



FCC RF Test Report

APPLICANT : BlackBerry Limited
EQUIPMENT : Smartphone
BRAND NAME : BlackBerry
MODEL NAME : RHF141LW
MARKETING NAME : SQC100-3
FCC ID : L6ARHF140LW
STANDARD : 47 CFR Part 2, 27
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Jul. 15, 2014 and completely tested on Nov. 11, 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



SPORTON INTERNATIONAL INC.

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



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG471526B	Rev. 01	Initial issue of report	Nov. 24, 2014

**SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Description	Limit	Result	Remark
3.3	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049 §27.53(h)(3)	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(c)(2) §27.53(c)(4) §27.53(f) §27.53(g)	Conducted Band Edge Measurement (Band 4) (Band 13)	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	-
3.8	§2.1053 §27.53(c)(2) §27.53(f) §27.53(g)	Conducted Spurious Emission (Band 4) (Band 13)	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	< 2.5 ppm	PASS	
4.4	§2.1053 §27.53(c)(2) §27.53(f) §27.53(h)	Radiated Spurious Emission (Band 4) (Band 13)	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	Under limit 10.00 dB at 1560.000 MHz
4.5	§27.50(b)(10)	Effective Radiated Power (Band 13)	ERP < 3 Watt	PASS	
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		

1 General Description

1.1 Applicant

BlackBerry Limited

2300 University Street East, Waterloo, ON., CAN, N2K1A0

1.2 Manufacturer

FIH Mobile Limited

No. 4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Brand Name	BlackBerry
Model Name	RHF141LW
Marketing Name	SQC100-3
FCC ID	L6ARHF140LW
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v4.0 EDR/LE
HW Version	PVT 2
SW Version	BlackBerry 10.3.1.565/566
EUT Stage	Identical Prototype

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz
Rx Frequency	LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz
Bandwidth	LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 13 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 4 : 23.10 dBm LTE Band 13 : 23.59 dBm
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 4	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	1.10	-	0.1795	1.10	-	0.1446
3	2.73	-	0.1795	2.74	-	0.1442
5	4.50	-	0.1766	4.49	-	0.1422
10	9.08	0.0020	0.1766	9.06	-	0.1426
15	13.47	-	0.1786	13.47	-	0.1422
20	18.52	-	0.1718	18.56	-	0.1396

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	4.51	-	0.0899	4.51	-	0.0815
10	9.10	0.0049	0.0867	9.08	-	0.0795

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 Hsiang, Tao Yuan Hsien, 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, 27
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01
- ♦ KDB 648474 D03 Handset Wireless Chargers Battery Covers v01r02

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

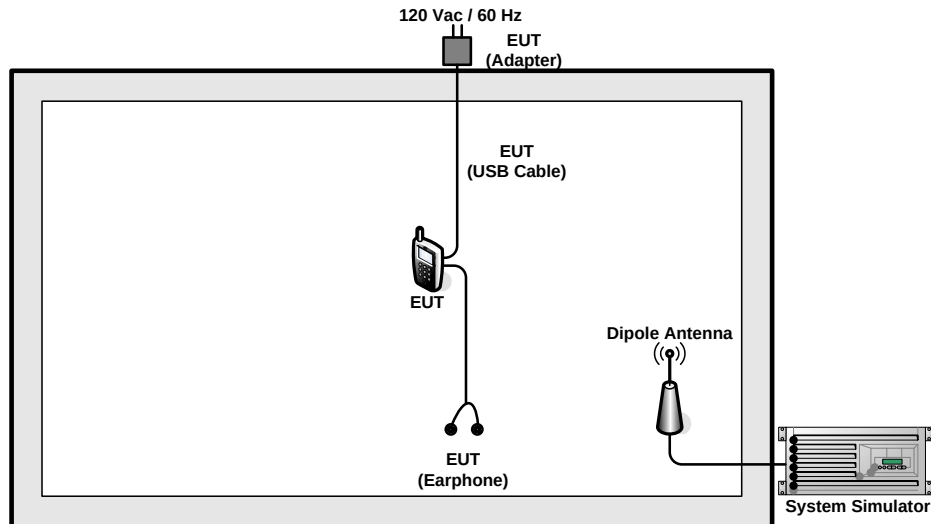
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

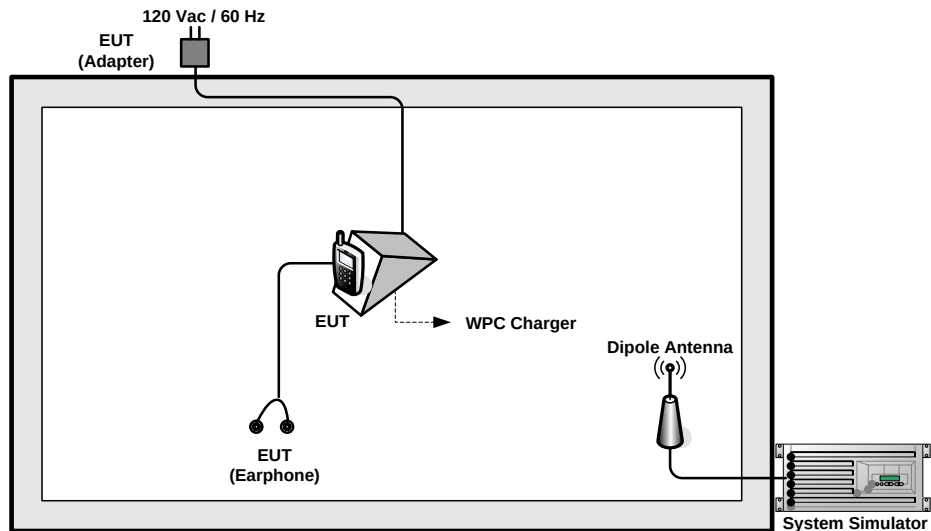
Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	4						v		v	v		v	v	v	v
	13	-	-		v	-	-		v	v		v	v	v	v
26dB and 99% Bandwidth	4	v	v	v	v	v	v	v	v			v	v	v	v
	13	-	-	v	v	-	-	v	v			v	v	v	v
Conducted Band Edge	4	v	v	v	v	v	v	v	v	v		v	v		v
	13	-	-	v	v	-	-	v	v	v		v	v		v
Conducted Spurious Emission	4	v	v	v	v	v	v	v	v	v			v	v	v
	13	-	-	v	v	-	-	v	v	v			v	v	v
Frequency Stability	4	v			v			v				v		v	
	13	-	-	v	v	-	-	v				v		v	
E.R.P./ E.I.R.P.	4	v					v	v	v	v			v	v	v
	13	-	-	v			v	v	v	v			v	v	v
Radiated Spurious Emission	4	v	v	v	v	v	v	v		v			v	v	v
	4 (WPC)					v		v		v			v	v	v
	4 (PMA)					v		v		v			v	v	v
	13	-	-	v	v	-	-	v		v			v	v	v
Note	- The mark "v" 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. - For Radiated test items, all tests were performed with USB Cable 1, AC Adapter 1, and Earphone 1.														

2.2 Connection Diagram of Test System

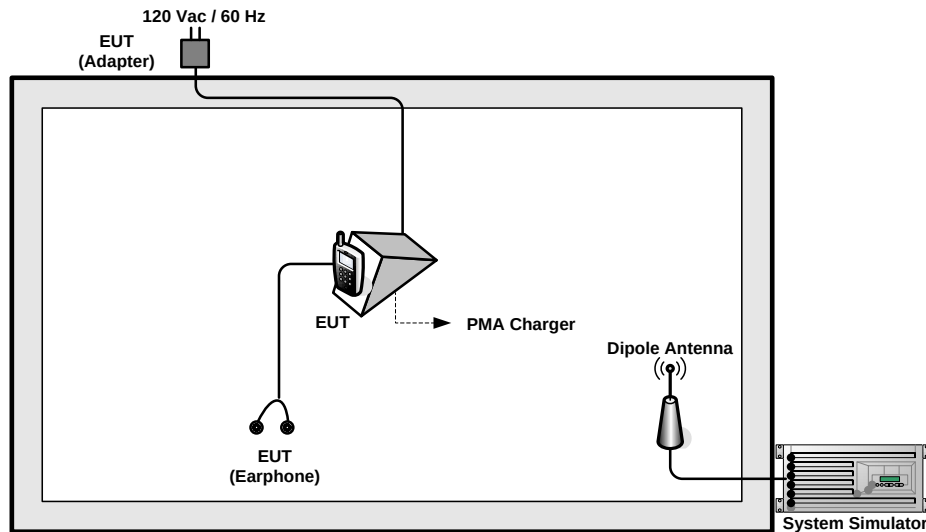
<EUT with Adapter Mode>



<EUT with WPC Charger >



<EUT with PMA Charger>



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	WPC Charger	LG	WPC-700	BEJWCP700	N/A	Unshielded, 1.5 m
3.	PMA Charger	DURACELL	POWERMAT	FCC DOC	N/A	Unshielded, 1.5 m

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 :

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

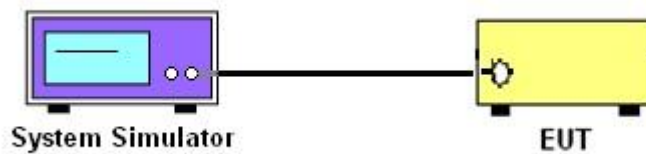
3 Conducted Test Items

3.1 Measuring Instruments

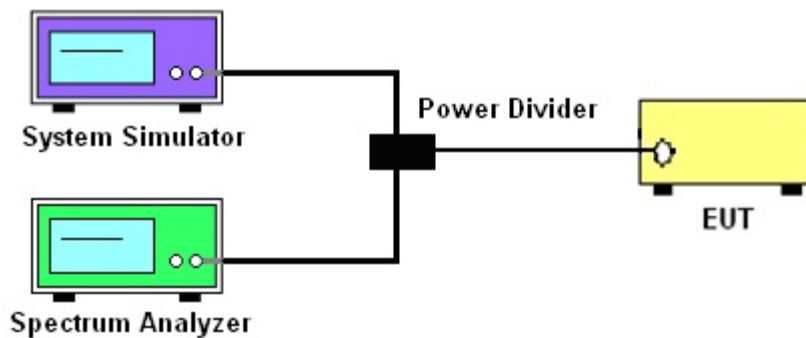
See list of measuring instruments of this test report.

3.2 Test Setup

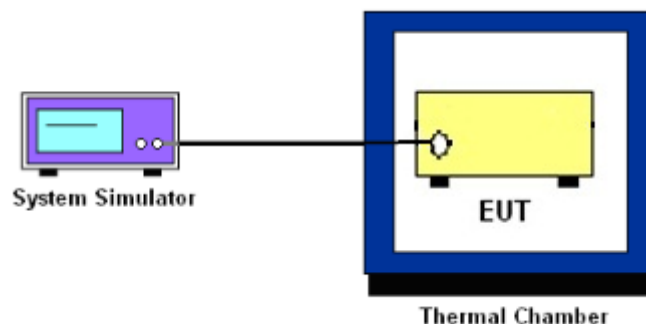
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.2.4 Test Result of Conducted Test

Please refer to Appendix B.



3.3 Conducted Output Power

3.3.1 Description of the Conducted Output Power 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.

3.3.2 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.

3.4 Peak-to-Average Ratio

3.4.1 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.

3.4.2 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.



3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 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.

3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

27.53 (c)

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)

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.

3.6.2 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 $43 + 10\log(P)\text{dB}$ below the transmitter power $P(\text{Watts})$
 $= P(\text{W}) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

3.7 Conducted Spurious Emission

3.7.1 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.

3.7.2 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 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)
= $P(W) - [43 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
= -13dBm.



3.8 Frequency Stability

3.8.1 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.

3.8.2 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.

3.8.3 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.

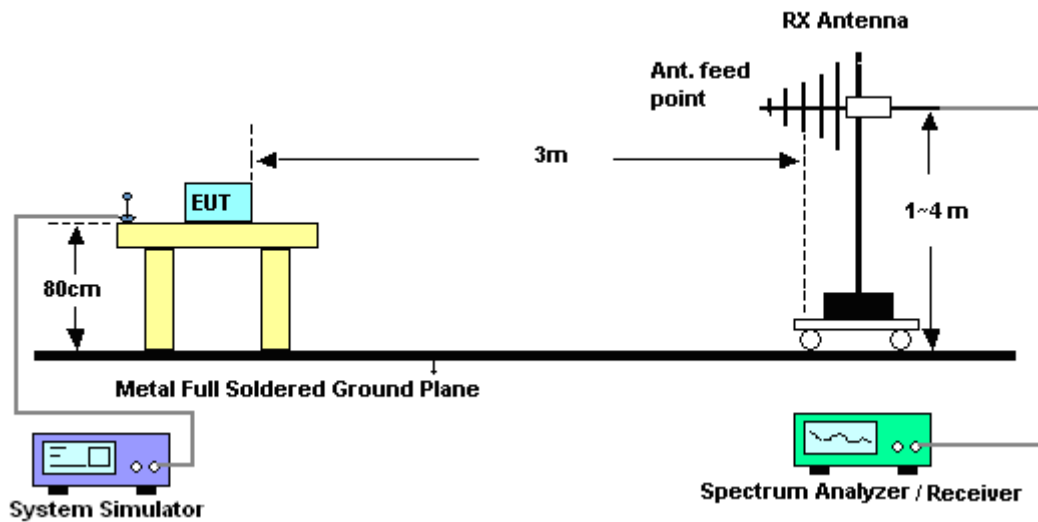
4 Radiated Test Items

4.1 Measuring Instruments

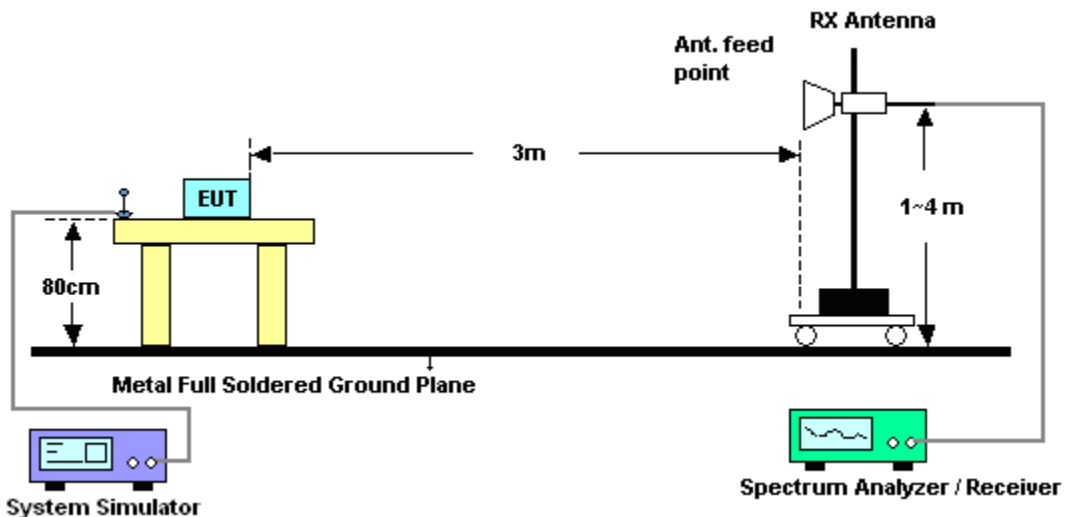
See list of measuring instruments of this test report.

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 C.

4.4 Radiated Spurious Emission

4.4.1 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 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.

4.4.2 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. 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.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. 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)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.

11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

4.5 Effective Radiated Power and Effective Isotropic Radiated Power

4.5.1 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 v01r02. 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 v01r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 1 watt with LTE band 4.

4.5.2 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 per section 5. of KDB 971168 D01.
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 $ERP = EIRP - 2.15$.



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8820C	6201026480	30MHz~2.7GHz SISO	Jan. 07, 2014	Jul. 29, 2014 ~ Aug. 04, 2014	Jan. 06, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 09, 2014	Jul. 29, 2014 ~ Aug. 04, 2014	Jun. 08, 2015	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 17, 2014	Jul. 29, 2014 ~ Aug. 04, 2014	Jul. 16, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz ~ 30GHz	Feb. 10, 2014	Nov. 01, 2014	Feb. 09, 2015	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Sep. 27, 2014	Nov. 01, 2014	Sep. 26, 2015	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 19, 2014	Nov. 01, 2014	Aug. 18, 2015	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10 MHz ~ 1000MHz	Mar. 17, 2014	Nov. 01, 2014	Mar. 16, 2015	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Nov. 29, 2013	Nov. 01, 2014	Nov. 28, 2014	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Nov. 01, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	M-400-0	114/8000604/L	N/A	N/A	Nov. 01, 2014	N/A	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Oct. 02, 2014	Nov. 01, 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
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix B. Test Results of Conducted Test

Conducted Output Power(Average power)



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.95	22.82	22.85
1.4	1	2		22.94	22.79	22.80
1.4	1	5		22.91	22.79	22.75
1.4	3	0		22.93	22.81	22.76
1.4	3	1		22.90	22.81	22.79
1.4	3	2		22.92	22.79	22.71
1.4	6	0		22.03	21.88	21.88
1.4	1	0	16-QAM	22.00	21.89	21.90
1.4	1	2		21.99	21.78	21.82
1.4	1	5		21.99	21.80	21.79
1.4	3	0		21.95	21.88	21.89
1.4	3	1		21.99	21.87	21.83
1.4	3	2		21.98	21.85	21.85
1.4	6	0		21.04	20.90	20.86
3	1	0	QPSK	22.94	22.82	22.92
3	1	7		22.86	22.80	22.81
3	1	14		22.86	22.81	22.73
3	8	0		22.02	21.85	21.94
3	8	4		21.91	21.83	21.88
3	8	7		21.95	21.88	21.87
3	15	0		21.93	21.87	21.89
3	1	0	16-QAM	21.93	21.86	21.92
3	1	7		21.92	21.85	21.88
3	1	14		21.83	21.78	21.71
3	8	0		20.95	20.78	20.90
3	8	4		20.87	20.81	20.84
3	8	7		20.85	20.82	20.83
3	15	0		20.93	20.89	20.94



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.93	22.84	23.01
5	1	12		22.87	22.79	22.84
5	1	24		22.90	22.82	22.71
5	12	0		21.95	21.89	22.05
5	12	6		21.85	21.88	21.97
5	12	11		21.82	21.86	21.86
5	25	0		21.81	21.84	21.91
5	1	0	16-QAM	21.98	21.84	22.01
5	1	12		21.87	21.83	21.92
5	1	24		21.91	21.77	21.79
5	12	0		20.93	20.85	21.04
5	12	6		20.88	20.88	21.00
5	12	11		20.90	20.87	20.89
5	25	0		20.97	20.85	20.98
10	1	0	QPSK	22.97	22.79	23.05
10	1	24		22.85	22.76	23.01
10	1	49		22.64	22.75	22.75
10	25	0		21.85	21.88	22.07
10	25	12		21.89	21.81	22.10
10	25	24		21.82	21.84	21.96
10	50	0		21.76	21.84	22.00
10	1	0	16-QAM	22.00	21.88	22.16
10	1	24		21.89	21.84	22.04
10	1	49		21.64	21.82	21.77
10	25	0		20.89	20.88	21.10
10	25	12		20.96	20.81	21.05
10	25	24		20.86	20.87	20.90
10	50	0		20.82	20.82	21.01



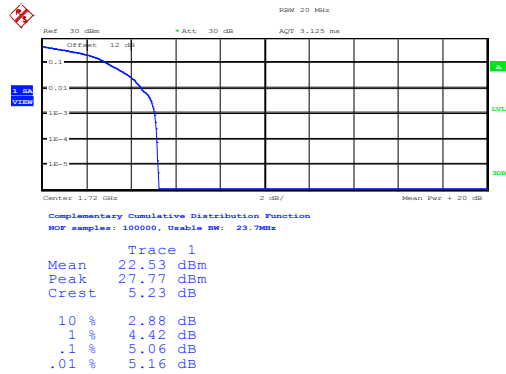
LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.01	22.83	23.06
15	1	37		22.83	22.73	23.05
15	1	74		22.61	22.78	22.72
15	36	0		21.79	21.78	22.22
15	36	18		21.79	21.82	22.05
15	36	37		21.65	21.92	21.98
15	75	0		21.70	21.79	21.96
15	1	0	16-QAM	21.94	21.87	22.10
15	1	37		21.81	21.84	22.06
15	1	74		21.65	21.85	21.74
15	36	0		20.90	20.74	21.15
15	36	18		20.86	20.81	21.10
15	36	37		20.69	20.92	21.06
15	75	0		20.70	20.81	21.02
20	1	0	QPSK	23.05	22.92	23.10
20	1	49		22.64	22.78	22.85
20	1	99		22.56	22.68	22.73
20	50	0		21.74	21.81	22.03
20	50	24		21.65	21.84	22.13
20	50	49		21.73	21.90	21.98
20	100	0		21.71	21.80	22.12
20	1	0	16-QAM	22.01	22.00	22.05
20	1	49		21.64	21.84	21.90
20	1	99		21.62	21.85	21.75
20	50	0		20.79	20.80	21.00
20	50	24		20.75	20.84	21.20
20	50	49		20.63	20.90	21.02
20	100	0		20.74	20.79	21.09



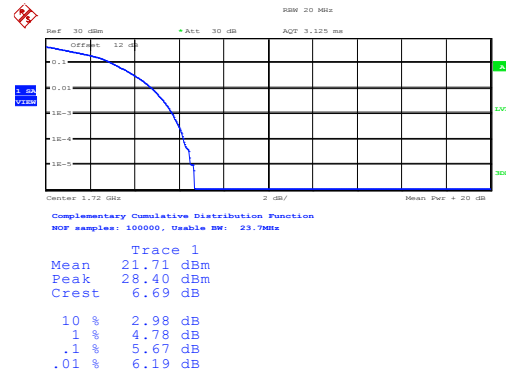
LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.49	23.56	23.55
5	1	12		23.30	23.35	23.26
5	1	24		23.48	23.51	23.45
5	12	0		22.79	22.88	22.85
5	12	6		22.73	22.76	22.75
5	12	11		22.82	22.90	22.90
5	25	0		22.56	22.61	22.61
5	1	0	16-QAM	22.87	22.91	22.90
5	1	12		22.68	22.78	22.81
5	1	24		22.85	22.91	22.70
5	12	0		21.91	21.94	21.94
5	12	6		21.67	21.76	21.72
5	12	11		21.82	21.91	21.90
5	25	0		21.66	21.74	21.73
10	1	0	QPSK		23.59	
10	1	24			23.40	
10	1	49			23.55	
10	25	0			22.90	
10	25	12			22.81	
10	25	24			22.92	
10	50	0			22.66	
10	1	0	16-QAM		22.99	
10	1	24			22.82	
10	1	49			22.98	
10	25	0			21.95	
10	25	12			21.83	
10	25	24			21.95	
10	50	0			21.75	

**Peak-to-Average Ratio**

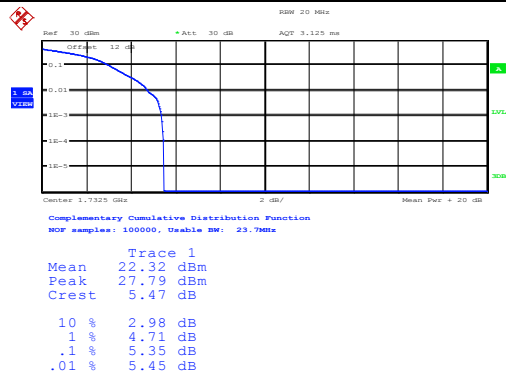
Mode	LTE Band 4 / 20MHz / 16QAM		Limit: 13dB
RB Size	1RB	Full RB	Result
Lowest CH	5.06	5.67	PASS
Middle CH	5.35	6.12	
Highest CH	5.38	6.19	
Mode	LTE Band 13 / 10MHz / 16QAM		Limit: 13dB
RB Size	1RB	Full RB	Result
Lowest CH	-	-	PASS
Middle CH	3.21	5.64	
Highest CH	-	-	

**LTE Band 4 / 20MHz / 16QAM****Lowest Channel / 1RB**

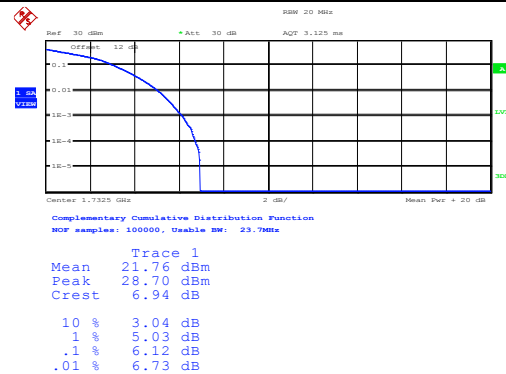
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Lowest Channel / Full RB

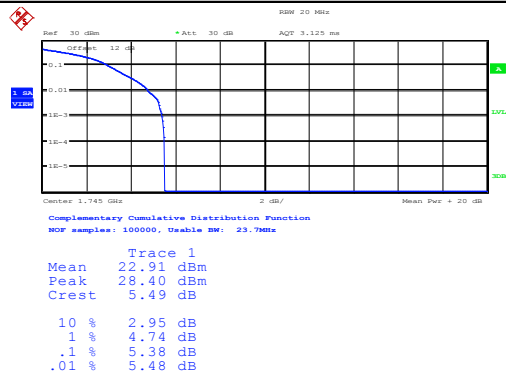
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Middle Channel / 1RB

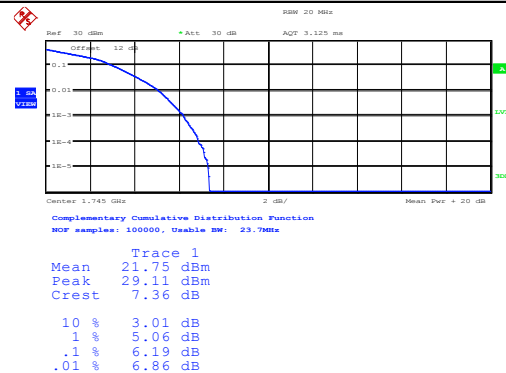
Date: 29.JUL.2014 16:11:19

Middle Channel / Full RB

Date: 29.JUL.2014 16:11:44

Highest Channel / 1RB

Date: 29.JUL.2014 16:12:08

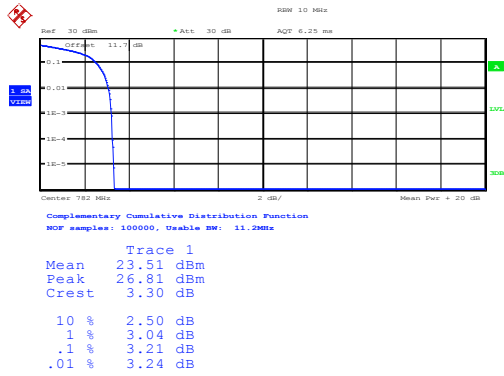
Highest Channel / Full RB

Date: 29.JUL.2014 16:12:32



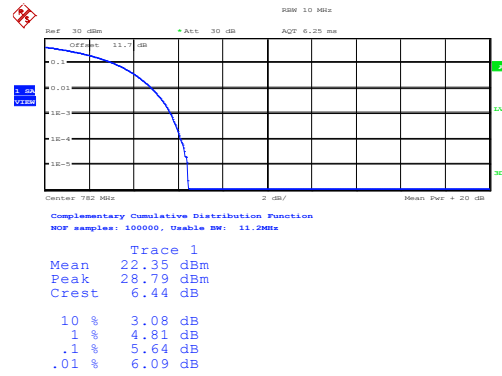
LTE Band 13 / 10MHz / 16QAM

Middle Channel/ 1RB



Date: 29.JUL.2014 17:22:20

Middle Channel / Full RB



Date: 29.JUL.2014 17:22:58

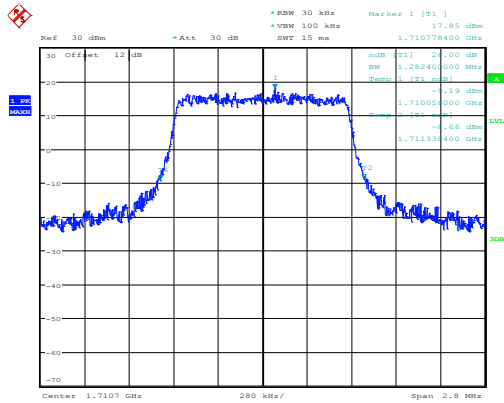
**26dB Bandwidth**

Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.28	1.27	3.05	3.07	5.05	4.96	10.08	10.04	14.67	14.58	20.96	20.92
Middle CH	1.29	1.30	3.07	3.07	5.07	5.00	10.20	10.06	14.85	14.79	21.08	20.96
Highest CH	1.29	1.29	3.07	3.05	5.02	5.02	10.12	10.08	14.88	14.91	21.20	20.96
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.96	5.01	-	-	-	-	-	-
Middle CH	-	-	-	-	5.01	4.97	10.06	10.08	-	-	-	-
Highest CH	-	-	-	-	4.98	4.97	-	-	-	-	-	-



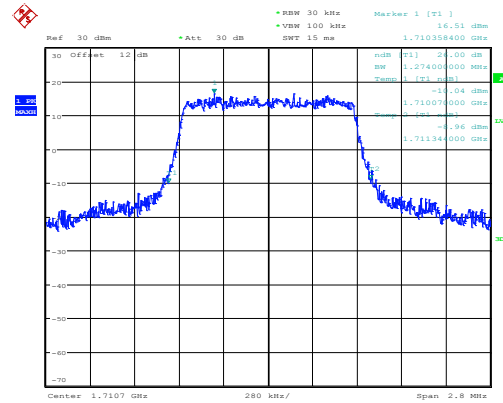
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



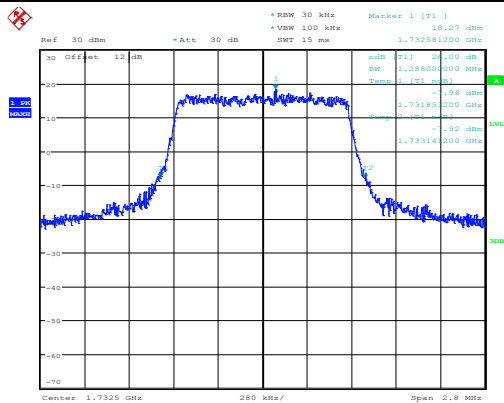
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Lowest Channel / 1.4MHz / 16QAM



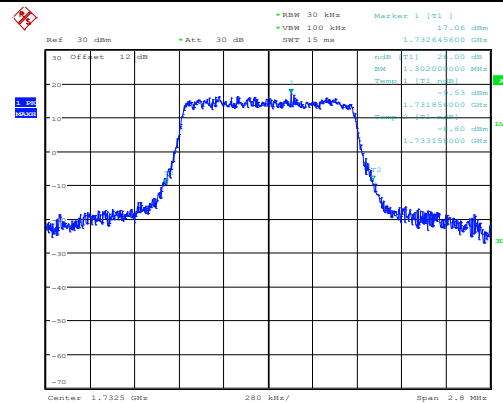
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Middle Channel / 1.4MHz / QPSK



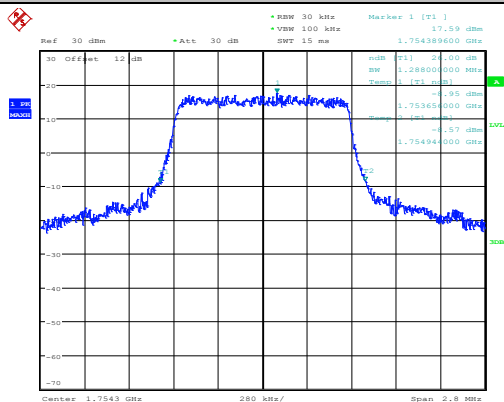
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Middle Channel / 1.4MHz / 16QAM



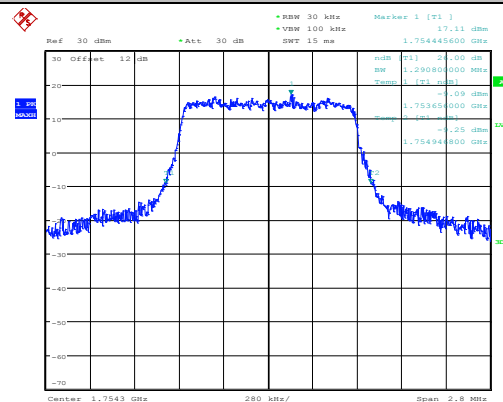
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Highest Channel / 1.4MHz / QPSK



Date: 29.JUL.2014 14:50:22

Highest Channel / 1.4MHz / 16QAM

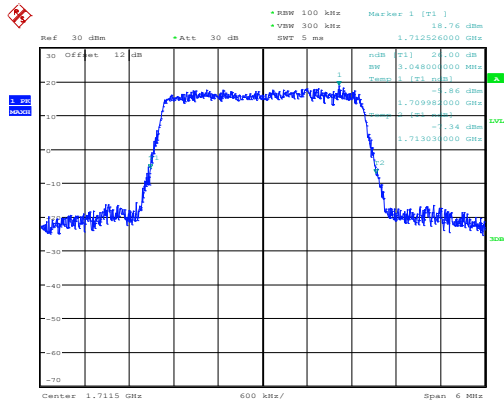


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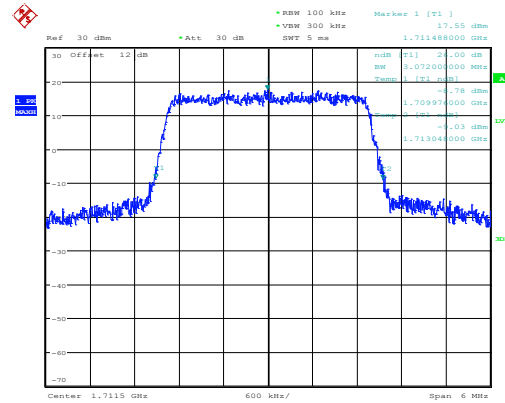
LTE Band 4

Lowest Channel / 3MHz / QPSK



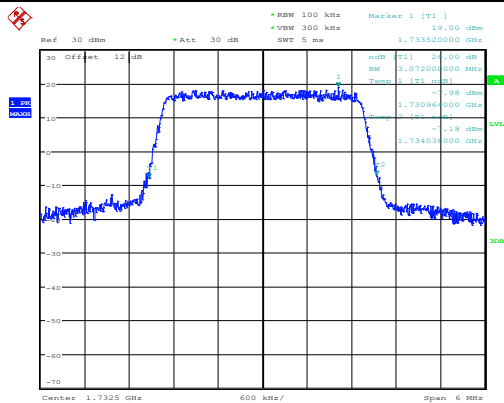
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Lowest Channel / 3MHz / 16QAM



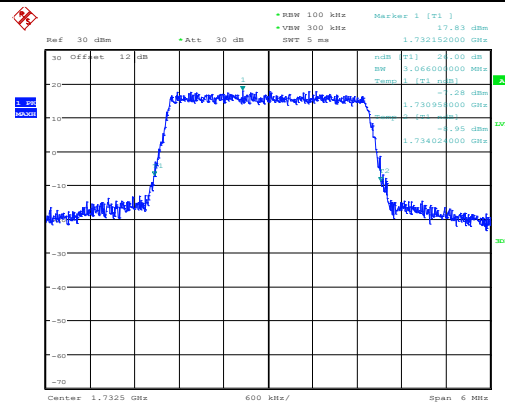
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Middle Channel / 3MHz / QPSK



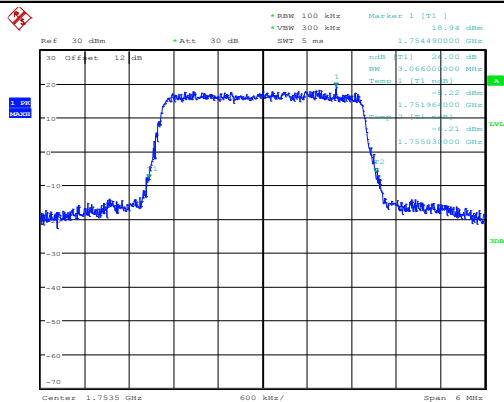
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Middle Channel / 3MHz / 16QAM



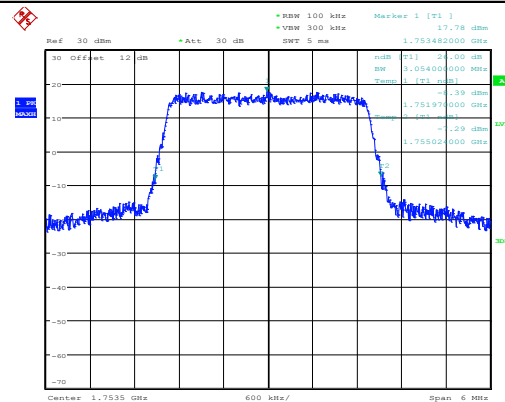
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Highest Channel / 3MHz / QPSK



Date: 29.JUL.2014 15:05:14

Highest Channel / 3MHz / 16QAM

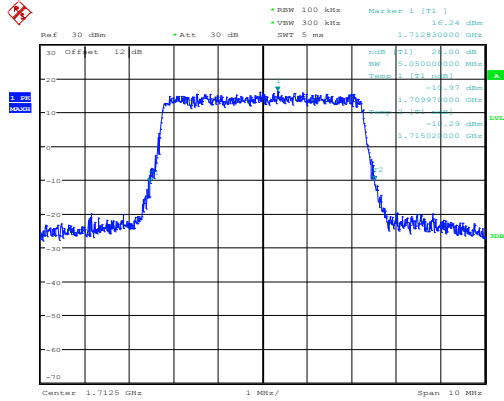


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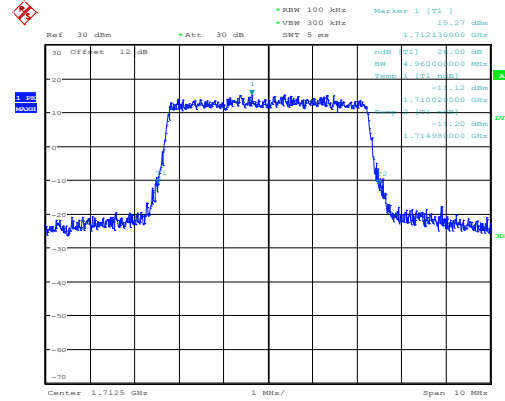
LTE Band 4

Lowest Channel / 5MHz / QPSK



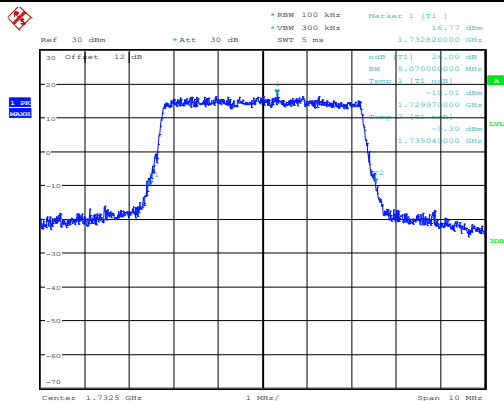
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Lowest Channel / 5MHz / 16QAM



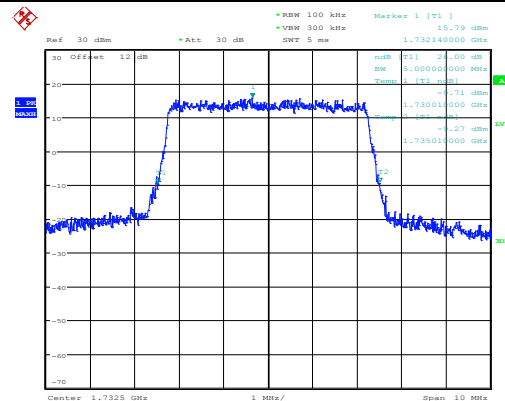
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Middle Channel / 5MHz / QPSK



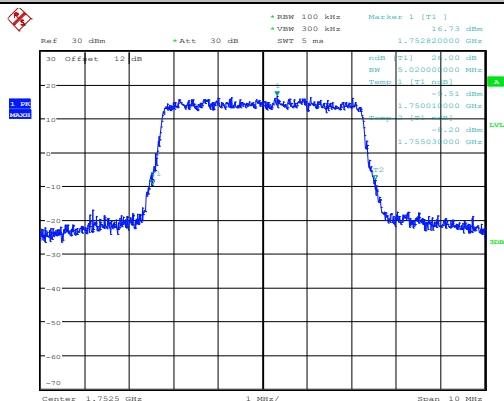
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Middle Channel / 5MHz / 16QAM



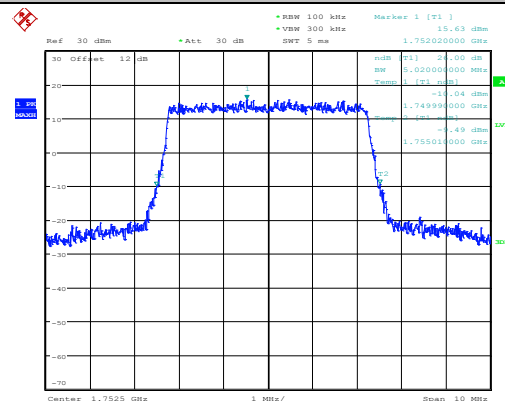
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Highest Channel / 5MHz / QPSK



Date: 29.JUL.2014 15:20:07

Highest Channel / 5MHz / 16QAM

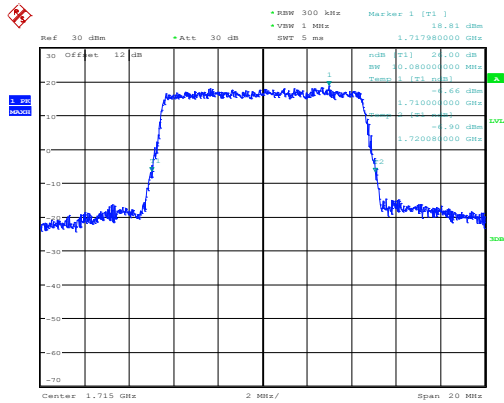


Date: 29.JUL.2014 15:20:23

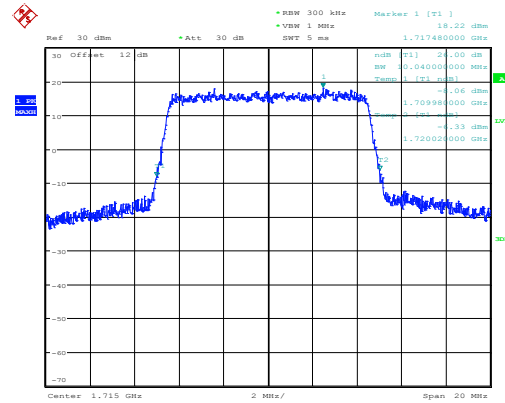


LTE Band 4

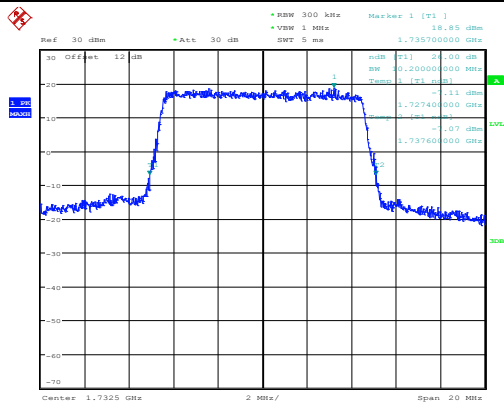
Lowest Channel / 10MHz / QPSK



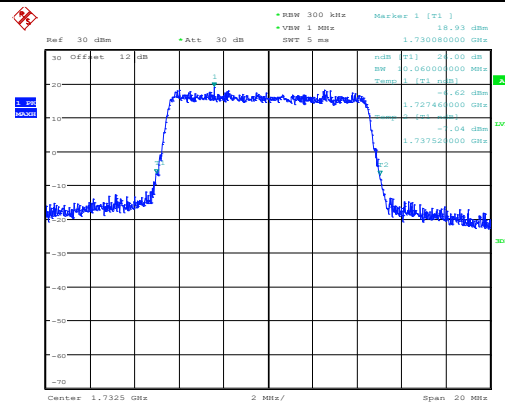
Lowest Channel / 10MHz / 16QAM



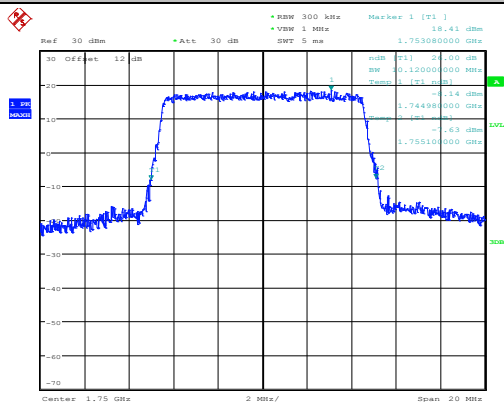
Middle Channel / 10MHz / QPSK



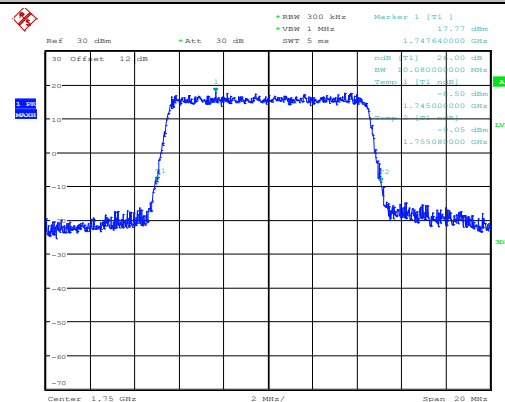
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

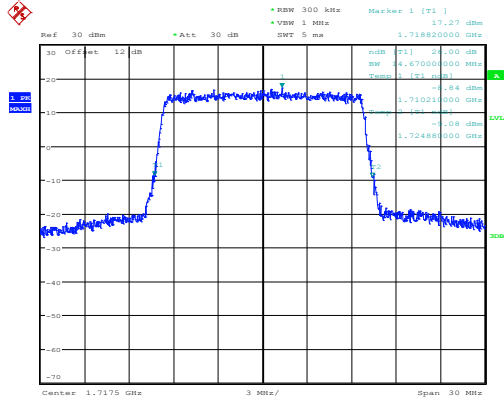


Highest Channel / 10MHz / 16QAM



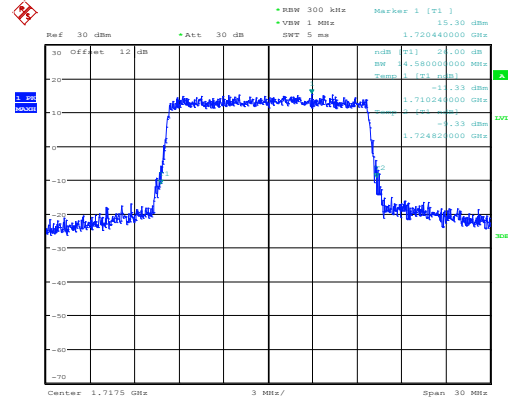
LTE Band 4

Lowest Channel / 15MHz / QPSK



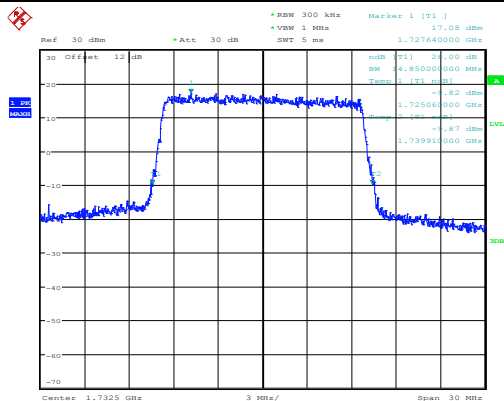
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Lowest Channel / 15MHz / 16QAM



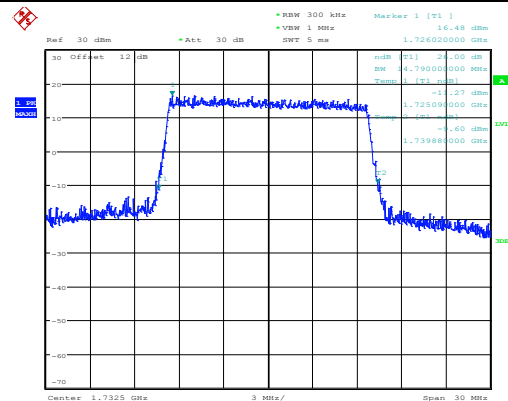
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Middle Channel / 15MHz / QPSK



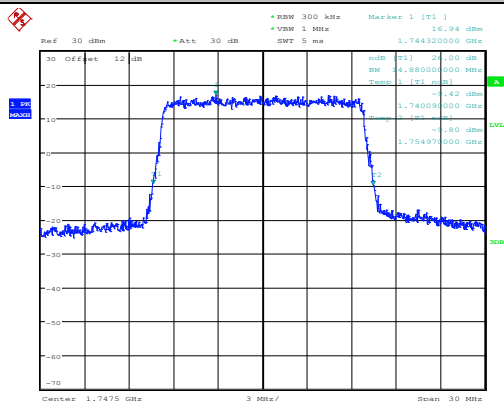
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Middle Channel / 15MHz / 16QAM



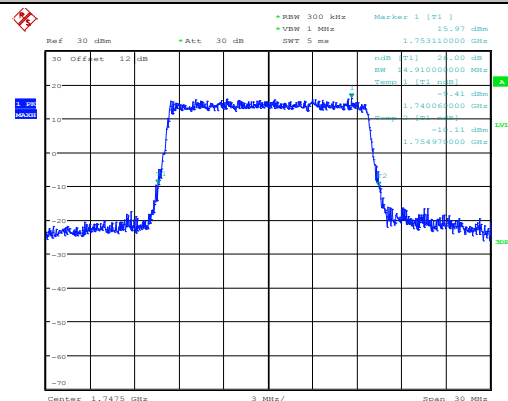
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Highest Channel / 15MHz / QPSK



Date: 29.JUL.2014 15:49:54

Highest Channel / 15MHz / 16QAM

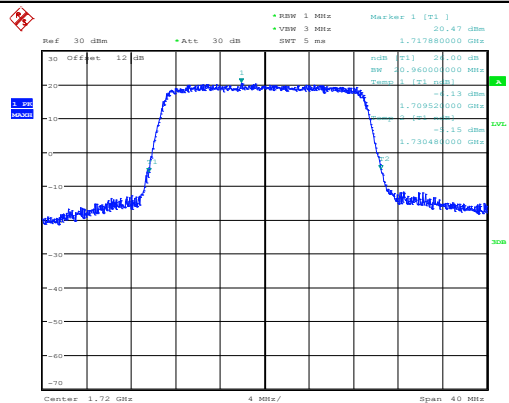


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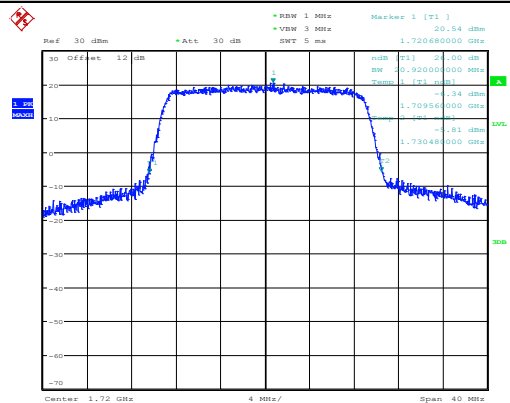
LTE Band 4

Lowest Channel / 20MHz / QPSK



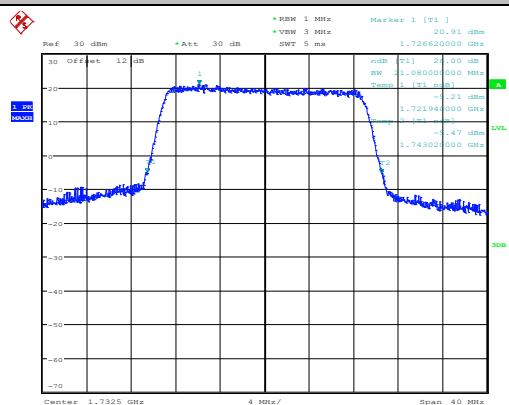
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Lowest Channel / 20MHz / 16QAM



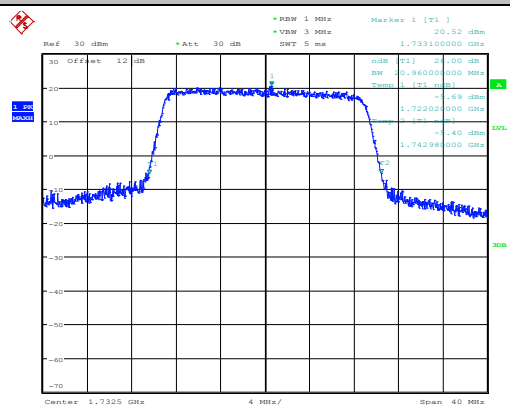
Date: 29 JUL 2014 15:56:11

Middle Channel / 20MHz / QPSK



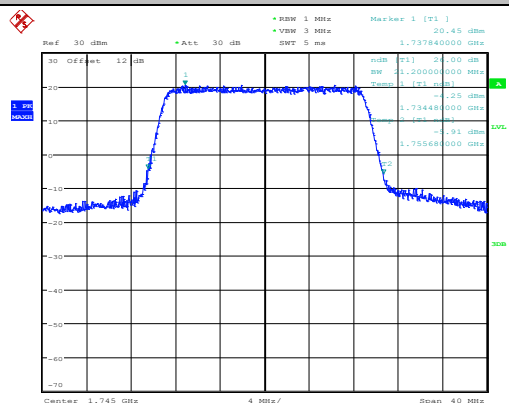
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Middle Channel / 20MHz / 16QAM



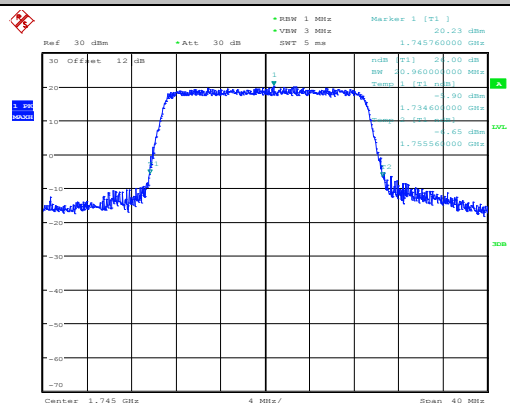
Date: 29 JUL 2014 16:02:06

Highest Channel / 20MHz / QPSK



Date: 29 JUL 2014 16:04:47

Highest Channel / 20MHz / 16QAM

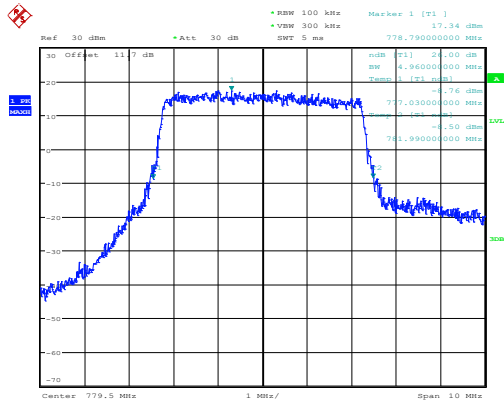


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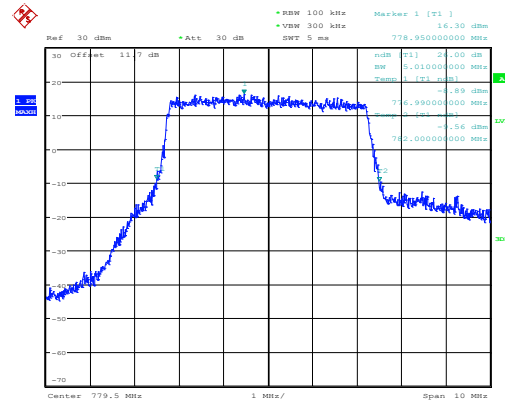
LTE Band 13

Lowest Channel / 5MHz / QPSK



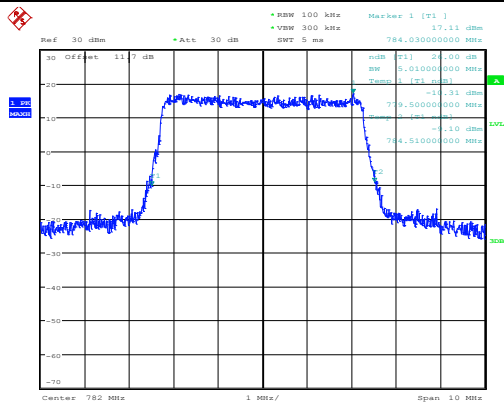
Date: 29.JUL.2014 16:20:59

Lowest Channel / 5MHz / 16QAM



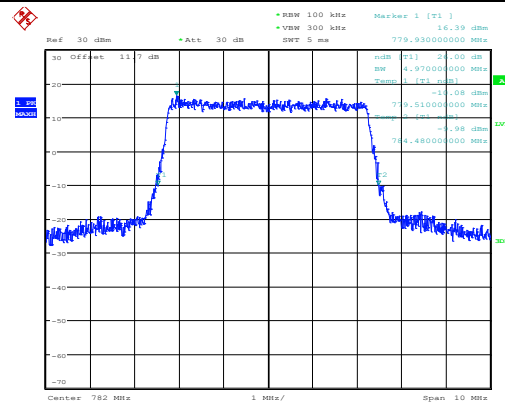
Date: 29.JUL.2014 16:21:15

Middle Channel / 5MHz / QPSK



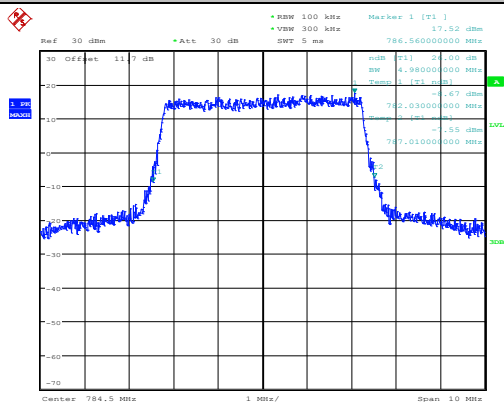
Date: 29.JUL.2014 16:22:00

Middle Channel / 5MHz / 16QAM



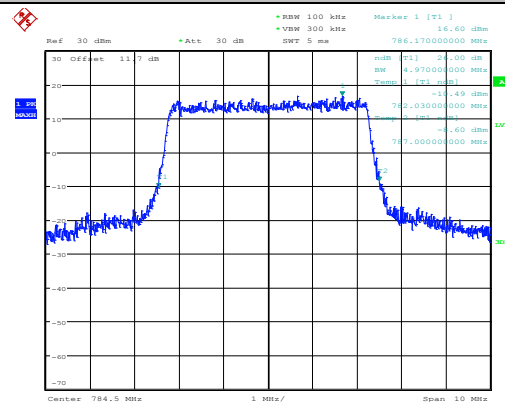
Date: 29.JUL.2014 16:22:16

Highest Channel / 5MHz / QPSK



Date: 29.JUL.2014 16:23:00

Highest Channel / 5MHz / 16QAM

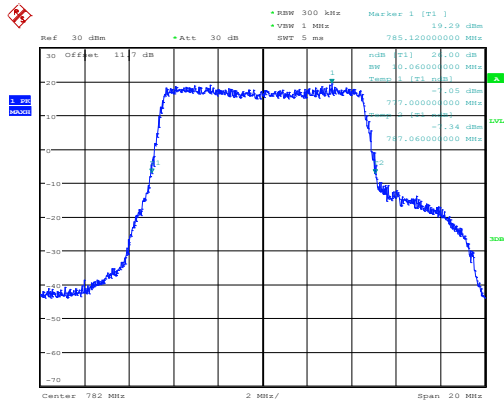


Date: 29.JUL.2014 16:23:16



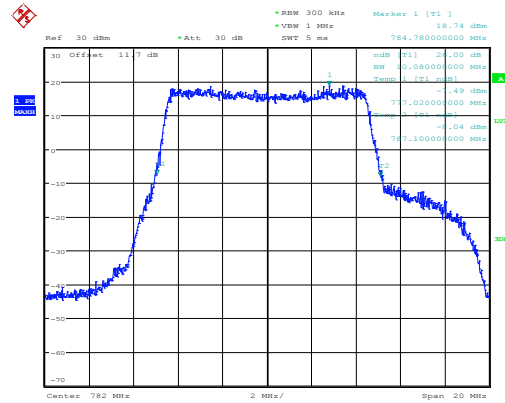
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 29.JUL.2014 16:24:05

Middle Channel / 10MHz / 16QAM



Date: 29.JUL.2014 16:24:21

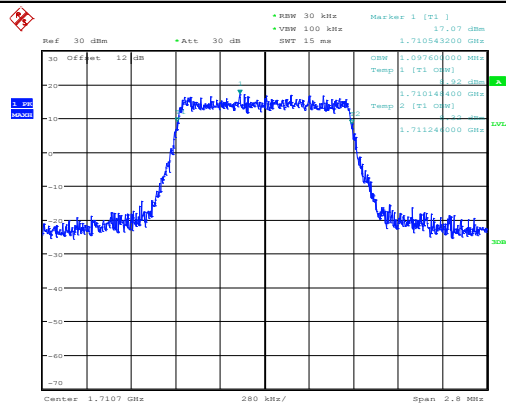
**Occupied Bandwidth**

Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.10	1.10	2.72	2.72	4.50	4.49	9.06	9.06	13.44	13.47	18.44	18.44
Middle CH	1.10	1.10	2.73	2.74	4.49	4.49	9.08	9.04	13.47	13.47	18.48	18.52
Highest CH	1.10	1.10	2.72	2.73	4.50	4.49	9.04	9.04	13.47	13.47	18.52	18.56
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.49	-	-	-	-	-	-
Middle CH	-	-	-	-	4.51	4.51	9.10	9.08	-	-	-	-
Highest CH	-	-	-	-	4.51	4.50	-	-	-	-	-	-



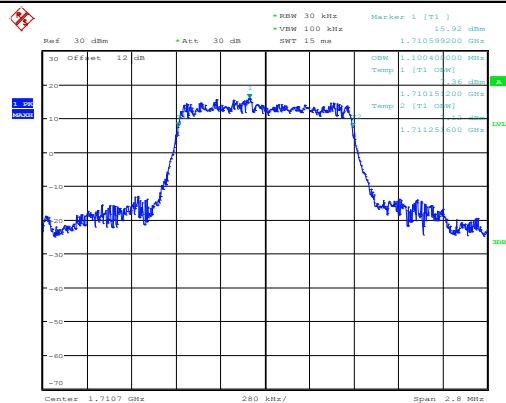
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



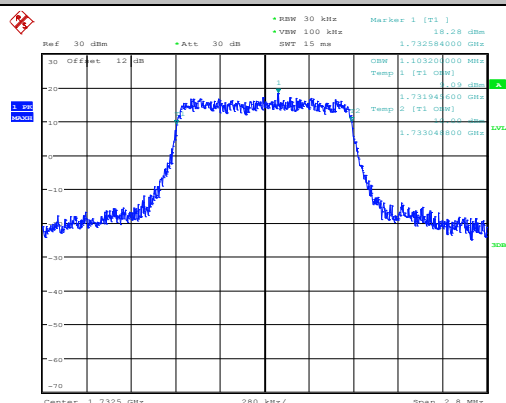
Date: 29.JUL.2014 14:40:57

Lowest Channel / 1.4MHz / 16QAM



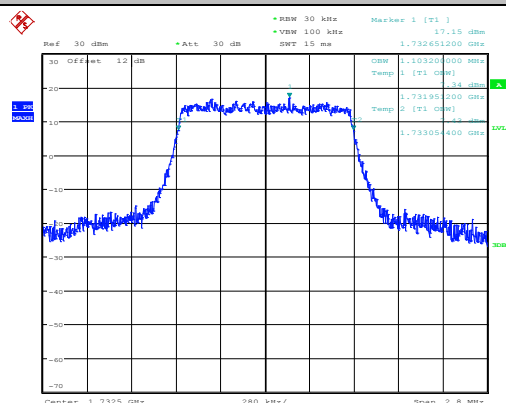
Date: 29.JUL.2014 14:41:12

Middle Channel / 1.4MHz / QPSK



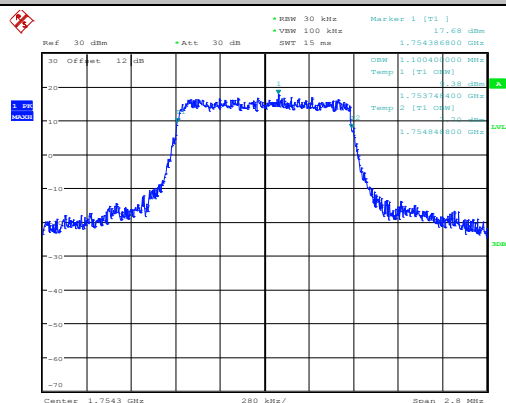
Date: 29.JUL.2014 14:46:54

Middle Channel / 1.4MHz / 16QAM



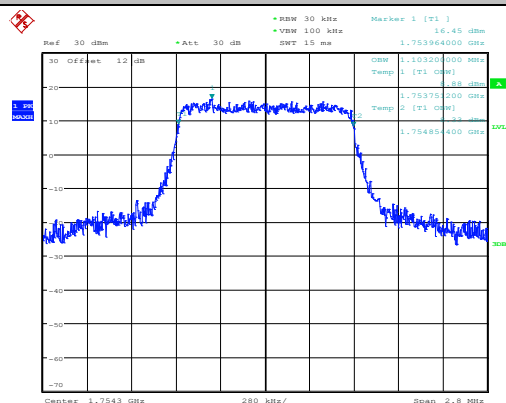
Date: 29.JUL.2014 14:47:08

Highest Channel / 1.4MHz / QPSK



Date: 29.JUL.2014 14:49:51

Highest Channel / 1.4MHz / 16QAM

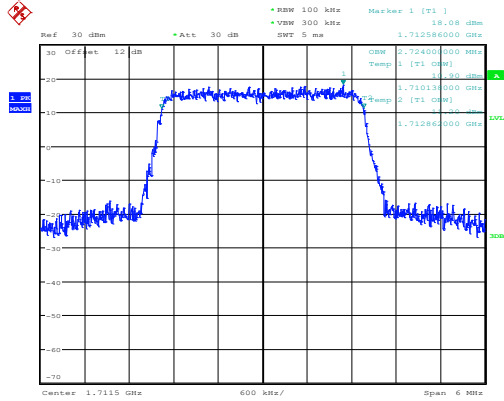


Date: 29.JUL.2014 14:50:06



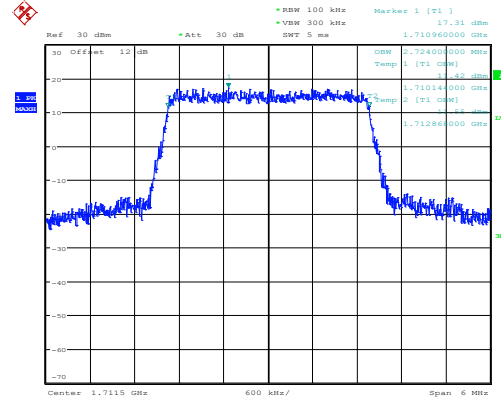
LTE Band 4

Lowest Channel / 3MHz / QPSK



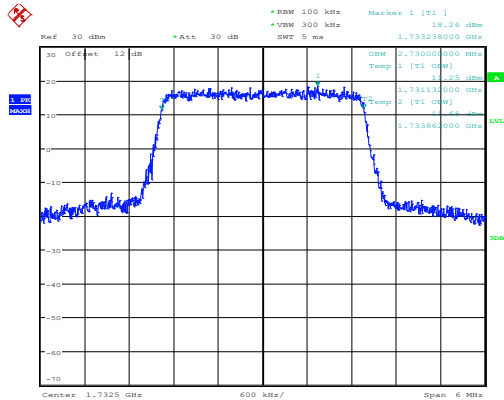
Date: 29 JUL 2014 14:55:52

Lowest Channel / 3MHz / 16QAM



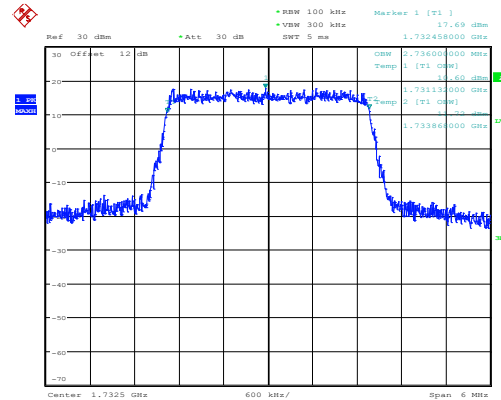
Date: 29 JUL 2014 14:56:06

Middle Channel / 3MHz / QPSK



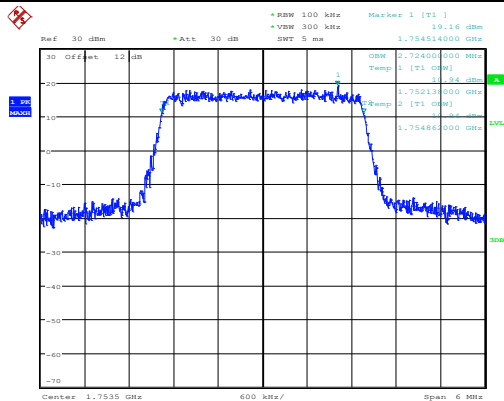
Date: 29 JUL 2014 15:01:47

Middle Channel / 3MHz / 16QAM



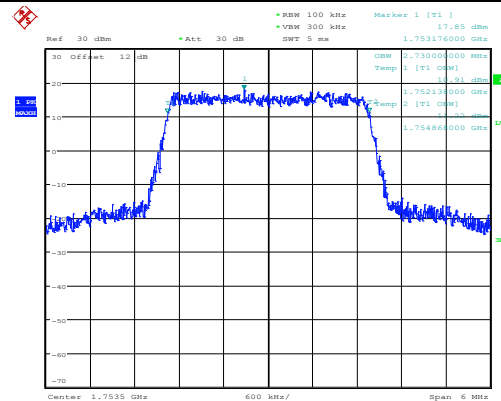
Date: 29 JUL 2014 15:02:01

Highest Channel / 3MHz / QPSK



Date: 29 JUL 2014 15:04:44

Highest Channel / 3MHz / 16QAM

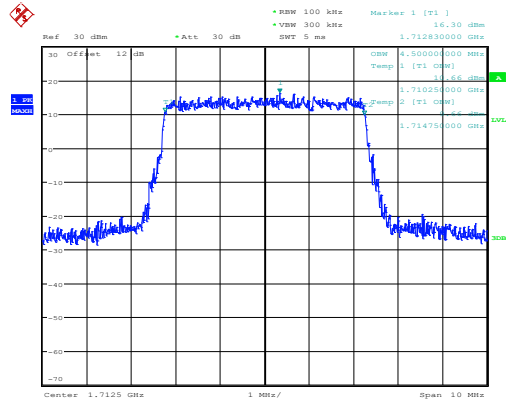


Date: 29 JUL 2014 15:04:58



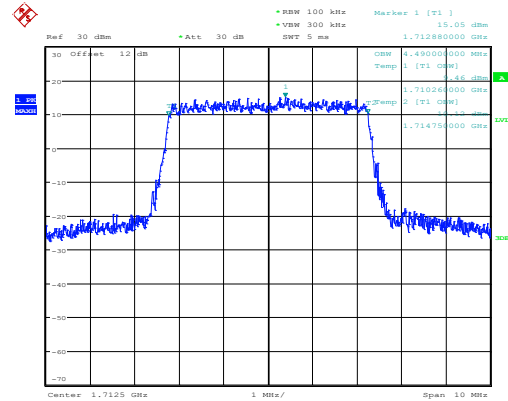
LTE Band 4

Lowest Channel / 5MHz / QPSK



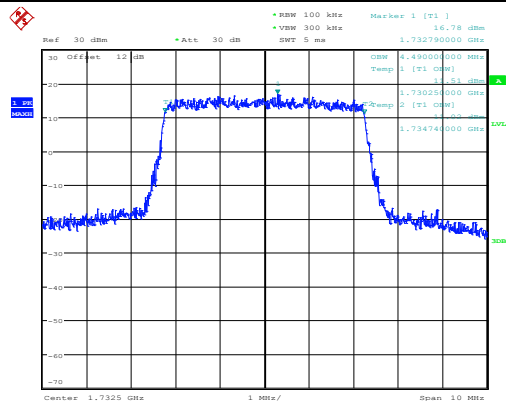
Date: 29.JUL.2014 15:10:44

Lowest Channel / 5MHz / 16QAM



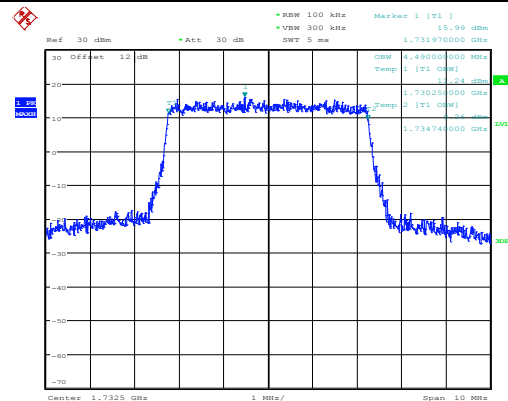
Date: 29.JUL.2014 15:10:58

Middle Channel / 5MHz / QPSK



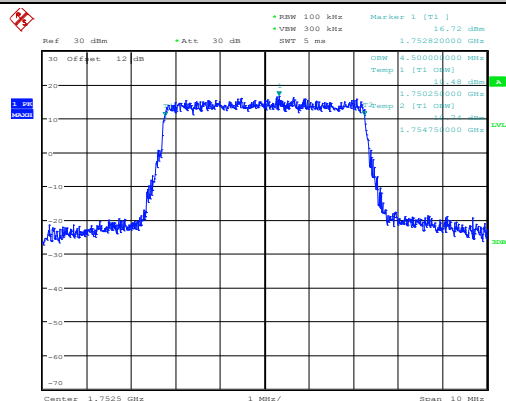
Date: 29.JUL.2014 15:16:41

Middle Channel / 5MHz / 16QAM



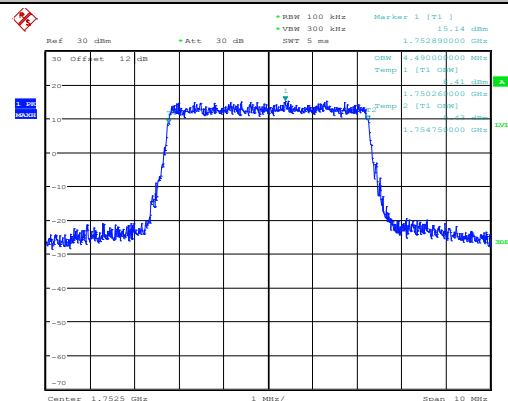
Date: 29.JUL.2014 15:16:55

Highest Channel / 5MHz / QPSK



Date: 29.JUL.2014 15:19:37

Highest Channel / 5MHz / 16QAM

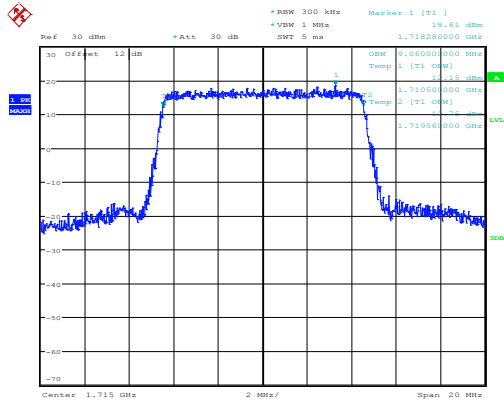


Date: 29.JUL.2014 15:19:51



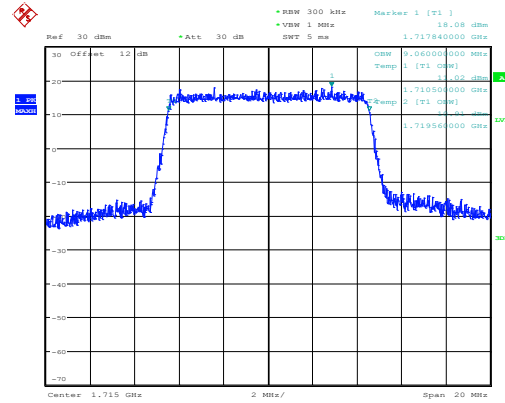
LTE Band 4

Lowest Channel / 10MHz / QPSK



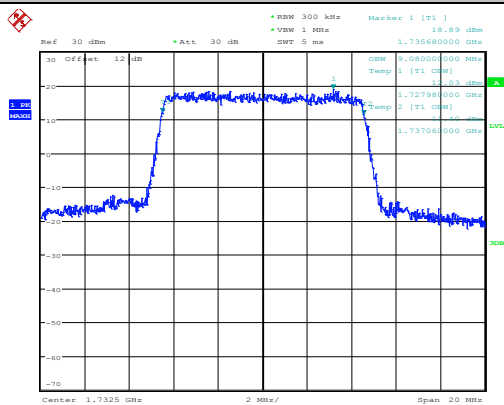
Date: 29.JUL.2014 15:25:37

Lowest Channel / 10MHz / 16QAM



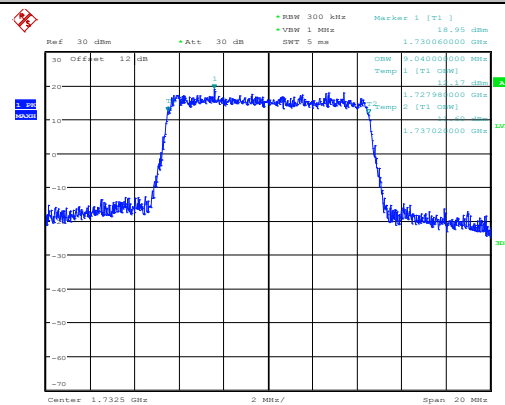
Date: 29.JUL.2014 15:25:51

Middle Channel / 10MHz / QPSK



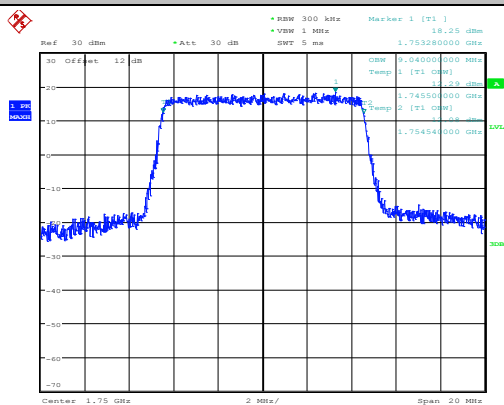
Date: 29.JUL.2014 15:31:33

Middle Channel / 10MHz / 16QAM



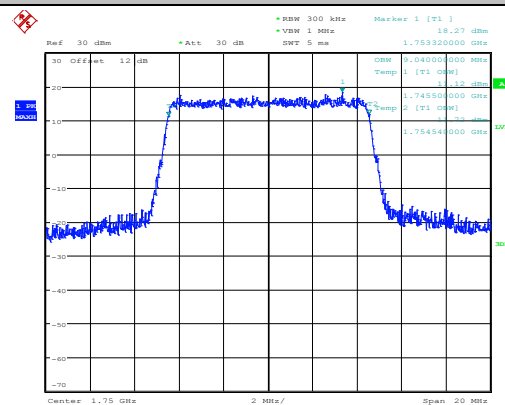
Date: 29.JUL.2014 15:31:47

Highest Channel / 10MHz / QPSK



Date: 29.JUL.2014 15:34:29

Highest Channel / 10MHz / 16QAM

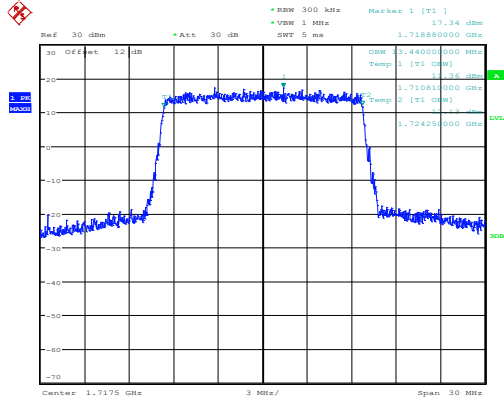


Date: 29.JUL.2014 15:34:43



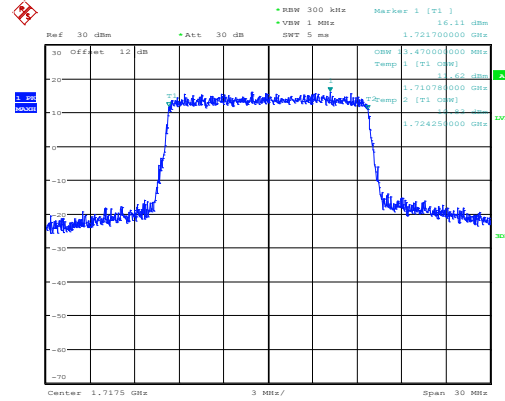
LTE Band 4

Lowest Channel / 15MHz / QPSK



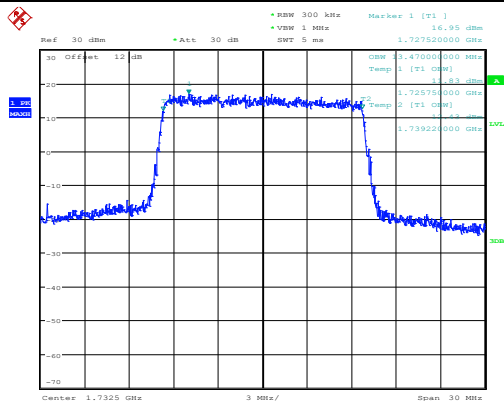
Date: 29.JUL.2014 15:40:29

Lowest Channel / 15MHz / 16QAM



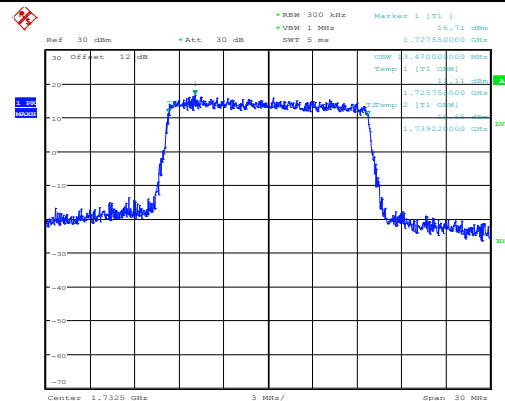
Date: 29.JUL.2014 15:40:43

Middle Channel / 15MHz / QPSK



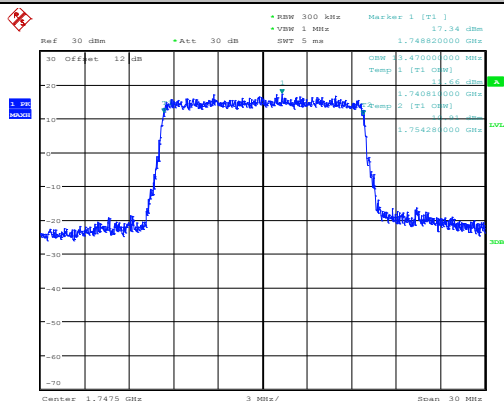
Date: 29.JUL.2014 15:46:26

Middle Channel / 15MHz / 16QAM



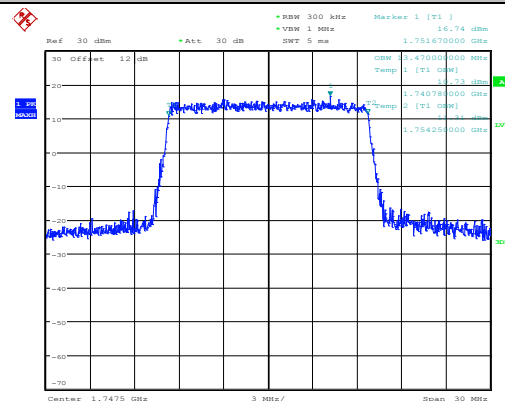
Date: 29.JUL.2014 15:46:41

Highest Channel / 15MHz / QPSK



Date: 29.JUL.2014 15:49:23

Highest Channel / 15MHz / 16QAM

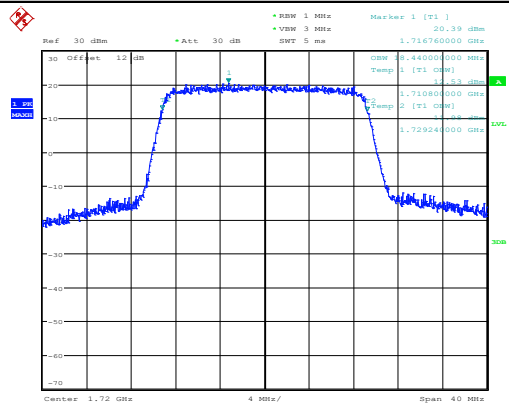


Date: 29.JUL.2014 15:49:37



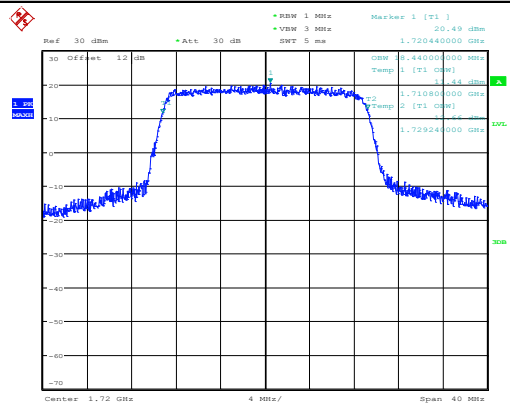
LTE Band 4

Lowest Channel / 20MHz / QPSK



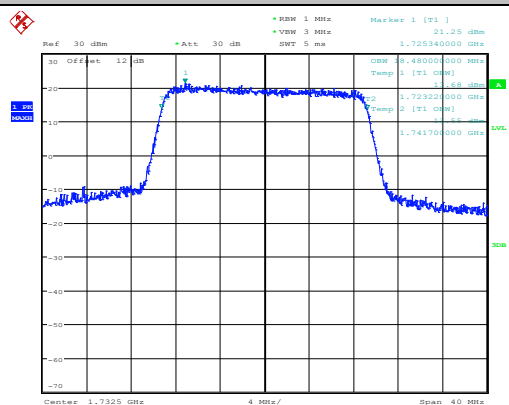
Date: 29.JUL.2014 15:55:24

Lowest Channel / 20MHz / 16QAM



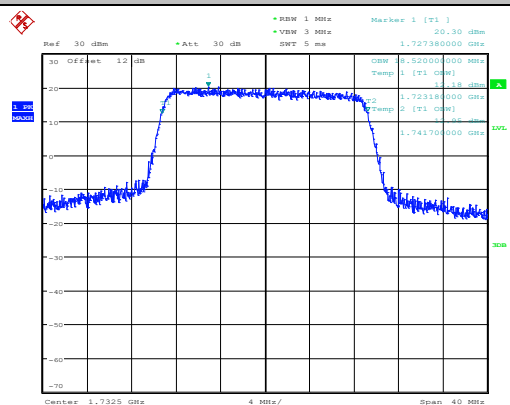
Date: 29.JUL.2014 15:55:38

Middle Channel / 20MHz / QPSK



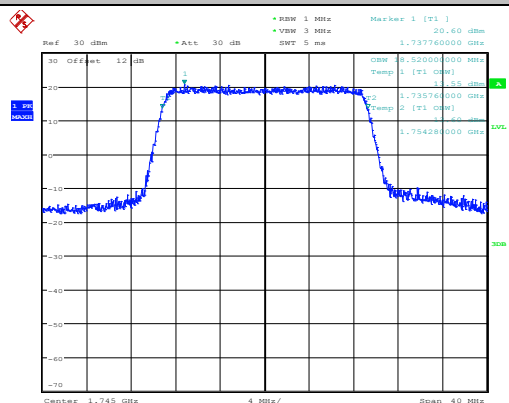
Date: 29.JUL.2014 16:01:20

Middle Channel / 20MHz / 16QAM



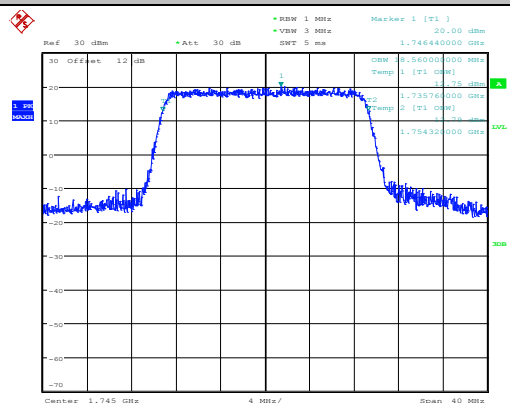
Date: 29.JUL.2014 16:01:34

Highest Channel / 20MHz / QPSK



Date: 29.JUL.2014 16:04:17

Highest Channel / 20MHz / 16QAM

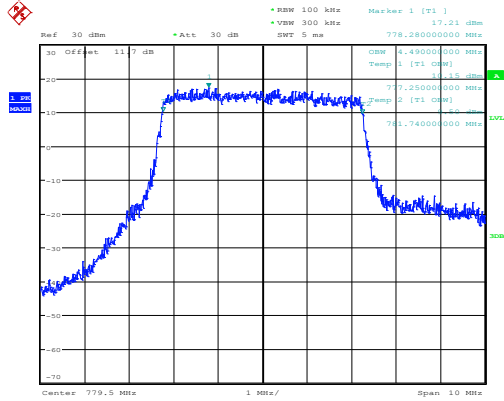


Date: 29.JUL.2014 16:04:31



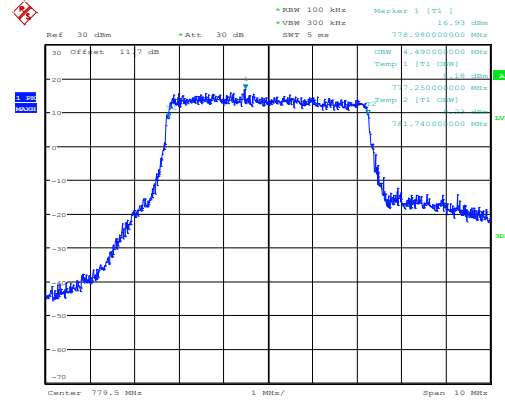
LTE Band 13

Lowest Channel / 5MHz / QPSK



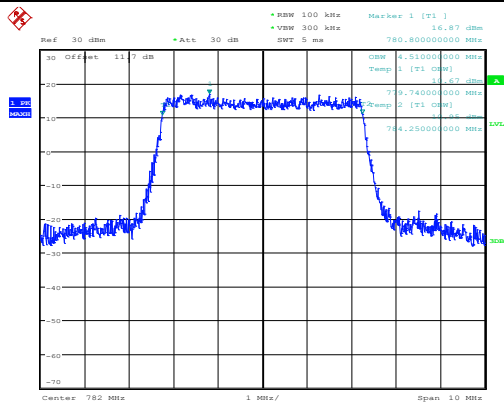
Date: 29.JUL.2014 16:20:29

Lowest Channel / 5MHz / 16QAM



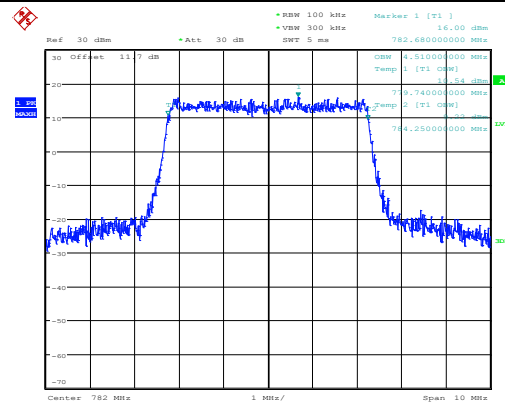
Date: 29.JUL.2014 16:20:43

Middle Channel / 5MHz / QPSK



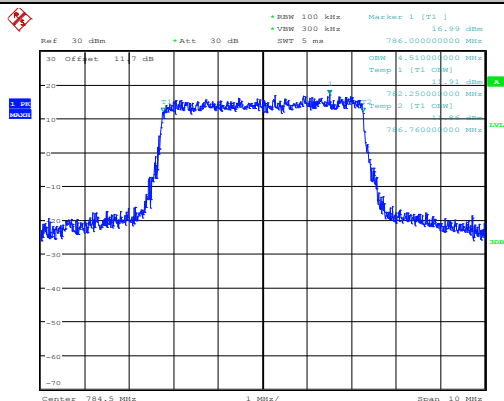
Date: 29.JUL.2014 16:21:29

Middle Channel / 5MHz / 16QAM



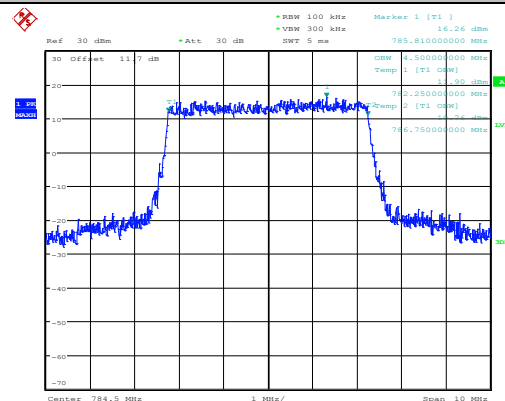
Date: 29.JUL.2014 16:21:43

Highest Channel / 5MHz / QPSK



Date: 29.JUL.2014 16:22:30

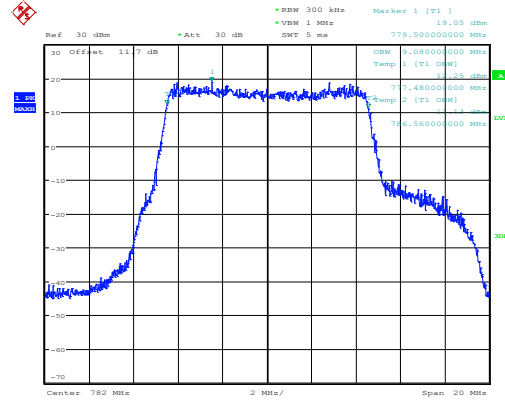
Highest Channel / 5MHz / 16QAM



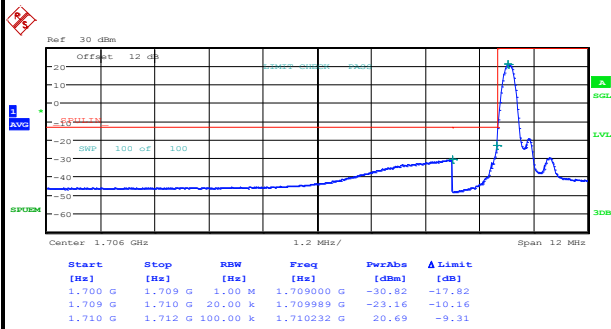
Date: 29.JUL.2014 16:22:44



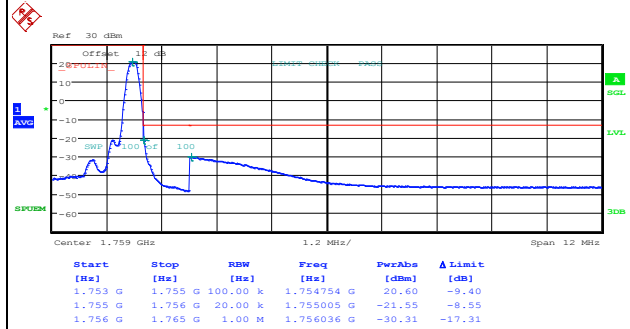
Middle Channel / 10MHz / 16QAM



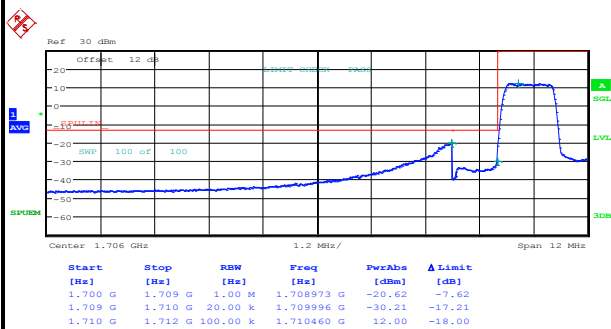
Date: 29.JUL.2014 16:23:48

**Conducted Band Edge****LTE Band 4 / 1.4MHz / QPSK****Lowest Band Edge / 1RB**

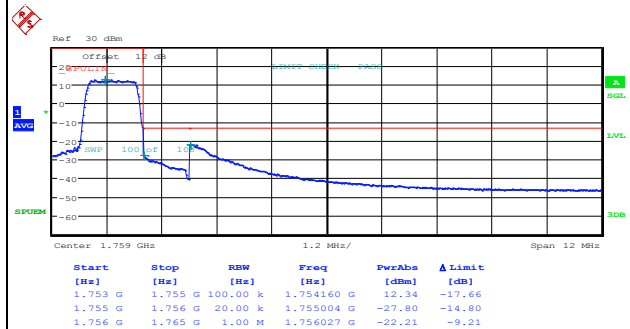
Date: 29.JUL.2014 14:42:29

Highest Band Edge / 1RB

Date: 29.JUL.2014 14:51:23

Lowest Band Edge / Full RB

Date: 29.JUL.2014 14:43:59

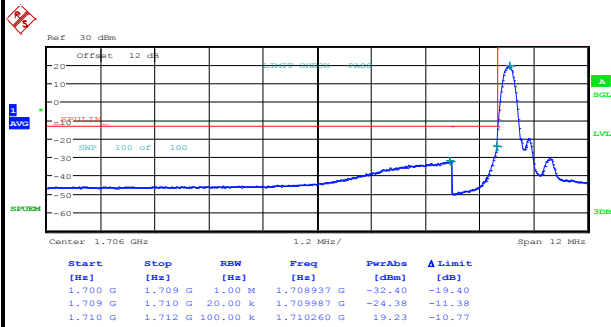
Highest Band Edge / Full RB

Date: 29.JUL.2014 14:52:52



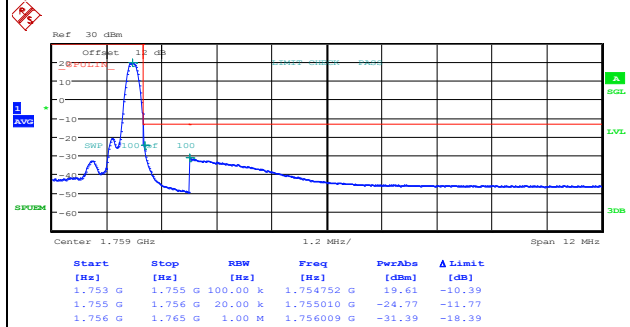
LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



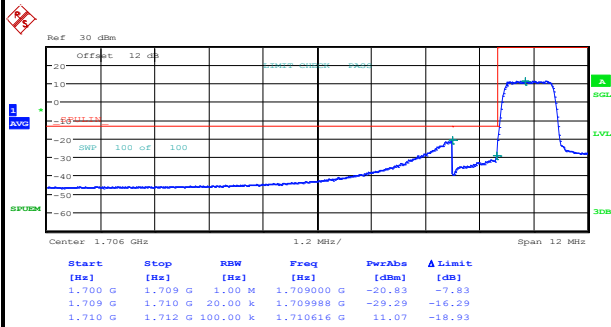
Date: 29.JUL.2014 14:43:14

Highest Band Edge / 1 RB



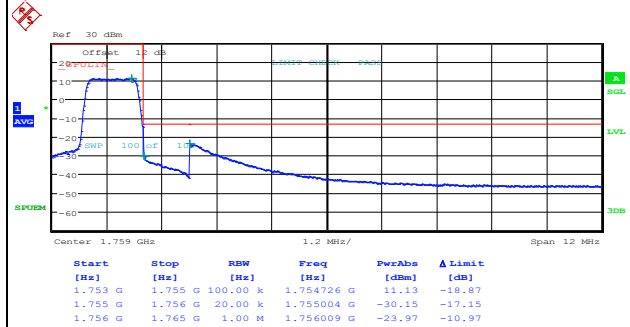
Date: 29.JUL.2014 14:52:07

Lowest Band Edge / Full RB



Date: 29.JUL.2014 14:44:44

Highest Band Edge / Full RB

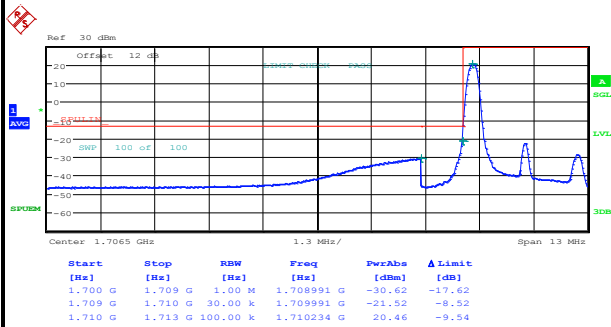


Date: 29.JUL.2014 14:53:37



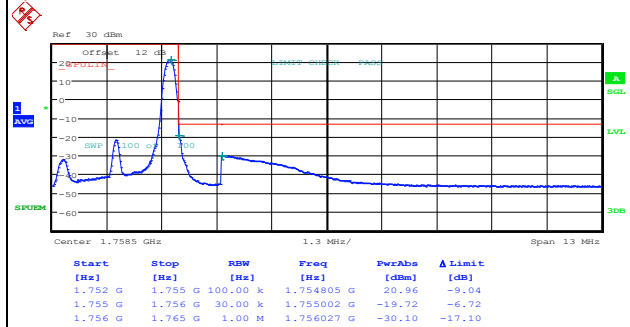
LTE Band 4 / 3MHz / QPSK

Lowest Band Edge / 1RB



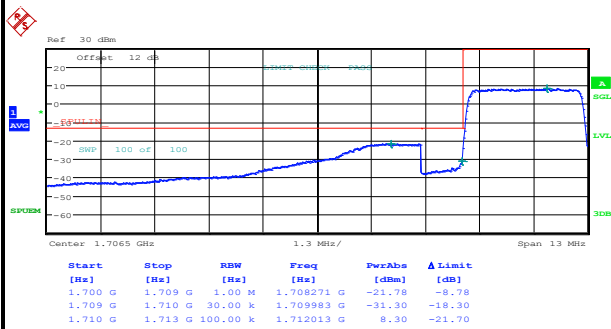
Date: 29.JUL.2014 14:57:23

Highest Band Edge / 1 RB



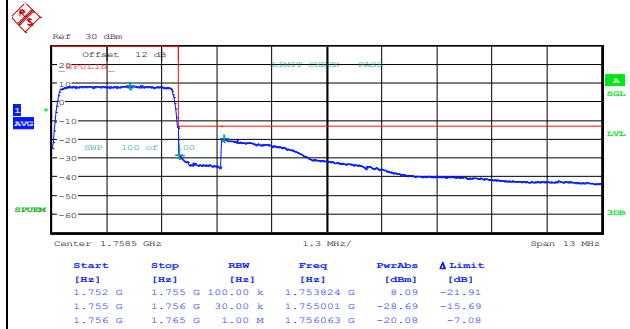
Date: 29.JUL.2014 15:06:15

Lowest Band Edge / Full RB



Date: 29.JUL.2014 14:58:52

Highest Band Edge / Full RB

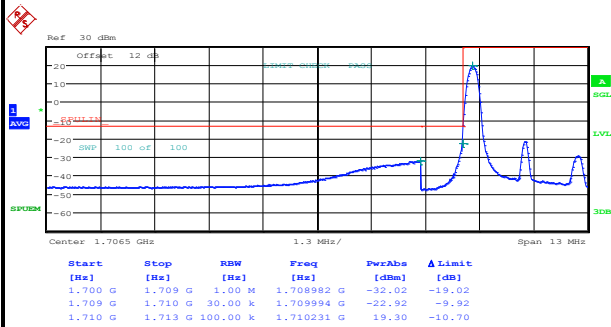


Date: 29.JUL.2014 15:07:45



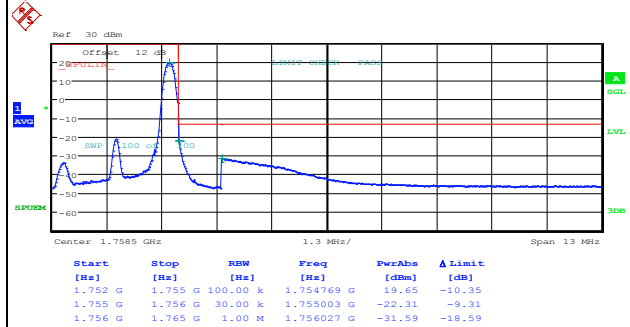
LTE Band 4 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



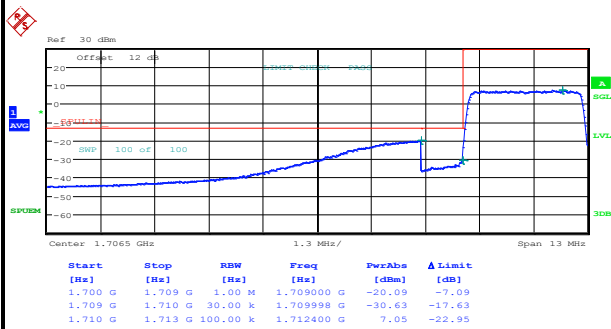
Date: 29.JUL.2014 14:58:08

Highest Band Edge / 1 RB



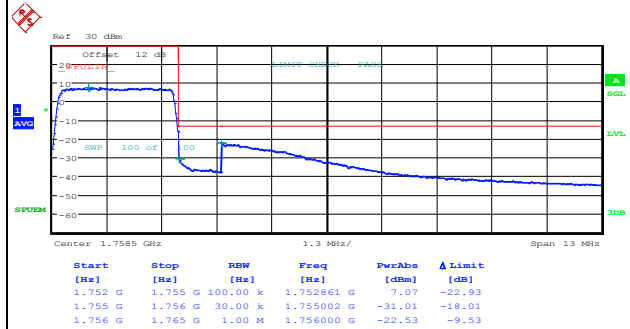
Date: 29.JUL.2014 15:07:00

Lowest Band Edge / Full RB



Date: 29.JUL.2014 14:59:37

Highest Band Edge / Full RB

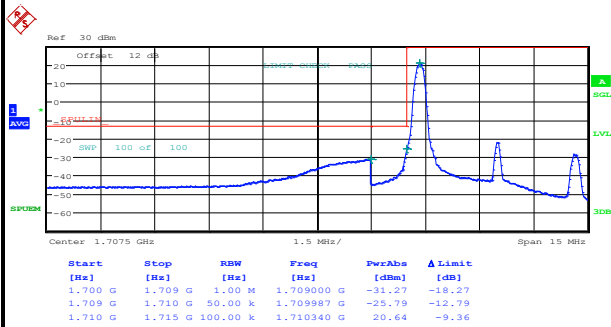


Date: 29.JUL.2014 15:08:30



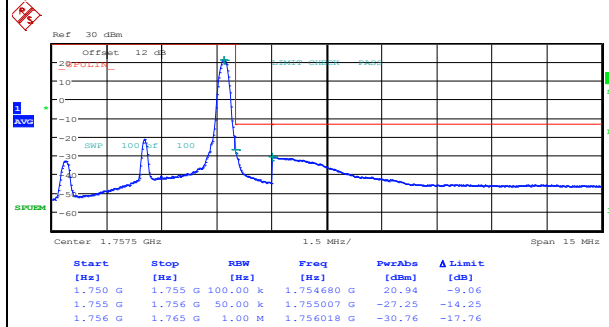
LTE Band 4 / 5MHz / QPSK

Lowest Band Edge / 1 RB



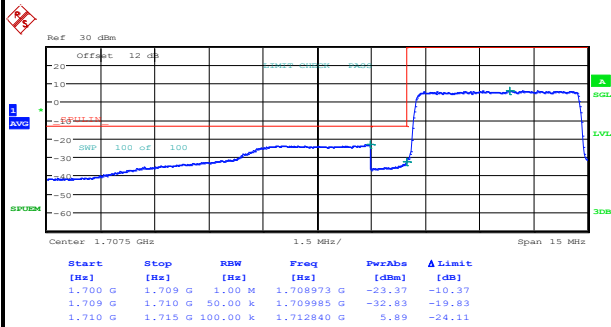
Date: 29.JUL.2014 15:12:15

Highest Band Edge / 1 RB



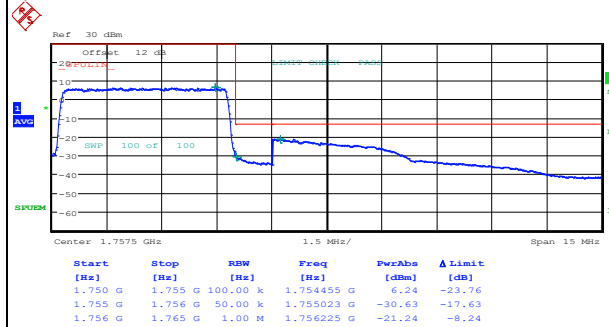
Date: 29.JUL.2014 15:21:08

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:13:45

Highest Band Edge / Full RB

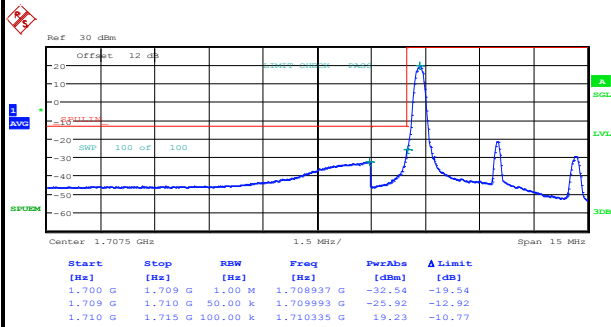


Date: 29.JUL.2014 15:22:38



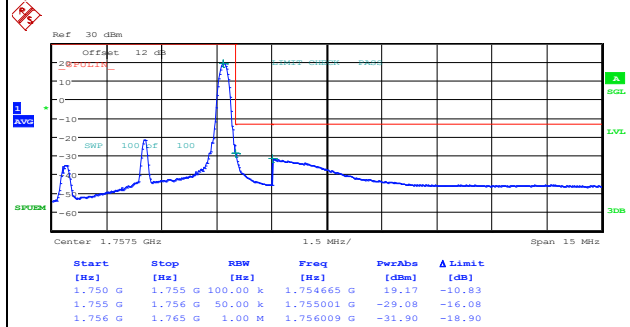
LTE Band 4 / 5MHz / 16QAM

Lowest Band Edge / 1RB



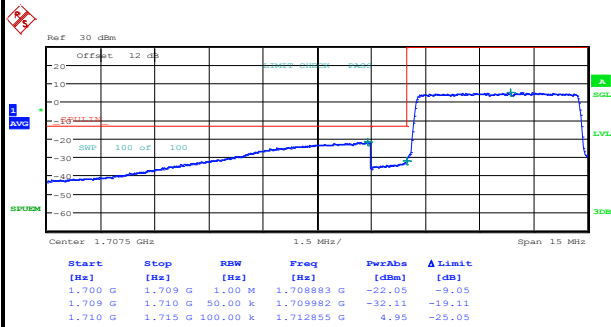
Date: 29.JUL.2014 15:13:00

Highest Band Edge / 1 RB



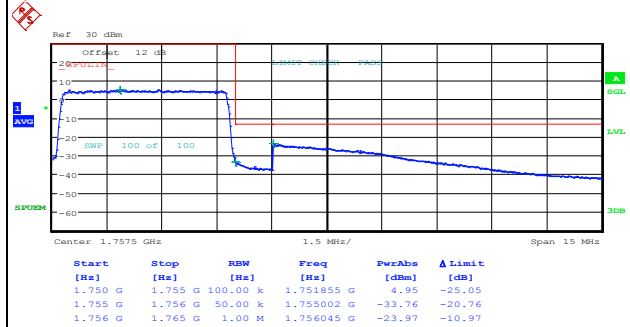
Date: 29.JUL.2014 15:21:53

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:14:30

Highest Band Edge / Full RB

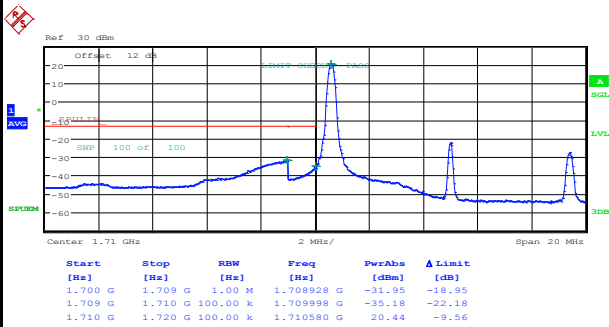


Date: 29.JUL.2014 15:23:22



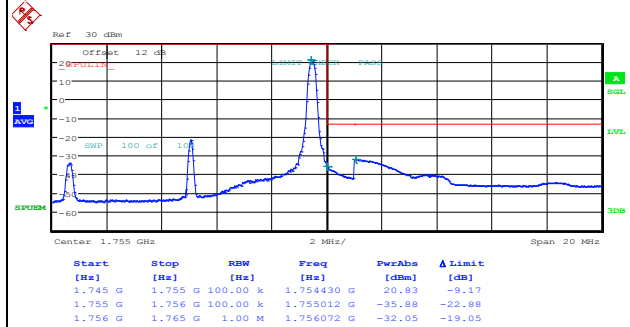
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



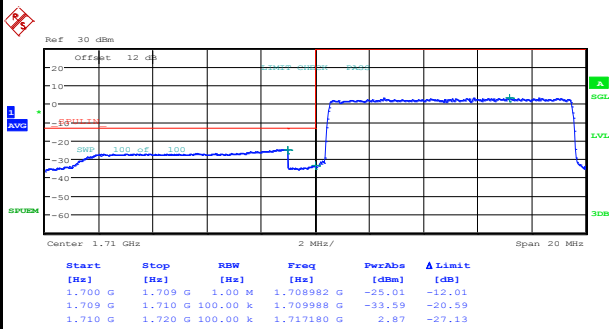
Date: 29.JUL.2014 15:27:08

Highest Band Edge / 1 RB



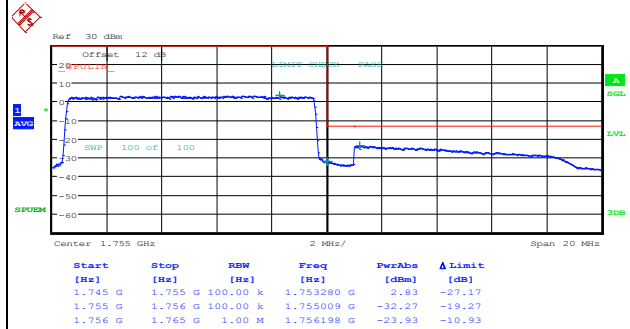
Date: 29.JUL.2014 15:36:00

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:28:38

Highest Band Edge / Full RB

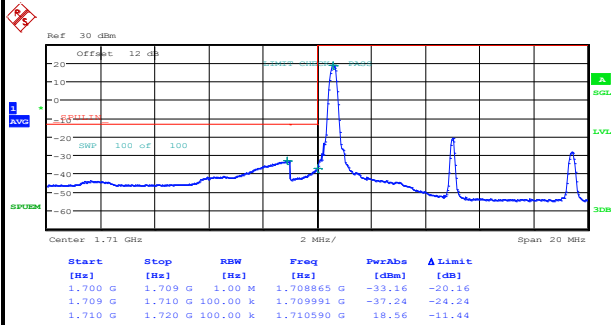


Date: 29.JUL.2014 15:37:30



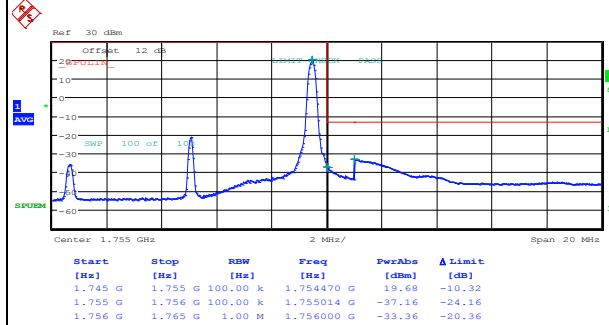
LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



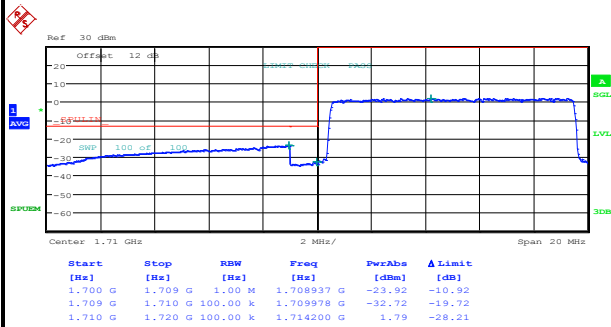
Date: 29.JUL.2014 15:27:53

Highest Band Edge / 1 RB



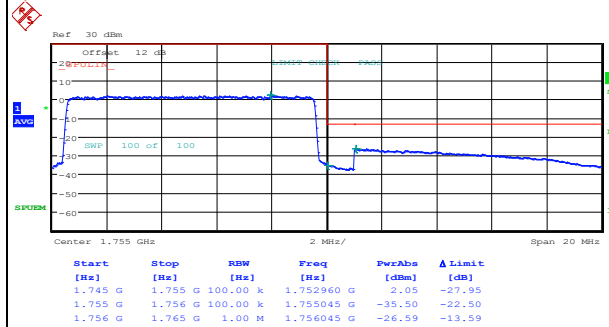
Date: 29.JUL.2014 15:36:45

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:29:22

Highest Band Edge / Full RB

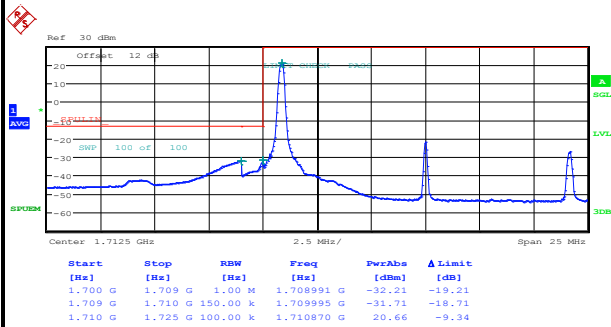


Date: 29.JUL.2014 15:38:15



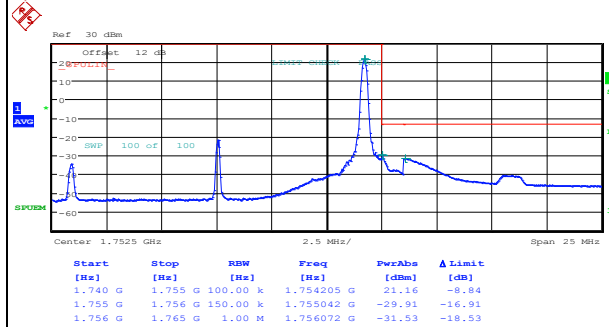
LTE Band 4 / 15MHz / QPSK

Lowest Band Edge / 1 RB



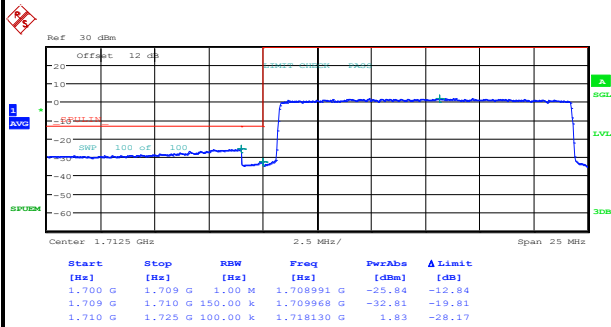
Date: 29.JUL.2014 15:42:01

Highest Band Edge / 1 RB



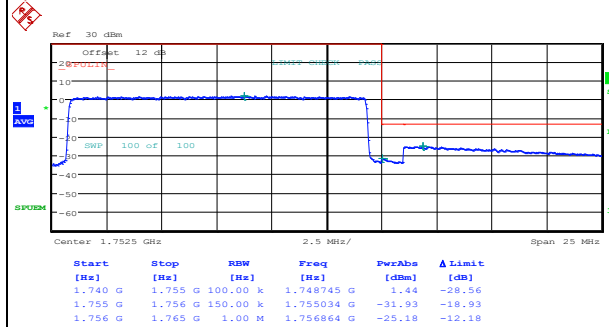
Date: 29.JUL.2014 15:50:55

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:43:31

Highest Band Edge / Full RB

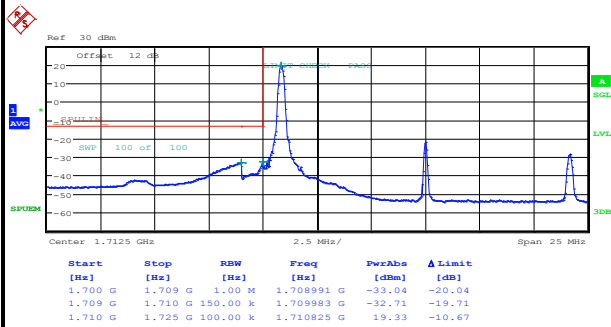


Date: 29.JUL.2014 15:52:25



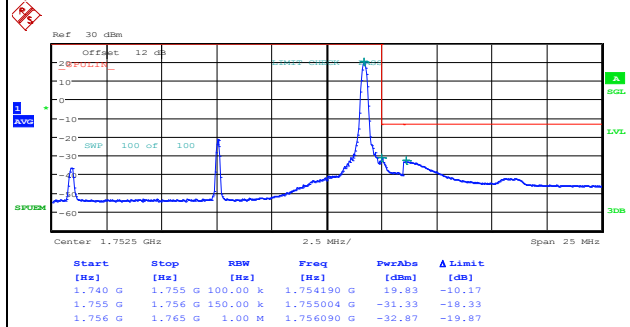
LTE Band 4 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



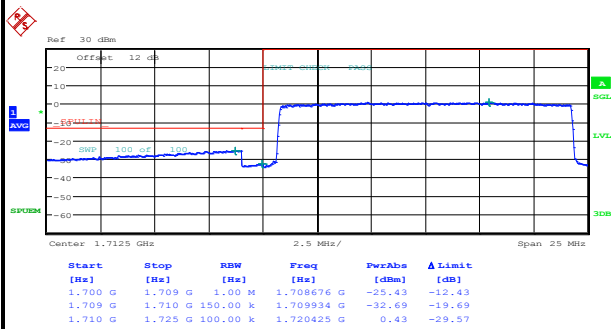
Date: 29.JUL.2014 15:42:46

Highest Band Edge / 1 RB



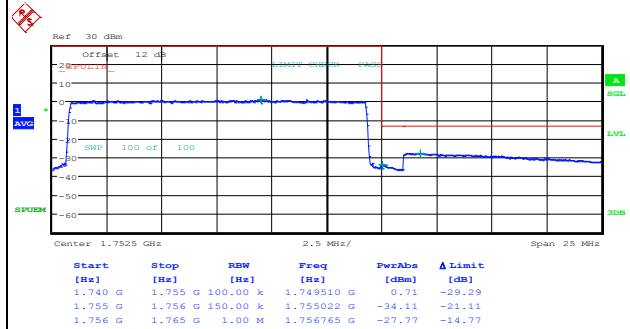
Date: 29.JUL.2014 15:51:40

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:44:16

Highest Band Edge / Full RB

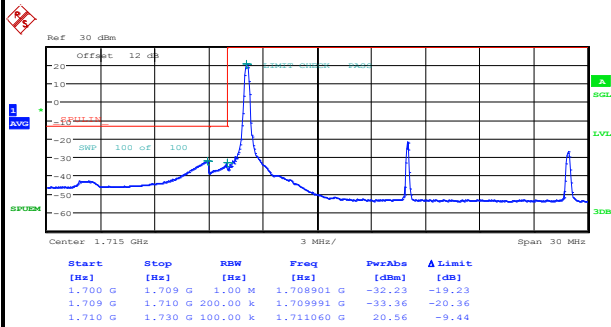


Date: 29.JUL.2014 15:53:10



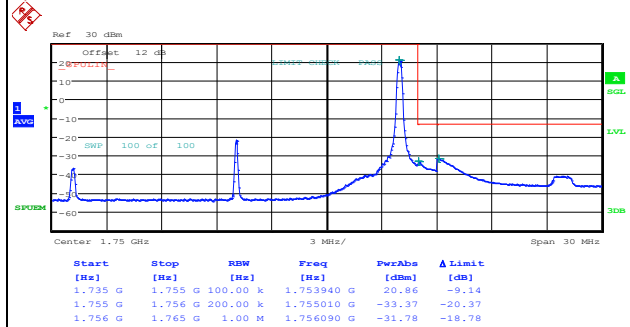
LTE Band 4 / 20MHz / QPSK

Lowest Band Edge / 1 RB



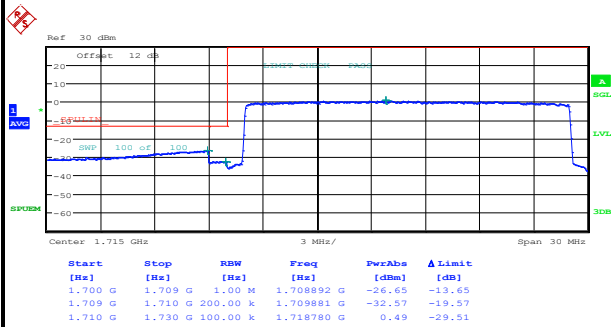
Date: 29.JUL.2014 15:56:55

Highest Band Edge / 1 RB



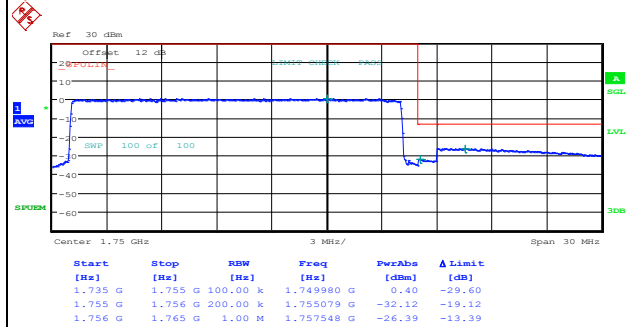
Date: 29.JUL.2014 16:05:48

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:58:25

Highest Band Edge / Full RB

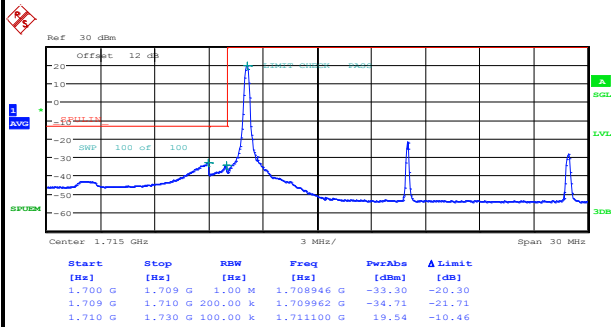


Date: 29.JUL.2014 16:07:18



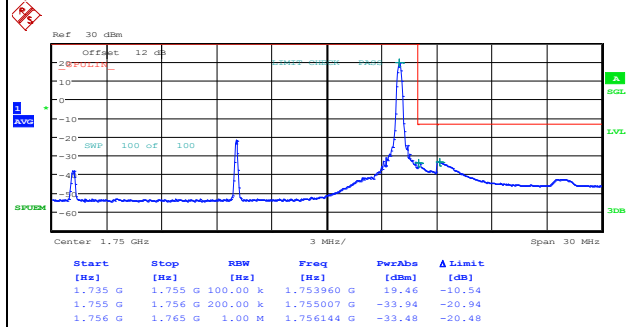
LTE Band 4 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



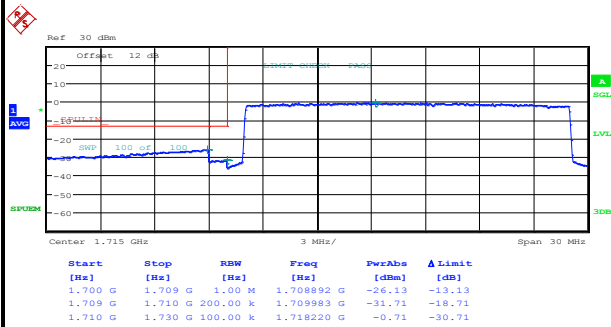
Date: 29.JUL.2014 15:57:40

Highest Band Edge / 1 RB



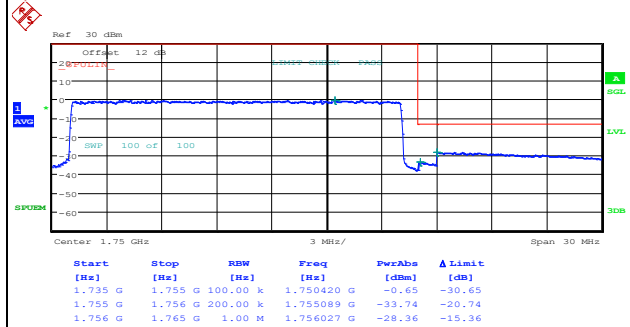
Date: 29.JUL.2014 16:06:33

Lowest Band Edge / Full RB



Date: 29.JUL.2014 15:59:10

Highest Band Edge / Full RB

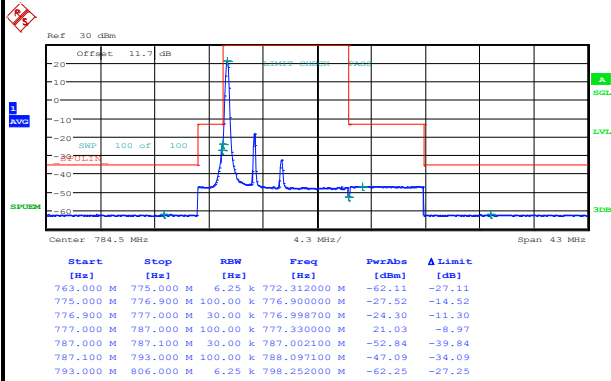


Date: 29.JUL.2014 16:08:03



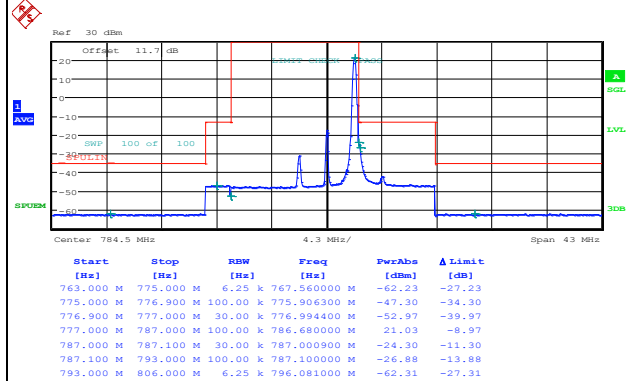
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



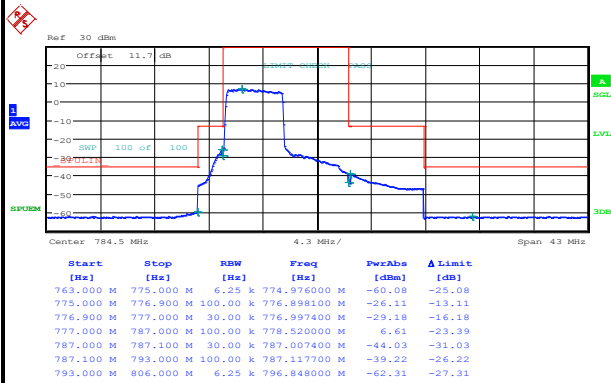
Date: 29.JUL.2014 17:03:13

Highest Band Edge / 1 RB



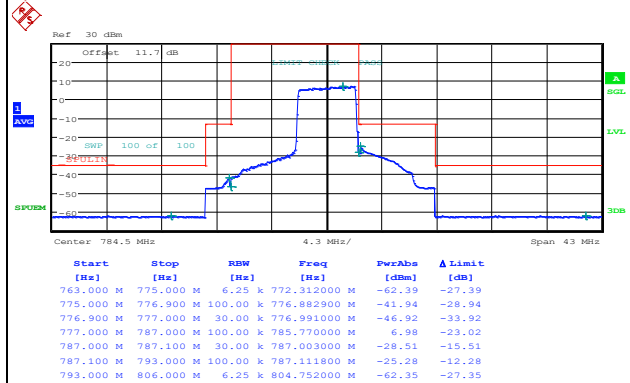
Date: 29.JUL.2014 17:21:17

Lowest Band Edge / Full RB



Date: 29.JUL.2014 17:10:47

Highest Band Edge / Full RB

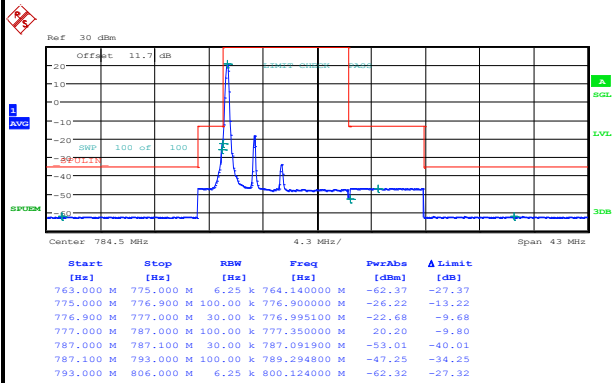


Date: 29.JUL.2014 17:13:33



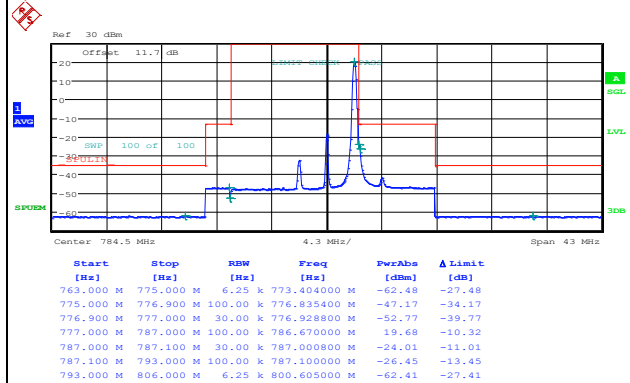
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



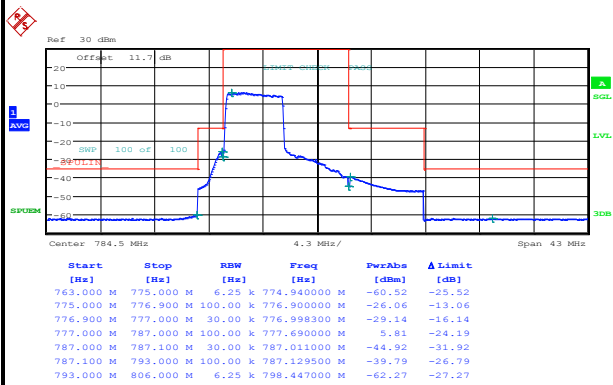
Date: 29.JUL.2014 17:05:54

Highest Band Edge / 1 RB



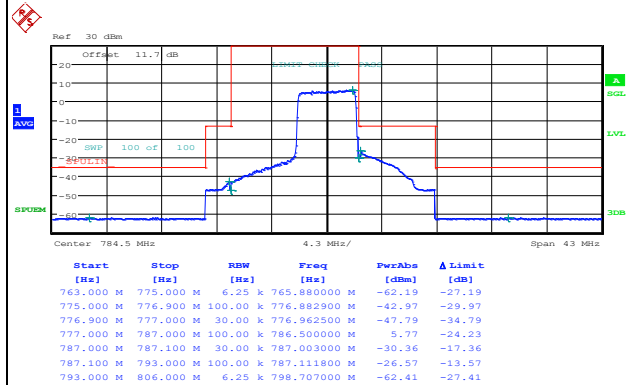
Date: 29.JUL.2014 17:18:55

Lowest Band Edge / Full RB



Date: 29.JUL.2014 17:08:20

Highest Band Edge / Full RB

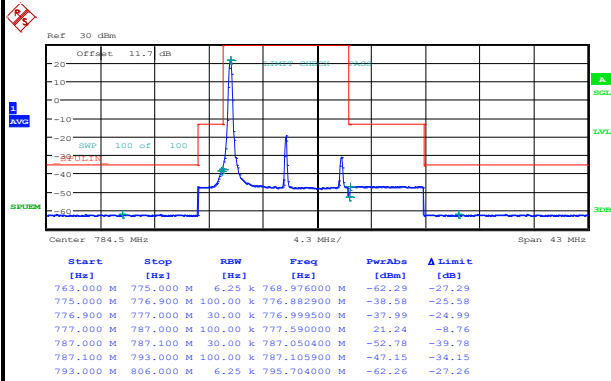


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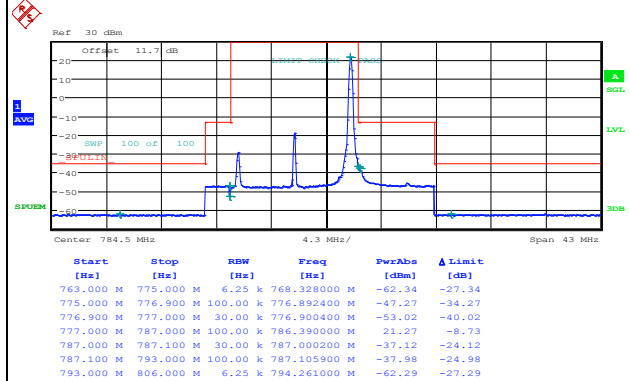
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



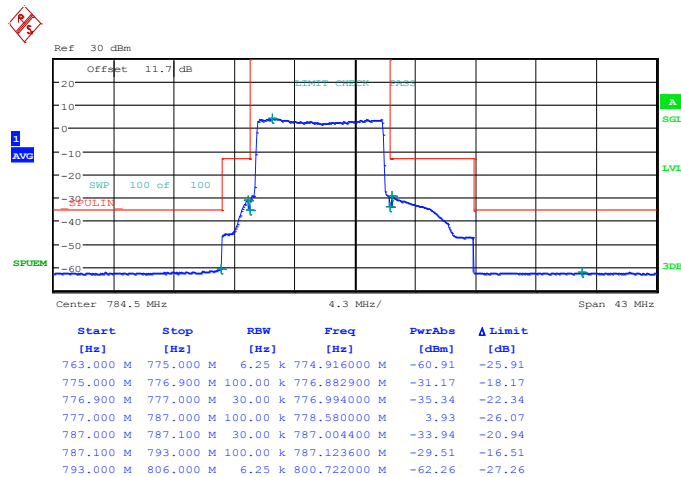
Date: 29.JUL.2014 16:50:19

Highest Band Edge / 1 RB



Date: 29.JUL.2014 16:36:57

Band Edge / Full RB

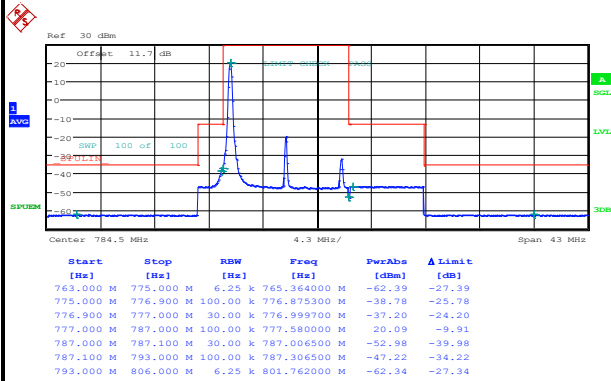


Date: 29.JUL.2014 16:32:12



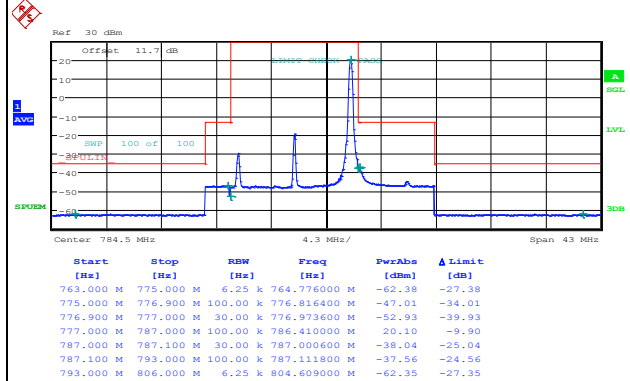
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



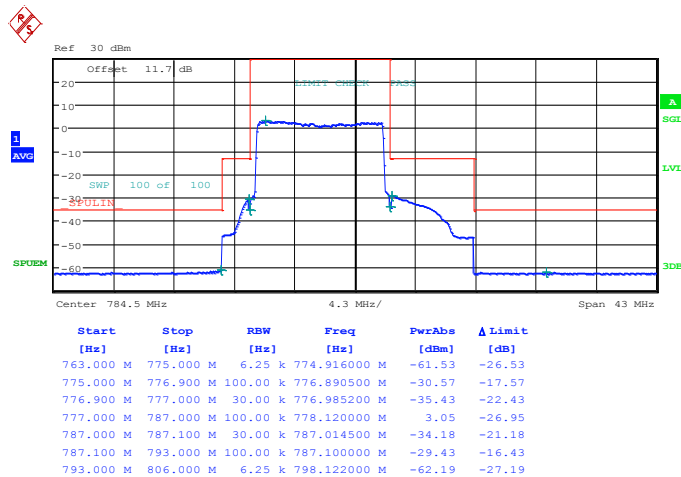
Date: 29.JUL.2014 16:47:35

Highest Band Edge / 1 RB



Date: 29.JUL.2014 16:45:09

Band Edge / Full RB



Date: 29.JUL.2014 16:29:34

**Conducted Spurious Emission**

Mode	LTE Band 4 / 1.4MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.52	921.43	-46.62	2991.355	-40.98	17639.999	PASS
Middle CH	-50.59	971.87	-46.52	2991.355	-40.96	17990.001	
Higher CH	-50.51	940.83	-46.72	2807.340	-40.97	17930.000	
Mode	LTE Band 4 / 1.4MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.46	933.07	-46.46	2991.355	-40.98	17639.999	PASS
Middle CH	-50.50	952.47	-46.59	2997.530	-40.92	17654.999	
Higher CH	-50.39	918.52	-46.41	2991.355	-40.96	17935.000	
Mode	LTE Band 4 / 3MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.50	938.89	-46.57	2988.885	-40.99	17924.999	PASS
Middle CH	-50.49	939.86	-46.54	2995.060	-41.02	17654.999	
Higher CH	-50.38	963.14	-46.63	2998.765	-40.96	17959.999	
Mode	LTE Band 4 / 3MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.61	927.25	-46.41	2988.885	-41.00	17920.000	PASS
Middle CH	-50.53	927.25	-46.71	2992.590	-40.99	17650.000	
Higher CH	-50.47	959.26	-46.68	2608.505	-41.01	17930.000	



Mode	LTE Band 4 / 5MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.54	913.670	-46.60	2997.530	-41.01	17650.000	PASS
Middle CH	-50.57	966.050	-46.60	2829.570	-40.98	17660.000	
Higher CH	-50.45	926.280	-46.60	2997.530	-40.95	17935.000	
Mode	LTE Band 4 / 5MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.43	930.160	-46.77	2813.515	-40.99	17645.001	PASS
Middle CH	-50.45	962.170	-46.74	2993.825	-40.99	17650.000	
Higher CH	-50.54	952.470	-46.68	2812.280	-40.97	17995.000	
Mode	LTE Band 4 / 10MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.48	921.430	-46.55	2998.765	-40.94	17670.001	PASS
Middle CH	-50.51	930.160	-46.58	3000.000	-40.99	17664.999	
Higher CH	-50.43	958.290	-46.70	3000.000	-40.96	17654.999	
Mode	LTE Band 4 / 10MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.53	919.490	-46.60	2997.530	-40.98	17645.001	PASS
Middle CH	-50.49	957.320	-46.61	2988.885	-40.92	17645.001	
Higher CH	-50.55	939.860	-46.63	2801.165	-40.86	17654.999	



Mode	LTE Band 4 / 15MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.09	909.790	-46.63	2997.530	-40.93	17654.999	PASS
Middle CH	-50.33	939.860	-46.49	2976.535	-40.97	17995.000	
Higher CH	-50.58	943.740	-46.66	2995.060	-40.98	17645.001	
Mode	LTE Band 4 / 15MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.41	961.200	-46.61	2995.060	-40.93	17930.000	PASS
Middle CH	-50.49	931.130	-46.58	3000.000	-40.96	17664.999	
Higher CH	-50.55	936.950	-46.46	2815.985	-41.01	17654.999	
Mode	LTE Band 4 / 20MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.50	953.440	-46.40	2998.765	-40.99	17980.000	PASS
Middle CH	-50.37	972.840	-46.66	2998.765	-40.97	17924.999	
Higher CH	-50.52	954.410	-46.31	1771.175	-40.97	17645.001	
Mode	LTE Band 4 / 20MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~18GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-50.46	953.440	-46.63	2998.765	-40.93	17930.000	PASS
Middle CH	-50.35	948.590	-46.57	2993.825	-40.98	17635.000	
Higher CH	-50.51	977.690	-46.60	2998.765	-40.96	17650.000	

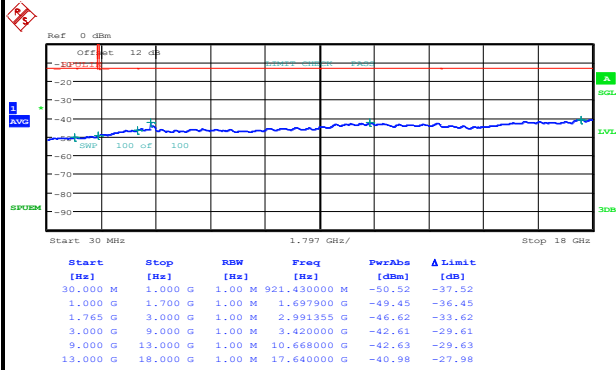


Mode	LTE Band 13 / 5MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~8GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-60.11	934.040	-42.80	1556.000	-44.58	3500.000	PASS
Middle CH	-59.91	951.888	-42.18	1560.000	-44.62	3505.000	
Higher CH	-60.10	895.628	-43.61	1566.000	-44.52	3505.000	
Mode	LTE Band 13 / 5MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~8GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-60.03	941.024	-44.41	1554.000	-44.59	3515.000	PASS
Middle CH	-59.98	949.172	-42.73	1560.000	-44.57	3505.000	
Higher CH	-59.80	955.574	-44.81	1566.000	-44.54	3515.000	
Mode	LTE Band 13 / 10MHz / QPSK						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~8GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-	-	-	-	-	-	PASS
Middle CH	-60.12	941.606	-40.95	1556.000	-44.62	3515.000	
Higher CH	-	-	-	-	-	-	
Mode	LTE Band 13 / 10MHz / 16QAM						Limit
Frequency	30MHz~1GHz		1GHz~3GHz		3GHz~8GHz		-13dBm
RB Size:1RB	dBm	MHz	dBm	MHz	dBm	MHz	Result
Lower CH	-	-	-	-	-	-	PASS
Middle CH	-59.96	912.506	-42.77	1556.000	-44.63	3500.000	
Higher CH	-	-	-	-	-	-	



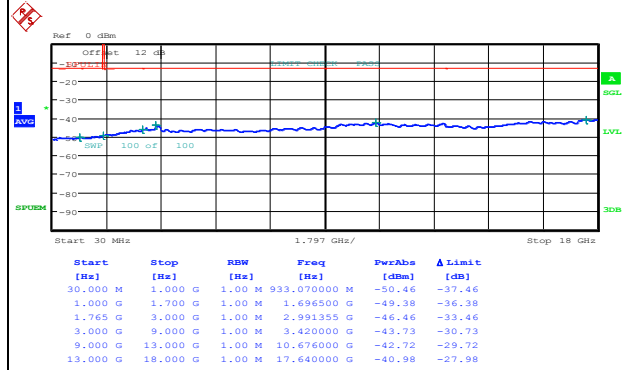
LTE Band 4 / 1.4MHz

Lowest Channel / QPSK



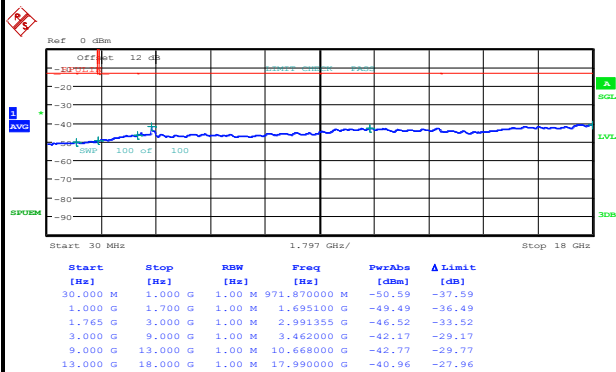
Date: 29.JUL.2014 14:45:42

Lowest Channel / 16QAM



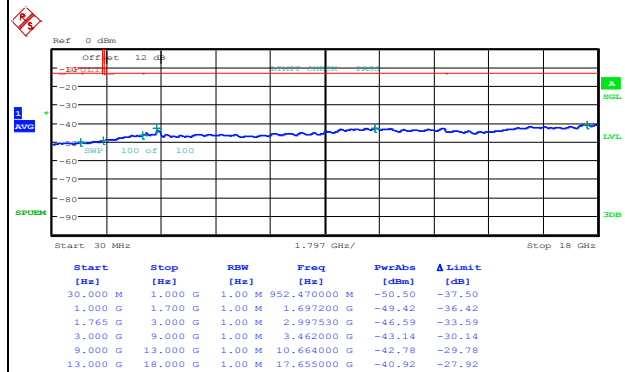
Date: 29.JUL.2014 14:46:40

Middle Channel / QPSK



Date: 29.JUL.2014 14:48:39

Middle Channel / 16QAM

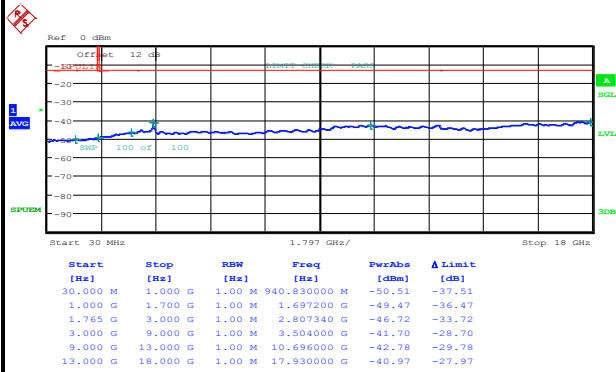


Date: 29.JUL.2014 14:49:37



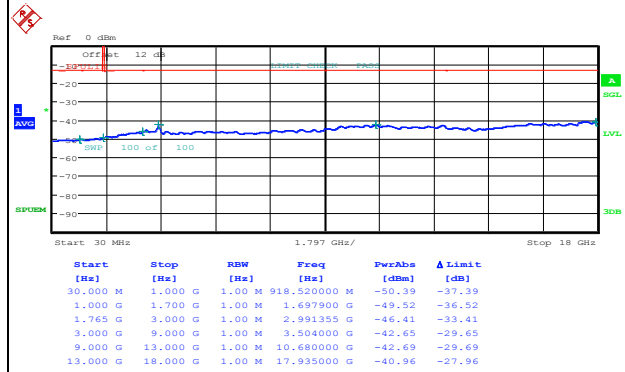
LTE Band 4 / 1.4MHz

Highest Channel / QPSK



Date: 29.JUL.2014 14:54:35

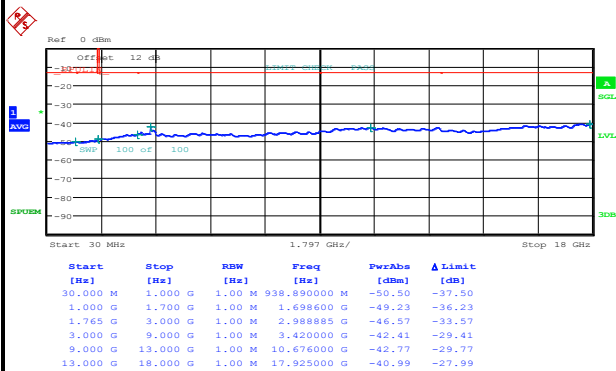
Highest Channel / 16QAM



Date: 29.JUL.2014 14:55:33

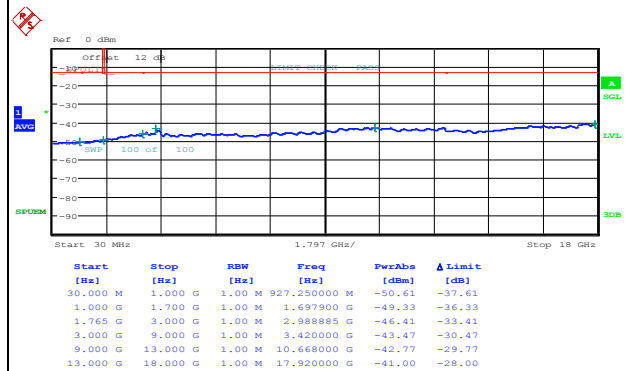
LTE Band 4 / 3MHz

Lowest Channel / QPSK



Date: 29.JUL.2014 15:00:35

Lowest Channel / 16QAM

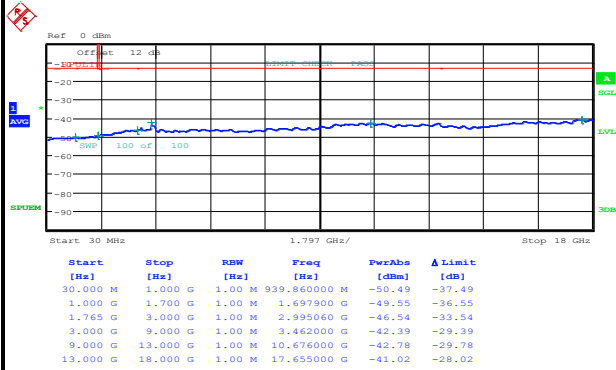


Date: 29.JUL.2014 15:01:33



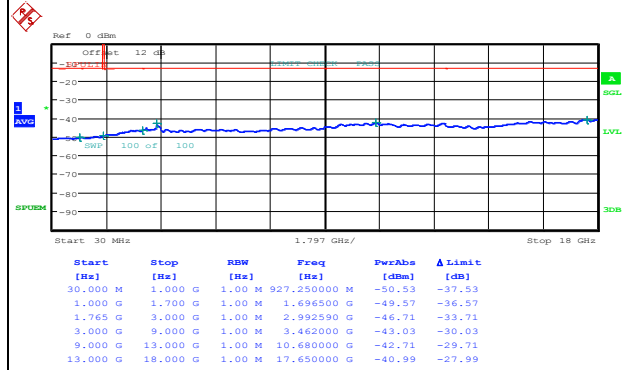
LTE Band 4 / 3MHz

Middle Channel / QPSK



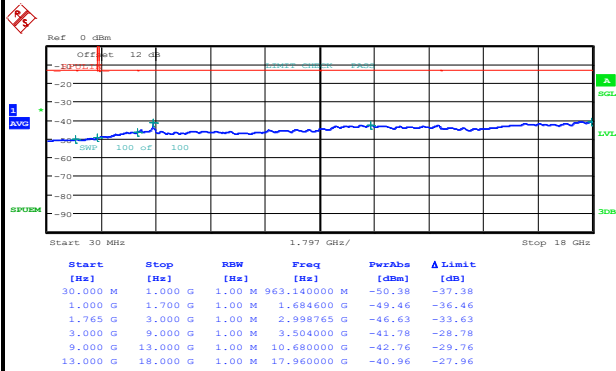
Date: 29.JUL.2014 15:03:31

Middle Channel / 16QAM



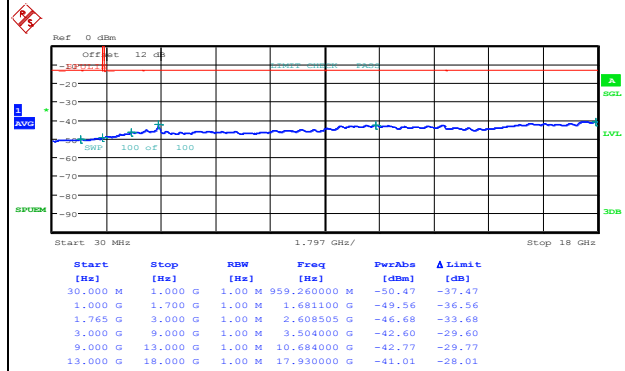
Date: 29.JUL.2014 15:04:30

Highest Channel / QPSK



Date: 29.JUL.2014 15:09:28

Highest Channel / 16QAM

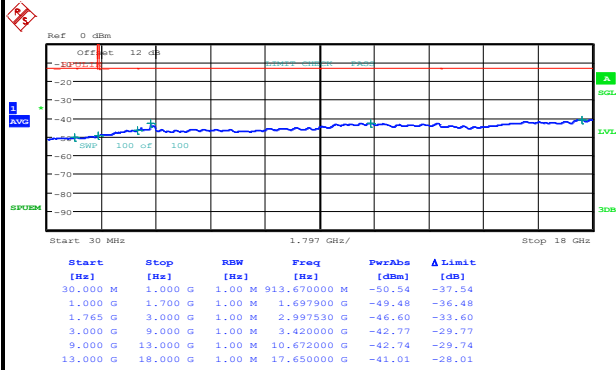


Date: 29.JUL.2014 15:10:26



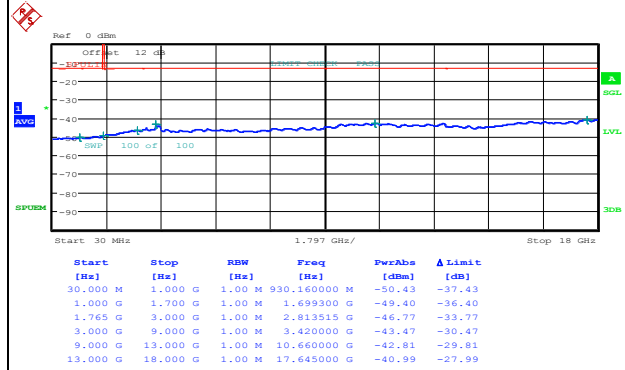
LTE Band 4 / 5MHz

Lowest Channel / QPSK



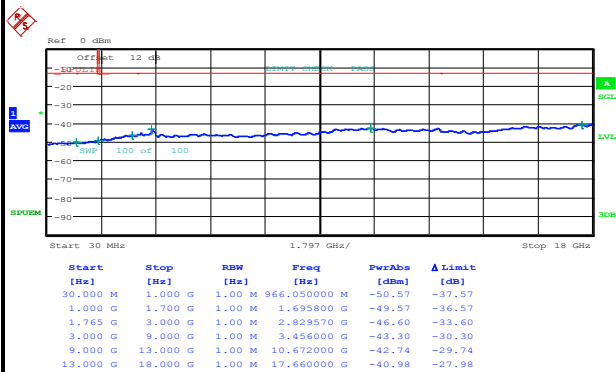
Date: 29.JUL.2014 15:15:29

Lowest Channel / 16QAM



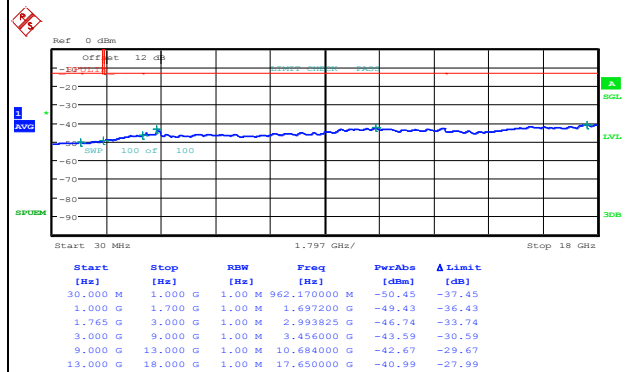
Date: 29.JUL.2014 15:16:27

Middle Channel / QPSK



Date: 29.JUL.2014 15:18:25

Middle Channel / 16QAM

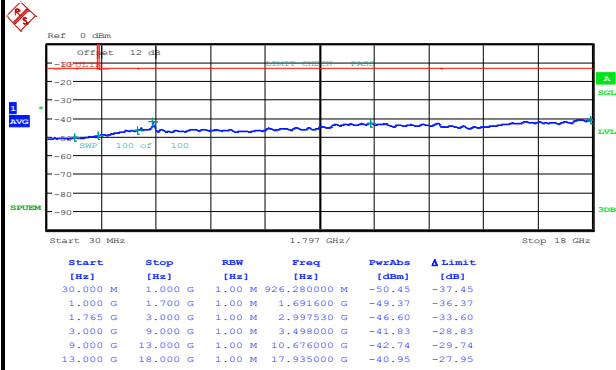


Date: 29.JUL.2014 15:19:23



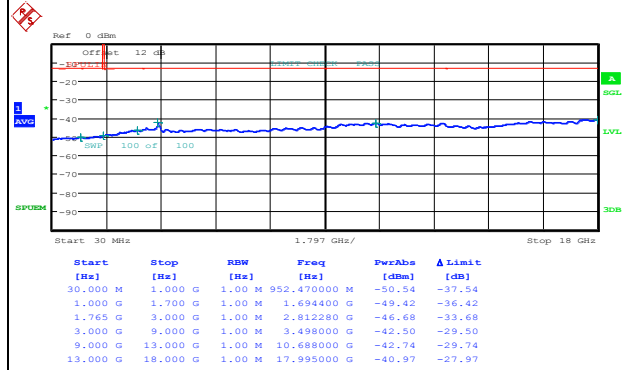
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 29.JUL.2014 15:24:20

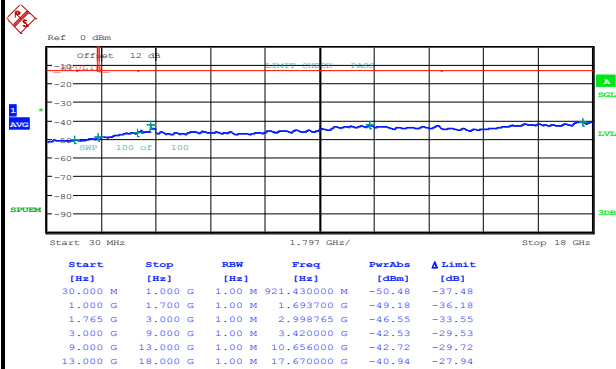
Highest Channel / 16QAM



Date: 29.JUL.2014 15:25:18

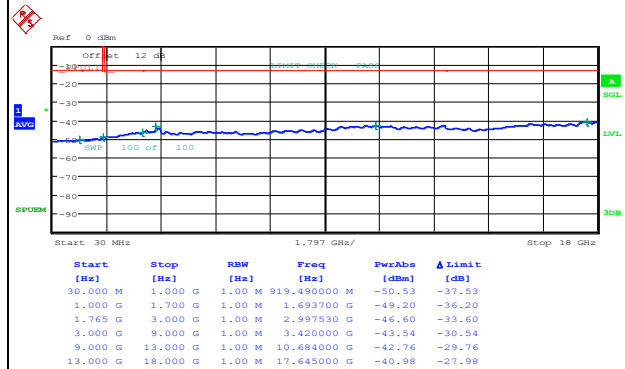
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 29.JUL.2014 15:30:20

Lowest Channel / 16QAM

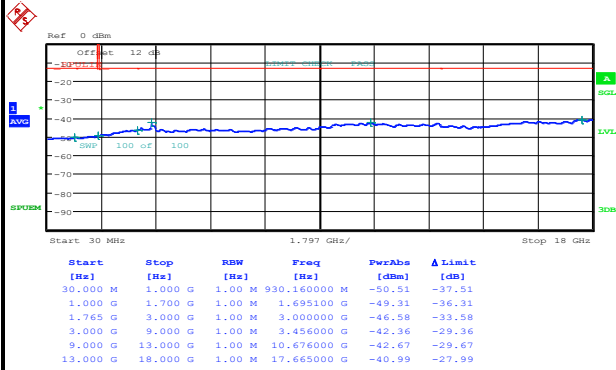


Date: 29.JUL.2014 15:31:18



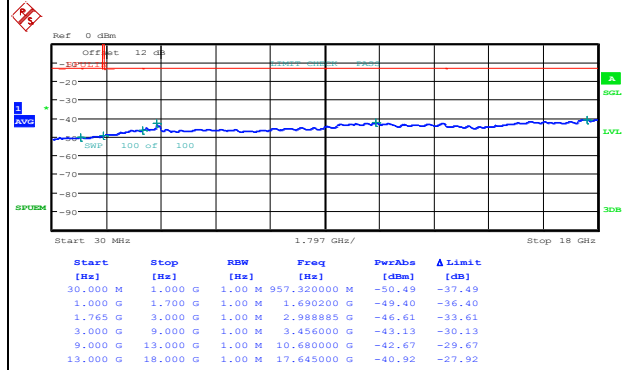
LTE Band 4 / 10MHz

Middle Channel / QPSK



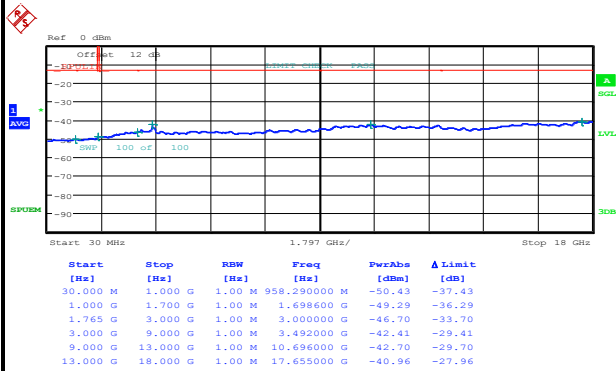
Date: 29.JUL.2014 15:33:17

Middle Channel / 16QAM



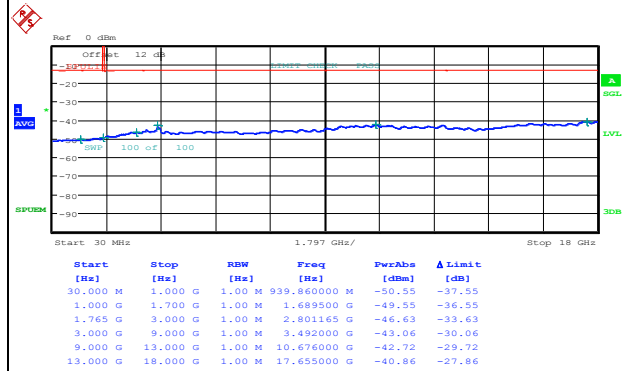
Date: 29.JUL.2014 15:34:15

Highest Channel / QPSK



Date: 29.JUL.2014 15:39:13

Highest Channel / 16QAM

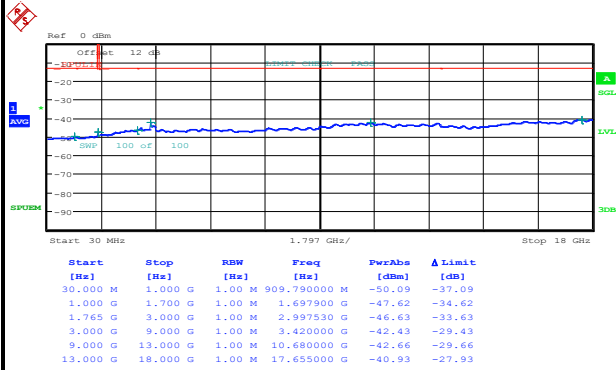


Date: 29.JUL.2014 15:40:11



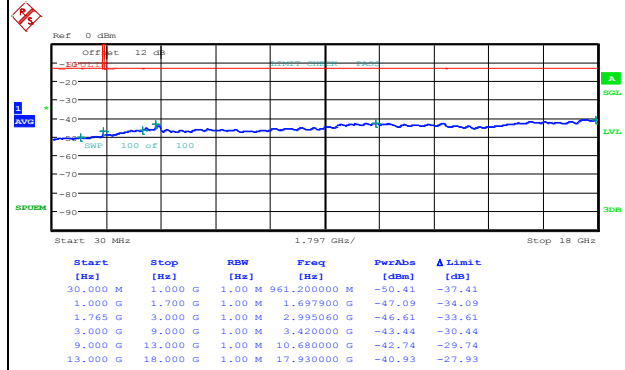
LTE Band 4 / 15MHz

Lowest Channel / QPSK



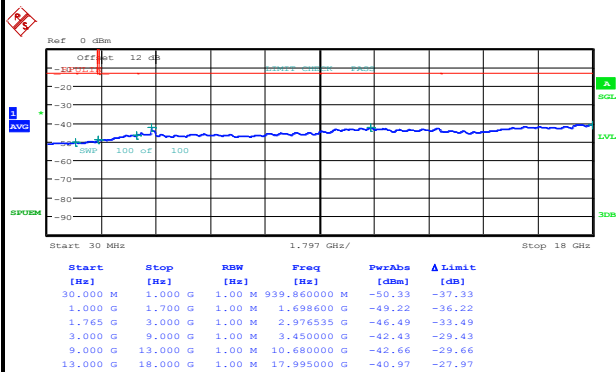
Date: 29.JUL.2014 15:45:14

Lowest Channel / 16QAM



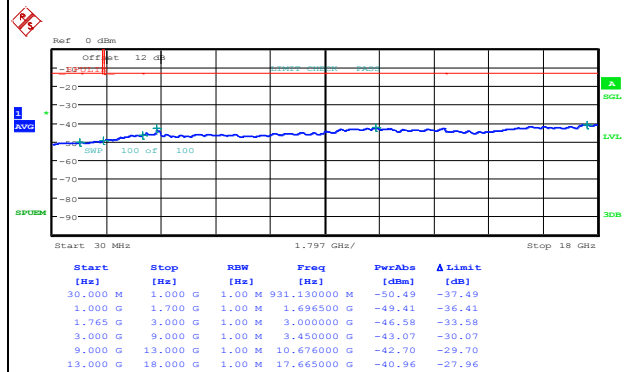
Date: 29.JUL.2014 15:46:12

Middle Channel / QPSK



Date: 29.JUL.2014 15:48:11

Middle Channel / 16QAM

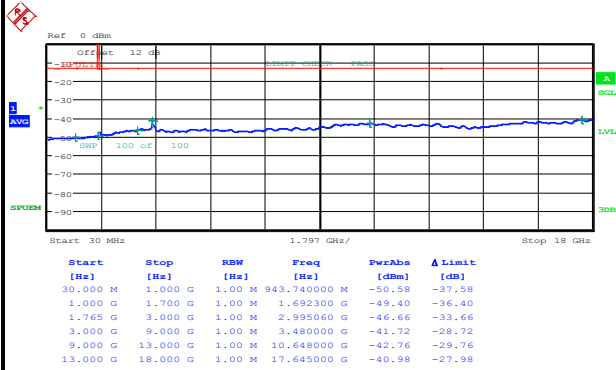


Date: 29.JUL.2014 15:49:09



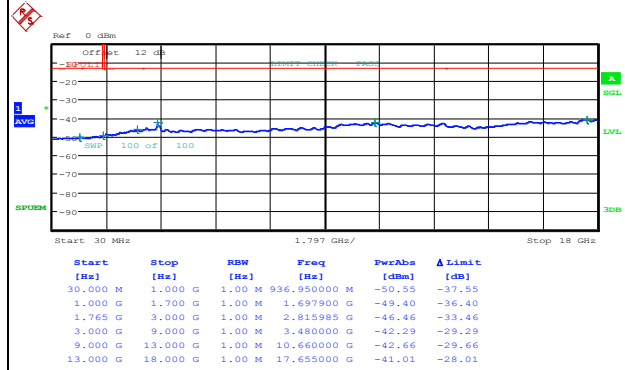
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 29.JUL.2014 15:54:08

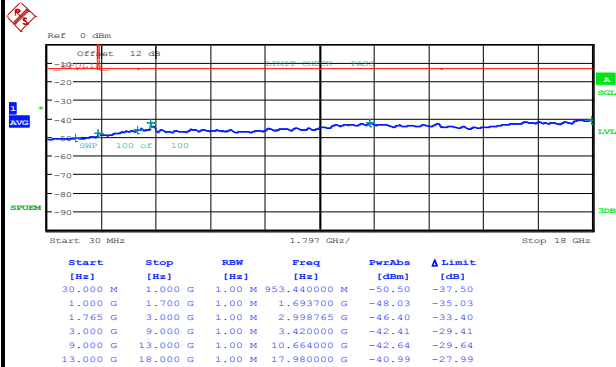
Highest Channel / 16QAM



Date: 29.JUL.2014 15:55:06

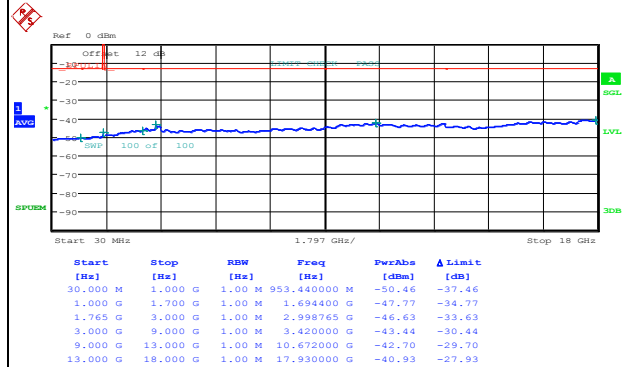
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 29.JUL.2014 16:00:08

Lowest Channel / 16QAM

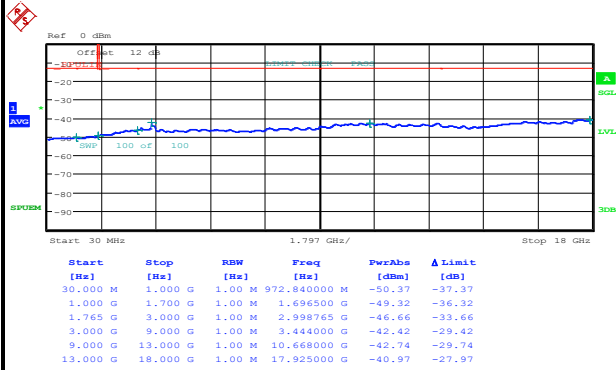


Date: 29.JUL.2014 16:01:06



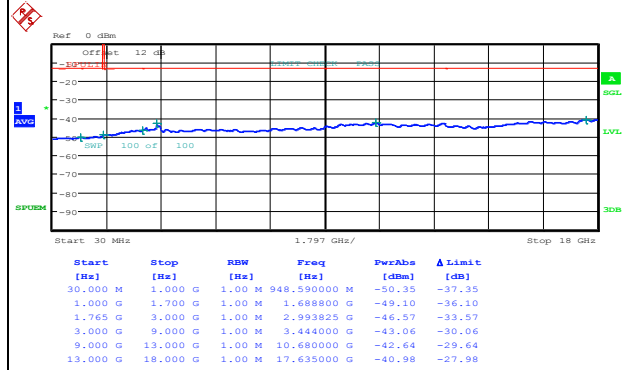
LTE Band 4 / 20MHz

Middle Channel / QPSK



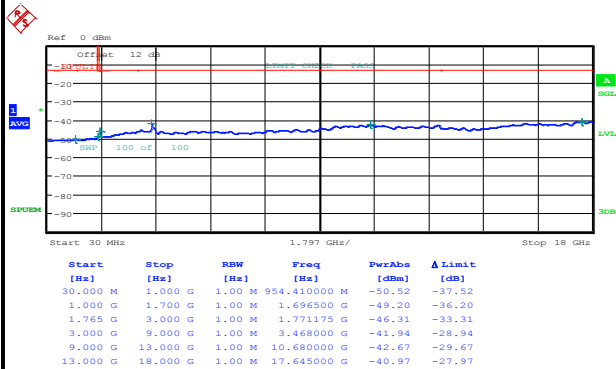
Date: 29.JUL.2014 16:03:04

Middle Channel / 16QAM



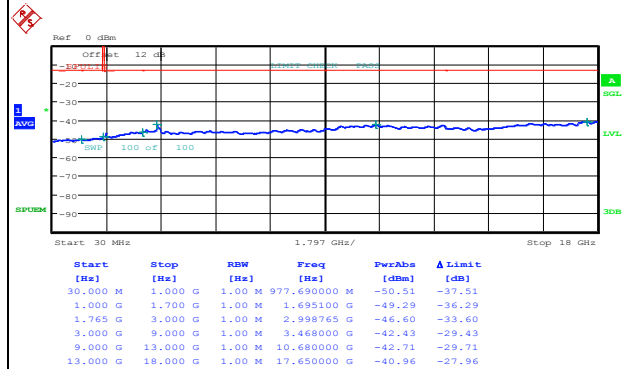
Date: 29.JUL.2014 16:04:02

Highest Channel / QPSK



Date: 29.JUL.2014 16:09:01

Highest Channel / 16QAM

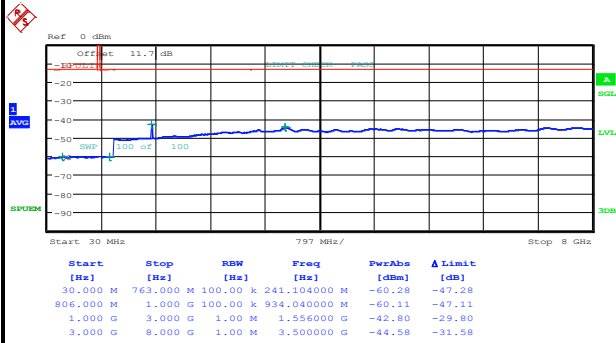


Date: 29.JUL.2014 16:09:59



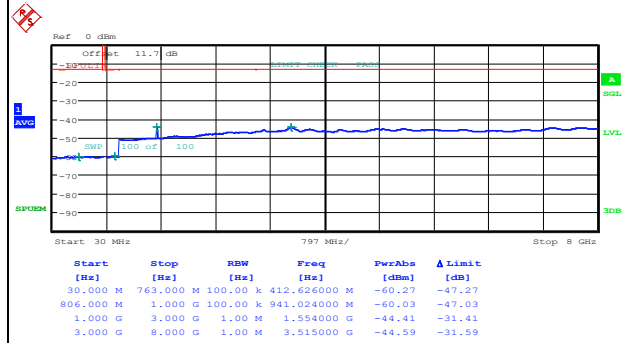
LTE Band 13 / 5MHz

Lowest Channel / QPSK



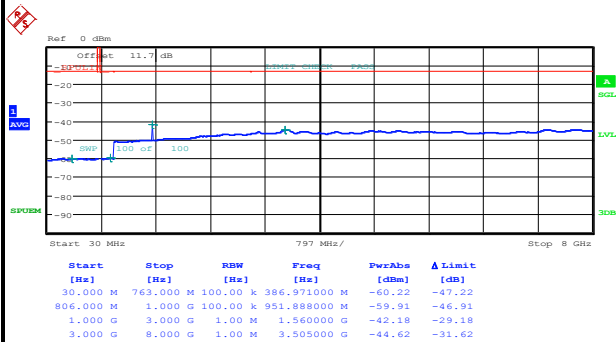
Date: 29.JUL.2014 16:56:12

Lowest Channel / 16QAM



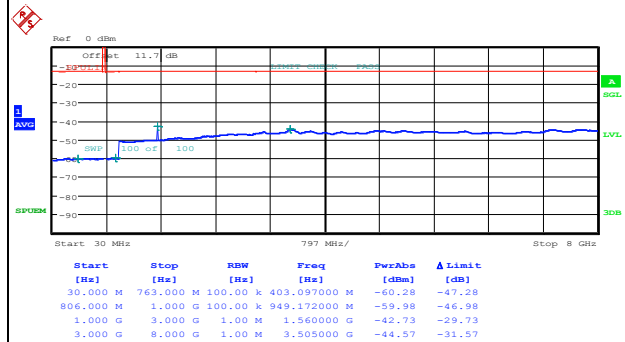
Date: 29.JUL.2014 16:55:18

Middle Channel / QPSK



Date: 29.JUL.2014 16:57:14

Middle Channel / 16QAM

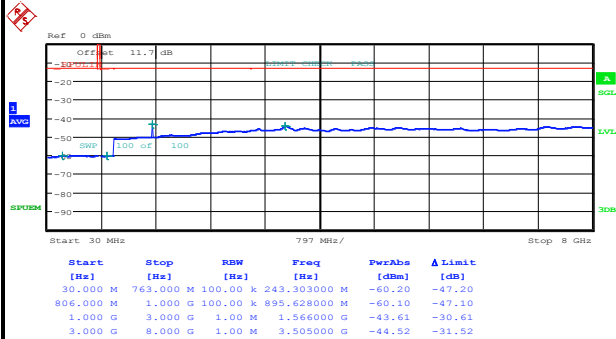


Date: 29.JUL.2014 16:58:10



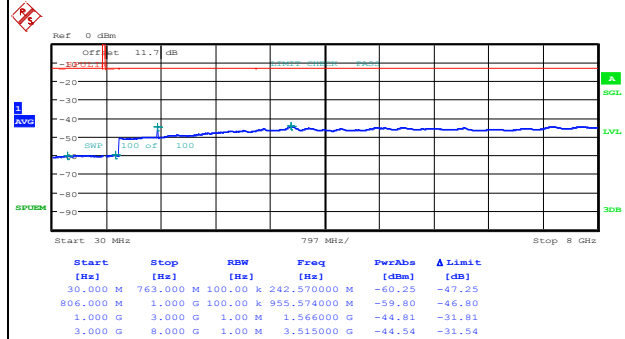
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 29.JUL.2014 17:00:10

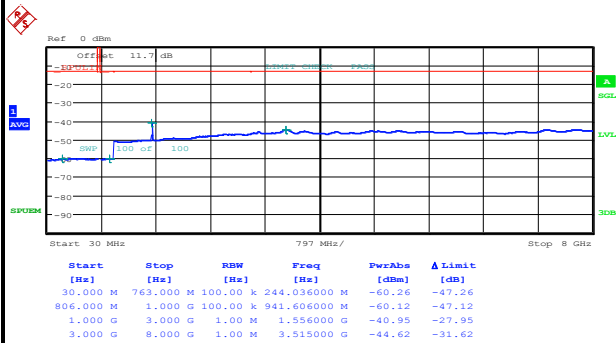
Highest Channel / 16QAM



Date: 29.JUL.2014 16:59:06

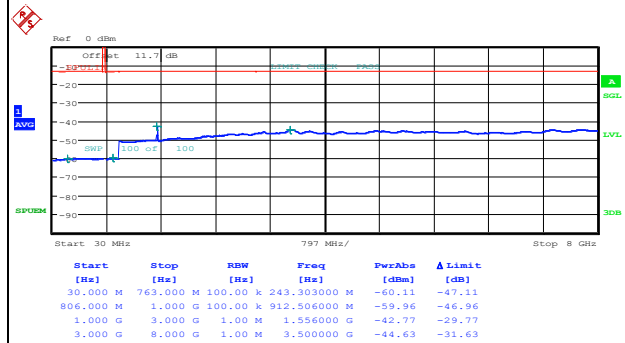
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 29.JUL.2014 16:52:23

Middle Channel / 16QAM



Date: 29.JUL.2014 16:53:47

**Frequency Stability**

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5 ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0009	

Note: Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.2 V



Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5 ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0005	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0049	
-10	Normal Voltage	0.0033	
-20	Normal Voltage	0.0010	
-30	Normal Voltage	0.0014	
20	Maximum Voltage	0.0008	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0009	



Appendix C. Test Results of Radiated Test

ERP/EIRP

LTE Band 4 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.54	0.1795	22.19	0.1656
Middle		1	0	21.88	0.1541	21.65	0.1462
Highest		1	0	21.84	0.1528	21.34	0.1361
Lowest	16QAM	1	0	21.60	0.1446	21.26	0.1336
Middle		1	0	20.89	0.1227	20.64	0.1159
Highest		1	0	20.91	0.1233	20.41	0.1099
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.54	0.1796	22.21	0.1663
Middle		1	0	21.93	0.1559	21.61	0.1447
Highest		1	0	22.00	0.1584	21.52	0.1420
Lowest	16QAM	1	0	21.59	0.1442	21.29	0.1346
Middle		1	0	20.95	0.1244	20.61	0.1151
Highest		1	0	21.03	0.1268	20.53	0.1130
Limit	EIRP < 1W			Result		PASS	



LTE Band 4 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.47	0.1766	22.34	0.1714
Middle		1	0	21.73	0.1489	21.51	0.1416
Highest		1	0	22.24	0.1675	21.76	0.1500
Lowest	16QAM	1	0	21.53	0.1422	21.37	0.1371
Middle		1	0	20.72	0.1180	20.48	0.1117
Highest		1	0	21.22	0.1324	20.77	0.1194
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.47	0.1766	22.29	0.1694
Middle		1	0	21.60	0.1445	21.30	0.1349
Highest		1	0	22.45	0.1758	21.93	0.1560
Lowest	16QAM	1	0	21.54	0.1426	21.38	0.1374
Middle		1	0	20.54	0.1132	20.35	0.1084
Highest		1	0	21.33	0.1358	20.91	0.1233
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.46	0.1762	22.28	0.1690
Middle		1	0	21.36	0.1368	21.12	0.1294
Highest		1	0	22.52	0.1786	22.16	0.1644
Lowest	16QAM	1	0	21.42	0.1387	21.18	0.1312
Middle		1	0	20.41	0.1099	20.25	0.1059
Highest		1	0	21.53	0.1422	21.13	0.1297
Limit	EIRP < 1W			Result		PASS	



LTE Band 4 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.35	0.1718	22.20	0.1660
Middle		1	0	21.41	0.1384	21.24	0.1330
Highest		1	0	22.28	0.1690	21.93	0.1560
Lowest	16QAM	1	0	21.45	0.1396	21.28	0.1343
Middle		1	0	20.54	0.1132	20.41	0.1099
Highest		1	0	21.29	0.1346	20.89	0.1227
Limit	EIRP < 1W			Result		PASS	

LTE Band 13 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	19.54	0.0899	9.17	0.0083
Middle		1	0	18.70	0.0741	8.25	0.0067
Highest		1	0	19.14	0.0820	8.89	0.0077
Lowest	16QAM	1	0	19.11	0.0815	8.67	0.0074
Middle		1	0	18.07	0.0641	8.04	0.0064
Highest		1	0	19.01	0.0796	9.19	0.0083
Limit	ERP < 3W			Result		PASS	

LTE Band 13 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	-	-	-	-
Middle		1	0	19.38	0.0867	8.84	0.0077
Highest		1	0	-	-	-	-
Lowest	16QAM	1	0	-	-	-	-
Middle		1	0	19.01	0.0795	8.45	0.0070
Highest		1	0	-	-	-	-
Limit	ERP < 3W			Result		PASS	



Radiated Spurious Emission

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 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	3420	-49.23	-13	-36.23	-65.74	-55.3	1.58	7.65	H
	5130	-44.91	-13	-31.91	-65.83	-52.2	2.41	9.70	H
	6840	-37.63	-13	-24.63	-65.74	-45.6	2.64	10.61	H
	3420	-48.43	-13	-35.43	-66.28	-54.5	1.58	7.65	V
	5130	-45.81	-13	-32.81	-66.55	-53.1	2.41	9.70	V
	6843	-37.63	-13	-24.63	-65.37	-45.6	2.64	10.61	V
Middle	3462	-50.66	-13	-37.66	-67.34	-56.9	1.59	7.83	H
	5195	-45.15	-13	-32.15	-66.32	-52.4	2.45	9.70	H
	6927	-37.80	-13	-24.80	-66.14	-45.9	2.61	10.71	H
	3462	-48.66	-13	-35.66	-66.57	-54.9	1.59	7.83	V
	5198	-43.25	-13	-30.25	-64.59	-50.5	2.45	9.70	V
	6927	-35.60	-13	-22.60	-63.7	-43.7	2.61	10.71	V
Highest	3507	-49.50	-13	-36.50	-66.26	-55.9	1.61	8.01	H
	5261	-46.59	-13	-33.59	-67.95	-53.8	2.49	9.70	H
	7014	-38.86	-13	-25.86	-67.73	-47.1	2.59	10.83	H
	3507	-47.90	-13	-34.90	-65.92	-54.3	1.61	8.01	V
	5261	-43.49	-13	-30.49	-64.64	-50.7	2.49	9.70	V
	7018	-35.45	-13	-22.45	-63.47	-43.7	2.58	10.84	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 4 / 3MHz / QPSK / RB Size 1 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	3420	-49.73	-13	-36.73	-66.27	-55.8	1.58	7.65	H
	5130	-45.61	-13	-32.61	-66.51	-52.9	2.41	9.70	H
	6840	-38.13	-13	-25.13	-66.07	-46.1	2.64	10.61	H
	3420	-48.23	-13	-35.23	-66.13	-54.3	1.58	7.65	V
	5128	-42.81	-13	-29.81	-63.91	-50.1	2.41	9.70	V
	6840	-38.23	-13	-25.23	-65.79	-46.2	2.64	10.61	V
Middle	3462	-49.36	-13	-36.36	-65.99	-55.6	1.59	7.83	H
	5193	-45.85	-13	-32.85	-67.06	-53.1	2.45	9.70	H
	6924	-37.11	-13	-24.11	-65.66	-45.2	2.62	10.71	H
	3462	-49.26	-13	-36.26	-66.94	-55.5	1.59	7.83	V
	5191	-42.45	-13	-29.45	-63.68	-49.7	2.45	9.70	V
	6924	-38.01	-13	-25.01	-65.52	-46.1	2.62	10.71	V
Highest	3504	-49.80	-13	-36.80	-66.47	-56.2	1.61	8.00	H
	5256	-46.88	-13	-33.88	-68.21	-54.1	2.48	9.70	H
	7008	-37.47	-13	-24.47	-66.35	-45.7	2.59	10.82	H
	3504	-49.30	-13	-36.30	-67.25	-55.7	1.61	8.00	V
	5256	-43.68	-13	-30.68	-65.28	-50.9	2.48	9.70	V
	7008	-37.67	-13	-24.67	-65.73	-45.9	2.59	10.82	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 4 / 5MHz / QPSK / RB Size 1 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	3420	-50.03	-13	-37.03	-66.62	-56.1	1.58	7.65	H
	5130	-45.61	-13	-32.61	-66.13	-52.9	2.41	9.70	H
	6840	-38.83	-13	-25.83	-66.74	-46.8	2.64	10.61	H
	3420	-48.53	-13	-35.53	-66.41	-54.6	1.58	7.65	V
	5128	-43.11	-13	-30.11	-63.98	-50.4	2.41	9.70	V
	6840	-38.13	-13	-25.13	-65.4	-46.1	2.64	10.61	V
Middle	3462	-50.16	-13	-37.16	-66.76	-56.4	1.59	7.83	H
	5190	-45.95	-13	-32.95	-66.95	-53.2	2.45	9.70	H
	6920	-38.81	-13	-25.81	-67.14	-46.9	2.62	10.70	H
	3460	-48.97	-13	-35.97	-66.74	-55.2	1.59	7.82	V
	5191	-42.35	-13	-29.35	-63.4	-49.6	2.45	9.70	V
	6920	-38.01	-13	-25.01	-65.69	-46.1	2.62	10.70	V
Highest	3497	-49.72	-13	-36.72	-66.15	-56.1	1.60	7.99	H
	5250	-46.08	-13	-33.08	-67.63	-53.3	2.48	9.70	H
	7000	-38.39	-13	-25.39	-67.23	-46.6	2.59	10.80	H
	3500	-47.90	-13	-34.90	-65.59	-54.3	1.60	8.00	V
	5247	-43.08	-13	-30.08	-64.51	-50.3	2.48	9.70	V
	7000	-38.89	-13	-25.89	-66.75	-47.1	2.59	10.80	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 4 / 10MHz / QPSK / RB Size 1 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	3420	-48.53	-13	-35.53	-65.16	-54.6	1.58	7.65	H
	5130	-45.81	-13	-32.81	-66.4	-53.1	2.41	9.70	H
	6840	-38.13	-13	-25.13	-66.14	-46.1	2.64	10.61	H
	3420	-48.33	-13	-35.33	-66.16	-54.4	1.58	7.65	V
	5130	-43.91	-13	-30.91	-65.14	-51.2	2.41	9.70	V
	6840	-38.13	-13	-25.13	-65.74	-46.1	2.64	10.61	V
Middle	3455	-50.69	-13	-37.69	-67.45	-56.9	1.59	7.80	H
	5183	-46.64	-13	-33.64	-67.37	-53.9	2.44	9.70	H
	6910	-38.13	-13	-25.13	-66.63	-46.2	2.62	10.69	H
	3455	-49.09	-13	-36.09	-67.01	-55.3	1.59	7.80	V
	5183	-43.94	-13	-30.94	-65.04	-51.2	2.44	9.70	V
	6910	-38.83	-13	-25.83	-66.37	-46.9	2.62	10.69	V
Highest	3490	-50.45	-13	-37.45	-67.01	-56.8	1.60	7.96	H
	5235	-45.07	-13	-32.07	-66.39	-52.3	2.47	9.70	H
	6980	-37.72	-13	-24.72	-66.53	-45.9	2.60	10.78	H
	3490	-47.95	-13	-34.95	-65.9	-54.3	1.60	7.96	V
	5233	-42.97	-13	-29.97	-64.31	-50.2	2.47	9.70	V
	6983	-37.02	-13	-24.02	-64.98	-45.2	2.60	10.78	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 4 / 15MHz / QPSK / RB Size 1 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	3420	-49.03	-13	-36.03	-65.76	-55.1	1.58	7.65	H
	5130	-46.91	-13	-33.91	-67.67	-54.2	2.41	9.70	H
	6840	-38.83	-13	-25.83	-66.83	-46.8	2.64	10.61	H
	3420	-48.63	-13	-35.63	-66.39	-54.7	1.58	7.65	V
	5130	-45.91	-13	-32.91	-66.91	-53.2	2.41	9.70	V
	6840	-37.93	-13	-24.93	-65.39	-45.9	2.64	10.61	V
Middle	3448	-49.72	-13	-36.72	-66.36	-55.9	1.59	7.77	H
	5175	-46.44	-13	-33.44	-67.37	-53.7	2.44	9.70	H
	6900	-39.34	-13	-26.34	-67.52	-47.4	2.62	10.68	H
	3450	-48.91	-13	-35.91	-66.78	-55.1	1.59	7.78	V
	5177	-45.54	-13	-32.54	-66.75	-52.8	2.44	9.70	V
	6906	-35.43	-13	-22.43	-63.64	-43.5	2.62	10.69	V
Highest	3483	-48.77	-13	-35.77	-65.39	-55.1	1.60	7.93	H
	5220	-45.56	-13	-32.56	-66.62	-52.8	2.46	9.70	H
	6960	-37.95	-13	-24.95	-66.33	-46.1	2.60	10.75	H
	3483	-47.77	-13	-34.77	-65.39	-54.1	1.60	7.93	V
	5219	-42.96	-13	-29.96	-64.49	-50.2	2.46	9.70	V
	6962	-34.55	-13	-21.55	-62.75	-42.7	2.60	10.75	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 4 / 20MHz / QPSK / RB Size 1 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	3420	-49.73	-13	-36.73	-66.13	-55.8	1.58	7.65	H
	5130	-47.11	-13	-34.11	-68.05	-54.4	2.41	9.70	H
	6840	-37.93	-13	-24.93	-65.73	-45.9	2.64	10.61	H
	3420	-49.53	-13	-36.53	-66.23	-55.6	1.58	7.65	V
	5135	-43.31	-13	-30.31	-64.44	-50.6	2.41	9.70	V
	6843	-37.23	-13	-24.23	-65.19	-45.2	2.64	10.61	V
Middle	3445	-49.63	-13	-36.63	-66.37	-55.8	1.59	7.76	H
	5168	-45.93	-13	-32.93	-66.98	-53.2	2.43	9.70	H
	6890	-39.06	-13	-26.06	-66.94	-47.1	2.63	10.67	H
	3448	-47.62	-13	-34.62	-65.15	-53.8	1.59	7.77	V
	5170	-43.23	-13	-30.23	-64.75	-50.5	2.43	9.70	V
	6892	-36.25	-13	-23.25	-64.31	-44.3	2.63	10.67	V
Highest	3469	-49.53	-13	-36.53	-66.35	-55.8	1.59	7.86	H
	5205	-46.26	-13	-33.26	-67.3	-53.5	2.46	9.70	H
	6940	-37.58	-13	-24.58	-66	-45.7	2.61	10.73	H
	3470	-48.43	-13	-35.43	-66.41	-54.7	1.59	7.87	V
	5205	-42.36	-13	-29.36	-63.83	-49.6	2.46	9.70	V
	6941	-35.98	-13	-22.98	-63.96	-44.1	2.61	10.73	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



<EUT with PMA Charger Mode>

LTE Band 4 / 15MHz / QPSK / RB Size 1 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	3420	-43.86	-13	-30.86	-60.56	-49.93	1.58	7.65	H
	5128	-47.25	-13	-34.25	-68.28	-54.54	2.41	9.70	H
	6843	-38.23	-13	-25.23	-66.36	-46.2	2.64	10.61	H
	3420	-43.29	-13	-30.29	-61.32	-49.36	1.58	7.65	V
	5128	-47.12	-13	-34.12	-68.13	-54.41	2.41	9.70	V
	6843	-38.03	-13	-25.03	-65.52	-46	2.64	10.61	V
Middle	3448	-47.29	-13	-34.29	-64.04	-53.47	1.59	7.77	H
	5170	-45.88	-13	-32.88	-67.01	-53.15	2.43	9.70	H
	6899	-38.56	-13	-25.56	-67.01	-46.62	2.62	10.68	H
	3448	-46.92	-13	-33.92	-64.96	-53.1	1.59	7.77	V
	5170	-46.82	-13	-33.82	-68.03	-54.09	2.43	9.70	V
	6899	-39.11	-13	-26.11	-66.79	-47.17	2.62	10.68	V
Highest	3483	-47.12	-13	-34.12	-63.87	-53.45	1.60	7.93	H
	5226	-46.15	-13	-33.15	-67.58	-53.38	2.47	9.70	H
	6969	-38.54	-13	-25.54	-67.37	-46.7	2.60	10.76	H
	3483	-45.29	-13	-32.29	-63.3	-51.62	1.60	7.93	V
	5226	-45.82	-13	-32.82	-67.27	-53.05	2.47	9.70	V
	6969	-38.52	-13	-25.52	-66.34	-46.68	2.60	10.76	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



<EUT with WPC Charger Mode>

LTE Band 4 / 15MHz / QPSK / RB Size 1 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	3420	-50.04	-13	-37.04	-66.74	-56.11	1.58	7.65	H
	5135	-43.42	-13	-30.42	-64.31	-50.71	2.41	9.70	H
	6843	-37.05	-13	-24.05	-65.09	-45.02	2.64	10.61	H
	3420	-49.39	-13	-36.39	-67.53	-55.46	1.58	7.65	V
	5135	-46.83	-13	-33.83	-67.92	-54.12	2.41	9.70	V
	6843	-39.46	-13	-26.46	-66.98	-47.43	2.64	10.61	V
Middle	3448	-50.61	-13	-37.61	-67.39	-56.79	1.59	7.77	H
	5177	-42.77	-13	-29.77	-63.89	-50.03	2.44	9.70	H
	6899	-37.39	-13	-24.39	-66.97	-45.45	2.62	10.68	H
	3448	-49.45	-13	-36.45	-67.68	-55.63	1.59	7.77	V
	5177	-46.21	-13	-33.21	-67.45	-53.47	2.44	9.70	V
	6899	-38.52	-13	-25.52	-66.14	-46.58	2.62	10.68	V
Highest	3483	-49.63	-13	-36.63	-66.36	-55.96	1.60	7.93	H
	5219	-44.32	-13	-31.32	-65.66	-51.56	2.46	9.70	H
	6962	-35.86	-13	-22.86	-64.58	-44.01	2.60	10.75	H
	3483	-49.79	-13	-36.79	-67.77	-56.12	1.60	7.93	V
	5219	-46.39	-13	-33.39	-67.72	-53.63	2.46	9.70	V
	6962	-39.63	-13	-26.63	-67.6	-47.78	2.60	10.75	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				



LTE Band 13 / 5MHz / QPSK / RB Size 1 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	1552	-54.24	-13	-41.24	-64.36	-56.31	0.94	5.15	H
	2331	-52.58	-13	-39.58	-67.20	-54.09	1.24	4.89	H
	3108	-50.97	-13	-37.97	-67.16	-53.61	1.48	6.28	H
	1552	-52.94	-13.00	-39.94	-65.11	-55.01	0.94	5.15	V
	2331	-51.15	-13	-38.15	-66.57	-52.66	1.24	4.89	V
	3108	-49.77	-13	-36.77	-67.50	-52.41	1.48	6.28	V
Middle	1560	-54.29	-42.15	-12.14	-64.48	-56.33	0.94	5.13	H
	2338	-49.69	-13	-36.69	-64.71	-51.21	1.24	4.91	H
	3118	-51.06	-13	-38.06	-66.53	-53.74	1.48	6.32	H
	1560	-52.25	-42.15	-10.10	-64.46	-54.29	0.94	5.13	V
	2338	-49.89	-13	-36.89	-65.53	-51.41	1.24	4.91	V
	3118	-49.25	-13	-36.25	-67.20	-51.93	1.48	6.32	V
Highest	1560	-54.17	-42.15	-12.02	-64.48	-56.21	0.94	5.13	H
	2346	-51.76	-13	-38.76	-66.54	-53.31	1.24	4.94	H
	3128	-50.81	-13	-37.81	-67.02	-53.54	1.49	6.36	H
	1560	-52.15	-42.15	-10.00	-64.46	-54.19	0.94	5.13	V
	2346	-51.94	-13	-38.94	-67.23	-53.49	1.24	4.94	V
	3128	-48.66	-13	-35.66	-66.52	-51.39	1.49	6.36	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				

LTE Band 13 / 10MHz / QPSK / RB Size 1 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	1552	-54.14	-13	-41.14	-64.51	-56.21	0.94	5.15	H
	2331	-52.51	-13	-39.51	-67	-54.02	1.24	4.89	H
	3108	-51.00	-13	-38.00	-67.03	-53.64	1.48	6.28	H
	1552	-52.22	-13	-39.22	-64.54	-54.29	0.94	5.15	V
	2331	-50.56	-13	-37.56	-65.97	-52.07	1.24	4.89	V
	3108	-49.29	-13	-36.29	-67	-51.93	1.48	6.28	V
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.									
Test Result					PASS				