



# FCC RF Test Report

**APPLICANT** : ZTE CORPORATION  
**EQUIPMENT** : CDMA/LTE Multi-mode Digital Mobile Phone  
**BRAND NAME** : ZTE  
**MODEL NAME** : ZTE N9515  
**FCC ID** : SRQ-ZTEN9515  
**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(M)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on May 09, 2014 and testing was completed on Jul. 08, 2014. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and the testing has shown the tested sample to be in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. C.**



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## 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 26)	ERP < 7 Watts	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 25) (Band 41)	EIRP < 2Watt		
3.4	§2.1049 §22.917(b) §24.238(b) §27.53(l)(4)	Occupied Bandwidth and 26dB Bandwidth	Reporting Only	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a)	Conducted Band Edge Measurement (Band 25) (Band 26)	< 43+10log <sub>10</sub> (P[Watts])	PASS	-
	§2.1051 §27.53(l)(4)	Conducted Band Edge Measurement (Band 41)	< 5.5MHz: -13 dBm ≥ 5.5MHz: -25 dBm		



Report Section	FCC Rule	Description	Limit	Result	Remark
3.6	§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission (Band 25) (Band 26)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	-
	§2.1051 §27.53(l)(4)	Conducted Spurious Emission (Band 41)	$< 55+10\log_{10}(P[\text{Watts}])$		-
3.7	§2.1053 §22.917(a) §24.238(a)	Radiated Spurious Emission (Band 25) (Band 26)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 11.53 dB at 10356.000 MHz
	§2.1053 §27.53(l)(4)	Radiated Spurious Emission (Band 41)	$< 55+10\log_{10}(P[\text{Watts}])$		
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

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057,  
P.R.China

## 1.2 Manufacturer

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057,  
P.R.China

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	CDMA/LTE Multi-mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE N9515
FCC ID	SRQ-ZTEN9515
EUT supports Radios application	CDMA/EV-DO/LTE WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20 Bluetooth v3.0 + EDR/ Bluetooth v4.0 LE
HW Version	cwCA
SW Version	N9515V1.0.0B01
EUT Stage	Identical Prototype

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

### 1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
<b>Tx Frequency</b>	LTE Band 25 : 1850.7MHz ~ 1914.3 MHz LTE Band 26 : 824.7MHz ~ 848.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Rx Frequency</b>	LTE Band 25 : 1930.7MHz ~ 1994.3 MHz LTE Band 26 : 869.7 MHz ~ 893.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Bandwidth</b>	1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz (LTE Band 25) 1.4MHz/3MHz/5MHz/10MHz/15MHz (LTE Band 26) 5MHz/10MHz/15MHz/20MHz (LTE Band 41)
<b>Maximum Output Power to Antenna</b>	LTE Band 25 : 22.45 dBm LTE Band 26 : 22.83 dBm LTE Band 41 : 22.15 dBm
<b>Antenna Type</b>	Dipole Antenna
<b>Antenna Gain</b>	LTE Band 25 : 1.5 dBi LTE Band 26 : 1.0 dBi LTE Band 41 : 1.5 dBi
<b>Type of Modulation</b>	QPSK / 16QAM

### 1.5 Modification of EUT

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



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

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 24E	LTE Band 25	QPSK	1.4 MHz	1M10G7D	-	0.2183 W
Part 24E	LTE Band 25	16QAM	1.4 MHz	1M10D7W	-	0.1746 W
Part 24E	LTE Band 25	QPSK	3 MHz	2M74G7D	-	-
Part 24E	LTE Band 25	16QAM	3 MHz	2M74D7W	-	-
Part 24E	LTE Band 25	QPSK	5 MHz	4M52G7D	-	-
Part 24E	LTE Band 25	16QAM	5 MHz	4M52D7W	-	-
Part 24E	LTE Band 25	QPSK	10 MHz	9M08G7D	0.0045 ppm	-
Part 24E	LTE Band 25	16QAM	10 MHz	9M16D7W	-	-
Part 24E	LTE Band 25	QPSK	15 MHz	13M5G7D	-	-
Part 24E	LTE Band 25	16QAM	15 MHz	13M5D7W	-	-
Part 24E	LTE Band 25	QPSK	20 MHz	18M6G7D	-	0.2234 W
Part 24E	LTE Band 25	16QAM	20 MHz	18M6D7W	-	0.1714 W
Part 22H	LTE Band 26	QPSK	1.4 MHz	1M10G7D	-	0.0971 W
Part 22H	LTE Band 26	16QAM	1.4 MHz	1M10D7W	-	0.0750 W
Part 22H	LTE Band 26	QPSK	3 MHz	2M72G7D	-	-
Part 22H	LTE Band 26	16QAM	3 MHz	2M71D7W	-	-
Part 22H	LTE Band 26	QPSK	5 MHz	4M49G7D	-	-
Part 22H	LTE Band 26	16QAM	5 MHz	4M48D7W	-	-
Part 22H	LTE Band 26	QPSK	10 MHz	9M06G7D	0.0117 ppm	-
Part 22H	LTE Band 26	16QAM	10 MHz	9M02D7W	-	-
Part 22H	LTE Band 26	QPSK	15 MHz	13M4G7D	-	0.1104 W
Part 22H	LTE Band 26	16QAM	15 MHz	13M4D7W	-	0.0853 W



FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27M	LTE Band 41	QPSK	5MHz	4M50G7D	-	0.4592 W
Part 27M	LTE Band 41	16QAM	5MHz	4M50D7W	-	0.3508 W
Part 27M	LTE Band 41	QPSK	10MHz	9M12G7D	0.0052 ppm	-
Part 27M	LTE Band 41	16QAM	10MHz	9M12D7W	-	-
Part 27M	LTE Band 41	QPSK	15MHz	13M6G7D	-	-
Part 27M	LTE Band 41	16QAM	15MHz	13M5D7W	-	-
Part 27M	LTE Band 41	QPSK	20MHz	18M7G7D	-	0.4246 W
Part 27M	LTE Band 41	16QAM	20MHz	18M7D7W	-	0.3296 W



### 1.7 Testing Location

<b>Test Site</b>	SPORTON INTERNATIONAL (KUNSHAN) INC.		
<b>Test Site Location</b>	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC Registration No.</b>
	TH01-KS	OTA01-KS	149928

<b>Test Site</b>	SPORTON INTERNATIONAL INC.		
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> 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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC Registration No.</b>
	03CH08-HY		TW1022

### 1.8 Applicable Standards

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

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

**Remark:**

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



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

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

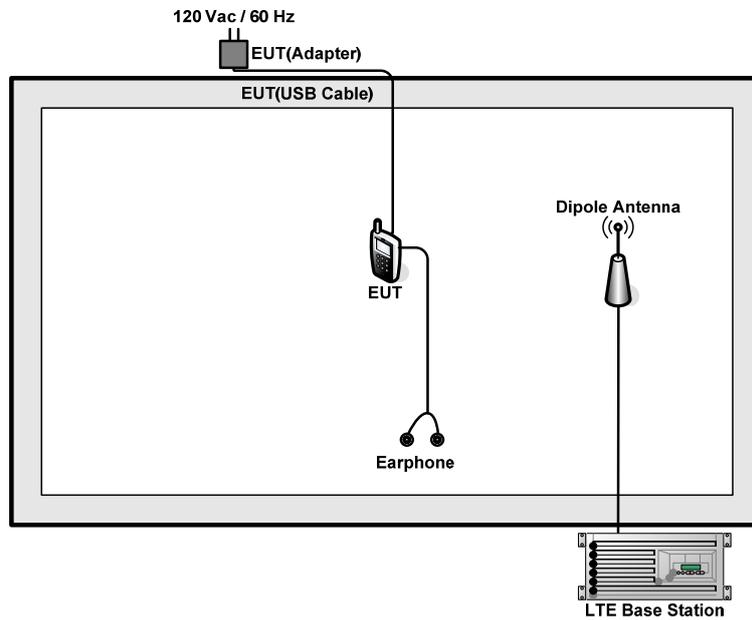
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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



Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	25	v	v	v	v	v	v	v	v	v			v	v	v
	26	v	v	v	v	v	-	v	v	v			v	v	v
	41	-	-	v	v	v	v	v	v	v			v	v	v
Frequency Stability	25				v			v				v		v	
	26				v		-	v				v		v	
	41	-	-		v			v				v		v	
E.R.P/ E.I.R.P.	25	v					v	v	v	v			v	v	v
	26	v				v	-	v	v	v			v	v	v
	41	-	-	v			v	v	v	v			v	v	v
Radiated Spurious Emission	25	v	v	v	v	v	v	v		v				v	
	26	v	v	v	v	v	-	v		v				v	
	41	-	-	v	v	v	v	v		v				v	
Note	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>For E.R.P/E.I.R.P. measurement, the widest bandwidth of each band is chosen for testing due to highest conducted power. Besides, the lowest bandwidth of each band is also measured for reporting only.</li> <li>The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.</li> </ol>														

## 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.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Earphone	Apple	N/A	Fcc DoC	Shielded, 1.0 m	N/A



## 2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 6 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 6 + 10 = 16 \text{ (dB)} \end{aligned}$$

### 3 Test Result

#### 3.1 Conducted Output Power Measurement

##### 3.1.1 Description of the Conducted Output Power Measurement

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

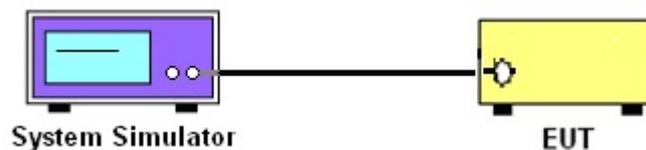
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

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

##### 3.1.4 Test Setup





3.1.5 Test Result of Conducted Output Power

<LTE Band 25 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>26140</b>	<b>26340</b>	<b>26590</b>
<b>Frequency (MHz)</b>				<b>1860</b>	<b>1880</b>	<b>1905</b>
20	QPSK	1	0	22.06	22.04	22.24
20	QPSK	1	49	22.30	22.45	22.25
20	QPSK	1	99	22.06	22.37	22.17
20	QPSK	50	0	21.42	21.35	21.16
20	QPSK	50	24	21.42	21.54	21.39
20	QPSK	50	49	21.44	21.53	21.44
20	QPSK	100	0	21.41	21.43	21.25
20	16QAM	1	0	20.79	20.86	21.16
20	16QAM	1	49	21.25	21.50	21.32
20	16QAM	1	99	20.66	20.95	21.10
20	16QAM	50	0	20.42	20.26	20.21
20	16QAM	50	24	20.39	20.39	20.23
20	16QAM	50	49	20.28	20.45	20.41
20	16QAM	100	0	20.46	20.49	20.33
<b>Channel</b>				<b>26115</b>	<b>26340</b>	<b>26615</b>
<b>Frequency (MHz)</b>				<b>1857.5</b>	<b>1880</b>	<b>1907.5</b>
15	QPSK	1	0	21.99	22.00	22.15
15	QPSK	1	37	22.25	22.44	22.29
15	QPSK	1	74	22.24	22.22	22.18
15	QPSK	36	0	21.27	21.29	21.14
15	QPSK	36	18	21.30	21.40	21.31
15	QPSK	36	37	21.39	21.48	21.44
15	QPSK	75	0	21.41	21.45	21.44
15	16QAM	1	0	20.85	20.82	20.73
15	16QAM	1	37	21.02	21.46	21.50
15	16QAM	1	74	20.98	21.36	21.06
15	16QAM	36	0	20.17	20.18	20.22
15	16QAM	36	18	20.28	20.38	20.38
15	16QAM	36	37	20.33	20.45	20.44
15	16QAM	75	0	20.42	20.41	20.37



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>26090</b>	<b>26340</b>	<b>26640</b>
<b>Frequency (MHz)</b>				<b>1855</b>	<b>1880</b>	<b>1910</b>
10	QPSK	1	0	21.95	22.12	22.11
10	QPSK	1	24	22.25	22.38	22.22
10	QPSK	1	49	22.29	22.39	22.40
10	QPSK	25	0	21.14	21.29	21.33
10	QPSK	25	12	21.09	21.30	21.29
10	QPSK	25	24	21.15	21.41	21.41
10	QPSK	50	0	21.27	21.49	21.43
10	16QAM	1	0	21.15	20.96	21.06
10	16QAM	1	24	20.96	20.91	21.41
10	16QAM	1	49	21.44	21.36	21.63
10	16QAM	25	0	20.15	20.37	20.43
10	16QAM	25	12	20.14	20.36	20.36
10	16QAM	25	24	20.10	20.45	20.53
10	16QAM	50	0	20.15	20.46	20.38
<b>Channel</b>				<b>26065</b>	<b>26340</b>	<b>26665</b>
<b>Frequency (MHz)</b>				<b>1852.5</b>	<b>1880</b>	<b>1912.5</b>
5	QPSK	1	0	22.01	22.15	22.32
5	QPSK	1	12	21.98	22.32	22.34
5	QPSK	1	24	22.30	22.35	22.35
5	QPSK	12	0	21.07	21.36	21.47
5	QPSK	12	6	21.11	21.30	21.56
5	QPSK	12	11	21.14	21.31	21.48
5	QPSK	25	0	21.09	21.33	21.39
5	16QAM	1	0	21.12	21.27	21.58
5	16QAM	1	12	21.11	21.20	21.55
5	16QAM	1	24	21.24	21.29	21.73
5	16QAM	12	0	20.07	20.32	20.57
5	16QAM	12	6	20.11	20.28	20.58
5	16QAM	12	11	20.06	20.39	20.47
5	16QAM	25	0	20.27	20.35	20.49



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>26055</b>	<b>26340</b>	<b>26675</b>
<b>Frequency (MHz)</b>				<b>1851.5</b>	<b>1880</b>	<b>1913.5</b>
3	QPSK	1	0	22.08	22.27	22.32
3	QPSK	1	7	22.09	22.42	22.44
3	QPSK	1	14	21.98	22.25	22.07
3	QPSK	8	0	20.98	21.32	21.46
3	QPSK	8	4	21.14	21.43	21.41
3	QPSK	8	7	21.01	21.37	21.28
3	QPSK	15	0	21.10	21.33	21.41
3	16QAM	1	0	20.95	21.42	21.13
3	16QAM	1	7	20.96	21.45	21.26
3	16QAM	1	14	20.85	21.34	21.10
3	16QAM	8	0	20.02	20.33	20.43
3	16QAM	8	4	19.95	20.37	20.38
3	16QAM	8	7	19.97	20.43	20.35
3	16QAM	15	0	19.99	20.10	20.37
<b>Channel</b>				<b>26047</b>	<b>26340</b>	<b>26683</b>
<b>Frequency (MHz)</b>				<b>1850.7</b>	<b>1880</b>	<b>1914.3</b>
1.4	QPSK	1	0	21.96	22.23	22.03
1.4	QPSK	1	2	22.00	22.26	22.12
1.4	QPSK	1	5	22.06	22.39	22.40
1.4	QPSK	3	0	21.97	22.31	22.22
1.4	QPSK	3	1	21.99	22.30	22.14
1.4	QPSK	3	2	21.94	22.29	22.09
1.4	QPSK	6	0	21.03	21.40	21.25
1.4	16QAM	1	0	20.90	21.38	20.93
1.4	16QAM	1	2	20.87	21.37	21.27
1.4	16QAM	1	5	21.22	21.59	21.35
1.4	16QAM	3	0	21.02	21.24	21.31
1.4	16QAM	3	1	20.98	21.20	21.18
1.4	16QAM	3	2	20.91	21.31	21.17
1.4	16QAM	6	0	19.89	20.38	20.11



<LTE Band 26 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>26865</b>	<b>26915</b>	<b>26965</b>
<b>Frequency (MHz)</b>				<b>831.5</b>	<b>836.5</b>	<b>841.5</b>
15	QPSK	1	0	22.64	22.77	22.76
15	QPSK	1	37	22.52	22.57	22.54
15	QPSK	1	74	22.59	22.61	22.22
15	QPSK	36	0	21.60	21.56	21.72
15	QPSK	36	18	21.74	21.48	21.71
15	QPSK	36	37	21.54	21.63	21.63
15	QPSK	75	0	21.62	21.65	21.82
15	16QAM	1	0	21.71	21.88	21.86
15	16QAM	1	37	21.34	21.27	21.54
15	16QAM	1	74	21.26	21.18	21.36
15	16QAM	36	0	20.53	20.55	20.65
15	16QAM	36	18	20.52	20.48	20.66
15	16QAM	36	37	20.54	20.54	20.55
15	16QAM	75	0	20.68	20.67	20.76
<b>Channel</b>				<b>26840</b>	<b>26915</b>	<b>26990</b>
<b>Frequency (MHz)</b>				<b>829</b>	<b>836.5</b>	<b>844</b>
10	QPSK	1	0	22.67	22.62	22.60
10	QPSK	1	24	22.62	22.42	22.56
10	QPSK	1	49	22.64	22.46	22.26
10	QPSK	25	0	21.55	21.60	21.61
10	QPSK	25	12	21.63	21.54	21.53
10	QPSK	25	24	21.54	21.56	21.49
10	QPSK	50	0	21.75	21.77	21.69
10	16QAM	1	0	21.91	21.49	21.86
10	16QAM	1	24	21.88	21.39	21.66
10	16QAM	1	49	21.90	21.40	21.56
10	16QAM	25	0	20.56	20.67	20.59
10	16QAM	25	12	20.59	20.67	20.51
10	16QAM	25	24	20.62	20.66	20.51
10	16QAM	50	0	20.64	20.73	20.66



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>26815</b>	<b>26915</b>	<b>27015</b>
<b>Frequency (MHz)</b>				<b>826.5</b>	<b>836.5</b>	<b>846.5</b>
5	QPSK	1	0	22.56	22.64	22.56
5	QPSK	1	12	22.53	22.46	22.49
5	QPSK	1	24	22.48	22.43	22.23
5	QPSK	12	0	21.64	21.55	21.58
5	QPSK	12	6	21.57	21.49	21.49
5	QPSK	12	11	21.46	21.48	21.32
5	QPSK	25	0	21.50	21.52	21.40
5	16QAM	1	0	21.56	21.53	21.84
5	16QAM	1	12	21.55	21.43	21.54
5	16QAM	1	24	21.14	21.31	21.34
5	16QAM	12	0	20.59	20.55	20.66
5	16QAM	12	6	20.60	20.54	20.60
5	16QAM	12	11	20.46	20.50	20.50
5	16QAM	25	0	20.52	20.58	20.45
<b>Channel</b>				<b>26805</b>	<b>26915</b>	<b>27025</b>
<b>Frequency (MHz)</b>				<b>825.5</b>	<b>836.5</b>	<b>847.5</b>
3	QPSK	1	0	22.66	22.50	22.49
3	QPSK	1	7	22.65	22.43	22.22
3	QPSK	1	14	22.52	22.49	22.21
3	QPSK	8	0	21.62	21.53	21.42
3	QPSK	8	4	21.65	21.49	21.34
3	QPSK	8	7	21.51	21.53	21.24
3	QPSK	15	0	21.64	21.54	21.35
3	16QAM	1	0	21.76	21.75	21.71
3	16QAM	1	7	21.75	21.31	21.26
3	16QAM	1	14	21.28	21.74	21.35
3	16QAM	8	0	20.69	20.62	20.50
3	16QAM	8	4	20.58	20.56	20.53
3	16QAM	8	7	20.54	20.52	20.24
3	16QAM	15	0	20.68	20.66	20.37
<b>Channel</b>				<b>26797</b>	<b>26915</b>	<b>27033</b>
<b>Frequency (MHz)</b>				<b>824.7</b>	<b>836.5</b>	<b>848.3</b>
1.4	QPSK	1	0	22.72	22.56	22.32
1.4	QPSK	1	2	22.67	22.54	22.20
1.4	QPSK	1	5	22.71	22.44	22.24
1.4	QPSK	3	0	22.62	22.55	22.28
1.4	QPSK	3	1	22.69	22.55	22.26
1.4	QPSK	3	2	22.67	22.50	22.27
1.4	QPSK	6	0	21.66	21.62	21.22
1.4	16QAM	1	0	21.76	21.92	21.62
1.4	16QAM	1	2	21.75	21.78	21.43
1.4	16QAM	1	5	21.22	21.65	21.29
1.4	16QAM	3	0	21.59	21.67	21.24
1.4	16QAM	3	1	21.70	21.49	21.23
1.4	16QAM	3	2	21.59	21.46	21.27
1.4	16QAM	6	0	20.52	20.65	20.26



<LTE Band 41 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>39750</b>	<b>40620</b>	<b>41490</b>
<b>Frequency (MHz)</b>				<b>2506</b>	<b>2593</b>	<b>2680</b>
20	QPSK	1	0	21.90	21.85	21.99
20	QPSK	1	49	21.92	22.15	22.12
20	QPSK	1	99	21.91	21.76	21.56
20	QPSK	50	0	21.01	20.78	20.95
20	QPSK	50	24	21.02	21.06	20.98
20	QPSK	50	49	20.95	20.83	20.97
20	QPSK	100	0	20.92	20.99	20.97
20	16QAM	1	0	20.48	20.54	20.73
20	16QAM	1	49	20.61	20.58	20.87
20	16QAM	1	99	20.60	20.50	20.65
20	16QAM	50	0	19.84	19.71	20.10
20	16QAM	50	24	19.86	19.72	20.25
20	16QAM	50	49	19.89	19.64	20.03
20	16QAM	100	0	19.94	19.84	20.14
<b>Channel</b>				<b>39725</b>	<b>40620</b>	<b>41515</b>
<b>Frequency (MHz)</b>				<b>2503.5</b>	<b>2593</b>	<b>2682.5</b>
15	QPSK	1	0	21.77	21.71	22.09
15	QPSK	1	37	21.99	21.75	21.97
15	QPSK	1	74	21.98	21.54	21.68
15	QPSK	36	0	20.98	20.72	21.06
15	QPSK	36	18	20.91	20.74	21.00
15	QPSK	36	37	20.86	20.79	20.77
15	QPSK	75	0	20.98	20.86	20.99
15	16QAM	1	0	20.54	20.93	20.87
15	16QAM	1	37	20.76	20.47	20.74
15	16QAM	1	74	20.67	20.41	20.52
15	16QAM	36	0	19.93	19.65	20.04
15	16QAM	36	18	19.83	19.70	20.05
15	16QAM	36	37	19.86	19.64	19.88
15	16QAM	75	0	19.92	19.76	20.01



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
<b>Channel</b>				<b>39700</b>	<b>40620</b>	<b>41540</b>
<b>Frequency (MHz)</b>				<b>2501</b>	<b>2593</b>	<b>2685</b>
10	QPSK	1	0	21.76	21.68	22.12
10	QPSK	1	24	22.10	21.80	21.96
10	QPSK	1	49	21.82	21.78	21.43
10	QPSK	25	0	20.90	20.68	21.09
10	QPSK	25	12	21.03	20.73	20.82
10	QPSK	25	24	20.93	20.69	20.69
10	QPSK	50	0	20.92	20.78	20.94
10	16QAM	1	0	20.60	20.47	20.88
10	16QAM	1	24	20.73	20.55	20.68
10	16QAM	1	49	20.56	20.42	20.42
10	16QAM	25	0	19.95	19.70	20.15
10	16QAM	25	12	20.05	19.76	19.99
10	16QAM	25	24	19.96	19.74	19.73
10	16QAM	50	0	19.88	19.66	19.90
<b>Channel</b>				<b>39675</b>	<b>40620</b>	<b>41565</b>
<b>Frequency (MHz)</b>				<b>2498.5</b>	<b>2593</b>	<b>2687.5</b>
5	QPSK	1	0	21.85	21.87	22.07
5	QPSK	1	12	22.05	22.00	21.84
5	QPSK	1	24	22.07	21.82	21.37
5	QPSK	12	0	20.78	20.66	20.67
5	QPSK	12	6	20.91	20.74	20.54
5	QPSK	12	11	20.96	20.79	20.50
5	QPSK	25	0	20.85	20.76	20.53
5	16QAM	1	0	20.51	20.48	20.58
5	16QAM	1	12	20.58	20.50	20.38
5	16QAM	1	24	20.82	20.49	20.40
5	16QAM	12	0	19.73	19.67	19.81
5	16QAM	12	6	19.82	19.77	19.54
5	16QAM	12	11	19.86	19.70	19.52
5	16QAM	25	0	19.89	19.82	19.70

Note: maximum average power for LTE.

## 3.2 Peak-to-Average Ratio

### 3.2.1 Description of the PAR Measurement

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

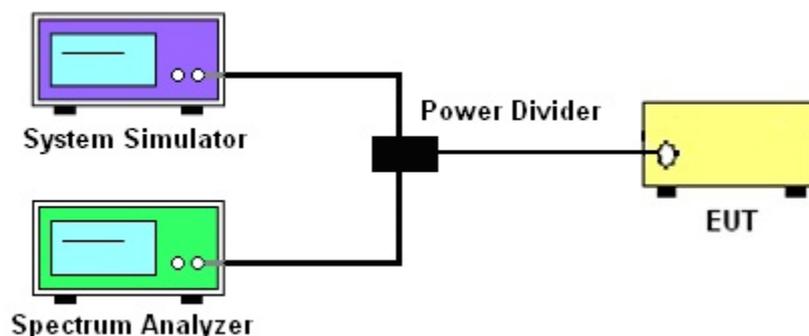
### 3.2.2 Measuring Instruments

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

### 3.2.3 Test Procedures

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

### 3.2.4 Test Setup





3.2.5 Test Result of Peak-to-Average Ratio

LTE Band 25				
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Middle Ch. / Freq.
Channel				26340
Frequency (MHz)				1880
20	16QAM	1	0	2.80
20	16QAM	100	0	7.24

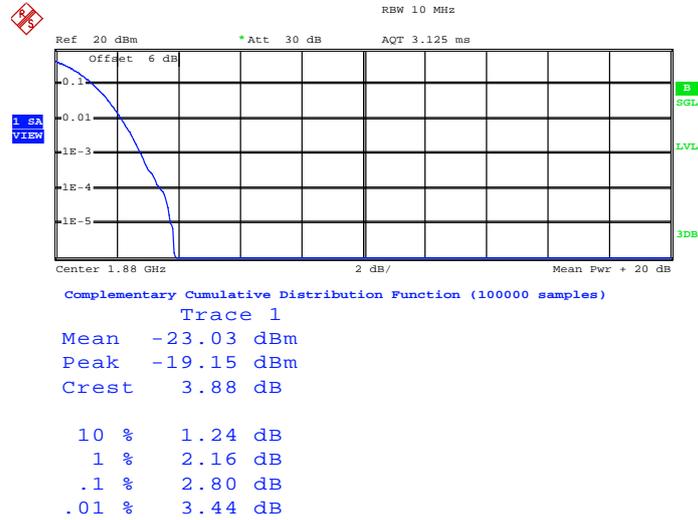
LTE Band 26				
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Middle Ch. / Freq.
Channel				26915
Frequency (MHz)				836.5
15	16QAM	1	0	2.12
15	16QAM	75	0	6.80

LTE Band 41				
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Middle Ch. / Freq.
Channel				40620
Frequency (MHz)				2593
20	16QAM	1	0	3.88
20	16QAM	100	0	9.00



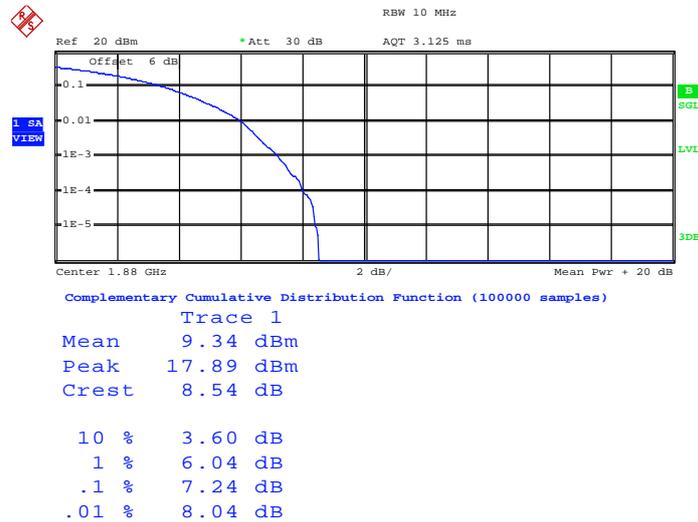
### 3.2.6 Peak to Average Power Ratio

#### Peak-to-Average Ratio on LTE Band 25 20MHz / 16QAM in Ch. 26340 (1RB Size)



Date: 3.JUL.2014 17:21:22

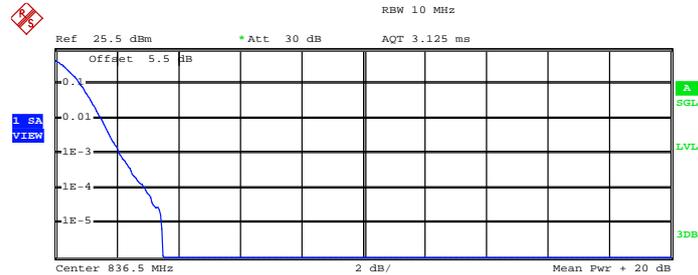
#### Peak-to-Average Ratio on LTE Band 25 20MHz / 16QAM in Ch. 26340 (100RB Size)



Date: 3.JUL.2014 17:21:00



Peak-to-Average Ratio on LTE Band 26
15MHz / 16QAM in Ch. 26915 (1RB Size)



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean -12.28 dBm
Peak -8.78 dBm
Crest 3.50 dB
10 % 0.84 dB
1 % 1.52 dB
.1 % 2.12 dB
.01 % 2.92 dB

Date: 10.JUN.2014 19:47:13

Peak-to-Average Ratio on LTE Band 26
15MHz / 16QAM in Ch. 26915 (75RB Size)



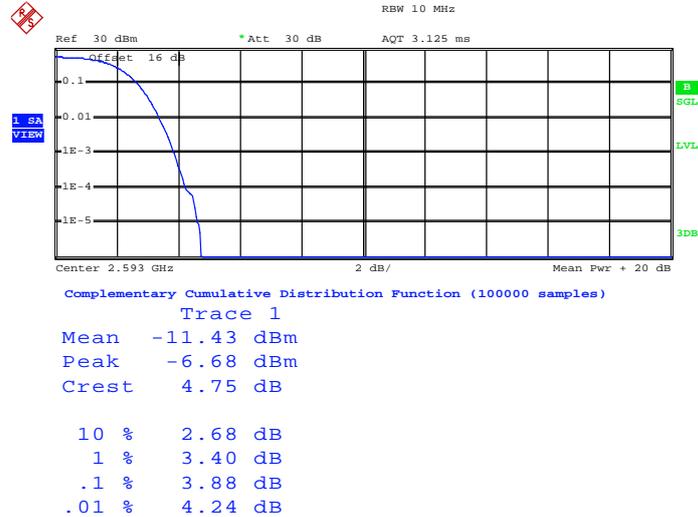
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 20.48 dBm
Peak 28.26 dBm
Crest 7.78 dB
10 % 3.36 dB
1 % 5.60 dB
.1 % 6.80 dB
.01 % 7.44 dB

Date: 10.JUN.2014 19:47:50

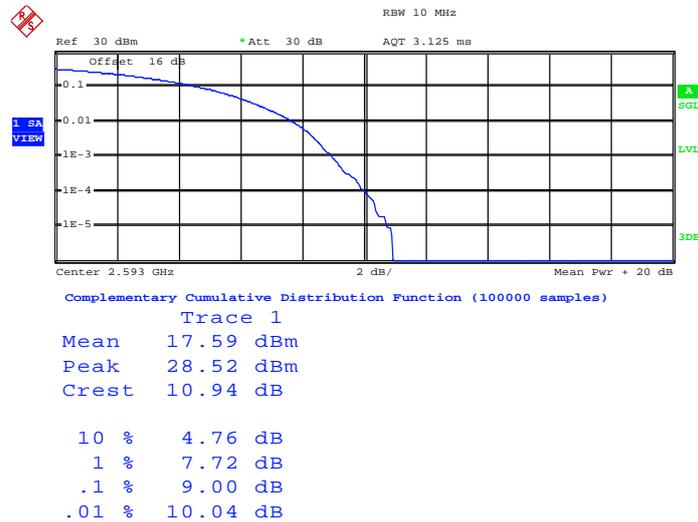


Peak-to-Average Ratio on LTE Band 41  
20MHz / 16QAM in Ch. 40620 (1RB Size)



Date: 3.JUL.2014 17:12:42

Peak-to-Average Ratio on LTE Band 41  
20MHz / 16QAM in Ch. 40620 (100RB Size)



Date: 3.JUL.2014 17:24:39



### 3.3 Effective Radiated Power and Equivalent Isotropic Radiated Power Measurement

#### 3.3.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 26.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 25 and LTE band 41.

#### 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 turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer which used a channel power option across EUT's signal bandwidth per section 4.0 of KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10.  $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

$P_s$  (dBm) : Input power to substitution antenna.

$G_s$  (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

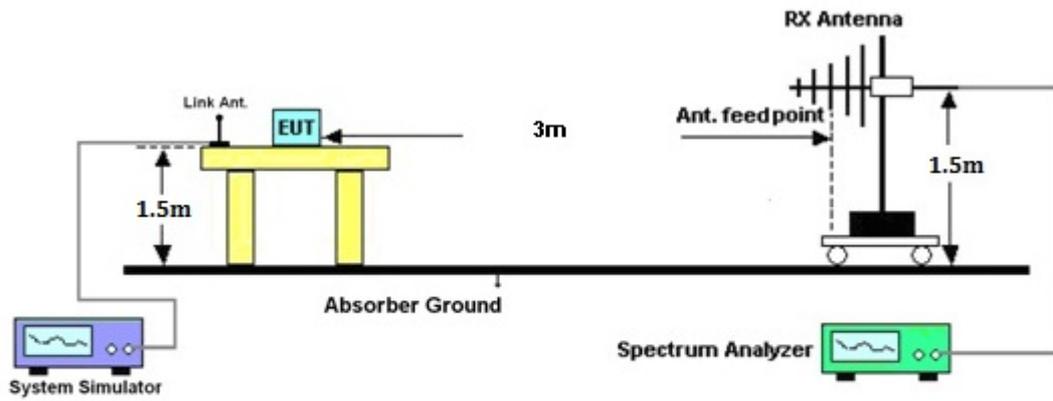
$E_s = R_s + AF$

AF (dB/m) : Receive antenna factor

$R_t$  : The highest received signal in spectrum analyzer for EUT.

$R_s$  : The highest received signal in spectrum analyzer for substitution antenna.

### 3.3.4 Test Setup





3.3.5 Test Result of ERP/EIRP

LTE Band 25 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
25	1.4	QPSK	1	5	1850.7	23.27	0.2123	H
25	1.4	QPSK	1	5	1880	22.51	0.1782	H
25	1.4	QPSK	1	5	1914.3	22.18	0.1652	H
25	1.4	QPSK	1	5	1850.7	23.39	0.2183	V
25	1.4	QPSK	1	5	1880	22.89	0.1945	V
25	1.4	QPSK	1	5	1914.3	23.39	0.2183	V
25	1.4	16QAM	1	5	1850.7	22.12	0.1629	H
25	1.4	16QAM	1	5	1880	21.77	0.1503	H
25	1.4	16QAM	1	5	1914.3	21.14	0.1300	H
25	1.4	16QAM	1	5	1850.7	22.29	0.1694	V
25	1.4	16QAM	1	5	1880	22.16	0.1644	V
25	1.4	16QAM	1	5	1914.3	22.42	0.1746	V
25	20	QPSK	1	49	1860	22.44	0.1754	H
25	20	QPSK	1	49	1880	22.28	0.1690	H
25	20	QPSK	1	49	1905	22.79	0.1901	H
25	20	QPSK	1	49	1860	22.48	0.1770	V
25	20	QPSK	1	49	1880	22.60	0.1820	V
25	20	QPSK	1	49	1905	23.49	0.2234	V
25	20	16QAM	1	49	1860	21.66	0.1466	H
25	20	16QAM	1	49	1880	21.67	0.1469	H
25	20	16QAM	1	49	1905	21.64	0.1459	H
25	20	16QAM	1	49	1860	21.69	0.1476	V
25	20	16QAM	1	49	1880	22.03	0.1596	V
25	20	16QAM	1	49	1905	22.34	0.1714	V



LTE Band 26 Radiated Power ERP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	ERP (W)	H/V
			RB Size	RB Offset				
26	1.4	QPSK	1	0	824.7	19.85	0.0966	H
26	1.4	QPSK	1	0	836.5	19.87	0.0971	H
26	1.4	QPSK	1	0	848.3	19.50	0.0891	H
26	1.4	QPSK	1	0	824.7	3.52	0.0022	V
26	1.4	QPSK	1	0	836.5	3.50	0.0022	V
26	1.4	QPSK	1	0	848.3	2.81	0.0019	V
26	1.4	16QAM	1	0	824.7	18.75	0.0750	H
26	1.4	16QAM	1	0	836.5	18.75	0.0750	H
26	1.4	16QAM	1	0	848.3	18.36	0.0685	H
26	1.4	16QAM	1	0	824.7	2.36	0.0017	V
26	1.4	16QAM	1	0	836.5	2.44	0.0018	V
26	1.4	16QAM	1	0	848.3	1.67	0.0015	V
26	15	QPSK	1	0	831.5	19.96	0.0991	H
26	15	QPSK	1	0	836.5	20.43	0.1104	H
26	15	QPSK	1	0	841.5	20.28	0.1067	H
26	15	QPSK	1	0	831.5	3.63	0.0023	V
26	15	QPSK	1	0	836.5	4.11	0.0026	V
26	15	QPSK	1	0	841.5	3.90	0.0025	V
26	15	16QAM	1	0	831.5	18.81	0.0760	H
26	15	16QAM	1	0	836.5	19.31	0.0853	H
26	15	16QAM	1	0	841.5	19.14	0.0820	H
26	15	16QAM	1	0	831.5	2.49	0.0018	V
26	15	16QAM	1	0	836.5	3.01	0.0020	V
26	15	16QAM	1	0	841.5	2.90	0.0019	V



LTE Band 41 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
41	5	QPSK	1	0	2498.5	26.62	0.4592	H
41	5	QPSK	1	0	2593	24.77	0.2999	H
41	5	QPSK	1	0	2687.5	25.15	0.3273	H
41	5	QPSK	1	0	2498.5	26.43	0.4395	V
41	5	QPSK	1	0	2593	24.58	0.2871	V
41	5	QPSK	1	0	2687.5	24.93	0.3112	V
41	5	16QAM	1	0	2498.5	25.45	0.3508	H
41	5	16QAM	1	0	2593	23.56	0.2270	H
41	5	16QAM	1	0	2687.5	23.92	0.2466	H
41	5	16QAM	1	0	2498.5	25.25	0.3350	V
41	5	16QAM	1	0	2593	23.34	0.2158	V
41	5	16QAM	1	0	2687.5	23.71	0.2350	V
41	20	QPSK	1	49	2506	26.28	0.4246	H
41	20	QPSK	1	49	2593	24.77	0.2999	H
41	20	QPSK	1	49	2680	25.63	0.3656	H
41	20	QPSK	1	49	2506	26.04	0.4018	V
41	20	QPSK	1	49	2593	24.52	0.2831	V
41	20	QPSK	1	49	2680	25.38	0.3451	V
41	20	16QAM	1	49	2506	25.18	0.3296	H
41	20	16QAM	1	49	2593	23.67	0.2328	H
41	20	16QAM	1	49	2680	24.54	0.2844	H
41	20	16QAM	1	49	2506	24.94	0.3119	V
41	20	16QAM	1	49	2593	23.42	0.2198	V
41	20	16QAM	1	49	2680	24.29	0.2685	V

### 3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

#### 3.4.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26dB occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal 26 dB.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

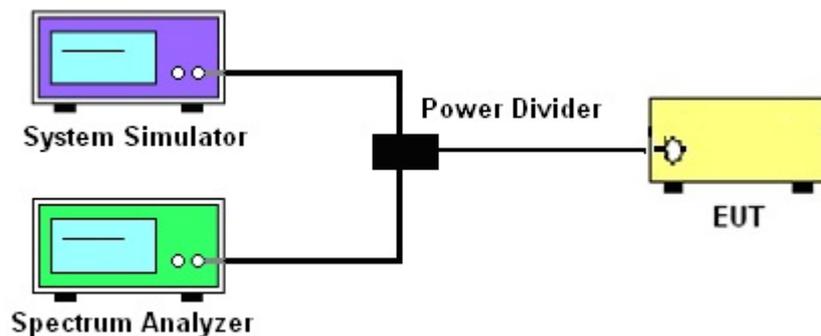
#### 3.4.2 Measuring Instruments

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

#### 3.4.3 Test Procedures

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

#### 3.4.4 Test Setup





3.4.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

Modes	LTE Band 25			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.103	1.103	2.736	2.736
26dB BW (MHz)	1.294	1.294	3.060	3.048
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.520	4.520	9.080	9.160
26dB BW (MHz)	4.960	5.020	10.080	10.120
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM
99% OBW (MHz)	13.500	13.500	18.560	18.560
26dB BW (MHz)	14.820	14.760	21.280	21.200

Modes	LTE Band 26			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.095	1.098	2.724	2.712
26dB BW (MHz)	1.240	1.291	3.018	3.036
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.490	4.480	9.060	9.020
26dB BW (MHz)	4.950	4.910	10.040	10.000
BW / Mod.	15MHz / QPSK	15MHz / 16QAM		
99% OBW (MHz)	13.440	13.380		
26dB BW (MHz)	14.580	14.760		



Modes	LTE Band 41				
	BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)		4.500	4.500	9.120	9.120
26dB BW (MHz)		5.000	5.040	9.960	10.040
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM	
99% OBW (MHz)		13.560	13.500	18.720	18.720
26dB BW (MHz)		14.580	14.820	21.280	21.200

**Note:**

The maximum RB configurations of the 99% Occupied Bandwidth and 26dB Bandwidth summary as below:

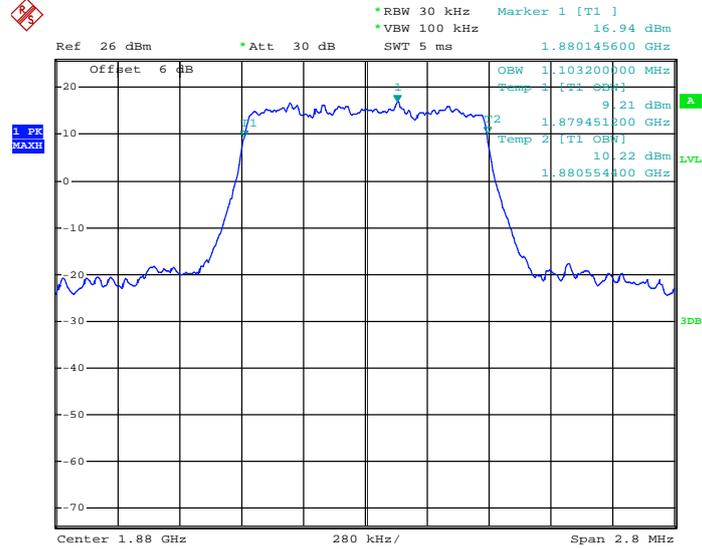
- BW1.4MHz RB setting : RB Size 6, RB offset 0
- BW3.0MHz RB setting : RB Size 15, RB offset 0
- BW5.0MHz RB setting : RB Size 25, RB offset 0
- BW10MHz RB setting : RB Size 50, RB offset 0
- BW15MHz RB setting : RB Size 75, RB offset 0
- BW20MHz RB setting : RB Size 100, RB offset 0





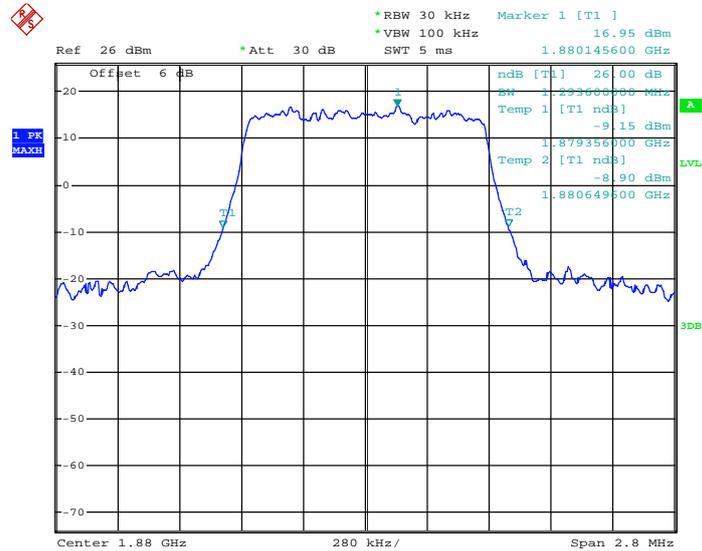
<b>Band :</b>	LTE Band 25	<b>BW / Mod. :</b>	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:25:28

26dB Bandwidth Plot on Channel 26340

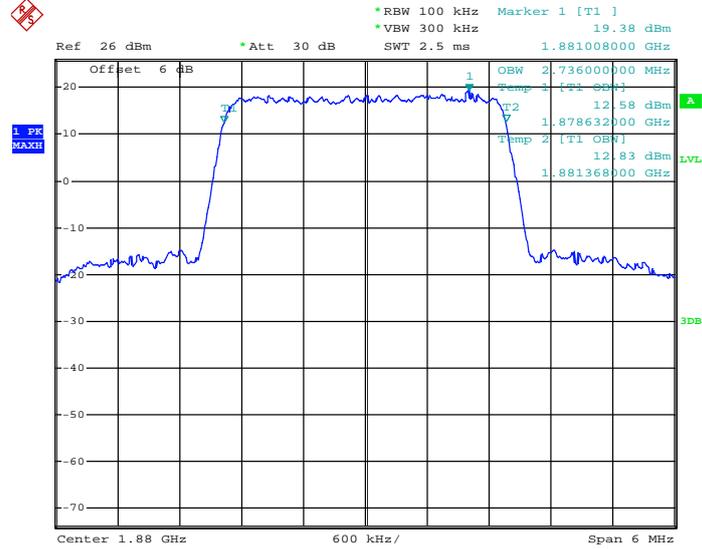


Date: 11.JUN.2014 20:30:03



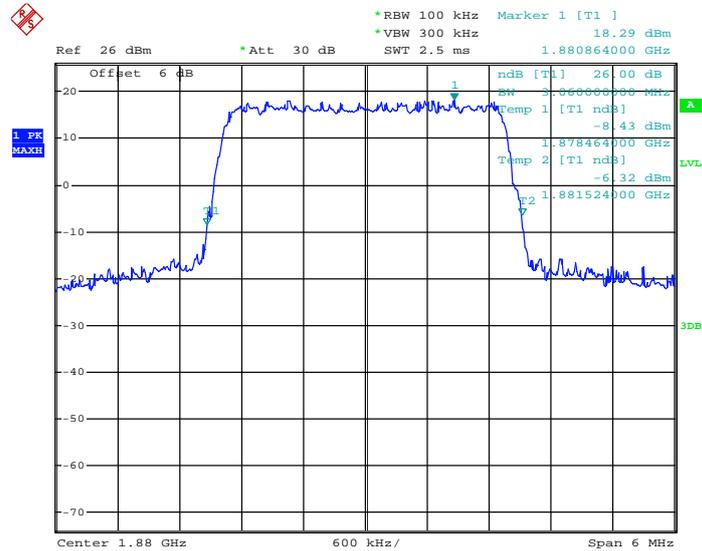
Band :	LTE Band 25	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:26:33

26dB Bandwidth Plot on Channel 26340

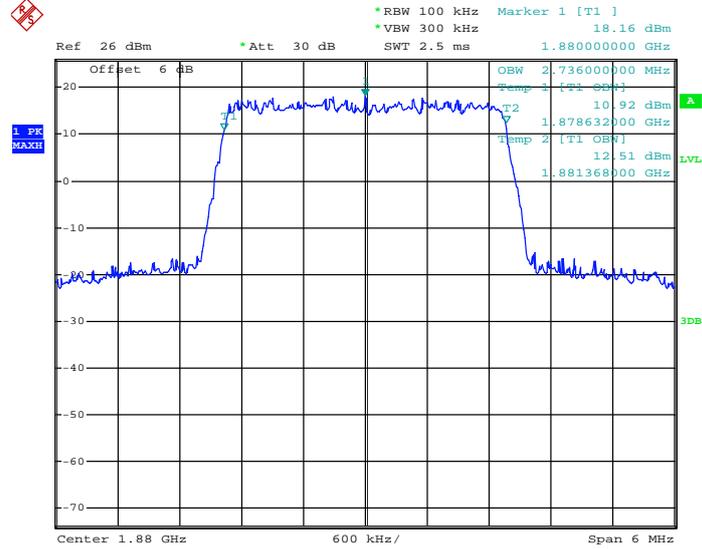


Date: 11.JUN.2014 20:30:32



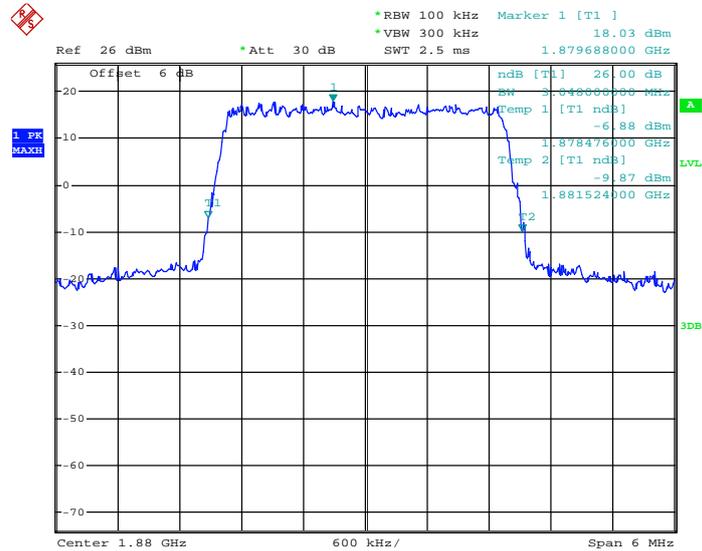
<b>Band :</b>	LTE Band 25	<b>BW / Mod. :</b>	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:26:45

26dB Bandwidth Plot on Channel 26340

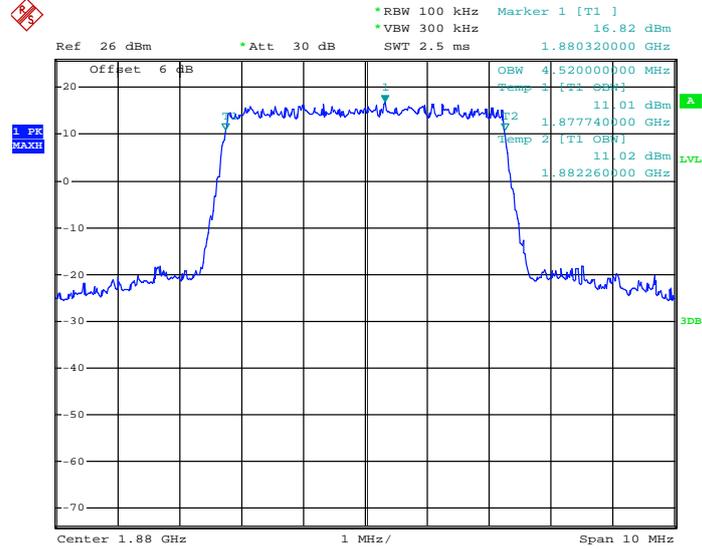


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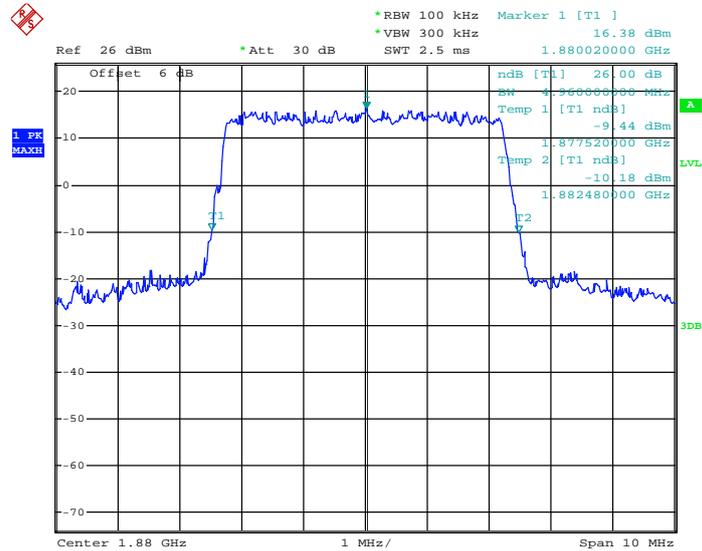
<b>Band :</b>	LTE Band 25	<b>BW / Mod. :</b>	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:27:12

26dB Bandwidth Plot on Channel 26340

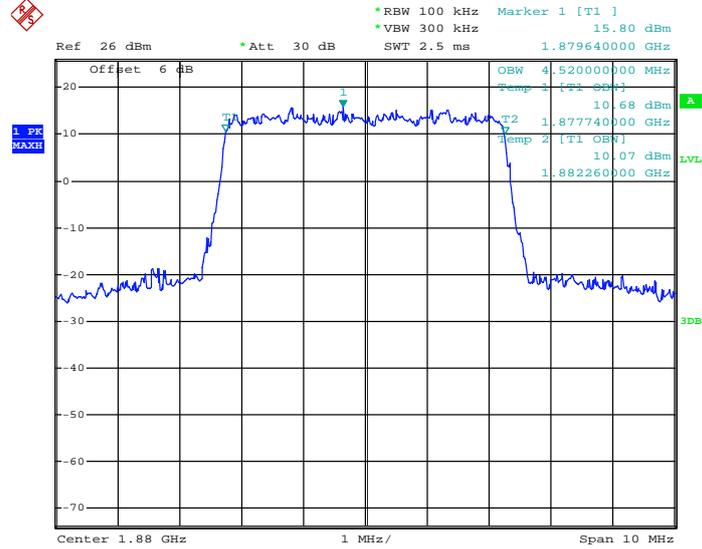


Date: 11.JUN.2014 20:31:12



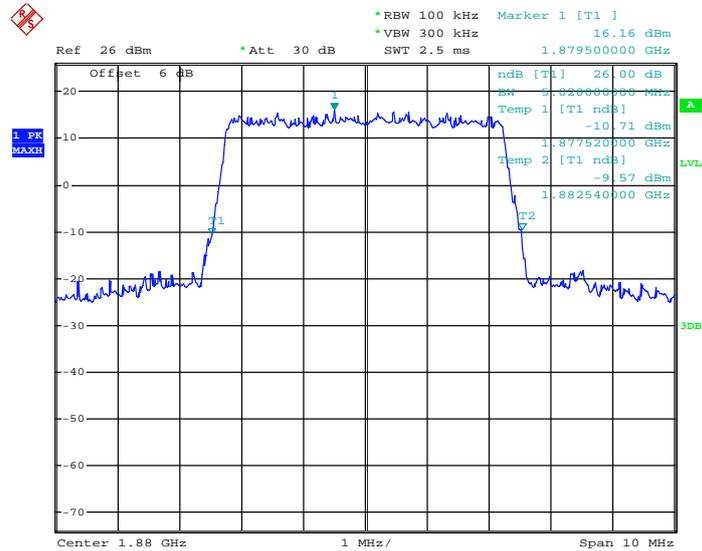
Band :	LTE Band 25	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:26:58

26dB Bandwidth Plot on Channel 26340

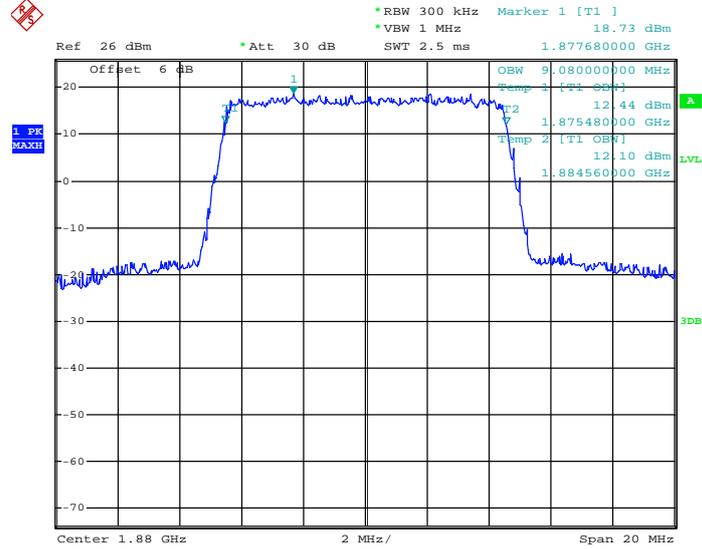


Date: 11.JUN.2014 20:31:00



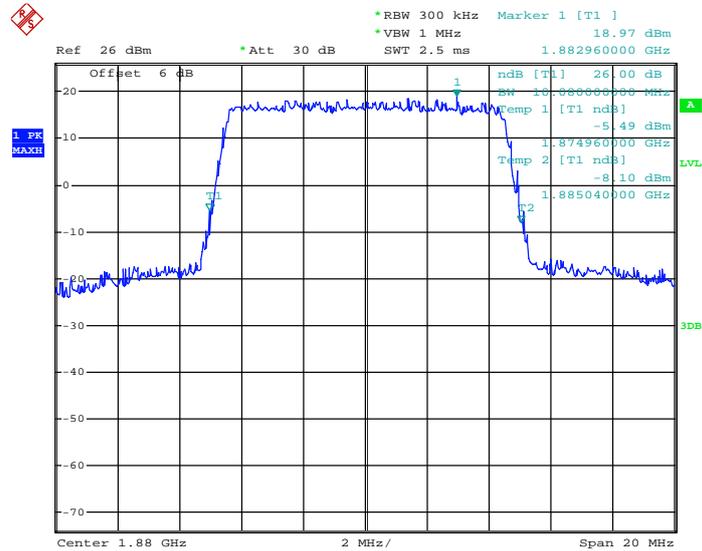
<b>Band :</b>	LTE Band 25	<b>BW / Mod. :</b>	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:27:39

26dB Bandwidth Plot on Channel 26340

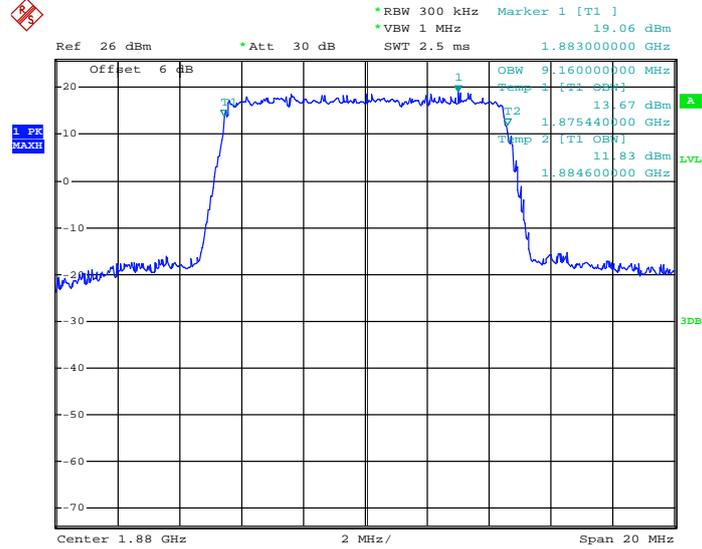


Date: 11.JUN.2014 20:31:31



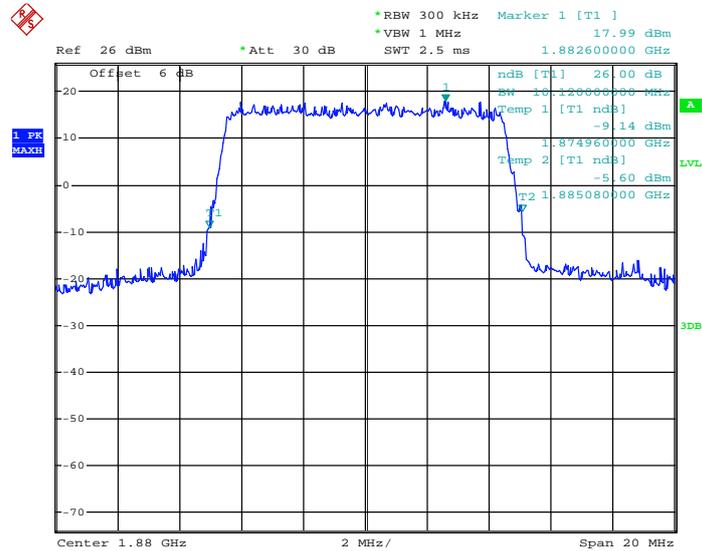
Band :	LTE Band 25	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:28:24

26dB Bandwidth Plot on Channel 26340



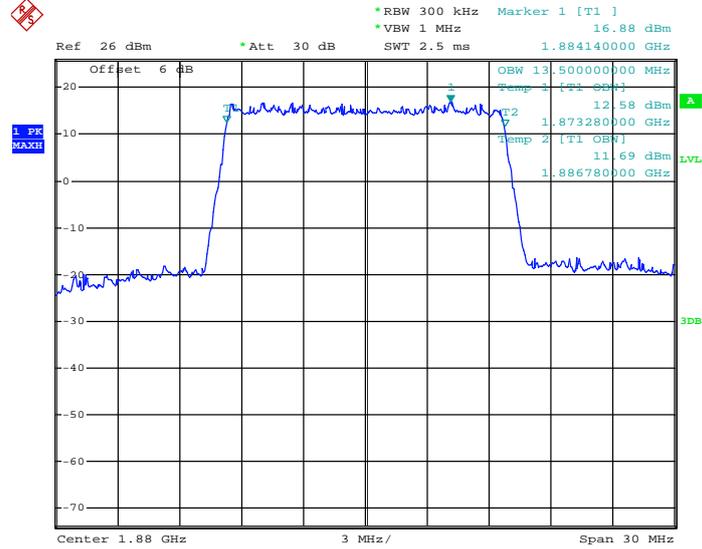
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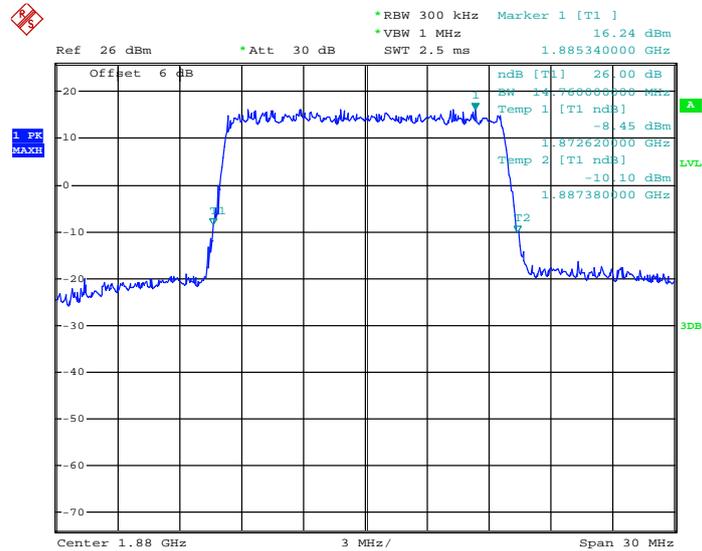
<b>Band :</b>	LTE Band 25	<b>BW / Mod. :</b>	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:38:37

26dB Bandwidth Plot on Channel 26340

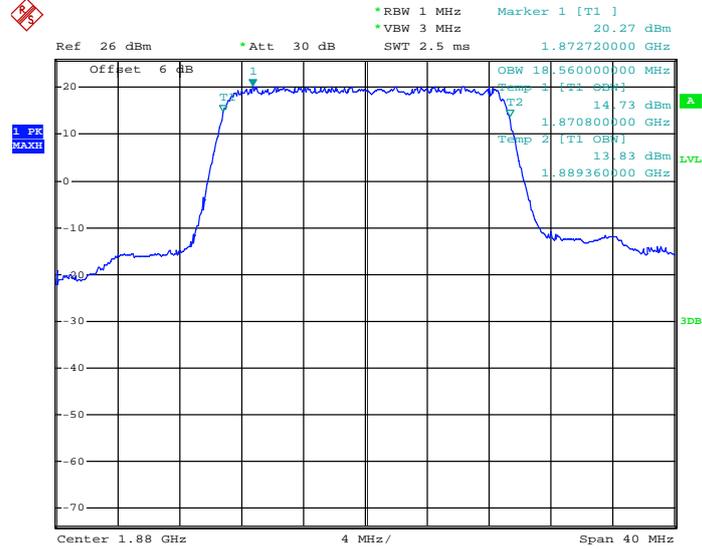


Date: 11.JUN.2014 20:31:51



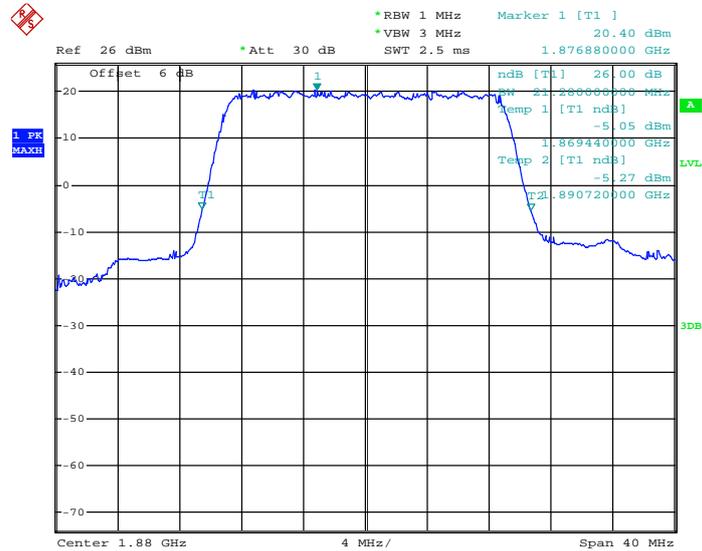
Band :	LTE Band 25	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:28:56

26dB Bandwidth Plot on Channel 26340

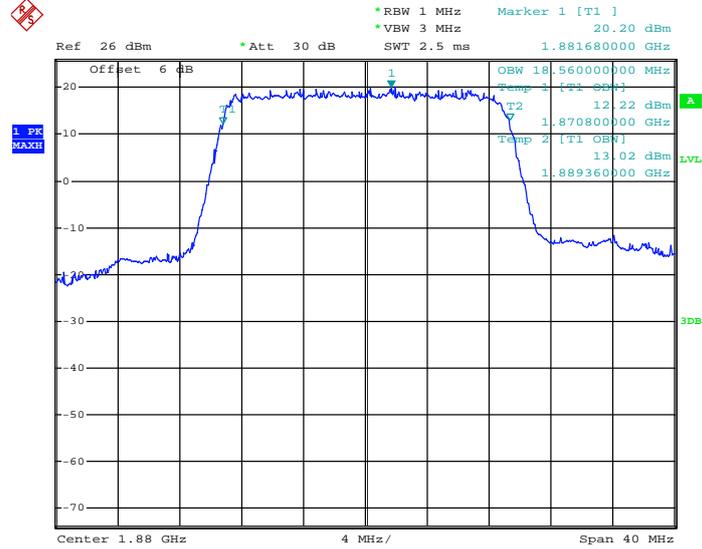


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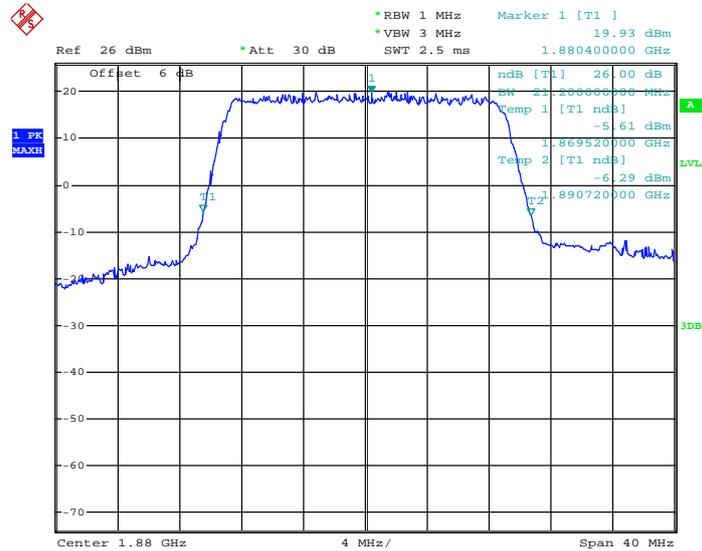
Band :	LTE Band 25	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 11.JUN.2014 20:29:05

26dB Bandwidth Plot on Channel 26340

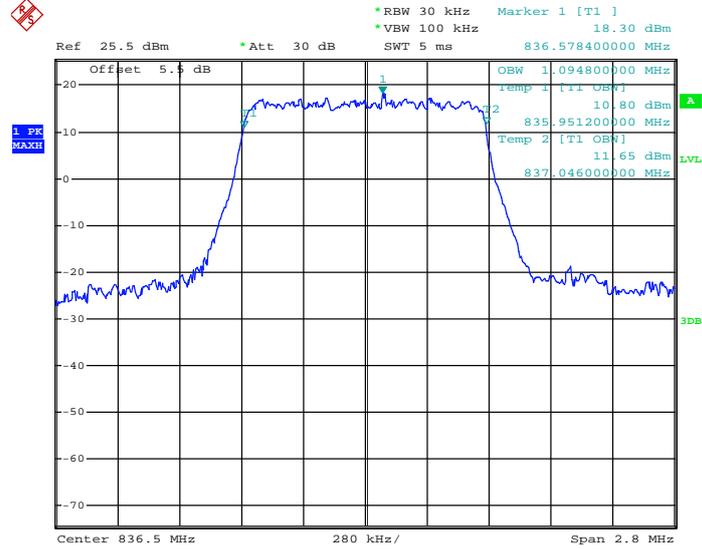


Date: 11.JUN.2014 20:32:36



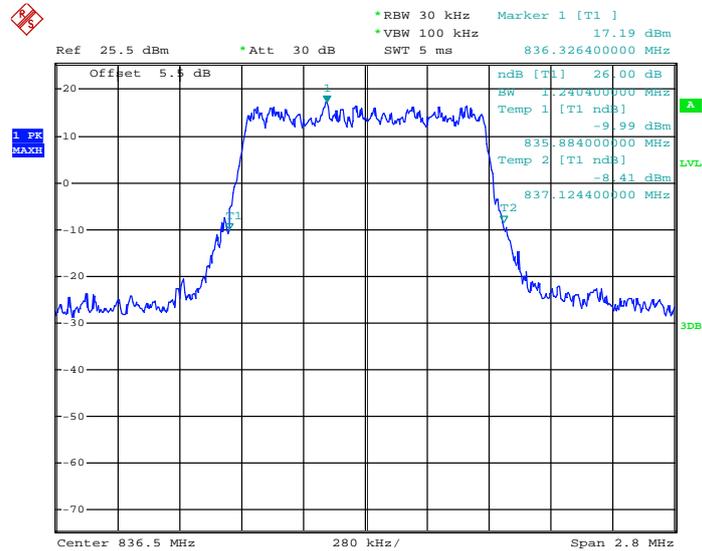
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:34:57

26dB Bandwidth Plot on Channel 26915

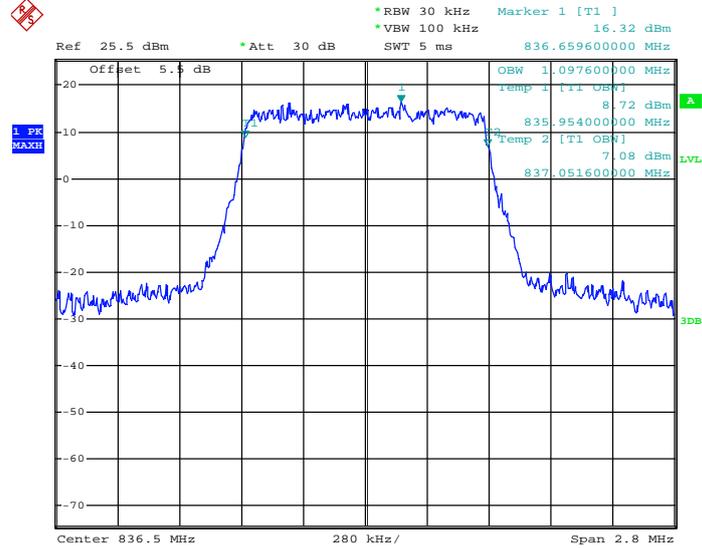


Date: 10.JUN.2014 19:43:00



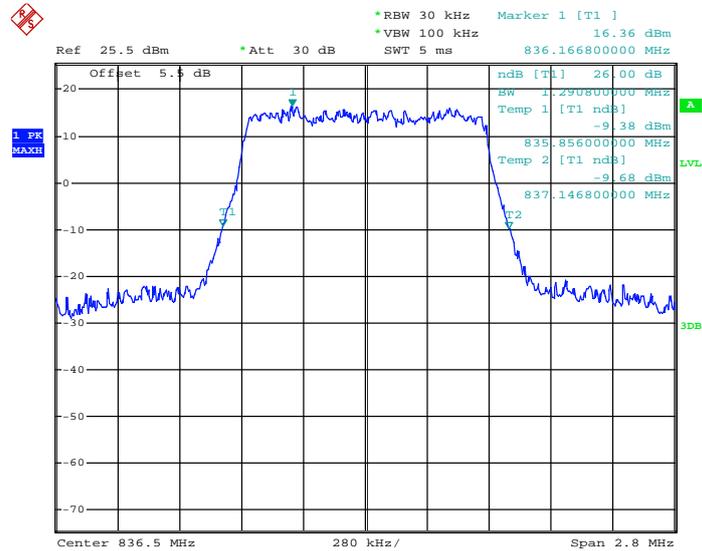
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:35:14

26dB Bandwidth Plot on Channel 26915



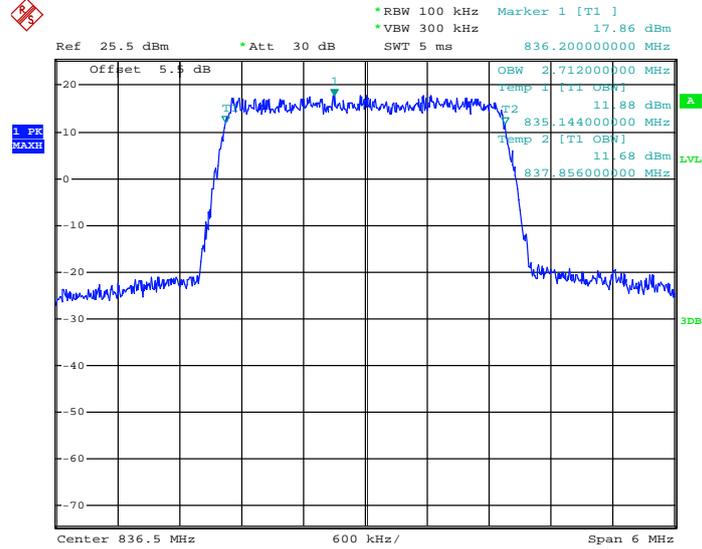
Date: 10.JUN.2014 19:43:41





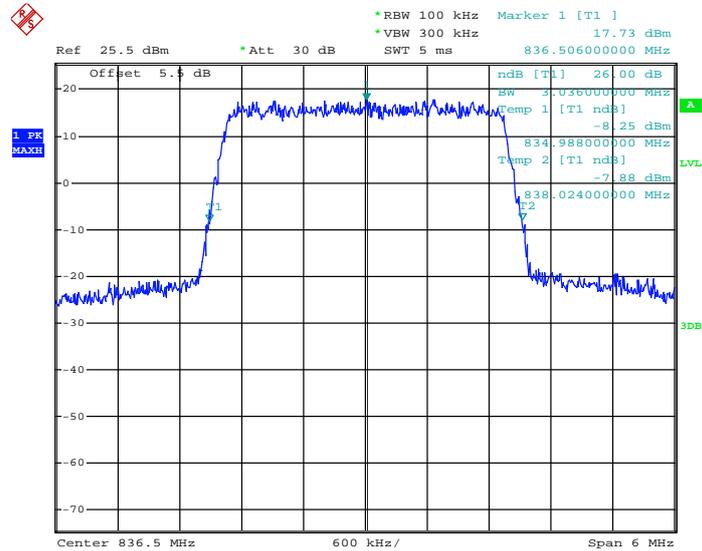
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:36:19

26dB Bandwidth Plot on Channel 26915

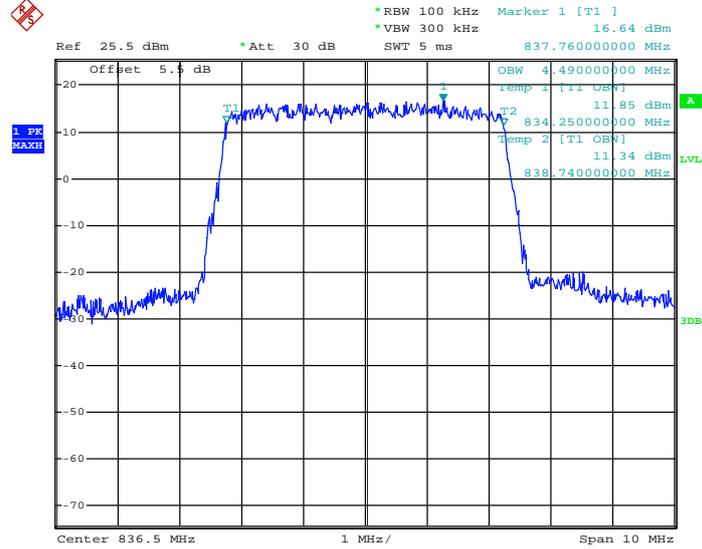


Date: 10.JUN.2014 19:42:05



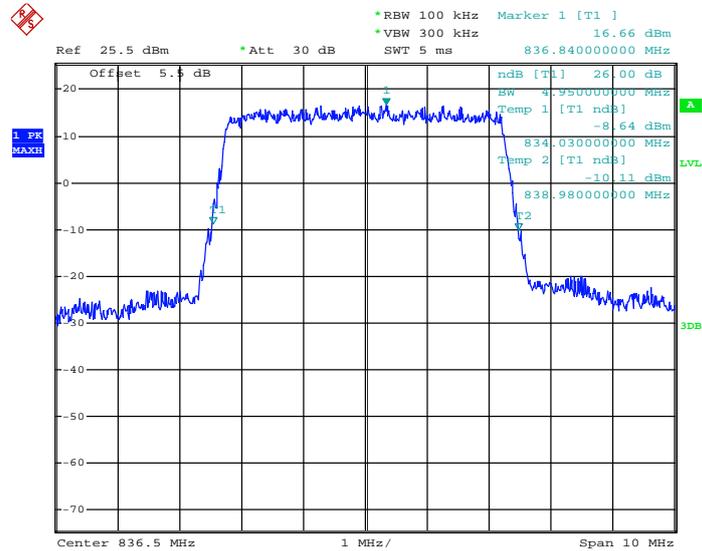
Band :	LTE Band 26	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:37:40

26dB Bandwidth Plot on Channel 26915

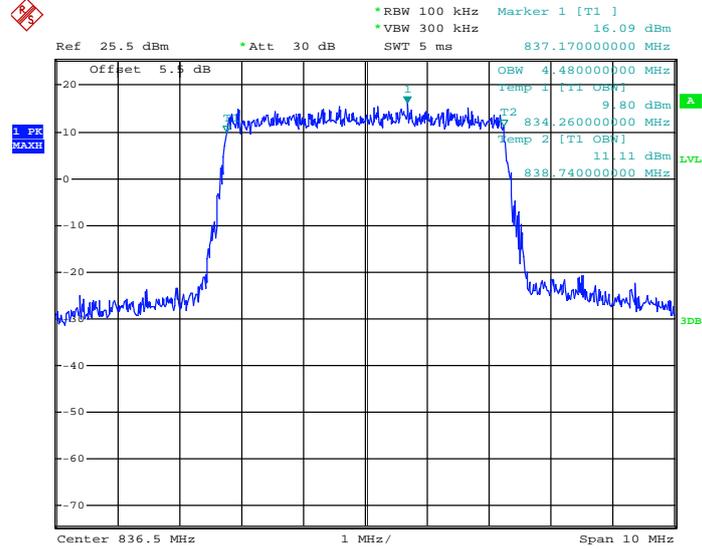


Date: 10.JUN.2014 19:41:07



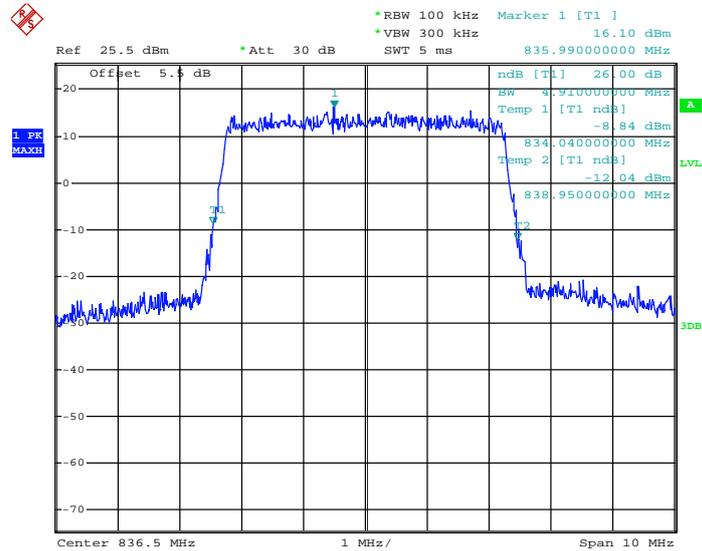
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:37:00

26dB Bandwidth Plot on Channel 26915

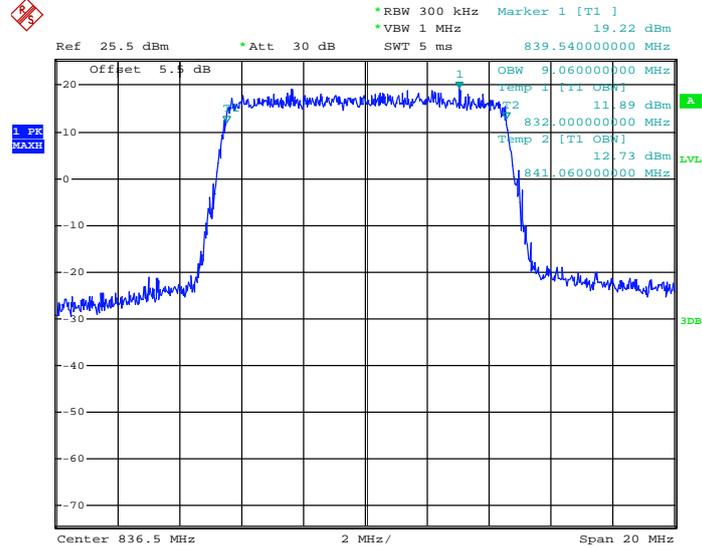


Date: 10.JUN.2014 19:41:23



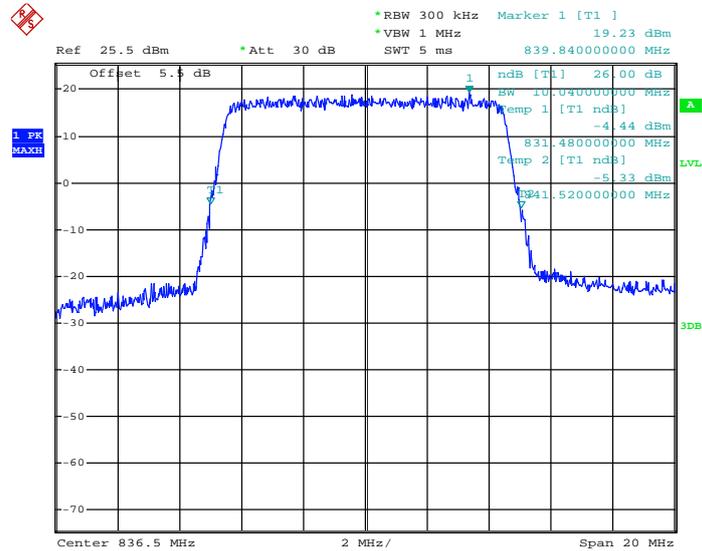
Band :	LTE Band 26	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:37:57

26dB Bandwidth Plot on Channel 26915

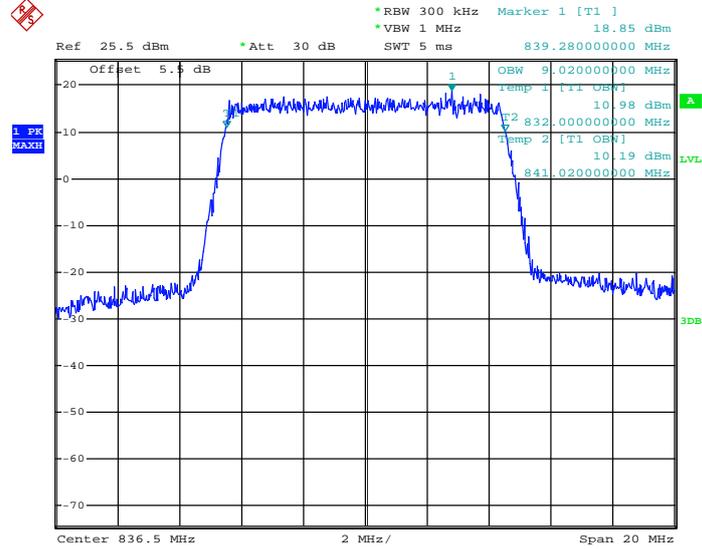


Date: 10.JUN.2014 19:40:31



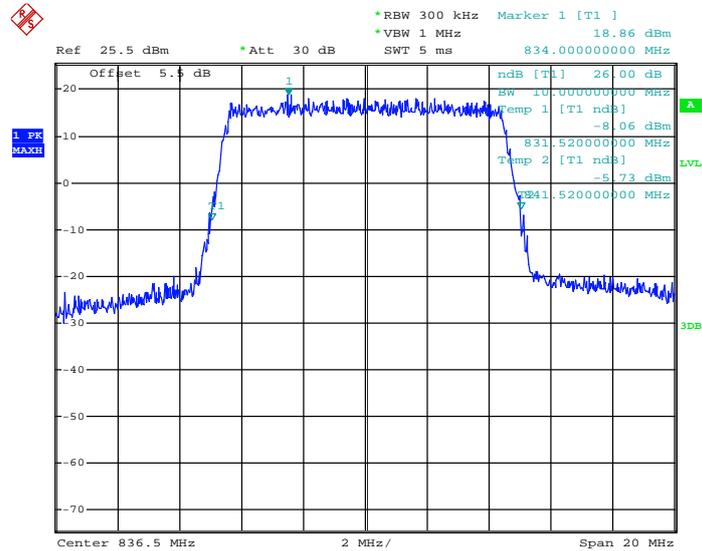
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:38:20

26dB Bandwidth Plot on Channel 26915

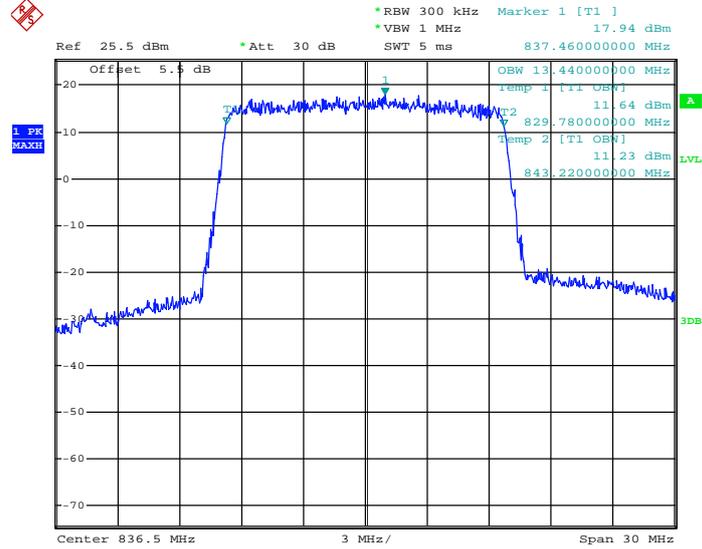


Date: 10.JUN.2014 19:40:46



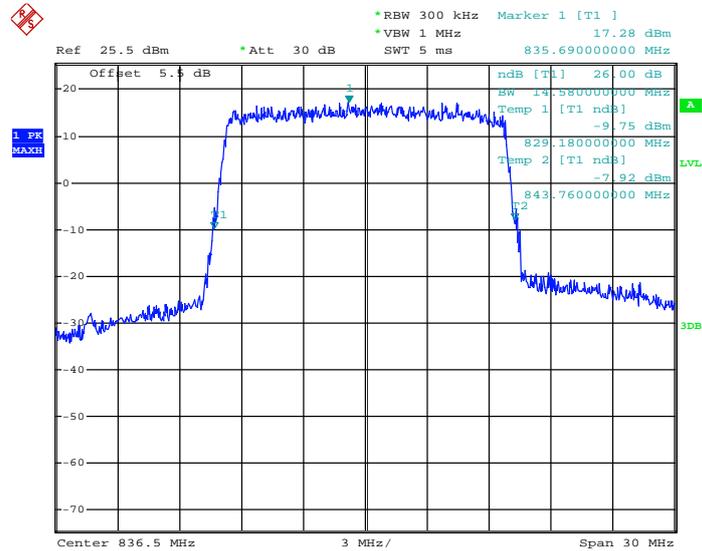
<b>Band :</b>	LTE Band 26	<b>BW / Mod. :</b>	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:38:48

26dB Bandwidth Plot on Channel 26915

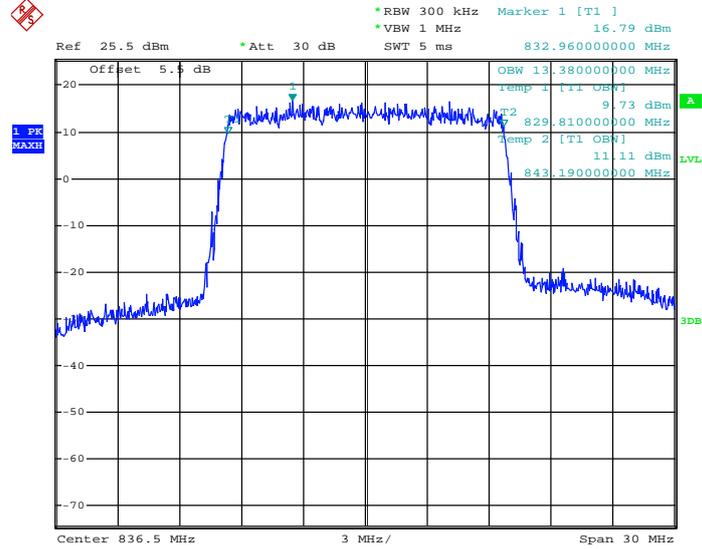


Date: 10.JUN.2014 19:40:12



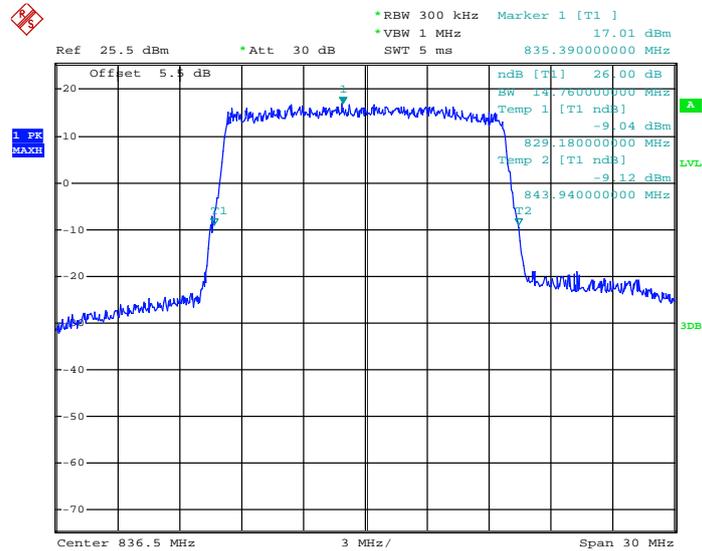
Band :	LTE Band 26	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.JUN.2014 19:39:05

26dB Bandwidth Plot on Channel 26915

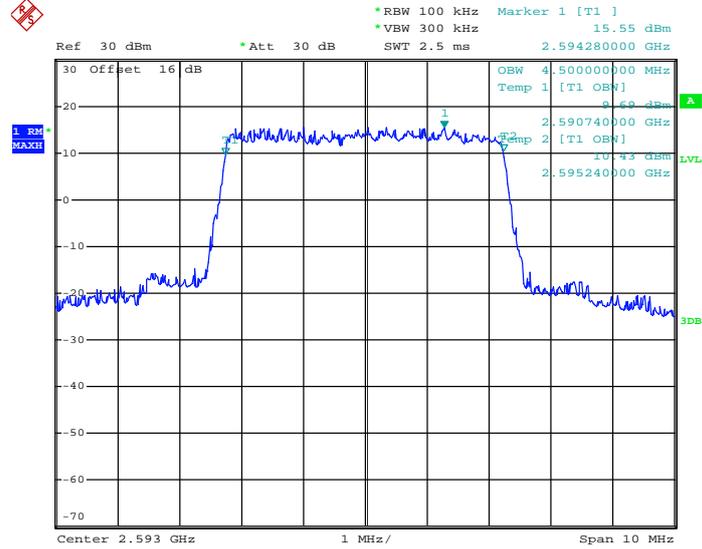


Date: 10.JUN.2014 19:39:57



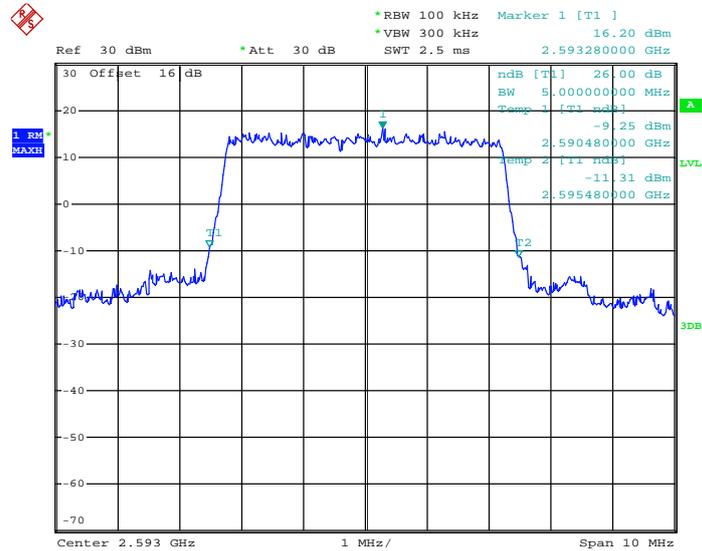
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:27:30

26dB Bandwidth Plot on Channel 40620

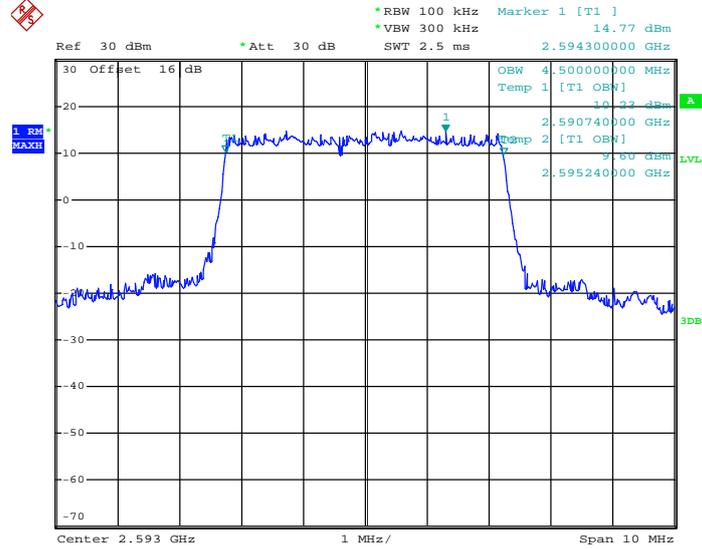


Date: 10.JUN.2014 23:04:46



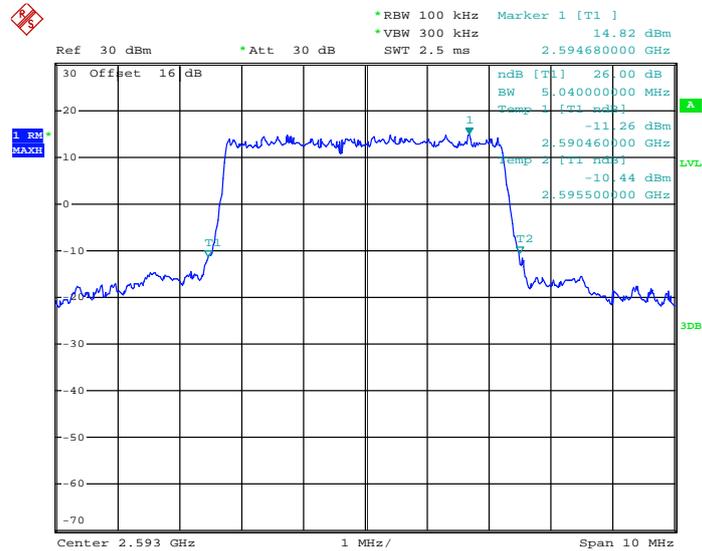
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:27:09

26dB Bandwidth Plot on Channel 40620

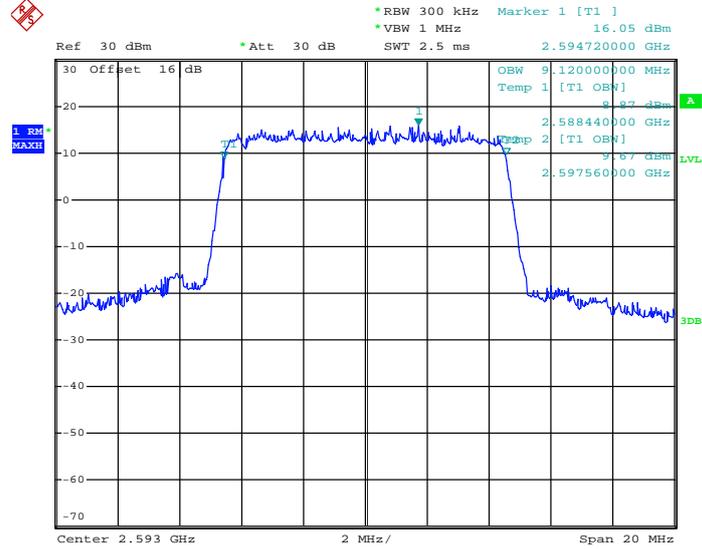


Date: 10.JUN.2014 23:03:52



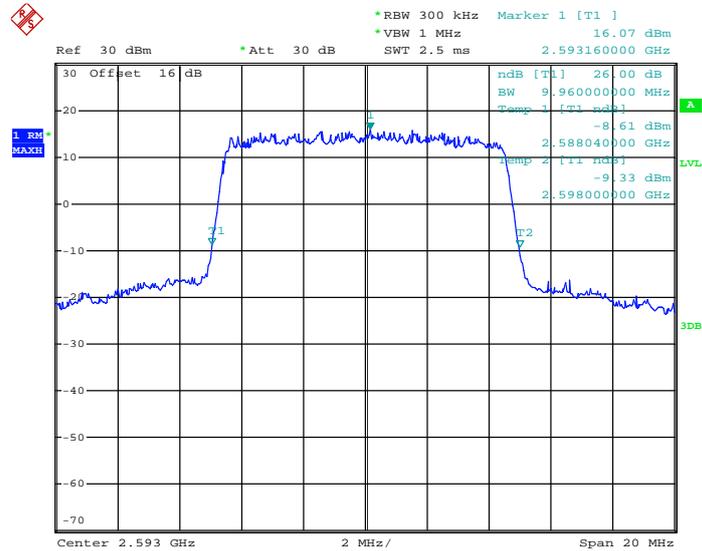
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:34:04

26dB Bandwidth Plot on Channel 40620

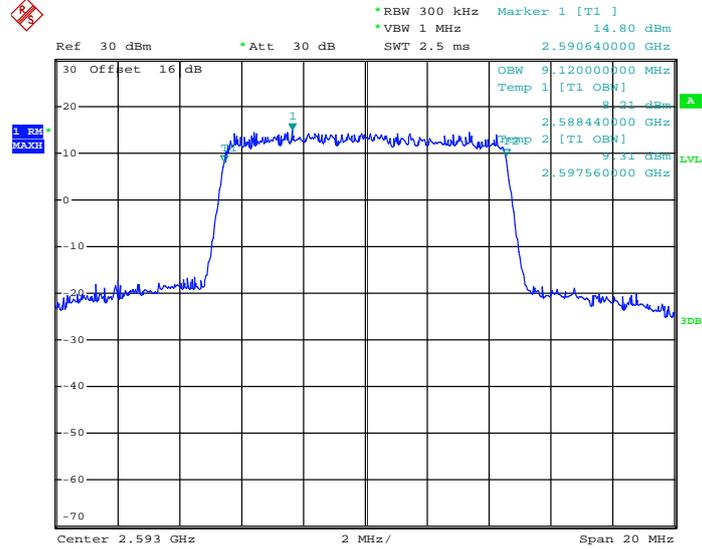


Date: 10.JUN.2014 23:09:22



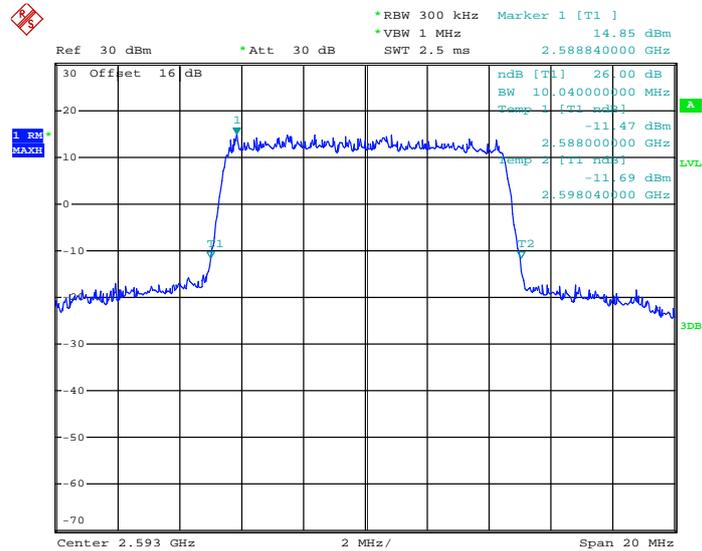
Band :	LTE Band 41	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:33:54

26dB Bandwidth Plot on Channel 40620

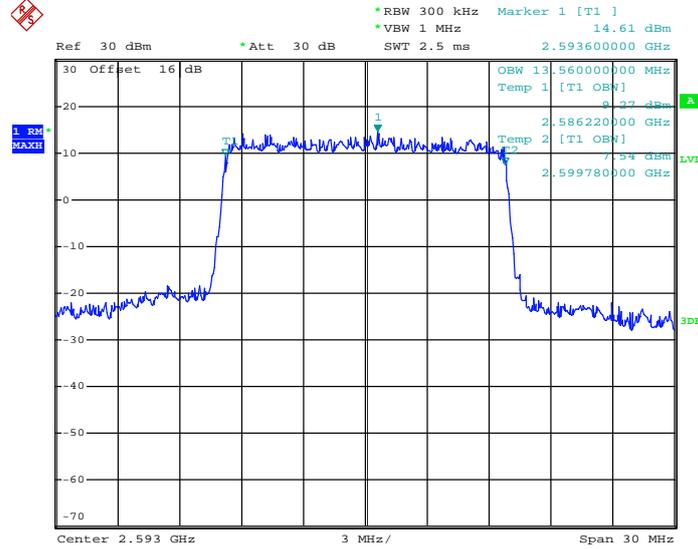


Date: 10.JUN.2014 23:09:41



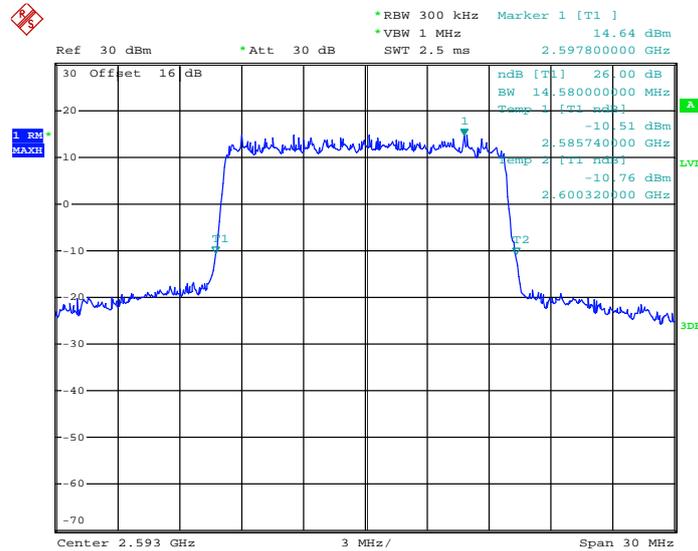
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:39:56

26dB Bandwidth Plot on Channel 40620

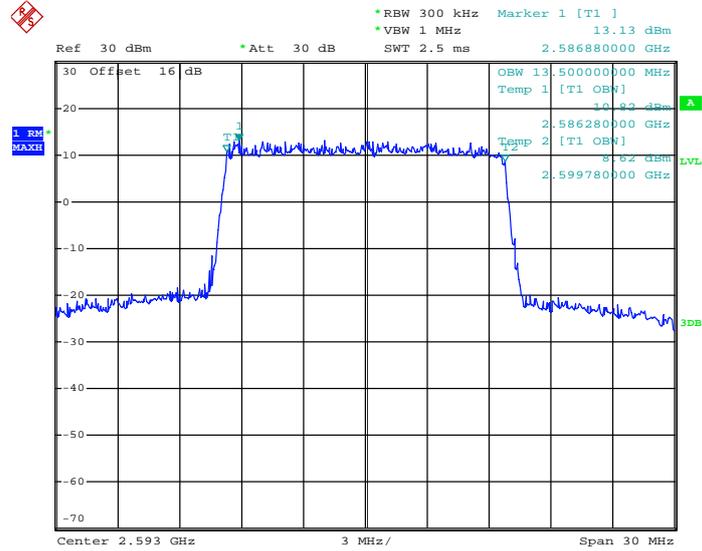


Date: 10.JUN.2014 23:11:30



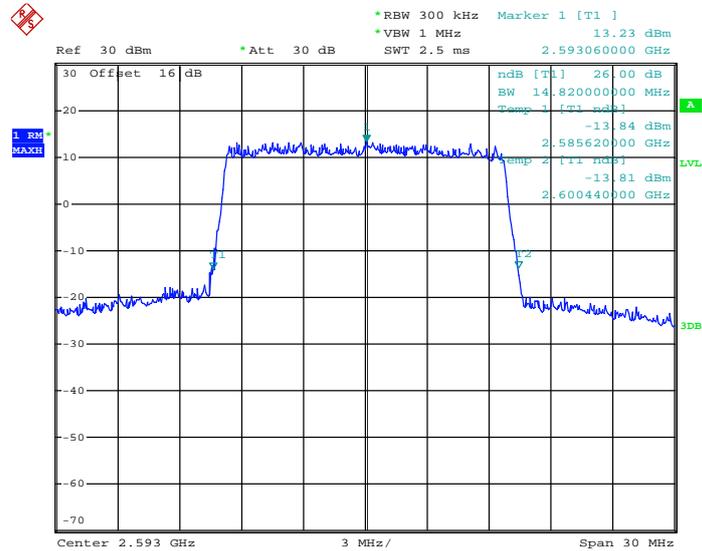
Band :	LTE Band 41	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:39:46

26dB Bandwidth Plot on Channel 40620

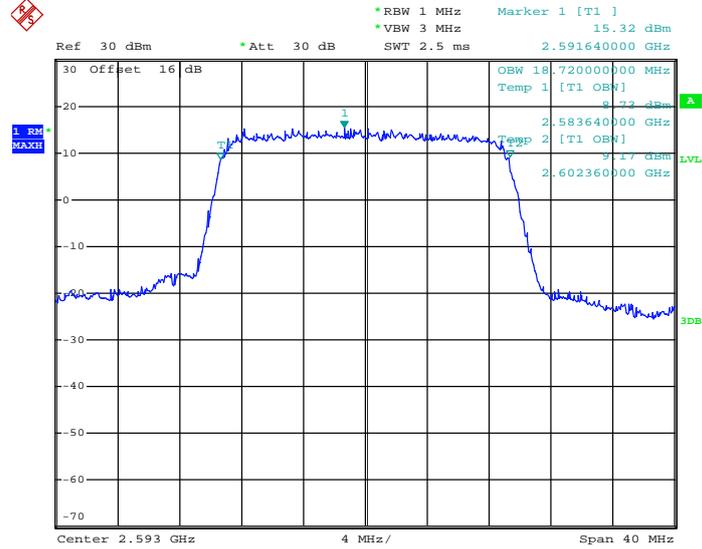


Date: 10.JUN.2014 23:11:04



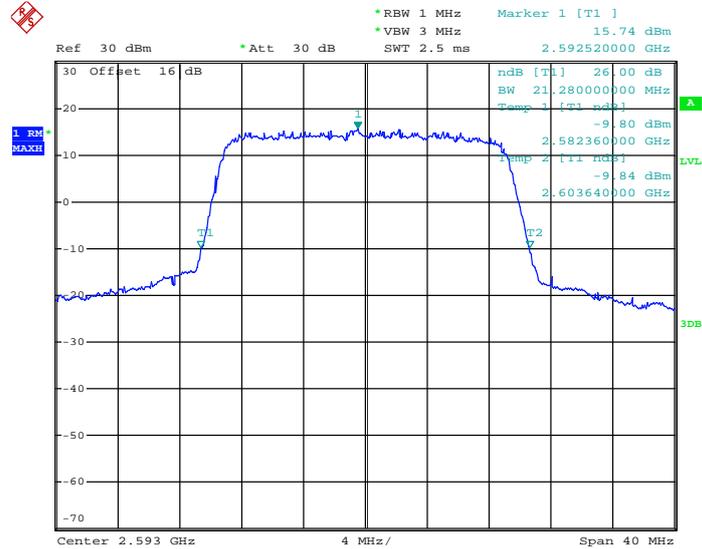
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:44:45

26dB Bandwidth Plot on Channel 40620

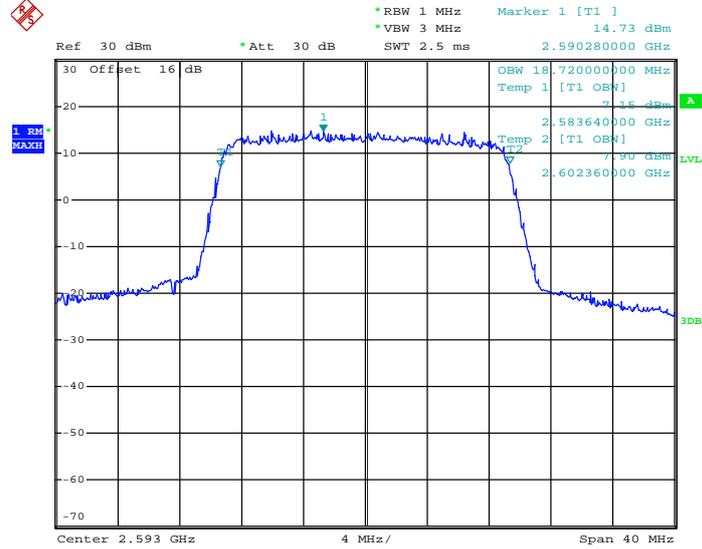


Date: 10.JUN.2014 23:12:33



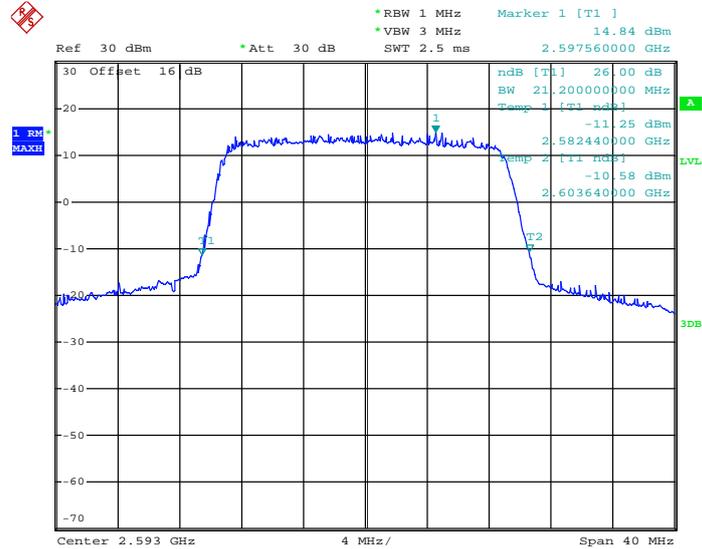
<b>Band :</b>	LTE Band 41	<b>BW / Mod. :</b>	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:44:35

26dB Bandwidth Plot on Channel 40620



Date: 10.JUN.2014 23:12:54



### 3.5 Conducted Band Edge Measurement

#### 3.5.1 Description of Conducted Band Edge Measurement

24.238 (a) For Band 25

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

22.917(a) For Band 26

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53(l) (4) For Band 41

The emissions be operated in the 2496-2690 MHz band, the attenuation factor of transmitter Power ( $P$ ) shall be not less than  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  dB at 5.5 MHz from the channel edges.

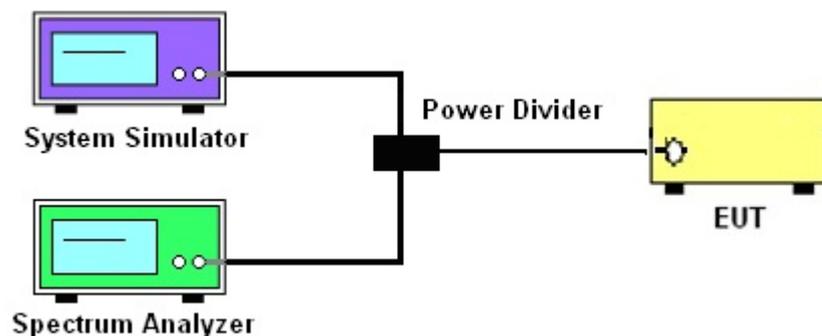
#### 3.5.2 Measuring Instruments

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

### 3.5.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Setting  $RBW \geq 1\%$  EBW, and measuring bandwidth = 1MHz.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
4. The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$ dBm.
5. The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [55 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
 $= -25$ dBm.

### 3.5.4 Test Setup

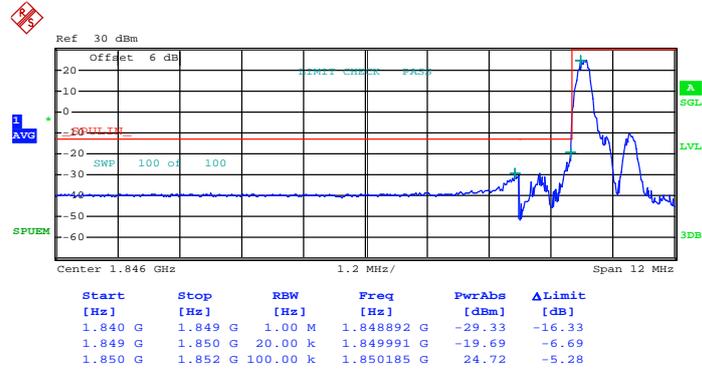




### 3.5.5 Test Result (Plots) of Conducted Band Edge

Band :	LTE Band 25	Band Width :	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 11:57:10

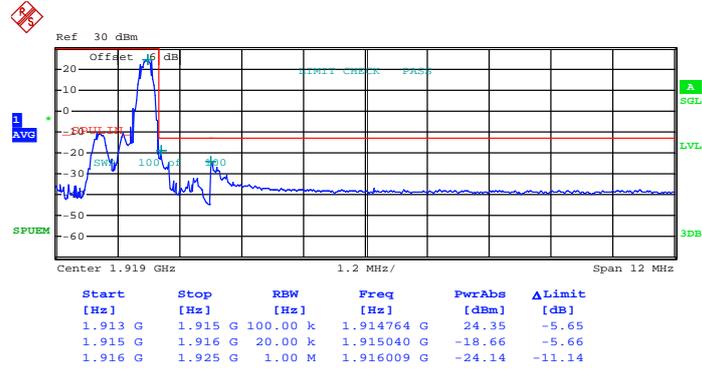
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 17.JUN.2014 11:54:29

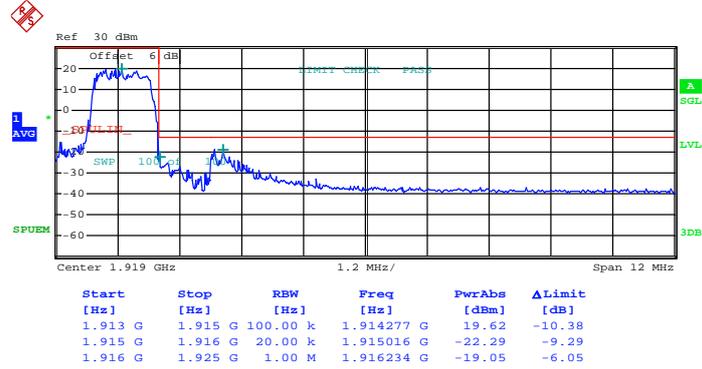


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 17.JUN.2014 11:59:49

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

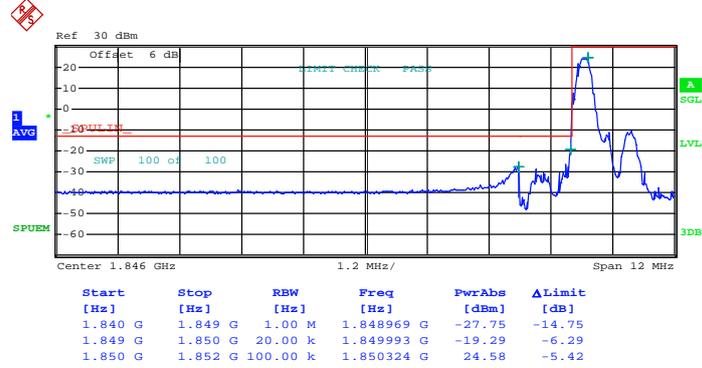


Date: 17.JUN.2014 12:00:31



<b>Band :</b>	LTE Band 25	<b>Band Width :</b>	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 17.JUN.2014 11:56:29

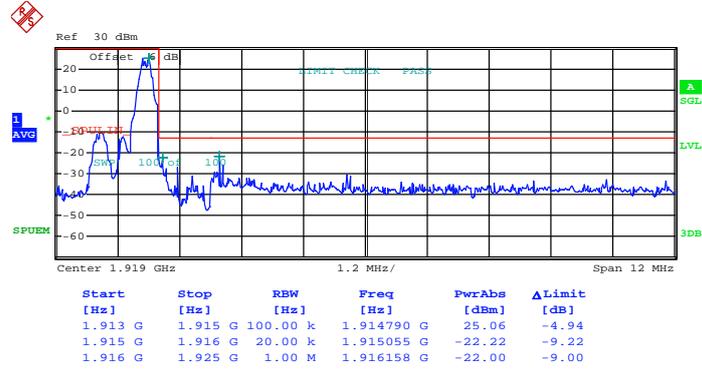
Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 17.JUN.2014 11:55:38

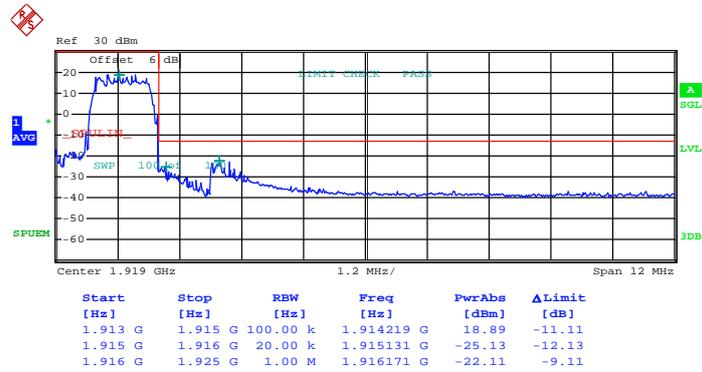


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 17.JUN.2014 11:58:36

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



Date: 17.JUN.2014 12:01:16



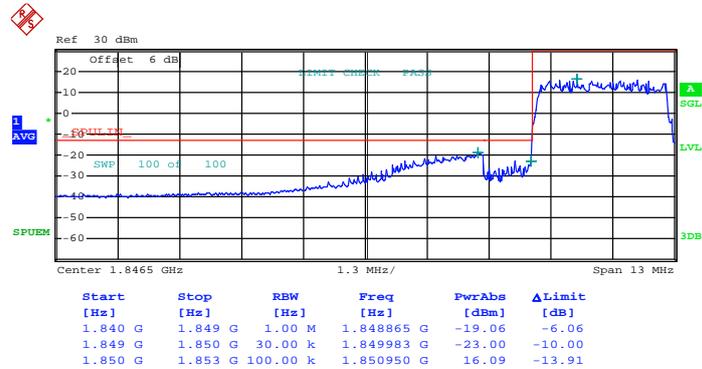
<b>Band :</b>	LTE Band 25	<b>Band Width :</b>	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:05:45

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



Date: 17.JUN.2014 12:07:04

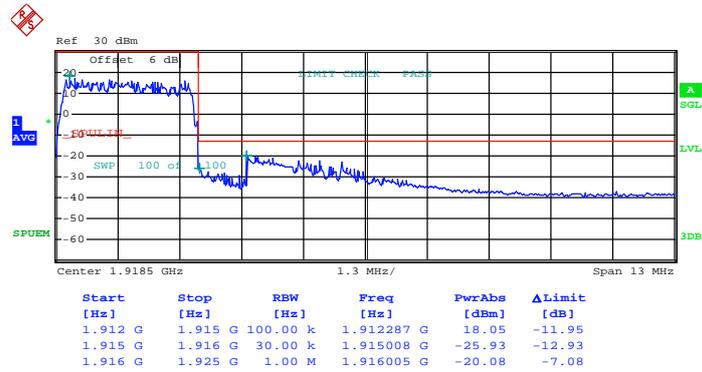


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 17.JUN.2014 12:11:40

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

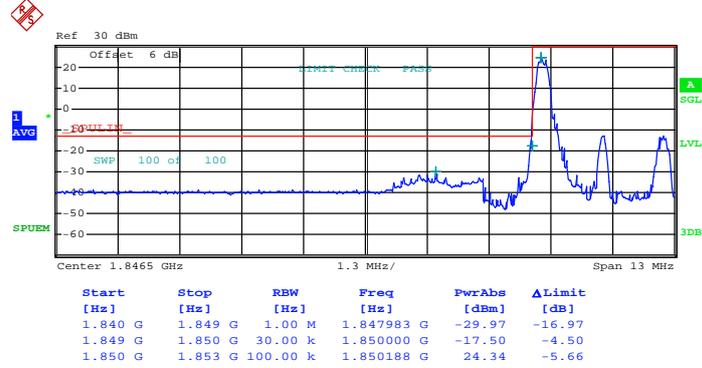


Date: 17.JUN.2014 12:10:29



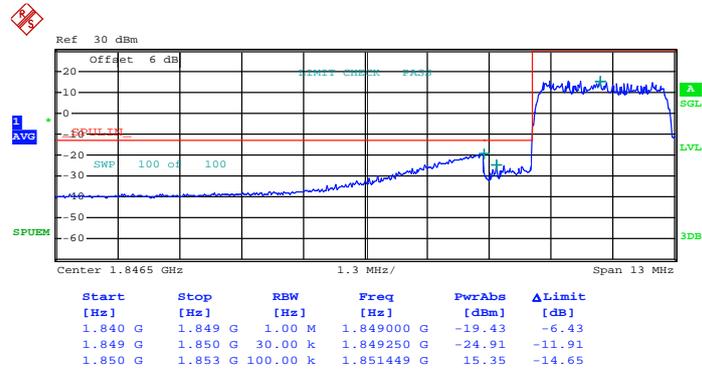
<b>Band :</b>	LTE Band 25	<b>Band Width :</b>	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:04:56

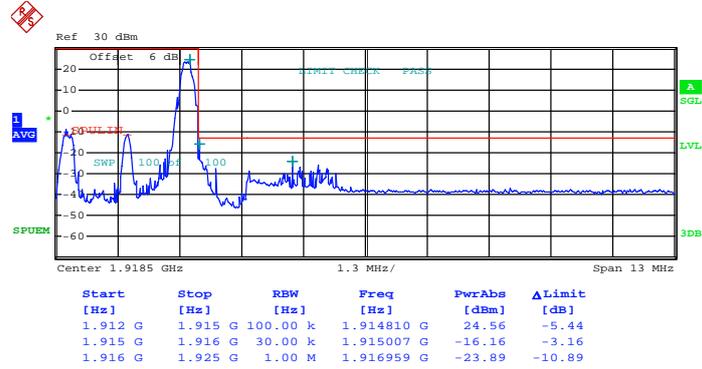
Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Date: 17.JUN.2014 12:07:42

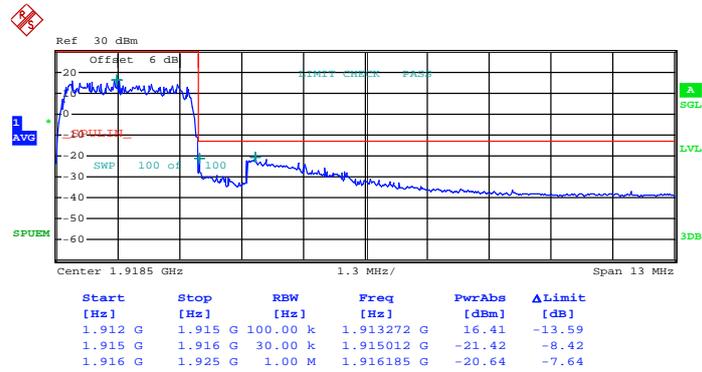


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14



Date: 17.JUN.2014 12:12:16

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

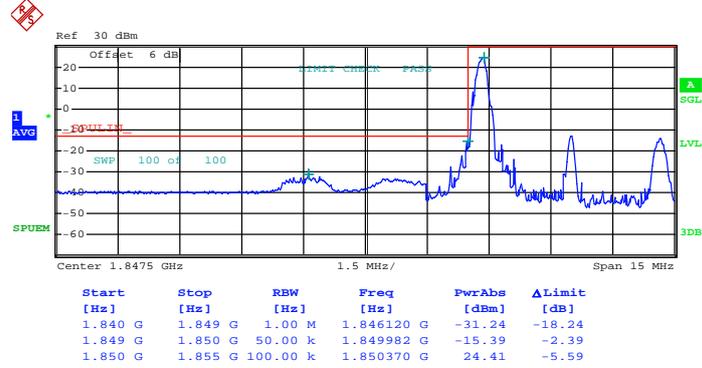


Date: 17.JUN.2014 12:09:58



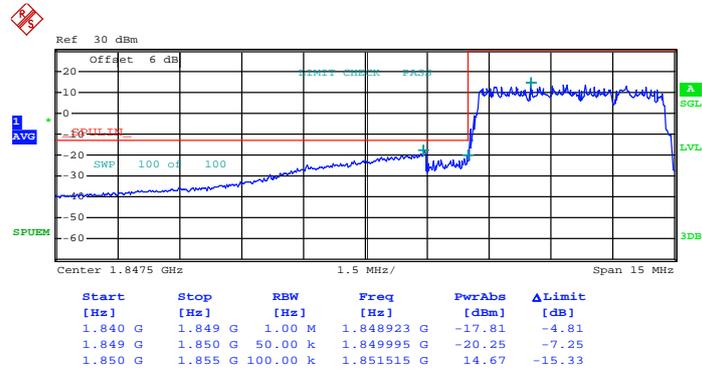
Band :	LTE Band 25	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:19:06

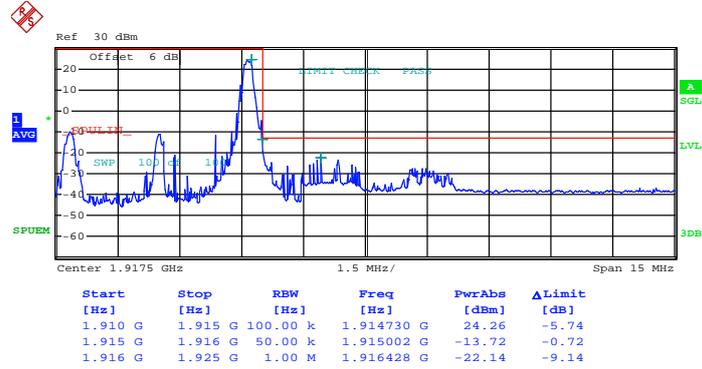
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 17.JUN.2014 12:16:31

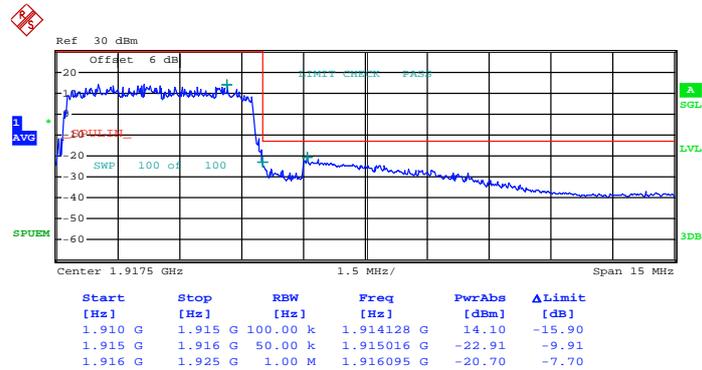


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 17.JUN.2014 12:31:25

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

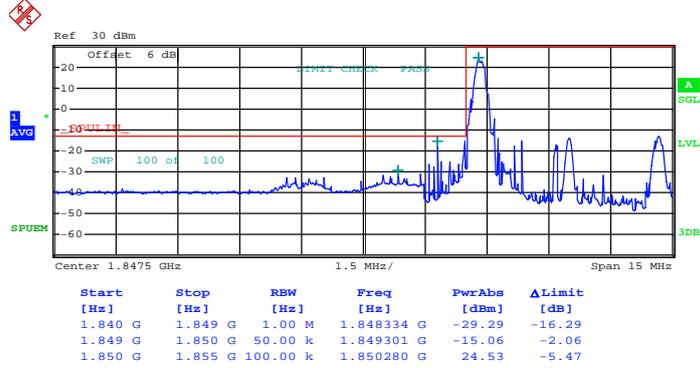


Date: 17.JUN.2014 12:21:47



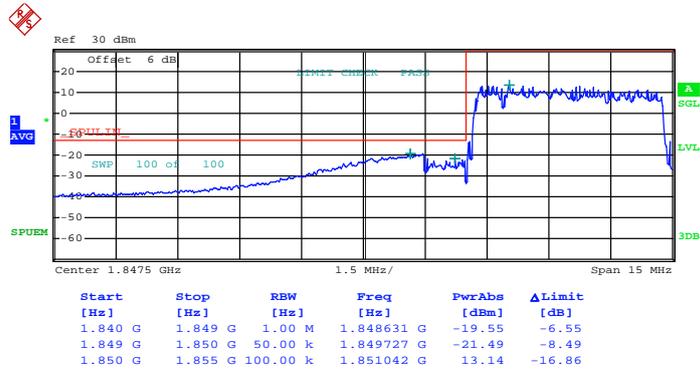
<b>Band :</b>	LTE Band 25	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:18:22

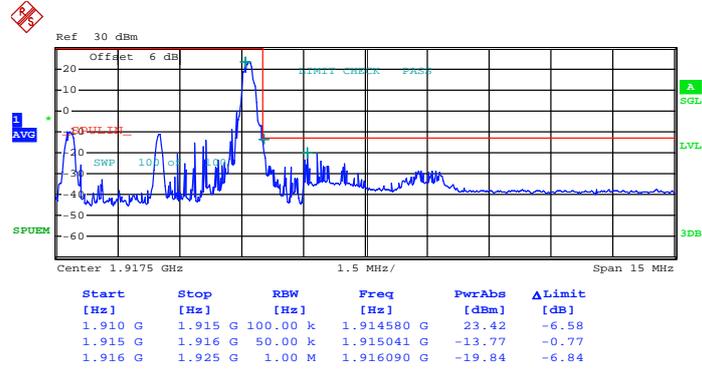
Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0



Date: 17.JUN.2014 12:17:29

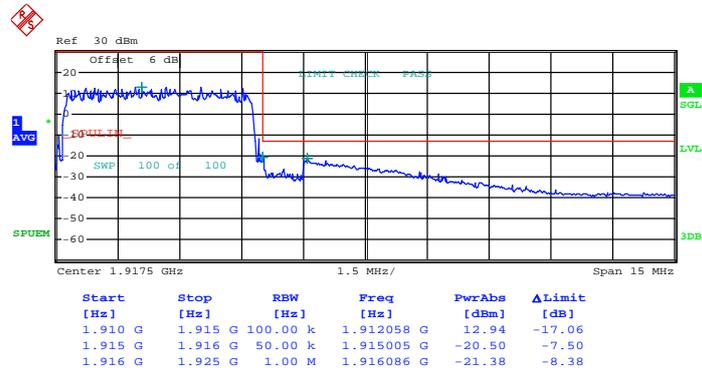


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24



Date: 17.JUN.2014 12:33:00

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

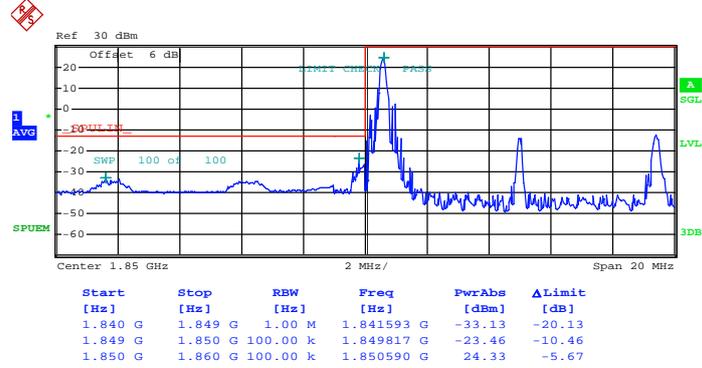


Date: 17.JUN.2014 12:29:36



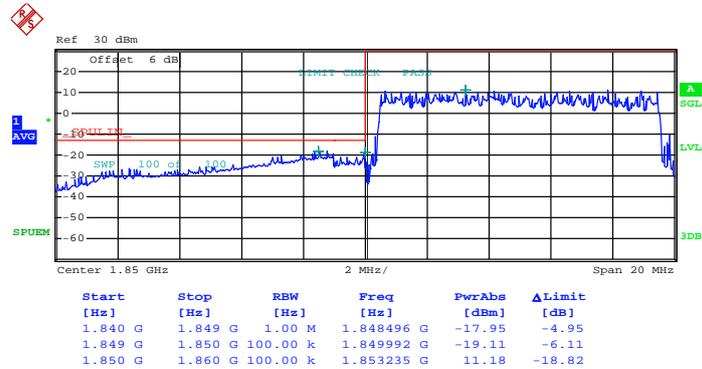
Band :	LTE Band 25	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:37:05

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



Date: 17.JUN.2014 12:34:57

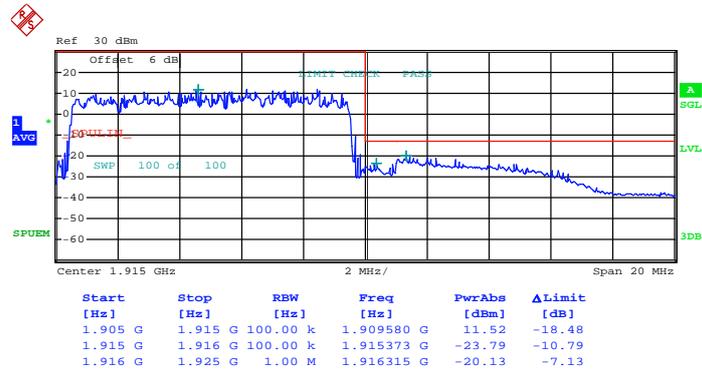


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 17.JUN.2014 12:40:37

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

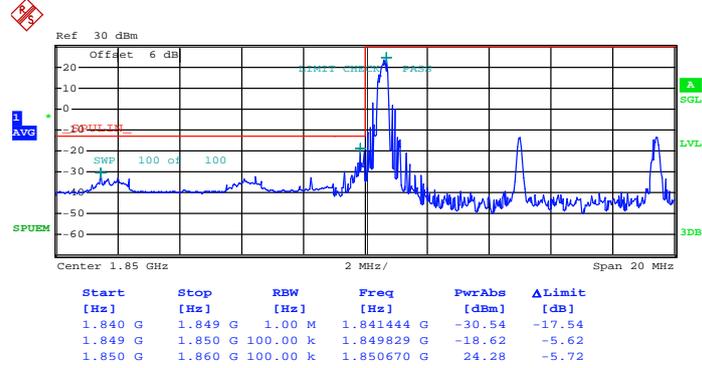


Date: 17.JUN.2014 12:38:38



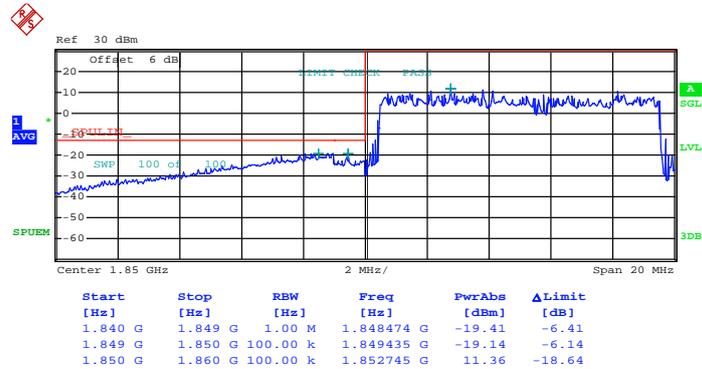
Band :	LTE Band 25	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:36:28

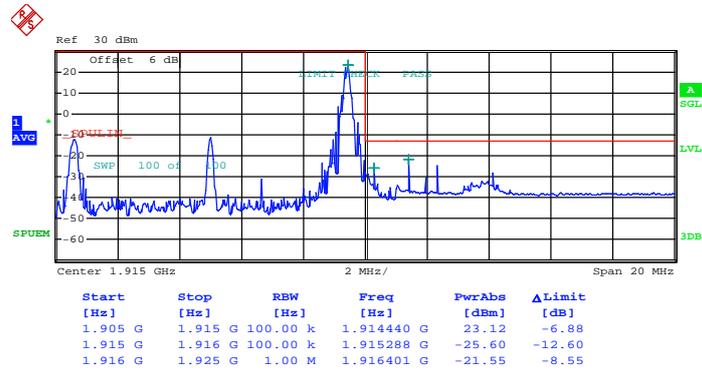
Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



Date: 17.JUN.2014 12:35:36



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



Date: 17.JUN.2014 12:39:59

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

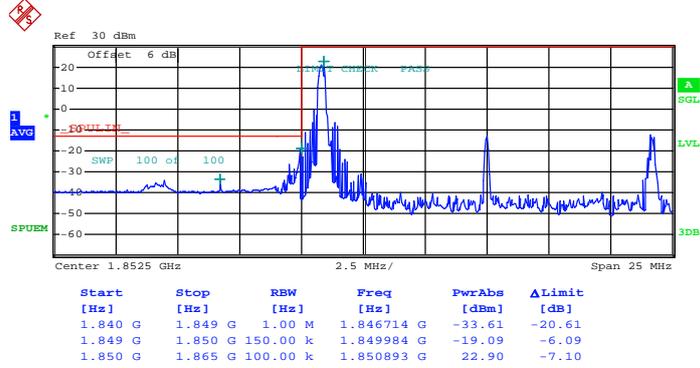


Date: 17.JUN.2014 12:39:17



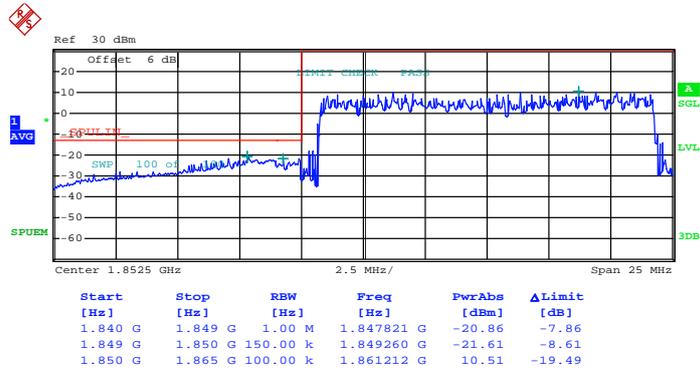
Band :	LTE Band 25	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:47:06

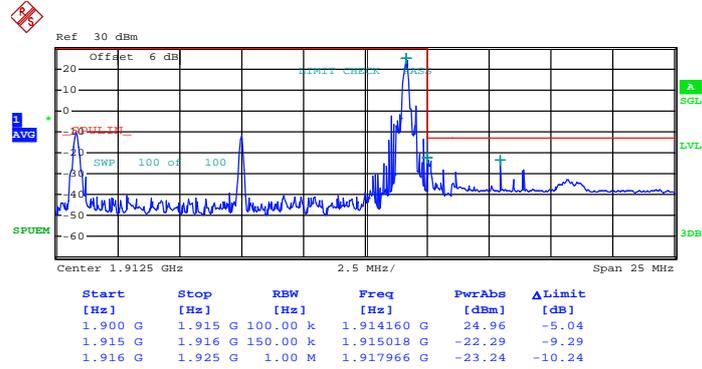
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 17.JUN.2014 12:41:52

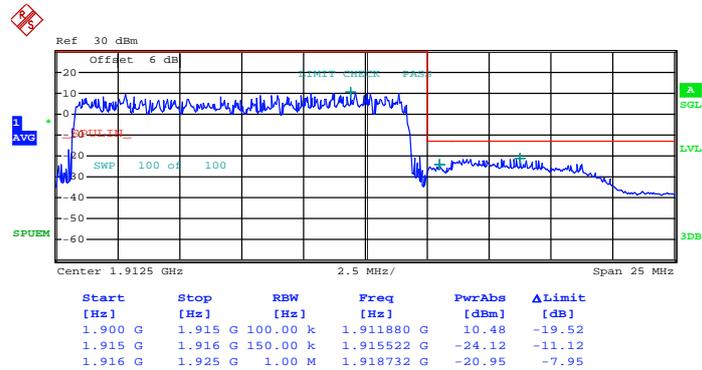


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 17.JUN.2014 12:49:46

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

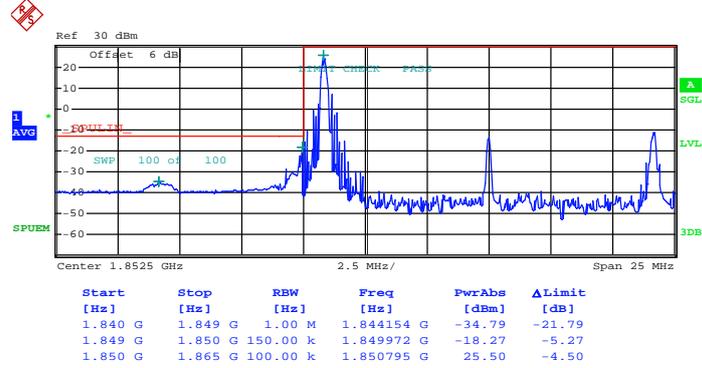


Date: 17.JUN.2014 12:50:29



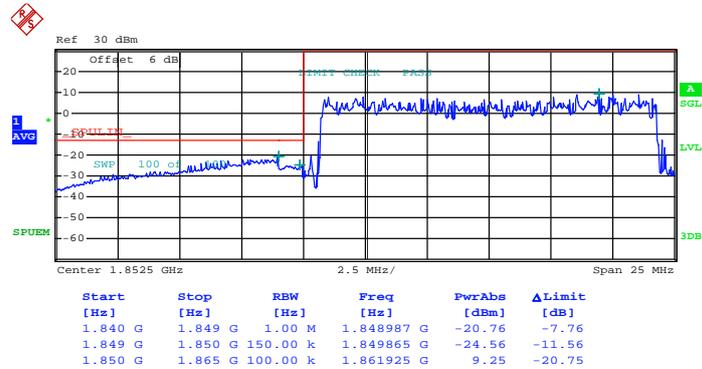
<b>Band :</b>	LTE Band 25	<b>Band Width :</b>	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:47:53

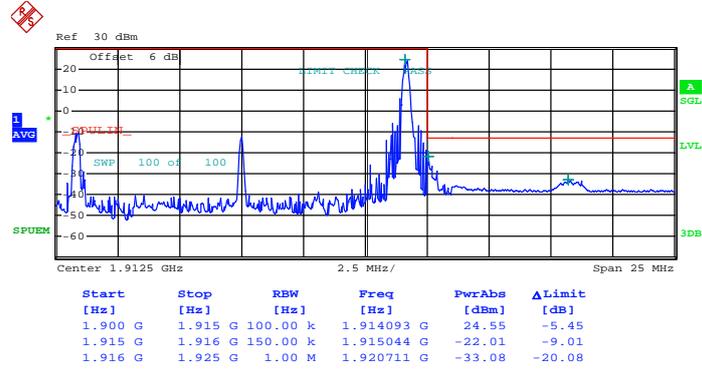
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 17.JUN.2014 12:42:32

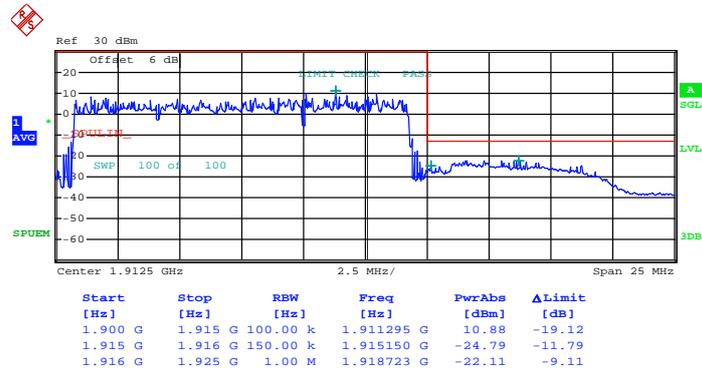


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 17.JUN.2014 12:49:09

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

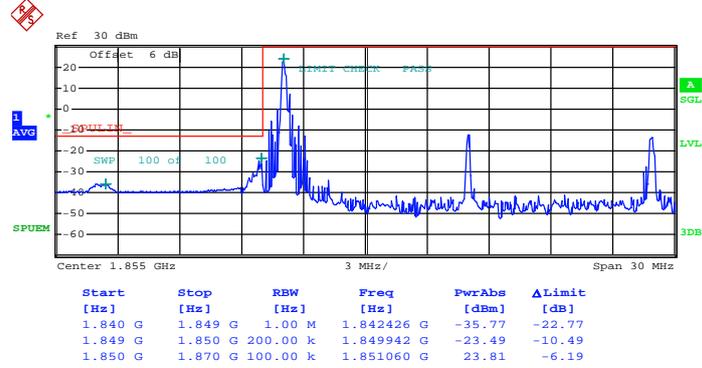


Date: 17.JUN.2014 12:51:16



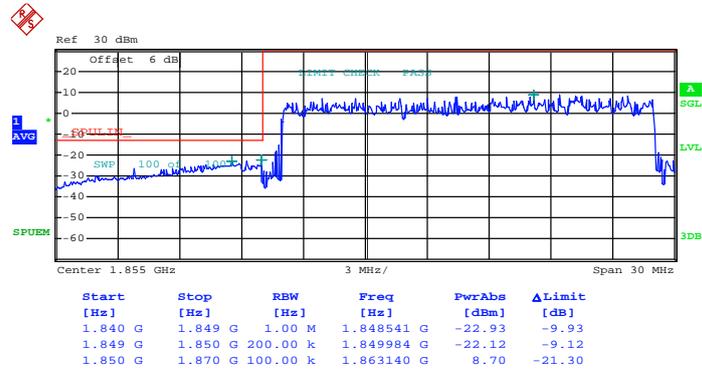
Band :	LTE Band 25	Band Width :	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:54:31

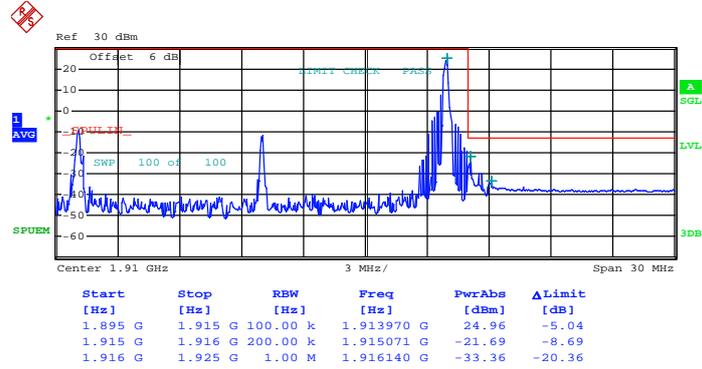
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 17.JUN.2014 12:55:12

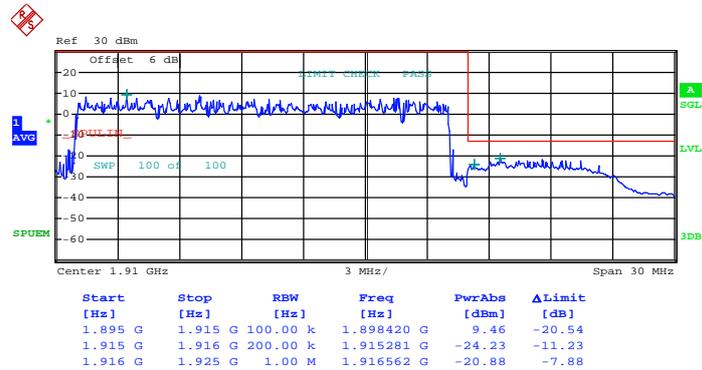


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 17.JUN.2014 13:00:04

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

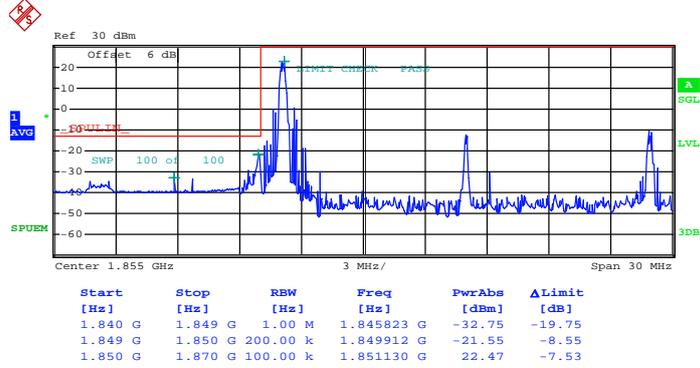


Date: 17.JUN.2014 12:59:16



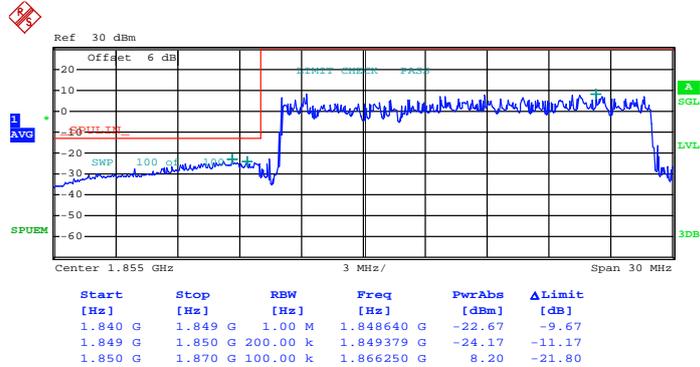
Band :	LTE Band 25	Band Width :	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 17.JUN.2014 12:53:34

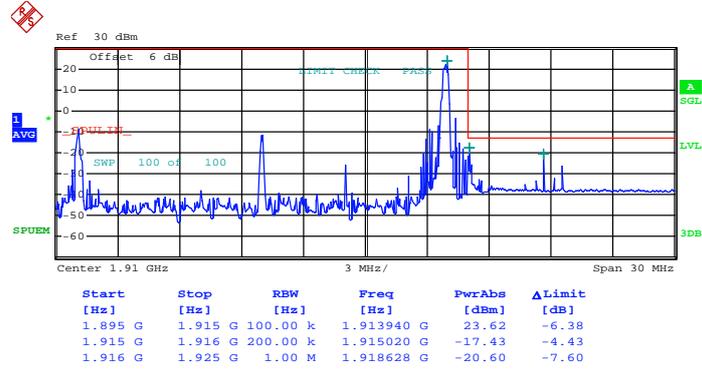
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 17.JUN.2014 12:56:06



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



Date: 17.JUN.2014 13:00:39

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

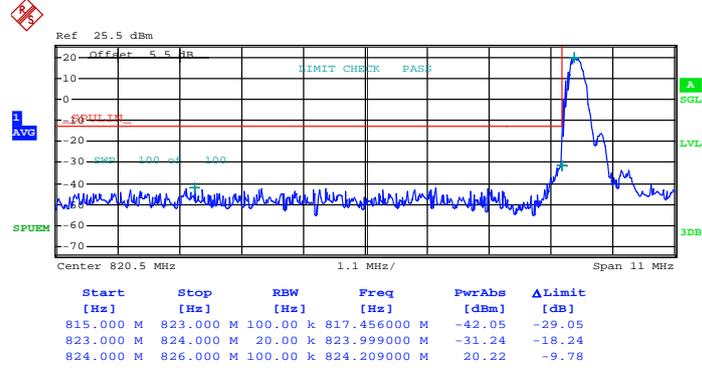


Date: 17.JUN.2014 12:58:38



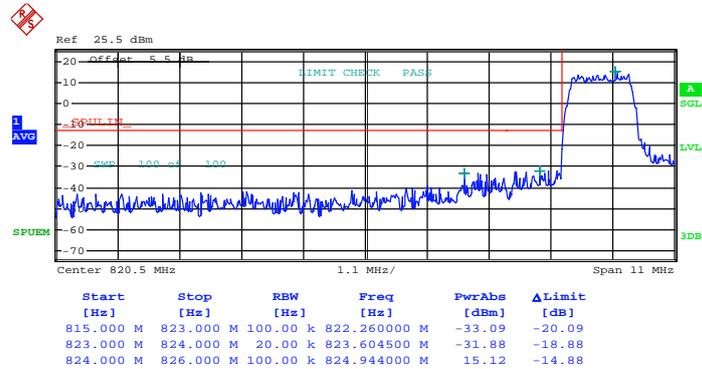
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.JUN.2014 15:42:05

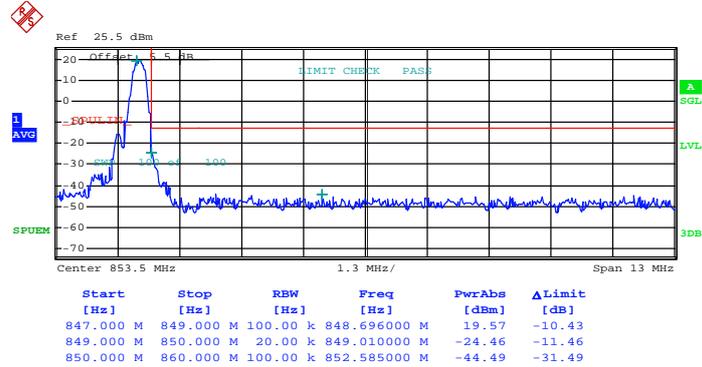
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 12.JUN.2014 15:41:25

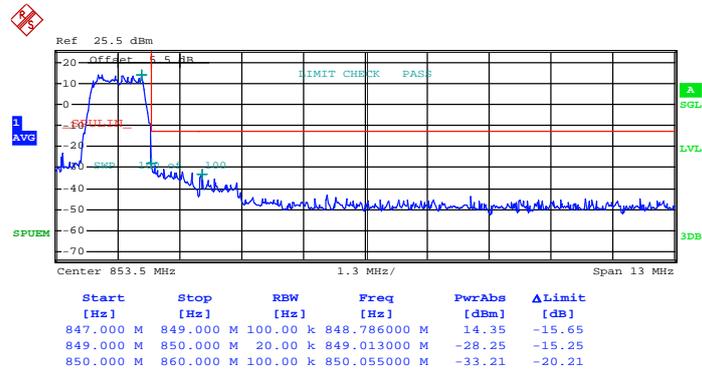


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 12.JUN.2014 15:44:43

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

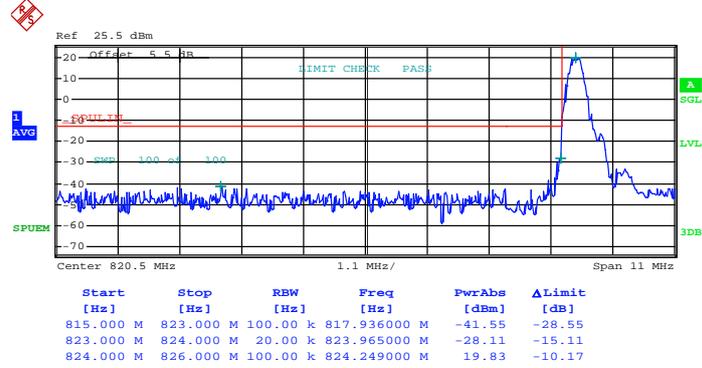


Date: 12.JUN.2014 15:46:50



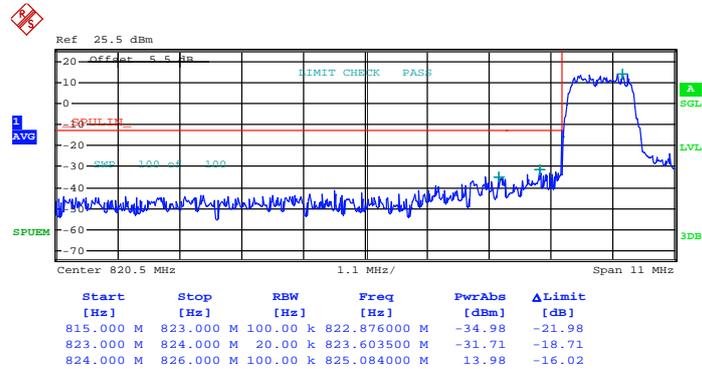
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 12.JUN.2014 15:42:38

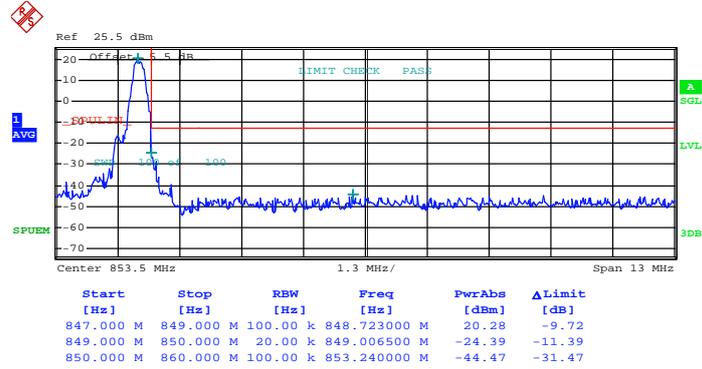
Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 12.JUN.2014 15:40:43

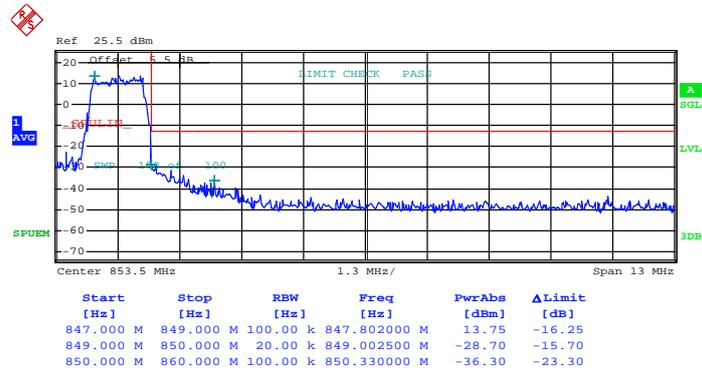


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 12.JUN.2014 15:45:18

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

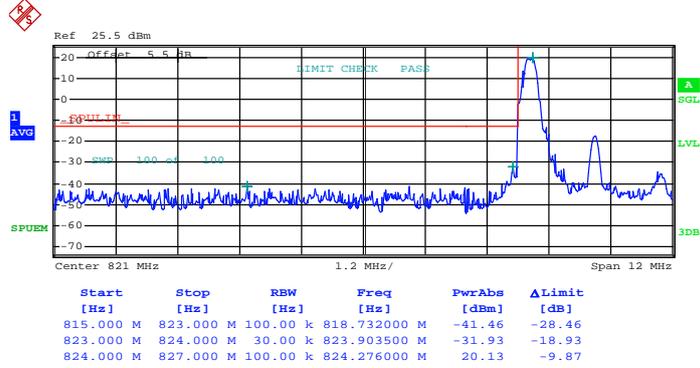


Date: 12.JUN.2014 15:46:10



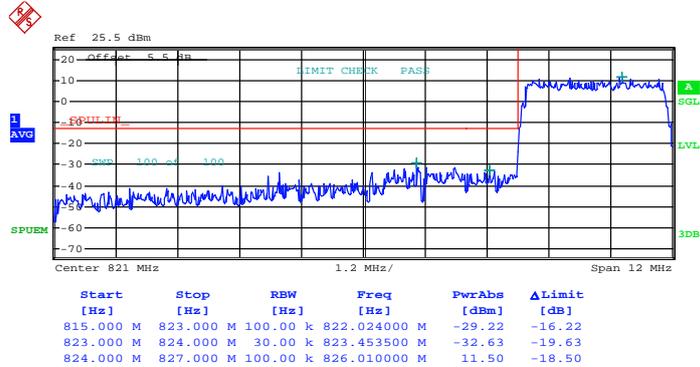
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.JUN.2014 15:58:33

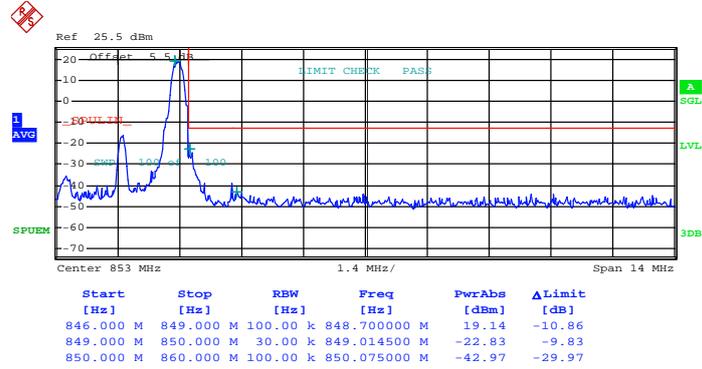
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 12.JUN.2014 16:01:47

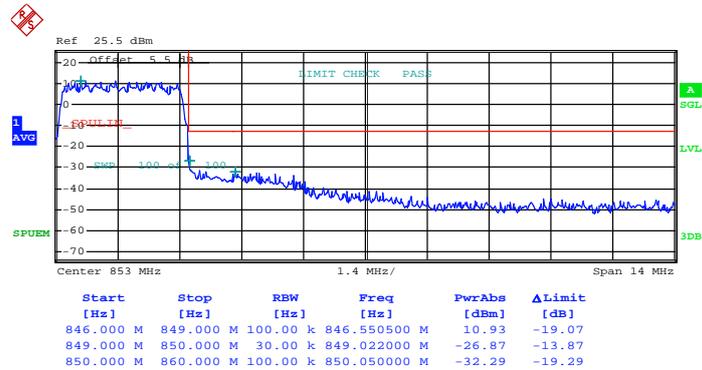


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 12.JUN.2014 15:53:55

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

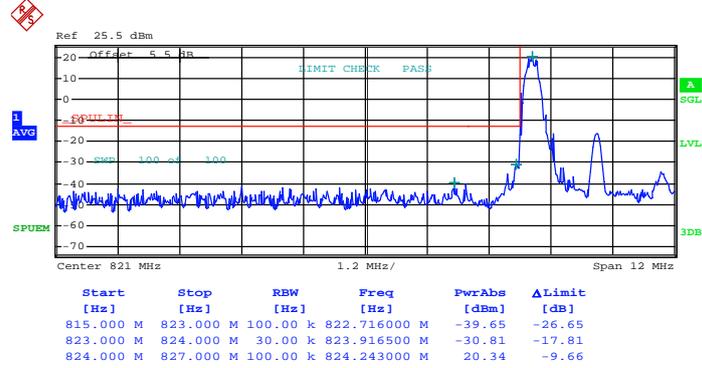


Date: 12.JUN.2014 15:51:51



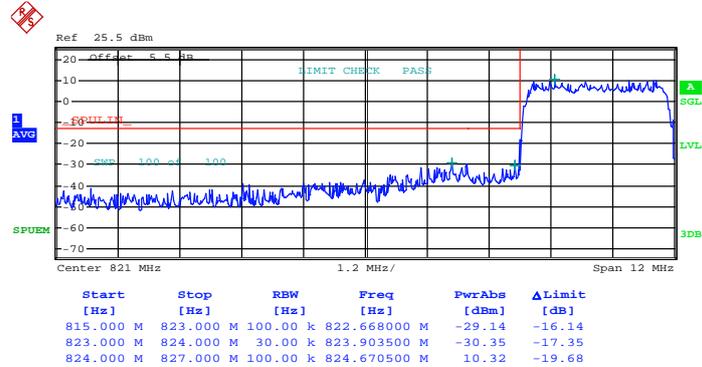
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 12.JUN.2014 15:59:24

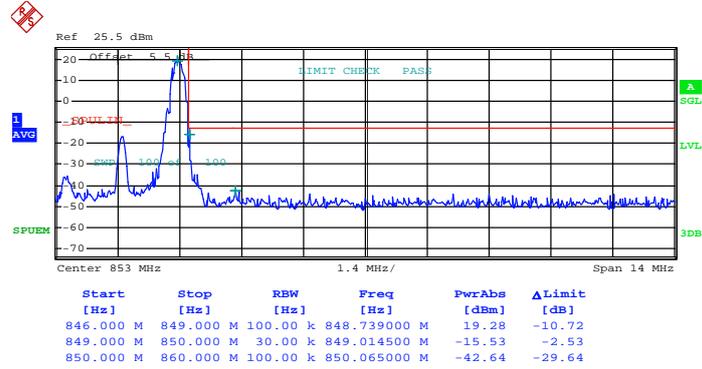
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Date: 12.JUN.2014 16:00:20

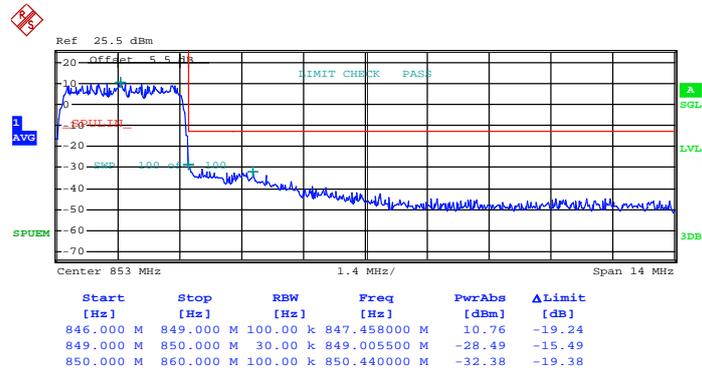


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



Date: 12.JUN.2014 15:53:19

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

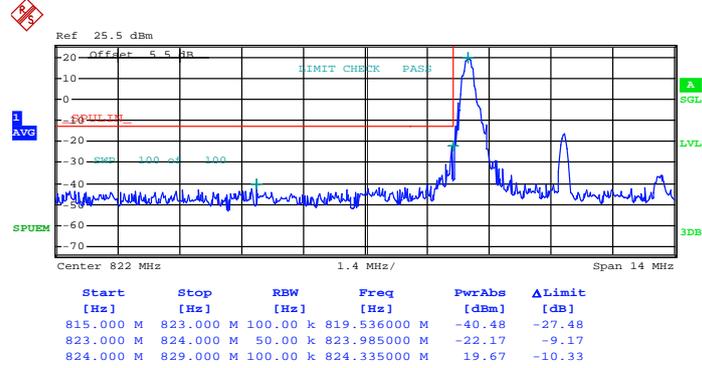


Date: 12.JUN.2014 15:52:32



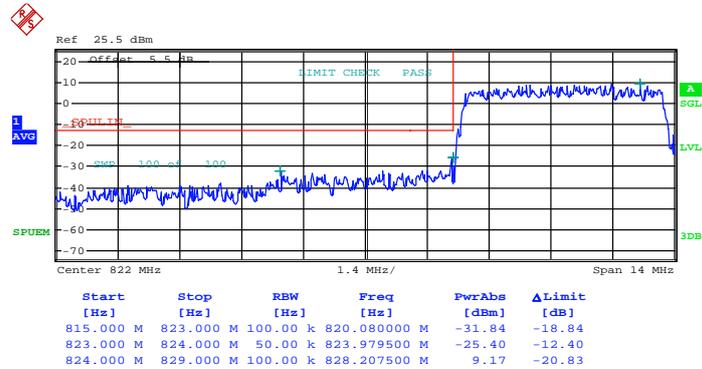
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.JUN.2014 16:07:33

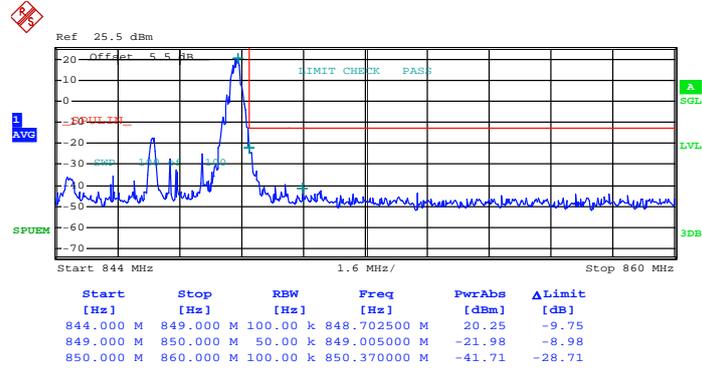
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 12.JUN.2014 16:10:04

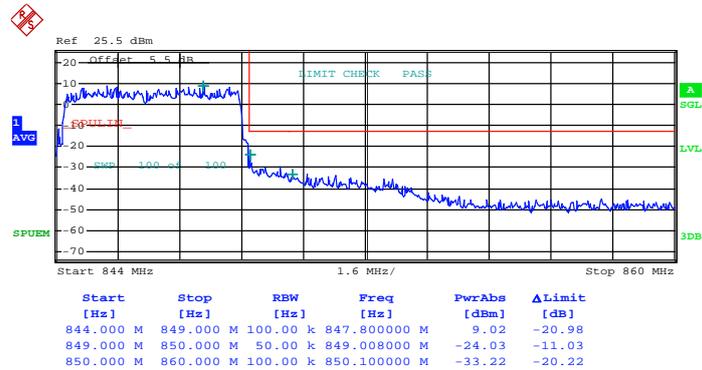


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 12.JUN.2014 16:16:52

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

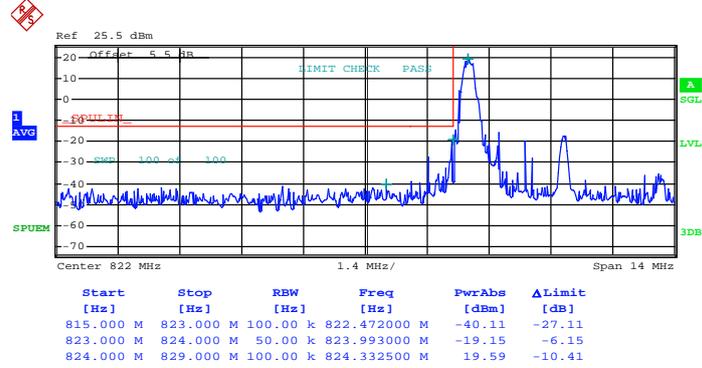


Date: 12.JUN.2014 16:14:10



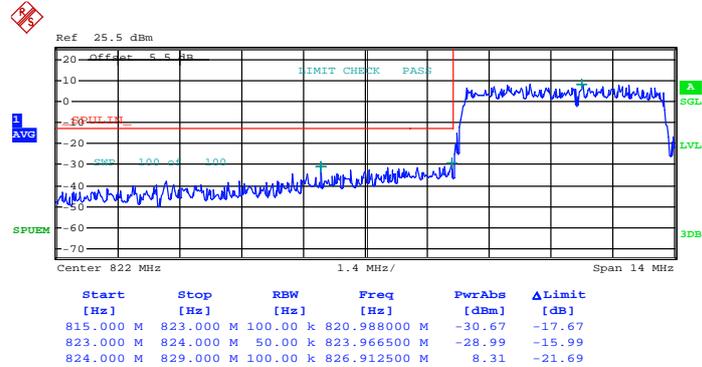
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 12.JUN.2014 16:08:20

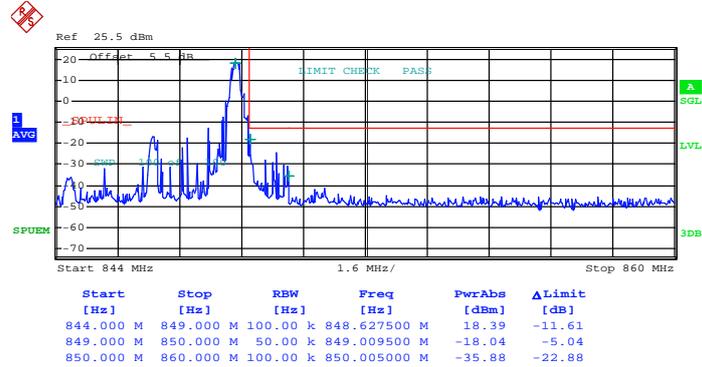
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 12.JUN.2014 16:09:29

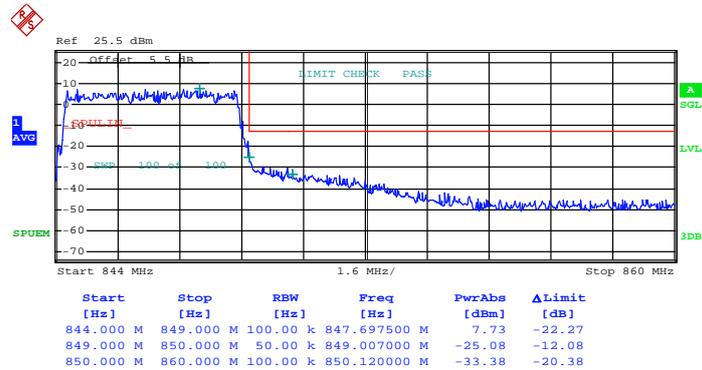


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 12.JUN.2014 16:15:50

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

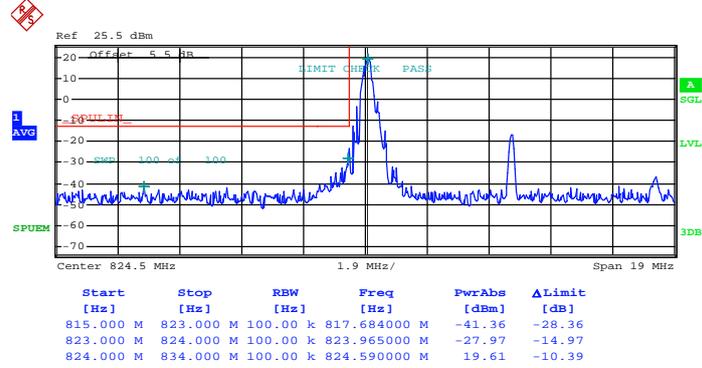


Date: 12.JUN.2014 16:14:51



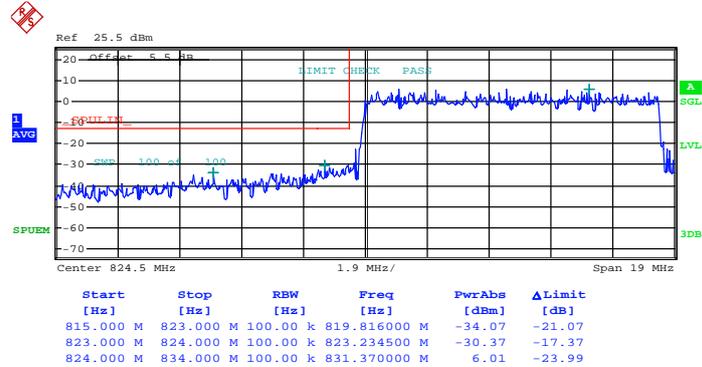
Band :	LTE Band 26	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.JUN.2014 17:21:09

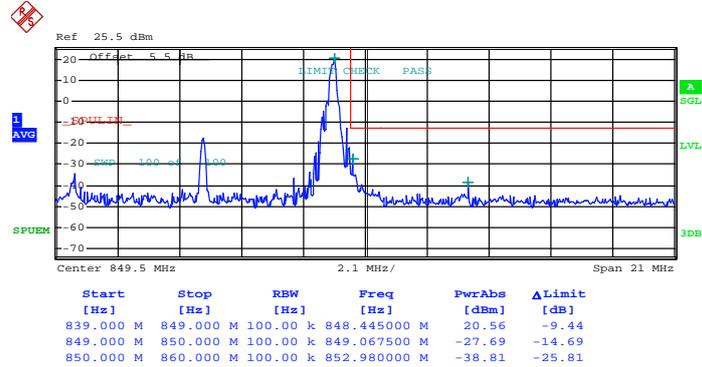
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 12.JUN.2014 17:15:57

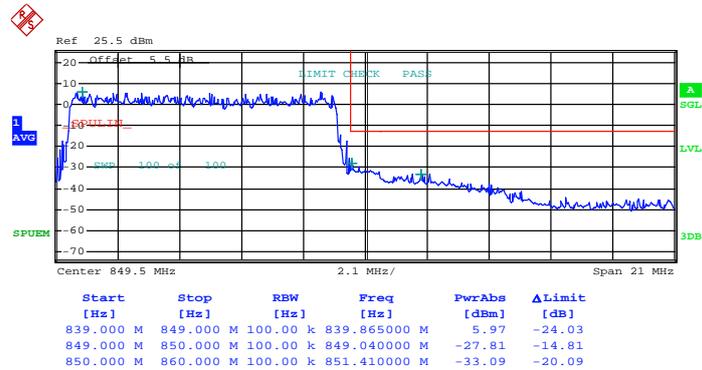


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 12.JUN.2014 17:09:56

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

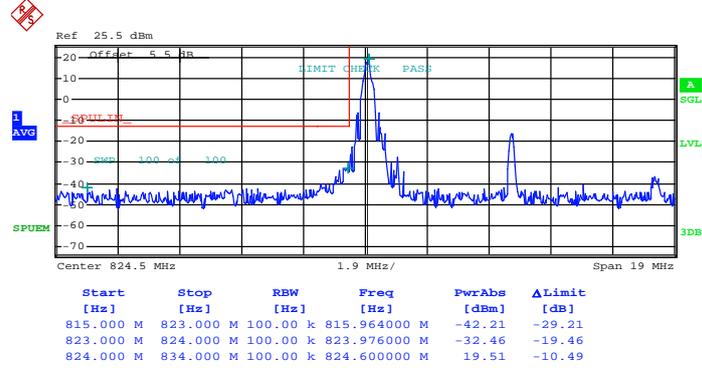


Date: 12.JUN.2014 17:08:08



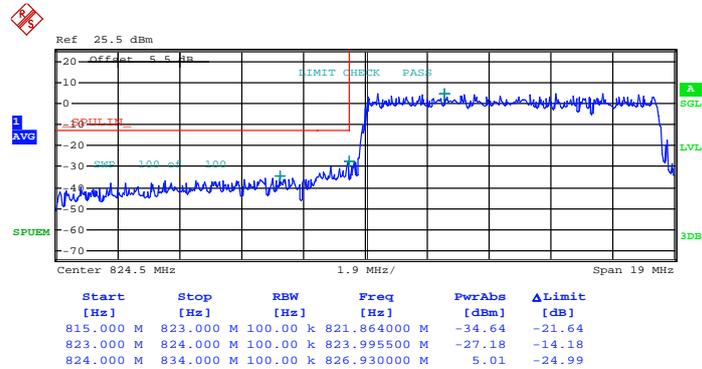
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 12.JUN.2014 17:20:26

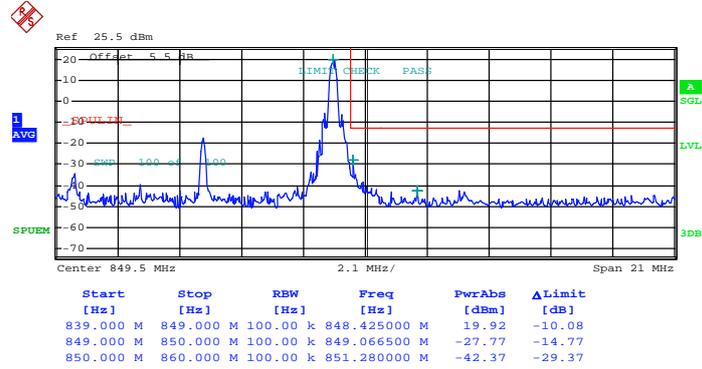
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 12.JUN.2014 17:19:06

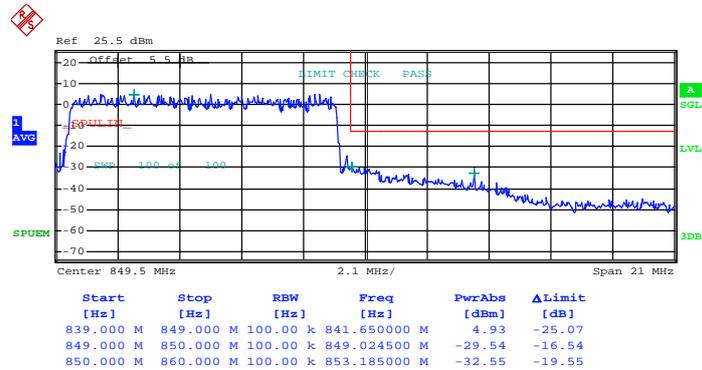


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 12.JUN.2014 16:26:09

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

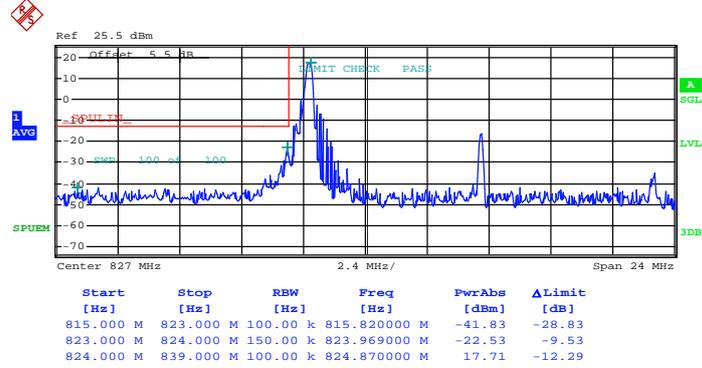


Date: 12.JUN.2014 17:08:54



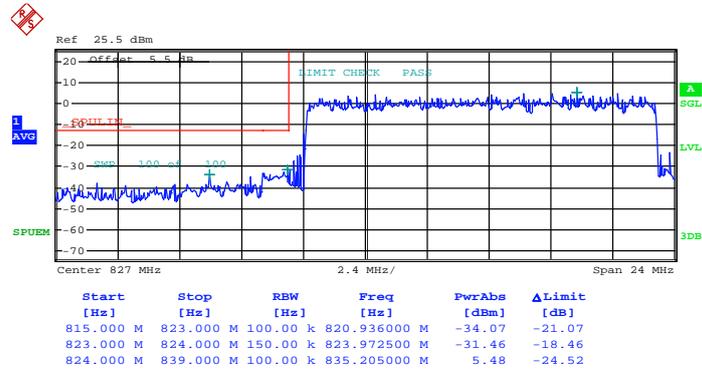
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 12.JUN.2014 17:26:54

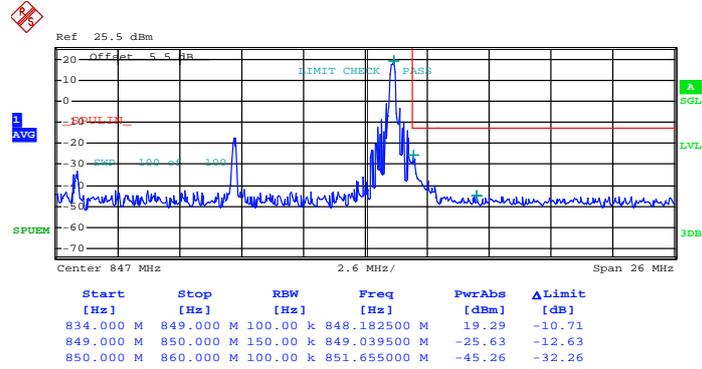
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 12.JUN.2014 17:25:07

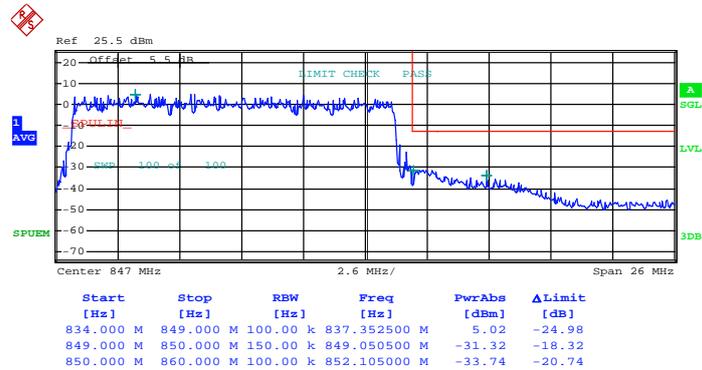


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 12.JUN.2014 17:37:40

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

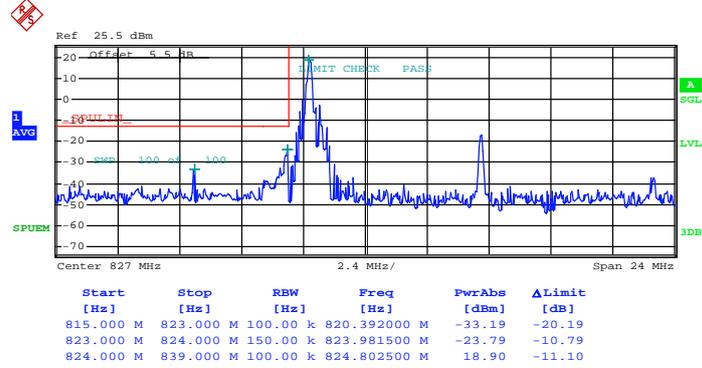


Date: 12.JUN.2014 17:28:49



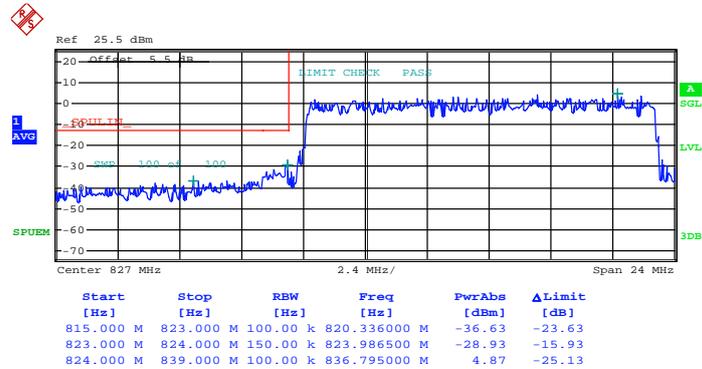
<b>Band :</b>	LTE Band 26	<b>Band Width :</b>	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 12.JUN.2014 17:26:25

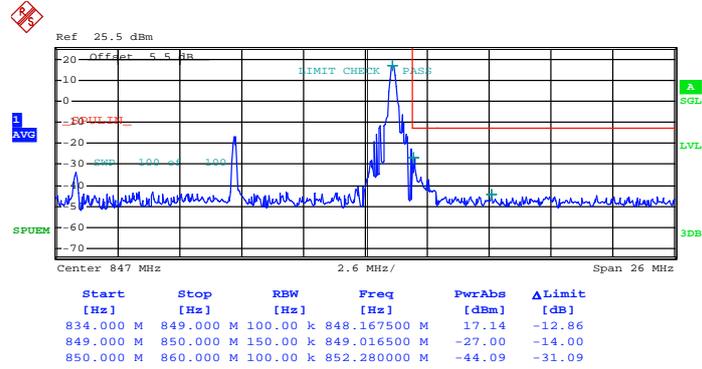
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 12.JUN.2014 17:25:40

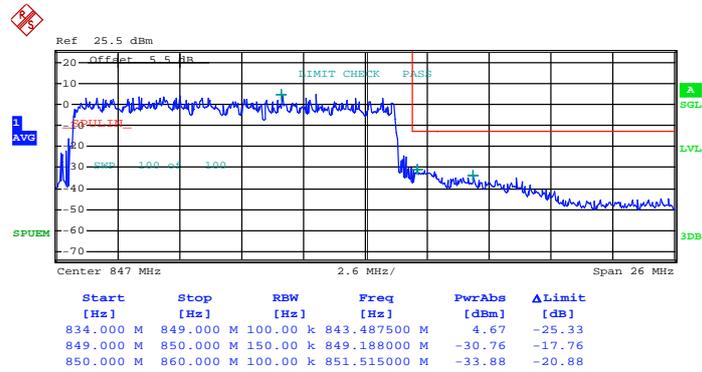


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 12.JUN.2014 17:36:55

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

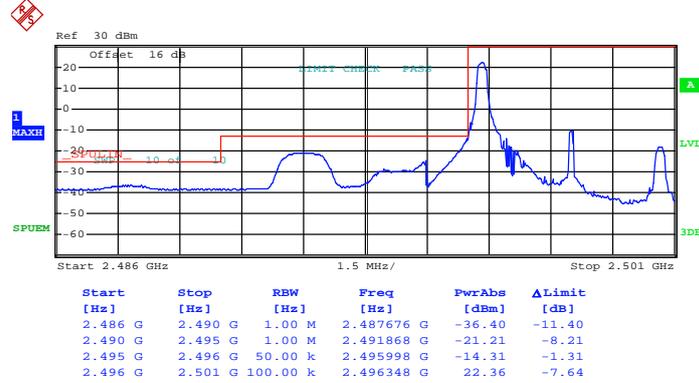


Date: 12.JUN.2014 17:29:27



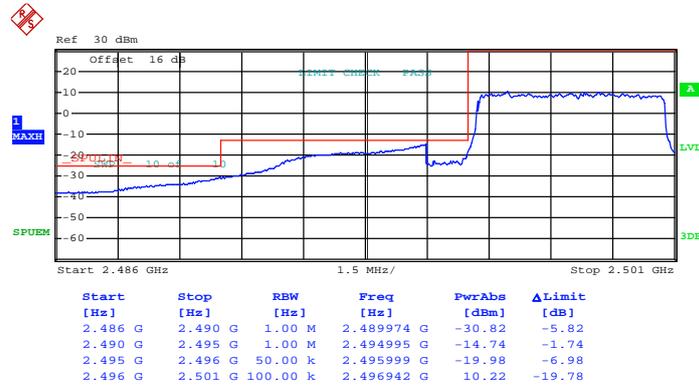
Band :	LTE Band 41	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 11.JUN.2014 00:56:04

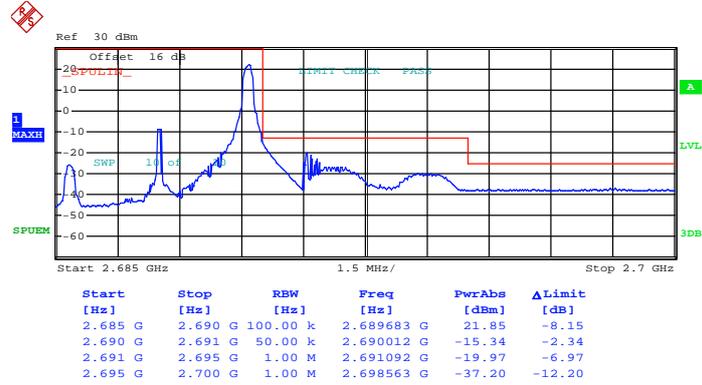
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 11.JUN.2014 00:57:14

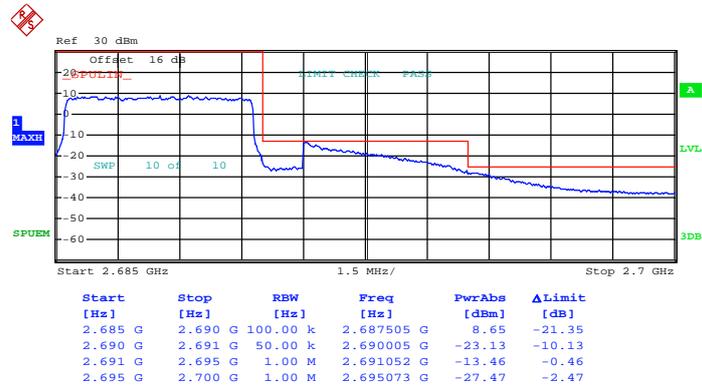


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 11.JUN.2014 01:04:30

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

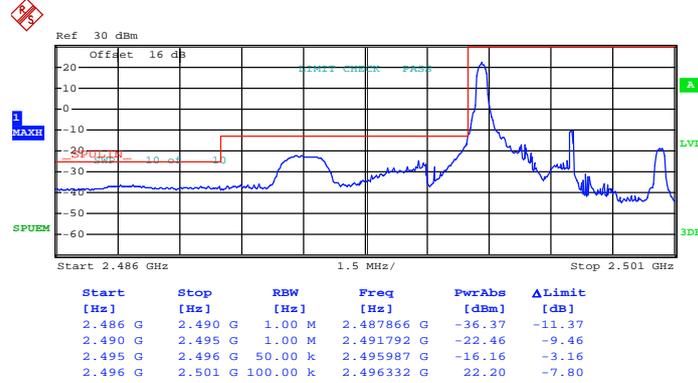


Date: 11.JUN.2014 01:06:31



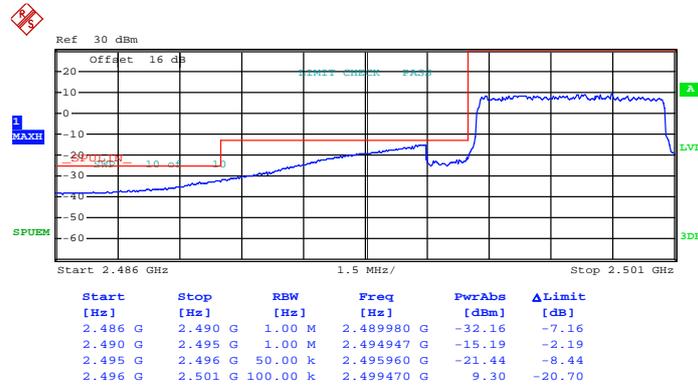
Band :	LTE Band 41	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 11.JUN.2014 00:55:36

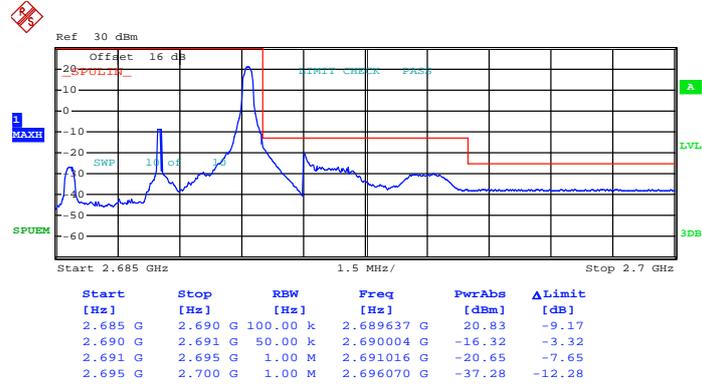
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 11.JUN.2014 00:57:49

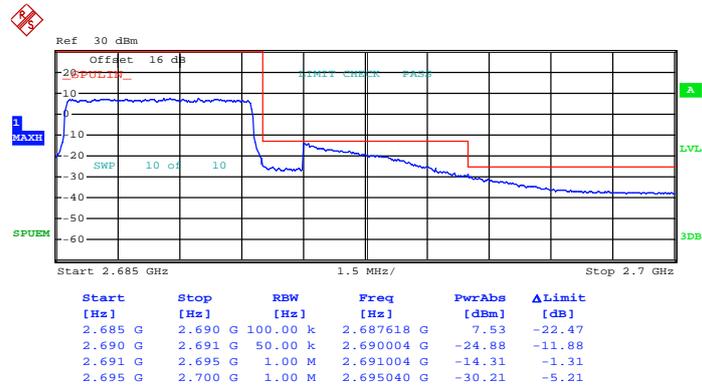


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 11.JUN.2014 01:05:02

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

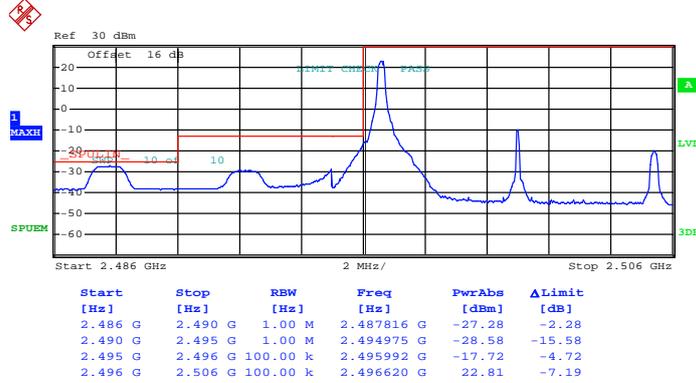


Date: 11.JUN.2014 01:06:04



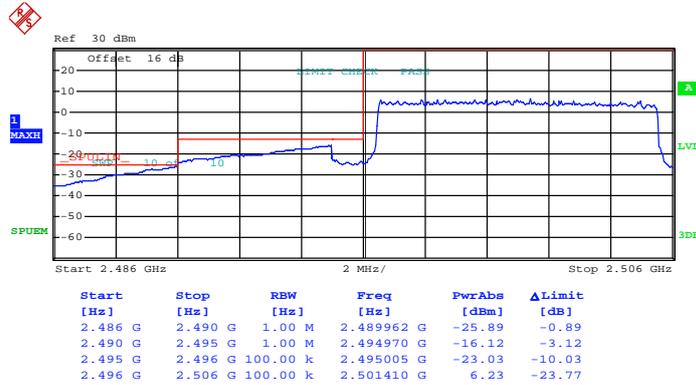
Band :	LTE Band 41	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 11.JUN.2014 01:10:49

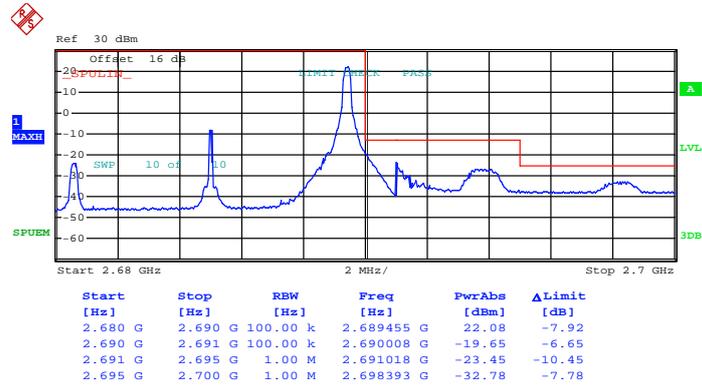
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 11.JUN.2014 01:17:34



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



Date: 11.JUN.2014 01:21:22

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

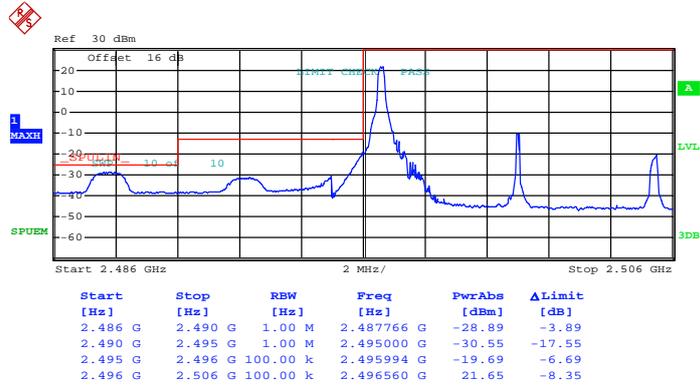


Date: 11.JUN.2014 01:22:42



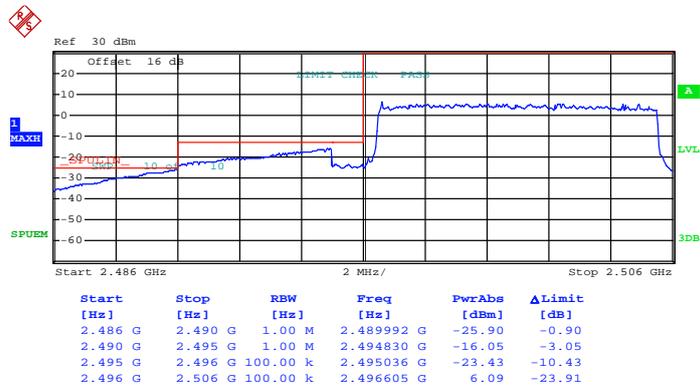
Band :	LTE Band 41	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 11.JUN.2014 01:11:24

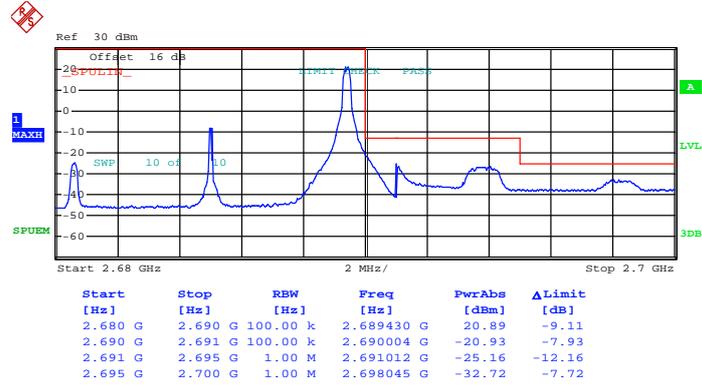
Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



Date: 11.JUN.2014 01:16:58

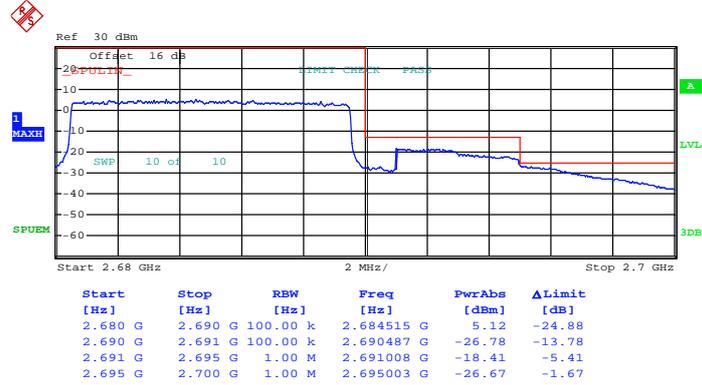


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



Date: 11.JUN.2014 01:20:55

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

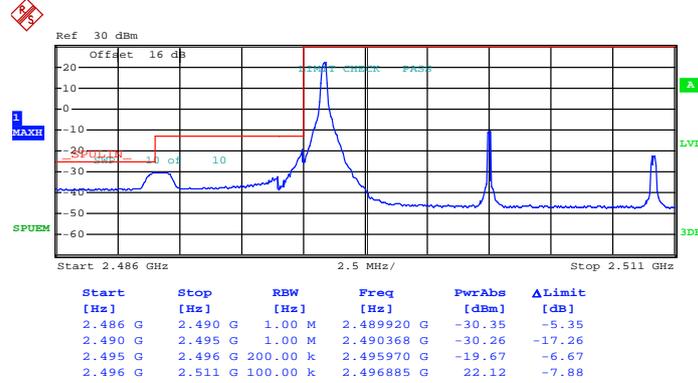


Date: 11.JUN.2014 01:23:18



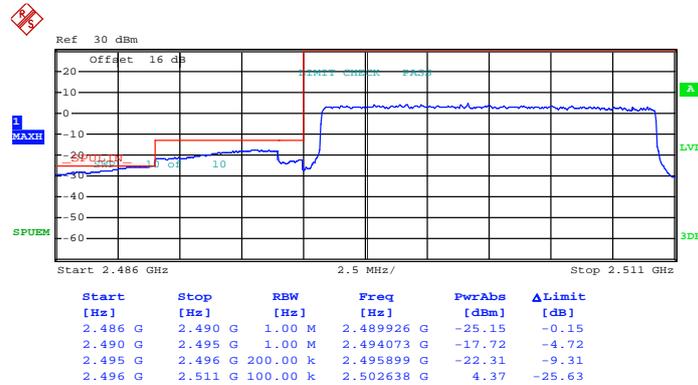
Band :	LTE Band 41	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 11.JUN.2014 01:31:40

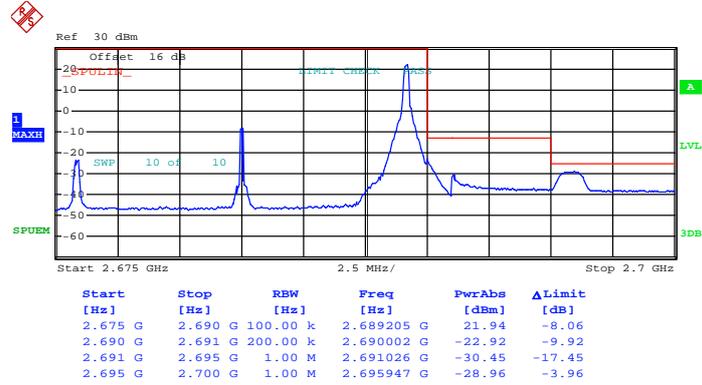
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 11.JUN.2014 01:44:00

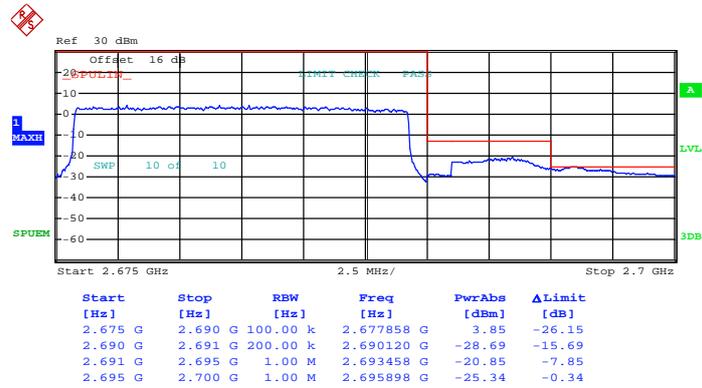


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 11.JUN.2014 01:26:37

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

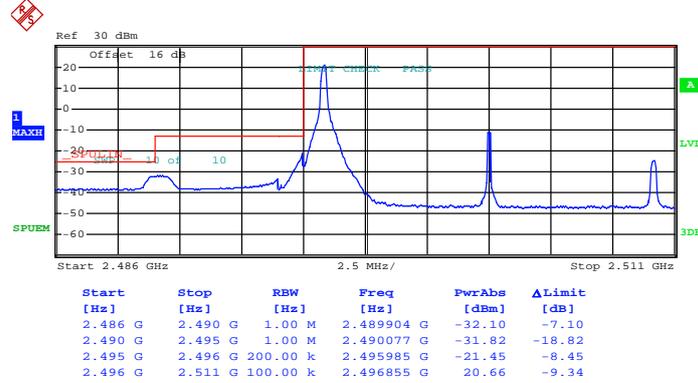


Date: 11.JUN.2014 01:27:19



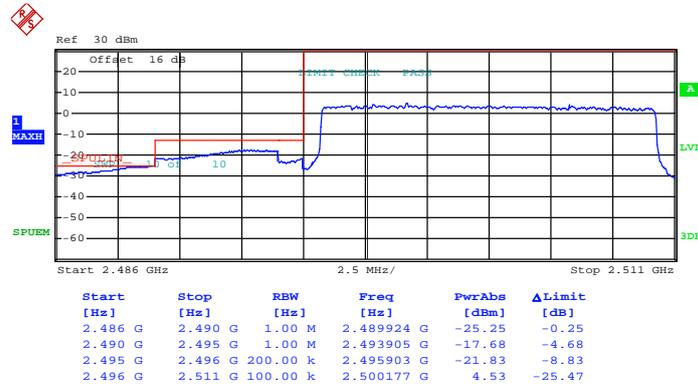
Band :	LTE Band 41	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 11.JUN.2014 01:30:55

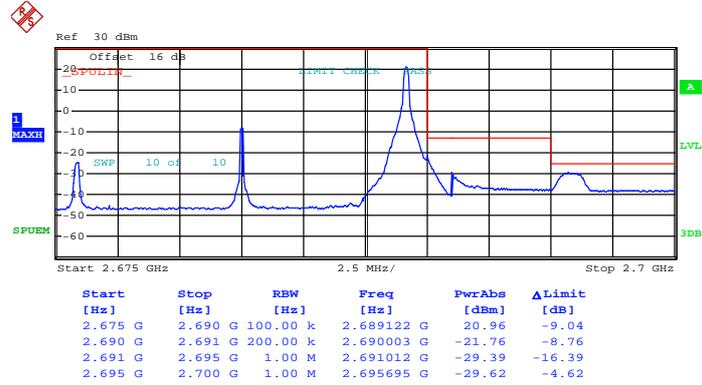
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 11.JUN.2014 01:44:35

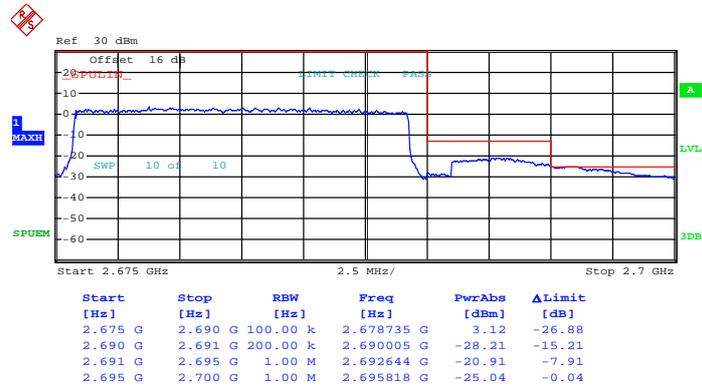


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 11.JUN.2014 01:26:04

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

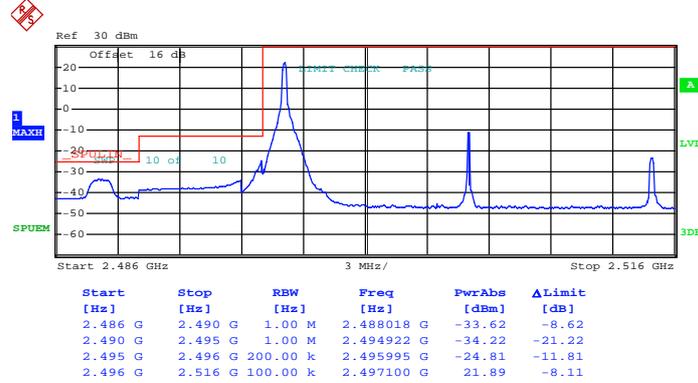


Date: 11.JUN.2014 01:27:56



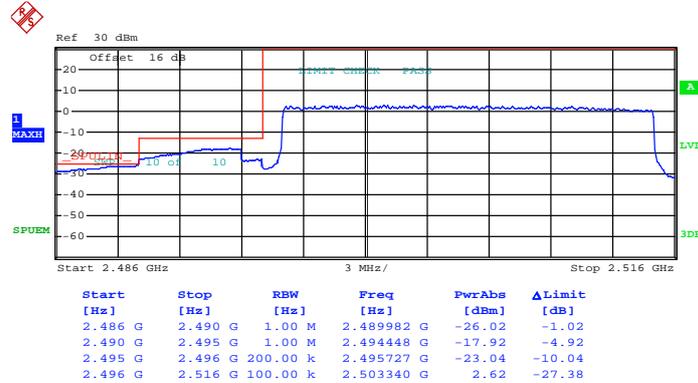
<b>Band :</b>	LTE Band 41	<b>Band Width :</b>	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 11.JUN.2014 02:18:51

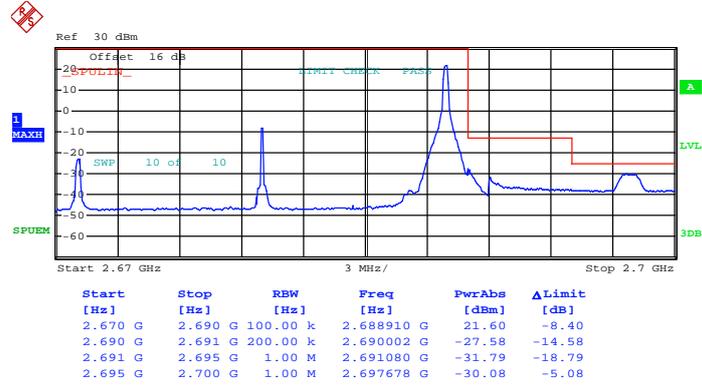
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 11.JUN.2014 02:21:24

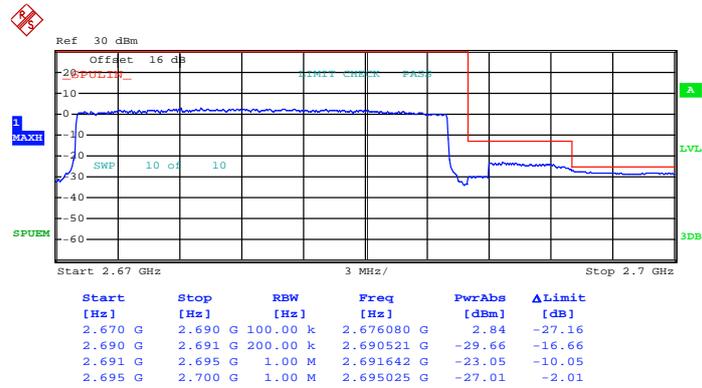


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 11.JUN.2014 02:24:12

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

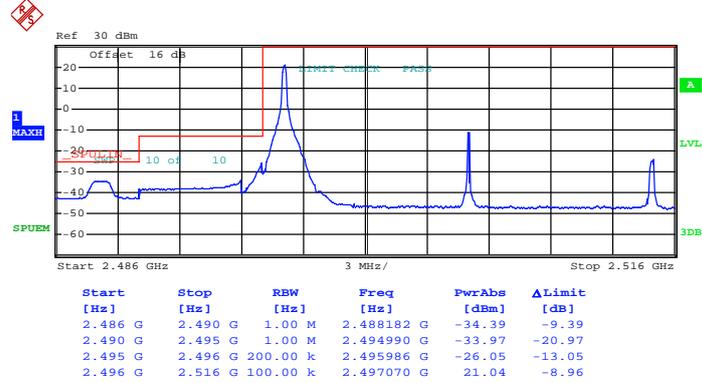


Date: 11.JUN.2014 02:26:02



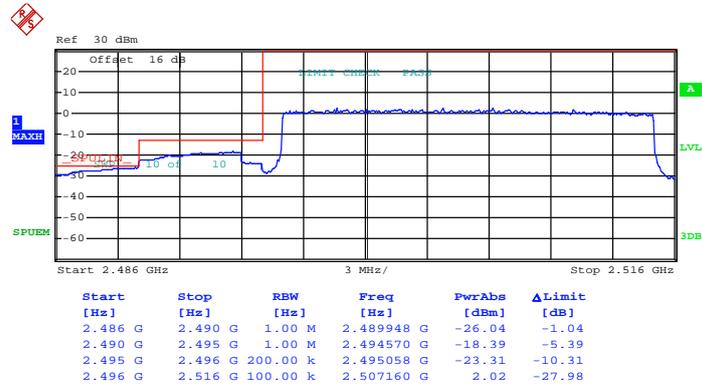
<b>Band :</b>	LTE Band 41	<b>Band Width :</b>	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 11.JUN.2014 02:19:30

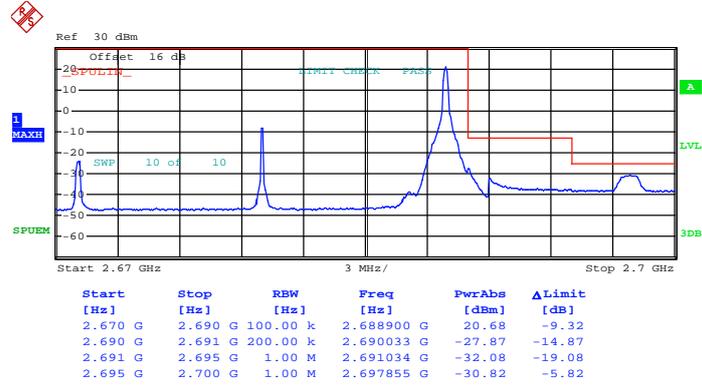
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 11.JUN.2014 02:20:52

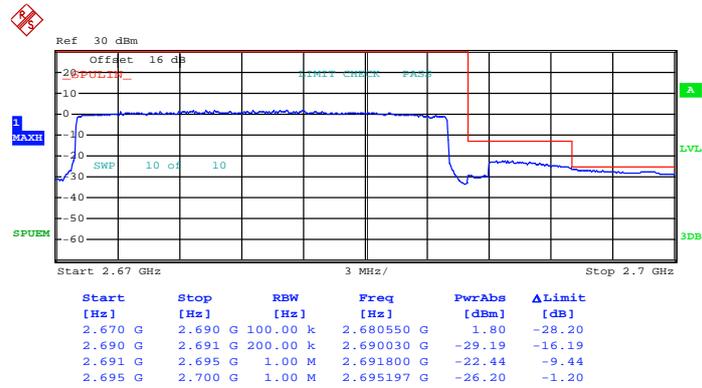


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 11.JUN.2014 02:24:46

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



Date: 11.JUN.2014 02:25:30



### 3.6 Conducted Spurious Emission Measurement

#### 3.6.1 Description of Conducted Spurious Emission Measurement

For Band 25/26

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 41

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10<sup>th</sup> harmonic.

#### 3.6.2 Measuring Instruments

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

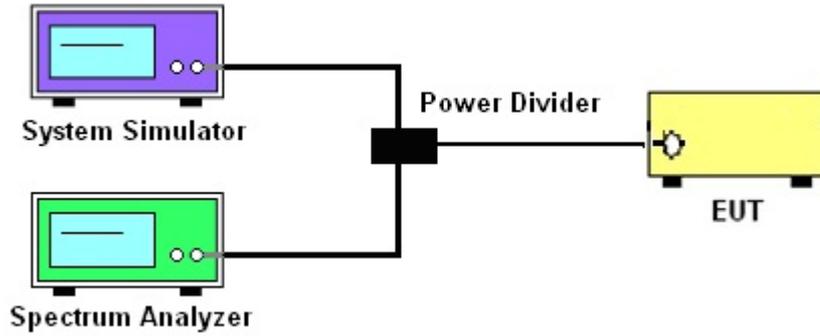
#### 3.6.3 Test Procedures

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

For Band 41

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)

### 3.6.4 Test Setup

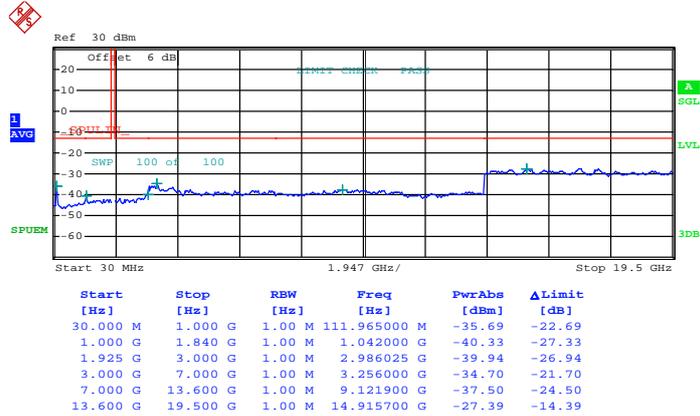




### 3.6.5 Test Result (Plots) of Conducted Spurious Emission

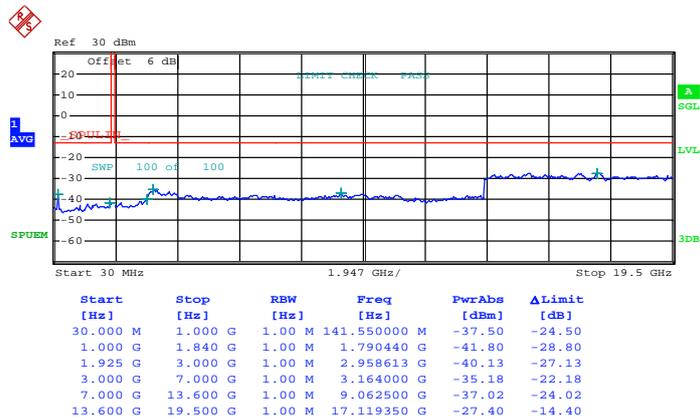
Band :	LTE Band 25	Channel :	CH26047 (Low)
Band Width :	1.4MHz		

#### QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 16:32:04

#### 16QAM (RB Size 1, RB Offset 0)

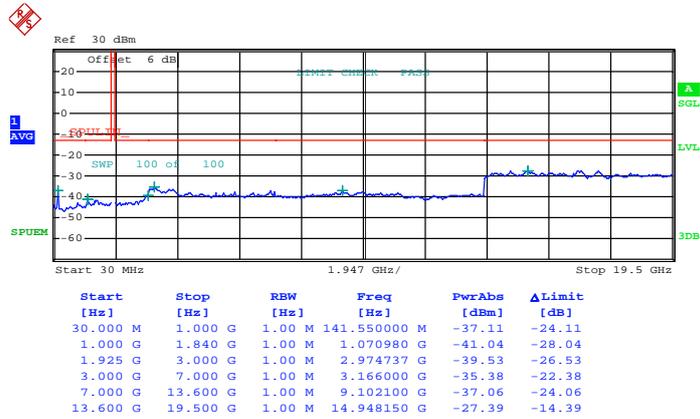


Date: 17.JUN.2014 19:59:51



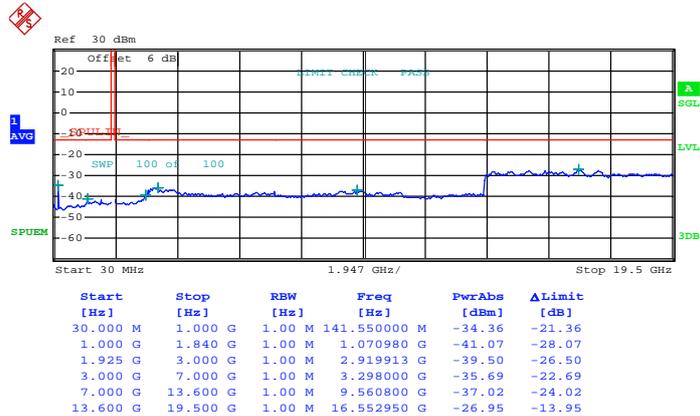
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 17.JUN.2014 16:43:59

**16QAM (RB Size 1, RB Offset 0)**

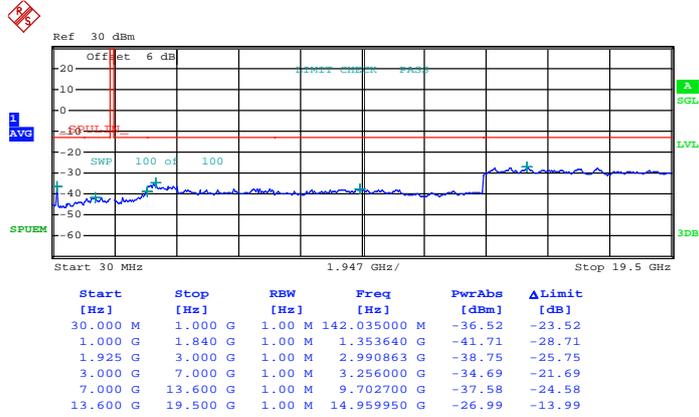


Date: 17.JUN.2014 16:40:17



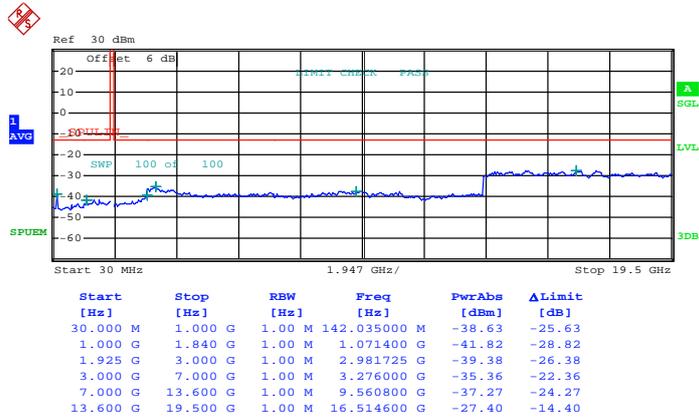
Band :	LTE Band 25	Channel :	CH26683 (High)
Band Width :	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 17.JUN.2014 16:34:59

**16QAM (RB Size 1, RB Offset 0)**

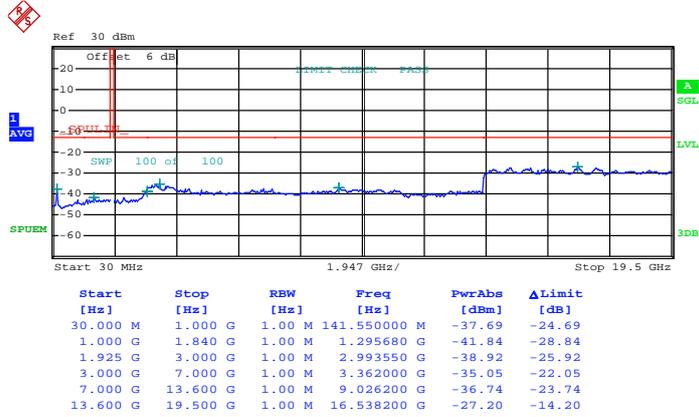


Date: 17.JUN.2014 16:37:32



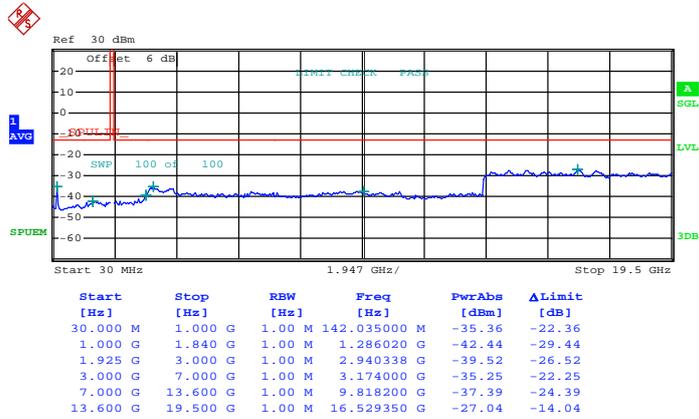
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Band Width :	3MHz		

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Date: 17.JUN.2014 16:48:48

16QAM (RB Size 1, RB Offset 0)

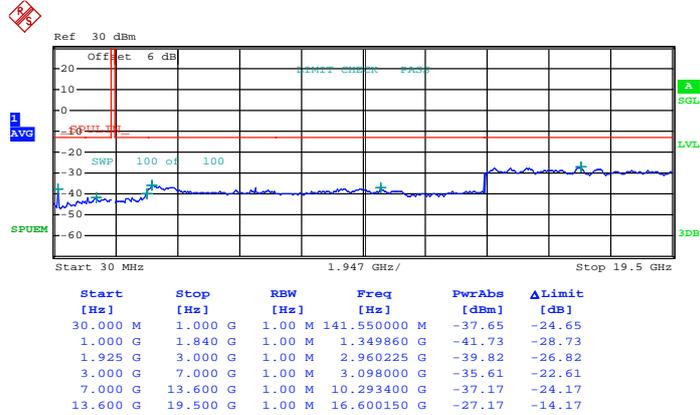


Date: 17.JUN.2014 16:51:37



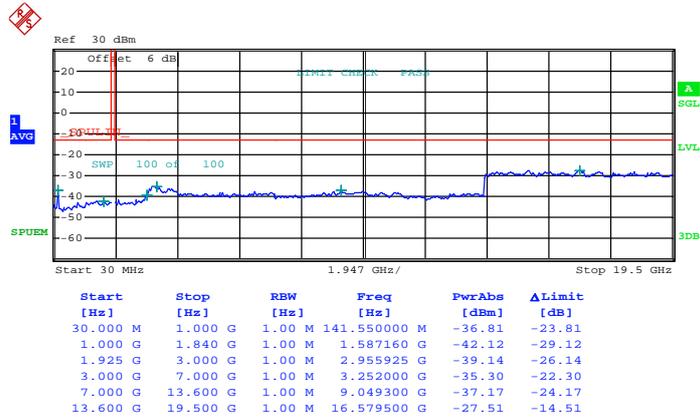
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	3MHz		

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Date: 17.JUN.2014 16:57:39

16QAM (RB Size 1, RB Offset 0)

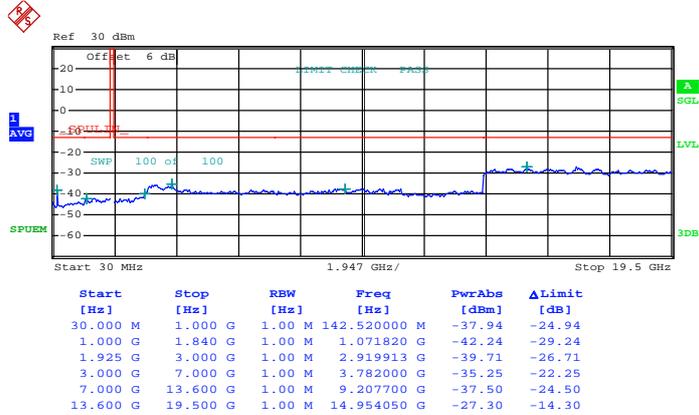


Date: 17.JUN.2014 16:54:31



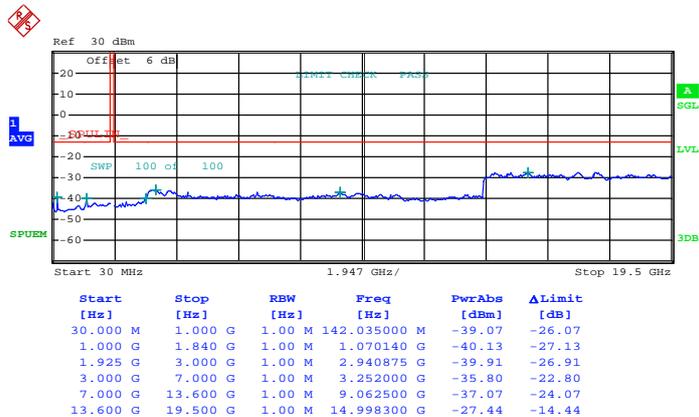
Band :	LTE Band 25	Channel :	CH26675 (High)
Band Width :	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 17.JUN.2014 17:00:32

**16QAM (RB Size 1, RB Offset 0)**

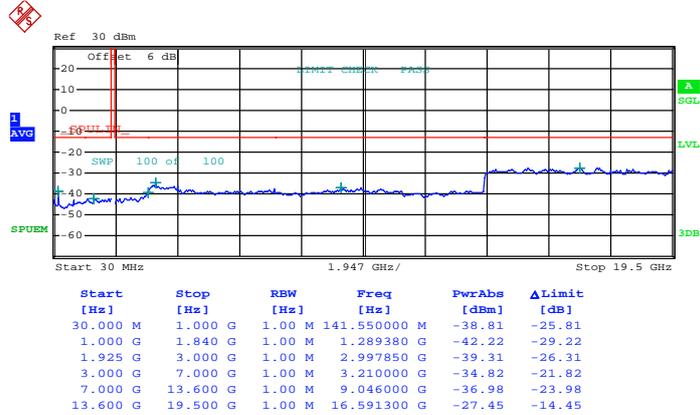


Date: 17.JUN.2014 17:03:27



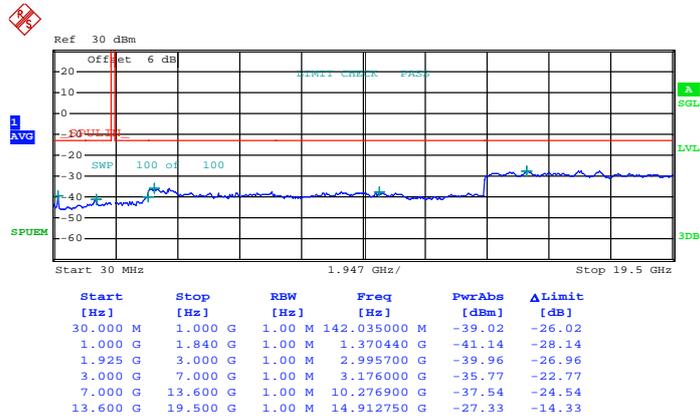
Band :	LTE Band 25	Channel :	CH26065 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 17:09:14

16QAM (RB Size 1, RB Offset 0)

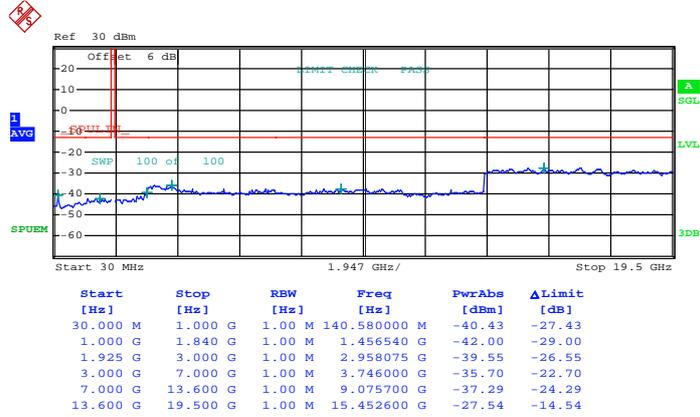


Date: 17.JUN.2014 17:06:40



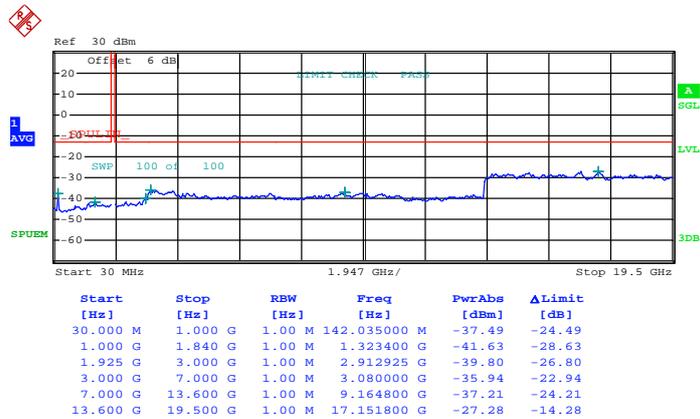
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	5MHz		

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Date: 17.JUN.2014 17:15:31

16QAM (RB Size 1, RB Offset 0)

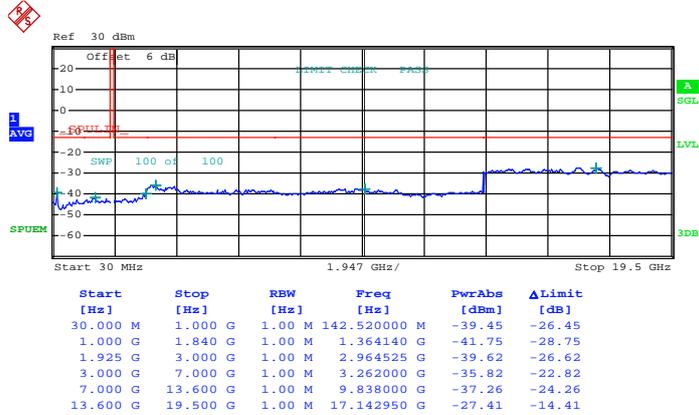


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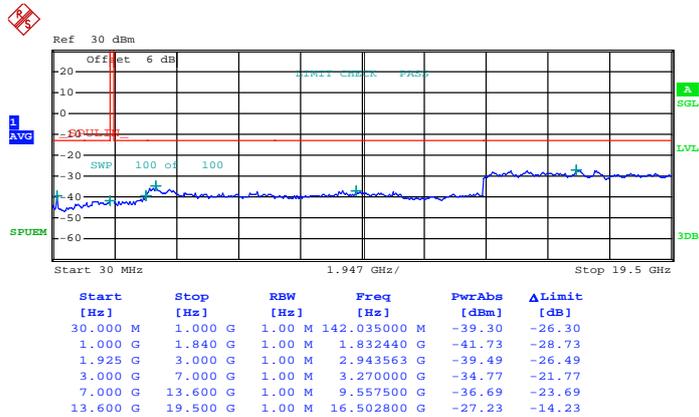
Band :	LTE Band 25	Channel :	CH26665 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 17:18:53

16QAM (RB Size 1, RB Offset 0)

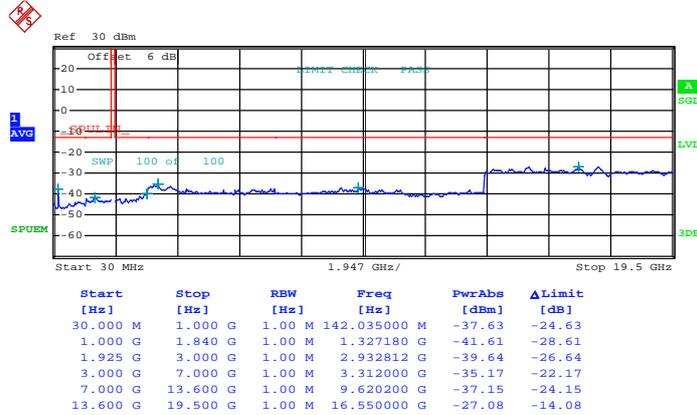


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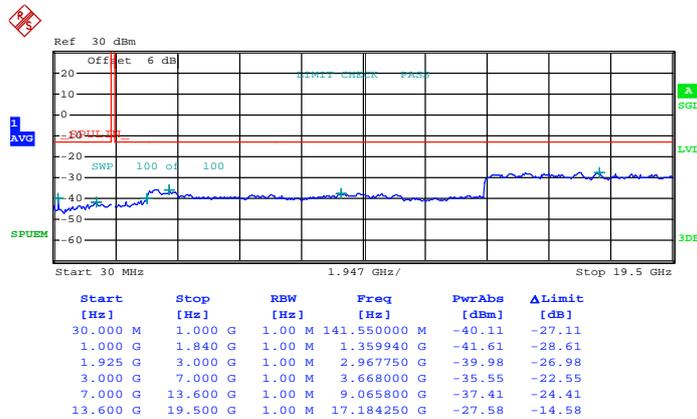
Band :	LTE Band 25	Channel :	CH26090 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 17:39:04

16QAM (RB Size 1, RB Offset 0)

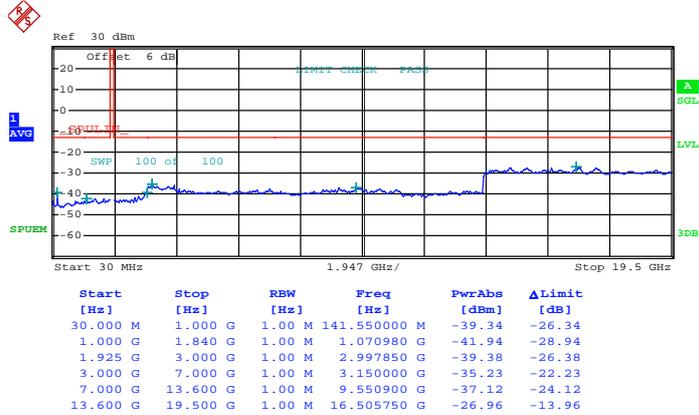


Date: 17.JUN.2014 17:36:28



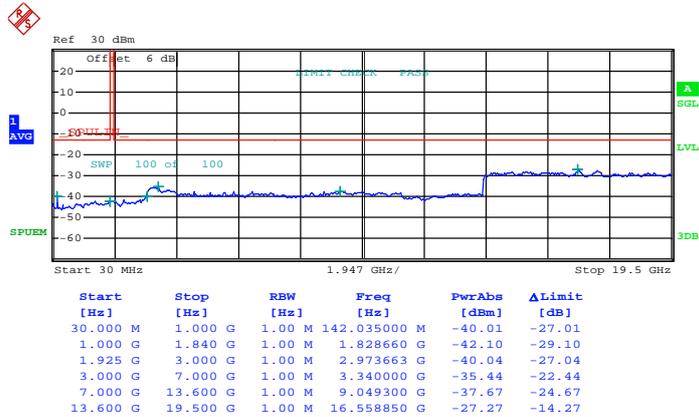
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 18:14:07

16QAM (RB Size 1, RB Offset 0)

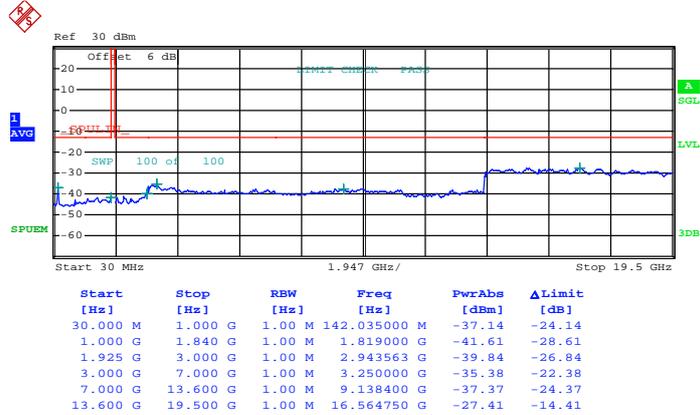


Date: 17.JUN.2014 18:19:36



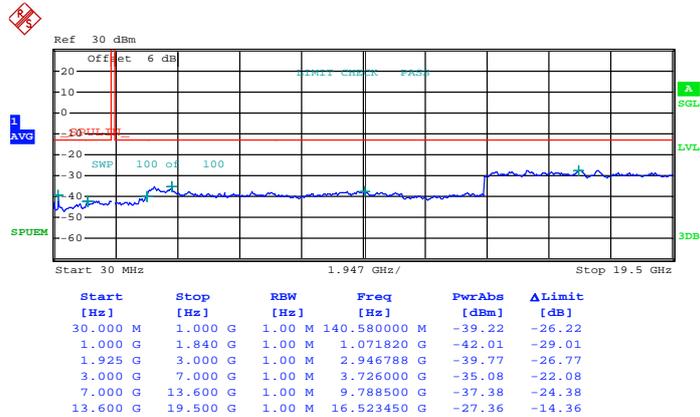
Band :	LTE Band 25	Channel :	CH26640 (High)
Band Width :	10MHz		

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Date: 17.JUN.2014 18:32:52

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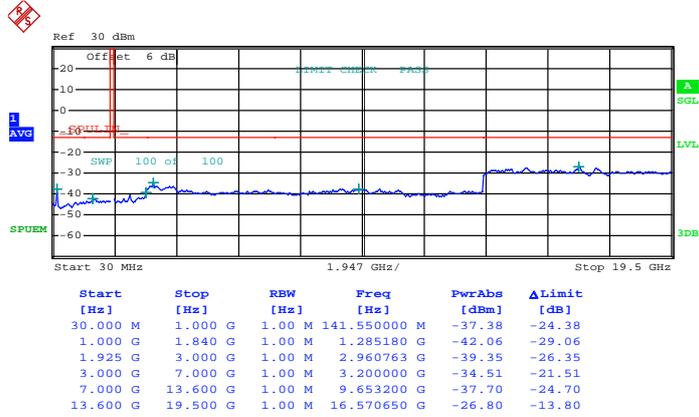


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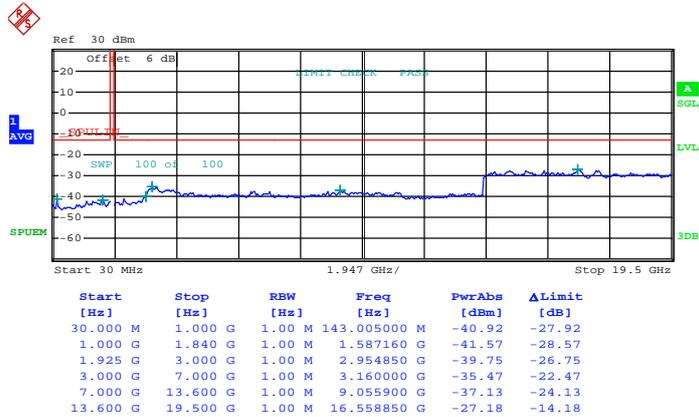
Band :	LTE Band 25	Channel :	CH26115 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:20:30

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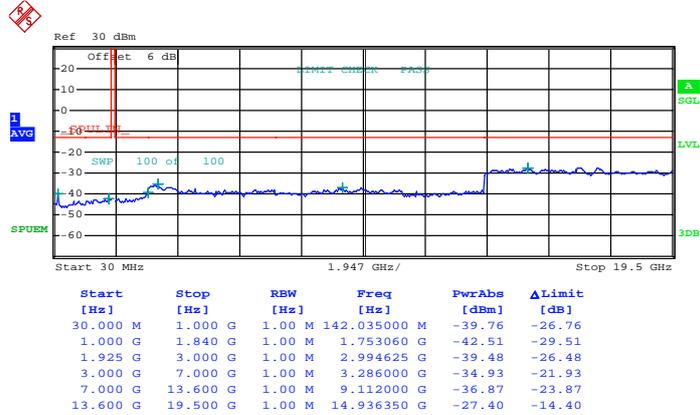


Date: 17.JUN.2014 19:16:54



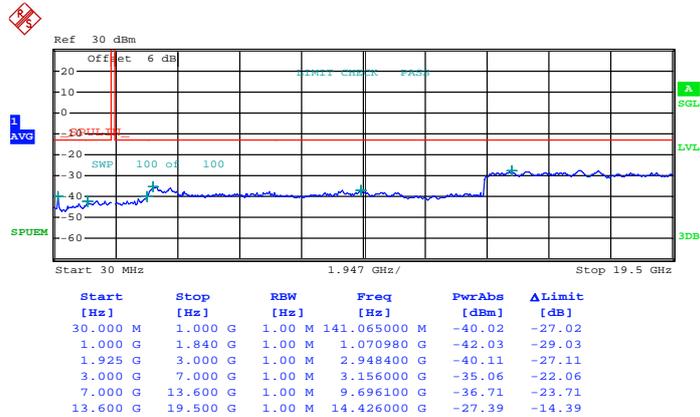
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:25:45

16QAM (RB Size 1, RB Offset 0)

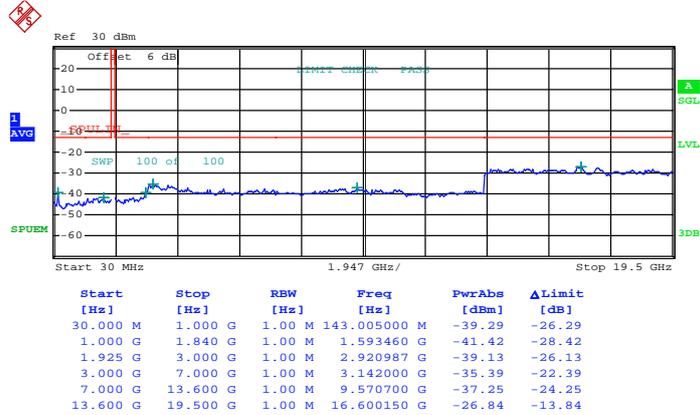


Date: 17.JUN.2014 19:29:05



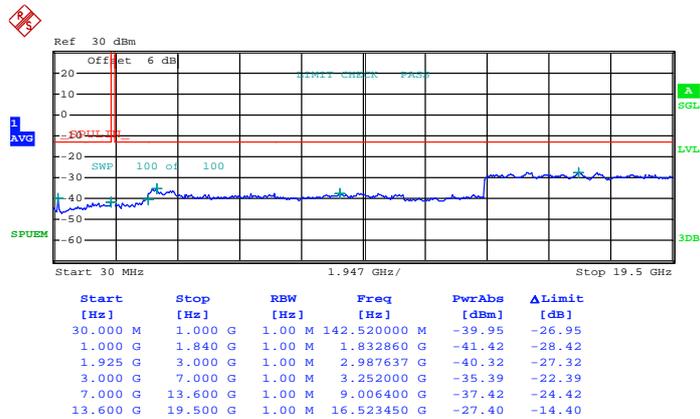
Band :	LTE Band 25	Channel :	CH26615 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:32:37

16QAM (RB Size 1, RB Offset 0)

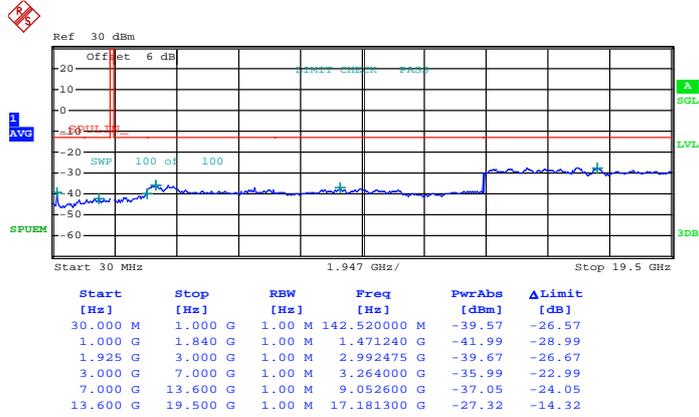


Date: 17.JUN.2014 19:36:17



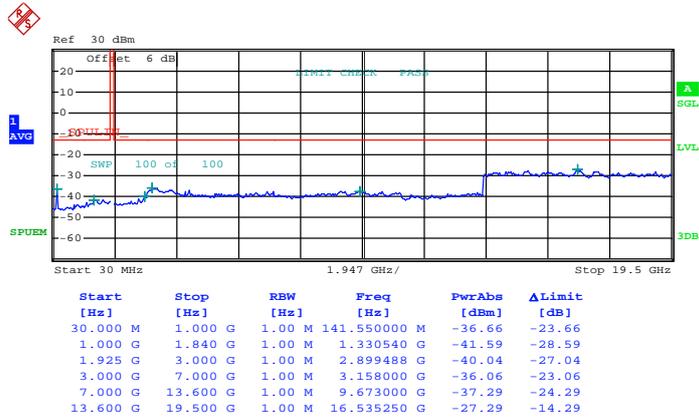
Band :	LTE Band 25	Channel :	CH26140 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:42:53

16QAM (RB Size 1, RB Offset 0)

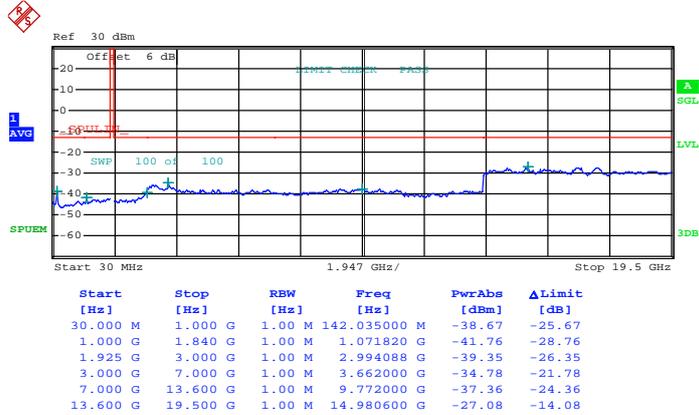


Date: 17.JUN.2014 19:39:53



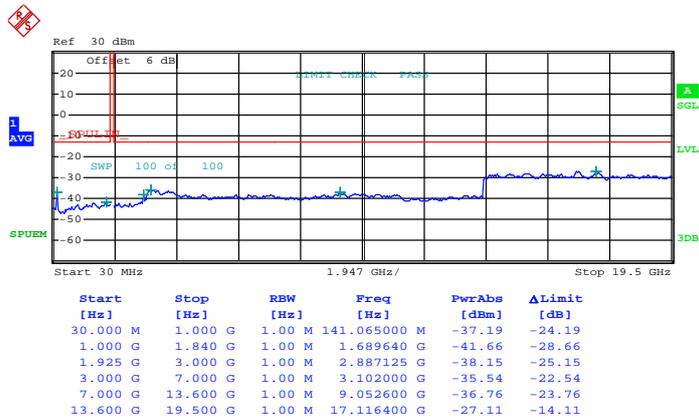
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:45:50

16QAM (RB Size 1, RB Offset 0)

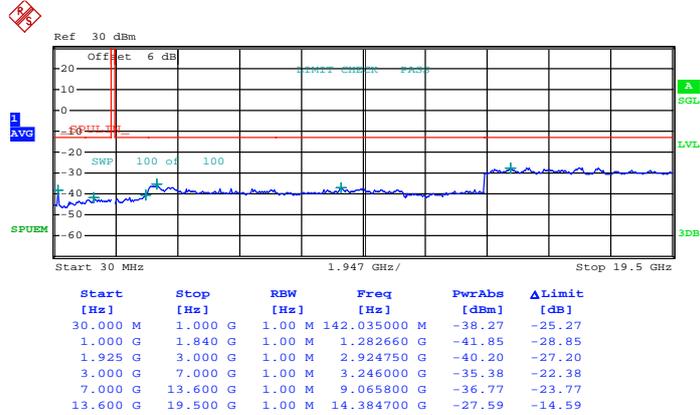


Date: 17.JUN.2014 19:48:27



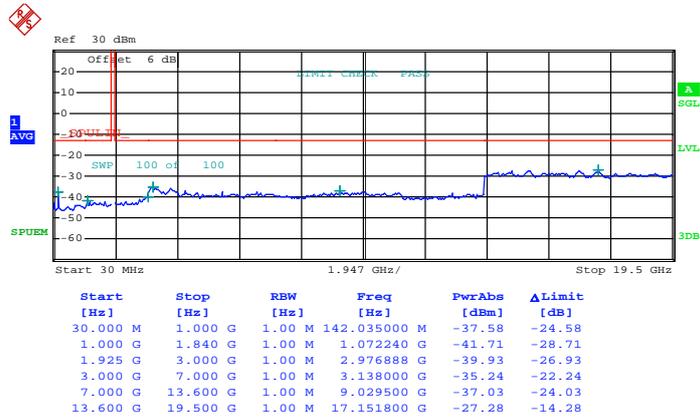
Band :	LTE Band 25	Channel :	CH26590 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 17.JUN.2014 19:52:50

16QAM (RB Size 1, RB Offset 0)

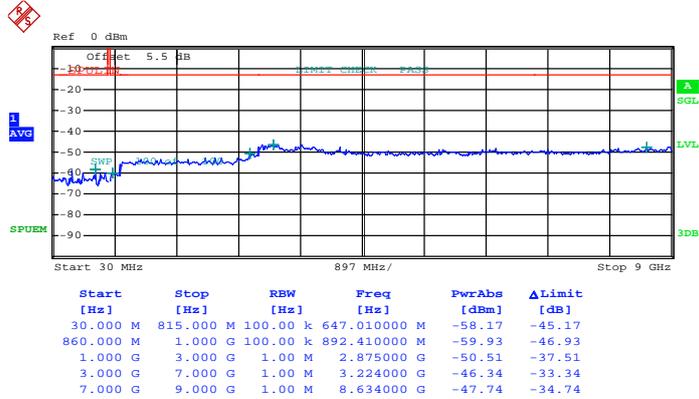


Date: 17.JUN.2014 19:55:31



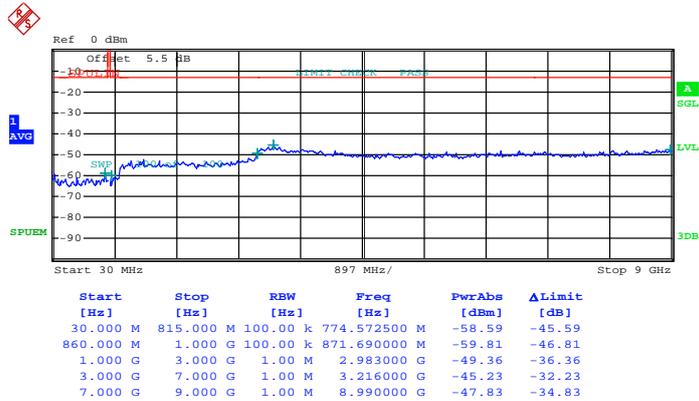
Band :	LTE Band 26	Channel :	CH26797 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 12:51:50

16QAM (RB Size 1, RB Offset 0)

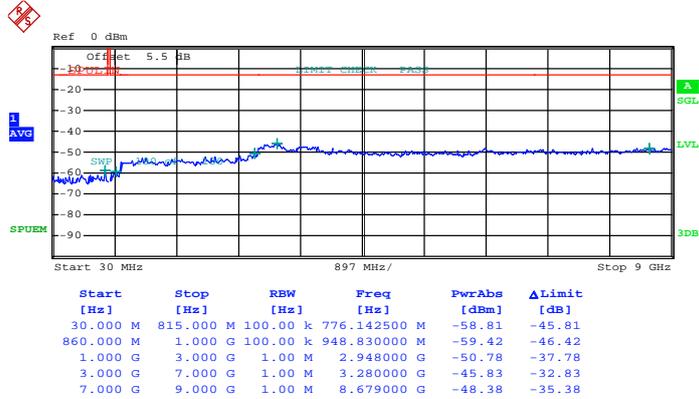


Date: 12.JUN.2014 12:54:09



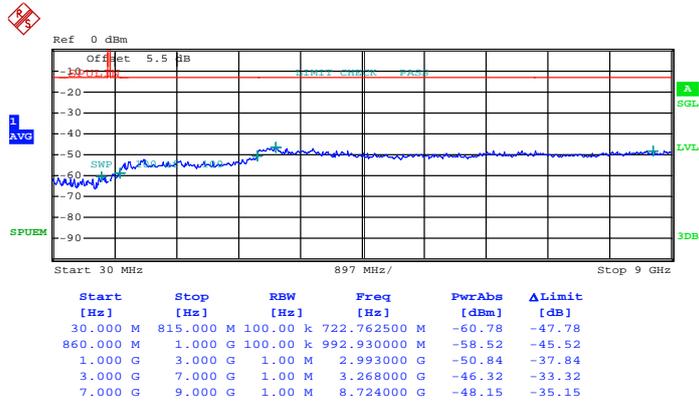
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 12:49:37

16QAM (RB Size 1, RB Offset 0)

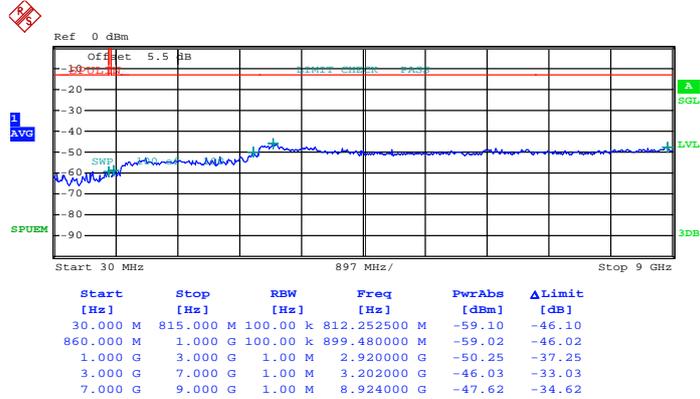


Date: 12.JUN.2014 12:46:25



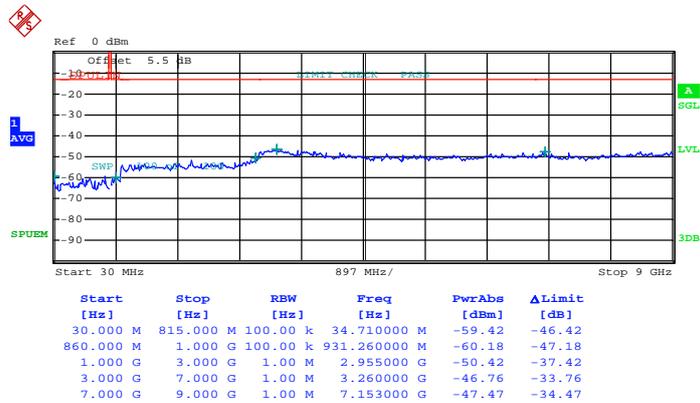
Band :	LTE Band 26	Channel :	CH27033 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 12:58:00

16QAM (RB Size 1, RB Offset 0)

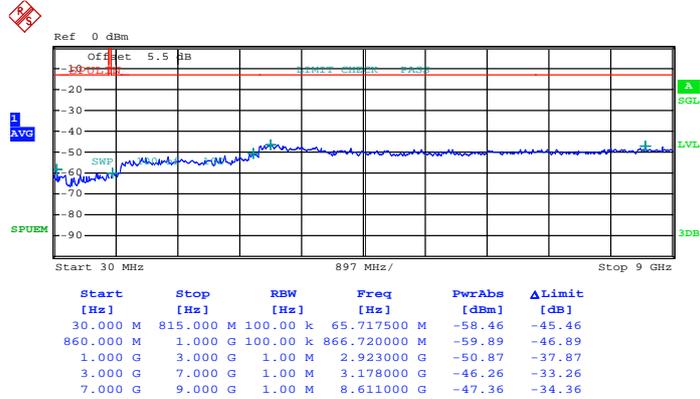


Date: 12.JUN.2014 12:56:08



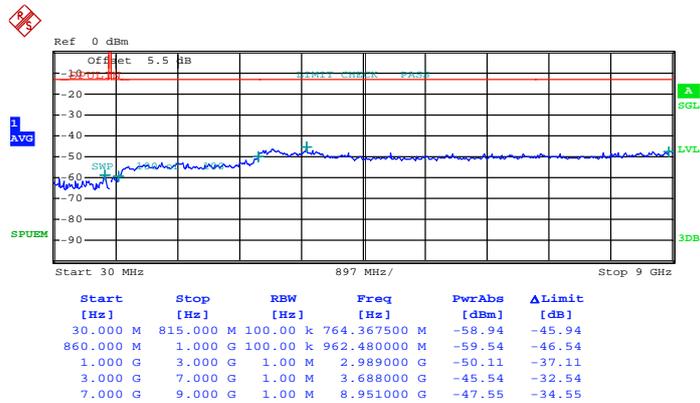
Band :	LTE Band 26	Channel :	CH26805 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:32:02

16QAM (RB Size 1, RB Offset 0)

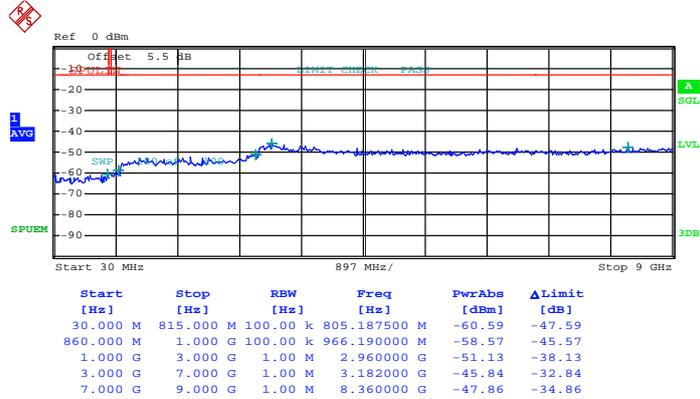


Date: 12.JUN.2014 14:33:54



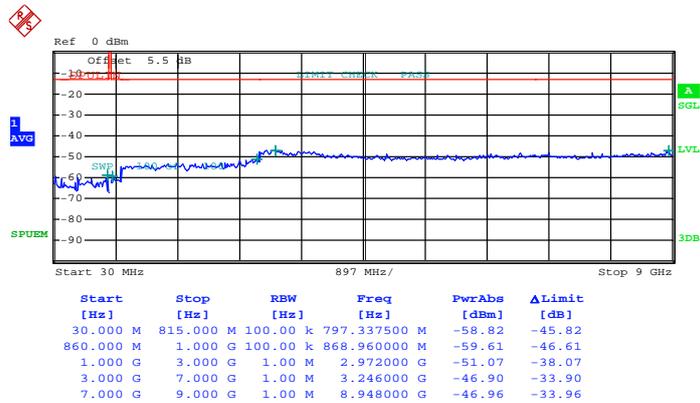
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 13:07:39

16QAM (RB Size 1, RB Offset 0)

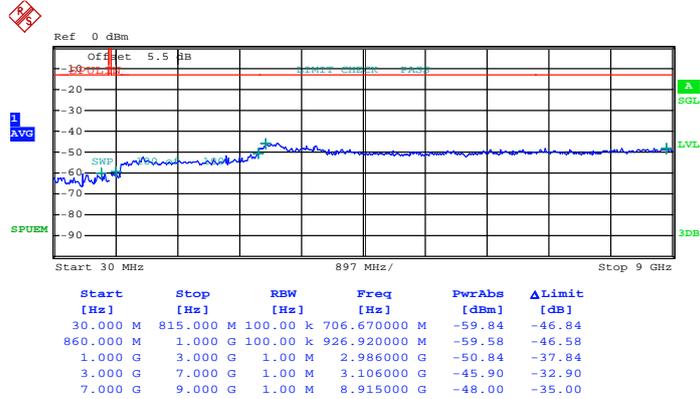


Date: 12.JUN.2014 13:04:41



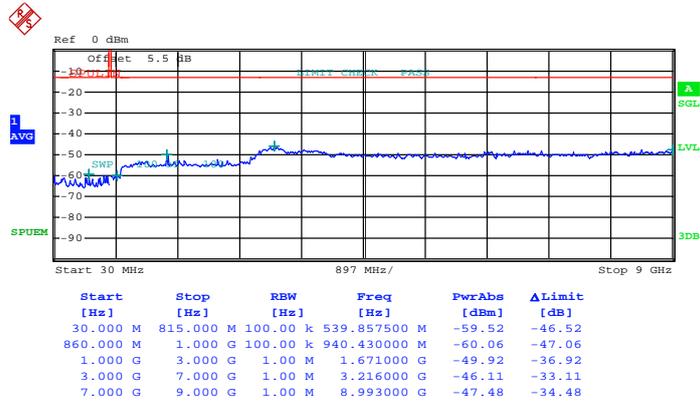
Band :	LTE Band 26	Channel :	CH27025 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 13:00:30

16QAM (RB Size 1, RB Offset 0)

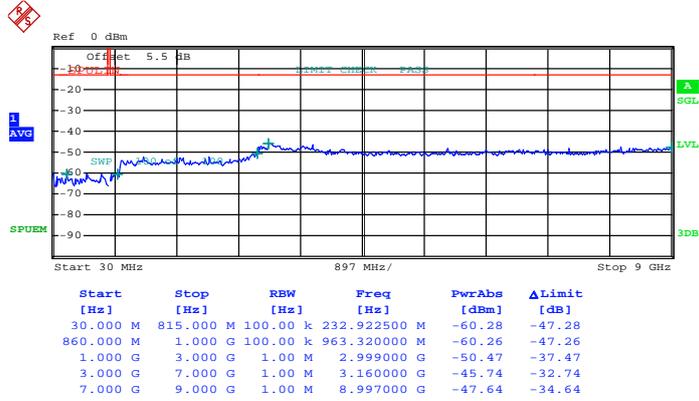


Date: 12.JUN.2014 13:02:33



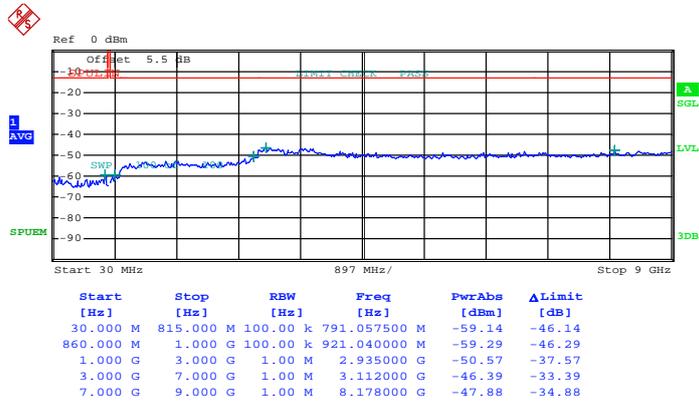
Band :	LTE Band 26	Channel :	CH26815 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:40:25

16QAM (RB Size 1, RB Offset 0)

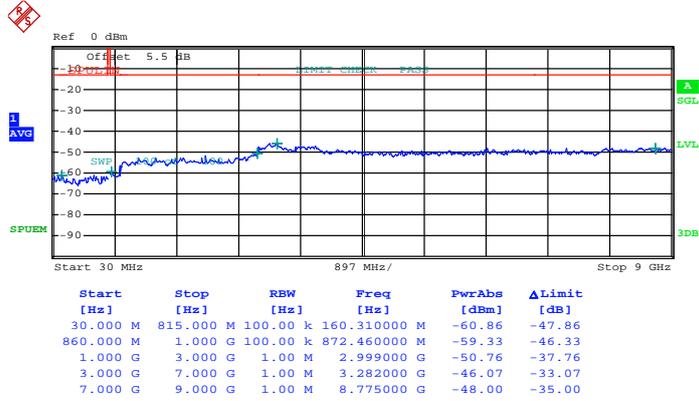


Date: 12.JUN.2014 14:35:59



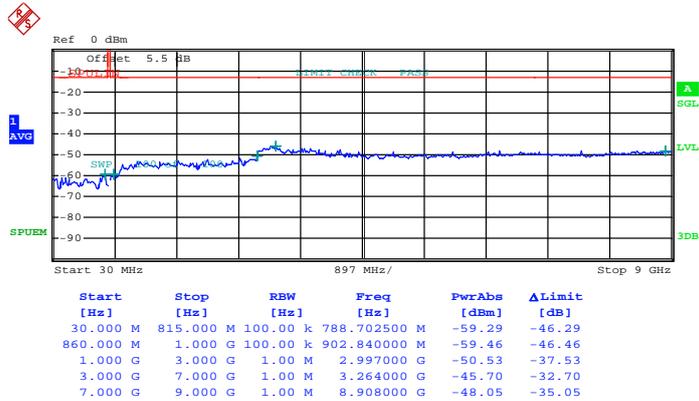
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:42:22

16QAM (RB Size 1, RB Offset 0)

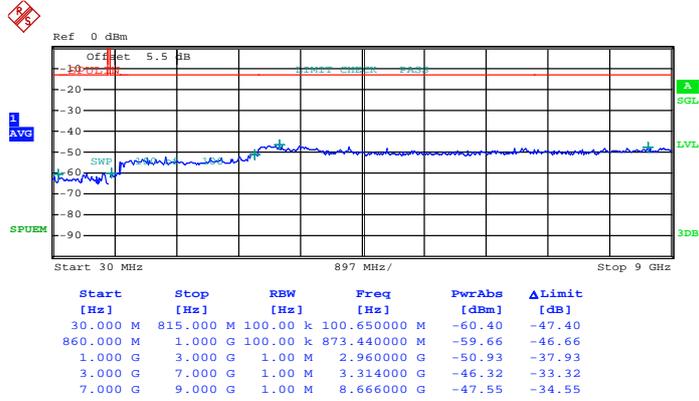


Date: 12.JUN.2014 14:44:18



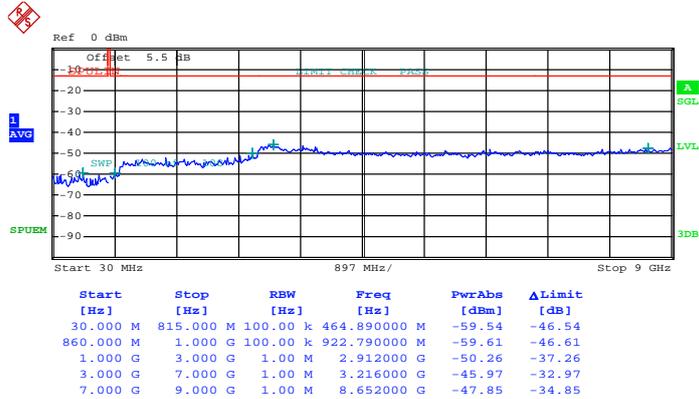
Band :	LTE Band 26	Channel :	CH27015 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:49:01

16QAM (RB Size 1, RB Offset 0)

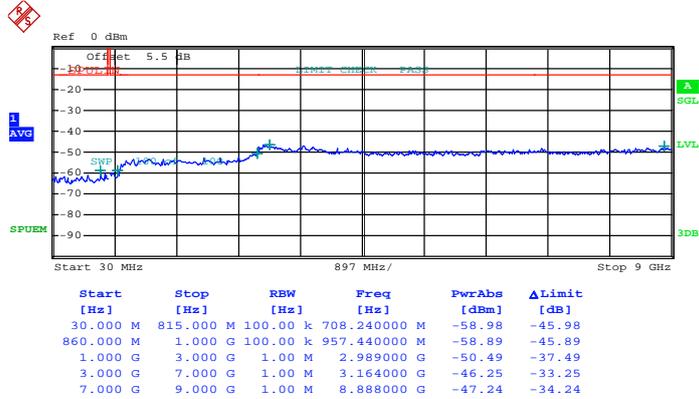


Date: 12.JUN.2014 14:47:08



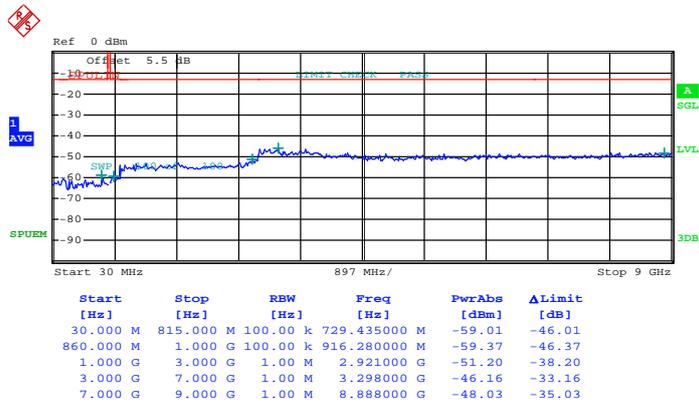
Band :	LTE Band 26	Channel :	CH26840 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:59:16

16QAM (RB Size 1, RB Offset 0)

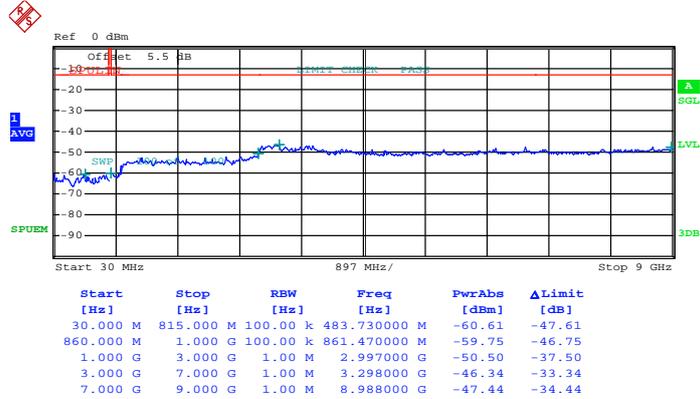


Date: 12.JUN.2014 15:01:10



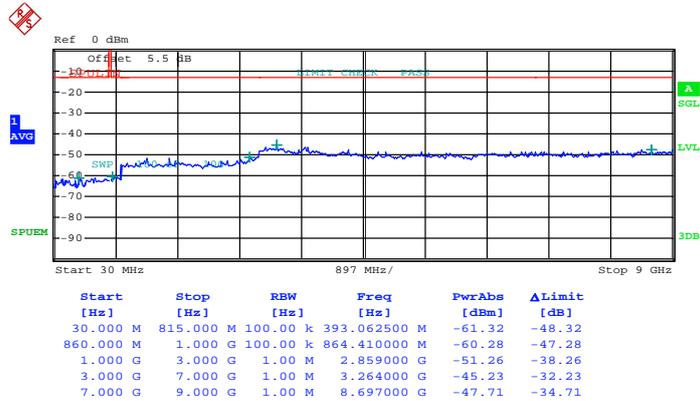
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:57:18

16QAM (RB Size 1, RB Offset 0)

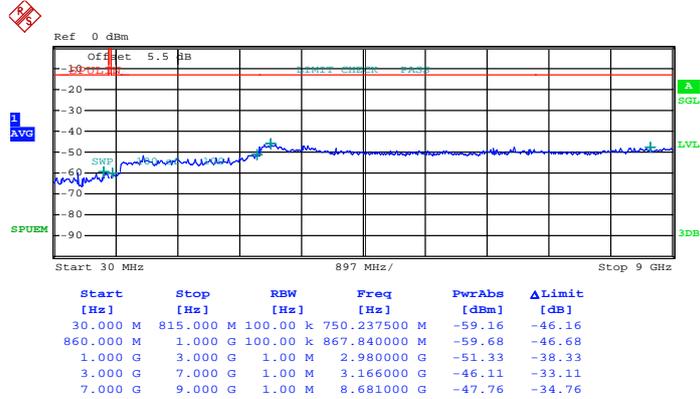


Date: 12.JUN.2014 14:55:28



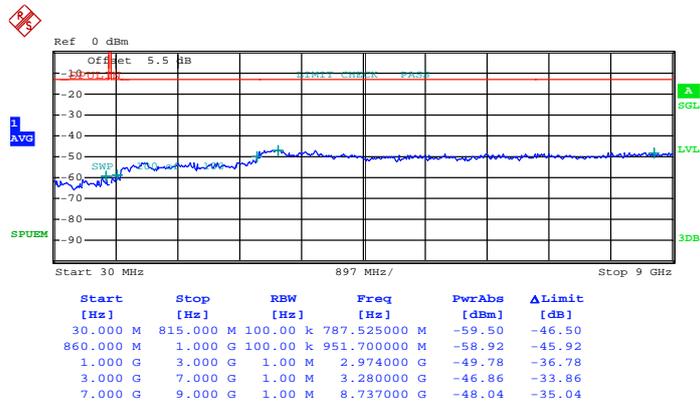
Band :	LTE Band 26	Channel :	CH26990 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 14:51:05

16QAM (RB Size 1, RB Offset 0)

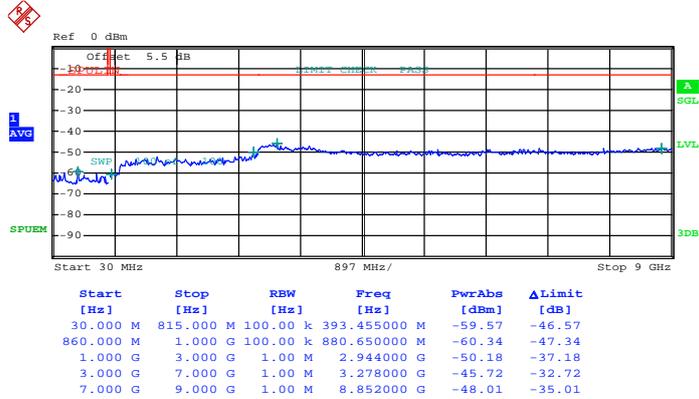


Date: 12.JUN.2014 14:53:25



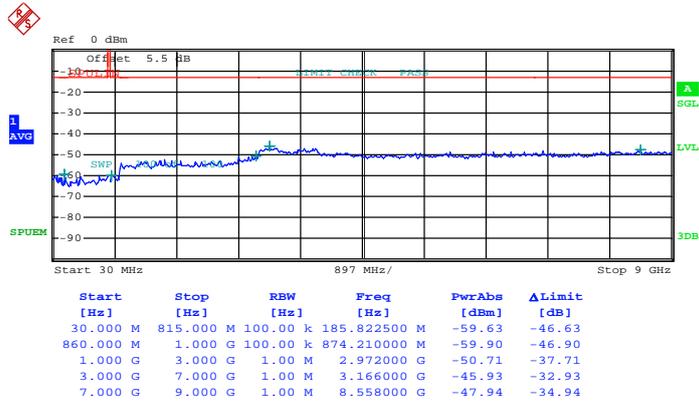
Band :	LTE Band 26	Channel :	CH26865 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 15:05:30

16QAM (RB Size 1, RB Offset 0)

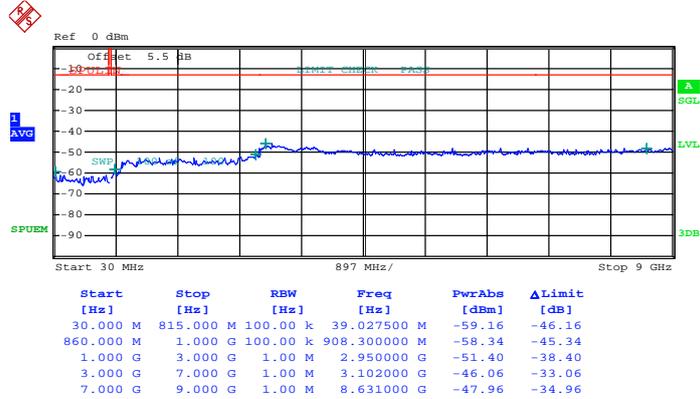


Date: 12.JUN.2014 15:03:33



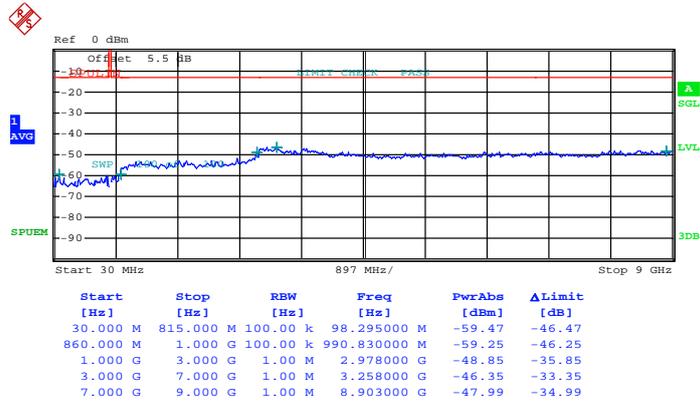
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 15:07:25

16QAM (RB Size 1, RB Offset 0)

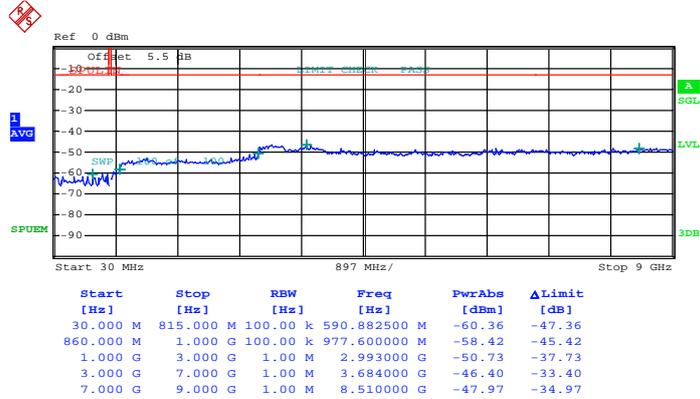


Date: 12.JUN.2014 15:09:16



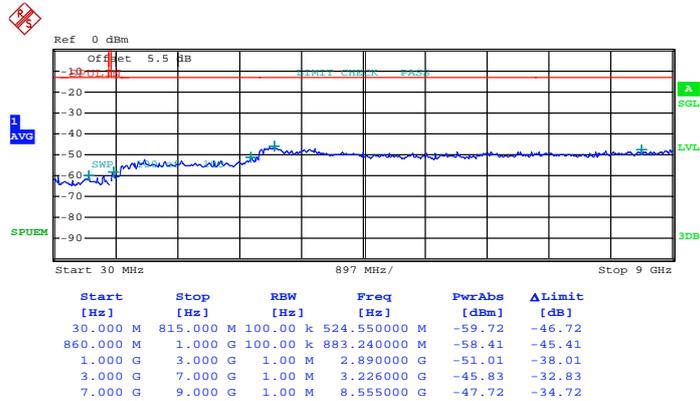
Band :	LTE Band 26	Channel :	CH26965 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 12.JUN.2014 15:15:56

16QAM (RB Size 1, RB Offset 0)

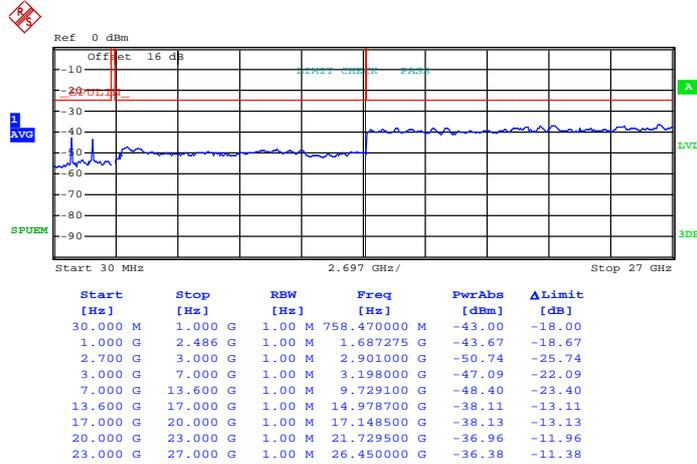


Date: 12.JUN.2014 15:14:03



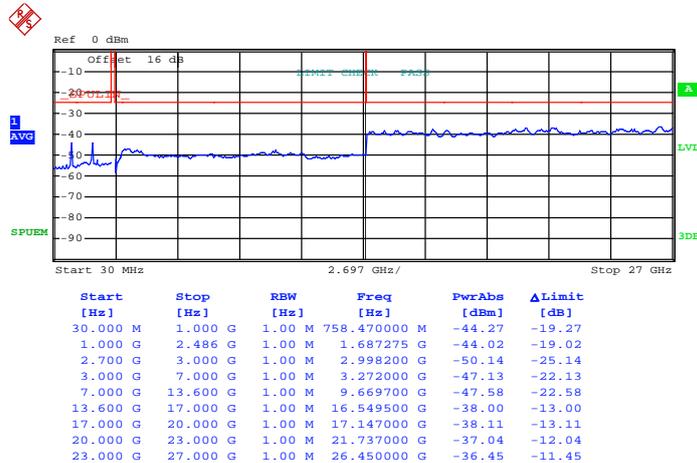
Band :	LTE Band 41	Channel :	CH39675 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:06:59

16QAM (RB Size 1, RB Offset 0)

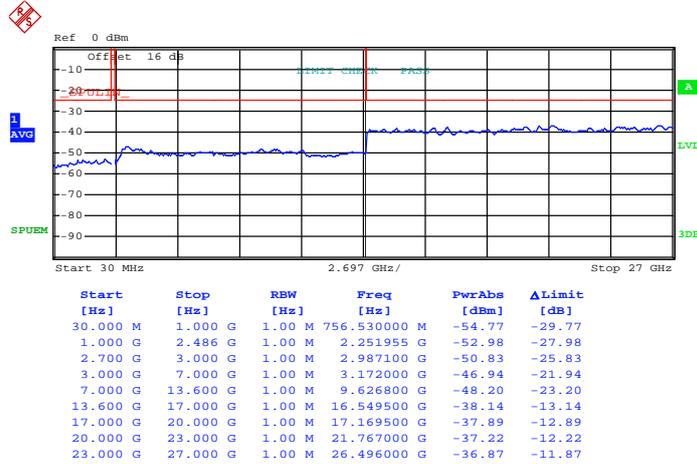


Date: 8.JUL.2014 17:07:26



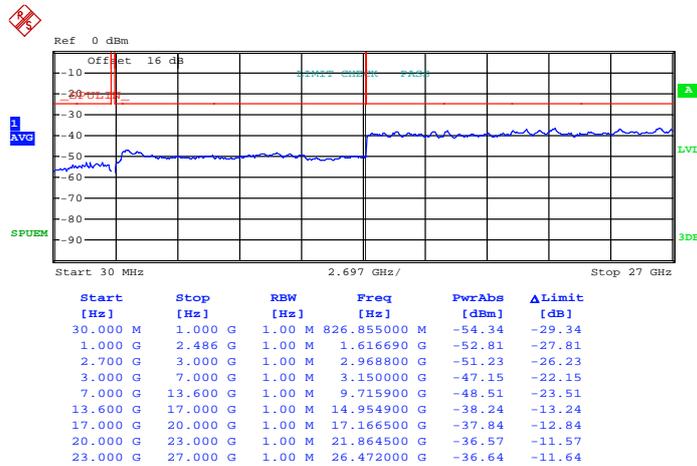
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:08:25

16QAM (RB Size 1, RB Offset 0)

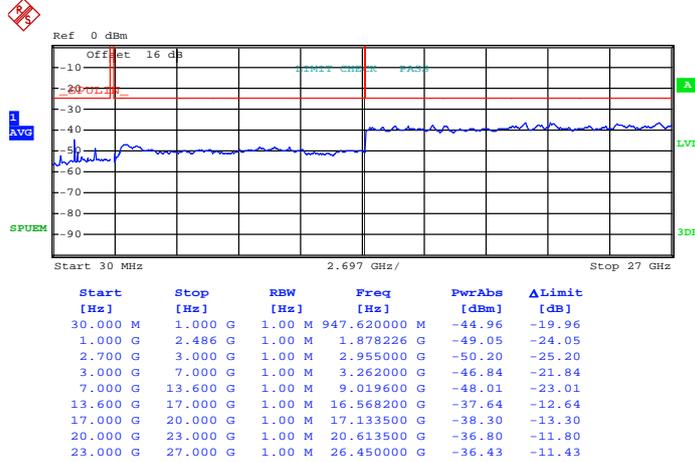


Date: 8.JUL.2014 17:08:06



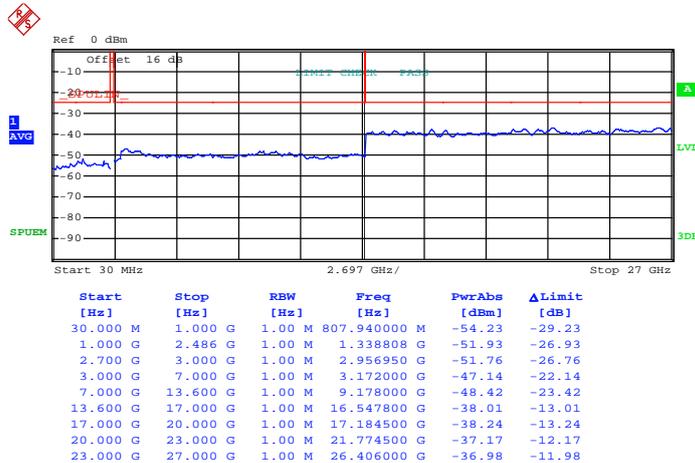
Band :	LTE Band 41	Channel :	CH41565 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:09:00

16QAM (RB Size 1, RB Offset 0)

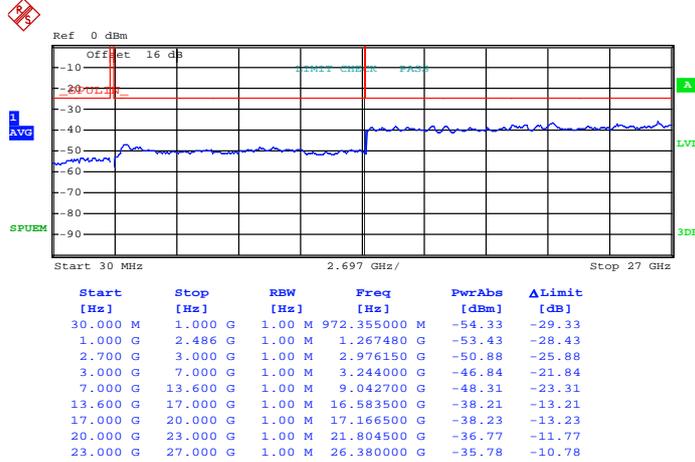


Date: 8.JUL.2014 17:09:22



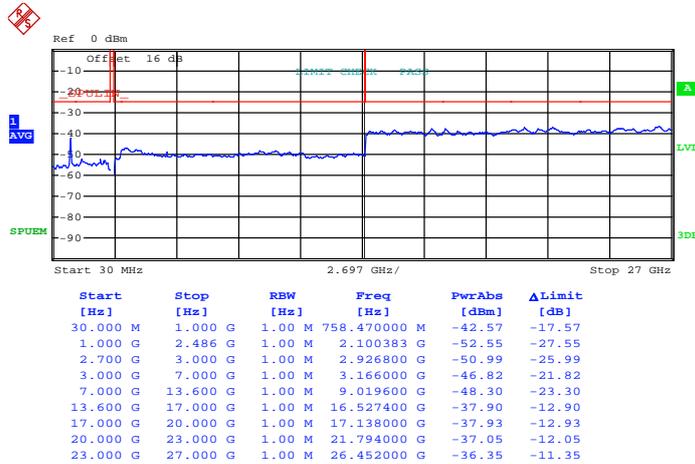
Band :	LTE Band 41	Channel :	CH39700 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:14:10

16QAM (RB Size 1, RB Offset 0)

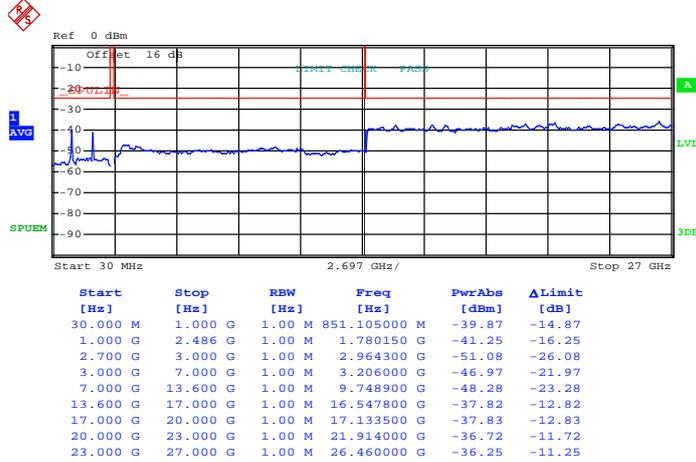


Date: 8.JUL.2014 17:13:53



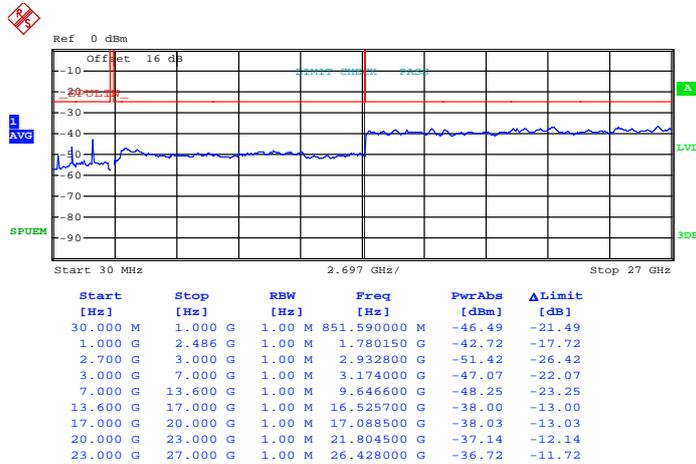
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:12:58

16QAM (RB Size 1, RB Offset 0)

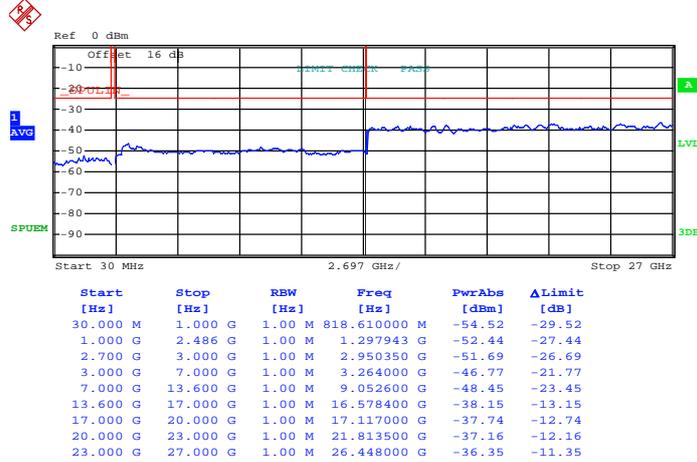


Date: 8.JUL.2014 17:13:18



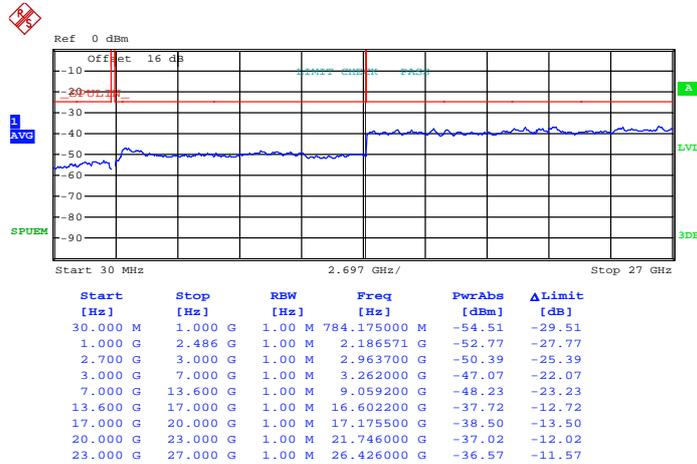
Band :	LTE Band 41	Channel :	CH41540 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:11:52

16QAM (RB Size 1, RB Offset 0)

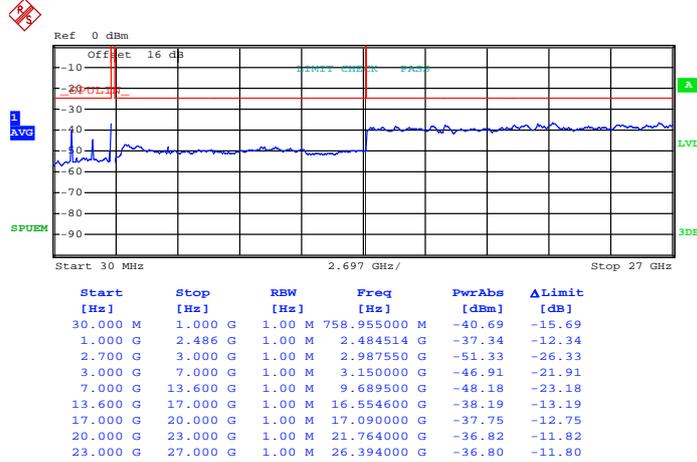


Date: 8.JUL.2014 17:11:33



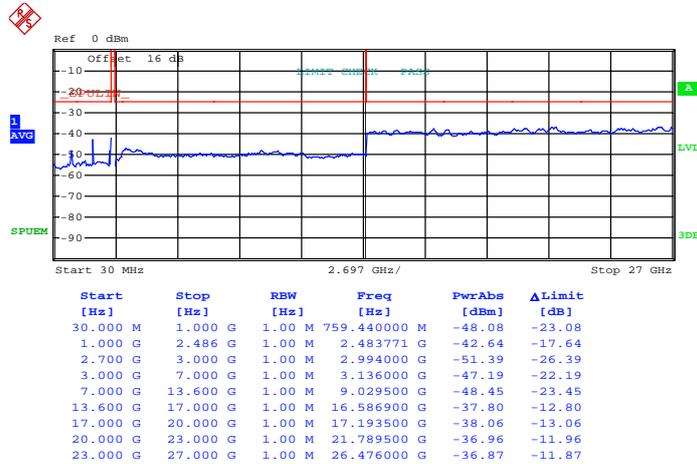
Band :	LTE Band 41	Channel :	CH39725 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:15:31

16QAM (RB Size 1, RB Offset 0)

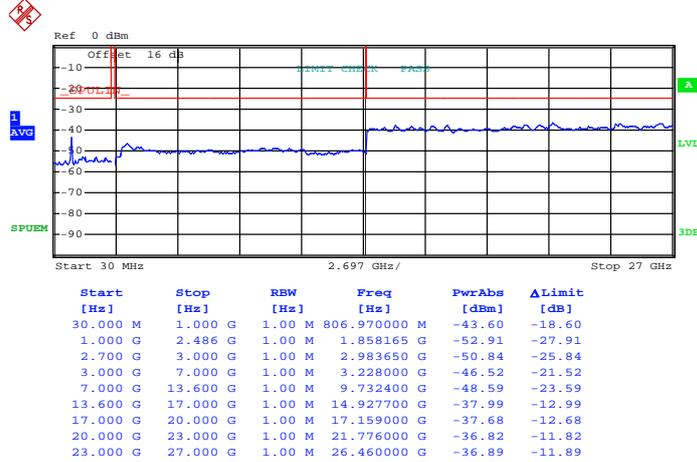


Date: 8.JUL.2014 17:15:53



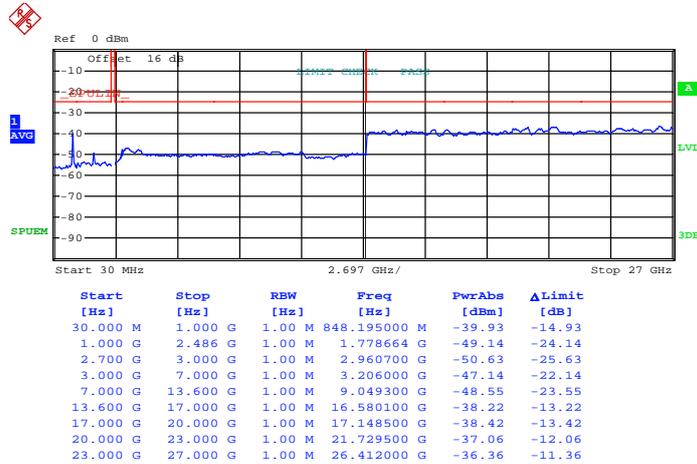
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:17:00

16QAM (RB Size 1, RB Offset 0)

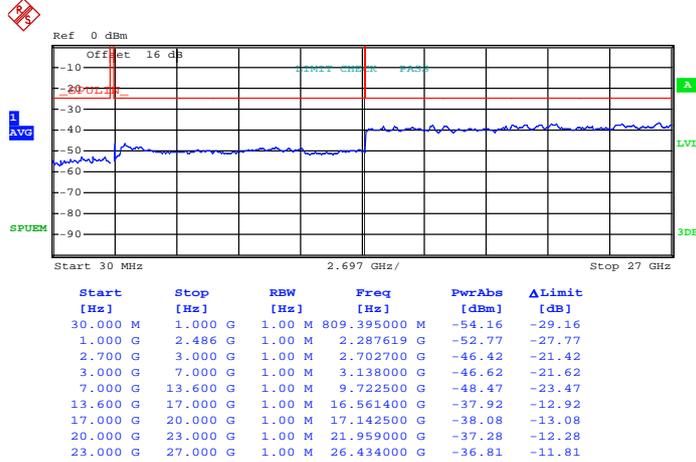


Date: 8.JUL.2014 17:16:41



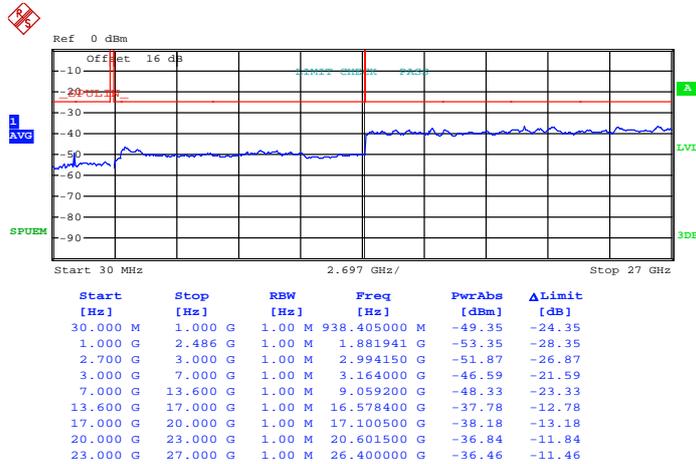
Band :	LTE Band 41	Channel :	CH41515 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:17:41

16QAM (RB Size 1, RB Offset 0)

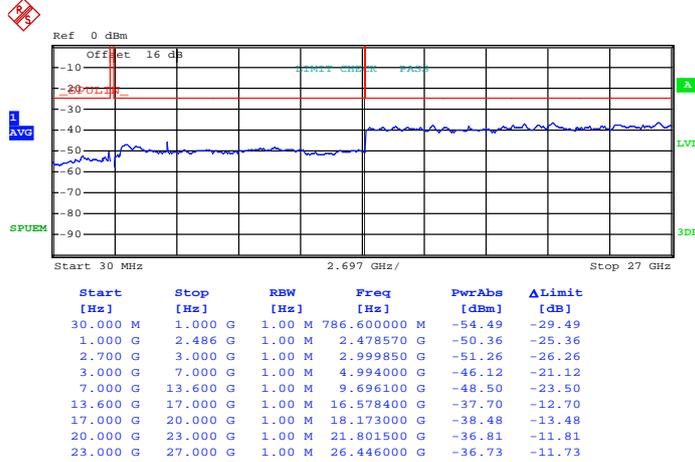


Date: 8.JUL.2014 17:18:08



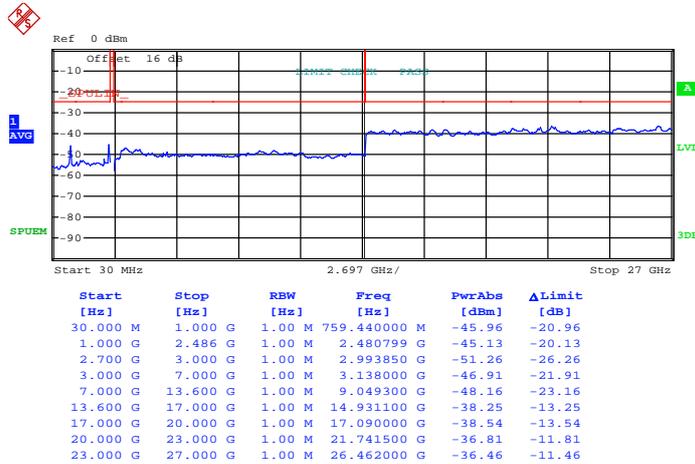
Band :	LTE Band 41	Channel :	CH39750 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:21:57

16QAM (RB Size 1, RB Offset 0)

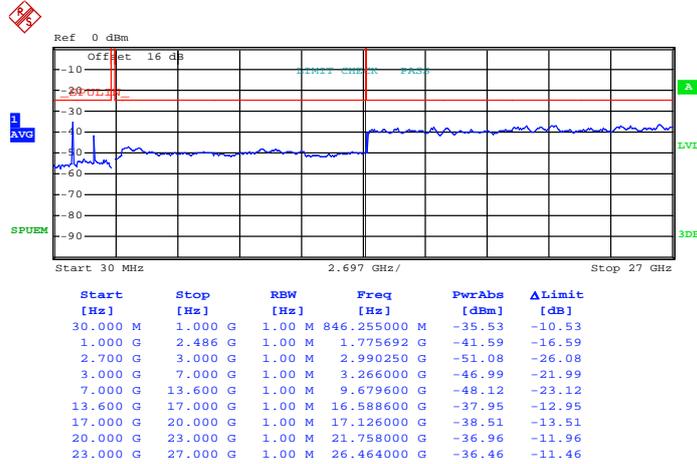


Date: 8.JUL.2014 17:21:31



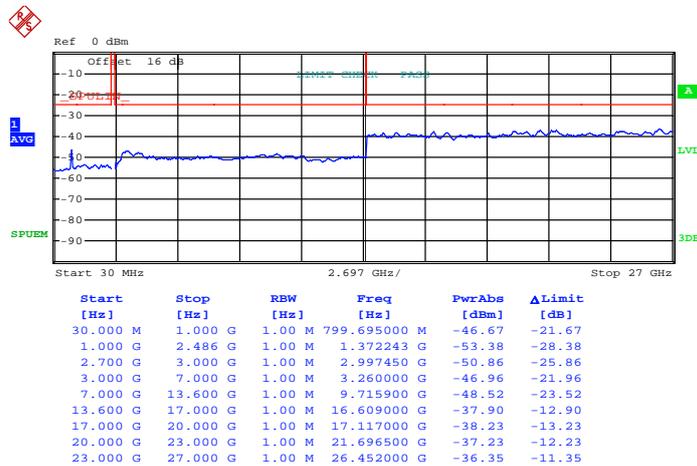
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:20:39

16QAM (RB Size 1, RB Offset 0)

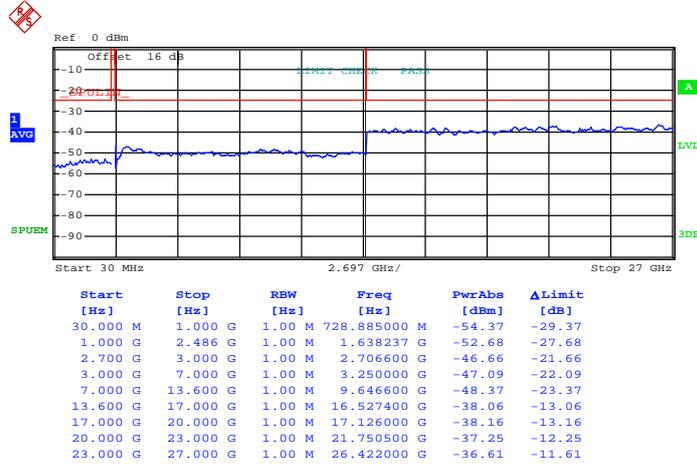


Date: 8.JUL.2014 17:20:56



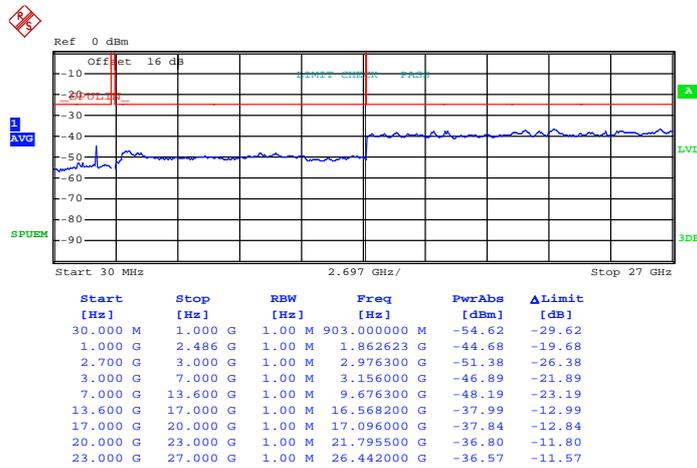
Band :	LTE Band 41	Channel :	CH41490 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:19:43

16QAM (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 17:19:21



## 3.7 Radiated Spurious Emission Measurement

### 3.7.1 Description of Radiated Spurious Emission

For Band 25/26

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

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

### 3.7.2 Measuring Instruments

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

### 3.7.3 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [43 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
= -13dBm.

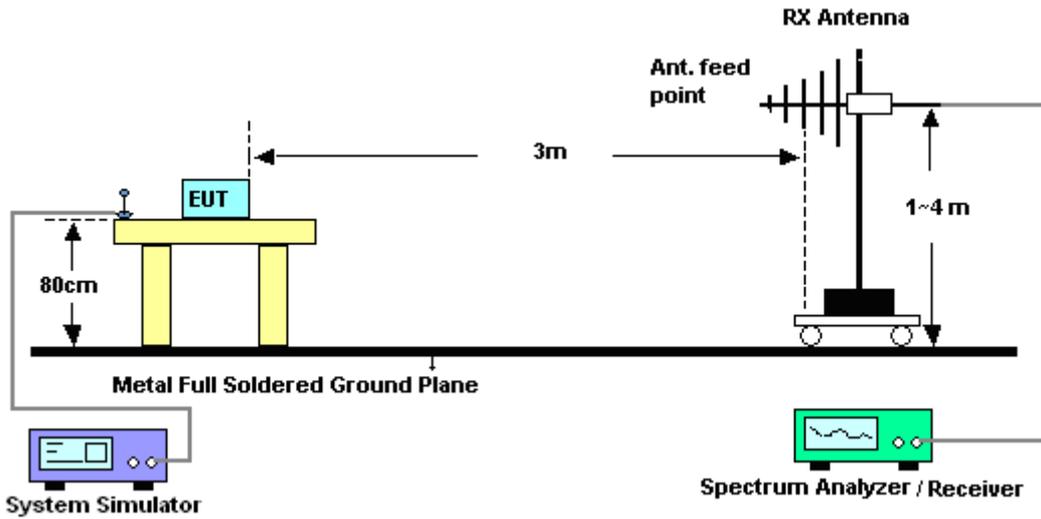
For Band 41

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)

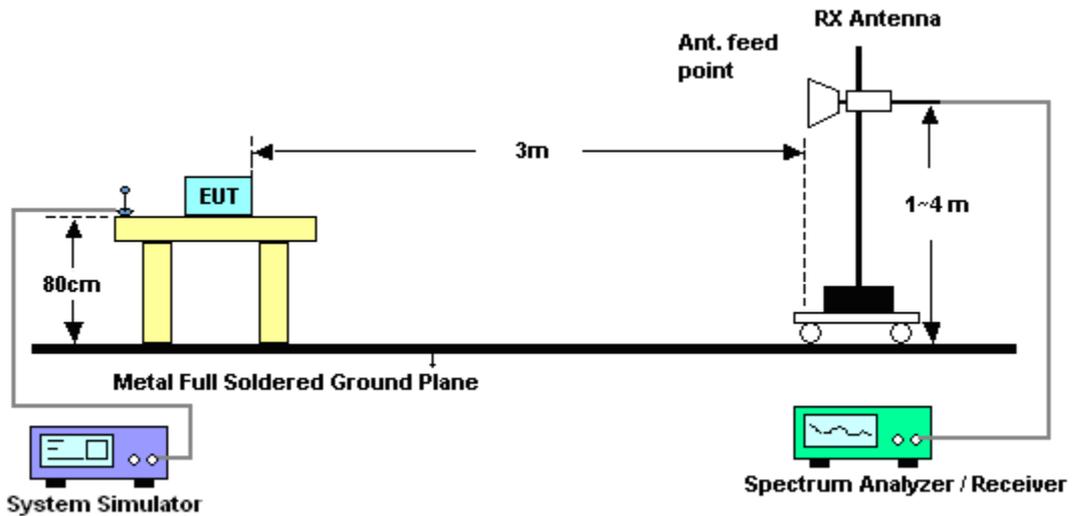
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

### 3.7.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.7.5 Test Result of Field Strength of Spurious Radiated

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-48.92	-13	-35.92	-62.8	-55.22	2.51	8.81	H	Pass
5636	-44.71	-13	-31.71	-62.52	-52.42	2.99	10.70	H	Pass
7520	-42.05	-13	-29.05	-65.93	-50.58	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.11	-13	-36.11	-62.84	-55.41	2.51	8.81	V	Pass
5636	-47.51	-13	-34.51	-65.44	-55.22	2.99	10.70	V	Pass
7520	-41.62	-13	-28.62	-65.24	-50.15	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-47.58	-13	-34.58	-61.43	-53.88	2.51	8.81	H	Pass
5636	-45.52	-13	-32.52	-63.33	-53.23	2.99	10.70	H	Pass
7520	-42.88	-13	-29.88	-66.75	-51.41	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.27	-13	-36.27	-63.03	-55.57	2.51	8.81	V	Pass
5636	-47.31	-13	-34.31	-65.15	-55.02	2.99	10.70	V	Pass
7520	-41.92	-13	-28.92	-65.53	-50.45	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.67	-13	-36.67	-63.5	-55.97	2.51	8.81	H	Pass
5636	-45.10	-13	-32.10	-62.87	-52.81	2.99	10.70	H	Pass
7520	-41.69	-13	-28.69	-65.54	-50.22	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.14	-13	-36.14	-62.91	-55.44	2.51	8.81	V	Pass
5636	-47.36	-13	-34.36	-65.22	-55.07	2.99	10.70	V	Pass
7520	-41.12	-13	-28.12	-64.81	-49.65	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.91	-13	-36.91	-63.75	-56.21	2.51	8.81	H	Pass
5636	-44.61	-13	-31.61	-62.4	-52.32	2.99	10.70	H	Pass
7520	-42.15	-13	-29.15	-66.01	-50.68	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-48.49	-13	-35.49	-62.18	-54.79	2.51	8.81	V	Pass
5636	-47.11	-13	-34.11	-64.98	-54.82	2.99	10.70	V	Pass
7520	-40.52	-13	-27.52	-64.15	-49.05	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.25	-13	-36.25	-63.14	-55.55	2.51	8.81	H	Pass
5636	-49.40	-13	-36.40	-67.16	-57.11	2.99	10.70	H	Pass
7520	-42.58	-13	-29.58	-66.47	-51.11	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-49.59	-13	-36.59	-63.27	-55.89	2.51	8.81	V	Pass
5636	-47.00	-13	-34.00	-64.88	-54.71	2.99	10.70	V	Pass
7520	-42.59	-13	-29.59	-66.24	-51.12	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-50.48	-13	-37.48	-64.33	-56.78	2.51	8.81	H	Pass
5640	-48.51	-13	-35.51	-66.26	-56.22	2.99	10.70	H	Pass
7520	-43.72	-13	-30.72	-67.63	-52.25	3.59	12.12	H	Pass

<b>Band :</b>	LTE Band 25	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3760	-50.47	-13	-37.47	-64.19	-56.77	2.51	8.81	V	Pass
5640	-49.04	-13	-36.04	-66.94	-56.75	2.99	10.70	V	Pass
7520	-44.13	-13	-31.13	-67.77	-52.66	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-47.44	-13	-34.44	-53.51	-51.32	1.63	5.51	H	Pass
2508	-50.70	-13	-37.70	-61.16	-54.75	2.2	6.25	H	Pass
3344	-52.27	-13	-39.27	-64.05	-57.31	3.05	8.09	H	Pass

<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-52.21	-13	-39.21	-58.14	-56.09	1.63	5.51	V	Pass
2508	-54.07	-13	-41.07	-64.42	-58.12	2.2	6.25	V	Pass
3344	-53.45	-13	-40.45	-65.17	-58.49	3.05	8.09	V	Pass



<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-46.81	-13	-33.81	-52.87	-50.69	1.63	5.51	H	Pass
2508	-49.50	-13	-36.50	-60.04	-53.55	2.2	6.25	H	Pass
3344	-53.01	-13	-40.01	-64.79	-58.05	3.05	8.09	H	Pass

<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-52.56	-13	-39.56	-58.57	-56.44	1.63	5.51	V	Pass
2508	-54.13	-13	-41.13	-64.56	-58.18	2.2	6.25	V	Pass
3344	-52.92	-13	-39.92	-64.55	-57.96	3.05	8.09	V	Pass



<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1669	-49.23	-13	-36.23	-55.26	-53.11	1.63	5.51	H	Pass
2503	-49.92	-13	-36.92	-60.35	-53.97	2.2	6.25	H	Pass
3338	-53.08	-13	-40.08	-64.91	-58.12	3.05	8.09	H	Pass

<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1669	-50.46	-13	-37.46	-56.47	-54.34	1.63	5.51	V	Pass
2503	-52.17	-13	-39.17	-62.49	-56.22	2.2	6.25	V	Pass
3338	-53.87	-13	-40.87	-65.56	-58.91	3.05	8.09	V	Pass



<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1663	-47.65	-13	-34.65	-53.75	-51.53	1.63	5.51	H	Pass
2494	-47.58	-13	-34.58	-58.03	-51.63	2.2	6.25	H	Pass
3326	-53.67	-13	-40.67	-65.33	-58.71	3.05	8.09	H	Pass

<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1663	-53.09	-13	-40.09	-59.04	-56.97	1.63	5.51	V	Pass
2494	-54.23	-13	-41.23	-64.58	-58.28	2.2	6.25	V	Pass
3326	-53.51	-13	-40.51	-65.16	-58.55	3.05	8.09	V	Pass



<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1660	-49.19	-13	-36.19	-55.23	-53.07	1.63	5.51	H	Pass
2490	-49.53	-13	-36.53	-60.02	-53.58	2.2	6.25	H	Pass
3320	-53.37	-13	-40.37	-64.99	-58.41	3.05	8.09	H	Pass

<b>Band :</b>	LTE Band 26	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1660	-52.04	-13	-39.04	-58	-55.92	1.63	5.51	V	Pass
2490	-53.60	-13	-40.60	-63.96	-57.65	2.2	6.25	V	Pass
3320	-53.59	-13	-40.59	-65.04	-58.63	3.05	8.09	V	Pass



<b>Band :</b>	LTE Band 41		<b>Temperature :</b>	23~24°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	46~47%					
<b>Test Engineer :</b>	Kyle Huang		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5181	-44.01	-25	-19.01	-61.19	-47.47	6.89	10.35	H	Pass
7771	-41.79	-25	-16.79	-66.07	-42.71	9.34	10.26	H	Pass
10362	-37.18	-25	-12.18	-65.72	-41.22	8.68	12.72	H	Pass

<b>Band :</b>	LTE Band 41		<b>Temperature :</b>	23~24°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	46~47%					
<b>Test Engineer :</b>	Kyle Huang		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5181	-45.12	-25	-20.12	-62.03	-48.58	6.89	10.35	V	Pass
7771	-42.75	-25	-17.75	-66.94	-43.67	9.34	10.26	V	Pass
10362	-37.30	-25	-12.30	-65.72	-41.34	8.68	12.72	V	Pass



<b>Band :</b>	LTE Band 41	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5178	-44.02	-25	-19.02	-61.22	-47.48	6.89	10.35	H	Pass
7767	-42.59	-25	-17.59	-66.89	-43.51	9.34	10.26	H	Pass
10356	-37.51	-25	-12.51	-65.99	-41.55	8.68	12.72	H	Pass

<b>Band :</b>	LTE Band 41	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5178	-41.06	-25	-16.06	-58	-44.52	6.89	10.35	V	Pass
7767	-42.77	-25	-17.77	-66.9	-43.69	9.34	10.26	V	Pass
10356	-36.53	-25	-11.53	-64.91	-40.57	8.68	12.72	V	Pass



<b>Band :</b>	LTE Band 41				<b>Temperature :</b>	23~24°C			
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	46~47%			
<b>Test Engineer :</b>	Kyle Huang				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5172	-44.95	-25	-19.95	-61.83	-48.41	6.89	10.35	H	Pass
7758	-40.16	-25	-15.16	-64.44	-41.08	9.34	10.26	H	Pass
10344	-36.93	-25	-11.93	-65.4	-40.97	8.68	12.72	H	Pass

<b>Band :</b>	LTE Band 41				<b>Temperature :</b>	23~24°C			
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	46~47%			
<b>Test Engineer :</b>	Kyle Huang				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5172	-44.89	-25	-19.89	-61.77	-48.35	6.89	10.35	V	Pass
7758	-42.08	-25	-17.08	-66.19	-43	9.34	10.26	V	Pass
10344	-38.07	-25	-13.07	-66.44	-42.11	8.68	12.72	V	Pass



<b>Band :</b>	LTE Band 41	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Horizontal						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5169	-44.66	-25	-19.66	-61.54	-48.12	6.89	10.35	H	Pass
7753	-40.87	-25	-15.87	-65.11	-41.79	9.34	10.26	H	Pass
10338	-36.64	-25	-11.64	-65.05	-40.68	8.68	12.72	H	Pass

<b>Band :</b>	LTE Band 41	<b>Temperature :</b>	23~24°C						
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0	<b>Relative Humidity :</b>	46~47%						
<b>Test Engineer :</b>	Kyle Huang	<b>Polarization :</b>	Vertical						
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
5169	-46.36	-25	-21.36	-63.28	-49.82	6.89	10.35	V	Pass
7753	-42.06	-25	-17.06	-66.14	-42.98	9.34	10.26	V	Pass
10338	-37.84	-25	-12.84	-66.19	-41.88	8.68	12.72	V	Pass

## 3.8 Frequency Stability Measurement

### 3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

### 3.8.2 Measuring Instruments

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

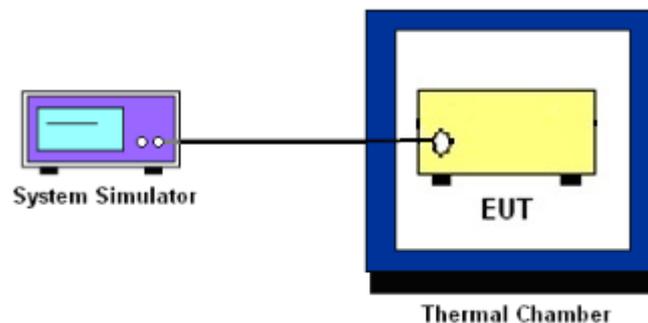
### 3.8.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### 3.8.4 Test Procedures for Voltage Variation

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

### 3.8.5 Test Setup





3.8.6 Test Result of Temperature Variation (FCC)

<b>Band :</b>	LTE Band 25 (QPSK)	<b>Limit (ppm) :</b>	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	+0.0028		PASS
40	+0.0019		
30	+0.0032		
20(Ref.)	+0.0012		
10	+0.0032		
0	+0.0045		
-10	+0.0023		
-20	+0.0015		
-30	+0.0034		

<b>Band :</b>	LTE Band 26 (QPSK)	<b>Limit (ppm) :</b>	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	+0.0055		PASS
40	+0.0117		
30	+0.0111		
20(Ref.)	+0.0088		
10	+0.0078		
0	+0.0104		
-10	+0.0079		
-20	+0.0049		
-30	+0.0033		



<b>Band :</b>	LTE Band 41 (QPSK)	<b>Limit (ppm) :</b>	2.5
<b>Temperature (°C)</b>	<b>BW 10MHz</b>		<b>Result</b>
	<b>Deviation (ppm)</b>		
50	+0.0052		PASS
40	+0.0050		
30	+0.0047		
20(Ref.)	+0.0046		
10	+0.0044		
0	+0.0033		
-10	+0.0026		
-20	+0.0022		
-30	+0.0038		



3.8.7 Test Result of Voltage Variation (FCC)

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 25	10M	4.35	+0.0006	2.5	PASS
		Normal	+0.0016		
		3.5	+0.0024		
LTE Band 26	10M	4.35	+0.0082	2.5	PASS
		Normal	+0.0053		
		3.5	+0.0093		
LTE Band 41	10M	4.35	+0.0005	2.5	PASS
		Normal	+0.0009		
		3.5	+0.0020		

Remark:

1. Normal Voltage = 3.8V.
2. The manufacturer declared that the EUT could work properly between voltage 3.5V ~ 4.35V.



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 28, 2013	Jun. 10, 2014~ Jul. 08, 2014	Dec. 27, 2014	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Dec. 10, 2013	Jun. 10, 2014~ Jul. 08, 2014	Dec. 09, 2014	Conducted (TH01-KS)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz – 26.5GHz	Jan. 15, 2014	Jun. 12, 2014~ Jun. 16, 2014	Jan. 14, 2015	Radiation (03CH08-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Oct. 10, 2013	Jun. 12, 2014~ Jun. 16, 2014	Oct. 09, 2014	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	000143261	1GHz~18GHz	Jan. 16, 2014	Jun. 12, 2014~ Jun. 16, 2014	Jan. 15, 2015	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz~40GHz	Oct. 03, 2013	Jun. 12, 2014~ Jun. 16, 2014	Oct. 02, 2014	Radiation (03CH08-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	May 12, 2014	Jun. 12, 2014~ Jun. 16, 2014	May 11, 2015	Radiation (03CH08-HY)
Preamplifier	MITEQ	AMF-7D-00 101800-30-1	1590074	1GHz~18GHz	Jul. 09, 2013	Jun. 12, 2014~ Jun. 16, 2014	Jul. 08, 2014	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Sep. 04, 2013	Jun. 12, 2014~ Jun. 16, 2014	Sep. 03, 2014	Radiation (03CH08-HY)
Turn Table	Chaintek	Chaintek 3000	N/A	0~360 Degree	N/A	Jun. 12, 2014~ Jun. 16, 2014	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	N/A	1m~4m	N/A	Jun. 12, 2014~ Jun. 16, 2014	N/A	Radiation (03CH08-HY)



Spectrum Analyzer	R&S	FSP 7	100819	9kHz~7GHz	May 04, 2014	Jun. 17, 2014	May 03, 2015	ERP/EIRP (OTA01-KS)
Switch Control Manframe	Agilent	3499A	MY42005452	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Dual 1-to-6(4) MW MUX	Agilent	N2276A	MY42000841	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Microwave Switch	Agilent	44476A	MY42002573	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Microwave Switch	Agilent	44476A	MY42002586	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Diagonal Dual Polarized Horn	ETS-Lindgren	3164-04	00066993	700MHz~6GHz	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Multi-Devices Controller	ETS-Lindgren	2090-OPT1	00066604	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Conical Log Spiral (Small)	ETS-Lindgren	3102	00066951	1~10GHz	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Turn Table	ETS-Lindgren	2088	N/A	Resolution : 0.1degree	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Limiting Amplifier	ETS-lindgren	109643	920326	10MHz~2.5GHz	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
EMQuest	ETS-Lindgren	EMQ-100	1125	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)
Medium Duty Holder	ETS-Lindgren	2015	N/A	N/A	N/A	Jun. 17, 2014	N/A	ERP/EIRP (OTA01-KS)



## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.3
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