



# FCC Test Report

## ANNEX 2 LTE BAND 2

### FCC ID: 2AYFQ-SEM1000

Applicant: Quanzhou SFE Electronic Technology Co.,Ltd  
Address: No.35 Yangming Street, Shuangyang, Luojiang District, Quanzhou City, Fujian Province  
362012, China  
Manufacturer: Quanzhou SFE Electronic Technology Co.,Ltd  
Address: No.35 Yangming Street, Shuangyang, Luojiang District, Quanzhou City, Fujian Province  
362012, China  
EUT: In-vehicle PoC Network Radio  
Trade Mark: SFE  
Model Number: SEM1000, SEM2000  
Date of Receipt: Dec. 03, 2021  
Test Date: Dec. 03, 2021 – Jan. 07, 2022  
Date of Report: Jan. 07, 2022  
Prepared By: Shenzhen DL Testing Technology Co., Ltd.  
Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong  
Street, Longgang District, Shenzhen, Guangdong, China  
FCC CFR Title 47 Part22 Subpart H  
FCC CFR Title 47 Part24 Subpart E  
Applicable Standards: FCC CFR Title 47 Part27  
ANSI/ TIA/ EIA-603-D-2010  
FCC KDB 971168 D01 Power Meas. License Digital Systems v02v02  
ANSI C63.26:2015  
Test Result: Pass  
Report Number: DL-20220108006E

Prepared (Test Engineer): Pxing Huang  
Reviewer (Supervisor): Jack Bu  
Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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**1. EMISSION TEST RESULTS****1.1. -26dB and 99% Occupied Bandwidth****1.1.1. Test Result**

| EUT Mode Bandwidth    | Modulation | Frequency (MHz) | 99% Occupy bandwidth (MHz) | -26dB bandwidth (MHz) |
|-----------------------|------------|-----------------|----------------------------|-----------------------|
| LTE Band 2<br>1.4MHz  | QPSK       | 1850.7          | <b>1.080</b>               | 1.218                 |
|                       |            | 1882.5          | 1.079                      | 1.219                 |
|                       |            | 1914.3          | 1.087                      | 1.205                 |
| LTE Band 2<br>1.4 MHz | 16-QAM     | 1850.7          | 1.079                      | 1.203                 |
|                       |            | 1882.5          | 1.081                      | 1.225                 |
|                       |            | 1914.3          | <b>1.082</b>               | 1.221                 |
| LTE Band 2<br>3 MHz   | QPSK       | 1851.5          | 2.691                      | 2.940                 |
|                       |            | 1882.5          | 2.693                      | 2.944                 |
|                       |            | 1913.5          | 2.687                      | 2.951                 |
| LTE Band 2<br>3 MHz   | 16-QAM     | 1851.5          | 2.684                      | 2.937                 |
|                       |            | 1882.5          | 2.684                      | 2.946                 |
|                       |            | 1913.5          | 2.685                      | 2.948                 |
| LTE Band 2<br>5 MHz   | QPSK       | 1852.5          | 4.469                      | 4.869                 |
|                       |            | 1882.5          | 4.488                      | 4.912                 |
|                       |            | 1912.5          | 4.476                      | 4.892                 |
| LTE Band 2<br>5 MHz   | 16-QAM     | 1852.5          | 4.473                      | 4.917                 |
|                       |            | 1882.5          | 4.469                      | 4.824                 |
|                       |            | 1912.5          | 4.476                      | 4.873                 |
| LTE Band 2<br>10 MHz  | QPSK       | 1855.0          | 8.955                      | 9.731                 |
|                       |            | 1882.5          | 8.948                      | 9.688                 |
|                       |            | 1910.0          | 8.945                      | 9.628                 |
| LTE Band 2<br>10 MHz  | 16-QAM     | 1855.0          | 8.941                      | 9.668                 |
|                       |            | 1882.5          | 8.943                      | 9.644                 |
|                       |            | 1910.0          | 8.935                      | 9.608                 |
| LTE Band 2<br>15 MHz  | QPSK       | 1857.5          | 13.441                     | 14.530                |
|                       |            | 1882.5          | 13.403                     | 14.500                |
|                       |            | 1907.5          | 13.410                     | 14.450                |
| LTE Band 2<br>15 MHz  | 16-QAM     | 1857.5          | 13.419                     | 14.470                |
|                       |            | 1882.5          | 13.389                     | 14.450                |
|                       |            | 1907.5          | 13.416                     | 14.390                |
| LTE Band 2<br>20 MHz  | QPSK       | 1860.0          | <b>17.885</b>              | 19.150                |
|                       |            | 1882.5          | 17.834                     | 19.010                |
|                       |            | 1905.0          | 17.867                     | 19.340                |
| LTE Band 2<br>20 MHz  | 16-QAM     | 1860.0          | <b>17.867</b>              | 19.110                |
|                       |            | 1882.5          | 17.856                     | 19.200                |
|                       |            | 1905.0          | 17.821                     | 19.150                |

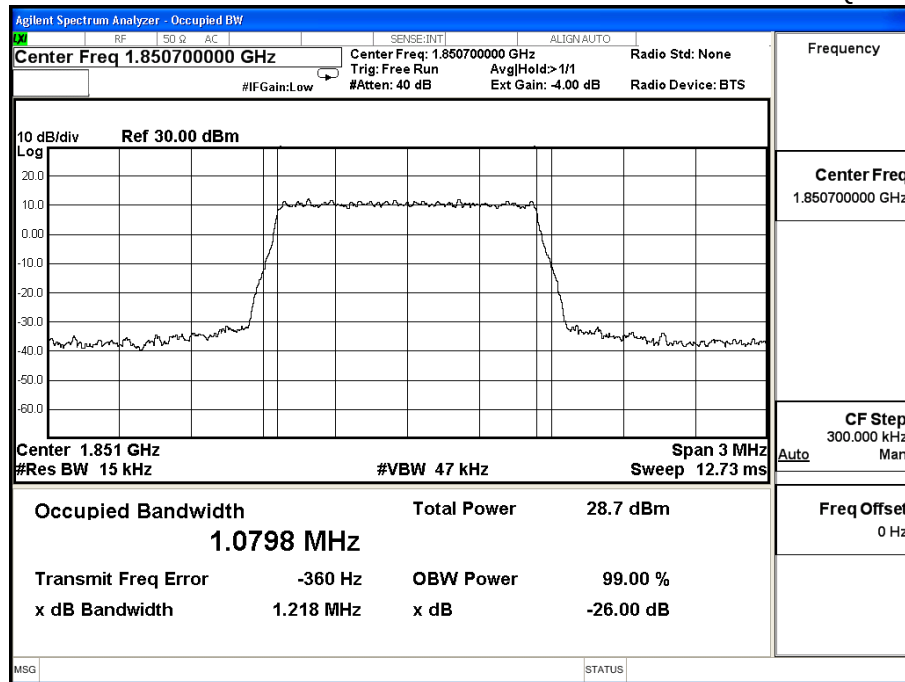
Note: Measurement Uncertainty:  $\pm 20\text{Hz}$ .

Test plot as follows:



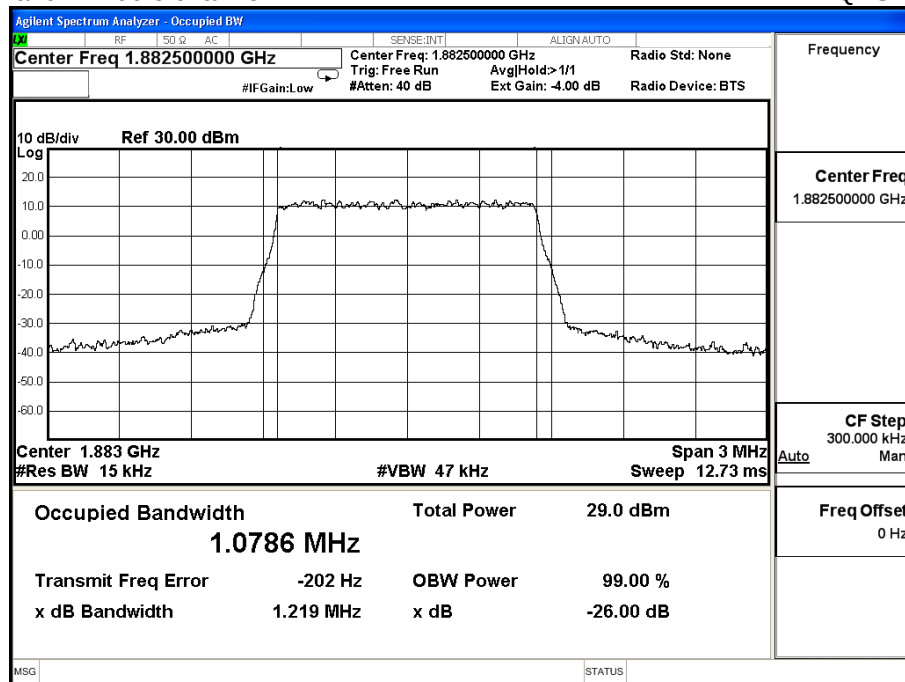
## LTE Band 2 Lowest channel

1.4 MHz QPSK



## LTE Band 2 Middle channel

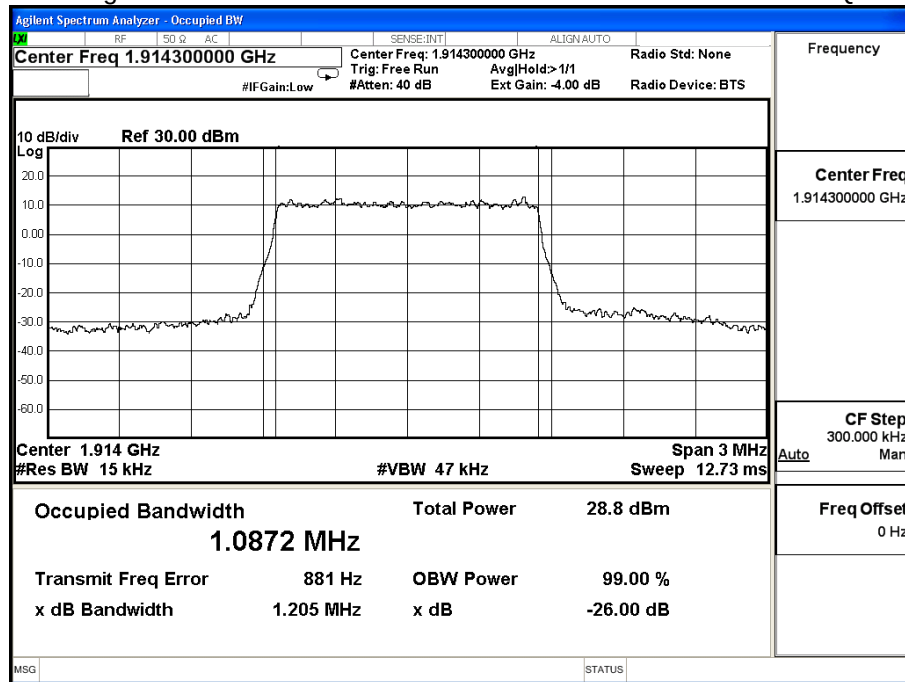
1.4 MHz QPSK





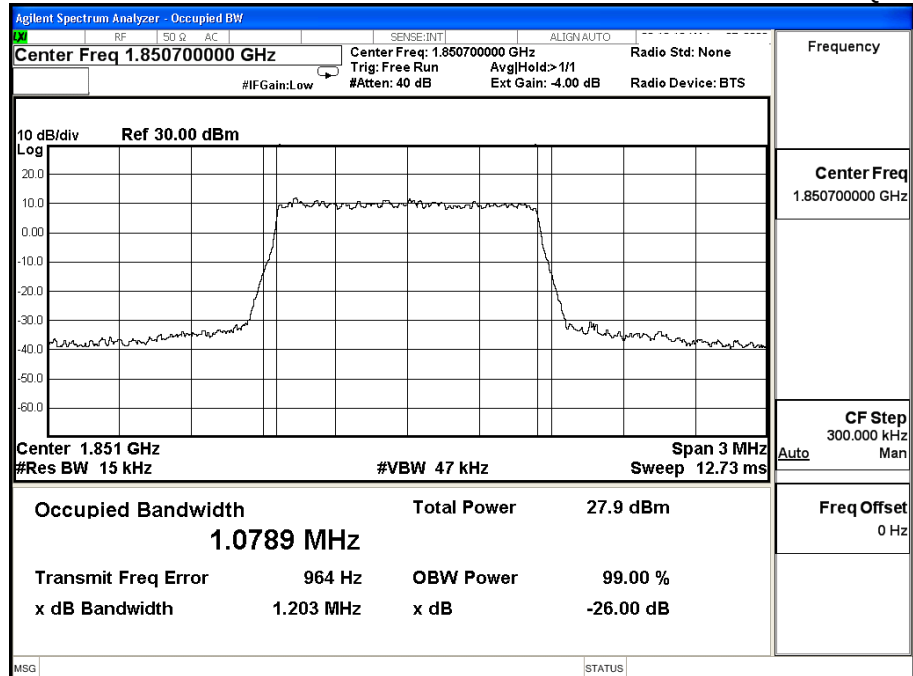
LTE Band 2 Highest channel:

1.4 MHz QPSK



LTE Band 2 Lowest channel

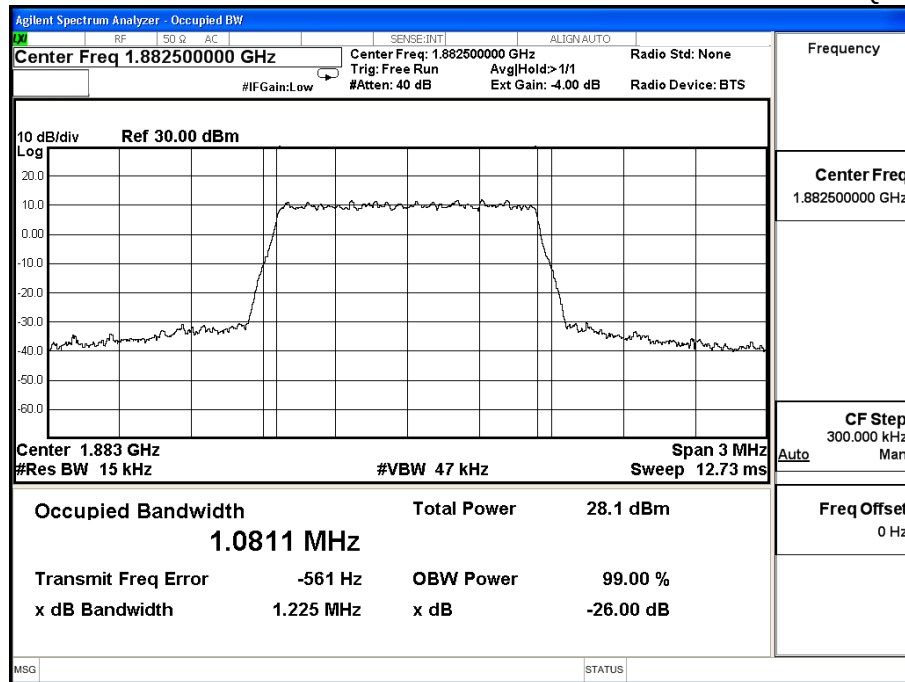
1.4 MHz 16-QAM





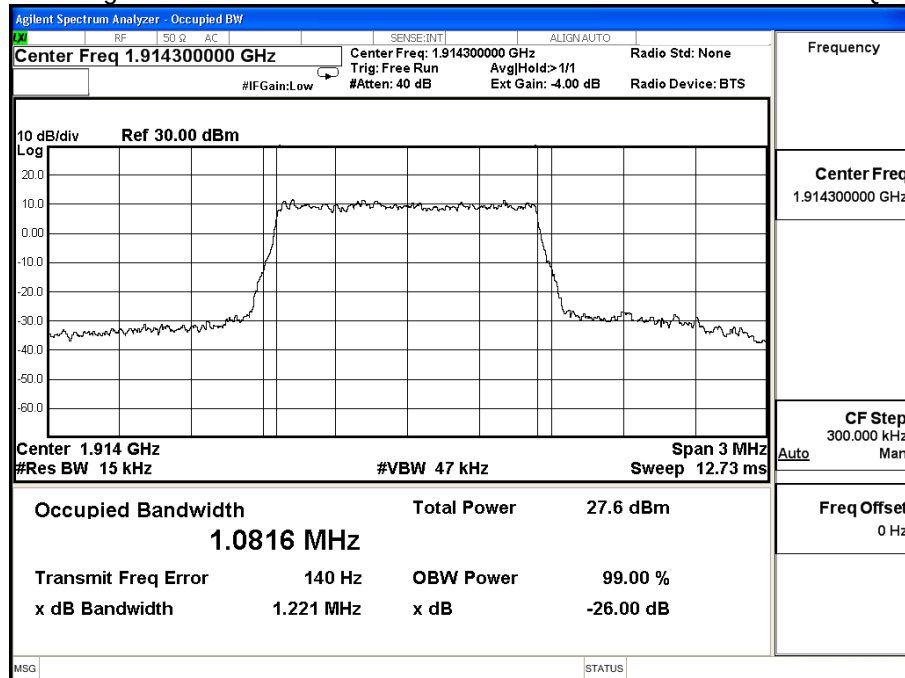
## LTE Band 2 Middle channel

1.4 MHz 16-QAM



## LTE Band 2 Highest channel:

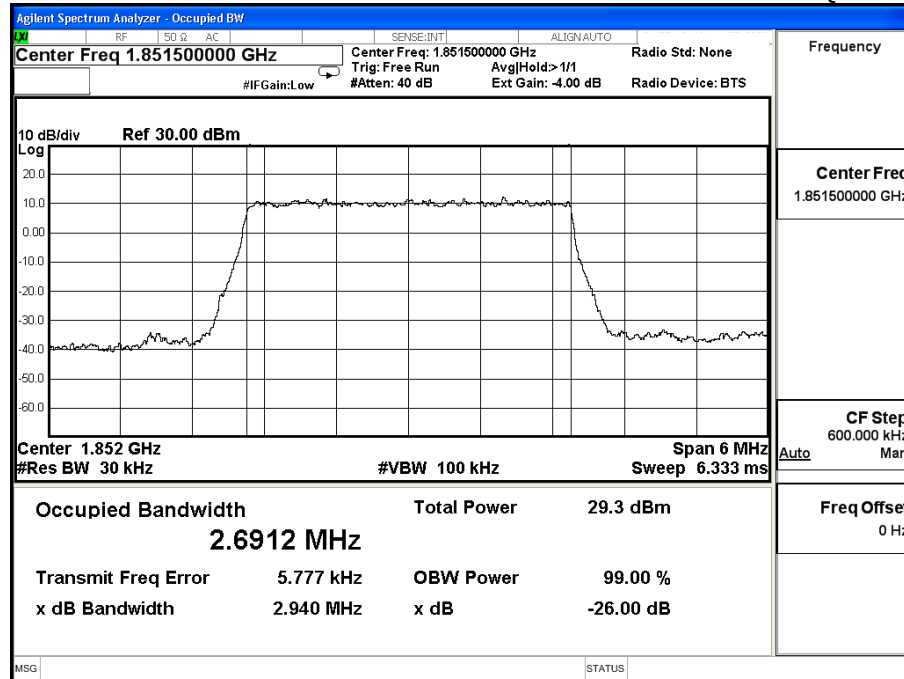
1.4 MHz 16-QAM





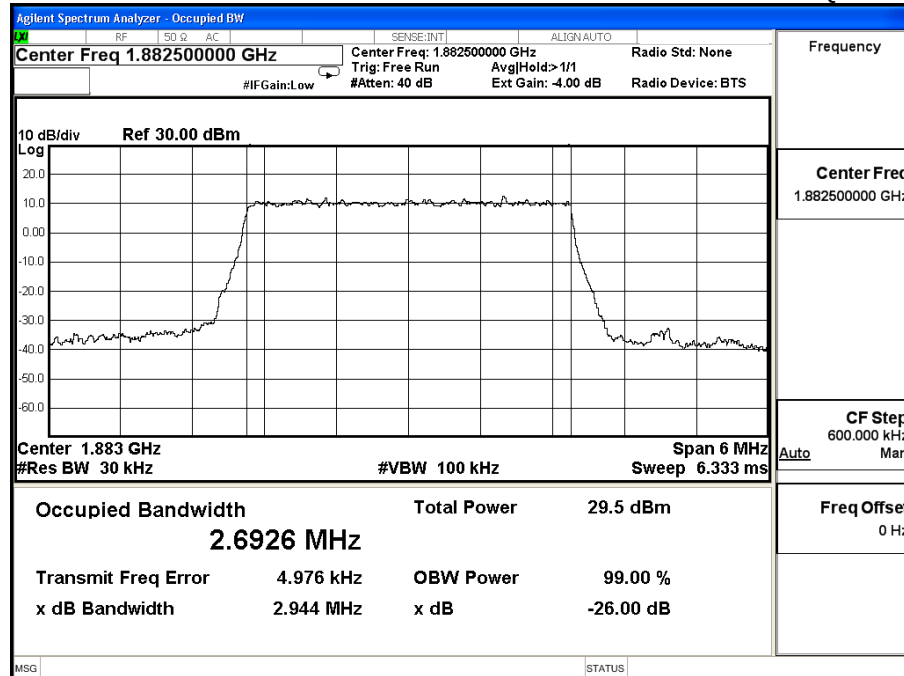
## LTE Band 2 Lowest channel

3 MHz QPSK



## LTE Band 2 Middle channel

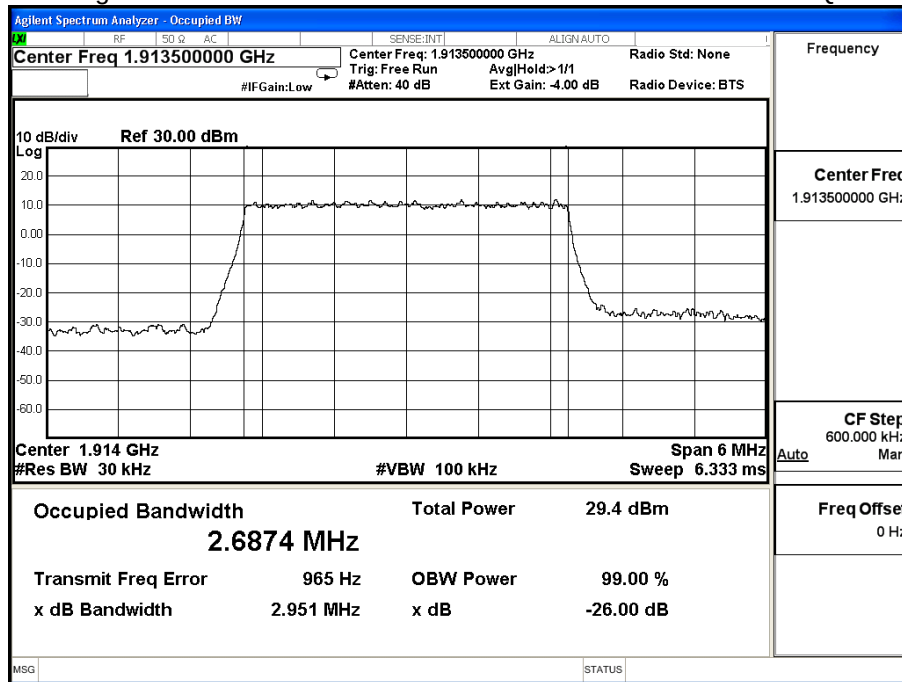
3 MHz QPSK





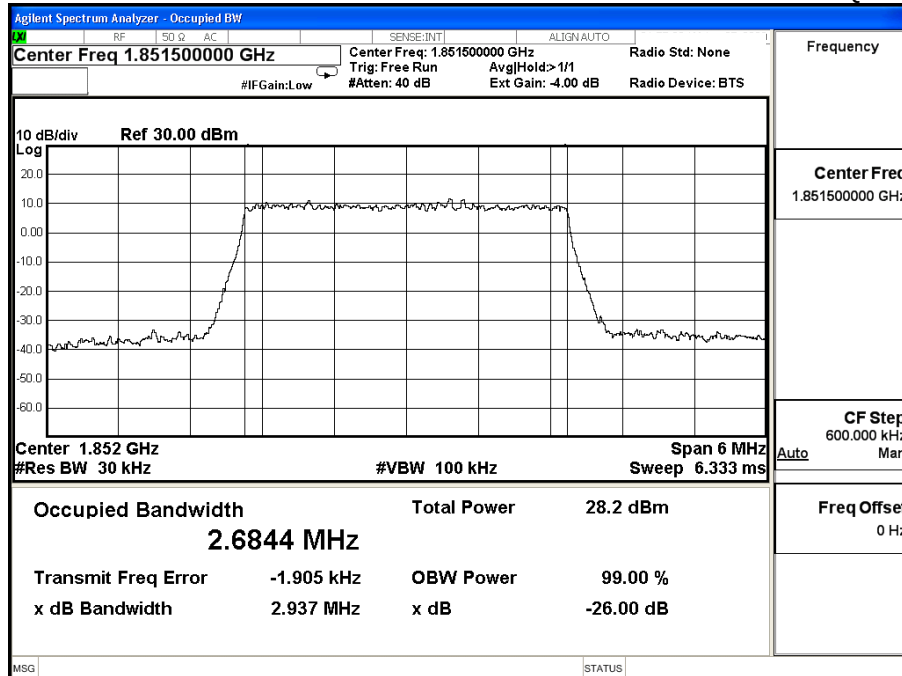
LTE Band 2 Highest channel:

3 MHz QPSK



LTE Band 2 Lowest channel

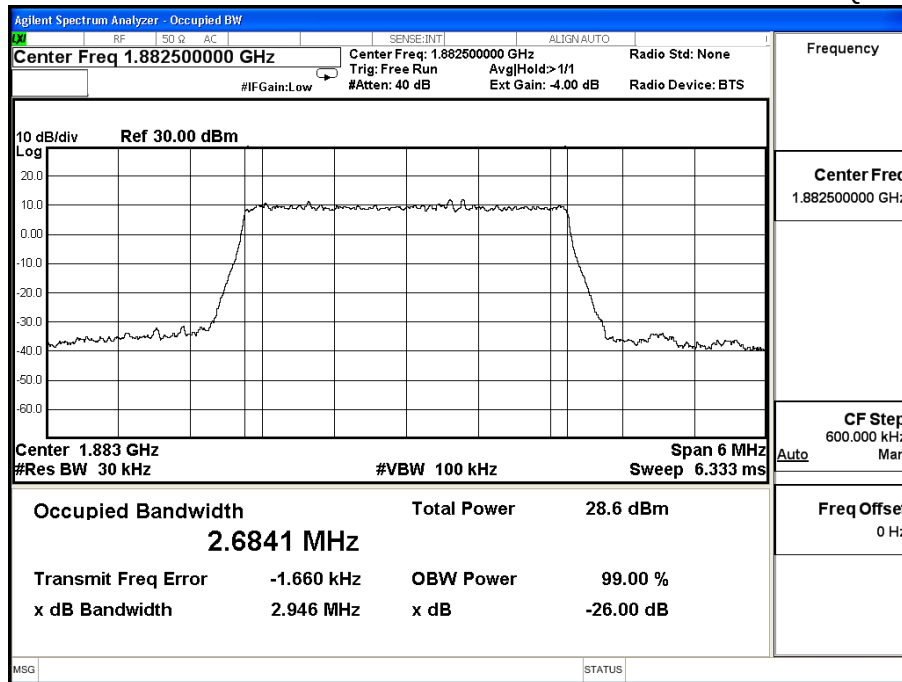
3 MHz 16-QAM





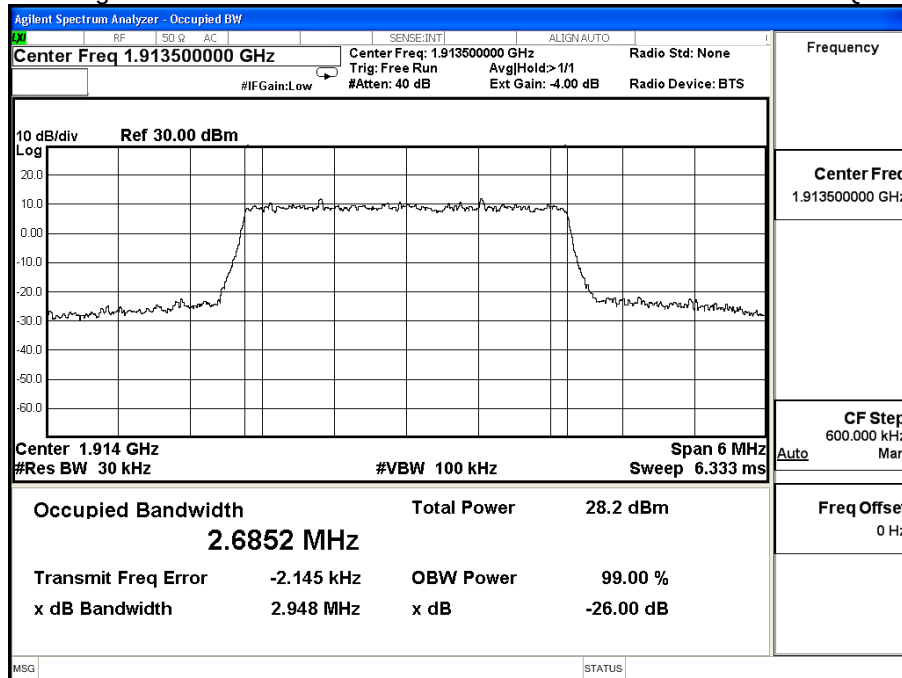
## LTE Band 2 Middle channel

3 MHz 16-QAM



## LTE Band 2 Highest channel:

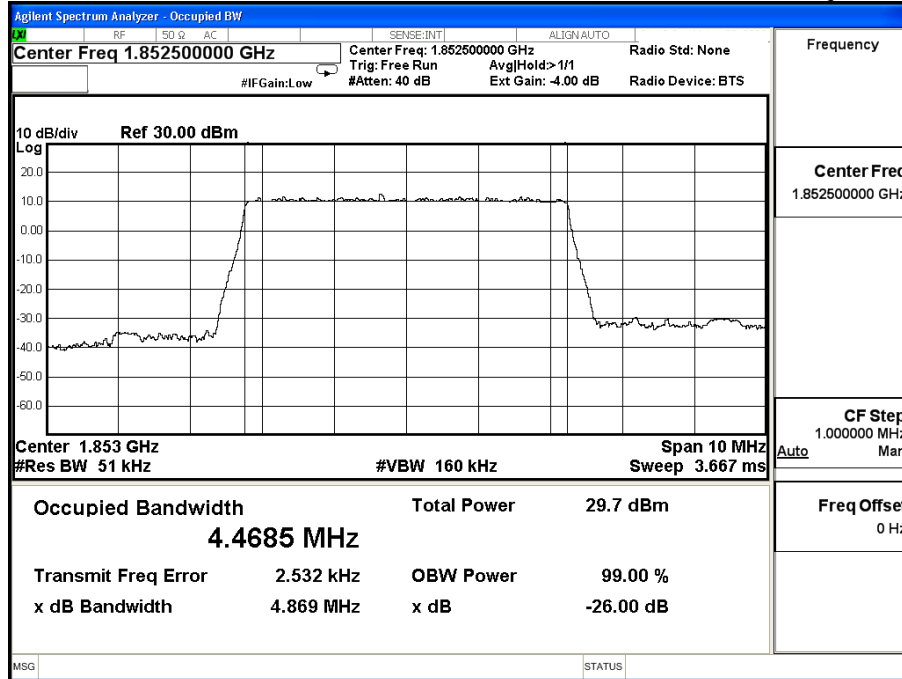
3 MHz 16-QAM





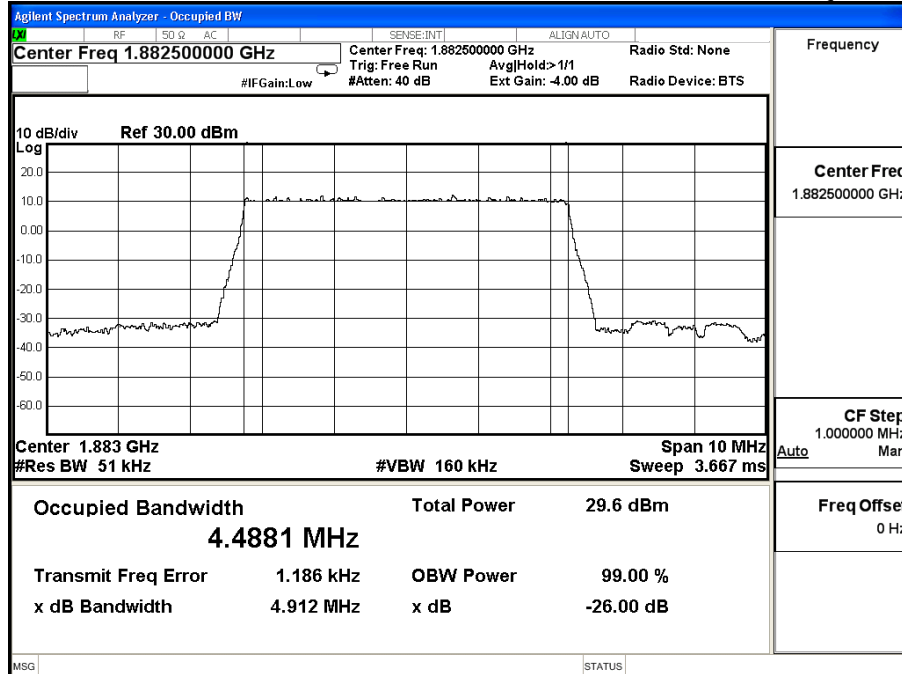
## LTE Band 2 Lowest channel

5 MHz QPSK



## LTE Band 2 Middle channel

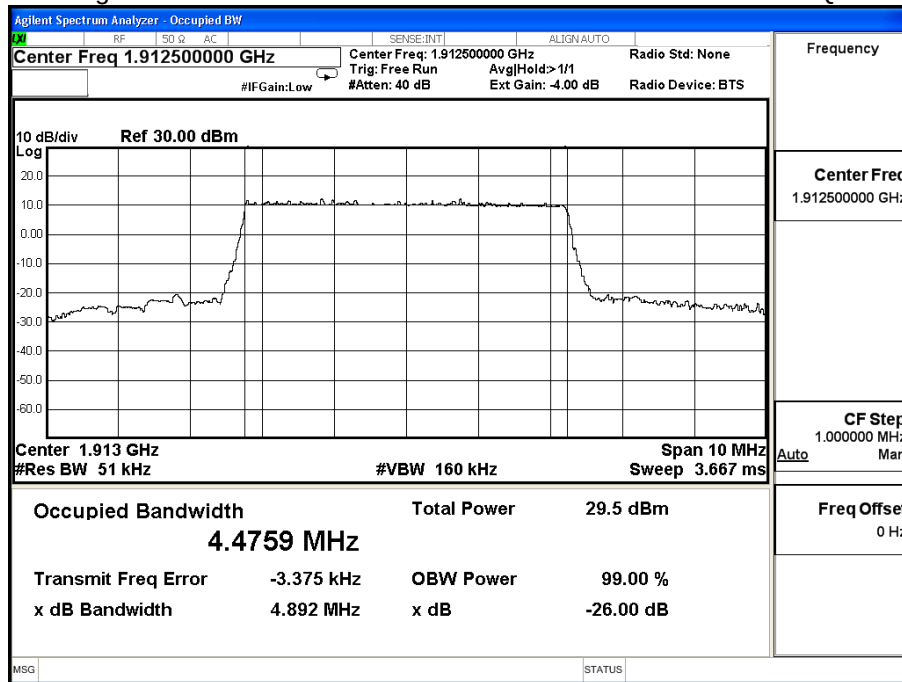
5 MHz QPSK





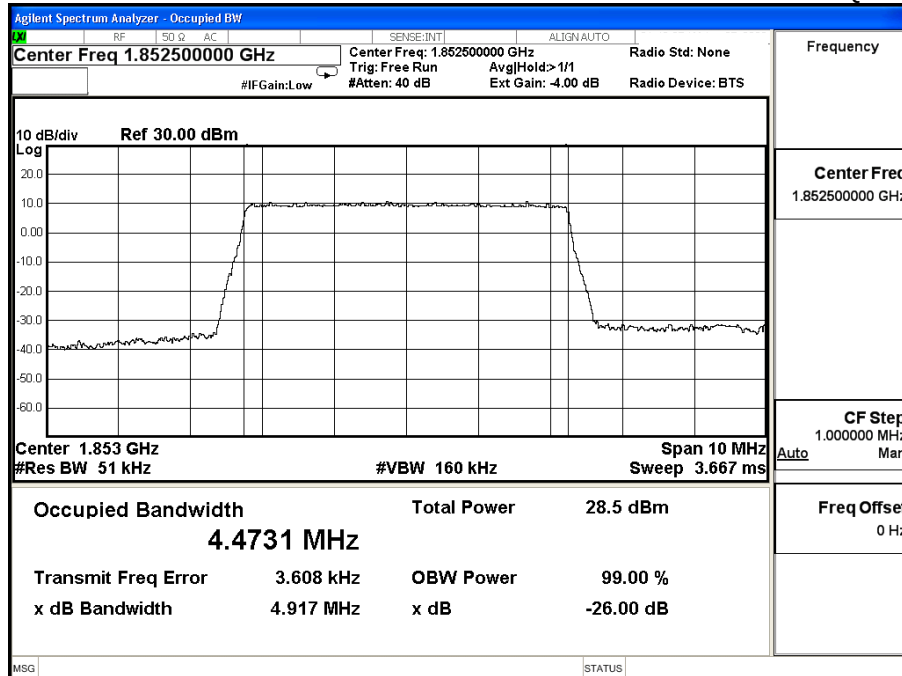
LTE Band 2 Highest channel:

5 MHz QPSK



LTE Band 2 Lowest channel

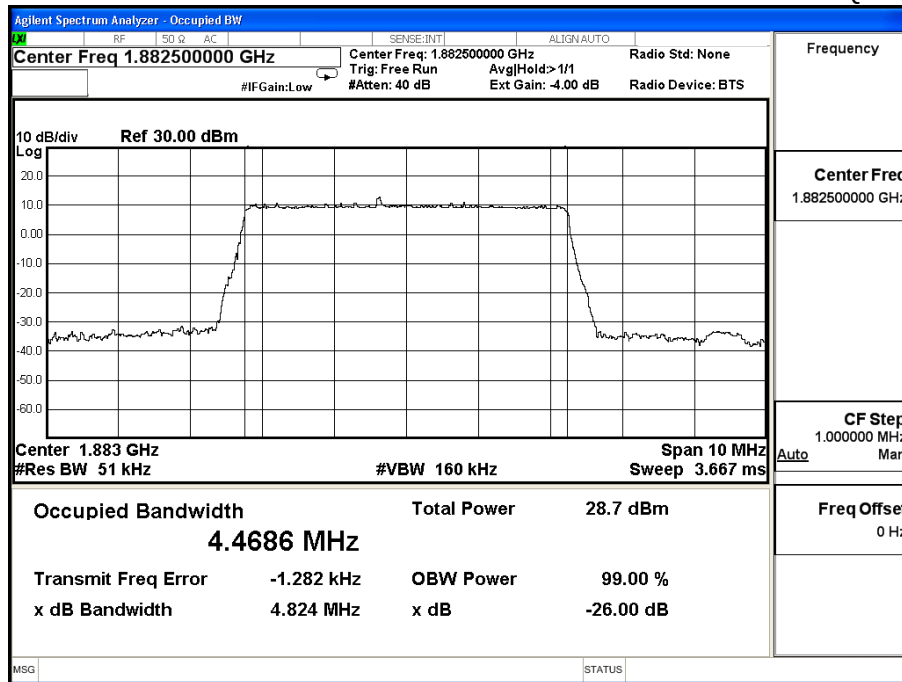
5 MHz 16-QAM





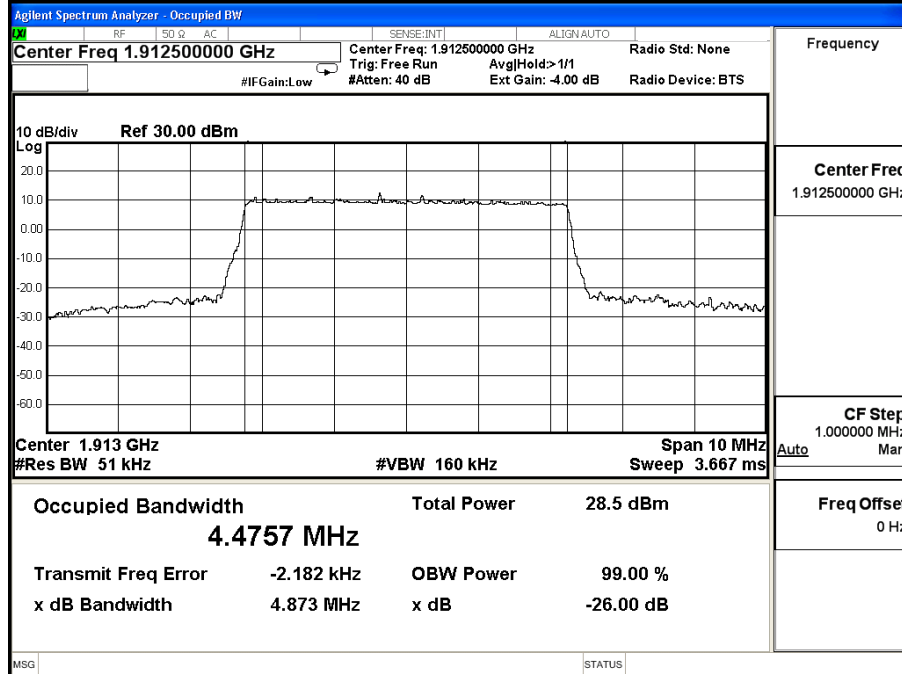
## LTE Band 2 Middle channel

5 MHz 16-QAM



## LTE Band 2 Highest channel:

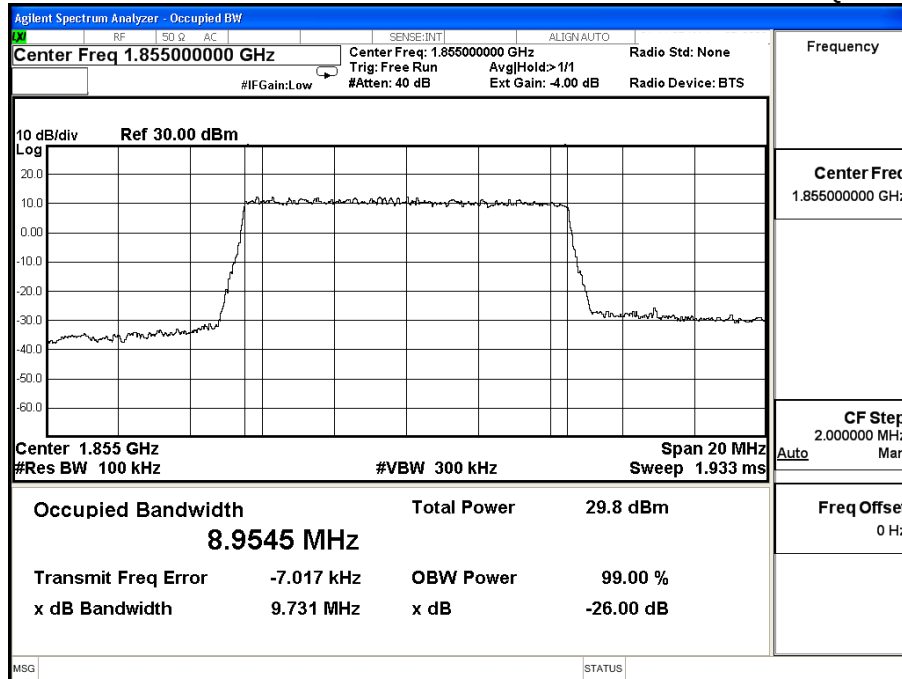
5 MHz 16-QAM





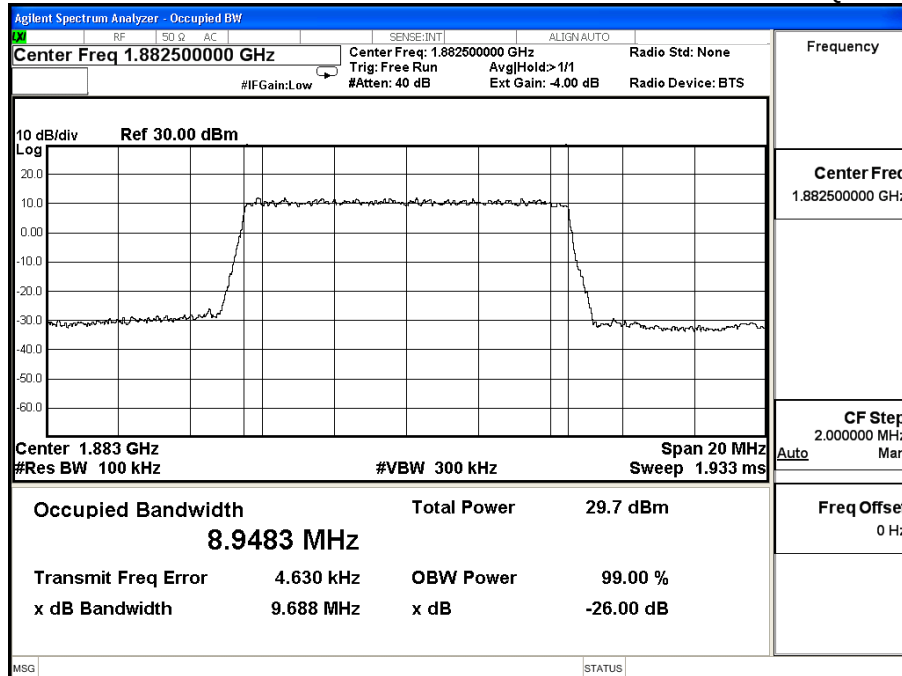
## LTE Band 2 Lowest channel

10 MHz QPSK



## LTE Band 2 Middle channel

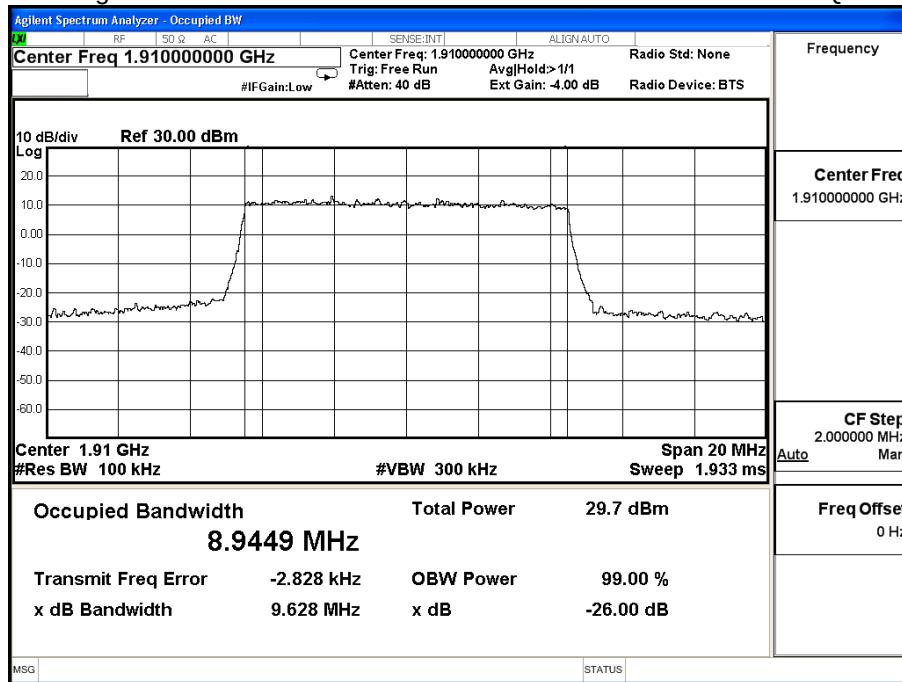
10 MHz QPSK





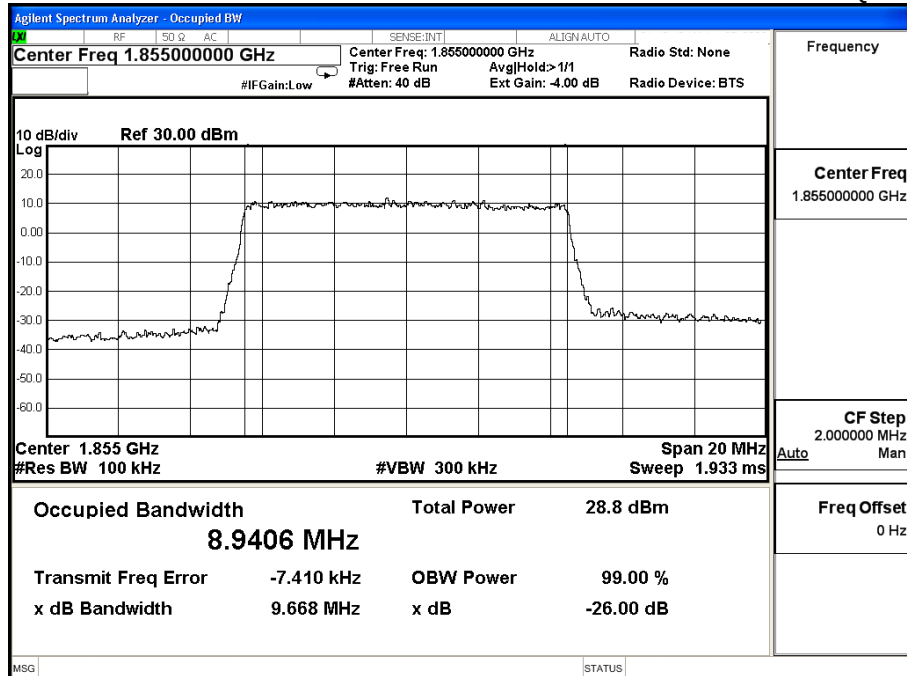
LTE Band 2 Highest channel:

10 MHz QPSK



LTE Band 2 Lowest channel

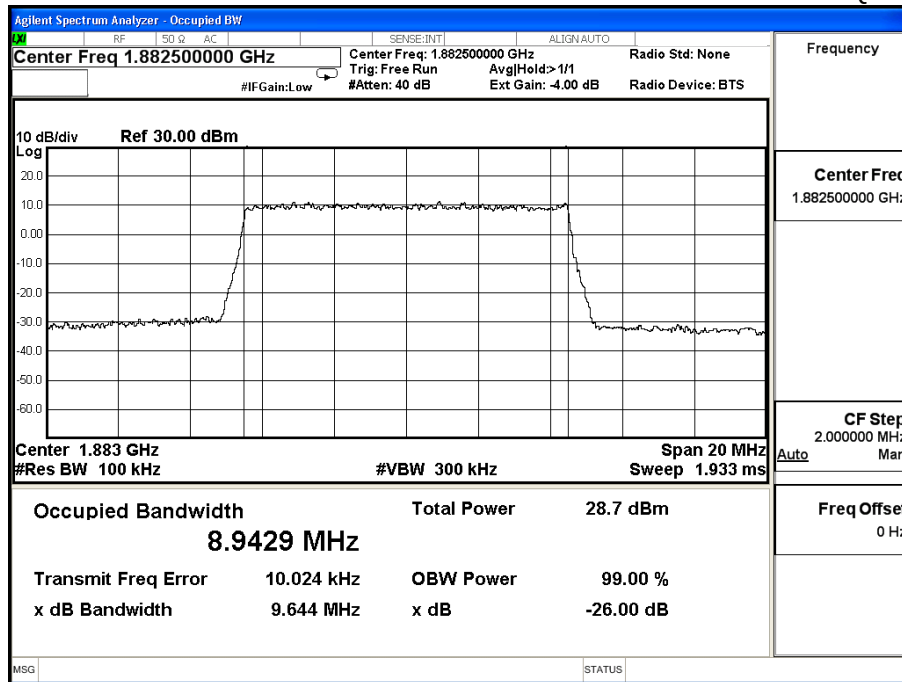
10 MHz 16-QAM





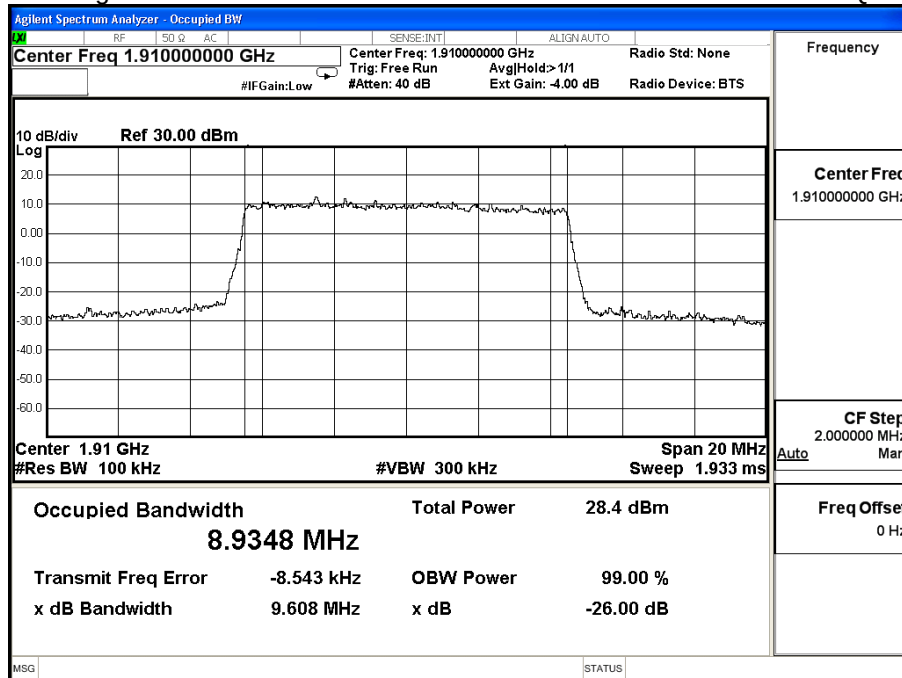
## LTE Band 2 Middle channel

10 MHz 16-QAM



## LTE Band 2 Highest channel:

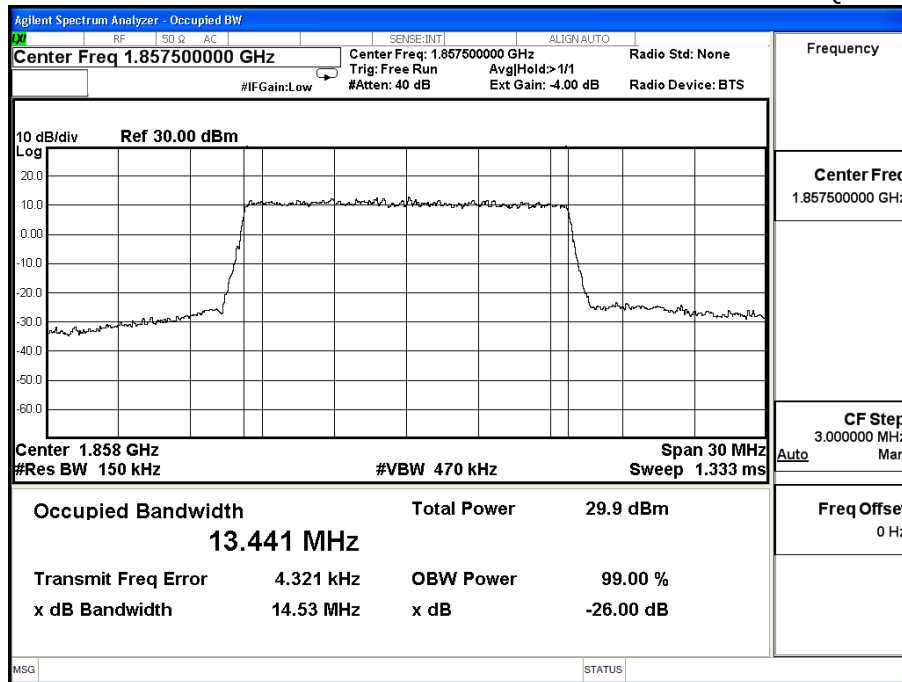
10 MHz 16-QAM





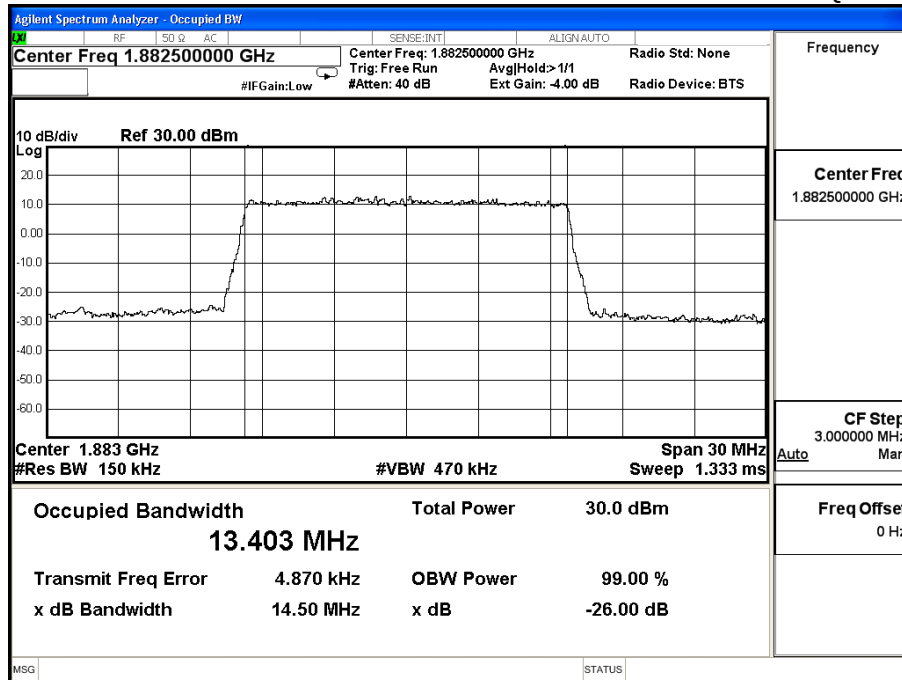
## LTE Band 2 Lowest channel

15 MHz QPSK



## LTE Band 2 Middle channel

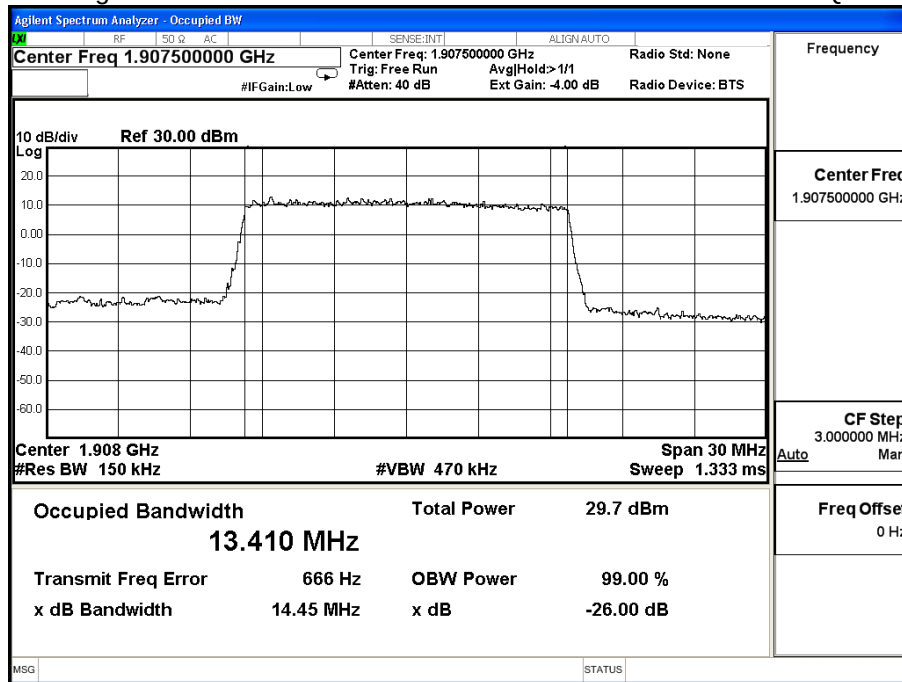
15 MHz QPSK





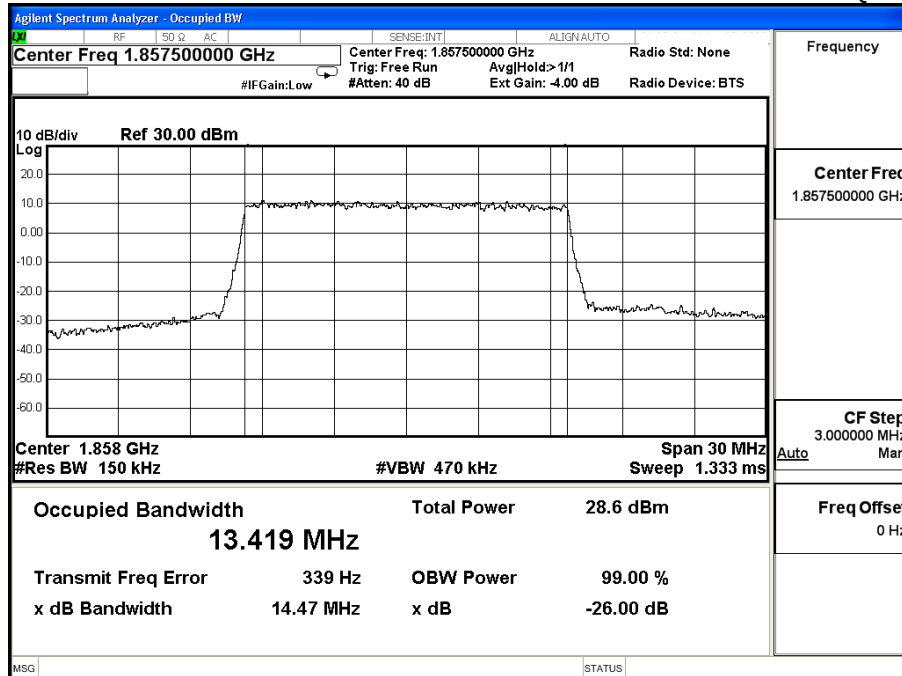
LTE Band 2 Highest channel:

15 MHz QPSK



LTE Band 2 Lowest channel

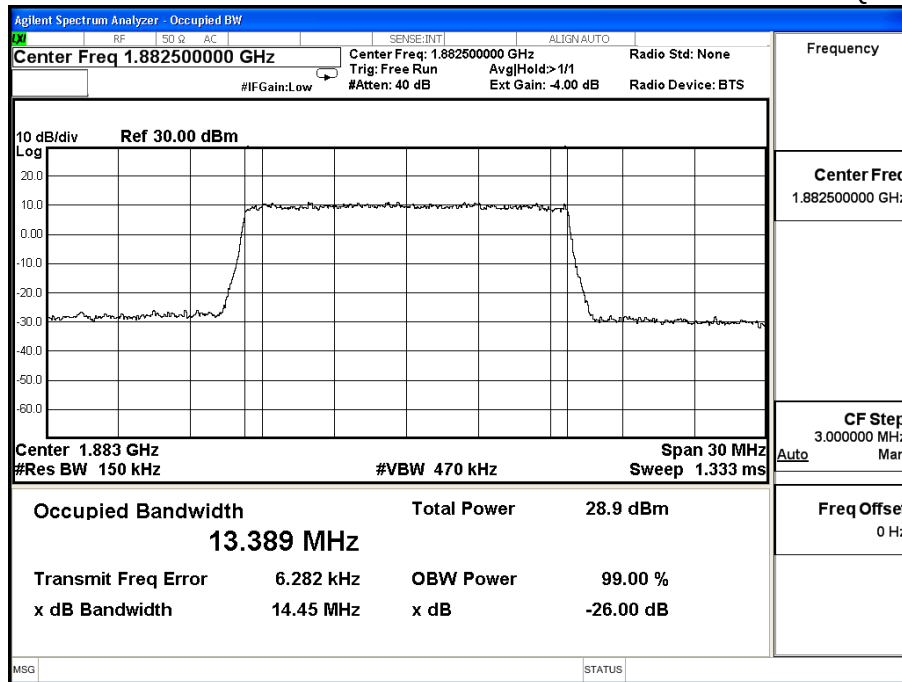
15 MHz 16-QAM





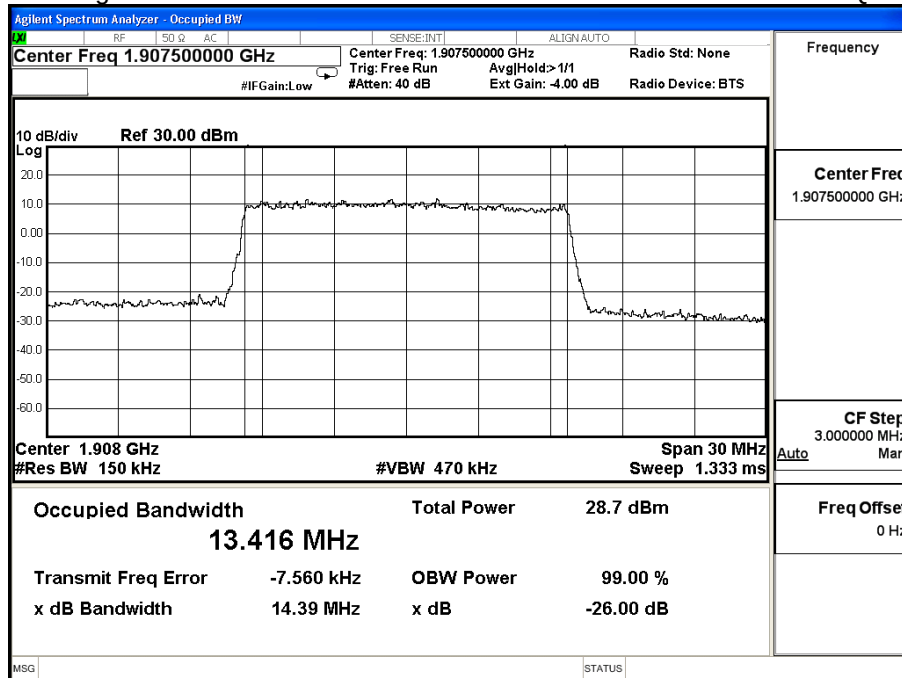
## LTE Band 2 Middle channel

15 MHz 16-QAM



## LTE Band 2 Highest channel:

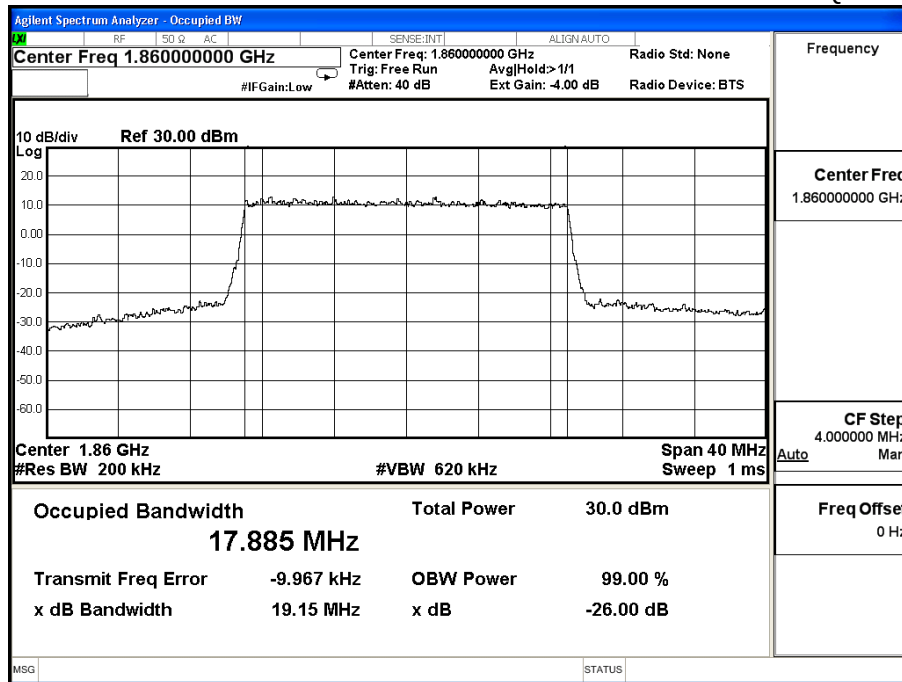
15 MHz 16-QAM





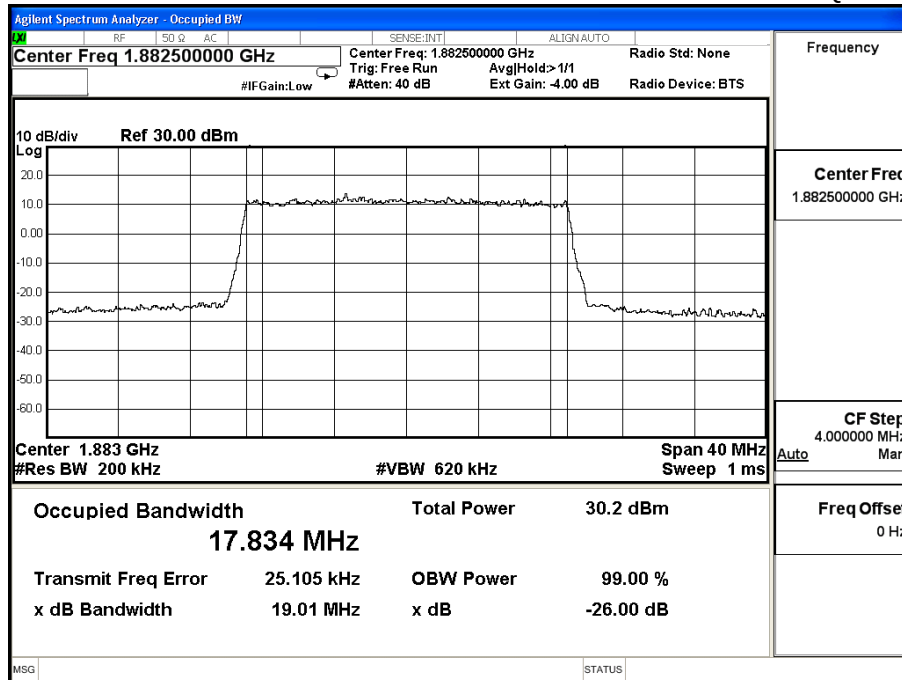
## LTE Band 2 Lowest channel

20 MHz QPSK



## LTE Band 2 Middle channel

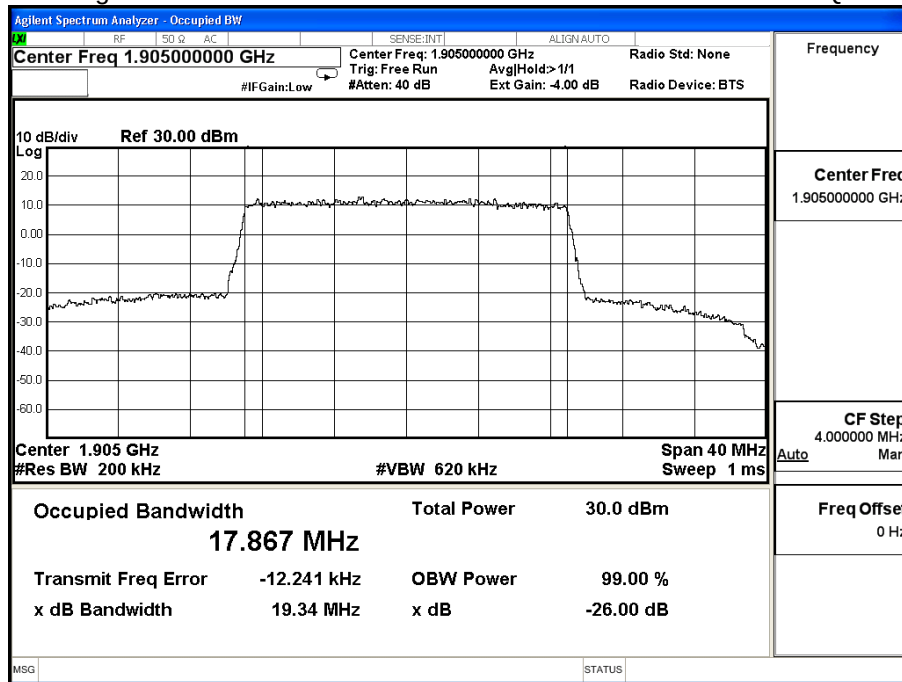
20 MHz QPSK





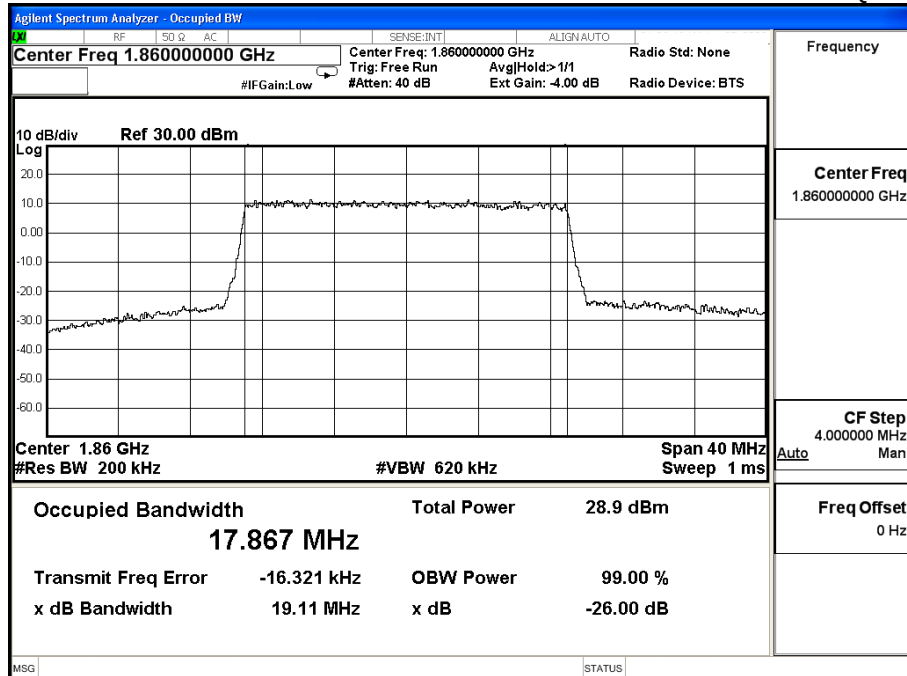
LTE Band 2 Highest channel:

20 MHz QPSK



LTE Band 2 Lowest channel

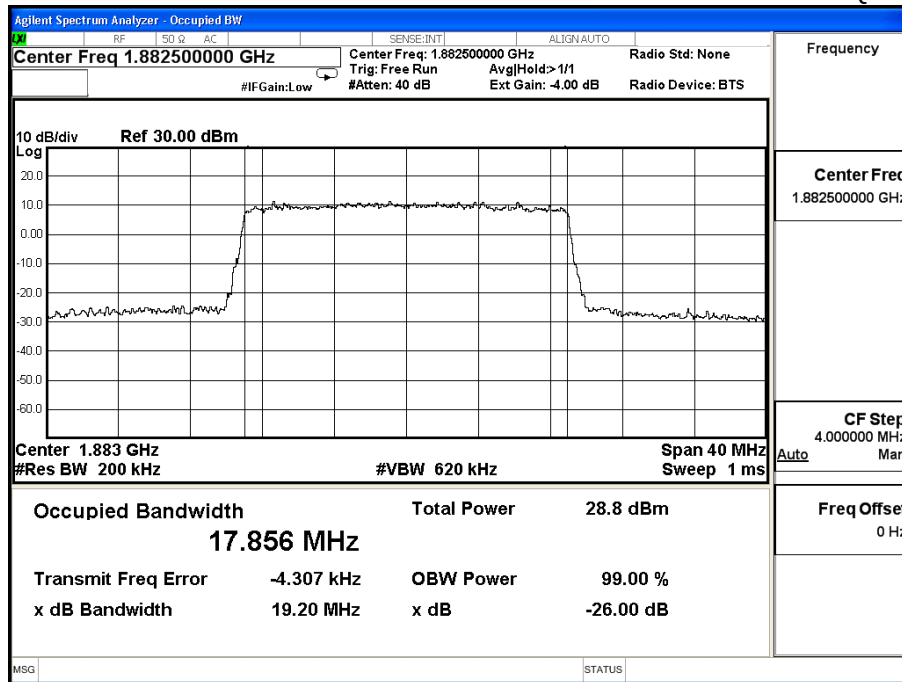
20 MHz 16-QAM





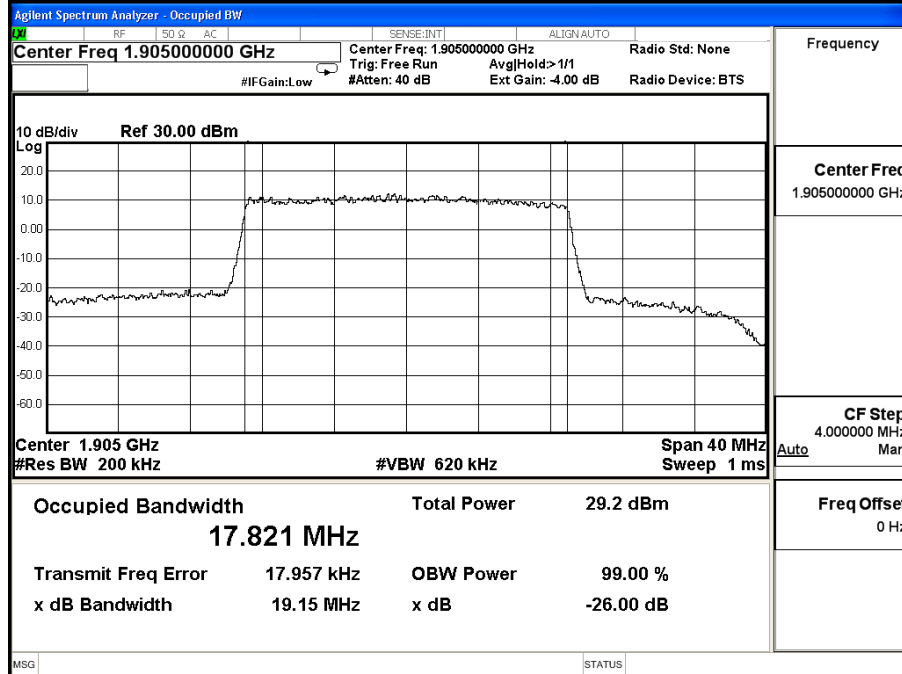
## LTE Band 2 Middle channel

20 MHz 16-QAM



## LTE Band 2 Highest channel:

20 MHz 16-QAM





## 1.2. Conducted Spurious Emissions

### 1.2.1. Test Result

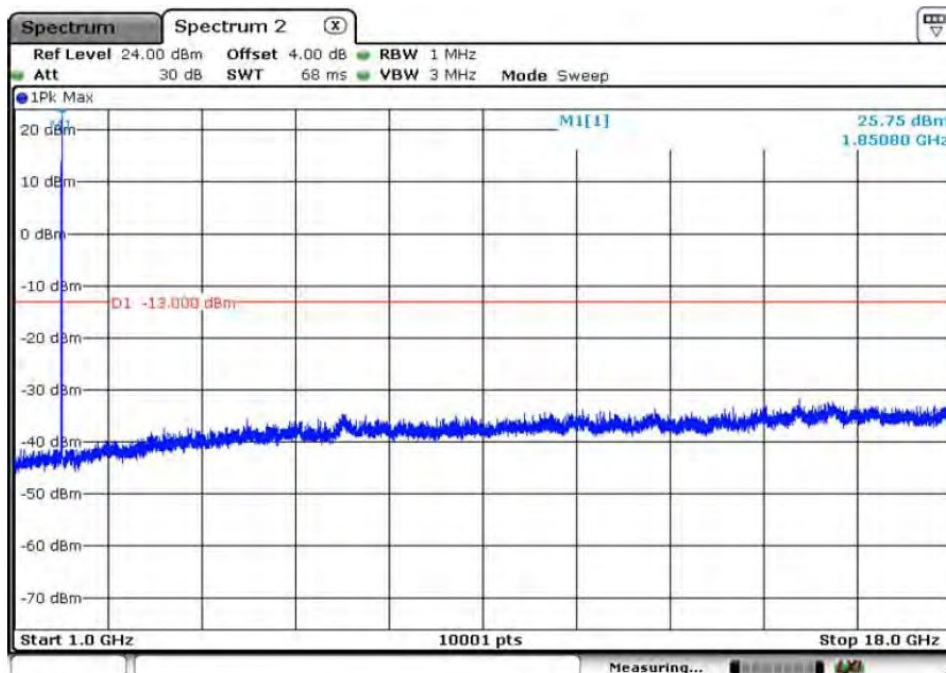
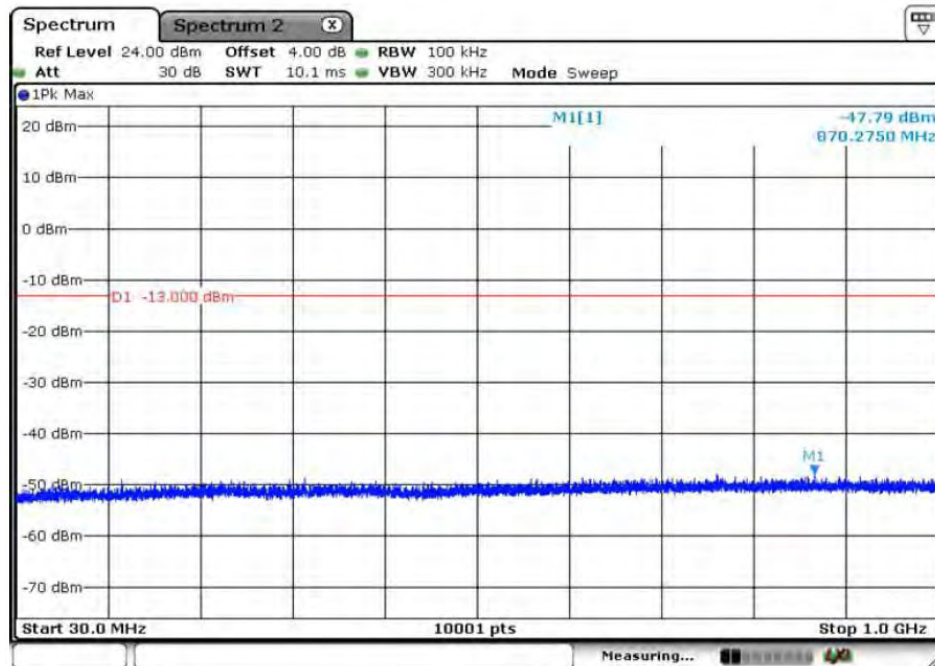
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

For LTE mode, the plot only show the QPSK, RB100's data.

Pass, the table and plot please see annex.

LTE Band 2 Lowest channel

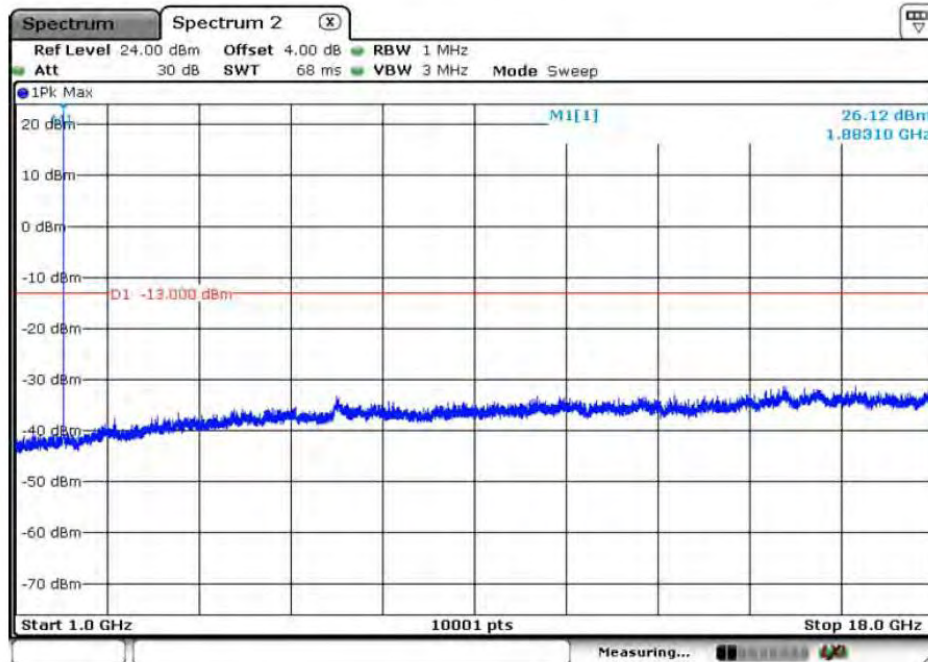
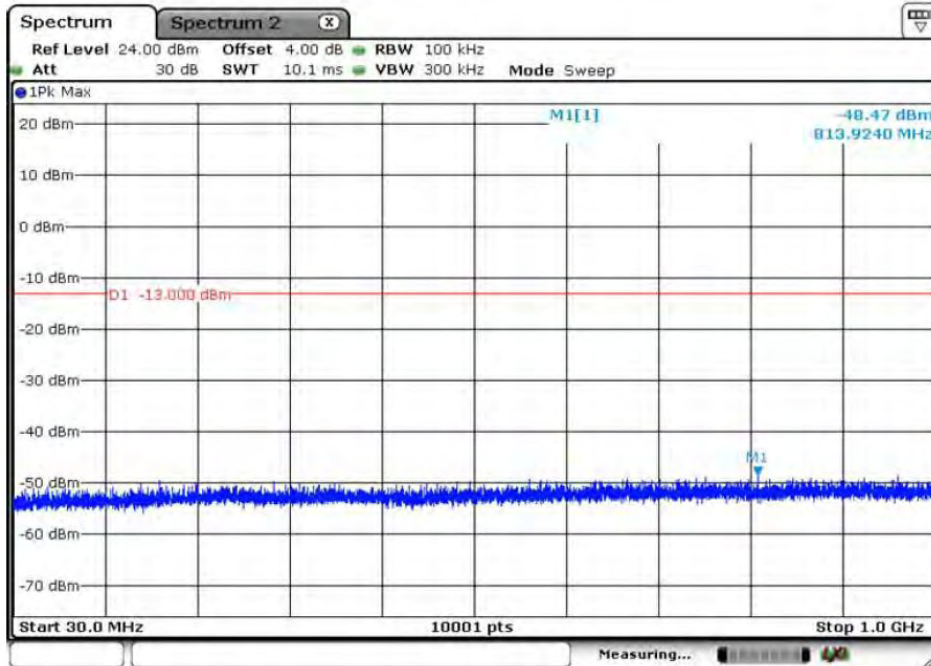
1.4MHz





LTE Band 2 middle channel

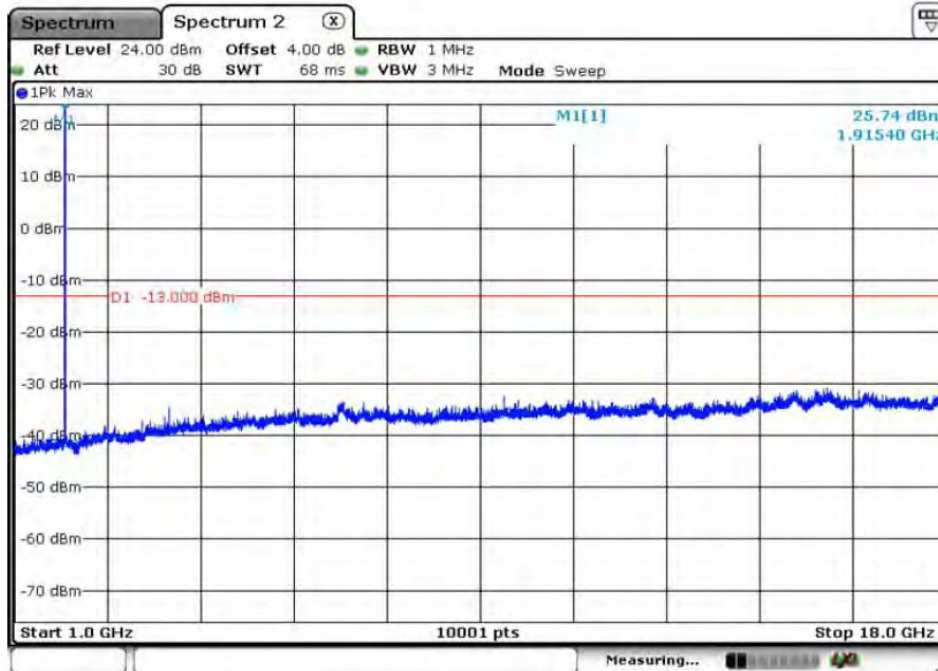
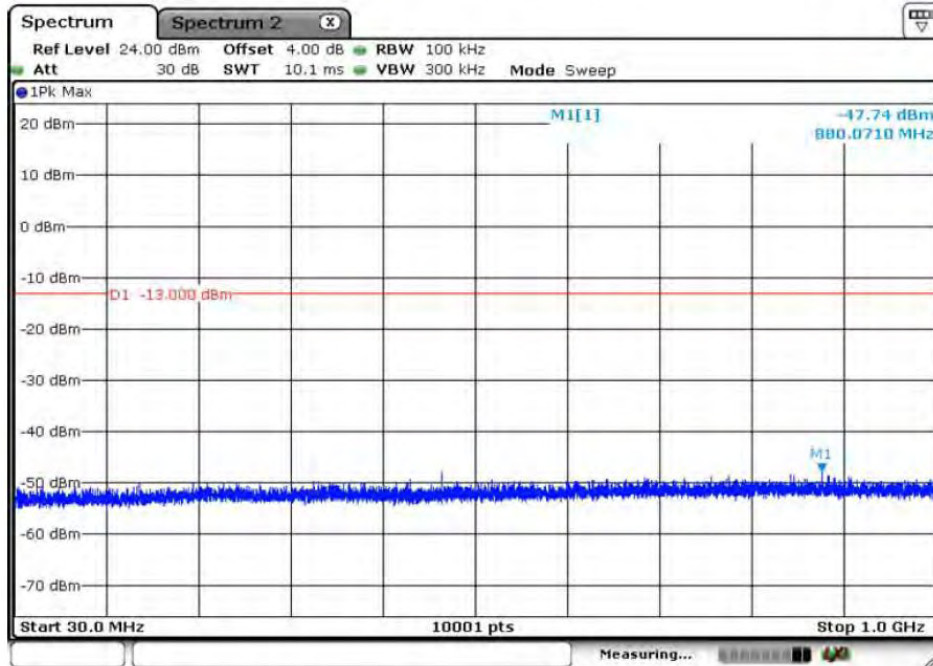
1.4MHz





LTE Band 2 high channel

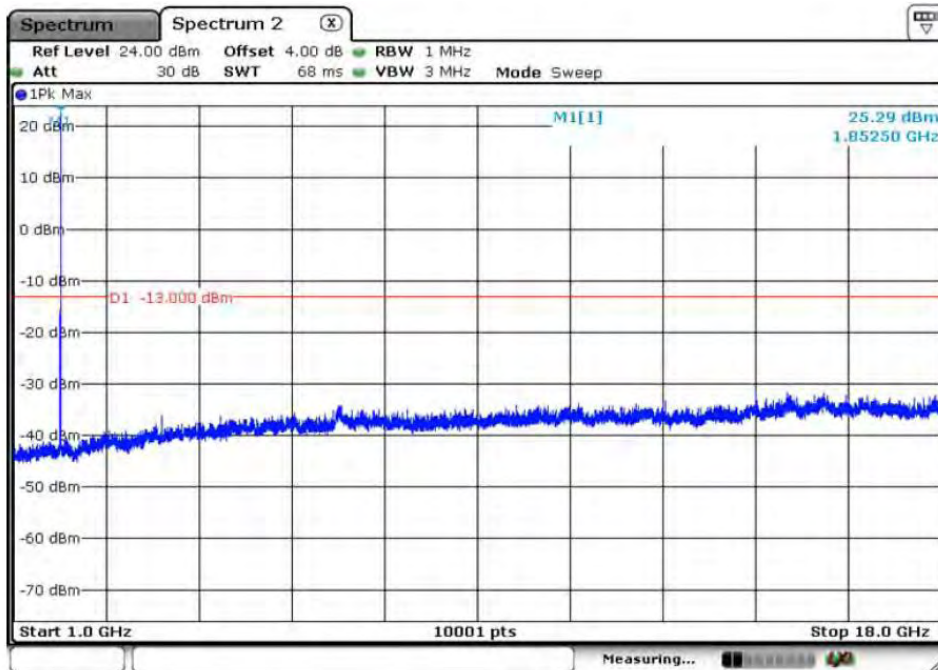
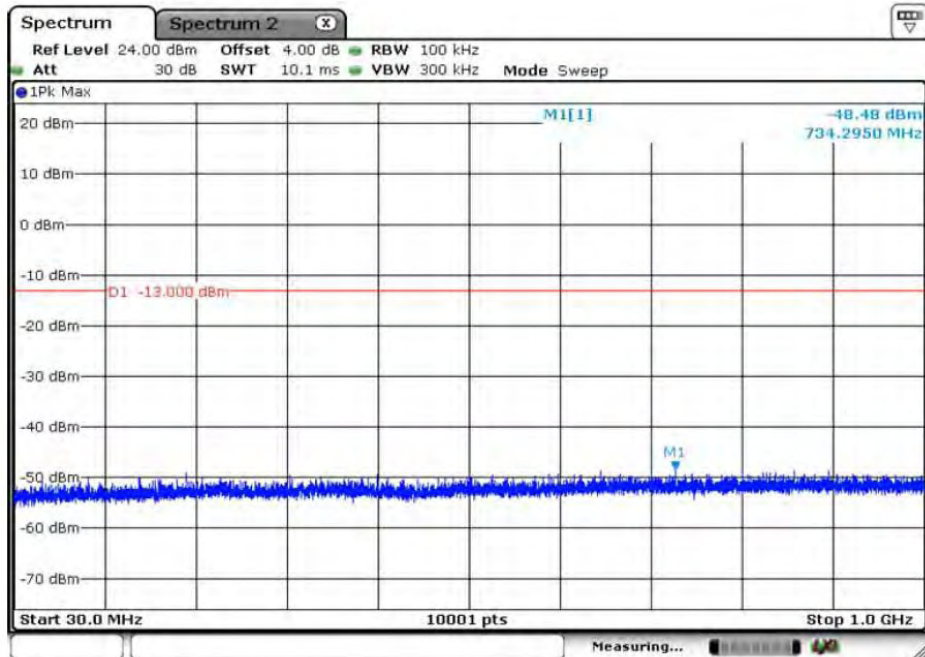
1.4MHz





LTE Band 2 Lowest channel

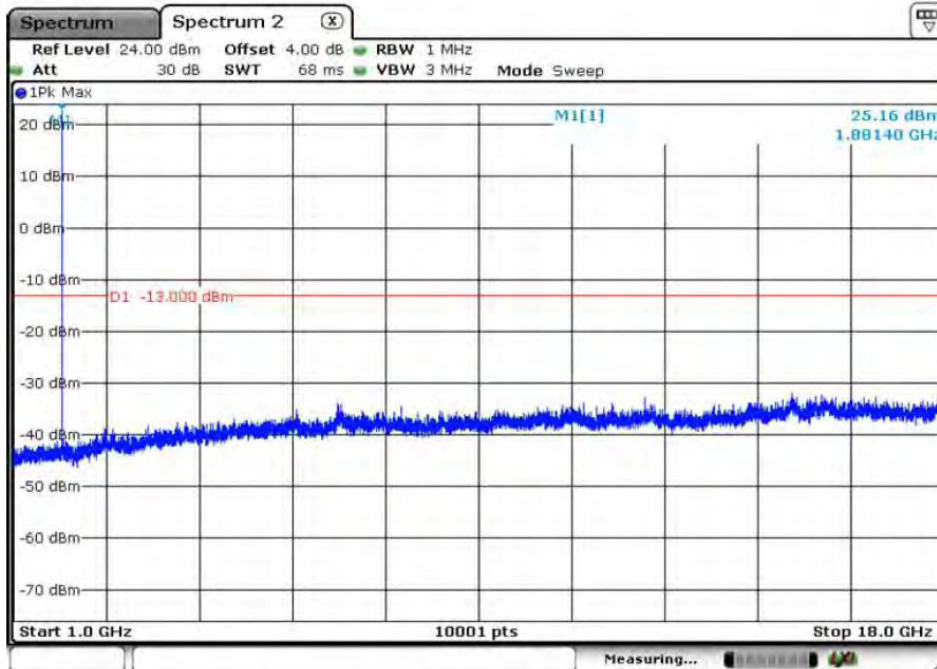
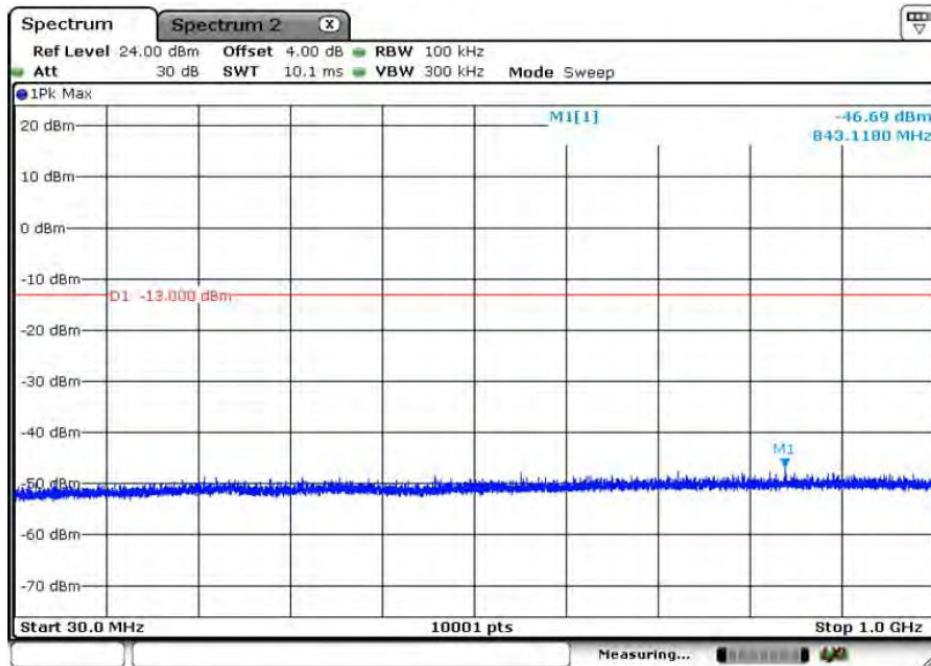
3MHz





LTE Band 2 middle channel

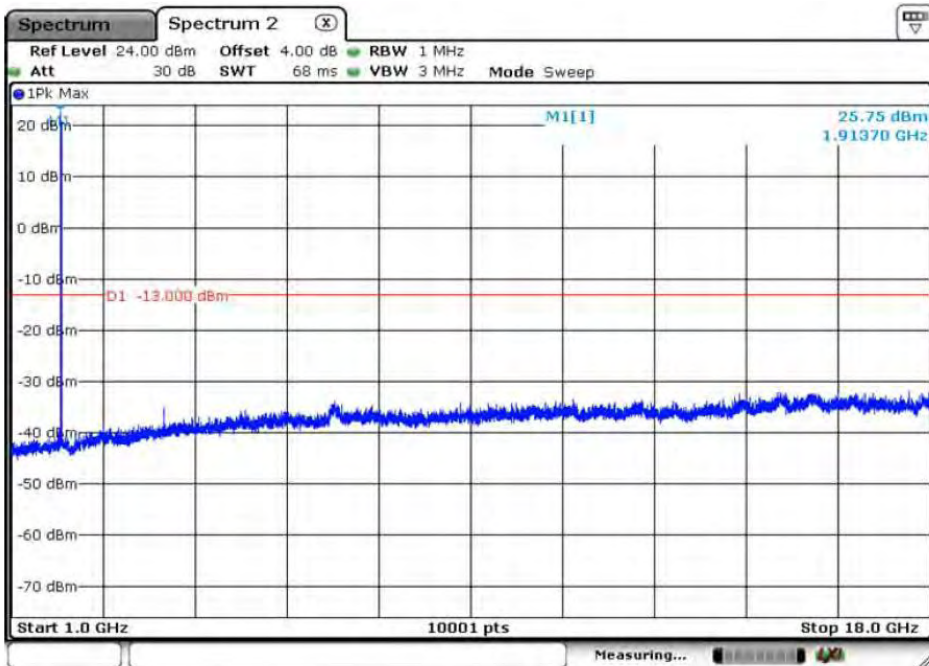
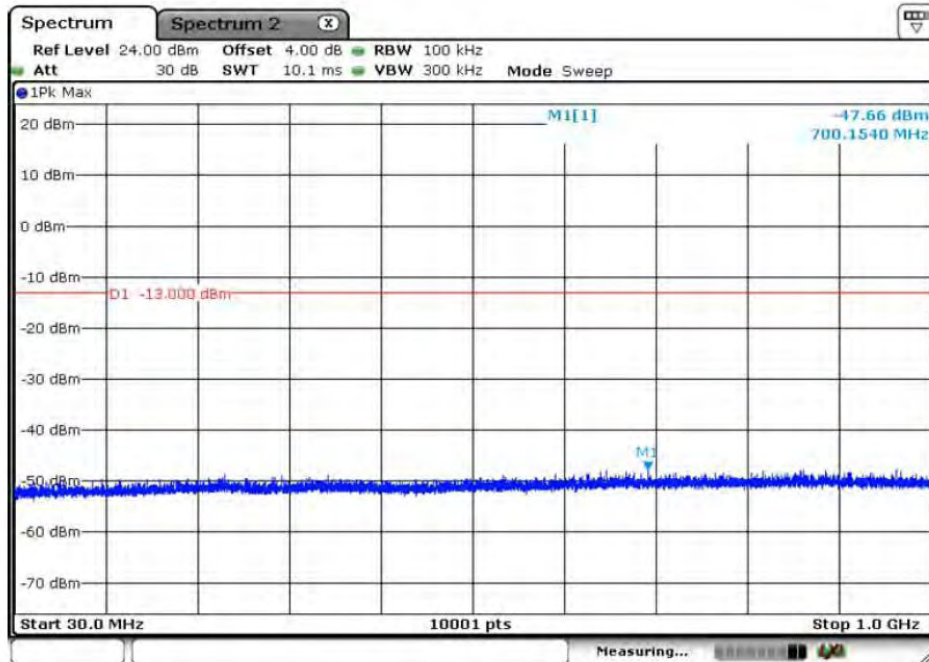
3MHz





LTE Band 2 high channel

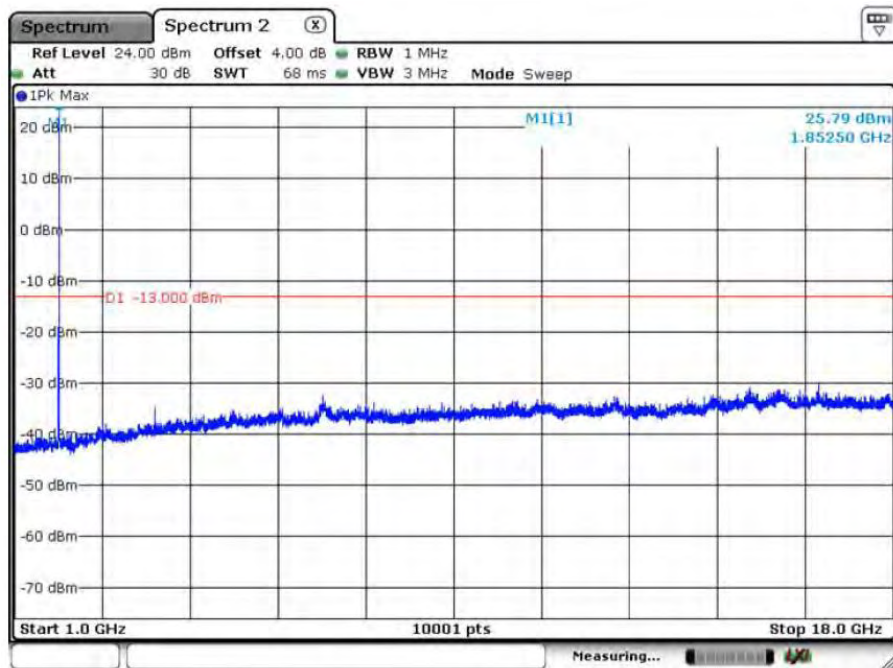
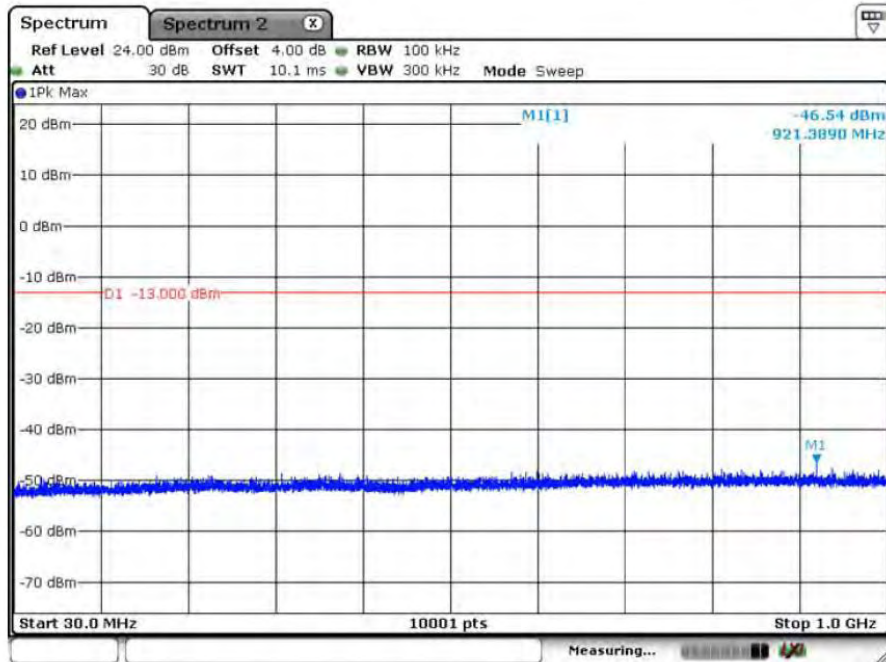
3MHz





LTE Band 2 Lowest channel

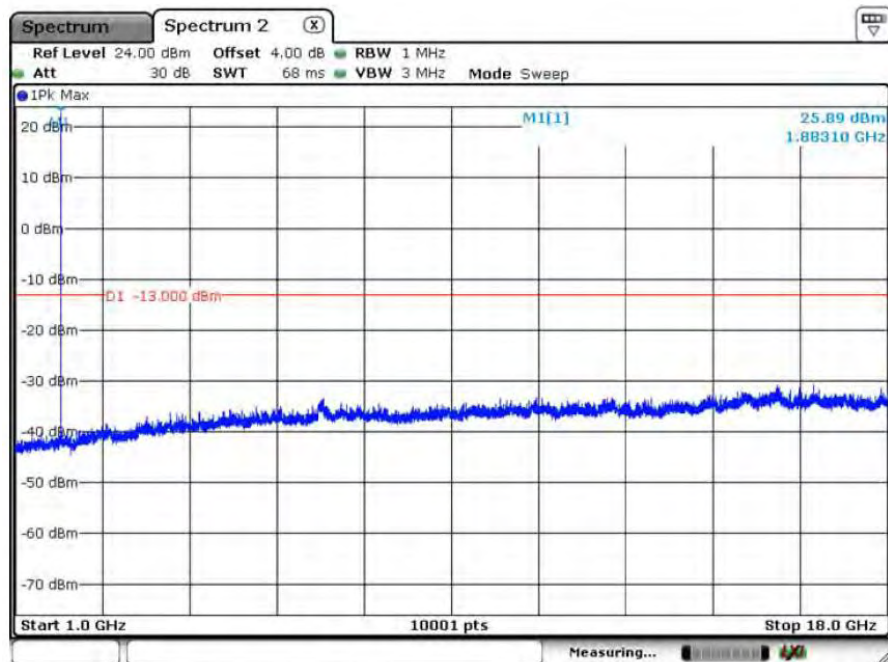
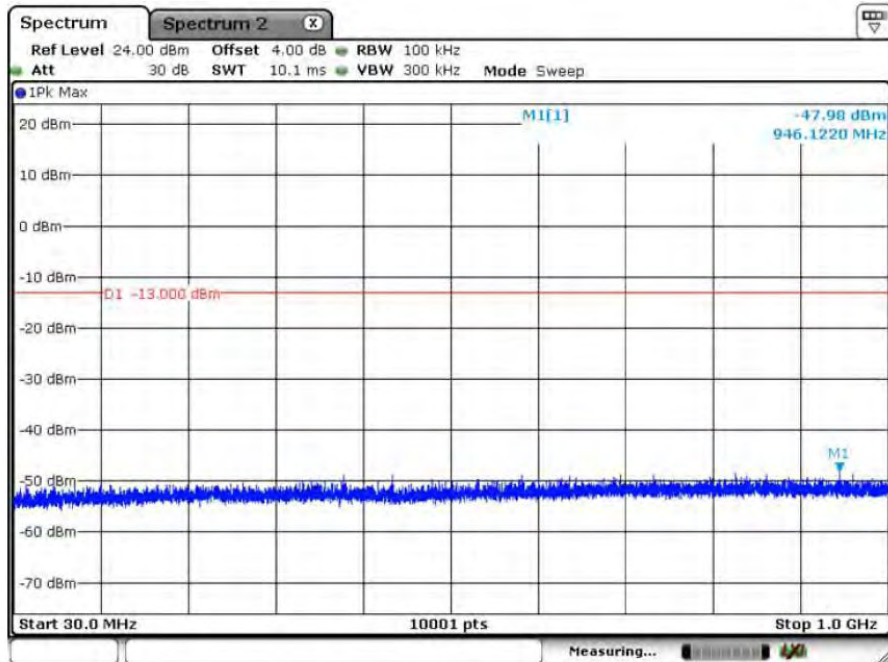
5MHz





LTE Band 2 middle channel

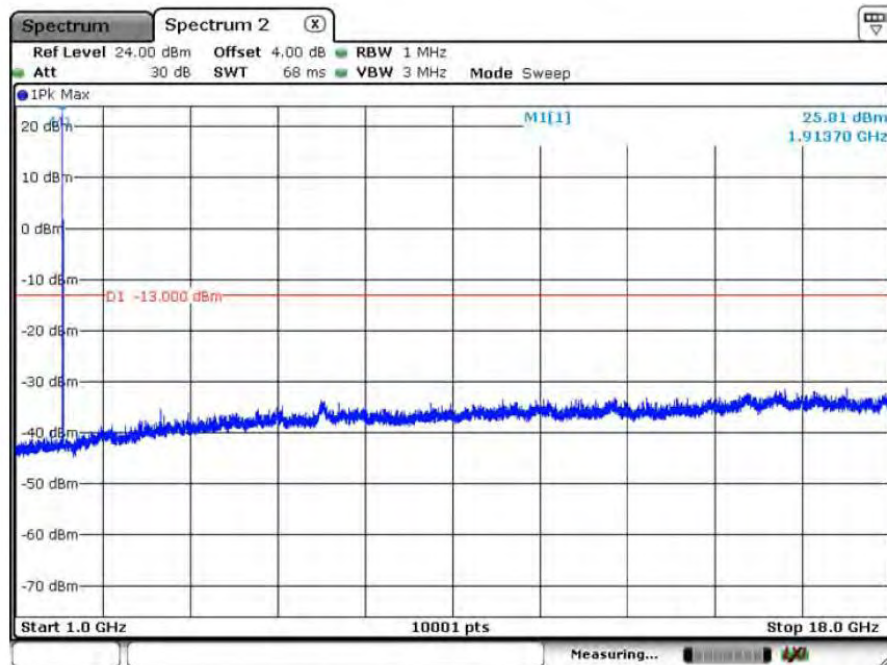
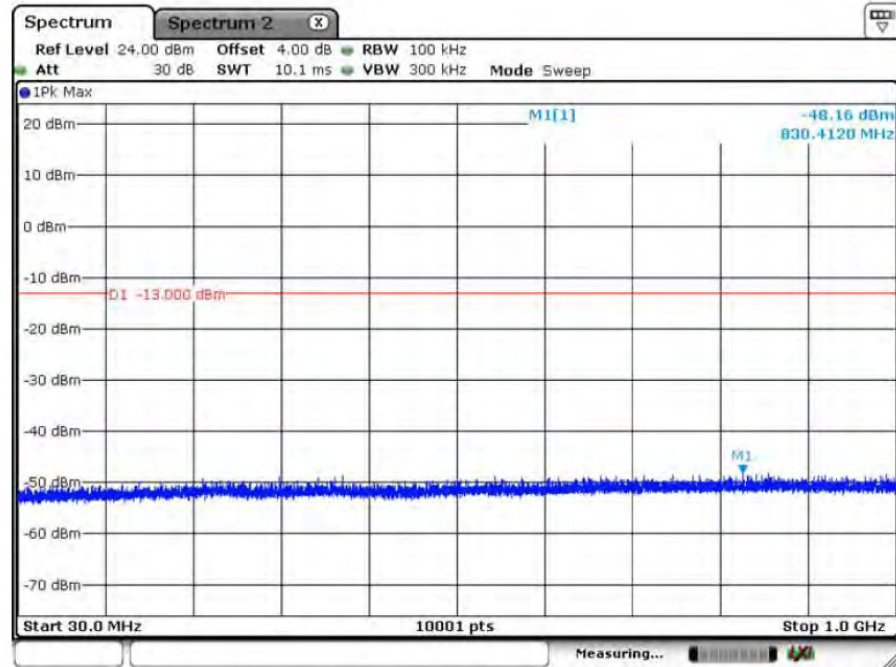
5MHz





LTE Band 2 high channel

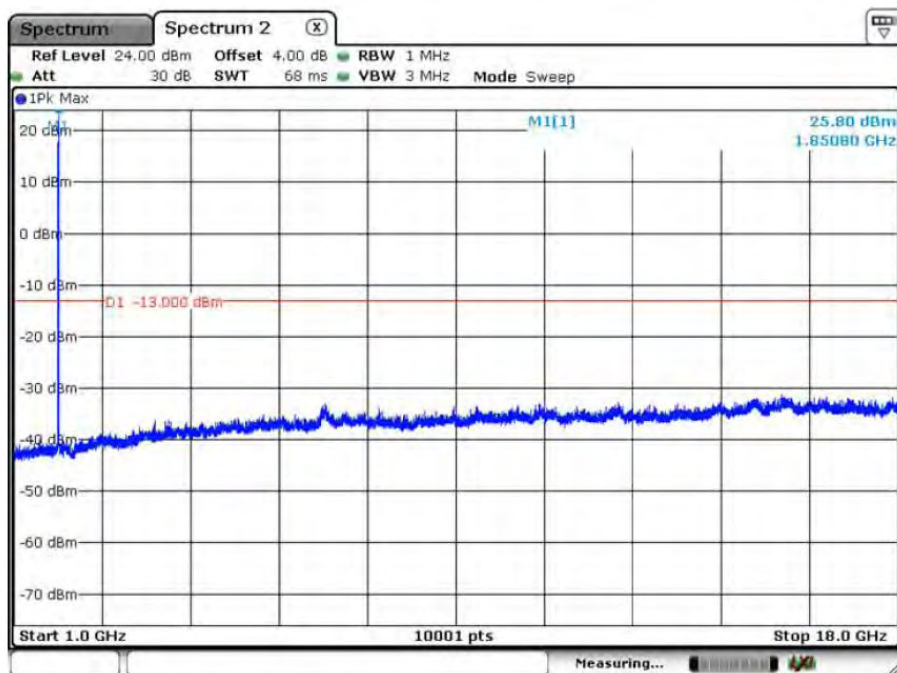
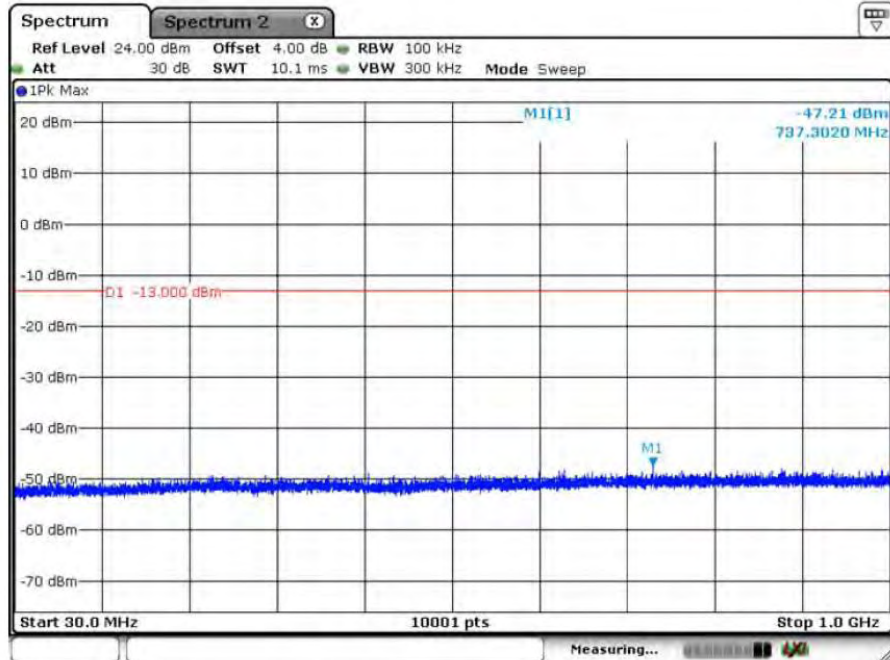
5MHz





LTE Band 2 Lowest channel

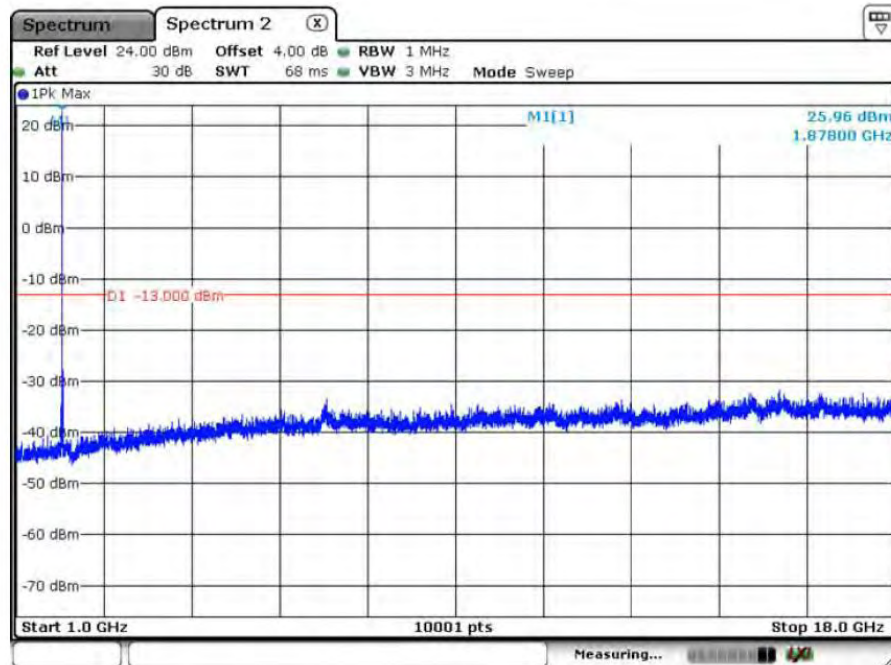
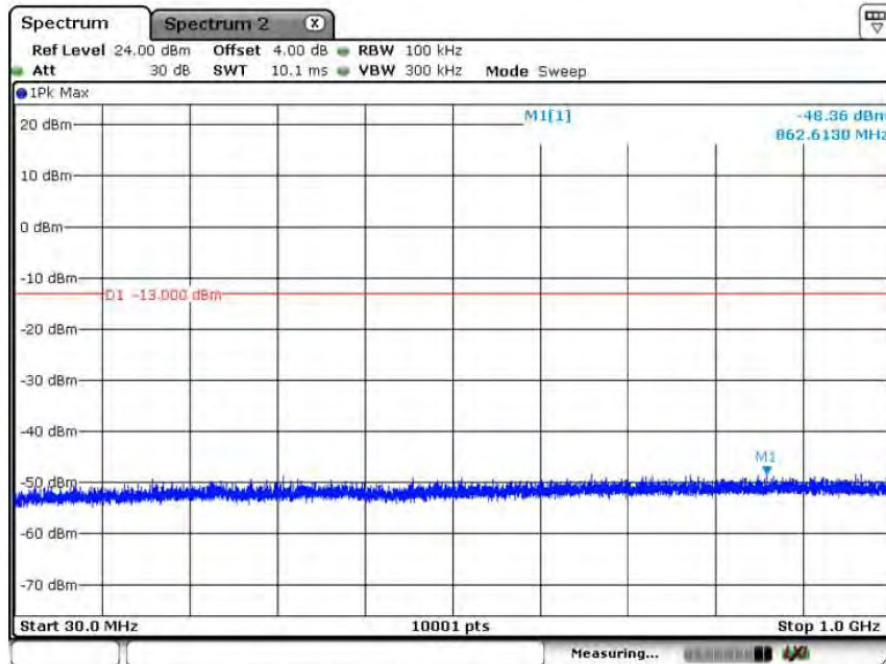
10MHz





LTE Band 2 middle channel

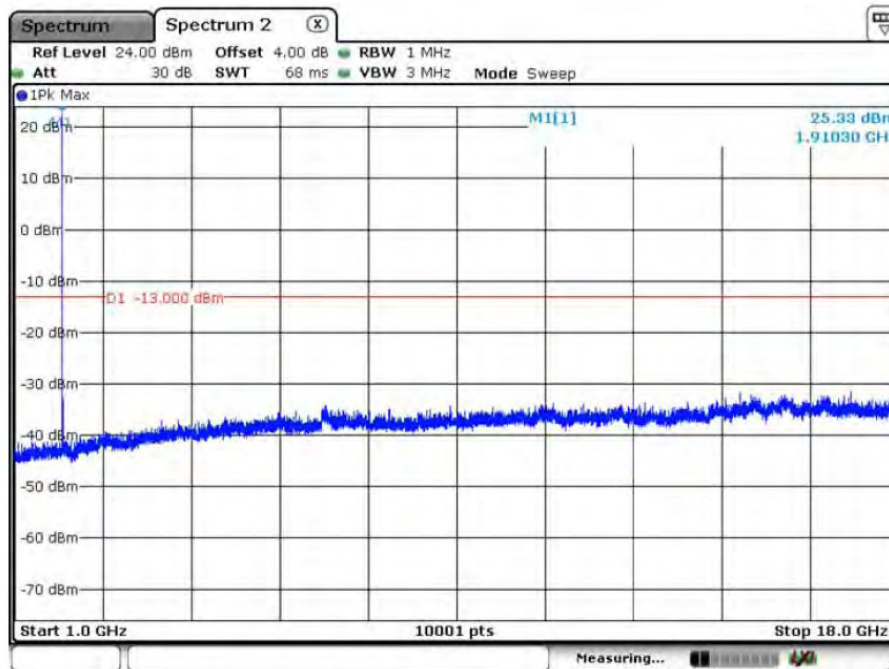
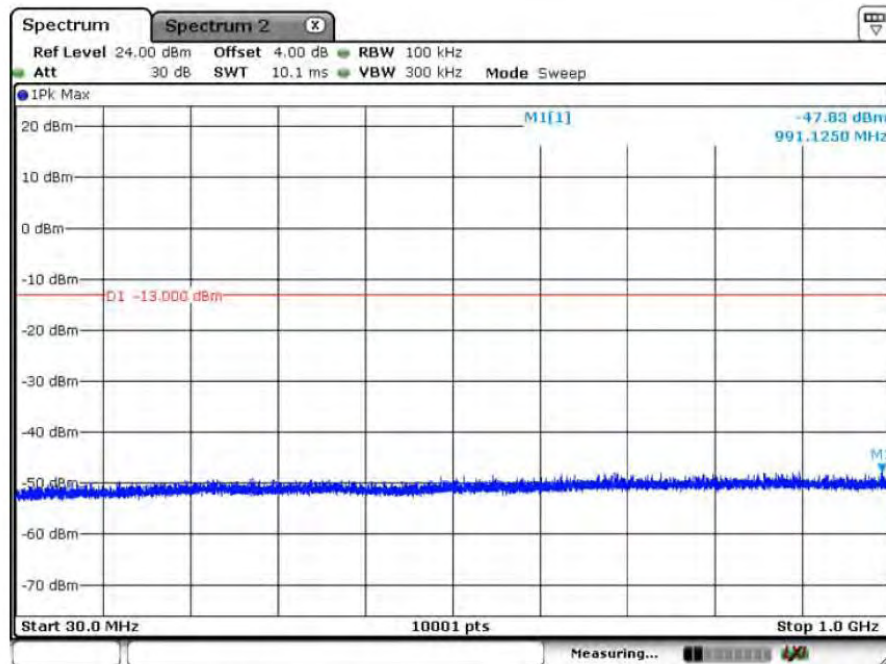
10MHz





LTE Band 2 high channel

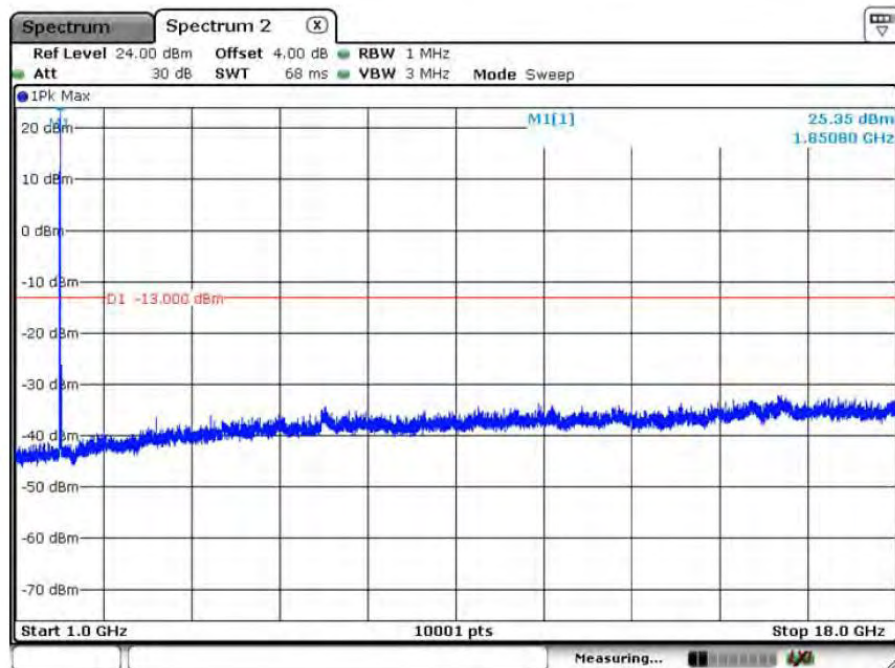
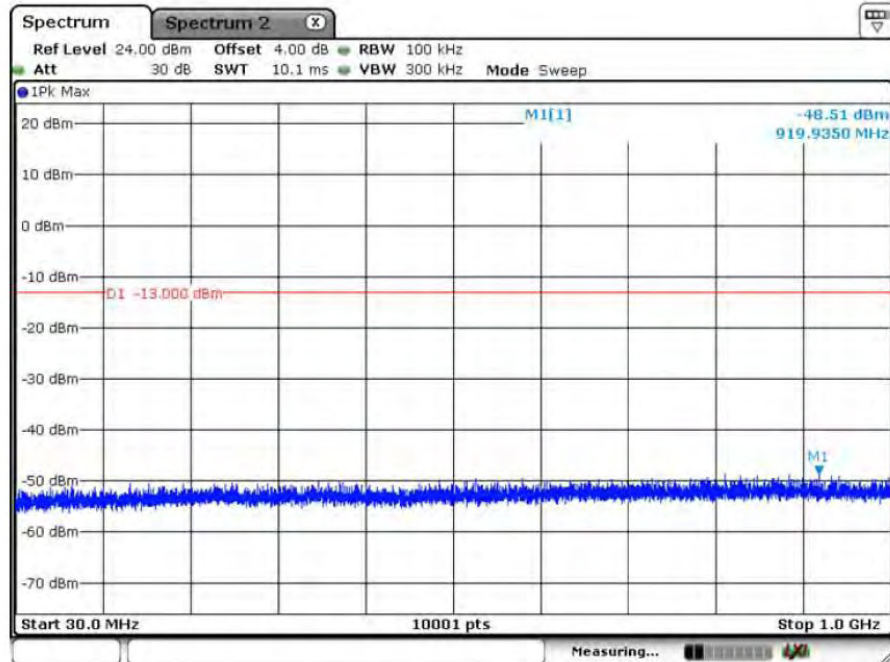
10MHz





LTE Band 2 Lowest channel

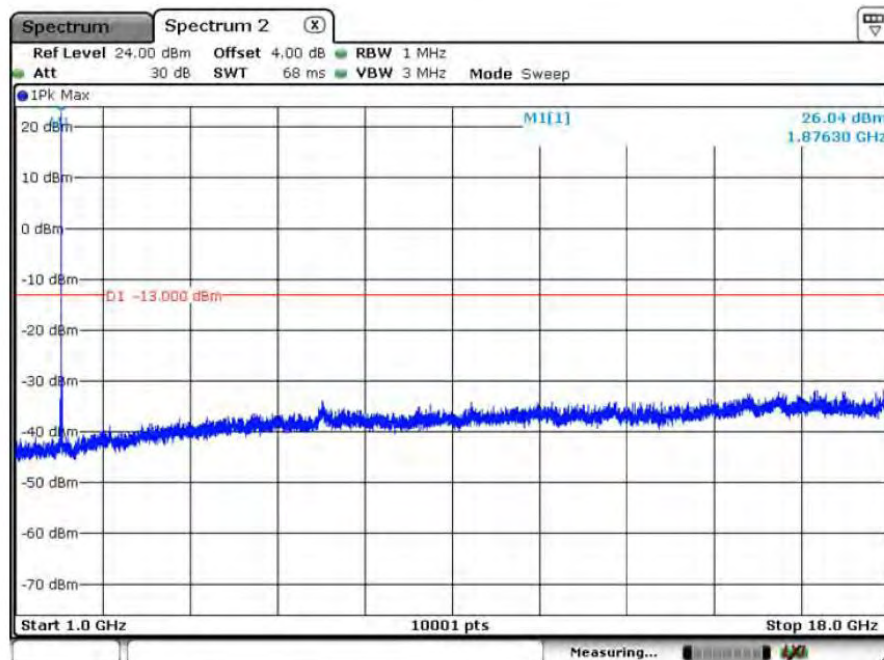
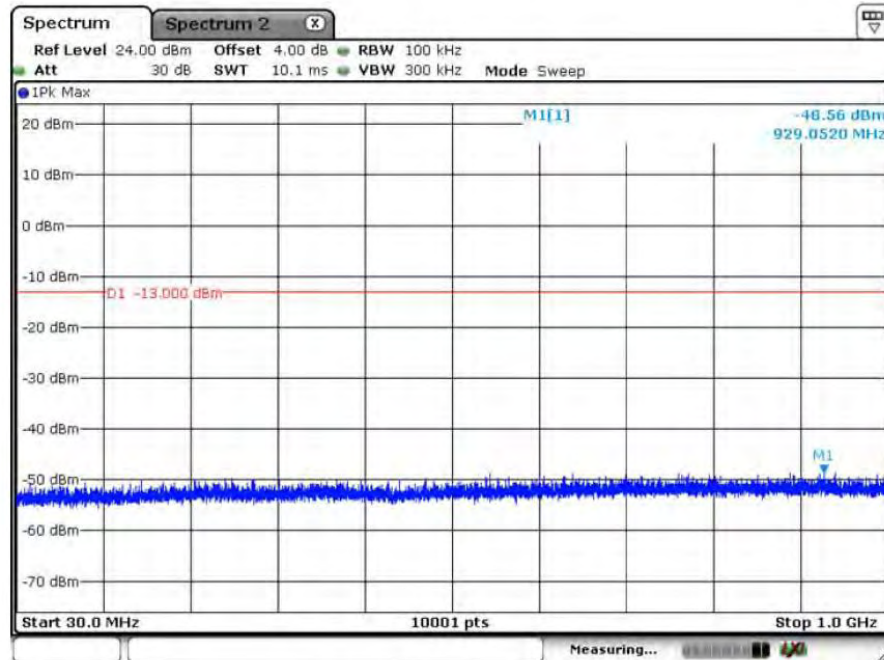
15MHz





LTE Band 2 middle channel

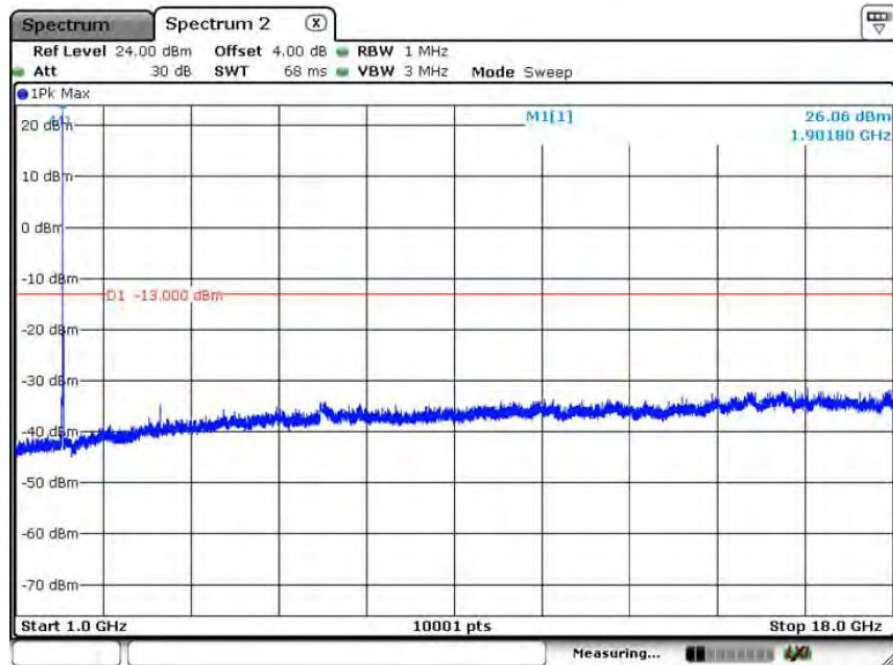
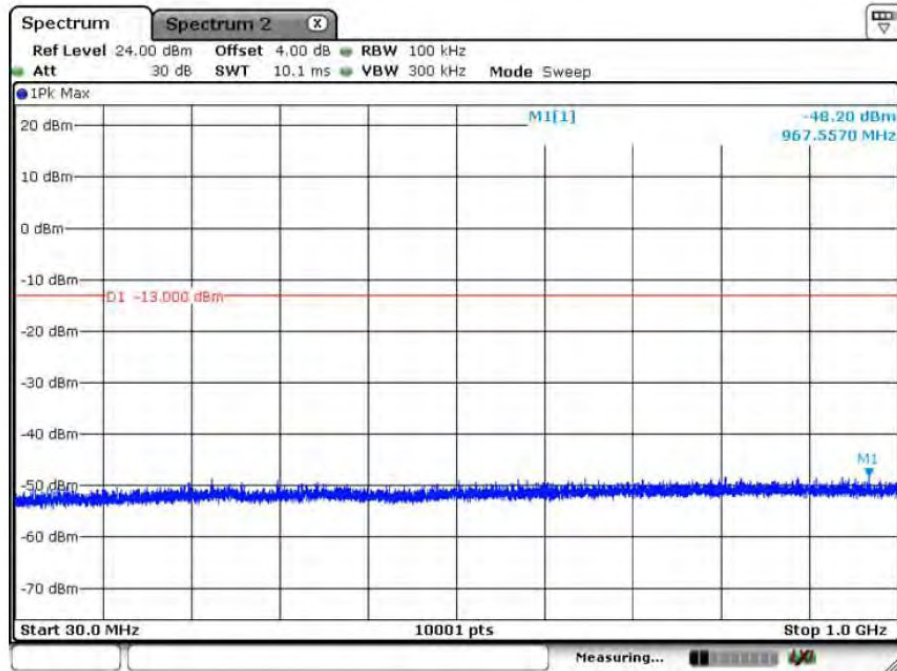
15MHz





LTE Band 2 high channel

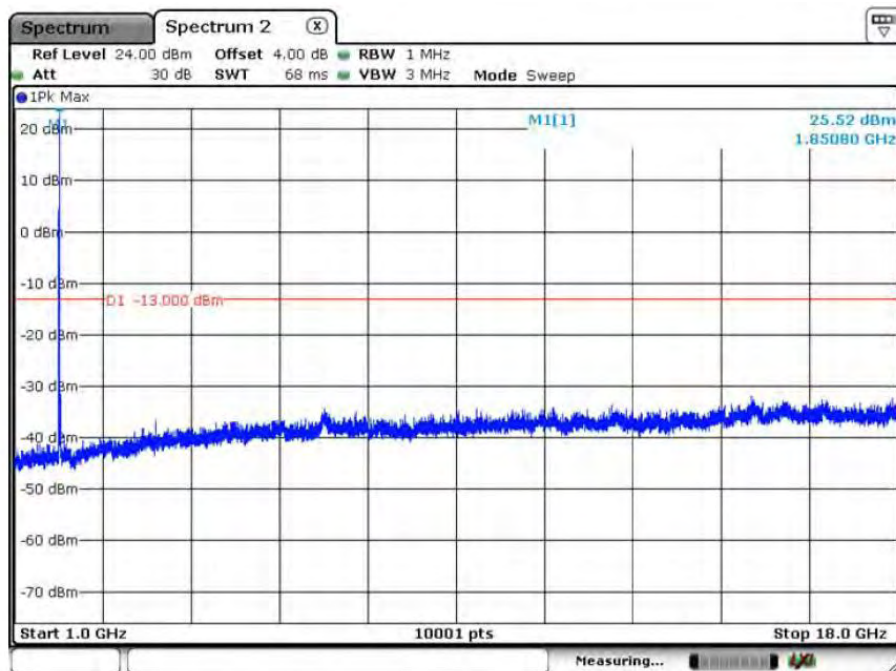
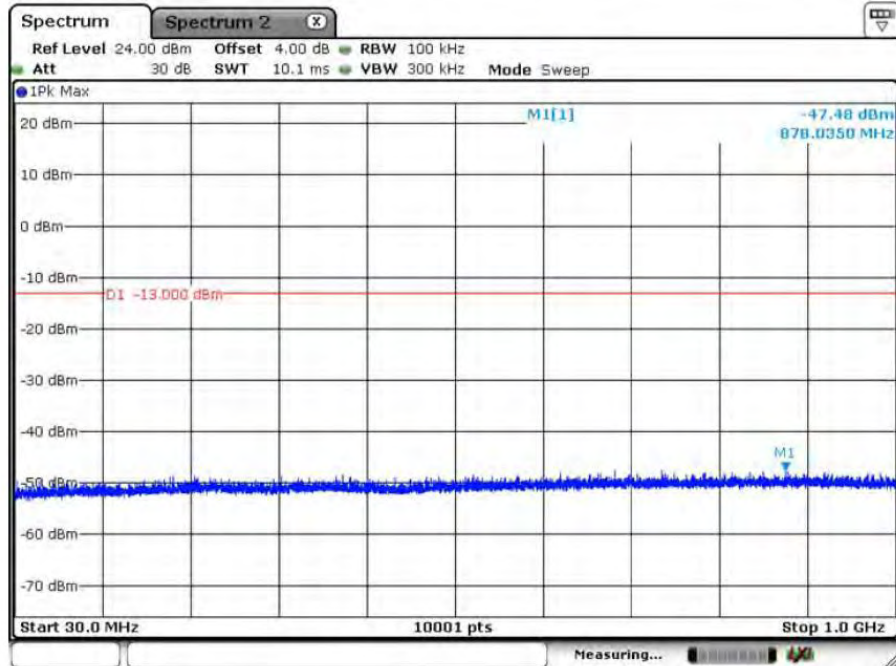
15MHz





LTE Band 2 Lowest channel

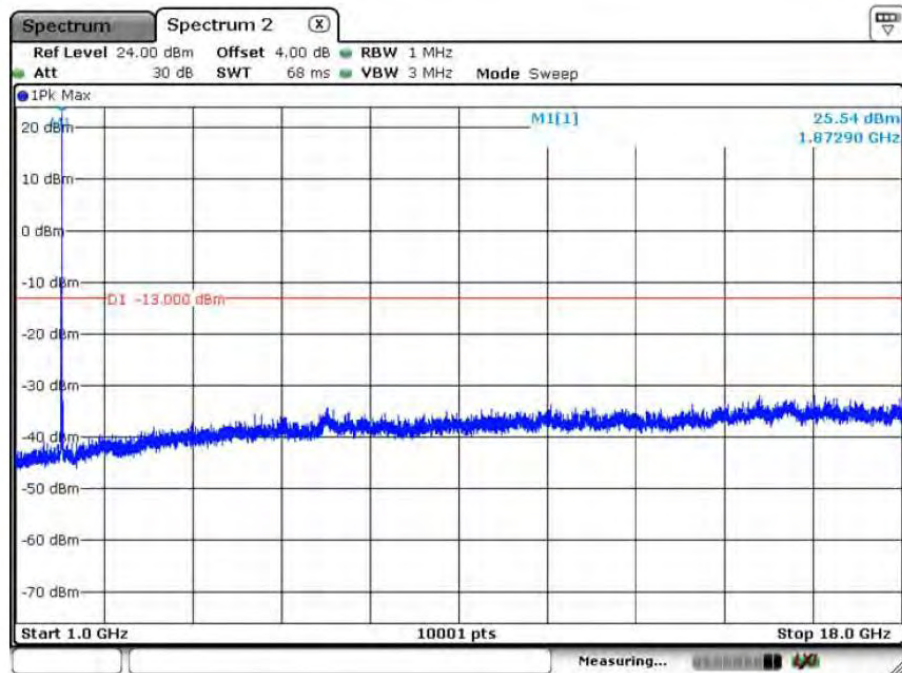
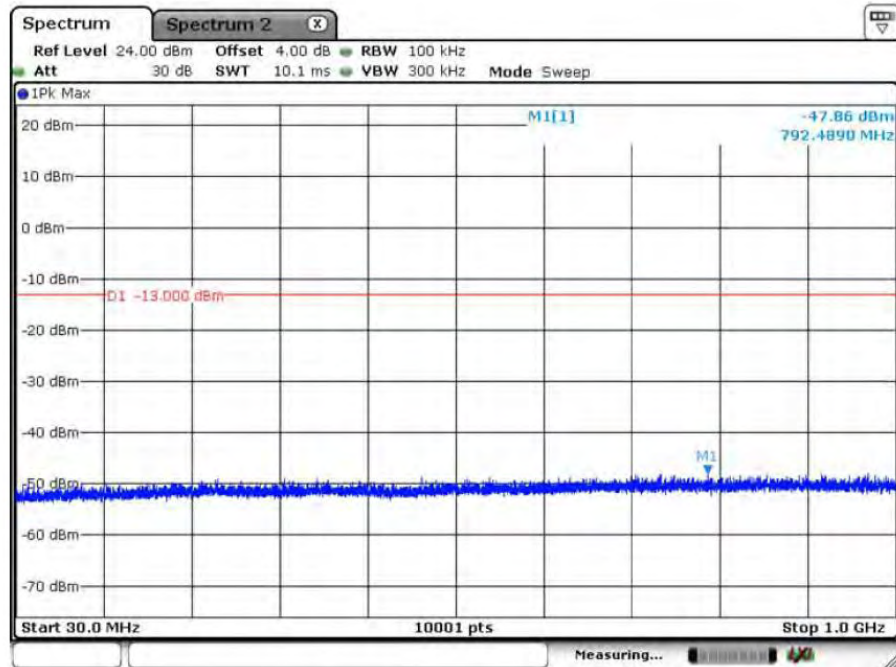
20MHz





LTE Band 2 middle channel

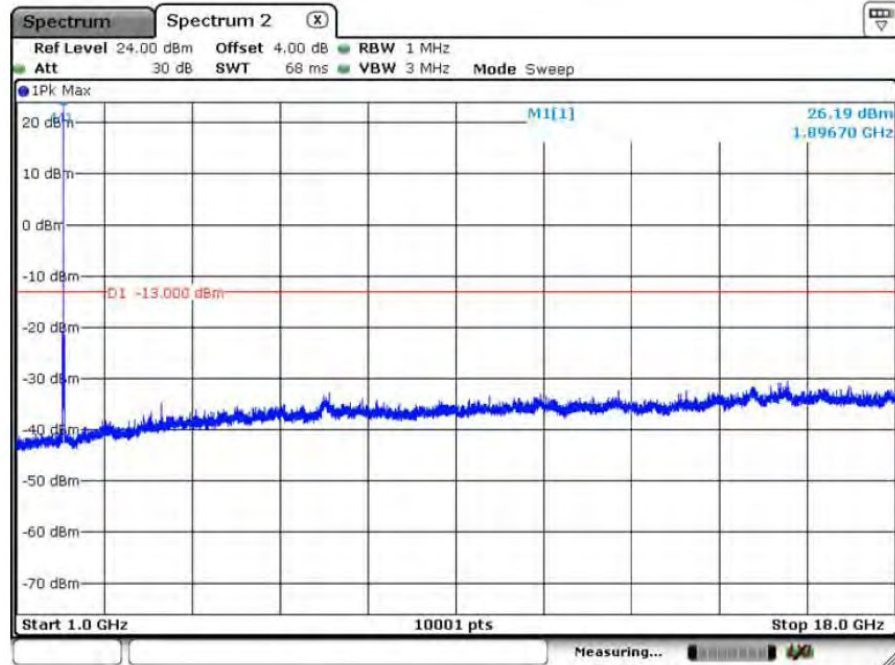
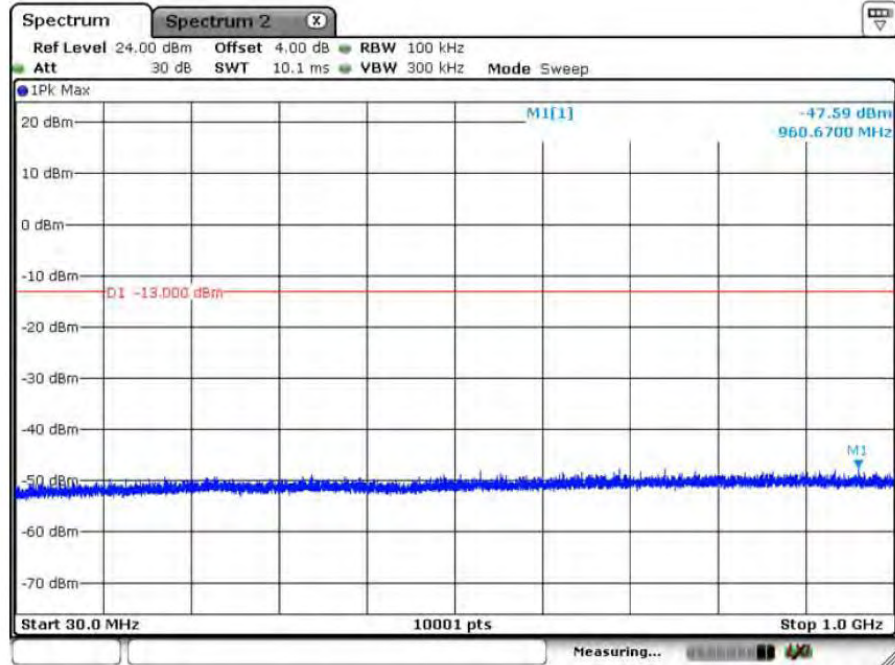
20MHz





LTE Band 2 high channel

20MHz





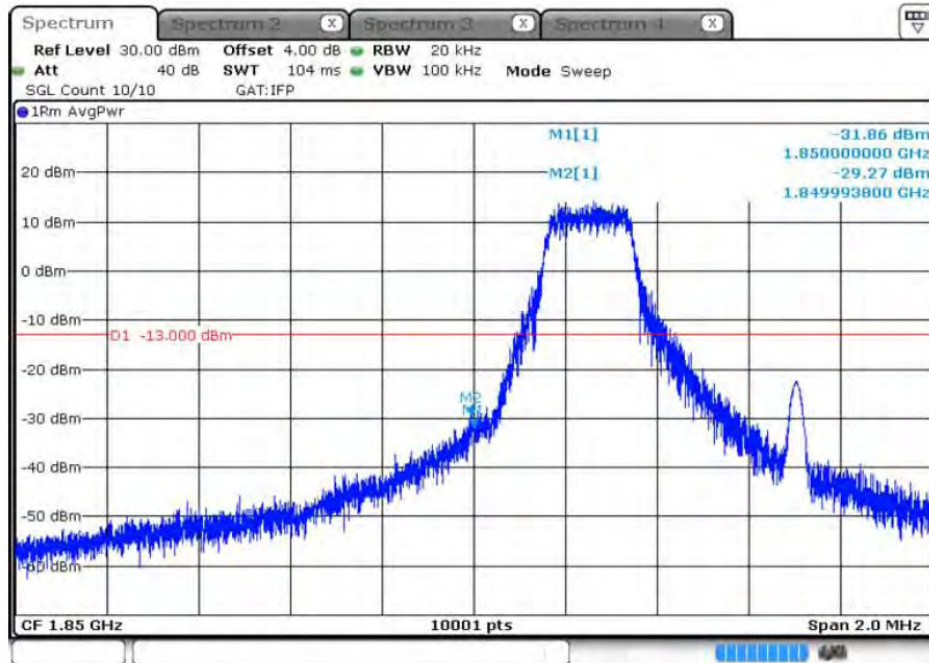
### 1.3. Conducted Out of Band Emissions

#### 1.3.1. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

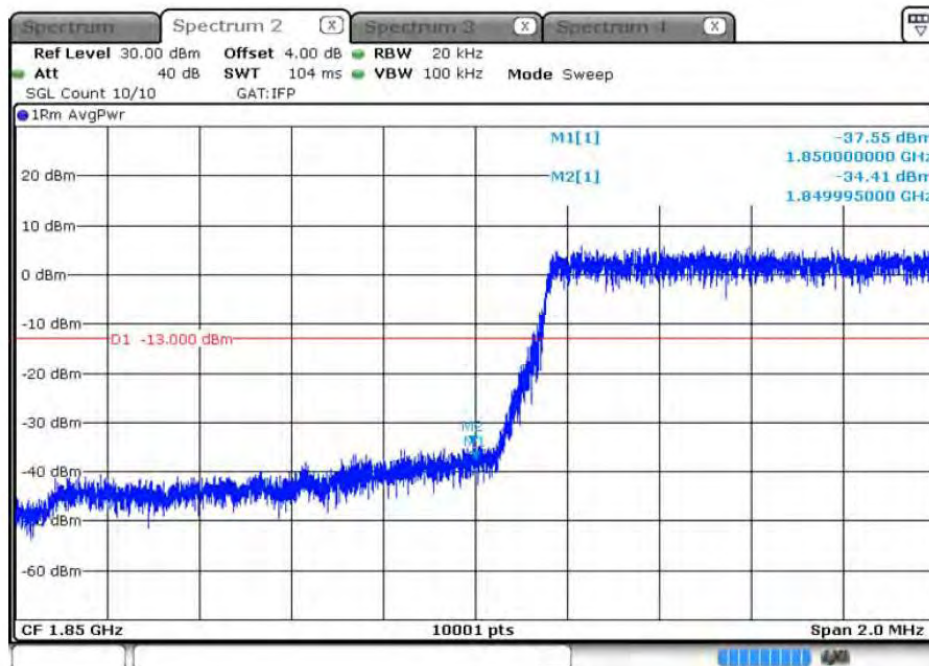
LTE Band 2 Lowest channel

1.4MHz 1RB



LTE Band 2 Lowest channel

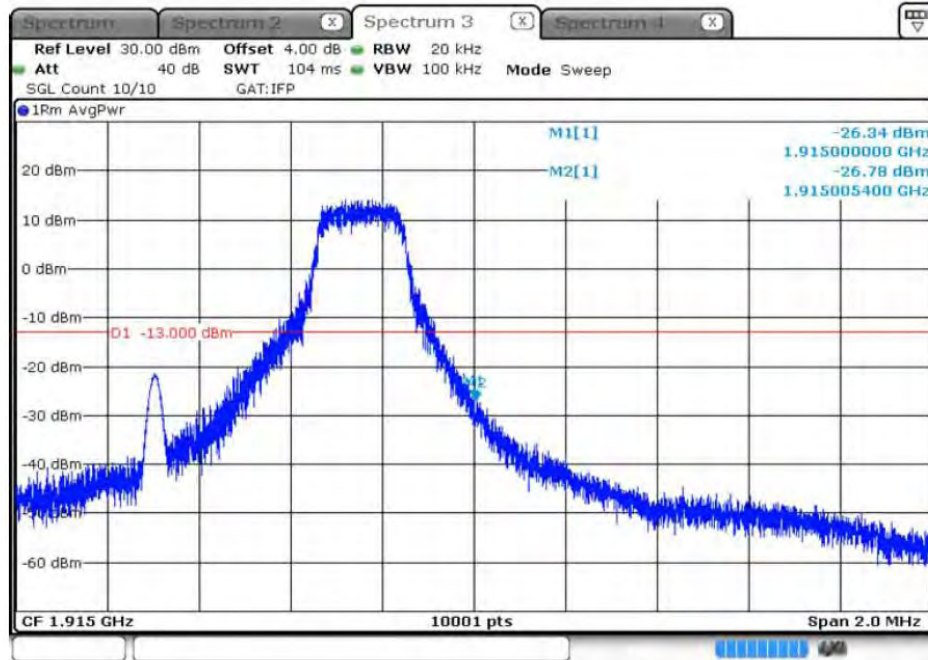
1.4MHz 6RB





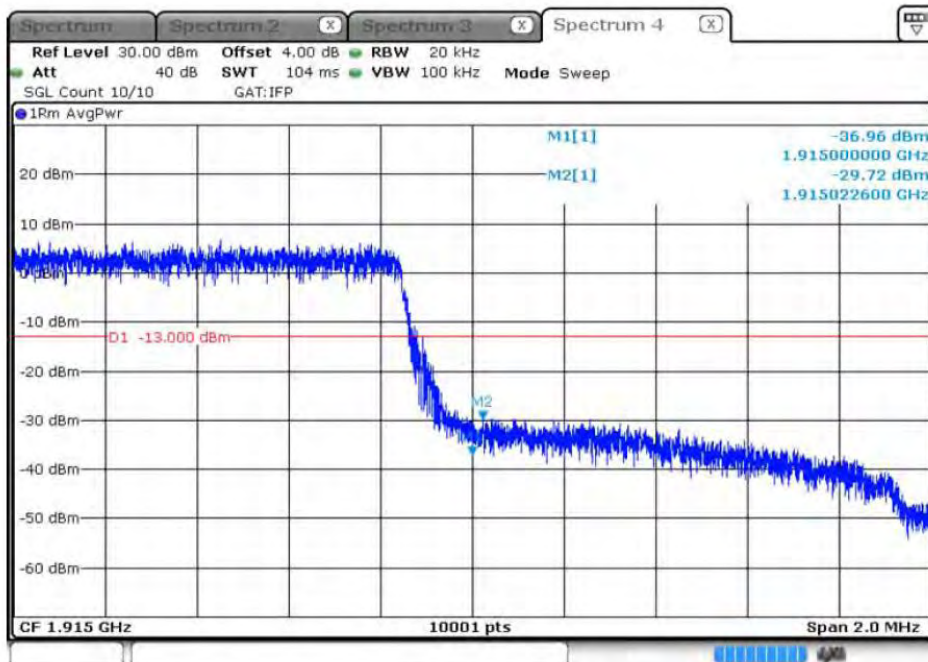
LTE Band 2 Highest channel:

1.4MHz 1RB



LTE Band 2 Highest channel:

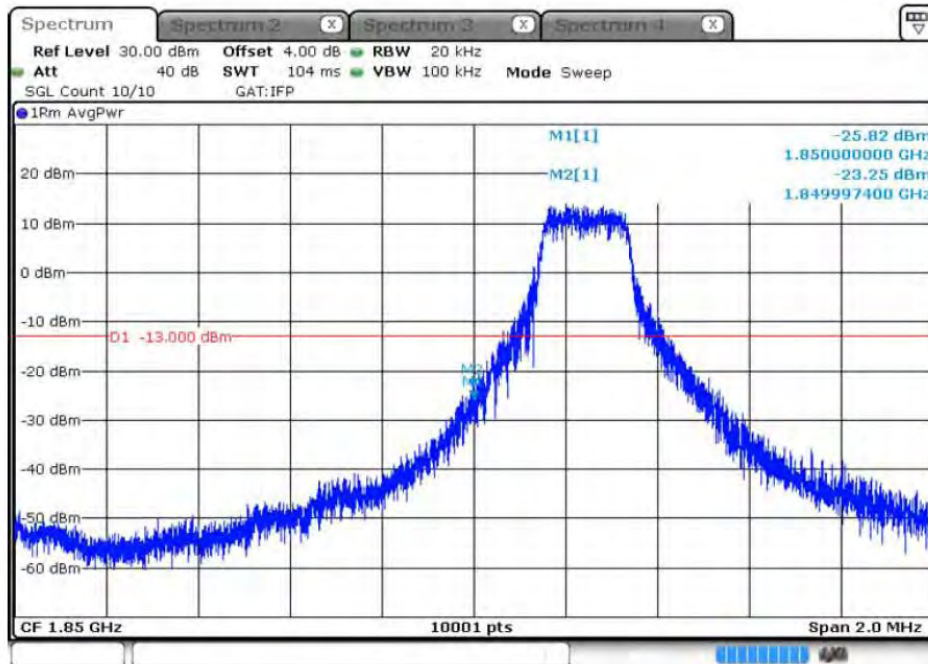
1.4MHz 6RB





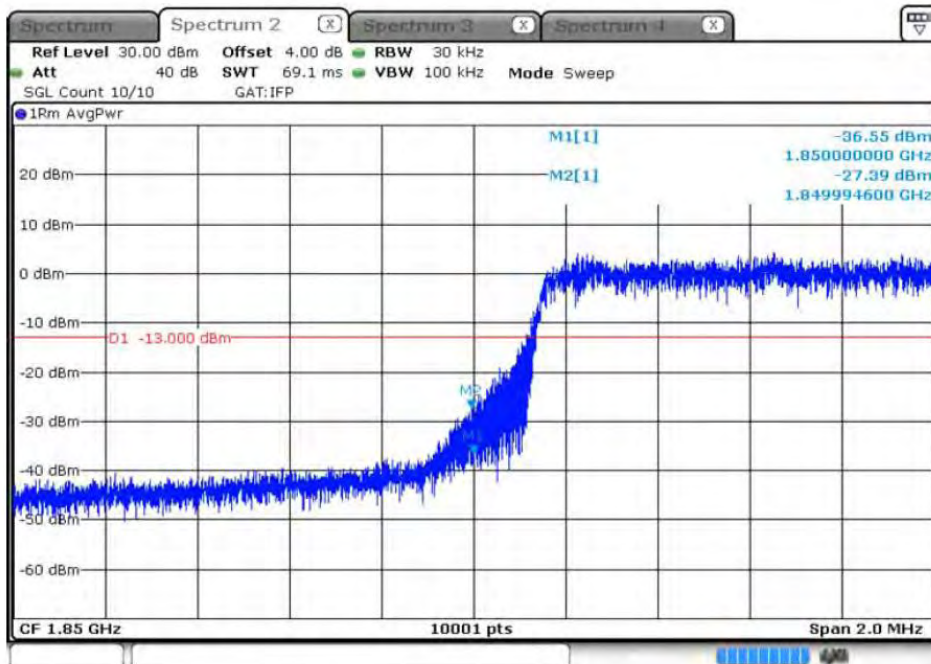
LTE Band 2 Lowest channel

3MHz 1RB



LTE Band 2 Lowest channel

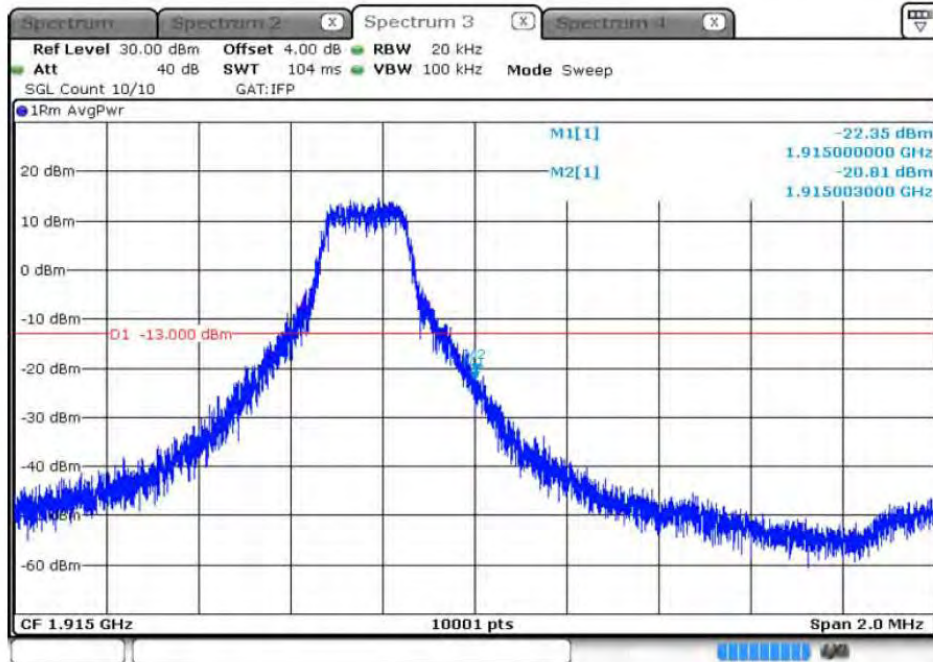
3MHz 15RB





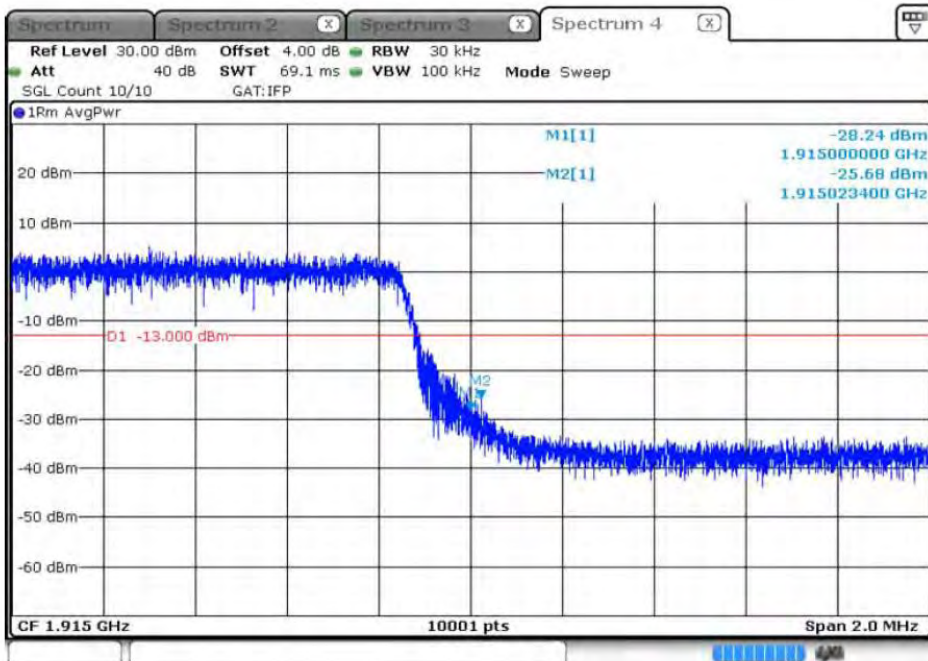
LTE Band 2 Highest channel:

3MHz 1RB



LTE Band 2 Highest channel:

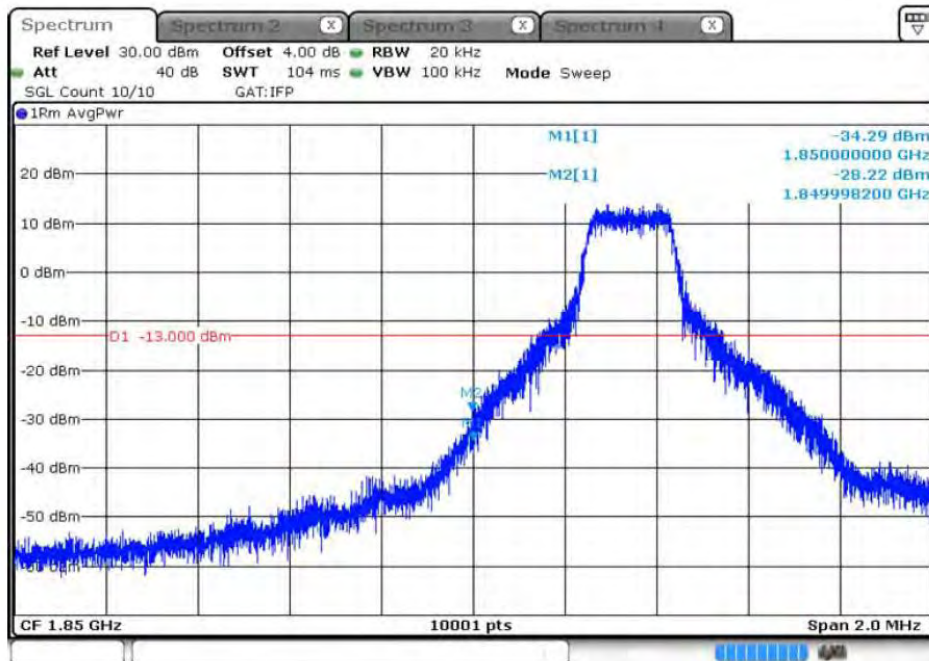
3MHz 15RB





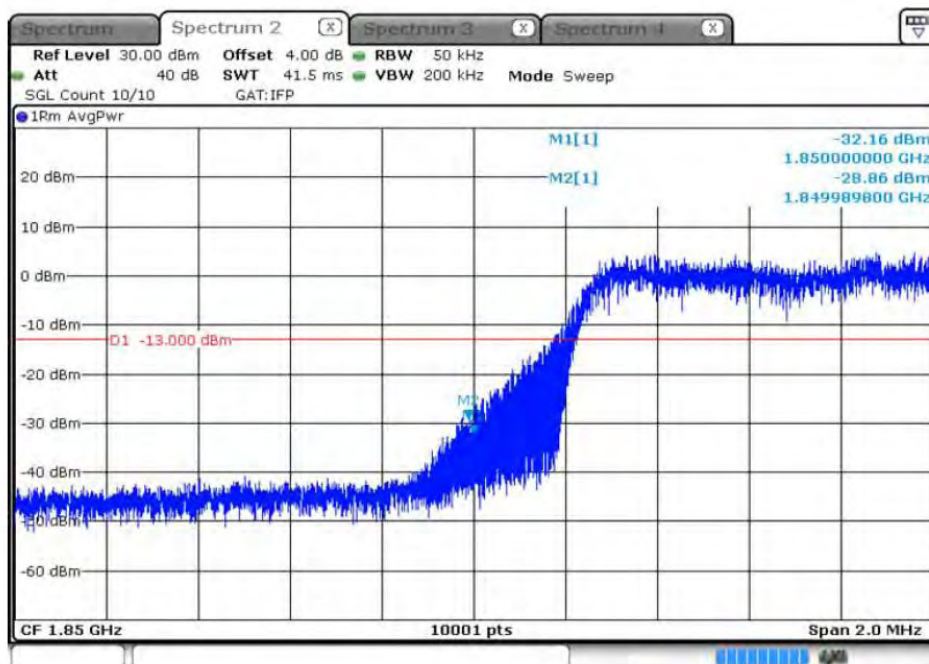
LTE Band 2 Lowest channel

5MHz 1RB



LTE Band 2 Lowest channel

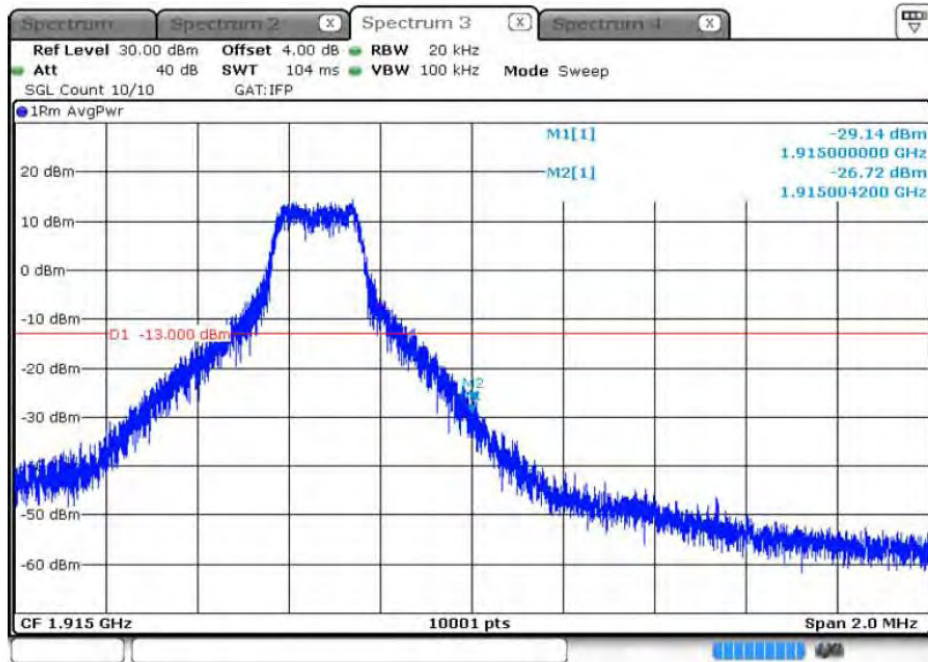
5MHz 25RB





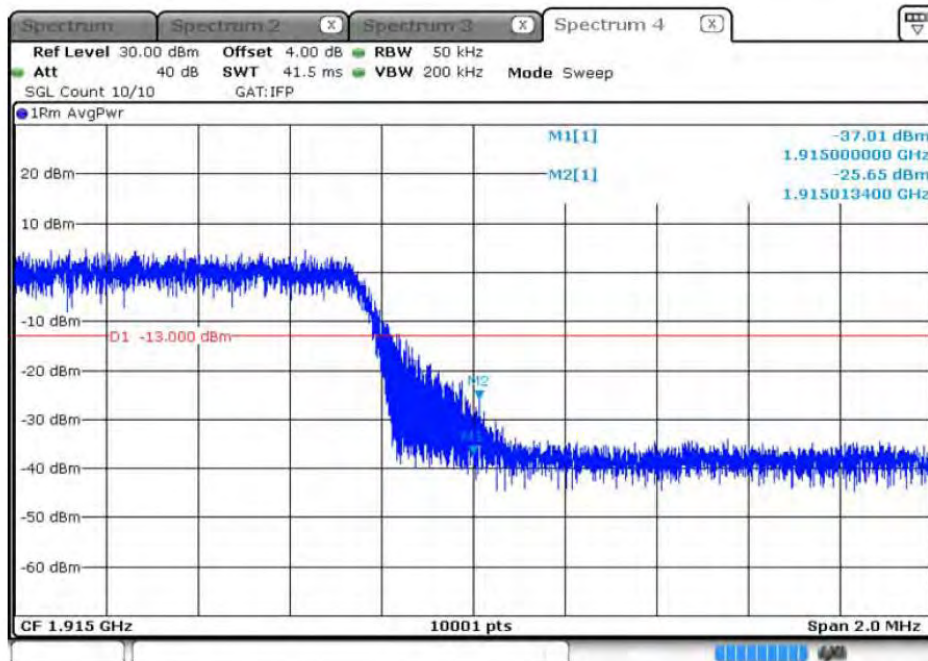
LTE Band 2 Highest channel:

5MHz 1RB



LTE Band 2 Highest channel:

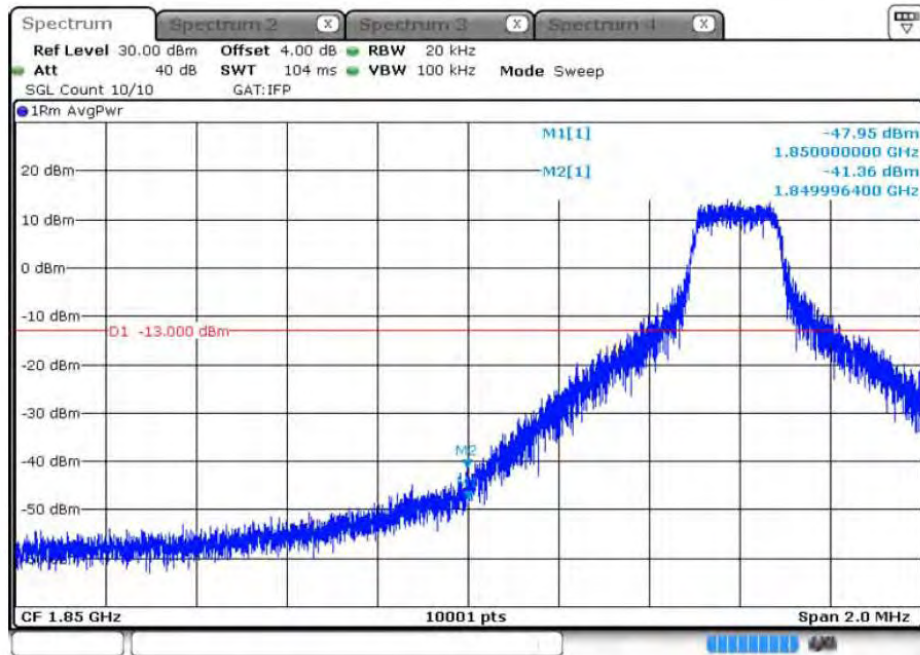
5MHz 25RB





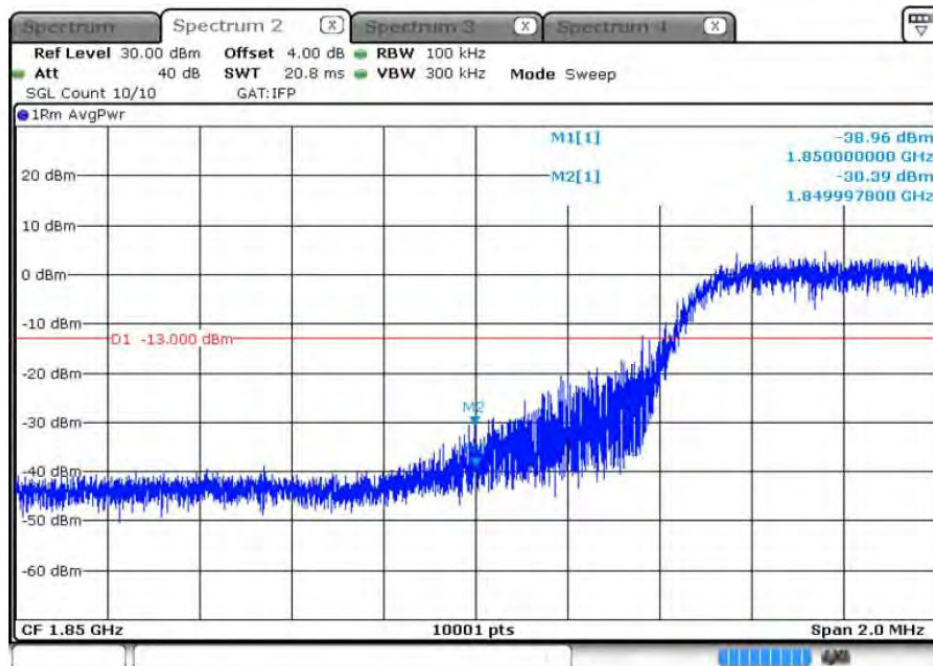
LTE Band 2 Lowest channel

10MHz 1RB



LTE Band 2 Lowest channel

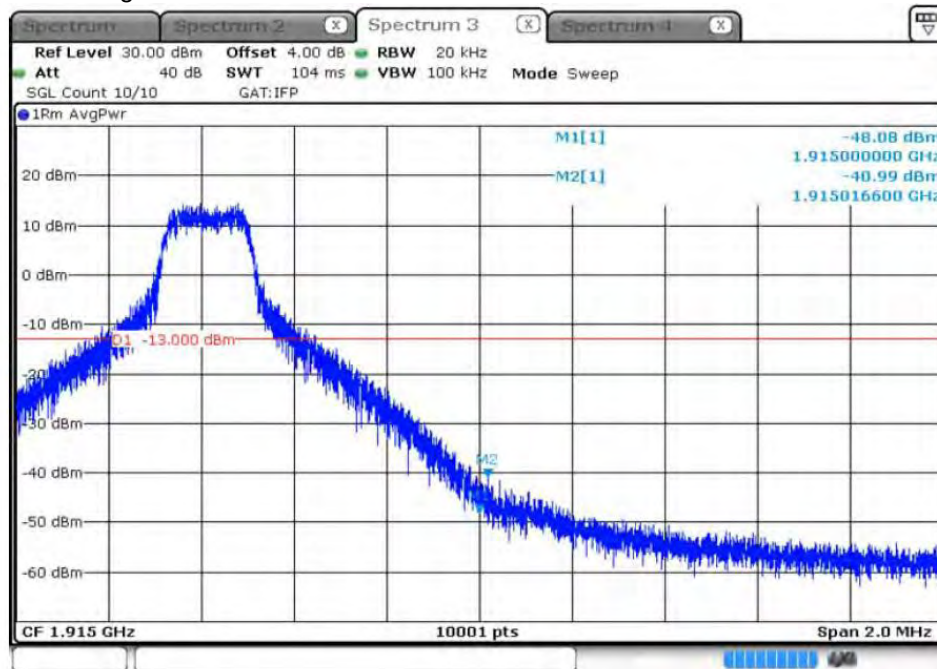
10MHz 50RB





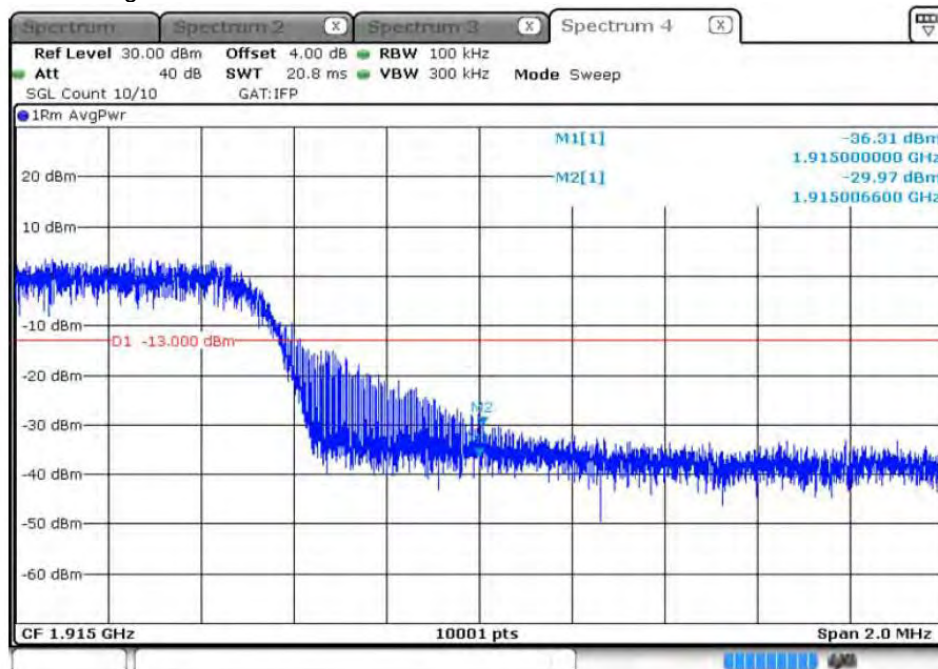
LTE Band 2 Highest channel:

10MHz 1RB



LTE Band 2 Highest channel:

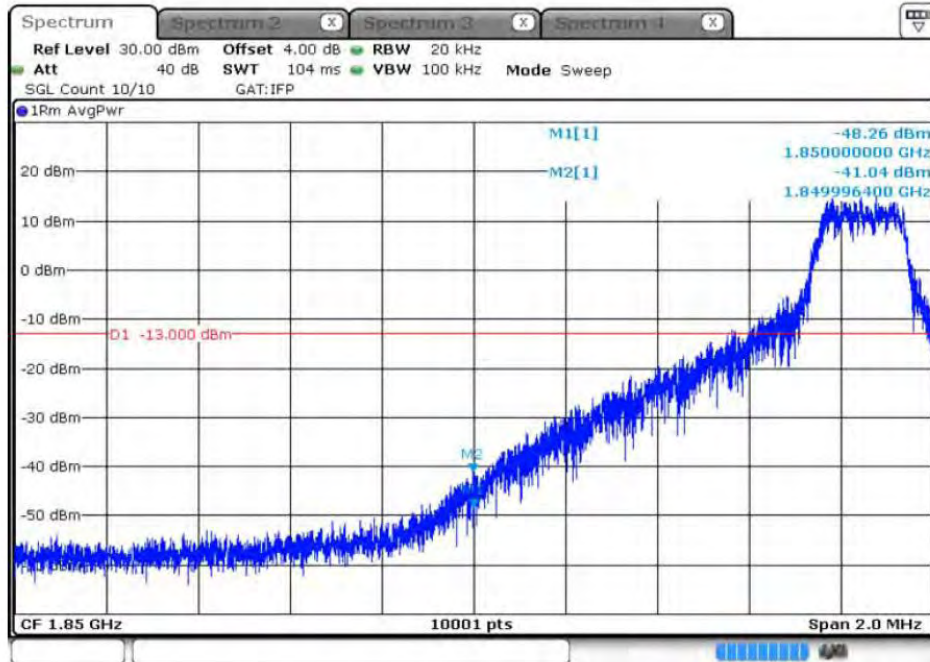
10MHz 50RB





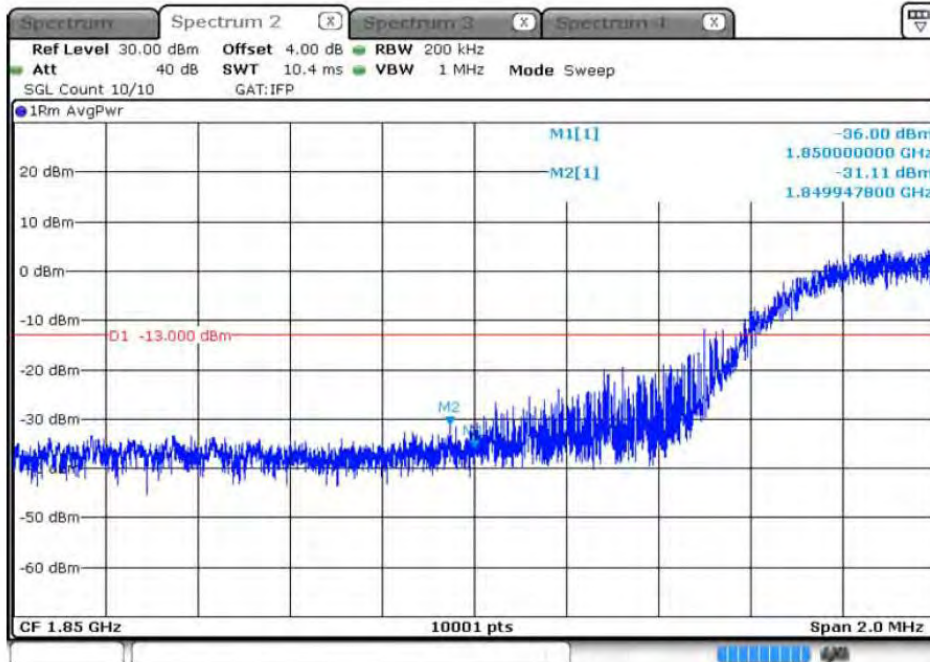
LTE Band 2 Lowest channel

15MHz 1RB



LTE Band 2 Lowest channel

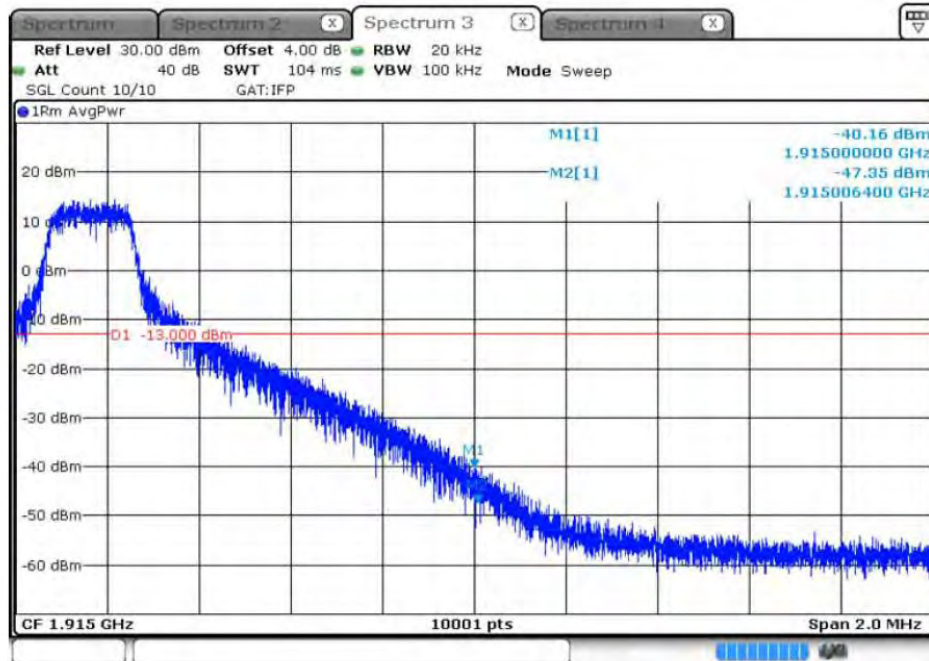
15MHz 75RB





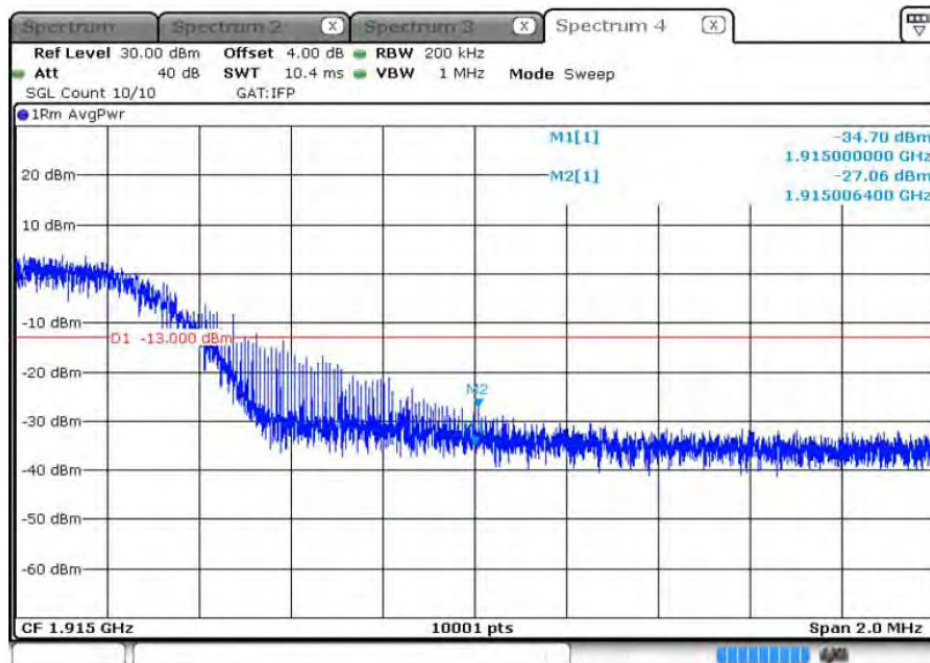
LTE Band 2 Highest channel:

15MHz 1RB



LTE Band 2 Highest channel:

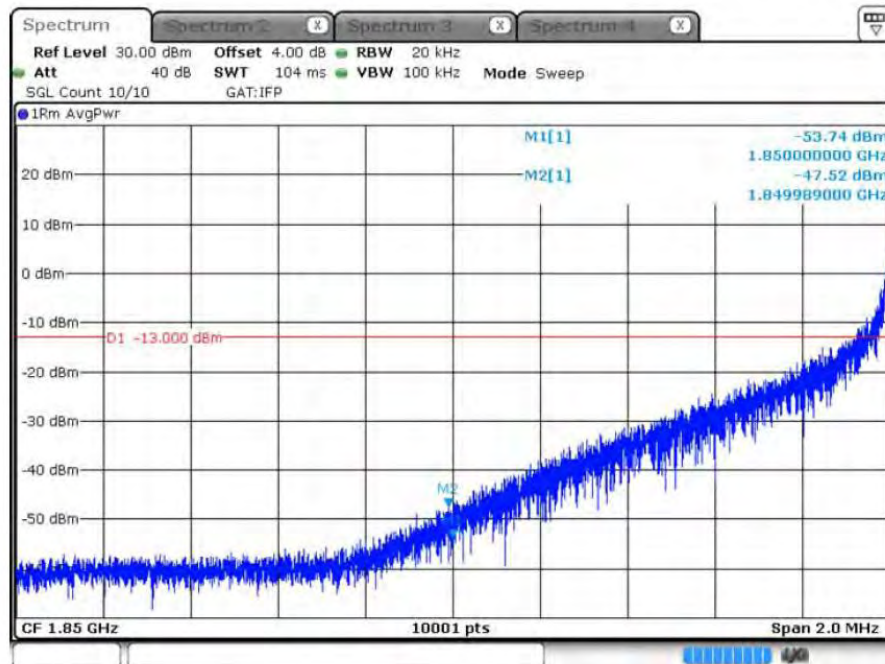
15MHz 75RB





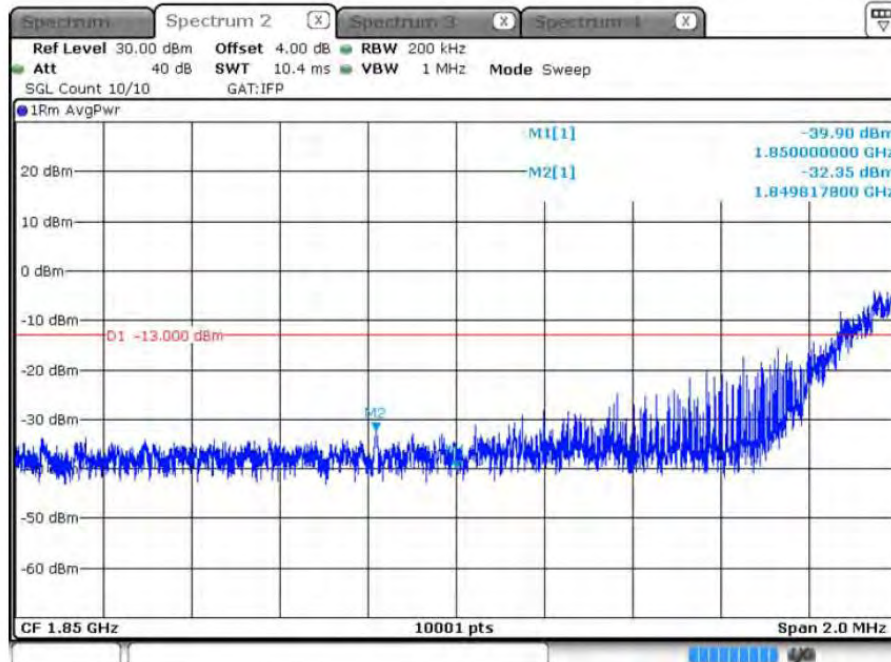
LTE Band 2 Lowest channel

20MHz 1RB



LTE Band 2 Lowest channel

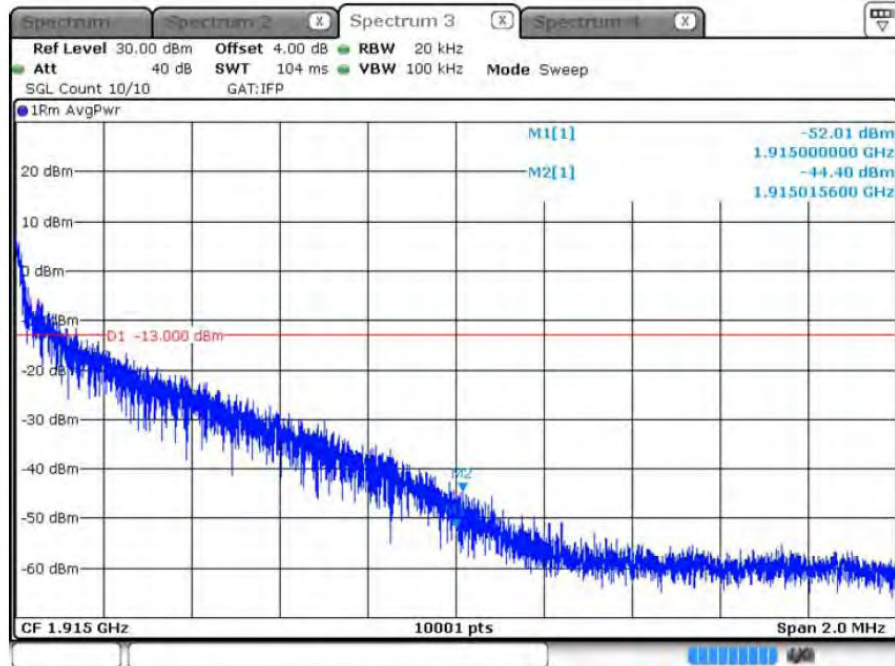
20MHz 75RB





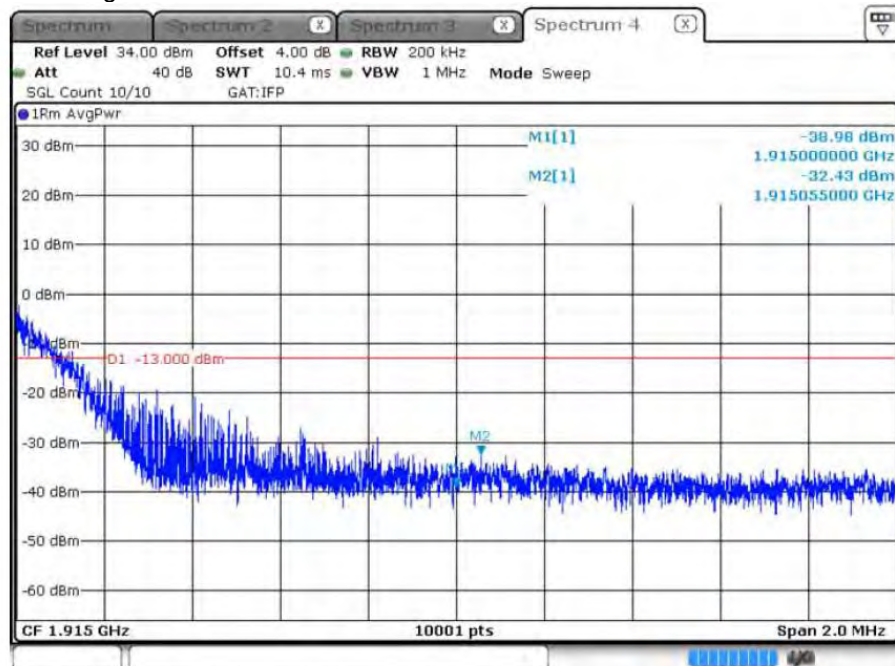
LTE Band 2 Highest channel:

20MHz 1RB



LTE Band 2 Highest channel:

20MHz 75RB



\*\*\*\*\* END \*\*\*\*\*