

## 5. 傳導帶外輻射發射

### 5.1 適用標準

須符合下表之規範值。

| 頻率範圍                                       | 最大位準    | 解析頻寬    |
|--------------------------------------------|---------|---------|
| $9 \text{ kHz} \leq f < 150 \text{ kHz}$   | -36 dBm | 1 kHz   |
| $150 \text{ kHz} \leq f < 30 \text{ MHz}$  | -36 dBm | 10 kHz  |
| $30 \text{ MHz} \leq f < 1 \text{ GHz}$    | -36 dBm | 100 kHz |
| $1 \text{ GHz} \leq f < 12.75 \text{ GHz}$ | -30 dBm | 1 MHz   |

### 5.2 量測方法

- 帶外輻射量測頻率範圍，不包含 6.3.1 點中  $f_{\text{OOB}}$ 。量測時的解析頻寬不小於附表四的設定值。
- 檢測頻道採低、中、高三個頻道，並對最低之工作頻寬，依附表五進行檢測。

附表五、LTE-M1 終端設備帶外輻射之頻道頻寬測試參數

|         | 下行結構      | 上行結構 |              |     |          |
|---------|-----------|------|--------------|-----|----------|
| 頻道頻寬    | 帶外輻射測試不適用 | 調變方式 | 資源區塊分配       |     |          |
|         |           |      | FDD 及 HD-FDD | TDD | 窄頻索引(註一) |
| 低頻道、中頻道 |           |      |              |     |          |
| 1.4 MHz |           | QPSK | 1            | 1   | 0        |
| 1.4 MHz |           | QPSK | 6            | 6   | 0        |
| 3 MHz   |           | QPSK | 1            | 1   | 0        |
| 3 MHz   |           | QPSK | 6            | 6   | 0        |
| 5 MHz   |           | QPSK | 1            | 1   | 0        |
| 5 MHz   |           | QPSK | 6            | 6   | 0        |
| 高頻道     |           |      |              |     |          |
| 1.4 MHz |           | QPSK | 1            | 1   | 0        |
| 1.4 MHz |           | QPSK | 6            | 6   | 0        |
| 3 MHz   |           | QPSK | 1            | 1   | 1        |
| 3 MHz   |           | QPSK | 6            | 6   | 1        |
| 5 MHz   |           | QPSK | 1            | 1   | 3        |
| 5 MHz   |           | QPSK | 6            | 6   | 3        |

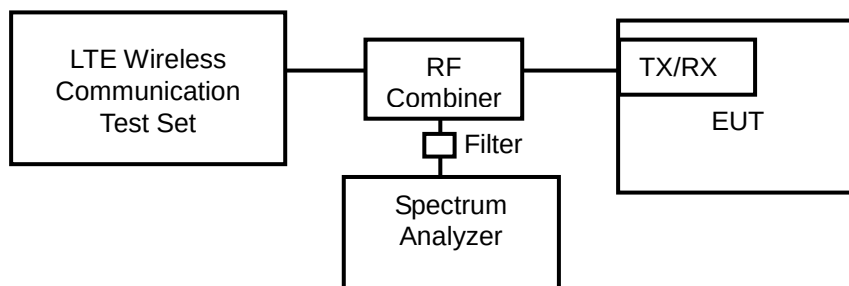
註：窄頻索引(Narrowband Index)定義參考 3GPP TS 36.211,5.2.4 規定。

### 5.3 量測儀器

| Description & Manufacturer                 | Model No. | Serial No. | Date of Calibration | Due Date of Calibration |
|--------------------------------------------|-----------|------------|---------------------|-------------------------|
| Spectrum Analyzer<br>Agilent               | N9030B    | MY57140953 | Jul. 02, 2020       | Jul. 01, 2021           |
| Radio Communication<br>Analyzer<br>ANRITSU | MT8821C   | 6261806803 | Jan. 18, 2020       | Jan. 17, 2021           |

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 5.4 測試配置

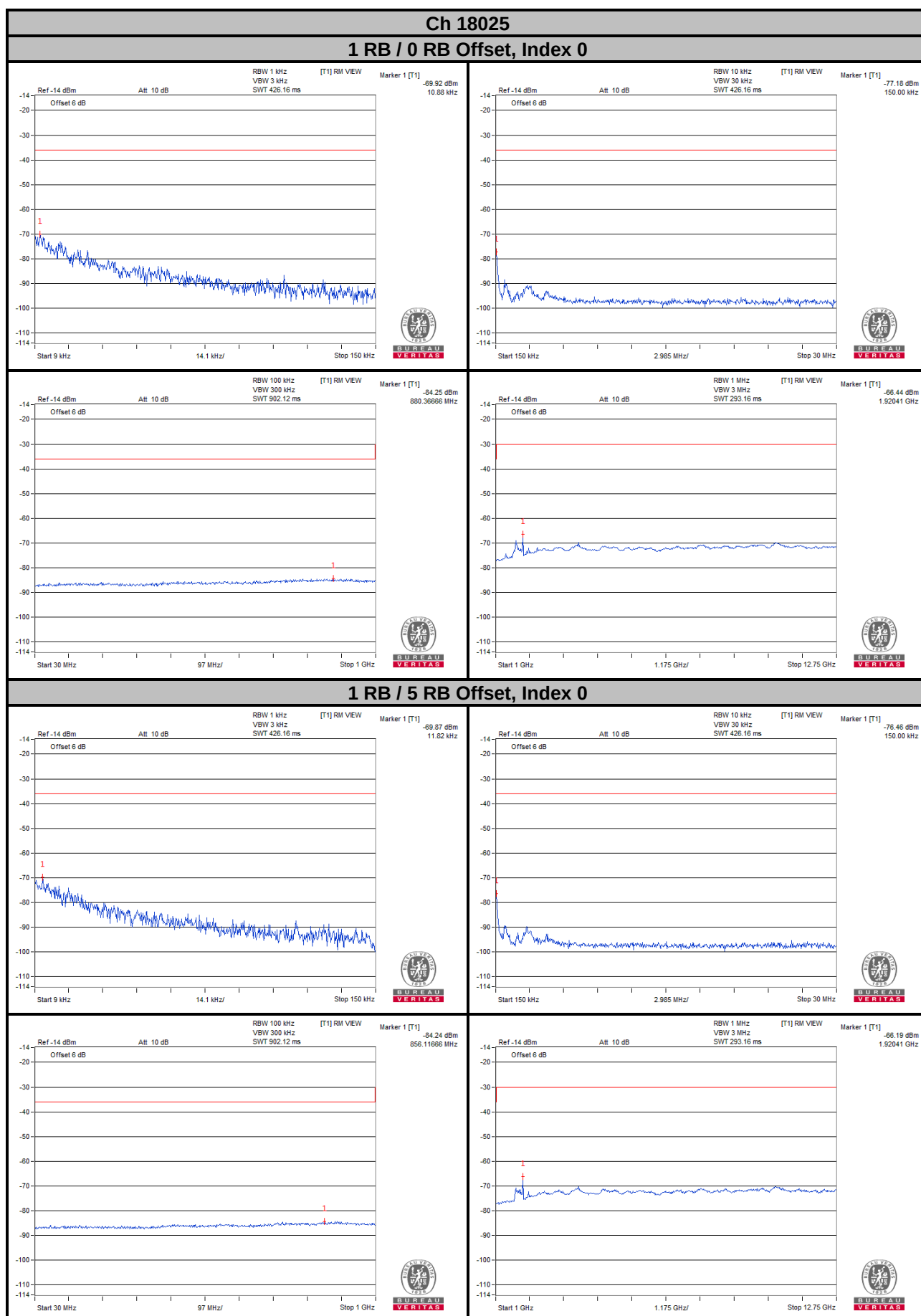


## 5.5 量測結果

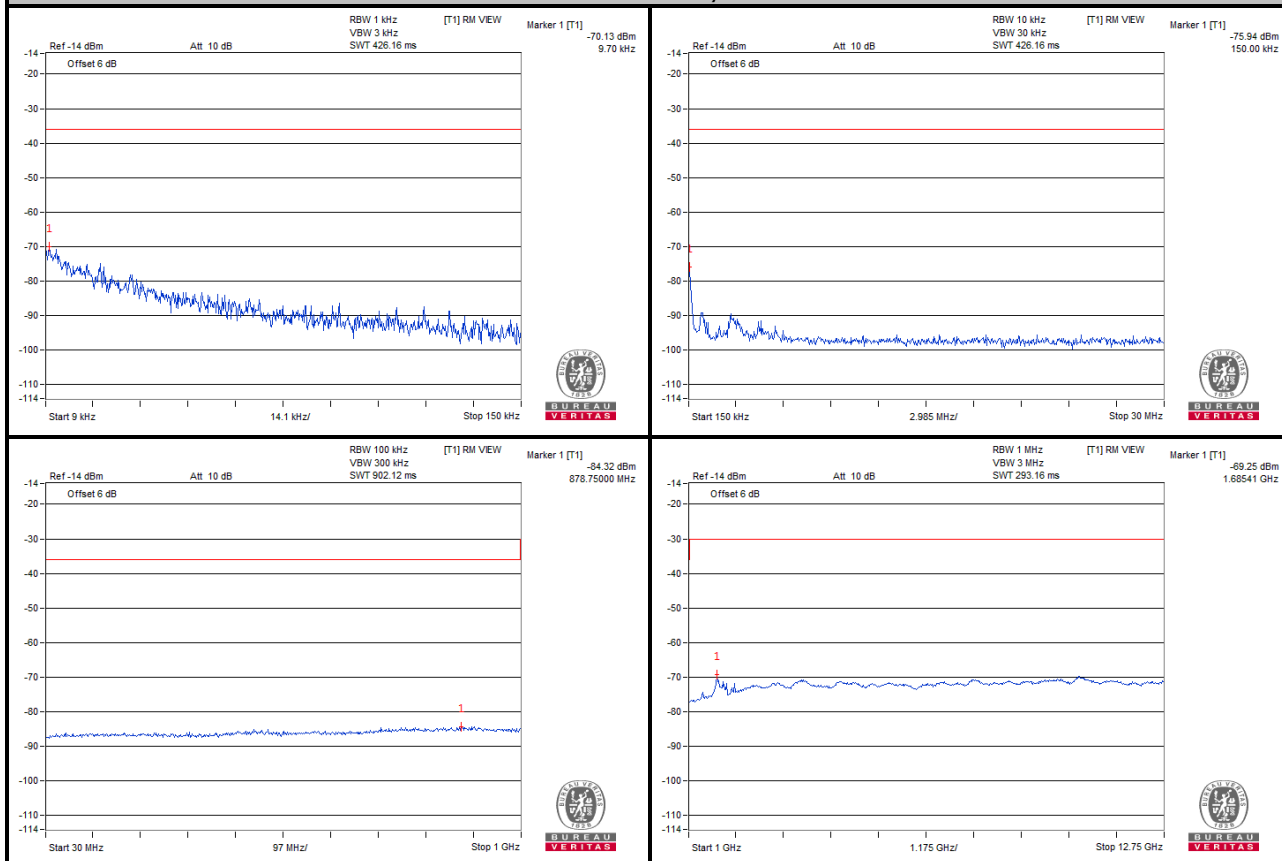
### LTE Band 1

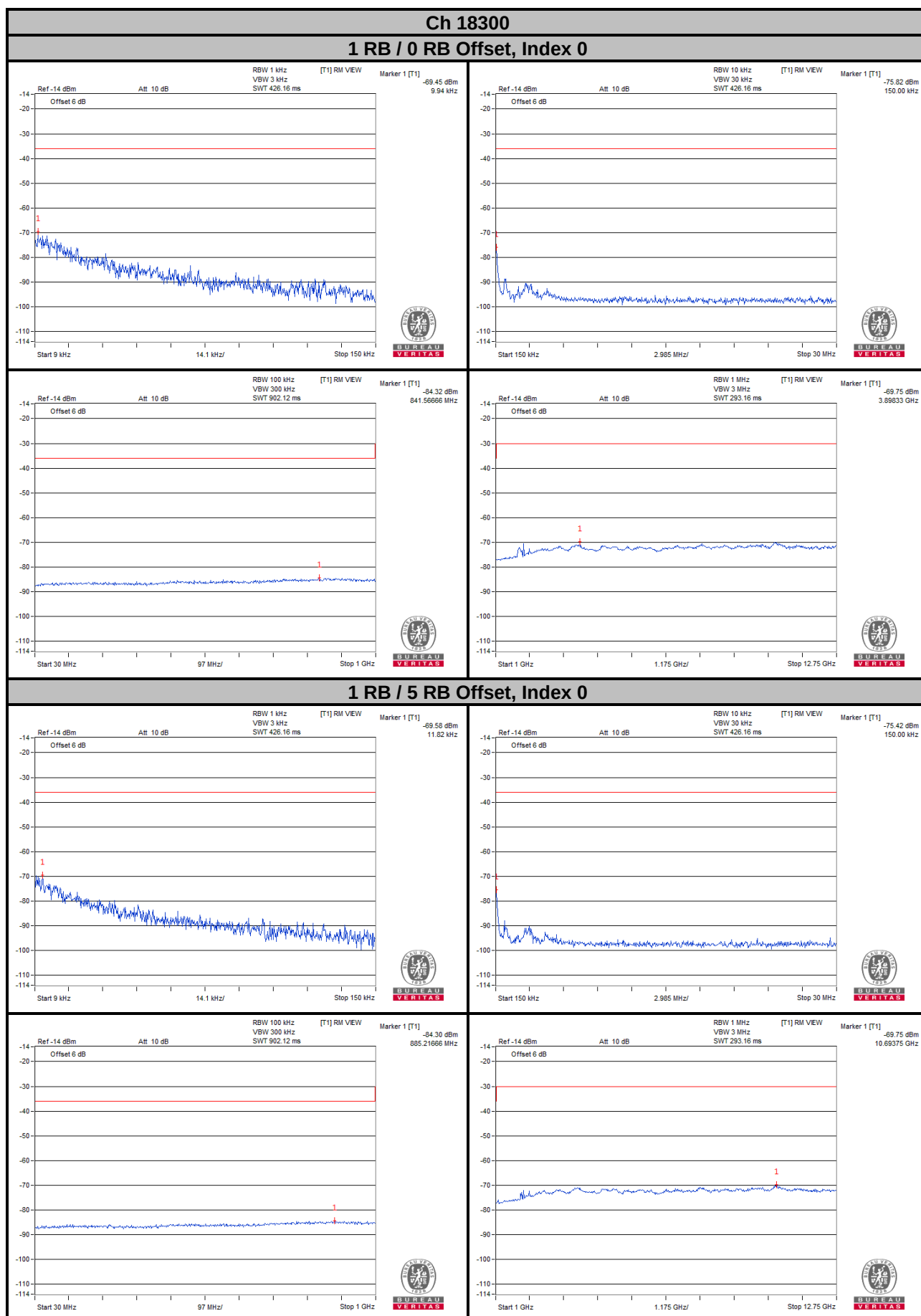
Bandwidth: 5 MHz

| Modulation | Channel | RB             | Frequency Range (MHz) | Measurement Value | Limit | Pass / Fail |
|------------|---------|----------------|-----------------------|-------------------|-------|-------------|
| QPSK       | 18025   | 1#0<br>Index 0 | 0.009 to 0.15         | -69.92            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.18            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.25            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -66.44            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.87            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.46            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.24            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -66.19            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -70.13            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.94            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.32            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.25            | -30   | Pass        |
|            | 18300   | 1#0<br>Index 0 | 0.009 to 0.15         | -69.45            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.82            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.32            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.75            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.58            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.42            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.3             | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.75            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -70.07            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.26            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.51            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.23            | -30   | Pass        |
|            | 18575   | 1#0<br>Index 3 | 0.009 to 0.15         | -69.72            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.57            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.36            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -62.7             | -30   | Pass        |
|            |         | 1#5<br>Index 3 | 0.009 to 0.15         | -69.89            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.8             | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.52            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -60.84            | -30   | Pass        |
|            |         | 6#0<br>Index 3 | 0.009 to 0.15         | -69.99            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -74.97            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.18            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -65.22            | -30   | Pass        |

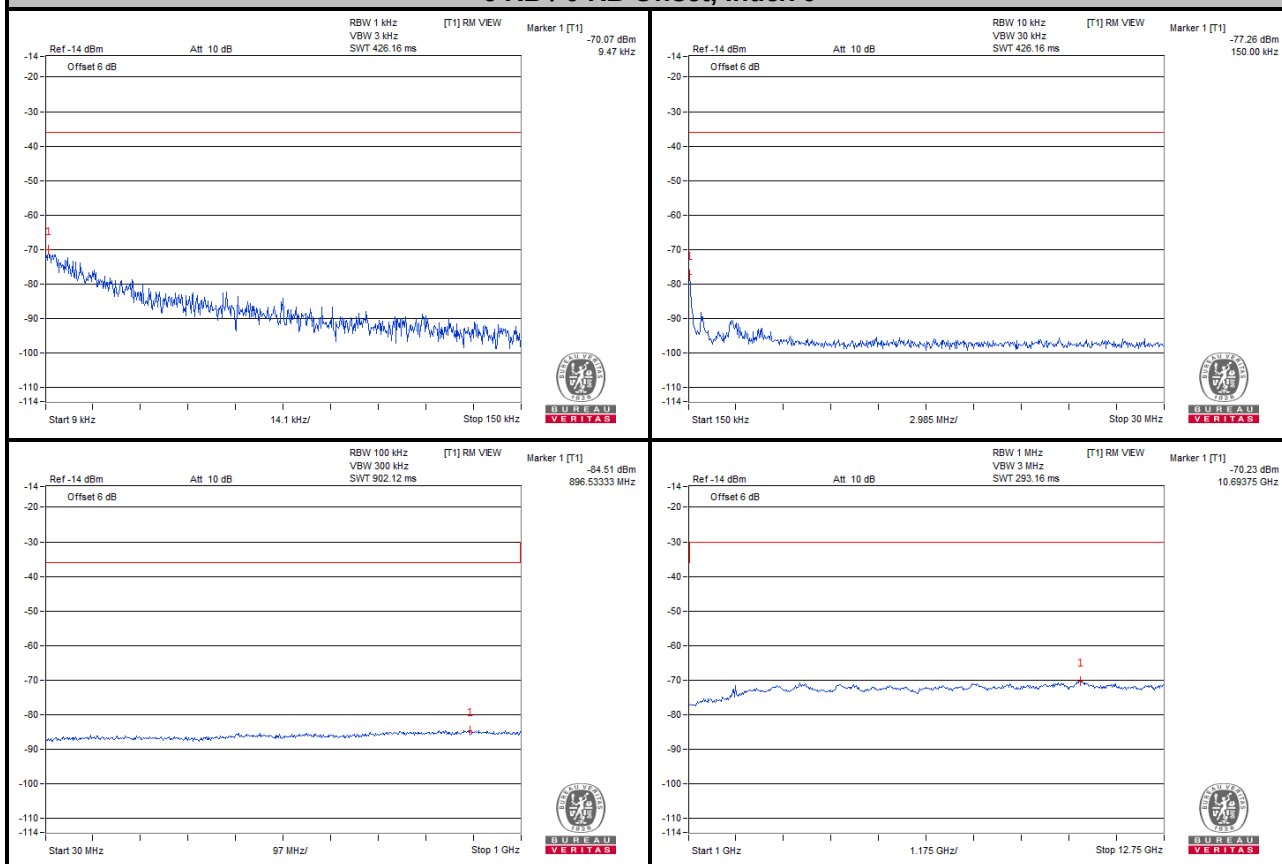


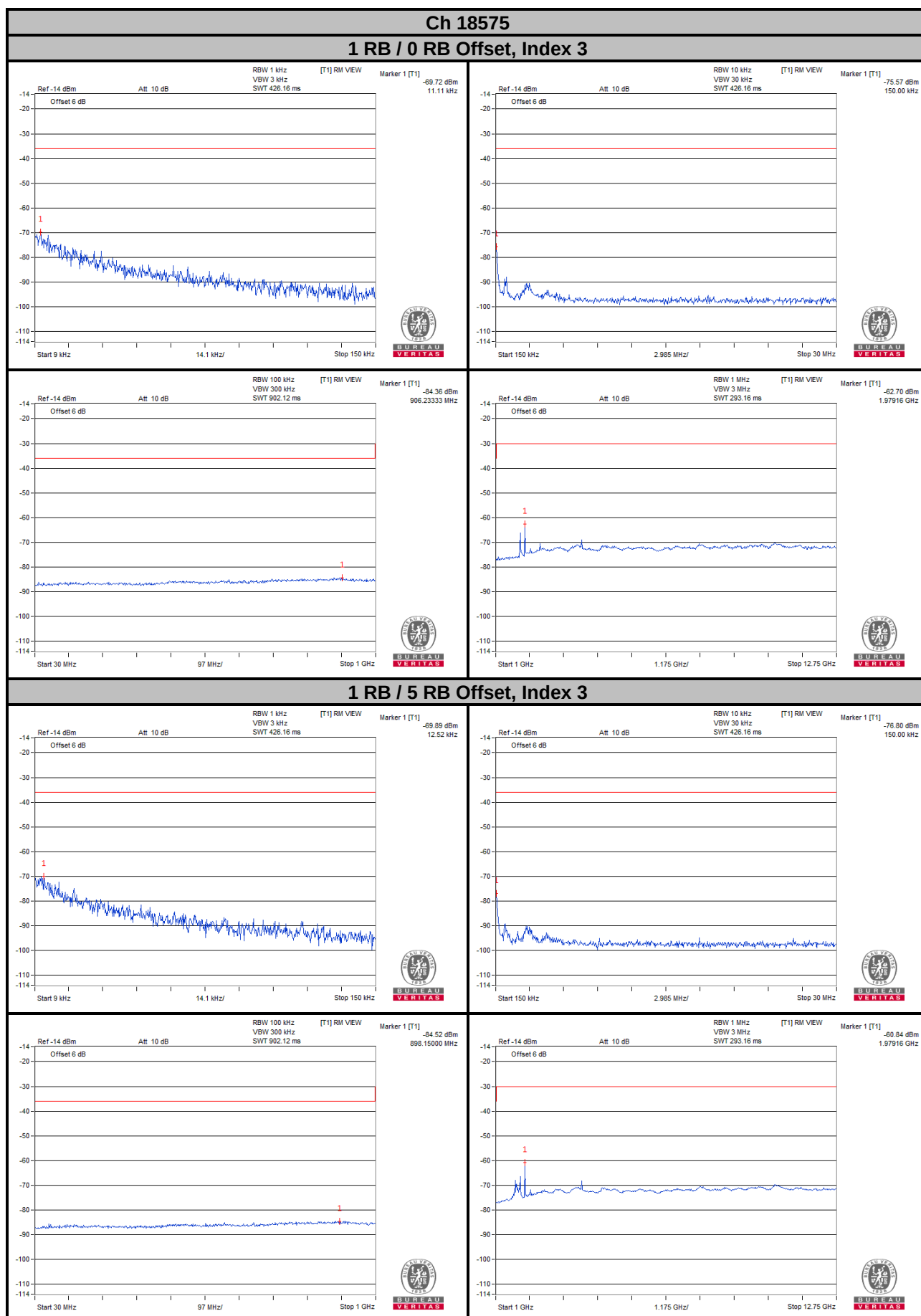
## 6 RB / 0 RB Offset, Index 0



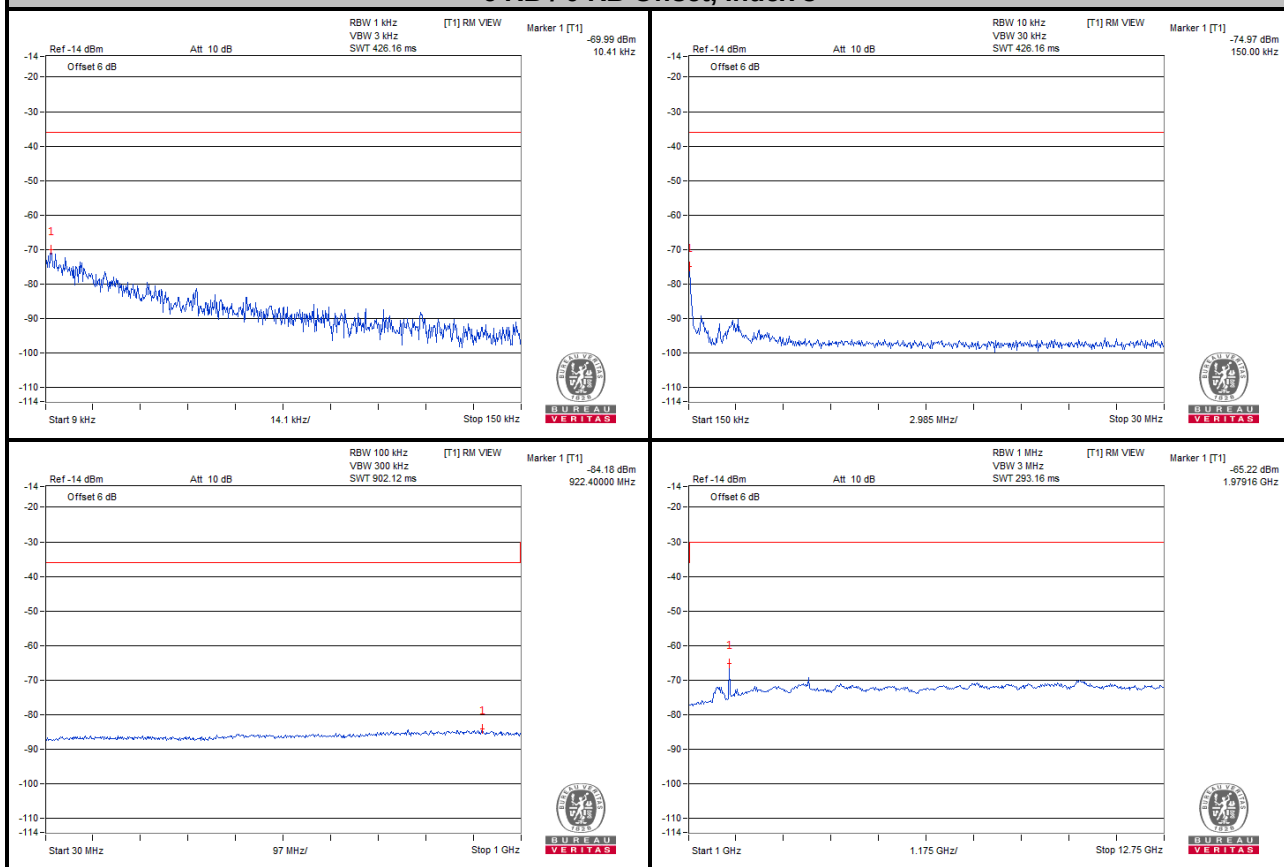


## 6 RB / 0 RB Offset, Index 0



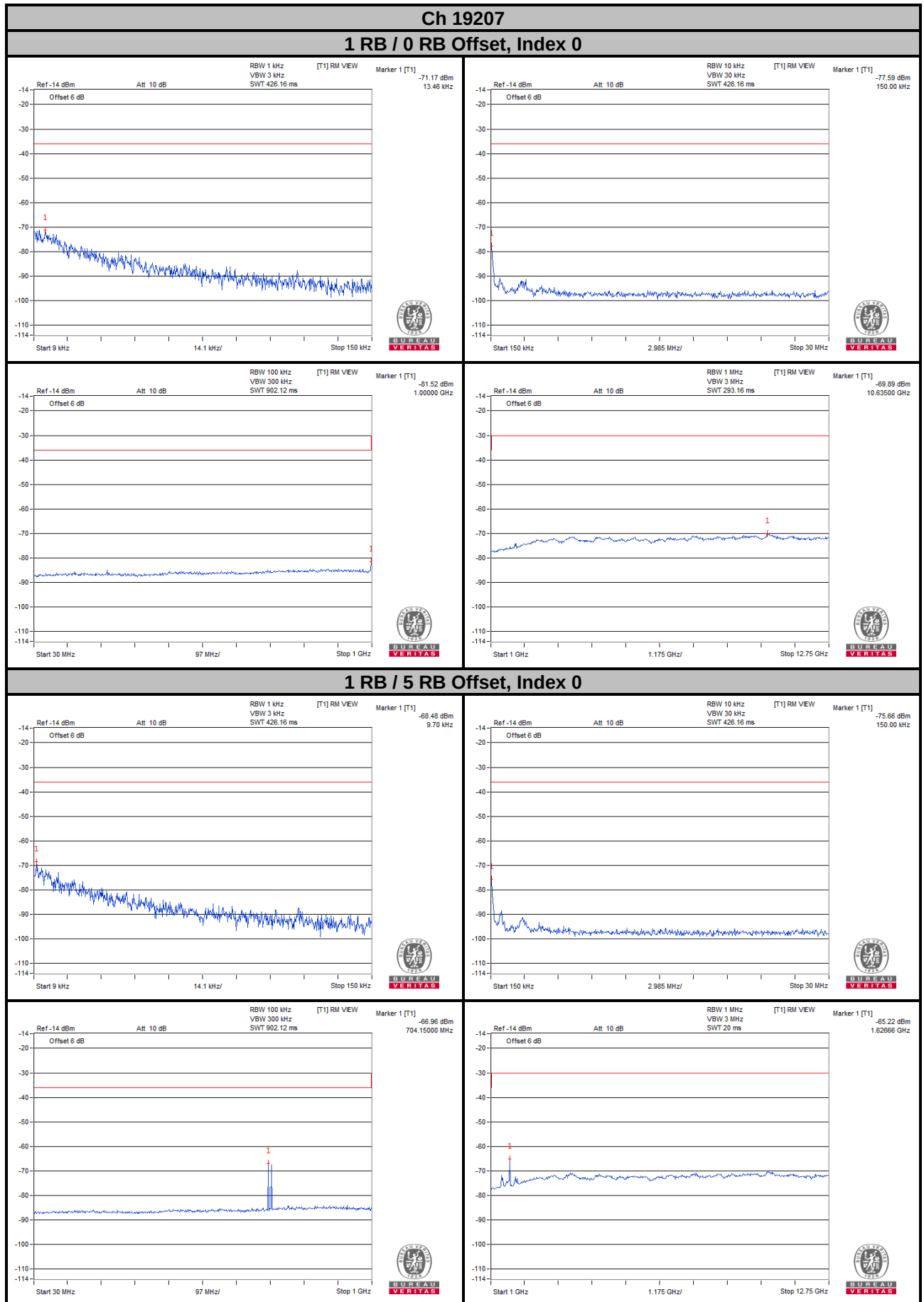


### 6 RB / 0 RB Offset, Index 3

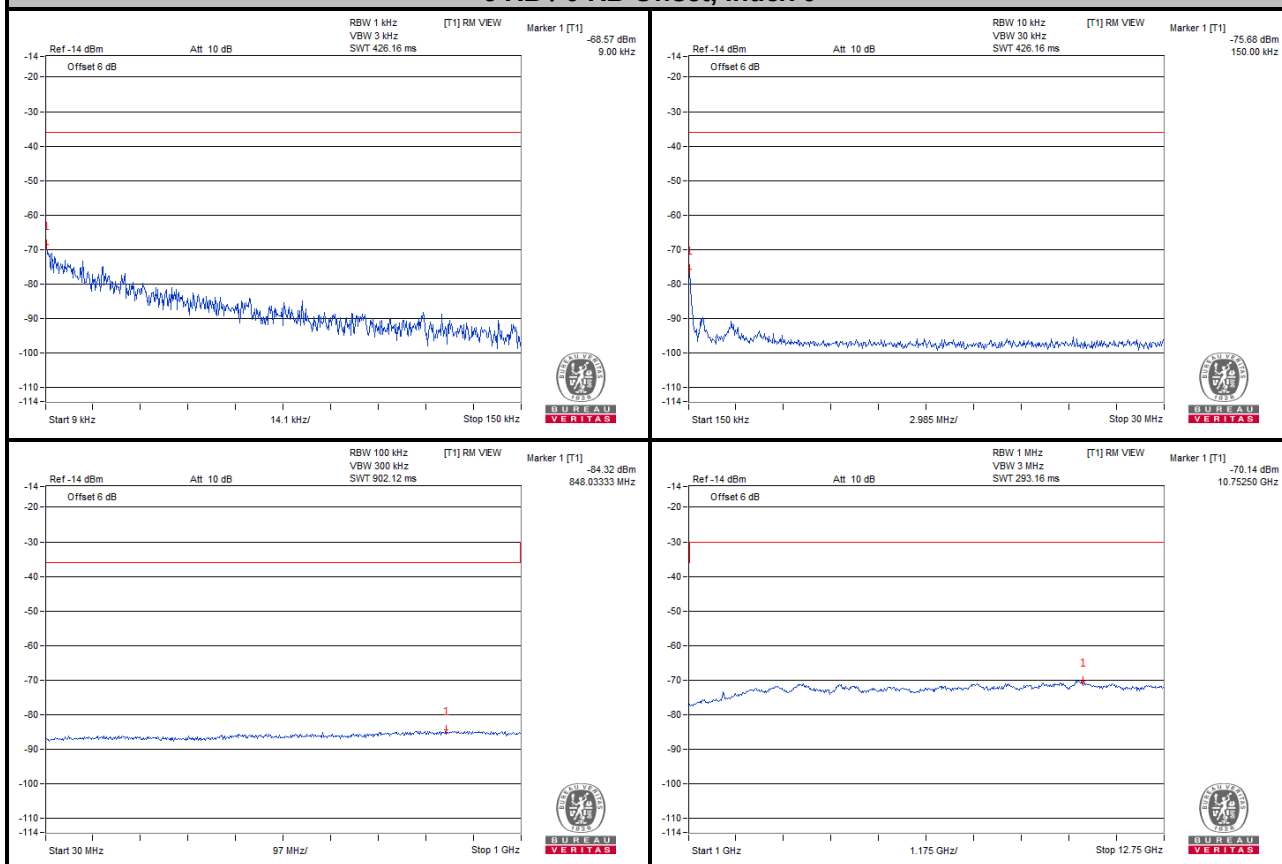


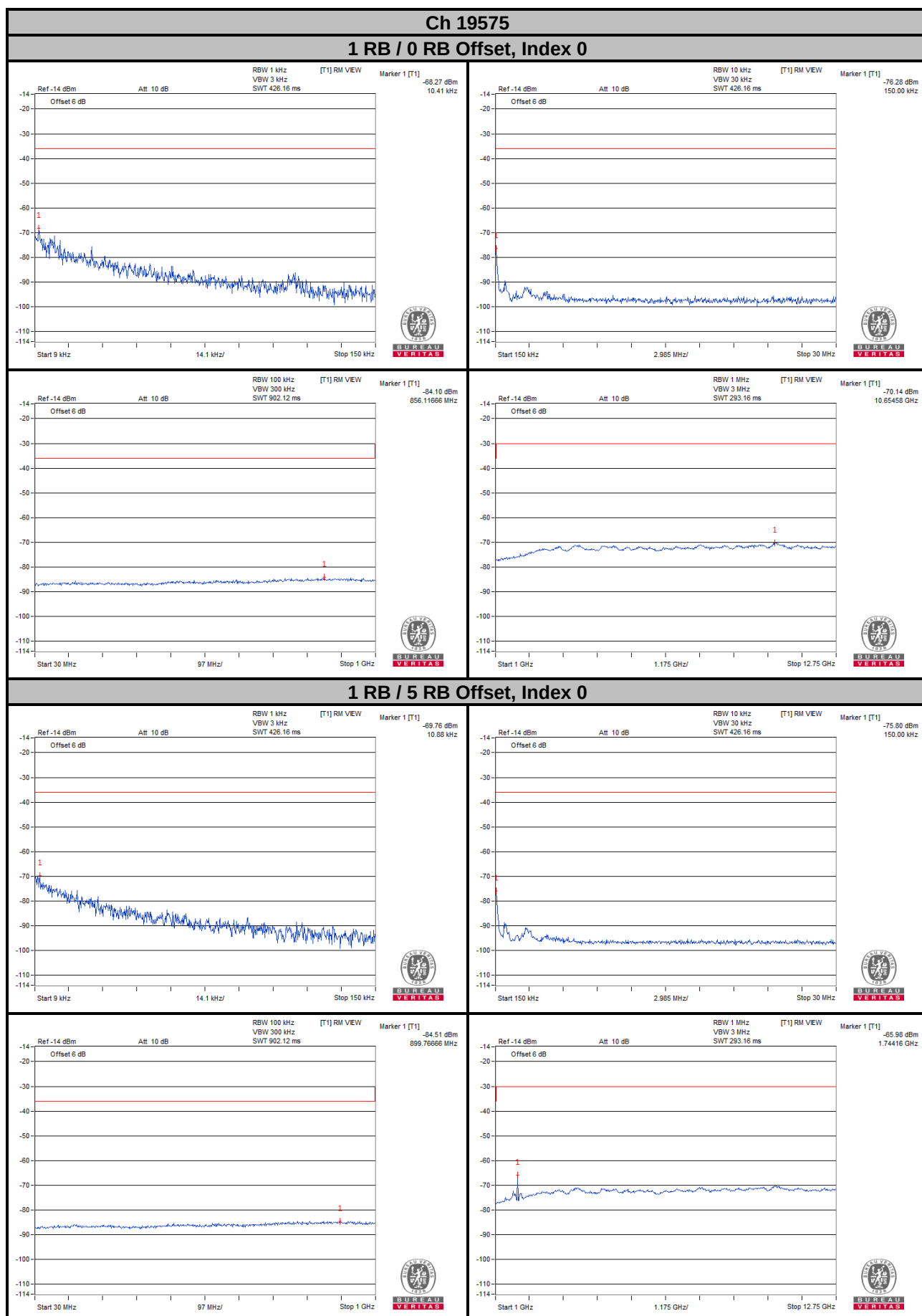
**LTE Band 3**
**Bandwidth: 1.4 MHz**

| Modulation | Channel | RB             | Frequency Range (MHz) | Measurement Value | Limit | Pass / Fail |
|------------|---------|----------------|-----------------------|-------------------|-------|-------------|
| QPSK       | 19207   | 1#0<br>Index 0 | 0.009 to 0.15         | -71.17            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.59            | -36   | Pass        |
|            |         |                | 30 to 1000            | -81.52            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.89            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -68.48            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.66            | -36   | Pass        |
|            |         |                | 30 to 1000            | -66.96            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -65.22            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -68.57            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.68            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.32            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.14            | -30   | Pass        |
|            | 19575   | 1#0<br>Index 0 | 0.009 to 0.15         | -68.27            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.28            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.1             | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.14            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.76            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.8             | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.51            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -65.98            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -68.58            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.46            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.32            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -64.46            | -30   | Pass        |
|            | 19943   | 1#0<br>Index 0 | 0.009 to 0.15         | -70.27            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.5             | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.32            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.66            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -70.92            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.13            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.41            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.12            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -69.88            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -78.56            | -36   | Pass        |
|            |         |                | 30 to 1000            | -84.82            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.27            | -30   | Pass        |

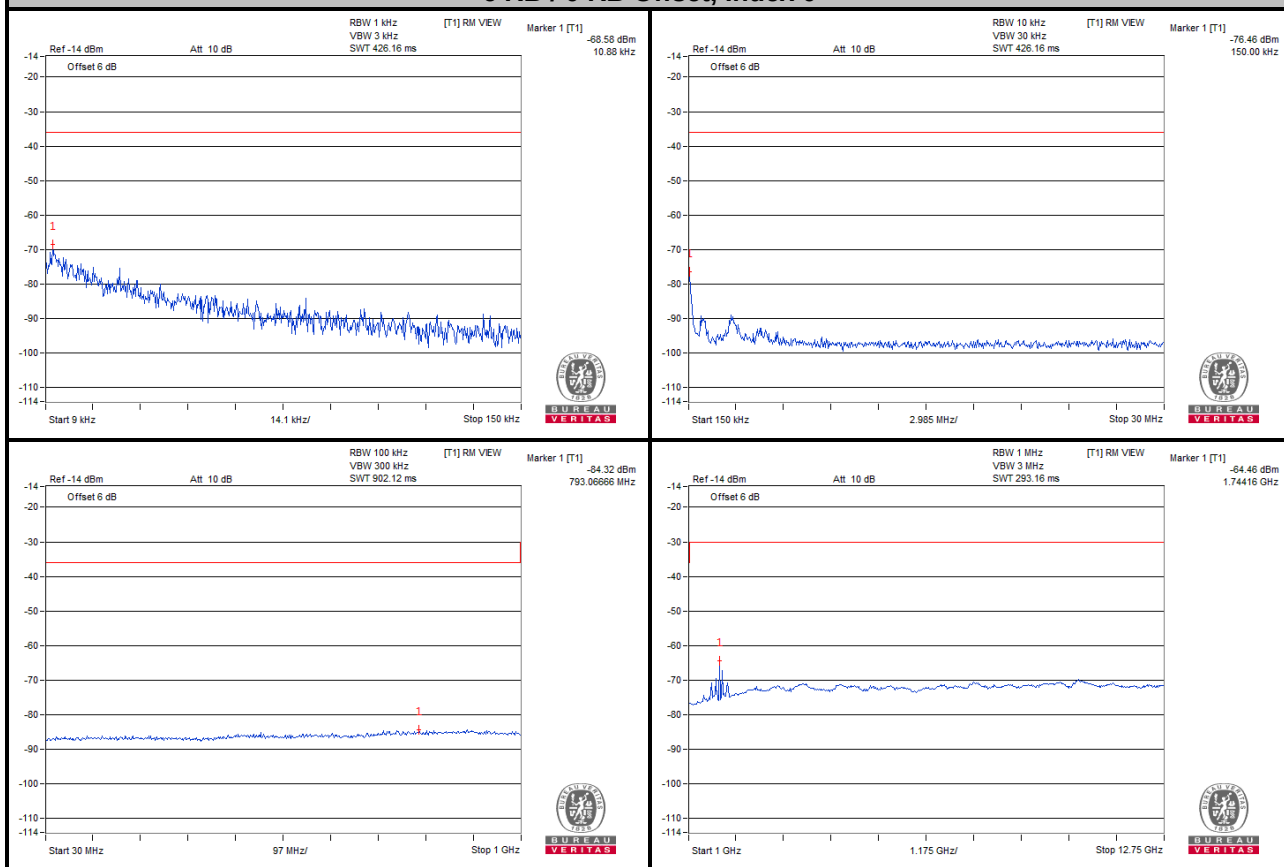


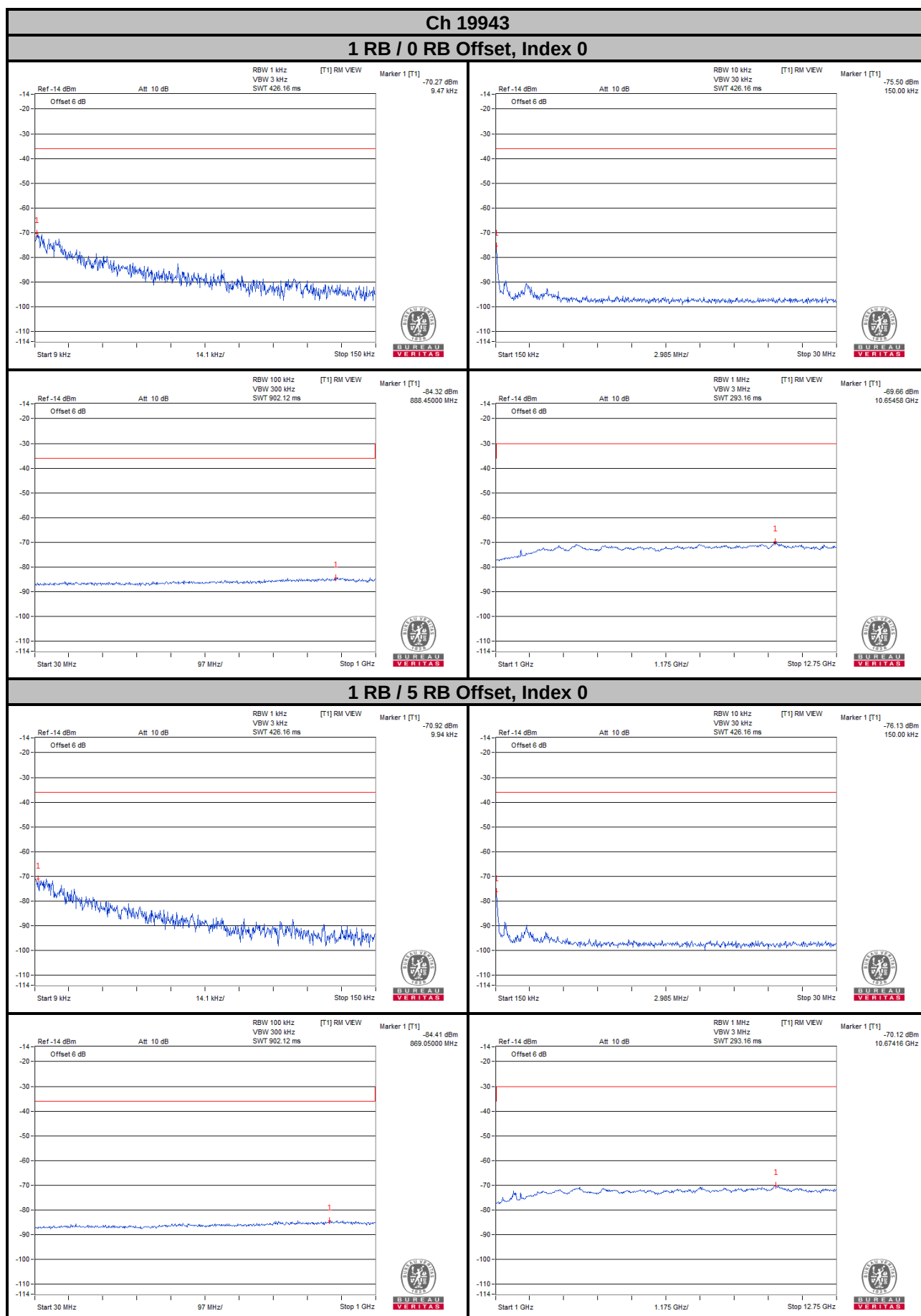
## 6 RB / 0 RB Offset, Index 0



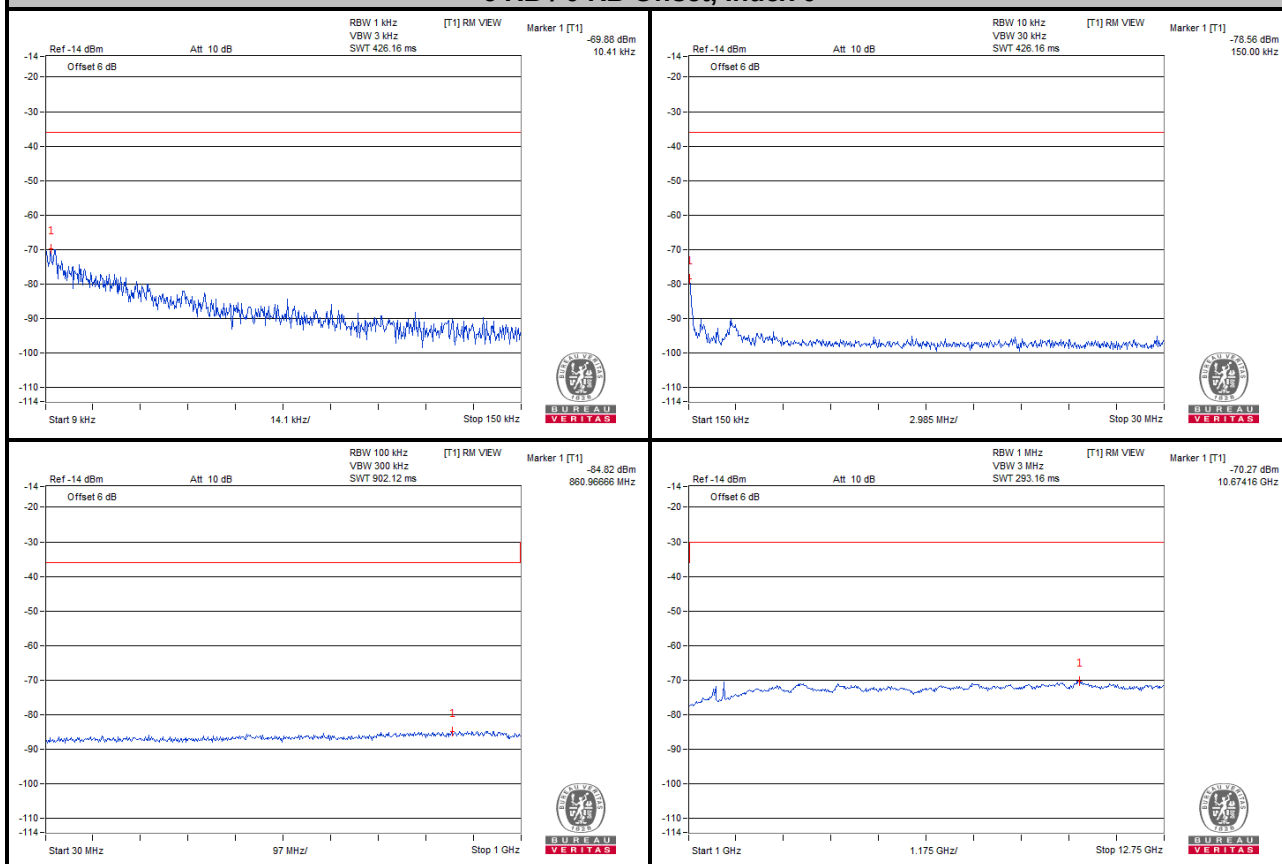


## 6 RB / 0 RB Offset, Index 0



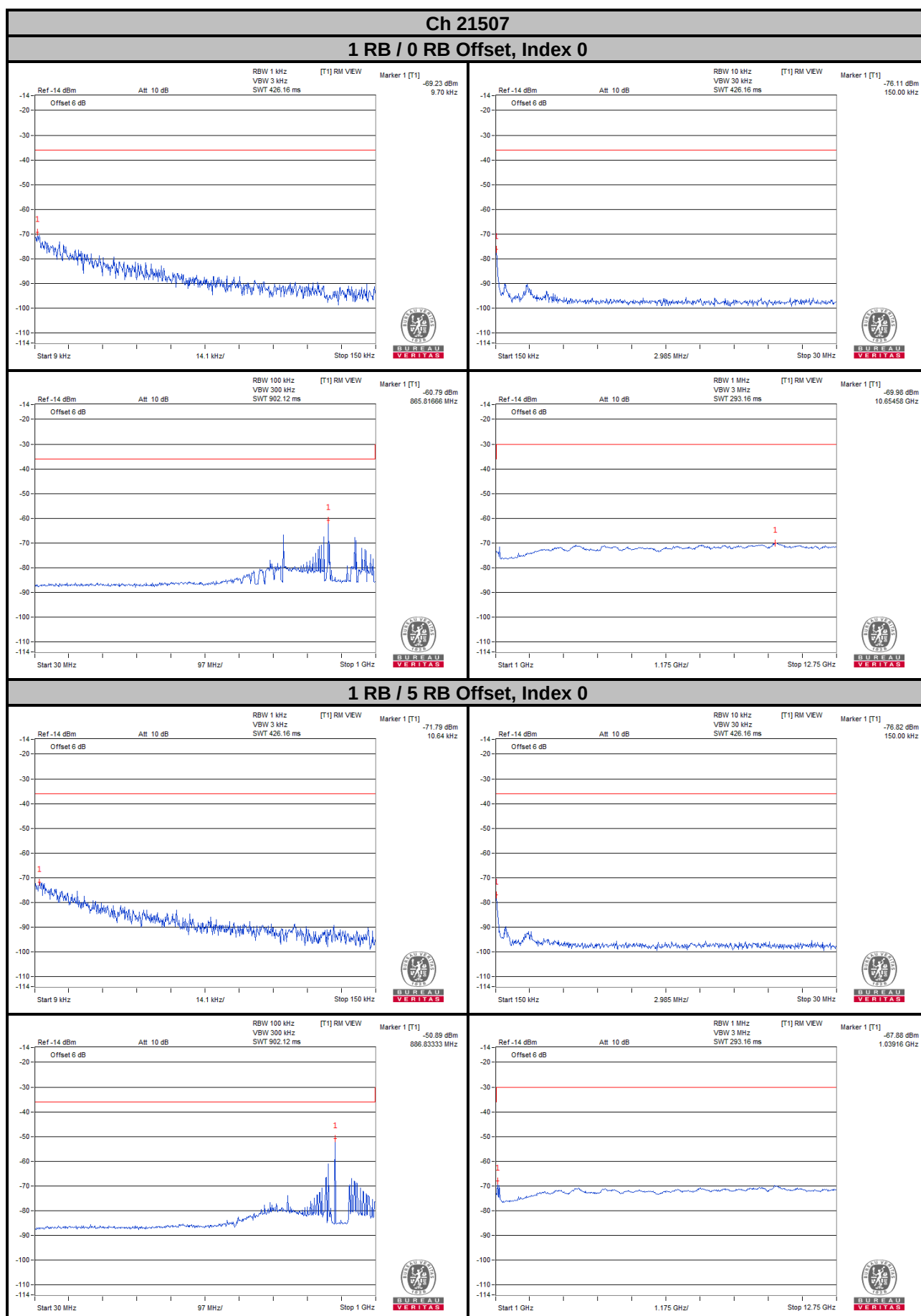


## 6 RB / 0 RB Offset, Index 0

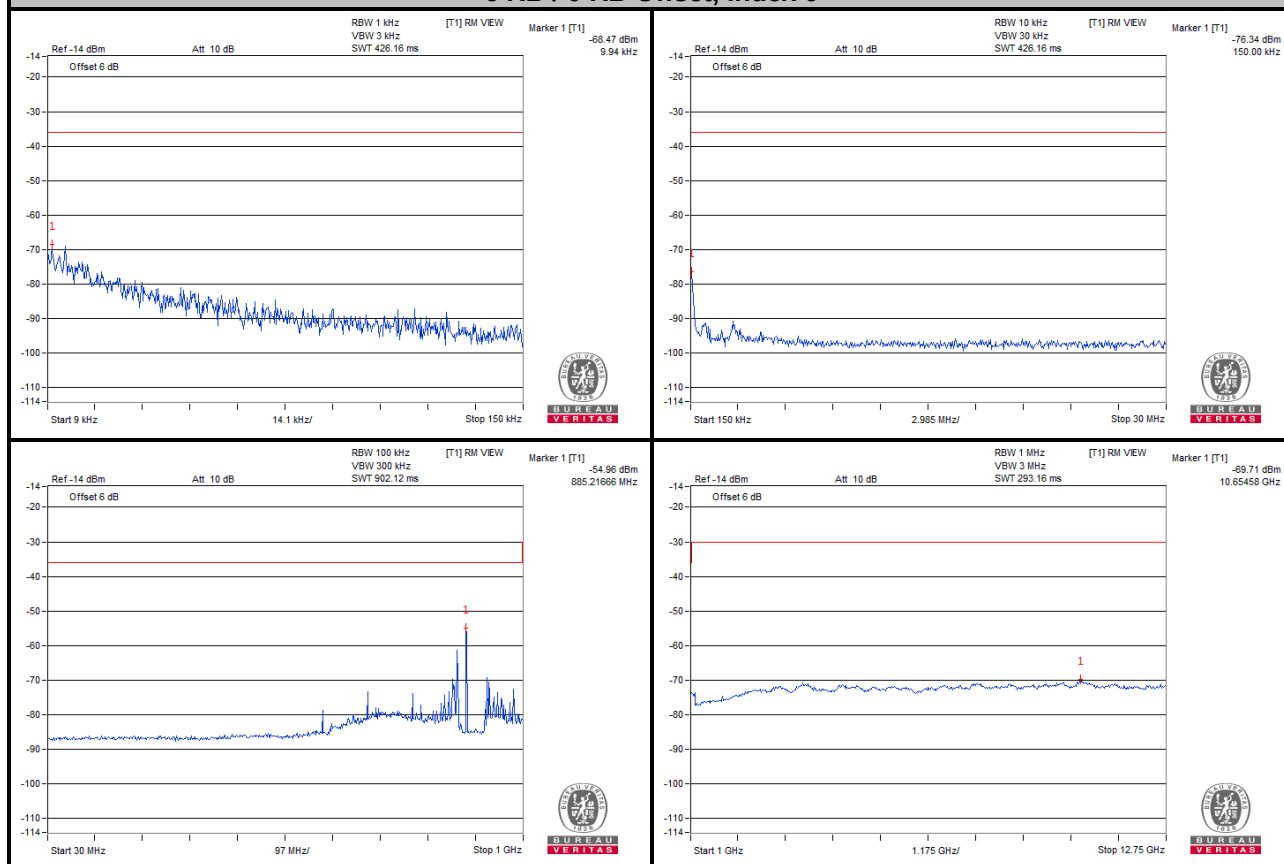


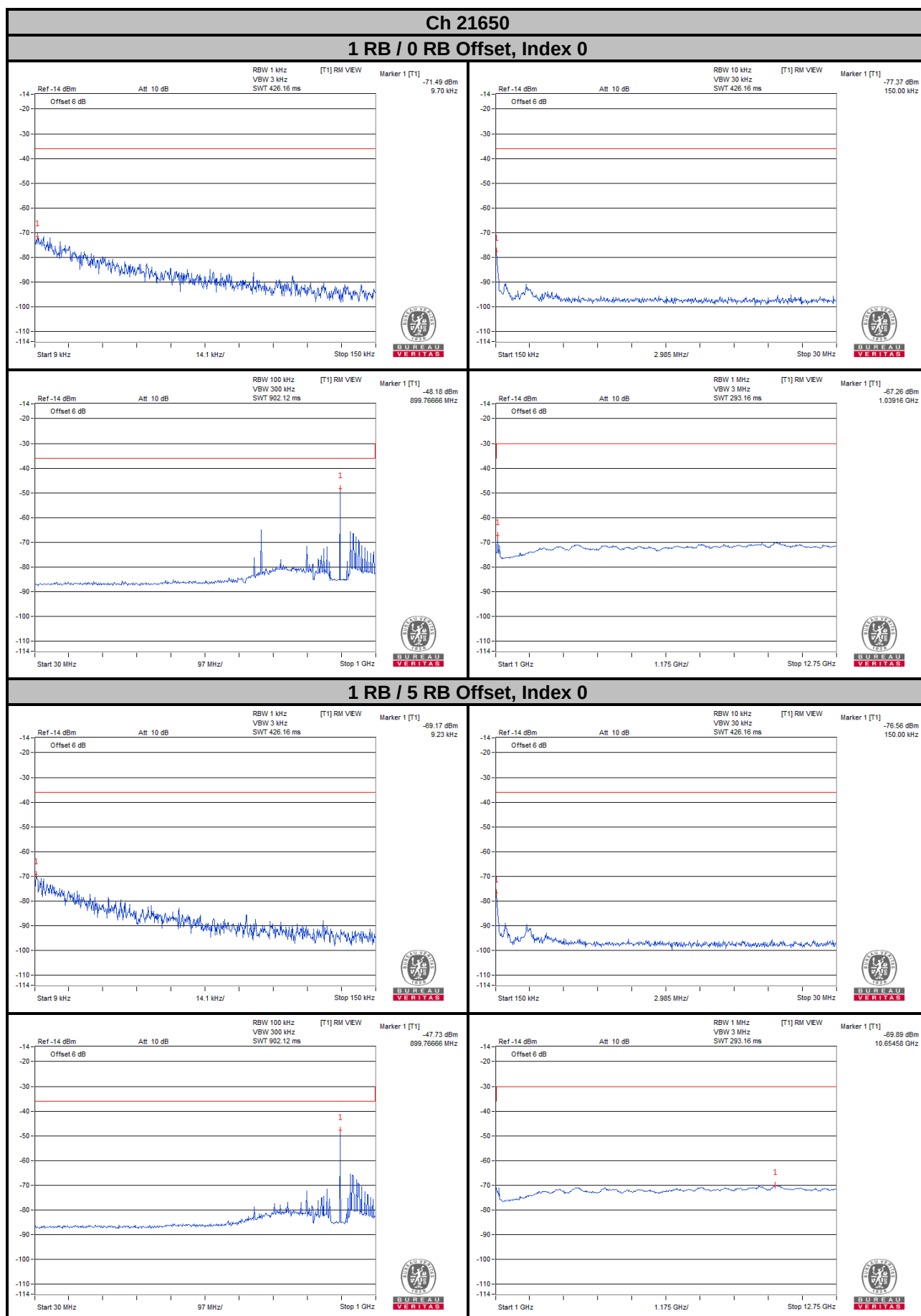
**LTE Band 8**
**Bandwidth: 1.4 MHz**

| Modulation | Channel | RB             | Frequency Range (MHz) | Measurement Value | Limit | Pass / Fail |
|------------|---------|----------------|-----------------------|-------------------|-------|-------------|
| QPSK       | 21507   | 1#0<br>Index 0 | 0.009 to 0.15         | -69.23            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.11            | -36   | Pass        |
|            |         |                | 30 to 1000            | -60.79            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.98            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -71.79            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.82            | -36   | Pass        |
|            |         |                | 30 to 1000            | -50.89            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -67.88            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -68.47            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.34            | -36   | Pass        |
|            |         |                | 30 to 1000            | -54.96            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.71            | -30   | Pass        |
|            | 21650   | 1#0<br>Index 0 | 0.009 to 0.15         | -71.49            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.37            | -36   | Pass        |
|            |         |                | 30 to 1000            | -48.18            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -67.26            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.17            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.56            | -36   | Pass        |
|            |         |                | 30 to 1000            | -47.73            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.89            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -70.89            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.98            | -36   | Pass        |
|            |         |                | 30 to 1000            | -48.38            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -69.89            | -30   | Pass        |
|            | 21793   | 1#0<br>Index 0 | 0.009 to 0.15         | -69.59            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.49            | -36   | Pass        |
|            |         |                | 30 to 1000            | -51.84            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -70.16            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -71.03            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.85            | -36   | Pass        |
|            |         |                | 30 to 1000            | -52.91            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -68.66            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -69.49            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.91            | -36   | Pass        |
|            |         |                | 30 to 1000            | -52.98            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -67.44            | -30   | Pass        |

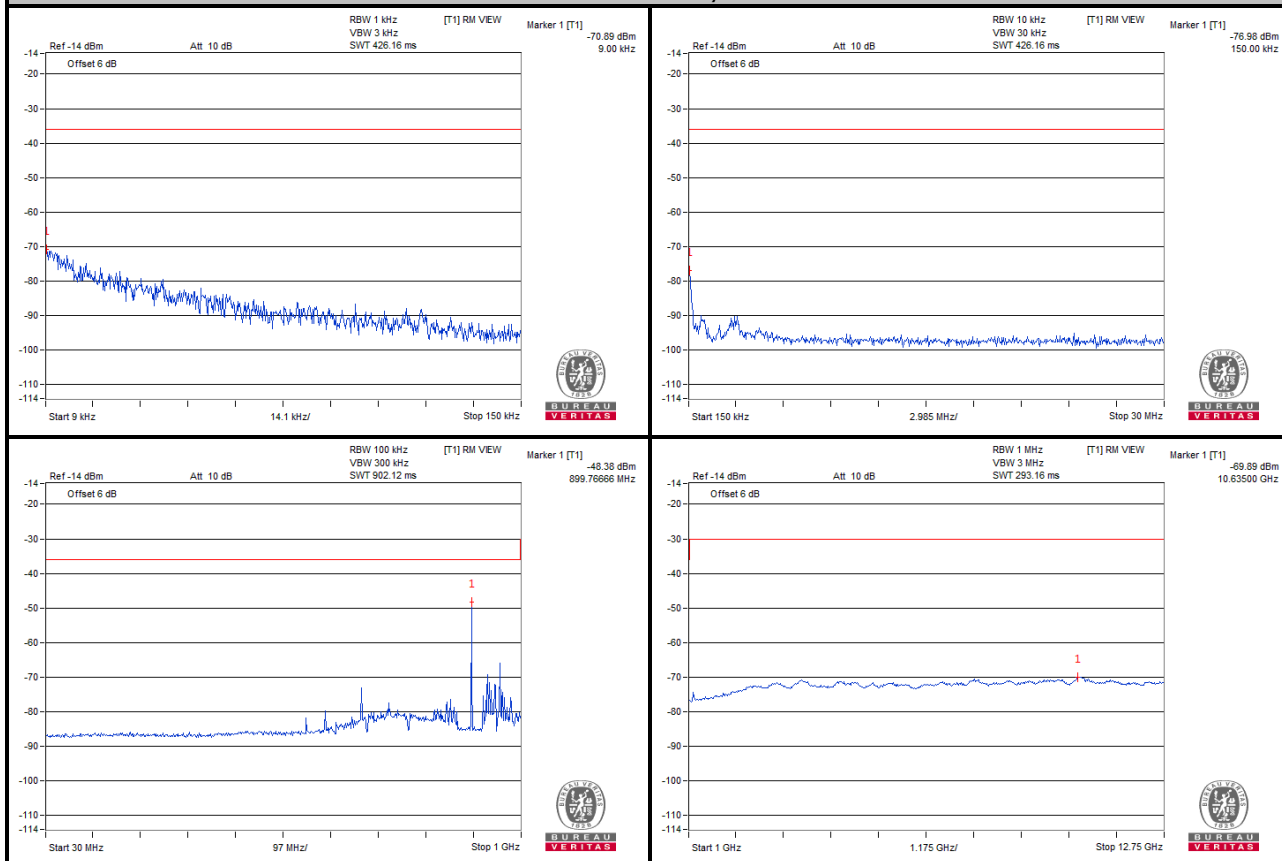


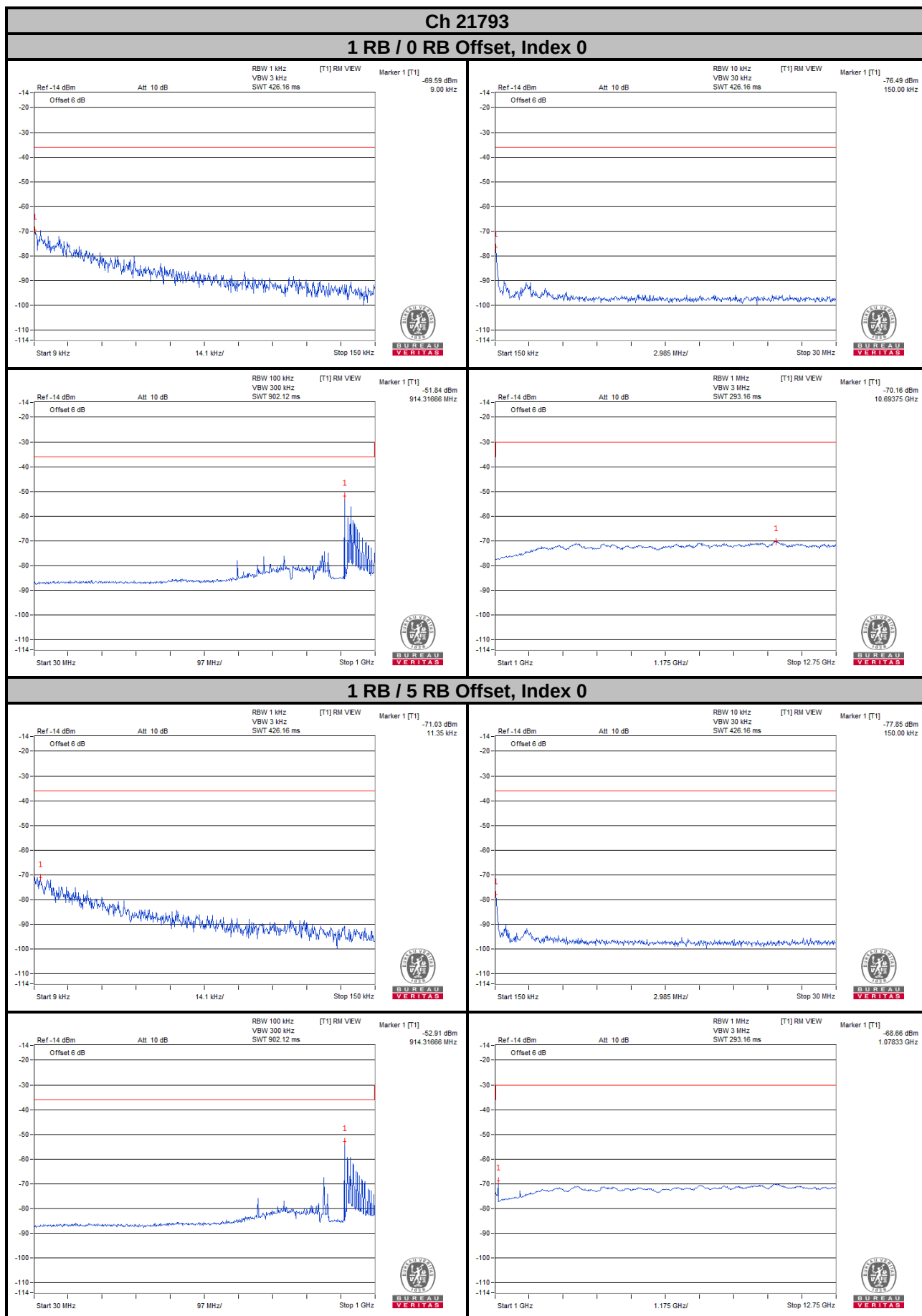
## 6 RB / 0 RB Offset, Index 0



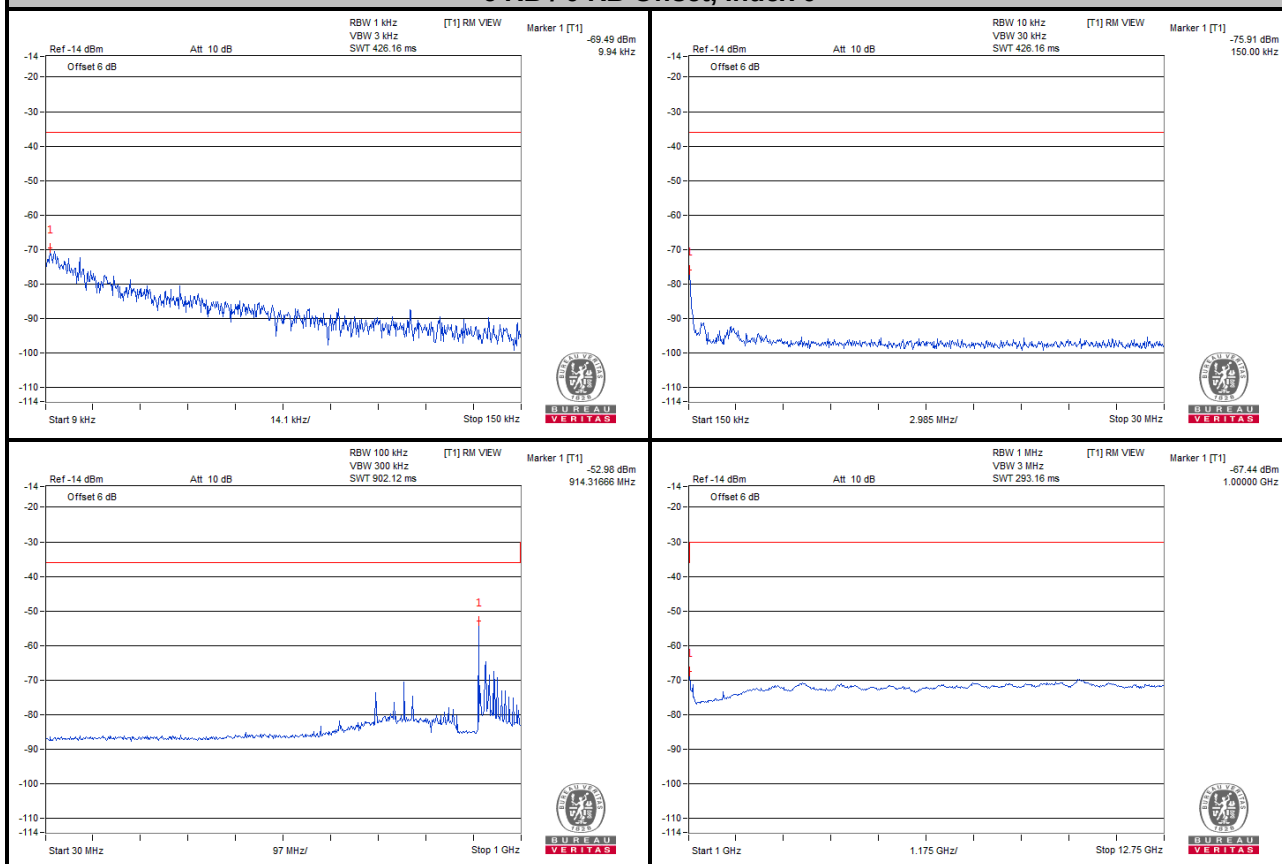


## 6 RB / 0 RB Offset, Index 0



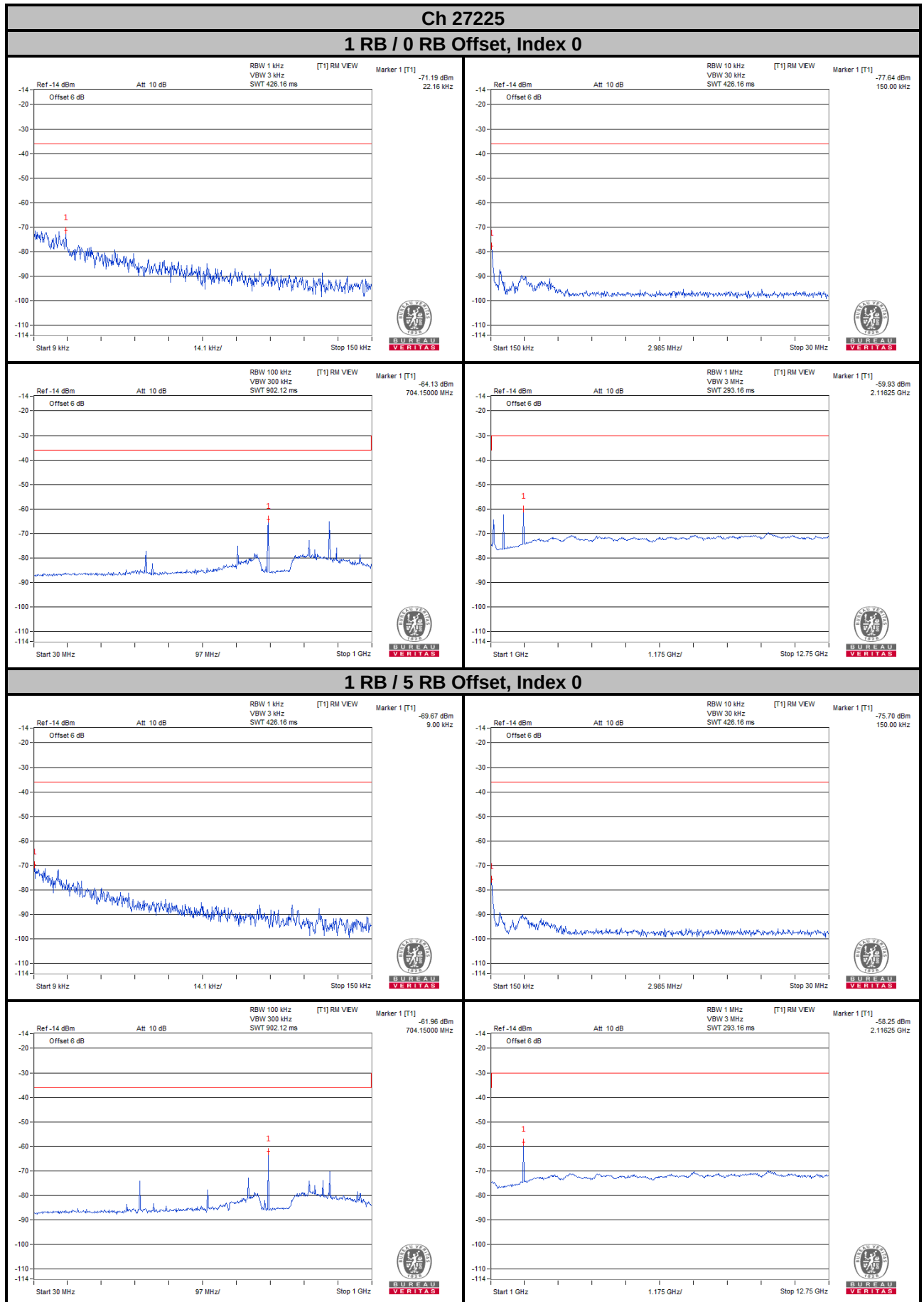


## 6 RB / 0 RB Offset, Index 0

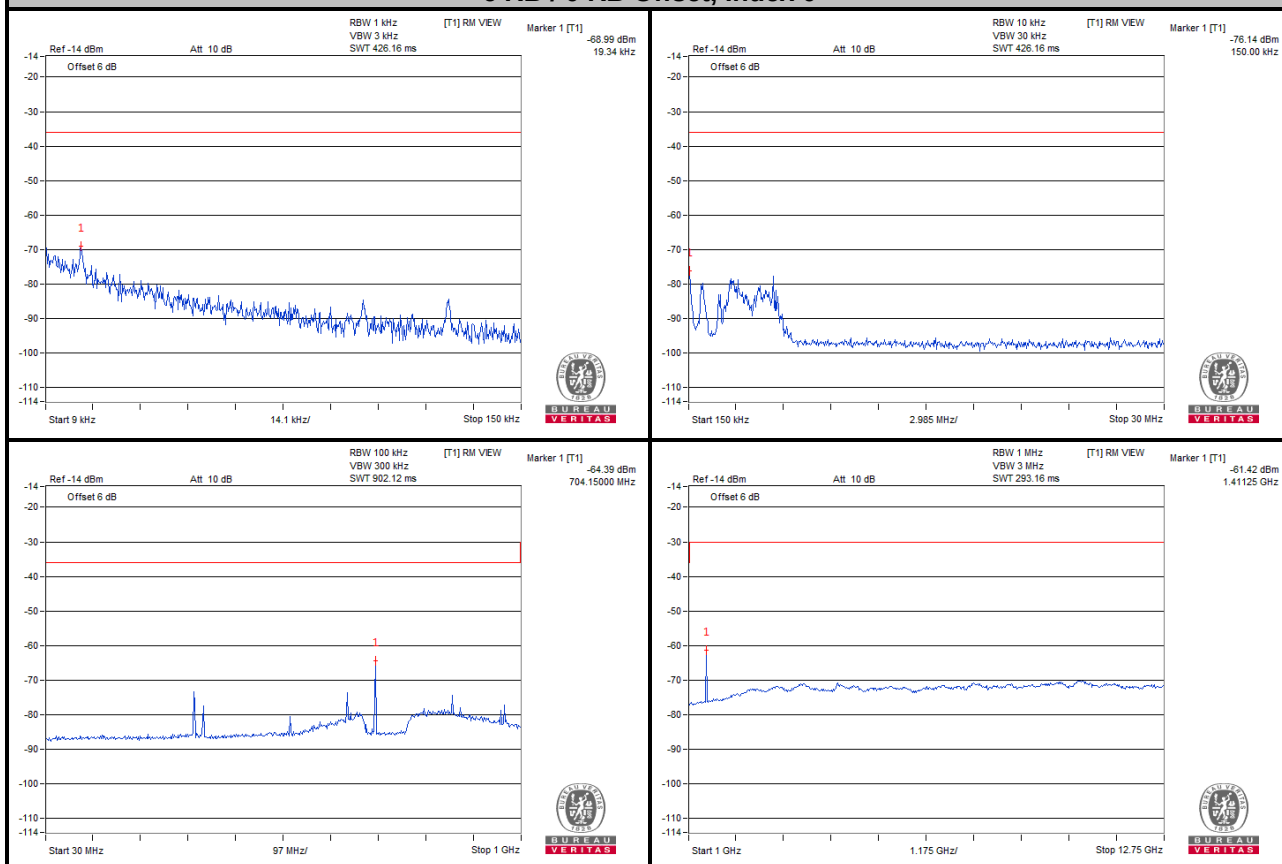


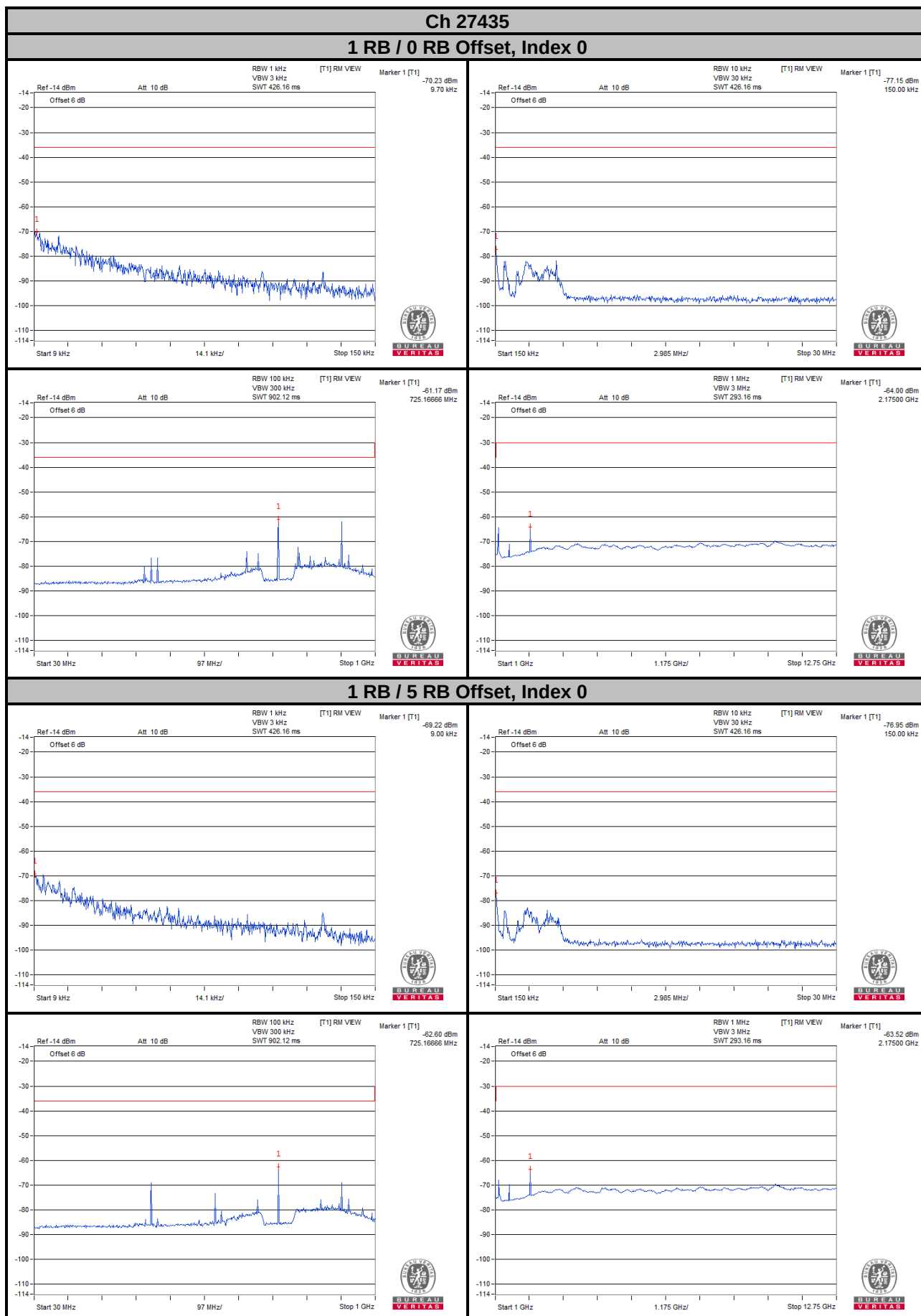
**LTE Band 28**
**Bandwidth: 3 MHz**

| Modulation | Channel | RB             | Frequency Range (MHz) | Measurement Value | Limit | Pass / Fail |
|------------|---------|----------------|-----------------------|-------------------|-------|-------------|
| QPSK       | 27225   | 1#0<br>Index 0 | 0.009 to 0.15         | -71.19            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.64            | -36   | Pass        |
|            |         |                | 30 to 1000            | -64.13            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -59.93            | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.67            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -75.7             | -36   | Pass        |
|            |         |                | 30 to 1000            | -61.96            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -58.25            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -68.99            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.14            | -36   | Pass        |
|            |         |                | 30 to 1000            | -64.39            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -61.42            | -30   | Pass        |
|            | 27435   | 1#0<br>Index 0 | 0.009 to 0.15         | -70.23            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.15            | -36   | Pass        |
|            |         |                | 30 to 1000            | -61.17            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -64               | -30   | Pass        |
|            |         | 1#5<br>Index 0 | 0.009 to 0.15         | -69.22            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.95            | -36   | Pass        |
|            |         |                | 30 to 1000            | -62.6             | -36   | Pass        |
|            |         |                | 1000 to 12750         | -63.52            | -30   | Pass        |
|            |         | 6#0<br>Index 0 | 0.009 to 0.15         | -69.32            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -76.24            | -36   | Pass        |
|            |         |                | 30 to 1000            | -62.11            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -63.54            | -30   | Pass        |
|            | 27645   | 1#0<br>Index 1 | 0.009 to 0.15         | -69.15            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -77.07            | -36   | Pass        |
|            |         |                | 30 to 1000            | -70               | -36   | Pass        |
|            |         |                | 1000 to 12750         | -62.22            | -30   | Pass        |
|            |         | 1#5<br>Index 1 | 0.009 to 0.15         | -64               | -36   | Pass        |
|            |         |                | 0.15 to 30            | -74               | -36   | Pass        |
|            |         |                | 30 to 1000            | -74.41            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -60.75            | -30   | Pass        |
|            |         | 6#0<br>Index 1 | 0.009 to 0.15         | -65.43            | -36   | Pass        |
|            |         |                | 0.15 to 30            | -74.72            | -36   | Pass        |
|            |         |                | 30 to 1000            | -65.81            | -36   | Pass        |
|            |         |                | 1000 to 12750         | -62.78            | -30   | Pass        |

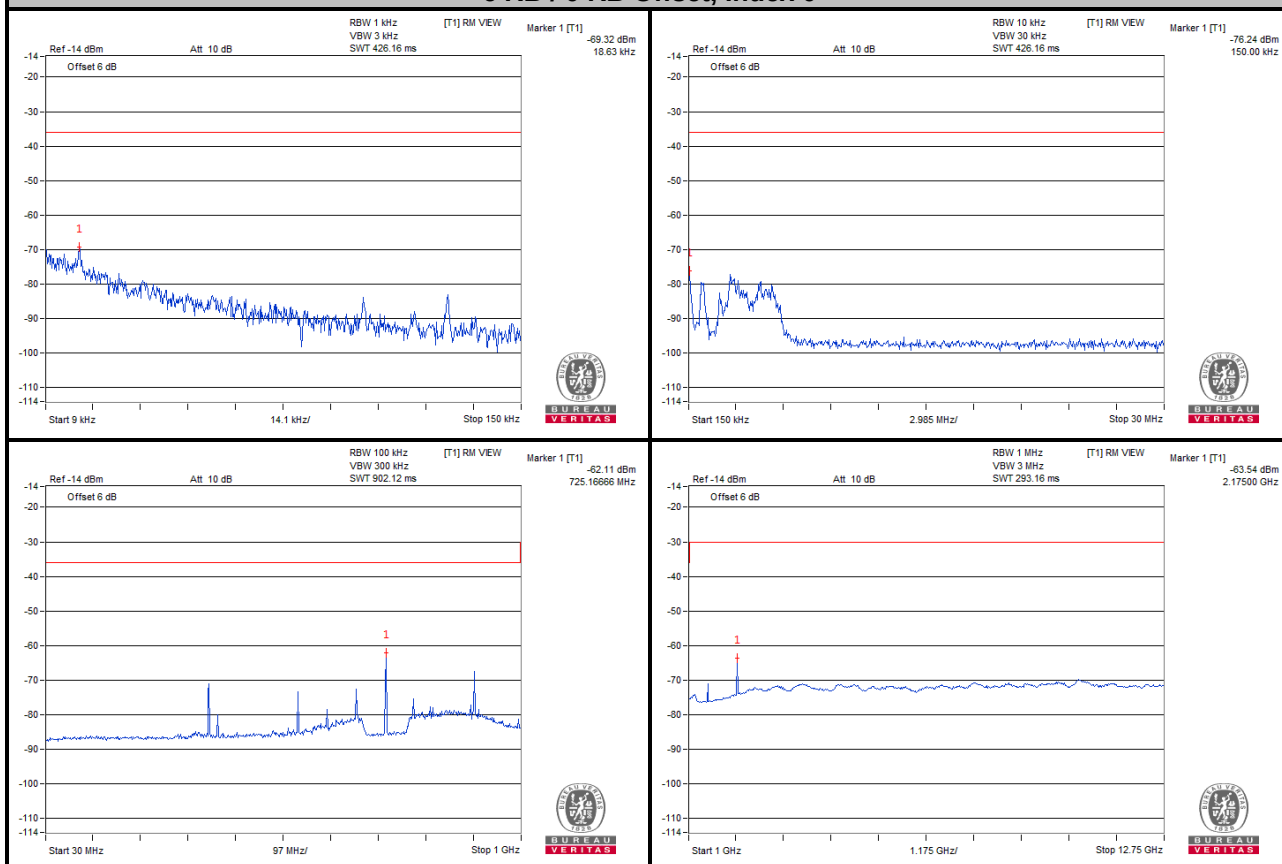


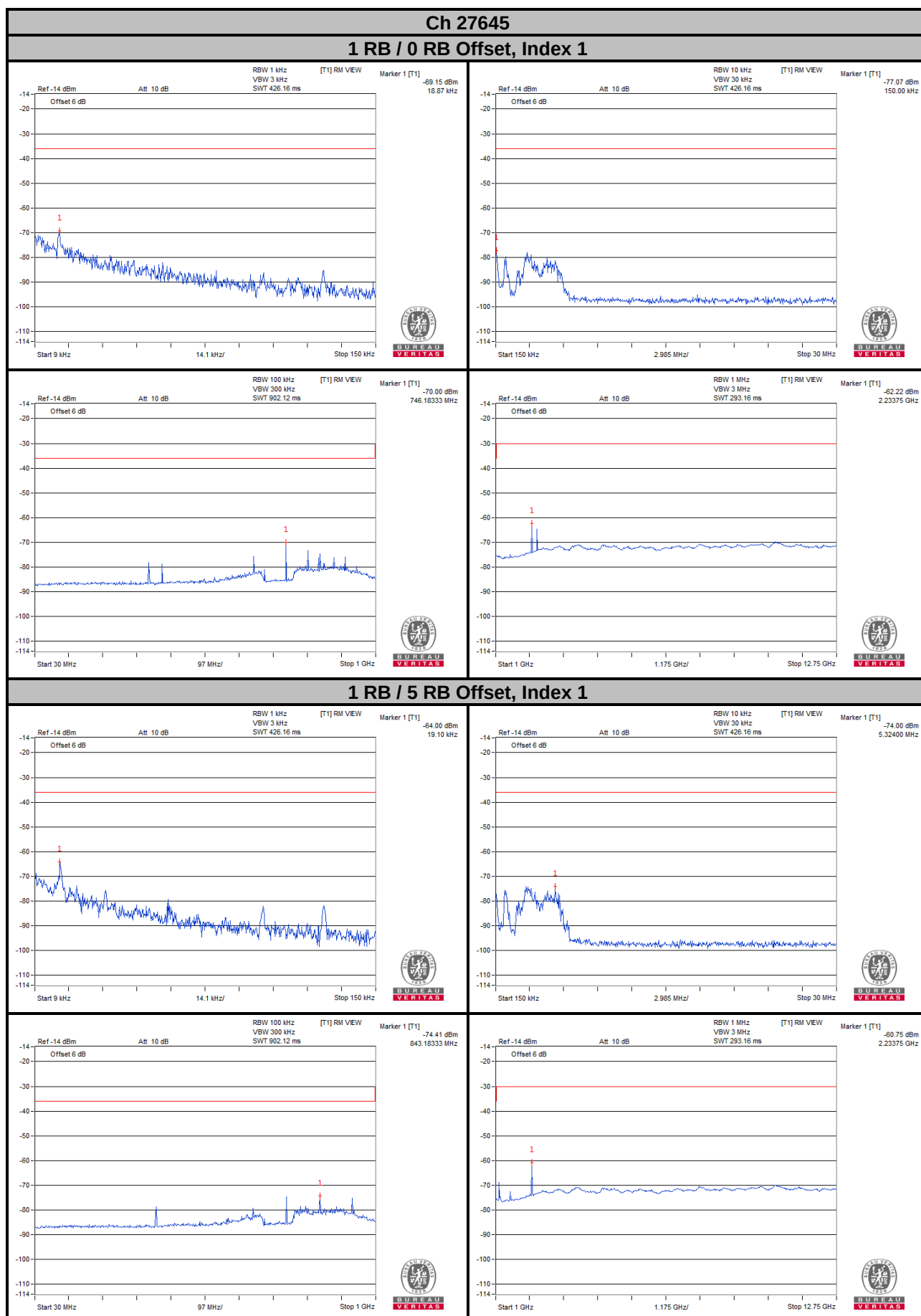
## 6 RB / 0 RB Offset, Index 0





## 6 RB / 0 RB Offset, Index 0





## 6 RB / 0 RB Offset, Index 1

