



FCC RF Test Report

APPLICANT : Quanta Computer Inc.
EQUIPMENT : LTE M.2 Card
BRAND NAME : Quanta
MODEL NAME : LM17B
MARKETING NAME : LM17B
FCC ID : HFS-LM17B
STANDARD : 47 CFR Part 2, 24(E), 27(F), 27(L)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Dec. 11, 2014 and completely tested on Dec. 29, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and the testing has shown the tested sample to be in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



Testing Laboratory
1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : HFS-LM17B

Page Number : 1 of 25

Report Issued Date : Feb. 16, 2015

Report Version : Rev. 02

Report Template No.: BU5-FGLTE Version 1.3



TABLE OF CONTENTS

REVISION HISTORY.....3
SUMMARY OF TEST RESULT4
1 GENERAL DESCRIPTION6
1.1 Applicant6
1.2 Manufacturer.....6
1.3 Product Feature of Equipment Under Test.....6
1.4 Product Specification subjective to this standard7
1.5 Modification of EUT7
1.6 Emission Designator8
1.7 Testing Location9
1.8 Applicable Standards.....9
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST10
2.1 Test Mode10
2.2 Connection Diagram of Test System.....12
2.3 Support Unit used in test configuration and system13
2.4 Measurement Results Explanation Example.....13
3 CONDUCTED TEST ITEMS14
3.1 Measuring Instruments14
3.2 Test Setup14
3.3 Test Result of Conducted Test14
3.4 Conducted Output Power and ERP/EIRP15
3.5 Peak-to-Average Ratio16
3.6 Occupied Bandwidth.....17
3.7 Conducted Band Edge18
3.8 Conducted Spurious Emission19
3.9 Frequency Stability20
4 RADIATED TEST ITEMS21
4.1 Measuring Instruments21
4.2 Test Setup21
4.3 Test Result of Radiated Test21
4.4 Effective Radiated Power and Effective Isotropic Radiated Power22
4.5 Radiated Spurious Emission23
5 LIST OF MEASURING EQUIPMENT24
6 UNCERTAINTY OF EVALUATION25
APPENDIX A. TEST RESULTS OF CONDUCTED TEST
APPENDIX B. TEST RESULTS OF RADIATED TEST
APPENDIX C. SETUP PHOTOGRAPHS



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG4D1128	Rev. 01	Initial issue of report	Feb. 10, 2015
FG4D1128	Rev. 02	Revising standards.	Feb. 16, 2015



SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.4	§2.1046	RSS-Gen(4.8) RSS-130(4.4) RSS-133 (6.4) RSS-139 (6.4)	Conducted Output Power	Reporting Only	PASS	-
3.5	§24.232(d)	RSS-130(4.4) RSS-133 (6.4) RSS-139 (6.4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049 §24.238(b) §27.53(h)(3)	RSS-GEN(4.6.1) RSS-130 (3.1) RSS-133 (3.1) RSS-139 (3.1)	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §24.238(a) §27.53(c)(2) §27.53(c)(4) §27.53(f) §27.53(g)	RSS-GEN(4.9) RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.5)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 13)	< 43+10log10(P[Watts])	PASS	-



Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.8	§2.1053 §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g)	RSS-GEN(4.9) RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.5)	Conducted Spurious Emission (Band 2) (Band 4)(Band 13)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
3.9	§2.1055 §24.235 §27.54	RSS-GEN(4.7) RSS-133(6.3) RSS-130(4.3) RSS-139 (6.3)	Frequency Stability Temperature & Voltage	$< 2.5 \text{ ppm}$	PASS	
4.4	§27.50(b)(10)	N/A	Effective Radiated Power (Band 13)	ERP $< 3 \text{ Watt}$	PASS	
	N/A	RSS-130(4.4)	Equivalent Isotropic Radiated Power (Band 13)	EIRP $< 5 \text{ Watt}$		
	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power (Band 2)	EIRP $< 2\text{Watt}$		
	§27.50(d)(4)	RSS-139 (6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power (Band 4)	EIRP $< 1\text{Watt}$		
4.5	§2.1053 §24.238(a) §27.53(c)(2) §27.53(f) §27.53(h)	RSS-GEN(4.9) RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.5)	Radiated Spurious Emission (Band 2) (Band 4) (Band 13)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 18.55 dB at 5550.000 MHz



1 General Description

1.1 Applicant

Quanta Computer Inc.

No. 188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan.

1.2 Manufacturer

1. Quanta Computer Inc.

No. 188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan.

2. Aptos Technology Inc.

No. 398, Youyi Rd., Jhunan Township, Miaoli County 350, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	LTE M.2 Card
Brand Name	Quanta
Model Name	LM17B
FCC ID	HFS-LM17B
EUT supports Radios application	LTE
HW Version	LM17B/B1
EUT Stage	Identical Prototype



1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz
Bandwidth	LTE Band 2 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 13 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.14 dBm LTE Band 4 : 23.25 dBm LTE Band 13 : 23.33 dBm
Antenna Gain	LTE Band 2 : 3.46 dBi LTE Band 4 : 3.91 dBi LTE Band 13 : 3.59 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

No modifications are made to the EUT during all test items.



1.6 Emission Designator

LTE Band 2	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	4M49G7D	-	0.441	4M50W7D	-	0.343
10	9M08G7D	0.0362	0.449	9M06W7D	-	0.374
15	13M5G7D	-	0.453	13M5W7D	-	0.386
20	18M6G7D	-	0.457	18M6W7D	-	0.325

LTE Band 4	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	4M49G7D	-	0.455	4M50W7D	-	0.372
10	9M06G7D	0.0261	0.515	9M04W7D	-	0.376
15	13M5G7D	-	0.512	13M5W7D	-	0.374
20	18M6G7D	-	0.520	18M6W7D	-	0.398

LTE Band 13	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	4M49G7D	-	0.297	4M49W7D	-	0.247
10	9M00G7D	0.1613	0.300	8M96W7D	-	0.247



1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	TH02-HY	03CH07-HY

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 24(E), 27
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

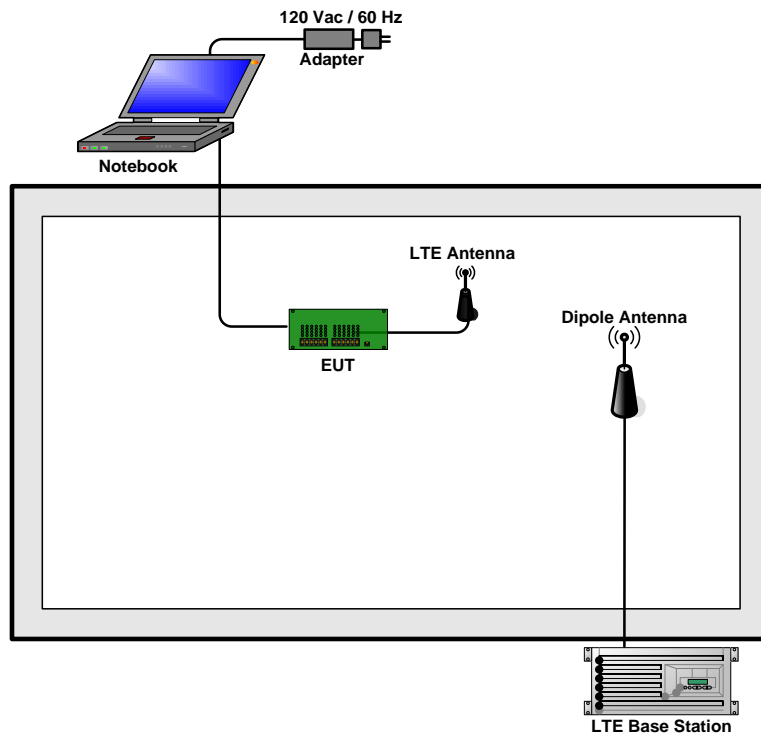
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	13	-	-	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Peak-to-Average Ratio	2						✓	✓	✓	✓		✓	✓	✓	✓
	4						✓	✓	✓	✓		✓	✓	✓	✓
	13	-	-		✓	-	-	✓	✓	✓		✓	✓	✓	✓
26dB and 99% Bandwidth	2			✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
	4			✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
	13	-	-	✓	✓	-	-	✓	✓			✓	✓	✓	✓
Conducted Band Edge	2			✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
	4			✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
	13	-	-	✓	✓	-	-	✓	✓	✓		✓	✓		✓



Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2			√	√	√	√	√	√	√			√	√	√
	4			√	√	√	√	√	√	√			√	√	√
	13	-	-	√	√	-	-	√	√	√			√	√	√
Frequency Stability	2				√			√				√		√	
	4				√			√				√		√	
	13	-	-		√	-	-	√				√		√	
E.R.P/ E.I.R.P.	2			√	√	√	√	√	√	√			√	√	√
	4			√	√	√	√	√	√	√			√	√	√
	13	-	-	√	√	-	-	√	√	√			√	√	√
Radiated Spurious Emission	2			√	√	√	√	√	√	√	√	√	√	√	√
	4			√	√	√	√	√	√	√	√	√	√	√	√
	13	-	-	√	√	-	-	√	√	√	√	√	√	√	√
Note	<ol style="list-style-type: none"> The mark “√” means that this configuration is chosen for testing The mark “-” means that this bandwidth is not supported. For E.R.P/E.I.R.P. measurement, the widest bandwidth of each band is chosen for testing due to highest conducted power. Besides, the lowest bandwidth of each band is also measured for reporting only. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 														

2.2 Connection Diagram of Test System





2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	Fixture	INTEL	NGFF Card Carrier	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$

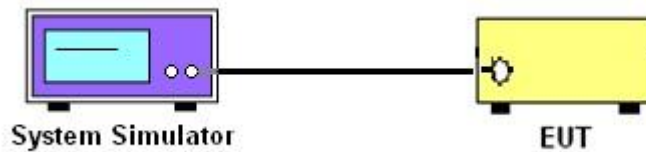
3 Conducted Test Items

3.1 Measuring Instruments

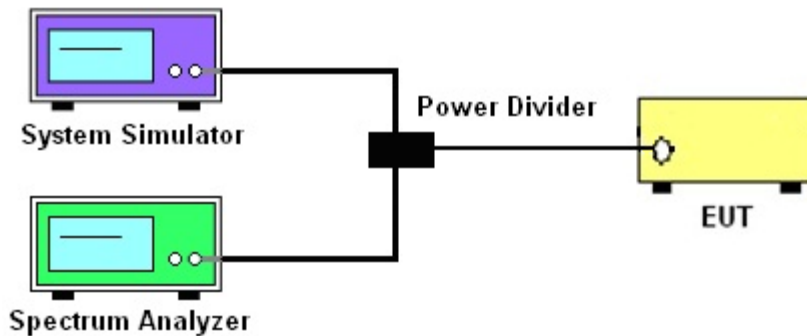
See list of measuring instruments of this test report.

3.2 Test Setup

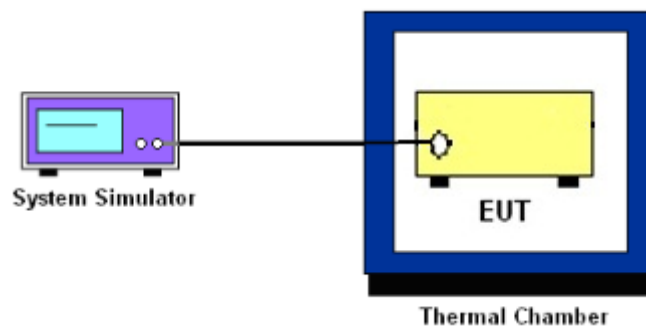
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13 and Band 17. (FCC Only)

The EIRP of mobile transmitters must not exceed 5 Watts for LTE Band 12, Band 13 and Band 17. (IC Only)

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.



3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.7.1.
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.



3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.



3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

24.238 (a) and RSS – 133

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c) and RSS – 130

For operations in the 776-788 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least $65 + 10 \log_{10} p(\text{watts})$, dB, for mobile and portable equipment.

27.53 (h) and RSS – 139

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.7.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power $P(\text{Watts})$
 $= P(\text{W}) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13\text{dBm}$.



3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= P(W)- [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.



3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

3.9.4 Test Procedures for Frequency Stability (IC)

1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The EUT was operated at the lowest and highest channel
4. Using $\text{RBW} = 1\% \text{OBW}$ and displaying line = -13dBm .
5. The frequency at these points shall be recorded as f_L and f_H respectively.
6. Calculate frequency stability within the 777 – 787MHz and 704 – 716 band.

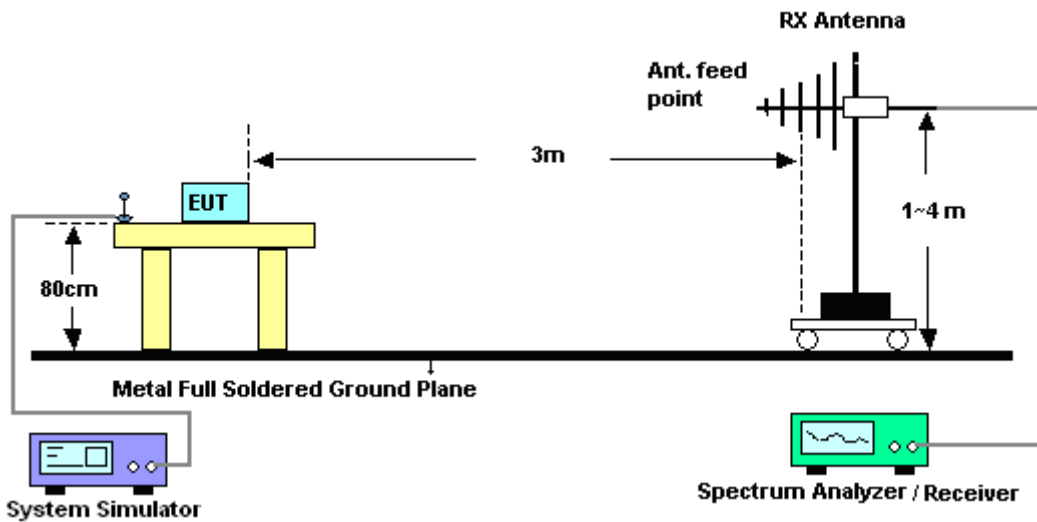
4 Radiated Test Items

4.1 Measuring Instruments

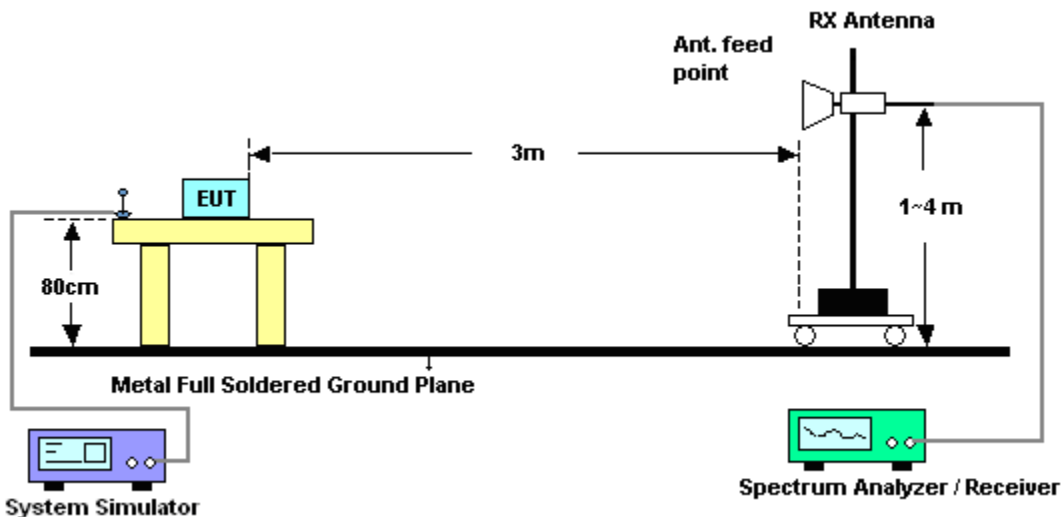
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Effective Radiated Power and Effective Isotropic Radiated Power

4.4.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average ERP of 3 watts with LTE band 13.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 and 1 watt with LTE band 4.

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$.



4.5 Radiated Spurious Emission

4.5.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm.}$$

12. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
13. $\text{ERP (dBm)} = \text{EIRP} - 2.15$



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 09, 2014	Dec. 26, 2014~ Dec. 29, 2014	Jun. 08, 2015	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 17, 2014	Dec. 26, 2014~ Dec. 29, 2014	Jul. 16, 2015	Conducted (TH02-HY)
LTE Base Station	Anritsu	MT8820C	6201026480	30MHz~2.7GHz SISO	Jan. 07, 2014	Dec. 26, 2014~ Dec. 29, 2014	Jan. 06, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz ~ 30GHz	Feb. 10, 2014	Dec. 18, 2014~ Dec. 29, 2014	Feb. 09, 2015	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Sep. 27, 2014	Dec. 18, 2014~ Dec. 29, 2014	Sep. 26, 2015	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 19, 2014	Dec. 18, 2014~ Dec. 29, 2014	Aug. 18, 2015	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10 MHz ~ 1000MHz	Mar. 17, 2014	Dec. 18, 2014~ Dec. 29, 2014	Mar. 16, 2015	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Oct. 21, 2014	Dec. 18, 2014~ Dec. 29, 2014	Oct. 20, 2015	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Dec. 18, 2014~ Dec. 29, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	M-400-0	114/8000604/L	N/A	N/A	Dec. 18, 2014~ Dec. 29, 2014	N/A	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Oct. 02, 2014	Dec. 18, 2014~ Dec. 29, 2014	Oct. 01, 2015	Radiation (03CH07-HY)



6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
---	------

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
---	------



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.93	22.91	22.79
5	1	12		22.90	22.95	22.95
5	1	24		22.73	22.89	22.98
5	12	0		22.12	21.93	21.93
5	12	6		22.16	21.94	21.91
5	12	11		22.01	21.99	21.82
5	25	0		22.00	22.04	21.96
5	1	0	16-QAM	21.87	21.65	21.86
5	1	12		21.83	21.62	21.87
5	1	24		21.89	21.57	21.84
5	12	0		20.72	20.87	20.67
5	12	6		20.76	20.83	20.70
5	12	11		20.79	20.81	20.68
5	25	0		20.93	20.93	20.83
10	1	0	QPSK	22.79	23.06	22.62
10	1	24		22.74	23.01	22.64
10	1	49		22.76	23.02	22.62
10	25	0		22.09	22.04	22.04
10	25	12		22.08	22.03	22.03
10	25	24		22.01	22.00	22.07
10	50	0		21.88	22.00	22.03
10	1	0	16-QAM	22.27	22.22	22.08
10	1	24		22.16	22.18	22.09
10	1	49		22.00	22.16	21.93
10	25	0		20.69	20.78	20.75
10	25	12		20.68	20.72	20.73
10	25	24		20.66	20.78	20.70
10	50	0		20.53	20.98	20.67



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.92	22.94	23.10
15	1	37		22.89	22.95	23.08
15	1	74		22.82	22.98	23.07
15	36	0		21.70	22.06	21.97
15	36	18		21.66	21.96	21.79
15	36	37		21.66	21.98	21.84
15	75	0		21.61	21.99	22.00
15	1	0	16-QAM	22.38	22.03	22.32
15	1	37		22.41	22.01	22.30
15	1	74		22.01	21.89	22.20
15	36	0		20.71	20.71	20.91
15	36	18		20.75	20.75	20.85
15	36	37		20.80	20.70	20.78
15	75	0		20.72	20.83	20.95
20	1	0	QPSK	23.05	22.99	23.14
20	1	49		22.87	22.94	23.04
20	1	99		22.93	22.89	22.96
20	50	0		21.82	22.05	21.97
20	50	24		21.90	22.09	21.92
20	50	49		21.95	21.99	21.77
20	100	0		21.88	22.01	21.99
20	1	0	16-QAM	21.56	21.66	21.57
20	1	49		21.49	21.61	21.54
20	1	99		21.54	21.61	21.50
20	50	0		20.68	20.96	20.73
20	50	24		20.78	20.95	20.79
20	50	49		20.89	20.92	20.73
20	100	0		20.71	20.91	20.72



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.63	22.65	22.59
5	1	12		22.60	22.67	22.53
5	1	24		22.53	22.60	22.52
5	12	0		22.09	21.85	21.64
5	12	6		21.88	21.80	21.67
5	12	11		21.89	21.88	21.52
5	25	0		21.39	21.86	21.42
5	1	0	16-QAM	21.70	21.70	21.75
5	1	12		21.80	21.65	21.71
5	1	24		21.62	21.60	21.36
5	12	0		20.94	20.77	20.82
5	12	6		20.74	20.83	20.80
5	12	11		20.67	20.77	20.76
5	25	0		20.97	20.88	20.75
10	1	0	QPSK	22.91	23.09	22.93
10	1	24		23.05	23.21	22.90
10	1	49		22.96	23.14	22.83
10	25	0		22.04	21.99	21.99
10	25	12		21.85	21.94	21.78
10	25	24		21.78	22.02	21.79
10	50	0		21.56	22.00	21.69
10	1	0	16-QAM	21.73	21.84	21.60
10	1	24		21.76	21.79	21.70
10	1	49		21.51	21.74	21.52
10	25	0		20.60	20.91	20.84
10	25	12		20.61	20.97	20.64
10	25	24		20.64	20.91	20.57
10	50	0		20.68	21.02	20.87



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.92	23.11	23.07
15	1	37		22.86	23.01	23.03
15	1	74		22.85	23.18	22.91
15	36	0		21.77	21.97	21.98
15	36	18		21.80	21.95	21.72
15	36	37		21.65	21.98	21.69
15	75	0		21.55	21.92	21.77
15	1	0	16-QAM	21.68	21.82	21.74
15	1	37		21.64	21.78	21.69
15	1	74		21.49	21.72	21.65
15	36	0		20.95	20.76	20.76
15	36	18		20.93	20.77	20.67
15	36	37		20.89	20.70	20.69
15	75	0		20.88	20.82	20.76
20	1	0	QPSK	23.20	22.92	23.25
20	1	49		23.23	22.92	23.14
20	1	99		23.12	22.89	23.10
20	50	0		22.12	22.06	22.08
20	50	24		22.04	21.96	21.88
20	50	49		21.96	21.97	21.84
20	100	0		22.15	22.05	21.99
20	1	0	16-QAM	22.06	21.72	21.82
20	1	49		22.00	21.68	21.76
20	1	99		22.09	21.62	21.65
20	50	0		21.19	20.85	20.89
20	50	24		21.11	20.94	20.93
20	50	49		21.15	20.96	20.95
20	100	0		20.95	20.93	20.89



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.11	23.29	23.17
5	1	12		22.94	23.20	23.08
5	1	24		22.91	23.15	23.00
5	12	0		22.30	22.46	22.31
5	12	6		22.17	22.42	22.24
5	12	11		22.11	22.32	22.16
5	25	0		21.92	21.98	21.82
5	1	0	16-QAM	22.40	22.49	22.34
5	1	12		22.30	22.45	22.29
5	1	24		22.27	22.42	22.17
5	12	0		21.46	21.38	21.45
5	12	6		21.40	21.34	21.49
5	12	11		21.27	21.31	21.43
5	25	0		20.97	21.01	20.96
10	1	0	QPSK		23.33	
10	1	24			23.24	
10	1	49			23.19	
10	25	0			22.50	
10	25	12			22.46	
10	25	24			22.36	
10	50	0			22.02	
10	1	0	16-QAM		22.49	
10	1	24			22.47	
10	1	49			22.46	
10	25	0			21.42	
10	25	12			21.38	
10	25	24			21.35	
10	50	0			21.05	



Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.04	5.42	5.71	6.25	PASS
Middle CH	4.17	5.42	5.67	6.35	
Highest CH	4.26	5.22	5.71	6.15	

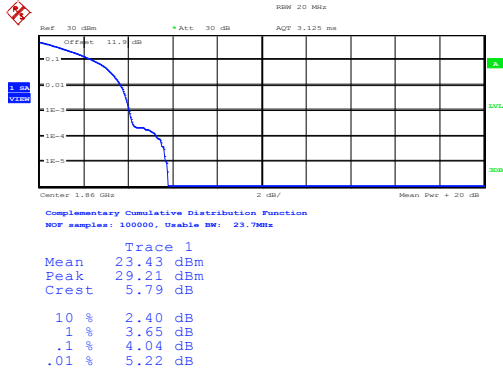
Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	RB Size	Result
Lowest CH	4.81	5.96	6.12	6.7	PASS
Middle CH	5.42	5.74	6.54	6.54	
Highest CH	4.74	5.51	6.12	6.38	

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	RB Size	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.01	5.1	4.46	5.99	
Highest CH	-	-	-	-	



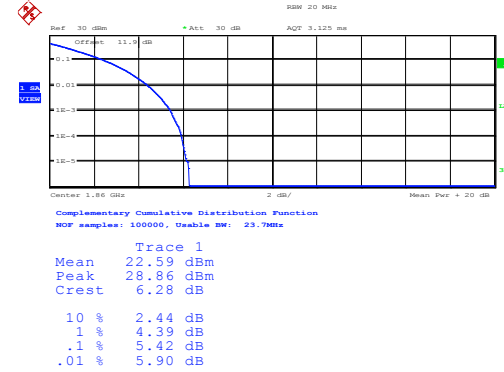
LTE Band 2 / 20MHz / QPSK

Lowest Channel / 1RB



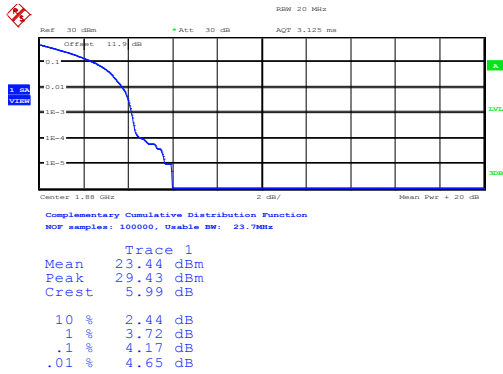
Date: 26.DEC.2014 16:39:23

Lowest Channel / Full RB



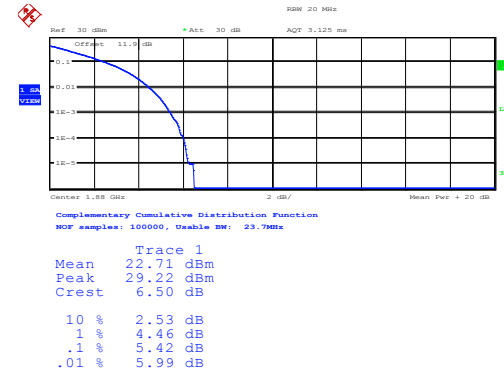
Date: 26.DEC.2014 16:39:42

Middle Channel / 1RB



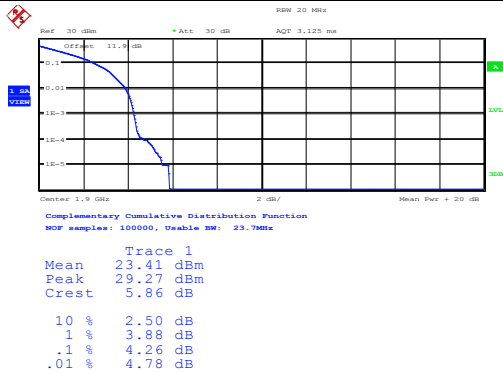
Date: 26.DEC.2014 16:40:07

Middle Channel / Full RB



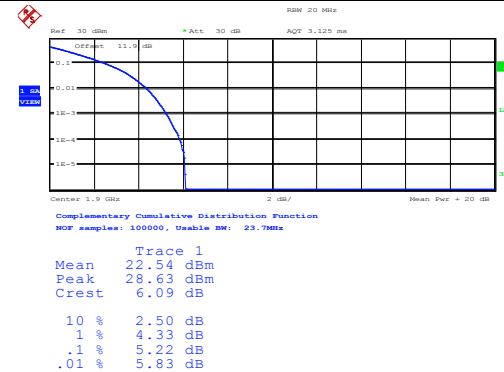
Date: 26.DEC.2014 16:40:39

Highest Channel / 1RB



Date: 26.DEC.2014 16:41:14

Highest Channel / Full RB

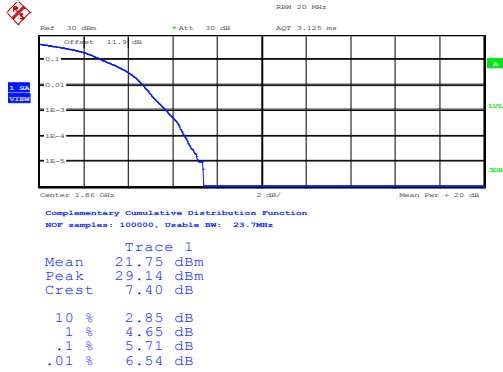


Date: 26.DEC.2014 16:41:38



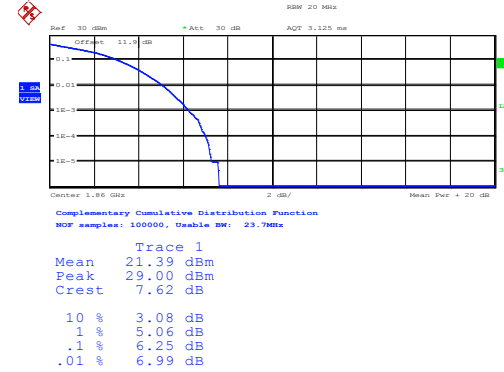
LTE Band 2 / 20MHz / 16QAM

Lowest Channel / 1RB



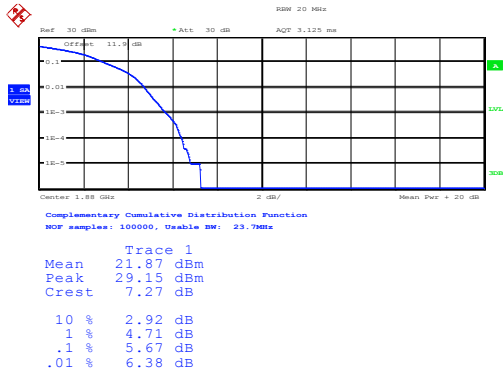
Date: 26.DEC.2014 16:34:29

Lowest Channel / Full RB



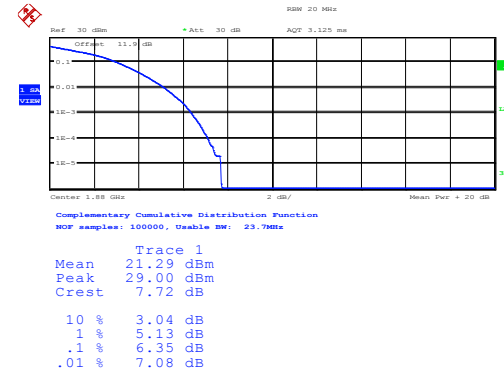
Date: 26.DEC.2014 16:35:33

Middle Channel / 1RB



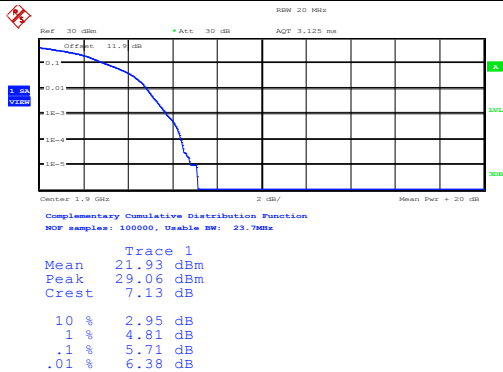
Date: 26.DEC.2014 16:36:19

Middle Channel / Full RB



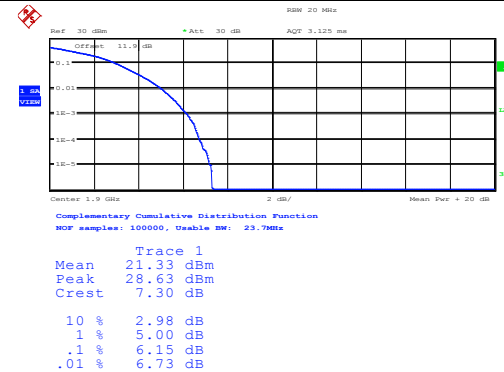
Date: 26.DEC.2014 16:37:16

Highest Channel / 1RB



Date: 26.DEC.2014 16:37:51

Highest Channel / Full RB

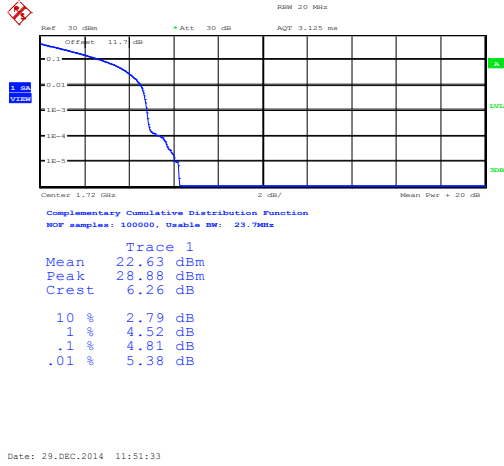


Date: 26.DEC.2014 16:38:41

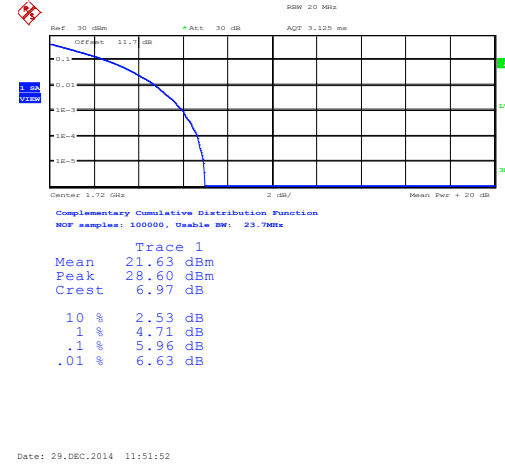


LTE Band 4 / 20MHz / QPSK

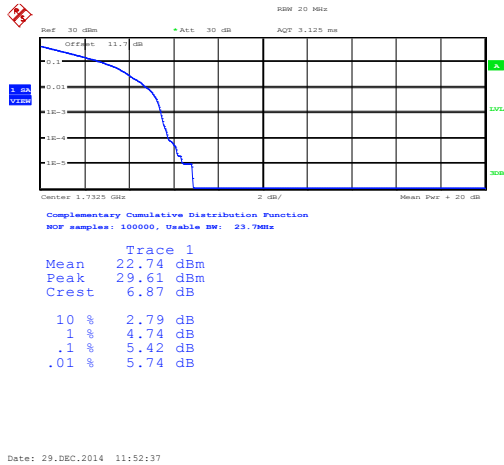
Lowest Channel / 1RB



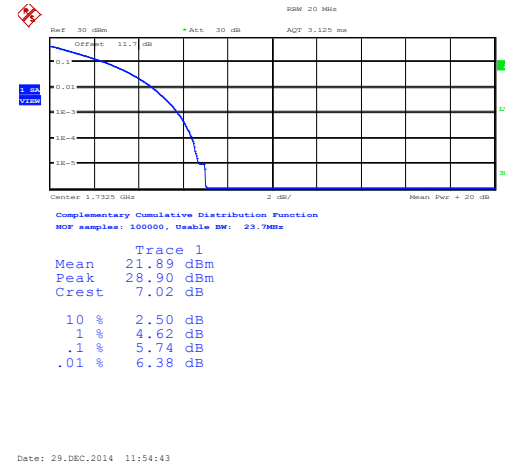
Lowest Channel / Full RB



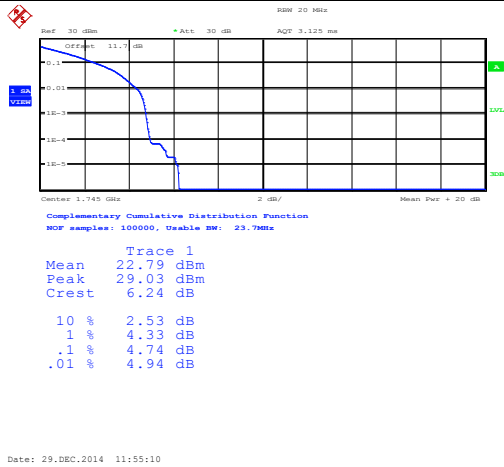
Middle Channel / 1RB



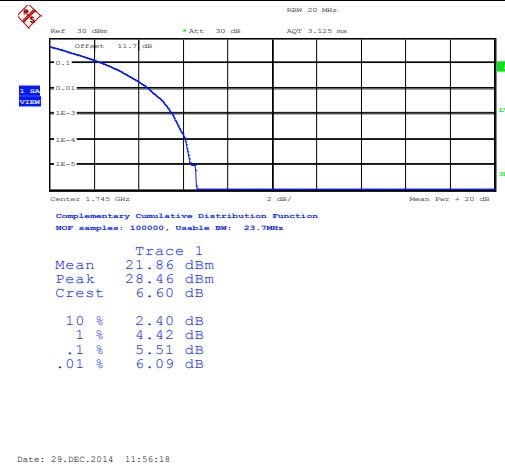
Middle Channel / Full RB



Highest Channel / 1RB



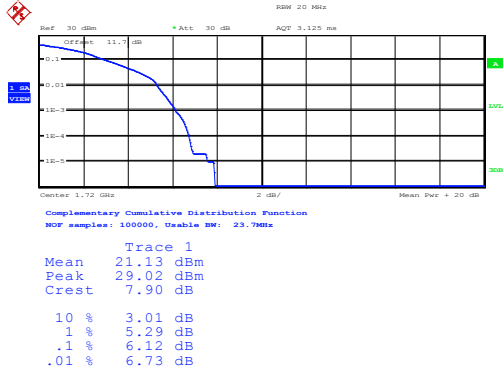
Highest Channel / Full RB





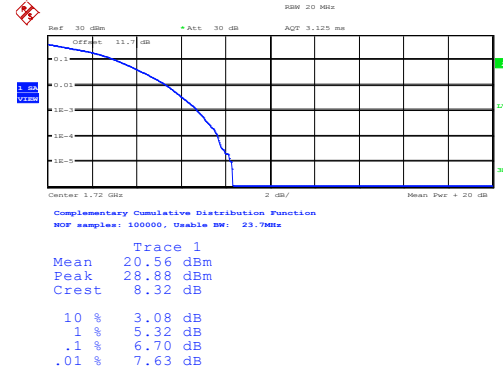
LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



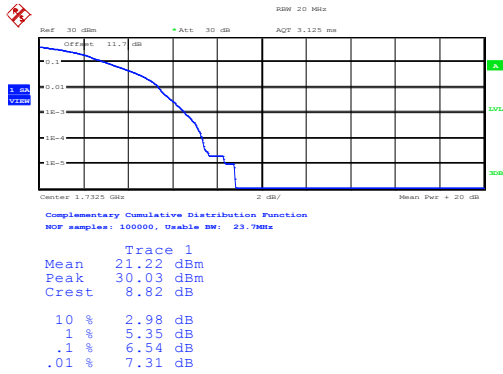
Date: 29.DEC.2014 11:47:41

Lowest Channel / Full RB



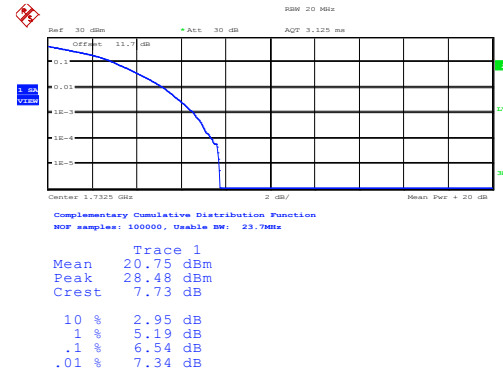
Date: 29.DEC.2014 11:48:06

Middle Channel / 1RB



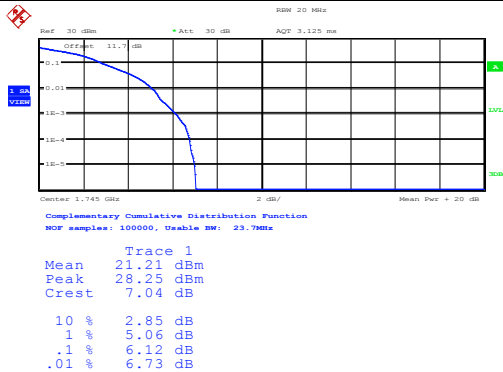
Date: 29.DEC.2014 11:48:26

Middle Channel / Full RB



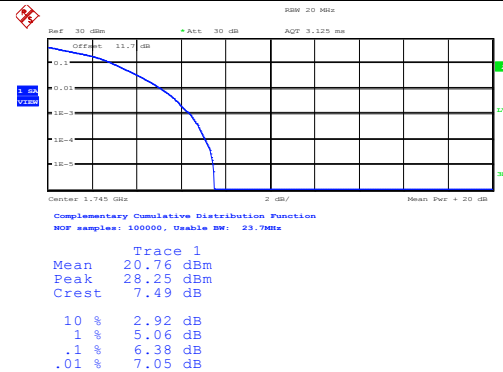
Date: 29.DEC.2014 11:48:53

Highest Channel / 1RB



Date: 29.DEC.2014 11:49:29

Highest Channel / Full RB

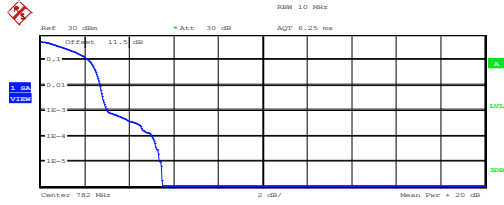


Date: 29.DEC.2014 11:49:47



LTE Band 13 / 10MHz / QPSK

Middle Channel/ 1RB



Complementary Cumulative Distribution Function

NOF samples: 100000, Usable BW: 11.2MHz

Trace 1 Mean 23.53 dBm Peak 29.01 dBm Crest 5.48 dB

10 % 2.15 dB 1 % 2.69 dB .1 % 3.01 dB .01 % 5.00 dB

Date: 26.DEC.2014 10:11:31

Middle Channel / Full RB



Complementary Cumulative Distribution Function

NOF samples: 100000, Usable BW: 11.2MHz

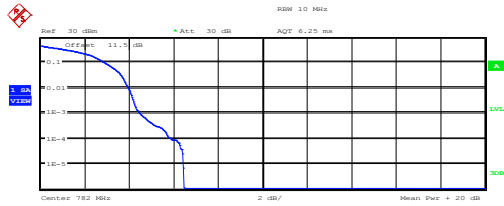
Trace 1 Mean 22.69 dBm Peak 28.66 dBm Crest 5.97 dB

10 % 2.50 dB 1 % 4.26 dB .1 % 5.10 dB .01 % 5.45 dB

Date: 26.DEC.2014 10:12:17

LTE Band 13 / 10MHz / 16QAM

Middle Channel/ 1RB



Complementary Cumulative Distribution Function

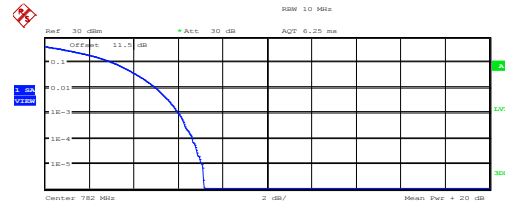
NOF samples: 100000, Usable BW: 11.2MHz

Trace 1 Mean 22.14 dBm Peak 28.59 dBm Crest 6.44 dB

10 % 2.88 dB 1 % 3.94 dB .1 % 4.46 dB .01 % 5.87 dB

Date: 26.DEC.2014 10:10:47

Middle Channel / Full RB



Complementary Cumulative Distribution Function

NOF samples: 100000, Usable BW: 11.2MHz

Trace 1 Mean 21.58 dBm Peak 28.73 dBm Crest 7.15 dB

10 % 3.08 dB 1 % 4.97 dB .1 % 5.99 dB .01 % 6.63 dB

Date: 26.DEC.2014 10:11:06



26dB Bandwidth

Mode	LTE Band 2 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.88	4.87	9.92	9.94	14.67	14.76	21	21.04
Middle CH	-	-	-	-	4.89	4.84	9.94	9.92	14.79	14.73	21	21.16
Highest CH	-	-	-	-	4.85	4.91	10.02	9.98	14.49	14.52	21	21.12

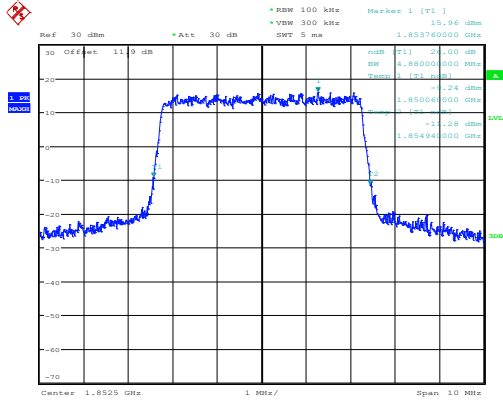
Mode	LTE Band 4 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.86	4.86	10.04	9.94	14.73	14.7	21	21
Middle CH	-	-	-	-	4.88	4.86	9.88	9.9	14.67	14.76	20.96	21
Highest CH	-	-	-	-	4.87	4.88	9.88	9.9	14.76	14.82	20.88	20.88

Mode	LTE Band 13 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.82	4.8	-	-	-	-	-	-
Middle CH	-	-	-	-	4.89	4.85	9.86	9.88	-	-	-	-
Highest CH	-	-	-	-	4.83	4.86	-	-	-	-	-	-



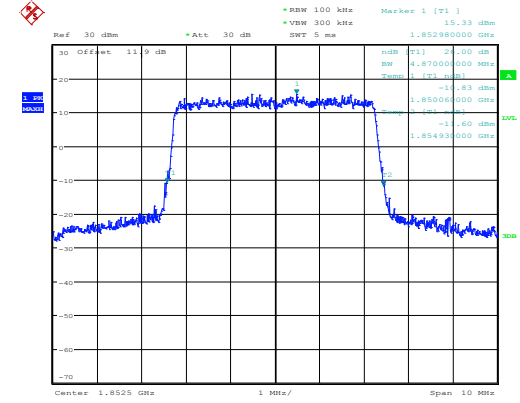
LTE Band 2

Lowest Channel / 5MHz / QPSK



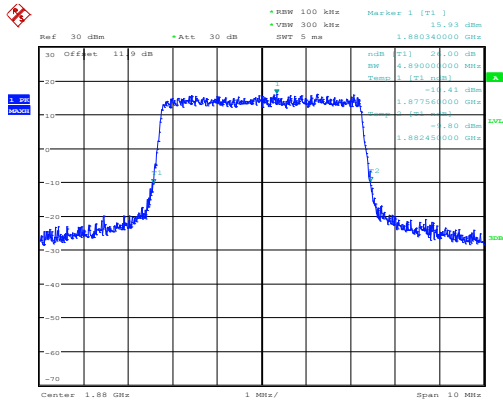
Date: 26.DEC.2014 14:28:05

Lowest Channel / 5MHz / 16QAM



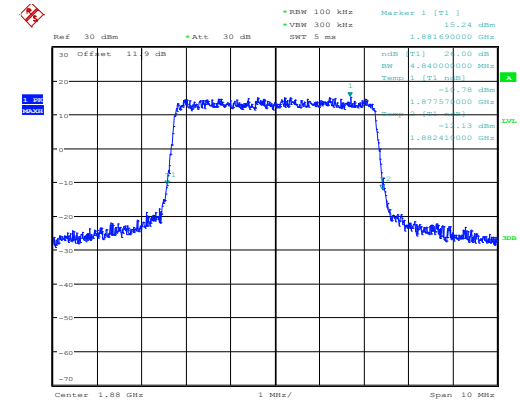
Date: 26.DEC.2014 14:28:27

Middle Channel / 5MHz / QPSK



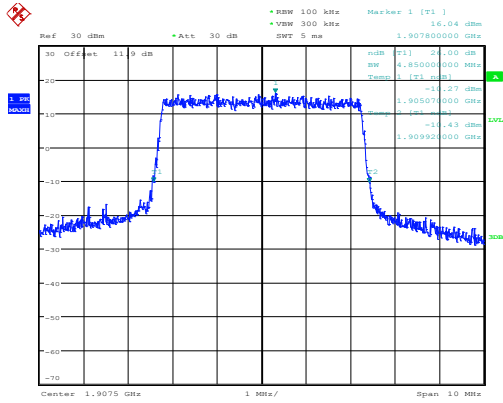
Date: 26.DEC.2014 13:48:20

Middle Channel / 5MHz / 16QAM



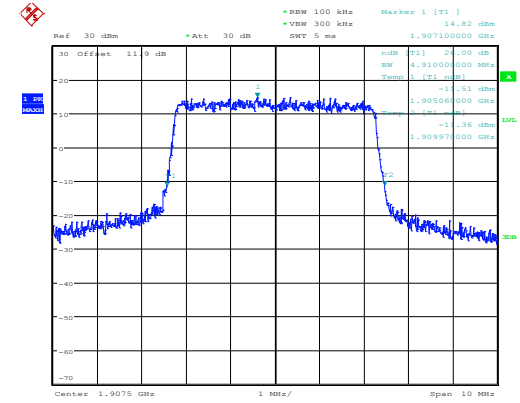
Date: 26.DEC.2014 13:48:32

Highest Channel / 5MHz / QPSK



Date: 26.DEC.2014 13:54:40

Highest Channel / 5MHz / 16QAM

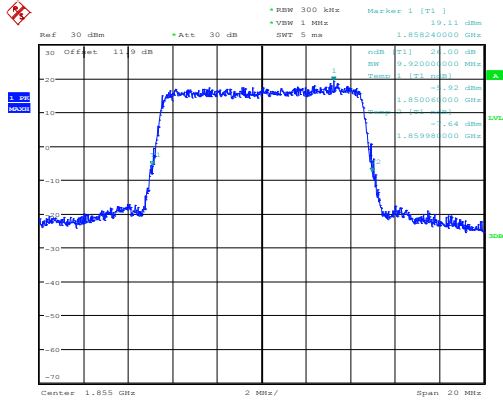


Date: 26.DEC.2014 13:55:09



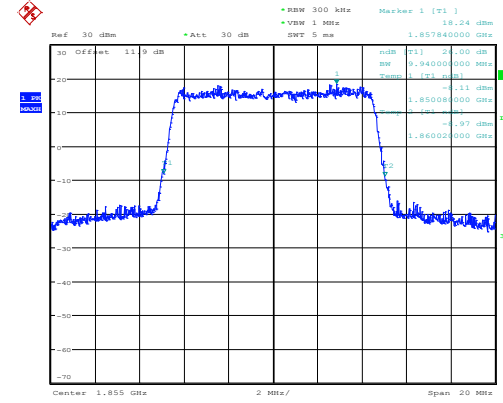
LTE Band 2

Lowest Channel / 10MHz / QPSK



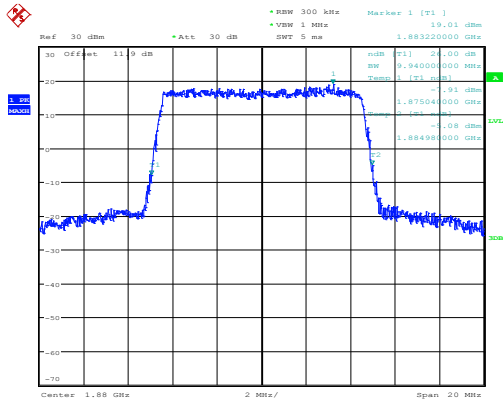
Date: 26.DEC.2014 14:42:22

Lowest Channel / 10MHz / 16QAM



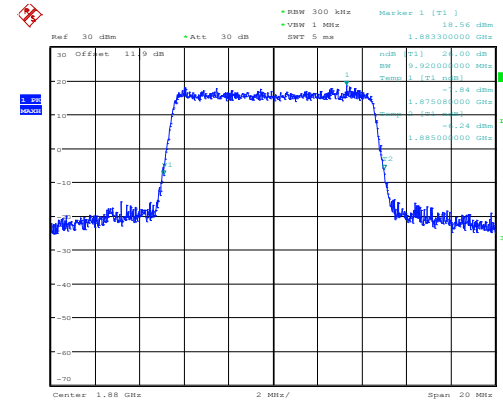
Date: 26.DEC.2014 14:42:35

Middle Channel / 10MHz / QPSK



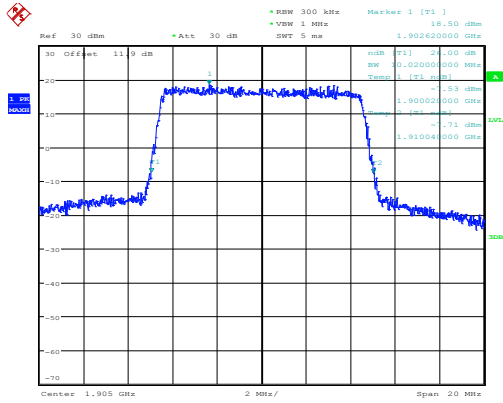
Date: 26.DEC.2014 15:13:39

Middle Channel / 10MHz / 16QAM



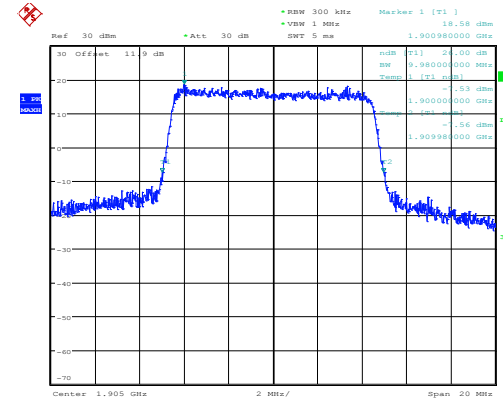
Date: 26.DEC.2014 15:13:54

Highest Channel / 10MHz / QPSK



Date: 26.DEC.2014 15:18:08

Highest Channel / 10MHz / 16QAM

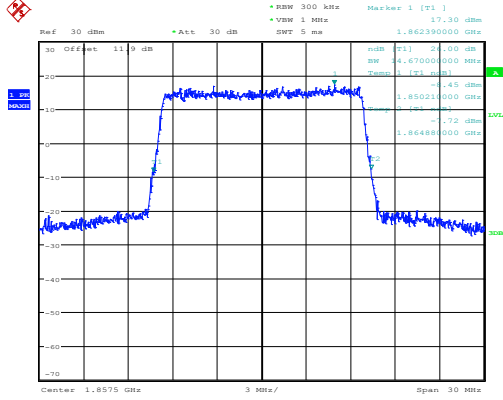


Date: 26.DEC.2014 15:18:25



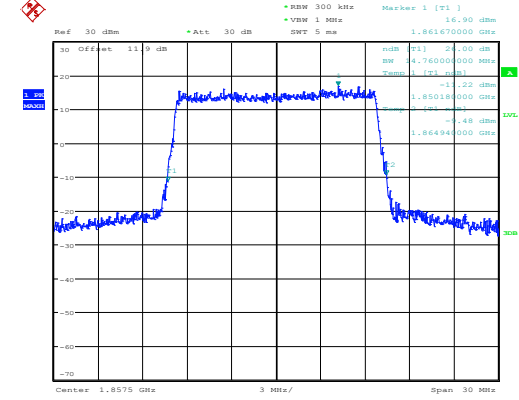
LTE Band 2

Lowest Channel / 15MHz / QPSK



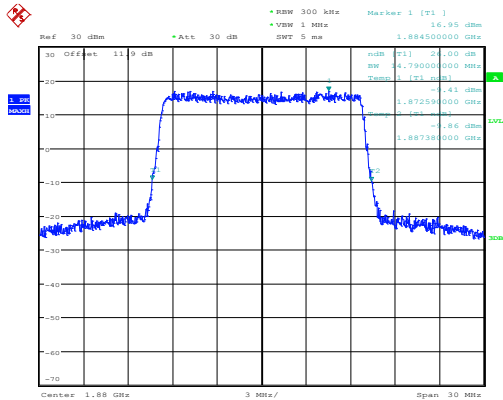
Date: 26.DEC.2014 15:34:37

Lowest Channel / 15MHz / 16QAM



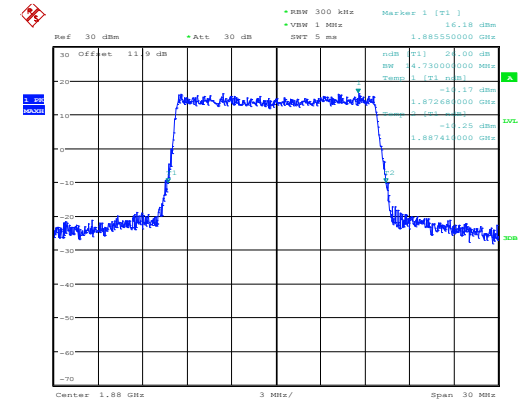
Date: 26.DEC.2014 15:34:49

Middle Channel / 15MHz / QPSK



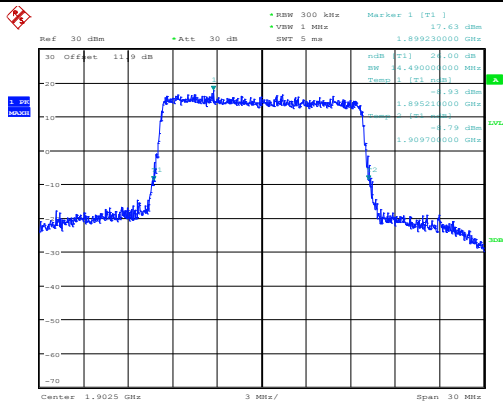
Date: 26.DEC.2014 15:44:01

Middle Channel / 15MHz / 16QAM



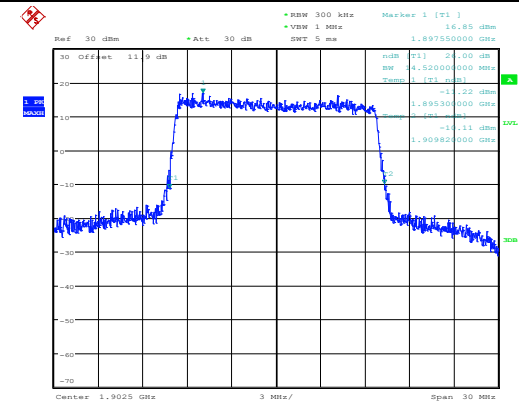
Date: 26.DEC.2014 15:44:15

Highest Channel / 15MHz / QPSK



Date: 26.DEC.2014 16:03:41

Highest Channel / 15MHz / 16QAM

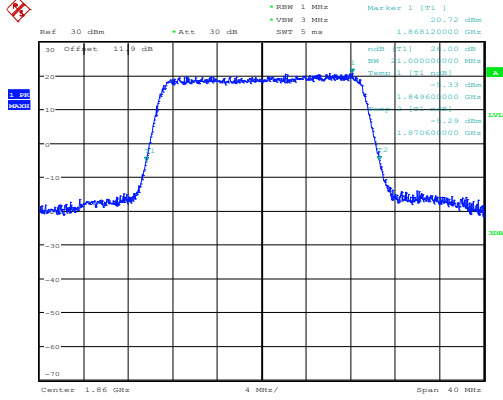


Date: 26.DEC.2014 16:03:53

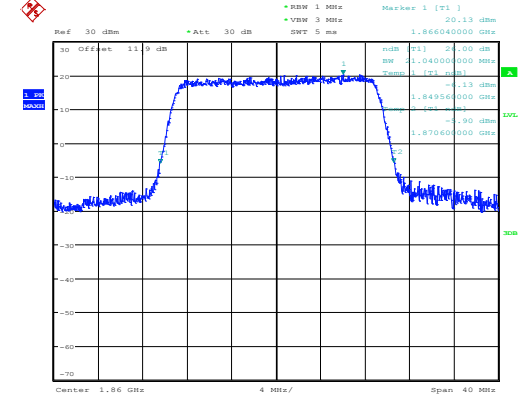


LTE Band 2

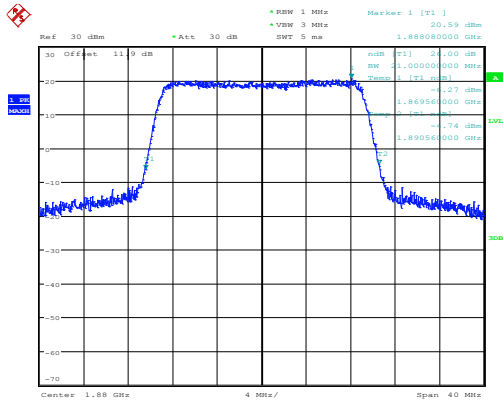
Lowest Channel / 20MHz / QPSK



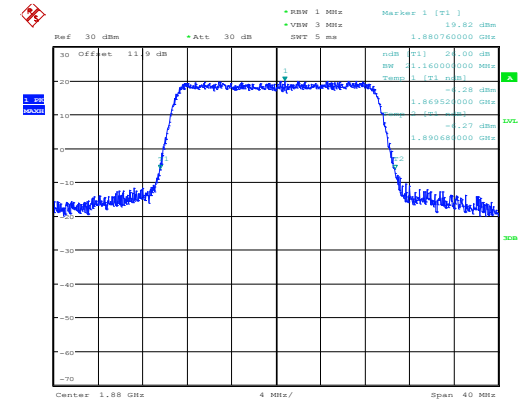
Lowest Channel / 20MHz / 16QAM



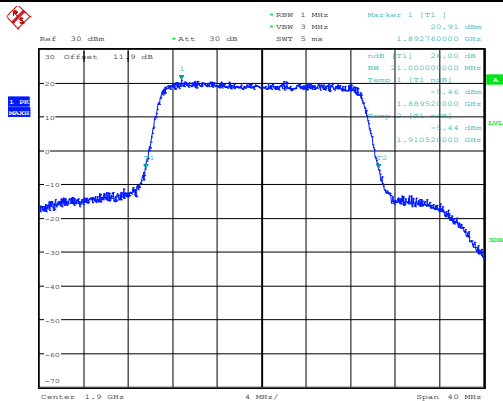
Middle Channel / 20MHz / QPSK



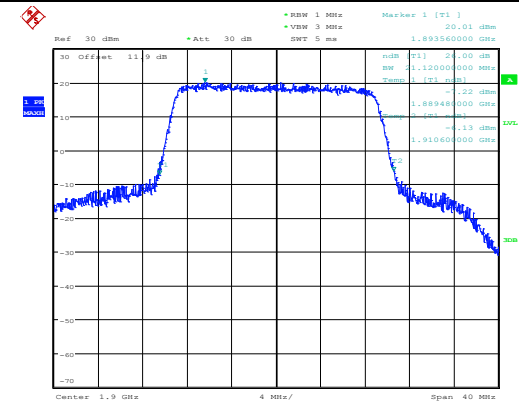
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



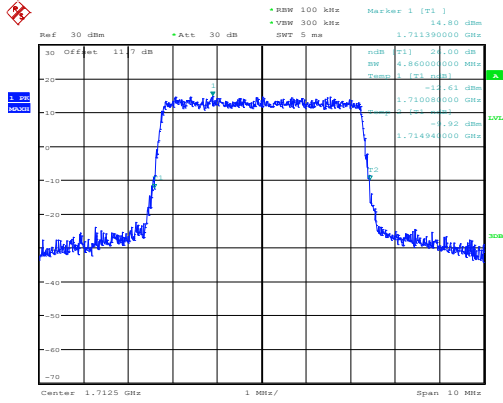
Highest Channel / 20MHz / 16QAM





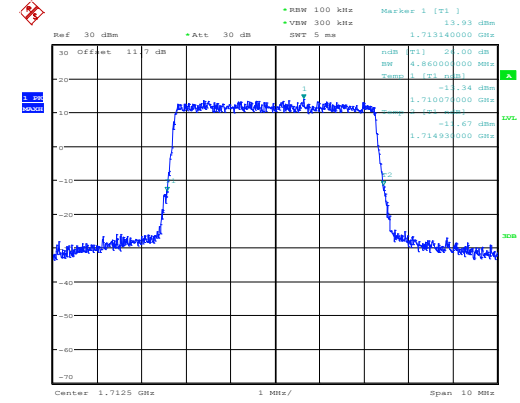
LTE Band 4

Lowest Channel / 5MHz / QPSK



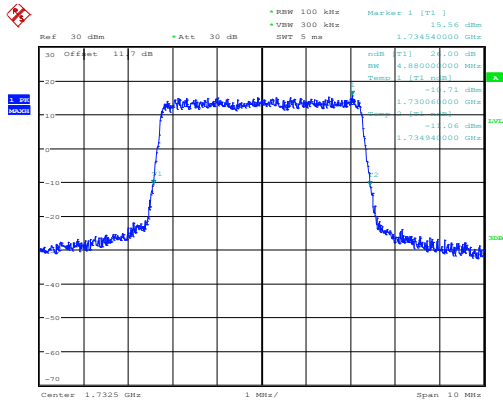
Date: 29.DEC.2014 09:54:33

Lowest Channel / 5MHz / 16QAM



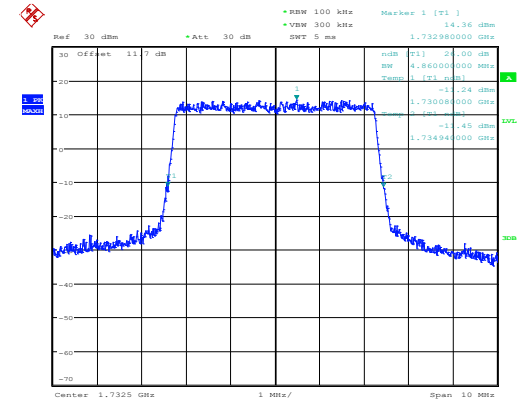
Date: 29.DEC.2014 09:54:55

Middle Channel / 5MHz / QPSK



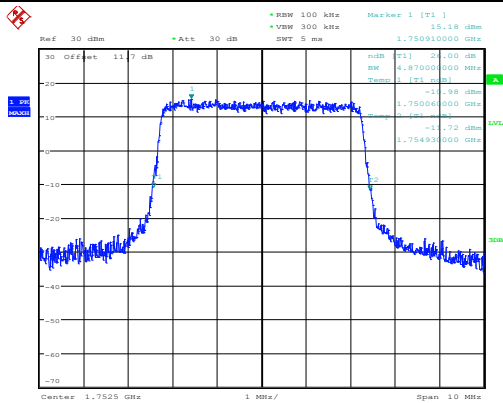
Date: 29.DEC.2014 10:05:59

Middle Channel / 5MHz / 16QAM



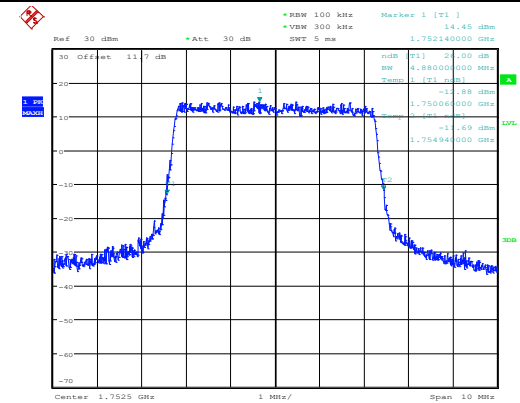
Date: 29.DEC.2014 10:06:12

Highest Channel / 5MHz / QPSK



Date: 29.DEC.2014 10:09:07

Highest Channel / 5MHz / 16QAM

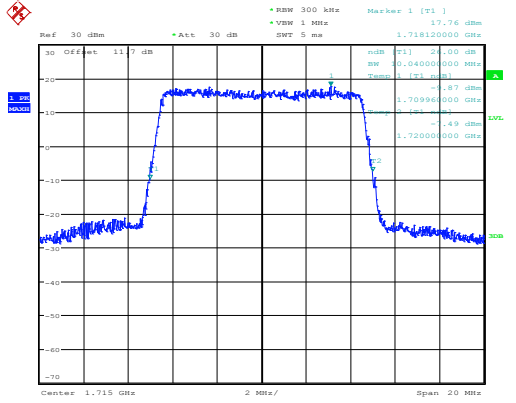


Date: 29.DEC.2014 10:09:20



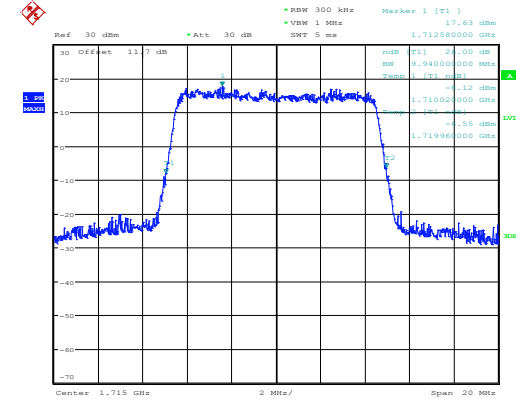
LTE Band 4

Lowest Channel / 10MHz / QPSK



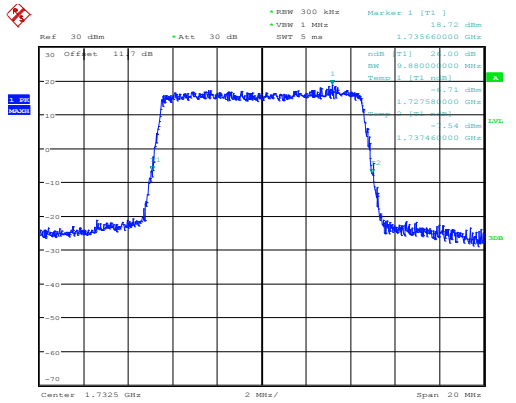
Date: 29 DEC.2014 10:22:00

Lowest Channel / 10MHz / 16QAM



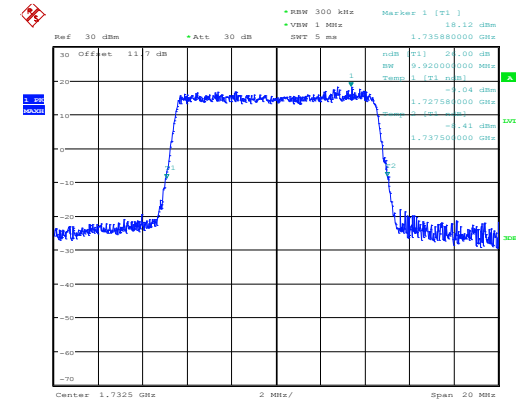
Date: 29 DEC.2014 10:22:13

Middle Channel / 10MHz / QPSK



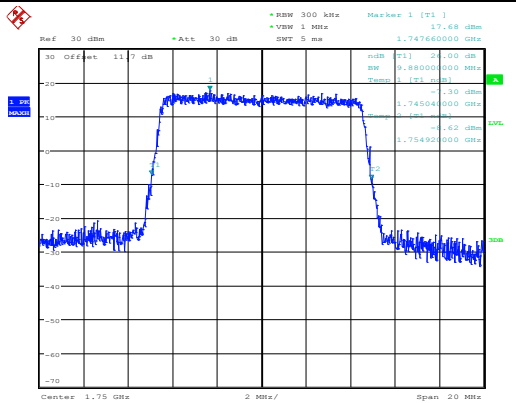
Date: 29 DEC.2014 10:31:36

Middle Channel / 10MHz / 16QAM



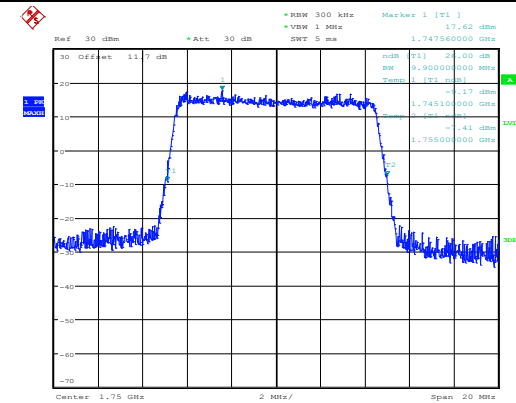
Date: 29 DEC.2014 10:31:49

Highest Channel / 10MHz / QPSK



Date: 29 DEC.2014 14:52:31

Highest Channel / 10MHz / 16QAM

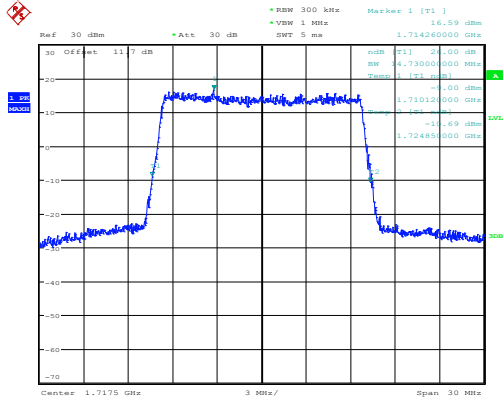


Date: 29 DEC.2014 10:37:57

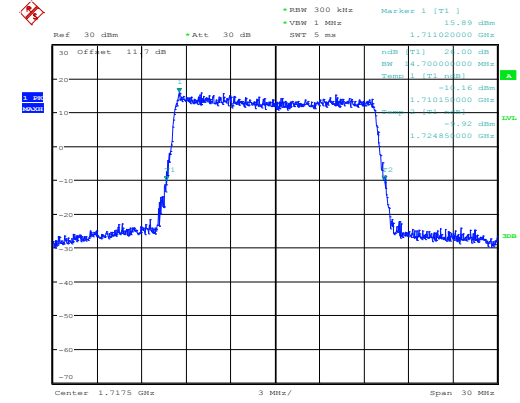


LTE Band 4

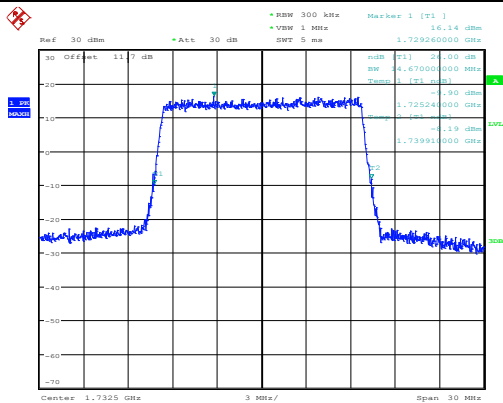
Lowest Channel / 15MHz / QPSK



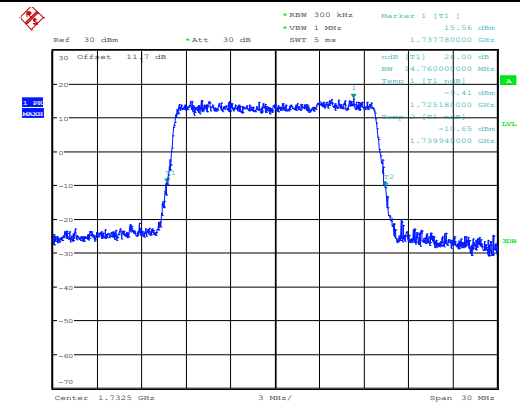
Lowest Channel / 15MHz / 16QAM



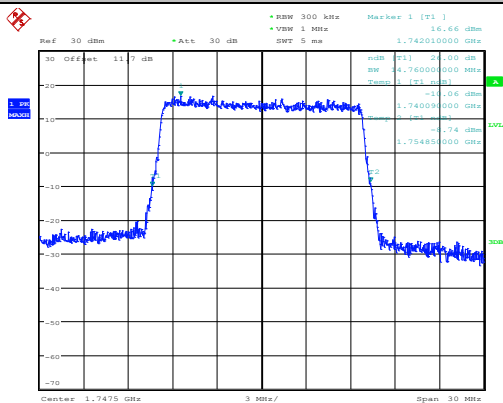
Middle Channel / 15MHz / QPSK



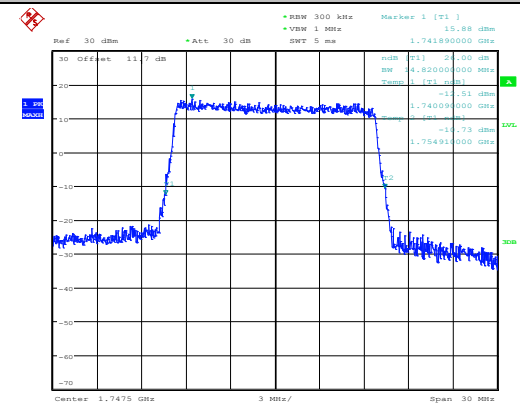
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



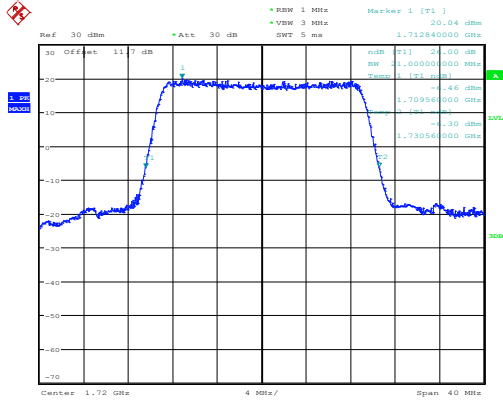
Highest Channel / 15MHz / 16QAM





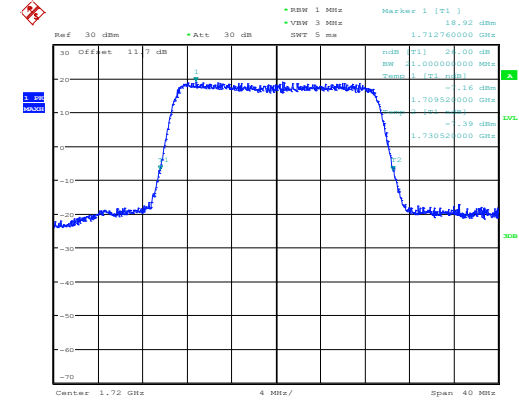
LTE Band 4

Lowest Channel / 20MHz / QPSK



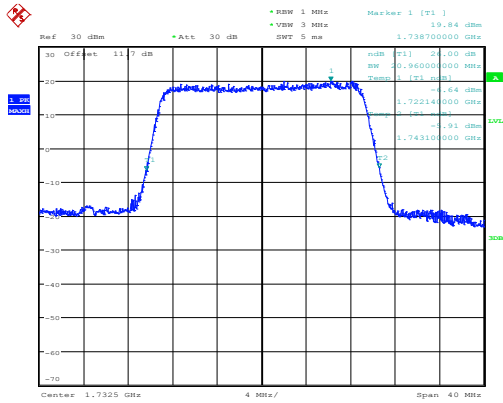
Date: 29.DEC.2014 11:27:13

Lowest Channel / 20MHz / 16QAM



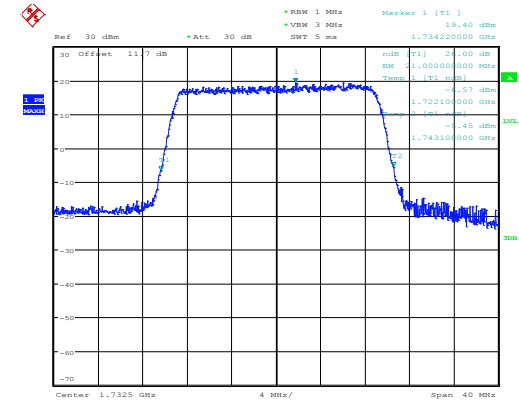
Date: 29.DEC.2014 11:27:26

Middle Channel / 20MHz / QPSK



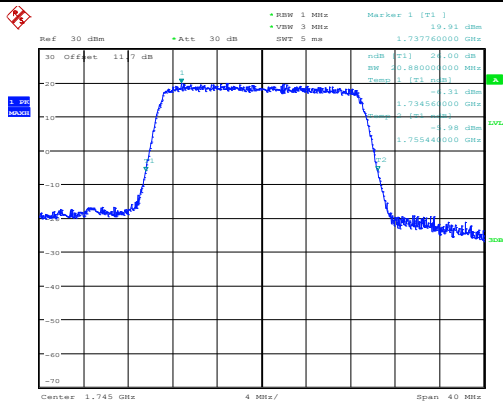
Date: 29.DEC.2014 11:36:25

Middle Channel / 20MHz / 16QAM



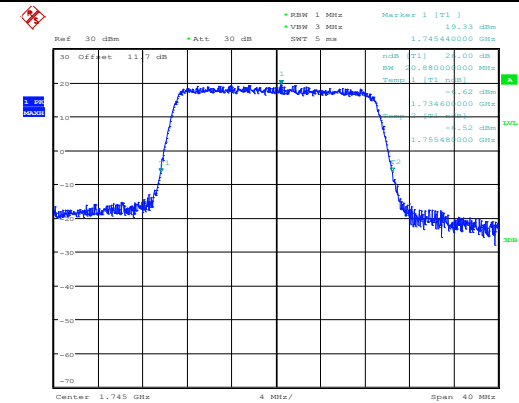
Date: 29.DEC.2014 11:36:38

Highest Channel / 20MHz / QPSK



Date: 29.DEC.2014 11:39:32

Highest Channel / 20MHz / 16QAM

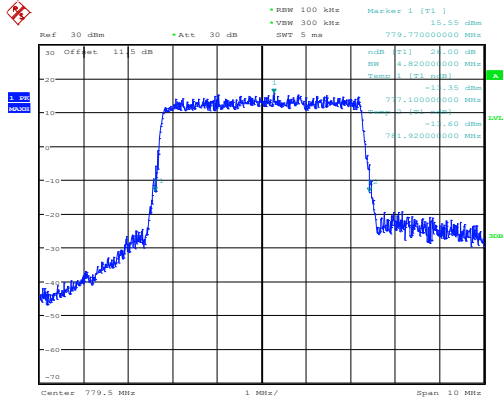


Date: 29.DEC.2014 11:39:45



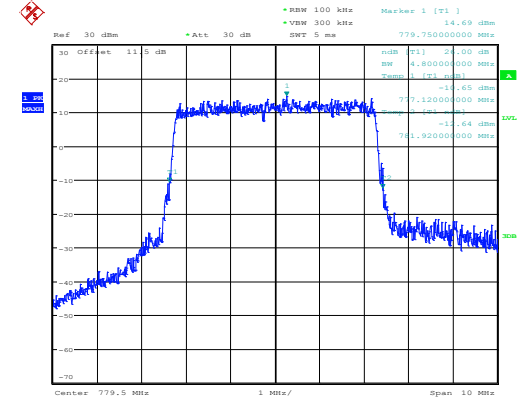
LTE Band 13

Lowest Channel / 5MHz / QPSK



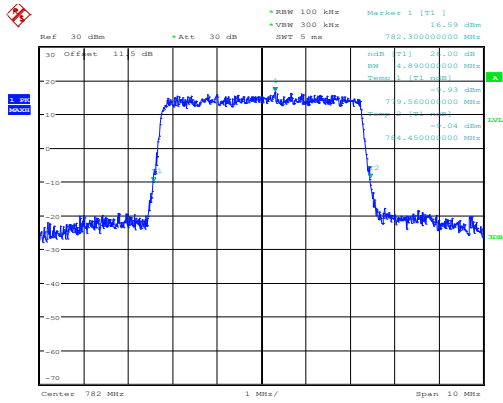
Date: 26.DEC.2014 11:51:01

Lowest Channel / 5MHz / 16QAM



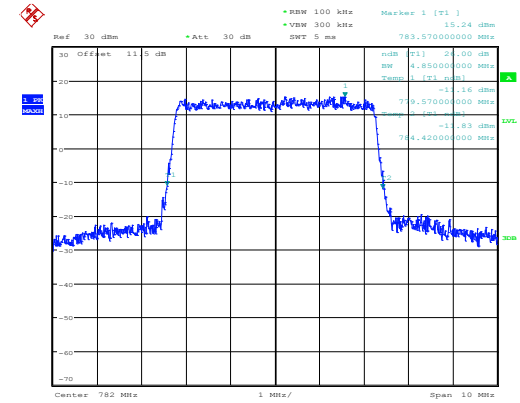
Date: 26.DEC.2014 11:50:37

Middle Channel / 5MHz / QPSK



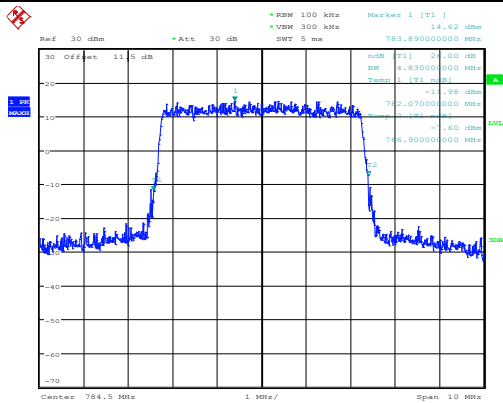
Date: 26.DEC.2014 10:43:45

Middle Channel / 5MHz / 16QAM



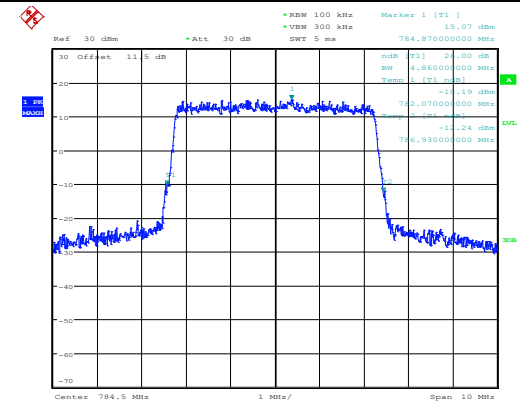
Date: 26.DEC.2014 10:43:59

Highest Channel / 5MHz / QPSK



Date: 26.DEC.2014 11:16:58

Highest Channel / 5MHz / 16QAM

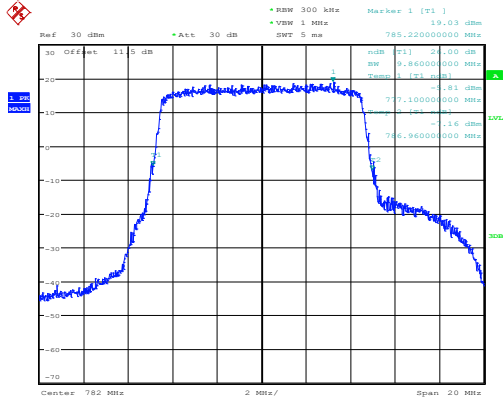


Date: 26.DEC.2014 11:16:32



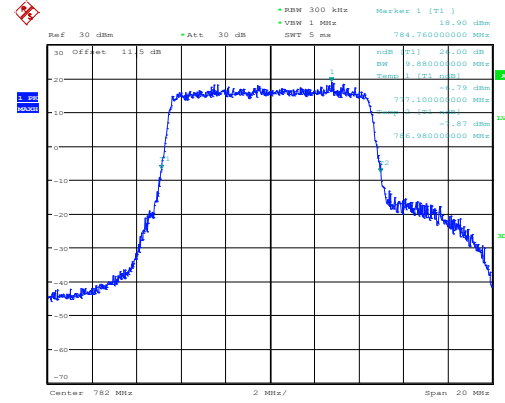
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 26.DEC.2014 10:06:12

Middle Channel / 10MHz / 16QAM



Date: 26.DEC.2014 10:05:59



Occupied Bandwidth

Mode	LTE Band 2 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.5	9.04	9.06	13.47	13.5	18.56	18.6
Middle CH	-	-	-	-	4.49	4.5	9.08	9.04	13.47	13.5	18.56	18.64
Highest CH	-	-	-	-	4.49	4.49	9.06	9.02	13.5	13.5	18.52	18.56

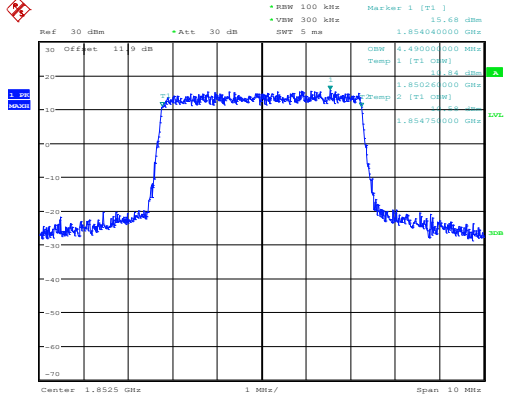
Mode	LTE Band 4 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.48	9.06	9.04	13.5	13.5	18.6	18.6
Middle CH	-	-	-	-	4.49	4.5	9.06	9.04	13.5	13.53	18.52	18.56
Highest CH	-	-	-	-	4.49	4.49	9.02	9.02	13.5	13.47	18.44	18.48

Mode	LTE Band 13 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.48	4.47	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	4.49	9	8.96	-	-	-	-
Highest CH	-	-	-	-	4.49	4.46	-	-	-	-	-	-



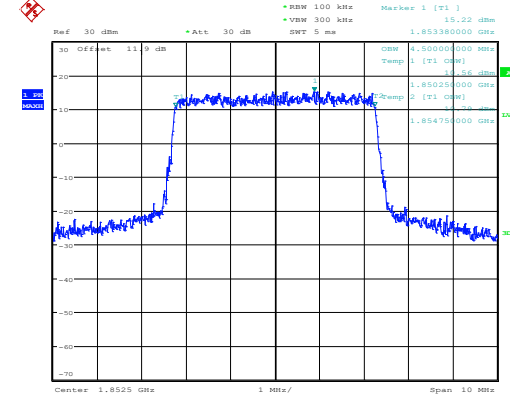
LTE Band 2

Lowest Channel / 5MHz / QPSK



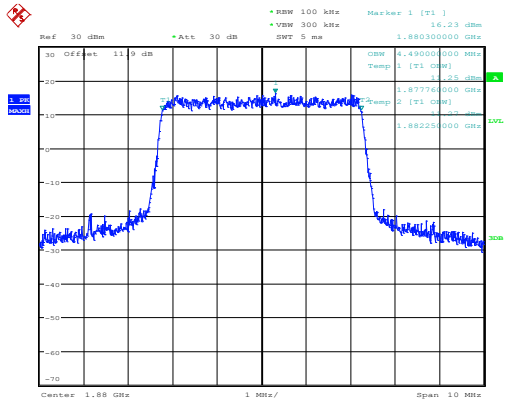
Date: 26.DEC.2014 14:27:10

Lowest Channel / 5MHz / 16QAM



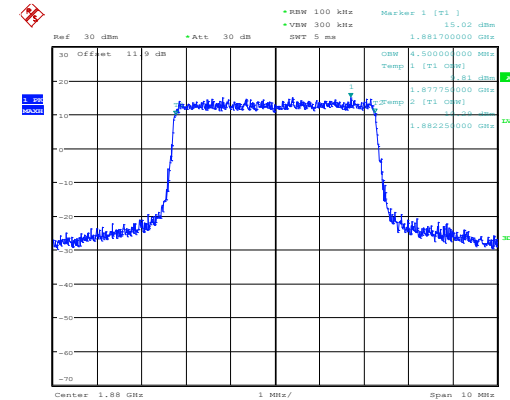
Date: 26.DEC.2014 14:27:44

Middle Channel / 5MHz / QPSK



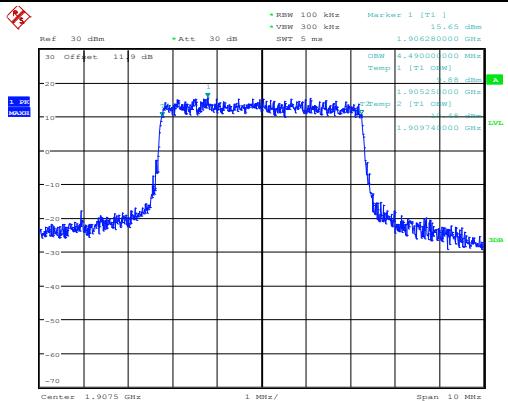
Date: 26.DEC.2014 13:47:56

Middle Channel / 5MHz / 16QAM



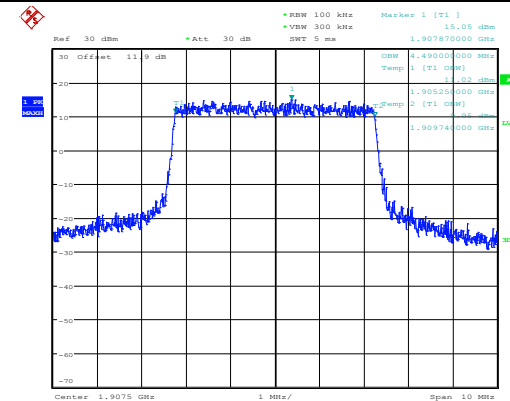
Date: 26.DEC.2014 13:48:07

Highest Channel / 5MHz / QPSK



Date: 26.DEC.2014 14:04:49

Highest Channel / 5MHz / 16QAM

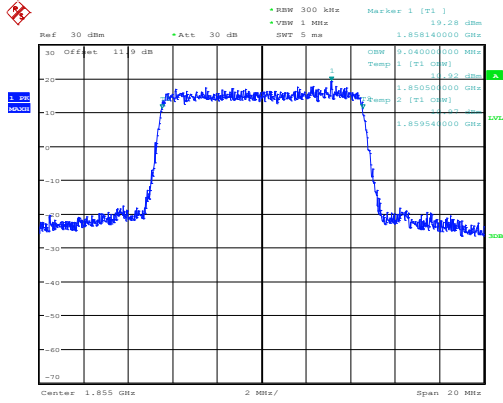


Date: 26.DEC.2014 14:04:06



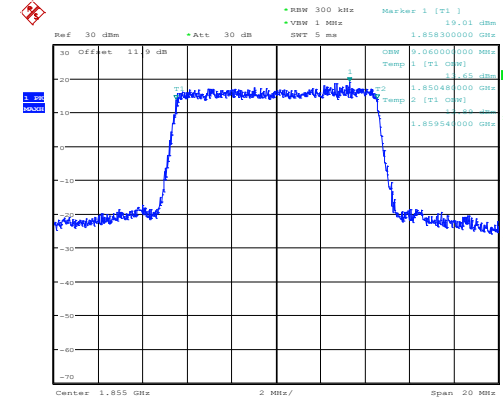
LTE Band 2

Lowest Channel / 10MHz / QPSK



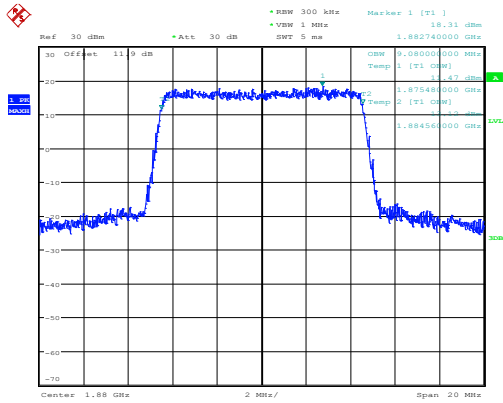
Date: 26.DEC.2014 14:41:31

Lowest Channel / 10MHz / 16QAM



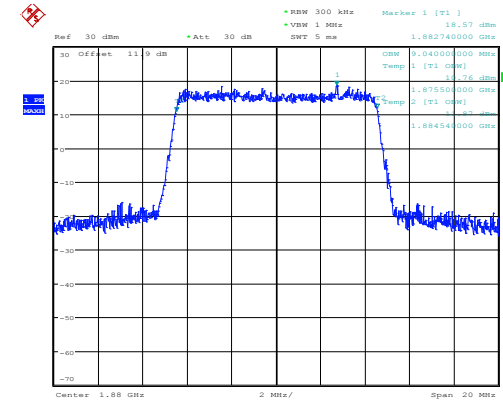
Date: 26.DEC.2014 14:42:00

Middle Channel / 10MHz / QPSK



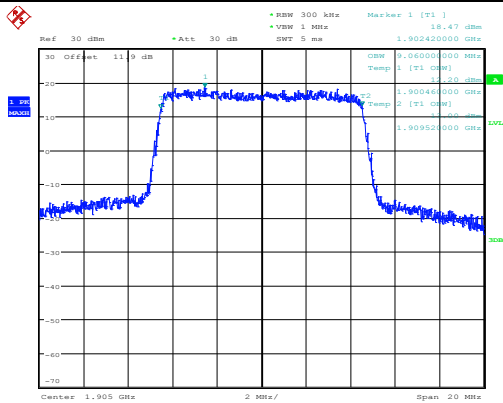
Date: 26.DEC.2014 15:13:06

Middle Channel / 10MHz / 16QAM



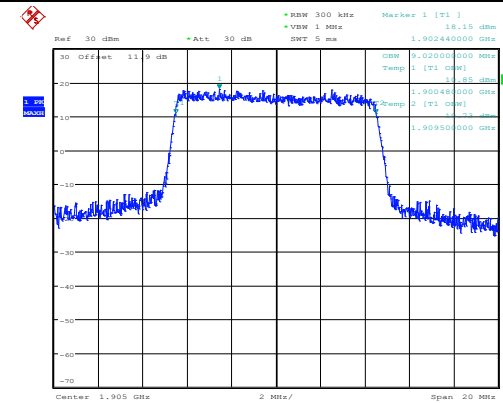
Date: 26.DEC.2014 15:13:20

Highest Channel / 10MHz / QPSK



Date: 26.DEC.2014 15:26:47

Highest Channel / 10MHz / 16QAM

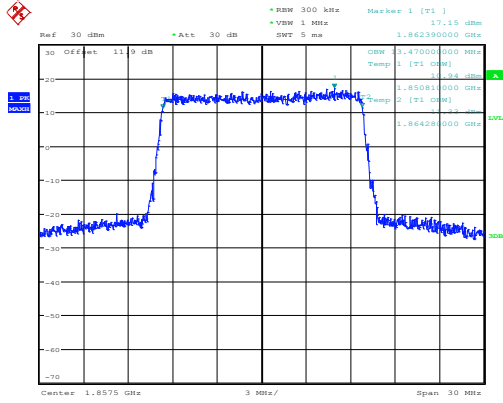


Date: 26.DEC.2014 15:17:42



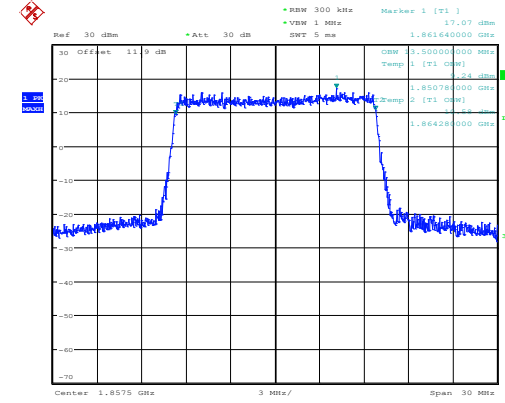
LTE Band 2

Lowest Channel / 15MHz / QPSK



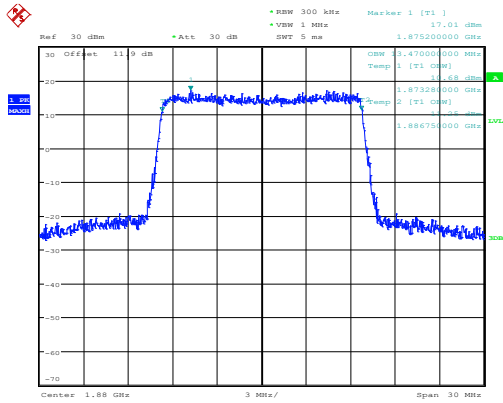
Date: 26.DEC.2014 15:34:06

Lowest Channel / 15MHz / 16QAM



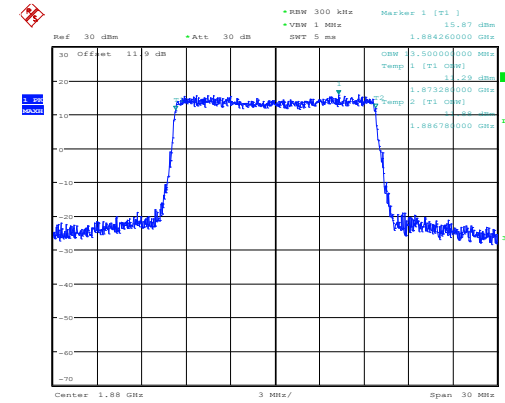
Date: 26.DEC.2014 15:34:22

Middle Channel / 15MHz / QPSK



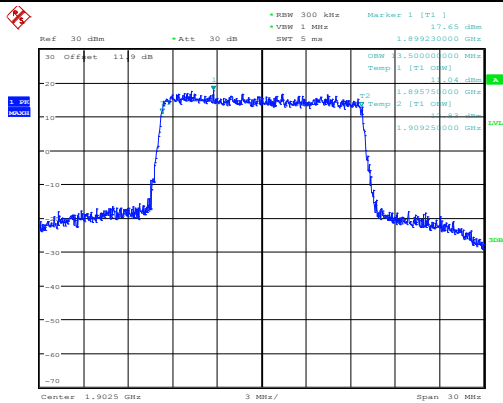
Date: 26.DEC.2014 16:01:08

Middle Channel / 15MHz / 16QAM



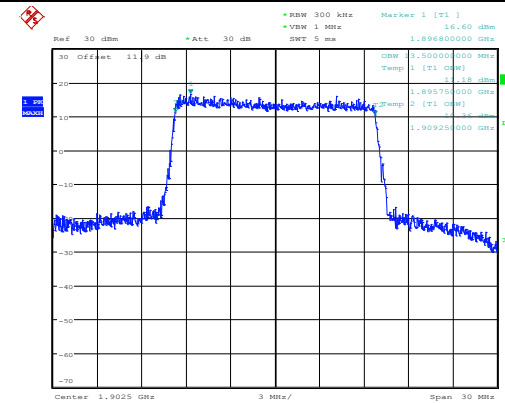
Date: 26.DEC.2014 16:01:23

Highest Channel / 15MHz / QPSK



Date: 26.DEC.2014 16:02:08

Highest Channel / 15MHz / 16QAM

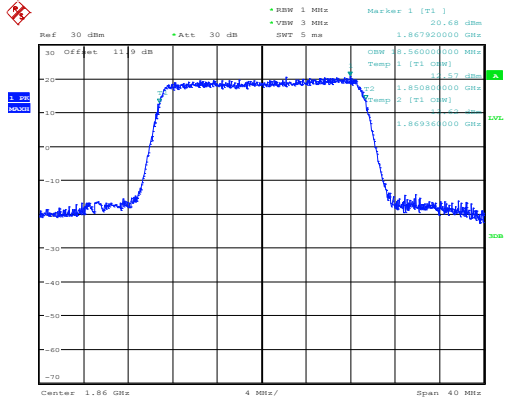


Date: 26.DEC.2014 16:01:55



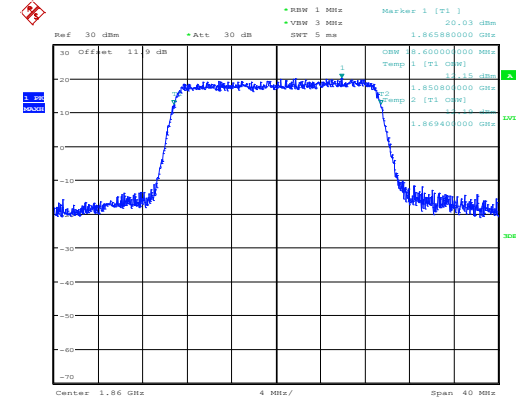
LTE Band 2

Lowest Channel / 20MHz / QPSK



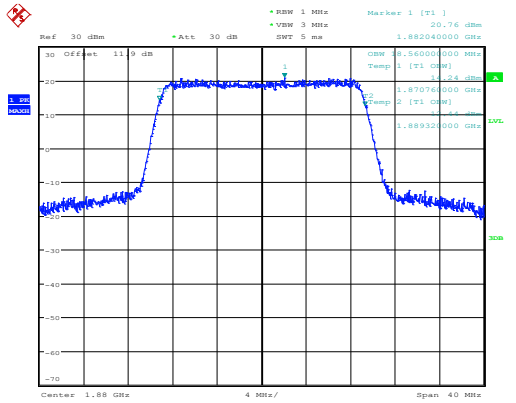
Date: 26.DEC.2014 16:09:34

Lowest Channel / 20MHz / 16QAM



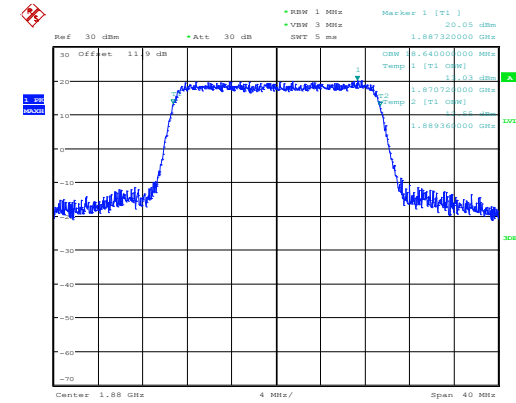
Date: 26.DEC.2014 16:09:54

Middle Channel / 20MHz / QPSK



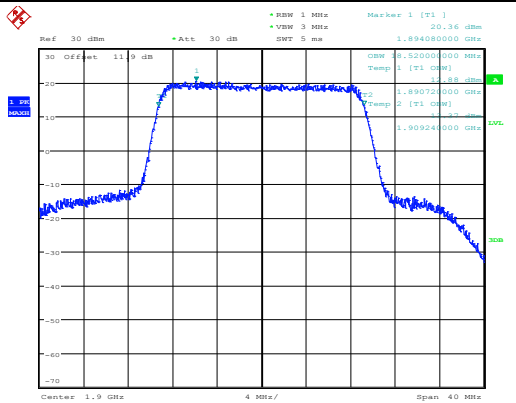
Date: 26.DEC.2014 16:19:55

Middle Channel / 20MHz / 16QAM



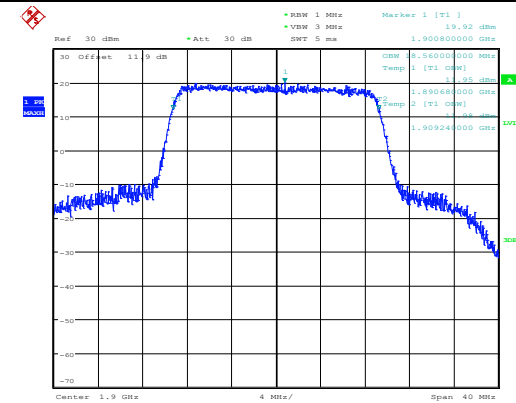
Date: 26.DEC.2014 16:20:07

Highest Channel / 20MHz / QPSK



Date: 26.DEC.2014 16:42:47

Highest Channel / 20MHz / 16QAM

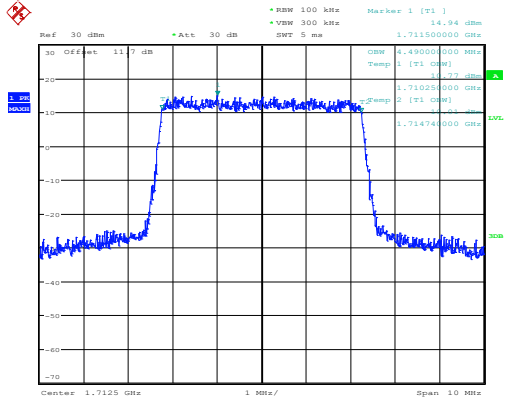


Date: 26.DEC.2014 16:42:29



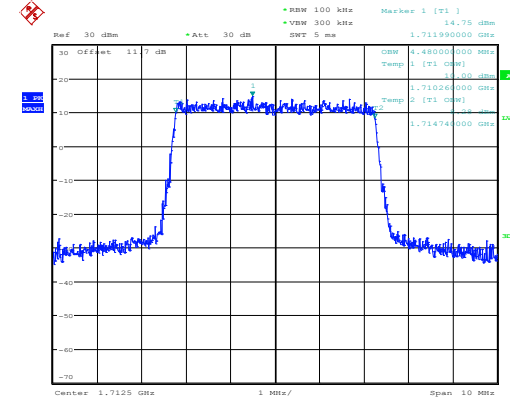
LTE Band 4

Lowest Channel / 5MHz / QPSK



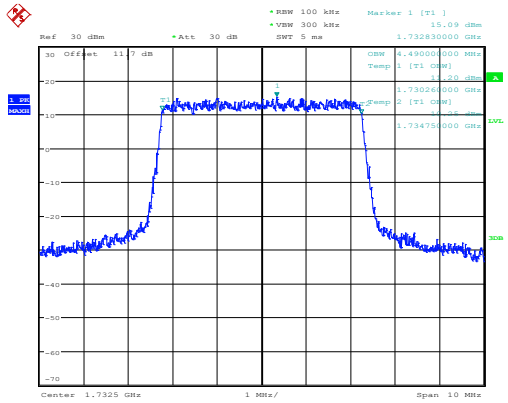
Date: 29.DEC.2014 09:51:18

Lowest Channel / 5MHz / 16QAM



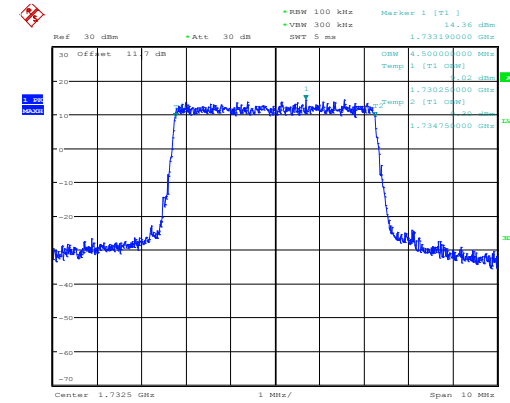
Date: 29.DEC.2014 09:51:30

Middle Channel / 5MHz / QPSK



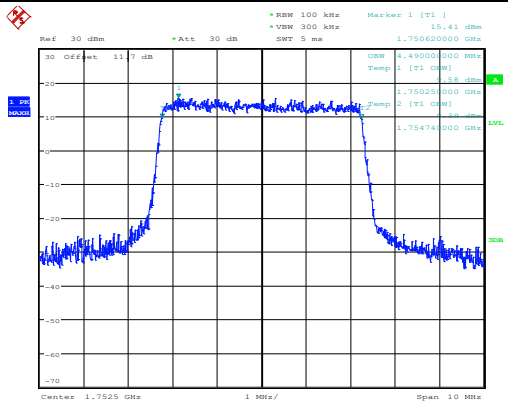
Date: 29.DEC.2014 10:05:36

Middle Channel / 5MHz / 16QAM



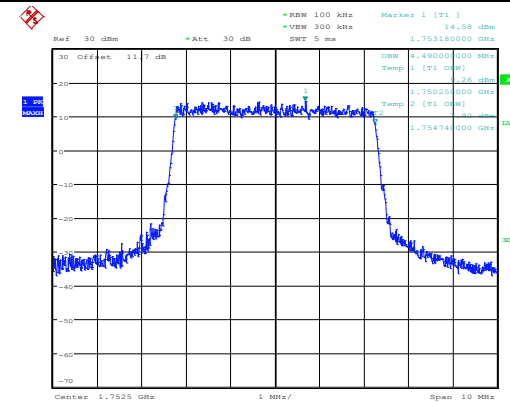
Date: 29.DEC.2014 10:05:46

Highest Channel / 5MHz / QPSK



Date: 29.DEC.2014 10:08:43

Highest Channel / 5MHz / 16QAM

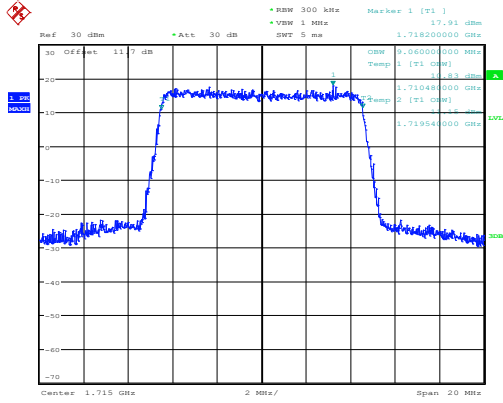


Date: 29.DEC.2014 10:08:54



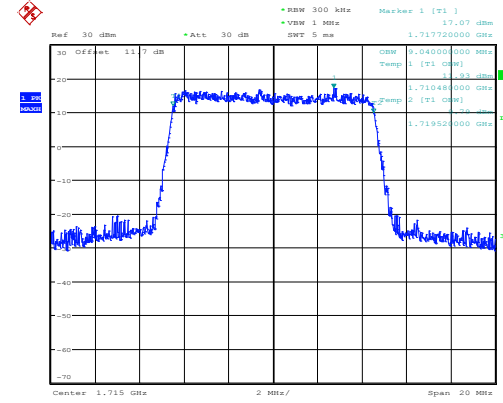
LTE Band 4

Lowest Channel / 10MHz / QPSK



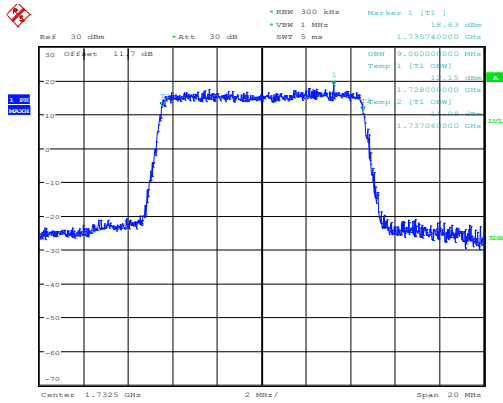
Date: 29.DEC.2014 10:21:32

Lowest Channel / 10MHz / 16QAM



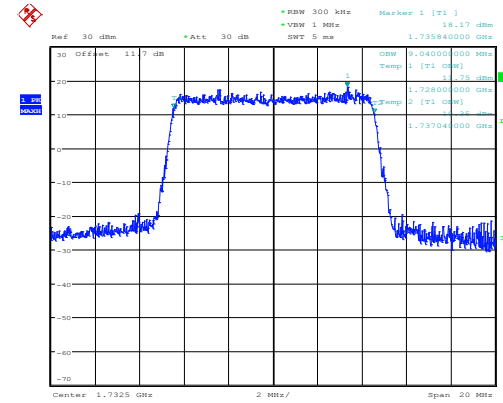
Date: 29.DEC.2014 10:21:46

Middle Channel / 10MHz / QPSK



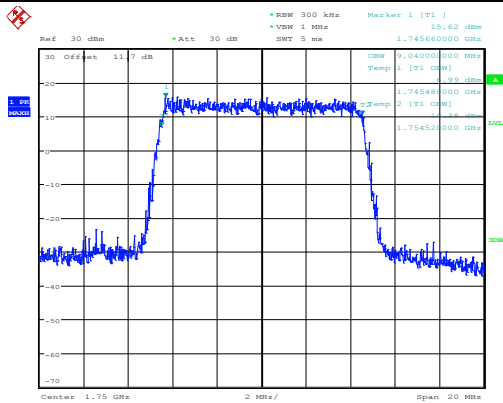
Date: 29.DEC.2014 10:31:12

Middle Channel / 10MHz / 16QAM



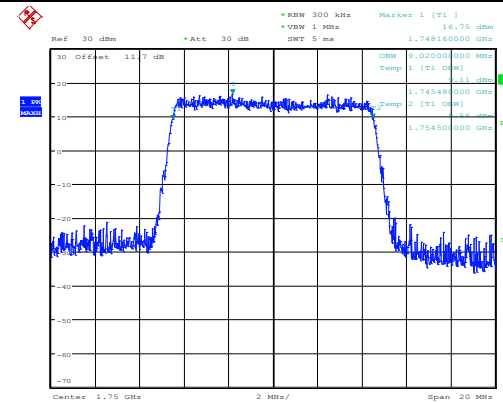
Date: 29.DEC.2014 10:31:23

Highest Channel / 10MHz / QPSK



Date: 29.DEC.2014 10:36:07

Highest Channel / 10MHz / 16QAM

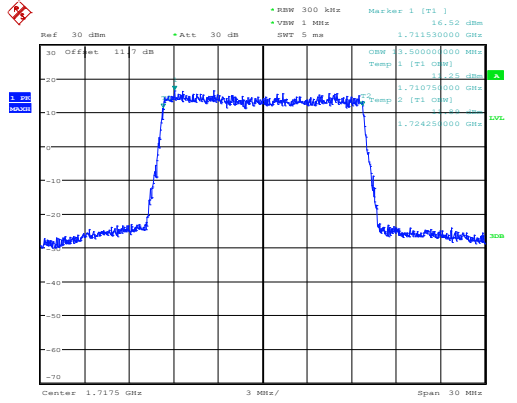


Date: 29.DEC.2014 11:02:08



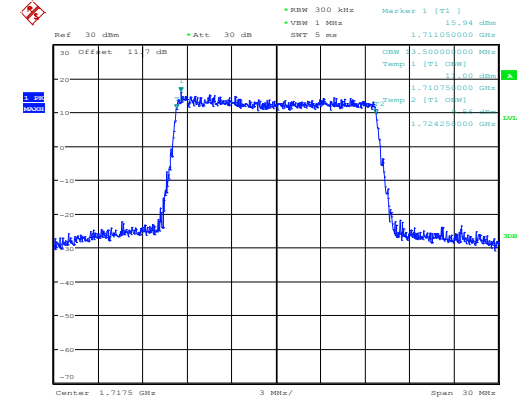
LTE Band 4

Lowest Channel / 15MHz / QPSK



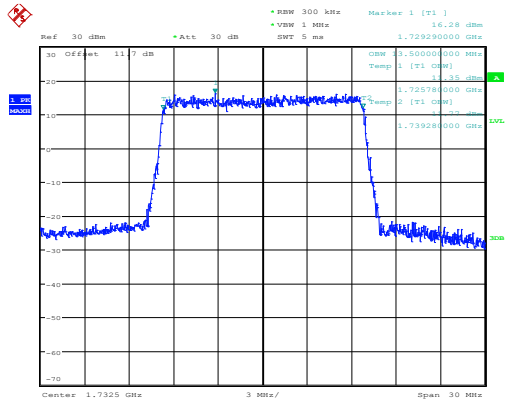
Date: 29.DEC.2014 11:03:32

Lowest Channel / 15MHz / 16QAM



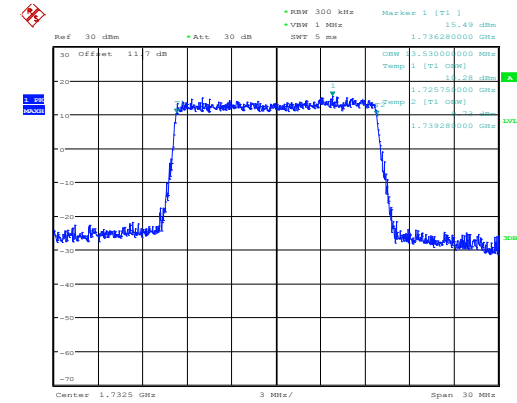
Date: 29.DEC.2014 11:03:43

Middle Channel / 15MHz / QPSK



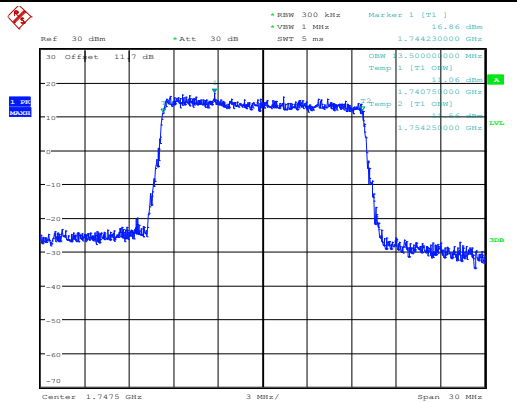
Date: 29.DEC.2014 11:13:28

Middle Channel / 15MHz / 16QAM



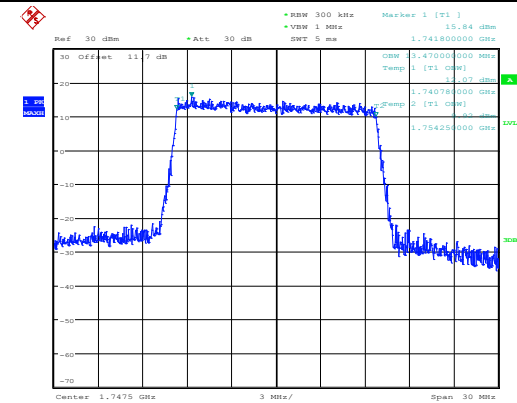
Date: 29.DEC.2014 11:13:39

Highest Channel / 15MHz / QPSK



Date: 29.DEC.2014 11:16:36

Highest Channel / 15MHz / 16QAM

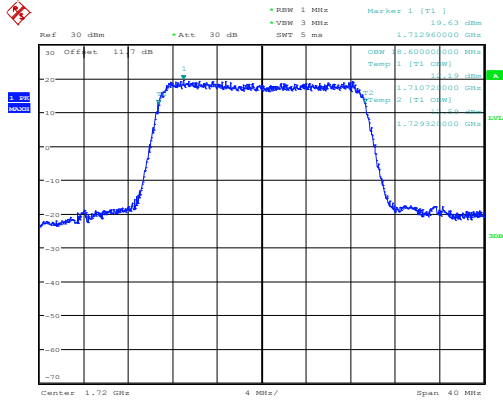


Date: 29.DEC.2014 11:16:46



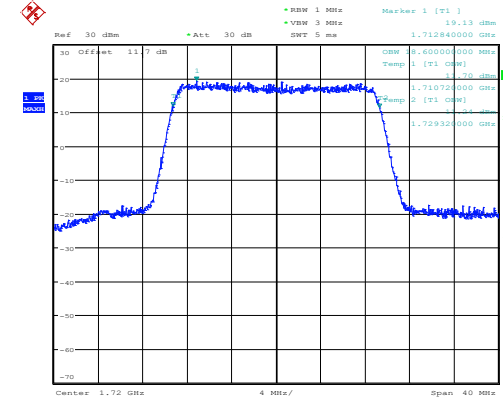
LTE Band 4

Lowest Channel / 20MHz / QPSK



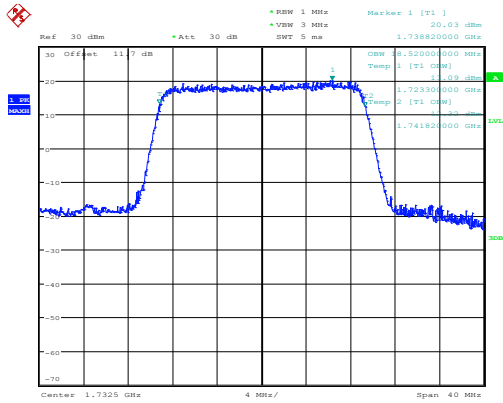
Date: 29 DEC.2014 11:57:10

Lowest Channel / 20MHz / 16QAM



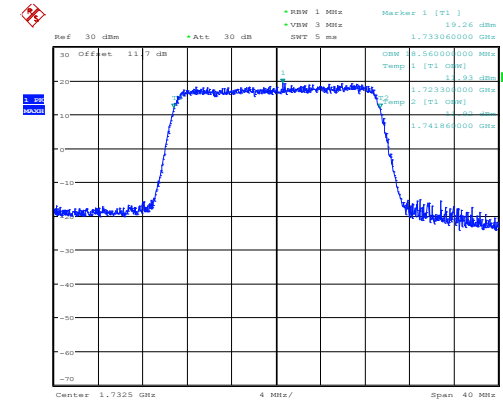
Date: 29 DEC.2014 11:27:00

Middle Channel / 20MHz / QPSK



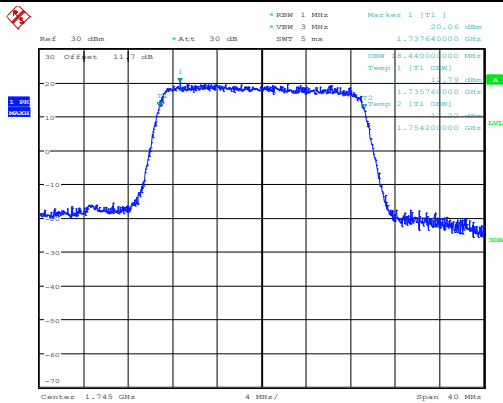
Date: 29 DEC.2014 11:36:01

Middle Channel / 20MHz / 16QAM



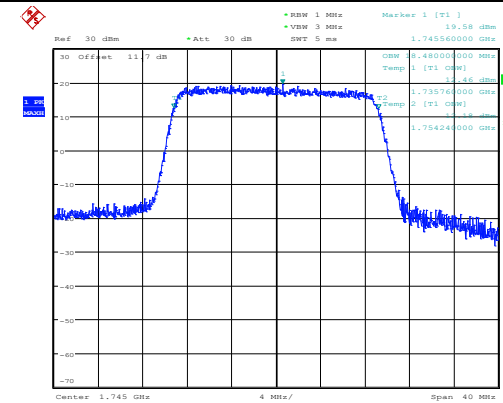
Date: 29 DEC.2014 11:36:12

Highest Channel / 20MHz / QPSK



Date: 29 DEC.2014 11:39:08

Highest Channel / 20MHz / 16QAM

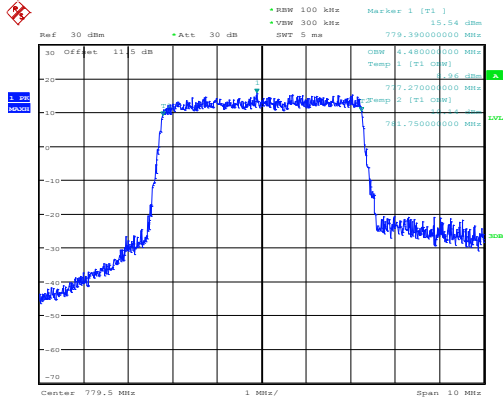


Date: 29 DEC.2014 11:39:19



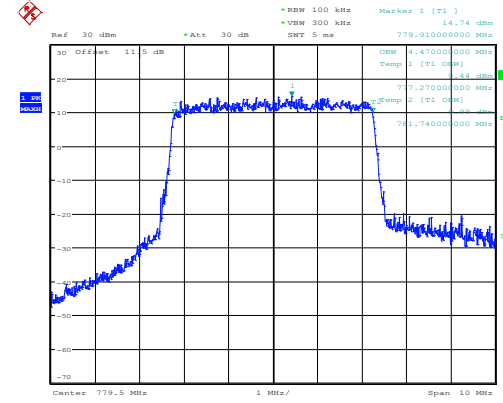
LTE Band 13

Lowest Channel / 5MHz / QPSK



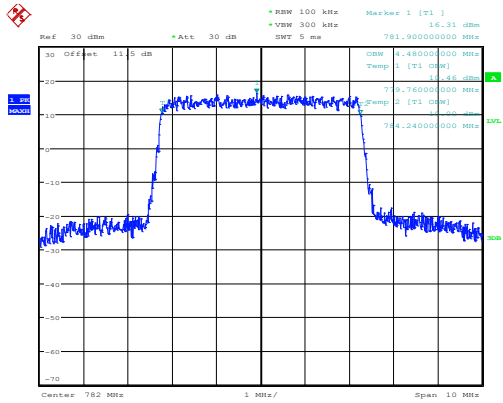
Date: 26.DEC.2014 11:50:11

Lowest Channel / 5MHz / 16QAM



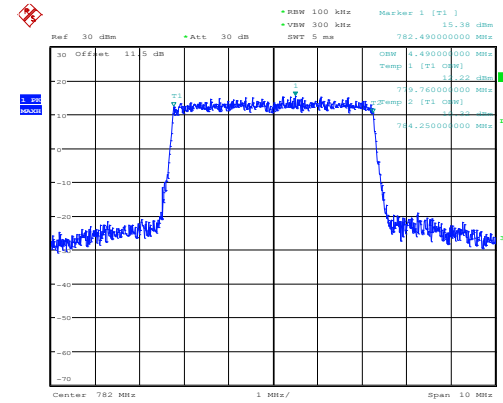
Date: 26.DEC.2014 11:50:26

Middle Channel / 5MHz / QPSK



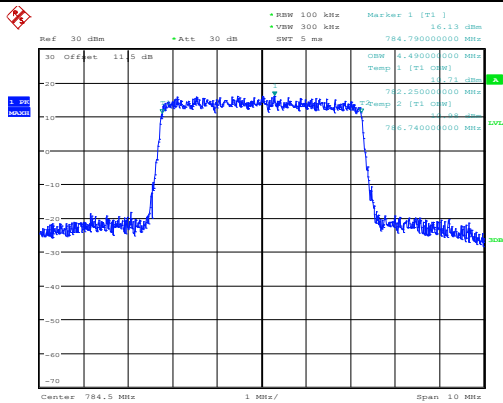
Date: 26.DEC.2014 10:44:27

Middle Channel / 5MHz / 16QAM



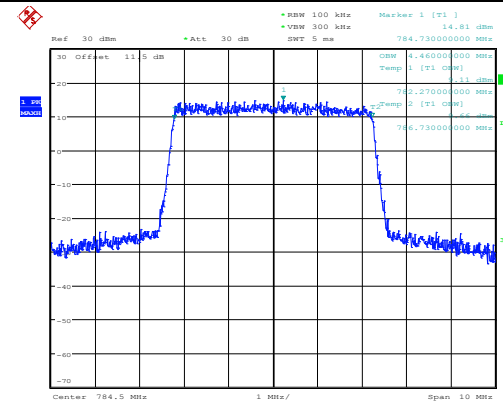
Date: 26.DEC.2014 10:44:14

Highest Channel / 5MHz / QPSK



Date: 26.DEC.2014 11:21:24

Highest Channel / 5MHz / 16QAM

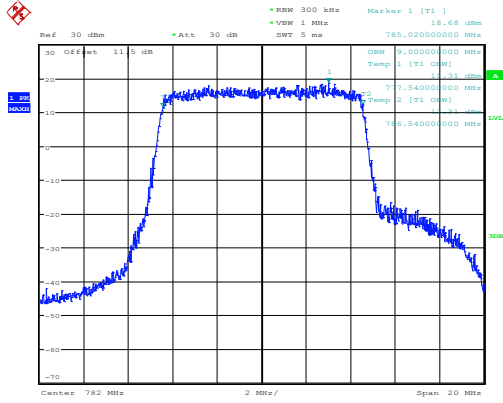


Date: 26.DEC.2014 11:16:08



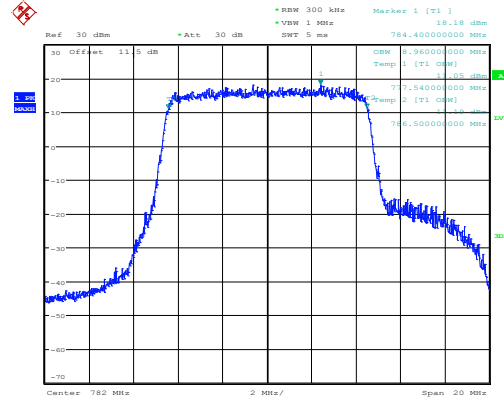
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 26.DEC.2014 11:54:30

Middle Channel / 10MHz / 16QAM

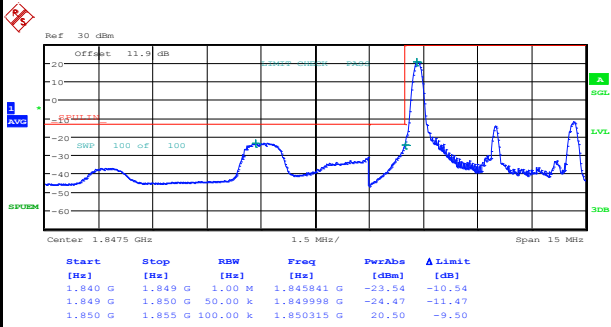


Date: 26.DEC.2014 10:05:46



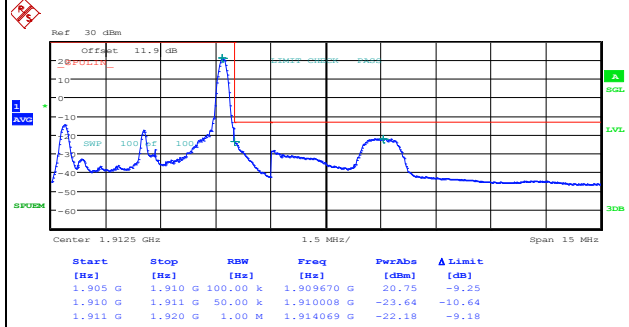
LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1 RB



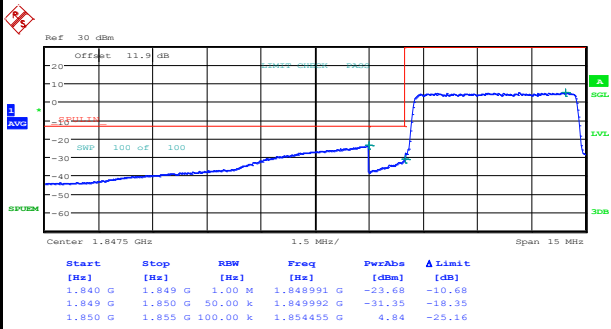
Date: 26.DEC.2014 14:29:44

Highest Band Edge / 1 RB



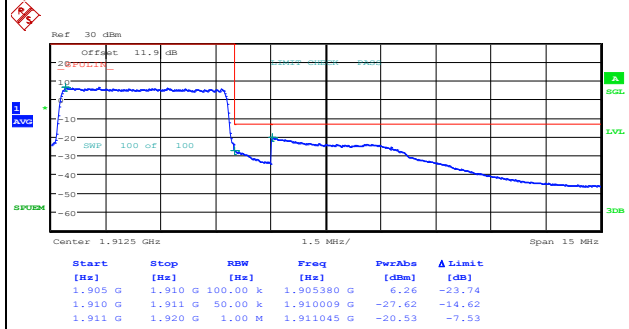
Date: 26.DEC.2014 13:56:28

Lowest Band Edge / Full RB



Date: 31.DEC.2014 18:05:40

Highest Band Edge / Full RB

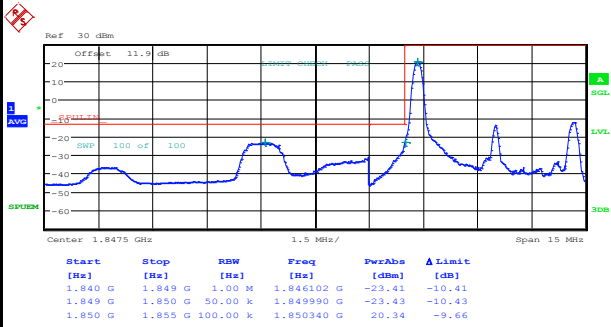


Date: 26.DEC.2014 13:59:08



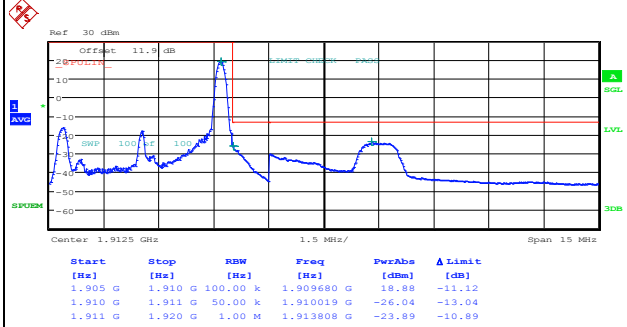
LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / 1RB



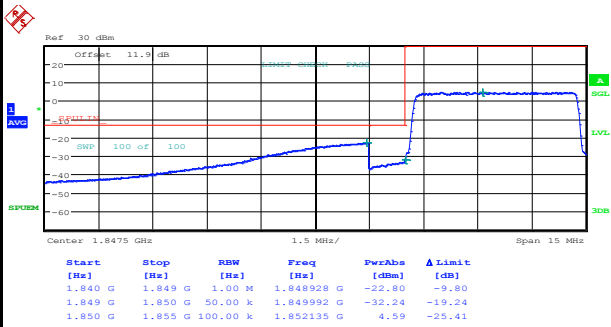
Date: 26.DEC.2014 14:31:26

Highest Band Edge / 1 RB



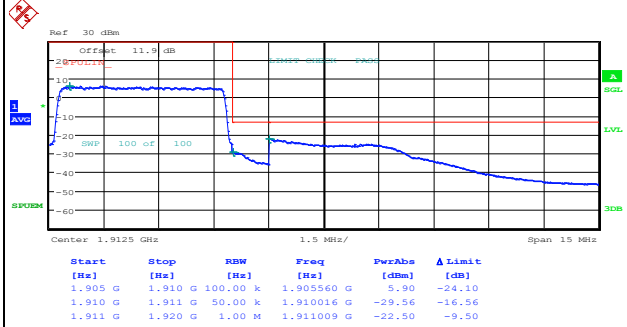
Date: 26.DEC.2014 13:57:48

Lowest Band Edge / Full RB



Date: 26.DEC.2014 14:34:05

Highest Band Edge / Full RB

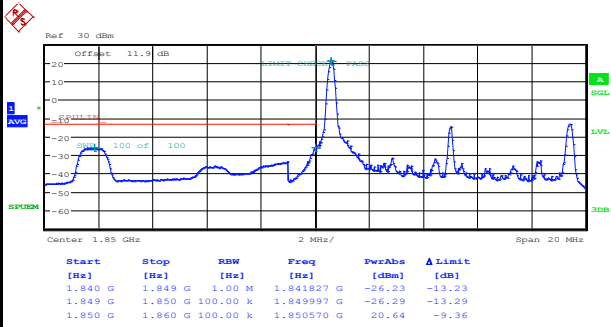


Date: 26.DEC.2014 14:00:29



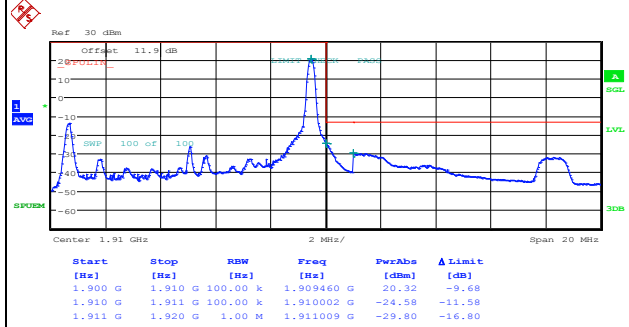
LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1 RB



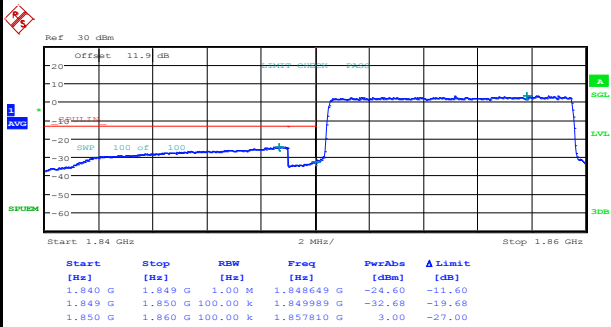
Date: 26.DEC.2014 14:43:45

Highest Band Edge / 1 RB



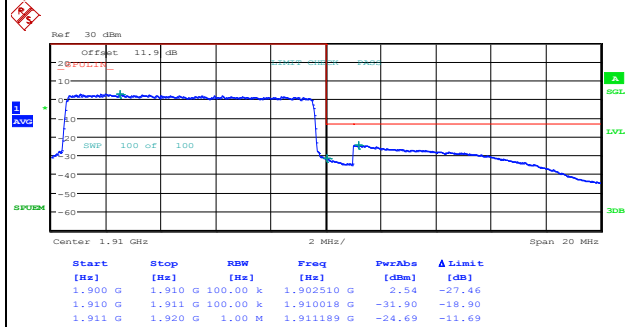
Date: 26.DEC.2014 15:19:43

Lowest Band Edge / Full RB



Date: 26.DEC.2014 15:32:00

Highest Band Edge / Full RB

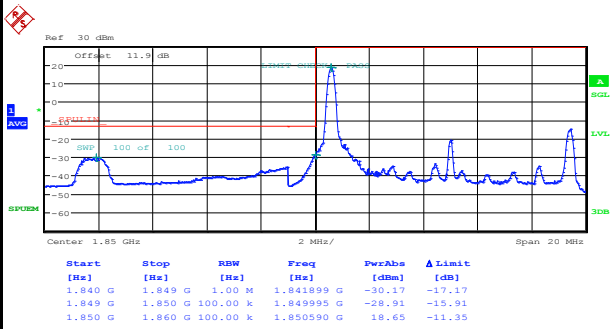


Date: 26.DEC.2014 15:23:27



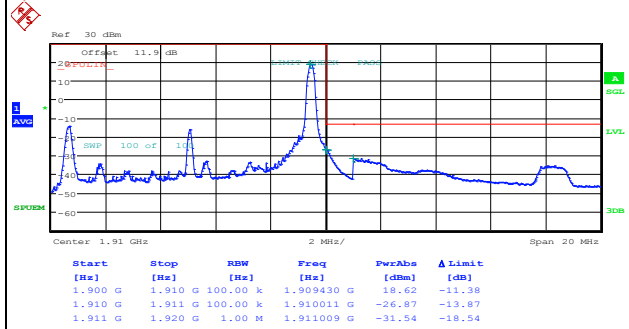
LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



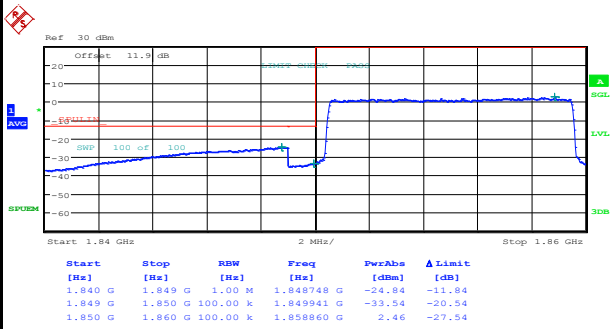
Date: 26.DEC.2014 14:44:55

Highest Band Edge / 1 RB



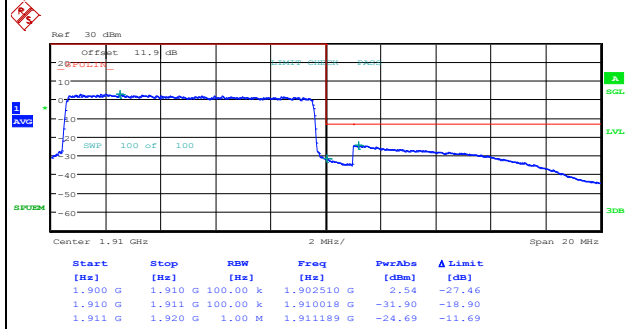
Date: 26.DEC.2014 15:20:55

Lowest Band Edge / Full RB



Date: 26.DEC.2014 15:30:55

Highest Band Edge / Full RB

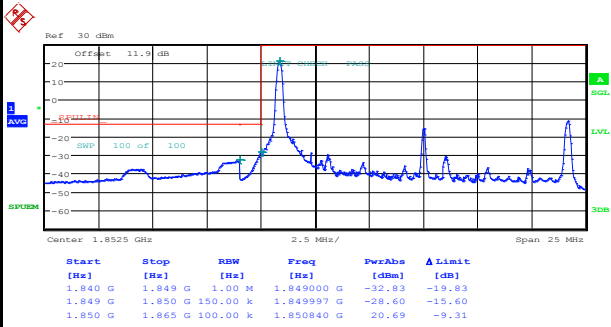


Date: 26.DEC.2014 15:23:27



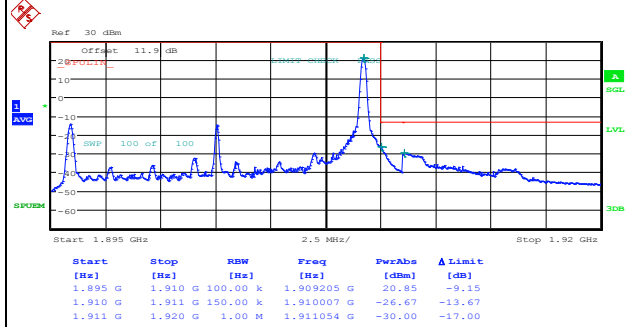
LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / 1 RB



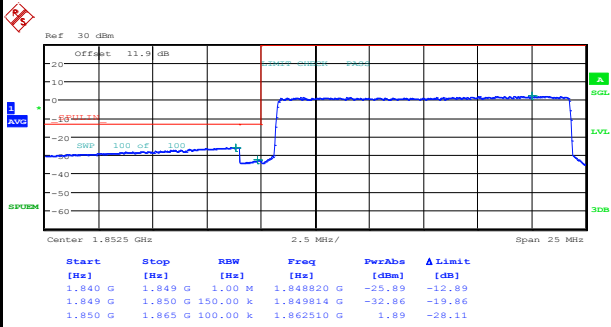
Date: 26.DEC.2014 15:36:01

Highest Band Edge / 1 RB



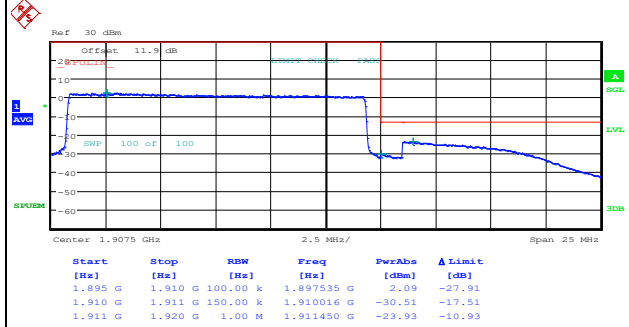
Date: 26.DEC.2014 15:59:54

Lowest Band Edge / Full RB



Date: 26.DEC.2014 15:38:35

Highest Band Edge / Full RB

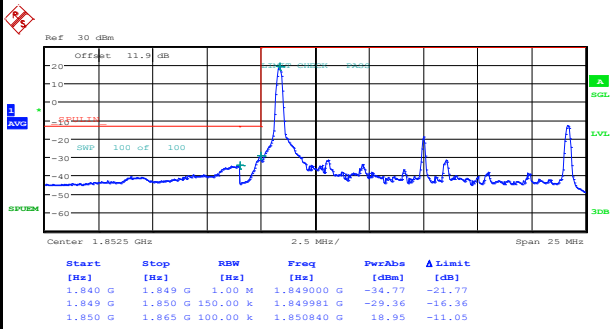


Date: 26.DEC.2014 15:54:56



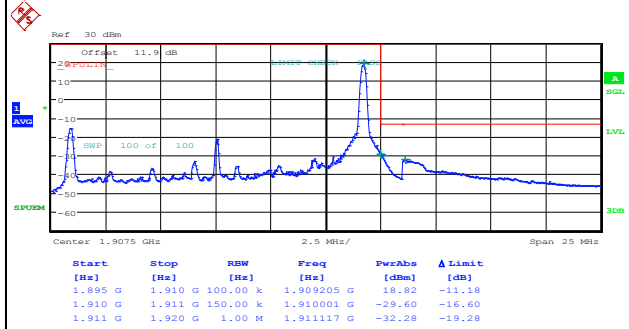
LTE Band 2 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



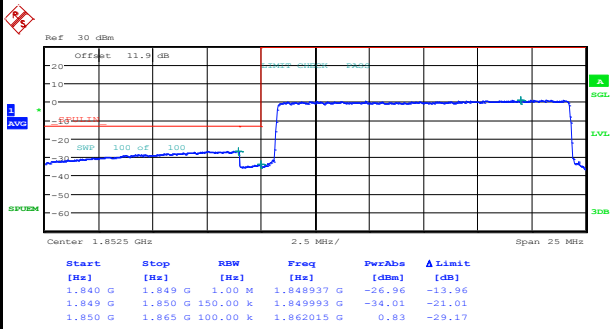
Date: 26.DEC.2014 15:37:20

Highest Band Edge / 1 RB



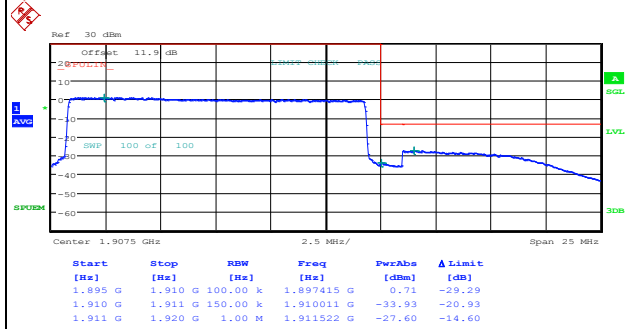
Date: 26.DEC.2014 15:53:10

Lowest Band Edge / Full RB



Date: 26.DEC.2014 15:39:52

Highest Band Edge / Full RB

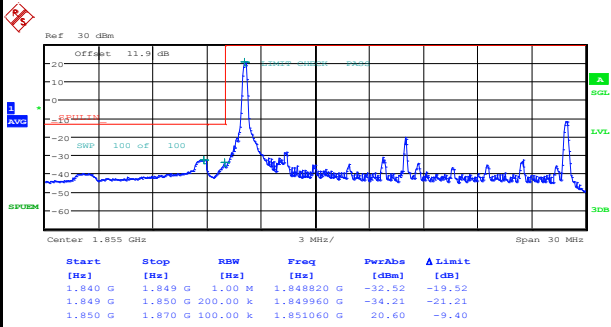


Date: 26.DEC.2014 15:56:14



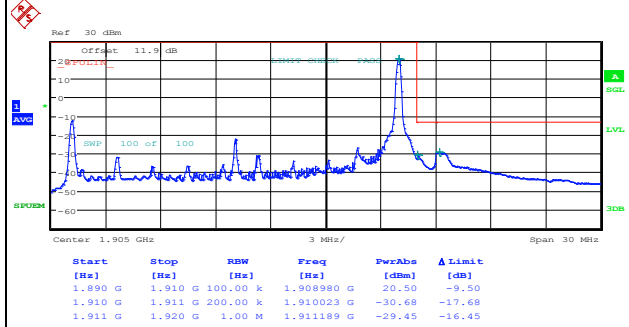
LTE Band 2 / 20MHz / QPSK

Lowest Band Edge / 1 RB



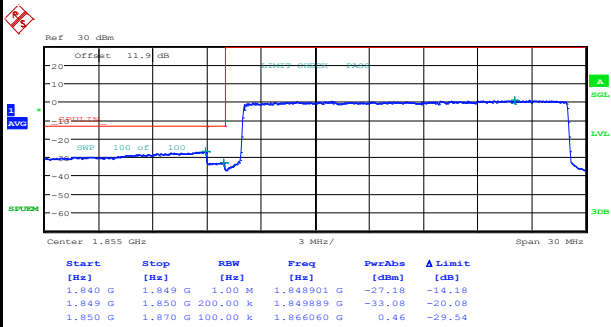
Date: 26.DEC.2014 16:11:59

Highest Band Edge / 1 RB



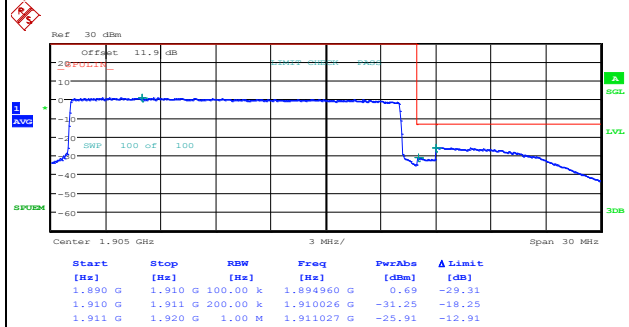
Date: 26.DEC.2014 16:25:51

Lowest Band Edge / Full RB



Date: 26.DEC.2014 16:14:51

Highest Band Edge / Full RB

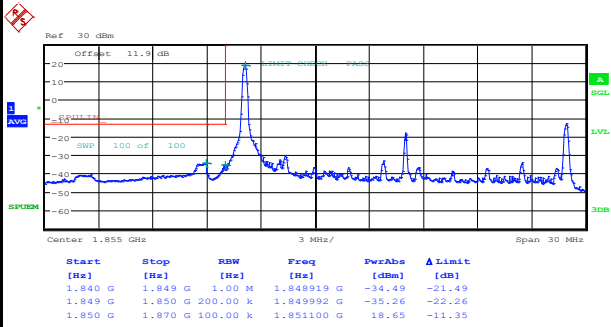


Date: 26.DEC.2014 16:28:29



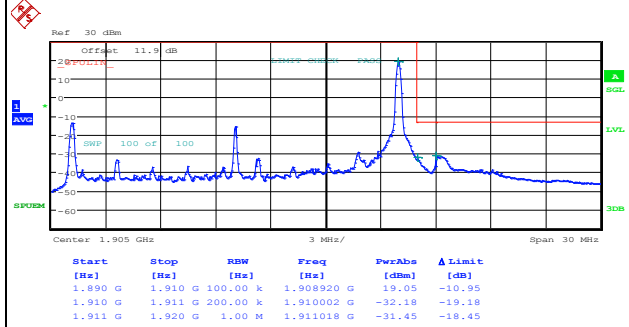
LTE Band 2 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



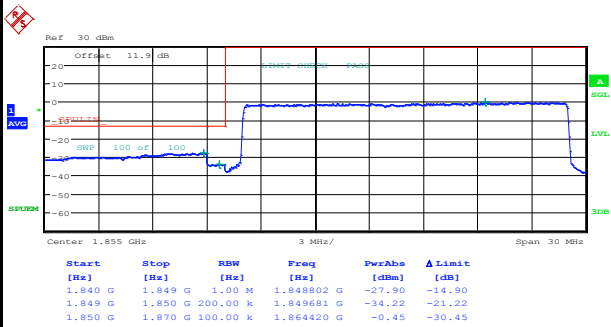
Date: 26.DEC.2014 16:13:33

Highest Band Edge / 1 RB



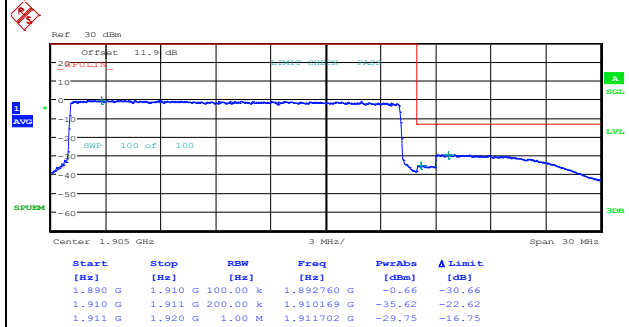
Date: 26.DEC.2014 16:27:13

Lowest Band Edge / Full RB



Date: 26.DEC.2014 16:16:15

Highest Band Edge / Full RB

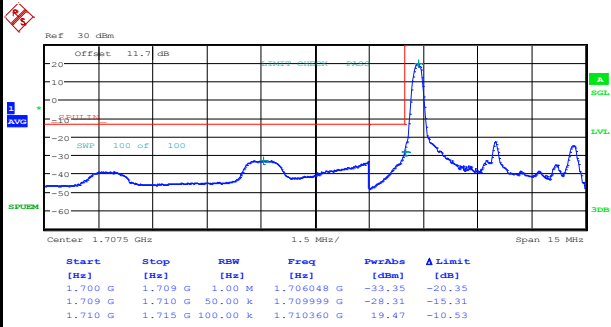


Date: 26.DEC.2014 16:29:52



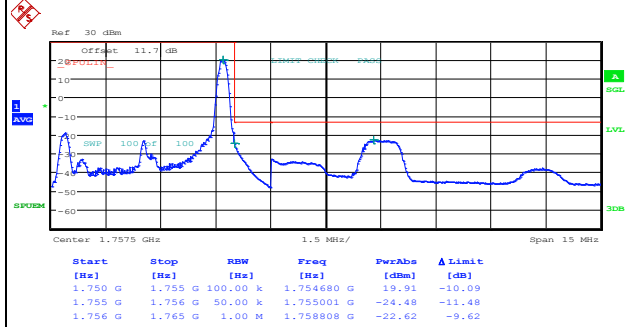
LTE Band 4 / 5MHz / QPSK

Lowest Band Edge / 1 RB



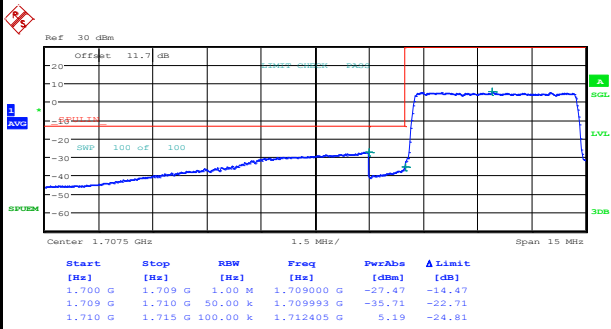
Date: 29.DEC.2014 09:56:19

Highest Band Edge / 1 RB



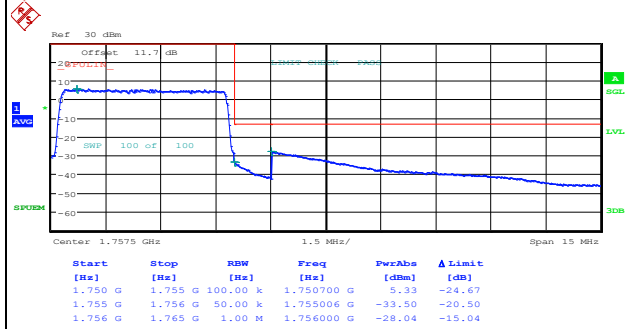
Date: 29.DEC.2014 10:10:29

Lowest Band Edge / Full RB



Date: 29.DEC.2014 09:58:39

Highest Band Edge / Full RB

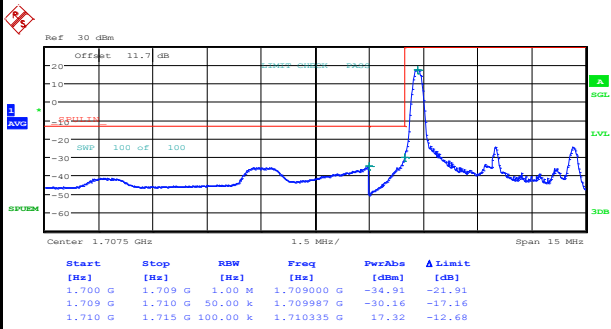


Date: 29.DEC.2014 10:12:49



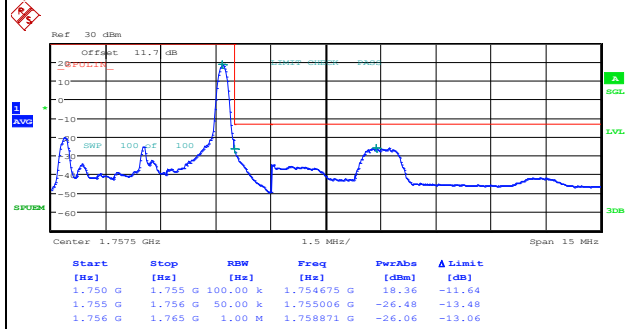
LTE Band 4 / 5MHz / 16QAM

Lowest Band Edge / 1RB



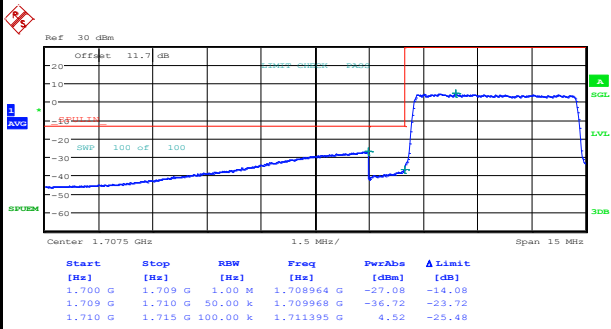
Date: 29.DEC.2014 09:57:29

Highest Band Edge / 1 RB



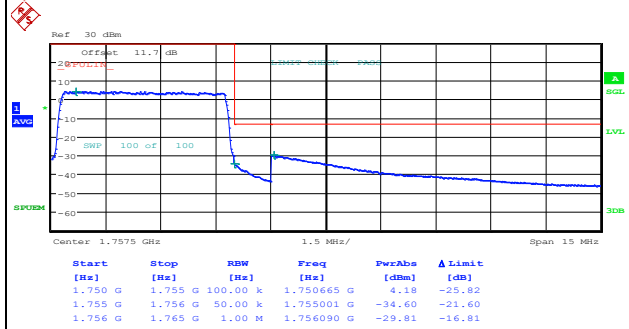
Date: 29.DEC.2014 10:11:39

Lowest Band Edge / Full RB



Date: 29.DEC.2014 09:59:49

Highest Band Edge / Full RB

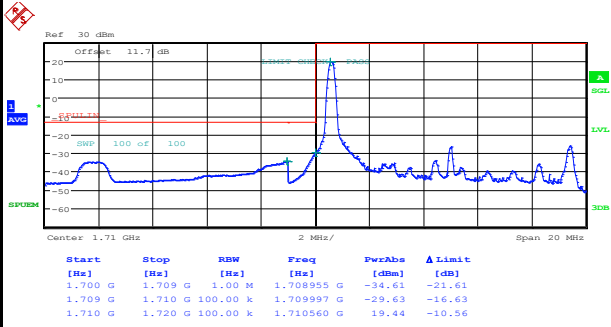


Date: 29.DEC.2014 10:13:59



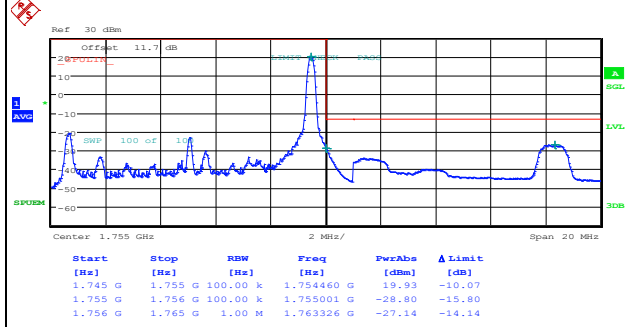
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



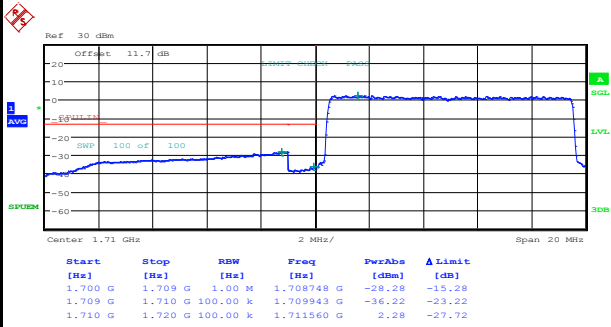
Date: 29.DEC.2014 10:23:24

Highest Band Edge / 1 RB



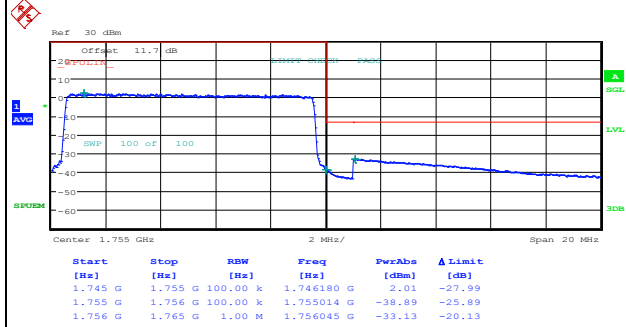
Date: 29.DEC.2014 10:39:15

Lowest Band Edge / Full RB



Date: 29.DEC.2014 10:26:38

Highest Band Edge / Full RB

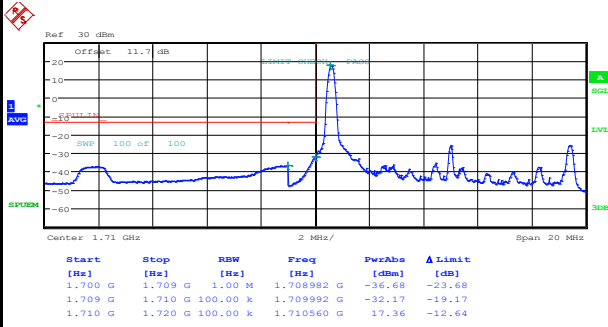


Date: 29.DEC.2014 10:42:52



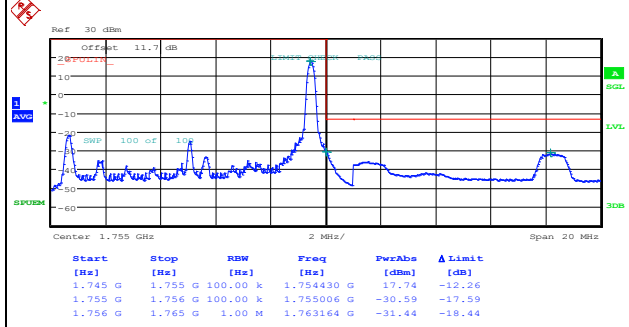
LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



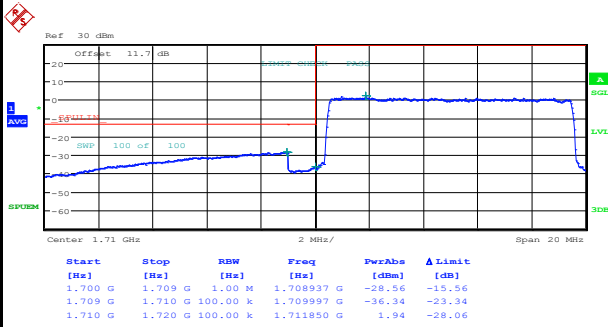
Date: 29.DEC.2014 10:25:08

Highest Band Edge / 1 RB



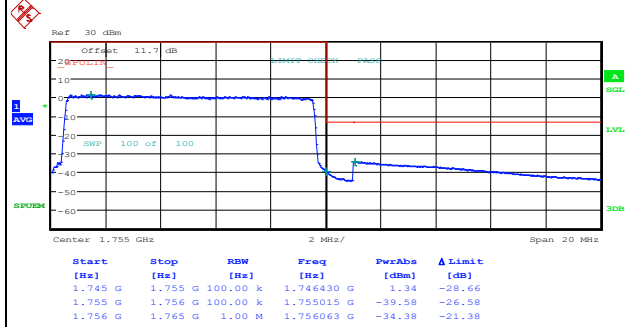
Date: 29.DEC.2014 10:40:37

Lowest Band Edge / Full RB



Date: 29.DEC.2014 10:28:03

Highest Band Edge / Full RB

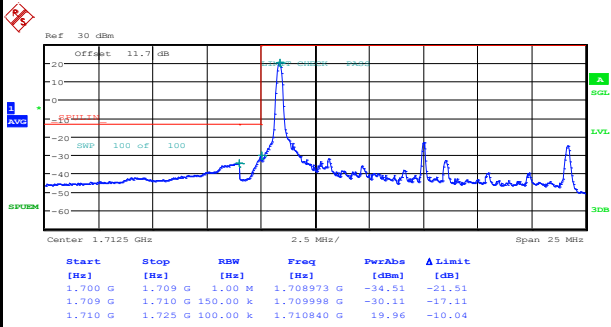


Date: 29.DEC.2014 10:44:37



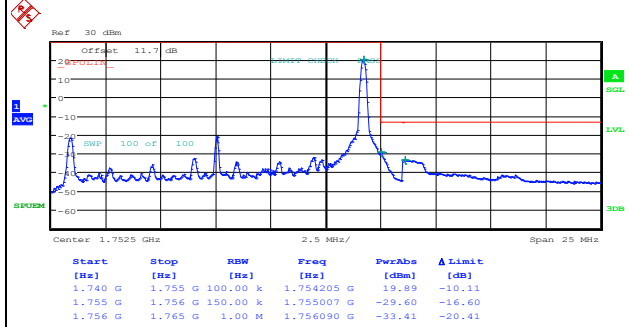
LTE Band 4 / 15MHz / QPSK

Lowest Band Edge / 1 RB



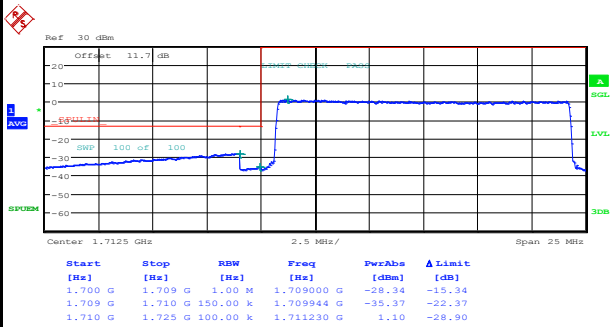
Date: 29.DEC.2014 11:06:20

Highest Band Edge / 1 RB



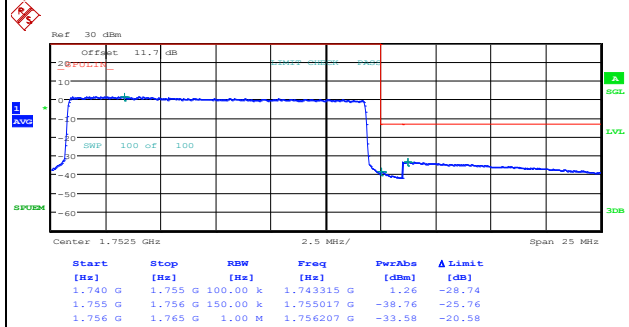
Date: 29.DEC.2014 11:18:41

Lowest Band Edge / Full RB



Date: 29.DEC.2014 11:09:47

Highest Band Edge / Full RB

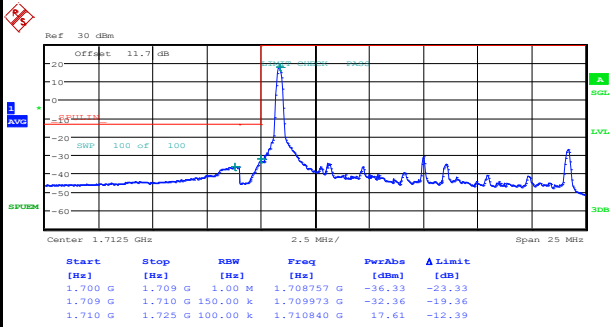


Date: 29.DEC.2014 11:21:01



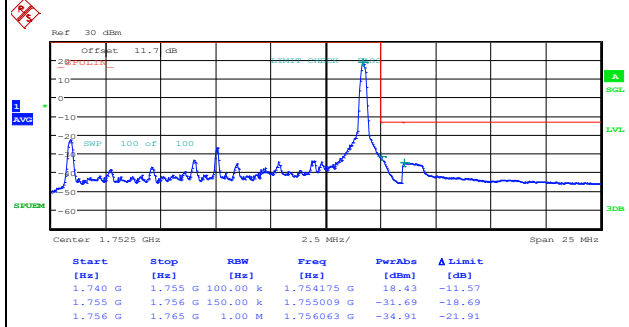
LTE Band 4 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



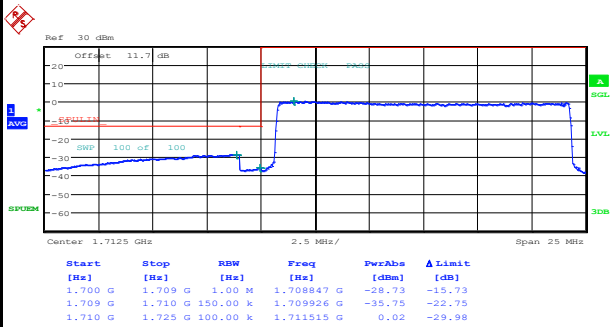
Date: 29.DEC.2014 11:08:37

Highest Band Edge / 1 RB



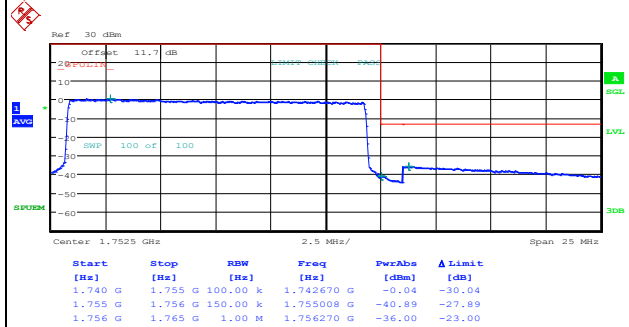
Date: 29.DEC.2014 11:19:51

Lowest Band Edge / Full RB



Date: 29.DEC.2014 11:10:57

Highest Band Edge / Full RB

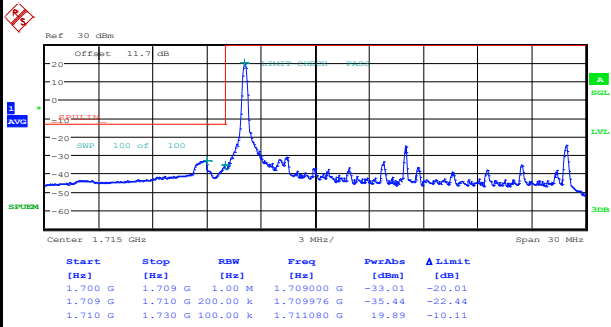


Date: 29.DEC.2014 11:22:34



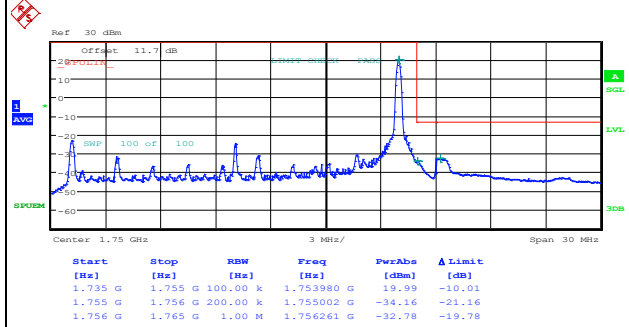
LTE Band 4 / 20MHz / QPSK

Lowest Band Edge / 1 RB



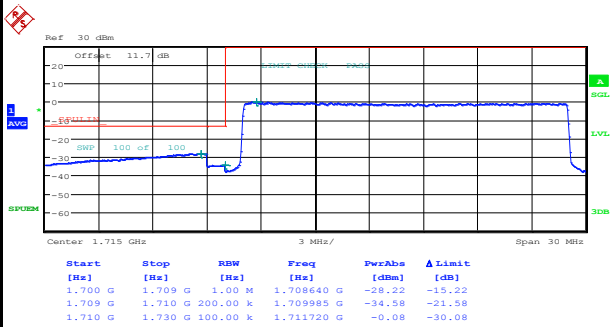
Date: 29.DEC.2014 11:29:34

Highest Band Edge / 1 RB



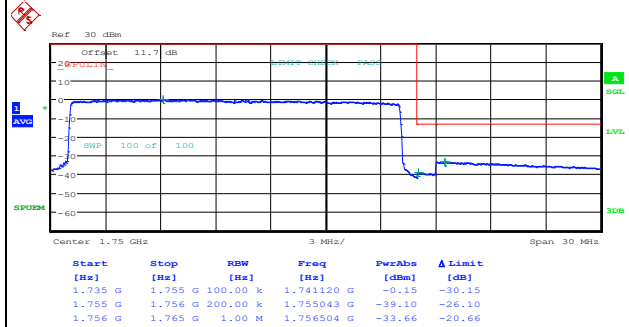
Date: 29.DEC.2014 11:40:54

Lowest Band Edge / Full RB



Date: 29.DEC.2014 11:31:54

Highest Band Edge / Full RB

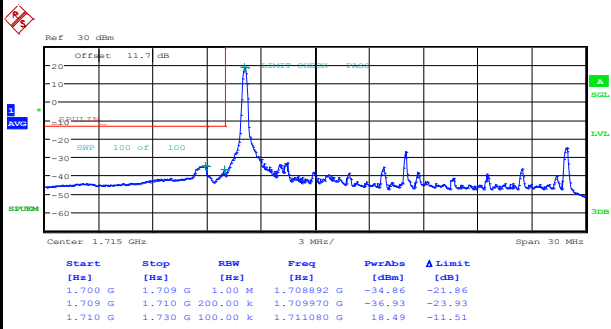


Date: 29.DEC.2014 11:43:14



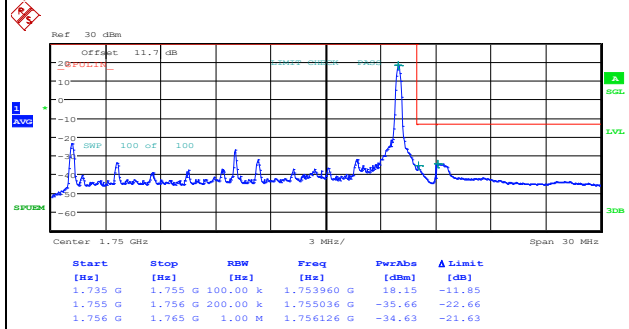
LTE Band 4 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



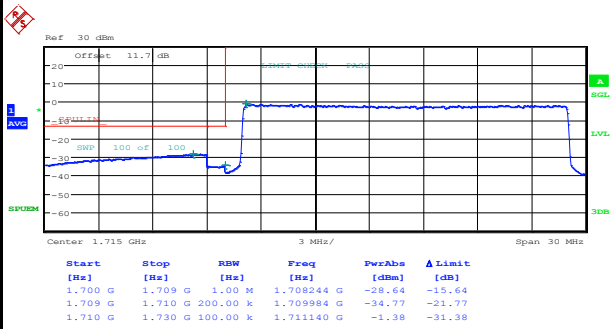
Date: 29.DEC.2014 11:30:44

Highest Band Edge / 1 RB



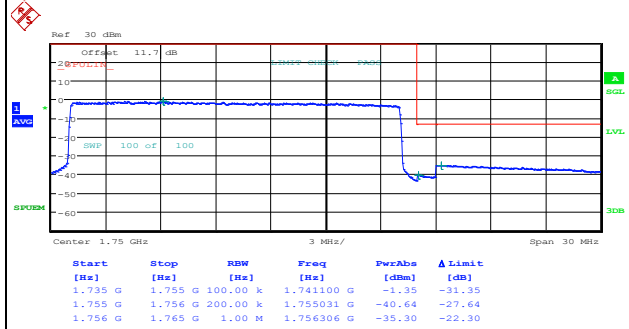
Date: 29.DEC.2014 11:42:04

Lowest Band Edge / Full RB



Date: 29.DEC.2014 11:57:42

Highest Band Edge / Full RB



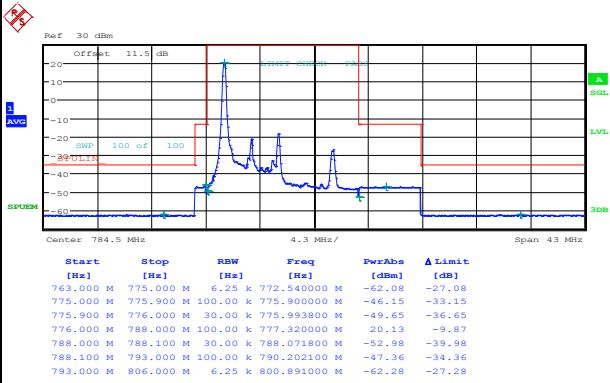
Date: 29.DEC.2014 11:44:24



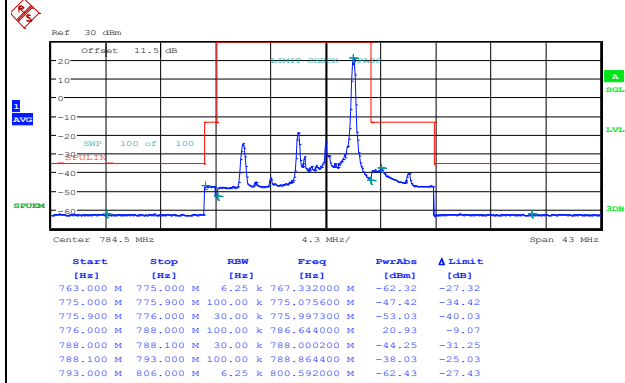
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



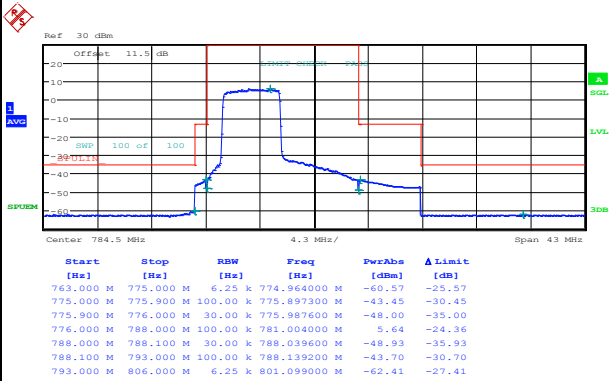
Date: 26.DEC.2014 11:45:45



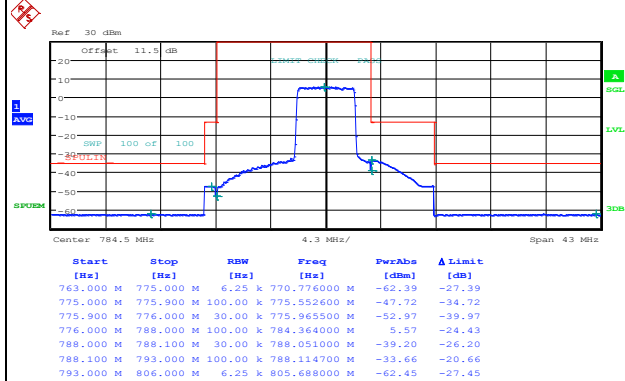
Date: 26.DEC.2014 11:25:44

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26.DEC.2014 11:38:46

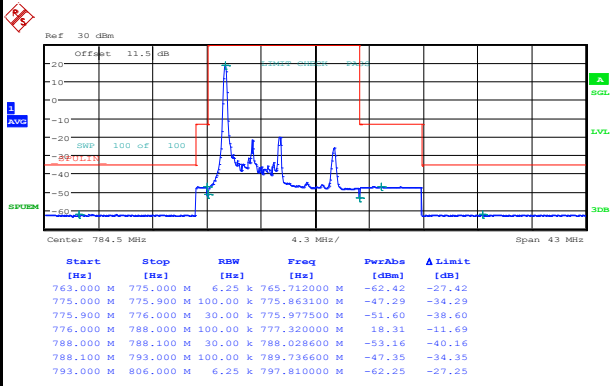


Date: 26.DEC.2014 11:34:19



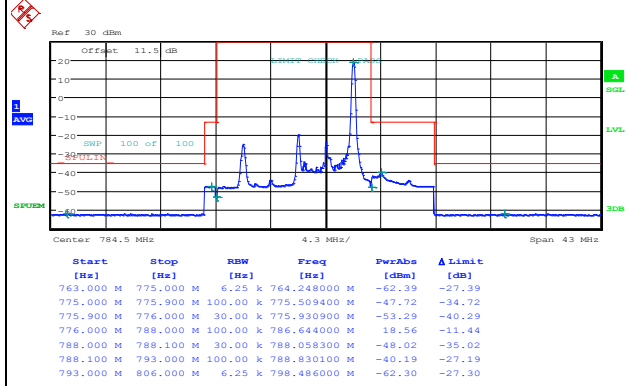
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



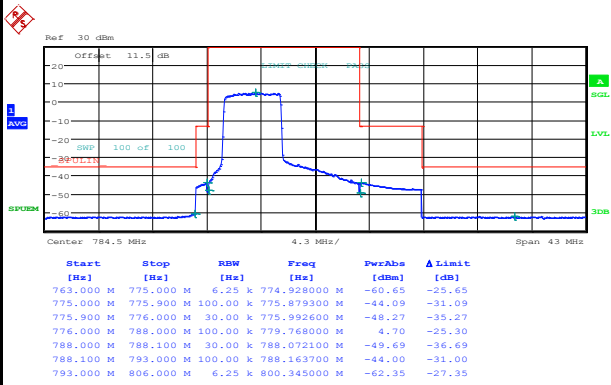
Date: 26.DEC.2014 11:43:23

Highest Band Edge / 1 RB



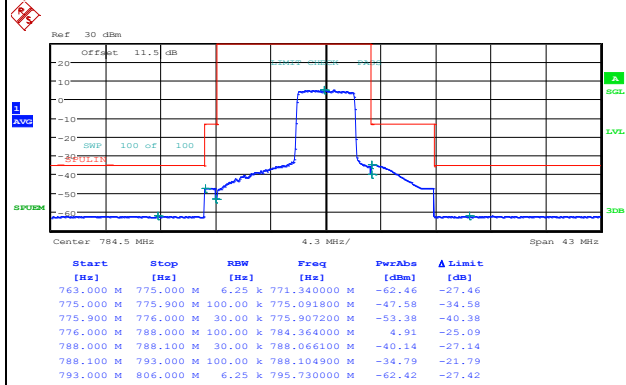
Date: 26.DEC.2014 11:29:44

Lowest Band Edge / Full RB



Date: 26.DEC.2014 11:40:51

Highest Band Edge / Full RB

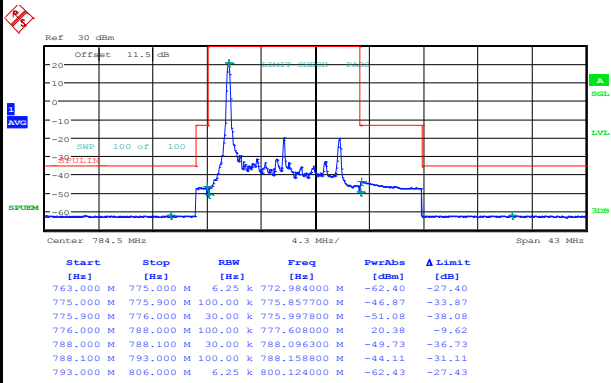


Date: 26.DEC.2014 11:31:52



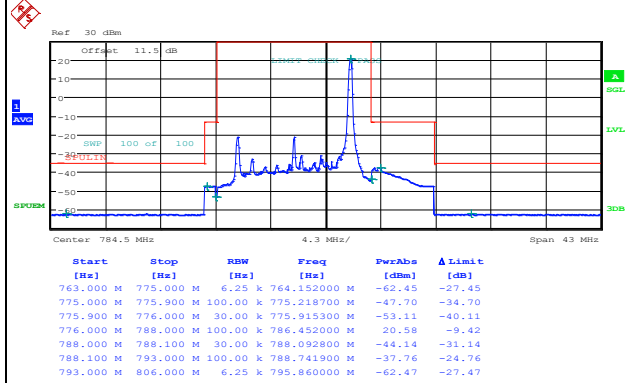
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



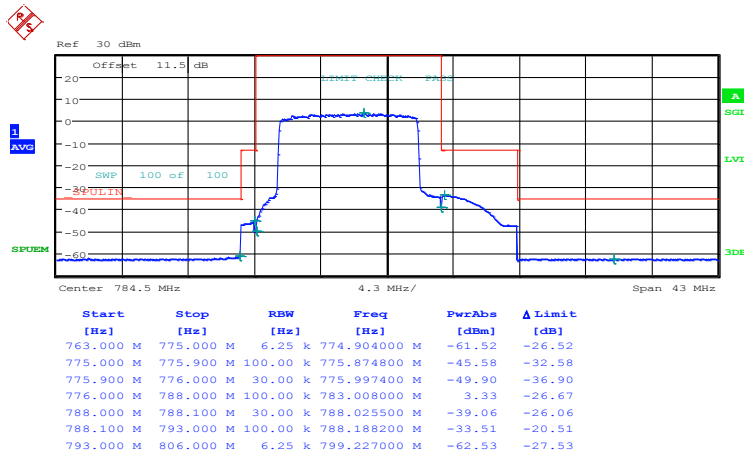
Date: 26.DEC.2014 10:14:55

Highest Band Edge / 1 RB



Date: 26.DEC.2014 10:22:48

Band Edge / Full RB

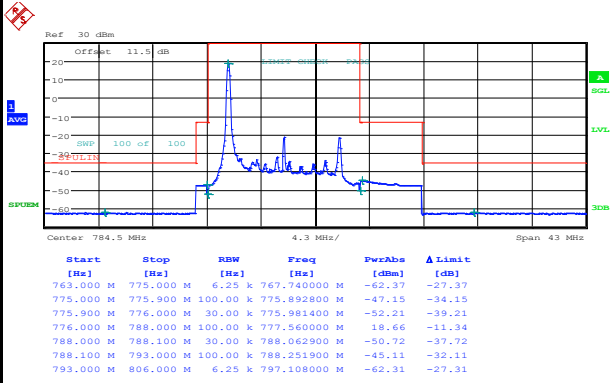


Date: 26.DEC.2014 10:25:34



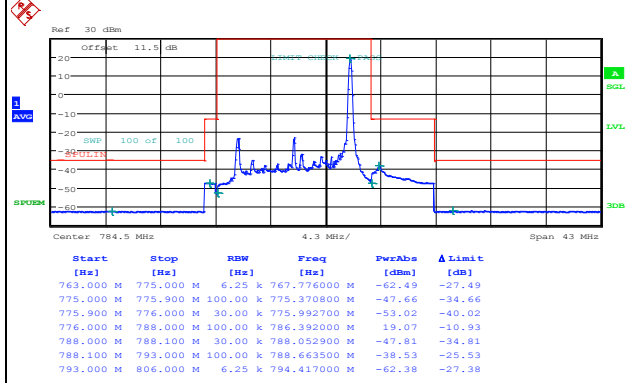
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



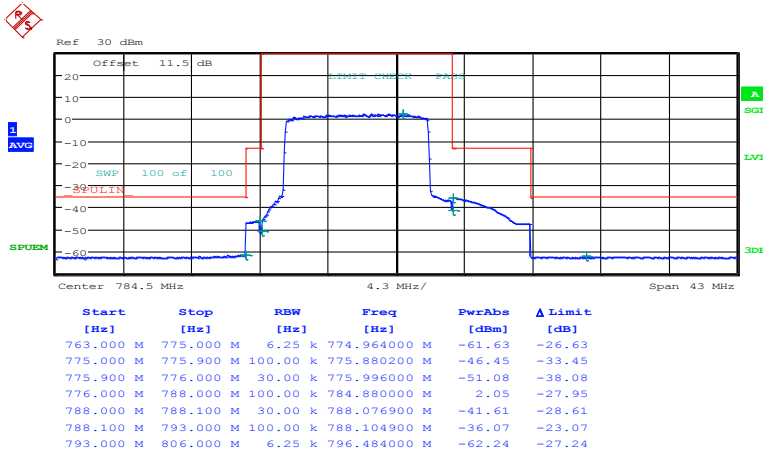
Date: 26.DEC.2014 10:18:48

Highest Band Edge / 1 RB



Date: 26.DEC.2014 10:20:54

Band Edge / Full RB



Date: 26.DEC.2014 10:28:00

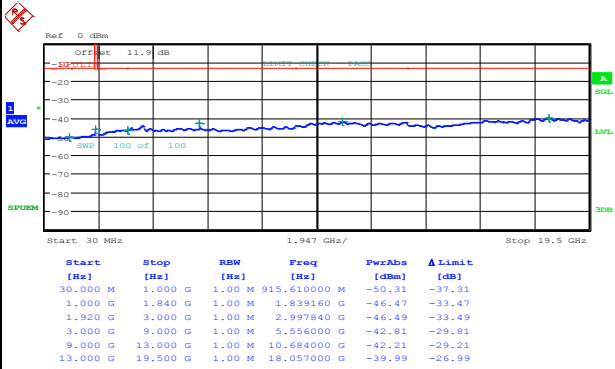


Conducted Spurious Emission

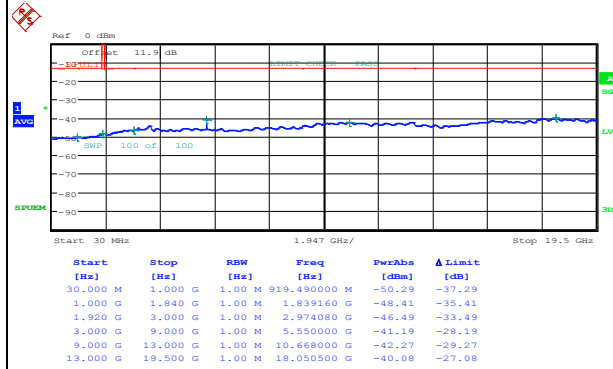
LTE Band 2 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



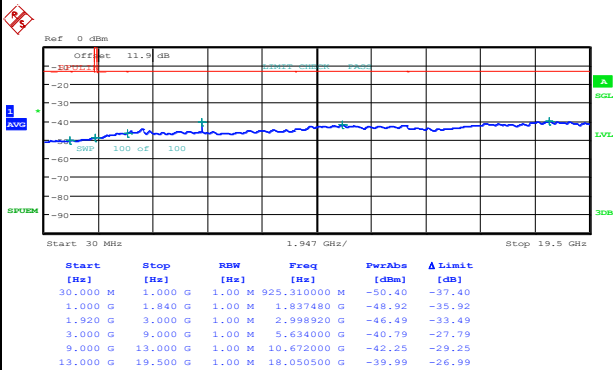
Date: 26.DEC.2014 14:35:25



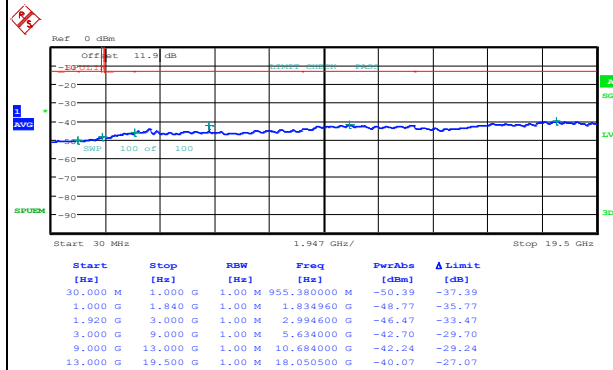
Date: 26.DEC.2014 14:36:49

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 26.DEC.2014 13:49:42

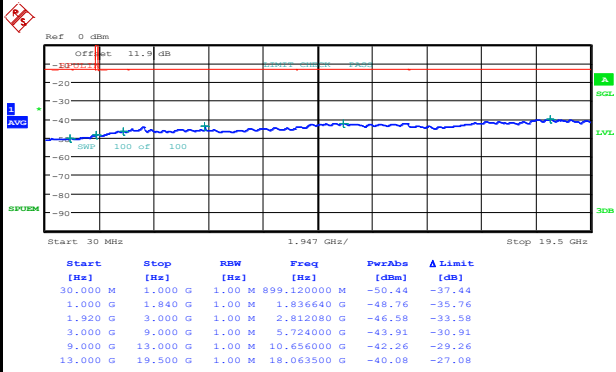


Date: 26.DEC.2014 13:50:52



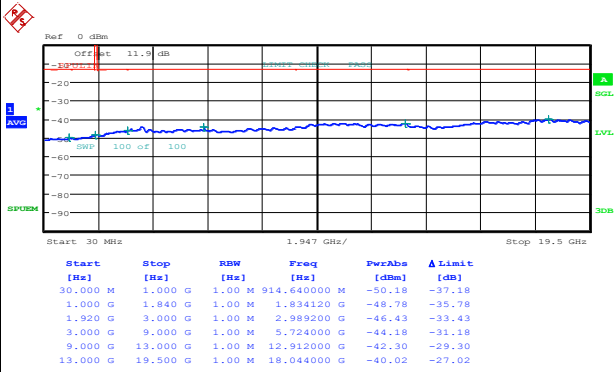
LTE Band 2 / 5MHz

Highest Channel / QPSK



Date: 26.DEC.2014 14:01:49

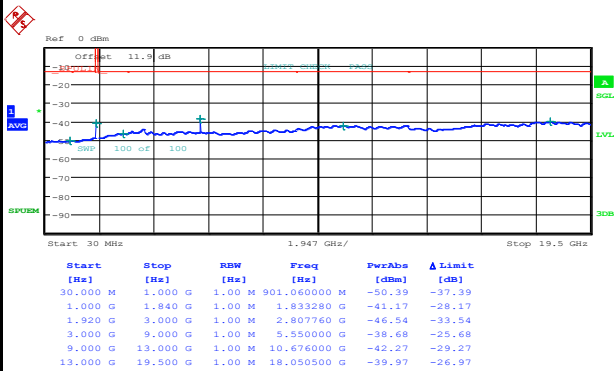
Highest Channel / 16QAM



Date: 26.DEC.2014 14:03:11

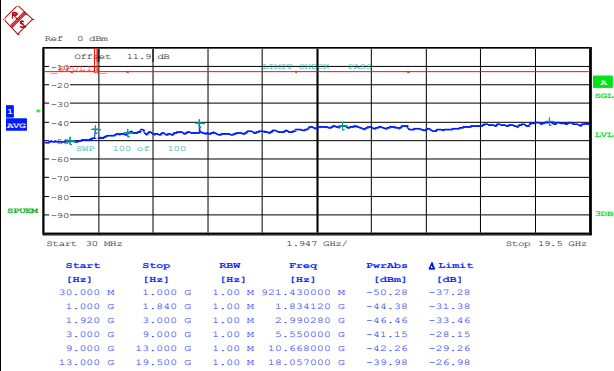
LTE Band 2 / 10MHz

Lowest Channel / QPSK



Date: 26.DEC.2014 15:28:19

Lowest Channel / 16QAM



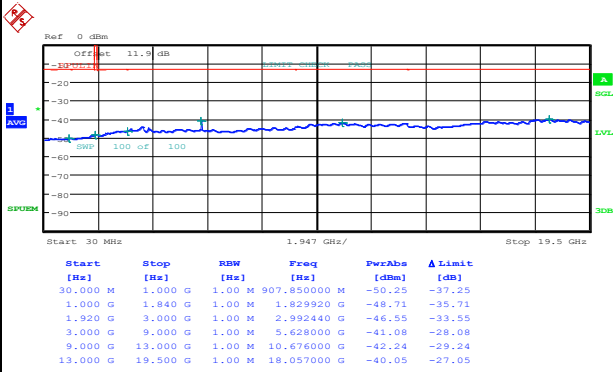
Date: 26.DEC.2014 15:29:59



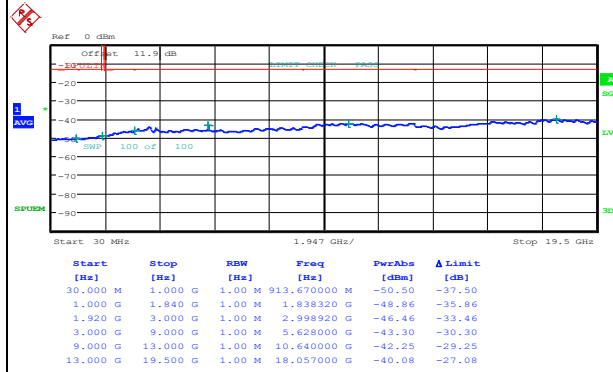
LTE Band 2 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



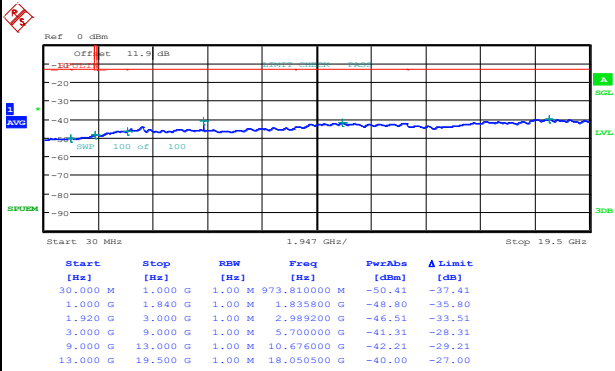
Date: 26.DEC.2014 15:15:16



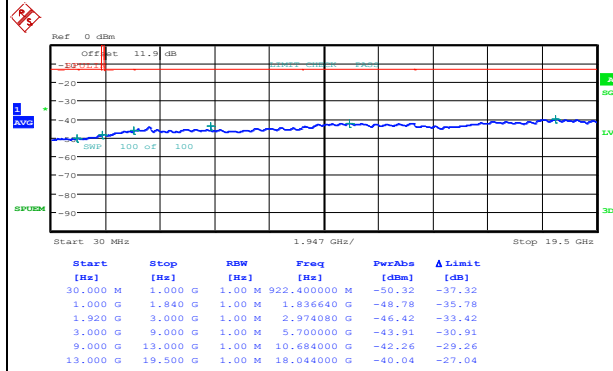
Date: 26.DEC.2014 15:16:42

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 26.DEC.2014 15:24:46



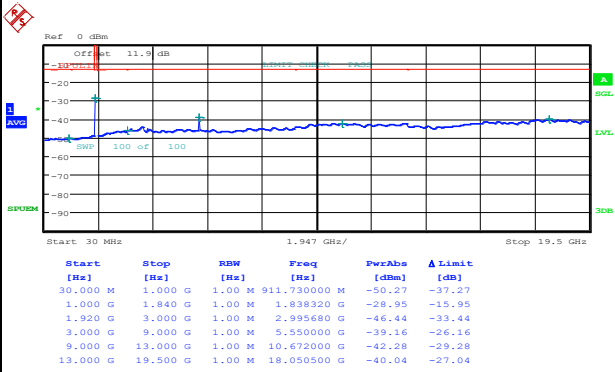
Date: 26.DEC.2014 15:25:59



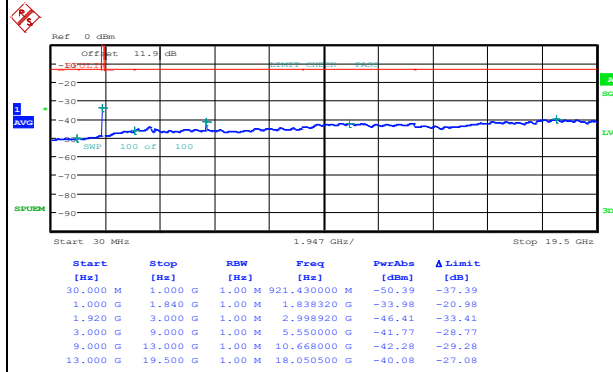
LTE Band 2 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



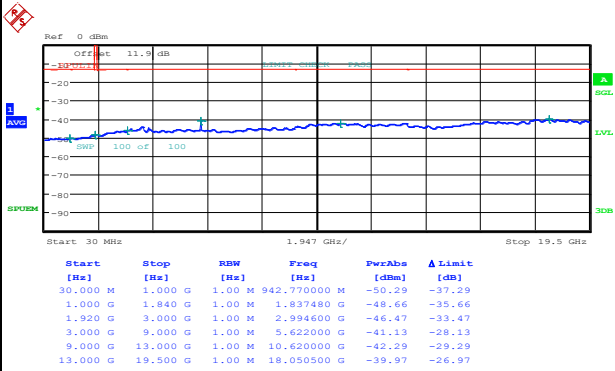
Date: 26.DEC.2014 15:41:55



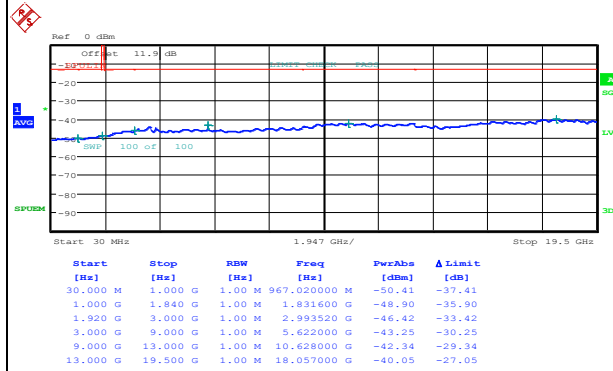
Date: 26.DEC.2014 15:43:06

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 26.DEC.2014 15:45:30



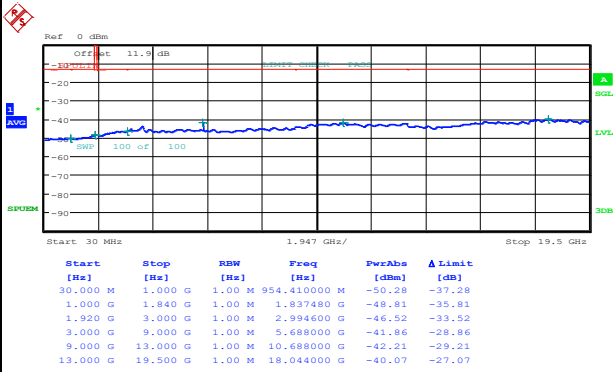
Date: 26.DEC.2014 15:47:13



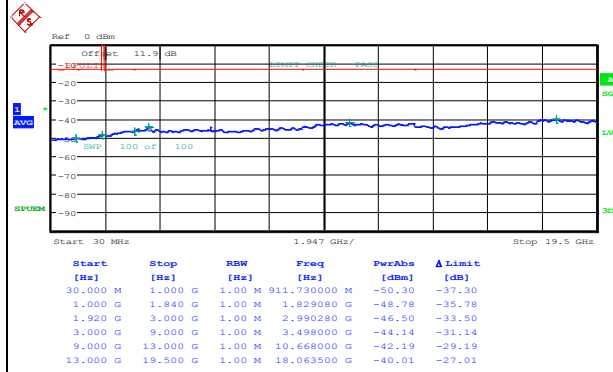
LTE Band 2 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 26.DEC.2014 15:57:52

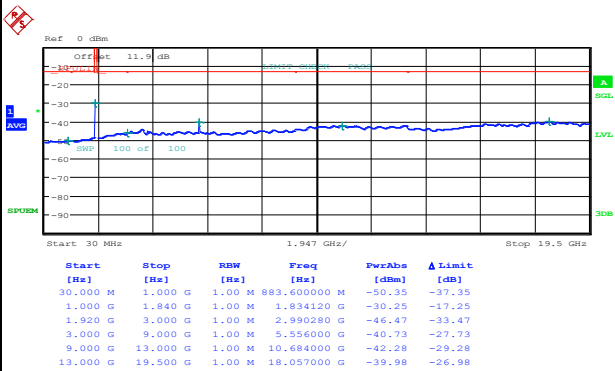


Date: 26.DEC.2014 15:59:08

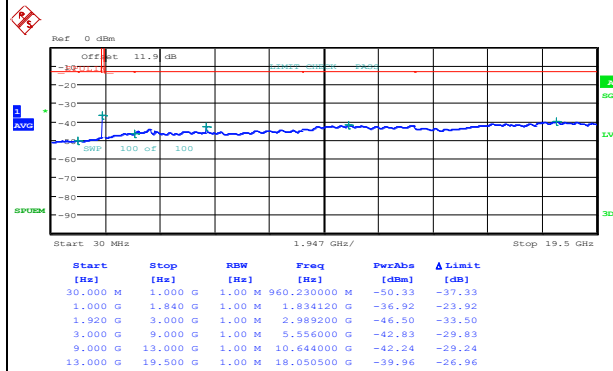
LTE Band 2 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 26.DEC.2014 16:17:57



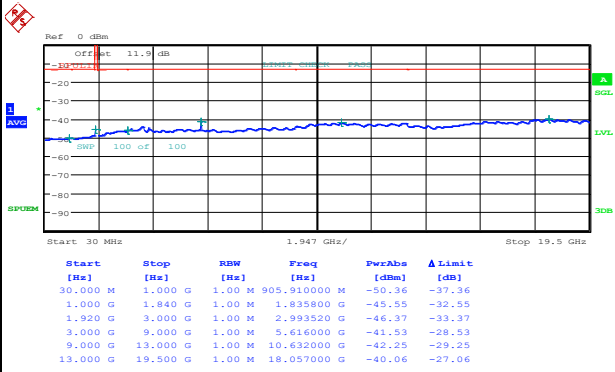
Date: 26.DEC.2014 16:19:31



LTE Band 2 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM



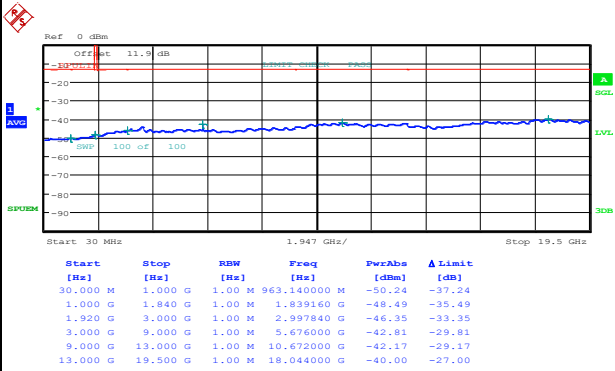
Date: 26.DEC.2014 16:21:57



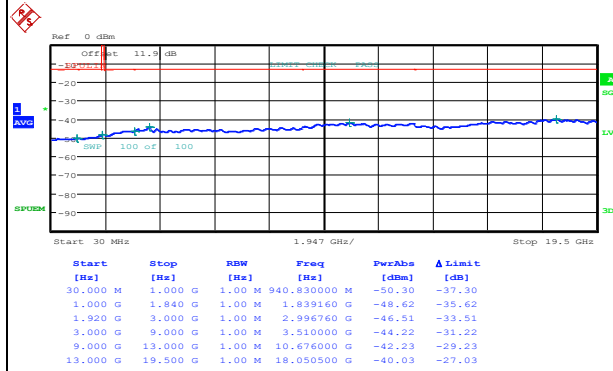
Date: 26.DEC.2014 16:23:09

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 26.DEC.2014 16:31:12



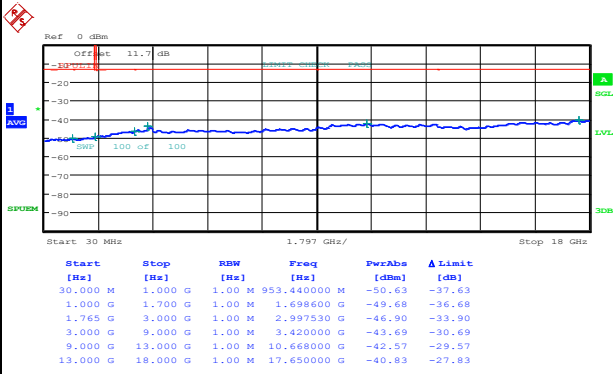
Date: 26.DEC.2014 16:33:53



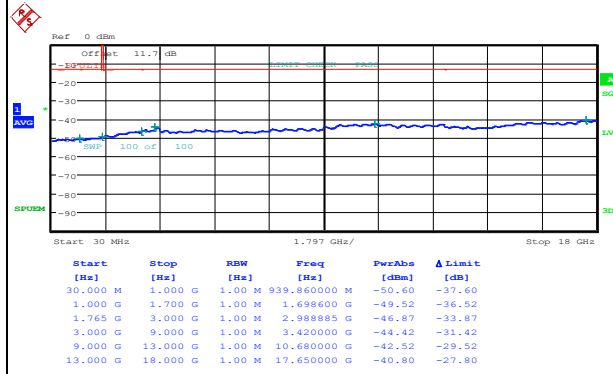
LTE Band 4 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



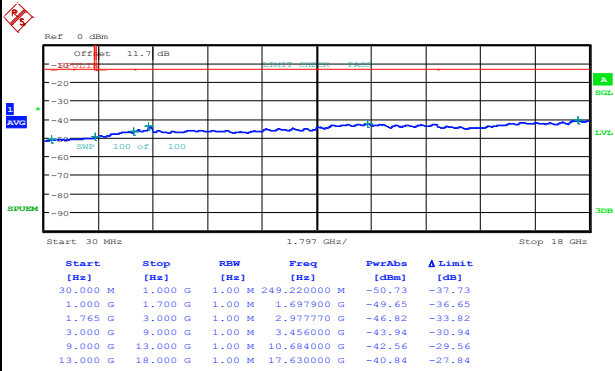
Date: 29.DEC.2014 10:03:03



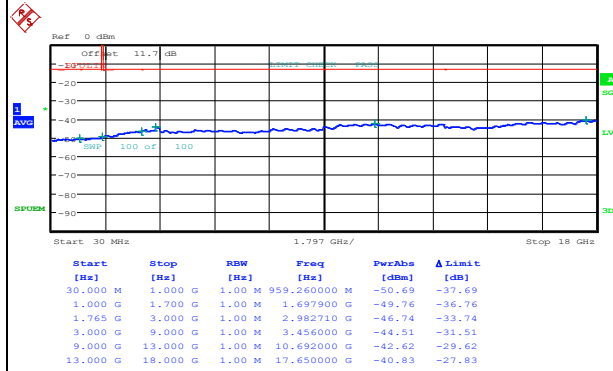
Date: 29.DEC.2014 10:04:13

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 29.DEC.2014 10:07:22

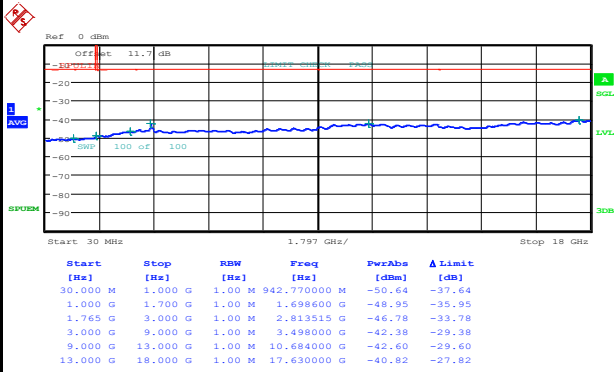


Date: 29.DEC.2014 10:08:32



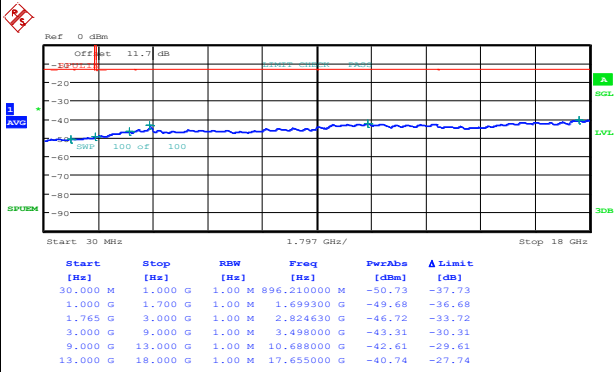
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 29.DEC.2014 10:15:09

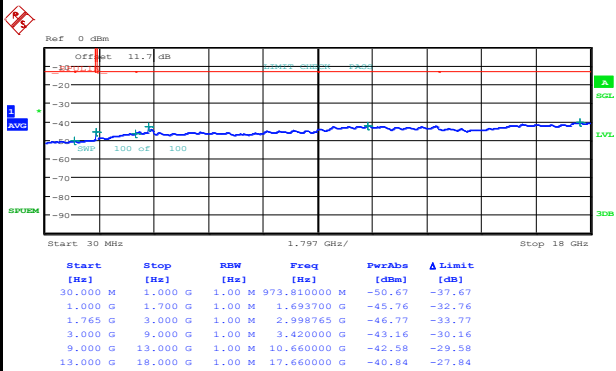
Highest Channel / 16QAM



Date: 29.DEC.2014 10:16:19

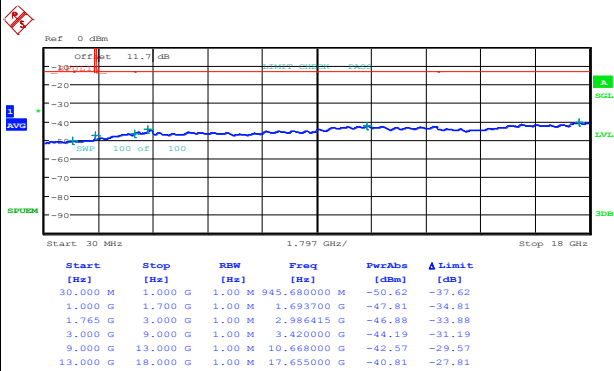
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 29.DEC.2014 10:29:33

Lowest Channel / 16QAM



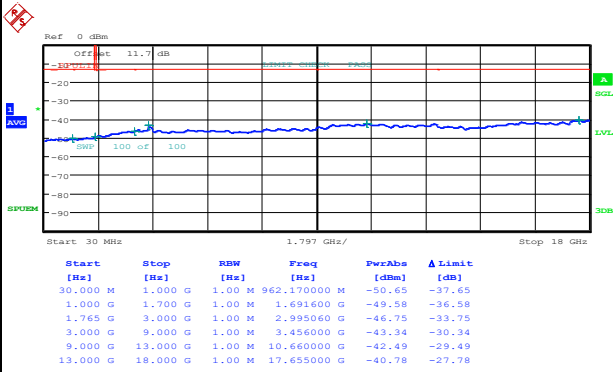
Date: 29.DEC.2014 10:30:43



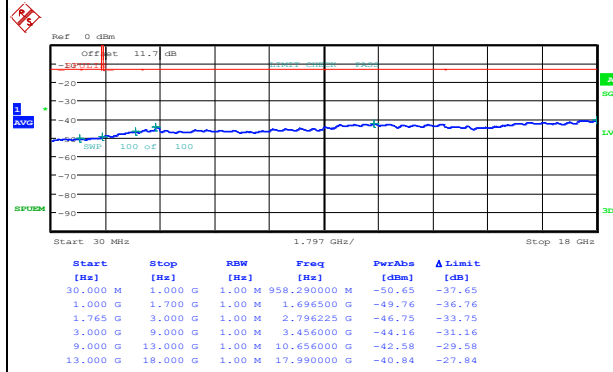
LTE Band 4 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



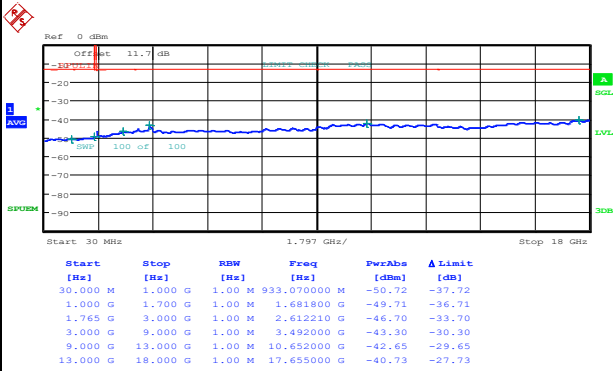
Date: 29.DEC.2014 10:32:59



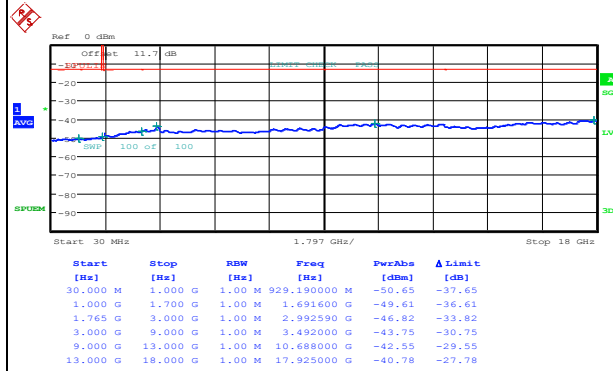
Date: 29.DEC.2014 10:34:08

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 29.DEC.2014 10:46:07



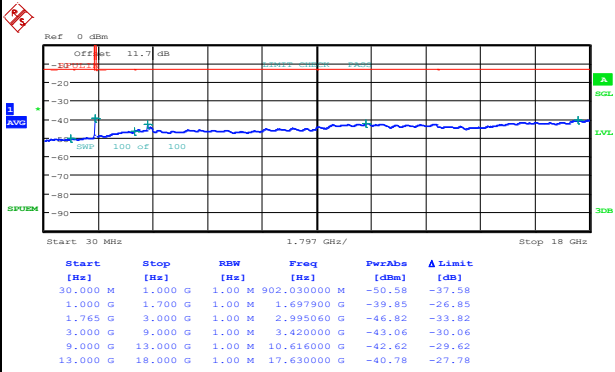
Date: 29.DEC.2014 10:47:29



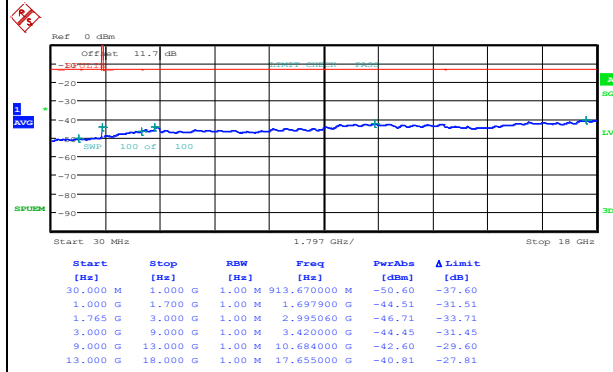
LTE Band 4 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



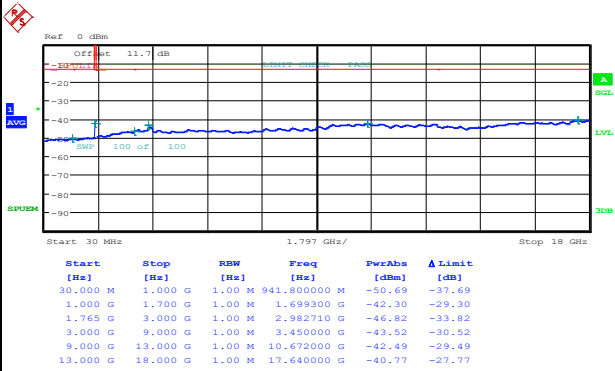
Date: 29.DEC.2014 11:12:07



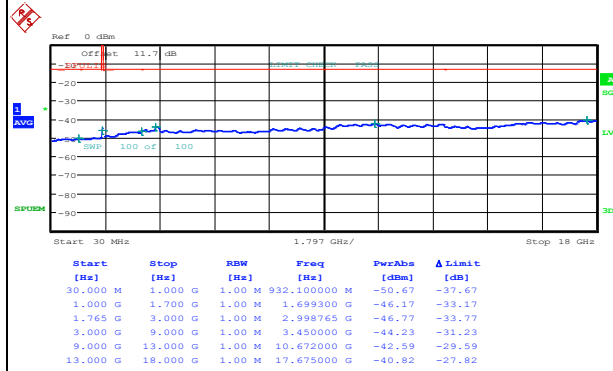
Date: 29.DEC.2014 11:13:17

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 29.DEC.2014 11:15:14

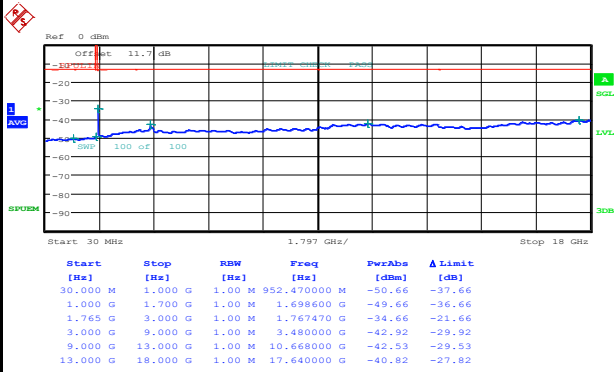


Date: 29.DEC.2014 11:16:24



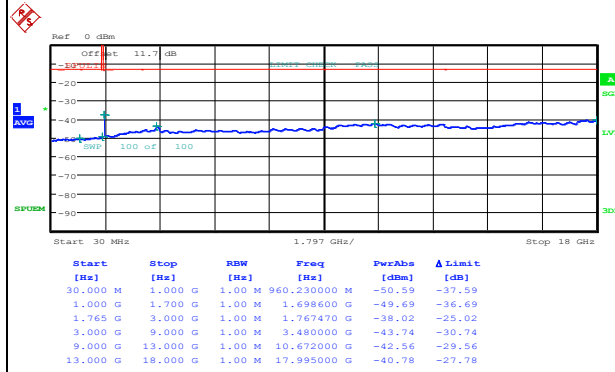
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 29.DEC.2014 11:23:44

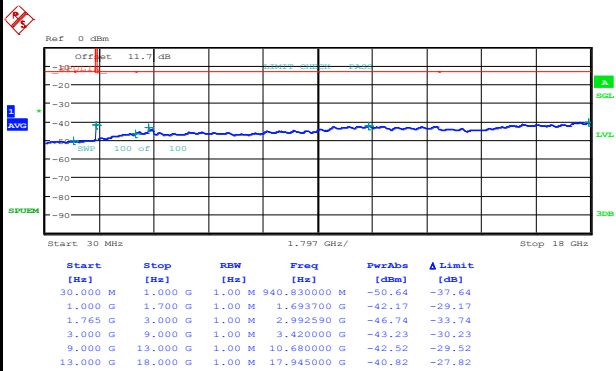
Highest Channel / 16QAM



Date: 29.DEC.2014 11:24:54

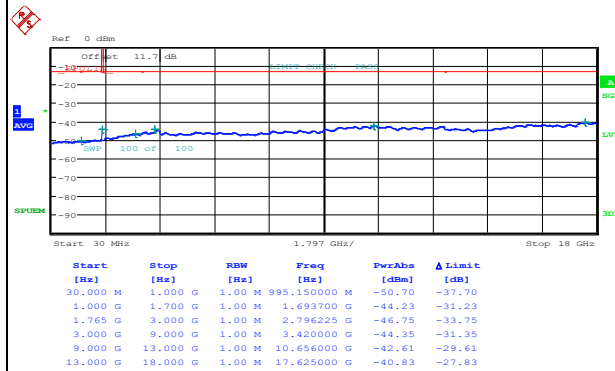
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 29.DEC.2014 11:34:40

Lowest Channel / 16QAM



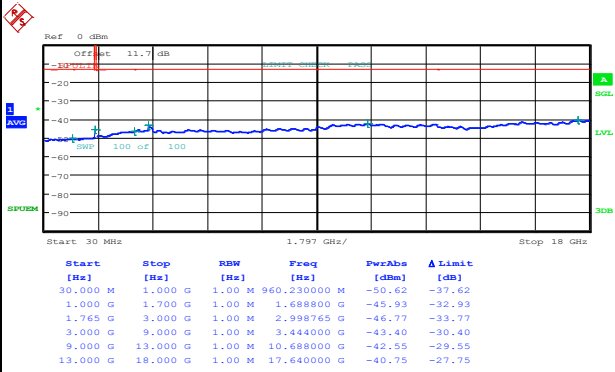
Date: 29.DEC.2014 11:35:50



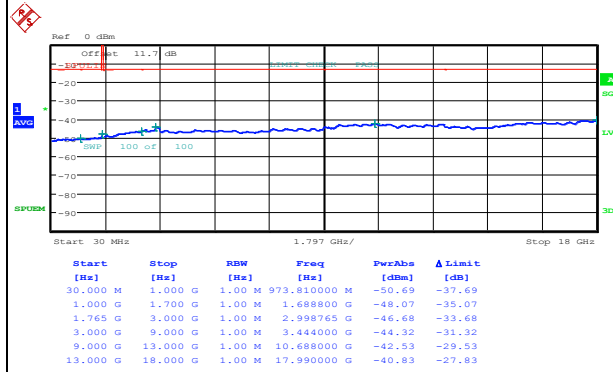
LTE Band 4 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM



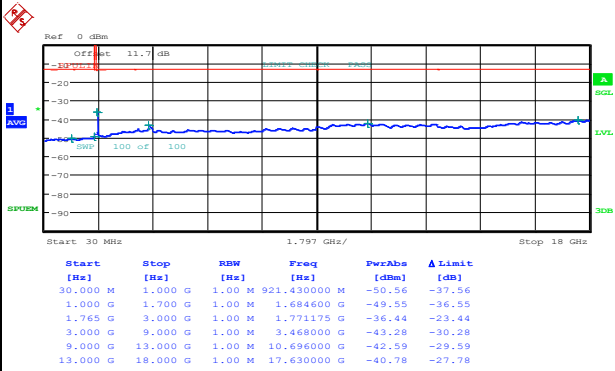
Date: 29.DEC.2014 11:37:47



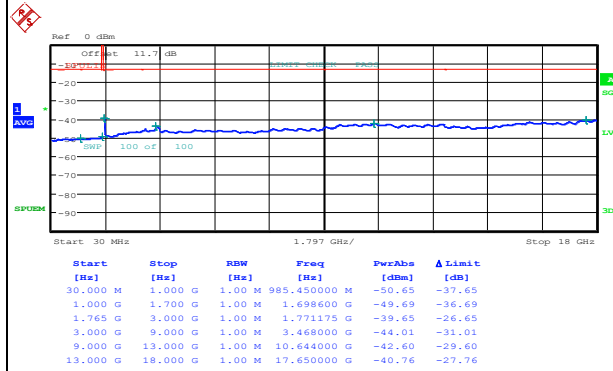
Date: 29.DEC.2014 11:38:57

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 29.DEC.2014 11:45:34



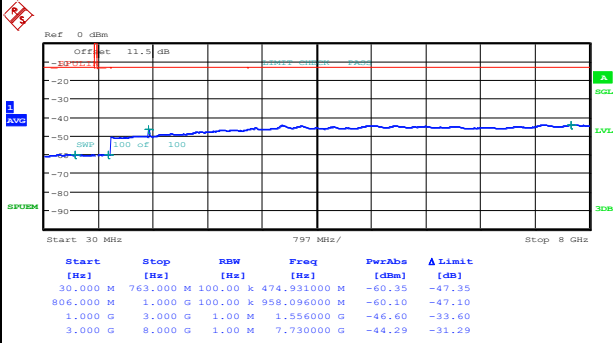
Date: 29.DEC.2014 11:46:44



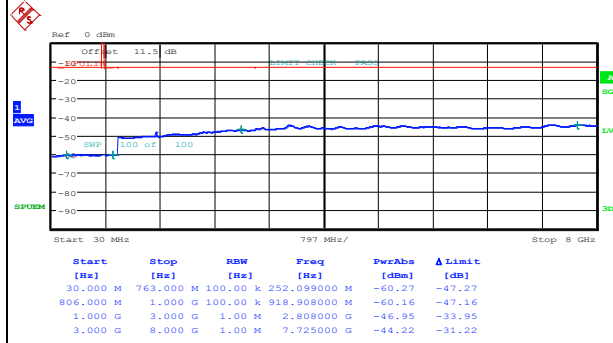
LTE Band 13 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



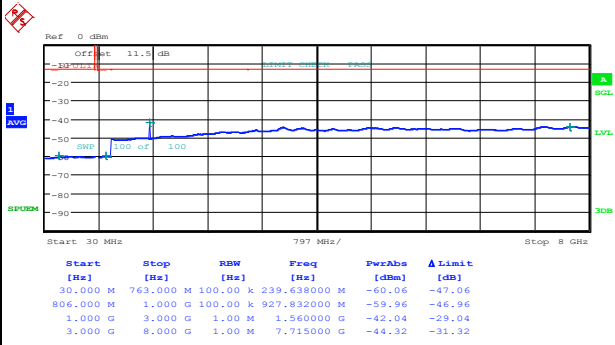
Date: 26.DEC.2014 11:52:02



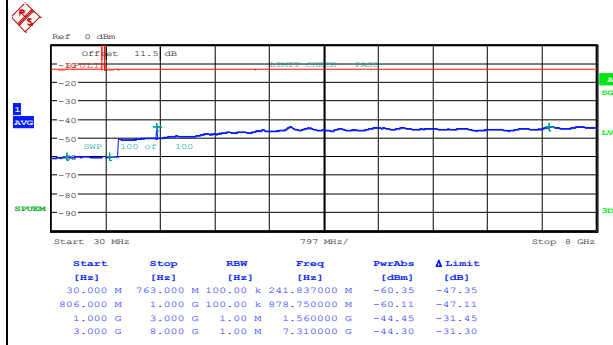
Date: 26.DEC.2014 11:52:58

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 26.DEC.2014 10:43:30



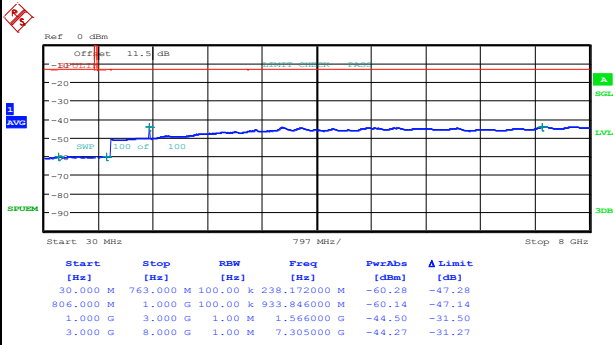
Date: 26.DEC.2014 10:42:15



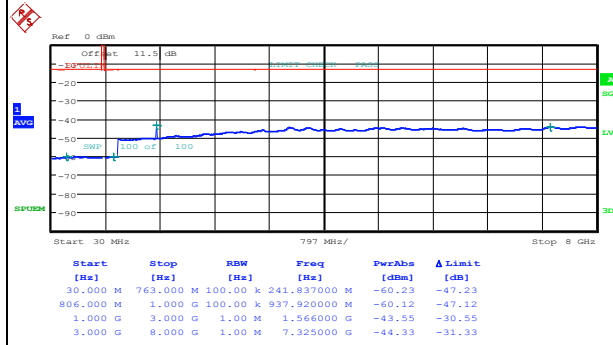
LTE Band 13 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 26.DEC.2014 11:18:18

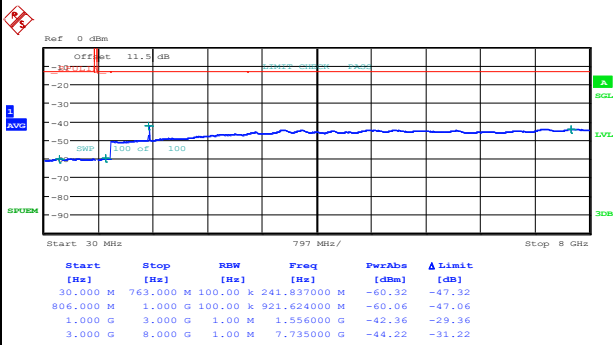


Date: 26.DEC.2014 11:20:12

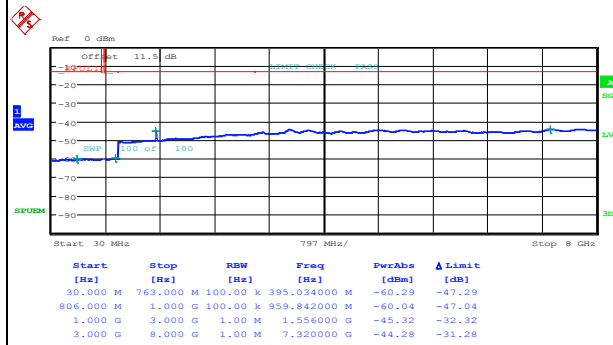
LTE Band 13 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 26.DEC.2014 10:08:32



Date: 26.DEC.2014 10:07:22



Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0362	PASS
40	Normal Voltage	0.0229	
30	Normal Voltage	0.0049	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0003	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0029	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage = 3.80 V. ; Battery End Point (BEP) = 3.14 V. ; Maximum Voltage =4.40 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0261	PASS
40	Normal Voltage	0.0199	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0073	
-10	Normal Voltage	0.0089	
-20	Normal Voltage	0.0048	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0124	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

1. Normal Voltage = 3.80 V. ; Battery End Point (BEP) = 3.14 V. ; Maximum Voltage =4.40 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.1613	PASS
40	Normal Voltage	0.1298	
30	Normal Voltage	0.0064	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0001	
-10	Normal Voltage	0.0017	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0033	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0022	

Note:

1. Normal Voltage = 3.80 V. ; Battery End Point (BEP) = 3.14 V. ; Maximum Voltage =4.40 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Appendix B. Test Results of Radiated Test

ERP/EIRP

LTE Band 2 / 5MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.39	0.436
Middle		1	12	26.41	0.438
Highest		1	24	26.44	0.441
Lowest	16QAM	1	24	25.35	0.343
Middle		1	0	25.11	0.324
Highest		1	24	25.33	0.341
Limit	EIRP < 2W			Result	PASS

LTE Band 2 / 10MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.25	0.422
Middle		1	0	26.52	0.449
Highest		1	24	26.10	0.407
Lowest	16QAM	1	0	25.73	0.374
Middle		1	0	25.68	0.370
Highest		1	24	25.55	0.359
Limit	EIRP < 2W			Result	PASS



LTE Band 2 / 15MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.38	0.435
Middle		1	74	26.44	0.441
Highest		1	0	26.56	0.453
Lowest	16QAM	1	37	25.87	0.386
Middle		1	0	25.49	0.354
Highest		1	0	25.78	0.378
Limit	EIRP < 2W			Result	PASS

LTE Band 2 / 20MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.51	0.448
Middle		1	0	26.45	0.442
Highest		1	0	26.60	0.457
Lowest	16QAM	1	0	25.02	0.318
Middle		1	0	25.12	0.325
Highest		1	0	25.03	0.318
Limit	EIRP < 2W			Result	PASS



LTE Band 4 / 5MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.54	0.451
Middle		1	12	26.58	0.455
Highest		1	0	26.50	0.447
Lowest	16QAM	1	12	25.71	0.372
Middle		1	0	25.61	0.364
Highest		1	0	25.66	0.368
Limit	EIRP < 1W			Result	PASS

LTE Band 4 / 10MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	12	26.96	0.497
Middle		1	12	27.12	0.515
Highest		1	0	26.84	0.483
Lowest	16QAM	1	24	25.67	0.369
Middle		1	0	25.75	0.376
Highest		1	24	25.61	0.364
Limit	EIRP < 1W			Result	PASS

LTE Band 4 / 15MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	26.83	0.482
Middle		1	74	27.09	0.512
Highest		1	0	26.98	0.499
Lowest	16QAM	1	0	25.59	0.362
Middle		1	0	25.73	0.374
Highest		1	0	25.65	0.367
Limit	EIRP < 1W			Result	PASS



LTE Band 4 / 20MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	49	27.14	0.518
Middle		1	0	26.83	0.482
Highest		1	0	27.16	0.520
Lowest	16QAM	1	99	26.00	0.398
Middle		1	0	25.63	0.366
Highest		1	0	25.73	0.374
Limit	EIRP < 1W			Result	PASS



LTE Band 13 / 5MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	1	0	24.55	0.285
Middle		1	0	24.73	0.297
Highest		1	0	24.61	0.289
Lowest	16QAM	1	0	23.84	0.242
Middle		1	0	23.93	0.247
Highest		1	0	23.78	0.239
Limit	ERP < 3W			Result	PASS

LTE Band 13 / 10MHz					
Channel	Modulation	RB		EIRP(dBm)	EIRP(W)
		Size	Offset		
Lowest	QPSK	-	-	-	-
Middle		1	0	24.77	0.300
Highest		-	-	-	-
Lowest	16QAM	-	-	-	-
Middle		1	0	23.93	0.247
Highest		-	-	-	-
Limit	ERP < 3W			Result	PASS



Radiated Spurious Emission

LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3700	-48.40	-13	-35.40	-68.36	-54.97	1.67	8.24	H
	5548	-37.74	-13	-24.74	-60.98	-44.81	2.65	9.72	H
	7403	-54.27	-13	-41.27	-79.39	-63.42	2.46	11.61	H
	3700	-43.12	-13	-30.12	-61.71	-49.69	1.67	8.24	V
	5548	-32.10	-13	-19.10	-54.65	-39.17	2.65	9.72	V
	7403	-52.90	-13	-39.90	-79.92	-62.05	2.46	11.61	V
Middle	3756	-51.03	-13	-38.03	-70.8	-57.65	1.68	8.31	H
	5632	-39.84	-13	-26.84	-66	-46.89	2.70	9.75	H
	7508	-52.41	-13	-39.41	-79.75	-61.79	2.43	11.80	H
	3756	-45.17	-13	-32.17	-64.36	-51.79	1.68	8.31	V
	5632	-38.20	-13	-25.20	-60.75	-45.25	2.70	9.75	V
	7508	-54.29	-13	-41.29	-79.87	-63.67	2.43	11.80	V
Highest	3812	-48.62	-13	-35.62	-68.59	-53.14	1.70	8.37	H
	5716	-42.43	-13	-29.43	-66.4	-47.32	2.75	9.79	H
	7620	-51.92	-13	-38.92	-79.43	-59.25	2.39	11.87	H
	3812	-44.80	-13	-31.80	-63.9	-49.32	1.70	8.37	V
	5716	-37.00	-13	-24.00	-59.96	-41.89	2.75	9.79	V
	7620	-53.29	-13	-40.29	-76.27	-60.62	2.39	11.87	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3700	-46.79	-13	-33.79	-66.75	-53.36	1.67	8.24	H
	5548	-36.47	-13	-23.47	-59.88	-43.54	2.65	9.72	H
	7402	-52.67	-13	-39.67	-79.67	-61.81	2.46	11.60	H
	3700	-40.60	-13	-27.60	-59.58	-47.17	1.67	8.24	V
	5548	-32.17	-13	-19.17	-54.72	-39.24	2.65	9.72	V
	7402	-52.66	-13	-39.66	-79.67	-61.8	2.46	11.60	V
Middle	3749	-51.50	-13	-38.50	-71.92	-58.12	1.68	8.30	H
	5625	-38.76	-13	-25.76	-62.08	-45.81	2.70	9.75	H
	7501	-52.22	-13	-39.22	-76.55	-61.59	2.43	11.80	H
	3749	-44.37	-13	-31.37	-63.56	-50.99	1.68	8.30	V
	5625	-34.07	-13	-21.07	-56.59	-41.12	2.70	9.75	V
	7501	-53.89	-13	-40.89	-79.46	-63.26	2.43	11.80	V
Highest	3798	-51.79	-13	-38.79	-71.85	-56.3	1.70	8.36	H
	5702	-39.76	-13	-26.76	-63.85	-44.65	2.74	9.78	H
	7599	-52.24	-13	-39.24	-79.71	-59.55	2.40	11.86	H
	3798	-44.97	-13	-31.97	-64.08	-49.48	1.70	8.36	V
	5702	-37.09	-13	-24.09	-60.2	-41.98	2.74	9.78	V
	7599	-53.47	-13	-40.47	-79.47	-60.78	2.40	11.86	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3700	-49.64	-13	-36.64	-69.66	-56.21	1.67	8.24	H
	5555	-35.95	-13	-22.95	-59.52	-43.02	2.66	9.72	H
	7400	-52.44	-13	-39.44	-79.79	-61.58	2.46	11.60	H
	3700	-40.95	-13	-27.95	-60.12	-47.52	1.67	8.24	V
	5550	-31.55	-13	-18.55	-54.3	-38.62	2.65	9.72	V
	7400	-53.37	-13	-40.37	-78.66	-62.51	2.46	11.60	V
Middle	3749	-53.76	-13	-40.76	-74.02	-60.38	1.68	8.30	H
	5618	-40.51	-13	-27.51	-63.81	-47.56	2.69	9.75	H
	7494	-52.78	-13	-39.78	-79.94	-62.14	2.43	11.79	H
	3749	-46.11	-13	-33.11	-65.3	-52.73	1.68	8.30	V
	5618	-35.20	-13	-22.20	-57.72	-42.25	2.69	9.75	V
	7494	-54.39	-13	-41.39	-79.85	-63.75	2.43	11.79	V
Highest	3791	-48.89	-13	-35.89	-69.05	-53.39	1.70	8.35	H
	5688	-45.40	-13	-32.40	-69.36	-50.29	2.73	9.78	H
	7580	-52.34	-13	-39.34	-79.72	-59.63	2.40	11.85	H
	3791	-43.79	-13	-30.79	-62.86	-48.29	1.70	8.35	V
	5688	-41.32	-13	-28.32	-64.61	-46.21	2.73	9.78	V
	7580	-53.80	-13	-40.80	-79.74	-61.09	2.40	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3700	-48.64	-13	-35.64	-68.63	-55.21	1.67	8.24	H
	5550	-37.22	-13	-24.22	-60.7	-44.29	2.65	9.72	H
	7400	-51.98	-13	-38.98	-79.33	-61.12	2.46	11.60	H
	3700	-42.06	-13	-29.06	-60.73	-48.63	1.67	8.24	V
	5550	-33.45	-13	-20.45	-56.33	-40.52	2.65	9.72	V
	7400	-54.43	-13	-41.43	-79.68	-63.57	2.46	11.60	V
Middle	3742	-50.60	-13	-37.60	-70.91	-57.21	1.68	8.29	H
	5611	-40.19	-13	-27.19	-63.97	-47.25	2.69	9.74	H
	7480	-52.80	-13	-39.80	-80.05	-62.12	2.44	11.76	H
	3742	-45.40	-13	-32.40	-64.4	-52.01	1.68	8.29	V
	5611	-38.33	-13	-25.33	-61.15	-45.39	2.69	9.74	V
	7480	-54.26	-13	-41.26	-80.06	-63.58	2.44	11.76	V
Highest	3784	-47.89	-13	-34.89	-68.2	-52.39	1.69	8.34	H
	5674	-46.29	-13	-33.29	-70.32	-51.18	2.73	9.77	H
	7557	-52.74	-13	-39.74	-80.1	-60.01	2.41	11.83	H
	3784	-42.55	-13	-29.55	-61.78	-47.05	1.69	8.34	V
	5674	-43.79	-13	-30.79	-66.68	-48.68	2.73	9.77	V
	7557	-54.12	-13	-41.12	-79.94	-61.39	2.41	11.83	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3420	-57.34	-13	-44.34	-75.75	-63.41	1.58	7.65	H
	5128	-55.54	-13	-42.54	-78.92	-62.83	2.41	9.70	H
	6843	-53.02	-13	-40.02	-79.01	-60.99	2.64	10.61	H
	3420	-55.55	-13	-42.55	-72.58	-61.62	1.58	7.65	V
	5128	-56.83	-13	-43.83	-79.21	-64.12	2.41	9.70	V
	6843	-54.02	-13	-41.02	-79.02	-61.99	2.64	10.61	V
Middle	3462	-49.24	-13	-36.24	-67.89	-55.48	1.59	7.83	H
	5191	-47.63	-13	-34.63	-71.04	-54.88	2.45	9.70	H
	6920	-53.73	-13	-40.73	-78.82	-61.82	2.62	10.70	H
	3462	-47.75	-13	-34.75	-64.84	-53.99	1.59	7.83	V
	5191	-53.58	-13	-40.58	-75.98	-60.83	2.45	9.70	V
	6920	-54.49	-13	-41.49	-78.6	-62.58	2.62	10.70	V
Highest	3497	-55.54	-13	-42.54	-74.39	-61.92	1.60	7.99	H
	5247	-53.63	-13	-40.63	-77.02	-60.85	2.48	9.70	H
	6997	-53.59	-13	-40.59	-78.76	-61.79	2.59	10.80	H
	3497	-56.78	-13	-43.78	-73.8	-63.16	1.60	7.99	V
	5247	-54.70	-13	-41.70	-77.11	-61.92	2.48	9.70	V
	6997	-54.02	-13	-41.02	-78.41	-62.22	2.59	10.80	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3420	-49.21	-13	-36.21	-68.01	-55.28	1.58	7.65	H
	5130	-56.10	-13	-43.10	-80.08	-63.39	2.41	9.70	H
	6840	-54.24	-13	-41.24	-80.13	-62.21	2.64	10.61	H
	3420	-47.25	-13	-34.25	-64.48	-53.32	1.58	7.65	V
	5130	-57.74	-13	-44.74	-80.11	-65.03	2.41	9.70	V
	6840	-55.31	-13	-42.31	-80.06	-63.28	2.64	10.61	V
Middle	3455	-45.31	-13	-32.31	-64.37	-51.52	1.59	7.80	H
	5182.5	-54.76	-13	-41.76	-78.25	-62.02	2.44	9.70	H
	6910	-54.01	-13	-41.01	-79.27	-62.08	2.62	10.69	H
	3455	-44.00	-13	-31.00	-61.23	-50.21	1.59	7.80	V
	5182.5	-54.70	-13	-41.70	-77.45	-61.96	2.44	9.70	V
	6910	-54.51	-13	-41.51	-78.9	-62.58	2.62	10.69	V
Highest	3490	-43.93	-13	-30.93	-63.21	-50.28	1.60	7.96	H
	5235	-54.78	-13	-41.78	-78.2	-62.01	2.47	9.70	H
	6980	-53.41	-13	-40.41	-79.02	-61.59	2.60	10.78	H
	3490	-44.04	-13	-31.04	-61.39	-50.39	1.60	7.96	V
	5235	-54.78	-13	-41.78	-77.28	-62.01	2.47	9.70	V
	6980	-54.15	-13	-41.15	-78.84	-62.33	2.60	10.78	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3420	-45.62	-13	-32.62	-64.63	-51.69	1.58	7.65	H
	5130	-55.67	-13	-42.67	-79.16	-62.96	2.41	9.70	H
	6840	-53.28	-13	-40.28	-79.08	-61.25	2.64	10.61	H
	3420	-43.95	-13	-30.95	-61.24	-50.02	1.58	7.65	V
	5130	-55.79	-13	-42.79	-78.32	-63.08	2.41	9.70	V
	6840	-54.42	-13	-41.42	-79.01	-62.39	2.64	10.61	V
Middle	3450	-44.86	-13	-31.86	-63.5	-51.05	1.59	7.78	H
	5175	-55.05	-13	-42.05	-78.44	-62.31	2.44	9.70	H
	6900	-53.76	-13	-40.76	-79.22	-61.82	2.62	10.68	H
	3450	-42.50	-13	-29.50	-59.76	-48.69	1.59	7.78	V
	5175	-54.26	-13	-41.26	-76.83	-61.52	2.44	9.70	V
	6900	-54.52	-13	-41.52	-79.19	-62.58	2.62	10.68	V
Highest	3483	-43.96	-13	-30.96	-63.06	-50.29	1.60	7.93	H
	5220	-55.04	-13	-42.04	-78.69	-62.28	2.46	9.70	H
	6960	-54.04	-13	-41.04	-79.3	-62.19	2.60	10.75	H
	3483	-45.09	-13	-32.09	-62.09	-51.42	1.60	7.93	V
	5220	-54.81	-13	-41.81	-77.27	-62.05	2.46	9.70	V
	6960	-54.24	-13	-41.24	-79.09	-62.39	2.60	10.75	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3420	-44.56	-13	-31.56	-63.31	-50.63	1.58	7.65	H
	5130	-55.79	-13	-42.79	-79.23	-63.08	2.41	9.70	H
	6840	-53.31	-13	-40.31	-79.27	-61.28	2.64	10.61	H
	3420	-42.21	-13	-29.21	-59.4	-48.28	1.58	7.65	V
	5130	-53.02	-13	-40.02	-75.49	-60.31	2.41	9.70	V
	6840	-54.11	-13	-41.11	-79.05	-62.08	2.64	10.61	V
Middle	3448	-45.21	-13	-32.21	-64.06	-51.39	1.59	7.77	H
	5167	-55.01	-13	-42.01	-78.27	-62.28	2.43	9.70	H
	6890	-53.92	-13	-40.92	-79.31	-61.96	2.63	10.67	H
	3448	-41.91	-13	-28.91	-59.18	-48.09	1.59	7.77	V
	5167	-53.94	-13	-40.94	-76.65	-61.21	2.43	9.70	V
	6890	-54.35	-13	-41.35	-79.16	-62.39	2.63	10.67	V
Highest	3469	-45.91	-13	-32.91	-64.57	-52.18	1.59	7.86	H
	5205	-55.15	-13	-42.15	-79.07	-62.39	2.46	9.70	H
	6940	-54.19	-13	-41.19	-79.21	-62.31	2.61	10.73	H
	3469	-45.74	-13	-32.74	-62.88	-52.01	1.59	7.86	V
	5205	-55.15	-13	-42.15	-77.68	-62.39	2.46	9.70	V
	6940	-55.09	-13	-42.09	-79.32	-63.21	2.61	10.73	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 13 / 5MHz / QPSK / RB Size 25 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1560	-63.87	-42.15	-21.72	-74.63	-65.91	0.94	5.13	H
	2336	-59.45	-13	-46.45	-75.64	-60.97	1.24	4.91	H
	3120	-57.90	-13	-44.90	-76.38	-60.59	1.49	6.33	H
	1560	-64.46	-42.15	-22.31	-74.27	-66.50	0.94	5.13	V
	2336	-61.73	-13	-48.73	-76.04	-63.25	1.24	4.91	V
	3120	-59.41	-13	-46.41	-76.62	-62.10	1.49	6.33	V
Middle	1560	-63.11	-42.15	-20.96	-73.87	-65.15	0.94	5.13	H
	2344	-59.42	-13	-46.42	-75.71	-60.96	1.24	4.93	H
	3128	-57.79	-13	-44.79	-76.31	-60.52	1.49	6.36	H
	1560	-64.55	-42.15	-22.40	-74.36	-66.59	0.94	5.13	V
	2344	-61.38	-13	-48.38	-75.73	-62.92	1.24	4.93	V
	3128	-58.95	-13	-45.95	-76.20	-61.68	1.49	6.36	V
Highest	1568	-63.55	-42.15	-21.40	-74.38	-65.57	0.94	5.11	H
	2352	-59.45	-13	-46.45	-75.76	-61.01	1.24	4.96	H
	3136	-57.77	-13	-44.77	-76.39	-60.53	1.49	6.40	H
	1568	-64.31	-42.15	-22.16	-74.36	-66.33	0.94	5.11	V
	2352	-61.21	-13	-48.21	-75.58	-62.77	1.24	4.96	V
	3136	-58.88	-13	-45.88	-76.28	-61.64	1.49	6.40	V

LTE Band 13 / 10MHz / QPSK / RB Size 25 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1560	-62.52	-42.15	-20.37	-73.28	-64.56	0.94	5.13	H
	2344	-59.22	-13	-46.22	-75.51	-60.76	1.24	4.93	H
	3128	-57.76	-13	-44.76	-76.28	-60.49	1.49	6.36	H
	1560	-64.43	-42.15	-22.28	-74.24	-66.47	0.94	5.13	V
	2344	-61.39	-13	-48.39	-75.74	-62.93	1.24	4.93	V
	3128	-58.95	-13	-45.95	-76.2	-61.68	1.49	6.36	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.