

FCC RF Test Report

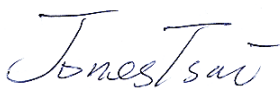
APPLICANT : VERTU Corporation Limited
EQUIPMENT : Cellular Telephone
BRAND NAME : VERTU
MODEL NAME : SIGNATURE TOUCH
TYPE (LTE) : RM-980V
TYPE (WCDMA) : RM-980C
FCC ID : P7QRM-980V
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Mar. 03, 2014 and testing was completed on May 20, 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
FG430314B	Rev. 01	Initial issue of report	May 26, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	RSS-Gen(4.8) RSS-130(4.4) RSS-132(5.4) RSS-133(6.4) RSS-139(6.4) RSS-199(4.4)	Conducted Output Power	Reporting Only	PASS	-
3.2	§24.232(d) §27.50(d)(5)	RSS-130(4.4) RSS-132(5.4) RSS-133(6.4) RSS-139(6.4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§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 17)	ERP < 3 Watts		
	N/A	RSS-130(4.4)	Equivalent Isotropic Radiated Power (Band 17)	EIRP < 5 Watts		
	§24.232(c) §27.50(h)(2)	RSS-133(6.4) SRSP-510(5.1.2) RSS-199(4.4)	Equivalent Isotropic Radiated Power (Band 2)(Band 25) (Band 7)	EIRP < 2Watt		
	§27.50(d)(4)	RSS-139(6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.4	§2.1049 §22.917(b) §24.238(b) §27.53(g)(3) §27.53(l)(6)	RSS-GEN(4.6.1) RSS-132(3.1) RSS-133(3.1) RSS-139(3.1) RSS-199(4.2)	Occupied Bandwidth	Reporting Only	PASS	-



Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.5	§2.1051	RSS-GEN(4.9)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 17) (Band 25) (Band 7)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
	§22.917(a)	RSS-132(5.5)				
	§24.238(a)	RSS-133(6.5.1)				
	§27.53(f)	RSS-130(4.6)				
	§27.53(g)	RSS-139(6.5)				
	§27.53(l)(4)	RSS-199(4.5)				
3.6	§2.1051	RSS-GEN(4.9)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 17) (Band 25)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
	§22.917(a)	RSS-132(5.5)				
	§24.238(a)	RSS-133(6.5.1)				
	§27.53(f)	RSS-130(4.6)				
	§27.53(g)	RSS-139(6.5)				
	§2.1051	RSS-GEN(4.9)	Conducted Spurious Emission (Band 7)	$< 55+10\log_{10}(P[\text{Watts}])$	PASS	-
	§27.53(l)(4)	RSS-199 (4.5)				
3.7	§2.1053	RSS-GEN(4.9)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 17) (Band 25)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 6.30 dB at 5200.000 MHz
	§22.917(a)	RSS-132 (5.5)				
	§24.238(a)	RSS-133 (6.5.1)				
	§27.53(f)	RSS-130(4.6)				
	§27.53(g)	RSS-139(6.5)				
	§2.1053	RSS-GEN(4.9)	Radiated Spurious Emission (Band 7)	$< 55+10\log_{10}(P[\text{Watts}])$	PASS	-
	§27.53(l)(4)	RSS-199(4.5)				
3.8	§2.1055	RSS-GEN(4.7)	Frequency Stability Temperature & Voltage	$< 2.5 \text{ ppm}$	PASS	
	§22.355	RSS-132(5.3)				
	§24.235	RSS-133(6.3)				
	§27.54	RSS-130(4.3)				
		RSS-139(6.3)				
		RSS-199(4.3)				

1 General Description

1.1 Applicant

VERTU Corporation Limited

Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom

1.2 Manufacturer

VERTU Corporation Limited

Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Cellular Telephone
Brand Name	VERTU
Model Name	SIGNATURE TOUCH
Type (LTE)	RM-980V
Type (WCDMA)	RM-980C
FCC ID	P7QRM-980V
Sample 1	LTE SKU
Sample 2	WCDMA SKU
Sample 3	LTE SKU with 2 nd EMMC
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v3.0 + EDR Bluetooth v4.0 – LE
HW Version	F2
SW Version	1_160_0001
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are three different types of EUT sample #1, sample #2 and sample #3. For WWAN bands, Sample 1 support WCDMA and LTE bands, sample #2 only support WCDMA band and LTE band is disabled by software. Sample #1 and Sample #3 are different for EMMC. We choose sample #1 to perform all tests.

Specification of Accessory		
AC Adapter	Brand Name	VERTU
	Model Name	AC-32V
Car Charger	Brand Name	VERTU
	Model Name	DC-30V
Battery	Brand Name	VERTU
	Model Name	BP-9V
Portable Power Charger	Brand Name	VERTU
	Model Name	DC-15V
Earphone 1	Brand Name	VERTU
	Model Name	WH-4V
Earphone 2	Brand Name	VERTU
	Model Name	WH-5V
USB Cable	Brand Name	VERTU
Wireless Charger	Brand Name	VERTU
	Model Name	AC-35V

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 25 : 1850.7MHz ~ 1914.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz
Rx Frequency	LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 25 : 1930.7MHz ~ 1994.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz
Bandwidth	1.4MHz / 3MHz / 5MHz / 10MHz (Band 5) 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz (Band 2) 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz (Band 25) 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz (Band 4) 5MHz / 10MHz (Band 17) 5MHz / 10MHz / 15MHz / 20MHz (LTE Band 7)
Maximum Output Power to Antenna	LTE Band 5 : 23.15 dBm / 0.21 W LTE Band 2 : 23.08 dBm / 0.20 W LTE Band 25 : 23.29 dBm / 0.21 W LTE Band 4 : 23.20 dBm / 0.21 W LTE Band 17 : 23.07 dBm / 0.20 W LTE Band 7 : 23.97 dBm / 0.25 W
Antenna Type	Monopole + Parasitic Antenna
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

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

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 22	LTE Band 5	QPSK	1.4 MHz	1M10G7D	-	0.06 W
Part 22	LTE Band 5	16QAM	1.4 MHz	1M11D7W	-	0.05 W
Part 22	LTE Band 5	QPSK	3 MHz	2M73G7D	-	-
Part 22	LTE Band 5	16QAM	3 MHz	2M73D7W	-	-
Part 22	LTE Band 5	QPSK	5 MHz	4M51G7D	-	-
Part 22	LTE Band 5	16QAM	5 MHz	4M50D7W	-	-
Part 22	LTE Band 5	QPSK	10 MHz	9M10G7D	0.0005 ppm	0.08 W
Part 22	LTE Band 5	16QAM	10 MHz	9M08D7W	-	0.05 W
Part 24	LTE Band 2	QPSK	1.4 MHz	1M10G7D	-	0.15 W
Part 24	LTE Band 2	16QAM	1.4 MHz	1M10D7W	-	0.12 W
Part 24	LTE Band 2	QPSK	3 MHz	2M73G7D	-	-
Part 24	LTE Band 2	16QAM	3 MHz	2M73D7W	-	-
Part 24	LTE Band 2	QPSK	5 MHz	4M50G7D	-	-
Part 24	LTE Band 2	16QAM	5 MHz	4M50D7W	-	-
Part 24	LTE Band 2	QPSK	10 MHz	9M06G7D	0.0003 ppm	-
Part 24	LTE Band 2	16QAM	10 MHz	9M06D7W	-	-
Part 24	LTE Band 2	QPSK	15 MHz	13M5G7D	-	-
Part 24	LTE Band 2	16QAM	15 MHz	13M5D7W	-	-
Part 24	LTE Band 2	QPSK	20 MHz	18M5G7D	-	0.15 W
Part 24	LTE Band 2	16QAM	20 MHz	18M5D7W	-	0.12 W



FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 24	LTE Band 25	QPSK	1.4 MHz	1M10G7D	-	0.13 W
Part 24	LTE Band 25	16QAM	1.4 MHz	1M10D7W	-	0.11 W
Part 24	LTE Band 25	QPSK	3 MHz	2M73G7D	-	-
Part 24	LTE Band 25	16QAM	3 MHz	2M73D7W	-	-
Part 24	LTE Band 25	QPSK	5 MHz	4M50G7D	-	-
Part 24	LTE Band 25	16QAM	5 MHz	4M50D7W	-	-
Part 24	LTE Band 25	QPSK	10 MHz	9M06G7D	0.0002 ppm	-
Part 24	LTE Band 25	16QAM	10 MHz	9M06D7W	-	-
Part 24	LTE Band 25	QPSK	15 MHz	13M5G7D	-	-
Part 24	LTE Band 25	16QAM	15 MHz	13M5D7W	-	-
Part 24	LTE Band 25	QPSK	20 MHz	18M5G7D	-	0.16 W
Part 24	LTE Band 25	16QAM	20 MHz	18M5D7W	-	0.14 W
Part 27	LTE Band 4	QPSK	1.4 MHz	1M10G7D	-	0.17 W
Part 27	LTE Band 4 With WPC	QPSK	1.4 MHz	-	-	0.37 W
Part 27	LTE Band 4	16QAM	1.4 MHz	1M10D7W	-	0.13 W
Part 27	LTE Band 4	QPSK	3 MHz	2M72G7D	-	-
Part 27	LTE Band 4	16QAM	3 MHz	2M73D7W	-	-
Part 27	LTE Band 4	QPSK	5MHz	4M50G7D	-	-
Part 27	LTE Band 4	16QAM	5MHz	4M51D7W	-	-
Part 27	LTE Band 4	QPSK	10MHz	9M10G7D	0.0002 ppm	-
Part 27	LTE Band 4	16QAM	10MHz	9M06D7W	-	-
Part 27	LTE Band 4	QPSK	15MHz	13M5G7D	-	-
Part 27	LTE Band 4	16QAM	15MHz	13M5D7W	-	-
Part 27	LTE Band 4	QPSK	20MHz	18M6G7D	-	0.15 W
Part 27	LTE Band 4	16QAM	20MHz	18M6D7W	-	0.12 W
Part 27	LTE Band 17	QPSK	5MHz	4M50G7D	-	0.18 W
Part 27	LTE Band 17	16QAM	5MHz	4M51D7W	-	0.14 W
Part 27	LTE Band 17	QPSK	10MHz	9M10G7D	0.0005 ppm	0.16 W
Part 27	LTE Band 17	16QAM	10MHz	9M06D7W	-	0.13 W

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27	LTE Band 7	QPSK	5MHz	4M51G7D	-	0.10 W
Part 27	LTE Band 7	16QAM	5MHz	4M49D7W	-	0.09 W
Part 27	LTE Band 7	QPSK	10MHz	9M10G7D	0.0052 ppm	-
Part 27	LTE Band 7	16QAM	10MHz	9M04D7W	-	-
Part 27	LTE Band 7	QPSK	15MHz	13M5G7D	-	-
Part 27	LTE Band 7	16QAM	15MHz	13M5D7W	-	-
Part 27	LTE Band 7	QPSK	20MHz	18M5G7D	-	0.09 W
Part 27	LTE Band 7	16QAM	20MHz	18M5D7W	-	0.08 W

1.7 Testing Location

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	03CH08-HY	636805/4086B-2

1.8 Applicable Standards

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

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

Remark:

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



2 Test Configuration of Equipment Under Test

2.1 Test Mode

The test mode table below consisted of antenna port conducted and radiated test items was performed according to the KDB 971168 D01 and the ANSI / TIA / EIA-603-C. The radiated measurements were performed with rotating EUT in three orthogonal test planes to find the maximum emission and were carried out in a semi-anechoic chamber with 3-meter test range.

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



Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
	25	v	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	5				v	-	-	v				v		v	
	7	-	-		v			v				v		v	
	17	-	-		v	-	-	v				v		v	
	25				v			v				v		v	
E.R.P/ E.I.R.P	2	v					v	v	v	v			v	v	v
	4	v					v	v	v	v			v	v	v
	4 (WPC)	v						v		v			v	v	v
	5	v			v	-	-	v	v	v			v	v	v
	7	-	-	v			v	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
	25	v					v	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v			v	v	v
	4	v	v	v	v	v	v	v		v			v	v	v
	4 (WPC)				v			v		v			v		
	5	v	v	v	v	-	-	v		v			v	v	v
	7	-	-	v	v	v	v	v		v			v	v	v
	17	-	-	v	v	-	-	v		v			v	v	v
	25	v	v	v	v	v	v	v		v			v	v	v

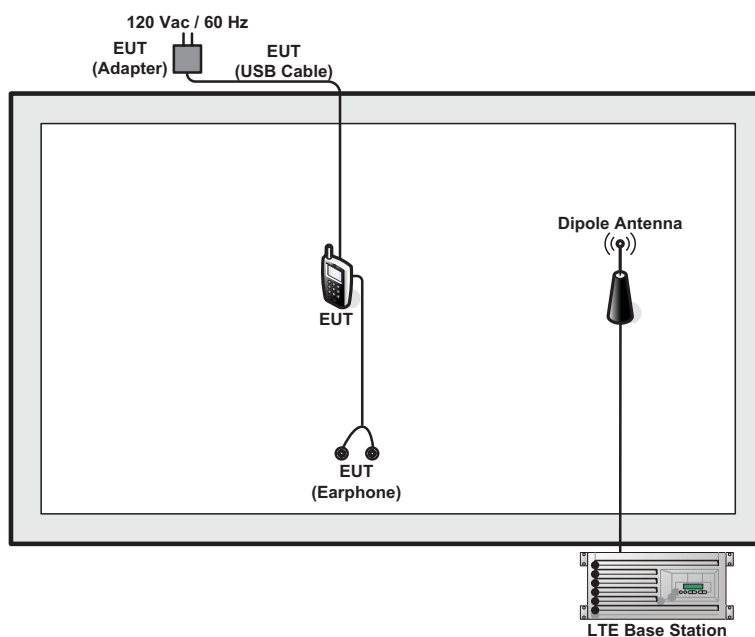
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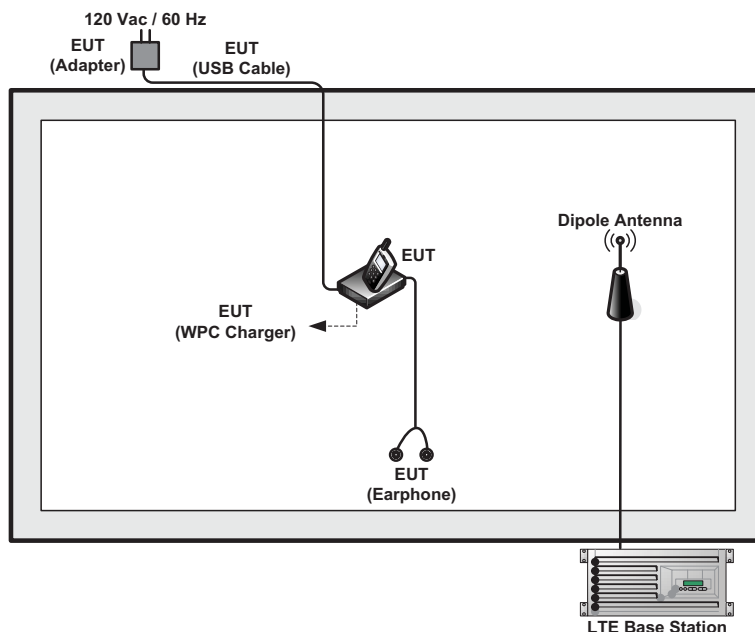
- The mark "v" means that the configuration is chosen for testing ; the mark "-" means that the bandwidth is not supported.

2. For E.R.P/E.I.R.P. measurement, the widest bandwidth of each band is mainly chosen for testing due to the highest conducted power in yellow mark as listed in the section 3.1. The ERP/ERIP with the lowest bandwidth are also measured for reporting only.
3. The Radiated Spurious Emission is investigated from 30MHz to 10 times of fundamental signal and the configuration is chosen for final radiated spurious emission measurement, since it is the highest RF power level among all RB configurations and there is no significant difference between QPSK and 16QAM modulation in conducted spurious emission test result.
4. The radiated spurious emission tests were performed with adapter, battery, USB Cable, and earphone 1.

2.2 Connection Diagram of Test System

<EUT with Adapter Mode>



<EUT with WPC charging mode>

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

2.4 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

3.1.1 Description of the Conducted Output Power 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.

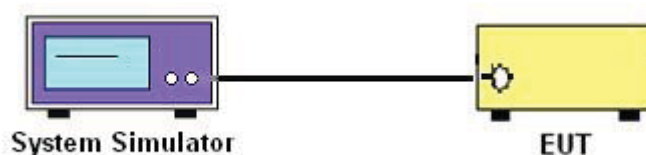
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

<LTE Band 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	22.88	23.15	23.02
10	QPSK	1	24	22.86	23.13	23.01
10	QPSK	1	49	22.87	23.00	23.00
10	QPSK	25	0	21.93	22.00	22.05
10	QPSK	25	12	21.95	21.95	22.02
10	QPSK	25	24	21.96	22.01	22.10
10	QPSK	50	0	21.95	22.06	22.05
10	16QAM	1	0	21.81	21.83	21.97
10	16QAM	1	24	21.83	21.89	21.98
10	16QAM	1	49	21.82	22.18	21.99
10	16QAM	25	0	21.01	21.10	21.14
10	16QAM	25	12	21.01	21.07	21.09
10	16QAM	25	24	20.98	21.07	21.19
10	16QAM	50	0	21.00	21.03	21.11
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	22.98	22.97	23.11
5	QPSK	1	12	22.85	22.94	23.09
5	QPSK	1	24	22.90	22.93	23.02
5	QPSK	12	0	21.82	21.99	22.16
5	QPSK	12	6	21.90	22.03	22.18
5	QPSK	12	11	21.94	22.03	22.08
5	QPSK	25	0	21.96	21.95	22.17
5	16QAM	1	0	21.87	21.86	22.10
5	16QAM	1	12	21.85	21.91	22.06
5	16QAM	1	24	21.84	21.90	21.96
5	16QAM	12	0	20.95	21.09	21.24
5	16QAM	12	6	21.03	21.10	21.22
5	16QAM	12	11	21.04	21.10	21.14
5	16QAM	25	0	21.04	21.06	21.21



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20415	20525	20635
Frequency (MHz)				825.5	836.5	847.5
3	QPSK	1	0	22.92	22.99	23.14
3	QPSK	1	7	22.83	22.99	23.03
3	QPSK	1	14	22.95	23.00	23.05
3	QPSK	8	0	21.97	22.08	22.20
3	QPSK	8	4	21.90	22.05	22.09
3	QPSK	8	7	21.86	22.08	22.12
3	QPSK	15	0	21.93	22.05	22.15
3	16QAM	1	0	21.88	21.93	22.09
3	16QAM	1	7	21.78	21.92	21.96
3	16QAM	1	14	21.87	21.99	22.01
3	16QAM	8	0	21.09	21.11	21.29
3	16QAM	8	4	21.02	21.17	21.18
3	16QAM	8	7	20.98	21.11	21.21
3	16QAM	15	0	20.94	21.11	21.15
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	22.98	23.10	23.12
1.4	QPSK	1	2	22.97	23.03	23.07
1.4	QPSK	1	5	22.90	23.05	23.10
1.4	QPSK	3	0	23.00	23.05	23.08
1.4	QPSK	3	1	22.97	23.06	23.07
1.4	QPSK	3	2	22.99	23.05	23.06
1.4	QPSK	6	0	22.04	22.12	22.13
1.4	16QAM	1	0	21.94	22.03	22.10
1.4	16QAM	1	2	21.95	22.05	22.05
1.4	16QAM	1	5	21.83	22.04	21.99
1.4	16QAM	3	0	21.98	22.03	22.11
1.4	16QAM	3	1	21.96	22.03	22.08
1.4	16QAM	3	2	21.97	21.95	22.07
1.4	16QAM	6	0	20.98	21.05	21.05

<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	22.97	23.08	23.03
20	QPSK	1	49	22.96	22.85	22.89
20	QPSK	1	99	22.73	22.89	23.02
20	QPSK	50	0	22.01	21.95	22.02
20	QPSK	50	24	21.91	21.94	21.99
20	QPSK	50	49	21.83	21.89	22.00
20	QPSK	100	0	21.92	21.88	22.00
20	16QAM	1	0	21.96	21.83	22.12
20	16QAM	1	49	21.95	21.81	21.84
20	16QAM	1	99	21.66	21.84	21.93
20	16QAM	50	0	21.01	20.91	21.12
20	16QAM	50	24	20.91	20.95	21.08
20	16QAM	50	49	20.85	20.98	21.01
20	16QAM	100	0	20.96	20.96	21.10
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	22.93	22.82	22.90
15	QPSK	1	37	22.96	22.86	22.97
15	QPSK	1	74	22.74	22.89	23.03
15	QPSK	36	0	22.00	21.84	21.87
15	QPSK	36	18	22.02	21.85	22.00
15	QPSK	36	37	21.93	21.87	21.92
15	QPSK	75	0	22.06	21.92	21.99
15	16QAM	1	0	21.92	21.76	21.87
15	16QAM	1	37	21.95	21.83	21.92
15	16QAM	1	74	21.70	21.82	21.95
15	16QAM	36	0	20.99	20.92	20.99
15	16QAM	36	18	20.99	20.94	21.01
15	16QAM	36	37	20.93	20.95	21.02
15	16QAM	75	0	21.04	20.95	21.09



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	22.92	22.80	22.91
10	QPSK	1	24	22.88	22.84	22.92
10	QPSK	1	49	22.93	22.83	23.03
10	QPSK	25	0	21.97	21.83	21.97
10	QPSK	25	12	21.97	21.90	21.94
10	QPSK	25	24	21.93	21.90	22.03
10	QPSK	50	0	21.97	21.85	22.02
10	16QAM	1	0	21.90	21.72	21.81
10	16QAM	1	24	21.85	21.76	21.90
10	16QAM	1	49	21.86	21.84	21.95
10	16QAM	25	0	20.98	20.95	21.11
10	16QAM	25	12	20.96	20.95	21.05
10	16QAM	25	24	20.98	21.01	21.17
10	16QAM	50	0	20.95	20.93	21.04
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	22.87	22.80	22.93
5	QPSK	1	12	22.84	22.84	22.99
5	QPSK	1	24	22.88	22.97	23.01
5	QPSK	12	0	21.96	21.88	22.06
5	QPSK	12	6	21.94	21.85	22.04
5	QPSK	12	11	21.94	21.91	22.08
5	QPSK	25	0	21.95	21.91	22.03
5	16QAM	1	0	21.84	21.77	21.91
5	16QAM	1	12	21.81	21.79	21.99
5	16QAM	1	24	21.81	21.87	21.97
5	16QAM	12	0	20.97	20.98	21.18
5	16QAM	12	6	20.96	20.96	21.16
5	16QAM	12	11	20.97	20.97	21.16
5	16QAM	25	0	20.94	20.95	21.15



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5
3	QPSK	1	0	22.88	22.83	23.02
3	QPSK	1	7	22.86	22.81	22.98
3	QPSK	1	14	22.86	22.96	23.03
3	QPSK	8	0	21.93	21.91	22.07
3	QPSK	8	4	21.92	21.89	22.09
3	QPSK	8	7	21.92	21.85	22.12
3	QPSK	15	0	21.96	21.86	22.10
3	16QAM	1	0	21.90	21.75	21.97
3	16QAM	1	7	21.86	21.77	21.97
3	16QAM	1	14	21.83	21.90	22.01
3	16QAM	8	0	20.97	20.97	21.15
3	16QAM	8	4	20.97	20.96	21.16
3	16QAM	8	7	20.98	21.00	21.17
3	16QAM	15	0	20.91	20.91	21.11
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	22.93	22.89	23.07
1.4	QPSK	1	2	22.88	22.86	23.04
1.4	QPSK	1	5	22.94	22.90	23.06
1.4	QPSK	3	0	22.90	22.87	23.00
1.4	QPSK	3	1	22.86	22.89	23.05
1.4	QPSK	3	2	22.87	22.88	23.06
1.4	QPSK	6	0	21.98	21.96	22.16
1.4	16QAM	1	0	21.89	21.85	22.05
1.4	16QAM	1	2	21.88	21.81	22.02
1.4	16QAM	1	5	21.93	21.83	22.01
1.4	16QAM	3	0	21.92	21.83	21.99
1.4	16QAM	3	1	21.86	21.86	21.98
1.4	16QAM	3	2	21.87	21.87	21.92
1.4	16QAM	6	0	20.86	20.84	21.03

<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	26340	26590
Frequency (MHz)				1860	1880	1905
20	QPSK	1	0	23.14	23.29	23.20
20	QPSK	1	49	22.94	22.97	23.13
20	QPSK	1	99	22.92	22.89	22.99
20	QPSK	50	0	22.47	22.39	22.48
20	QPSK	50	24	22.43	22.38	22.43
20	QPSK	50	49	22.44	22.44	22.41
20	QPSK	100	0	22.45	22.45	22.35
20	16QAM	1	0	22.53	22.35	22.39
20	16QAM	1	49	22.36	22.32	22.43
20	16QAM	1	99	22.39	22.33	22.29
20	16QAM	50	0	21.45	21.35	21.49
20	16QAM	50	24	21.42	21.38	21.46
20	16QAM	50	49	21.43	21.38	21.47
20	16QAM	100	0	21.43	21.40	21.45
Channel				26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5
15	QPSK	1	0	23.02	23.02	23.06
15	QPSK	1	37	22.94	22.96	23.14
15	QPSK	1	74	22.99	23.00	23.03
15	QPSK	36	0	22.43	22.43	22.47
15	QPSK	36	18	22.34	22.41	22.49
15	QPSK	36	37	22.40	22.38	22.40
15	QPSK	75	0	22.40	22.43	22.43
15	16QAM	1	0	22.42	22.42	22.46
15	16QAM	1	37	22.41	22.36	22.43
15	16QAM	1	74	22.33	22.35	22.36
15	16QAM	36	0	21.47	21.41	21.48
15	16QAM	36	18	21.38	21.32	21.42
15	16QAM	36	37	21.40	21.36	21.41
15	16QAM	75	0	21.34	21.40	21.37



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26090	26340	26640
Frequency (MHz)				1855	1880	1910
10	QPSK	1	0	23.03	23.02	23.15
10	QPSK	1	24	23.02	22.94	23.11
10	QPSK	1	49	22.93	22.94	22.91
10	QPSK	25	0	22.37	22.38	22.44
10	QPSK	25	12	22.37	22.36	22.45
10	QPSK	25	24	22.42	22.43	22.42
10	QPSK	50	0	22.44	22.43	22.37
10	16QAM	1	0	22.37	22.37	22.49
10	16QAM	1	24	22.39	22.33	22.48
10	16QAM	1	49	22.37	22.41	22.24
10	16QAM	25	0	21.46	21.39	21.49
10	16QAM	25	12	21.47	21.36	21.45
10	16QAM	25	24	21.41	21.39	21.45
10	16QAM	50	0	21.38	21.35	21.42
Channel				26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5
5	QPSK	1	0	23.00	22.94	23.14
5	QPSK	1	12	22.96	22.91	23.12
5	QPSK	1	24	22.97	22.93	22.73
5	QPSK	12	0	22.37	22.37	22.48
5	QPSK	12	6	22.36	22.39	22.41
5	QPSK	12	11	22.38	22.41	22.42
5	QPSK	25	0	22.36	22.43	22.37
5	16QAM	1	0	22.38	22.28	22.48
5	16QAM	1	12	22.33	22.26	22.47
5	16QAM	1	24	22.29	22.31	22.06
5	16QAM	12	0	21.42	21.39	21.41
5	16QAM	12	6	21.42	21.38	21.47
5	16QAM	12	11	21.42	21.38	21.42
5	16QAM	25	0	21.43	21.37	21.37



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5
3	QPSK	1	0	23.01	23.02	23.16
3	QPSK	1	7	22.96	22.97	23.02
3	QPSK	1	14	22.98	22.92	22.89
3	QPSK	8	0	22.41	22.49	22.49
3	QPSK	8	4	22.41	22.48	22.43
3	QPSK	8	7	22.39	22.45	22.44
3	QPSK	15	0	22.45	22.29	22.33
3	16QAM	1	0	22.36	22.35	22.45
3	16QAM	1	7	22.40	22.39	22.42
3	16QAM	1	14	22.32	22.35	22.23
3	16QAM	8	0	21.46	21.45	21.45
3	16QAM	8	4	21.46	21.47	21.47
3	16QAM	8	7	21.44	21.47	21.42
3	16QAM	15	0	21.36	21.37	21.38
Channel				26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3
1.4	QPSK	1	0	23.02	22.89	23.24
1.4	QPSK	1	2	23.03	22.86	23.07
1.4	QPSK	1	5	22.93	22.90	22.95
1.4	QPSK	3	0	22.96	22.87	23.11
1.4	QPSK	3	1	22.94	22.89	23.02
1.4	QPSK	3	2	22.91	22.88	22.89
1.4	QPSK	6	0	22.46	22.26	22.24
1.4	16QAM	1	0	22.39	22.15	22.49
1.4	16QAM	1	2	22.41	22.07	22.36
1.4	16QAM	1	5	22.19	22.06	22.06
1.4	16QAM	3	0	22.18	22.03	22.11
1.4	16QAM	3	1	22.18	22.06	22.04
1.4	16QAM	3	2	22.16	22.07	22.01
1.4	16QAM	6	0	21.39	21.04	21.17



<LTE Band 4 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	23.02	23.20	23.18
20	QPSK	1	49	22.96	23.09	22.96
20	QPSK	1	99	22.98	22.89	22.87
20	QPSK	50	0	22.40	22.17	22.26
20	QPSK	50	24	22.36	22.10	22.03
20	QPSK	50	49	22.23	22.10	21.90
20	QPSK	100	0	22.33	22.16	22.00
20	16QAM	1	0	22.18	22.16	22.10
20	16QAM	1	49	22.40	22.05	21.93
20	16QAM	1	99	21.96	21.80	21.84
20	16QAM	50	0	21.41	21.18	21.16
20	16QAM	50	24	21.29	21.11	21.05
20	16QAM	50	49	21.20	21.12	20.92
20	16QAM	100	0	21.32	21.16	21.05
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.05	23.18	22.99
15	QPSK	1	37	23.19	23.08	22.93
15	QPSK	1	74	23.10	22.92	22.67
15	QPSK	36	0	22.38	22.11	22.12
15	QPSK	36	18	22.25	22.12	22.07
15	QPSK	36	37	22.25	22.12	22.00
15	QPSK	75	0	22.33	22.15	22.04
15	16QAM	1	0	22.38	22.19	21.95
15	16QAM	1	37	22.21	22.06	21.92
15	16QAM	1	74	22.06	21.84	21.86
15	16QAM	36	0	21.29	21.13	21.03
15	16QAM	36	18	21.27	21.13	21.00
15	16QAM	36	37	21.28	21.04	20.99
15	16QAM	75	0	21.24	21.16	21.06



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	23.02	23.09	22.96
10	QPSK	1	24	23.16	23.07	22.94
10	QPSK	1	49	23.11	23.01	22.88
10	QPSK	25	0	22.34	22.14	22.06
10	QPSK	25	12	22.30	22.06	22.07
10	QPSK	25	24	22.29	22.11	22.02
10	QPSK	50	0	22.35	22.10	22.01
10	16QAM	1	0	22.21	22.11	21.95
10	16QAM	1	24	22.13	22.05	21.91
10	16QAM	1	49	22.18	21.98	21.93
10	16QAM	25	0	21.36	21.17	20.97
10	16QAM	25	12	21.37	21.19	21.03
10	16QAM	25	24	21.31	21.14	21.06
10	16QAM	50	0	21.37	21.13	21.01
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.03	23.05	22.93
5	QPSK	1	12	23.12	23.04	22.90
5	QPSK	1	24	23.17	23.03	22.84
5	QPSK	12	0	22.14	22.15	22.08
5	QPSK	12	6	22.27	22.09	22.03
5	QPSK	12	11	22.41	22.14	21.99
5	QPSK	25	0	22.27	22.14	22.00
5	16QAM	1	0	22.18	22.04	22.07
5	16QAM	1	12	22.34	22.03	21.90
5	16QAM	1	24	22.15	21.98	21.89
5	16QAM	12	0	21.16	21.17	21.06
5	16QAM	12	6	21.28	21.16	21.04
5	16QAM	12	11	21.43	21.16	21.05
5	16QAM	25	0	21.29	21.16	21.05



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	23.03	23.10	22.95
3	QPSK	1	7	23.11	23.03	22.91
3	QPSK	1	14	23.18	23.03	22.88
3	QPSK	8	0	22.12	22.09	22.05
3	QPSK	8	4	22.25	22.07	22.03
3	QPSK	8	7	22.35	22.10	21.94
3	QPSK	15	0	22.30	22.15	21.99
3	16QAM	1	0	22.35	22.16	22.18
3	16QAM	1	7	22.32	22.06	21.92
3	16QAM	1	14	22.25	21.98	21.88
3	16QAM	8	0	21.17	21.14	21.04
3	16QAM	8	4	21.32	21.14	21.04
3	16QAM	8	7	21.35	21.17	21.07
3	16QAM	15	0	21.21	21.13	21.01
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.84	23.11	22.82
1.4	QPSK	1	2	22.97	23.08	22.74
1.4	QPSK	1	5	22.98	23.11	22.77
1.4	QPSK	3	0	22.90	23.15	22.70
1.4	QPSK	3	1	22.97	23.09	22.72
1.4	QPSK	3	2	22.99	23.07	22.69
1.4	QPSK	6	0	21.97	22.16	21.84
1.4	16QAM	1	0	22.08	22.09	22.05
1.4	16QAM	1	2	22.13	22.08	22.09
1.4	16QAM	1	5	22.23	22.09	21.95
1.4	16QAM	3	0	21.93	22.13	21.86
1.4	16QAM	3	1	21.99	22.08	21.89
1.4	16QAM	3	2	22.01	22.06	21.86
1.4	16QAM	6	0	21.06	21.08	21.00

<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	23.03	23.07	22.97
10	QPSK	1	24	22.88	22.89	22.90
10	QPSK	1	49	23.02	22.97	22.96
10	QPSK	25	0	21.91	21.90	21.93
10	QPSK	25	12	21.99	21.96	21.93
10	QPSK	25	24	22.00	21.99	22.01
10	QPSK	50	0	21.95	21.97	21.93
10	16QAM	1	0	21.73	21.80	21.76
10	16QAM	1	24	21.83	21.84	21.87
10	16QAM	1	49	22.00	21.89	21.94
10	16QAM	25	0	21.02	21.00	21.01
10	16QAM	25	12	21.00	21.05	21.04
10	16QAM	25	24	21.05	21.04	21.06
10	16QAM	50	0	20.97	20.97	21.03
Channel				23755	23790	23825
Frequency (MHz)				706.5	710	713.5
5	QPSK	1	0	22.87	22.86	22.88
5	QPSK	1	12	22.77	22.90	22.87
5	QPSK	1	24	22.92	22.91	22.94
5	QPSK	12	0	21.96	21.94	21.97
5	QPSK	12	6	21.93	21.92	21.93
5	QPSK	12	11	21.94	21.94	21.94
5	QPSK	25	0	21.92	21.95	21.97
5	16QAM	1	0	21.84	21.85	21.87
5	16QAM	1	12	21.76	21.84	21.83
5	16QAM	1	24	21.87	21.85	21.86
5	16QAM	12	0	21.03	21.02	21.05
5	16QAM	12	6	21.03	21.03	21.04
5	16QAM	12	11	21.04	21.05	21.02
5	16QAM	25	0	21.02	21.02	21.00



<LTE Band 7 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				20850	21100	21350
Frequency (MHz)				2510.0	2535.0	2560.0
20	QPSK	1	0	23.55	23.97	23.19
20	QPSK	1	49	23.00	23.81	22.87
20	QPSK	1	99	23.23	23.46	22.56
20	QPSK	50	0	22.23	22.96	21.98
20	QPSK	50	24	22.24	22.98	22.00
20	QPSK	50	49	21.99	22.66	21.91
20	QPSK	100	0	22.11	22.80	21.89
20	16QAM	1	0	22.78	22.78	22.25
20	16QAM	1	49	22.19	22.99	22.20
20	16QAM	1	99	22.45	22.31	21.87
20	16QAM	50	0	21.24	21.96	21.01
20	16QAM	50	24	21.47	21.98	21.06
20	16QAM	50	49	21.57	21.70	20.99
20	16QAM	100	0	21.38	21.83	20.94
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535.0	2562.5
15	QPSK	1	0	23.39	23.88	22.76
15	QPSK	1	37	22.83	23.60	22.64
15	QPSK	1	74	22.77	23.30	22.58
15	QPSK	36	0	22.24	22.97	21.82
15	QPSK	36	18	21.95	22.78	21.84
15	QPSK	36	37	21.77	22.64	21.82
15	QPSK	75	0	22.06	22.79	21.78
15	16QAM	1	0	22.58	22.98	22.07
15	16QAM	1	37	22.10	22.90	21.99
15	16QAM	1	74	22.07	22.58	21.90
15	16QAM	36	0	21.29	21.97	20.89
15	16QAM	36	18	20.98	21.84	20.93
15	16QAM	36	37	20.78	21.69	20.91
15	16QAM	75	0	21.14	21.85	20.85



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20800	21100	21400
Frequency (MHz)				2505.0	2535.0	2565.0
10	QPSK	1	0	23.37	23.88	22.70
10	QPSK	1	24	23.00	23.62	22.62
10	QPSK	1	49	22.72	23.47	22.53
10	QPSK	25	0	22.30	22.97	21.79
10	QPSK	25	12	22.14	22.73	21.79
10	QPSK	25	24	21.94	22.64	21.77
10	QPSK	50	0	22.10	22.77	21.76
10	16QAM	1	0	22.71	22.97	21.99
10	16QAM	1	24	22.31	22.92	21.94
10	16QAM	1	49	22.00	22.78	21.84
10	16QAM	25	0	21.39	21.96	20.88
10	16QAM	25	12	21.21	21.81	20.88
10	16QAM	25	24	20.98	21.71	20.86
10	16QAM	50	0	21.16	21.85	20.85
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535.0	2567.5
5	QPSK	1	0	23.30	23.64	22.48
5	QPSK	1	12	23.10	23.47	22.40
5	QPSK	1	24	22.96	23.38	22.36
5	QPSK	12	0	22.34	22.72	21.63
5	QPSK	12	6	22.26	22.63	21.56
5	QPSK	12	11	22.19	22.61	21.55
5	QPSK	25	0	22.25	22.59	21.59
5	16QAM	1	0	22.63	22.94	21.79
5	16QAM	1	12	22.43	22.77	21.74
5	16QAM	1	24	22.26	22.69	21.68
5	16QAM	12	0	21.43	21.80	20.72
5	16QAM	12	6	21.35	21.71	20.65
5	16QAM	12	11	21.27	21.68	20.63
5	16QAM	25	0	21.33	21.66	20.68

3.2 Peak-to-Average Ratio

3.2.1 Description of the PAR Measurement

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

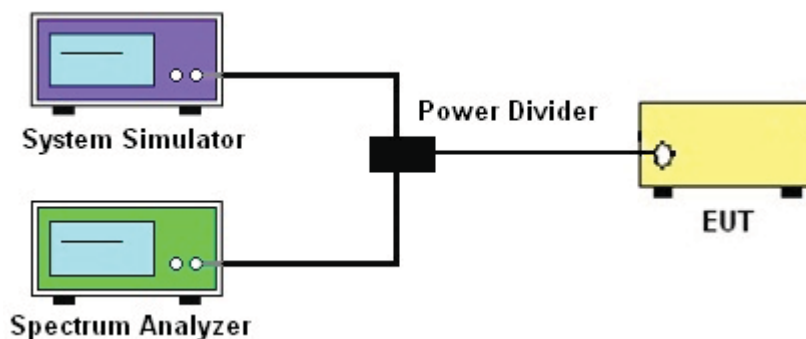
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

LTE Band 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)				829.0	836.5	844.0
10	16QAM	1	0	5.77	5.38	5.10
10	16QAM	50	0	6.28	6.06	6.12

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)				1860.0	1880.0	1900.0
20	16QAM	1	0	6.54	5.80	5.96
20	16QAM	100	0	6.19	6.19	6.06

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	26340	26590
Frequency (MHz)				1860.0	1880.0	1905.0
20	16QAM	1	0	6.54	5.80	5.71
20	16QAM	100	0	6.19	6.19	6.09

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)				1720.0	1732.5	1745.0
20	16QAM	1	0	4.68	5.61	5.51
20	16QAM	100	0	5.74	5.80	5.61

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)				709.0	710.0	711.0
10	16QAM	1	0	5.03	5.13	5.19
10	16QAM	50	0	5.96	5.99	5.99

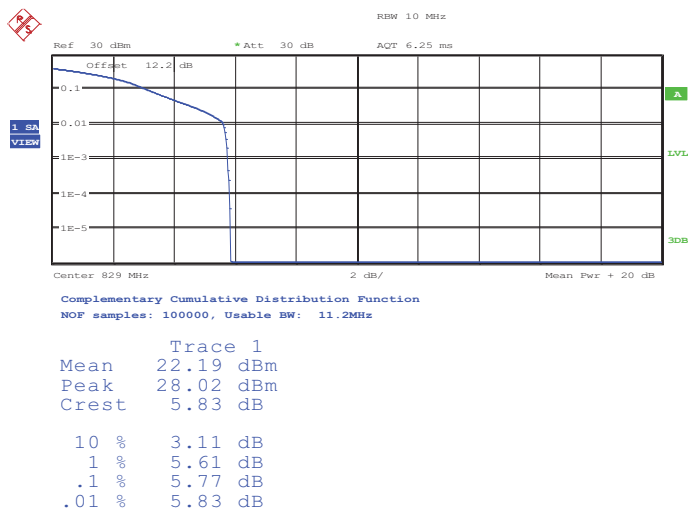


LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510.0	2535.0	2560.0
20	16QAM	1	0	4.49	4.33	4.42
20	16QAM	100	0	5.80	5.71	5.74

3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 5

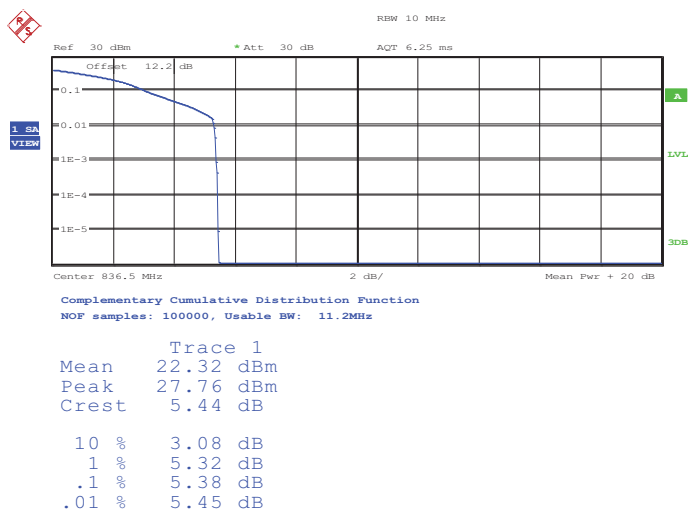
10MHz / 16QAM in Ch. 20450 (1RB Size)



Date: 21.MAR.2014 14:23:31

Peak-to-Average Ratio on LTE Band 5

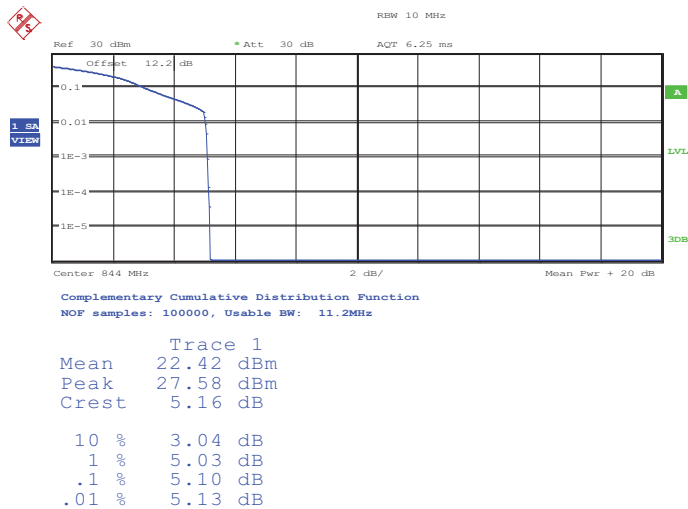
10MHz / 16QAM in Ch. 20525 (1RB Size)



Date: 21.MAR.2014 14:24:04

Peak-to-Average Ratio on LTE Band 5

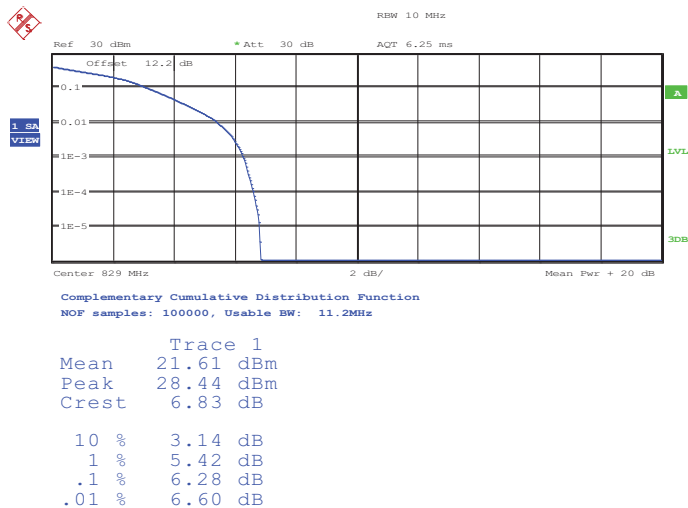
10MHz / 16QAM in Ch. 20600 (1RB Size)



Date: 21.MAR.2014 14:24:43

Peak-to-Average Ratio on LTE Band 5

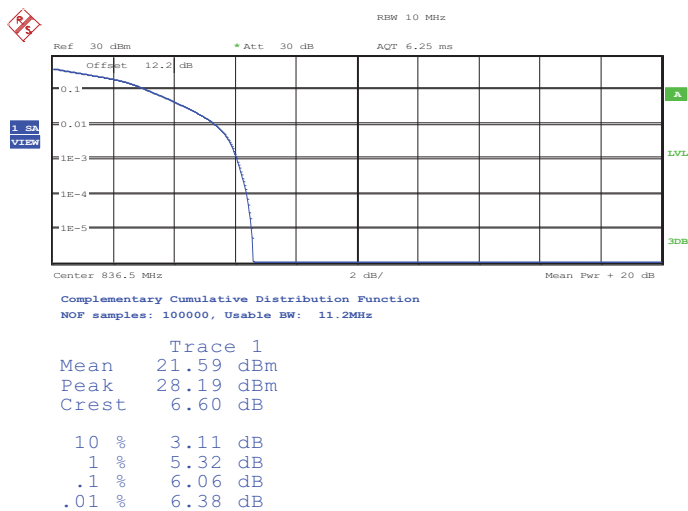
10MHz / 16QAM in Ch. 20450 (50RB Size)



Date: 21.MAR.2014 14:23:47

Peak-to-Average Ratio on LTE Band 5

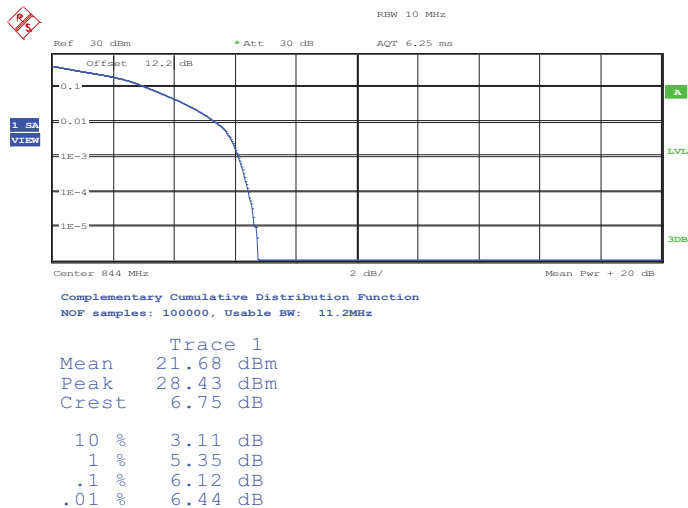
10MHz / 16QAM in Ch. 20525 (50RB Size)



Date: 21.MAR.2014 14:24:24

Peak-to-Average Ratio on LTE Band 5

10MHz / 16QAM in Ch. 20600 (50RB Size)

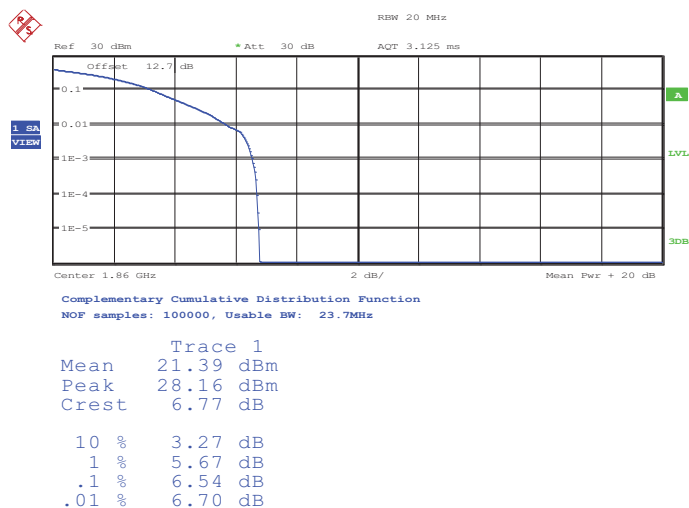


Date: 21.MAR.2014 14:25:09



Peak-to-Average Ratio on LTE Band 2 and LTE Band 25

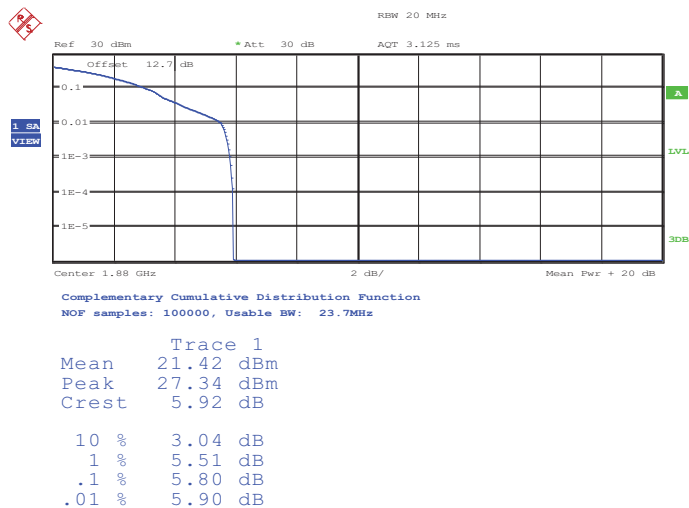
20MHz / 16QAM in Ch. 18700 and Ch. 26140 – Low Channel (1RB Size)



Date: 20.MAR.2014 15:40:19

Peak-to-Average Ratio on LTE Band 2 and LTE Band 25

20MHz / 16QAM in Ch. 18900 and Ch. 26590 – Middle Channel (1RB Size)

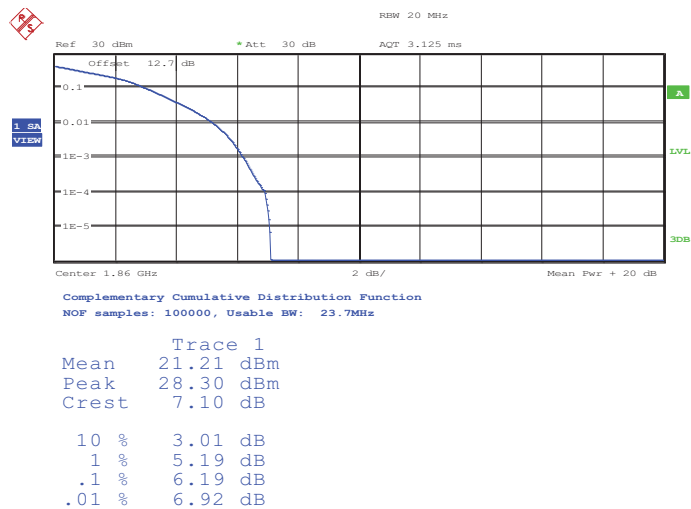


Date: 20.MAR.2014 15:41:20



Peak-to-Average Ratio on LTE Band 2 and LTE Band 25

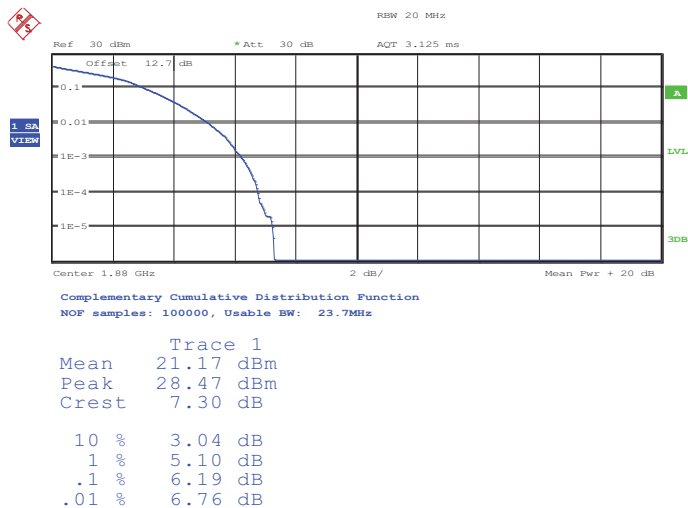
20MHz / 16QAM in Ch. 18700 and Ch. 26140 – Low Channel (100RB Size)



Date: 20.MAR.2014 15:40:52

Peak-to-Average Ratio on LTE Band 2 and LTE Band 25

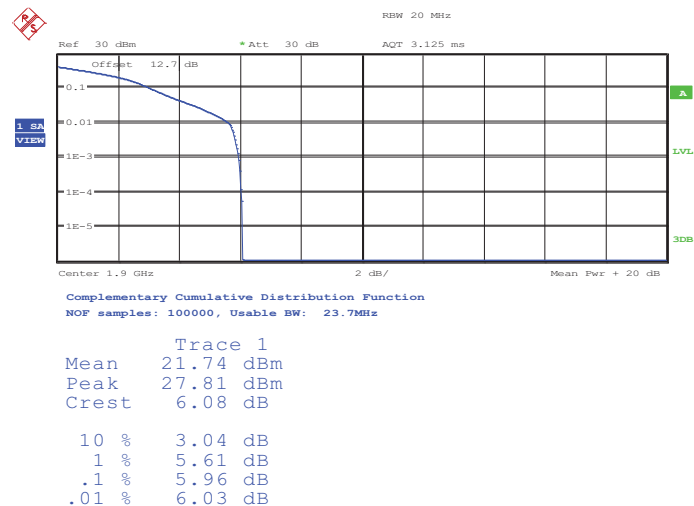
20MHz / 16QAM in Ch. 18900 and Ch. 26590 – Middle Channel (100RB Size)



Date: 20.MAR.2014 15:41:35

Peak-to-Average Ratio on LTE Band 2

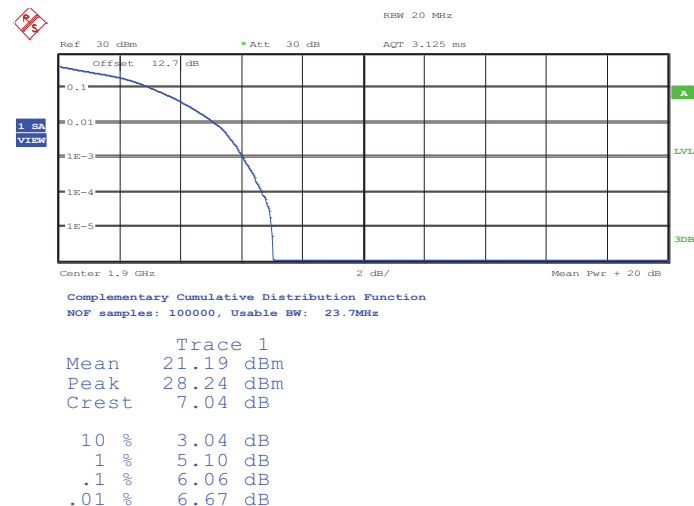
20MHz / 16QAM in Ch. 19100 – High Channel (1RB Size)



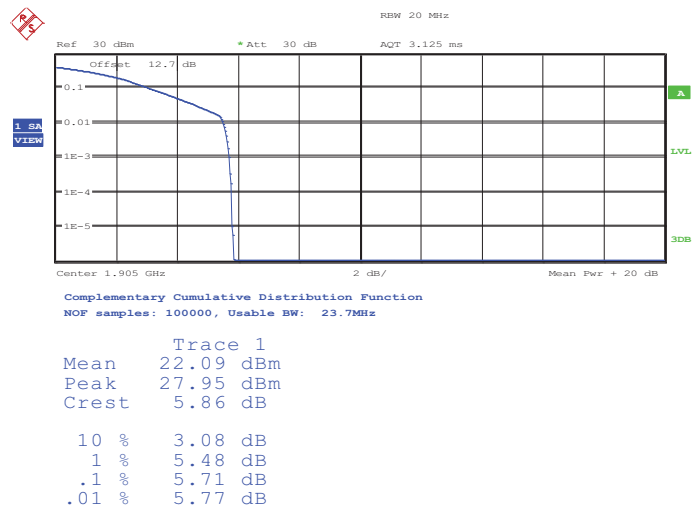
Date: 20.MAR.2014 15:41:55

Peak-to-Average Ratio on LTE Band 2

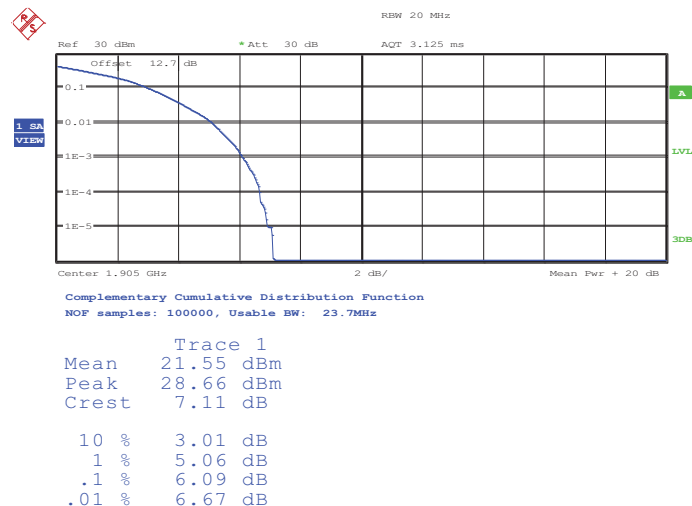
20MHz / 16QAM in Ch. 19100 – High Channel (100RB Size)



Date: 20.MAR.2014 15:42:13

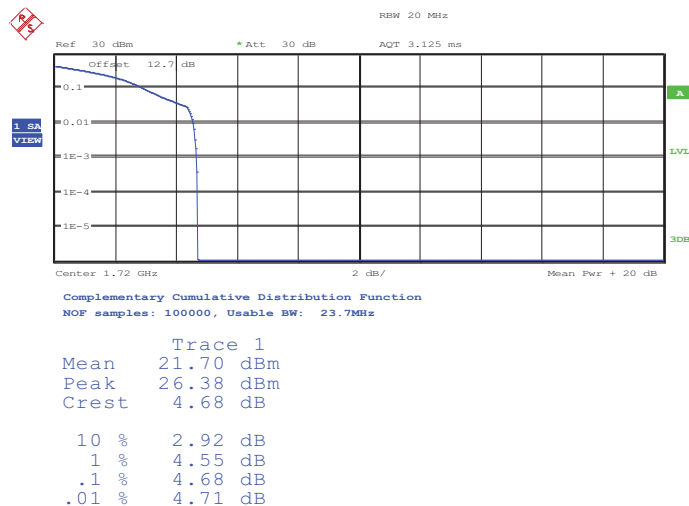
Peak-to-Average Ratio on LTE Band 25
20MHz / 16QAM in Ch. 26590 – High Channel (1RB Size)


Date: 21.MAR.2014 16:48:35

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


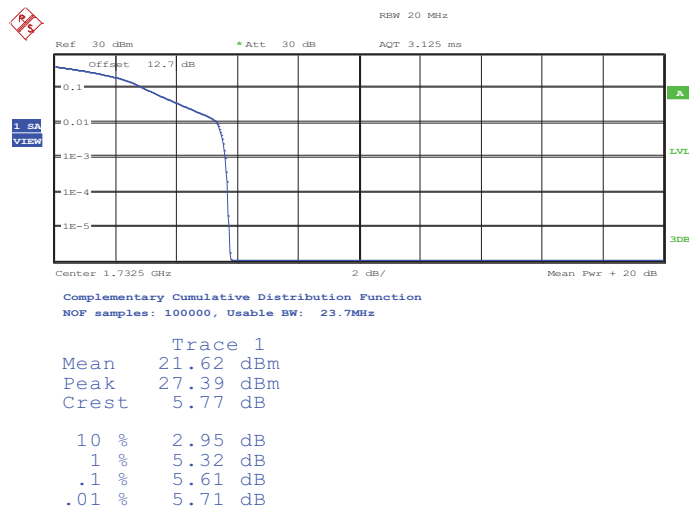
Date: 21.MAR.2014 16:48:50

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



Date: 21.MAR.2014 09:56:43

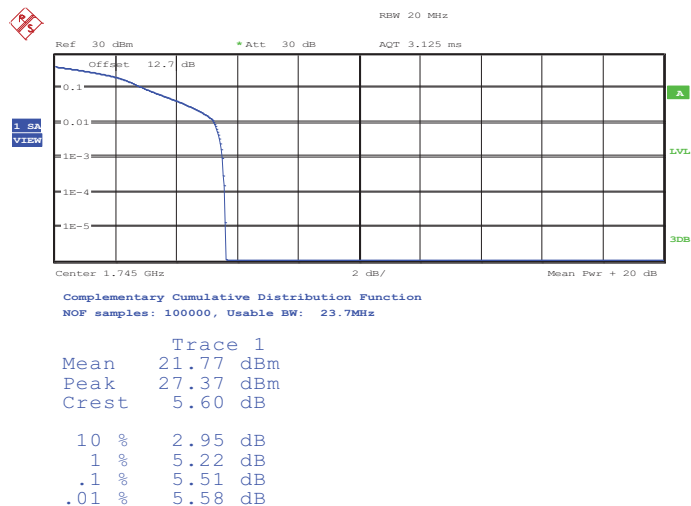
Peak-to-Average Ratio on LTE Band 4 20MHz / 16QAM in Ch. 20175 (1RB Size)



Date: 21.MAR.2014 09:57:22

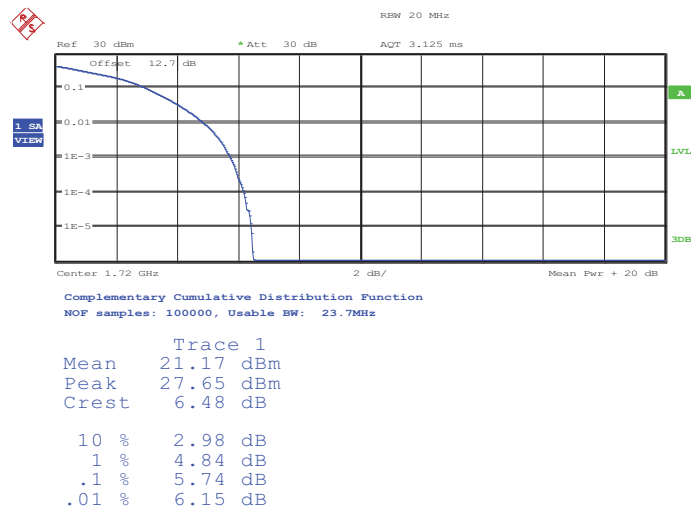


Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20300 (1RB Size)



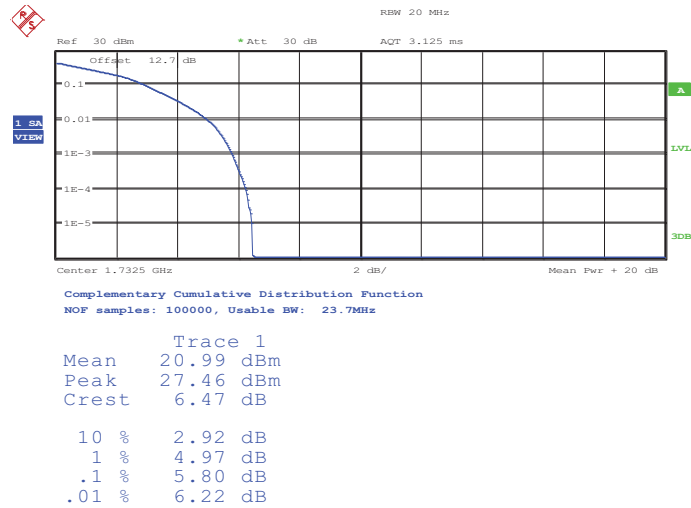
Date: 21.MAR.2014 09:58:04

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



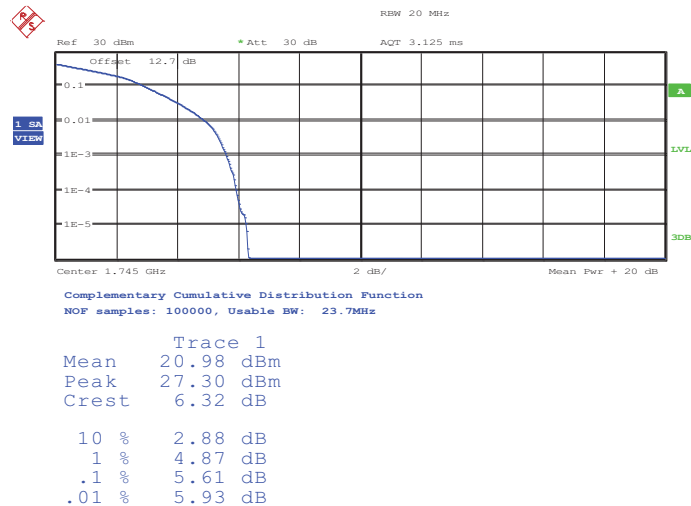
Date: 21.MAR.2014 09:57:02

Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20175 (100RB Size)



Date: 21.MAR.2014 09:57:39

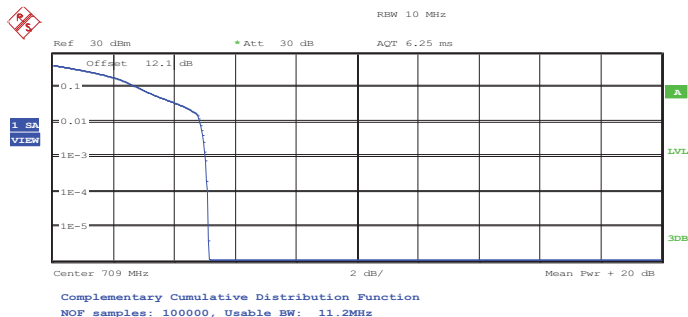
Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20300 (100RB Size)



Date: 21.MAR.2014 09:58:27

Peak-to-Average Ratio on LTE Band 17

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



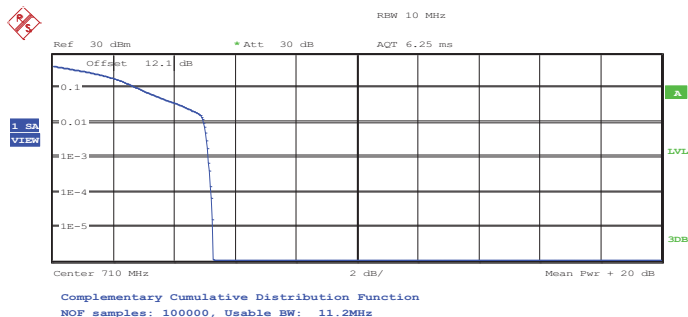
Trace 1

Mean	22.11 dBm
Peak	27.23 dBm
Crest	5.12 dB
10 %	2.79 dB
1 %	4.84 dB
.1 %	5.03 dB
.01 %	5.10 dB

Date: 21.MAR.2014 17:33:11

Peak-to-Average Ratio on LTE Band 17

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



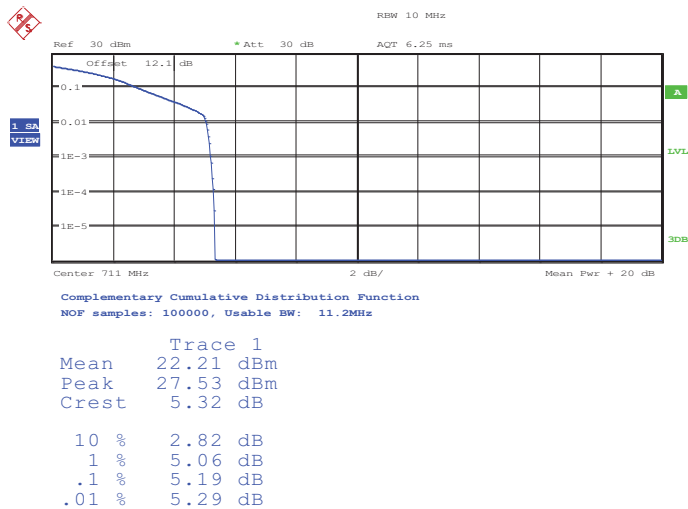
Trace 1

Mean	22.34 dBm
Peak	27.60 dBm
Crest	5.26 dB
10 %	2.79 dB
1 %	4.97 dB
.1 %	5.13 dB
.01 %	5.22 dB

Date: 21.MAR.2014 17:34:01

Peak-to-Average Ratio on LTE Band 17

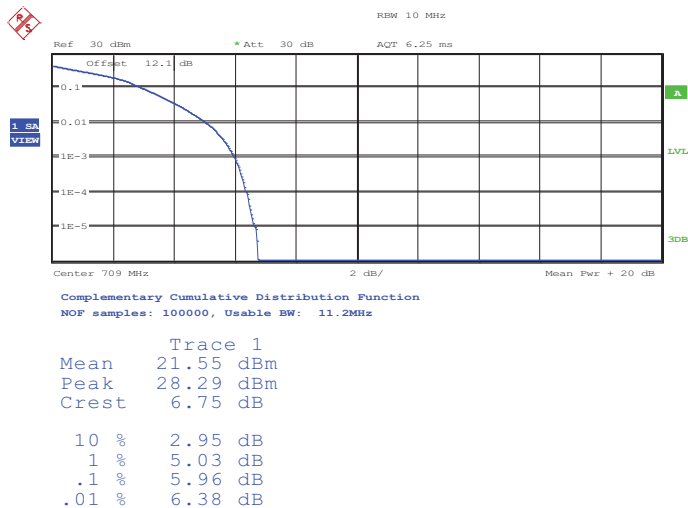
10MHz / 16QAM in Ch. 23800 (1RB Size)



Date: 21.MAR.2014 17:34:40

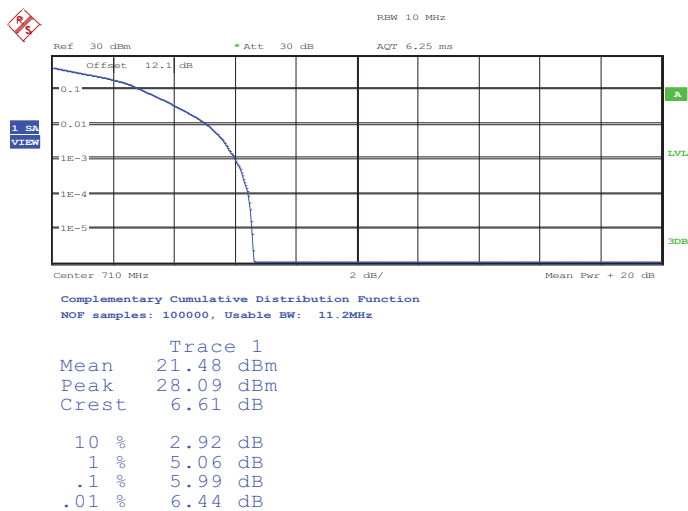
Peak-to-Average Ratio on LTE Band 17

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



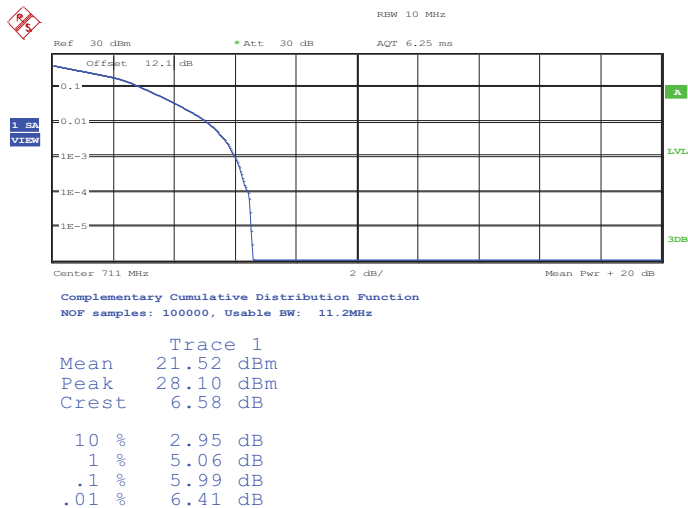
Date: 21.MAR.2014 17:33:29

Peak-to-Average Ratio on LTE Band 17
10MHz / 16QAM in Ch. 23790 (50RB Size)



Date: 21.MAR.2014 17:34:22

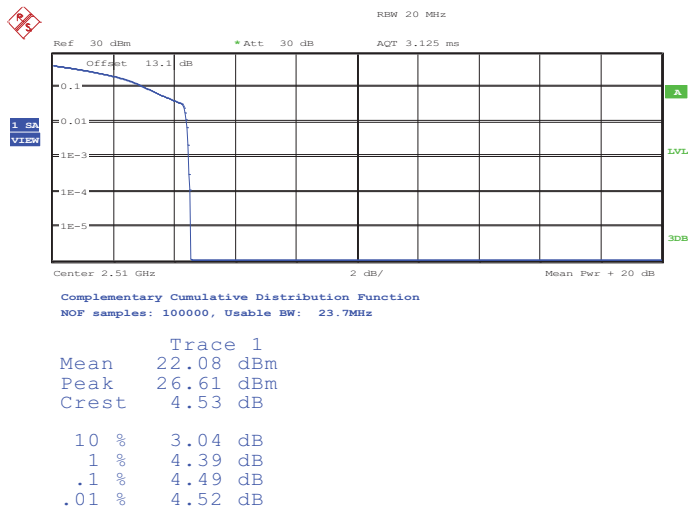
Peak-to-Average Ratio on LTE Band 17
10MHz / 16QAM in Ch. 23800 (50RB Size)



Date: 21.MAR.2014 17:35:00

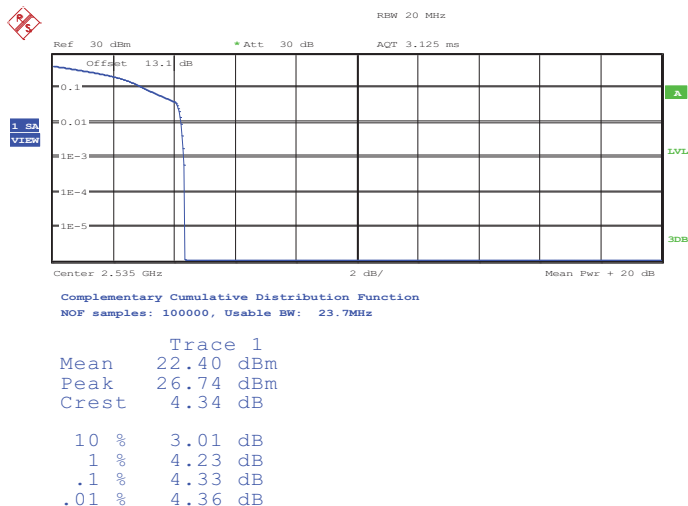


Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 20850 (1RB Size)

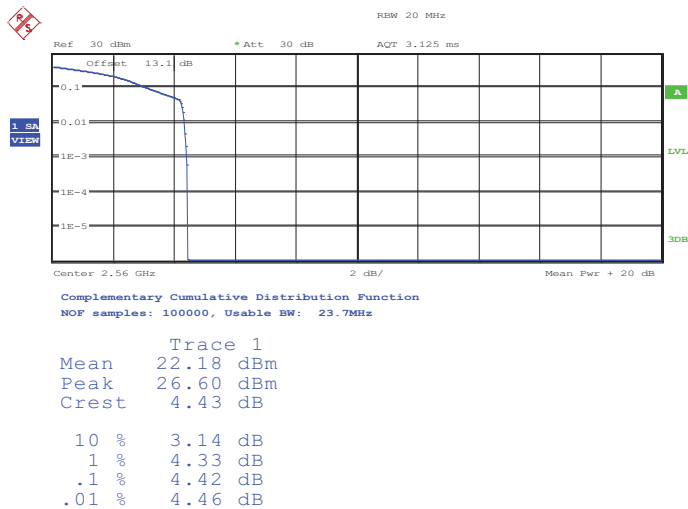


Date: 26.MAR.2014 11:03:45

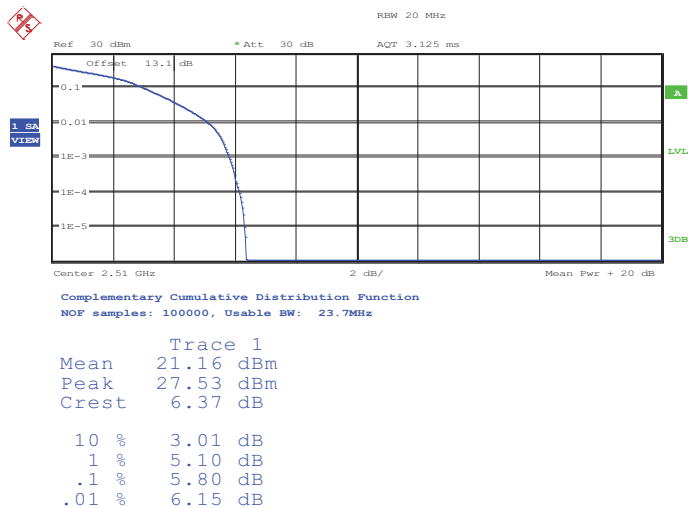
Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 21100 (1RB Size)



Date: 26.MAR.2014 11:04:24

Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 21350 (1RB Size)


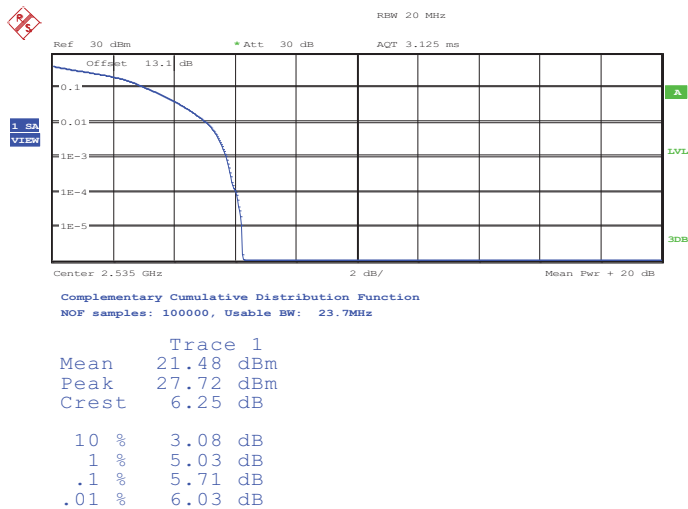
Date: 26.MAR.2014 11:05:05

Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 20850 (100RB Size)


Date: 26.MAR.2014 11:04:09

Peak-to-Average Ratio on LTE Band 7

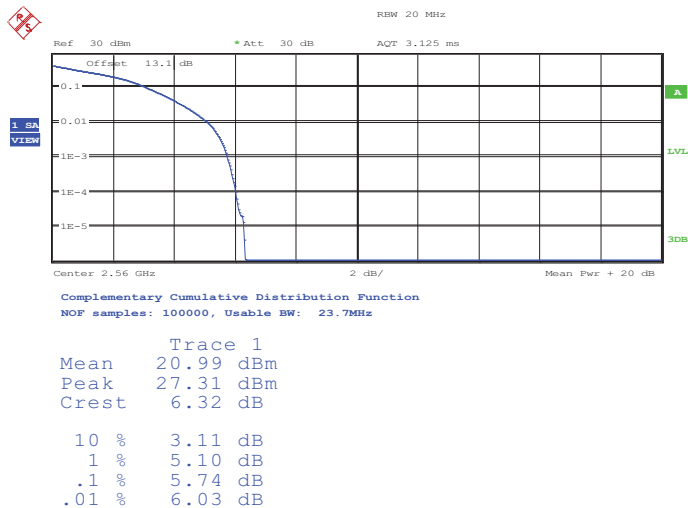
20MHz / 16QAM in Ch. 21100 (100RB Size)



Date: 26.MAR.2014 11:04:44

Peak-to-Average Ratio on LTE Band 7

20MHz / 16QAM in Ch. 21350 (100RB Size)



Date: 26.MAR.2014 11:05:23

3.3 Effective Radiated Power and Equivalent Isotropic Radiated Power Measurement

3.3.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 5 and 3 watt with LTE band 17.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2, 25, 7 and 1 watt with LTE band 4.

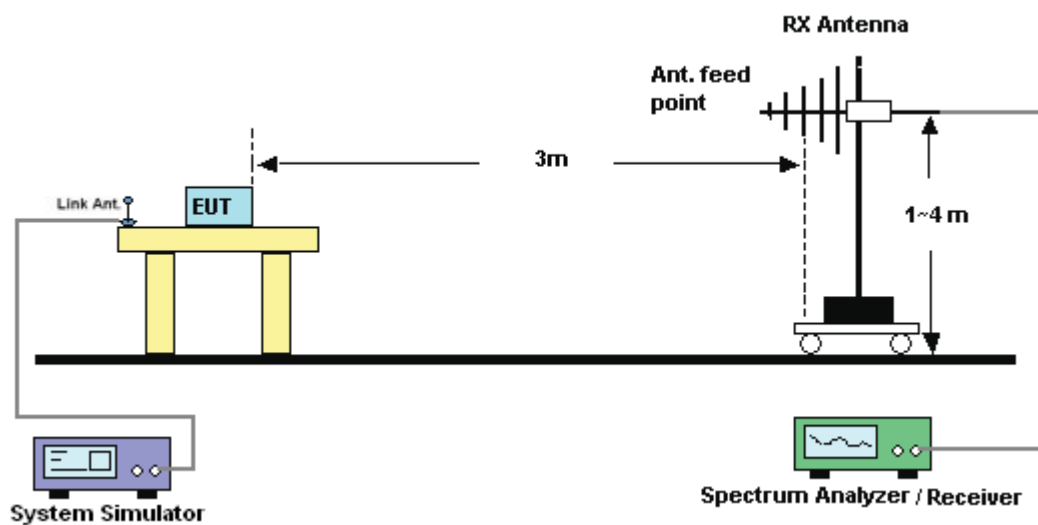
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer per section 5. of KDB 971168 D01.
2. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$.

3.3.4 Test Setup



3.3.5 Test Result of ERP/EIRP

LTE Band 5 Radiated Power ERP for BW 1.4MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.7	-11.85	31.99	17.99	0.06
836.5	-12.49	32.06	17.42	0.06
848.3	-13.06	32.73	17.52	0.06
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.7	-22.10	34.35	10.10	0.01
836.5	-22.26	33.96	9.55	0.01
848.3	-21.92	33.52	9.45	0.01

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 5 Radiated Power ERP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.7	-12.99	31.99	16.85	0.05
836.5	-13.49	32.06	16.42	0.04
848.3	-14.00	32.73	16.58	0.05
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.7	-23.18	34.35	9.02	0.01
836.5	-23.27	33.96	8.54	0.01
848.3	-22.91	33.52	8.46	0.01

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 5 Radiated Power ERP for BW 10MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829	-11.01	32.12	18.96	0.08
836.5	-11.63	32.06	18.28	0.07
844	-12.28	32.32	17.89	0.06
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829	-19.17	34.34	13.02	0.02
836.5	-18.62	33.96	13.19	0.02
844	-20.99	33.72	10.58	0.01

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 5 Radiated Power ERP for BW 10MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829	-12.71	32.12	17.26	0.05
836.5	-12.86	32.06	17.05	0.05
844	-13.15	32.32	17.02	0.05
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829	-21.19	34.34	11.00	0.01
836.5	-21.88	33.96	9.93	0.01
844	-22.49	33.72	9.08	0.01

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 2 Radiated Power EIRP for BW 1.4MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.7	-19.04	39.89	20.85	0.12
1880.0	-18.99	39.74	20.75	0.12
1909.3	-19.14	39.90	20.76	0.12
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.7	-18.40	40.07	21.67	0.15
1880.0	-18.77	40.35	21.58	0.14
1909.3	-20.00	40.63	20.63	0.12

LTE Band 2 Radiated Power EIRP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.7	-20.04	39.89	19.85	0.10
1880.0	-20.02	39.74	19.72	0.09
1909.3	-19.97	39.90	19.93	0.10
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.7	-19.36	40.07	20.71	0.12
1880.0	-19.78	40.35	20.57	0.11
1909.3	-20.82	40.63	19.81	0.10

LTE Band 2 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.0	-19.50	39.77	20.27	0.11
1880.0	-19.89	39.74	19.85	0.10
1900.0	-18.95	39.90	20.95	0.12
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.0	-18.99	40.42	21.43	0.14
1880.0	-18.58	40.35	21.77	0.15
1900.0	-20.07	40.64	20.57	0.11

LTE Band 2 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.0	-20.06	39.77	19.71	0.09
1880.0	-20.64	39.74	19.10	0.08
1900.0	-19.74	39.90	20.16	0.10
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.0	-19.48	40.42	20.94	0.12
1880.0	-19.40	40.35	20.95	0.12
1900.0	-20.86	40.64	19.78	0.10

LTE Band 25 Radiated Power EIRP for BW 1.4MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1914.30	-18.54	39.64	21.10	0.13
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1914.30	-20.02	40.34	20.32	0.11

LTE Band 25 Radiated Power EIRP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1914.30	-19.17	39.64	20.47	0.11
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1914.30	-20.64	40.34	19.70	0.09

LTE Band 25 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1905.00	-19.25	39.91	20.66	0.12
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1905.00	-18.66	40.59	21.93	0.16

LTE Band 25 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1905.00	-19.68	39.91	20.23	0.11
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1905.00	-19.06	40.59	21.53	0.14

LTE Band 4 Radiated Power EIRP for BW 1.4MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-19.90	38.773	18.87	0.08
1732.50	-19.22	39.128	19.91	0.10
1754.30	-19.40	39.114	19.71	0.09
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-16.39	38.274	21.88	0.15
1732.50	-15.96	38.363	22.40	0.17
1754.30	-17.50	38.442	20.94	0.12

LTE Band 4 Radiated Power EIRP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-20.39	38.773	18.38	0.07
1732.50	-20.22	39.128	18.91	0.08
1754.30	-19.84	39.114	19.27	0.08
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-17.02	38.274	21.25	0.13
1732.50	-17.14	38.363	21.22	0.13
1754.30	-17.93	38.442	20.51	0.11

LTE Band 4 Radiated Power EIRP for BW 1.4MHz / QPSK (WPC Chaging Mode)				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-25.31	38.773	13.46	0.02
1732.50	-23.44	39.128	15.69	0.04
1754.30	-24.75	39.114	14.36	0.03
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-27.23	38.274	11.04	0.01
1732.50	-27.51	38.363	10.85	0.01
1754.30	-27.85	38.442	10.59	0.01

LTE Band 4 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-20.16	38.771	18.61	0.07
1732.50	-19.23	39.128	19.90	0.10
1745.00	-19.67	39.186	19.52	0.09
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-17.03	37.951	20.92	0.12
1732.50	-16.69	38.363	21.67	0.15
1745.00	-17.03	38.175	21.15	0.13

LTE Band 4 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-19.93	38.771	18.84	0.08
1732.50	-20.21	39.128	18.92	0.08
1745.00	-20.22	39.186	18.97	0.08
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-17.86	37.951	20.09	0.10
1732.50	-17.61	38.363	20.75	0.12
1745.00	-17.50	38.175	20.68	0.12

LTE Band 17 Radiated Power ERP / EIRP for BW 5MHz / QPSK						
Horizontal Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
706.50	-8.32	30.772	20.30	22.45	0.11	0.18
710.00	-8.74	30.902	20.01	22.16	0.10	0.16
713.50	-9.06	31.493	20.28	22.43	0.11	0.18
Vertical Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
706.50	-21.23	33.466	10.09	12.24	0.01	0.02
710.00	-19.11	33.293	12.03	14.18	0.02	0.03
713.50	-19.56	33.591	11.88	14.03	0.02	0.03

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 17 Radiated Power ERP / EIRP for BW 5MHz / 16QAM						
Horizontal Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
706.50	-9.45	30.772	19.17	21.32	0.08	0.14
710.00	-9.79	30.902	18.96	21.11	0.08	0.13
713.50	-9.92	31.493	19.42	21.57	0.09	0.14
Vertical Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
706.50	-22.18	33.466	9.14	11.29	0.01	0.01
710.00	-20.17	33.293	10.97	13.12	0.01	0.02
713.50	-20.24	33.591	11.20	13.35	0.01	0.02

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 17 Radiated Power ERP / EIRP for BW 10MHz / QPSK						
Horizontal Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
709.00	-8.96	30.889	19.78	21.93	0.10	0.16
710.00	-8.91	30.902	19.84	21.99	0.10	0.16
711.00	-9.07	31.101	19.88	22.03	0.10	0.16
Vertical Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
709.00	-18.93	33.311	12.23	14.38	0.02	0.03
710.00	-19.21	33.293	11.93	14.08	0.02	0.03
711.00	-19.07	33.433	12.21	14.36	0.02	0.03

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 17 Radiated Power ERP / EIRP for BW 10MHz / 16QAM						
Horizontal Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
709.00	-9.97	30.889	18.77	20.92	0.08	0.12
710.00	-9.96	30.902	18.79	20.94	0.08	0.12
711.00	-9.93	31.101	19.02	21.17	0.08	0.13
Vertical Polarization						
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	EIRP (dBm)	ERP (W)	EIRP (W)
709.00	-20.36	33.311	10.80	12.95	0.01	0.02
710.00	-20.37	33.293	10.77	12.92	0.01	0.02
711.00	-20.36	33.433	10.92	13.07	0.01	0.02

* ERP = LVL (dBm) + Correction Factor (dB) - 2.15

LTE Band 7 Radiated Power EIRP for BW 5MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.5	-20.89	40.98	20.09	0.10
2535.0	-21.17	41.05	19.88	0.10
2567.5	-22.83	41.01	18.18	0.07
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.5	-26.73	42.48	15.75	0.04
2535.0	-26.88	42.76	15.88	0.04
2567.5	-28.64	42.33	13.69	0.02

LTE Band 7 Radiated Power EIRP for BW 5MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.5	-21.32	40.98	19.66	0.09
2535.0	-22.04	41.05	19.01	0.08
2567.5	-23.21	41.01	17.80	0.06
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.5	-27.33	42.48	15.15	0.03
2535.0	-27.70	42.76	15.06	0.03
2567.5	-29.11	42.33	13.22	0.02

LTE Band 7 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.0	-20.89	40.47	19.58	0.09
2535.0	-21.61	41.05	19.44	0.09
2560.0	-21.78	41.19	19.41	0.09
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.0	-27.27	42.05	14.78	0.03
2535.0	-27.19	42.76	15.57	0.04
2560.0	-27.75	42.10	14.35	0.03

LTE Band 7 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.0	-21.95	40.47	18.52	0.07
2535.0	-21.96	41.05	19.09	0.08
2560.0	-23.11	41.19	18.08	0.06
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.0	-28.28	42.05	13.77	0.02
2535.0	-27.36	42.76	15.40	0.03
2560.0	-28.92	42.10	13.18	0.02

3.4 Occupied Bandwidth

3.4.1 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.

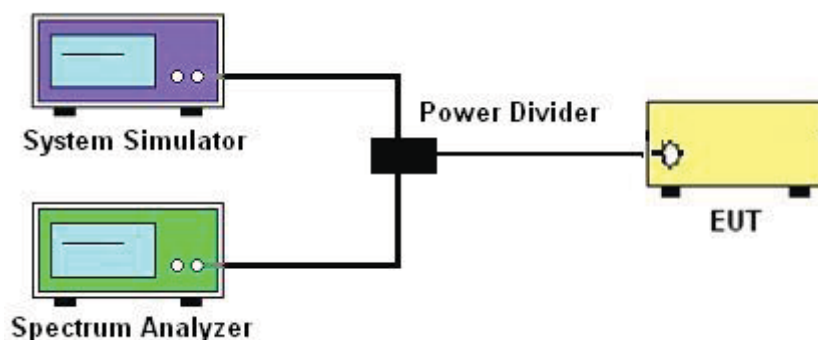
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

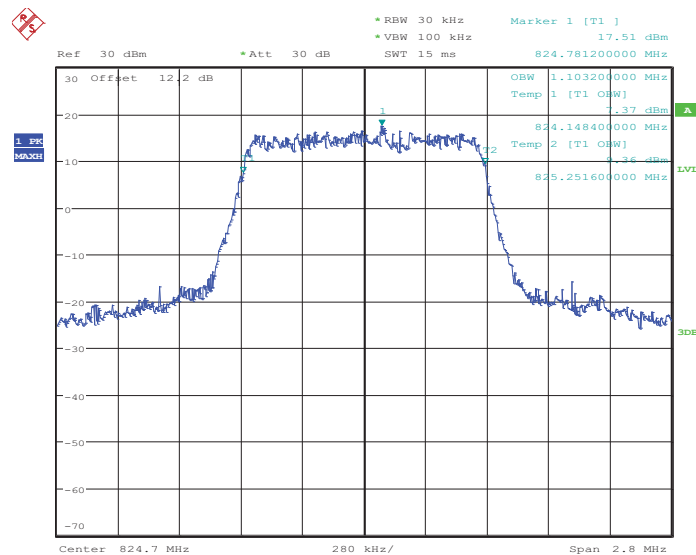
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF powers with full RB sizes were measured.

3.4.4 Test Setup

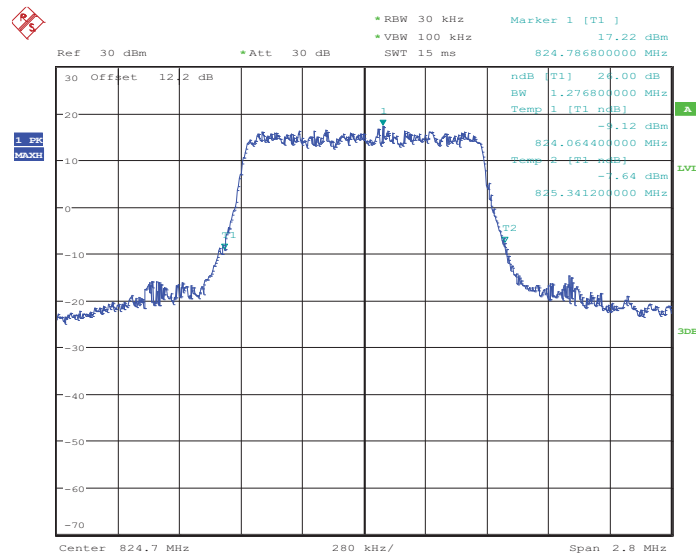


3.4.5 Test Result (Plots) of Occupied Bandwidth

Band :	LTE Band 5	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20407


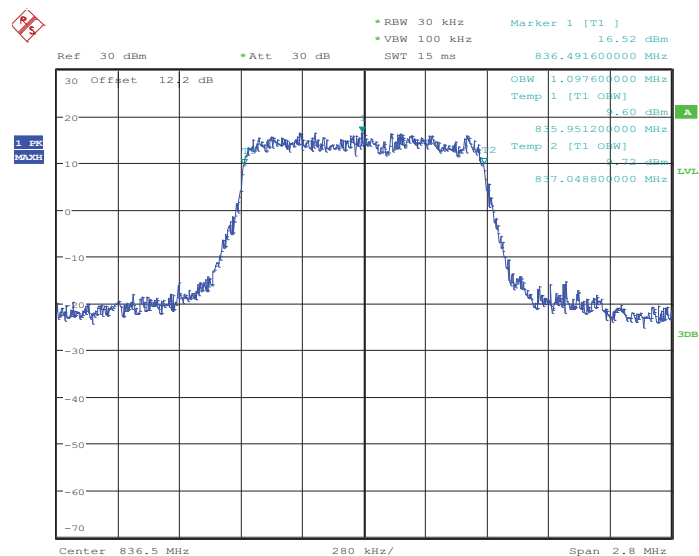
Date: 21.MAR.2014 11:08:16

26dB Bandwidth Plot on Channel 20407


Date: 21.MAR.2014 11:09:09

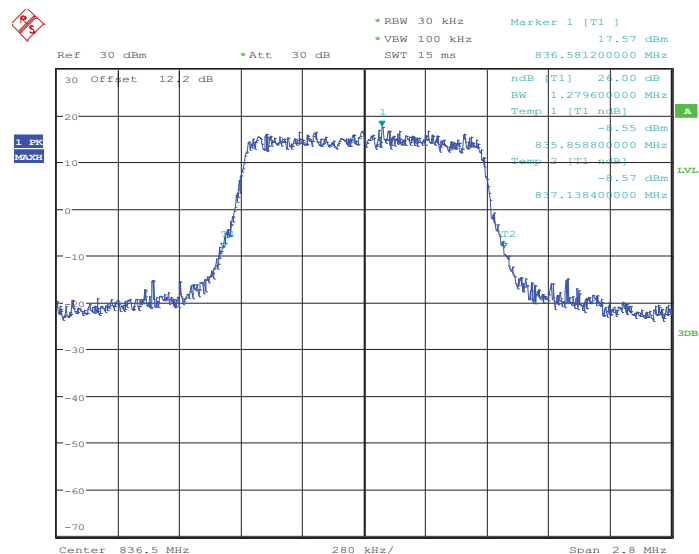


99% Occupied Bandwidth Plot on Channel 20525



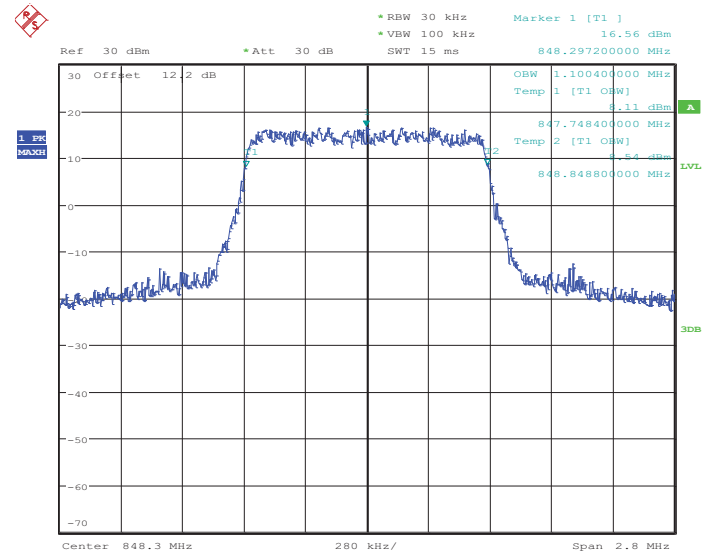
Date: 21.MAR.2014 11:14:31

26dB Bandwidth Plot on Channel 20525



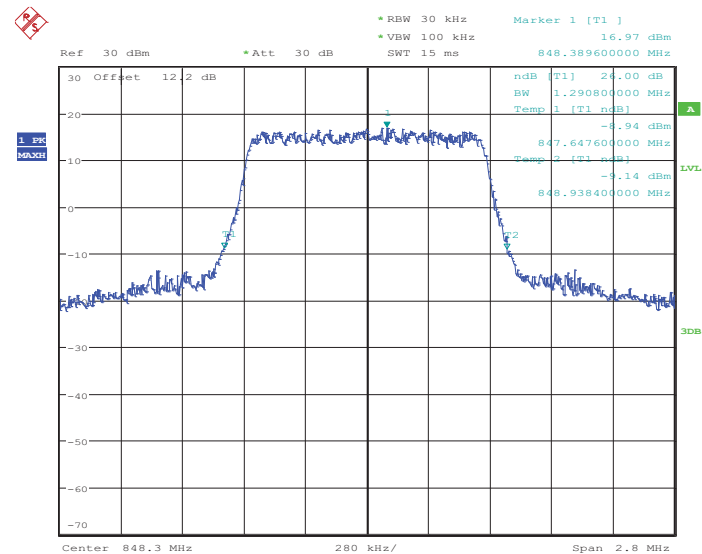
Date: 21.MAR.2014 11:15:04

99% Occupied Bandwidth Plot on Channel 20643



Date: 21.MAR.2014 11:17:38

26dB Bandwidth Plot on Channel 20643

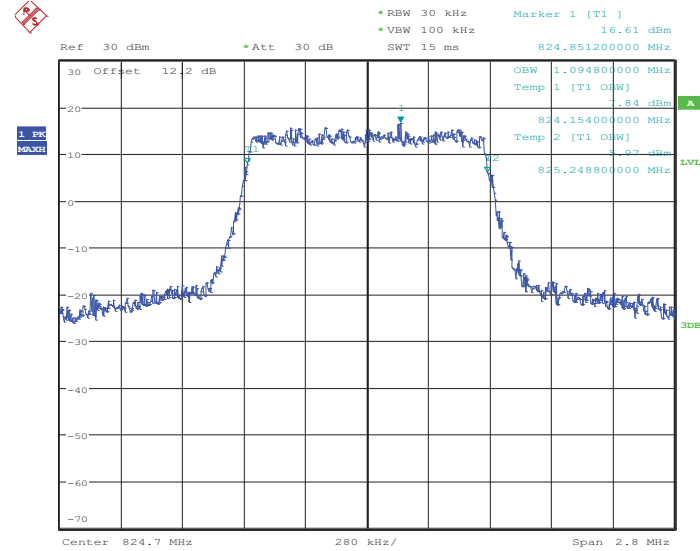


Date: 21.MAR.2014 11:18:12



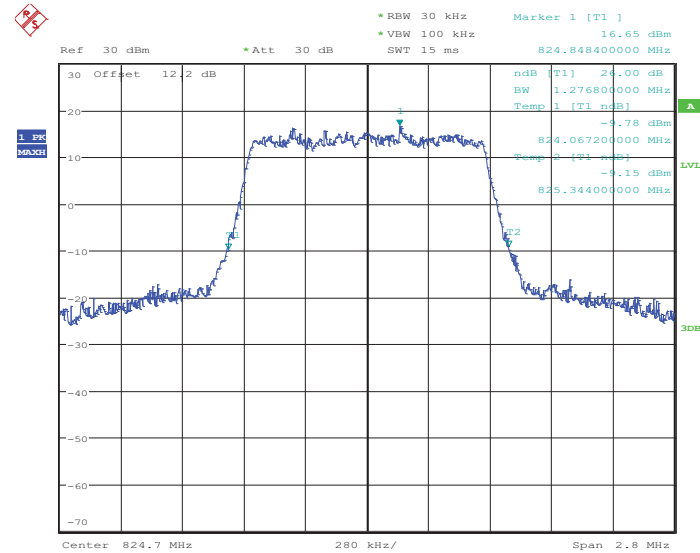
Band :	LTE Band 5	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20407



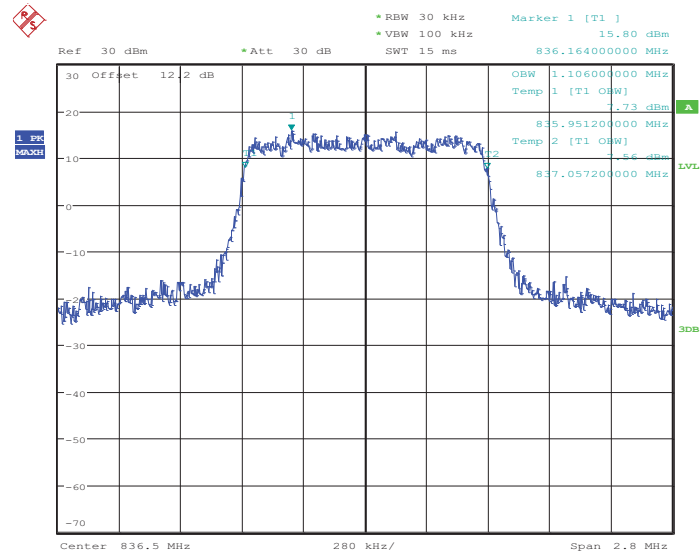
Date: 21.MAR.2014 11:08:33

26dB Bandwidth Plot on Channel 20407



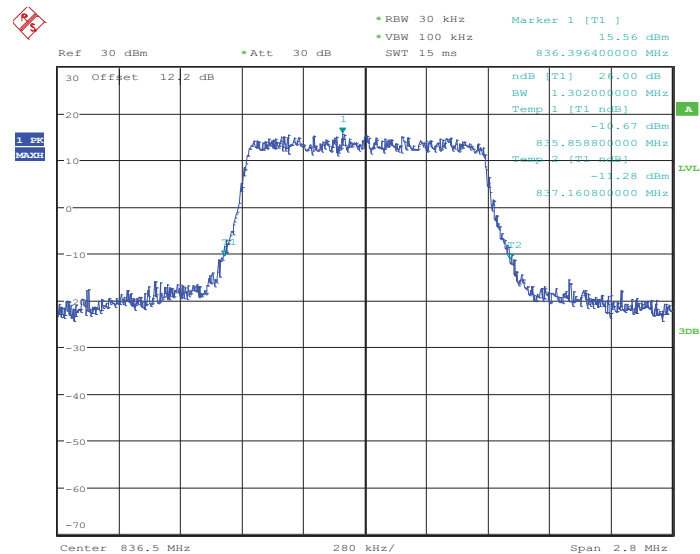
Date: 21.MAR.2014 11:08:51

99% Occupied Bandwidth Plot on Channel 20525



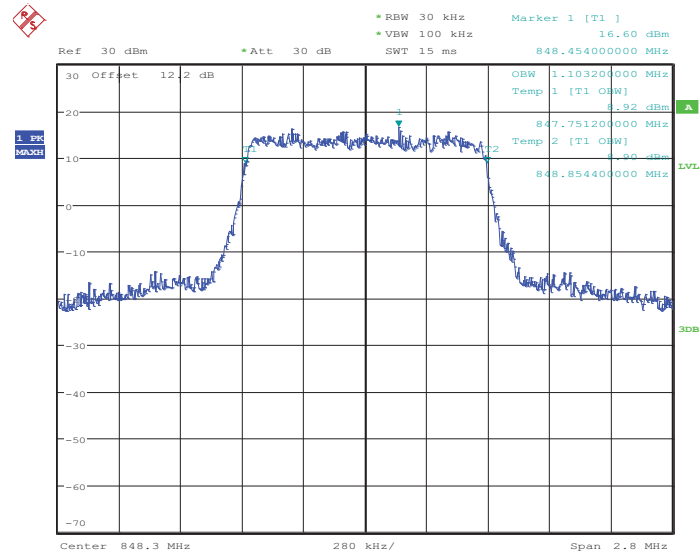
Date: 21.MAR.2014 11:14:47

26dB Bandwidth Plot on Channel 20525



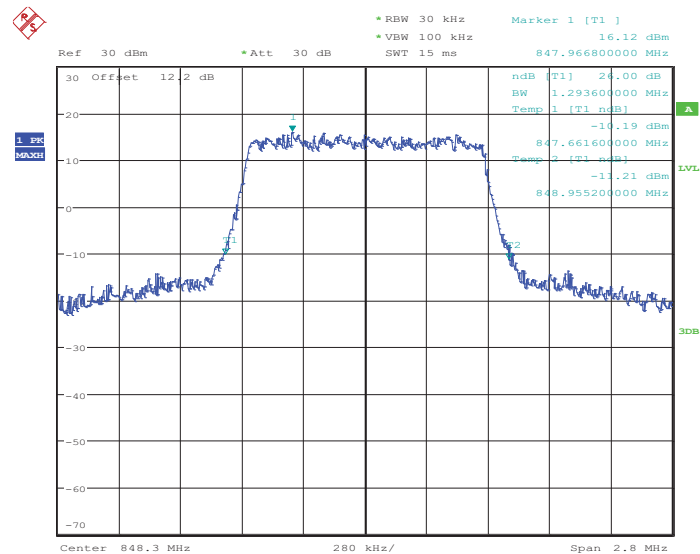
Date: 21.MAR.2014 11:15:22

99% Occupied Bandwidth Plot on Channel 20643



Date: 21.MAR.2014 11:17:54

26dB Bandwidth Plot on Channel 20643

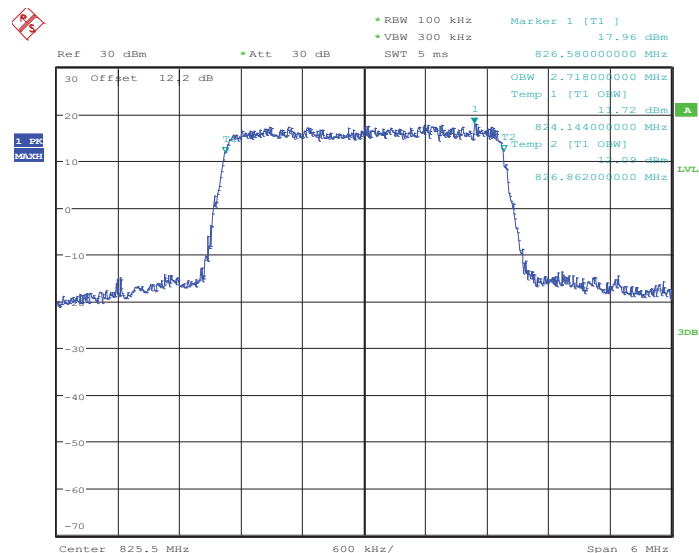


Date: 21.MAR.2014 11:18:29



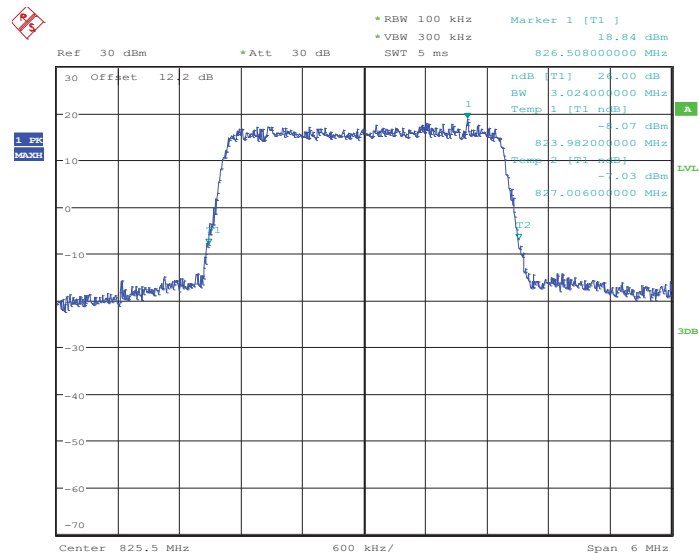
Band :	LTE Band 5	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20415



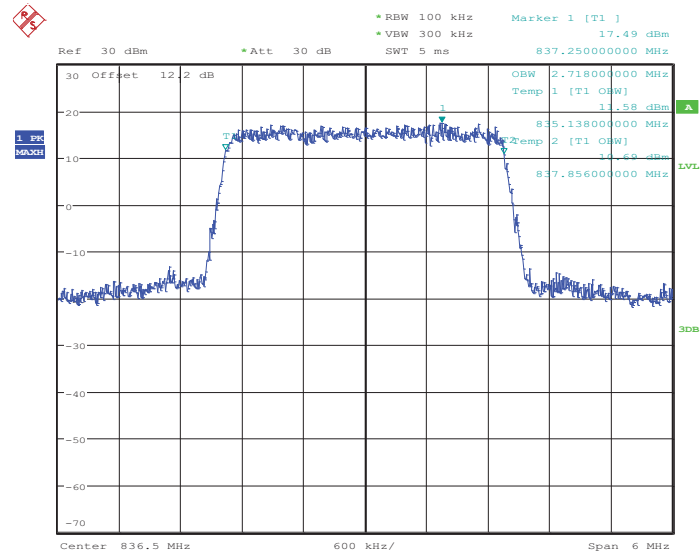
Date: 21.MAR.2014 17:55:42

26dB Bandwidth Plot on Channel 20415



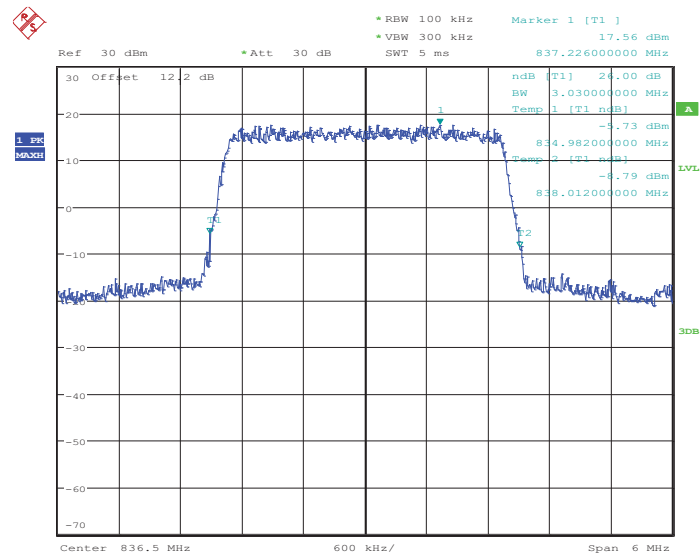
Date: 21.MAR.2014 12:46:38

99% Occupied Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 12:52:20

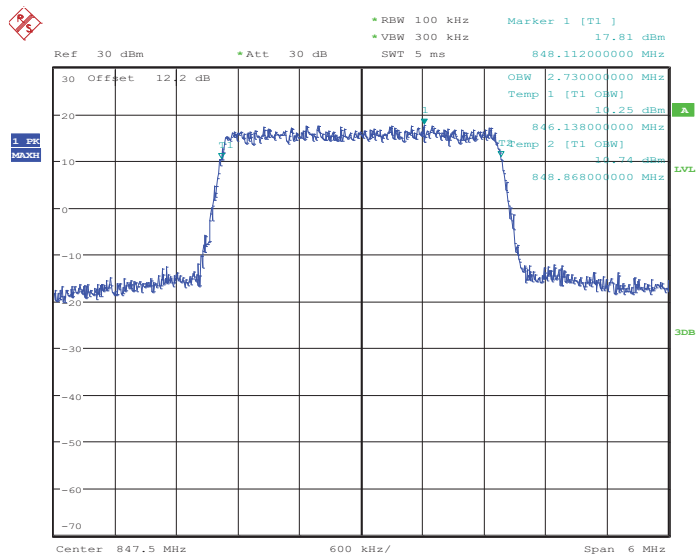
26dB Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 12:52:54

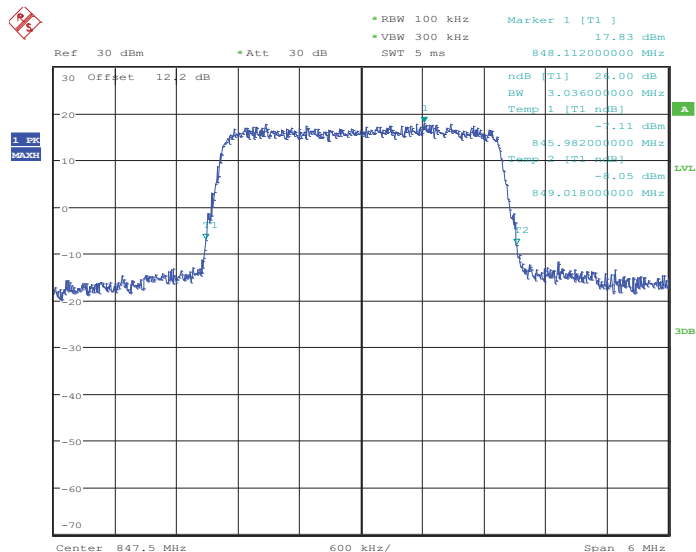


99% Occupied Bandwidth Plot on Channel 20635



Date: 21.MAR.2014 12:55:27

26dB Bandwidth Plot on Channel 20635

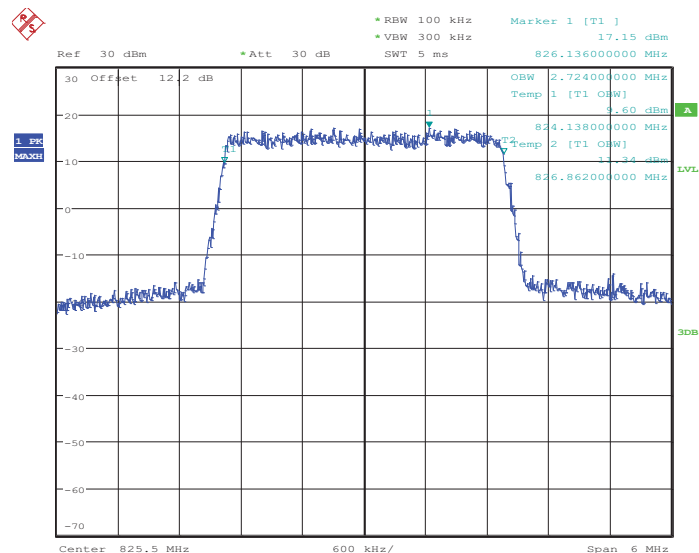


Date: 21.MAR.2014 12:56:01



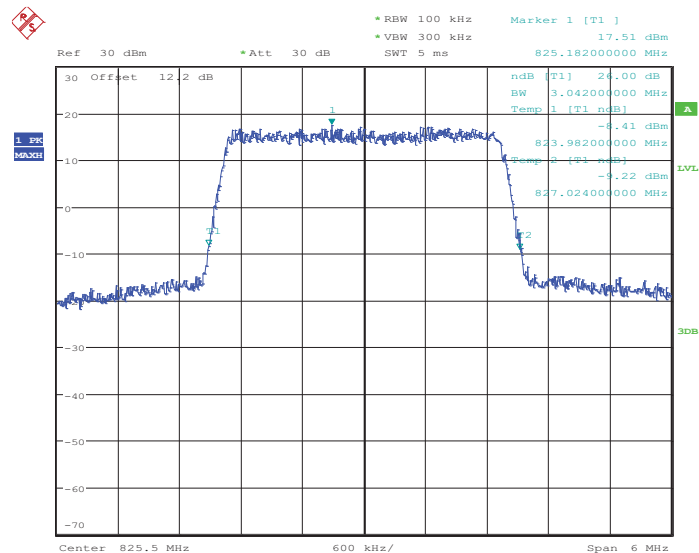
Band :	LTE Band 5	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20415



Date: 21.MAR.2014 12:46:18

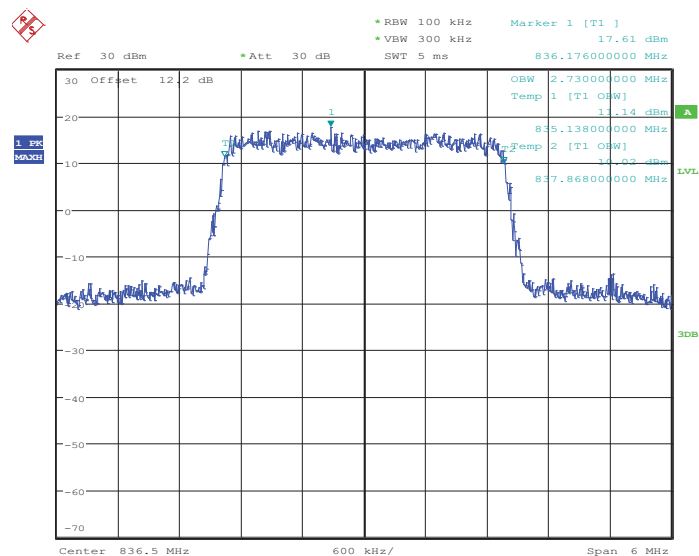
26dB Bandwidth Plot on Channel 20415



Date: 21.MAR.2014 12:46:57

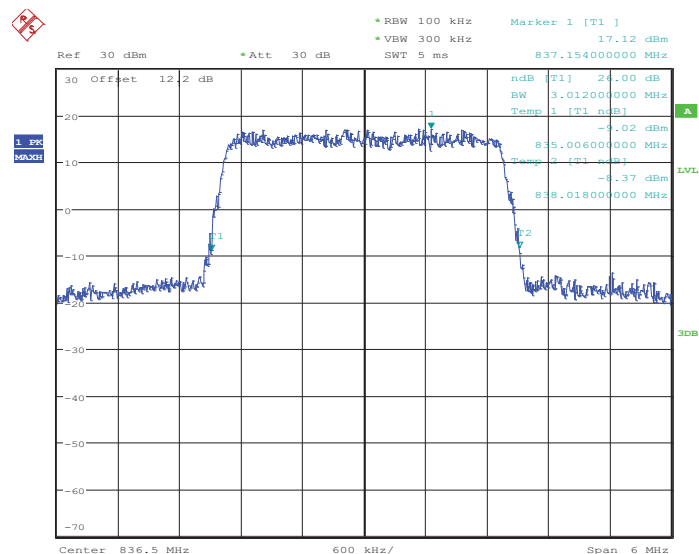


99% Occupied Bandwidth Plot on Channel 20525

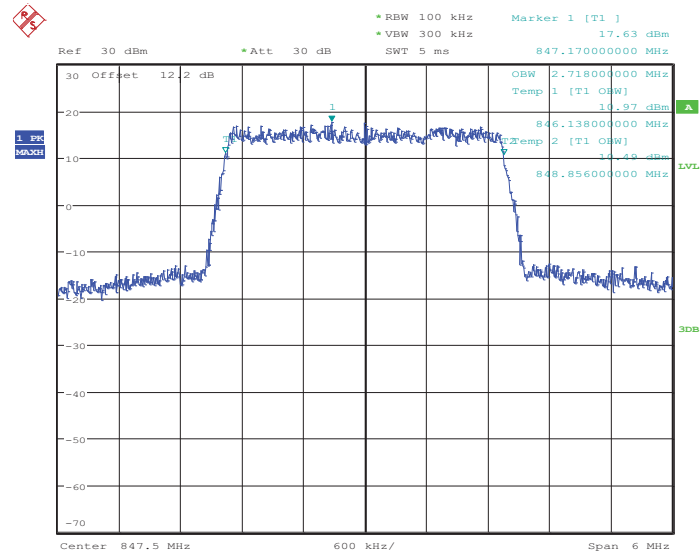


Date: 21.MAR.2014 12:52:36

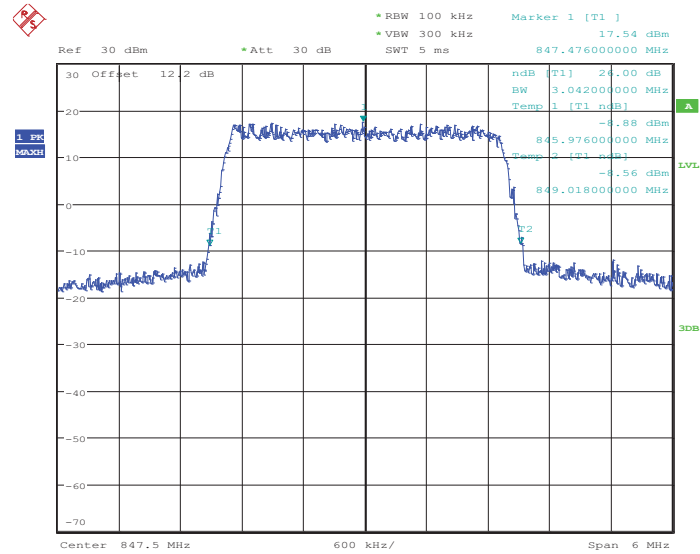
26dB Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 12:53:12

99% Occupied Bandwidth Plot on Channel 20635


Date: 21.MAR.2014 12:55:43

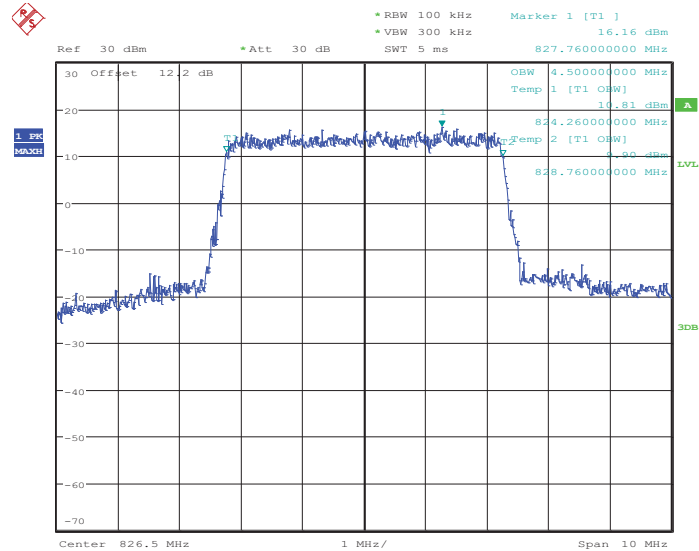
26dB Bandwidth Plot on Channel 20635


Date: 21.MAR.2014 12:56:19



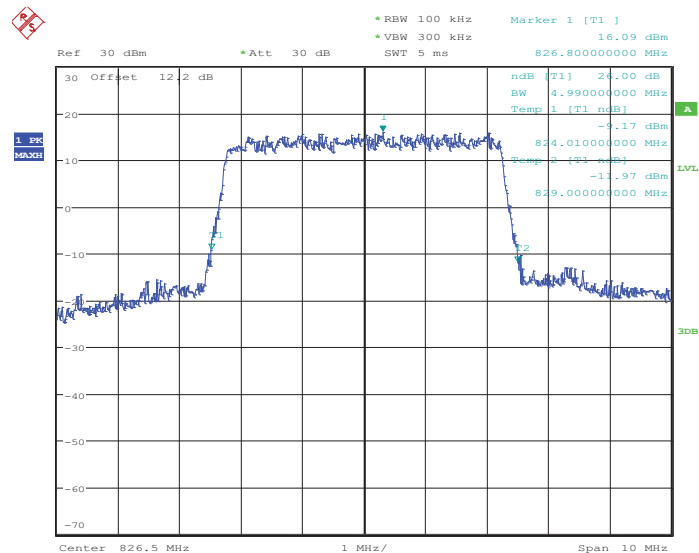
Band :	LTE Band 5	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20425



Date: 21.MAR.2014 13:01:46

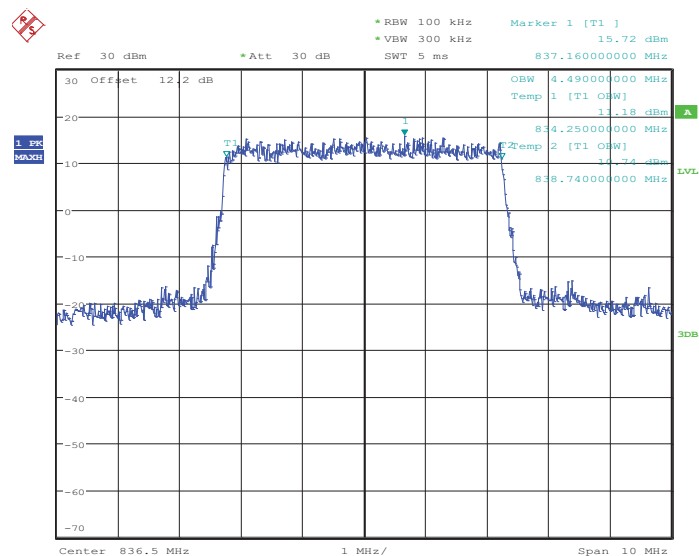
26dB Bandwidth Plot on Channel 20425



Date: 21.MAR.2014 13:02:20

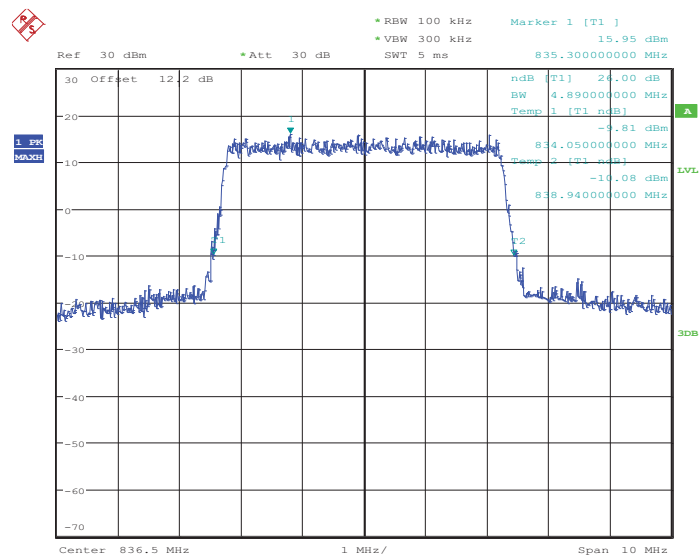


99% Occupied Bandwidth Plot on Channel 20525



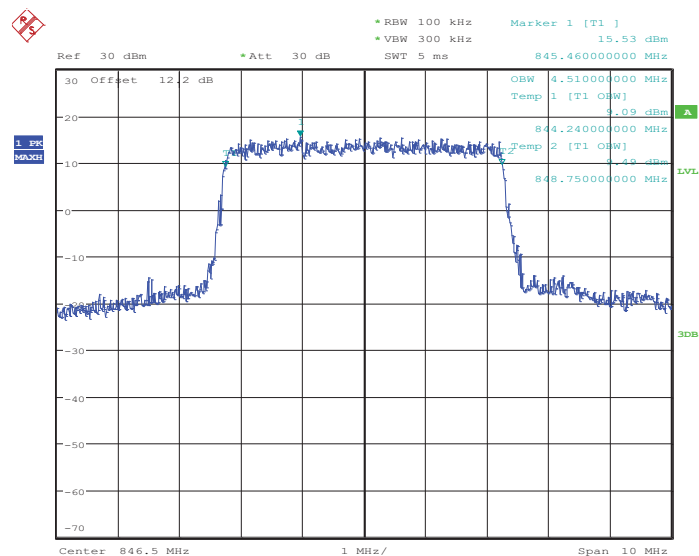
Date: 21.MAR.2014 13:08:00

26dB Bandwidth Plot on Channel 20525



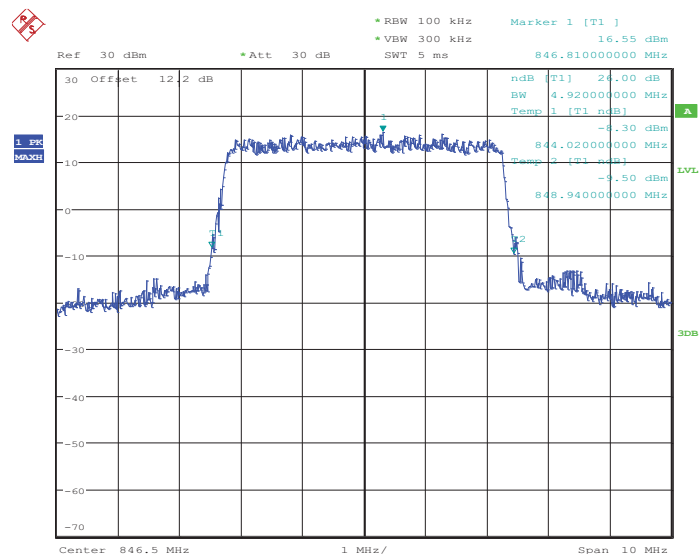
Date: 21.MAR.2014 13:08:36

99% Occupied Bandwidth Plot on Channel 20625



Date: 21.MAR.2014 13:11:10

26dB Bandwidth Plot on Channel 20625

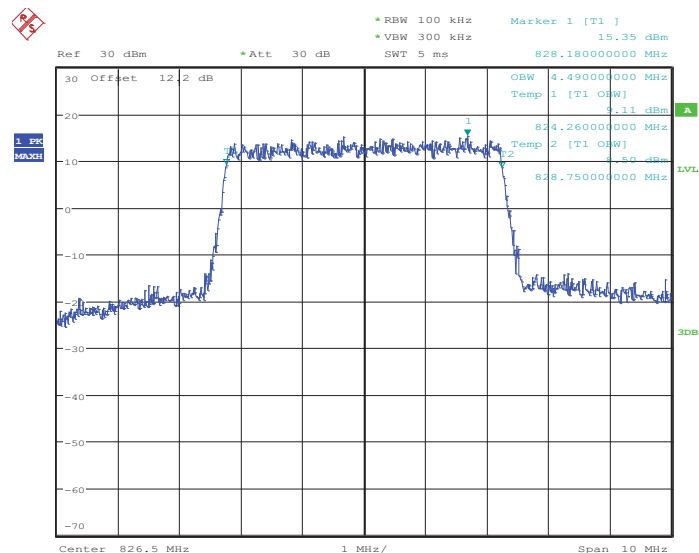


Date: 21.MAR.2014 13:11:44



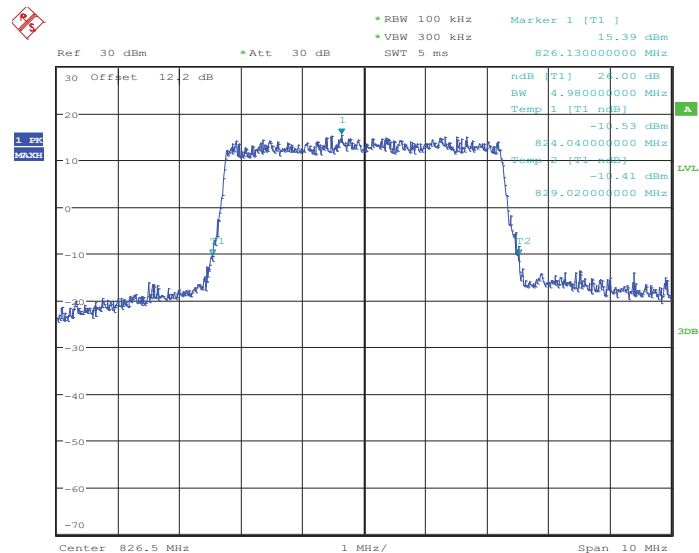
Band :	LTE Band 5	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20425

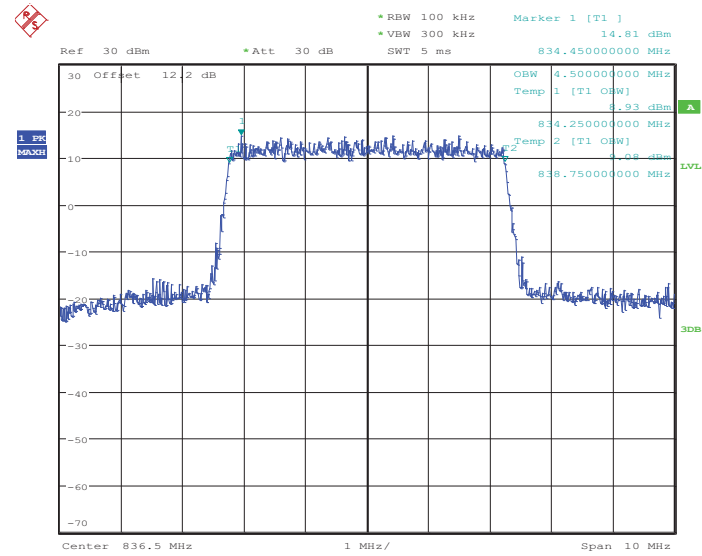


Date: 21.MAR.2014 13:02:02

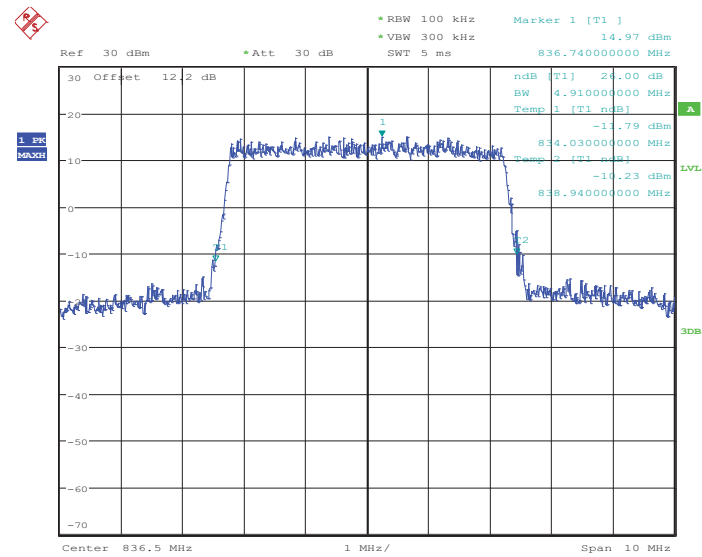
26dB Bandwidth Plot on Channel 20425



Date: 21.MAR.2014 13:02:38

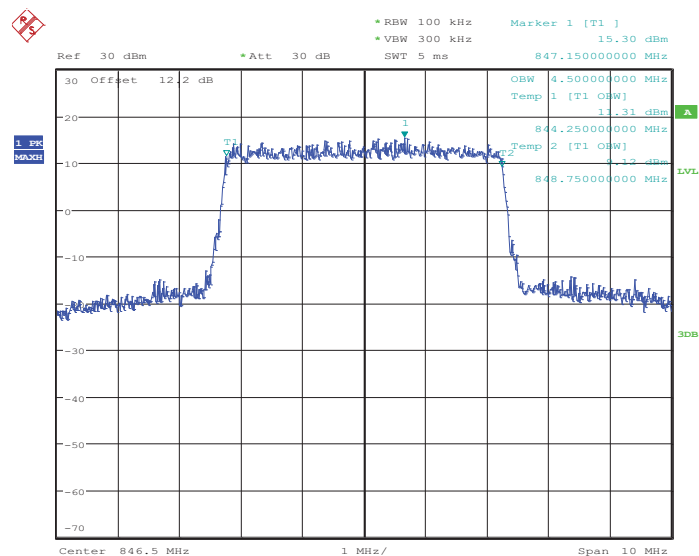
99% Occupied Bandwidth Plot on Channel 20525


Date: 21.MAR.2014 13:08:18

26dB Bandwidth Plot on Channel 20525


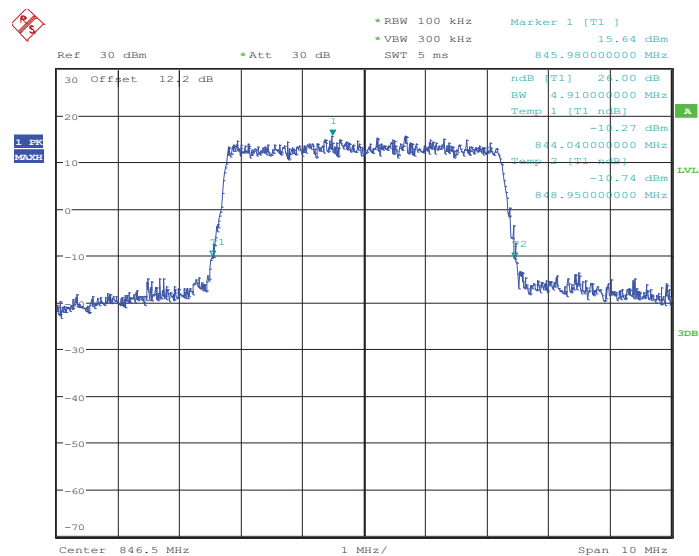
Date: 21.MAR.2014 13:08:54

99% Occupied Bandwidth Plot on Channel 20625



Date: 21.MAR.2014 13:11:26

26dB Bandwidth Plot on Channel 20625

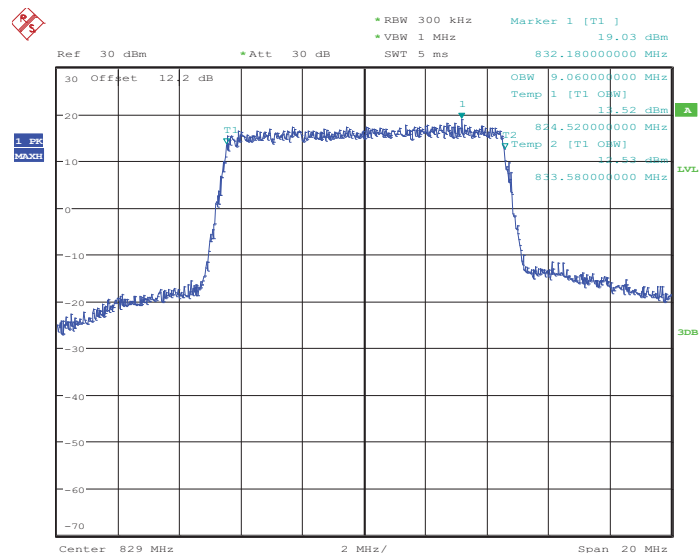


Date: 21.MAR.2014 13:12:01



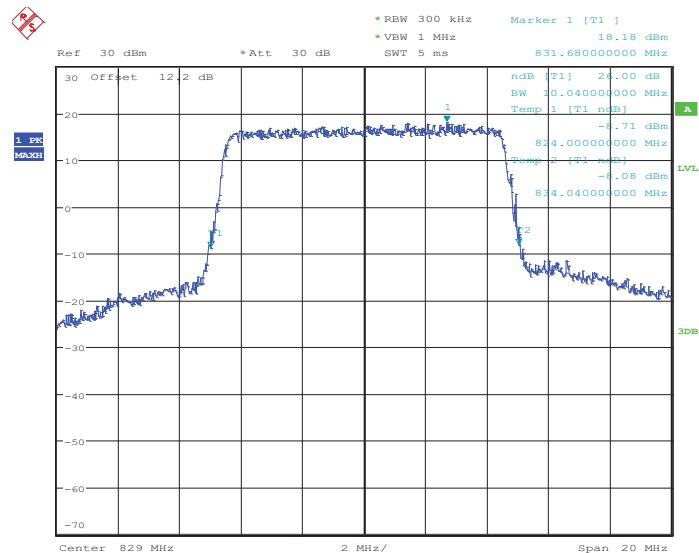
Band :	LTE Band 5	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20450



Date: 21.MAR.2014 14:07:03

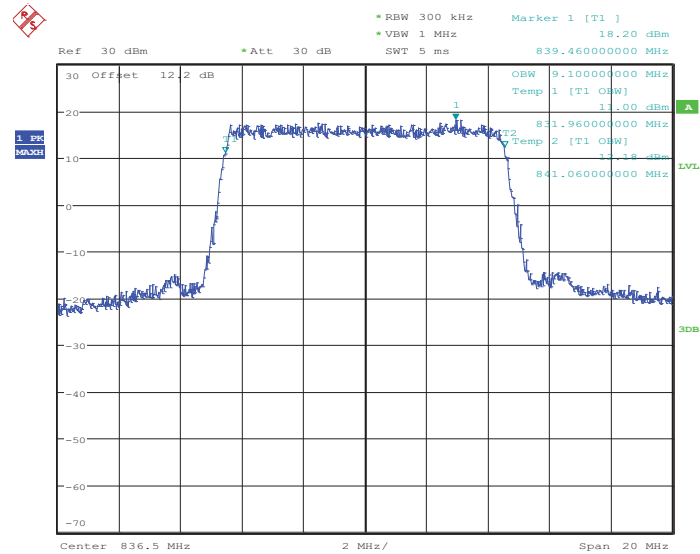
26dB Bandwidth Plot on Channel 20450



Date: 21.MAR.2014 14:07:37

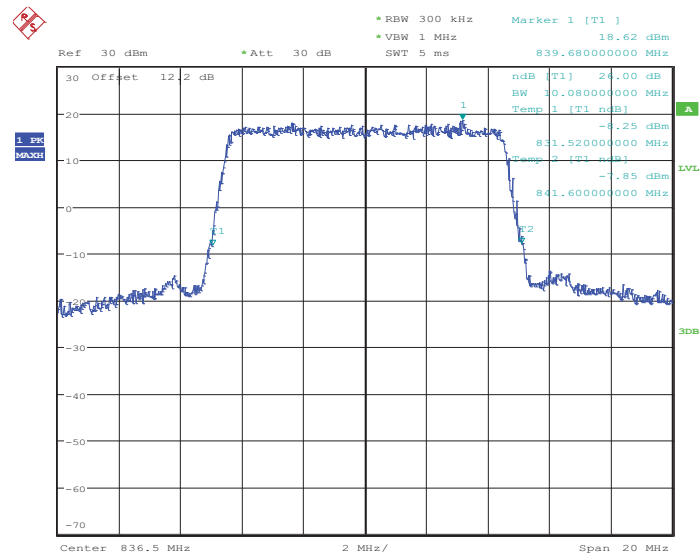


99% Occupied Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 14:13:18

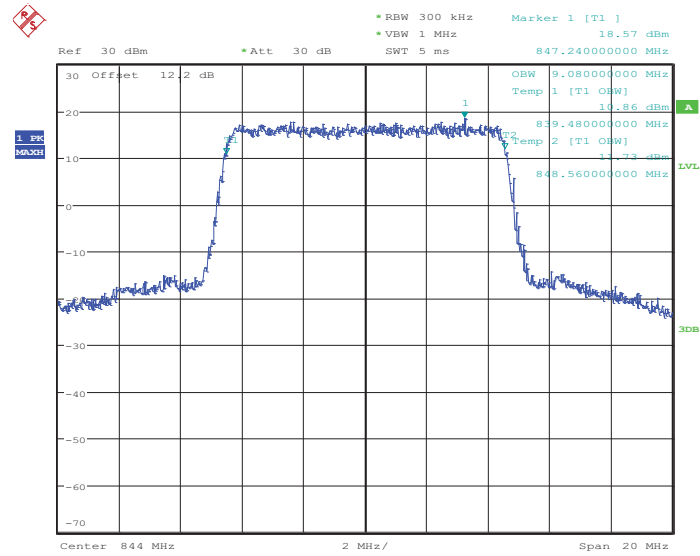
26dB Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 14:13:52

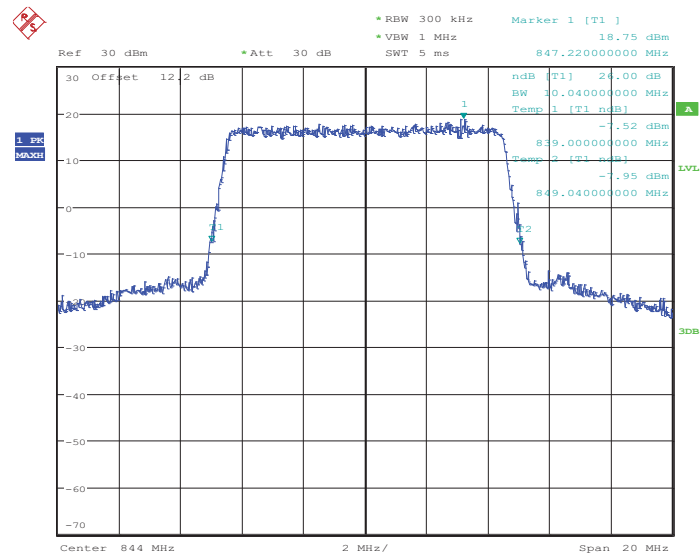


99% Occupied Bandwidth Plot on Channel 20600



Date: 21.MAR.2014 14:16:25

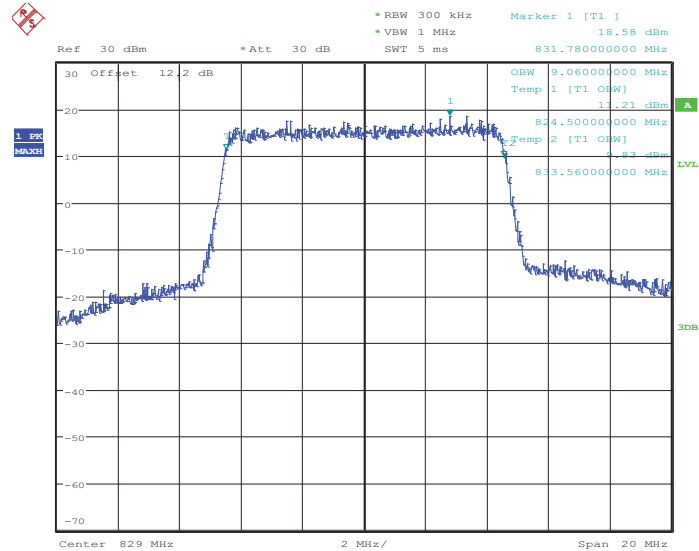
26dB Bandwidth Plot on Channel 20600



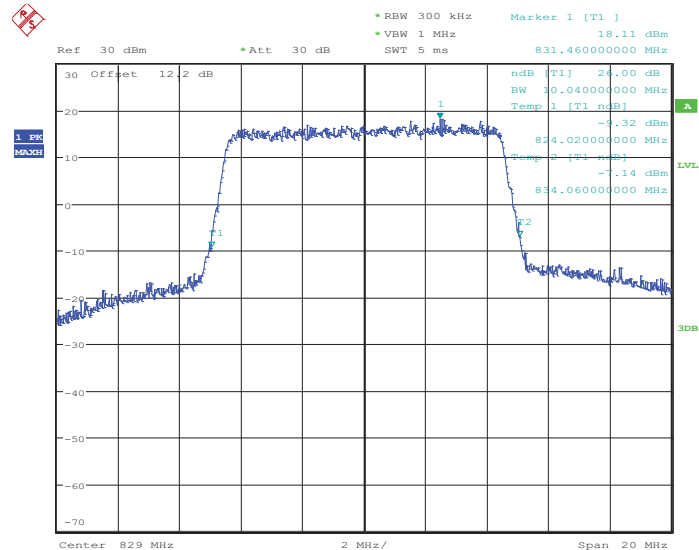
Date: 21.MAR.2014 14:16:59



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

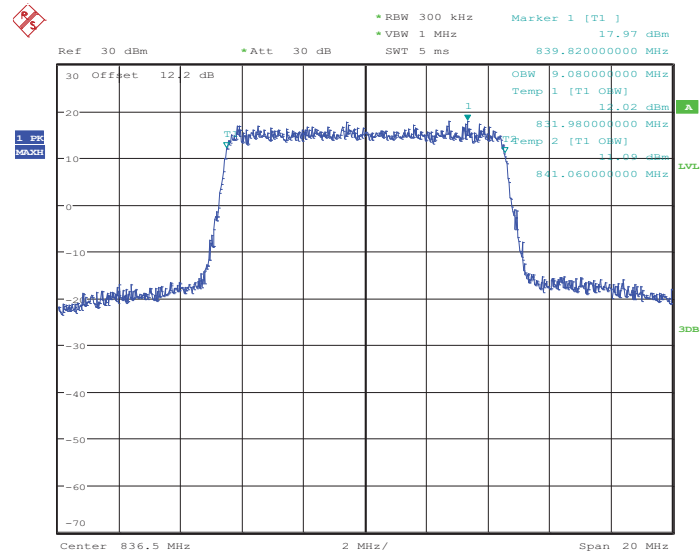
Date: 21.MAR.2014 14:07:19

26dB Bandwidth Plot on Channel 20450

Date: 21.MAR.2014 14:07:55

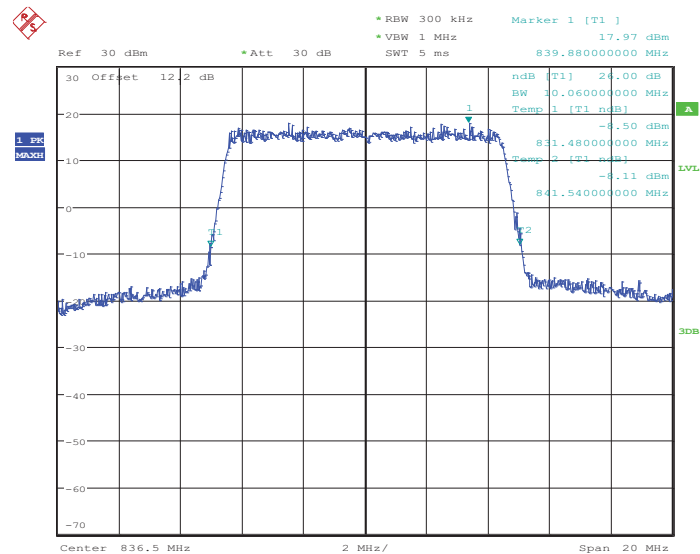


99% Occupied Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 14:13:34

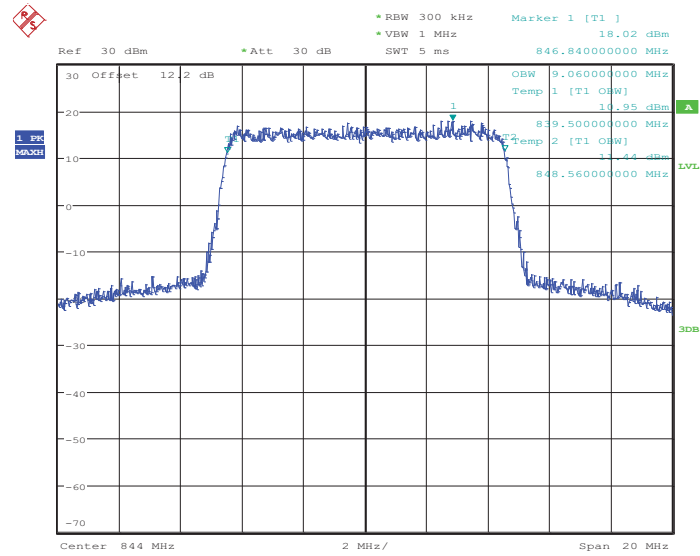
26dB Bandwidth Plot on Channel 20525



Date: 21.MAR.2014 14:14:09

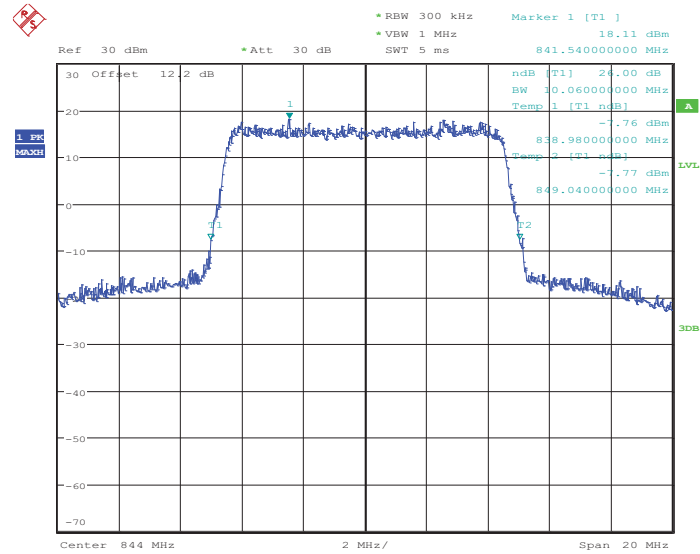


99% Occupied Bandwidth Plot on Channel 20600



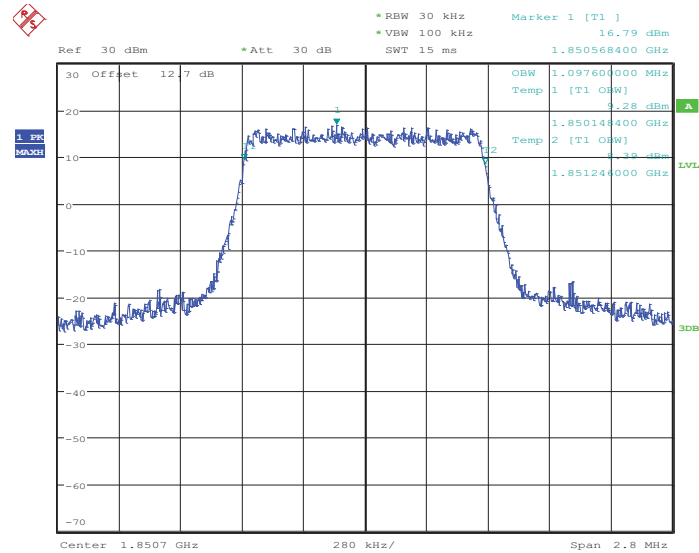
Date: 21.MAR.2014 14:16:41

26dB Bandwidth Plot on Channel 20600

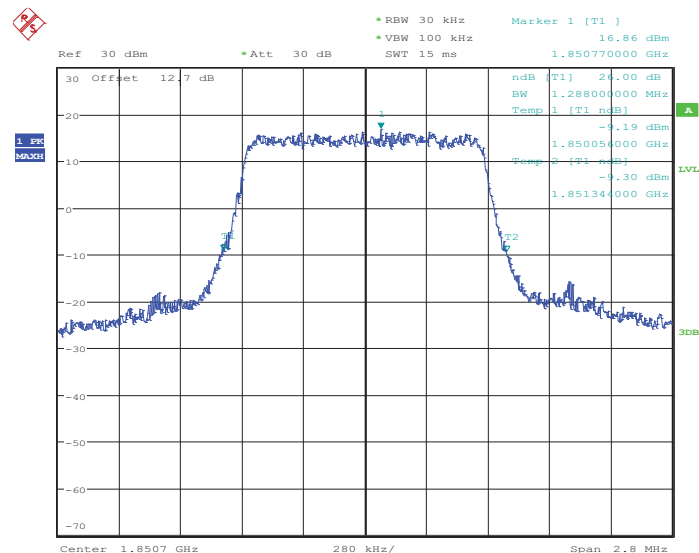


Date: 21.MAR.2014 14:17:17

Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18607 / Channel 26047


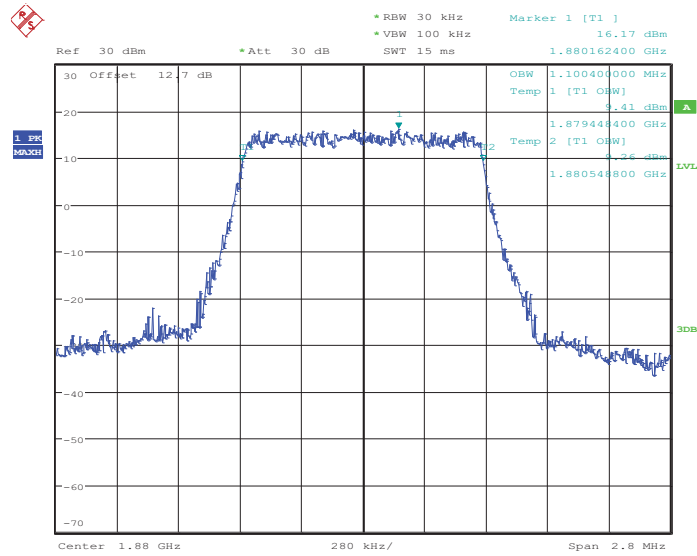
Date: 20.MAR.2014 10:04:55

26dB Bandwidth Plot on Channel 18607 / Channel 26047


Date: 20.MAR.2014 10:05:29

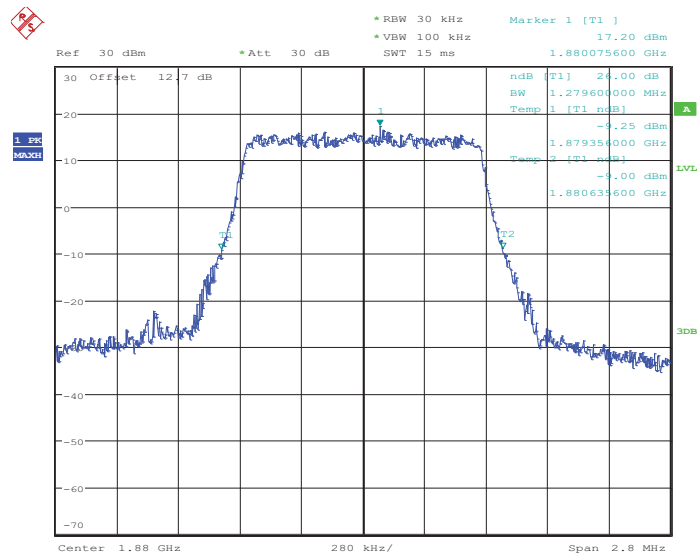


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 10:11:01

26dB Bandwidth Plot on Channel 18900 / Channel 26340

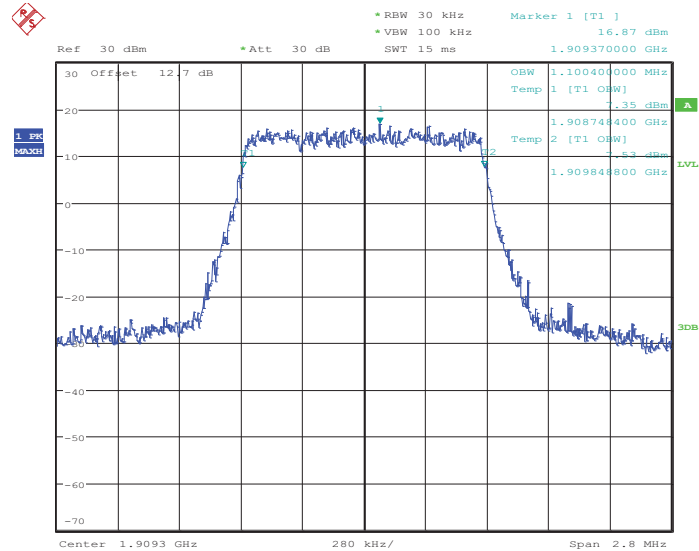


Date: 20.MAR.2014 10:11:34



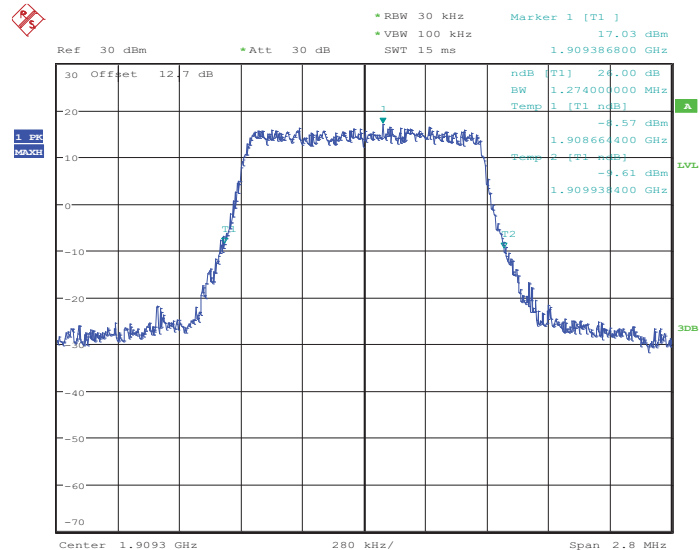
Band :	LTE Band 2 (High Channel)	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19193



Date: 20.MAR.2014 10:14:05

26dB Bandwidth Plot on Channel 19193

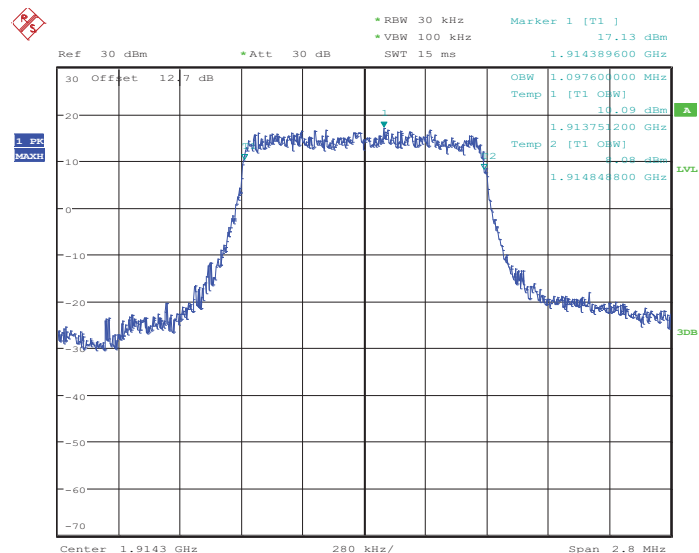


Date: 20.MAR.2014 10:14:38



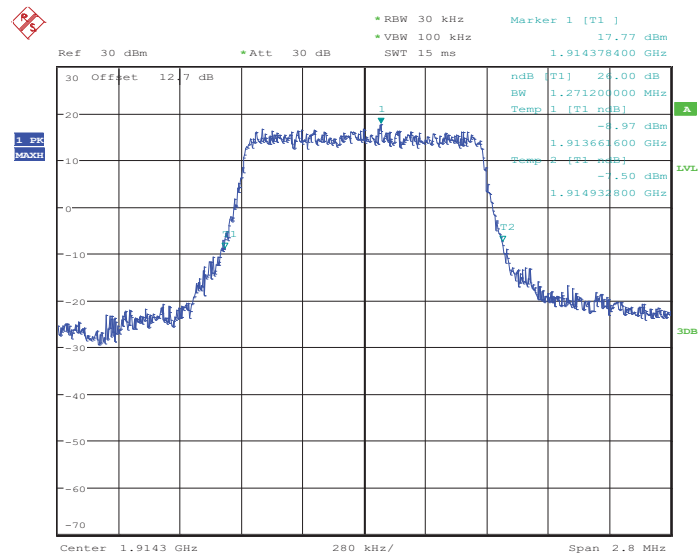
Band :	LTE Band 25 (High Channel)	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26683



Date: 21.MAR.2014 16:11:03

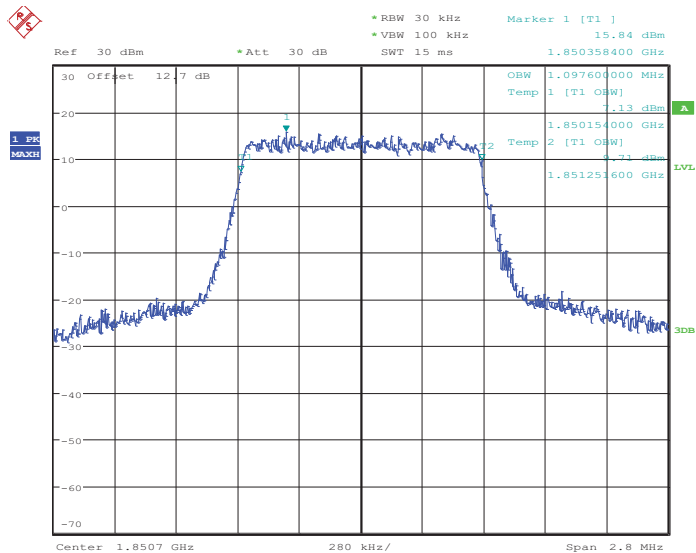
26dB Bandwidth Plot on Channel 26683



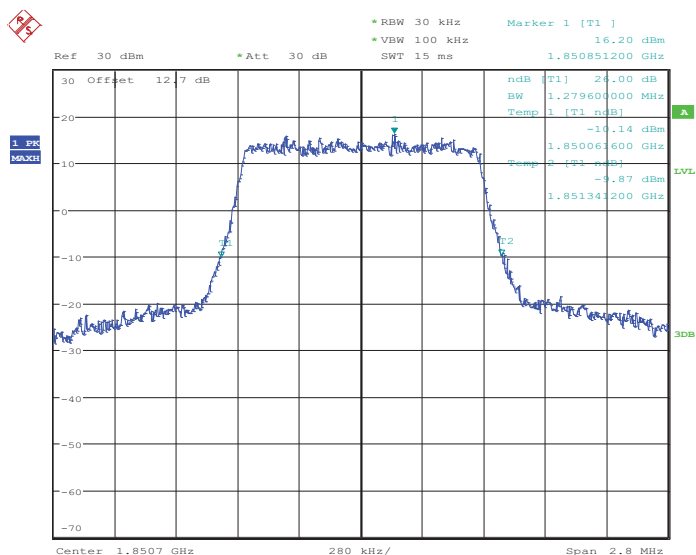
Date: 21.MAR.2014 16:11:37



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18607 / Channel 26047

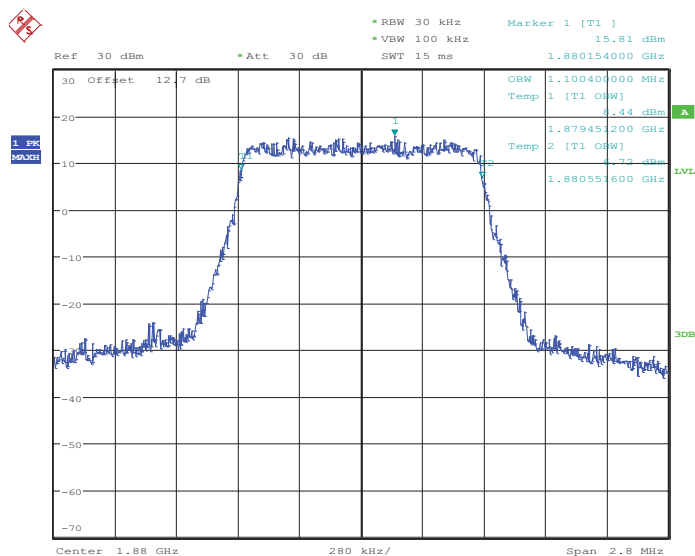
Date: 20.MAR.2014 10:05:11

26dB Bandwidth Plot on Channel 18607 / Channel 26047

Date: 20.MAR.2014 10:05:46

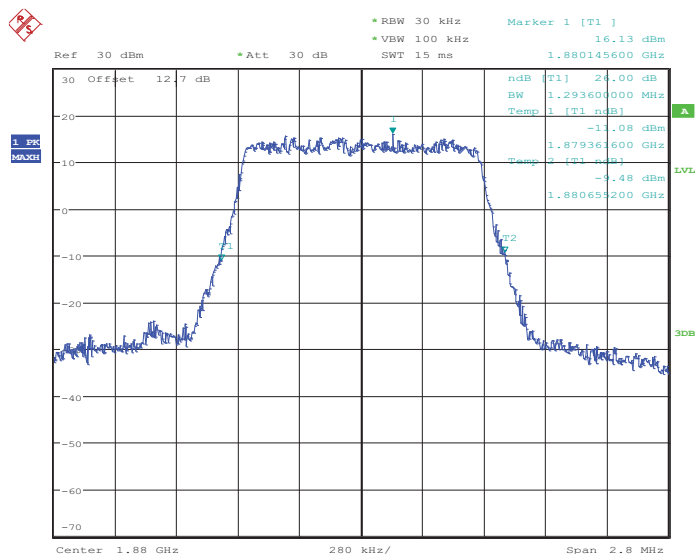


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 10:11:17

26dB Bandwidth Plot on Channel 18900 / Channel 26340

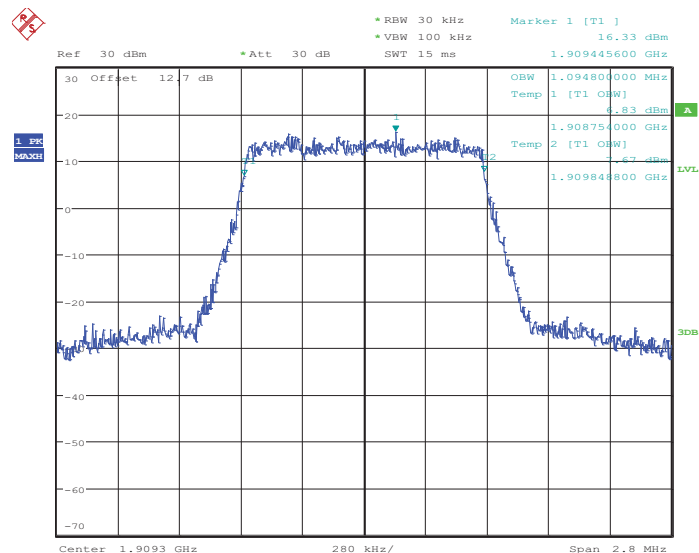


Date: 20.MAR.2014 10:11:51



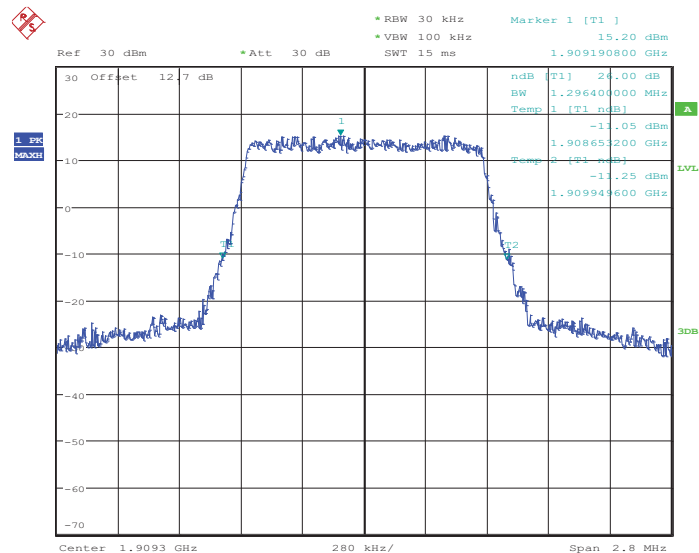
Band :	LTE Band 2 (High Channel)	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19193



Date: 20.MAR.2014 10:14:21

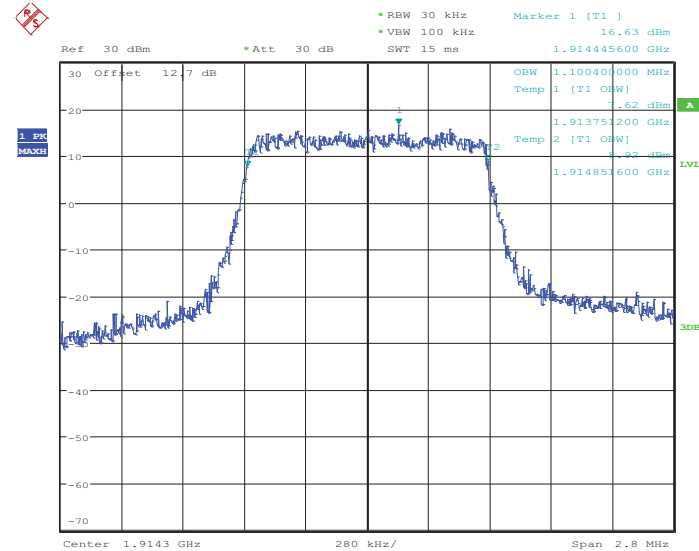
26dB Bandwidth Plot on Channel 19193



Date: 20.MAR.2014 10:14:56

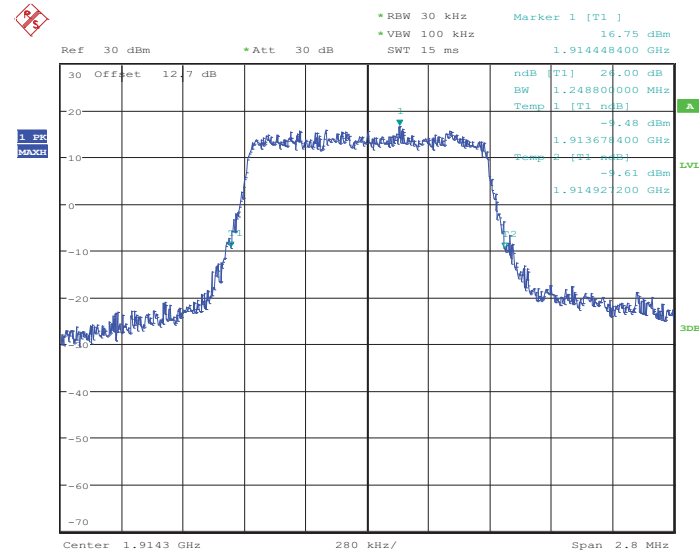
Band :	LTE Band 25 (High Channel)	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26683



Date: 21.MAR.2014 16:11:19

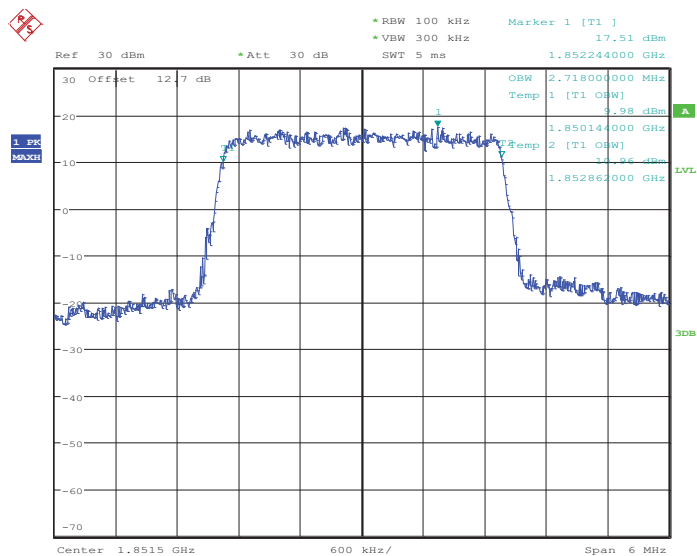
26dB Bandwidth Plot on Channel 26683



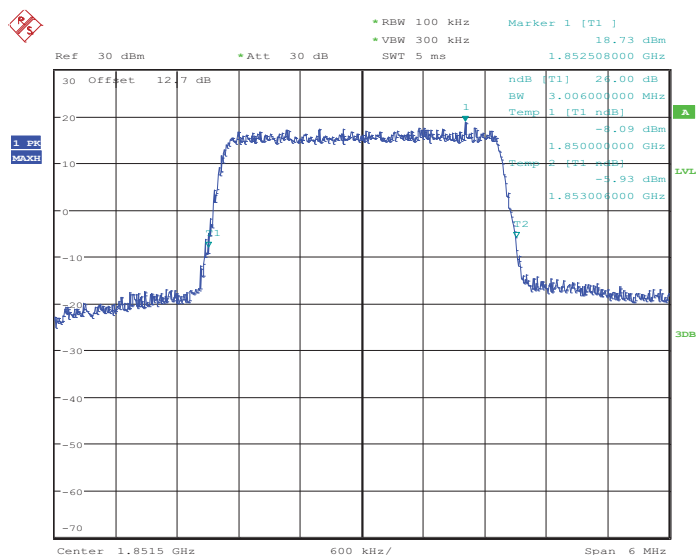
Date: 21.MAR.2014 16:11:55



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	3MHz / QPSK
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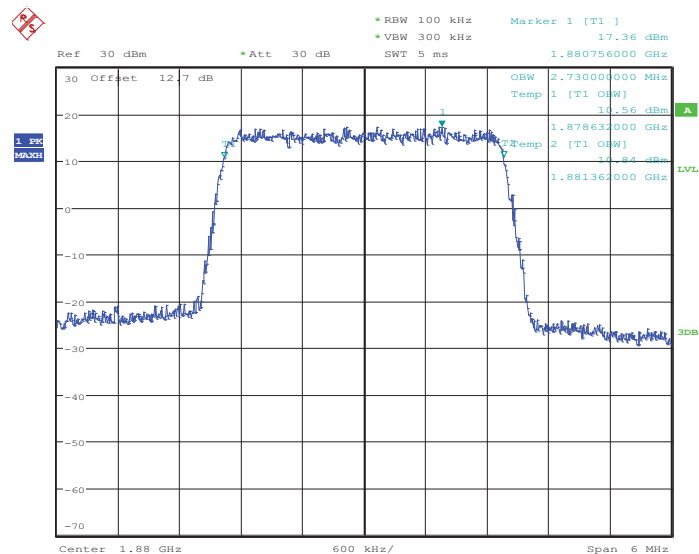
99% Occupied Bandwidth Plot on Channel 18615 / Channel 26055

Date: 20.MAR.2014 14:37:00

26dB Bandwidth Plot on Channel 18615 / Channel 26055

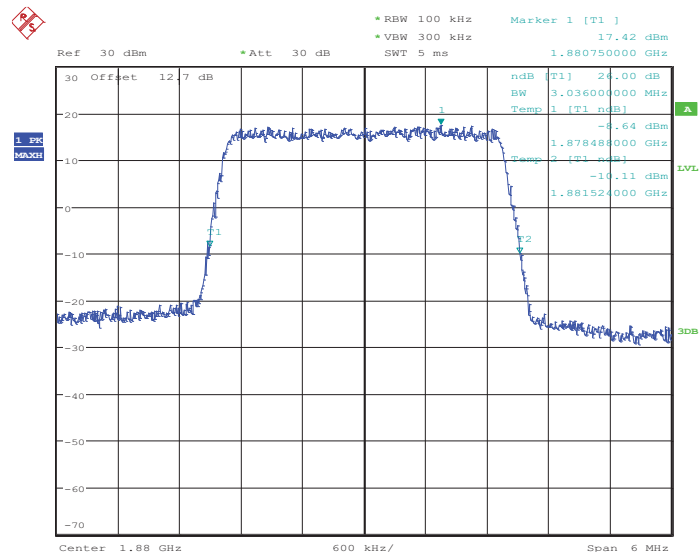
Date: 20.MAR.2014 14:37:17

99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 14:18:50

26dB Bandwidth Plot on Channel 18900 / Channel 26340

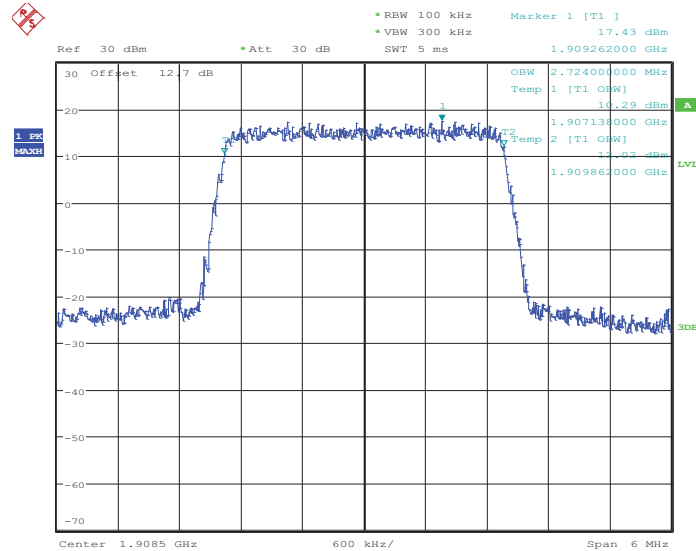


Date: 20.MAR.2014 14:19:23



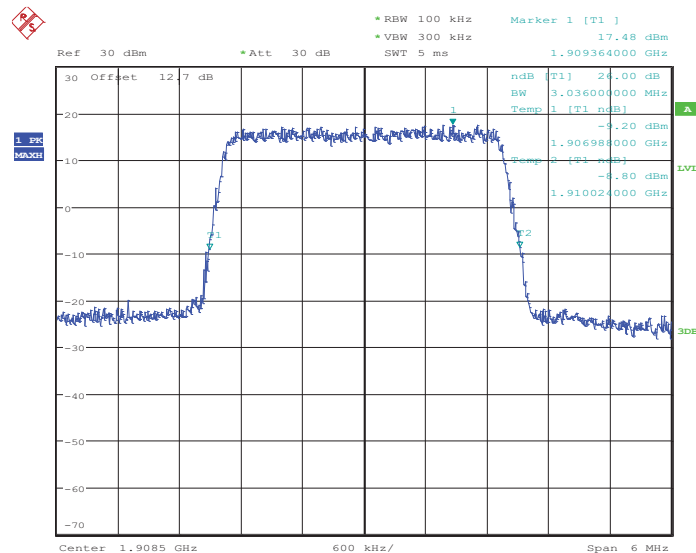
Band :	LTE Band 2 (High Channel)	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19185



Date: 20.MAR.2014 14:21:53

26dB Bandwidth Plot on Channel 19185

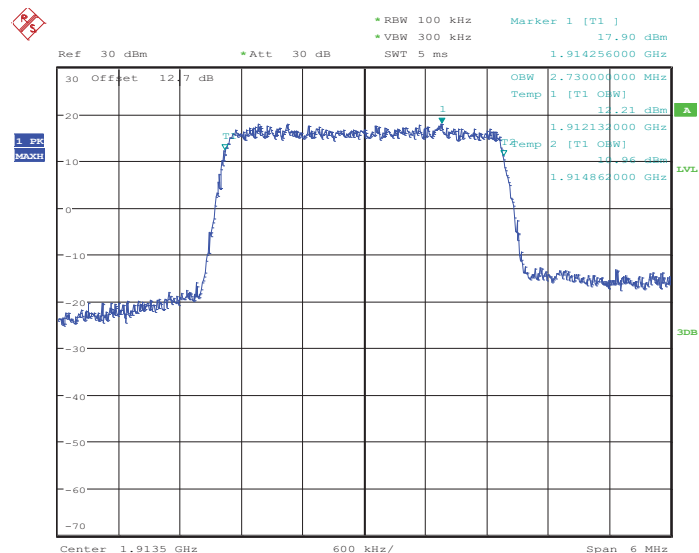


Date: 20.MAR.2014 14:22:26



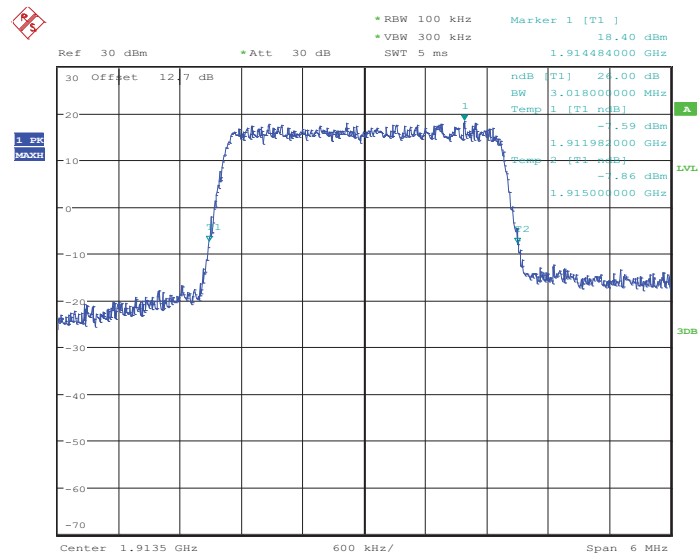
Band :	LTE Band 25 (High Channel)	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26675



Date: 21.MAR.2014 16:53:36

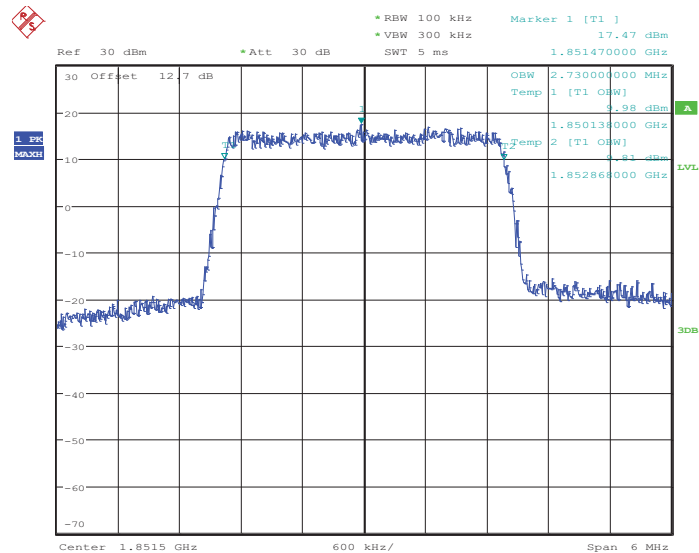
26dB Bandwidth Plot on Channel 26675



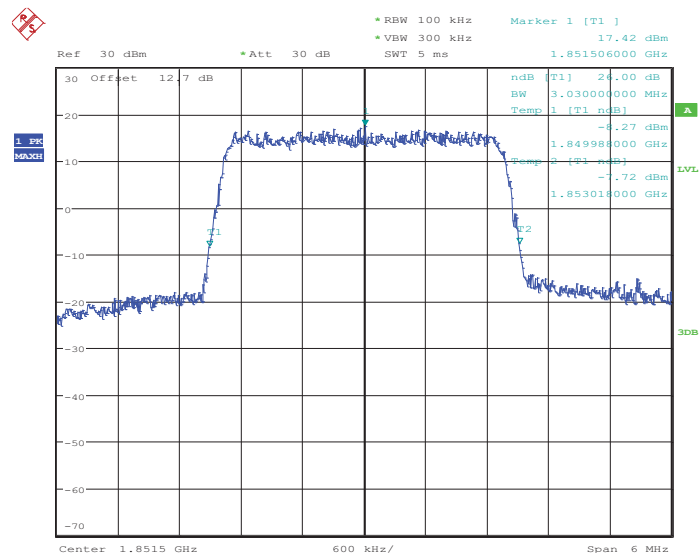
Date: 21.MAR.2014 16:16:58



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18615 / Channel 26055

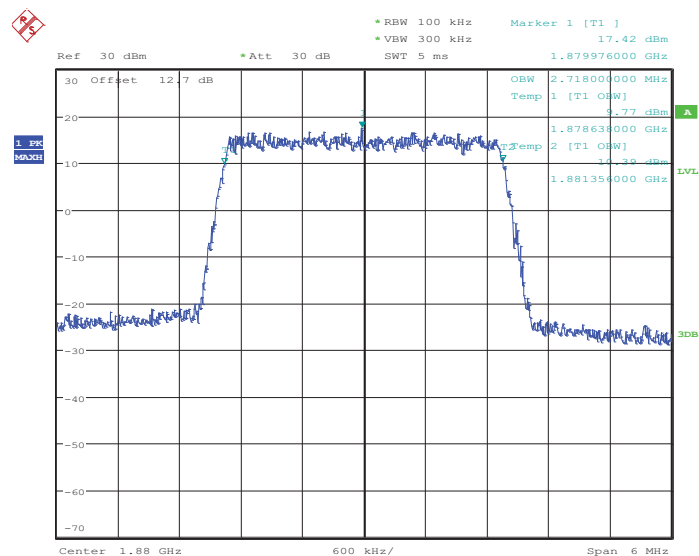
Date: 20.MAR.2014 14:00:04

26dB Bandwidth Plot on Channel 18615 / Channel 26055

Date: 20.MAR.2014 14:13:32

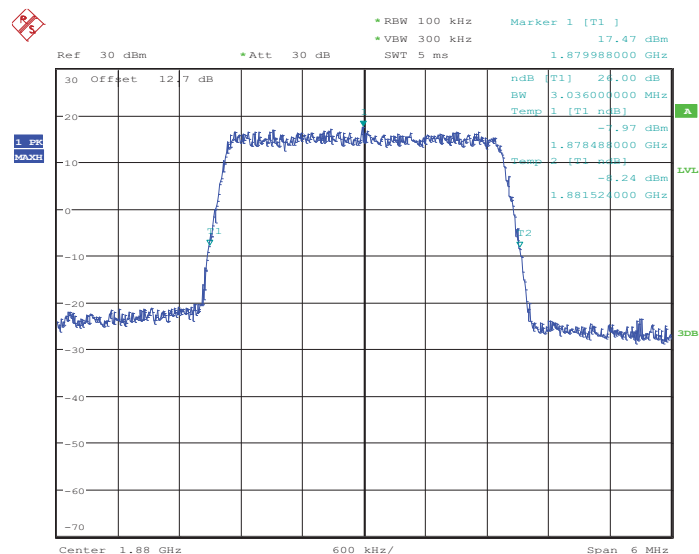


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 14:19:05

26dB Bandwidth Plot on Channel 18900 / Channel 26340

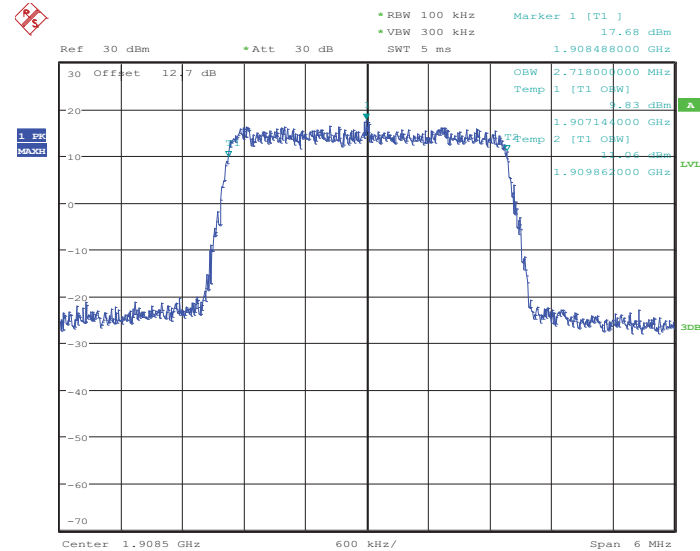


Date: 20.MAR.2014 14:19:40



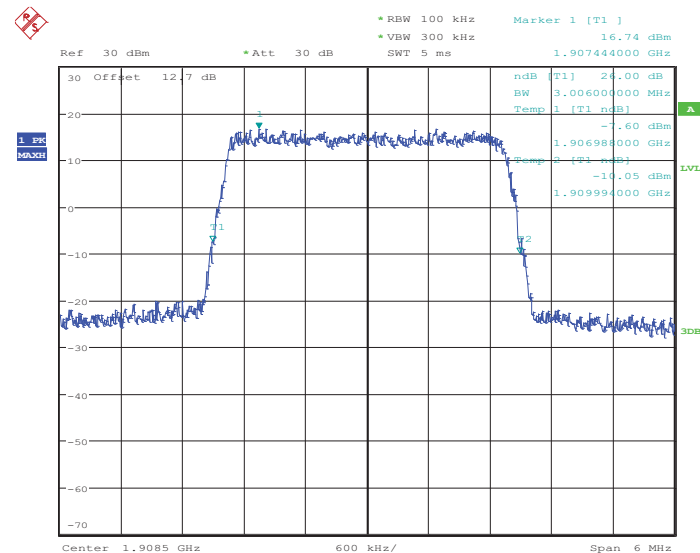
Band :	LTE Band 2 (High Channel)	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19185



Date: 20.MAR.2014 14:22:09

26dB Bandwidth Plot on Channel 19185

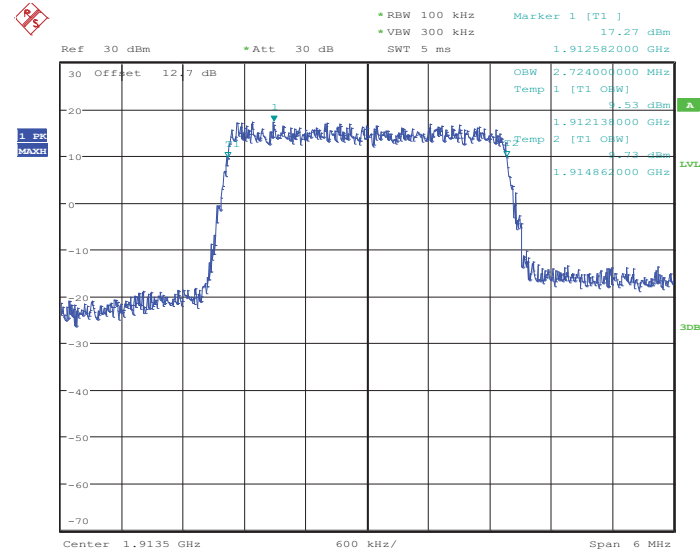


Date: 20.MAR.2014 14:22:43



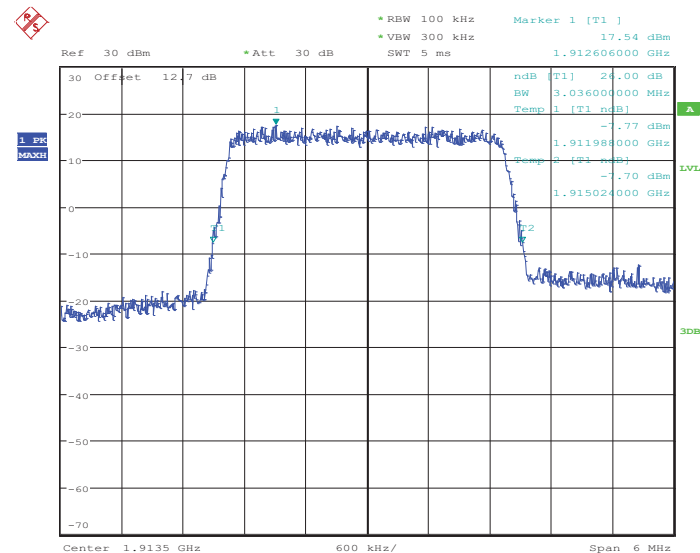
Band :	LTE Band 25 (High Channel)	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26675



Date: 21.MAR.2014 16:16:40

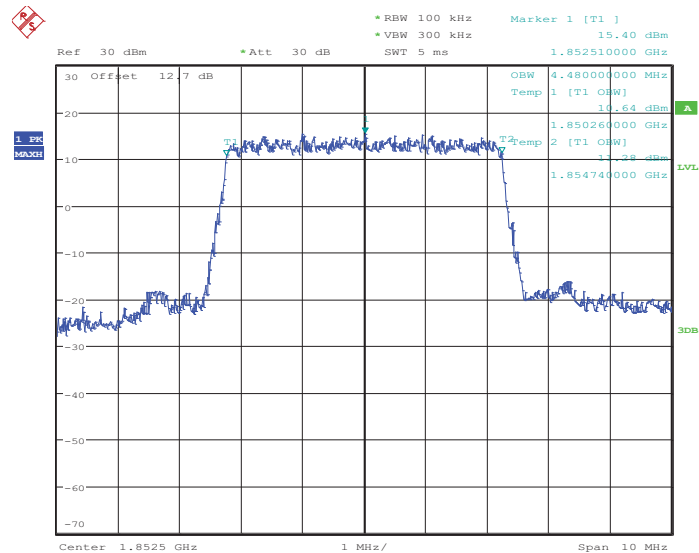
26dB Bandwidth Plot on Channel 26675



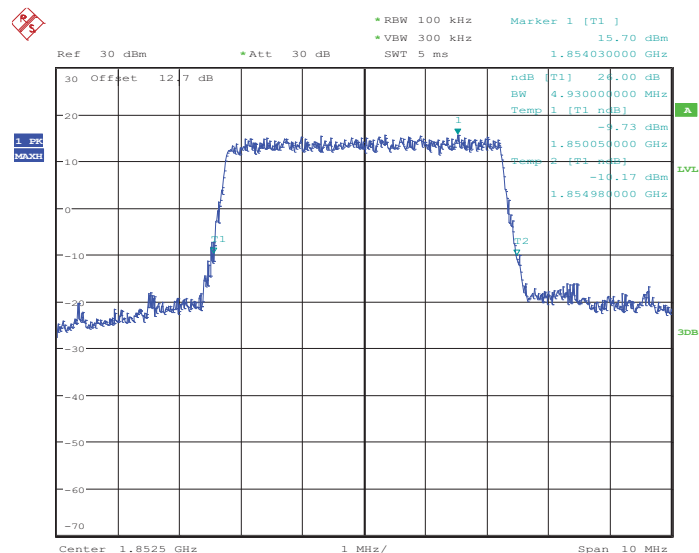
Date: 21.MAR.2014 16:17:16



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	5MHz / QPSK
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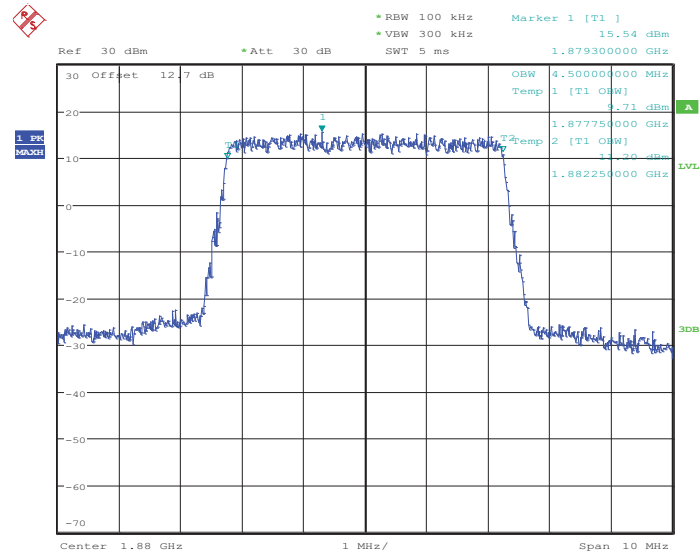
99% Occupied Bandwidth Plot on Channel 18625 / Channel 26065

Date: 20.MAR.2014 14:38:24

26dB Bandwidth Plot on Channel 18625 / Channel 26065

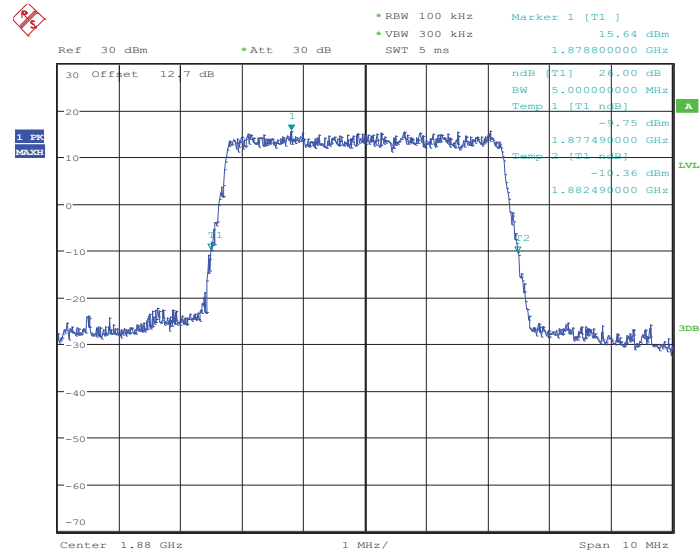
Date: 20.MAR.2014 14:38:57

99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 14:44:32

26dB Bandwidth Plot on Channel 18900 / Channel 26340



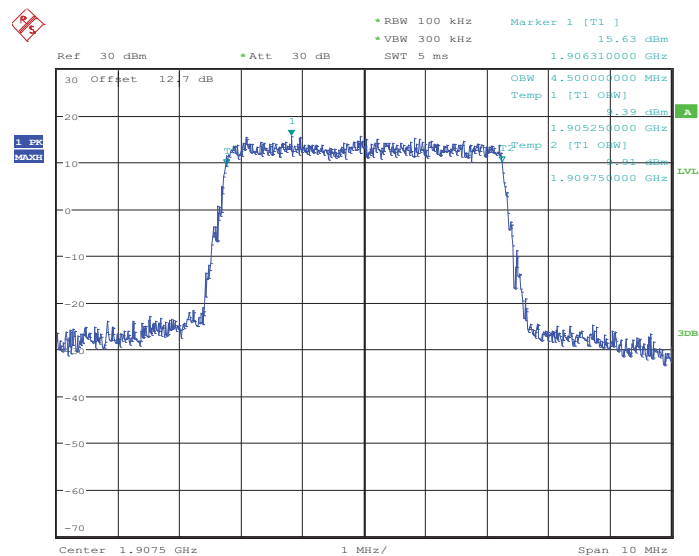
Date: 20.MAR.2014 14:45:04



Band : LTE Band 2 (High Channel)

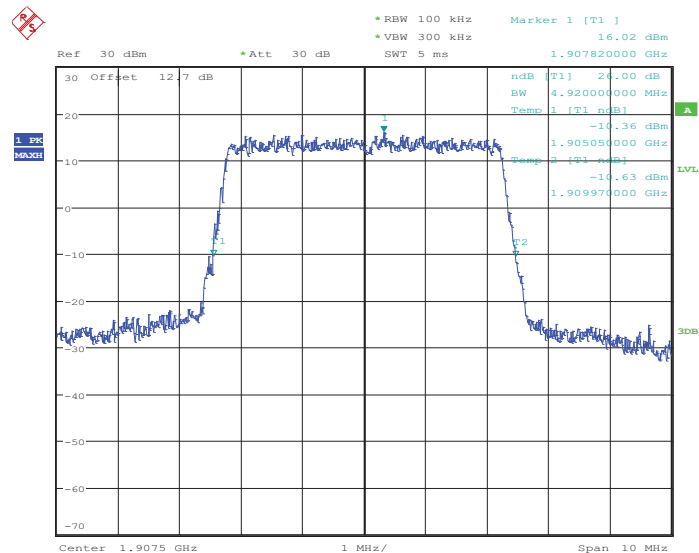
BW / Mod. : 5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 19175



Date: 20.MAR.2014 14:47:36

26dB Bandwidth Plot on Channel 19175



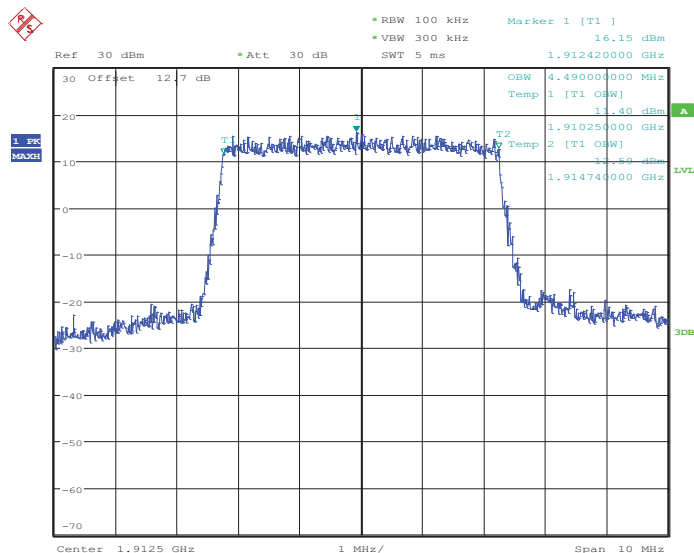
Date: 20.MAR.2014 14:48:08



Band : LTE Band 25 (High Channel)

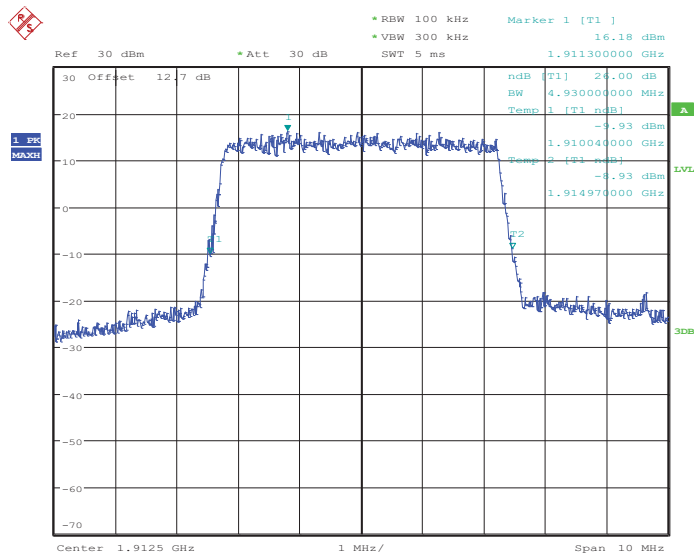
BW / Mod. : 5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 26665



Date: 21.MAR.2014 16:22:47

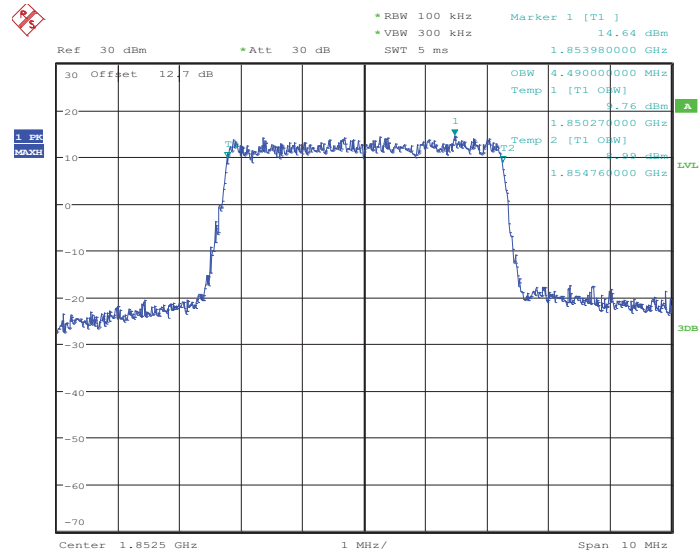
26dB Bandwidth Plot on Channel 26665



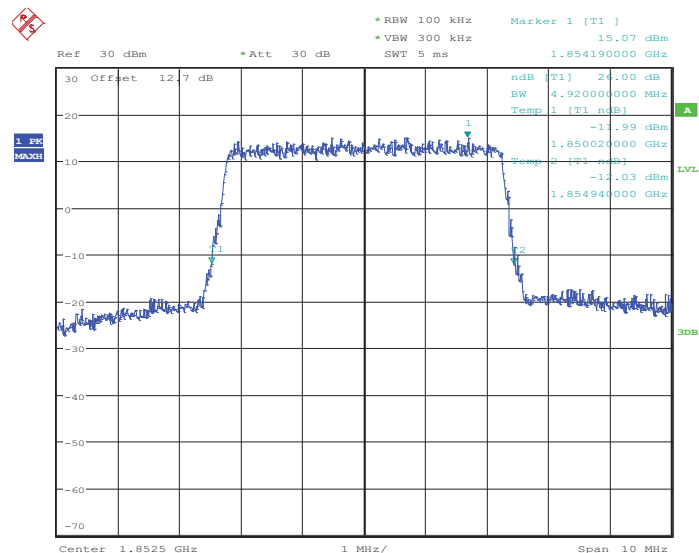
Date: 21.MAR.2014 16:23:22



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	5MHz / 16QAM
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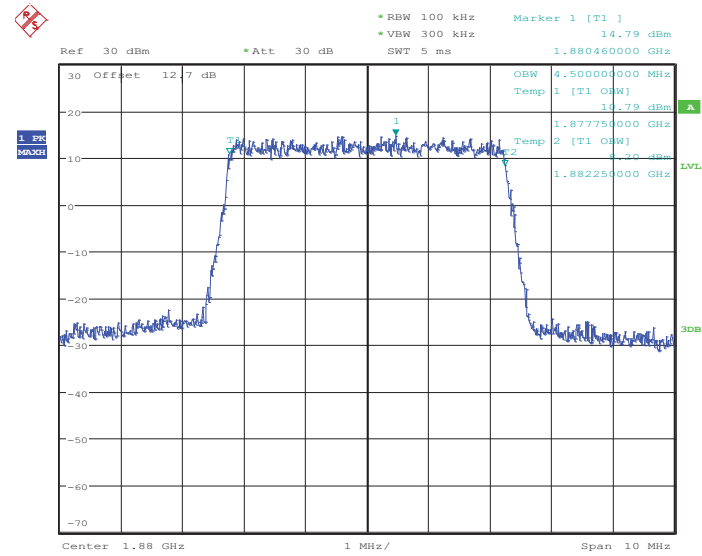
99% Occupied Bandwidth Plot on Channel 18625 / Channel 26065

Date: 20.MAR.2014 14:38:39

26dB Bandwidth Plot on Channel 18625 / Channel 26065

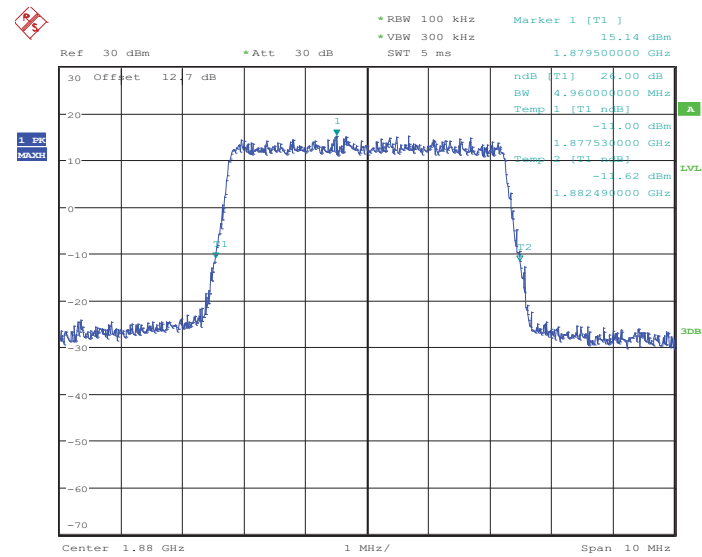
Date: 20.MAR.2014 14:39:14

99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 14:44:47

26dB Bandwidth Plot on Channel 18900 / Channel 26340

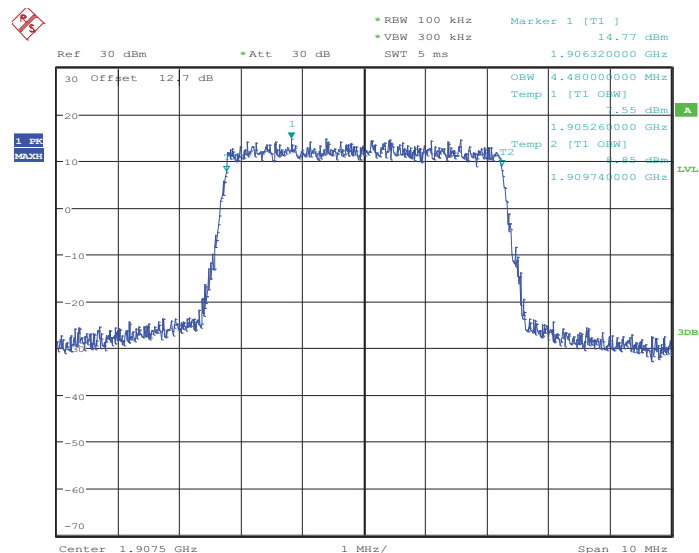


Date: 20.MAR.2014 14:45:21



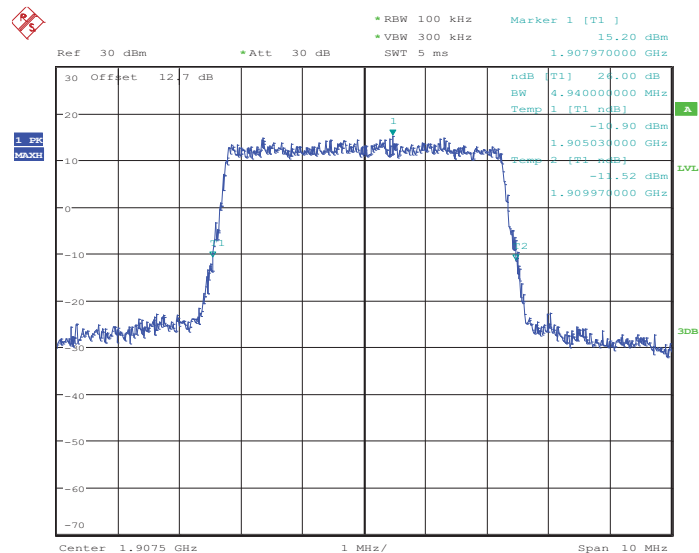
Band :	LTE Band 2 (High Channel)	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19175



Date: 20.MAR.2014 14:47:51

26dB Bandwidth Plot on Channel 19175

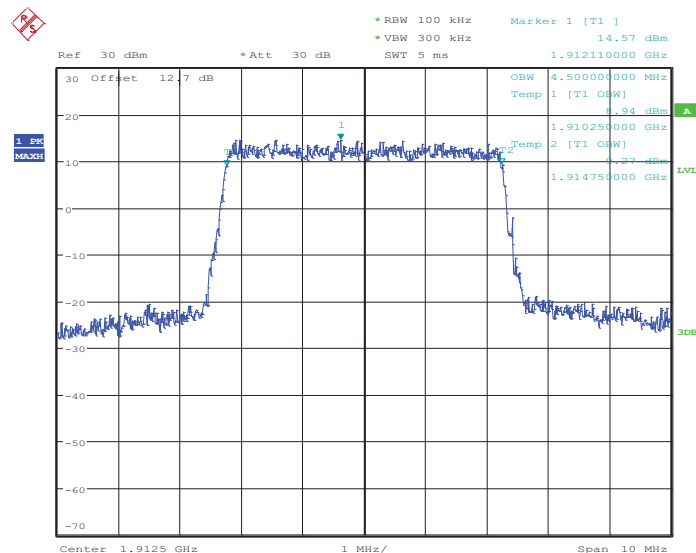


Date: 20.MAR.2014 14:48:25



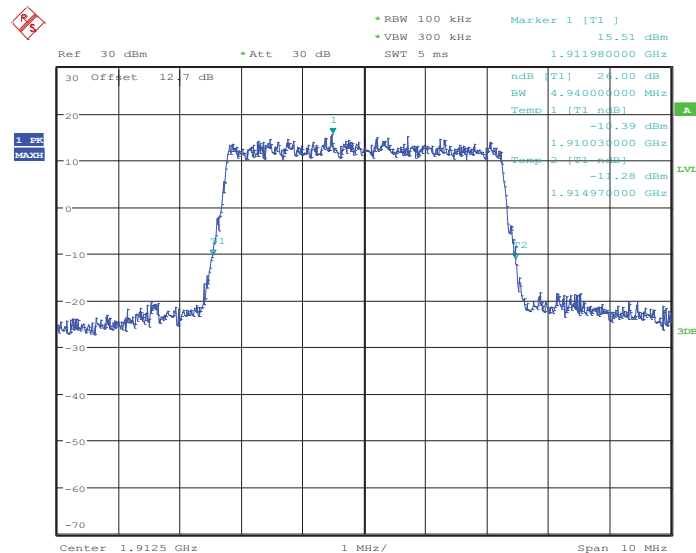
Band :	LTE Band 25 (High Channel)	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26665



Date: 21.MAR.2014 16:23:04

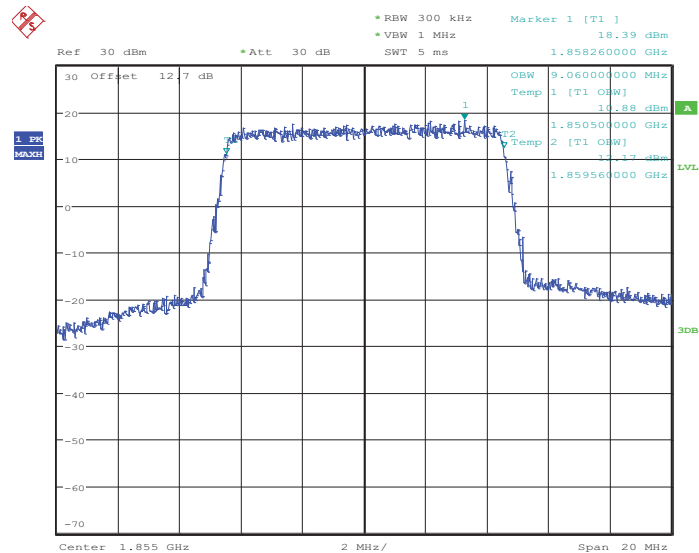
26dB Bandwidth Plot on Channel 26665



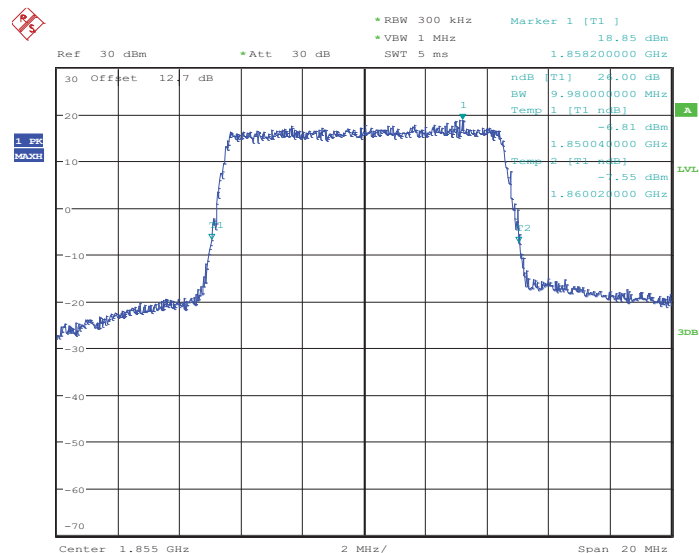
Date: 21.MAR.2014 16:23:40



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18650 / Channel 26090

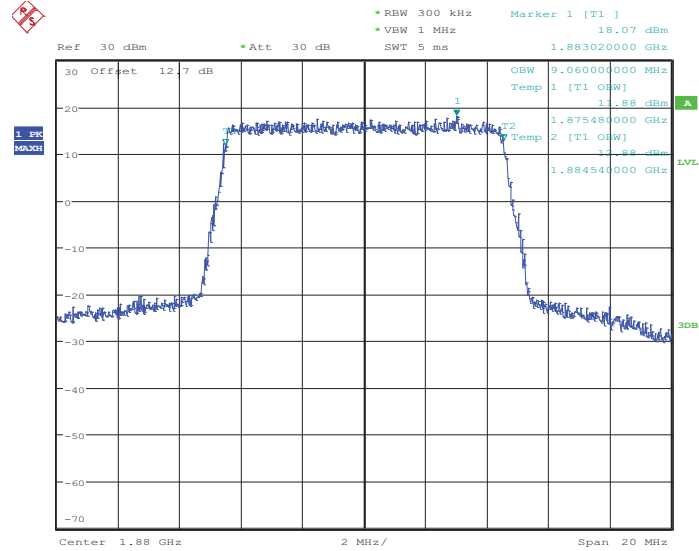
Date: 20.MAR.2014 14:53:49

26dB Bandwidth Plot on Channel 18650 / Channel 26090

Date: 20.MAR.2014 14:54:22

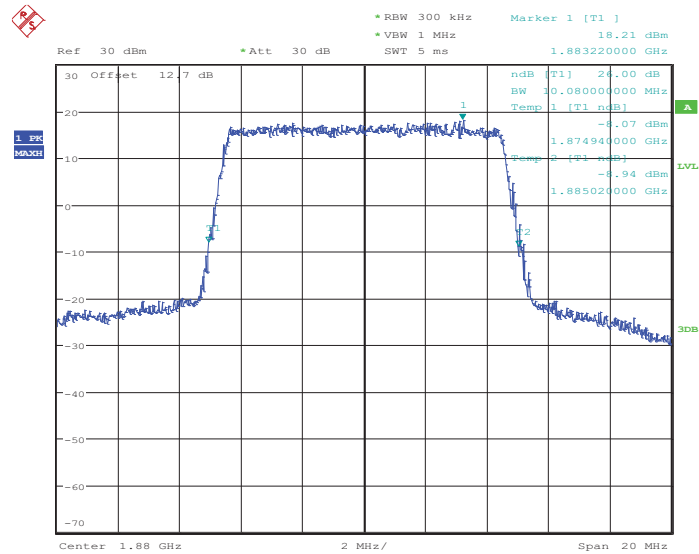


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 14:59:58

26dB Bandwidth Plot on Channel 18900 / Channel 26340

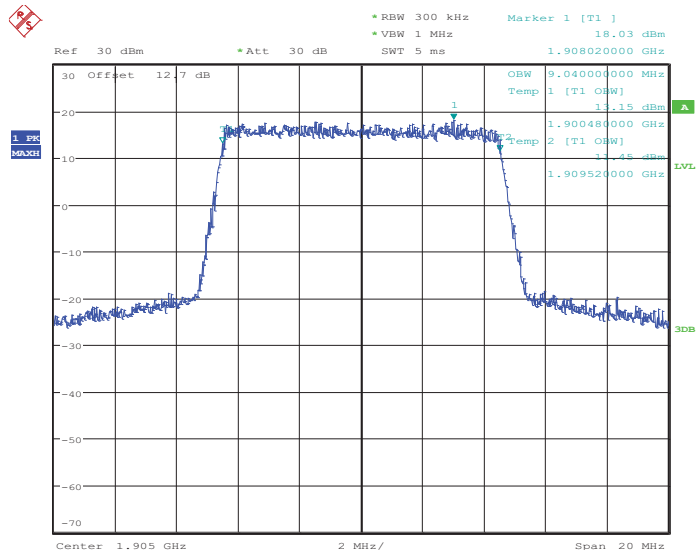


Date: 20.MAR.2014 15:00:31



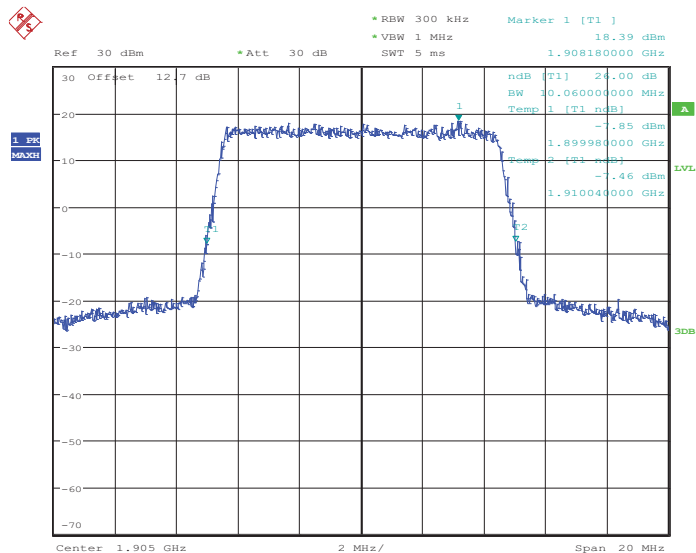
Band :	LTE Band 2 (High Channel)	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19150



Date: 20.MAR.2014 15:03:03

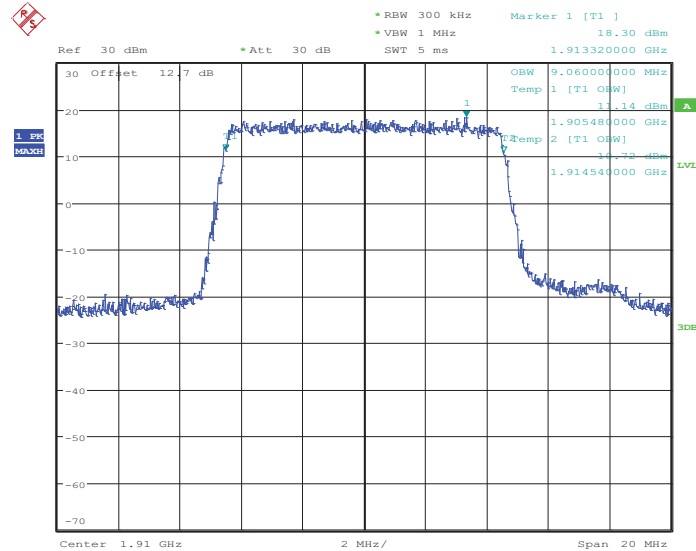
26dB Bandwidth Plot on Channel 19150



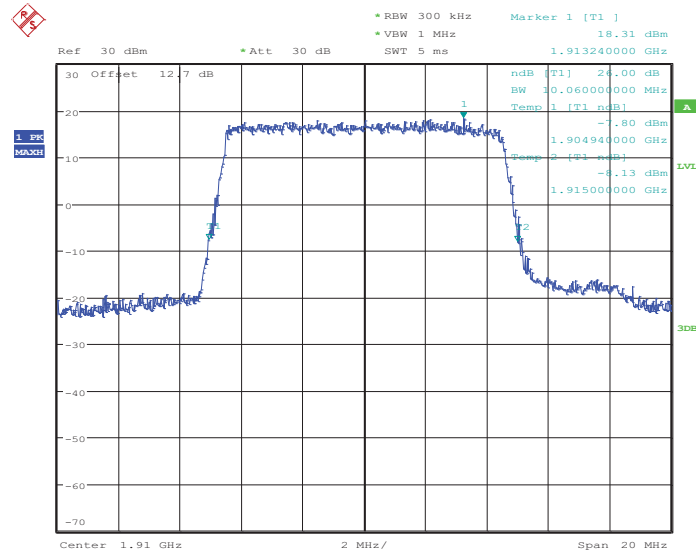
Date: 20.MAR.2014 15:03:36



Band :	LTE Band 25 (High Channel)	BW / Mod. :	10MHz / QPSK
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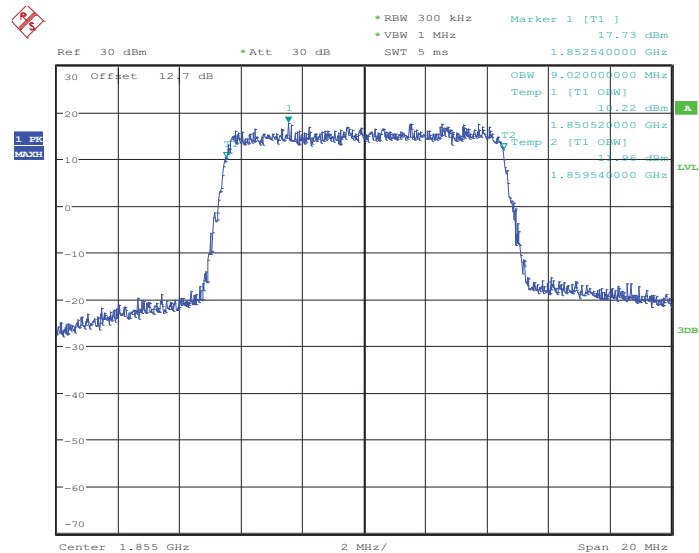
99% Occupied Bandwidth Plot on Channel 26640

Date: 21.MAR.2014 16:29:11

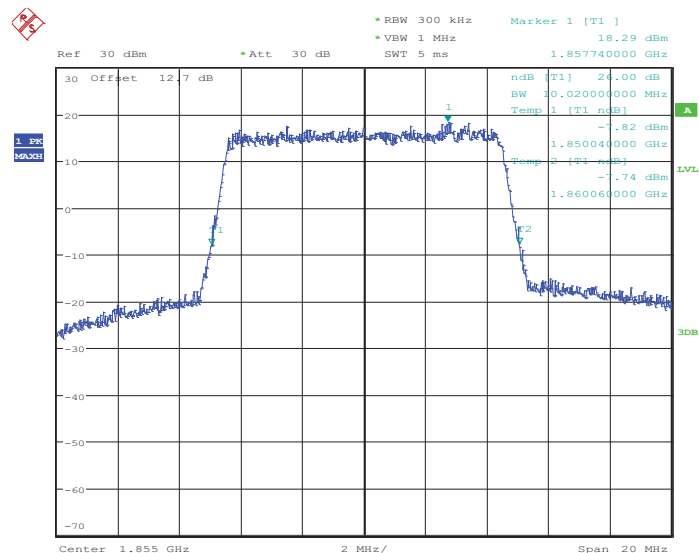
26dB Bandwidth Plot on Channel 26640

Date: 21.MAR.2014 16:29:45

Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	10MHz / 16QAM
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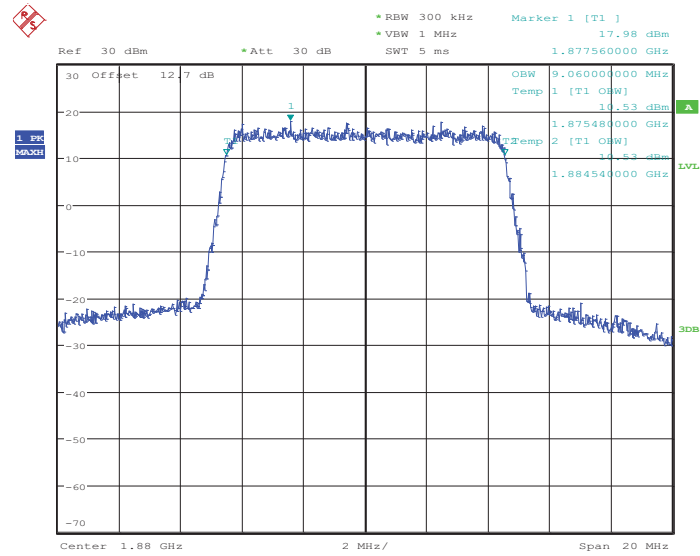
99% Occupied Bandwidth Plot on Channel 18650 / Channel 26090


Date: 20.MAR.2014 14:54:05

26dB Bandwidth Plot on Channel 18650 / Channel 26090


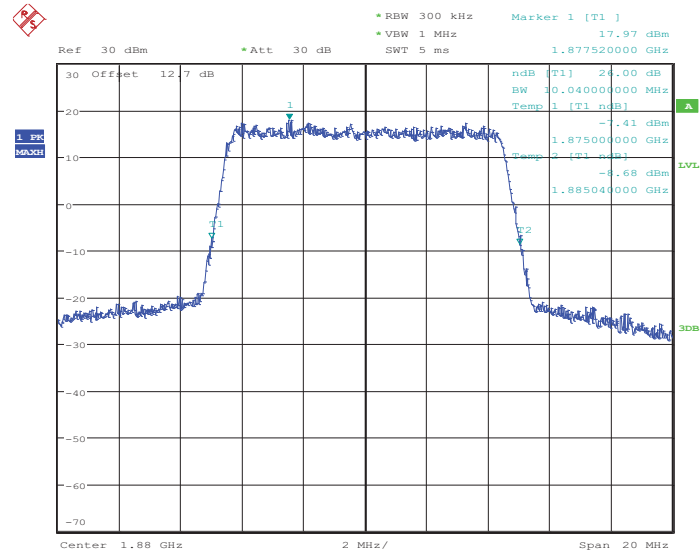
Date: 20.MAR.2014 14:54:40

99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 15:00:14

26dB Bandwidth Plot on Channel 18900 / Channel 26340

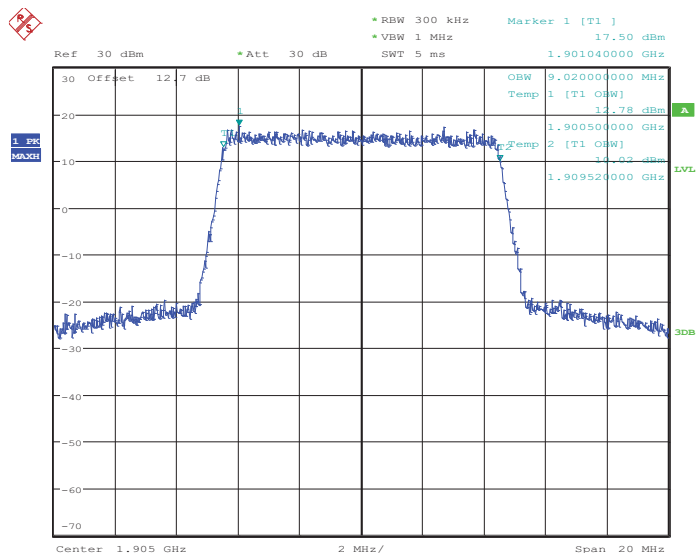


Date: 20.MAR.2014 15:00:49



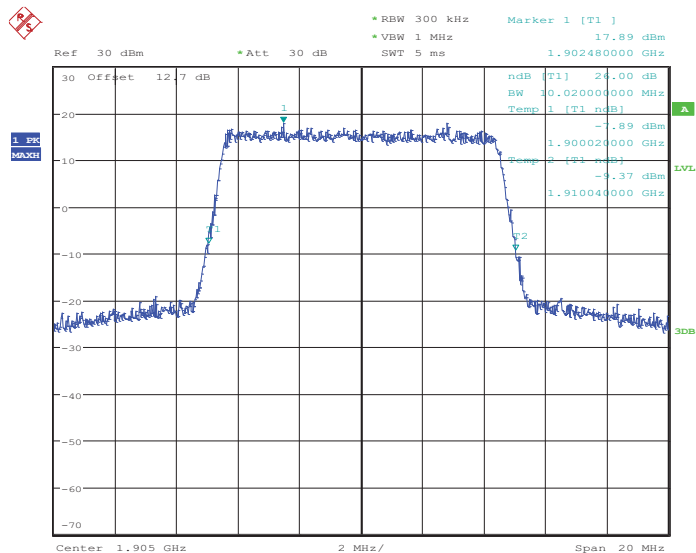
Band :	LTE Band 2 (High Channel)	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19150



Date: 20.MAR.2014 15:03:18

26dB Bandwidth Plot on Channel 19150

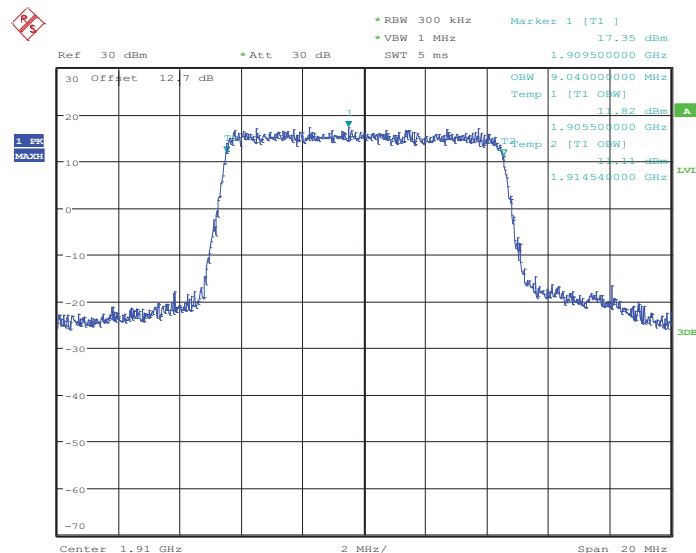


Date: 20.MAR.2014 15:03:53



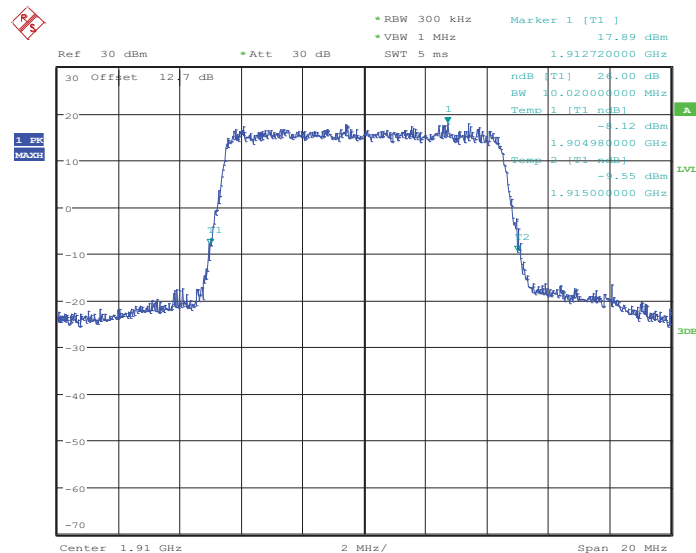
Band :	LTE Band 25 (High Channel)	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26640



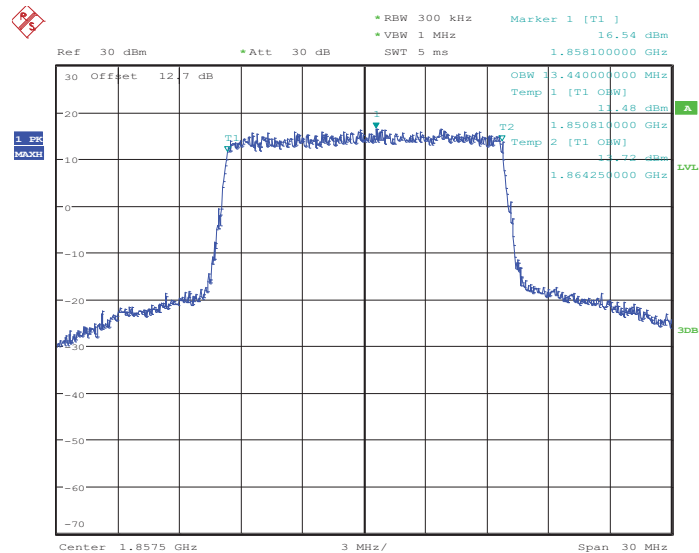
Date: 21.MAR.2014 16:29:27

26dB Bandwidth Plot on Channel 26640

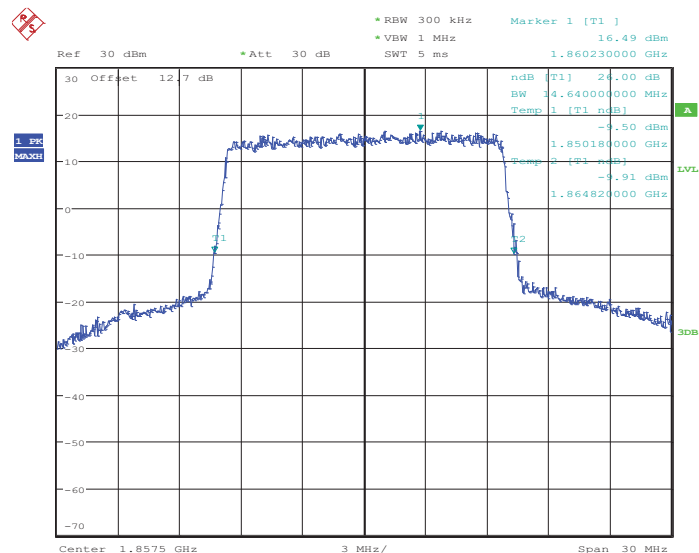


Date: 21.MAR.2014 16:30:03

Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18675 / Channel 26115


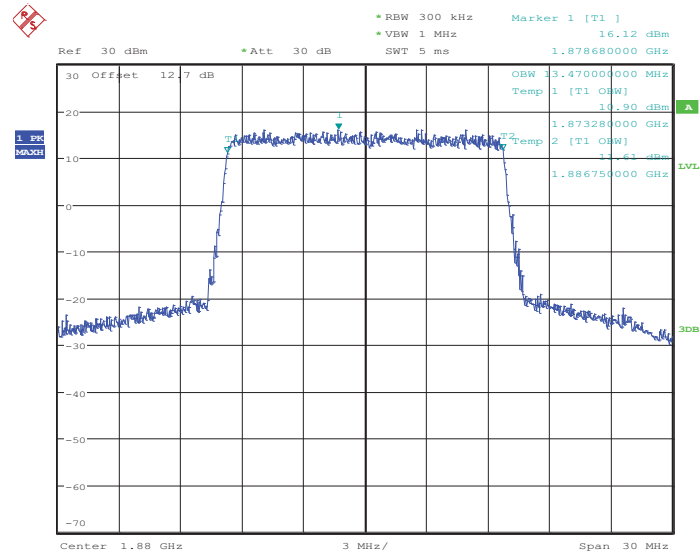
Date: 20.MAR.2014 15:09:17

26dB Bandwidth Plot on Channel 18675 / Channel 26115


Date: 20.MAR.2014 15:09:50

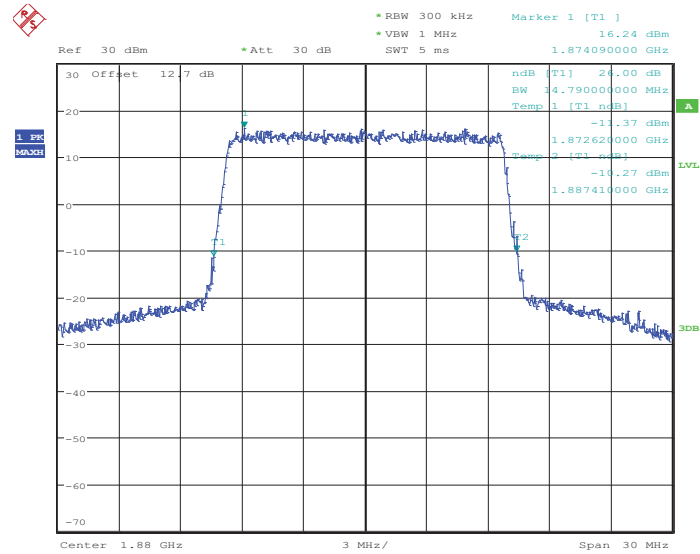


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 15:15:26

26dB Bandwidth Plot on Channel 18900 / Channel 26340

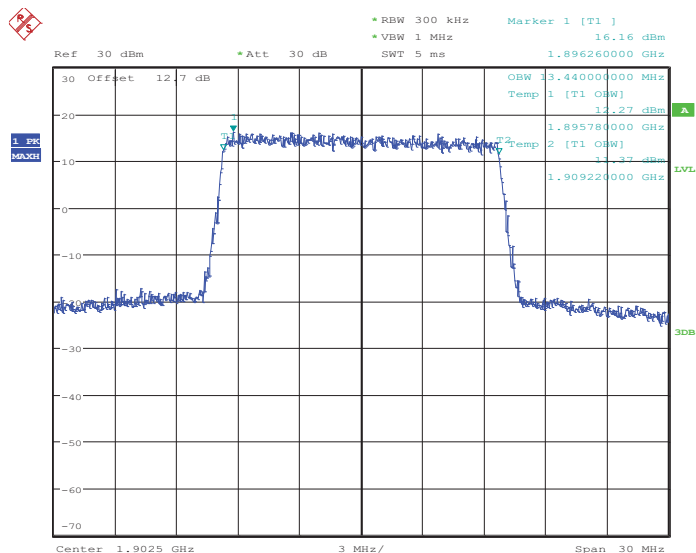


Date: 20.MAR.2014 15:15:59



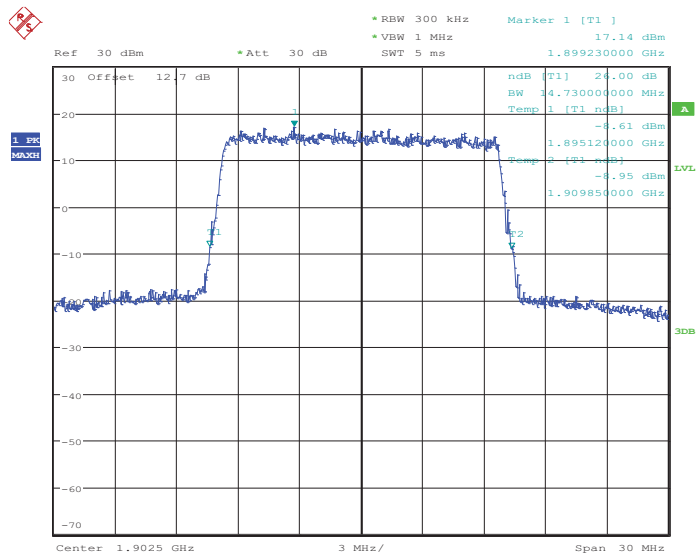
Band :	LTE Band 2 (High Channel)	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19125



Date: 20.MAR.2014 15:18:32

26dB Bandwidth Plot on Channel 19125

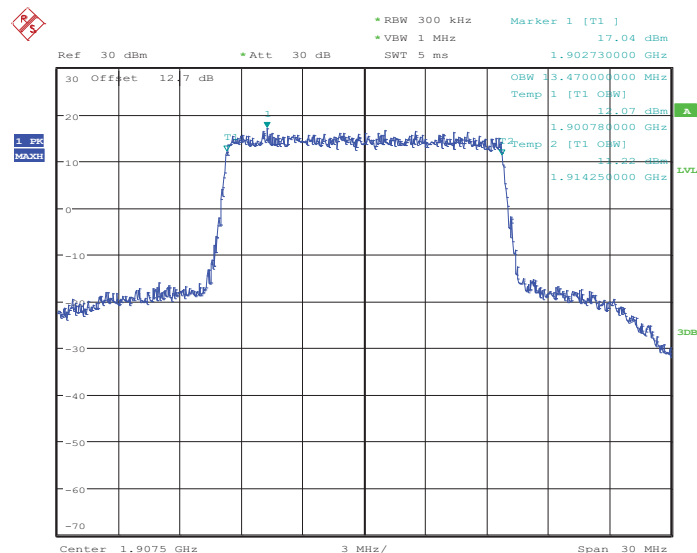


Date: 20.MAR.2014 15:19:05



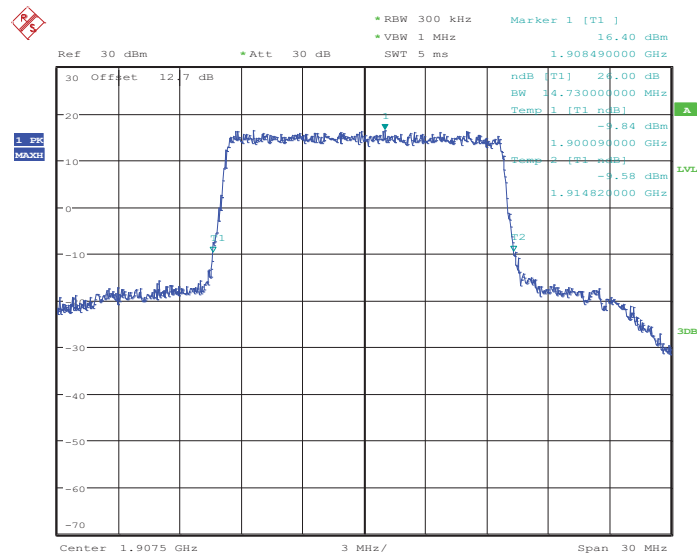
Band :	LTE Band 25 (High Channel)	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26615



Date: 21.MAR.2014 16:35:38

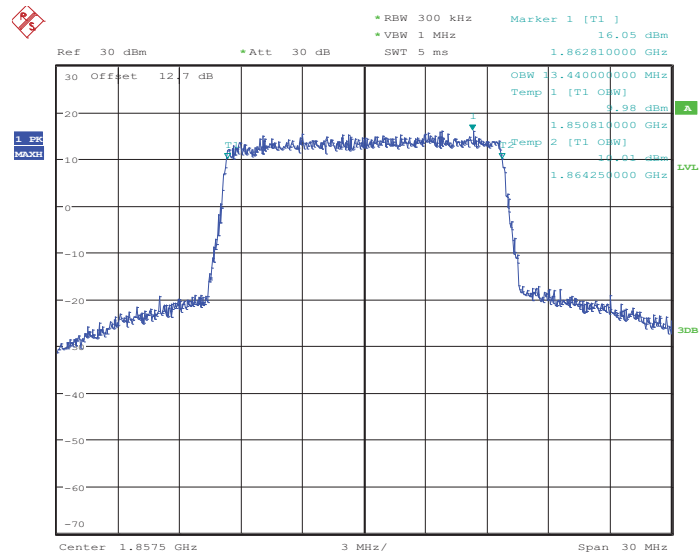
26dB Bandwidth Plot on Channel 26615



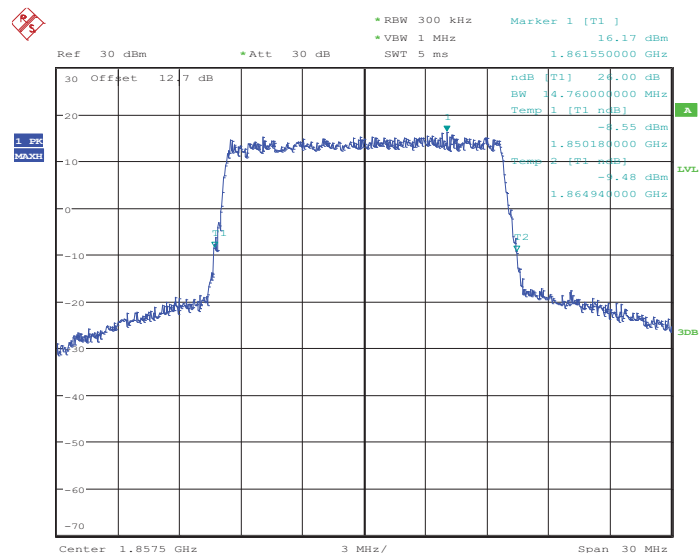
Date: 21.MAR.2014 16:36:13



Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18675 / Channel 26115

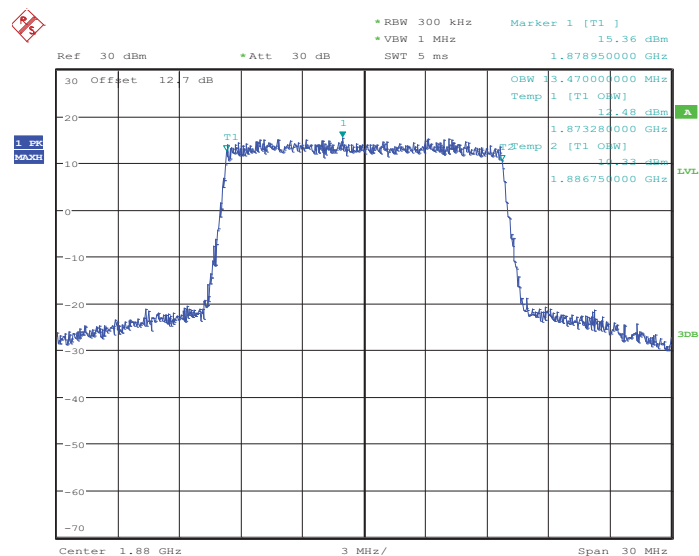
Date: 20.MAR.2014 15:09:32

26dB Bandwidth Plot on Channel 18675 / Channel 26115

Date: 20.MAR.2014 15:10:07

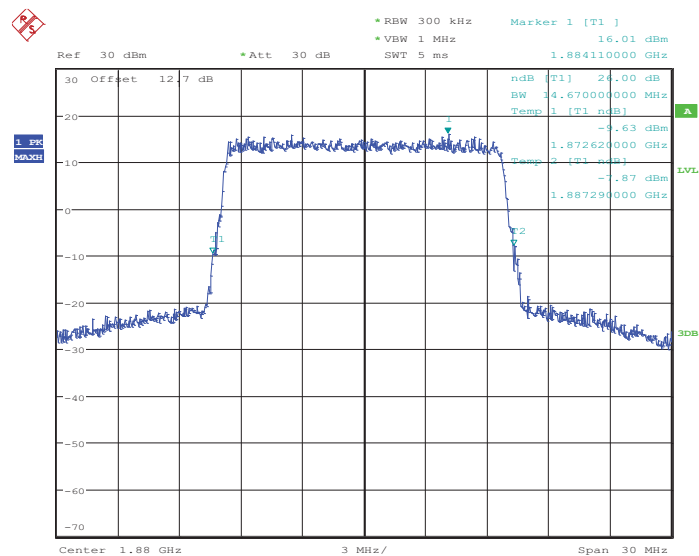


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 15:15:42

26dB Bandwidth Plot on Channel 18900 / Channel 26340

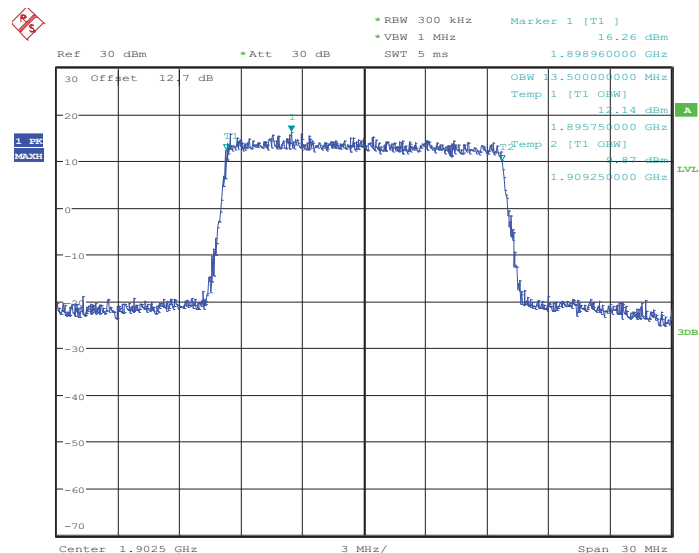


Date: 20.MAR.2014 15:16:17



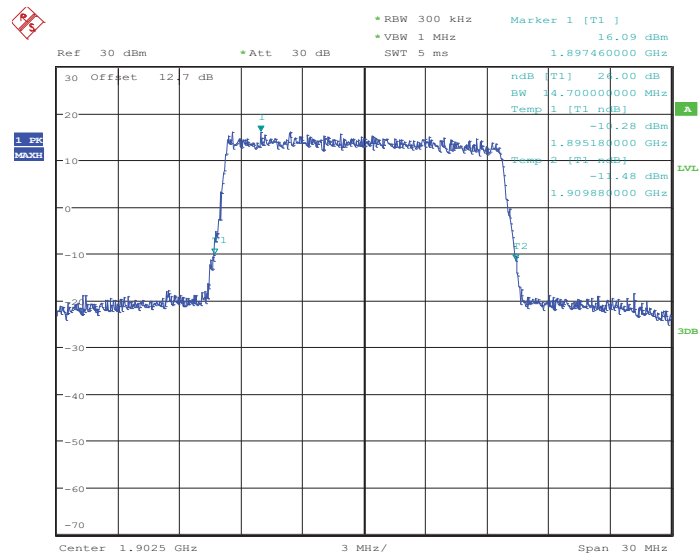
Band :	LTE Band 2 (High Channel)	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19125



Date: 20.MAR.2014 15:18:47

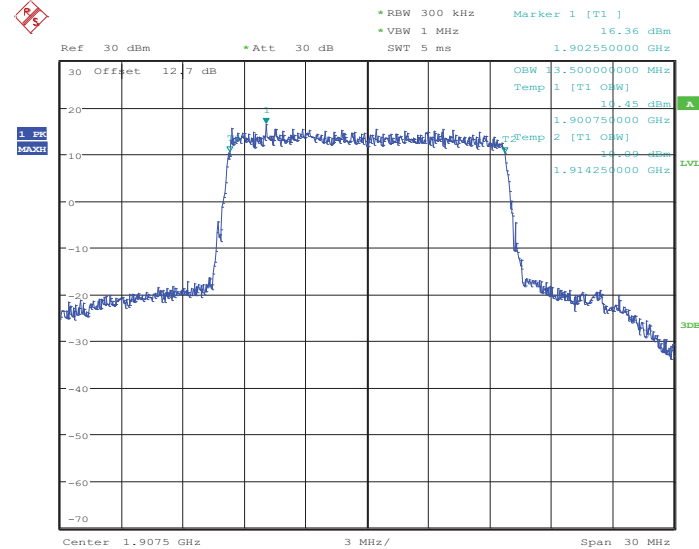
26dB Bandwidth Plot on Channel 19125



Date: 20.MAR.2014 15:19:22

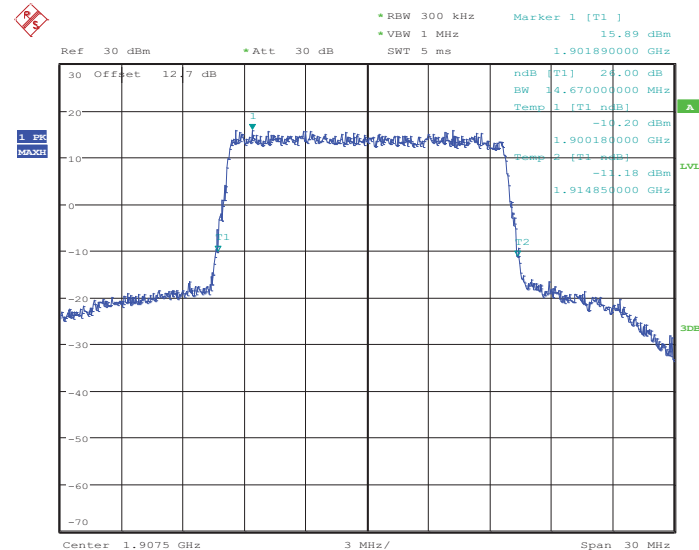
Band :	LTE Band 25 (High Channel)	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26615



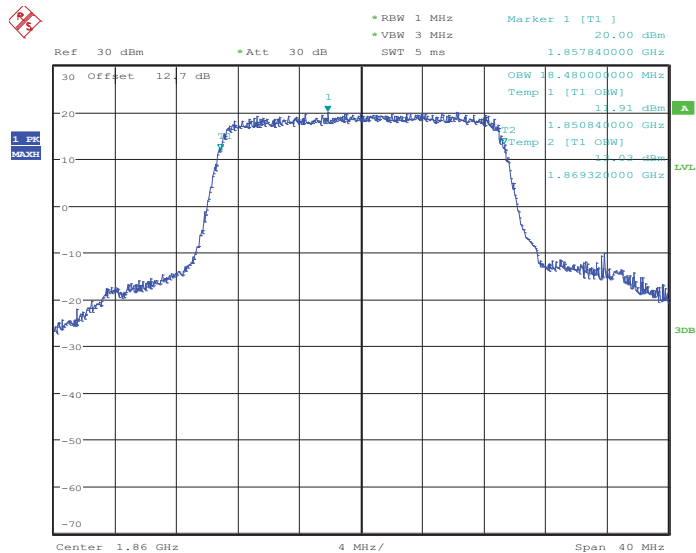
Date: 21.MAR.2014 16:35:54

26dB Bandwidth Plot on Channel 26615

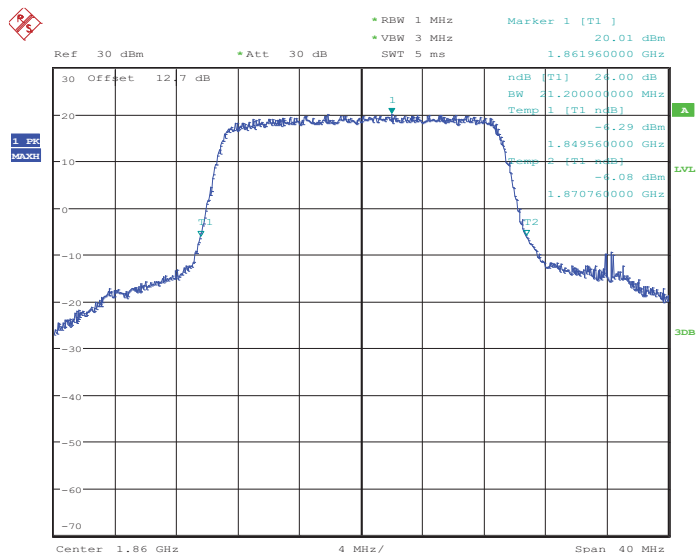


Date: 21.MAR.2014 16:36:31

Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18700 / Channel 26140


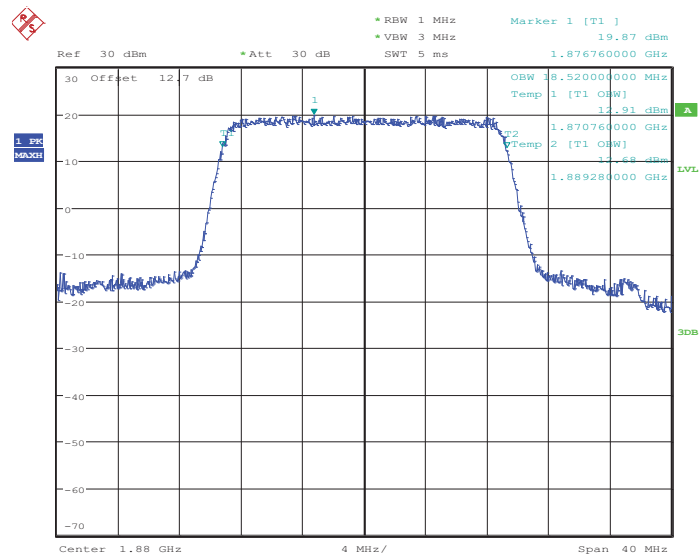
Date: 20.MAR.2014 15:24:46

26dB Bandwidth Plot on Channel 18700 / Channel 26140


Date: 20.MAR.2014 15:25:19

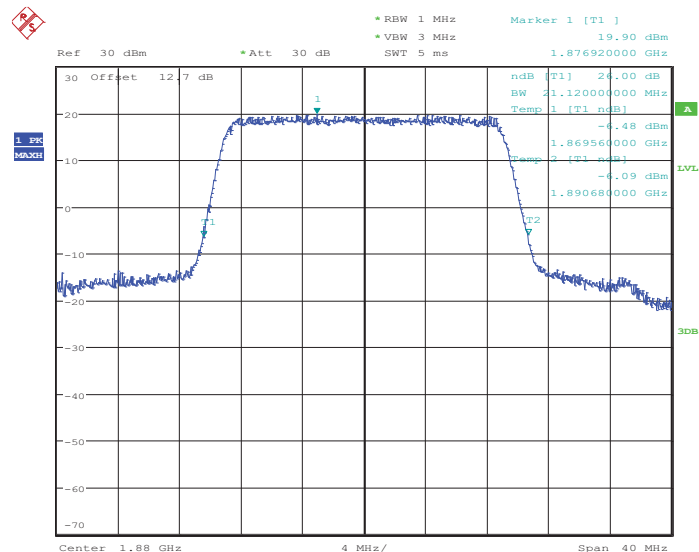


99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 15:30:55

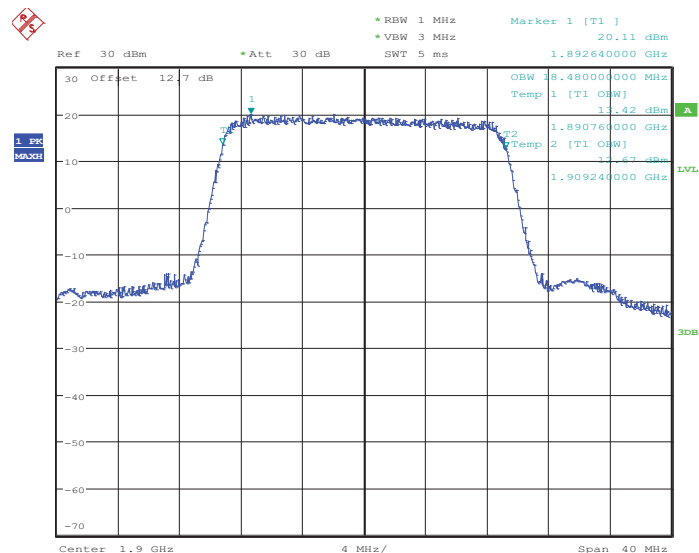
26dB Bandwidth Plot on Channel 18900 / Channel 26340



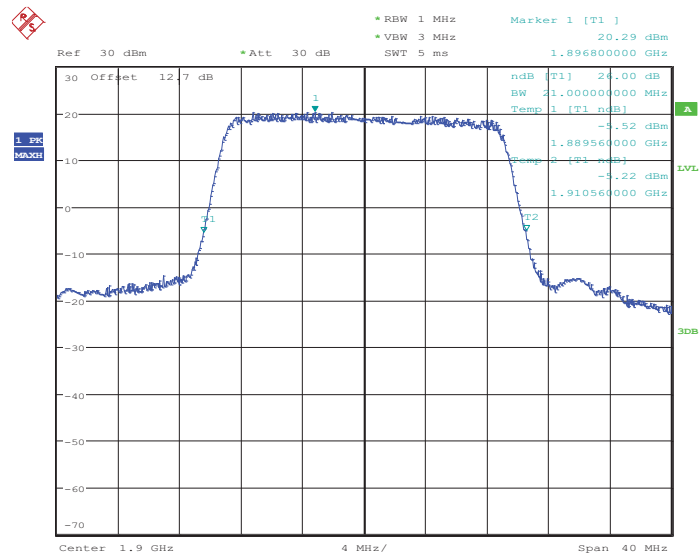
Date: 20.MAR.2014 15:31:28

Band : LTE Band 2 (High Channel)

BW / Mod. : 20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 19100


Date: 20.MAR.2014 15:34:00

26dB Bandwidth Plot on Channel 19100


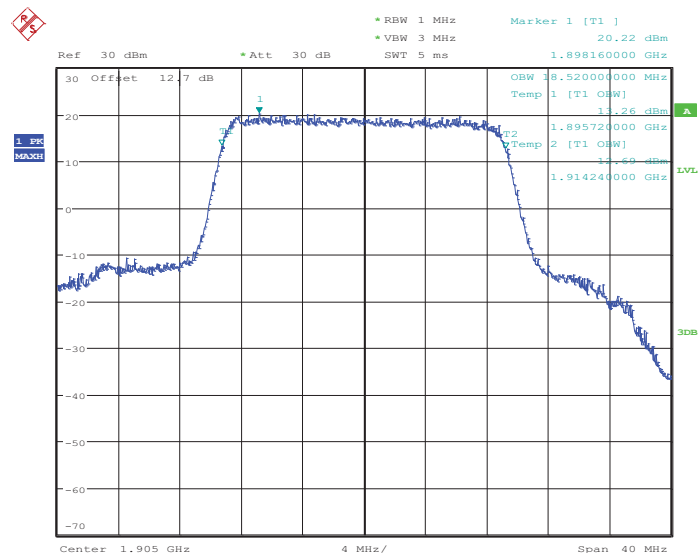
Date: 20.MAR.2014 15:34:33



Band : LTE Band 25 (High Channel)

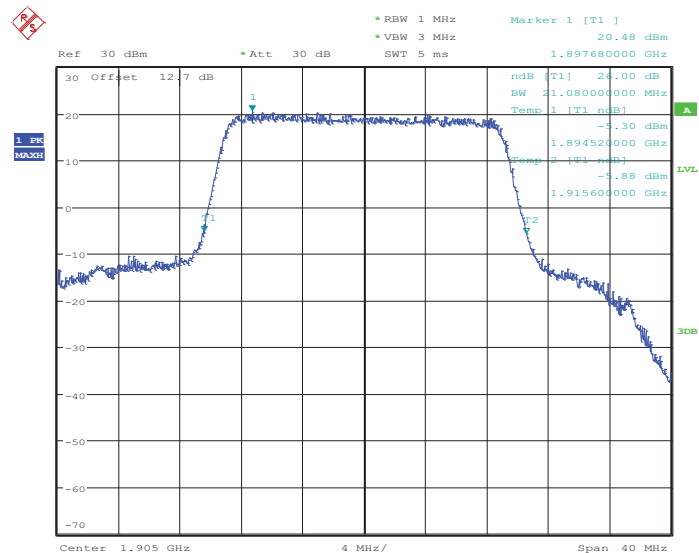
BW / Mod. : 20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 26590



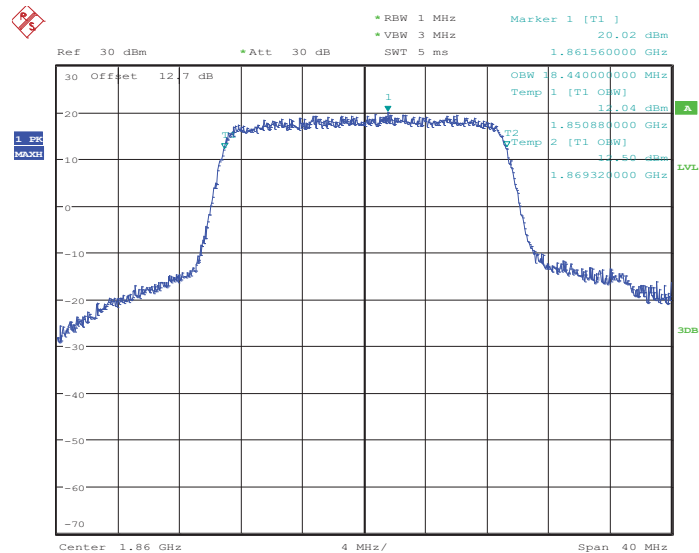
Date: 21.MAR.2014 16:42:04

26dB Bandwidth Plot on Channel 26590

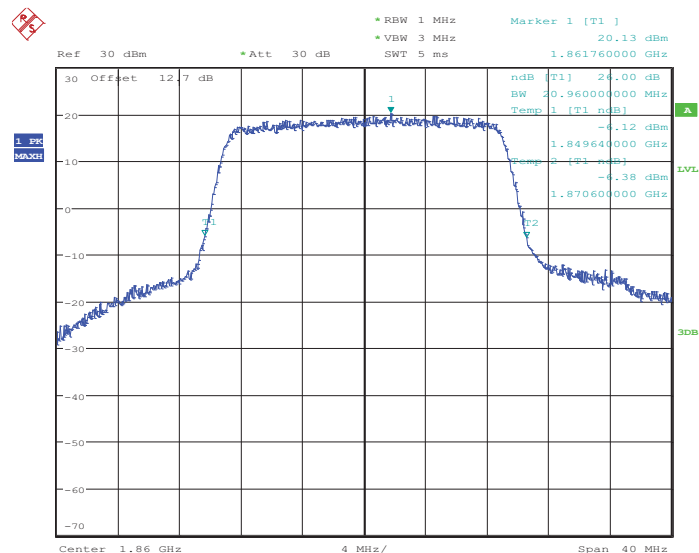


Date: 21.MAR.2014 16:42:38

Band :	LTE Band 2 / LTE Band 25 (Low Channel and Middle Channel)	BW / Mod. :	20MHz / 16QAM
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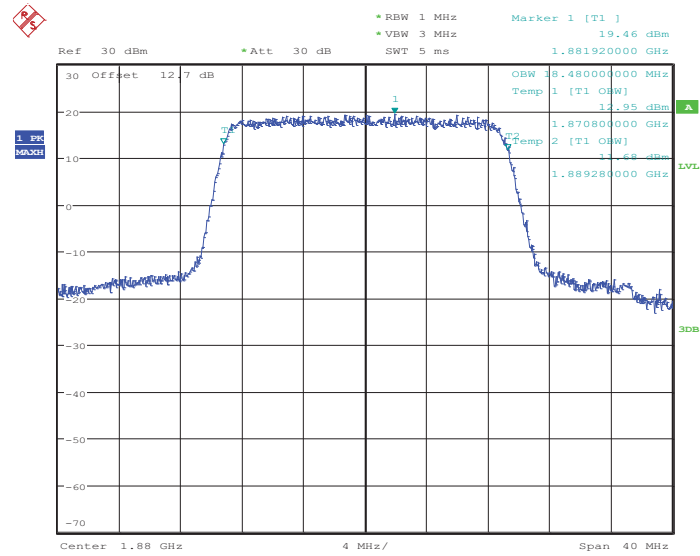
99% Occupied Bandwidth Plot on Channel 18700 / Channel 26140


Date: 20.MAR.2014 15:25:01

26dB Bandwidth Plot on Channel 18700 / Channel 26140


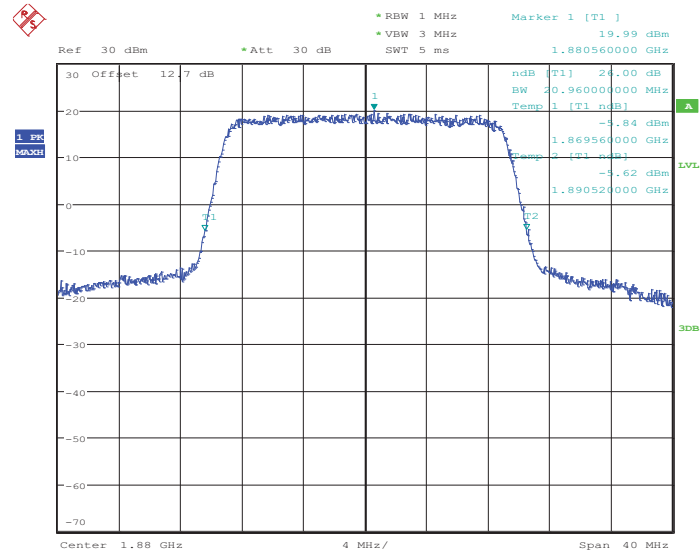
Date: 20.MAR.2014 15:25:36

99% Occupied Bandwidth Plot on Channel 18900 / Channel 26340



Date: 20.MAR.2014 15:31:11

26dB Bandwidth Plot on Channel 18900 / Channel 26340



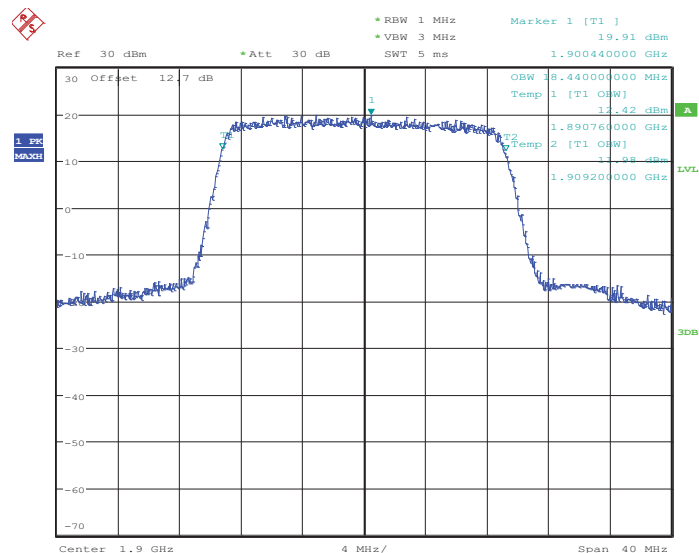
Date: 20.MAR.2014 15:31:46



Band : LTE Band 2 (High Channel)

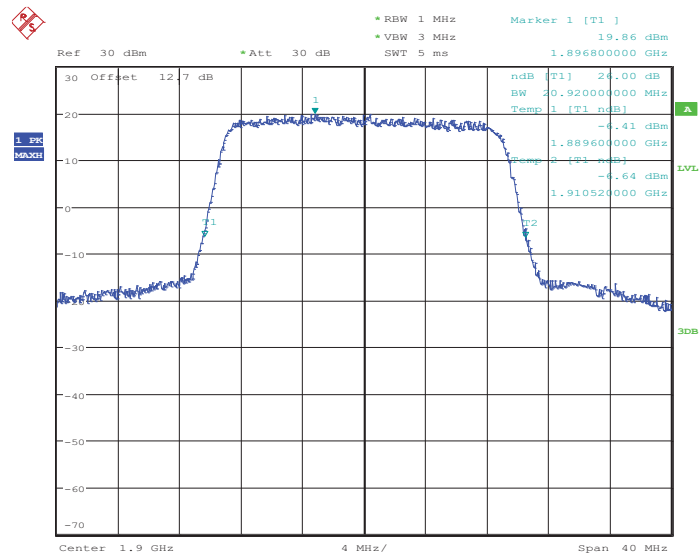
BW / Mod. : 20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 19100



Date: 20.MAR.2014 15:34:16

26dB Bandwidth Plot on Channel 19100



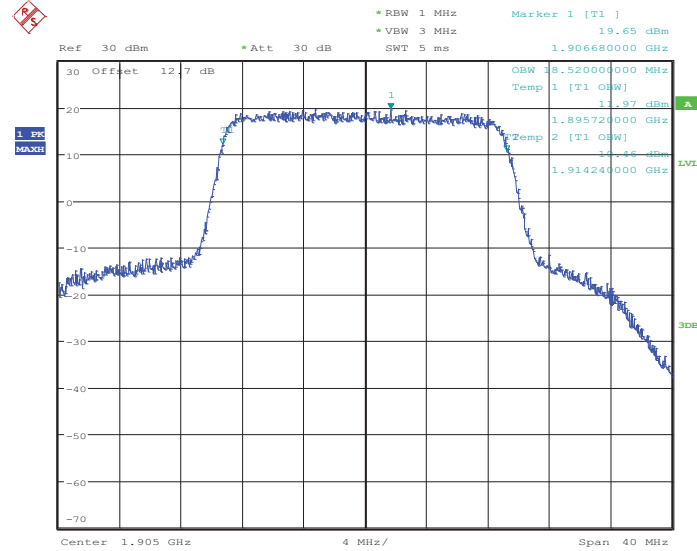
Date: 20.MAR.2014 15:34:51



Band : LTE Band 25 (High Channel)

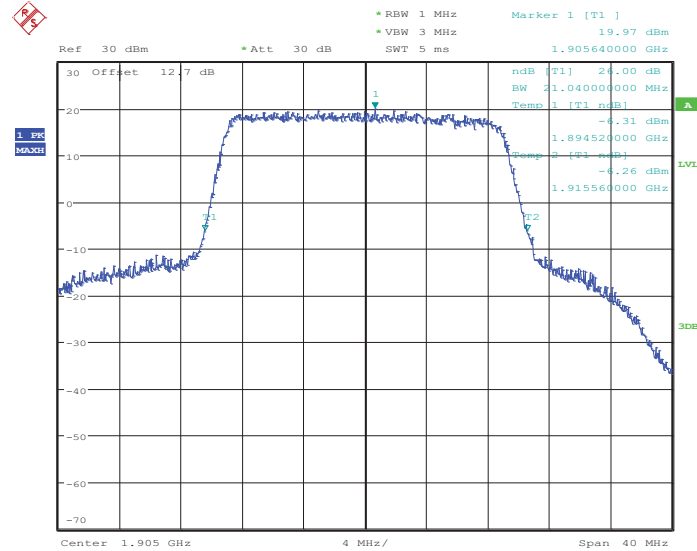
BW / Mod. : 20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 26590



Date: 21.MAR.2014 16:42:20

26dB Bandwidth Plot on Channel 26590

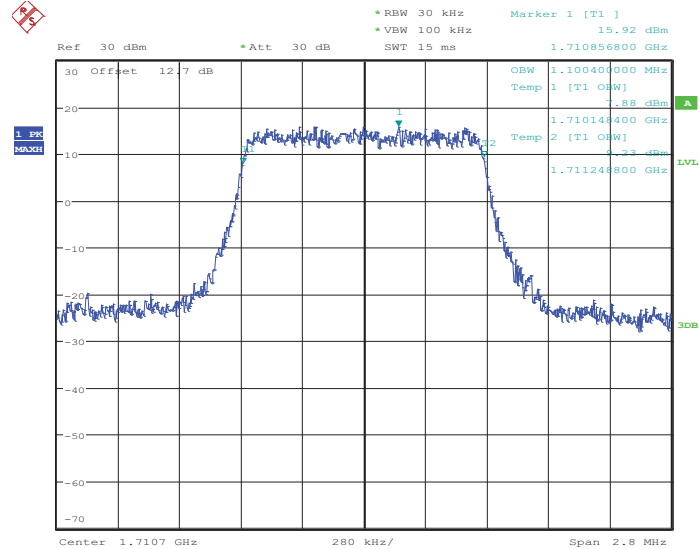


Date: 21.MAR.2014 16:42:56



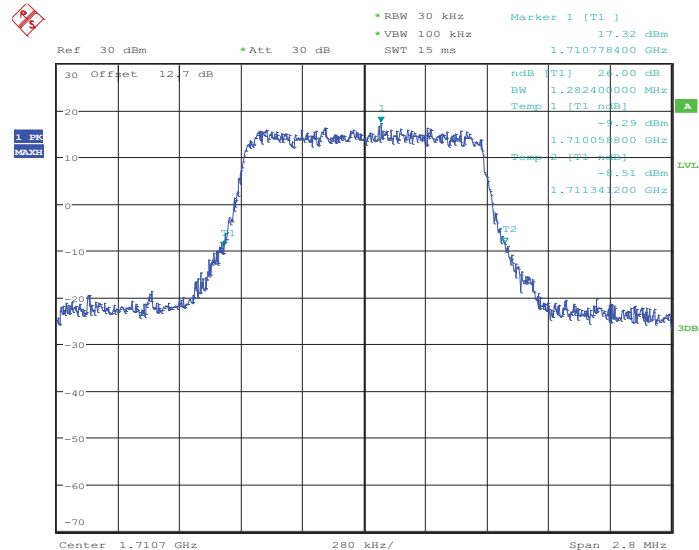
Band :	LTE Band 4	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19957



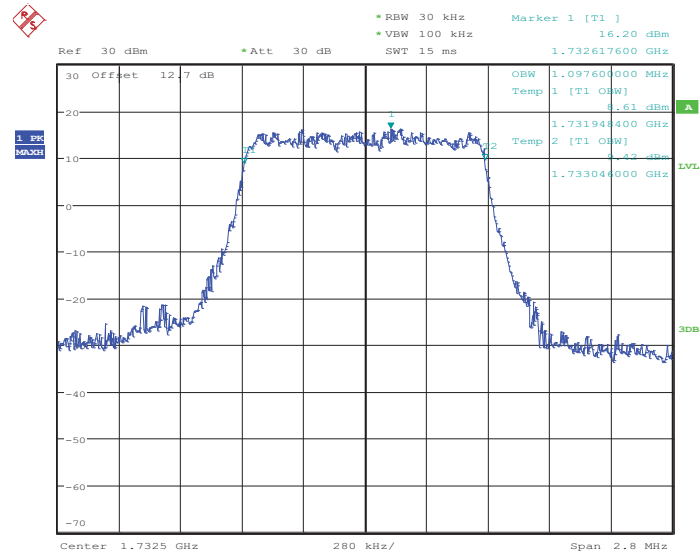
Date: 21.MAR.2014 09:59:56

26dB Bandwidth Plot on Channel 19957



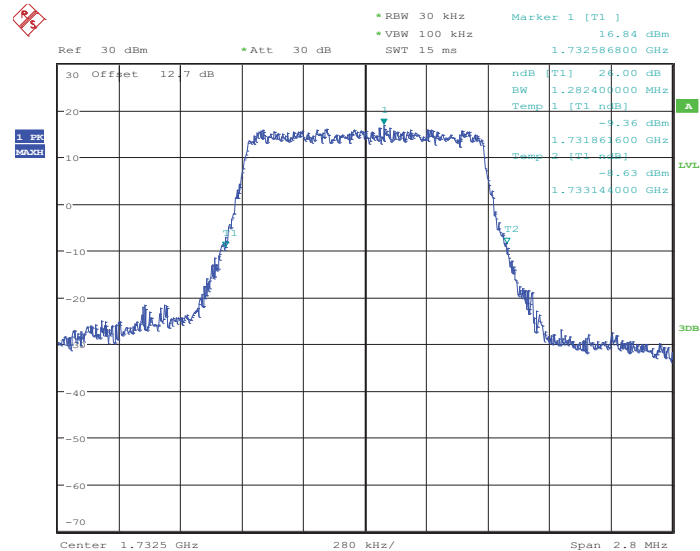
Date: 21.MAR.2014 08:14:44

99% Occupied Bandwidth Plot on Channel 20175



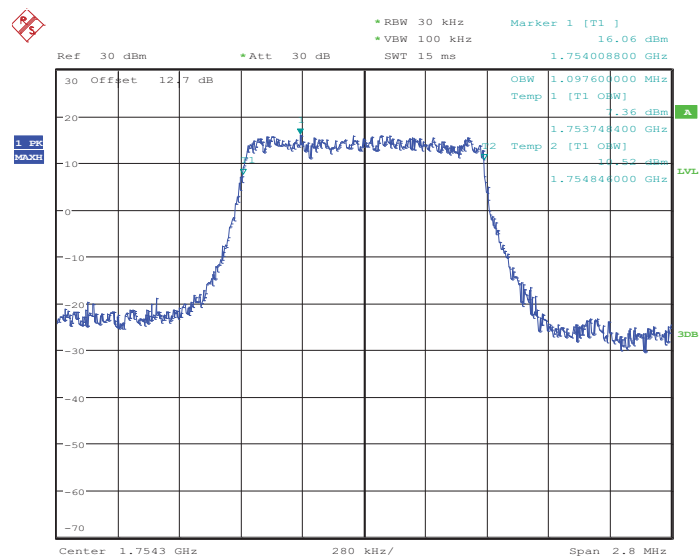
Date: 21.MAR.2014 08:20:22

26dB Bandwidth Plot on Channel 20175



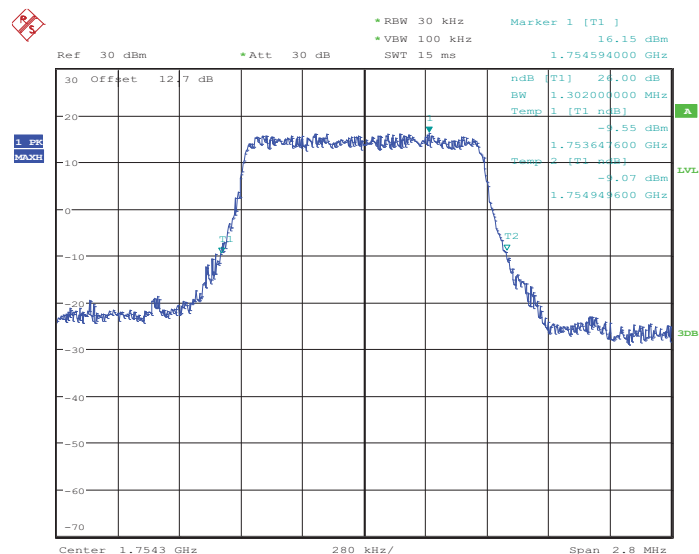
Date: 21.MAR.2014 08:20:55

99% Occupied Bandwidth Plot on Channel 20393



Date: 21.MAR.2014 08:23:28

26dB Bandwidth Plot on Channel 20393

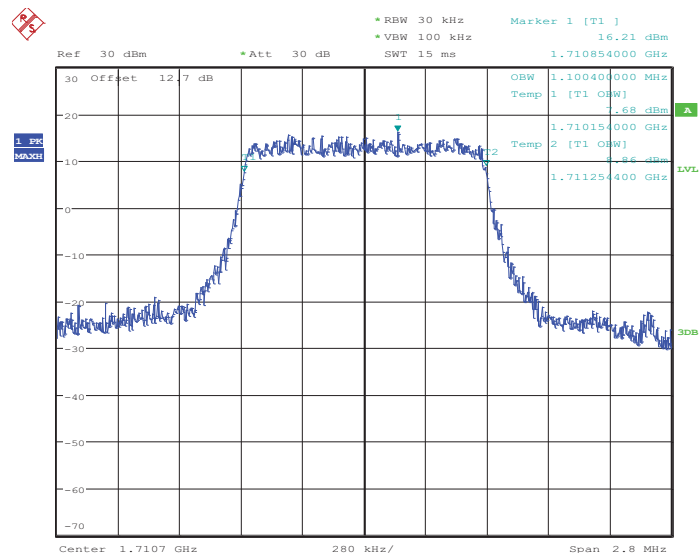


Date: 21.MAR.2014 08:24:02



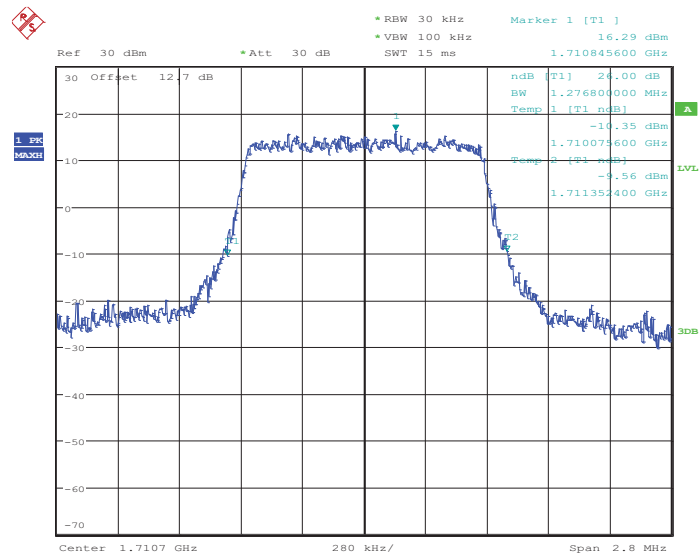
Band :	LTE Band 4	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19957

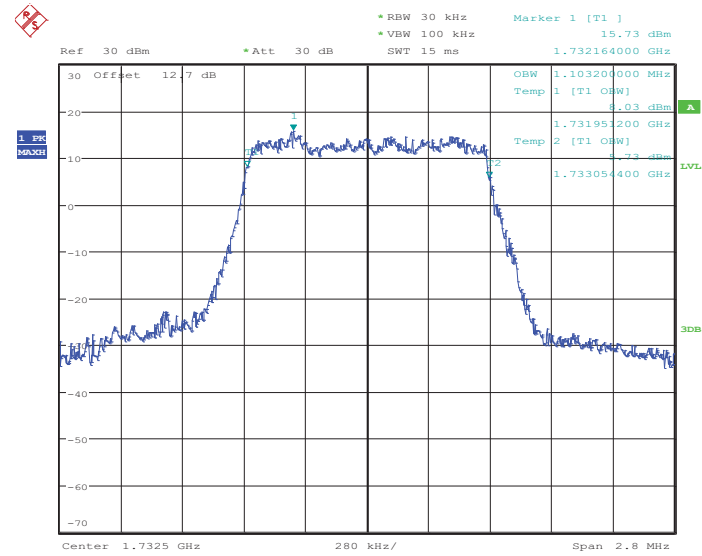


Date: 21.MAR.2014 08:14:26

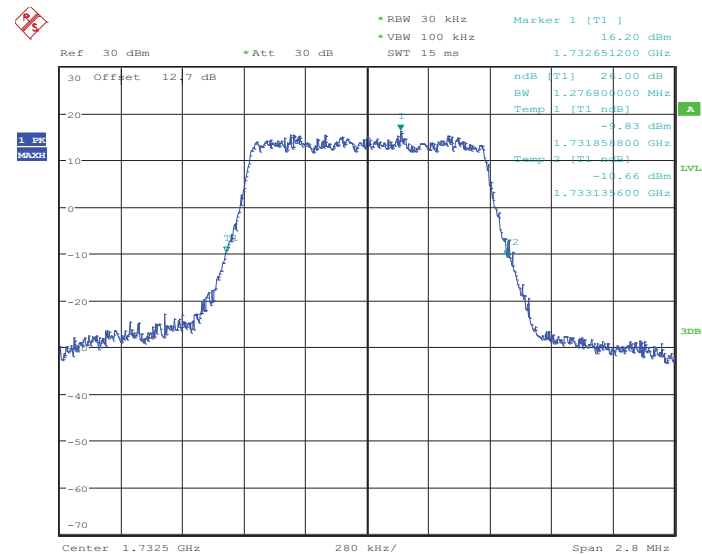
26dB Bandwidth Plot on Channel 19957



Date: 21.MAR.2014 08:15:01

99% Occupied Bandwidth Plot on Channel 20175


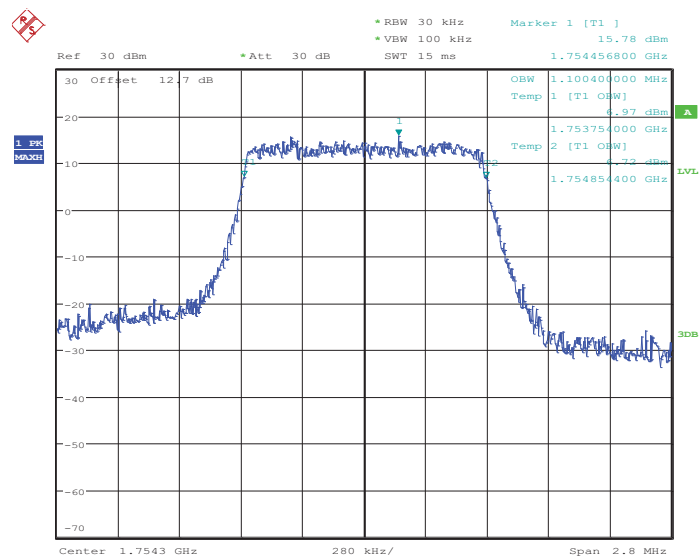
Date: 21.MAR.2014 08:20:37

26dB Bandwidth Plot on Channel 20175


Date: 21.MAR.2014 08:21:13

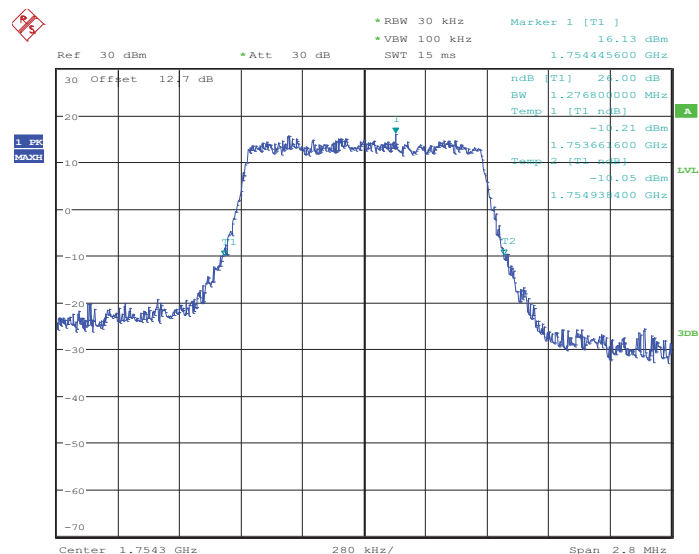


99% Occupied Bandwidth Plot on Channel 20393



Date: 21.MAR.2014 08:23:44

26dB Bandwidth Plot on Channel 20393

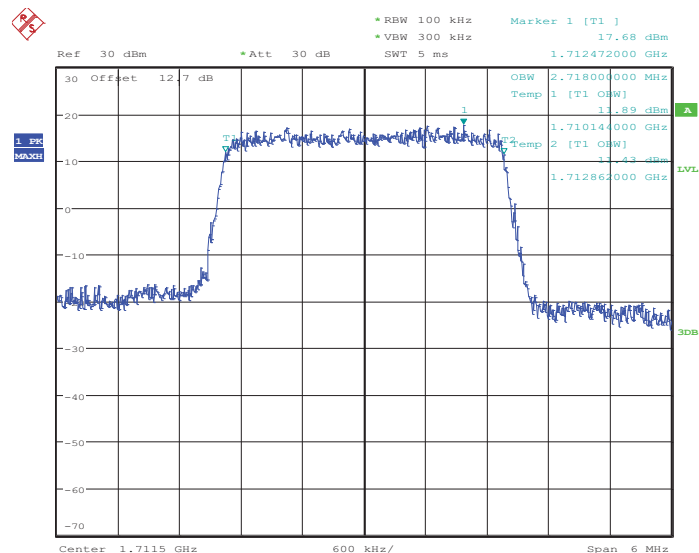


Date: 21.MAR.2014 08:24:19



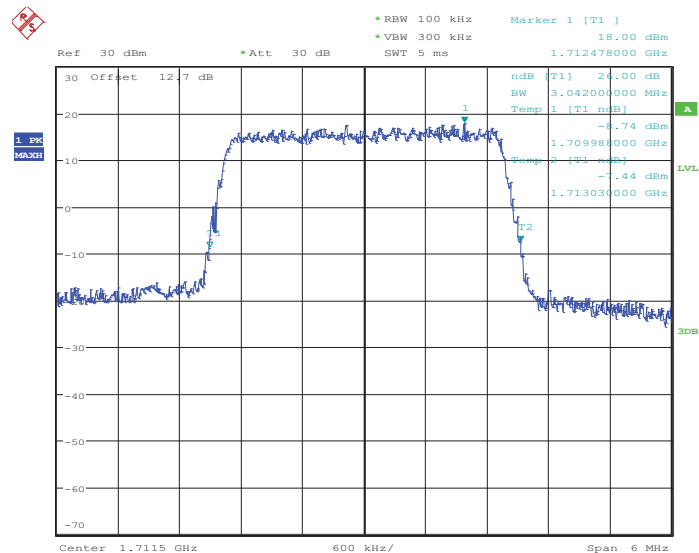
Band :	LTE Band 4	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19965

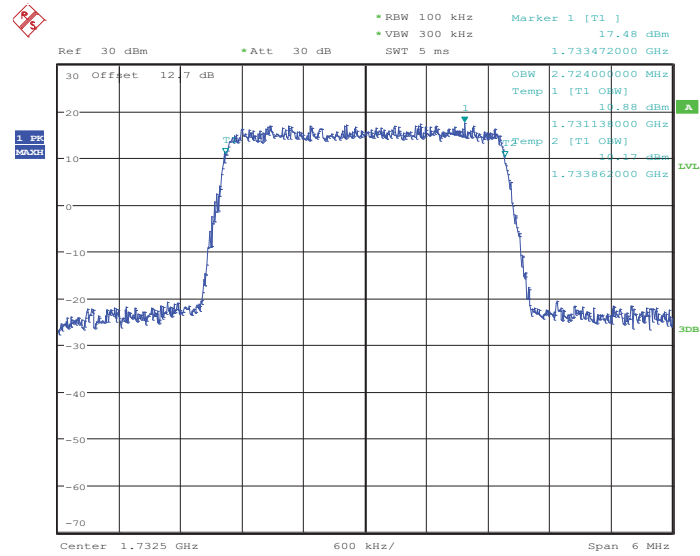


Date: 21.MAR.2014 10:02:16

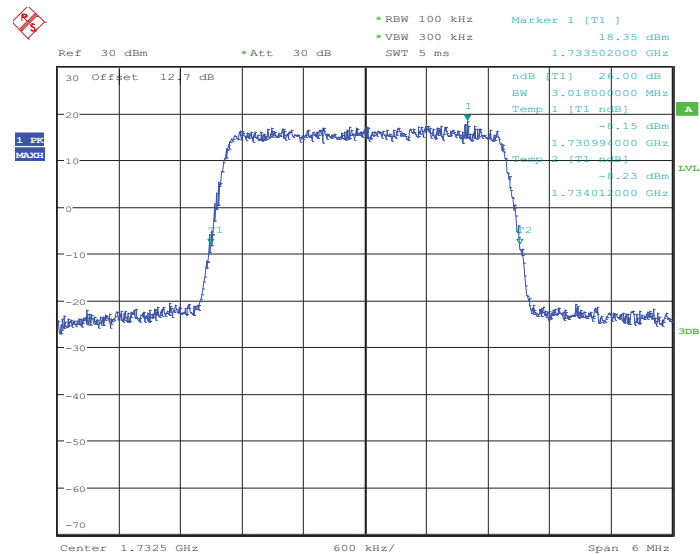
26dB Bandwidth Plot on Channel 19965



Date: 21.MAR.2014 08:34:48

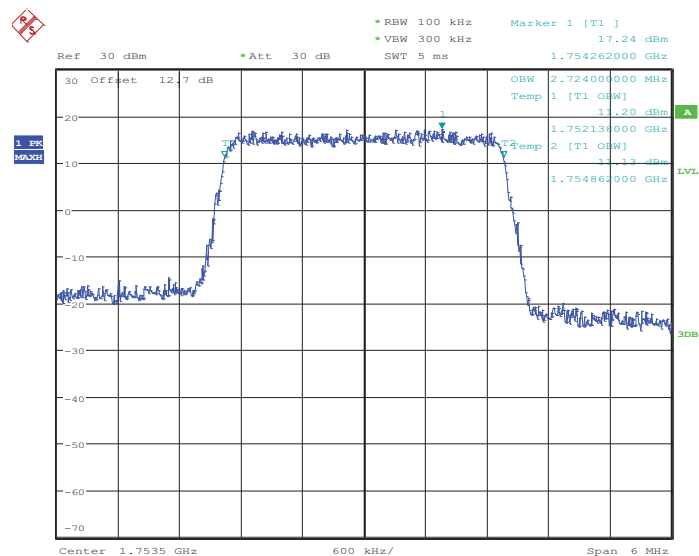
99% Occupied Bandwidth Plot on Channel 20175


Date: 21.MAR.2014 08:40:26

26dB Bandwidth Plot on Channel 20175


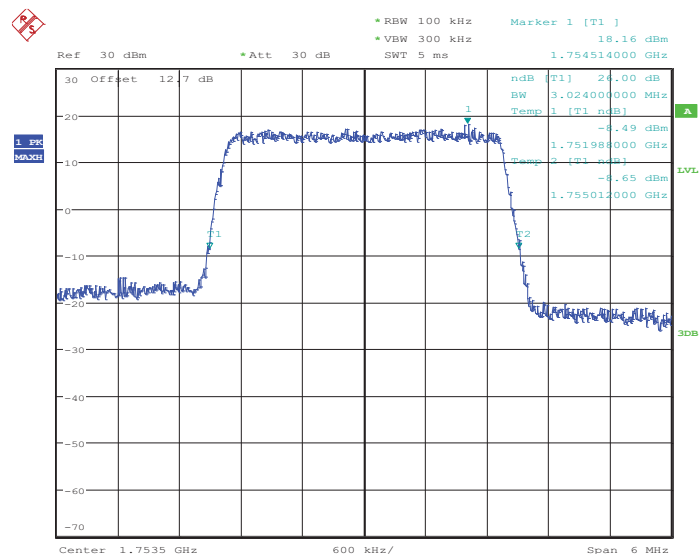
Date: 21.MAR.2014 08:41:00

99% Occupied Bandwidth Plot on Channel 20385



Date: 21.MAR.2014 08:43:33

26dB Bandwidth Plot on Channel 20385

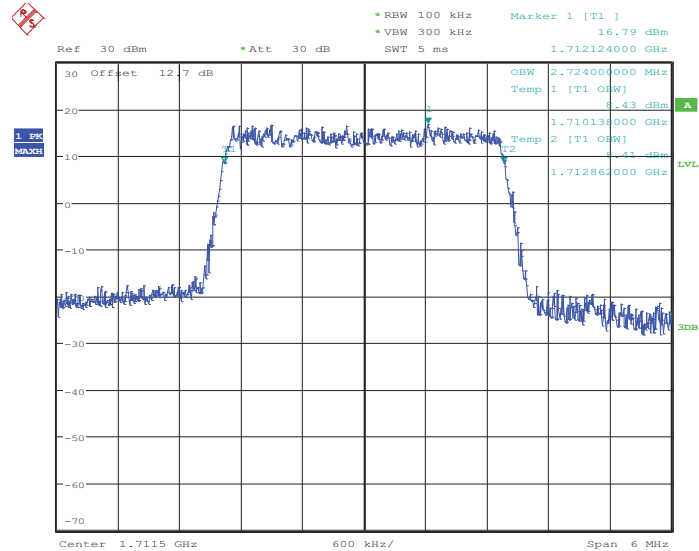


Date: 21.MAR.2014 08:44:06



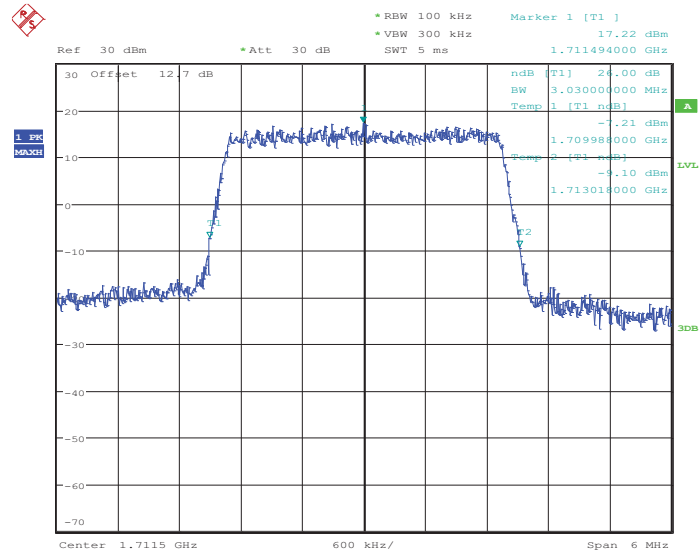
Band :	LTE Band 4	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19965



Date: 21.MAR.2014 10:01:30

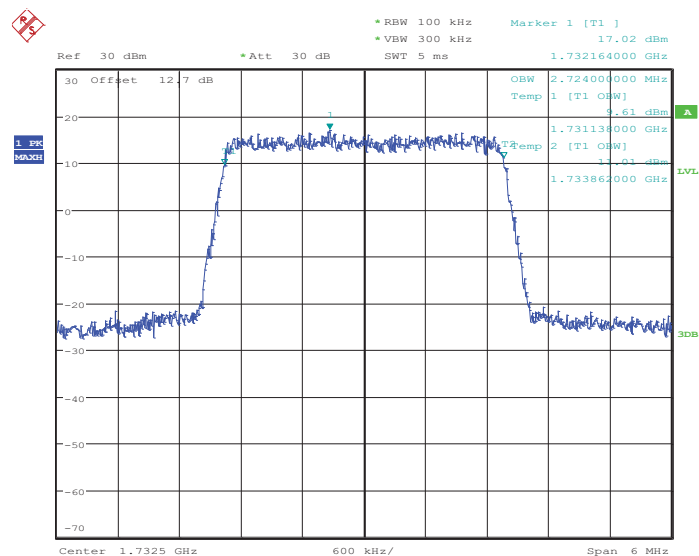
26dB Bandwidth Plot on Channel 19965



Date: 21.MAR.2014 08:35:06

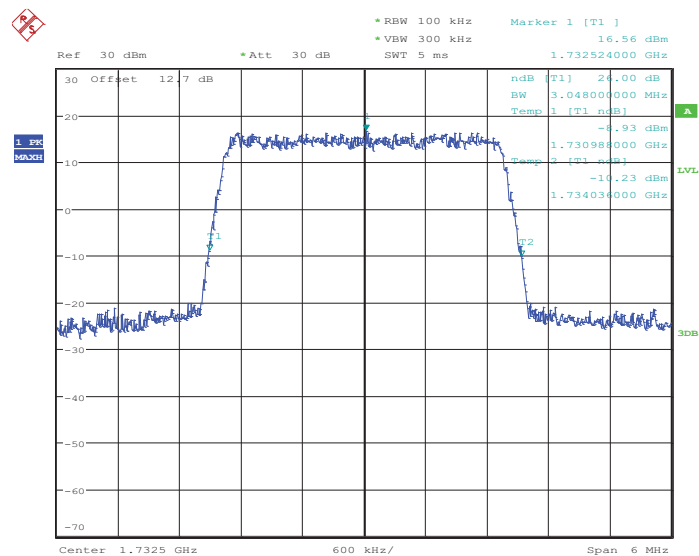


99% Occupied Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 08:40:42

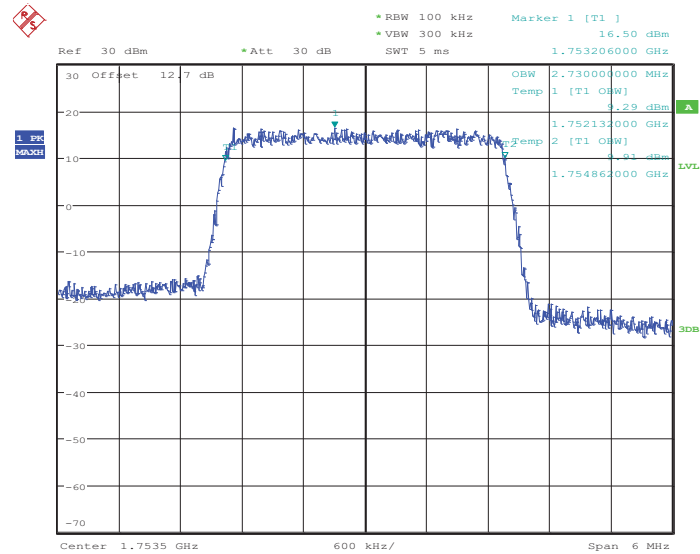
26dB Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 08:41:18

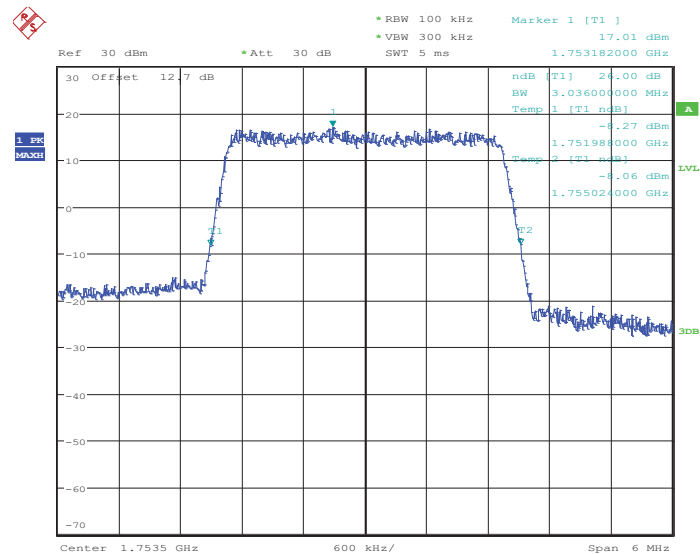


99% Occupied Bandwidth Plot on Channel 20385



Date: 21.MAR.2014 08:43:49

26dB Bandwidth Plot on Channel 20385

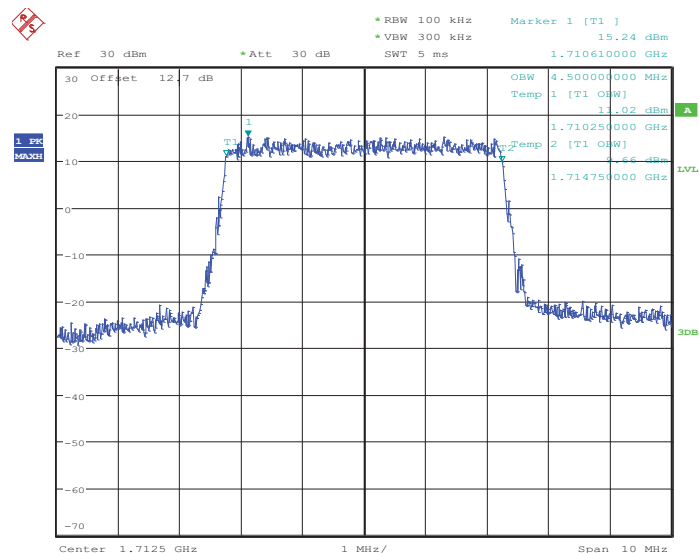


Date: 21.MAR.2014 08:44:24



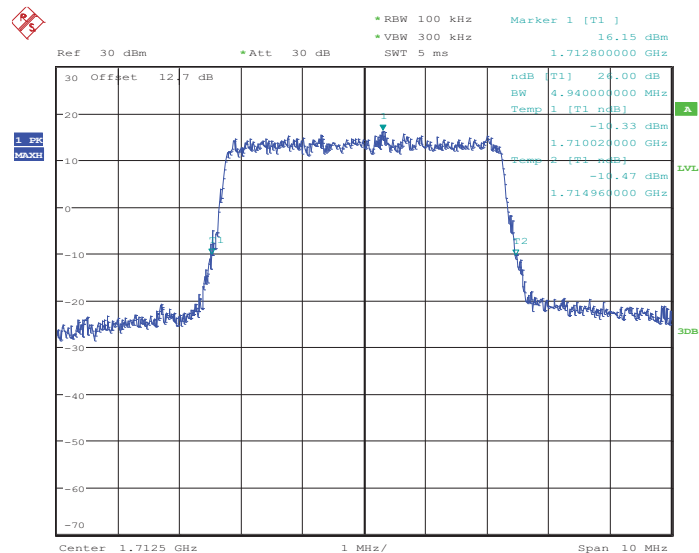
Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19975



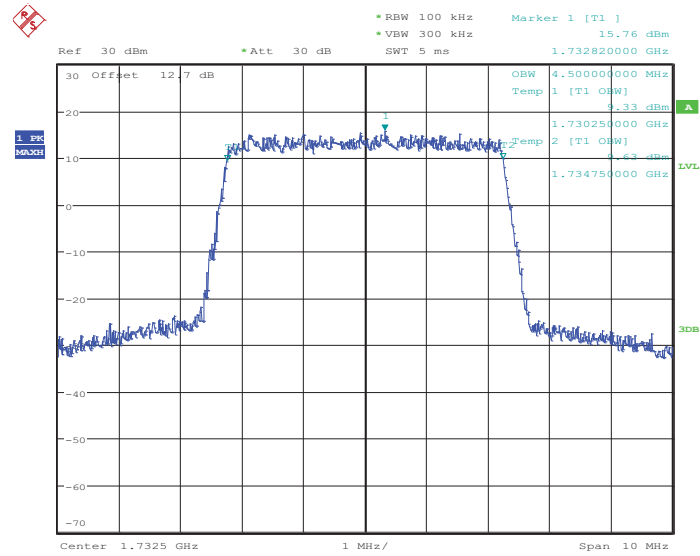
Date: 21.MAR.2014 08:49:48

26dB Bandwidth Plot on Channel 19975



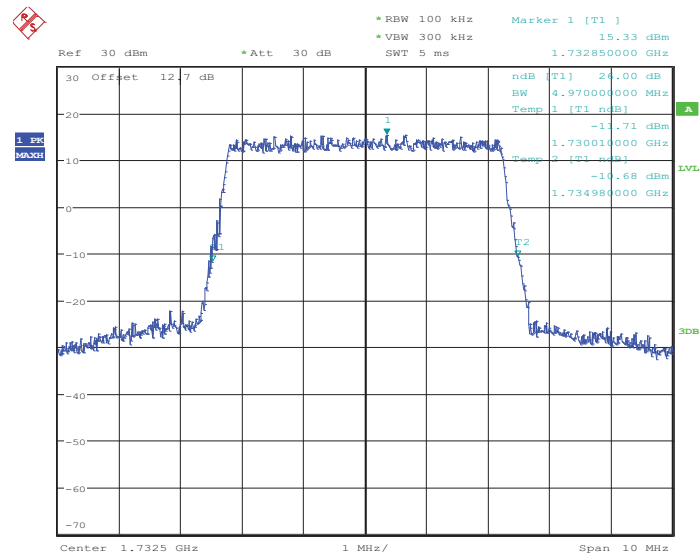
Date: 21.MAR.2014 08:50:22

99% Occupied Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 08:55:59

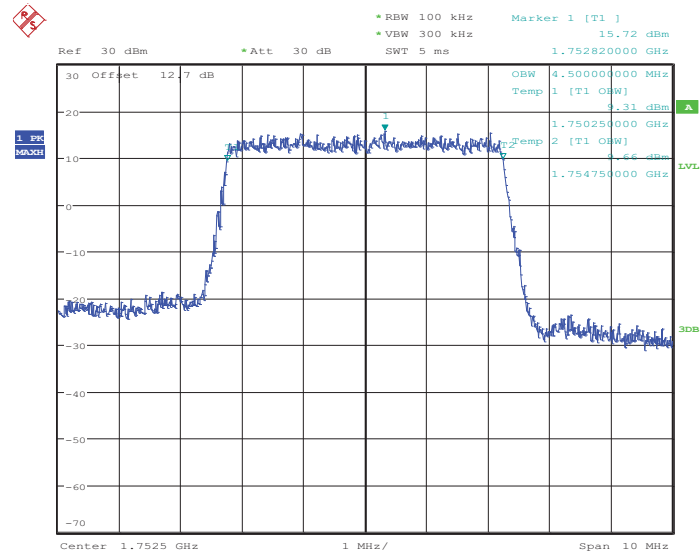
26dB Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 08:56:33

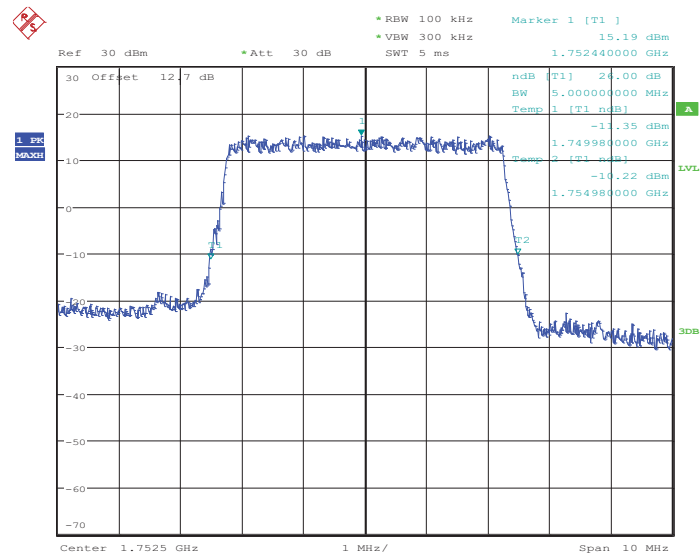


99% Occupied Bandwidth Plot on Channel 20375



Date: 21.MAR.2014 08:59:05

26dB Bandwidth Plot on Channel 20375

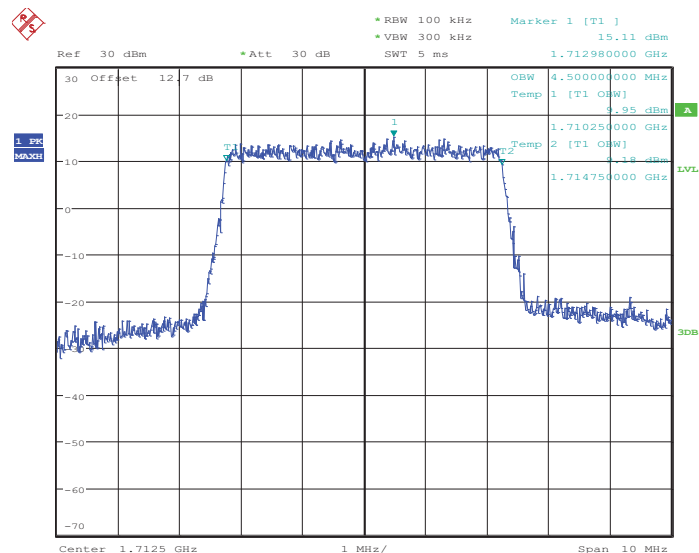


Date: 21.MAR.2014 08:59:38



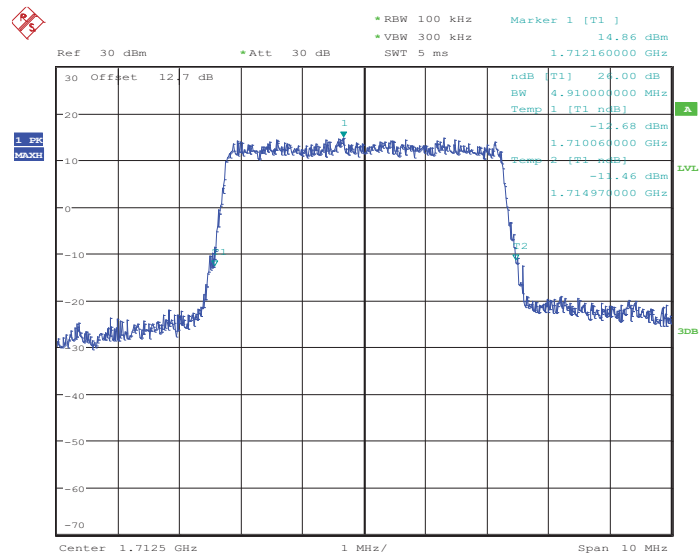
Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19975



Date: 21.MAR.2014 08:50:04

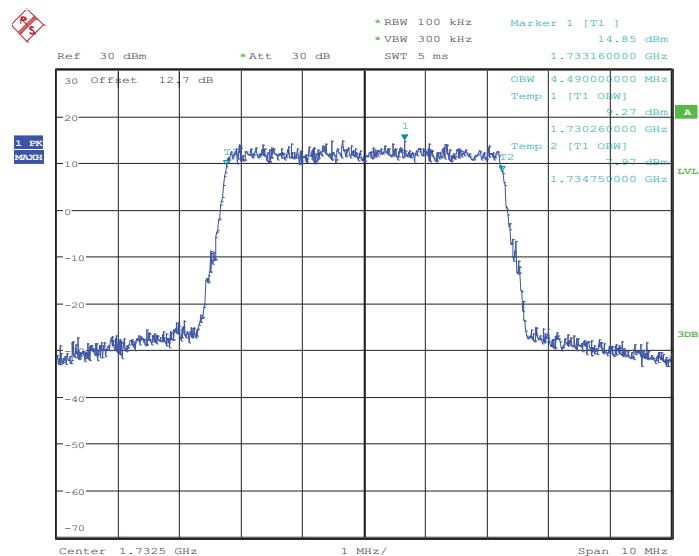
26dB Bandwidth Plot on Channel 19975



Date: 21.MAR.2014 08:50:39

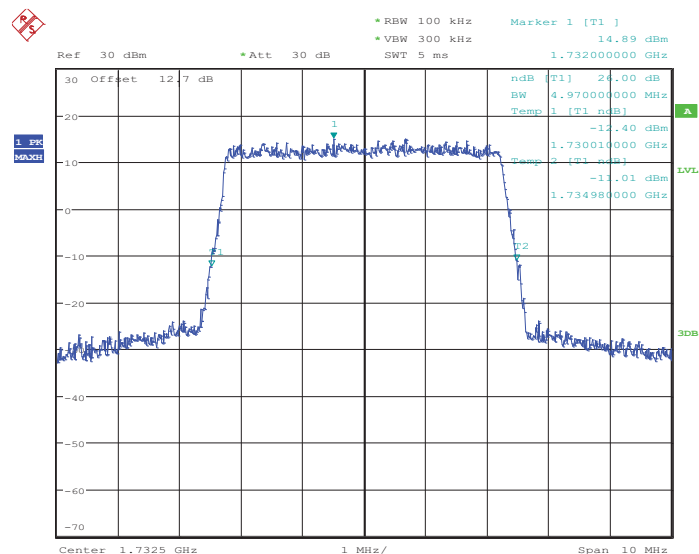


99% Occupied Bandwidth Plot on Channel 20175



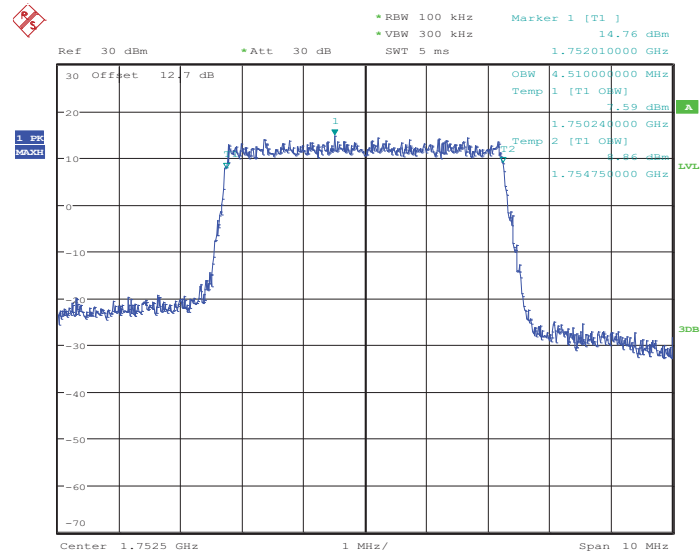
Date: 21.MAR.2014 08:56:15

26dB Bandwidth Plot on Channel 20175



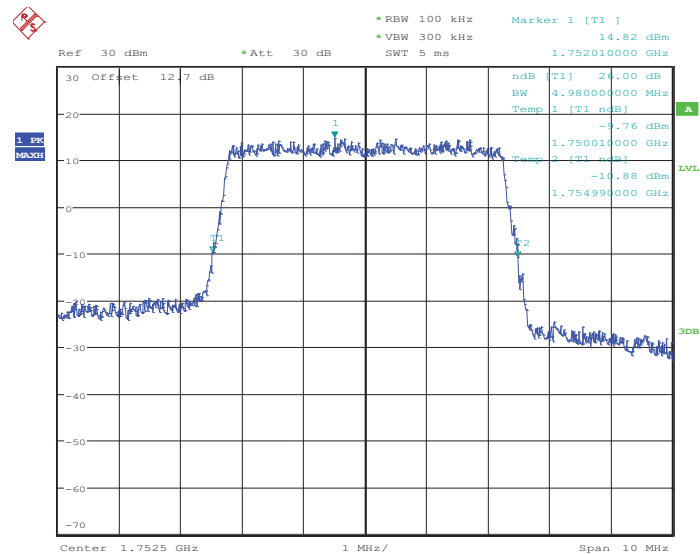
Date: 21.MAR.2014 08:56:50

99% Occupied Bandwidth Plot on Channel 20375



Date: 21.MAR.2014 08:59:21

26dB Bandwidth Plot on Channel 20375

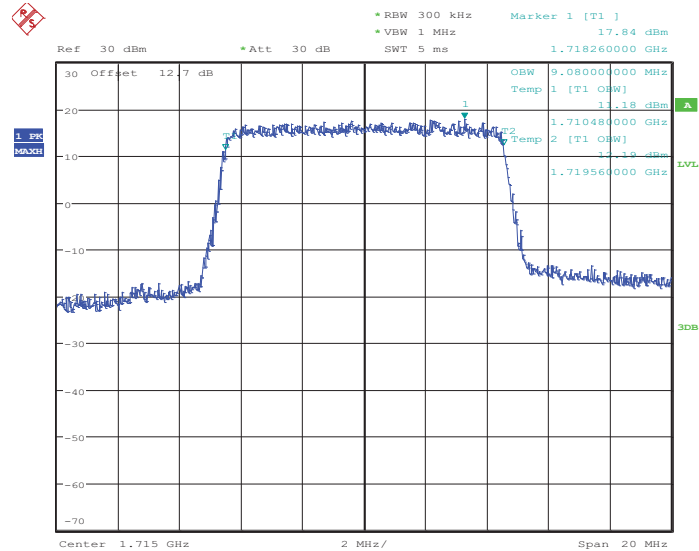


Date: 21.MAR.2014 08:59:56



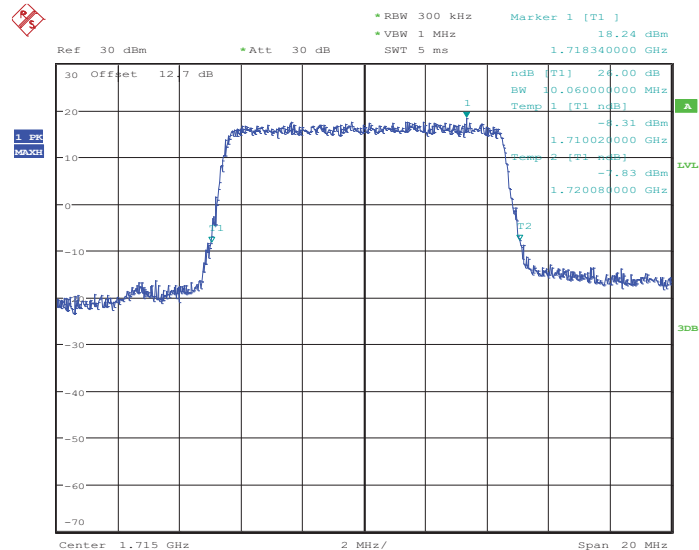
Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20000



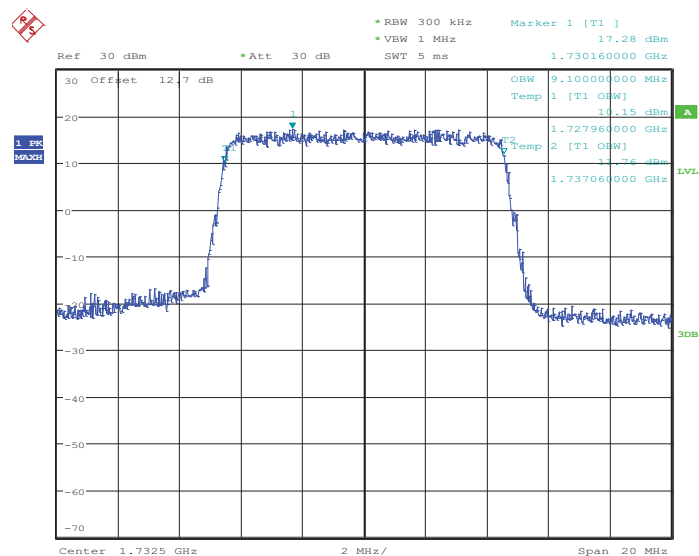
Date: 21.MAR.2014 09:05:20

26dB Bandwidth Plot on Channel 20000



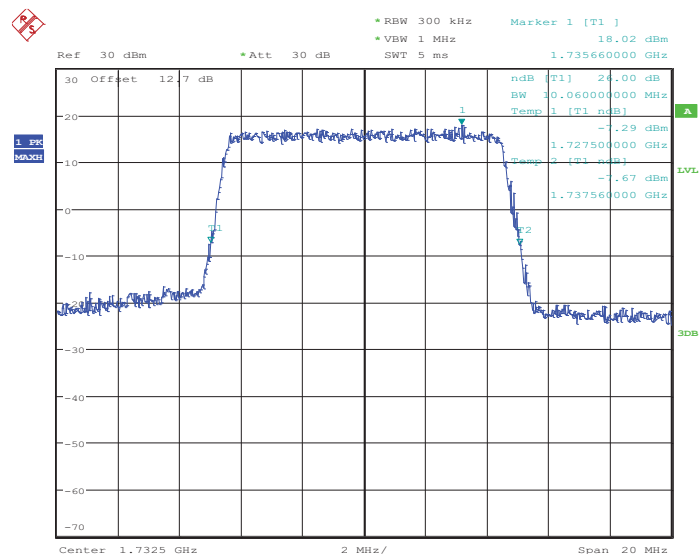
Date: 21.MAR.2014 09:05:54

99% Occupied Bandwidth Plot on Channel 20175



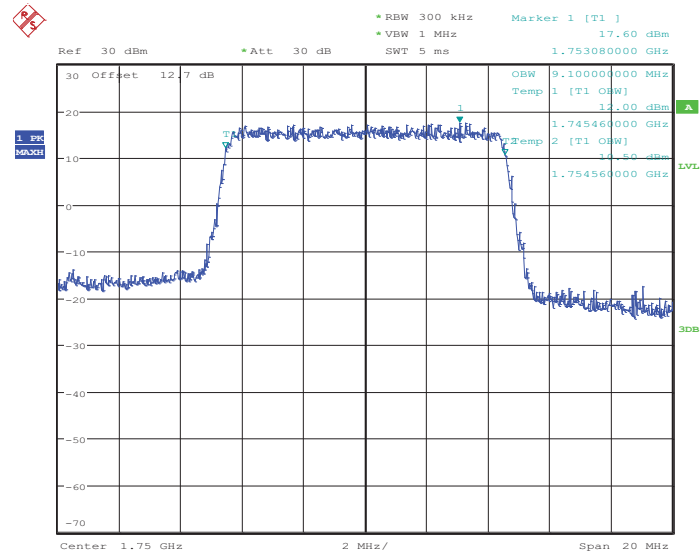
Date: 21.MAR.2014 09:11:32

26dB Bandwidth Plot on Channel 20175



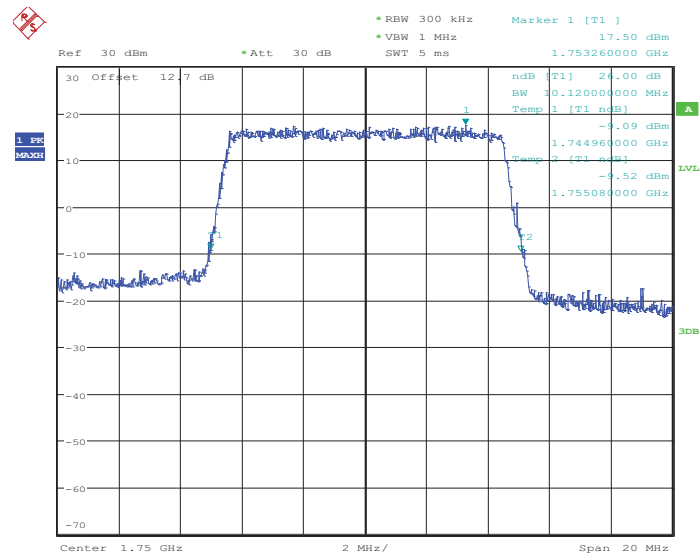
Date: 21.MAR.2014 09:12:05

99% Occupied Bandwidth Plot on Channel 20350



Date: 21.MAR.2014 09:14:39

26dB Bandwidth Plot on Channel 20350

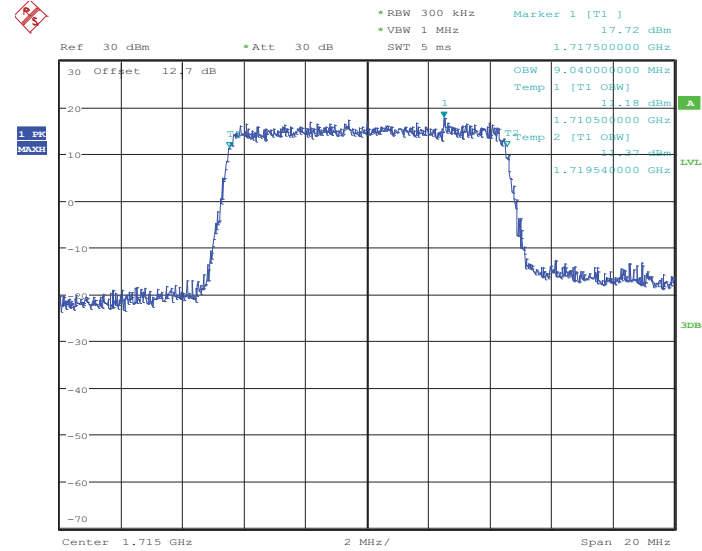


Date: 21.MAR.2014 09:15:12



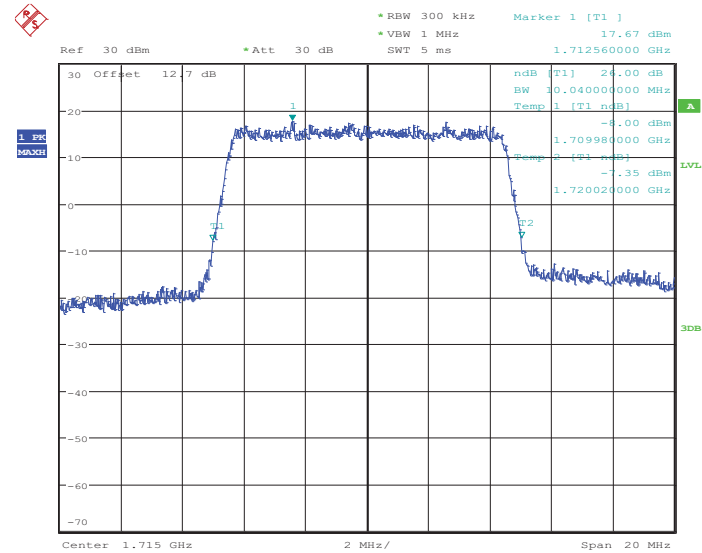
Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20000



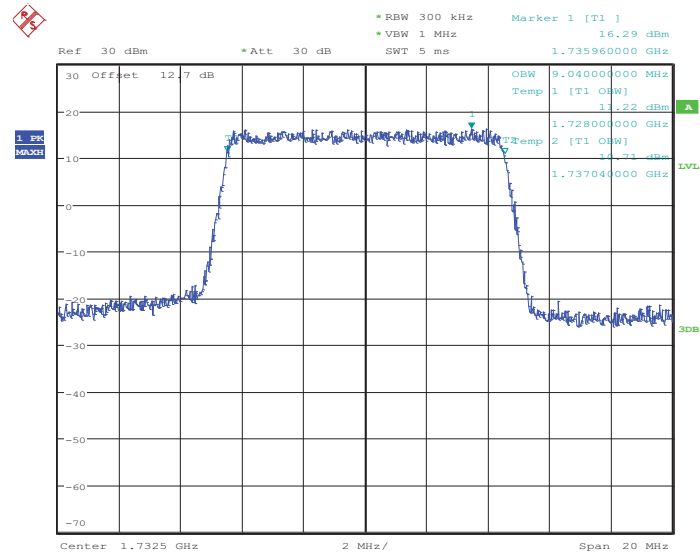
Date: 21.MAR.2014 09:05:36

26dB Bandwidth Plot on Channel 20000



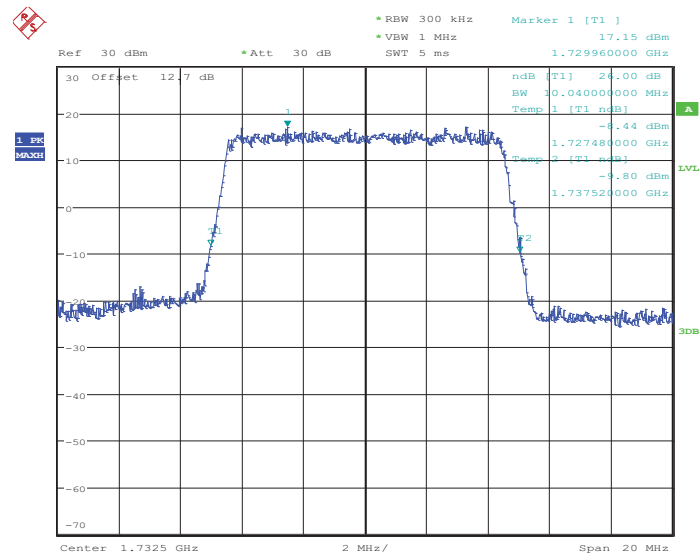
Date: 21.MAR.2014 09:06:12

99% Occupied Bandwidth Plot on Channel 20175



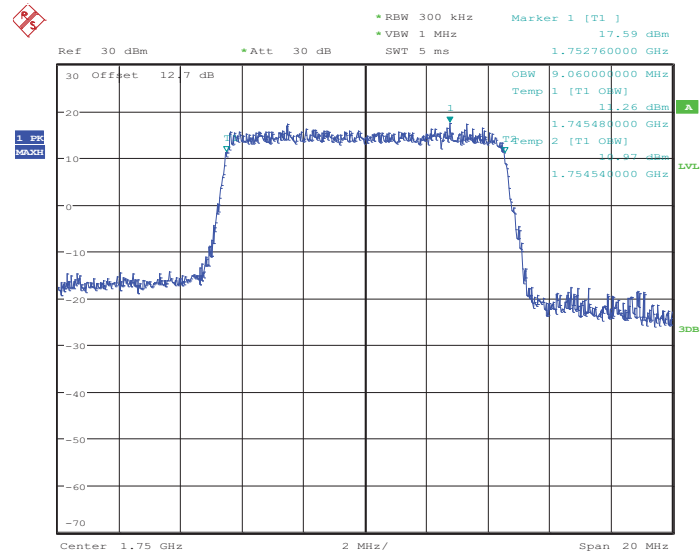
Date: 21.MAR.2014 09:11:48

26dB Bandwidth Plot on Channel 20175



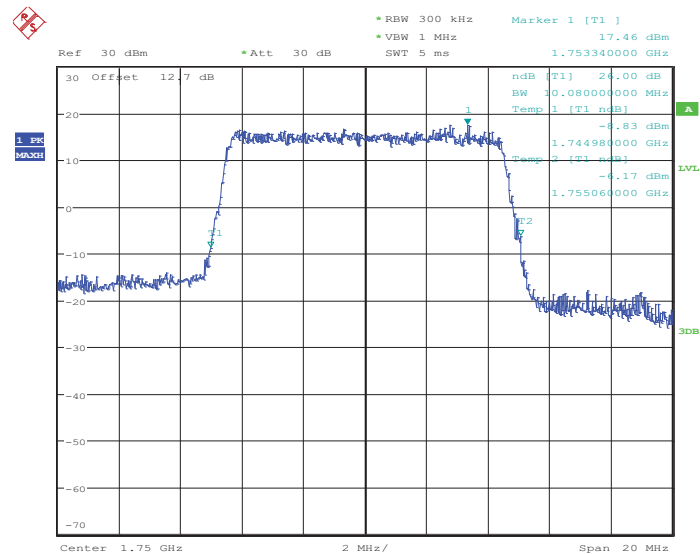
Date: 21.MAR.2014 09:12:23

99% Occupied Bandwidth Plot on Channel 20350



Date: 21.MAR.2014 09:14:55

26dB Bandwidth Plot on Channel 20350

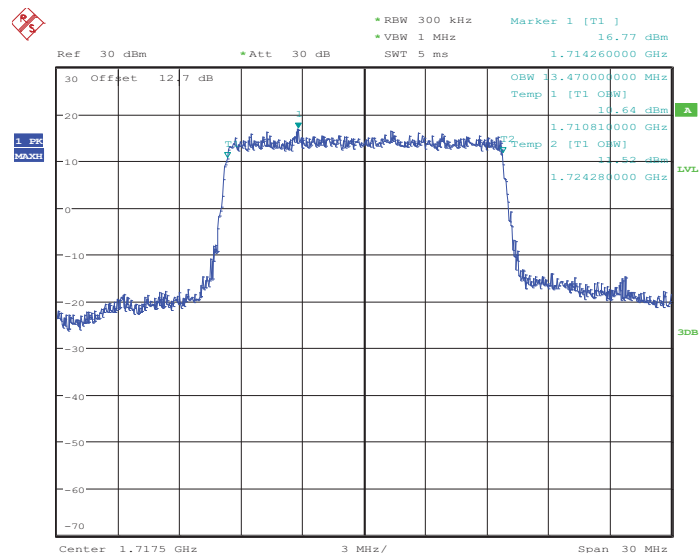


Date: 21.MAR.2014 09:15:30



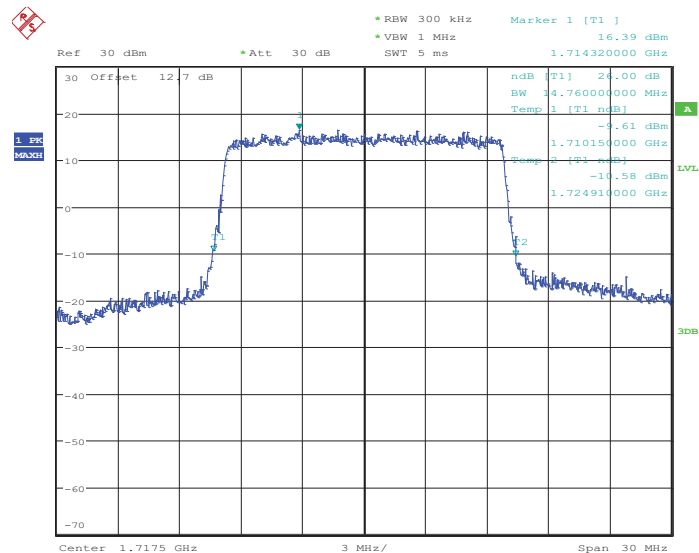
Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20025

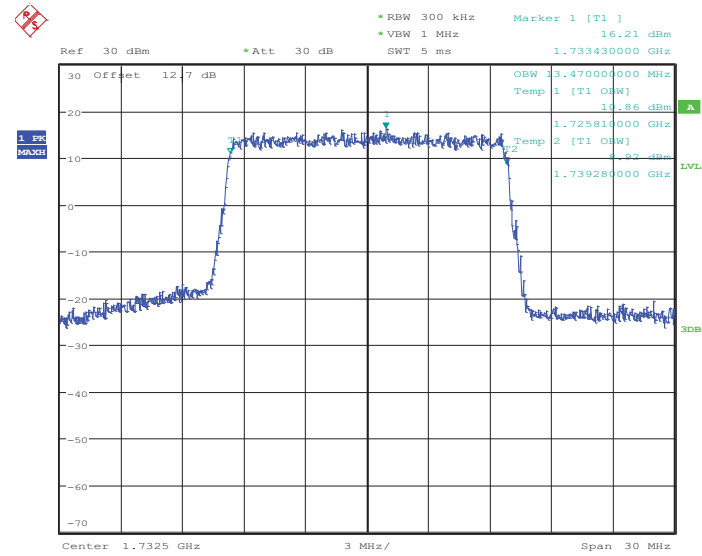


Date: 21.MAR.2014 09:20:56

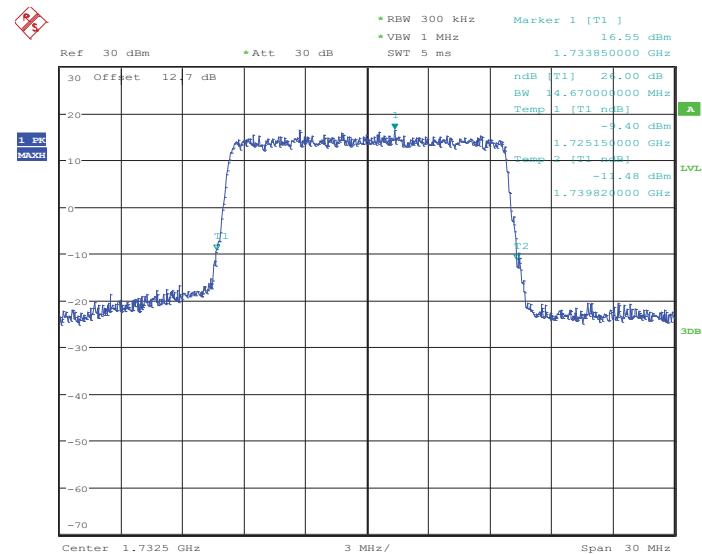
26dB Bandwidth Plot on Channel 20025



Date: 21.MAR.2014 09:21:30

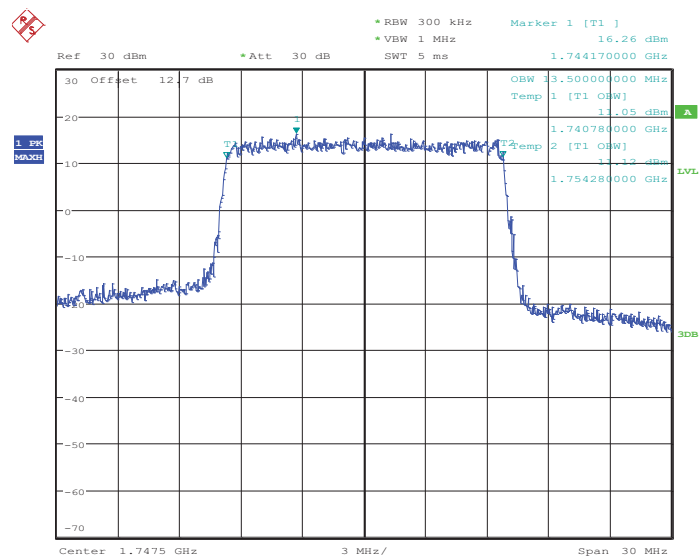
99% Occupied Bandwidth Plot on Channel 20175


Date: 21.MAR.2014 09:27:08

26dB Bandwidth Plot on Channel 20175


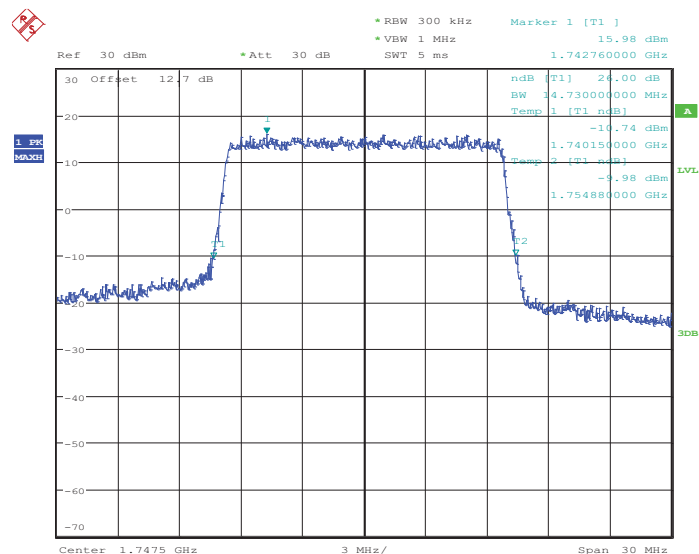
Date: 21.MAR.2014 09:27:42

99% Occupied Bandwidth Plot on Channel 20325



Date: 21.MAR.2014 09:30:14

26dB Bandwidth Plot on Channel 20325

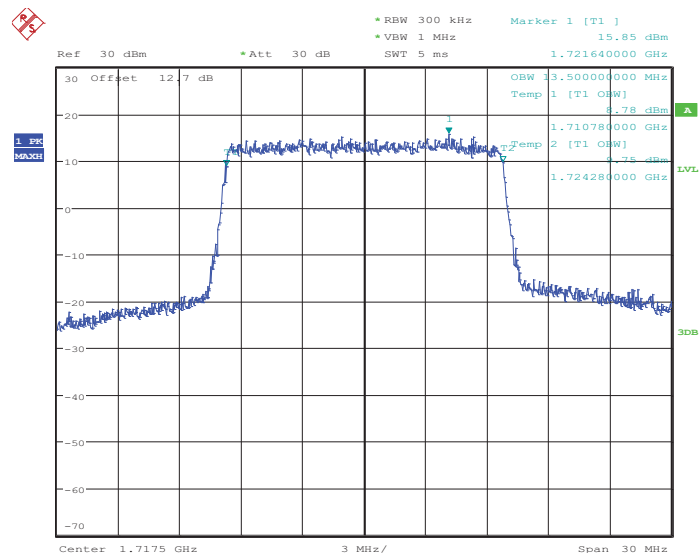


Date: 21.MAR.2014 09:30:48



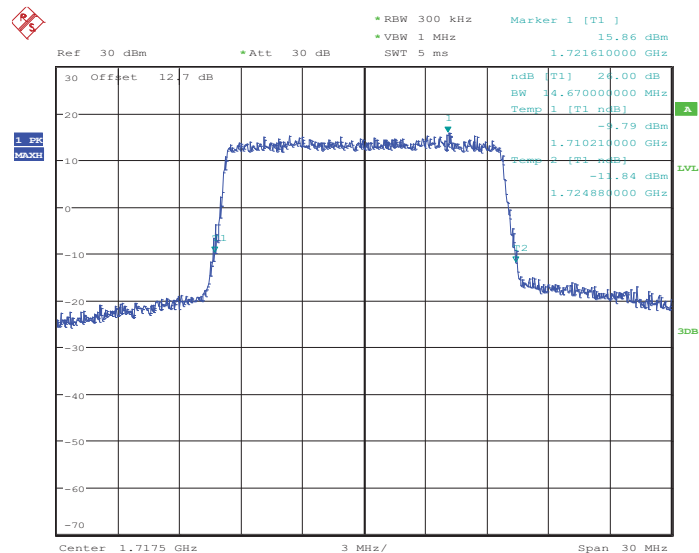
Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20025



Date: 21.MAR.2014 09:21:12

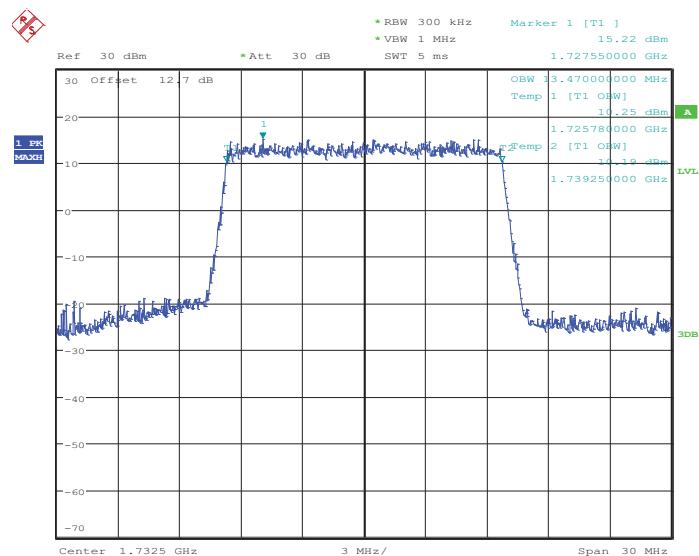
26dB Bandwidth Plot on Channel 20025



Date: 21.MAR.2014 09:21:47

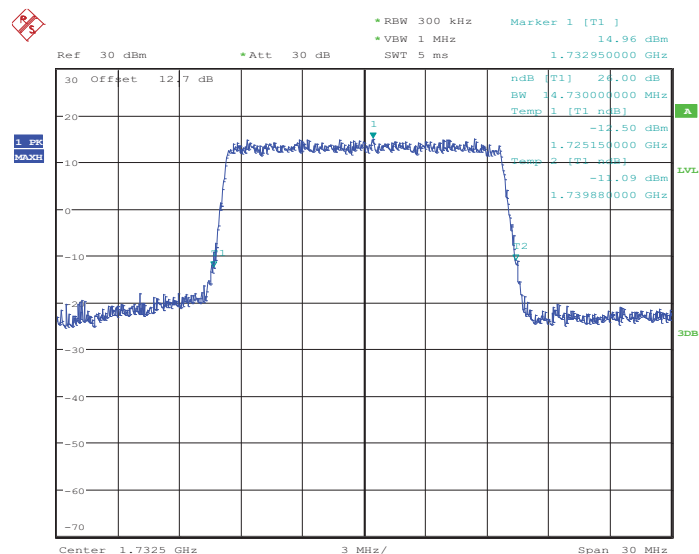


99% Occupied Bandwidth Plot on Channel 20175



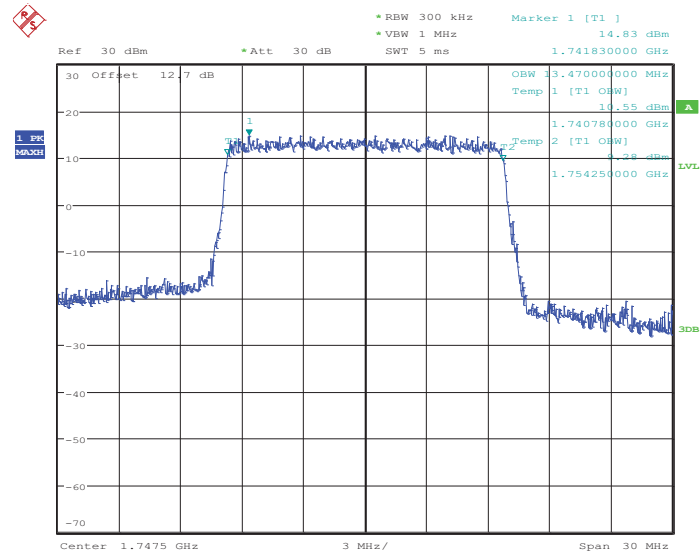
Date: 21.MAR.2014 09:27:24

26dB Bandwidth Plot on Channel 20175



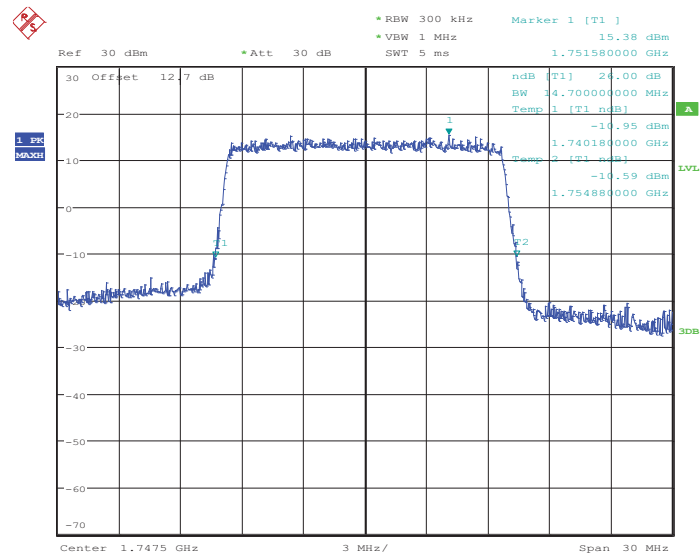
Date: 21.MAR.2014 09:27:59

99% Occupied Bandwidth Plot on Channel 20325



Date: 21.MAR.2014 09:30:30

26dB Bandwidth Plot on Channel 20325

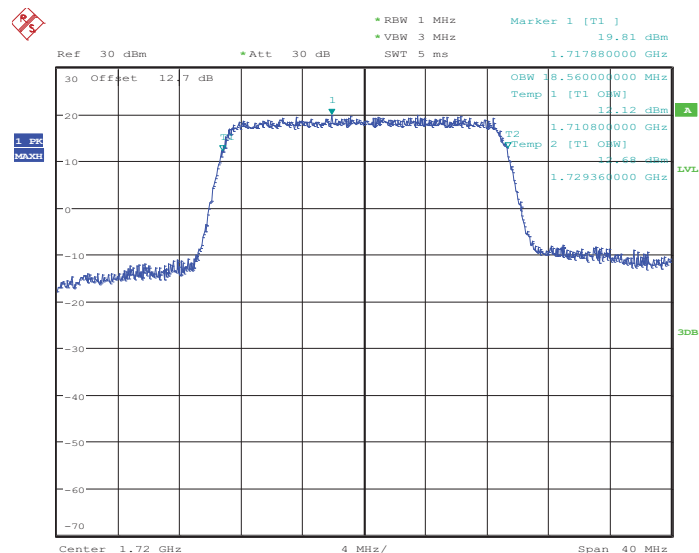


Date: 21.MAR.2014 09:31:06



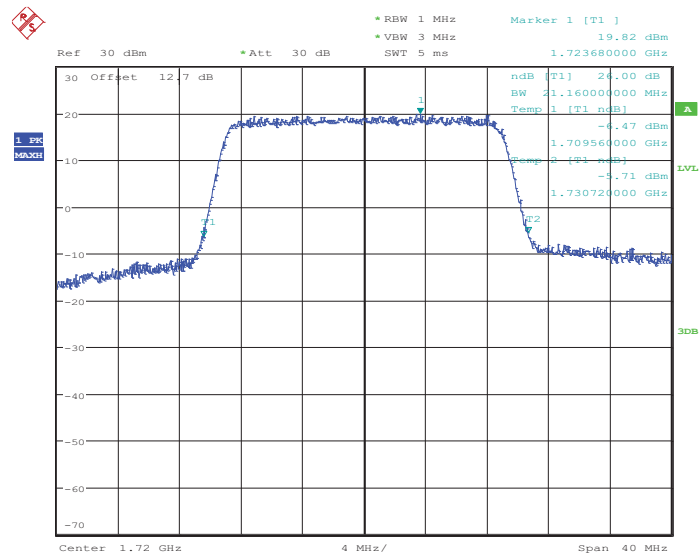
Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20050



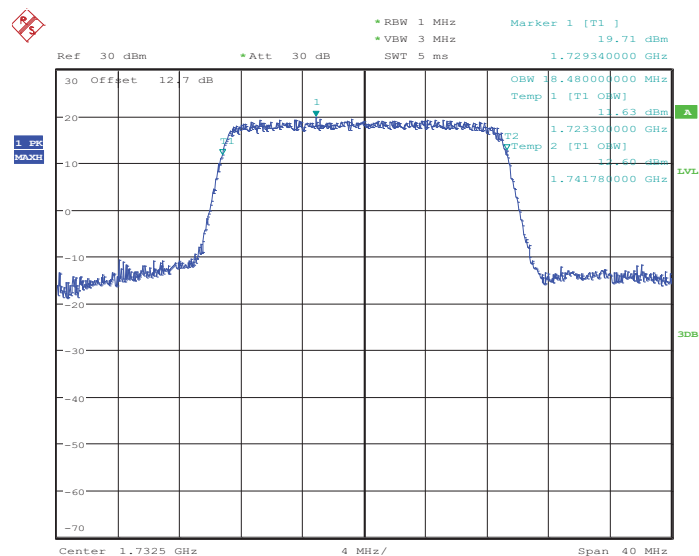
Date: 21.MAR.2014 09:36:33

26dB Bandwidth Plot on Channel 20050



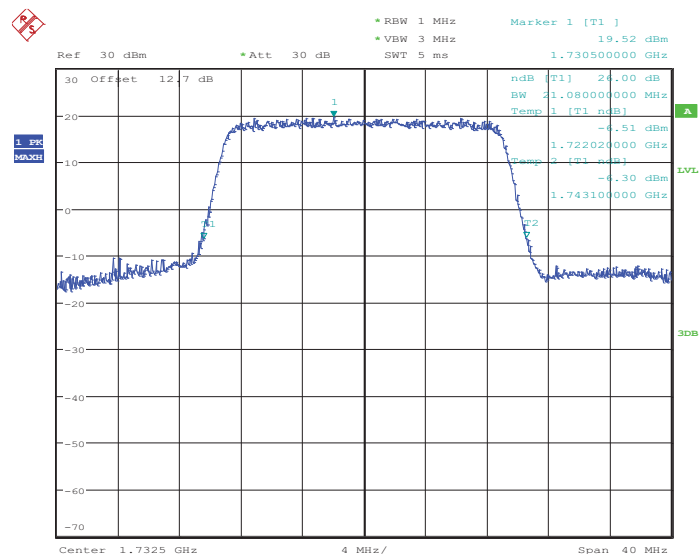
Date: 21.MAR.2014 09:37:06

99% Occupied Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 09:42:46

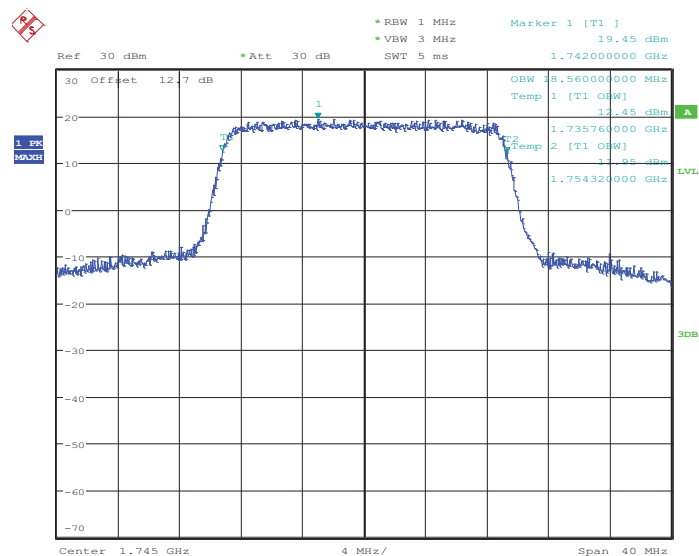
26dB Bandwidth Plot on Channel 20175



Date: 21.MAR.2014 09:43:20

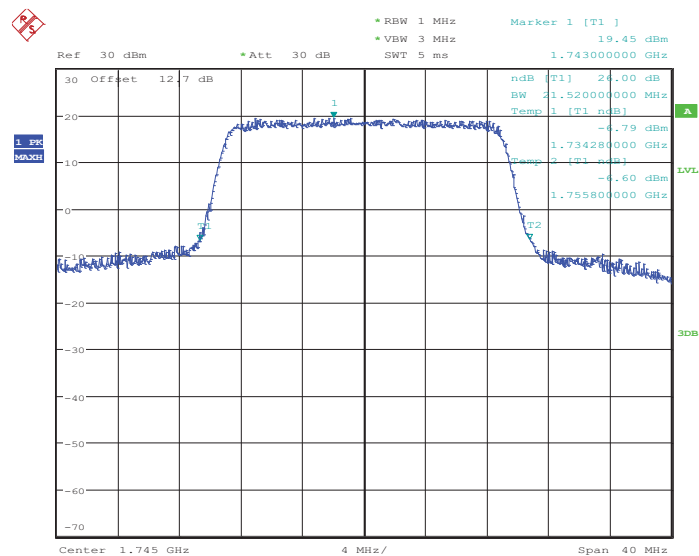


99% Occupied Bandwidth Plot on Channel 20300



Date: 21.MAR.2014 09:45:53

26dB Bandwidth Plot on Channel 20300

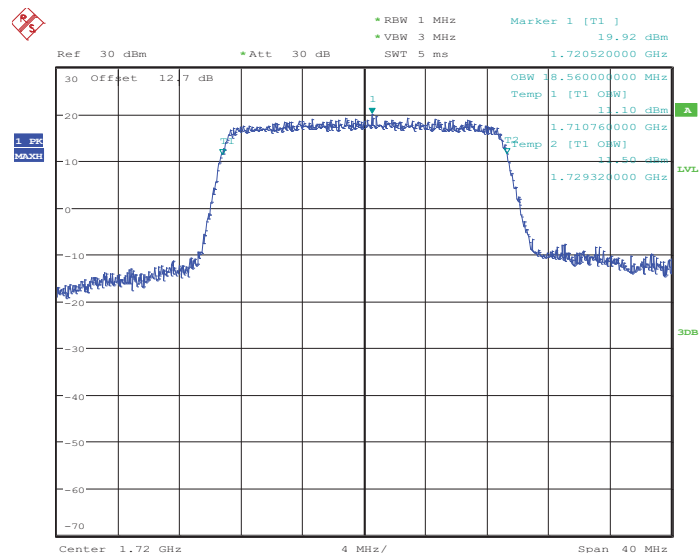


Date: 21.MAR.2014 09:46:27



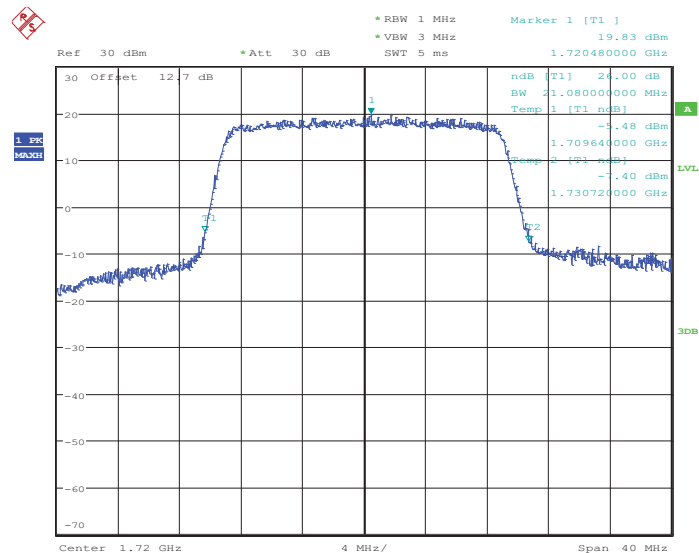
Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20050



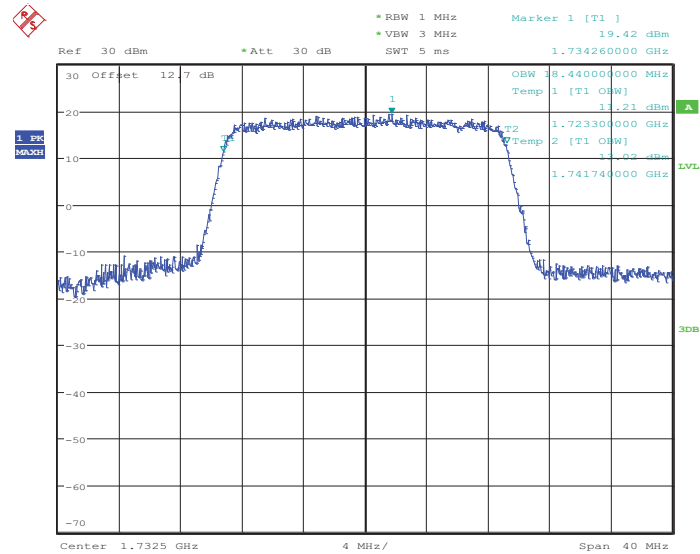
Date: 21.MAR.2014 09:36:49

26dB Bandwidth Plot on Channel 20050



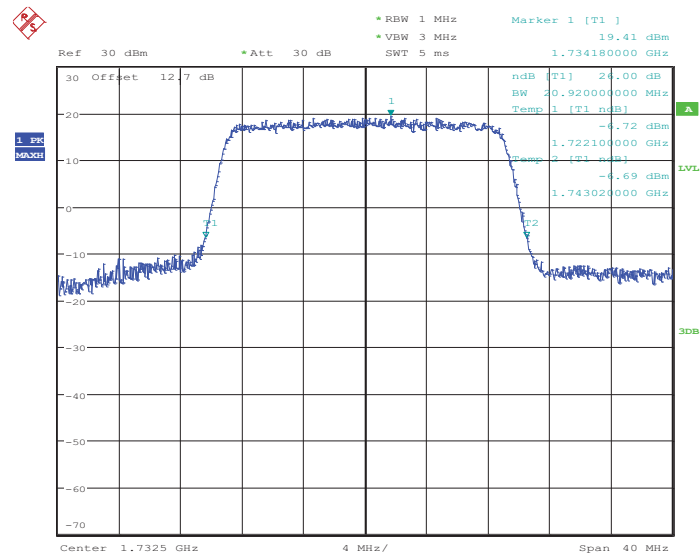
Date: 21.MAR.2014 09:37:24

99% Occupied Bandwidth Plot on Channel 20175



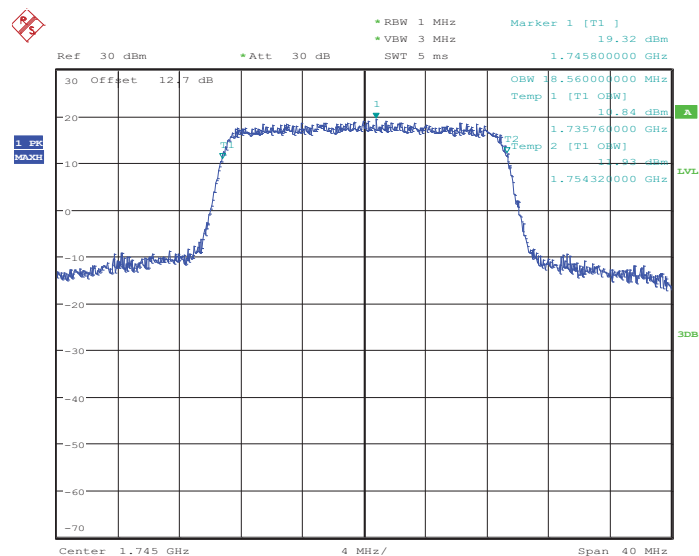
Date: 21.MAR.2014 09:43:02

26dB Bandwidth Plot on Channel 20175



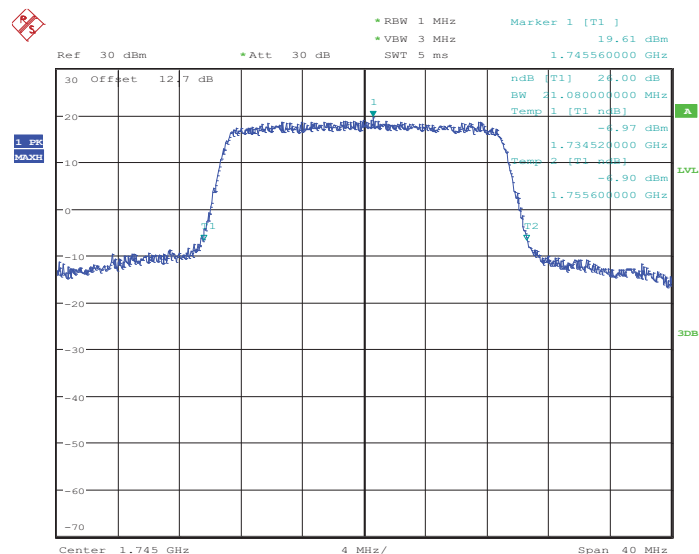
Date: 21.MAR.2014 09:43:37

99% Occupied Bandwidth Plot on Channel 20300



Date: 21.MAR.2014 09:46:09

26dB Bandwidth Plot on Channel 20300



Date: 21.MAR.2014 09:46:44