | -43.88                        | 8.68                         | 0.80               | -36.00                     | -13.00         | 23.00          |
| 1649.400                           | V              | 58.83                         | -45.58                        | 8.68                         | 0.80               | -37.70                     | -13.00         | 24.70          |
| 2474.100                           | H              | 60.60                         | -40.18                        | 9.38                         | 1.00               | -31.80                     | -13.00         | 18.80          |
| 2474.100                           | V              | 59.55                         | -41.18                        | 9.38                         | 1.00               | -32.80                     | -13.00         | 19.80          |
| 3298.800                           | H              | 44.51                         | -52.17                        | 10.32                        | 1.15               | -43.00                     | -13.00         | 30.00          |
| 3298.800                           | V              | 43.77                         | -52.67                        | 10.32                        | 1.15               | -43.50                     | -13.00         | 30.50          |
| QPSK, 1.4MHz, Frequency: 836.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 935.45                             | H              | 21.51                         | -46.39                        | 0.00                         | 0.66               | -47.05                     | -13.00         | 34.05          |
| 796.22                             | V              | 21.12                         | -46.70                        | 0.00                         | 0.60               | -47.30                     | -13.00         | 34.30          |
| 1673.000                           | H              | 61.35                         | -42.96                        | 8.71                         | 0.85               | -35.10                     | -13.00         | 22.10          |
| 1673.000                           | V              | 59.65                         | -44.76                        | 8.71                         | 0.85               | -36.90                     | -13.00         | 23.90          |
| 2509.500                           | H              | 61.00                         | -39.61                        | 9.42                         | 1.01               | -31.20                     | -13.00         | 18.20          |
| 2509.500                           | V              | 59.71                         | -40.91                        | 9.42                         | 1.01               | -32.50                     | -13.00         | 19.50          |
| 3346.000                           | H              | 45.68                         | -51.48                        | 10.34                        | 1.16               | -42.30                     | -13.00         | 29.30          |
| 3346.000                           | V              | 44.74                         | -52.28                        | 10.34                        | 1.16               | -43.10                     | -13.00         | 30.10          |
| QPSK, 1.4MHz, Frequency: 848.3 MHz |                |                               |                               |                              |                    |                            |                |                |
| 726.91                             | H              | 21.32                         | -51.46                        | 0.00                         | 0.52               | -51.98                     | -13.00         | 38.98          |
| 719.31                             | V              | 20.80                         | -48.70                        | 0.00                         | 0.49               | -49.19                     | -13.00         | 36.19          |
| 1696.600                           | H              | 62.24                         | -42.05                        | 8.74                         | 0.89               | -34.20                     | -13.00         | 21.20          |
| 1696.600                           | V              | 60.87                         | -43.55                        | 8.74                         | 0.89               | -35.70                     | -13.00         | 22.70          |
| 2544.900                           | H              | 61.98                         | -38.36                        | 9.47                         | 1.01               | -29.90                     | -13.00         | 16.90          |
| 2544.900                           | V              | 60.94                         | -39.36                        | 9.47                         | 1.01               | -30.90                     | -13.00         | 17.90          |
| 3393.200                           | H              | 47.10                         | -50.57                        | 10.36                        | 1.19               | -41.40                     | -13.00         | 28.40          |
| 3393.200                           | V              | 46.46                         | -51.17                        | 10.36                        | 1.19               | -42.00                     | -13.00         | 29.00          |

**LTE Band 7(30MHz-26.5GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 5MHz QPSK, Frequency: 2502.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 185.79                           | H              | 37.99                         | -74.62                        | 0.00                         | 0.26                  | -74.88                     | -25.00         | 49.88          |
| 55.03                            | V              | 39.03                         | -64.60                        | -12.59                       | 0.13                  | -77.32                     | -25.00         | 52.32          |
| 5005.000                         | H              | 35.73                         | -57.23                        | 11.20                        | 1.47                  | -47.50                     | -25.00         | 22.50          |
| 5005.000                         | V              | 35.79                         | -57.03                        | 11.20                        | 1.47                  | -47.30                     | -25.00         | 22.30          |
| 7507.500                         | H              | 41.74                         | -48.05                        | 10.90                        | 1.95                  | -39.10                     | -25.00         | 14.10          |
| 7507.500                         | V              | 40.54                         | -49.75                        | 10.90                        | 1.95                  | -40.80                     | -25.00         | 15.80          |
| 5MHz QPSK, Frequency: 2535 MHz   |                |                               |                               |                              |                       |                            |                |                |
| 191.75                           | H              | 38.29                         | -74.43                        | 0.00                         | 0.26                  | -74.69                     | -25.00         | 49.69          |
| 56.00                            | V              | 39.07                         | -65.03                        | -12.14                       | 0.14                  | -77.31                     | -25.00         | 52.31          |
| 5070.000                         | H              | 36.52                         | -56.67                        | 11.24                        | 1.47                  | -46.90                     | -25.00         | 21.90          |
| 5070.000                         | V              | 36.62                         | -56.47                        | 11.24                        | 1.47                  | -46.70                     | -25.00         | 21.70          |
| 7605.000                         | H              | 42                            | -47.47                        | 10.88                        | 2.01                  | -38.60                     | -25.00         | 13.60          |
| 7605.000                         | V              | 40.52                         | -49.67                        | 10.88                        | 2.01                  | -40.80                     | -25.00         | 15.80          |
| 5MHz QPSK, Frequency: 2567.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 183.21                           | H              | 38.03                         | -74.52                        | 0.00                         | 0.25                  | -74.77                     | -25.00         | 49.77          |
| 56.59                            | V              | 38.94                         | -65.44                        | -11.87                       | 0.14                  | -77.45                     | -25.00         | 52.45          |
| 5135.000                         | H              | 37.79                         | -55.81                        | 11.28                        | 1.47                  | -46.00                     | -25.00         | 21.00          |
| 5135.000                         | V              | 37.78                         | -55.71                        | 11.28                        | 1.47                  | -45.90                     | -25.00         | 20.90          |
| 7702.500                         | H              | 43.23                         | -46.29                        | 10.86                        | 1.97                  | -37.40                     | -25.00         | 12.40          |
| 7702.500                         | V              | 41.99                         | -48.19                        | 10.86                        | 1.97                  | -39.30                     | -25.00         | 14.30          |

**LTE Band 12(30MHz-10GHz):**

| Frequency<br>(MHz)                | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                   |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 1.4MHz QPSK, Frequency: 699.7 MHz |                |                               |                               |                              |                       |                            |                |                |
| 868.95                            | H              | 20.43                         | -49.13                        | 0.00                         | 0.58                  | -49.71                     | -13.00         | 36.71          |
| 568.74                            | V              | 20.41                         | -51.27                        | 0.00                         | 0.46                  | -51.73                     | -13.00         | 38.73          |
| 1399.400                          | H              | 44.99                         | -58.71                        | 8.22                         | 0.71                  | -51.20                     | -13.00         | 38.20          |
| 1399.400                          | V              | 43.14                         | -60.61                        | 8.22                         | 0.71                  | -53.10                     | -13.00         | 40.10          |
| 2099.100                          | H              | 48.23                         | -53.65                        | 9.16                         | 0.91                  | -45.40                     | -13.00         | 32.40          |
| 2099.100                          | V              | 46.48                         | -55.35                        | 9.16                         | 0.91                  | -47.10                     | -13.00         | 34.10          |
| 2798.800                          | H              | 40.39                         | -59.54                        | 9.88                         | 1.04                  | -50.70                     | -13.00         | 37.70          |
| 2798.800                          | V              | 39.66                         | -60.14                        | 9.88                         | 1.04                  | -51.30                     | -13.00         | 38.30          |
| 1.4MHz QPSK, Frequency: 707.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 629.55                            | H              | 20.35                         | -53.35                        | 0.00                         | 0.48                  | -53.83                     | -13.00         | 40.83          |
| 827.37                            | V              | 21.34                         | -45.96                        | 0.00                         | 0.60                  | -46.56                     | -13.00         | 33.56          |
| 1415.000                          | H              | 45.53                         | -58.14                        | 8.26                         | 0.72                  | -50.60                     | -13.00         | 37.60          |
| 1415.000                          | V              | 43.78                         | -59.94                        | 8.26                         | 0.72                  | -52.40                     | -13.00         | 39.40          |
| 2122.500                          | H              | 49.34                         | -52.65                        | 9.17                         | 0.92                  | -44.40                     | -13.00         | 31.40          |
| 2122.500                          | V              | 47.22                         | -54.75                        | 9.17                         | 0.92                  | -46.50                     | -13.00         | 33.50          |
| 2830.000                          | H              | 39.53                         | -60.27                        | 9.93                         | 1.06                  | -51.40                     | -13.00         | 38.40          |
| 2830.000                          | V              | 38.86                         | -60.87                        | 9.93                         | 1.06                  | -52.00                     | -13.00         | 39.00          |
| 1.4MHz QPSK, Frequency: 715.3 MHz |                |                               |                               |                              |                       |                            |                |                |
| 434.28                            | H              | 20.58                         | -56.59                        | 0.00                         | 0.41                  | -57.00                     | -13.00         | 44.00          |
| 367.07                            | V              | 20.67                         | -55.54                        | 0.00                         | 0.37                  | -55.91                     | -13.00         | 42.91          |
| 1430.600                          | H              | 46.35                         | -57.28                        | 8.31                         | 0.73                  | -49.70                     | -13.00         | 36.70          |
| 1430.600                          | V              | 44.91                         | -58.78                        | 8.31                         | 0.73                  | -51.20                     | -13.00         | 38.20          |
| 2145.900                          | H              | 50.64                         | -51.46                        | 9.19                         | 0.93                  | -43.20                     | -13.00         | 30.20          |
| 2145.900                          | V              | 49.15                         | -52.96                        | 9.19                         | 0.93                  | -44.70                     | -13.00         | 31.70          |
| 2861.200                          | H              | 41.14                         | -58.51                        | 9.98                         | 1.07                  | -49.60                     | -13.00         | 36.60          |
| 2861.200                          | V              | 40.56                         | -59.11                        | 9.98                         | 1.07                  | -50.20                     | -13.00         | 37.20          |

**LTE Band 17(30MHz-10GHz):**

| Frequency<br>(MHz)              | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                 |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 5MHz QPSK, Frequency: 706.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 739.23                          | H              | 22.79                         | -49.74                        | 0.00                         | 0.55                  | -50.29                     | -13.00         | 37.29          |
| 526.56                          | V              | 22.80                         | -48.82                        | 0.00                         | 0.43                  | -49.25                     | -13.00         | 36.25          |
| 1413.000                        | H              | 47.03                         | -56.64                        | 8.26                         | 0.72                  | -49.10                     | -13.00         | 36.10          |
| 1413.000                        | V              | 45.38                         | -58.34                        | 8.26                         | 0.72                  | -50.80                     | -13.00         | 37.80          |
| 2119.500                        | H              | 43.32                         | -58.65                        | 9.17                         | 0.92                  | -50.40                     | -13.00         | 37.40          |
| 2119.500                        | V              | 43.5                          | -58.45                        | 9.17                         | 0.92                  | -50.20                     | -13.00         | 37.20          |
| 2826.000                        | H              | 40.15                         | -59.66                        | 9.92                         | 1.06                  | -50.80                     | -13.00         | 37.80          |
| 2826.000                        | V              | 39.68                         | -60.06                        | 9.92                         | 1.06                  | -51.20                     | -13.00         | 38.20          |
| 5MHz QPSK, Frequency: 710 MHz   |                |                               |                               |                              |                       |                            |                |                |
| 530.26                          | H              | 21.64                         | -53.59                        | 0.00                         | 0.45                  | -54.04                     | -13.00         | 41.04          |
| 742.23                          | V              | 22.56                         | -46.44                        | 0.00                         | 0.55                  | -46.99                     | -13.00         | 33.99          |
| 1420.000                        | H              | 47.51                         | -56.15                        | 8.28                         | 0.73                  | -48.60                     | -13.00         | 35.60          |
| 1420.000                        | V              | 45.86                         | -57.85                        | 8.28                         | 0.73                  | -50.30                     | -13.00         | 37.30          |
| 2130.000                        | H              | 43.36                         | -58.66                        | 9.18                         | 0.92                  | -50.40                     | -13.00         | 37.40          |
| 2130.000                        | V              | 43.25                         | -58.76                        | 9.18                         | 0.92                  | -50.50                     | -13.00         | 37.50          |
| 2840.000                        | H              | 39.77                         | -59.98                        | 9.94                         | 1.06                  | -51.10                     | -13.00         | 38.10          |
| 2840.000                        | V              | 39.43                         | -60.28                        | 9.94                         | 1.06                  | -51.40                     | -13.00         | 38.40          |
| 5MHz QPSK, Frequency: 713.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 580.62                          | H              | 21.22                         | -53.02                        | 0.00                         | 0.46                  | -53.48                     | -13.00         | 40.48          |
| 645.19                          | V              | 22.23                         | -48.68                        | 0.00                         | 0.52                  | -49.20                     | -13.00         | 36.20          |
| 1427.000                        | H              | 48.87                         | -54.77                        | 8.30                         | 0.73                  | -47.20                     | -13.00         | 34.20          |
| 1427.000                        | V              | 47.02                         | -56.67                        | 8.30                         | 0.73                  | -49.10                     | -13.00         | 36.10          |
| 2140.500                        | H              | 44.22                         | -57.85                        | 9.18                         | 0.93                  | -49.60                     | -13.00         | 36.60          |
| 2140.500                        | V              | 45.03                         | -57.05                        | 9.18                         | 0.93                  | -48.80                     | -13.00         | 35.80          |
| 2854.000                        | H              | 41.09                         | -58.60                        | 9.97                         | 1.07                  | -49.70                     | -13.00         | 36.70          |
| 2854.000                        | V              | 40.58                         | -59.10                        | 9.97                         | 1.07                  | -50.20                     | -13.00         | 37.20          |

**LTE Band 38(30MHz-26.5GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 5MHz QPSK, Frequency: 2572.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 183.49                           | H              | 37.95                         | -74.61                        | 0.00                         | 0.25                  | -74.86                     | -25.00         | 49.86          |
| 56.79                            | V              | 38.88                         | -65.60                        | -11.78                       | 0.14                  | -77.52                     | -25.00         | 52.52          |
| 5145.000                         | H              | 37.83                         | -55.85                        | 11.29                        | 1.44                  | -46.00                     | -25.00         | 21.00          |
| 5145.000                         | V              | 37.72                         | -55.85                        | 11.29                        | 1.44                  | -46.00                     | -25.00         | 21.00          |
| 7717.500                         | H              | 42.84                         | -46.67                        | 10.86                        | 1.99                  | -37.80                     | -25.00         | 12.80          |
| 7717.500                         | V              | 41.56                         | -48.57                        | 10.86                        | 1.99                  | -39.70                     | -25.00         | 14.70          |
| 5MHz QPSK, Frequency: 2595 MHz   |                |                               |                               |                              |                       |                            |                |                |
| 183.21                           | H              | 37.32                         | -75.23                        | 0.00                         | 0.25                  | -75.48                     | -25.00         | 50.48          |
| 56.40                            | V              | 38.84                         | -65.45                        | -11.96                       | 0.14                  | -77.55                     | -25.00         | 52.55          |
| 5190.000                         | H              | 38.70                         | -55.37                        | 11.31                        | 1.44                  | -45.50                     | -25.00         | 20.50          |
| 5190.000                         | V              | 38.35                         | -55.57                        | 11.31                        | 1.44                  | -45.70                     | -25.00         | 20.70          |
| 7785.000                         | H              | 43.34                         | -46.15                        | 10.84                        | 1.99                  | -37.30                     | -25.00         | 12.30          |
| 7785.000                         | V              | 41.77                         | -48.15                        | 10.84                        | 1.99                  | -39.30                     | -25.00         | 14.30          |
| 5MHz QPSK, Frequency: 2617.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 185.14                           | H              | 37.39                         | -75.20                        | 0.00                         | 0.25                  | -75.45                     | -25.00         | 50.45          |
| 44.29                            | V              | 38.78                         | -56.59                        | -20.74                       | 0.12                  | -77.45                     | -25.00         | 52.45          |
| 5235.000                         | H              | 39.32                         | -54.58                        | 11.34                        | 1.46                  | -44.70                     | -25.00         | 19.70          |
| 5235.000                         | V              | 38.83                         | -54.88                        | 11.34                        | 1.46                  | -45.00                     | -25.00         | 20.00          |
| 7852.500                         | H              | 44.19                         | -45.00                        | 10.83                        | 2.03                  | -36.20                     | -25.00         | 11.20          |
| 7852.500                         | V              | 42.48                         | -47.10                        | 10.83                        | 2.03                  | -38.30                     | -25.00         | 13.30          |

**LTE Band 40 Lower (30MHz-25GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 5MHz QPSK, Frequency: 2307.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 191.74                           | H              | 37.37                         | -75.35                        | 0.00                         | 0.26                  | -75.61                     | -40.00         | 35.61          |
| 43.66                            | V              | 38.89                         | -55.67                        | -21.57                       | 0.12                  | -77.36                     | -40.00         | 37.36          |
| 4615.000                         | H              | 38.13                         | -57.23                        | 10.74                        | 1.41                  | -47.90                     | -40.00         | 7.90           |
| 4615.000                         | V              | 37.89                         | -57.33                        | 10.74                        | 1.41                  | -48.00                     | -40.00         | 8.00           |
| 6922.500                         | H              | 37.58                         | -53.44                        | 11.22                        | 1.88                  | -44.10                     | -40.00         | 4.10           |
| 6922.500                         | V              | 37.05                         | -53.84                        | 11.22                        | 1.88                  | -44.50                     | -40.00         | 4.50           |
| 5MHz QPSK, Frequency: 2312.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 183.84                           | H              | 37.90                         | -74.67                        | 0.00                         | 0.25                  | -74.92                     | -40.00         | 34.92          |
| 44.12                            | V              | 39.01                         | -56.15                        | -20.96                       | 0.12                  | -77.23                     | -40.00         | 37.23          |
| 4625.000                         | H              | 37.35                         | -57.94                        | 10.75                        | 1.41                  | -48.60                     | -40.00         | 8.60           |
| 4625.000                         | V              | 37.53                         | -57.64                        | 10.75                        | 1.41                  | -48.30                     | -40.00         | 8.30           |
| 6937.500                         | H              | 38.07                         | -52.91                        | 11.21                        | 1.90                  | -43.60                     | -40.00         | 3.60           |
| 6937.500                         | V              | 37.53                         | -53.31                        | 11.21                        | 1.90                  | -44.00                     | -40.00         | 4.00           |

**LTE Band 40 Upper (30MHz-25GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 5MHz QPSK, Frequency: 2352.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 191.74                           | H              | 37.65                         | -75.07                        | 0.00                         | 0.26                  | -75.33                     | -40.00         | 35.33          |
| 56.94                            | V              | 38.54                         | -66.01                        | -11.71                       | 0.14                  | -77.86                     | -40.00         | 37.86          |
| 4705.000                         | H              | 37.24                         | -57.54                        | 10.85                        | 1.41                  | -48.10                     | -40.00         | 8.10           |
| 4705.000                         | V              | 37.46                         | -57.34                        | 10.85                        | 1.41                  | -47.90                     | -40.00         | 7.90           |
| 7057.500                         | H              | 37.06                         | -52.95                        | 11.17                        | 1.92                  | -43.70                     | -40.00         | 3.70           |
| 7057.500                         | V              | 36.45                         | -53.45                        | 11.17                        | 1.92                  | -44.20                     | -40.00         | 4.20           |
| 5MHz QPSK, Frequency: 2357.5 MHz |                |                               |                               |                              |                       |                            |                |                |
| 191.07                           | H              | 37.80                         | -74.91                        | 0.00                         | 0.26                  | -75.17                     | -40.00         | 35.17          |
| 58.82                            | V              | 38.65                         | -66.80                        | -10.84                       | 0.14                  | -77.78                     | -40.00         | 37.78          |
| 4715.000                         | H              | 37.86                         | -56.85                        | 10.86                        | 1.41                  | -47.40                     | -40.00         | 7.40           |
| 4715.000                         | V              | 37.86                         | -56.85                        | 10.86                        | 1.41                  | -47.40                     | -40.00         | 7.40           |
| 7072.500                         | H              | 37.35                         | -52.45                        | 11.16                        | 1.91                  | -43.20                     | -40.00         | 3.20           |
| 7072.500                         | V              | 36.76                         | -52.95                        | 11.16                        | 1.91                  | -43.70                     | -40.00         | 3.70           |

**LTE Band 41(30MHz-27GHz):**

| LTE Band 7 (2498.5 - 2593.5 MHz)  |             |                         |                         |                        |                 |                      |             |             |
|-----------------------------------|-------------|-------------------------|-------------------------|------------------------|-----------------|----------------------|-------------|-------------|
| Frequency (MHz)                   | Polar (H/V) | Receiver Reading (dBμV) | Substituted Method      |                        |                 | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|                                   |             |                         | Substituted Level (dBm) | Antenna Gain (dBd/dBi) | Cable Loss (dB) |                      |             |             |
| QPSK, 5MHz, Frequency: 2498.5 MHz |             |                         |                         |                        |                 |                      |             |             |
| 58.68                             | H           | 37.52                   | -65.96                  | -10.91                 | 0.14            | -77.01               | -25.00      | 52.01       |
| 43.81                             | V           | 40.44                   | -54.32                  | -21.37                 | 0.12            | -75.81               | -25.00      | 50.81       |
| 4997.000                          | H           | 36.64                   | -56.30                  | 11.20                  | 1.48            | -46.58               | -25.00      | 21.58       |
| 4997.000                          | V           | 37.04                   | -55.76                  | 11.20                  | 1.48            | -46.04               | -25.00      | 21.04       |
| 7495.500                          | H           | 41.92                   | -47.87                  | 10.90                  | 1.94            | -38.91               | -25.00      | 13.91       |
| 7495.500                          | V           | 41.03                   | -49.26                  | 10.90                  | 1.94            | -40.30               | -25.00      | 15.30       |
| QPSK, 5MHz, Frequency: 2593MHz    |             |                         |                         |                        |                 |                      |             |             |
| 184.49                            | H           | 37.63                   | -74.95                  | 0.00                   | 0.25            | -75.20               | -25.00      | 50.20       |
| 57.80                             | V           | 38.81                   | -66.15                  | -11.31                 | 0.14            | -77.60               | -25.00      | 52.60       |
| 5186.000                          | H           | 37.80                   | -56.23                  | 11.31                  | 1.44            | -46.36               | -25.00      | 21.36       |
| 5186.000                          | V           | 37.85                   | -56.04                  | 11.31                  | 1.44            | -46.17               | -25.00      | 21.17       |
| 7779.000                          | H           | 43.04                   | -46.45                  | 10.84                  | 1.99            | -37.60               | -25.00      | 12.60       |
| 7779.000                          | V           | 41.47                   | -48.47                  | 10.84                  | 1.99            | -39.62               | -25.00      | 14.62       |
| QPSK, 5MHz, Frequency: 2687.5MHz  |             |                         |                         |                        |                 |                      |             |             |
| 191.07                            | H           | 37.47                   | -75.24                  | 0.00                   | 0.26            | -75.50               | -25.00      | 50.50       |
| 58.60                             | V           | 38.53                   | -66.81                  | -10.95                 | 0.14            | -77.90               | -25.00      | 52.90       |
| 5375.000                          | H           | 37.92                   | -55.59                  | 11.43                  | 1.49            | -45.65               | -25.00      | 20.65       |
| 5375.000                          | V           | 37.36                   | -56.14                  | 11.43                  | 1.49            | -46.20               | -25.00      | 21.20       |
| 8062.500                          | H           | 42.70                   | -45.52                  | 10.81                  | 2.12            | -36.83               | -25.00      | 11.83       |
| 8062.500                          | V           | 41.45                   | -47.27                  | 10.81                  | 2.12            | -38.58               | -25.00      | 13.58       |

**LTE Band 42(30MHz-36GHz):**

| Frequency<br>(MHz)                | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                   |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| QPSK, 5MHz, Frequency: 3452.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 59.84                             | H              | 37.66                         | -66.17                        | -10.37                       | 0.14               | -76.68                     | -13.00         | 63.68          |
| 54.45                             | V              | 38.82                         | -64.54                        | -12.85                       | 0.13               | -77.52                     | -13.00         | 64.52          |
| 6905.000                          | H              | 49.33                         | -41.75                        | 11.22                        | 1.87               | -32.40                     | -13.00         | 19.40          |
| 6905.000                          | V              | 47.69                         | -43.25                        | 11.22                        | 1.87               | -33.90                     | -13.00         | 20.90          |
| QPSK, 5MHz, Frequency: 3500MHz    |                |                               |                               |                              |                    |                            |                |                |
| 185.92                            | H              | 37.11                         | -75.50                        | 0.00                         | 0.26               | -75.76                     | -13.00         | 62.76          |
| 56.78                             | V              | 39.05                         | -65.42                        | -11.78                       | 0.14               | -77.34                     | -13.00         | 64.34          |
| 7000.000                          | H              | 50.69                         | -40.11                        | 11.20                        | 1.89               | -30.80                     | -13.00         | 17.80          |
| 7000.000                          | V              | 49.04                         | -41.61                        | 11.20                        | 1.89               | -32.30                     | -13.00         | 19.30          |
| QPSK, 5MHz, Frequency: 3547.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 75.67                             | H              | 37.07                         | -70.11                        | -2.17                        | 0.16               | -72.44                     | -13.00         | 59.44          |
| 53.68                             | V              | 38.65                         | -64.34                        | -13.21                       | 0.13               | -77.68                     | -13.00         | 64.68          |
| 7095.000                          | H              | 50.84                         | -38.65                        | 11.14                        | 1.89               | -29.40                     | -13.00         | 16.40          |
| 7095.000                          | V              | 51.97                         | -37.45                        | 11.14                        | 1.89               | -28.20                     | -13.00         | 15.20          |

**LTE Band 66(30MHz-20GHz):**

| Frequency<br>(MHz)                 | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                       | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|-----------------------|----------------------------|----------------|----------------|
|                                    |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable<br>Loss<br>(dB) |                            |                |                |
| 1.4MHz QPSK, Frequency: 1710.7 MHz |                |                               |                               |                              |                       |                            |                |                |
| 192.42                             | H              | 37.47                         | -75.27                        | 0.00                         | 0.26                  | -75.53                     | -13.00         | 62.53          |
| 44.12                              | V              | 37.87                         | -57.29                        | -20.96                       | 0.12                  | -78.37                     | -13.00         | 65.37          |
| 3421.400                           | H              | 44.76                         | -53.00                        | 10.37                        | 1.17                  | -43.80                     | -13.00         | 30.80          |
| 3421.400                           | V              | 46.23                         | -51.50                        | 10.37                        | 1.17                  | -42.30                     | -13.00         | 29.30          |
| 5132.100                           | H              | 48.26                         | -45.31                        | 11.28                        | 1.47                  | -35.50                     | -13.00         | 22.50          |
| 5132.100                           | V              | 47.25                         | -46.21                        | 11.28                        | 1.47                  | -36.40                     | -13.00         | 23.40          |
| 1.4MHz QPSK, Frequency: 1745 MHz   |                |                               |                               |                              |                       |                            |                |                |
| 191.75                             | H              | 38.03                         | -74.69                        | 0.00                         | 0.26                  | -74.95                     | -13.00         | 61.95          |
| 57.59                              | V              | 36.72                         | -68.14                        | -11.41                       | 0.14                  | -79.69                     | -13.00         | 66.69          |
| 3490.000                           | H              | 45.61                         | -52.23                        | 10.40                        | 1.17                  | -43.00                     | -13.00         | 30.00          |
| 3490.000                           | V              | 47.05                         | -50.73                        | 10.40                        | 1.17                  | -41.50                     | -13.00         | 28.50          |
| 5235.000                           | H              | 49.12                         | -44.78                        | 11.34                        | 1.46                  | -34.90                     | -13.00         | 21.90          |
| 5235.000                           | V              | 47.83                         | -45.88                        | 11.34                        | 1.46                  | -36.00                     | -13.00         | 23.00          |
| 1.4MHz QPSK, Frequency: 1779.3 MHz |                |                               |                               |                              |                       |                            |                |                |
| 184.50                             | H              | 38.59                         | -73.99                        | 0.00                         | 0.25                  | -74.24                     | -13.00         | 61.24          |
| 57.58                              | V              | 36.72                         | -68.13                        | -11.41                       | 0.14                  | -79.68                     | -13.00         | 66.68          |
| 3558.600                           | H              | 46.93                         | -50.74                        | 10.46                        | 1.22                  | -41.50                     | -13.00         | 28.50          |
| 3558.600                           | V              | 48.43                         | -49.14                        | 10.46                        | 1.22                  | -39.90                     | -13.00         | 26.90          |
| 5337.900                           | H              | 49.84                         | -43.63                        | 11.40                        | 1.47                  | -33.70                     | -13.00         | 20.70          |
| 5337.900                           | V              | 48.50                         | -44.83                        | 11.40                        | 1.47                  | -34.90                     | -13.00         | 21.90          |

## Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

## **5. EUT PHOTOGRAPHS**

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Please refer to the attachment CR231167220-EXP EUT EXTERNAL PHOTOGRAPHS and  
CR231167220-INP EUT INTERNAL PHOTOGRAPHS

## 6. TEST SETUP PHOTOGRAPHS

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Please refer to the attachment CR231167220-00E-TSP TEST SETUP PHOTOGRAPHS.

**==== END OF REPORT =====**