



FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : CDMA/EVDO/LTE Multi-Mode Digital Mobile
Phone
BRAND NAME : ZTE
MODEL NAME : ZTE N9130
FCC ID : SRQ-ZTEN9130
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(M)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Sep. 10, 2014 and testing was completed on Oct. 29, 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.
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TABLE OF CONTENTS

REVISION HISTORY..... 3

SUMMARY OF TEST RESULT 4

1 GENERAL DESCRIPTION 6

 1.1 Applicant..... 6

 1.2 Manufacturer..... 6

 1.3 Product Feature of Equipment Under Test..... 6

 1.4 Product Specification subjective to this standard 7

 1.5 Modification of EUT 7

 1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator 8

 1.7 Testing Location 10

 1.8 Applicable Standards..... 10

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST 11

 2.1 Test Mode..... 11

 2.2 Connection Diagram of Test System..... 13

 2.3 Support Unit used in test configuration and system 13

 2.4 Measurement Results Explanation Example..... 14

3 TEST RESULT..... 15

 3.1 Conducted Output Power Measurement 15

 3.2 Peak-to-Average Ratio 23

 3.3 Effective Radiated Power and Equivalent Isotropic Radiated Power Measurement..... 37

 3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement..... 42

 3.5 Conducted Band Edge Measurement 75

 3.6 Conducted Spurious Emission Measurement 137

 3.7 Radiated Spurious Emission Measurement 184

 3.8 Frequency Stability Measurement..... 201

4 LIST OF MEASURING EQUIPMENT 205

5 UNCERTAINTY OF EVALUATION 207

APPENDIX A. SETUP PHOTOGRAPHS



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+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Band Edge Measurement (Band 41)	< 5MHz: -10 dBm 5 MHz~6MHz or 26dB(BW): -13 dBm ≥6MHz or 26dB(BW): -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 16.95 dB at 7766.000 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 ppm for Part 22 within authorized band	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/EVDO/LTE Multi-Mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE N9130
FCC ID	SRQ-ZTEN9130
EUT supports Radios application	CDMA/EV-DO/LTE/WLAN 11b/g/n HT20 Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
HW Version	cwfB
SW Version	N9130V1.0.0B01C
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	
Tx Frequency	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
Rx Frequency	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
Bandwidth	LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 25 : 23.65 dBm LTE Band 26 : 23.73 dBm LTE Band 41 : 23.40 dBm
Antenna Type	PIFA Antenna
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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



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

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 24E	LTE Band 25	QPSK	1.4 MHz	1M10G7D	-	0.2858 W
Part 24E	LTE Band 25	16QAM	1.4 MHz	1M10W7D	-	0.2523 W
Part 24E	LTE Band 25	QPSK	3 MHz	2M74G7D	-	-
Part 24E	LTE Band 25	16QAM	3 MHz	2M74W7D	-	-
Part 24E	LTE Band 25	QPSK	5 MHz	4M52G7D	-	-
Part 24E	LTE Band 25	16QAM	5 MHz	4M50W7D	-	-
Part 24E	LTE Band 25	QPSK	10 MHz	9M20G7D	0.0048 ppm	-
Part 24E	LTE Band 25	16QAM	10 MHz	9M12W7D	-	-
Part 24E	LTE Band 25	QPSK	15 MHz	13M6G7D	-	-
Part 24E	LTE Band 25	16QAM	15 MHz	13M6W7D	-	-
Part 24E	LTE Band 25	QPSK	20 MHz	18M6G7D	-	0.2582 W
Part 24E	LTE Band 25	16QAM	20 MHz	18M6W7D	-	0.1858 W
Part 22H	LTE Band 26	QPSK	1.4 MHz	1M10G7D	-	0.1250 W
Part 22H	LTE Band 26	16QAM	1.4 MHz	1M10W7D	-	0.0984 W
Part 22H	LTE Band 26	QPSK	3 MHz	2M72G7D	-	-
Part 22H	LTE Band 26	16QAM	3 MHz	2M72W7D	-	-
Part 22H	LTE Band 26	QPSK	5 MHz	4M49G7D	-	-
Part 22H	LTE Band 26	16QAM	5 MHz	4M49W7D	-	-
Part 22H	LTE Band 26	QPSK	10 MHz	9M12G7D	0.0165 ppm	-
Part 22H	LTE Band 26	16QAM	10 MHz	9M06W7D	-	-
Part 22H	LTE Band 26	QPSK	15 MHz	13M5G7D	-	0.1191 W
Part 22H	LTE Band 26	16QAM	15 MHz	13M5W7D	-	0.1057 W



FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27M	LTE Band 41	QPSK	5MHz	4M54G7D	-	0.3733 W
Part 27M	LTE Band 41	16QAM	5MHz	4M52W7D	-	0.3041 W
Part 27M	LTE Band 41	QPSK	10MHz	9M12G7D	0.0066 ppm	-
Part 27M	LTE Band 41	16QAM	10MHz	9M12W7D	-	-
Part 27M	LTE Band 41	QPSK	15MHz	13M6G7D	-	-
Part 27M	LTE Band 41	16QAM	15MHz	13M6W7D	-	-
Part 27M	LTE Band 41	QPSK	20MHz	18M6G7D	-	0.3981 W
Part 27M	LTE Band 41	16QAM	20MHz	18M6W7D	-	0.4018 W



1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC Registration No.
	TH01-KS	03CH01-KS	OTA01-KS	149928

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.

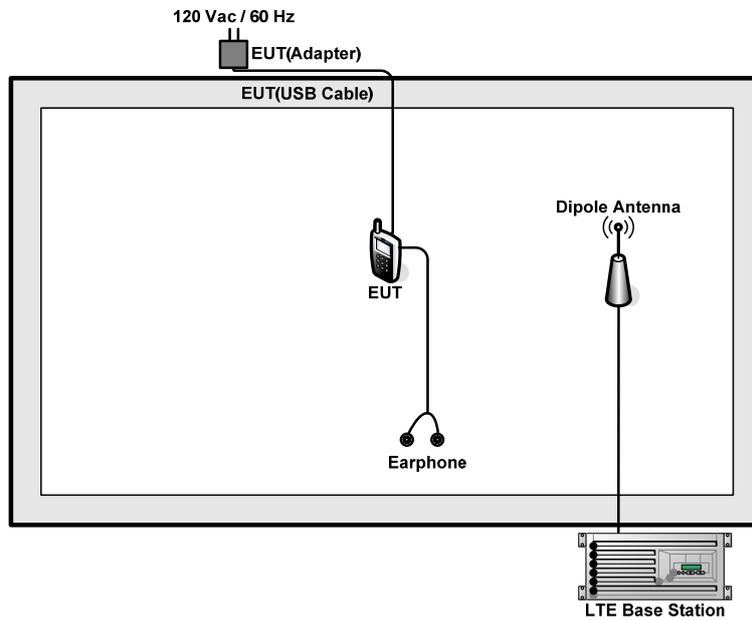
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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	v	v	v
	26					v	-	v	v	v		v	v	v	v
	41	-	-				v	v	v	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"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. 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. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 														

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 5.5 dB.

Example :

Offset(dB) = RF cable loss(dB) = 5.5 (dB)

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.

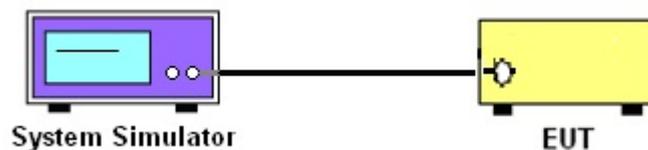
3.1.2 Measuring Instruments

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.
Channel				26140	26340	26590
Frequency (MHz)				1860	1880	1905
20	QPSK	1	0	23.05	23.43	23.22
20	QPSK	1	49	23.34	23.65	23.39
20	QPSK	1	99	22.81	23.14	23.08
20	QPSK	50	0	22.05	22.39	22.29
20	QPSK	50	24	22.00	22.16	22.26
20	QPSK	50	49	22.00	22.27	22.21
20	QPSK	100	0	22.02	22.21	22.25
20	16QAM	1	0	22.68	22.18	22.94
20	16QAM	1	49	22.65	21.97	22.67
20	16QAM	1	99	22.50	21.95	22.42
20	16QAM	50	0	20.96	21.07	21.27
20	16QAM	50	24	20.91	20.98	21.28
20	16QAM	50	49	20.83	21.12	21.19
20	16QAM	100	0	20.98	21.15	21.22
Channel				26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5
15	QPSK	1	0	23.10	23.36	23.38
15	QPSK	1	37	23.07	23.16	23.29
15	QPSK	1	74	23.04	23.18	23.23
15	QPSK	36	0	21.96	22.28	22.36
15	QPSK	36	18	22.04	22.25	22.20
15	QPSK	36	37	21.98	22.23	22.18
15	QPSK	75	0	22.00	22.21	22.27
15	16QAM	1	0	22.70	22.98	22.90
15	16QAM	1	37	22.48	22.90	22.88
15	16QAM	1	74	22.34	22.13	22.82
15	16QAM	36	0	20.87	21.30	21.20
15	16QAM	36	18	20.84	21.23	21.09
15	16QAM	36	37	20.87	21.05	21.14
15	16QAM	75	0	20.91	21.23	21.19



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26090	26340	26640
Frequency (MHz)				1855	1880	1910
10	QPSK	1	0	23.38	23.42	23.64
10	QPSK	1	24	23.18	23.22	23.62
10	QPSK	1	49	23.21	23.32	23.23
10	QPSK	25	0	21.95	22.21	22.30
10	QPSK	25	12	21.91	22.23	22.21
10	QPSK	25	24	21.98	22.29	22.22
10	QPSK	50	0	21.98	22.21	22.28
10	16QAM	1	0	22.22	22.78	22.26
10	16QAM	1	24	21.73	22.31	22.16
10	16QAM	1	49	22.03	22.25	22.13
10	16QAM	25	0	20.97	21.19	21.27
10	16QAM	25	12	20.91	21.19	21.13
10	16QAM	25	24	20.96	21.23	21.22
10	16QAM	50	0	20.84	21.14	21.15
Channel				26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5
5	QPSK	1	0	23.02	23.24	23.44
5	QPSK	1	12	22.94	23.18	23.36
5	QPSK	1	24	22.86	23.21	23.34
5	QPSK	12	0	22.07	22.12	22.25
5	QPSK	12	6	22.07	22.21	22.32
5	QPSK	12	11	22.03	22.25	22.33
5	QPSK	25	0	22.01	22.19	22.32
5	16QAM	1	0	22.13	22.69	22.30
5	16QAM	1	12	22.26	22.73	22.90
5	16QAM	1	24	21.98	22.68	22.58
5	16QAM	12	0	21.04	21.10	21.13
5	16QAM	12	6	21.05	21.09	21.09
5	16QAM	12	11	20.81	20.99	21.09
5	16QAM	25	0	20.91	21.22	21.27



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5
3	QPSK	1	0	23.03	23.15	23.21
3	QPSK	1	7	22.92	23.18	23.19
3	QPSK	1	14	23.25	23.32	23.25
3	QPSK	8	0	22.15	22.20	22.45
3	QPSK	8	4	22.18	22.28	22.38
3	QPSK	8	7	22.11	22.28	22.42
3	QPSK	15	0	22.04	22.25	22.44
3	16QAM	1	0	22.23	22.95	22.54
3	16QAM	1	7	22.48	22.96	22.86
3	16QAM	1	14	22.46	22.94	22.75
3	16QAM	8	0	21.34	21.46	21.15
3	16QAM	8	4	21.14	21.45	21.02
3	16QAM	8	7	21.08	21.37	21.25
3	16QAM	15	0	20.79	21.15	20.91
Channel				26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3
1.4	QPSK	1	0	23.15	23.11	23.30
1.4	QPSK	1	2	23.28	23.31	23.37
1.4	QPSK	1	5	23.12	23.15	23.28
1.4	QPSK	3	0	23.04	23.16	23.27
1.4	QPSK	3	1	23.11	23.27	23.29
1.4	QPSK	3	2	23.07	23.26	23.30
1.4	QPSK	6	0	22.14	22.15	22.38
1.4	16QAM	1	0	21.75	22.34	22.21
1.4	16QAM	1	2	21.65	21.98	22.05
1.4	16QAM	1	5	21.99	22.63	22.30
1.4	16QAM	3	0	21.61	22.02	22.28
1.4	16QAM	3	1	21.94	22.11	22.27
1.4	16QAM	3	2	21.76	22.08	22.28
1.4	16QAM	6	0	20.84	21.00	21.21



<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.
Channel				26865	26915	26965
Frequency (MHz)				831.5	836.5	841.5
15	QPSK	1	0	23.48	23.73	23.55
15	QPSK	1	37	23.43	23.43	23.53
15	QPSK	1	74	23.33	23.50	23.53
15	QPSK	36	0	22.37	22.33	22.64
15	QPSK	36	18	22.32	22.28	22.55
15	QPSK	36	37	22.22	22.38	22.54
15	QPSK	75	0	22.40	22.47	22.62
15	16QAM	1	0	22.56	23.13	22.96
15	16QAM	1	37	22.83	22.76	23.02
15	16QAM	1	74	22.47	23.00	22.93
15	16QAM	36	0	21.43	21.31	21.51
15	16QAM	36	18	21.39	21.11	21.50
15	16QAM	36	37	21.32	21.19	21.40
15	16QAM	75	0	21.32	21.34	21.58
Channel				26840	26915	26990
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	23.30	23.39	23.60
10	QPSK	1	24	23.70	23.24	23.66
10	QPSK	1	49	23.32	23.33	23.39
10	QPSK	25	0	22.35	22.33	22.61
10	QPSK	25	12	22.30	22.26	22.57
10	QPSK	25	24	22.41	22.26	22.56
10	QPSK	50	0	22.38	22.34	22.59
10	16QAM	1	0	22.58	22.50	22.70
10	16QAM	1	24	22.36	22.74	22.69
10	16QAM	1	49	22.68	22.61	22.68
10	16QAM	25	0	21.68	21.42	21.61
10	16QAM	25	12	21.43	21.34	21.53
10	16QAM	25	24	21.45	21.47	21.43
10	16QAM	50	0	21.29	21.51	21.55



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26815	26915	27015
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	23.22	23.26	23.60
5	QPSK	1	12	23.39	23.26	23.72
5	QPSK	1	24	23.32	23.32	23.48
5	QPSK	12	0	22.41	22.36	22.54
5	QPSK	12	6	22.41	22.30	22.49
5	QPSK	12	11	22.40	22.23	22.47
5	QPSK	25	0	22.41	22.26	22.51
5	16QAM	1	0	22.72	22.33	22.40
5	16QAM	1	12	22.81	22.32	22.44
5	16QAM	1	24	23.05	22.57	22.50
5	16QAM	12	0	21.33	21.14	21.76
5	16QAM	12	6	21.23	21.45	21.73
5	16QAM	12	11	21.21	21.41	21.62
5	16QAM	25	0	21.27	21.34	21.66
Channel				26805	26915	27025
Frequency (MHz)				825.5	836.5	847.5
3	QPSK	1	0	23.43	23.27	23.68
3	QPSK	1	7	23.52	23.58	23.49
3	QPSK	1	14	23.61	23.62	23.56
3	QPSK	8	0	22.39	22.40	22.70
3	QPSK	8	4	22.44	22.31	22.56
3	QPSK	8	7	22.38	22.31	22.59
3	QPSK	15	0	22.30	22.31	22.56
3	16QAM	1	0	22.75	22.40	22.84
3	16QAM	1	7	22.55	22.82	22.89
3	16QAM	1	14	22.63	22.91	22.75
3	16QAM	8	0	21.27	21.21	21.41
3	16QAM	8	4	21.39	21.27	21.40
3	16QAM	8	7	21.34	21.52	21.34
3	16QAM	15	0	21.01	21.17	21.17
Channel				26797	26915	27033
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	23.38	23.21	23.55
1.4	QPSK	1	2	23.44	23.17	23.60
1.4	QPSK	1	5	23.37	23.22	23.44
1.4	QPSK	3	0	23.28	23.35	23.57
1.4	QPSK	3	1	23.21	23.33	23.55
1.4	QPSK	3	2	23.19	23.44	23.52
1.4	QPSK	6	0	22.26	22.39	22.44
1.4	16QAM	1	0	21.84	22.58	22.65
1.4	16QAM	1	2	22.05	22.87	22.74
1.4	16QAM	1	5	21.78	22.59	22.46
1.4	16QAM	3	0	22.41	22.99	22.98
1.4	16QAM	3	1	22.44	22.40	22.98
1.4	16QAM	3	2	22.29	22.42	23.05
1.4	16QAM	6	0	20.76	21.06	21.49



<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.
Channel				39750	40620	41490
Frequency (MHz)				2506	2593	2680
20	QPSK	1	0	23.25	23.40	23.29
20	QPSK	1	49	23.02	23.16	23.12
20	QPSK	1	99	23.11	22.97	23.02
20	QPSK	50	0	22.27	22.55	22.51
20	QPSK	50	24	22.13	22.38	22.50
20	QPSK	50	49	22.12	22.26	22.37
20	QPSK	100	0	22.25	22.26	22.24
20	16QAM	1	0	22.32	22.71	22.92
20	16QAM	1	49	22.17	22.68	22.76
20	16QAM	1	99	21.90	22.59	22.50
20	16QAM	50	0	21.22	21.29	21.58
20	16QAM	50	24	21.06	21.11	21.50
20	16QAM	50	49	21.05	21.06	21.26
20	16QAM	100	0	21.18	21.24	21.45
Channel				39725	40620	41515
Frequency (MHz)				2503.5	2593	2682.5
15	QPSK	1	0	23.28	23.18	23.26
15	QPSK	1	37	23.12	23.15	23.22
15	QPSK	1	74	23.17	23.13	23.18
15	QPSK	36	0	22.26	22.23	22.42
15	QPSK	36	18	22.12	22.21	22.39
15	QPSK	36	37	22.05	22.17	22.31
15	QPSK	75	0	22.10	22.20	22.41
15	16QAM	1	0	22.39	22.14	22.56
15	16QAM	1	37	22.08	22.10	22.46
15	16QAM	1	74	22.01	21.68	22.55
15	16QAM	36	0	21.31	21.21	21.52
15	16QAM	36	18	21.17	21.19	21.41
15	16QAM	36	37	21.11	21.15	21.37
15	16QAM	75	0	21.01	21.05	21.38



BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				39700	40620	41540
Frequency (MHz)				2501	2593	2685
10	QPSK	1	0	23.32	23.31	23.11
10	QPSK	1	24	23.11	23.28	22.96
10	QPSK	1	49	23.22	23.24	23.03
10	QPSK	25	0	22.27	22.20	22.41
10	QPSK	25	12	22.16	22.22	22.39
10	QPSK	25	24	22.11	22.25	22.24
10	QPSK	50	0	22.15	22.32	22.53
10	16QAM	1	0	22.30	22.59	22.35
10	16QAM	1	24	22.04	22.58	22.32
10	16QAM	1	49	21.99	22.49	22.28
10	16QAM	25	0	21.30	21.02	21.60
10	16QAM	25	12	21.30	20.93	21.53
10	16QAM	25	24	21.22	21.03	21.50
10	16QAM	50	0	21.05	21.05	21.39
Channel				39675	40620	41565
Frequency (MHz)				2498.5	2593	2687.5
5	QPSK	1	0	23.22	23.20	23.24
5	QPSK	1	12	23.18	23.15	23.12
5	QPSK	1	24	23.15	23.18	23.15
5	QPSK	12	0	22.29	22.17	22.45
5	QPSK	12	6	22.23	22.25	22.36
5	QPSK	12	11	22.22	22.21	22.34
5	QPSK	25	0	22.19	22.34	22.43
5	16QAM	1	0	22.99	22.12	22.59
5	16QAM	1	12	22.98	22.10	22.51
5	16QAM	1	24	22.34	22.10	22.40
5	16QAM	12	0	21.47	21.30	21.62
5	16QAM	12	6	21.40	21.36	21.52
5	16QAM	12	11	21.39	21.45	21.54
5	16QAM	25	0	21.32	21.54	21.55

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.

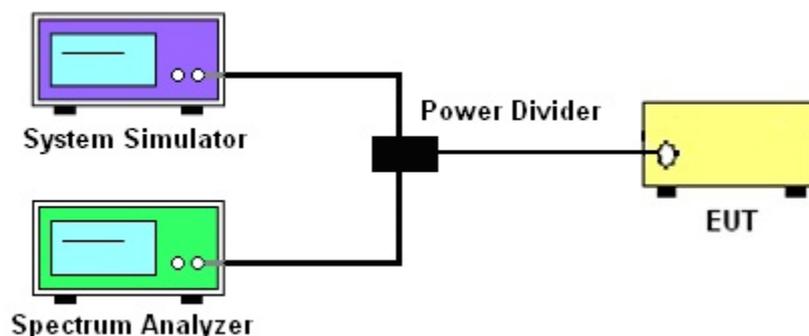
3.2.2 Measuring Instruments

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

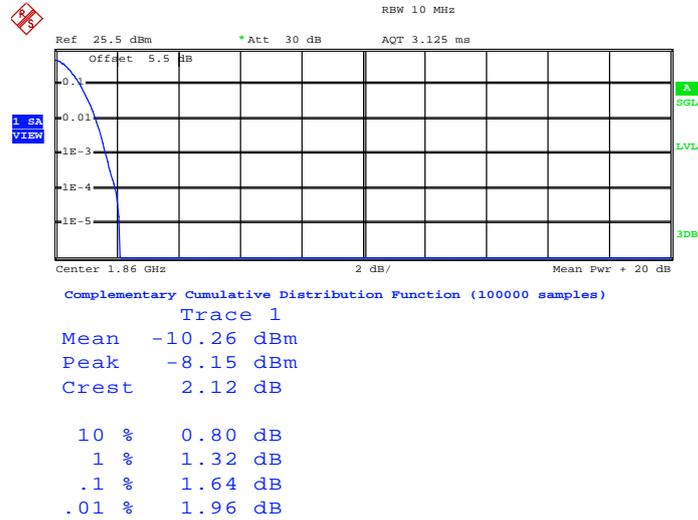
LTE Band 25						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26140	26340	26590
Frequency (MHz)				1860	1880	1905
20	QPSK	1	0	1.64	5.24	1.56
20	QPSK	100	0	6.32	6.56	6.56
20	16QAM	1	0	1.64	3.92	1.60
20	16QAM	100	0	7.12	7.28	7.20

LTE Band 41						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				39750	40620	41490
Frequency (MHz)				2506	2593	2680
20	QPSK	1	0	6.15	6.47	7.02
20	QPSK	100	0	7.28	7.50	7.47
20	16QAM	1	0	7.21	7.72	8.21
20	16QAM	100	0	8.14	8.40	8.40



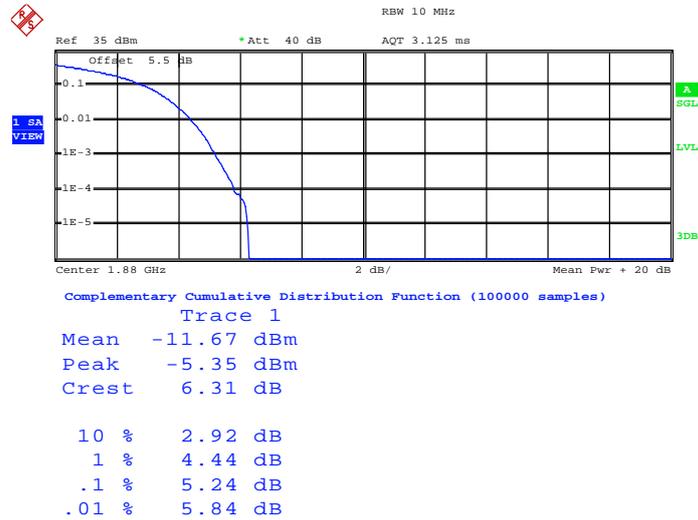
3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 25 20MHz / QPSK in Ch. 26140 (1RB Size)



Date: 12.OCT.2014 11:02:58

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

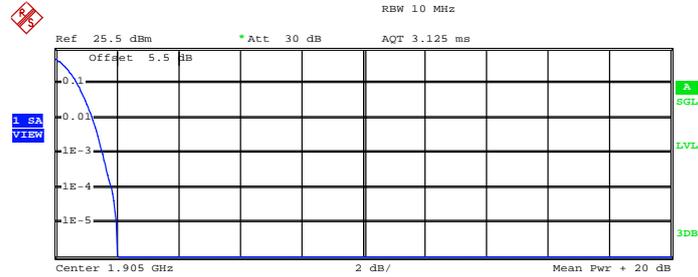


Date: 24.OCT.2014 14:39:40



Peak-to-Average Ratio on LTE Band 25

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



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean -10.11 dBm
 Peak -8.08 dBm
 Crest 2.03 dB

10 %	0.72 dB
1 %	1.20 dB
.1 %	1.56 dB
.01 %	1.84 dB

Date: 12.OCT.2014 11:11:35

Peak-to-Average Ratio on LTE Band 25

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



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean 18.67 dBm
 Peak 26.07 dBm
 Crest 7.40 dB

10 %	3.32 dB
1 %	5.36 dB
.1 %	6.32 dB
.01 %	6.96 dB

Date: 12.OCT.2014 11:05:19



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



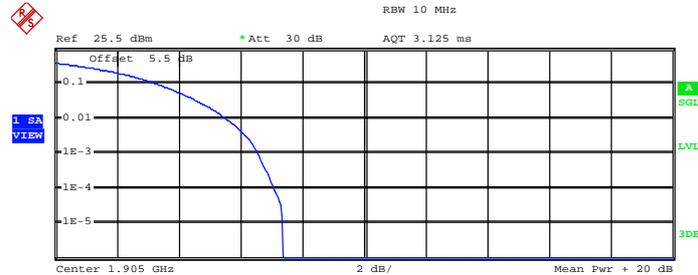
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean 23.09 dBm
 Peak 30.91 dBm
 Crest 7.82 dB

10 %	3.44 dB
1 %	5.52 dB
.1 %	6.56 dB
.01 %	7.28 dB

Date: 24.OCT.2014 14:38:44

Peak-to-Average Ratio on LTE Band 26
20MHz / QPSK in Ch. 26590 (100RB Size)



Complementary Cumulative Distribution Function (100000 samples)

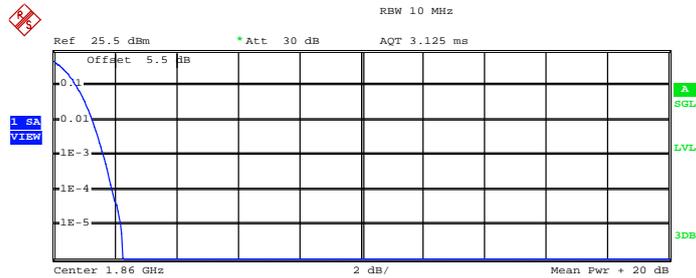
Trace 1
 Mean 19.11 dBm
 Peak 26.49 dBm
 Crest 7.39 dB

10 %	3.36 dB
1 %	5.56 dB
.1 %	6.56 dB
.01 %	7.12 dB

Date: 12.OCT.2014 11:11:16



Peak-to-Average Ratio on LTE Band 25
20MHz / 16QAM in Ch. 26140 (1RB Size)



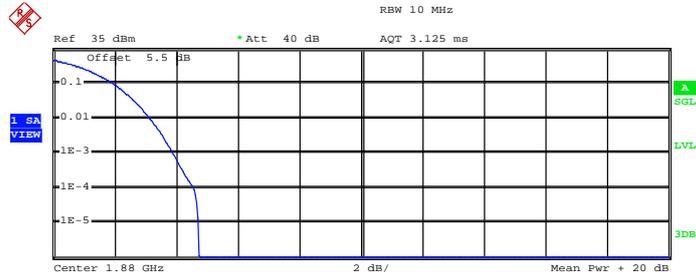
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean -11.06 dBm
 Peak -8.78 dBm
 Crest 2.27 dB

10 %	0.76 dB
1 %	1.28 dB
.1 %	1.64 dB
.01 %	1.92 dB

Date: 12.OCT.2014 11:03:23

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



Complementary Cumulative Distribution Function (100000 samples)

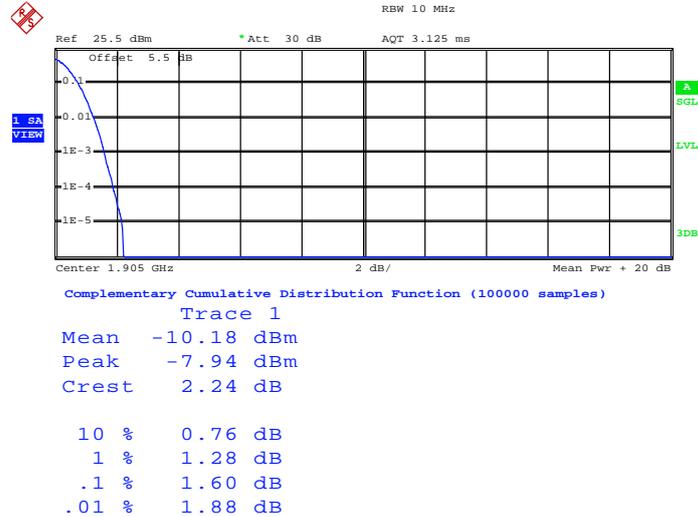
Trace 1
 Mean -11.07 dBm
 Peak -6.34 dBm
 Crest 4.73 dB

10 %	1.96 dB
1 %	3.16 dB
.1 %	3.92 dB
.01 %	4.56 dB

Date: 24.OCT.2014 14:40:01

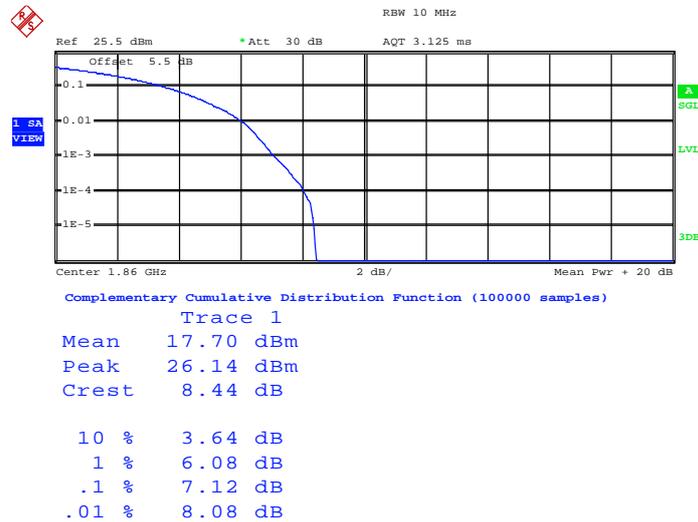


Peak-to-Average Ratio on LTE Band 25
20MHz / 16QAM in Ch. 26590 (1RB Size)



Date: 12.OCT.2014 11:11:55

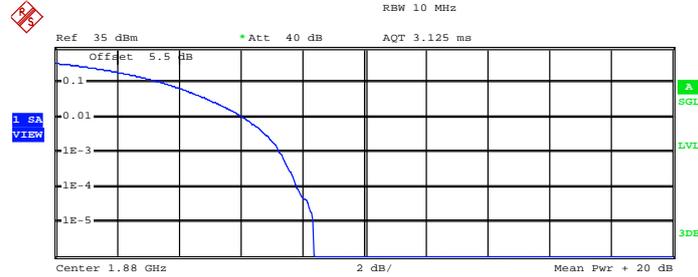
Peak-to-Average Ratio on LTE Band 25
20MHz / 16QAM in Ch. 26140 (100RB Size)



Date: 12.OCT.2014 11:03:45



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



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean 22.60 dBm
 Peak 30.98 dBm
 Crest 8.38 dB

10 %	3.56 dB
1 %	6.12 dB
.1 %	7.28 dB
.01 %	7.84 dB

Date: 24.OCT.2014 14:39:06

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



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
 Mean 17.90 dBm
 Peak 26.42 dBm
 Crest 8.52 dB

10 %	3.56 dB
1 %	6.12 dB
.1 %	7.20 dB
.01 %	8.12 dB

Date: 12.OCT.2014 11:10:58



Peak-to-Average Ratio on LTE Band 41
20MHz / QPSK in Ch. 39750 (1RB Size)



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

Trace 1
 Mean 20.59 dBm
 Peak 26.87 dBm
 Crest 6.28 dB

10 % 3.91 dB
 1 % 5.74 dB
 .1 % 6.15 dB
 .01 % 6.22 dB

Date: 17.OCT.2014 17:11:57

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



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

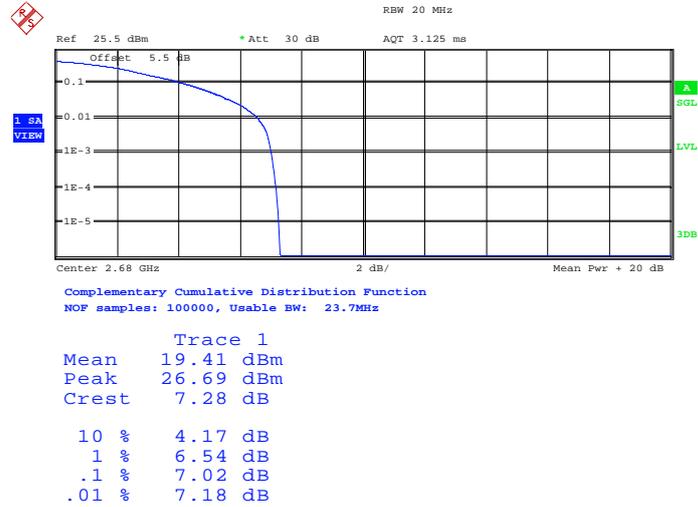
Trace 1
 Mean 20.58 dBm
 Peak 27.22 dBm
 Crest 6.65 dB

10 % 4.07 dB
 1 % 5.96 dB
 .1 % 6.47 dB
 .01 % 6.60 dB

Date: 17.OCT.2014 17:25:46

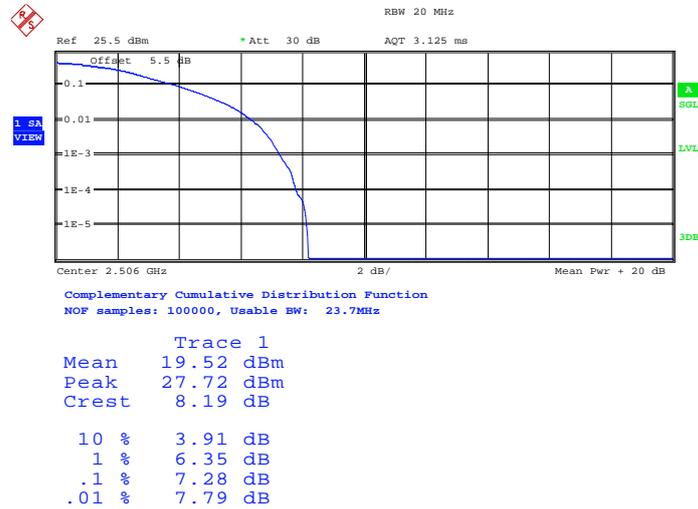


Peak-to-Average Ratio on LTE Band 41
20MHz / QPSK in Ch. 41490 (1RB Size)



Date: 17.OCT.2014 17:23:53

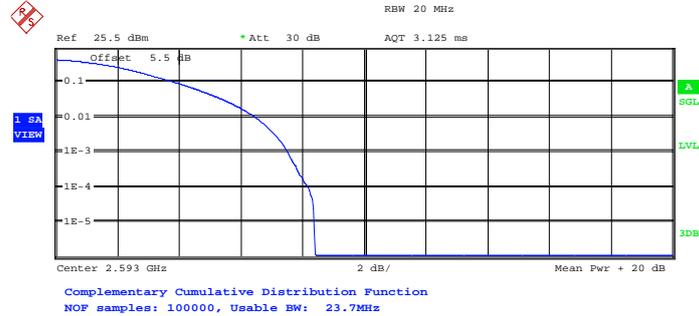
Peak-to-Average Ratio on LTE Band 41
20MHz / QPSK in Ch. 39750 (100RB Size)



Date: 17.OCT.2014 17:13:29



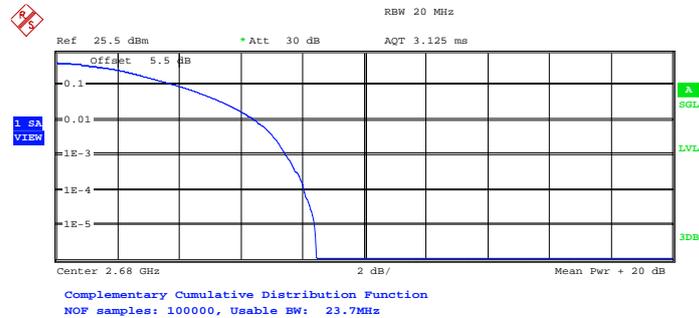
Peak-to-Average Ratio on LTE Band 41
20MHz / QPSK in Ch. 40620 (100RB Size)



Trace 1	
Mean	19.46 dBm
Peak	27.86 dBm
Crest	8.39 dB
10 %	3.91 dB
1 %	6.47 dB
.1 %	7.50 dB
.01 %	8.17 dB

Date: 17.OCT.2014 17:26:53

Peak-to-Average Ratio on LTE Band 41
20MHz / QPSK in Ch. 41490 (100RB Size)



Trace 1	
Mean	19.58 dBm
Peak	28.03 dBm
Crest	8.45 dB
10 %	3.91 dB
1 %	6.44 dB
.1 %	7.47 dB
.01 %	8.04 dB

Date: 17.OCT.2014 17:24:36



Peak-to-Average Ratio on LTE Band 41
20MHz / 16QAM in Ch. 39750 (1RB Size)



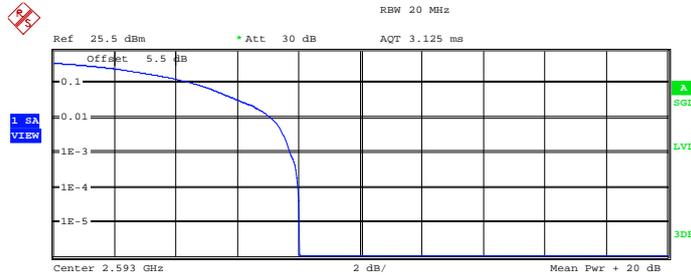
Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

Trace 1	
Mean	19.53 dBm
Peak	26.87 dBm
Crest	7.34 dB

10 %	4.49 dB
1 %	6.63 dB
.1 %	7.21 dB
.01 %	7.31 dB

Date: 17.OCT.2014 17:12:37

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



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

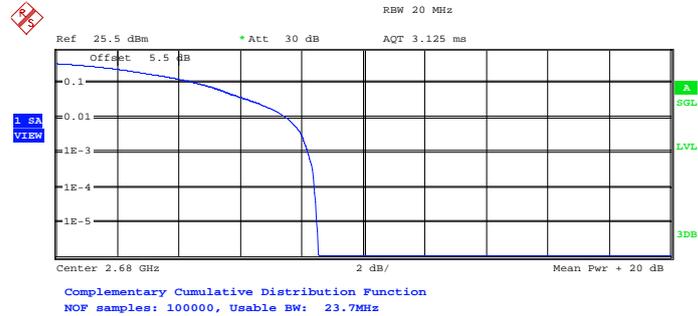
Trace 1	
Mean	19.34 dBm
Peak	27.36 dBm
Crest	8.02 dB

10 %	4.58 dB
1 %	7.08 dB
.1 %	7.72 dB
.01 %	7.98 dB

Date: 17.OCT.2014 17:26:10



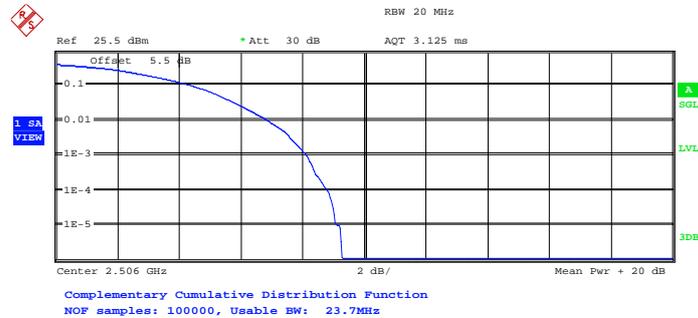
Peak-to-Average Ratio on LTE Band 41
20MHz / 16QAM in Ch. 41490 (1RB Size)



Trace 1	
Mean	18.42 dBm
Peak	26.97 dBm
Crest	8.55 dB
10 %	4.65 dB
1 %	7.50 dB
.1 %	8.21 dB
.01 %	8.43 dB

Date: 17.OCT.2014 17:24:12

Peak-to-Average Ratio on LTE Band 41
20MHz / 16QAM in Ch. 39750 (100RB Size)

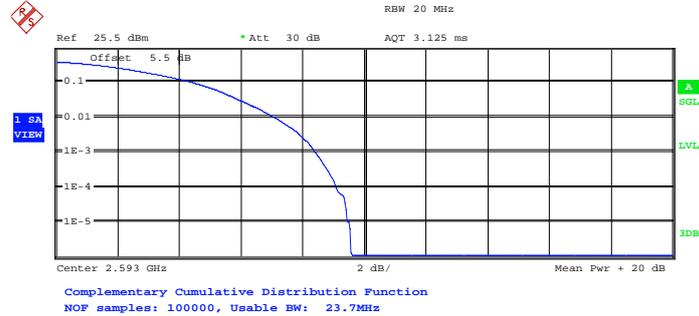


Trace 1	
Mean	18.52 dBm
Peak	27.79 dBm
Crest	9.27 dB
10 %	4.39 dB
1 %	6.86 dB
.1 %	8.14 dB
.01 %	8.78 dB

Date: 17.OCT.2014 17:14:55



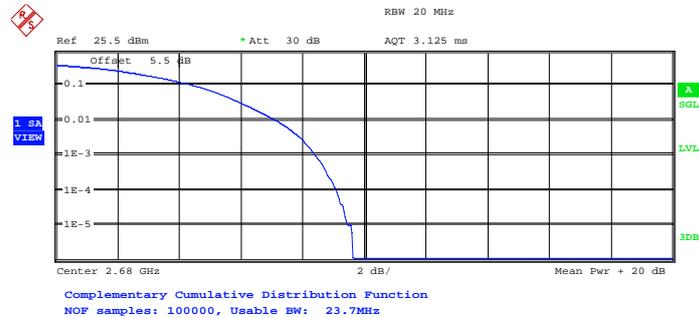
Peak-to-Average Ratio on LTE Band 41
20MHz / 16QAM in Ch. 40620 (100RB Size)



Trace 1	
Mean	18.49 dBm
Peak	28.07 dBm
Crest	9.58 dB
10 %	4.46 dB
1 %	7.08 dB
.1 %	8.40 dB
.01 %	9.07 dB

Date: 17.OCT.2014 17:26:30

Peak-to-Average Ratio on LTE Band 41
20MHz / 16QAM in Ch. 41490 (100RB Size)



Trace 1	
Mean	18.53 dBm
Peak	28.17 dBm
Crest	9.64 dB
10 %	4.49 dB
1 %	7.12 dB
.1 %	8.40 dB
.01 %	9.10 dB

Date: 17.OCT.2014 17:24:57



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.

$E_t = R_t + AF$

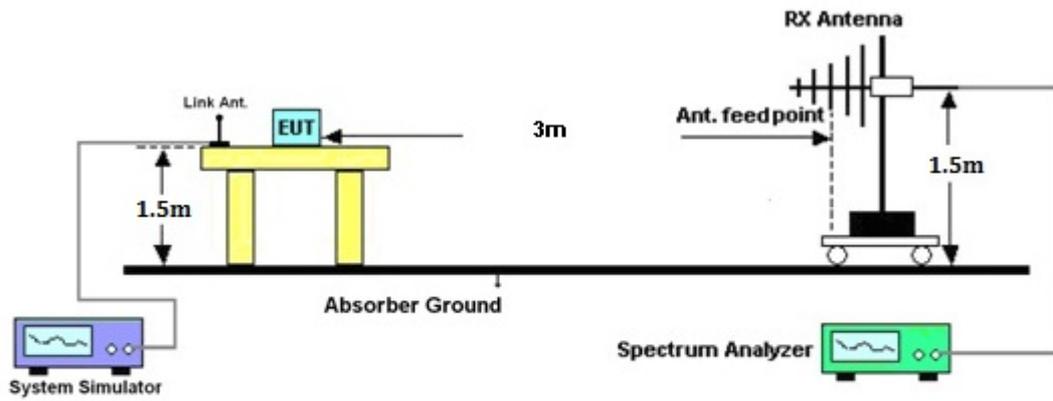
$E_s = R_s + AF$

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	2	1850.7	21.77	0.1503	H
25	1.4	QPSK	1	2	1880	22.69	0.1858	H
25	1.4	QPSK	1	2	1914.3	24.56	0.2858	H
25	1.4	QPSK	1	2	1850.7	22.02	0.1592	V
25	1.4	QPSK	1	2	1880	22.88	0.1941	V
25	1.4	QPSK	1	2	1914.3	24.50	0.2818	V
25	1.4	16QAM	1	5	1850.7	21.09	0.1285	H
25	1.4	16QAM	1	5	1880	21.57	0.1435	H
25	1.4	16QAM	1	5	1914.3	23.85	0.2427	H
25	1.4	16QAM	1	5	1850.7	21.07	0.1279	V
25	1.4	16QAM	1	5	1880	21.61	0.1449	V
25	1.4	16QAM	1	5	1914.3	24.02	0.2523	V
25	20	QPSK	1	49	1860	22.63	0.1832	H
25	20	QPSK	1	49	1880	23.13	0.2056	H
25	20	QPSK	1	49	1905	24.12	0.2582	H
25	20	QPSK	1	49	1860	22.44	0.1754	V
25	20	QPSK	1	49	1880	23.10	0.2042	V
25	20	QPSK	1	49	1905	24.07	0.2553	V
25	20	16QAM	1	0	1860	21.84	0.1528	H
25	20	16QAM	1	0	1880	21.83	0.1524	H
25	20	16QAM	1	0	1905	22.69	0.1858	H
25	20	16QAM	1	0	1860	21.75	0.1496	V
25	20	16QAM	1	0	1880	22.06	0.1607	V
25	20	16QAM	1	0	1905	22.55	0.1799	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	2	824.7	20.48	0.1117	H
26	1.4	QPSK	3	2	836.5	20.34	0.1081	H
26	1.4	QPSK	1	2	848.3	20.97	0.1250	H
26	1.4	QPSK	1	2	824.7	4.15	0.0026	V
26	1.4	QPSK	3	2	836.5	5.05	0.0032	V
26	1.4	QPSK	1	2	848.3	7.08	0.0051	V
26	1.4	16QAM	3	1	824.7	18.82	0.0762	H
26	1.4	16QAM	3	0	836.5	19.70	0.0933	H
26	1.4	16QAM	3	2	848.3	19.93	0.0984	H
26	1.4	16QAM	3	1	824.7	3.68	0.0023	V
26	1.4	16QAM	3	0	836.5	3.98	0.0025	V
26	1.4	16QAM	3	2	848.3	6.04	0.0040	V
26	15	QPSK	1	0	831.5	20.21	0.1050	H
26	15	QPSK	1	0	836.5	20.38	0.1091	H
26	15	QPSK	1	0	841.5	20.76	0.1191	H
26	15	QPSK	1	0	831.5	4.52	0.0028	V
26	15	QPSK	1	0	836.5	4.62	0.0029	V
26	15	QPSK	1	0	841.5	5.37	0.0034	V
26	15	16QAM	1	37	831.5	19.76	0.0946	H
26	15	16QAM	1	0	836.5	20.13	0.1030	H
26	15	16QAM	1	37	841.5	20.24	0.1057	H
26	15	16QAM	1	37	831.5	4.37	0.0027	V
26	15	16QAM	1	0	836.5	4.20	0.0026	V
26	15	16QAM	1	37	841.5	5.70	0.0037	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	25.72	0.3733	H
41	5	QPSK	1	0	2593	24.83	0.3041	H
41	5	QPSK	1	0	2687.5	25.07	0.3214	H
41	5	QPSK	1	0	2498.5	25.59	0.3622	V
41	5	QPSK	1	0	2593	24.53	0.2838	V
41	5	QPSK	1	0	2687.5	25.24	0.3342	V
41	5	16QAM	1	0	2498.5	24.66	0.2924	H
41	5	16QAM	1	0	2593	24.42	0.2767	H
41	5	16QAM	1	0	2687.5	24.66	0.2924	H
41	5	16QAM	1	0	2498.5	24.57	0.2864	V
41	5	16QAM	1	0	2593	23.74	0.2366	V
41	5	16QAM	1	0	2687.5	24.83	0.3041	V
41	20	QPSK	1	0	2506	25.02	0.3177	H
41	20	QPSK	1	0	2593	25.88	0.3873	H
41	20	QPSK	1	0	2680	26.00	0.3981	H
41	20	QPSK	1	0	2506	24.48	0.2805	V
41	20	QPSK	1	0	2593	24.85	0.3055	V
41	20	QPSK	1	0	2680	25.38	0.3451	V
41	20	16QAM	1	0	2506	24.30	0.2692	H
41	20	16QAM	1	0	2593	26.04	0.4018	H
41	20	16QAM	1	0	2680	25.40	0.3467	H
41	20	16QAM	1	0	2506	24.10	0.2570	V
41	20	16QAM	1	0	2593	25.02	0.3177	V
41	20	16QAM	1	0	2680	24.79	0.3013	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 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.

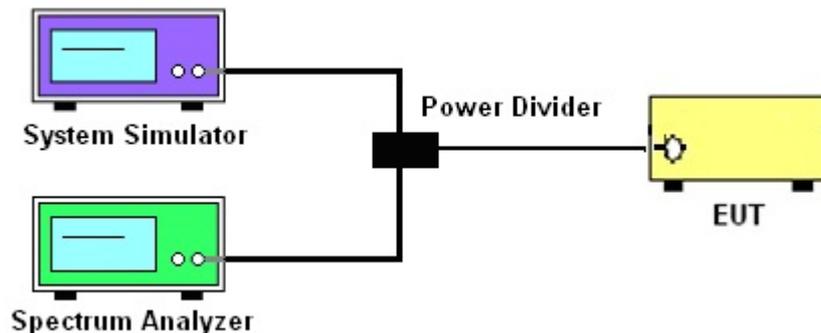
3.4.2 Measuring Instruments

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)	1.306	1.333	3.058	3.067
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.520	4.500	9.200	9.120
26dB BW (MHz)	5.016	5.080	10.288	10.160
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM
99% OBW (MHz)	13.620	13.560	18.640	18.640
26dB BW (MHz)	15.000	14.904	21.218	21.218

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	2.724
26dB BW (MHz)	1.268	1.296	3.018	3.030
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.490	4.490	9.120	9.060
26dB BW (MHz)	5.030	4.910	10.120	10.040
BW / Mod.	15MHz / QPSK	15MHz / 16QAM		
99% OBW (MHz)	13.470	13.500		
26dB BW (MHz)	14.940	14.730		



Modes	LTE Band 41				
	BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)		4.540	4.520	9.120	9.120
26dB BW (MHz)		5.000	5.000	10.280	10.120
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM	
99% OBW (MHz)		13.560	13.560	18.560	18.640
26dB BW (MHz)		14.700	14.880	21.520	21.120

Note:

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

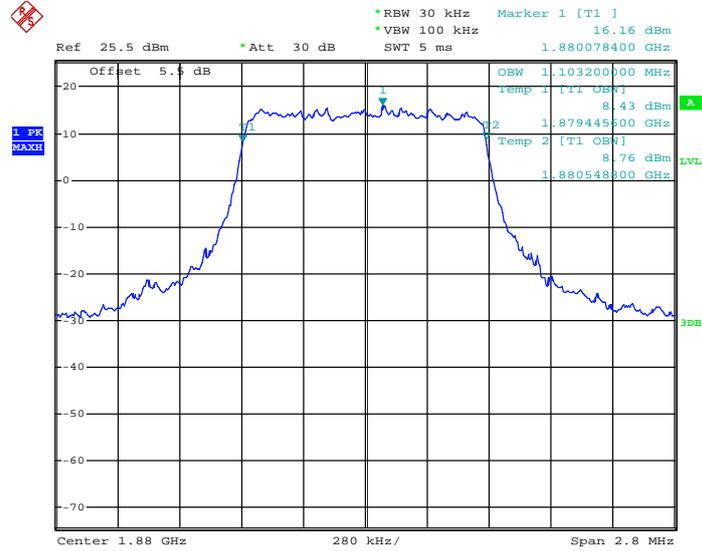
- BW1.4MHz RB setting : RB Size 6, RB offset 0
- BW3.0MHz RB setting : RB Size 15, RB offset 0
- BW5.0MHz RB setting : RB Size 25, RB offset 0
- BW10MHz RB setting : RB Size 50, RB offset 0
- BW15MHz RB setting : RB Size 75, RB offset 0
- BW20MHz RB setting : RB Size 100, RB offset 0



3.4.6 Test Result (Plots) of 99% Occupied Bandwidth and 26dB Bandwidth

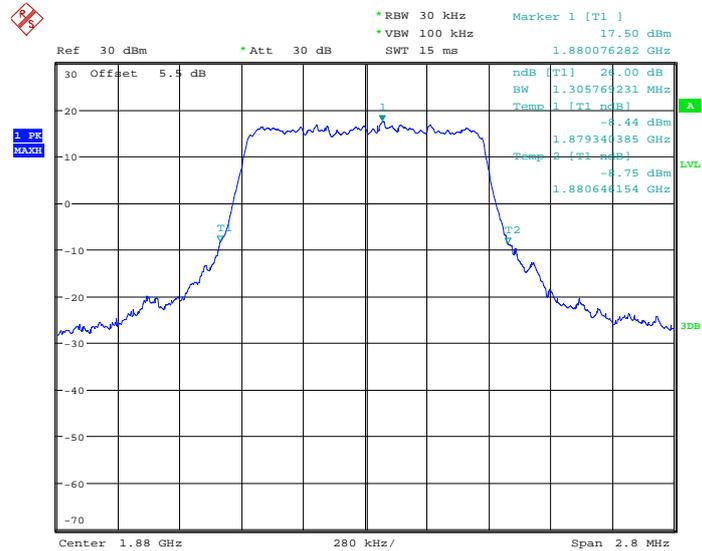
Band :	LTE Band 25	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:17:53

26dB Bandwidth Plot on Channel 26340

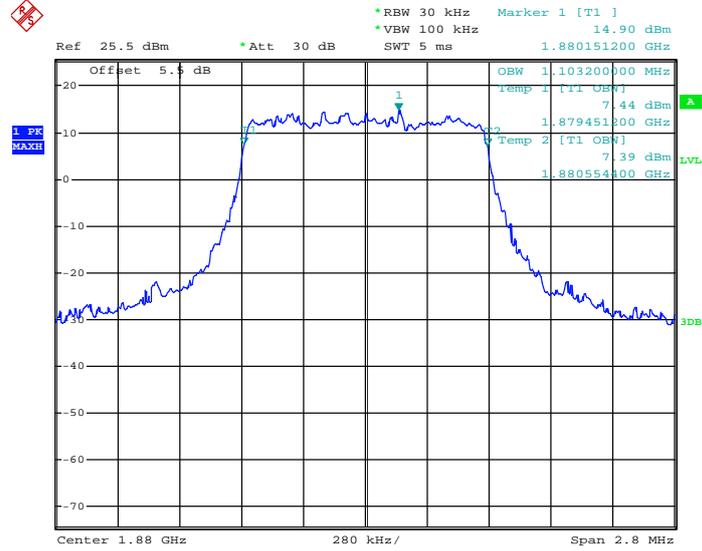


Date: 8.OCT.2014 10:35:44



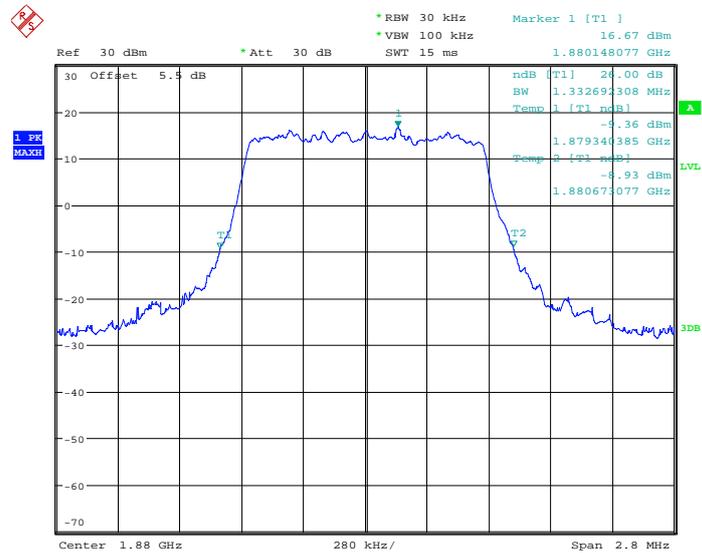
Band :	LTE Band 25	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:18:18

26dB Bandwidth Plot on Channel 26340

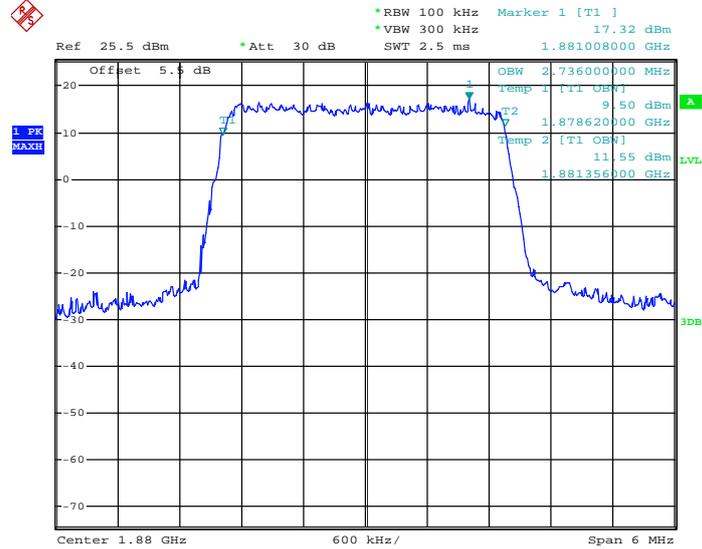


Date: 8.OCT.2014 10:34:44



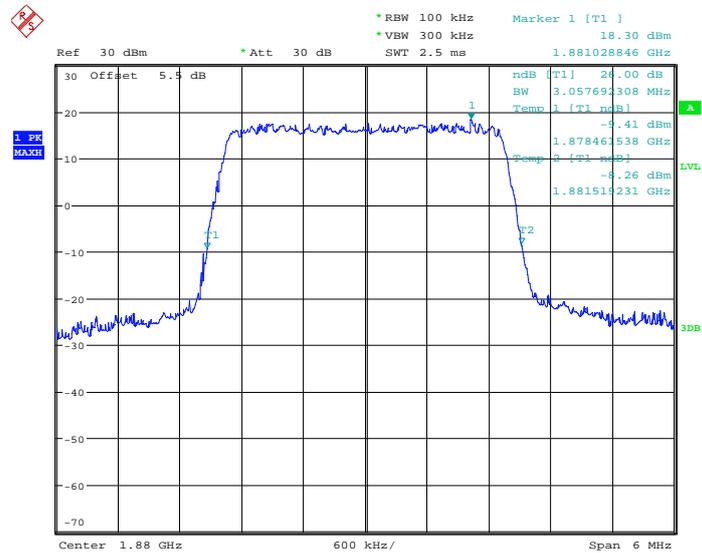
Band :	LTE Band 25	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:16:35

26dB Bandwidth Plot on Channel 26340

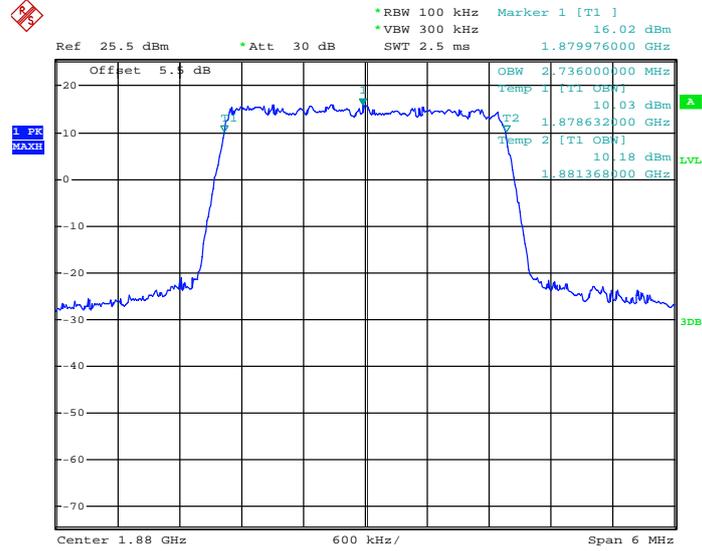


Date: 8.OCT.2014 10:36:34



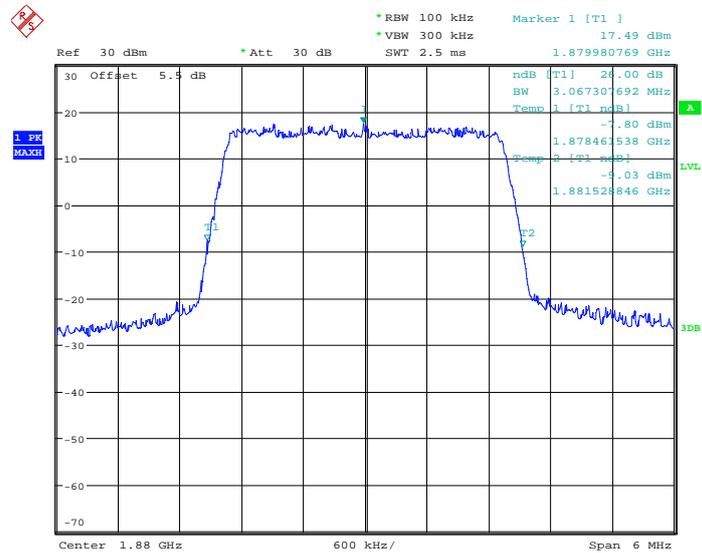
Band :	LTE Band 25	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:16:14

26dB Bandwidth Plot on Channel 26340

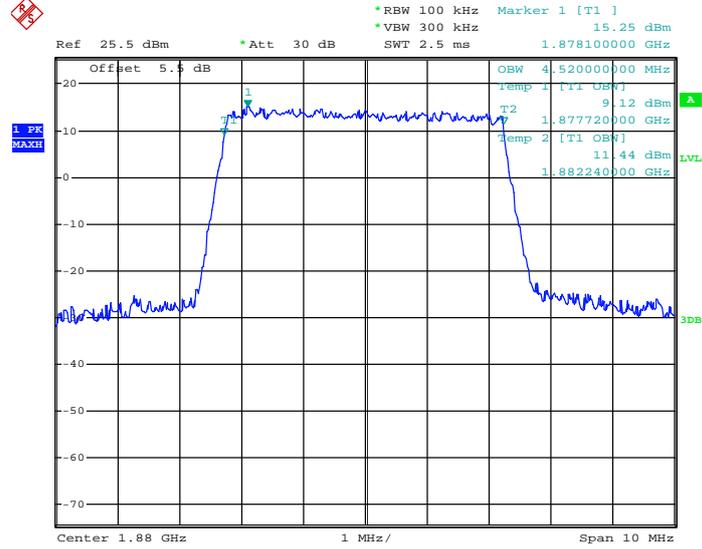


Date: 8.OCT.2014 10:36:55



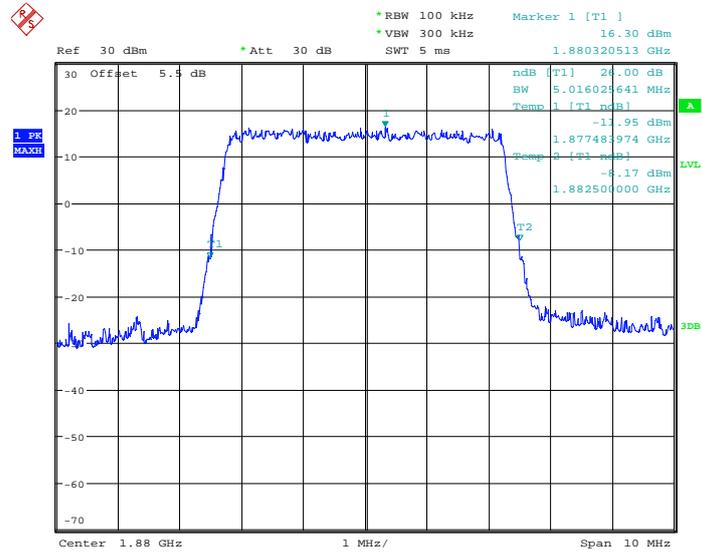
Band :	LTE Band 25	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:15:02

26dB Bandwidth Plot on Channel 26340

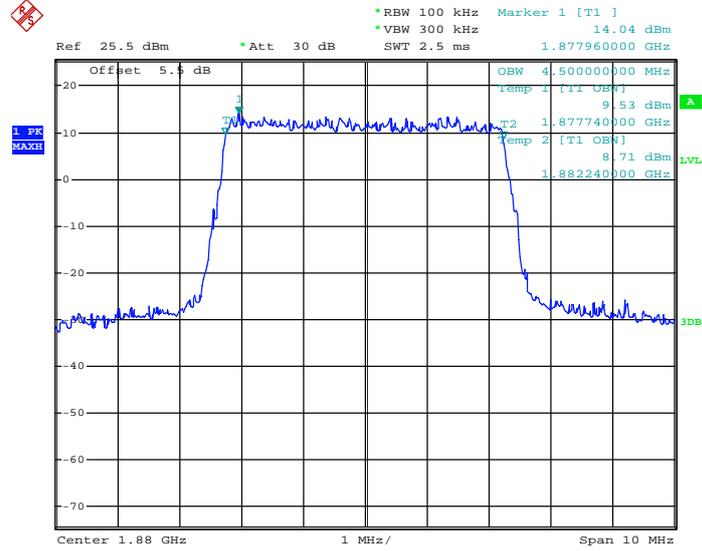


Date: 8.OCT.2014 10:40:53



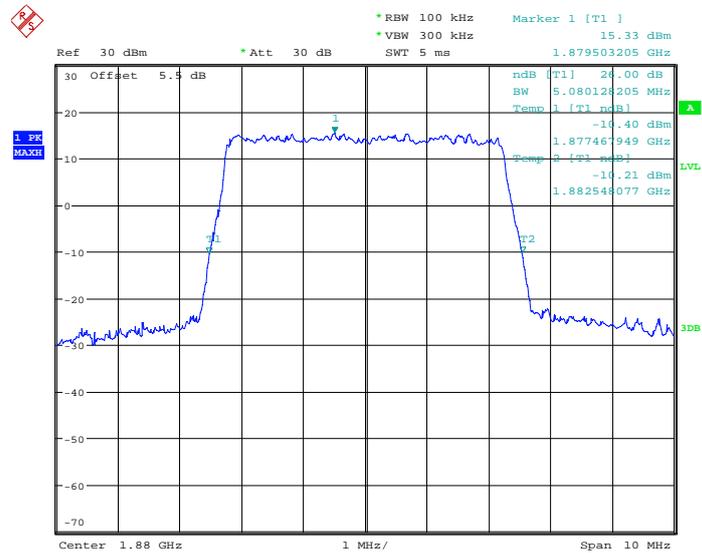
Band :	LTE Band 25	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:15:15

26dB Bandwidth Plot on Channel 26340

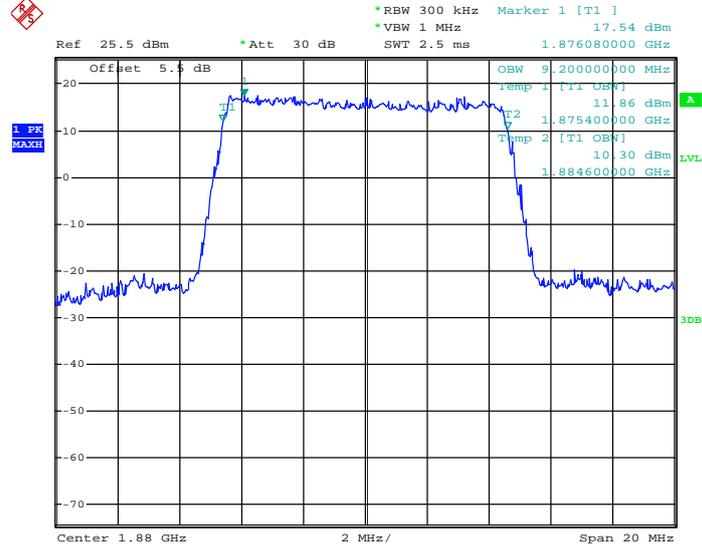


Date: 8.OCT.2014 10:38:51



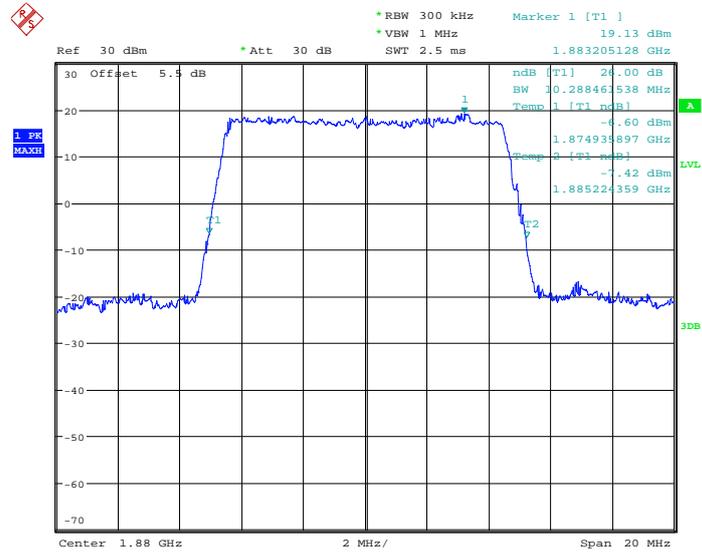
Band :	LTE Band 25	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:14:01

26dB Bandwidth Plot on Channel 26340

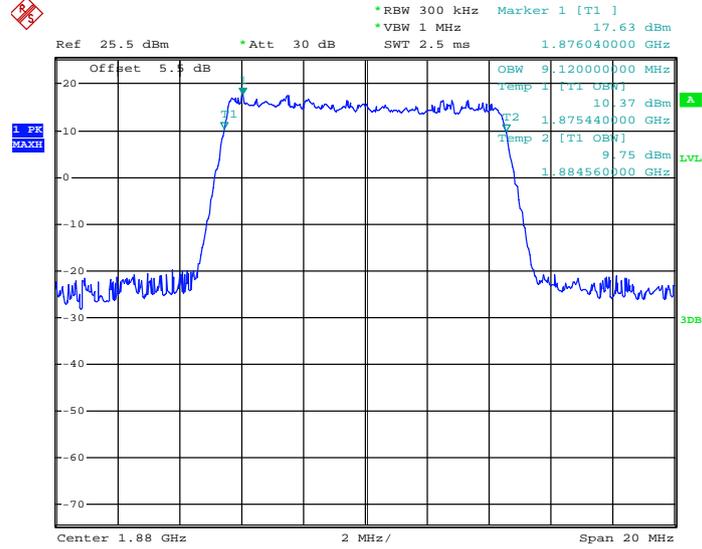


Date: 8.OCT.2014 10:42:54



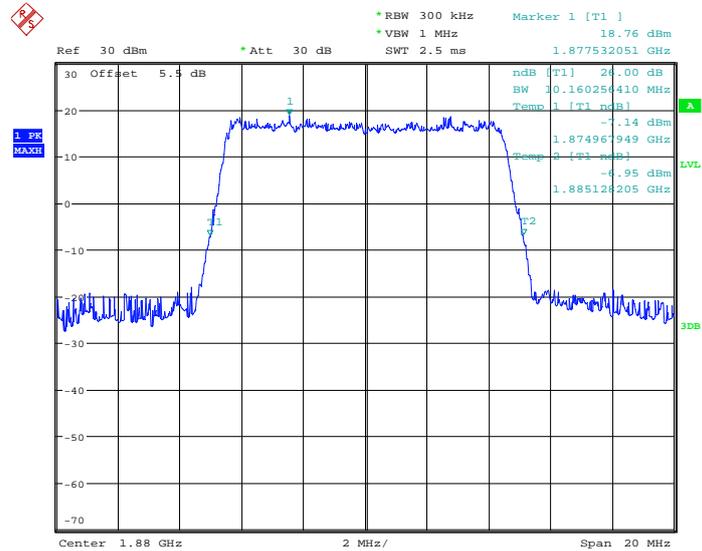
Band :	LTE Band 25	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:13:42

26dB Bandwidth Plot on Channel 26340

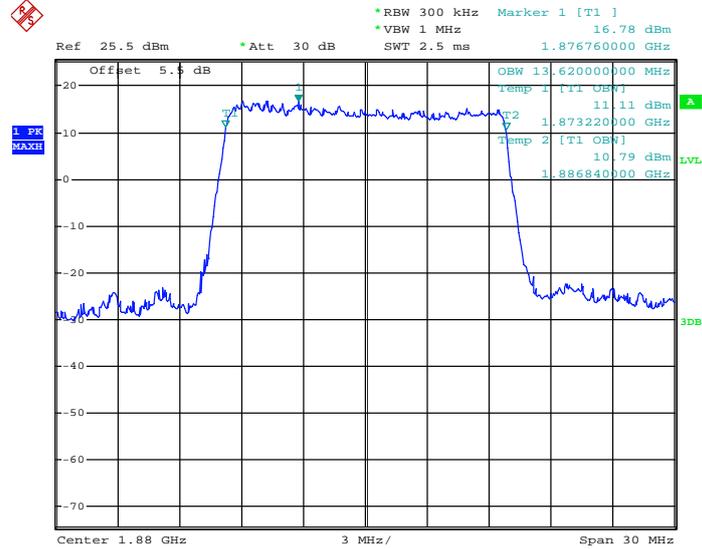


Date: 8.OCT.2014 10:43:12



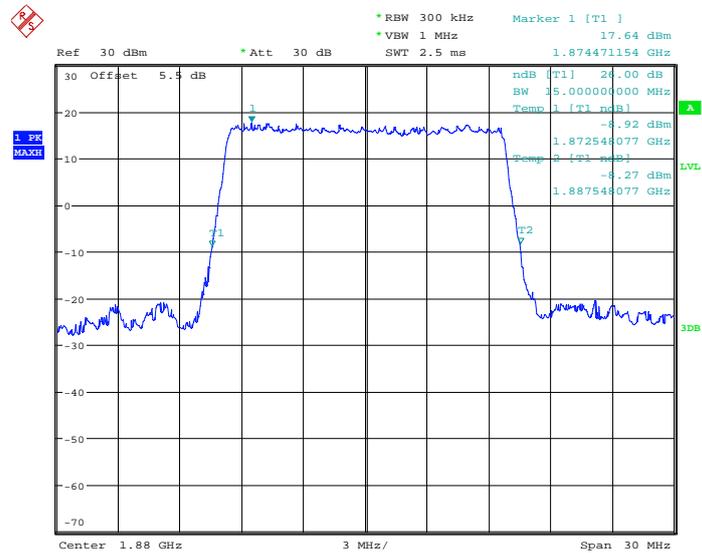
Band :	LTE Band 25	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:12:26

26dB Bandwidth Plot on Channel 26340

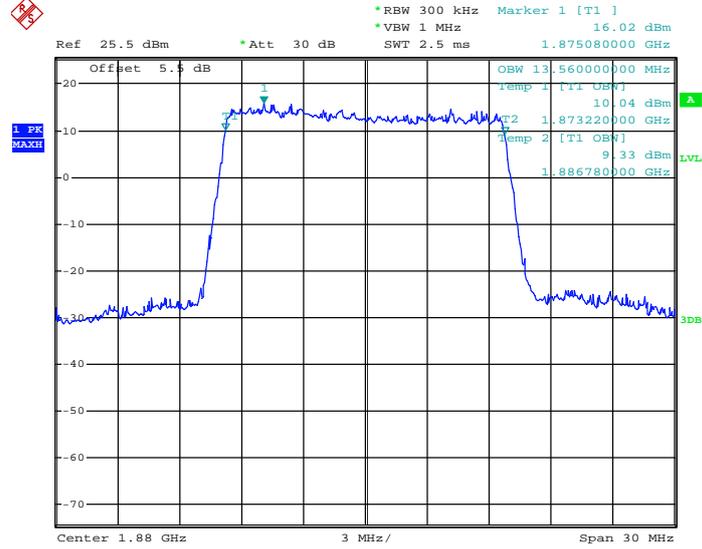


Date: 8.OCT.2014 10:45:03



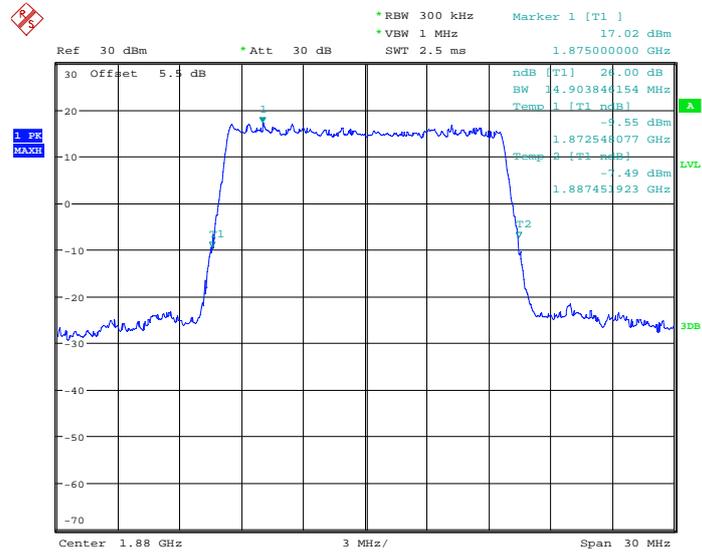
Band :	LTE Band 25	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:12:49

26dB Bandwidth Plot on Channel 26340

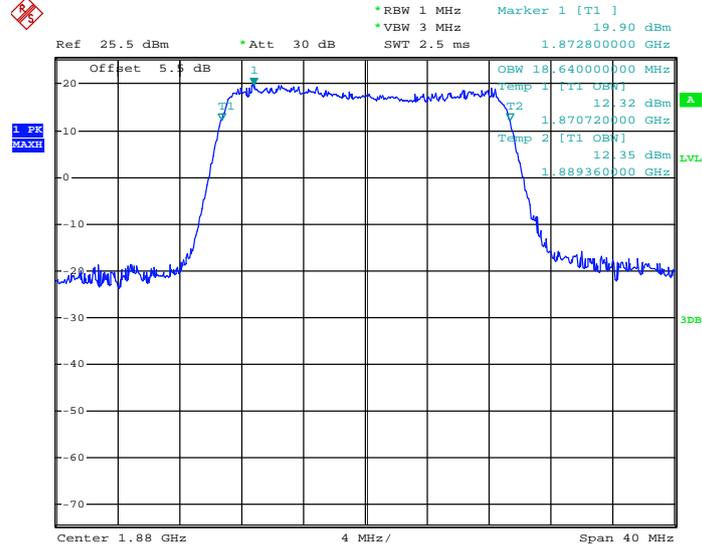


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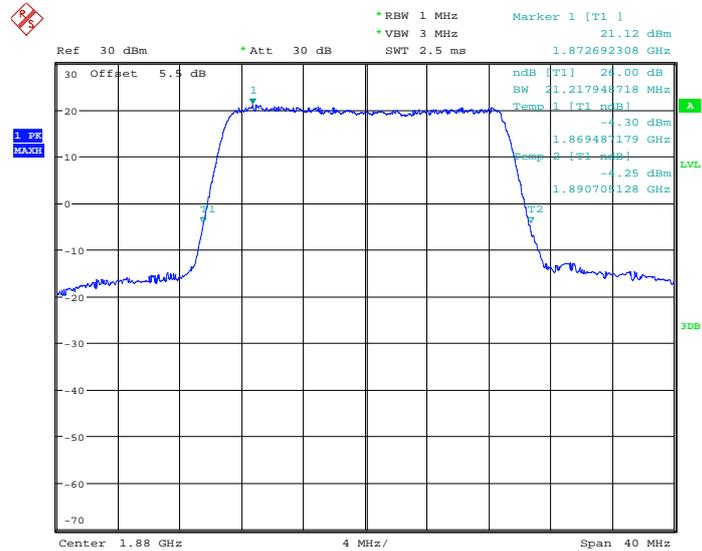
Band :	LTE Band 25	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:10:58

26dB Bandwidth Plot on Channel 26340

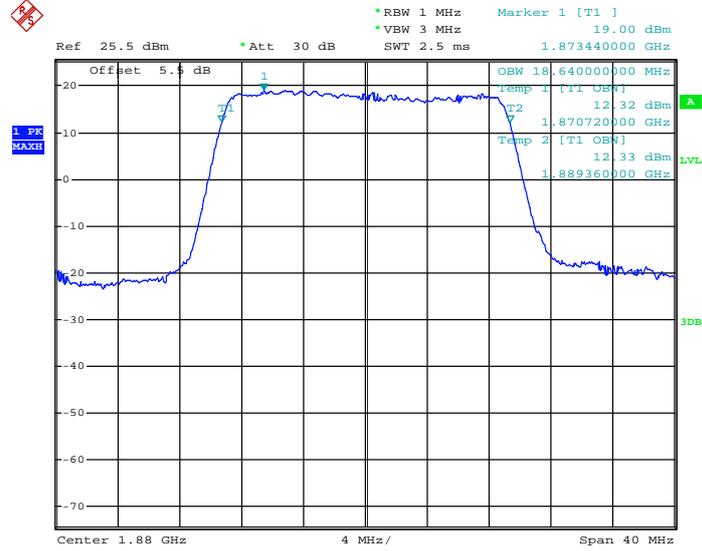


Date: 8.OCT.2014 10:46:38



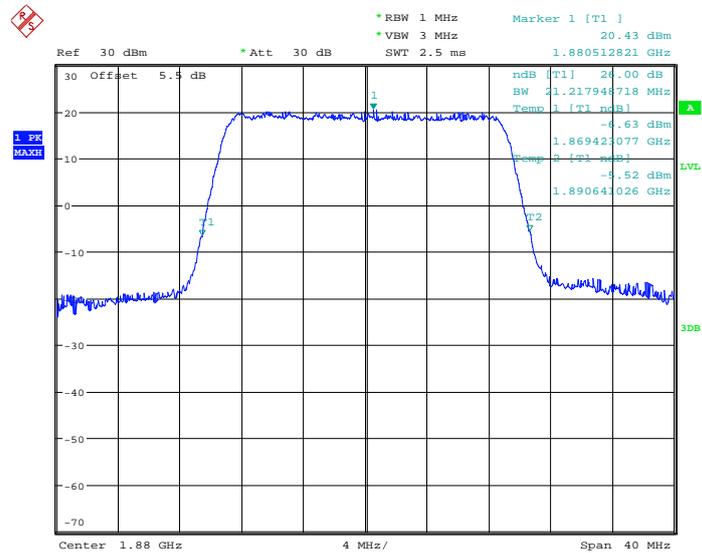
Band :	LTE Band 25	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26340



Date: 8.OCT.2014 12:10:41

26dB Bandwidth Plot on Channel 26340

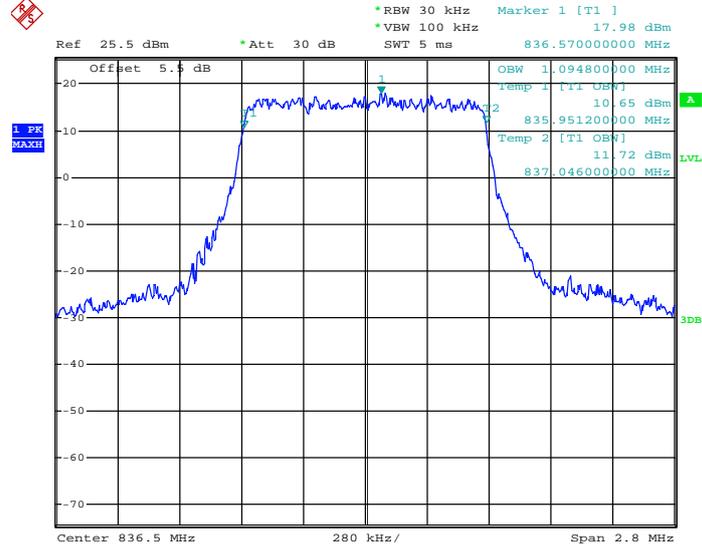


Date: 8.OCT.2014 10:46:58



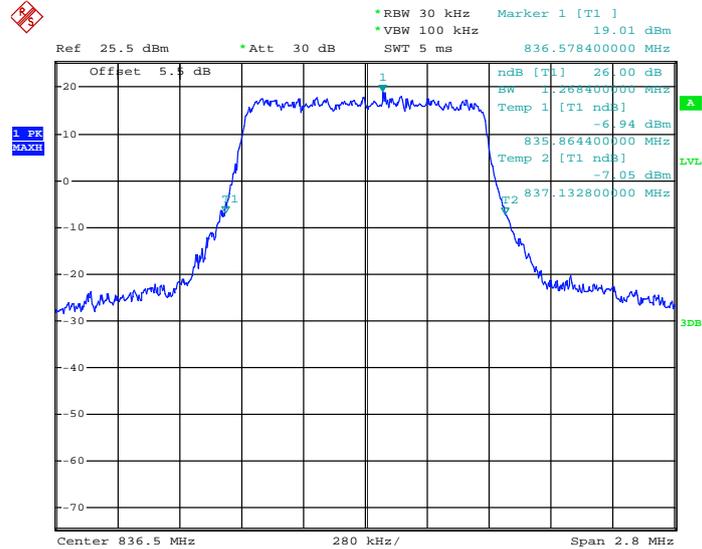
Band :	LTE Band 26	BW / Mod. :	1.4MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 12:58:30

26dB Bandwidth Plot on Channel 26915

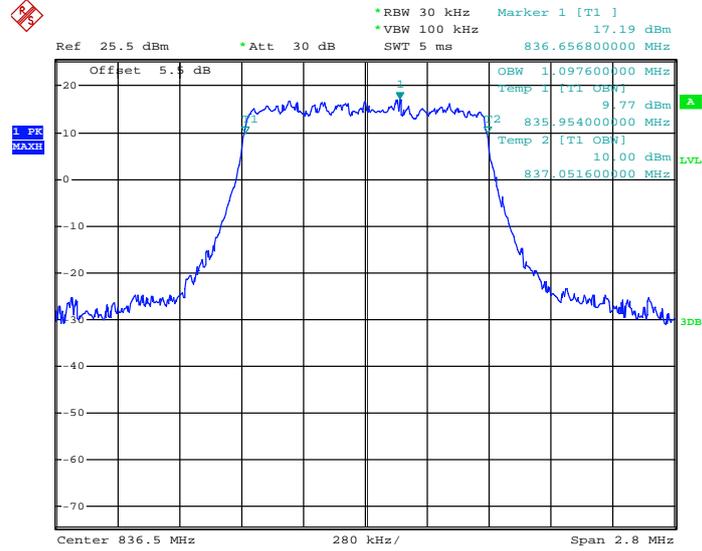


Date: 10.OCT.2014 14:21:17



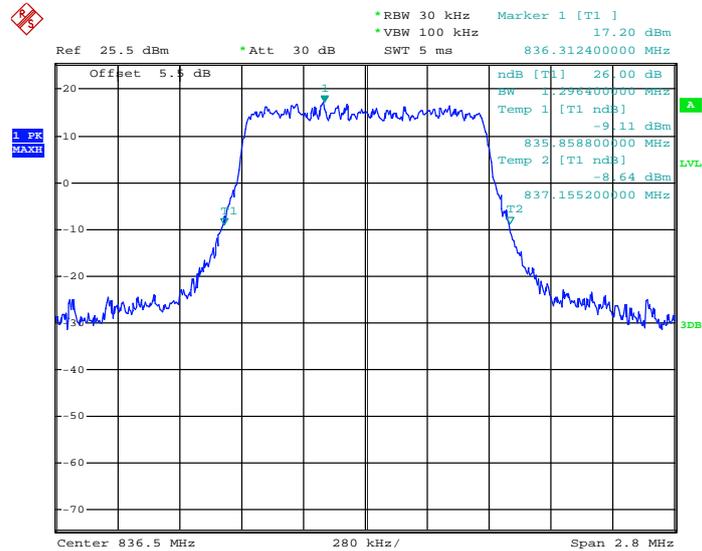
Band :	LTE Band 26	BW / Mod. :	1.4MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 12:59:10

26dB Bandwidth Plot on Channel 26915

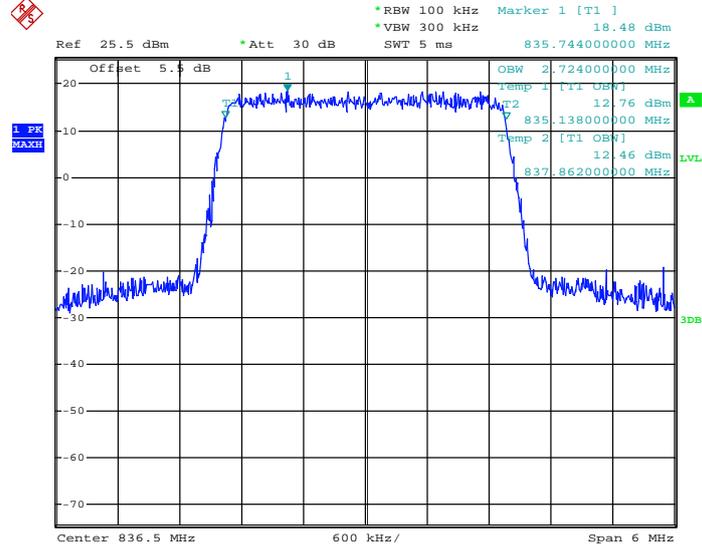


Date: 10.OCT.2014 14:21:44



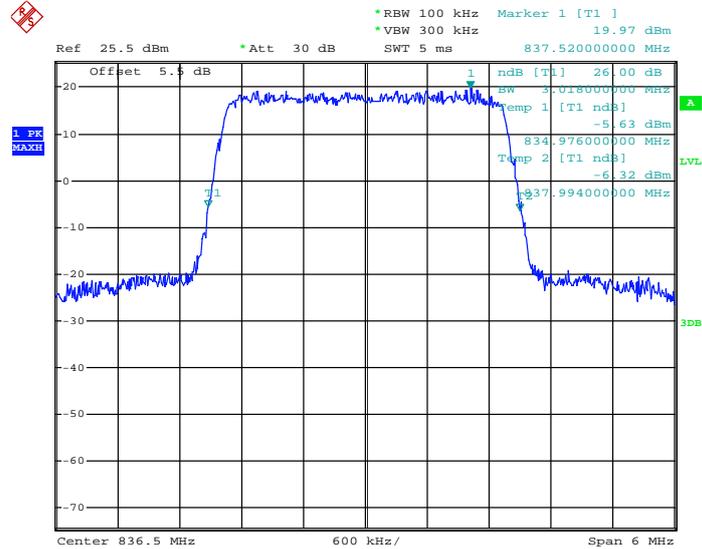
Band :	LTE Band 26	BW / Mod. :	3MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:01:50

26dB Bandwidth Plot on Channel 26915

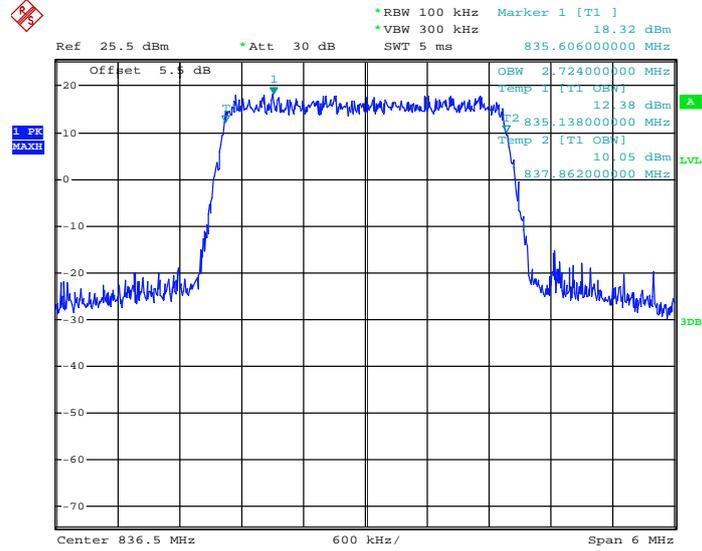


Date: 10.OCT.2014 14:20:19



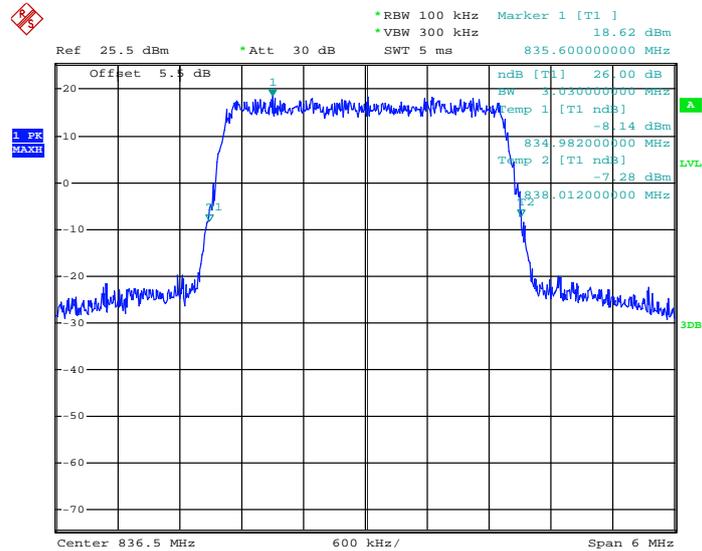
Band :	LTE Band 26	BW / Mod. :	3MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:02:18

26dB Bandwidth Plot on Channel 26915

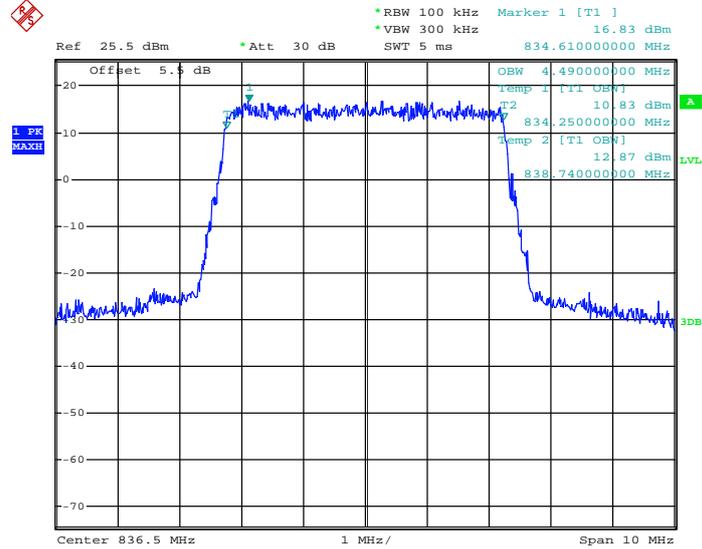


Date: 10.OCT.2014 14:19:54



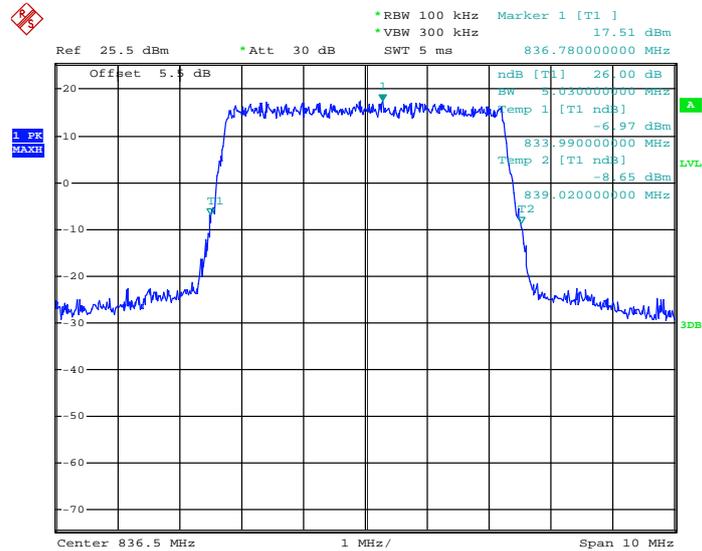
Band :	LTE Band 26	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:02:49

26dB Bandwidth Plot on Channel 26915

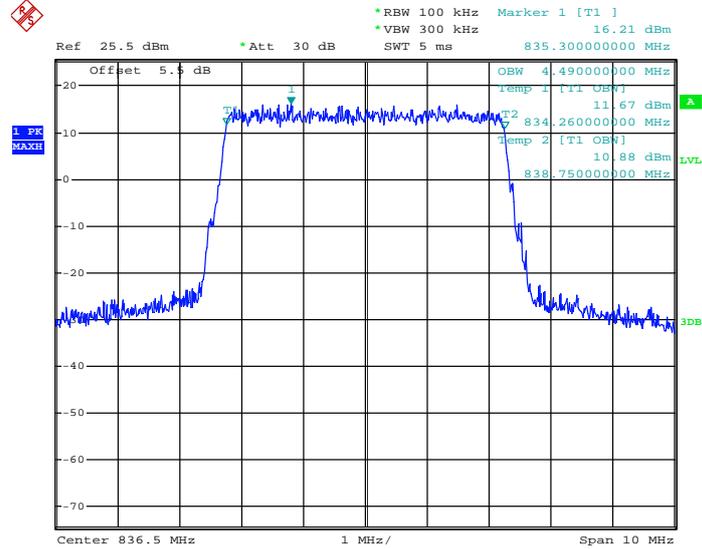


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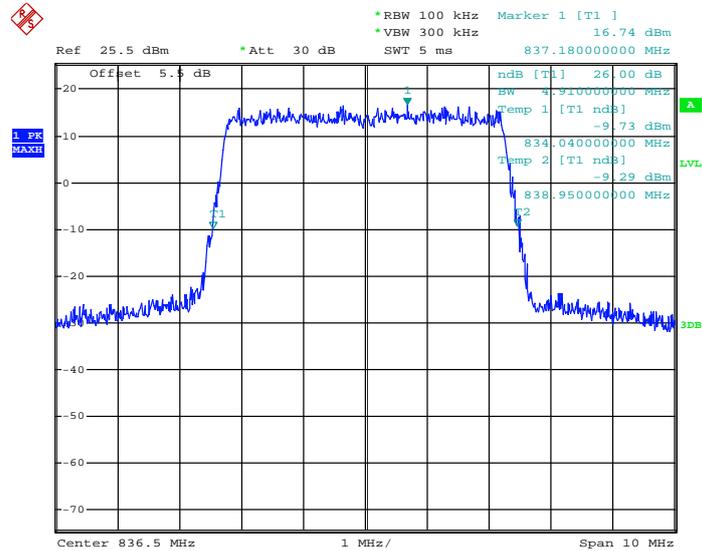
Band :	LTE Band 26	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:03:11

26dB Bandwidth Plot on Channel 26915

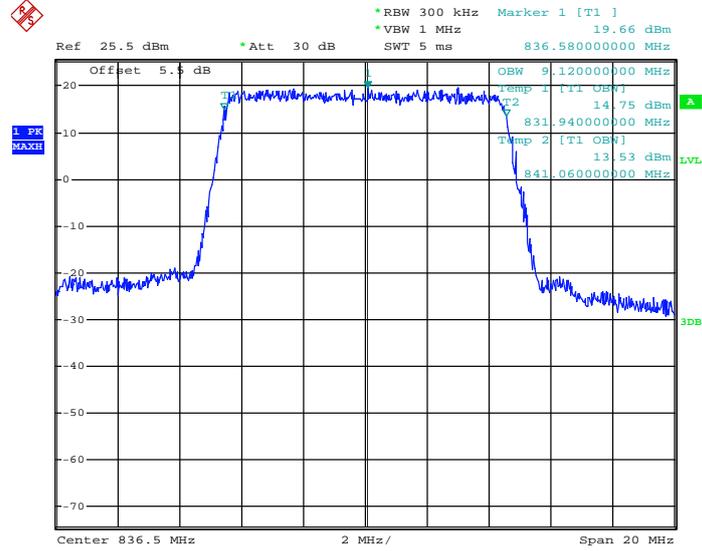


Date: 10.OCT.2014 14:19:19



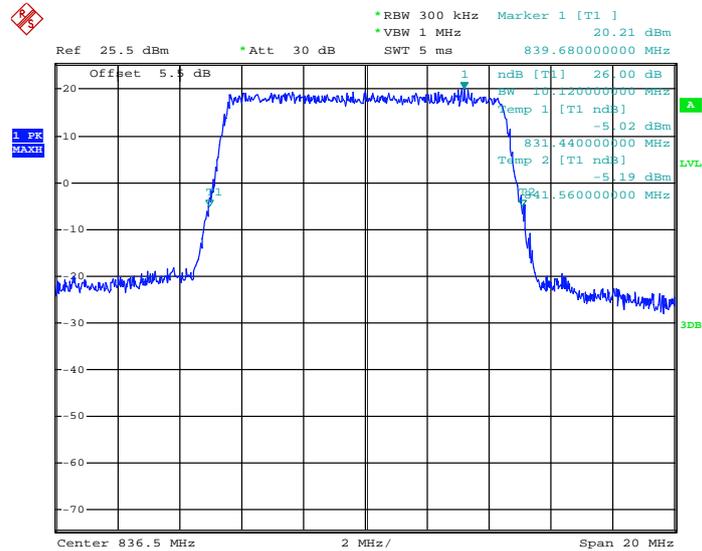
Band :	LTE Band 26	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:03:48

26dB Bandwidth Plot on Channel 26915

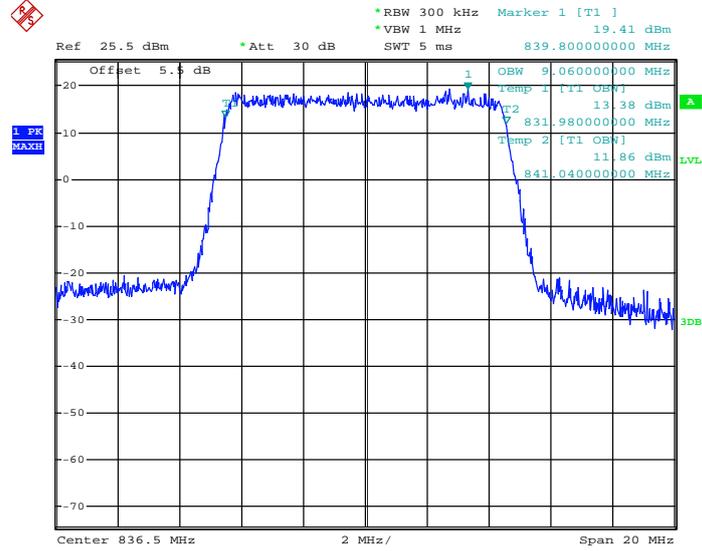


Date: 10.OCT.2014 14:17:47



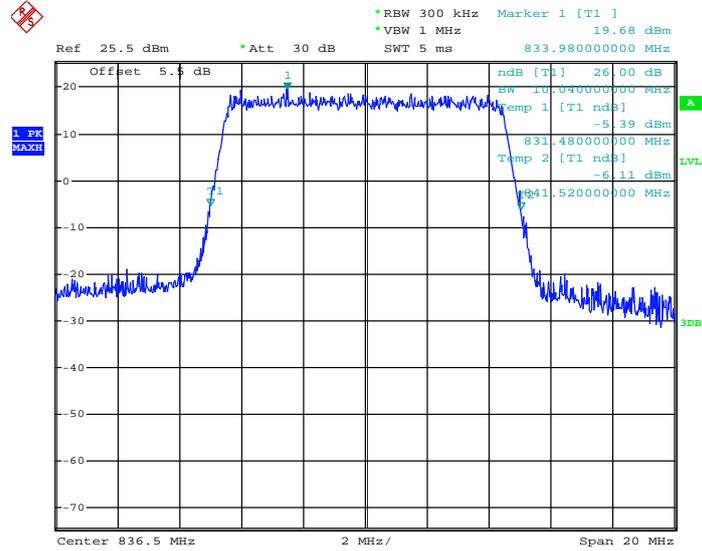
Band :	LTE Band 26	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:04:09

26dB Bandwidth Plot on Channel 26915

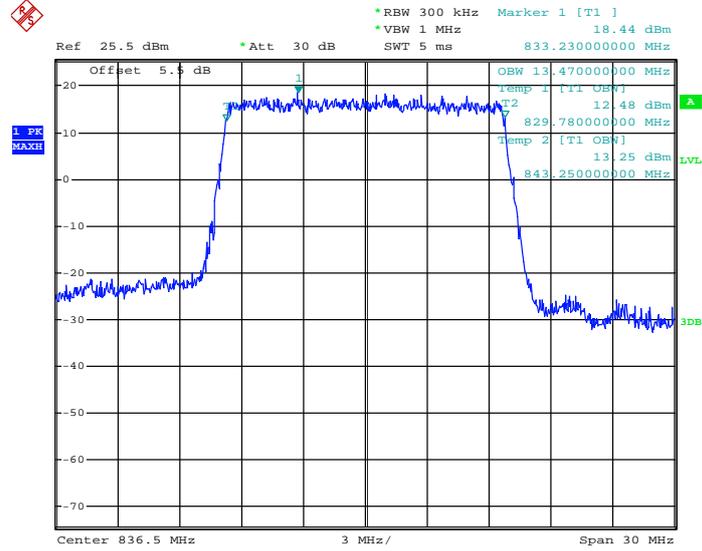


Date: 10.OCT.2014 14:18:08



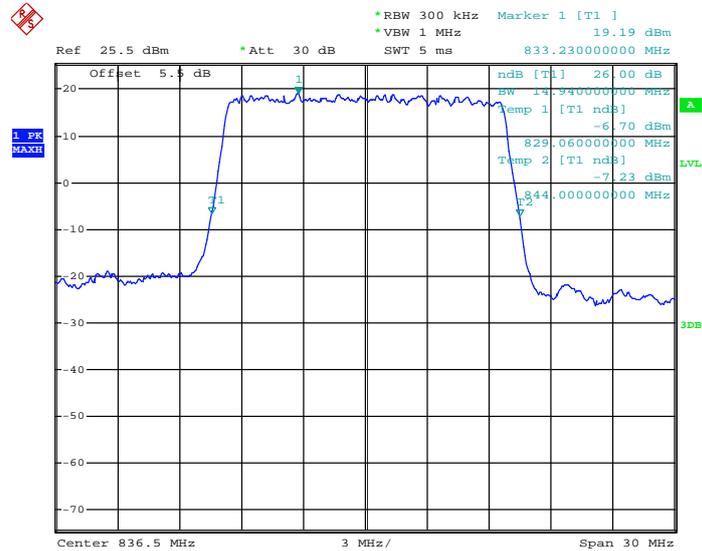
Band :	LTE Band 26	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:05:10

26dB Bandwidth Plot on Channel 26915

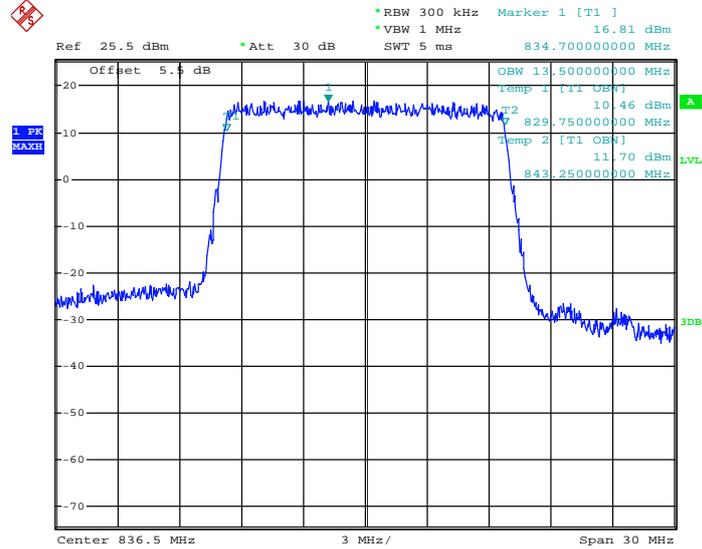


Date: 10.OCT.2014 14:17:13



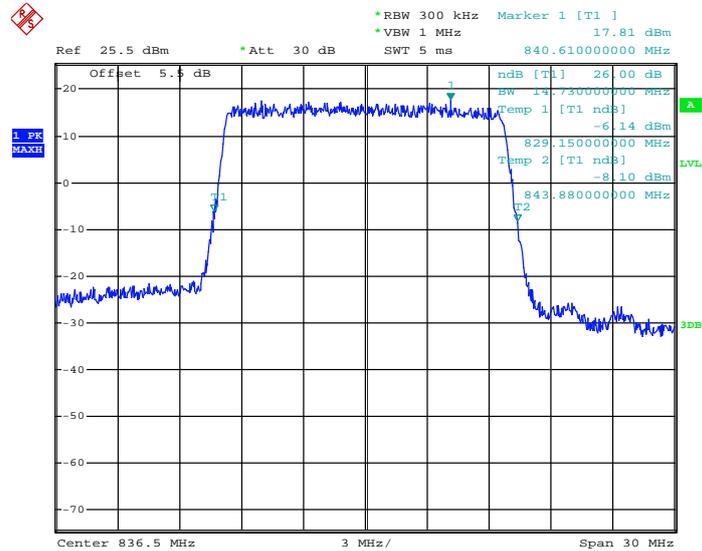
Band :	LTE Band 26	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 26915



Date: 10.OCT.2014 13:05:48

26dB Bandwidth Plot on Channel 26915

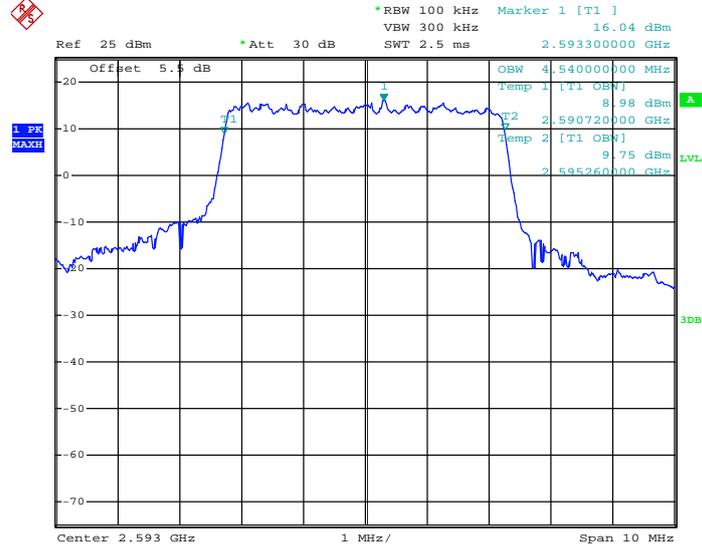


Date: 10.OCT.2014 13:06:30



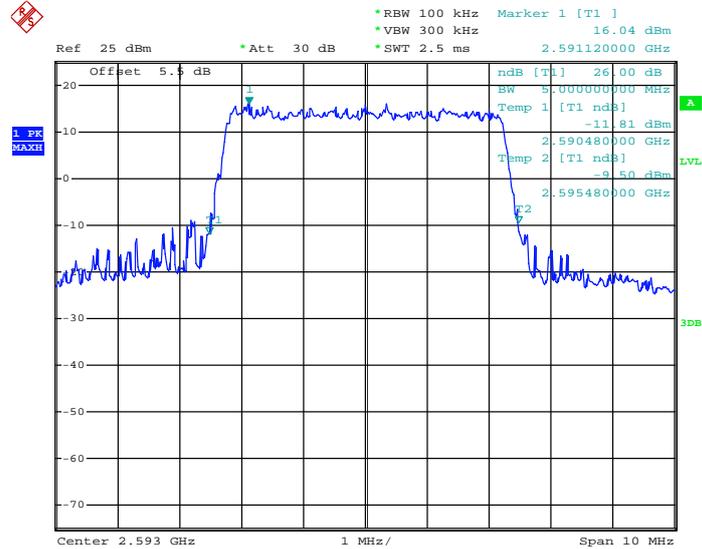
Band :	LTE Band 41	BW / Mod. :	5MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:29:24

26dB Bandwidth Plot on Channel 40620

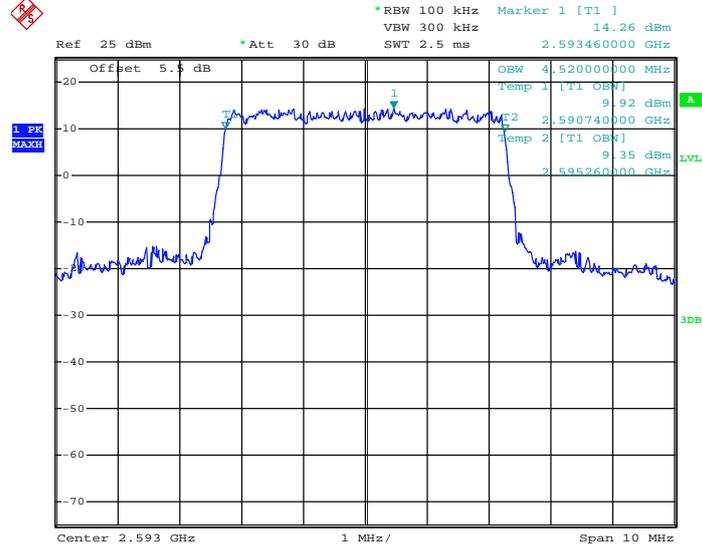


Date: 9.OCT.2014 11:40:20



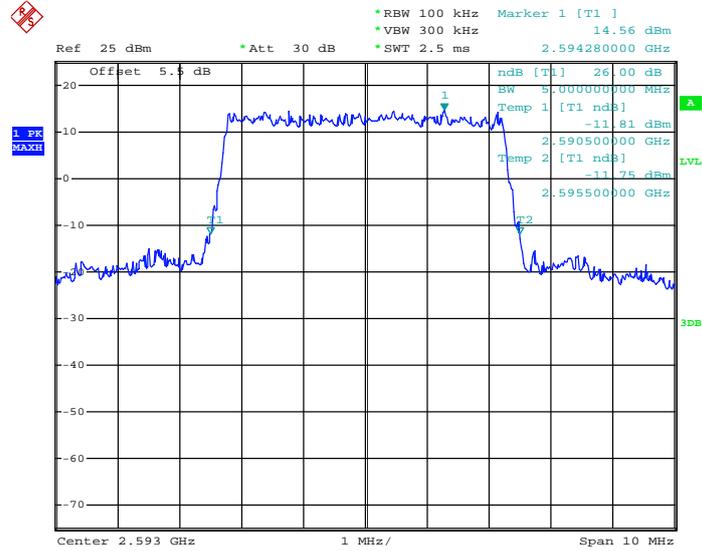
Band :	LTE Band 41	BW / Mod. :	5MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:31:51

26dB Bandwidth Plot on Channel 40620

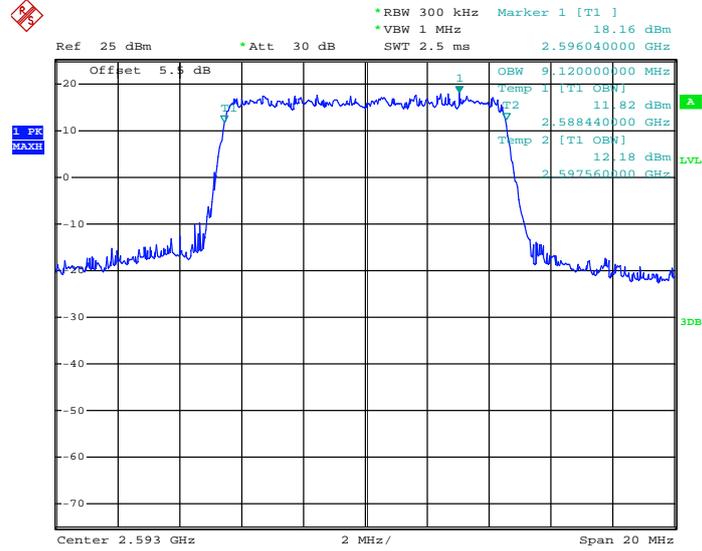


Date: 9.OCT.2014 11:40:03



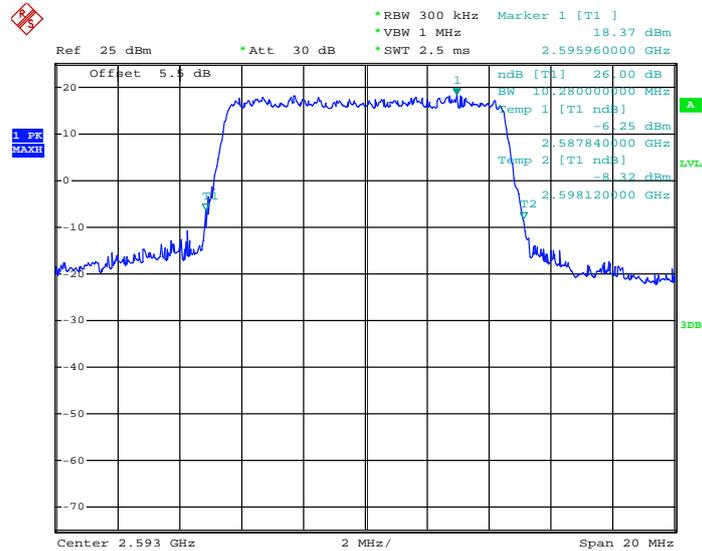
Band :	LTE Band 41	BW / Mod. :	10MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:33:25

26dB Bandwidth Plot on Channel 40620

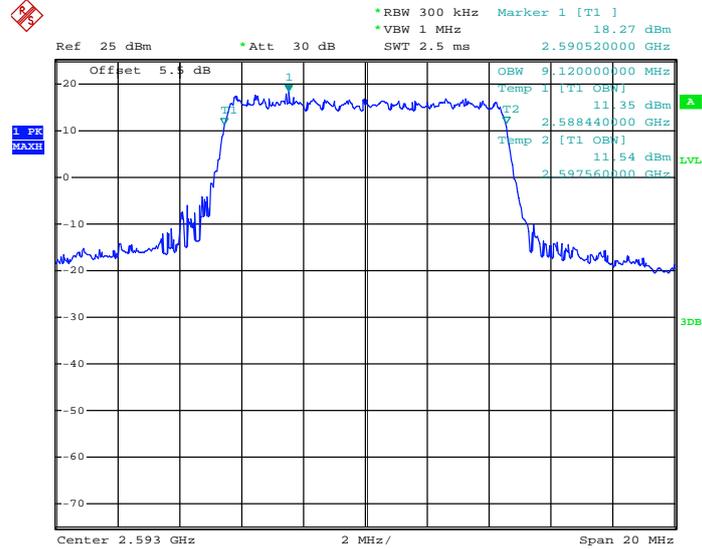


Date: 9.OCT.2014 11:39:09



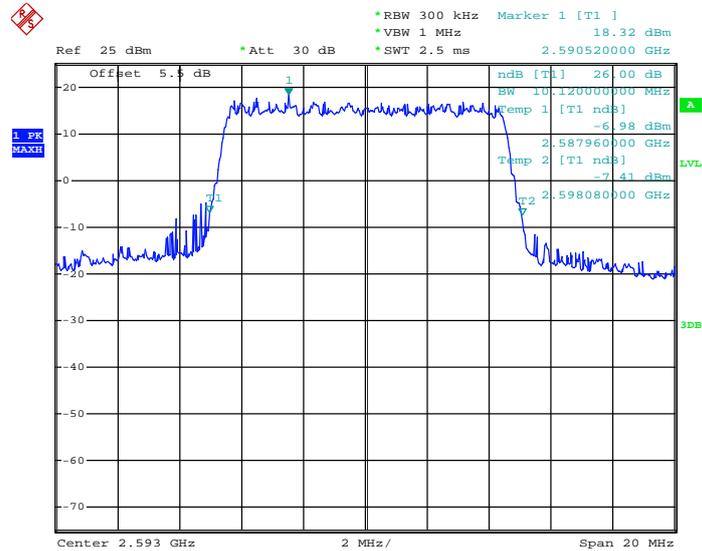
Band :	LTE Band 41	BW / Mod. :	10MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:33:05

26dB Bandwidth Plot on Channel 40620

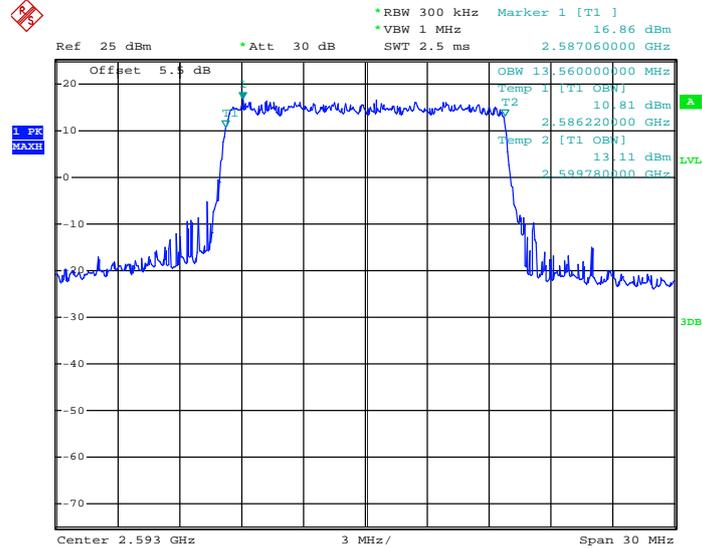


Date: 9.OCT.2014 11:39:20



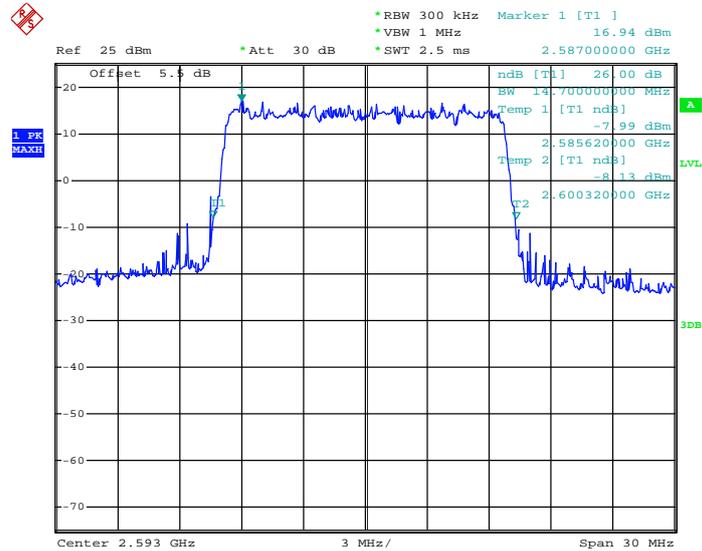
Band :	LTE Band 41	BW / Mod. :	15MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:34:00

26dB Bandwidth Plot on Channel 40620

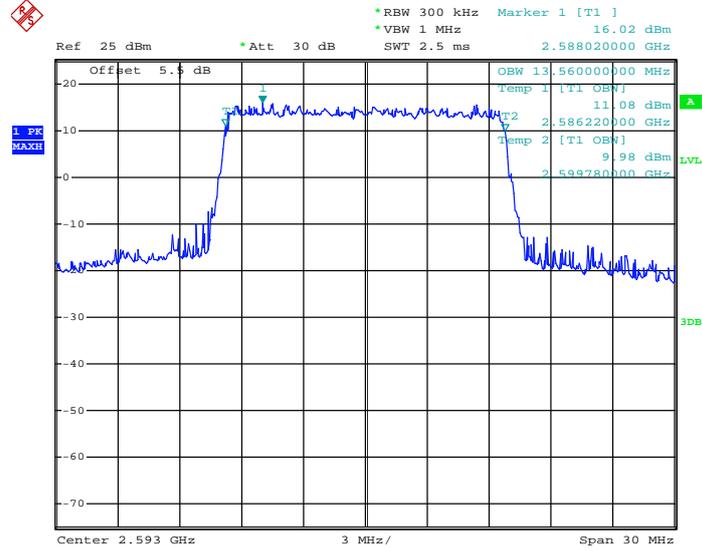


Date: 9.OCT.2014 11:38:28



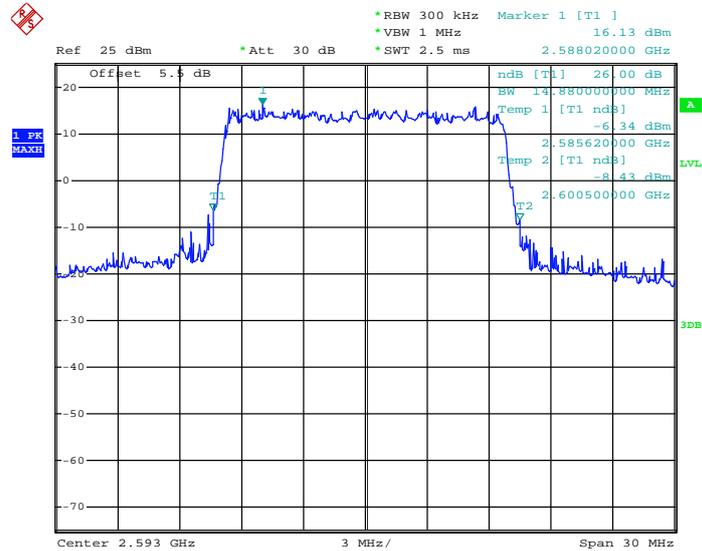
Band :	LTE Band 41	BW / Mod. :	15MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:34:30

26dB Bandwidth Plot on Channel 40620

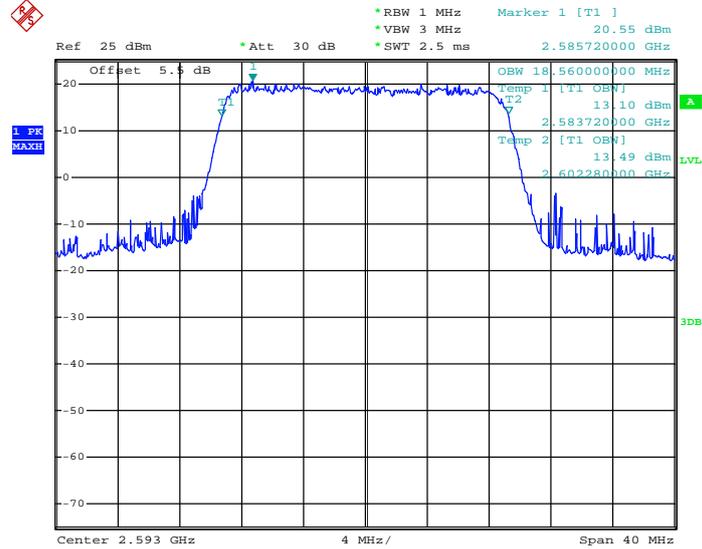


Date: 9.OCT.2014 11:38:18



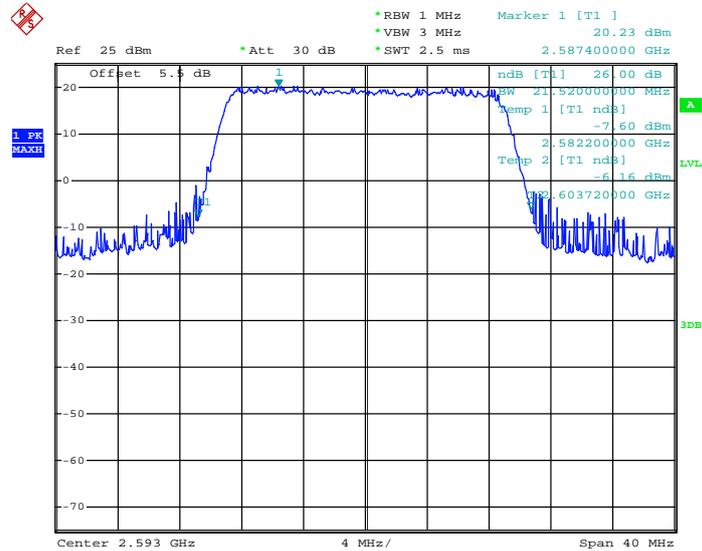
Band :	LTE Band 41	BW / Mod. :	20MHz / QPSK
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:36:07

26dB Bandwidth Plot on Channel 40620

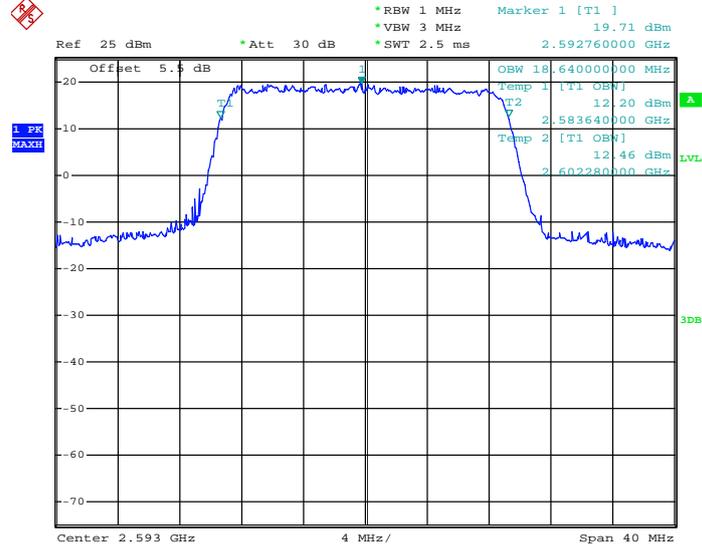


Date: 9.OCT.2014 11:37:15



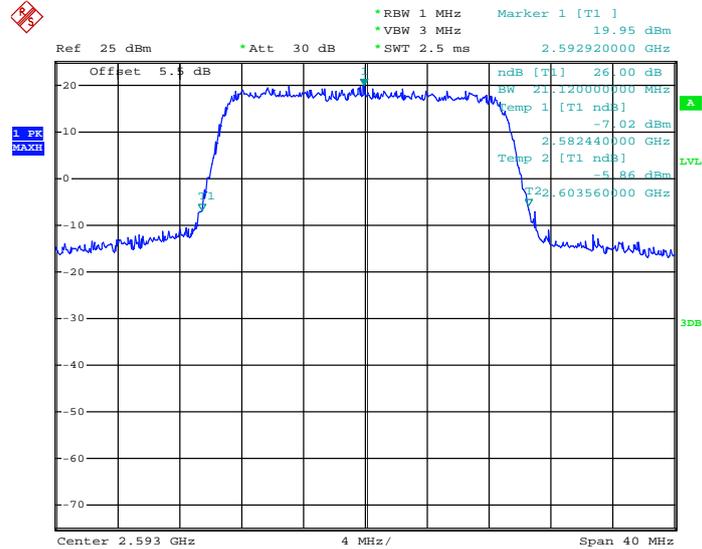
Band :	LTE Band 41	BW / Mod. :	20MHz / 16QAM
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99% Occupied Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:35:54

26dB Bandwidth Plot on Channel 40620



Date: 9.OCT.2014 11:37:29



3.5 Conducted Band Edge Measurement

3.5.1 Description of Conducted Band Edge Measurement

24.238 (a)

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(m) (4) For Band 41

For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

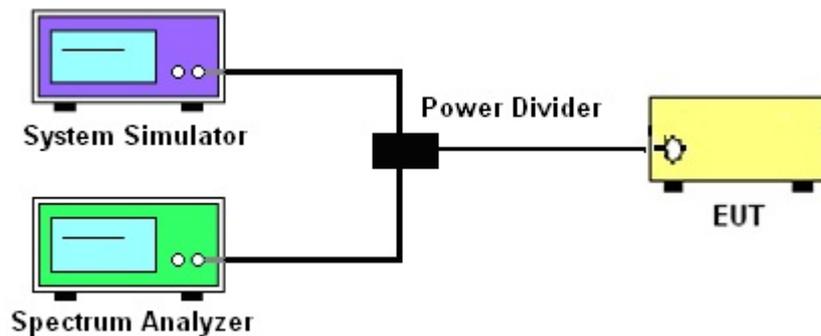
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW \geq 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with RMS detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from $43 + 10\log(P)$ 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.
6. 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

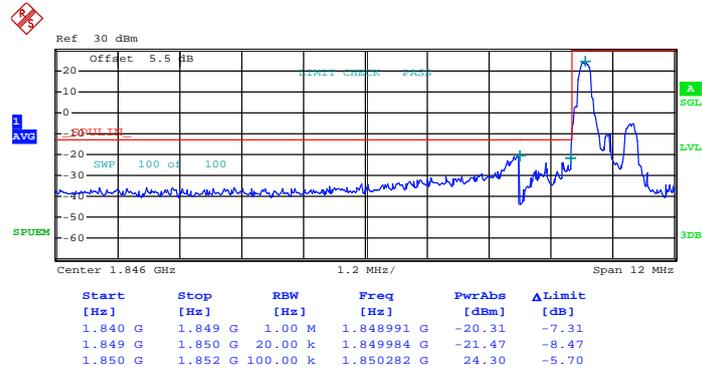




3.5.5 Test Result (Plots) of Conducted Band Edge

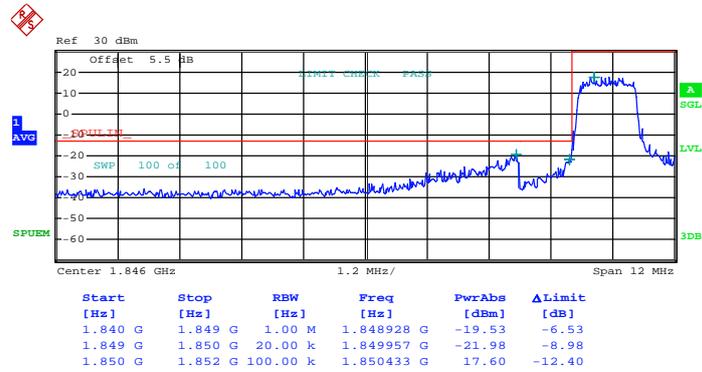
Band :	LTE Band 25	Band Width :	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 17:28:44

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



Date: 8.OCT.2014 17:30:23

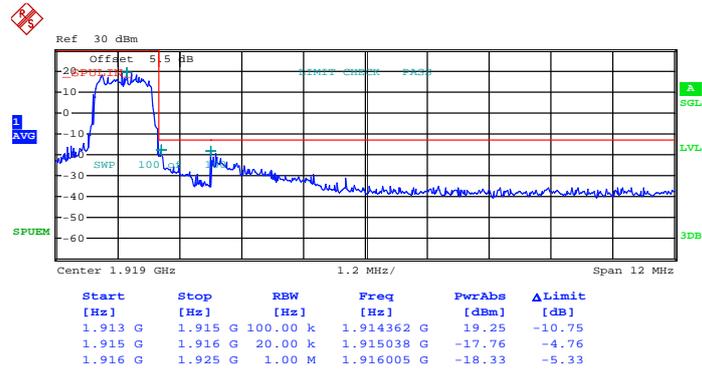


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 8.OCT.2014 17:21:28

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



Date: 8.OCT.2014 17:25:21



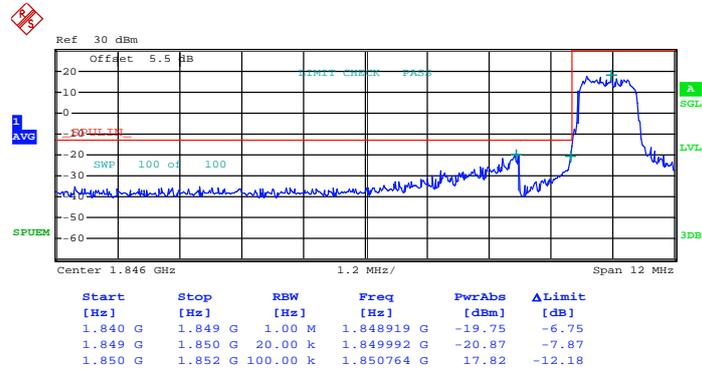
Band :	LTE Band 25	Band Width :	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 8.OCT.2014 17:29:18

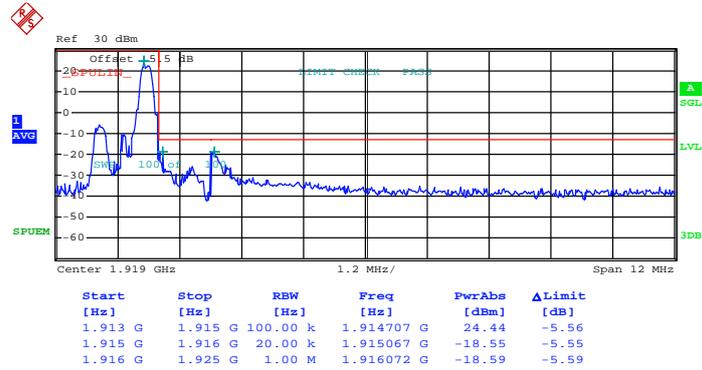
Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 8.OCT.2014 17:31:13

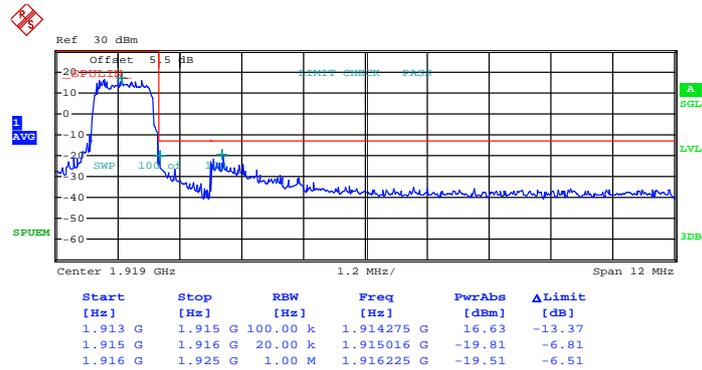


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 8.OCT.2014 17:22:13

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

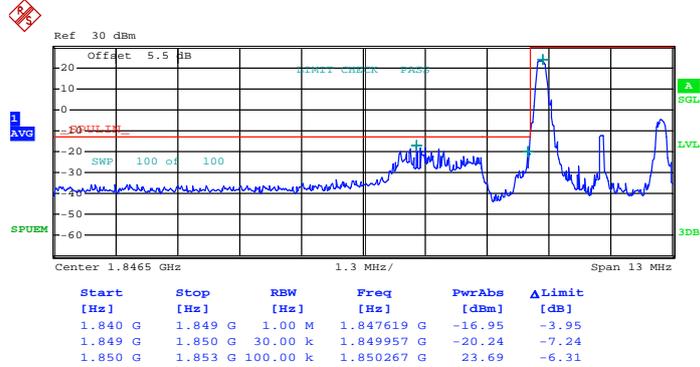


Date: 8.OCT.2014 17:24:12



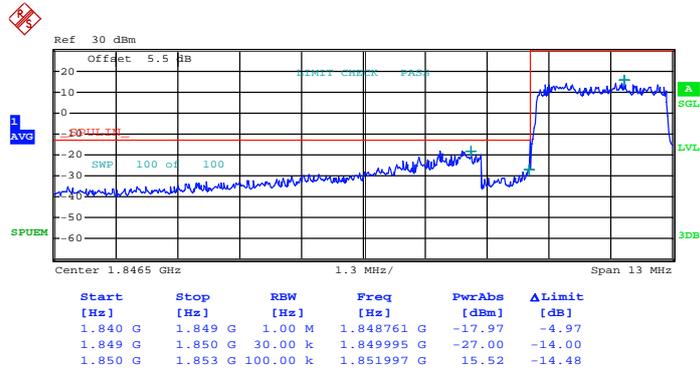
Band :	LTE Band 25	Band Width :	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 17:51:43

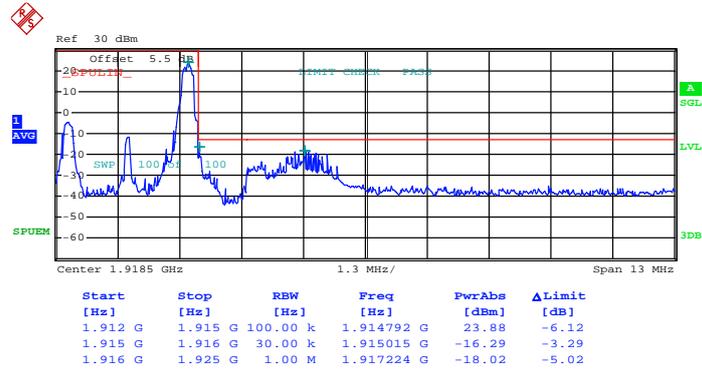
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 8.OCT.2014 18:13:22



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



Date: 8.OCT.2014 18:17:22

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



Date: 8.OCT.2014 18:18:56



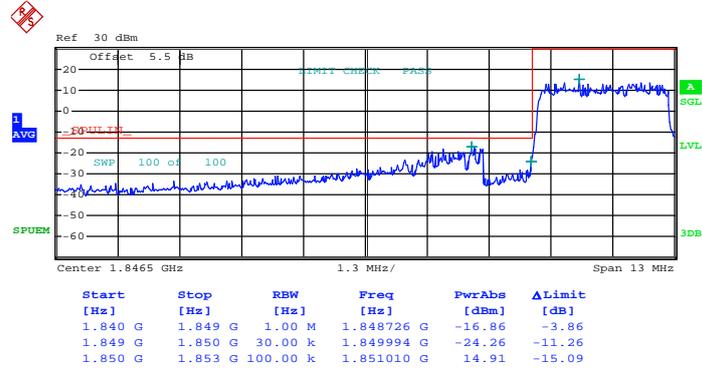
Band :	LTE Band 25	Band Width :	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 8.OCT.2014 17:52:17

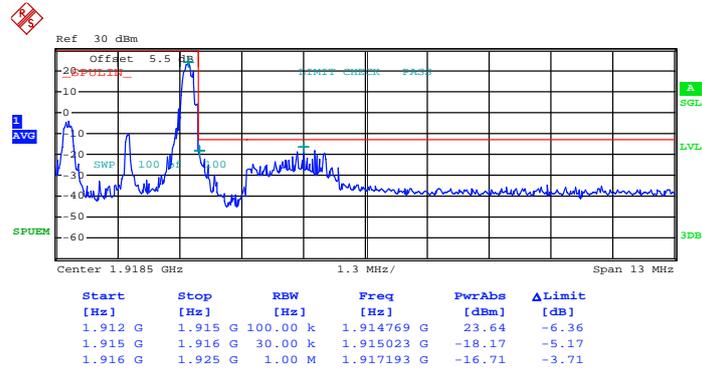
Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Date: 8.OCT.2014 18:13:59



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



Date: 8.OCT.2014 18:17:54

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

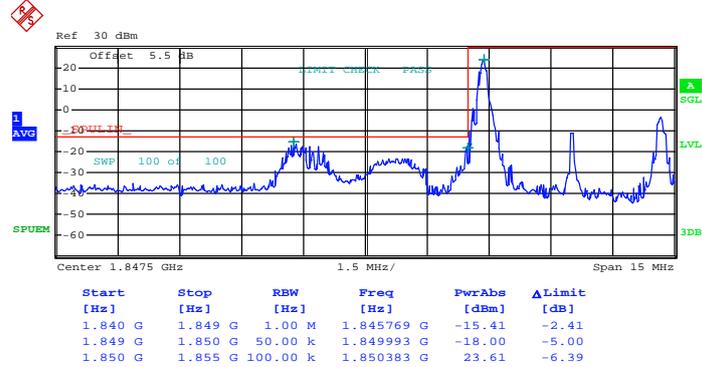


Date: 8.OCT.2014 18:19:31



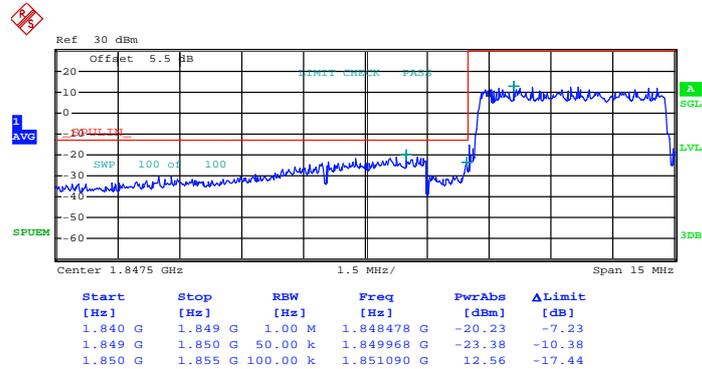
Band :	LTE Band 25	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 18:25:07

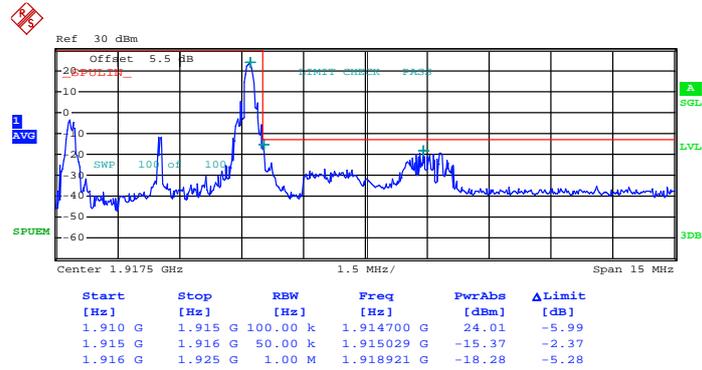
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 8.OCT.2014 18:27:44

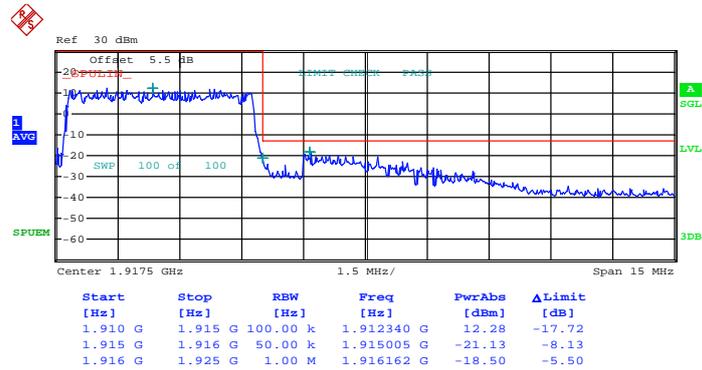


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 8.OCT.2014 18:32:22

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

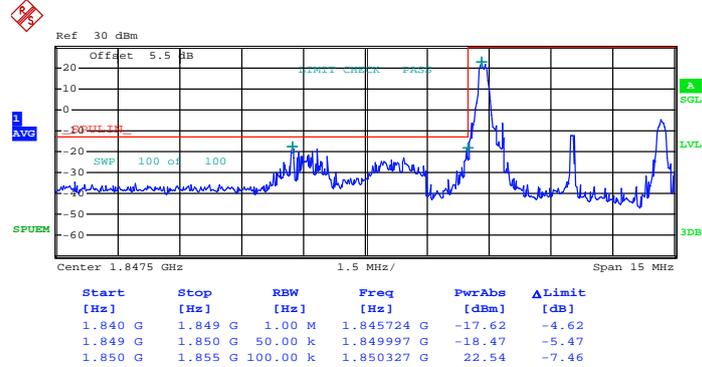


Date: 8.OCT.2014 18:33:47



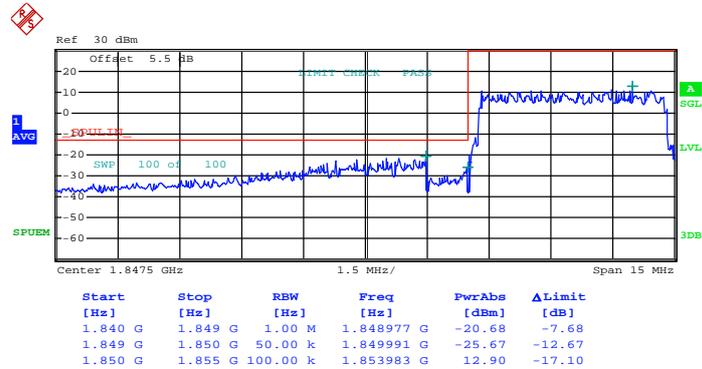
Band :	LTE Band 25	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 8.OCT.2014 18:26:14

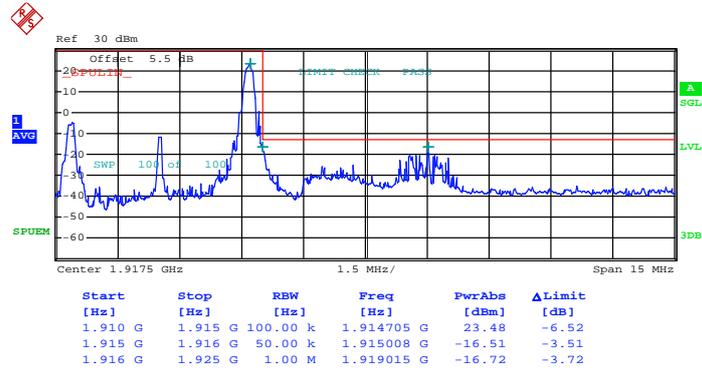
Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0



Date: 8.OCT.2014 18:28:21

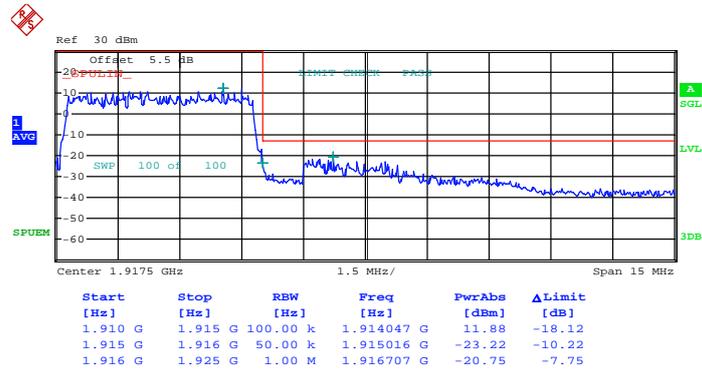


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24



Date: 8.OCT.2014 18:33:03

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

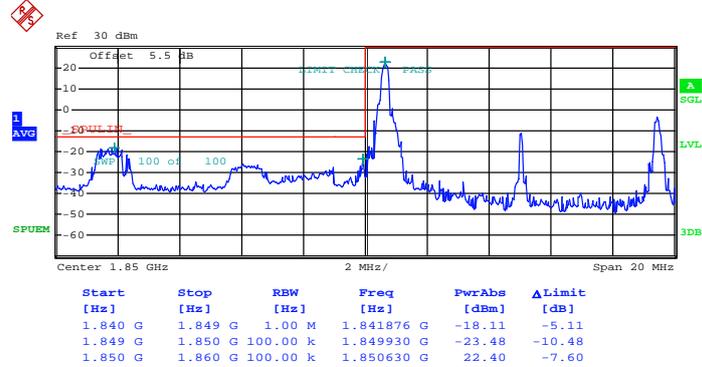


Date: 8.OCT.2014 18:34:28



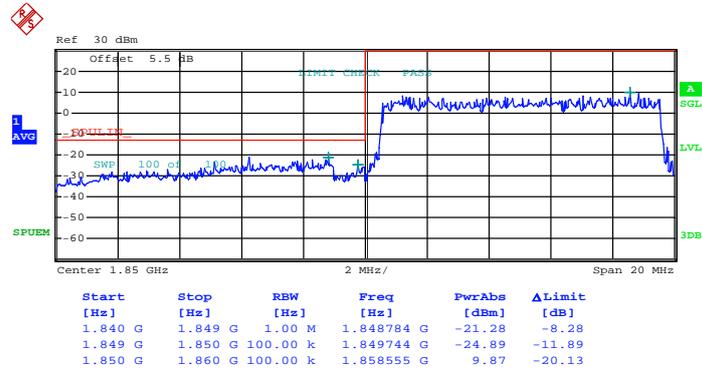
Band :	LTE Band 25	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 18:38:29

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



Date: 8.OCT.2014 18:40:11

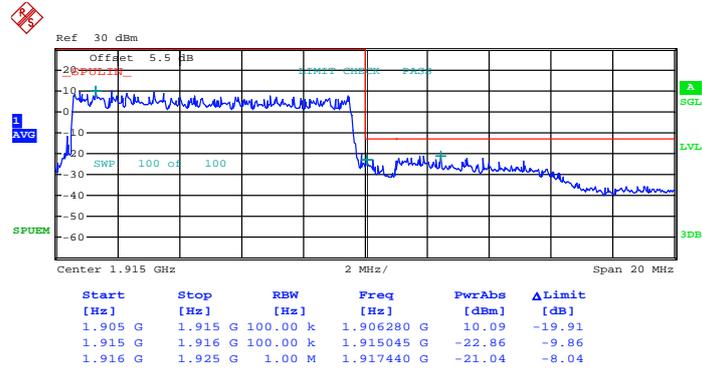


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 8.OCT.2014 19:01:45

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

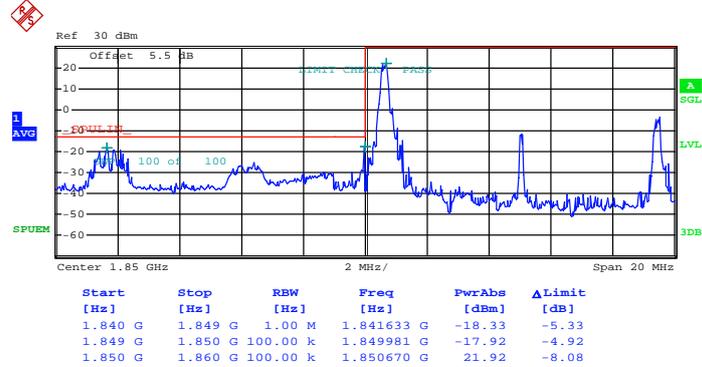


Date: 8.OCT.2014 19:03:47



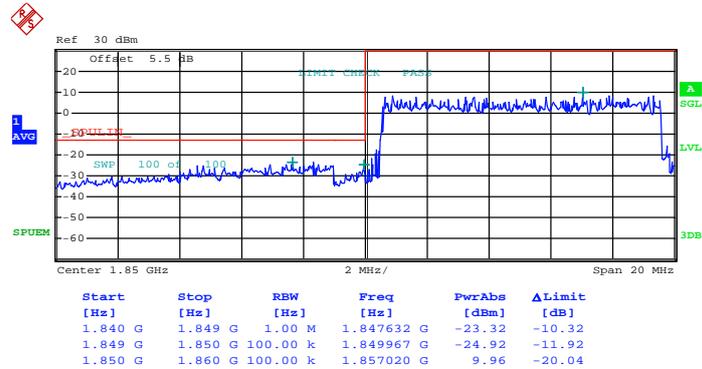
Band :	LTE Band 25	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 8.OCT.2014 18:39:06

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



Date: 8.OCT.2014 18:40:52

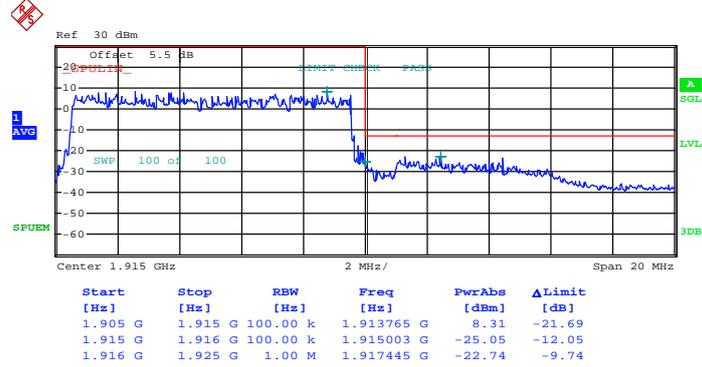


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



Date: 8.OCT.2014 19:02:39

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



Date: 8.OCT.2014 19:04:24



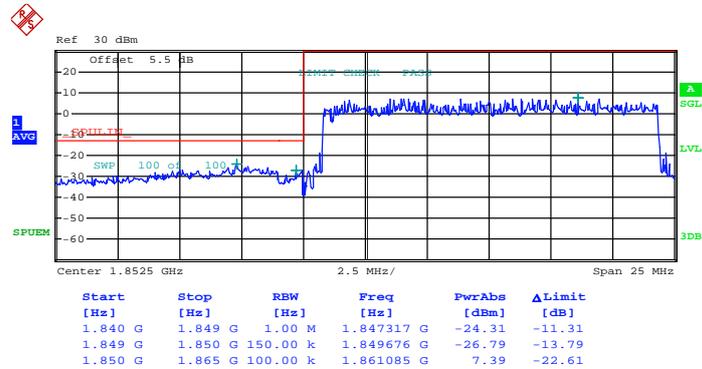
Band :	LTE Band 25	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 19:08:13

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



Date: 8.OCT.2014 19:09:31

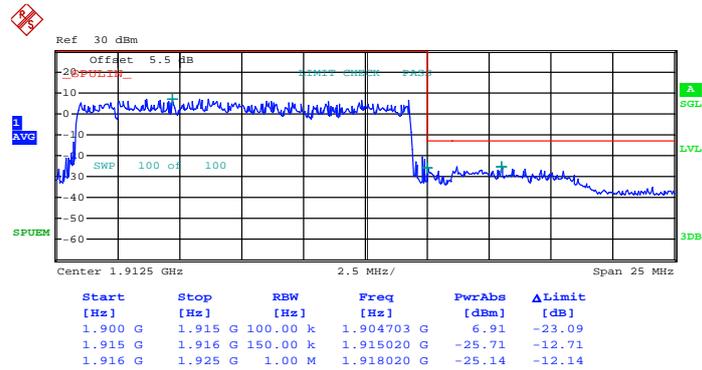


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 8.OCT.2014 19:13:53

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



Date: 8.OCT.2014 19:15:47



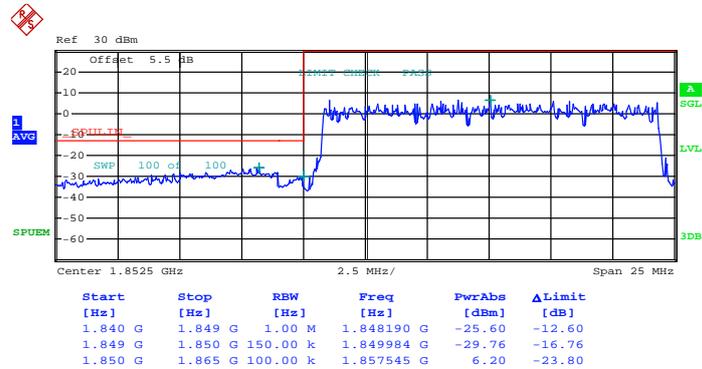
Band :	LTE Band 25	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.OCT.2014 19:08:47

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



Date: 8.OCT.2014 19:10:10

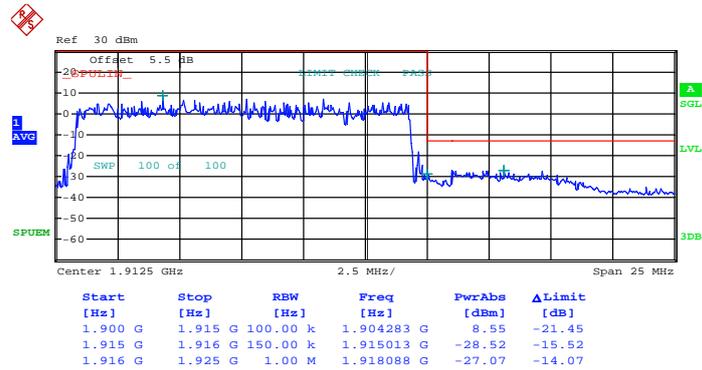


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 8.OCT.2014 19:14:57

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



Date: 8.OCT.2014 19:16:19



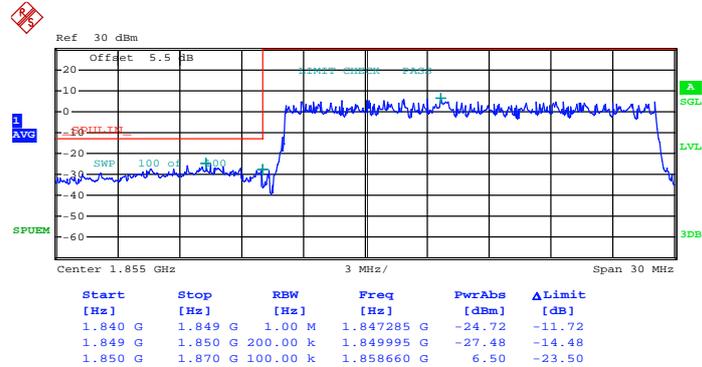
Band :	LTE Band 25	Band Width :	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.OCT.2014 19:19:14

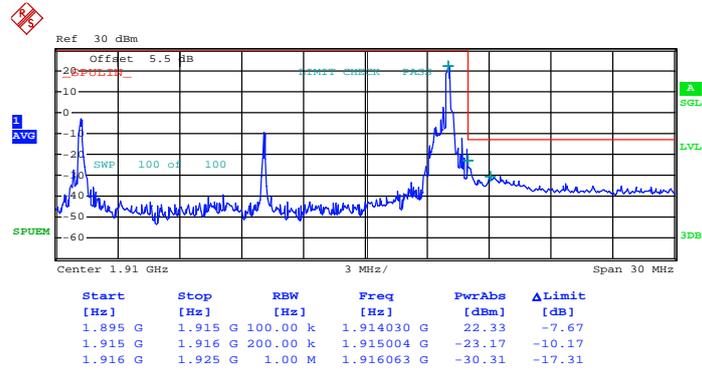
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 8.OCT.2014 19:20:58

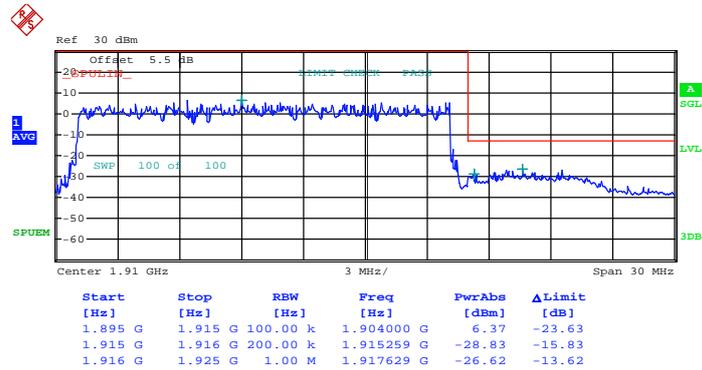


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 8.OCT.2014 19:23:49

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

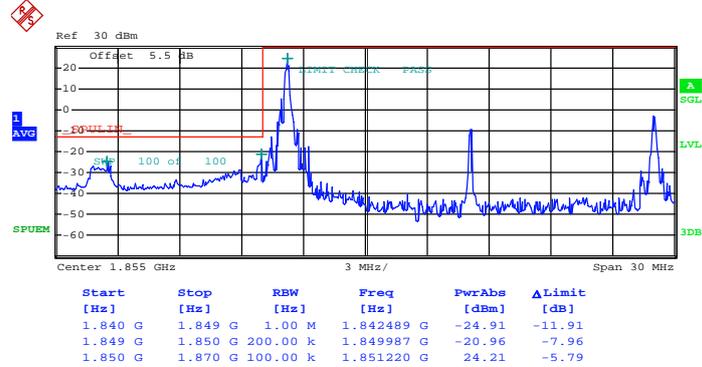


Date: 8.OCT.2014 19:27:08



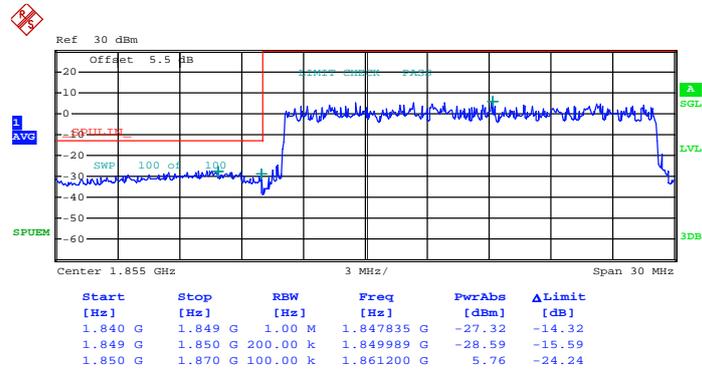
Band :	LTE Band 25	Band Width :	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.OCT.2014 19:20:06

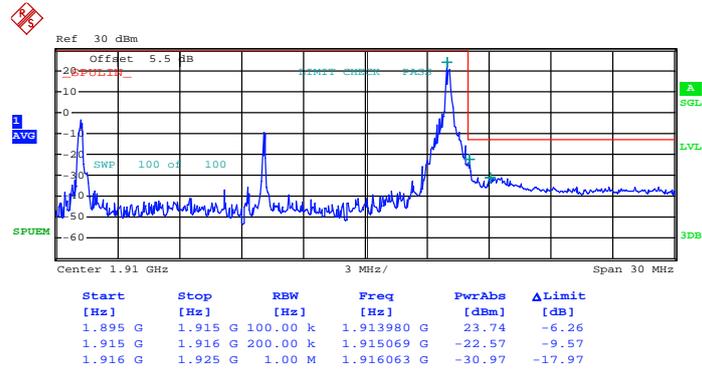
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 8.OCT.2014 19:21:29

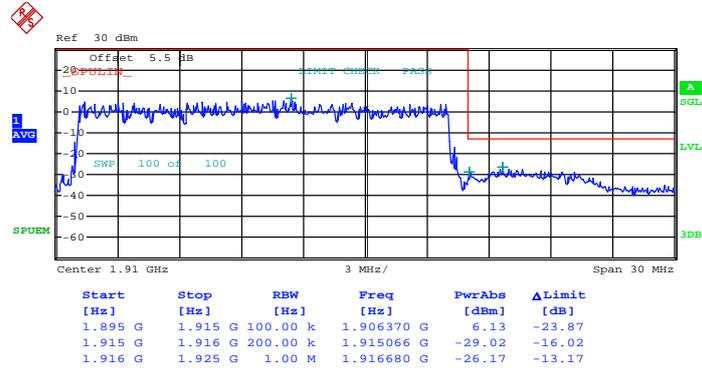


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 8.OCT.2014 19:25:01

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

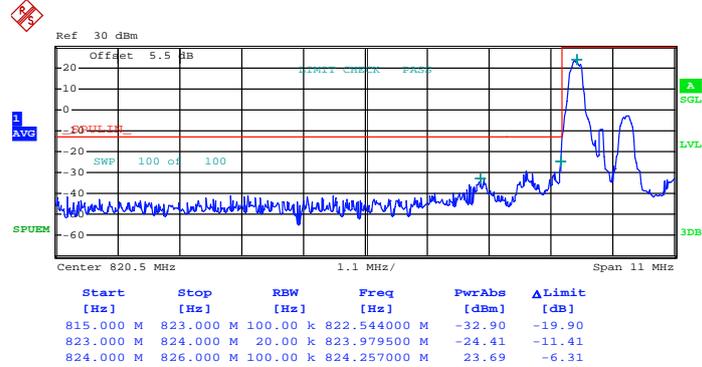


Date: 8.OCT.2014 19:28:43



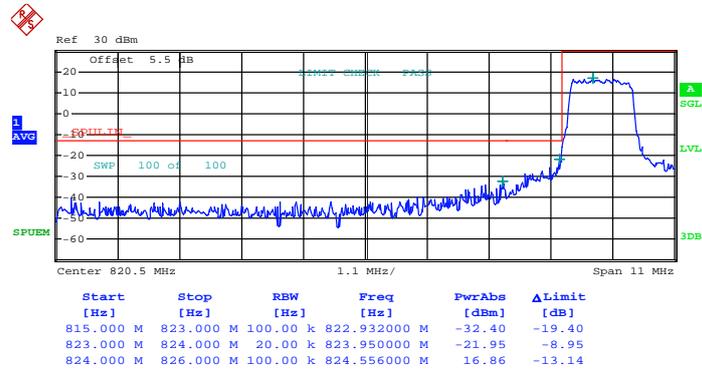
Band :	LTE Band 26	Band Width :	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.OCT.2014 17:51:11

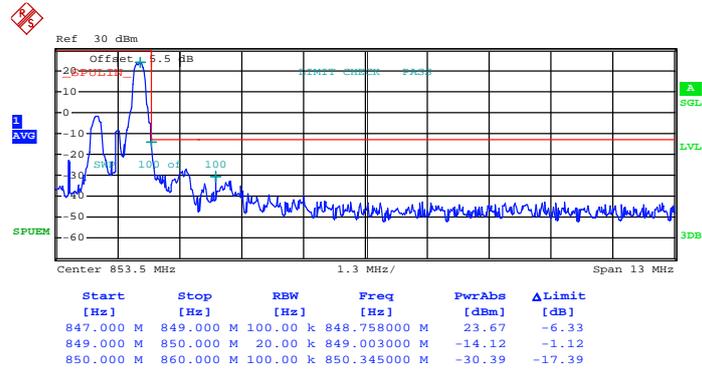
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 10.OCT.2014 17:54:02

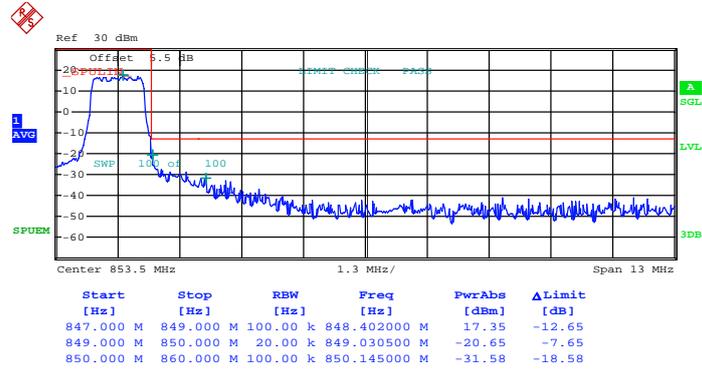


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 10.OCT.2014 17:57:35

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

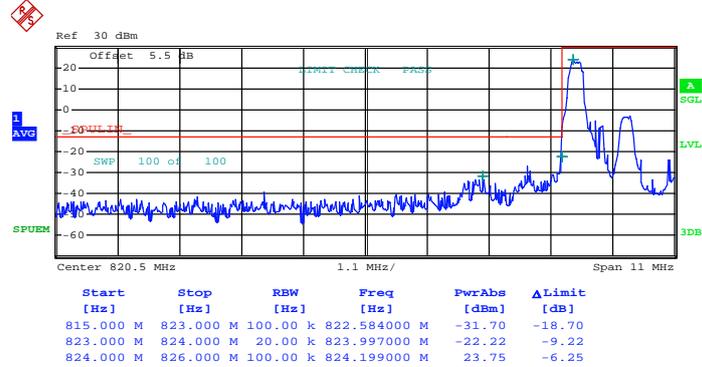


Date: 10.OCT.2014 17:59:38



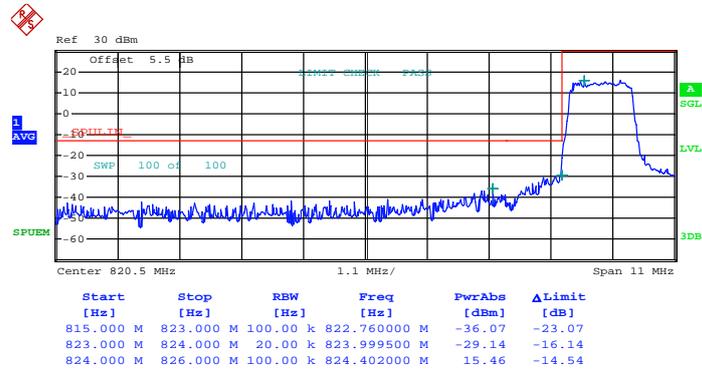
Band :	LTE Band 26	Band Width :	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 10.OCT.2014 17:52:50

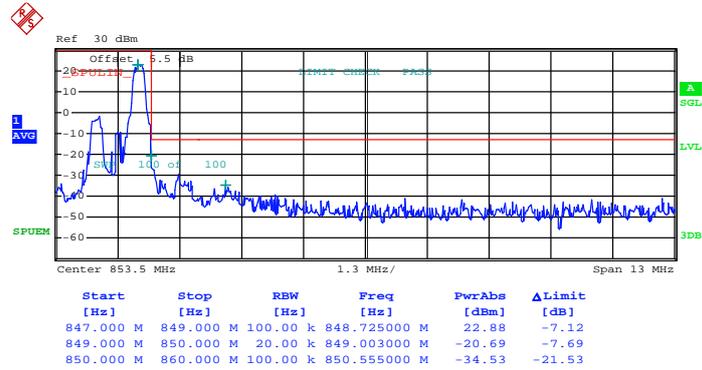
Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 10.OCT.2014 17:54:59

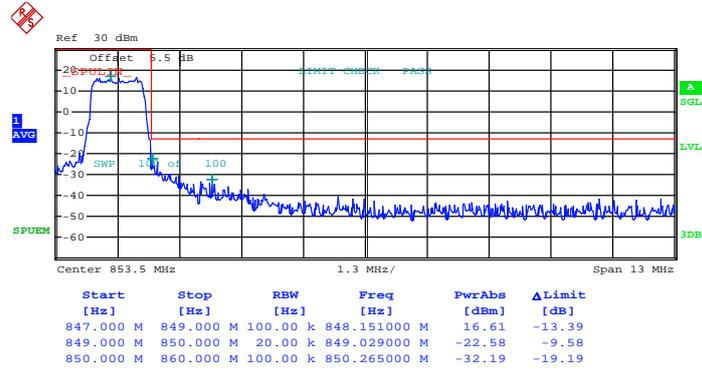


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 10.OCT.2014 17:58:20

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

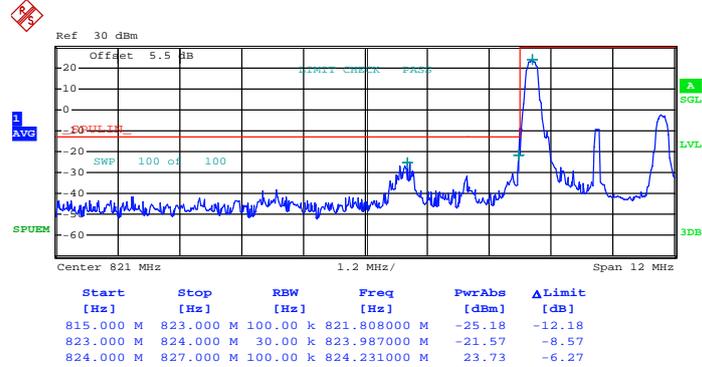


Date: 10.OCT.2014 18:00:20



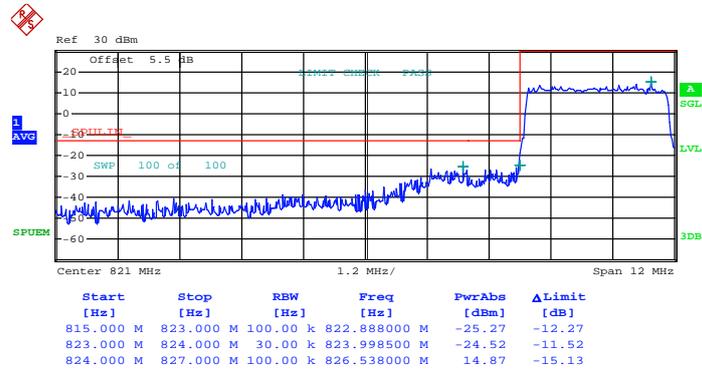
Band :	LTE Band 26	Band Width :	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:04:07

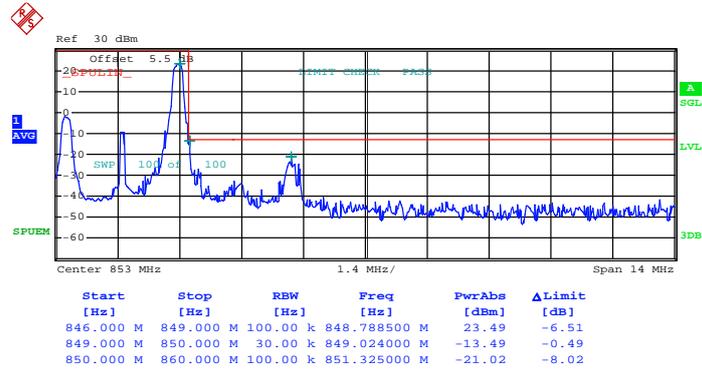
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 10.OCT.2014 18:05:39

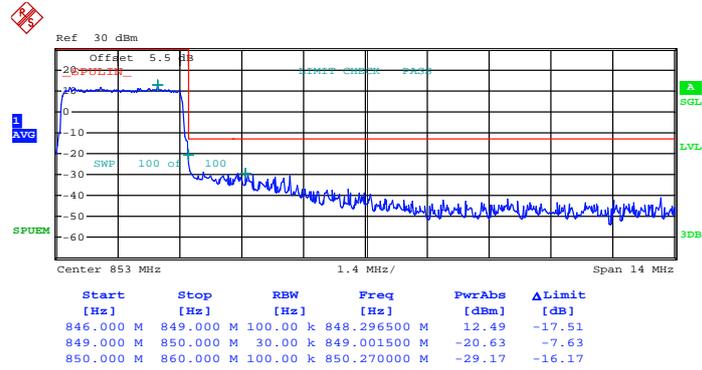


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 10.OCT.2014 18:15:10

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

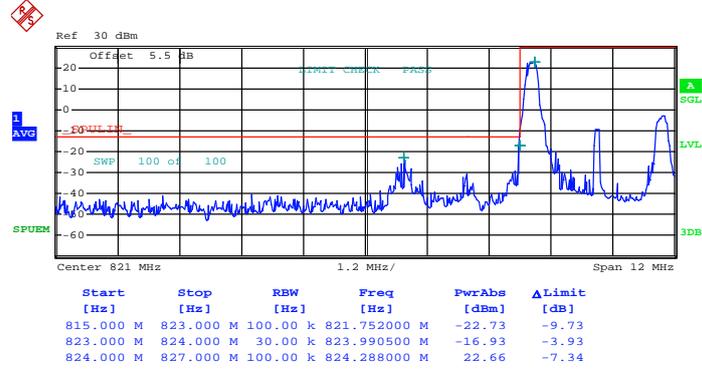


Date: 10.OCT.2014 18:18:57



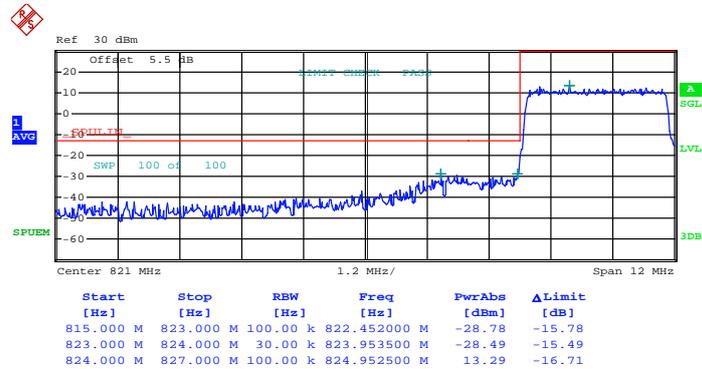
Band :	LTE Band 26	Band Width :	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:04:41

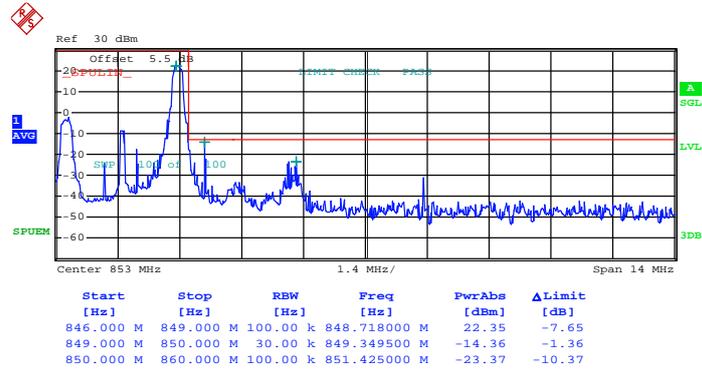
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Date: 10.OCT.2014 18:06:16

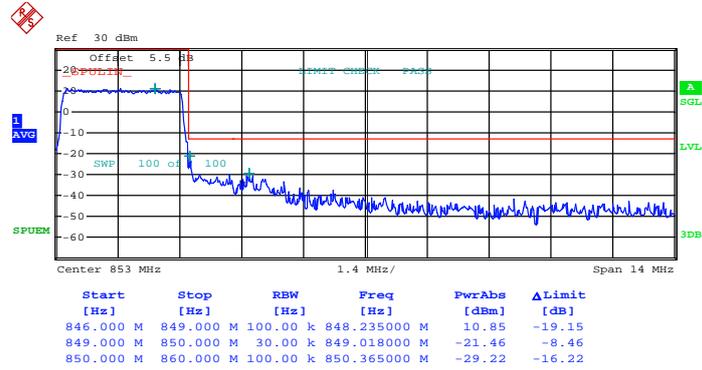


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



Date: 10.OCT.2014 18:16:02

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

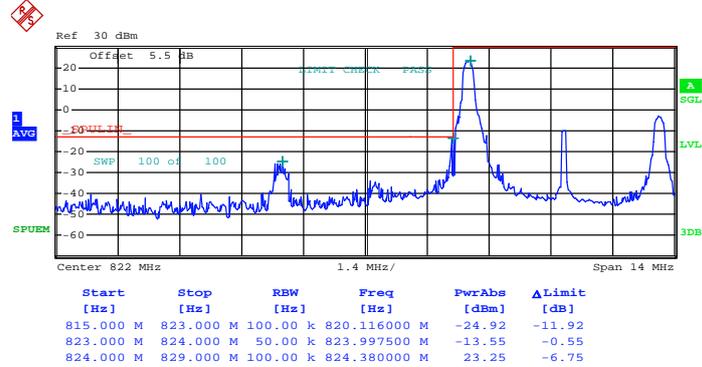


Date: 10.OCT.2014 18:19:46



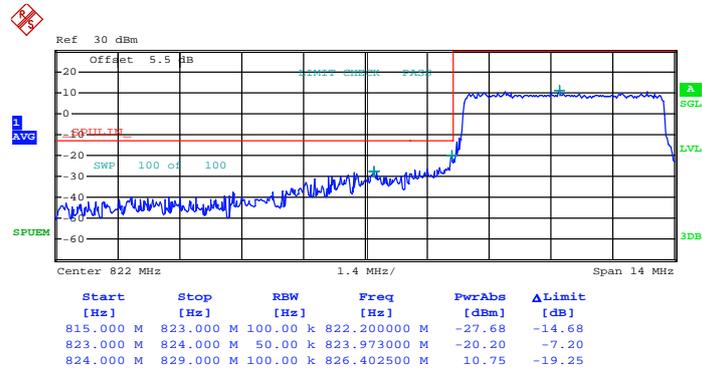
Band :	LTE Band 26	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:24:04

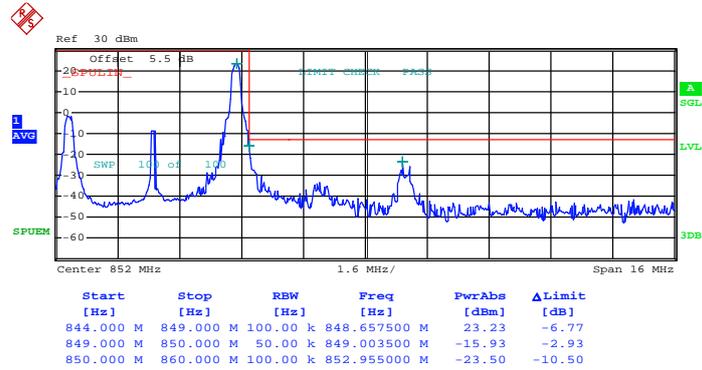
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 10.OCT.2014 18:25:48

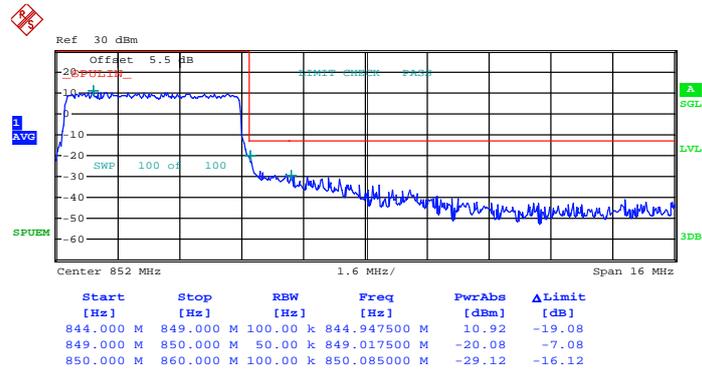


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 10.OCT.2014 18:32:02

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

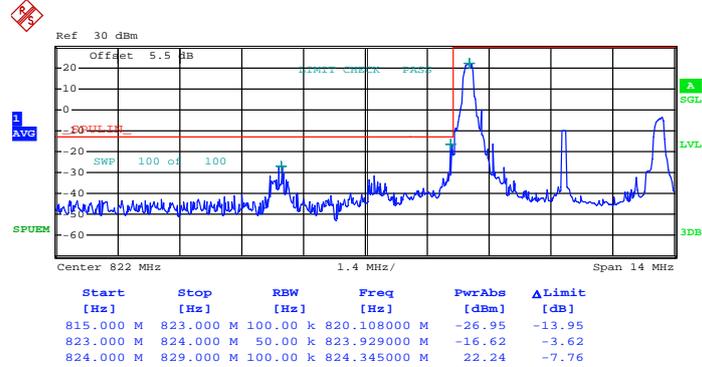


Date: 10.OCT.2014 18:37:54



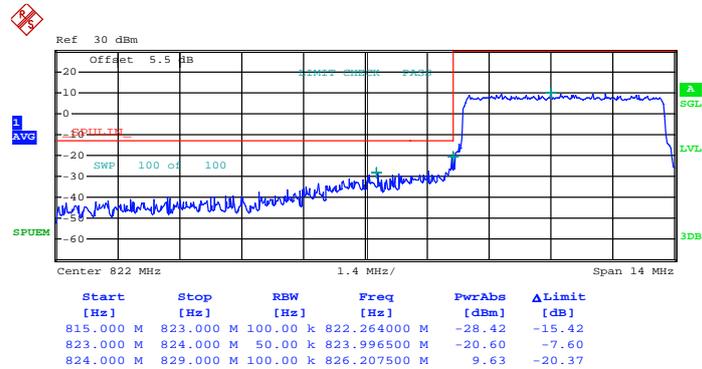
Band :	LTE Band 26	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:24:53

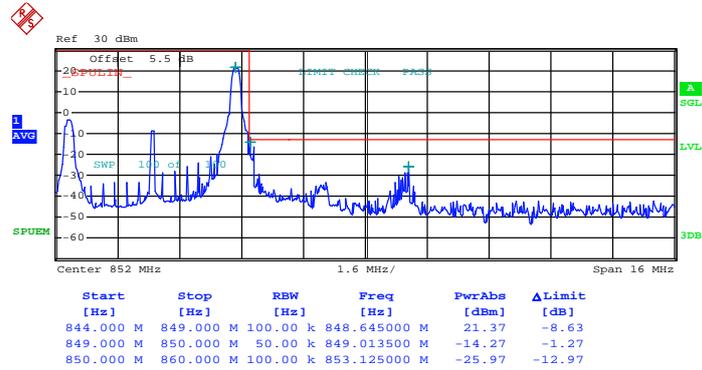
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 10.OCT.2014 18:26:37

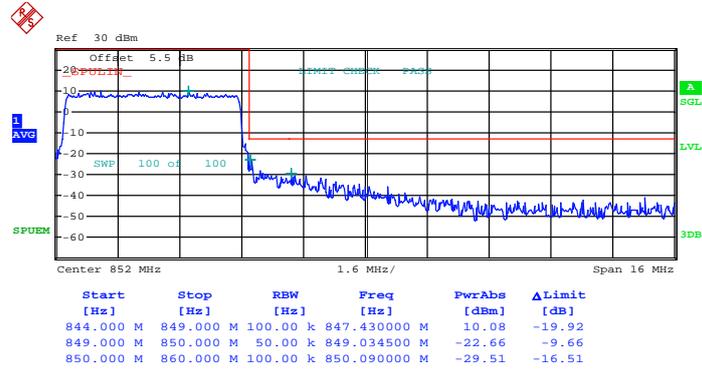


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 10.OCT.2014 18:36:52

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

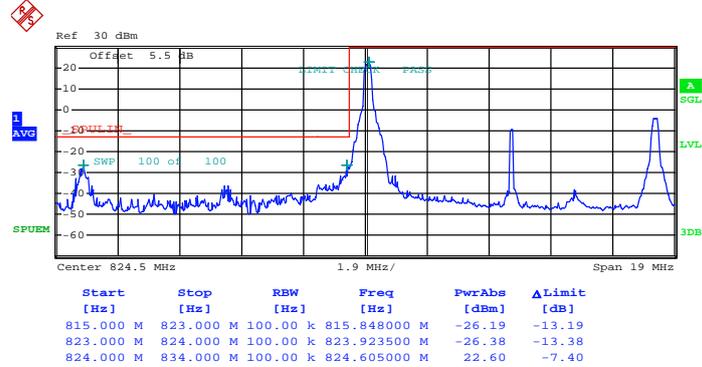


Date: 10.OCT.2014 18:38:43



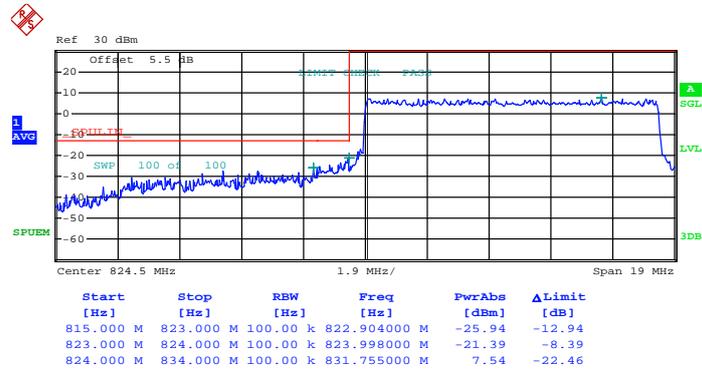
Band :	LTE Band 26	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:42:46

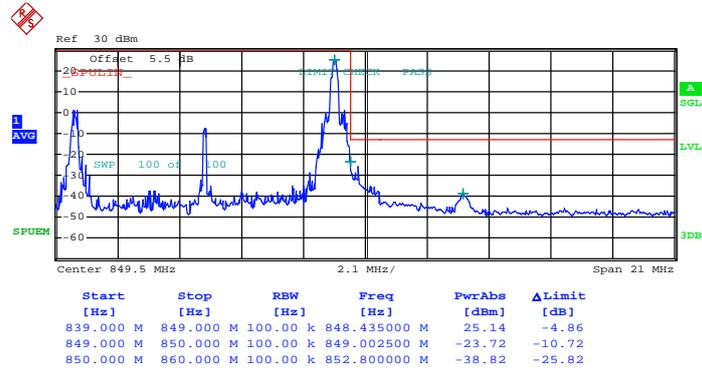
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 10.OCT.2014 18:44:37

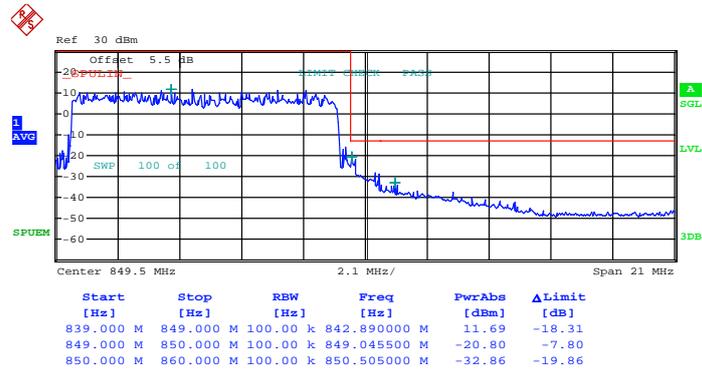


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 10.OCT.2014 19:02:11

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

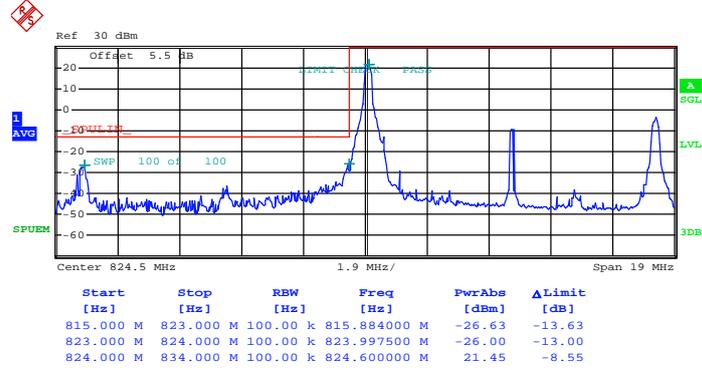


Date: 10.OCT.2014 19:04:39



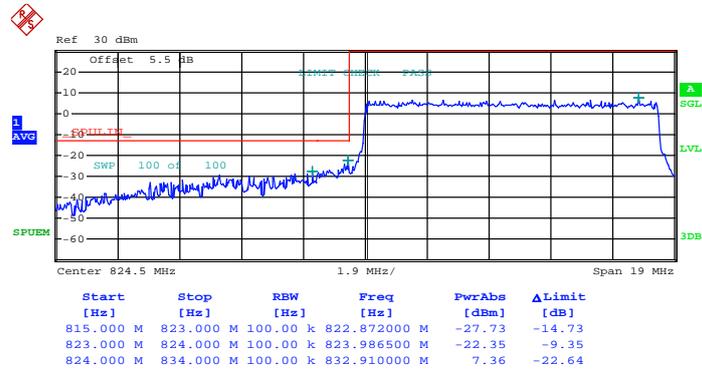
Band :	LTE Band 26	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 10.OCT.2014 18:43:39

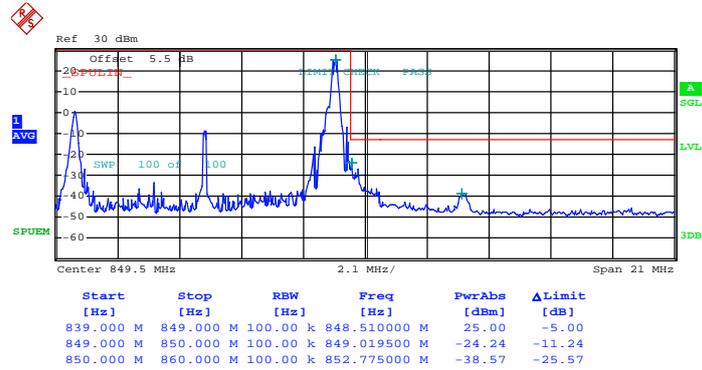
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 10.OCT.2014 19:00:02

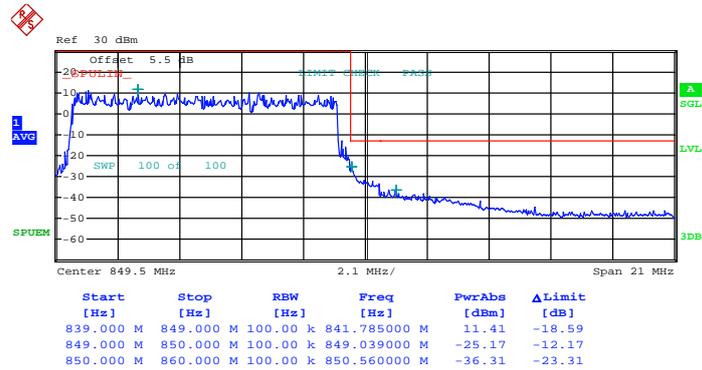


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 10.OCT.2014 19:03:19

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

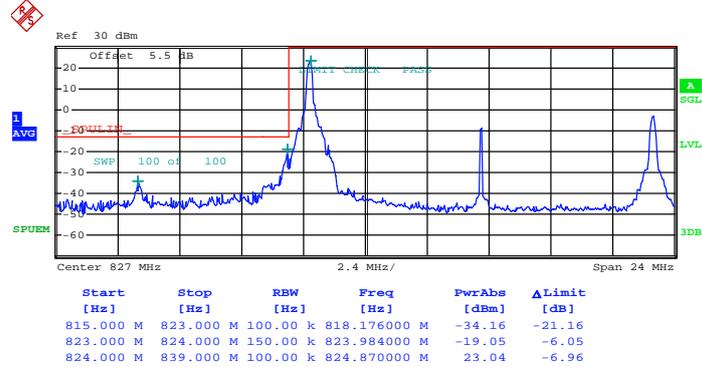


Date: 10.OCT.2014 19:05:35



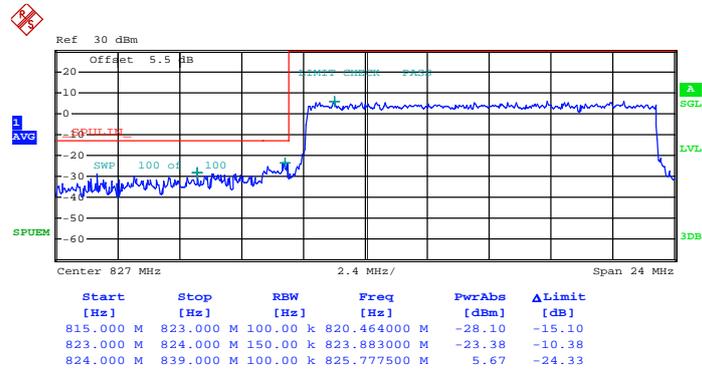
Band :	LTE Band 26	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.OCT.2014 19:08:03

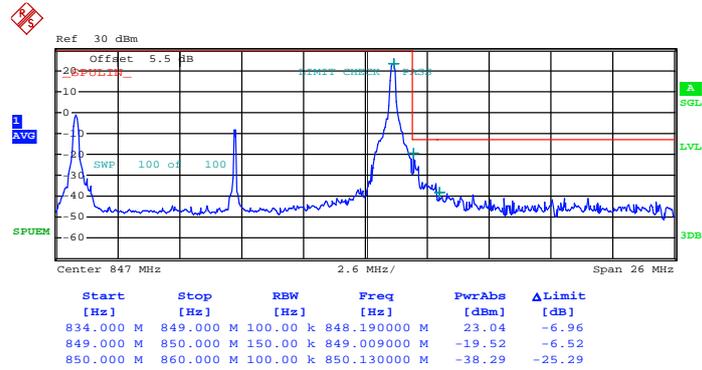
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 10.OCT.2014 19:10:13

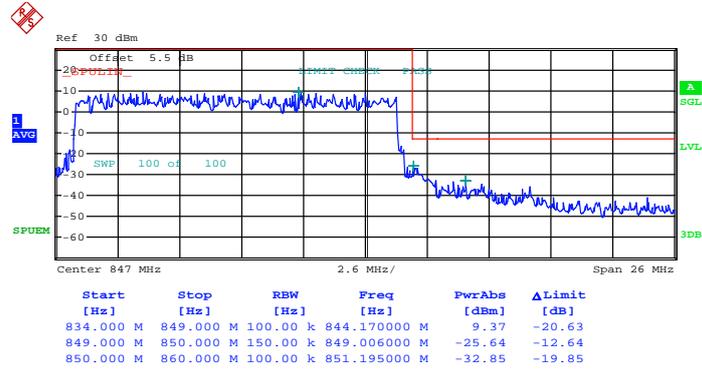


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 10.OCT.2014 19:14:01

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

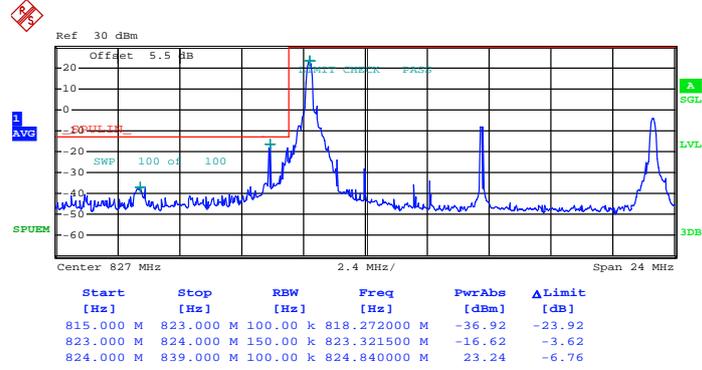


Date: 10.OCT.2014 19:15:49



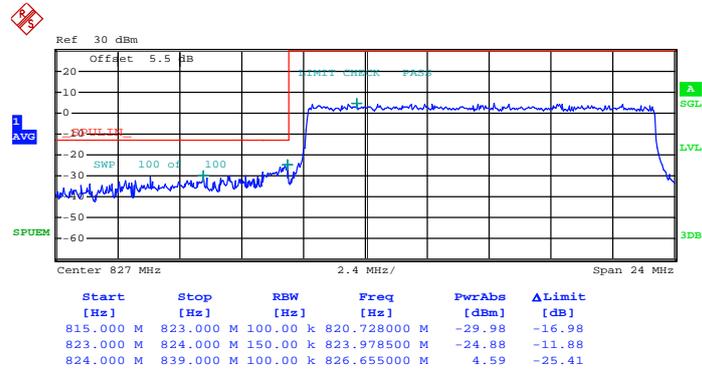
Band :	LTE Band 26	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 10.OCT.2014 19:08:50

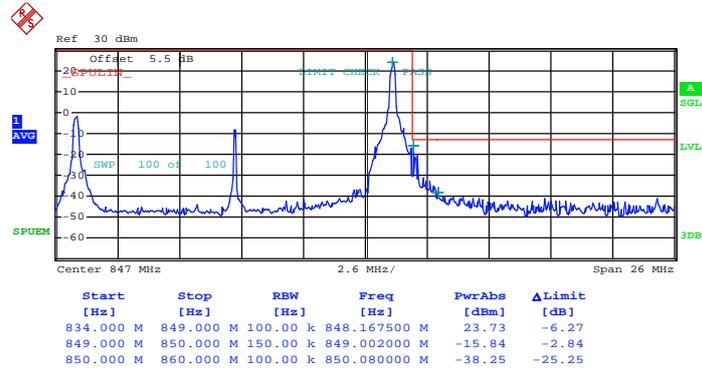
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 10.OCT.2014 19:11:05

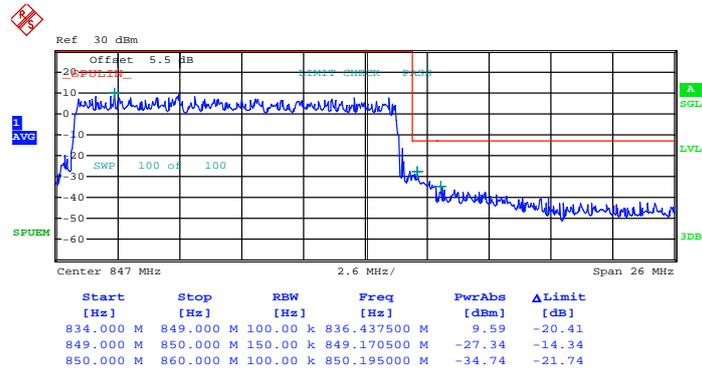


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 10.OCT.2014 19:14:53

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

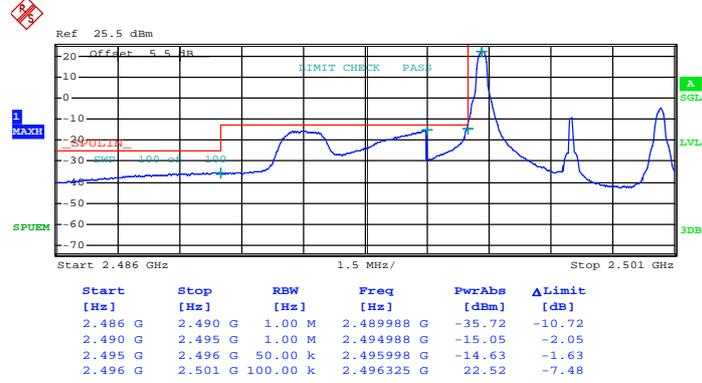


Date: 10.OCT.2014 19:16:38



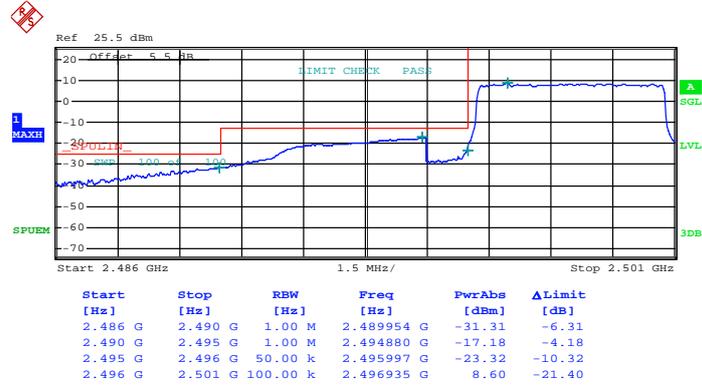
Band :	LTE Band 41	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.OCT.2014 16:08:46

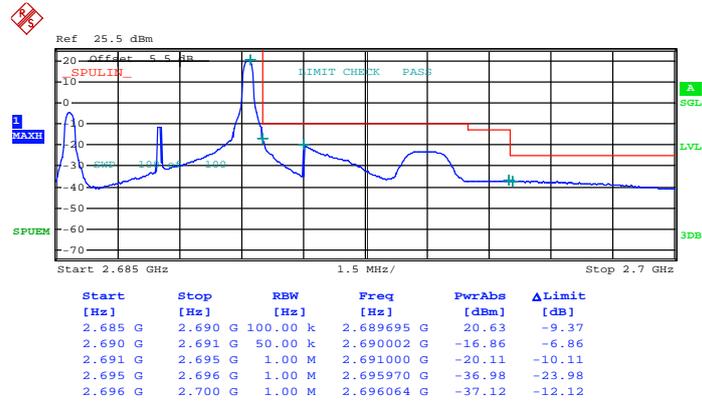
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 9.OCT.2014 16:24:17

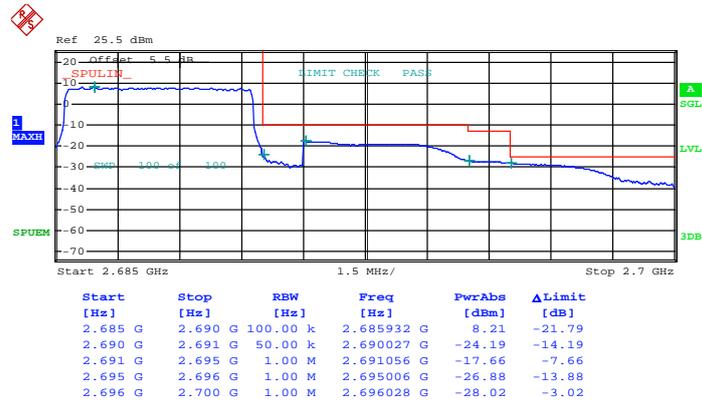


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 9.OCT.2014 16:44:43

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

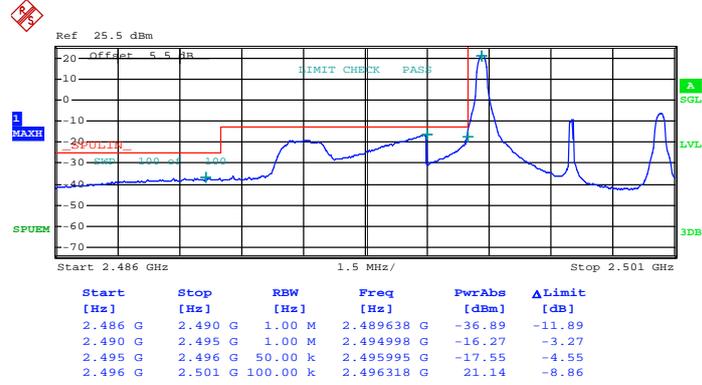


Date: 9.OCT.2014 17:03:15



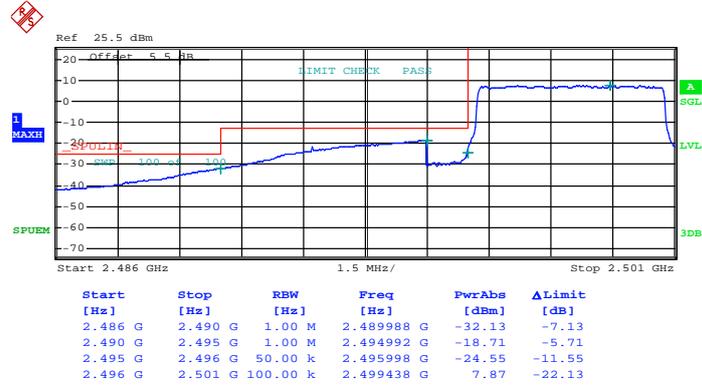
Band :	LTE Band 41	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.OCT.2014 16:16:20

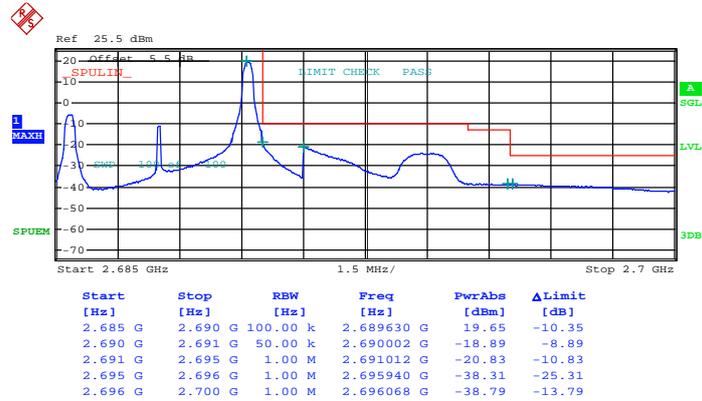
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 9.OCT.2014 16:31:30

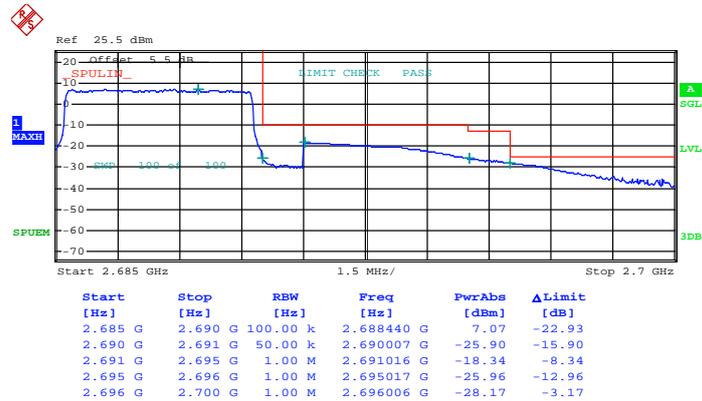


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 9.OCT.2014 16:53:33

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

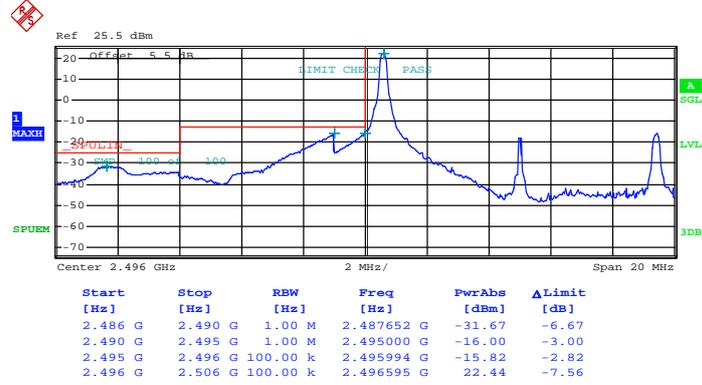


Date: 9.OCT.2014 17:12:16



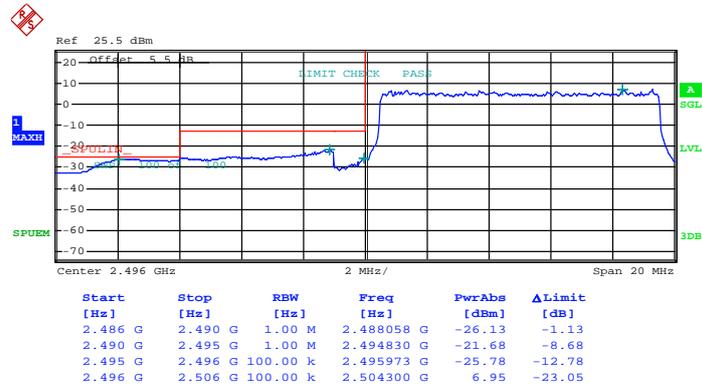
Band :	LTE Band 41	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.OCT.2014 15:12:28

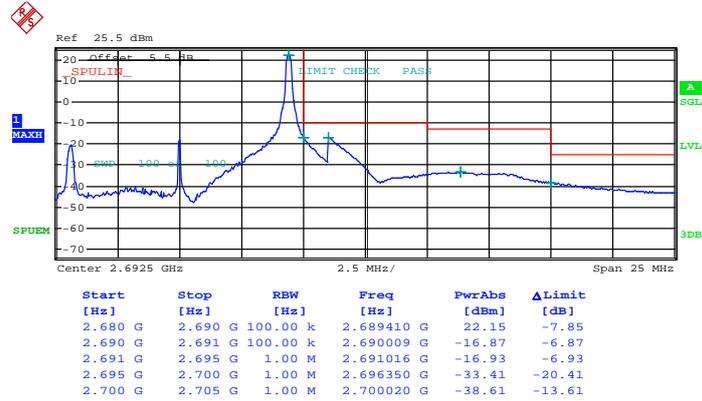
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 17.OCT.2014 15:18:42

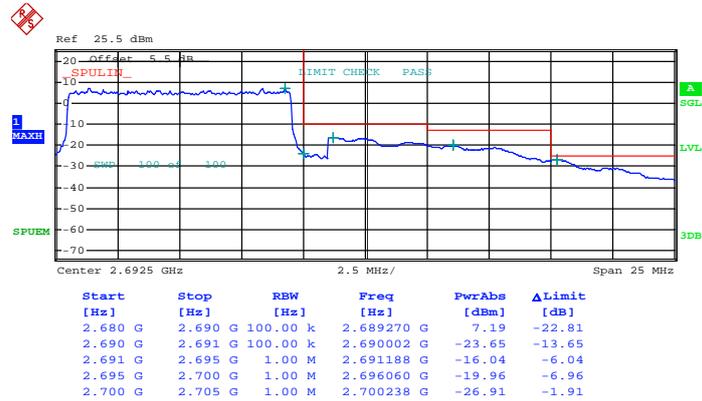


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 17.OCT.2014 17:21:31

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

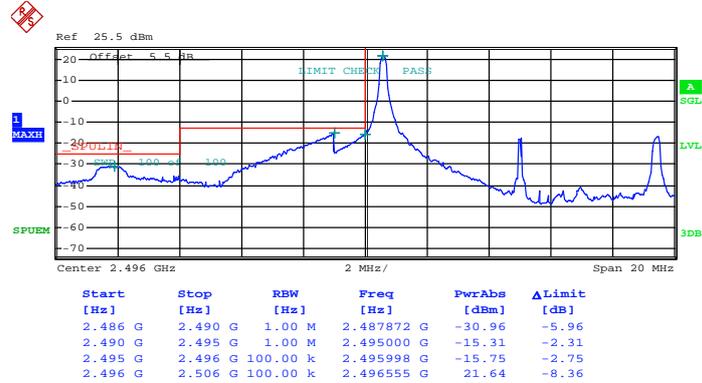


Date: 17.OCT.2014 17:17:18



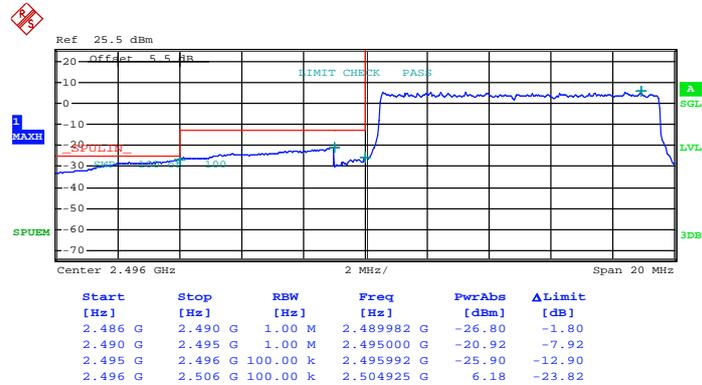
Band :	LTE Band 41	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 17.OCT.2014 15:14:32

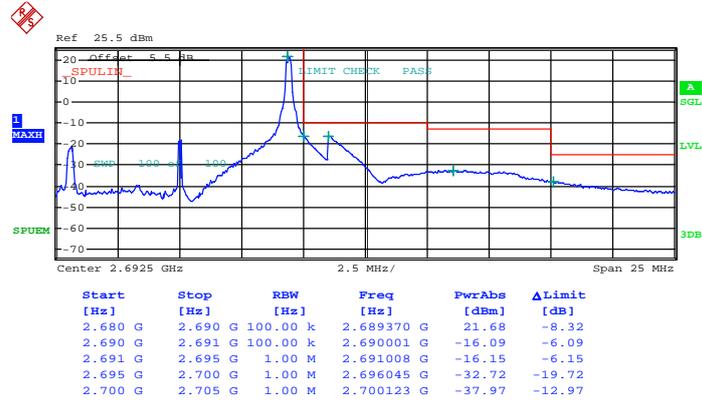
Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



Date: 17.OCT.2014 15:23:10

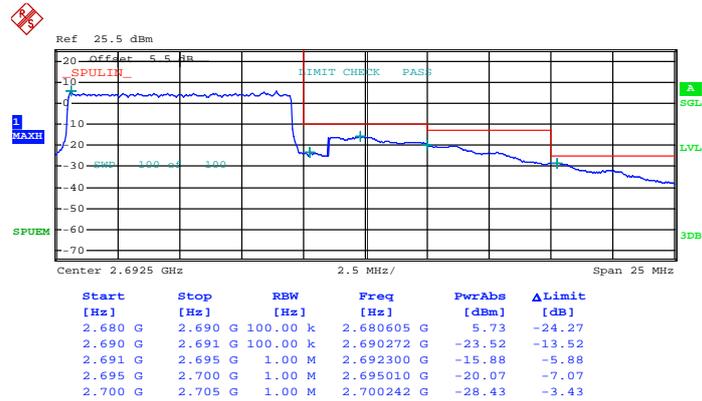


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



Date: 17.OCT.2014 17:46:06

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

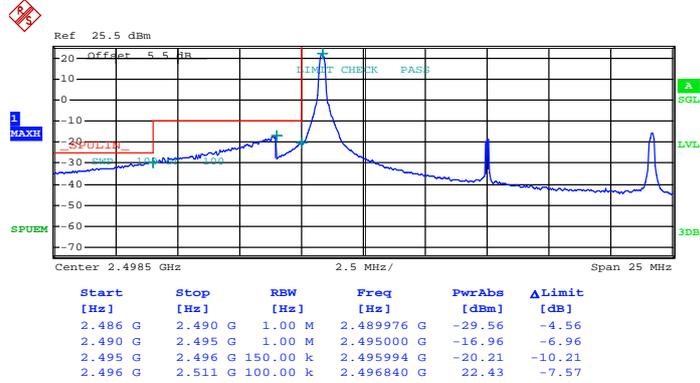


Date: 17.OCT.2014 17:19:19



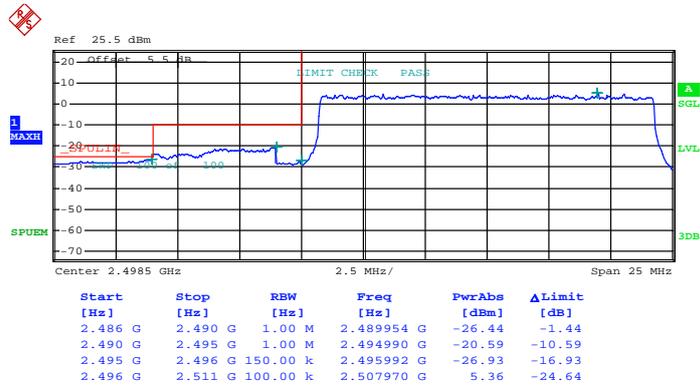
Band :	LTE Band 41	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.OCT.2014 17:55:11

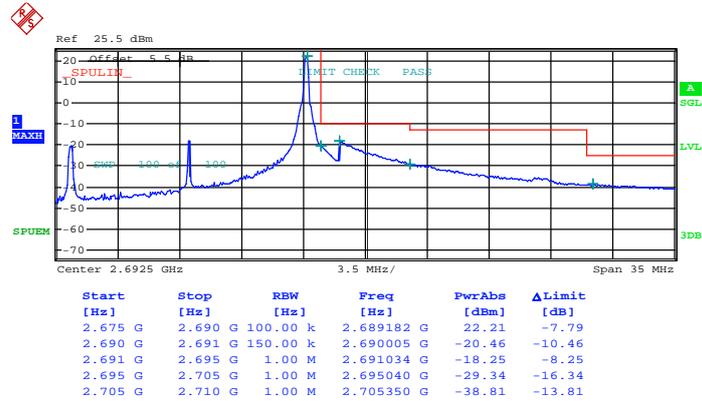
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 17.OCT.2014 18:06:46

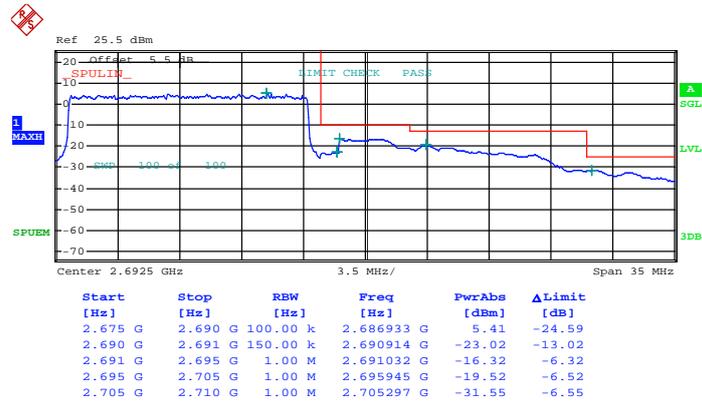


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 17.OCT.2014 18:42:00

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

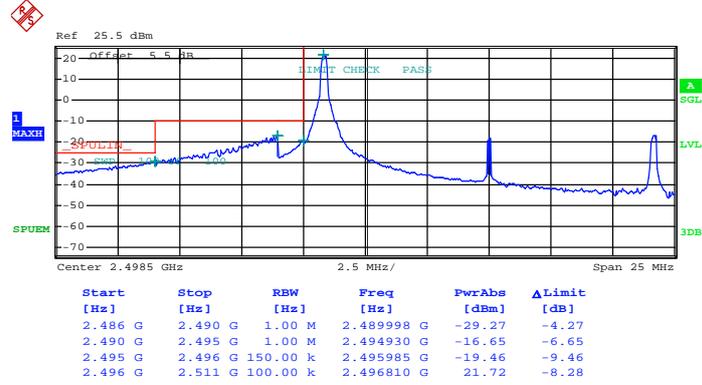


Date: 17.OCT.2014 18:46:29



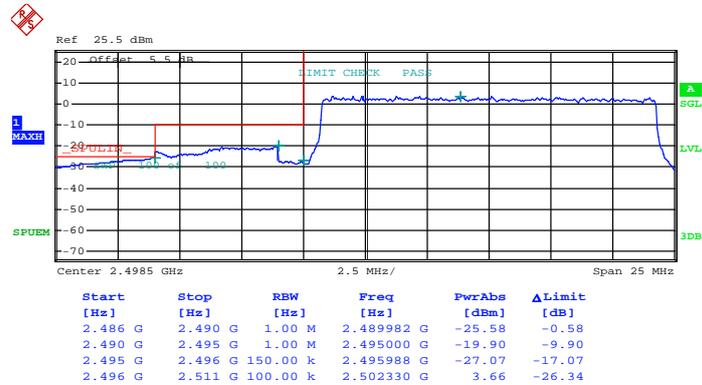
Band :	LTE Band 41	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 17.OCT.2014 17:57:02

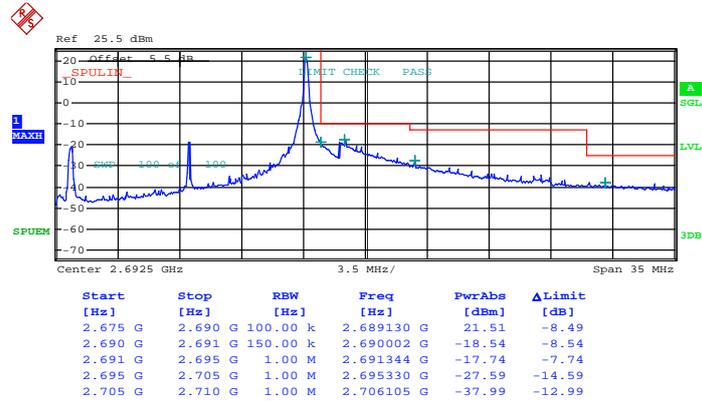
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 17.OCT.2014 18:09:28

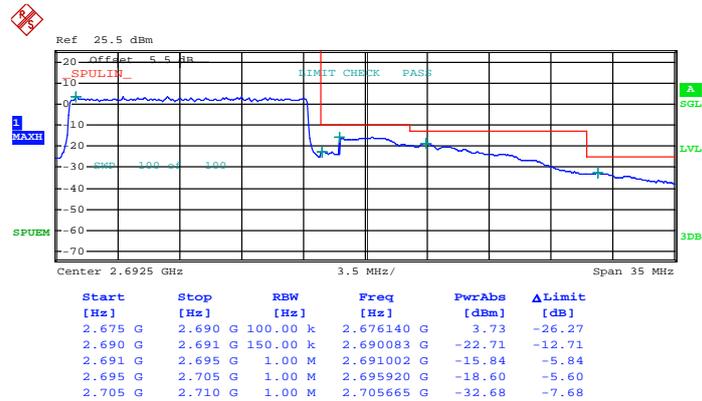


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 17.OCT.2014 18:44:05

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

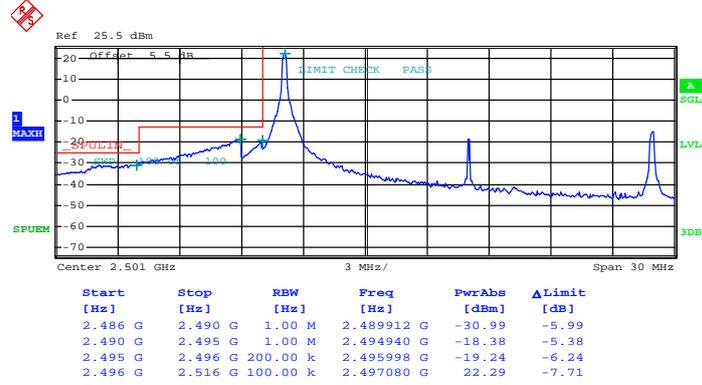


Date: 17.OCT.2014 18:48:36



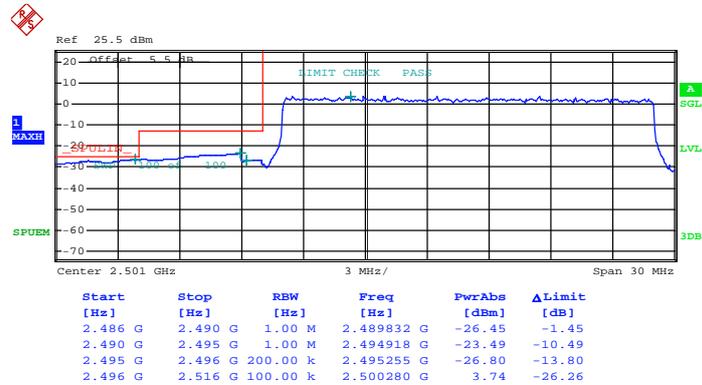
Band :	LTE Band 41	Band Width :	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 17.OCT.2014 19:00:55

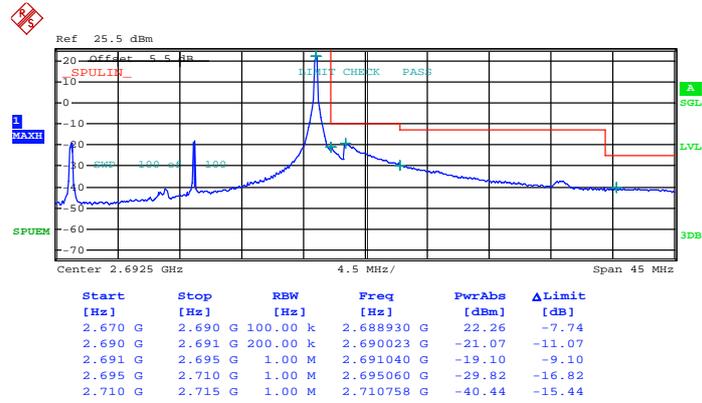
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 17.OCT.2014 19:08:27



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



Date: 17.OCT.2014 19:19:57

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

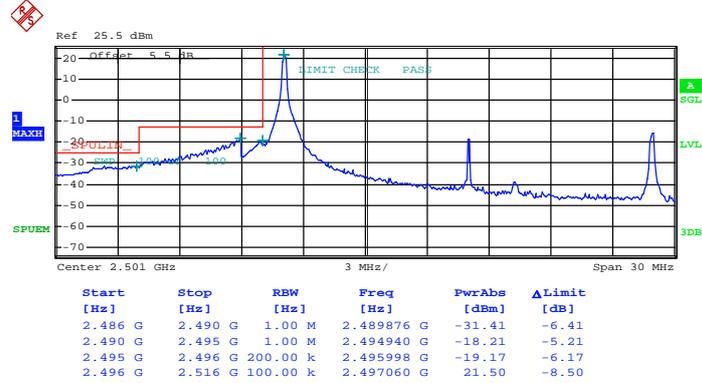


Date: 17.OCT.2014 19:24:09



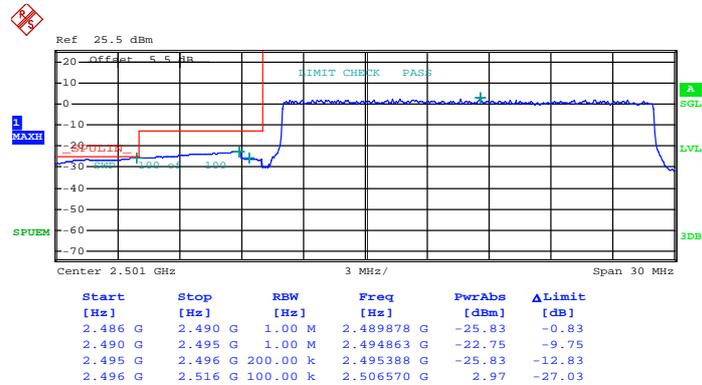
Band :	LTE Band 41	Band Width :	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 17.OCT.2014 19:02:51

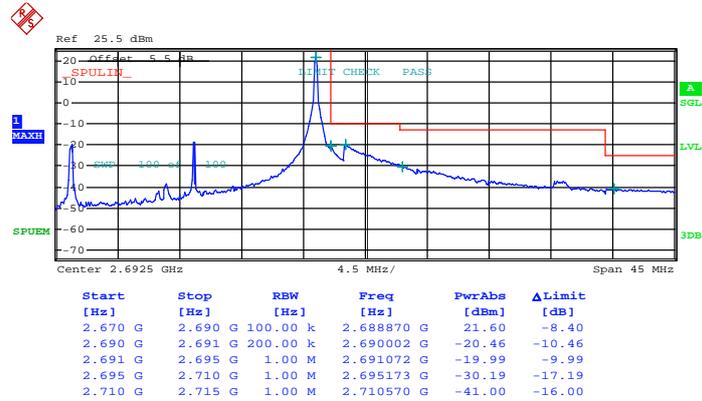
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 17.OCT.2014 19:12:54

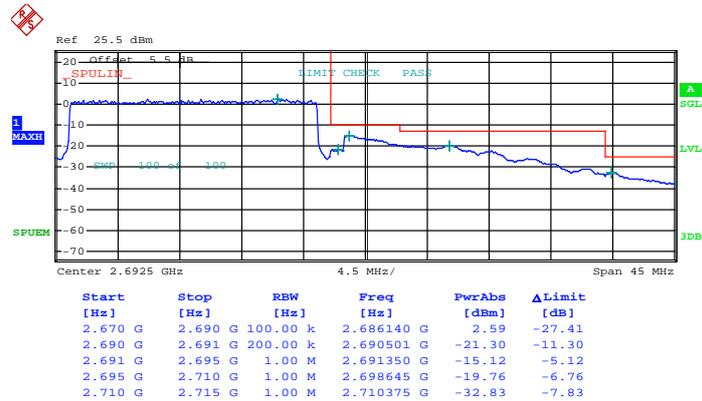


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 17.OCT.2014 19:22:03

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



Date: 17.OCT.2014 19:26:42



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 10th harmonic.

3.6.2 Measuring Instruments

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

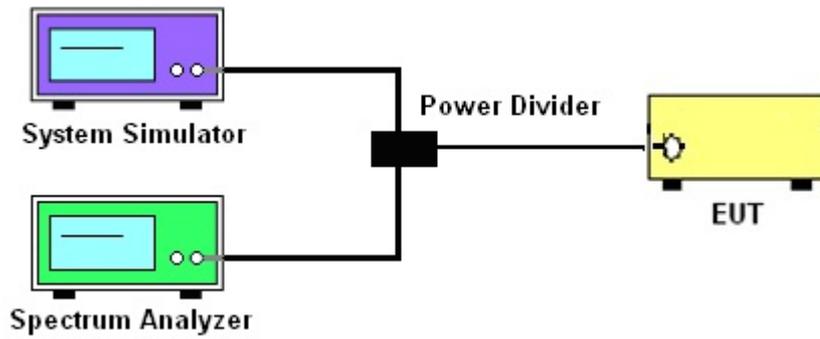
3.6.3 Test Procedures

1. The EUT was 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

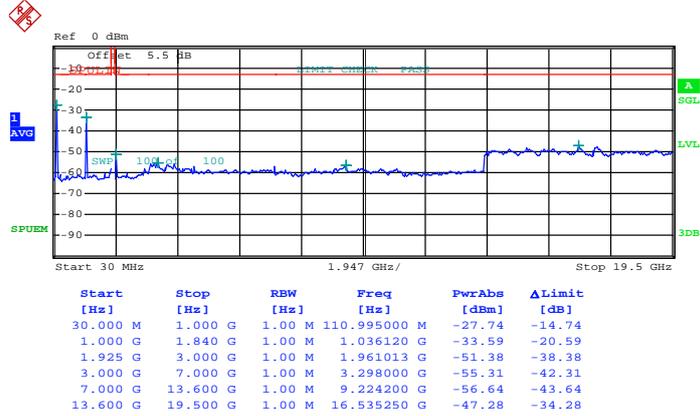




3.6.5 Test Result (Plots) of Conducted Spurious Emission

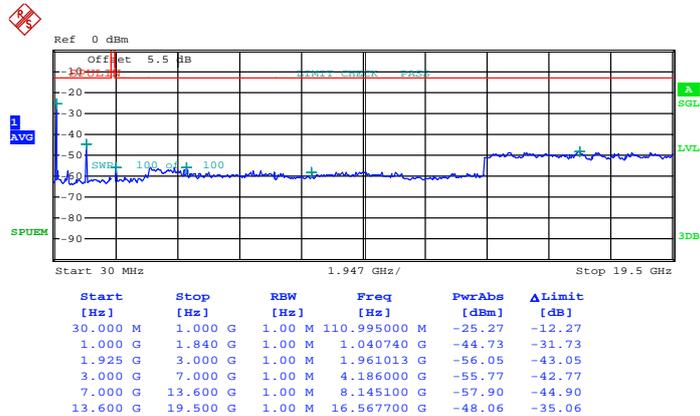
Band :	LTE Band 25	Channel :	CH26047 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 8.OCT.2014 14:34:49

16QAM (RB Size 1, RB Offset 5)

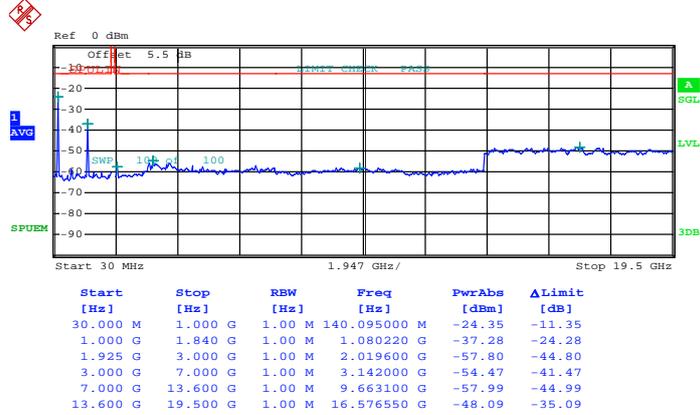


Date: 8.OCT.2014 14:38:38



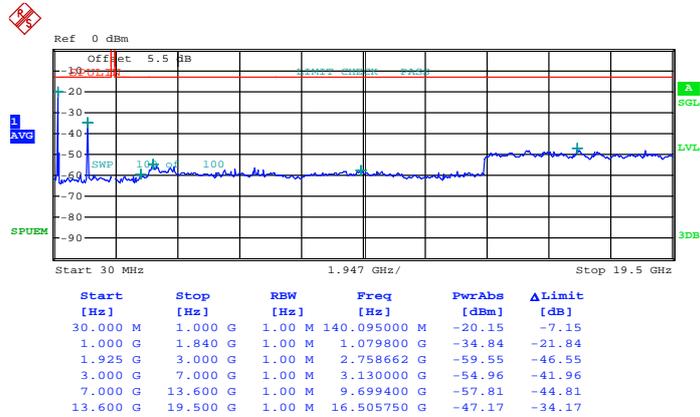
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 8.OCT.2014 13:00:04

16QAM (RB Size 1, RB Offset 5)

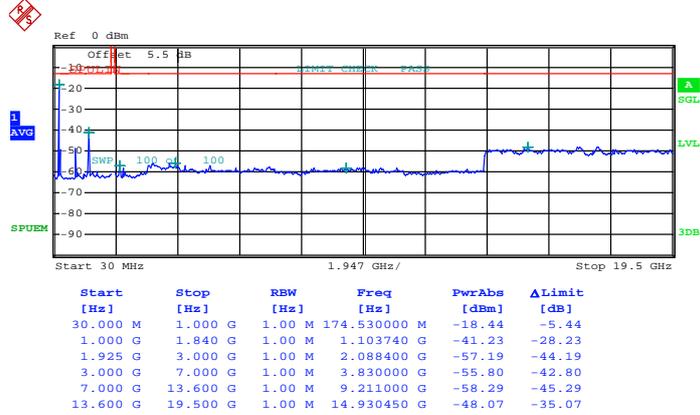


Date: 8.OCT.2014 13:03:14



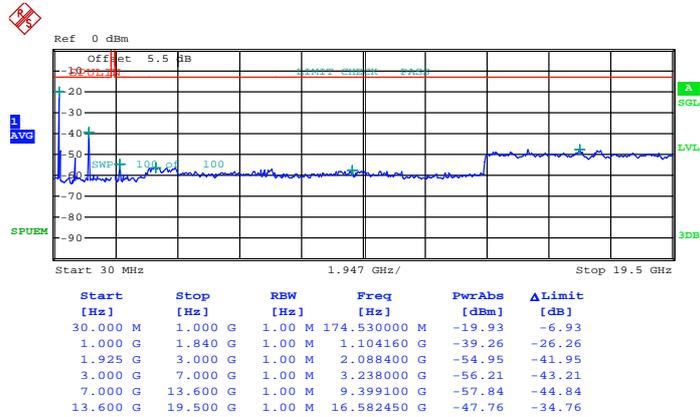
Band :	LTE Band 25	Channel :	CH26683 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 8.OCT.2014 14:46:02

16QAM (RB Size 1, RB Offset 5)

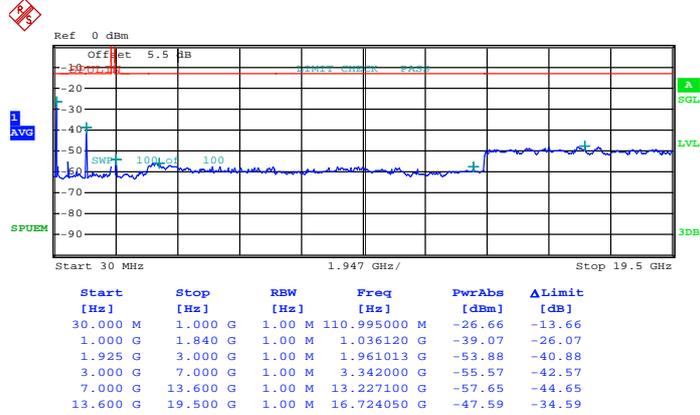


Date: 8.OCT.2014 14:42:54



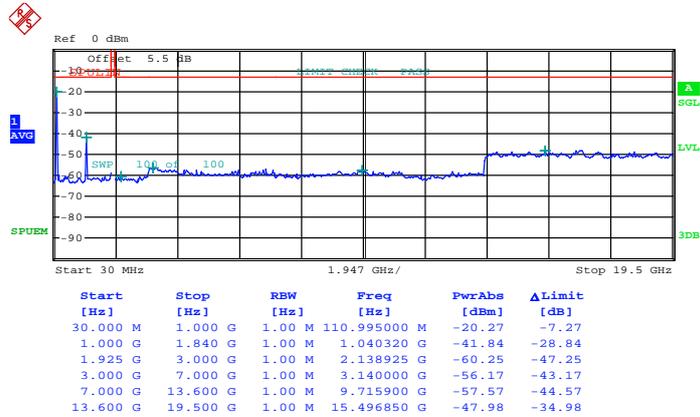
Band :	LTE Band 25	Channel :	CH26055 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 14)



Date: 8.OCT.2014 15:00:43

16QAM (RB Size 1, RB Offset 7)

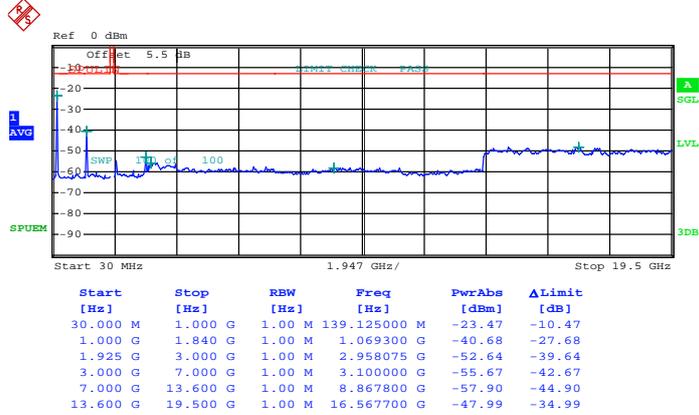


Date: 8.OCT.2014 15:03:41



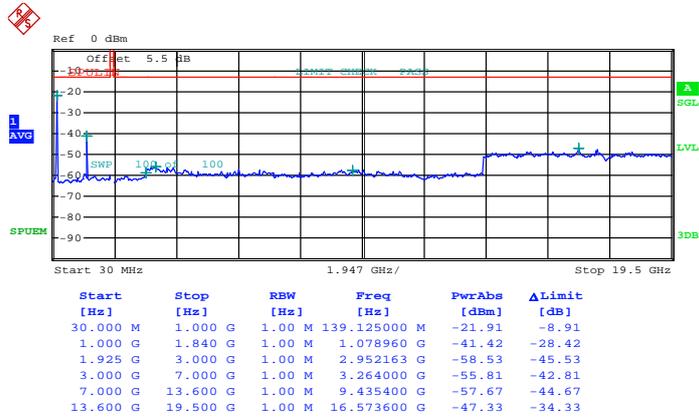
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 14)



Date: 8.OCT.2014 14:51:55

16QAM (RB Size 1, RB Offset 7)

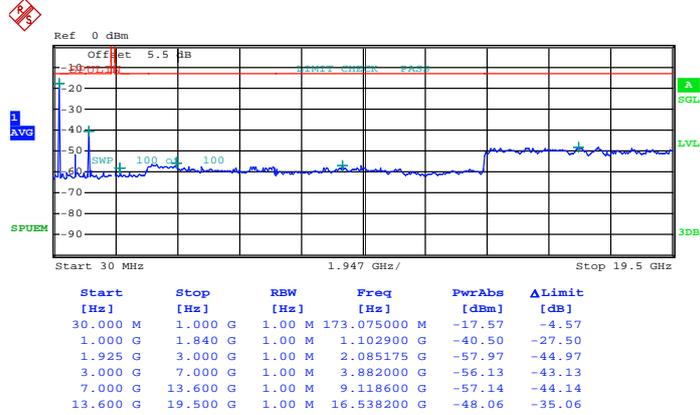


Date: 8.OCT.2014 14:55:36



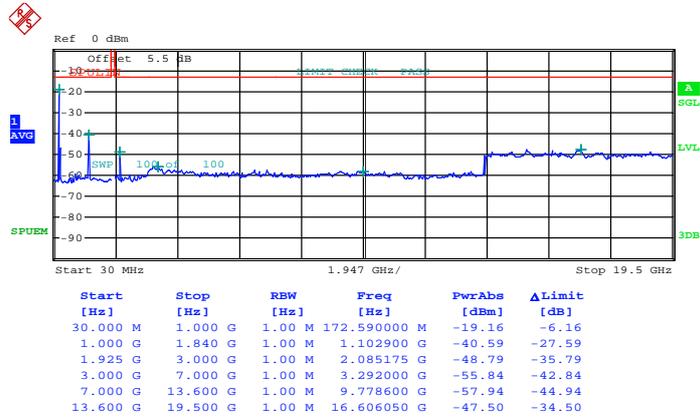
Band :	LTE Band 25	Channel :	CH26675 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 14)



Date: 8.OCT.2014 15:07:23

16QAM (RB Size 1, RB Offset 7)

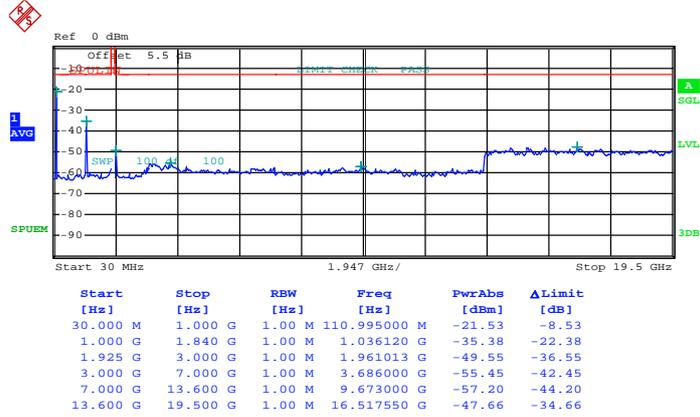


Date: 8.OCT.2014 15:11:30



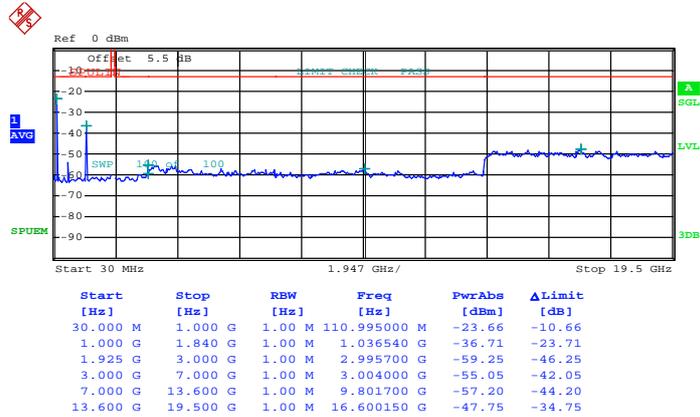
Band :	LTE Band 25	Channel :	CH26065 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 15:23:35

16QAM (RB Size 1, RB Offset 12)

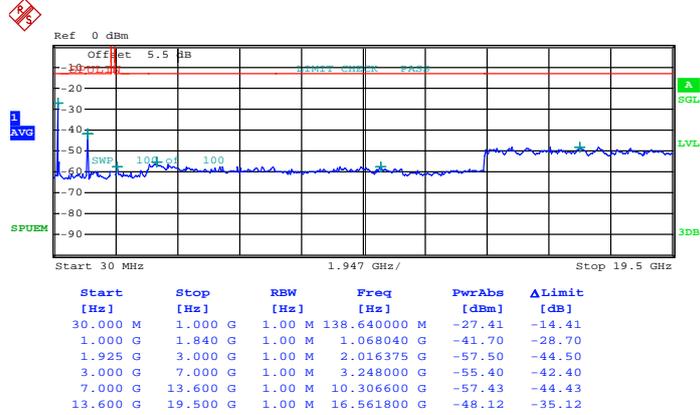


Date: 8.OCT.2014 15:26:31



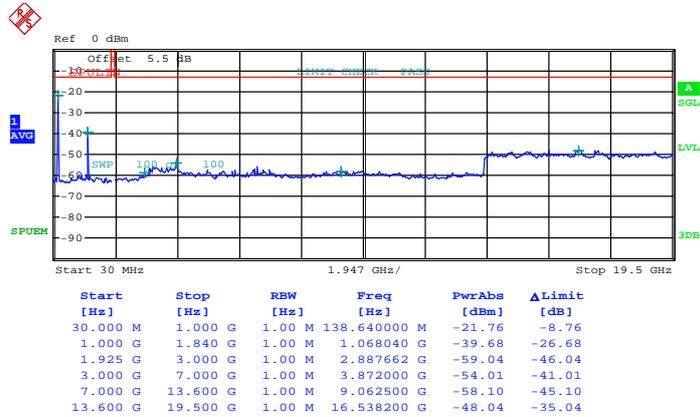
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 15:16:05

16QAM (RB Size 1, RB Offset 12)

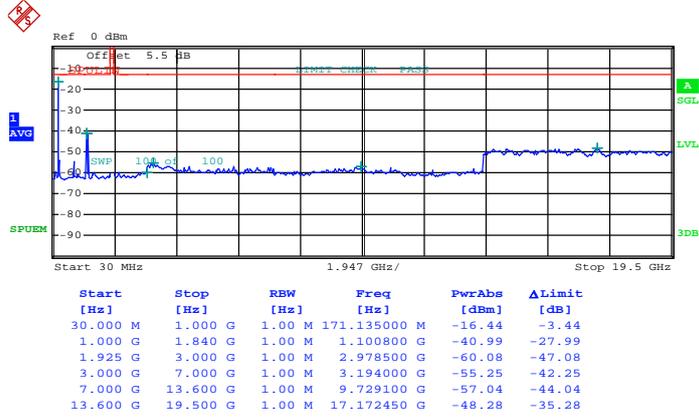


Date: 8.OCT.2014 15:19:47



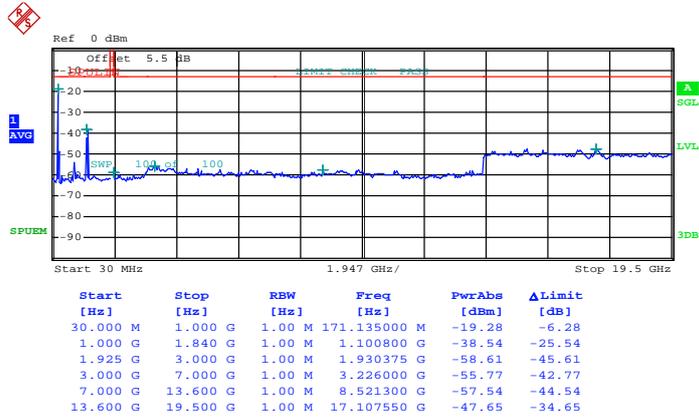
Band :	LTE Band 25	Channel :	CH26665 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 15:30:05

16QAM (RB Size 1, RB Offset 12)

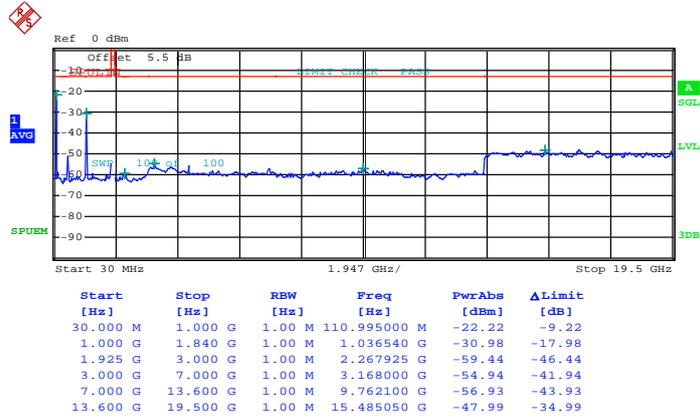


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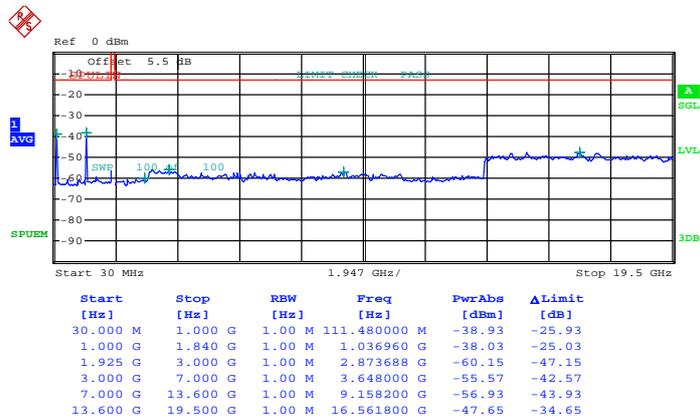
Band :	LTE Band 25	Channel :	CH26090 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 15:46:38

16QAM (RB Size 1, RB Offset 0)

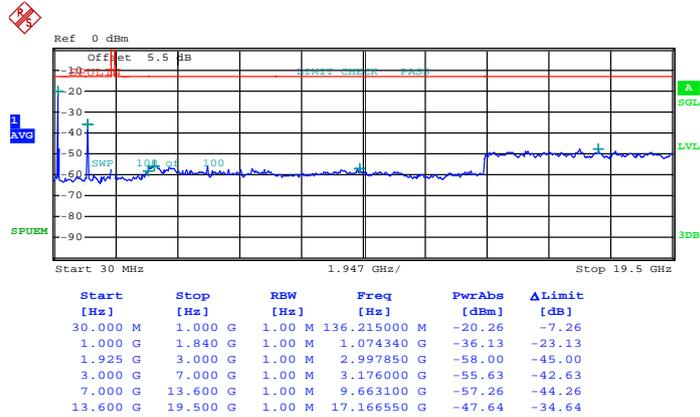


Date: 8.OCT.2014 15:49:59



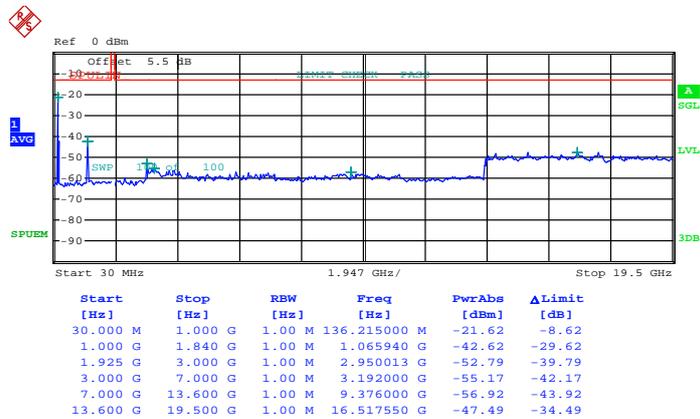
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



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

16QAM (RB Size 1, RB Offset 0)

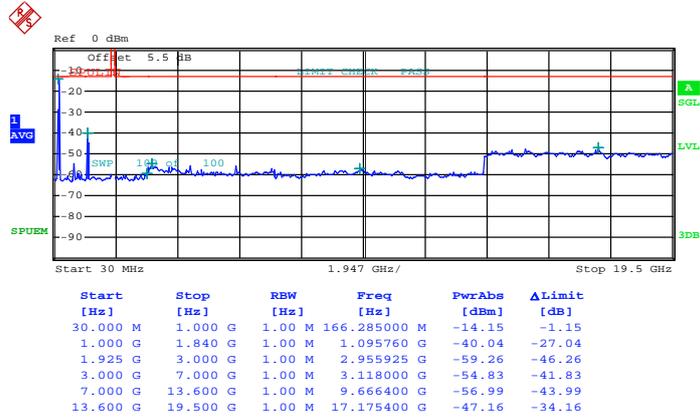


Date: 8.OCT.2014 15:42:07



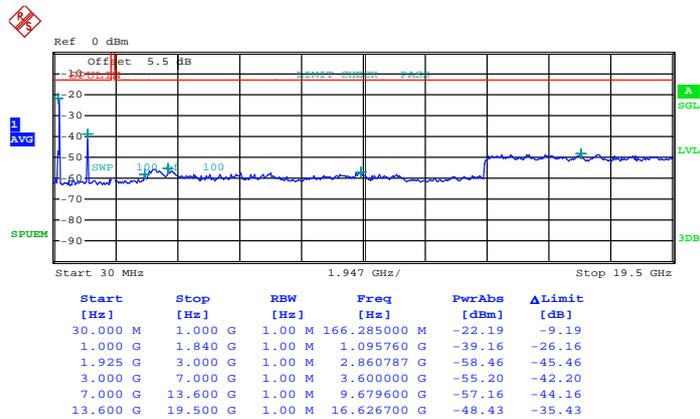
Band :	LTE Band 25	Channel :	CH26640 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 15:53:33

16QAM (RB Size 1, RB Offset 0)

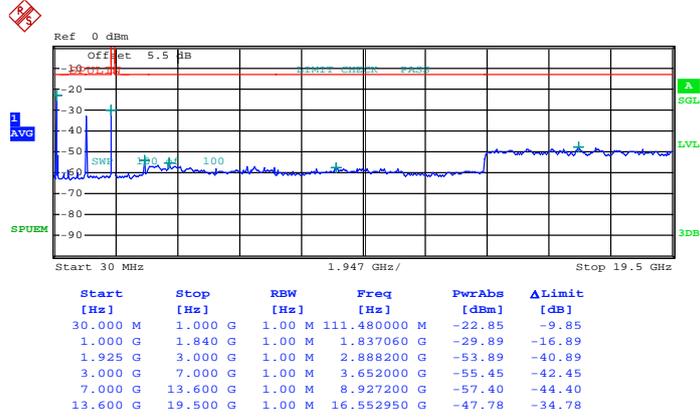


Date: 8.OCT.2014 15:57:51



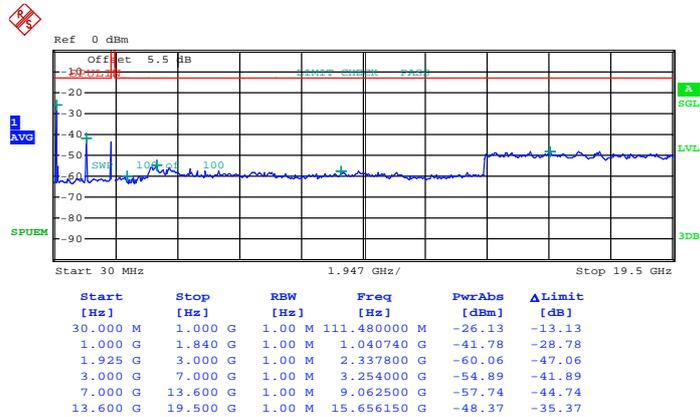
Band :	LTE Band 25	Channel :	CH26115 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 16:07:18

16QAM (RB Size 1, RB Offset 0)

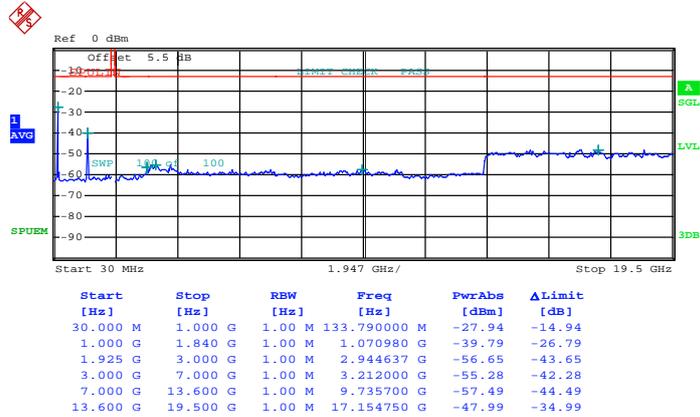


Date: 8.OCT.2014 16:10:46



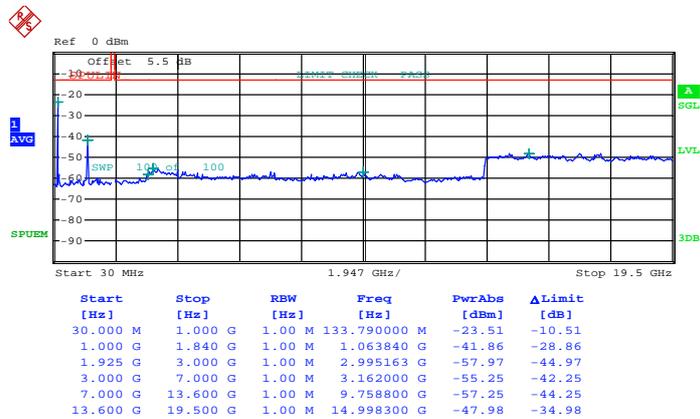
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 16:01:21

16QAM (RB Size 1, RB Offset 0)

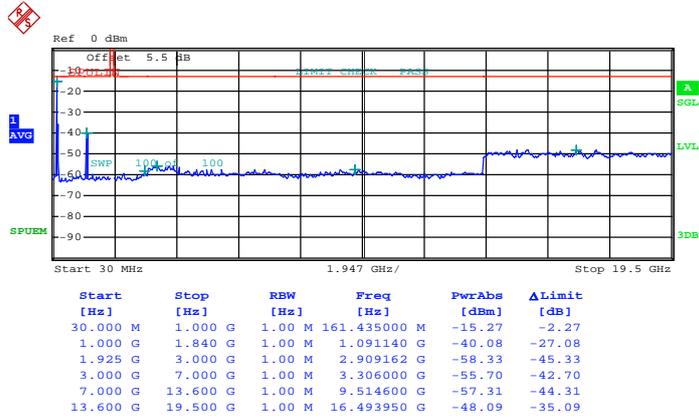


Date: 8.OCT.2014 16:04:08



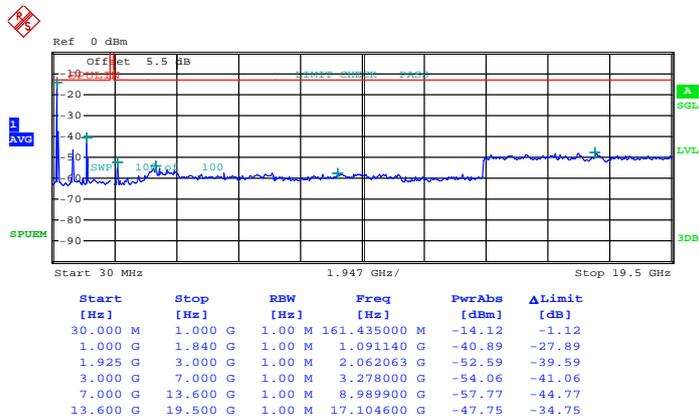
Band :	LTE Band 25	Channel :	CH26615 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 16:17:03

16QAM (RB Size 1, RB Offset 0)

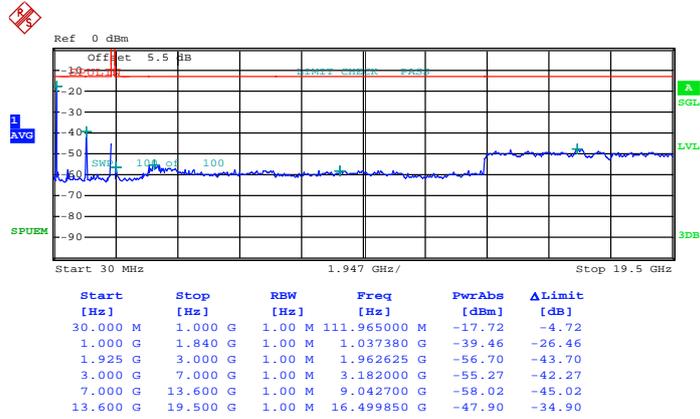


Date: 8.OCT.2014 16:20:31



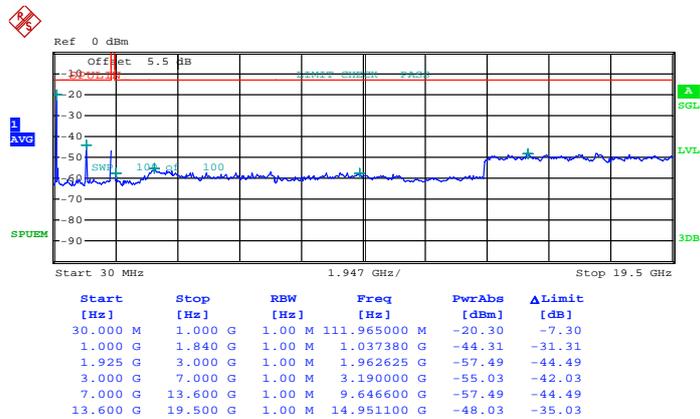
Band :	LTE Band 25	Channel :	CH26140 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



Date: 8.OCT.2014 16:38:16

16QAM (RB Size 1, RB Offset 0)

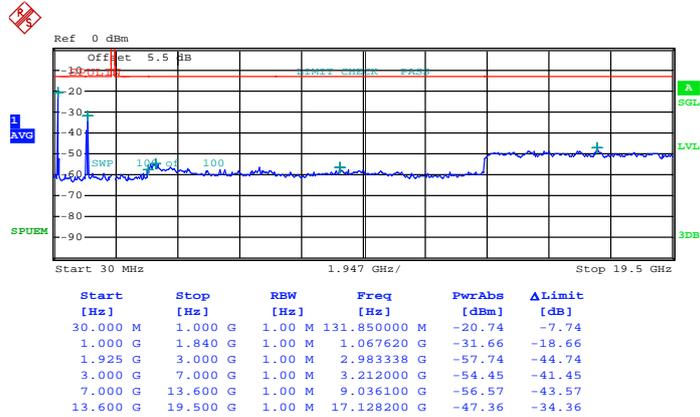


Date: 8.OCT.2014 16:41:45



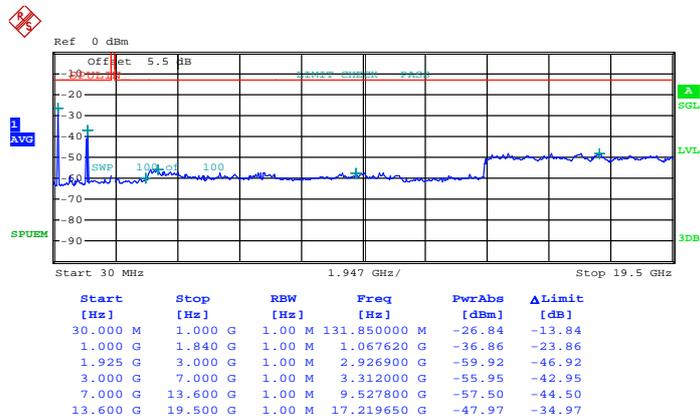
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



Date: 8.OCT.2014 16:24:31

16QAM (RB Size 1, RB Offset 0)

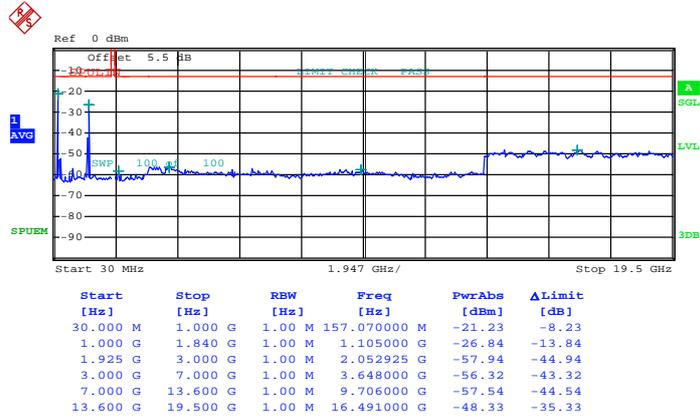


Date: 8.OCT.2014 16:30:29



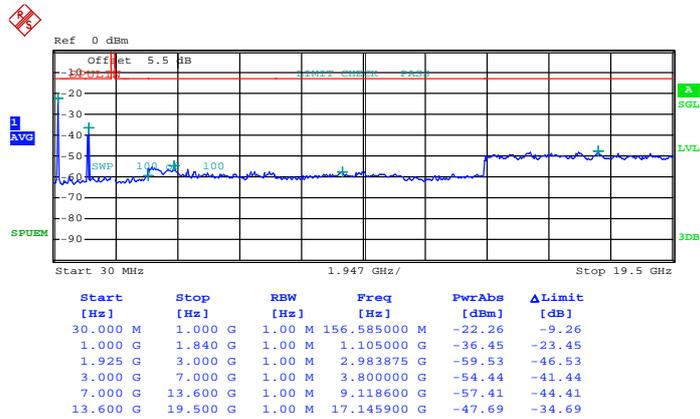
Band :	LTE Band 25	Channel :	CH26590 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.OCT.2014 17:00:46

16QAM (RB Size 1, RB Offset 0)

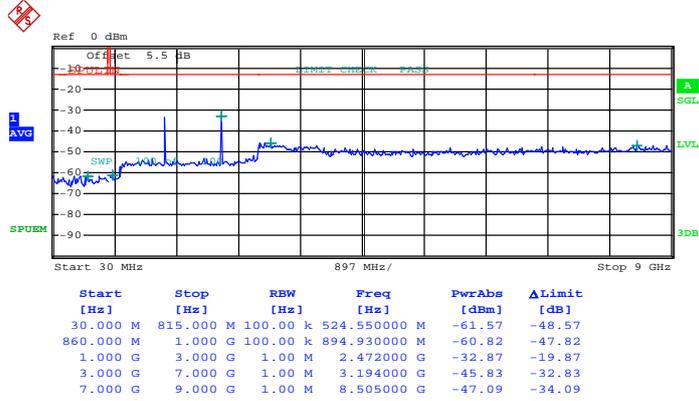


Date: 8.OCT.2014 17:07:54



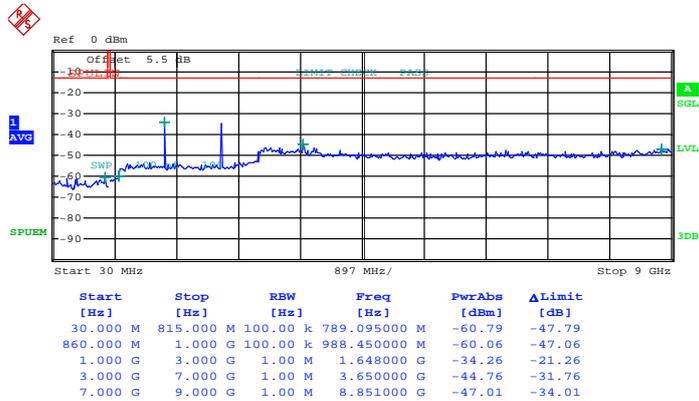
Band :	LTE Band 26	Channel :	CH26797 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 10.OCT.2014 14:54:07

16QAM (RB Size 3, RB Offset 1)

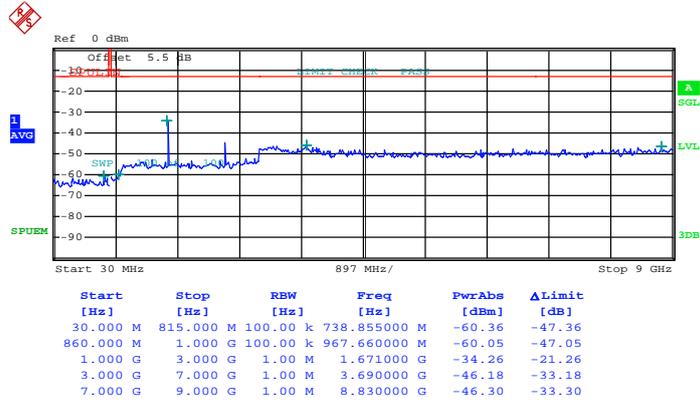


Date: 10.OCT.2014 14:56:12



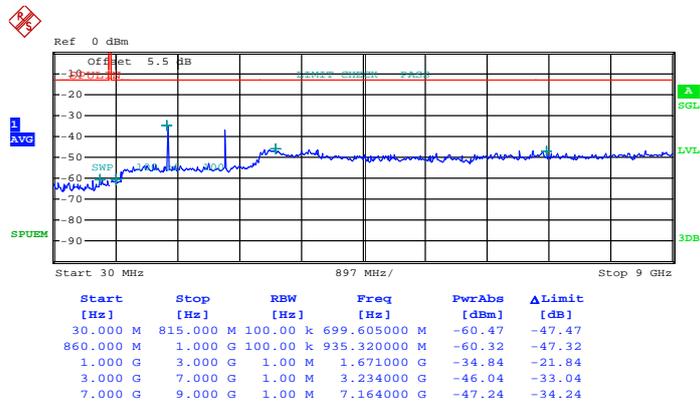
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 3, RB Offset 2)



Date: 10.OCT.2014 14:49:27

16QAM (RB Size 3, RB Offset 0)

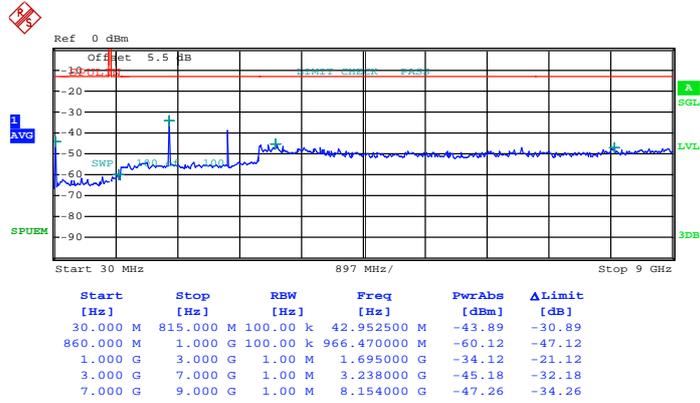


Date: 10.OCT.2014 14:51:32



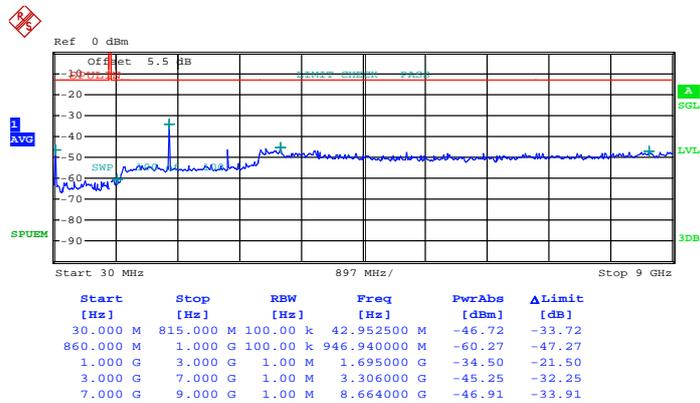
Band :	LTE Band 26	Channel :	CH27033 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 10.OCT.2014 14:59:55

16QAM (RB Size 3, RB Offset 2)

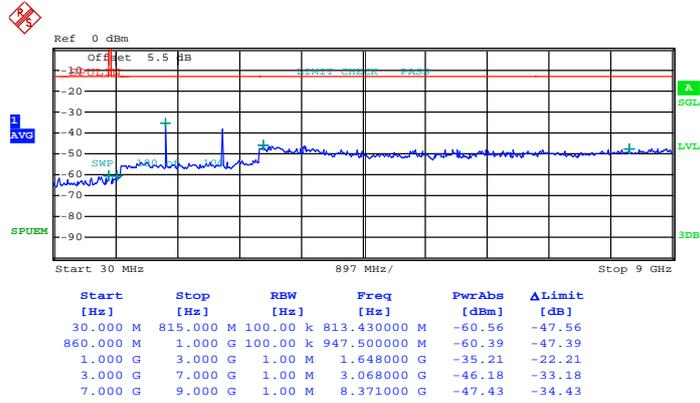


Date: 10.OCT.2014 15:02:18



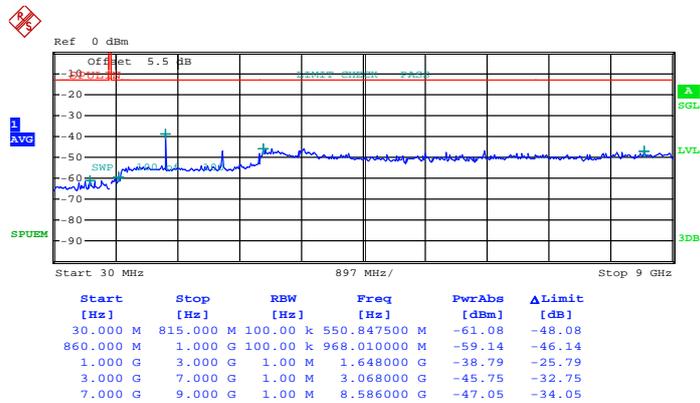
Band :	LTE Band 26	Channel :	CH26805 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 14)



Date: 10.OCT.2014 15:14:23

16QAM (RB Size 1, RB Offset 0)

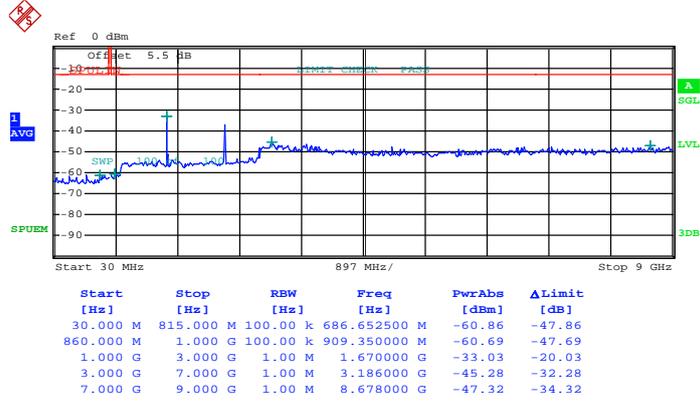


Date: 10.OCT.2014 15:16:31



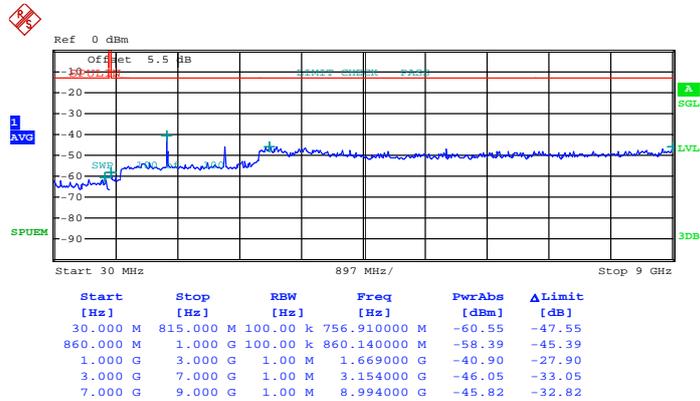
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 14)



Date: 10.OCT.2014 15:08:07

16QAM (RB Size 1, RB Offset 14)

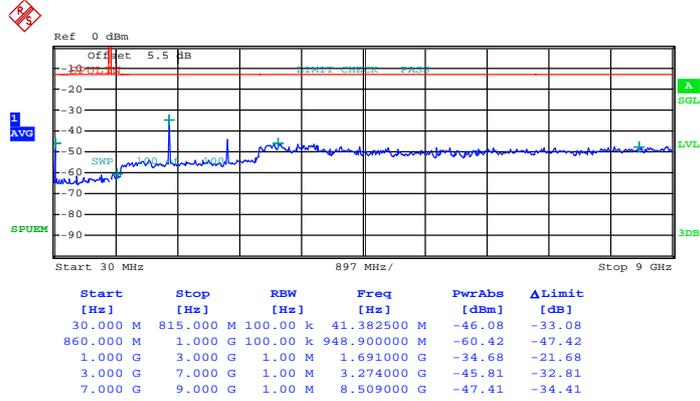


Date: 10.OCT.2014 15:11:34



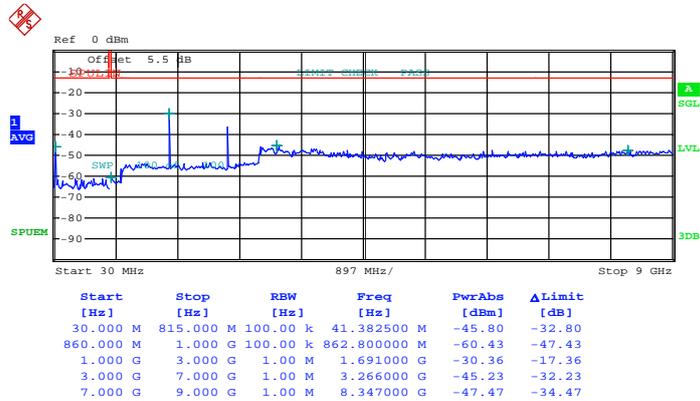
Band :	LTE Band 26	Channel :	CH27025 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.OCT.2014 15:19:32

16QAM (RB Size 1, RB Offset 7)

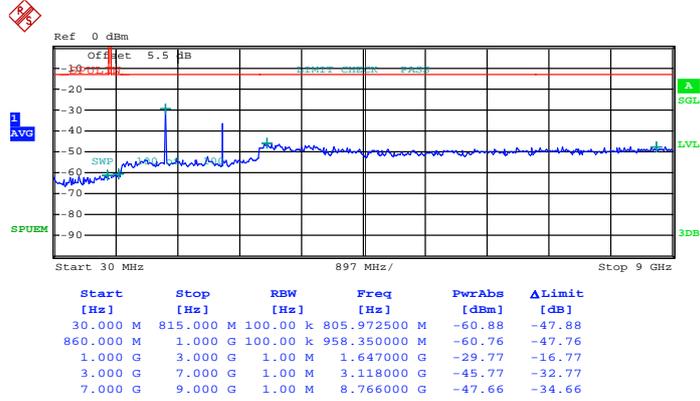


Date: 10.OCT.2014 15:21:51



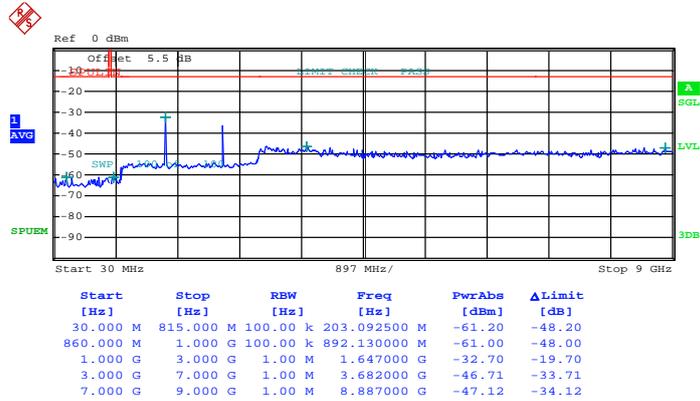
Band :	LTE Band 26	Channel :	CH26815 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



Date: 10.OCT.2014 16:14:51

16QAM (RB Size 1, RB Offset 24)

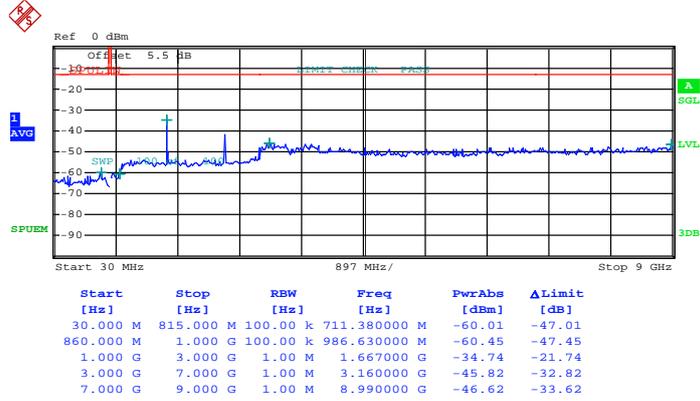


Date: 10.OCT.2014 16:16:59



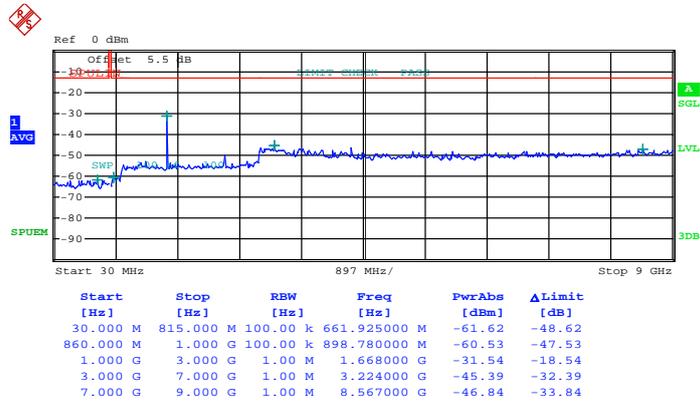
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 24)



Date: 10.OCT.2014 16:09:45

16QAM (RB Size 1, RB Offset 24)

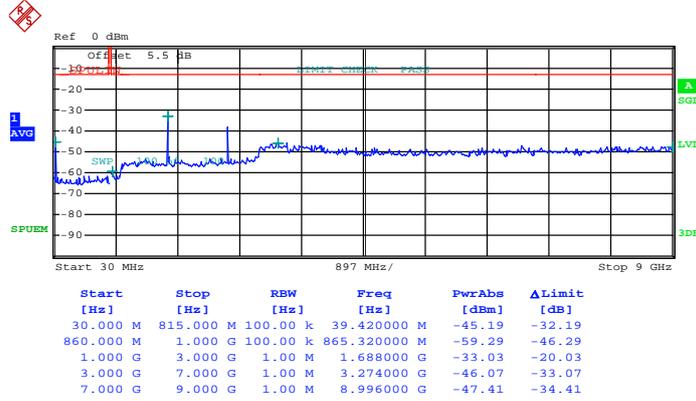


Date: 10.OCT.2014 16:12:15



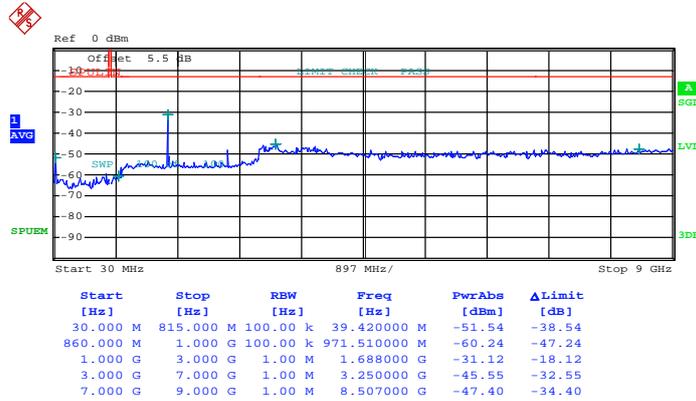
Band :	LTE Band 26	Channel :	CH27015 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



Date: 10.OCT.2014 16:19:20

16QAM (RB Size 1, RB Offset 24)

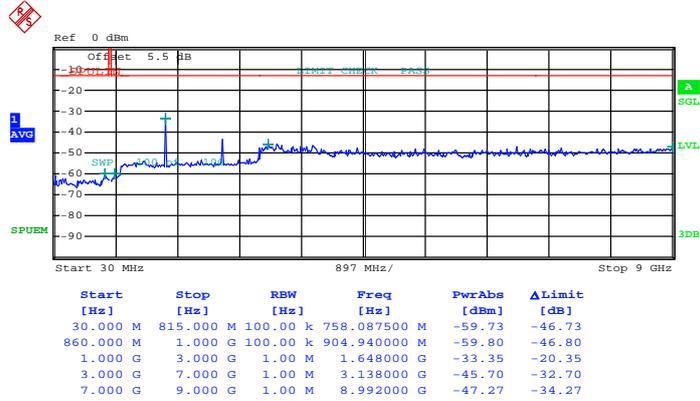


Date: 10.OCT.2014 16:21:32



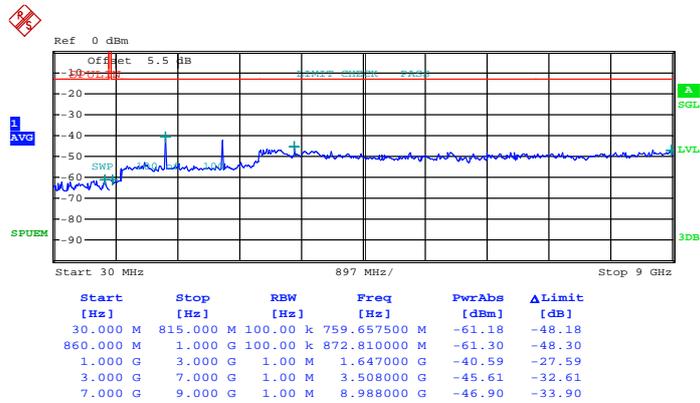
Band :	LTE Band 26	Channel :	CH26840 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 24)



Date: 10.OCT.2014 15:34:55

16QAM (RB Size 1, RB Offset 49)

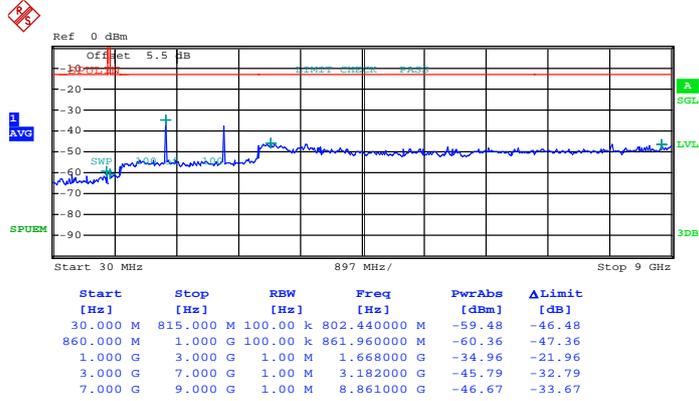


Date: 10.OCT.2014 15:42:10



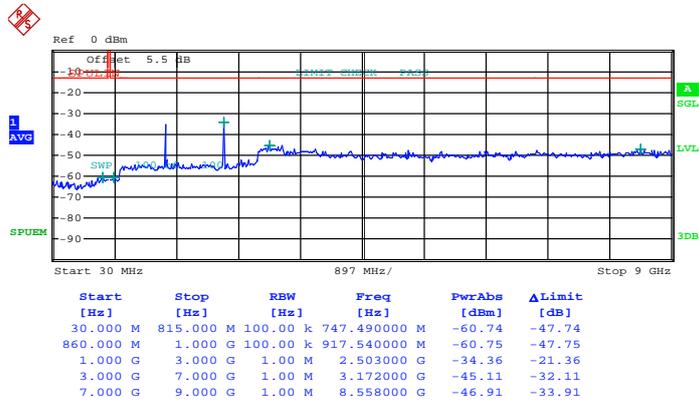
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.OCT.2014 15:25:18

16QAM (RB Size 1, RB Offset 24)

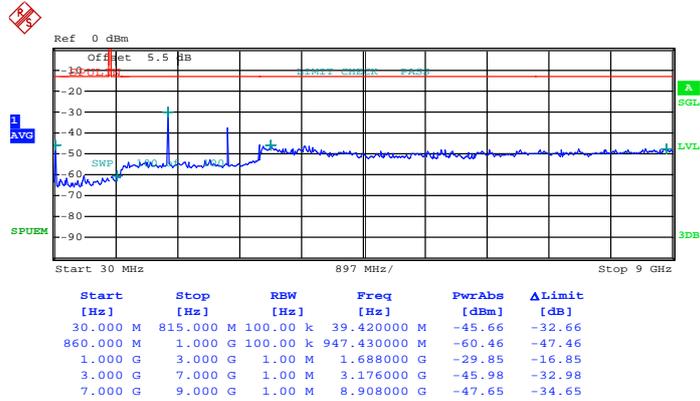


Date: 10.OCT.2014 15:28:40



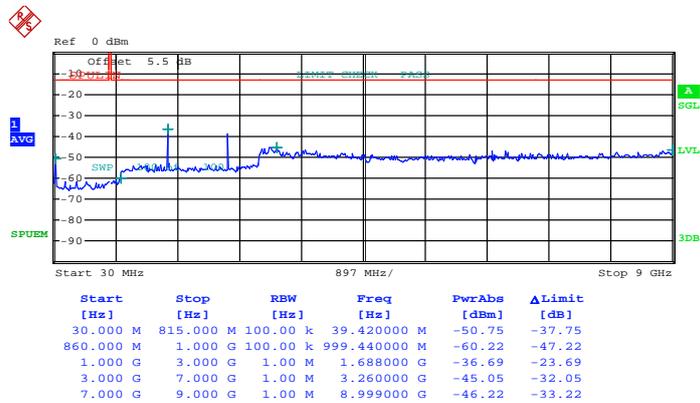
Band :	LTE Band 26	Channel :	CH26990 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 24)



Date: 10.OCT.2014 15:45:19

16QAM (RB Size 1, RB Offset 0)

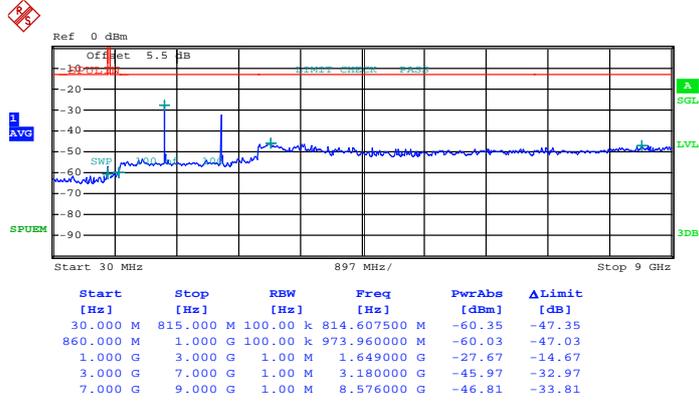


Date: 10.OCT.2014 15:47:34



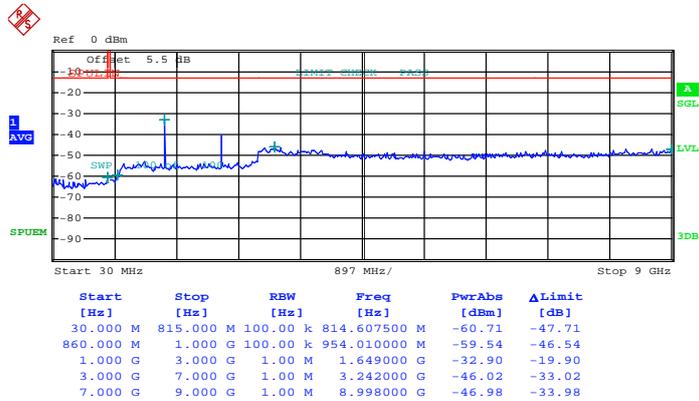
Band :	LTE Band 26	Channel :	CH26865 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.OCT.2014 15:56:15

16QAM (RB Size 1, RB Offset 37)

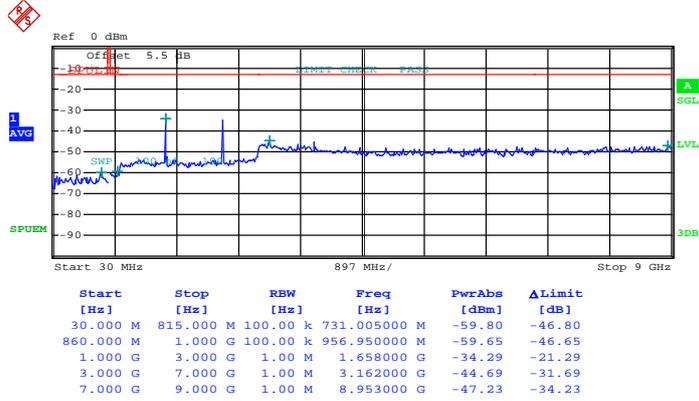


Date: 10.OCT.2014 15:58:20



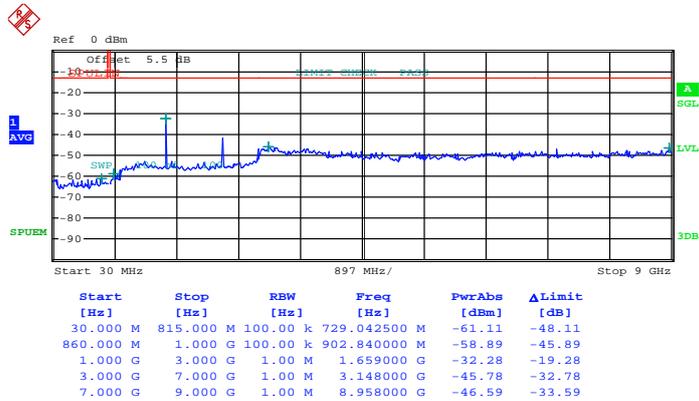
Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.OCT.2014 15:51:30

16QAM (RB Size 1, RB Offset 0)

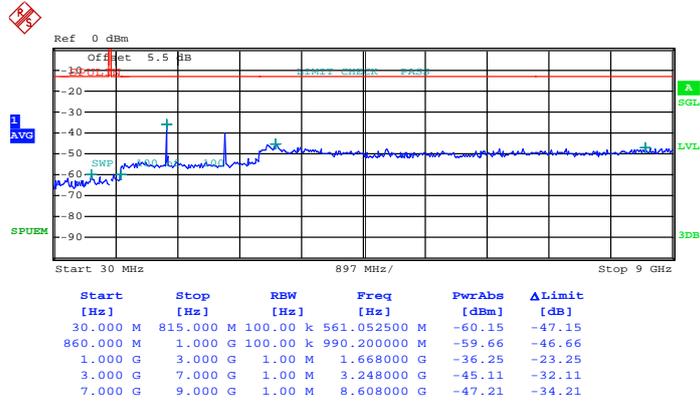


Date: 10.OCT.2014 15:53:52



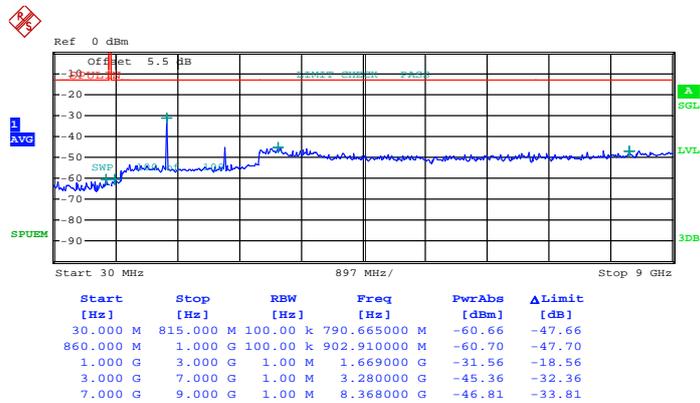
Band :	LTE Band 26	Channel :	CH26965 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.OCT.2014 16:01:07

16QAM (RB Size 1, RB Offset 37)

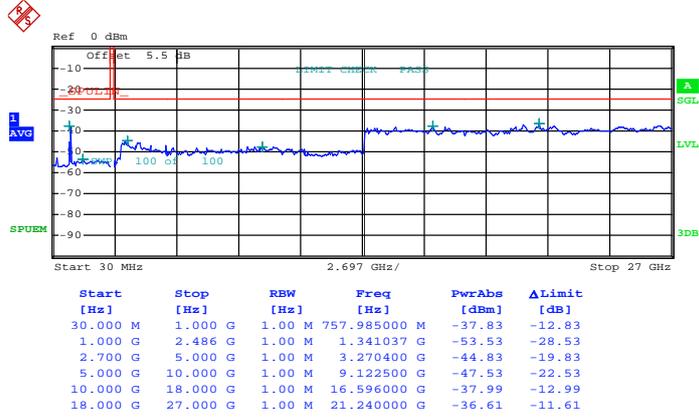


Date: 10.OCT.2014 16:04:22



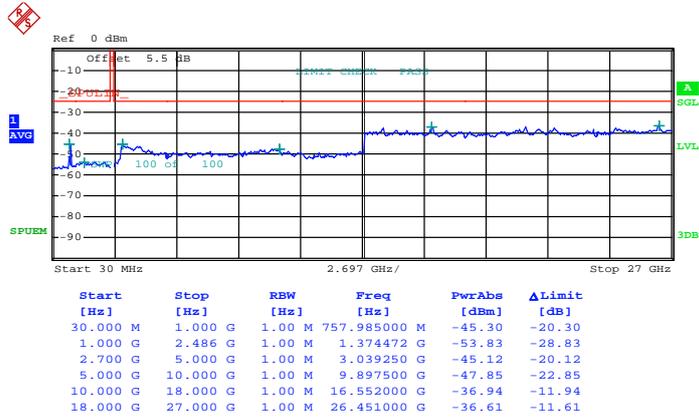
Band :	LTE Band 41	Channel :	CH39675 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 12:42:18

16QAM (RB Size 1, RB Offset 0)

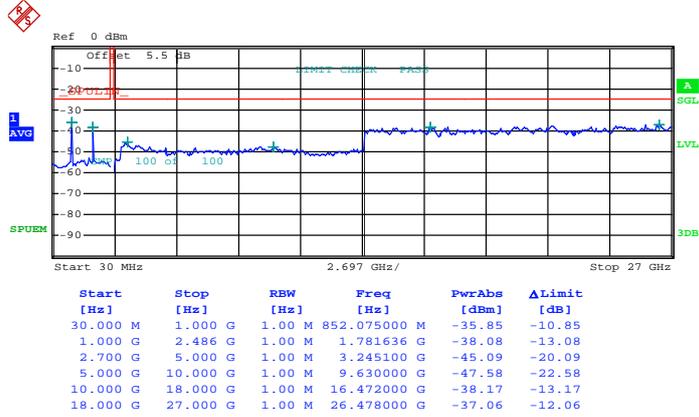


Date: 9.OCT.2014 12:45:37



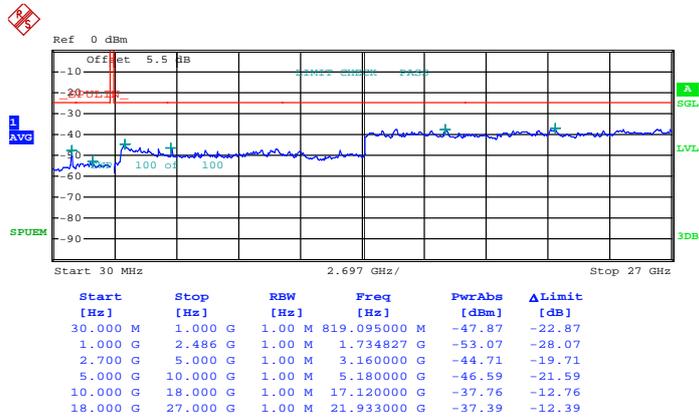
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 12:35:10

16QAM (RB Size 1, RB Offset 0)

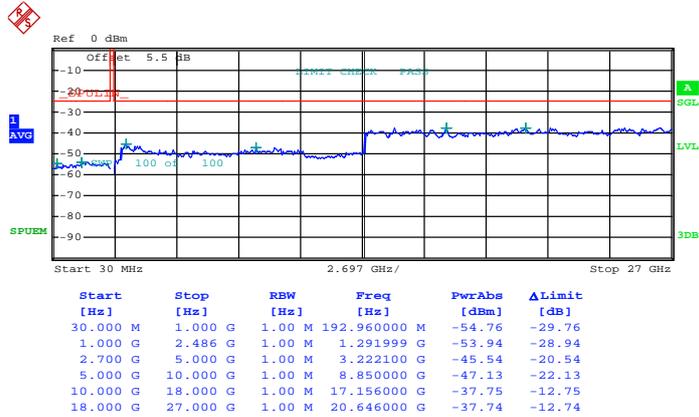


Date: 9.OCT.2014 12:38:17



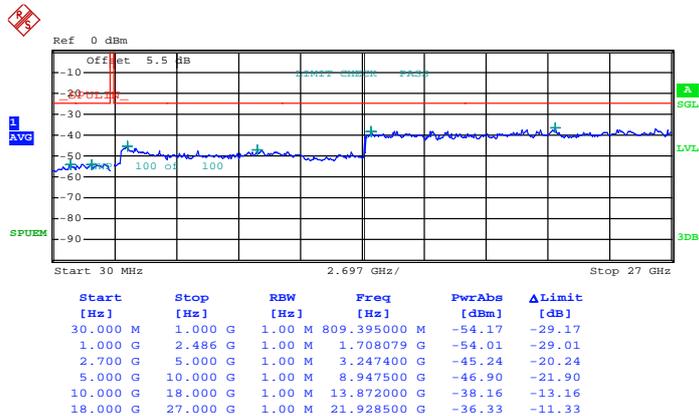
Band :	LTE Band 41	Channel :	CH41565 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 12:50:25

16QAM (RB Size 1, RB Offset 0)

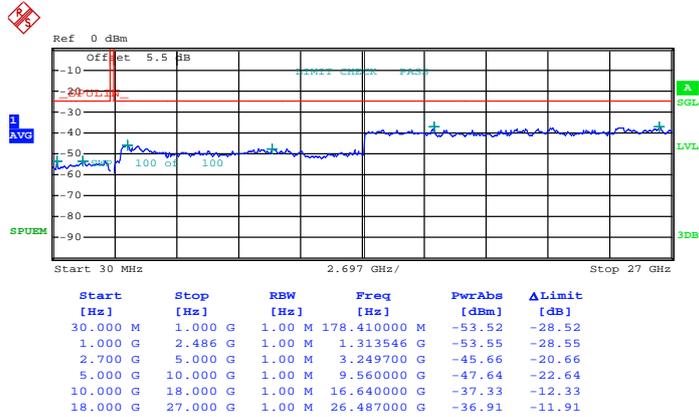


Date: 9.OCT.2014 14:16:57



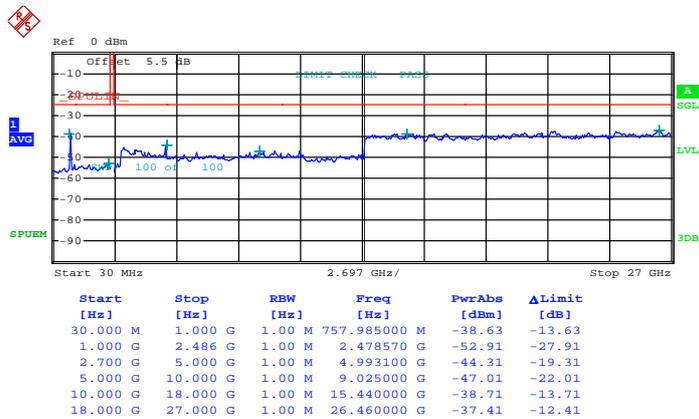
Band :	LTE Band 41	Channel :	CH39700 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 14:28:11

16QAM (RB Size 1, RB Offset 0)

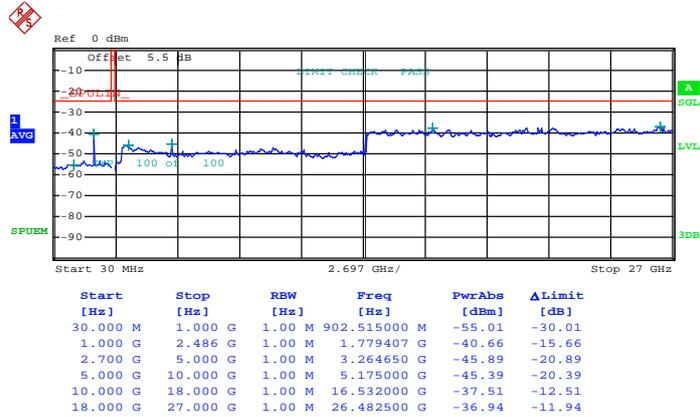


Date: 9.OCT.2014 14:31:58



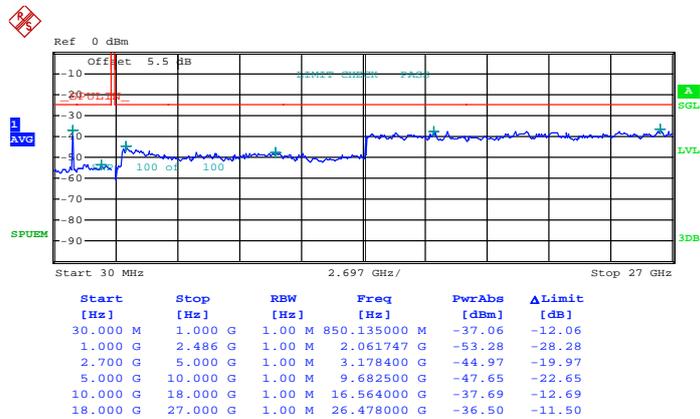
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 14:21:20

16QAM (RB Size 1, RB Offset 0)

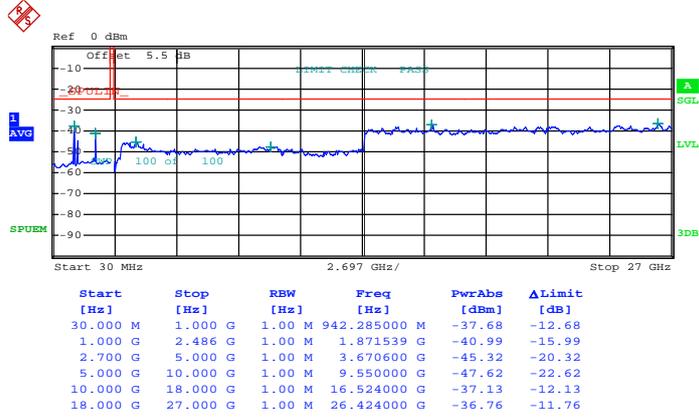


Date: 9.OCT.2014 14:24:29



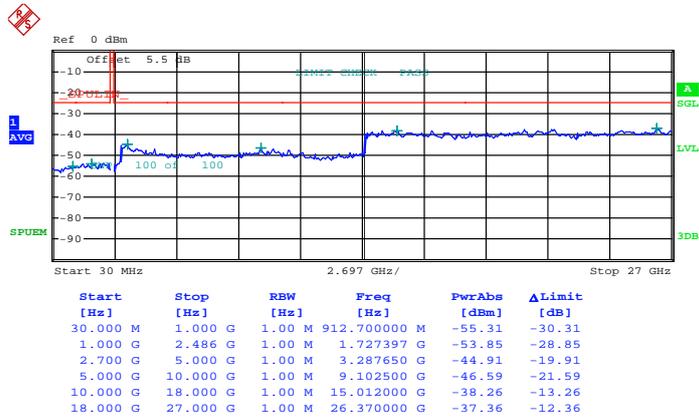
Band :	LTE Band 41	Channel :	CH41540 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 14:36:05

16QAM (RB Size 1, RB Offset 0)

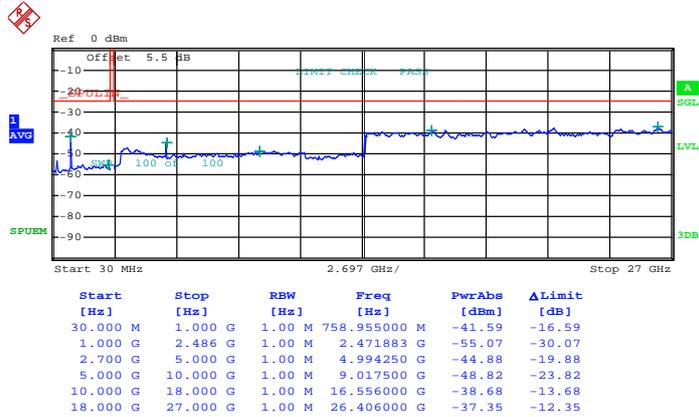


Date: 9.OCT.2014 14:40:24



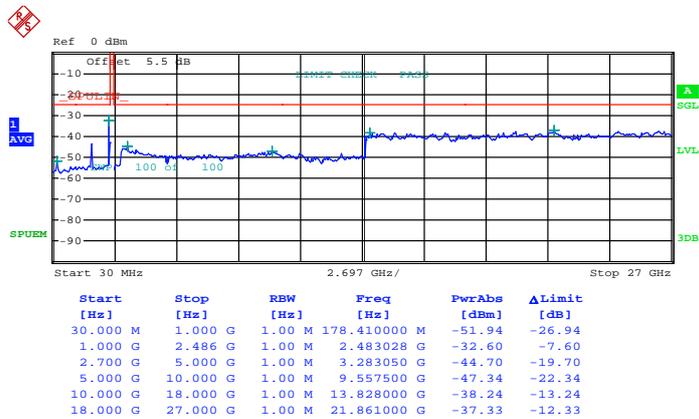
Band :	LTE Band 41	Channel :	CH39725 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:05:35

16QAM (RB Size 1, RB Offset 0)

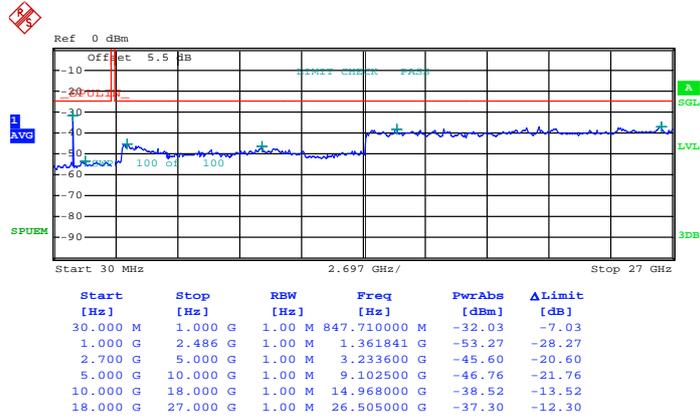


Date: 9.OCT.2014 15:09:10



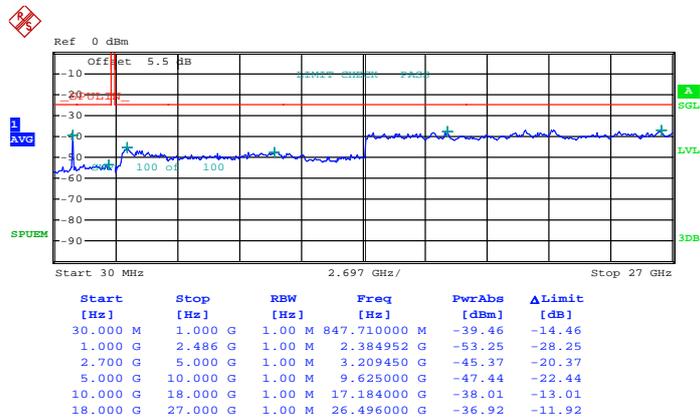
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 14:45:24

16QAM (RB Size 1, RB Offset 0)

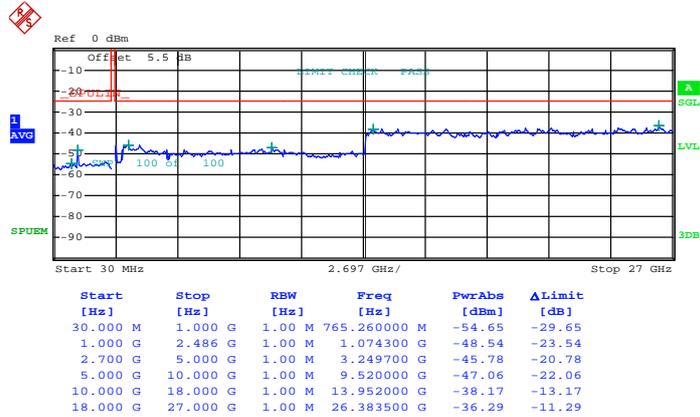


Date: 9.OCT.2014 14:49:11



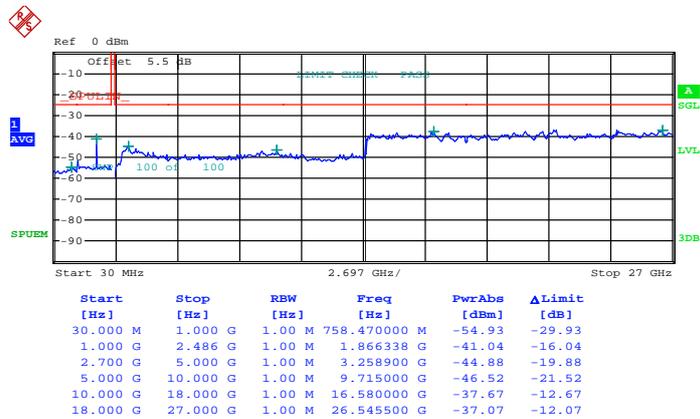
Band :	LTE Band 41	Channel :	CH41515 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:14:06

16QAM (RB Size 1, RB Offset 0)

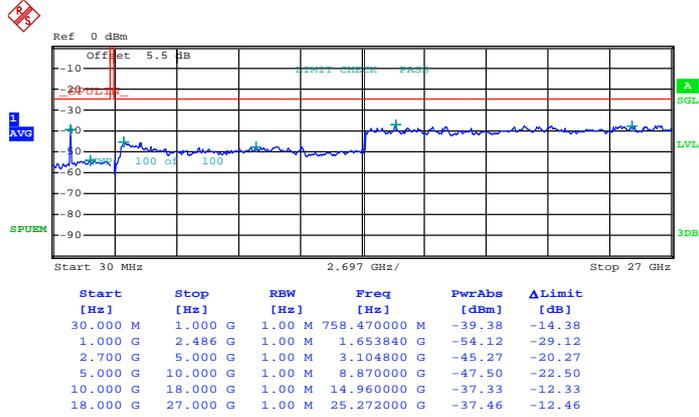


Date: 9.OCT.2014 15:17:42



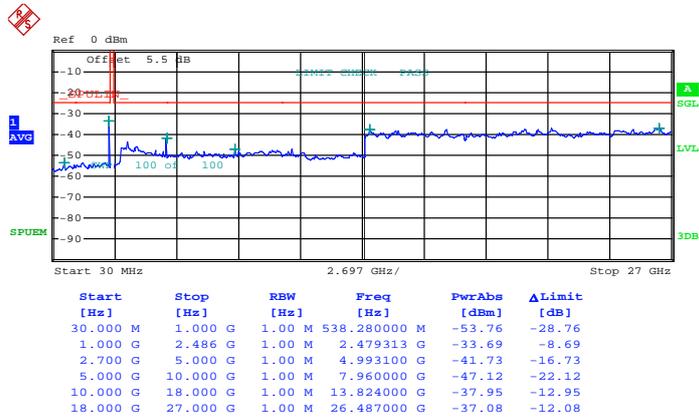
Band :	LTE Band 41	Channel :	CH39750 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:32:22

16QAM (RB Size 1, RB Offset 0)

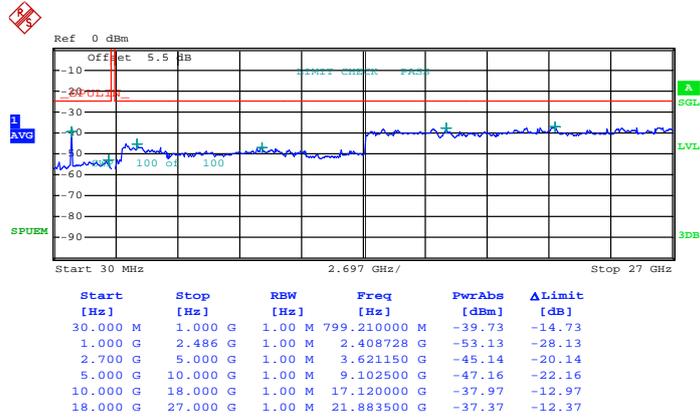


Date: 9.OCT.2014 15:35:59



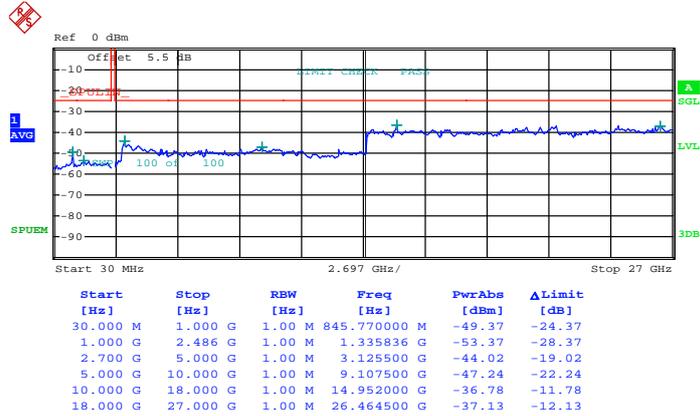
Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:22:05

16QAM (RB Size 1, RB Offset 0)

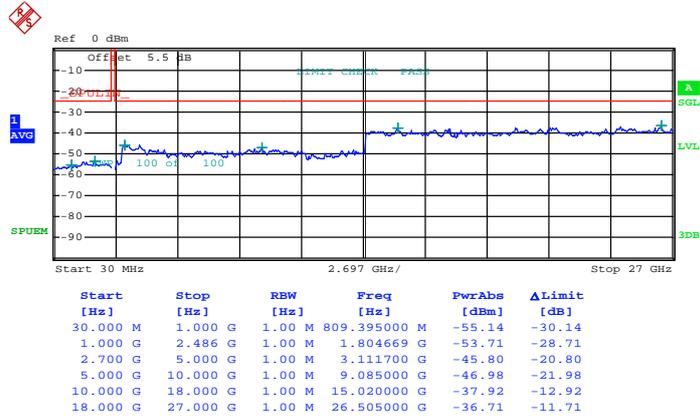


Date: 9.OCT.2014 15:25:18



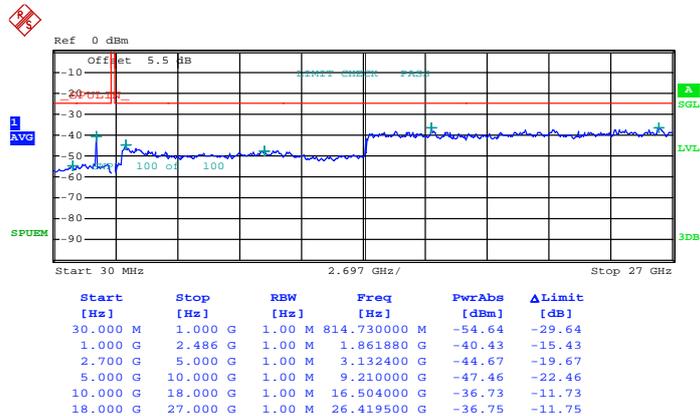
Band :	LTE Band 41	Channel :	CH41490 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:40:59

16QAM (RB Size 1, RB Offset 0)



Date: 9.OCT.2014 15:44:11



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 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

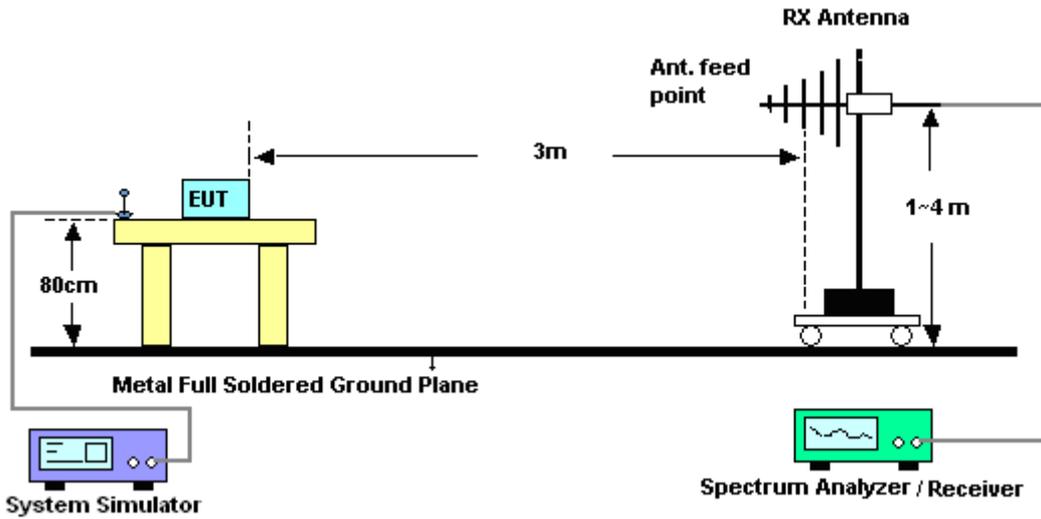
For Band 41

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

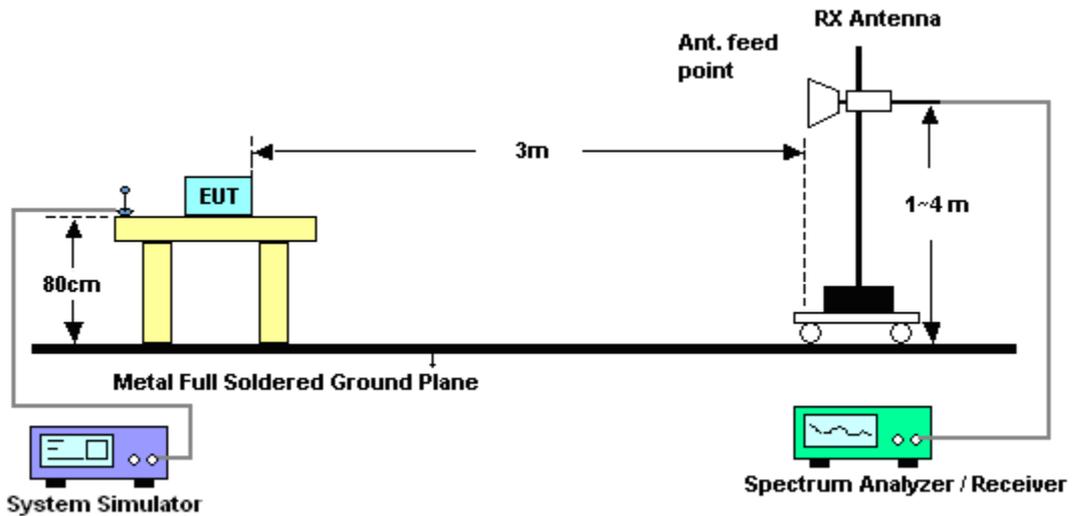
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

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

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-55.68	-13	-42.68	-60.87	-62.06	0.78	7.16	H	Pass
5638	-54.58	-13	-41.58	-64.64	-63.12	1.04	9.58	H	Pass
7518	-54.92	-13	-41.92	-66.46	-65.03	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3759	-54.98	-13	-41.98	-63.38	-61.36	0.78	7.16	V	Pass
5640	-50.92	-13	-37.92	-63.57	-59.46	1.04	9.58	V	Pass
7518	-52.51	-13	-39.51	-66.6	-62.62	1.35	11.46	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-59.79	-13	-46.79	-63.14	-66.17	0.78	7.16	H	Pass
5637	-55.68	-13	-42.68	-65.74	-64.22	1.04	9.58	H	Pass
7515	-55.11	-13	-42.11	-66.65	-65.22	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-56.31	-13	-43.31	-64.71	-62.69	0.78	7.16	V	Pass
5636	-52.40	-13	-39.40	-65.05	-60.94	1.04	9.58	V	Pass
7515	-52.83	-13	-39.83	-66.92	-62.94	1.35	11.46	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-58.56	-13	-45.56	-62.05	-64.94	0.78	7.16	H	Pass
5631	-56.54	-13	-43.54	-66.60	-65.08	1.04	9.58	H	Pass
7509	-55.16	-13	-42.16	-66.70	-65.27	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-55.33	-13	-42.33	-63.73	-61.71	0.78	7.16	V	Pass
5634	-52.25	-13	-39.25	-64.9	-60.79	1.04	9.58	V	Pass
7509	-52.97	-13	-39.97	-67.06	-63.08	1.35	11.46	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-56.59	-13	-43.59	-61.42	-62.97	0.78	7.16	H	Pass
5637	-53.37	-13	-40.37	-63.43	-61.91	1.04	9.58	H	Pass
7500	-53.80	-13	-40.80	-65.34	-63.91	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3755	-55.20	-13	-42.20	-63.6	-61.58	0.78	7.16	V	Pass
5637	-50.54	-13	-37.54	-63.19	-59.08	1.04	9.58	V	Pass
7500	-51.87	-13	-38.87	-65.96	-61.98	1.35	11.46	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3747	-61.02	-13	-48.02	-64.37	-67.40	0.78	7.16	H	Pass
5618	-55.10	-13	-42.10	-65.16	-63.64	1.04	9.58	H	Pass
7491	-54.80	-13	-41.80	-66.34	-64.91	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3747	-57.50	-13	-44.50	-65.9	-63.88	0.78	7.16	V	Pass
5622	-51.03	-13	-38.03	-63.68	-59.57	1.04	9.58	V	Pass
7491	-51.09	-13	-38.09	-65.18	-61.20	1.35	11.46	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3741	-61.39	-13	-48.39	-64.74	-67.77	0.78	7.16	H	Pass
5610	-56.37	-13	-43.37	-66.43	-64.91	1.04	9.58	H	Pass
7479	-54.82	-13	-41.82	-66.36	-64.93	1.35	11.46	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3741	-56.16	-13	-43.16	-64.56	-62.54	0.78	7.16	V	Pass
5612	-49.67	-13	-36.67	-62.46	-58.21	1.04	9.58	V	Pass
7479	-51.56	-13	-38.56	-65.65	-61.67	1.35	11.46	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1662	-71.60	-13	-58.60	-62.72	-72.25	0.57	3.37	H	Pass
2494	-60.05	-13	-47.05	-58.88	-62.28	0.78	5.16	H	Pass
3324	-65.30	-13	-52.30	-64.93	-68.94	0.87	6.66	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1662	-60.63	-13	-47.63	-59.81	-61.28	0.57	3.37	V	Pass
2494	-47.64	-13	-34.64	-55.17	-49.87	0.78	5.16	V	Pass
3323	-64.70	-13	-51.70	-65.76	-68.34	0.87	6.66	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1660	-71.50	-13	-58.50	-62.62	-72.15	0.57	3.37	H	Pass
2492	-62.87	-13	-49.87	-61.54	-65.10	0.78	5.16	H	Pass
3320	-65.11	-13	-52.11	-64.74	-68.75	0.87	6.66	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1660	-66.36	-13	-53.36	-62.56	-67.01	0.57	3.37	V	Pass
2492	-48.65	-13	-35.65	-55.80	-50.88	0.78	5.16	V	Pass
3320	-67.20	-13	-54.20	-68.26	-70.84	0.87	6.66	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1660	-71.12	-13	-58.12	-62.24	-71.77	0.57	3.37	H	Pass
2488	-63.19	-13	-50.19	-61.86	-65.42	0.78	5.16	H	Pass
3320	-65.86	-13	-52.86	-65.49	-69.50	0.87	6.66	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1658	-61.46	-13	-48.46	-60.31	-62.11	0.57	3.37	V	Pass
2490	-55.75	-13	-42.75	-60.24	-57.98	0.78	5.16	V	Pass
3320	-64.00	-13	-51.00	-65.06	-67.64	0.87	6.66	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1654	-69.52	-13	-56.52	-60.64	-70.17	0.57	3.37	H	Pass
2482	-58.19	-13	-45.19	-58.24	-60.42	0.78	5.16	H	Pass
3306	-64.87	-13	-51.87	-64.50	-68.51	0.87	6.66	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1654	-60.10	-13	-47.10	-59.42	-60.75	0.57	3.37	V	Pass
2482	-48.19	-13	-35.19	-55.50	-50.42	0.78	5.16	V	Pass
3306	-63.05	-13	-50.05	-64.11	-66.69	0.87	6.66	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1650	-68.74	-13	-55.74	-59.99	-69.39	0.57	3.37	H	Pass
2476	-63.44	-13	-50.44	-62.11	-65.67	0.78	5.16	H	Pass
3296	-65.16	-13	-52.16	-64.79	-68.80	0.87	6.66	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1650	-66.60	-13	-53.60	-62.80	-67.25	0.57	3.37	V	Pass
2476	-59.19	-13	-46.19	-62.06	-61.42	0.78	5.16	V	Pass
3296	-66.57	-13	-53.57	-67.63	-70.21	0.87	6.66	V	Pass



Band :	LTE Band 41		Temperature :	22~23°C					
Test Mode :	5MHz QPSK RB Size 1 Offset 0		Relative Humidity :	40~41%					
Test Engineer :	Levi Quan		Polarization :	Horizontal					
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5180	-51.17	-25	-26.17	-57.96	-56.57	2.2	7.60	H	Pass
7775	-45.97	-25	-20.97	-59.94	-52.75	3.12	9.90	H	Pass
10361	-50.56	-25	-25.56	-65.40	-58.45	2.98	10.87	H	Pass

Band :	LTE Band 41		Temperature :	22~23°C					
Test Mode :	5MHz QPSK RB Size 1 Offset 0		Relative Humidity :	40~41%					
Test Engineer :	Levi Quan		Polarization :	Vertical					
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5180	-50.55	-25	-25.55	-59.79	-55.95	2.2	7.6	V	Pass
7775	-48.03	-25	-23.03	-62.12	-54.81	3.12	9.9	V	Pass
10361	-52.66	-25	-27.66	-65.31	-60.55	2.98	10.87	V	Pass



Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5177	-50.52	-25	-25.52	-57.55	-55.92	2.2	7.60	H	Pass
7766	-44.01	-25	-19.01	-58.60	-50.79	3.12	9.90	H	Pass
10352	-50.64	-25	-25.64	-65.48	-58.53	2.98	10.87	H	Pass

Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5177	-54.35	-25	-29.35	-61.93	-59.75	2.2	7.6	V	Pass
7766	-41.95	-25	-16.95	-58.39	-48.73	3.12	9.9	V	Pass
10355	-49.28	-25	-24.28	-61.93	-57.17	2.98	10.87	V	Pass



Band :	LTE Band 41		Temperature :	22~23°C					
Test Mode :	15MHz QPSK RB Size 1 Offset 0		Relative Humidity :	40~41%					
Test Engineer :	Levi Quan		Polarization :	Horizontal					
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5171	-53.08	-25	-28.08	-59.21	-58.48	2.2	7.60	H	Pass
7760	-47.52	-25	-22.52	-60.59	-54.30	3.12	9.90	H	Pass
10343	-50.75	-25	-25.75	-65.59	-58.64	2.98	10.87	H	Pass

Band :	LTE Band 41		Temperature :	22~23°C					
Test Mode :	15MHz QPSK RB Size 1 Offset 0		Relative Humidity :	40~41%					
Test Engineer :	Levi Quan		Polarization :	Vertical					
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5171	-53.03	-25	-28.03	-60.68	-58.43	2.2	7.6	V	Pass
7760	-47.50	-25	-22.50	-61.59	-54.28	3.12	9.9	V	Pass
10346	-50.99	-25	-25.99	-63.64	-58.88	2.98	10.87	V	Pass



Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5168	-50.39	-25	-25.39	-57.48	-55.79	2.2	7.60	H	Pass
7754	-47.00	-25	-22.00	-60.48	-53.78	3.12	9.90	H	Pass
10337	-49.63	-25	-24.63	-64.47	-57.52	2.98	10.87	H	Pass

Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Levi Quan	Polarization :	Vertical						
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5168	-53.21	-25	-28.21	-60.89	-58.61	2.2	7.6	V	Pass
7754	-46.26	-25	-21.26	-60.78	-53.04	3.12	9.9	V	Pass
10337	-51.86	-25	-26.86	-64.51	-59.75	2.98	10.87	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.

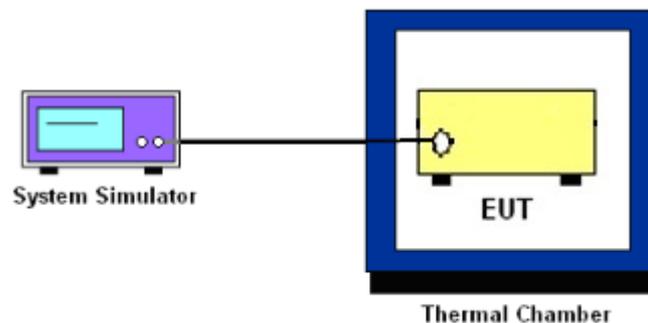
3.8.3 Test Procedures for Temperature Variation

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°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.8.4 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)

Band :	LTE Band 25 (QPSK)	Limit (ppm) :	Within authorized band
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0023		PASS
40	0.0011		
30	0.0006		
20(Ref.)	0.0000		
10	0.0003		
0	0.0019		
-10	0.0032		
-20	0.0039		
-30	0.0048		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Band :	LTE Band 26 (QPSK)	Limit (ppm) :	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0141		PASS
40	0.0081		
30	0.0049		
20(Ref.)	0.0000		
10	0.0018		
0	0.0010		
-10	0.0045		
-20	0.0093		
-30	0.0165		



Band :	LTE Band 41 (QPSK)	Limit (ppm) :	Within authorized band
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0066		PASS
40	0.0042		
30	0.0023		
20(Ref.)	0.0000		
10	0.0019		
0	0.0008		
-10	0.0004		
-20	0.0035		
-30	0.0058		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



3.8.7 Test Result of Voltage Variation (FCC)

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 25	10M	4.35	0.0021	(Note 3.)	PASS
		Normal	0.0005		
		3.60	0.0016		
LTE Band 26	10M	4.35	0.0033	2.5	PASS
		Normal	0.0002		
		3.60	0.0022		
LTE Band 41	10M	4.35	0.0004	(Note 3.)	PASS
		Normal	0.0008		
		3.60	0.0004		

Remark:

1. Normal Voltage = 3.80V.
2. The manufacturer declared that the EUT could work properly between voltage 3.60V ~ 4.35V.
3. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



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	Oct. 08, 2014~ Oct. 24, 2014	Dec. 27, 2014	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Dec. 10, 2013	Oct. 08, 2014~ Oct. 24, 2014	Dec. 09, 2014	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 05, 2013	Oct. 14, 2014	Nov. 04, 2014	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	101399	9kHz~30GHz	May 04, 2014	Oct. 14, 2014	May 03, 2015	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Jan. 08, 2014	Oct. 14, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 08, 2014	Oct. 14, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701030	1GHz~18GHz	Nov. 18, 2013	Oct. 14, 2014	Nov. 17, 2014	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA17024 9	15GHz~40GHz	Mar. 10, 2014	Oct. 14, 2014	Mar. 09, 2015	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161073	1MHz~1GHz	May 04, 2014	Oct. 14, 2014	May 03, 2015	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02371	1GHz~26.5GHz	Dec. 10, 2013	Oct. 14, 2014	Dec. 09, 2014	Radiation (03CH01-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 14, 2014	NCR	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Oct. 14, 2014	NCR	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Oct. 14, 2014	NCR	Radiation (03CH01-KS)



Spectrum Analyzer	R&S	FSP 7	100819	9kHz~7GHz	May 04, 2014	Oct. 29, 2014	May 03, 2015	ERP/EIRP (OTA01-KS)
Switch Control Manframe	Agilent	3499A	MY4200545 2	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Dual 1-to-6(4) MW MUX	Agilent	N2276A	MY4200084 1	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Microwave Switch	Agilent	44476A	MY4200257 3	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Microwave Switch	Agilent	44476A	MY4200258 6	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Diagonal Dual Polarized Horn	ETS-Lindgren	3164-04	00066993	700MHz~6GHz	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Multi-Devices Controller	ETS-Lindgren	2090-OPT1	00066604	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Conical Log Spiral (Small)	ETS-Lindgren	3102	00066951	1~10GHz	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Turn Table	ETS-Lindgren	2088	N/A	Resolution : 0.1degree	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Limiting Amplifier	ETS-lindgren	109643	920326	10MHz~2.5GHz	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
EMQuest	ETS-Lindgren	EMQ-100	1125	N/A	N/A	Oct. 29, 2014	N/A	ERP/EIRP (OTA01-KS)
Medium Duty Holder	ETS-Lindgren	2015	N/A	N/A	N/A	Oct. 29, 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% ($U = 2Uc(y)$)	2.5
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