



FCC Test Report

ANNEX 5 LTE BAND 12

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.



TABLE OF CONTENTS

Test Report Declaration	Page
1. EMISSION TEST RESULTS	3
1.1. -26dB and 99% Occupied Bandwidth	3
1.2. Conducted Spurious Emissions	16
1.3. Conducted Out of Band Emissions	28

**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 12 1.4MHz	QPSK	699.7	1.080	1.221
		707.5	1.078	1.221
		715.3	1.086	1.209
LTE Band 12 1.4 MHz	16-QAM	699.7	1.079	1.200
		707.5	1.082	1.224
		715.3	1.081	1.222
LTE Band 12 3 MHz	QPSK	700.5	2.690	2.928
		707.5	2.686	2.937
		714.5	2.684	2.941
LTE Band 12 3 MHz	16-QAM	700.5	2.685	2.950
		707.5	2.683	2.953
		714.5	2.681	2.938
LTE Band 12 5 MHz	QPSK	710.5	4.462	4.883
		707.5	4.481	4.877
		713.5	4.471	4.886
LTE Band 12 5 MHz	16-QAM	710.5	4.477	4.911
		707.5	4.481	4.897
		713.5	4.464	4.833
LTE Band 12 10 MHz	QPSK	704.0	8.910	9.587
		707.5	8.944	9.708
		711.0	8.955	9.675
LTE Band 12 10 MHz	16-QAM	704.0	8.920	9.578
		707.5	8.935	9.615
		711.0	8.953	9.674

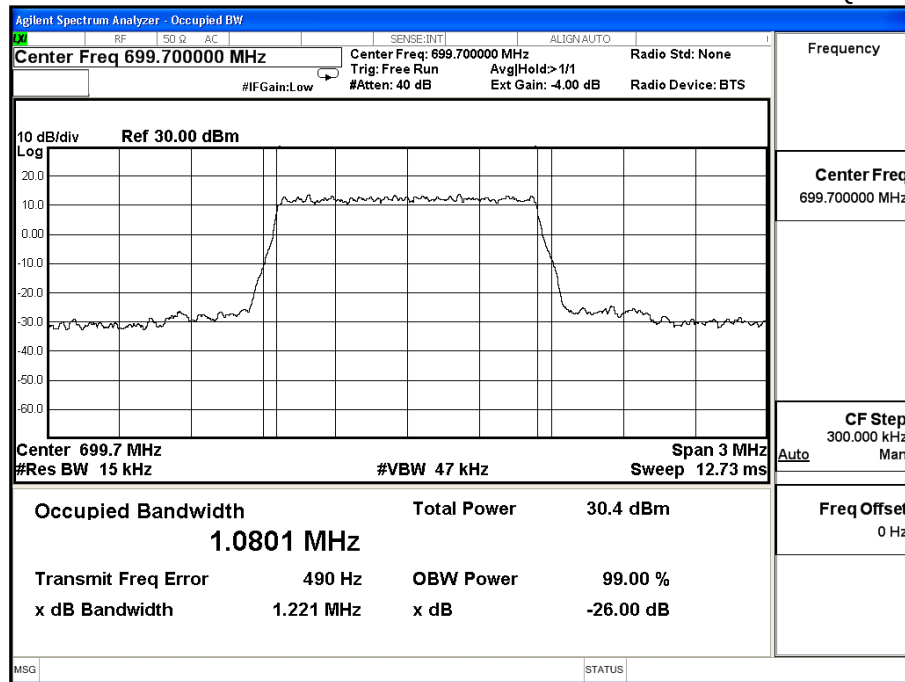
Note: Measurement Uncertainty: $\pm 20\text{Hz}$.

Test plot as follows:



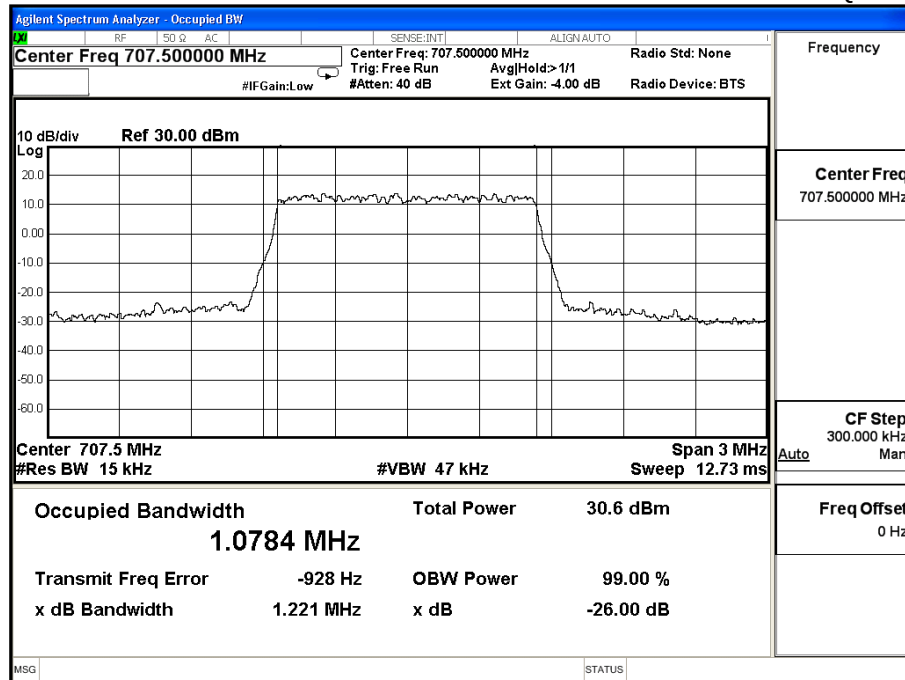
LTE Band 12 Lowest channel

1.4 MHz QPSK



LTE Band 12 Middle channel

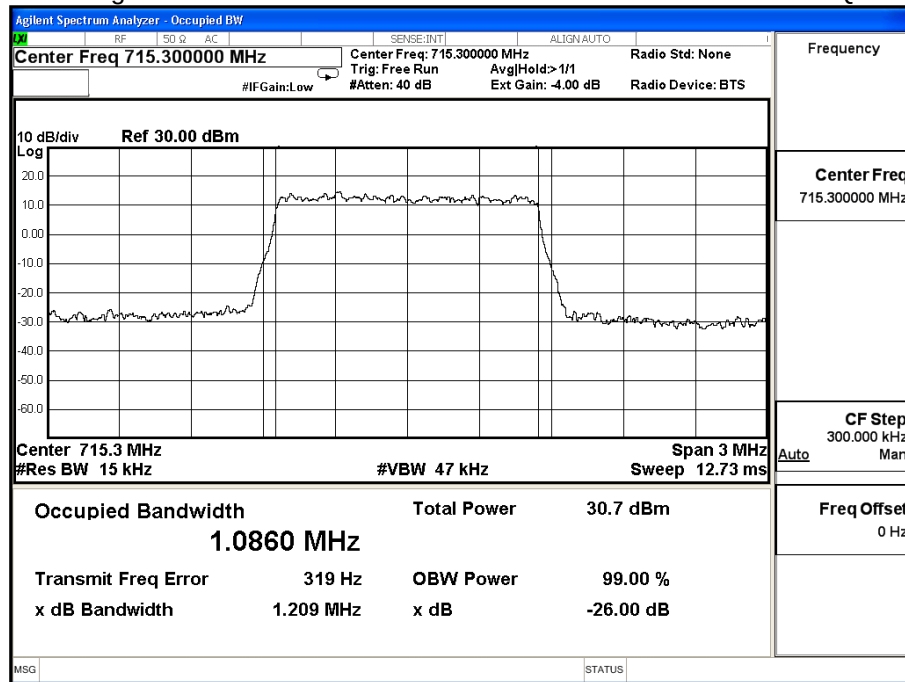
1.4 MHz QPSK





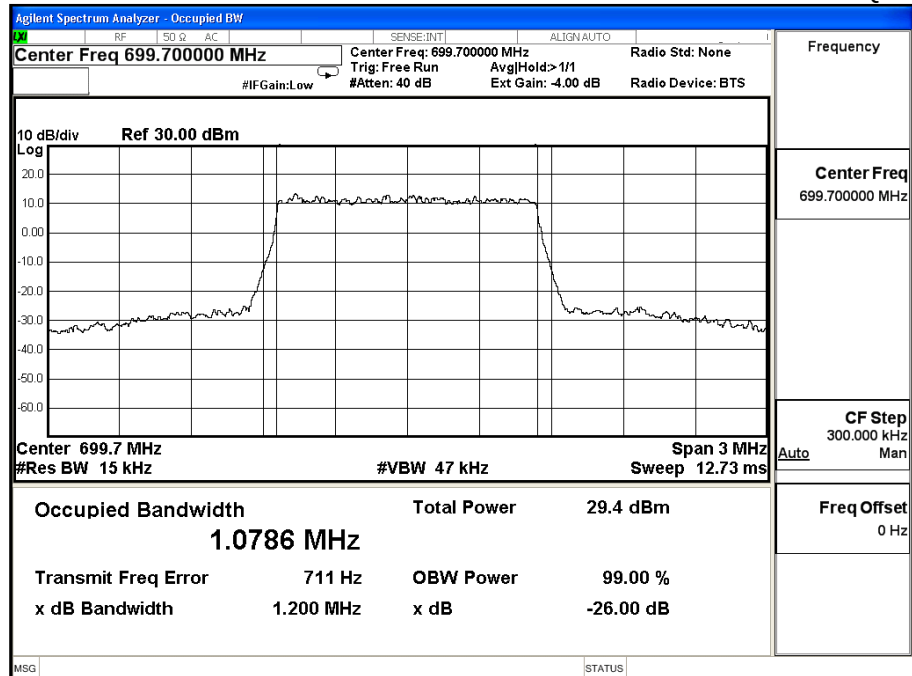
LTE Band 12 Highest channel:

1.4 MHz QPSK



LTE Band 12 Lowest channel

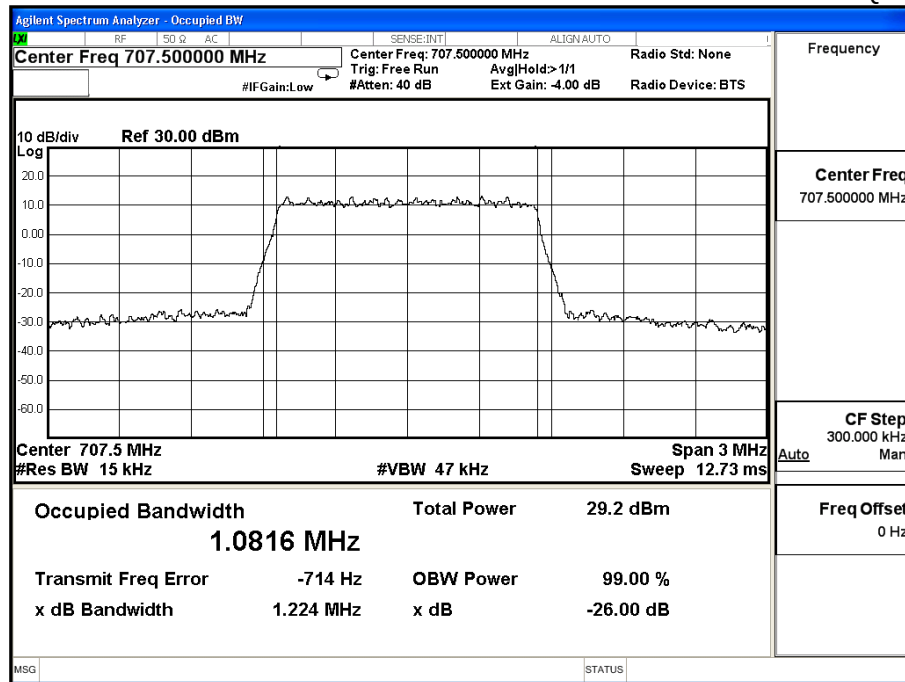
1.4 MHz 16-QAM





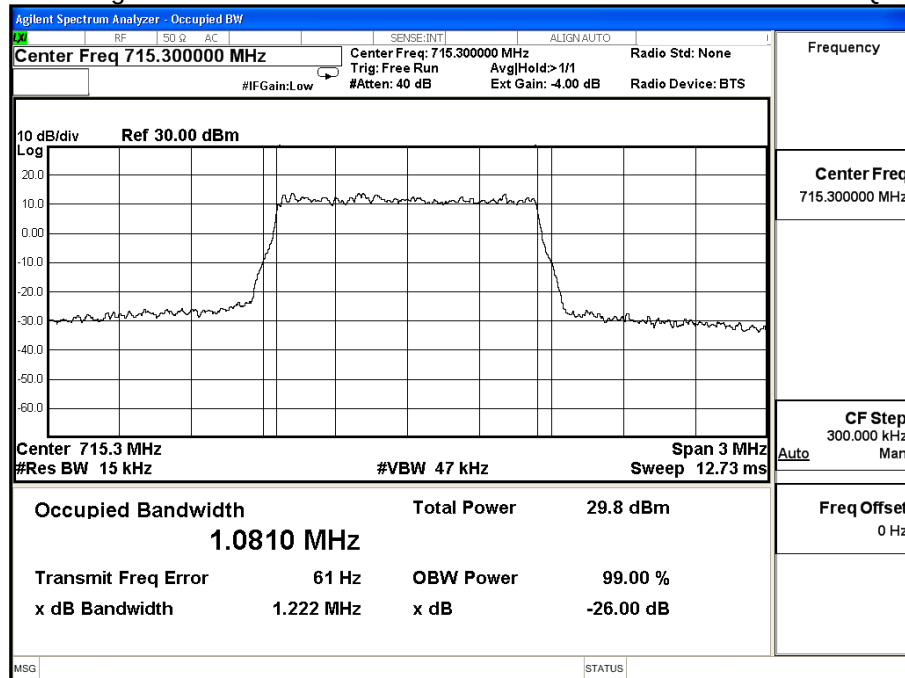
LTE Band 12 Middle channel

1.4 MHz 16-QAM



LTE Band 12 Highest channel:

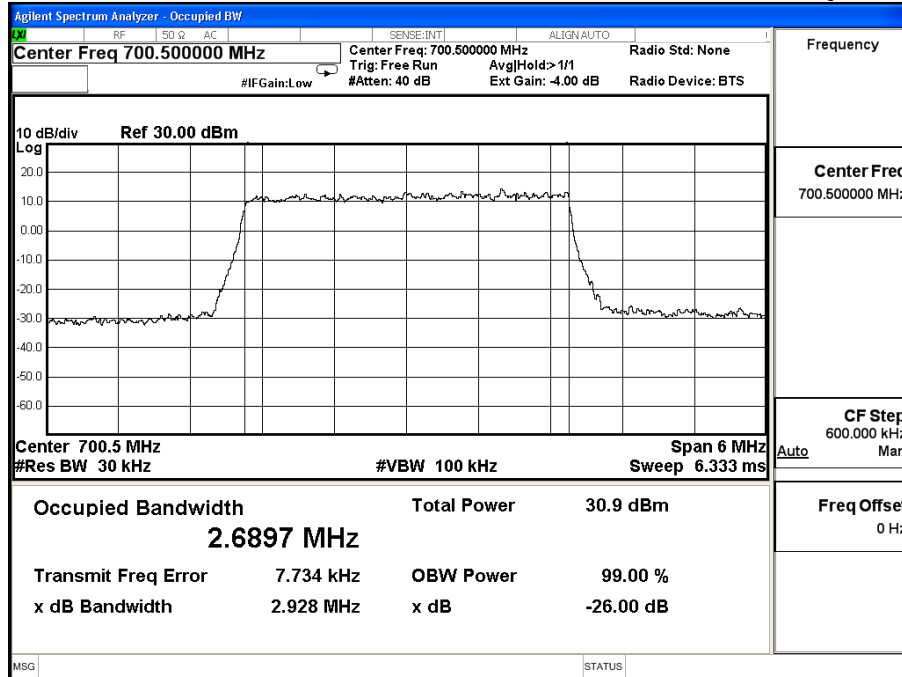
1.4 MHz 16-QAM





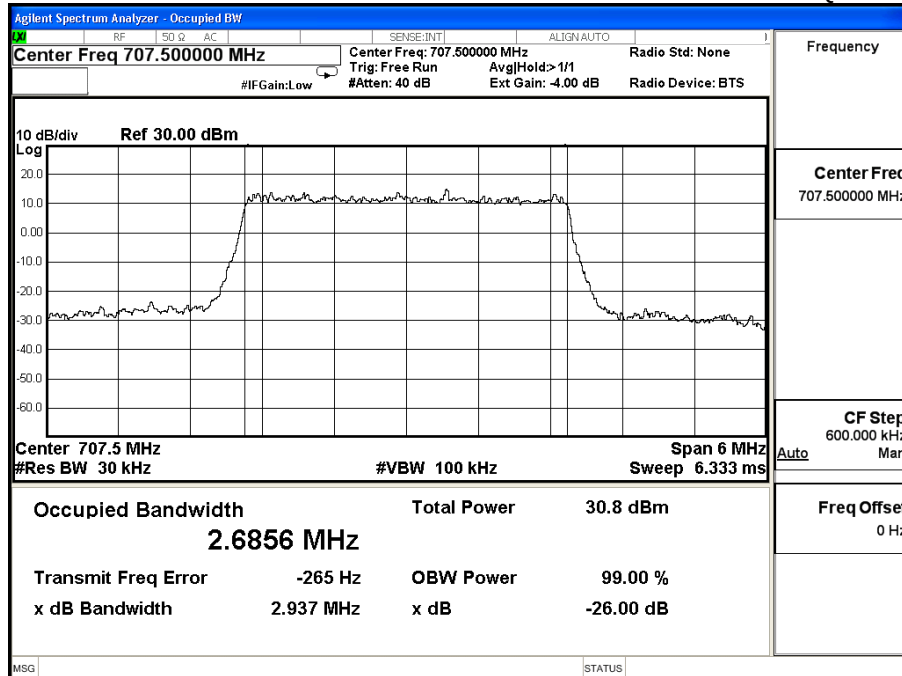
LTE Band 12 Lowest channel

3 MHz QPSK



LTE Band 12 Middle channel

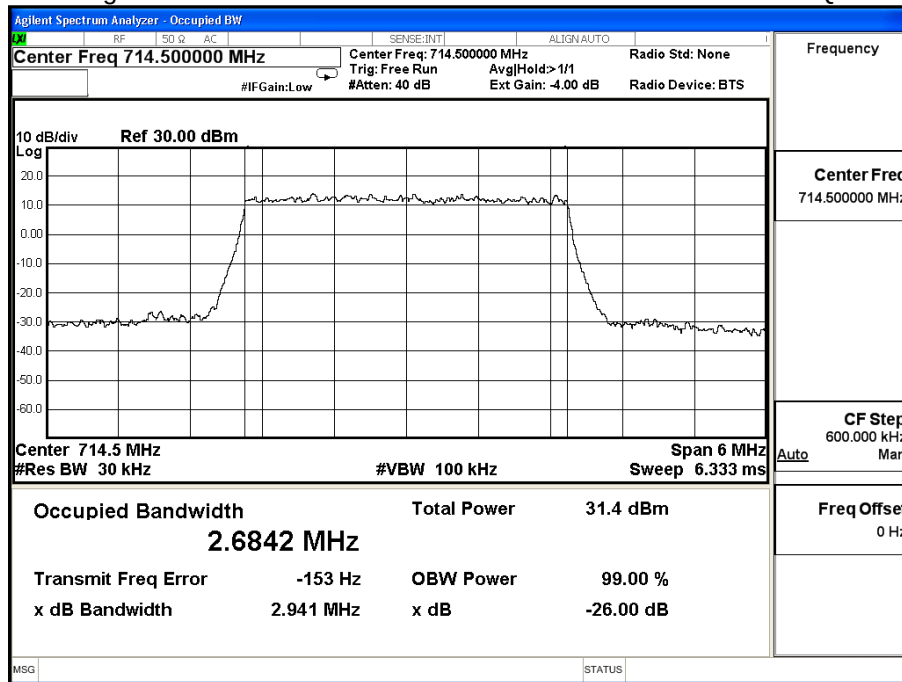
3 MHz QPSK





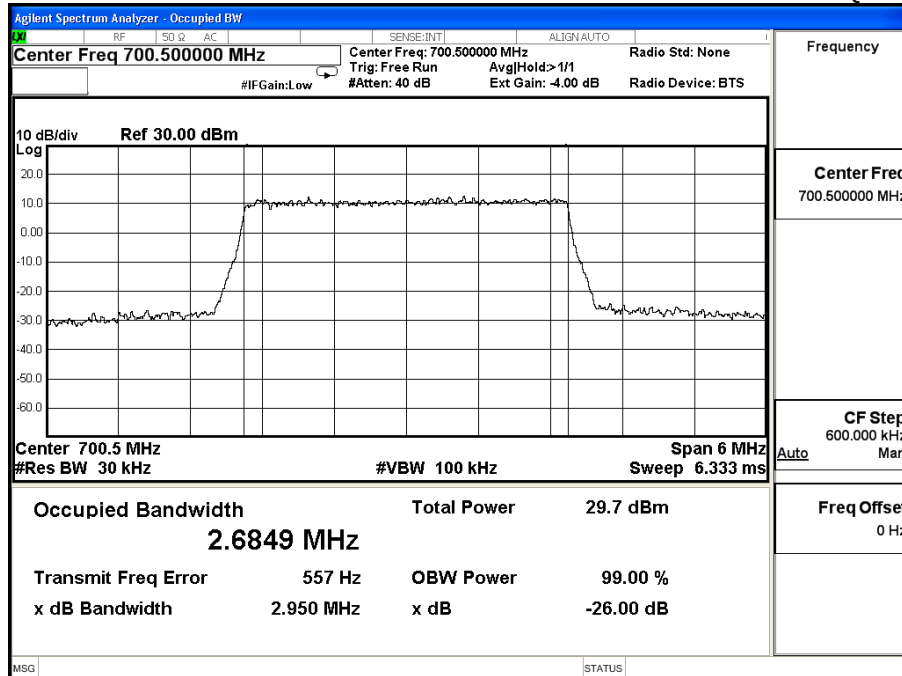
LTE Band 12 Highest channel:

3 MHz QPSK



LTE Band 12 Lowest channel

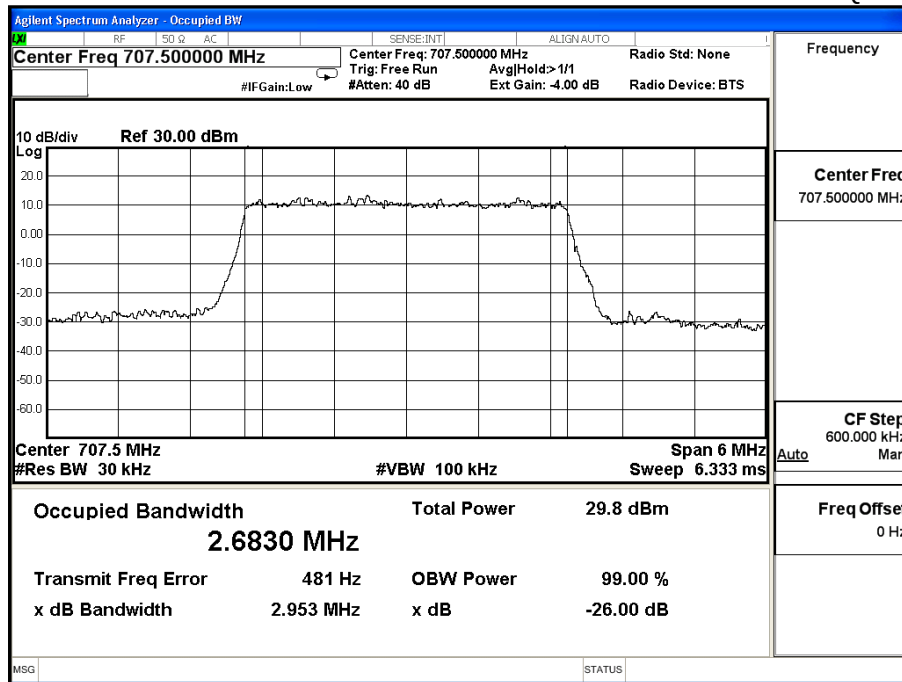
3 MHz 16-QAM





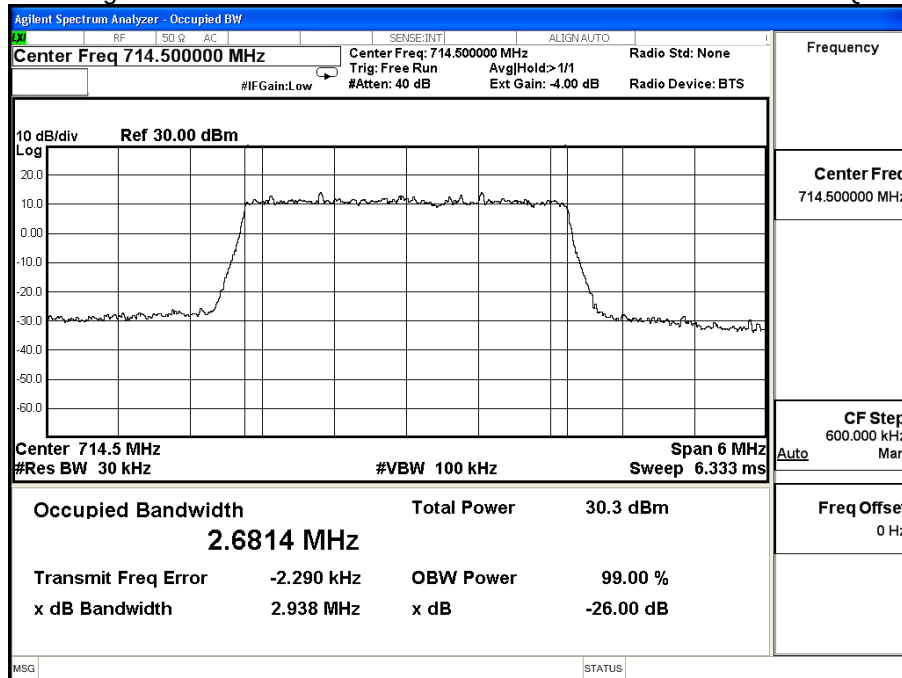
LTE Band 12 Middle channel

3 MHz 16-QAM



LTE Band 12 Highest channel:

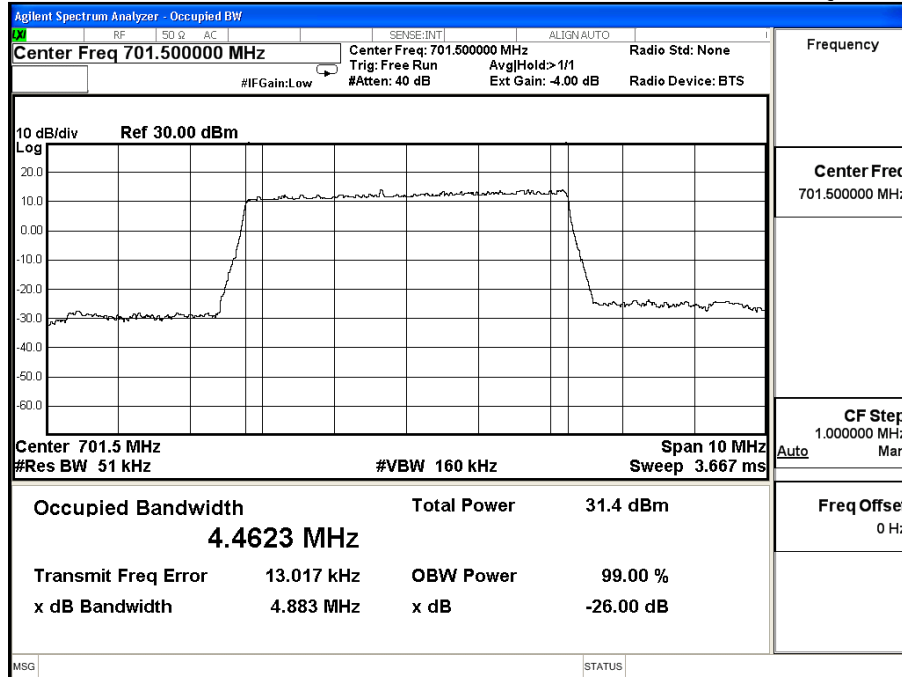
3 MHz 16-QAM





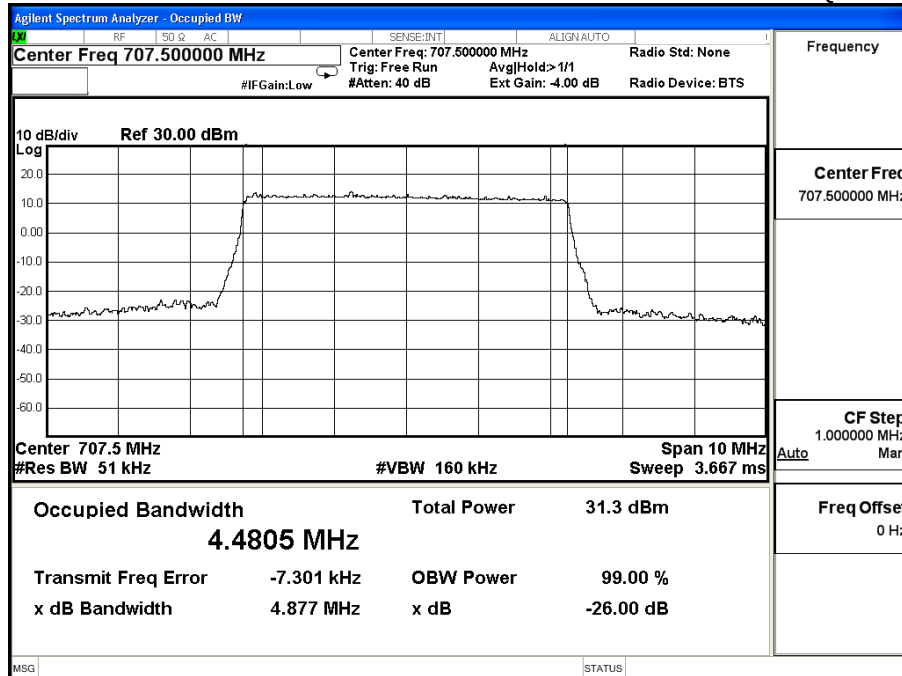
LTE Band 12 Lowest channel

5 MHz QPSK



LTE Band 12 Middle channel

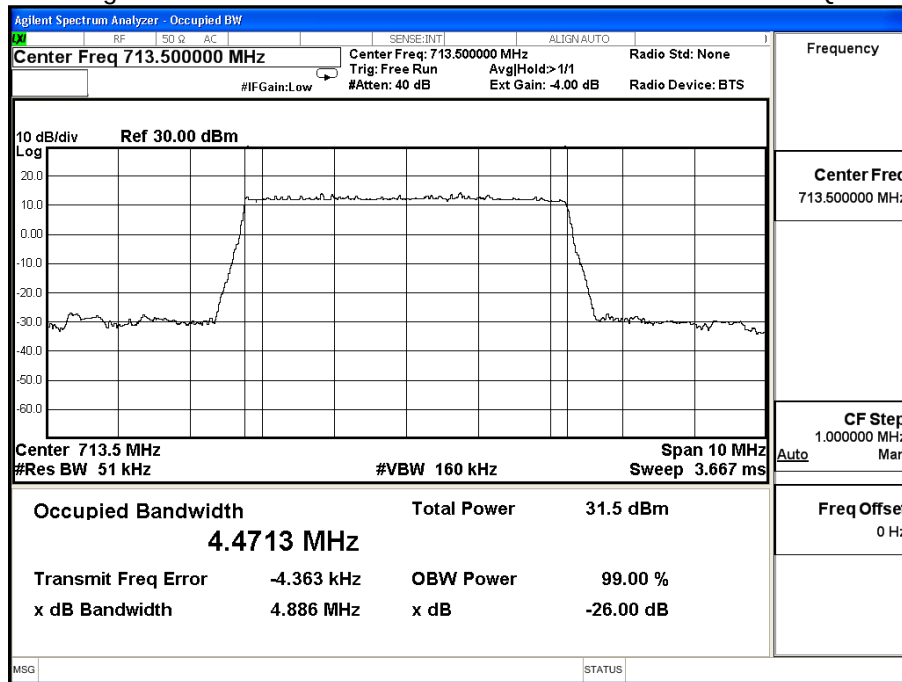
5 MHz QPSK





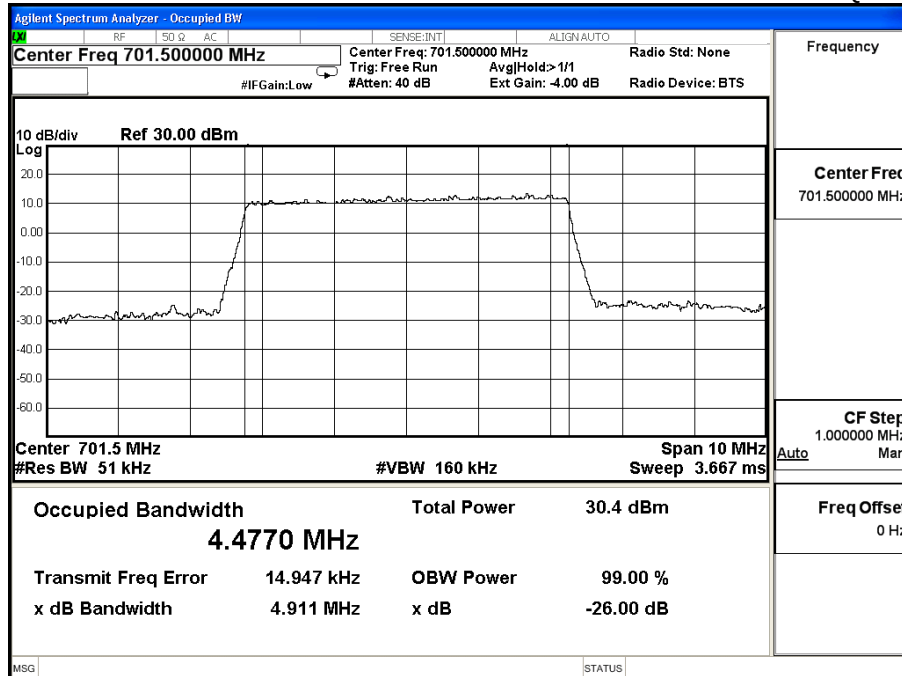
LTE Band 12 Highest channel:

5 MHz QPSK



LTE Band 12 Lowest channel

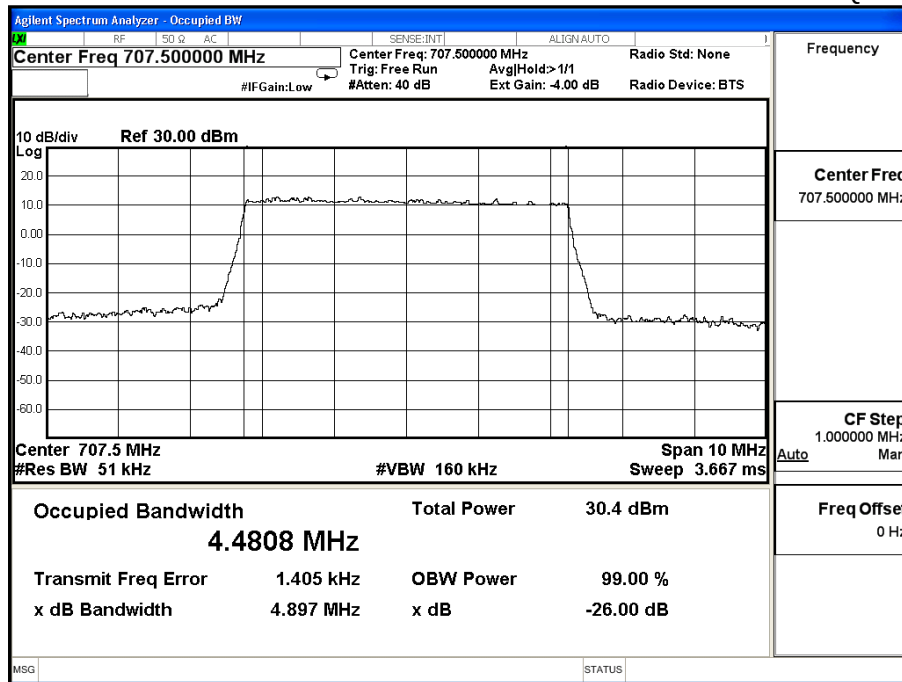
5 MHz 16-QAM





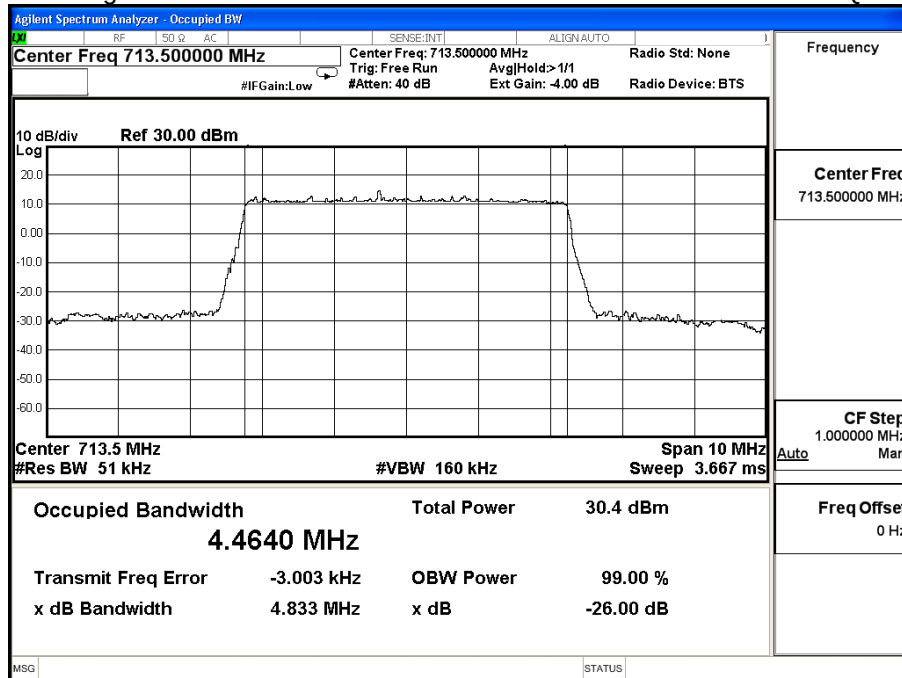
LTE Band 12 Middle channel

5 MHz 16-QAM



LTE Band 12 Highest channel:

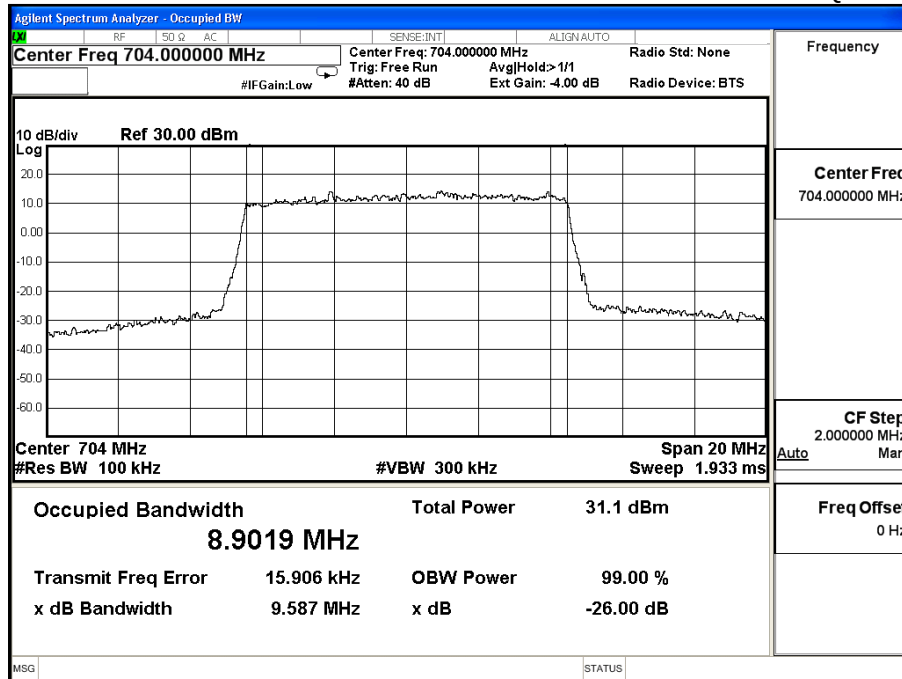
5 MHz 16-QAM





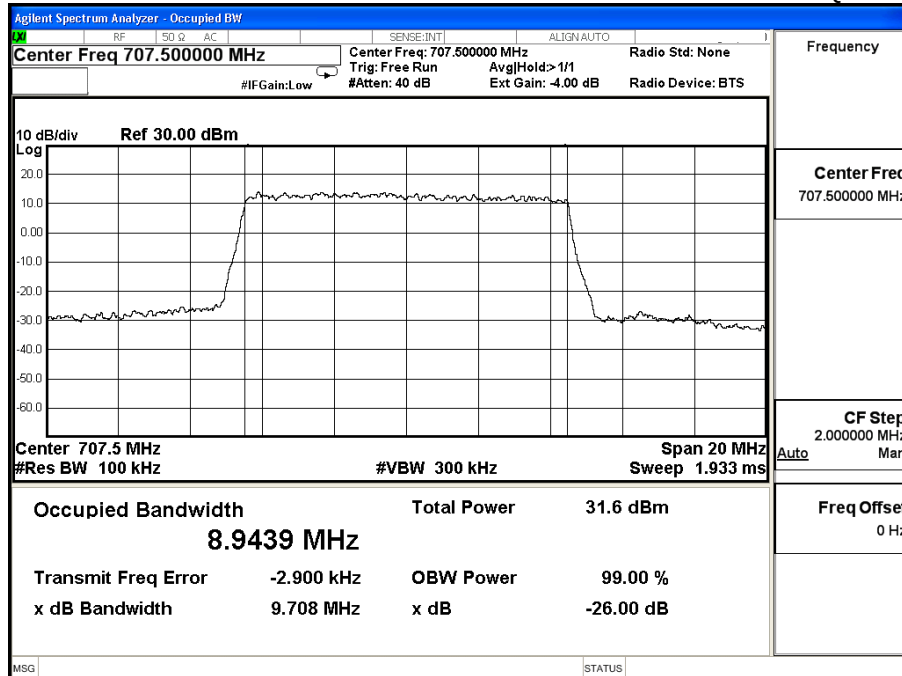
LTE Band 12 Lowest channel

10 MHz QPSK



LTE Band 12 Middle channel

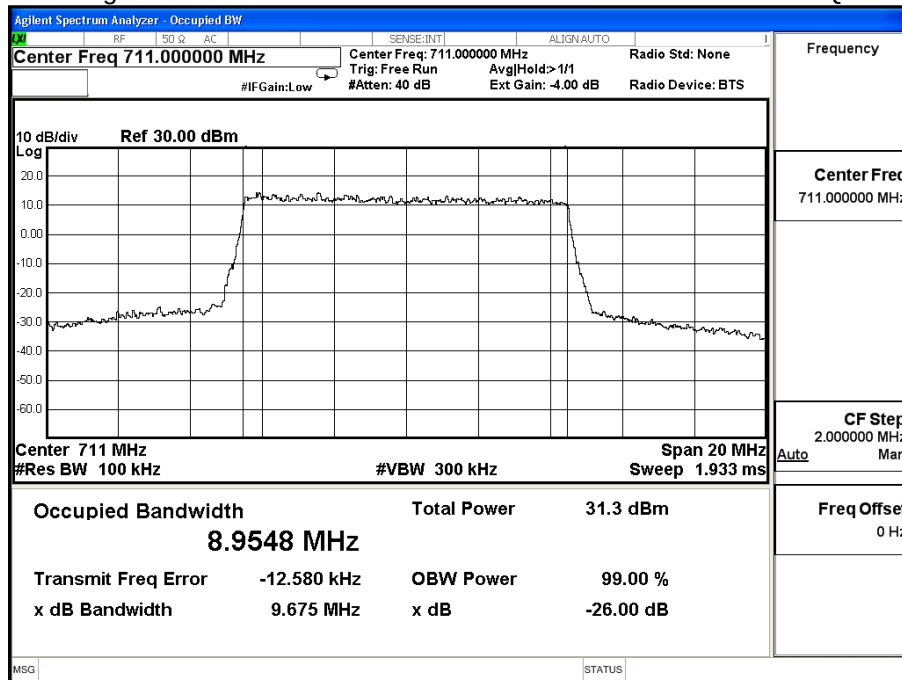
10 MHz QPSK





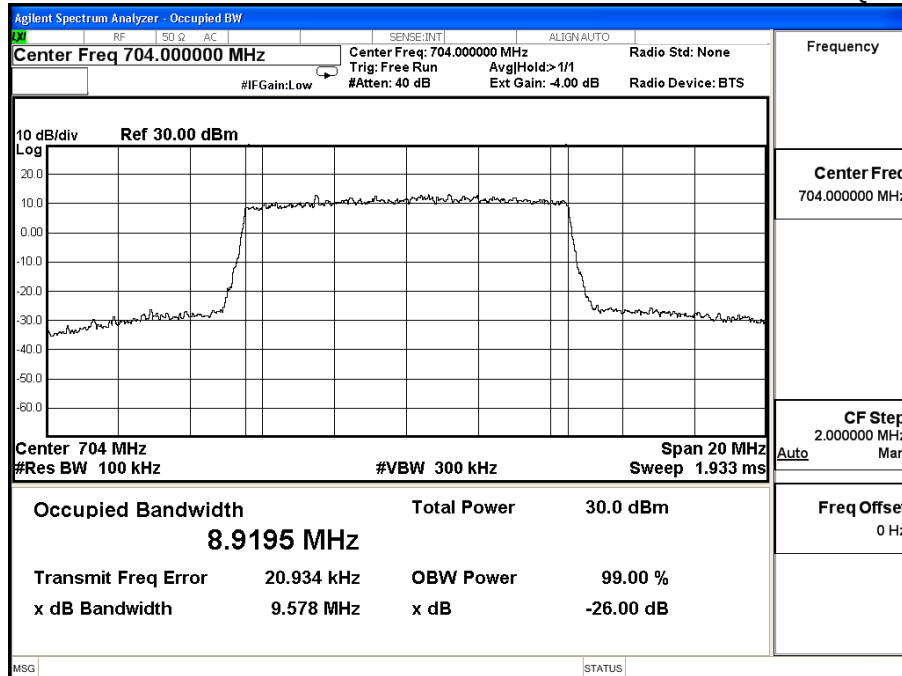
LTE Band 12 Highest channel:

10 MHz QPSK



LTE Band 12 Lowest channel

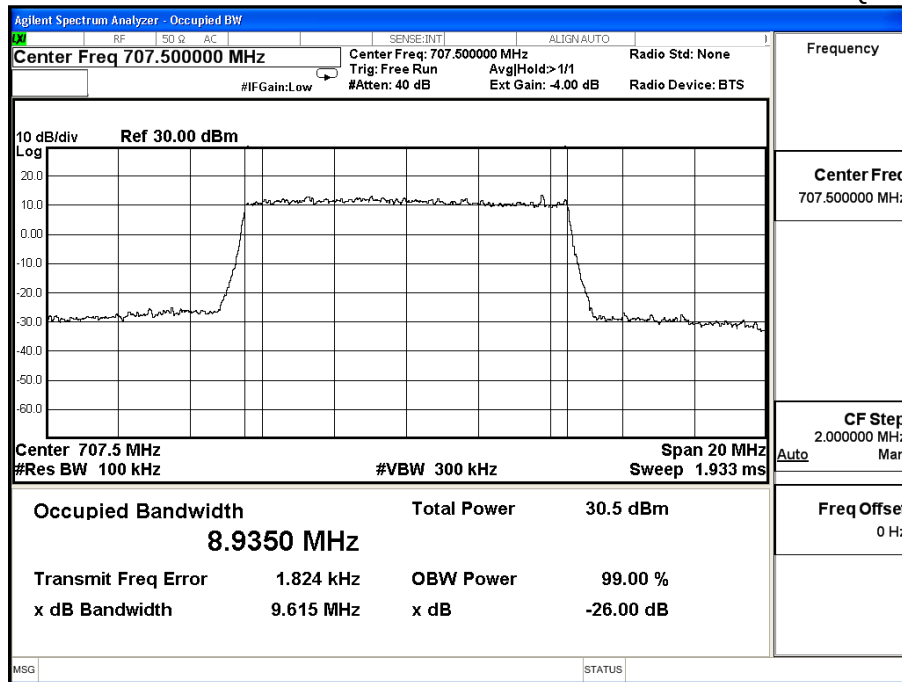
10 MHz 16-QAM





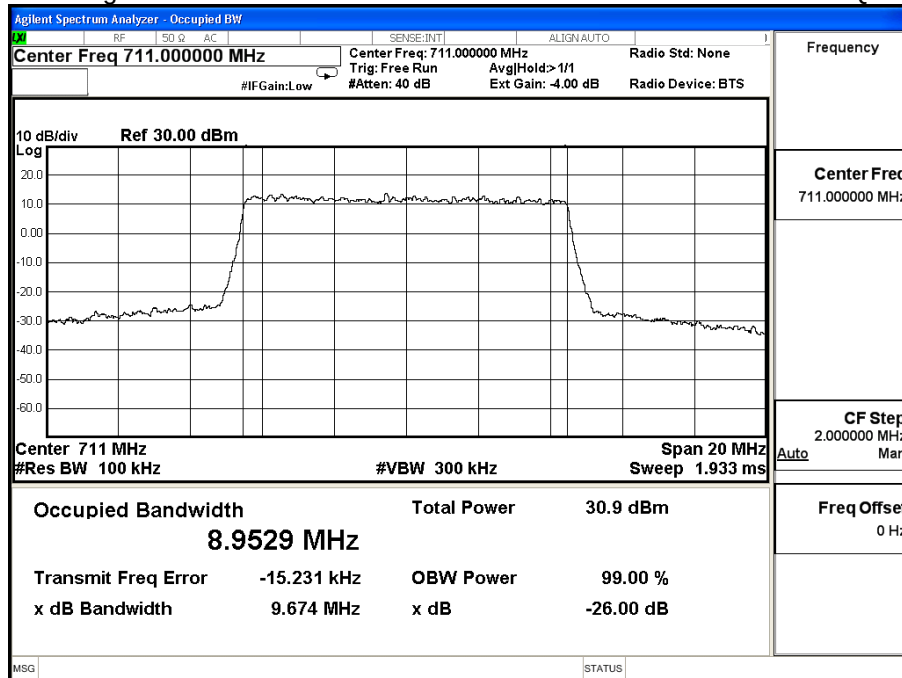
LTE Band 12 Middle channel

10 MHz 16-QAM



LTE Band 12 Highest channel:

10 MHz 16-QAM





1.2. Conducted Spurious Emissions

1.2.1. Test Result

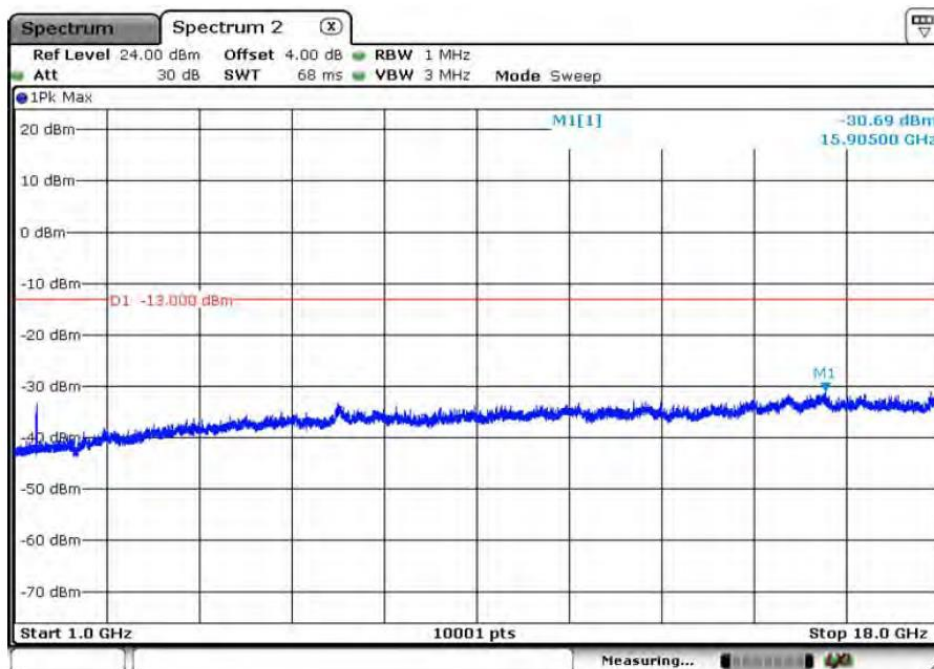
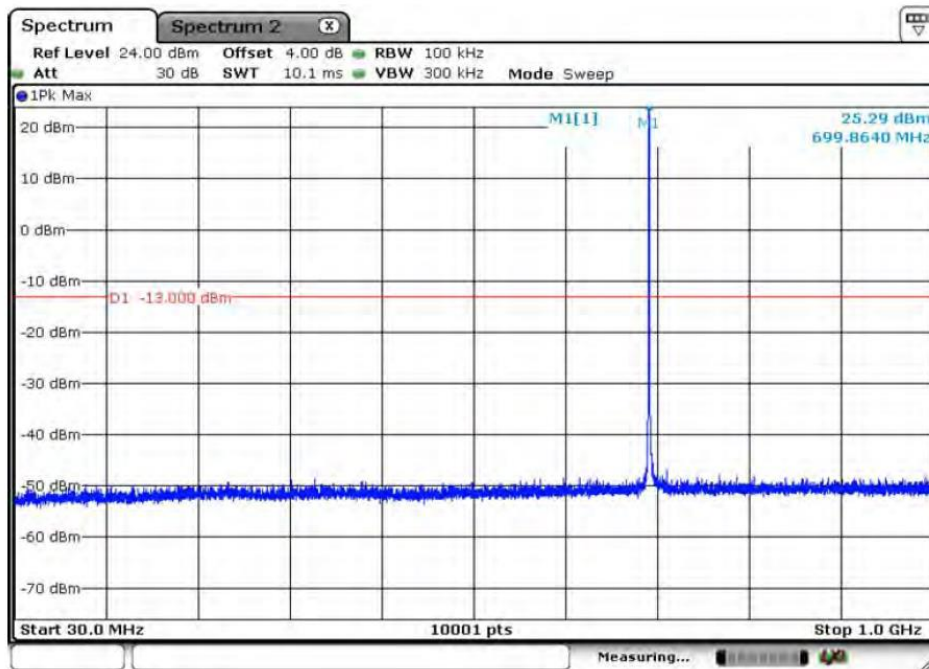
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

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

Pass, the table and plot please see annex.

LTE Band 12 Lowest channel

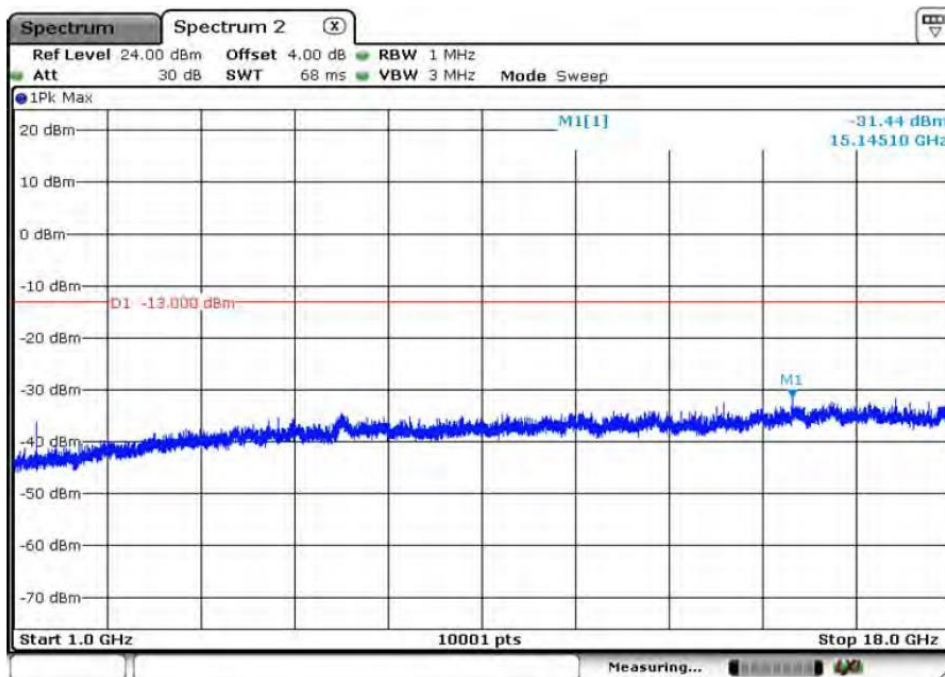
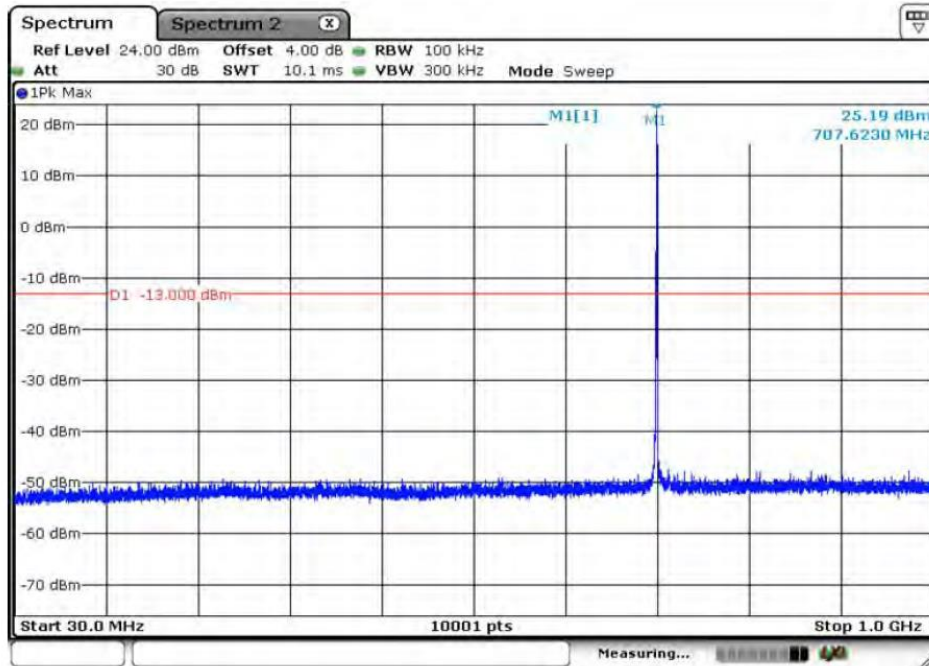
1.4MHz





LTE Band 12 middle channel

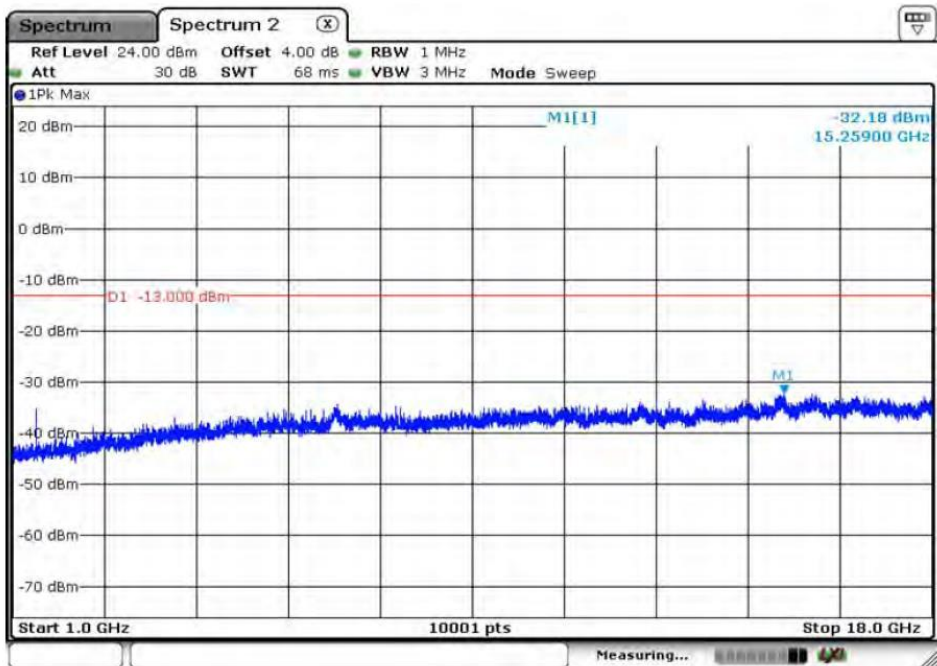
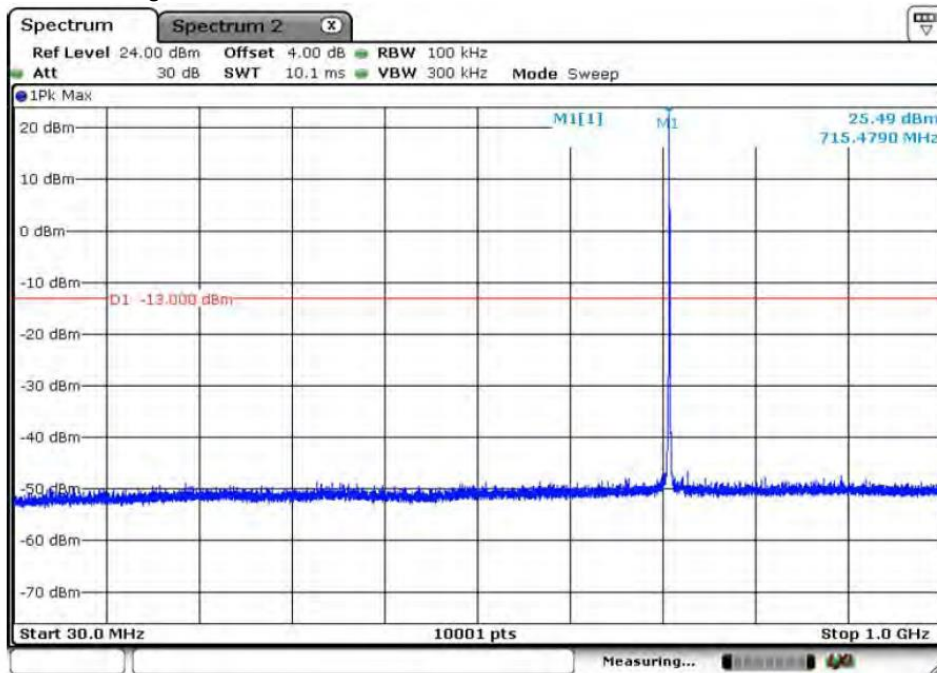
1.4MHz





LTE Band 12 high channel

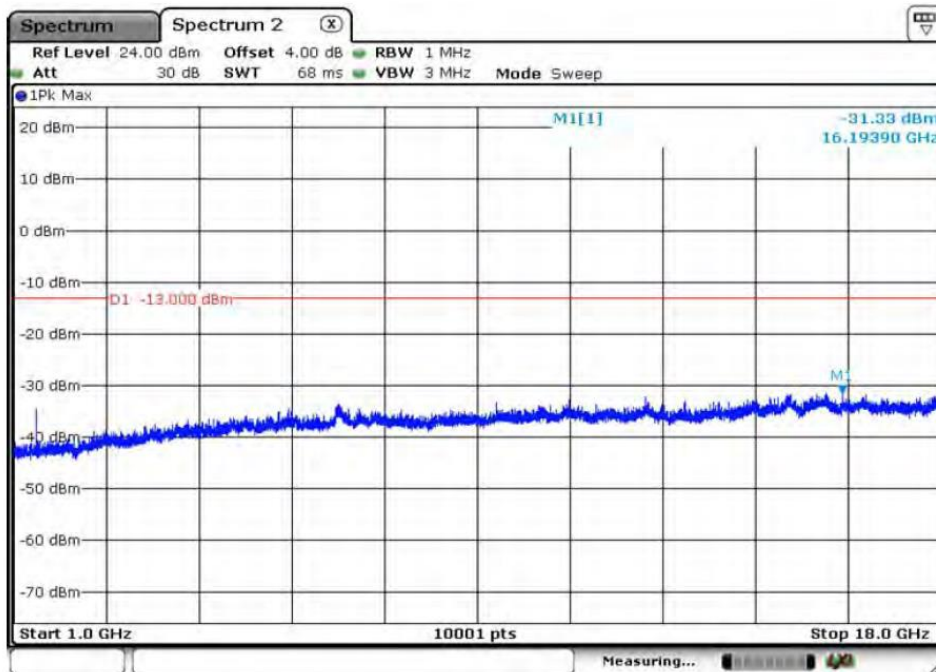
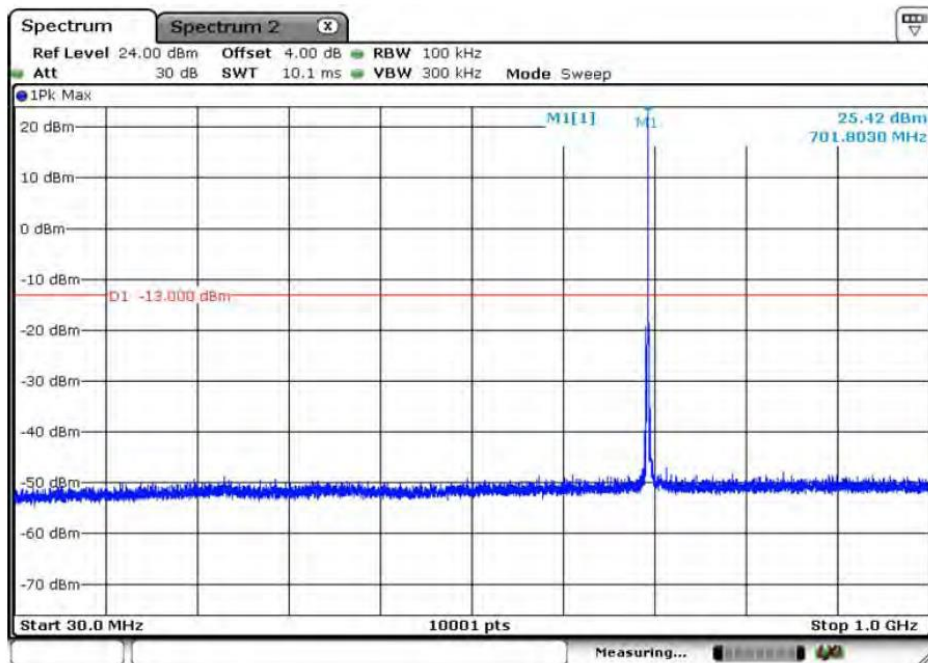
1.4MHz





LTE Band 12 Lowest channel

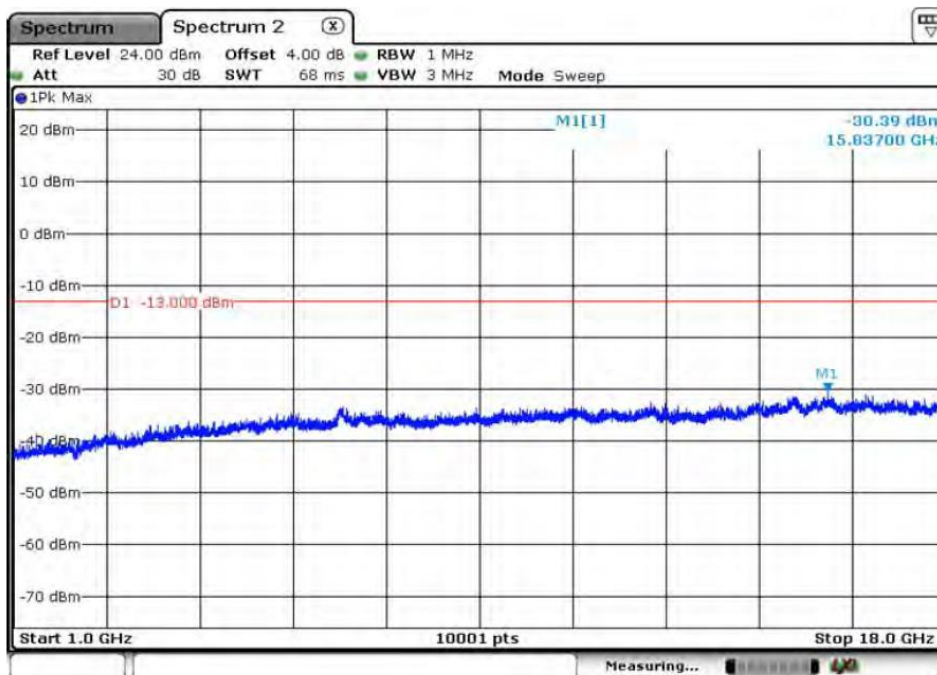
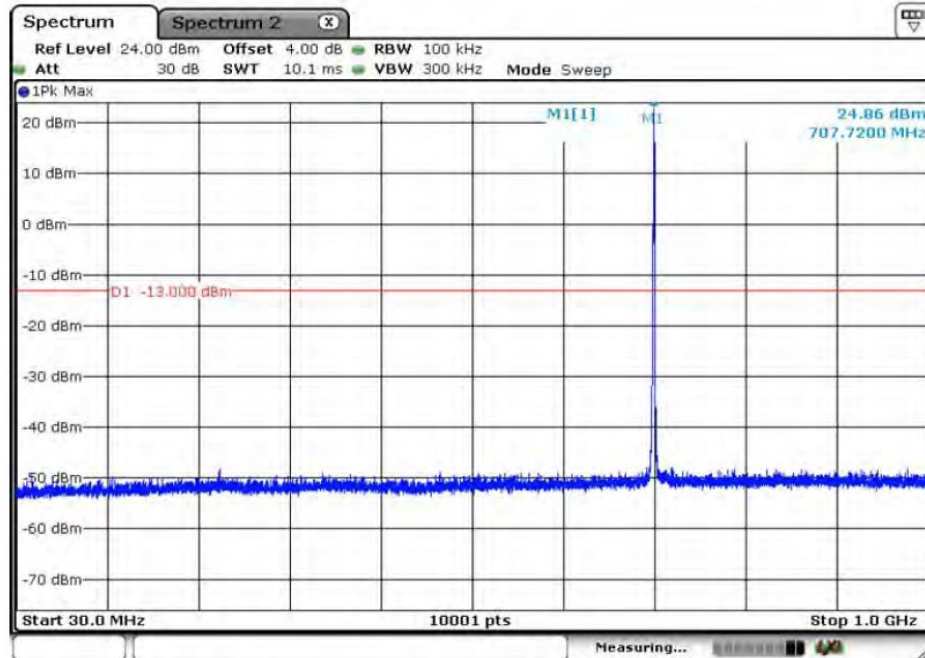
3MHz





LTE Band 12 middle channel

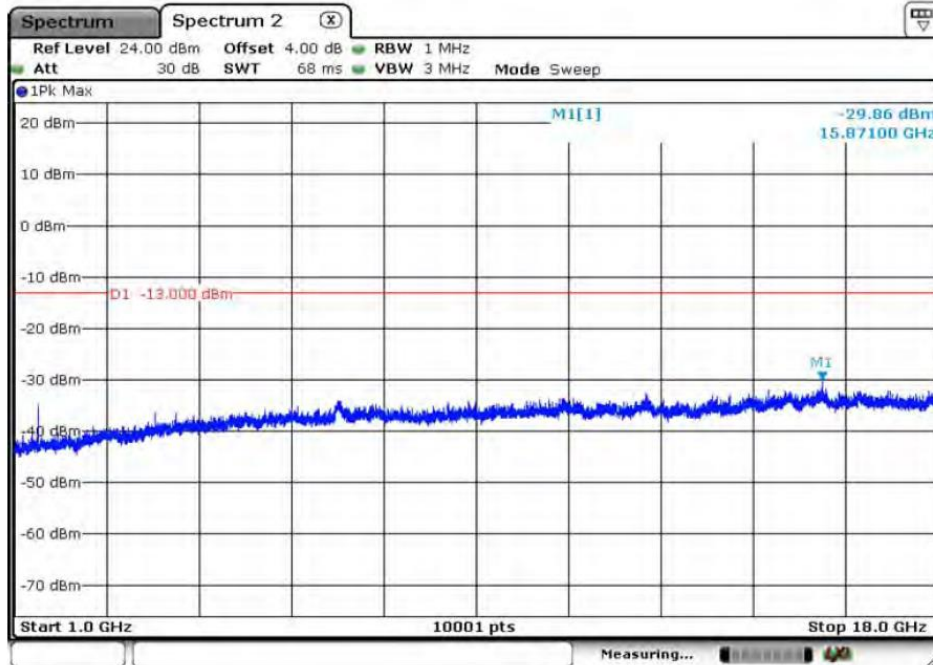
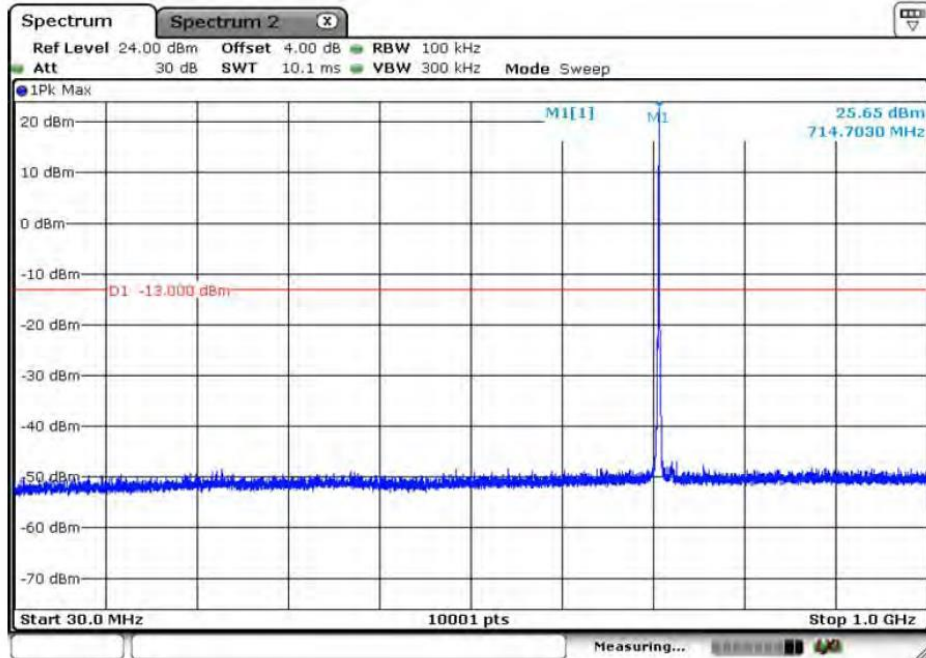
3MHz





LTE Band 12 high channel

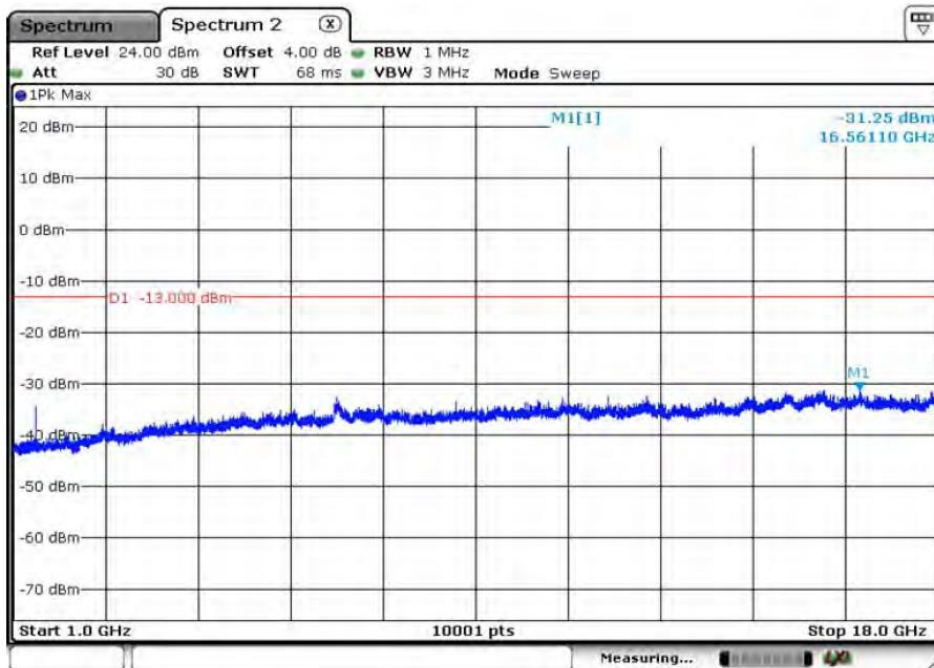
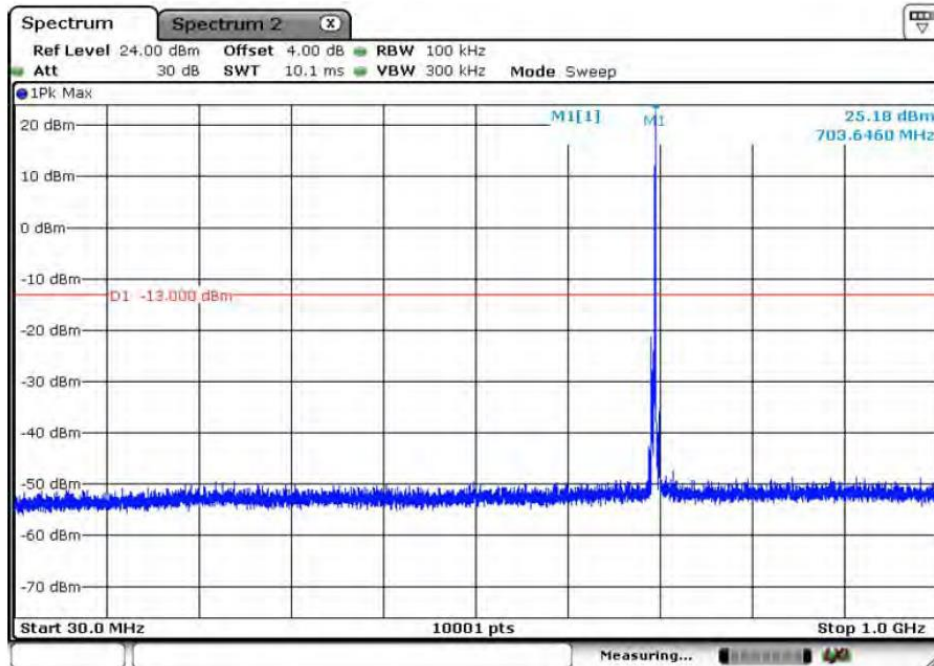
3MHz





LTE Band 12 Lowest channel

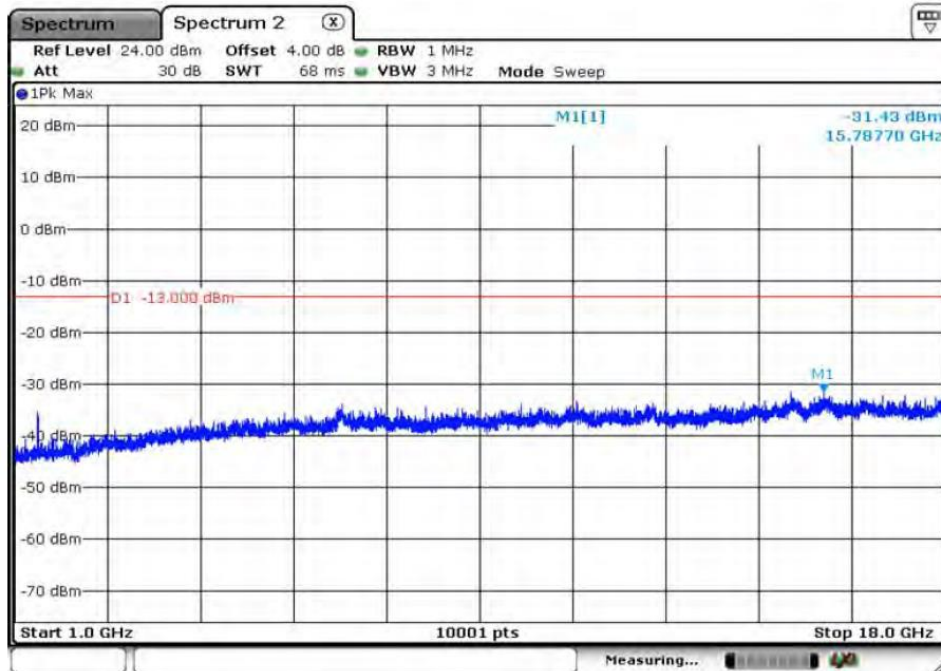
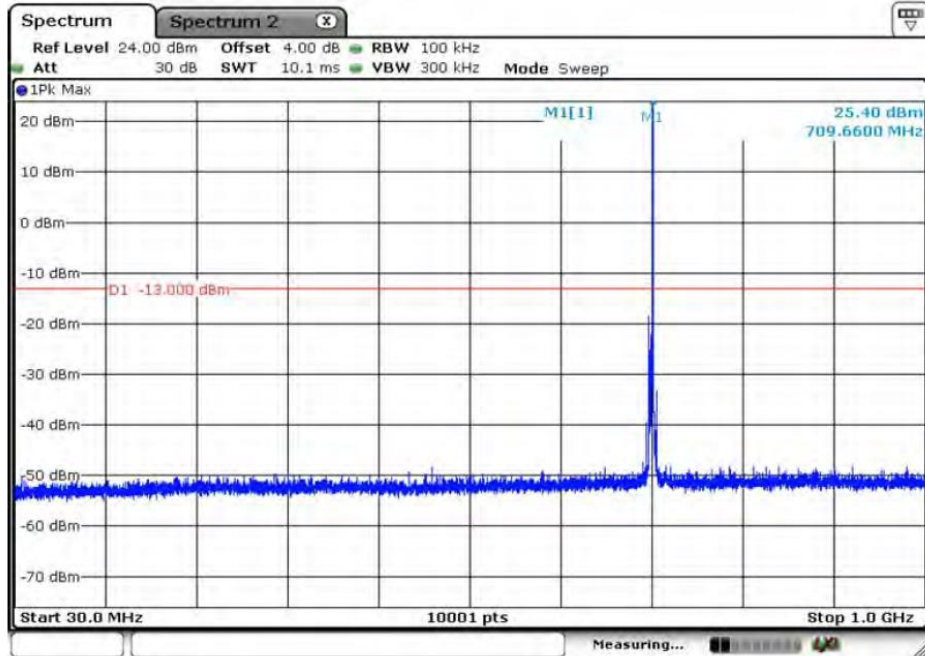
5MHz





LTE Band 12 middle channel

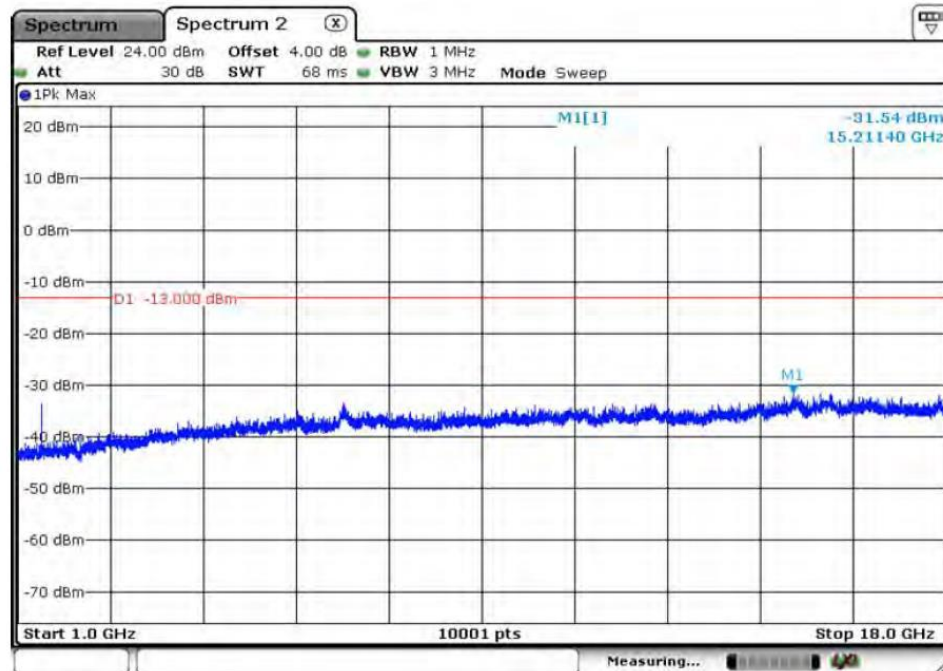
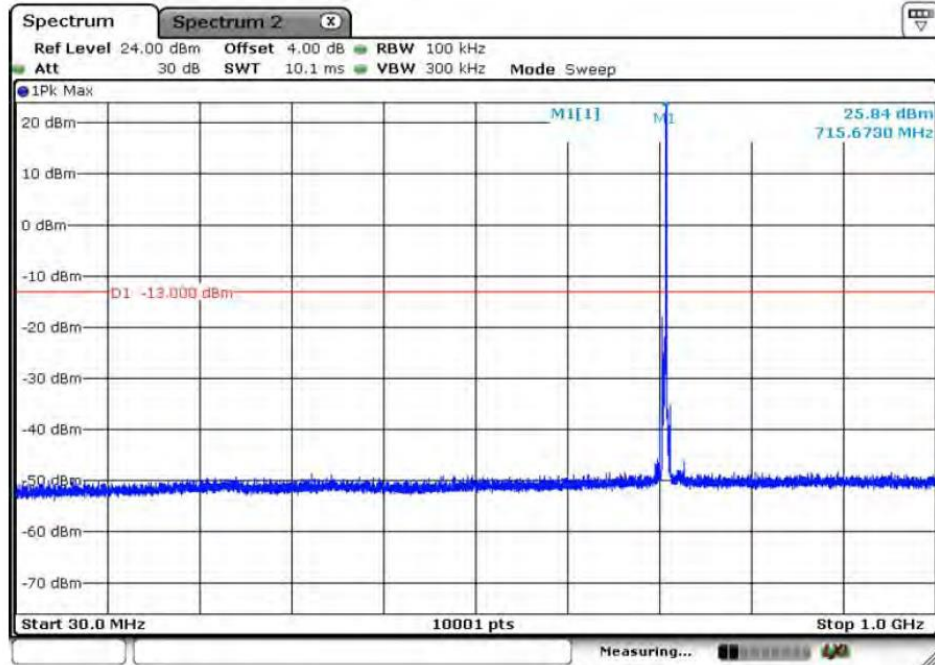
5MHz





LTE Band 12 high channel

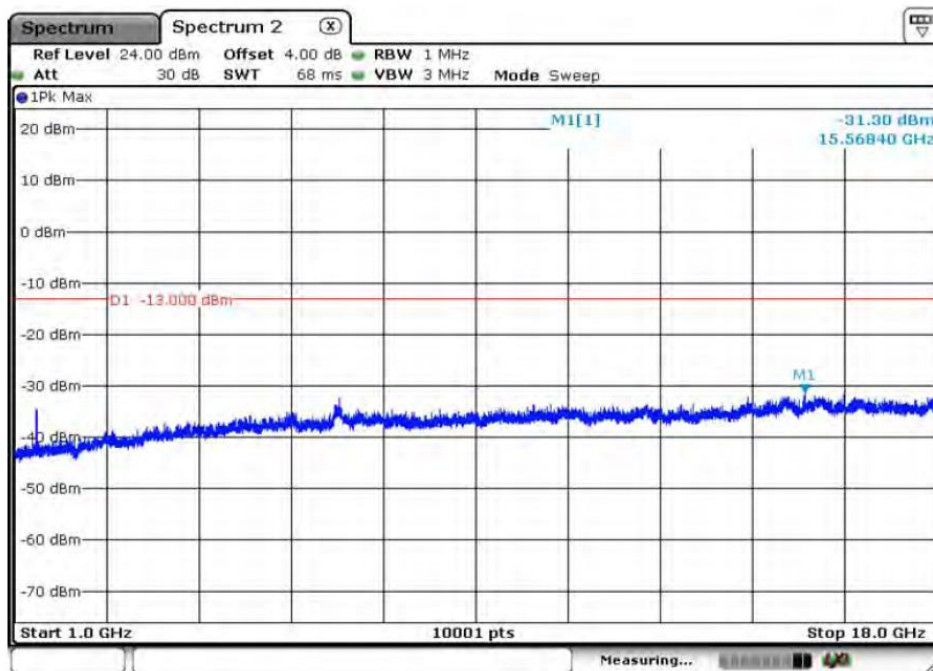
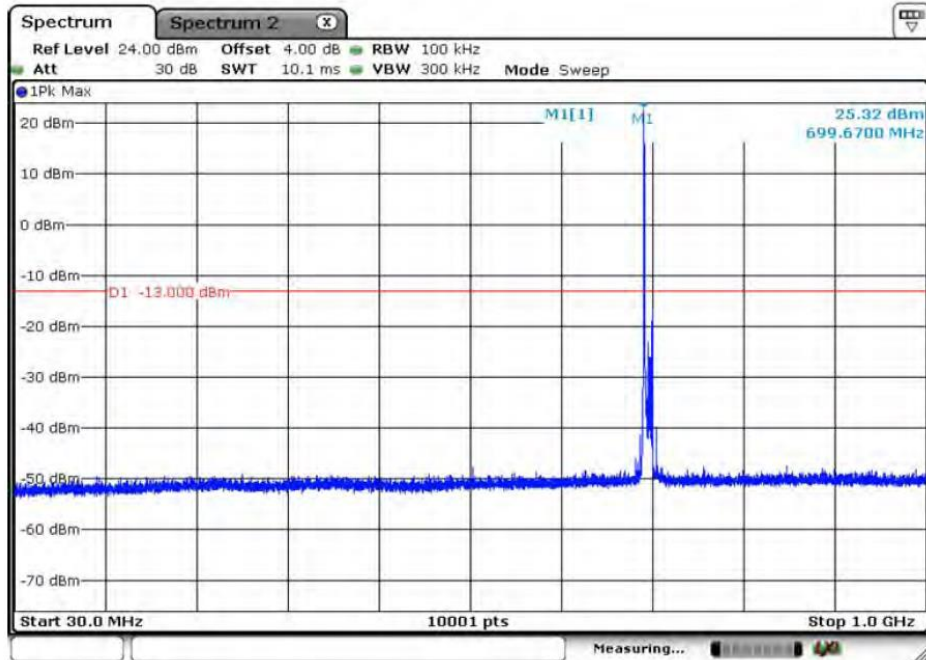
5MHz





LTE Band 12 Lowest channel

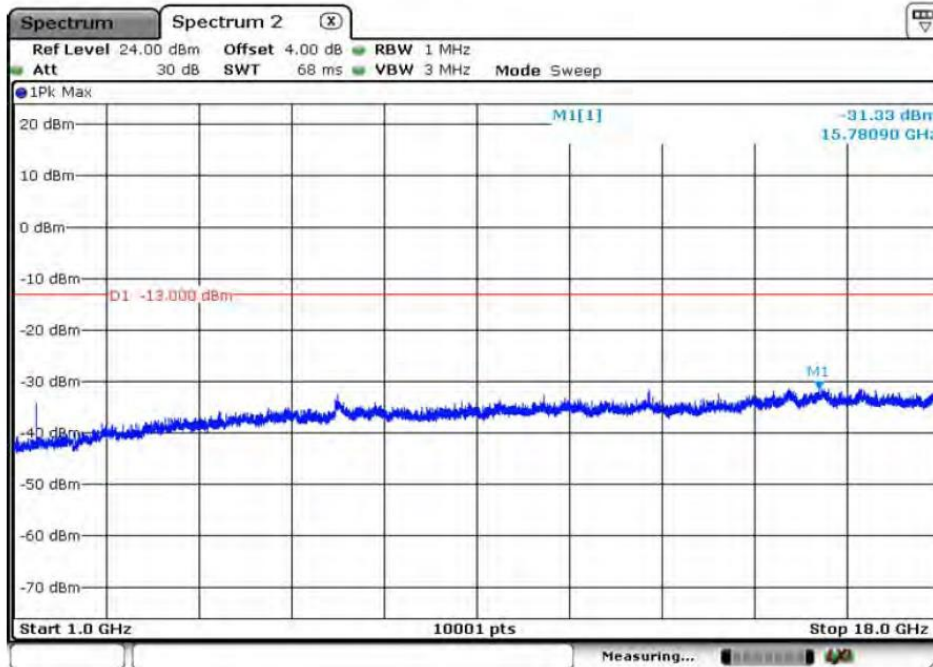
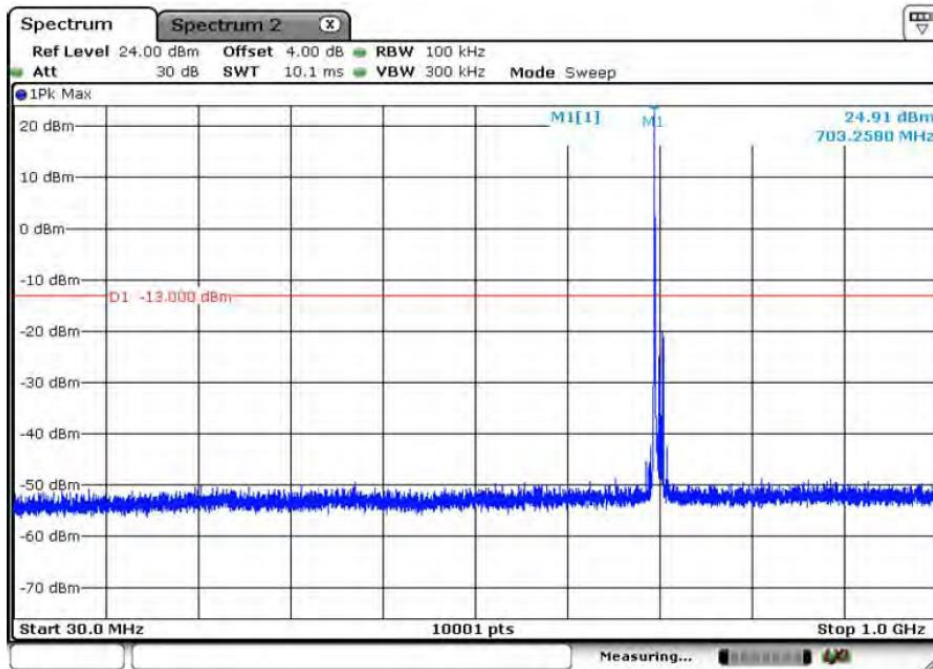
10MHz





LTE Band 12 middle channel

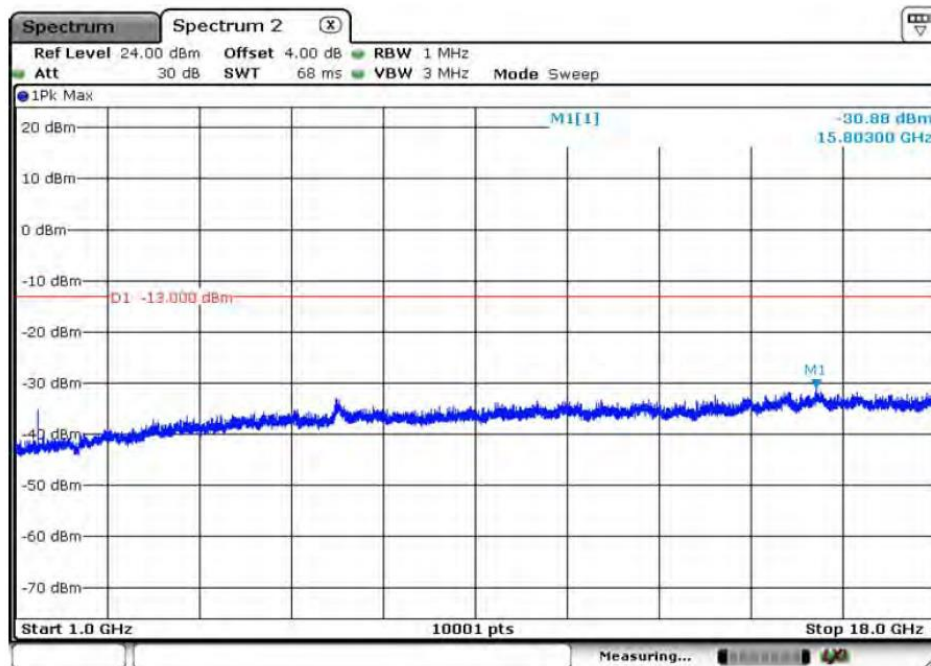
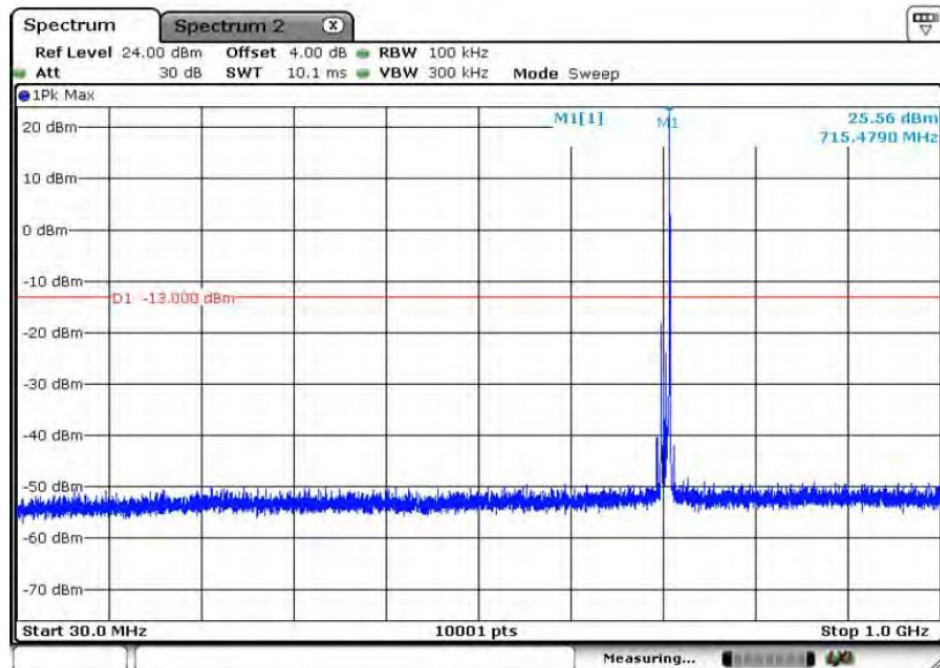
10MHz





LTE Band 12 high channel

10MHz





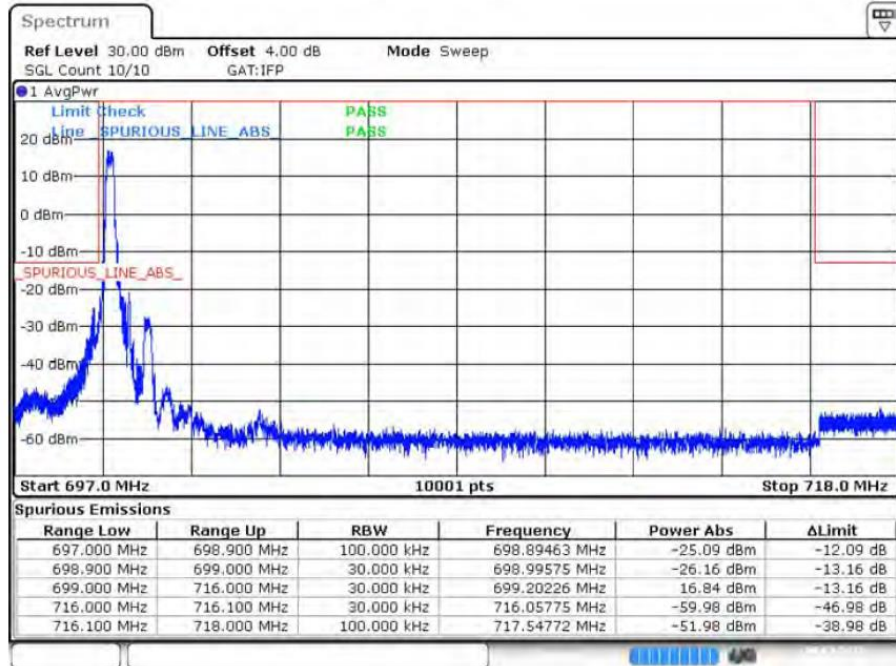
1.3. Conducted Out of Band Emissions

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.

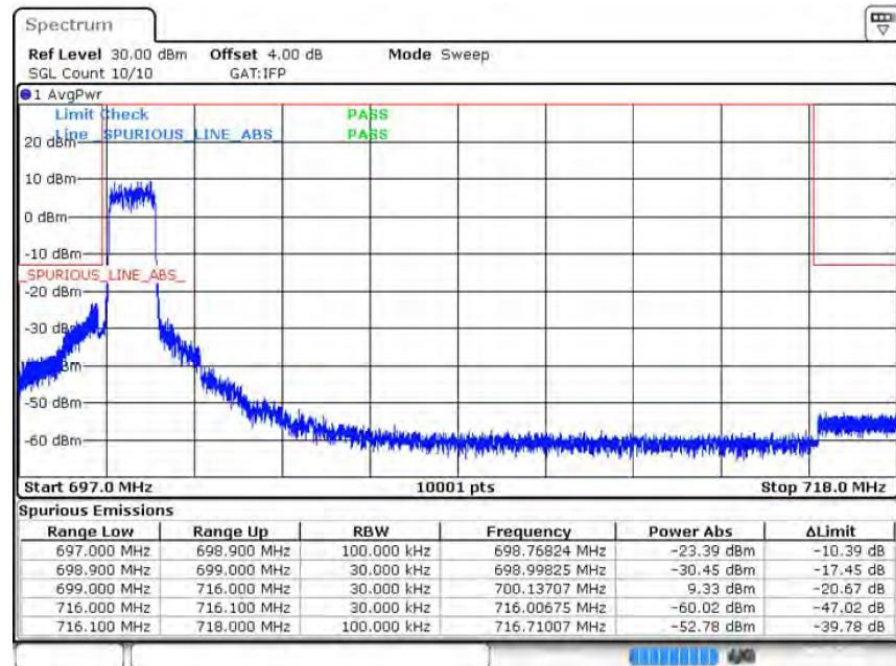
LTE Band 12 Lowest channel

1.4MHz 1RB



LTE Band 12 Lowest channel

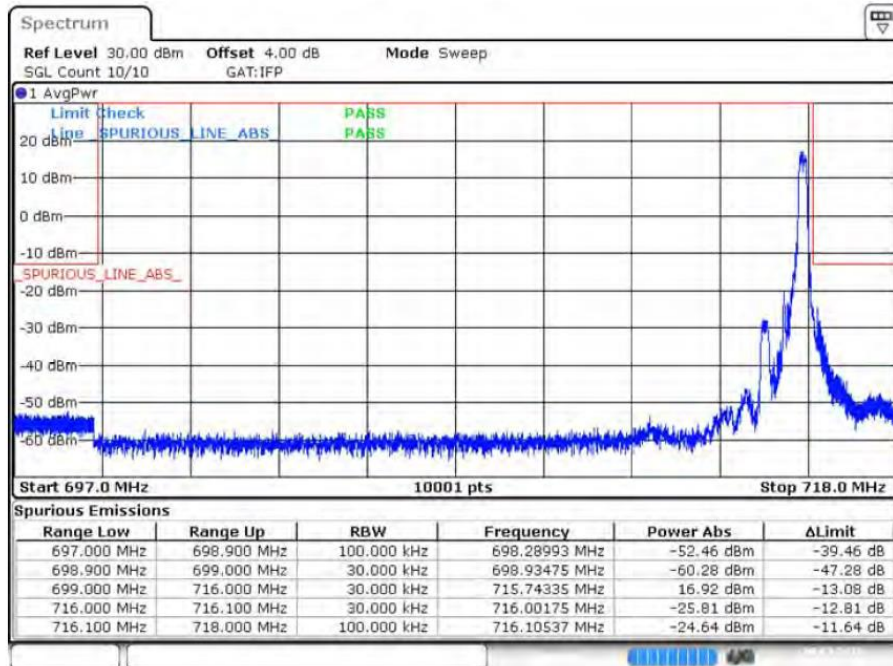
1.4MHz 6RB





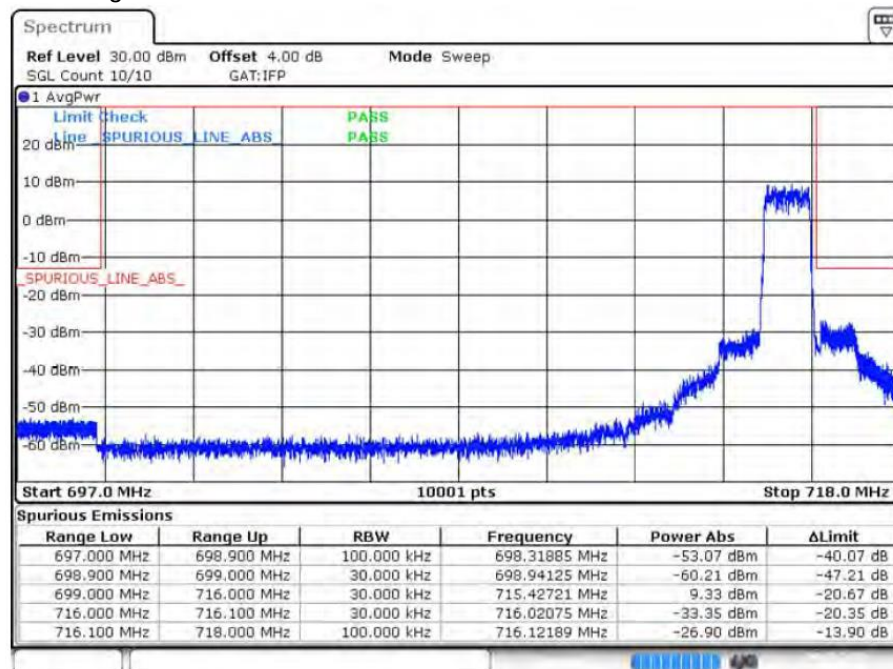
LTE Band 12 Highest channel:

1.4MHz 1RB



LTE Band 12 Highest channel:

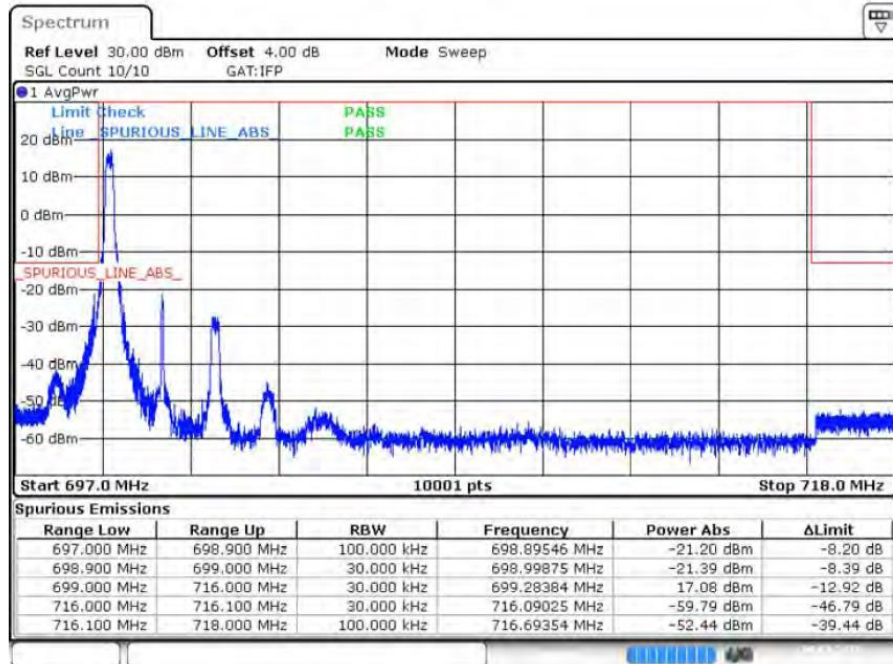
1.4MHz 6RB





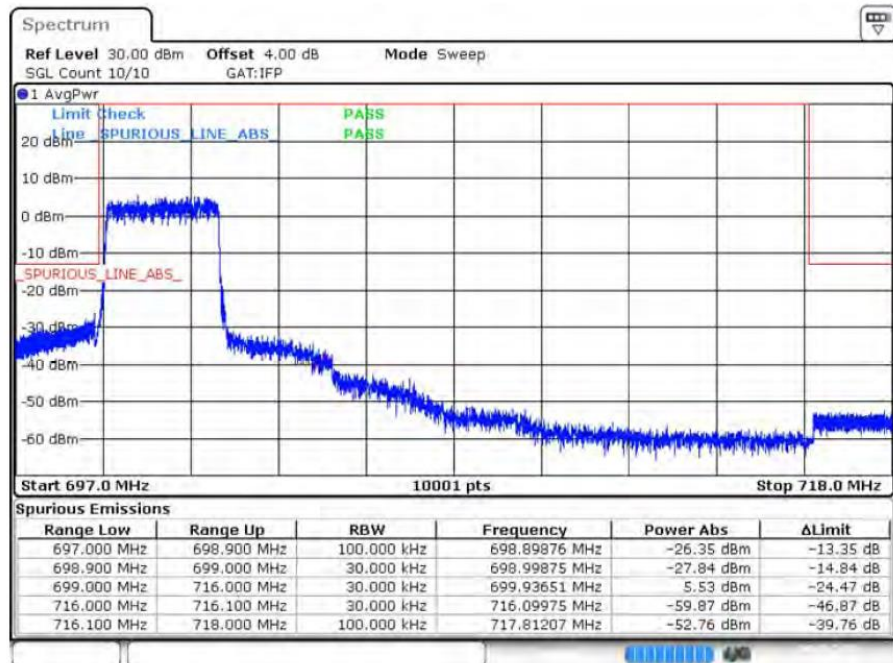
LTE Band 12 Lowest channel

3MHz 1RB



LTE Band 12 Lowest channel

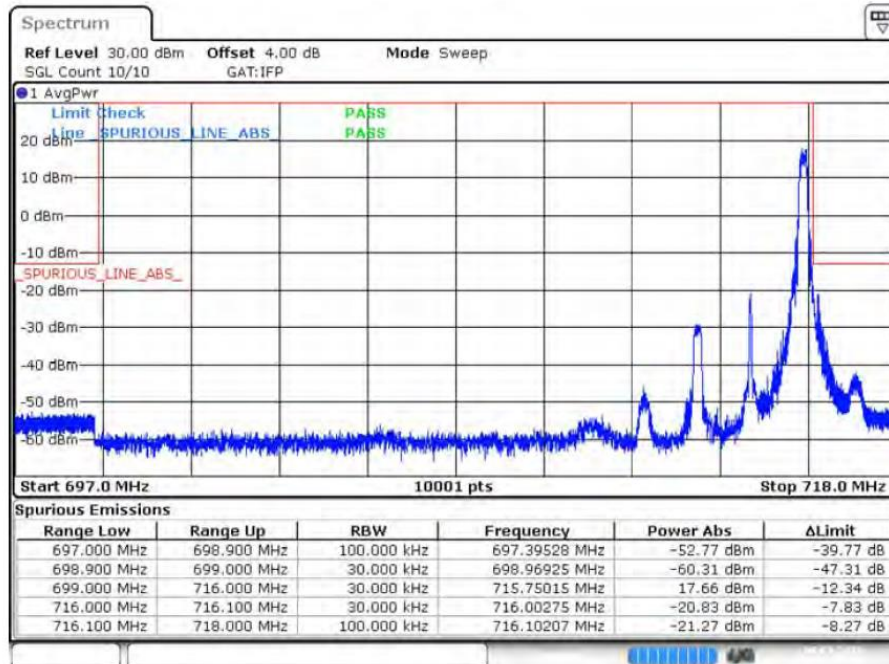
3MHz 15RB





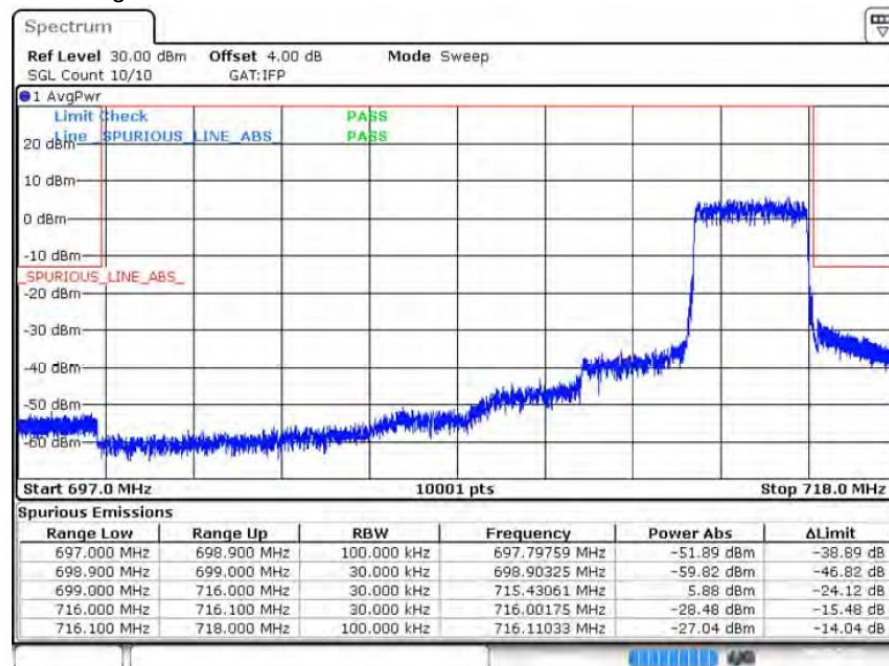
LTE Band 12 Highest channel:

3MHz 1RB



LTE Band 12 Highest channel:

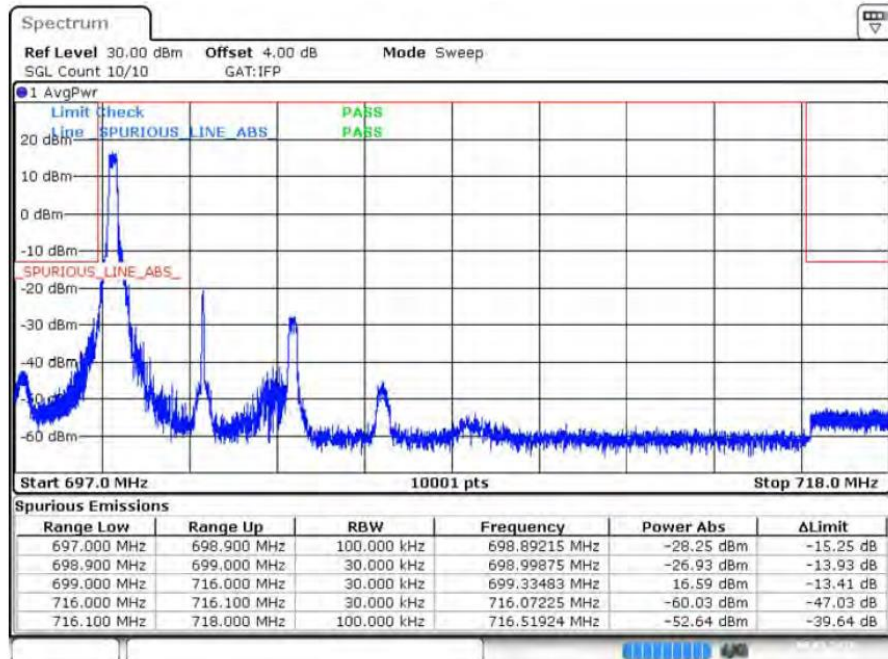
3MHz 15RB





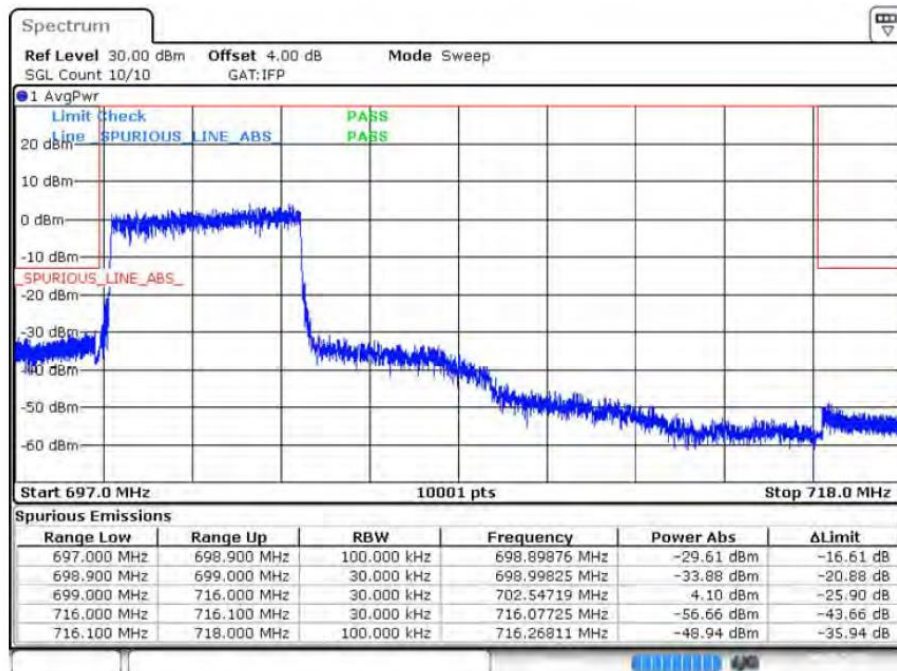
LTE Band 12 Lowest channel

5MHz 1RB



LTE Band 12 Lowest channel

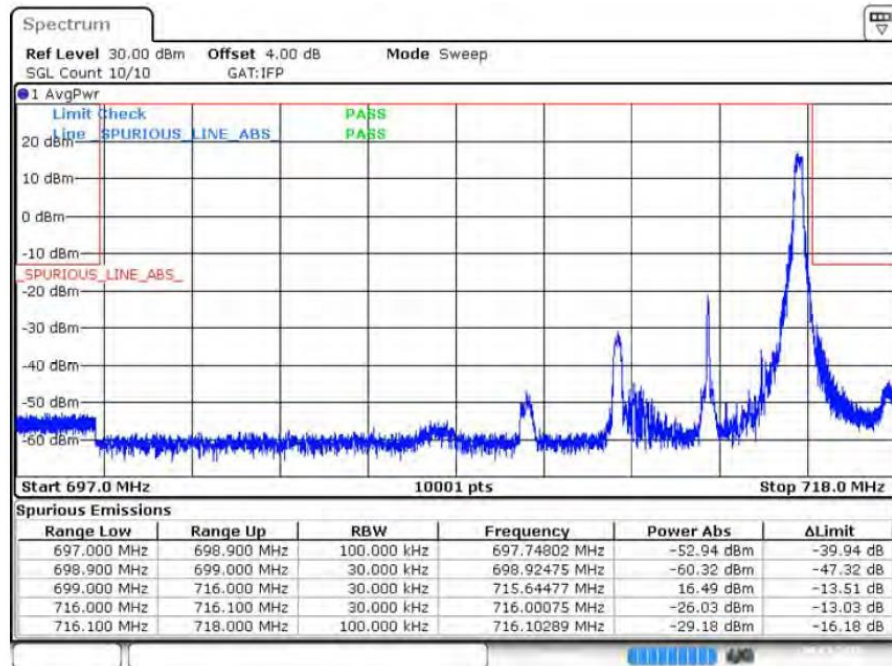
5MHz 25RB





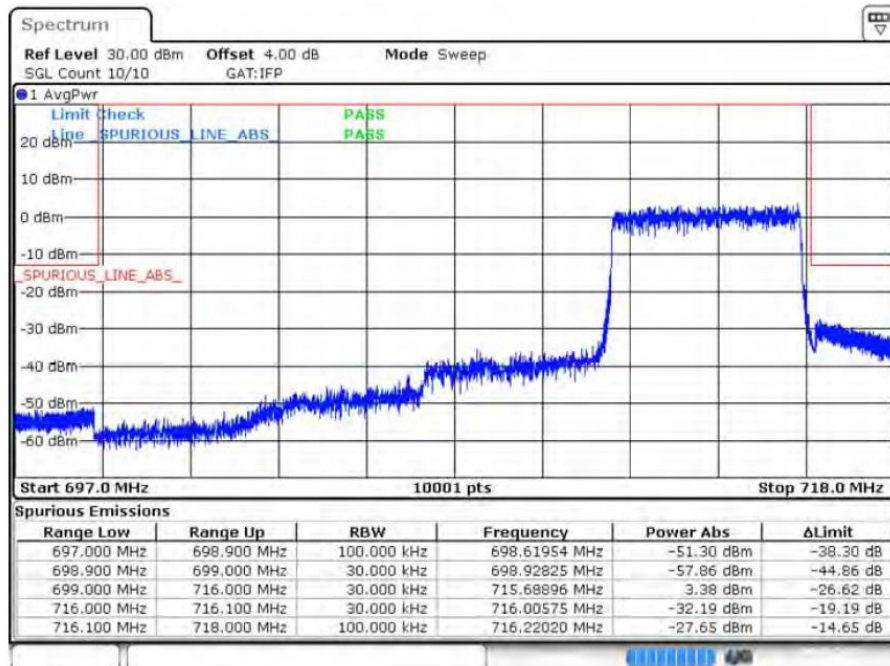
LTE Band 12 Highest channel:

5MHz 1RB



LTE Band 12 Highest channel:

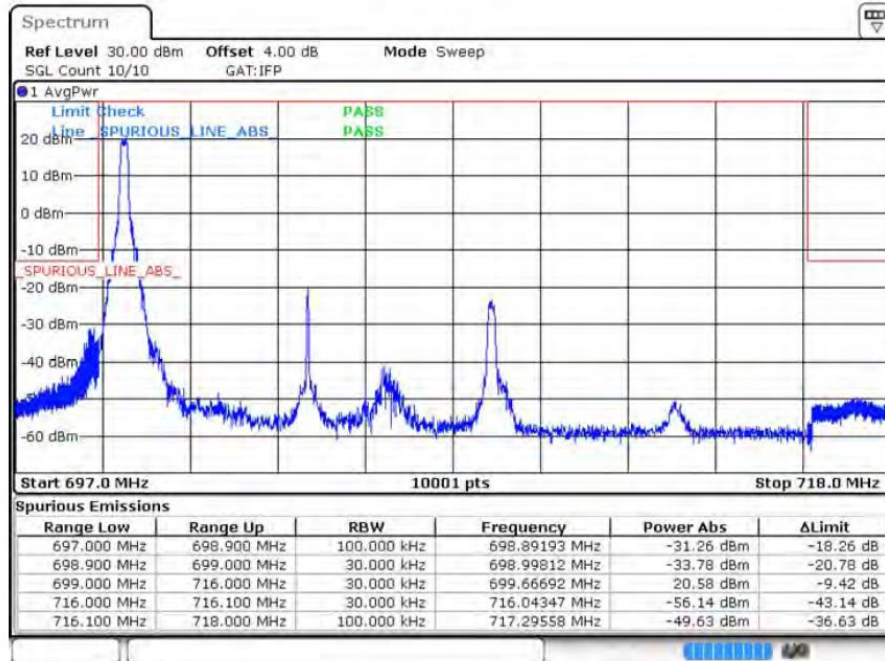
5MHz 25RB





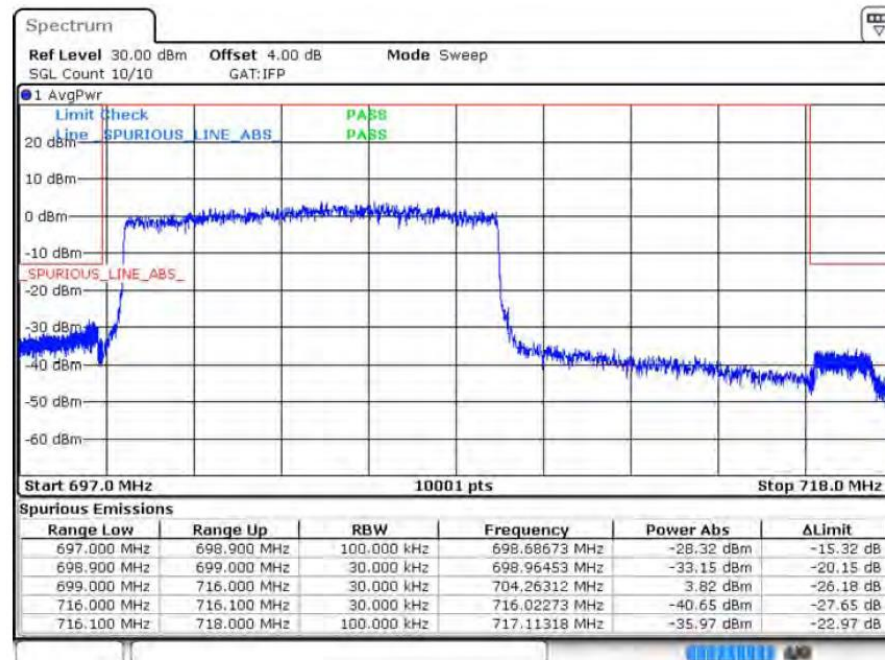
LTE Band 12 Lowest channel

10MHz 1RB



LTE Band 12 Lowest channel

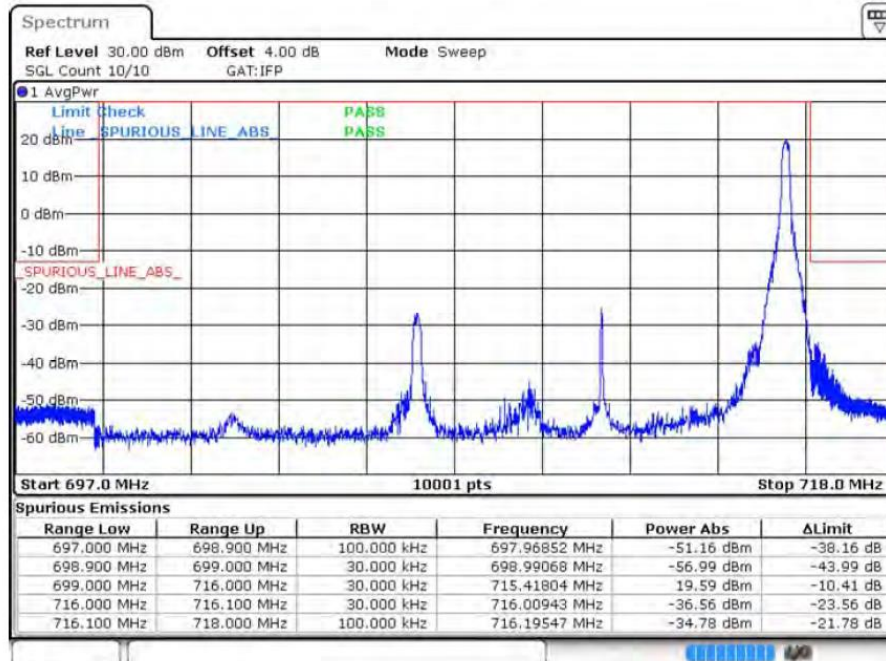
10MHz 50RB





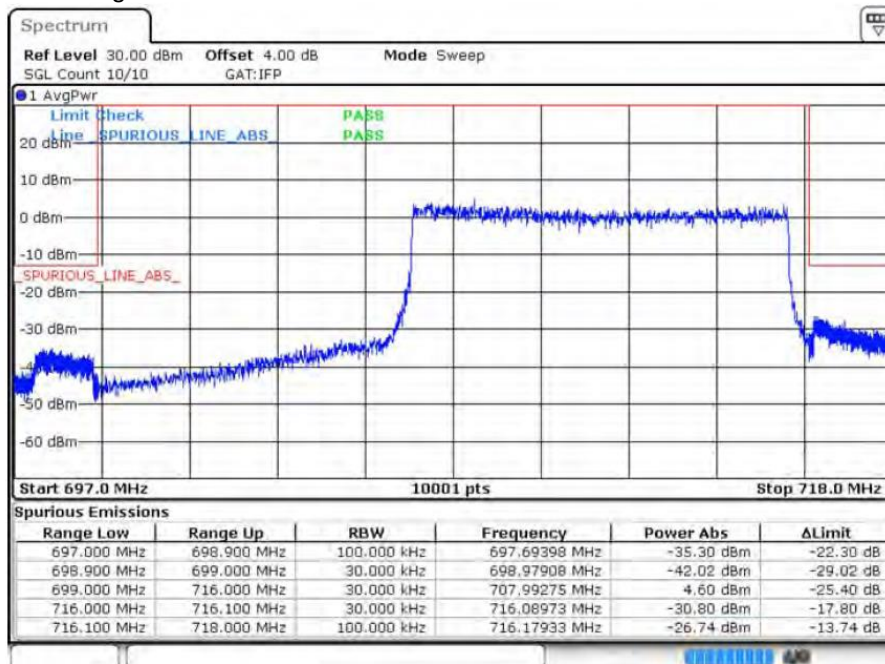
LTE Band 12 Highest channel:

10MHz 1RB



LTE Band 12 Highest channel:

10MHz 50RB



***** END *****