FCC RF Test Report

APPLICANT	:	**ZTE CORPORATION**
EQUIPMENT	:	**MF97V LTE Ufi**
BRAND NAME	:	**ZTE**
MODEL NAME	:	**MF97V**
FCC ID	:	**SRQ-MF97V**
STANDARD	:	**47 CFR Part 2, 27(F), 27(L)**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**

The product was received on Dec. 30, 2014 and testing was completed on Jan. 26, 2015. 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

Testing Laboratory
2627

SPORTON INTERNATIONAL (KUNSHAN) INC.
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APPENDIX A. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG4D3003B	Rev. 01	Initial issue of report	Jan. 28, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.2	N/A	Peak-to-Average Ratio	Reporting Only	PASS	-
3.3	§27.50(b)(9)	Equivalent Radiated Power (Band 13)	ERP < 3 Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.4	§2.1049 §27.53(h)(3)	Occupied Bandwidth & 26dB Bandwidth	Reporting Only	PASS	-
3.5	§2.1051 §27.53(c)(2) §27.53(c)(4) §27.53(h)	Conducted Band Edge Measurement (Band 13) (Band 4)	< 43+10log10(P[Watt])	PASS	-
3.6	§2.1051 §27.53(c)(2) §27.53(f) §27.53(h)	Conducted Spurious Emission (Band 13) (Band 4)	< $43+10\log_{10}$(P[Watts])	PASS	-
3.7	§2.1053 §27.53(c)(2) §27.53(f) §27.53(h)	Radiated Spurious Emission (Band 13) (Band 4)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 22.95 dB at 2334.000 MHz
3.8	§2.1055 §27.54	Frequency Stability Temperature & Voltage	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	MF97V LTE Ufi
Brand Name	ZTE
Model Name	MF97V
FCC ID	SRQ-MF97V
EUT supports Radios application	LTE/WLAN2.4GHz 802.11b/g/n HT20/HT40 WLAN5GHz 802.11a/n HT20/HT40 Bluetooth v2.1 + EDR/Bluetooth v4.0 LE
HW Version	MF97VV1.0
SW Version	MF97V1.0.0B01
EUT Stage	Identical Prototype

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

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz
Rx Frequency	LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz
Bandwidth	LTE Band 13 : 5MHz / 10MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 13 : 22.62 dBm LTE Band 4 : 23.79 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 EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance	Maximum ERP/EIRP
Part 27F	LTE Band 13	QPSK	5 MHz	4M51G7D	-	0.2570 W
Part 27F	LTE Band 13	16QAM	5 MHz	4M51W7D	-	0.2014 W
Part 27F	LTE Band 13	QPSK	10 MHz	9M13G7D	0.0179 ppm	0.2535 W
Part 27F	LTE Band 13	16QAM	10 MHz	9M07W7D	-	0.1941 W
Part 27L	LTE Band 4	QPSK	1.4 MHz	1M09G7D	-	0.3811 W
Part 27L	LTE Band 4	16QAM	1.4 MHz	1M09W7D	-	0.2999 W
Part 27L	LTE Band 4	QPSK	3 MHz	2M72G7D	-	0.3819 W
Part 27L	LTE Band 4	16QAM	3 MHz	2M72W7D	-	0.2965 W
Part 27L	LTE Band 4	QPSK	5MHz	4M49G7D	-	0.3793 W
Part 27L	LTE Band 4	16QAM	5MHz	4M51W7D	-	0.2844 W
Part 27L	LTE Band 4	QPSK	10MHz	9M05G7D	0.0075 ppm	0.3698 W
Part 27L	LTE Band 4	16QAM	10MHz	8M99W7D	-	0.2897 W
Part 27L	LTE Band 4	QPSK	15MHz	13M4G7D	-	0.3776 W
Part 27L	LTE Band 4	16QAM	15MHz	13M4W7D	-	0.2844 W
Part 27L	LTE Band 4	QPSK	20MHz	18M3G7D	-	0.3802 W
Part 27L	LTE Band 4	16QAM	20MHz	18M2W7D	-	0.2958 W

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China 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, 27(F), 27(L)
- 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

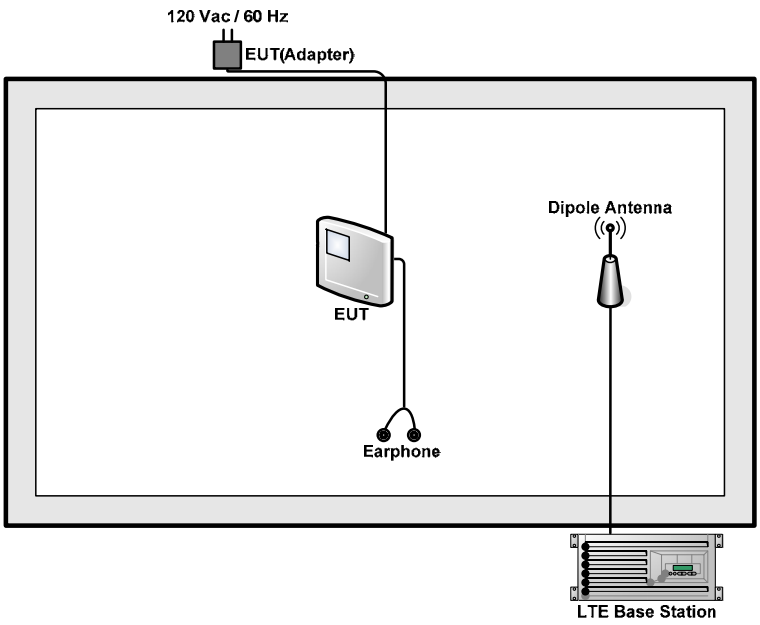
2.1 Test Mode

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	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	13	-	-		v	-	-	v	v	v		v		v	
	4						v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	13	-	-	v	v	-	-	v	v			v		v	
	4	v	v	v	v	v	v	v	v			v		v	
Conducted Band Edge	13	-	-	v	v	-	-	v	v	v		v		v	
	4	v	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	13	-	-	v	v	-	-	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	13	-	-		v	-	-	v				v		v	
	4				v			v				v		v	
E.I.R.P.	13	-	-	v	v	-	-	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	13	-	-	v	v	-	-	v		v				v	
	4	v	v	v	v	v	v	v		v				v	
Note	1. The mark "v " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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	Lenovo	SH100	N/A	Unshielded,1.2m	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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 dB.

Example :

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

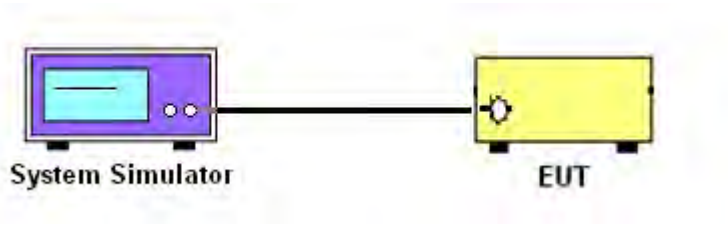
3.1.2 Measuring Instruments

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 13 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel					**23230**	
Frequency (MHz)					**782**	
10	QPSK	1	0		22.62	
10	QPSK	1	24		22.53	
10	QPSK	1	49		22.50	
10	QPSK	25	0		21.86	
10	QPSK	25	12		21.85	
10	QPSK	25	24		21.69	
10	QPSK	50	0		21.74	
10	16QAM	1	0		22.60	
10	16QAM	1	24		22.51	
10	16QAM	1	49		22.49	
10	16QAM	25	0		21.43	
10	16QAM	25	12		21.34	
10	16QAM	25	24		21.25	
10	16QAM	50	0		21.18	
Channel				**23205**	**23230**	**23255**
Frequency (MHz)				**779.5**	**782**	**784.5**
5	QPSK	1	0	22.57	22.59	22.58
5	QPSK	1	12	22.47	22.52	22.42
5	QPSK	1	24	22.53	22.58	22.48
5	QPSK	12	0	21.66	21.67	21.52
5	QPSK	12	6	21.59	21.62	21.56
5	QPSK	12	11	21.57	21.60	21.62
5	QPSK	25	0	21.66	21.64	21.61
5	16QAM	1	0	21.88	21.76	21.98
5	16QAM	1	12	21.58	21.73	21.39
5	16QAM	1	24	21.59	21.69	21.76
5	16QAM	12	0	21.25	21.34	21.06
5	16QAM	12	6	21.14	21.32	21.15
5	16QAM	12	11	21.25	21.25	21.19
5	16QAM	25	0	21.11	21.27	21.22

<LTE Band 4 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20050**	**20175**	**20300**
Frequency (MHz)				**1720**	**1732.5**	**1745**
20	QPSK	1	0	23.60	23.79	23.73
20	QPSK	1	49	23.51	23.59	23.64
20	QPSK	1	99	23.36	23.55	23.52
20	QPSK	50	0	22.71	22.83	22.78
20	QPSK	50	24	22.67	22.65	22.71
20	QPSK	50	49	22.63	22.72	22.68
20	QPSK	100	0	22.60	22.69	22.59
20	16QAM	1	0	22.67	22.72	22.92
20	16QAM	1	49	22.42	22.23	22.54
20	16QAM	1	99	22.48	22.66	22.21
20	16QAM	50	0	21.63	21.67	21.73
20	16QAM	50	24	21.55	21.62	21.56
20	16QAM	50	49	21.61	21.62	21.72
20	16QAM	100	0	21.65	21.64	21.58
Channel				**20025**	**20175**	**20325**
Frequency (MHz)				**1717.5**	**1732.5**	**1747.5**
15	QPSK	1	0	23.58	23.64	23.69
15	QPSK	1	37	23.57	23.59	23.62
15	QPSK	1	74	23.46	23.61	23.48
15	QPSK	36	0	22.69	22.62	22.65
15	QPSK	36	18	22.66	22.61	22.63
15	QPSK	36	37	22.56	22.59	22.56
15	QPSK	75	0	22.65	22.70	22.75
15	16QAM	1	0	22.44	22.84	22.62
15	16QAM	1	37	22.83	22.78	22.26
15	16QAM	1	74	22.27	22.87	22.47
15	16QAM	36	0	21.58	21.60	21.65
15	16QAM	36	18	21.69	21.66	21.65
15	16QAM	36	37	21.45	21.53	21.53
15	16QAM	75	0	21.52	21.63	21.78

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20000**	**20175**	**20350**
Frequency (MHz)				**1715**	**1732.5**	**1750**
10	QPSK	1	0	23.48	23.51	23.58
10	QPSK	1	24	23.67	23.48	23.61
10	QPSK	1	49	23.53	23.57	23.55
10	QPSK	25	0	22.62	22.63	22.68
10	QPSK	25	12	22.69	22.64	22.66
10	QPSK	25	24	22.58	22.57	22.58
10	QPSK	50	0	22.70	22.63	22.77
10	16QAM	1	0	22.72	22.52	22.30
10	16QAM	1	24	22.18	22.20	22.47
10	16QAM	1	49	22.56	22.38	22.42
10	16QAM	25	0	21.60	21.70	21.71
10	16QAM	25	12	21.60	21.58	21.63
10	16QAM	25	24	21.57	21.65	21.58
10	16QAM	50	0	21.61	21.68	21.68
Channel				**19975**	**20175**	**20375**
Frequency (MHz)				**1712.5**	**1732.5**	**1752.5**
5	QPSK	1	0	23.55	23.58	23.68
5	QPSK	1	12	23.51	23.49	23.49
5	QPSK	1	24	23.56	23.51	23.60
5	QPSK	12	0	22.57	22.60	22.58
5	QPSK	12	6	22.65	22.66	22.61
5	QPSK	12	11	22.58	22.58	22.55
5	QPSK	25	0	22.59	22.69	22.61
5	16QAM	1	0	22.35	22.77	22.62
5	16QAM	1	12	22.69	22.54	22.78
5	16QAM	1	24	22.33	22.35	22.21
5	16QAM	12	0	21.63	21.66	21.62
5	16QAM	12	6	21.56	21.71	21.58
5	16QAM	12	11	21.50	21.64	21.54
5	16QAM	25	0	21.61	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				**19965**	**20175**	**20385**
Frequency (MHz)				**1711.5**	**1732.5**	**1753.5**
3	QPSK	1	0	23.49	23.66	23.53
3	QPSK	1	7	23.53	23.54	23.60
3	QPSK	1	14	23.49	23.54	23.63
3	QPSK	8	0	22.56	22.61	22.64
3	QPSK	8	4	22.57	22.63	22.57
3	QPSK	8	7	22.56	22.69	22.68
3	QPSK	15	0	22.51	22.59	22.66
3	16QAM	1	0	22.49	22.20	22.27
3	16QAM	1	7	22.21	22.68	22.40
3	16QAM	1	14	22.44	22.32	22.60
3	16QAM	8	0	21.47	21.65	21.69
3	16QAM	8	4	21.50	21.59	21.60
3	16QAM	8	7	21.67	21.71	21.67
3	16QAM	15	0	21.55	21.59	21.56
Channel				**19957**	**20175**	**20393**
Frequency (MHz)				**1710.7**	**1732.5**	**1754.3**
1.4	QPSK	1	0	23.48	23.56	23.60
1.4	QPSK	1	2	23.44	23.61	23.57
1.4	QPSK	1	5	23.48	23.59	23.65
1.4	QPSK	3	0	23.46	23.62	23.64
1.4	QPSK	3	1	23.52	23.63	23.56
1.4	QPSK	3	2	23.45	23.64	23.57
1.4	QPSK	6	0	22.60	22.67	22.66
1.4	16QAM	1	0	22.31	22.28	22.44
1.4	16QAM	1	2	22.45	22.96	22.72
1.4	16QAM	1	5	22.69	22.58	22.79
1.4	16QAM	3	0	22.46	22.62	22.42
1.4	16QAM	3	1	22.52	22.37	22.52
1.4	16QAM	3	2	22.53	22.55	22.63
1.4	16QAM	6	0	21.32	21.60	21.57

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.

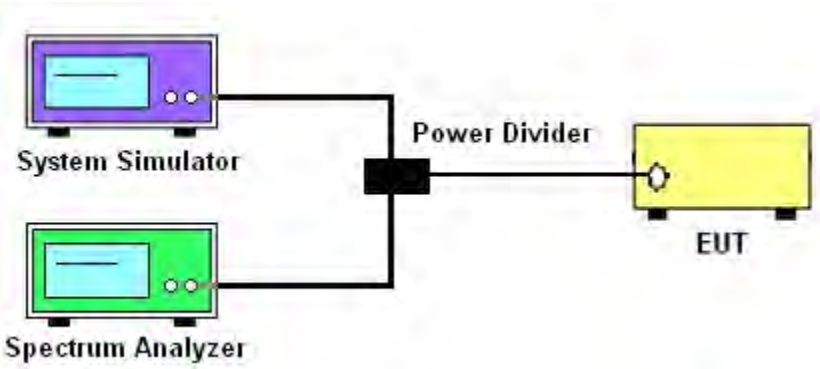
3.2.2 Measuring Instruments

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

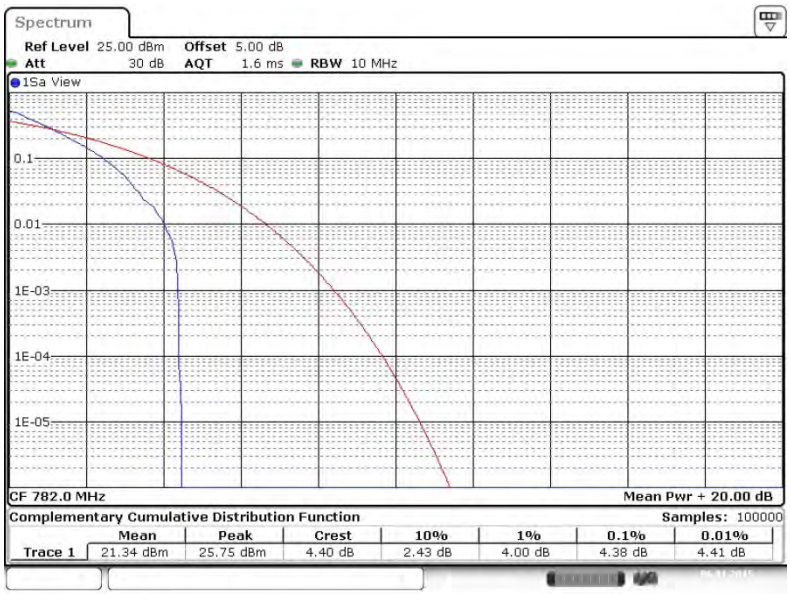
LTE Band 13						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel					23230	
Frequency (MHz)					782	
10	QPSK	1	0		4.38	
10	QPSK	50	0		5.28	
10	16QAM	1	0		5.74	
10	16QAM	50	0		6.03	

LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	4.90	4.93	5.13
20	QPSK	100	0	5.39	5.22	5.36
20	16QAM	1	0	6.38	6.38	6.41
20	16QAM	100	0	6.38	6.20	6.32

3.2.6 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 13

10MHz / QPSK in Ch. 23230 (1RB Size)



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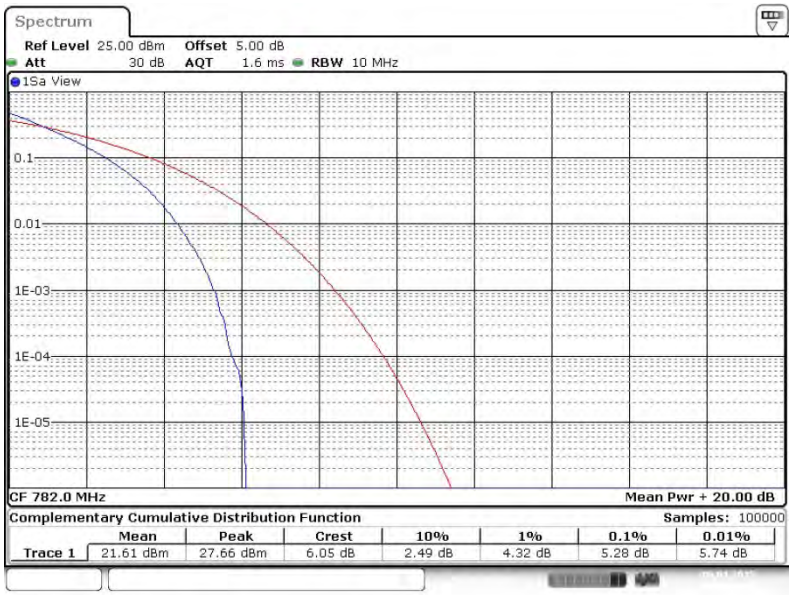
Peak-to-Average Ratio on LTE Band 13

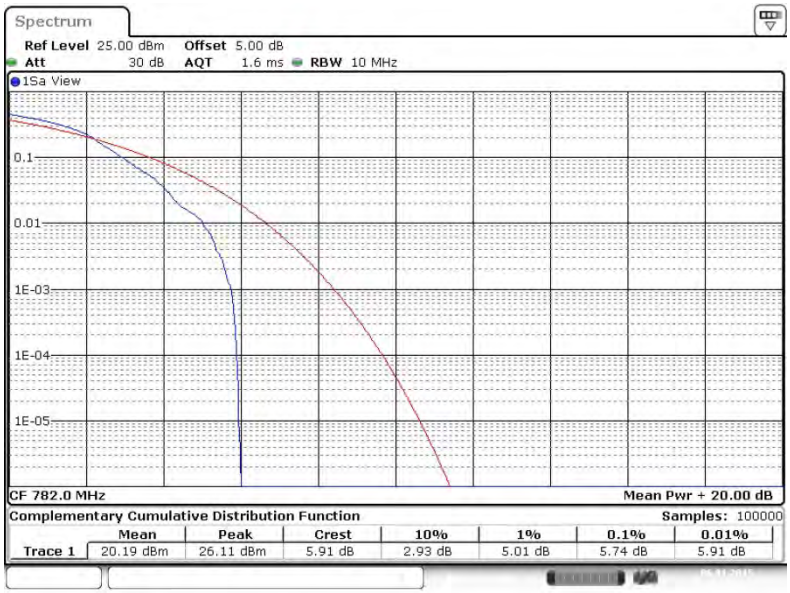
10MHz / QPSK in Ch. 23230 (50RB Size)



Date: 6.JAN.2015 14:15:37

Peak-to-Average Ratio on LTE Band 13

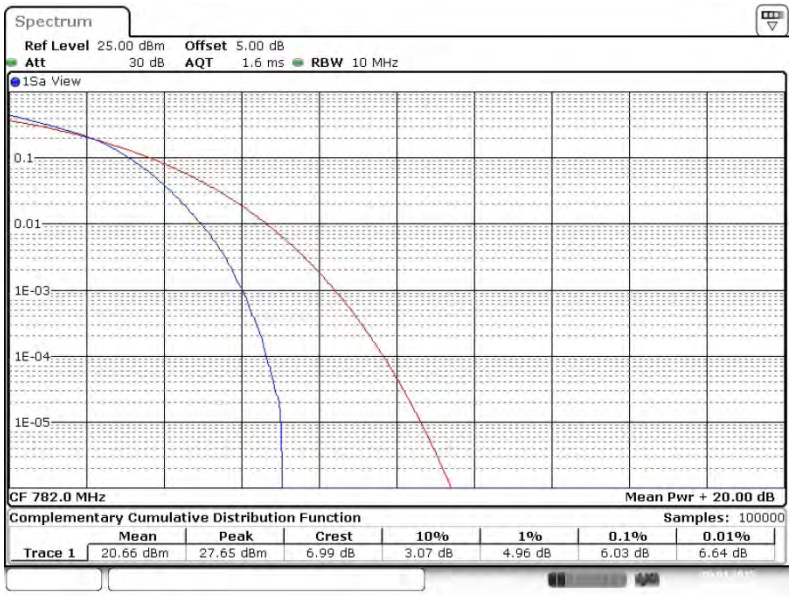
10MHz / 16QAM in Ch. 23230 (1RB Size)



Date: 6.JAN.2015 14:13:27

Peak-to-Average Ratio on LTE Band 13

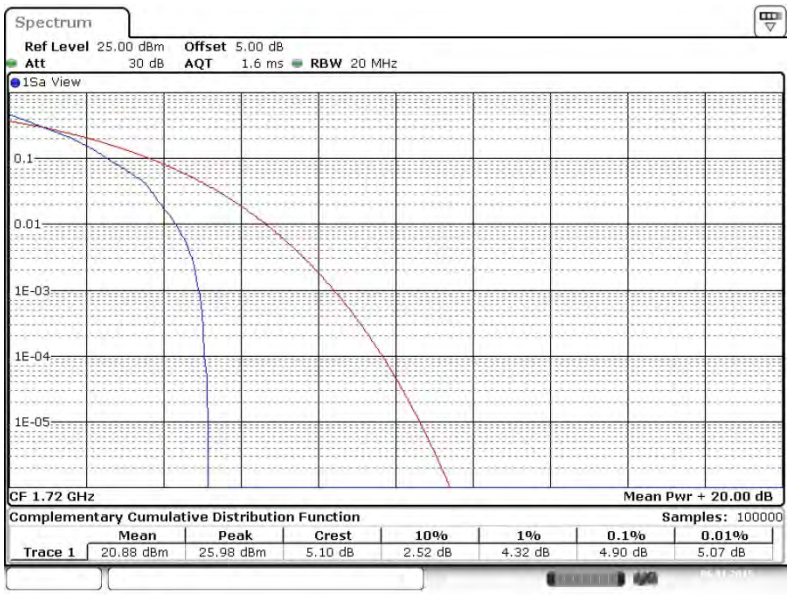
10MHz / 16QAM in Ch. 23230 (50RB Size)



Date: 6.JAN.2015 14:16:12

Peak-to-Average Ratio on LTE Band 4

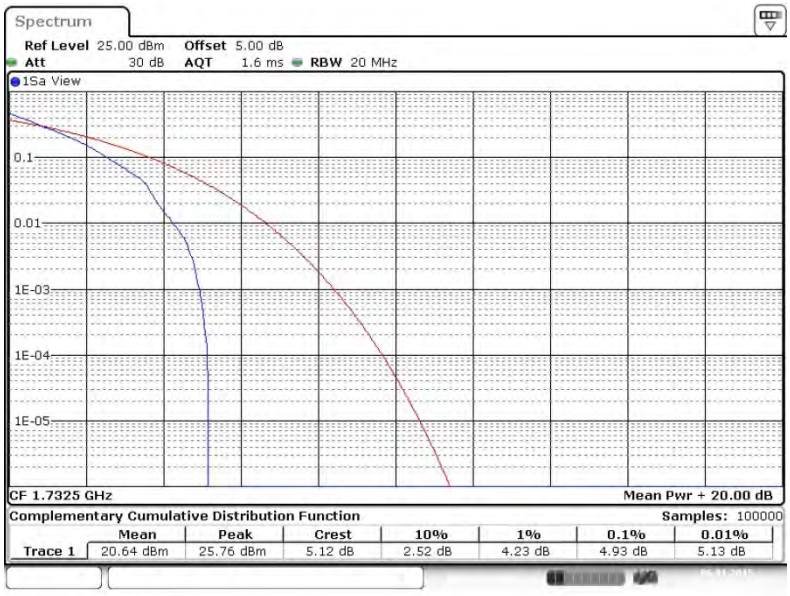
20MHz / QPSK in Ch. 20050 (1RB Size)



Date: 6.JAN.2015 13:08:05

Peak-to-Average Ratio on LTE Band 4

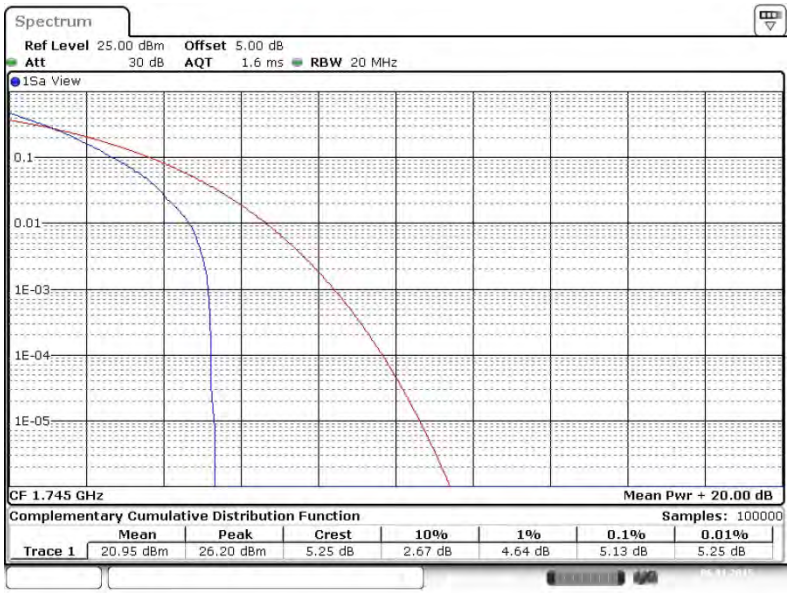
20MHz / QPSK in Ch. 20175 (1RB Size)



Date: 6.JAN.2015 13:09:40

Peak-to-Average Ratio on LTE Band 4

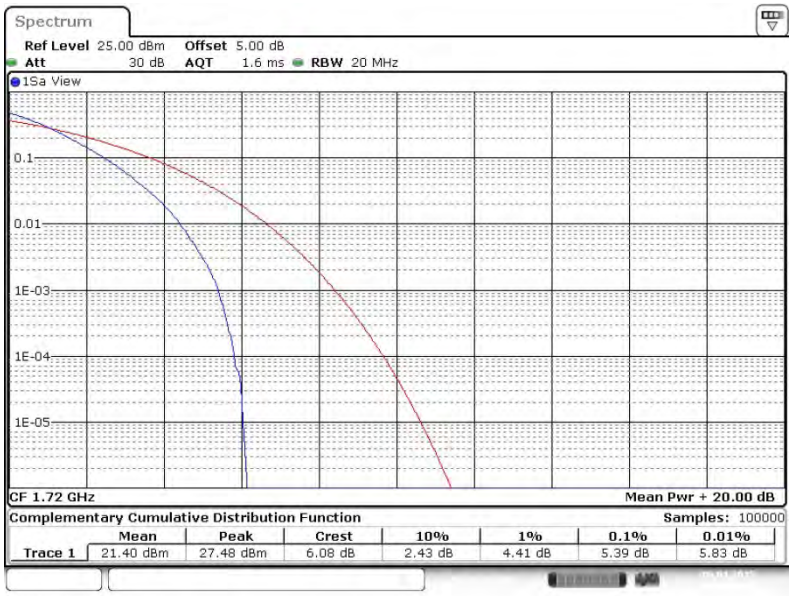
20MHz / QPSK in Ch. 20300 (1RB Size)



Date: 6.JAN.2015 13:11:08

Peak-to-Average Ratio on LTE Band 4

20MHz / QPSK in Ch. 20050 (100RB Size)



Date: 6.JAN.2015 13:07:52

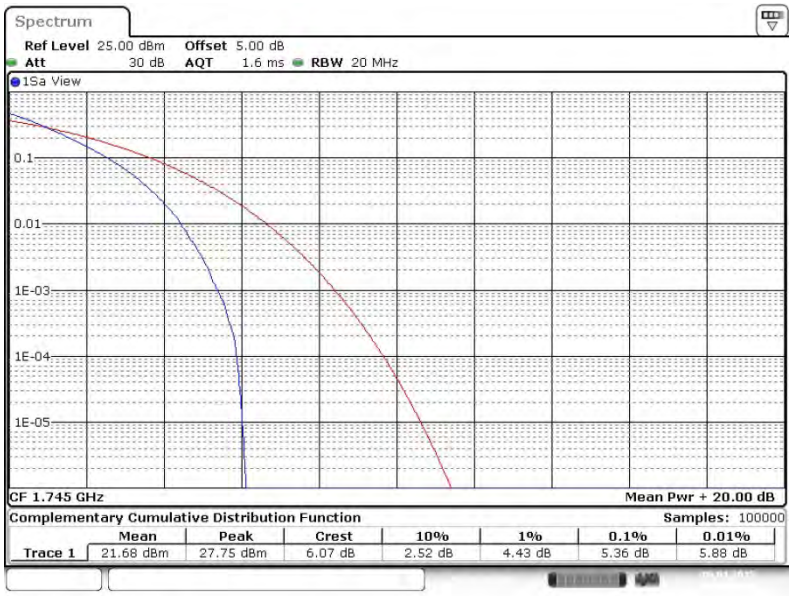
Peak-to-Average Ratio on LTE Band 4

20MHz / QPSK in Ch. 20175 (100RB Size)

Date: 6.JAN.2015 13:09:21

Peak-to-Average Ratio on LTE Band 4

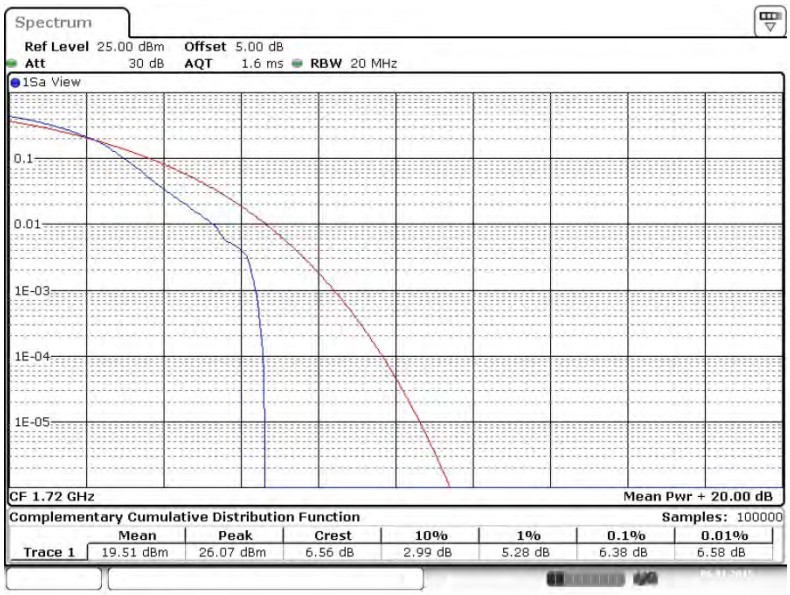
20MHz / QPSK in Ch. 20300 (100RB Size)



Date: 6.JAN.2015 13:10:54

Peak-to-Average Ratio on LTE Band 4

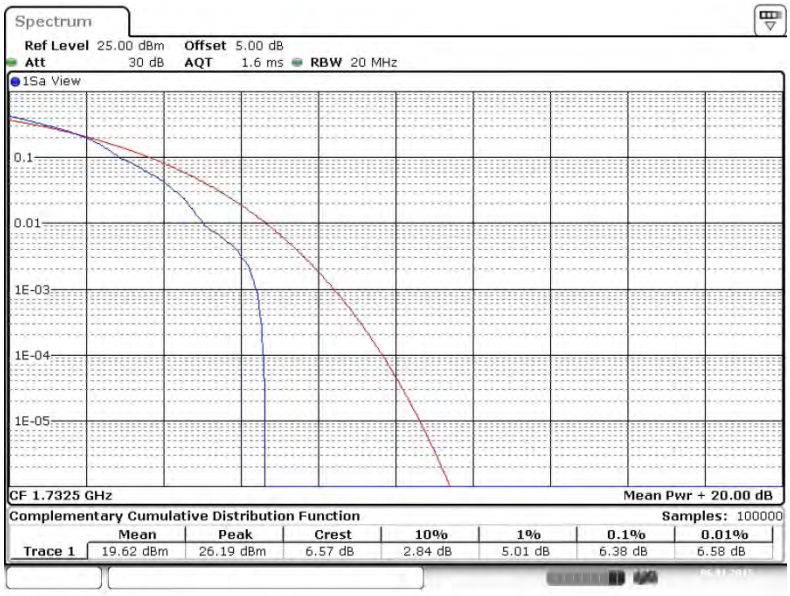
20MHz / 16QAM in Ch. 20050 (1RB Size)



Date: 6.JAN.2015 13:08:25

Peak-to-Average Ratio on LTE Band 4

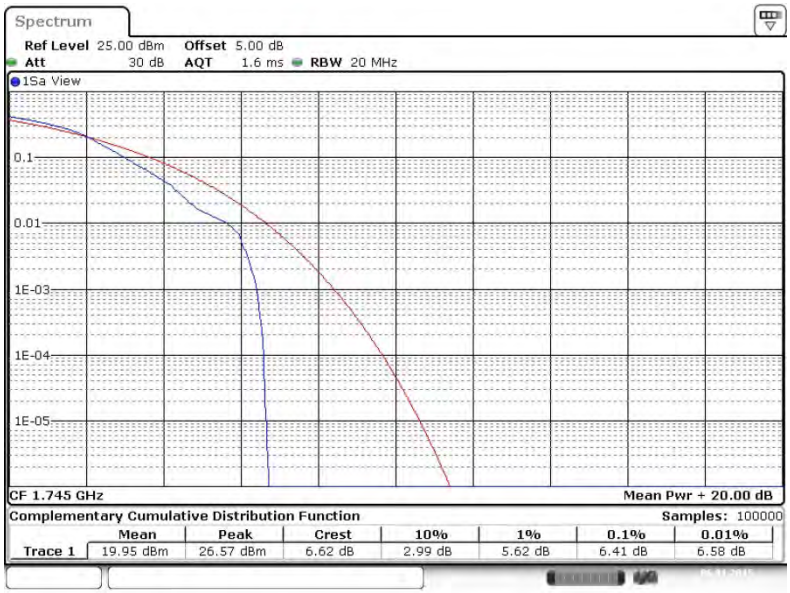
20MHz / 16QAM in Ch. 20175 (1RB Size)



Date: 6.JAN.2015 13:09:56

Peak-to-Average Ratio on LTE Band 4

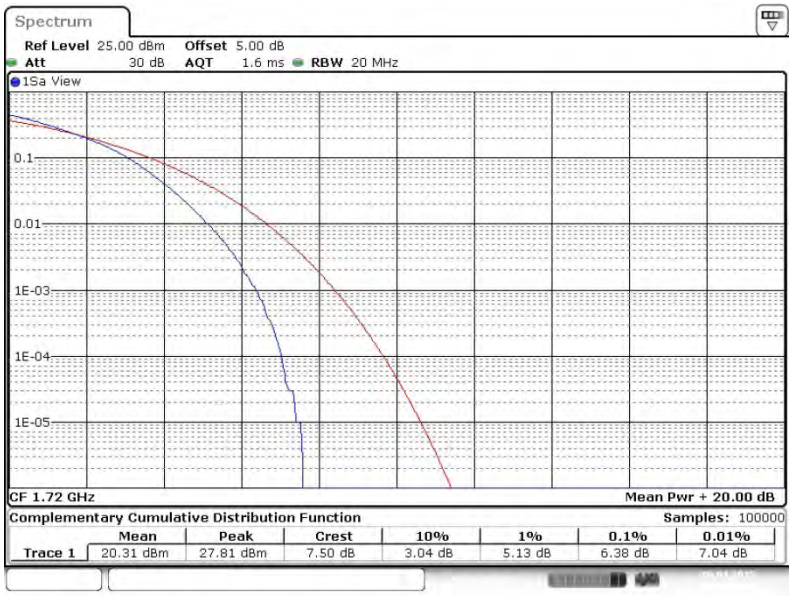
20MHz / 16QAM in Ch. 20300 (1RB Size)



Date: 6.JAN.2015 13:11:34

Peak-to-Average Ratio on LTE Band 4

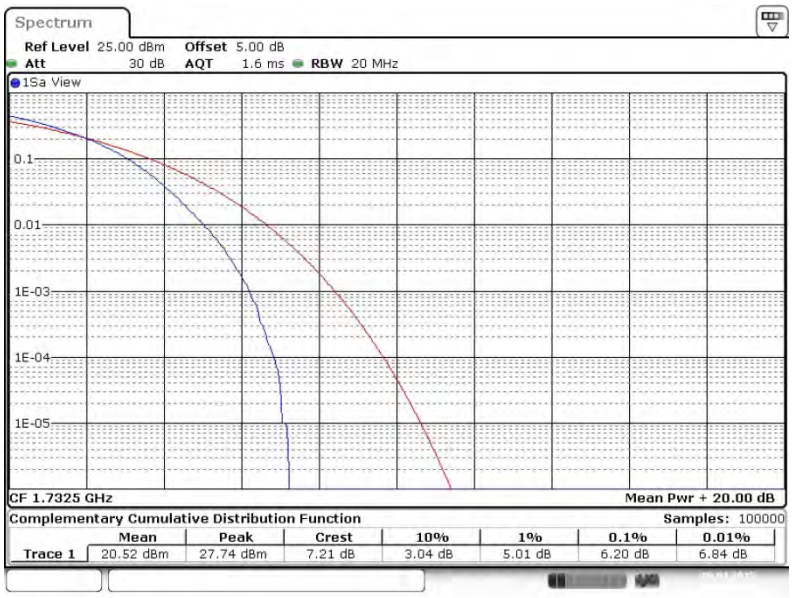
20MHz / 16QAM in Ch. 20050 (100RB Size)



Date: 6.JAN.2015 13:08:53

Peak-to-Average Ratio on LTE Band 4

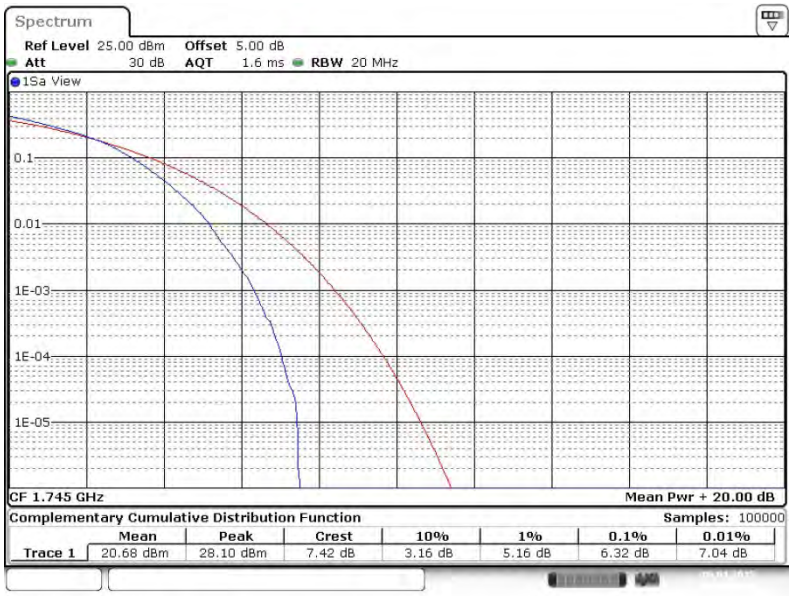
20MHz / 16QAM in Ch. 20175 (100RB Size)



Date: 6.JAN.2015 13:10:41

Peak-to-Average Ratio on LTE Band 4

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



Date: 6.JAN.2015 13:11:50

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 3 watts with LTE band 13.

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 1 watt with LTE band 4.

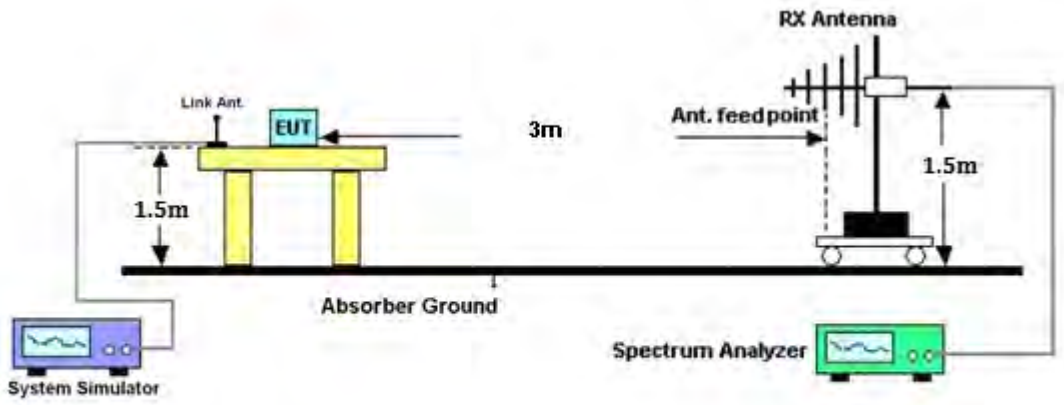
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The EUT was placed on a 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 EIRP.
6. Taking the record of maximum 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. EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
    Ps (dBm)：Input power to substitution antenna.
    Gs (dBi or dBd)：Substitution antenna Gain.
    Et = Rt + AF
    Es = Rs + AF
    AF (dB/m)：Receive antenna factor
    Rt：The highest received signal in spectrum analyzer for EUT.
    Rs：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 13 Radiated Power ERP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	ERP (W)	H/V
			RB Size	RB Offset				
13	5	QPSK	1	0	779.5	22.96	0.1977	H
13	5	QPSK	1	0	782	22.64	0.1837	H
13	5	QPSK	1	0	748.5	22.61	0.1824	H
13	5	QPSK	1	0	779.5	23.92	0.2466	V
13	5	QPSK	1	0	782	24.10	0.2570	V
13	5	QPSK	1	0	748.5	23.88	0.2443	V
13	5	16QAM	1	0	779.5	22.11	0.1626	H
13	5	16QAM	1	0	782	21.95	0.1567	H
13	5	16QAM	1	0	748.5	21.77	0.1503	H
13	5	16QAM	1	0	779.5	22.96	0.1977	V
13	5	16QAM	1	0	782	23.04	0.2014	V
13	5	16QAM	1	0	748.5	22.76	0.1888	V
13	10	QPSK	1	0	782	22.60	0.1820	H
13	10	QPSK	1	0	782	24.04	0.2535	V
13	10	16QAM	1	0	782	21.94	0.1563	H
13	10	16QAM	1	0	782	22.88	0.1941	V

LTE Band 4 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
4	1.4	QPSK	3	1	1710.7	25.81	0.3811	H
4	1.4	QPSK	3	2	1732.5	25.11	0.3243	H
4	1.4	QPSK	1	5	1754.3	24.68	0.2938	H
4	1.4	QPSK	3	1	1710.7	25.72	0.3733	V
4	1.4	QPSK	3	2	1732.5	25.41	0.3475	V
4	1.4	QPSK	1	5	1754.3	25.49	0.3540	V
4	1.4	16QAM	1	5	1710.7	24.77	0.2999	H
4	1.4	16QAM	1	2	1732.5	24.10	0.2570	H
4	1.4	16QAM	1	5	1754.3	23.68	0.2333	H
4	1.4	16QAM	1	5	1710.7	24.63	0.2904	V
4	1.4	16QAM	1	2	1732.5	24.45	0.2786	V
4	1.4	16QAM	1	5	1754.3	24.33	0.2710	V
4	3	QPSK	1	7	1711.5	25.82	0.3819	H
4	3	QPSK	1	0	1732.5	25.20	0.3311	H
4	3	QPSK	1	14	1753.5	24.77	0.2999	H
4	3	QPSK	1	7	1711.5	25.74	0.3750	V
4	3	QPSK	1	0	1732.5	25.53	0.3573	V
4	3	QPSK	1	14	1753.5	25.47	0.3524	V
4	3	16QAM	1	0	1711.5	24.72	0.2965	H
4	3	16QAM	1	7	1732.5	23.97	0.2495	H
4	3	16QAM	1	14	1753.5	23.59	0.2286	H
4	3	16QAM	1	0	1711.5	24.61	0.2891	V
4	3	16QAM	1	7	1732.5	24.31	0.2698	V
4	3	16QAM	1	14	1753.5	24.24	0.2655	V

LTE Band 4 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
4	5	QPSK	1	24	1712.5	25.79	0.3793	H
4	5	QPSK	1	0	1732.5	25.22	0.3327	H
4	5	QPSK	1	0	1752.5	24.92	0.3105	H
4	5	QPSK	1	24	1712.5	25.65	0.3673	V
4	5	QPSK	1	0	1732.5	25.49	0.3540	V
4	5	QPSK	1	0	1752.5	25.58	0.3614	V
4	5	16QAM	1	12	1712.5	24.54	0.2844	H
4	5	16QAM	1	0	1732.5	23.90	0.2455	H
4	5	16QAM	1	12	1752.5	23.58	0.2280	H
4	5	16QAM	1	12	1712.5	24.38	0.2742	V
4	5	16QAM	1	0	1732.5	24.22	0.2642	V
4	5	16QAM	1	12	1752.5	24.15	0.2600	V
4	10	QPSK	1	24	1715	25.68	0.3698	H
4	10	QPSK	1	49	1732.5	25.10	0.3236	H
4	10	QPSK	1	24	1750	24.77	0.2999	H
4	10	QPSK	1	24	1715	25.54	0.3581	V
4	10	QPSK	1	49	1732.5	25.65	0.3673	V
4	10	QPSK	1	24	1750	25.46	0.3516	V
4	10	16QAM	1	0	1715	24.62	0.2897	H
4	10	16QAM	1	0	1732.5	24.08	0.2559	H
4	10	16QAM	1	24	1750	23.68	0.2333	H
4	10	16QAM	1	0	1715	24.51	0.2825	V
4	10	16QAM	1	0	1732.5	24.36	0.2729	V
4	10	16QAM	1	24	1750	24.38	0.2742	V

LTE Band 4 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
4	15	QPSK	1	0	1717.5	25.77	0.3776	H
4	15	QPSK	1	0	1732.5	25.32	0.3404	H
4	15	QPSK	1	0	1747.5	24.90	0.3090	H
4	15	QPSK	1	0	1717.5	25.64	0.3664	V
4	15	QPSK	1	0	1732.5	25.55	0.3589	V
4	15	QPSK	1	0	1747.5	25.58	0.3614	V
4	15	16QAM	1	37	1717.5	24.40	0.2754	H
4	15	16QAM	1	74	1732.5	23.81	0.2404	H
4	15	16QAM	1	0	1747.5	23.76	0.2377	H
4	15	16QAM	1	37	1717.5	24.54	0.2844	V
4	15	16QAM	1	74	1732.5	24.49	0.2812	V
4	15	16QAM	1	0	1747.5	24.53	0.2838	V
4	20	QPSK	1	0	1720	25.80	0.3802	H
4	20	QPSK	1	0	1732.5	25.36	0.3436	H
4	20	QPSK	1	0	1745	25.19	0.3304	H
4	20	QPSK	1	0	1720	25.65	0.3673	V
4	20	QPSK	1	0	1732.5	25.43	0.3491	V
4	20	QPSK	1	0	1745	25.72	0.3733	V
4	20	16QAM	1	0	1720	24.71	0.2958	H
4	20	16QAM	1	0	1732.5	24.19	0.2624	H
4	20	16QAM	1	0	1745	24.03	0.2529	H
4	20	16QAM	1	0	1720	24.54	0.2844	V
4	20	16QAM	1	0	1732.5	24.35	0.2723	V
4	20	16QAM	1	0	1745	24.58	0.2871	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.

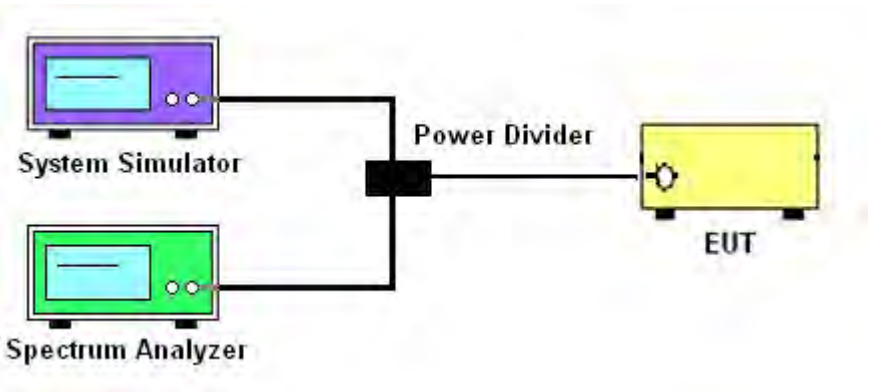
3.4.2 Measuring Instruments

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 13			
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.505	4.505	9.131	9.071
26dB BW (MHz)	5.045	5.045	10.090	9.970

Modes	LTE Band 4			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.094	1.094	2.721	2.721
26dB BW (MHz)	1.290	1.290	3.033	3.045
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.486	4.505	9.051	8.991
26dB BW (MHz)	5.035	5.015	9.870	9.950
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM
99% OBW (MHz)	13.397	13.427	18.302	18.222
26dB BW (MHz)	14.476	14.655	20.420	20.220

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

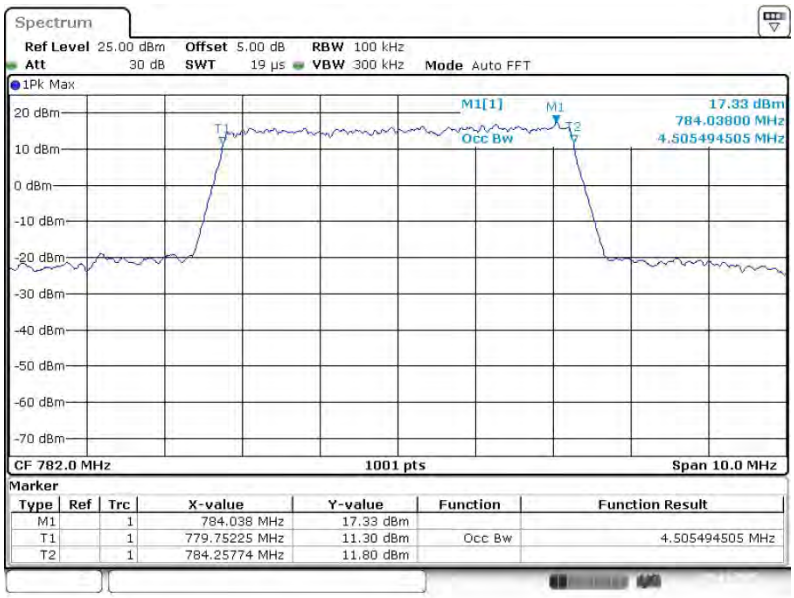
BW15MHz RB setting：RB Size 75, RB offset 0

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 13	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23230



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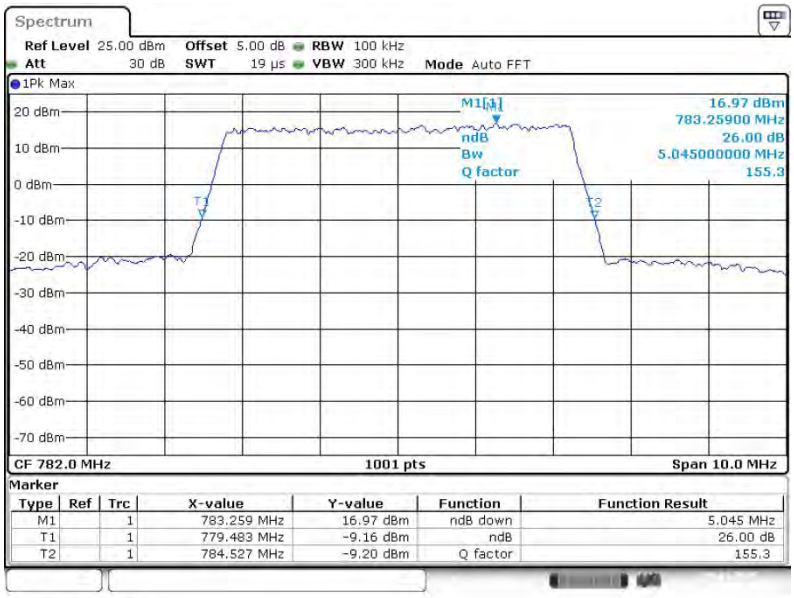
26dB Bandwidth Plot on Channel 23230



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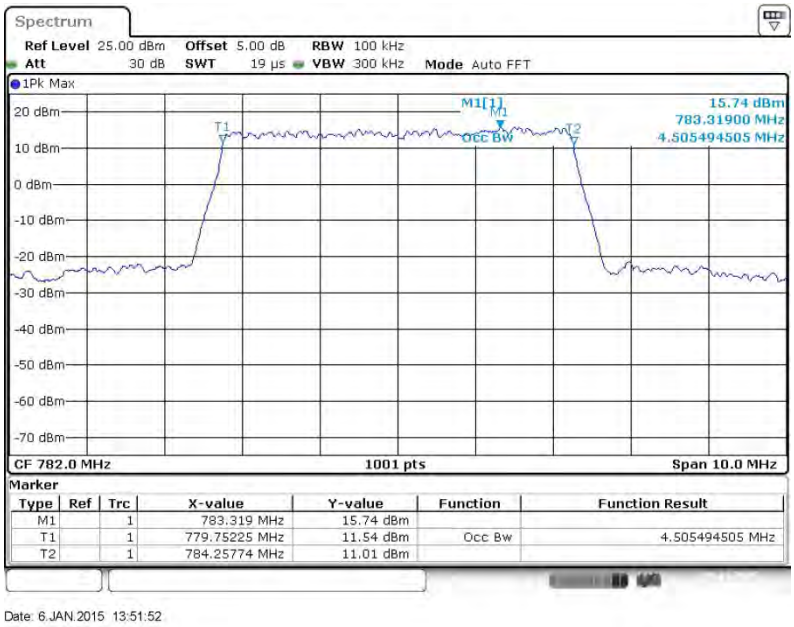
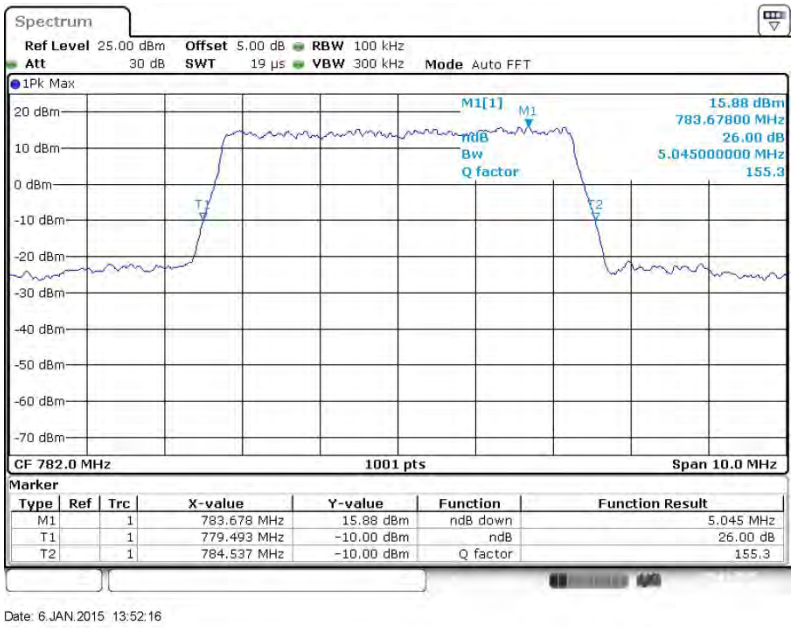
Band :	LTE Band 13	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23230

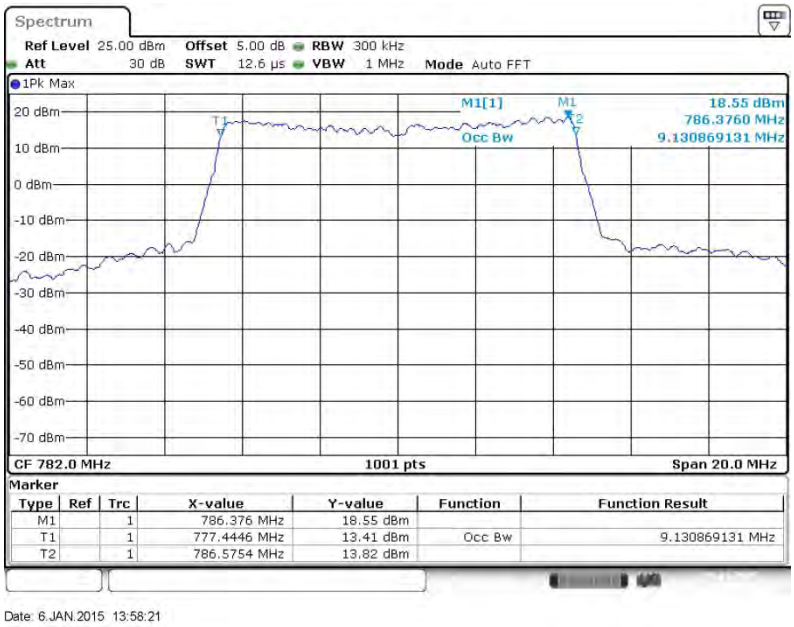


26dB Bandwidth Plot on Channel 23230

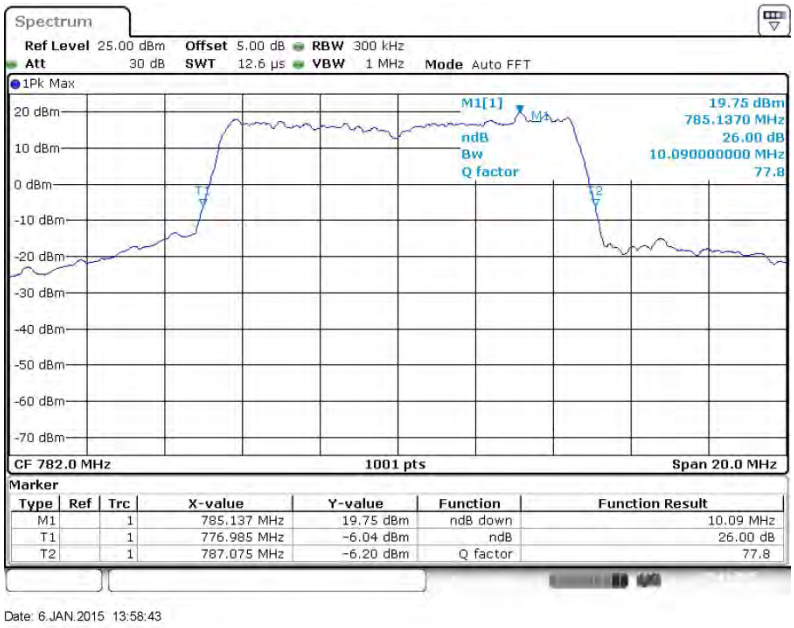


Band :	LTE Band 13	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23230

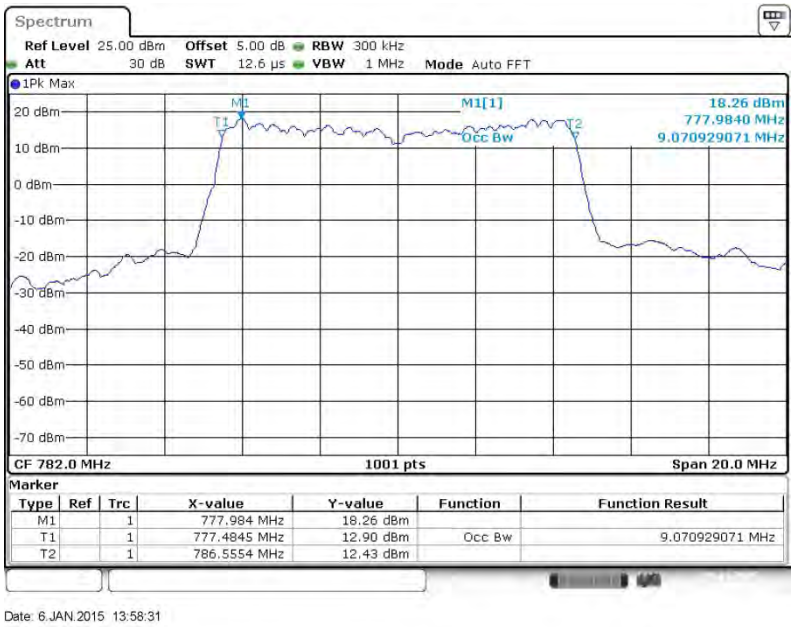


26dB Bandwidth Plot on Channel 23230

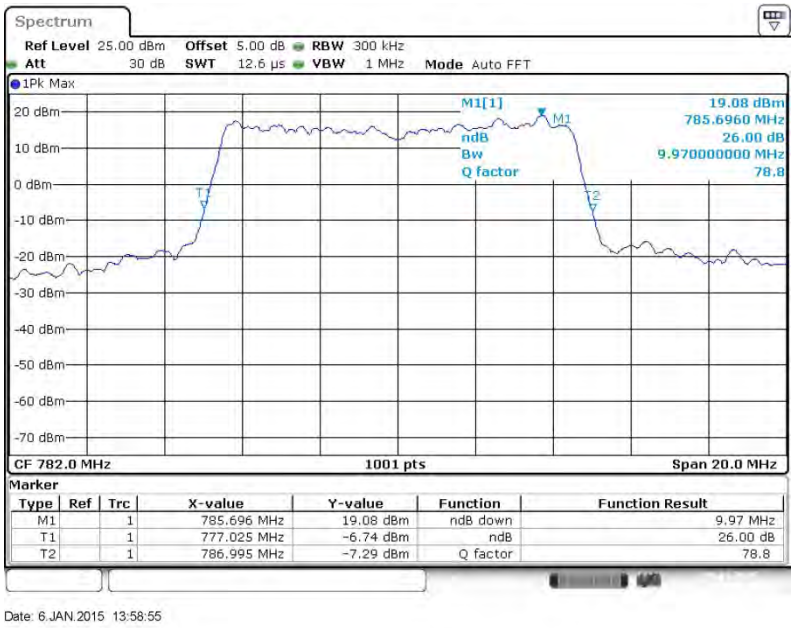


Band :	LTE Band 13	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23230

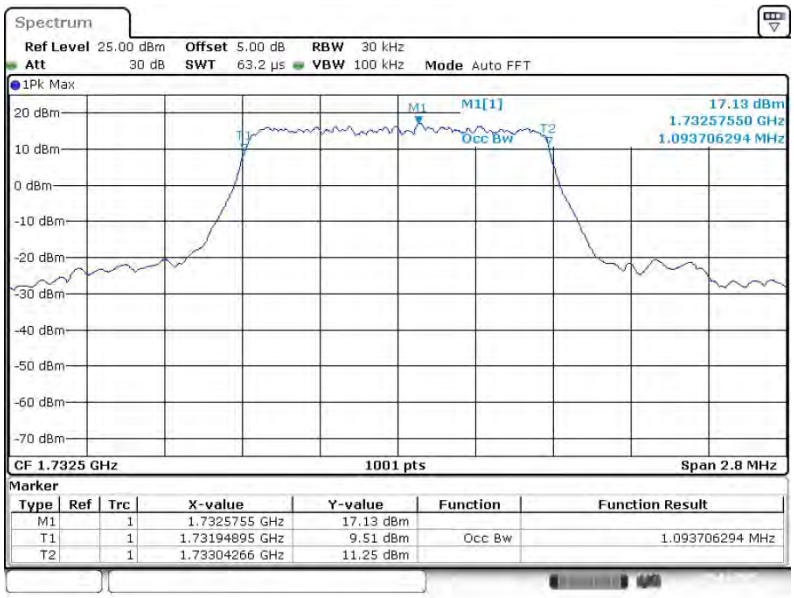


26dB Bandwidth Plot on Channel 23230



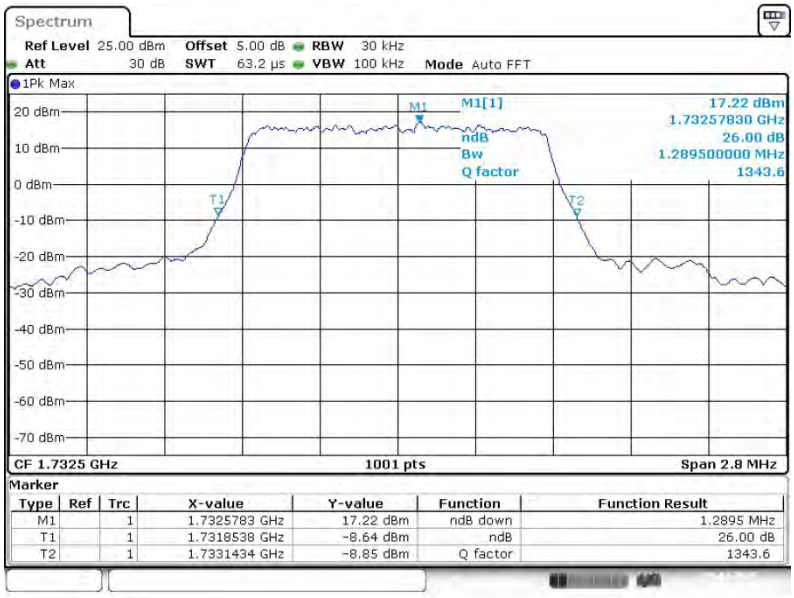
Band :	LTE Band 4	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175



Date: 6.JAN.2015 10:21:56

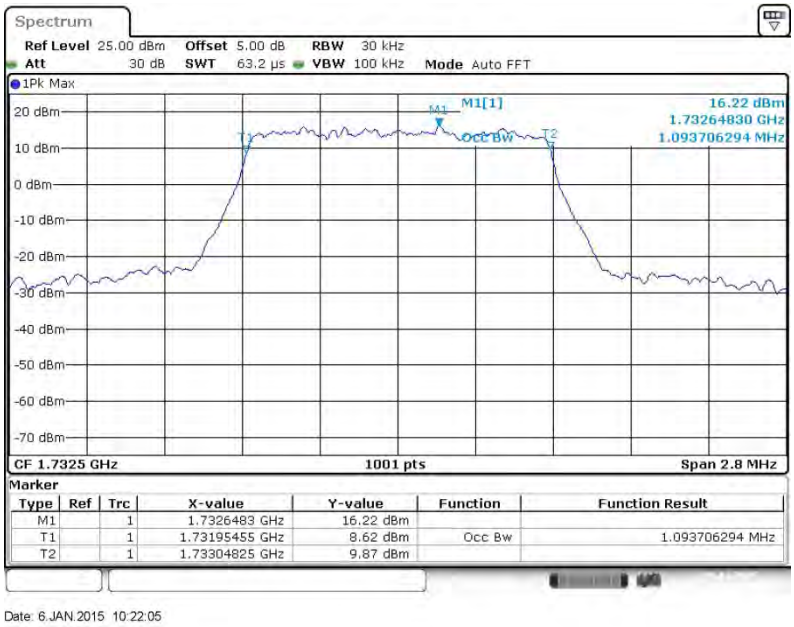
26dB Bandwidth Plot on Channel 20175



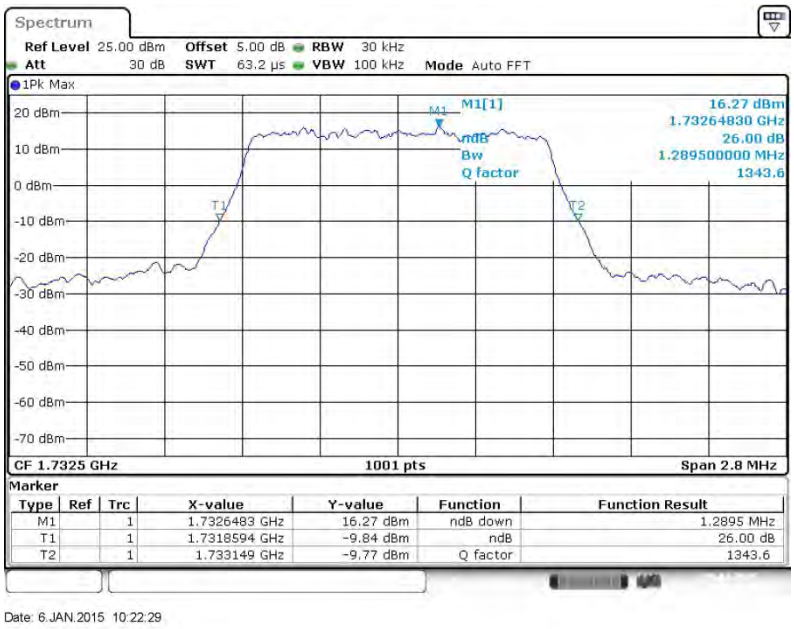
Date: 6.JAN.2015 10:22:17

Band :	LTE Band 4	BW / Mod. :	1.4MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

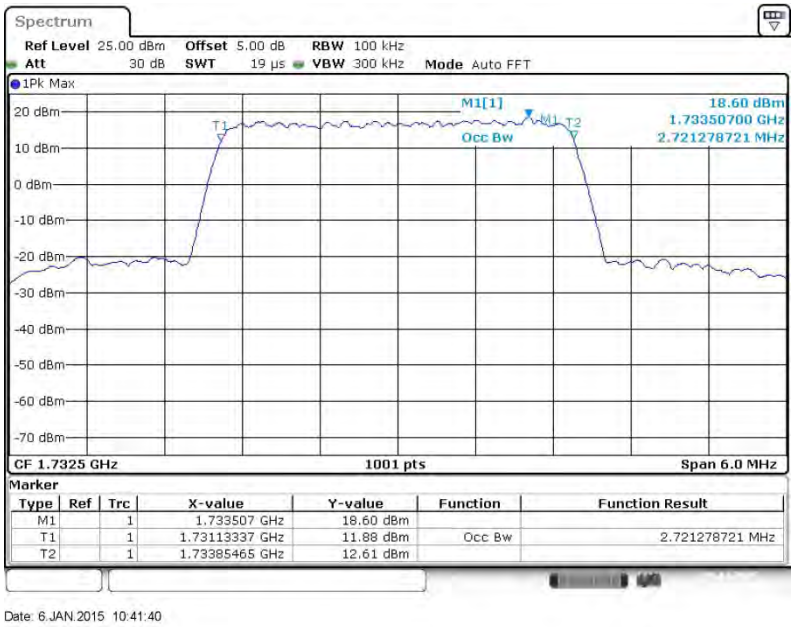


26dB Bandwidth Plot on Channel 20175

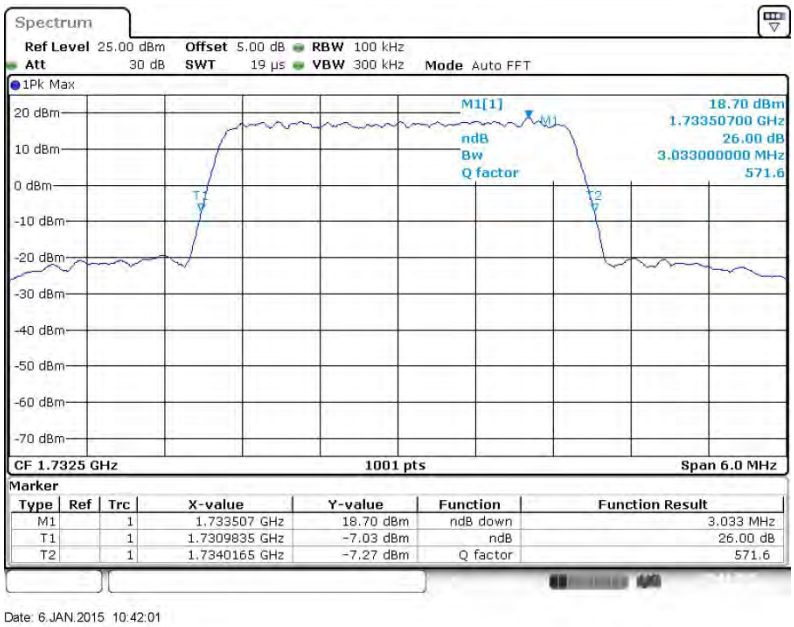


Band :	LTE Band 4	BW / Mod. :	3MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

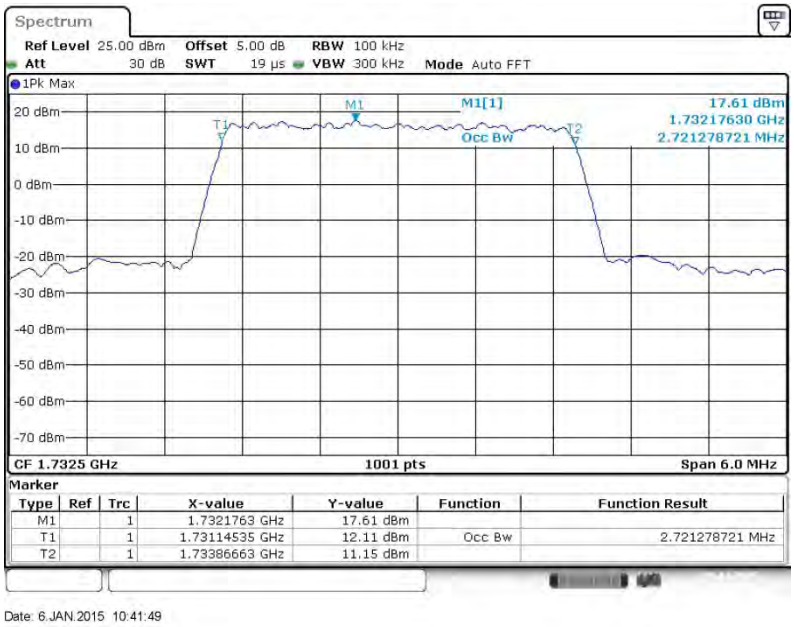


26dB Bandwidth Plot on Channel 20175

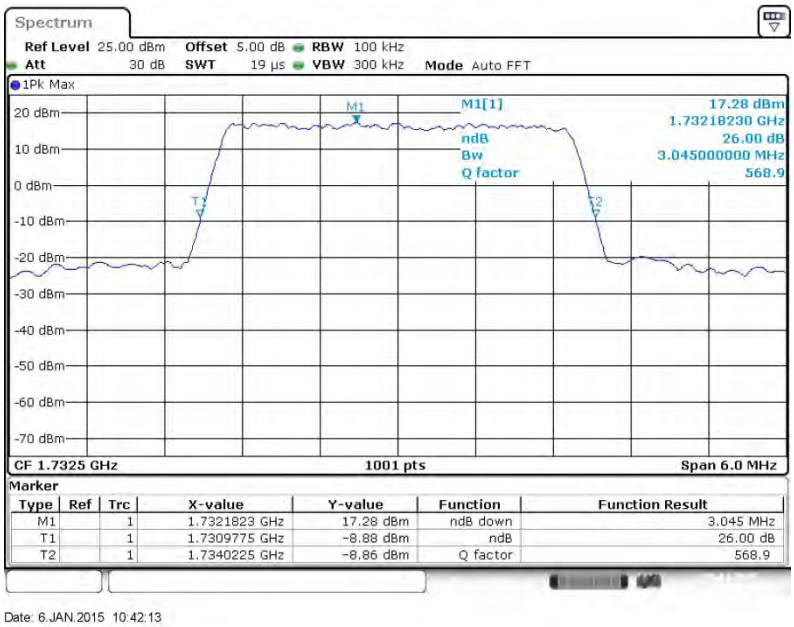


Band :	LTE Band 4	BW / Mod. :	3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

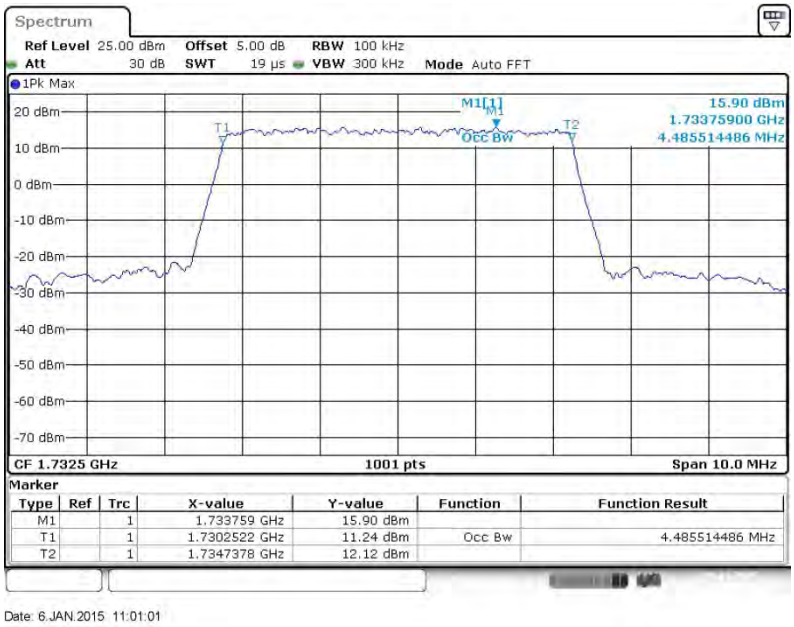


26dB Bandwidth Plot on Channel 20175

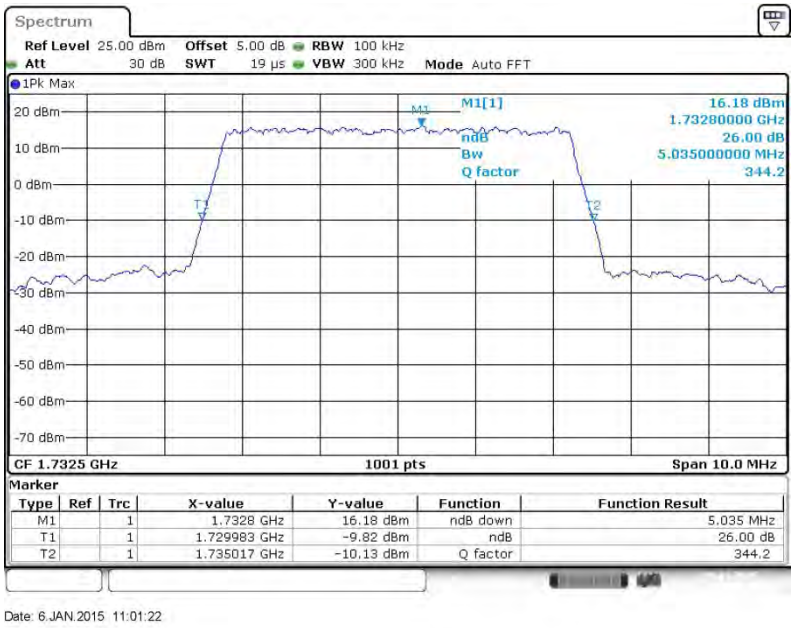


Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

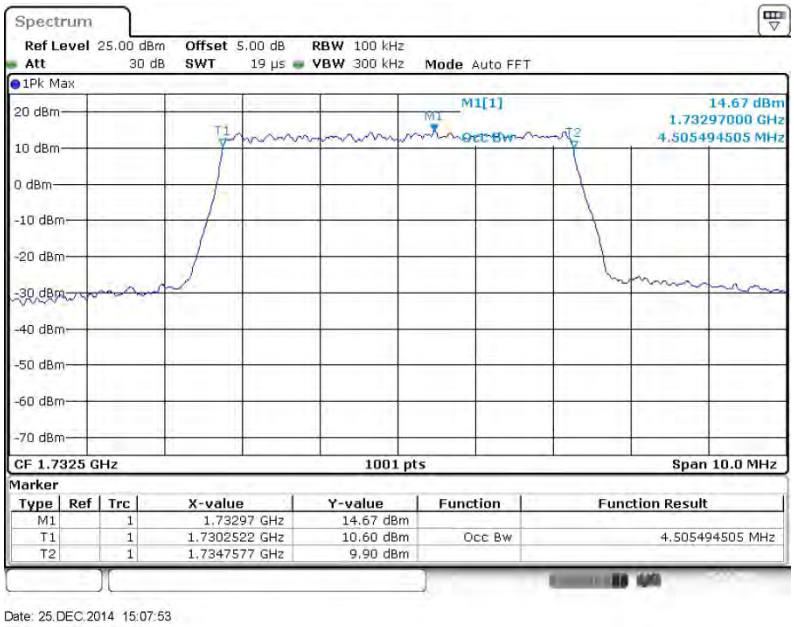


26dB Bandwidth Plot on Channel 20175

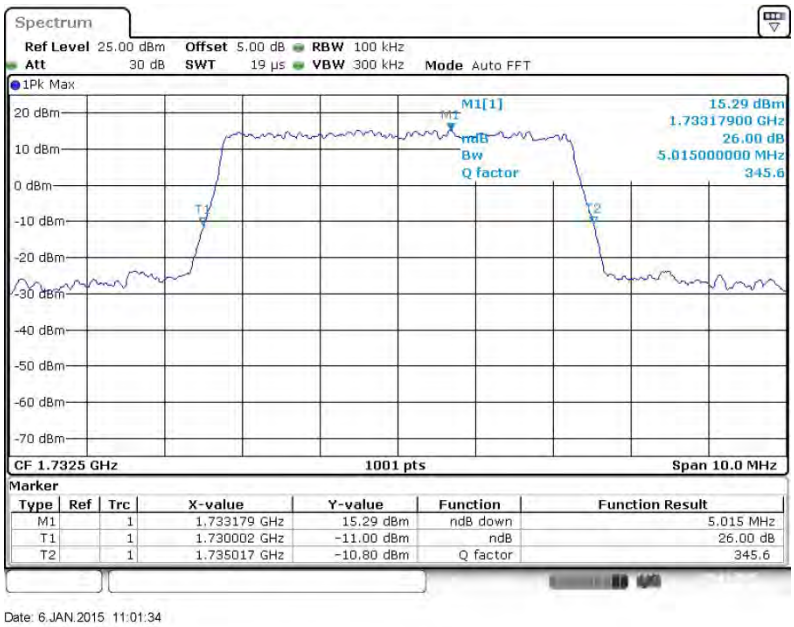


Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

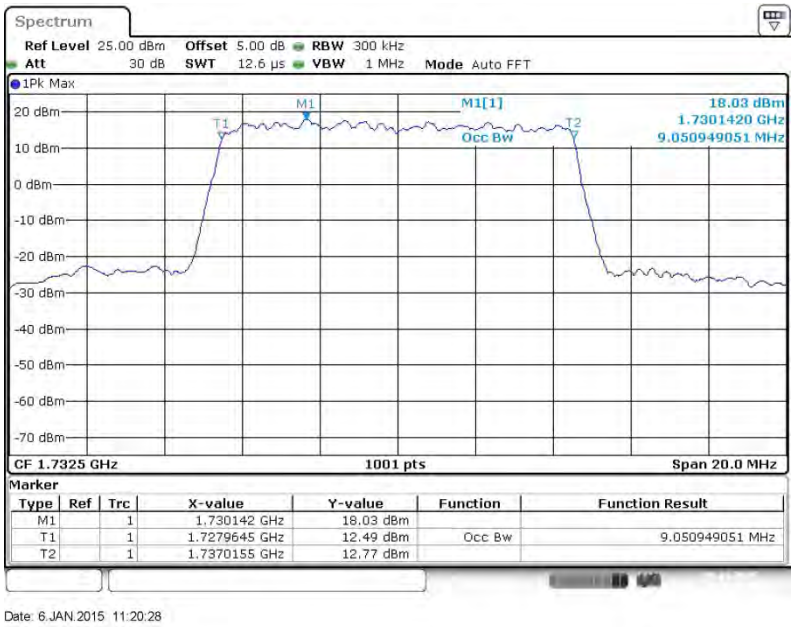


26dB Bandwidth Plot on Channel 20175

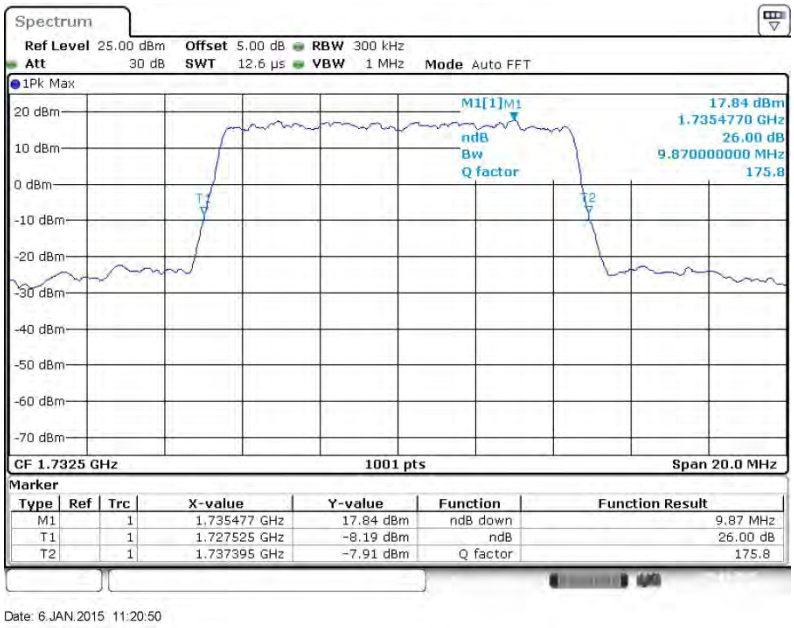


Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

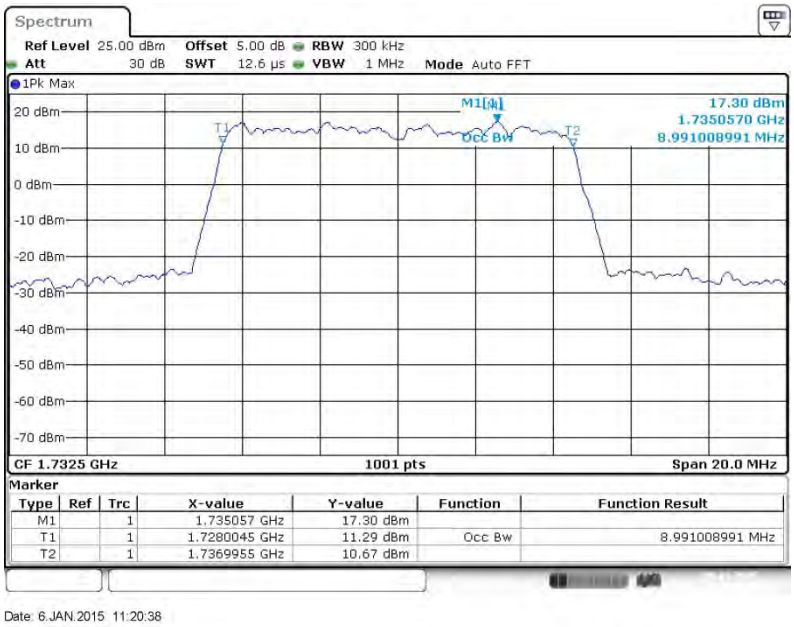


26dB Bandwidth Plot on Channel 20175

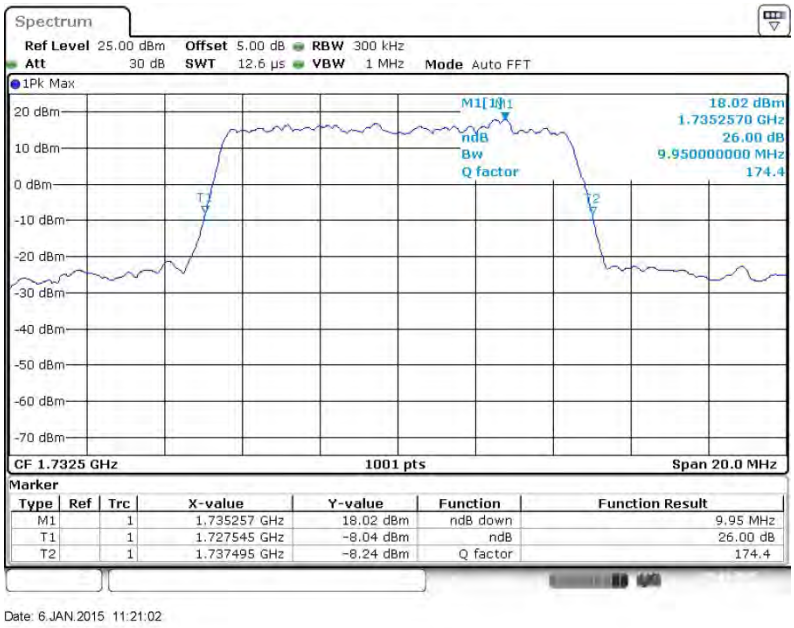


Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

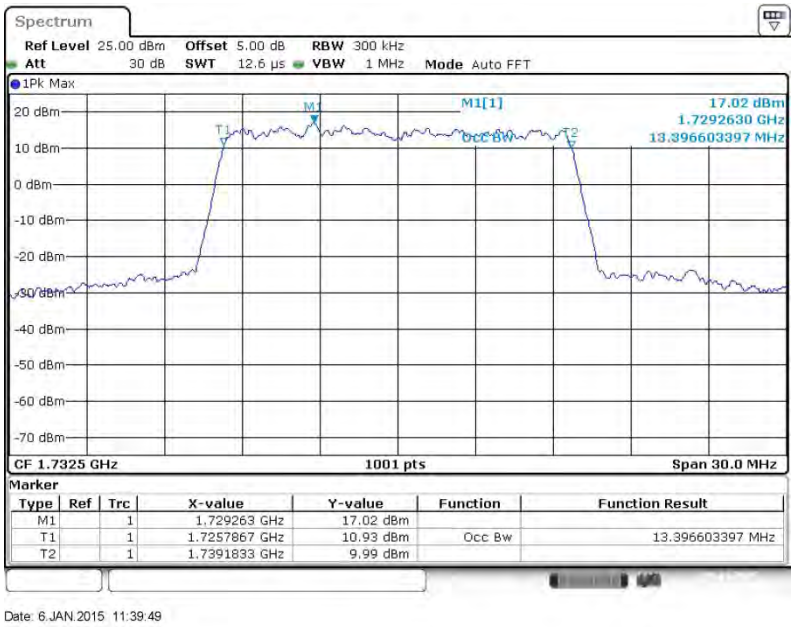


26dB Bandwidth Plot on Channel 20175

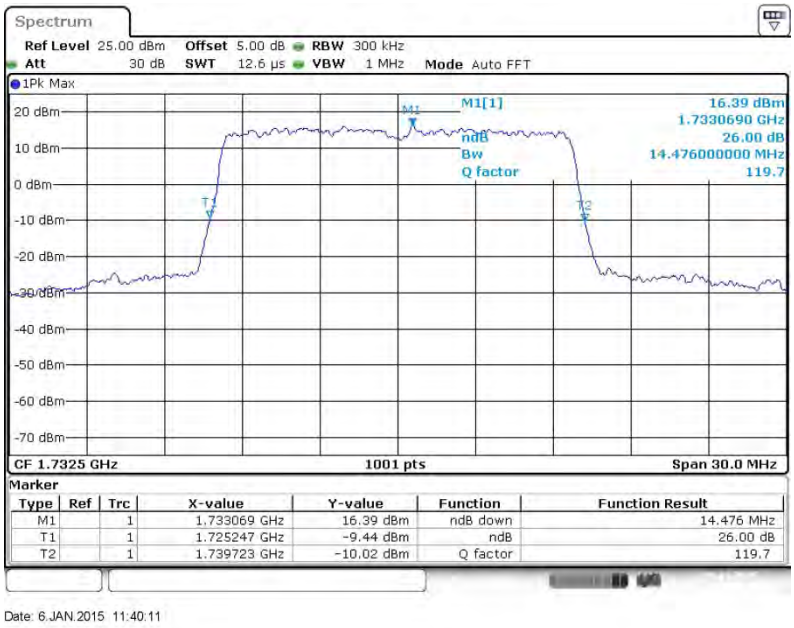


Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

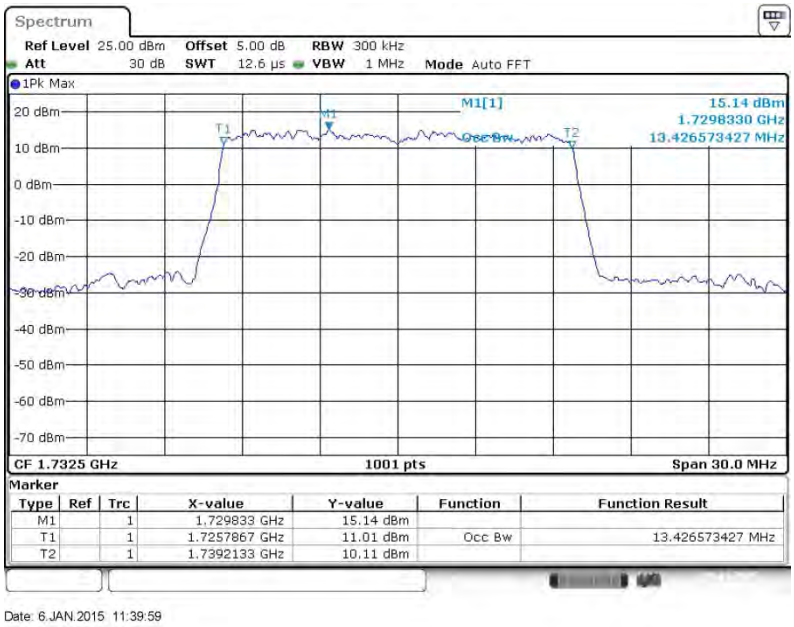


26dB Bandwidth Plot on Channel 20175

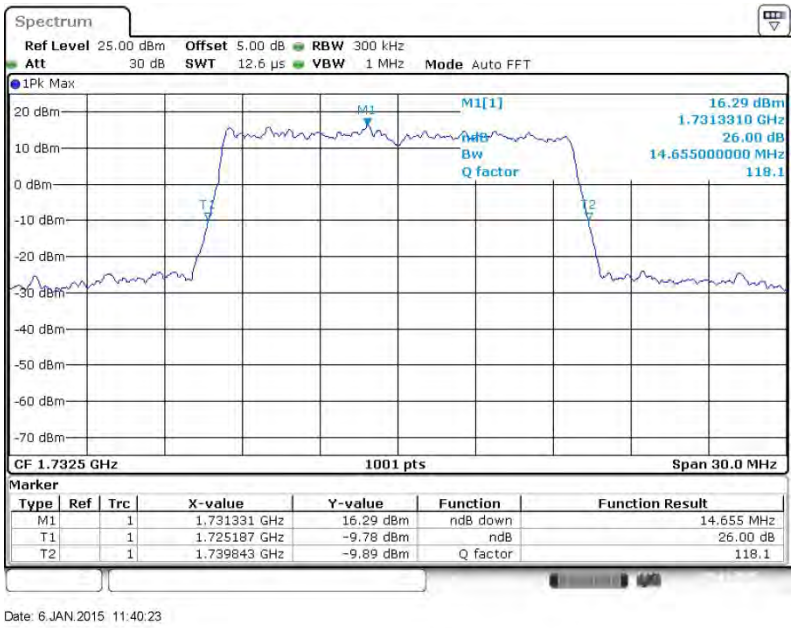


Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

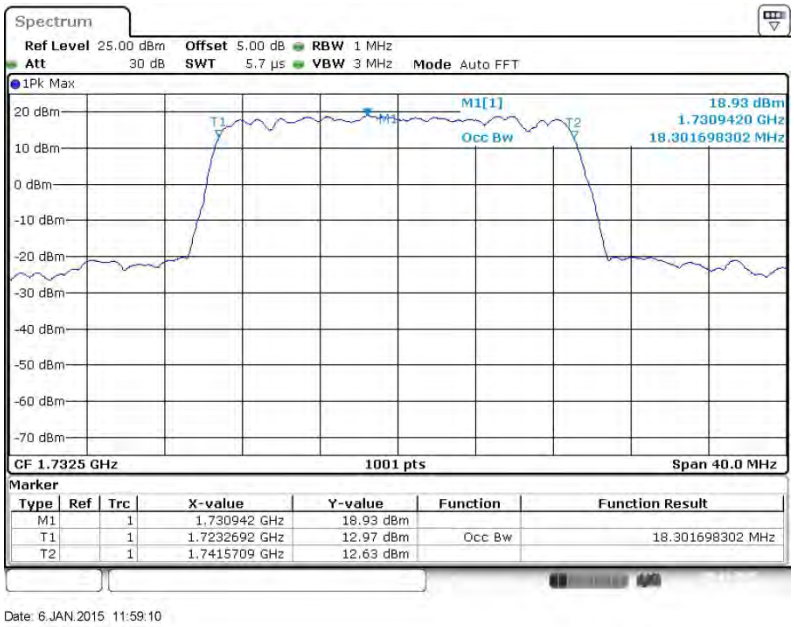


26dB Bandwidth Plot on Channel 20175

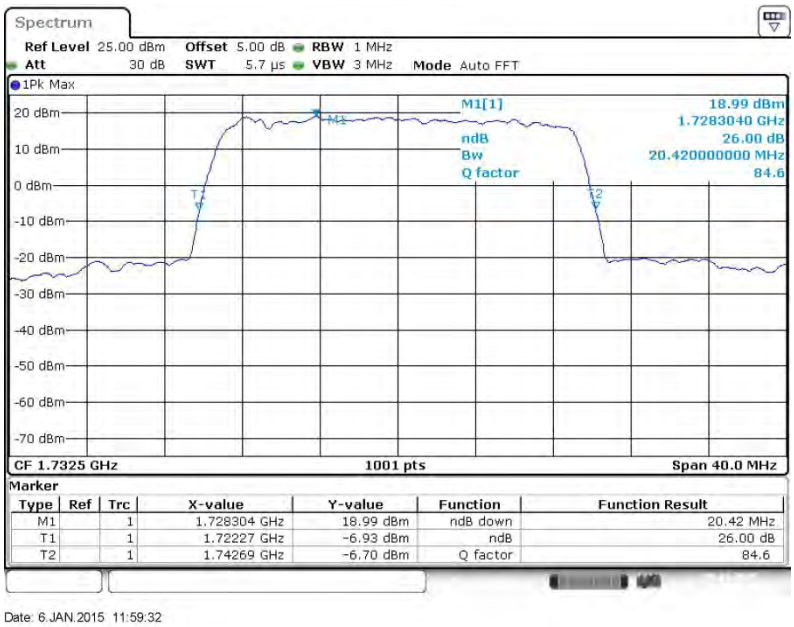


Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

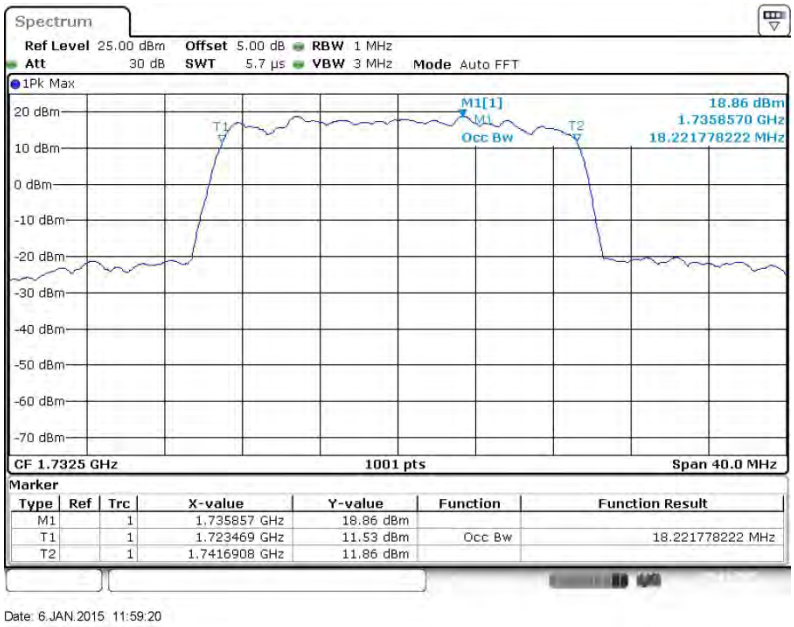


26dB Bandwidth Plot on Channel 20175

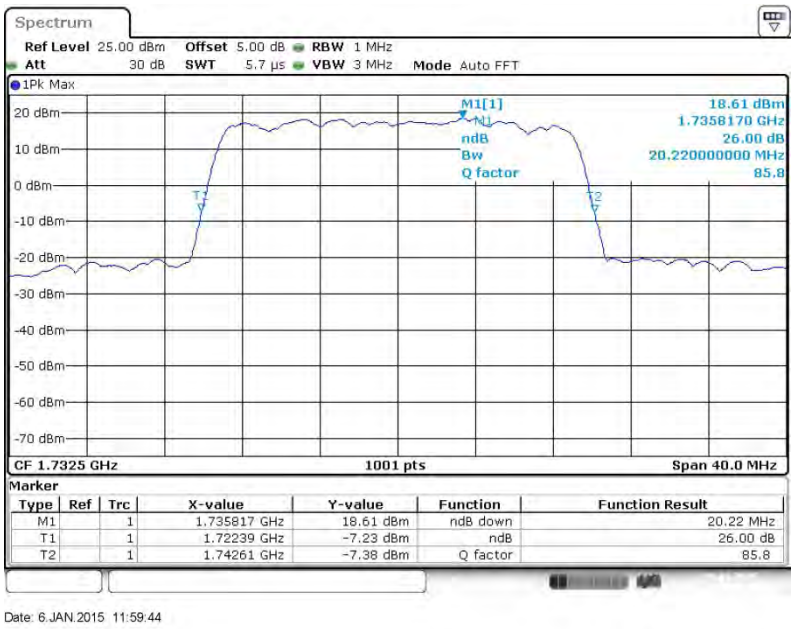


Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175



26dB Bandwidth Plot on Channel 20175



3.5 Conducted Band Edge Measurement

3.5.1 Description of Conducted Band Edge Measurement

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz 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.

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

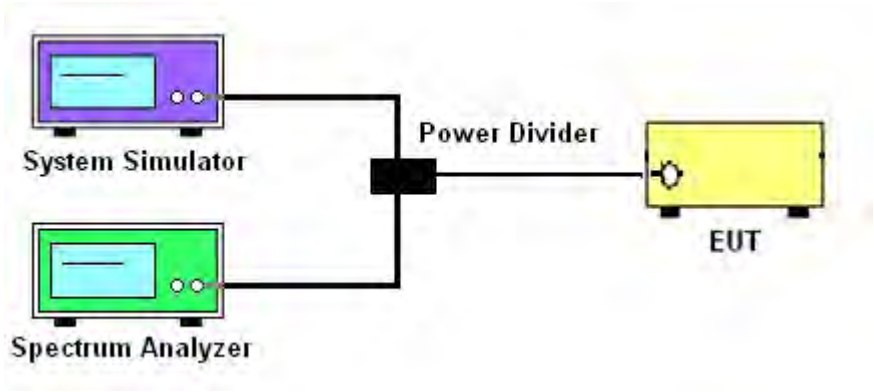
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with RMS detector.
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 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

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

   = -13dBm.

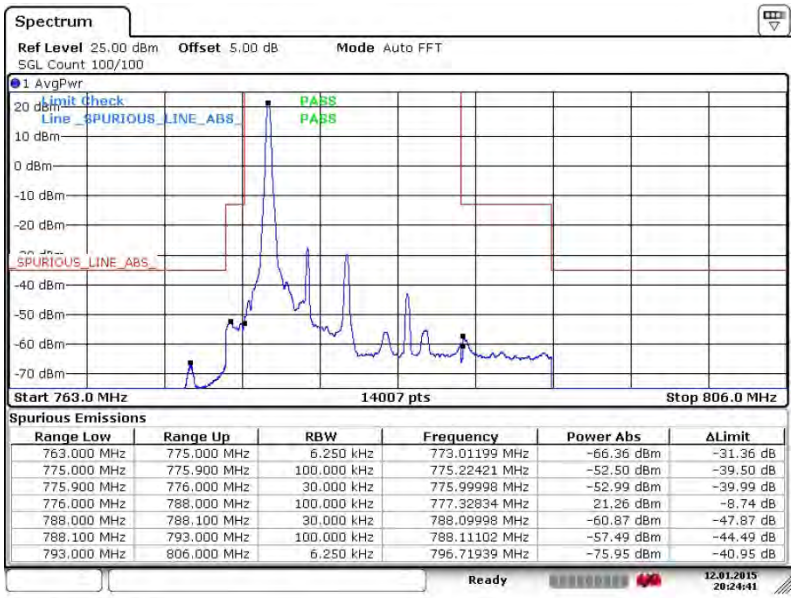
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Band Edge

Band :	LTE Band 13	Band Width :	5MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

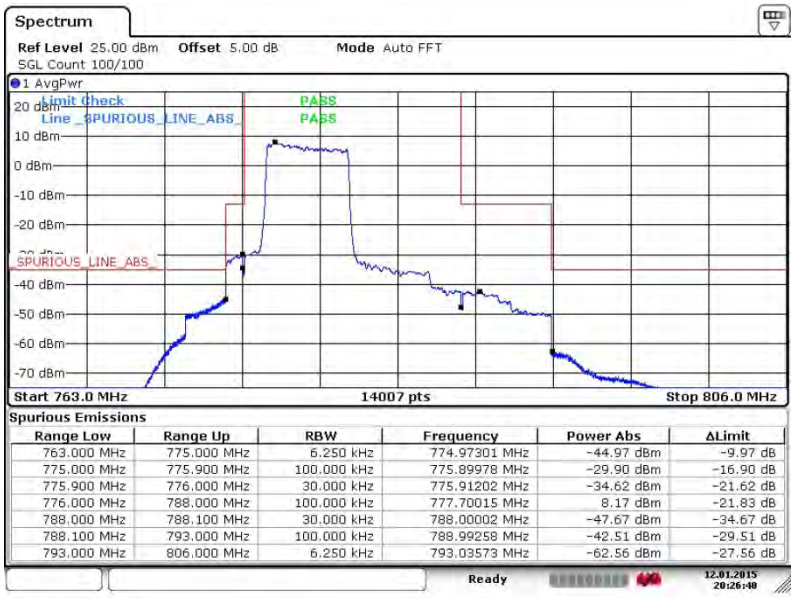


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	773.01199 MHz	-66.36 dBm	-31.36 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.22421 MHz	-52.50 dBm	-39.50 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99998 MHz	-52.99 dBm	-39.99 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.32834 MHz	21.26 dBm	-8.74 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.09998 MHz	-60.87 dBm	-47.87 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.11102 MHz	-57.49 dBm	-44.49 dB
793.000 MHz	806.000 MHz	6.250 kHz	796.71939 MHz	-75.95 dBm	-40.95 dB

Date: 12.JAN.2015 20:24:41

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

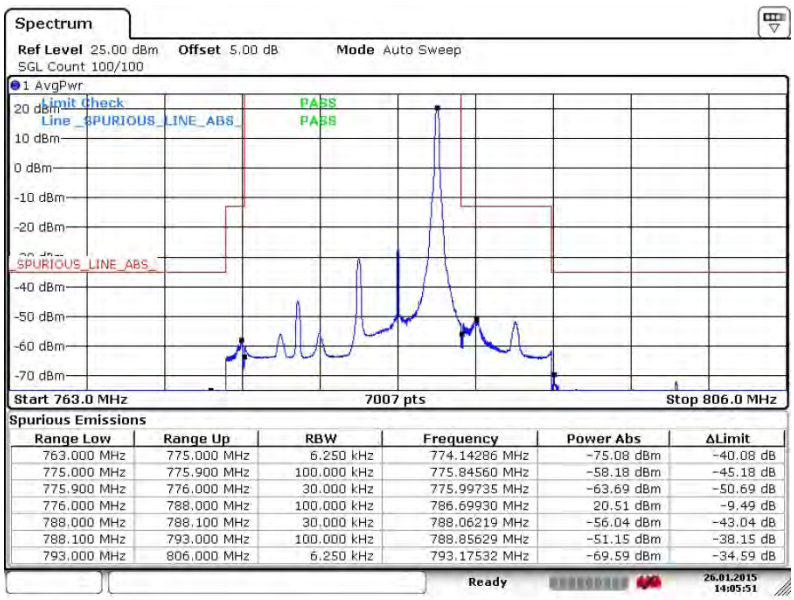


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.97301 MHz	-44.97 dBm	-9.97 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89978 MHz	-29.90 dBm	-16.90 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.91202 MHz	-34.62 dBm	-21.62 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.70015 MHz	8.17 dBm	-21.83 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00002 MHz	-47.67 dBm	-34.67 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.99258 MHz	-42.51 dBm	-29.51 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.03573 MHz	-62.56 dBm	-27.56 dB

Date: 12.JAN.2015 20:26:40

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

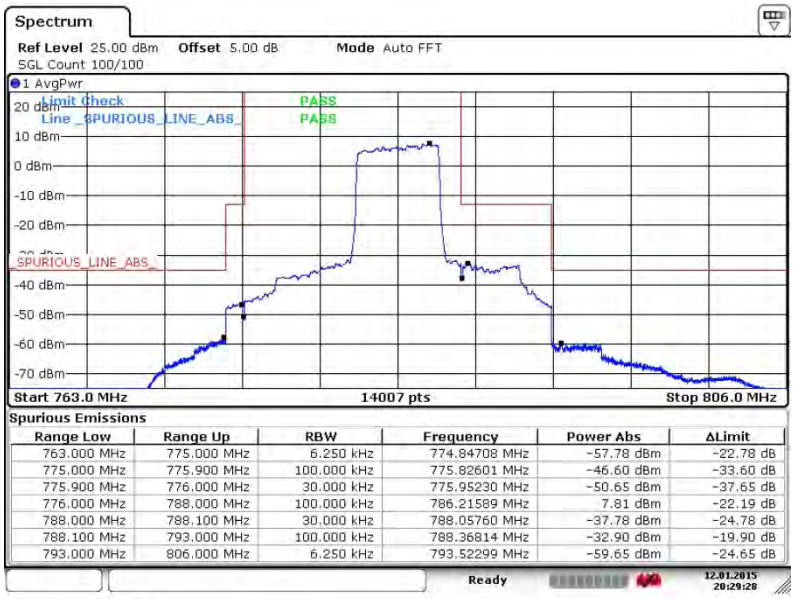


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.14286 MHz	-75.08 dBm	-40.08 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.84560 MHz	-58.18 dBm	-45.18 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99735 MHz	-63.69 dBm	-50.69 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.69930 MHz	20.51 dBm	-9.49 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.06219 MHz	-56.04 dBm	-43.04 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.85629 MHz	-51.15 dBm	-38.15 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.17532 MHz	-69.59 dBm	-34.59 dB

Date: 26.JAN.2015 14:05:51

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



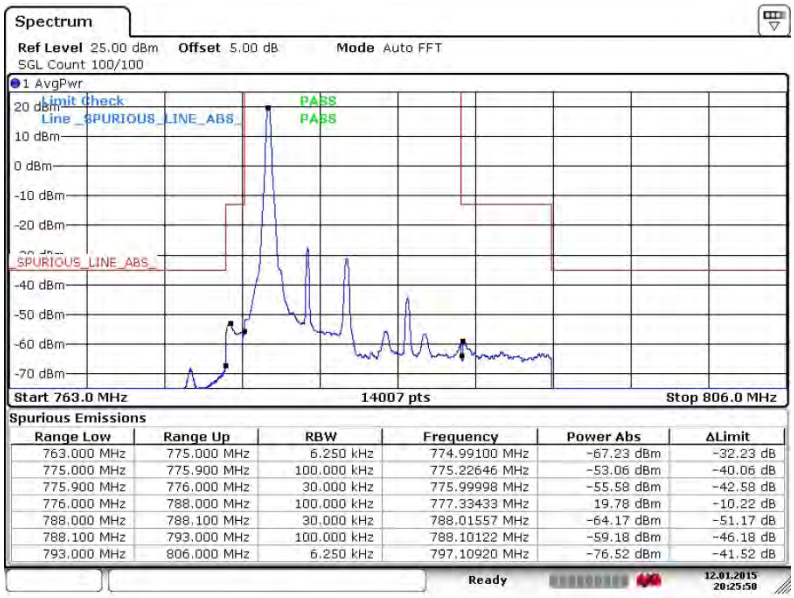
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.84708 MHz	-57.78 dBm	-22.78 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.82601 MHz	-46.60 dBm	-33.60 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.95230 MHz	-50.65 dBm	-37.65 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.21589 MHz	7.81 dBm	-22.19 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.05760 MHz	-37.78 dBm	-24.78 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.36814 MHz	-32.90 dBm	-19.90 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.52299 MHz	-59.65 dBm	-24.65 dB

Date: 12.JAN.2015 20:29:28

Band :	LTE Band 13	Band Width :	5MHz / 16QAM

Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0

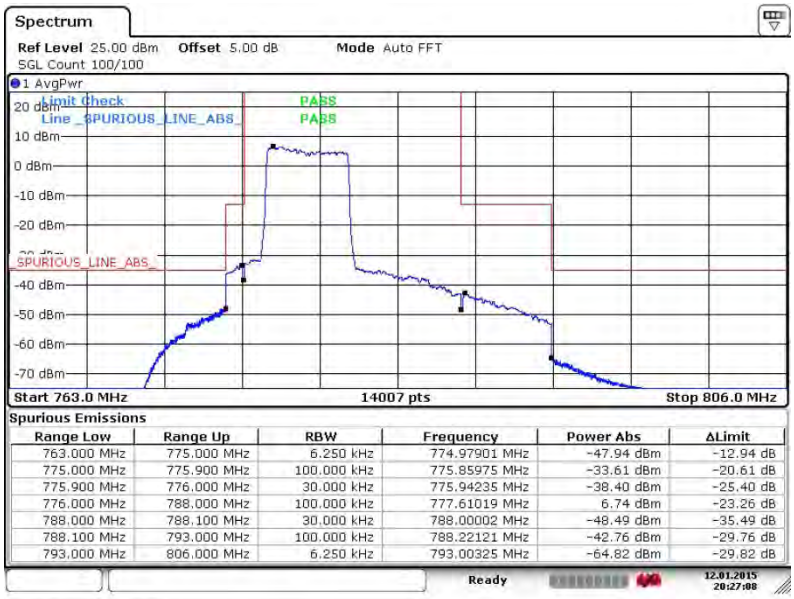


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.99100 MHz	-67.23 dBm	-32.23 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.22646 MHz	-53.06 dBm	-40.06 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99998 MHz	-55.58 dBm	-42.58 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.33433 MHz	19.78 dBm	-10.22 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.01557 MHz	-64.17 dBm	-51.17 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.10122 MHz	-59.18 dBm	-46.18 dB
793.000 MHz	806.000 MHz	6.250 kHz	797.10920 MHz	-76.52 dBm	-41.52 dB

Date: 12.JAN.2015 20:25:50

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

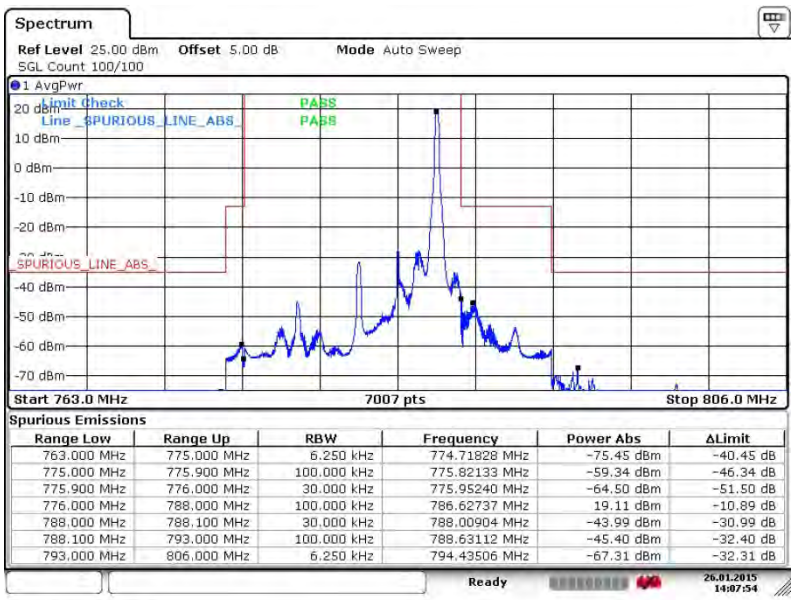


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.97901 MHz	-47.94 dBm	-12.94 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.85975 MHz	-33.61 dBm	-20.61 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.94235 MHz	-38.40 dBm	-25.40 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.61019 MHz	6.74 dBm	-23.26 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00002 MHz	-48.49 dBm	-35.49 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.22121 MHz	-42.76 dBm	-29.76 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.00325 MHz	-64.82 dBm	-29.82 dB

Date: 12.JAN.2015 20:27:08

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

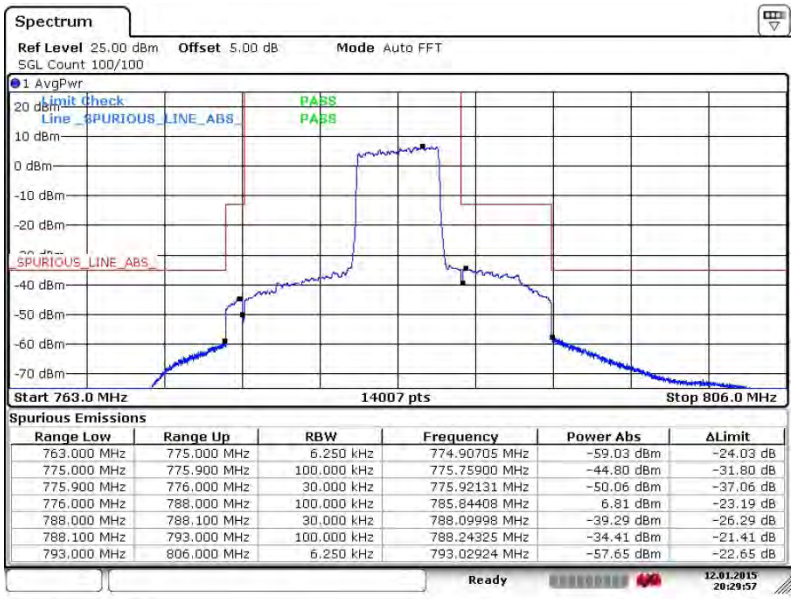


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.71828 MHz	-75.45 dBm	-40.45 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.82133 MHz	-59.34 dBm	-46.34 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.95240 MHz	-64.50 dBm	-51.50 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.62737 MHz	19.11 dBm	-10.89 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00904 MHz	-43.99 dBm	-30.99 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.63112 MHz	-45.40 dBm	-32.40 dB
793.000 MHz	806.000 MHz	6.250 kHz	794.43506 MHz	-67.31 dBm	-32.31 dB

Date: 26.JAN.2015 14:07:54

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



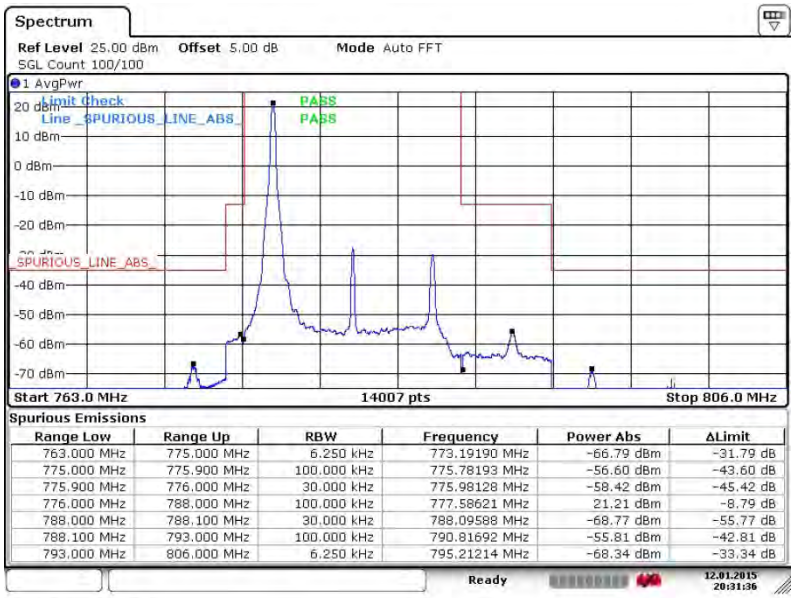
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.90705 MHz	-59.03 dBm	-24.03 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.75900 MHz	-44.80 dBm	-31.80 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.92131 MHz	-50.06 dBm	-37.06 dB
776.000 MHz	788.000 MHz	100.000 kHz	785.84408 MHz	6.81 dBm	-23.19 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.09998 MHz	-39.29 dBm	-26.29 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.24325 MHz	-34.41 dBm	-21.41 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.02924 MHz	-57.65 dBm	-22.65 dB

Date: 12.JAN.2015 20:29:57

Band :	LTE Band 13	Band Width :	10MHz / QPSK

Middle Band Edge Plot for QPSK-RB Size 1, RB Offset 0

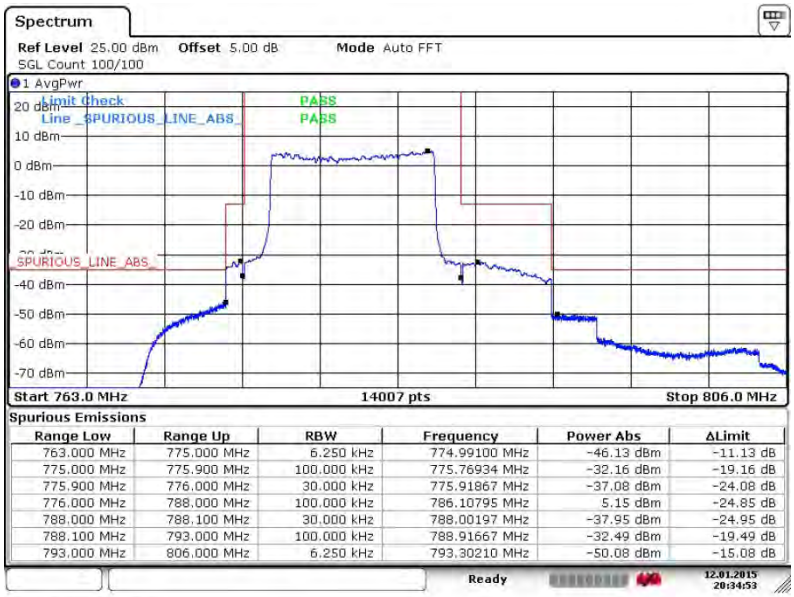


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	773.19190 MHz	-66.79 dBm	-31.79 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.78193 MHz	-56.60 dBm	-43.60 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.98128 MHz	-58.42 dBm	-45.42 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.58621 MHz	21.21 dBm	-8.79 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.09588 MHz	-68.77 dBm	-55.77 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.81692 MHz	-55.81 dBm	-42.81 dB
793.000 MHz	806.000 MHz	6.250 kHz	795.21214 MHz	-68.34 dBm	-33.34 dB

Date: 12.JAN.2015 20:31:36

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

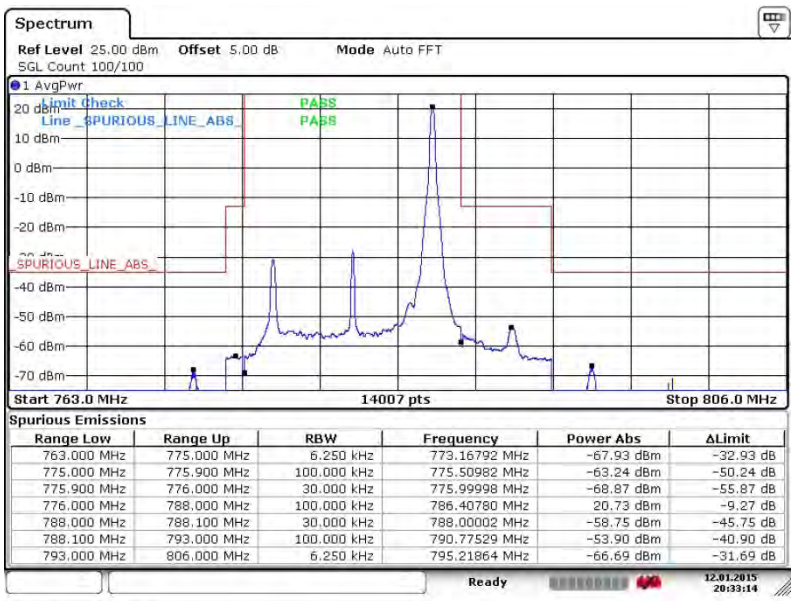


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.99100 MHz	-46.13 dBm	-11.13 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.76934 MHz	-32.16 dBm	-19.16 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.91867 MHz	-37.08 dBm	-24.08 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.10795 MHz	5.15 dBm	-24.85 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00197 MHz	-37.95 dBm	-24.95 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.91667 MHz	-32.49 dBm	-19.49 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.30210 MHz	-50.08 dBm	-15.08 dB

Date: 12.JAN.2015 20:34:52

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



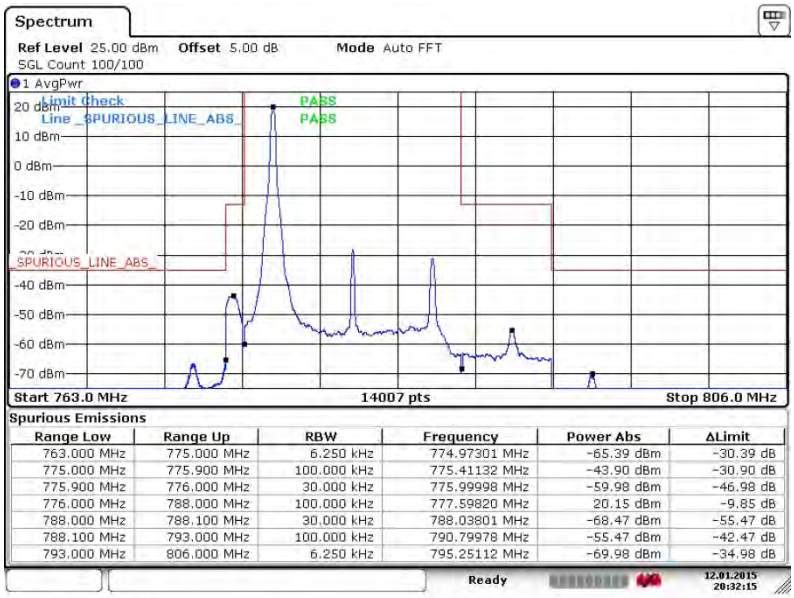
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	773.16792 MHz	-67.93 dBm	-32.93 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.50982 MHz	-63.24 dBm	-50.24 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99998 MHz	-68.87 dBm	-55.87 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.40780 MHz	20.73 dBm	-9.27 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00002 MHz	-58.75 dBm	-45.75 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.77529 MHz	-53.90 dBm	-40.90 dB
793.000 MHz	806.000 MHz	6.250 kHz	795.21864 MHz	-66.69 dBm	-31.69 dB

Date: 12.JAN.2015 20:33:15

Band :	LTE Band 13	Band Width :	10MHz / 16QAM

Middle Band Edge Plot for 16QAM -RB Size 1, RB Offset 0

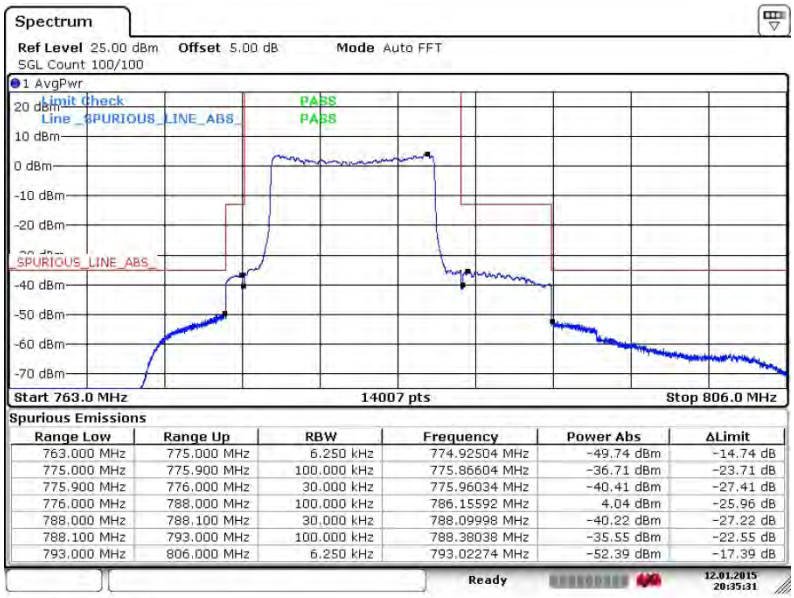


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.97301 MHz	-65.39 dBm	-30.39 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.41132 MHz	-43.90 dBm	-30.90 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99998 MHz	-59.98 dBm	-46.98 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.59820 MHz	20.15 dBm	-9.85 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.03801 MHz	-68.47 dBm	-55.47 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.79978 MHz	-55.47 dBm	-42.47 dB
793.000 MHz	806.000 MHz	6.250 kHz	795.25112 MHz	-69.98 dBm	-34.98 dB

Date: 12.JAN.2015 20:32:14

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

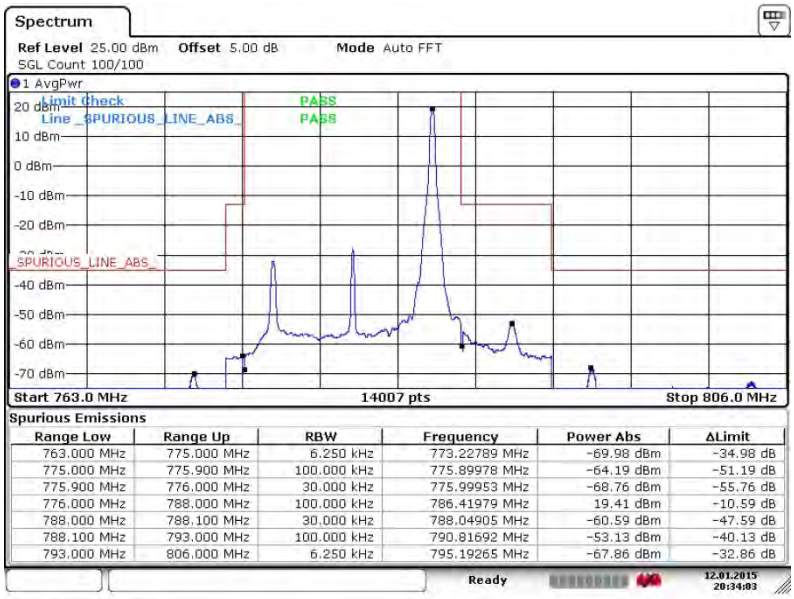


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.92504 MHz	-49.74 dBm	-14.74 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.86604 MHz	-36.71 dBm	-23.71 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.96034 MHz	-40.41 dBm	-27.41 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.15592 MHz	4.04 dBm	-25.96 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.09998 MHz	-40.22 dBm	-27.22 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.38038 MHz	-35.55 dBm	-22.55 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.02274 MHz	-52.39 dBm	-17.39 dB

Date: 12.JAN.2015 20:35:31

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



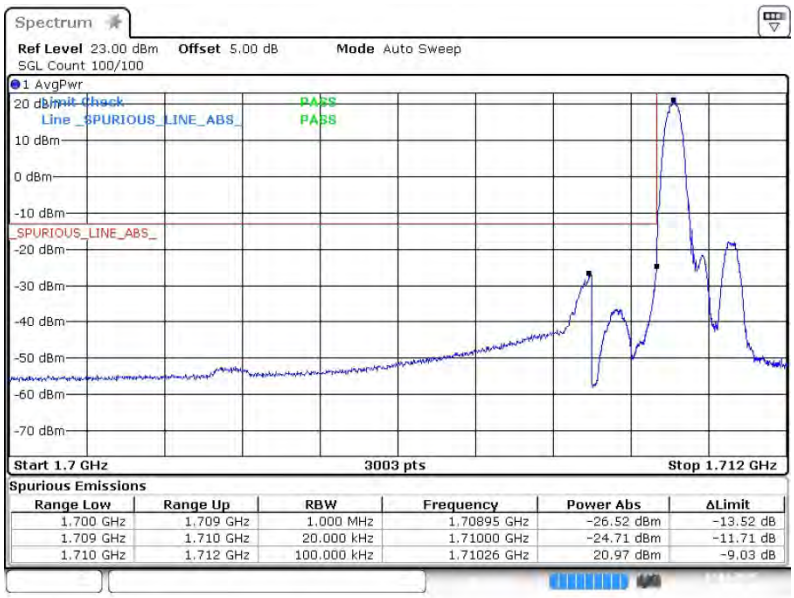
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	773.22789 MHz	-69.98 dBm	-34.98 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89978 MHz	-64.19 dBm	-51.19 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99953 MHz	-68.76 dBm	-55.76 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.41979 MHz	19.41 dBm	-10.59 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.04905 MHz	-60.59 dBm	-47.59 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.81692 MHz	-53.13 dBm	-40.13 dB
793.000 MHz	806.000 MHz	6.250 kHz	795.19265 MHz	-67.86 dBm	-32.86 dB

Date: 12.JAN.2015 20:34:03

Band :	LTE Band 4	Band Width :	1.4MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

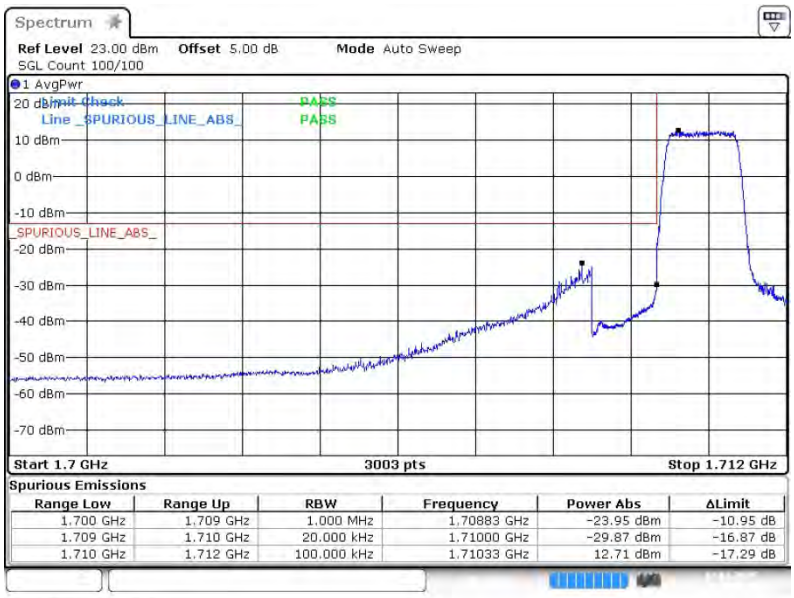


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70895 GHz	-26.52 dBm	-13.52 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-24.71 dBm	-11.71 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71026 GHz	20.97 dBm	-9.03 dB

Date: 12.JAN.2015 20:40:37

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

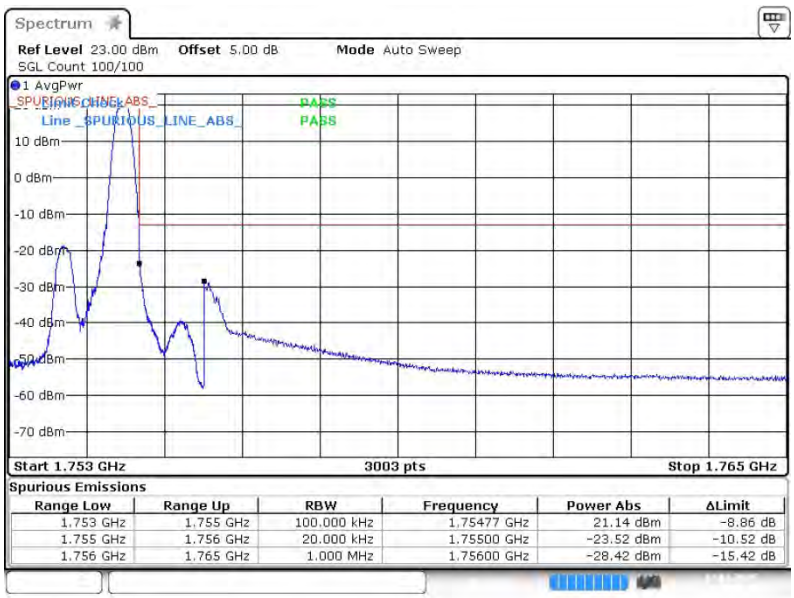


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70883 GHz	-23.95 dBm	-10.95 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-29.87 dBm	-16.87 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71033 GHz	12.71 dBm	-17.29 dB

Date: 12.JAN.2015 20:48:26

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

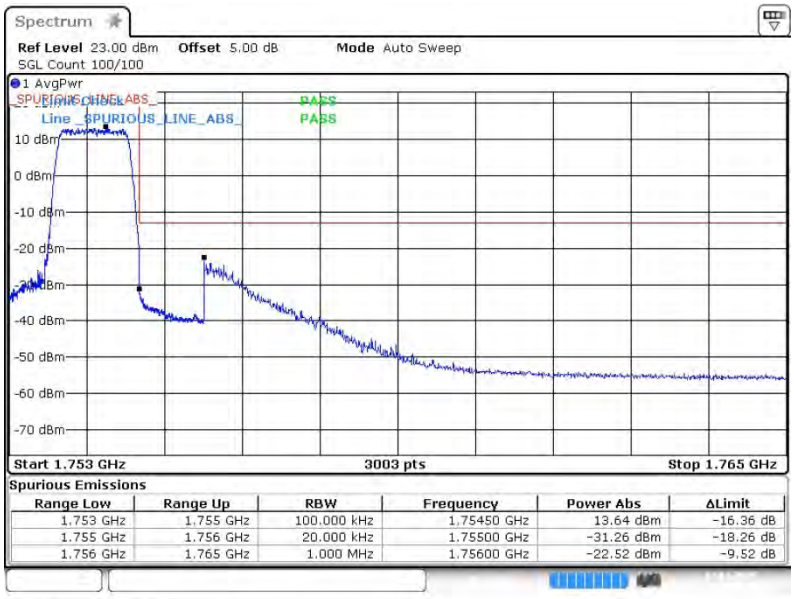


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75477 GHz	21.14 dBm	-8.86 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-23.52 dBm	-10.52 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75600 GHz	-28.42 dBm	-15.42 dB

Date: 12.JAN.2015 20:52:45

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



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75450 GHz	13.64 dBm	-16.36 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-31.26 dBm	-18.26 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75600 GHz	-22.52 dBm	-9.52 dB

Date: 12.JAN.2015 20:56:48