

FCC RF Test Report

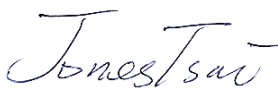
APPLICANT : Xplore Technologies Corp.
EQUIPMENT : Wireless Modules
BRAND NAME : Xplore Technologies
MODEL NAME : EM7355
FCC ID : Q2GEM7355
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Nov. 20, 2013 and testing was completed on Jan. 13, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown 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



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG3N2012C	Rev. 01	Initial issue of report	Jan. 23, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	RSS-130(4.4) RSS-132 (5.4) RSS-133 (6.4) RSS-139(6.4)	Conducted Output Power	Reporting Only	PASS	-
3.1	§22.913(a)(2)	RSS-132(5.4) SRSP-503(5.1.3)	Effective Radiated Power (Band 5)	ERP < 7 Watts	PASS	-
	§27.50(c)(10)	N/A	Effective Radiated Power (Band 13) (Band 17)	ERP < 3 Watts		
	N/A	RSS-130(4.4)	Equivalent Isotropic Radiated Power (Band 13) (Band 17)	EIRP < 5 Watts		
	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power (Band 2)(Band 25)	EIRP < 2Watt		
	§27.50(d)(4)	RSS-139 (6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.2	§24.232(d) 27.53(d)(5)	RSS-130(4.4) RSS-133(6.4) RSS-139(6.4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§2.1049 §22.917(a) §24.238(a) §27.53(h)(3)	RSS-GEN(4.6.1) RSS-132 (3.1) RSS-133(3.1) RSS-139 (3.1)	Occupied Bandwidth	Reporting Only	PASS	-
3.4	§2.1049 §22.917(a) §24.238(a) §27.53(c)(g)(h)	RSS-130(4.6) RSS-132 (5.5) RSS-133 (6.5.1) RSS-139 (6.5)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 13) (Band 17) (Band 25)	< 43+10log10(P[Watts])	PASS	-



Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.5	§2.1051 §22.917(a) §24.238(a) §27.53(c)(g)(h)	RSS-130(4.6) RSS-132 (5.5) RSS-133 (6.5.1) RSS-139 (6.5)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 13) (Band 17) (Band 25)	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	-
3.6	§2.1053 §22.917(a) §24.238(a) §27.53(c)(g)(h)	RSS-130(4.6) RSS-132 (5.5) RSS-133 (6.5.1) RSS-139 (6.5)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 13) (Band 17) (Band 25)	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	Under limit 7.32 dB at 1560.000 MHz
3.7	§2.1055 §22.355 §24.235 §27.54	RSS-130(4.3) RSS-132(5.3) RSS-133(6.3) RSS-139 (6.3)	Frequency Stability Temperature & Voltage	$< 2.5 \text{ ppm}$	PASS	

1 General Description

1.1 Applicant

Xplore Technologies Corp.

14000 Summit Road Suite 900, Austin, Texas, 78728 USA

1.2 Manufacturer

Sierra Wireless Inc.

13811, Wireless Way, Richmond, British Columbia, Canada

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Modules
Brand Name	Xplore Technologies
Model Name	EM7355
FCC ID	Q2GEM7355
Installed into Rugged Tablet PC	Brand name : Xplore Technologies Corp Model name : iX104C6
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	LTE Band 5 : 826.5 MHz ~ 846.5 MHz LTE Band 2 : 1852.5 MHz ~ 1907.5 MHz LTE Band 25 : 1852.5 MHz ~ 1912.5 MHz LTE Band 4 : 1712.5 MHz ~ 1752.5 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz
Rx Frequency	LTE Band 5 : 871.5 MHz ~ 891.5 MHz LTE Band 2 : 1932.5 MHz ~ 1987.5 MHz LTE Band 25 : 1932.5 MHz ~ 1992.5 MHz LTE Band 4 : 2112.5 MHz ~ 2152.5 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
Bandwidth	5MHz / 10MHz (Band 5) 5MHz / 10MHz / 15MHz / 20MHz (Band 2) 5MHz / 10MHz / 15MHz / 20MHz (Band 25) 5MHz / 10MHz / 15MHz / 20MHz (Band 4) 5MHz / 10MHz (Band 13) 5MHz / 10MHz (Band 17)
Maximum Output Power to Antenna	LTE Band 5 : 22.30 dBm / 0.1698 W LTE Band 2 : 22.95 dBm / 0.1972 W LTE Band 25 : 22.97 dBm / 0.1982 W LTE Band 4 : 22.98 dBm / 0.1986 W LTE Band 13 : 22.49 dBm / 0.1774 W LTE Band 17 : 22.49 dBm / 0.1774 W
Antenna Type	PIFA Antenna
Antenna Gain	LTE Band 5 : 2.88 dBi LTE Band 2 : 2.86 dBi LTE Band 4 : 2.87 dBi LTE Band 13 : 1.19 dBi LTE Band 17 : 1.46 dBi LTE Band 25 : 2.86 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

1.6 Emission Designator

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 22	LTE Band 5	QPSK	5 MHz	4M50G7D	-	0.20 W
Part 22	LTE Band 5	16QAM	5 MHz	4M49D7W	-	0.16 W
Part 22	LTE Band 5	QPSK	10 MHz	9M08G7D	0.0069 ppm	0.20 W
Part 22	LTE Band 5	16QAM	10 MHz	9M06D7W	-	0.16 W
Part 24	LTE Band 2	QPSK	5 MHz	4M49G7D	-	0.38 W
Part 24	LTE Band 2	16QAM	5 MHz	4M51D7W	-	0.31 W
Part 24	LTE Band 2	QPSK	10 MHz	9M12G7D	0.0107 ppm	0.38 W
Part 24	LTE Band 2	16QAM	10 MHz	9M06D7W	-	0.31 W
Part 24	LTE Band 2	QPSK	15 MHz	13M5G7D	-	0.38 W
Part 24	LTE Band 2	16QAM	15 MHz	13M6D7W	-	0.31 W
Part 24	LTE Band 2	QPSK	20 MHz	18M6G7D	-	0.38 W
Part 24	LTE Band 2	16QAM	20 MHz	18M6D7W	-	0.30 W
Part 24	LTE Band 25	QPSK	5 MHz	4M51G7D	-	0.37 W
Part 24	LTE Band 25	16QAM	5 MHz	4M51D7W	-	0.31 W
Part 24	LTE Band 25	QPSK	10 MHz	9M08G7D	0.0099 ppm	0.38 W
Part 24	LTE Band 25	16QAM	10 MHz	9M06D7W	-	0.31 W
Part 24	LTE Band 25	QPSK	15 MHz	13M5G7D	-	0.38 W
Part 24	LTE Band 25	16QAM	15 MHz	13M5D7W	-	0.30 W
Part 24	LTE Band 25	QPSK	20 MHz	18M6G7D	-	0.38 W
Part 24	LTE Band 25	16QAM	20 MHz	18M6D7W	-	0.31 W

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (%, Hz, ppm)	Maximum ERP/EIRP
Part 27	LTE Band 4	QPSK	5MHz	4M51G7D	-	0.38 W
Part 27	LTE Band 4	16QAM	5MHz	4M51D7W	-	0.30 W
Part 27	LTE Band 4	QPSK	10MHz	9M10G7D	0.0056 ppm	0.38 W
Part 27	LTE Band 4	16QAM	10MHz	9M08D7W	-	0.31 W
Part 27	LTE Band 4	QPSK	15MHz	13M5G7D	-	0.38 W
Part 27	LTE Band 4	16QAM	15MHz	13M5D7W	-	0.31 W
Part 27	LTE Band 4	QPSK	20MHz	18M6G7D	-	0.38 W
Part 27	LTE Band 4	16QAM	20MHz	18M6D7W	-	0.31 W
Part 27	LTE Band 13	QPSK	5MHz	4M50G7D	-	0.14 W
Part 27	LTE Band 13	16QAM	5MHz	4M50D7W	-	0.11 W
Part 27	LTE Band 13	QPSK	10MHz	9M04G7D	0.0086 ppm	0.14 W
Part 27	LTE Band 13	16QAM	10MHz	8M98D7W	-	0.11 W
Part 27	LTE Band 17	QPSK	5MHz	4M50G7D	-	0.15 W
Part 27	LTE Band 17	16QAM	5MHz	4M52D7W	-	0.12 W
Part 27	LTE Band 17	QPSK	10MHz	9M10G7D	0.0079 ppm	0.15 W
Part 27	LTE Band 17	16QAM	10MHz	9M02D7W	-	0.12 W

1.7 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH02-HY	03CH07-HY	722060/4086B-1

1.8 Applied Standards

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

- ♦ 47 CFR Part 2, 22(H), 24(E), 27
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01
- ♦ FCC KDB 412172 D01 Determining ERP and ERIP v01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

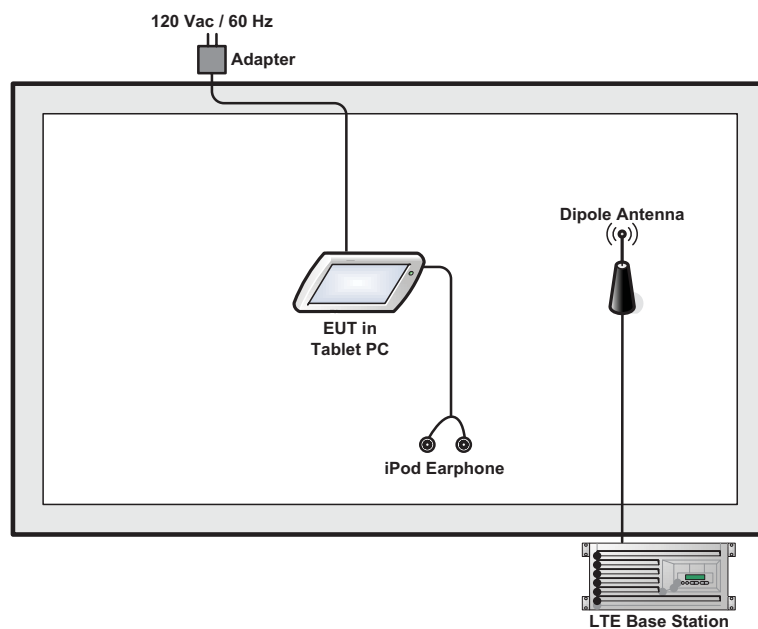
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT was rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission: 30MHz to 10th harmonic.

Test Modes			
Band		Radiated TCs	Conducted TCs
LTE Band 5	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link
LTE Band 2	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link
	BW 15MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 36) Link ■ LTE (RB Size 75) Link
	BW 20MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 50) Link ■ LTE (RB Size 100) Link
LTE Band 25	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link
	BW 15MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 36) Link ■ LTE (RB Size 75) Link
	BW 20MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 50) Link ■ LTE (RB Size 100) Link

Test Modes			
Band		Radiated TCs	Conducted TCs
LTE Band 4	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link
	BW 15MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 36) Link ■ LTE (RB Size 75) Link
	BW 20MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 50) Link ■ LTE (RB Size 100) Link
LTE Band 13	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link
LTE Band 17	BW 5MHz	-	■ LTE (RB Size 1) Link ■ LTE (RB Size 12) Link ■ LTE (RB Size 25) Link
	BW 10MHz	■ LTE (RB Size 1) Link	■ LTE (RB Size 1) Link ■ LTE (RB Size 25) Link ■ LTE (RB Size 50) Link

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.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	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 :

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

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 base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

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

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

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

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

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 base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

<LTE Band 5 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				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	22.14	22.16	22.22
10	QPSK	1	24	22.30	22.10	22.18
10	QPSK	1	49	22.26	22.11	22.13
10	QPSK	25	0	21.19	21.06	21.15
10	QPSK	25	12	21.23	21.12	21.18
10	QPSK	25	24	21.25	21.07	21.18
10	QPSK	50	0	21.02	21.05	21.00
10	16QAM	1	0	21.17	21.27	21.29
10	16QAM	1	24	21.34	21.24	21.25
10	16QAM	1	49	21.26	21.25	21.20
10	16QAM	25	0	20.13	20.11	20.20
10	16QAM	25	12	20.28	20.14	20.18
10	16QAM	25	24	20.30	20.16	20.18
10	16QAM	50	0	20.01	20.07	20.05
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	22.09	22.21	22.17
5	QPSK	1	12	22.17	22.14	22.12
5	QPSK	1	24	22.20	22.25	22.15
5	QPSK	12	0	21.23	21.23	21.15
5	QPSK	12	6	21.21	21.24	21.21
5	QPSK	12	11	21.28	21.21	21.23
5	QPSK	25	0	21.20	21.06	21.10
5	16QAM	1	0	21.10	21.29	21.23
5	16QAM	1	12	21.23	21.27	21.23
5	16QAM	1	24	21.25	21.30	21.21
5	16QAM	12	0	20.32	20.32	20.28
5	16QAM	12	6	20.30	20.35	20.28
5	16QAM	12	11	20.33	20.31	20.21
5	16QAM	25	0	20.17	20.20	20.16

<LTE Band 2 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				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	22.89	22.90	22.74
20	QPSK	1	49	22.78	22.74	22.75
20	QPSK	1	99	22.63	22.75	22.95
20	QPSK	50	0	21.73	21.65	21.57
20	QPSK	50	24	21.65	21.59	21.56
20	QPSK	50	49	21.56	21.52	21.51
20	QPSK	100	0	21.73	21.61	21.65
20	16QAM	1	0	21.95	21.70	21.79
20	16QAM	1	49	21.79	21.94	21.70
20	16QAM	1	99	21.64	21.78	21.91
20	16QAM	50	0	20.62	20.53	20.53
20	16QAM	50	24	20.57	20.51	20.52
20	16QAM	50	49	20.47	20.46	20.49
20	16QAM	100	0	20.60	20.55	20.42
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	22.89	22.90	22.70
15	QPSK	1	37	22.75	22.83	22.72
15	QPSK	1	74	22.68	22.73	22.94
15	QPSK	36	0	21.70	21.71	21.64
15	QPSK	36	18	21.59	21.71	21.57
15	QPSK	36	37	21.61	21.70	21.62
15	QPSK	75	0	21.63	21.64	21.49
15	16QAM	1	0	21.83	21.93	21.75
15	16QAM	1	37	21.79	21.95	21.79
15	16QAM	1	74	21.74	21.75	22.05
15	16QAM	36	0	20.76	20.64	20.61
15	16QAM	36	18	20.47	20.67	20.48
15	16QAM	36	37	20.44	20.61	20.64
15	16QAM	75	0	20.56	20.55	20.46

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	22.90	22.83	22.69
10	QPSK	1	24	22.85	22.83	22.67
10	QPSK	1	49	22.75	22.74	22.88
10	QPSK	25	0	21.89	21.85	21.71
10	QPSK	25	12	21.78	21.81	21.63
10	QPSK	25	24	21.74	21.81	21.79
10	QPSK	50	0	21.66	21.67	21.47
10	16QAM	1	0	22.02	21.92	21.75
10	16QAM	1	24	21.87	21.96	21.87
10	16QAM	1	49	21.87	21.78	22.08
10	16QAM	25	0	20.77	20.71	20.65
10	16QAM	25	12	20.75	20.69	20.58
10	16QAM	25	24	20.80	20.61	20.76
10	16QAM	50	0	20.71	20.57	20.44
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	22.83	22.81	22.65
5	QPSK	1	12	22.89	22.82	22.76
5	QPSK	1	24	22.82	22.74	22.94
5	QPSK	12	0	21.84	21.88	21.82
5	QPSK	12	6	21.80	21.85	21.87
5	QPSK	12	11	21.88	21.84	21.97
5	QPSK	25	0	21.70	21.83	21.80
5	16QAM	1	0	21.87	21.86	21.79
5	16QAM	1	12	22.00	21.95	21.91
5	16QAM	1	24	21.94	21.82	21.98
5	16QAM	12	0	20.97	20.89	20.83
5	16QAM	12	6	21.00	20.88	20.85
5	16QAM	12	11	20.91	20.88	20.95
5	16QAM	25	0	20.79	20.69	20.78

<LTE Band 25 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				26140	26365	26590
Frequency (MHz)				1860	1882.5	1905
20	QPSK	1	0	22.87	22.79	22.65
20	QPSK	1	49	22.97	22.78	22.95
20	QPSK	1	99	22.96	22.68	22.91
20	QPSK	50	0	21.62	21.65	21.45
20	QPSK	50	24	21.62	21.45	21.55
20	QPSK	50	49	21.67	21.42	21.66
20	QPSK	100	0	21.64	21.52	21.55
20	16QAM	1	0	21.96	21.94	21.61
20	16QAM	1	49	22.00	22.00	21.90
20	16QAM	1	99	22.00	21.74	21.92
20	16QAM	50	0	20.72	20.61	20.39
20	16QAM	50	24	20.60	20.44	20.52
20	16QAM	50	49	20.57	20.33	20.63
20	16QAM	100	0	20.56	20.43	20.52
Channel				26115	26365	26615
Frequency (MHz)				1857.5	1882.5	1907.5
15	QPSK	1	0	22.92	22.89	22.69
15	QPSK	1	37	22.78	22.78	22.92
15	QPSK	1	74	22.77	22.61	22.86
15	QPSK	36	0	21.55	21.71	21.67
15	QPSK	36	18	21.63	21.56	21.72
15	QPSK	36	37	21.68	21.46	21.78
15	QPSK	75	0	21.61	21.46	21.57
15	16QAM	1	0	21.86	21.95	21.66
15	16QAM	1	37	21.95	21.91	21.83
15	16QAM	1	74	21.98	21.76	21.95
15	16QAM	36	0	20.76	20.73	20.71
15	16QAM	36	18	20.64	20.56	20.66
15	16QAM	36	37	20.59	20.46	20.69
15	16QAM	75	0	20.52	20.47	20.61



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26090	26365	26640
Frequency (MHz)				1855	1882.5	1910
10	QPSK	1	0	22.95	22.82	22.93
10	QPSK	1	24	22.81	22.74	22.78
10	QPSK	1	49	22.80	22.58	22.91
10	QPSK	25	0	21.63	21.72	21.85
10	QPSK	25	12	21.72	21.65	21.76
10	QPSK	25	24	21.77	21.59	21.77
10	QPSK	50	0	21.58	21.51	21.61
10	16QAM	1	0	22.02	21.88	22.02
10	16QAM	1	24	21.83	21.83	21.90
10	16QAM	1	49	21.82	21.63	21.80
10	16QAM	25	0	20.59	20.75	20.87
10	16QAM	25	12	20.75	20.57	20.70
10	16QAM	25	24	20.76	20.53	20.91
10	16QAM	50	0	20.54	20.44	20.59
Channel				26065	26365	26665
Frequency (MHz)				1852.5	1882.5	1912.5
5	QPSK	1	0	22.86	22.84	22.83
5	QPSK	1	12	22.81	22.69	22.88
5	QPSK	1	24	22.77	22.63	22.79
5	QPSK	12	0	21.75	21.84	21.86
5	QPSK	12	6	21.76	21.73	21.91
5	QPSK	12	11	21.79	21.65	21.88
5	QPSK	25	0	21.58	21.66	21.81
5	16QAM	1	0	21.85	21.85	21.83
5	16QAM	1	12	21.92	21.83	22.05
5	16QAM	1	24	21.74	21.77	21.89
5	16QAM	12	0	20.88	20.85	20.85
5	16QAM	12	6	20.84	20.73	20.93
5	16QAM	12	11	20.80	20.73	20.88
5	16QAM	25	0	20.61	20.56	20.78

<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	22.85	22.93	22.98
20	QPSK	1	49	22.82	22.83	22.90
20	QPSK	1	99	22.83	22.88	22.85
20	QPSK	50	0	21.76	21.72	21.74
20	QPSK	50	24	21.66	21.67	21.65
20	QPSK	50	49	21.68	21.69	21.61
20	QPSK	100	0	21.67	21.62	21.73
20	16QAM	1	0	22.00	21.91	21.97
20	16QAM	1	49	21.98	21.86	21.97
20	16QAM	1	99	21.96	21.95	21.83
20	16QAM	50	0	20.78	20.65	20.71
20	16QAM	50	24	20.54	20.58	20.70
20	16QAM	50	49	20.57	20.58	20.64
20	16QAM	100	0	20.59	20.60	20.71
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.85	22.86	22.96
15	QPSK	1	37	22.84	22.82	22.92
15	QPSK	1	74	22.81	22.73	22.84
15	QPSK	36	0	21.82	21.72	21.77
15	QPSK	36	18	21.83	21.69	21.67
15	QPSK	36	37	21.66	21.77	21.62
15	QPSK	75	0	21.54	21.65	21.60
15	16QAM	1	0	22.01	21.99	22.04
15	16QAM	1	37	21.99	21.95	21.84
15	16QAM	1	74	21.90	21.87	21.87
15	16QAM	36	0	20.70	20.74	20.81
15	16QAM	36	18	20.63	20.66	20.75
15	16QAM	36	37	20.68	20.62	20.63
15	16QAM	75	0	20.43	20.58	20.61

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	22.77	22.86	22.97
10	QPSK	1	24	22.75	22.83	22.88
10	QPSK	1	49	22.82	22.70	22.77
10	QPSK	25	0	21.90	21.83	21.80
10	QPSK	25	12	21.84	21.75	21.69
10	QPSK	25	24	21.73	21.73	21.69
10	QPSK	50	0	21.68	21.61	21.63
10	16QAM	1	0	21.86	21.95	22.02
10	16QAM	1	24	21.79	21.76	21.88
10	16QAM	1	49	21.77	21.88	21.88
10	16QAM	25	0	20.78	20.85	20.96
10	16QAM	25	12	20.74	20.86	20.73
10	16QAM	25	24	20.67	20.73	20.66
10	16QAM	50	0	20.61	20.59	20.62
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	22.87	22.90	22.74
5	QPSK	1	12	22.95	22.80	22.91
5	QPSK	1	24	22.83	22.85	22.61
5	QPSK	12	0	22.00	21.82	21.88
5	QPSK	12	6	21.91	21.83	21.84
5	QPSK	12	11	21.94	21.92	21.91
5	QPSK	25	0	21.79	21.80	21.77
5	16QAM	1	0	21.89	21.85	21.79
5	16QAM	1	12	21.94	21.87	21.92
5	16QAM	1	24	21.90	21.87	21.82
5	16QAM	12	0	21.04	20.87	21.05
5	16QAM	12	6	20.85	20.87	20.97
5	16QAM	12	11	20.90	20.89	20.91
5	16QAM	25	0	20.84	20.76	20.79

<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		22.49	
10	QPSK	1	24		22.33	
10	QPSK	1	49		22.28	
10	QPSK	25	0		21.42	
10	QPSK	25	12		21.38	
10	QPSK	25	24		21.45	
10	QPSK	50	0		21.33	
10	16QAM	1	0		21.23	
10	16QAM	1	24		21.41	
10	16QAM	1	49		21.34	
10	16QAM	25	0		20.46	
10	16QAM	25	12		20.46	
10	16QAM	25	24		20.53	
10	16QAM	50	0		20.34	
Channel				23205	23230	23255
Frequency (MHz)				779.5	782	784.5
5	QPSK	1	0	22.48	22.34	22.40
5	QPSK	1	12	22.10	22.15	22.26
5	QPSK	1	24	22.18	22.28	22.10
5	QPSK	12	0	21.77	21.36	21.54
5	QPSK	12	6	21.20	21.34	21.32
5	QPSK	12	11	21.22	21.38	21.21
5	QPSK	25	0	21.17	21.15	21.31
5	16QAM	1	0	21.46	21.49	21.49
5	16QAM	1	12	21.24	21.29	21.32
5	16QAM	1	24	21.26	21.31	21.17
5	16QAM	12	0	20.18	20.24	20.46
5	16QAM	12	6	20.21	20.27	20.40
5	16QAM	12	11	20.26	20.36	20.29
5	16QAM	25	0	20.17	20.00	20.31

<LTE Band 17 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				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	22.30	22.49	22.32
10	QPSK	1	24	22.11	22.06	22.28
10	QPSK	1	49	22.00	22.00	22.13
10	QPSK	25	0	21.15	21.36	21.31
10	QPSK	25	12	21.33	21.32	21.22
10	QPSK	25	24	21.30	21.18	21.11
10	QPSK	50	0	21.15	21.20	21.13
10	16QAM	1	0	21.42	21.46	21.37
10	16QAM	1	24	21.33	21.09	21.23
10	16QAM	1	49	21.29	21.32	21.11
10	16QAM	25	0	20.27	20.31	20.23
10	16QAM	25	12	20.19	20.25	20.18
10	16QAM	25	24	20.32	20.14	20.05
10	16QAM	50	0	20.20	20.12	20.26
Channel				23755	23790	23825
Frequency (MHz)				706.5	710	713.5
5	QPSK	1	0	22.45	22.48	22.21
5	QPSK	1	12	22.32	22.32	22.13
5	QPSK	1	24	22.12	22.28	22.01
5	QPSK	12	0	21.22	21.46	21.24
5	QPSK	12	6	21.29	21.44	21.07
5	QPSK	12	11	21.34	21.35	21.05
5	QPSK	25	0	21.29	21.28	21.00
5	16QAM	1	0	21.44	21.40	21.26
5	16QAM	1	12	21.36	21.38	21.06
5	16QAM	1	24	21.16	21.24	21.04
5	16QAM	12	0	20.29	20.38	20.16
5	16QAM	12	6	20.16	20.45	20.09
5	16QAM	12	11	20.48	20.36	20.06
5	16QAM	25	0	20.04	20.30	20.01

Note: maximum average power for LTE.

3.1.6 Test Result of Conducted Output Power and ERP/EIRP

Cellular Band ($G_T - L_C = 2.88$ dB)						
Modes	LTE Band 5 (QPSK,BW=5M)			LTE Band 5 (16QAM,BW=5M)		
Channel	20425 (Low)	20525 (Mid)	20625 (High)	20425 (Low)	20525 (Mid)	20625 (High)
Frequency (MHz)	826.5	836.5	846.5	826.5	836.5	846.5
Conducted Power P_T (dBm)	22.20	22.25	22.17	21.25	21.30	21.23
Conducted Power P_T (Watts)	0.17	0.17	0.16	0.13	0.13	0.13
ERP(dBm)	22.93	22.98	22.90	21.98	22.03	21.96
ERP(Watts)	0.20	0.20	0.19	0.16	0.16	0.16

Cellular Band ($G_T - L_C = 2.88$ dB)						
Modes	LTE Band 5 (QPSK,BW=10M)			LTE Band 5 (16QAM,BW=10M)		
Channel	20450 (Low)	20525 (Mid)	20600 (High)	20450 (Low)	20525 (Mid)	20600 (High)
Frequency (MHz)	829	836.5	844	829	836.5	844
Conducted Power P_T (dBm)	22.30	22.16	22.22	21.34	21.27	21.29
Conducted Power P_T (Watts)	0.17	0.16	0.17	0.14	0.13	0.13
ERP(dBm)	23.03	22.89	22.95	22.07	22.00	22.02
ERP(Watts)	0.20	0.19	0.20	0.16	0.16	0.16

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 2 (QPSK,BW=5M)			LTE Band 2 (16QAM,BW=5M)		
Channel	18625(Low)	18900 (Mid)	19175 (High)	18625(Low)	18900 (Mid)	19175 (High)
Frequency (MHz)	1852.5	1880	1907.5	1852.5	1880	1907.5
Conducted Power P_T (dBm)	22.89	22.82	22.94	22.00	21.95	21.98
Conducted Power P_T (Watts)	0.19	0.19	0.20	0.16	0.16	0.16
EIRP(dBm)	25.75	25.68	25.80	24.86	24.81	24.84
EIRP(Watts)	0.38	0.37	0.38	0.31	0.30	0.30

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 2 (QPSK,BW=10M)			LTE Band 2 (16QAM,BW=10M)		
Channel	18650(Low)	18900 (Mid)	19150 (High)	18650(Low)	18900 (Mid)	19150 (High)
Frequency (MHz)	1855	1880	1905	1855	1880	1905
Conducted Power P_T (dBm)	22.90	22.83	22.88	22.02	21.96	22.08
Conducted Power P_T (Watts)	0.19	0.19	0.19	0.16	0.16	0.16
EIRP(dBm)	25.76	25.69	25.74	24.88	24.82	24.94
EIRP(Watts)	0.38	0.37	0.37	0.31	0.30	0.31

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 2 (QPSK,BW=15M)			LTE Band 2 (16QAM,BW=15M)		
Channel	18675(Low)	18900 (Mid)	19125 (High)	18675(Low)	18900 (Mid)	19125 (High)
Frequency (MHz)	1857.5	1880	1902.5	1857.5	1880	1902.5
Conducted Power P_T (dBm)	22.89	22.90	22.94	21.83	21.95	22.05
Conducted Power P_T (Watts)	0.19	0.19	0.20	0.15	0.16	0.16
EIRP(dBm)	25.75	25.76	25.80	24.69	24.81	24.91
EIRP(Watts)	0.38	0.38	0.38	0.29	0.30	0.31

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 2 (QPSK,BW=20M)			LTE Band 2 (16QAM,BW=20M)		
Channel	18700(Low)	18900 (Mid)	19100 (High)	18700(Low)	18900 (Mid)	19100 (High)
Frequency (MHz)	1860	1880	1900	1860	1880	1900
Conducted Power P_T (dBm)	22.89	22.90	22.95	21.95	21.94	21.91
Conducted Power P_T (Watts)	0.19	0.19	0.20	0.16	0.16	0.16
EIRP(dBm)	25.75	25.76	25.81	24.81	24.80	24.77
EIRP(Watts)	0.38	0.38	0.38	0.30	0.30	0.30

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 25 (QPSK, BW=5M)			LTE Band 25 (16QAM, BW=5M)		
Channel	26065 (Low)	26365 (Mid)	26665 (High)	26065 (Low)	26365 (Mid)	26665 (High)
Frequency (MHz)	1852.5	1882.5	1912.5	1852.5	1882.5	1912.5
Conducted Power P_T (dBm)	22.86	22.84	22.88	21.92	21.85	22.05
Conducted Power P_T (Watts)	0.19	0.19	0.19	0.16	0.15	0.16
EIRP (dBm)	25.72	25.70	25.74	24.78	24.71	24.91
EIRP (Watts)	0.37	0.37	0.37	0.30	0.30	0.31

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 25 (QPSK, BW=10M)			LTE Band 25 (16QAM, BW=10M)		
Channel	26090 (Low)	26365 (Mid)	26640 (High)	26090 (Low)	26365 (Mid)	26640 (High)
Frequency (MHz)	1855	1882.5	1910	1855	1882.5	1910
Conducted Power P_T (dBm)	22.95	22.82	22.93	22.02	21.88	22.02
Conducted Power P_T (Watts)	0.20	0.19	0.20	0.16	0.15	0.16
EIRP (dBm)	25.81	25.68	25.79	24.88	24.74	24.88
EIRP (Watts)	0.38	0.37	0.38	0.31	0.30	0.31

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 25 (QPSK,BW=15M)			LTE Band 25 (16QAM,BW=15M)		
Channel	26115 (Low)	26365 (Mid)	26615 (High)	26115 (Low)	26365 (Mid)	26615 (High)
Frequency (MHz)	1857.5	1882.5	1907.5	1857.5	1882.5	1907.5
Conducted Power P_T (dBm)	22.92	22.89	22.92	21.98	21.95	21.95
Conducted Power P_T (Watts)	0.20	0.19	0.20	0.16	0.16	0.16
EIRP(dBm)	25.78	25.75	25.78	24.84	24.81	24.81
EIRP(Watts)	0.38	0.38	0.38	0.30	0.30	0.30

PCS Band ($G_T - L_C = 2.86$ dB)						
Modes	LTE Band 25 (QPSK,BW=20M)			LTE Band 25 (16QAM,BW=20M)		
Channel	26140 (Low)	26365 (Mid)	26590 (High)	26140 (Low)	26365 (Mid)	26590 (High)
Frequency (MHz)	1860	1882.5	1905	1860	1882.5	1905
Conducted Power P_T (dBm)	22.97	22.79	22.95	22.00	22.00	21.92
Conducted Power P_T (Watts)	0.20	0.19	0.20	0.16	0.16	0.16
EIRP(dBm)	25.83	25.65	25.81	24.86	24.86	24.78
EIRP(Watts)	0.38	0.37	0.38	0.31	0.31	0.30

PCS Band ($G_T - L_C = 2.87\text{dB}$)						
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)	22.95	22.90	22.91	21.94	21.87	21.92
Conducted Power P_T (Watts)	0.20	0.19	0.20	0.16	0.15	0.16
EIRP(dBm)	25.82	25.77	25.78	24.81	24.74	24.79
EIRP(Watts)	0.38	0.38	0.38	0.30	0.30	0.30

PCS Band ($G_T - L_C = 2.87\text{ dB}$)						
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)	22.82	22.86	22.97	21.86	21.95	22.02
Conducted Power P_T (Watts)	0.19	0.19	0.20	0.15	0.16	0.16
EIRP(dBm)	25.69	25.73	25.84	24.73	24.82	24.89
EIRP(Watts)	0.37	0.37	0.38	0.30	0.30	0.31

PCS Band ($G_T - L_C = 2.87$ 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)	22.85	22.86	22.96	22.01	21.99	22.04
Conducted Power P_T (Watts)	0.19	0.19	0.20	0.16	0.16	0.16
EIRP(dBm)	25.72	25.73	25.83	24.88	24.86	24.91
EIRP(Watts)	0.37	0.37	0.38	0.31	0.31	0.31

PCS Band ($G_T - L_C = 2.87$ 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)	22.85	22.93	22.98	22.00	21.95	21.97
Conducted Power P_T (Watts)	0.19	0.20	0.20	0.16	0.16	0.16
EIRP(dBm)	25.72	25.80	25.85	24.87	24.82	24.84
EIRP(Watts)	0.37	0.38	0.38	0.31	0.30	0.30

Cellular Band ($G_T - L_C = 1.19$ 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)	22.48	22.34	22.40	21.46	21.49	21.49
Conducted Power P_T (Watts)	0.18	0.17	0.17	0.14	0.14	0.14
ERP(dBm)	21.52	21.38	21.44	20.50	20.53	20.53
ERP(Watts)	0.14	0.14	0.14	0.11	0.11	0.11
EIRP(dBm)	23.67	23.53	23.59	22.65	22.68	22.68
EIRP(Watts)	0.23	0.23	0.23	0.18	0.19	0.19

Cellular Band ($G_T - L_C = 1.19$ 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)	22.49	21.41
Conducted Power P_T (Watts)	0.18	0.14
ERP(dBm)	21.53	20.45
ERP(Watts)	0.14	0.11
EIRP(dBm)	23.68	22.60
EIRP(Watts)	0.23	0.18

Cellular Band ($G_T - L_C = 1.46$ dB)						
Modes	LTE Band 17 (QPSK,BW=5M)			LTE Band 17 (16QAM,BW=5M)		
Channel	23755(Low)	23790 (Mid)	23825 (High)	23755(Low)	23790 (Mid)	23825 (High)
Frequency (MHz)	706.5	710	713.5	706.5	710	713.5
Conducted Power P_T (dBm)	22.45	22.48	22.21	21.44	21.40	21.26
Conducted Power P_T (Watts)	0.18	0.18	0.17	0.14	0.14	0.13
ERP(dBm)	21.76	21.79	21.52	20.75	20.71	20.57
ERP(Watts)	0.15	0.15	0.14	0.12	0.12	0.11
EIRP(dBm)	23.91	23.94	23.67	22.90	22.86	22.72
EIRP(Watts)	0.25	0.25	0.23	0.19	0.19	0.19

Cellular Band ($G_T - L_C = 1.46$ dB)						
Modes	LTE Band 17 (QPSK,BW=10M)			LTE Band 17 (16QAM,BW=10M)		
Channel	23780(Low)	23790 (Mid)	23800 (High)	23780(Low)	23790 (Mid)	23800 (High)
Frequency (MHz)	709	710	711	709	710	711
Conducted Power P_T (dBm)	22.30	22.49	22.32	21.42	21.46	21.37
Conducted Power P_T (Watts)	0.17	0.18	0.17	0.14	0.14	0.14
ERP(dBm)	21.61	21.80	21.63	20.73	20.77	20.68
ERP(Watts)	0.14	0.15	0.15	0.12	0.12	0.12
EIRP(dBm)	23.76	23.95	23.78	22.88	22.92	22.83
EIRP(Watts)	0.24	0.25	0.24	0.19	0.20	0.19

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.

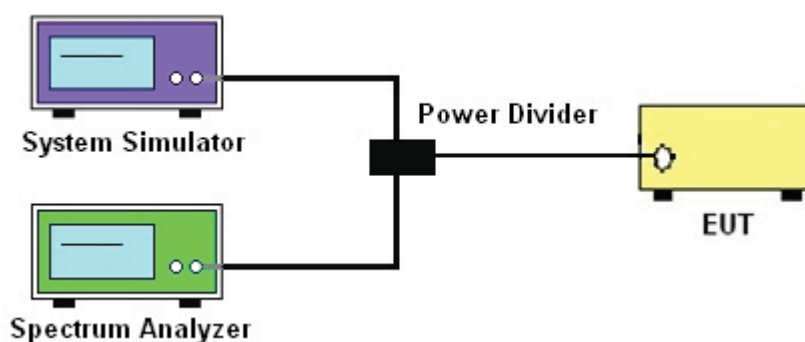
3.2.2 Measuring Instruments

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 Analyzer and Base Station via power divider.
2. For LTE operating modes:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
3. 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 5						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	16QAM	1	0	6.06	5.38	6.19
10	16QAM	50	0	6.60	6.41	6.57

LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	16QAM	1	0	5.16	5.16	5.16
20	16QAM	100	0	5.96	6.51	6.35

LTE Band 25						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26140	26365	26590
Frequency (MHz)				1860	1882.5	1905
20	16QAM	1	0	5.16	5.13	5.10
20	16QAM	100	0	5.96	6.51	6.25

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	5.06	4.52	5.06
20	16QAM	100	0	5.80	5.99	6.28

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		6.38	
10	16QAM	50	0		5.99	

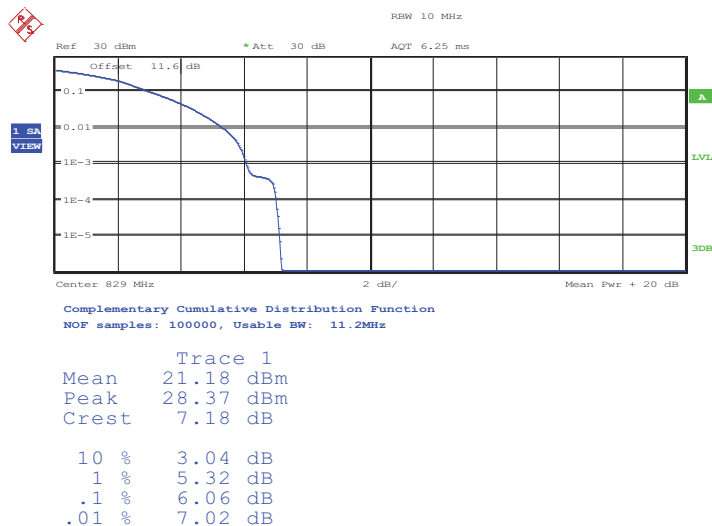


LTE Band 17						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	16QAM	1	0	5.16	4.94	4.58
10	16QAM	50	0	5.99	6.09	6.12

3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 5

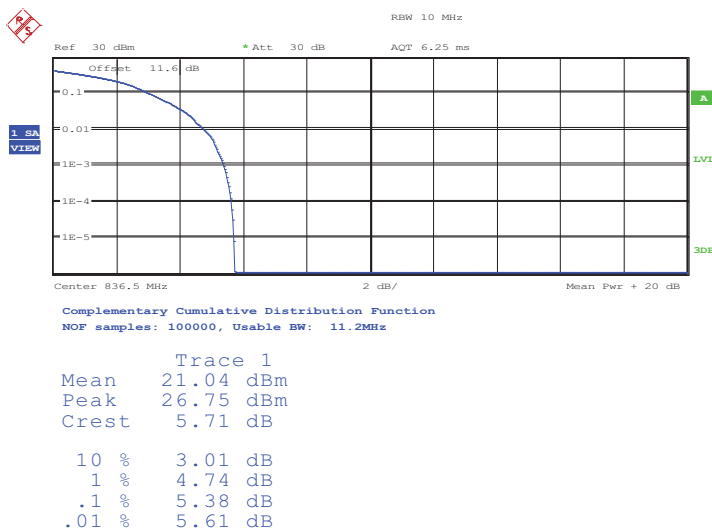
10MHz / 16QAM in Ch. 20450 (1RB Size)



Date: 26.DEC.2013 23:20:57

Peak-to-Average Ratio on LTE Band 5

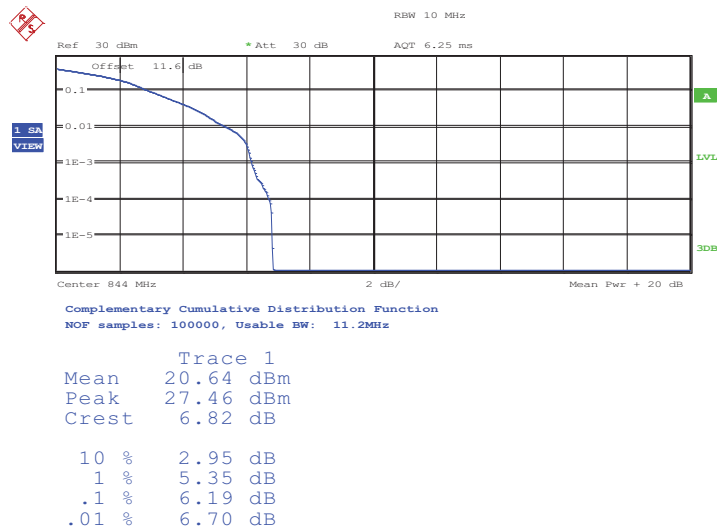
10MHz / 16QAM in Ch. 20525 (1RB Size)



Date: 26.DEC.2013 23:21:47

Peak-to-Average Ratio on LTE Band 5

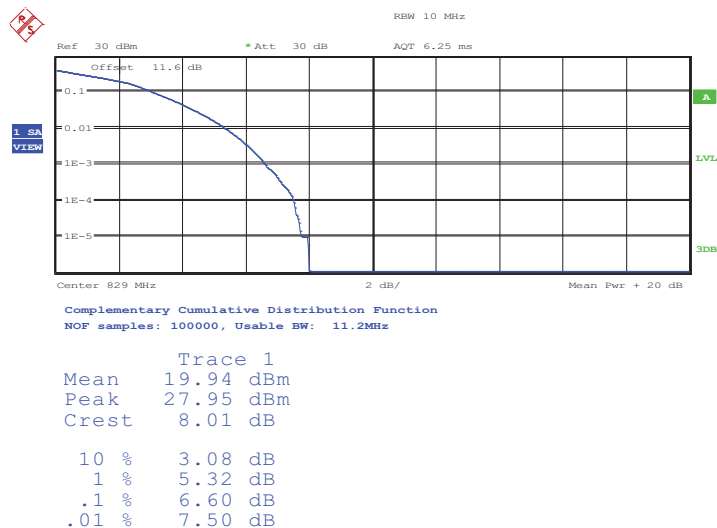
10MHz / 16QAM in Ch. 20600 (1RB Size)



Date: 26.DEC.2013 23:22:14

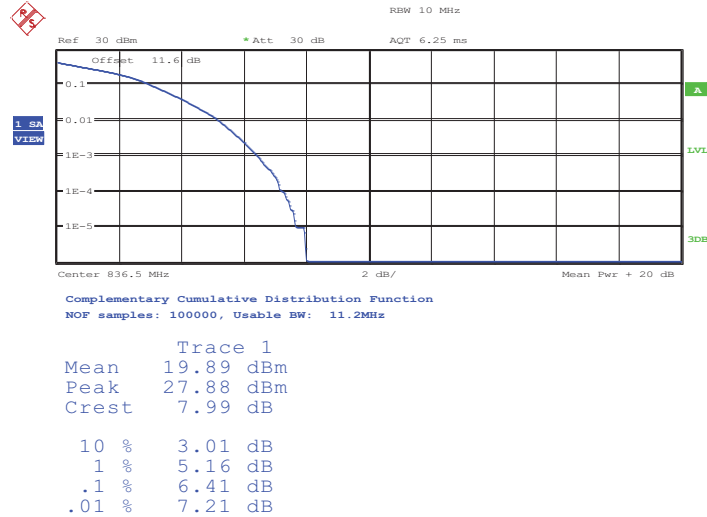
Peak-to-Average Ratio on LTE Band 5

10MHz / 16QAM in Ch. 20450 (50RB Size)



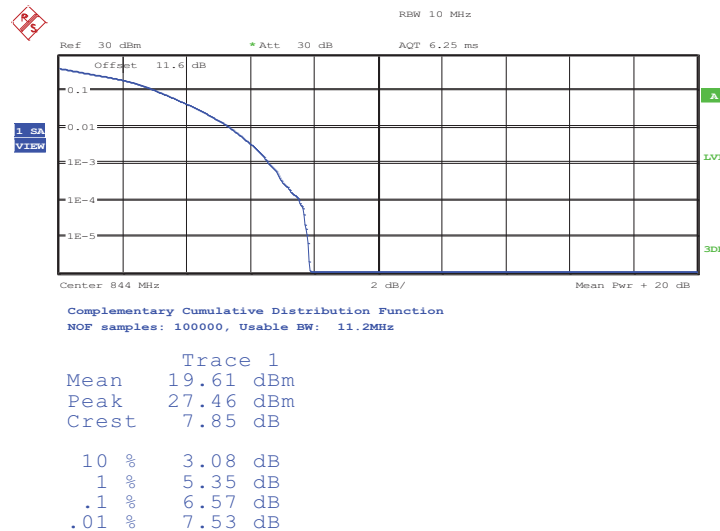
Date: 26.DEC.2013 23:23:28

Peak-to-Average Ratio on LTE Band 5
10MHz / 16QAM in Ch. 20525 (50RB Size)



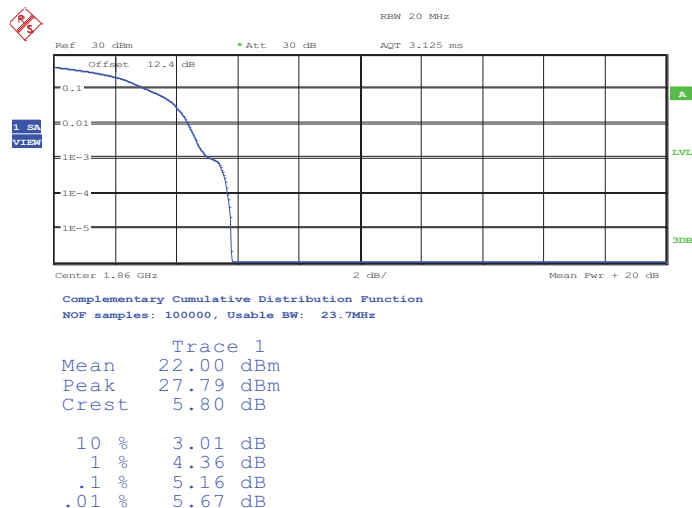
Date: 26.DEC.2013 23:23:46

Peak-to-Average Ratio on LTE Band 5
10MHz / 16QAM in Ch. 20600 (50RB Size)



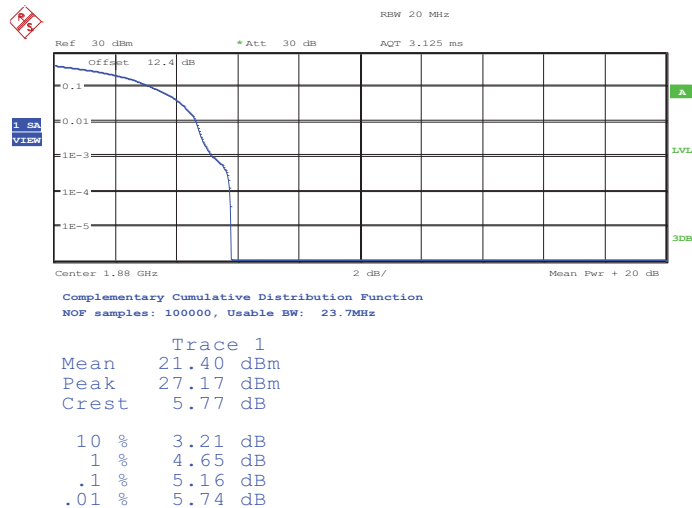
Date: 26.DEC.2013 23:24:13

Peak-to-Average Ratio on LTE Band 2 20MHz / 16QAM in Ch. 18700 (1RB Size)



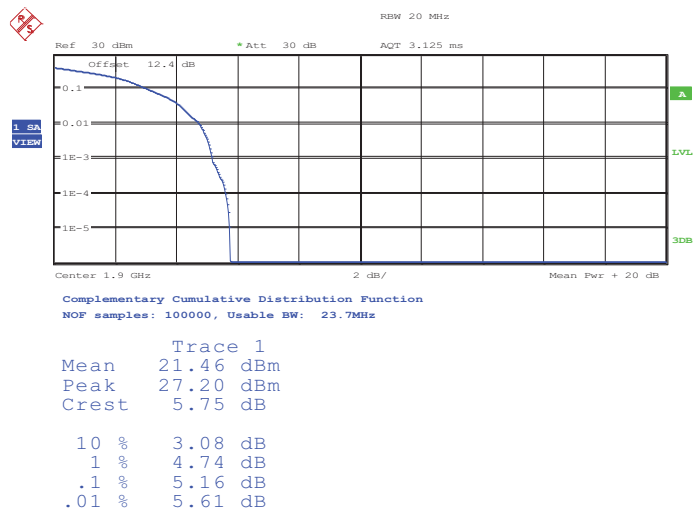
Date: 26.DEC.2013 23:04:49

Peak-to-Average Ratio on LTE Band 2 20MHz / 16QAM in Ch. 18900 (1RB Size)



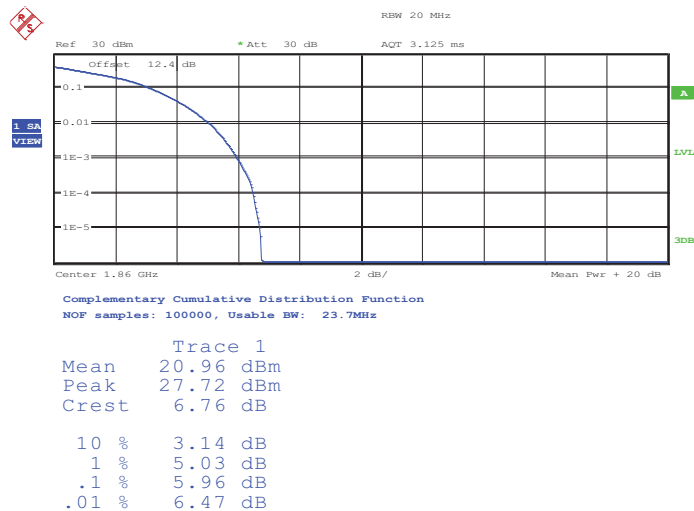
Date: 26.DEC.2013 23:05:09

Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 19100 (1RB Size)



Date: 26.DEC.2013 23:05:44

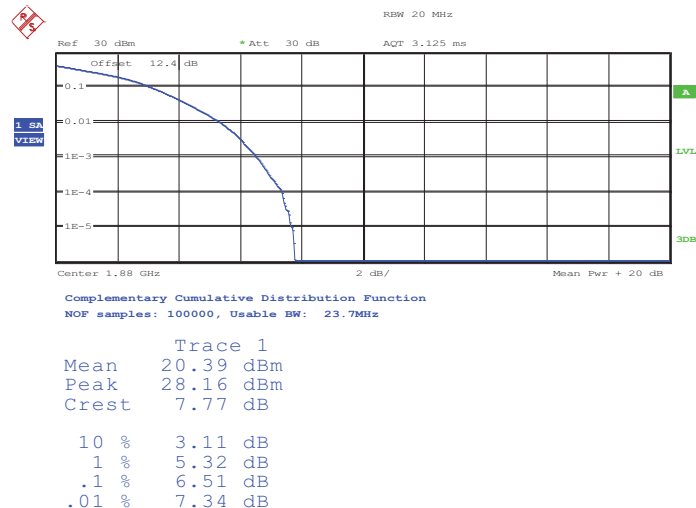
Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 18700 (100RB Size)



Date: 26.DEC.2013 23:06:07

Peak-to-Average Ratio on LTE Band 2

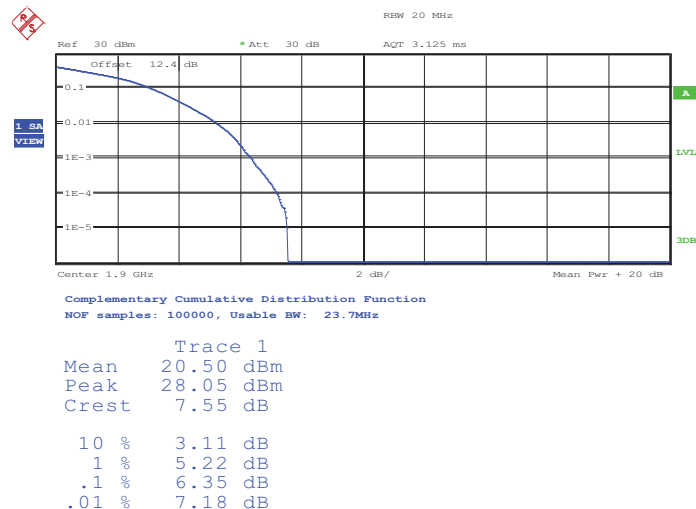
20MHz / 16QAM in Ch. 18900 (100RB Size)



Date: 26.DEC.2013 23:06:58

Peak-to-Average Ratio on LTE Band 2

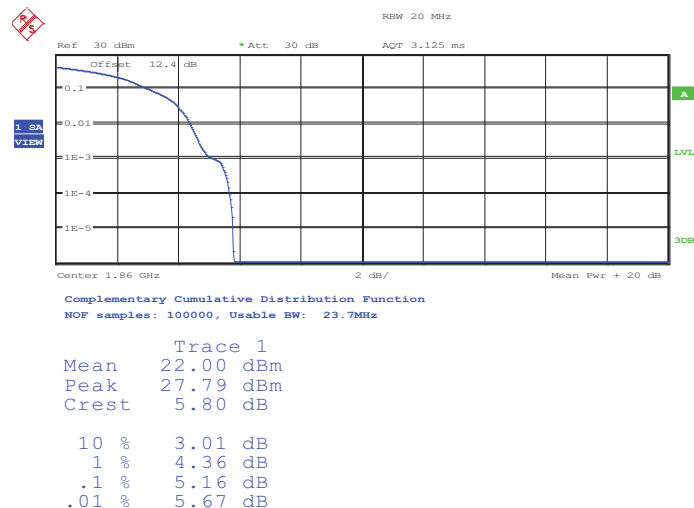
20MHz / 16QAM in Ch. 19100 (100RB Size)



Date: 26.DEC.2013 23:07:56

Peak-to-Average Ratio on LTE Band 25

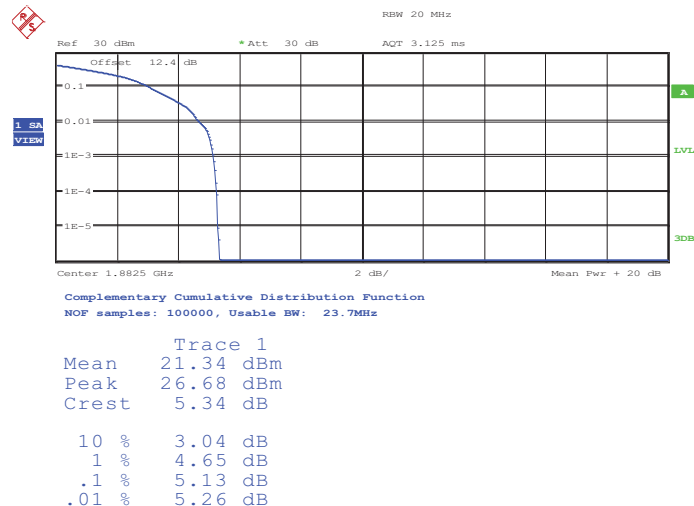
20MHz / 16QAM in Ch. 26140 (1RB Size)



Date: 26.DEC.2013 23:04:49

Peak-to-Average Ratio on LTE Band 25

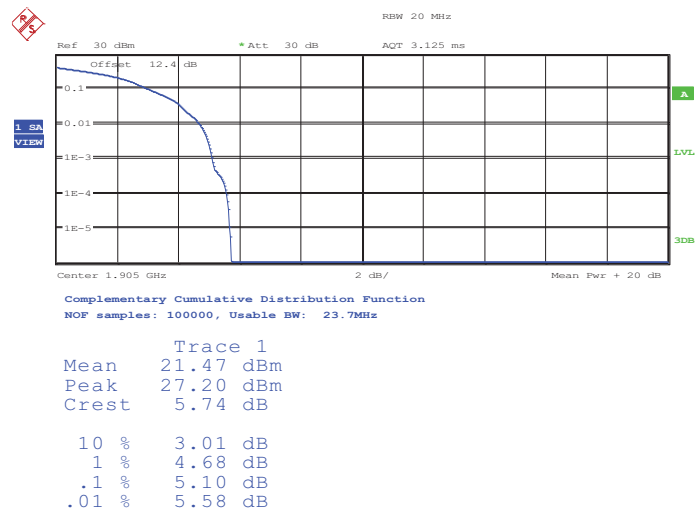
20MHz / 16QAM in Ch. 26365 (1RB Size)



Date: 26.DEC.2013 23:50:39

Peak-to-Average Ratio on LTE Band 25

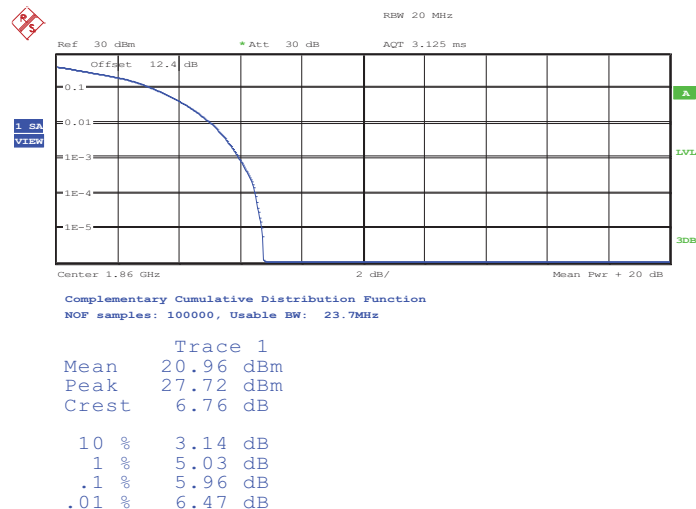
20MHz / 16QAM in Ch. 26590 (1RB Size)



Date: 26.DEC.2013 23:51:03

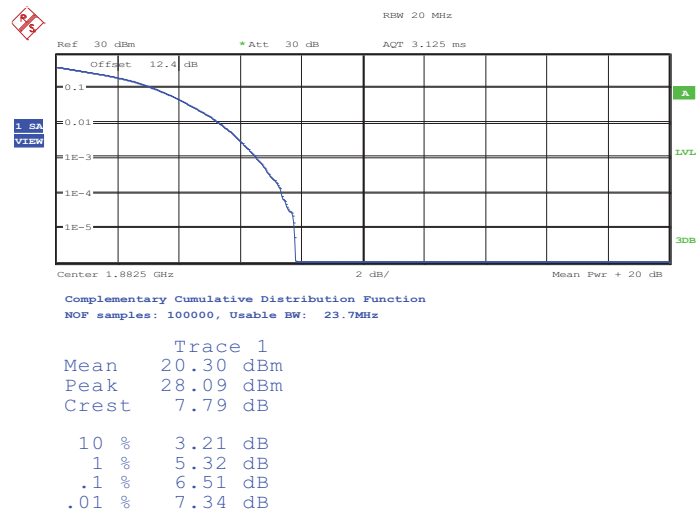
Peak-to-Average Ratio on LTE Band 25

20MHz / 16QAM in Ch. 26140 (100RB Size)



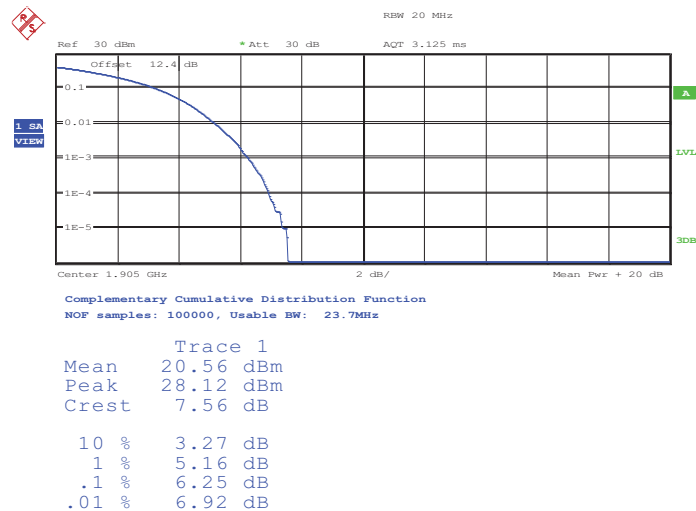
Date: 26.DEC.2013 23:06:07

Peak-to-Average Ratio on LTE Band 25 20MHz / 16QAM in Ch. 26365 (100RB Size)



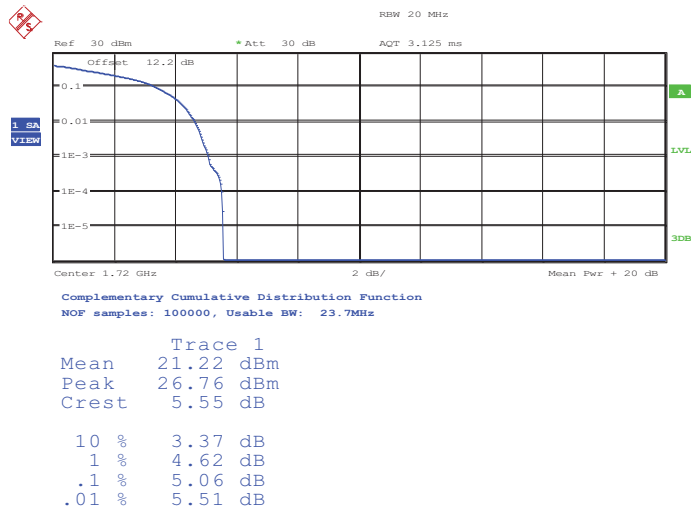
Date: 26.DEC.2013 23:51:38

Peak-to-Average Ratio on LTE Band 25 20MHz / 16QAM in Ch. 26590 (100RB Size)



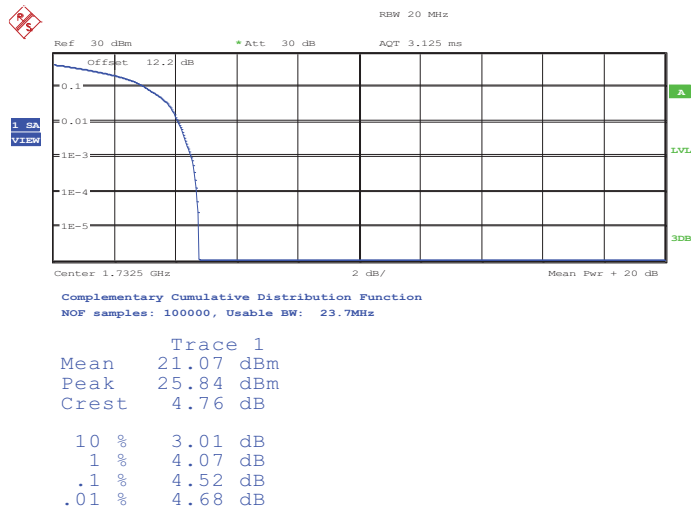
Date: 26.DEC.2013 23:51:54

Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20050 (1RB Size)



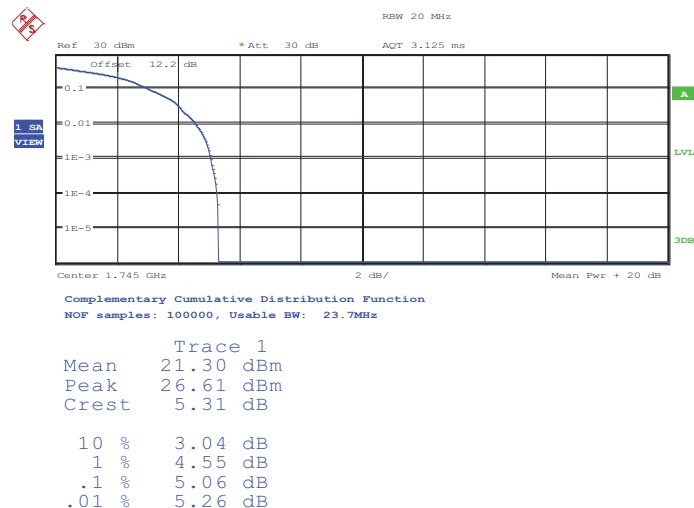
Date: 26.DEC.2013 22:59:09

Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20175 (1RB Size)



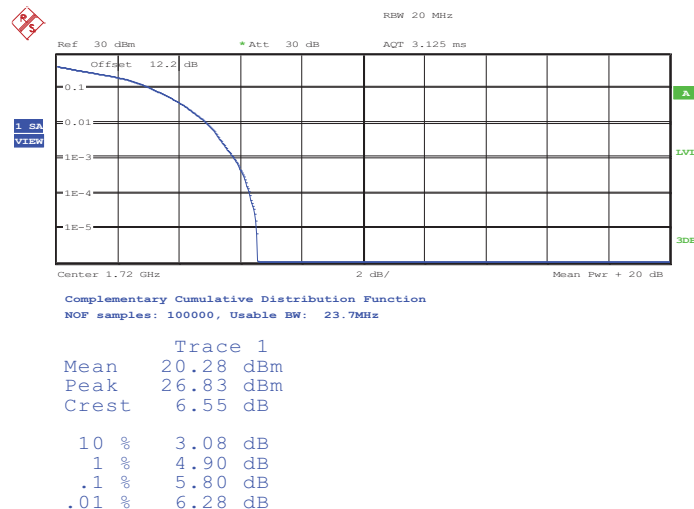
Date: 26.DEC.2013 23:00:44

Peak-to-Average Ratio on LTE Band 4 20MHz / 16QAM in Ch. 20300 (1RB Size)



Date: 26.DEC.2013 23:01:11

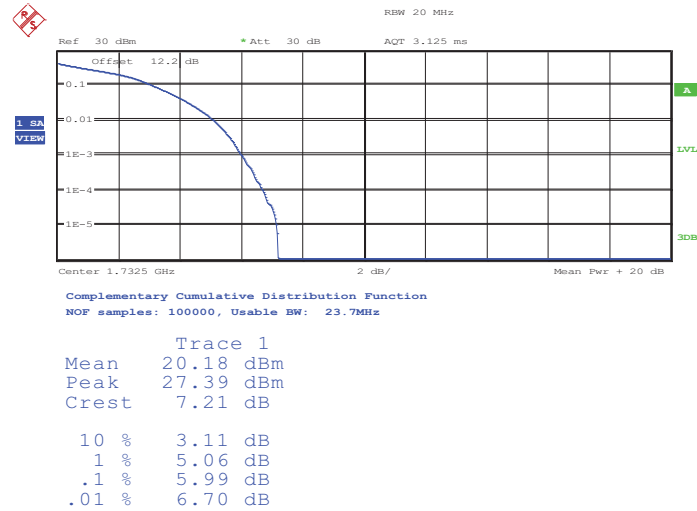
Peak-to-Average Ratio on LTE Band 4 20MHz / 16QAM in Ch. 20500 (100RB Size)



Date: 26.DEC.2013 23:02:13

Peak-to-Average Ratio on LTE Band 4

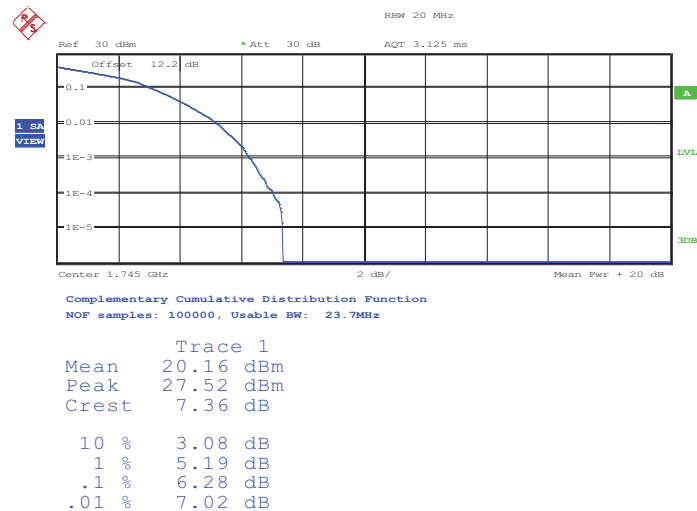
20MHz / 16QAM in Ch. 201750 (100RB Size)



Date: 26.DEC.2013 23:02:48

Peak-to-Average Ratio on LTE Band 4

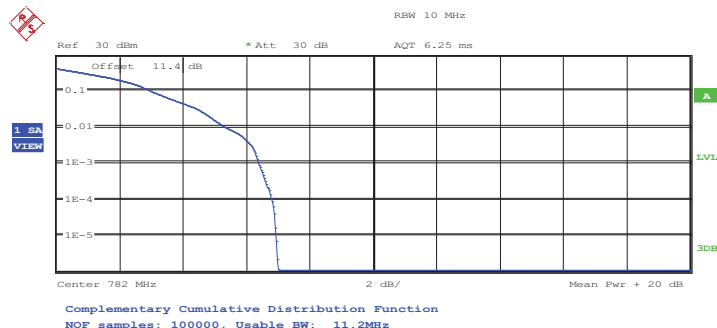
20MHz / 16QAM in Ch. 20300 (100RB Size)



Date: 26.DEC.2013 23:03:30

Peak-to-Average Ratio on LTE Band 13

10MHz / 16QAM in Ch. 20230 (1RB Size)



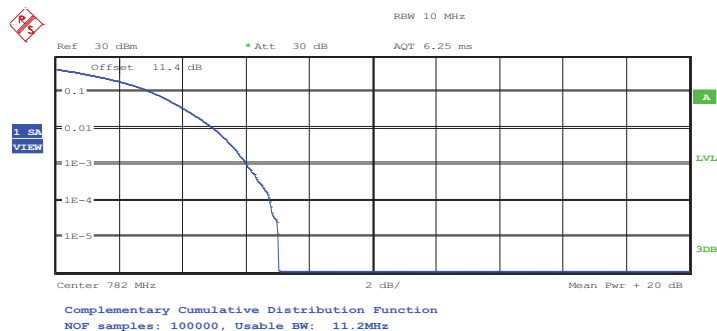
Trace 1

Mean	20.06 dBm
Peak	27.05 dBm
Crest	6.99 dB
10 %	3.01 dB
1 %	5.32 dB
.1 %	6.38 dB
.01 %	6.79 dB

Date: 30.DEC.2013 16:44:42

Peak-to-Average Ratio on LTE Band 13

10MHz / 16QAM in Ch. 20230 (50RB Size)



Trace 1

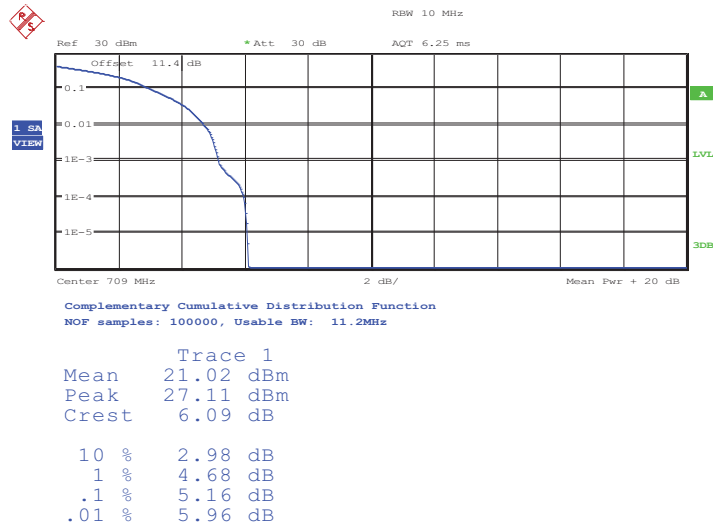
Mean	19.80 dBm
Peak	26.84 dBm
Crest	7.03 dB
10 %	3.04 dB
1 %	4.94 dB
.1 %	5.99 dB
.01 %	6.76 dB

Date: 30.DEC.2013 16:46:54



Peak-to-Average Ratio on LTE Band 17

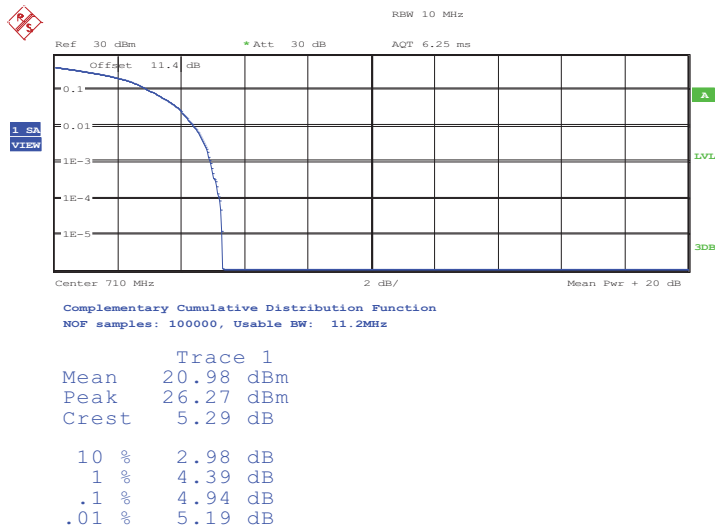
10MHz / 16QAM in Ch. 23780 (1RB Size)



Date: 26.DEC.2013 23:26:45

Peak-to-Average Ratio on LTE Band 17

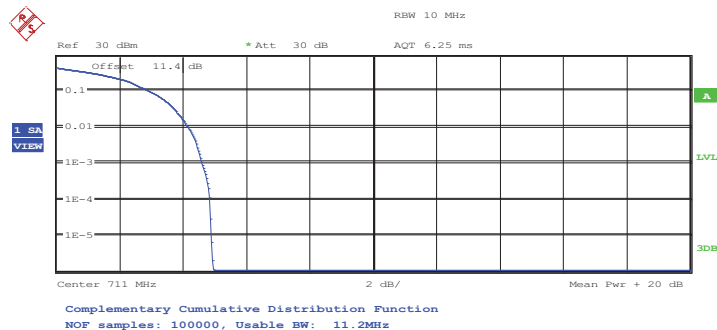
10MHz / 16QAM in Ch. 23790 (1RB Size)



Date: 26.DEC.2013 23:27:43

Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23800 (1RB Size)



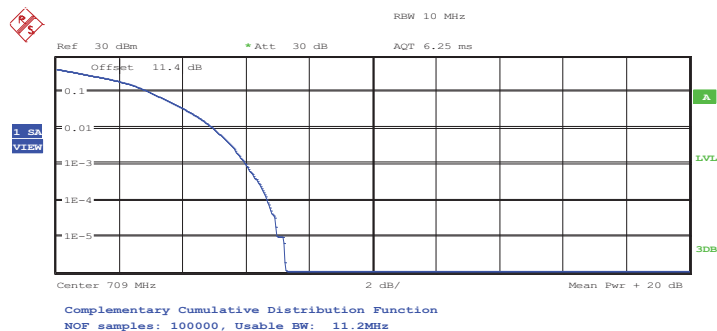
Trace 1

Mean	20.98 dBm
Peak	25.93 dBm
Crest	4.94 dB
10 %	2.92 dB
1 %	4.17 dB
.1 %	4.58 dB
.01 %	4.84 dB

Date: 26.DEC.2013 23:28:18

Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23780 (50RB Size)



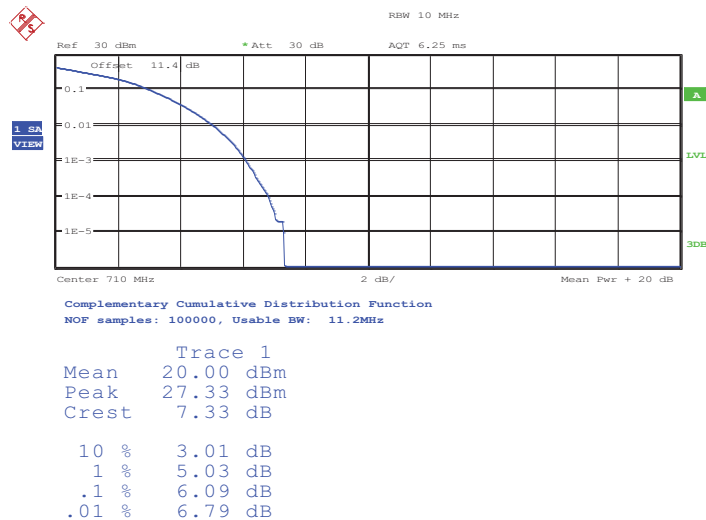
Trace 1

Mean	20.08 dBm
Peak	27.32 dBm
Crest	7.25 dB
10 %	2.98 dB
1 %	4.94 dB
.1 %	5.99 dB
.01 %	6.67 dB

Date: 26.DEC.2013 23:28:56

Peak-to-Average Ratio on LTE Band 17

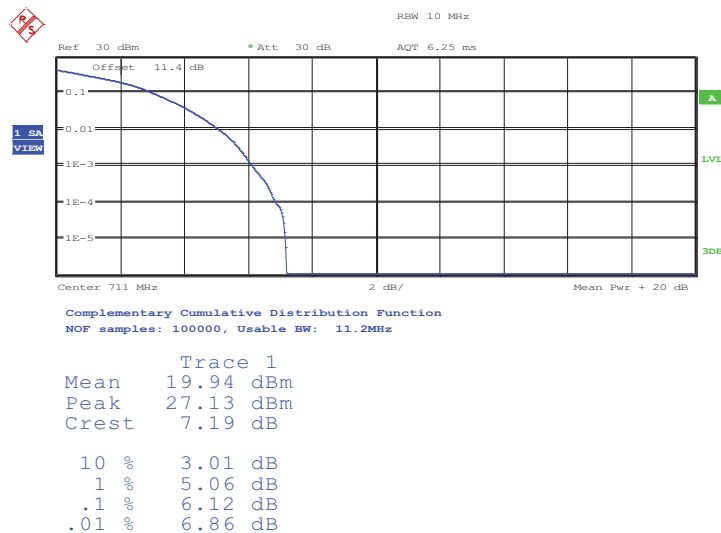
10MHz / 16QAM in Ch. 23790 (50RB Size)



Date: 26.DEC.2013 23:29:25

Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23800 (50RB Size)



Date: 26.DEC.2013 23:30:13

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 26dB 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 26 dB.

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.

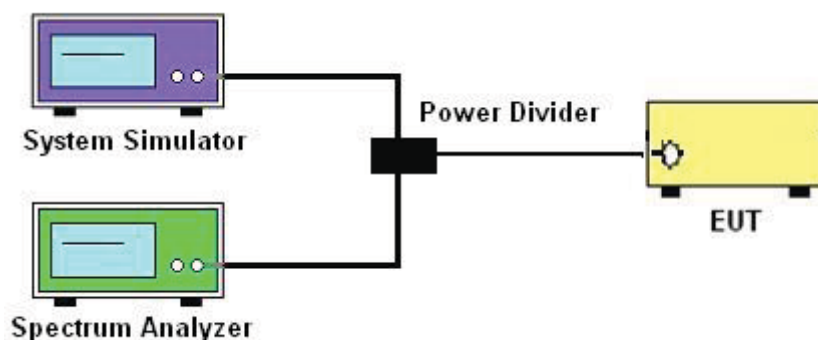
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

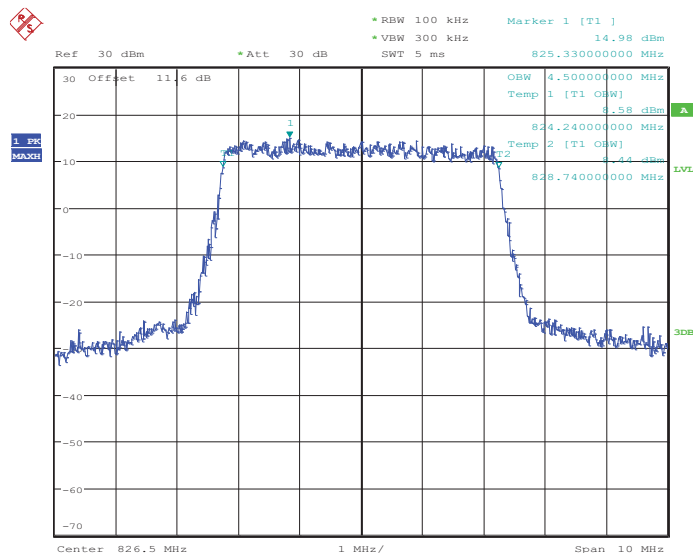
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF powers with full RB sizes were measured.

3.3.4 Test Setup

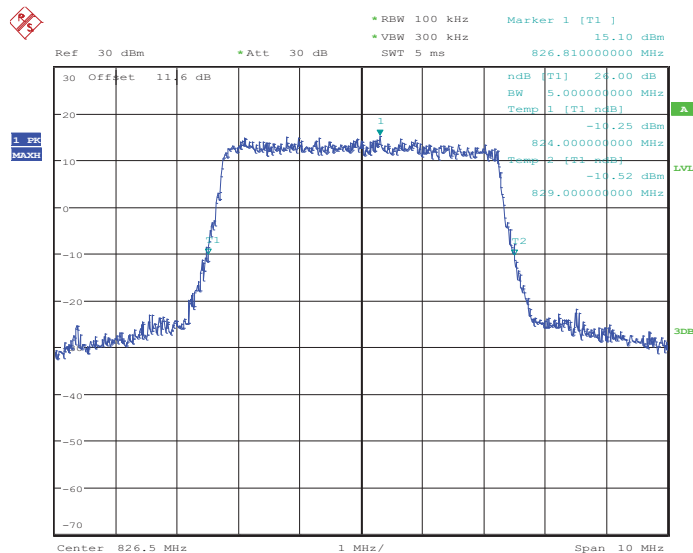


3.3.5 Test Result (Plots) of Occupied Bandwidth

Band :	LTE Band 5	BW / Mod. :	5MHz / QPSK
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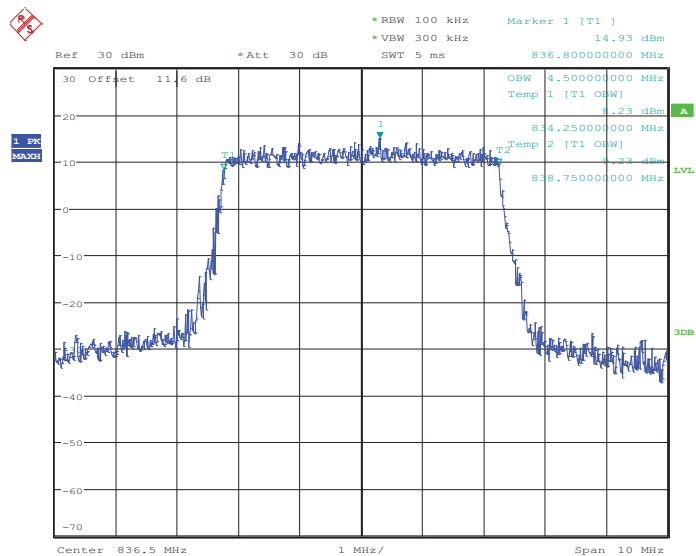
99% Occupied Bandwidth Plot on Channel 20425


Date: 26.DEC.2013 21:34:19

26dB Bandwidth Plot on Channel 20425


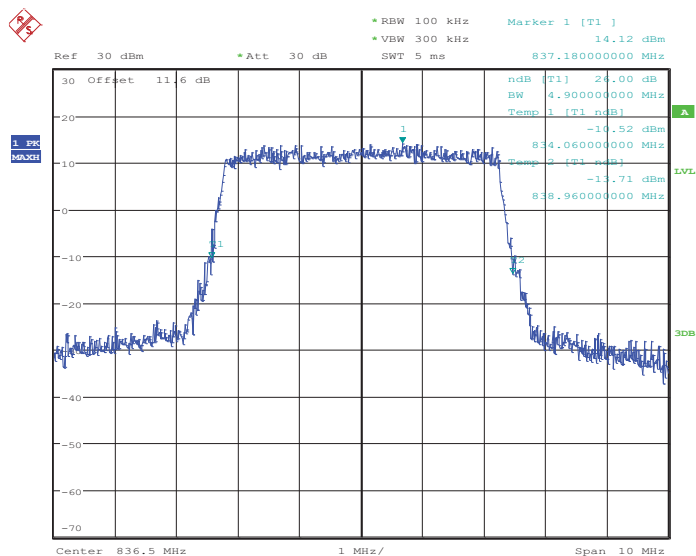
Date: 26.DEC.2013 21:34:45

99% Occupied Bandwidth Plot on Channel 20525



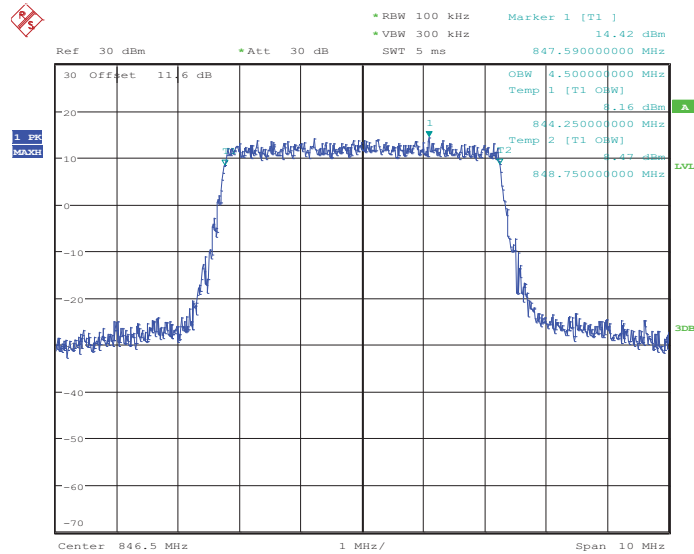
Date: 26.DEC.2013 21:39:33

26dB Bandwidth Plot on Channel 20525



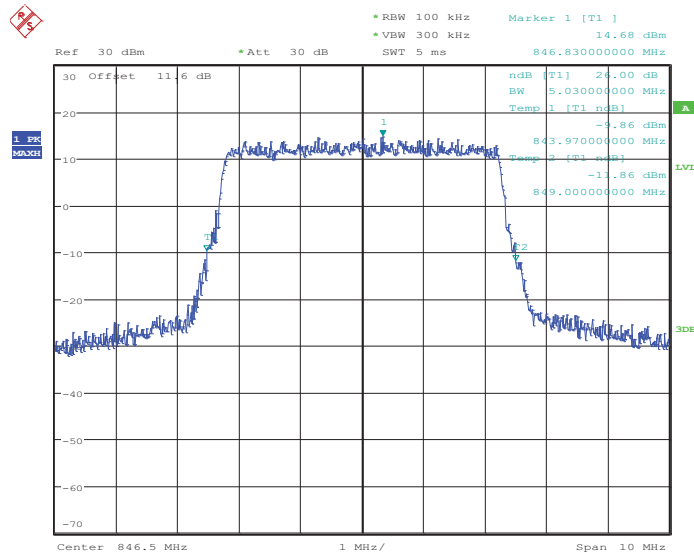
Date: 26.DEC.2013 21:39:58

99% Occupied Bandwidth Plot on Channel 20625



Date: 26.DEC.2013 21:41:57

26dB Bandwidth Plot on Channel 20625

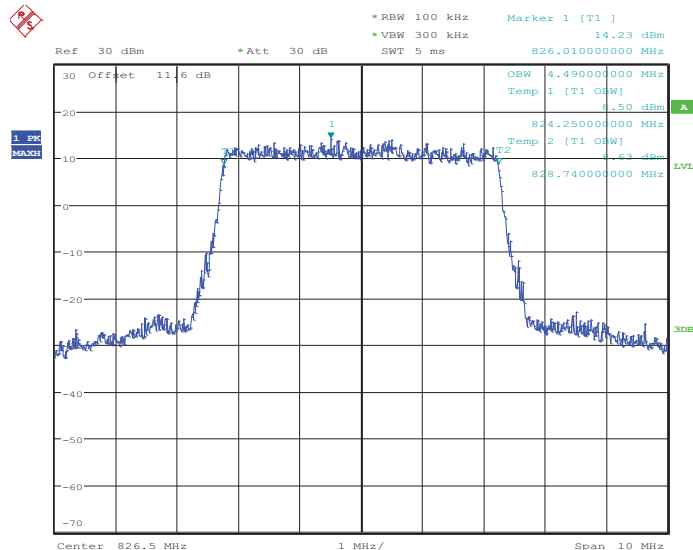


Date: 26.DEC.2013 21:42:22



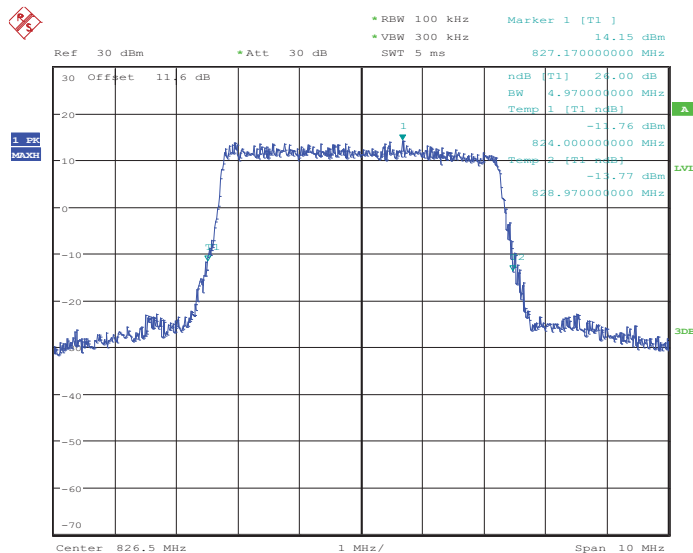
Band :	LTE Band 5	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20425



Date: 26.DEC.2013 21:34:31

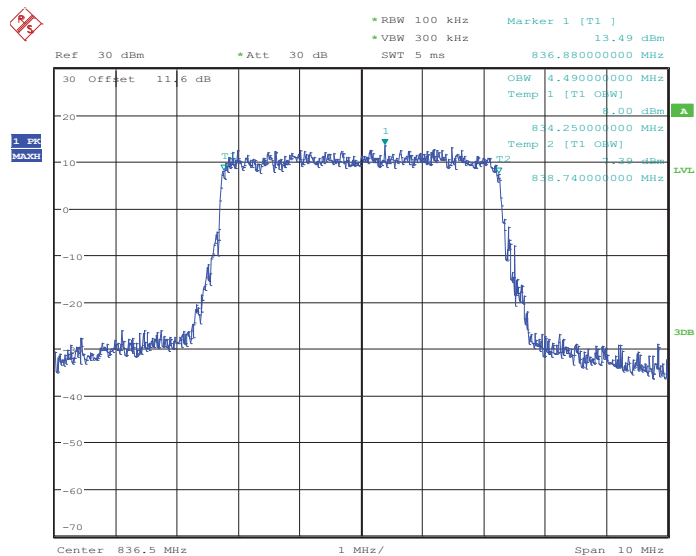
26dB Bandwidth Plot on Channel 20425



Date: 26.DEC.2013 21:34:58

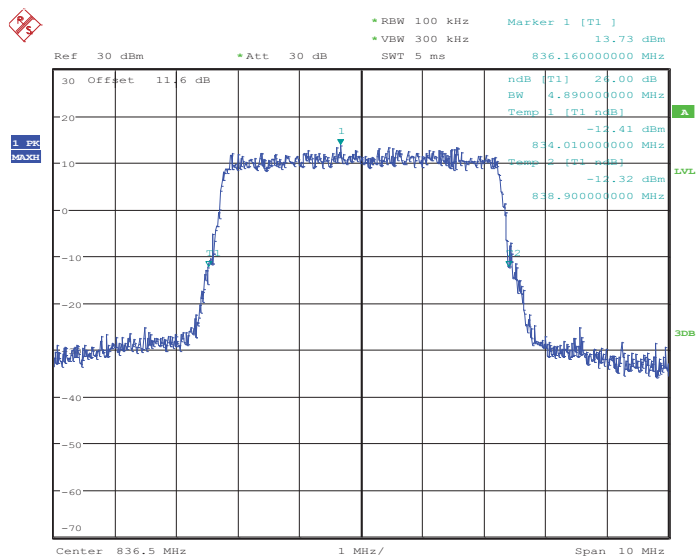


99% Occupied Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:39:45

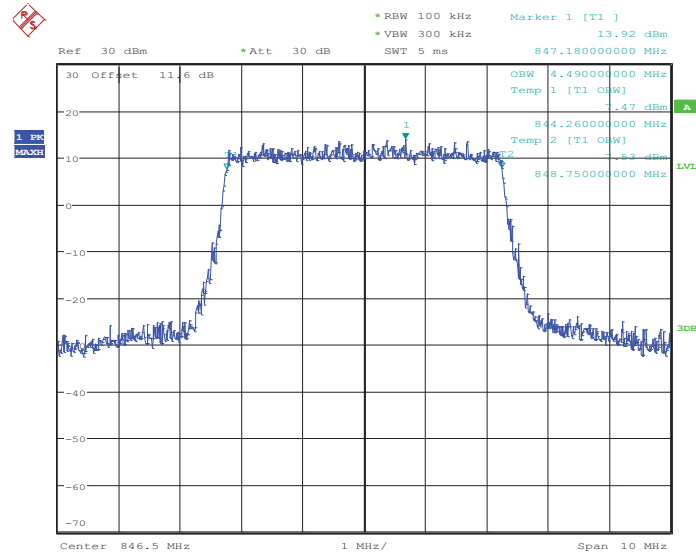
26dB Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:40:12

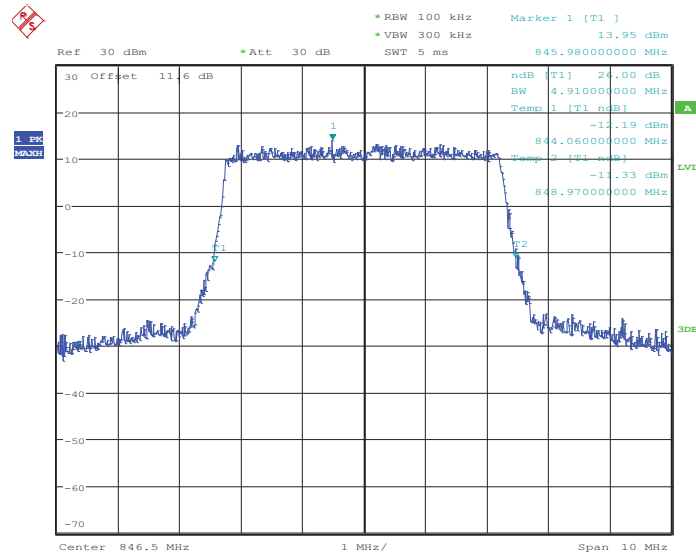


99% Occupied Bandwidth Plot on Channel 20625



Date: 26.DEC.2013 21:42:09

26dB Bandwidth Plot on Channel 20625

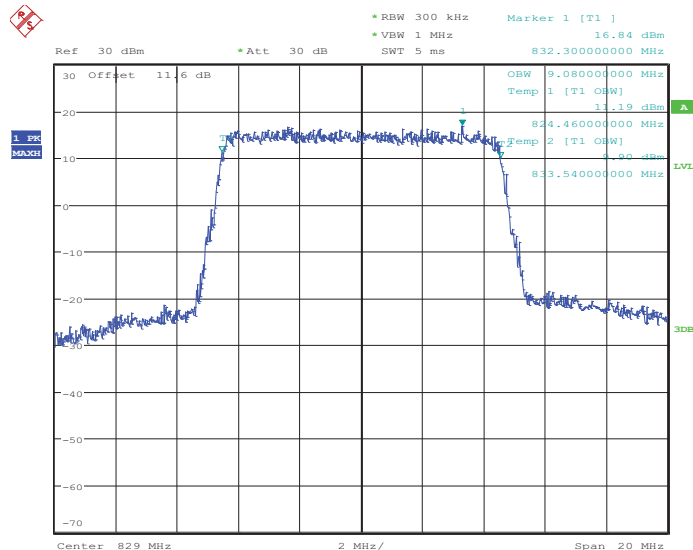


Date: 26.DEC.2013 21:42:36



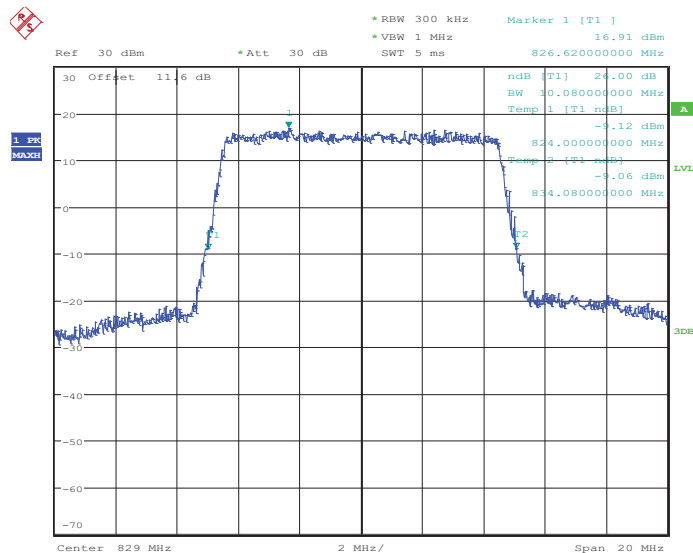
Band :	LTE Band 5	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20450



Date: 26.DEC.2013 21:48:06

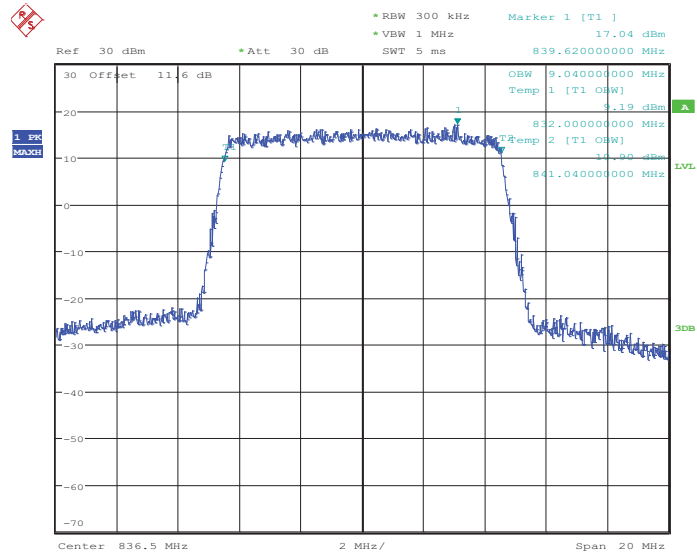
26dB Bandwidth Plot on Channel 20450



Date: 26.DEC.2013 21:48:32

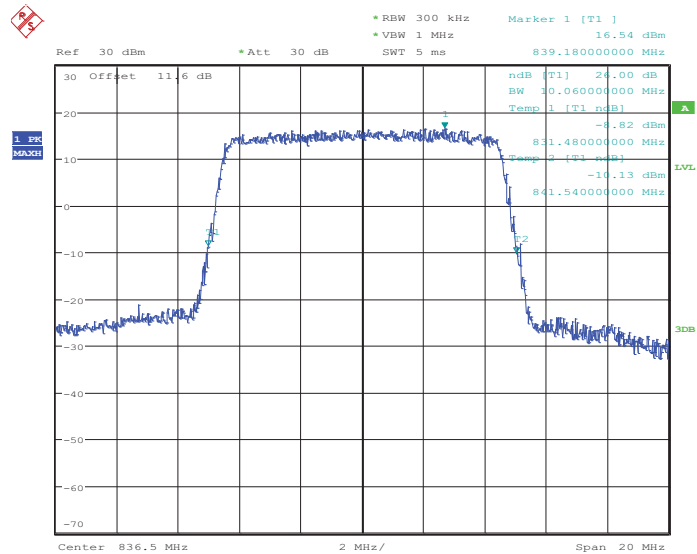


99% Occupied Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:53:21

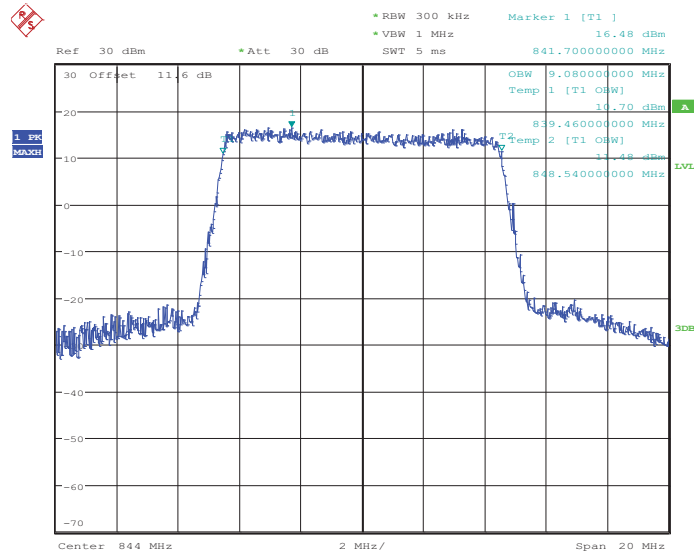
26dB Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:53:46

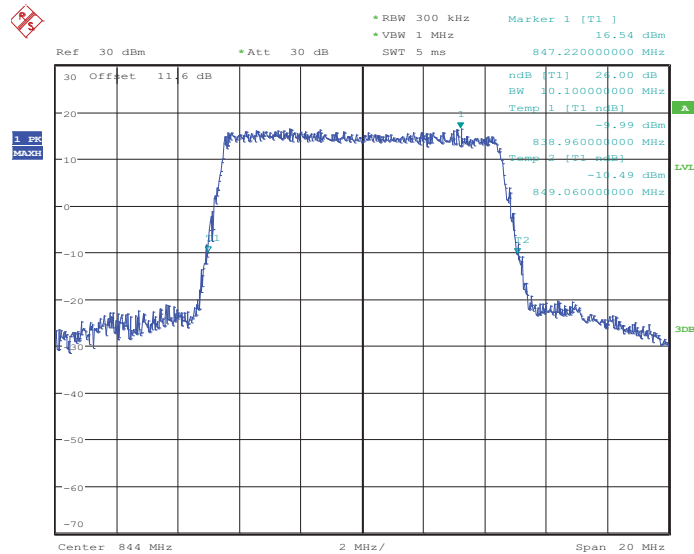


99% Occupied Bandwidth Plot on Channel 20600



Date: 26.DEC.2013 21:55:46

26dB Bandwidth Plot on Channel 20600

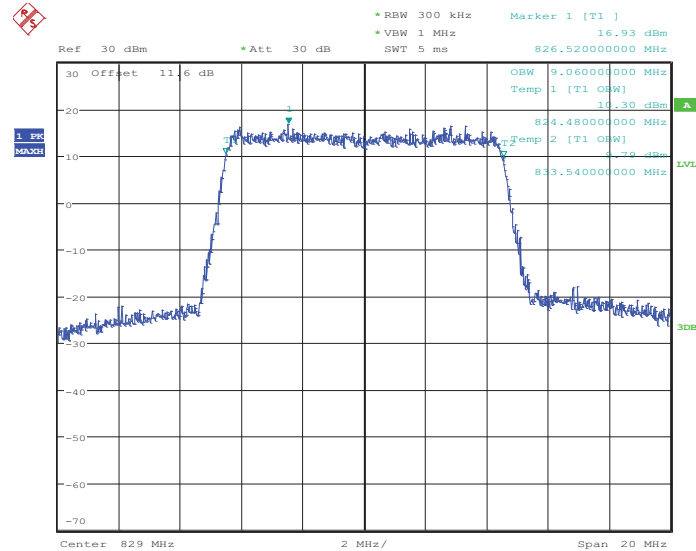


Date: 26.DEC.2013 21:56:11



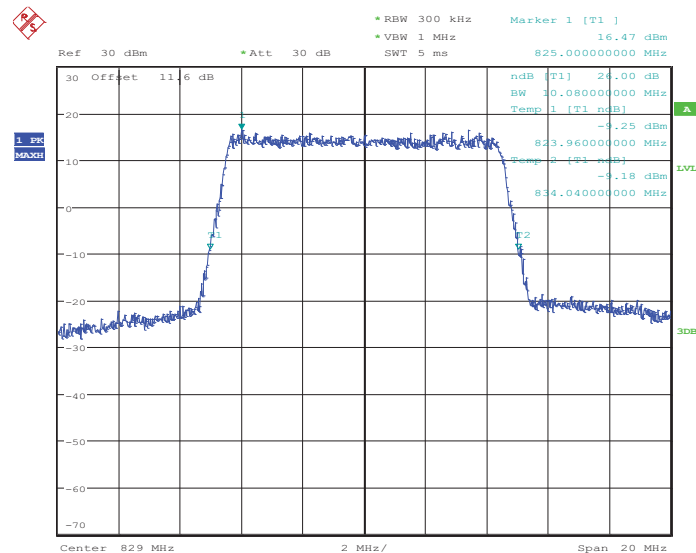
Band :	LTE Band 5	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20450



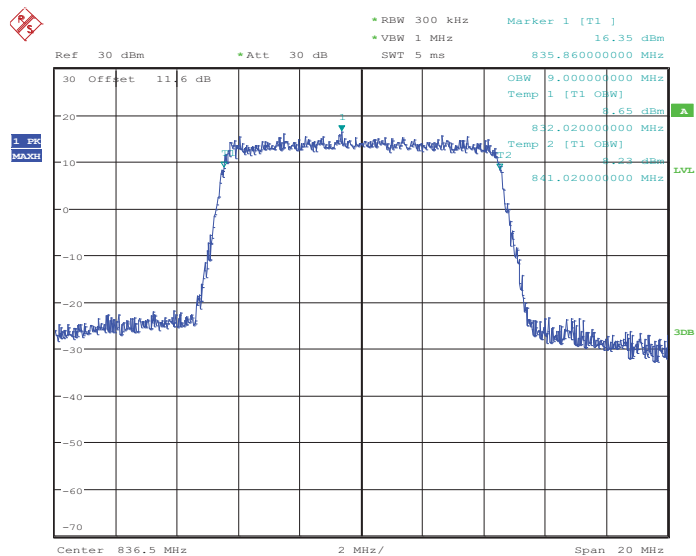
Date: 26.DEC.2013 21:48:18

26dB Bandwidth Plot on Channel 20450



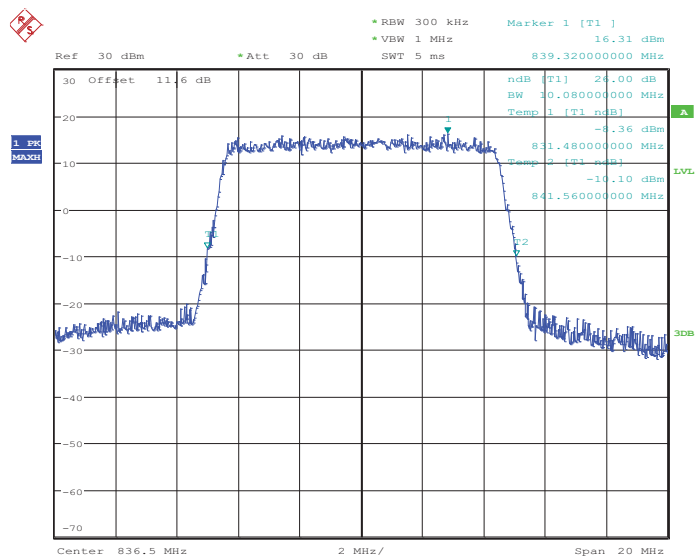
Date: 26.DEC.2013 21:48:45

99% Occupied Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:53:33

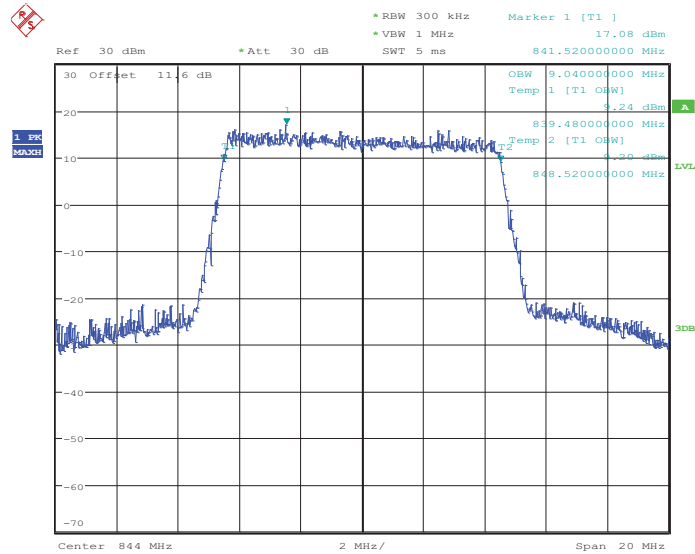
26dB Bandwidth Plot on Channel 20525



Date: 26.DEC.2013 21:54:00

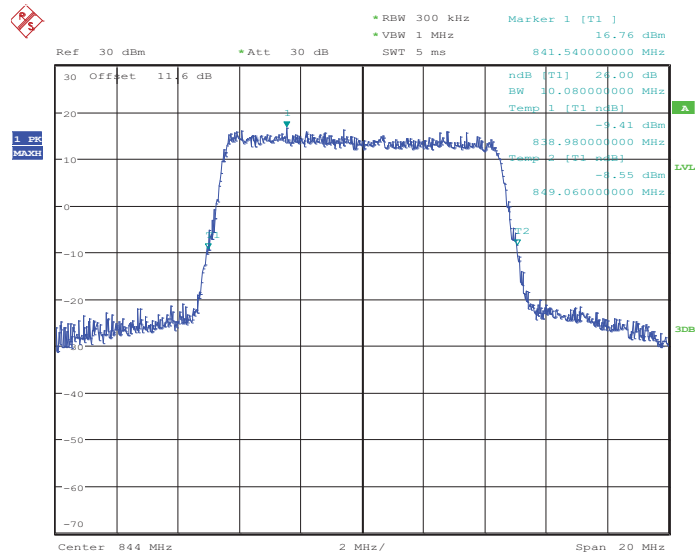


99% Occupied Bandwidth Plot on Channel 20600



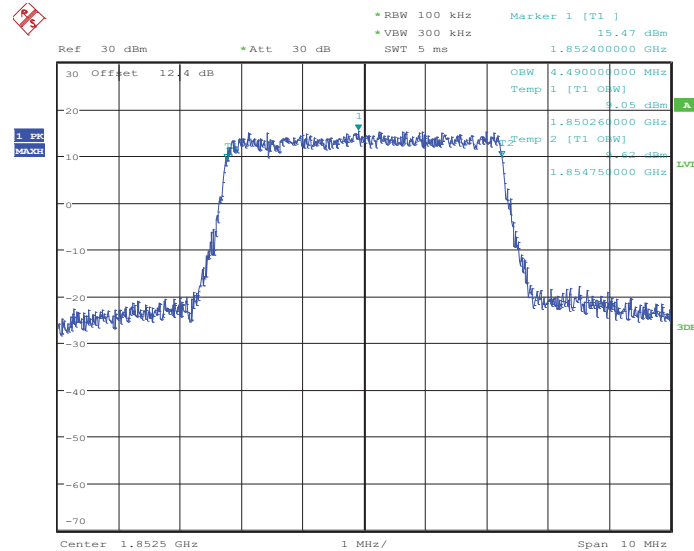
Date: 26.DEC.2013 21:55:58

26dB Bandwidth Plot on Channel 20600

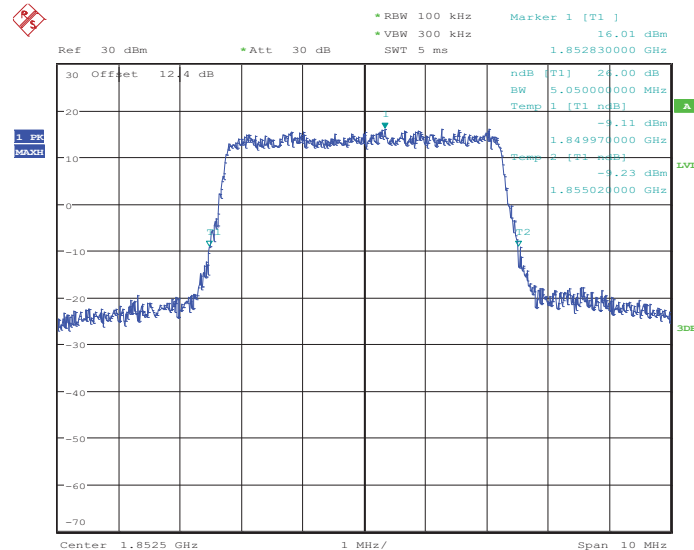


Date: 26.DEC.2013 21:56:25

Band :	LTE Band 2	BW / Mod. :	5MHz / QPSK
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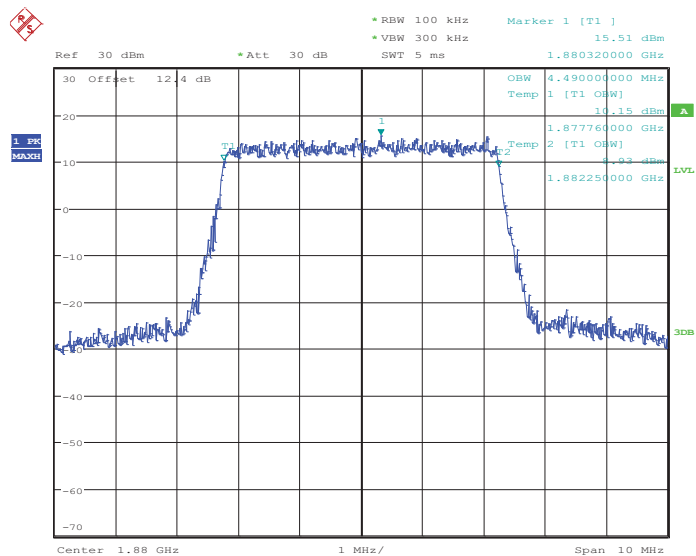
99% Occupied Bandwidth Plot on Channel 18625


Date: 26.DEC.2013 18:35:05

26dB Bandwidth Plot on Channel 18625


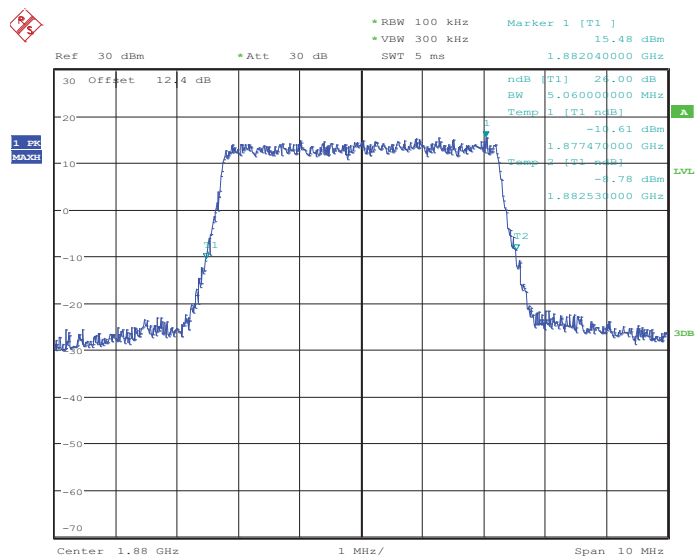
Date: 26.DEC.2013 18:35:30

99% Occupied Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:40:27

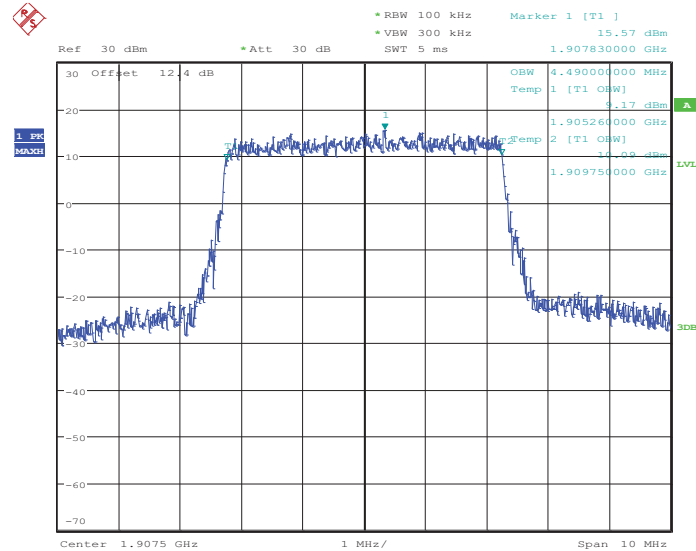
26dB Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:40:53

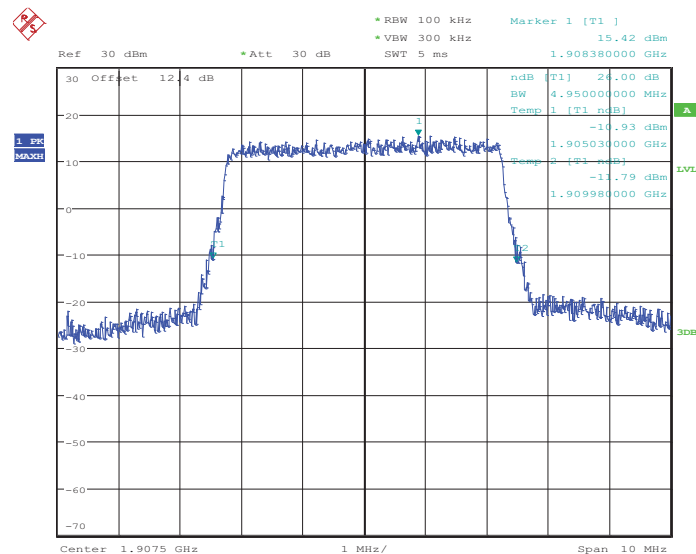


99% Occupied Bandwidth Plot on Channel 19175



Date: 26.DEC.2013 18:43:01

26dB Bandwidth Plot on Channel 19175

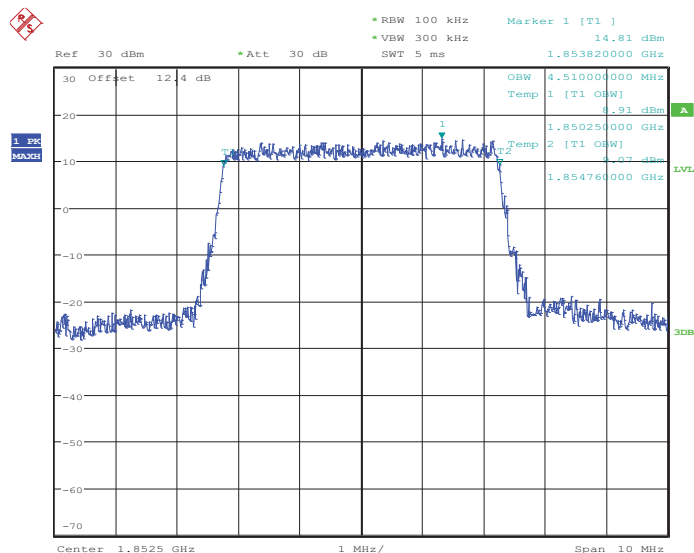


Date: 26.DEC.2013 18:43:26



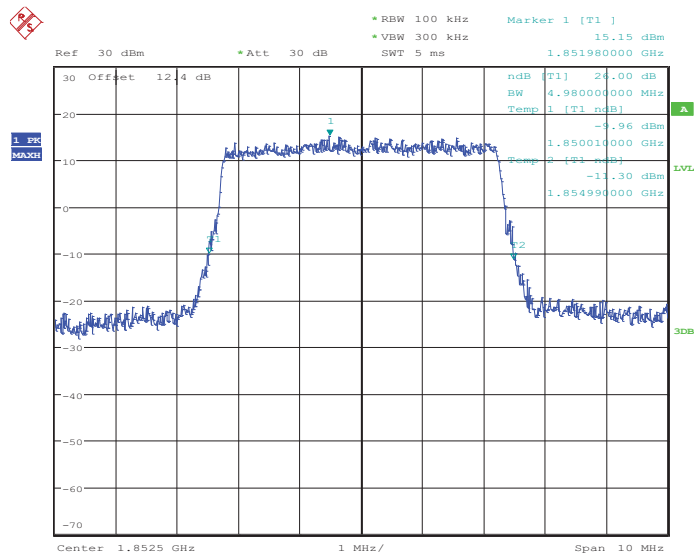
Band :	LTE Band 2	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18625



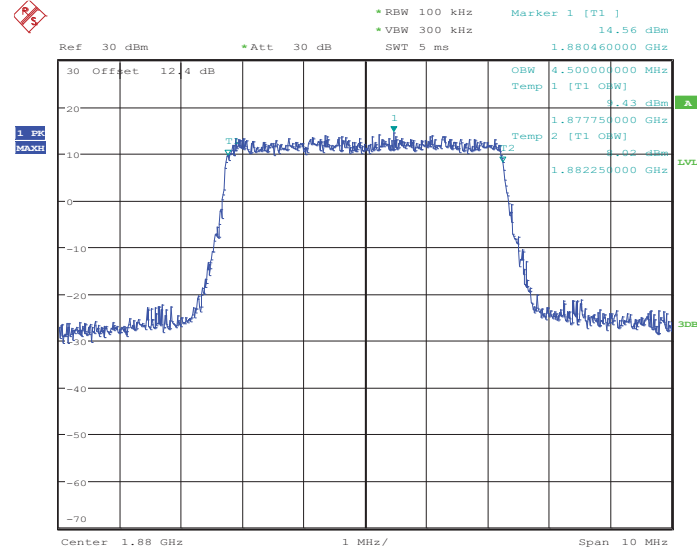
Date: 26.DEC.2013 18:35:16

26dB Bandwidth Plot on Channel 18625



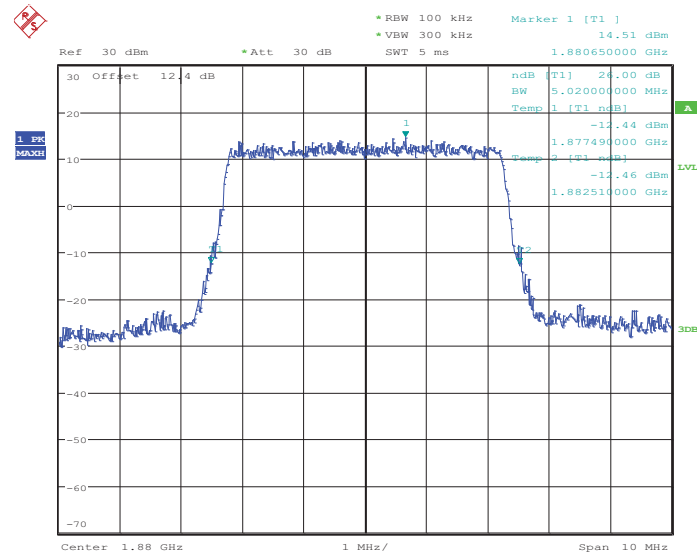
Date: 26.DEC.2013 18:35:43

99% Occupied Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:40:39

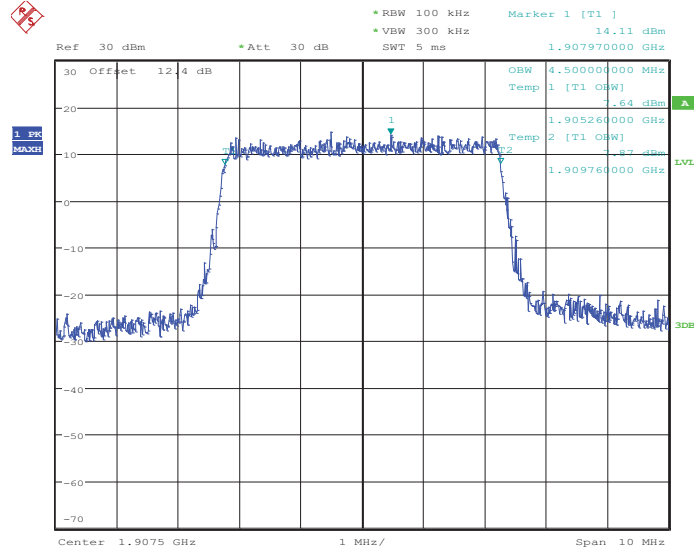
26dB Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:50:30

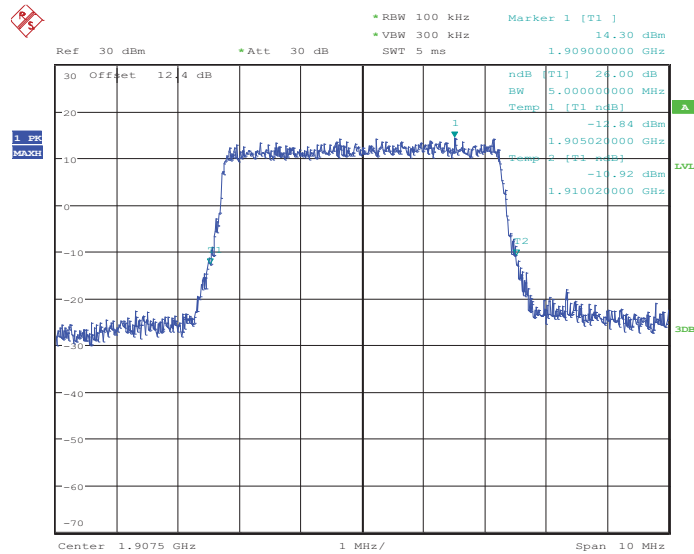


99% Occupied Bandwidth Plot on Channel 19175



Date: 26.DEC.2013 18:43:13

26dB Bandwidth Plot on Channel 19175

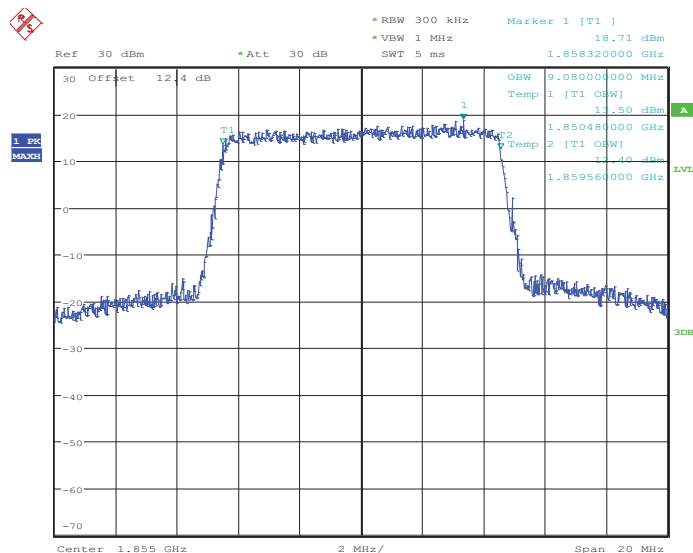


Date: 26.DEC.2013 18:43:40



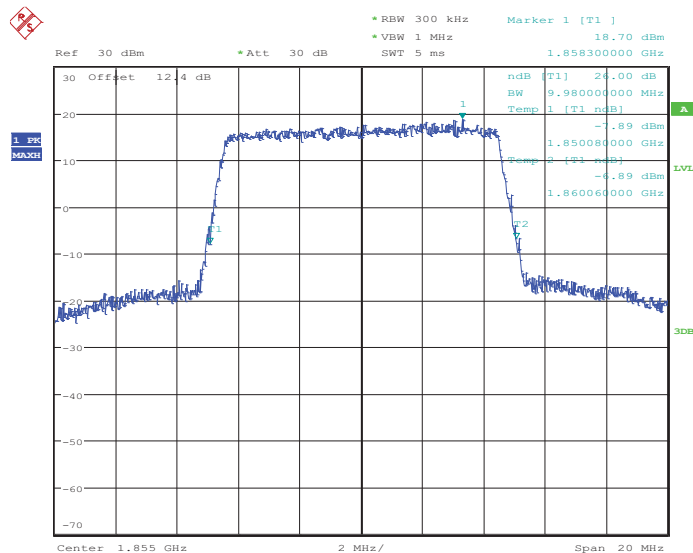
Band :	LTE Band 2	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18650



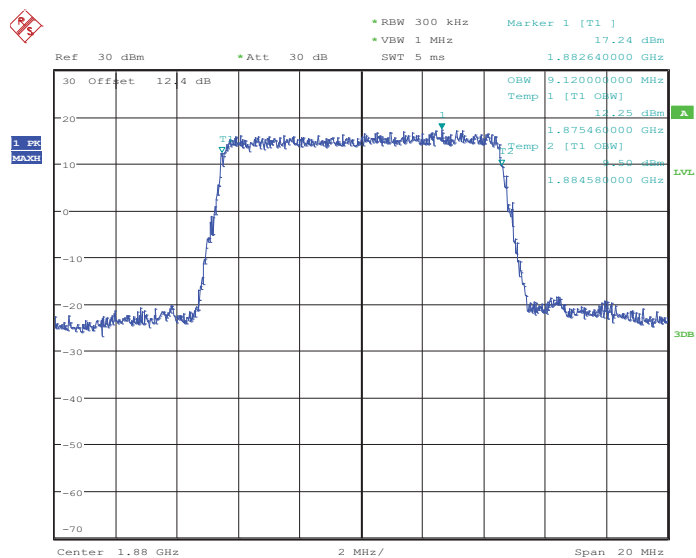
Date: 26.DEC.2013 18:53:32

26dB Bandwidth Plot on Channel 18650



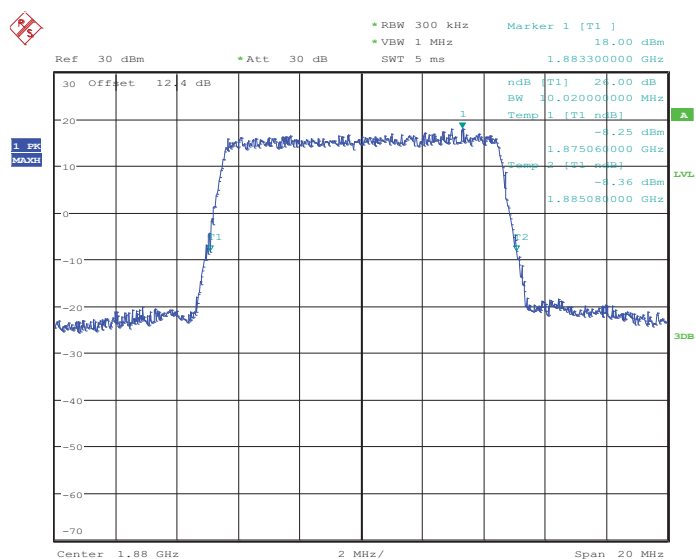
Date: 26.DEC.2013 18:53:57

99% Occupied Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:58:55

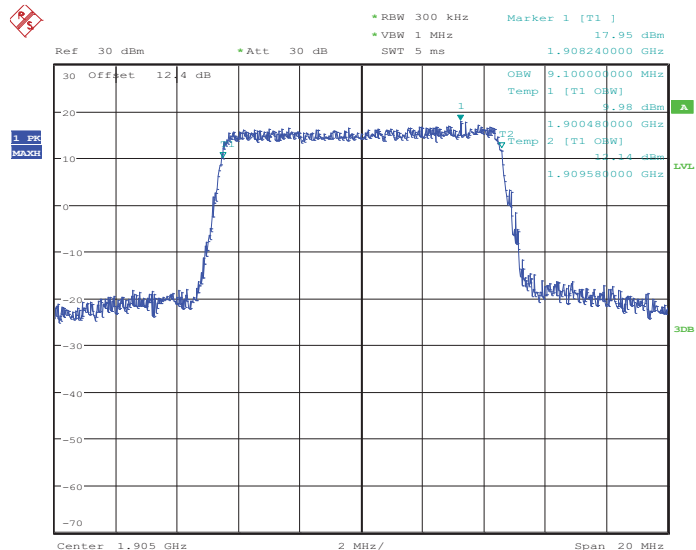
26dB Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 18:59:20

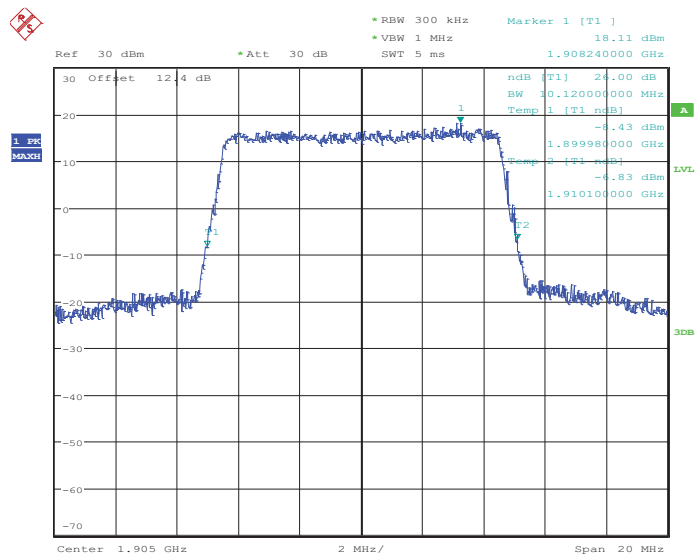


99% Occupied Bandwidth Plot on Channel 19150



Date: 26.DEC.2013 19:01:28

26dB Bandwidth Plot on Channel 19150

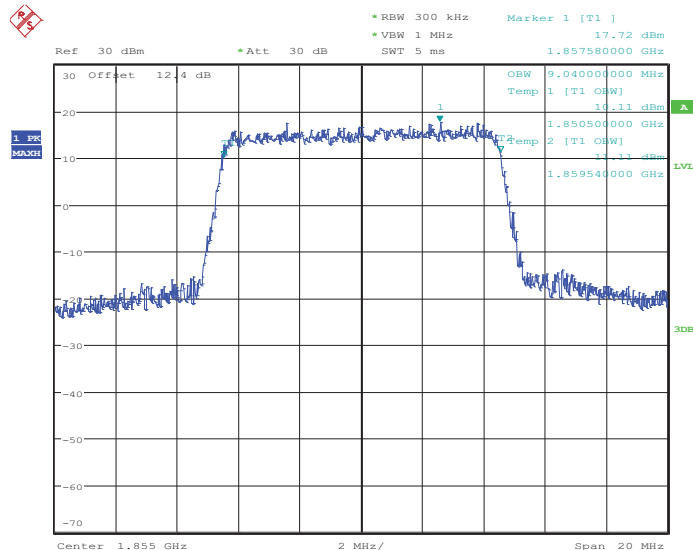


Date: 26.DEC.2013 19:01:54



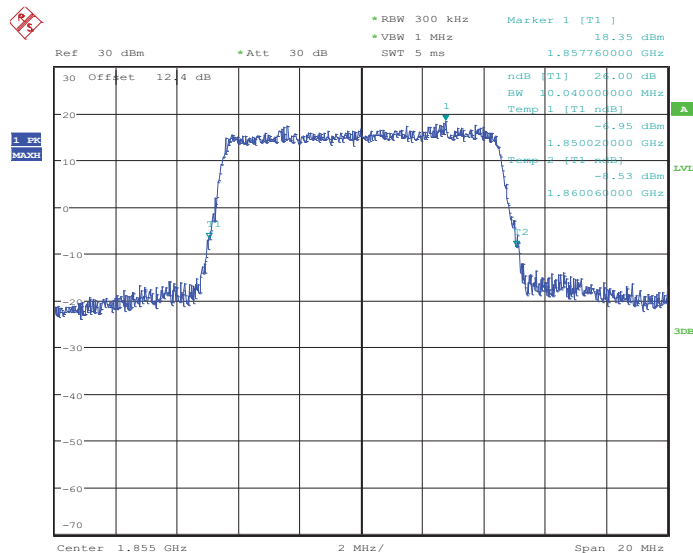
Band :	LTE Band 2	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18650



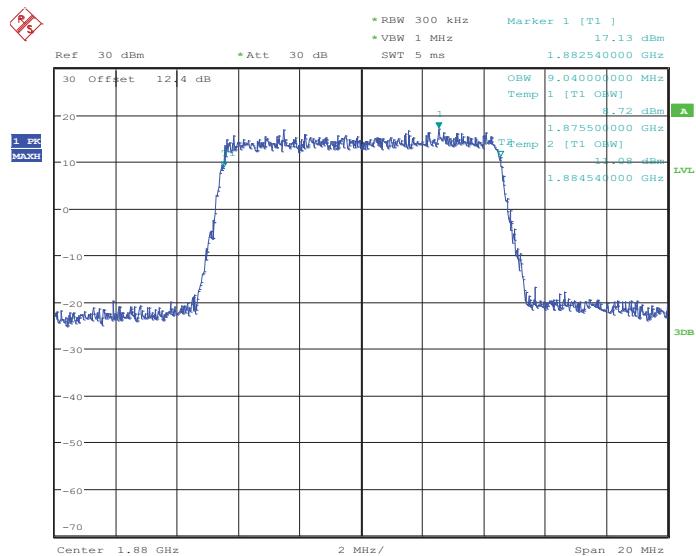
Date: 26.DEC.2013 18:53:44

26dB Bandwidth Plot on Channel 18650



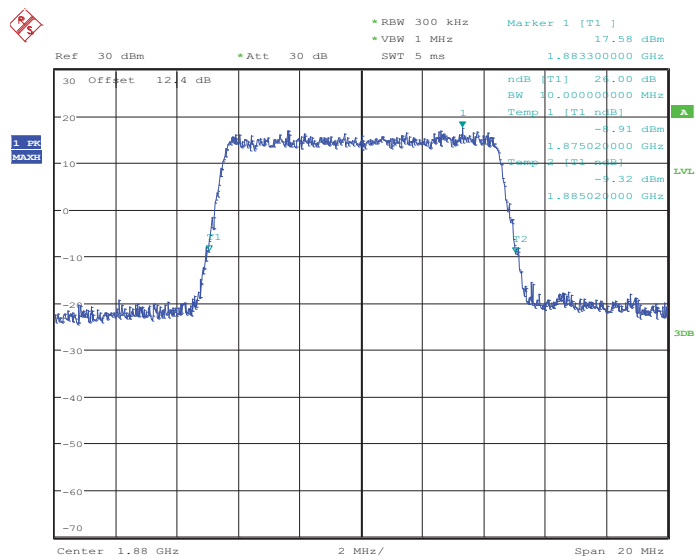
Date: 26.DEC.2013 18:54:11

99% Occupied Bandwidth Plot on Channel 18900



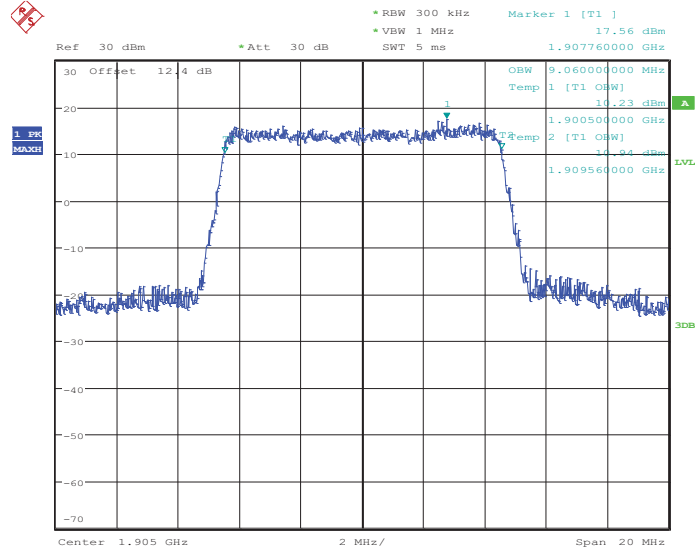
Date: 26.DEC.2013 18:59:07

26dB Bandwidth Plot on Channel 18900



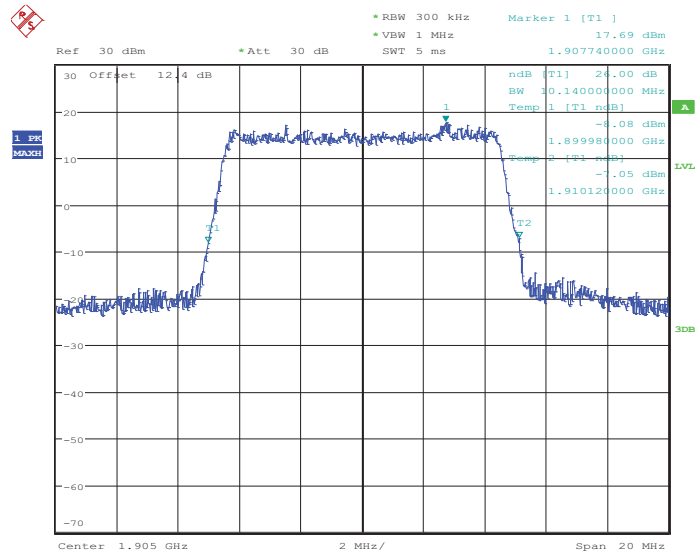
Date: 26.DEC.2013 18:59:34

99% Occupied Bandwidth Plot on Channel 19150



Date: 26.DEC.2013 19:01:40

26dB Bandwidth Plot on Channel 19150

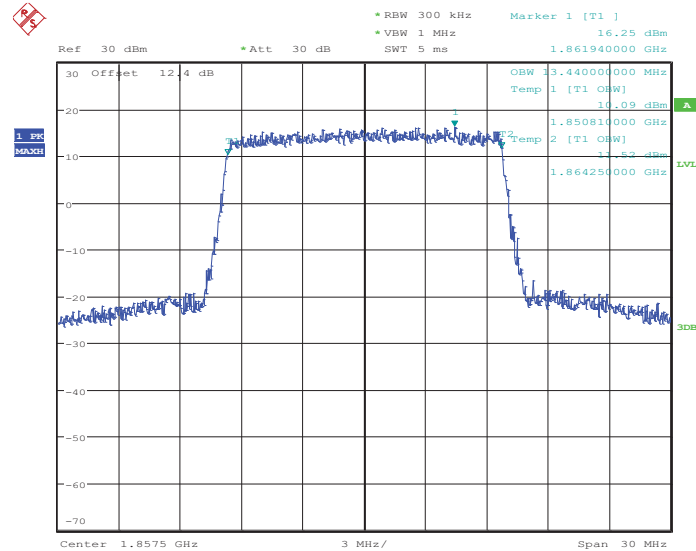


Date: 26.DEC.2013 19:02:07



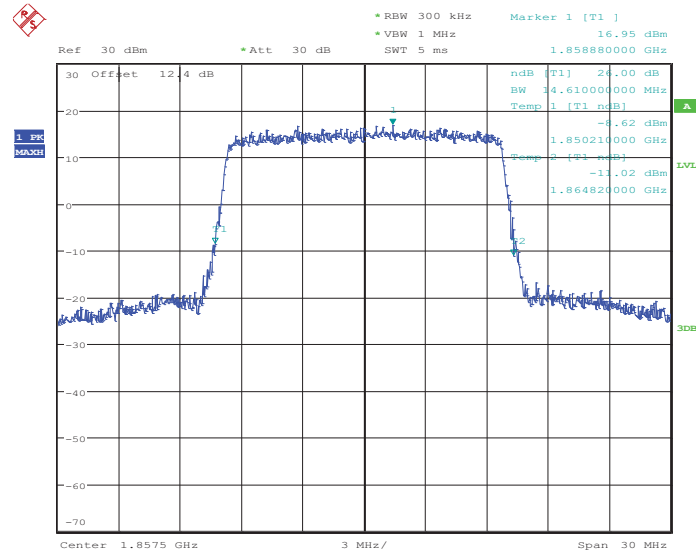
Band :	LTE Band 2	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18675



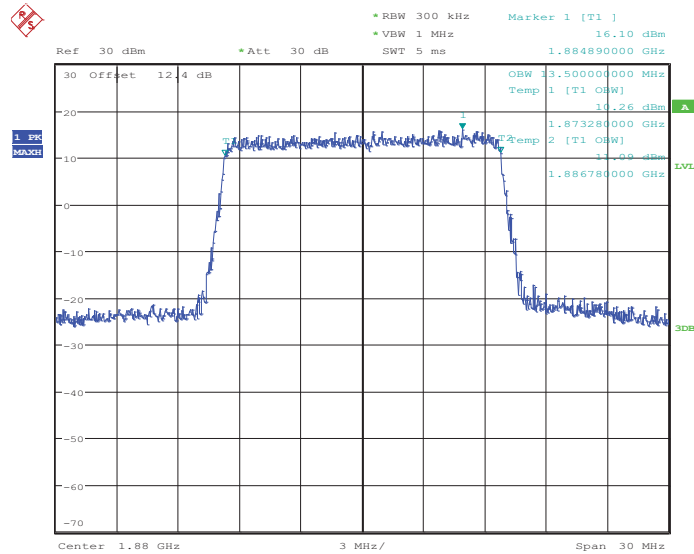
Date: 26.DEC.2013 20:17:12

26dB Bandwidth Plot on Channel 18675



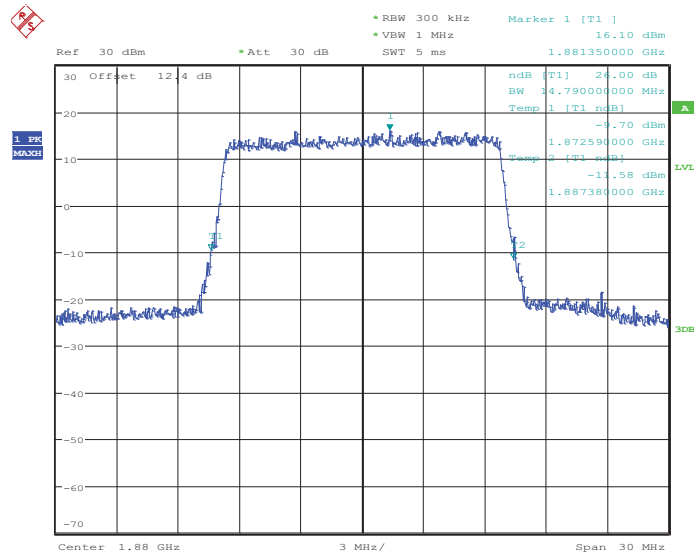
Date: 26.DEC.2013 20:17:37

99% Occupied Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 20:22:35

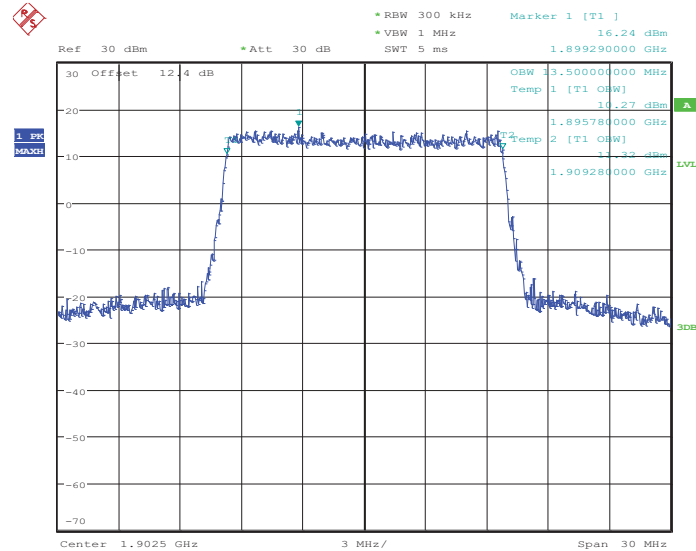
26dB Bandwidth Plot on Channel 18900



Date: 26.DEC.2013 20:23:01

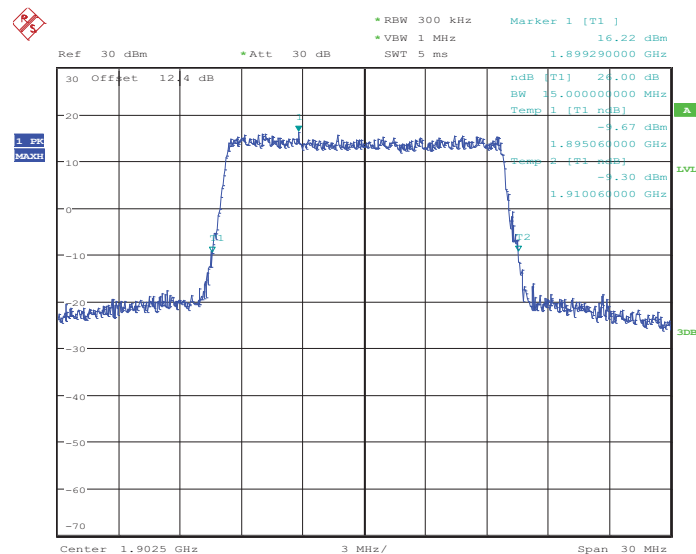


99% Occupied Bandwidth Plot on Channel 19125



Date: 26.DEC.2013 20:25:08

26dB Bandwidth Plot on Channel 19125

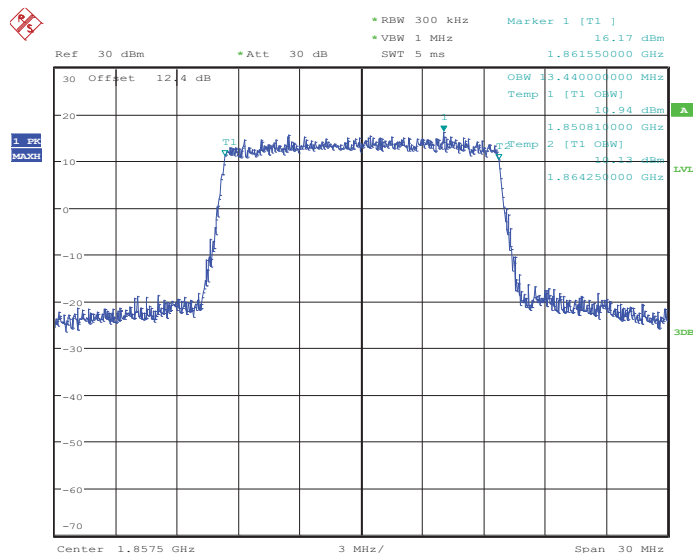


Date: 26.DEC.2013 20:25:34



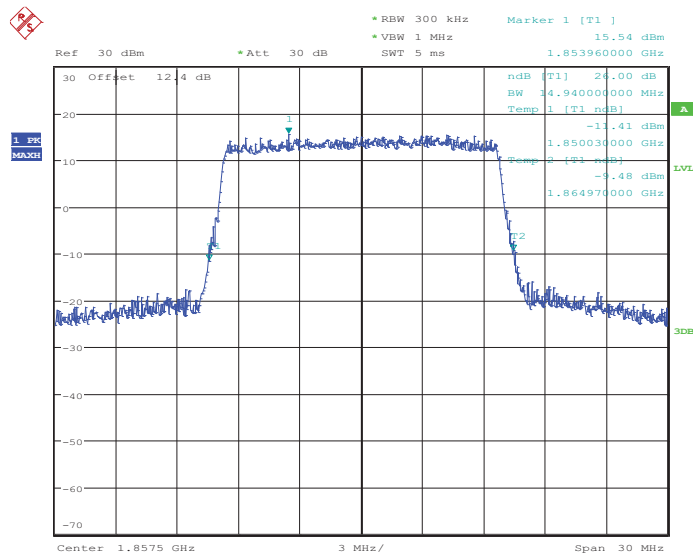
Band :	LTE Band 2	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18675



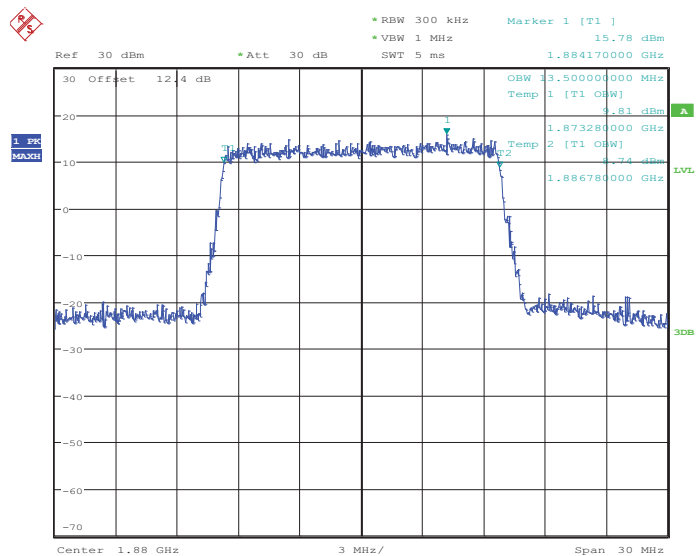
Date: 26.DEC.2013 20:17:24

26dB Bandwidth Plot on Channel 18675



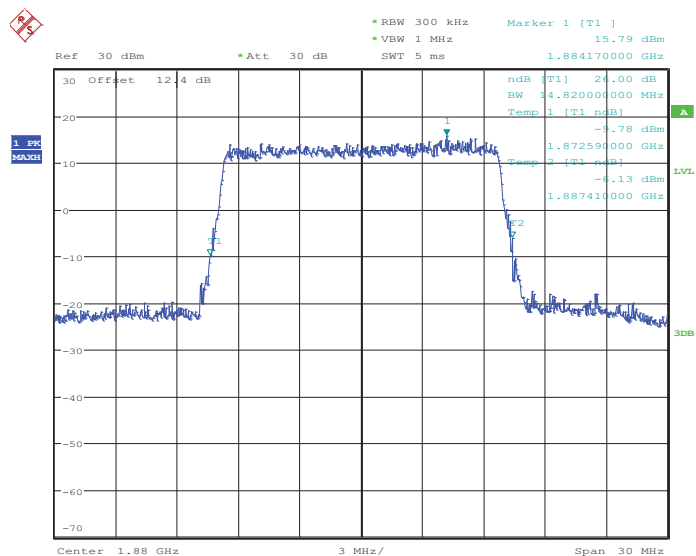
Date: 26.DEC.2013 20:17:51

99% Occupied Bandwidth Plot on Channel 18900



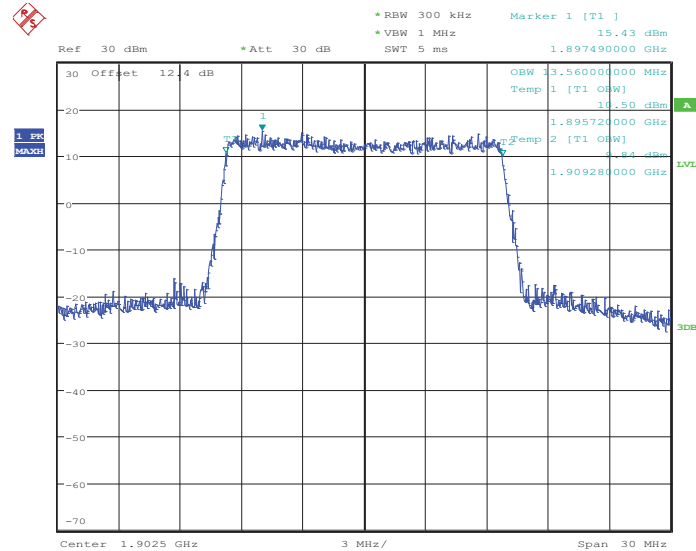
Date: 26.DEC.2013 20:22:47

26dB Bandwidth Plot on Channel 18900



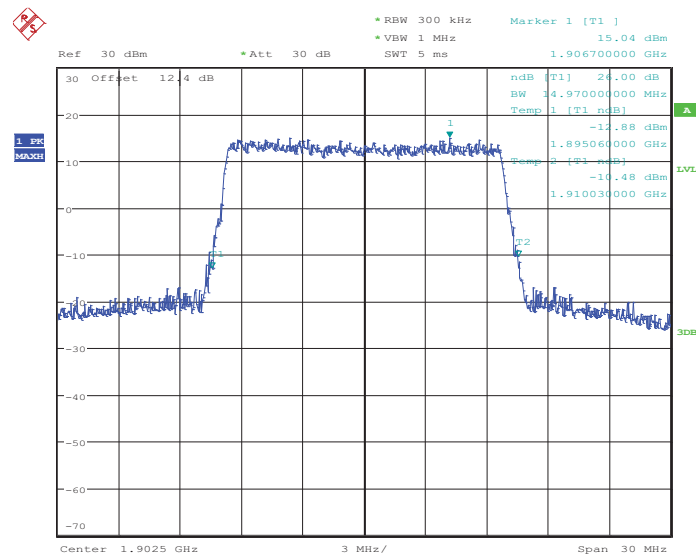
Date: 26.DEC.2013 20:23:14

99% Occupied Bandwidth Plot on Channel 19125



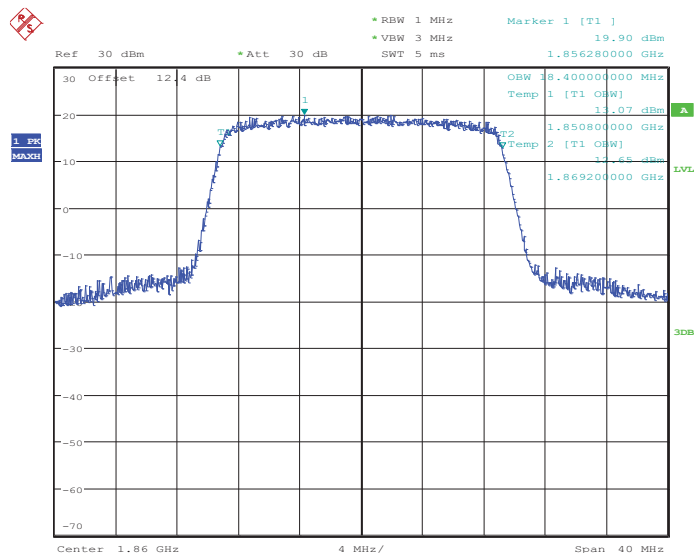
Date: 26.DEC.2013 20:25:20

26dB Bandwidth Plot on Channel 19125

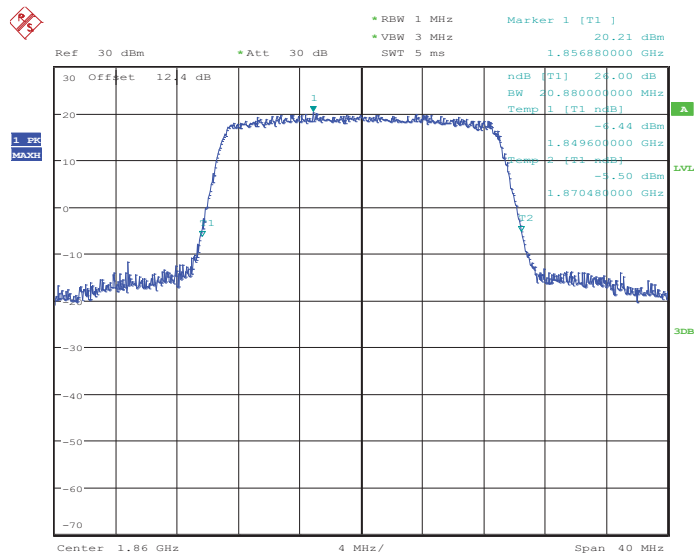


Date: 26.DEC.2013 20:25:47

Band :	LTE Band 2	BW / Mod. :	20MHz / QPSK
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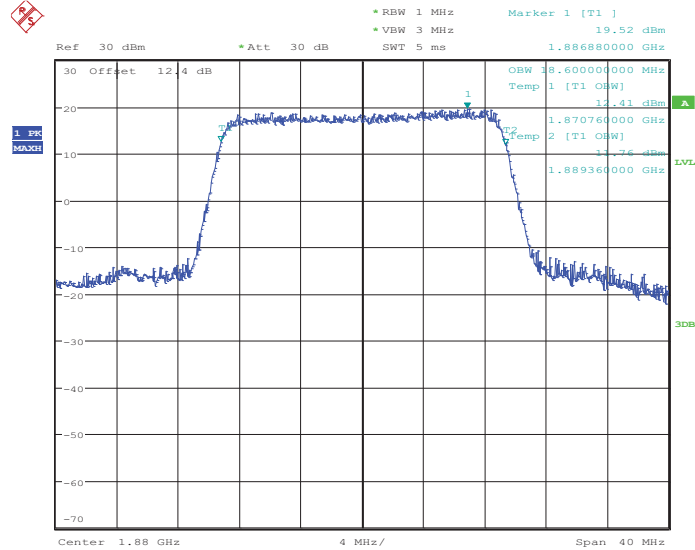
99% Occupied Bandwidth Plot on Channel 18700


Date: 26.DEC.2013 20:33:00

26dB Bandwidth Plot on Channel 18700


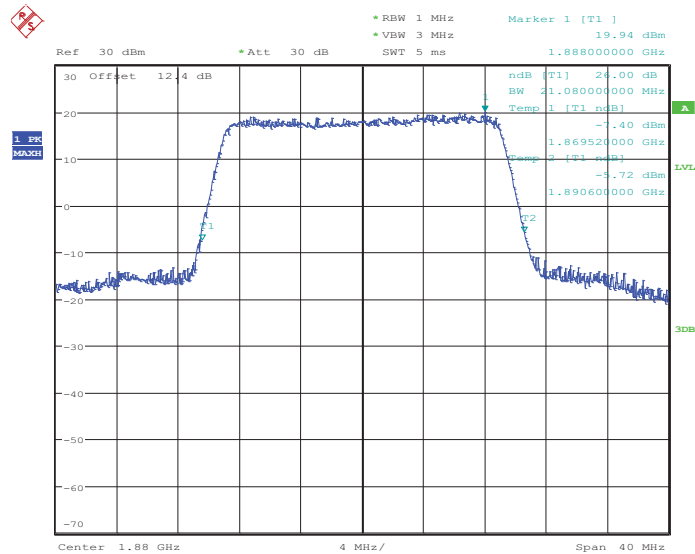
Date: 26.DEC.2013 20:33:26

99% Occupied Bandwidth Plot on Channel 18900



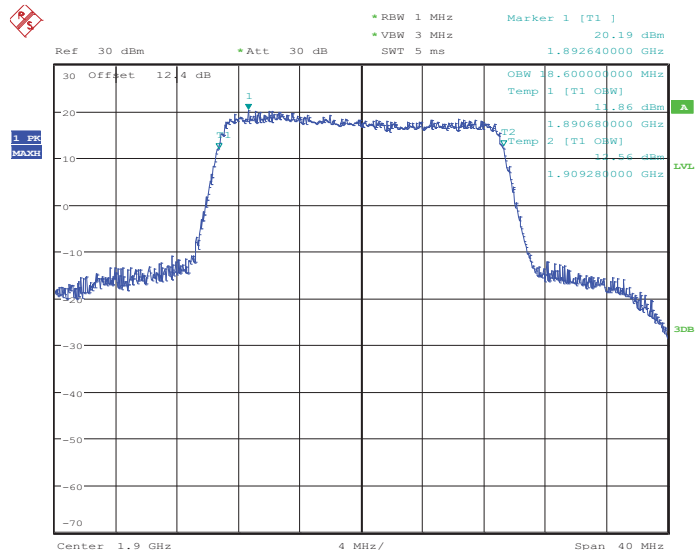
Date: 26.DEC.2013 20:38:24

26dB Bandwidth Plot on Channel 18900



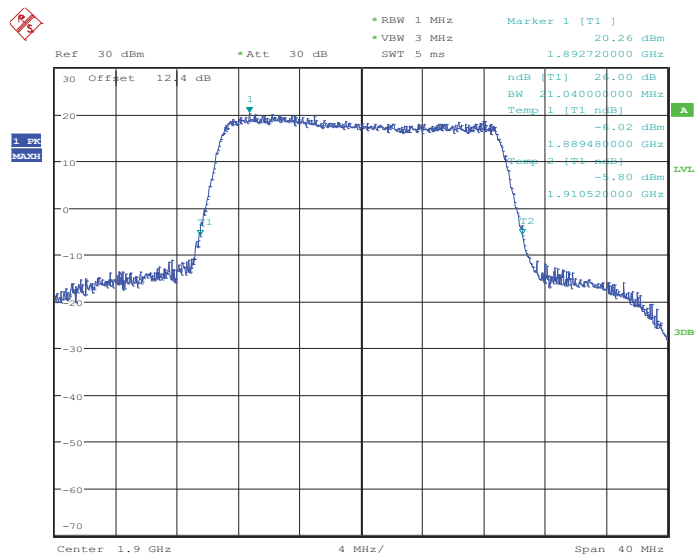
Date: 26.DEC.2013 20:38:49

99% Occupied Bandwidth Plot on Channel 19100



Date: 26.DEC.2013 20:40:57

26dB Bandwidth Plot on Channel 19100

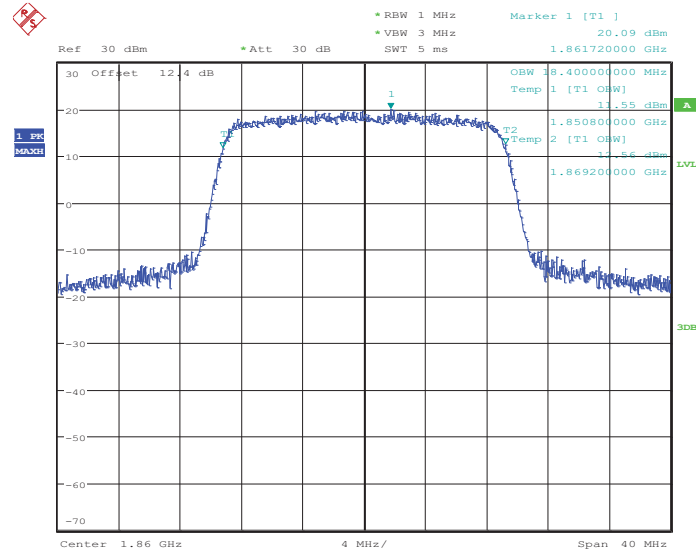


Date: 26.DEC.2013 20:41:23



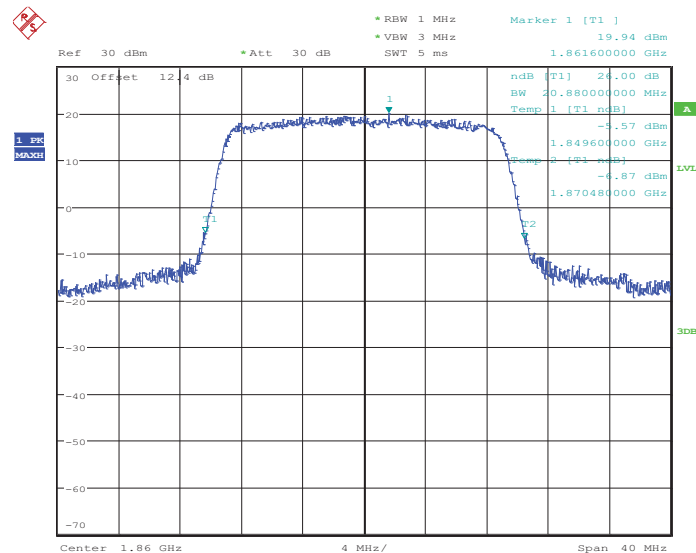
Band :	LTE Band 2	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18700



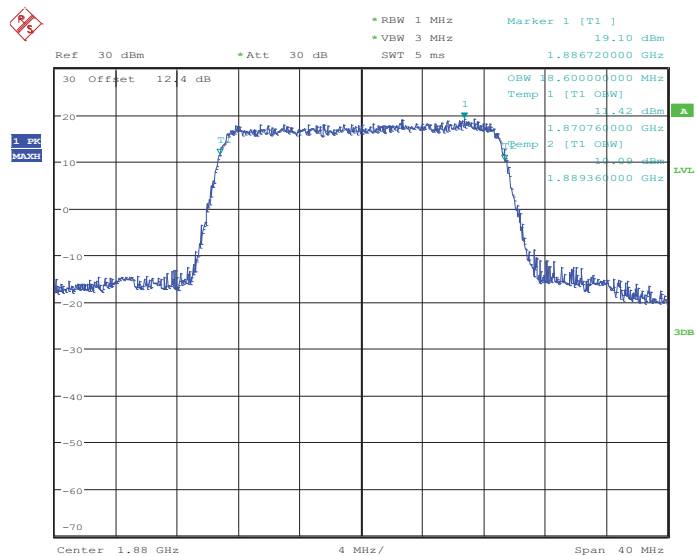
Date: 26.DEC.2013 20:33:12

26dB Bandwidth Plot on Channel 18700



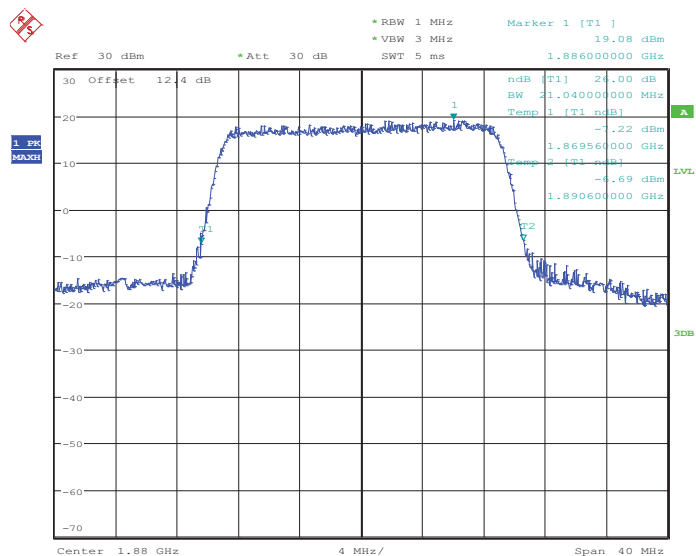
Date: 26.DEC.2013 20:33:39

99% Occupied Bandwidth Plot on Channel 18900



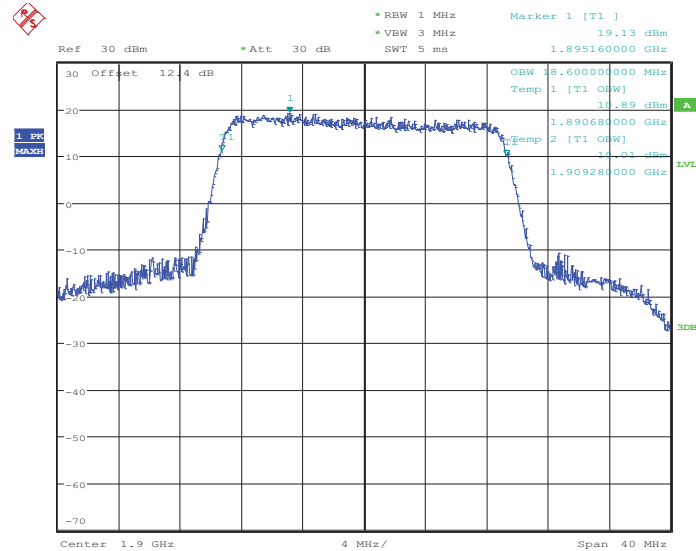
Date: 26.DEC.2013 20:38:36

26dB Bandwidth Plot on Channel 18900



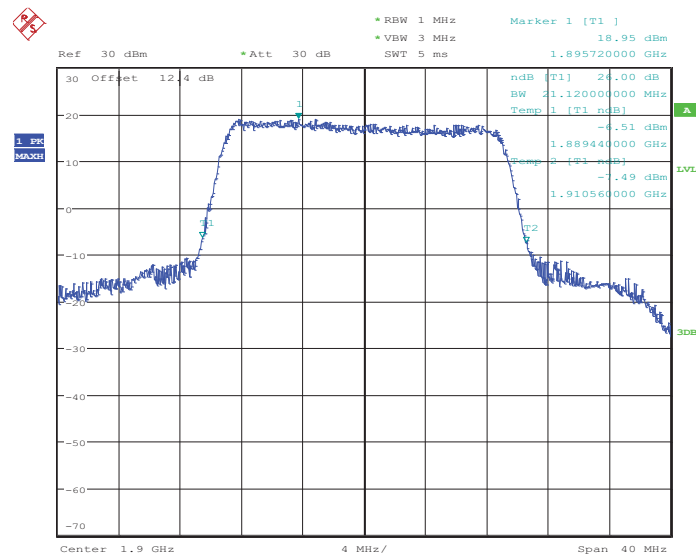
Date: 26.DEC.2013 20:39:02

99% Occupied Bandwidth Plot on Channel 19100



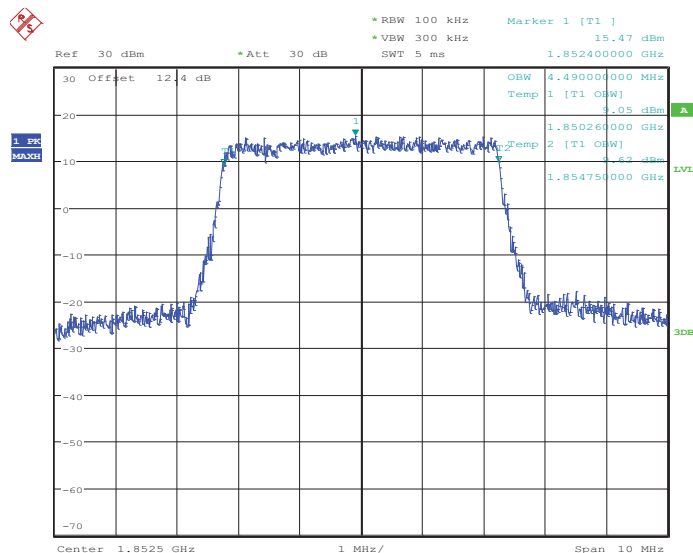
Date: 26.DEC.2013 20:41:09

26dB Bandwidth Plot on Channel 19100

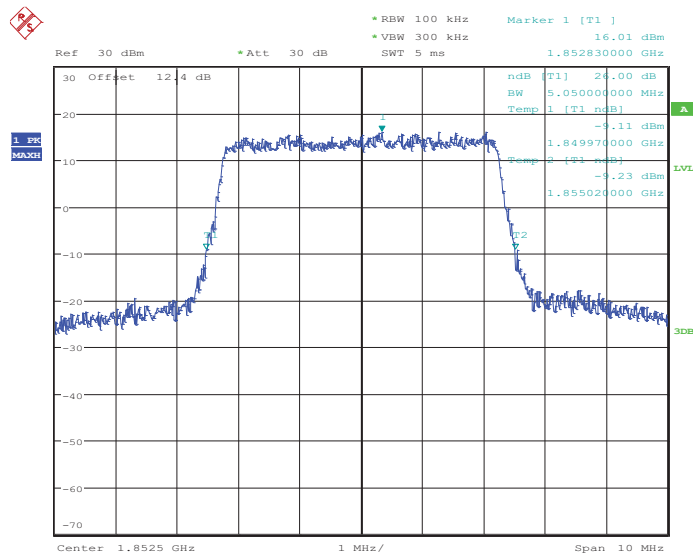


Date: 26.DEC.2013 20:41:36

Band :	LTE Band 25	BW / Mod. :	5MHz / QPSK
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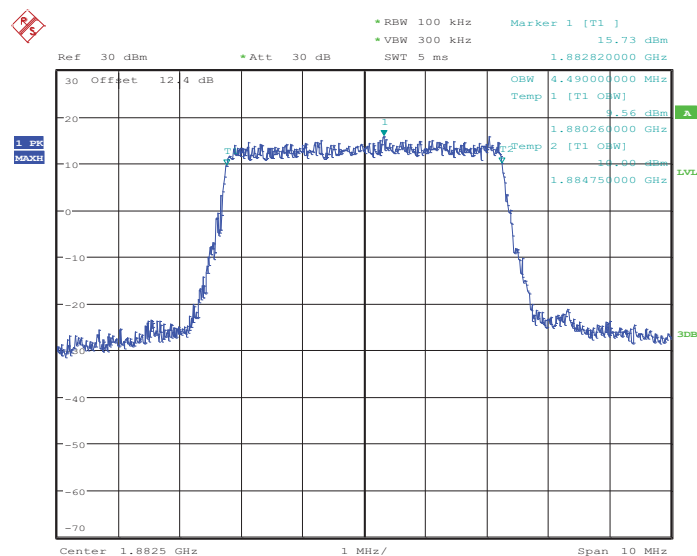
99% Occupied Bandwidth Plot on Channel 26065


Date: 26.DEC.2013 18:35:05

26dB Bandwidth Plot on Channel 26065


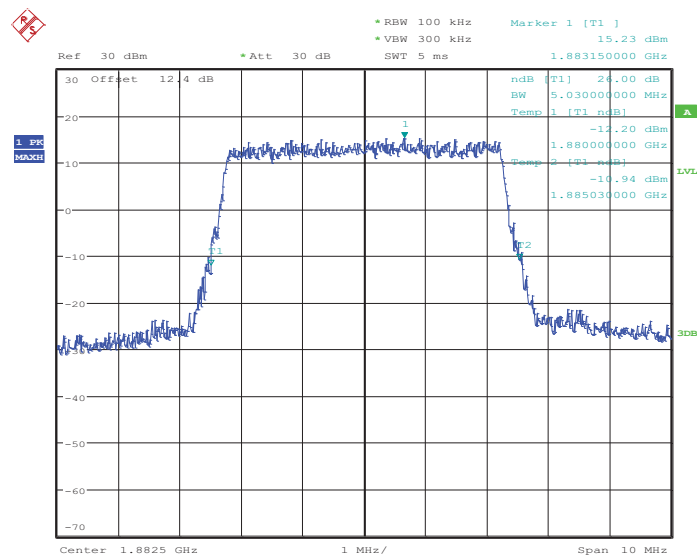
Date: 26.DEC.2013 18:35:30

99% Occupied Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:48:00

26dB Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:48:13



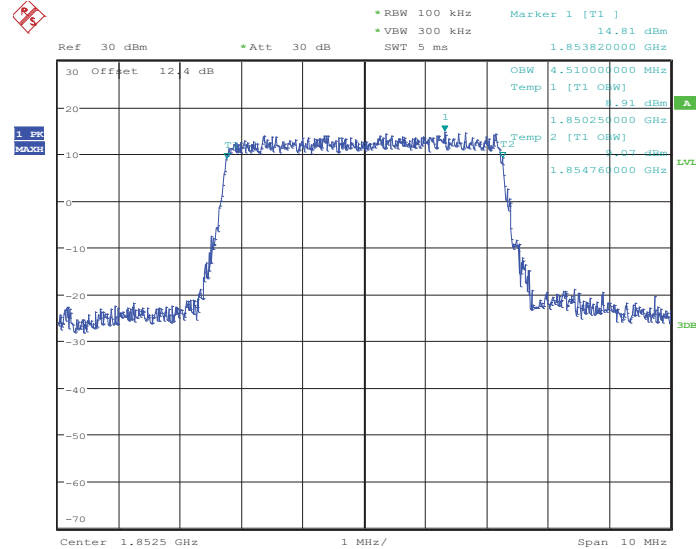
26dB Bandwidth Plot on Channel 26665





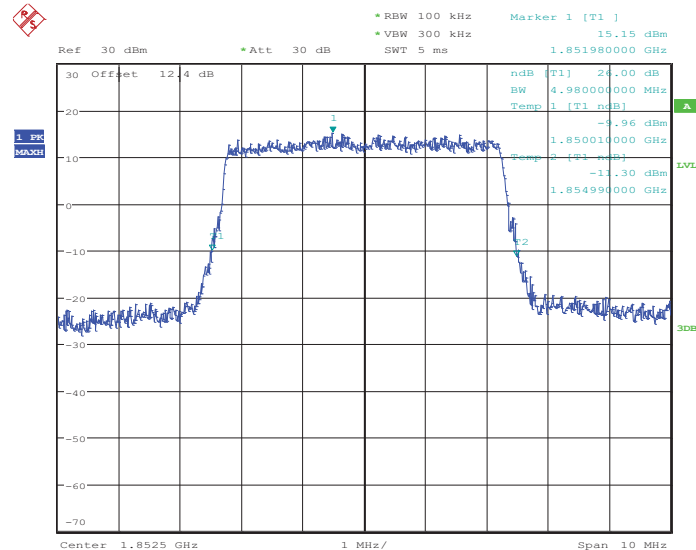
Band :	LTE Band 25	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26065



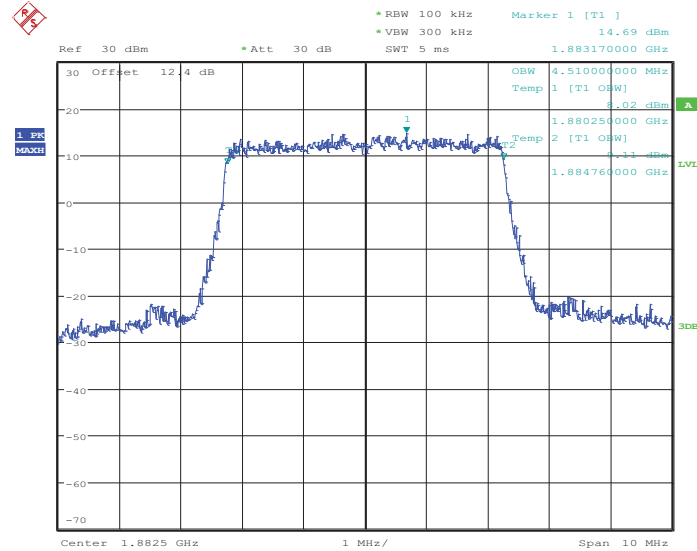
Date: 26.DEC.2013 18:35:16

26dB Bandwidth Plot on Channel 26065



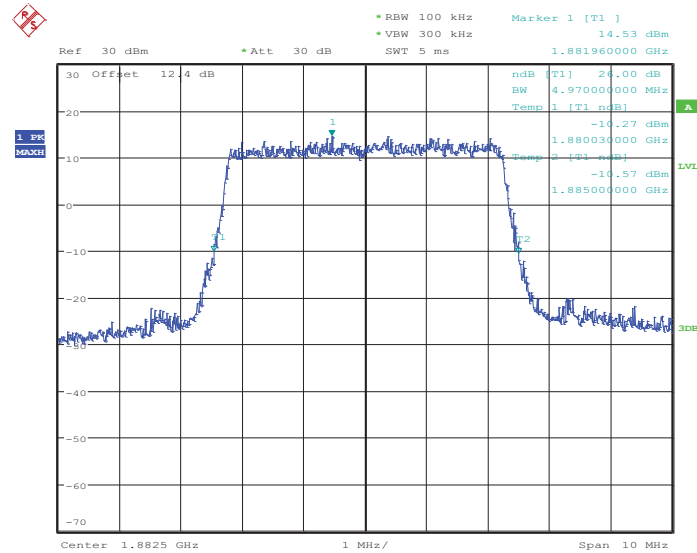
Date: 26.DEC.2013 18:35:43

99% Occupied Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:47:24

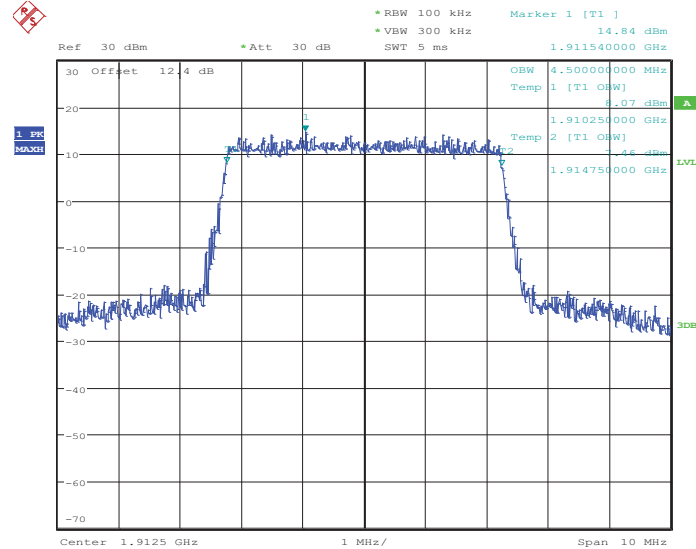
26dB Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:47:41

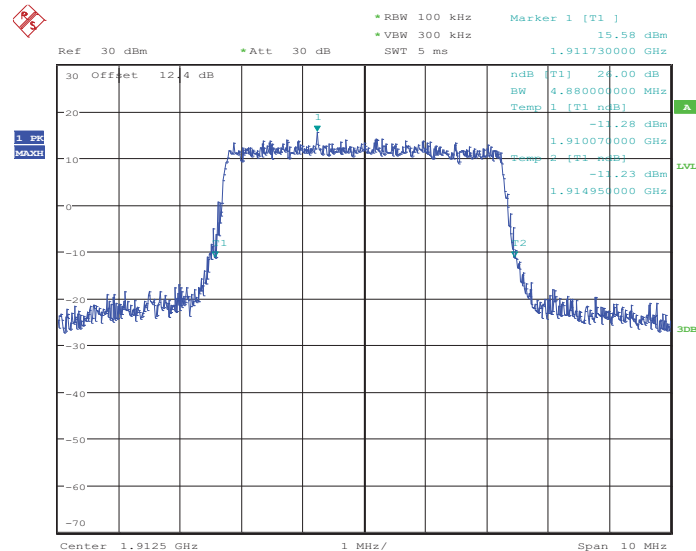


99% Occupied Bandwidth Plot on Channel 26665



Date: 3.JAN.2014 16:20:13

26dB Bandwidth Plot on Channel 26665

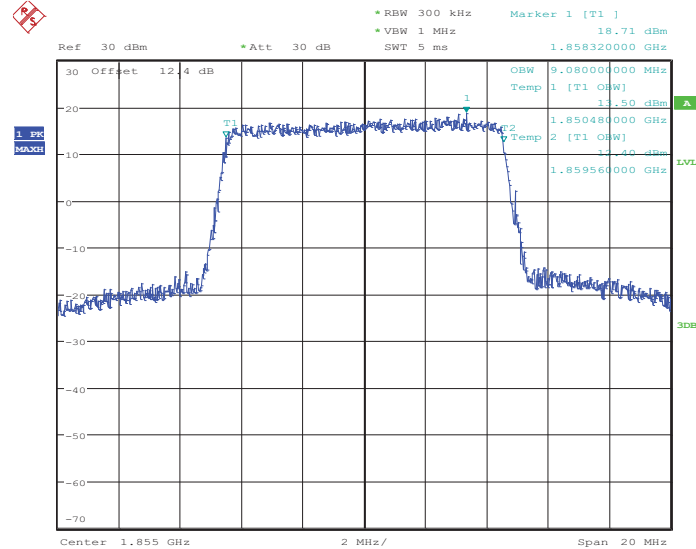


Date: 3.JAN.2014 16:20:03



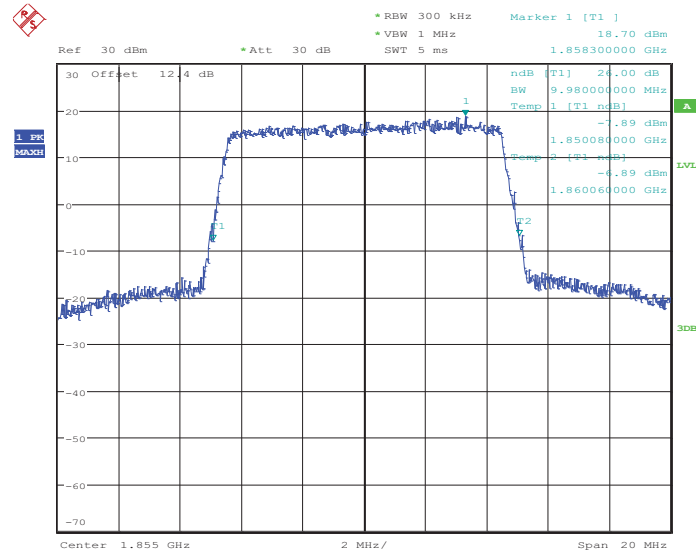
Band :	LTE Band 25	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26090



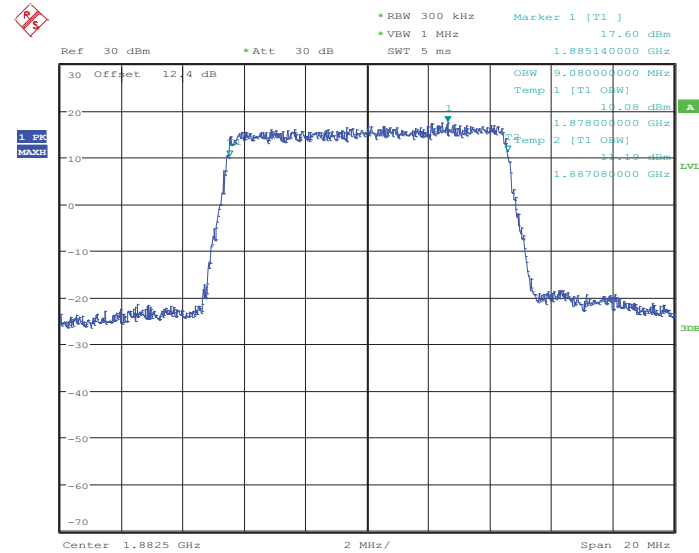
Date: 26.DEC.2013 18:53:32

26dB Bandwidth Plot on Channel 26090



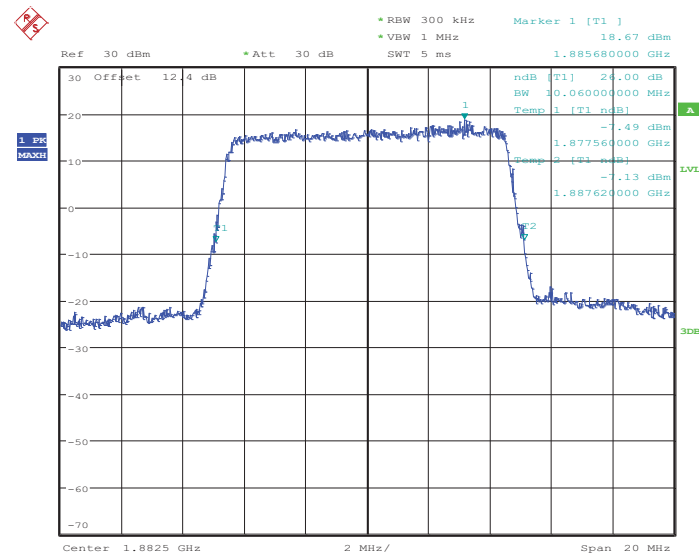
Date: 26.DEC.2013 18:53:57

99% Occupied Bandwidth Plot on Channel 26365



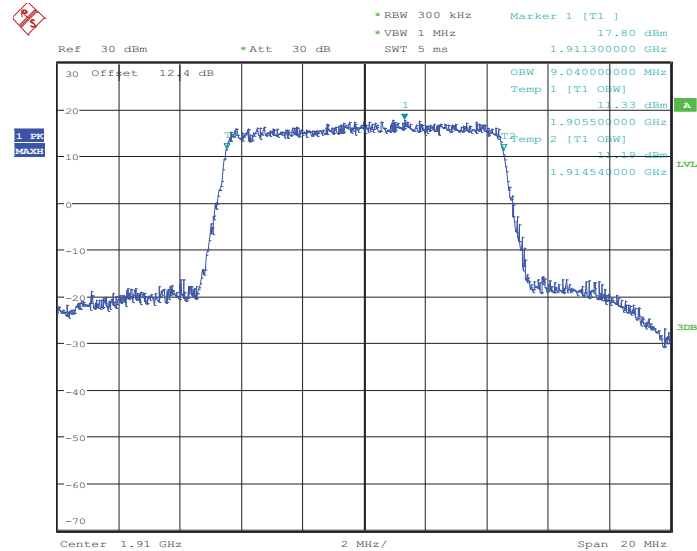
Date: 13.JAN.2014 13:48:58

26dB Bandwidth Plot on Channel 26365



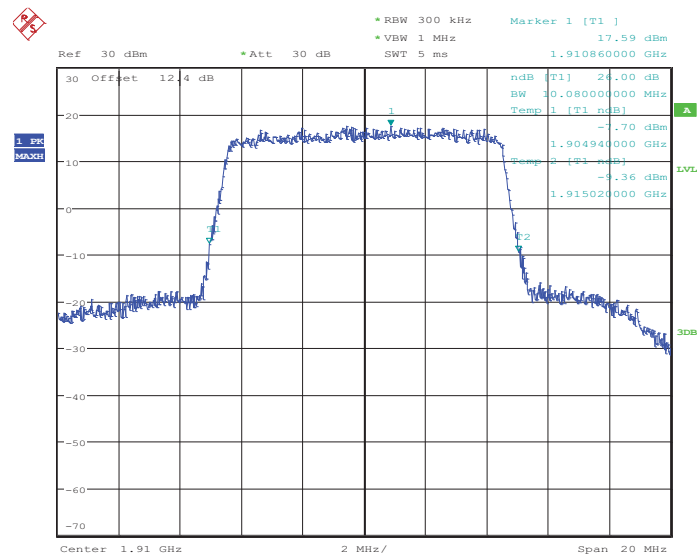
Date: 13.JAN.2014 13:49:14

99% Occupied Bandwidth Plot on Channel 26640



Date: 3.JAN.2014 16:25:15

26dB Bandwidth Plot on Channel 26640

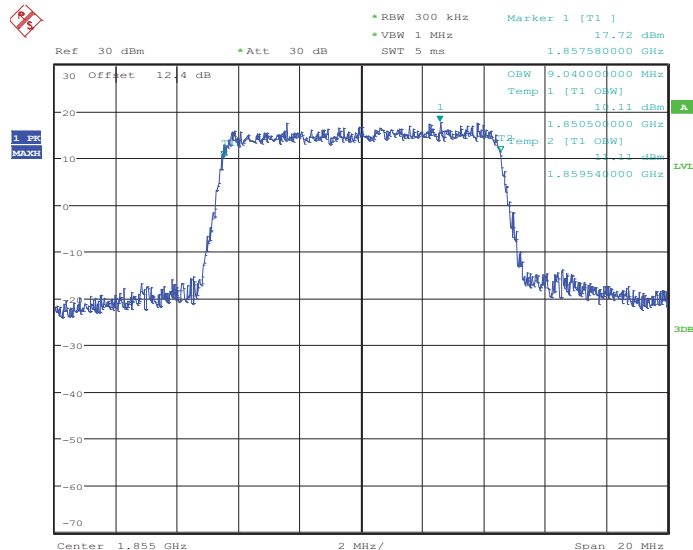


Date: 3.JAN.2014 16:25:27



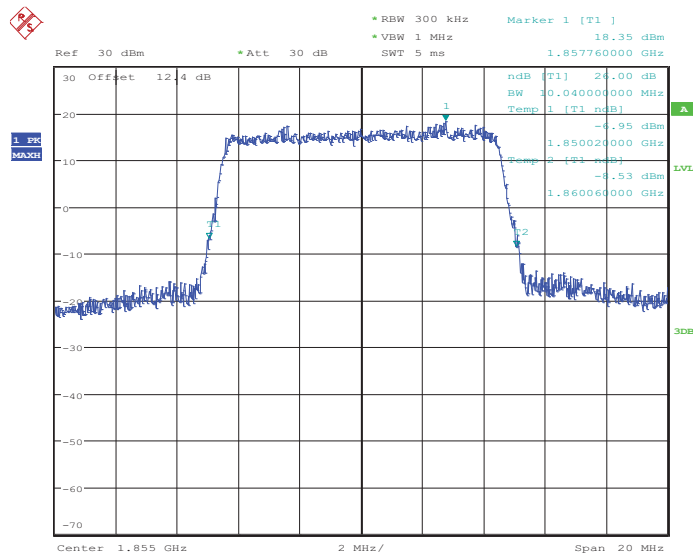
Band :	LTE Band 25	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26090



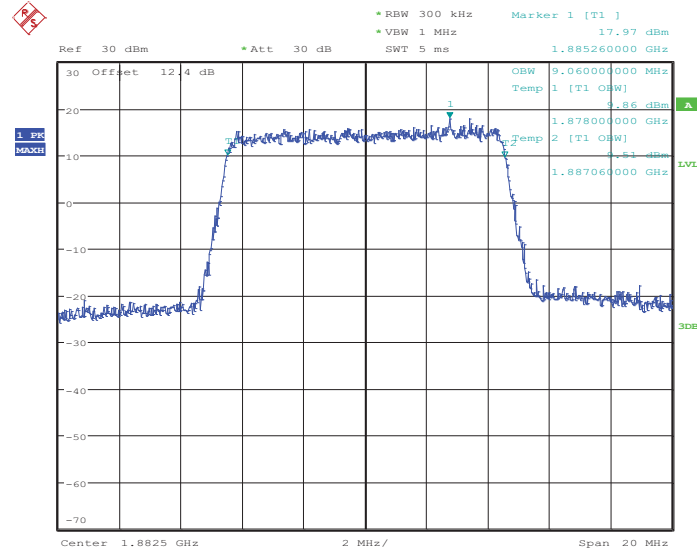
Date: 26.DEC.2013 18:53:44

26dB Bandwidth Plot on Channel 26090



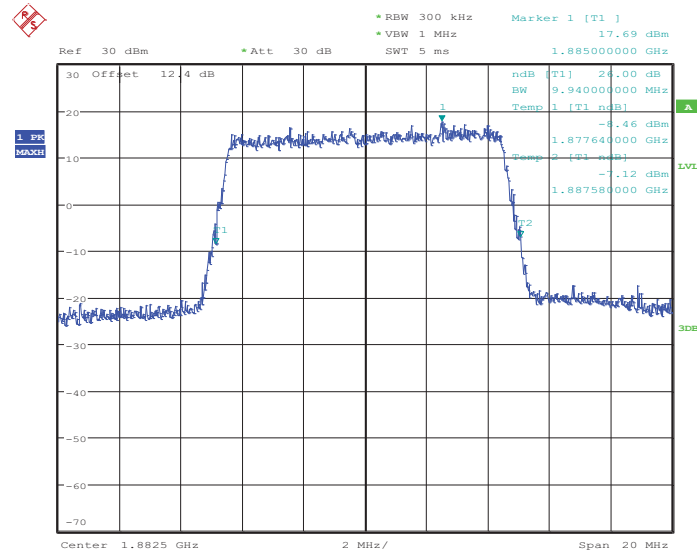
Date: 26.DEC.2013 18:54:11

99% Occupied Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:49:31

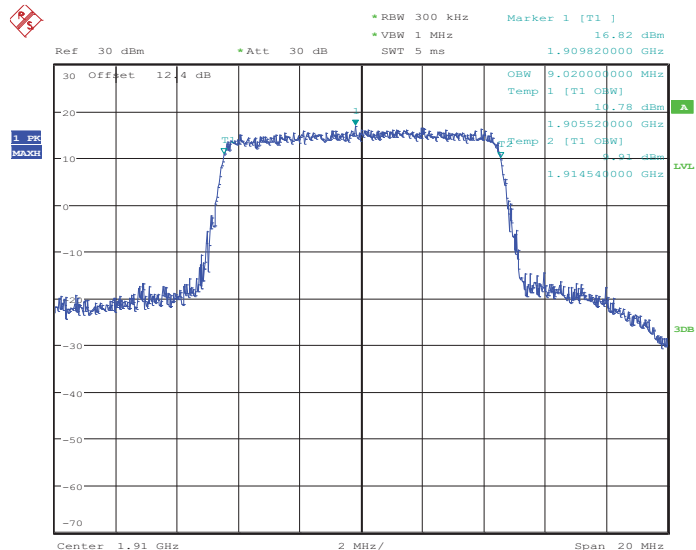
26dB Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:49:44

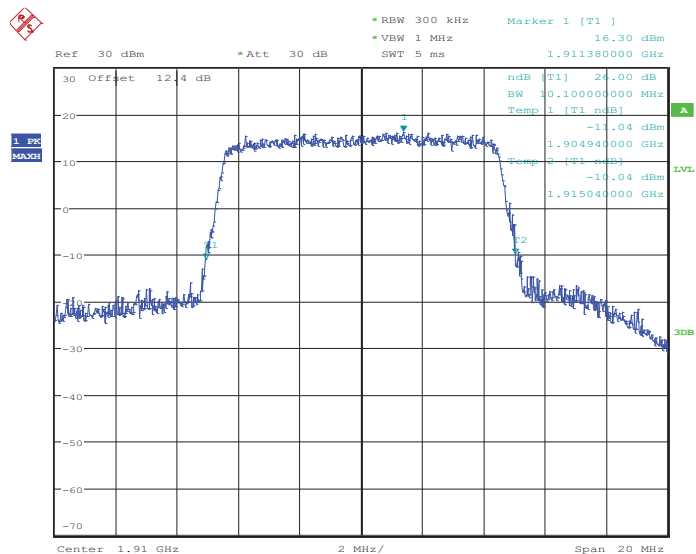


99% Occupied Bandwidth Plot on Channel 26640



Date: 3.JAN.2014 16:26:31

26dB Bandwidth Plot on Channel 26640

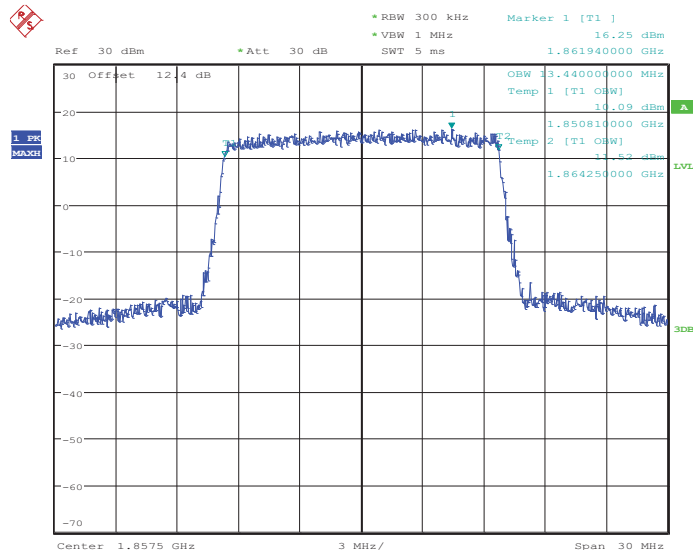


Date: 3.JAN.2014 16:26:43



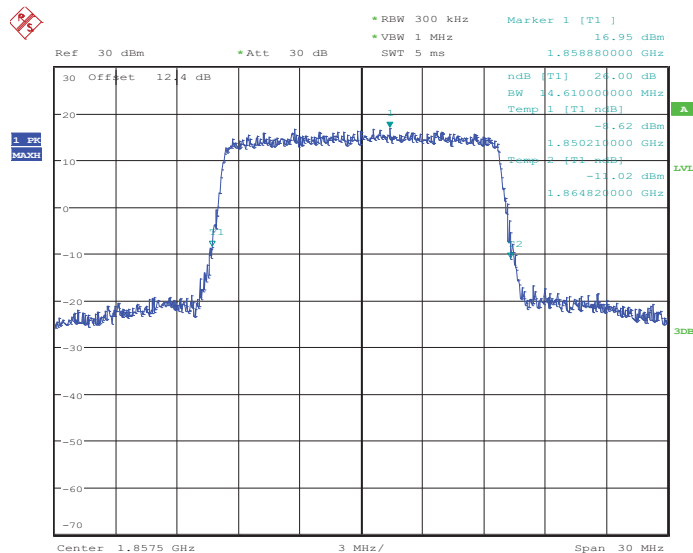
Band :	LTE Band 25	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26115



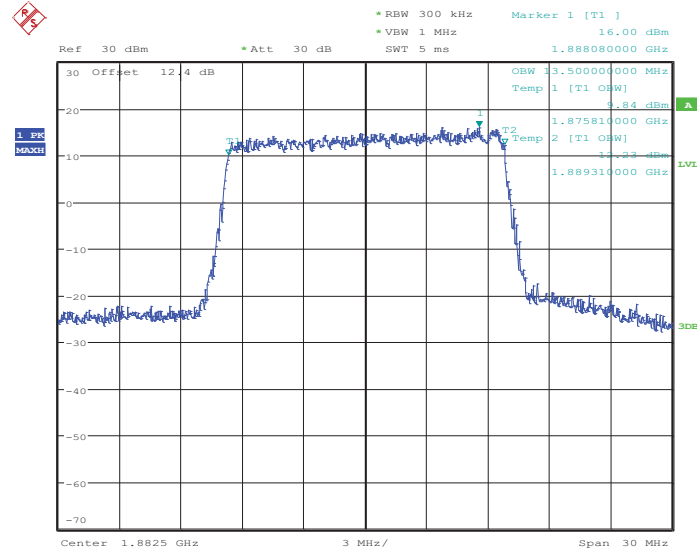
Date: 26.DEC.2013 20:17:12

26dB Bandwidth Plot on Channel 26115



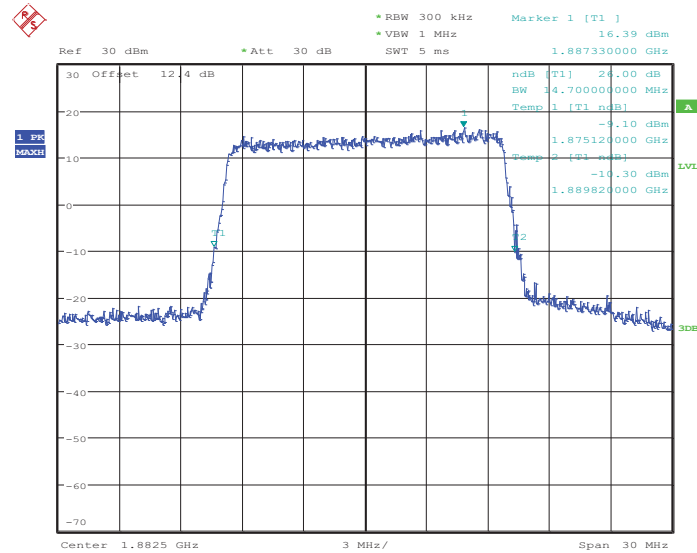
Date: 26.DEC.2013 20:17:37

99% Occupied Bandwidth Plot on Channel 26365



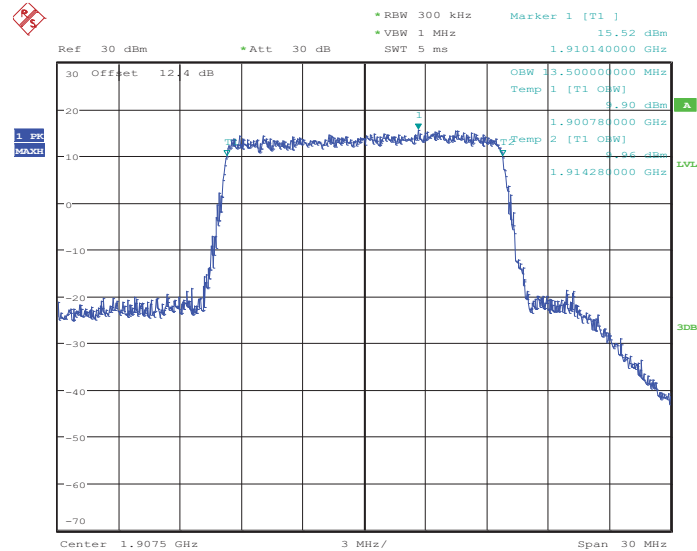
Date: 13.JAN.2014 13:50:51

26dB Bandwidth Plot on Channel 26365



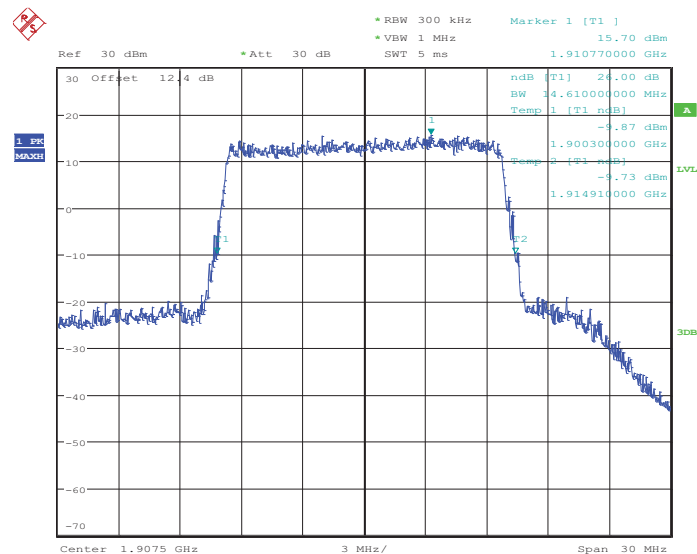
Date: 13.JAN.2014 13:51:05

99% Occupied Bandwidth Plot on Channel 26615



Date: 3.JAN.2014 16:33:32

26dB Bandwidth Plot on Channel 26615

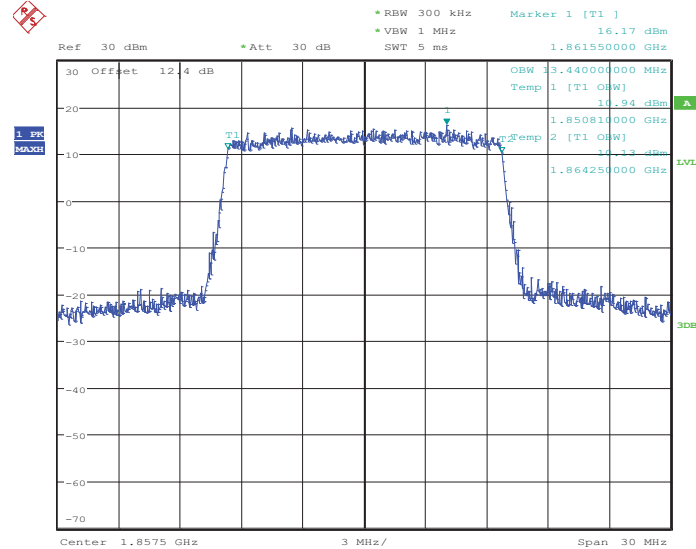


Date: 3.JAN.2014 16:33:41



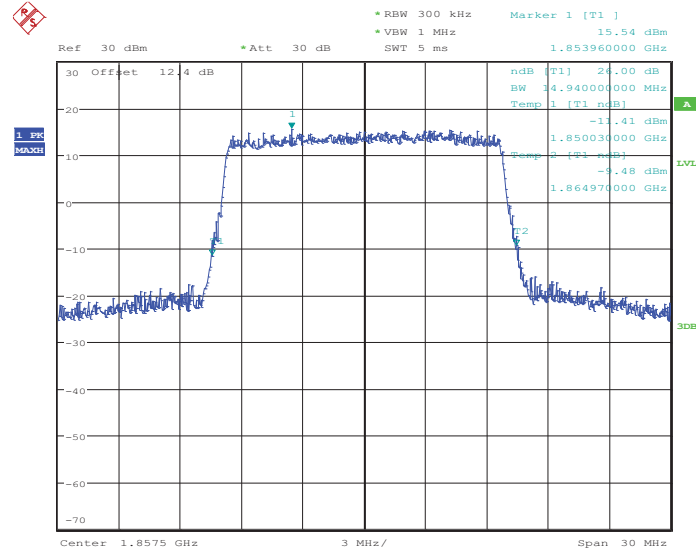
Band :	LTE Band 25	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26115



Date: 26.DEC.2013 20:17:24

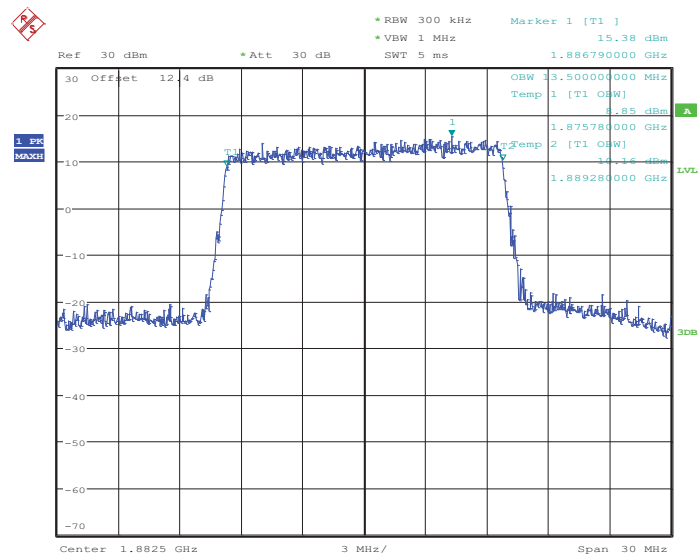
26dB Bandwidth Plot on Channel 26115



Date: 26.DEC.2013 20:17:51

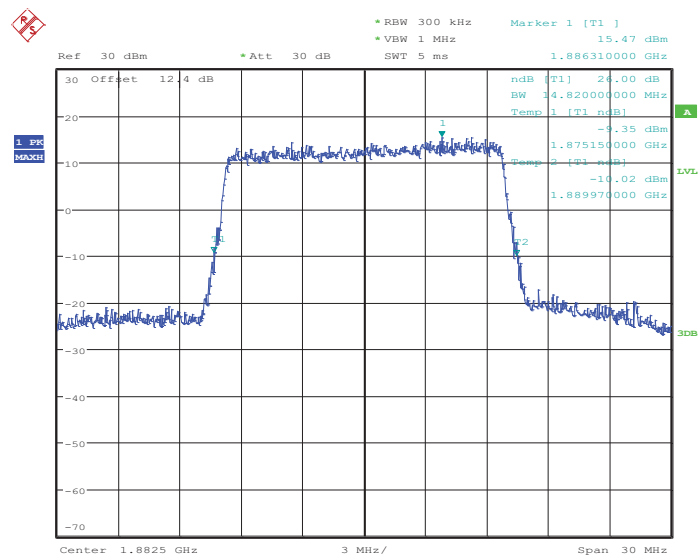


99% Occupied Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:50:09

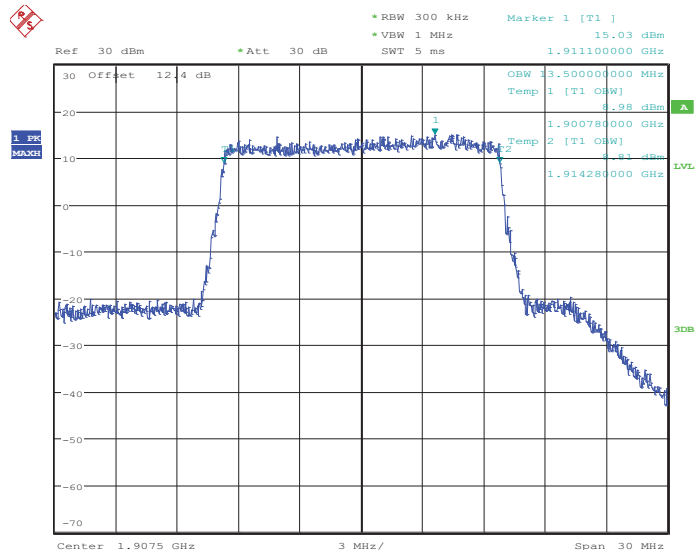
26dB Bandwidth Plot on Channel 26365



Date: 13.JAN.2014 13:50:21

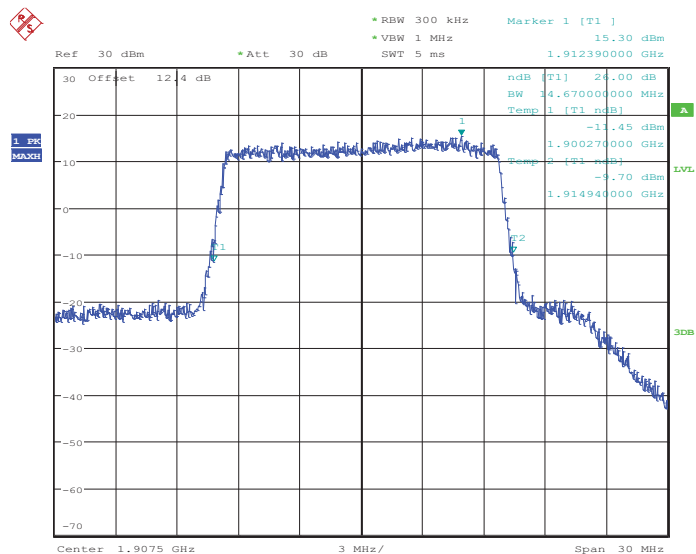


99% Occupied Bandwidth Plot on Channel 26615



Date: 3.JAN.2014 16:34:27

26dB Bandwidth Plot on Channel 26615

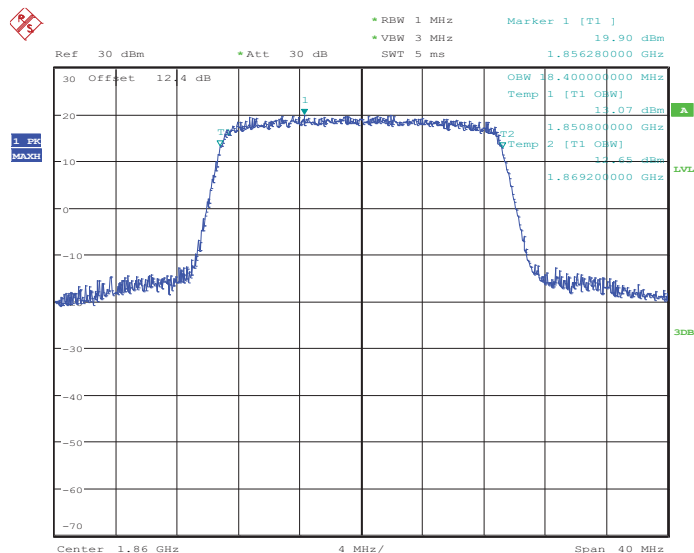


Date: 3.JAN.2014 16:34:38



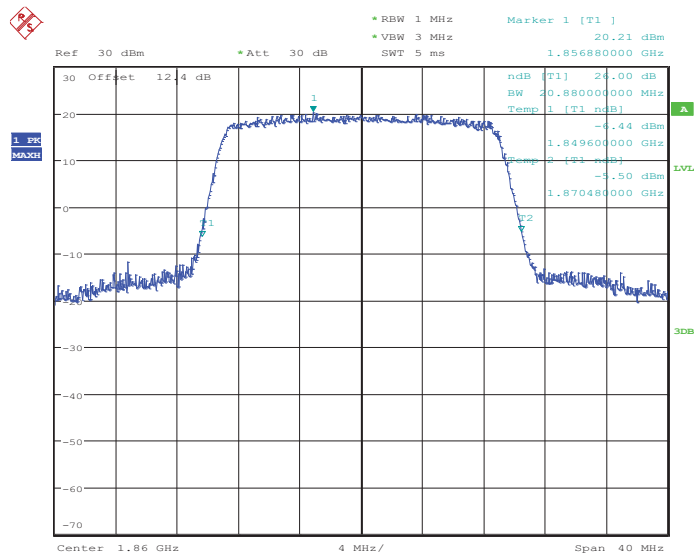
Band :	LTE Band 25	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26140



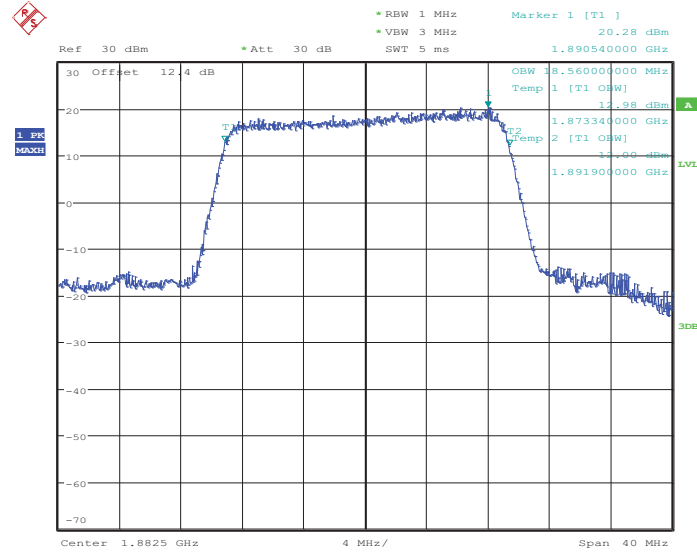
Date: 26.DEC.2013 20:33:00

26dB Bandwidth Plot on Channel 26140



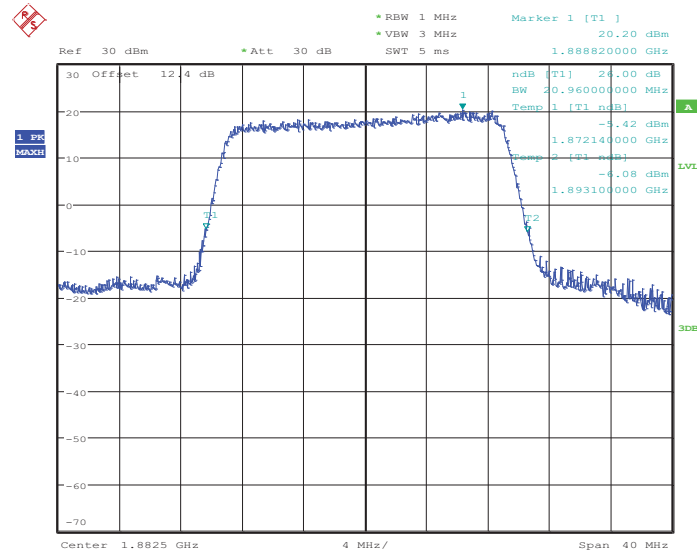
Date: 26.DEC.2013 20:33:26

99% Occupied Bandwidth Plot on Channel 26365



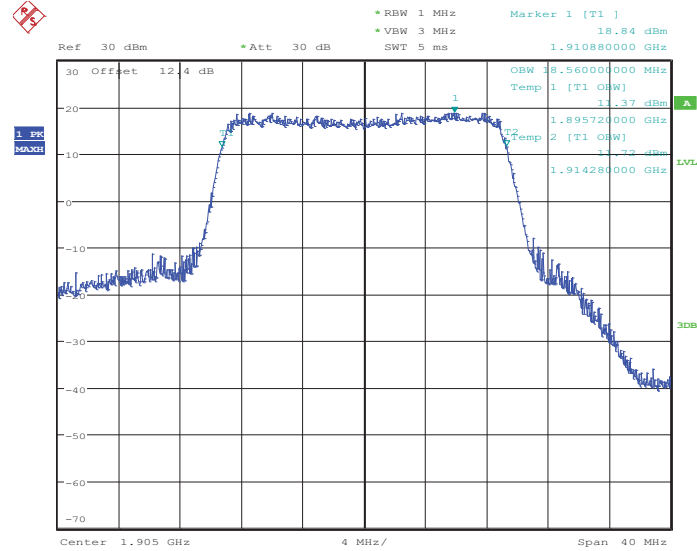
Date: 13.JAN.2014 13:51:30

26dB Bandwidth Plot on Channel 26365



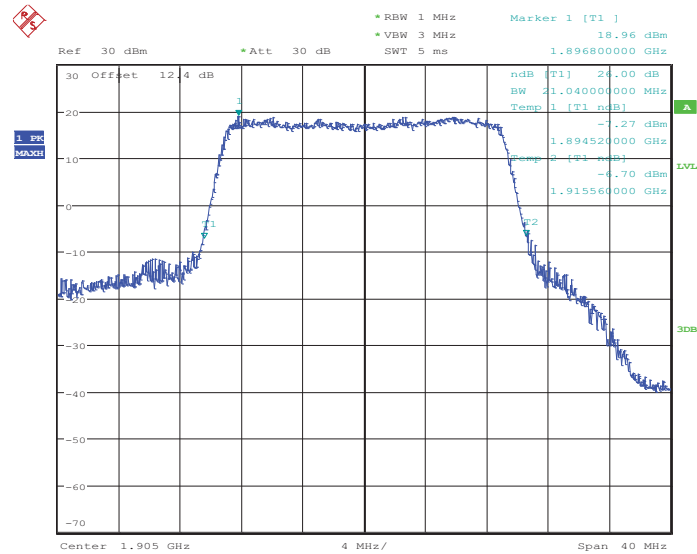
Date: 13.JAN.2014 13:51:42

99% Occupied Bandwidth Plot on Channel 26590



Date: 3.JAN.2014 16:39:27

26dB Bandwidth Plot on Channel 26590

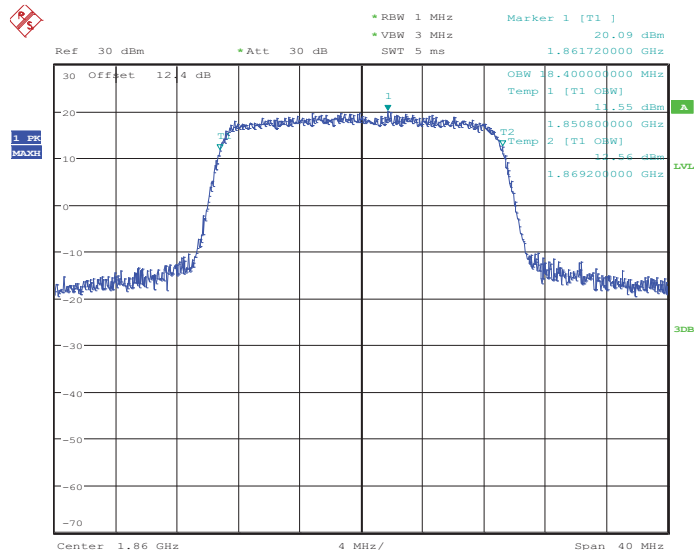


Date: 3.JAN.2014 16:39:41



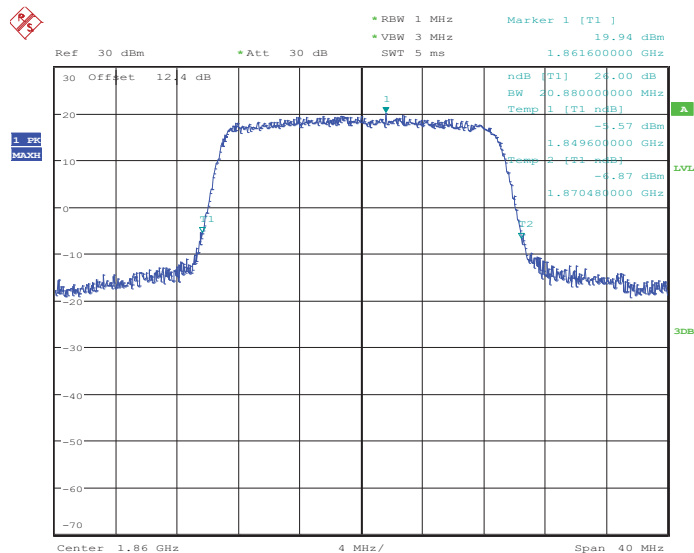
Band :	LTE Band 25	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26140



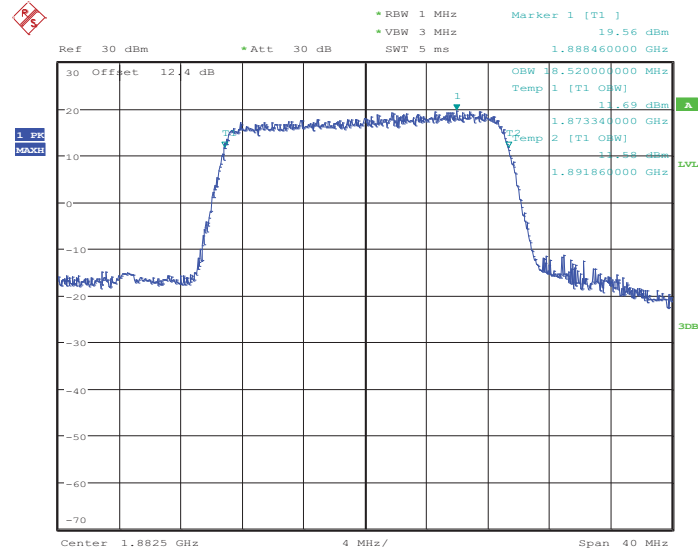
Date: 26.DEC.2013 20:33:12

26dB Bandwidth Plot on Channel 26140



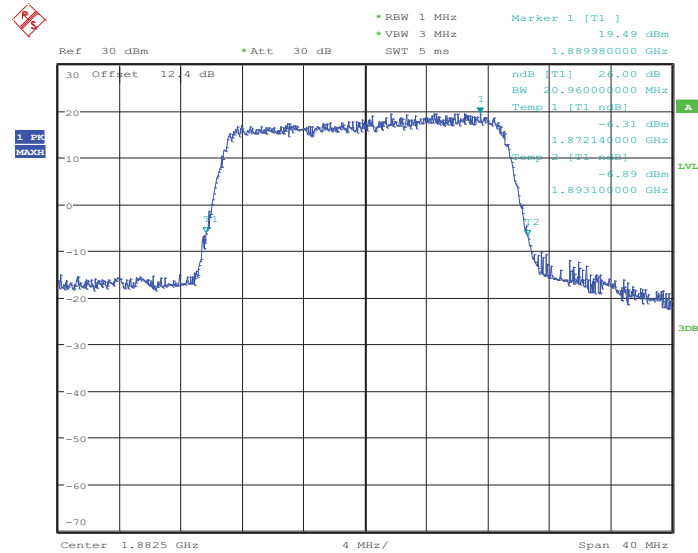
Date: 26.DEC.2013 20:33:39

99% Occupied Bandwidth Plot on Channel 26365



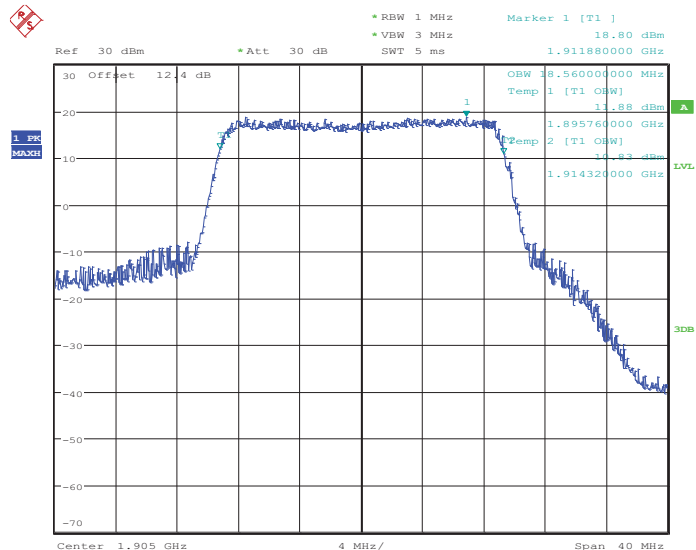
Date: 13.JAN.2014 13:52:16

26dB Bandwidth Plot on Channel 26365



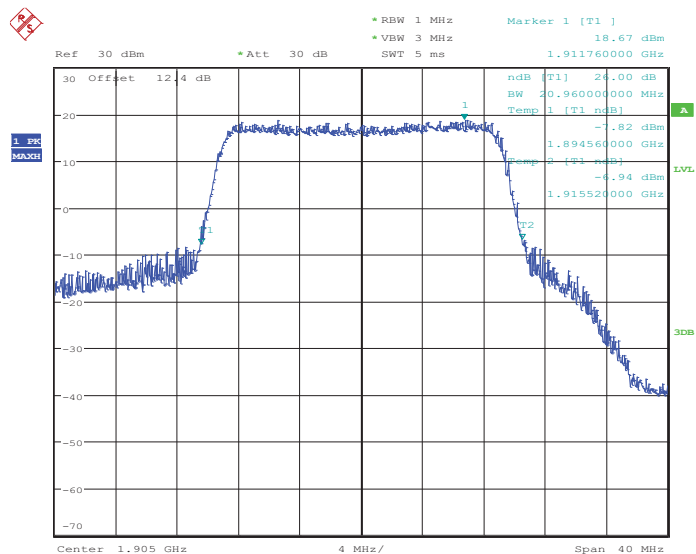
Date: 13.JAN.2014 13:52:29

99% Occupied Bandwidth Plot on Channel 26590



Date: 3.JAN.2014 16:40:38

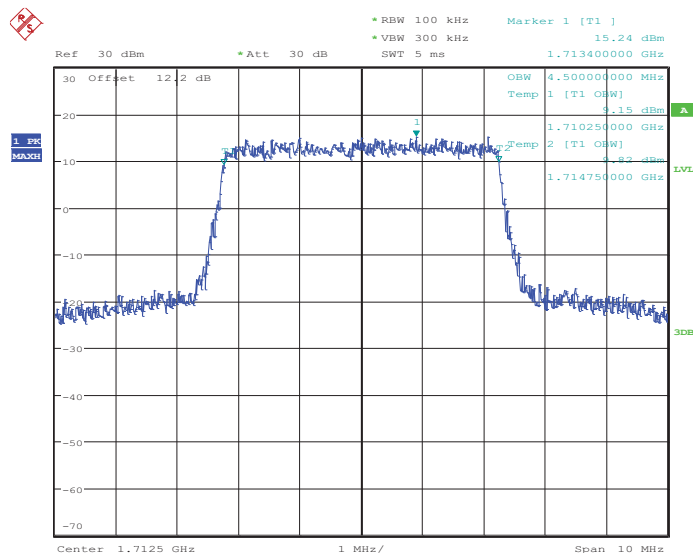
26dB Bandwidth Plot on Channel 26590



Date: 3.JAN.2014 16:40:50

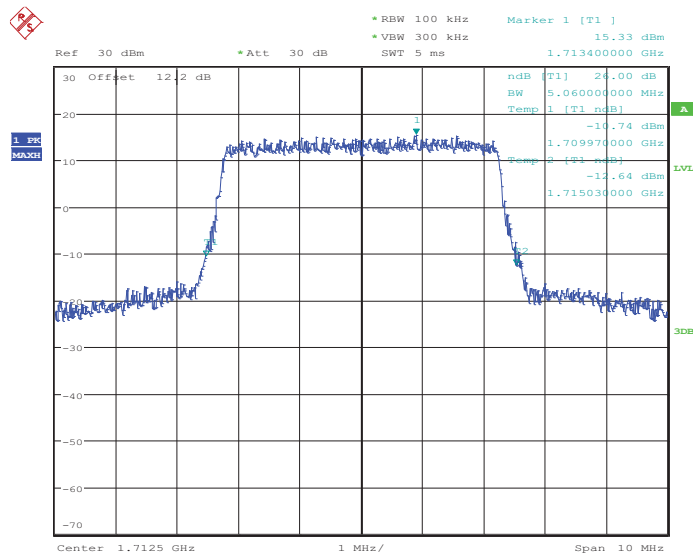
Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19975



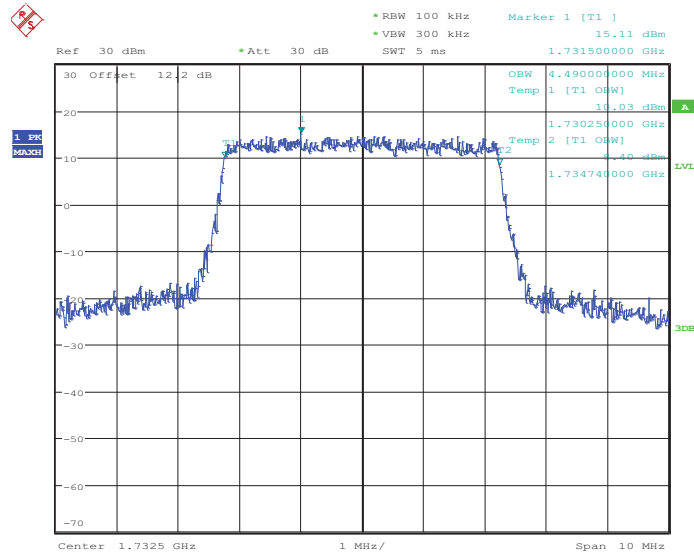
Date: 26.DEC.2013 19:59:16

26dB Bandwidth Plot on Channel 19975



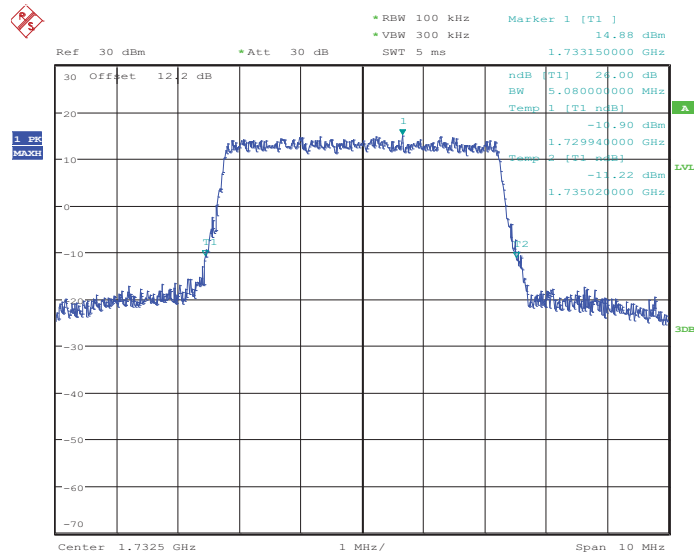
Date: 26.DEC.2013 19:59:41

99% Occupied Bandwidth Plot on Channel 20175



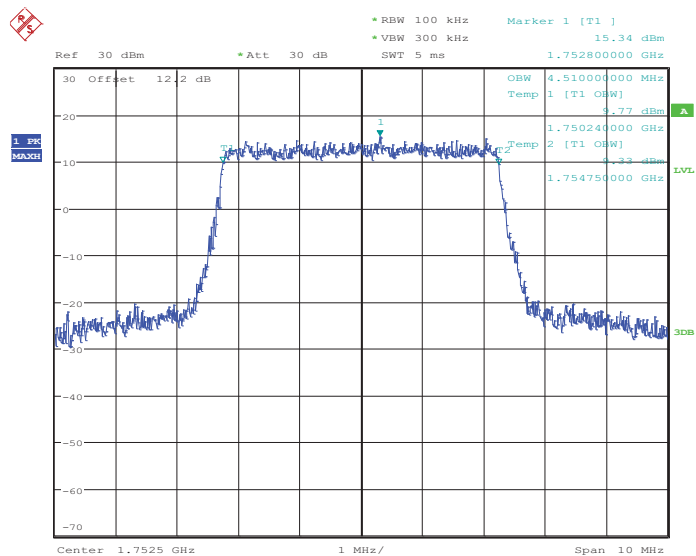
Date: 26.DEC.2013 20:04:37

26dB Bandwidth Plot on Channel 20175



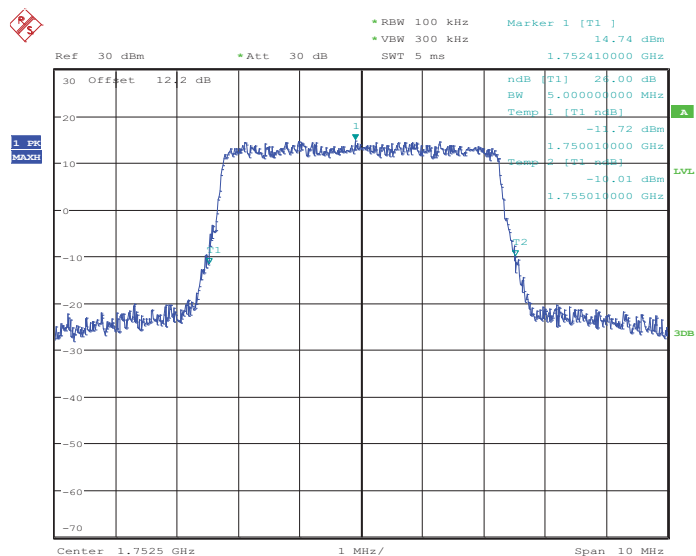
Date: 26.DEC.2013 20:05:02

99% Occupied Bandwidth Plot on Channel 20375



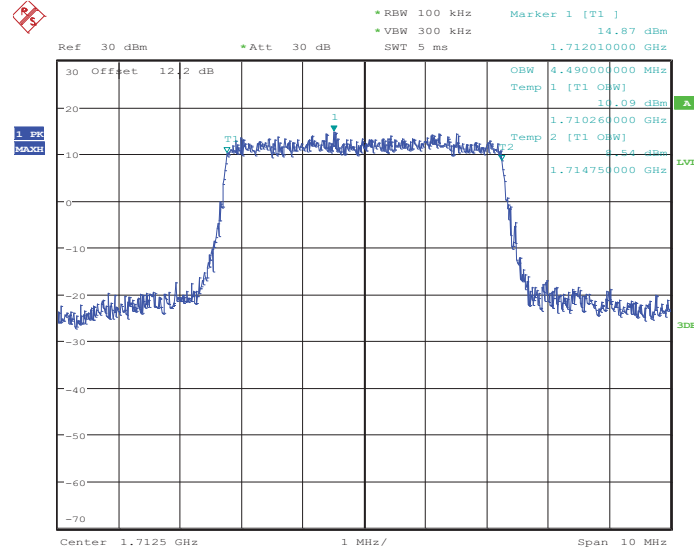
Date: 26.DEC.2013 20:07:08

26dB Bandwidth Plot on Channel 20375

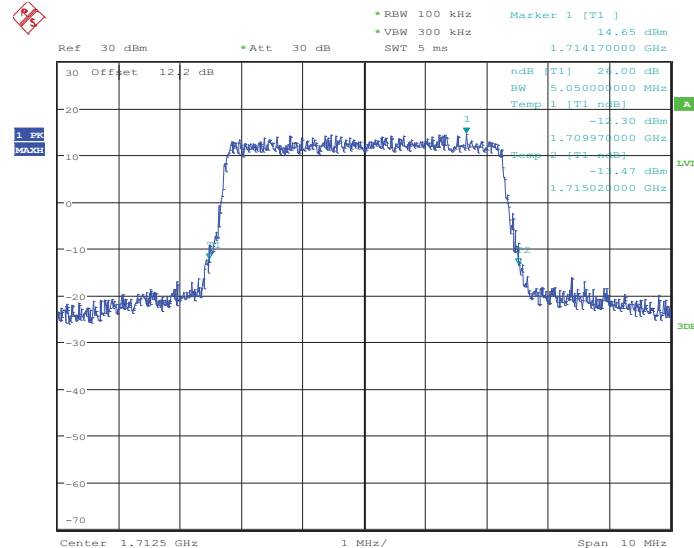


Date: 26.DEC.2013 20:07:33

Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM
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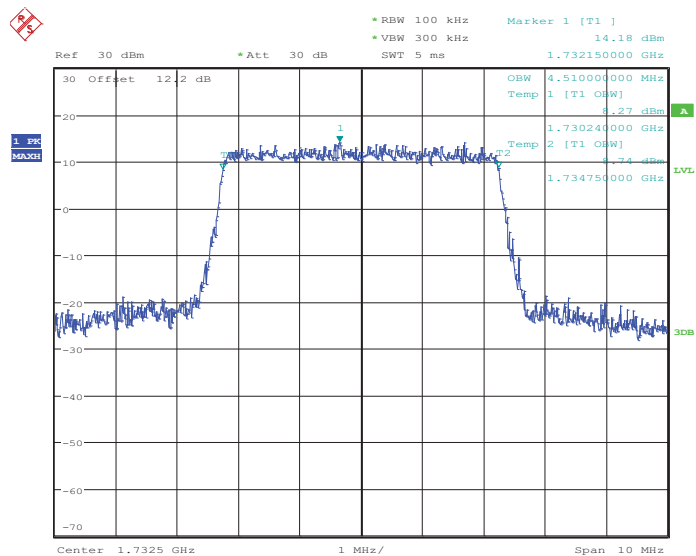
99% Occupied Bandwidth Plot on Channel 19975


Date: 26.DEC.2013 19:59:28

26dB Bandwidth Plot on Channel 19975


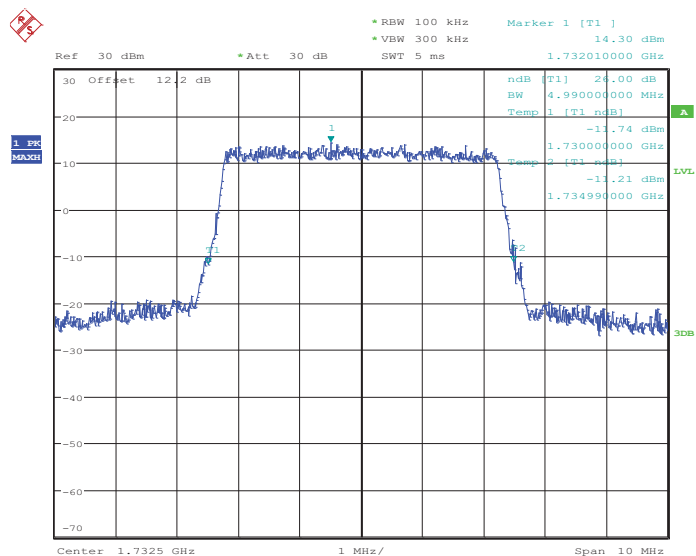
Date: 26.DEC.2013 19:59:55

99% Occupied Bandwidth Plot on Channel 20175



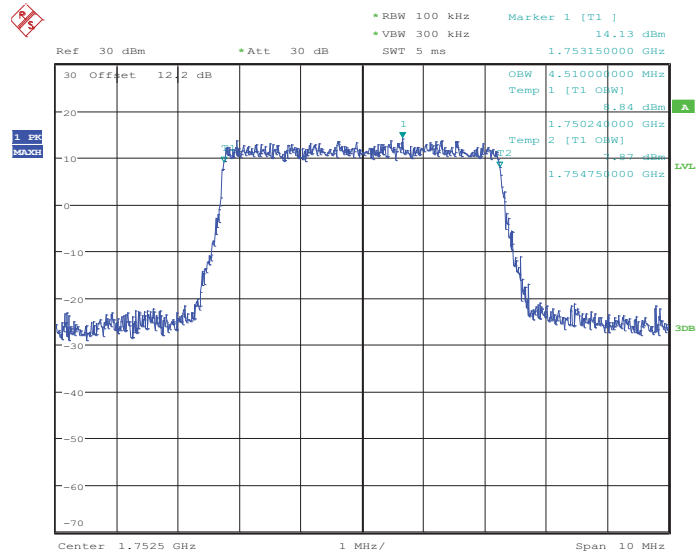
Date: 26.DEC.2013 20:04:49

26dB Bandwidth Plot on Channel 20175



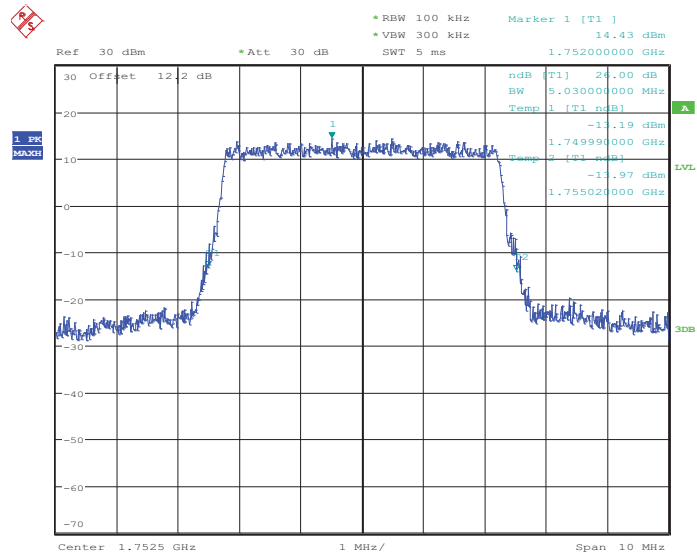
Date: 26.DEC.2013 20:05:16

99% Occupied Bandwidth Plot on Channel 20375



Date: 26.DEC.2013 20:07:20

26dB Bandwidth Plot on Channel 20375

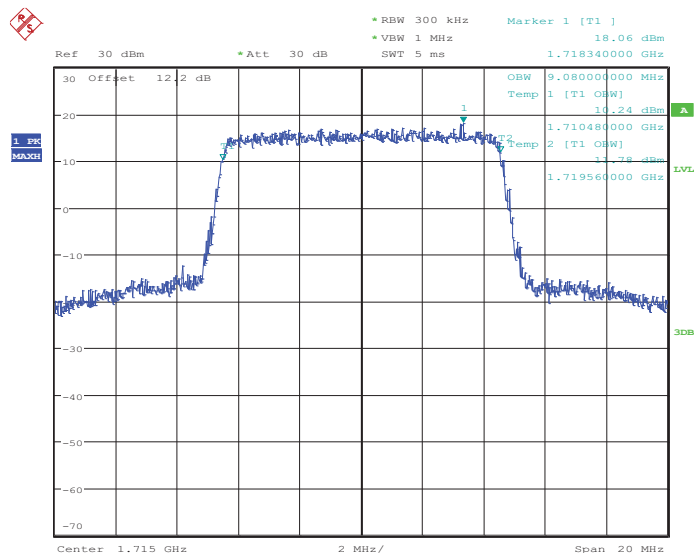


Date: 26.DEC.2013 20:07:47



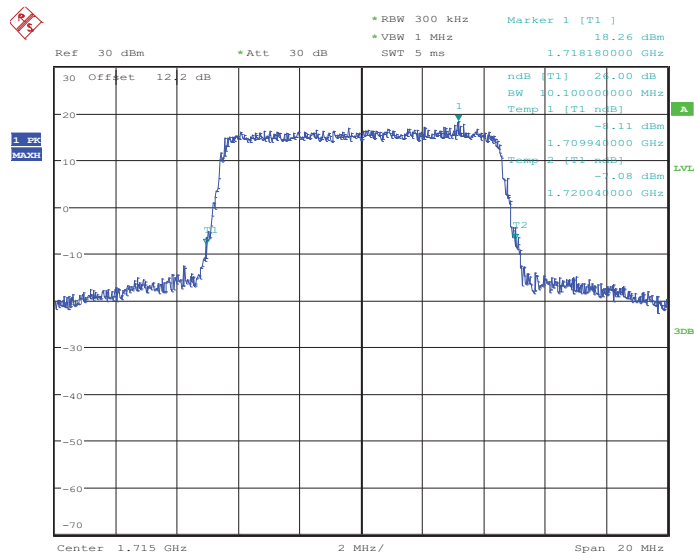
Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20000



Date: 26.DEC.2013 20:47:12

26dB Bandwidth Plot on Channel 20000



Date: 26.DEC.2013 20:47:37



26dB Bandwidth Plot on Channel 20175





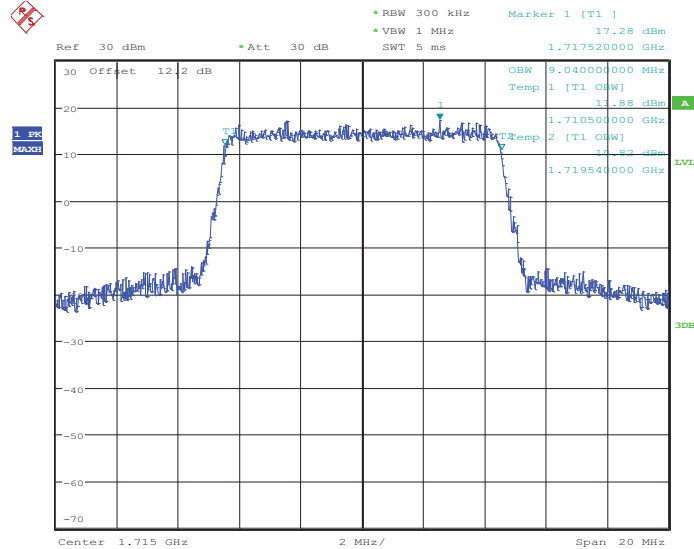
26dB Bandwidth Plot on Channel 20350





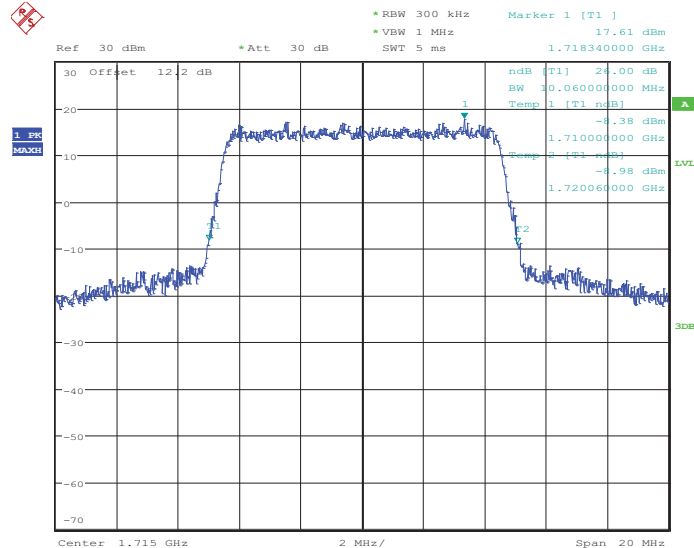
Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20000



Date: 26.DEC.2013 20:47:23

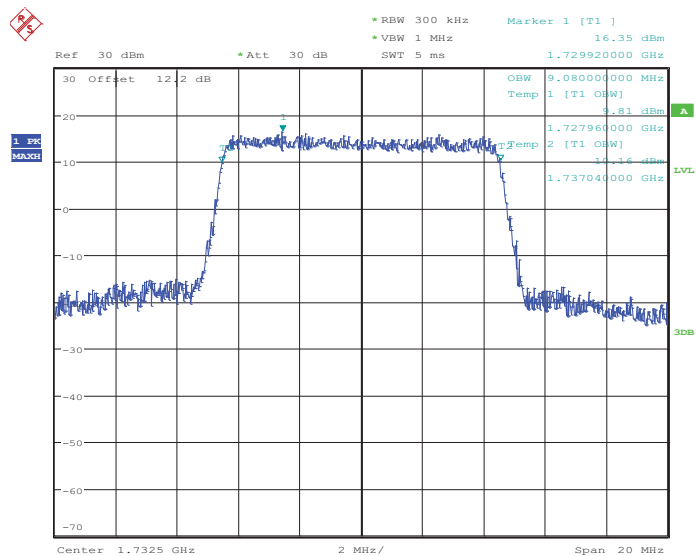
26dB Bandwidth Plot on Channel 20000



Date: 26.DEC.2013 20:47:50

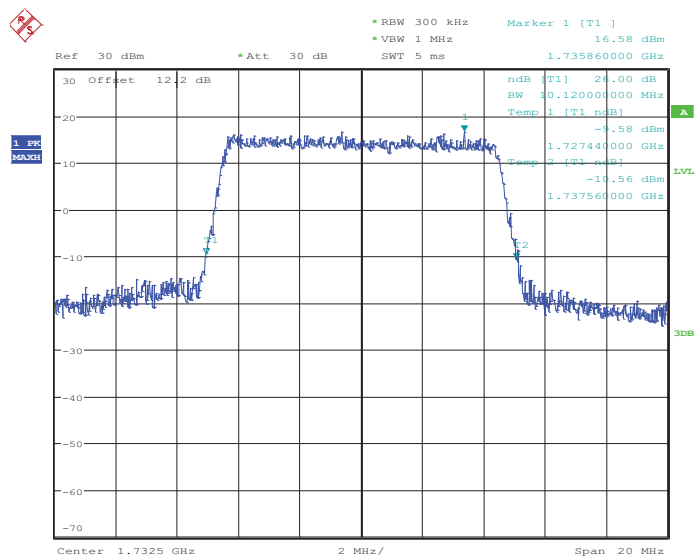


99% Occupied Bandwidth Plot on Channel 20175



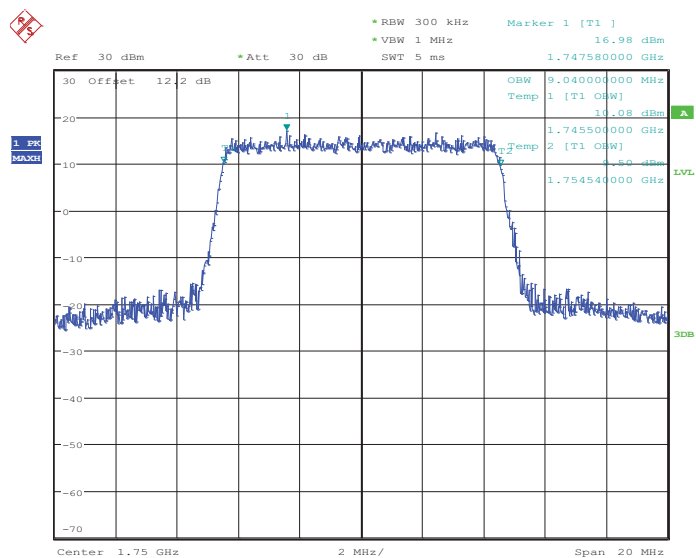
Date: 26.DEC.2013 20:52:45

26dB Bandwidth Plot on Channel 20175



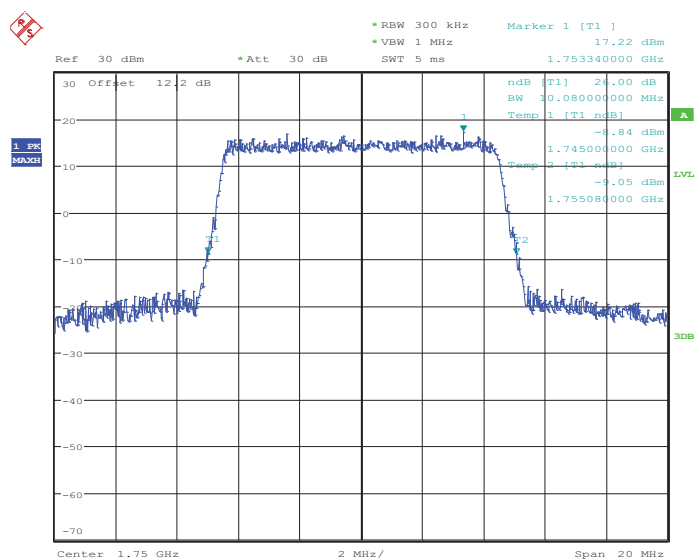
Date: 26.DEC.2013 20:53:12

99% Occupied Bandwidth Plot on Channel 20350



Date: 26.DEC.2013 20:55:16

26dB Bandwidth Plot on Channel 20350

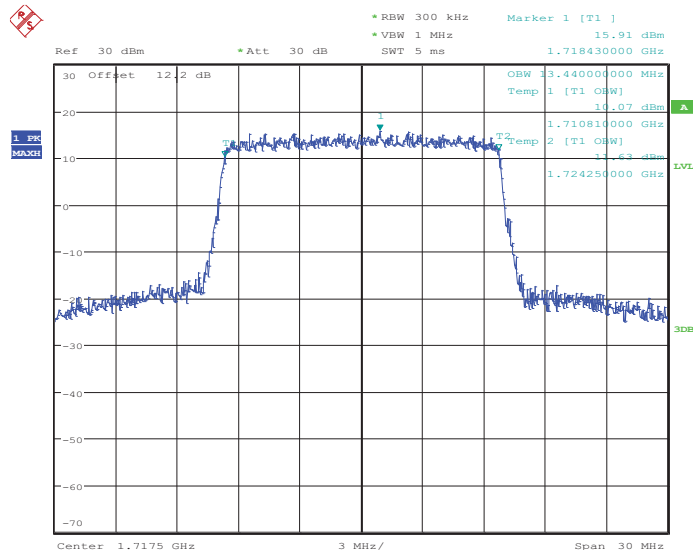


Date: 26.DEC.2013 20:55:43



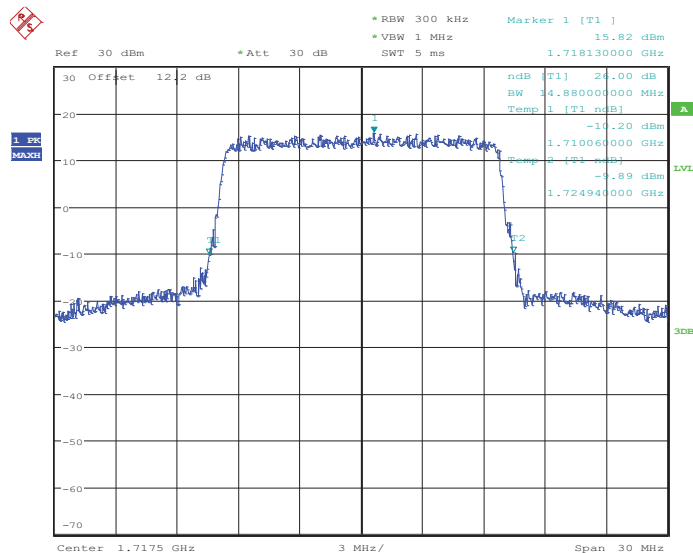
Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20025



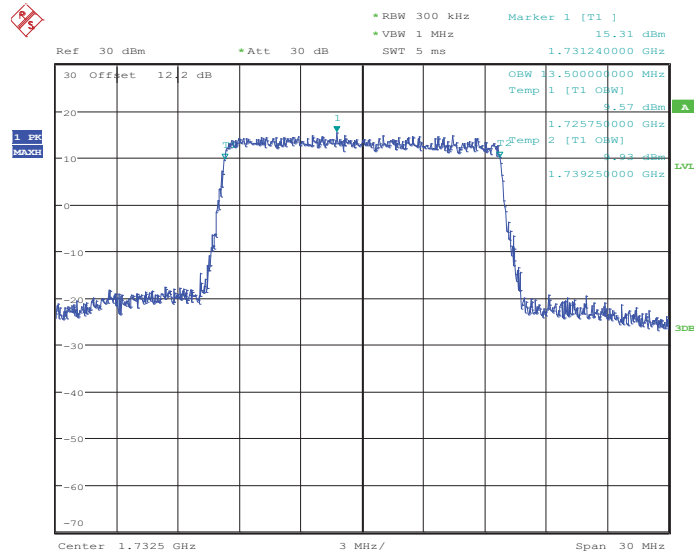
Date: 26.DEC.2013 21:01:45

26dB Bandwidth Plot on Channel 20025



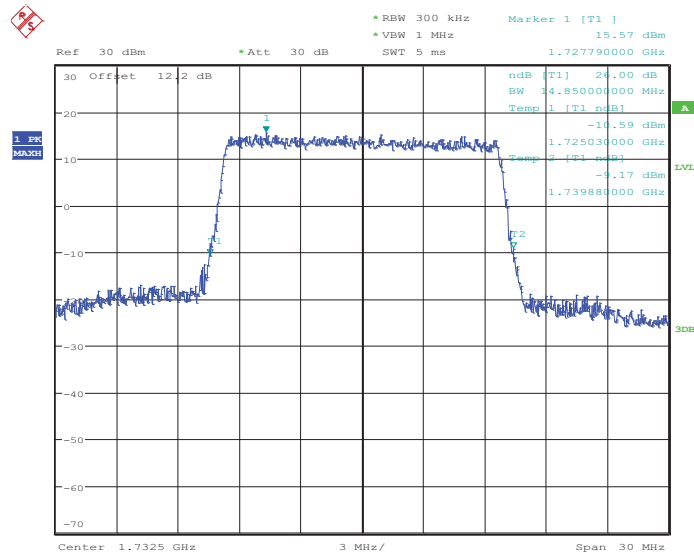
Date: 26.DEC.2013 21:02:10

99% Occupied Bandwidth Plot on Channel 20175



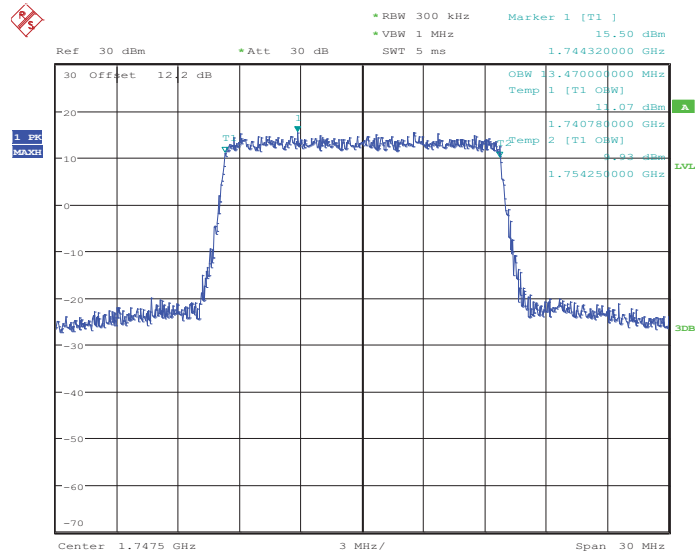
Date: 26.DEC.2013 21:07:06

26dB Bandwidth Plot on Channel 20175



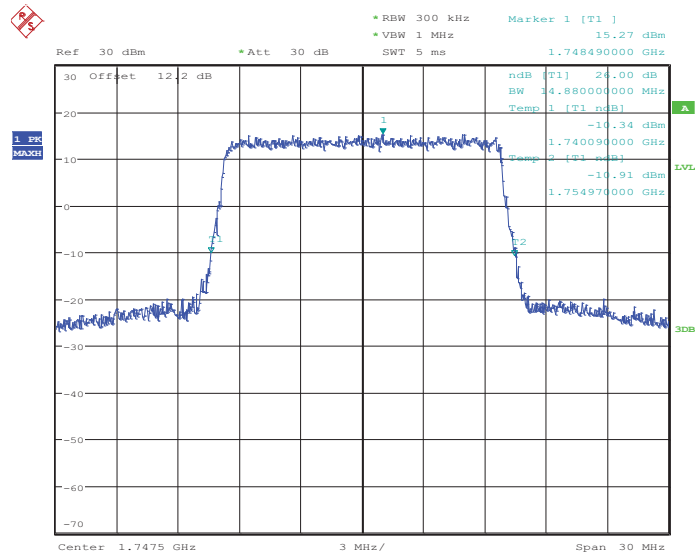
Date: 26.DEC.2013 21:07:31

99% Occupied Bandwidth Plot on Channel 20325



Date: 26.DEC.2013 21:09:37

26dB Bandwidth Plot on Channel 20325

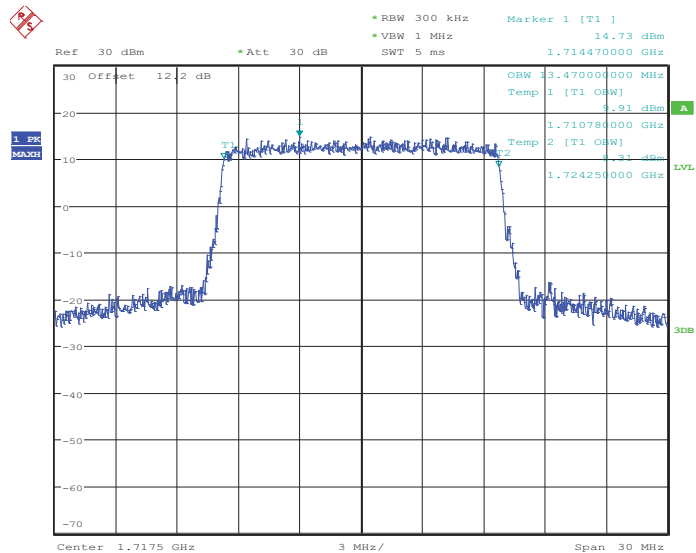


Date: 26.DEC.2013 21:10:03



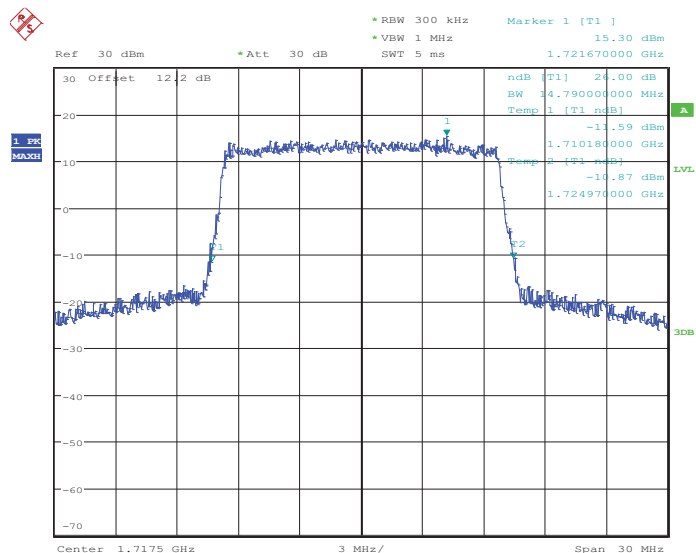
Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20025



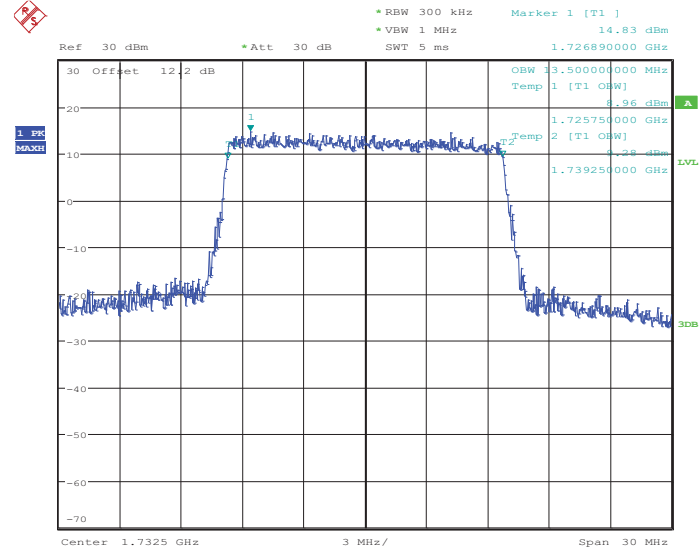
Date: 26.DEC.2013 21:01:57

26dB Bandwidth Plot on Channel 20025



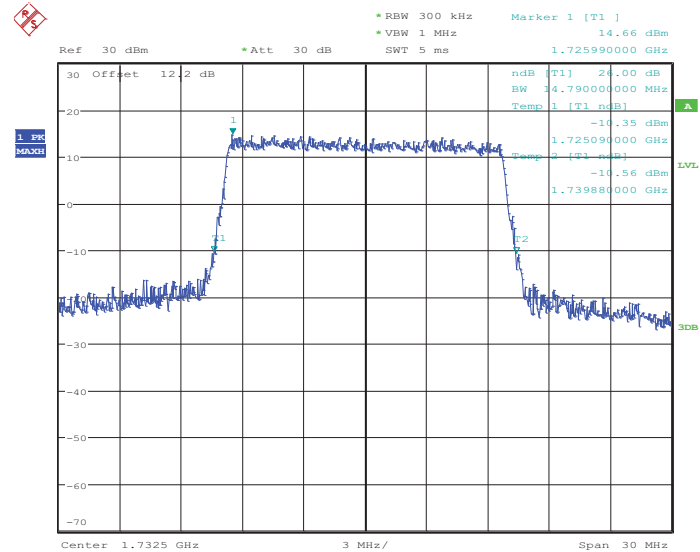
Date: 26.DEC.2013 21:02:24

99% Occupied Bandwidth Plot on Channel 20175



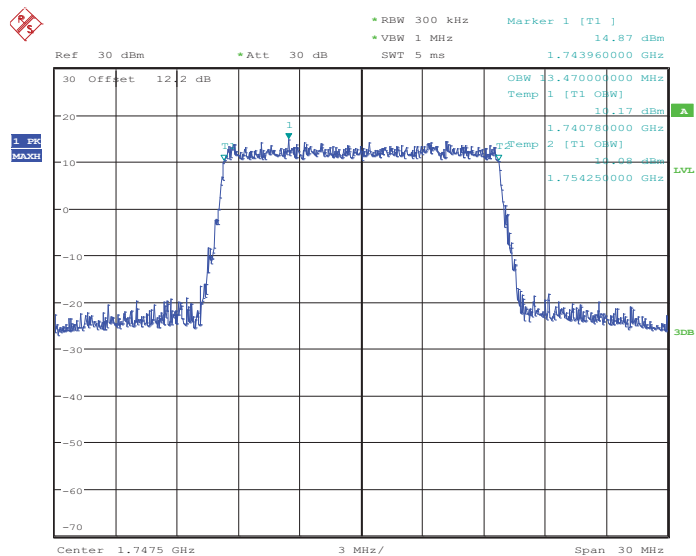
Date: 26.DEC.2013 21:07:18

26dB Bandwidth Plot on Channel 20175



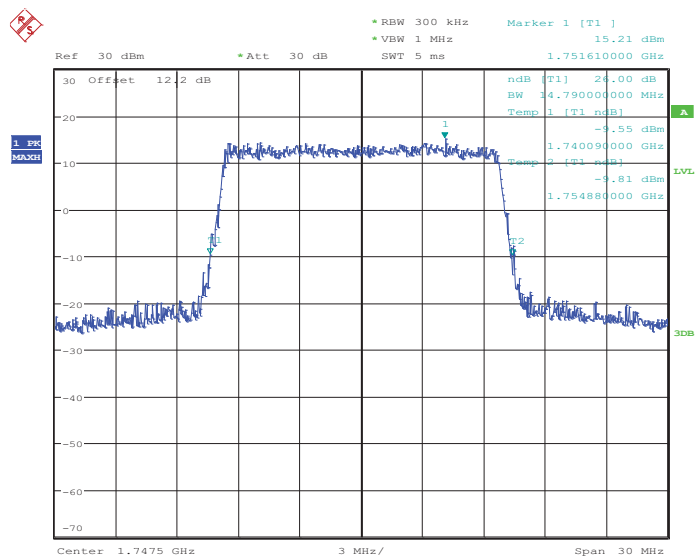
Date: 26.DEC.2013 21:07:45

99% Occupied Bandwidth Plot on Channel 20325



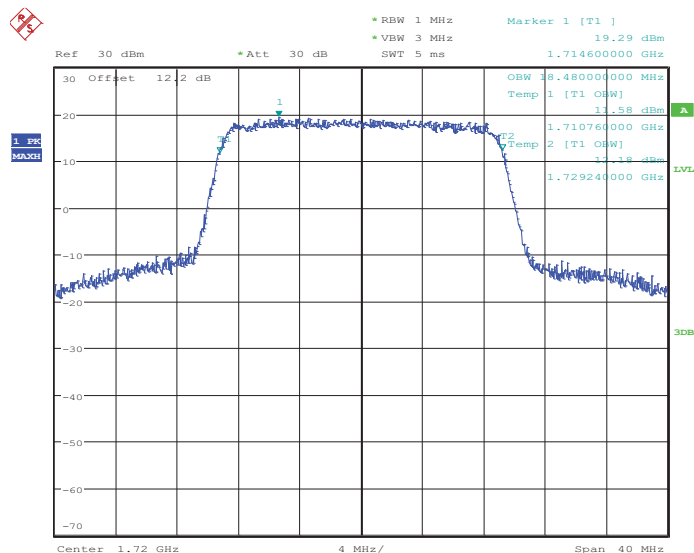
Date: 26.DEC.2013 21:09:49

26dB Bandwidth Plot on Channel 20325

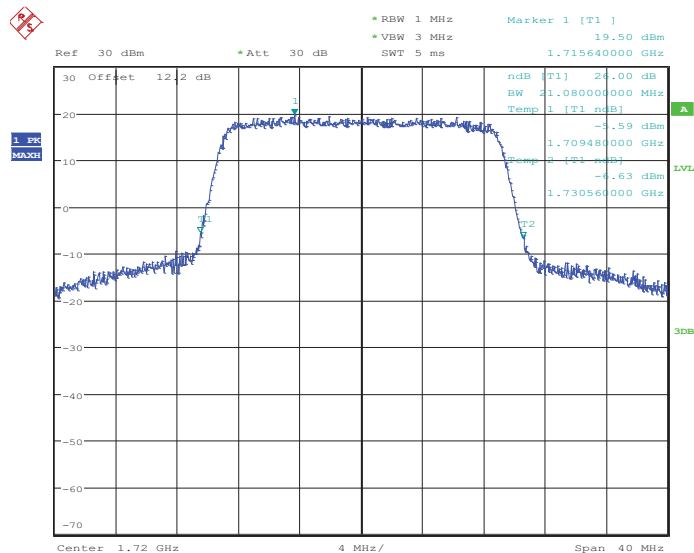


Date: 26.DEC.2013 21:10:16

Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK
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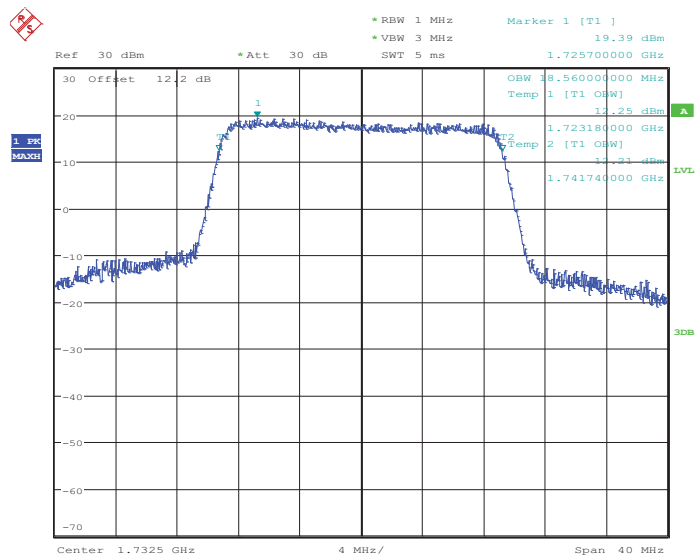
99% Occupied Bandwidth Plot on Channel 20050


Date: 26.DEC.2013 21:15:32

26dB Bandwidth Plot on Channel 20050


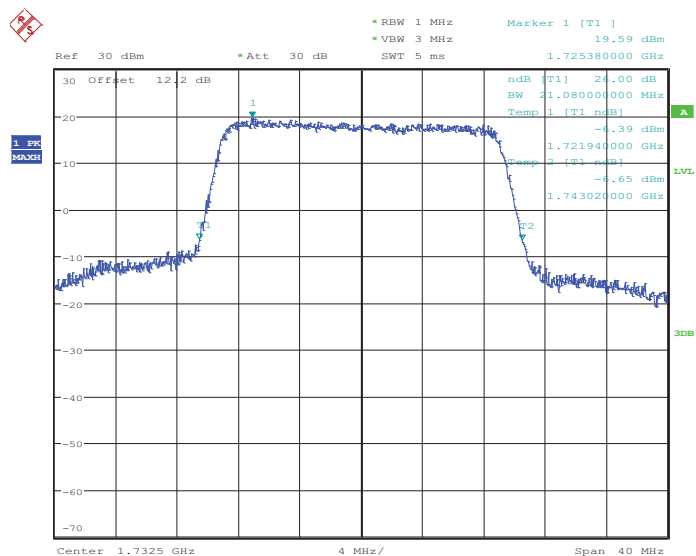
Date: 26.DEC.2013 21:15:58

99% Occupied Bandwidth Plot on Channel 20175



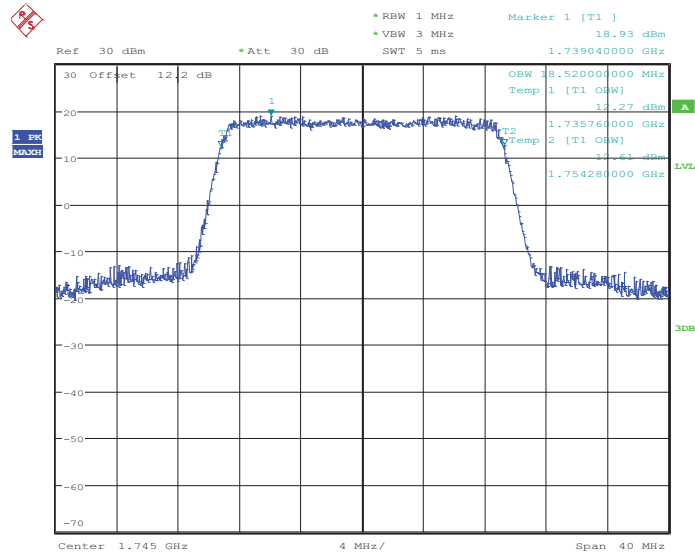
Date: 26.DEC.2013 21:20:53

26dB Bandwidth Plot on Channel 20175



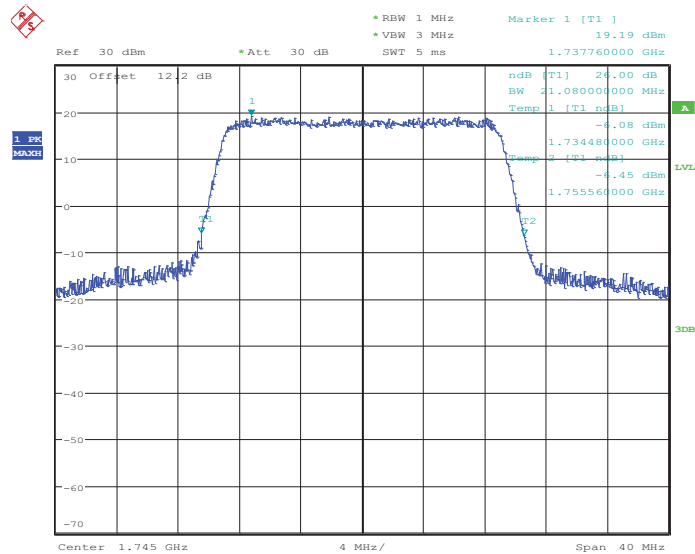
Date: 26.DEC.2013 21:21:18

99% Occupied Bandwidth Plot on Channel 20300



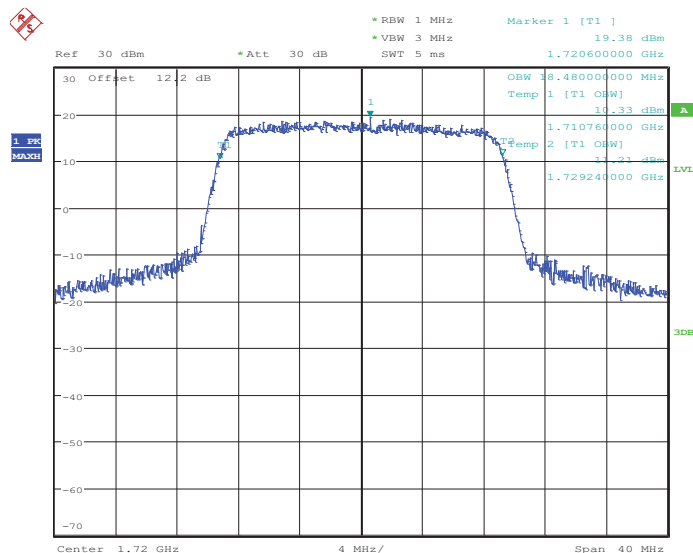
Date: 26.DEC.2013 21:23:25

26dB Bandwidth Plot on Channel 20300

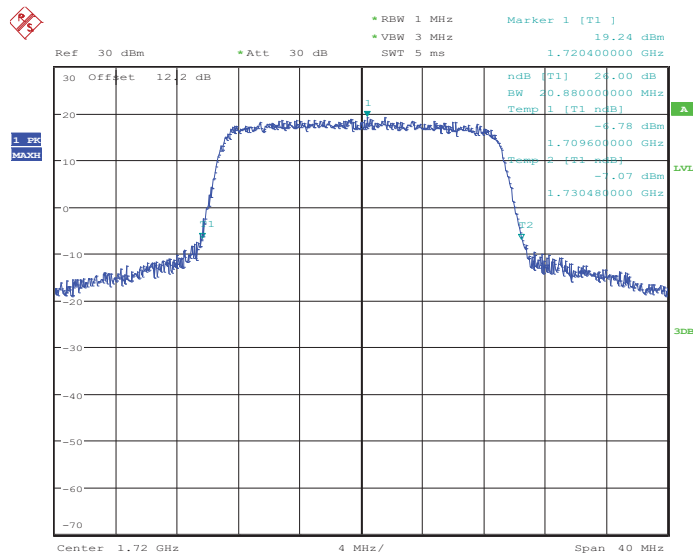


Date: 26.DEC.2013 21:23:50

Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20050


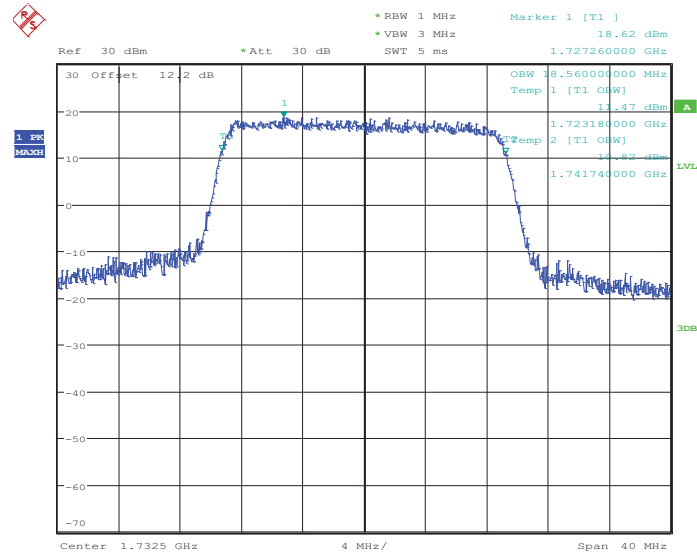
Date: 26.DEC.2013 21:15:44

26dB Bandwidth Plot on Channel 20050


Date: 26.DEC.2013 21:16:11

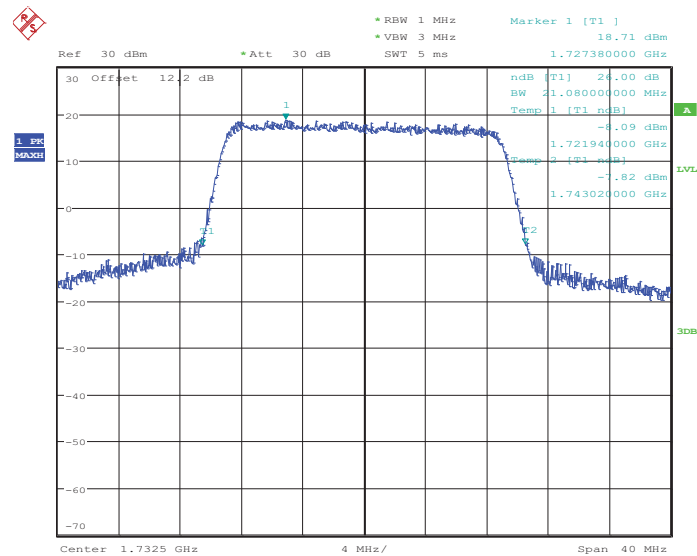


99% Occupied Bandwidth Plot on Channel 20175



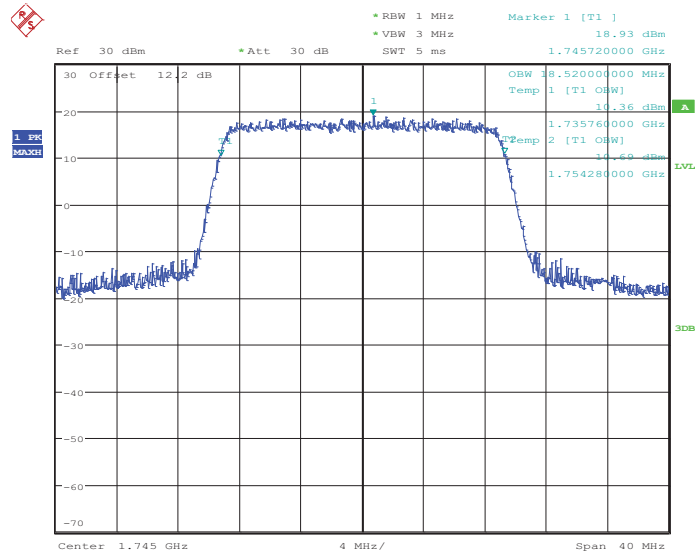
Date: 26.DEC.2013 21:21:05

26dB Bandwidth Plot on Channel 20175



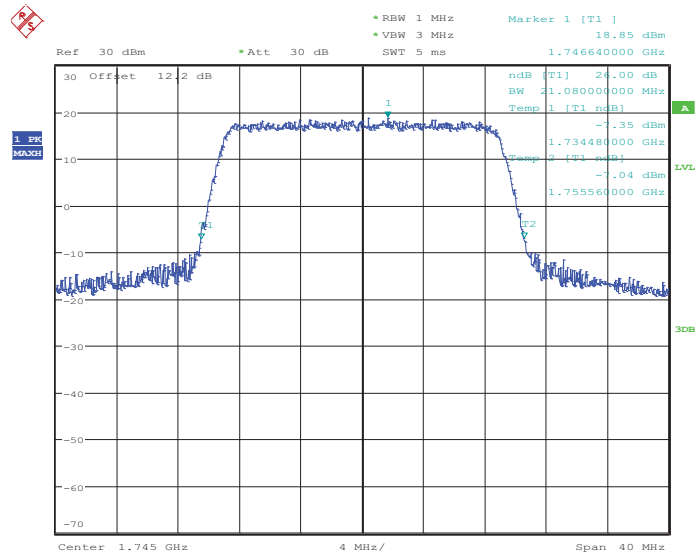
Date: 26.DEC.2013 21:21:32

99% Occupied Bandwidth Plot on Channel 20300



Date: 26.DEC.2013 21:23:37

26dB Bandwidth Plot on Channel 20300

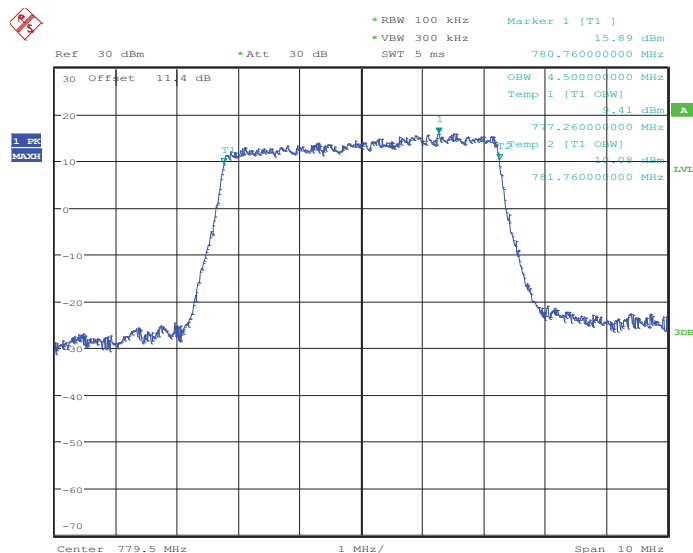


Date: 26.DEC.2013 21:24:04



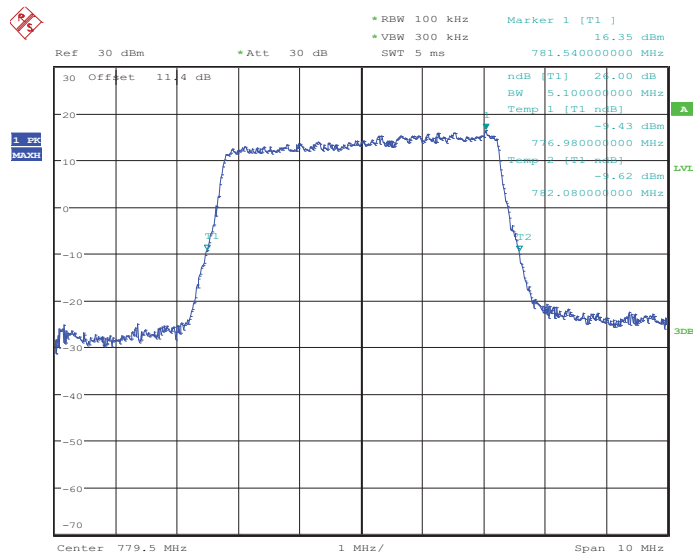
Band :	LTE Band 13	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23205



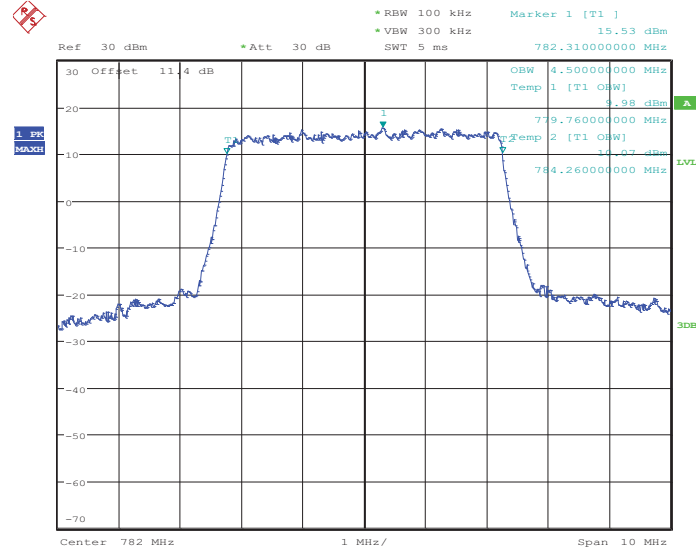
Date: 30.DEC.2013 14:32:17

26dB Bandwidth Plot on Channel 23205



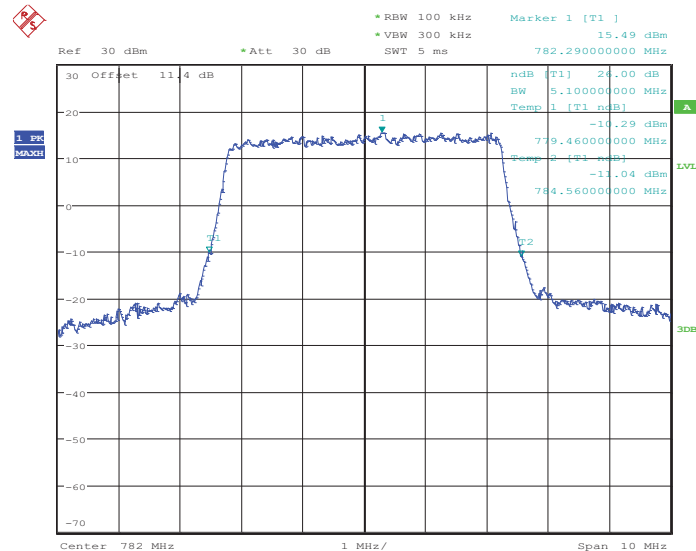
Date: 30.DEC.2013 14:33:32

99% Occupied Bandwidth Plot on Channel 23230



Date: 30.DEC.2013 14:34:57

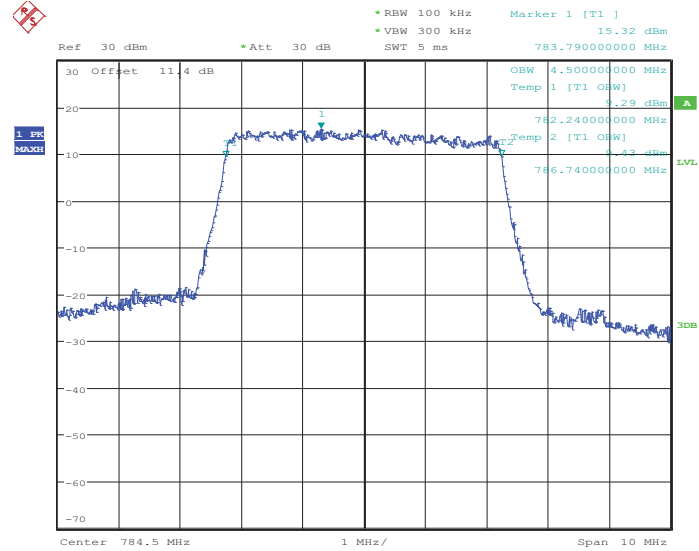
26dB Bandwidth Plot on Channel 23230



Date: 30.DEC.2013 14:35:55

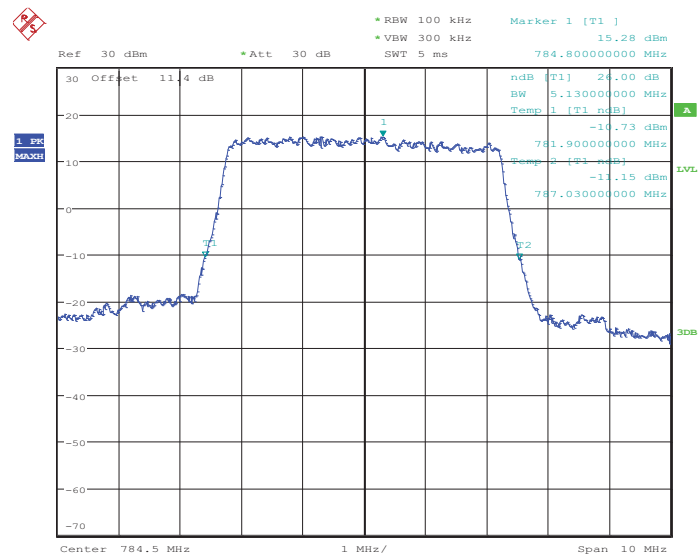


99% Occupied Bandwidth Plot on Channel 23255



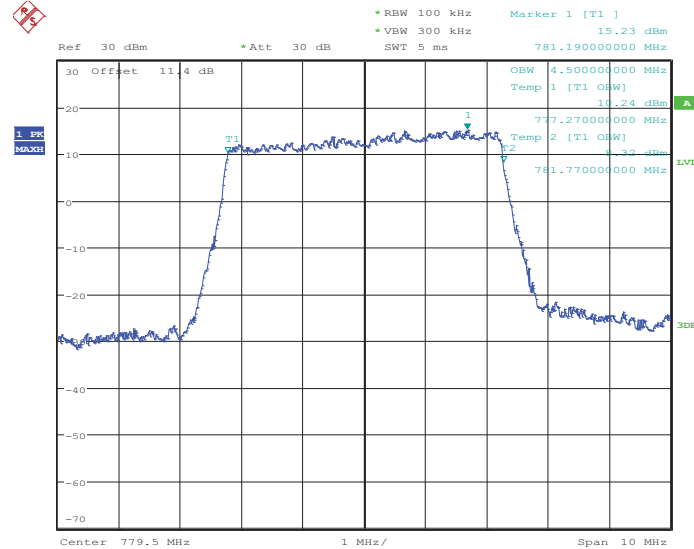
Date: 30.DEC.2013 14:36:48

26dB Bandwidth Plot on Channel 23255

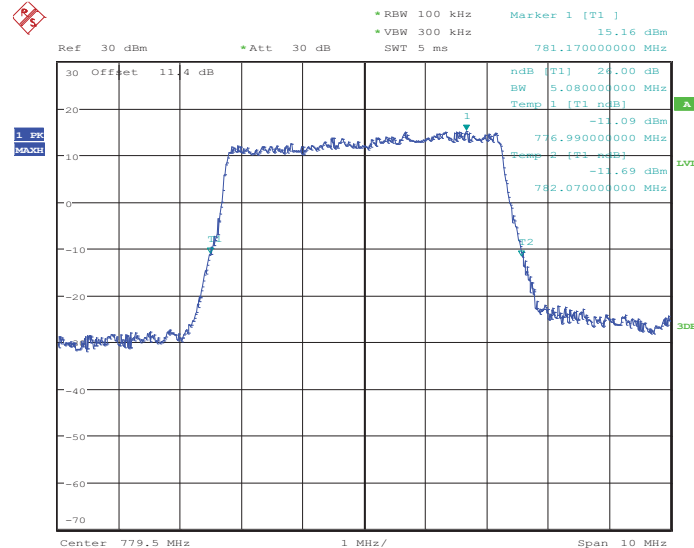


Date: 30.DEC.2013 14:38:32

Band :	LTE Band 13	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23205


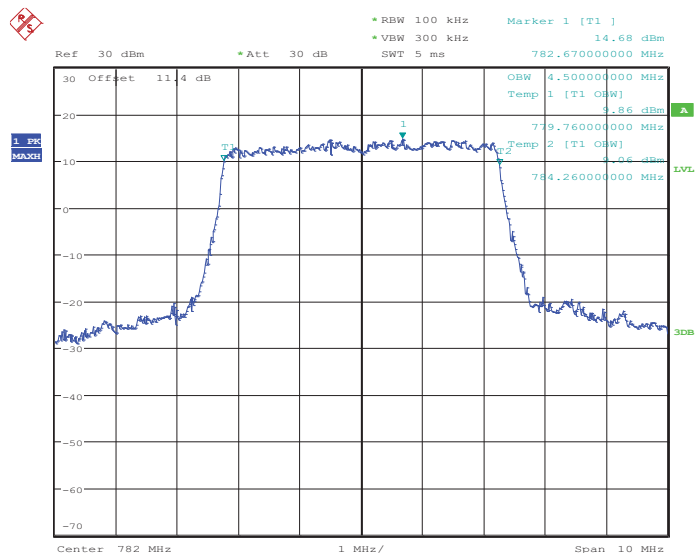
Date: 30.DEC.2013 14:53:13

26dB Bandwidth Plot on Channel 23205


Date: 30.DEC.2013 14:54:22

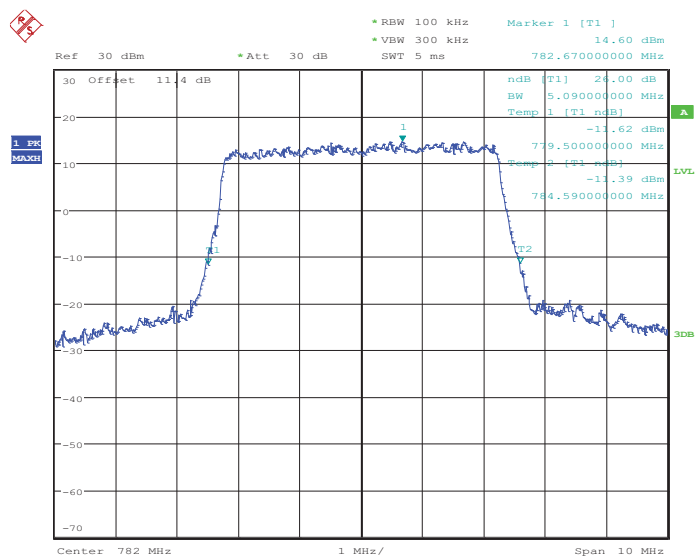


99% Occupied Bandwidth Plot on Channel 23230



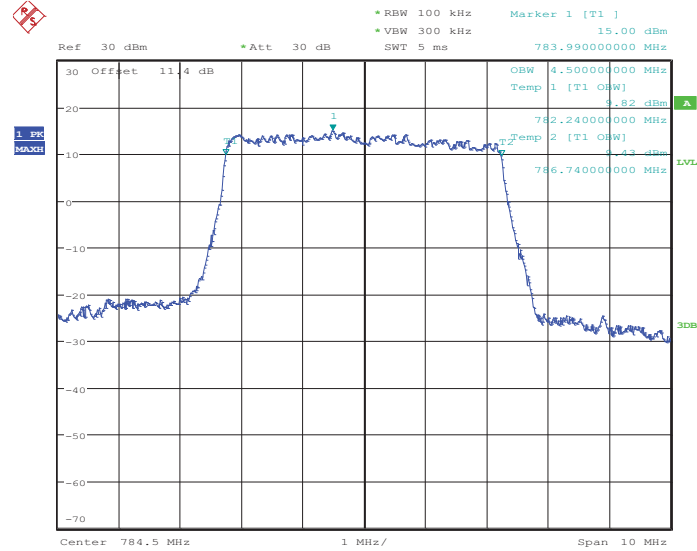
Date: 30.DEC.2013 14:49:19

26dB Bandwidth Plot on Channel 23230



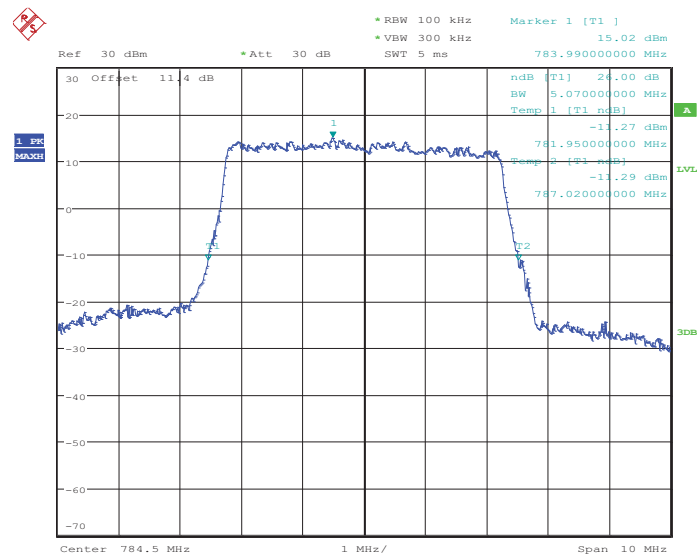
Date: 30.DEC.2013 14:51:16

99% Occupied Bandwidth Plot on Channel 23255



Date: 30.DEC.2013 14:46:04

26dB Bandwidth Plot on Channel 23255

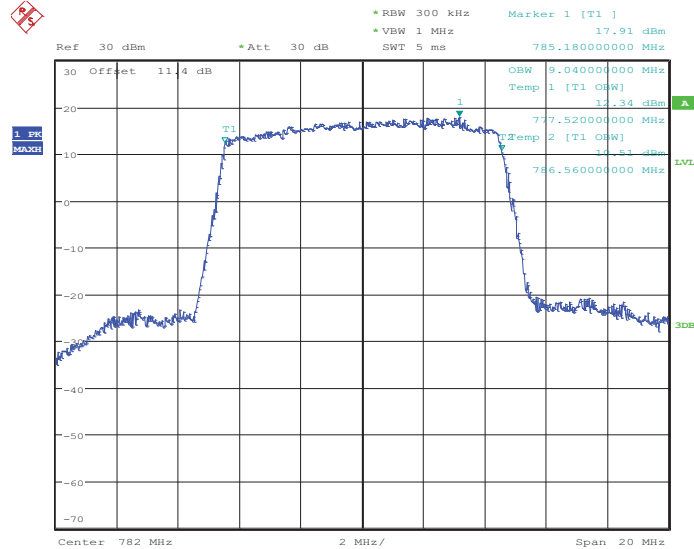


Date: 30.DEC.2013 14:47:54



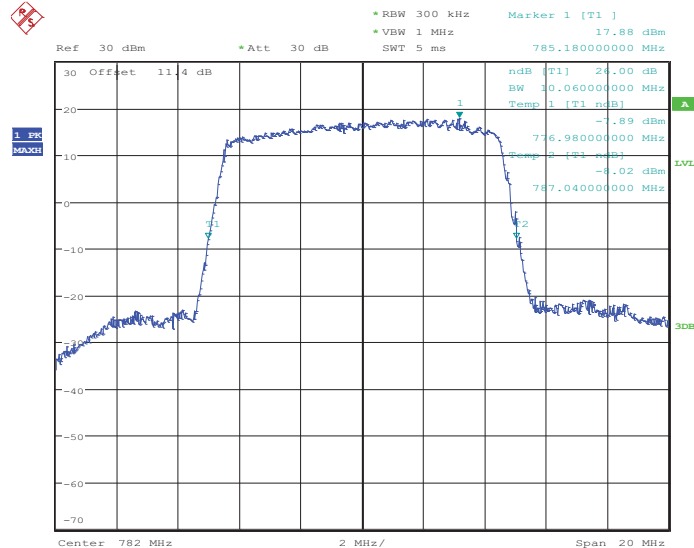
Band :	LTE Band 13	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23230



Date: 30.DEC.2013 15:04:13

26dB Bandwidth Plot on Channel 23230

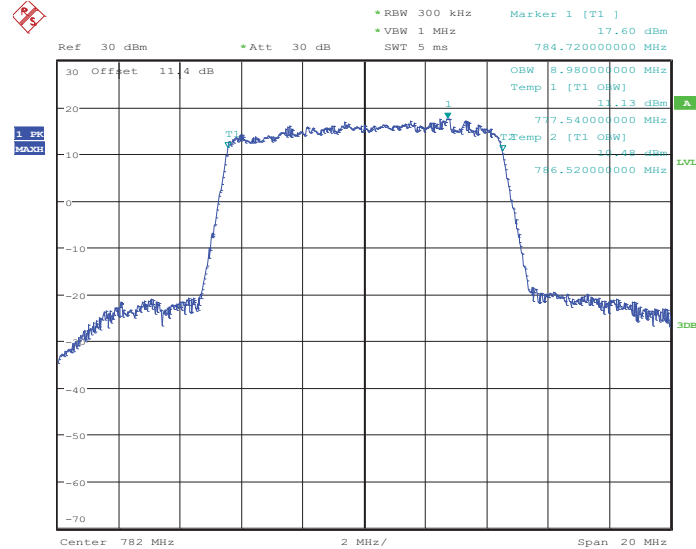


Date: 30.DEC.2013 15:05:03



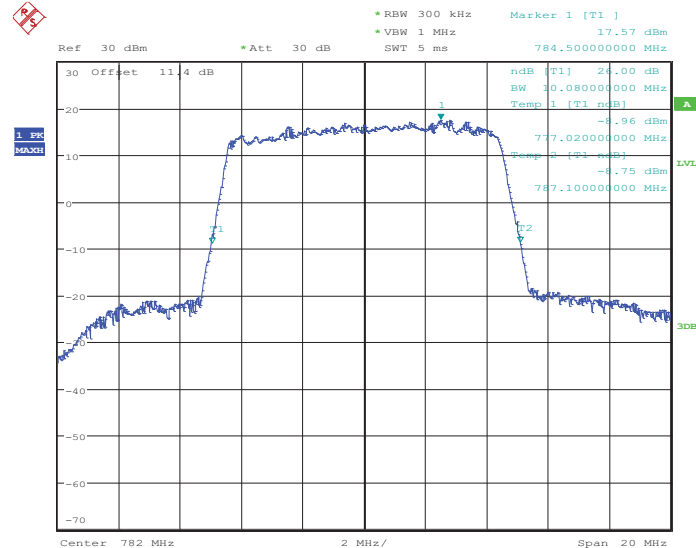
Band :	LTE Band 13	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23230



Date: 30.DEC.2013 15:02:16

26dB Bandwidth Plot on Channel 23230

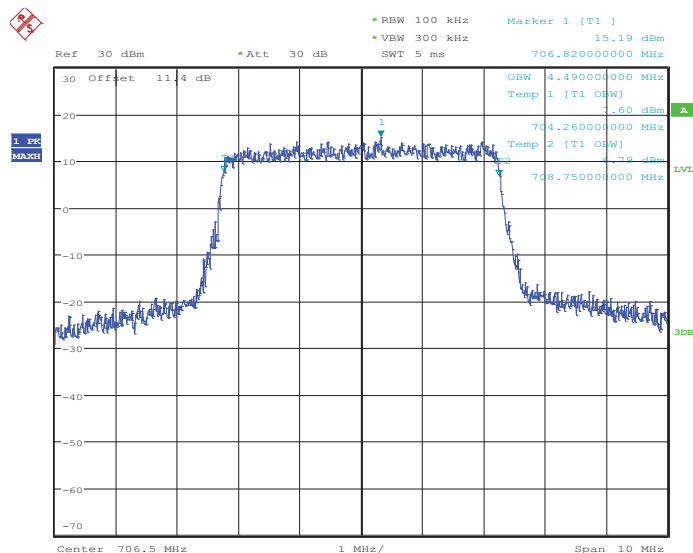


Date: 30.DEC.2013 15:03:21



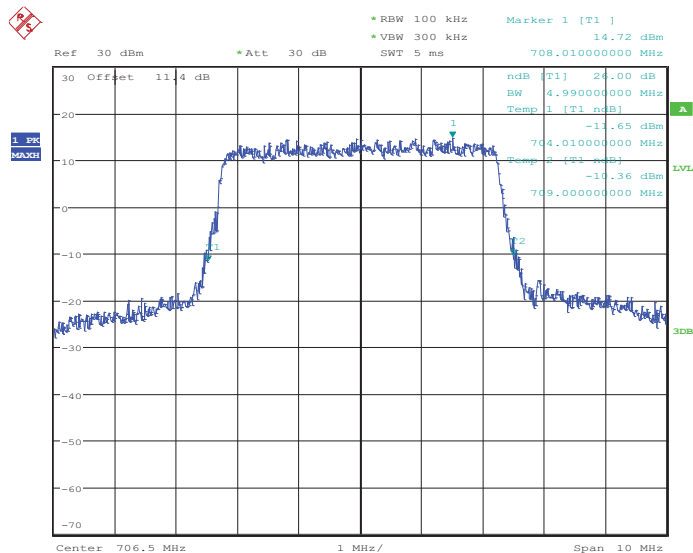
Band :	LTE Band 17	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23755



Date: 26.DEC.2013 22:02:12

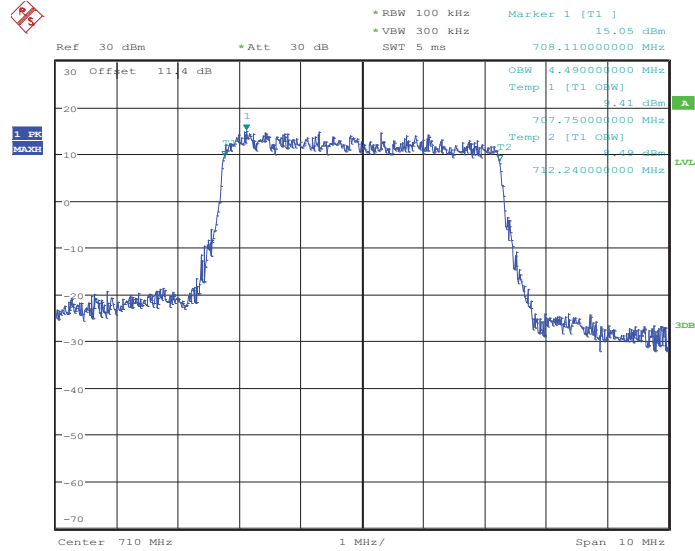
26dB Bandwidth Plot on Channel 23755



Date: 26.DEC.2013 22:02:37

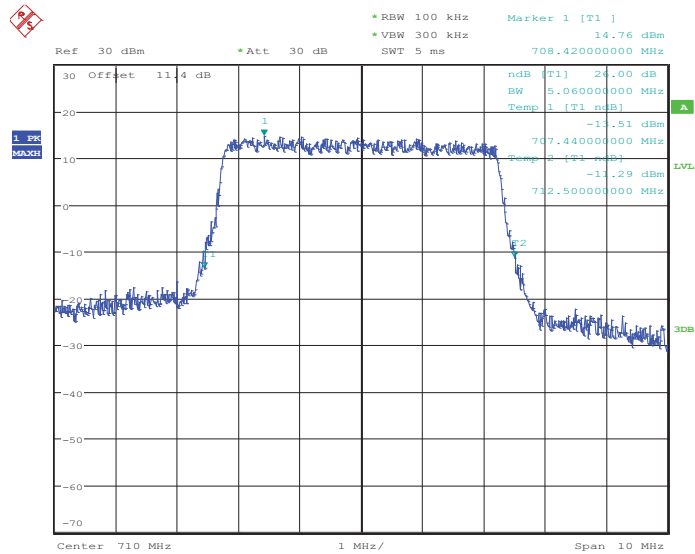


99% Occupied Bandwidth Plot on Channel 23790



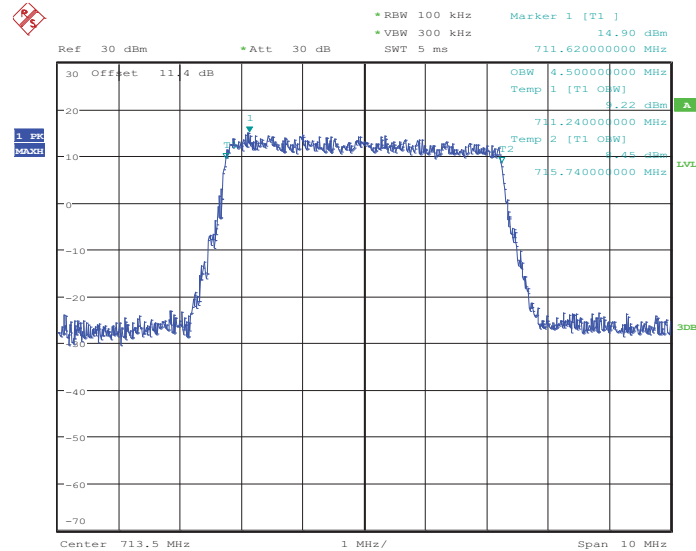
Date: 26.DEC.2013 22:07:26

26dB Bandwidth Plot on Channel 23790



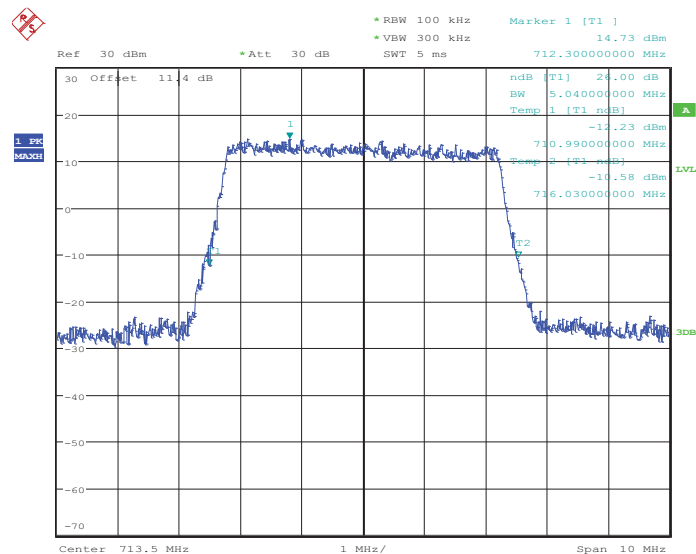
Date: 26.DEC.2013 22:07:52

99% Occupied Bandwidth Plot on Channel 23825



Date: 26.DEC.2013 22:09:51

26dB Bandwidth Plot on Channel 23825

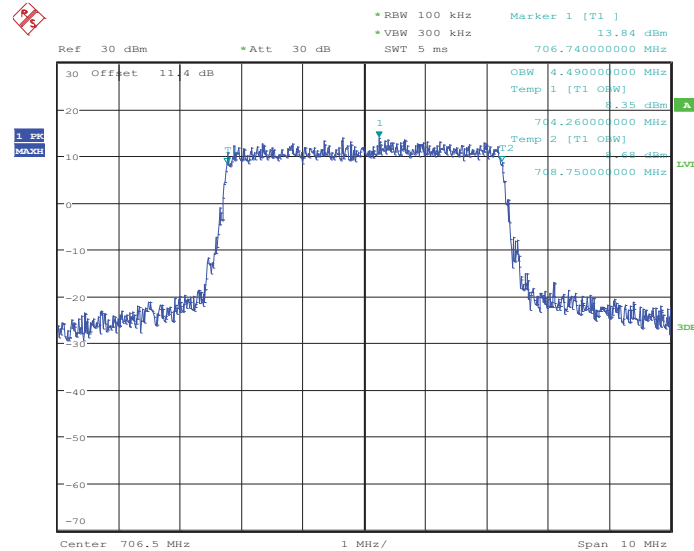


Date: 26.DEC.2013 22:10:16



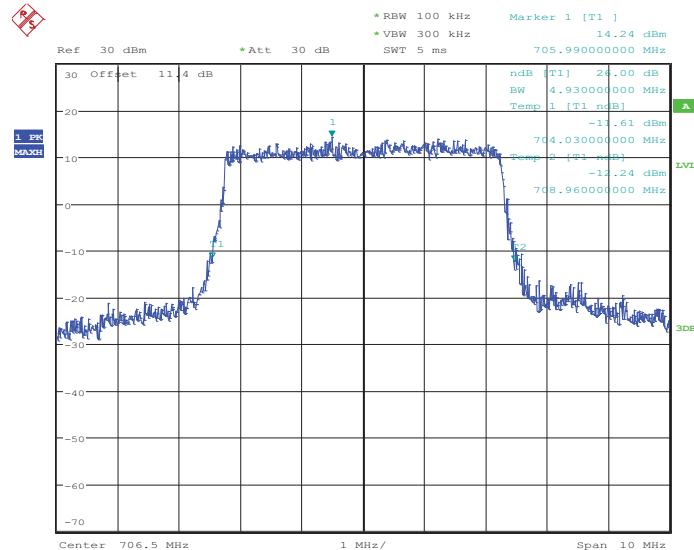
Band :	LTE Band 17	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23755



Date: 26.DEC.2013 22:02:23

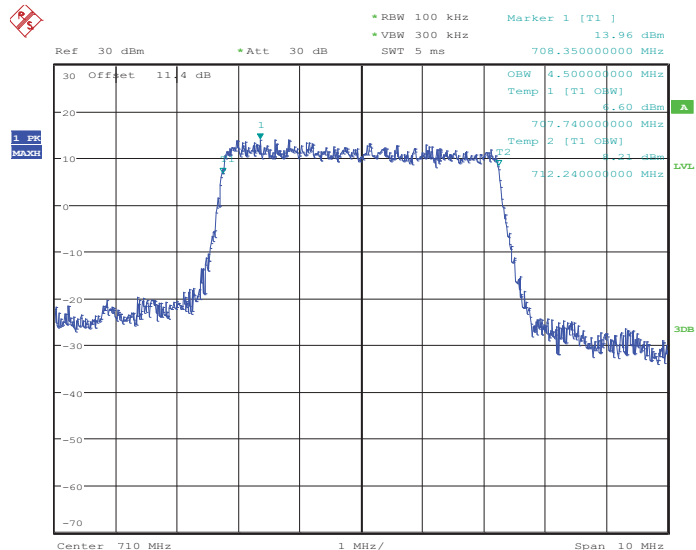
26dB Bandwidth Plot on Channel 23755



Date: 26.DEC.2013 22:02:50

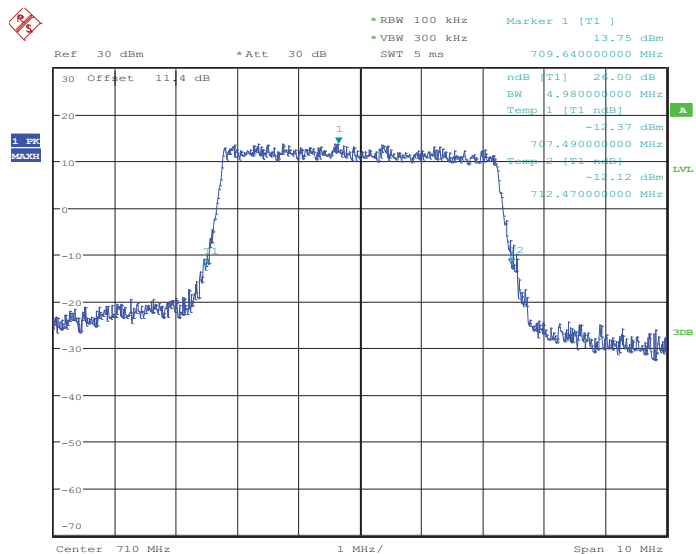


99% Occupied Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:07:38

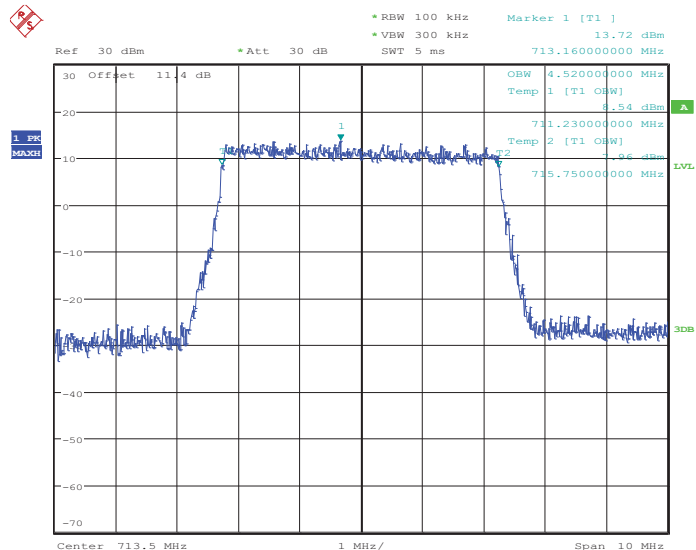
26dB Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:08:05

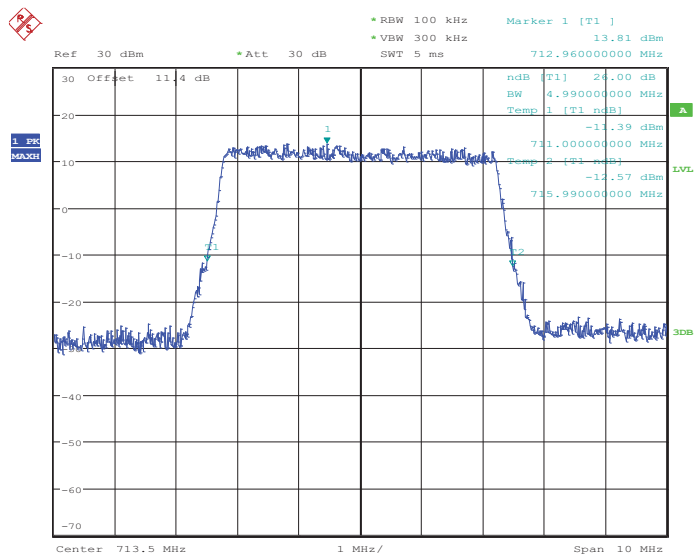


99% Occupied Bandwidth Plot on Channel 23825



Date: 26.DEC.2013 22:10:03

26dB Bandwidth Plot on Channel 23825

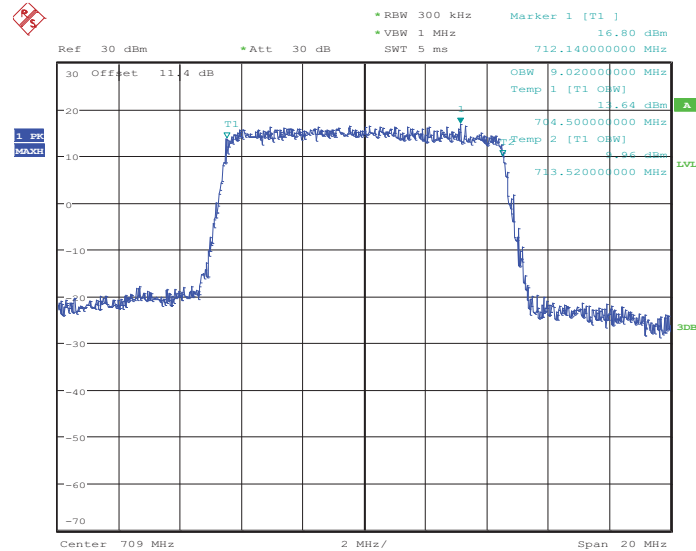


Date: 26.DEC.2013 22:10:30



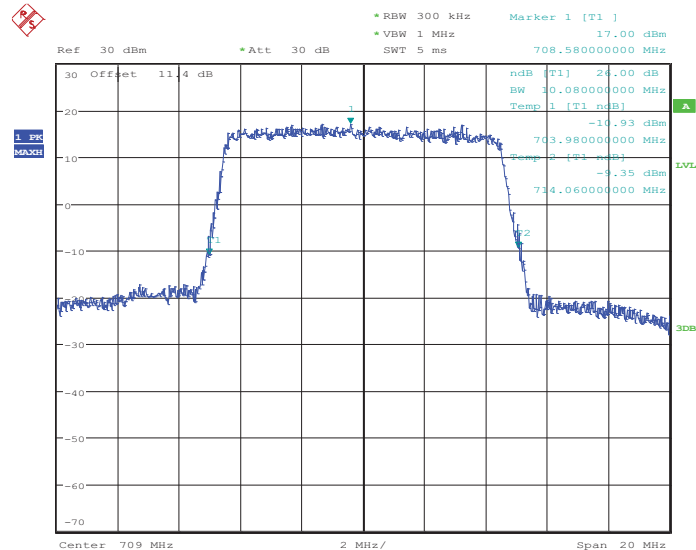
Band :	LTE Band 17	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23780



Date: 26.DEC.2013 22:19:38

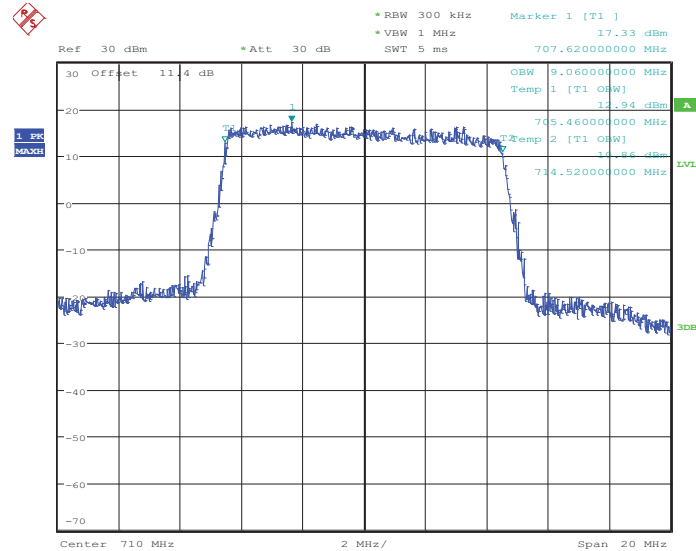
26dB Bandwidth Plot on Channel 23780



Date: 26.DEC.2013 22:20:03

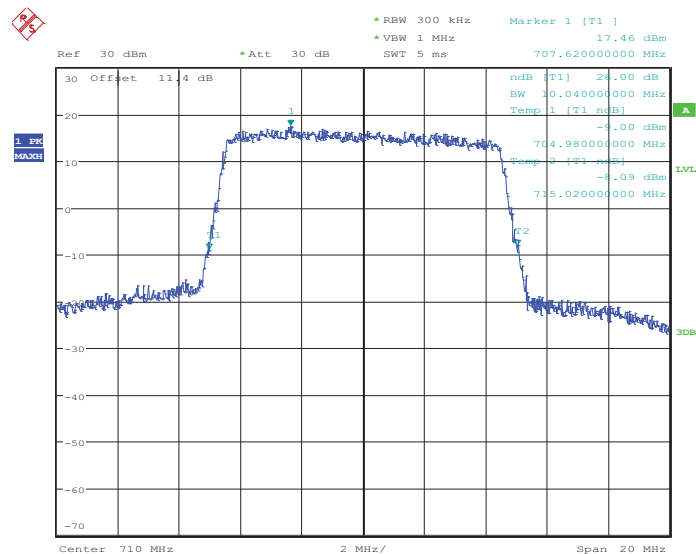


99% Occupied Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:24:53

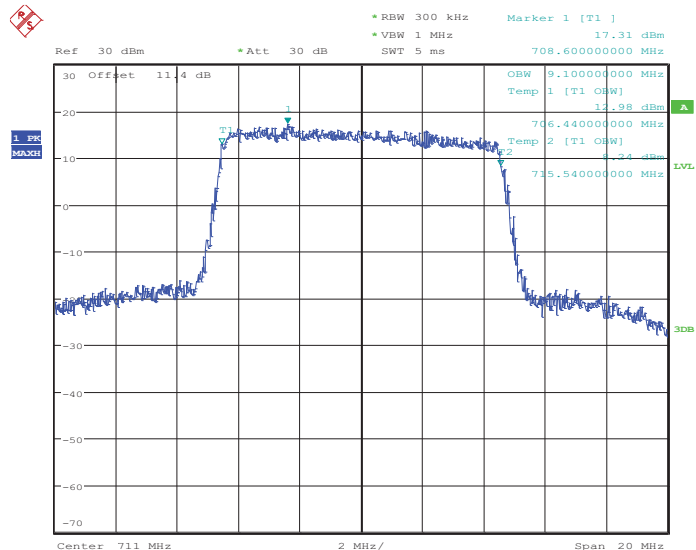
26dB Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:25:18

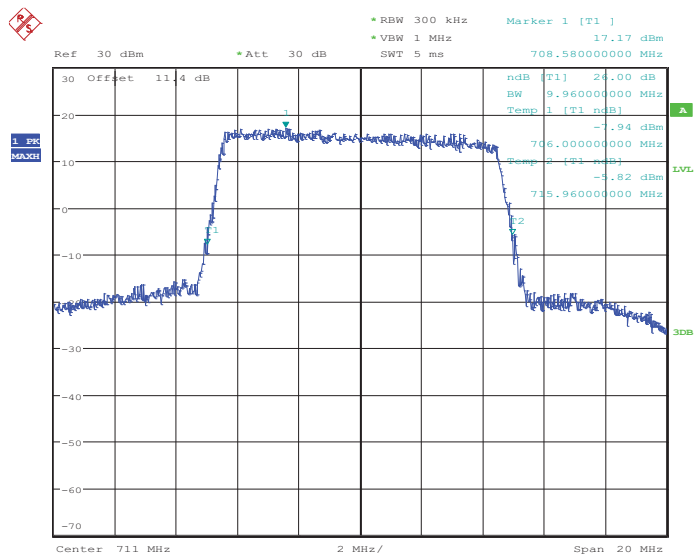


99% Occupied Bandwidth Plot on Channel 23800



Date: 26.DEC.2013 22:27:18

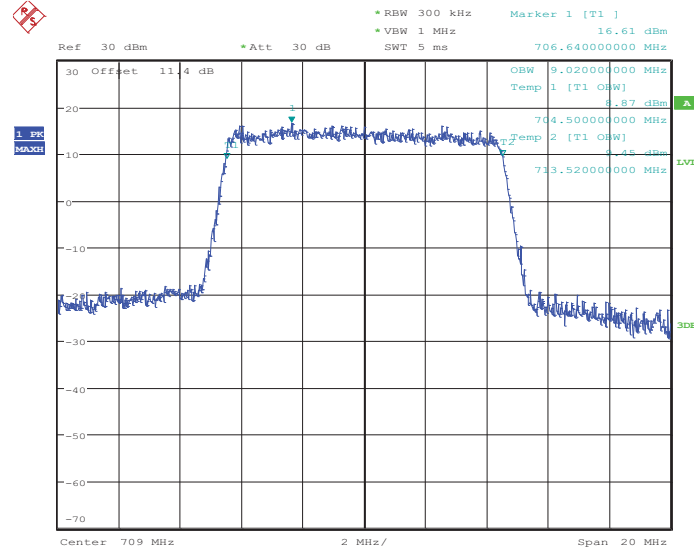
26dB Bandwidth Plot on Channel 23800



Date: 26.DEC.2013 22:27:43

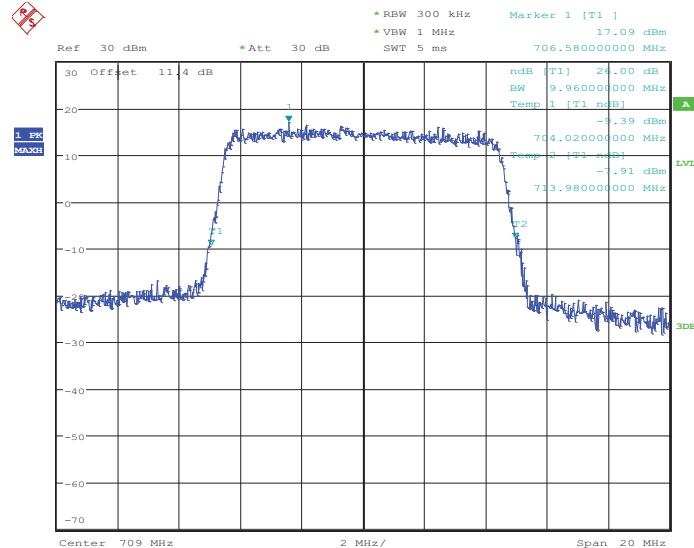
Band :	LTE Band 17	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23780



Date: 26.DEC.2013 22:19:50

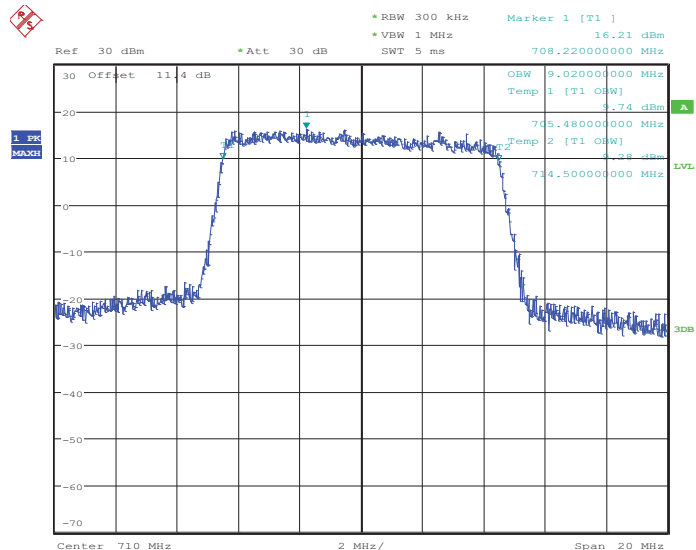
26dB Bandwidth Plot on Channel 23780



Date: 26.DEC.2013 22:20:17

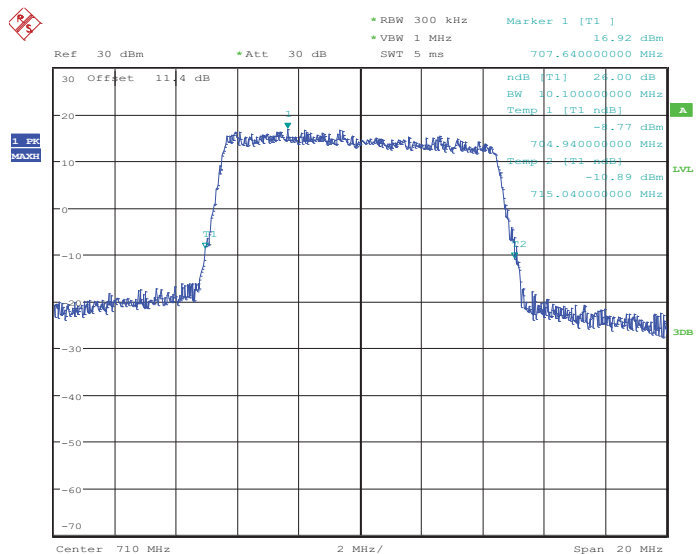


99% Occupied Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:25:05

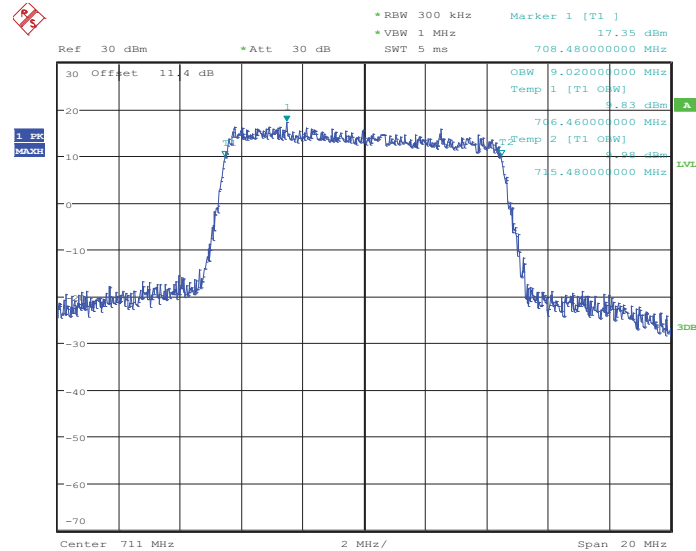
26dB Bandwidth Plot on Channel 23790



Date: 26.DEC.2013 22:25:32

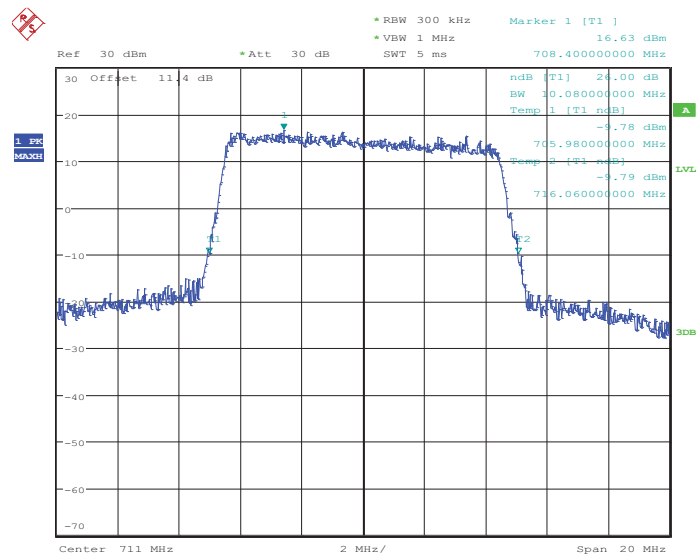


99% Occupied Bandwidth Plot on Channel 23800



Date: 26.DEC.2013 22:27:30

26dB Bandwidth Plot on Channel 23800



Date: 26.DEC.2013 22:27:57