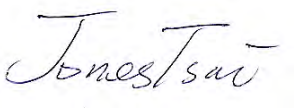
FCC RF Test Report

APPLICANT	:	TCT Mobile Limited
EQUIPMENT	:	GSM Quad-band / UMTS Quad-band / LTE six bands mobile phone
BRAND NAME	:	Alcatel
MODEL NAME	:	6039S
FCC ID	:	RAD547
STANDARD	:	47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(H)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)

The product testing was completed on May 29, 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.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG511303-06B	Rev. 01	This is a variant product of 6039A. According to the product equality declaration as Appendix B which is provided by client, for LTE band 2/4/7, re-test the conducted power, ERP/EIRP, RSE, add L/H channel test for CSE, 99%OBW and 26db Bandwidth, and full test for the new bands LTE band 5/12/17, all other test cases were performed on original report which can be referred to Sporton report number FG511303B (Model name: 6039A; FCC ID: RAD544).	Jun. 12, 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	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§22.913(a)(2)	Effective Radiated Power (Band 5)	ERP < 7 Watt	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 12) (Band 17)	ERP < 3 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.4	§2.1049 §22.917(b) §24.238(b) §27.53(h)(3) §27.53(m)(6)	99% Occupied Bandwidth and 26dB Bandwidth	Reporting Only	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a) §27.53(g)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log10(P[Watt])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Band Edge Measurement (Band 7)	< 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) §27.53(g)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log$_{10}$(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7)	< 55+10log10(P[Watts])	PASS	-
3.7	§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 15.94 dB at 10000.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< 55+10log$_{10}$(P[Watts])	PASS	
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

TCT Mobile Limited

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

1.2 Manufacturer

TCT Mobile Limited

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	GSM Quad-band / UMTS Quad-band / LTE six bands mobile phone
Brand Name	Alcatel
Model Name	6039S
FCC ID	RAD547
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)/DC-HSDPA/LTE/NFC WLAN2.4GHz 802.11b/g/n HT20 Bluetooth v3.0+EDR/Bluetooth v4.1 LE
IMEI Code	Conducted: 014369000015001 Radiated: 014369000011000 ERP/EIRP: 014369000047004
HW Version	SBA34D60000K
SW Version	SVN 01
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The device has two acoustic receives function, when a voice call is coming, user can choose any one receiver to response. And only when receiver on the bottom of the EUT is enabled, the power reduction will be activated to limit the maximum power of any cellular band.

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 21.77 dBm LTE Band 4 : 22.42 dBm LTE Band 5 : 23.69 dBm LTE Band 7 : 22.88 dBm LTE Band 12 : 23.82 dBm LTE Band 17 : 23.87 dBm
Antenna Type	Fixed Internal Antenna
Type of Modulation	QPSK / 16QAM

1.5 Accessories and Support Equipment

Specification of Accessory				
AC Adapter	**Brand Name**	ACE-Tenpao	**Model Name**	UC11US
	Power Rating	I/P: 100-240Vac, 200mA, O/P: 5Vdc, 1000mA		
	P/N	CBA0058AG0C2		
Battery	**Brand Name**	ALCATEL onetouch	**Model Name**	TLp020K2
	Power Rating	3.8Vdc, 2000mAh		
	P/N	CAC2000023C2		
USB Cable 1	**Brand Name**	ACE-Shenhua	**Model Name**	CDA0000025C1
	Signal Line Type	1.10m shielded without core		
USB Cable 2	**Brand Name**	ACE-Juwei	**Model Name**	CDA0000025C2
	Signal Line Type	1.10m shielded without core		
USB Cable 3	**Brand Name**	ACE-Juwei	**Model Name**	CDA0000025C8
	Signal Line Type	1.10m shielded without core		
Earphone	**Brand Name**	ACE-JBL	**Model Name**	J22C
	Signal Line Type	1.38m non-shielded without core		

1.6 Modification of EUT

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

1.7 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 24	LTE Band 2	QPSK	1.4 MHz	1M10G7D	-	0.4083 W
Part 24	LTE Band 2	16QAM	1.4 MHz	1M10W7D	-	0.3327 W
Part 24	LTE Band 2	QPSK	3 MHz	2M73G7D	-	0.4009 W
Part 24	LTE Band 2	16QAM	3 MHz	2M73W7D	-	0.3565 W
Part 24	LTE Band 2	QPSK	5 MHz	4M51G7D	-	0.3733 W
Part 24	LTE Band 2	16QAM	5 MHz	4M51W7D	-	0.3281 W
Part 24	LTE Band 2	QPSK	10 MHz	9M09G7D	0.0088 ppm	0.3999 W
Part 24	LTE Band 2	16QAM	10 MHz	9M05W7D	-	0.3412 W
Part 24	LTE Band 2	QPSK	15 MHz	13M5G7D	-	0.4207 W
Part 24	LTE Band 2	16QAM	15 MHz	13M5W7D	-	0.3273 W
Part 24	LTE Band 2	QPSK	20 MHz	18M4G7D	-	0.3936 W
Part 24	LTE Band 2	16QAM	20 MHz	18M5W7D	-	0.3365 W
Part 27	LTE Band 4	QPSK	1.4 MHz	1M10G7D	-	0.4909 W
Part 27	LTE Band 4	16QAM	1.4 MHz	1M10W7D	-	0.3499 W
Part 27	LTE Band 4	QPSK	3 MHz	2M73G7D	-	0.4831 W
Part 27	LTE Band 4	16QAM	3 MHz	2M73W7D	-	0.4335 W
Part 27	LTE Band 4	QPSK	5MHz	4M50G7D	-	0.4581 W
Part 27	LTE Band 4	16QAM	5MHz	4M51W7D	-	0.4169 W
Part 27	LTE Band 4	QPSK	10MHz	9M07G7D	0.0058 ppm	0.5012 W
Part 27	LTE Band 4	16QAM	10MHz	9M05W7D	-	0.4227 W
Part 27	LTE Band 4	QPSK	15MHz	13M5G7D	-	0.4819 W
Part 27	LTE Band 4	16QAM	15MHz	13M5W7D	-	0.3483 W
Part 27	LTE Band 4	QPSK	20MHz	18M5G7D	-	0.4842 W
Part 27	LTE Band 4	16QAM	20MHz	18M3W7D	-	0.3981 W

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 22	LTE Band 5	QPSK	1.4 MHz	1M10G7D	-	0.0989 W
Part 22	LTE Band 5	16QAM	1.4 MHz	1M10W7D	-	0.0871 W
Part 22	LTE Band 5	QPSK	3 MHz	2M73G7D	-	0.1052 W
Part 22	LTE Band 5	16QAM	3 MHz	2M72W7D	-	0.0920 W
Part 22	LTE Band 5	QPSK	5 MHz	4M50G7D	-	0.0989 W
Part 22	LTE Band 5	16QAM	5 MHz	4M51W7D	-	0.0811 W
Part 22	LTE Band 5	QPSK	10 MHz	9M05G7D	0.0111 ppm	0.0929 W
Part 22	LTE Band 5	16QAM	10 MHz	9M03W7D	-	0.0836 W
Part 27	LTE Band 7	QPSK	5MHz	4M51G7D	-	0.6067 W
Part 27	LTE Band 7	16QAM	5MHz	4M51W7D	-	0.6152 W
Part 27	LTE Band 7	QPSK	10MHz	9M09G7D	0.0043 ppm	0.6699 W
Part 27	LTE Band 7	16QAM	10MHz	9M09W7D	-	0.5636 W
Part 27	LTE Band 7	QPSK	15MHz	13M5G7D	-	0.6918 W
Part 27	LTE Band 7	16QAM	15MHz	13M5W7D	-	0.5248 W
Part 27	LTE Band 7	QPSK	20MHz	18M5G7D	-	0.7261 W
Part 27	LTE Band 7	16QAM	20MHz	18M4W7D	-	0.6653 W

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27	LTE Band 12	QPSK	1.4 MHz	1M10G7D	-	0.0323 W
Part 27	LTE Band 12	16QAM	1.4 MHz	1M10W7D	-	0.0392 W
Part 27	LTE Band 12	QPSK	3 MHz	2M72G7D	-	0.0434 W
Part 27	LTE Band 12	16QAM	3 MHz	2M73W7D	-	0.0327 W
Part 27	LTE Band 12	QPSK	5 MHz	4M50G7D	-	0.0485 W
Part 27	LTE Band 12	16QAM	5 MHz	4M51W7D	-	0.0405 W
Part 27	LTE Band 12	QPSK	10 MHz	9M07G7D	0.0187 ppm	0.0397 W
Part 27	LTE Band 12	16QAM	10 MHz	9M09W7D	-	0.0350 W
Part 27	LTE Band 17	QPSK	5MHz	4M51G7D	-	0.0463 W
Part 27	LTE Band 17	16QAM	5MHz	4M50W7D	-	0.0404 W
Part 27	LTE Band 17	QPSK	10MHz	9M07G7D	0.0327 ppm	0.0397 W
Part 27	LTE Band 17	16QAM	10MHz	9M05W7D	-	0.0361 W

1.8 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/IC Registration No.**
	TH01-KS	03CH02-KS	418269/4086E

1.9 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(L), 27(M), 27(H)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

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 v02r02 with maximum output power.

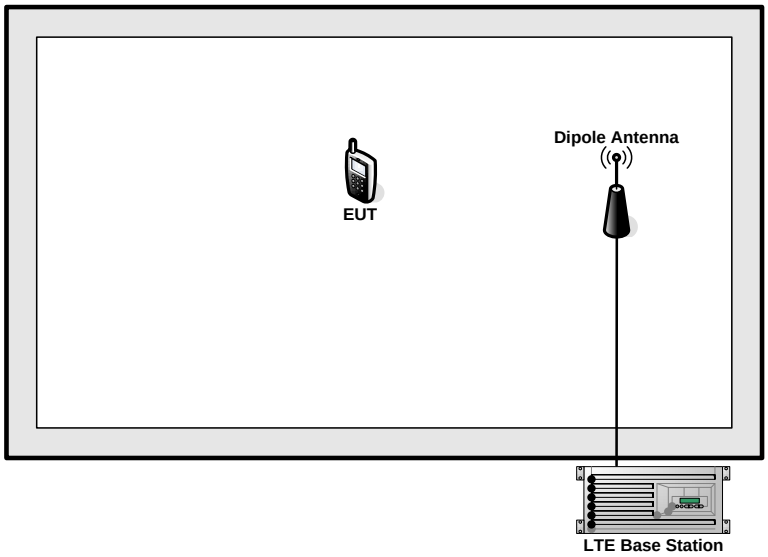
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v	v	v	v		v	v	v	v
	4						v	v	v	v		v	v	v	v
	5				v	-	-	v	v	v		v	v	v	v
	7	-	-				v	v	v	v		v	v	v	v
	12				v	-	-	v	v	v		v	v	v	v
	17	-	-		v	-	-	v	v	v		v	v	v	v
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v			v	v	v	v
	4	v	v	v	v	v	v	v	v			v	v	v	v
	5	v	v	v	v	-	-	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v	-	-	v	v			v	v	v	v
	17	-	-	v	v	-	-	v	v			v	v	v	v
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v		v	v		v
	4	v	v	v	v	v	v	v	v	v		v	v		v
	5	v	v	v	v	-	-	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v		v	v		v
	17	-	-	v	v	-	-	v	v	v		v	v		v

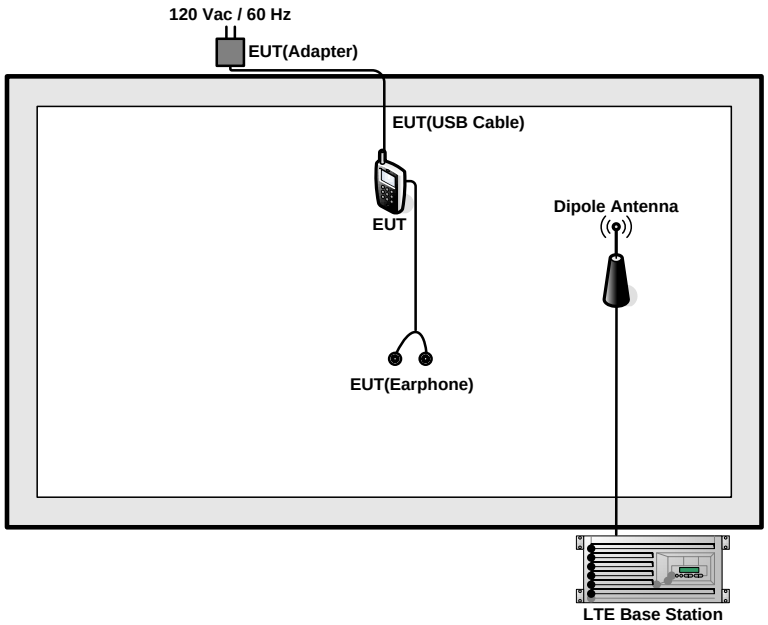
Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	5				v	-	-	v				v		v	
	7	-	-		v			v				v		v	
	12				v	-	-	v				v		v	
	17	-	-		v	-	-	v				v		v	
E.R.P./ E.I.R.P.	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v			v	v	v
	4	v	v	v	v	v	v	v		v			v	v	v
	5	v	v	v	v	-	-	v		v			v	v	v
	7	-	-	v	v	v	v	v		v			v	v	v
	12	v	v	v	v	-	-	v		v			v	v	v
	17	-	-	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. **4.** According the functionality of the EUT, the maximum power levels are chosen to test all test cases listed in this report as the worst case configuration is when top acoustic receiver works.														

2.2 Connection Diagram of Test System

For 22H



For 24E/27L/27M/27H



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	GW INSTEK	GPD-2303S	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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 4.5 dB.

Example :

Offset(dB) = RF cable loss(dB) = 4.5 (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

<Full Power Mode>:

<LTE Band 2 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	21.68	21.71	21.61
20	QPSK	1	49	21.75	21.77	21.67
20	QPSK	1	99	21.69	21.29	21.54
20	QPSK	50	0	20.43	20.62	20.52
20	QPSK	50	24	20.47	20.68	20.64
20	QPSK	50	49	20.21	20.56	20.16
20	QPSK	100	0	20.28	20.58	20.25
20	16QAM	1	0	20.12	20.27	20.05
20	16QAM	1	49	20.16	20.2	20.37
20	16QAM	1	99	20.11	20.14	20.06
20	16QAM	50	0	19.41	19.19	19.25
20	16QAM	50	24	19.31	19.17	19.39
20	16QAM	50	49	19.37	19.15	19.26
20	16QAM	100	0	19.34	19.19	19.27
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	21.49	21.66	21.09
15	QPSK	1	37	21.34	21.22	21.17
15	QPSK	1	74	21.31	21.42	20.66
15	QPSK	36	0	20.49	20.32	20.31
15	QPSK	36	18	20.49	20.36	20.23
15	QPSK	36	37	20.13	20.42	20.24
15	QPSK	75	0	20.46	20.31	20.6
15	16QAM	1	0	20.55	20.69	20.02
15	16QAM	1	37	20.48	20.59	20.21
15	16QAM	1	74	20.42	20.82	20.09
15	16QAM	36	0	19.29	19.13	19.16
15	16QAM	36	18	19.26	19.21	19.12
15	16QAM	36	37	19.12	19.21	19.13
15	16QAM	75	0	19.16	19.22	19.22

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18650**	**18900**	**19150**
Frequency (MHz)				**1855**	**1880**	**1905**
10	QPSK	1	0	21.45	21.27	21.33
10	QPSK	1	24	21.39	21.25	21.34
10	QPSK	1	49	21.3	21.41	21.01
10	QPSK	25	0	20.43	20.46	20.22
10	QPSK	25	12	20.43	20.21	20.47
10	QPSK	25	24	20.29	20.18	20.5
10	QPSK	50	0	20.45	20.23	20.44
10	16QAM	1	0	20.54	20.66	20.32
10	16QAM	1	24	20.51	20.77	20.36
10	16QAM	1	49	20.51	20.59	20.31
10	16QAM	25	0	19.09	19.15	19.39
10	16QAM	25	12	19.18	19.15	19.31
10	16QAM	25	24	19.09	19.49	19.37
10	16QAM	50	0	19.08	19.4	19.35
Channel				**18625**	**18900**	**19175**
Frequency (MHz)				**1852.5**	**1880**	**1907.5**
5	QPSK	1	0	21.17	21.24	21.37
5	QPSK	1	12	21.45	21.29	21.32
5	QPSK	1	24	21.23	21.21	21.07
5	QPSK	12	0	20.16	20.07	20.44
5	QPSK	12	6	20.16	20.18	20.52
5	QPSK	12	11	20.36	20.27	20.43
5	QPSK	25	0	20.18	20.33	20.43
5	16QAM	1	0	20.44	20.09	20.44
5	16QAM	1	12	20.54	20.24	20.5
5	16QAM	1	24	20.64	20.48	20.2
5	16QAM	12	0	19.23	19.14	19.33
5	16QAM	12	6	19.14	19.32	19.17
5	16QAM	12	11	19.23	19.17	19.26
5	16QAM	25	0	19.32	19.17	19.33

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18615**	**18900**	**19185**
Frequency (MHz)				**1851.5**	**1880**	**1908.5**
3	QPSK	1	0	21.05	21.04	21.15
3	QPSK	1	7	21.24	21.01	21.41
3	QPSK	1	14	21.08	21.02	21.18
3	QPSK	8	0	20.09	20.03	20.14
3	QPSK	8	4	20.05	20.05	20.23
3	QPSK	8	7	20.01	20.04	20.18
3	QPSK	15	0	20.02	20.07	20.21
3	16QAM	1	0	20.32	20.24	20.24
3	16QAM	1	7	20.38	20.41	20.53
3	16QAM	1	14	20.44	20.45	20.16
3	16QAM	8	0	19.25	19.07	19.31
3	16QAM	8	4	19.22	19.06	19.35
3	16QAM	8	7	19.21	19.03	19.23
3	16QAM	15	0	19.24	19.06	19.34
Channel				**18607**	**18900**	**19193**
Frequency (MHz)				**1850.7**	**1880**	**1909.3**
1.4	QPSK	1	0	21.03	21.04	21.19
1.4	QPSK	1	2	21.01	21.03	21.16
1.4	QPSK	1	5	21.06	21.01	21.07
1.4	QPSK	3	0	21.01	21.08	21.56
1.4	QPSK	3	1	21.22	21.02	21.37
1.4	QPSK	3	2	21.03	21.02	21.47
1.4	QPSK	6	0	20.06	20.08	20.33
1.4	16QAM	1	0	20.09	20.38	20.33
1.4	16QAM	1	2	20.23	20.42	20.32
1.4	16QAM	1	5	20.27	20.19	20.5
1.4	16QAM	3	0	20.32	20.59	20.15
1.4	16QAM	3	1	20.24	20.51	20.05
1.4	16QAM	3	2	20.3	20.64	20.04
1.4	16QAM	6	0	19.16	19.01	19.03

<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	22.36	22.37	22.35
20	QPSK	1	49	22.31	22.35	22.33
20	QPSK	1	99	22.32	22.18	22.14
20	QPSK	50	0	21.39	21.45	21.28
20	QPSK	50	24	21.35	21.43	21.22
20	QPSK	50	49	21.35	21.39	21.16
20	QPSK	100	0	21.36	21.45	21.15
20	16QAM	1	0	21.37	21.33	21.35
20	16QAM	1	49	21.42	21.25	21.34
20	16QAM	1	99	21.35	21.27	21.1
20	16QAM	50	0	20.43	20.33	20.4
20	16QAM	50	24	20.38	20.31	20.38
20	16QAM	50	49	20.32	20.36	20.29
20	16QAM	100	0	20.43	20.26	20.16
Channel				**20025**	**20175**	**20325**
Frequency (MHz)				**1717.5**	**1732.5**	**1747.5**
15	QPSK	1	0	22.31	22.38	22.37
15	QPSK	1	37	22.3	22.29	22.33
15	QPSK	1	74	22.27	22.24	22.26
15	QPSK	36	0	21.44	21.32	21.37
15	QPSK	36	18	21.4	21.44	21.35
15	QPSK	36	37	21.41	21.43	21.28
15	QPSK	75	0	21.4	21.4	21.24
15	16QAM	1	0	21.28	21.37	21.34
15	16QAM	1	37	21.37	21.38	21.33
15	16QAM	1	74	21.32	21.42	21.25
15	16QAM	36	0	20.24	20.35	20.42
15	16QAM	36	18	20.13	20.36	20.32
15	16QAM	36	37	20.26	20.33	20.33
15	16QAM	75	0	20.19	20.23	20.21

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	22.4	22.37	22.39
10	QPSK	1	24	22.35	22.18	22.33
10	QPSK	1	49	22.31	22.12	22.26
10	QPSK	25	0	21.44	21.46	21.44
10	QPSK	25	12	21.36	21.43	21.31
10	QPSK	25	24	21.4	21.39	21.34
10	QPSK	50	0	21.36	21.43	21.45
10	16QAM	1	0	21.41	21.28	21.35
10	16QAM	1	24	21.34	21.37	21.27
10	16QAM	1	49	21.35	21.31	21.27
10	16QAM	25	0	20.34	20.33	20.38
10	16QAM	25	12	20.35	20.32	20.38
10	16QAM	25	24	20.4	20.34	20.42
10	16QAM	50	0	20.21	20.41	20.21
Channel				**19975**	**20175**	**20375**
Frequency (MHz)				**1712.5**	**1732.5**	**1752.5**
5	QPSK	1	0	22.35	22.37	22.38
5	QPSK	1	12	22.26	22.32	22.25
5	QPSK	1	24	22.19	22.16	22.24
5	QPSK	12	0	21.32	21.42	21.45
5	QPSK	12	6	21.39	21.37	21.4
5	QPSK	12	11	21.42	21.35	21.42
5	QPSK	25	0	21.31	21.42	21.41
5	16QAM	1	0	21.3	21.31	21.14
5	16QAM	1	12	21.26	21.33	21.19
5	16QAM	1	24	21.33	21.38	21.28
5	16QAM	12	0	20.32	20.21	20.41
5	16QAM	12	6	20.23	20.16	20.4
5	16QAM	12	11	20.16	20.29	20.15
5	16QAM	25	0	20.34	20.29	20.16

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	22.41	22.37	22.4
3	QPSK	1	7	22.33	22.35	22.37
3	QPSK	1	14	22.25	22.31	22.35
3	QPSK	8	0	21.41	21.33	21.4
3	QPSK	8	4	21.37	21.34	21.38
3	QPSK	8	7	21.36	21.4	21.42
3	QPSK	15	0	21.34	21.41	21.43
3	16QAM	1	0	21.38	21.25	21.13
3	16QAM	1	7	21.34	21.47	21.11
3	16QAM	1	14	21.24	21.39	21.34
3	16QAM	8	0	20.33	20.32	20.31
3	16QAM	8	4	20.33	20.34	20.26
3	16QAM	8	7	20.33	20.34	20.19
3	16QAM	15	0	20.14	20.32	20.15
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.4	22.27	22.28
1.4	QPSK	1	2	22.42	22.28	22.24
1.4	QPSK	1	5	22.41	22.42	22.21
1.4	QPSK	3	0	22.37	22.32	22.37
1.4	QPSK	3	1	22.29	22.36	22.28
1.4	QPSK	3	2	22.38	22.36	22.36
1.4	QPSK	6	0	21.35	21.44	21.44
1.4	16QAM	1	0	21.3	21.31	21.38
1.4	16QAM	1	2	21.26	21.38	21.3
1.4	16QAM	1	5	21.21	21.35	21.07
1.4	16QAM	3	0	21.34	21.37	21.36
1.4	16QAM	3	1	21.24	21.25	21.35
1.4	16QAM	3	2	21.25	21.17	21.33
1.4	16QAM	6	0	20.35	20.32	20.23

<LTE Band 5 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	23.61	23.69	23.4
10	QPSK	1	24	23.48	23.6	23.31
10	QPSK	1	49	23.33	23.48	23.31
10	QPSK	25	0	22.53	22.67	22.46
10	QPSK	25	12	22.5	22.61	22.43
10	QPSK	25	24	22.49	22.55	22.49
10	QPSK	50	0	22.54	22.64	22.44
10	16QAM	1	0	22.43	22.34	22.75
10	16QAM	1	24	22.13	22.22	22.83
10	16QAM	1	49	22.25	22.32	22.71
10	16QAM	25	0	21.65	21.6	21.35
10	16QAM	25	12	21.65	21.54	21.26
10	16QAM	25	24	21.62	21.43	21.33
10	16QAM	50	0	21.26	21.25	21.35
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	23.39	23.39	23.51
5	QPSK	1	12	23.55	23.52	23.55
5	QPSK	1	24	23.09	23.38	23.21
5	QPSK	12	0	22.5	22.41	22.45
5	QPSK	12	6	22.51	22.35	22.51
5	QPSK	12	11	22.54	22.34	22.47
5	QPSK	25	0	22.46	22.45	22.51
5	16QAM	1	0	22.9	22.58	22.59
5	16QAM	1	12	22.89	22.67	22.71
5	16QAM	1	24	22.87	22.57	22.61
5	16QAM	12	0	21.41	21.16	21.34
5	16QAM	12	6	21.43	21.2	21.37
5	16QAM	12	11	21.37	21.13	21.38
5	16QAM	25	0	21.6	21.22	21.72

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20415**	**20525**	**20635**
Frequency (MHz)				**825.5**	**836.5**	**847.5**
3	QPSK	1	0	23.58	23.35	23.49
3	QPSK	1	7	23.47	23.43	23.51
3	QPSK	1	14	23.57	23.26	23.34
3	QPSK	8	0	22.52	22.53	22.58
3	QPSK	8	4	22.52	22.45	22.52
3	QPSK	8	7	22.58	22.5	22.5
3	QPSK	15	0	22.49	22.46	22.48
3	16QAM	1	0	22.7	22.62	22.35
3	16QAM	1	7	22.68	22.67	22.38
3	16QAM	1	14	22.46	22.48	22.32
3	16QAM	8	0	21.7	21.64	21.63
3	16QAM	8	4	21.56	21.58	21.57
3	16QAM	8	7	21.64	21.63	21.6
3	16QAM	15	0	21.64	21.55	21.53
Channel				**20407**	**20525**	**20643**
Frequency (MHz)				**824.7**	**836.5**	**848.3**
1.4	QPSK	1	0	23.63	23.34	23.36
1.4	QPSK	1	2	23.53	23.47	23.61
1.4	QPSK	1	5	23.23	23.36	23.36
1.4	QPSK	3	0	23.46	23.4	23.61
1.4	QPSK	3	1	23.57	23.64	23.65
1.4	QPSK	3	2	23.62	23.45	23.59
1.4	QPSK	6	0	22.54	22.49	22.56
1.4	16QAM	1	0	22.95	22.63	22.47
1.4	16QAM	1	2	22.79	22.97	22.38
1.4	16QAM	1	5	22.78	22.61	22.3
1.4	16QAM	3	0	22.34	22.91	22.32
1.4	16QAM	3	1	22.56	22.62	22.53
1.4	16QAM	3	2	22.35	22.55	22.38
1.4	16QAM	6	0	21.11	21.03	21.19

<LTE Band 7 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	22.68	22.88	22.67
20	QPSK	1	49	22.54	22.86	22.62
20	QPSK	1	99	22.25	22.71	22.51
20	QPSK	50	0	21.62	21.64	21.54
20	QPSK	50	24	21.31	21.58	21.52
20	QPSK	50	49	21.25	21.57	21.44
20	QPSK	100	0	21.35	21.49	21.44
20	16QAM	1	0	21.6	21.33	21.48
20	16QAM	1	49	21.51	21.31	21.43
20	16QAM	1	99	21.51	21.27	21.46
20	16QAM	50	0	20.67	20.66	20.47
20	16QAM	50	24	20.47	20.65	20.41
20	16QAM	50	49	20.21	20.64	20.46
20	16QAM	100	0	20.39	20.45	20.59
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	22.67	22.56	22.53
15	QPSK	1	37	22.57	22.54	22.45
15	QPSK	1	74	22.45	22.55	22.55
15	QPSK	36	0	21.65	21.58	21.52
15	QPSK	36	18	21.49	21.68	21.53
15	QPSK	36	37	21.53	21.52	21.43
15	QPSK	75	0	21.48	21.53	21.62
15	16QAM	1	0	21.69	21.54	21.07
15	16QAM	1	37	21.83	21.62	21.21
15	16QAM	1	74	21.61	21.77	21.17
15	16QAM	36	0	20.49	20.62	20.9
15	16QAM	36	18	20.42	20.52	20.61
15	16QAM	36	37	20.32	20.55	20.65
15	16QAM	75	0	20.55	20.46	20.5

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20800**	**21100**	**21400**
Frequency (MHz)				**2505**	**2535**	**2565**
10	QPSK	1	0	22.65	22.66	22.45
10	QPSK	1	24	22.63	22.56	22.37
10	QPSK	1	49	22.44	22.59	22.36
10	QPSK	25	0	21.67	21.53	21.36
10	QPSK	25	12	21.53	21.53	21.42
10	QPSK	25	24	21.48	21.58	21.43
10	QPSK	50	0	21.57	21.58	21.41
10	16QAM	1	0	21.67	21.48	22.06
10	16QAM	1	24	21.68	21.37	22.02
10	16QAM	1	49	21.49	21.38	21.77
10	16QAM	25	0	20.69	20.93	20.46
10	16QAM	25	12	20.54	20.68	20.48
10	16QAM	25	24	20.34	20.62	20.58
10	16QAM	50	0	20.54	20.55	20.52
Channel				**20775**	**21100**	**21425**
Frequency (MHz)				**2502.5**	**2535**	**2567.5**
5	QPSK	1	0	22.45	22.56	22.55
5	QPSK	1	12	22.34	22.53	22.65
5	QPSK	1	24	22.39	22.55	22.43
5	QPSK	12	0	21.54	21.52	21.52
5	QPSK	12	6	21.5	21.62	21.61
5	QPSK	12	11	21.5	21.69	21.63
5	QPSK	25	0	21.52	21.54	21.62
5	16QAM	1	0	21.56	21.59	21.79
5	16QAM	1	12	21.92	21.66	21.73
5	16QAM	1	24	21.54	21.65	21.44
5	16QAM	12	0	20.58	20.69	20.58
5	16QAM	12	6	20.54	20.66	20.71
5	16QAM	12	11	20.56	20.62	20.68
5	16QAM	25	0	20.54	20.58	20.57

<LTE Band 12 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				23060	23095	23130
Frequency (MHz)				704	707.5	711
10	QPSK	1	0	23.64	23.82	23.57
10	QPSK	1	24	23.6	23.78	23.36
10	QPSK	1	49	23.5	23.54	23.38
10	QPSK	25	0	22.54	22.67	22.57
10	QPSK	25	12	22.53	22.63	22.53
10	QPSK	25	24	22.71	22.65	22.55
10	QPSK	50	0	22.65	22.68	22.6
10	16QAM	1	0	22.33	22.93	22.73
10	16QAM	1	24	22.52	22.85	22.71
10	16QAM	1	49	22.47	22.73	22.72
10	16QAM	25	0	21.81	21.64	21.59
10	16QAM	25	12	21.5	21.71	21.71
10	16QAM	25	24	21.87	21.66	21.74
10	16QAM	50	0	21.54	21.69	21.37
Channel				23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5
5	QPSK	1	0	23.65	23.56	23.59
5	QPSK	1	12	23.64	23.71	23.72
5	QPSK	1	24	23.73	23.26	23.57
5	QPSK	12	0	22.74	22.64	22.64
5	QPSK	12	6	22.72	22.58	22.68
5	QPSK	12	11	22.7	22.68	22.58
5	QPSK	25	0	22.7	22.65	22.6
5	16QAM	1	0	22.24	22.88	22.14
5	16QAM	1	12	22.27	22.92	22.26
5	16QAM	1	24	22.25	22.73	22.14
5	16QAM	12	0	21.45	21.44	21.52
5	16QAM	12	6	21.39	21.39	21.5
5	16QAM	12	11	21.51	21.39	21.51
5	16QAM	25	0	21.7	21.57	21.61

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**23025**	**23095**	**23165**
Frequency (MHz)				**700.5**	**707.5**	**714.5**
3	QPSK	1	0	23.59	23.56	23.44
3	QPSK	1	7	23.64	23.61	23.43
3	QPSK	1	14	23.36	23.44	23.35
3	QPSK	8	0	22.72	22.68	22.73
3	QPSK	8	4	22.69	22.63	22.65
3	QPSK	8	7	22.61	22.68	22.57
3	QPSK	15	0	22.62	22.68	22.61
3	16QAM	1	0	22.6	22.51	22.8
3	16QAM	1	7	22.71	22.72	22.7
3	16QAM	1	14	22.7	22.49	22.62
3	16QAM	8	0	21.52	21.89	21.82
3	16QAM	8	4	21.56	21.77	21.94
3	16QAM	8	7	21.55	21.92	21.93
3	16QAM	15	0	21.32	21.41	21.67
Channel				**23017**	**23095**	**23173**
Frequency (MHz)				**699.7**	**707.5**	**715.3**
1.4	QPSK	1	0	23.5	23.61	23.5
1.4	QPSK	1	2	23.59	23.63	23.57
1.4	QPSK	1	5	23.58	23.64	23.54
1.4	QPSK	3	0	23.57	23.73	23.58
1.4	QPSK	3	1	23.76	23.77	23.56
1.4	QPSK	3	2	23.72	23.68	23.55
1.4	QPSK	6	0	22.69	22.67	22.66
1.4	16QAM	1	0	22.91	22.9	22.76
1.4	16QAM	1	2	22.93	22.8	22.75
1.4	16QAM	1	5	22.6	22.78	22.83
1.4	16QAM	3	0	22.37	22.62	22.68
1.4	16QAM	3	1	22.69	22.64	22.74
1.4	16QAM	3	2	22.84	22.56	22.84
1.4	16QAM	6	0	21.07	21.14	21.62

<LTE Band 17 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	23.73	23.87	23.85
10	QPSK	1	24	23.6	23.74	23.62
10	QPSK	1	49	23.54	23.75	23.53
10	QPSK	25	0	22.78	22.85	22.71
10	QPSK	25	12	22.77	22.71	22.73
10	QPSK	25	24	22.78	22.84	22.8
10	QPSK	50	0	22.8	22.84	22.7
10	16QAM	1	0	22.97	22.78	22.91
10	16QAM	1	24	22.95	22.56	22.9
10	16QAM	1	49	22.85	22.59	22.8
10	16QAM	25	0	21.9	21.86	21.8
10	16QAM	25	12	21.82	21.93	21.71
10	16QAM	25	24	21.81	21.93	21.69
10	16QAM	50	0	21.53	21.52	21.71
Channel				23755	23790	23825
Frequency (MHz)				706.5	710	713.5
5	QPSK	1	0	23.47	23.78	23.52
5	QPSK	1	12	23.82	23.74	23.5
5	QPSK	1	24	23.75	23.61	23.39
5	QPSK	12	0	22.79	22.62	22.63
5	QPSK	12	6	22.81	22.63	22.6
5	QPSK	12	11	22.81	22.59	22.73
5	QPSK	25	0	22.79	22.62	22.68
5	16QAM	1	0	22.29	22.68	22.57
5	16QAM	1	12	22.38	22.62	22.88
5	16QAM	1	24	22.26	22.59	22.31
5	16QAM	12	0	21.72	21.59	21.56
5	16QAM	12	6	21.53	21.61	21.9
5	16QAM	12	11	21.62	21.56	21.96
5	16QAM	25	0	21.64	21.6	21.68

<Reduced Power Mode>:

<LTE Band 2 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	15.65	15.75	15.55
20	QPSK	1	49	15.5	15.72	15.42
20	QPSK	1	99	15.56	15.58	15.34
20	QPSK	50	0	15.24	15.51	15.45
20	QPSK	50	24	15.26	15.52	15.47
20	QPSK	50	49	15.24	15.44	15.37
20	QPSK	100	0	15.38	15.45	15.44
20	16QAM	1	0	15.57	15.55	15.43
20	16QAM	1	49	15.43	15.44	15.45
20	16QAM	1	99	15.36	15.26	15.37
20	16QAM	50	0	15.49	15.54	15.39
20	16QAM	50	24	15.29	15.48	15.39
20	16QAM	50	49	15.36	15.52	15.3
20	16QAM	100	0	15.37	15.47	15.39
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	15.69	15.49	15.55
15	QPSK	1	37	15.34	15.42	15.65
15	QPSK	1	74	15.23	15.41	15.55
15	QPSK	36	0	15.44	15.47	15.47
15	QPSK	36	18	15.46	15.43	15.44
15	QPSK	36	37	15.38	15.39	15.39
15	QPSK	75	0	15.47	15.41	15.49
15	16QAM	1	0	15.67	15.63	15.68
15	16QAM	1	37	15.54	15.58	15.67
15	16QAM	1	74	15.47	15.57	15.69
15	16QAM	36	0	15.46	15.43	15.47
15	16QAM	36	18	15.36	15.32	15.36
15	16QAM	36	37	15.3	15.29	15.31
15	16QAM	75	0	15.38	15.44	15.41

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18650**	**18900**	**19150**
Frequency (MHz)				**1855**	**1880**	**1905**
10	QPSK	1	0	15.73	15.63	15.57
10	QPSK	1	24	15.39	15.49	15.39
10	QPSK	1	49	15.32	15.64	15.41
10	QPSK	25	0	15.61	15.56	15.36
10	QPSK	25	12	15.44	15.63	15.43
10	QPSK	25	24	15.64	15.6	15.46
10	QPSK	50	0	15.41	15.39	15.39
10	16QAM	1	0	15.49	15.48	15.6
10	16QAM	1	24	15.29	15.27	15.5
10	16QAM	1	49	15.3	15.35	15.47
10	16QAM	25	0	15.38	15.47	15.29
10	16QAM	25	12	15.42	15.33	15.11
10	16QAM	25	24	15.36	15.38	15.13
10	16QAM	50	0	15.34	15.34	15.26
Channel				**18625**	**18900**	**19175**
Frequency (MHz)				**1852.5**	**1880**	**1907.5**
5	QPSK	1	0	15.37	15.65	15.59
5	QPSK	1	12	15.24	15.58	15.51
5	QPSK	1	24	15.16	15.54	15.56
5	QPSK	12	0	15.25	15.36	15.17
5	QPSK	12	6	15.3	15.33	15.12
5	QPSK	12	11	15.33	15.29	15.17
5	QPSK	25	0	15.35	15.36	15.26
5	16QAM	1	0	15.53	15.36	15.38
5	16QAM	1	12	15.51	15.17	15.26
5	16QAM	1	24	15.52	15.18	15.21
5	16QAM	12	0	15.2	15.25	15.3
5	16QAM	12	6	15.13	15.31	15.37
5	16QAM	12	11	15.26	15.28	15.32
5	16QAM	25	0	15.39	15.35	15.3

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18615**	**18900**	**19185**
Frequency (MHz)				**1851.5**	**1880**	**1908.5**
3	QPSK	1	0	15.39	15.42	15.59
3	QPSK	1	7	15.24	15.56	15.56
3	QPSK	1	14	15.2	15.27	15.58
3	QPSK	8	0	15.36	15.35	15.25
3	QPSK	8	4	15.38	15.31	15.25
3	QPSK	8	7	15.38	15.36	15.51
3	QPSK	15	0	15.29	15.41	15.13
3	16QAM	1	0	15.13	15.54	15.45
3	16QAM	1	7	15.09	15.49	15.21
3	16QAM	1	14	15.37	15.5	15.33
3	16QAM	8	0	15.2	15.2	15.43
3	16QAM	8	4	15.2	15.15	15.34
3	16QAM	8	7	15.2	15.5	15.35
3	16QAM	15	0	14.97	15.41	15.34
Channel				**18607**	**18900**	**19193**
Frequency (MHz)				**1850.7**	**1880**	**1909.3**
1.4	QPSK	1	0	15.29	15.17	15.27
1.4	QPSK	1	2	15.34	15.41	15.5
1.4	QPSK	1	5	15.3	15.1	15.46
1.4	QPSK	3	0	15.43	15.36	15.5
1.4	QPSK	3	1	15.48	15.39	15.62
1.4	QPSK	3	2	15.28	15.4	15.46
1.4	QPSK	6	0	15.46	15.39	15.44
1.4	16QAM	1	0	15.48	15.47	15.37
1.4	16QAM	1	2	15.54	15.44	15.57
1.4	16QAM	1	5	15.37	15.48	15.49
1.4	16QAM	3	0	15.23	15.21	15.5
1.4	16QAM	3	1	15.46	15.3	15.51
1.4	16QAM	3	2	15.46	15.23	15.47
1.4	16QAM	6	0	14.9	15.07	15.19

<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	16.72	16.81	16.68
20	QPSK	1	49	16.68	16.7	16.58
20	QPSK	1	99	16.37	16.54	16.24
20	QPSK	50	0	16.61	16.73	16.67
20	QPSK	50	24	16.54	16.65	16.53
20	QPSK	50	49	16.46	16.6	16.53
20	QPSK	100	0	16.5	16.71	16.6
20	16QAM	1	0	16.67	16.79	16.67
20	16QAM	1	49	16.58	16.76	16.54
20	16QAM	1	99	16.52	16.73	16.5
20	16QAM	50	0	16.56	16.74	16.66
20	16QAM	50	24	16.65	16.74	16.6
20	16QAM	50	49	16.48	16.7	16.55
20	16QAM	100	0	16.54	16.7	16.55
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	16.64	16.6	16.76
15	QPSK	1	37	16.5	16.58	16.73
15	QPSK	1	74	16.4	16.45	16.46
15	QPSK	36	0	16.51	16.51	16.66
15	QPSK	36	18	16.5	16.44	16.59
15	QPSK	36	37	16.56	16.44	16.6
15	QPSK	75	0	16.61	16.46	16.59
15	16QAM	1	0	16.55	16.41	16.68
15	16QAM	1	37	16.48	16.46	16.57
15	16QAM	1	74	16.37	16.32	16.63
15	16QAM	36	0	16.45	16.66	16.6
15	16QAM	36	18	16.32	16.56	16.66
15	16QAM	36	37	16.36	16.56	16.63
15	16QAM	75	0	16.49	16.49	16.56

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	16.79	16.8	16.64
10	QPSK	1	24	16.73	16.39	16.63
10	QPSK	1	49	16.63	16.39	16.63
10	QPSK	25	0	16.64	16.52	16.68
10	QPSK	25	12	16.5	16.57	16.69
10	QPSK	25	24	16.45	16.54	16.6
10	QPSK	50	0	16.52	16.53	16.62
10	16QAM	1	0	16.69	16.57	16.68
10	16QAM	1	24	16.66	16.77	16.65
10	16QAM	1	49	16.62	16.73	16.62
10	16QAM	25	0	16.66	16.54	16.63
10	16QAM	25	12	16.66	16.5	16.6
10	16QAM	25	24	16.66	16.58	16.61
10	16QAM	50	0	16.41	16.57	16.64
Channel				**19975**	**20175**	**20375**
Frequency (MHz)				**1712.5**	**1732.5**	**1752.5**
5	QPSK	1	0	16.75	16.37	16.42
5	QPSK	1	12	16.52	16.57	16.52
5	QPSK	1	24	16.38	16.52	16.34
5	QPSK	12	0	16.59	16.62	16.6
5	QPSK	12	6	16.55	16.5	16.57
5	QPSK	12	11	16.51	16.59	16.59
5	QPSK	25	0	16.59	16.56	16.54
5	16QAM	1	0	16.66	16.61	16.59
5	16QAM	1	12	16.5	16.4	16.6
5	16QAM	1	24	16.13	16.19	16.67
5	16QAM	12	0	16.62	16.54	16.61
5	16QAM	12	6	16.65	16.54	16.58
5	16QAM	12	11	16.46	16.53	16.59
5	16QAM	25	0	16.47	16.41	16.55

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	16.64	16.47	16.53
3	QPSK	1	7	16.53	16.58	16.68
3	QPSK	1	14	16.42	16.51	16.39
3	QPSK	8	0	16.68	16.64	16.61
3	QPSK	8	4	16.55	16.59	16.54
3	QPSK	8	7	16.5	16.63	16.49
3	QPSK	15	0	16.55	16.49	16.46
3	16QAM	1	0	16.8	16.22	16.64
3	16QAM	1	7	16.72	16.44	16.46
3	16QAM	1	14	16.69	16.28	16.51
3	16QAM	8	0	16.61	16.69	16.67
3	16QAM	8	4	16.59	16.63	16.65
3	16QAM	8	7	16.78	16.62	16.63
3	16QAM	15	0	16.71	16.64	16.66
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	16.43	16.46	16.78
1.4	QPSK	1	2	16.56	16.46	16.5
1.4	QPSK	1	5	16.4	16.46	16.41
1.4	QPSK	3	0	16.63	16.42	16.38
1.4	QPSK	3	1	16.73	16.46	16.5
1.4	QPSK	3	2	16.65	16.47	16.49
1.4	QPSK	6	0	16.62	16.43	16.59
1.4	16QAM	1	0	16.64	16.78	16.74
1.4	16QAM	1	2	16.56	16.76	16.72
1.4	16QAM	1	5	16.33	16.75	16.7
1.4	16QAM	3	0	16.43	16.58	16.73
1.4	16QAM	3	1	16.63	16.68	16.68
1.4	16QAM	3	2	16.44	16.63	16.66
1.4	16QAM	6	0	16.2	16.62	16.54

<LTE Band 7 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	13.76	13.84	13.74
20	QPSK	1	49	13.71	13.58	13.42
20	QPSK	1	99	13.75	13.61	13.4
20	QPSK	50	0	13.68	13.73	13.69
20	QPSK	50	24	13.66	13.57	13.53
20	QPSK	50	49	13.62	13.64	13.54
20	QPSK	100	0	13.73	13.74	13.61
20	16QAM	1	0	13.7	13.7	13.73
20	16QAM	1	49	13.6	13.57	13.66
20	16QAM	1	99	13.38	13.58	13.56
20	16QAM	50	0	13.61	13.68	13.54
20	16QAM	50	24	13.69	13.68	13.6
20	16QAM	50	49	13.6	13.69	13.57
20	16QAM	100	0	13.59	13.66	13.59
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	13.71	13.8	13.67
15	QPSK	1	37	13.68	13.75	13.53
15	QPSK	1	74	13.49	13.78	13.62
15	QPSK	36	0	13.67	13.7	13.6
15	QPSK	36	18	13.59	13.51	13.59
15	QPSK	36	37	13.66	13.65	13.54
15	QPSK	75	0	13.61	13.65	13.61
15	16QAM	1	0	13.67	13.75	13.33
15	16QAM	1	37	13.54	13.68	13.53
15	16QAM	1	74	13.26	13.76	13.32
15	16QAM	36	0	13.58	13.75	13.56
15	16QAM	36	18	13.51	13.7	13.44
15	16QAM	36	37	13.53	13.75	13.47
15	16QAM	75	0	13.59	13.71	13.54

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20800**	**21100**	**21400**
Frequency (MHz)				**2505**	**2535**	**2565**
10	QPSK	1	0	13.76	13.81	13.83
10	QPSK	1	24	13.41	13.8	13.72
10	QPSK	1	49	13.35	13.8	13.79
10	QPSK	25	0	13.55	13.76	13.68
10	QPSK	25	12	13.55	13.67	13.71
10	QPSK	25	24	13.44	13.71	13.68
10	QPSK	50	0	13.55	13.71	13.74
10	16QAM	1	0	13.75	13.58	13.78
10	16QAM	1	24	13.69	13.51	13.68
10	16QAM	1	49	13.72	13.46	13.69
10	16QAM	25	0	13.62	13.73	13.61
10	16QAM	25	12	13.51	13.72	13.62
10	16QAM	25	24	13.51	13.8	13.7
10	16QAM	50	0	13.58	13.68	13.73
Channel				**20775**	**21100**	**21425**
Frequency (MHz)				**2502.5**	**2535**	**2567.5**
5	QPSK	1	0	13.6	13.78	13.58
5	QPSK	1	12	13.77	13.71	13.77
5	QPSK	1	24	13.69	13.42	13.6
5	QPSK	12	0	13.73	13.7	13.68
5	QPSK	12	6	13.69	13.7	13.68
5	QPSK	12	11	13.72	13.66	13.67
5	QPSK	25	0	13.74	13.65	13.76
5	16QAM	1	0	13.71	13.77	13.75
5	16QAM	1	12	13.67	13.64	13.74
5	16QAM	1	24	13.71	13.76	13.66
5	16QAM	12	0	13.74	13.76	13.72
5	16QAM	12	6	13.69	13.67	13.73
5	16QAM	12	11	13.68	13.63	13.74
5	16QAM	25	0	13.62	13.71	13.73

<LTE Band 12 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				**23060**	**23095**	**23130**
Frequency (MHz)				**704**	**707.5**	**711**
10	QPSK	1	0	20.49	20.77	20.73
10	QPSK	1	24	20.82	20.62	20.54
10	QPSK	1	49	20.4	20.66	20.71
10	QPSK	25	0	20.41	20.34	20.62
10	QPSK	25	12	20.48	20.37	20.66
10	QPSK	25	24	20.56	20.58	20.64
10	QPSK	50	0	20.52	20.59	20.66
10	16QAM	1	0	20.31	20.71	20.67
10	16QAM	1	24	20.59	20.34	20.23
10	16QAM	1	49	20.52	20.57	20.27
10	16QAM	25	0	20.54	20.45	20.64
10	16QAM	25	12	20.31	20.48	20.59
10	16QAM	25	24	20.43	20.53	20.48
10	16QAM	50	0	20.33	20.55	20.61
Channel				**23035**	**23095**	**23155**
Frequency (MHz)				**701.5**	**707.5**	**713.5**
5	QPSK	1	0	20.28	20.77	20.63
5	QPSK	1	12	20.28	20.72	20.66
5	QPSK	1	24	20.41	20.44	20.26
5	QPSK	12	0	20.55	20.51	20.52
5	QPSK	12	6	20.54	20.59	20.52
5	QPSK	12	11	20.56	20.63	20.45
5	QPSK	25	0	20.62	20.59	20.41
5	16QAM	1	0	20.1	20.52	20.63
5	16QAM	1	12	20.07	20.21	20.61
5	16QAM	1	24	20.26	20.24	20.57
5	16QAM	12	0	20.51	20.42	20.46
5	16QAM	12	6	20.4	20.46	20.45
5	16QAM	12	11	20.52	20.35	20.38
5	16QAM	25	0	20.69	20.5	20.45

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**23025**	**23095**	**23165**
Frequency (MHz)				**700.5**	**707.5**	**714.5**
3	QPSK	1	0	20.22	20.65	20.6
3	QPSK	1	7	20.23	20.4	20.34
3	QPSK	1	14	20.35	20.28	20.23
3	QPSK	8	0	20.67	20.51	20.58
3	QPSK	8	4	20.63	20.63	20.35
3	QPSK	8	7	20.59	20.56	20.47
3	QPSK	15	0	20.47	20.57	20.55
3	16QAM	1	0	20.46	20.61	20.57
3	16QAM	1	7	20.57	20.59	20.14
3	16QAM	1	14	20.72	20.38	20.15
3	16QAM	8	0	20.77	20.43	20.24
3	16QAM	8	4	20.72	20.59	20.3
3	16QAM	8	7	20.68	20.53	20.29
3	16QAM	15	0	**20.83**	20.59	20.42
Channel				**23017**	**23095**	**23173**
Frequency (MHz)				**699.7**	**707.5**	**715.3**
1.4	QPSK	1	0	20.63	20.71	20.52
1.4	QPSK	1	2	20.31	20.54	20.52
1.4	QPSK	1	5	20.59	20.51	20.42
1.4	QPSK	3	0	20.61	20.58	20.64
1.4	QPSK	3	1	20.6	20.63	20.71
1.4	QPSK	3	2	20.52	20.62	20.66
1.4	QPSK	6	0	20.55	20.59	20.57
1.4	16QAM	1	0	20.54	20.66	20.15
1.4	16QAM	1	2	20.11	20.55	20.1
1.4	16QAM	1	5	20.2	20.65	20.5
1.4	16QAM	3	0	20.12	20.51	20.11
1.4	16QAM	3	1	20.34	20.55	20.09
1.4	16QAM	3	2	20.45	20.64	20.08
1.4	16QAM	6	0	20.53	20.49	20.19

<LTE Band 17 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	20.73	**20.83**	20.74
10	QPSK	1	24	20.79	20.79	20.81
10	QPSK	1	49	20.62	20.62	20.54
10	QPSK	25	0	20.62	20.72	20.55
10	QPSK	25	12	20.59	20.55	20.56
10	QPSK	25	24	20.58	20.57	20.67
10	QPSK	50	0	20.55	20.62	20.59
10	16QAM	1	0	20.77	20.66	20.75
10	16QAM	1	24	20.61	20.49	20.69
10	16QAM	1	49	20.69	20.31	20.71
10	16QAM	25	0	20.66	20.64	20.62
10	16QAM	25	12	20.64	20.62	20.61
10	16QAM	25	24	20.67	20.64	20.72
10	16QAM	50	0	20.62	20.65	20.43
Channel				23755	23790	23825
Frequency (MHz)				706.5	710	713.5
5	QPSK	1	0	20.65	20.64	20.45
5	QPSK	1	12	20.53	20.47	20.78
5	QPSK	1	24	20.48	20.39	20.24
5	QPSK	12	0	20.59	20.57	20.5
5	QPSK	12	6	20.58	20.58	20.57
5	QPSK	12	11	20.55	20.54	20.61
5	QPSK	25	0	20.57	20.6	20.45
5	16QAM	1	0	20.71	20.6	20.73
5	16QAM	1	12	20.72	20.35	20.72
5	16QAM	1	24	20.7	20.35	20.38
5	16QAM	12	0	20.62	20.51	20.48
5	16QAM	12	6	20.62	20.42	20.55
5	16QAM	12	11	20.58	20.4	20.54
5	16QAM	25	0	20.6	20.44	20.73

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.

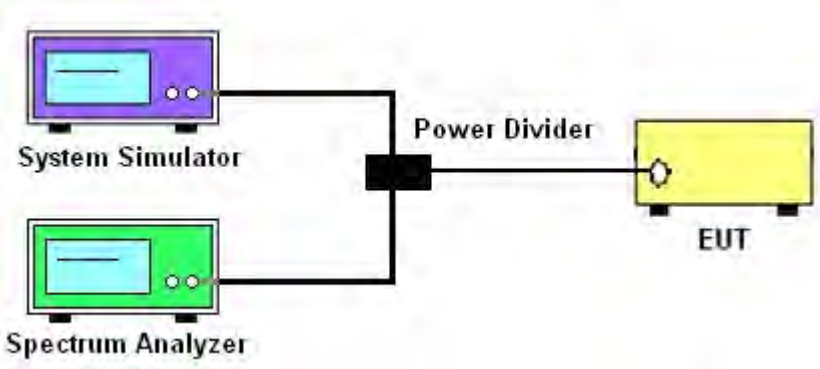
3.2.2 Measuring Instruments

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 2						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	3.68	3.54	4.17
20	QPSK	100	0	4.87	4.38	4.61
20	16QAM	1	0	4.26	4.75	4.58
20	16QAM	100	0	5.86	5.45	5.83

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	3.68	4.75	4.49
20	QPSK	100	0	5.01	4.90	4.81
20	16QAM	1	0	4.58	5.33	5.25
20	16QAM	100	0	5.91	6.00	5.77

LTE Band 5						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	3.68	4.29	4.38
10	QPSK	50	0	4.87	5.01	4.75
10	16QAM	1	0	4.70	5.13	4.64
10	16QAM	50	0	5.71	6.00	5.71

LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	3.25	3.74	3.10
20	QPSK	100	0	4.35	4.41	4.35
20	16QAM	1	0	4.20	4.14	3.74
20	16QAM	100	0	5.16	5.22	5.25

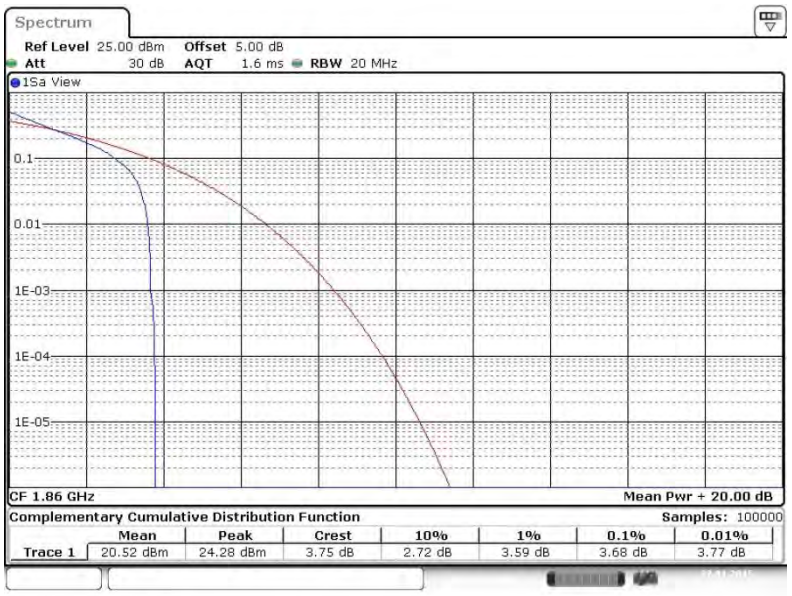
LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23060	23095	23130
Frequency (MHz)				704	707.5	711
10	QPSK	1	0	4.17	4.14	4.23
10	QPSK	50	0	4.9	5.01	4.9
10	16QAM	1	0	5.07	4.81	5.13
10	16QAM	50	0	5.71	5.88	5.86

LTE Band 17						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	4.12	4.14	4.17
10	QPSK	50	0	4.96	4.93	4.99
10	16QAM	1	0	4.58	5.19	4.81
10	16QAM	50	0	5.83	5.88	5.88

3.2.7 Peak to Average Power Ratio

Peak-to-Average Ratio on LTE Band 2

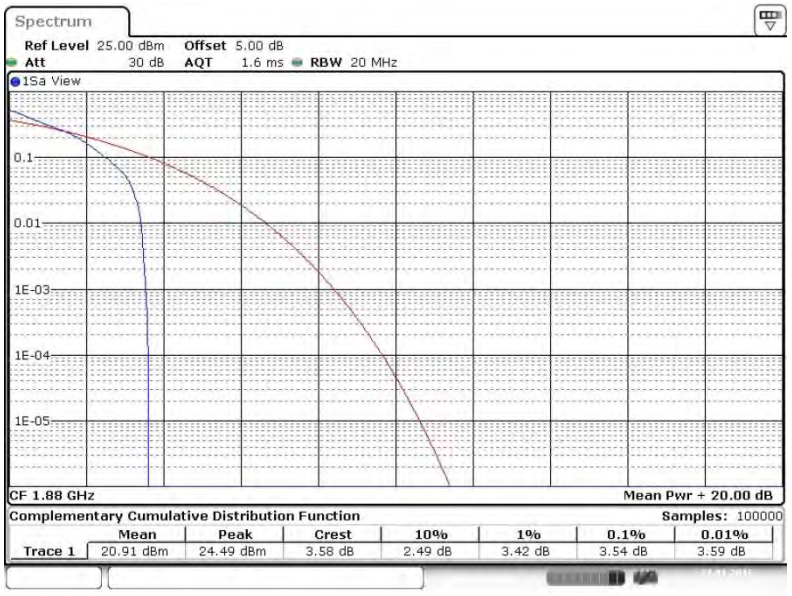
20MHz / QPSK in Ch. 18700 (1RB Size)



Date: 22.JAN.2015 13:09:47

Peak-to-Average Ratio on LTE Band 2

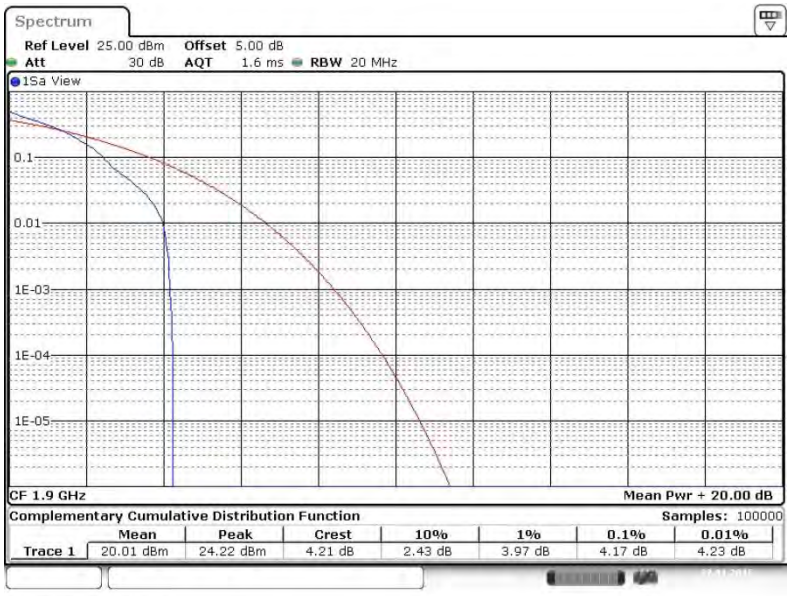
20MHz / QPSK in Ch. 18900 (1RB Size)



Date: 22.JAN.2015 13:15:19

Peak-to-Average Ratio on LTE Band 2

20MHz / QPSK in Ch. 19100 (1RB Size)



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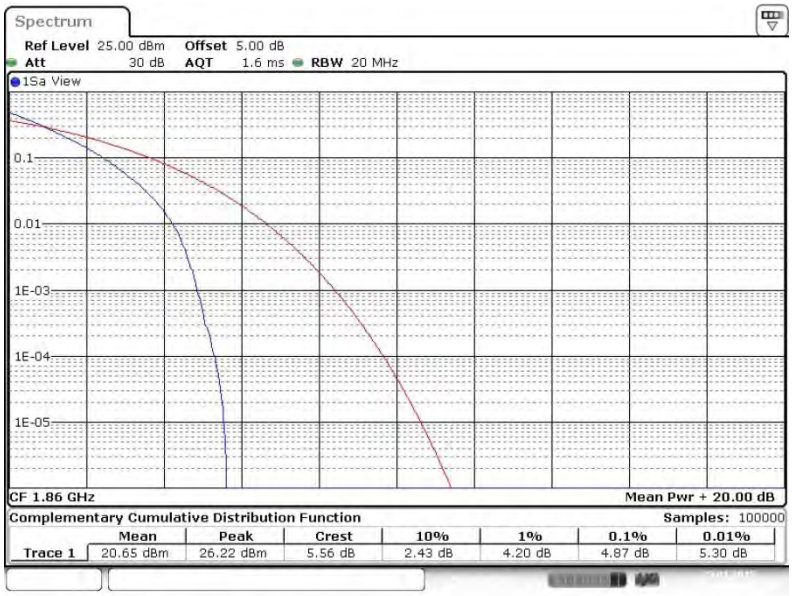
Peak-to-Average Ratio on LTE Band 2

20MHz / QPSK in Ch. 18700 (100RB Size)



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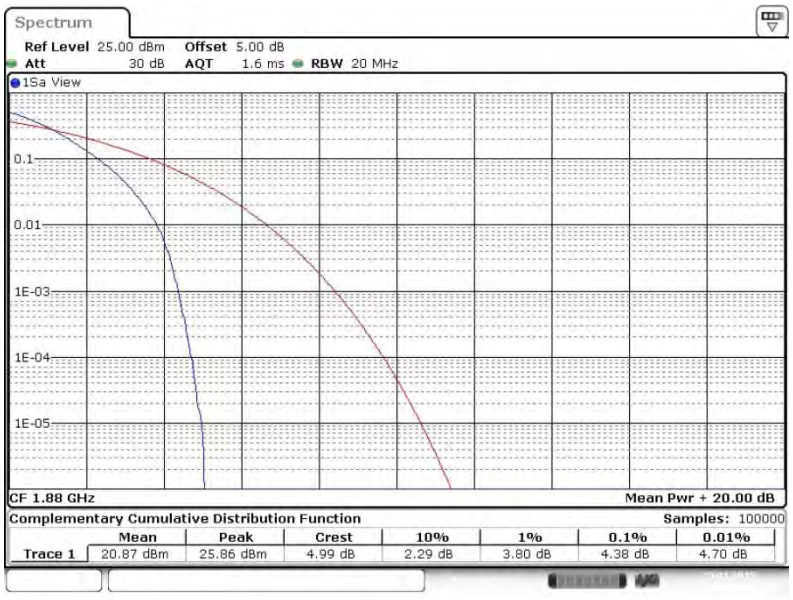
Peak-to-Average Ratio on LTE Band 2

20MHz / QPSK in Ch. 18900 (100RB Size)



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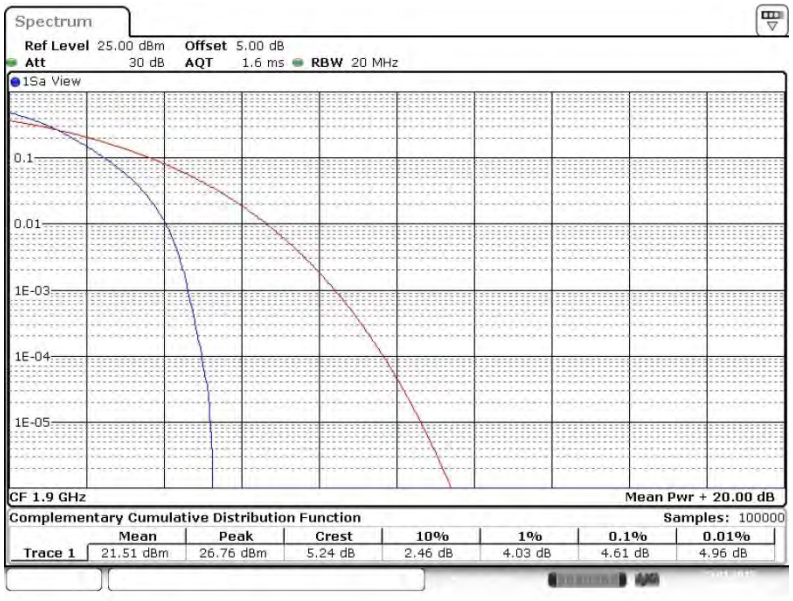
Peak-to-Average Ratio on LTE Band 2

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



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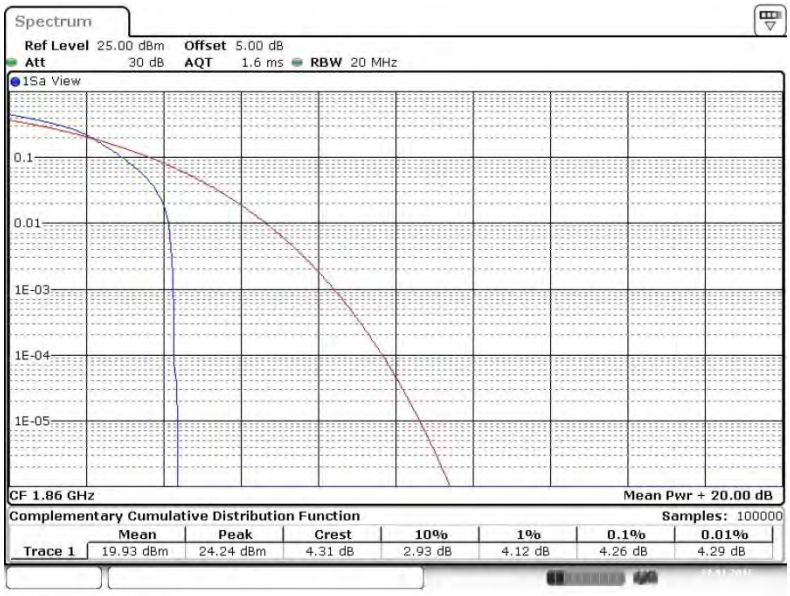
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18700 (1RB Size)



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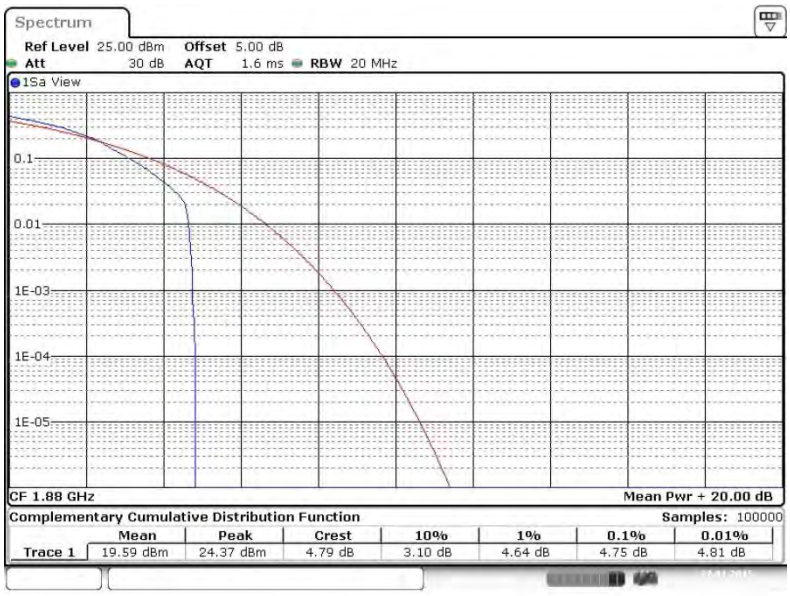
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18900 (1RB Size)



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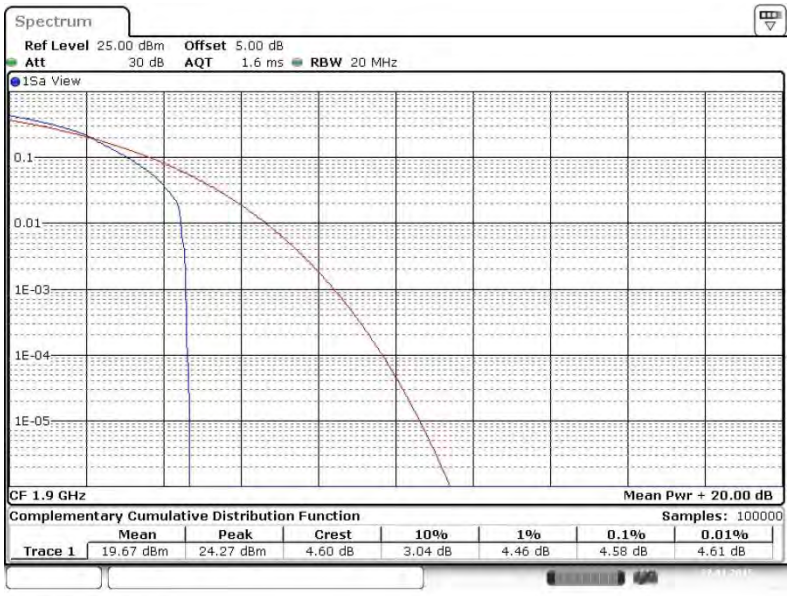
Peak-to-Average Ratio on LTE Band 2

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



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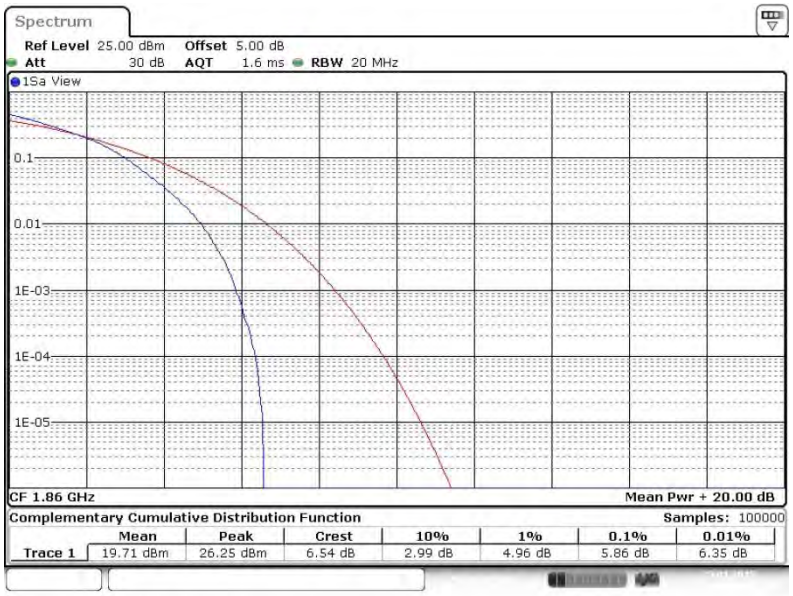
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18700 (100RB Size)



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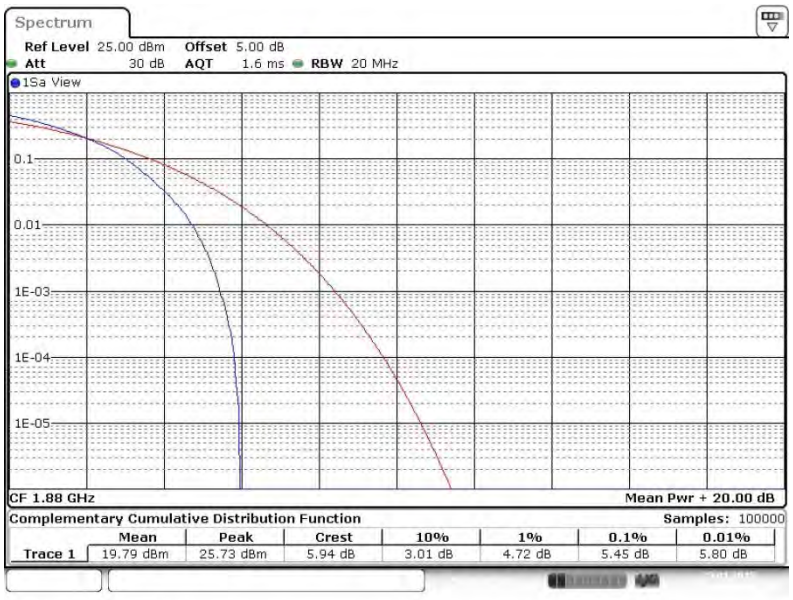
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18900 (100RB Size)



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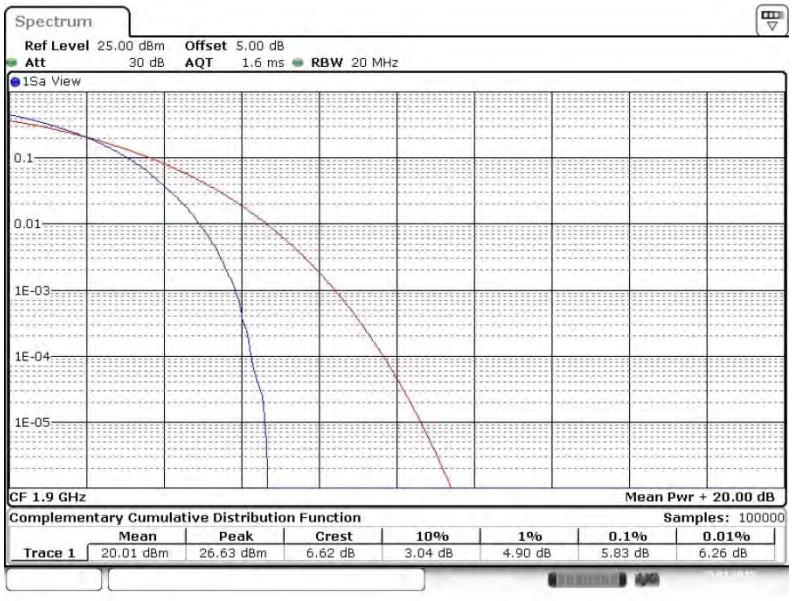
Peak-to-Average Ratio on LTE Band 2

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



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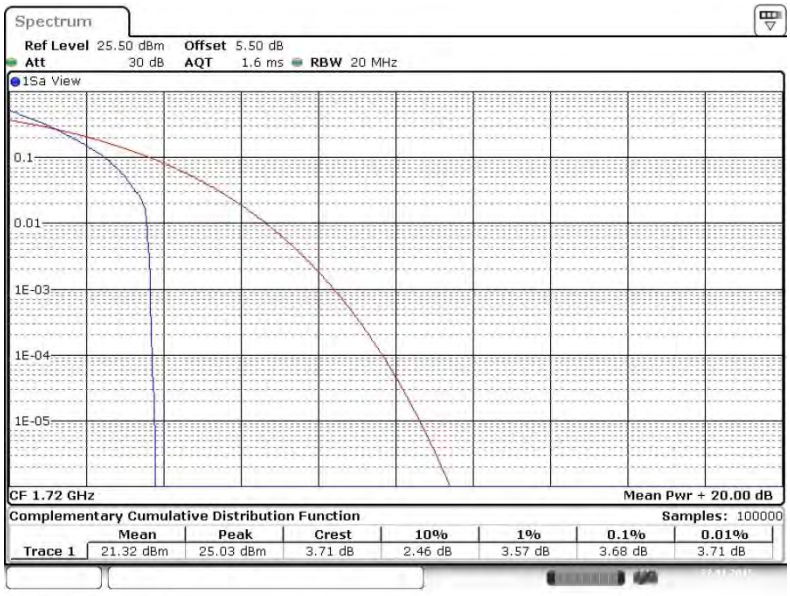
Peak-to-Average Ratio on LTE Band 4

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



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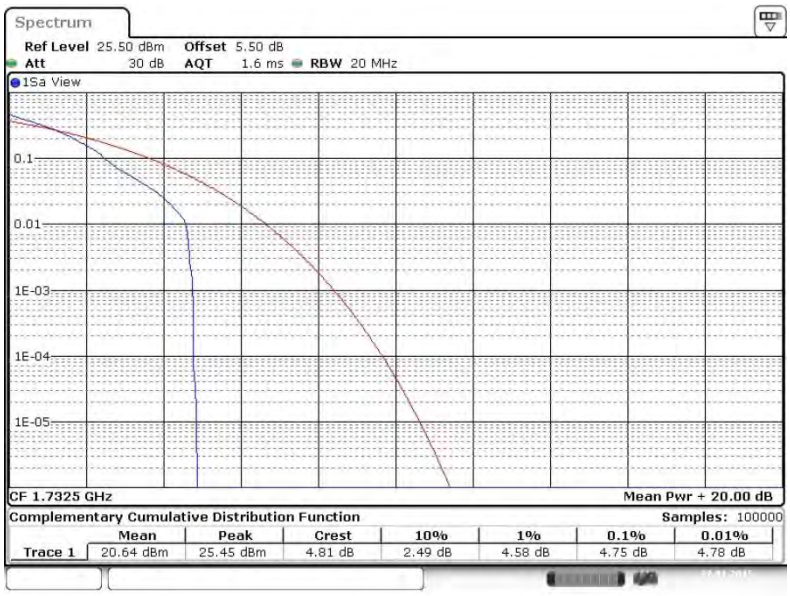
Peak-to-Average Ratio on LTE Band 4

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



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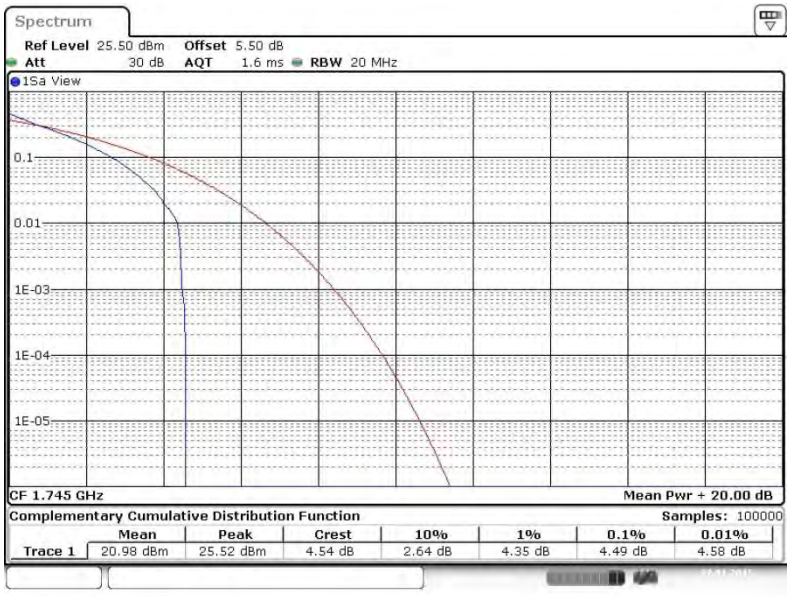
Peak-to-Average Ratio on LTE Band 4

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



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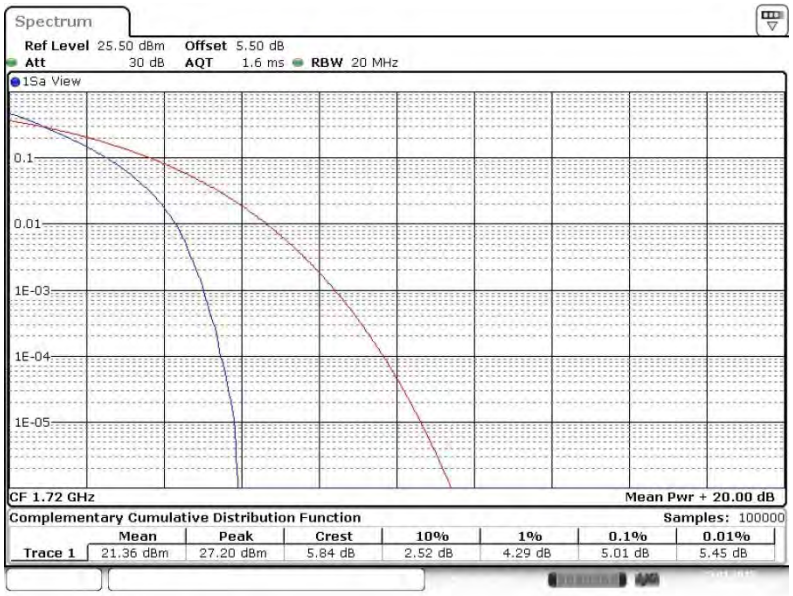
Peak-to-Average Ratio on LTE Band 4

20MHz / QPSK in Ch. 20500 (100RB Size)



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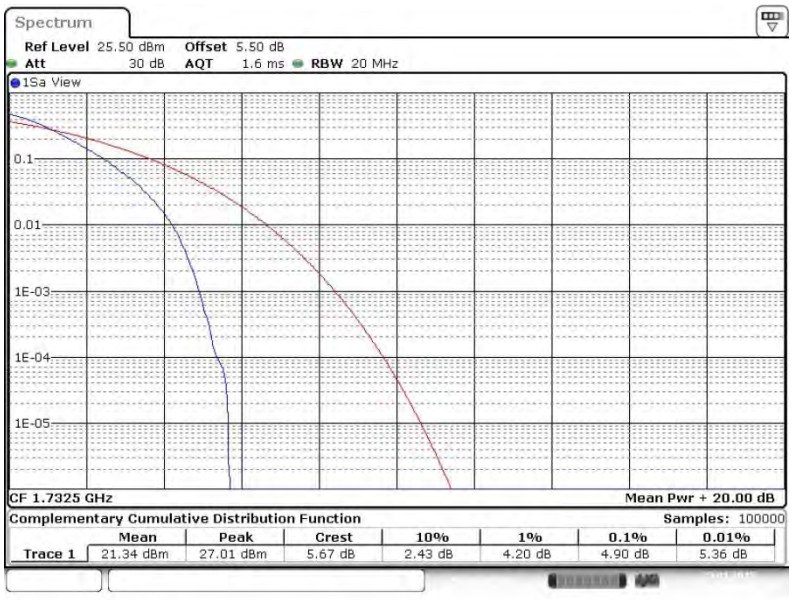
Peak-to-Average Ratio on LTE Band 4

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



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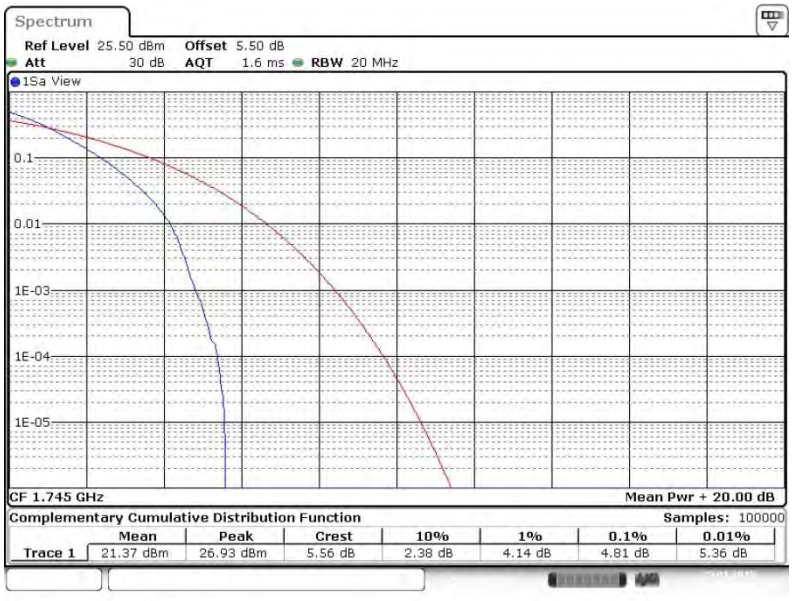
Peak-to-Average Ratio on LTE Band 4

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



Date: 22.JAN.2015 15:12:01

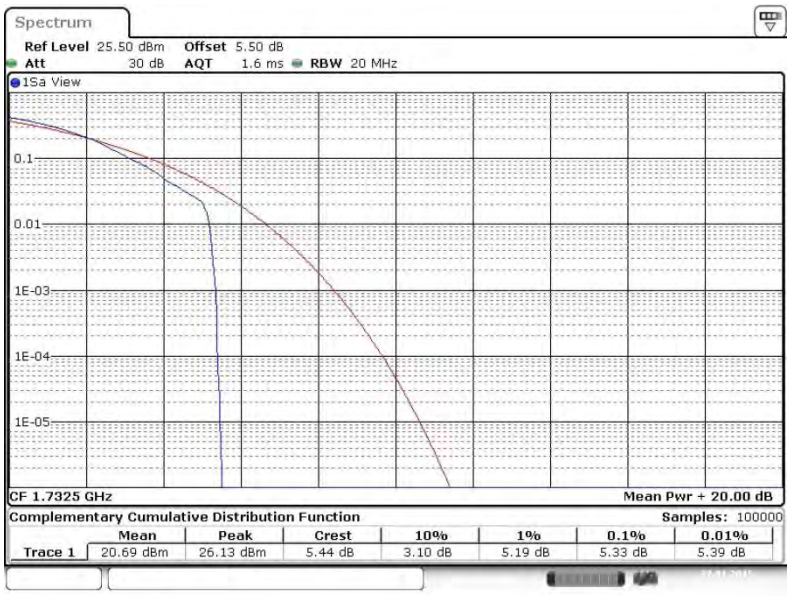
Peak-to-Average Ratio on LTE Band 4

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

Date: 22.JAN.2015 15:09:05

Peak-to-Average Ratio on LTE Band 4

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



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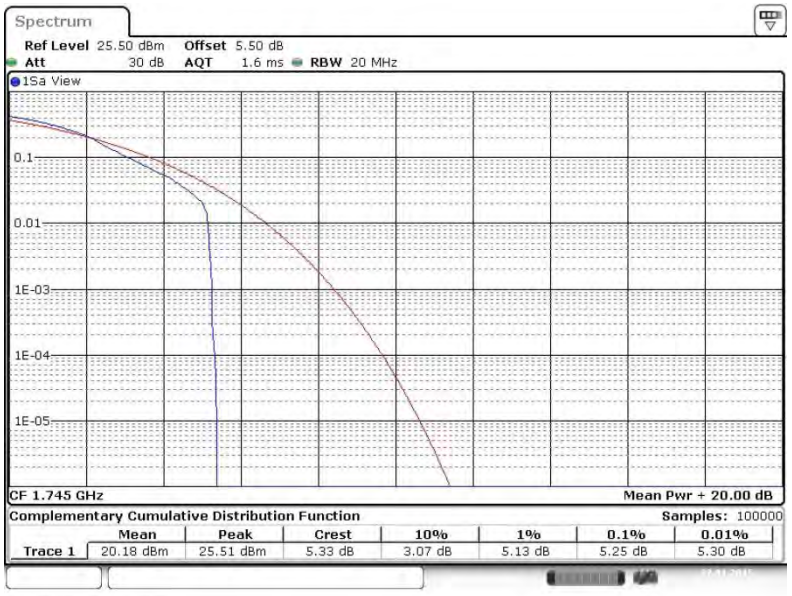
Peak-to-Average Ratio on LTE Band 4

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



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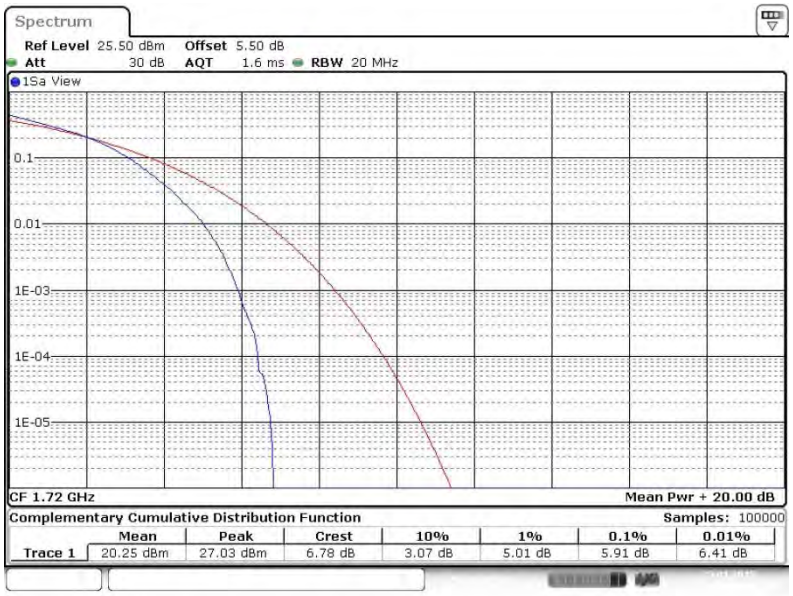
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20500 (100RB Size)



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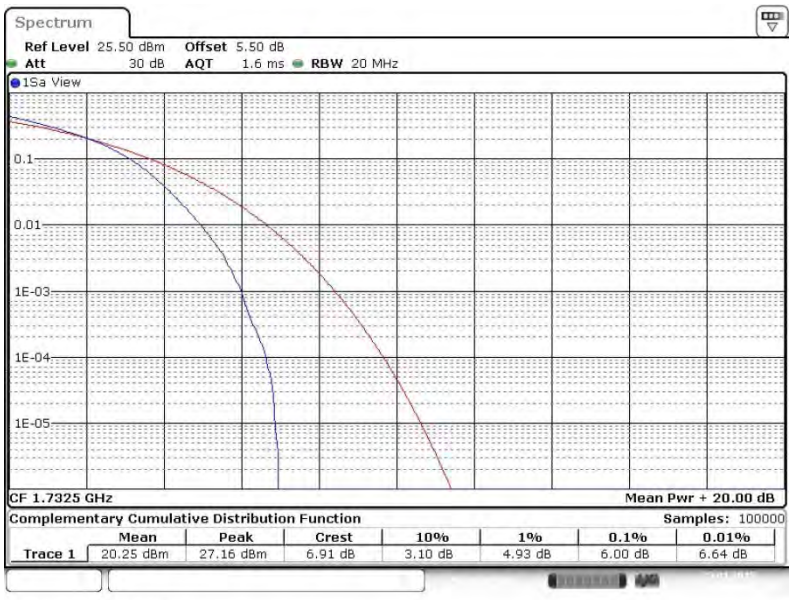
Peak-to-Average Ratio on LTE Band 4

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



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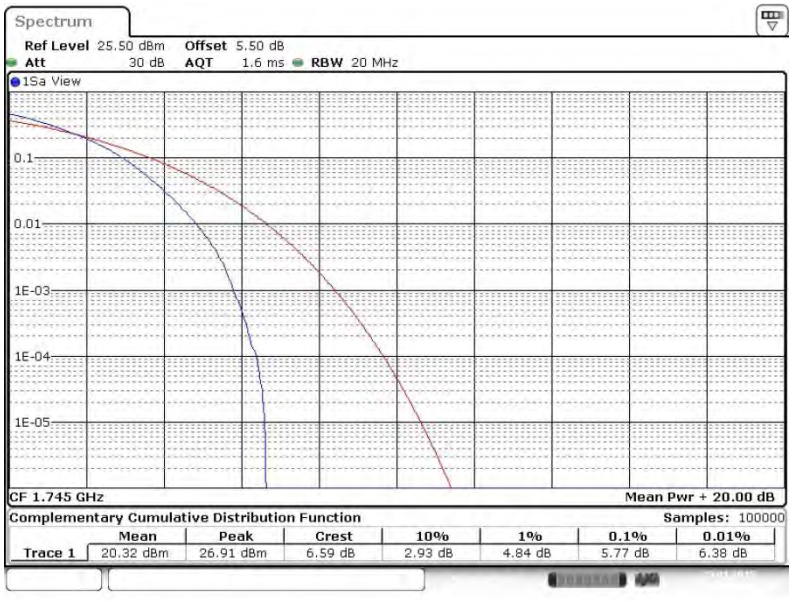
Peak-to-Average Ratio on LTE Band 4

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



Date: 22.JAN.2015 15:12:15

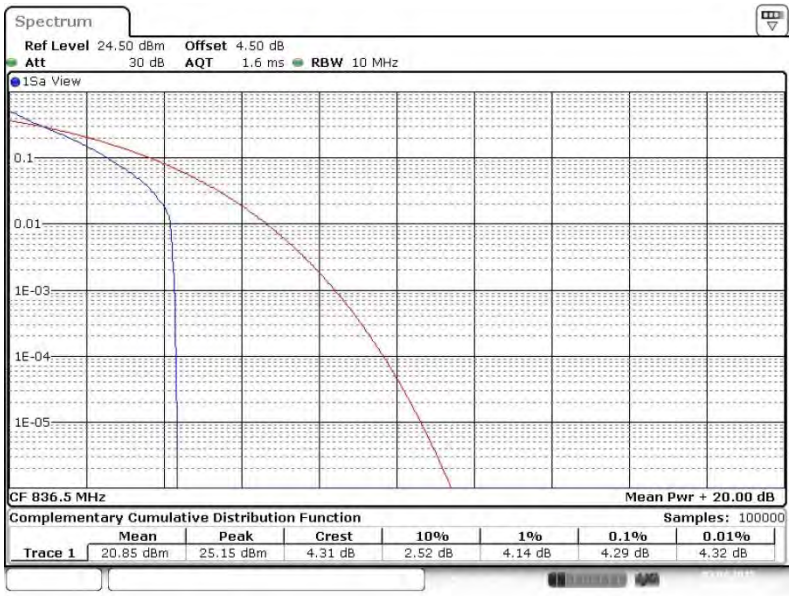
Peak-to-Average Ratio on LTE Band 5

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

Date: 2.APR.2015 19:39:59

Peak-to-Average Ratio on LTE Band 5

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



Date: 2.APR.2015 19:41:11

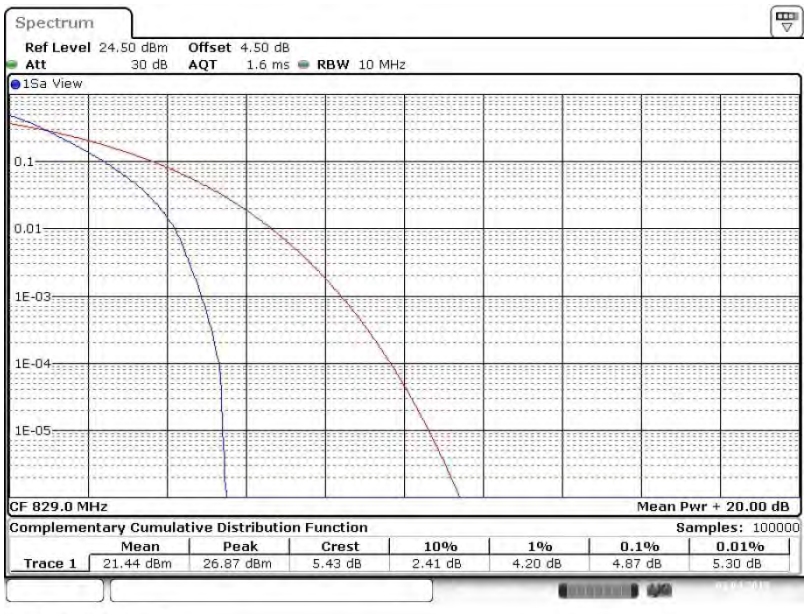
Peak-to-Average Ratio on LTE Band 5

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

Date: 2.APR.2015 19:41:53

Peak-to-Average Ratio on LTE Band 5

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



Date: 2.APR.2015 19:40:17

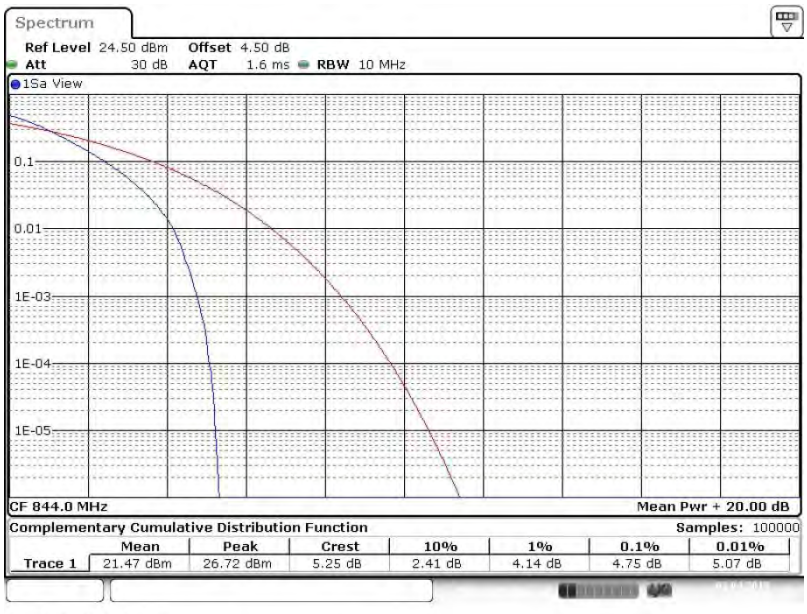
Peak-to-Average Ratio on LTE Band 5

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

Date: 2.APR.2015 19:40:58

Peak-to-Average Ratio on LTE Band 5

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



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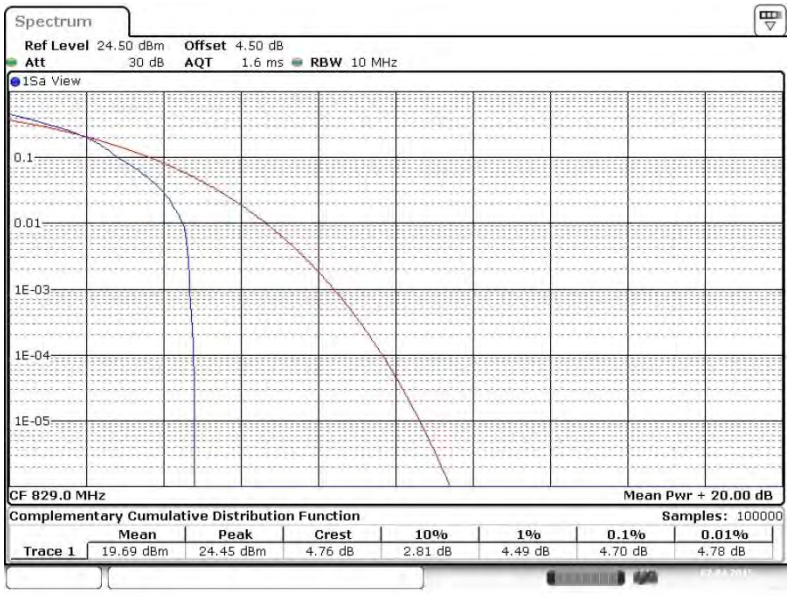
Peak-to-Average Ratio on LTE Band 5

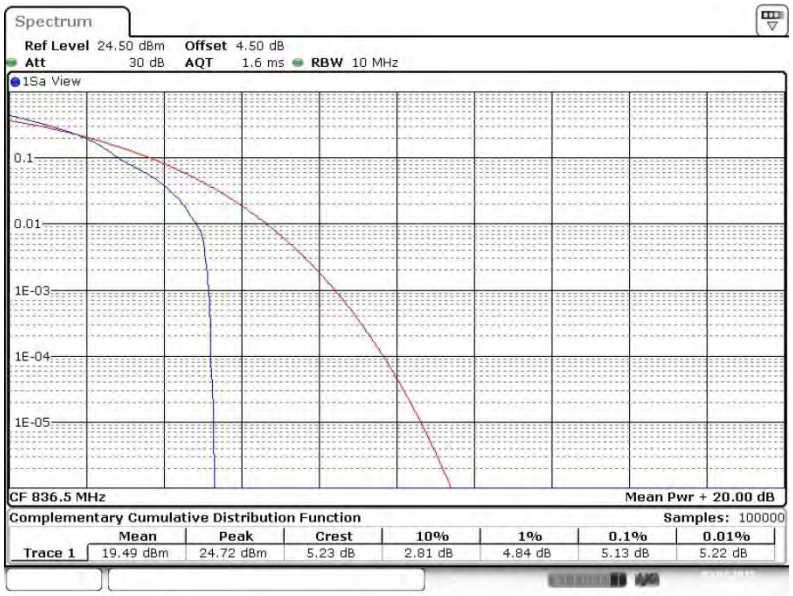
10MHz / 16QAM in Ch. 20450 (1RB Size)



Date: 2.APR.2015 19:39:43

Peak-to-Average Ratio on LTE Band 5

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



Date: 2.APR.2015 19:41:24

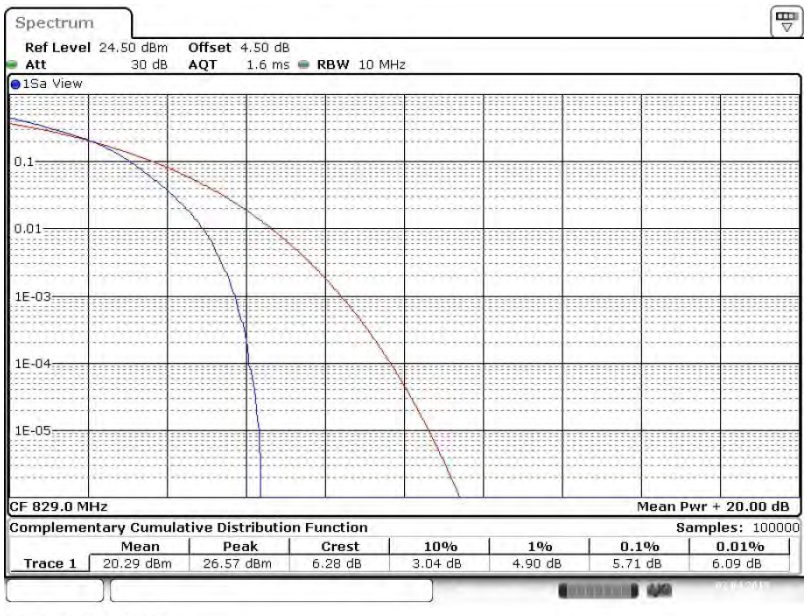
Peak-to-Average Ratio on LTE Band 5

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

Date: 2.APR.2015 19:41:41

Peak-to-Average Ratio on LTE Band 5

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



Date: 2.APR.2015 19:40:29

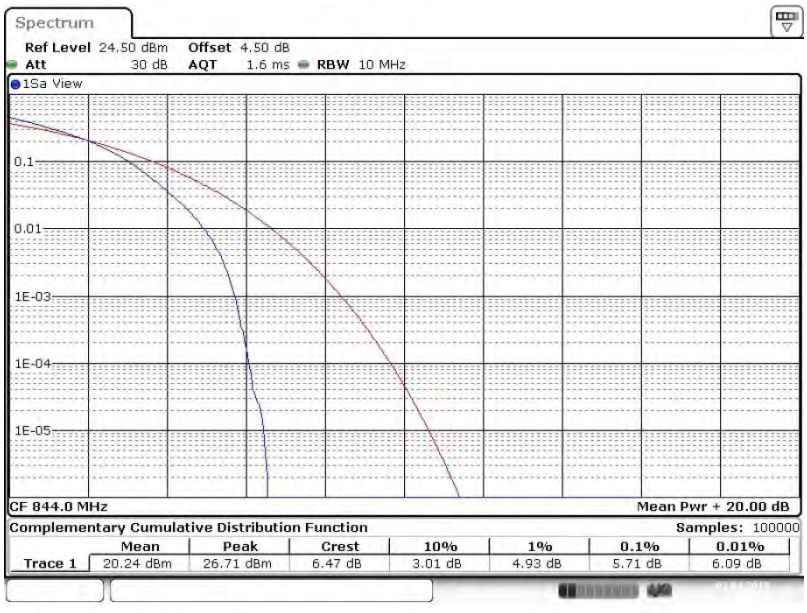
Peak-to-Average Ratio on LTE Band 5

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

Date: 2.APR.2015 19:40:46

Peak-to-Average Ratio on LTE Band 5

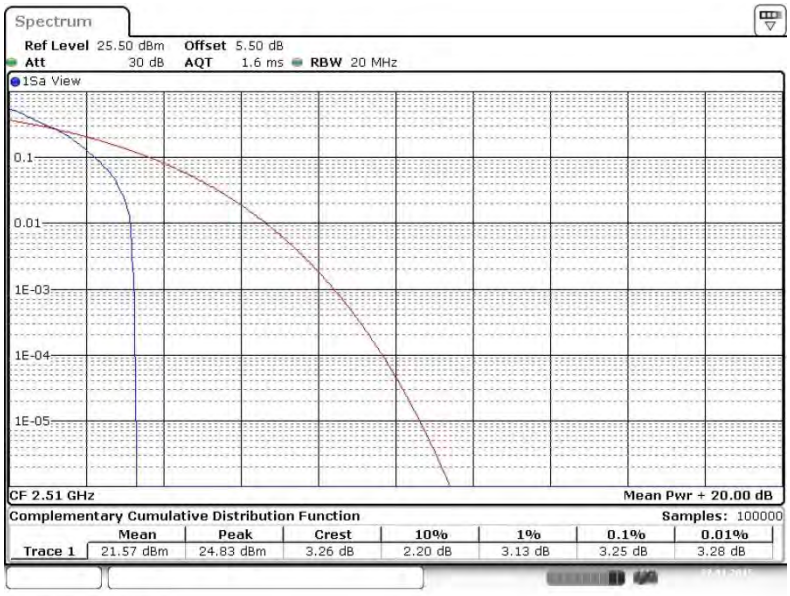
10MHz / 16QAM in Ch. 20600 (50RB Size)



Date: 2.APR.2015 19:42:24

Peak-to-Average Ratio on LTE Band 7

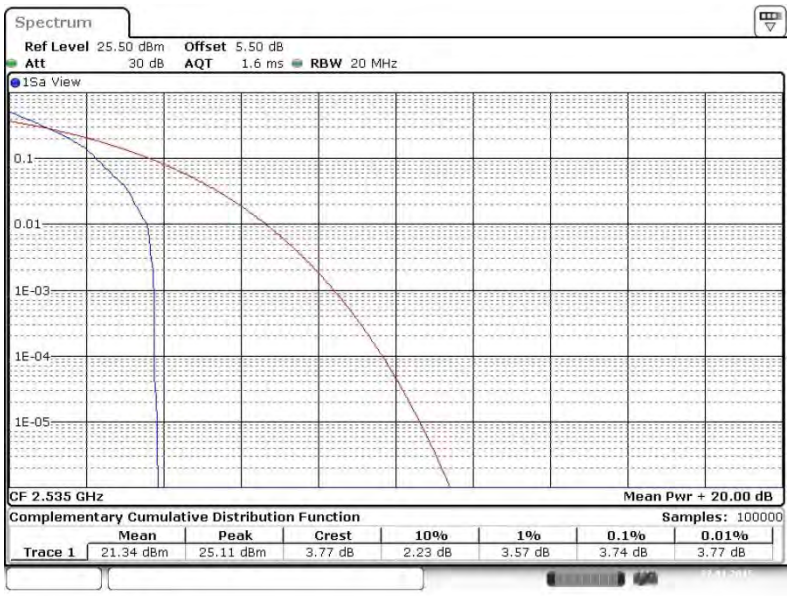
20MHz / QPSK in Ch. 20850 (1RB Size)



Date: 22.JAN.2015 16:35:43

Peak-to-Average Ratio on LTE Band 7

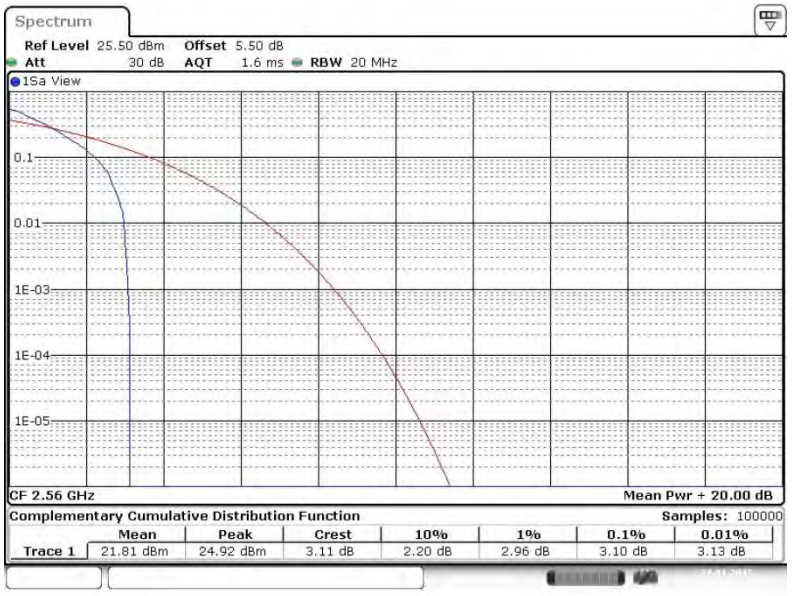
20MHz / QPSK in Ch. 21100 (1RB Size)



Date: 22.JAN.2015 16:43:41

Peak-to-Average Ratio on LTE Band 7

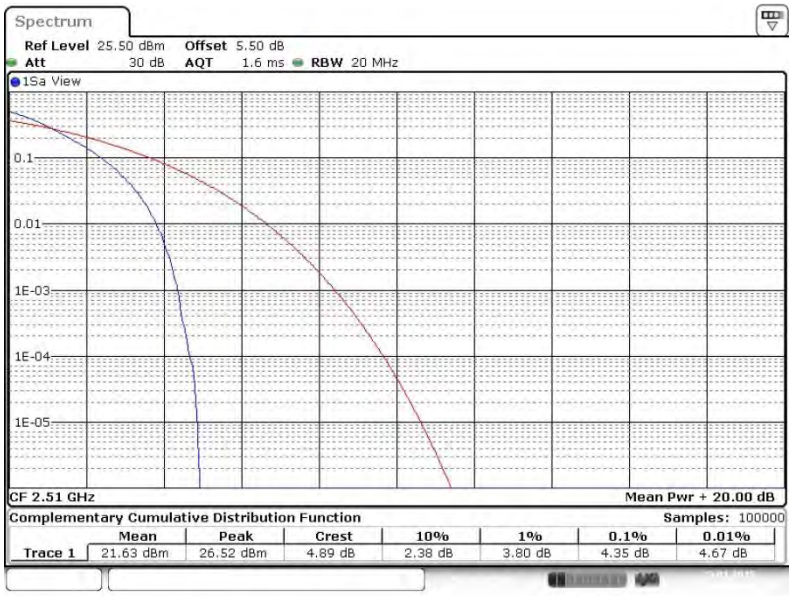
20MHz / QPSK in Ch. 21350 (1RB Size)



Date: 22.JAN.2015 16:48:25

Peak-to-Average Ratio on LTE Band 7

20MHz / QPSK in Ch. 20850 (100RB Size)



Date: 22.JAN.2015 16:35:30

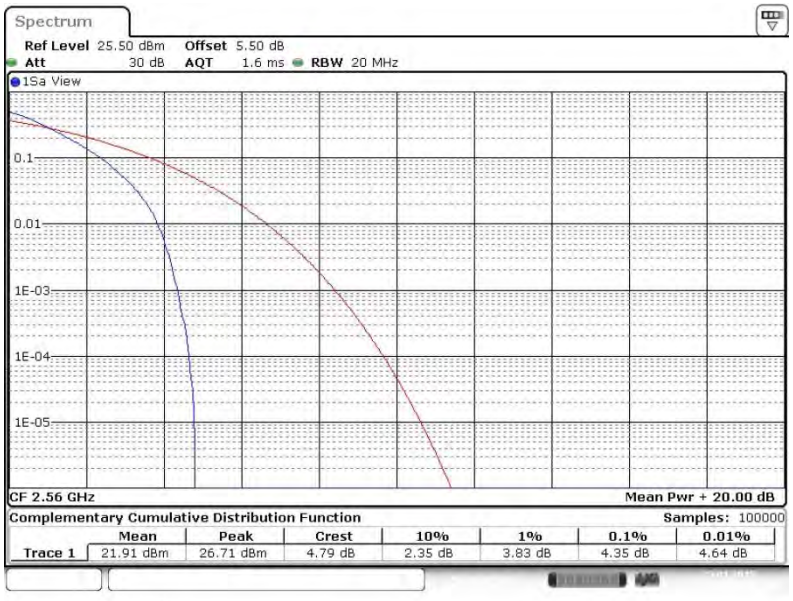
Peak-to-Average Ratio on LTE Band 7

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

Date: 22.JAN.2015 16:42:50

Peak-to-Average Ratio on LTE Band 7

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



Date: 22.JAN.2015 16:48:14

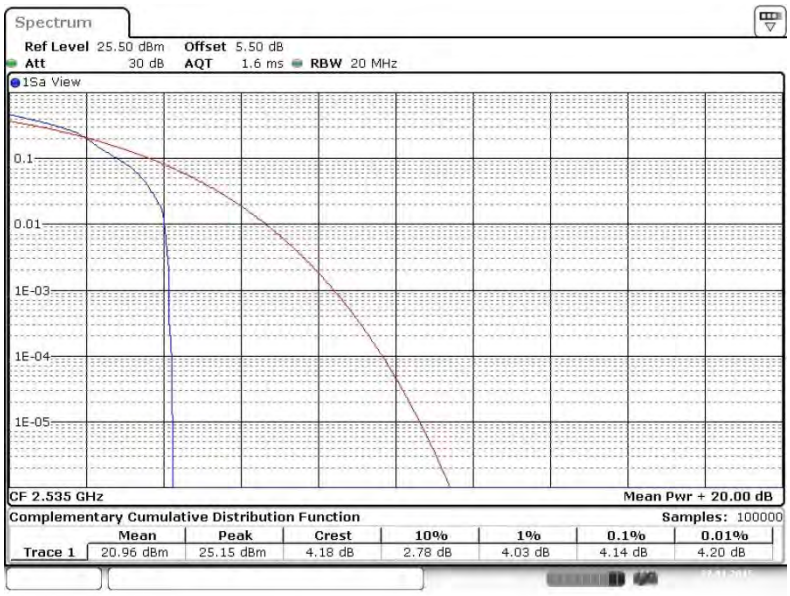
Peak-to-Average Ratio on LTE Band 7

20MHz / 16QAM in Ch. 20850 (1RB Size)

Date: 22.JAN.2015 16:33:16

Peak-to-Average Ratio on LTE Band 7

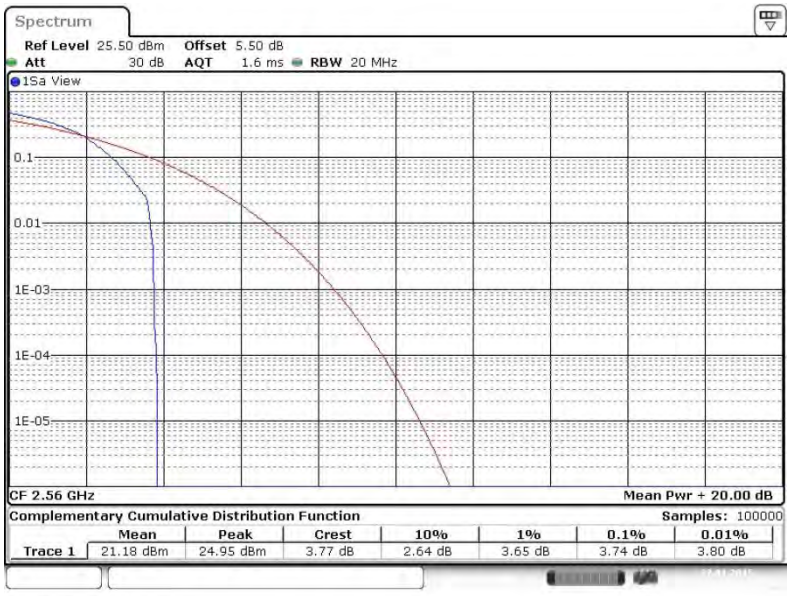
20MHz / 16QAM in Ch. 21100 (1RB Size)



Date: 22.JAN.2015 16:36:14

Peak-to-Average Ratio on LTE Band 7

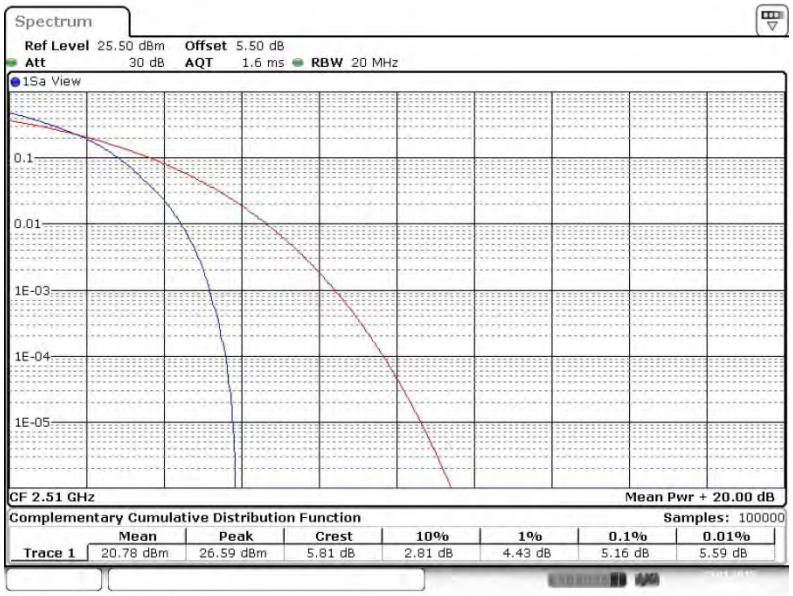
20MHz / 16QAM in Ch. 21350 (1RB Size)



Date: 22.JAN.2015 16:45:12

Peak-to-Average Ratio on LTE Band 7

20MHz / 16QAM in Ch. 20850 (100RB Size)



Date: 22.JAN.2015 16:35:20

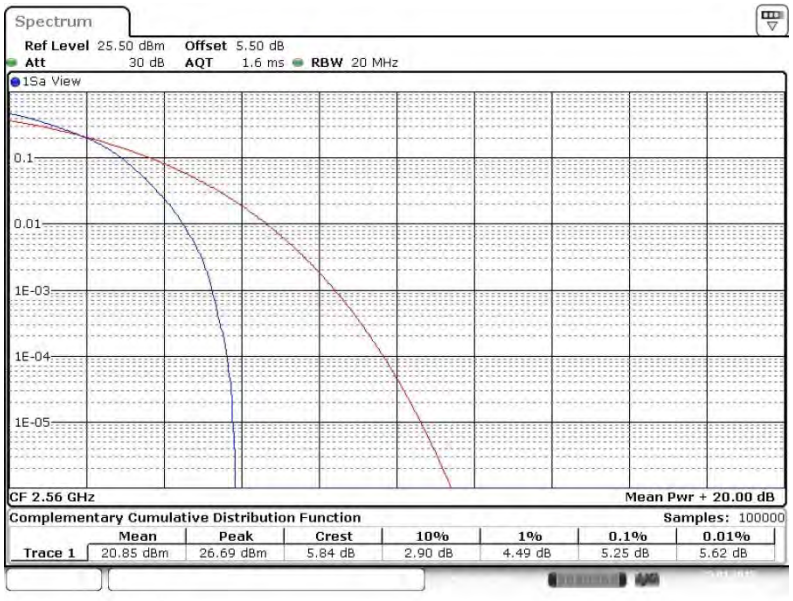
Peak-to-Average Ratio on LTE Band 7

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

Date: 22.JAN.2015 16:36:33

Peak-to-Average Ratio on LTE Band 7

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



Date: 22.JAN.2015 16:48:02

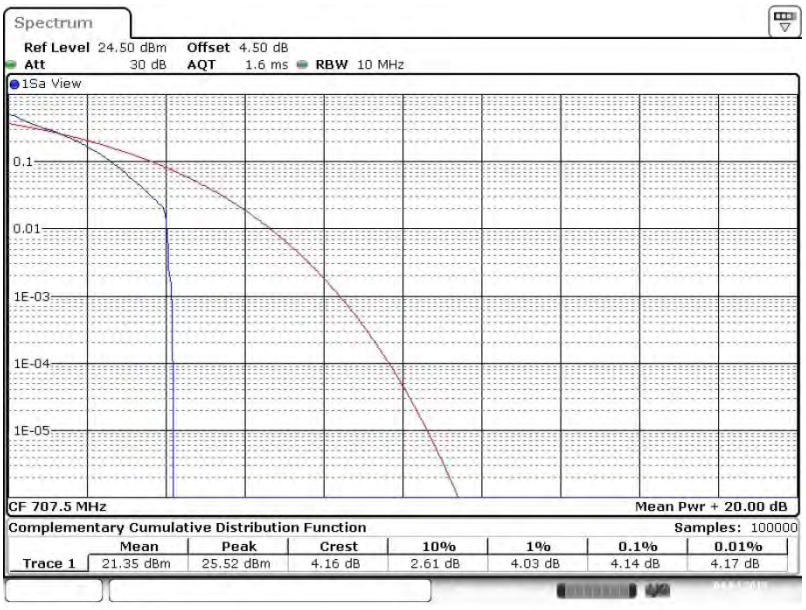
Peak-to-Average Ratio on LTE Band 12

10MHz / QPSK in Ch. 23060 (1RB Size)

Date: 4.APR.2015 02:31:41

Peak-to-Average Ratio on LTE Band 12

10MHz / QPSK in Ch. 23095 (1RB Size)



Date: 4.APR.2015 02:32:59

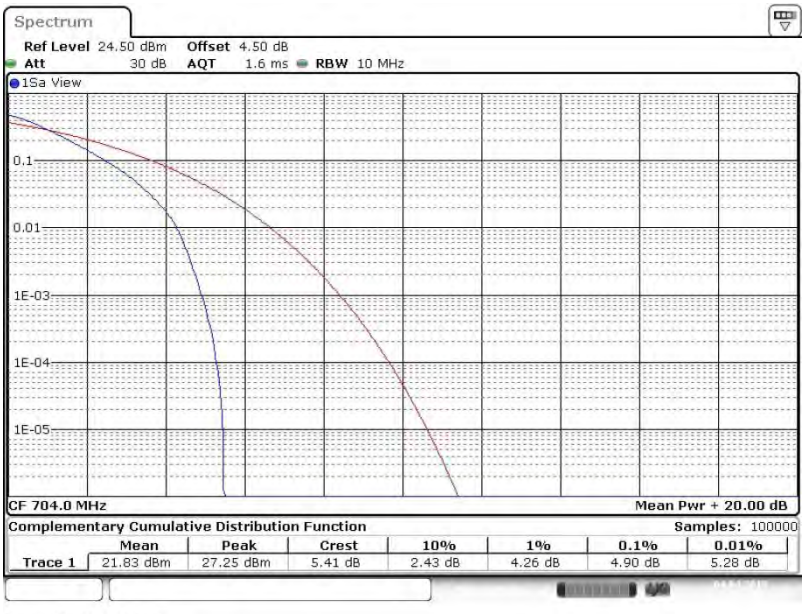
Peak-to-Average Ratio on LTE Band 12

10MHz / QPSK in Ch. 23130 (1RB Size)

Date: 4.APR.2015 02:33:44

Peak-to-Average Ratio on LTE Band 12

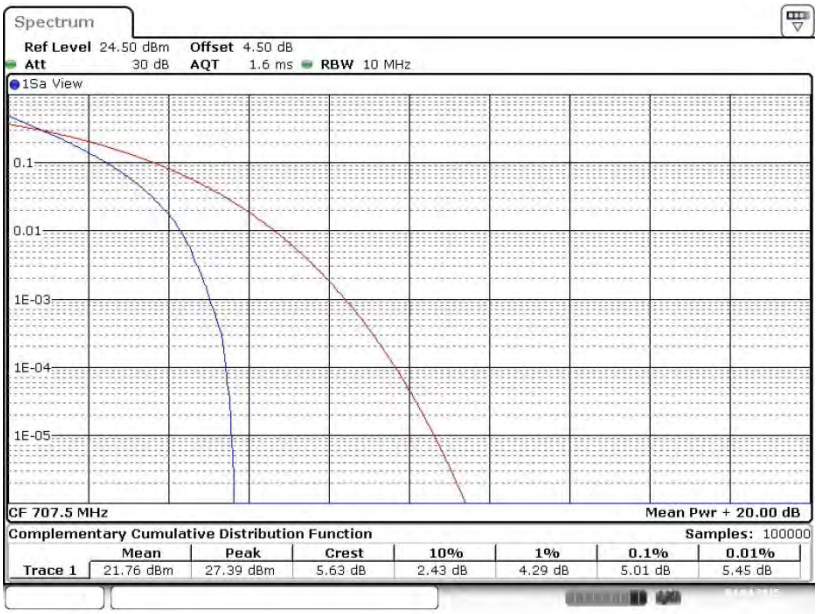
10MHz / QPSK in Ch. 23060 (50RB Size)



Date: 4.APR.2015 02:31:56

Peak-to-Average Ratio on LTE Band 12

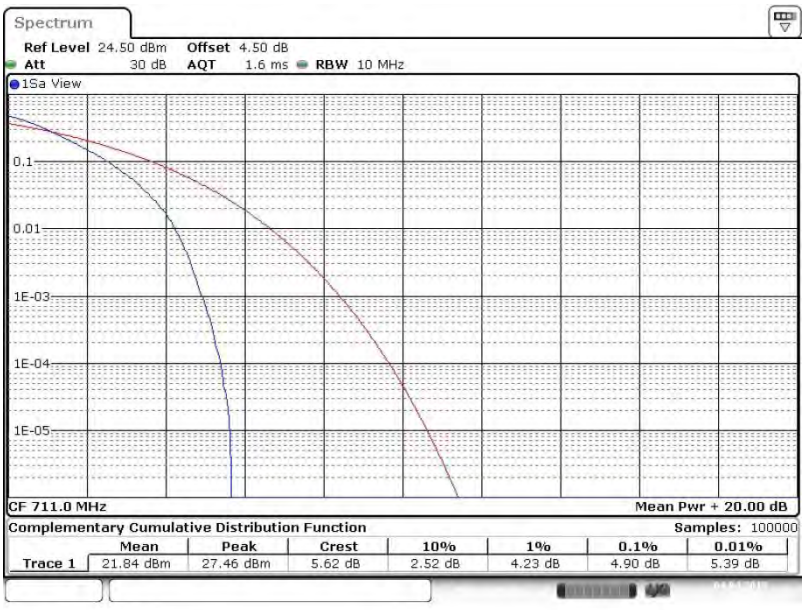
10MHz / QPSK in Ch. 23095 (50RB Size)



Date: 4.APR.2015 02:32:45

Peak-to-Average Ratio on LTE Band 12

10MHz / QPSK in Ch. 23130 (1RB Size)



Date: 4.APR.2015 02:34:01

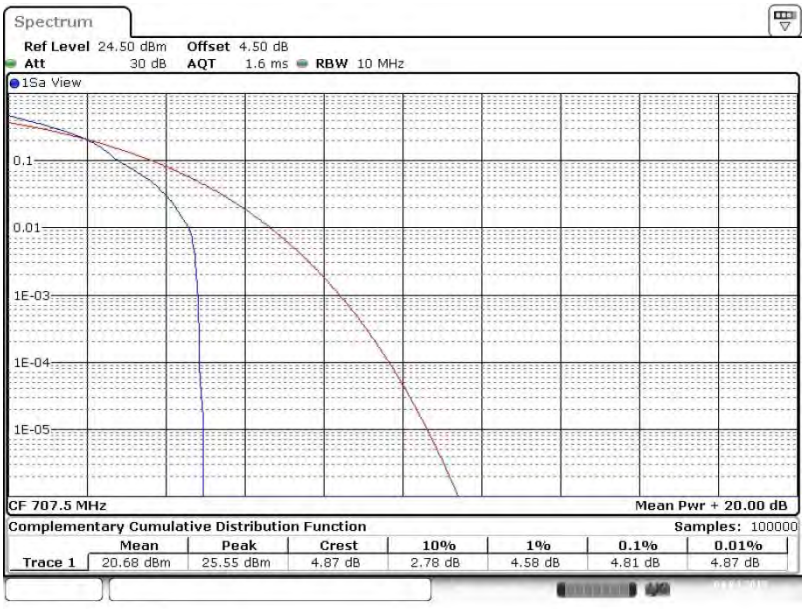
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23060 (1RB Size)

Date: 4.APR.2015 02:31:27

Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23095 (1RB Size)



Date: 4.APR.2015 02:33:12

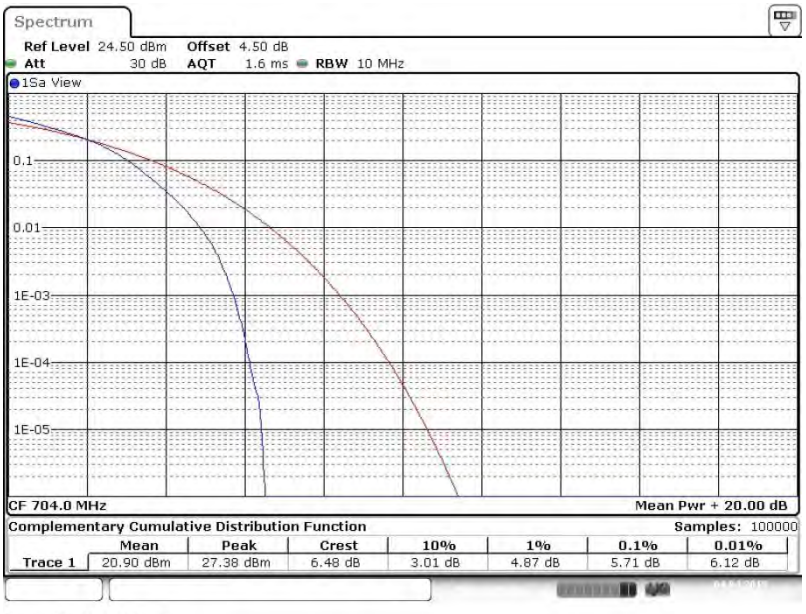
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23130 (1RB Size)

Date: 4.APR.2015 02:33:32

Peak-to-Average Ratio on LTE Band 12

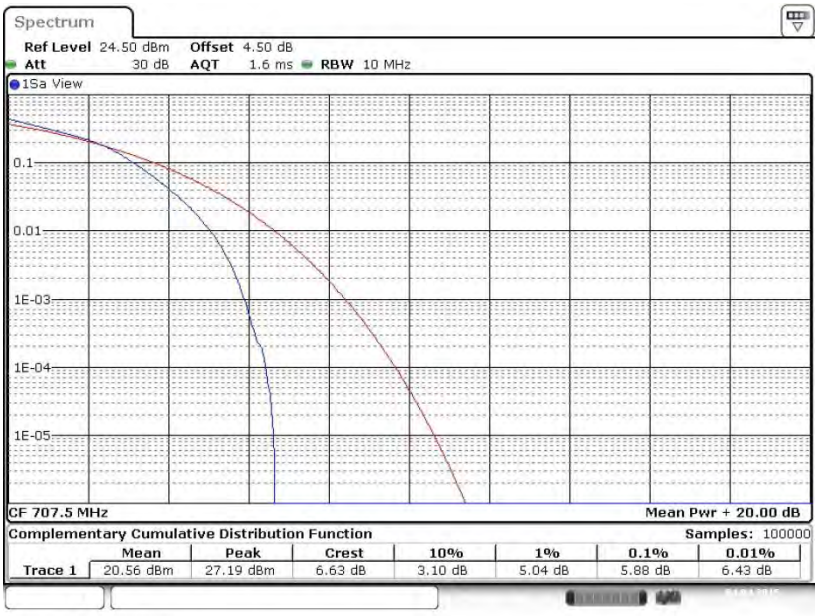
10MHz / 16QAM in Ch. 23060 (50RB Size)



Date: 4.APR.2015 02:32:12

Peak-to-Average Ratio on LTE Band 12

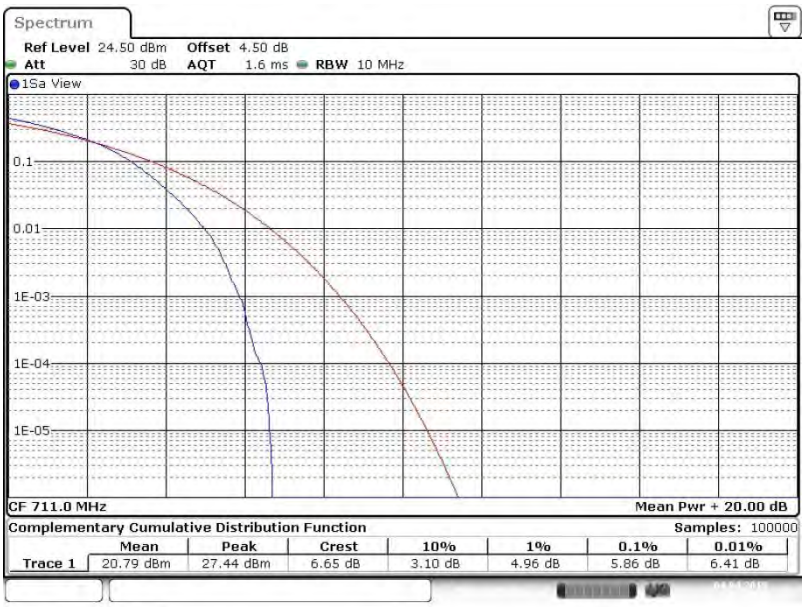
10MHz / 16QAM in Ch. 23095 (50RB Size)



Date: 4.APR.2015 02:32:33

Peak-to-Average Ratio on LTE Band 12

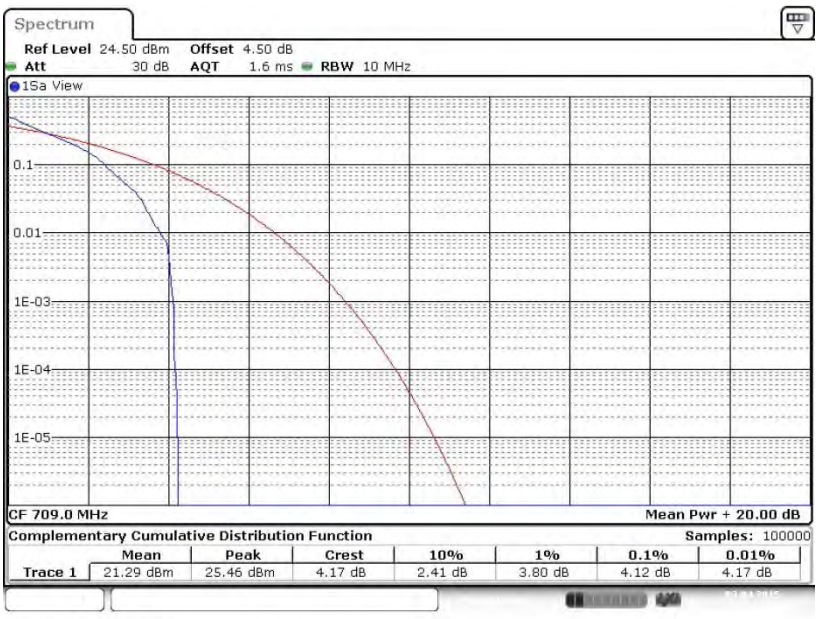
10MHz / 16QAM in Ch. 23130 (50RB Size)



Date: 4.APR.2015 02:34:17

Peak-to-Average Ratio on LTE Band 17

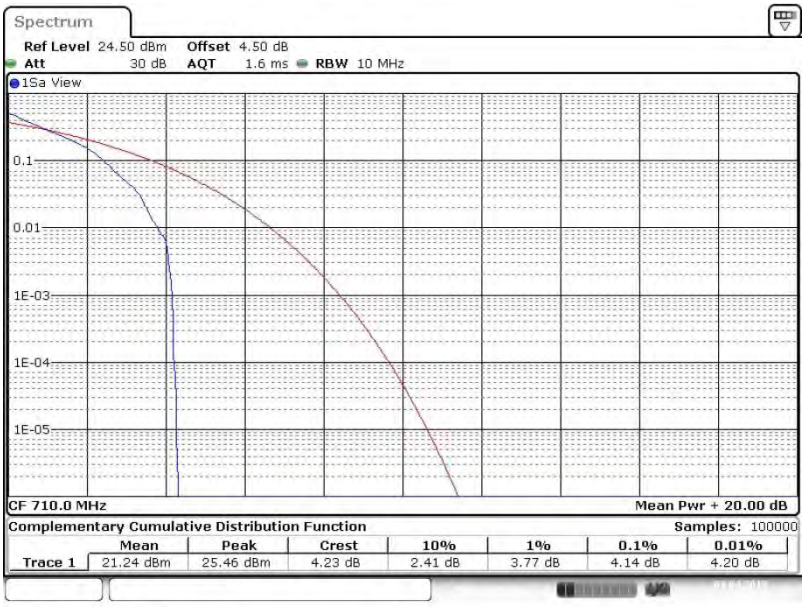
10MHz / QPSK in Ch. 23780 (1RB Size)



Date: 3.APR.2015 11:51:54

Peak-to-Average Ratio on LTE Band 17

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



Date: 3.APR.2015 11:52:13

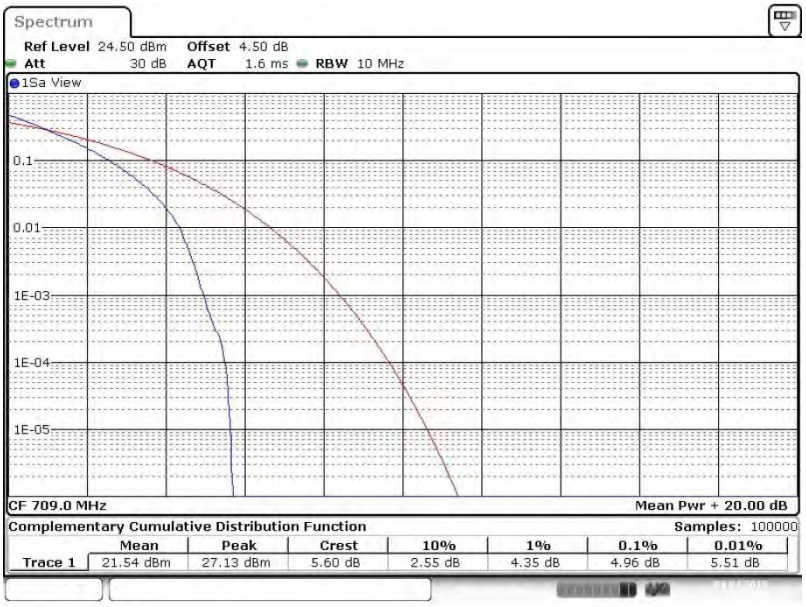
Peak-to-Average Ratio on LTE Band 17

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

Date: 3.APR.2015 11:53:10

Peak-to-Average Ratio on LTE Band 17

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



Date: 3.APR.2015 11:51:44

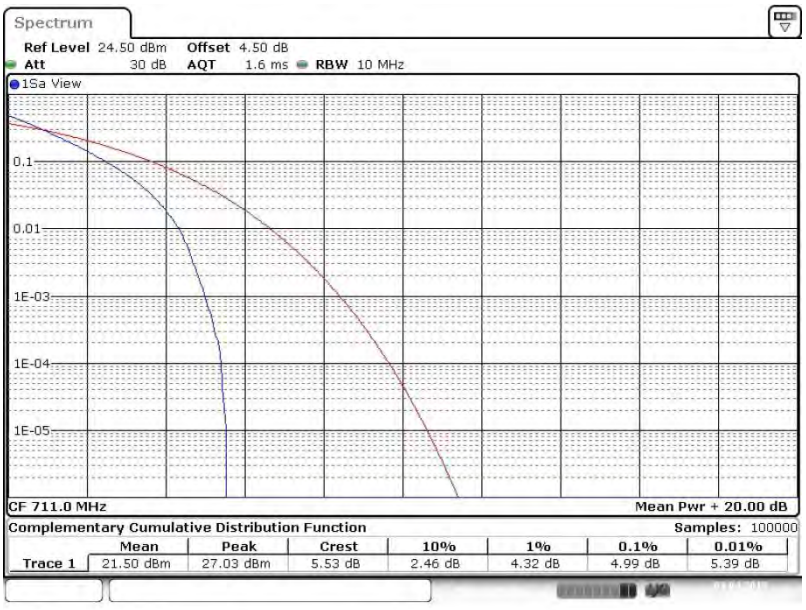
Peak-to-Average Ratio on LTE Band 17

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

Date: 3.APR.2015 11:52:03

Peak-to-Average Ratio on LTE Band 17

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



Date: 3.APR.2015 11:53:00

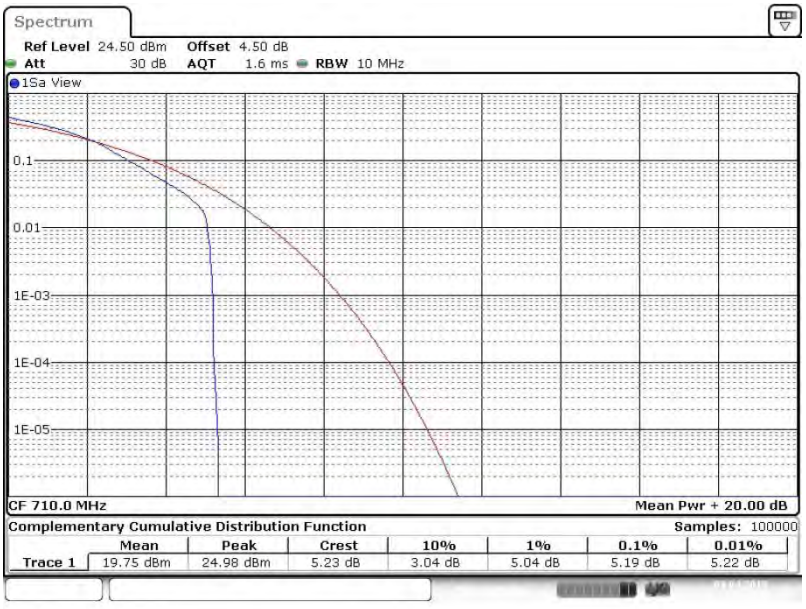
Peak-to-Average Ratio on LTE Band 17

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

Date: 3.APR.2015 11:51:25

Peak-to-Average Ratio on LTE Band 17

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



Date: 3.APR.2015 11:52:23

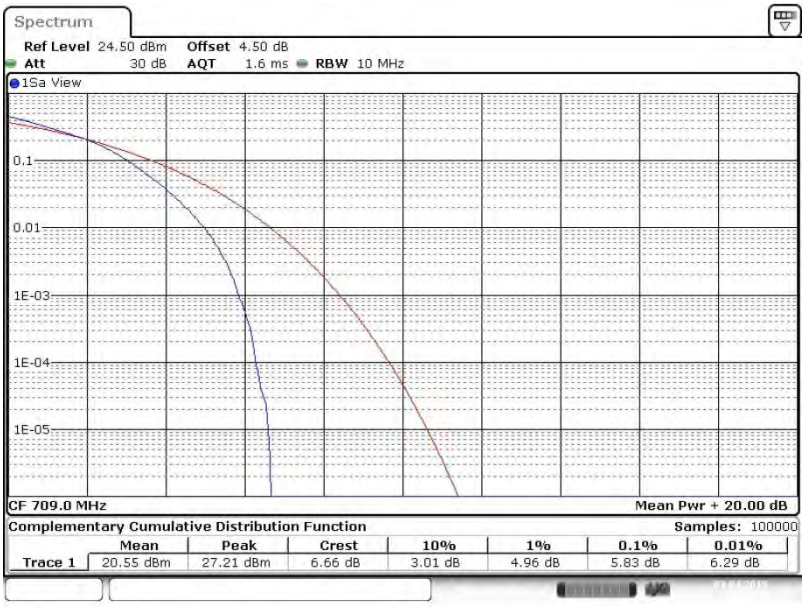
Peak-to-Average Ratio on LTE Band 17

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

Date: 3.APR.2015 11:52:41

Peak-to-Average Ratio on LTE Band 17

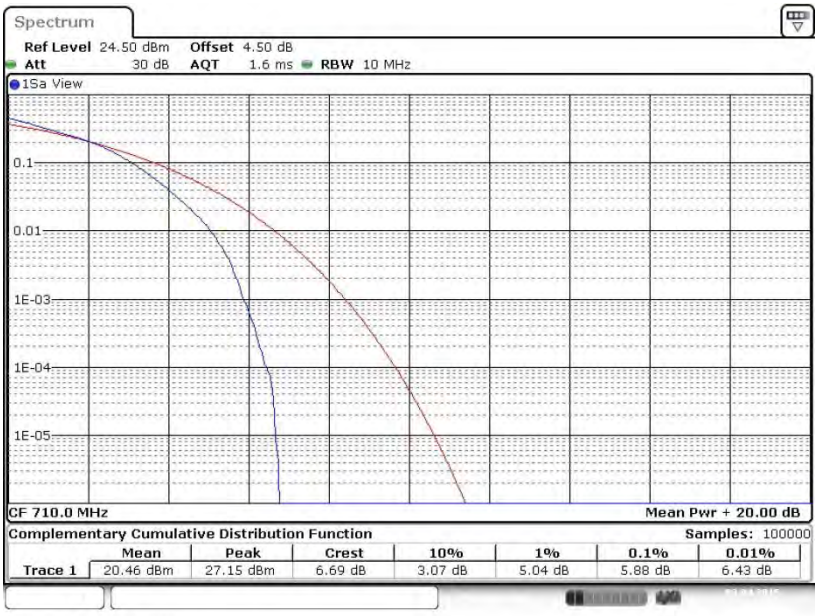
10MHz / 16QAM in Ch. 23780 (50RB Size)



Date: 3.APR.2015 11:51:34

Peak-to-Average Ratio on LTE Band 17

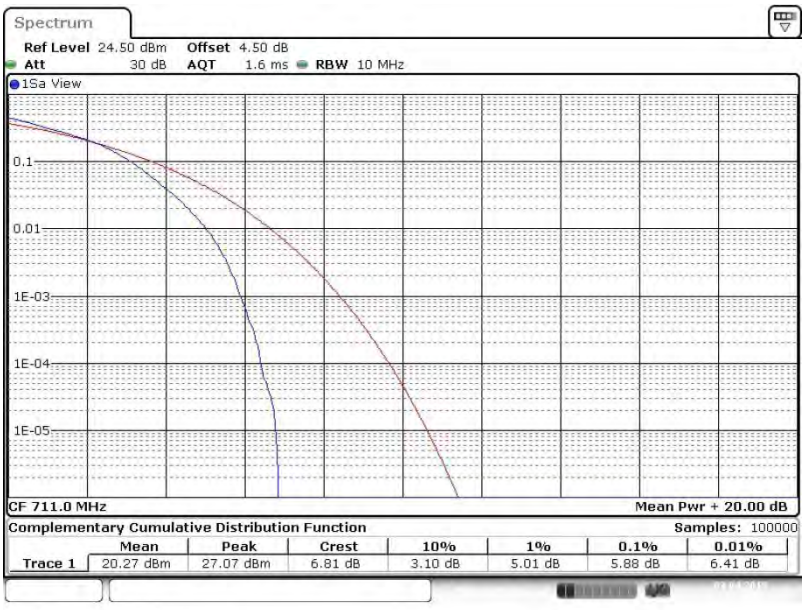
10MHz / 16QAM in Ch. 23790 (50RB Size)



Date: 3.APR.2015 11:52:32

Peak-to-Average Ratio on LTE Band 17

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



Date: 3.APR.2015 11:52:51

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 v02r02. Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 5 and 3 watts with LTE band 12 / 17.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 / 7 and 1 watt with LTE band 4.

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP= LVL + Correction factor and ERP = EIRP – 2.15.

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	100kHz	100kHz	300kHz	300kHz	300kHz
VBW	100kHz	300kHz	300kHz	1MHz	1MHz	1MHz
Detector	RMS	RMS	RMS	RMS	RMS	RMS
Trace	Average	Average	Average	Average	Average	Average
Average Type	Power	Power	Power	Power	Power	Power
Sweep Count	100	100	100	100	100	100

3.3.4 Test Result of ERP/EIRP

LTE Band 2 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	1	26.11	0.4083	26.02	0.3999
Middle		3	0	26.05	0.4027	25.76	0.3767
Highest		3	0	25.38	0.3451	25.65	0.3673
Lowest	16QAM	3	0	24.32	0.2704	23.79	0.2393
Middle		3	2	25.22	0.3327	24.55	0.2851
Highest		1	5	24.80	0.3020	24.84	0.3048
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	7	25.96	0.3945	25.21	0.3319
Middle		1	0	25.83	0.3828	25.68	0.3698
Highest		1	7	26.03	0.4009	25.88	0.3873
Lowest	16QAM	1	14	24.98	0.3148	24.79	0.3013
Middle		1	14	24.79	0.3013	24.83	0.3041
Highest		1	7	24.77	0.2999	25.52	0.3565
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	25.62	0.3648	25.66	0.3681
Middle		1	12	25.72	0.3733	25.52	0.3565
Highest		1	0	25.51	0.3556	25.36	0.3436
Lowest	16QAM	1	24	24.98	0.3148	24.30	0.2692
Middle		1	24	24.51	0.2825	24.05	0.2541
Highest		1	12	25.04	0.3192	25.16	0.3281
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	25.50	0.3548	25.21	0.3319
Middle		1	49	26.02	0.3999	25.69	0.3707
Highest		1	24	25.90	0.3890	26.02	0.3999
Lowest	16QAM	1	0	24.93	0.3112	24.15	0.2600
Middle		1	24	25.33	0.3412	24.28	0.2679
Highest		1	24	25.10	0.3236	24.16	0.2606
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	25.37	0.3443	25.16	0.3281
Middle		1	0	26.24	0.4207	26.06	0.4036
Highest		1	37	25.65	0.3673	25.81	0.3811
Lowest	16QAM	1	0	25.15	0.3273	24.93	0.3112
Middle		1	74	25.15	0.3273	25.08	0.3221
Highest		1	37	23.95	0.2483	24.09	0.2564
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	25.95	0.3936	25.75	0.3758
Middle		1	49	25.89	0.3882	25.68	0.3698
Highest		1	0	25.73	0.3741	25.75	0.3758
Lowest	16QAM	1	49	25.27	0.3365	25.06	0.3206
Middle		1	0	24.78	0.3006	24.59	0.2877
Highest		1	49	24.68	0.2938	24.82	0.3034
Limit	EIRP < 2W			Result		PASS	

LTE Band 4 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	2	26.91	0.4909	26.88	0.4875
Middle		1	5	25.59	0.3622	25.40	0.3467
Highest		3	0	25.87	0.3864	26.20	0.4169
Lowest	16QAM	3	0	24.48	0.2805	25.19	0.3304
Middle		1	2	25.44	0.3499	25.32	0.3404
Highest		1	0	25.09	0.3228	24.93	0.3112
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	26.82	0.4808	26.57	0.4539
Middle		1	0	26.80	0.4786	26.84	0.4831
Highest		1	0	24.69	0.2944	25.35	0.3428
Lowest	16QAM	1	0	25.65	0.3673	25.50	0.3548
Middle		1	7	26.37	0.4335	26.12	0.4093
Highest		1	14	25.25	0.3350	25.53	0.3573
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	26.46	0.4426	26.61	0.4581
Middle		1	0	26.50	0.4467	26.50	0.4467
Highest		1	0	26.60	0.4571	26.46	0.4426
Lowest	16QAM	1	24	25.40	0.3467	25.26	0.3357
Middle		1	24	25.83	0.3828	26.20	0.4169
Highest		1	24	25.67	0.3690	25.47	0.3524
Limit	EIRP < 1W			Result		PASS	

LTE Band 4/ 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	27.00	0.5012	26.69	0.4667
Middle		1	0	26.61	0.4581	26.61	0.4581
Highest		1	0	26.31	0.4276	26.67	0.4645
Lowest	16QAM	1	0	25.43	0.3491	26.26	0.4227
Middle		1	24	26.25	0.4217	26.15	0.4121
Highest		1	0	25.59	0.3622	26.04	0.4018
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	26.83	0.4819	26.23	0.4198
Middle		1	0	26.48	0.4446	26.02	0.3999
Highest		1	0	26.15	0.4121	26.18	0.4150
Lowest	16QAM	1	37	25.33	0.3412	24.80	0.3020
Middle		1	74	25.42	0.3483	24.95	0.3126
Highest		1	0	25.18	0.3296	25.23	0.3334
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	26.85	0.4842	26.25	0.4217
Middle		1	0	26.65	0.4624	26.19	0.4159
Highest		1	0	26.50	0.4467	26.34	0.4305
Lowest	16QAM	1	49	25.84	0.3837	25.54	0.3581
Middle		1	0	25.86	0.3855	25.40	0.3467
Highest		1	0	26.00	0.3981	25.86	0.3855
Limit	EIRP < 1W			Result		PASS	

LTE Band 5 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	19.95	0.0989	7.24	0.0053
Middle		3	1	19.20	0.0832	7.16	0.0052
Highest		3	1	18.83	0.0764	6.01	0.0040
Lowest	16QAM	1	0	19.40	0.0871	6.89	0.0049
Middle		1	2	18.56	0.0718	6.13	0.0041
Highest		3	1	17.24	0.0530	5.03	0.0032
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	20.22	0.1052	7.49	0.0056
Middle		1	7	19.43	0.0877	6.76	0.0047
Highest		1	7	19.23	0.0838	6.55	0.0045
Lowest	16QAM	1	0	19.64	0.0920	7.36	0.0054
Middle		1	7	19.02	0.0798	5.39	0.0035
Highest		1	7	18.39	0.0690	5.89	0.0039
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	12	19.95	0.0989	7.54	0.0057
Middle		1	12	19.43	0.0877	7.09	0.0051
Highest		1	12	19.10	0.0813	6.42	0.0044
Lowest	16QAM	1	0	19.09	0.0811	6.30	0.0043
Middle		1	12	18.64	0.0731	6.23	0.0042
Highest		1	12	18.66	0.0735	5.77	0.0038
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	19.68	0.0929	7.26	0.0053
Middle		1	0	19.42	0.0875	7.39	0.0055
Highest		1	0	18.89	0.0774	6.82	0.0048
Lowest	16QAM	1	0	19.22	0.0836	6.81	0.0048
Middle		1	0	18.46	0.0701	6.62	0.0046
Highest		1	24	18.61	0.0726	6.06	0.0040
Limit	ERP < 7W			Result		PASS	

LTE Band 7 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	27.80	0.6026	27.83	0.6067
Middle		1	0	26.99	0.5000	27.09	0.5117
Highest		1	12	26.42	0.4385	26.44	0.4406
Lowest	16QAM	1	12	27.19	0.5236	27.89	0.6152
Middle		1	12	26.10	0.4074	26.30	0.4266
Highest		1	0	25.41	0.3475	24.97	0.3141
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	28.02	0.6339	28.26	0.6699
Middle		1	0	27.27	0.5333	27.21	0.5260
Highest		1	0	26.62	0.4592	26.95	0.4955
Lowest	16QAM	1	24	27.51	0.5636	27.21	0.5260
Middle		1	0	26.48	0.4446	26.74	0.4721
Highest		1	0	25.48	0.3532	25.47	0.3524
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	28.20	0.6607	28.40	0.6918
Middle		1	0	26.85	0.4842	26.79	0.4775
Highest		1	74	26.22	0.4188	25.96	0.3945
Lowest	16QAM	1	37	26.95	0.4955	27.20	0.5248
Middle		1	74	26.46	0.4426	26.30	0.4266
Highest		1	37	25.58	0.3614	25.45	0.3508
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	28.33	0.6808	28.61	0.7261
Middle		1	0	27.23	0.5284	27.40	0.5495
Highest		1	0	27.37	0.5458	27.27	0.5333
Lowest	16QAM	1	0	27.93	0.6209	28.23	0.6653
Middle		1	0	26.79	0.4775	26.94	0.4943
Highest		1	0	25.23	0.3334	24.97	0.3141
Limit	EIRP < 2W			Result		PASS	

LTE Band 12 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	1	14.67	0.0293	3.33	0.0022
Middle		3	1	14.71	0.0296	3.22	0.0021
Highest		3	0	15.09	0.0323	2.37	0.0017
Lowest	16QAM	1	2	15.93	0.0392	4.70	0.0030
Middle		1	0	14.73	0.0297	2.91	0.0020
Highest		3	2	14.57	0.0286	1.96	0.0016
Limit	ERP < 3W			Result		PASS	

LTE Band 12 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	7	15.92	0.0391	4.83	0.0030
Middle		1	7	15.82	0.0382	5.03	0.0032
Highest		1	0	16.37	0.0434	4.68	0.0029
Lowest	16QAM	1	7	14.94	0.0312	4.53	0.0028
Middle		1	7	15.14	0.0327	3.97	0.0025
Highest		1	0	15.15	0.0327	3.56	0.0023
Limit	ERP < 3W			Result		PASS	

LTE Band 12 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	24	16.26	0.0423	4.35	0.0027
Middle		1	12	15.84	0.0384	4.91	0.0031
Highest		1	12	16.86	0.0485	4.34	0.0027
Lowest	16QAM	1	12	15.32	0.0340	4.21	0.0026
Middle		1	12	15.50	0.0355	3.39	0.0022
Highest		1	12	16.07	0.0405	3.61	0.0023
Limit	ERP < 3W			Result		PASS	

LTE Band 12 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	15.39	0.0346	4.65	0.0029
Middle		1	0	15.99	0.0397	4.59	0.0029
Highest		1	0	15.57	0.0361	4.69	0.0029
Lowest	16QAM	1	24	15.44	0.0350	2.92	0.0020
Middle		1	0	14.97	0.0314	3.95	0.0025
Highest		1	0	14.84	0.0305	4.20	0.0026
Limit	ERP < 3W			Result		PASS	

LTE Band 17 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	12	16.06	0.0404	4.13	0.0026
Middle		1	0	15.84	0.0384	4.41	0.0028
Highest		1	0	16.66	0.0463	3.91	0.0025
Lowest	16QAM	1	12	15.39	0.0346	3.70	0.0023
Middle		1	0	15.46	0.0352	4.11	0.0026
Highest		1	12	16.06	0.0404	3.04	0.0020
Limit	ERP < 3W			Result		PASS	

LTE Band 17 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	15.92	0.0391	3.95	0.0025
Middle		1	0	15.99	0.0397	4.36	0.0027
Highest		1	0	15.86	0.0385	4.38	0.0027
Lowest	16QAM	1	0	15.58	0.0361	3.06	0.0020
Middle		1	0	15.42	0.0348	3.66	0.0023
Highest		1	0	15.16	0.0328	3.40	0.0022
Limit	ERP < 3W			Result		PASS	

3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

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

The 99% 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.

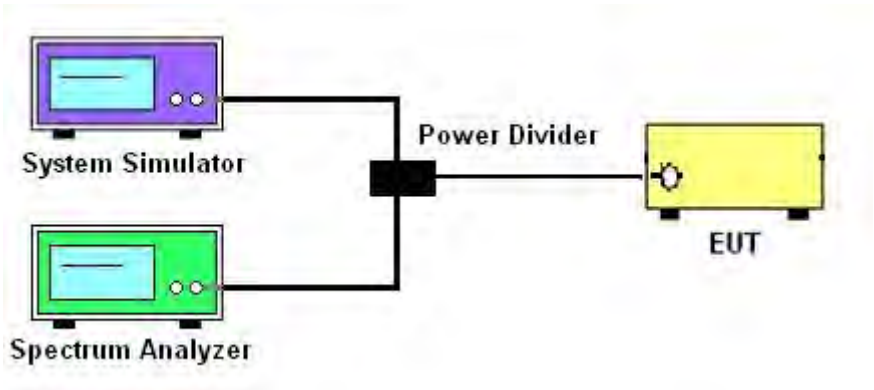
3.4.2 Measuring Instruments

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 2											
BW / Mod.	1.4MHz / QPSK			1.4MHz / 16QAM			3MHz / QPSK			3MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	1.097	1.094	1.097	1.097	1.097	1.099	2.727	2.727	2.721	2.727	2.727	2.733
26dB BW (MHz)	1.306	1.301	1.315	1.298	1.301	1.315	3.039	3.045	3.045	3.057	3.051	3.051
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.496	4.505	4.496	4.496	4.496	4.505	9.091	9.071	9.051	9.031	9.051	9.051
26dB BW (MHz)	5.045	5.075	5.075	5.045	5.045	5.065	10.030	10.050	9.990	10.010	10.030	9.910
BW / Mod.	15MHz / QPSK			15MHz / 16QAM			20MHz / QPSK			20MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	13.457	13.457	13.427	13.487	13.397	13.487	18.422	18.262	18.342	18.501	18.302	18.422
26dB BW (MHz)	14.775	14.715	14.715	14.805	14.595	14.715	20.340	20.300	20.380	20.300	20.380	20.340

Modes	LTE Band 4											
BW / Mod.	1.4MHz / QPSK			1.4MHz / 16QAM			3MHz / QPSK			3MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	1.097	1.097	1.097	1.097	1.097	1.097	2.727	2.727	2.733	2.721	2.727	2.727
26dB BW (MHz)	1.284	1.287	1.298	1.315	1.304	1.304	3.063	3.051	3.039	3.057	3.063	3.063
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.496	4.496	4.496	4.496	4.496	4.505	9.051	9.071	9.071	9.011	9.051	9.031
26dB BW (MHz)	5.045	5.025	5.045	5.045	5.045	5.045	9.950	10.090	10.050	10.050	9.990	9.990
BW / Mod.	15MHz / QPSK			15MHz / 16QAM			20MHz / QPSK			20MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	13.487	13.457	13.516	13.516	13.487	13.457	18.462	18.462	18.222	18.342	18.262	18.302
26dB BW (MHz)	14.685	14.595	14.835	14.655	14.745	14.655	20.140	20.300	20.340	20.220	20.140	20.300

Modes	LTE Band 5											
BW / Mod.	1.4MHz / QPSK			1.4MHz / 16QAM			3MHz / QPSK			3MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	1.094	1.097	1.097	1.097	1.097	1.094	2.721	2.727	2.727	2.715	2.721	2.721
26dB BW (MHz)	1.278	1.292	1.292	1.301	1.295	1.290	3.051	3.051	3.051	3.051	3.051	3.057
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.486	4.496	4.496	4.496	4.496	4.505	9.011	9.051	9.011	9.031	9.011	9.011
26dB BW (MHz)	5.045	5.055	5.045	5.025	5.025	5.025	9.990	10.050	10.090	9.990	9.850	9.910

Modes	LTE Band 7											
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.505	4.505	4.505	4.505	4.505	4.505	9.091	9.071	9.051	9.031	9.051	9.091
26dB BW (MHz)	5.085	5.075	5.075	5.045	5.065	5.045	10.090	10.090	10.130	10.050	10.090	10.010
BW / Mod.	15MHz / QPSK			15MHz / 16QAM			20MHz / QPSK			20MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	13.487	13.487	13.457	13.457	13.487	13.457	18.422	18.541	18.422	18.342	18.382	18.382
26dB BW (MHz)	14.775	14.685	14.775	14.775	14.625	14.625	20.380	20.340	20.460	20.260	20.420	20.500

Modes	LTE Band 12											
BW / Mod.	1.4MHz / QPSK			1.4MHz / 16QAM			3MHz / QPSK			3MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	1.094	1.097	1.097	1.097	1.097	1.097	2.721	2.715	2.721	2.727	2.721	2.721
26dB BW (MHz)	1.276	1.284	1.281	1.309	1.304	1.304	3.051	3.063	3.039	3.039	3.057	3.039
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.496	4.496	4.486	4.496	4.505	4.496	9.071	9.071	9.051	9.031	9.091	9.051
26dB BW (MHz)	5.005	5.025	5.015	5.005	4.995	5.035	9.970	9.870	9.970	9.950	10.010	9.930

Modes	LTE Band 17											
BW / Mod.	5MHz / QPSK			5MHz / 16QAM			10MHz / QPSK			10MHz / 16QAM		
	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High	Low	Mid.	High
99% OBW (MHz)	4.505	4.496	4.496	4.496	4.496	4.496	9.051	9.071	9.051	9.051	9.031	9.011
26dB BW (MHz)	5.035	5.035	5.045	5.055	5.015	5.065	10.070	10.050	10.070	9.990	9.990	10.010

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

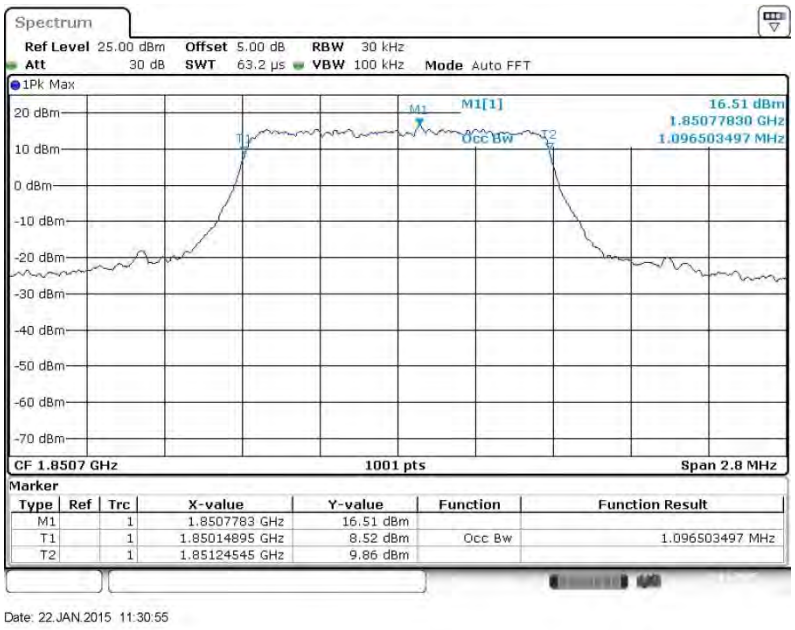
BW15MHz RB setting：RB Size 75, RB offset 0

BW20MHz RB setting：RB Size 100, RB offset 0

3.4.6 Test Result (Plots) of Occupied Bandwidth

Band :	LTE Band 2	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18607



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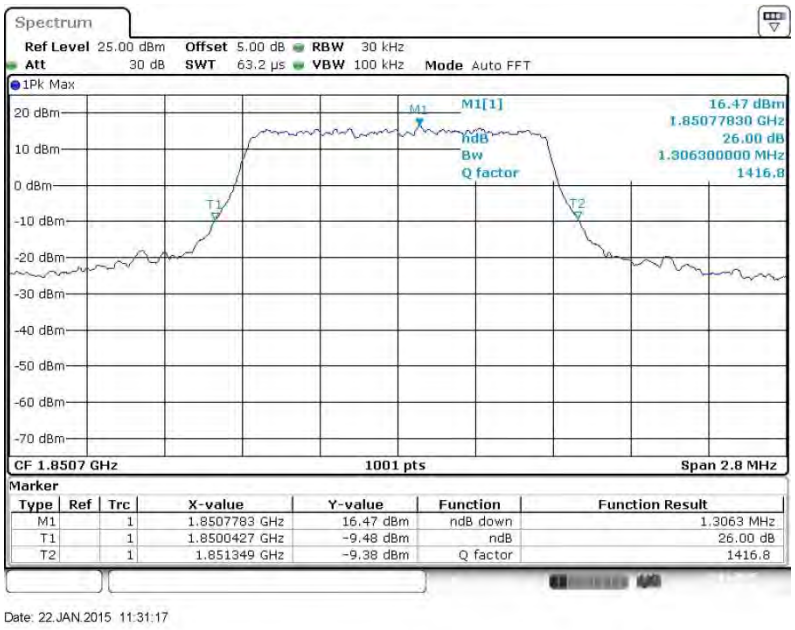
26dB Bandwidth Plot on Channel 18607



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