DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía,
c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España
C.I.F. A29507456

ISED CABid: ES1909

Test Report No:
NIE: 72146RRF.001A1

Partial Test Report
USA FCC Part 22
CANADA RSS-132

(*) Identification of item tested	CPAP Device
(*) Trademark	ResMed
(*) Model and /or type reference	37089
(*) Derived model not tested	37158, 37159, 37160, 37161, 37162, 37163, 37164, 37165
Other identification of the product	HW version: R379-7135 SW version: SX558 FCC ID: 2ACHL-AIR104GU IC: 9103A-AIR104GU
(*) Features	4G, 3G, 2G
Applicant	ResMed Pty Ltd 1 Elizabeth Macarthur Drive, Bella Vista, NSW, 2153, Australia
Test method requested, standard	USA FCC Part 22 (10-1-20 Edition). CANADA RSS-132 Issue 3, Jan. 2013. ANSI C63.26-2015. KDB 971168 D01 Power Meas License Digital Systems v03r01, April. 2018.
Approved by (name / position & signature)	Rafael López Martín EMC Consumer & RF Lab. Manager 2022.10.17 15:29:39 +02'00'
Date of issue	2022-10-17
Report template No	FDT08_24 (*) "Data provided by the client"

Index

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DEKRA Testing and Certification is an ISED-recognized accredited testing laboratory, CABid: ES1909, with the appropriate scope of accreditation that covers the performed tests in this report.

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1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification S.A.U. internal document PODT000.

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample of the model 37089 is a CPAP device with integrated cellular connectivity.
3. Derived models not tested. These models have been declared by the supplier of the sample as being the same as the model under test.

ResMed
Changing lives with every breath

Date: 13-May-2022

DECLARATION OF EQUIVALENCE

This document declares that the following designated products are equivalent to the unit under test **37089**.

Model Name / Product Code	Marketing Name
37158	AirSense 10 CPAP
37159	AirSense 10 Elite
37160	AirSense 10 AutoSet
37161	AirSense 10 AutoSet FH
37162	AirCurve 10 ASV
37163	AirCurve 10 S
37164	AirCurve 10 VAuto
37165	AirCurve 10 ST

All the above stated products have the same cellular hardware and firmware.

Applicant:
Company Name: ResMed Pty Ltd
Address: 1 Elizabeth Macarthur Drive,
Bella Vista NSW 2153
Australia

By,

Christopher Jenkins

Christopher Jenkins
Title: Associate Manager – Systems Engineering
Company: ResMed Pty Ltd
Telephone: +61 2 8884 1517
e-mail: Christopher.jenkins@resmed.com.au

Usage of samples

Samples undergoing test have been selected by: The client.

- Sample S/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
72146/001	CPAP Device	37089 AirSense 10	22221362833	2022/05/09
72146/008	Water tub	--	--	2022/05/09
72146/009	Air tube	--	--	2022/05/09
72146/010	AC/DC Adapter	370006	--	2022/05/09
72146/011	Power Cord	--	--	2022/05/09

Sample S/01 has undergone the following test(s): The Radiated tests indicated in Appendix A.

- Sample S/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
72146/007	CPAP Device	37089 AirSense 10	22221362874	2022/05/09
72146/008	Water tub	--	--	2022/05/09
72146/009	Air tube	--	--	2022/05/09
72146/010	AC/DC Adapter	370006	--	2022/05/09
72146/011	Power Cord	--	--	2022/05/09

Sample S/02 has undergone the following test(s): The Conducted tests indicated in Appendix A.

Test sample description

<table>
<tr><td rowspan="4">Ports……:</td><td rowspan="2">Port name and description</td><td colspan="4">Cable</td></tr>
<tr><td>Specified max length [m]</td><td>Attached during test</td><td>Shielded</td><td>Coupled to patient(3)</td></tr>
<tr><td>Power</td><td></td><td>☒</td><td>☐</td><td>☐</td></tr>
<tr><td>-</td><td></td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>Supplementary information to the ports……:</td><td colspan="5">-</td></tr>
<tr><td rowspan="5">Rated power supply ..... :</td><td colspan="2" rowspan="2">Voltage and Frequency</td><td colspan="4">Reference poles</td></tr>
<tr><td>L1</td><td>L2</td><td>L3</td><td>N</td><td>PE</td></tr>
<tr><td>☒</td><td>AC: 100–240V, 50–60Hz 1.0–1.5A</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>☒</td><td>AC: 115V, 400Hz 1.5A, (aircraft)</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>☒</td><td colspan="5">DC: 24V, 90W (DC-DC Converter)</td></tr>
<tr><td>Rated Power..... :</td><td>☐</td><td colspan="5">DC:</td></tr>
<tr><td>Rated Power..... :</td><td colspan="6">53W (57VA) - Typical, 104W (108VA) – Peak</td></tr>
</table>

Clock frequencies..... :	N/A			
Other parameters ..... :	-			
Software version..... :	SX558			
Hardware version ..... :	R379-7135			
Dimensions in cm (W x H x D) ... :	255 mm X 116 mm X 150 mm			
Mounting position ..... :	☒	Table top equipment		
	☐	Wall/Ceiling mounted equipment		
	☐	Floor standing equipment		
	☐	Hand-held equipment		
	☐	Other:		
Modules/parts..... :	Module/parts of test item		Type	Manufacturer
	Cellular Module (4G, 3G, 2G)		LARA-R6001	u-blox
Accessories (not part of the test item) ..... :	Description		Type	Manufacturer
	-		-	-
Documents as provided by the applicant..... :	Description		File name	Issue date
	-		-	-

(3) Only for Medical Equipment

Identification of the client

ResMed Pty Ltd

1 Elizabeth Macarthur Drive, Bella Vista, NSW, 2153, Australia

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2022-05-24
Date (finish)	2022-10-12

Document history

Report number	Date	Description
72146RRF.001	2022-08-26	First release.
72146RRF.001A1	2022-10-17	First modification: update of typos. This modification test report cancels and replaces the test report 72146RRF.001s.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

In the semianechoic chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

Remarks and comments

The tests have been performed by the technical personnel: Pablo Redondo, Rafael Fernández, Alfonso Gutiérrez.

Used instrumentation:

Conducted Measurements

		Last Calibration	Due Calibration
1.	Shielded Room ETS LINDGREN S101	N/A	N/A
2.	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2022/05	2023/05

Radiated Measurements

		Last Calibration	Due Calibration
1.	Semianechoic Absorber Lined Chamber ETS LINDGREN FACT 3 200 STP	N/A	N/A
2.	Shielded Room ETS LINDGREN S101	N/A	N/A
3.	Biconical/Log Antenna 30 MHz - 6 GHz ETS LINDGREN 3142E	2020/10	2023/10
4.	Horn Antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2020/08	2023/08
5.	RF Preamplifier G>30dB, 1-18GHz BONN ELEKTRONIK BLMA 0118-3A	2021/12	2022/12
6.	Spectrum Analyzer ROHDE AND SCHWARZ FSW50	2020/07	2022/07
7.	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2021/09	2023/09
8.	Biconical/Log Antenna 30 MHz - 6 GHz ETS LINDGREN 3142E	2020/04	2023/04
9.	Horn Antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2019/11	2022/11
10.	RF Preamplifier, 40 dB ,1-18 GHz BONN ELEKTRONIK BLMA 0118-1M	2021/06	2022/06
11.	EMI Test Receiver 7 GHz ROHDE AND SCHWARZ ESR7	2021/11	2023/11
12.	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2021/07	2022/07
13.	Digital Multimeter FLUKE 175	2021/11	2022/11
14.	EMC/RF Testing SW ROHDE AND SCHWARZ EMC32	N/A	N/A

Testing verdicts

Not applicable:	N/A
Pass:	P
Fail:	F
Not measured:	N/M

Summary

FCC PART 22 / RSS-132 PARAGRAPH		
Requirement – Test case	**Verdict**	**Remark**
Clause 22.913/RSS-132 Clause 5.4: RF Output Power	P	
Clause 2.1047/RSS-132 Clause 5.2: Modulation Characteristics	N/M	(1)
Clause 22.355/RSS-132 Clause 5.3: Frequency Stability	N/M	(1)
Clause 2.1049: Occupied Bandwidth	N/M	(1)
Clause 22.917/RSS-132 Clause 5.5: Spurious Emissions at Antenna Terminals	P	
Clause 22.917/RSS-132 Clause 5.5: Radiated Emissions	P	
Supplementary information and remarks: (1) Test not requested.		

Appendix A: Test results for FCC 22 / RSS-132

INDEX

TEST CONDITIONS

POWER SUPPLY (*):

Vnormal: 24 Vdc
Type of Power Supply: AC-DC Adapter

ANTENNA GAIN (*):

Bands	Gain (dBi)	Type
2G 850	1.71	Ceramic SMT Antenna
3G V	1.71	Ceramic SMT Antenna
LTE 5	1.71	Ceramic SMT Antenna
LTE 26	1.71	Ceramic SMT Antenna

(*): Declared by the Applicant.

TEST FREQUENCIES:

2G Band 850 MHz:

GPRS and EDGE modulations:

Low Channel (128): 824.2 MHz
Middle Channel (190): 836.6 MHz
High Channel (251): 848.8 MHz

3G Band V:

WCDMA and HSUPA modulations:

Low Channel (4132): 826.4 MHz
Middle Channel (4182): 836.4 MHz
High Channel (4233): 846.6 MHz

LTE Band 5. QPSK and 16QAM modulations:

	Channel (Frequency MHz)			
	BW=1.4 MHz	BW=3 MHz	BW=5 MHz	BW=10 MHz
Low	20407 (824.70)	20415 (825.50)	20425 (826.50)	20450 (829.00)
Middle	20525 (836.50)	20525 (836.50)	20525 (836.50)	20525 (836.50)
High	20643 (848.30)	20635 (847.50)	20625 (846.50)	20600 (844.00)

LTE Band 26 sub-band 824-849 MHz. QPSK and 16QAM modulations:

	Channel (Frequency MHz)				
	BW=1.4 MHz	BW=3 MHz	BW=5 MHz	BW=10 MHz	BW=15 MHz
Low	26797 (824.70)	26805 (825.50)	26815 (826.50)	26840 (829.00)	26865 (831.50)
Middle	26915 (836.50)	26915 (836.50)	26915 (836.50)	26915 (836.50)	26915 (836.50)
High	27033 (848.30)	27025 (847.50)	27015 (846.50)	26990 (844.00)	26965 (841.50)

NOTE: The 824-849 MHz sub-band of the LTE Band 26 is completely included in the LTE Band 5, so the LTE Band 5 channels were tested to give conformity to the assigned block.

RF Output Power

SPECIFICATION:

FCC §2.1046 and FCC §22.913. The Effective Radiated Power (E.R.P.) of mobile transmitter and auxiliary test transmitter must not exceed 7 Watts (38.45 dBm E.R.P.).

RSS-132. Clause 5.4. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts (38.45 dBm E.R.P.).

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the High PAPR during periods of continuous transmission.

METHOD:

The conducted RF output power measurements were made at the RF output terminals of the EUT using the power meter of the Universal Radio Communication tester R&S CMW500, selecting maximum transmission power of the EUT and different modes of modulation.

The peak-to-average power ratio (PAPR) is measured using an attenuator, power splitter and spectrum analyser with a Complementary Cumulative Distribution Function implemented.

The maximum equivalent isotropically radiated power (e.i.r.p.) is calculated by adding the declared maximum antenna gain (dBi).

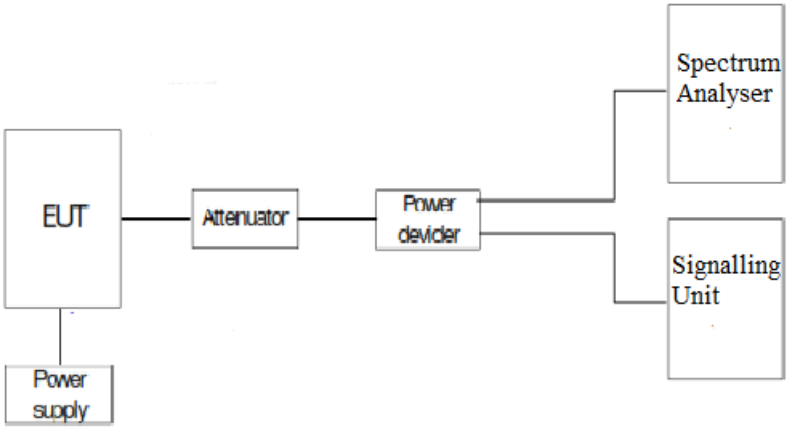
The maximum effective radiated power e.r.p. is calculated from the maximum equivalent isotropically radiated power (e.i.r.p.) by subtracting 2.15 dB:

$$E.R.P. = E.I.R.P. – 2.15\ dB$$

TEST SETUP:

1. CONDUCTED AVERAGE POWER:

2. PEAK-TO-AVERAGE POWER RATIO (PAPR) and Conducted Average power:



RESULTS:

1. CONDUCTED AVERAGE POWER.

2G Band 850 MHz:

GPRS modulation:

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	33.57	33.33	33.44
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	35.28	35.04	35.15
Maximum effective radiated power E.R.P. (dBm)	33.13	32.89	33.00
PAPR (dB)	8.16	7.66	7.69
Measurement uncertainty (dB)	<±0.94		

EDGE modulation:

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	27.51	27.02	26.76
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	29.22	28.73	28.47
Maximum effective radiated power E.R.P. (dBm)	27.07	26.58	26.32
PAPR (dB)	7.71	7.84	7.66
Measurement uncertainty (dB)	<±0.94		

3G Band V:

WCDMA modulation:

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.37	24.31	24.17
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	26.08	26.02	25.88
Maximum effective radiated power E.R.P. (dBm)	23.93	23.87	23.73
PAPR (dB)	2.96	3.00	3.01
Measurement uncertainty (dB)	<±0.94		

HSUPA modulation:

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	21.01	20.72	20.85
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	22.72	22.43	22.56
Maximum effective radiated power E.R.P. (dBm)	20.57	20.28	20.41
PAPR (dB)	6.38	6.86	7.20
Measurement uncertainty (dB)	<±0.94		

LTE Band 5:

LTE Band 5. QPSK modulation. BW=1.4 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.51	24.46	24.27
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	26.22	26.17	25.98
Maximum effective radiated power E.R.P. (dBm)	24.07	24.02	23.83
PAPR (dB)	(*)	4.92	(*)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 2.
Worst case PAPR: Modulation QPSK. RB Size: 6. RB Offset: 0.
(*): Preliminary measurements determined the Middle Channel as the worst case.

LTE Band 5. 16QAM modulation. BW=1.4 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	22.21	23.55	21,8
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	23.92	25.26	23.51
Maximum effective radiated power E.R.P. (dBm)	21.77	23.11	21.36
PAPR (dB)	5.93	5.87	5.69
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation 16QAM. RB Size: 3. RB Offset: 0.
Worst case PAPR: Modulation 16QAM. RB Size: 6. RB Offset: 0.

LTE Band 5. QPSK modulation. BW=3 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.14	24.25	24.01
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.85	25.96	25.72
Maximum effective radiated power E.R.P. (dBm)	23.70	23.81	23.57
PAPR (dB)	(*)	5,06	(*)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 7.
Worst case PAPR: Modulation QPSK. RB Size: 15. RB Offset: 0.
(*): Preliminary measurements determined the Middle Channel as the worst case.

LTE Band 5. 16QAM modulation. BW=3 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	22.81	23.42	21.67
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	24.52	25.13	23.38
Maximum effective radiated power E.R.P. (dBm)	22.37	22.98	21.23
PAPR (dB)	5.9	5.96	5.72
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation 16QAM. RB Size: 1. RB Offset: 14.
Worst case PAPR: Modulation 16QAM. RB Size: 15. RB Offset: 0.

LTE Band 5. QPSK modulation. BW=5 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	23.43	24.01	23.57
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.14	25.72	25.28
Maximum effective radiated power E.R.P. (dBm)	22.99	23.57	23.13
PAPR (dB)	(*)	5,05	(*)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 12.
Worst case PAPR: Modulation QPSK. RB Size: 25. RB Offset: 0.
(*): Preliminary measurements determined the Middle Channel as the worst case.

LTE Band 5. 16QAM modulation. BW=5 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	21.97	23.03	21.7
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	23.68	24.74	23.41
Maximum effective radiated power E.R.P. (dBm)	21.53	22.59	21.26
PAPR (dB)	5,87	5,82	5,85
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation 16QAM. RB Size: 1. RB Offset: 12.
Worst case PAPR: Modulation 16QAM. RB Size: 25. RB Offset: 0.

LTE Band 5. QPSK modulation. BW=10 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.06	24.31	23.68
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.77	26.02	25.39
Maximum effective radiated power E.R.P. (dBm)	23.62	23.87	23.24
PAPR (dB)	(*)	5,1	(*)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 24.
Worst case PAPR: Modulation QPSK. RB Size: 50. RB Offset: 0.
(*): Preliminary measurements determined the Middle Channel as the worst case.

LTE Band 5. 16QAM modulation. BW=10 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	22.7	23.12	23.07
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	24.41	24.83	24.78
Maximum effective radiated power E.R.P. (dBm)	22.26	22.68	22.63
PAPR (dB)	5.71	5.69	5.69
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation 16QAM. RB Size: 1. RB Offset: 24.
Worst case PAPR: Modulation 16QAM. RB Size: 25. RB Offset: 24.

LTE Band 26 sub-band 824-849 MHz:

LTE Band 26 sub-band 824-849 MHz. QPSK modulation. BW=1.4 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.20	24.32	24.04
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.91	26.03	25.75
Maximum effective radiated power E.R.P. (dBm)	23.76	23.88	23.60
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 2.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. 16QAM modulation. BW=1.4 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	(*)	23.61	(*)
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	(*)	25.32	(*)
Maximum effective radiated power E.R.P. (dBm)	(*)	23.17	(*)
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 2.
(*): Preliminary measurements determined the Middle Channel as the worst case.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. QPSK modulation. BW=3 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	23.88	24.25	24.23
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.59	25.96	25.94
Maximum effective radiated power E.R.P. (dBm)	23.44	23.81	23.79
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 0.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. 16QAM modulation. 16QAM modulation. BW=3 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	(*)	23.83	(*)
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	(*)	25.54	(*)
Maximum effective radiated power E.R.P. (dBm)	(*)	23.39	(*)
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 14.
(*): Preliminary measurements determined the Middle Channel as the worst case.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. QPSK modulation. BW=5 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	23.86	23.94	24.10
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.57	25.65	25.81
Maximum effective radiated power E.R.P. (dBm)	23.42	23.50	23.66
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 0.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. 16QAM modulation. BW=5 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	(*)	22.99	(*)
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	(*)	24.70	(*)
Maximum effective radiated power E.R.P. (dBm)	(*)	22.55	(*)
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 12.
(*): Preliminary measurements determined the Middle Channel as the worst case.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. QPSK modulation. BW=10 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.22	24.49	24.10
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.93	26.20	25.81
Maximum effective radiated power E.R.P. (dBm)	23.78	24.05	23.66
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 24.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. 16QAM modulation. BW=10 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	(*)	24.36	(*)
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	(*)	26.07	(*)
Maximum effective radiated power E.R.P. (dBm)	(*)	23.92	(*)
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 24.
(*): Preliminary measurements determined the Middle Channel as the worst case.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. QPSK modulation. BW=15 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	24.01	24.24	24.35
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	25.72	25.95	26.06
Maximum effective radiated power E.R.P. (dBm)	23.57	23.80	23.91
PAPR (dB)	(**)	(**)	(**)
Measurement uncertainty (dB)	<±0.94		

Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 0.
(**): Not measured.

LTE Band 26 sub-band 824-849 MHz. 16QAM modulation. BW=15 MHz.

Channel	Low	Middle	High
Maximum declared antenna gain (dBi)	1.71	1.71	1.71
Measured maximum average power (dBm) at antenna port	22.46	24.19	23.52
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	24.17	25.90	25.23
Maximum effective radiated power E.R.P. (dBm)	22.02	23.75	23.08
PAPR (dB)	(**)	4.38	(**)
Measurement uncertainty (dB)	<±0.94		

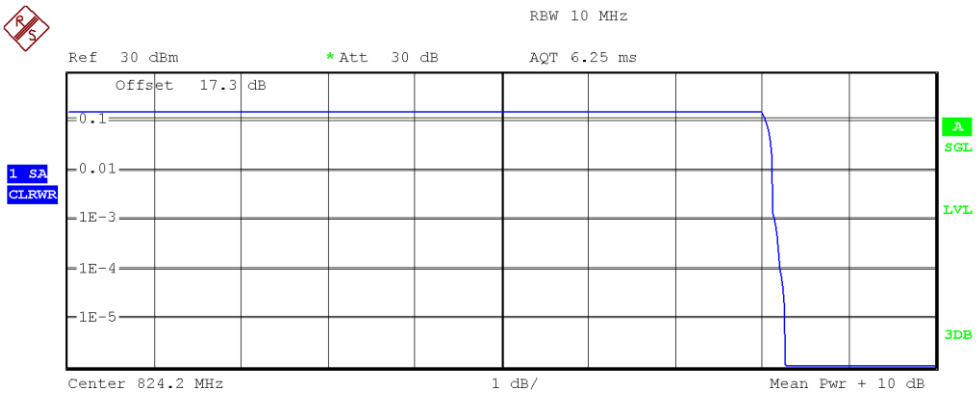
Worst case AVERAGE POWER: Modulation QPSK. RB Size: 1. RB Offset: 37.
Worst case PAPR: Modulation QPSK. RB Size: 1. RB Offset: 37.
(**): Not measured.

Verdict: PASS

2. PEAK-TO-AVERAGE POWER RATIO (PAPR):

2G Band 850 MHz. GPRS MODULATION.

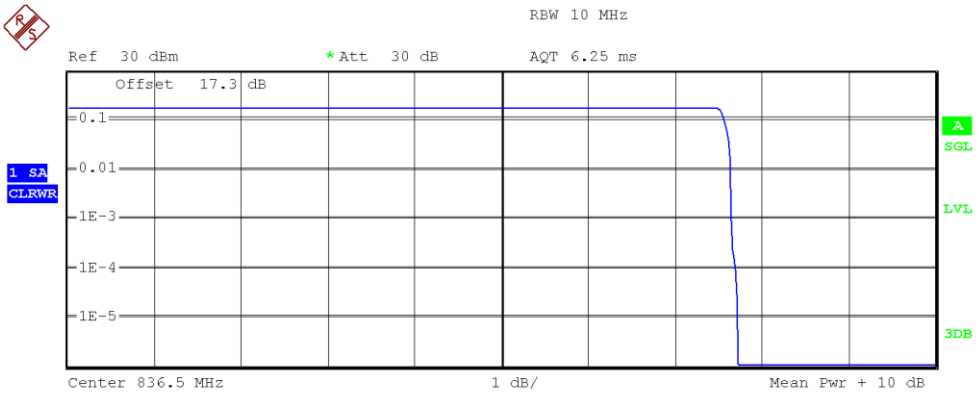
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	5.78 dBm
Peak	14.05 dBm
Crest	8.27 dB
10 %	8.06 dB
1 %	8.14 dB
.1 %	8.16 dB
.01 %	8.22 dB

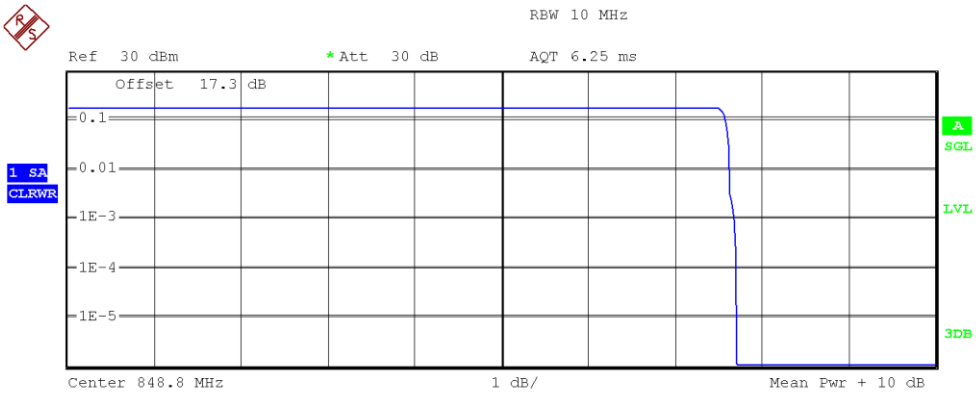
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	5.79 dBm
Peak	13.51 dBm
Crest	7.72 dB
10 %	7.58 dB
1 %	7.64 dB
.1 %	7.66 dB
.01 %	7.71 dB

High Channel:

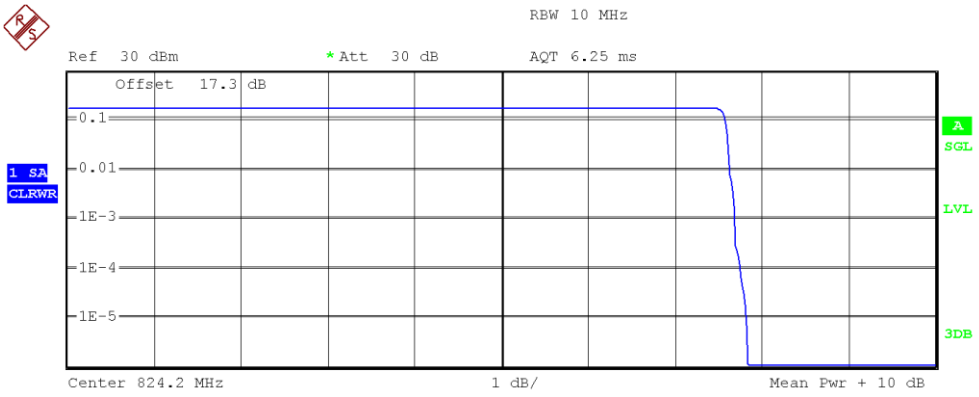


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	5.90 dBm
Peak	13.60 dBm
Crest	7.70 dB
10 %	7.60 dB
1 %	7.64 dB
.1 %	7.69 dB
.01 %	7.72 dB

2G Band 850 MHz. EDGE MODULATION.

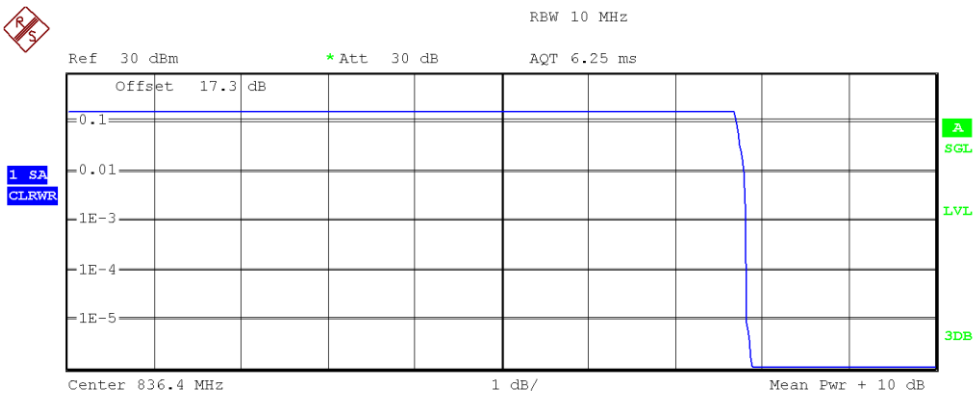
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	6.21 dBm
Peak	14.05 dBm
Crest	7.83 dB
10 %	7.58 dB
1 %	7.64 dB
.1 %	7.71 dB
.01 %	7.76 dB

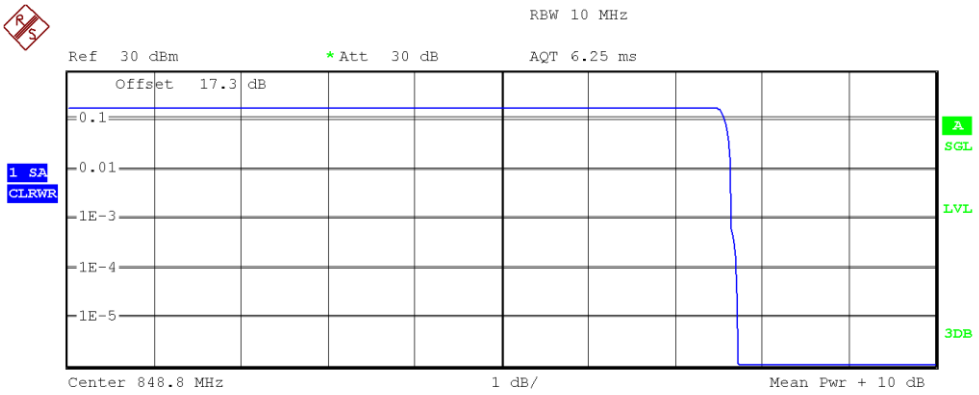
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	5.63 dBm
Peak	13.51 dBm
Crest	7.88 dB
10 %	7.72 dB
1 %	7.80 dB
.1 %	7.84 dB
.01 %	7.84 dB

High Channel:

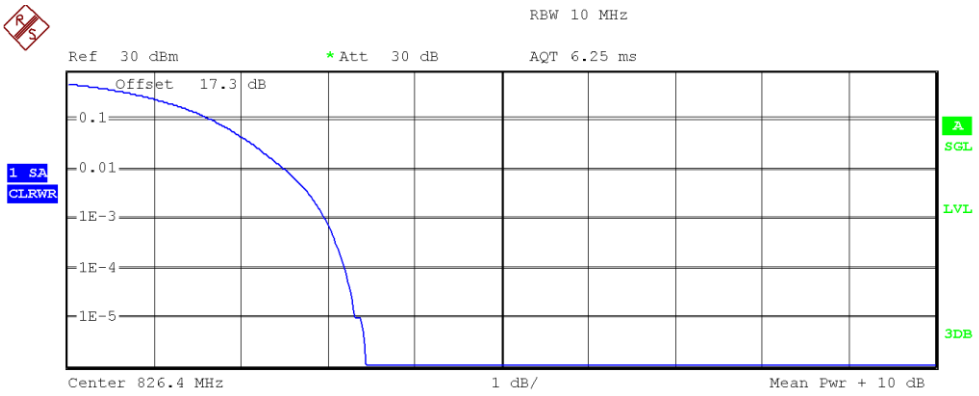


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	5.89 dBm
Peak	13.60 dBm
Crest	7.72 dB
10 %	7.58 dB
1 %	7.64 dB
.1 %	7.66 dB
.01 %	7.72 dB

3G Band V. WCDMA MODULATION.

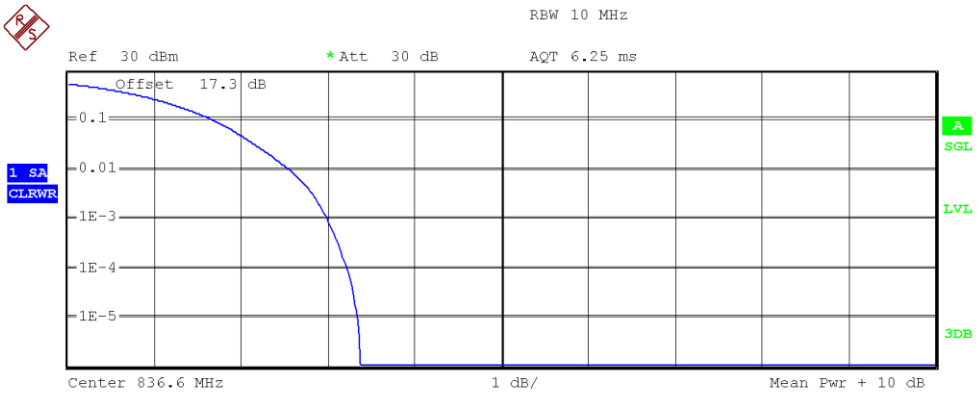
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.59 dBm
Peak	27.04 dBm
Crest	3.44 dB
10 %	1.67 dB
1 %	2.50 dB
.1 %	2.96 dB
.01 %	3.21 dB

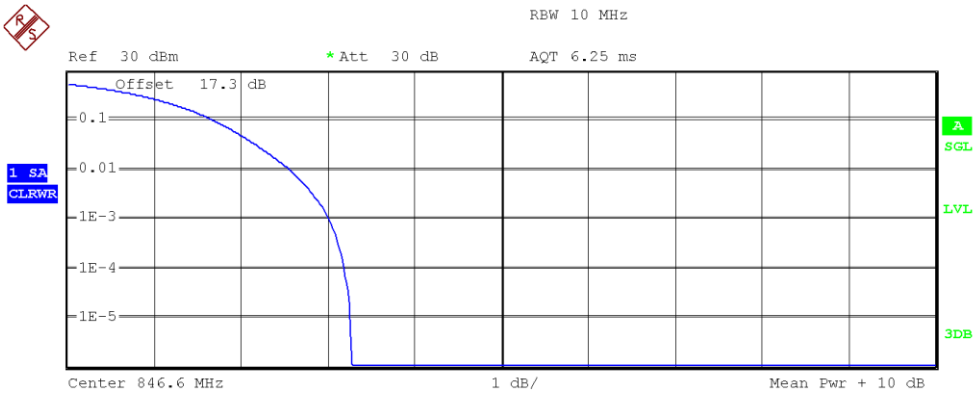
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.47 dBm
Peak	26.84 dBm
Crest	3.38 dB
10 %	1.68 dB
1 %	2.55 dB
.1 %	3.00 dB
.01 %	3.22 dB

High Channel:

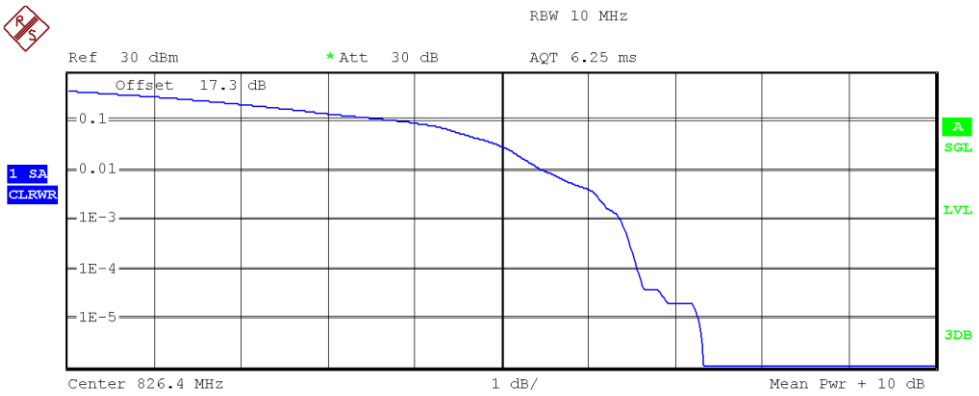


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.38 dBm
Peak	26.65 dBm
Crest	3.27 dB
10 %	1.68 dB
1 %	2.55 dB
.1 %	3.01 dB
.01 %	3.19 dB

3G Band V. HSUPA MODULATION.

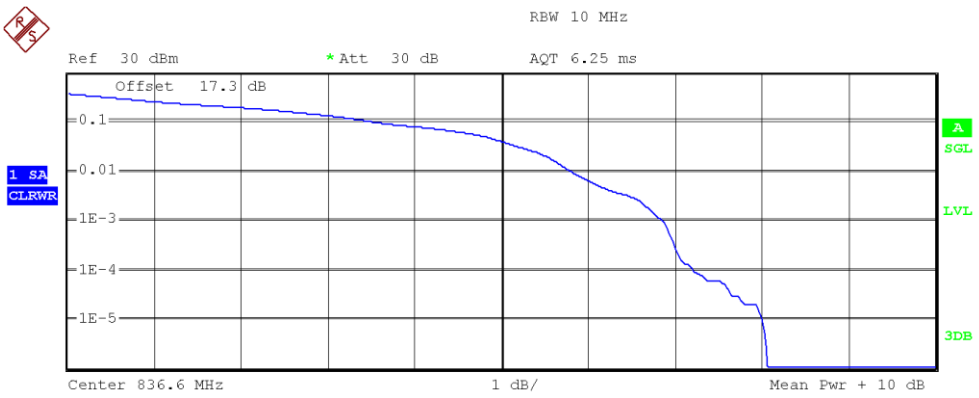
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	20.41 dBm
Peak	27.74 dBm
Crest	7.33 dB
10 %	3.86 dB
1 %	5.50 dB
.1 %	6.38 dB
.01 %	6.57 dB

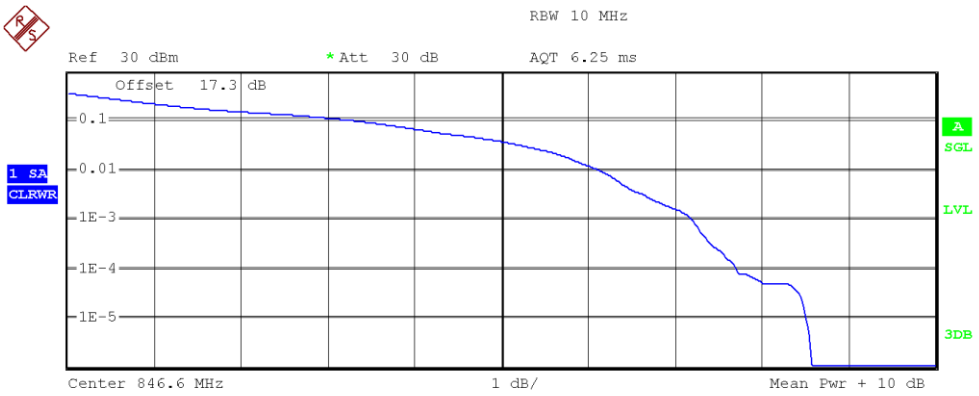
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	19.90 dBm
Peak	27.97 dBm
Crest	8.07 dB
10 %	3.56 dB
1 %	5.80 dB
.1 %	6.86 dB
.01 %	7.21 dB

High Channel:

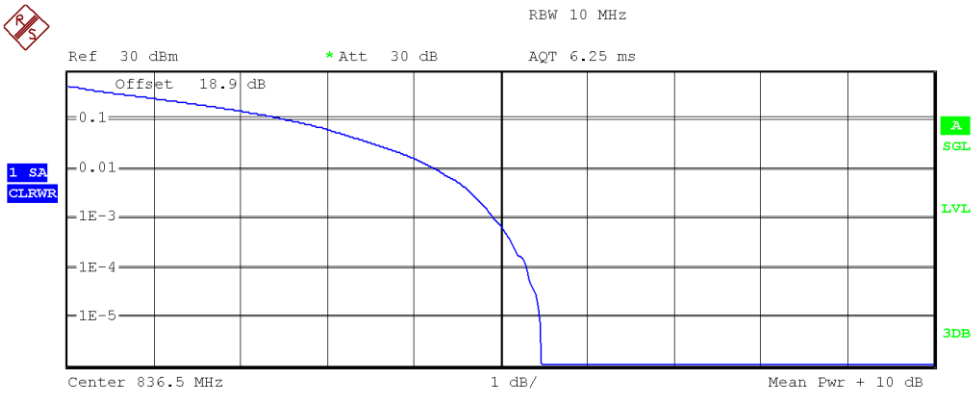


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	19.42 dBm
Peak	27.99 dBm
Crest	8.58 dB
10 %	3.35 dB
1 %	6.14 dB
.1 %	7.20 dB
.01 %	7.71 dB

LTE Band 5. BW=1.4 MHz. QPSK MODULATION. RB Size: 6. RB Offset: 0.

Middle Channel:

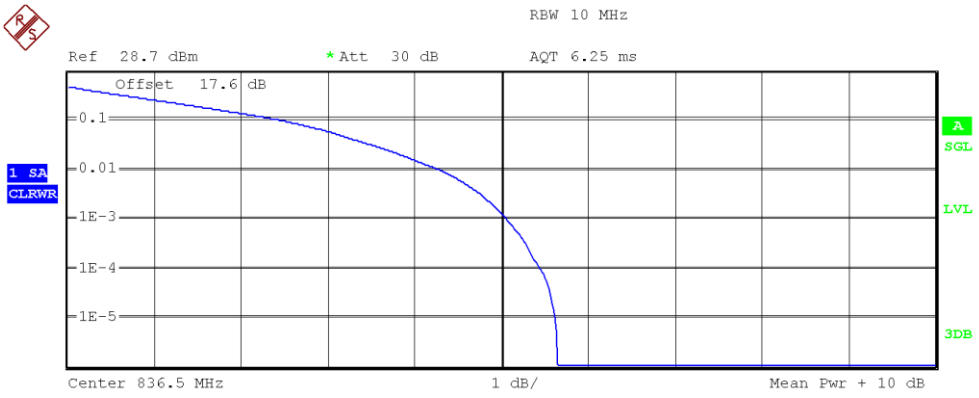


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.29 dBm
Peak	27.76 dBm
Crest	5.47 dB
10 %	2.55 dB
1 %	4.26 dB
.1 %	4.92 dB
.01 %	5.30 dB

LTE Band 5. BW=3 MHz. QPSK MODULATION. RB Size: 15. RB Offset: 0.

Middle Channel:

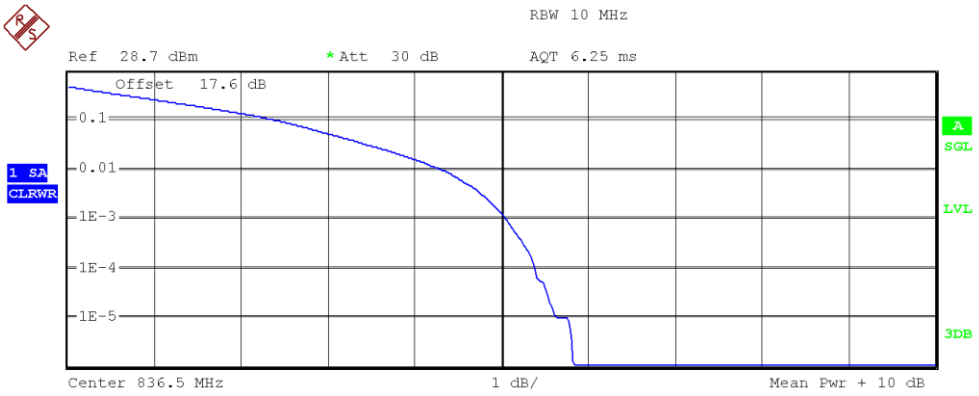


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.02 dBm
Peak	28.67 dBm
Crest	5.65 dB
10 %	2.47 dB
1 %	4.28 dB
.1 %	5.06 dB
.01 %	5.45 dB

LTE Band 5. BW=5 MHz. QPSK MODULATION. RB Size: 25. RB Offset: 0.

Middle Channel:

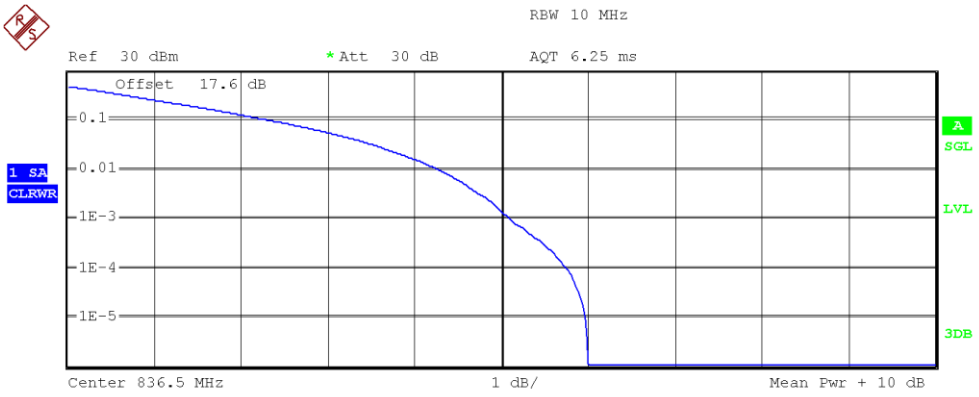


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.98 dBm
Peak	28.82 dBm
Crest	5.83 dB
10 %	2.40 dB
1 %	4.31 dB
.1 %	5.05 dB
.01 %	5.40 dB

LTE Band 5. BW=10 MHz. QPSK MODULATION. RB Size: 50. RB Offset: 0.

Middle Channel:

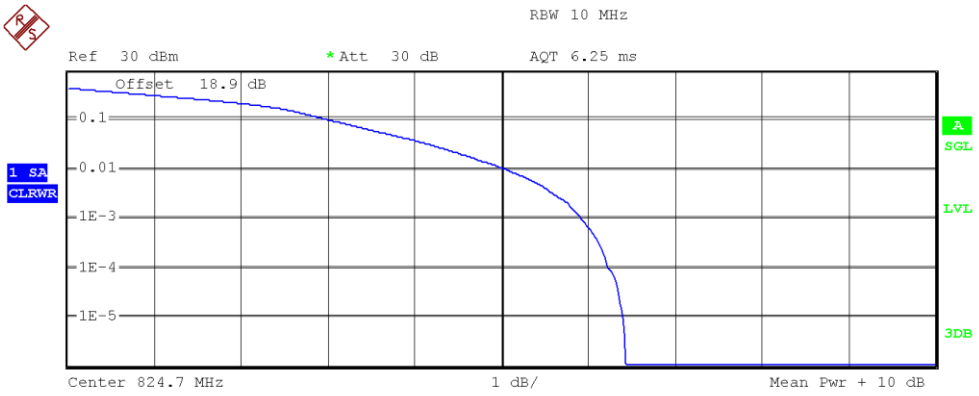


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.29 dBm
Peak	29.29 dBm
Crest	6.00 dB
10 %	2.32 dB
1 %	4.28 dB
.1 %	5.10 dB
.01 %	5.75 dB

LTE Band 5. BW=1.4 MHz. 16QAM MODULATION. RB Size: 6. RB Offset: 0.

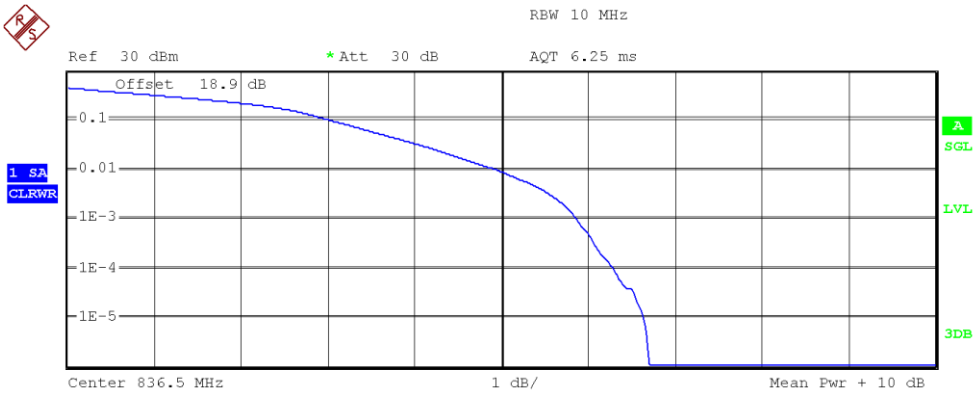
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.31 dBm
Peak	27.74 dBm
Crest	6.43 dB
10 %	3.03 dB
1 %	5.05 dB
.1 %	5.93 dB
.01 %	6.23 dB

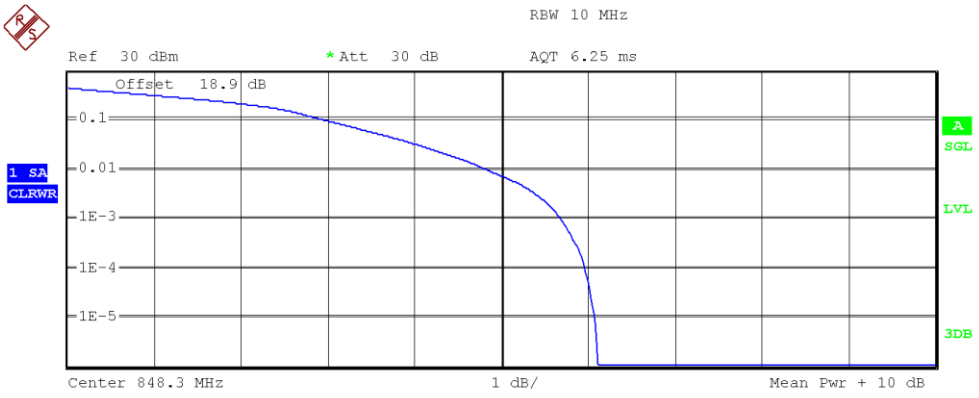
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.41 dBm
Peak	28.12 dBm
Crest	6.70 dB
10 %	3.03 dB
1 %	4.94 dB
.1 %	5.87 dB
.01 %	6.28 dB

High Channel:

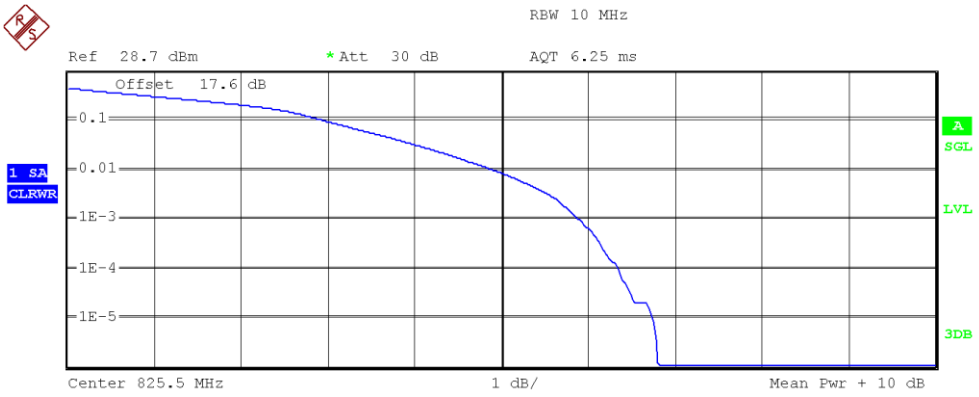


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.11 dBm
Peak	27.22 dBm
Crest	6.11 dB
10 %	2.96 dB
1 %	4.82 dB
.1 %	5.69 dB
.01 %	5.96 dB

LTE Band 5. BW=3 MHz. 16QAM MODULATION. RB Size: 15. RB Offset: 0.

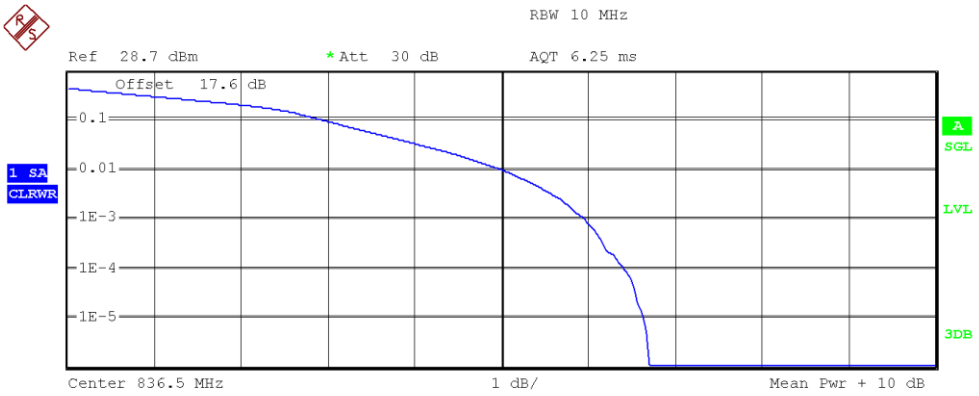
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.41 dBm
Peak	29.22 dBm
Crest	6.81 dB
10 %	2.95 dB
1 %	4.90 dB
.1 %	5.90 dB
.01 %	6.35 dB

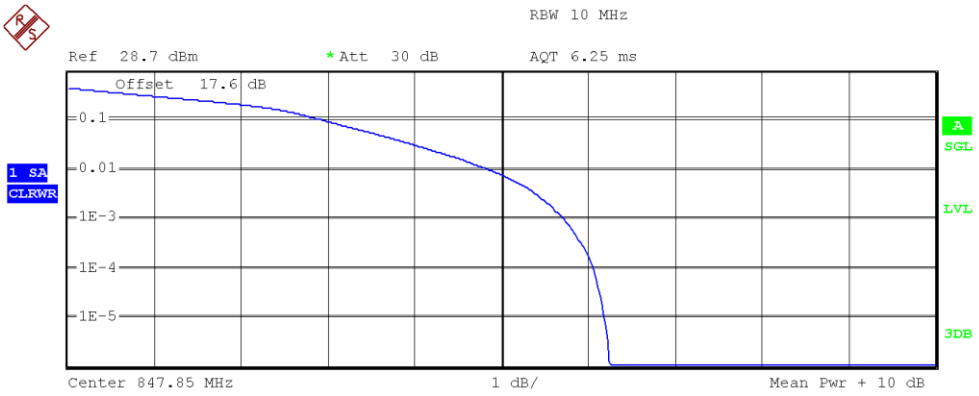
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.97 dBm
Peak	28.67 dBm
Crest	6.70 dB
10 %	2.96 dB
1 %	5.00 dB
.1 %	5.96 dB
.01 %	6.41 dB

High Channel:

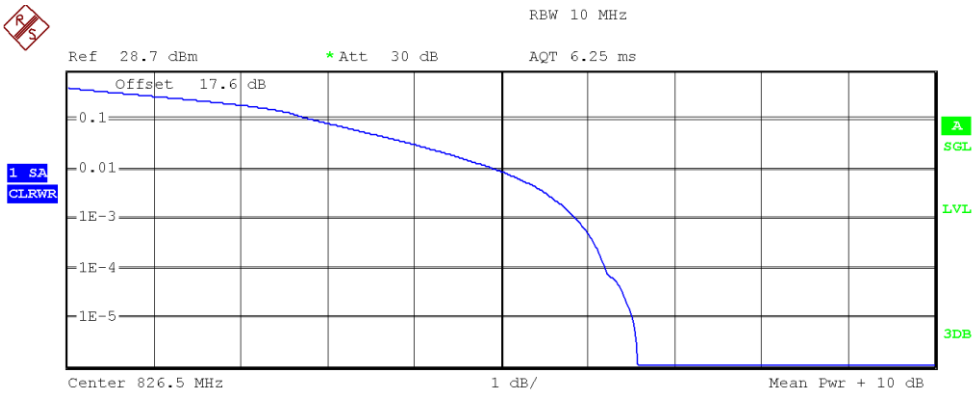


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.09 dBm
Peak	28.34 dBm
Crest	6.25 dB
10 %	2.95 dB
1 %	4.86 dB
.1 %	5.72 dB
.01 %	6.06 dB

LTE Band 5. BW=5 MHz. 16QAM MODULATION. RB Size: 25. RB Offset: 0.

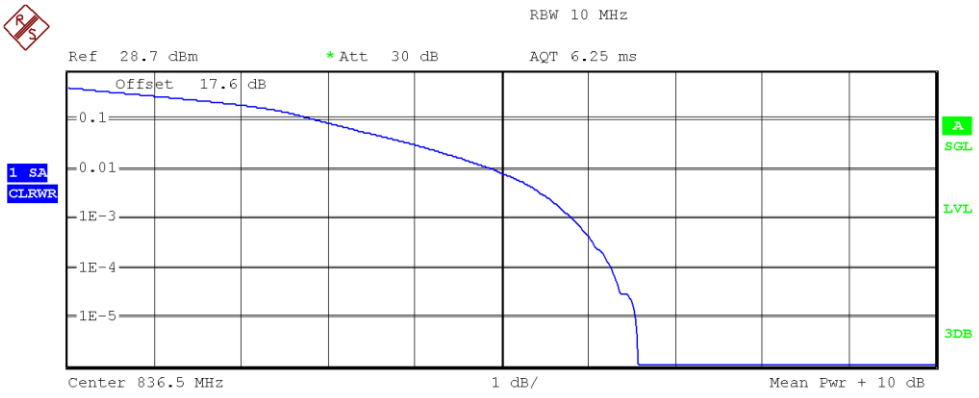
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.29 dBm
Peak	28.87 dBm
Crest	6.58 dB
10 %	2.85 dB
1 %	4.95 dB
.1 %	5.87 dB
.01 %	6.20 dB

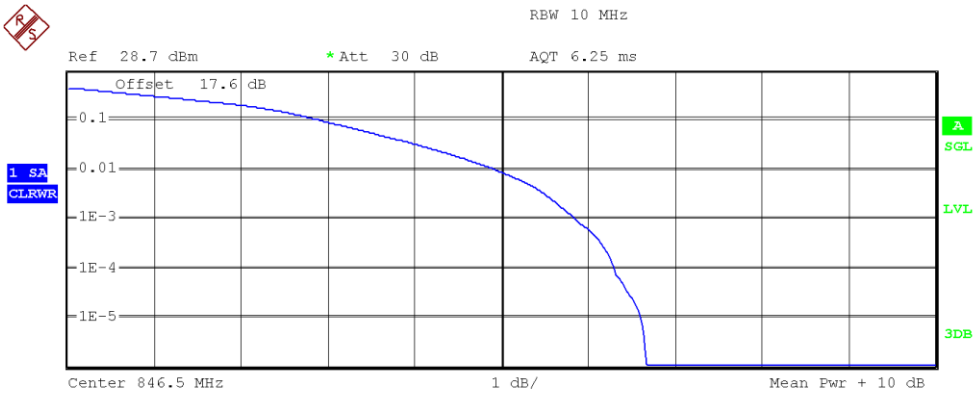
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.24 dBm
Peak	28.82 dBm
Crest	6.58 dB
10 %	2.87 dB
1 %	4.90 dB
.1 %	5.82 dB
.01 %	6.27 dB

High Channel:

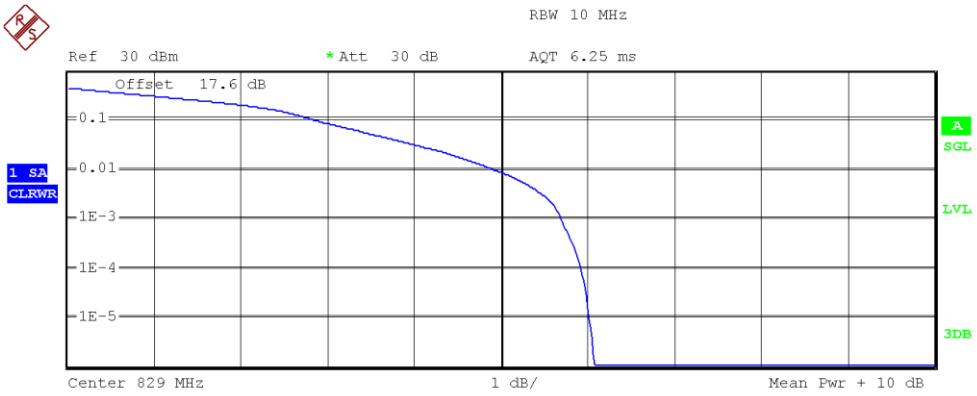


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.67 dBm
Peak	28.34 dBm
Crest	6.67 dB
10 %	2.92 dB
1 %	4.94 dB
.1 %	5.85 dB
.01 %	6.30 dB

LTE Band 5. BW=10 MHz. 16QAM MODULATION. RB Size: 25. RB Offset: 24.

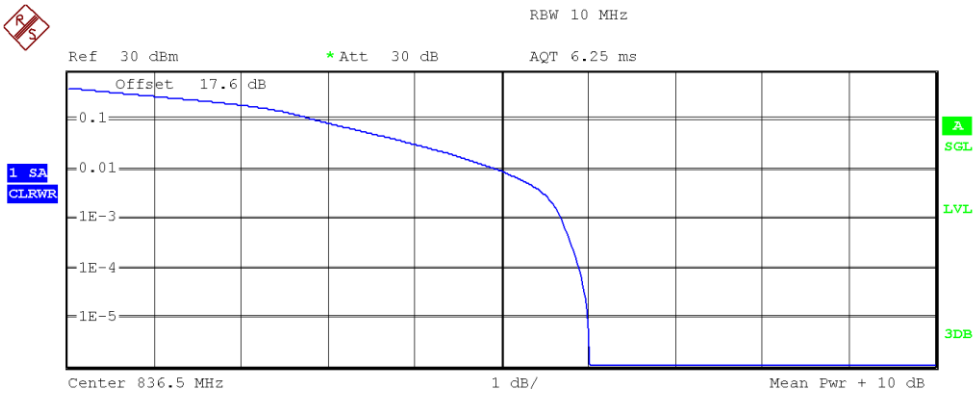
Low Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.64 dBm
Peak	28.72 dBm
Crest	6.08 dB
10 %	2.85 dB
1 %	4.92 dB
.1 %	5.71 dB
.01 %	5.93 dB

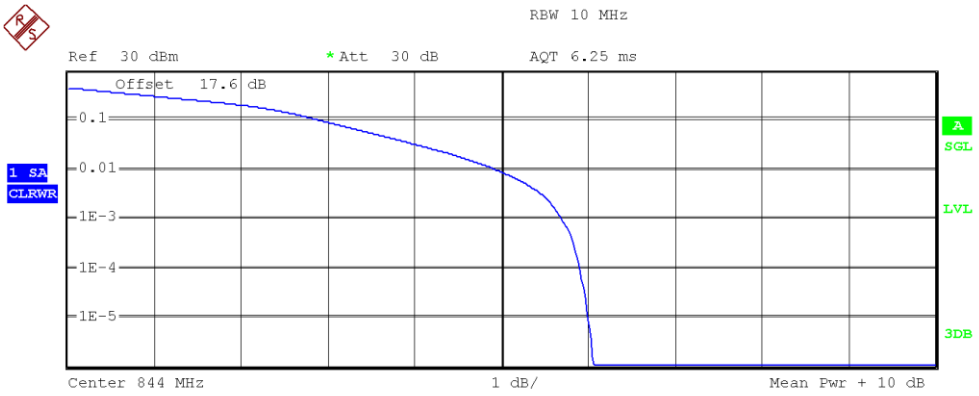
Middle Channel:



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.36 dBm
Peak	28.37 dBm
Crest	6.01 dB
10 %	2.87 dB
1 %	4.95 dB
.1 %	5.69 dB
.01 %	5.90 dB

High Channel:

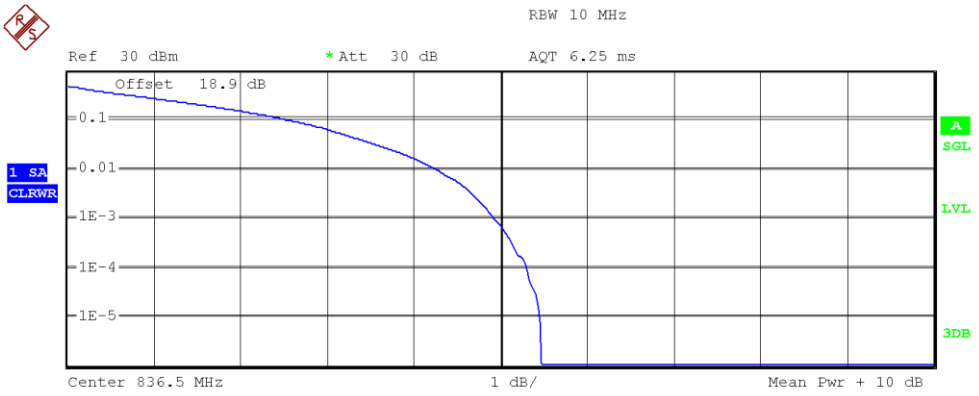


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.12 dBm
Peak	28.18 dBm
Crest	6.06 dB
10 %	2.90 dB
1 %	4.94 dB
.1 %	5.69 dB
.01 %	5.91 dB

LTE Band 5. BW=1.4 MHz. QPSK MODULATION. RB Size: 6. RB Offset: 0.

Middle Channel:

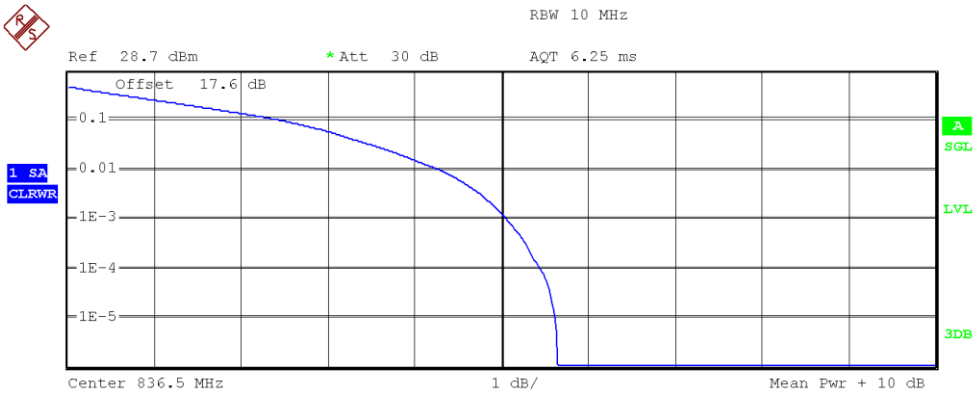


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.29 dBm
Peak	27.76 dBm
Crest	5.47 dB
10 %	2.55 dB
1 %	4.26 dB
.1 %	4.92 dB
.01 %	5.30 dB

LTE Band 5. BW=3 MHz. QPSK MODULATION. RB Size: 15. RB Offset: 0.

Middle Channel:

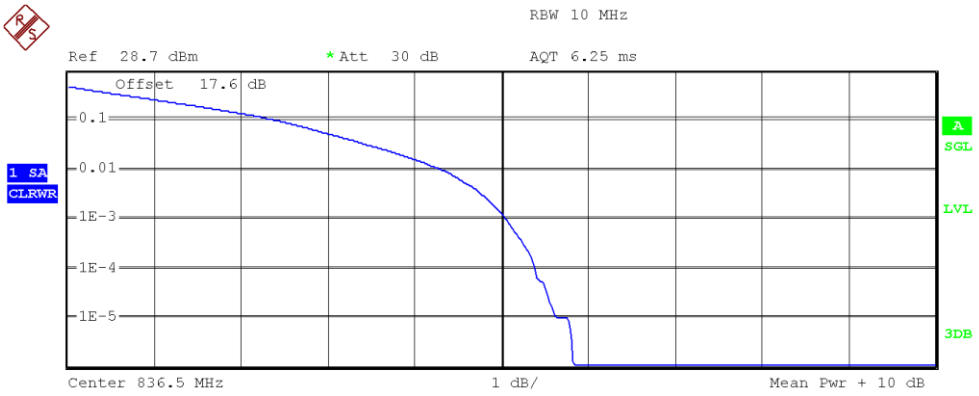


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.02 dBm
Peak	28.67 dBm
Crest	5.65 dB
10 %	2.47 dB
1 %	4.28 dB
.1 %	5.06 dB
.01 %	5.45 dB

LTE Band 5. BW=5 MHz. QPSK MODULATION. RB Size: 25. RB Offset: 0.

Middle Channel:

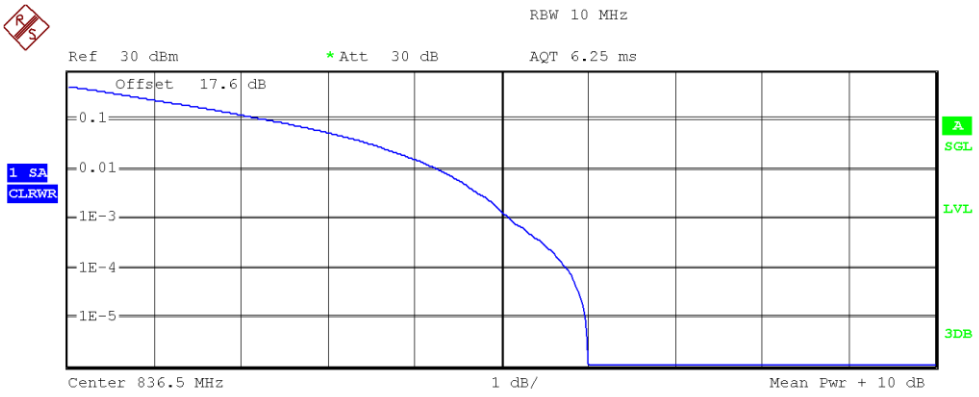


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.98 dBm
Peak	28.82 dBm
Crest	5.83 dB
10 %	2.40 dB
1 %	4.31 dB
.1 %	5.05 dB
.01 %	5.40 dB

LTE Band 5. BW=10 MHz. QPSK MODULATION. RB Size: 50. RB Offset: 0.

Middle Channel:

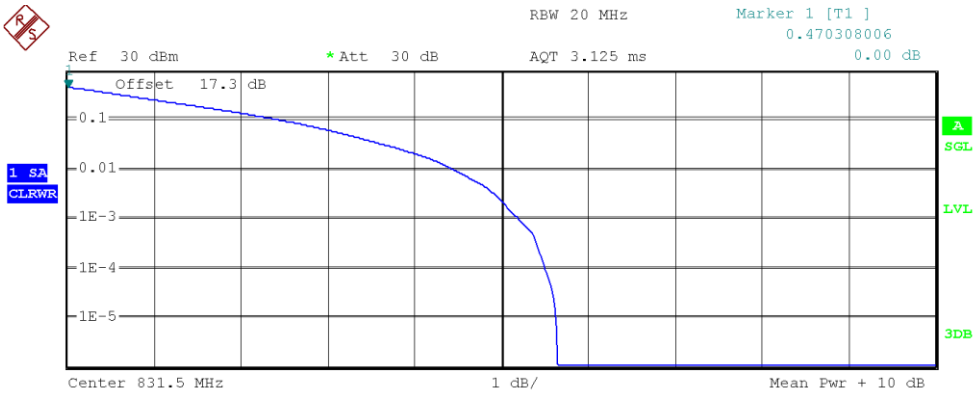


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	23.29 dBm
Peak	29.29 dBm
Crest	6.00 dB
10 %	2.32 dB
1 %	4.28 dB
.1 %	5.10 dB
.01 %	5.75 dB

LTE Band 26. BW=15 MHz. QPSK MODULATION. RB Size: 75. RB Offset: 0.

Low Channel:

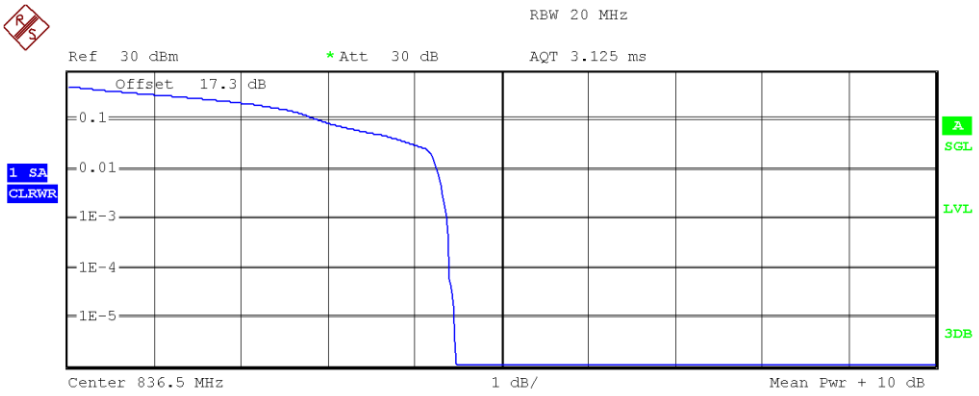


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	22.41 dBm
Peak	28.05 dBm
Crest	5.64 dB
10 %	2.47 dB
1 %	4.46 dB
.1 %	5.21 dB
.01 %	5.51 dB

LTE Band 26. BW=15 MHz. 16QAM MODULATION. RB Size: 1. RB Offset: 37.

Middle Channel:

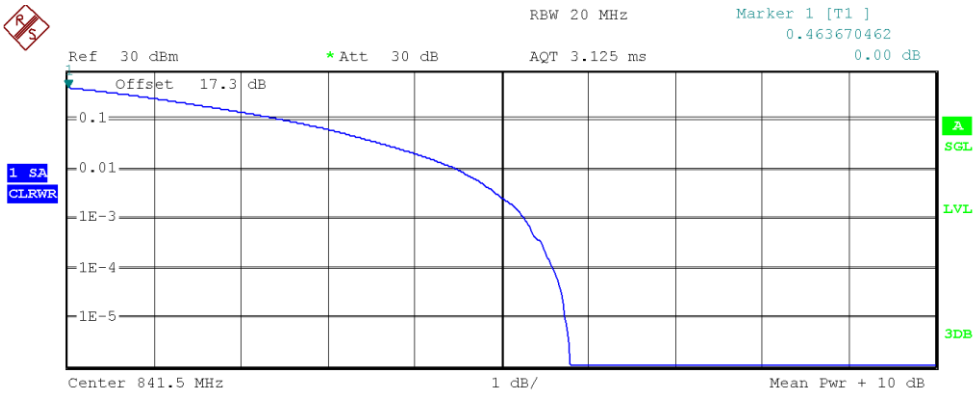


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	23.24 dBm
Peak	27.71 dBm
Crest	4.47 dB
10 %	2.90 dB
1 %	4.26 dB
.1 %	4.38 dB
.01 %	4.41 dB

LTE Band 26. BW=15 MHz. QPSK MODULATION. RB Size: 75. RB Offset: 0.

High Channel:



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

	Trace 1
Mean	22.34 dBm
Peak	28.14 dBm
Crest	5.80 dB
10 %	2.52 dB
1 %	4.49 dB
.1 %	5.27 dB
.01 %	5.59 dB