

FCC RF Test Report

APPLICANT : Joyous LLC
EQUIPMENT : Mobile Phone
BRAND NAME : SD4930UR
FCC ID : ZWH-1210
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The testing completed on Apr. 2, 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 to be compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.
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REVISION HISTORY

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.2	§24.232(d) 27.50(d)(5)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§22.913(a)(2)	Effective Radiated Power (Band 5)	ERP < 7 Watts	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 17)	ERP < 3 Watts		
	N/A	Equivalent Isotropic Radiated Power (Band 17)	EIRP < 5 Watts		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1049 §22.917(b) §24.238(b) §27.53(g)(3) §27.53(l)(4)	Occupied Bandwidth	Reporting Only	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a) §27.53((f) §27.53(g) §27.53(l)(4)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 17) (Band 7)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
3.6	§2.1051 §22.917(a) §24.238(a) §27.53(f) §27.53(g)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 17)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
	§2.1051 §27.53(l)(4)	Conducted Spurious Emission (Band 7)	$< 55+10\log_{10}(P[\text{Watts}])$	PASS	-
3.7	§2.1053 §22.917(a) §24.238(a) §27.53(f) §27.53(g)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 17)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 2.75 dB at 7596.000 MHz
	§2.1053 §27.53(l)(4)	Radiated Spurious Emission (Band 7)	$< 55+10\log_{10}(P[\text{Watts}])$		
3.8	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	$< 2.5 \text{ ppm}$	PASS	

1 General Description

1.1 Applicant

Joyous LLC

1090 Vermont Avenue NW Suite 430
Washington, DC 20005

1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	SD4930UR
FCC ID	ZWH-1210
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

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

1.3 Product Specification of Equipment Under Test

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 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 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 4) 5MHz/ 10MHz / 15MHz / 20MHz (Band 7) 5MHz / 10MHz (Band 17)
Maximum Output Power to Antenna	LTE Band 5 : 22.94 dBm / 0.20 W LTE Band 2 : 23.44 dBm / 0.22 W LTE Band 4 : 23.75 dBm / 0.24 W LTE Band 17 : 22.92 dBm / 0.20 W LTE Band 7 : 23.62 dBm / 0.23 W
Antenna Type	Fixed Internal Antenna
Type of Modulation	QPSK / 16QAM

1.4 Modification of EUT

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

1.5 Emission Designator

FCC Rule	System	Type of Modulation	BW	Emission Designator	Maximum ERP/EIRP
Part 22	LTE Band 5	QPSK	1.4 MHz	1M10G7D	0.066 W
Part 22	LTE Band 5	16QAM	1.4 MHz	1M10D7W	0.052 W
Part 22	LTE Band 5	QPSK	10 MHz	9M10G7D	0.068 W
Part 22	LTE Band 5	16QAM	10 MHz	9M04D7W	0.053 W
Part 24	LTE Band 2	QPSK	1.4 MHz	1M10G7D	0.220 W
Part 24	LTE Band 2	16QAM	1.4 MHz	1M10D7W	0.175 W
Part 24	LTE Band 2	QPSK	20 MHz	18M5G7D	0.209 W
Part 24	LTE Band 2	16QAM	20 MHz	18M5D7W	0.184 W
Part 27	LTE Band 4	QPSK	1.4 MHz	1M10G7D	0.174 W
Part 27	LTE Band 4	16QAM	1.4 MHz	1M10D7W	0.141 W
Part 27	LTE Band 4	QPSK	20MHz	18M5G7D	0.196 W
Part 27	LTE Band 4	16QAM	20MHz	18M5D7W	0.164 W
Part 27	LTE Band 17	QPSK	5MHz	4M51G7D	0.049 W
Part 27	LTE Band 17	16QAM	5MHz	4M50D7W	0.039 W
Part 27	LTE Band 17	QPSK	10MHz	9M12G7D	0.056 W
Part 27	LTE Band 17	16QAM	10MHz	9M06D7W	0.039 W
Part 27	LTE Band 7	QPSK	5MHz	4M50G7D	0.164 W
Part 27	LTE Band 7	16QAM	5MHz	4M51D7W	0.137 W
Part 27	LTE Band 7	QPSK	20MHz	18M4G7D	0.213 W
Part 27	LTE Band 7	16QAM	20MHz	18M4D7W	0.175 W

1.6 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	03CH07-HY	722060/4086B-1

1.7 Applicable Standards

According to the specifications declared by 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 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.

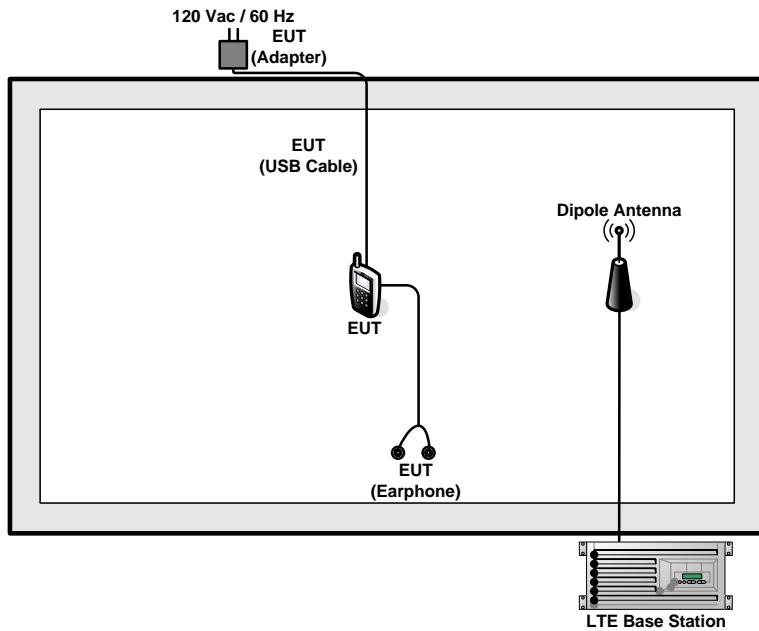
Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v
Peak-to-Average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

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
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	
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
	5	v			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	v
Radiated 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
	7	-	-	v	v	v	v	v		v			v	v	v
	17	-	-	v	v	-	-	v		v			v	v	v

Note:

1. 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 1RB-QPSK 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.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 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 RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

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

$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}$.

The following shows an offset computation example with RF cable loss 4.2 dB and a 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 force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

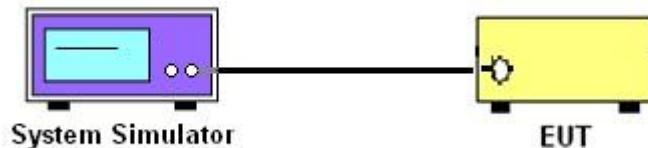
3.1.2 Measuring Instruments

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

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

<LTE Band 5 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
			Channel	20450	20525	20600
			Frequency (MHz)	829	836.5	844
10	QPSK	1	0	22.92	22.83	22.94
10	QPSK	1	24	22.80	22.74	22.84
10	QPSK	1	49	22.91	22.88	22.92
10	QPSK	25	0	21.87	21.83	21.87
10	QPSK	25	12	21.79	21.95	21.87
10	QPSK	25	24	21.79	21.73	21.94
10	QPSK	50	0	21.87	21.77	21.85
10	16QAM	1	0	21.92	21.73	21.76
10	16QAM	1	24	21.75	21.68	21.74
10	16QAM	1	49	21.83	21.76	21.84
10	16QAM	25	0	20.86	20.79	20.80
10	16QAM	25	12	20.83	20.74	20.81
10	16QAM	25	24	20.80	20.75	20.91
10	16QAM	50	0	20.78	20.69	20.77
			Channel	20425	20525	20625
			Frequency (MHz)	826.5	836.5	846.5
5	QPSK	1	0	22.92	22.87	22.79
5	QPSK	1	12	22.83	22.75	22.88
5	QPSK	1	24	22.83	22.83	22.88
5	QPSK	12	0	21.91	21.79	21.84
5	QPSK	12	6	21.90	21.78	21.90
5	QPSK	12	11	21.89	21.75	21.89
5	QPSK	25	0	21.89	21.76	21.95
5	16QAM	1	0	21.92	21.79	21.77
5	16QAM	1	12	21.75	21.71	21.81
5	16QAM	1	24	21.72	21.76	21.77
5	16QAM	12	0	20.87	20.78	20.80
5	16QAM	12	6	20.84	20.76	20.88
5	16QAM	12	11	20.85	20.74	20.86
5	16QAM	25	0	20.82	20.74	20.90

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	22.82	22.57	22.74
3	QPSK	1	7	22.65	22.58	22.70
3	QPSK	1	14	22.68	22.70	22.71
3	QPSK	8	0	21.73	21.61	21.71
3	QPSK	8	4	21.70	21.56	21.75
3	QPSK	8	7	21.72	21.60	21.76
3	QPSK	15	0	21.69	21.61	21.73
3	16QAM	1	0	21.72	21.51	21.63
3	16QAM	1	7	21.57	21.52	21.62
3	16QAM	1	14	21.60	21.61	21.63
3	16QAM	8	0	20.65	20.58	20.69
3	16QAM	8	4	20.69	20.55	20.73
3	16QAM	8	7	20.68	20.54	20.72
3	16QAM	15	0	20.64	20.52	20.67
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	22.82	22.86	22.75
1.4	QPSK	1	2	22.81	22.60	22.73
1.4	QPSK	1	5	22.70	22.61	22.74
1.4	QPSK	3	0	22.85	22.60	22.74
1.4	QPSK	3	1	22.85	22.59	22.71
1.4	QPSK	3	2	22.70	22.59	22.77
1.4	QPSK	6	0	21.76	21.61	21.78
1.4	16QAM	1	0	21.75	21.52	21.67
1.4	16QAM	1	2	21.78	21.56	21.67
1.4	16QAM	1	5	21.65	21.56	21.67
1.4	16QAM	3	0	21.77	21.57	21.72
1.4	16QAM	3	1	21.75	21.57	21.67
1.4	16QAM	3	2	21.68	21.58	21.65
1.4	16QAM	6	0	20.55	20.53	20.58

<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	23.07	23.44	23.09
20	QPSK	1	49	22.97	23.20	22.78
20	QPSK	1	99	23.01	23.01	22.76
20	QPSK	50	0	22.34	22.43	22.20
20	QPSK	50	24	22.49	22.56	22.15
20	QPSK	50	49	22.29	22.37	21.90
20	QPSK	100	0	22.20	22.21	21.75
20	16QAM	1	0	22.26	22.81	22.22
20	16QAM	1	49	22.42	22.45	22.14
20	16QAM	1	99	22.24	22.25	21.96
20	16QAM	50	0	21.17	21.29	20.86
20	16QAM	50	24	21.34	21.43	20.96
20	16QAM	50	49	21.24	21.27	20.81
20	16QAM	100	0	20.84	20.87	20.49
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	23.43	23.37	23.08
15	QPSK	1	37	23.38	23.35	23.05
15	QPSK	1	74	23.29	23.32	23.06
15	QPSK	36	0	22.88	22.95	22.49
15	QPSK	36	18	22.98	22.92	22.49
15	QPSK	36	37	22.95	22.97	22.50
15	QPSK	75	0	22.22	22.25	21.76
15	16QAM	1	0	22.54	22.60	22.42
15	16QAM	1	37	22.71	22.74	22.32
15	16QAM	1	74	22.75	22.68	22.30
15	16QAM	36	0	21.76	21.93	21.47
15	16QAM	36	18	21.87	21.99	21.50
15	16QAM	36	37	21.87	21.92	21.42
15	16QAM	75	0	20.90	20.99	20.80

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	23.07	23.42	22.97
10	QPSK	1	24	23.13	23.30	22.88
10	QPSK	1	49	23.27	23.30	22.82
10	QPSK	25	0	22.94	22.93	22.60
10	QPSK	25	12	22.97	22.91	22.50
10	QPSK	25	24	22.91	22.92	22.42
10	QPSK	50	0	22.89	22.97	22.52
10	16QAM	1	0	22.36	22.66	22.22
10	16QAM	1	24	22.41	22.55	22.15
10	16QAM	1	49	22.57	22.57	22.16
10	16QAM	25	0	21.92	21.98	21.49
10	16QAM	25	12	21.95	21.97	21.48
10	16QAM	25	24	21.94	21.99	21.52
10	16QAM	50	0	21.96	21.94	21.50
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	23.05	23.38	22.91
5	QPSK	1	12	22.95	23.29	22.86
5	QPSK	1	24	22.91	23.34	22.90
5	QPSK	12	0	22.31	22.69	22.41
5	QPSK	12	6	22.60	22.91	22.42
5	QPSK	12	11	22.55	22.92	22.43
5	QPSK	25	0	21.91	22.03	21.58
5	16QAM	1	0	22.32	22.60	22.12
5	16QAM	1	12	22.41	22.57	22.16
5	16QAM	1	24	22.43	22.59	22.21
5	16QAM	12	0	21.63	21.87	21.44
5	16QAM	12	6	21.70	21.90	21.46
5	16QAM	12	11	21.72	21.92	21.42
5	16QAM	25	0	20.65	20.83	20.42

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	23.03	23.32	22.84
3	QPSK	1	7	22.81	23.31	22.88
3	QPSK	1	14	22.86	23.31	22.87
3	QPSK	8	0	22.68	22.96	22.55
3	QPSK	8	4	22.58	22.91	22.50
3	QPSK	8	7	22.63	22.88	22.51
3	QPSK	15	0	22.36	22.56	22.11
3	16QAM	1	0	22.27	22.59	22.11
3	16QAM	1	7	22.37	22.57	22.10
3	16QAM	1	14	22.41	22.54	22.09
3	16QAM	8	0	21.57	21.92	21.45
3	16QAM	8	4	21.64	21.87	21.53
3	16QAM	8	7	21.67	21.86	21.54
3	16QAM	15	0	21.31	21.54	21.05
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	23.05	23.32	22.85
1.4	QPSK	1	2	23.13	23.24	22.88
1.4	QPSK	1	5	23.07	23.26	22.82
1.4	QPSK	3	0	22.91	22.95	22.53
1.4	QPSK	3	1	22.85	22.89	22.45
1.4	QPSK	3	2	22.76	22.85	22.42
1.4	QPSK	6	0	22.68	22.73	22.30
1.4	16QAM	1	0	22.22	22.57	22.07
1.4	16QAM	1	2	22.35	22.48	22.08
1.4	16QAM	1	5	22.27	22.49	22.02
1.4	16QAM	3	0	21.99	21.99	21.54
1.4	16QAM	3	1	21.88	21.93	21.46
1.4	16QAM	3	2	21.85	21.84	21.44
1.4	16QAM	6	0	21.73	21.74	21.28

<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	23.70	23.75	23.74
20	QPSK	1	49	23.59	23.64	23.64
20	QPSK	1	99	23.56	23.67	23.61
20	QPSK	50	0	22.70	22.94	22.90
20	QPSK	50	24	22.73	22.91	22.83
20	QPSK	50	49	22.69	22.88	22.83
20	QPSK	100	0	22.66	22.84	22.74
20	16QAM	1	0	22.62	22.63	22.71
20	16QAM	1	49	22.54	22.71	22.60
20	16QAM	1	99	22.56	22.62	22.58
20	16QAM	50	0	21.65	21.85	21.83
20	16QAM	50	24	21.64	21.82	21.77
20	16QAM	50	49	21.69	21.79	21.78
20	16QAM	100	0	21.65	21.82	21.76
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.58	23.56	23.69
15	QPSK	1	37	23.56	23.54	23.68
15	QPSK	1	74	23.47	23.57	23.66
15	QPSK	36	0	22.65	22.71	22.79
15	QPSK	36	18	22.67	22.67	22.75
15	QPSK	36	37	22.68	22.71	22.82
15	QPSK	75	0	22.68	22.76	22.79
15	16QAM	1	0	22.55	22.53	22.63
15	16QAM	1	37	22.56	22.47	22.62
15	16QAM	1	74	22.46	22.52	22.60
15	16QAM	36	0	21.56	21.63	21.72
15	16QAM	36	18	21.56	21.67	21.69
15	16QAM	36	37	21.57	21.66	21.75
15	16QAM	75	0	21.67	21.73	21.79

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	23.34	23.49	23.50
10	QPSK	1	24	23.37	23.44	23.49
10	QPSK	1	49	23.35	23.43	23.49
10	QPSK	25	0	22.44	22.46	22.60
10	QPSK	25	12	22.38	22.47	22.61
10	QPSK	25	24	22.43	22.44	22.54
10	QPSK	50	0	22.48	22.62	22.69
10	16QAM	1	0	22.34	22.40	22.50
10	16QAM	1	24	22.32	22.38	22.46
10	16QAM	1	49	22.33	22.39	22.44
10	16QAM	25	0	21.43	21.46	21.55
10	16QAM	25	12	21.42	21.48	21.56
10	16QAM	25	24	21.38	21.46	21.56
10	16QAM	50	0	21.45	21.53	21.62
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.35	23.47	23.53
5	QPSK	1	12	23.34	23.34	23.52
5	QPSK	1	24	23.39	23.38	23.49
5	QPSK	12	0	22.41	22.53	22.62
5	QPSK	12	6	22.42	22.51	22.64
5	QPSK	12	11	22.43	22.42	22.62
5	QPSK	25	0	22.46	22.47	22.60
5	16QAM	1	0	22.33	22.40	22.51
5	16QAM	1	12	22.30	22.29	22.48
5	16QAM	1	24	22.32	22.29	22.45
5	16QAM	12	0	21.42	21.50	21.62
5	16QAM	12	6	21.42	21.49	21.63
5	16QAM	12	11	21.41	21.41	21.63
5	16QAM	25	0	21.39	21.51	21.63

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	23.41	23.47	23.59
3	QPSK	1	7	23.34	23.32	23.47
3	QPSK	1	14	23.40	23.36	23.50
3	QPSK	8	0	22.44	22.53	22.60
3	QPSK	8	4	22.40	22.51	22.49
3	QPSK	8	7	22.42	22.41	22.57
3	QPSK	15	0	22.47	22.48	22.57
3	16QAM	1	0	22.32	22.39	22.53
3	16QAM	1	7	22.31	22.29	22.41
3	16QAM	1	14	22.34	22.35	22.50
3	16QAM	8	0	21.42	21.49	21.66
3	16QAM	8	4	21.45	21.49	21.57
3	16QAM	8	7	21.41	21.40	21.55
3	16QAM	15	0	21.39	21.46	21.52
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.41	23.51	23.58
1.4	QPSK	1	2	23.43	23.52	23.52
1.4	QPSK	1	5	23.44	23.42	23.57
1.4	QPSK	3	0	23.45	23.48	23.55
1.4	QPSK	3	1	23.43	23.50	23.53
1.4	QPSK	3	2	23.43	23.54	23.52
1.4	QPSK	6	0	22.50	22.56	22.61
1.4	16QAM	1	0	22.37	22.48	22.48
1.4	16QAM	1	2	22.40	22.47	22.56
1.4	16QAM	1	5	22.41	22.32	22.50
1.4	16QAM	3	0	22.42	22.47	22.51
1.4	16QAM	3	1	22.40	22.48	22.49
1.4	16QAM	3	2	22.40	22.49	22.55
1.4	16QAM	6	0	21.30	21.37	21.46

<LTE Band 17 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	22.81	22.85	22.92
10	QPSK	1	24	22.51	22.85	22.79
10	QPSK	1	49	22.30	22.61	22.49
10	QPSK	25	0	22.31	21.98	21.98
10	QPSK	25	12	21.98	22.02	22.00
10	QPSK	25	24	21.97	22.00	22.00
10	QPSK	50	0	21.92	22.00	21.99
10	16QAM	1	0	21.96	21.83	21.87
10	16QAM	1	24	21.89	21.86	21.75
10	16QAM	1	49	21.79	21.89	21.82
10	16QAM	25	0	20.98	21.00	21.00
10	16QAM	25	12	20.98	20.97	20.95
10	16QAM	25	24	21.00	20.96	20.98
10	16QAM	50	0	20.96	20.94	20.93
Channel				23755	23790	23825
Frequency (MHz)				706.5	710	713.5
5	QPSK	1	0	22.90	22.84	22.72
5	QPSK	1	12	22.88	22.69	22.76
5	QPSK	1	24	22.61	22.51	22.35
5	QPSK	12	0	22.35	22.01	22.05
5	QPSK	12	6	22.36	22.00	21.96
5	QPSK	12	11	22.03	22.02	21.93
5	QPSK	25	0	22.03	21.99	21.95
5	16QAM	1	0	21.94	21.78	21.75
5	16QAM	1	12	21.92	21.84	21.75
5	16QAM	1	24	21.89	21.88	21.64
5	16QAM	12	0	21.05	20.98	21.01
5	16QAM	12	6	21.02	20.97	20.94
5	16QAM	12	11	21.06	20.98	20.96
5	16QAM	25	0	21.02	20.96	20.97

<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	2535	2560
20	QPSK	1	0	23.22	23.62	23.46
20	QPSK	1	49	23.08	23.52	23.45
20	QPSK	1	99	22.95	23.24	23.31
20	QPSK	50	0	22.20	22.65	22.35
20	QPSK	50	24	22.45	22.52	22.31
20	QPSK	50	49	22.48	22.47	22.29
20	QPSK	100	0	22.42	22.56	22.17
20	16QAM	1	0	21.98	22.33	22.41
20	16QAM	1	49	22.25	22.38	22.00
20	16QAM	1	99	22.16	22.14	21.97
20	16QAM	50	0	21.32	21.78	21.39
20	16QAM	50	24	21.42	21.55	21.33
20	16QAM	50	49	21.53	21.48	21.33
20	16QAM	100	0	21.42	21.62	21.20
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	23.12	23.61	23.12
15	QPSK	1	37	23.38	23.37	23.11
15	QPSK	1	74	23.59	23.17	23.20
15	QPSK	36	0	22.28	22.53	22.11
15	QPSK	36	18	22.30	22.49	22.14
15	QPSK	36	37	22.38	22.37	22.28
15	QPSK	75	0	22.30	22.47	22.16
15	16QAM	1	0	22.41	22.34	21.98
15	16QAM	1	37	22.19	22.29	21.97
15	16QAM	1	74	22.01	22.14	22.10
15	16QAM	36	0	21.30	21.67	21.24
15	16QAM	36	18	21.33	21.55	21.16
15	16QAM	36	37	21.47	21.39	21.23
15	16QAM	75	0	21.46	21.58	21.22

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	2535	2565
10	QPSK	1	0	23.14	23.59	23.21
10	QPSK	1	24	23.11	23.40	23.28
10	QPSK	1	49	22.98	23.21	23.33
10	QPSK	25	0	22.40	22.43	22.09
10	QPSK	25	12	22.01	22.43	22.28
10	QPSK	25	24	21.98	22.24	22.30
10	QPSK	50	0	21.91	22.40	22.20
10	16QAM	1	0	21.93	22.37	22.04
10	16QAM	1	24	22.21	22.21	22.12
10	16QAM	1	49	22.20	22.22	22.11
10	16QAM	25	0	21.39	21.51	21.16
10	16QAM	25	12	21.46	21.50	21.29
10	16QAM	25	24	21.39	21.34	21.28
10	16QAM	50	0	21.29	21.41	21.20
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	23.11	23.36	23.30
5	QPSK	1	12	23.01	23.17	23.31
5	QPSK	1	24	22.98	23.17	23.30
5	QPSK	12	0	22.51	22.35	22.27
5	QPSK	12	6	22.12	22.30	22.29
5	QPSK	12	11	22.12	22.27	22.26
5	QPSK	25	0	22.04	22.30	22.28
5	16QAM	1	0	22.21	22.16	22.12
5	16QAM	1	12	22.02	22.10	22.13
5	16QAM	1	24	21.93	22.09	22.12
5	16QAM	12	0	21.02	21.39	21.24
5	16QAM	12	6	21.11	21.32	21.26
5	16QAM	12	11	21.18	21.31	21.26
5	16QAM	25	0	21.13	21.41	21.32

Note:

1. Above are measured at maximum average settings.
2. The highest power level in widest bandwidth with yellow mark is mainly chosen for E.R.P./E.I.R.P measurement.

3.2 Peak-to-Average Ratio

3.2.1 Description of the PAR Measurement

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

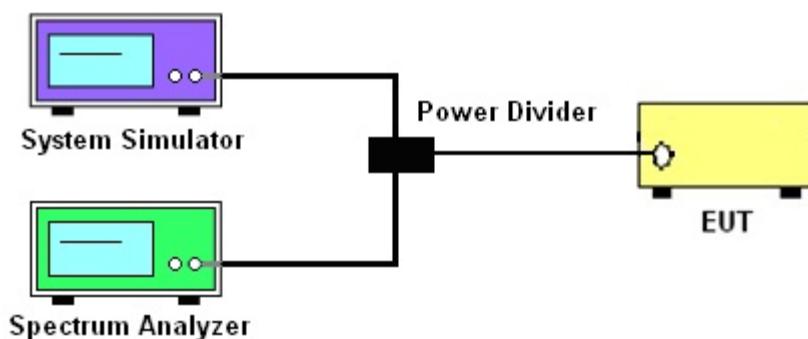
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via a power divider.
2. For LTE operating modes:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
3. Record the deviation as Peak to Average Ratio.

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

LTE Band 5						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	16QAM	1	0	4.13	5.22	5.51
10	16QAM	50	0	6.12	6.09	5.99

LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	16QAM	1	0	5.87	5.74	5.74
20	16QAM	100	0	5.96	6.03	5.99

LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	16QAM	1	0	5.54	5.83	5.61
20	16QAM	100	0	6.03	6.12	5.90

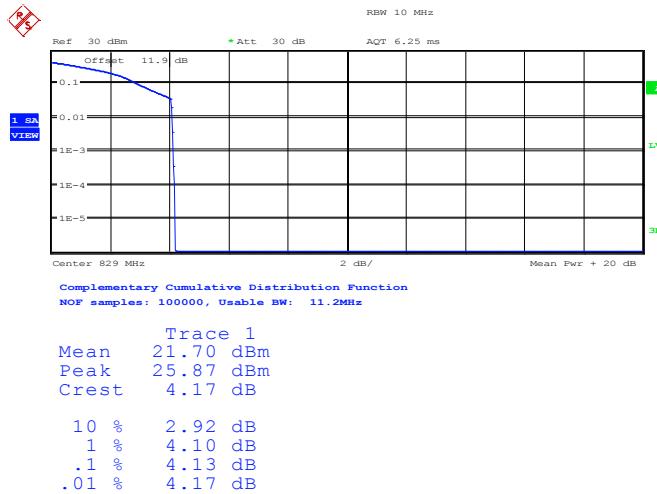
LTE Band 17						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	16QAM	1	0	5.00	4.97	4.94
10	16QAM	50	0	5.90	5.93	5.96

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	2535	2560
20	16QAM	1	0	5.32	5.22	5.42
20	16QAM	100	0	5.96	5.99	5.87

3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 5

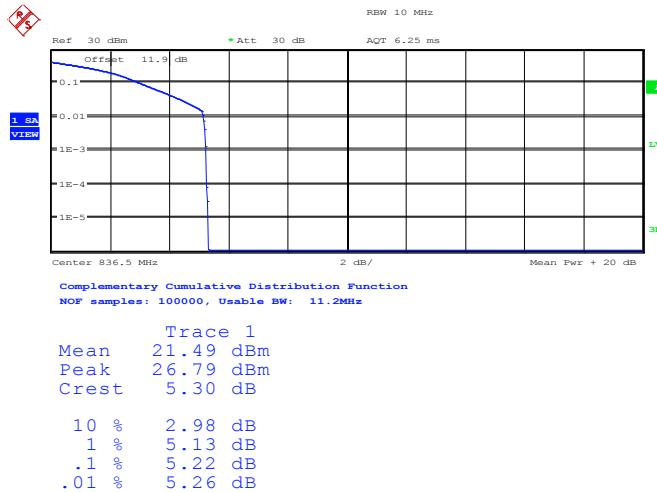
10MHz / 16QAM in Ch. 20450 (1RB Size)



Date: 9.JAN.2014 09:07:28

Peak-to-Average Ratio on LTE Band 5

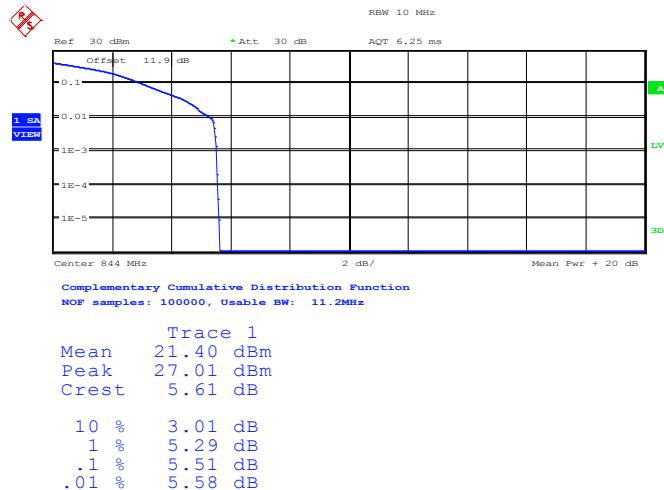
10MHz / 16QAM in Ch. 20525 (1RB Size)



Date: 9.JAN.2014 09:08:20

Peak-to-Average Ratio on LTE Band 5

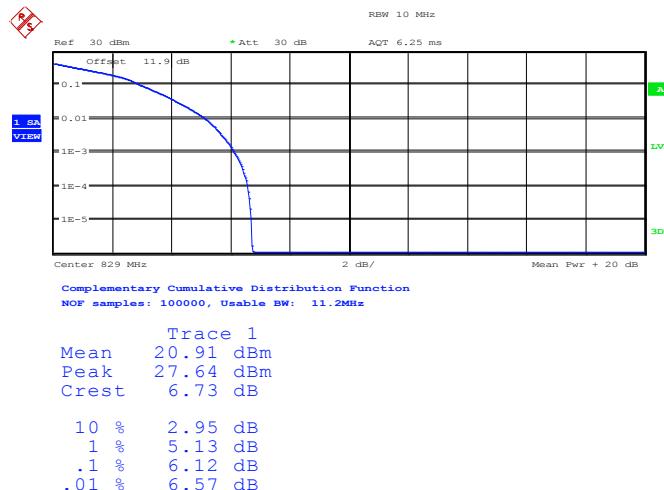
10MHz / 16QAM in Ch. 20600 (1RB Size)



Date: 9.JAN.2014 09:08:58

Peak-to-Average Ratio on LTE Band 5

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



Date: 9.JAN.2014 09:07:59

Report No. : FG372301-01B

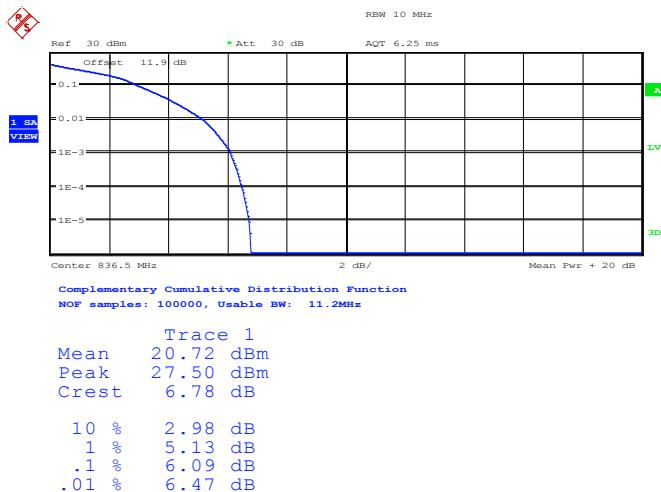
Report Version : Rev. 02

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Report Template No.: BU5-FGLTE Version 1.0

Peak-to-Average Ratio on LTE Band 5

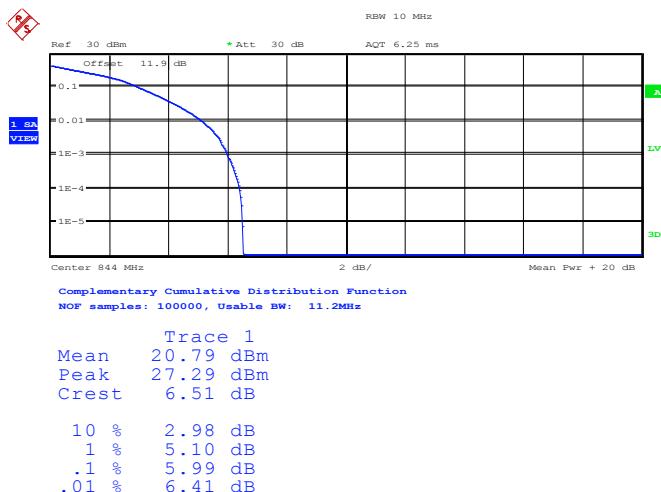
10MHz / 16QAM in Ch. 20525 (50RB Size)



Date: 9.JAN.2014 09:08:37

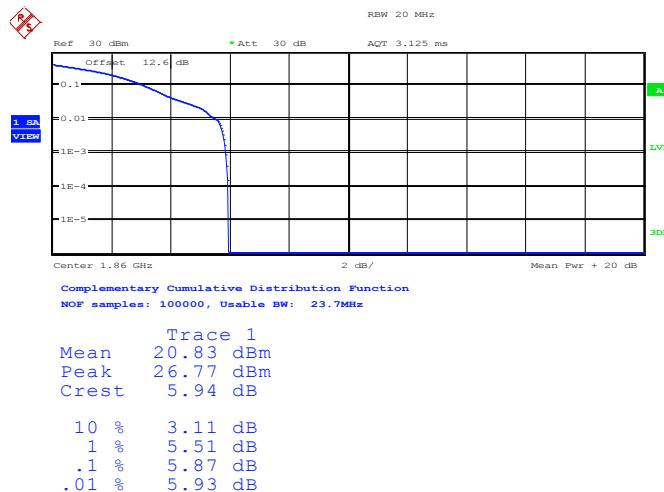
Peak-to-Average Ratio on LTE Band 5

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



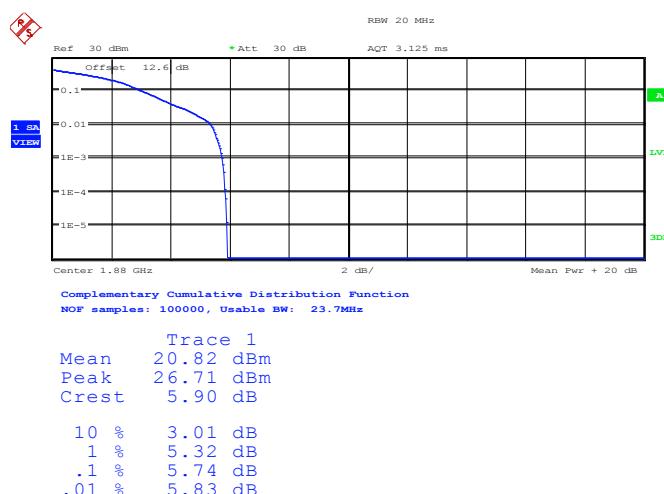
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Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 18700 (1RB Size)



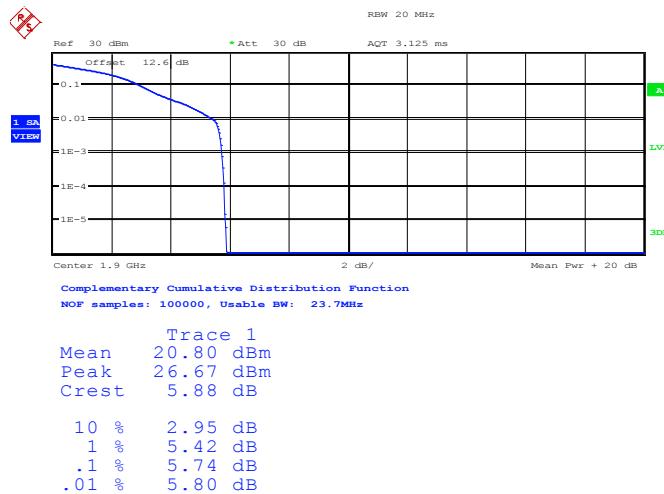
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Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 18900 (1RB Size)



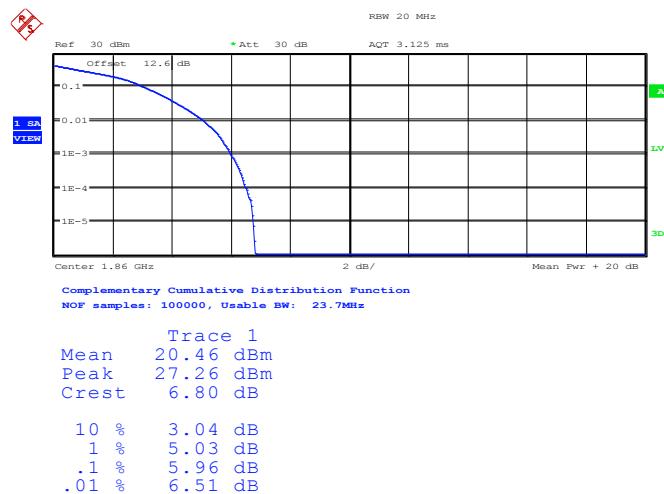
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Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 19100 (1RB Size)



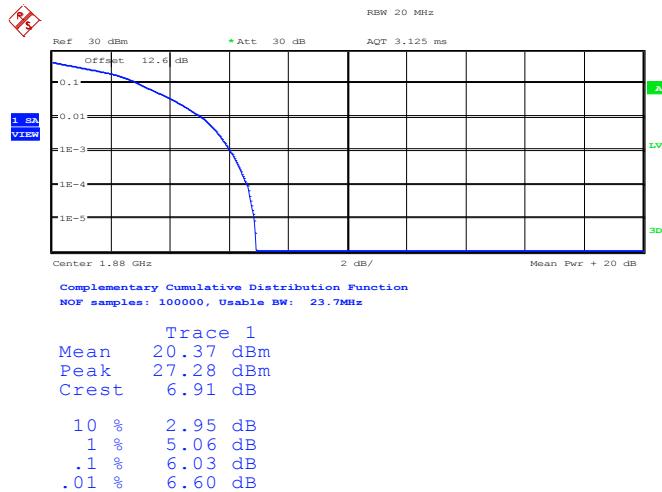
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Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 18700 (100RB Size)



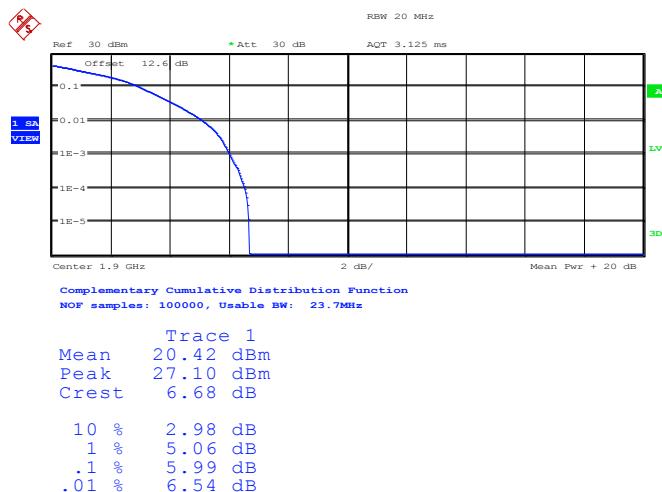
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Peak-to-Average Ratio on LTE Band 2
20MHz / 16QAM in Ch. 18900 (100RB Size)



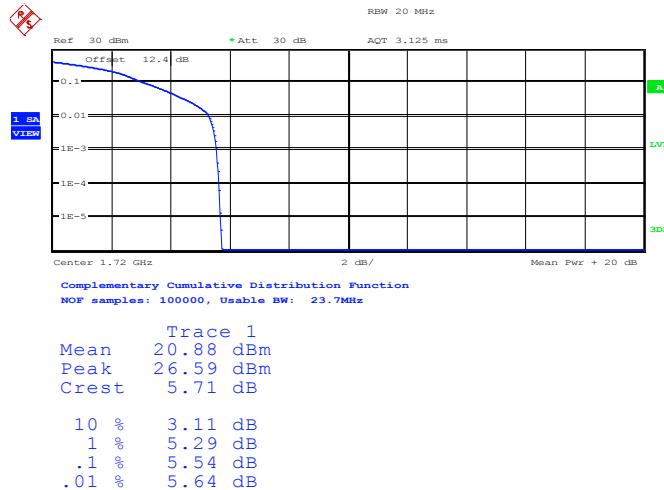
Date: 9.JAN.2014 16:14:04

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



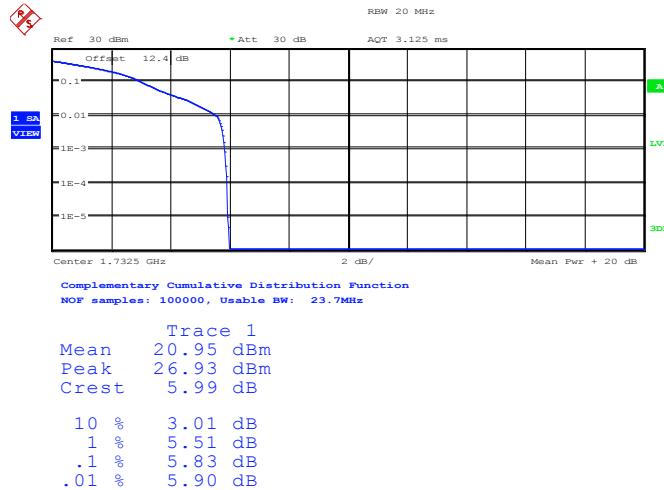
Date: 9.JAN.2014 16:13:10

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



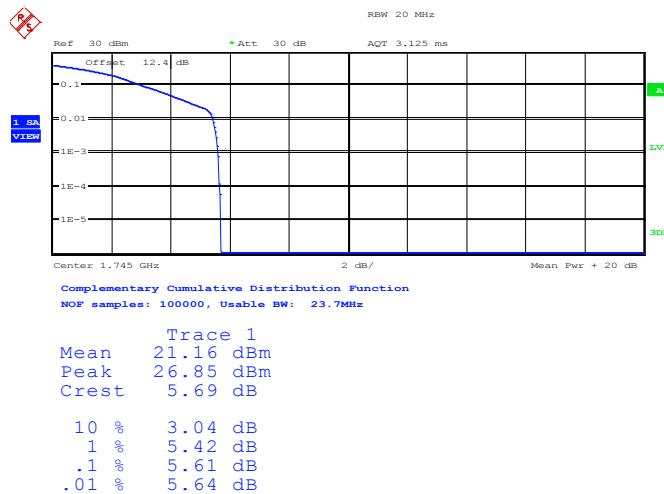
Date: 9.JAN.2014 17:16:43

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



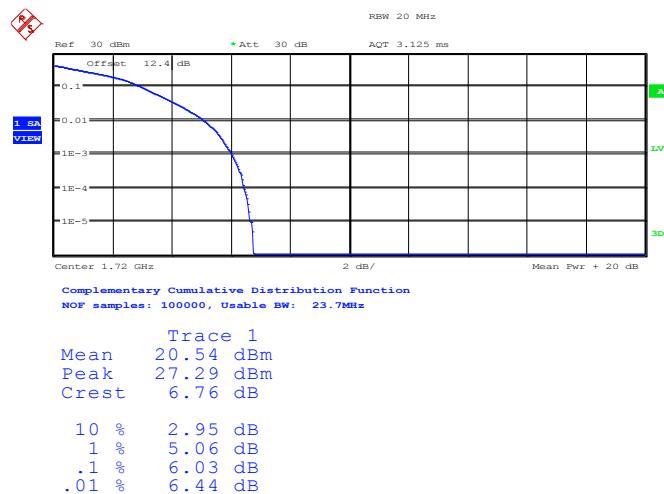
Date: 9.JAN.2014 17:18:14

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



Date: 9.JAN.2014 17:18:56

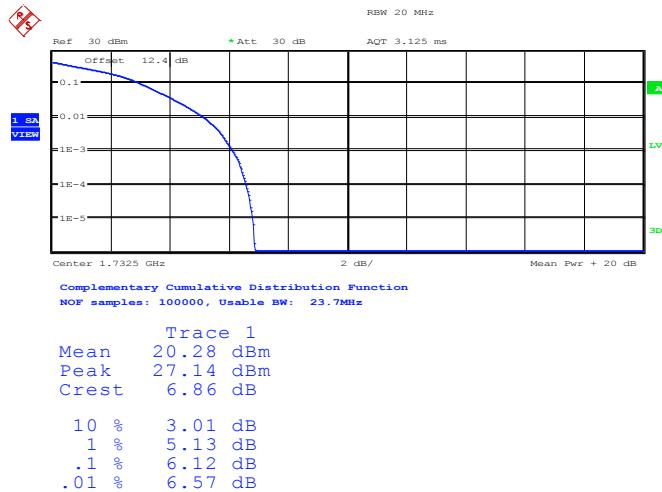
Peak-to-Average Ratio on LTE Band 4
20MHz / 16QAM in Ch. 20500 (100RB Size)



Date: 9.JAN.2014 17:17:38

Peak-to-Average Ratio on LTE Band 4

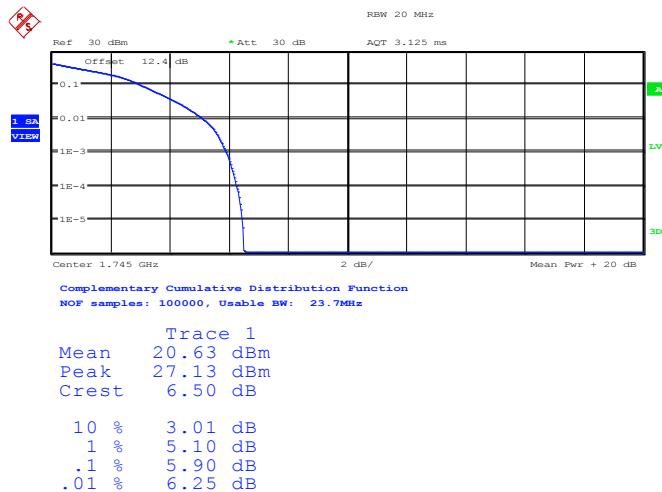
20MHz / 16QAM in Ch. 201750 (100RB Size)



Date: 9.JAN.2014 17:18:28

Peak-to-Average Ratio on LTE Band 4

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



Date: 9.JAN.2014 17:19:26

Report No. : FG372301-01B

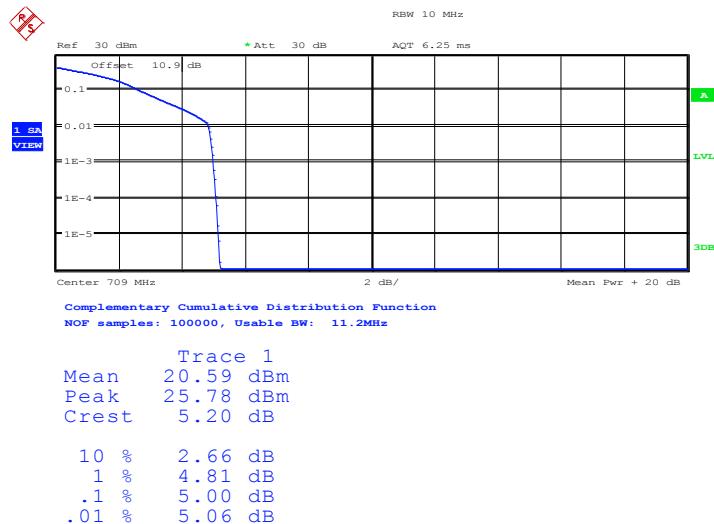
Report Version : Rev. 02

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Report Template No.: BU5-FGLTE Version 1.0

Peak-to-Average Ratio on LTE Band 17

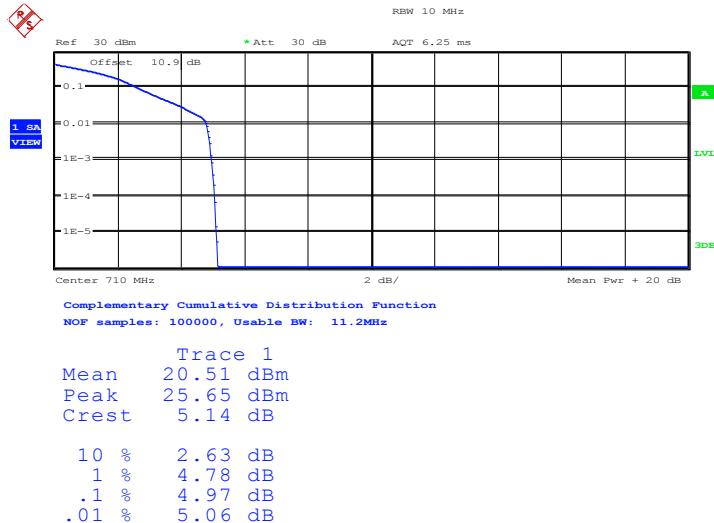
10MHz / 16QAM in Ch. 23780 (1RB Size)



Date: 9.JAN.2014 11:10:27

Peak-to-Average Ratio on LTE Band 17

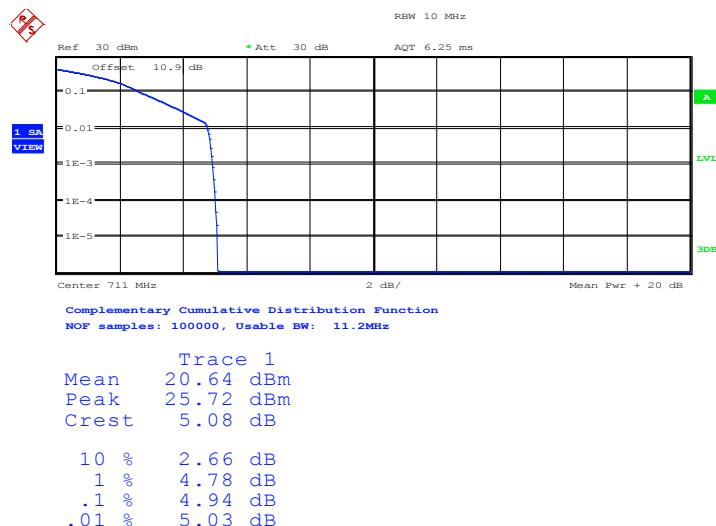
10MHz / 16QAM in Ch. 23790 (1RB Size)



Date: 9.JAN.2014 11:10:58

Peak-to-Average Ratio on LTE Band 17

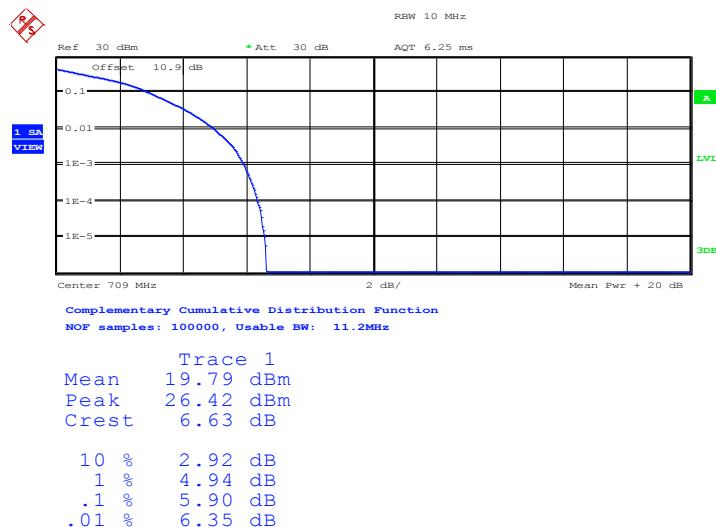
10MHz / 16QAM in Ch. 23800 (1RB Size)



Date: 9.JAN.2014 11:12:09

Peak-to-Average Ratio on LTE Band 17

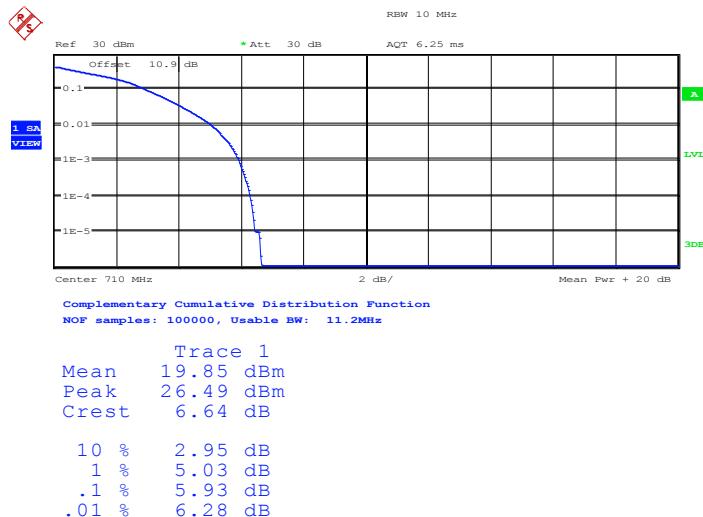
10MHz / 16QAM in Ch. 23780 (50RB Size)



Date: 9.JAN.2014 11:10:41

Peak-to-Average Ratio on LTE Band 17

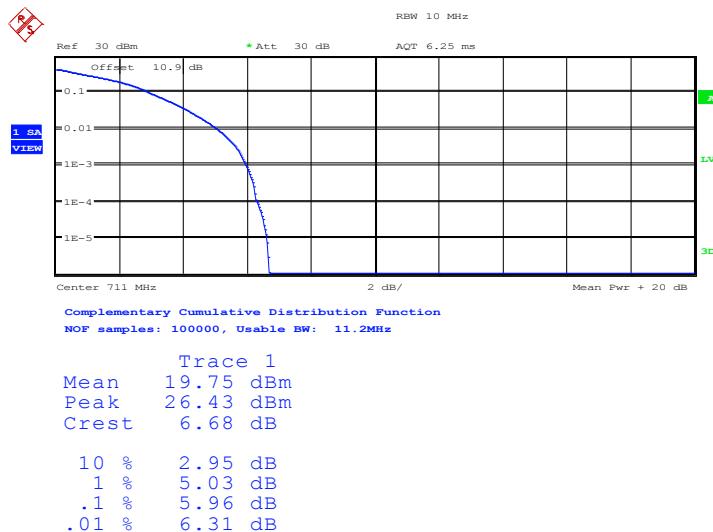
10MHz / 16QAM in Ch. 23790 (50RB Size)



Date: 9.JAN.2014 11:11:43

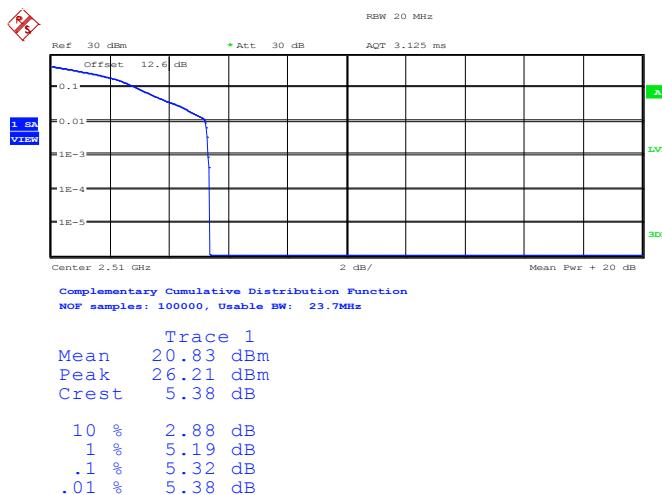
Peak-to-Average Ratio on LTE Band 17

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



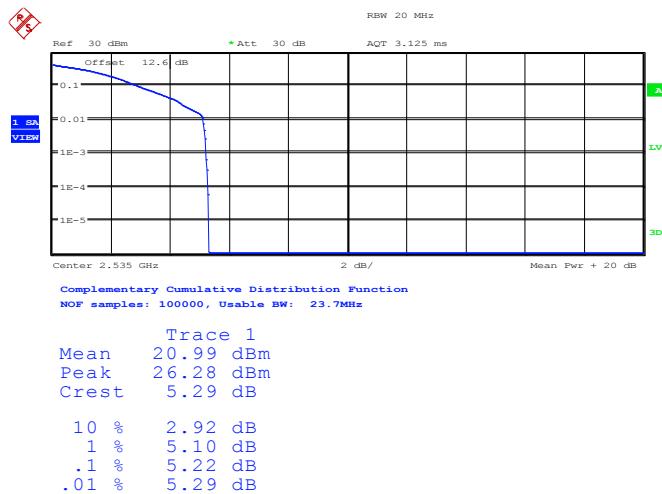
Date: 9.JAN.2014 11:12:25

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



Date: 8.JAN.2014 15:37:35

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



Date: 8.JAN.2014 15:38:31

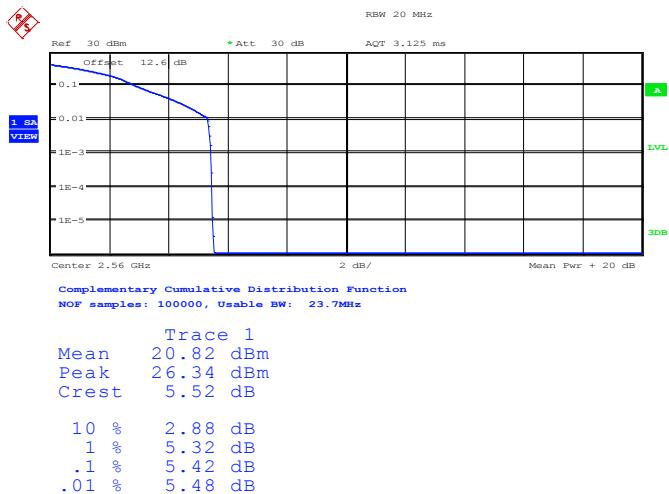
Report No. : FG372301-01B

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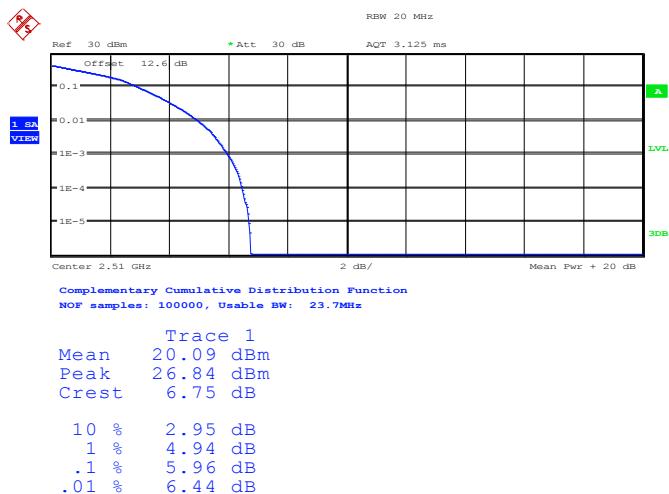
Report Template No.: BU5-FGLTE Version 1.0

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



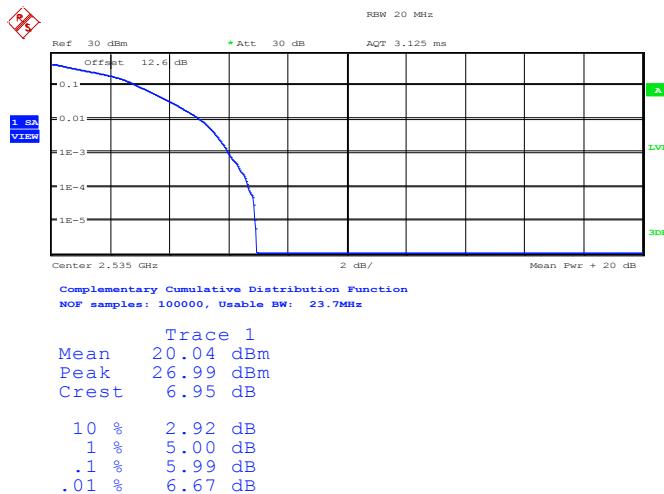
Date: 8.JAN.2014 15:38:57

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



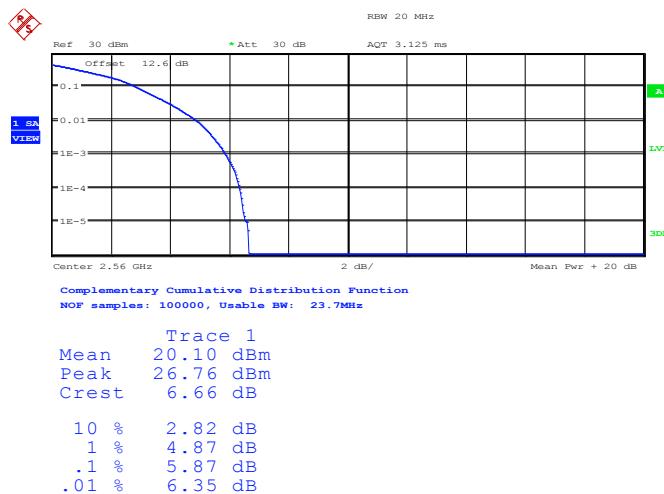
Date: 8.JAN.2014 15:37:49

Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 21100 (100RB Size)



Date: 8.JAN.2014 15:38:08

Peak-to-Average Ratio on LTE Band 7
20MHz / 16QAM in Ch. 21350 (100RB Size)



Date: 8.JAN.2014 15:39:16

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. 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. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 and 7, and 1 watt with LTE band 4.

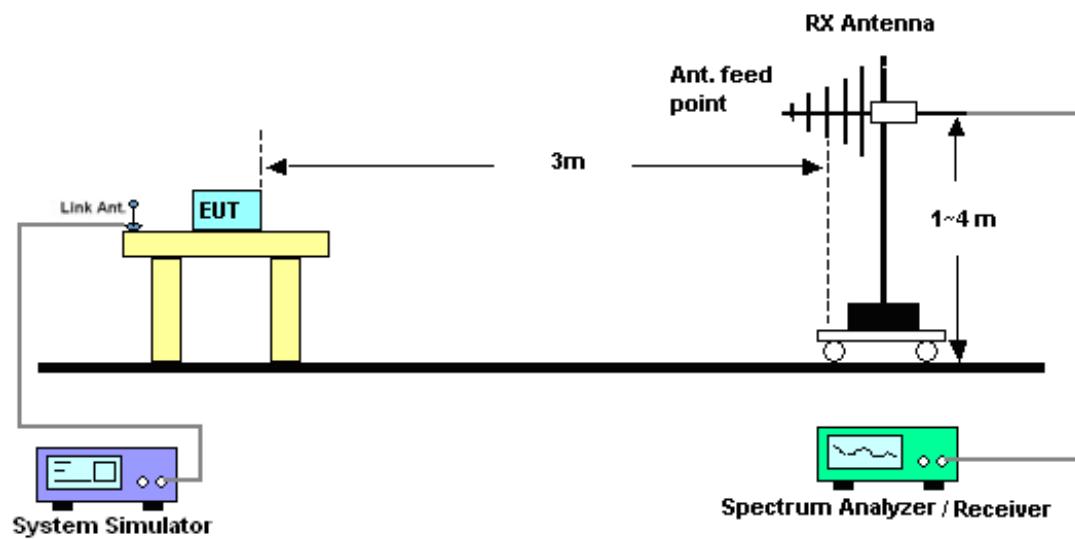
3.3.2 Measuring Instruments

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 with RMS detector per section 5. of KDB 971168 D01.
2. During the measurement, the base station 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)
824.70	-11.18	31.54	18.21	0.0662
836.50	-11.72	32.04	18.17	0.0656
848.30	-12.27	32.59	18.17	0.0656
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.70	-25.74	32.93	5.04	0.0032
836.50	-25.57	32.82	5.10	0.0032
848.30	-26.05	33.62	5.42	0.0035

LTE Band 5 Radiated Power ERP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.70	-12.23	31.54	17.16	0.0520
836.50	-12.82	32.04	17.07	0.0509
848.30	-13.34	32.59	17.10	0.0513
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.70	-26.57	32.93	4.21	0.0026
836.50	-26.71	32.82	3.96	0.0025
848.30	-27.14	33.62	4.33	0.0027

* 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)
829.00	-11.10	31.44	18.19	0.0659
836.50	-11.59	32.04	18.30	0.0676
844.00	-12.47	32.63	18.01	0.0632
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829.00	-25.59	32.78	5.04	0.0032
836.50	-25.33	32.82	5.34	0.0034
844.00	-25.94	33.4	5.31	0.0034

LTE Band 5 Radiated Power ERP for BW 10MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829.00	-12.19	31.44	17.10	0.0513
836.50	-12.67	32.04	17.22	0.0527
844.00	-13.39	32.63	17.09	0.0512
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
829.00	-26.64	32.78	3.99	0.0025
836.50	-26.57	32.82	4.10	0.0026
844.00	-26.88	33.4	4.37	0.0027

* 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)
1850.70	-21.20	43.69	22.49	0.1774
1880.00	-22.52	44.79	22.27	0.1687
1909.30	-21.89	43.59	21.70	0.1479
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.70	-22.30	45.72	23.42	0.2198
1880.00	-23.49	46.78	23.29	0.2133
1909.30	-23.76	46.77	23.01	0.2000

LTE Band 2 Radiated Power EIRP for BW 1.4MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.70	-22.96	43.69	20.73	0.1183
1880.00	-23.47	44.79	21.32	0.1355
1909.30	-22.91	43.59	20.68	0.1169
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.70	-23.69	45.72	22.03	0.1596
1880.00	-24.36	46.78	22.42	0.1746
1909.30	-25.75	46.77	21.02	0.1265

LTE Band 2 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.00	-21.83	43.69	21.86	0.1535
1880.00	-22.11	44.79	22.68	0.1854
1900.00	-20.74	43.59	22.85	0.1928
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.00	-22.60	45.72	23.12	0.2051
1880.00	-23.57	46.78	23.21	0.2094
1900.00	-23.70	46.77	23.07	0.2028

LTE Band 2 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.00	-22.27	43.69	21.42	0.1387
1880.00	-22.85	44.79	21.94	0.1563
1900.00	-21.55	43.59	22.04	0.1600
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1860.00	-23.07	45.72	22.65	0.1841
1880.00	-24.26	46.78	22.52	0.1786
1900.00	-24.51	46.77	22.26	0.1683

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	-20.76	41.65	20.89	0.1227
1732.50	-21.43	42.95	21.52	0.1419
1754.30	-20.55	42.28	21.73	0.1489
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-21.56	43.57	22.01	0.1589
1732.50	-23.73	45.94	22.21	0.1663
1754.30	-22.80	45.2	22.40	0.1738

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	-22.06	41.65	19.59	0.0910
1732.50	-21.73	42.95	21.22	0.1324
1754.30	-21.66	42.28	20.62	0.1153
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1710.70	-22.79	43.57	20.78	0.1197
1732.50	-24.52	45.94	21.42	0.1387
1754.30	-23.71	45.2	21.49	0.1409

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	-20.55	41.43	20.88	0.1225
1732.50	-21.05	42.06	21.01	0.1262
1745.00	-18.24	41.15	22.91	0.1957
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-21.59	43.87	22.28	0.1690
1732.50	-23.26	45.68	22.42	0.1746
1745.00	-21.46	44.39	22.93	0.1962

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	-21.17	41.43	20.26	0.1062
1732.50	-21.75	42.06	20.31	0.1074
1745.00	-19.02	41.15	22.13	0.1633
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1720.00	-22.18	43.87	21.69	0.1476
1732.50	-23.95	45.68	21.73	0.1489
1745.00	-22.23	44.39	22.16	0.1644

LTE Band 17 Radiated Power ERP for BW 5MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
706.50	-12.03	30.84	16.66	0.0463
710.00	-11.92	30.86	16.79	0.0478
713.50	-11.74	30.81	16.92	0.0492
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
706.50	-29.75	34.59	2.69	0.0019
710.00	-29.03	34.03	2.85	0.0019
713.50	-28.52	33.68	3.01	0.0020

LTE Band 17 Radiated Power ERP for BW 5MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
706.50	-13.08	30.84	15.61	0.0364
710.00	-12.99	30.86	15.72	0.0373
713.50	-12.79	30.81	15.87	0.0386
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
706.50	-30.91	34.59	1.53	0.0014
710.00	-30.10	34.03	1.78	0.0015
713.50	-29.59	33.68	1.94	0.0016

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

LTE Band 17 Radiated Power ERP for BW 10MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
709.00	-11.60	30.77	17.02	0.0504
710.00	-11.52	30.86	17.19	0.0524
711.00	-11.19	30.82	17.48	0.0560
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
709.00	-27.73	34.16	4.28	0.0027
710.00	-28.29	34.03	3.59	0.0023
711.00	-27.83	33.94	3.96	0.0025

LTE Band 17 Radiated Power ERP for BW 10MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
709.00	-13.33	30.77	15.29	0.0338
710.00	-13.17	30.86	15.54	0.0358
711.00	-12.82	30.82	15.85	0.0385
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
709.00	-30.34	34.16	1.67	0.0015
710.00	-30.16	34.03	1.72	0.0015
711.00	-29.71	33.94	2.08	0.0016

* 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)
2502.50	-22.68	44.76	22.08	0.1614
2535.00	-23.37	45.37	22.00	0.1585
2567.50	-23.39	45.12	21.73	0.1489
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.50	-23.93	45.76	21.83	0.1524
2535.00	-24.89	47.04	22.15	0.1641
2567.50	-24.38	46.31	21.93	0.1560

LTE Band 7 Radiated Power EIRP for BW 5MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.50	-23.38	44.76	21.38	0.1374
2535.00	-24.06	45.37	21.31	0.1352
2567.50	-24.25	45.12	20.87	0.1222
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2502.50	-24.72	45.76	21.04	0.1271
2535.00	-25.73	47.04	21.31	0.1352
2567.50	-25.18	46.31	21.13	0.1297

LTE Band 7 Radiated Power EIRP for BW 20MHz / QPSK				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.00	-23.80	44.94	21.14	0.1300
2535.00	-23.37	45.37	22.00	0.1585
2560.00	-23.23	45.10	21.87	0.1538
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.00	-23.54	45.94	22.40	0.1738
2535.00	-23.74	47.04	23.30	0.2138
2560.00	-23.60	46.29	22.69	0.1858

LTE Band 7 Radiated Power EIRP for BW 20MHz / 16QAM				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.00	-25.05	44.94	19.89	0.0975
2535.00	-24.21	45.37	21.16	0.1306
2560.00	-24.45	45.10	20.65	0.1161
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
2510.00	-24.62	45.94	21.32	0.1355
2535.00	-24.61	47.04	22.43	0.1750
2560.00	-24.70	46.29	21.59	0.1442

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.

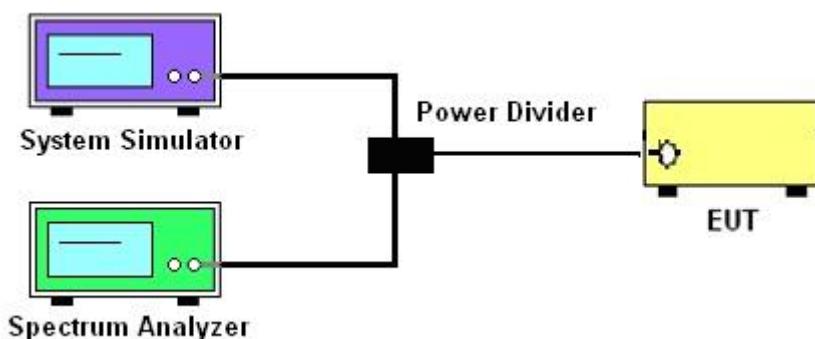
3.4.2 Measuring Instruments

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 Base Statoin 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.

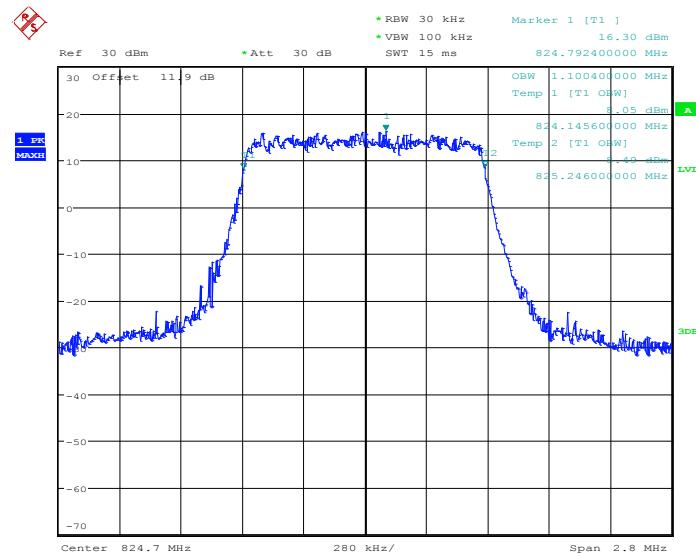
3.4.4 Test Setup



3.4.5 Test Result (Plots) of Occupied Bandwidth

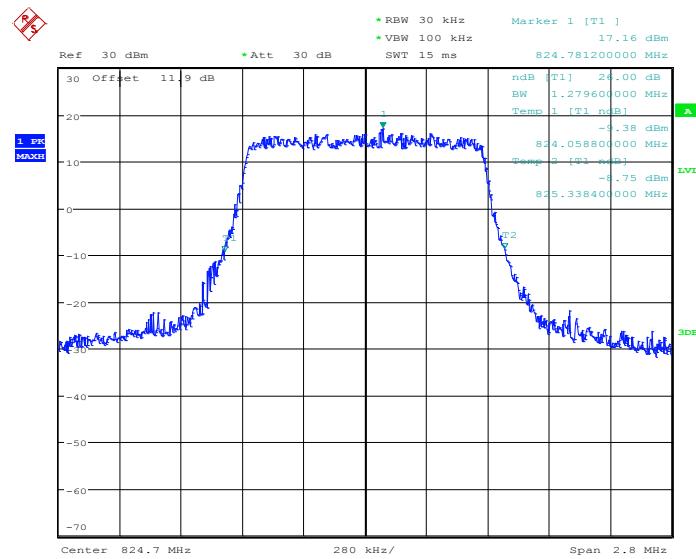
Band :	LTE Band 5	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20407



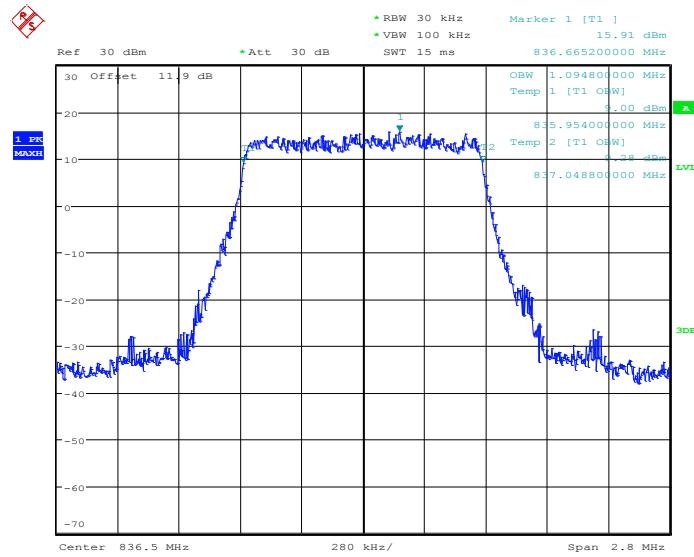
Date: 9.JAN.2014 08:13:25

26dB Bandwidth Plot on Channel 20407



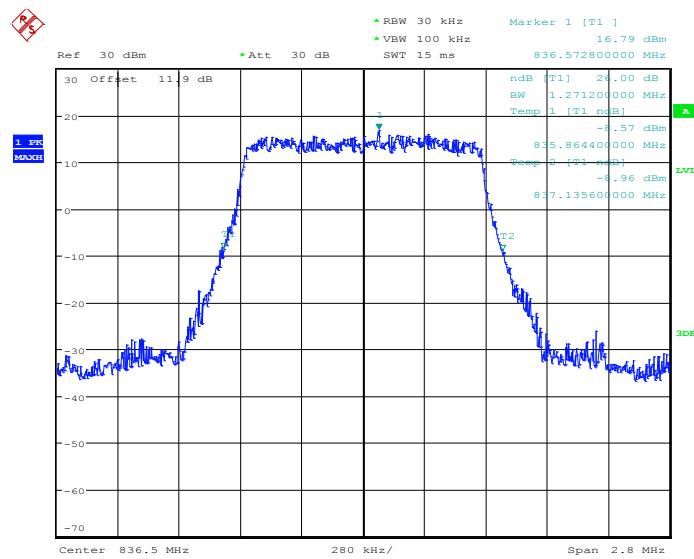
Date: 9.JAN.2014 08:14:04

99% Occupied Bandwidth Plot on Channel 20525



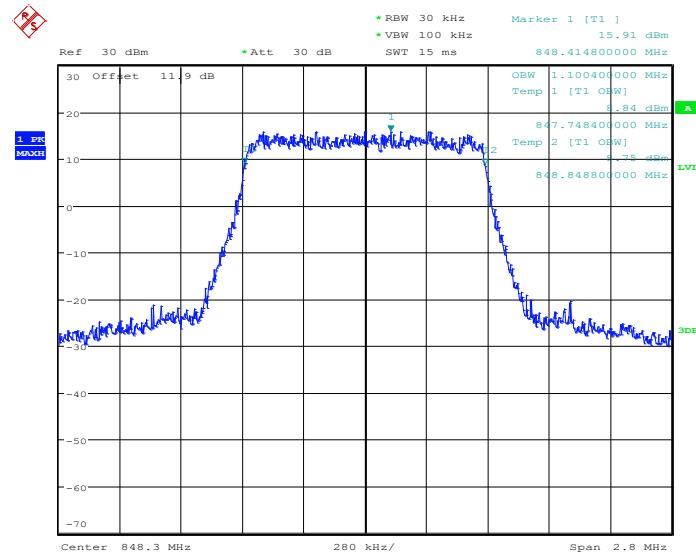
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26dB Bandwidth Plot on Channel 20525



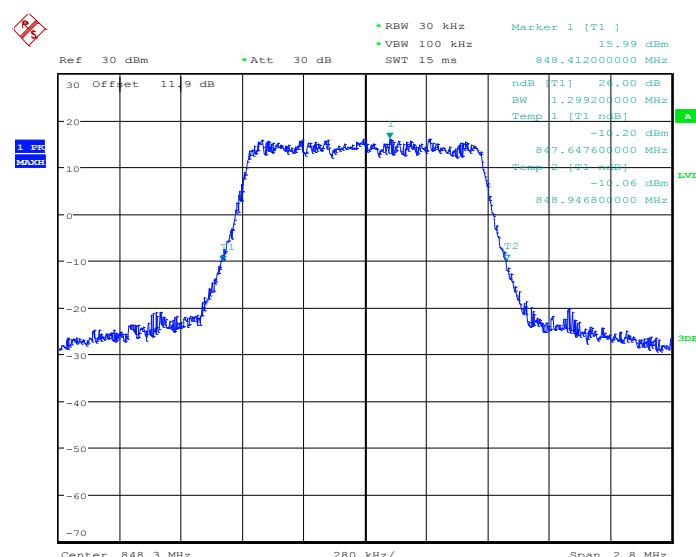
Date: 9.JAN.2014 08:19:04

99% Occupied Bandwidth Plot on Channel 20643



Date: 9.JAN.2014 08:21:04

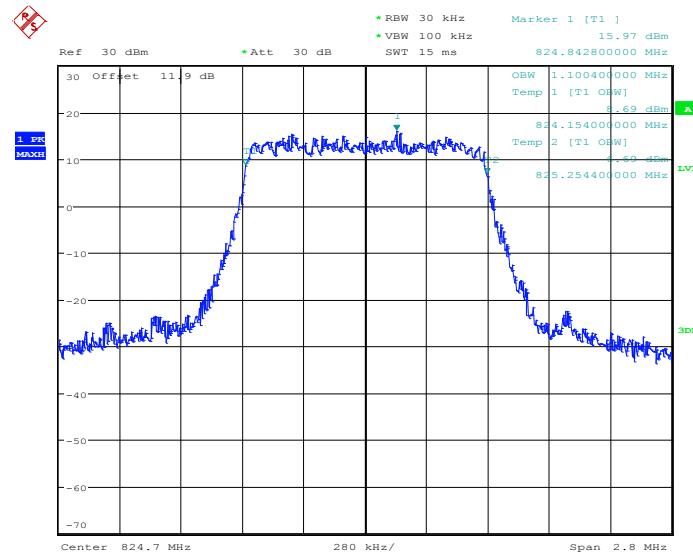
26dB Bandwidth Plot on Channel 20643



Date: 9.JAN.2014 08:21:29

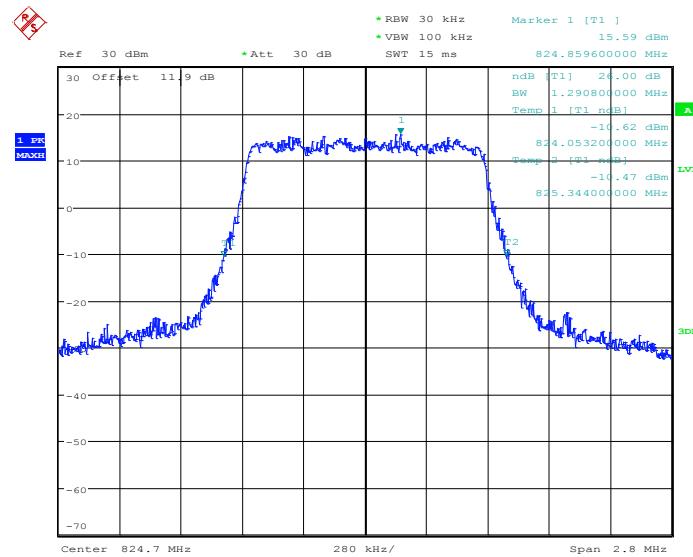
Band :	LTE Band 5	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20407



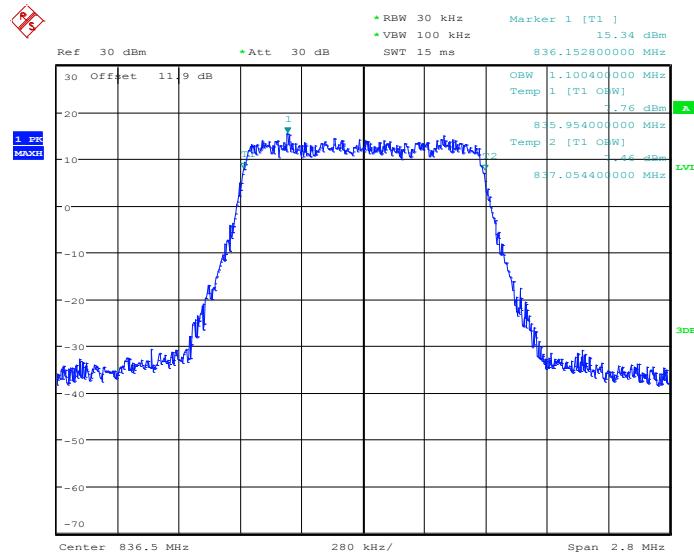
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26dB Bandwidth Plot on Channel 20407



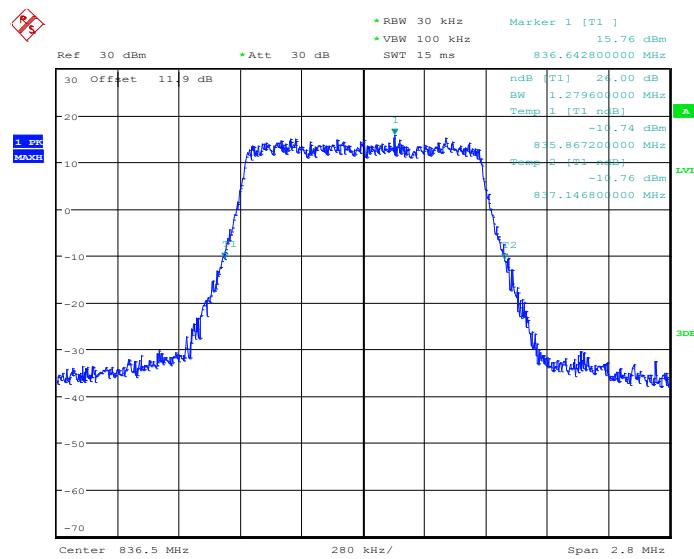
Date: 9.JAN.2014 08:13:50

99% Occupied Bandwidth Plot on Channel 20525



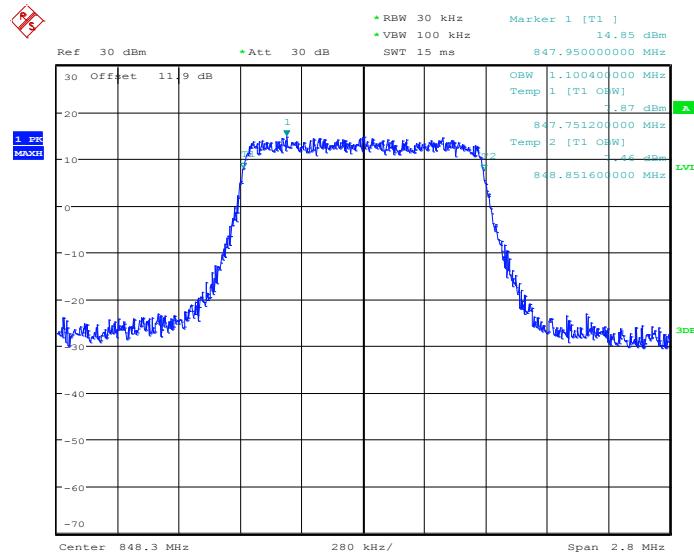
Date: 9.JAN.2014 08:18:50

26dB Bandwidth Plot on Channel 20525



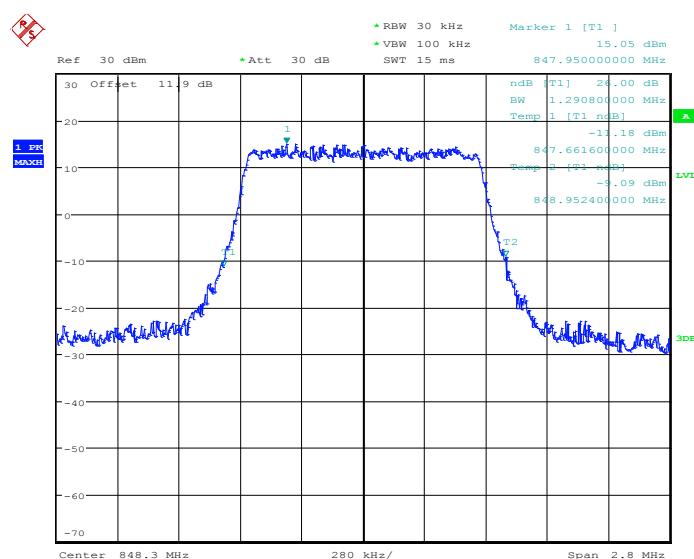
Date: 9.JAN.2014 08:19:17

99% Occupied Bandwidth Plot on Channel 20643



Date: 9.JAN.2014 08:21:16

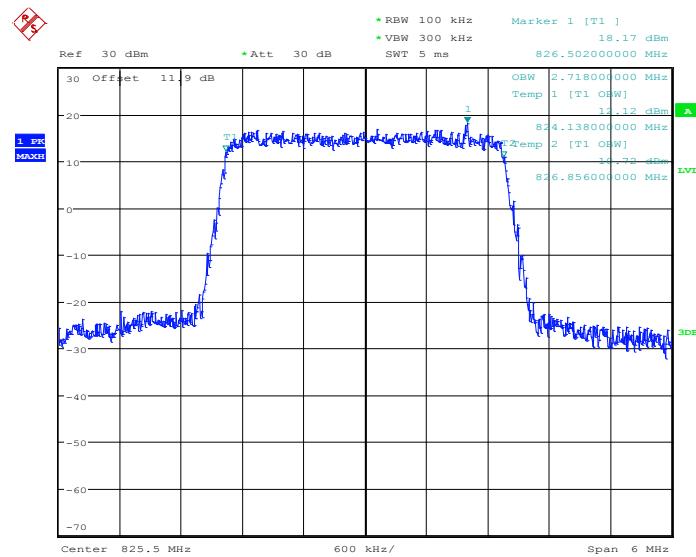
26dB Bandwidth Plot on Channel 20643



Date: 9.JAN.2014 08:21:43

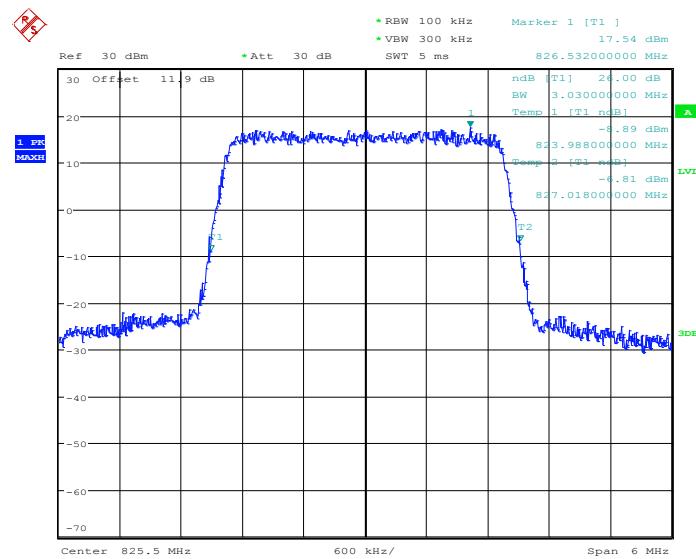
Band :	LTE Band 5	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20415



Date: 9.JAN.2014 09:10:08

26dB Bandwidth Plot on Channel 20415



Date: 9.JAN.2014 08:28:50

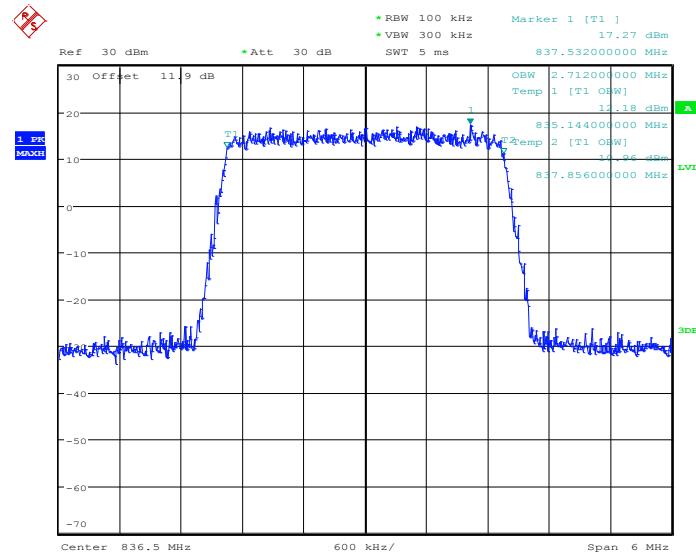
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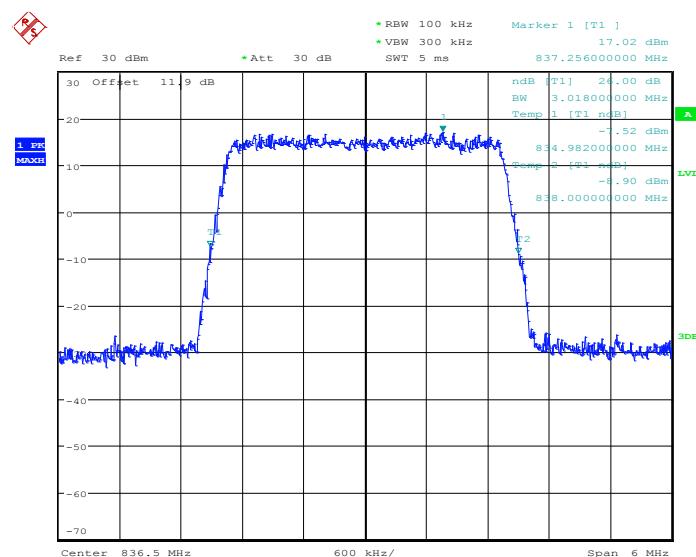
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 08:33:38

26dB Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 08:34:03

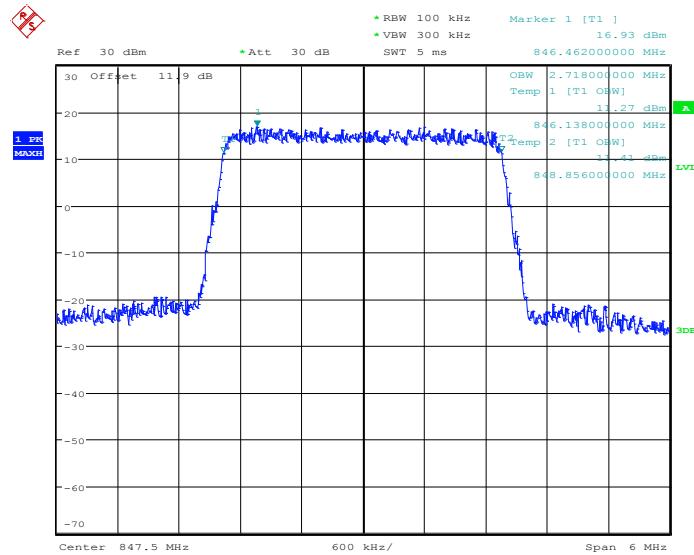
Report No. : FG372301-01B

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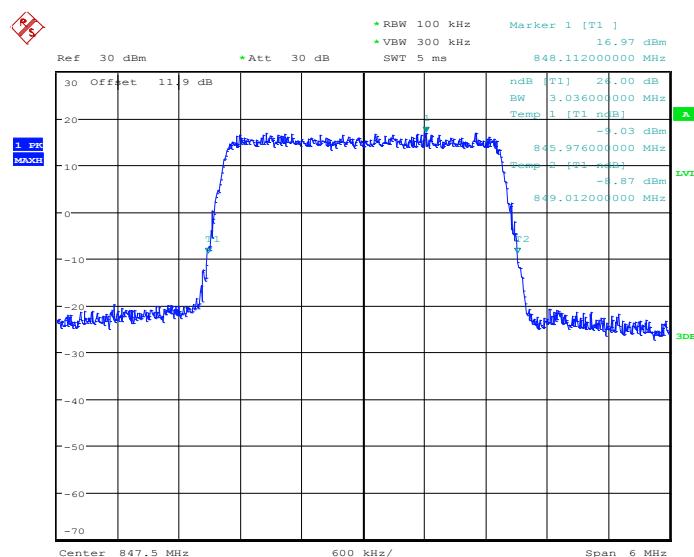
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20635



Date: 9.JAN.2014 08:36:02

26dB Bandwidth Plot on Channel 20635



Date: 9.JAN.2014 08:36:27

Report No. : FG372301-01B

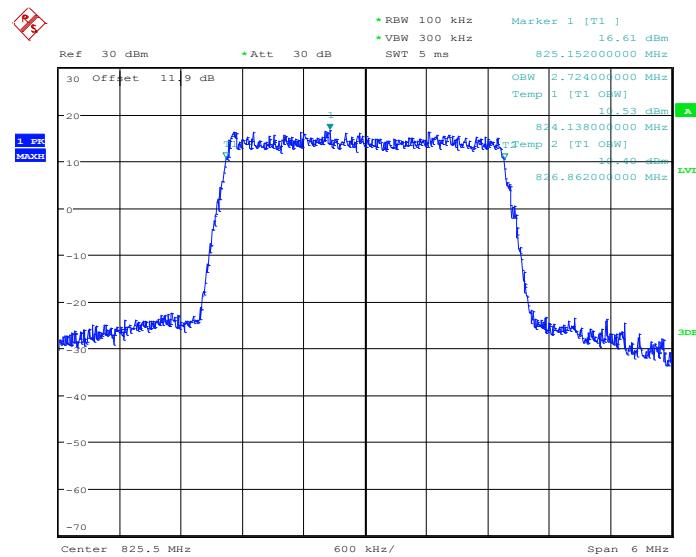
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Report Template No.: BU5-FGLTE Version 1.0

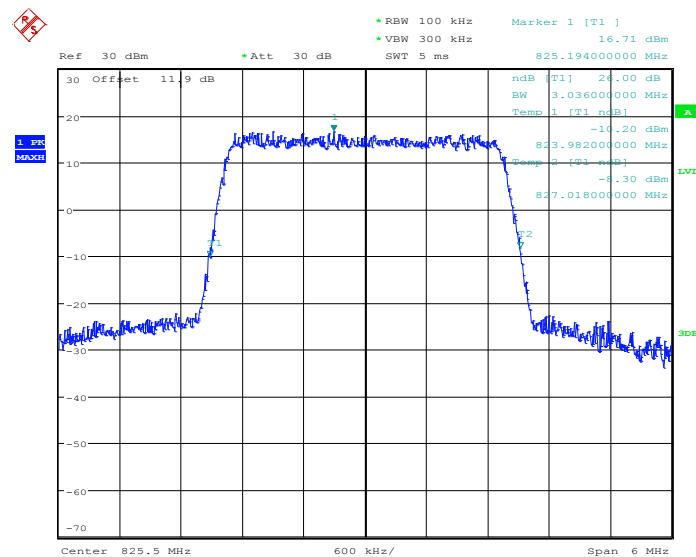
Band :	LTE Band 5	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20415



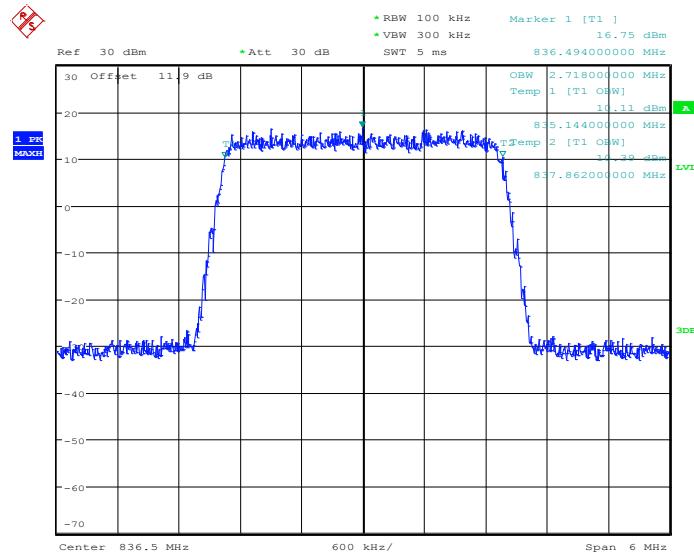
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26dB Bandwidth Plot on Channel 20415



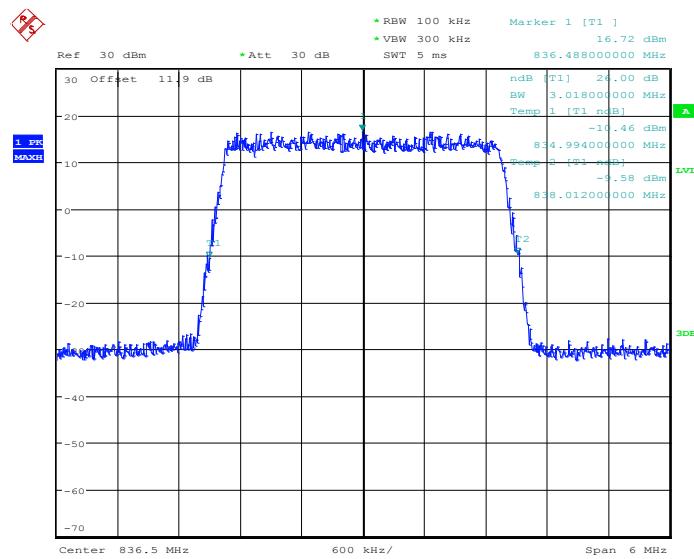
Date: 9.JAN.2014 08:29:04

99% Occupied Bandwidth Plot on Channel 20525



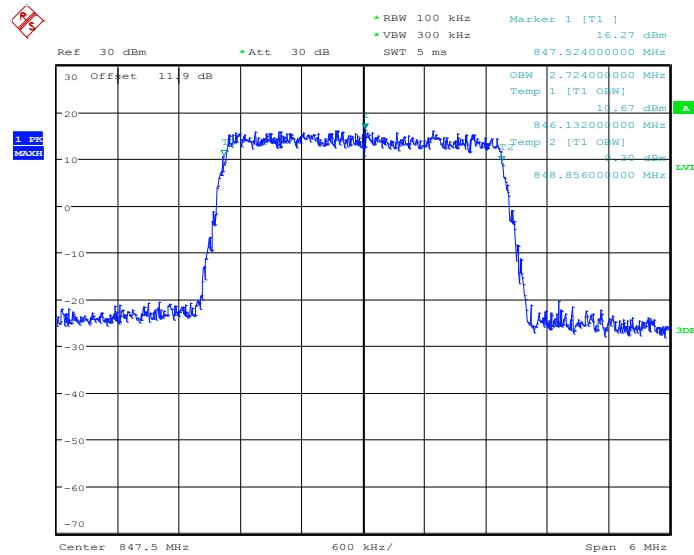
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26dB Bandwidth Plot on Channel 20525



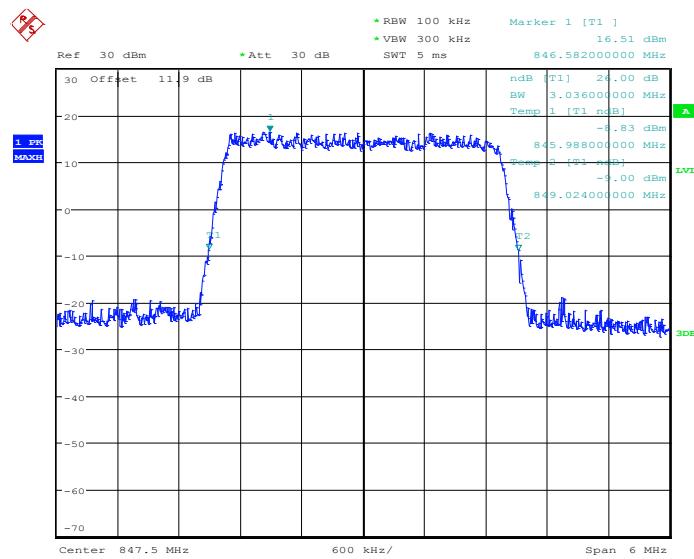
Date: 9.JAN.2014 08:34:17

99% Occupied Bandwidth Plot on Channel 20635



Date: 9.JAN.2014 08:36:14

26dB Bandwidth Plot on Channel 20635



Date: 9.JAN.2014 08:36:41

Report No. : FG372301-01B

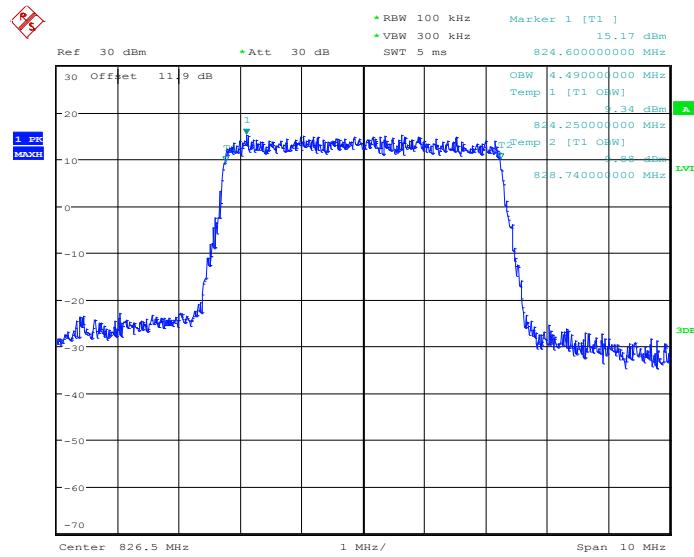
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Report Template No.: BU5-FGLTE Version 1.0

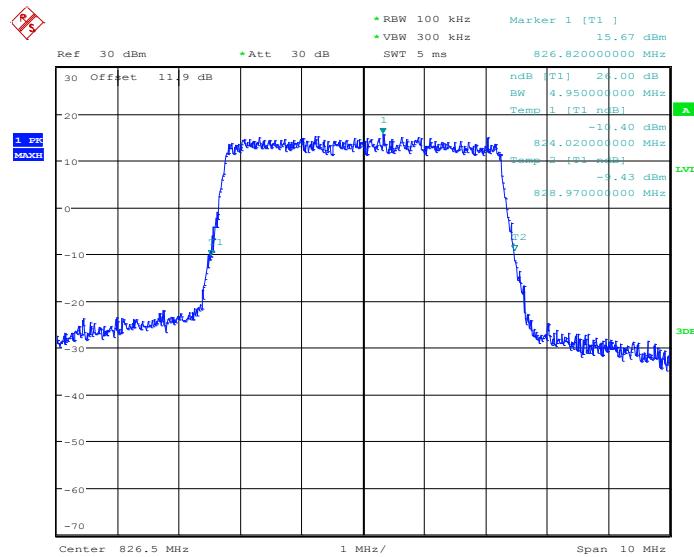
Band :	LTE Band 5	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20425



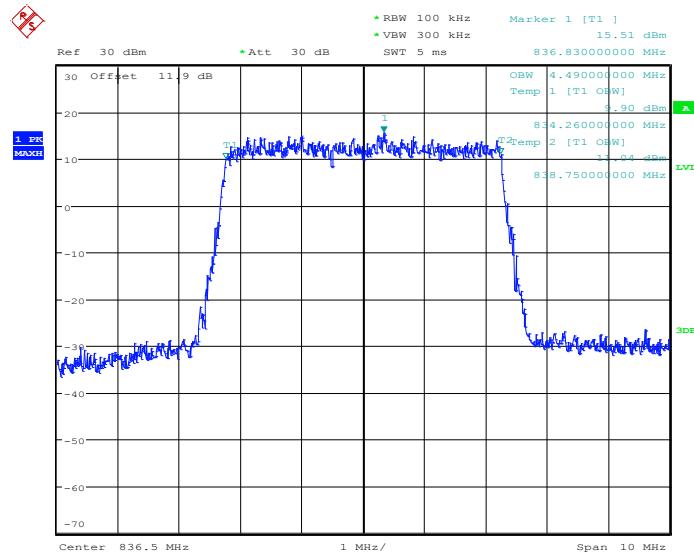
Date: 9.JAN.2014 08:41:20

26dB Bandwidth Plot on Channel 20425



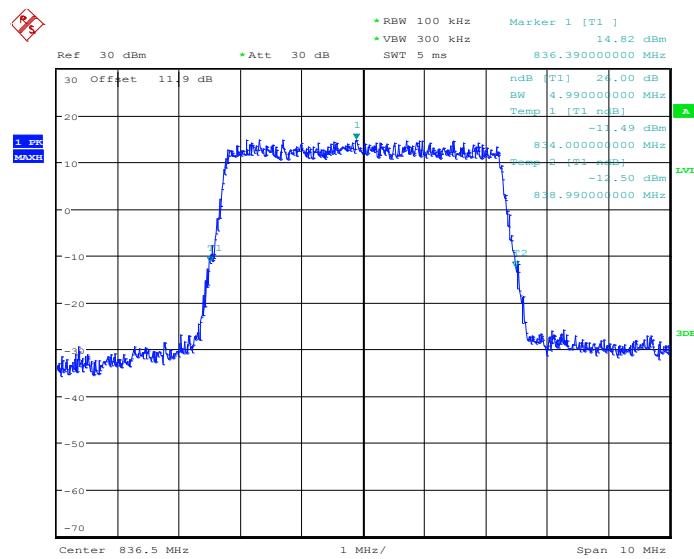
Date: 9.JAN.2014 08:41:45

99% Occupied Bandwidth Plot on Channel 20525



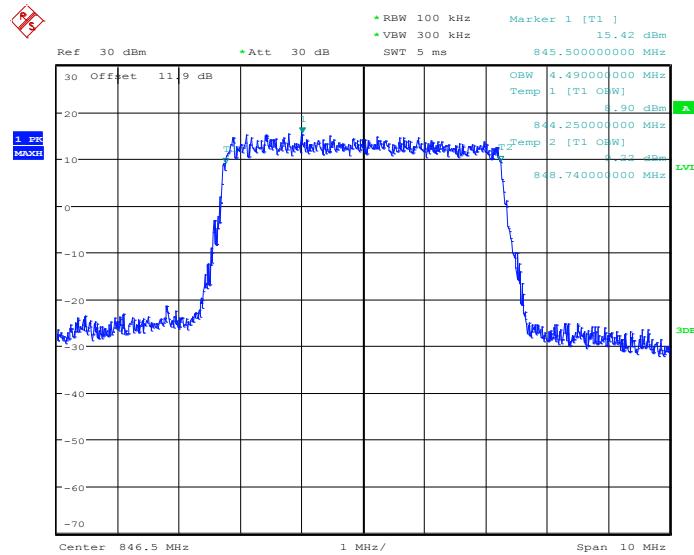
Date: 9.JAN.2014 08:46:33

26dB Bandwidth Plot on Channel 20525



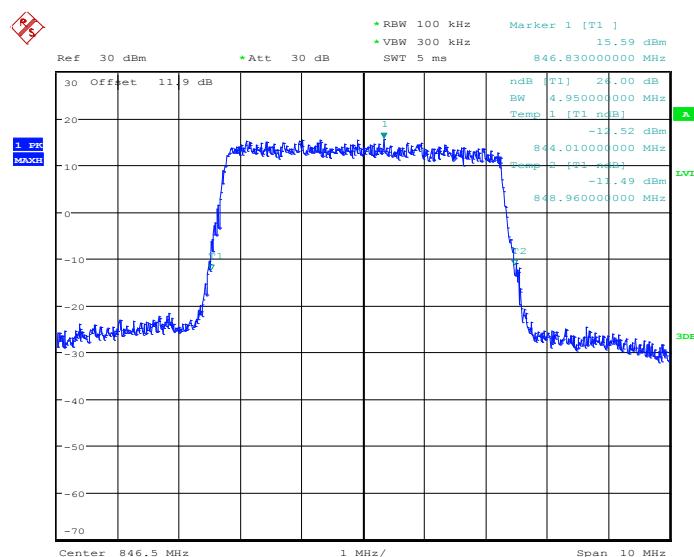
Date: 9.JAN.2014 08:46:58

99% Occupied Bandwidth Plot on Channel 20625



Date: 9.JAN.2014 08:48:57

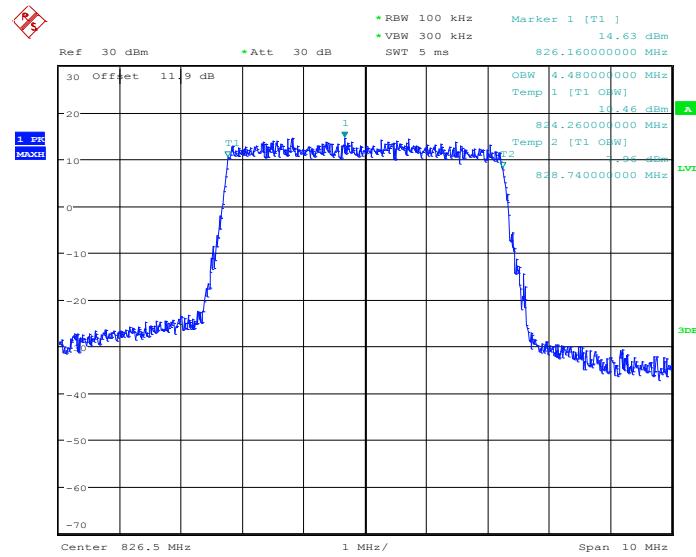
26dB Bandwidth Plot on Channel 20625



Date: 9.JAN.2014 08:49:22

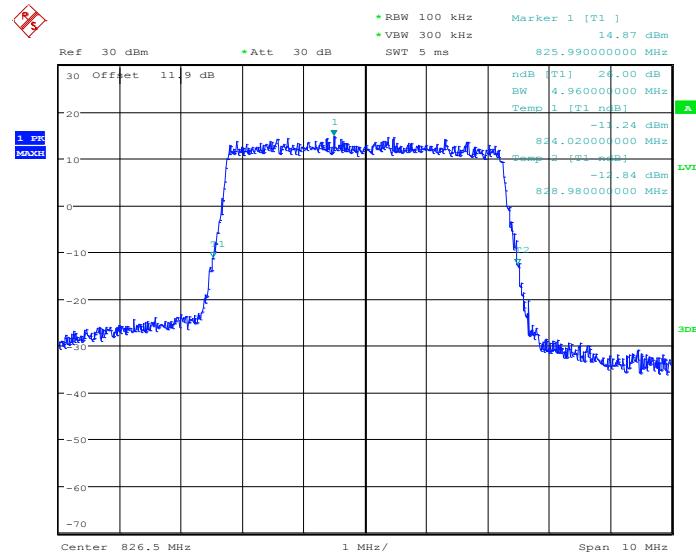
Band :	LTE Band 5	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20425



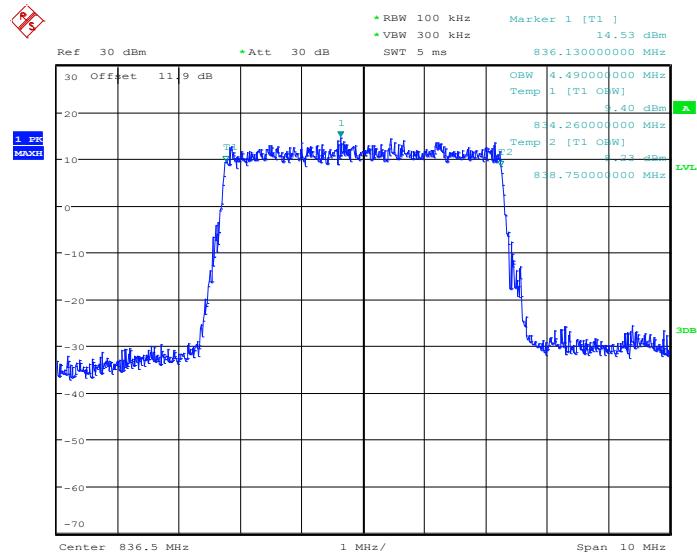
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26dB Bandwidth Plot on Channel 20425



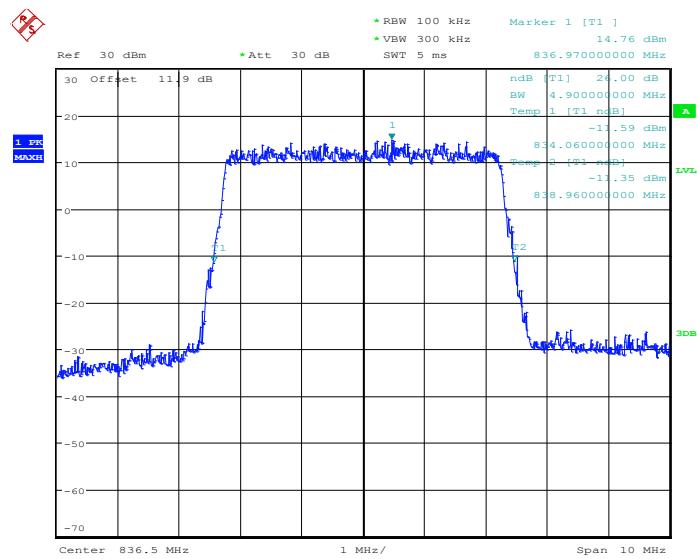
Date: 9.JAN.2014 08:41:58

99% Occupied Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 08:46:45

26dB Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 08:47:12

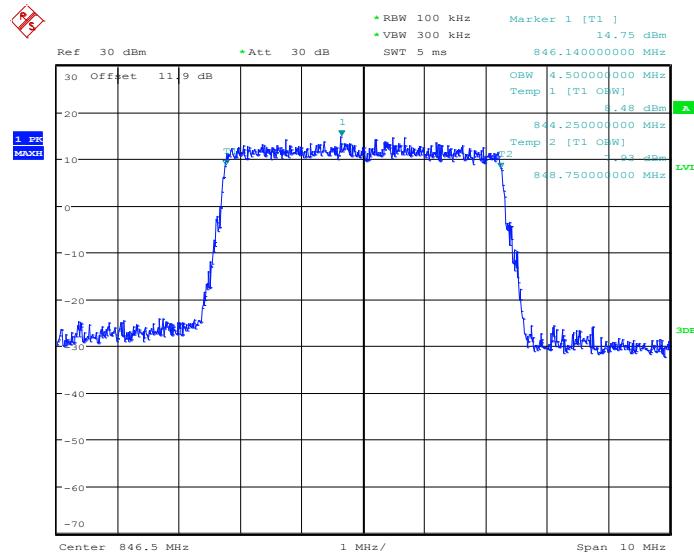
Report No. : FG372301-01B

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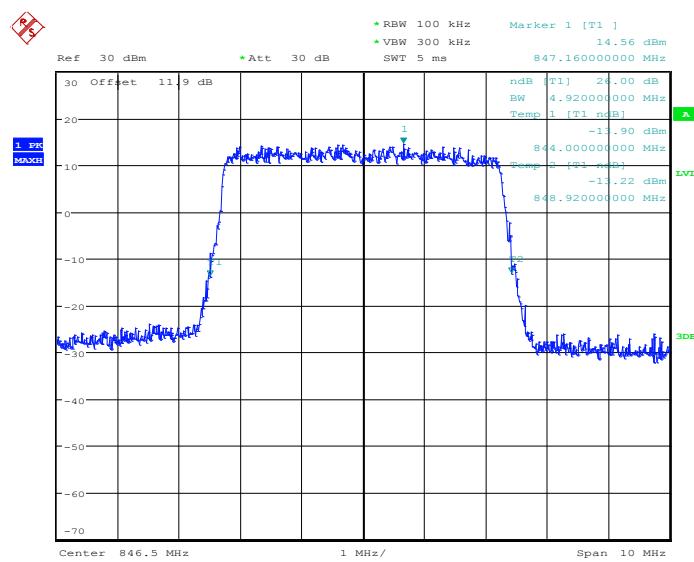
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20625



Date: 9.JAN.2014 08:49:09

26dB Bandwidth Plot on Channel 20625



Date: 9.JAN.2014 08:49:36

Report No. : FG372301-01B

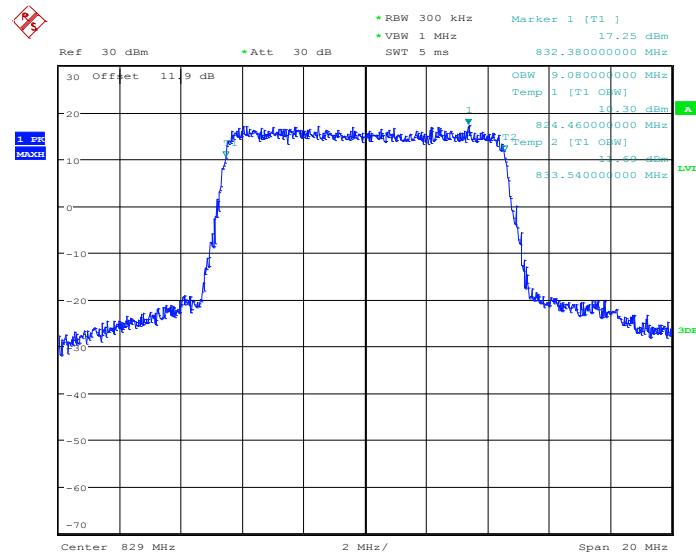
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Report Template No.: BU5-FGLTE Version 1.0

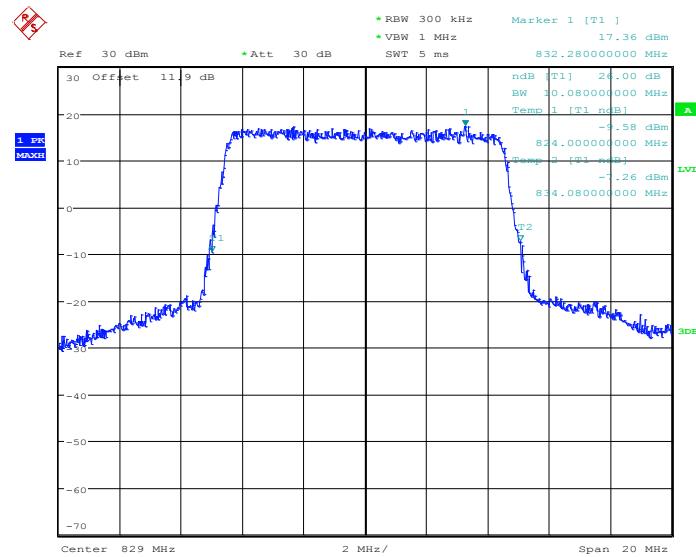
Band :	LTE Band 5	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20450



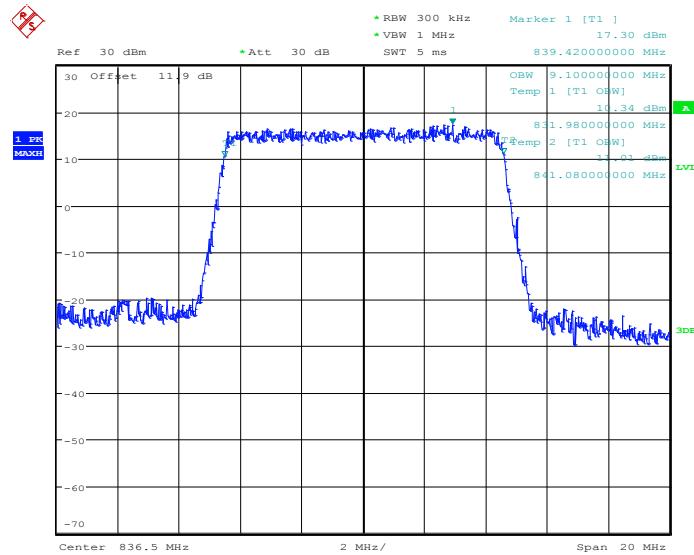
Date: 9.JAN.2014 08:54:15

26dB Bandwidth Plot on Channel 20450



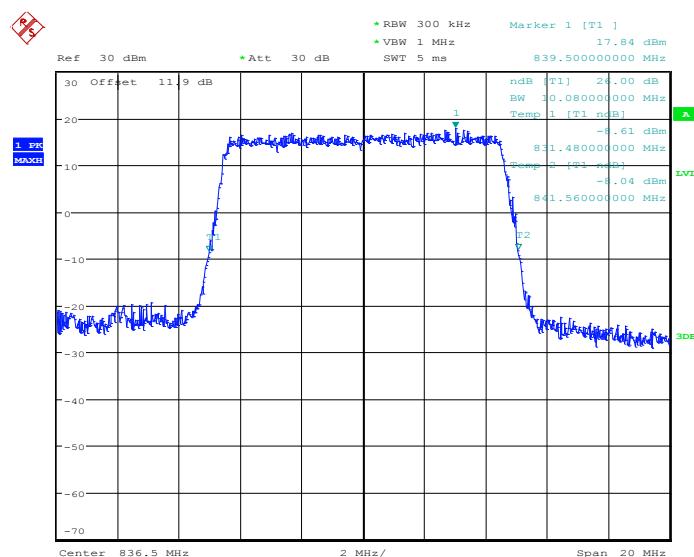
Date: 9.JAN.2014 08:54:40

99% Occupied Bandwidth Plot on Channel 20525



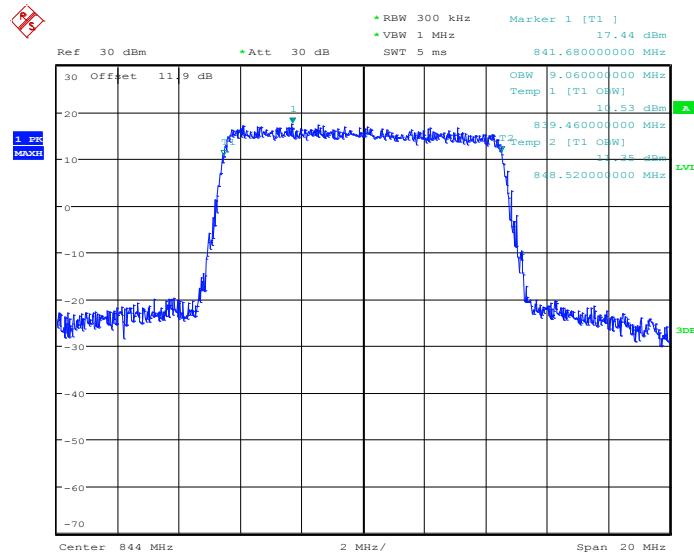
Date: 9.JAN.2014 08:59:28

26dB Bandwidth Plot on Channel 20525



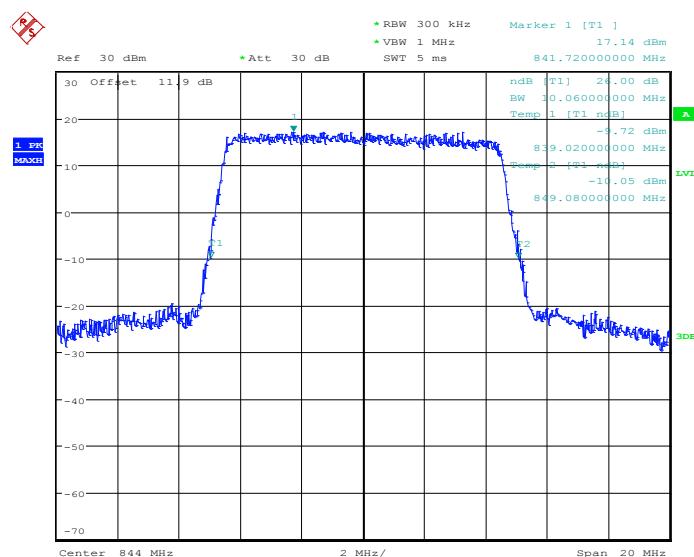
Date: 9.JAN.2014 08:59:53

99% Occupied Bandwidth Plot on Channel 20600



Date: 9.JAN.2014 09:01:52

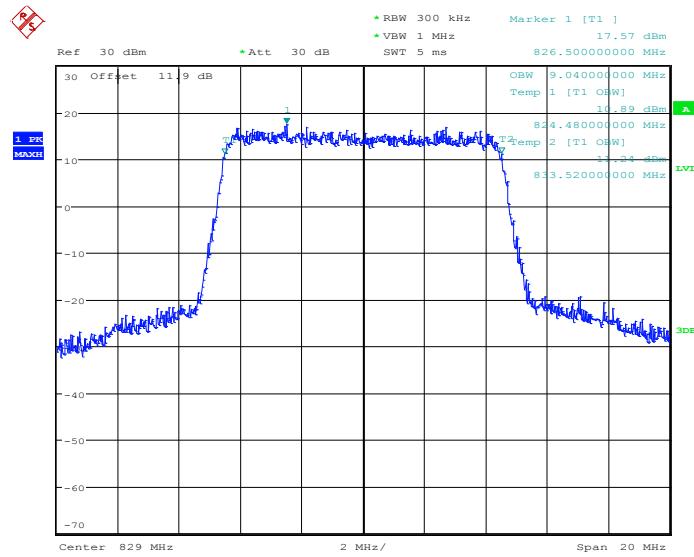
26dB Bandwidth Plot on Channel 20600



Date: 9.JAN.2014 09:02:18

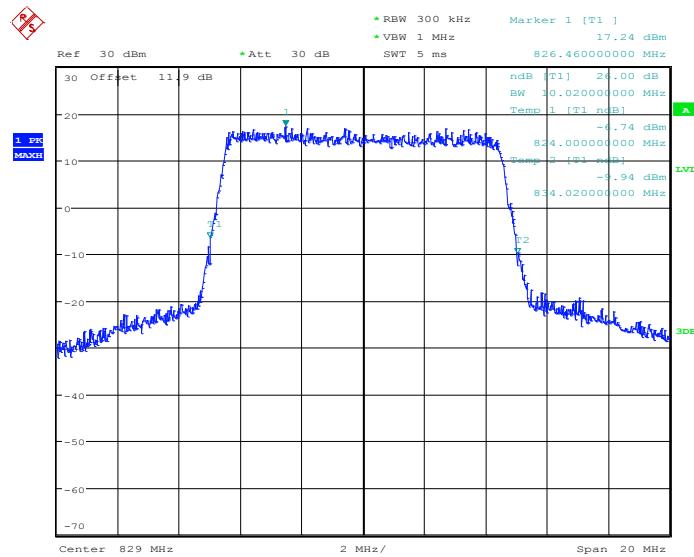
Band :	LTE Band 5	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20450



Date: 9.JAN.2014 08:54:26

26dB Bandwidth Plot on Channel 20450



Date: 9.JAN.2014 08:54:53

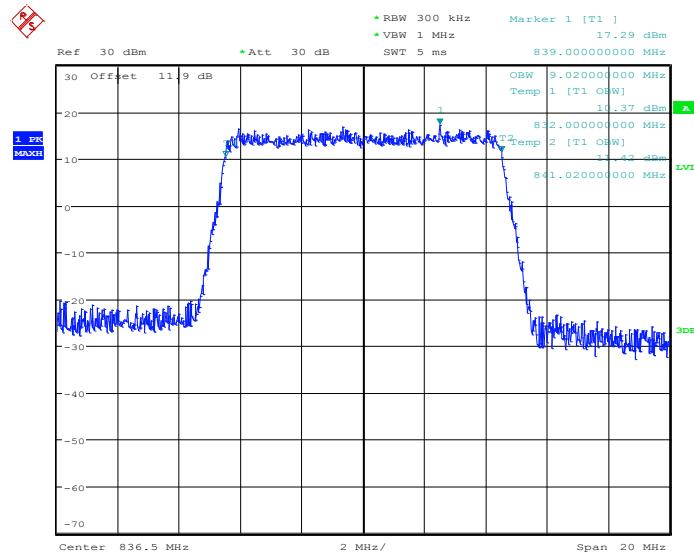
Report No. : FG372301-01B

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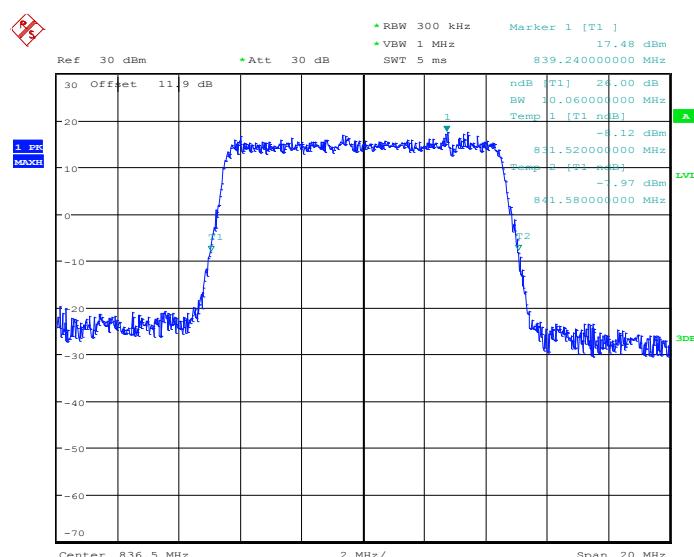
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 08:59:40

26dB Bandwidth Plot on Channel 20525



Date: 9.JAN.2014 09:00:07

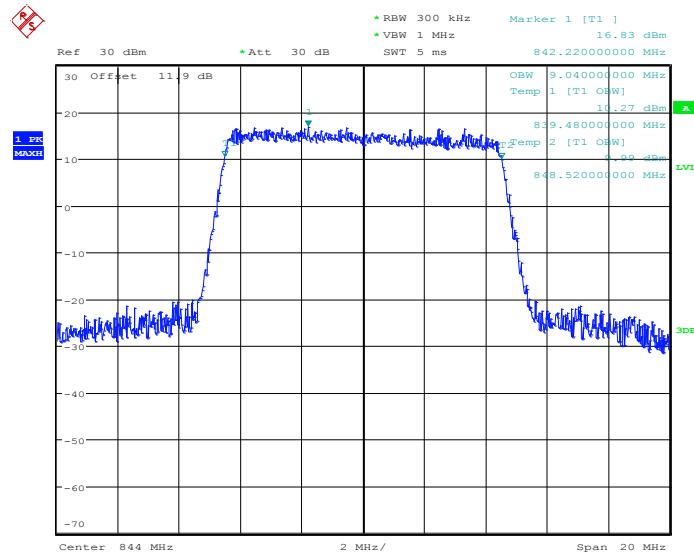
Report No. : FG372301-01B

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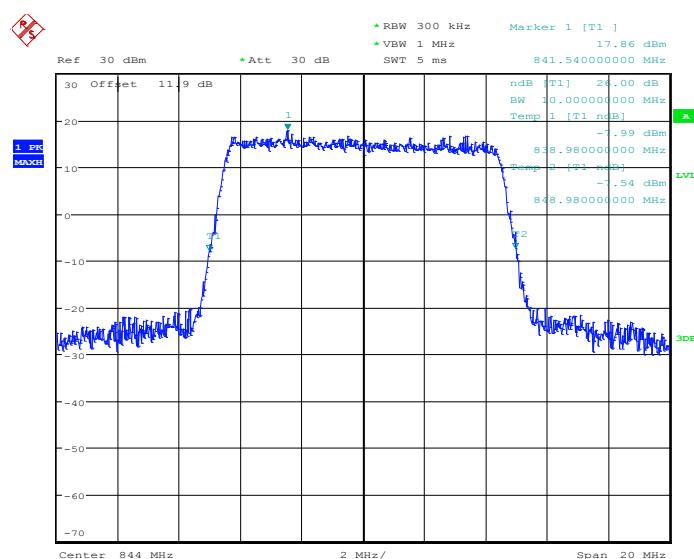
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20600



Date: 9.JAN.2014 09:02:04

26dB Bandwidth Plot on Channel 20600



Date: 9.JAN.2014 09:02:31

Report No. : FG372301-01B

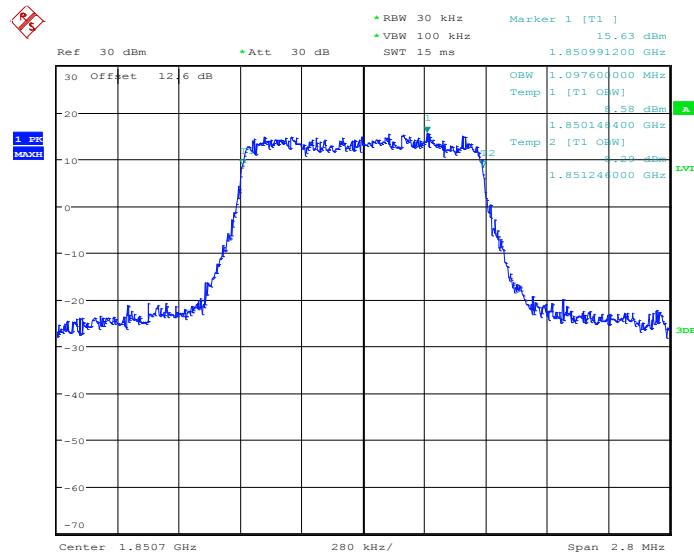
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Report Template No.: BU5-FGLTE Version 1.0

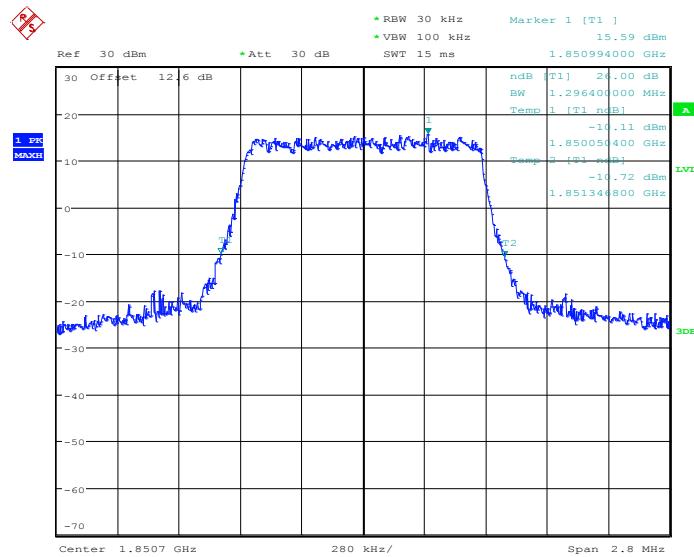
Band :	LTE Band 2	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18607



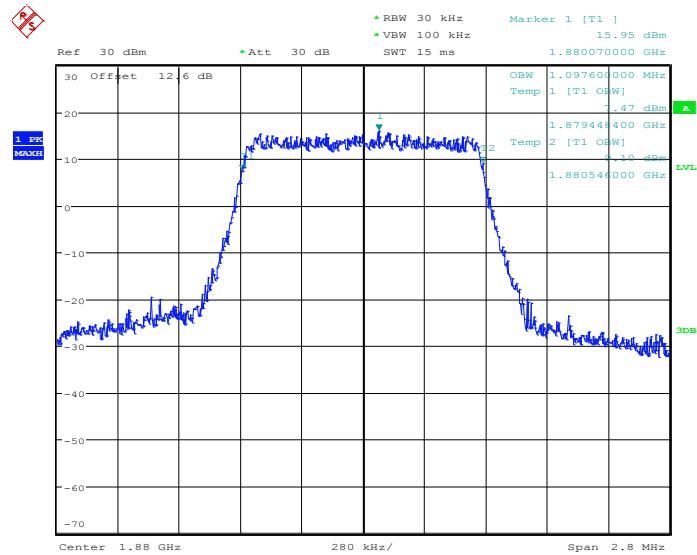
Date: 9.JAN.2014 15:19:08

26dB Bandwidth Plot on Channel 18607



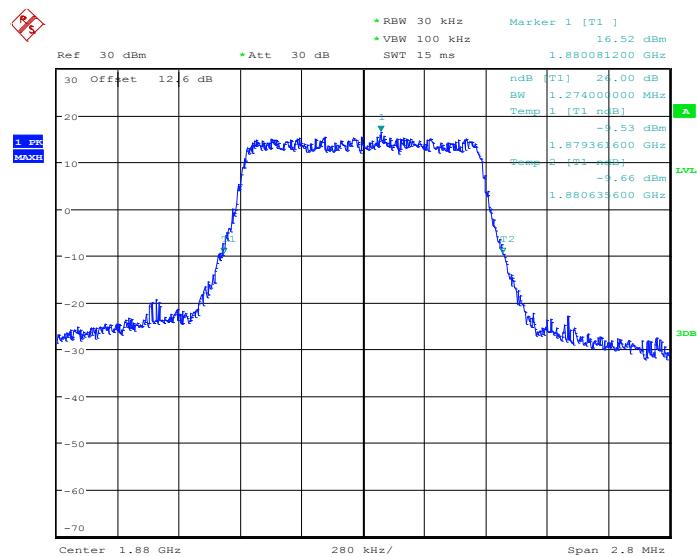
Date: 9.JAN.2014 15:19:33

99% Occupied Bandwidth Plot on Channel 18900



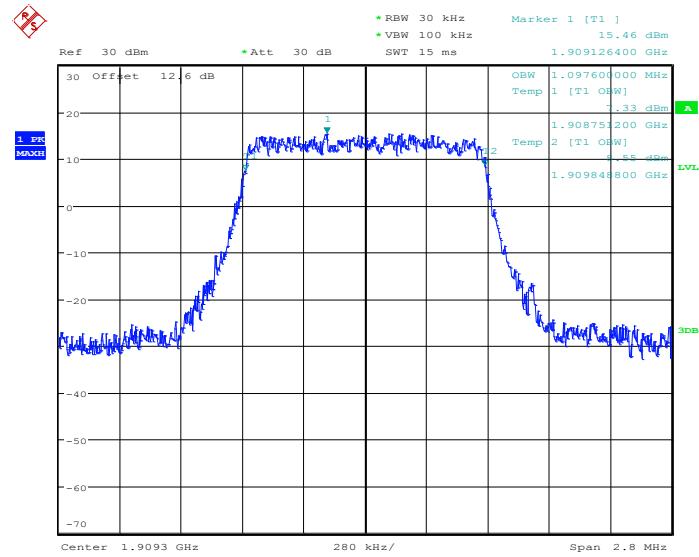
Date: 9.JAN.2014 15:21:50

26dB Bandwidth Plot on Channel 18900



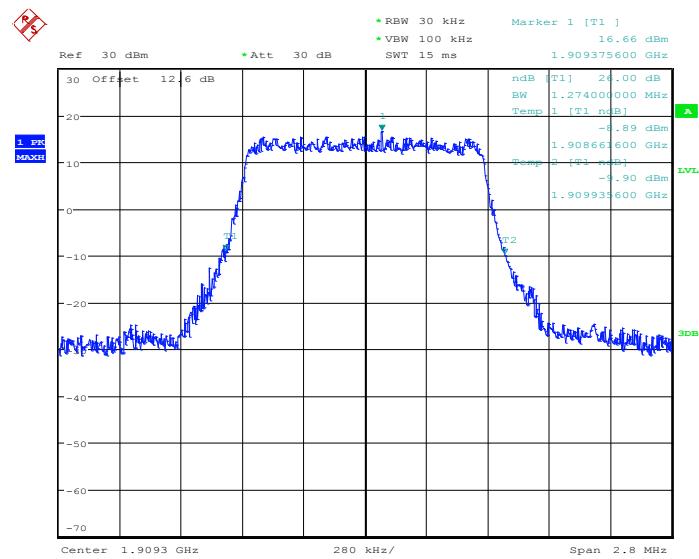
Date: 9.JAN.2014 15:22:15

99% Occupied Bandwidth Plot on Channel 19193



Date: 9.JAN.2014 15:24:32

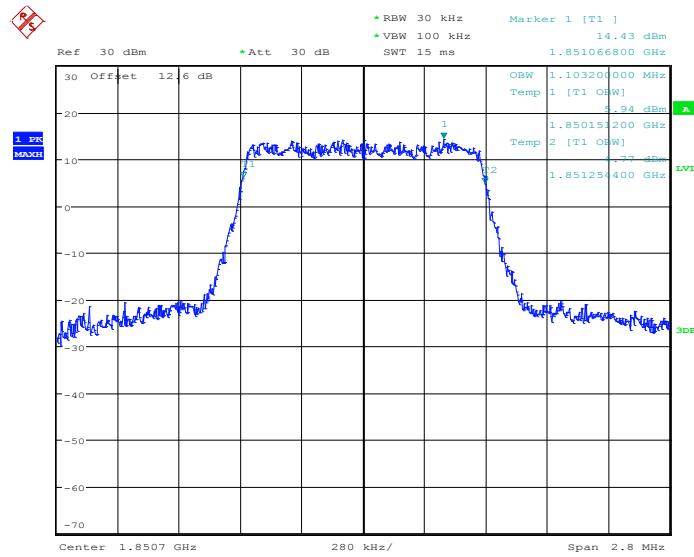
26dB Bandwidth Plot on Channel 19193



Date: 9.JAN.2014 15:24:57

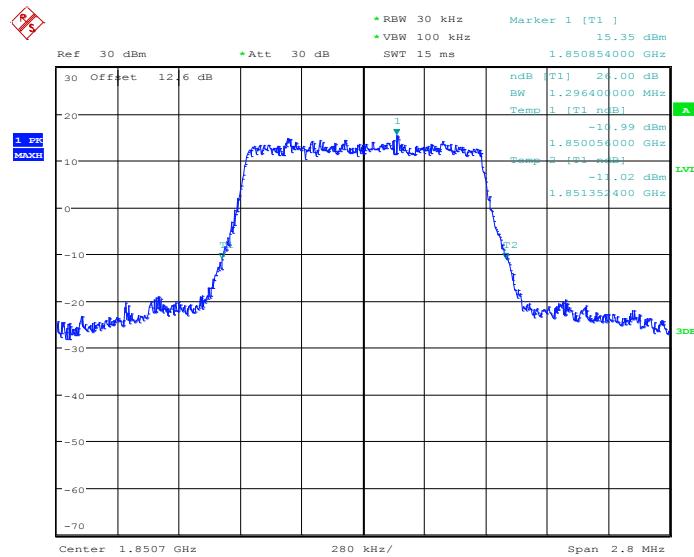
Band :	LTE Band 2	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18607



Date: 9.JAN.2014 15:19:19

26dB Bandwidth Plot on Channel 18607



Date: 9.JAN.2014 15:19:47

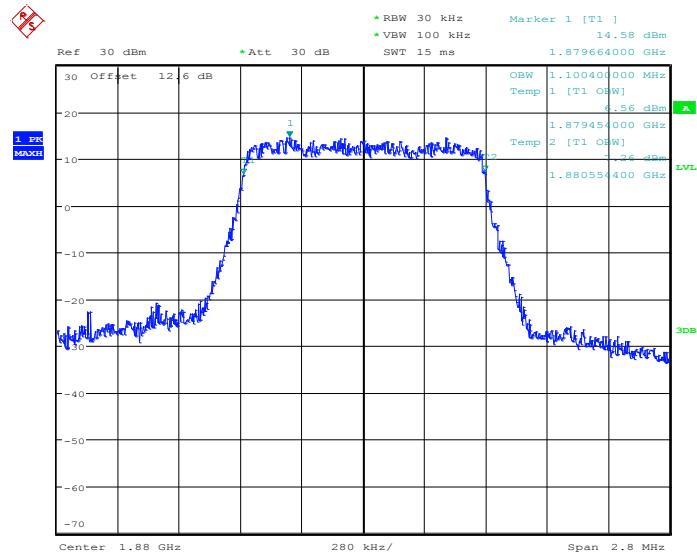
Report No. : FG372301-01B

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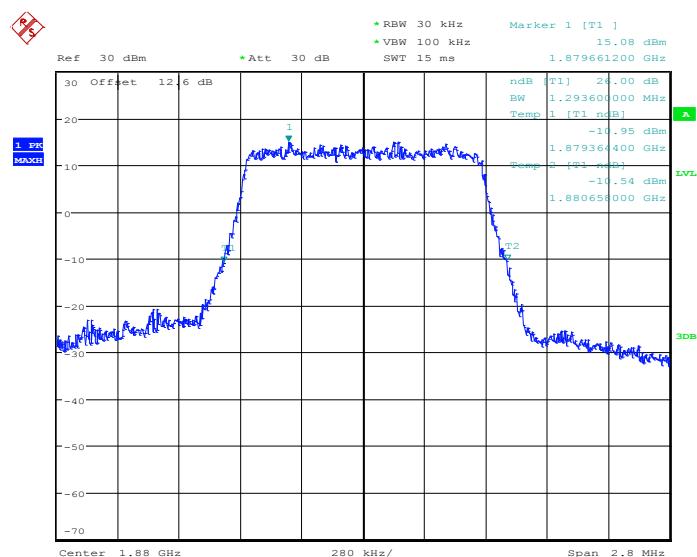
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 18900



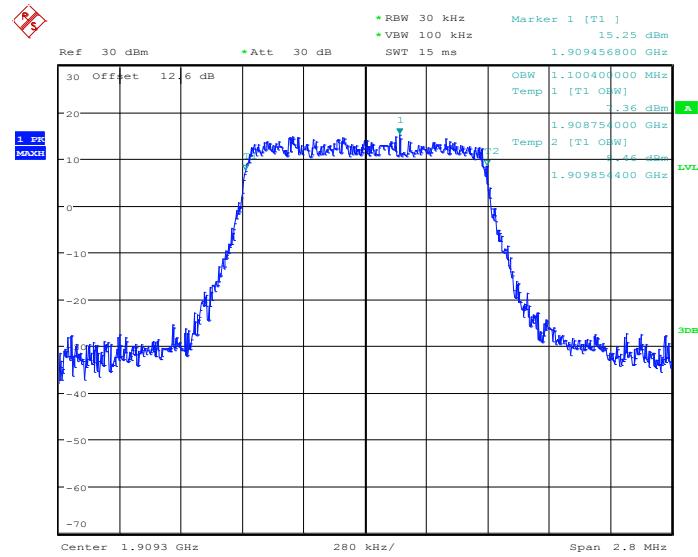
Date: 9.JAN.2014 15:22:02

26dB Bandwidth Plot on Channel 18900



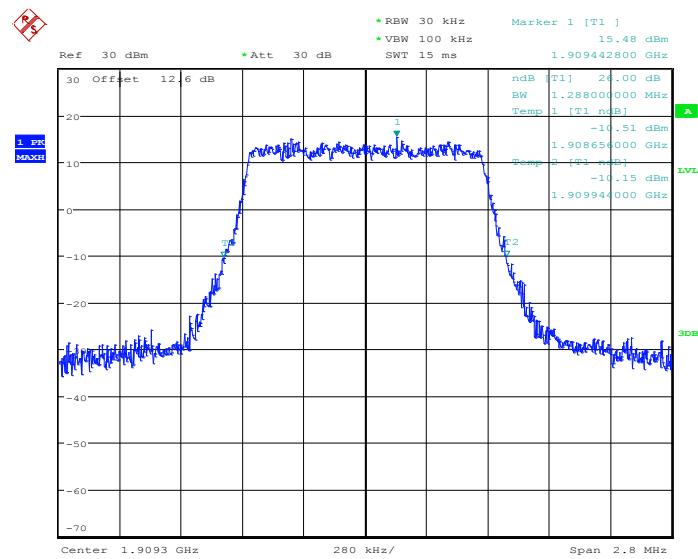
Date: 9.JAN.2014 15:22:29

99% Occupied Bandwidth Plot on Channel 19193



Date: 9.JAN.2014 15:24:43

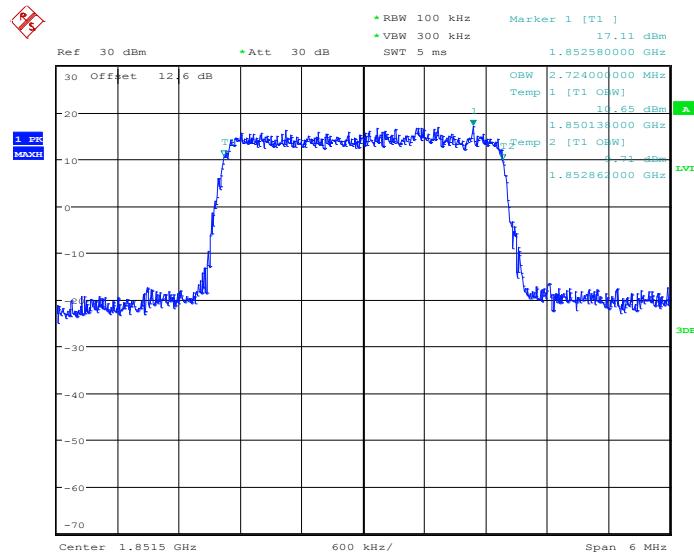
26dB Bandwidth Plot on Channel 19193



Date: 9.JAN.2014 15:25:10

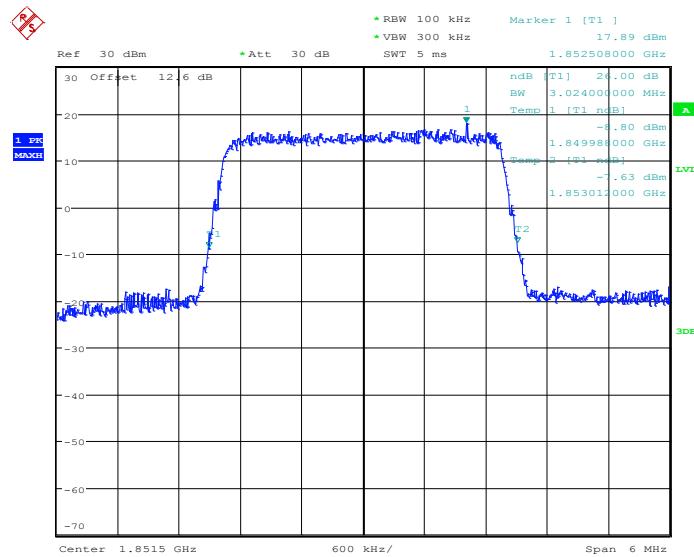
Band :	LTE Band 2	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18615



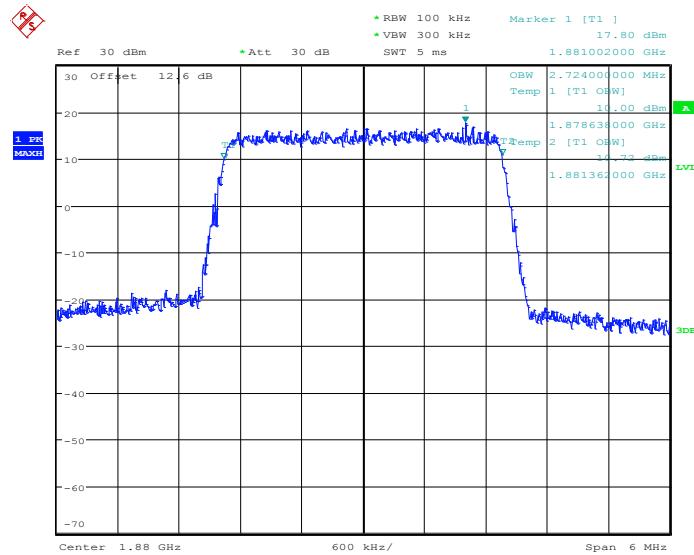
Date: 9.JAN.2014 16:14:41

26dB Bandwidth Plot on Channel 18615



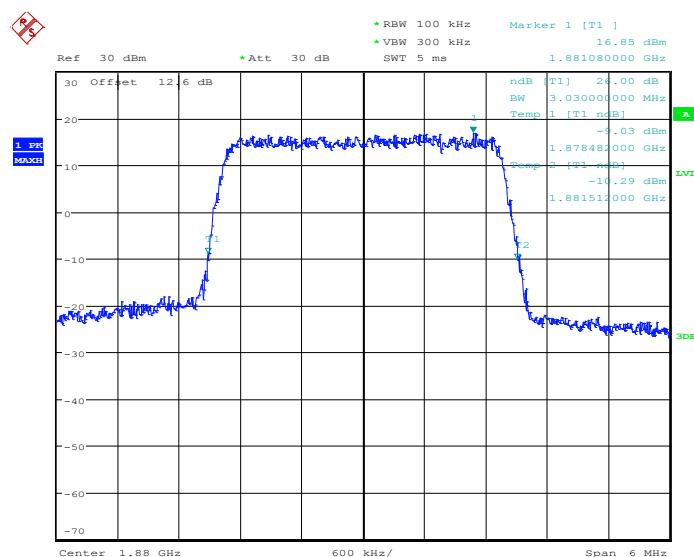
Date: 9.JAN.2014 15:29:46

99% Occupied Bandwidth Plot on Channel 18900



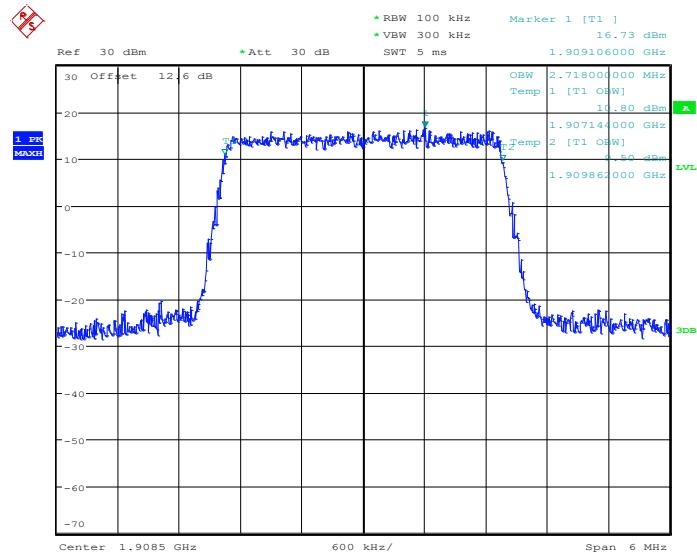
Date: 9.JAN.2014 15:32:02

26dB Bandwidth Plot on Channel 18900



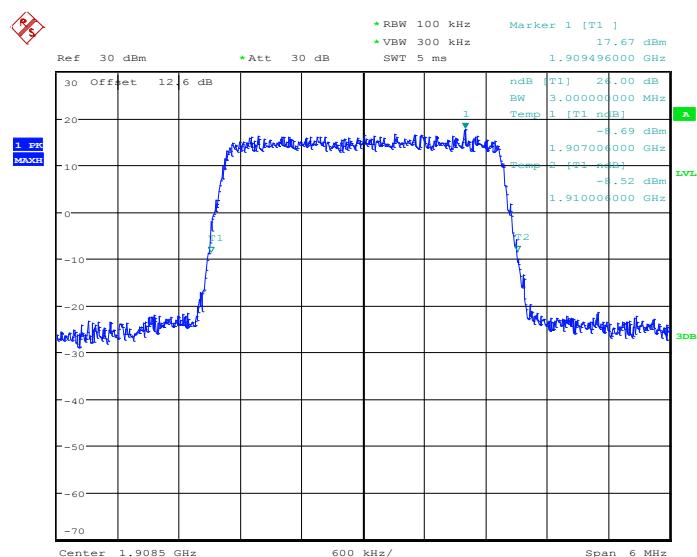
Date: 9.JAN.2014 15:32:27

99% Occupied Bandwidth Plot on Channel 19185



Date: 9.JAN.2014 15:34:44

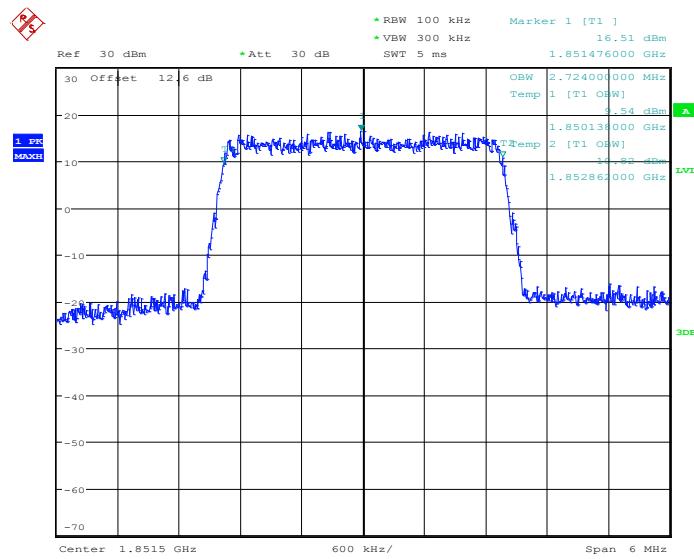
26dB Bandwidth Plot on Channel 19185



Date: 9.JAN.2014 15:35:09

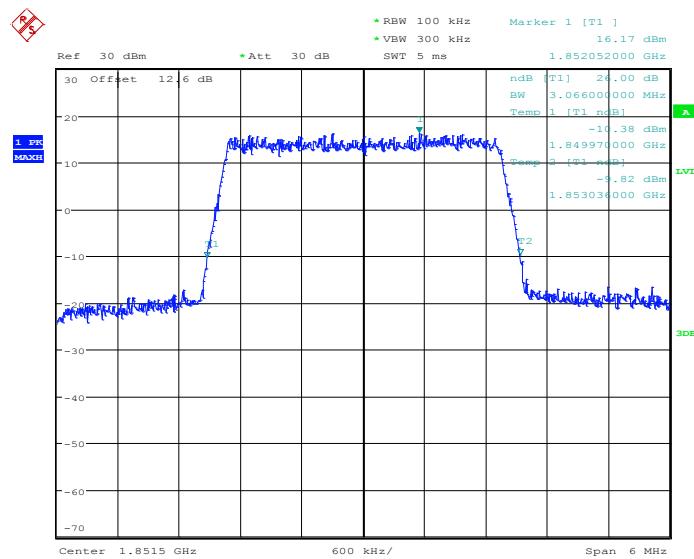
Band :	LTE Band 2	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18615



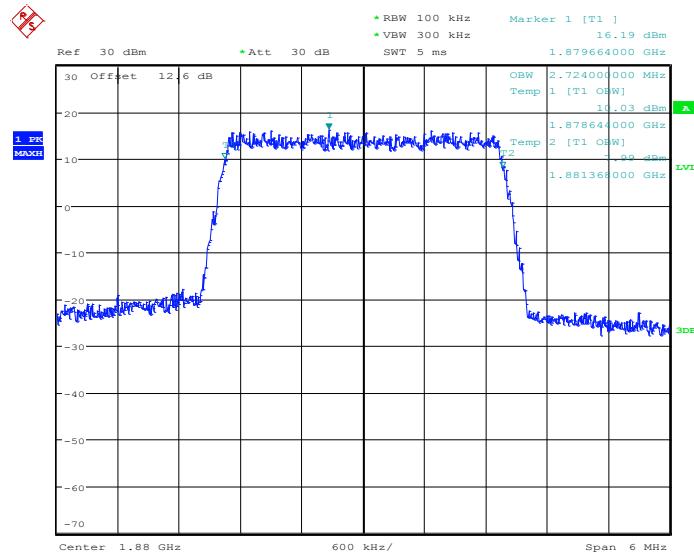
Date: 9.JAN.2014 15:29:32

26dB Bandwidth Plot on Channel 18615



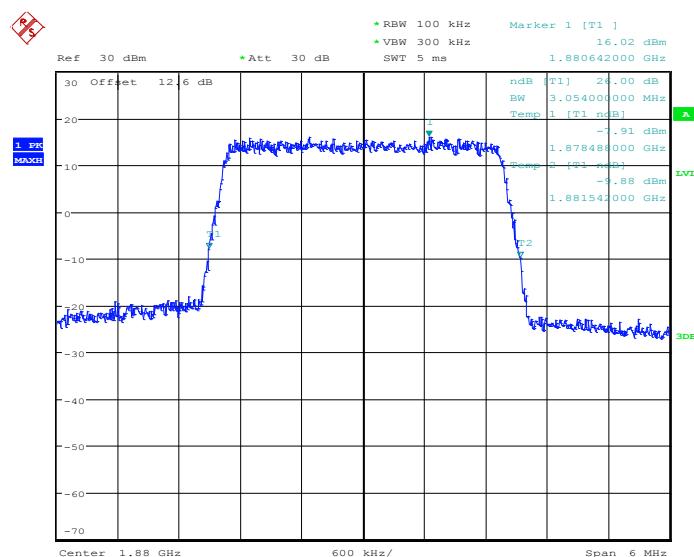
Date: 9.JAN.2014 15:29:59

99% Occupied Bandwidth Plot on Channel 18900



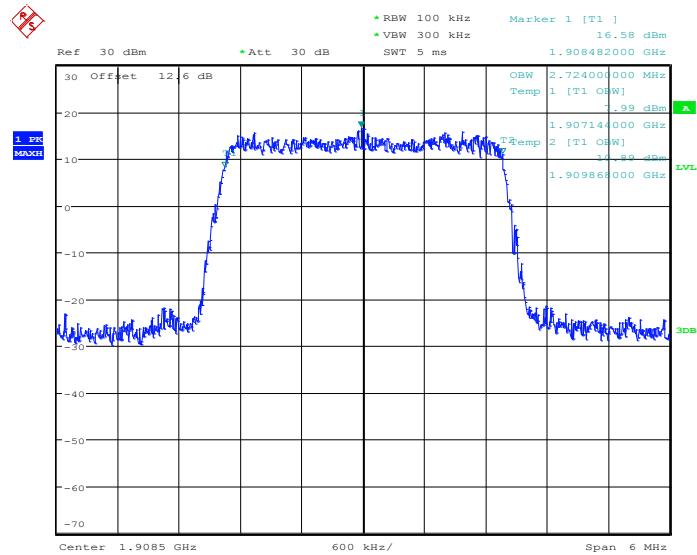
Date: 9.JAN.2014 15:32:14

26dB Bandwidth Plot on Channel 18900



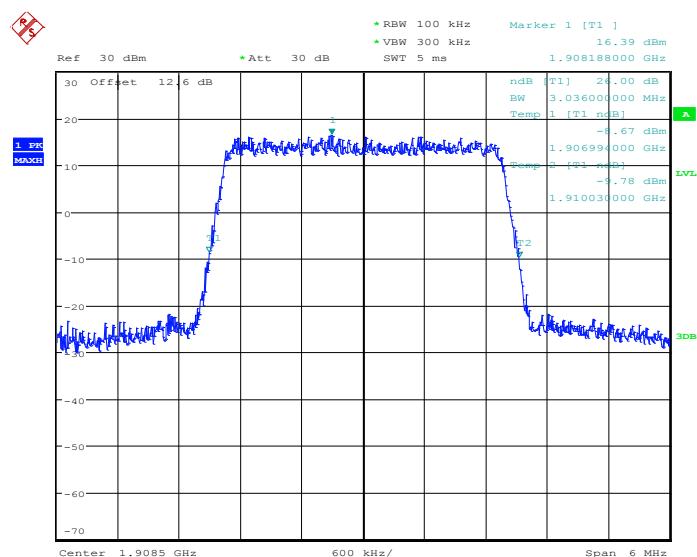
Date: 9.JAN.2014 15:32:41

99% Occupied Bandwidth Plot on Channel 19185



Date: 9.JAN.2014 15:34:56

26dB Bandwidth Plot on Channel 19185



Date: 9.JAN.2014 15:35:23

Report No. : FG372301-01B

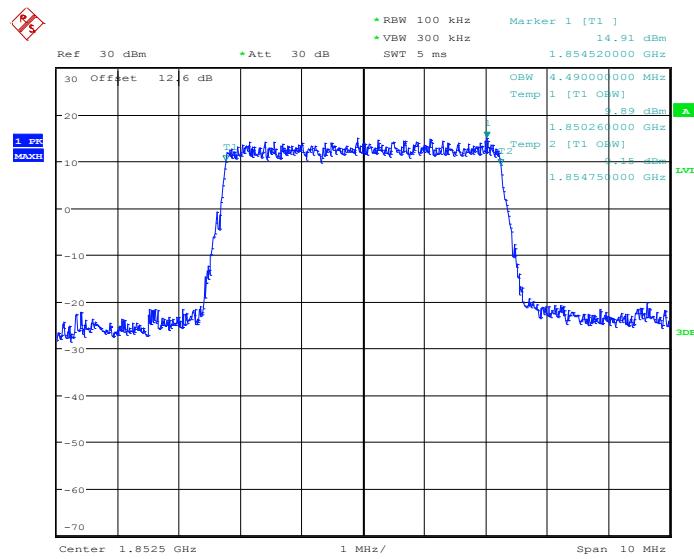
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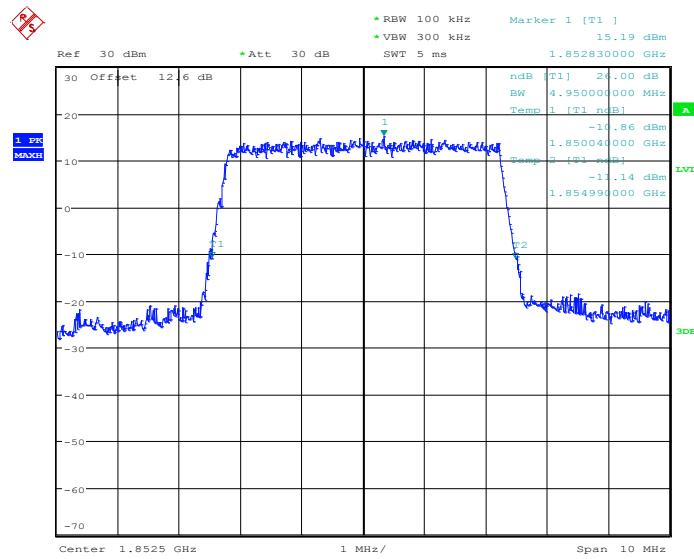
Band :	LTE Band 2	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18625



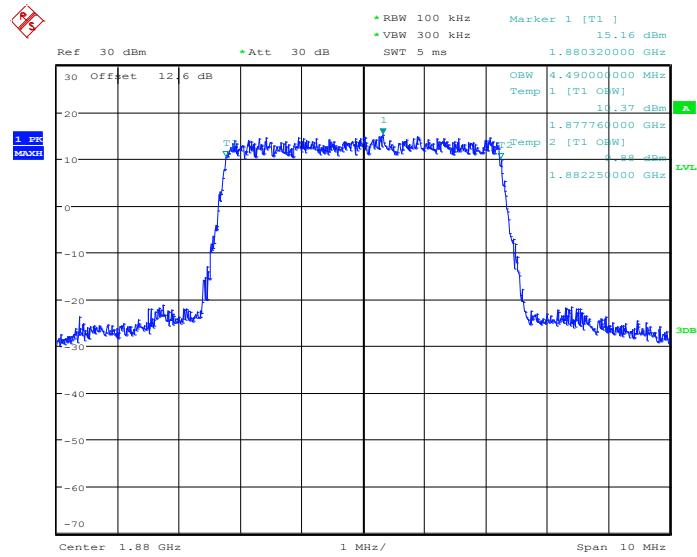
Date: 9.JAN.2014 15:37:30

26dB Bandwidth Plot on Channel 18625



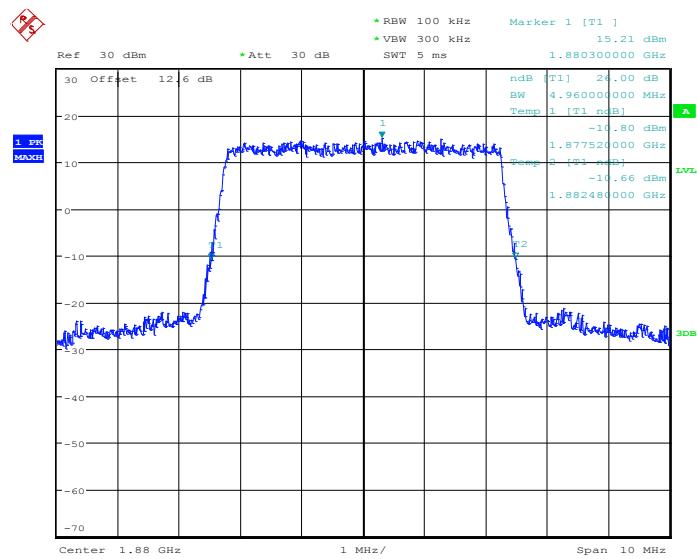
Date: 9.JAN.2014 15:37:55

99% Occupied Bandwidth Plot on Channel 18900



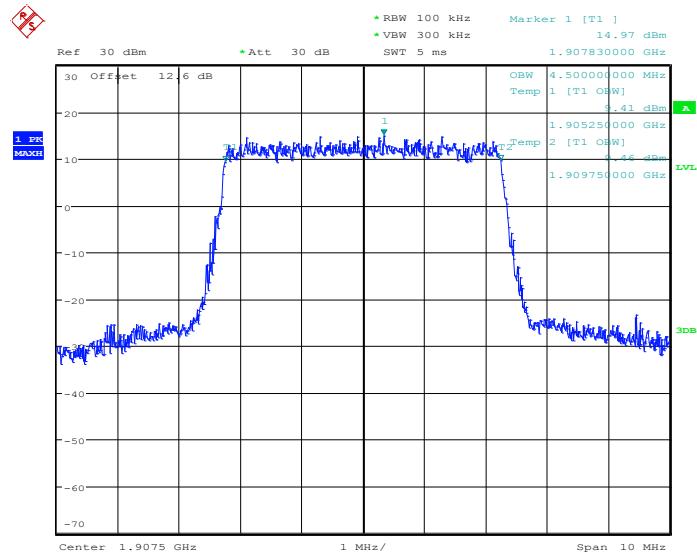
Date: 9.JAN.2014 15:40:12

26dB Bandwidth Plot on Channel 18900



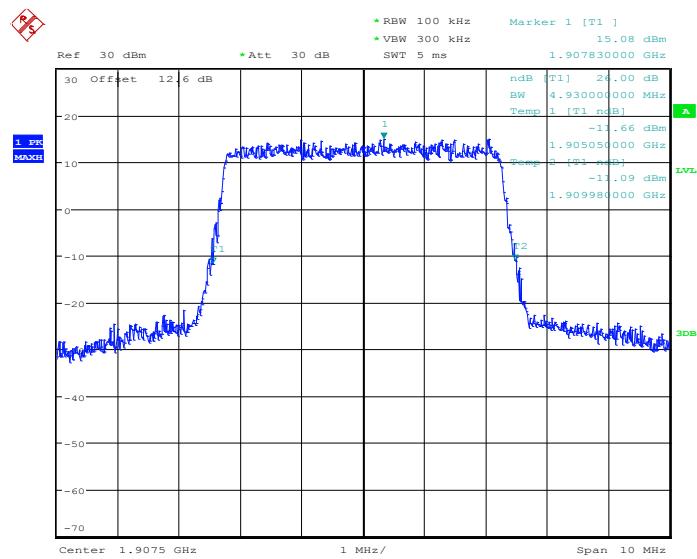
Date: 9.JAN.2014 15:40:37

99% Occupied Bandwidth Plot on Channel 19175



Date: 9.JAN.2014 15:42:53

26dB Bandwidth Plot on Channel 19175



Date: 9.JAN.2014 15:43:18

Report No. : FG372301-01B

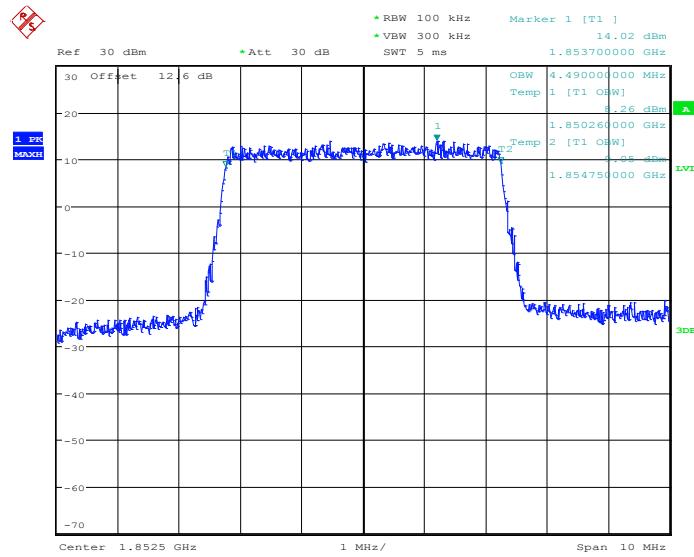
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Report Template No.: BU5-FGLTE Version 1.0

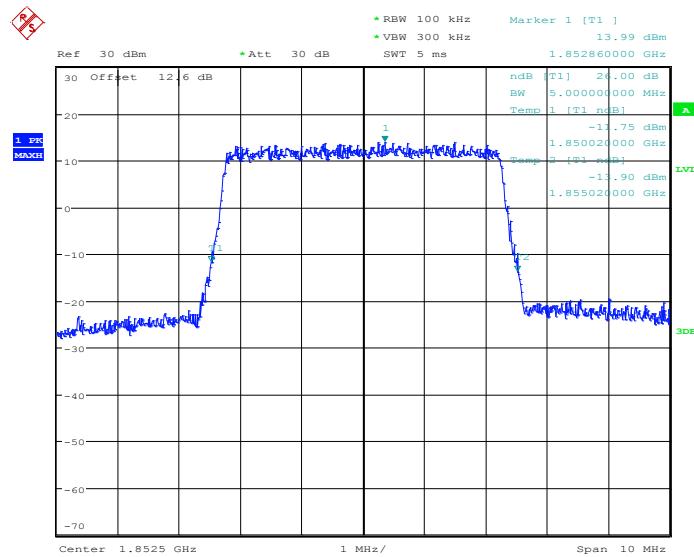
Band :	LTE Band 2	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18625



Date: 9.JAN.2014 15:37:42

26dB Bandwidth Plot on Channel 18625



Date: 9.JAN.2014 15:38:09

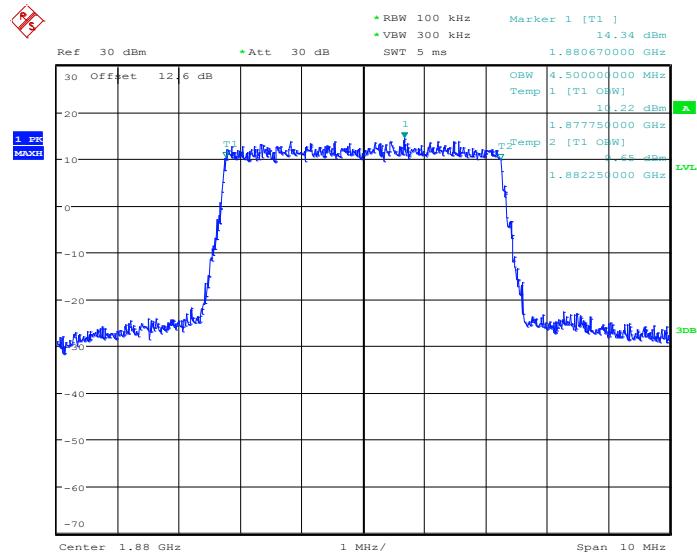
Report No. : FG372301-01B

Report Version : Rev. 02

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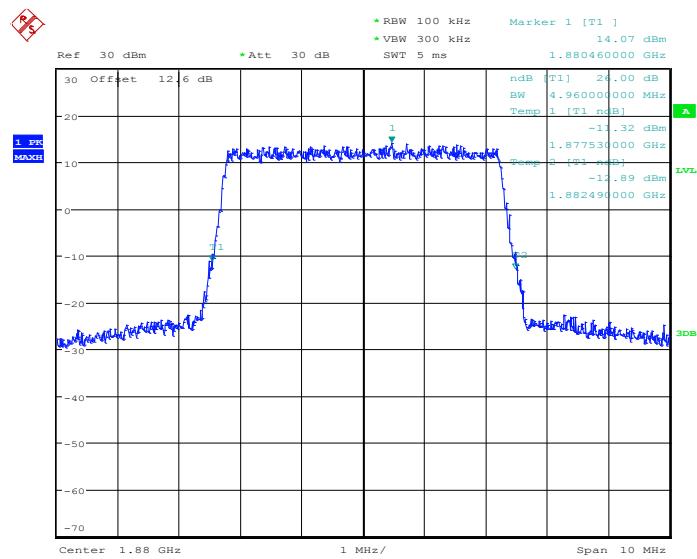
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:40:23

26dB Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:40:50

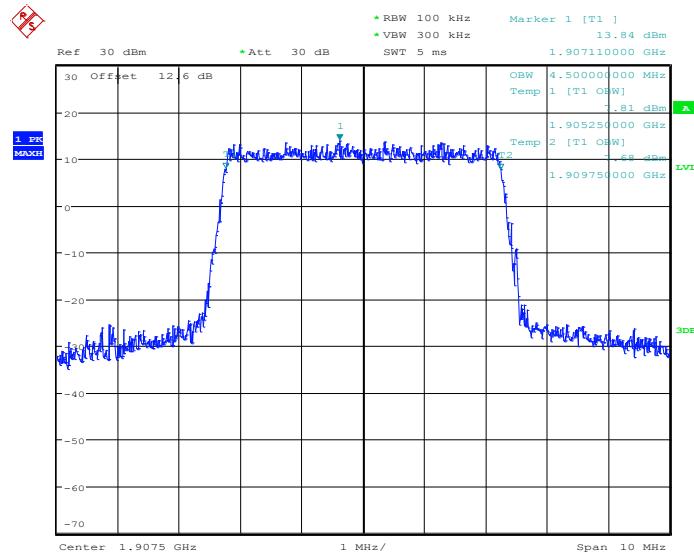
Report No. : FG372301-01B

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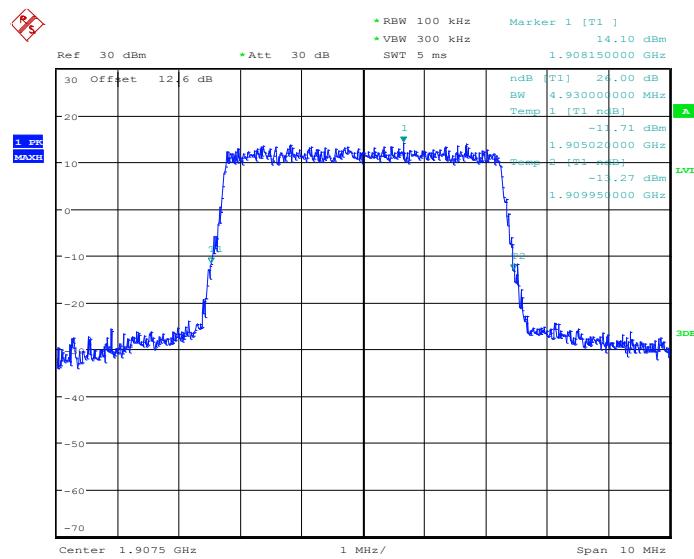
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 19175



Date: 9.JAN.2014 15:43:05

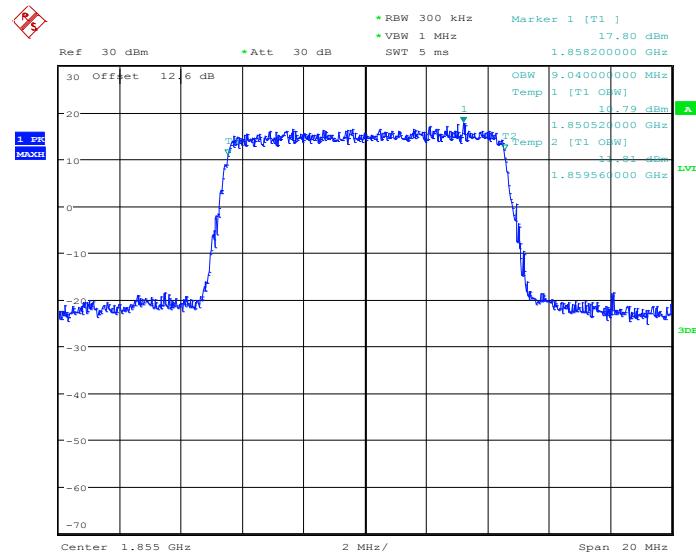
26dB Bandwidth Plot on Channel 19175



Date: 9.JAN.2014 15:43:32

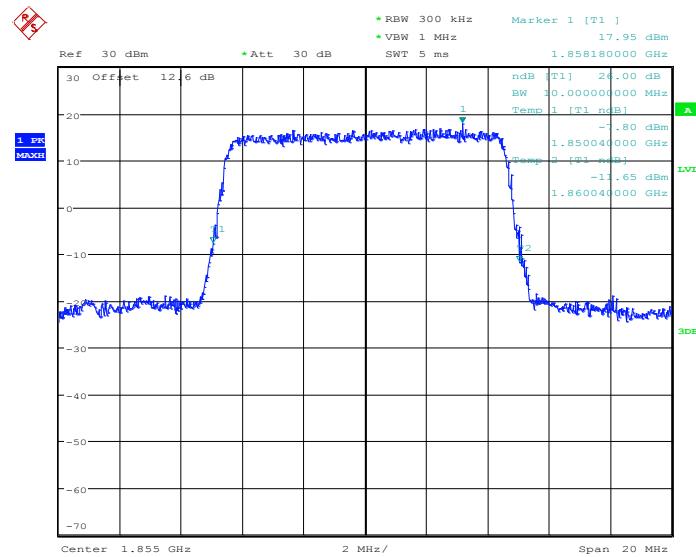
Band :	LTE Band 2	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18650



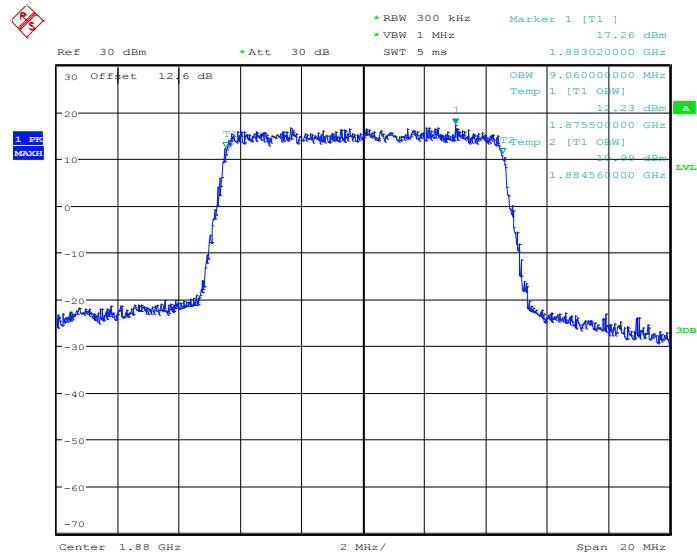
Date: 9.JAN.2014 15:45:39

26dB Bandwidth Plot on Channel 18650



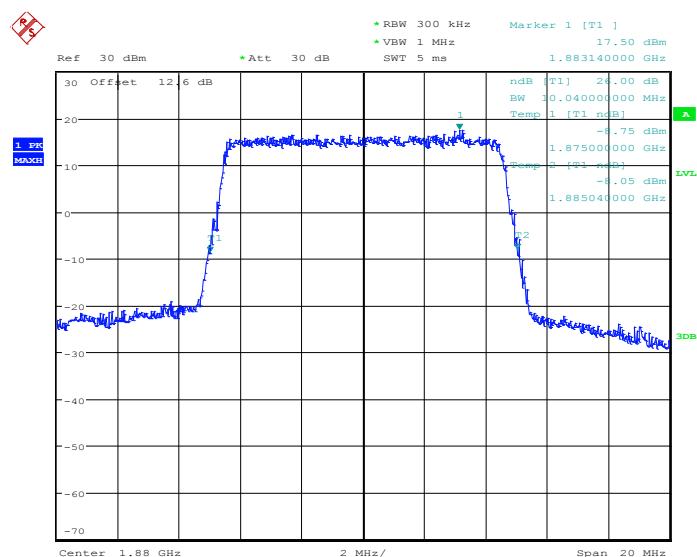
Date: 9.JAN.2014 15:46:05

99% Occupied Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:48:21

26dB Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:48:46

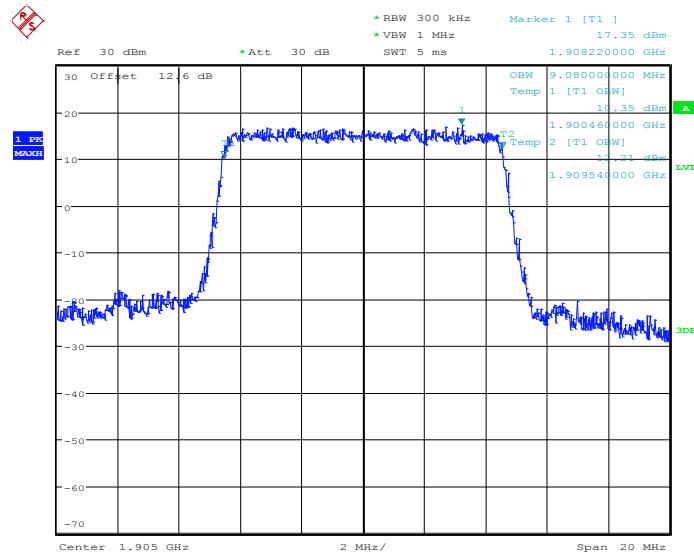
Report No. : FG372301-01B

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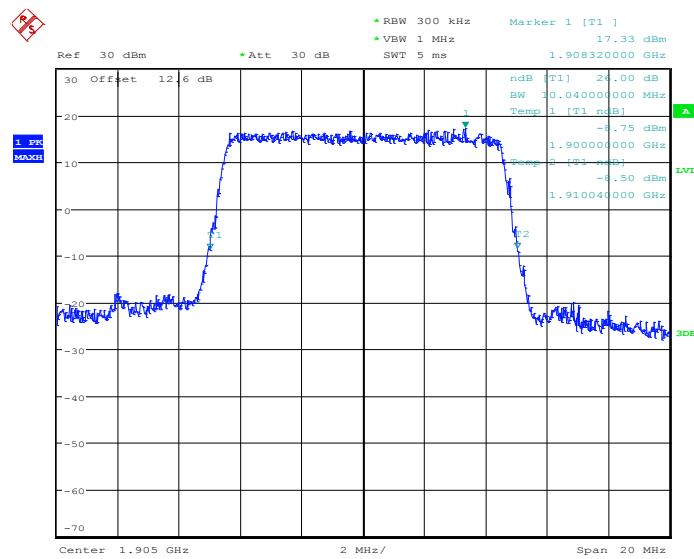
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 19150



Date: 9.JAN.2014 15:51:03

26dB Bandwidth Plot on Channel 19150



Date: 9.JAN.2014 15:51:28

Report No. : FG372301-01B

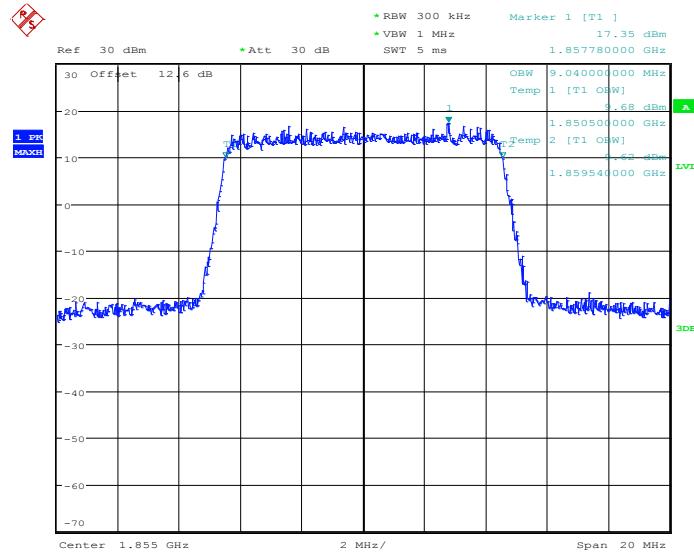
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Report Template No.: BU5-FGLTE Version 1.0

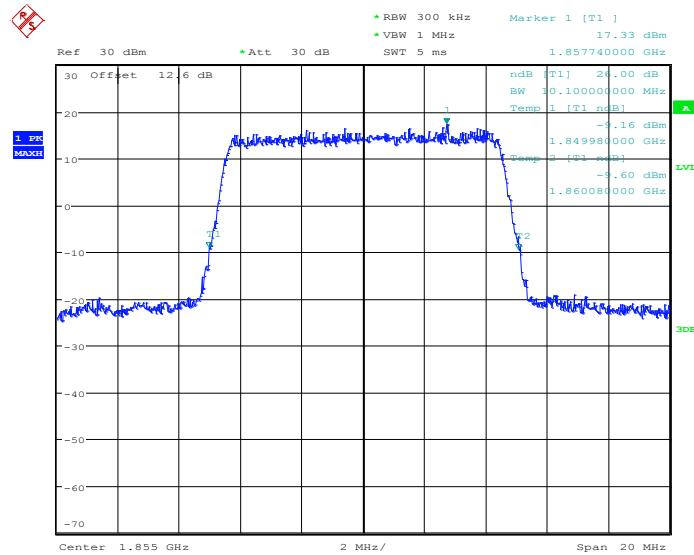
Band :	LTE Band 2	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18650



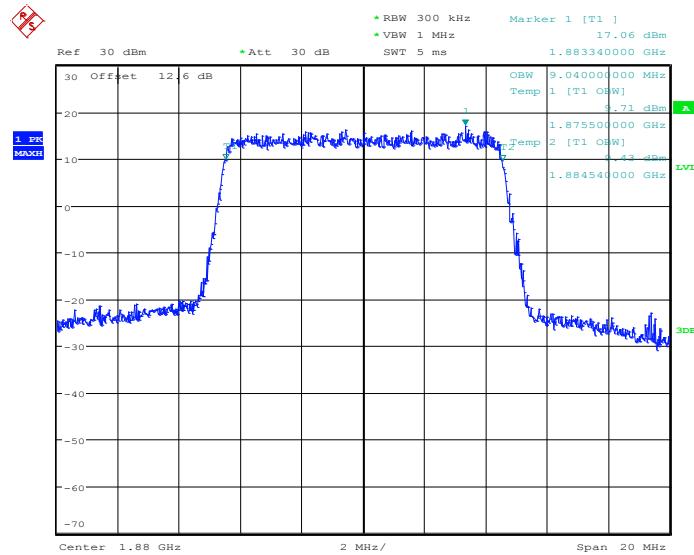
Date: 9.JAN.2014 15:45:51

26dB Bandwidth Plot on Channel 18650



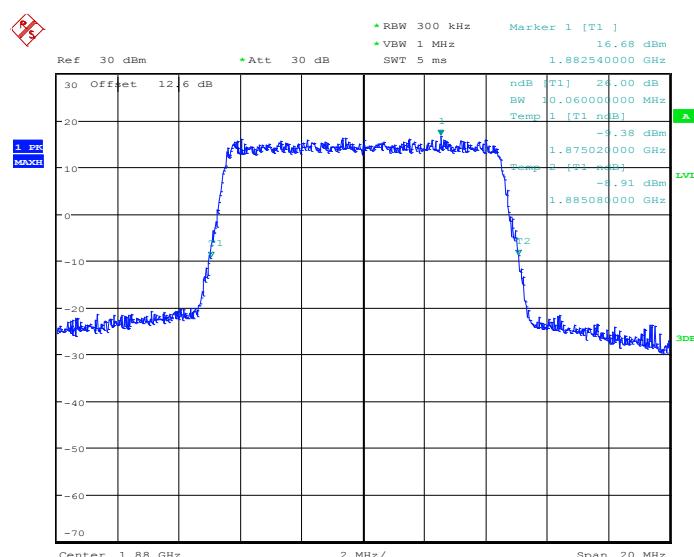
Date: 9.JAN.2014 15:46:18

99% Occupied Bandwidth Plot on Channel 18900



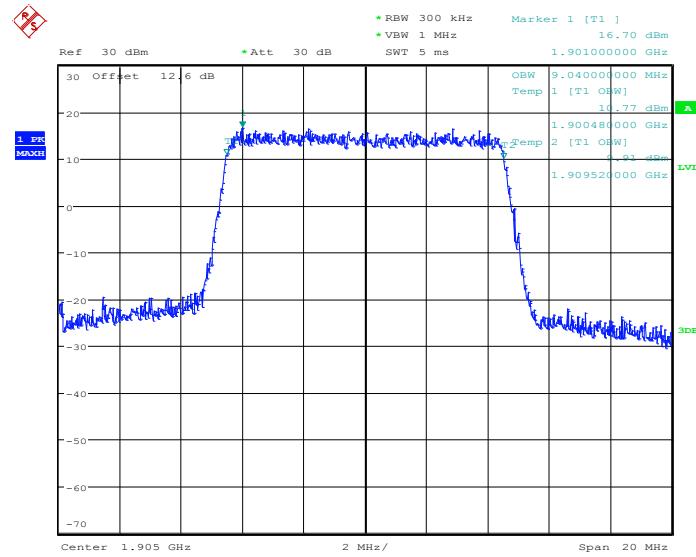
Date: 9.JAN.2014 15:48:33

26dB Bandwidth Plot on Channel 18900



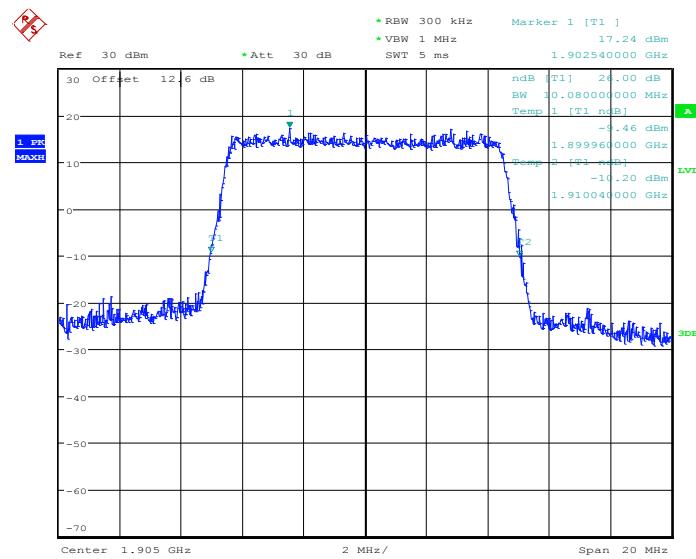
Date: 9.JAN.2014 15:49:00

99% Occupied Bandwidth Plot on Channel 19150



Date: 9.JAN.2014 15:51:15

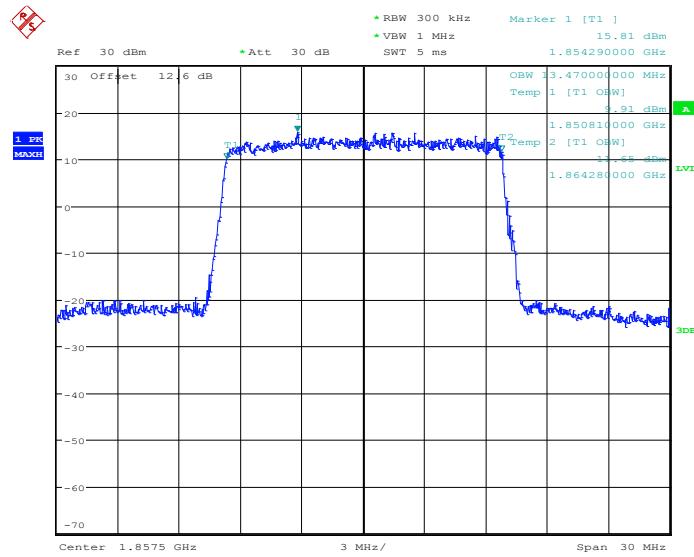
26dB Bandwidth Plot on Channel 19150



Date: 9.JAN.2014 15:51:42

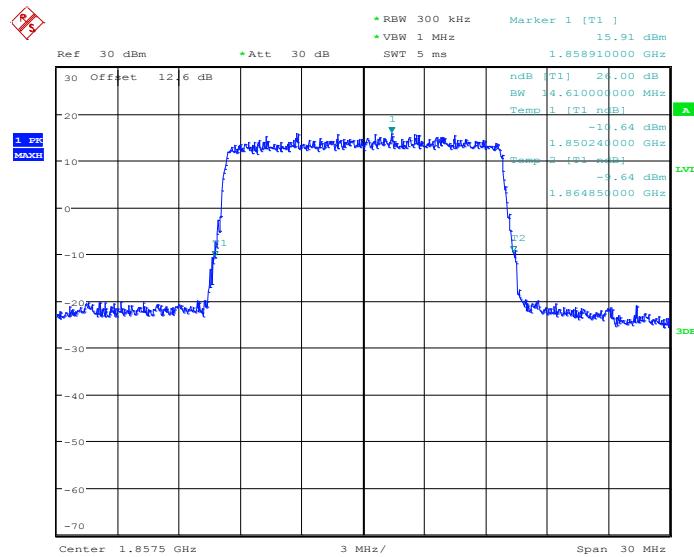
Band :	LTE Band 2	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18675



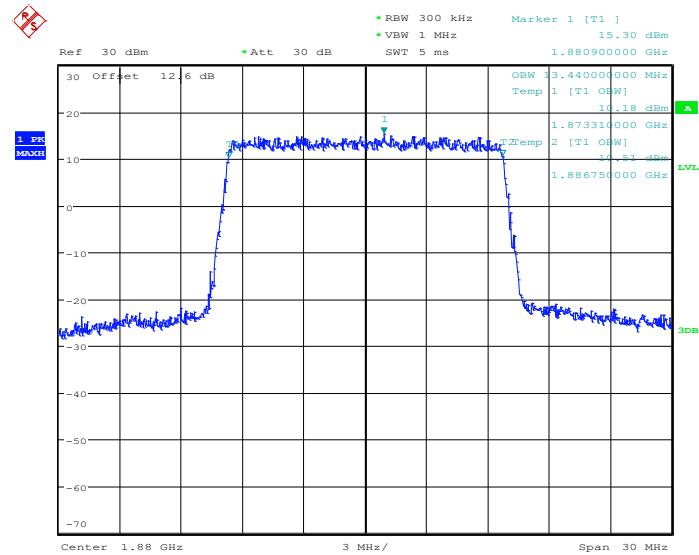
Date: 9.JAN.2014 15:53:49

26dB Bandwidth Plot on Channel 18675



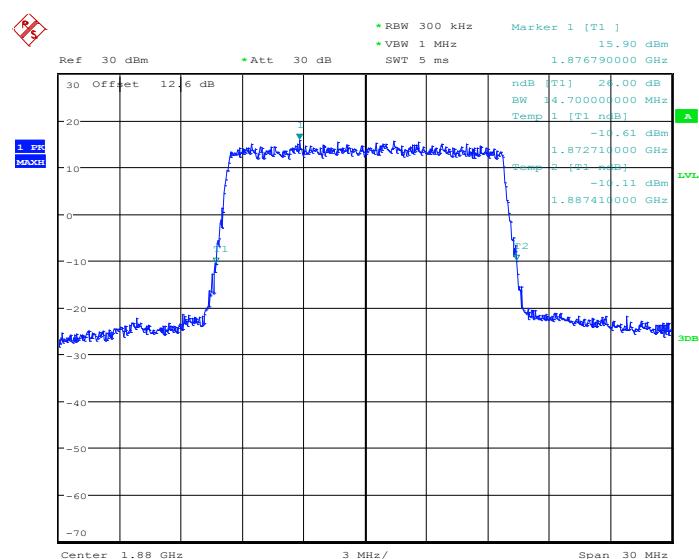
Date: 9.JAN.2014 15:54:15

99% Occupied Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:56:31

26dB Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:56:56

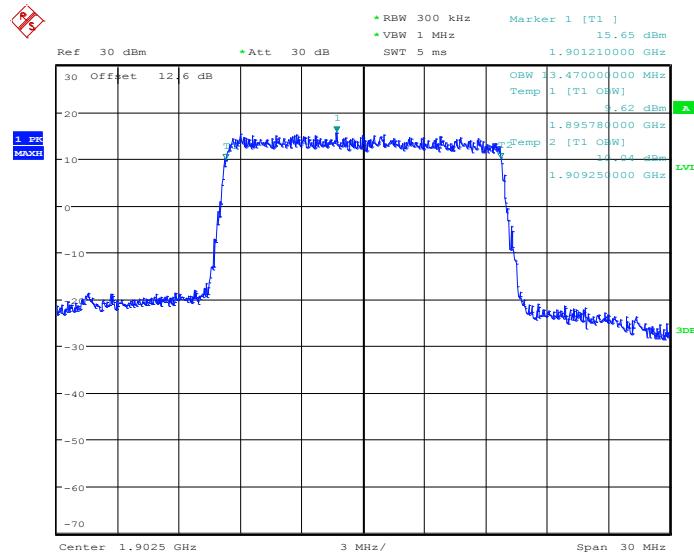
Report No. : FG372301-01B

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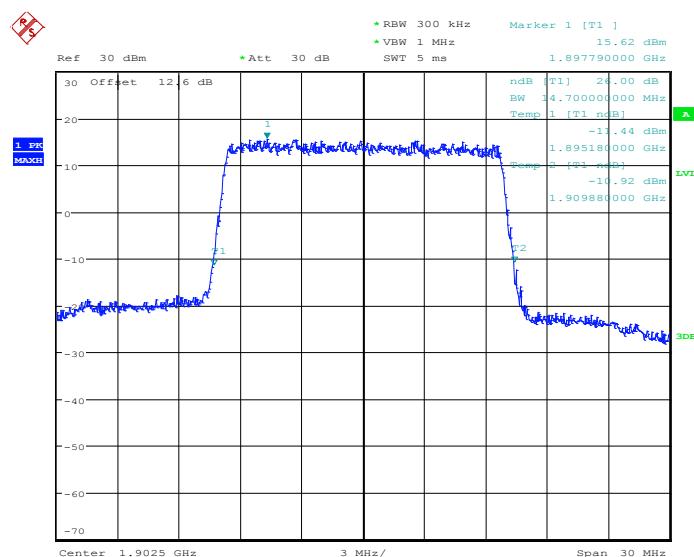
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 19125



Date: 9.JAN.2014 15:59:13

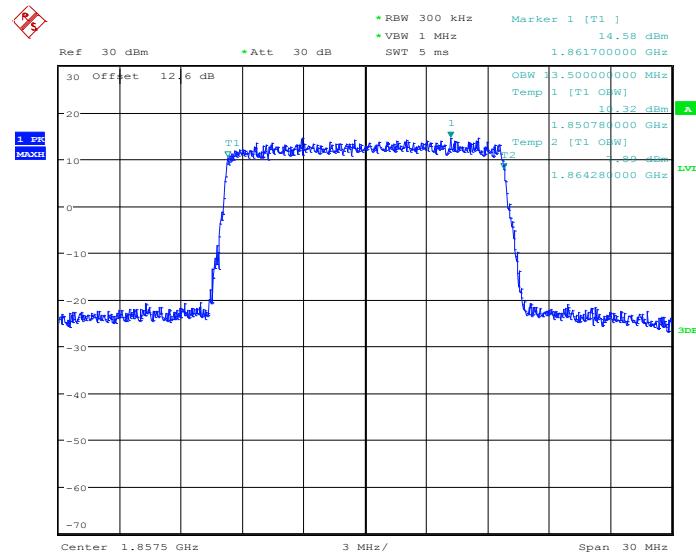
26dB Bandwidth Plot on Channel 19125



Date: 9.JAN.2014 15:59:38

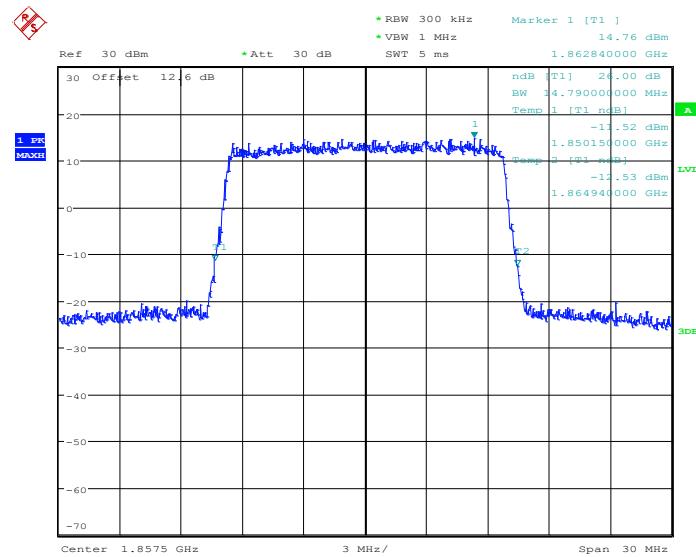
Band :	LTE Band 2	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18675



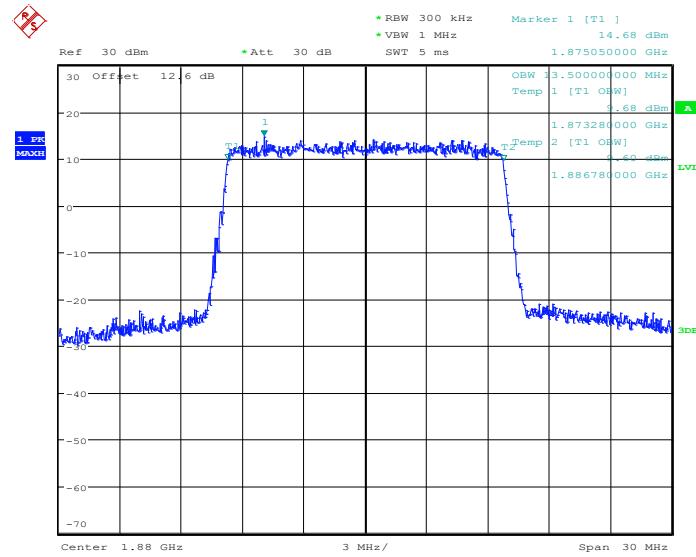
Date: 9.JAN.2014 15:54:01

26dB Bandwidth Plot on Channel 18675



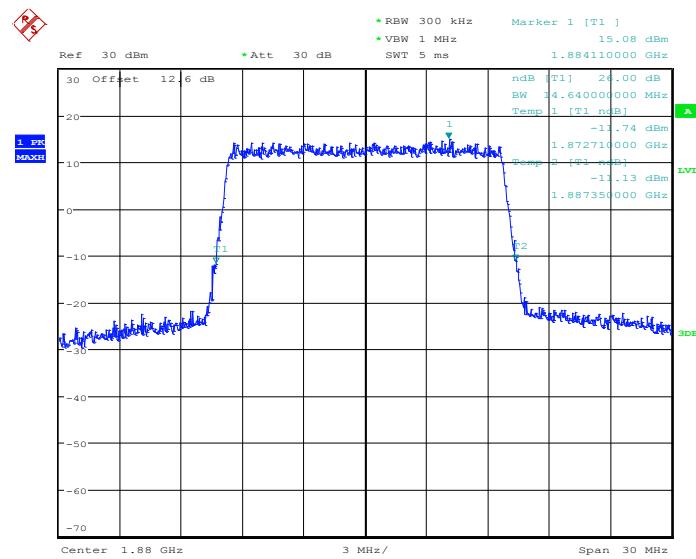
Date: 9.JAN.2014 15:54:28

99% Occupied Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:56:43

26dB Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 15:57:10

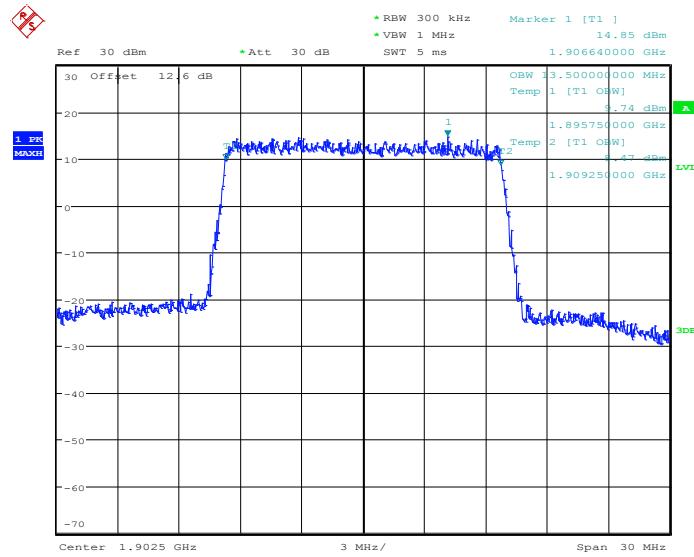
Report No. : FG372301-01B

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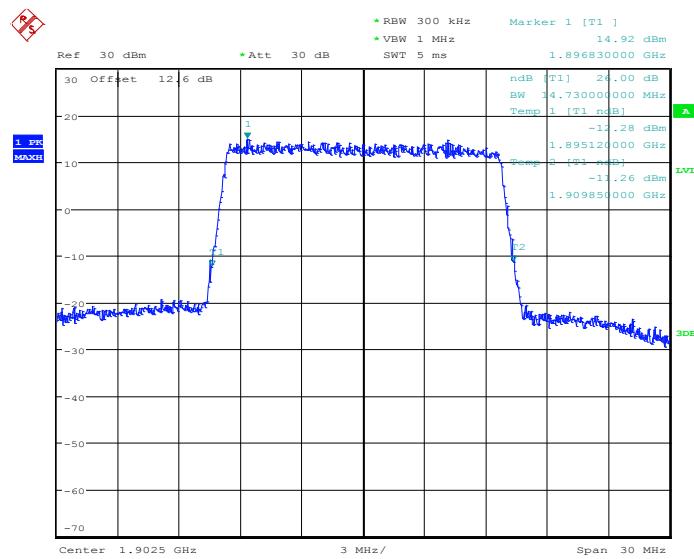
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 19125



Date: 9.JAN.2014 15:59:25

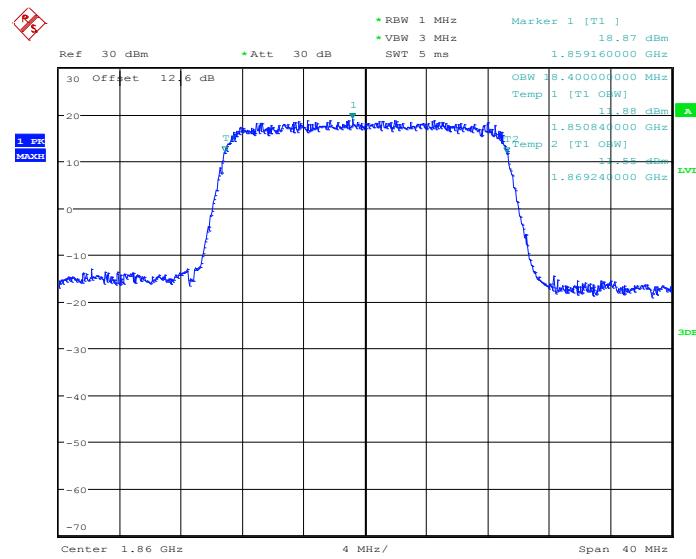
26dB Bandwidth Plot on Channel 19125



Date: 9.JAN.2014 15:59:52

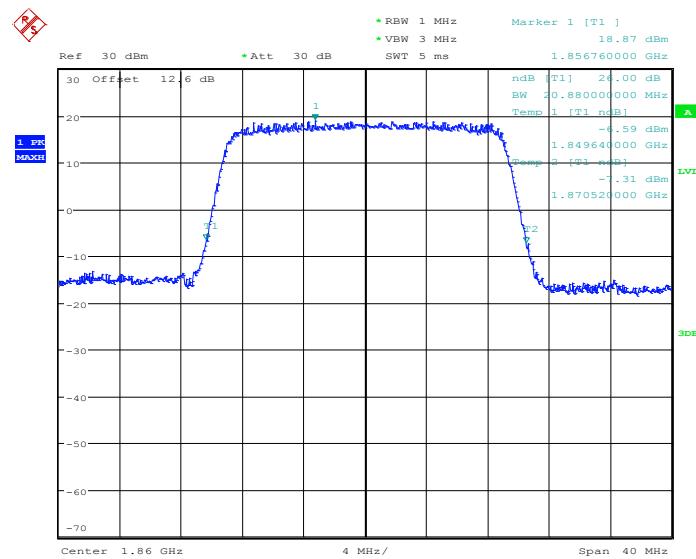
Band :	LTE Band 2	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 18700



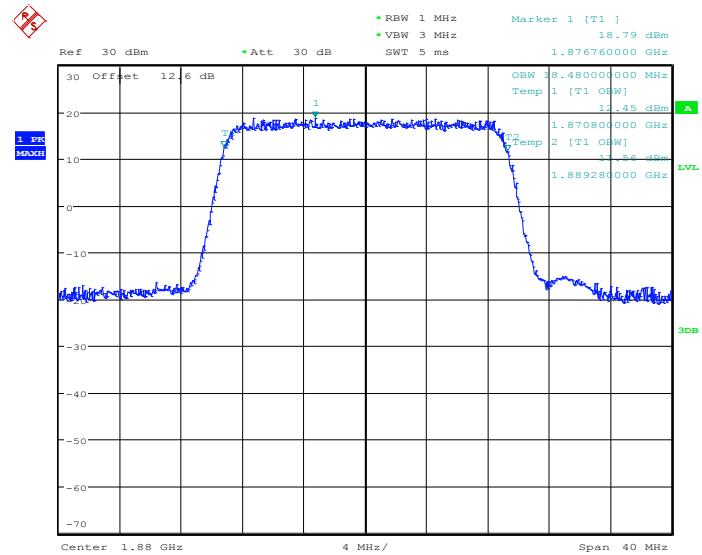
Date: 9.JAN.2014 16:01:59

26dB Bandwidth Plot on Channel 18700



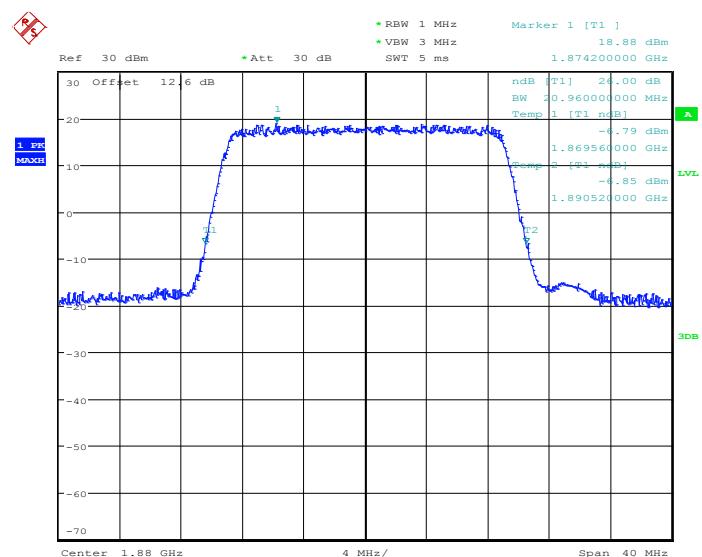
Date: 9.JAN.2014 16:02:24

99% Occupied Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 16:04:41

26dB Bandwidth Plot on Channel 18900



Date: 9.JAN.2014 16:05:06

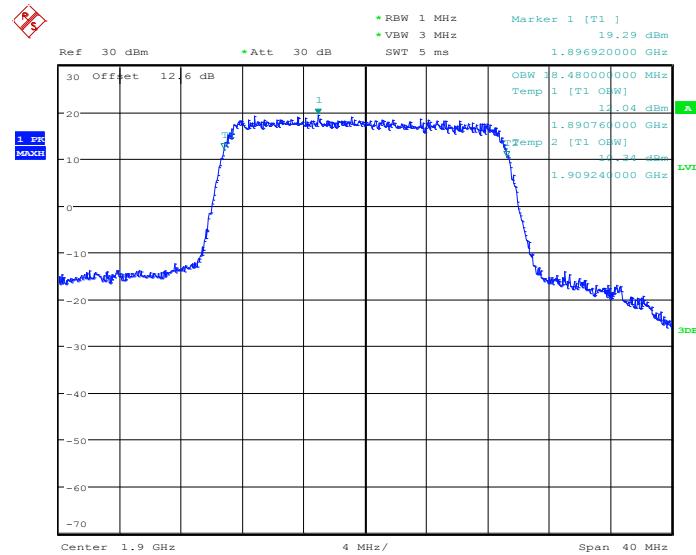
Report No. : FG372301-01B

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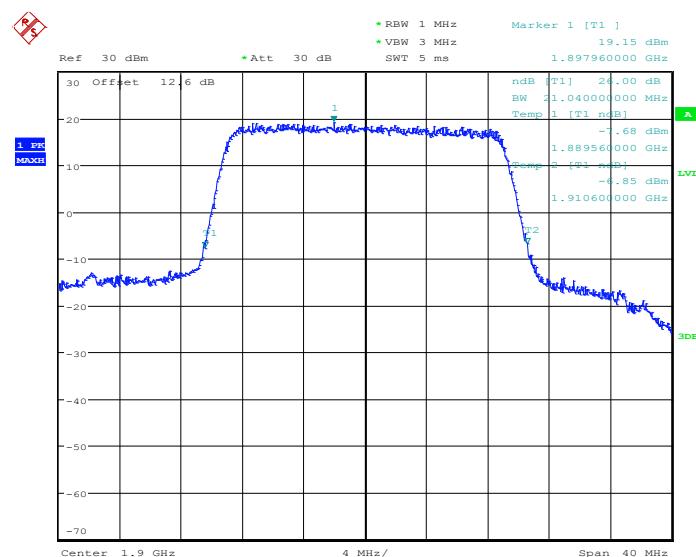
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 19100



Date: 9.JAN.2014 16:07:23

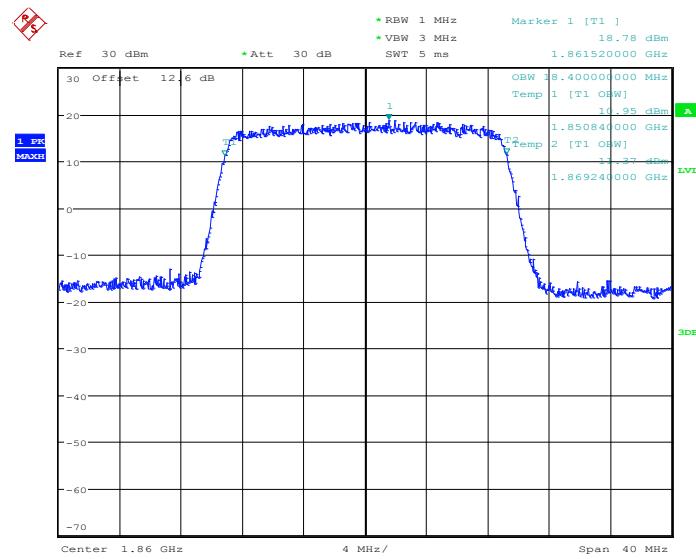
26dB Bandwidth Plot on Channel 19100



Date: 9.JAN.2014 16:07:48

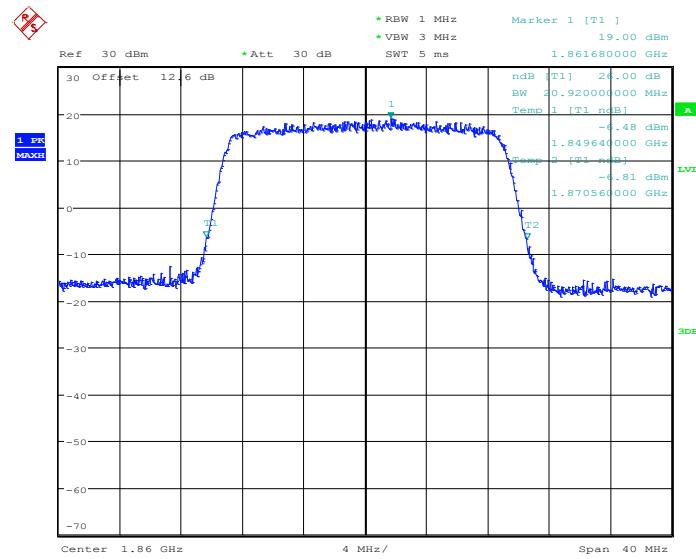
Band :	LTE Band 2	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 18700



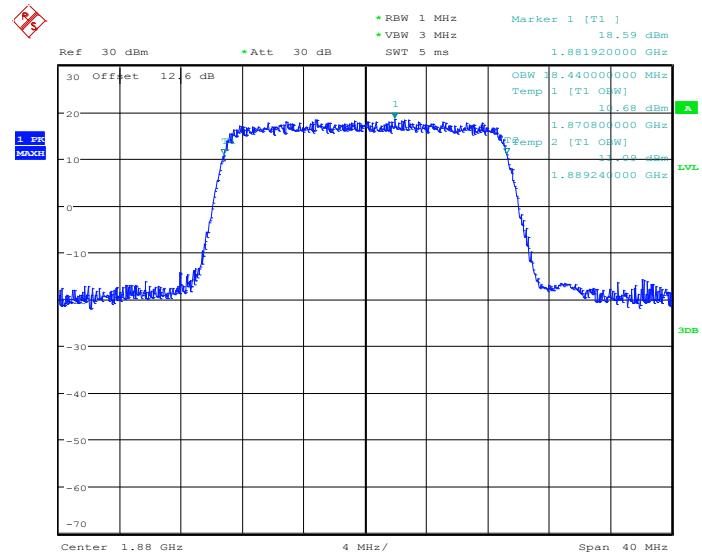
Date: 9.JAN.2014 16:02:11

26dB Bandwidth Plot on Channel 18700



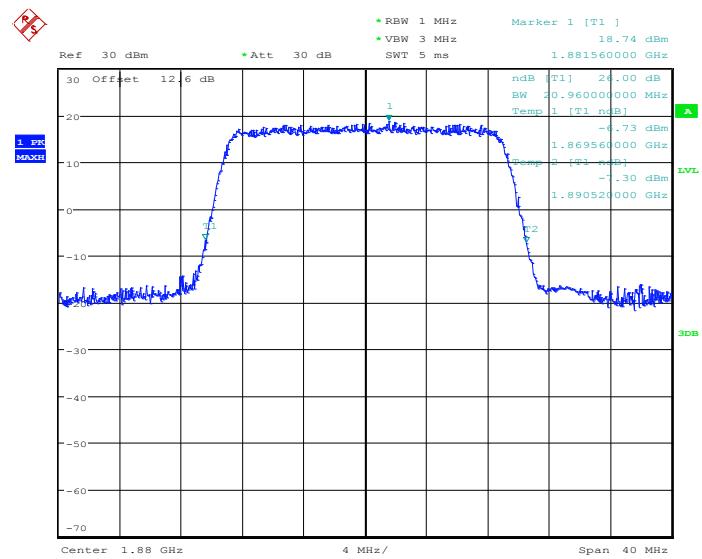
Date: 9.JAN.2014 16:02:38

99% Occupied Bandwidth Plot on Channel 18900



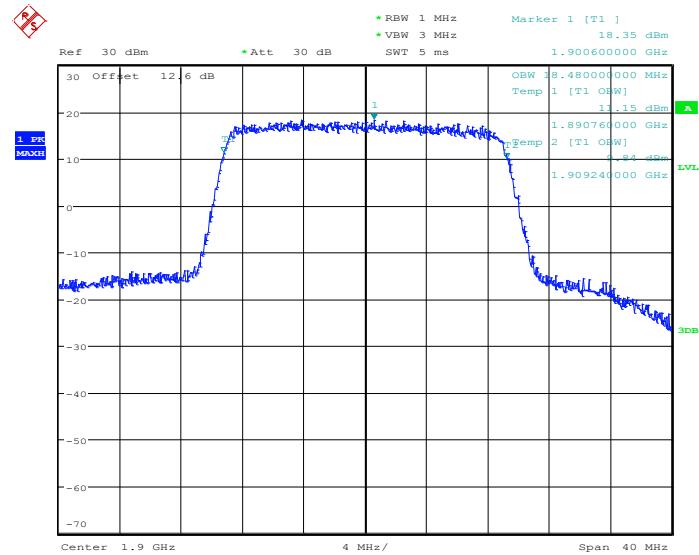
Date: 9.JAN.2014 16:04:53

26dB Bandwidth Plot on Channel 18900



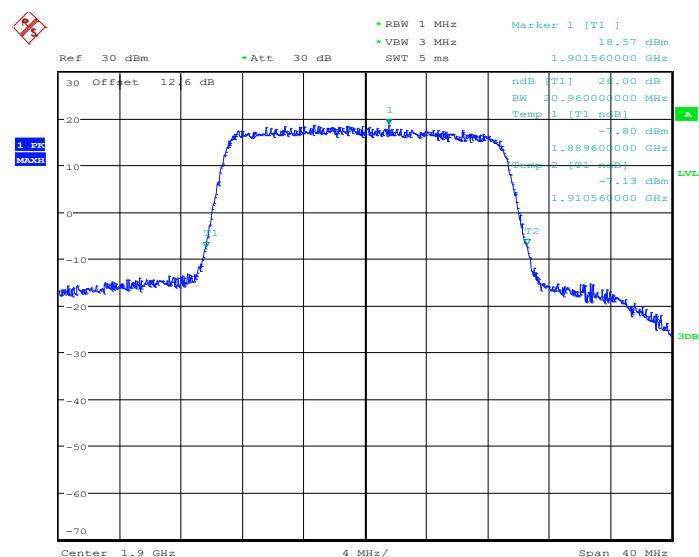
Date: 9.JAN.2014 16:05:20

99% Occupied Bandwidth Plot on Channel 19100



Date: 9.JAN.2014 16:07:35

26dB Bandwidth Plot on Channel 19100



Date: 9.JAN.2014 16:08:02

Report No. : FG372301-01B

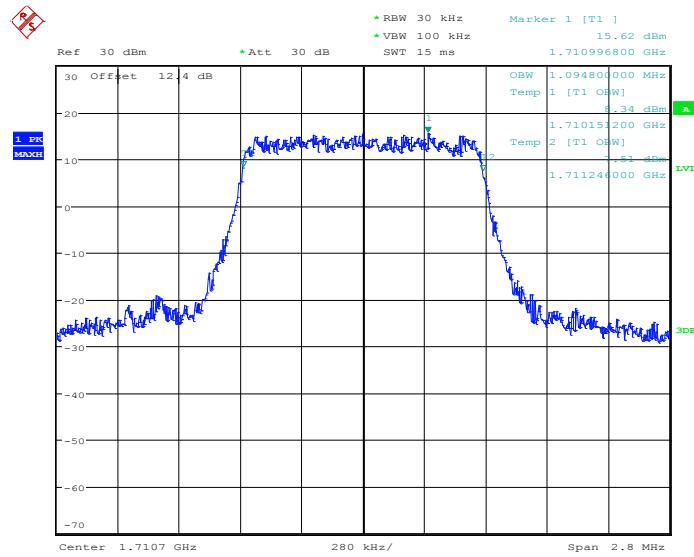
Report Version : Rev. 02

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Report Template No.: BU5-FGLTE Version 1.0

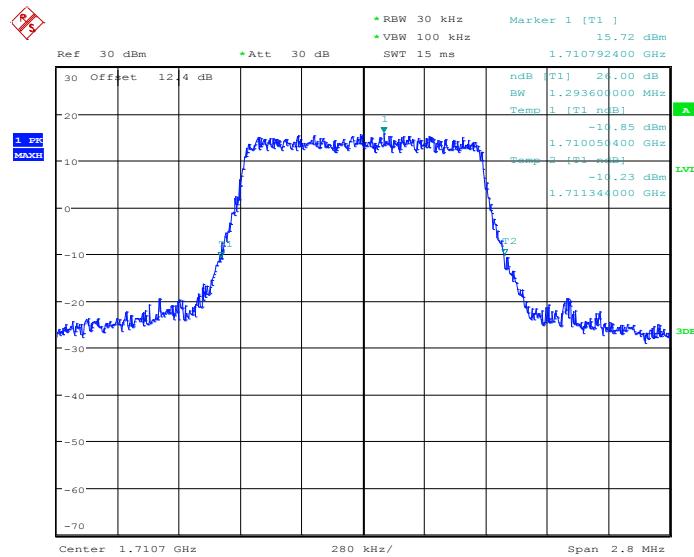
Band :	LTE Band 4	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19957



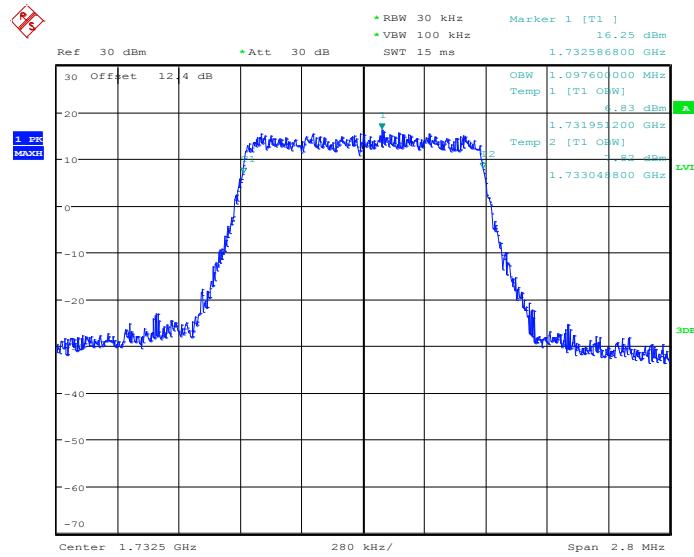
Date: 9.JAN.2014 16:17:36

26dB Bandwidth Plot on Channel 19957



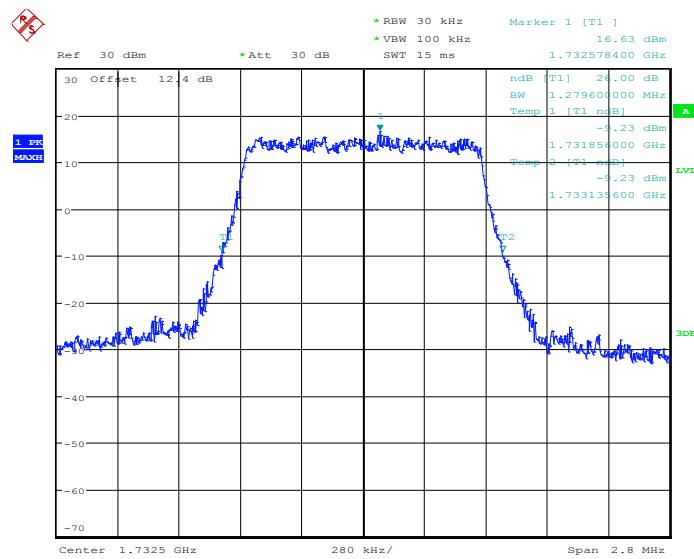
Date: 9.JAN.2014 16:18:02

99% Occupied Bandwidth Plot on Channel 20175



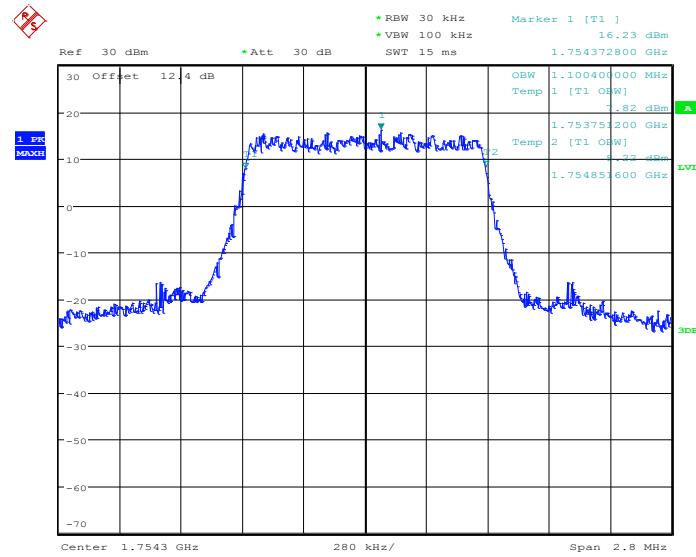
Date: 9.JAN.2014 16:20:18

26dB Bandwidth Plot on Channel 20175



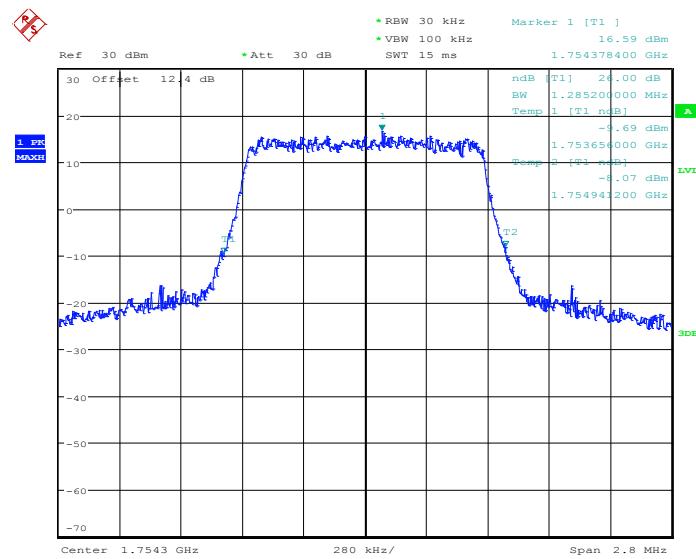
Date: 9.JAN.2014 16:20:43

99% Occupied Bandwidth Plot on Channel 20393



Date: 9.JAN.2014 16:23:00

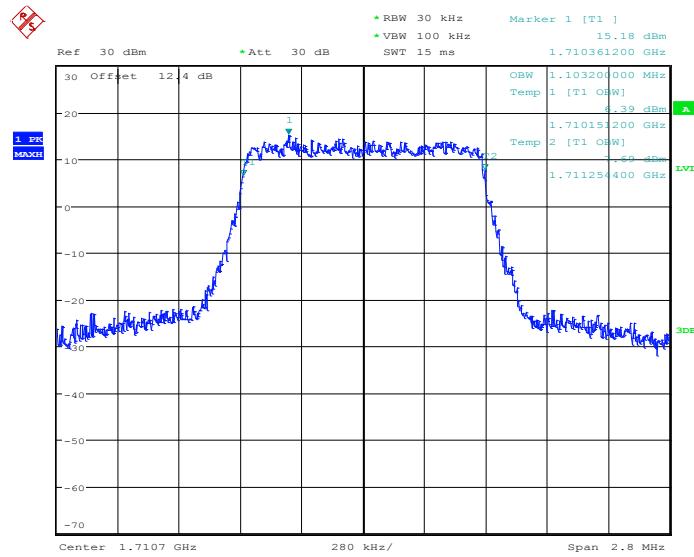
26dB Bandwidth Plot on Channel 20393



Date: 9.JAN.2014 16:23:25

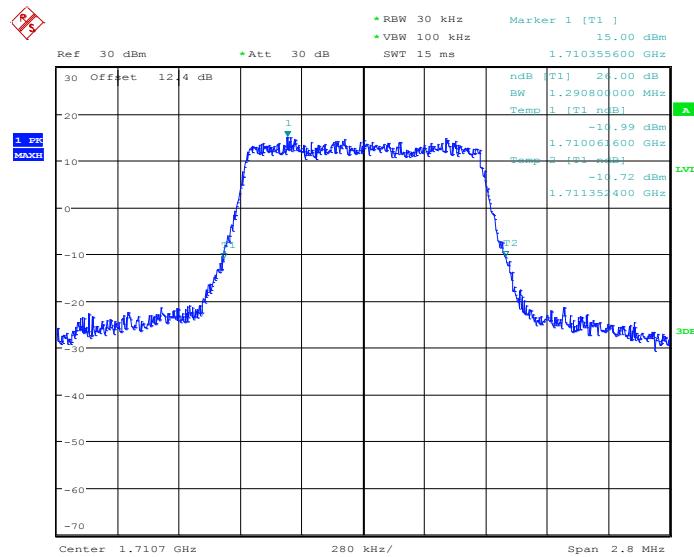
Band :	LTE Band 4	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19957



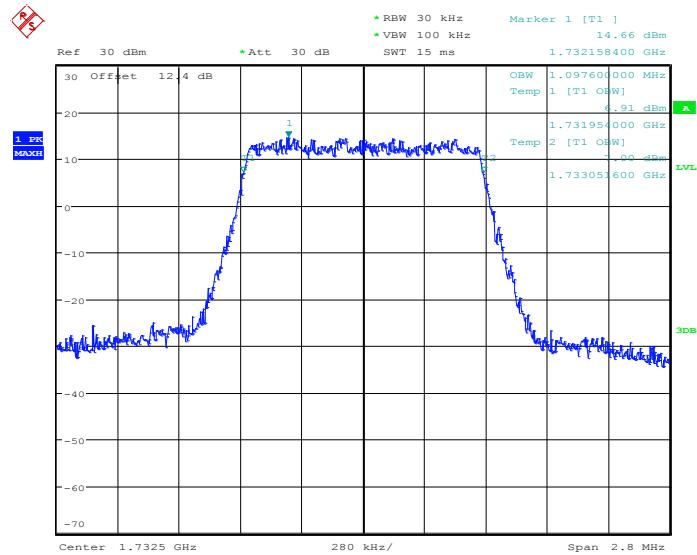
Date: 9.JAN.2014 16:17:48

26dB Bandwidth Plot on Channel 19957



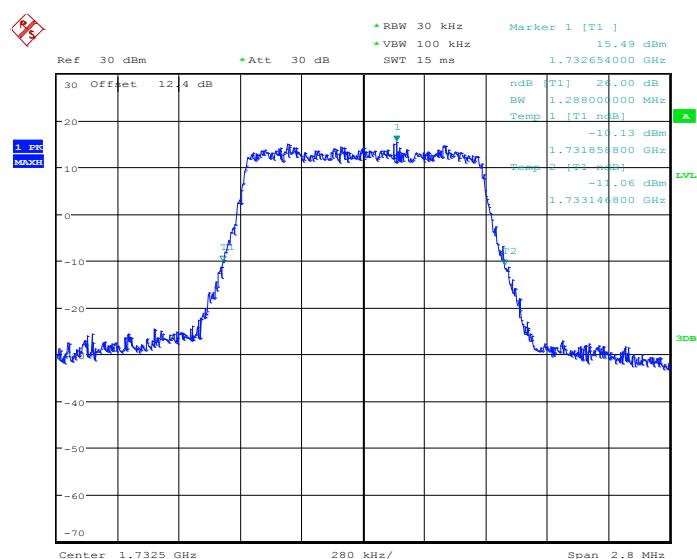
Date: 9.JAN.2014 16:18:15

99% Occupied Bandwidth Plot on Channel 20175



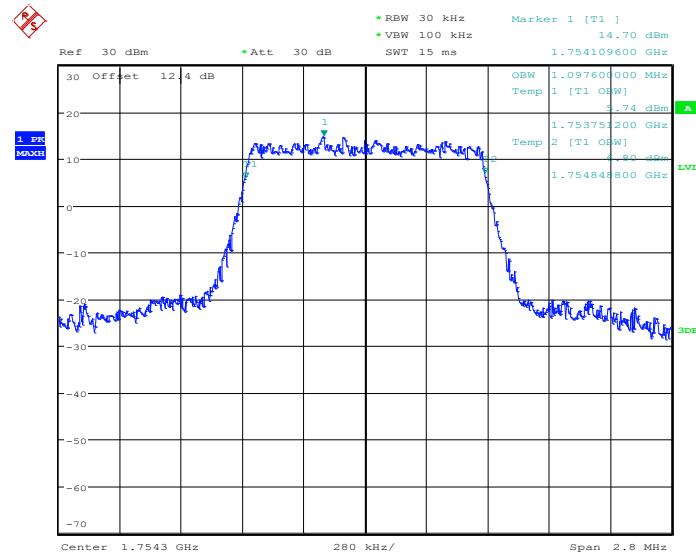
Date: 9.JAN.2014 16:20:30

26dB Bandwidth Plot on Channel 20175



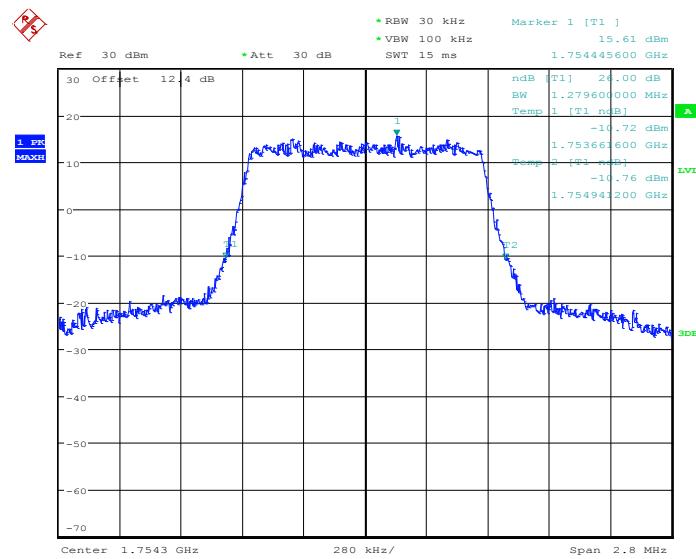
Date: 9.JAN.2014 16:20:57

99% Occupied Bandwidth Plot on Channel 20393



Date: 9.JAN.2014 16:23:11

26dB Bandwidth Plot on Channel 20393



Date: 9.JAN.2014 16:23:38

Report No. : FG372301-01B

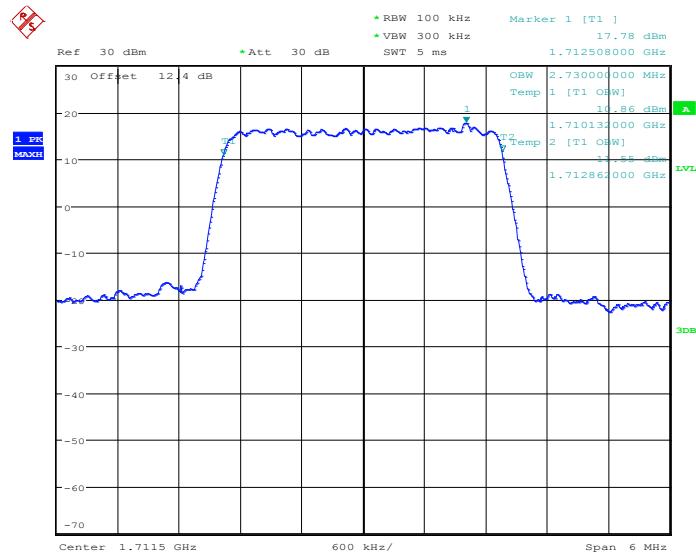
Report Version : Rev. 02

Page Number : 120 of 485

Report Template No.: BU5-FGLTE Version 1.0

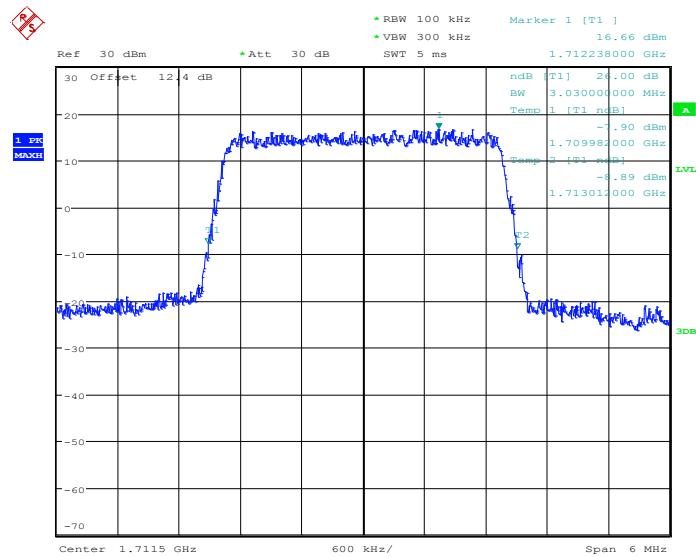
Band :	LTE Band 4	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19965



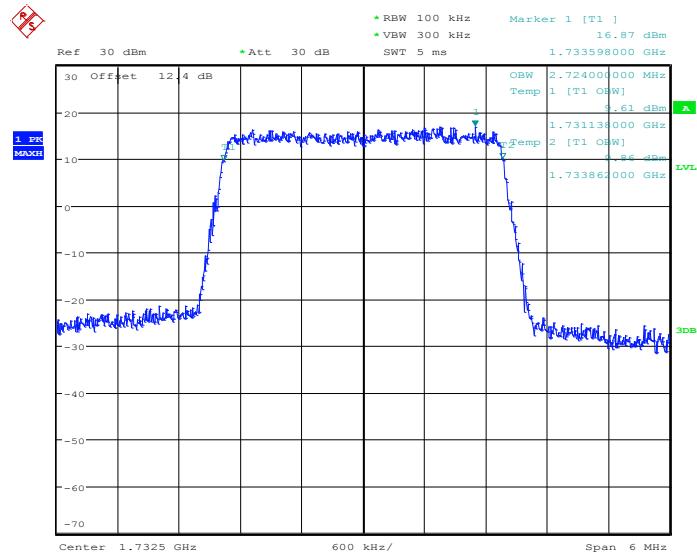
Date: 9.JAN.2014 18:15:46

26dB Bandwidth Plot on Channel 19965



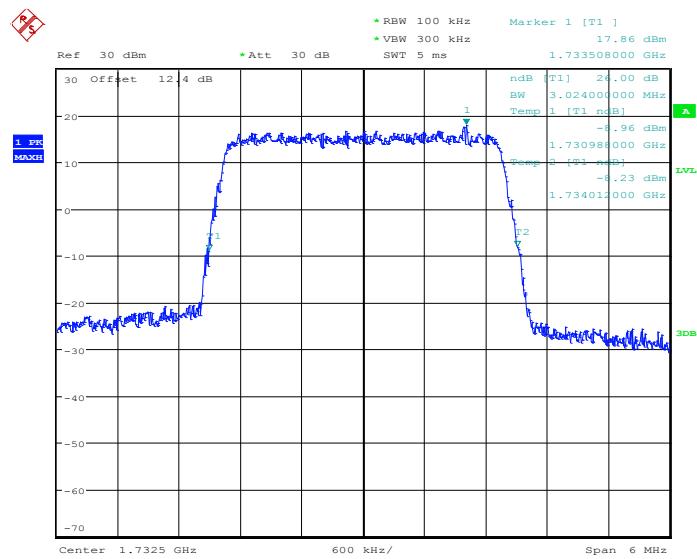
Date: 9.JAN.2014 16:29:25

99% Occupied Bandwidth Plot on Channel 20175



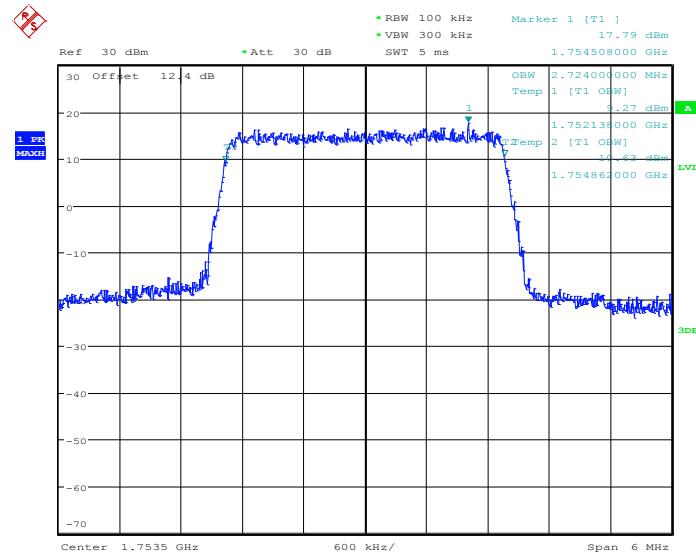
Date: 9.JAN.2014 16:31:41

26dB Bandwidth Plot on Channel 20175



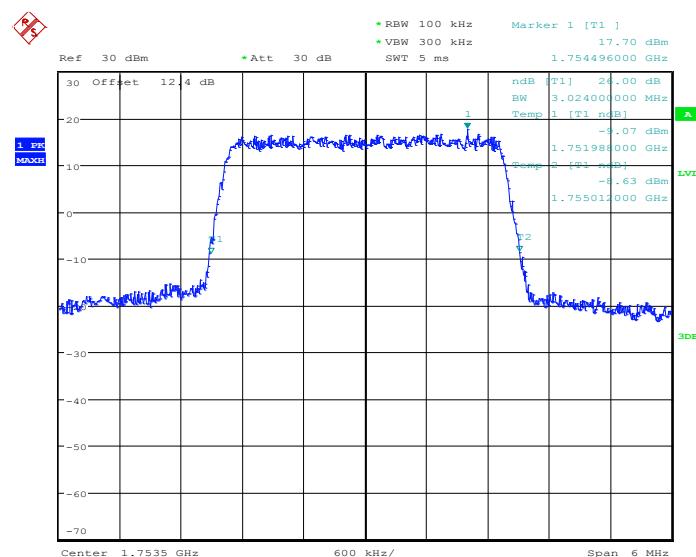
Date: 9.JAN.2014 16:32:06

99% Occupied Bandwidth Plot on Channel 20385



Date: 9.JAN.2014 16:34:23

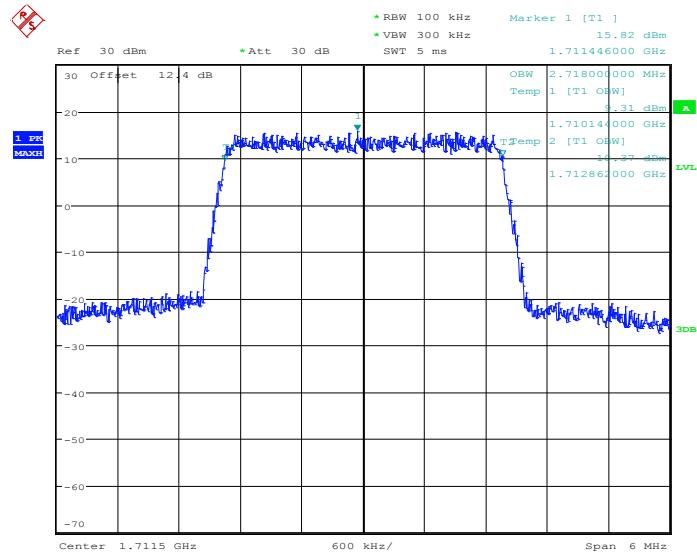
26dB Bandwidth Plot on Channel 20385



Date: 9.JAN.2014 16:34:48

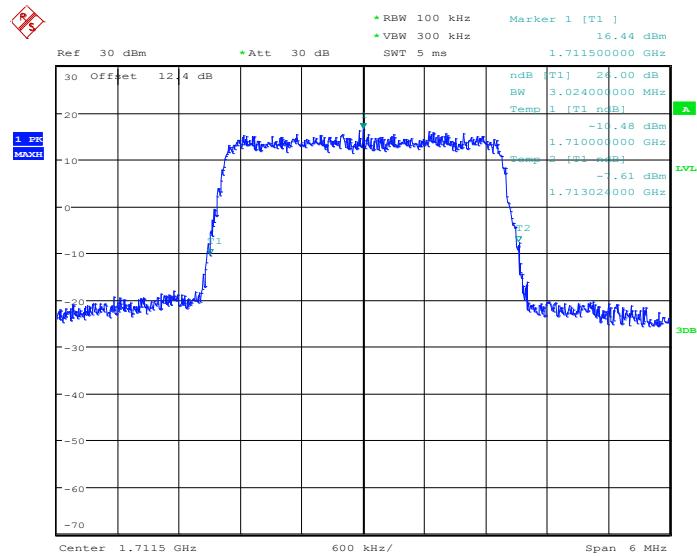
Band :	LTE Band 4	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19965



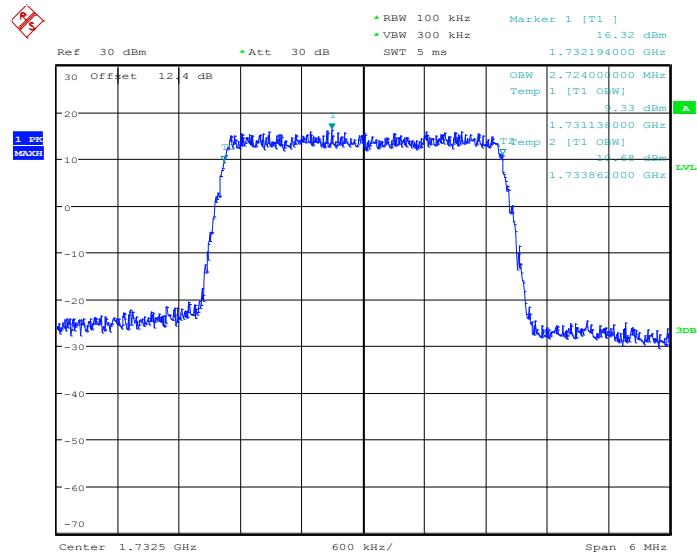
Date: 9.JAN.2014 16:29:11

26dB Bandwidth Plot on Channel 19965



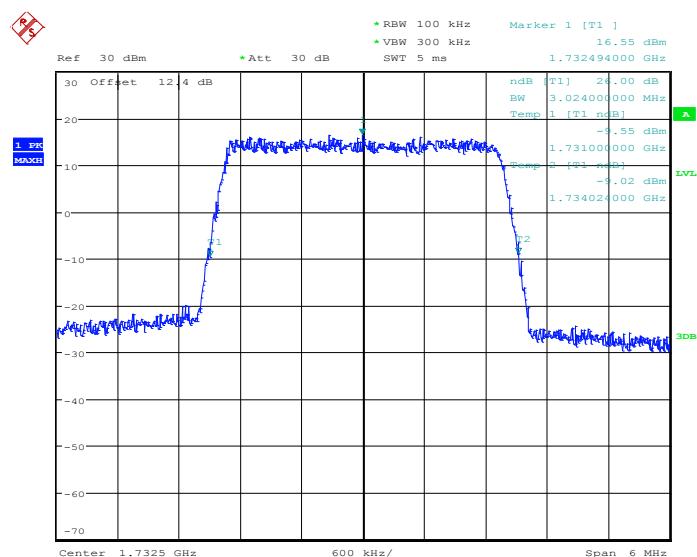
Date: 9.JAN.2014 16:29:39

99% Occupied Bandwidth Plot on Channel 20175



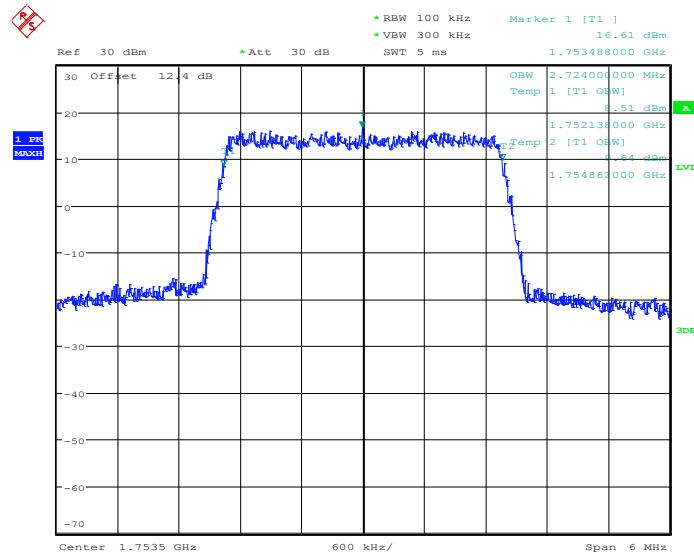
Date: 9.JAN.2014 16:31:53

26dB Bandwidth Plot on Channel 20175



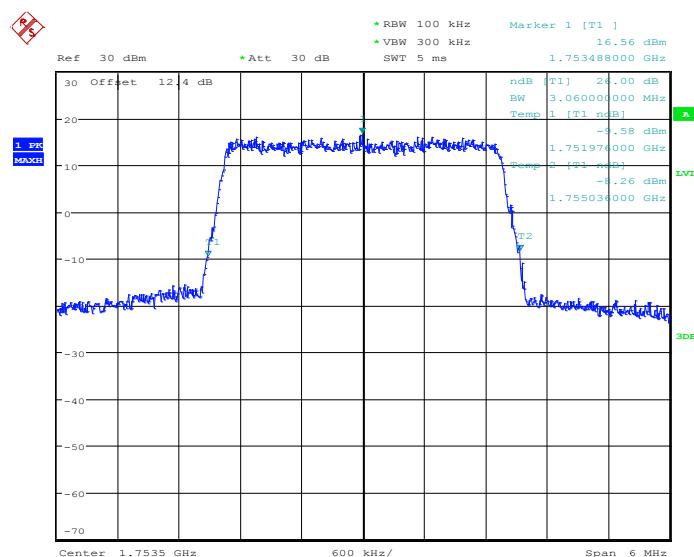
Date: 9.JAN.2014 16:32:20

99% Occupied Bandwidth Plot on Channel 20385



Date: 9.JAN.2014 16:34:34

26dB Bandwidth Plot on Channel 20385



Date: 9.JAN.2014 16:35:01

Report No. : FG372301-01B

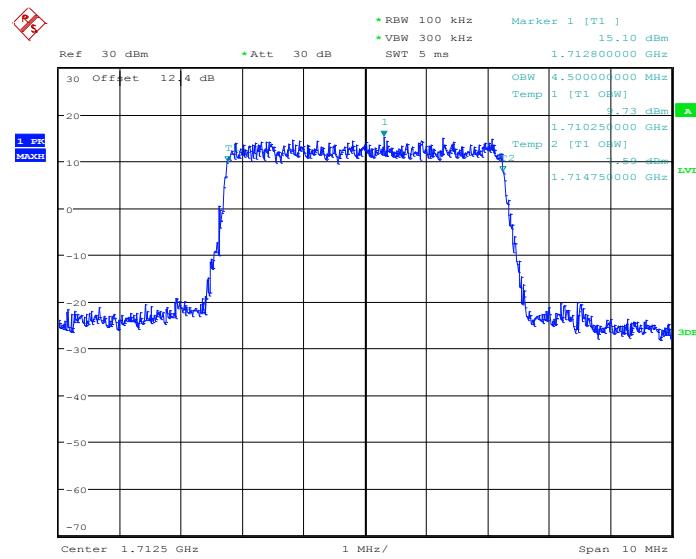
Report Version : Rev. 02

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Report Template No.: BU5-FGLTE Version 1.0

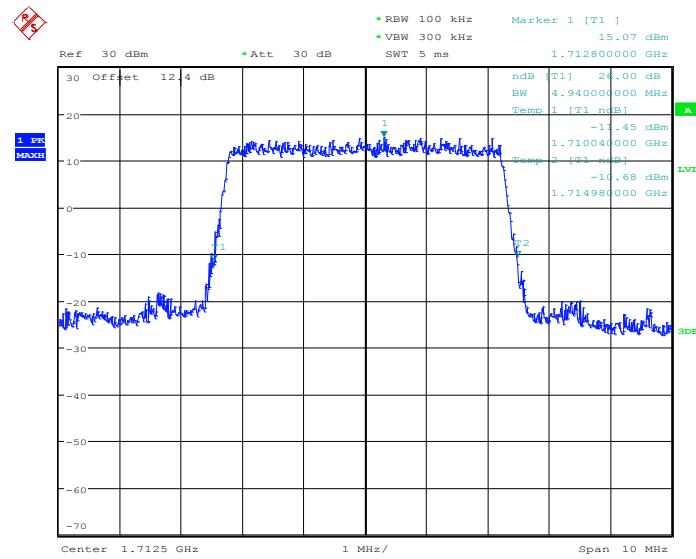
Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 19975



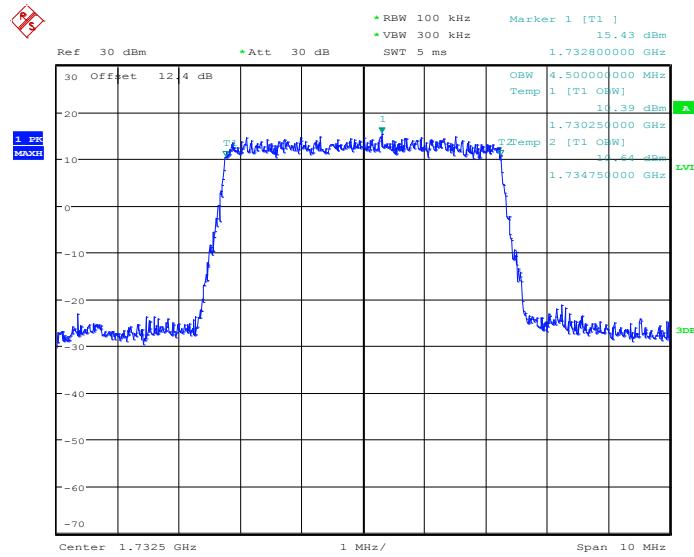
Date: 9.JAN.2014 16:37:08

26dB Bandwidth Plot on Channel 19975



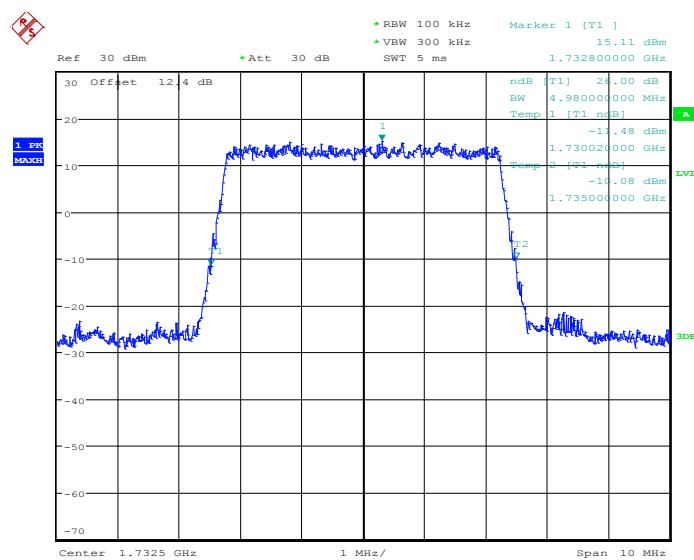
Date: 9.JAN.2014 16:37:34

99% Occupied Bandwidth Plot on Channel 20175



Date: 9.JAN.2014 16:39:50

26dB Bandwidth Plot on Channel 20175



Date: 9.JAN.2014 16:40:15

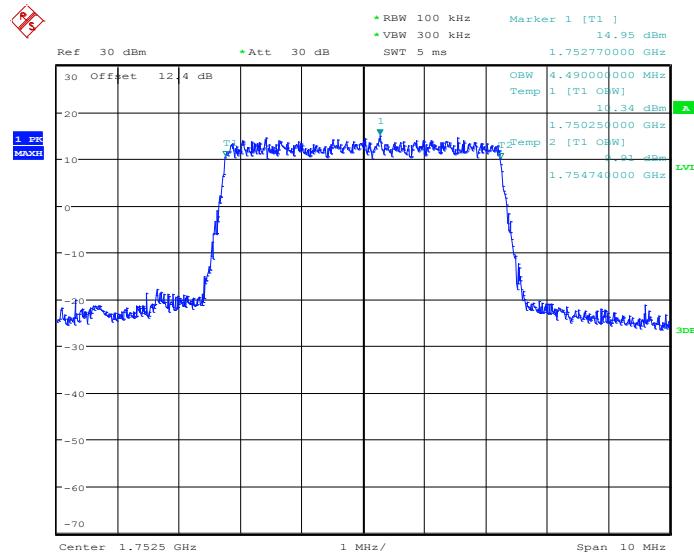
Report No. : FG372301-01B

Report Version : Rev. 02

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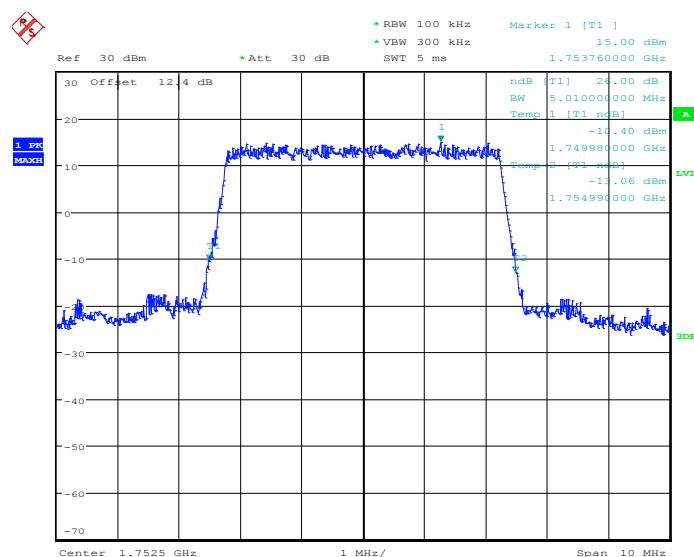
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 20375



Date: 9.JAN.2014 16:42:32

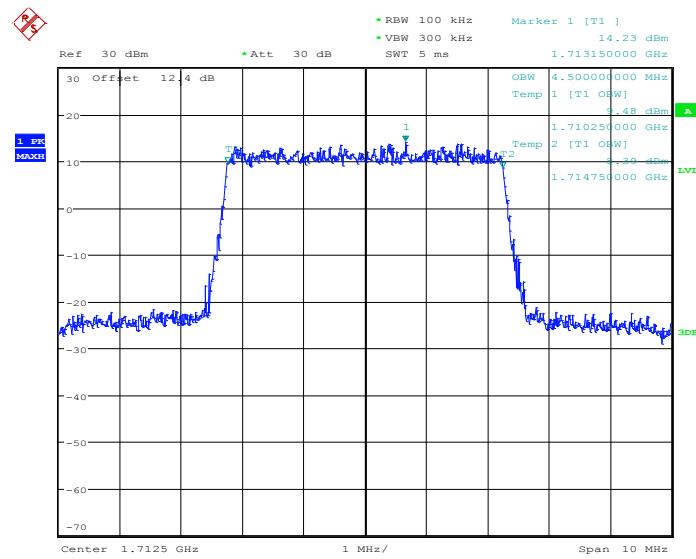
26dB Bandwidth Plot on Channel 20375



Date: 9.JAN.2014 16:42:57

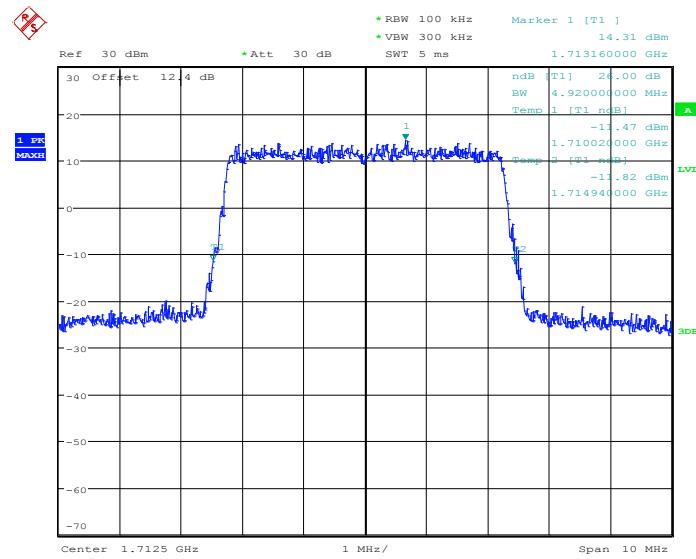
Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 19975



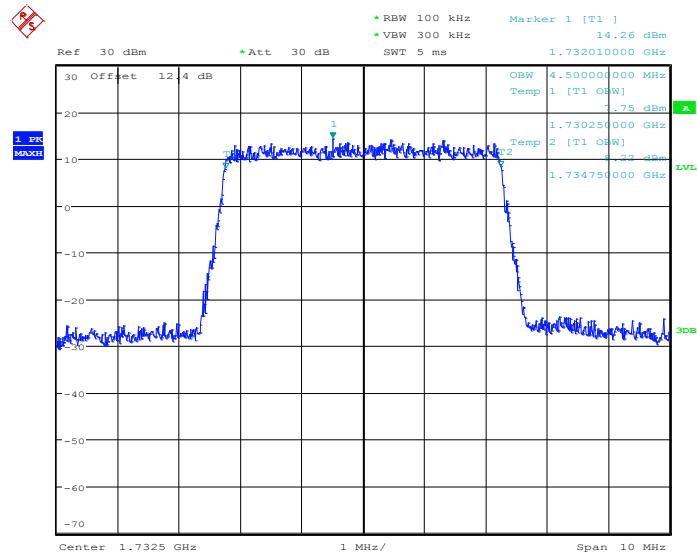
Date: 9.JAN.2014 16:37:20

26dB Bandwidth Plot on Channel 19975



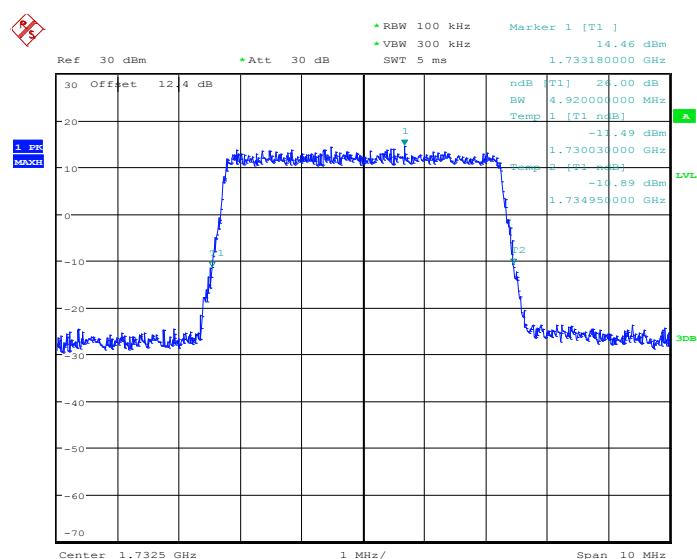
Date: 9.JAN.2014 16:37:47

99% Occupied Bandwidth Plot on Channel 20175



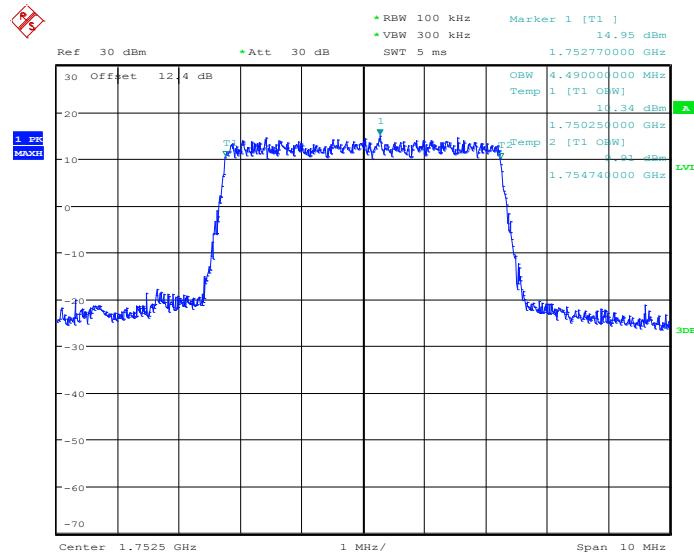
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26dB Bandwidth Plot on Channel 20175



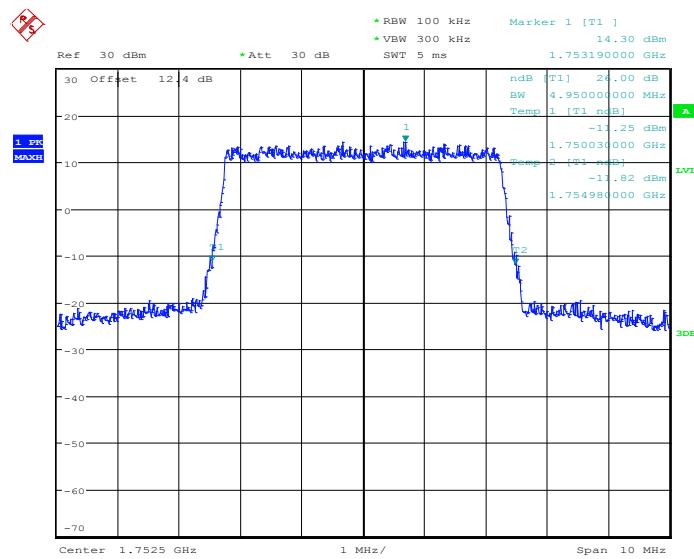
Date: 9.JAN.2014 16:40:29

99% Occupied Bandwidth Plot on Channel 20375



Date: 9.JAN.2014 16:42:32

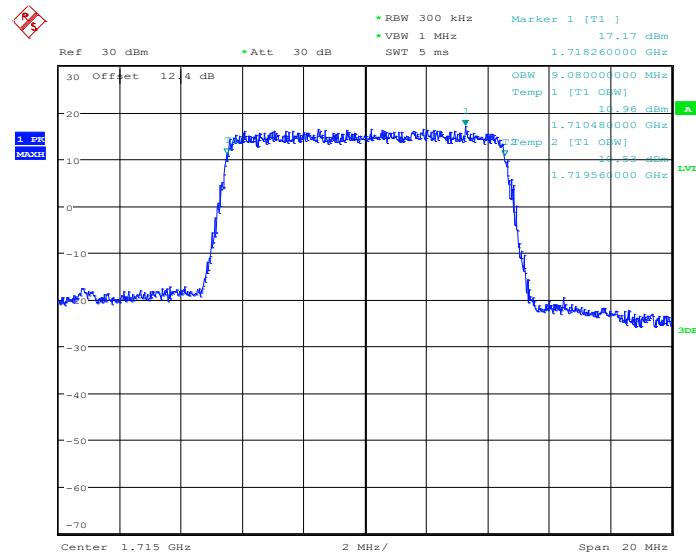
26dB Bandwidth Plot on Channel 20375



Date: 9.JAN.2014 16:43:10

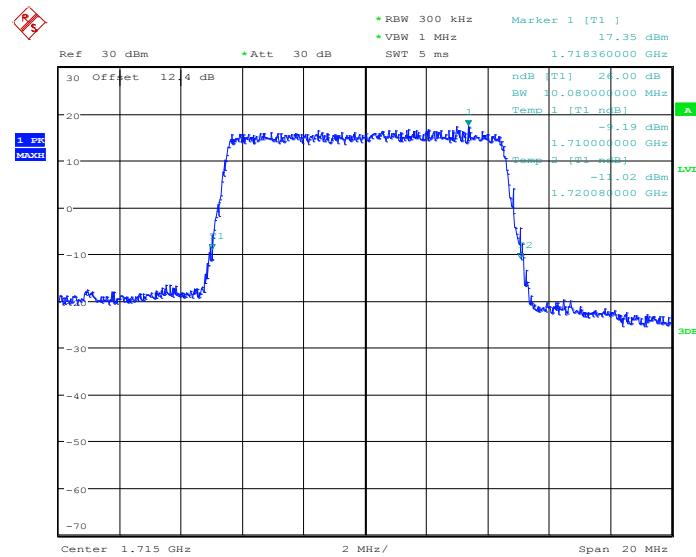
Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20000



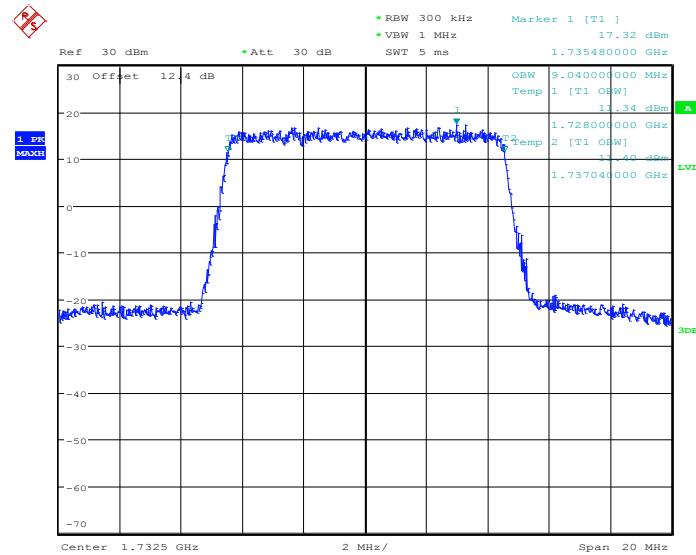
Date: 9.JAN.2014 16:45:17

26dB Bandwidth Plot on Channel 20000



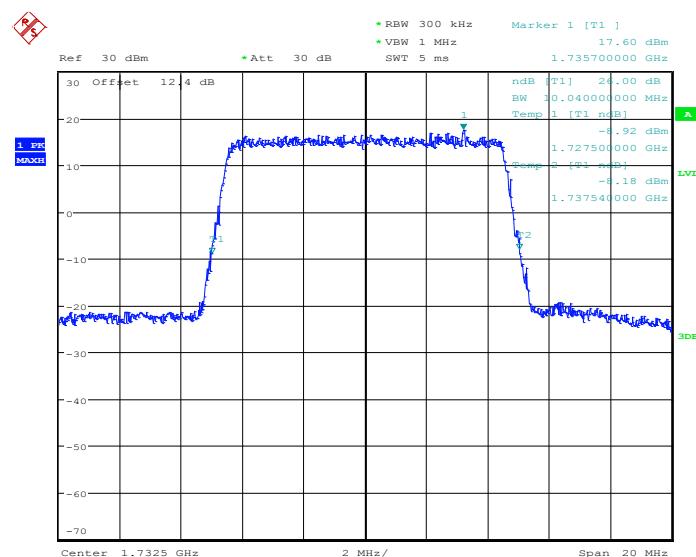
Date: 9.JAN.2014 16:45:43

99% Occupied Bandwidth Plot on Channel 20175



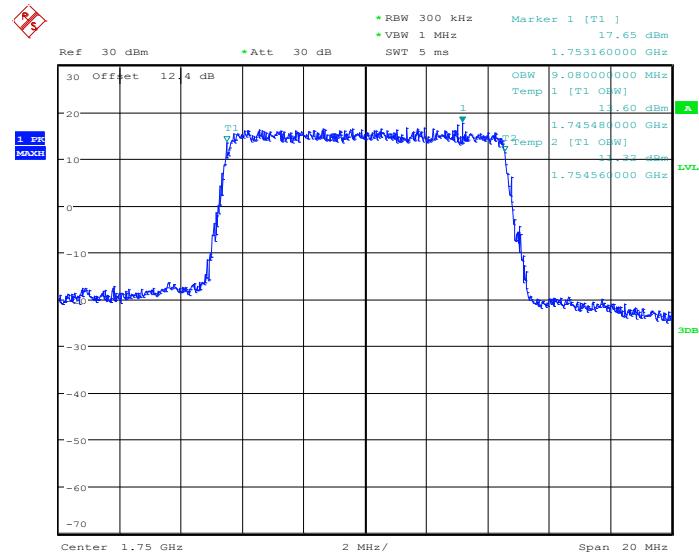
Date: 9.JAN.2014 16:47:59

26dB Bandwidth Plot on Channel 20175



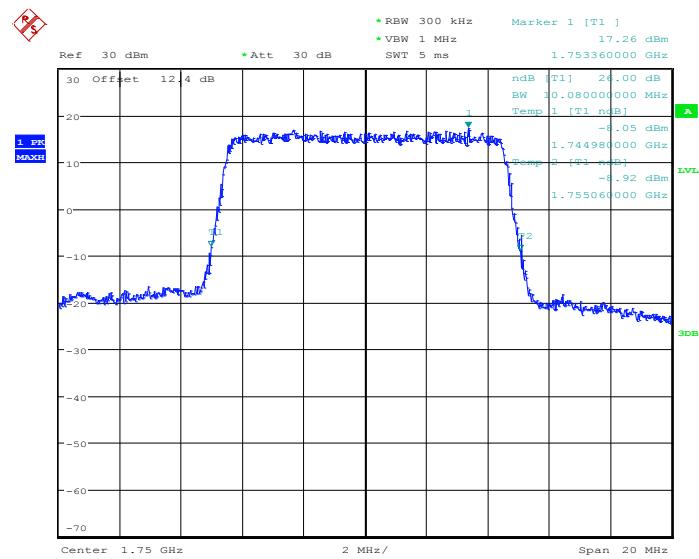
Date: 9.JAN.2014 16:48:24

99% Occupied Bandwidth Plot on Channel 20350



Date: 9.JAN.2014 16:50:41

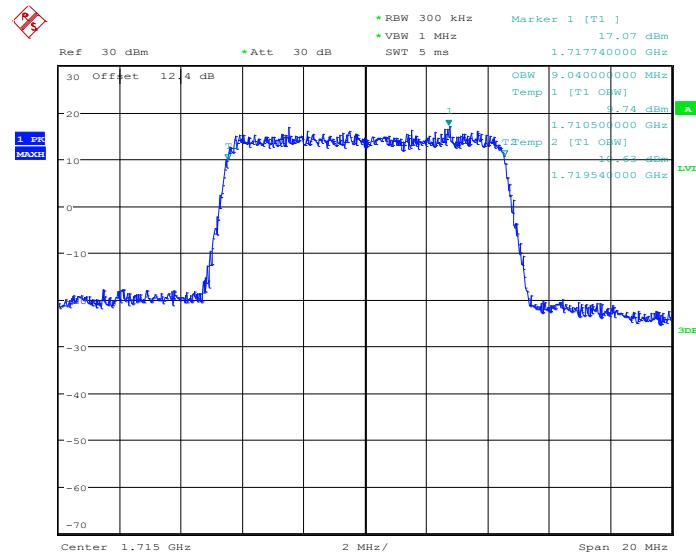
26dB Bandwidth Plot on Channel 20350



Date: 9.JAN.2014 16:51:06

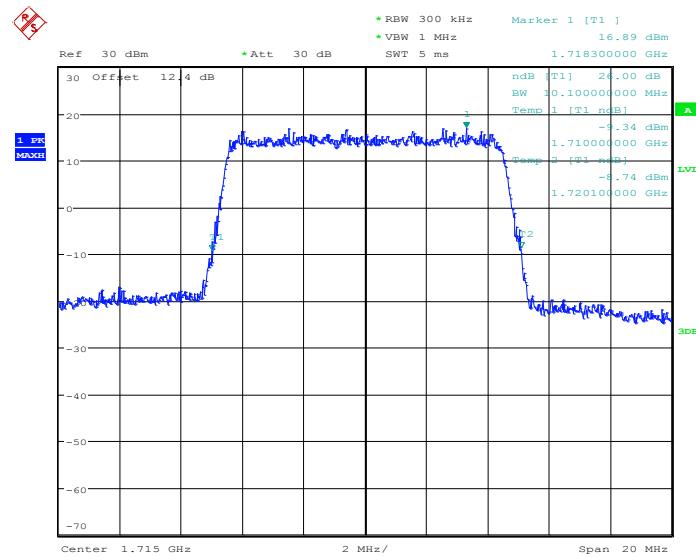
Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20000



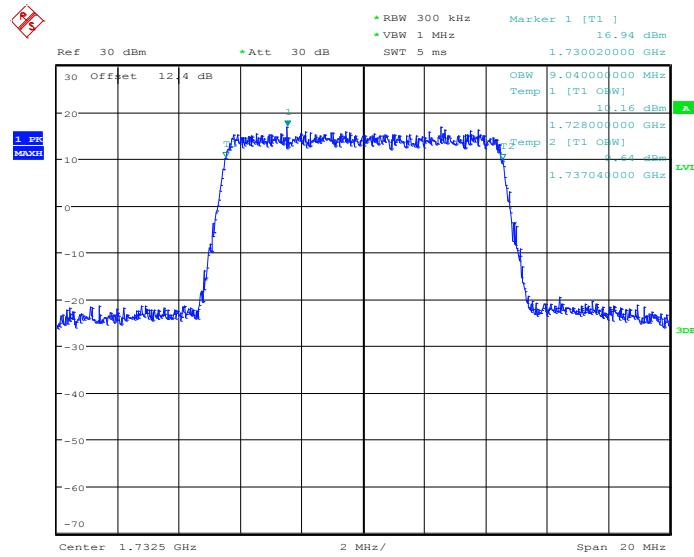
Date: 9.JAN.2014 16:45:29

26dB Bandwidth Plot on Channel 20000



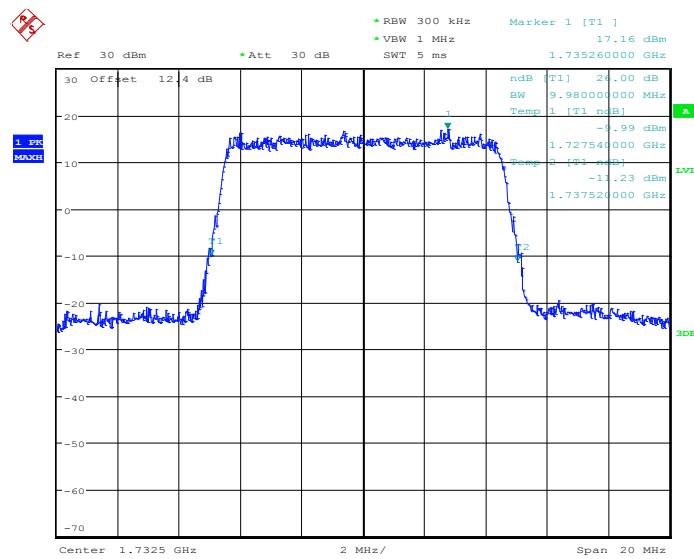
Date: 9.JAN.2014 16:45:56

99% Occupied Bandwidth Plot on Channel 20175



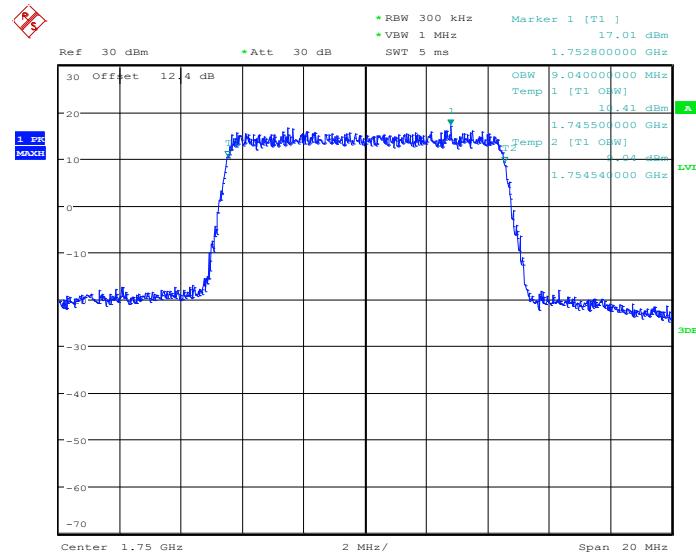
Date: 9.JAN.2014 16:48:11

26dB Bandwidth Plot on Channel 20175



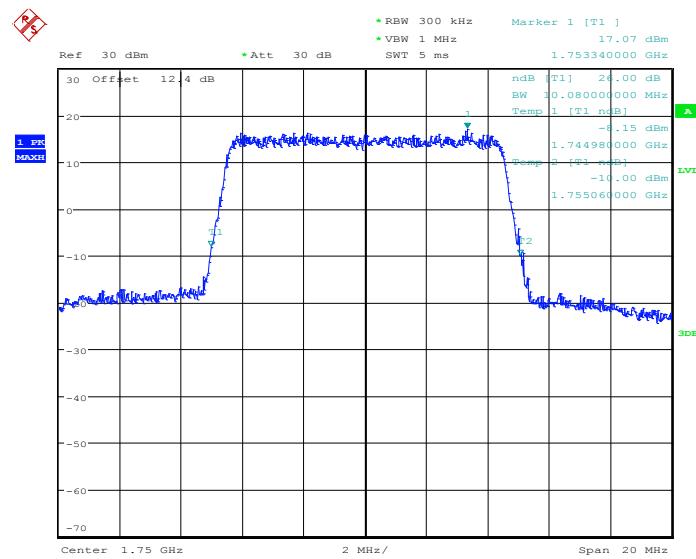
Date: 9.JAN.2014 16:48:38

99% Occupied Bandwidth Plot on Channel 20350



Date: 9.JAN.2014 16:50:53

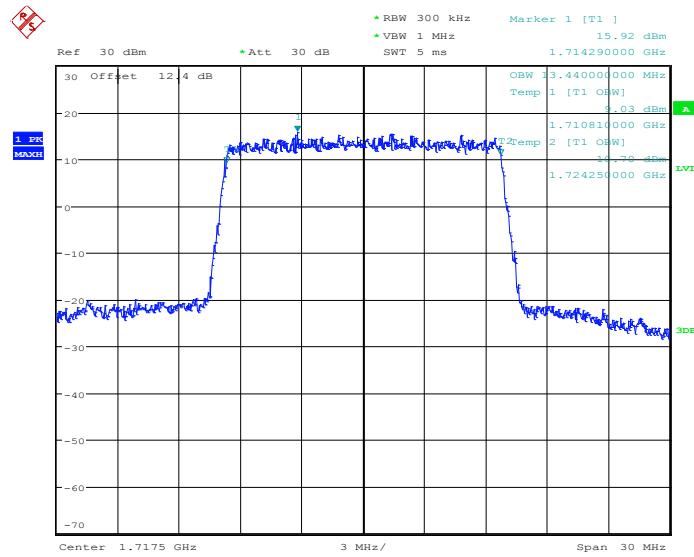
26dB Bandwidth Plot on Channel 20350



Date: 9.JAN.2014 16:51:20

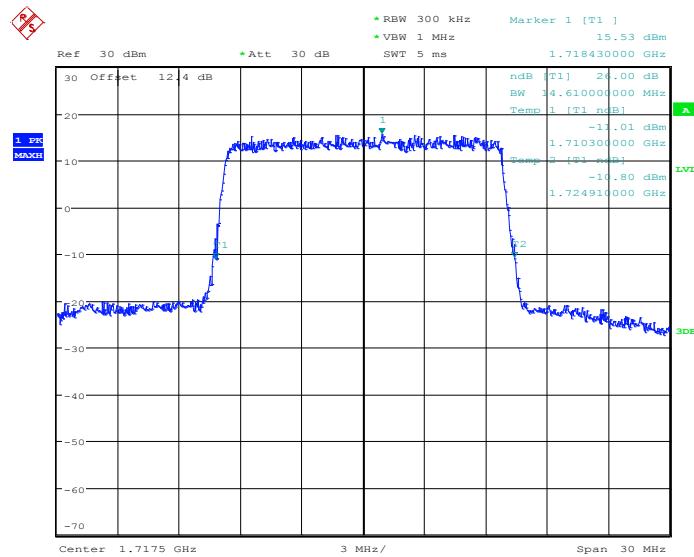
Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20025



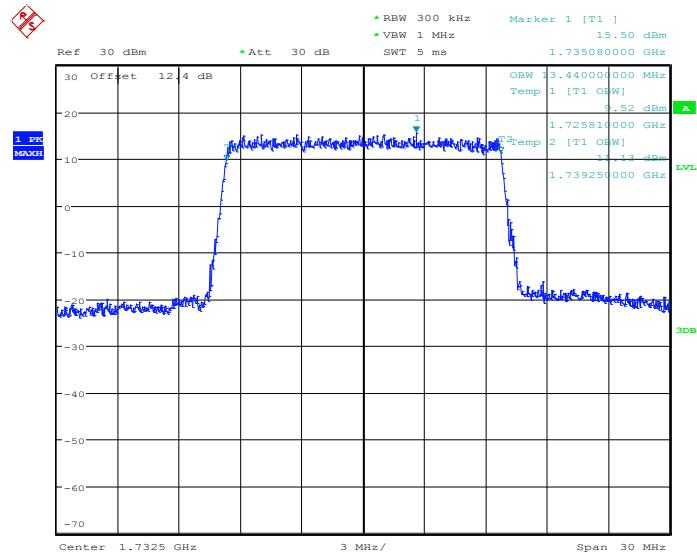
Date: 9.JAN.2014 16:53:27

26dB Bandwidth Plot on Channel 20025



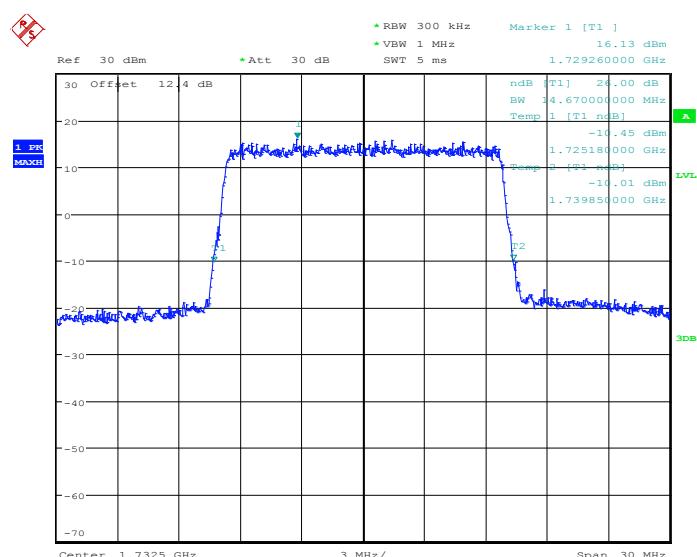
Date: 9.JAN.2014 16:56:52

99% Occupied Bandwidth Plot on Channel 20175



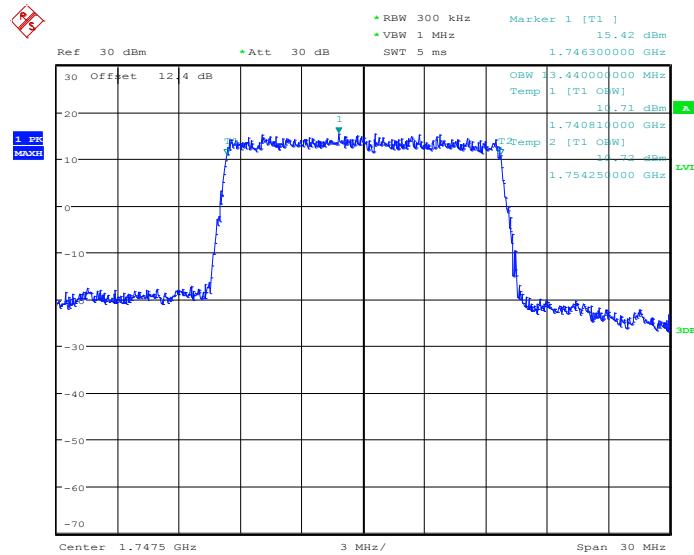
Date: 9.JAN.2014 16:59:08

26dB Bandwidth Plot on Channel 20175



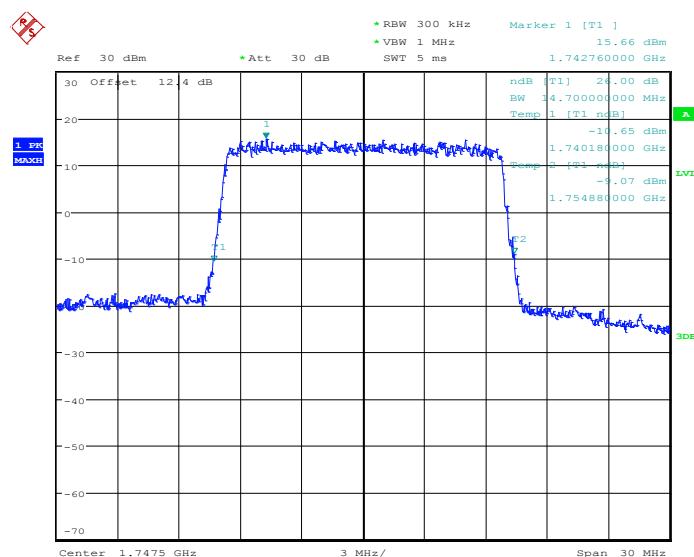
Date: 9.JAN.2014 16:59:33

99% Occupied Bandwidth Plot on Channel 20325



Date: 9.JAN.2014 17:01:50

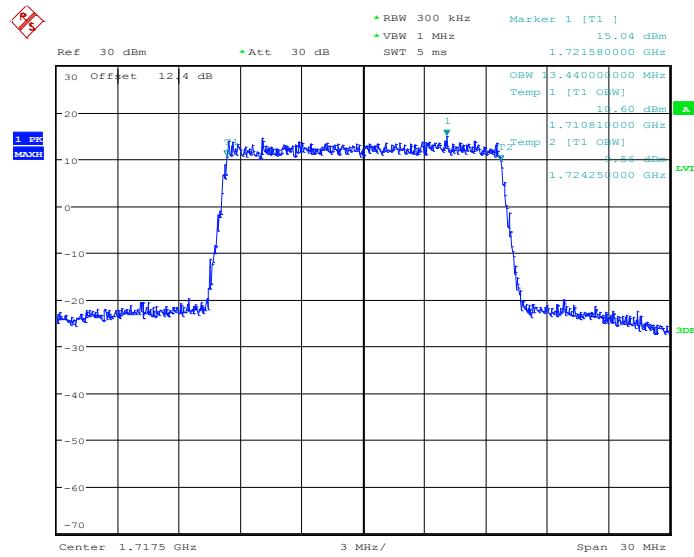
26dB Bandwidth Plot on Channel 20325



Date: 9.JAN.2014 17:02:15

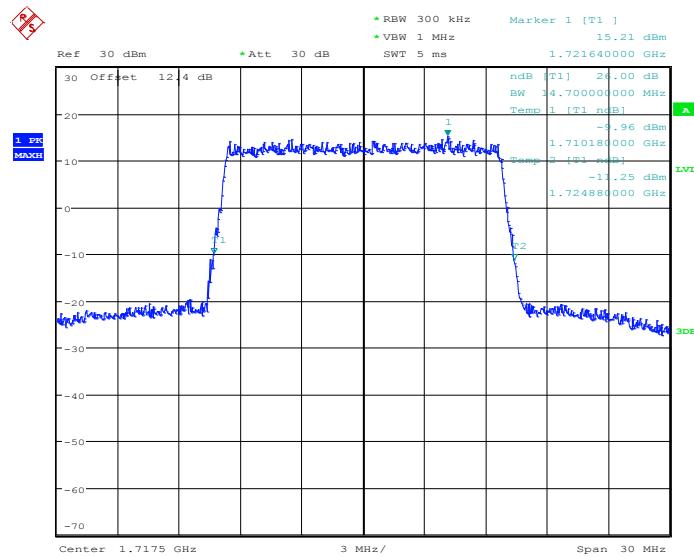
Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20025



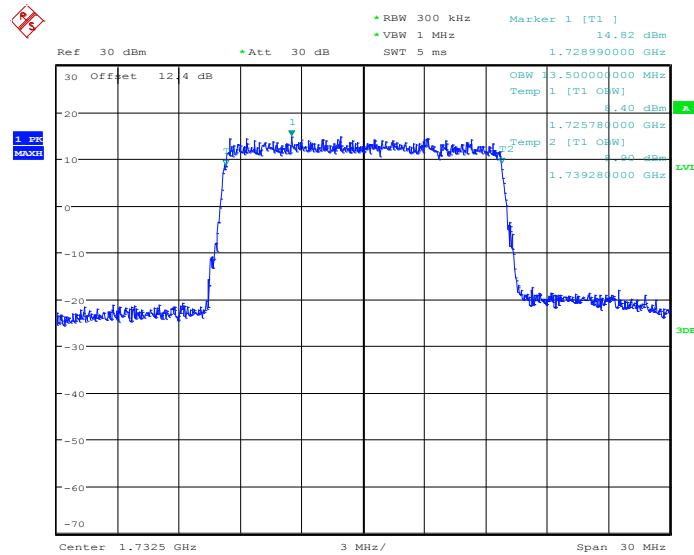
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26dB Bandwidth Plot on Channel 20025



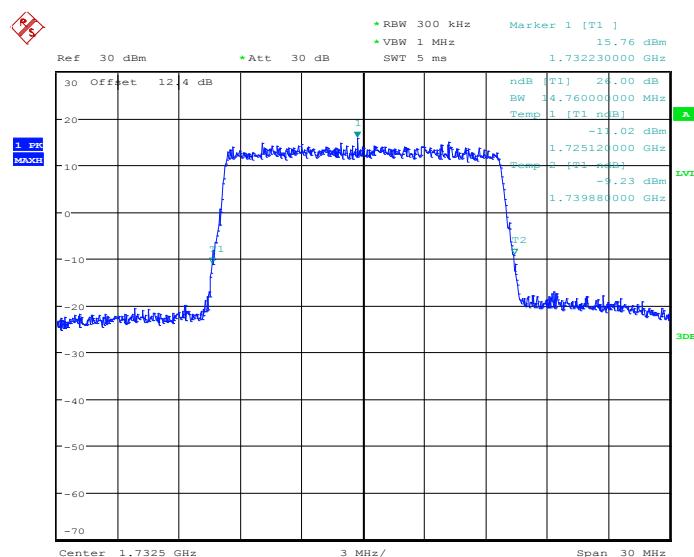
Date: 9.JAN.2014 16:57:05

99% Occupied Bandwidth Plot on Channel 20175



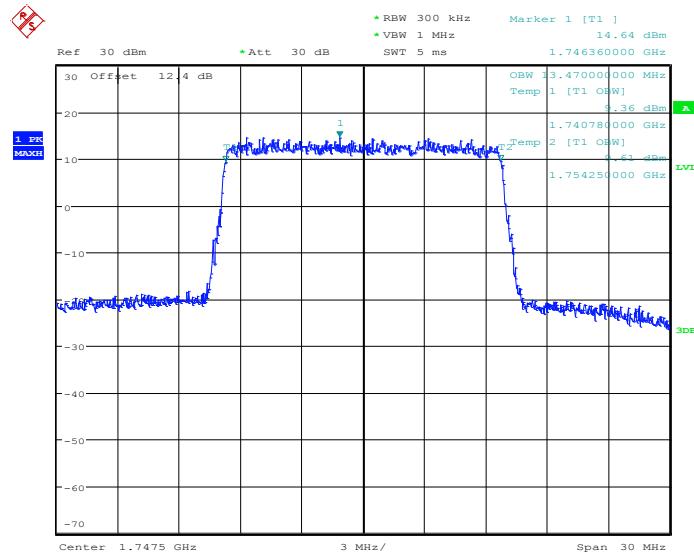
Date: 9.JAN.2014 16:59:20

26dB Bandwidth Plot on Channel 20175



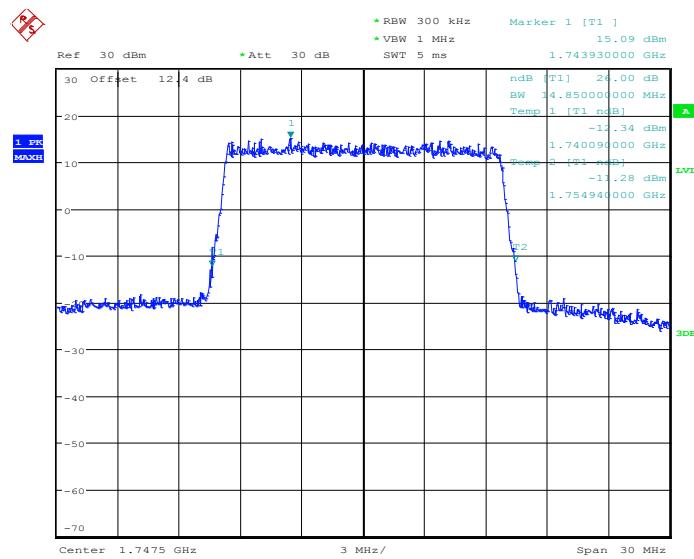
Date: 9.JAN.2014 16:59:47

99% Occupied Bandwidth Plot on Channel 20325



Date: 9.JAN.2014 17:02:01

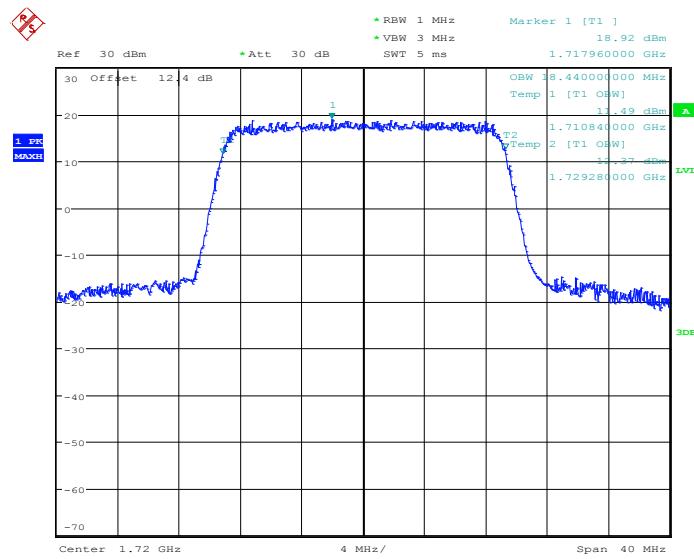
26dB Bandwidth Plot on Channel 20325



Date: 9.JAN.2014 17:02:28

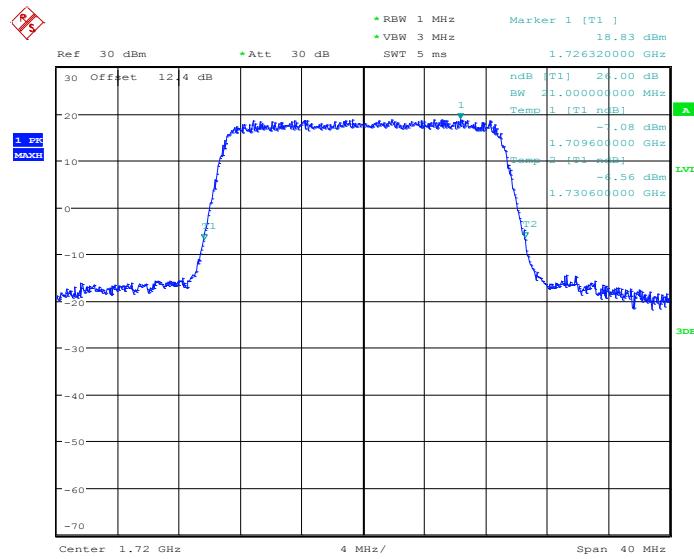
Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 20050



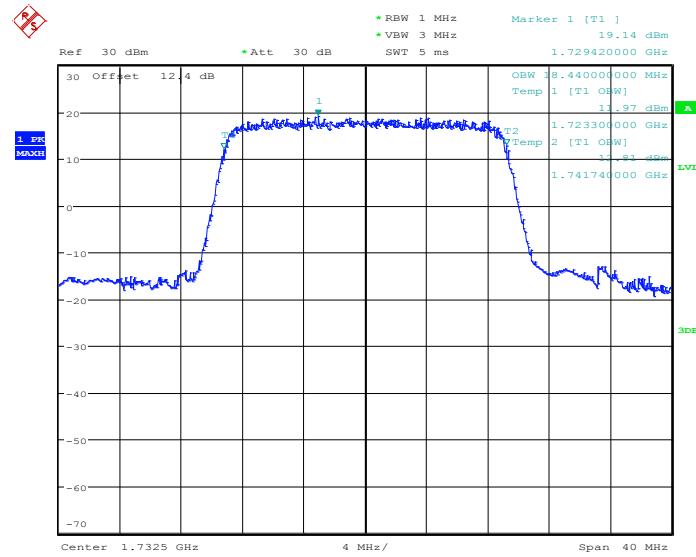
Date: 9.JAN.2014 17:04:35

26dB Bandwidth Plot on Channel 20050



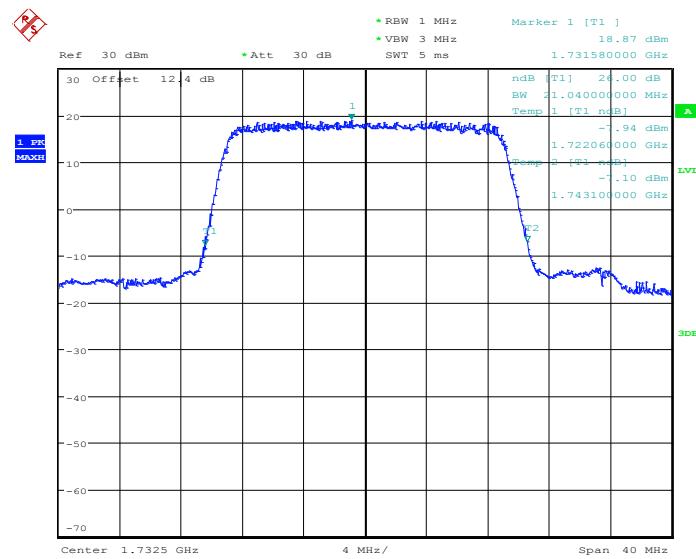
Date: 9.JAN.2014 17:05:01

99% Occupied Bandwidth Plot on Channel 20175



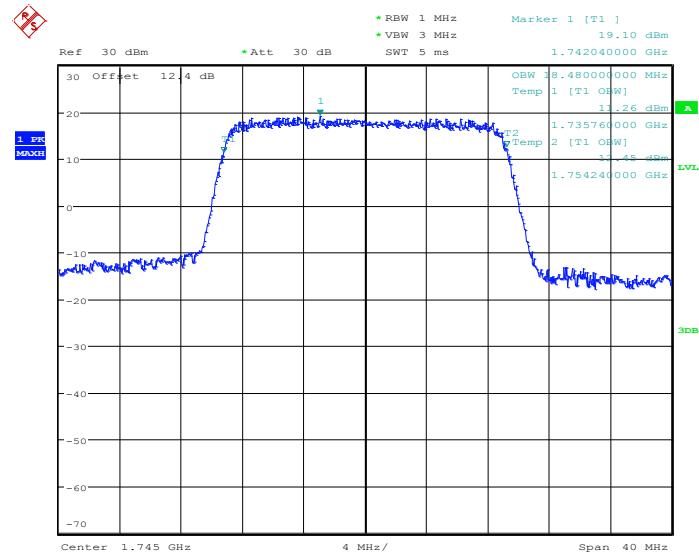
Date: 9.JAN.2014 17:07:17

26dB Bandwidth Plot on Channel 20175



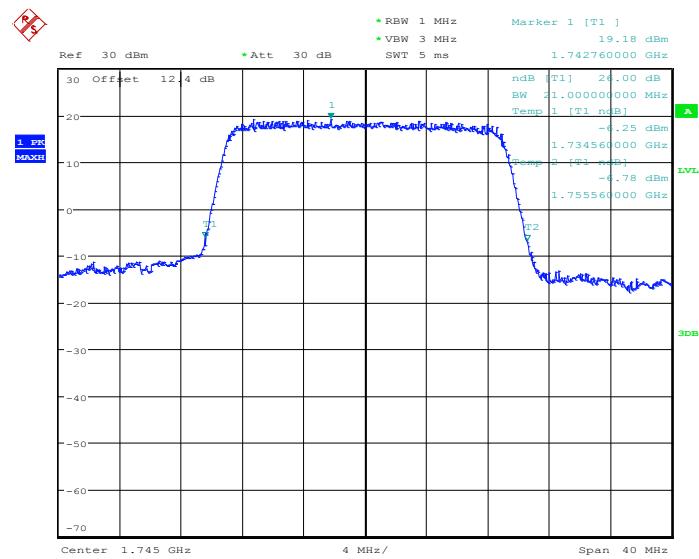
Date: 9.JAN.2014 17:07:42

99% Occupied Bandwidth Plot on Channel 20300



Date: 9.JAN.2014 17:09:59

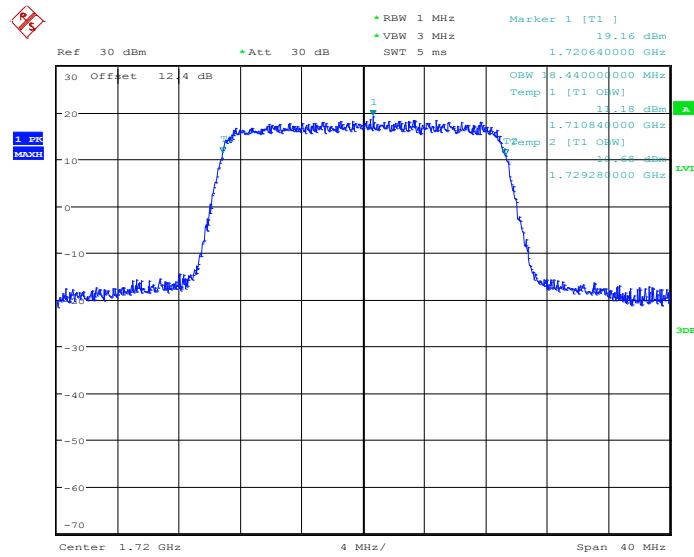
26dB Bandwidth Plot on Channel 20300



Date: 9.JAN.2014 17:10:24

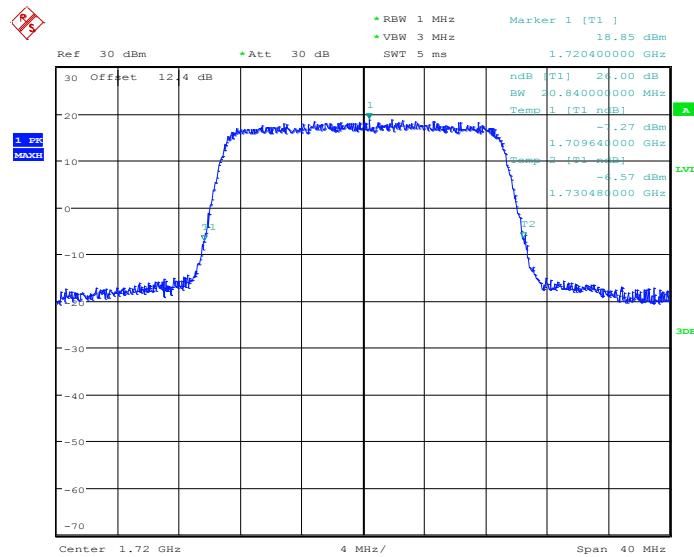
Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 20050



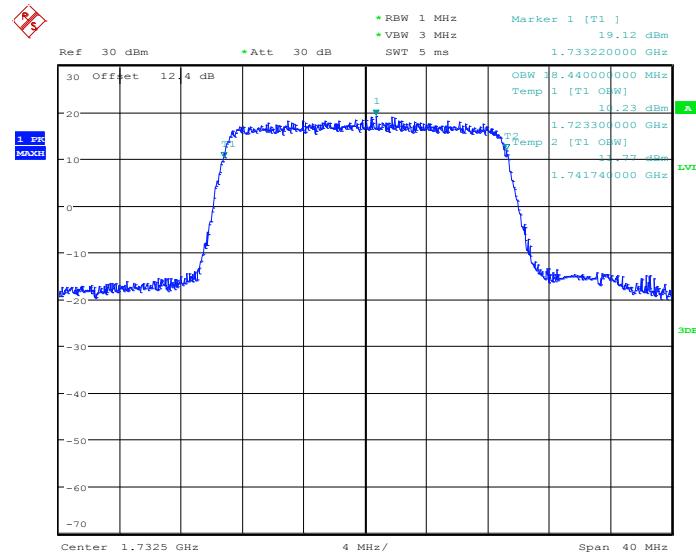
Date: 9.JAN.2014 17:04:47

26dB Bandwidth Plot on Channel 20050



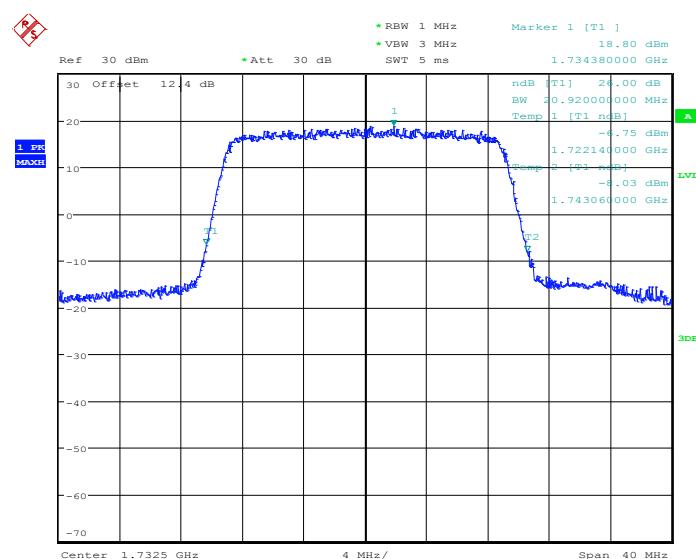
Date: 9.JAN.2014 17:05:14

99% Occupied Bandwidth Plot on Channel 20175



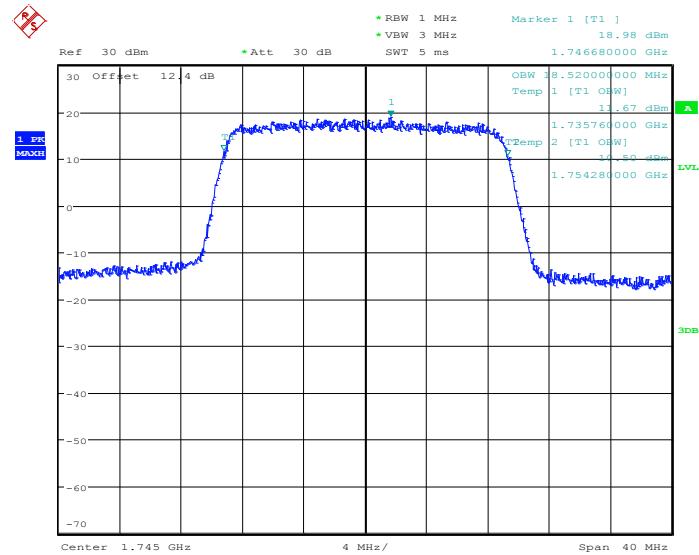
Date: 9.JAN.2014 17:07:29

26dB Bandwidth Plot on Channel 20175



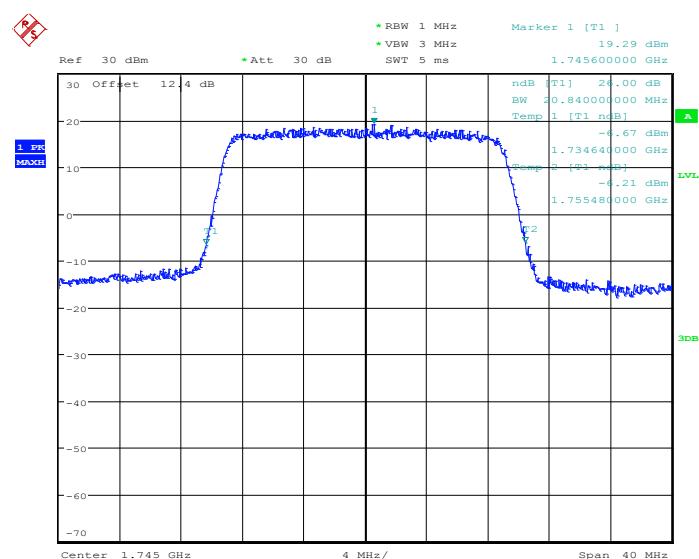
Date: 9.JAN.2014 17:07:56

99% Occupied Bandwidth Plot on Channel 20300



Date: 9.JAN.2014 17:10:10

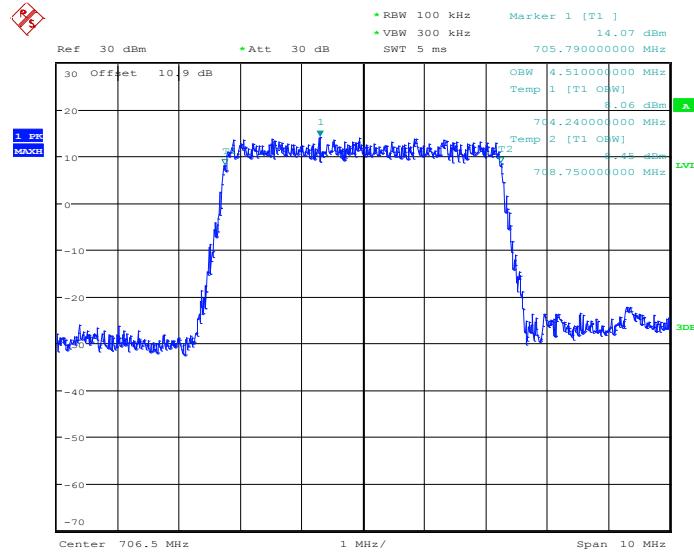
26dB Bandwidth Plot on Channel 20300



Date: 9.JAN.2014 17:10:37

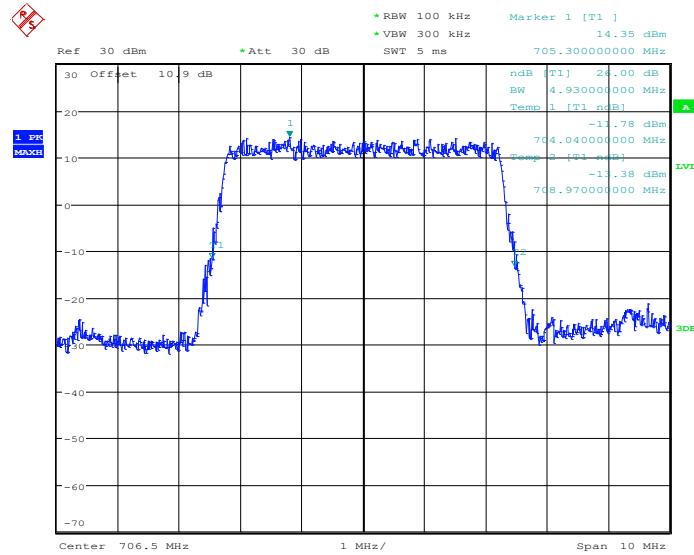
Band :	LTE Band 17	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23755



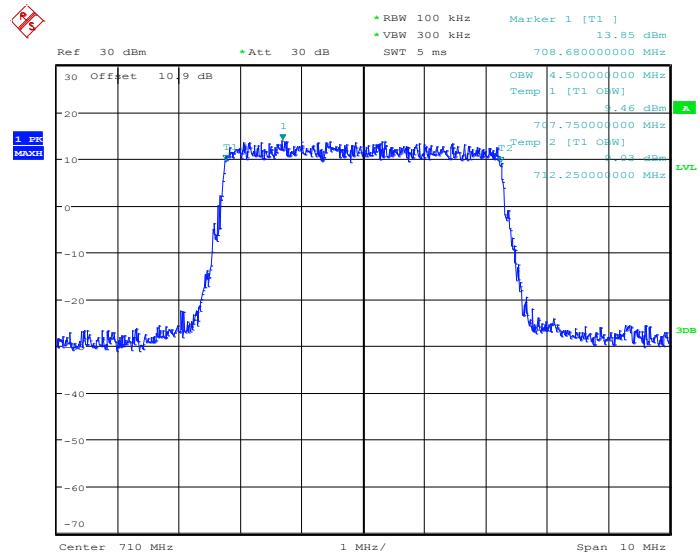
Date: 9.JAN.2014 10:42:23

26dB Bandwidth Plot on Channel 23755



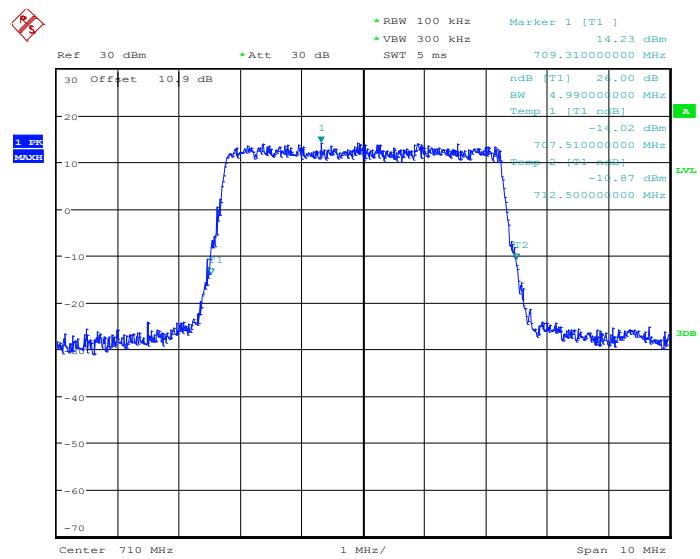
Date: 9.JAN.2014 10:42:48

99% Occupied Bandwidth Plot on Channel 23790



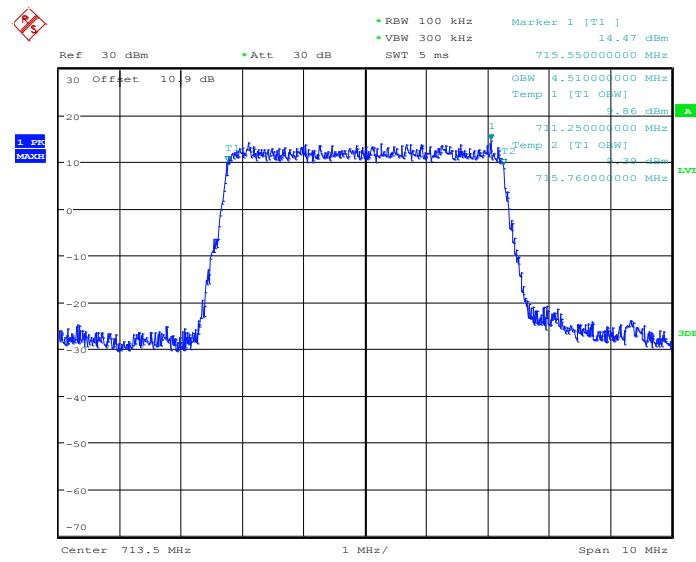
Date: 9.JAN.2014 10:47:54

26dB Bandwidth Plot on Channel 23790



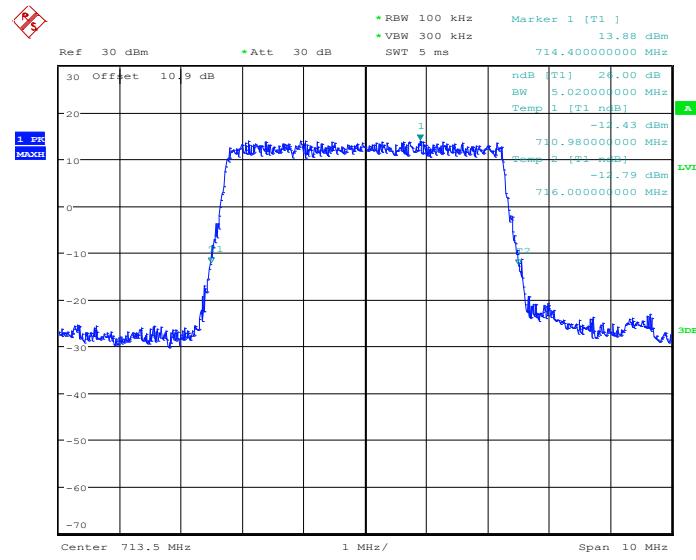
Date: 9.JAN.2014 10:48:19

99% Occupied Bandwidth Plot on Channel 23825



Date: 9.JAN.2014 10:50:35

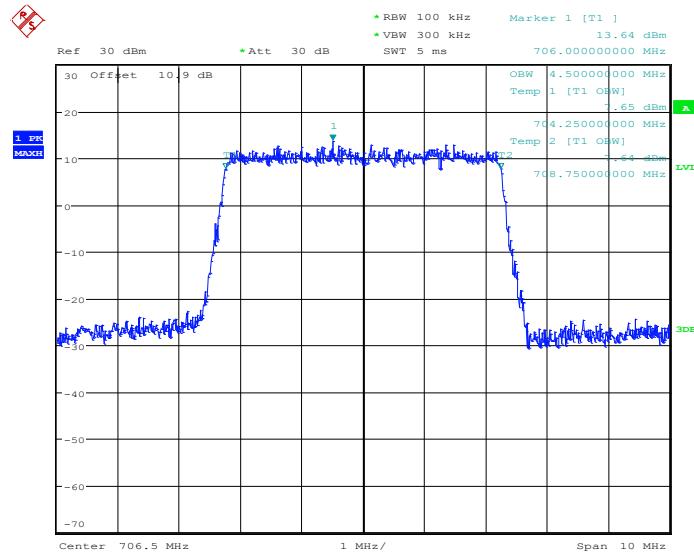
26dB Bandwidth Plot on Channel 23825



Date: 9.JAN.2014 10:51:00

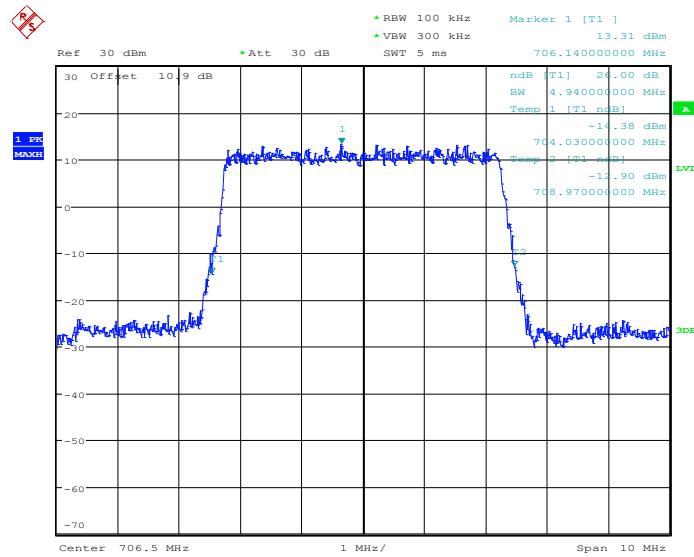
Band :	LTE Band 17	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23755



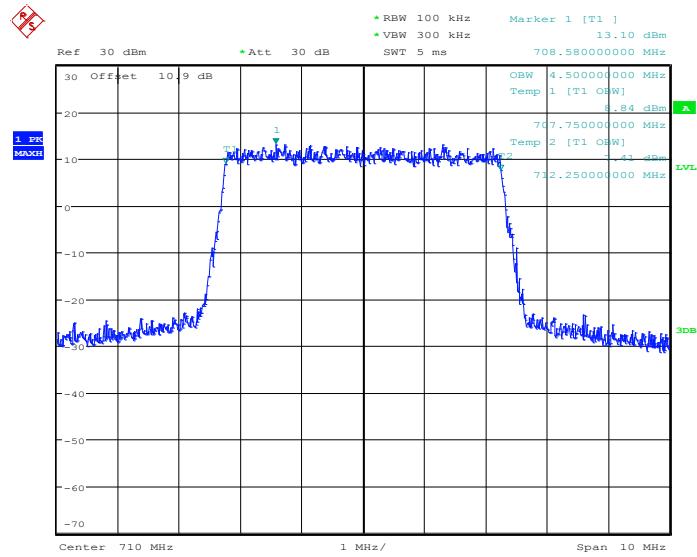
Date: 9.JAN.2014 10:42:34

26dB Bandwidth Plot on Channel 23755



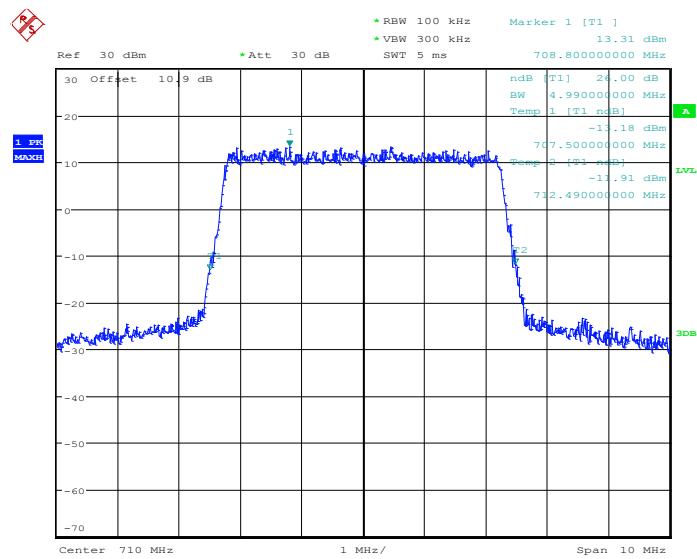
Date: 9.JAN.2014 10:43:01

99% Occupied Bandwidth Plot on Channel 23790



Date: 9.JAN.2014 10:48:05

26dB Bandwidth Plot on Channel 23790



Date: 9.JAN.2014 10:48:32

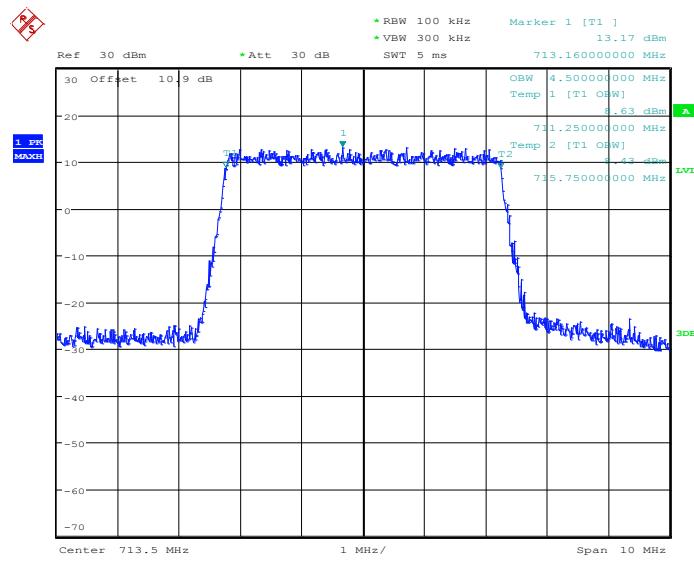
Report No. : FG372301-01B

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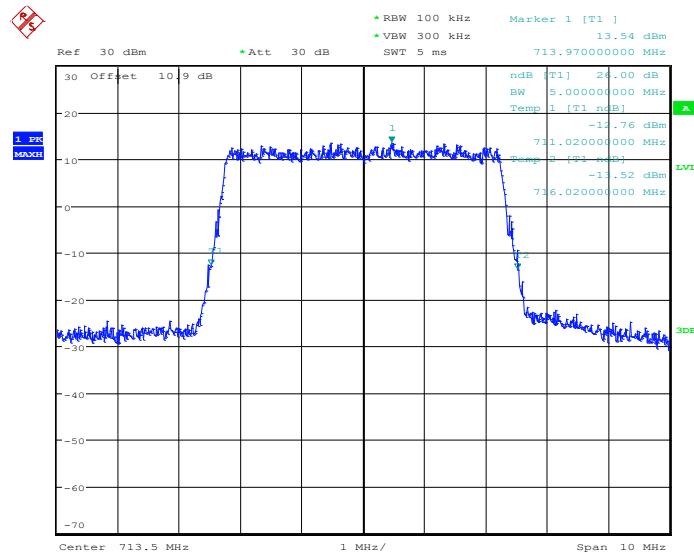
Report Template No.: BU5-FGLTE Version 1.0

99% Occupied Bandwidth Plot on Channel 23825



Date: 9.JAN.2014 10:50:47

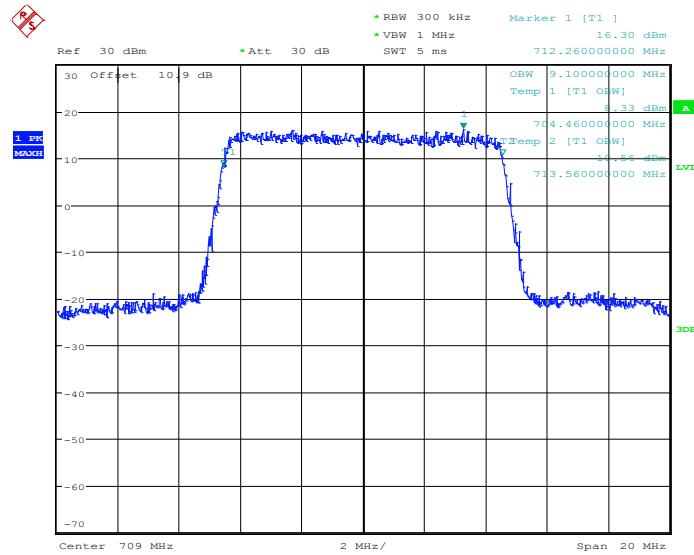
26dB Bandwidth Plot on Channel 23825



Date: 9.JAN.2014 10:51:14

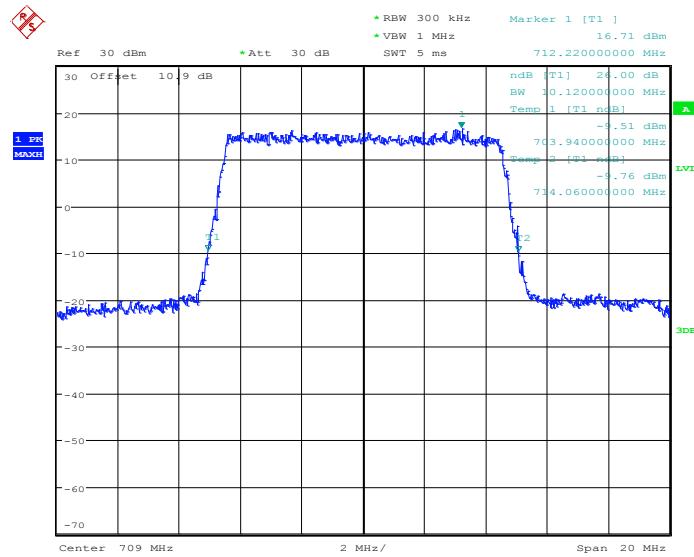
Band :	LTE Band 17	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 23780



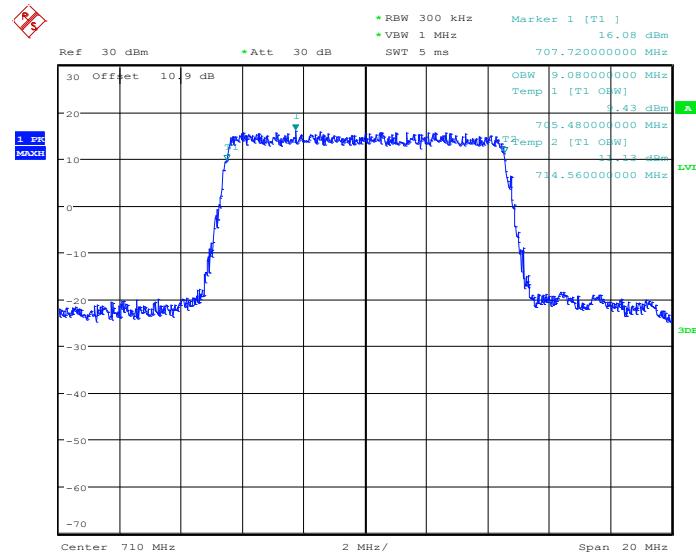
Date: 9.JAN.2014 10:56:11

26dB Bandwidth Plot on Channel 23780



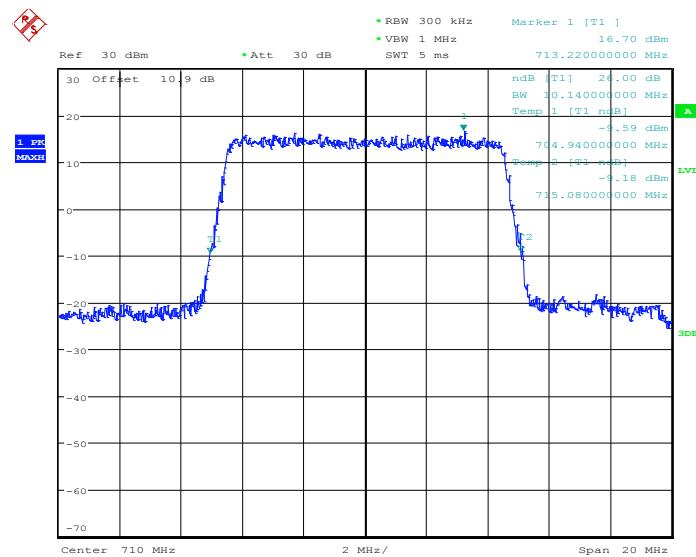
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99% Occupied Bandwidth Plot on Channel 23790



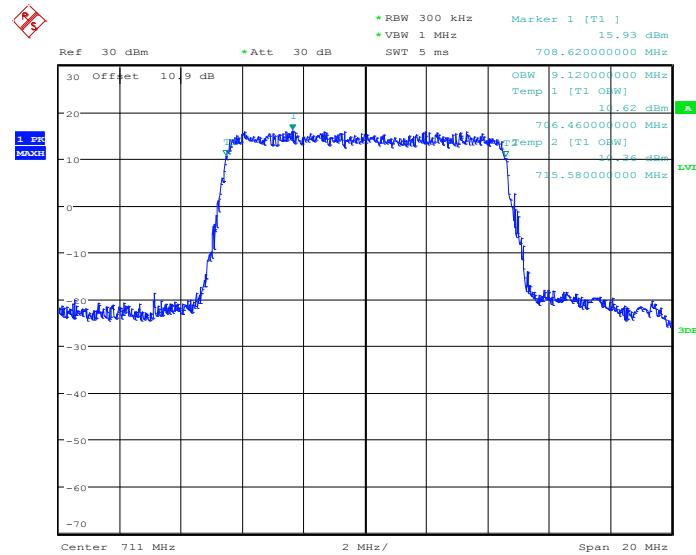
Date: 9.JAN.2014 11:01:42

26dB Bandwidth Plot on Channel 23790



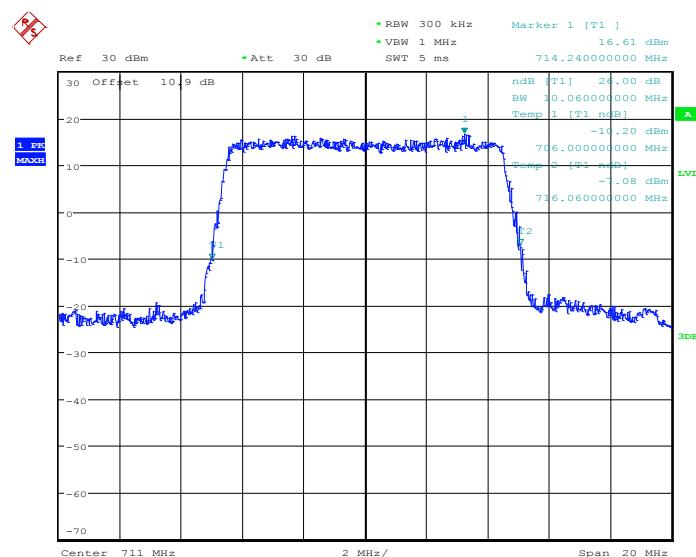
Date: 9.JAN.2014 11:02:07

99% Occupied Bandwidth Plot on Channel 23800



Date: 9.JAN.2014 11:04:24

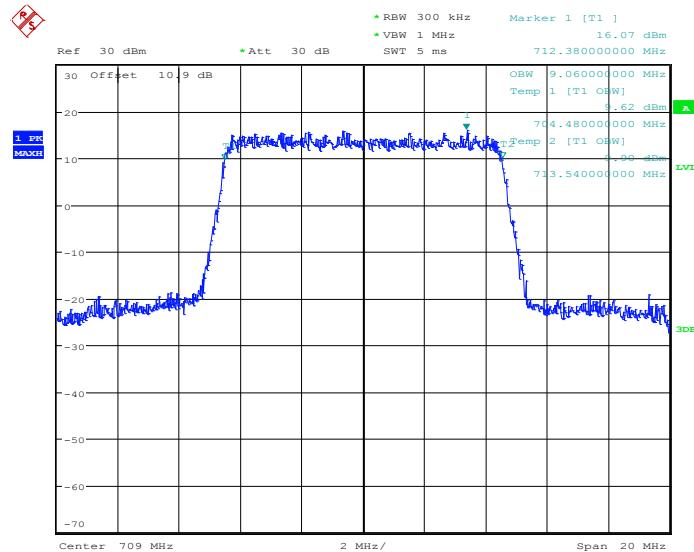
26dB Bandwidth Plot on Channel 23800



Date: 9.JAN.2014 11:04:49

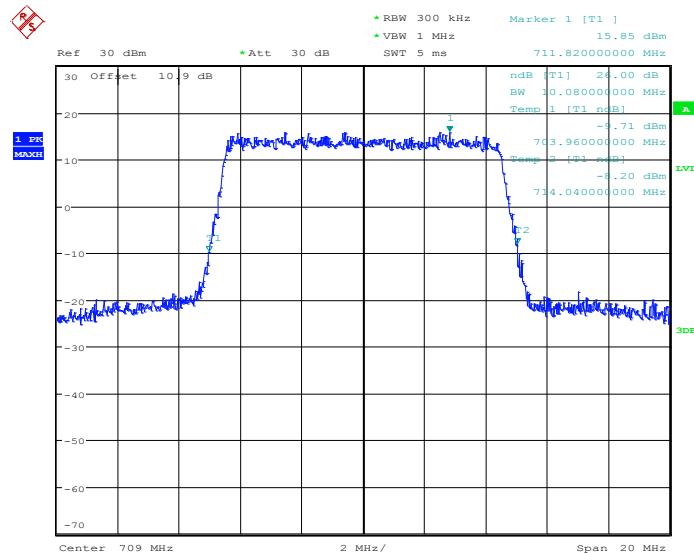
Band :	LTE Band 17	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 23780



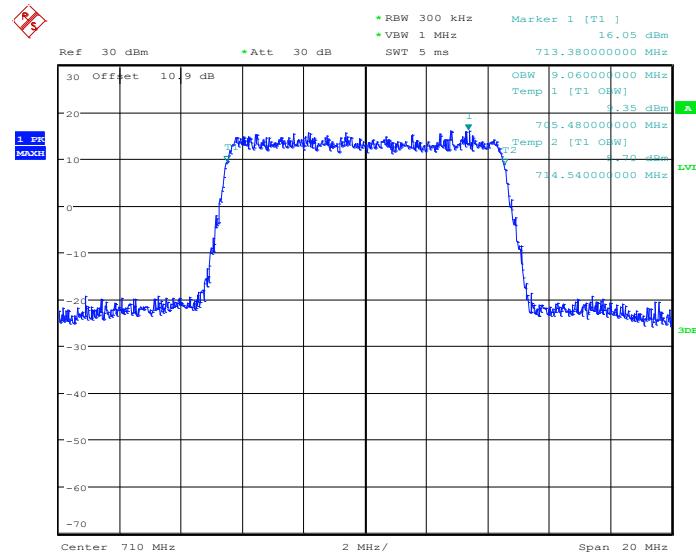
Date: 9.JAN.2014 10:56:23

26dB Bandwidth Plot on Channel 23780



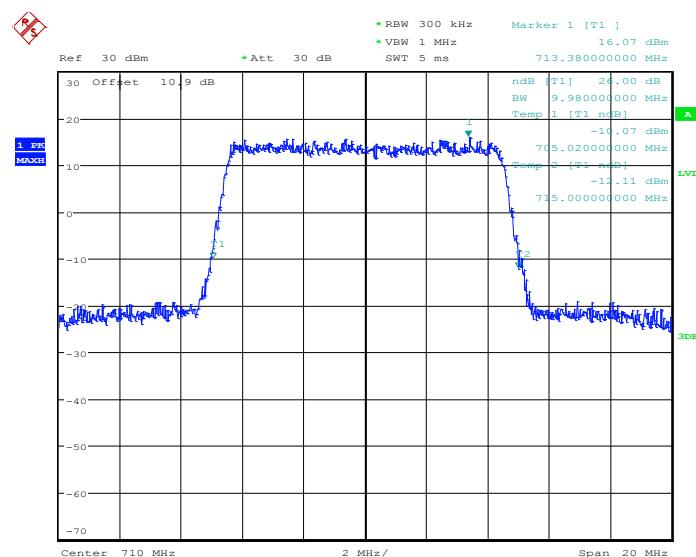
Date: 9.JAN.2014 10:56:50

99% Occupied Bandwidth Plot on Channel 23790



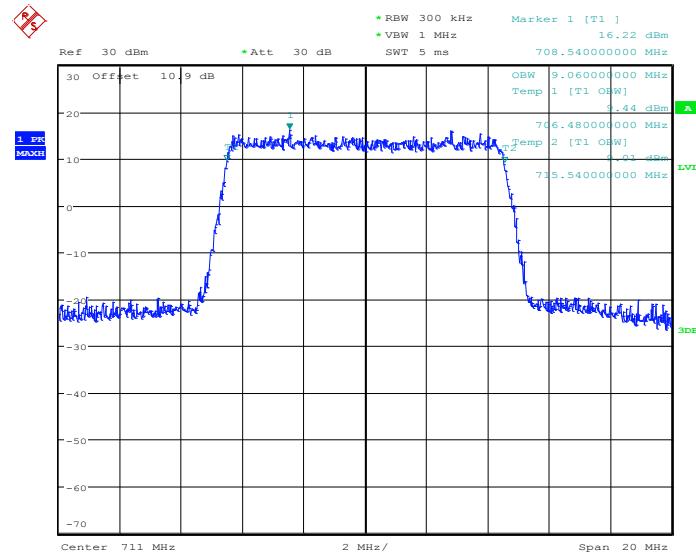
Date: 9.JAN.2014 11:01:54

26dB Bandwidth Plot on Channel 23790



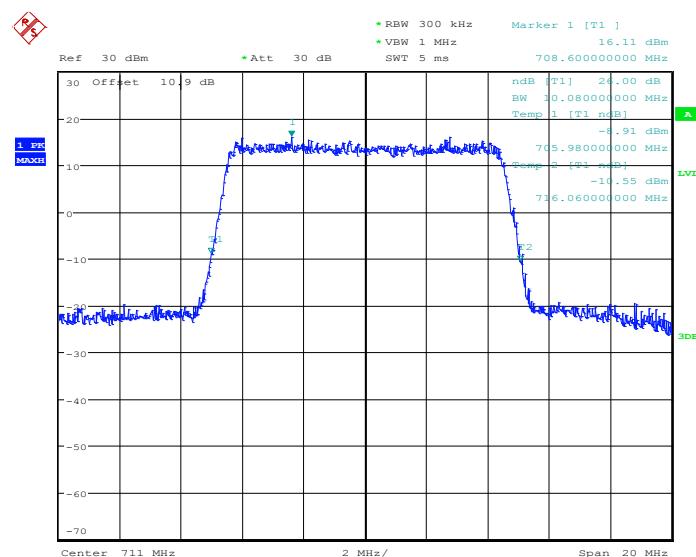
Date: 9.JAN.2014 11:02:21

99% Occupied Bandwidth Plot on Channel 23800



Date: 9.JAN.2014 11:04:35

26dB Bandwidth Plot on Channel 23800



Date: 9.JAN.2014 11:05:02

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