FCC RF Test Report

APPLICANT	**:**	**Nyle Oswind Parry Limited Liability Company**
EQUIPMENT	**:**	**Tablet PC**
MODEL NAME	**:**	**GRT67VY**
FCC ID	**:**	**2ABO6-0610**
STANDARD	**:**	**47 CFR Part 2, 27**
CLASSIFICATION	**:**	**PCS Licensed Transmitter (PCB)**

The testing completed on Apr. 26, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and the testing has shown the tested sample to be in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG432436-10B	Rev. 01	Initial issue of report	Jul. 29, 2014
FG432436-10B	Rev. 02	Add maximum RSE results of 1559MHz-1610MHz at page 122-123.	Sep. 01, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§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	PASS	-
3.2	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§2.1049 §27.53(h)(3)	Occupied Bandwidth	Reporting Only	PASS	-
3.4	§2.1051 §27.53(c)(2) §27.53(c)(4) §27.53(h)	Conducted Band Edge Measurement (Band 4) (Band 13)	< 43+10log10(P[Watt])	PASS	-
3.5	§2.1051 §27.53(c)(2) §27.53(h)	Conducted Spurious Emission (Band 4) (Band 13)	< $43+10\log_{10}$(P[Watts])	PASS	-
3.6	§2.1053 §27.53(c)(2) §27.53(f) §27.53(h)	Radiated Spurious Emission (Band 4) (Band 13)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 12.91 dB at 1559.000 MHz
3.7	§2.1055 §27.54	Frequency Stability Temperature & Voltage	< 2.5 ppm	PASS	

1 General Description

1.1 Applicant

Nyle Oswind Parry Limited Liability Company
7027 Old Madison Pike, Suite 108, Huntsville, Alabama 35806

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Model Name	GRT67VY
FCC ID	2ABO6-0610
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE **<2.4GHz band>** WLAN 11b/g/n HT20 WLAN 11ac VHT20 Bluetooth v4.0 EDR/LE **<5GHz band>** WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.3 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 : 23.80 dBm LTE Band 13 : 22.90 dBm
Antenna Type	Fixed Internal Antenna
Antenna Gain	LTE Band 4 : 1.70 dBi LTE Band 13 : -0.40 dBi
Type of Modulation	QPSK / 16QAM

1.4 Modification of EUT

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

1.5 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27	LTE Band 4	QPSK	1.4 MHz	1M10G7D	-	0.35 W
Part 27	LTE Band 4	16QAM	1.4 MHz	1M10D7W	-	0.28 W
Part 27	LTE Band 4	QPSK	3 MHz	2M73G7D	-	0.35 W
Part 27	LTE Band 4	16QAM	3 MHz	2M74D7W	-	0.28 W
Part 27	LTE Band 4	QPSK	5MHz	4M50G7D	-	0.34 W
Part 27	LTE Band 4	16QAM	5MHz	4M51D7W	-	0.27 W
Part 27	LTE Band 4	QPSK	10MHz	9M06G7D	0.0118 ppm	0.34 W
Part 27	LTE Band 4	16QAM	10MHz	9M04D7W	-	0.28 W
Part 27	LTE Band 4	QPSK	15MHz	13M5G7D	-	0.34 W
Part 27	LTE Band 4	16QAM	15MHz	13M5D7W	-	0.27 W
Part 27	LTE Band 4	QPSK	20MHz	18M5G7D	-	0.36 W
Part 27	LTE Band 4	16QAM	20MHz	18M5D7W	-	0.27 W
Part 27	LTE Band 13	QPSK	5MHz	4M51G7D	-	0.11 W
Part 27	LTE Band 13	16QAM	5MHz	4M50D7W	-	0.09 W
Part 27	LTE Band 13	QPSK	10MHz	9M08G7D	0.0102 ppm	0.11 W
Part 27	LTE Band 13	16QAM	10MHz	9M02D7W	-	0.09 W

1.6 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 1st 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

1.7 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

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

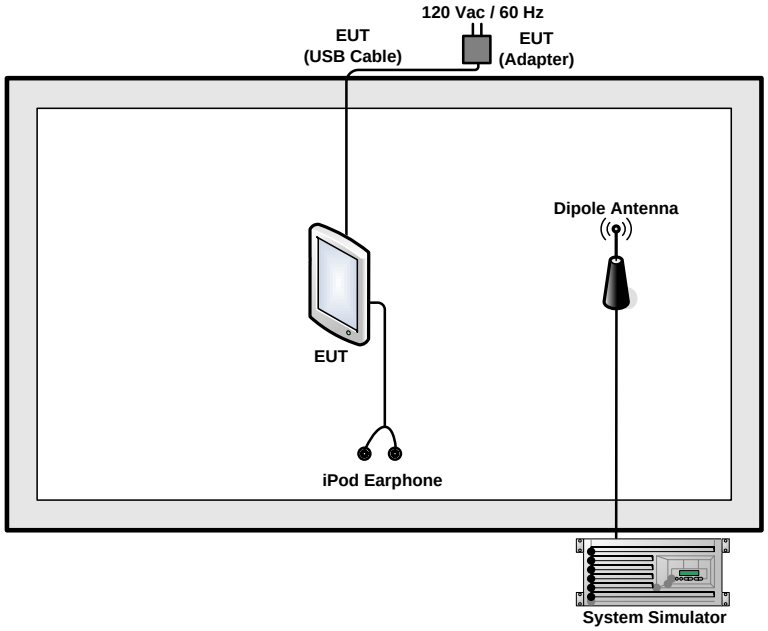
2.1 Test Mode

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	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	13	-	-	√	√	-	-	√	√	√	√	√	√	√	√
Peak-to-Average Ratio	4						√	√	√	√		√	√	√	√
	13	-	-		√	-	-	√	√	√		√	√	√	√
26dB and 99% Bandwidth	4	√	√	√	√	√	√	√	√			√	√	√	√
	13	-	-	√	√	-	-	√	√			√	√	√	√
Conducted Band Edge	4	√	√	√	√	√	√	√	√	√		√	√		√
	13	-	-	√	√	-	-	√	√	√		√	√		√
Conducted Spurious Emission	4	√	√	√	√	√	√	√	√	√				√	
	13	-	-	√	√	-	-	√	√	√				√	
Frequency Stability	4				√			√				√		√	
	13	-	-		√	-	-	√				√		√	
E.R.P./ E.I.R.P.	4	v	v	v	v	v	v	v	v	v			v	v	v
	13	-	-	v	v	-	-	v	v	v			v	v	v
Radiated Spurious Emission	4	√	√	√	√	√	√	v		v				v	
	13	-	-	√	√	-	-	v		v				v	
Note	1. The mark "√ " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.														

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMW 500	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	N/A	Unshielded, 1.0 m	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 Conducted Output Power Measurement and ERP/EIRP Measurement

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

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

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

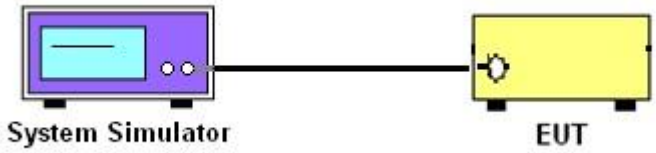
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 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.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

<LTE Band 4 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20050**	**20175**	**20300**
Frequency (MHz)				**1720**	**1732.5**	**1745**
20	QPSK	1	0	**23.80**	23.50	23.50
20	QPSK	1	49	23.70	23.40	23.50
20	QPSK	1	99	23.50	23.40	23.50
20	QPSK	50	0	22.50	22.20	22.30
20	QPSK	50	24	22.40	22.10	22.30
20	QPSK	50	49	22.30	22.00	22.30
20	QPSK	100	0	22.30	22.20	22.20
20	16QAM	1	0	22.60	22.60	22.60
20	16QAM	1	49	22.50	22.50	22.60
20	16QAM	1	99	22.40	22.50	22.50
20	16QAM	50	0	21.20	21.20	21.20
20	16QAM	50	24	21.20	21.10	21.30
20	16QAM	50	49	21.20	21.10	21.30
20	16QAM	100	0	21.30	21.20	21.30
Channel				**20025**	**20175**	**20325**
Frequency (MHz)				**1717.5**	**1732.5**	**1747.5**
15	QPSK	1	0	23.60	23.50	23.60
15	QPSK	1	37	23.60	23.50	23.60
15	QPSK	1	74	23.40	23.40	23.40
15	QPSK	36	0	22.30	22.30	22.30
15	QPSK	36	18	22.30	22.20	22.40
15	QPSK	36	37	22.30	22.10	22.30
15	QPSK	75	0	22.20	22.20	22.30
15	16QAM	1	0	22.60	22.50	22.50
15	16QAM	1	37	22.60	22.40	22.50
15	16QAM	1	74	22.40	22.40	22.50
15	16QAM	36	0	21.30	21.30	21.40
15	16QAM	36	18	21.30	21.20	21.30
15	16QAM	36	37	21.30	21.20	21.30
15	16QAM	75	0	21.20	21.20	21.30

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20000**	**20175**	**20350**
Frequency (MHz)				**1715**	**1732.5**	**1750**
10	QPSK	1	0	23.50	23.50	23.60
10	QPSK	1	24	23.50	23.40	23.50
10	QPSK	1	49	23.40	23.30	23.40
10	QPSK	25	0	22.40	22.30	22.40
10	QPSK	25	12	22.40	22.20	22.40
10	QPSK	25	24	22.40	22.30	22.40
10	QPSK	50	0	22.20	22.20	22.30
10	16QAM	1	0	22.50	22.50	22.70
10	16QAM	1	24	22.50	22.40	22.50
10	16QAM	1	49	22.50	22.40	22.60
10	16QAM	25	0	21.40	21.30	21.40
10	16QAM	25	12	21.40	21.30	21.50
10	16QAM	25	24	21.40	21.30	21.40
10	16QAM	50	0	21.20	21.20	21.30
Channel				**19975**	**20175**	**20375**
Frequency (MHz)				**1712.5**	**1732.5**	**1752.5**
5	QPSK	1	0	23.60	23.40	23.60
5	QPSK	1	12	23.60	23.40	23.50
5	QPSK	1	24	23.50	23.30	23.50
5	QPSK	12	0	22.60	22.50	22.60
5	QPSK	12	6	22.60	22.40	22.50
5	QPSK	12	11	22.60	22.50	22.60
5	QPSK	25	0	22.40	22.30	22.40
5	16QAM	1	0	22.60	22.50	22.60
5	16QAM	1	12	22.50	22.50	22.60
5	16QAM	1	24	22.50	22.40	22.50
5	16QAM	12	0	21.60	21.50	21.70
5	16QAM	12	6	21.70	21.50	21.60
5	16QAM	12	11	21.70	21.50	21.70
5	16QAM	25	0	21.40	21.30	21.40

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**19965**	**20175**	**20385**
Frequency (MHz)				**1711.5**	**1732.5**	**1753.5**
3	QPSK	1	0	23.70	23.60	23.70
3	QPSK	1	7	23.70	23.50	23.60
3	QPSK	1	14	23.70	23.50	23.60
3	QPSK	8	0	22.70	22.70	22.80
3	QPSK	8	4	22.70	22.60	22.70
3	QPSK	8	7	22.70	22.60	22.70
3	QPSK	15	0	22.70	22.50	22.60
3	16QAM	1	0	22.70	22.60	22.70
3	16QAM	1	7	22.70	22.60	22.70
3	16QAM	1	14	22.60	22.50	22.70
3	16QAM	8	0	21.70	21.60	21.70
3	16QAM	8	4	21.70	21.60	21.70
3	16QAM	8	7	21.70	21.60	21.70
3	16QAM	15	0	21.70	21.60	21.70
Channel				**19957**	**20175**	**20393**
Frequency (MHz)				**1710.7**	**1732.5**	**1754.3**
1.4	QPSK	1	0	23.60	23.50	23.70
1.4	QPSK	1	2	23.60	23.50	23.70
1.4	QPSK	1	5	23.50	23.40	23.60
1.4	QPSK	3	0	23.50	23.40	23.60
1.4	QPSK	3	1	23.50	23.50	23.70
1.4	QPSK	3	2	23.60	23.40	23.70
1.4	QPSK	6	0	22.60	22.50	22.80
1.4	16QAM	1	0	22.60	22.60	22.80
1.4	16QAM	1	2	22.50	22.50	22.70
1.4	16QAM	1	5	22.50	22.50	22.70
1.4	16QAM	3	0	22.60	22.60	22.70
1.4	16QAM	3	1	22.60	22.60	22.70
1.4	16QAM	3	2	22.60	22.60	22.60
1.4	16QAM	6	0	21.70	21.60	21.80

<LTE Band 13 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel					**23230**	
Frequency (MHz)					**782**	
10	QPSK	1	0		**22.90**	
10	QPSK	1	24		22.60	
10	QPSK	1	49		22.80	
10	QPSK	25	0		21.50	
10	QPSK	25	12		21.50	
10	QPSK	25	24		21.70	
10	QPSK	50	0		21.40	
10	16QAM	1	0		21.80	
10	16QAM	1	24		21.60	
10	16QAM	1	49		21.90	
10	16QAM	25	0		20.40	
10	16QAM	25	12		20.50	
10	16QAM	25	24		20.60	
10	16QAM	50	0		20.40	
Channel				**23205**	**23230**	**23255**
Frequency (MHz)				**779.5**	**782**	**784.5**
5	QPSK	1	0	22.70	22.50	22.88
5	QPSK	1	12	22.60	22.50	22.80
5	QPSK	1	24	22.50	22.80	22.85
5	QPSK	12	0	21.60	21.70	21.70
5	QPSK	12	6	21.60	21.60	21.70
5	QPSK	12	11	21.50	21.70	21.90
5	QPSK	25	0	21.50	21.50	21.60
5	16QAM	1	0	21.70	21.60	21.60
5	16QAM	1	12	21.60	21.50	21.80
5	16QAM	1	24	21.60	21.80	21.90
5	16QAM	12	0	20.70	20.70	20.70
5	16QAM	12	6	20.70	20.60	20.80
5	16QAM	12	11	20.60	20.70	20.90
5	16QAM	25	0	20.40	20.50	20.60

3.1.6 Test Result of Conducted Output Power and ERP/EIRP

LTE Band 4 (GT - LC = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=1.4M)**			**LTE Band 4 (16QAM,BW=1.4M)**		
Channel	**19957 (Low)**	**20175 (Mid)**	**20393 (High)**	**19957 (Low)**	**20175 (Mid)**	**20393 (High)**
Frequency (MHz)	**1710.7**	**1732.5**	**1754.3**	**1710.7**	**1732.5**	**1754.3**
Conducted Power P_T (dBm)	23.6	23.5	23.7	22.6	22.6	22.8
Conducted Power P_T (Watts)	0.23	0.22	0.23	0.18	0.18	0.19
EIRP(dBm)	25.30	25.20	25.40	24.30	24.30	24.50
EIRP(Watts)	0.34	0.33	0.35	0.27	0.27	0.28

LTE Band 4 (G_T - L_C = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=3M)**			**LTE Band 4 (16QAM,BW=3M)**		
Channel	**19965(Low)**	**20175 (Mid)**	**20385 (High)**	**19965(Low)**	**20175 (Mid)**	**20385 (High)**
Frequency (MHz)	**1711.5**	**1732.5**	**1753.5**	**1711.5**	**1732.5**	**1753.5**
Conducted Power P_T (dBm)	23.7	23.6	23.7	22.7	22.6	22.7
Conducted Power P_T (Watts)	0.23	0.23	0.23	0.19	0.18	0.19
EIRP(dBm)	25.40	25.30	25.40	24.40	24.30	24.40
EIRP(Watts)	0.35	0.34	0.35	0.28	0.27	0.28

LTE Band 4 (G_T - L_C = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=5M)**			**LTE Band 4 (16QAM,BW=5M)**		
Channel	**19975(Low)**	**20175 (Mid)**	**20375 (High)**	**19975(Low)**	**20175 (Mid)**	**20375 (High)**
Frequency (MHz)	**1712.5**	**1732.5**	**1752.5**	**1712.5**	**1732.5**	**1752.5**
Conducted Power P_T (dBm)	23.6	23.4	23.6	22.6	22.5	22.6
Conducted Power P_T (Watts)	0.23	0.22	0.23	0.18	0.18	0.18
EIRP(dBm)	25.30	25.10	25.30	24.30	24.20	24.30
EIRP(Watts)	0.34	0.32	0.34	0.27	0.27	0.27

LTE Band 4 (G_T - L_C = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=10M)**			**LTE Band 4 (16QAM,BW=10M)**		
Channel	**20000 (Low)**	**20175 (Mid)**	**20350 (High)**	**20000 (Low)**	**20175 (Mid)**	**20350 (High)**
Frequency (MHz)	**1715**	**1732.5**	**1750**	**1715**	**1732.5**	**1750**
Conducted Power P_T (dBm)	23.5	23.5	23.6	22.5	22.5	22.7
Conducted Power P_T (Watts)	0.22	0.22	0.23	0.18	0.18	0.19
EIRP(dBm)	25.20	25.20	25.30	24.20	24.20	24.40
EIRP(Watts)	0.33	0.33	0.34	0.26	0.26	0.28

LTE Band 4 (GT - L_C = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=15M)**			**LTE Band 4 (16QAM,BW=15M)**		
Channel	**20025 (Low)**	**20175 (Mid)**	**20325 (High)**	**20025 (Low)**	**20175 (Mid)**	**20325 (High)**
Frequency (MHz)	**1717.5**	**1732.5**	**1747.5**	**1717.5**	**1732.5**	**1747.5**
Conducted Power P_T (dBm)	23.6	23.5	23.6	22.6	22.5	22.5
Conducted Power P_T (Watts)	0.23	0.22	0.23	0.18	0.18	0.18
EIRP(dBm)	25.30	25.20	25.30	24.30	24.20	24.20
EIRP(Watts)	0.34	0.33	0.34	0.27	0.27	0.27

LTE Band 4 (GT - L_C = 1.70 dB)						
Modes	**LTE Band 4 (QPSK,BW=20M)**			**LTE Band 4 (16QAM,BW=20M)**		
Channel	**20050 (Low)**	**20175 (Mid)**	**20300 (High)**	**20050 (Low)**	**20175 (Mid)**	**20300 (High)**
Frequency (MHz)	**1720**	**1732.5**	**1745**	**1720**	**1732.5**	**1745**
Conducted Power P_T (dBm)	23.8	23.5	23.5	22.6	22.6	22.6
Conducted Power P_T (Watts)	0.24	0.22	0.22	0.18	0.18	0.18
EIRP(dBm)	25.50	25.20	25.20	24.30	24.30	24.30
EIRP(Watts)	0.36	0.33	0.33	0.27	0.27	0.27

LTE Band 13 (GT - L_C = -0.40 dB)						
Modes	**LTE Band 13 (QPSK,BW=5M)**			**LTE Band 13 (16QAM,BW=5M)**		
Channel	**23205 (Low)**	**23230 (Mid)**	**23255 (High)**	**23205 (Low)**	**23230 (Mid)**	**23255 (High)**
Frequency (MHz)	**779.5**	**782**	**784.5**	**779.5**	**782**	**784.5**
Conducted Power P_T (dBm)	22.7	22.8	22.9	21.7	21.8	21.9
Conducted Power P_T (Watts)	0.19	0.19	0.19	0.15	0.15	0.15
ERP(dBm)	20.15	20.25	20.33	19.15	19.25	19.35
ERP(Watts)	0.10	0.11	0.11	0.08	0.08	0.09

LTE Band 13 (GT - LC = -0.40 dB)		
Modes	**LTE Band 13 (QPSK,BW=10M)**	**LTE Band 13 (16QAM,BW=10M)**
Channel	**23230 (Mid)**	**23230 (Mid)**
Frequency (MHz)	**782**	**782**
Conducted Power P_T (dBm)	22.9	21.9
Conducted Power P_T (Watts)	0.19	0.15
ERP(dBm)	20.35	19.35
ERP(Watts)	0.11	0.09

3.2 Peak-to-Average Ratio

3.2.1 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.

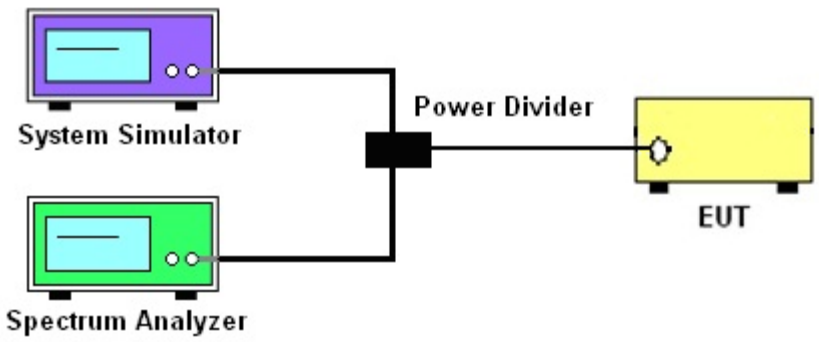
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

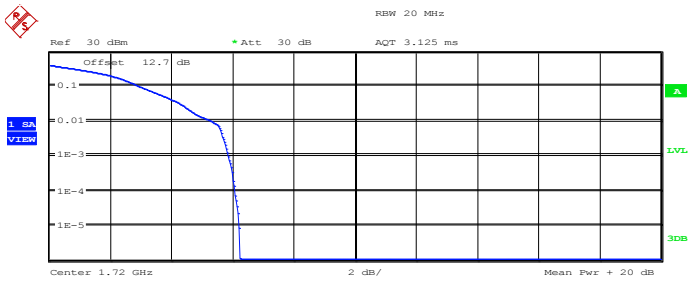
LTE Band 4						
BW [MHz]	**Modulation**	**RB Size**	**RB Offset**	**Power (dBm) Low Ch. / Freq.**	**Power (dBm) Middle Ch. / Freq.**	**Power (dBm) High Ch. / Freq.**
Channel				**20050**	**20175**	**20300**
Frequency (MHz)				**1720**	**1732.5**	**1745**
20	16QAM	1	0	5.87	6.15	6.12
20	16QAM	100	0	6.41	6.44	6.41

LTE Band 13						
BW [MHz]	**Modulation**	**RB Size**	**RB Offset**	**Power (dBm) Low Ch. / Freq.**	**Power (dBm) Middle Ch. / Freq.**	**Power (dBm) High Ch. / Freq.**
Channel					**23230**	
Frequency (MHz)					**782**	
10	16QAM	1	0		6.25	
10	16QAM	50	0		6.31	

3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20050 (1RB Size)



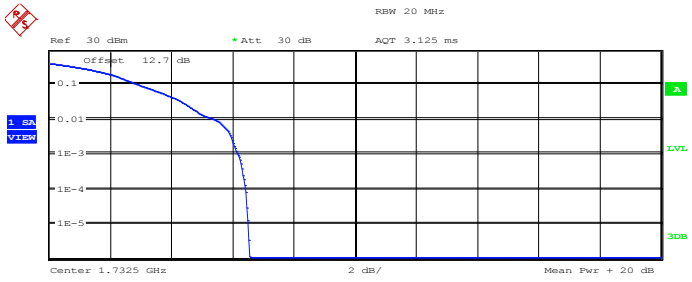
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	22.55 dBm
Peak	28.77 dBm
Crest	6.23 dB
10 %	2.95 dB
1 %	5.29 dB
.1 %	5.87 dB
.01 %	6.09 dB

Date: 24.APR.2014 22:38:54

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20175 (1RB Size)



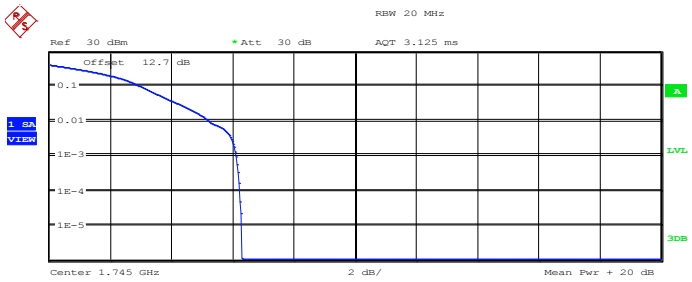
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	22.54 dBm
Peak	29.08 dBm
Crest	6.54 dB
10 %	2.92 dB
1 %	5.42 dB
.1 %	6.15 dB
.01 %	6.44 dB

Date: 24.APR.2014 22:36:21

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20300 (1RB Size)



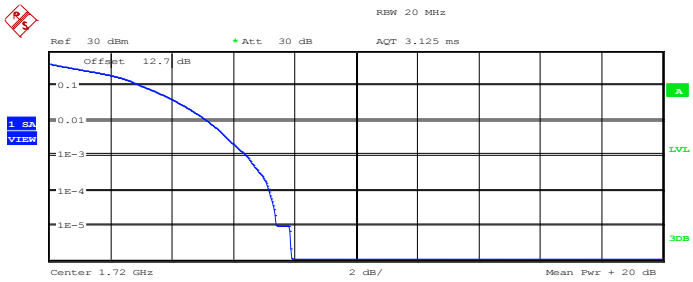
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	22.34 dBm
Peak	28.64 dBm
Crest	6.30 dB
10 %	2.98 dB
1 %	5.22 dB
.1 %	6.12 dB
.01 %	6.25 dB

Date: 24.APR.2014 22:37:15

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20050 (100RB Size)



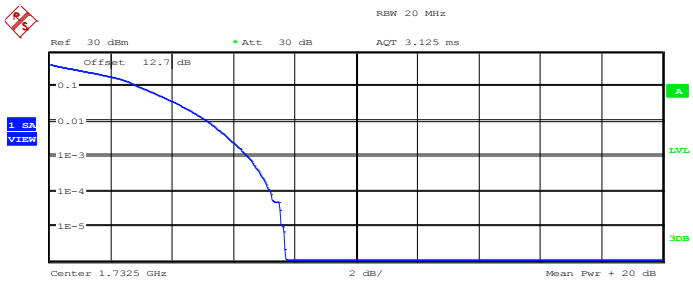
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.38 dBm
Peak	29.27 dBm
Crest	7.89 dB
10 %	3.01 dB
1 %	5.13 dB
.1 %	6.41 dB
.01 %	7.18 dB

Date: 24.APR.2014 22:35:41

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20175 (100RB Size)



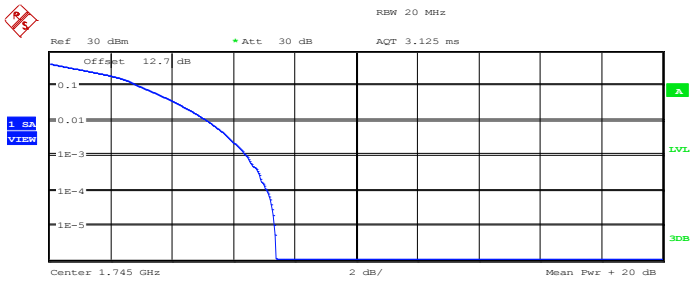
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.38 dBm
Peak	29.08 dBm
Crest	7.69 dB
10 %	2.92 dB
1 %	5.16 dB
.1 %	6.44 dB
.01 %	7.21 dB

Date: 24.APR.2014 22:36:47

Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20300 (100RB Size)



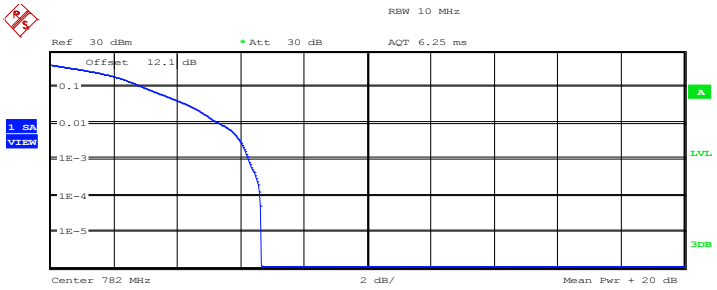
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.31 dBm
Peak	28.71 dBm
Crest	7.40 dB
10 %	2.92 dB
1 %	5.13 dB
.1 %	6.41 dB
.01 %	7.08 dB

Date: 24.APR.2014 22:37:51

Peak-to-Average Ratio on LTE Band 13

10MHz / 16QAM in Ch. 23230 (1RB Size)



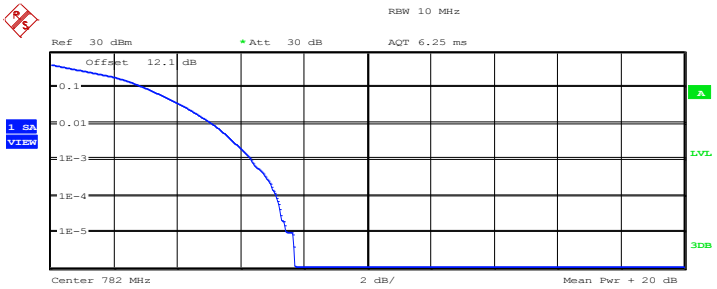
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.12 dBm
Peak	28.77 dBm
Crest	6.65 dB
10 %	2.95 dB
1 %	5.32 dB
.1 %	6.25 dB
.01 %	6.60 dB

Date: 25.APR.2014 00:21:24

Peak-to-Average Ratio on LTE Band 13

10MHz / 16QAM in Ch. 23230 (50RB Size)



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	20.85 dBm
Peak	28.55 dBm
Crest	7.71 dB
10 %	2.98 dB
1 %	5.10 dB
.1 %	6.31 dB
.01 %	7.12 dB

Date: 25.APR.2014 00:43:12

3.3 Occupied Bandwidth

3.3.1 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.

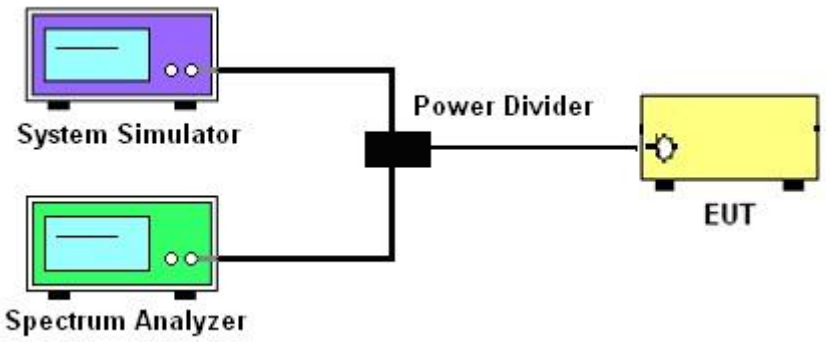
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

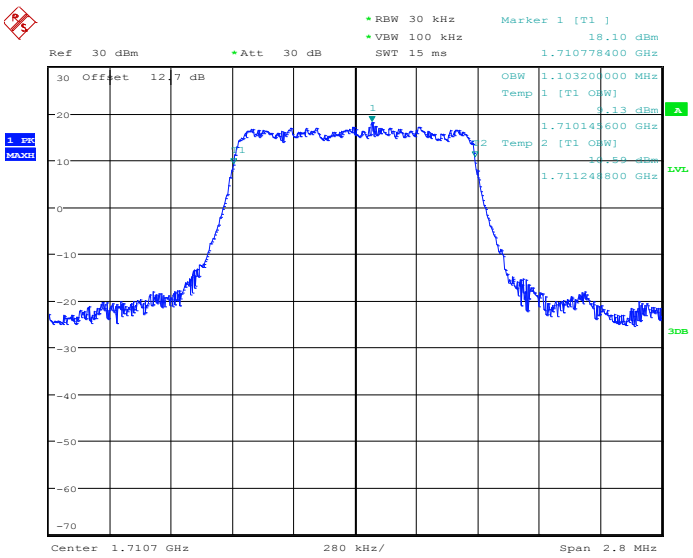
3.3.4 Test Setup



3.3.5 Test Result (Plots) of Occupied Bandwidth

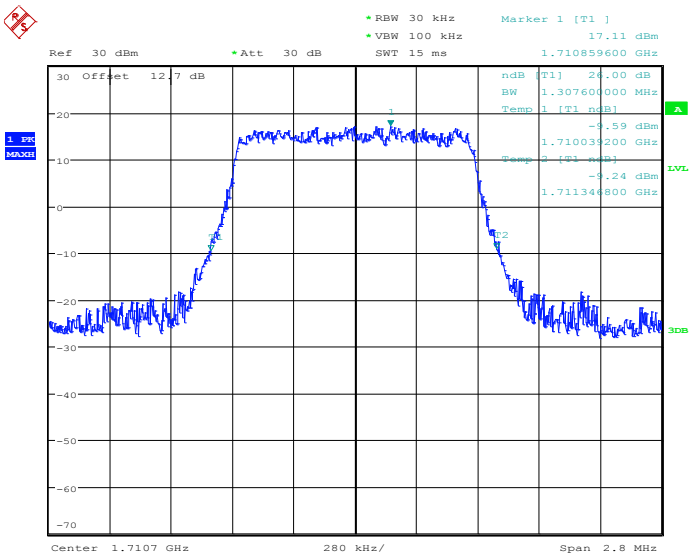
Band :	LTE Band 4	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 19957



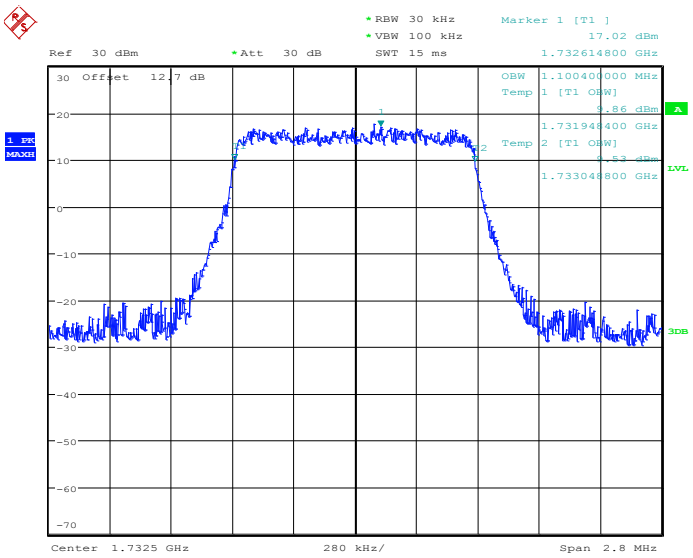
Date: 24.APR.2014 22:40:50

26dB Bandwidth Plot on Channel 19957



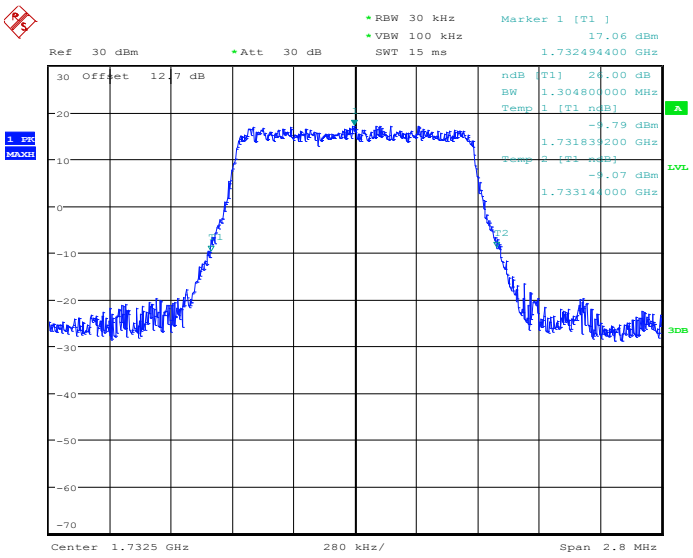
Date: 24.APR.2014 20:15:53

99% Occupied Bandwidth Plot on Channel 20175



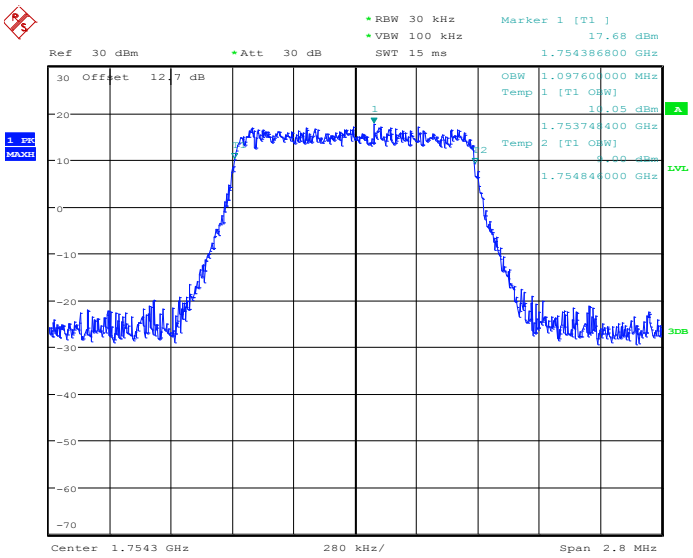
Date: 24.APR.2014 20:21:31

26dB Bandwidth Plot on Channel 20175



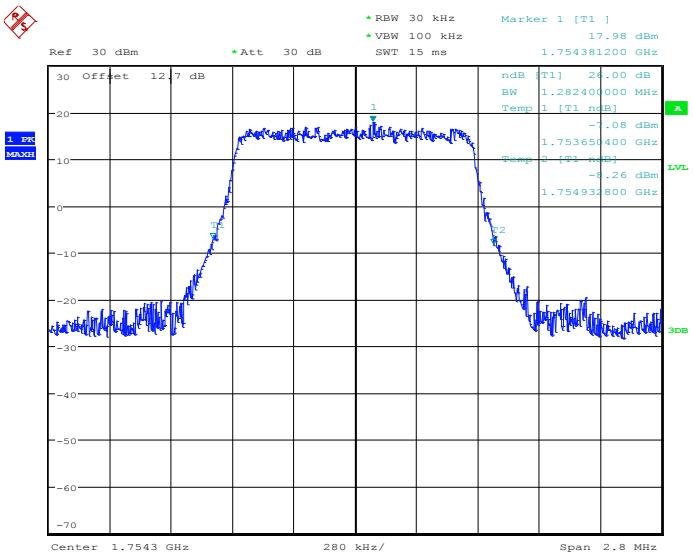
Date: 24.APR.2014 20:22:05

99% Occupied Bandwidth Plot on Channel 20393



Date: 24.APR.2014 20:24:37

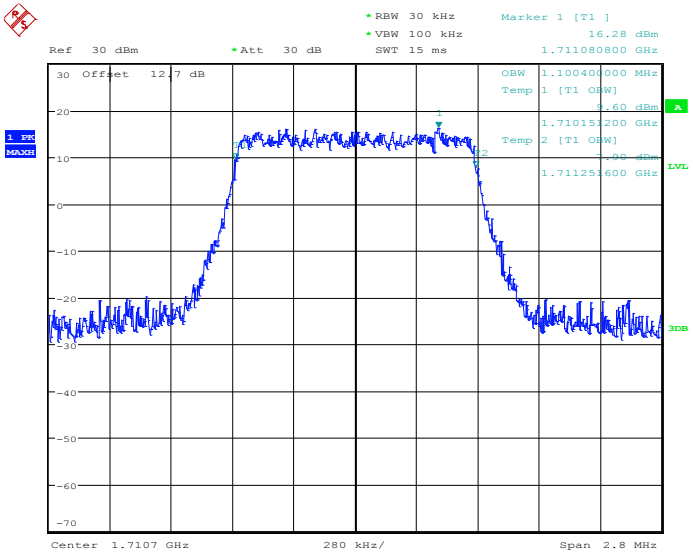
26dB Bandwidth Plot on Channel 20393



Date: 24.APR.2014 20:25:11

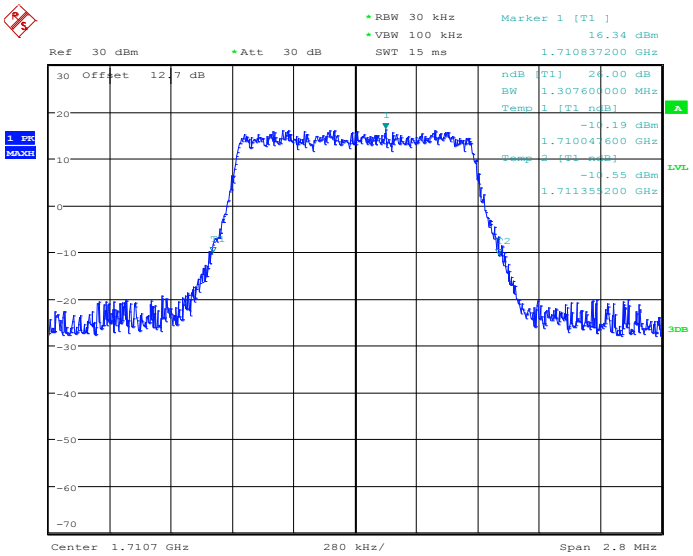
Band :	LTE Band 4	BW / Mod. :	1.4MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 19957



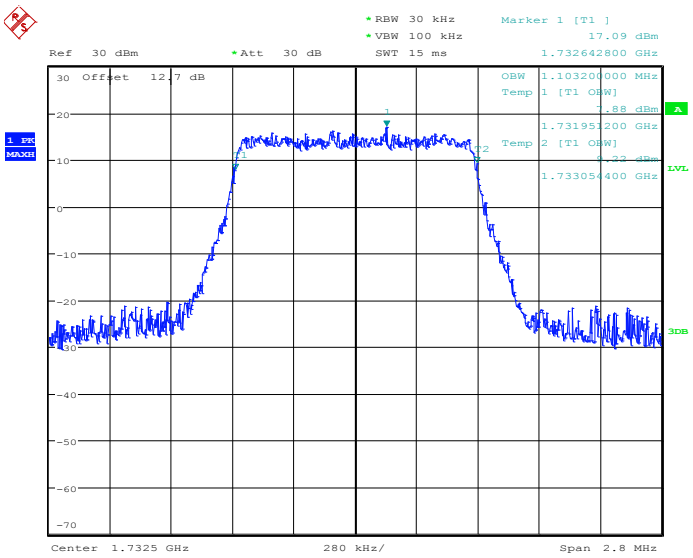
Date: 24.APR.2014 20:15:35

26dB Bandwidth Plot on Channel 19957



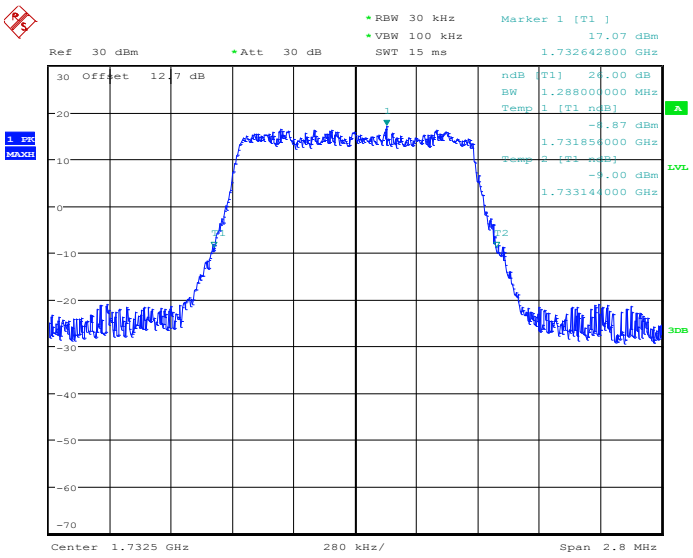
Date: 24.APR.2014 20:16:10

99% Occupied Bandwidth Plot on Channel 20175



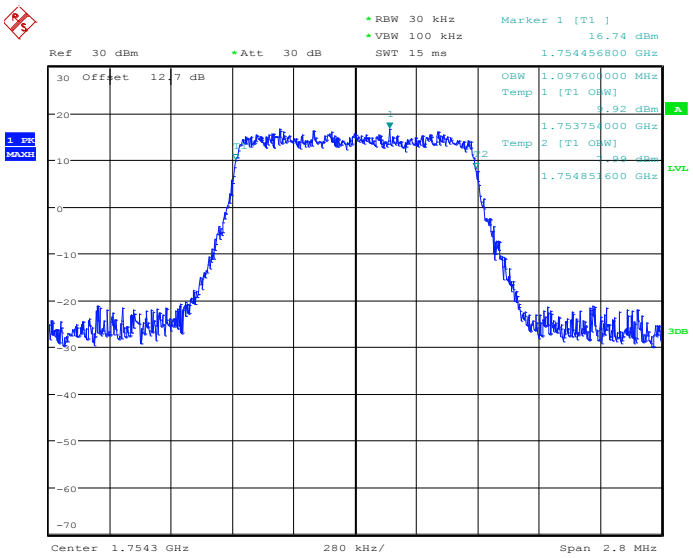
Date: 24.APR.2014 20:21:47

26dB Bandwidth Plot on Channel 20175



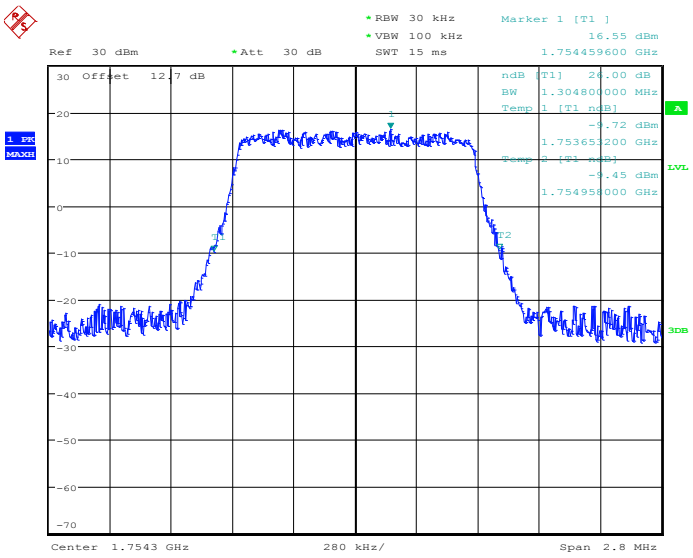
Date: 24.APR.2014 20:22:22

99% Occupied Bandwidth Plot on Channel 20393



Date: 24.APR.2014 20:24:53

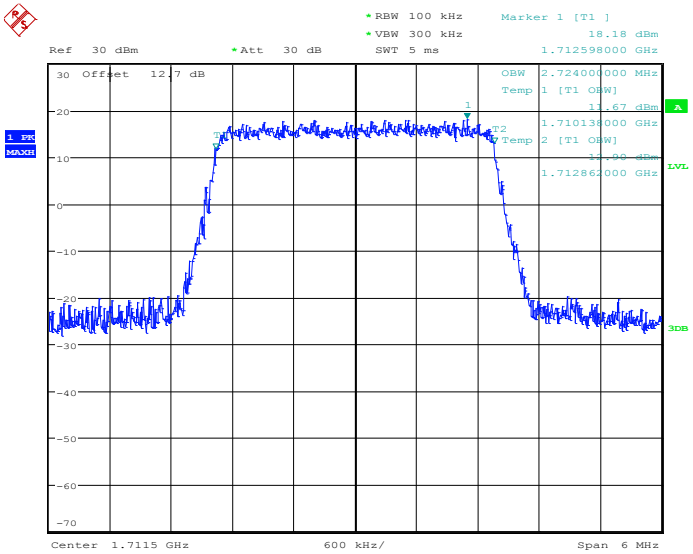
26dB Bandwidth Plot on Channel 20393



Date: 24.APR.2014 20:25:28

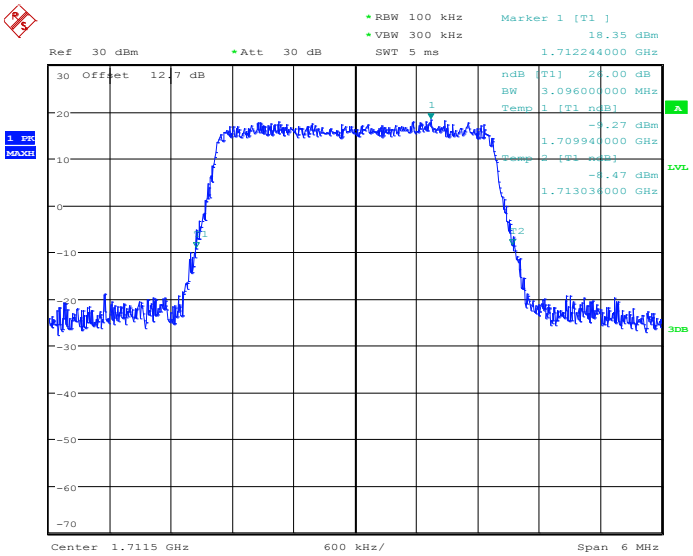
Band :	LTE Band 4	BW / Mod. :	3MHz / QPSK

99% Occupied Bandwidth Plot on Channel 19965



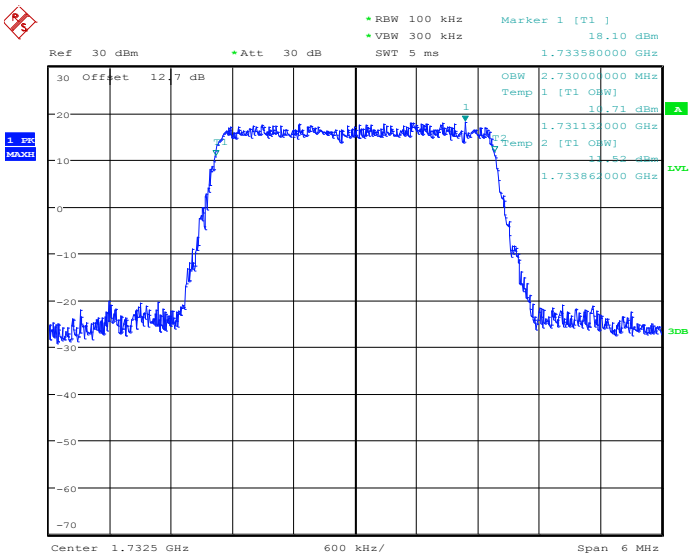
Date: 24.APR.2014 20:30:50

26dB Bandwidth Plot on Channel 19965



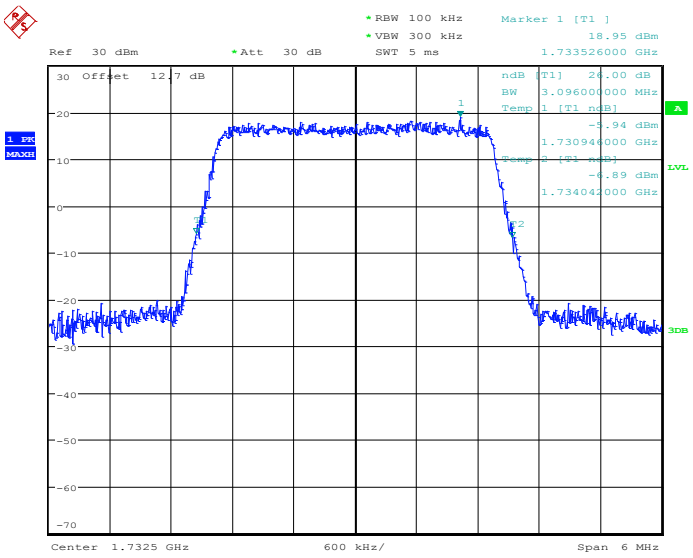
Date: 24.APR.2014 20:31:23

99% Occupied Bandwidth Plot on Channel 20175



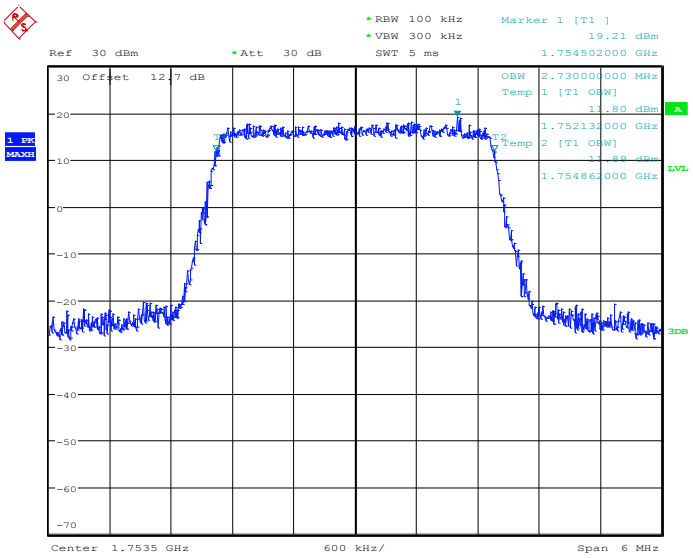
Date: 24.APR.2014 20:37:03

26dB Bandwidth Plot on Channel 20175



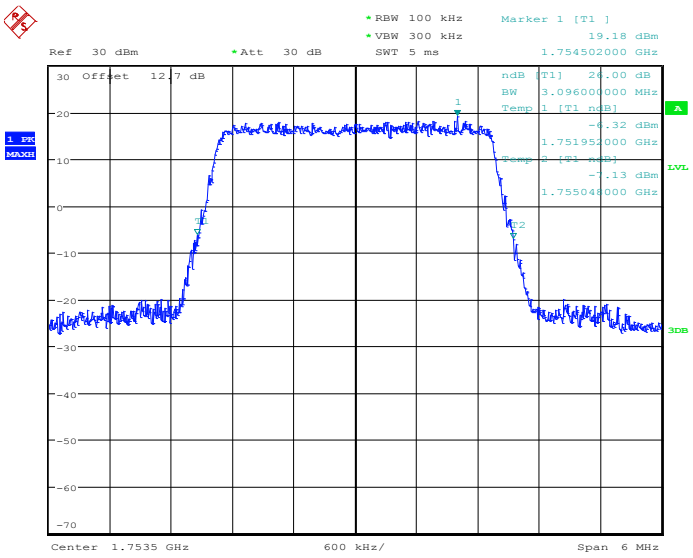
Date: 24.APR.2014 20:37:36

99% Occupied Bandwidth Plot on Channel 20385



Date: 24.APR.2014 20:40:09

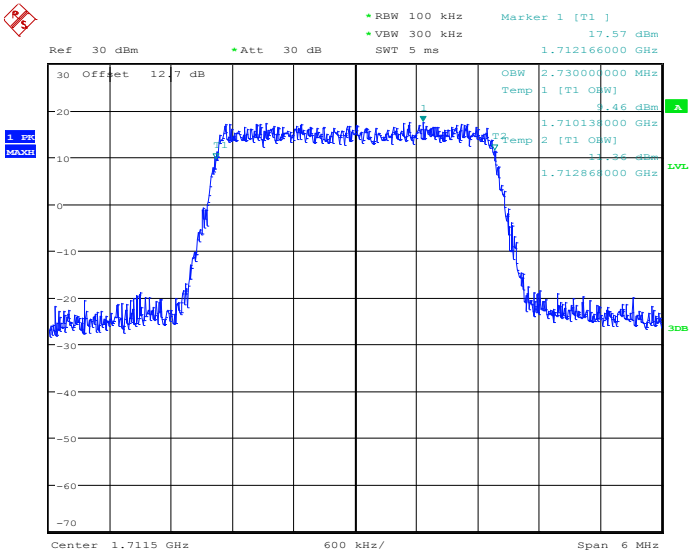
26dB Bandwidth Plot on Channel 20385



Date: 24.APR.2014 20:40:42

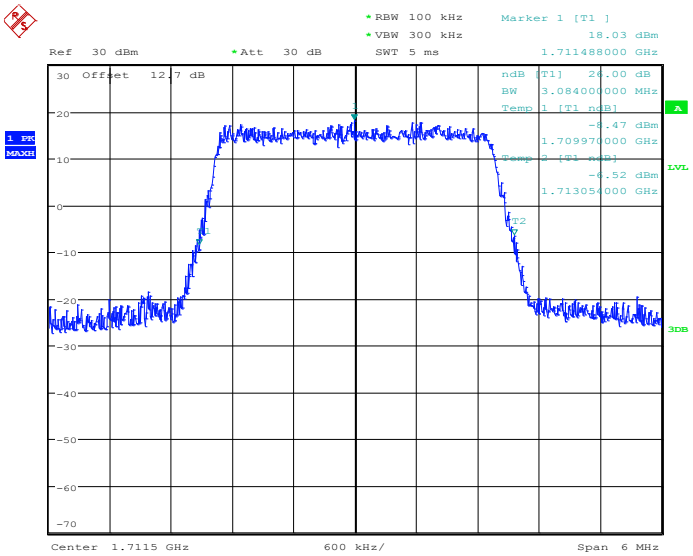
Band :	LTE Band 4	BW / Mod. :	3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 19965



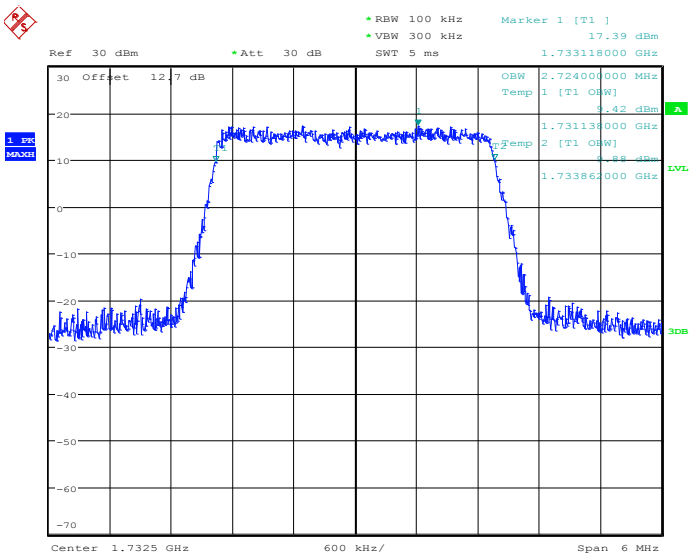
Date: 24.APR.2014 20:31:06

26dB Bandwidth Plot on Channel 19965



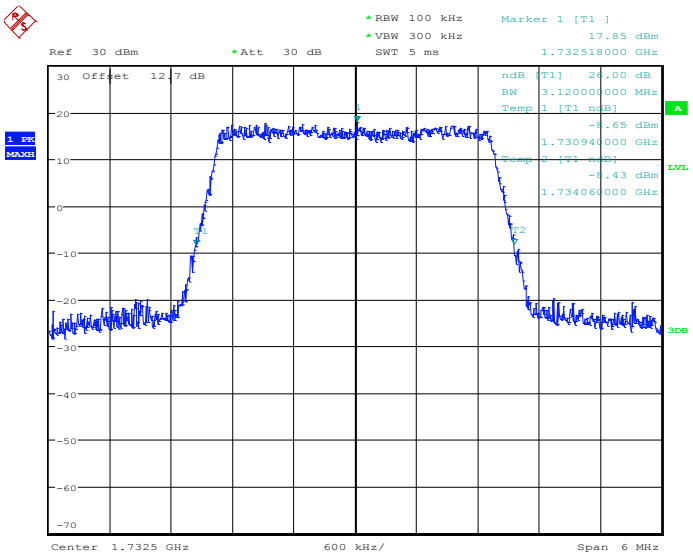
Date: 24.APR.2014 20:31:41

99% Occupied Bandwidth Plot on Channel 20175



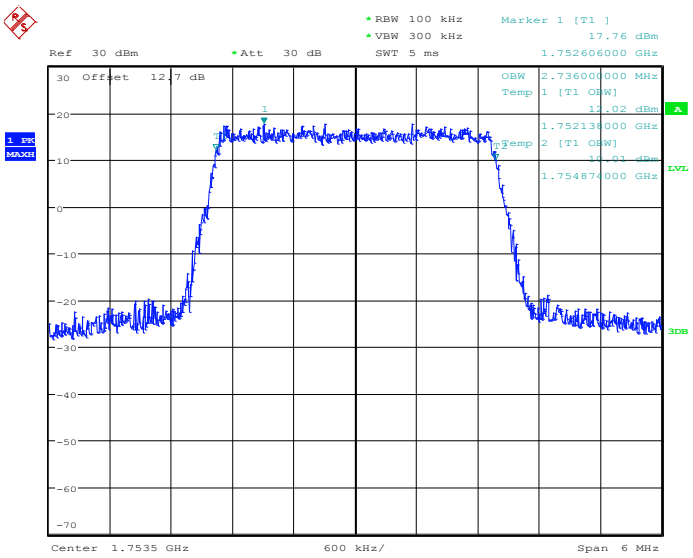
Date: 24.APR.2014 20:37:18

26dB Bandwidth Plot on Channel 20175



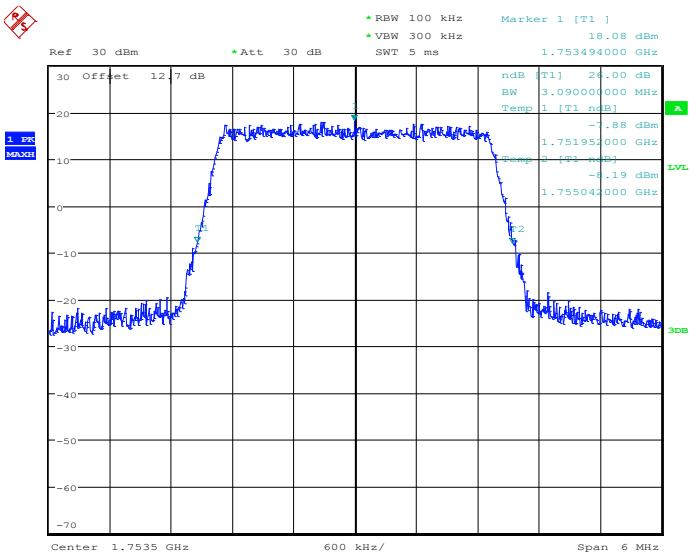
Date: 24.APR.2014 20:37:54

99% Occupied Bandwidth Plot on Channel 20385



Date: 24.APR.2014 20:40:24

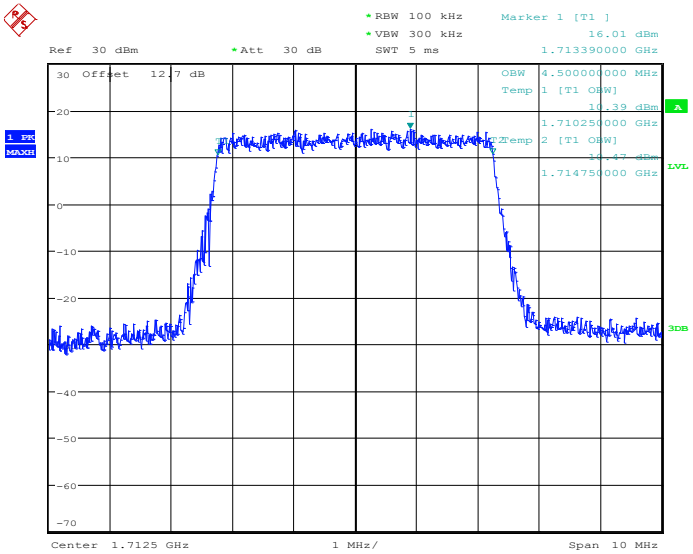
26dB Bandwidth Plot on Channel 20385



Date: 24.APR.2014 20:40:59

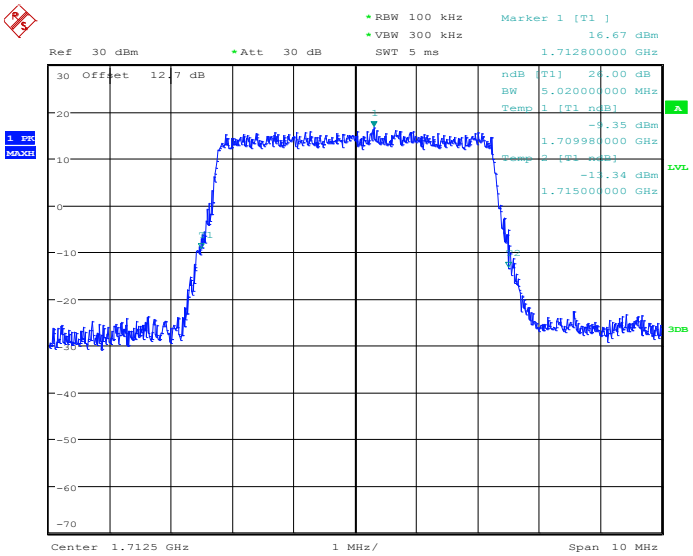
Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 19975



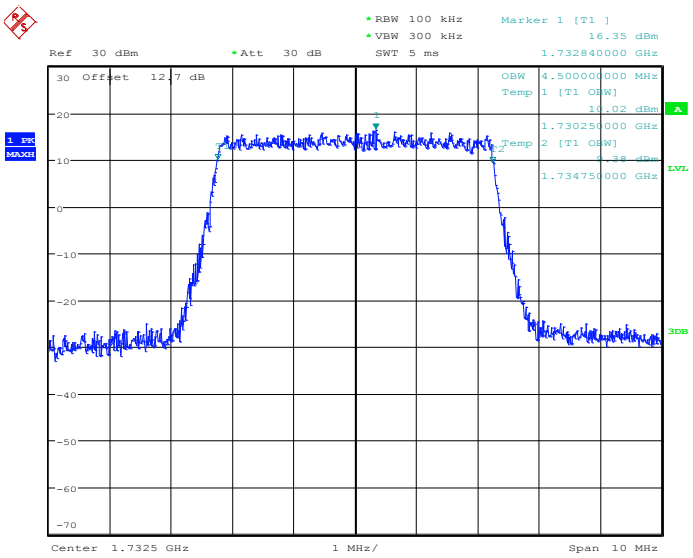
Date: 24.APR.2014 20:46:20

26dB Bandwidth Plot on Channel 19975



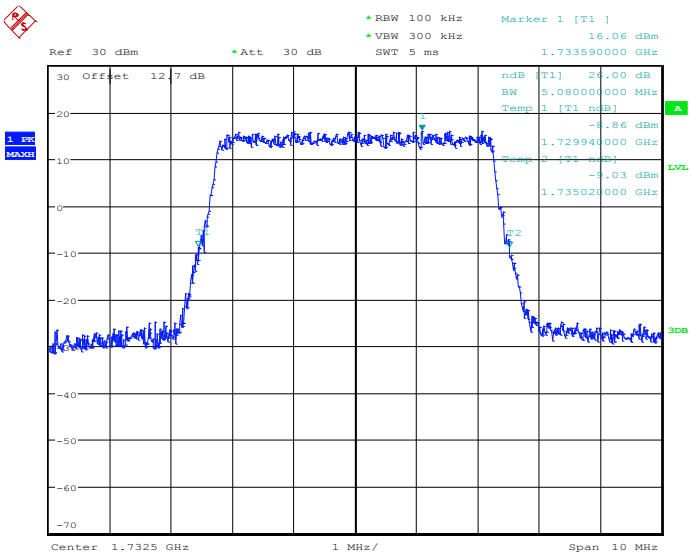
Date: 24.APR.2014 20:46:53

99% Occupied Bandwidth Plot on Channel 20175



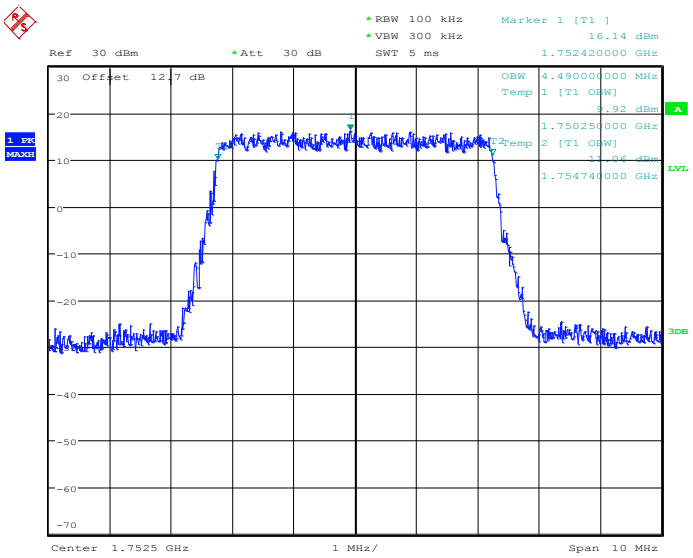
Date: 24.APR.2014 20:52:34

26dB Bandwidth Plot on Channel 20175



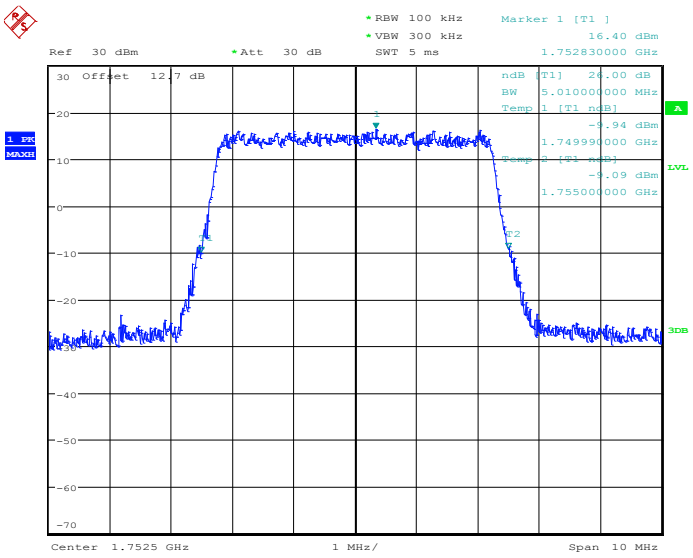
Date: 24.APR.2014 20:53:07

99% Occupied Bandwidth Plot on Channel 20375



Date: 24.APR.2014 20:55:40

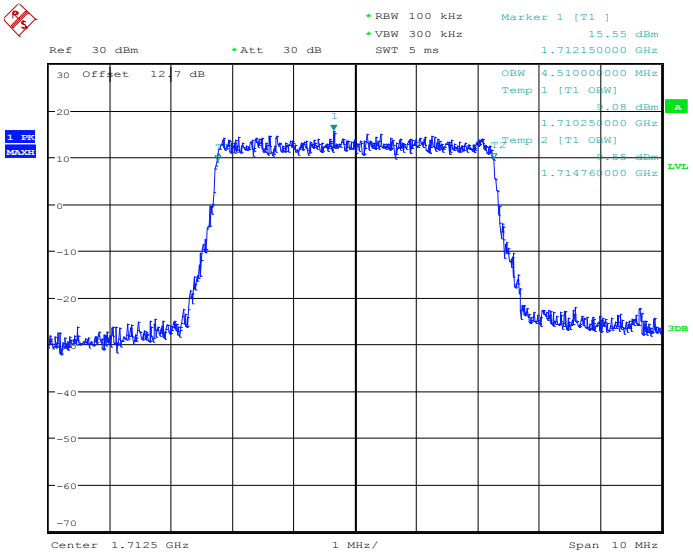
26dB Bandwidth Plot on Channel 20375



Date: 24.APR.2014 20:56:13

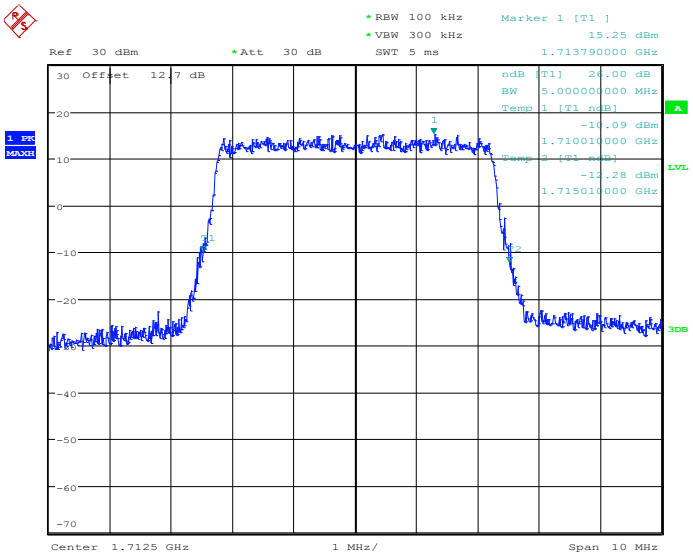
Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 19975



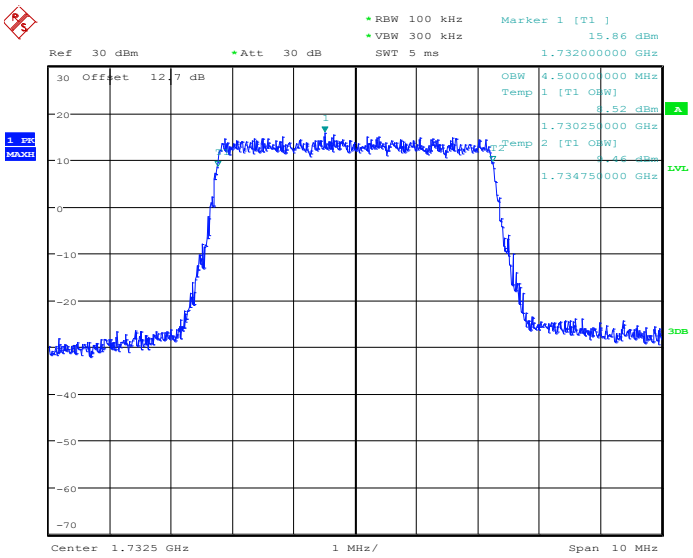
Date: 24.APR.2014 20:46:35

26dB Bandwidth Plot on Channel 19975



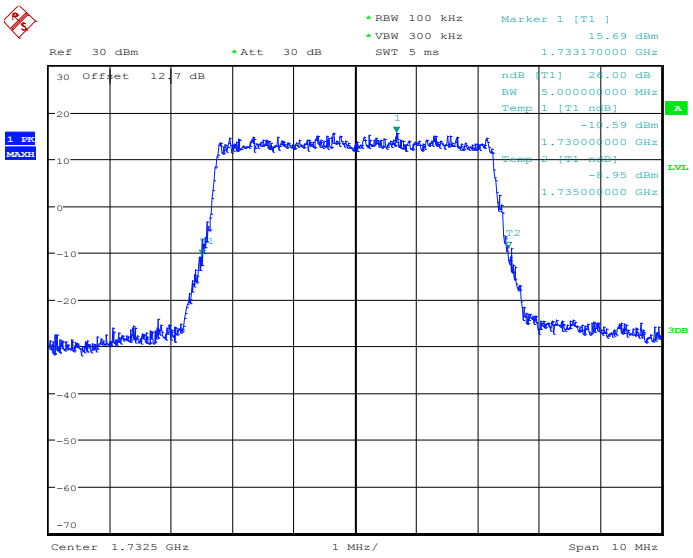
Date: 24.APR.2014 20:47:11

99% Occupied Bandwidth Plot on Channel 20175



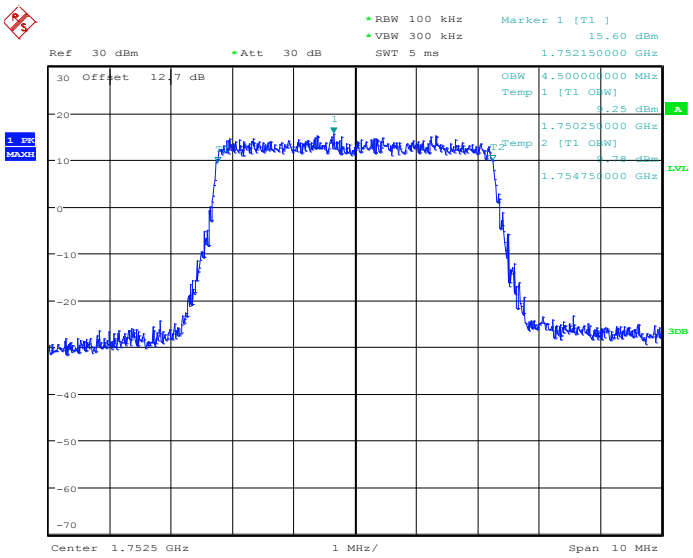
Date: 24.APR.2014 20:52:50

26dB Bandwidth Plot on Channel 20175



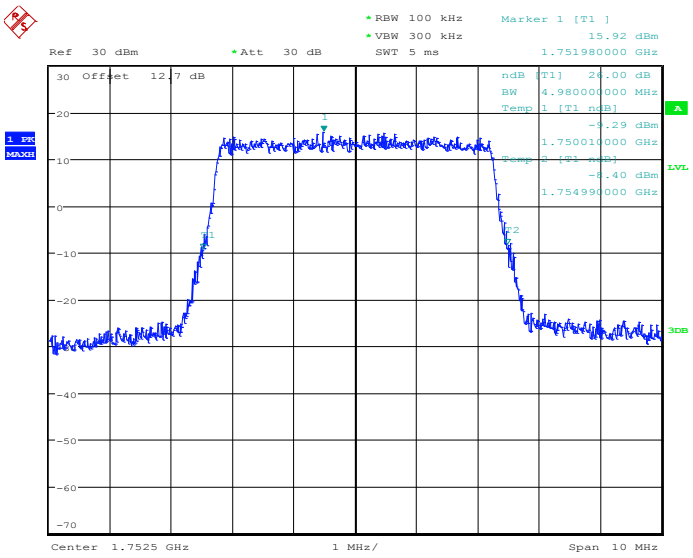
Date: 24.APR.2014 20:53:25

99% Occupied Bandwidth Plot on Channel 20375



Date: 24.APR.2014 20:55:55

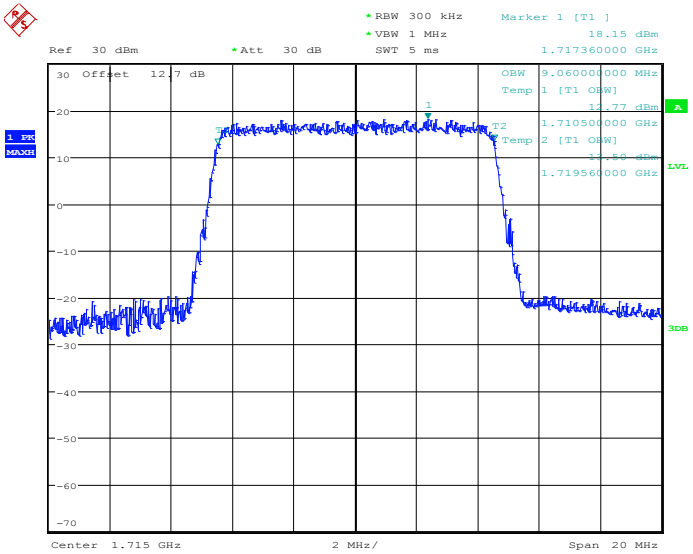
26dB Bandwidth Plot on Channel 20375



Date: 24.APR.2014 20:56:31

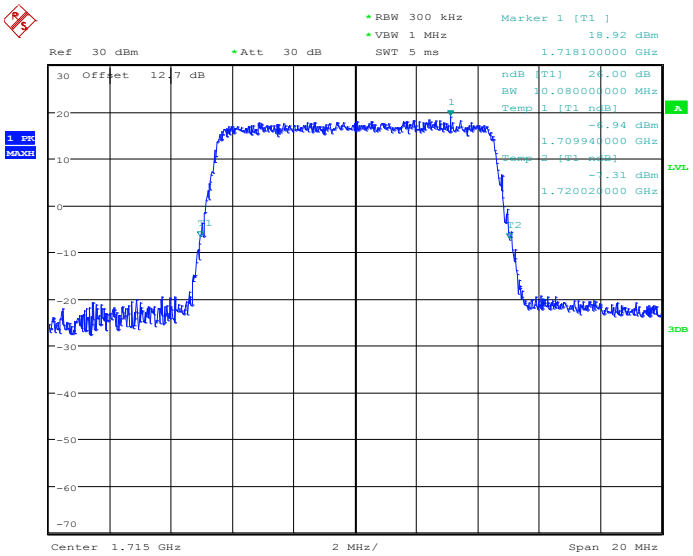
Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20000



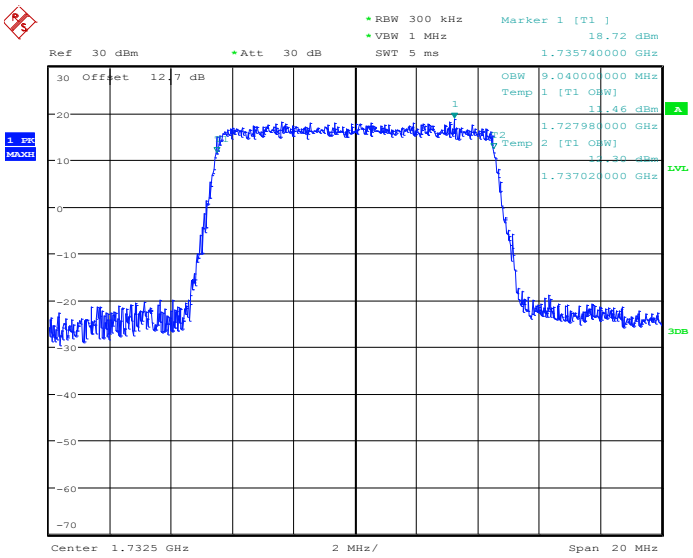
Date: 24.APR.2014 21:01:52

26dB Bandwidth Plot on Channel 20000



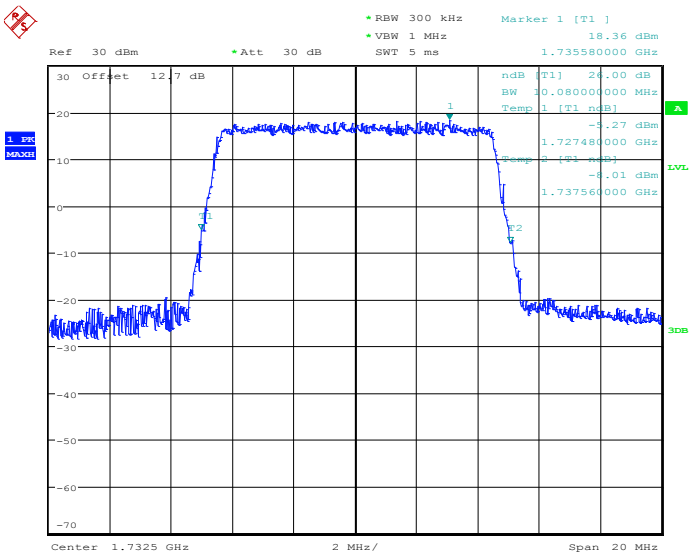
Date: 24.APR.2014 21:02:25

99% Occupied Bandwidth Plot on Channel 20175



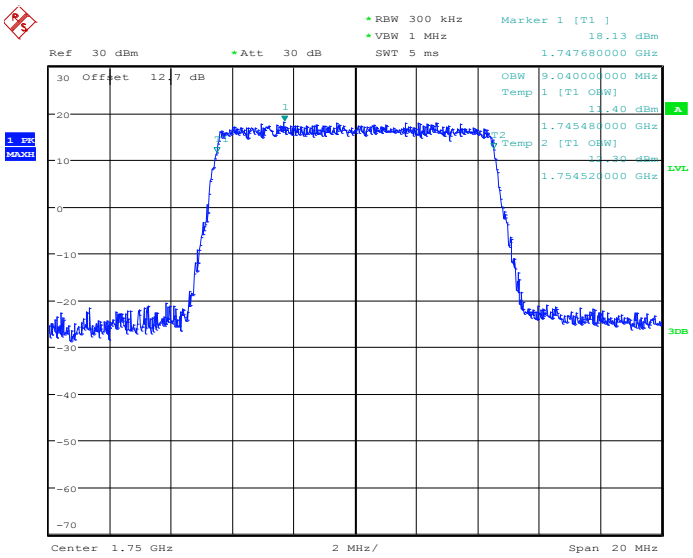
Date: 24.APR.2014 21:08:03

26dB Bandwidth Plot on Channel 20175



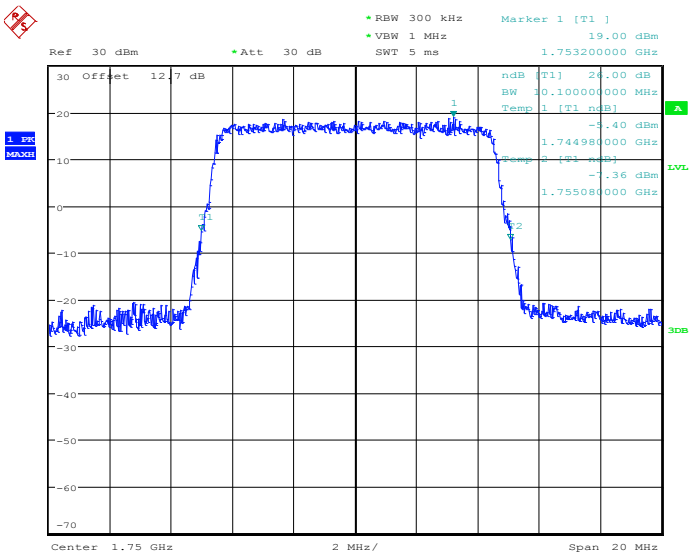
Date: 24.APR.2014 21:08:36

99% Occupied Bandwidth Plot on Channel 20350



Date: 24.APR.2014 21:11:08

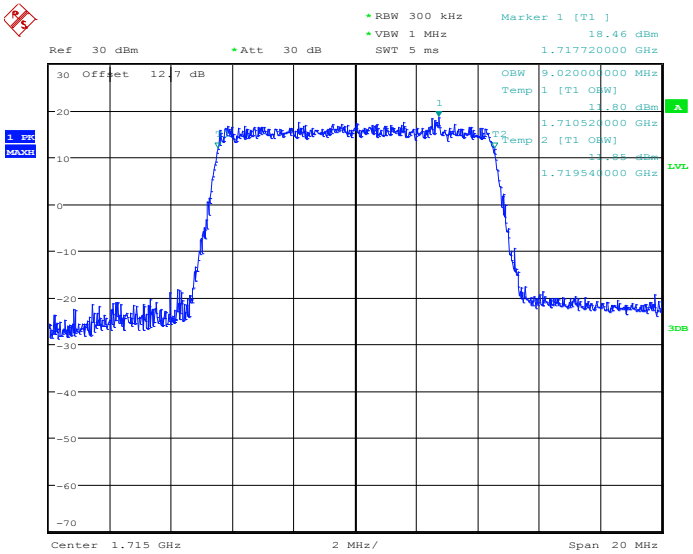
26dB Bandwidth Plot on Channel 20350



Date: 24.APR.2014 21:11:41

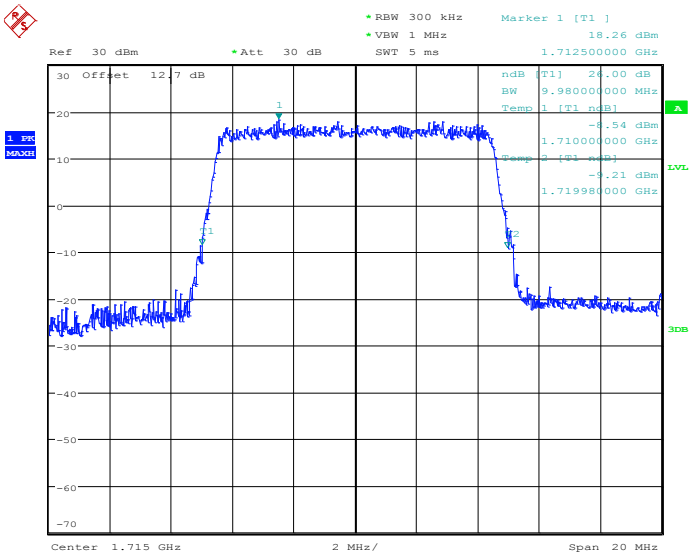
Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20000



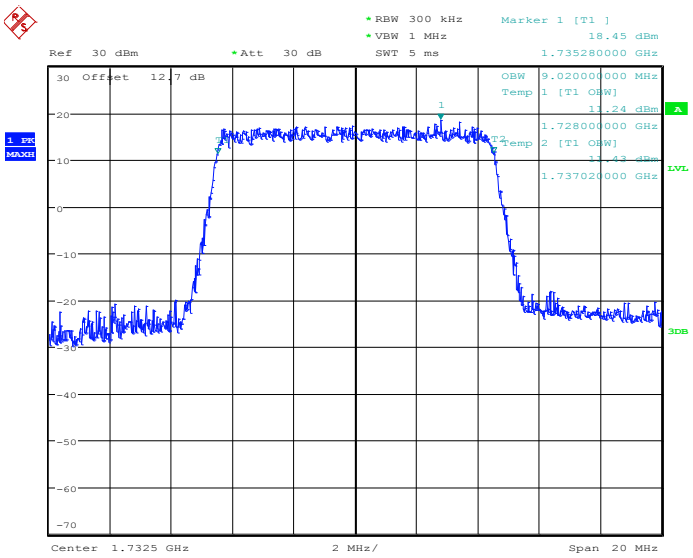
Date: 24.APR.2014 21:02:08

26dB Bandwidth Plot on Channel 20000



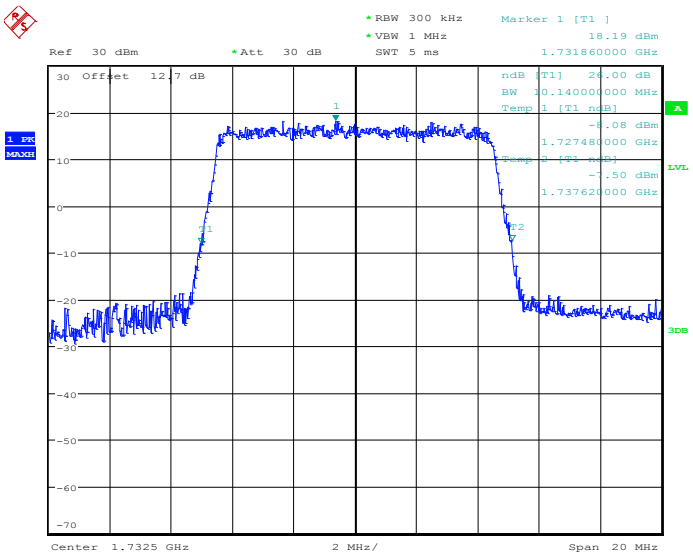
Date: 24.APR.2014 21:02:43

99% Occupied Bandwidth Plot on Channel 20175



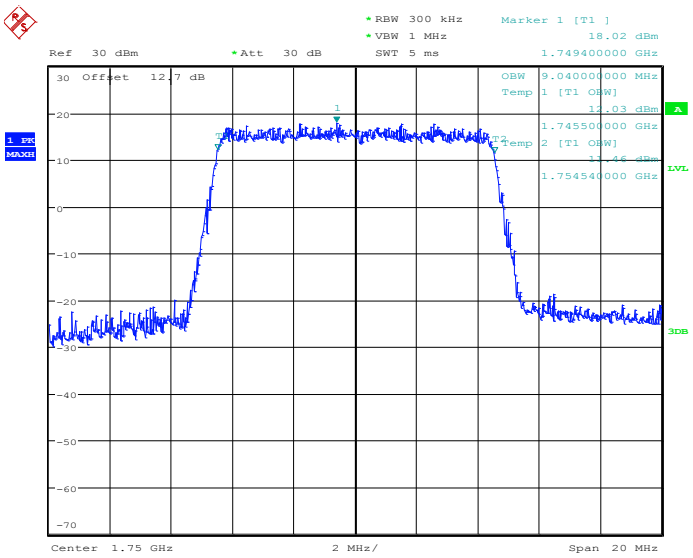
Date: 24.APR.2014 21:08:18

26dB Bandwidth Plot on Channel 20175



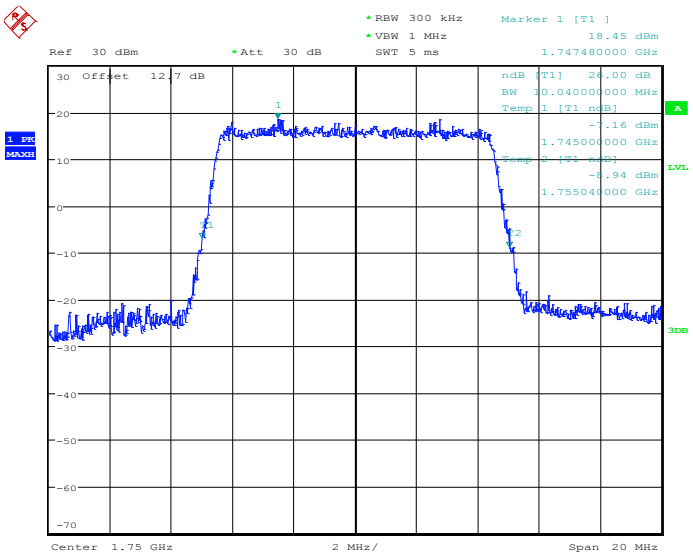
Date: 24.APR.2014 21:08:54

99% Occupied Bandwidth Plot on Channel 20350



Date: 24.APR.2014 21:11:24

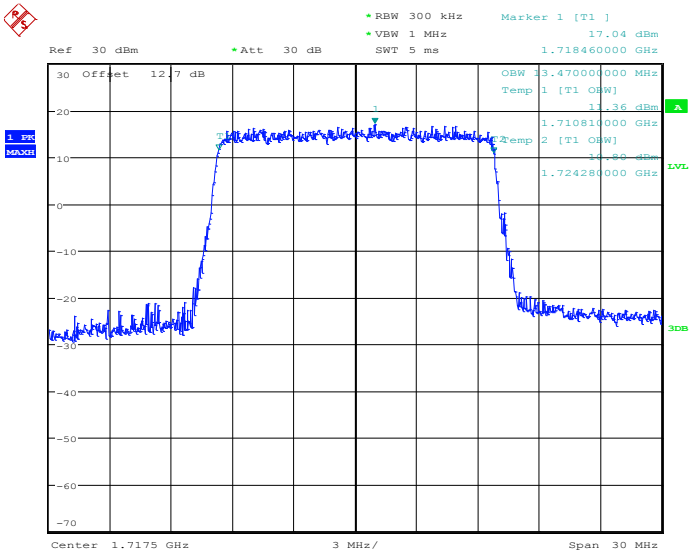
26dB Bandwidth Plot on Channel 20350



Date: 24.APR.2014 21:11:59

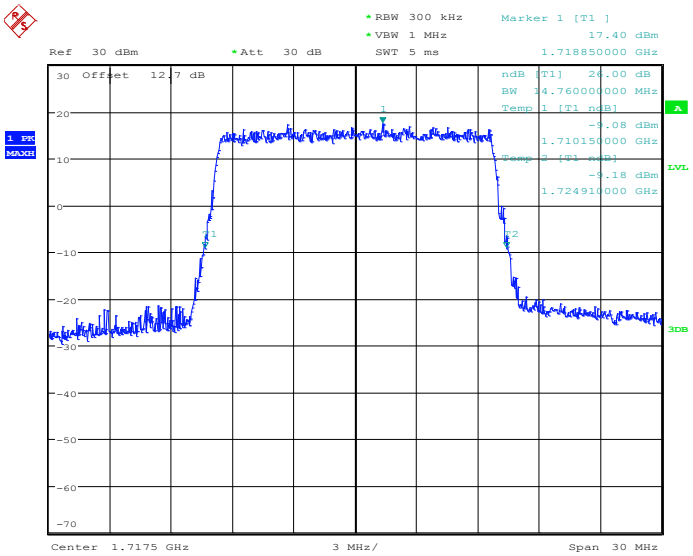
Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20025



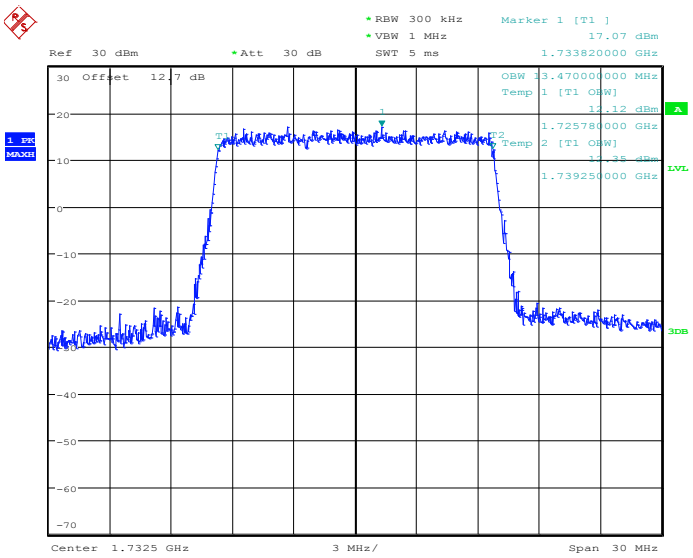
Date: 24.APR.2014 21:17:20

26dB Bandwidth Plot on Channel 20025



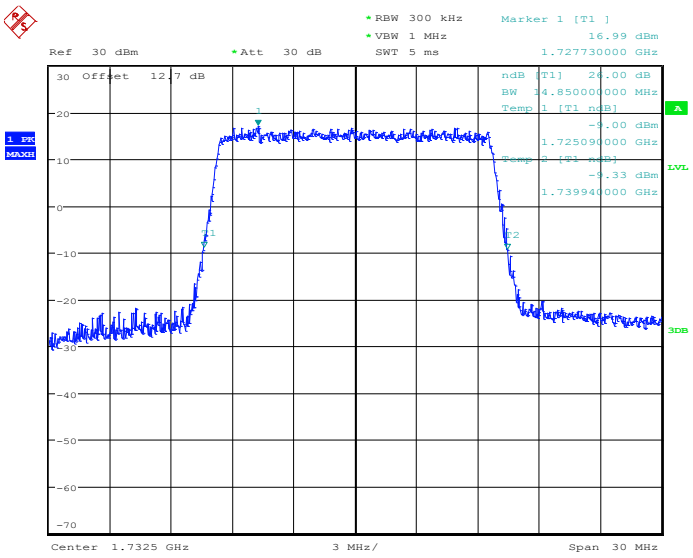
Date: 24.APR.2014 21:17:53

99% Occupied Bandwidth Plot on Channel 20175



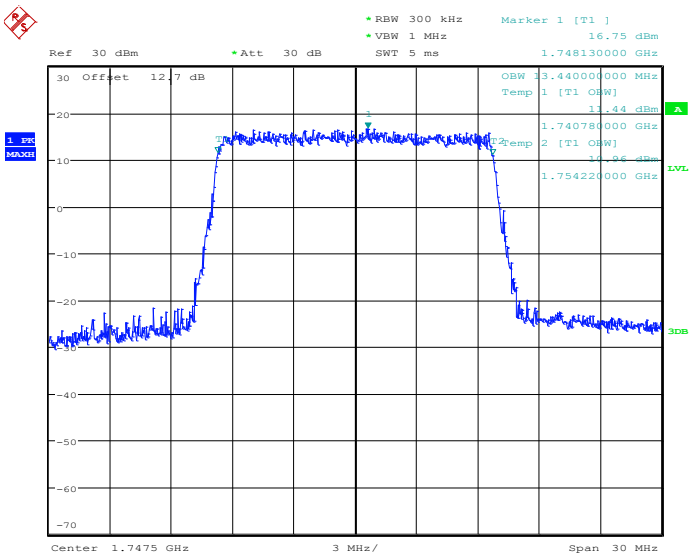
Date: 24.APR.2014 21:23:31

26dB Bandwidth Plot on Channel 20175



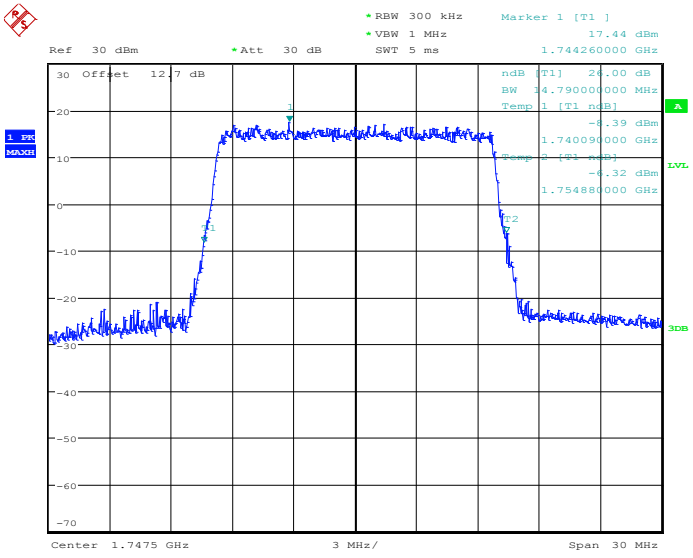
Date: 24.APR.2014 21:24:05

99% Occupied Bandwidth Plot on Channel 20325



Date: 24.APR.2014 21:26:37

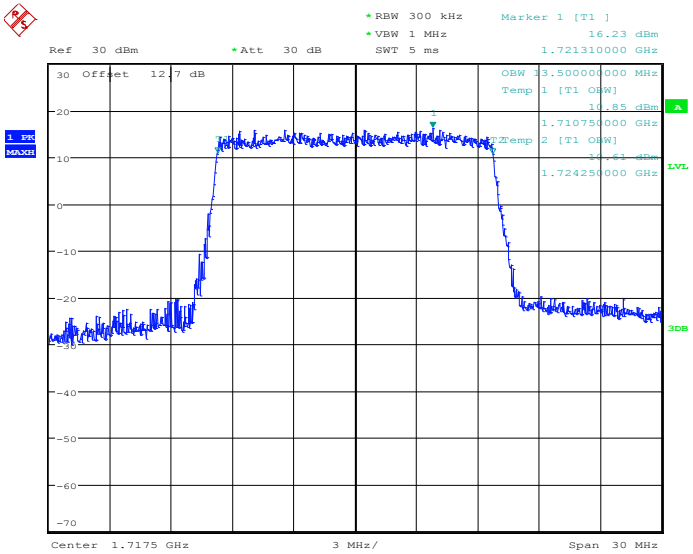
26dB Bandwidth Plot on Channel 20325



Date: 24.APR.2014 21:27:11

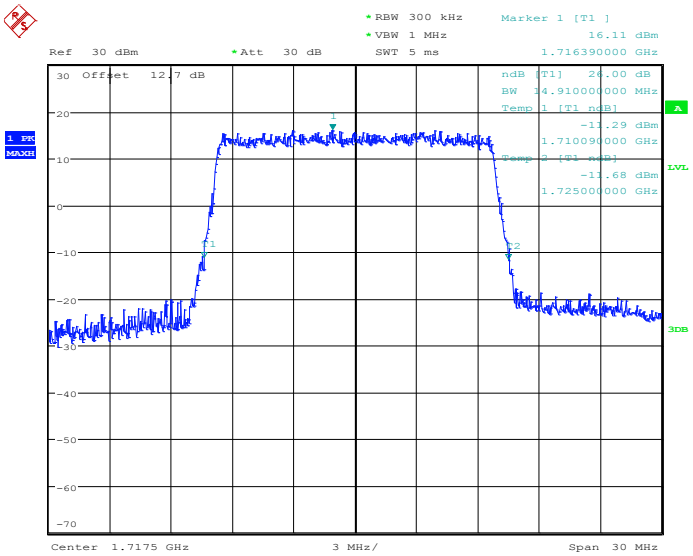
Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20025



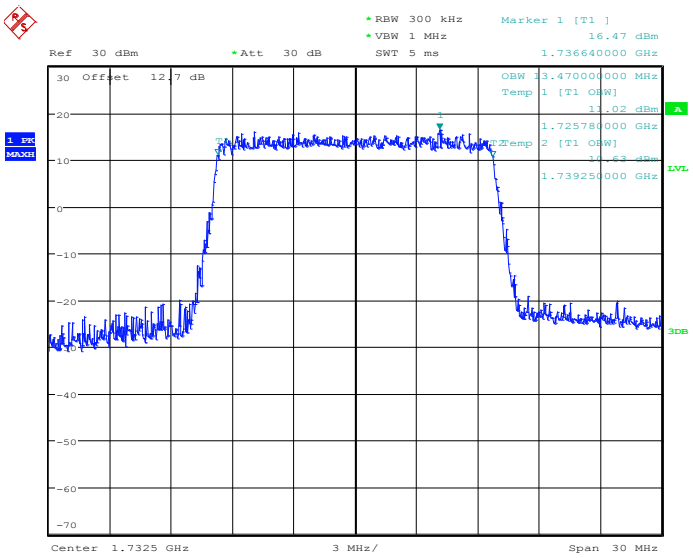
Date: 24.APR.2014 21:17:36

26dB Bandwidth Plot on Channel 20025



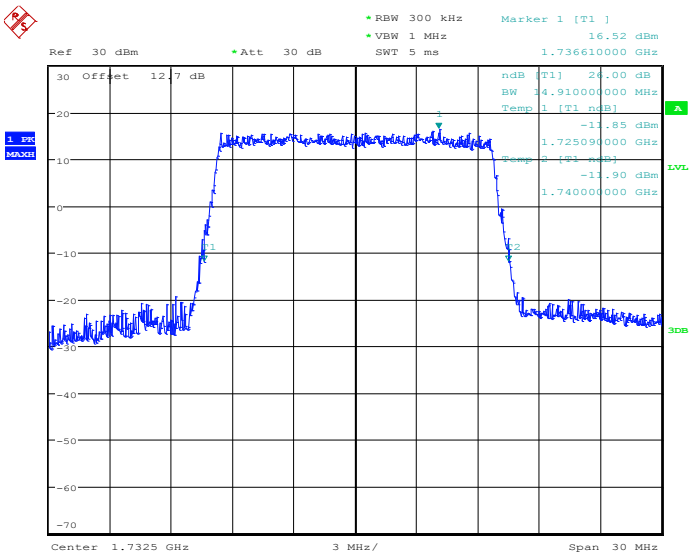
Date: 24.APR.2014 21:18:11

99% Occupied Bandwidth Plot on Channel 20175



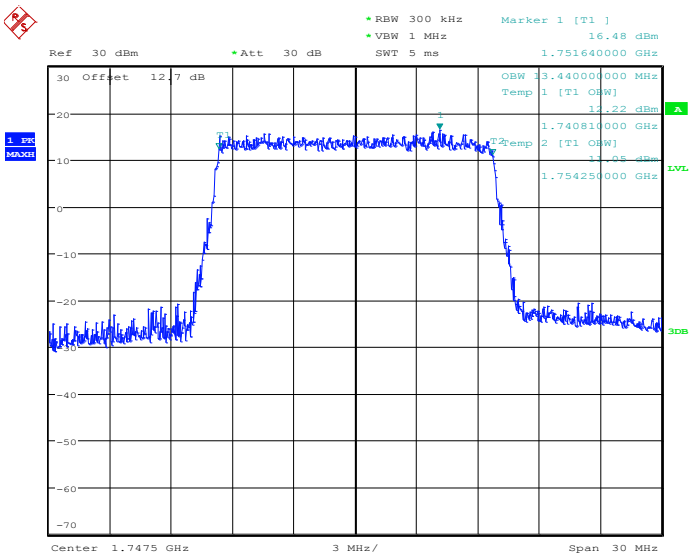
Date: 24.APR.2014 21:23:47

26dB Bandwidth Plot on Channel 20175

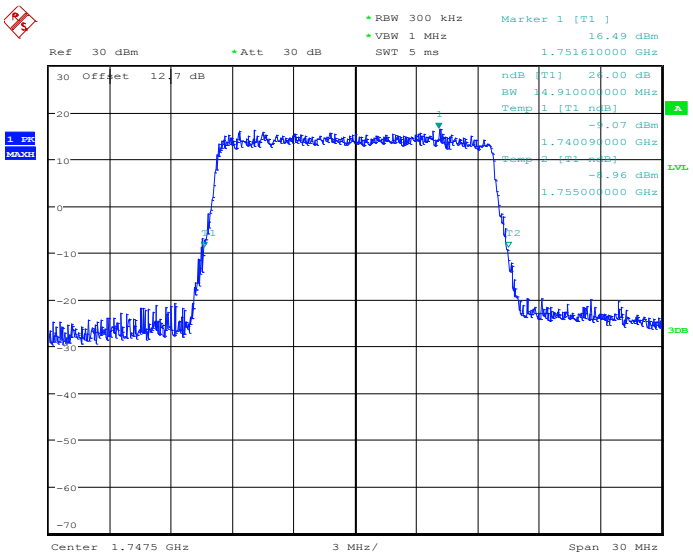


Date: 24.APR.2014 21:24:22

99% Occupied Bandwidth Plot on Channel 20325

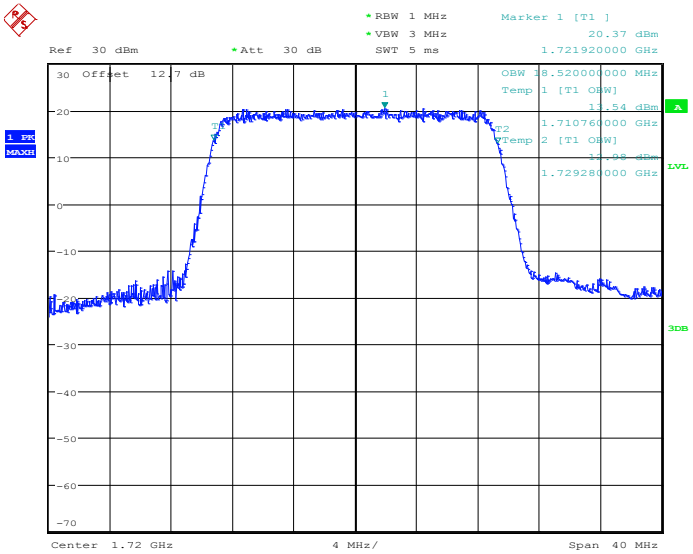


26dB Bandwidth Plot on Channel 20325



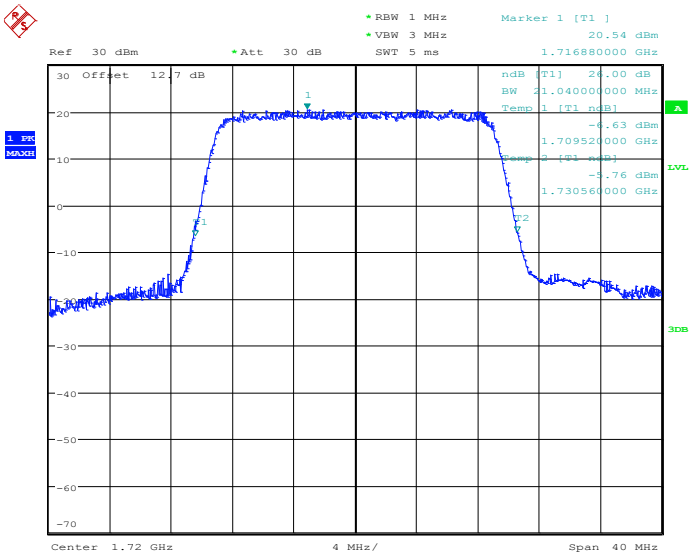
Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20050



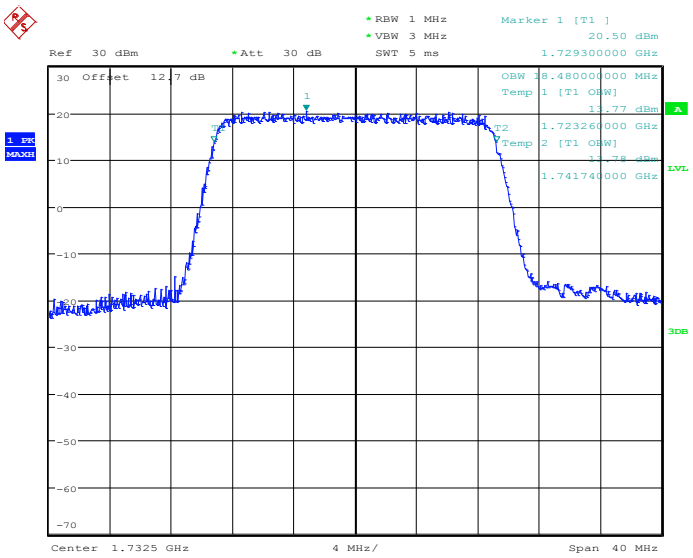
Date: 24.APR.2014 21:32:50

26dB Bandwidth Plot on Channel 20050



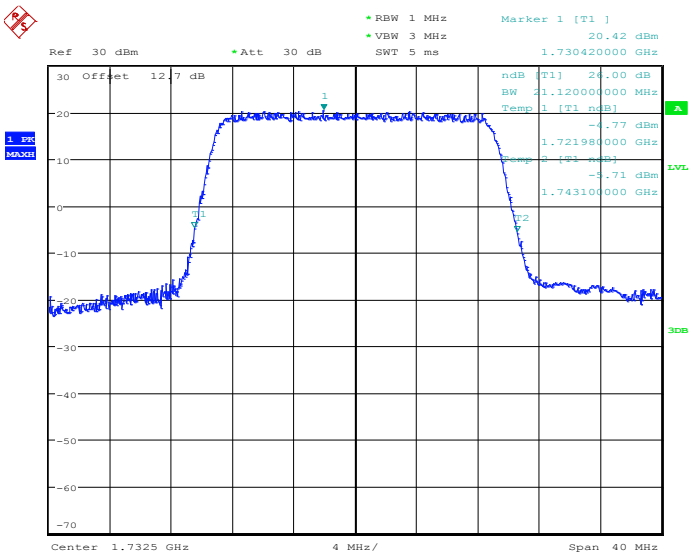
Date: 24.APR.2014 21:33:23

99% Occupied Bandwidth Plot on Channel 20175



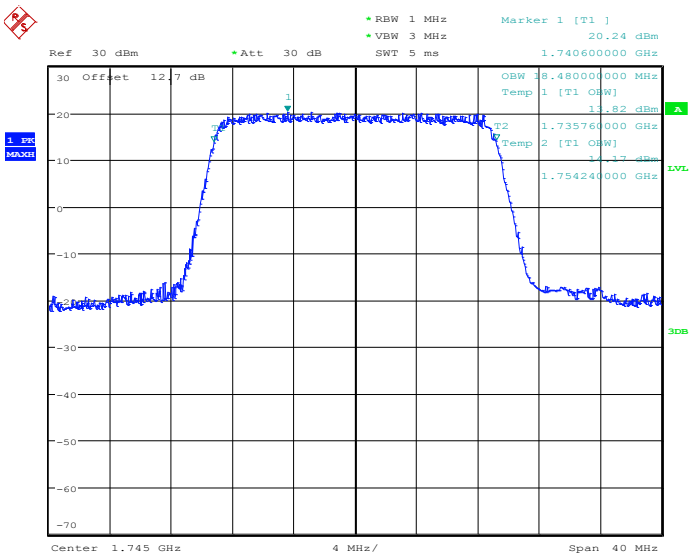
Date: 24.APR.2014 21:39:01

26dB Bandwidth Plot on Channel 20175



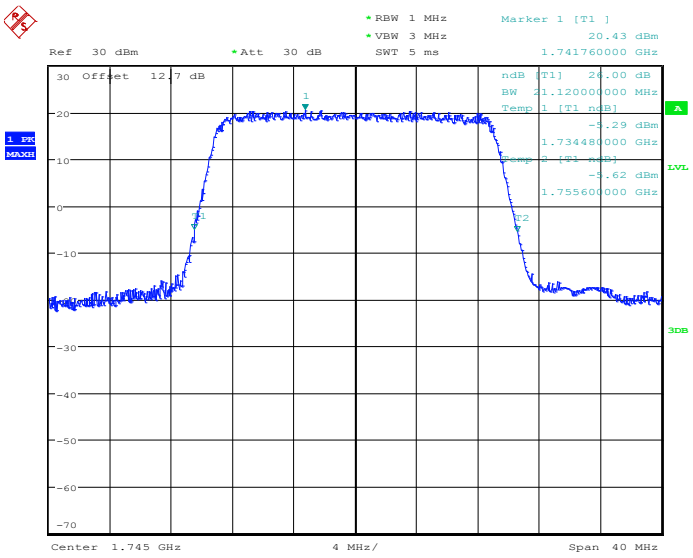
Date: 24.APR.2014 21:39:34

99% Occupied Bandwidth Plot on Channel 20300



Date: 24.APR.2014 21:42:07

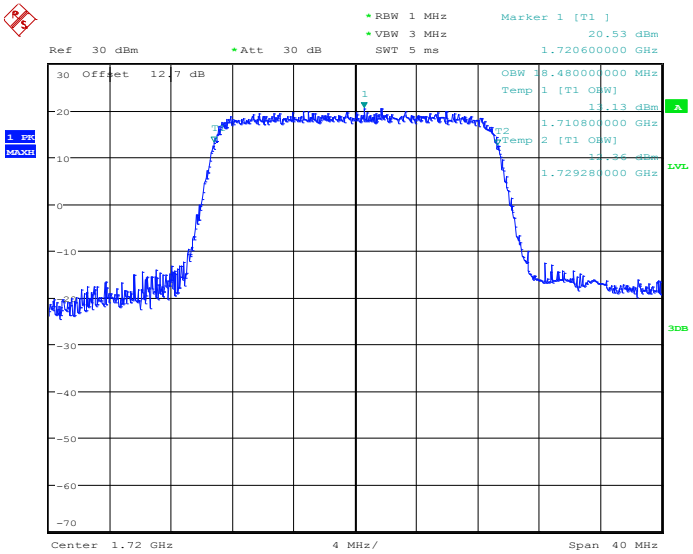
26dB Bandwidth Plot on Channel 20300



Date: 24.APR.2014 21:42:40

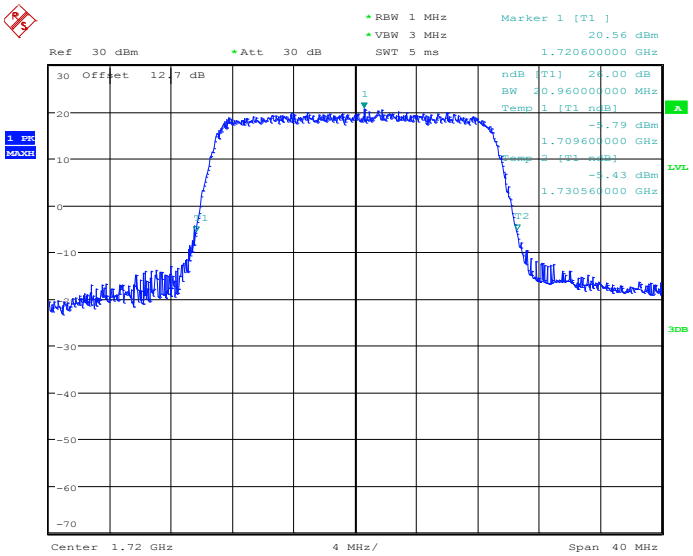
Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20050



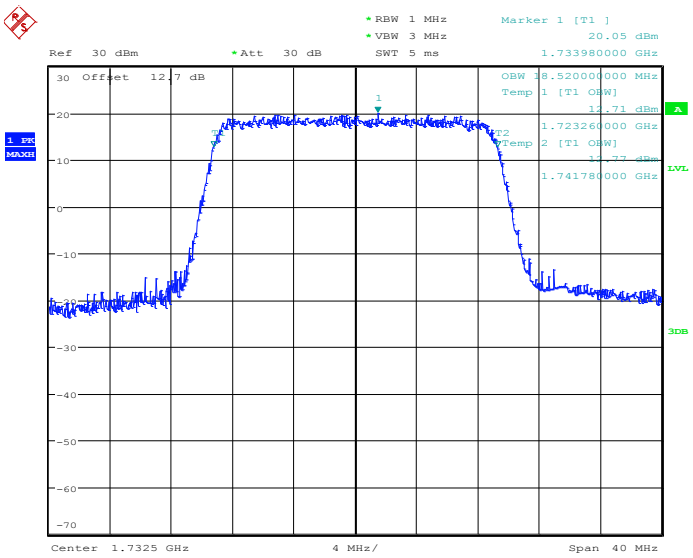
Date: 24.APR.2014 21:33:06

26dB Bandwidth Plot on Channel 20050



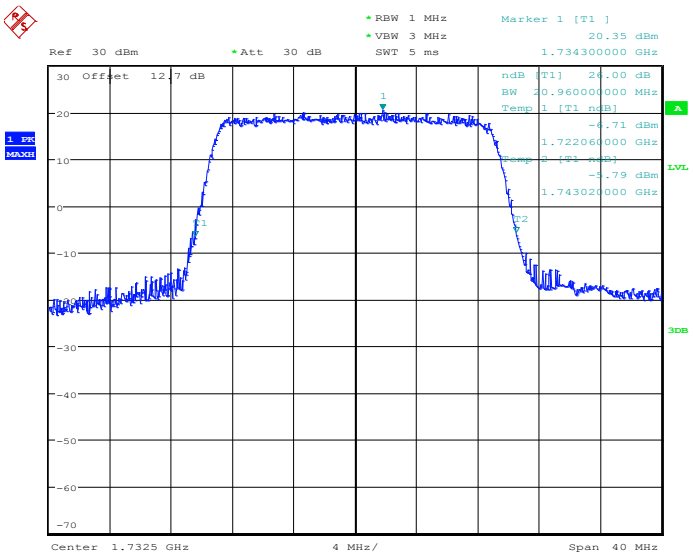
Date: 24.APR.2014 21:33:41

99% Occupied Bandwidth Plot on Channel 20175



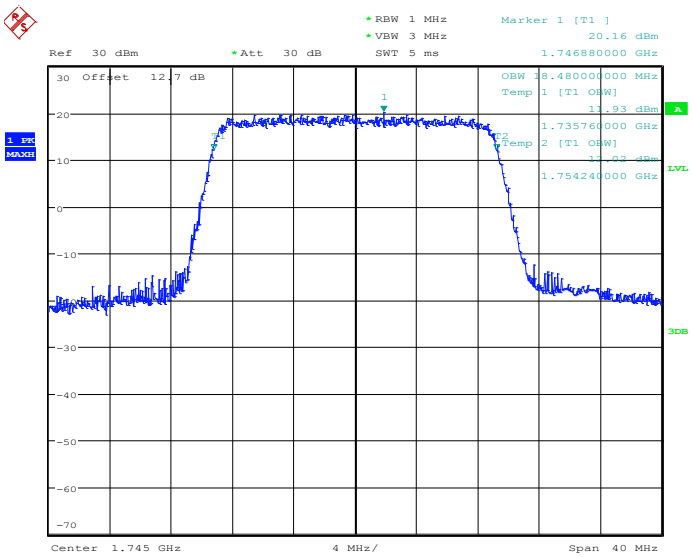
Date: 24.APR.2014 21:39:16

26dB Bandwidth Plot on Channel 20175



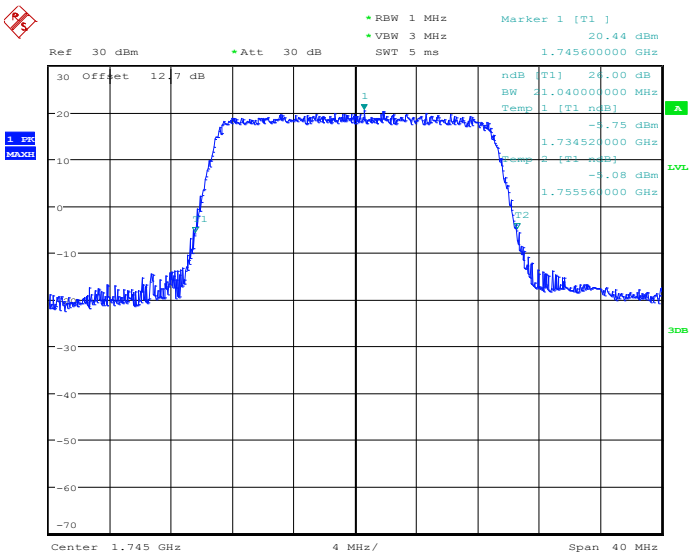
Date: 24.APR.2014 21:39:52

99% Occupied Bandwidth Plot on Channel 20300



Date: 24.APR.2014 21:42:23

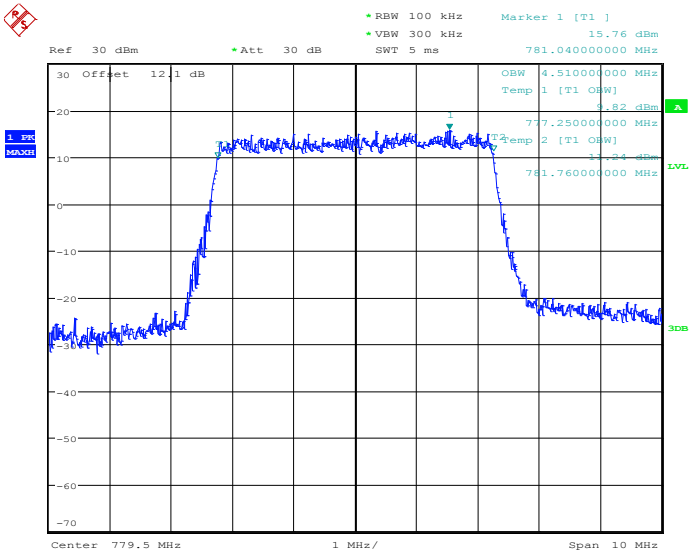
26dB Bandwidth Plot on Channel 20300



Date: 24.APR.2014 21:42:58

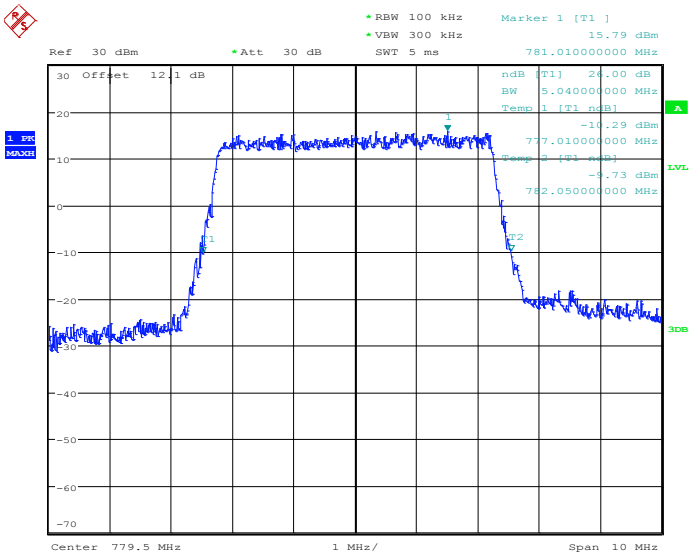
Band :	LTE Band 13	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23205



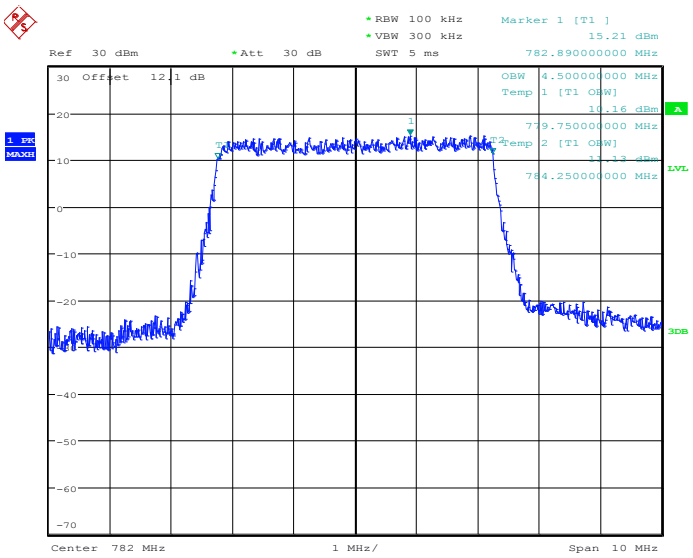
Date: 24.APR.2014 22:54:49

26dB Bandwidth Plot on Channel 23205

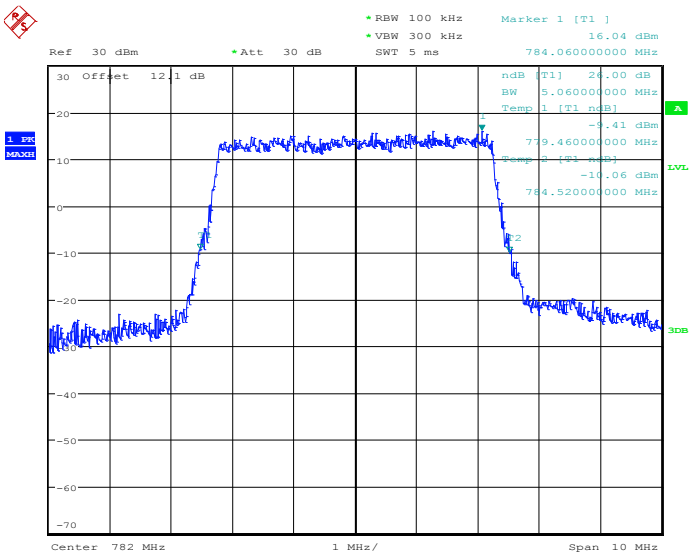


Date: 24.APR.2014 22:55:08

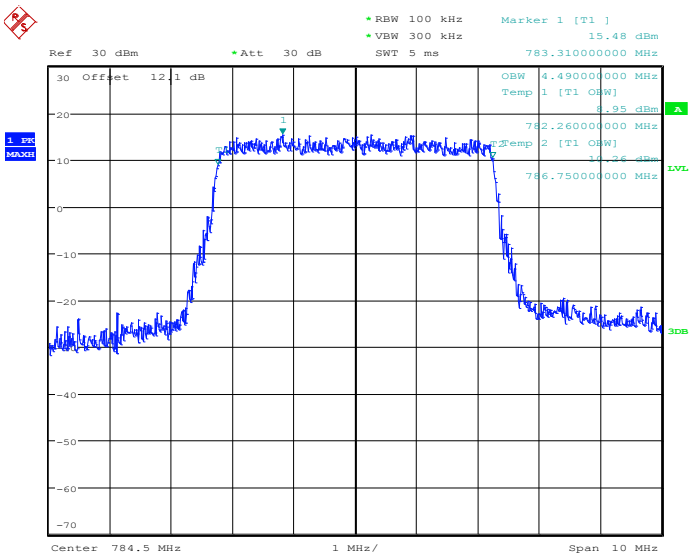
99% Occupied Bandwidth Plot on Channel 23230



26dB Bandwidth Plot on Channel 23230

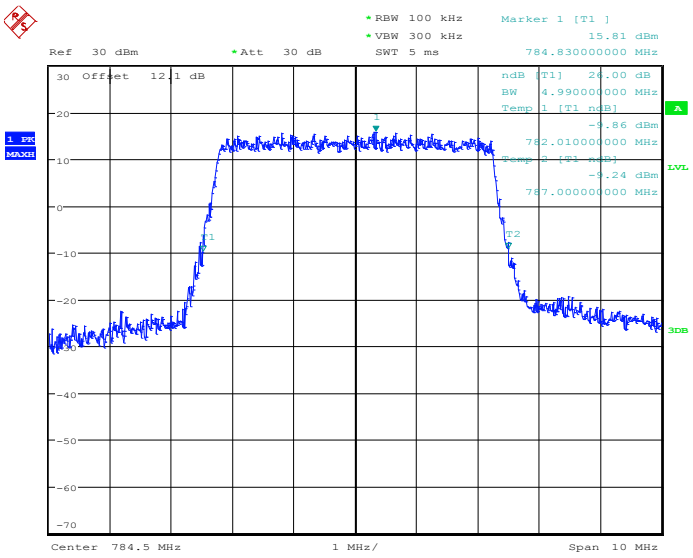


99% Occupied Bandwidth Plot on Channel 23255



Date: 24.APR.2014 22:57:03

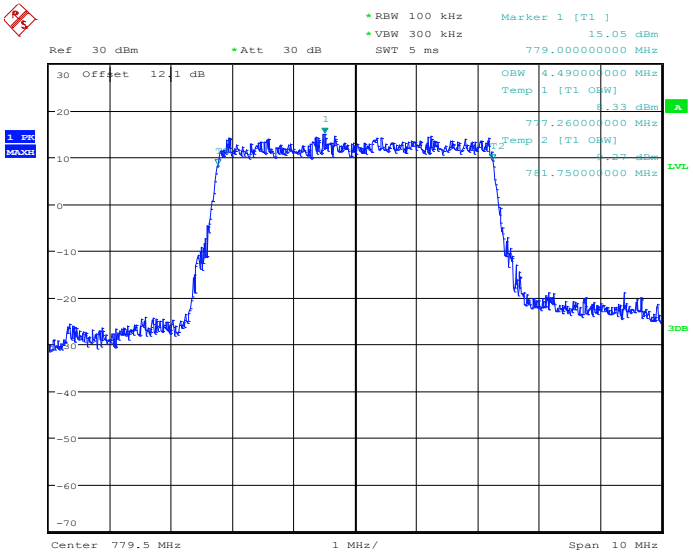
26dB Bandwidth Plot on Channel 23255



Date: 24.APR.2014 22:57:21

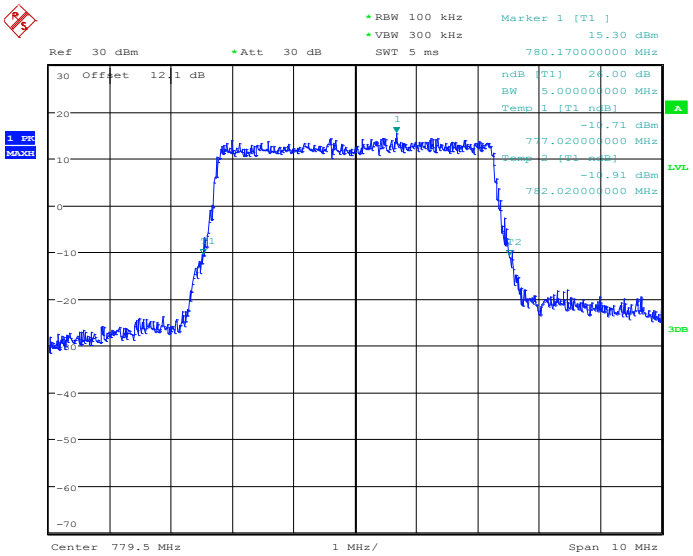
Band :	LTE Band 13	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23205



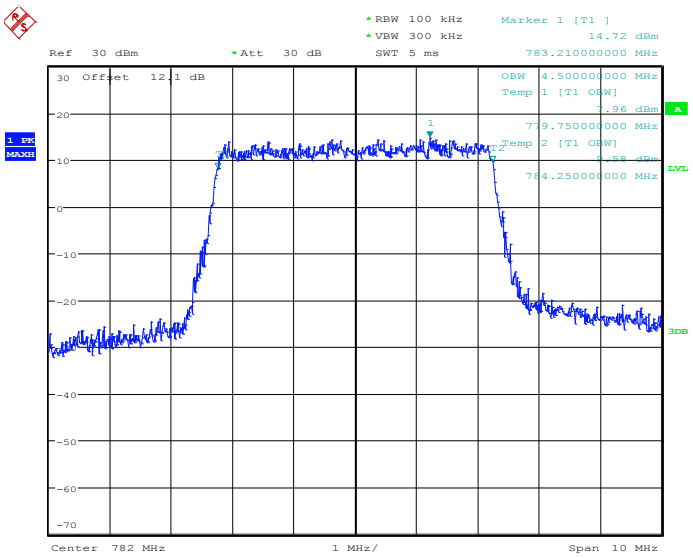
Date: 24.APR.2014 22:55:24

26dB Bandwidth Plot on Channel 23205



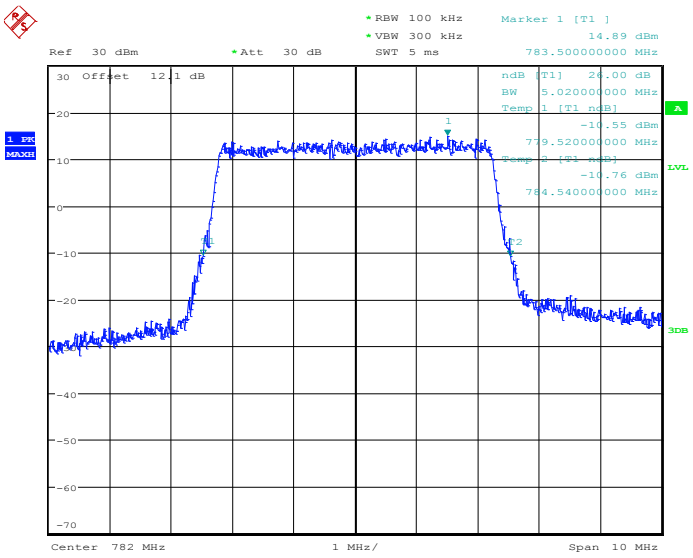
Date: 24.APR.2014 22:55:41

99% Occupied Bandwidth Plot on Channel 23230



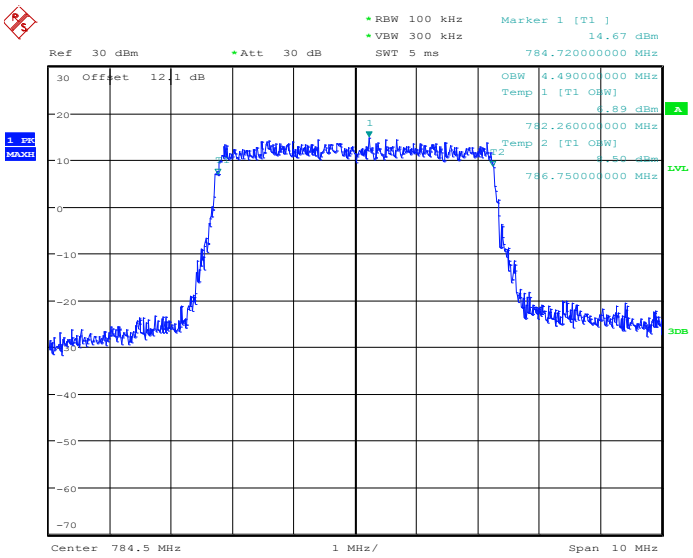
Date: 24.APR.2014 22:56:30

26dB Bandwidth Plot on Channel 23230



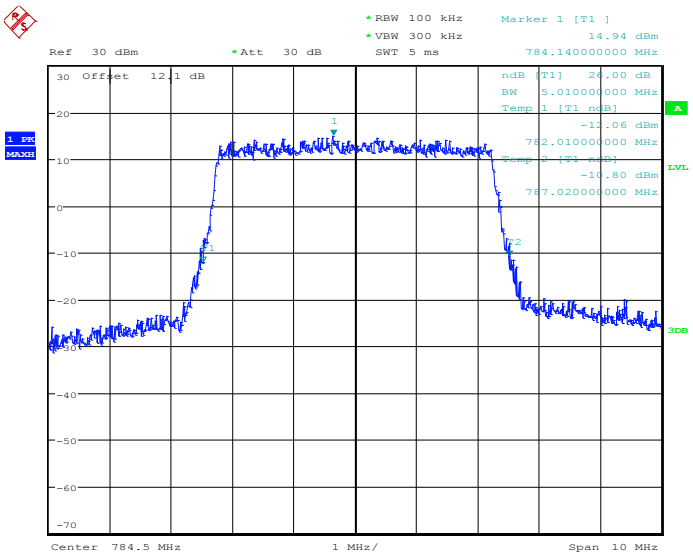
Date: 24.APR.2014 22:56:48

99% Occupied Bandwidth Plot on Channel 23255



Date: 24.APR.2014 22:57:37

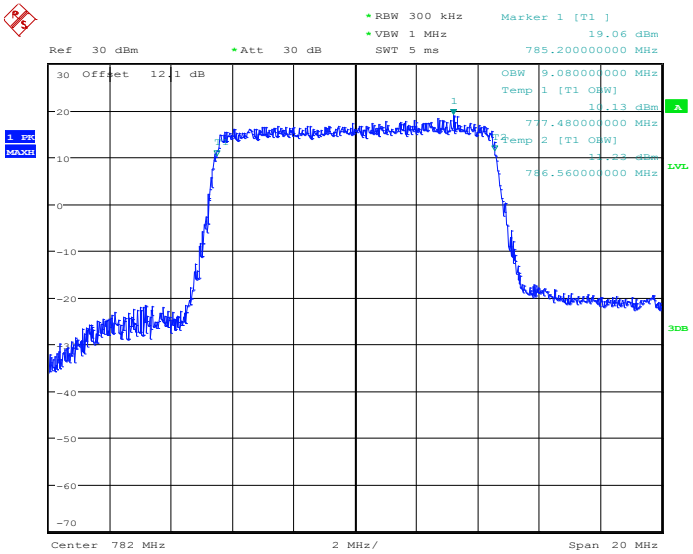
26dB Bandwidth Plot on Channel 23255



Date: 24.APR.2014 22:57:54

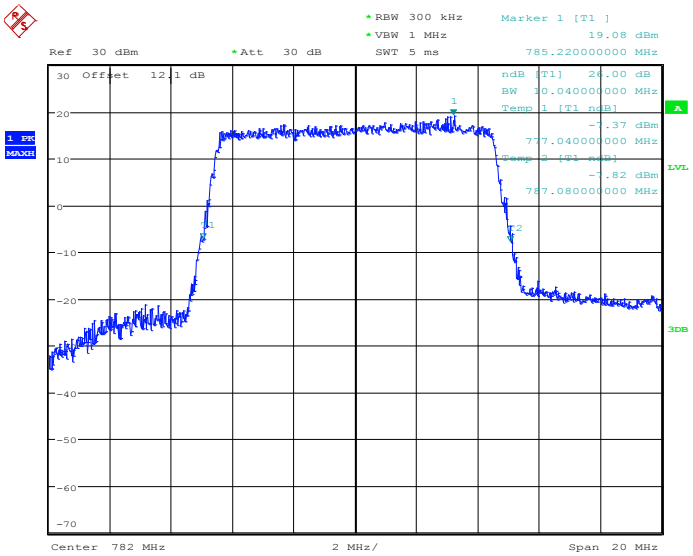
Band :	LTE Band 13	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23230



Date: 24.APR.2014 22:58:10

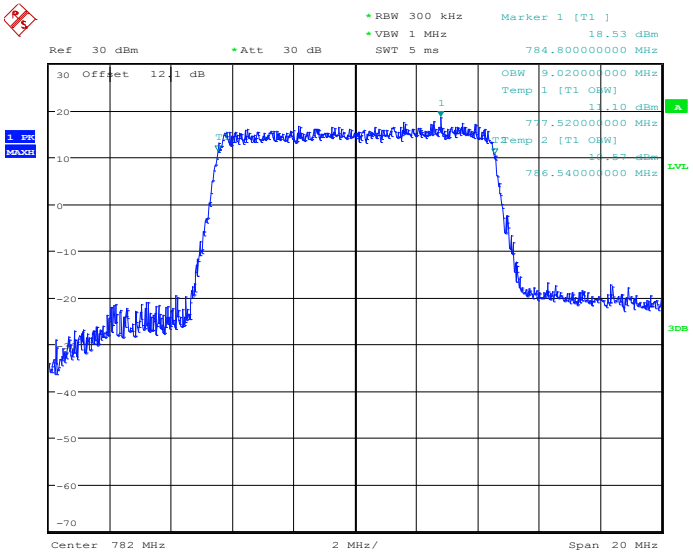
26dB Bandwidth Plot on Channel 23230



Date: 24.APR.2014 22:58:28

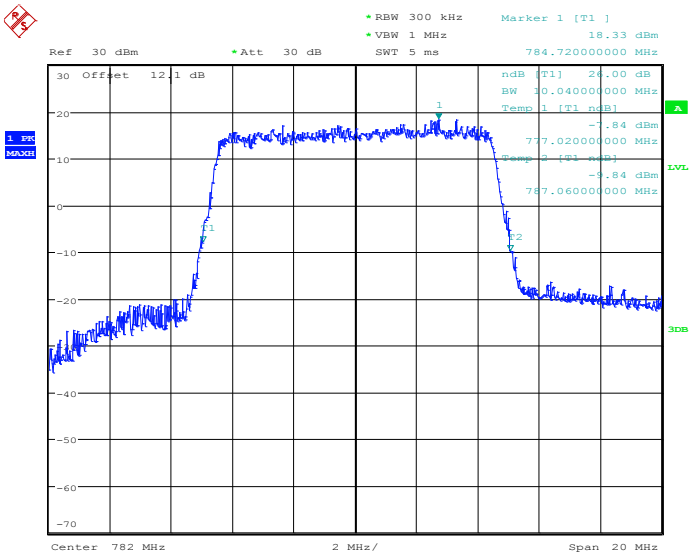
Band :	LTE Band 13	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23230



Date: 24.APR.2014 22:58:43

26dB Bandwidth Plot on Channel 23230



Date: 24.APR.2014 22:59:01

3.4 Conducted Band Edge Measurement

3.4.1 Description of Conducted Band Edge Measurement

27.53 (c) for Band 13

For operations in the 776-788 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(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 log10 p(watts), dB, for mobile and portable equipment.

27.53 (h) for Band 4

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(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.

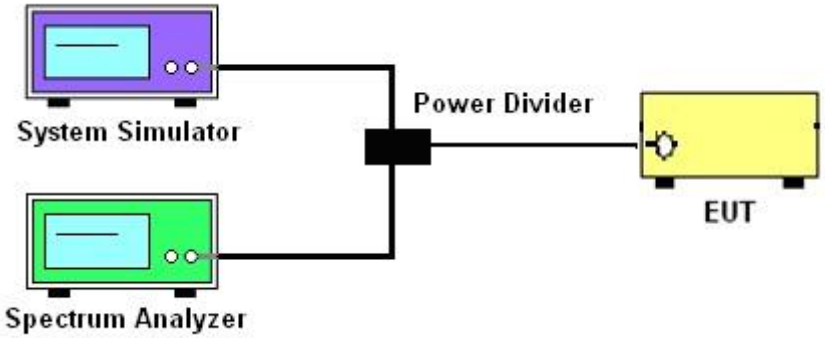
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

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

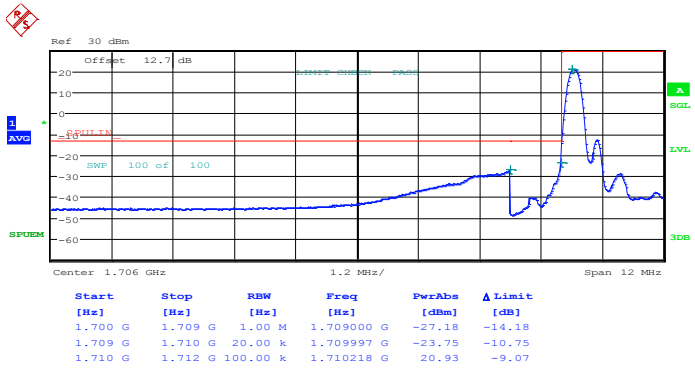
3.4.4 Test Setup



3.4.5 Test Result (Plots) of Conducted Band Edge

Band :	LTE Band 4	Band Width :	1.4MHz / QPSK

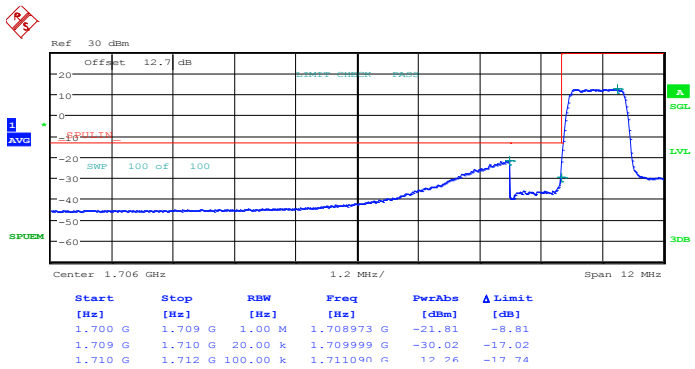
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-27.18	-14.18
1.709 G	1.710 G	20.00 k	1.709997 G	-23.75	-10.75
1.710 G	1.712 G	100.00 k	1.710218 G	20.93	-9.07

Date: 24.APR.2014 20:16:56

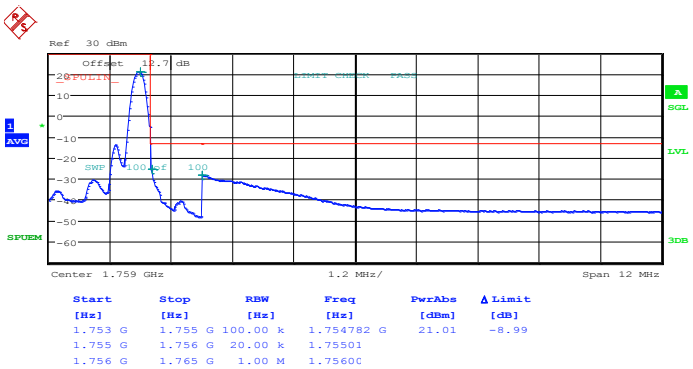
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708973 G	-21.81	-8.81
1.709 G	1.710 G	20.00 k	1.709999 G	-30.02	-17.02
1.710 G	1.712 G	100.00 k	1.711090 G	12.26	-17.74

Date: 24.APR.2014 20:18:30

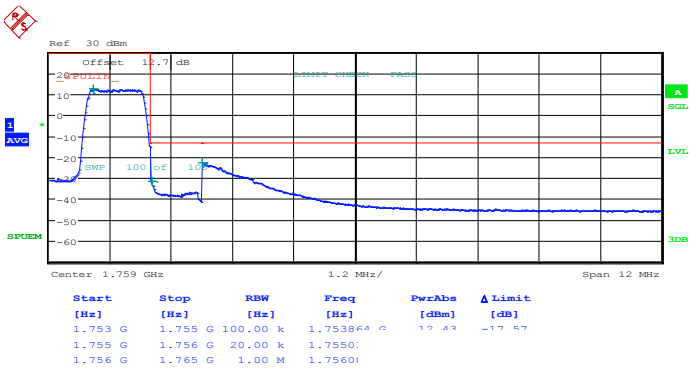
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.753 G	1.755 G	100.00 k	1.754782 G	21.01	-8.99
1.755 G	1.756 G	20.00 k	1.75501		
1.756 G	1.765 G	1.00 M	1.7560		

Date: 24.APR.2014 20:26:15

Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

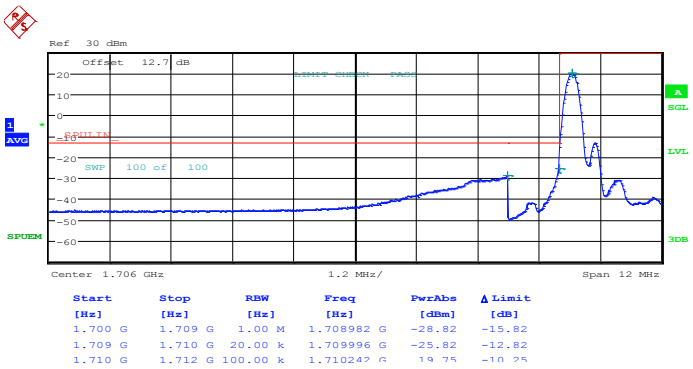


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.753 G	1.755 G	100.00 k	1.7538 G	12.43	-17.57
1.755 G	1.756 G	20.00 k	1.7550		
1.756 G	1.765 G	1.00 M	1.7560		

Date: 24.APR.2014 20:27:48

Band :	LTE Band 4	Band Width :	1.4MHz / 16QAM

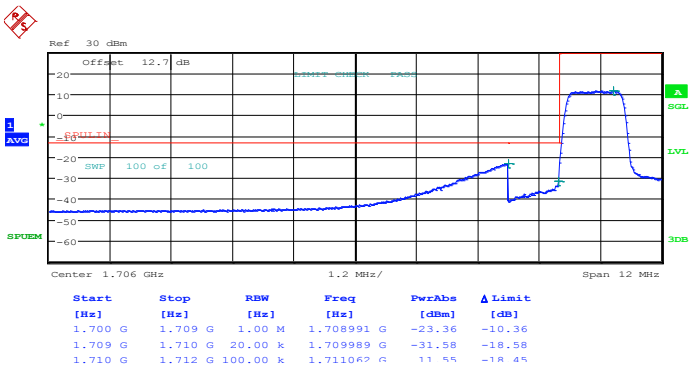
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708982 G	-28.82	-15.82
1.709 G	1.710 G	20.00 k	1.709996 G	-25.82	-12.82
1.710 G	1.712 G	100.00 k	1.710242 G	-19.75	-10.25

Date: 24.APR.2014 20:17:43

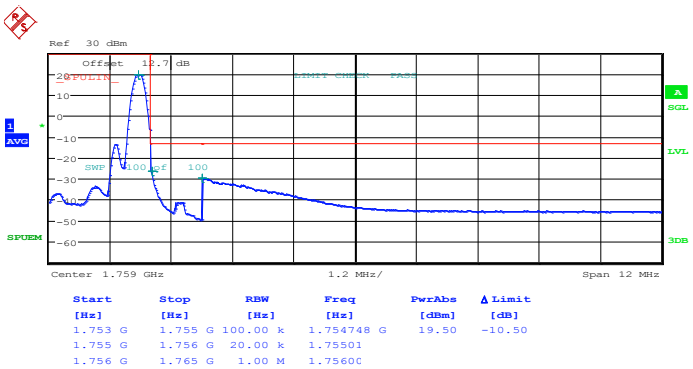
Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708991 G	-23.36	-10.36
1.709 G	1.710 G	20.00 k	1.709989 G	-31.58	-18.58
1.710 G	1.712 G	100.00 k	1.711062 G	-11.55	-18.45

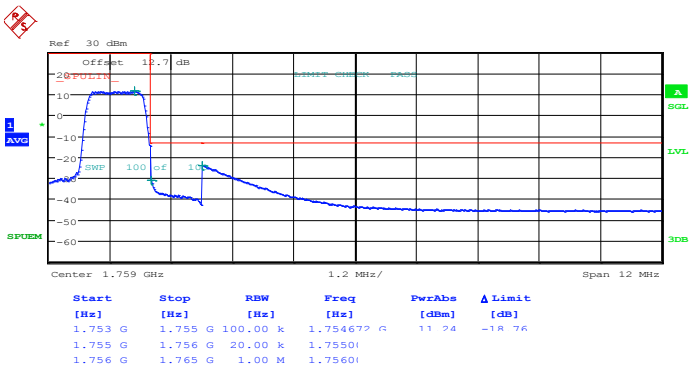
Date: 24.APR.2014 20:19:16

Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 24.APR.2014 20:27:01

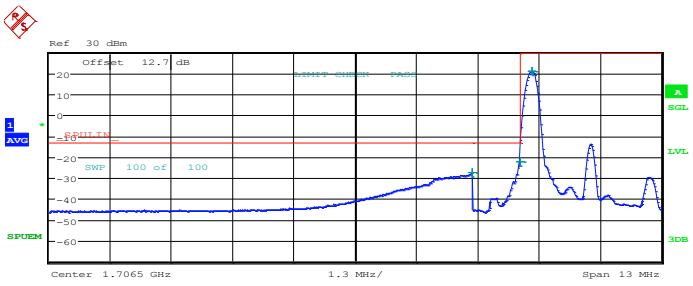
Higher Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 24.APR.2014 20:28:34

Band :	LTE Band 4	Band Width :	3MHz / QPSK

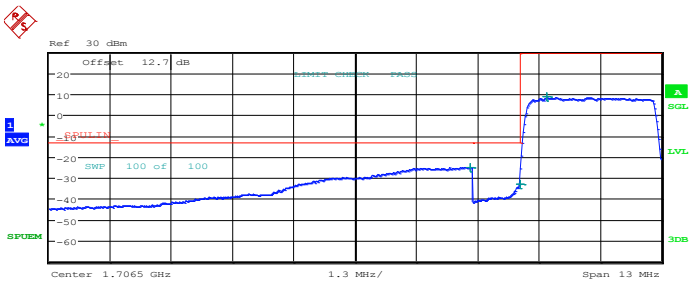
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708973 G	-27.61	-14.61
1.709 G	1.710 G	30.00 k	1.709991 G	-22.20	-9.20
1.710 G	1.713 G	100.00 k	1.710240 G	20.73	-9.27

Date: 24.APR.2014 20:32:27

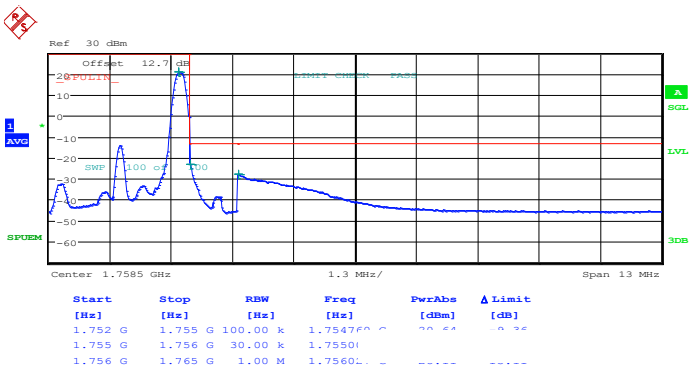
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708937 G	-24.99	-11.99
1.709 G	1.710 G	30.00 k	1.709999 G	-33.20	-20.20
1.710 G	1.713 G	100.00 k	1.710561 G	8.64	-21.36

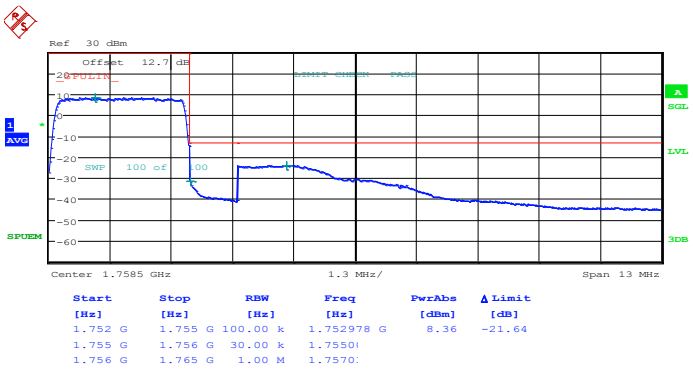
Date: 24.APR.2014 20:34:01

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 24.APR.2014 20:41:46

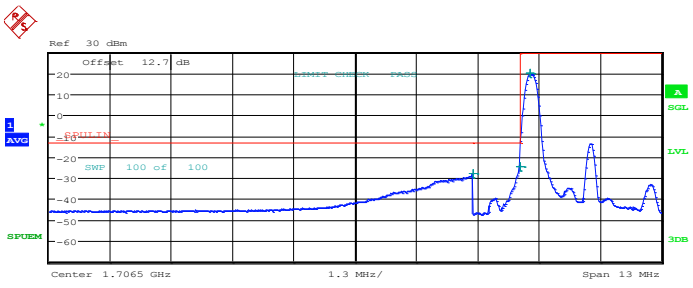
Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 24.APR.2014 20:43:19

Band :	LTE Band 4	Band Width :	3MHz / 16QAM

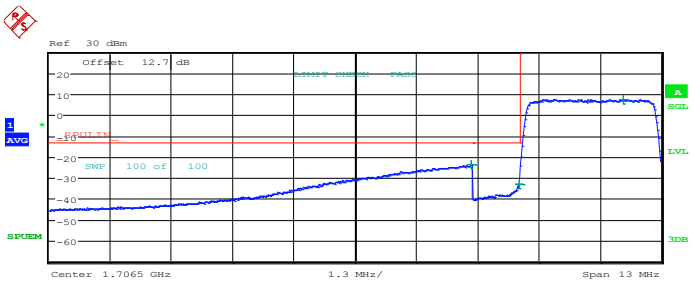
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-28.15	-15.15
1.709 G	1.710 G	30.00 k	1.709999 G	-24.75	-11.75
1.710 G	1.713 G	100.00 k	1.710210 G	19.80	-10.20

Date: 24.APR.2014 20:33:14

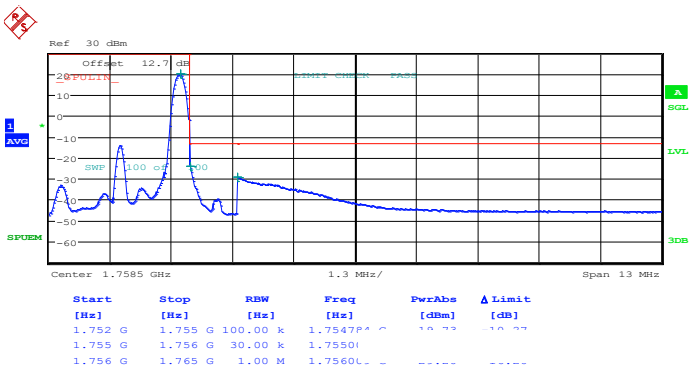
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708964 G	-23.95	-10.95
1.709 G	1.710 G	30.00 k	1.709978 G	-32.93	-19.93
1.710 G	1.713 G	100.00 k	1.712190 G	7.42	-22.58

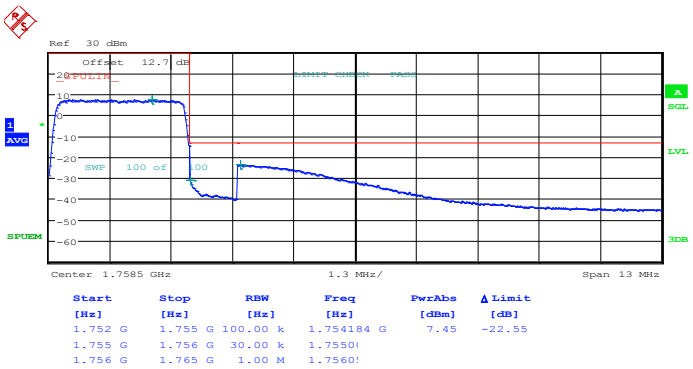
Date: 24.APR.2014 20:34:47

Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



Date: 24.APR.2014 20:42:32

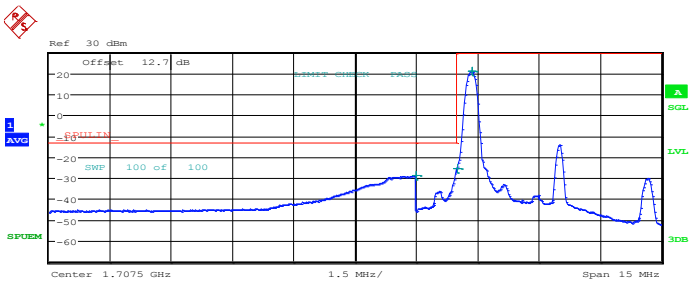
Higher Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Date: 24.APR.2014 20:44:05

Band :	LTE Band 4	Band Width :	5MHz / QPSK

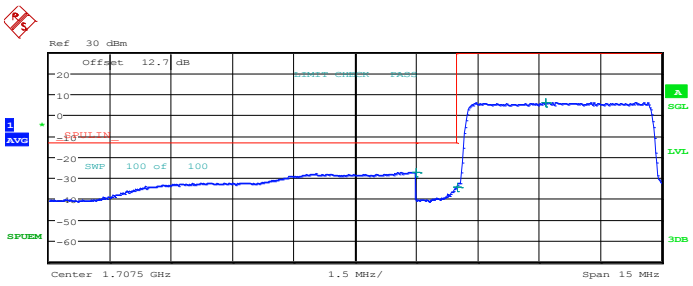
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708982 G	-28.96	-15.96
1.709 G	1.710 G	50.00 k	1.709999 G	-25.42	-12.42
1.710 G	1.715 G	100.00 k	1.710360 G	20.90	-9.10

Date: 24.APR.2014 20:47:58

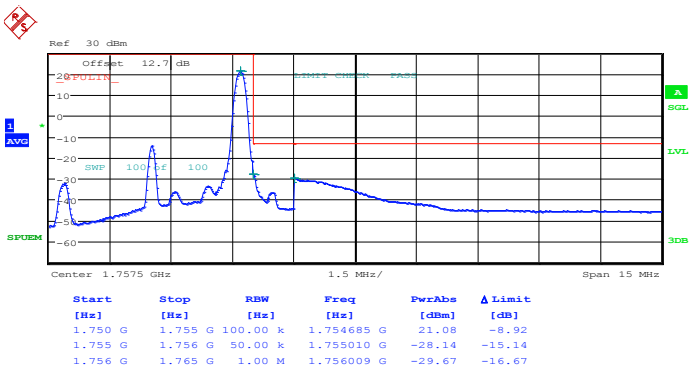
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-27.28	-14.28
1.709 G	1.710 G	50.00 k	1.709997 G	-34.62	-21.62
1.710 G	1.715 G	100.00 k	1.712165 G	6.03	-23.97

Date: 24.APR.2014 20:49:31

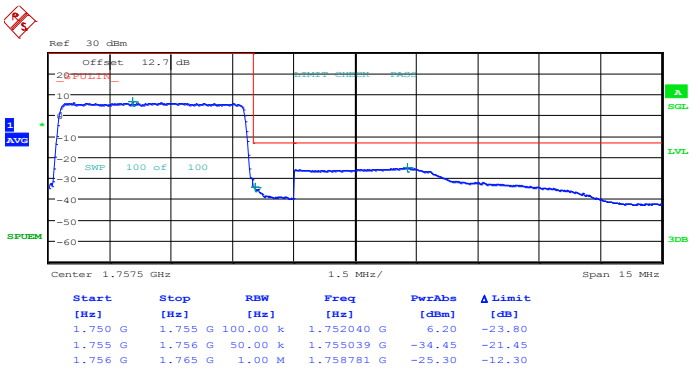
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.750 G	1.755 G	100.00 k	1.754685 G	21.08	-8.92
1.755 G	1.756 G	50.00 k	1.755010 G	-28.14	-15.14
1.756 G	1.765 G	1.00 M	1.756009 G	-29.67	-16.67

Date: 24.APR.2014 20:57:17

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

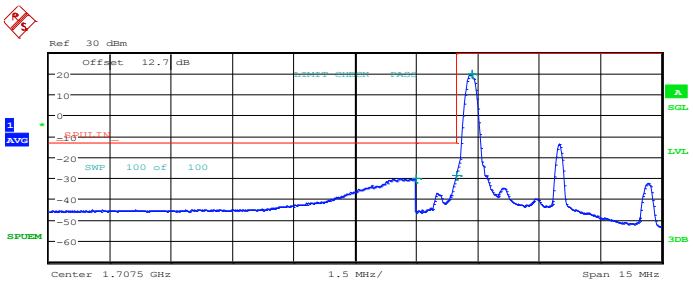


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.750 G	1.755 G	100.00 k	1.752040 G	6.20	-23.80
1.755 G	1.756 G	50.00 k	1.755039 G	-34.45	-21.45
1.756 G	1.765 G	1.00 M	1.758781 G	-25.30	-12.30

Date: 24.APR.2014 20:58:50

Band :	LTE Band 4	Band Width :	5MHz / 16QAM

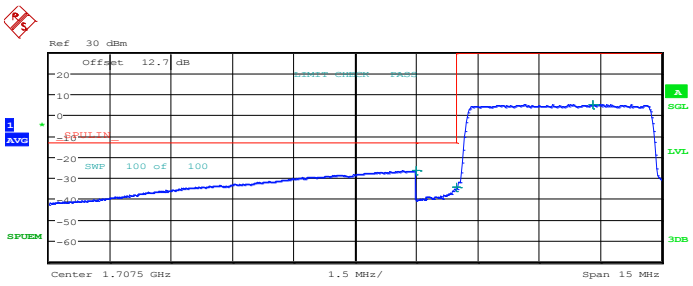
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708991 G	-30.10	-17.10
1.709 G	1.710 G	50.00 k	1.709983 G	-28.79	-15.79
1.710 G	1.715 G	100.00 k	1.710355 G	19.38	-10.62

Date: 24.APR.2014 20:48:45

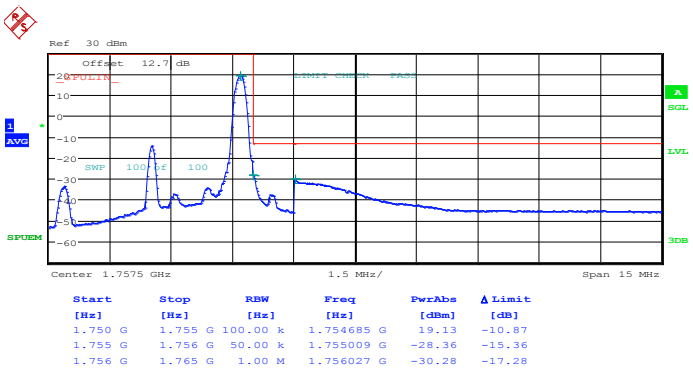
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-26.47	-13.47
1.709 G	1.710 G	50.00 k	1.709971 G	-34.64	-21.64
1.710 G	1.715 G	100.00 k	1.713320 G	5.08	-24.92

Date: 24.APR.2014 20:50:18

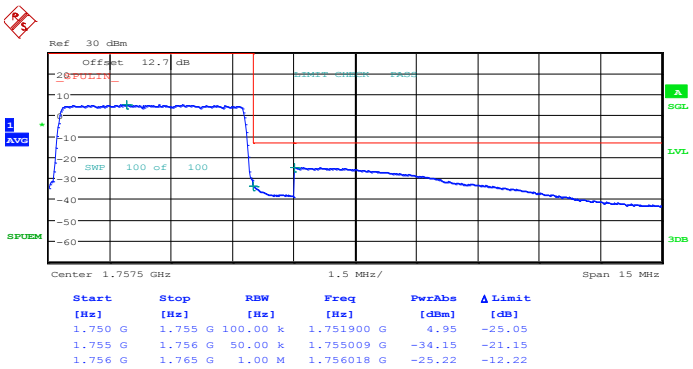
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.750 G	1.755 G	100.00 k	1.754685 G	19.13	-10.87
1.755 G	1.756 G	50.00 k	1.755009 G	-28.36	-15.36
1.756 G	1.765 G	1.00 M	1.756027 G	-30.28	-17.28

Date: 24.APR.2014 20:58:04

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

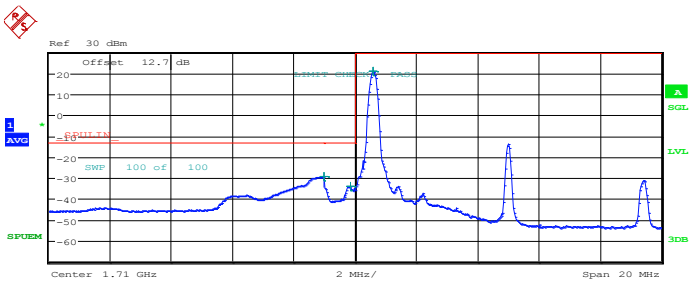


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.750 G	1.755 G	100.00 k	1.751900 G	4.95	-25.05
1.755 G	1.756 G	50.00 k	1.755009 G	-34.15	-21.15
1.756 G	1.765 G	1.00 M	1.756018 G	-25.22	-12.22

Date: 24.APR.2014 20:59:37

Band :	LTE Band 4	Band Width :	10MHz / QPSK

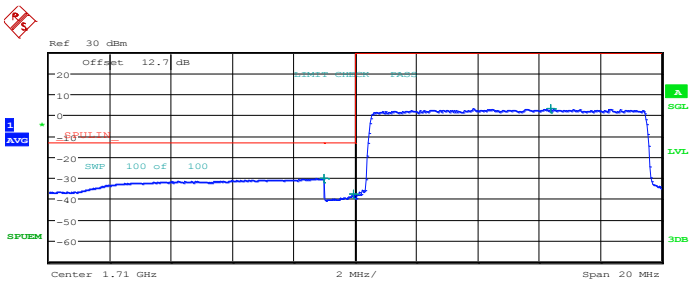
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708973 G	-29.19	-16.19
1.709 G	1.710 G	100.00 k	1.709830 G	-34.29	-21.29
1.710 G	1.720 G	100.00 k	1.710580 G	21.02	-8.98

Date: 24.APR.2014 21:03:29

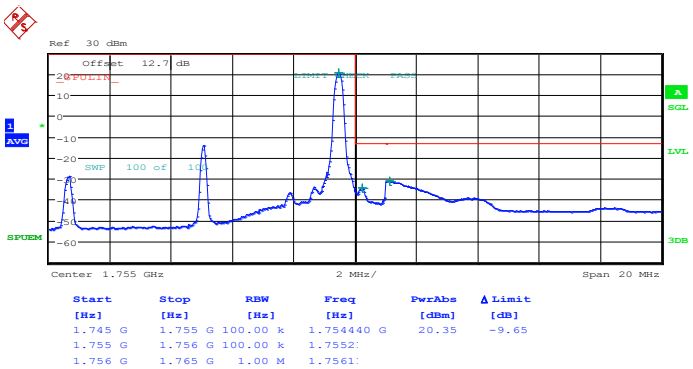
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708964 G	-30.12	-17.12
1.709 G	1.710 G	100.00 k	1.709927 G	-38.07	-25.07
1.710 G	1.720 G	100.00 k	1.716370 G	2.93	-27.07

Date: 24.APR.2014 21:05:02

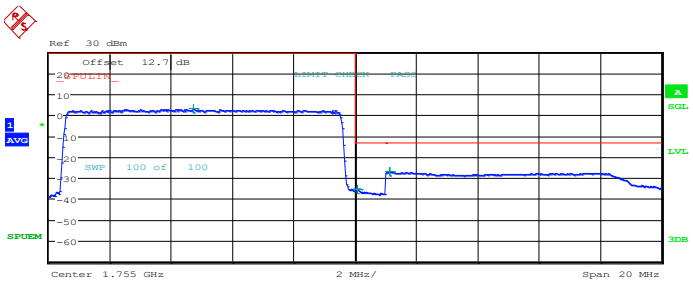
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.745 G	1.755 G	100.00 k	1.754440 G	20.35	-9.65
1.755 G	1.756 G	100.00 k	1.7552		
1.756 G	1.765 G	1.00 M	1.7561		

Date: 24.APR.2014 21:12:45

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

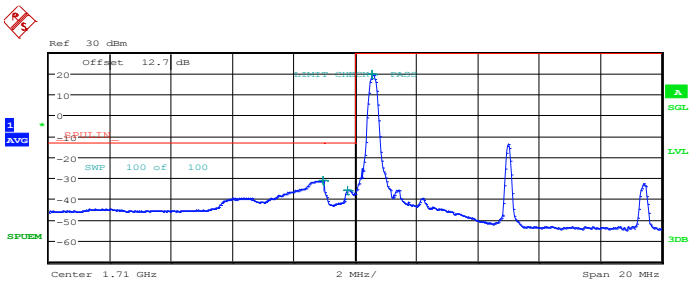


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.745 G	1.755 G	100.00 k	1.749710 G	2.80	-27.20
1.755 G	1.756 G	100.00 k	1.7550		
1.756 G	1.765 G	1.00 M	1.7561		

Date: 24.APR.2014 21:14:18

Band :	LTE Band 4	Band Width :	10MHz / 16QAM

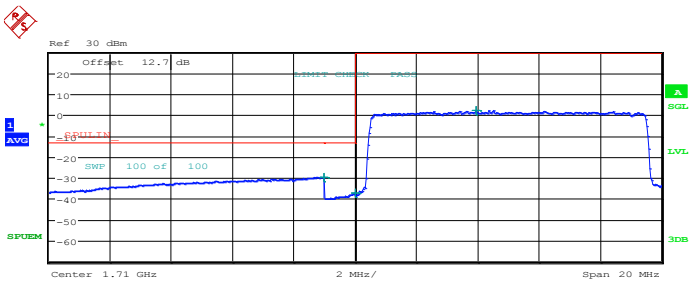
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708955 G	-31.07	-18.07
1.709 G	1.710 G	100.00 k	1.709742 G	-35.92	-22.92
1.710 G	1.720 G	100.00 k	1.710560 G	19.26	-10.74

Date: 24.APR.2014 21:04:15

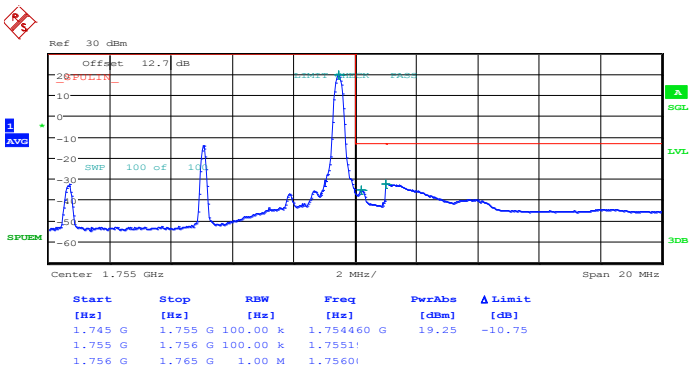
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708982 G	-29.87	-16.87
1.709 G	1.710 G	100.00 k	1.709991 G	-37.22	-24.22
1.710 G	1.720 G	100.00 k	1.713930 G	2.04	-27.96

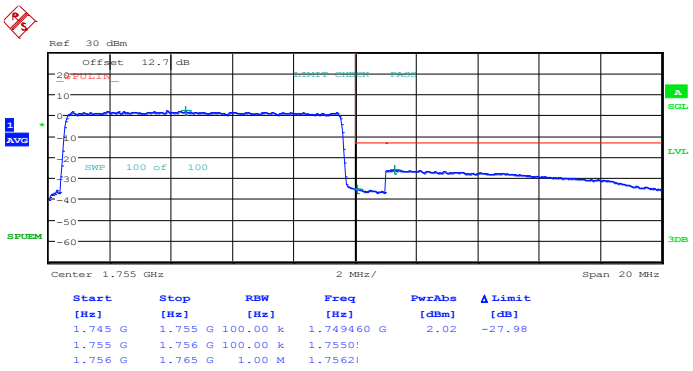
Date: 24.APR.2014 21:05:48

Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 24.APR.2014 21:13:32

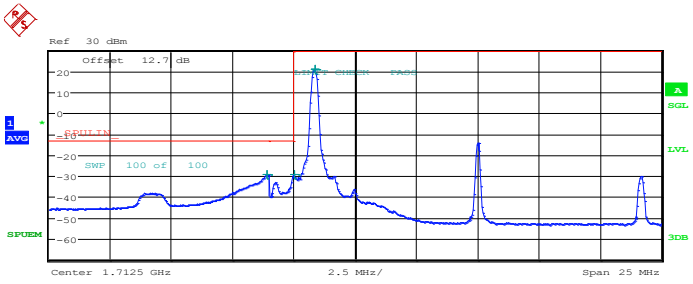
Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 24.APR.2014 21:15:05

Band :	LTE Band 4	Band Width :	15MHz / QPSK

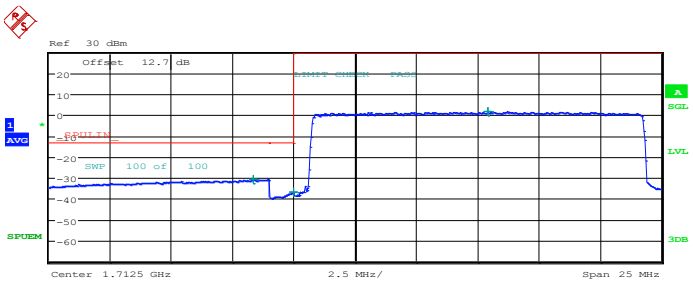
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708910 G	-29.22	-16.22
1.709 G	1.710 G	150.00 k	1.709997 G	-29.25	-16.25
1.710 G	1.725 G	100.00 k	1.710855 G	20.84	-9.16

Date: 24.APR.2014 21:18:57

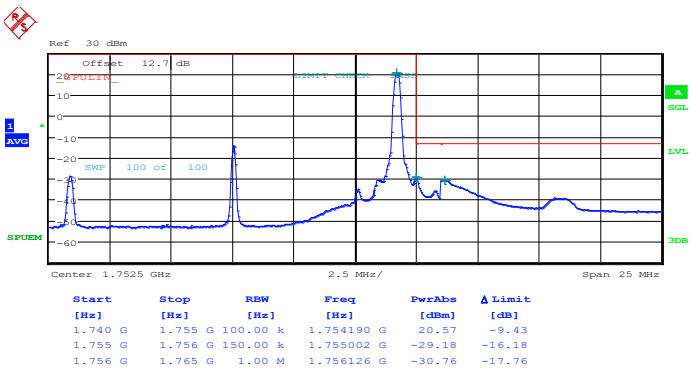
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708316 G	-30.78	-17.78
1.709 G	1.710 G	150.00 k	1.709993 G	-36.93	-23.93
1.710 G	1.725 G	100.00 k	1.717890 G	1.49	-28.51

Date: 24.APR.2014 21:20:30

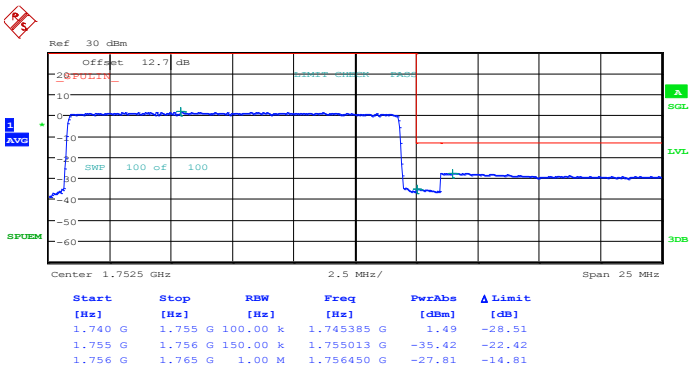
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.740 G	1.755 G	100.00 k	1.754190 G	20.57	-9.43
1.755 G	1.756 G	150.00 k	1.755002 G	-29.18	-16.18
1.756 G	1.765 G	1.00 M	1.756126 G	-30.76	-17.76

Date: 24.APR.2014 21:28:15

Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

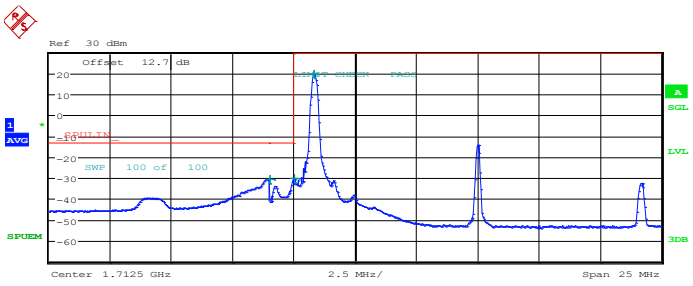


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.740 G	1.755 G	100.00 k	1.745385 G	1.49	-28.51
1.755 G	1.756 G	150.00 k	1.755013 G	-35.42	-22.42
1.756 G	1.765 G	1.00 M	1.756450 G	-27.81	-14.81

Date: 24.APR.2014 21:29:48

Band :	LTE Band 4	Band Width :	15MHz / 16QAM

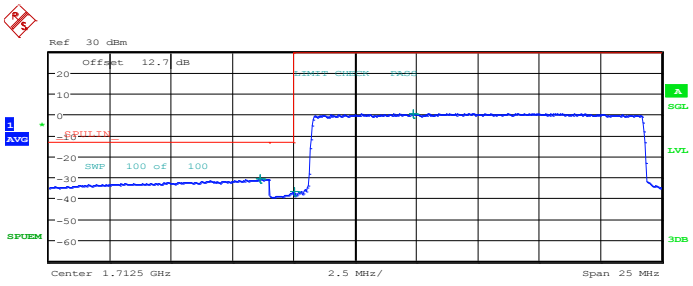
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-30.71	-17.71
1.709 G	1.710 G	150.00 k	1.709997 G	-30.13	-17.13
1.710 G	1.725 G	100.00 k	1.710825 G	19.65	-10.35

Date: 24.APR.2014 21:19:43

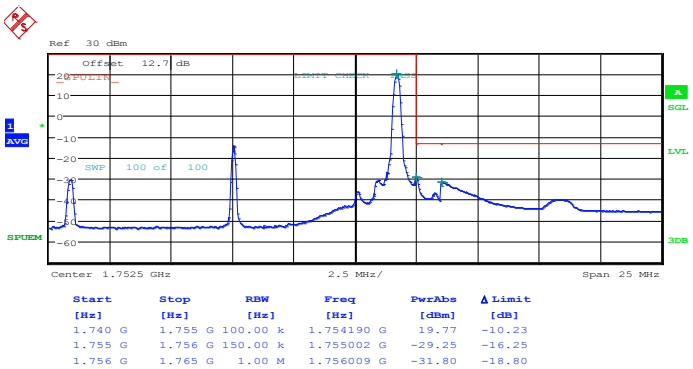
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708631 G	-31.03	-18.03
1.709 G	1.710 G	150.00 k	1.709998 G	-37.01	-24.01
1.710 G	1.725 G	100.00 k	1.714845 G	0.36	-29.64

Date: 24.APR.2014 21:21:16

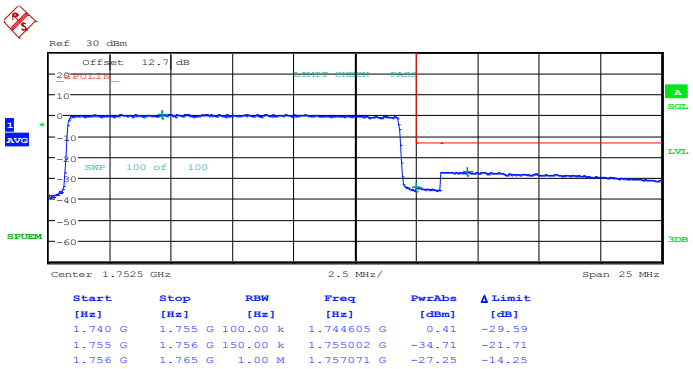
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.740 G	1.755 G	100.00 k	1.754190 G	19.77	-10.23
1.755 G	1.756 G	150.00 k	1.755002 G	-29.25	-16.25
1.756 G	1.765 G	1.00 M	1.756009 G	-31.80	-18.80

Date: 24.APR.2014 21:29:01

Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0

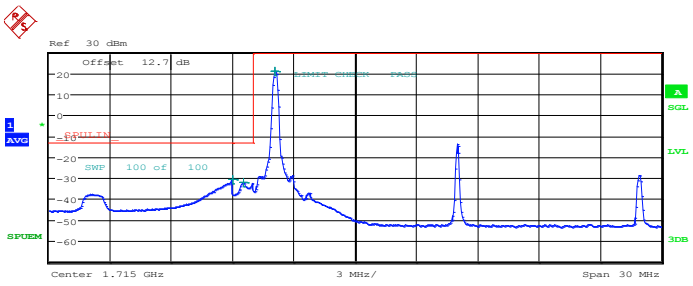


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.740 G	1.755 G	100.00 k	1.744605 G	0.41	-29.59
1.755 G	1.756 G	150.00 k	1.755002 G	-34.71	-21.71
1.756 G	1.765 G	1.00 M	1.757071 G	-27.25	-14.25

Date: 24.APR.2014 21:30:34

Band :	LTE Band 4	Band Width :	20MHz / QPSK

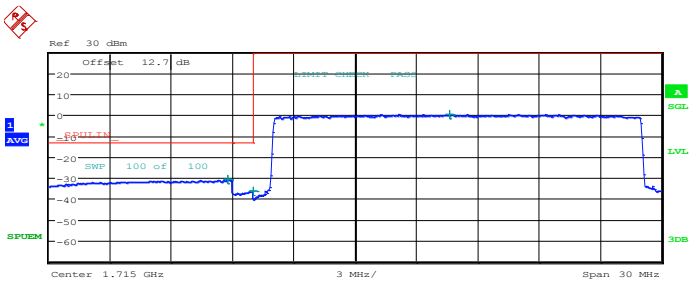
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708982 G	-30.95	-17.95
1.709 G	1.710 G	200.00 k	1.709519 G	-32.39	-19.39
1.710 G	1.730 G	100.00 k	1.711060 G	20.78	-9.22

Date: 24.APR.2014 21:34:27

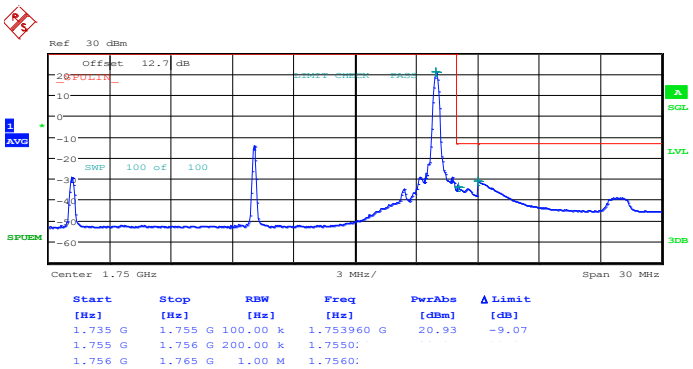
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708757 G	-30.97	-17.97
1.709 G	1.710 G	200.00 k	1.709985 G	-36.37	-23.37
1.710 G	1.730 G	100.00 k	1.719620 G	0.13	-29.87

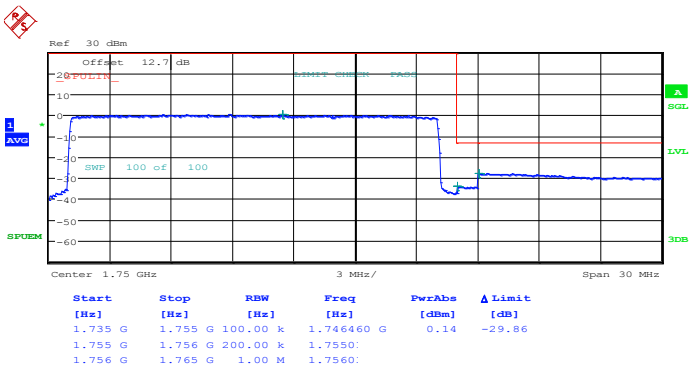
Date: 24.APR.2014 21:36:00

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 24.APR.2014 21:43:44

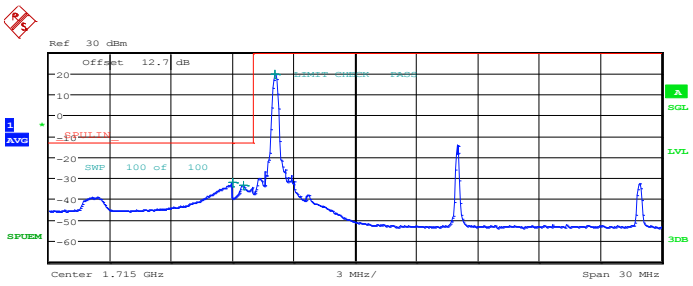
Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 24.APR.2014 21:45:17

Band :	LTE Band 4	Band Width :	20MHz / 16QAM

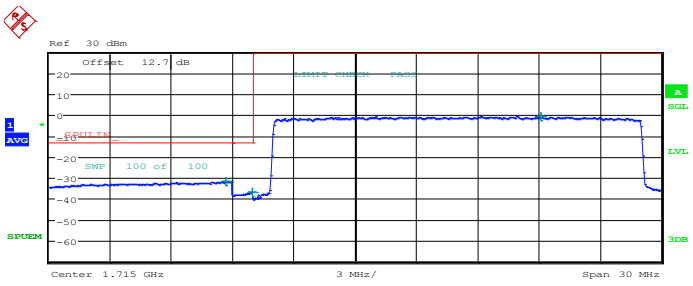
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.709000 G	-32.07	-19.07
1.709 G	1.710 G	200.00 k	1.709524 G	-33.66	-20.66
1.710 G	1.730 G	100.00 k	1.711060 G	19.54	-10.46

Date: 24.APR.2014 21:35:13

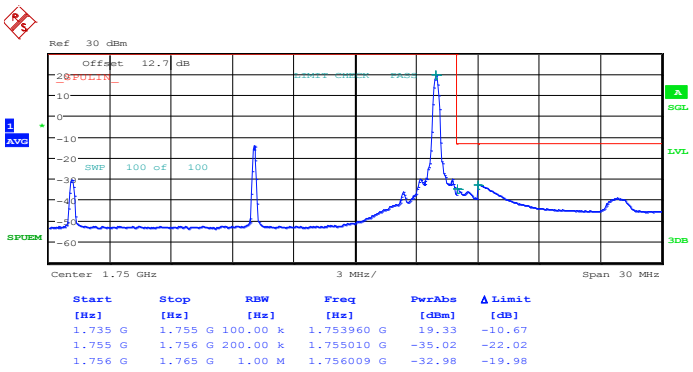
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.700 G	1.709 G	1.00 M	1.708640 G	-31.76	-18.76
1.709 G	1.710 G	200.00 k	1.709928 G	-36.96	-23.96
1.710 G	1.730 G	100.00 k	1.724080 G	-0.63	-30.63

Date: 24.APR.2014 21:36:46

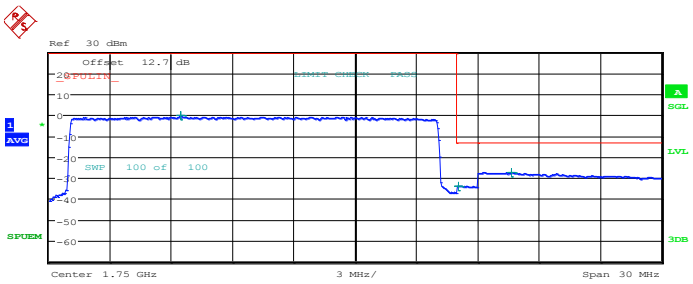
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.735 G	1.755 G	100.00 k	1.753960 G	19.33	-10.67
1.755 G	1.756 G	200.00 k	1.755010 G	-35.02	-22.02
1.756 G	1.765 G	1.00 M	1.756009 G	-32.98	-19.98

Date: 24.APR.2014 21:44:31

Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0

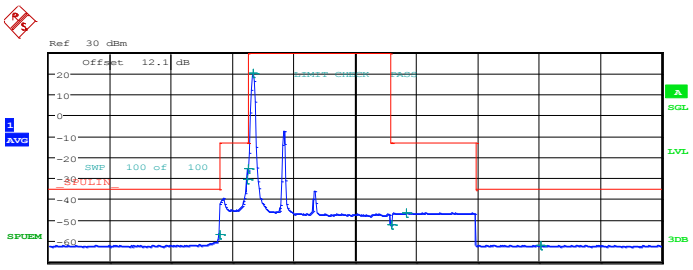


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
1.735 G	1.755 G	100.00 k	1.741460 G	-0.49	-30.49
1.755 G	1.756 G	200.00 k	1.755068 G	-33.85	-20.85
1.756 G	1.765 G	1.00 M	1.757665 G	-27.50	-14.50

Date: 24.APR.2014 21:46:04

Band :	LTE Band 13	Band Width :	5MHz / QPSK

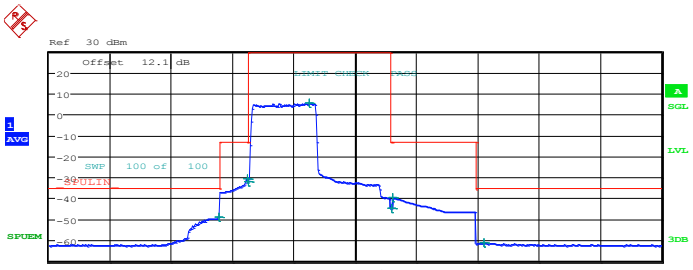
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.988000 M	-57.04	-22.04
775.000 M	776.900 M	100.00 k	776.900000 M	-30.62	-17.62
776.900 M	777.000 M	30.00 k	776.998600 M	-25.59	-12.59
777.000 M	787.000 M	100.00 k	777.350000 M	19.94	-10.06
787.000 M	787.100 M	30.00 k	787.034500 M	-52.45	-39.45
787.100 M	793.000 M	100.00 k	788.067600 M	-46.83	-33.83
793.000 M	806.000 M	6.25 k	797.511000 M	-62.07	-27.07

Date: 26.APR.2014 18:09:06

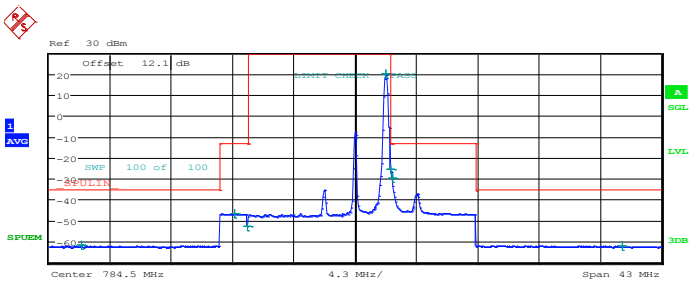
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.928000 M	-48.92	-13.92
775.000 M	776.900 M	100.00 k	776.900000 M	-30.67	-17.67
776.900 M	777.000 M	30.00 k	776.992100 M	-32.18	-19.18
777.000 M	787.000 M	100.00 k	781.260000 M	5.42	-24.58
787.000 M	787.100 M	30.00 k	787.039800 M	-45.07	-32.07
787.100 M	793.000 M	100.00 k	787.100000 M	-39.80	-26.80
793.000 M	806.000 M	6.25 k	793.559000 M	-61.46	-26.46

Date: 26.APR.2014 18:11:27

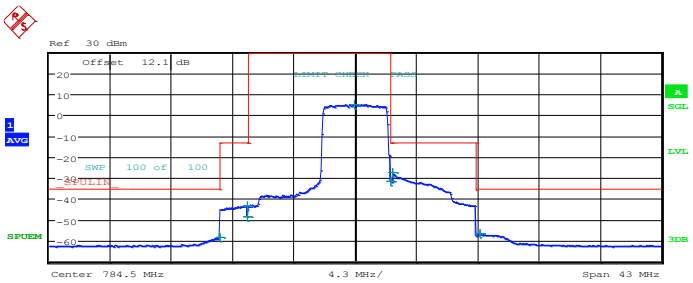
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	765.268000 M	-61.95	-26.95
775.000 M	776.900 M	100.00 k	776.039300 M	-46.94	-33.94
776.900 M	777.000 M	30.00 k	776.931200 M	-52.86	-39.86
777.000 M	787.000 M	100.00 k	786.650000 M	19.86	-10.14
787.000 M	787.100 M	30.00 k	787.001000 M	-25.63	-12.63
787.100 M	793.000 M	100.00 k	787.100000 M	-29.74	-16.74
793.000 M	806.000 M	6.25 k	803.218000 M	-62.15	-27.15

Date: 26.APR.2014 18:24:04

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

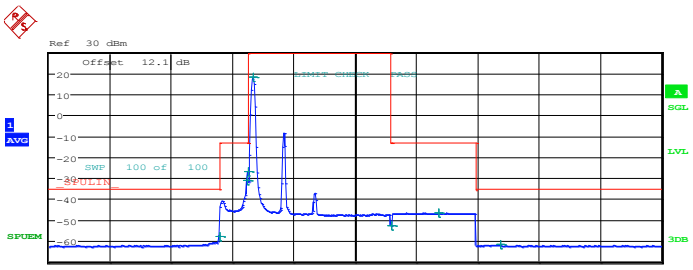


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.976000 M	-58.41	-23.41
775.000 M	776.900 M	100.00 k	776.894300 M	-43.25	-30.25
776.900 M	777.000 M	30.00 k	776.932900 M	-48.75	-35.75
777.000 M	787.000 M	100.00 k	784.420000 M	5.00	-25.00
787.000 M	787.100 M	30.00 k	787.002400 M	-31.57	-18.57
787.100 M	793.000 M	100.00 k	787.100000 M	-27.63	-14.63
793.000 M	806.000 M	6.25 k	793.260000 M	-56.79	-21.79

Date: 26.APR.2014 18:19:57

Band :	LTE Band 13	Band Width :	5MHz / 16QAM

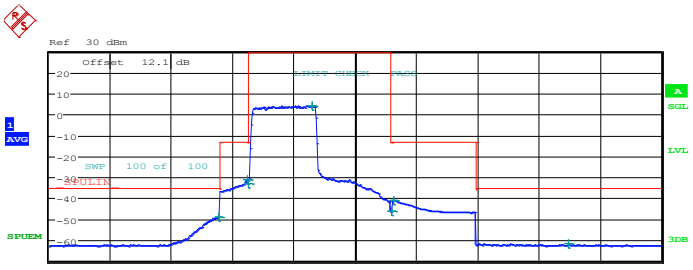
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.976000 M	-57.95	-22.95
775.000 M	776.900 M	100.00 k	776.898100 M	-31.15	-18.15
776.900 M	777.000 M	30.00 k	776.995400 M	-26.81	-13.81
777.000 M	787.000 M	100.00 k	777.350000 M	17.91	-12.09
787.000 M	787.100 M	30.00 k	787.072300 M	-52.73	-39.73
787.100 M	793.000 M	100.00 k	790.362700 M	-46.94	-33.94
793.000 M	806.000 M	6.25 k	794.703000 M	-61.94	-26.94

Date: 26.APR.2014 18:07:04

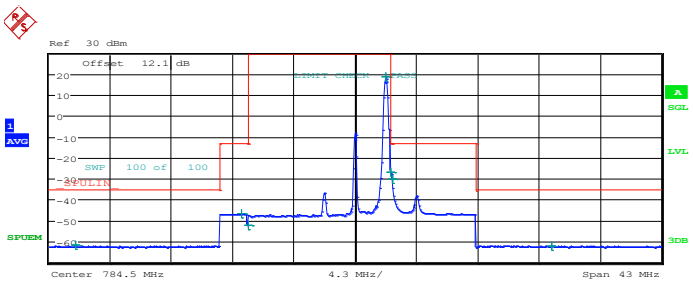
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.940000 M	-48.94	-13.94
775.000 M	776.900 M	100.00 k	776.894300 M	-31.20	-18.20
776.900 M	777.000 M	30.00 k	776.997500 M	-33.26	-20.26
777.000 M	787.000 M	100.00 k	781.460000 M	3.95	-26.05
787.000 M	787.100 M	30.00 k	787.015700 M	-46.40	-33.40
787.100 M	793.000 M	100.00 k	787.182600 M	-41.12	-28.12
793.000 M	806.000 M	6.25 k	799.461000 M	-61.76	-26.76

Date: 26.APR.2014 18:13:46

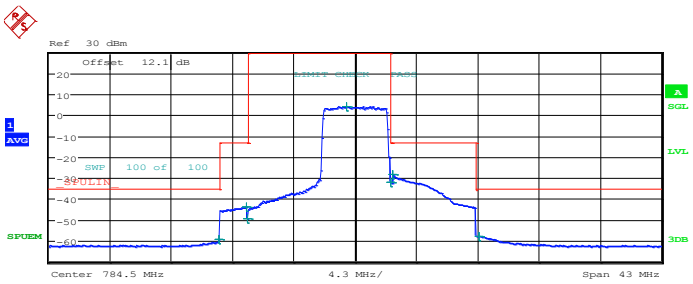
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	764.860000 M	-61.97	-26.97
775.000 M	776.900 M	100.00 k	776.539000 M	-46.87	-33.87
776.900 M	777.000 M	30.00 k	776.960400 M	-52.61	-39.61
777.000 M	787.000 M	100.00 k	786.660000 M	18.35	-11.65
787.000 M	787.100 M	30.00 k	787.001400 M	-26.85	-13.85
787.100 M	793.000 M	100.00 k	787.100000 M	-30.26	-17.26
793.000 M	806.000 M	6.25 k	798.278000 M	-62.05	-27.05

Date: 26.APR.2014 18:26:34

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

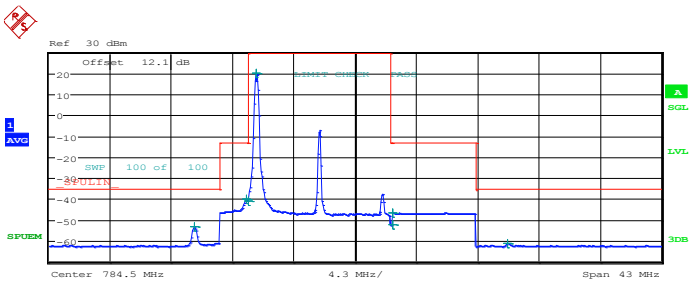


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.916000 M	-59.59	-24.59
775.000 M	776.900 M	100.00 k	776.875300 M	-44.18	-31.18
776.900 M	777.000 M	30.00 k	776.907100 M	-49.47	-36.47
777.000 M	787.000 M	100.00 k	783.910000 M	4.13	-25.87
787.000 M	787.100 M	30.00 k	787.001800 M	-32.20	-19.20
787.100 M	793.000 M	100.00 k	787.100000 M	-28.44	-15.44
793.000 M	806.000 M	6.25 k	793.169000 M	-57.84	-22.84

Date: 26.APR.2014 18:16:10

Band :	LTE Band 13	Band Width :	10MHz / QPSK

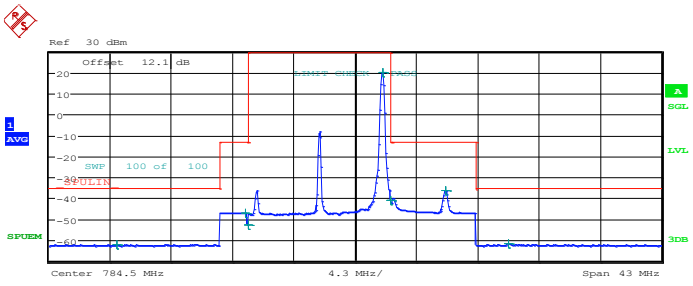
Middle Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	773.200000 M	-53.35	-18.35
775.000 M	776.900 M	100.00 k	776.884800 M	-40.31	-27.31
776.900 M	777.000 M	30.00 k	776.999500 M	-40.93	-27.93
777.000 M	787.000 M	100.00 k	777.550000 M	19.84	-10.16
787.000 M	787.100 M	30.00 k	787.090700 M	-52.54	-39.54
787.100 M	793.000 M	100.00 k	787.100000 M	-46.87	-33.87
793.000 M	806.000 M	6.25 k	795.184000 M	-61.26	-26.26

Date: 26.APR.2014 17:51:56

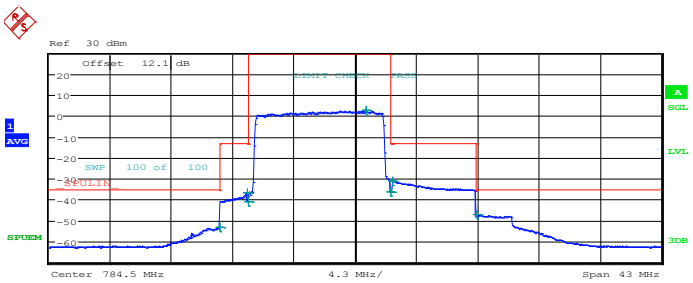
Middle Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	767.776000 M	-62.19	-27.19
775.000 M	776.900 M	100.00 k	776.803100 M	-47.01	-34.01
776.900 M	777.000 M	30.00 k	776.955200 M	-52.67	-39.67
777.000 M	787.000 M	100.00 k	786.410000 M	19.88	-10.12
787.000 M	787.100 M	30.00 k	787.001300 M	-41.18	-28.18
787.100 M	793.000 M	100.00 k	790.846500 M	-36.26	-23.26
793.000 M	806.000 M	6.25 k	795.275000 M	-61.59	-26.59

Date: 26.APR.2014 18:00:59

Middle Band Edge Plot for QPSK-RB Size 1, RB Offset 49

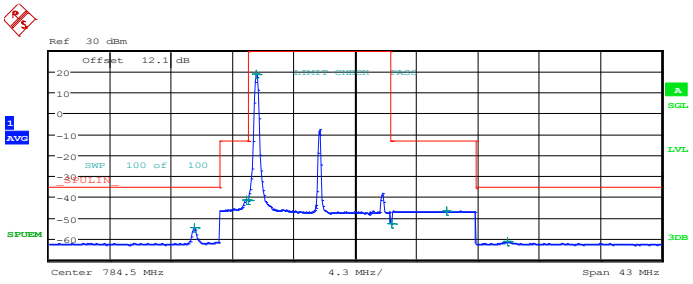


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.976000 M	-53.49	-18.49
775.000 M	776.900 M	100.00 k	776.900000 M	-36.98	-23.98
776.900 M	777.000 M	30.00 k	776.958400 M	-41.24	-28.24
777.000 M	787.000 M	100.00 k	785.230000 M	2.37	-27.63
787.000 M	787.100 M	30.00 k	787.001400 M	-36.58	-23.58
787.100 M	793.000 M	100.00 k	787.123600 M	-31.41	-18.41
793.000 M	806.000 M	6.25 k	793.039000 M	-47.11	-12.11

Date: 26.APR.2014 17:54:03

Band :	LTE Band 13	Band Width :	10MHz / 16QAM

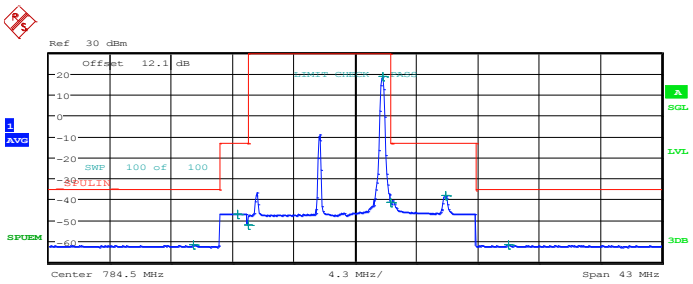
Middle Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	773.188000 M	-54.91	-19.91
775.000 M	776.900 M	100.00 k	776.873400 M	-41.47	-28.47
776.900 M	777.000 M	30.00 k	776.998100 M	-41.80	-28.80
777.000 M	787.000 M	100.00 k	777.550000 M	18.57	-11.43
787.000 M	787.100 M	30.00 k	787.028900 M	-52.66	-39.66
787.100 M	793.000 M	100.00 k	790.893700 M	-46.92	-33.92
793.000 M	806.000 M	6.25 k	795.158000 M	-61.26	-26.26

Date: 26.APR.2014 17:49:30

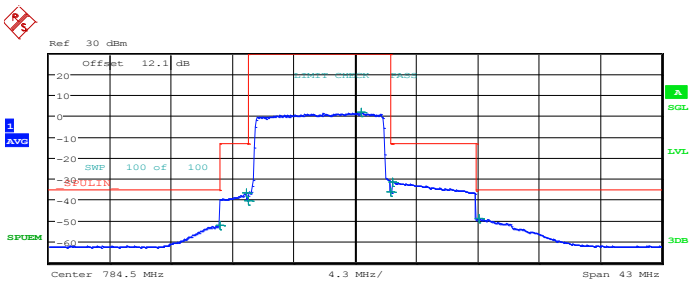
Middle Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	773.164000 M	-61.86	-26.86
775.000 M	776.900 M	100.00 k	776.235000 M	-47.09	-34.09
776.900 M	777.000 M	30.00 k	776.983500 M	-52.57	-39.57
777.000 M	787.000 M	100.00 k	786.410000 M	18.60	-11.40
787.000 M	787.100 M	30.00 k	787.001700 M	-41.60	-28.60
787.100 M	793.000 M	100.00 k	790.811100 M	-38.18	-25.18
793.000 M	806.000 M	6.25 k	795.249000 M	-61.98	-26.98

Date: 26.APR.2014 17:58:59

Middle Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
763.000 M	775.000 M	6.25 k	774.964000 M	-52.51	-17.51
775.000 M	776.900 M	100.00 k	776.881000 M	-37.07	-24.07
776.900 M	777.000 M	30.00 k	776.985300 M	-40.52	-27.52
777.000 M	787.000 M	100.00 k	784.880000 M	1.38	-28.62
787.000 M	787.100 M	30.00 k	787.005400 M	-36.53	-23.53
787.100 M	793.000 M	100.00 k	787.100000 M	-31.61	-18.61
793.000 M	806.000 M	6.25 k	793.169000 M	-49.21	-14.21

Date: 26.APR.2014 17:56:26

3.5 Conducted Spurious Emission Measurement

3.5.1 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 30MHz up to a frequency including its 10^{th} harmonic.

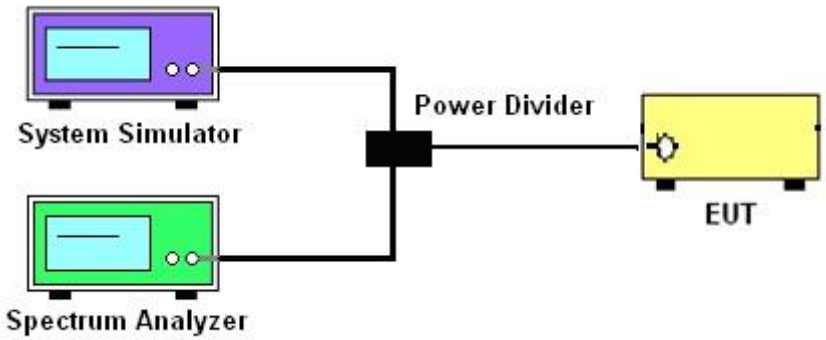
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

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

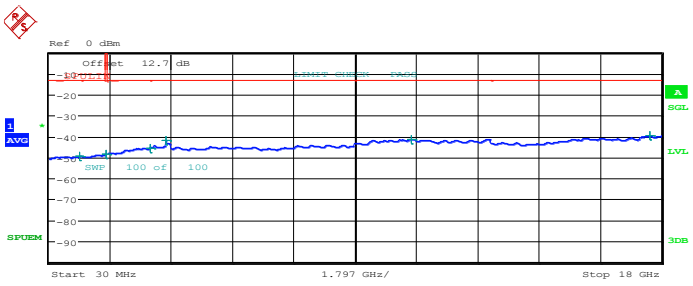
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Spurious Emission

Band :	LTE Band 4	**Channel :**	CH20175 (Middle)
Band Width :	1.4MHz		

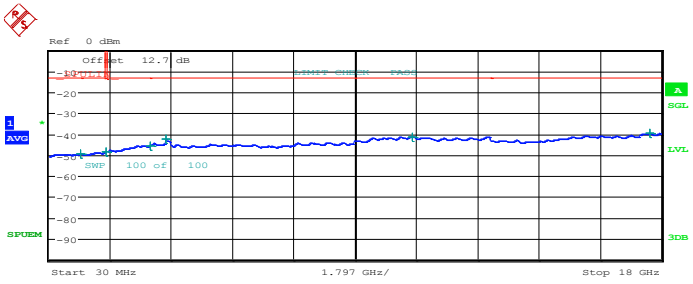
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	935.010000 M	-49.55	-36.55
1.000 G	1.700 G	1.00 M	1.699300 G	-48.46	-35.46
1.765 G	3.000 G	1.00 M	2.996295 G	-45.55	-32.55
3.000 G	9.000 G	1.00 M	3.462000 G	-42.10	-29.10
9.000 G	13.000 G	1.00 M	10.664000 G	-41.41	-28.41
13.000 G	18.000 G	1.00 M	17.645000 G	-39.86	-26.86

Date: 24.APR.2014 20:23:22

16QAM (RB Size 1, RB Offset 0)

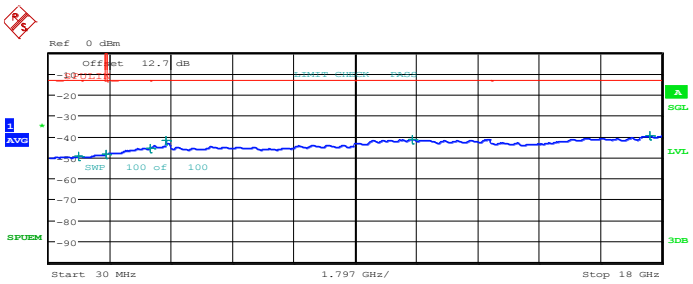


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	962.170000 M	-49.50	-36.50
1.000 G	1.700 G	1.00 M	1.697200 G	-48.48	-35.48
1.765 G	3.000 G	1.00 M	2.995060 G	-45.67	-32.67
3.000 G	9.000 G	1.00 M	3.462000 G	-42.67	-29.67
9.000 G	13.000 G	1.00 M	10.680000 G	-41.38	-28.38
13.000 G	18.000 G	1.00 M	17.660000 G	-39.79	-26.79

Date: 24.APR.2014 20:24:21

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	3MHz		

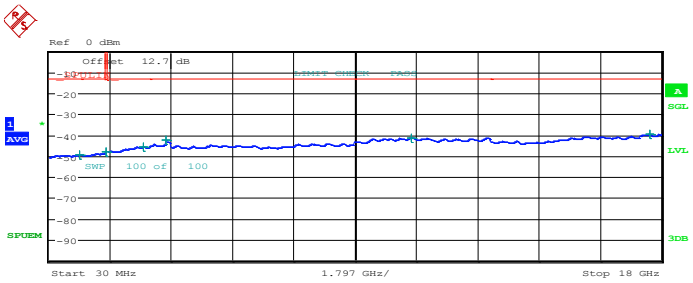
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	903.000000 M	-49.62	-36.62
1.000 G	1.700 G	1.00 M	1.697900 G	-48.55	-35.55
1.765 G	3.000 G	1.00 M	2.995060 G	-45.61	-32.61
3.000 G	9.000 G	1.00 M	3.462000 G	-41.86	-28.86
9.000 G	13.000 G	1.00 M	10.672000 G	-41.47	-28.47
13.000 G	18.000 G	1.00 M	17.660000 G	-39.79	-26.79

Date: 24.APR.2014 20:38:53

16QAM (RB Size 1, RB Offset 0)

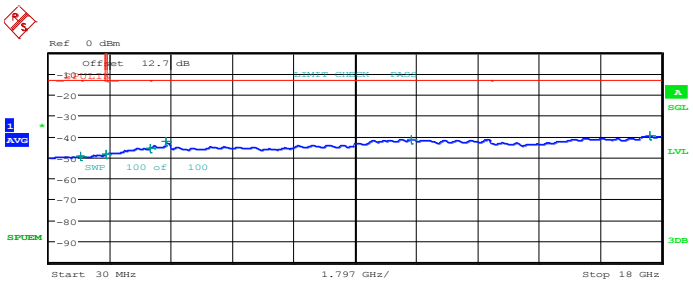


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	917.550000 M	-49.58	-36.58
1.000 G	1.700 G	1.00 M	1.697900 G	-48.30	-35.30
1.765 G	3.000 G	1.00 M	2.801165 G	-45.69	-32.69
3.000 G	9.000 G	1.00 M	3.462000 G	-42.56	-29.56
9.000 G	13.000 G	1.00 M	10.660000 G	-41.48	-28.48
13.000 G	18.000 G	1.00 M	17.660000 G	-39.86	-26.86

Date: 24.APR.2014 20:39:53

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	5MHz		

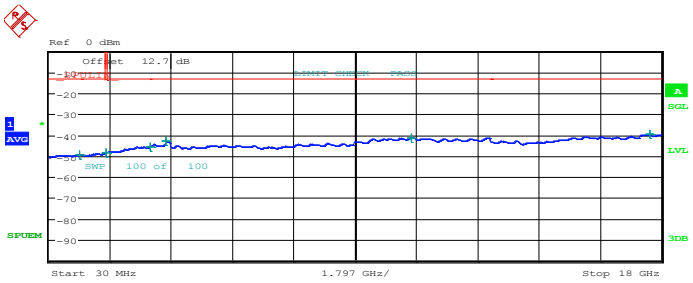
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	943.740000 M	-49.45	-36.45
1.000 G	1.700 G	1.00 M	1.688800 G	-48.53	-35.53
1.765 G	3.000 G	1.00 M	2.991355 G	-45.66	-32.66
3.000 G	9.000 G	1.00 M	3.456000 G	-42.53	-29.53
9.000 G	13.000 G	1.00 M	10.664000 G	-41.34	-28.34
13.000 G	18.000 G	1.00 M	17.655000 G	-39.77	-26.77

Date: 24.APR.2014 20:54:24

16QAM (RB Size 1, RB Offset 0)

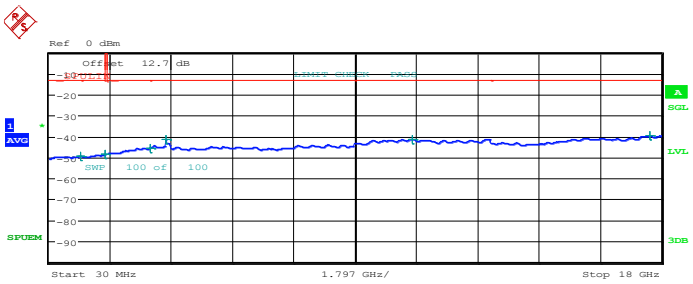


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	921.430000 M	-49.32	-36.32
1.000 G	1.700 G	1.00 M	1.695800 G	-48.62	-35.62
1.765 G	3.000 G	1.00 M	2.988885 G	-45.61	-32.61
3.000 G	9.000 G	1.00 M	3.456000 G	-42.86	-29.86
9.000 G	13.000 G	1.00 M	10.668000 G	-41.35	-28.35
13.000 G	18.000 G	1.00 M	17.665000 G	-39.77	-26.77

Date: 24.APR.2014 20:55:24

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	10MHz		

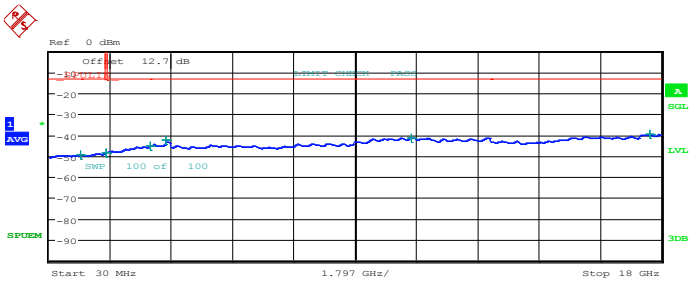
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	945.680000 M	-49.44	-36.44
1.000 G	1.700 G	1.00 M	1.676900 G	-48.49	-35.49
1.765 G	3.000 G	1.00 M	2.995060 G	-45.64	-32.64
3.000 G	9.000 G	1.00 M	3.456000 G	-41.68	-28.68
9.000 G	13.000 G	1.00 M	10.676000 G	-41.43	-28.43
13.000 G	18.000 G	1.00 M	17.655000 G	-39.79	-26.79

Date: 24.APR.2014 21:09:53

16QAM (RB Size 1, RB Offset 0)

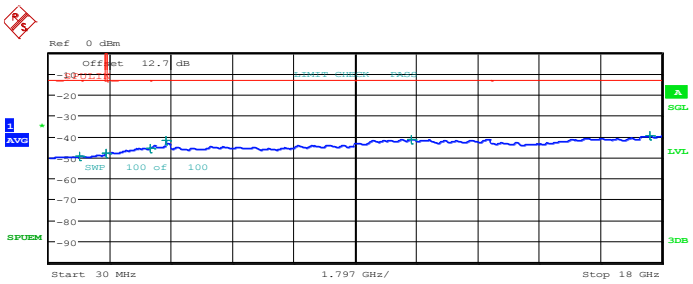


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	940.830000 M	-49.48	-36.48
1.000 G	1.700 G	1.00 M	1.690200 G	-48.58	-35.58
1.765 G	3.000 G	1.00 M	2.993825 G	-45.49	-32.49
3.000 G	9.000 G	1.00 M	3.456000 G	-42.42	-29.42
9.000 G	13.000 G	1.00 M	10.644000 G	-41.47	-28.47
13.000 G	18.000 G	1.00 M	17.660000 G	-39.80	-26.80

Date: 24.APR.2014 21:10:53

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	15MHz		

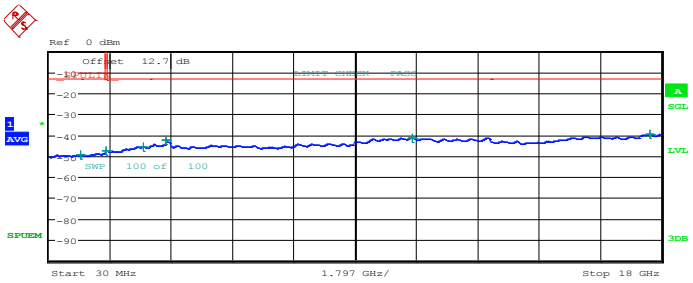
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	918.520000 M	-49.62	-36.62
1.000 G	1.700 G	1.00 M	1.699300 G	-48.08	-35.08
1.765 G	3.000 G	1.00 M	2.997530 G	-45.65	-32.65
3.000 G	9.000 G	1.00 M	3.450000 G	-41.82	-28.82
9.000 G	13.000 G	1.00 M	10.648000 G	-41.38	-28.38
13.000 G	18.000 G	1.00 M	17.660000 G	-39.90	-26.90

Date: 24.APR.2014 21:25:22

16QAM (RB Size 1, RB Offset 0)

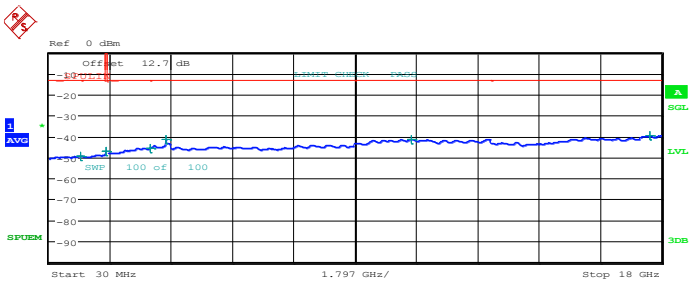


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	954.410000 M	-49.59	-36.59
1.000 G	1.700 G	1.00 M	1.699300 G	-47.82	-34.82
1.765 G	3.000 G	1.00 M	2.786345 G	-45.65	-32.65
3.000 G	9.000 G	1.00 M	3.450000 G	-42.59	-29.59
9.000 G	13.000 G	1.00 M	10.676000 G	-41.41	-28.41
13.000 G	18.000 G	1.00 M	17.655000 G	-39.79	-26.79

Date: 24.APR.2014 21:26:22

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	20MHz		

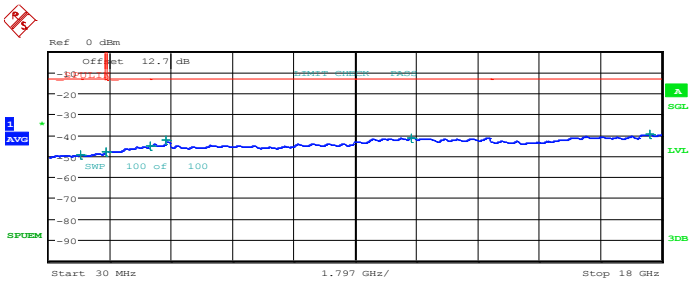
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	957.320000 M	-49.55	-36.55
1.000 G	1.700 G	1.00 M	1.688800 G	-47.07	-34.07
1.765 G	3.000 G	1.00 M	2.997530 G	-45.68	-32.68
3.000 G	9.000 G	1.00 M	3.444000 G	-41.43	-28.43
9.000 G	13.000 G	1.00 M	10.664000 G	-41.38	-28.38
13.000 G	18.000 G	1.00 M	17.660000 G	-39.79	-26.79

Date: 24.APR.2014 21:40:51

16QAM (RB Size 1, RB Offset 0)

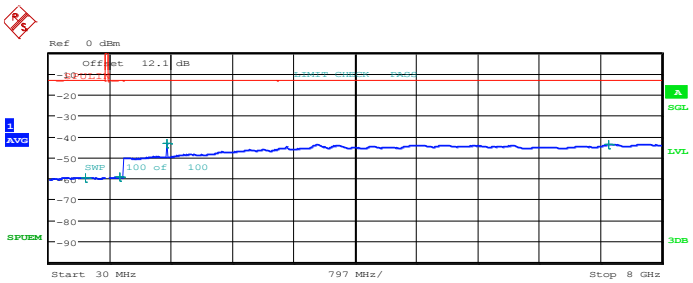


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	1.00 M	955.380000 M	-49.50	-36.50
1.000 G	1.700 G	1.00 M	1.689500 G	-48.14	-35.14
1.765 G	3.000 G	1.00 M	2.982710 G	-45.54	-32.54
3.000 G	9.000 G	1.00 M	3.444000 G	-42.40	-29.40
9.000 G	13.000 G	1.00 M	10.660000 G	-41.41	-28.41
13.000 G	18.000 G	1.00 M	17.665000 G	-39.76	-26.76

Date: 24.APR.2014 21:41:51

Band :	LTE Band 13	Channel :	CH23230 (Middle)
Band Width :	5MHz		

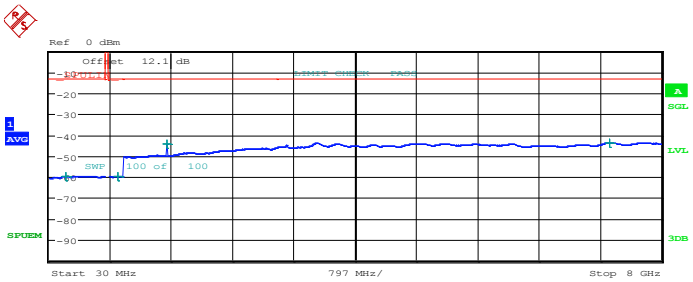
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	763.000 M	100.00 k	507.916000 M	-59.73	-46.73
806.000 M	1.000 G	100.00 k	946.068000 M	-59.47	-46.47
1.000 G	3.000 G	1.00 M	1.560000 G	-43.21	-30.21
3.000 G	8.000 G	1.00 M	7.315000 G	-43.72	-30.72

Date: 24.APR.2014 23:40:32

16QAM (RB Size 1, RB Offset 0)

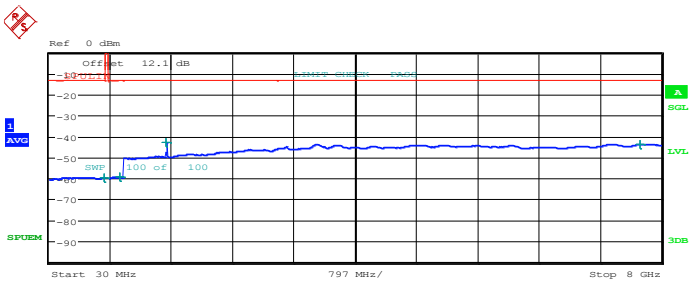


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	763.000 M	100.00 k	243.303000 M	-59.68	-46.68
806.000 M	1.000 G	100.00 k	924.728000 M	-59.63	-46.63
1.000 G	3.000 G	1.00 M	1.560000 G	-44.44	-31.44
3.000 G	8.000 G	1.00 M	7.325000 G	-43.69	-30.69

Date: 24.APR.2014 23:41:22

Band :	LTE Band 13	Channel :	CH23230 (Middle)
Band Width :	10MHz		

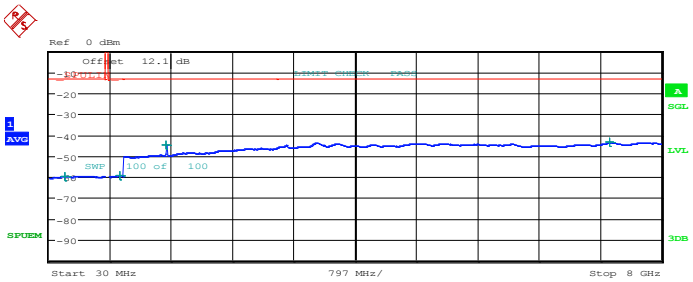
QPSK (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	763.000 M	100.00 k	751.272000 M	-59.71	-46.71
806.000 M	1.000 G	100.00 k	954.992000 M	-59.42	-46.42
1.000 G	3.000 G	1.00 M	1.556000 G	-42.81	-29.81
3.000 G	8.000 G	1.00 M	7.725000 G	-43.74	-30.74

Date: 24.APR.2014 23:46:10

16QAM (RB Size 1, RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	763.000 M	100.00 k	238.172000 M	-59.66	-46.66
806.000 M	1.000 G	100.00 k	954.022000 M	-59.33	-46.33
1.000 G	3.000 G	1.00 M	1.556000 G	-44.97	-31.97
3.000 G	8.000 G	1.00 M	7.325000 G	-43.65	-30.65

Date: 24.APR.2014 23:47:10

3.6 Radiated Spurious Emission Measurement

3.6.1 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.

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

For LTE Band 13

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

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

3.6.2 Measuring Instruments

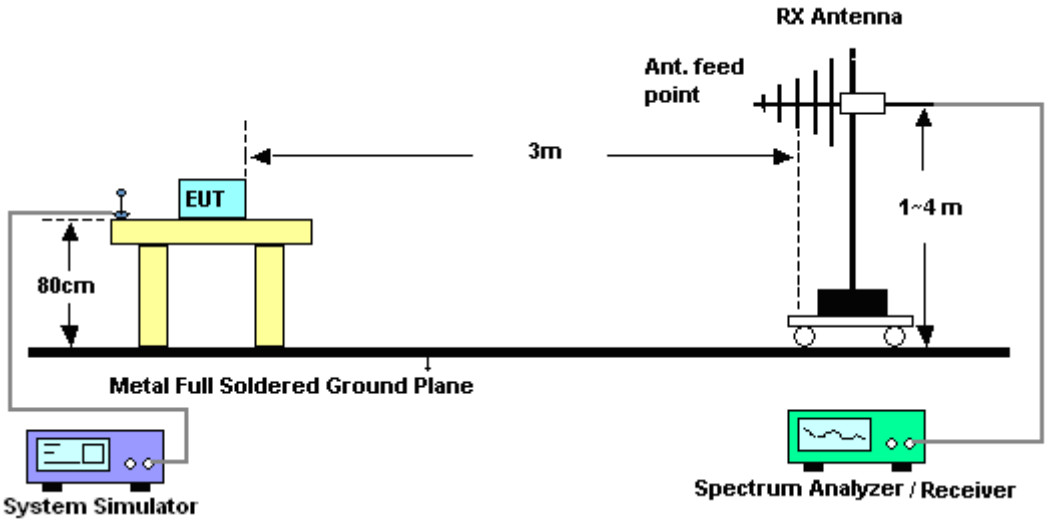
The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

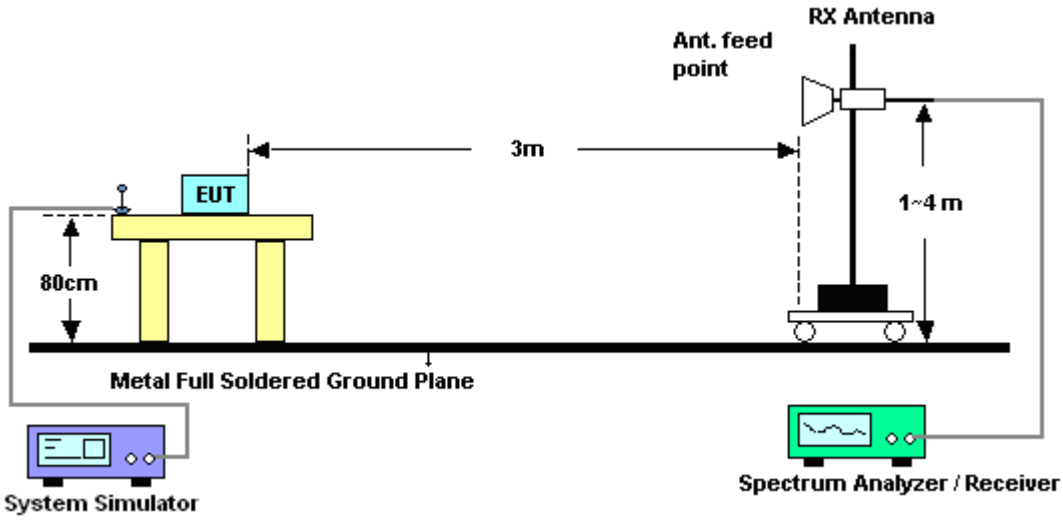
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving 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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

3.6.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.6.5 Test Result of Field Strength of Spurious Radiated

Band :	LTE Band 4	**Temperature :**	21~24°C
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	**Relative Humidity :**	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3463	-45.57	-13	-32.57	-60.34	-49.4	4.48	8.31	H	Pass
5195	-47.86	-13	-34.86	-67.18	-52.5	5.332	9.98	H	Pass
6927	-41.96	-13	-28.96	-68.28	-47.2	6.1	11.34	H	Pass

Band :	LTE Band 4	**Temperature :**	21~24°C
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	**Relative Humidity :**	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3463	-44.27	-13	-31.27	-60.17	-48.1	4.48	8.31	V	Pass
5195	-48.56	-13	-35.56	-68.05	-53.2	5.332	9.98	V	Pass
6927	-42.96	-13	-29.96	-68.63	-48.2	6.1	11.34	V	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3462	-44.47	-13	-31.47	-59.29	-48.3	4.48	8.31	H	Pass
5193	-49.46	-13	-36.46	-68.55	-54.1	5.332	9.98	H	Pass
6924	-41.86	-13	-28.86	-68.25	-47.1	6.1	11.34	H	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3462	-47.27	-13	-34.27	-63.13	-51.1	4.48	8.31	V	Pass
5193	-51.06	-13	-38.06	-69.48	-55.7	5.332	9.98	V	Pass
6924	-43.96	-13	-30.96	-69.14	-49.2	6.1	11.34	V	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3460	-45.47	-13	-32.47	-60.35	-49.3	4.48	8.31	H	Pass
5190	-49.86	-13	-36.86	-68.58	-54.5	5.332	9.98	H	Pass
6920	-43.66	-13	-30.66	-69.08	-48.9	6.1	11.34	H	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3460	-48.67	-13	-35.67	-64.12	-52.5	4.48	8.31	V	Pass
5190	-48.86	-13	-35.86	-68.28	-53.5	5.332	9.98	V	Pass
6920	-43.26	-13	-30.26	-67.9	-48.5	6.1	11.34	V	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3455	-48.07	-13	-35.07	-62.38	-51.9	4.48	8.31	H	Pass
5183	-49.96	-13	-36.96	-68.71	-54.6	5.332	9.98	H	Pass
6910	-42.86	-13	-29.86	-68.32	-48.1	6.1	11.34	H	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3455	-48.37	-13	-35.37	-64.2	-52.2	4.48	8.31	V	Pass
5183	-50.46	-13	-37.46	-69.14	-55.1	5.332	9.98	V	Pass
6910	-43.86	-13	-30.86	-68.76	-49.1	6.1	11.34	V	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3450	-47.37	-13	-34.37	-62.17	-51.2	4.48	8.31	H	Pass
5175	-50.16	-13	-37.16	-68.9	-54.8	5.332	9.98	H	Pass
6900	-42.96	-13	-29.96	-68.72	-48.2	6.1	11.34	H	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3450	-46.27	-13	-33.27	-65.84	-50.1	4.48	8.31	V	Pass
5175	-49.46	-13	-36.46	-68.17	-54.1	5.332	9.98	V	Pass
6900	-44.36	-13	-31.36	-69.16	-49.6	6.1	11.34	V	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3445	-46.47	-13	-33.47	-61.23	-50.3	4.48	8.31	H	Pass
5168	-49.56	-13	-36.56	-68.55	-54.2	5.332	9.98	H	Pass
6890	-42.56	-13	-29.56	-68.2	-47.8	6.1	11.34	H	Pass

Band :	LTE Band 4	Temperature :	21~24°C
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3445	-49.37	-13	-36.37	-65.35	-53.2	4.48	8.31	V	Pass
5168	-50.16	-13	-37.16	-68.91	-54.8	5.332	9.98	V	Pass
6890	-43.26	-13	-30.26	-68.8	-48.5	6.1	11.34	V	Pass

Band :	LTE Band 13	Temperature :	21~24°C
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

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)	Result
1558	-52.02	-13	-39.02	-58.29	-53.85	1.51	5.49	H	Pass
1559	-55.06	-42.15	-12.91	-60.29	-56.9	1.51	5.50	H	Pass
2341	-55.77	-13	-42.77	-66.06	-57.69	1.98	6.05	H	Pass
3119	-55.61	-13	-42.61	-67.12	-58.63	2.39	7.56	H	Pass

Band :	LTE Band 13	Temperature :	21~24°C
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

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)	Result
1558	-53.72	-13	-40.72	-62.11	-55.55	1.51	5.49	V	Pass
1559	-55.68	-42.15	-13.53	-63.11	-57.52	1.51	5.50	V	Pass
2341	-54.57	-13	-41.57	-65.88	-56.49	1.98	6.05	V	Pass
3118	-53.84	-13	-40.84	-67.28	-56.86	2.39	7.56	V	Pass

Band :	LTE Band 13	Temperature :	21~24°C
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

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)	Result
1555	-51.03	-13	-38.03	-59.96	-52.86	1.51	5.49	H	Pass
1594	-58.25	-42.15	-16.10	-65.81	-60.05	1.63	5.58	H	Pass
2332	-53.75	-13	-40.75	-67.04	-55.67	1.98	6.05	H	Pass
3110.72	-53.32	-13	-40.32	-67.81	-56.34	2.39	7.56	H	Pass

Band :	LTE Band 13	Temperature :	21~24°C
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	44~48%
Test Engineer :	Stan Hsieh and Ken Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		

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)	Result
1555	-52.49	-13	-39.49	-63.73	-54.32	1.51	5.49	V	Pass
1579	-55.68	-42.15	-13.53	-65.39	-57.46	1.6	5.53	V	Pass
2333.04	-52.07	-13	-39.07	-67.08	-53.99	1.98	6.05	V	Pass
3110.72	-49.42	-13	-36.42	-67.23	-52.44	2.39	7.56	V	Pass

3.7 Frequency Stability Measurement

3.7.1 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 ±0.00025% (±2.5ppm) of the center frequency.

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

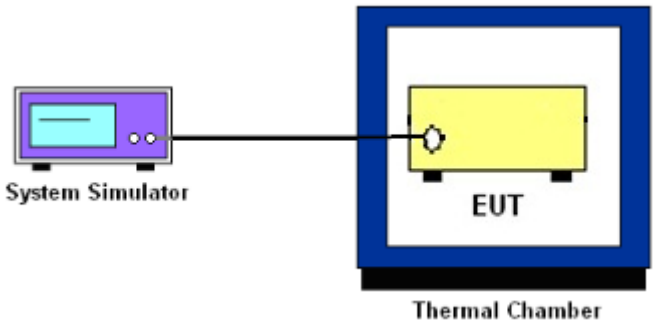
3.7.3 Test Procedures for Temperature Variation

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.

3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.7.5 Test Setup



3.7.6 Test Result of Temperature Variation (FCC)

Band :	LTE Band 4 (QPSK)	**Limit (ppm) :**	2.5

Temperature (°C)	**BW 10MHz**	**Result**
	Deviation (ppm)	
50	0.0086	PASS
40	0.0099	
30	0.0110	
20(Ref.)	0.0000	
10	0.0041	
0	0.0012	
-10	N/A – note	
-20	N/A – note	
-30	N/A – note	

Band :	LTE Band 13 (QPSK)	**Limit (ppm) :**	2.5

Temperature (°C)	**BW 10MHz**	**Result**
	Deviation (ppm)	
50	0.0013	PASS
40	0.0044	
30	0.0102	
20(Ref.)	0.0000	
10	0.0032	
0	0.0084	
-10	N/A – note	
-20	N/A – note	
-30	N/A – note	

Note: Device does not turn on, no transmission of signal.

3.7.7 Test Result of Voltage Variation (FCC)

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 4	10M	4.2	0.0012	2.5	PASS
		Normal	0.0085		
		3.4	0.0118		
LTE Band 13	10M	4.2	0.0044	2.5	PASS
		Normal	0.0047		
		3.4	0.0027		

Remark:

1. Normal Voltage = 3.7V.
2. The manufacturer declared that the EUT could work properly between voltage 3.4V ~ 4.2V.

4 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	Jan. 07, 2014	Apr. 24, 2014 ~ Apr. 26, 2014	Jan. 06, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Apr. 24, 2014 ~ Apr. 26, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 19, 2013	Apr. 24, 2014 ~ Apr. 26, 2014	Jul. 18, 2014	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz ~ 30GHz	Feb. 10, 2014	Apr. 14, 2014 ~ Apr. 17, 2014	Feb. 09, 2015	Radiation (03CH07-HY
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Oct. 10, 2013	Apr. 14, 2014 ~ Apr. 17, 2014	Oct. 09, 2014	Radiation (03CH07-HY
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 22, 2013	Apr. 14, 2014 ~ Apr. 17, 2014	Aug. 21, 2014	Radiation (03CH07-HY
Preamplifier	COM-POWER	PA-103A	161241	10 MHz ~ 1000MHz	Mar. 17, 2014	Apr. 14, 2014 ~ Apr. 17, 2014	Mar. 16, 2015	Radiation (03CH07-HY
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Nov. 29, 2013	Apr. 14, 2014 ~ Apr. 17, 2014	Nov. 28, 2014	Radiation (03CH07-HY
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Apr. 14, 2014 ~ Apr. 17, 2014	N/A	Radiation (03CH07-HY
Antenna Mast	ChainTek	M-400-0	114/8000604	N/A	N/A	Apr. 14, 2014 ~ Apr. 17, 2014	N/A	Radiation (03CH07-HY
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 03, 2013	Apr. 14, 2014 ~ Apr. 17, 2014	Oct. 02, 2014	Radiation (03CH07-HY

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.50**