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FCC TEST REPORT

FCC 47 CFR Part 22H
ISED RSS-132, Issue 3
Cellular Telephones Operating in the Bands 824-849MHz and 869-894MHz
FCC 47 CFR Part 24E
ISED RSS-133, Issue 6
2GHz Personal Communication Services

Report Reference No. ..... :	G0M-1607-5773-TFC224UL-V02
Testing Laboratory ..... :	Eurofins Product Service GmbH
Address ..... :	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation ..... :	A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 ISED OATS Filing assigned code: 3470A
Applicant's name ..... :	FALCOM GmbH
Address ..... :	Gewerbering 6 98704 Langewiesen GERMANY
Test specification:	
Standard..... :	47 CFR Part 22H, 47 CFR Part 24E RSS-132, Issue 3: 2013-01, RSS-133, Issue 6: 2013-01
Test scope…….. ..... :	partial Radio compliance test
Equipment under test (EUT):	
Product description	UMTS/GSM/GPS/LTE-Device
Model No.	FOX3-4G-NA
Additional Model(s)	None
Brand Name(s)	None
Hardware version	P281_Rev03c
Firmware / Software version	3.0.4
	FCC-ID: QIXFOX3-4G-NA IC: 5383A-FOX34GNA
Test result	**Passed**

Possible test case verdicts:	
- neither assessed nor tested ..... :	N/N
- required by standard but not appl. to test object ..... :	N/A
- required by standard but not tested ..... :	N/T
- not required by standard for the test object ..... :	N/R
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)

Testing:		
Test Lab Temperature ..... :	20 – 23 °C	
Test Lab Humidity ..... :	32 – 38 %	
Date of receipt of test item ..... :	2016-10-05	
Date (s) of performance of tests ..... :	2016-12-13 - 2017-01-05	
Compiled by ..... :	Burkhard Pudell	
Tested by (+ signature) ..... : (Responsible for Test)	Burkhard Pudell	B. Pudell .....
Approved by (+ signature) ..... : (Deputy Head of Lab)	Toralf Jahn	T. .....
Date of issue ..... :	2017-01-23	
Total number of pages ..... :	60	

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

Additional comments:

Test case reduction on radiated measurements only is based on the requirements for host integration for full modular approved transmitter modules (KDB 996369 D02) used by the EUT. The EUT uses a module with full modular approval according to FCC and ISED rules. For details about the radio module see EUT description in section 1.

Version History

Version	Issue Date	Remarks	Revised by
01	2017-01-18	Initial Release	
02	2017-01-23	Additional comments and test scope added	T. Jahn

REPORT INDEX

1 Equipment (Test item) Description

Description	UMTS/GSM/GPS/LTE-Device		
Model	FOX3-4G-NA		
Additional Model(s)	None		
Brand Name(s)	None		
Serial number	None		
Hardware version	P281_Rev03c		
Software / Firmware version	3.0.4		
PMN	TRACKING UNIT		
HVIN	FOX3-4G-NA		
FVIN	None		
HMN	None		
FCC-ID	QIXFOX3-4G-NA		
IC	5383A-FOX34GNA		
Equipment type	End product		
Equipment classification	Mobile Device (Human Body distance > 20 cm)		
Radio type	Transceiver		
Radio technology	W-CDMA / LTE		
Operating frequency range	UMTS FDD V : TX = 824 - 849 MHz, RX = 869 - 894 MHz LTE FDD 5 : TX = 824 - 849 MHz, RX = 869 - 894 MHz UMTS FDD II : TX = 1850 - 1910 MHz, RX = 1930 - 1990 MHz LTE FDD 2 : TX = 1850 - 1910 MHz, RX = 1930 - 1990 MHz		
Assigned frequency band	Cell. Service Block A & B : 824 - 849 MHz & 869 - 894 MHz Broadband PCS : 1850 - 1910 MHz & 1930 - 1990 MHz		
Main test frequencies UMTS FDD V	F_{LOW}	CH : 4133 UL: 826.6 MHz	CH : 4358 DL: 871.6 MHz
	F_{MID}	CH : 4175 UL: 835.0 MHz	CH : 4400 DL: 880.0 MHz
	F_{HIGH}	CH : 4232 UL: 846.4 MHz	CH : 4457 DL: 891.4 MHz
Main test frequencies UMTS FDD II	F_{LOW}	CH : 9263 UL: 1852.6 MHz	CH : 9663 DL: 1932.6 MHz
	F_{MID}	CH : 9400 UL: 1880.0 MHz	CH : 9800 DL: 1960.0 MHz
	F_{HIGH}	CH : 9537 UL: 1907.4 MHz	CH : 9937 DL: 1987.4 MHz
Main test frequencies LTE FDD 5	F_{LOW}	CH : 20450 UL: 829.0 MHz	CH : 2450 DL: 874.0 MHz
	F_{MID}	CH : 20525 UL: 836.5 MHz	CH : 2525 DL: 881.5 MHz
	F_{HIGH}	CH : 20600 UL: 844.0 MHz	CH : 2600 DL: 889.0 MHz
Main test frequencies LTE FDD 2	F_{LOW}	CH : 18650 UL: 1855.0 MHz	CH : 650 DL: 1935.0 MHz
	F_{MID}	CH : 18900 UL: 1880.0 MHz	CH : 900 DL: 1960.0 MHz
	F_{HIGH}	CH : 19150 UL: 1905.0 MHz	CH : 1150 DL: 1985.0 MHz
Supported transmission modes	Circuit switched, Packet switched		
Modulations	HSDPA : QPSK, 16-QAM; HSUPA : BPSK LTE : QPSK, 16-QAM, 64-QAM		
Number of antennas	1x TX, 1x RX + 1x GPS		

Radio module	Type	3G/4G module
	Model	TOBY-L200
	Manufacturer	UBlox
	HW Version	192CA0
	SW Version	15.90
	FCC-ID	XPYTOBYL200
	IC	8595A-TOBYL200
Antenna	Type	external dedicated
	Model	FAL-ANT14 MA220
	Manufacturer	Taoglas
	Gain	2 dBi (manufacturer declaration)
Manufacturer	FALCOM GmbH Gewerbering 6 98704 Langewiesen GERMANY	
Power supply	V_{NOM}	12 or 24 VDC (Battery only)
	V_{MIN}	N/A
	V_{MIN}	N/A
AC/DC-Adaptor	Model	N/A
	Vendor	N/A
	Input	N/A
	Output	N/A

1.1 Photos – Equipment External

EUT TOP

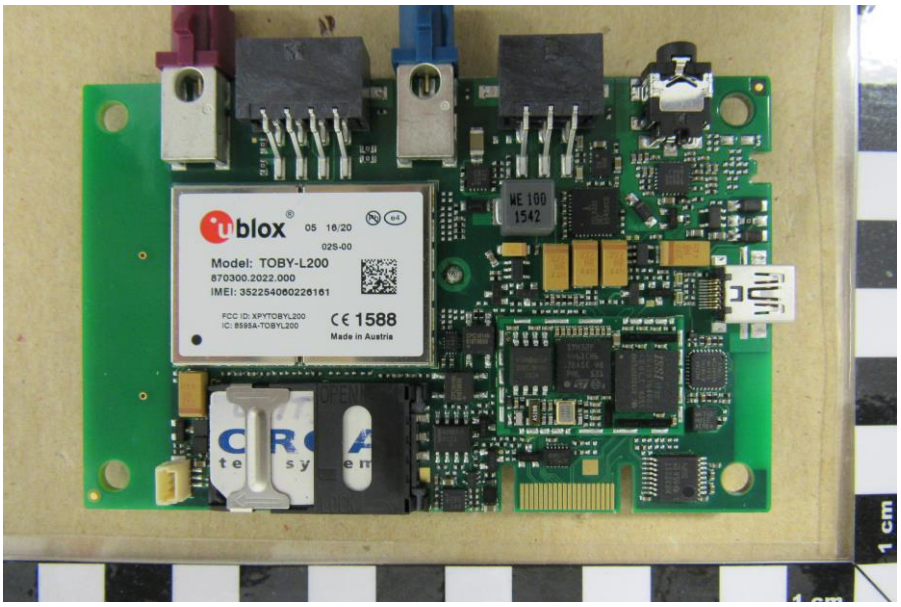

EUT BACK

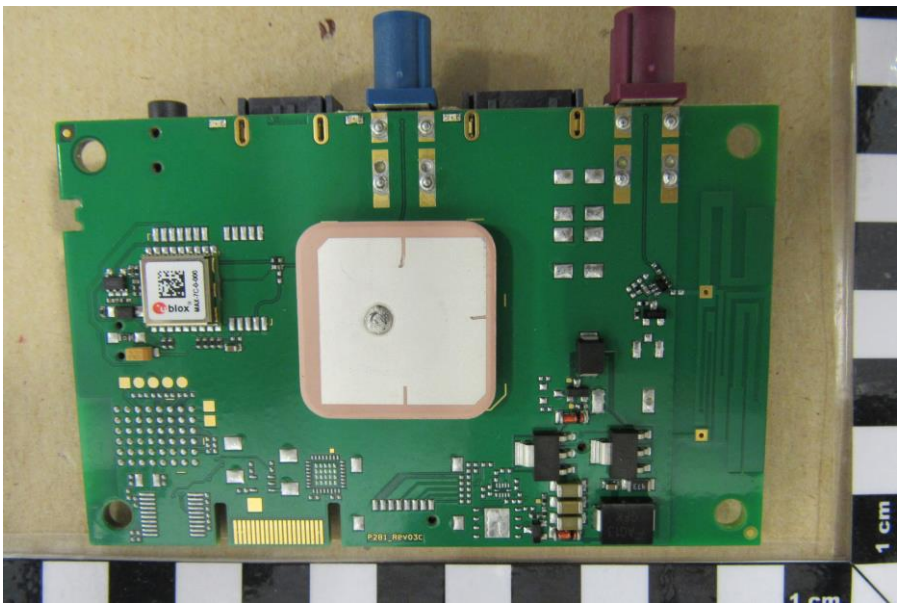

EUT INTERFACE


MULTI-BAND / GPS ANTENNA

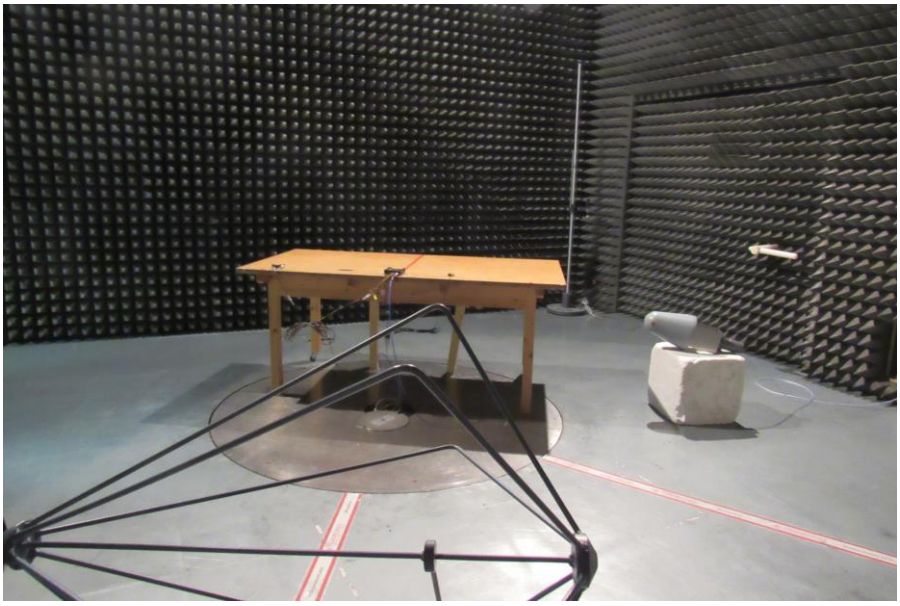

POWER CABLE


1.2 Photos – Equipment internal

EUT PCB FRONT


EUT PCB BACK


1.3 Photos – Test setup

TEST SETUP


1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
SIM	Network	R&S	CMW500	UMTS / LTE -Tester

***Note:** Use the following abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Test Modes

Mode #	Description		
W-CDMA - CS	General conditions:	EUT powered by battery. External GSM and GPS antenna connected. Active call to communication tester.	
	Radio conditions:	Mode = transmit Connection = Circuit Switched Modulation = QPSK Configuration = RMC 12.2kbps Power level = Maximum	
W-CDMA - PS	General conditions:	EUT powered by battery. External GSM and external GPS antenna connected. Active call to communication tester.	
	Radio conditions:	Mode = transmit Connection = Packet Switched Modulation = QPSK Configuration = RMC 12.2kbps + HSPA Power level = Maximum	
LTE FDD 2	General conditions:	EUT powered by battery. External GSM and GPS antenna connected. Active call to communication tester.	
	Radio conditions:	LTE-1L	QSPK / 10MHz / RB : 1 @ low end
		LTE-1H	QSPK / 10MHz / RB : 1 @ high end
		LTE-HALF	QSPK / 10MHz / RB : 50% @ center
		LTE-FULL	QSPK / 10MHz / RB : 100%
LTE FDD 5	General conditions:	EUT powered by battery. External GSM and GPS antenna connected. Active call to communication tester.	
	Radio conditions:	LTE-1L	QSPK / 10MHz / RB : 1 @ low end
		LTE-1H	QSPK / 10MHz / RB : 1 @ high end
		LTE-HALF	QSPK / 10MHz / RB : 50% @ center
		LTE-FULL	QSPK / 10MHz / RB : 100%
W-CDMA - RX	General conditions:	EUT powered by battery. Internal GSM and external GPS antenna connected.	
	Radio conditions:	Mode = receive Connection = Sign. RAB Cell FACH	
LTE FDD - RX	General conditions:	EUT powered by battery. Internal GSM and external GPS antenna connected.	
	Radio conditions:	Mode = receive Connection = (CS) RMC Modulation = QPSK BW10 RB allocation = 0 up / 0 down	

1.6 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	15.2.4

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ 26	EF00242	2016-04	2017-04

Radiated power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Fully-anechoic chamber	Frankonia	AC 3	EF00199	functional test	functional test
Spectrum Analyzer	R&S	FSIQ 26	EF00242	2016-04	2017-04
LPD Antenna	R&S	HL 223	EF00187	2016-05	2019-05
Horn Antenna	R&S	BBHA 9120D	EF01153	2016-07	2017-07

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 1	EF00062	2016-01	2019-01
Spectrum Analyzer	R&S	FSEK 30	EF00168	2016-12	2017-12
Biconical Antenna	R&S	HK 116	EF00012	2016-05	2019-05
LPD Antenna	R&S	HL 223	EF00212	2016-04	2019-04
LPD Antenna	R&S	HL 025	EF00327	2015-10	2018-10

1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBµV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

Reading on Analyzer (dBµV) + A.F. (dB) = Net field strength (dBµV/m)

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBµV/m). The FCC limits are given in units of µV/m. The following formula is used to convert the units of µV/m to dBµV/m:

Limit (dBµV/m) = 20*log (µV/m)

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit = Margin
21.5 dBµV	+	26 dB	=	47.5 dBµV/m	:	47.5 dBµV/m - 57.0 dBµV/m = -9.5 dB

2 Result Summary

FCC 47 CFR Part 22H, 24E, ISED RSS-132, 133				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
ISED RSS-Gen 6.6	Occupied Bandwidth	ISED RSS-Gen 6.6 KDB 971168 ANSI C63.26-2015 5.4		Informational only
FCC § 24.235 FCC § 22.355 ISED RSS-132 § 4.3 ISED RSS-133 § 6.3	Frequency stability	FCC § 24.235 FCC § 22.355 ISED RSS-132 § 4.3 ISED RSS-133 § 6.3 KDB 971168 ANSI C63.26-2015 5.6	N/T	
FCC § 22.913(a)	Effective radiated power	ANSI/TIA-603-D KDB 971168	PASS	
FCC § 24.232(c) ISED RSS-132 § 4.4 ISED RSS-133 § 6.4	Equivalent isotropic radiated power	ANSI/TIA-603-D KDB 971168 ANSI C63.26-2015 5.2	PASS	
FCC § 24.232(d) ISED RSS-133 § 6.4	Peak to average ratio	KDB 971168	N/T	
FCC § 22.917(b) FCC § 24.238(b) ISED RSS-132 § 4.5 ISED RSS-133 § 6.5	Band-edge compliance	KDB 971168	N/T	
FCC § 22.917(a) FCC § 24.238(a) ISED RSS-132 § 4.5 ISED RSS-133 § 6.5	Conducted out-of-band emissions	KDB 971168 ANSI C63.26-2015 5.7	N/T	
FCC § 22.917(a) FCC § 24.238(a) ISED RSS-132 § 4.5 ISED RSS-133 § 6.5	Radiated out-of-band emissions	ANSI/TIA-603-D KDB 971168 ANSI C63.26-2015 5.5	PASS	
ISED RSS-132 § 4.6 ISED RSS-133 § 6.6 ISED RSS-Gen 7.1	Receiver radiated spurious emissions	ISED RSS-Gen 7.1 ANSI C63.4	PASS	
Remarks:				

3 Test Conditions and Results

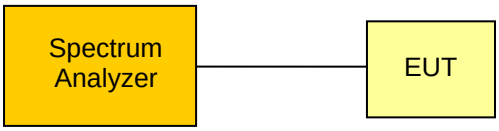
3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. to ISED RSS-Gen	
Test according to measurement reference	Reference Method
	RSS-Gen 6.6 / KDB 971168 / ANSI C63.26-2015 5.4
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}

Limits

None (Informational only)

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to at least twice the emission spectrum
3. Resolution bandwidth set to 1 % of span
4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function

Test results – W-CDMA V

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	826.6	FDD - CS	4115
F_{MID}	835.0	FDD - CS	4135
F_{HIGH}	846.4	FDD - CS	4115

Test results – W-CDMA II

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	1852.6	FDD - CS	4135
F_{MID}	1880.0	FDD - CS	4135
F_{HIGH}	1907.4	FDD - CS	4125

Comments:

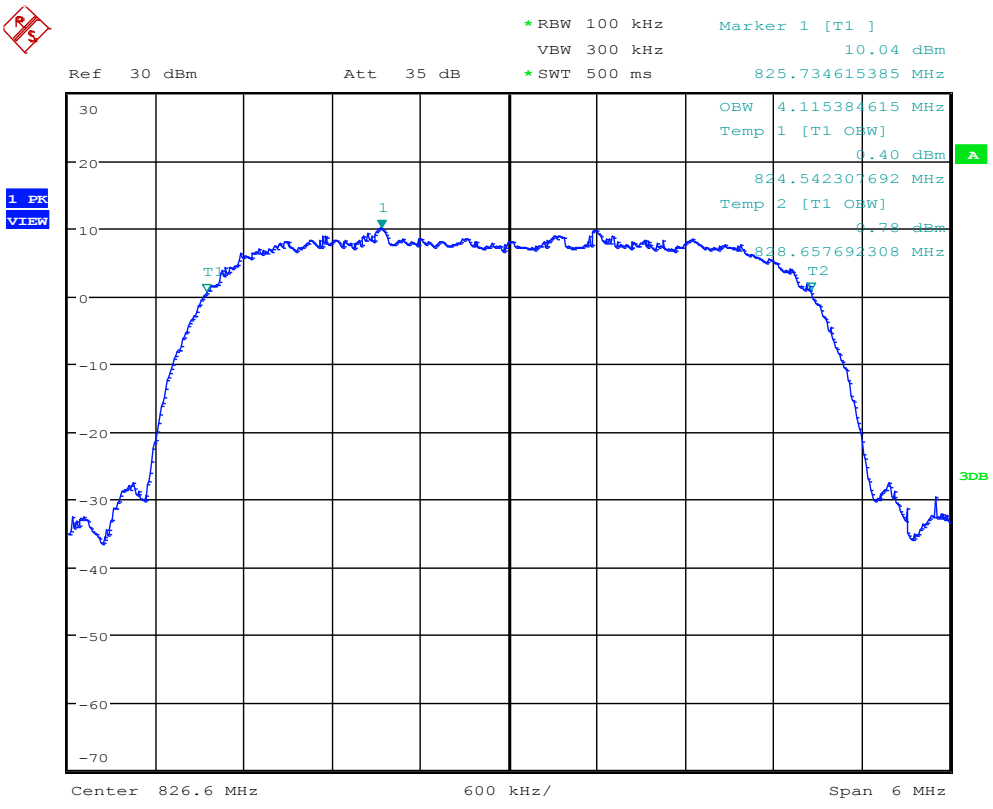
Test results – LTE FDD 5			
Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	824.7	QPSK BW1.4	1124
F_{MID}	836.5	QPSK BW1.4	1118
F_{HIGH}	848.3	QPSK BW1.4	1130
F_{LOW}	825.5	QPSK BW 3	2705
F_{MID}	836.5	QPSK BW 3	2705
F_{HIGH}	847.5	QPSK BW 3	2693
F_{LOW}	826.5	QPSK BW 5	4549
F_{MID}	836.5	QPSK BW 5	4549
F_{HIGH}	846.5	QPSK BW 5	4529
F_{LOW}	829.0	QPSK BW 10	9098
F_{MID}	836.5	QPSK BW 10	9178
F_{HIGH}	844.0	QPSK BW 10	9058
Test results – LTE FDD 2			
Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	1850.7	QPSK BW1.4	1130
F_{MID}	1880.0	QPSK BW1.4	1124
F_{HIGH}	1909.3	QPSK BW1.4	1136
F_{LOW}	1851.5	QPSK BW 3	2705
F_{MID}	1880.0	QPSK BW 3	2705
F_{HIGH}	1908.5	QPSK BW 3	2705
F_{LOW}	1852.5	QPSK BW 5	4569
F_{MID}	1880.0	QPSK BW 5	4569
F_{HIGH}	1907.5	QPSK BW 5	4549
F_{LOW}	1855.0	QPSK BW 10	9178
F_{MID}	1880.0	QPSK BW 10	9178
F_{HIGH}	1905.0	QPSK BW 10	9018
F_{LOW}	1857.5	QPSK BW 15	13587
F_{MID}	1880.0	QPSK BW 15	13587
F_{HIGH}	1902.5	QPSK BW 15	13347
F_{LOW}	1860.0	QPSK BW 20	18116
F_{MID}	1880.0	QPSK BW 20	17876
F_{HIGH}	1900.0	QPSK BW 20	17796
Comments:			

Occupied Bandwidth – W-CDMA V F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD V / CH: 4133 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.115 MHz



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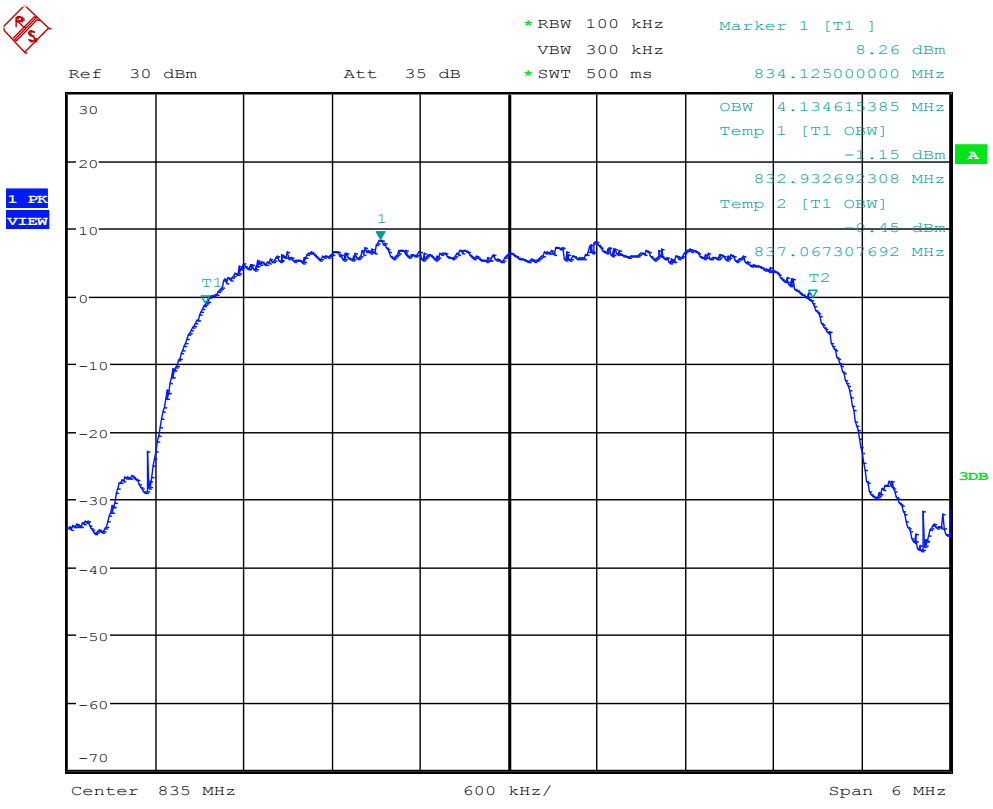
Occupied Bandwidth – W-CDMA V F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD V / CH: 4175 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.135 MHz



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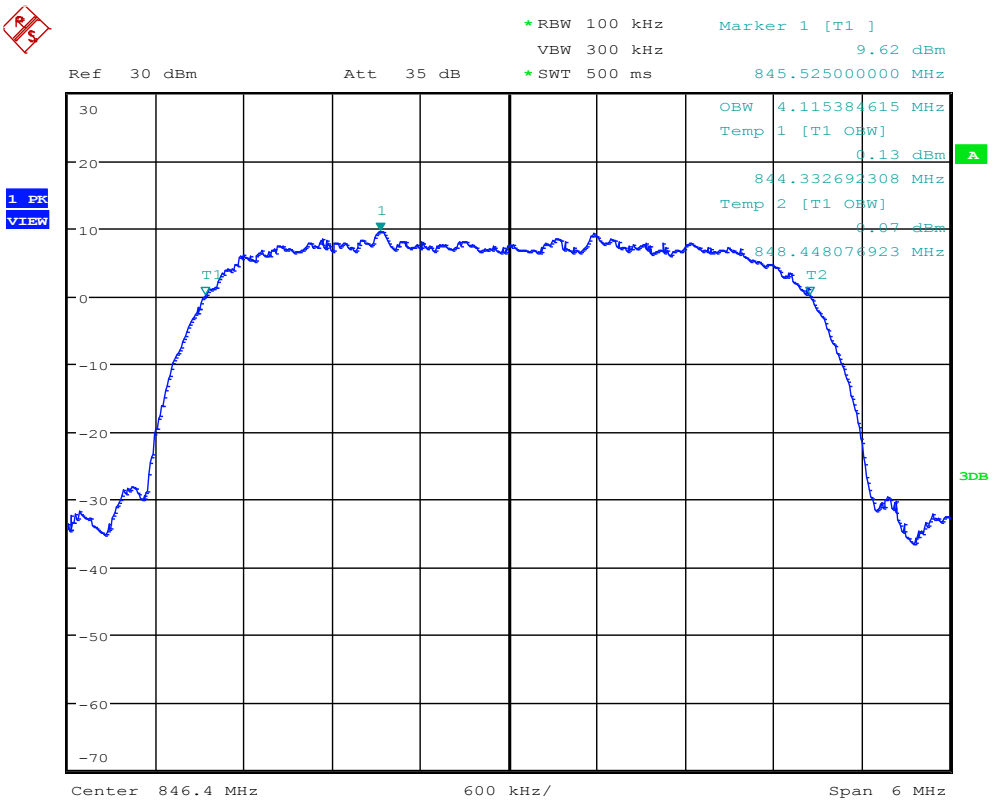
Occupied Bandwidth – W-CDMA V F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD V / CH: 4232 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.115 MHz



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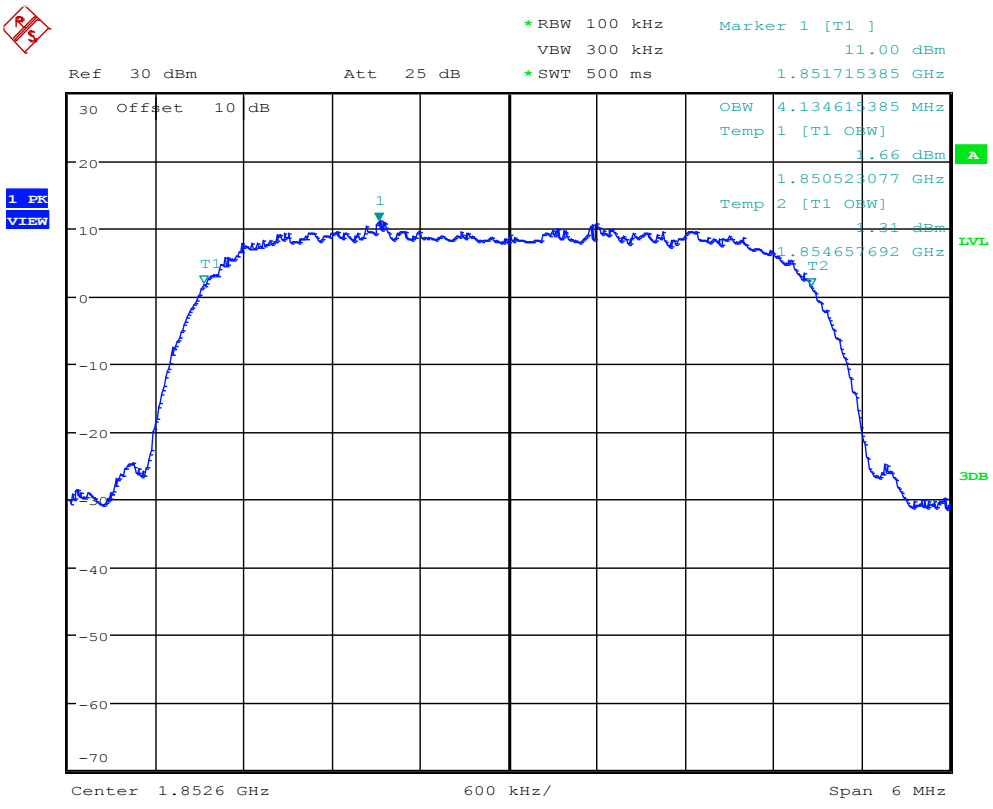
Occupied Bandwidth – W-CDMA II F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD II / CH: 9263 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.135 MHz

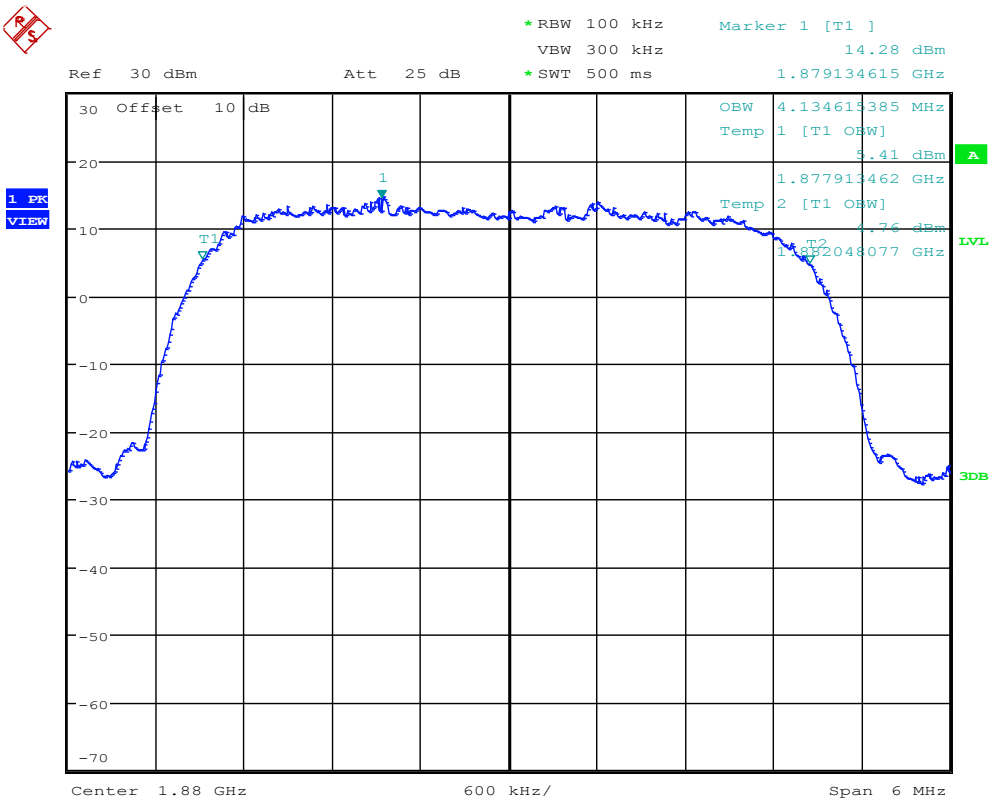


Occupied Bandwidth – W-CDMA II F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD II / CH: 9400 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.135 MHz



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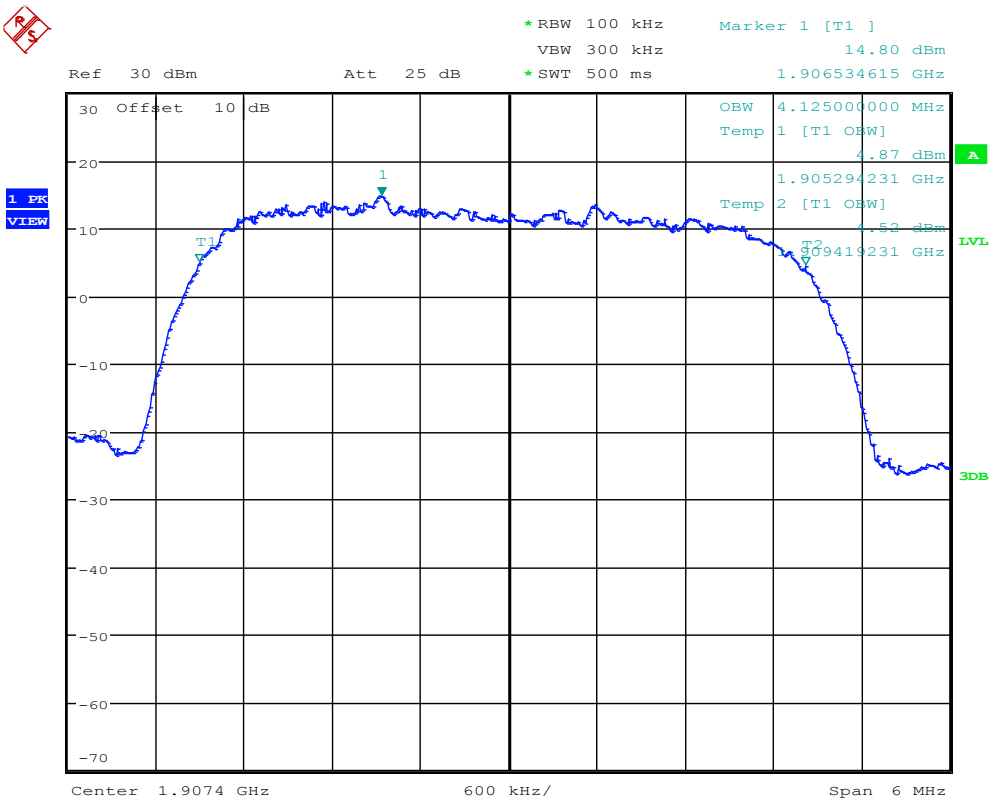
Occupied Bandwidth – W-CDMA II F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD II / CH: 9537 / RMC
Test Date:	2017-01-09
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.125 MHz

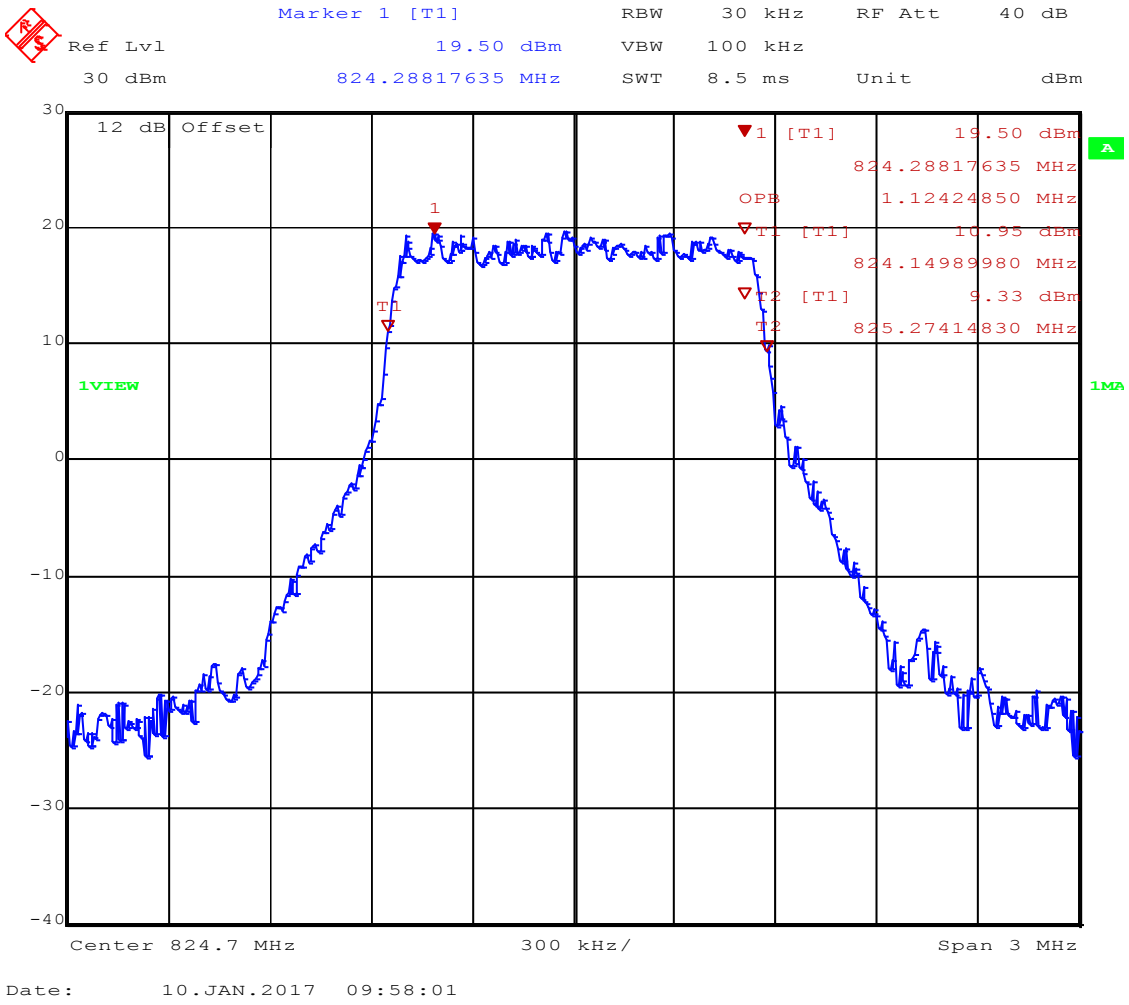


Occupied Bandwidth – LTE 5_QPSK-BW1.4 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20407 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.124 MHz

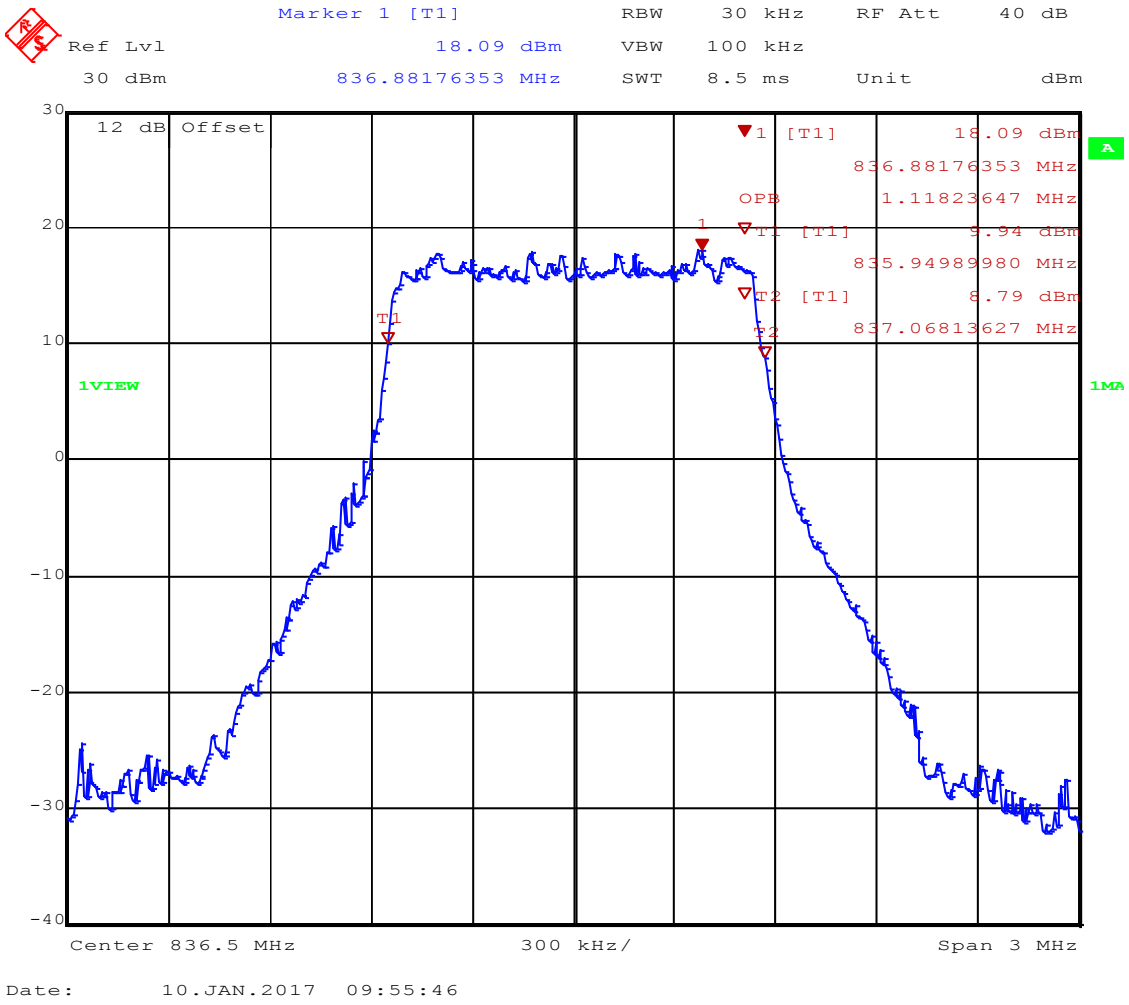


Occupied Bandwidth – LTE 5_QPSK-BW1.4 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20525 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.118 MHz

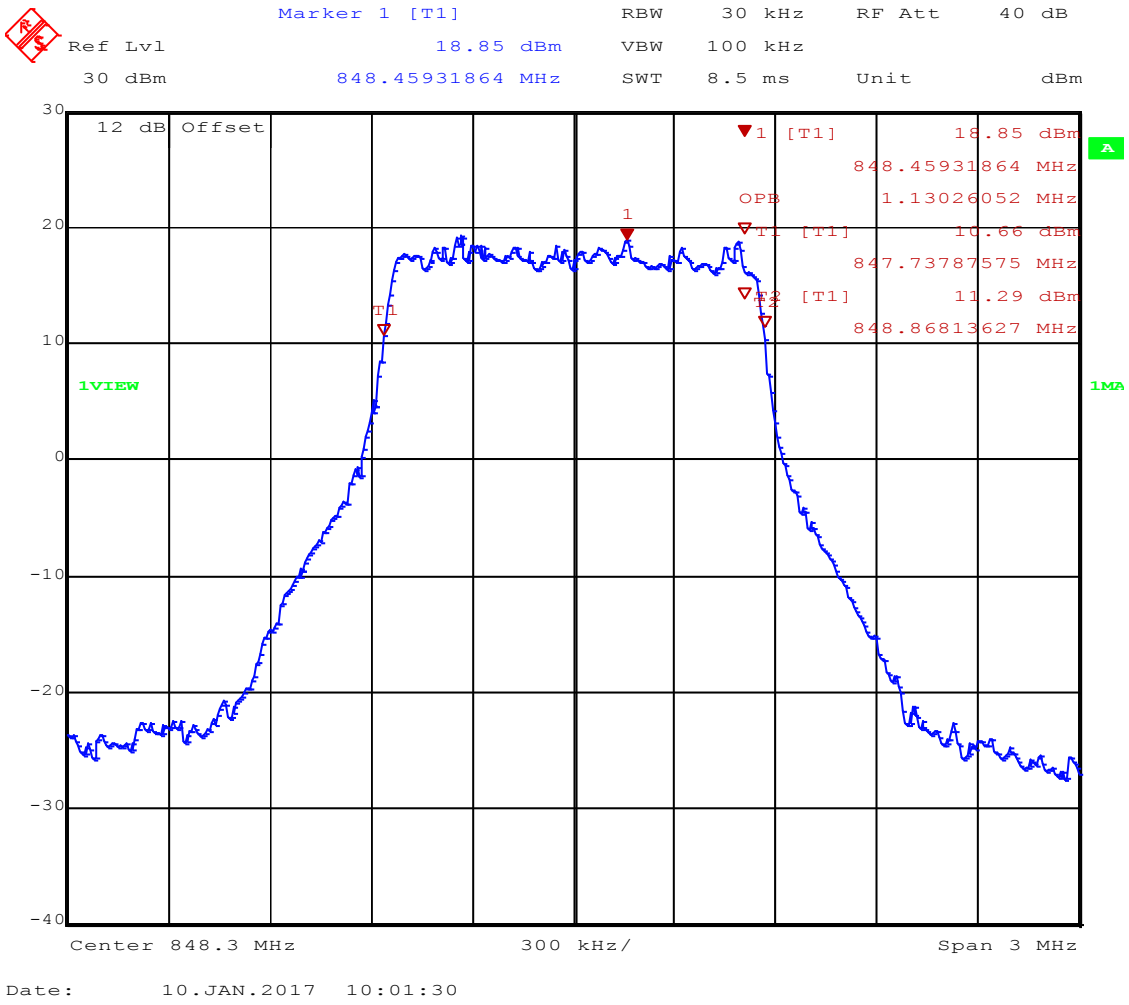


Occupied Bandwidth – LTE 5_QPSK-BW1.4 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20643 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.130 MHz

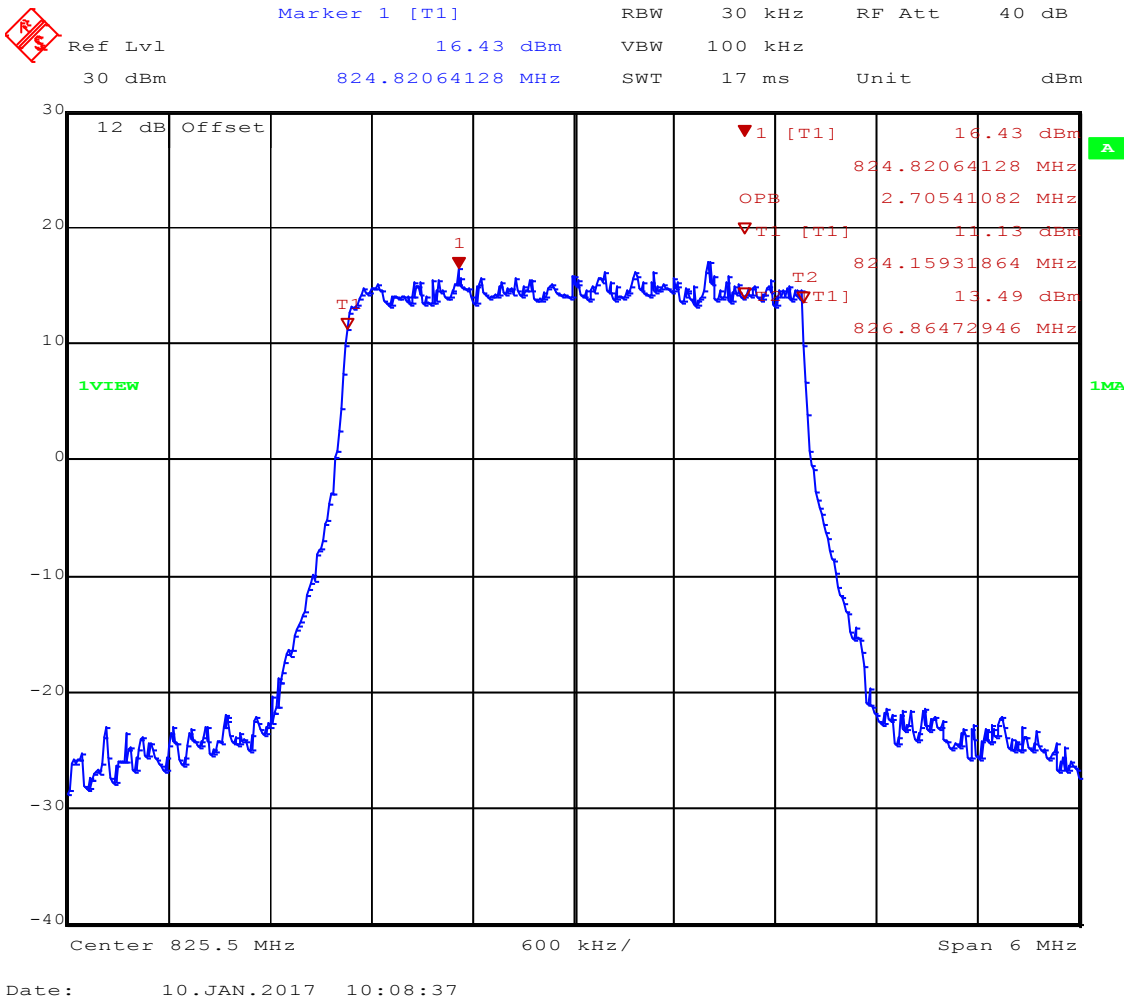


Occupied Bandwidth – LTE 5_QPSK-BW3 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20415 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.705 MHz

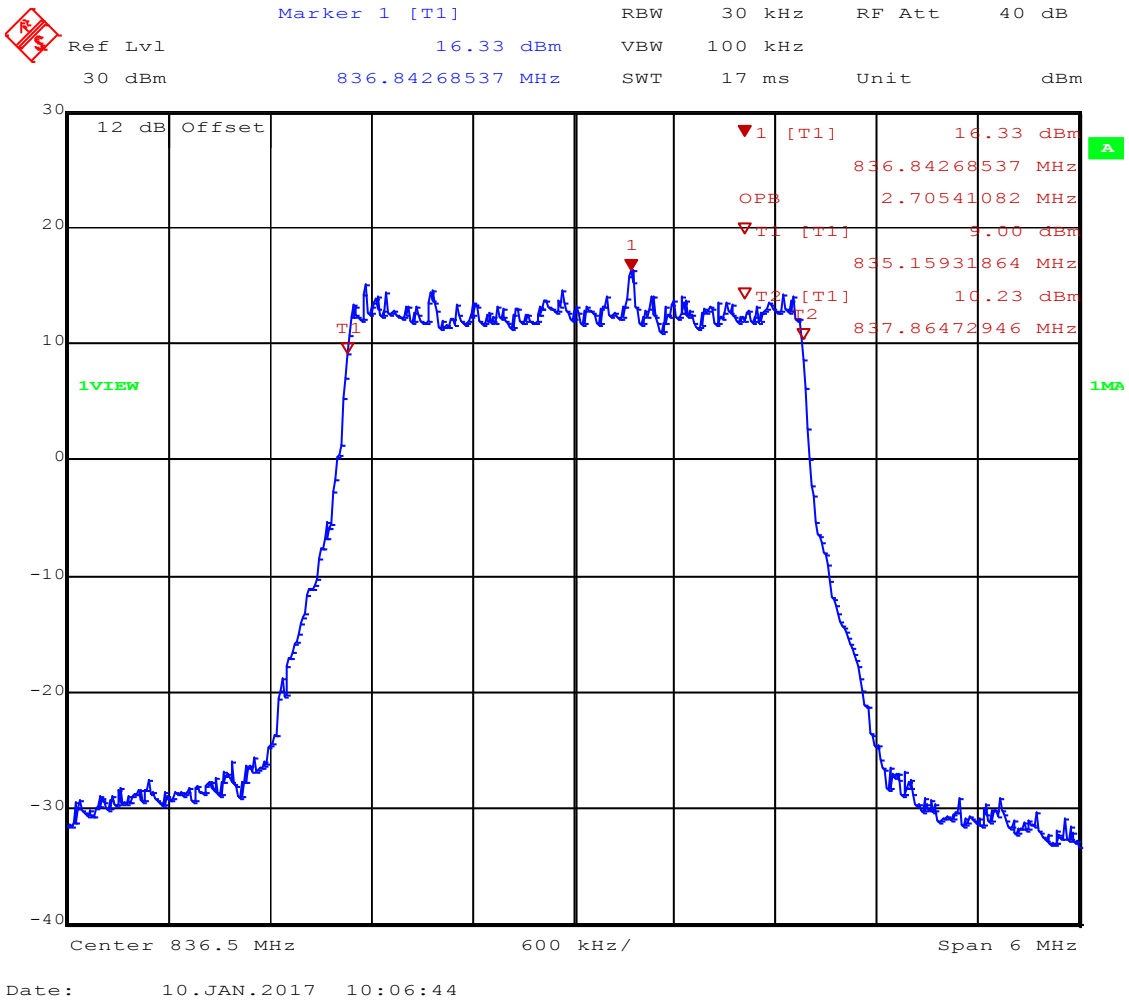


Occupied Bandwidth – LTE 5_QPSK-BW3 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20525 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.705 MHz

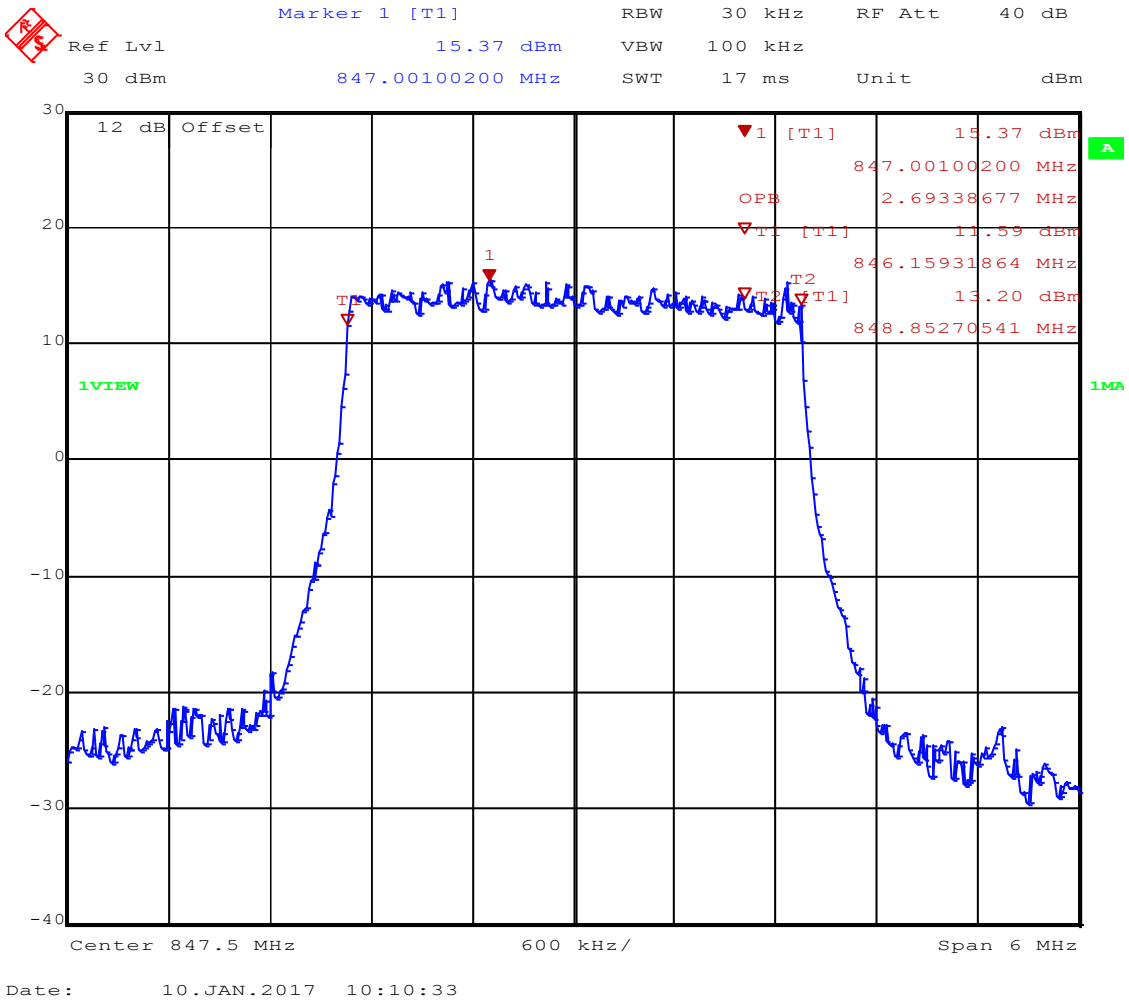


Occupied Bandwidth – LTE 5_QPSK-BW3 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20635 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.693 MHz

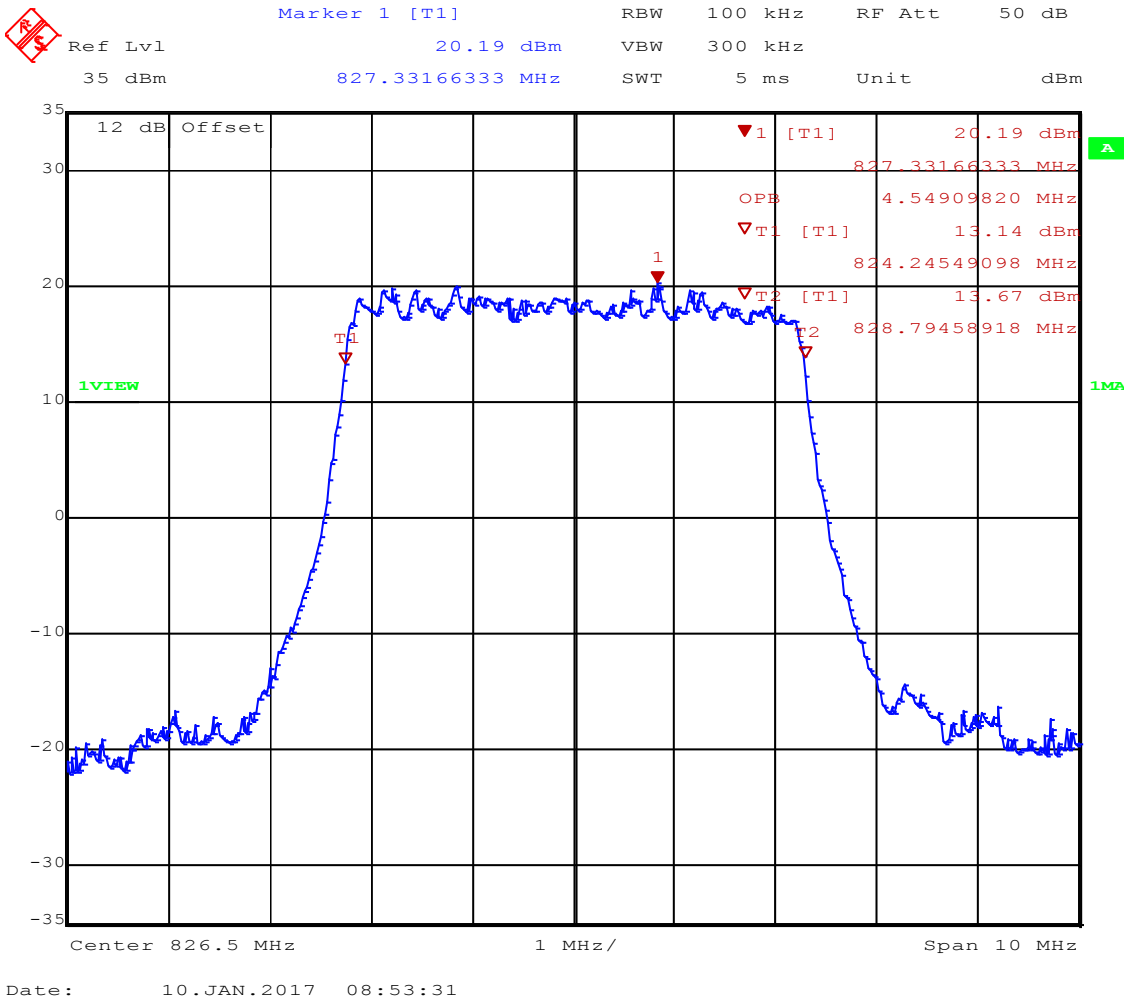


Occupied Bandwidth – LTE 5_QPSK-BW5 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20425 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.549 MHz

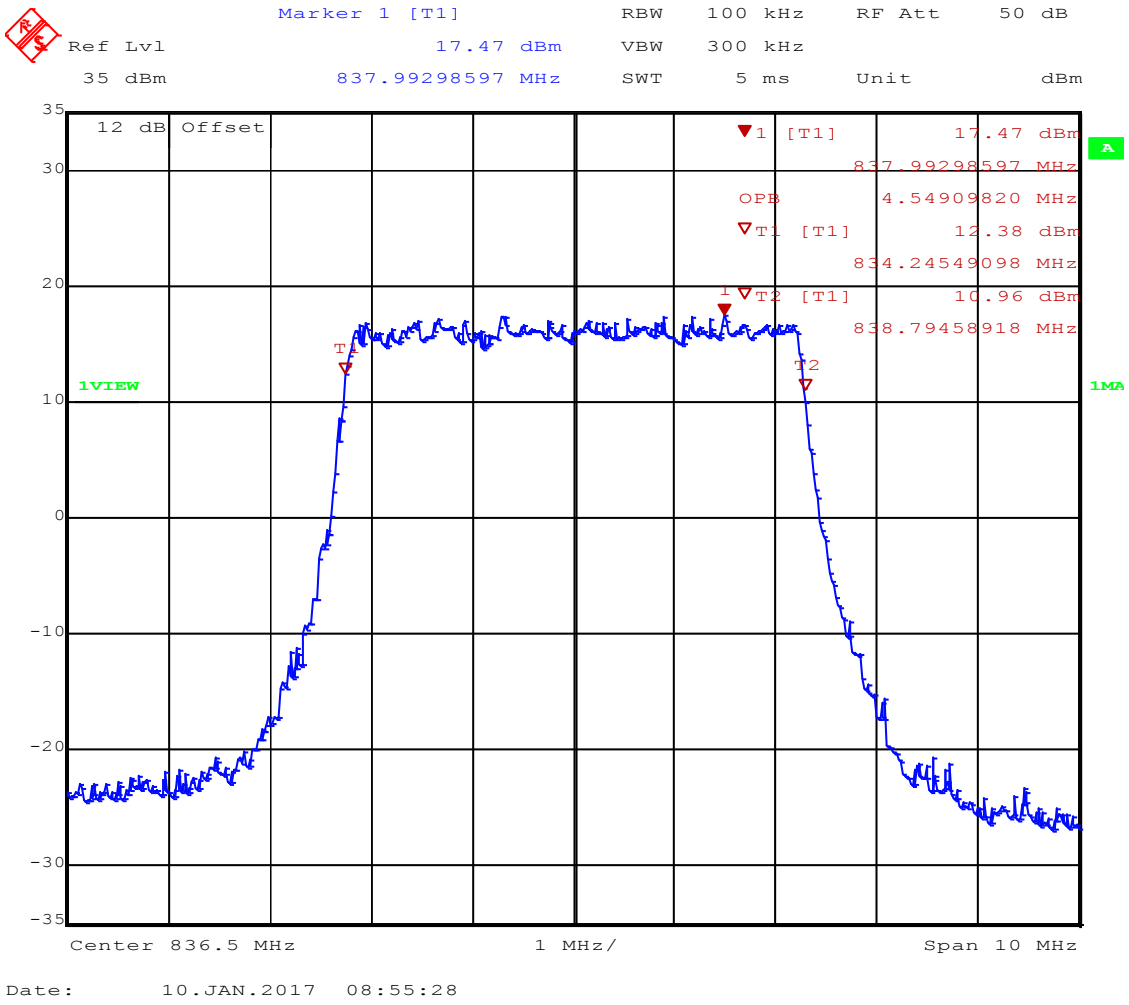


Occupied Bandwidth – LTE 5_QPSK-BW5 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20525 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.549 MHz

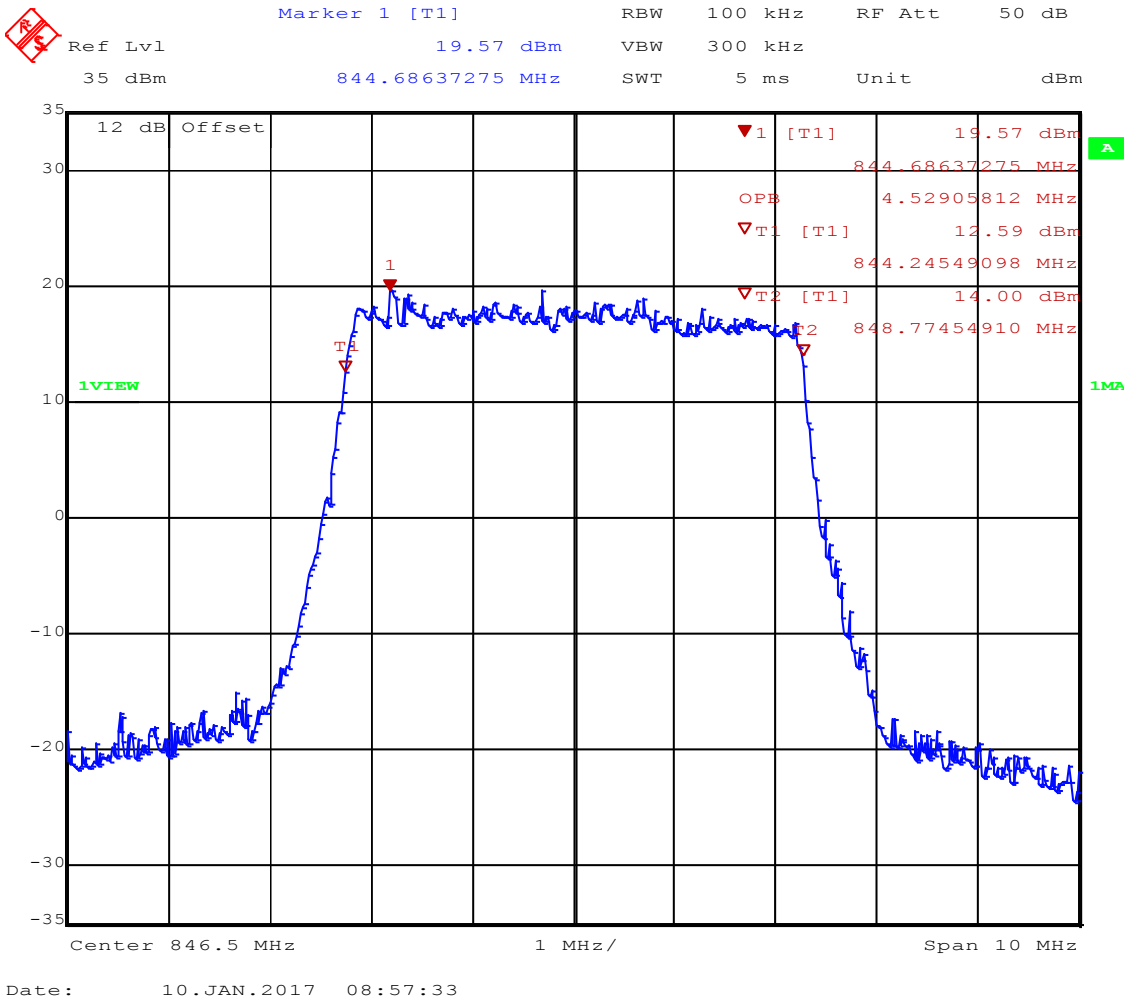


Occupied Bandwidth – LTE 5_QPSK-BW5 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20625 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.529 MHz

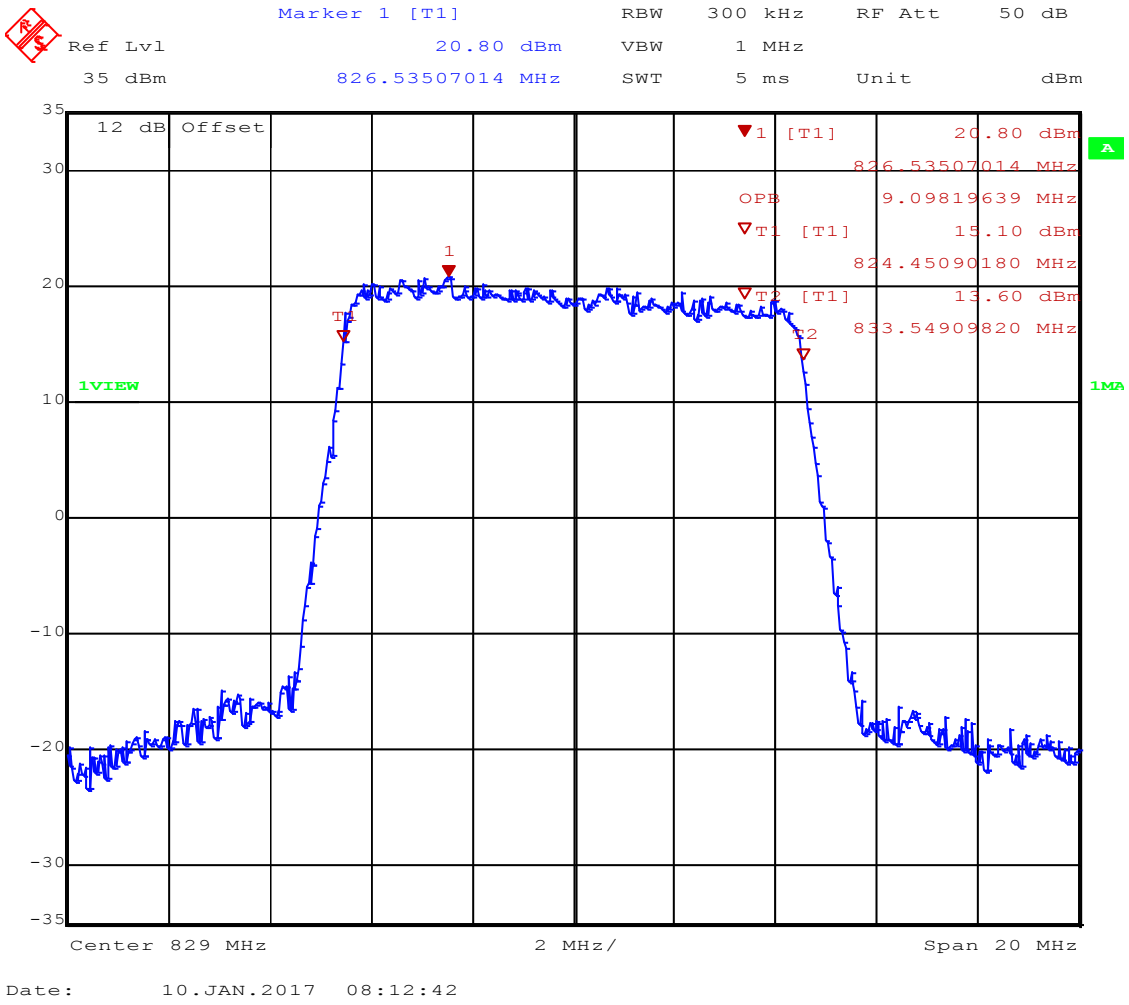


Occupied Bandwidth – LTE 5_QPSK-BW10 F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20450 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.098 MHz

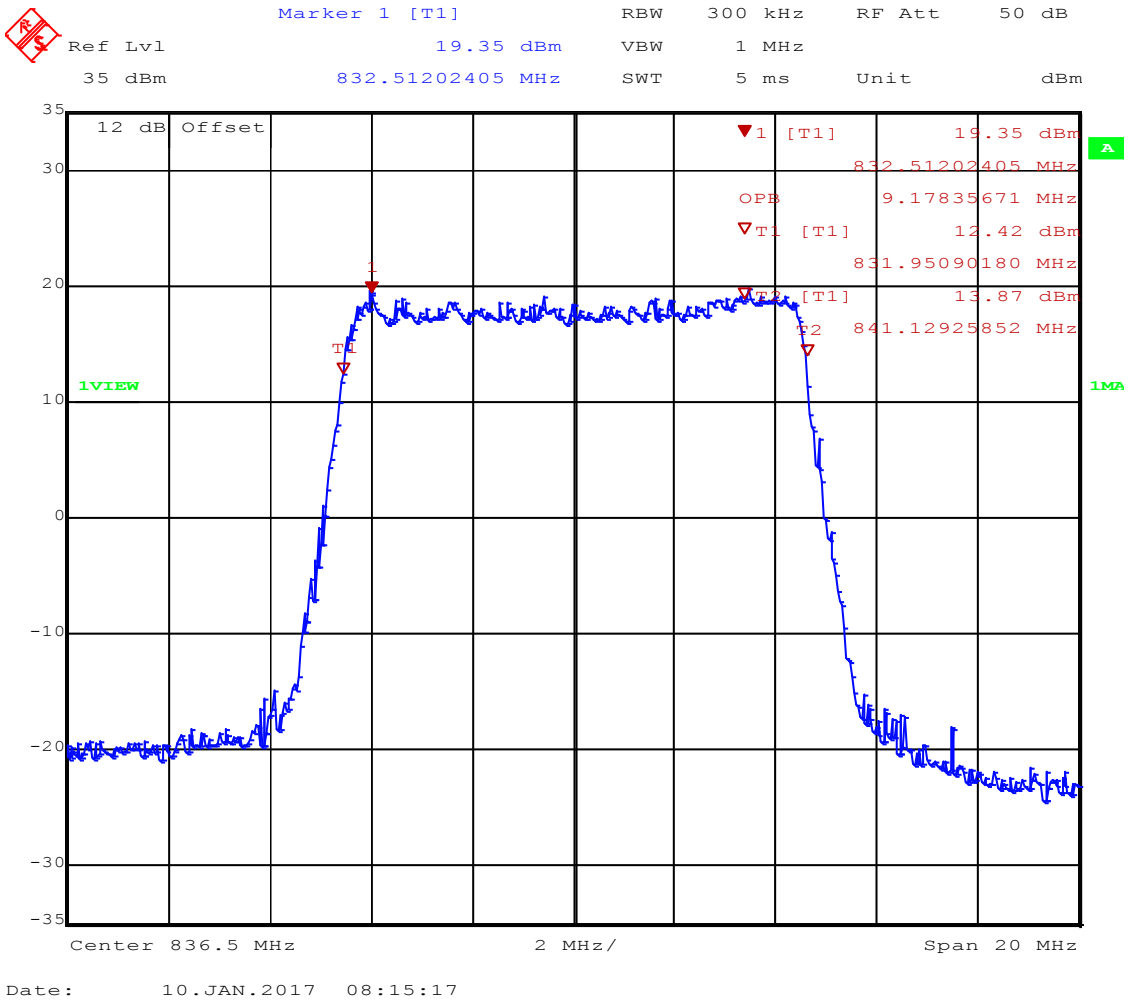


Occupied Bandwidth – LTE 5_QPSK-BW10 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20525 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.178 MHz

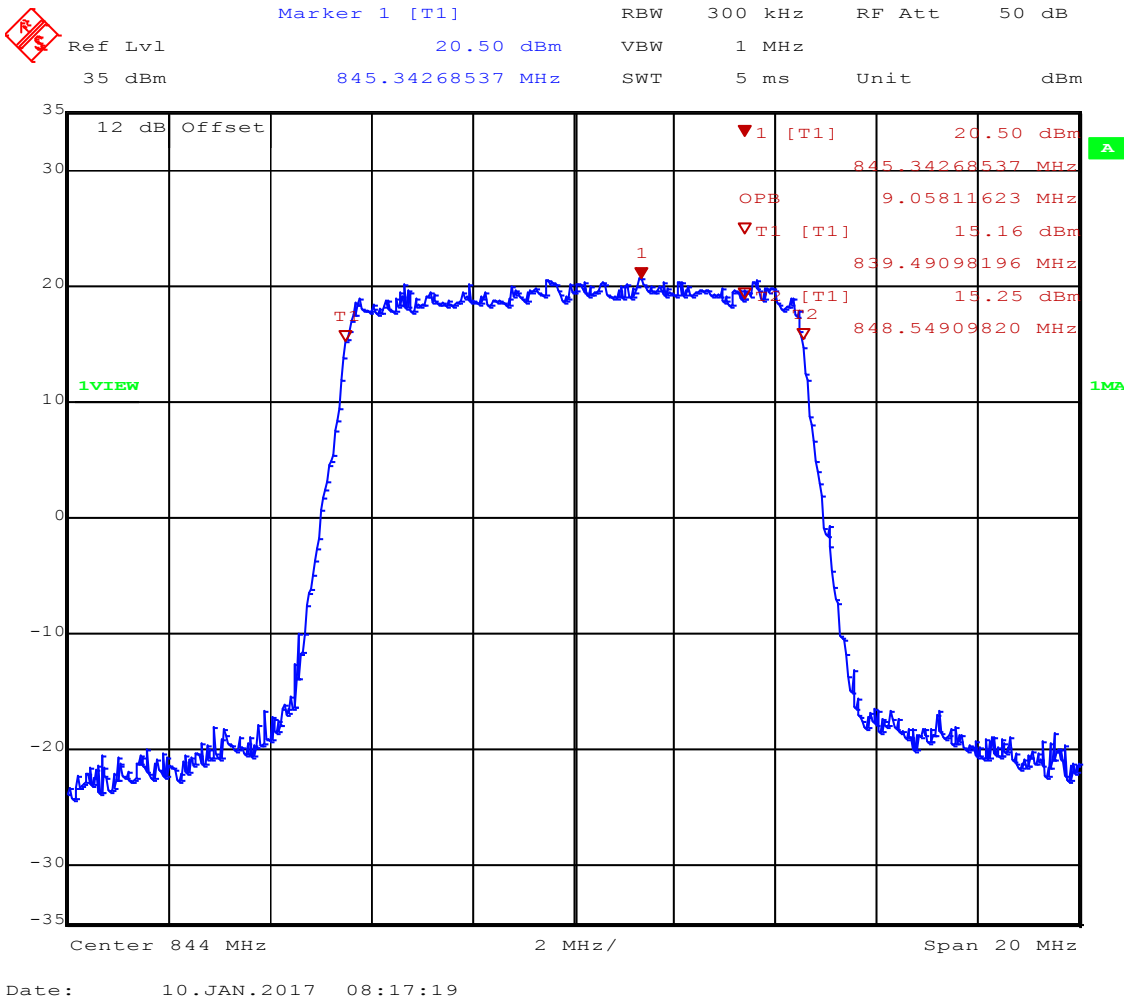


Occupied Bandwidth – LTE 5_QPSK-BW10 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 5 / CH: 20600 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.058 MHz

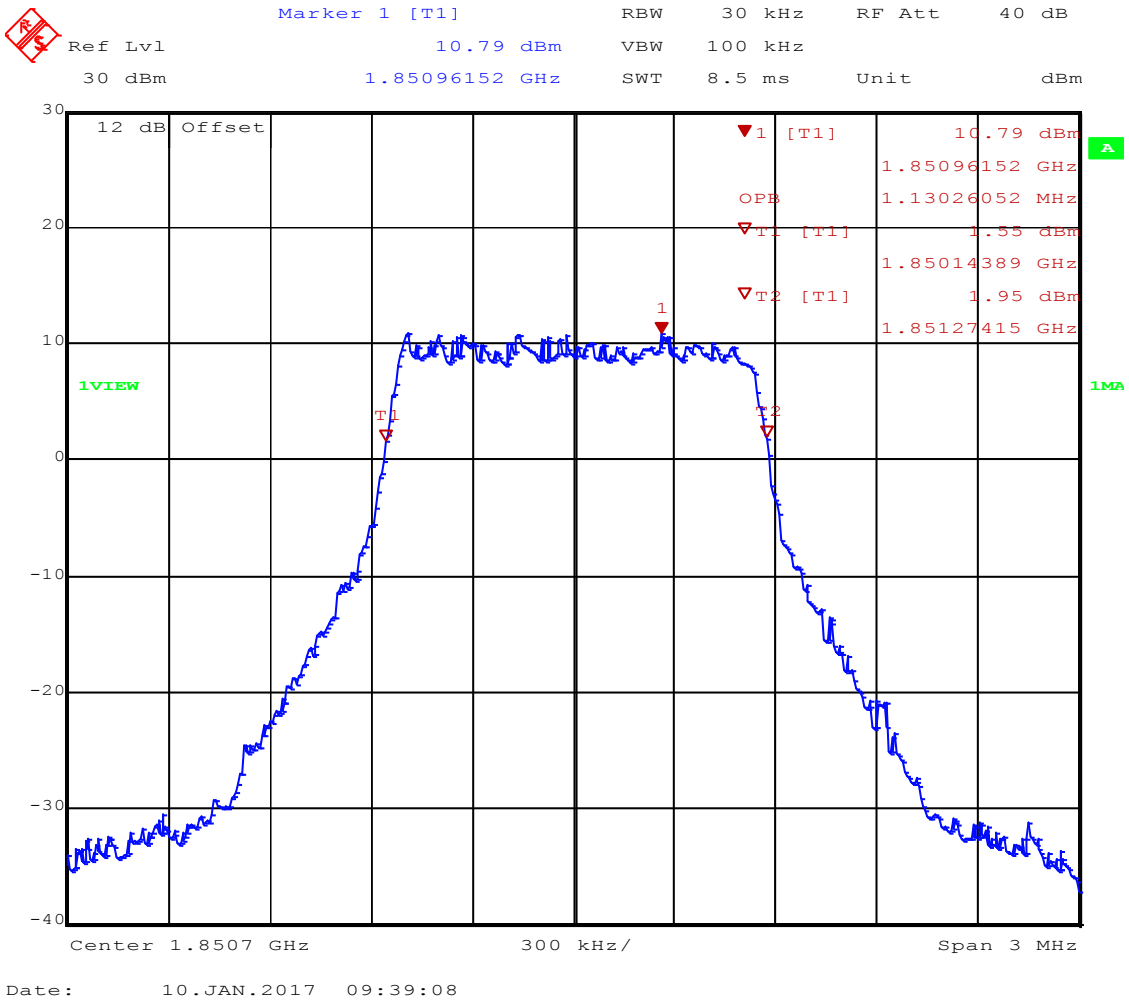


Occupied Bandwidth – LTE 2_QPSK-BW1.4 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18607 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.130 MHz

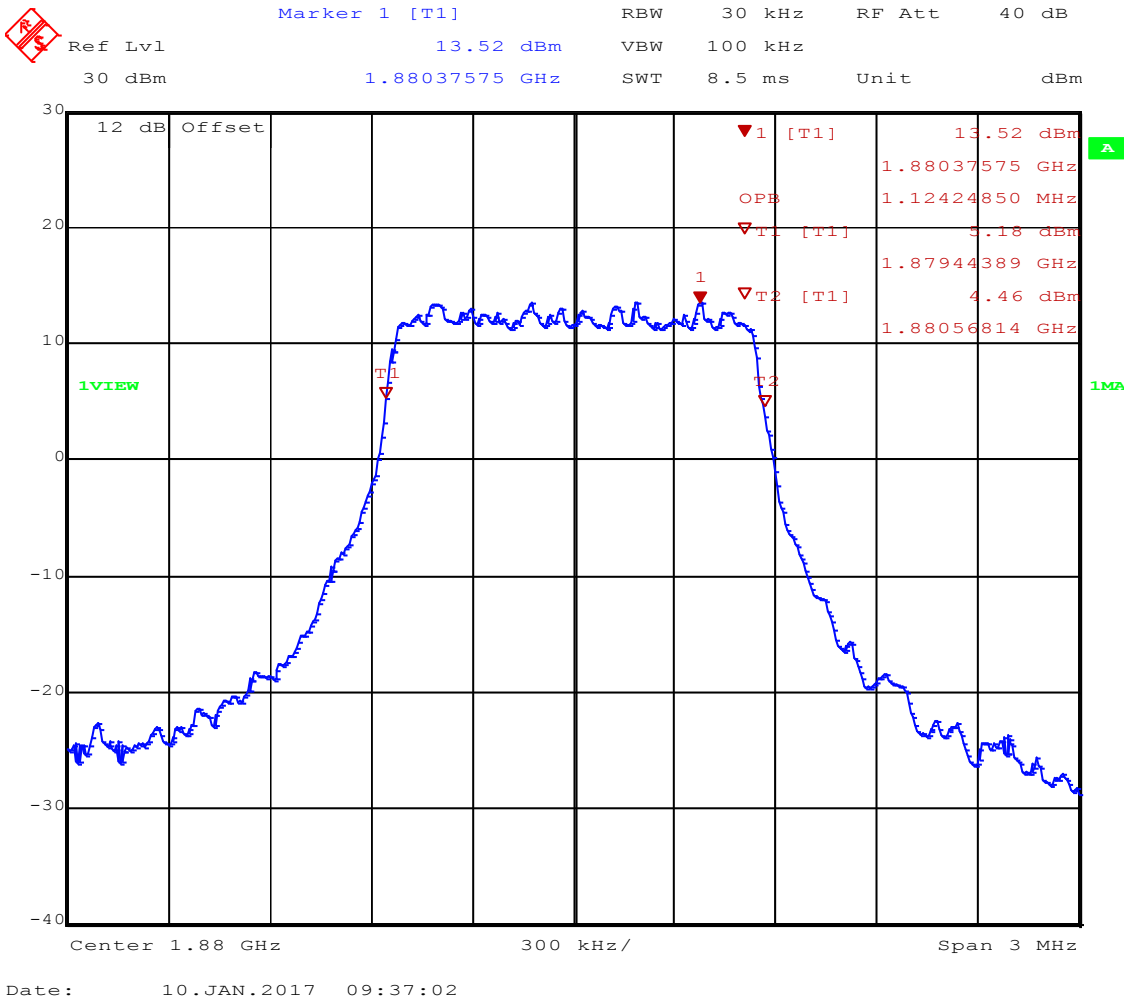


Occupied Bandwidth – LTE 2_QPSK-BW1.4 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.124 MHz

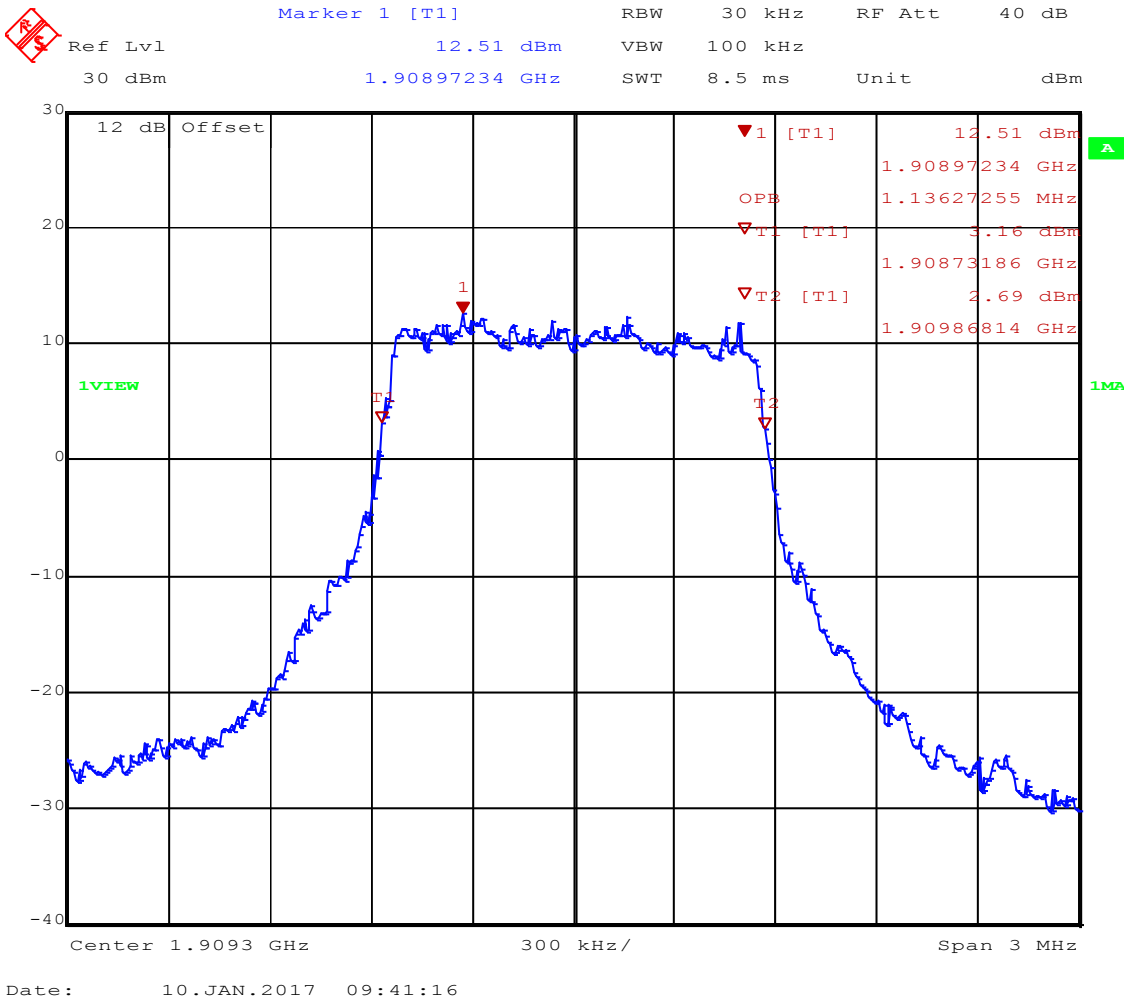


Occupied Bandwidth – LTE 2_QPSK-BW1.4 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19193 / BW: 1.4MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 1.136 MHz

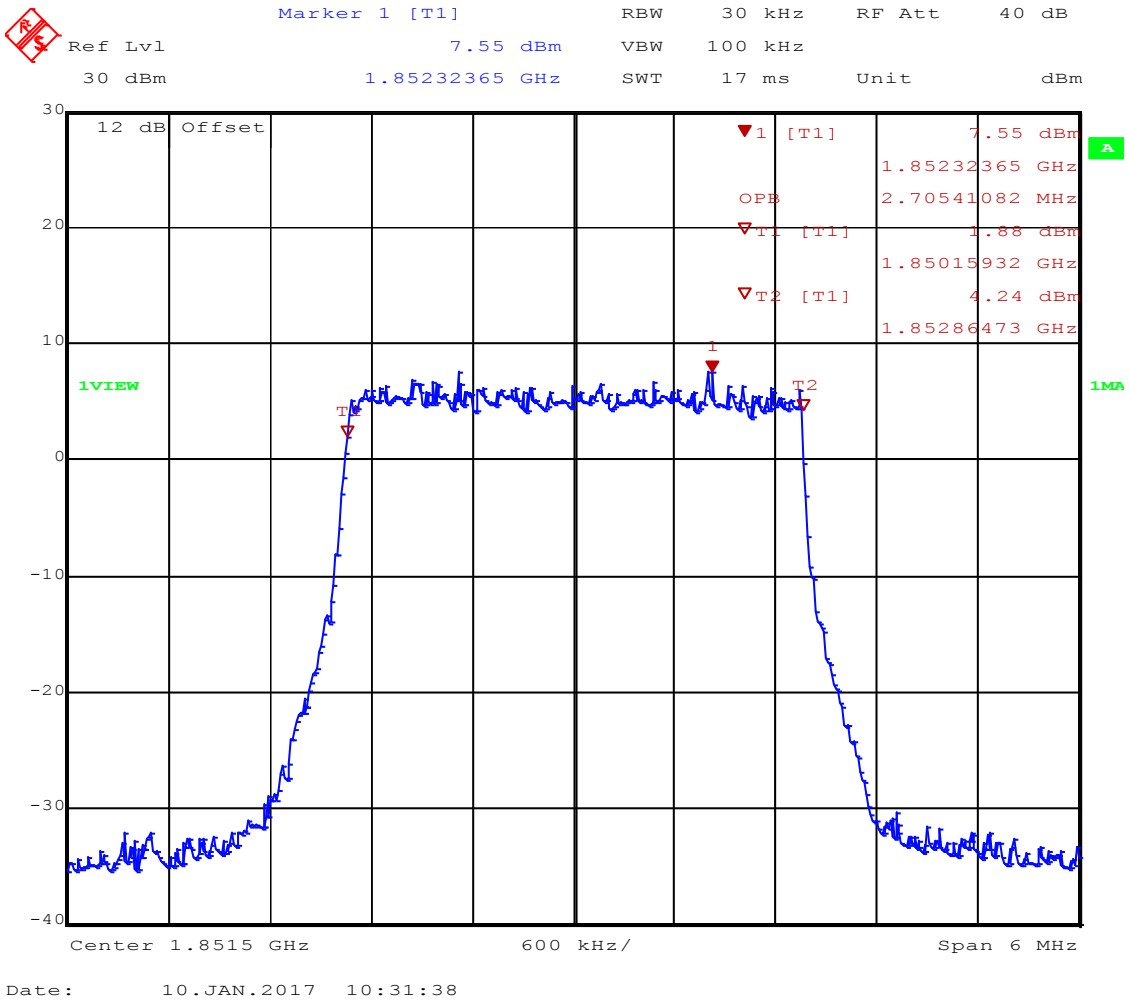


Occupied Bandwidth – LTE 2_QPSK-BW3 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18615 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.705 MHz

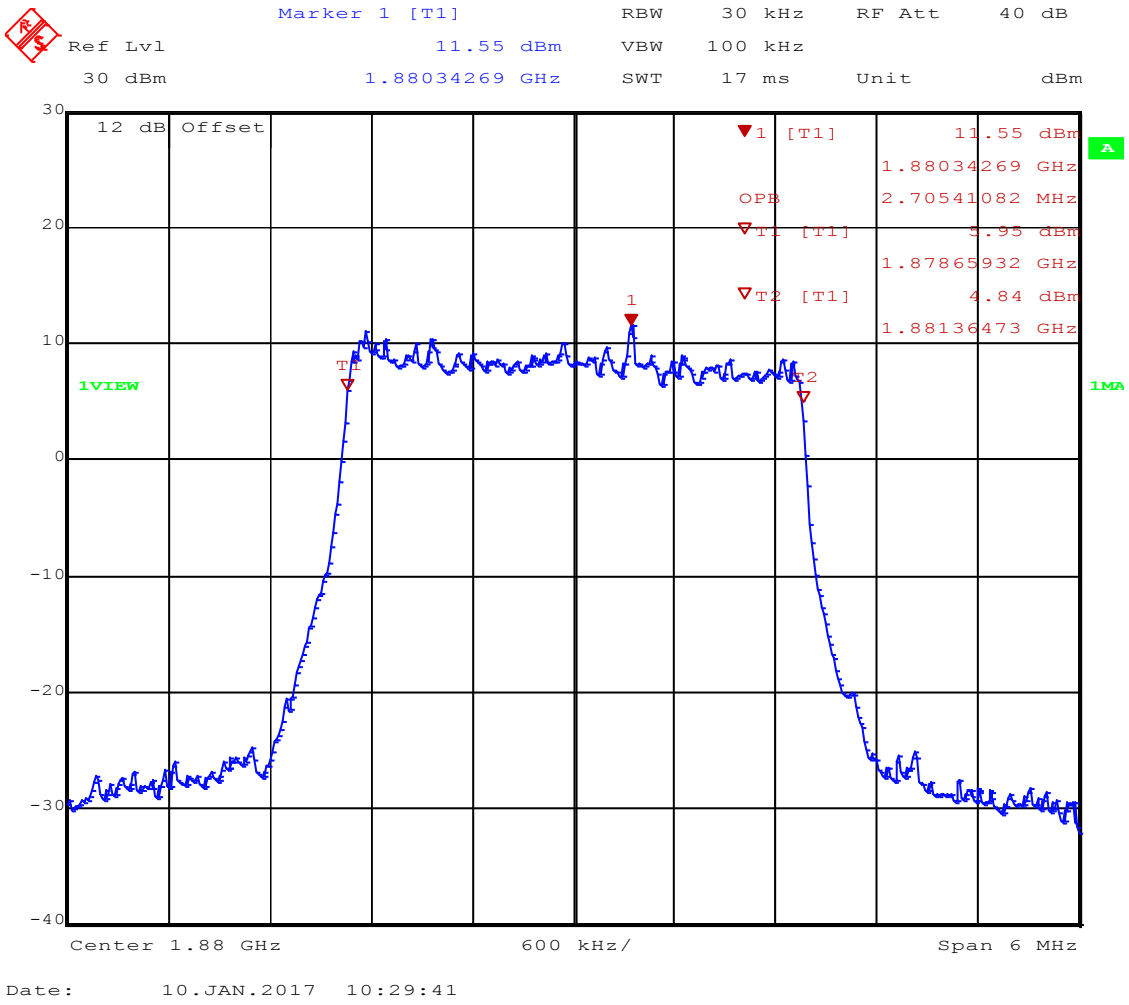


Occupied Bandwidth – LTE 2_QPSK-BW3 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.705 MHz

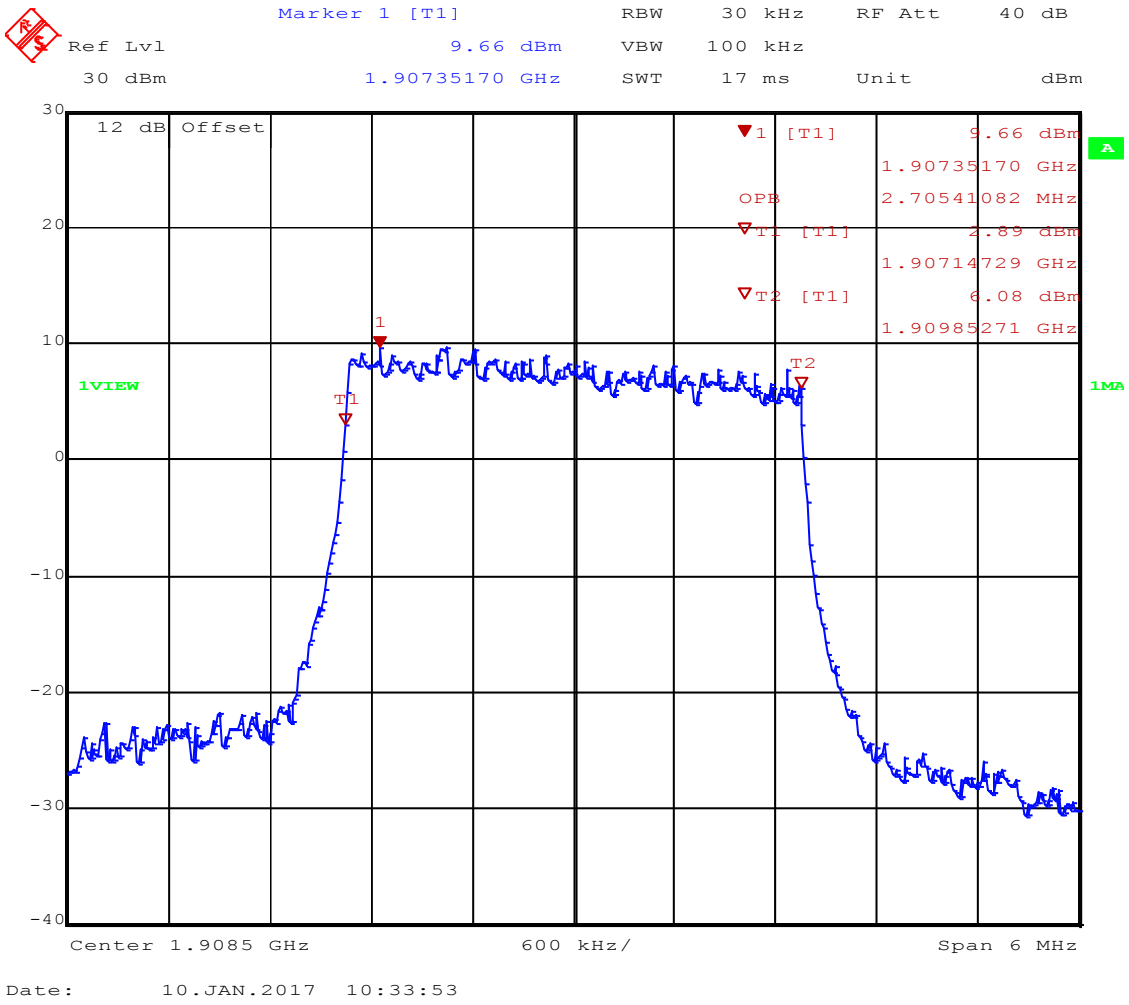


Occupied Bandwidth – LTE 2_QPSK-BW3 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19185 / BW: 3MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 2.705 MHz

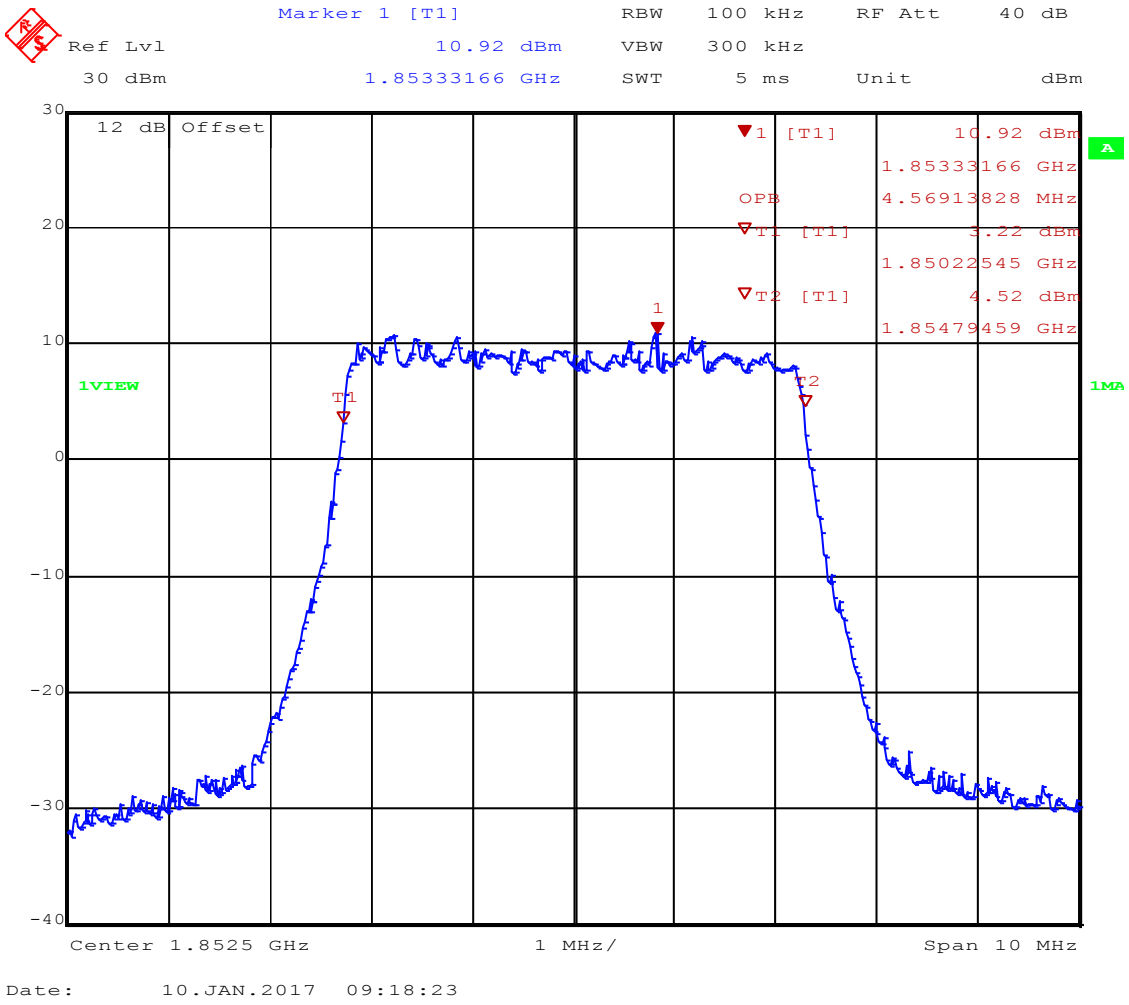


Occupied Bandwidth – LTE 2_QPSK-BW5 F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18625 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.569 MHz

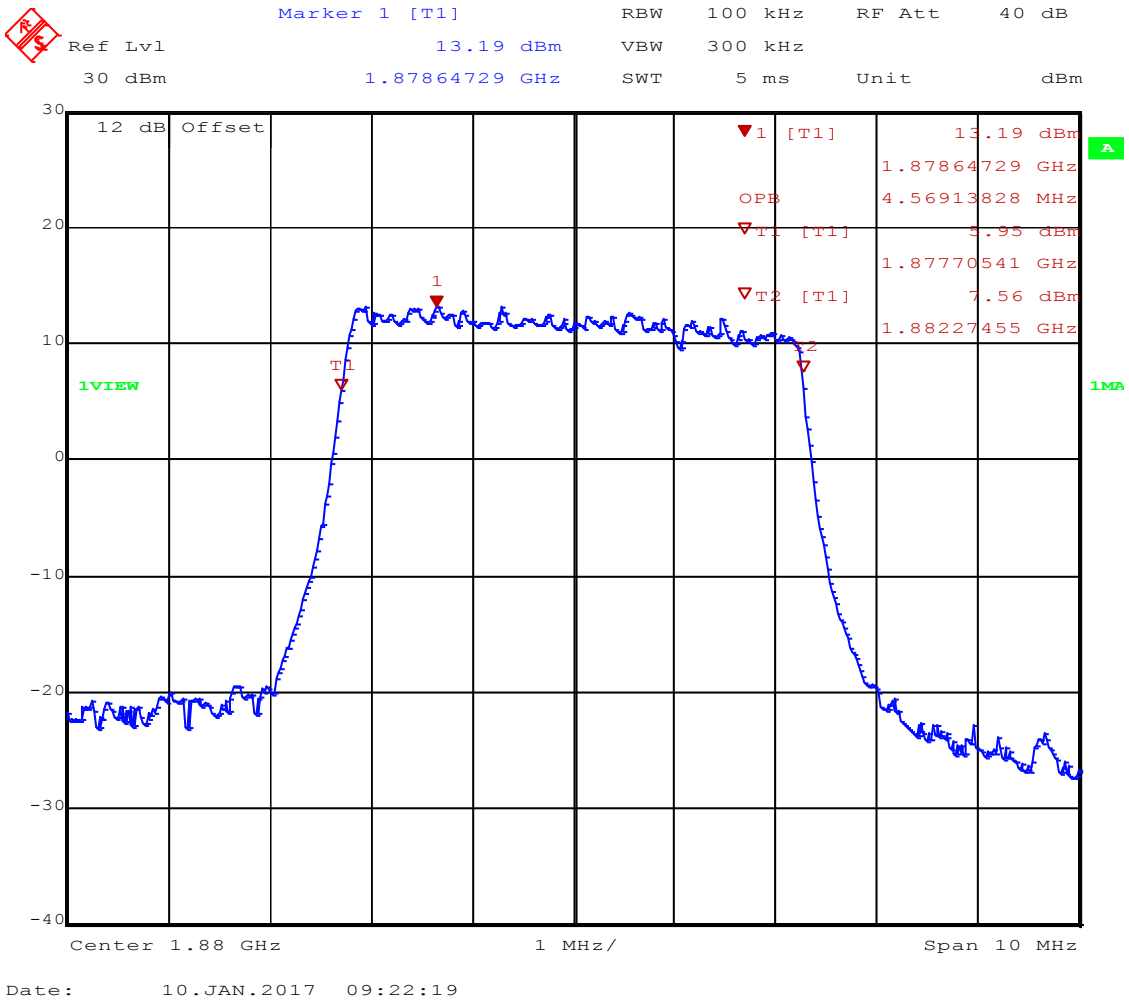


Occupied Bandwidth – LTE 2_QPSK-BW5 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.569 MHz

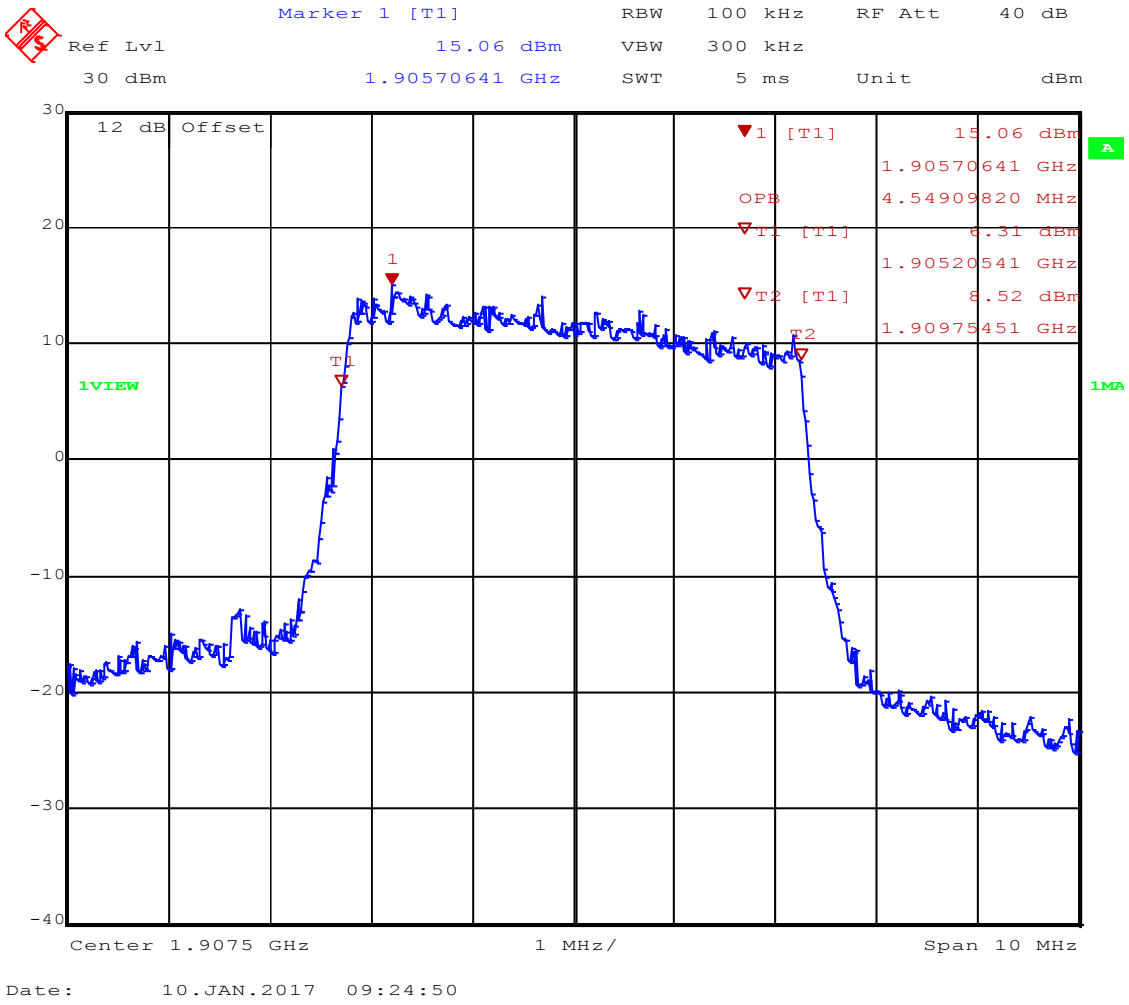


Occupied Bandwidth – LTE 2_QPSK-BW5 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19175 / BW: 5MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.549 MHz

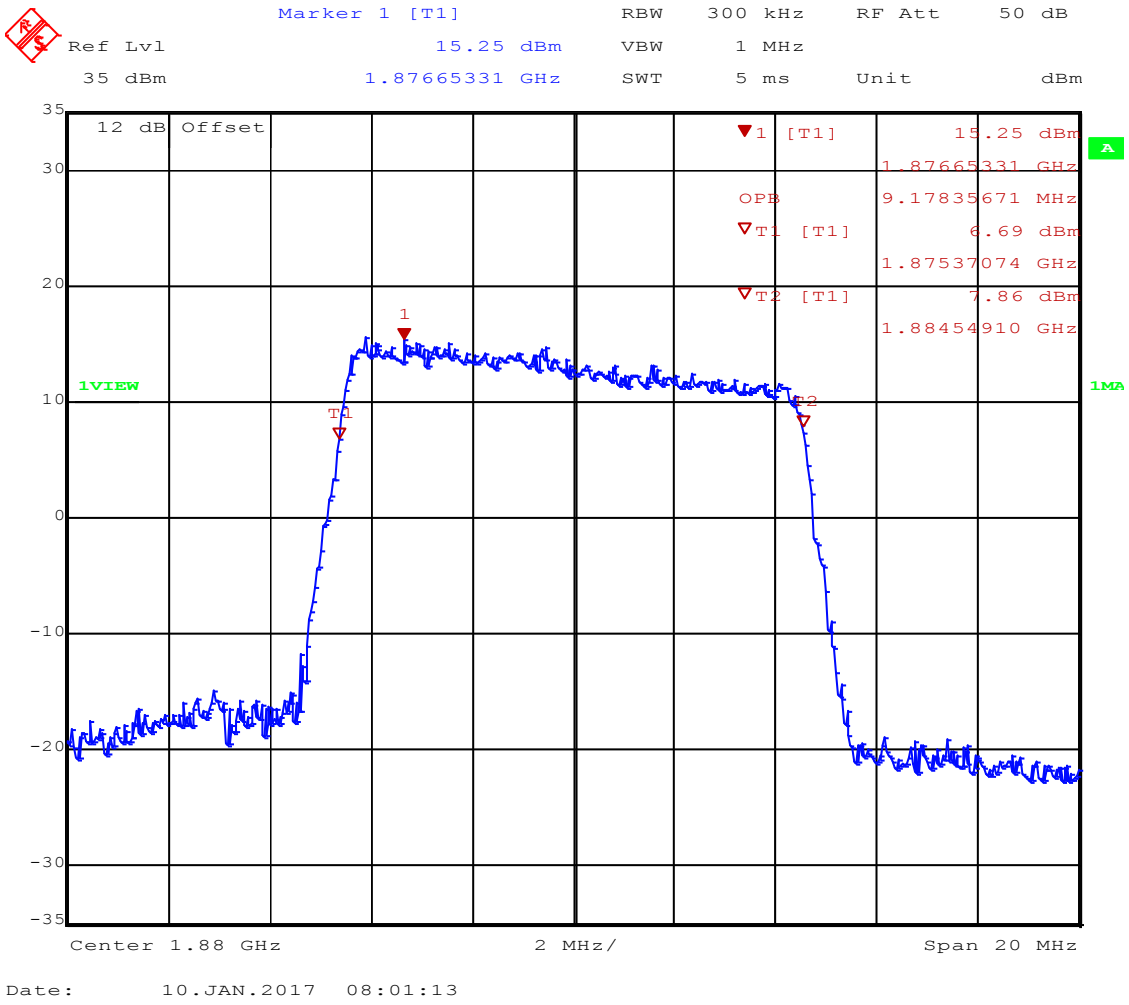


Occupied Bandwidth – LTE 2_QPSK-BW10 F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.178 MHz

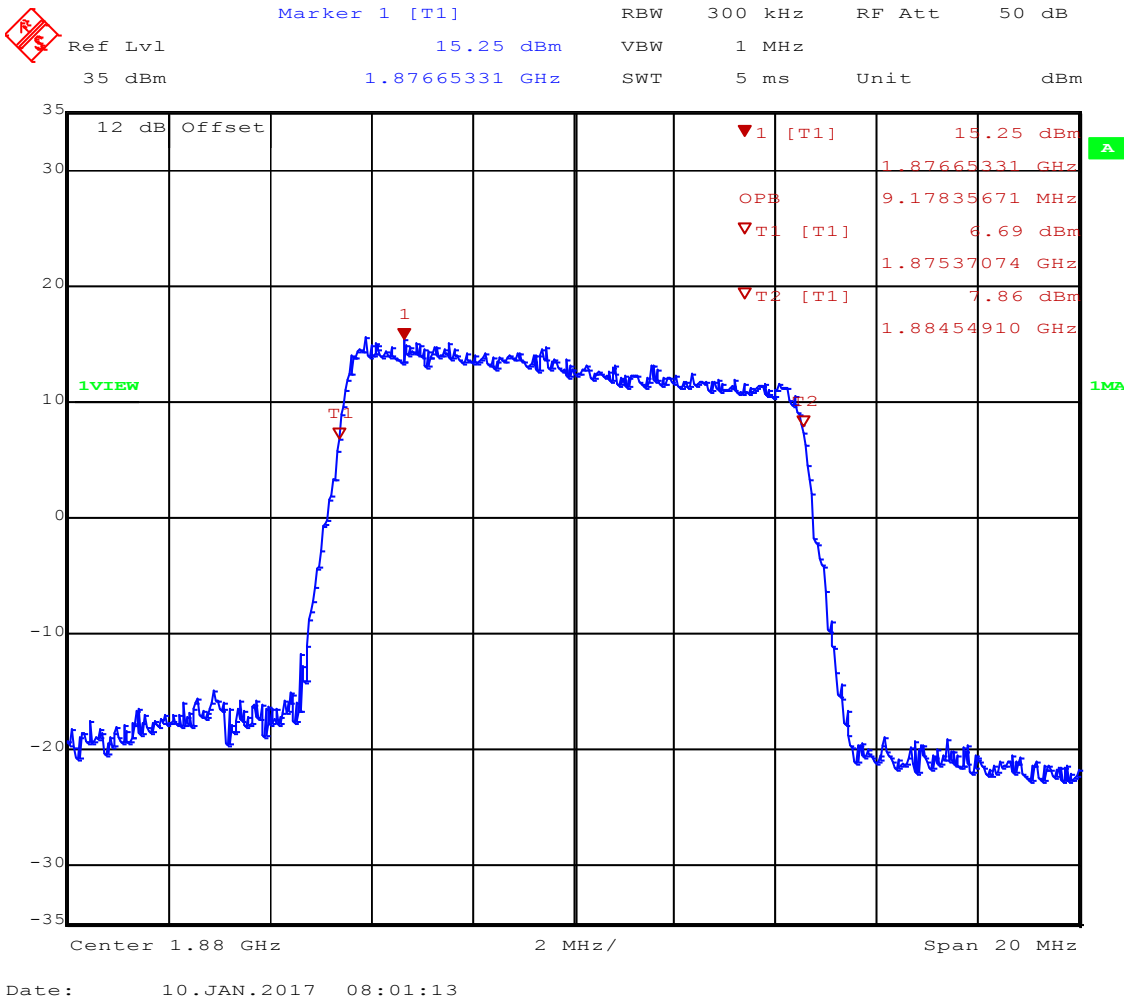


Occupied Bandwidth – LTE 2_QPSK-BW10 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.178 MHz

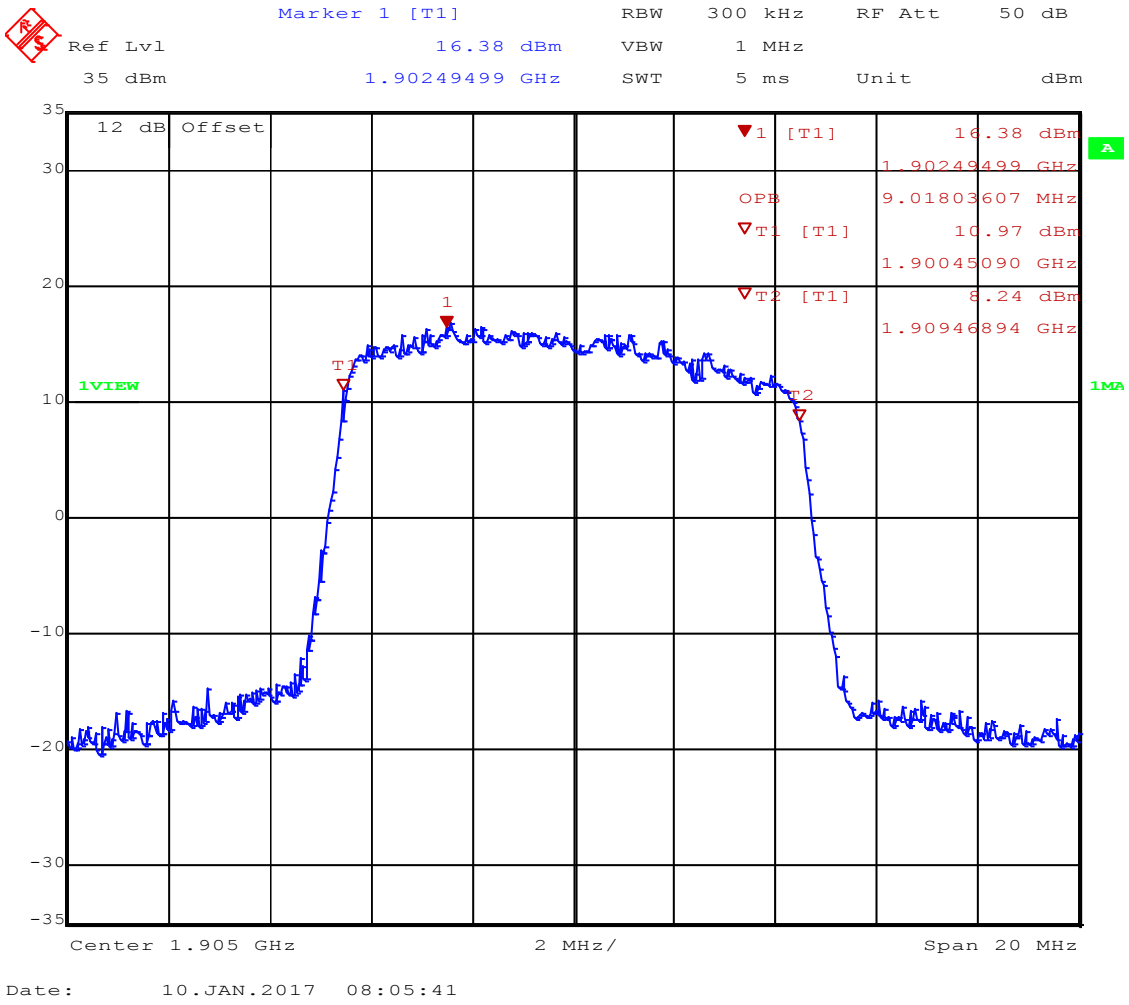


Occupied Bandwidth – LTE 2_QPSK-BW10 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19150 / BW: 10MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 9.018 MHz

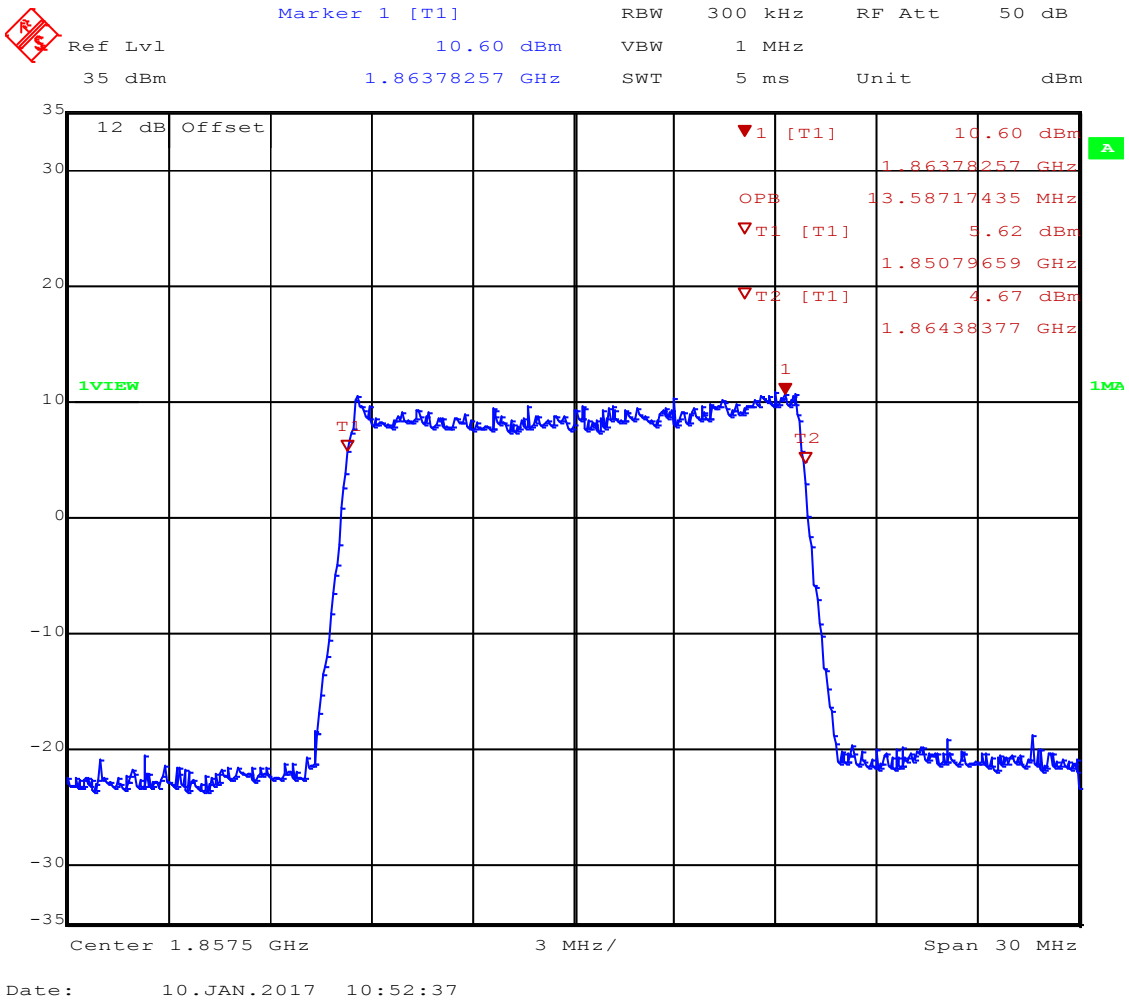


Occupied Bandwidth – LTE 2_QPSK-BW15 F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18675 / BW: 15MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 13.587 MHz

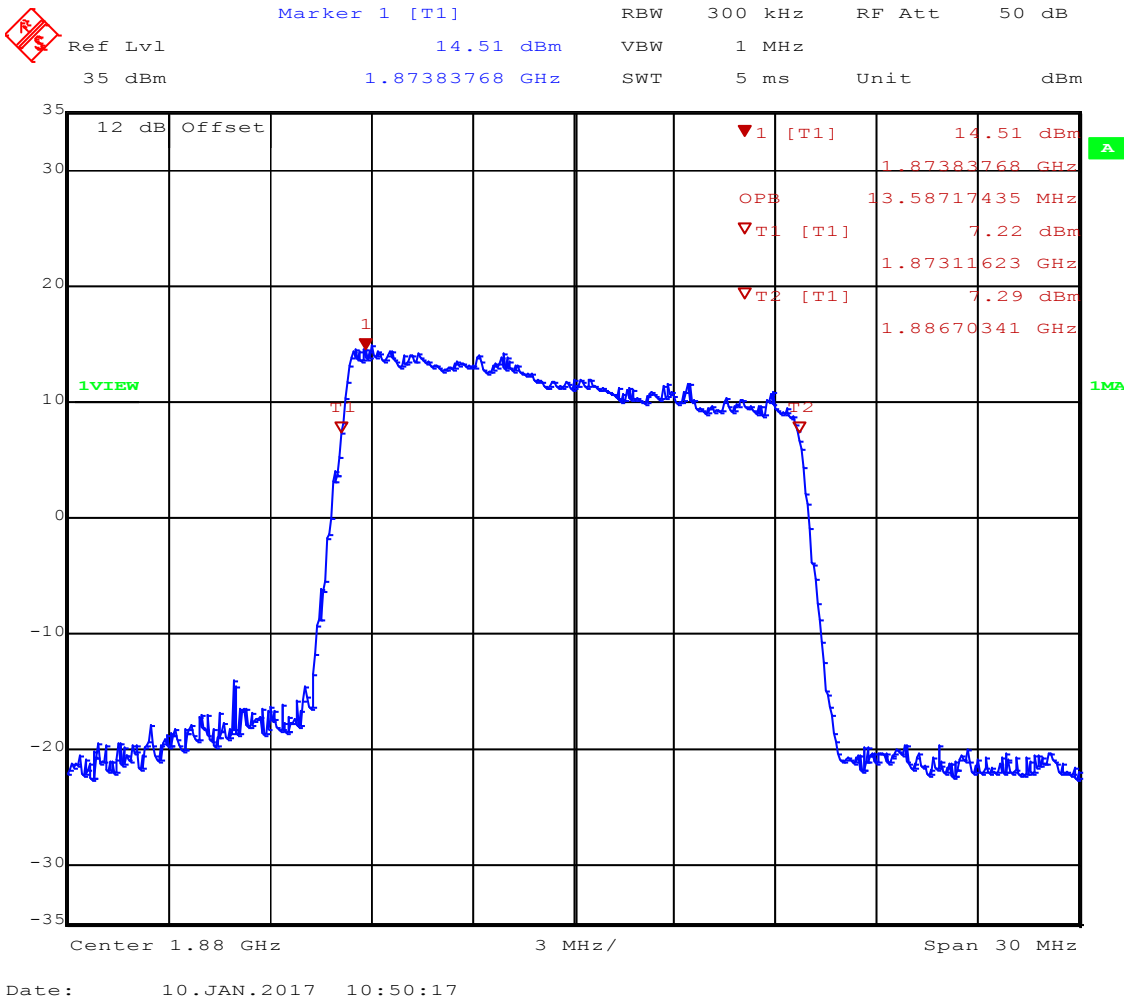


Occupied Bandwidth – LTE 2_QPSK-BW15 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 15MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 13.587 MHz

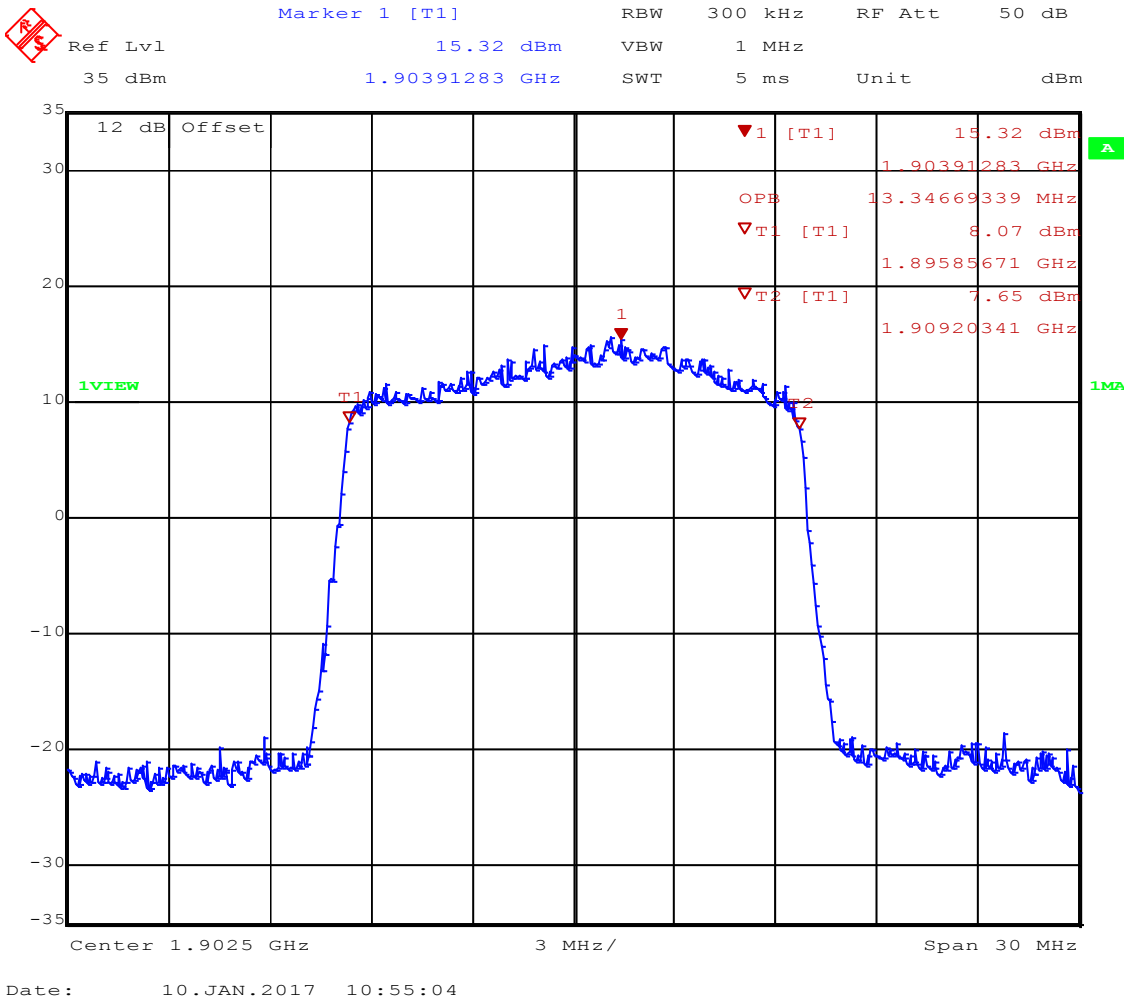


Occupied Bandwidth – LTE 2_QPSK-BW15 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19125 / BW: 15MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 13.347 MHz

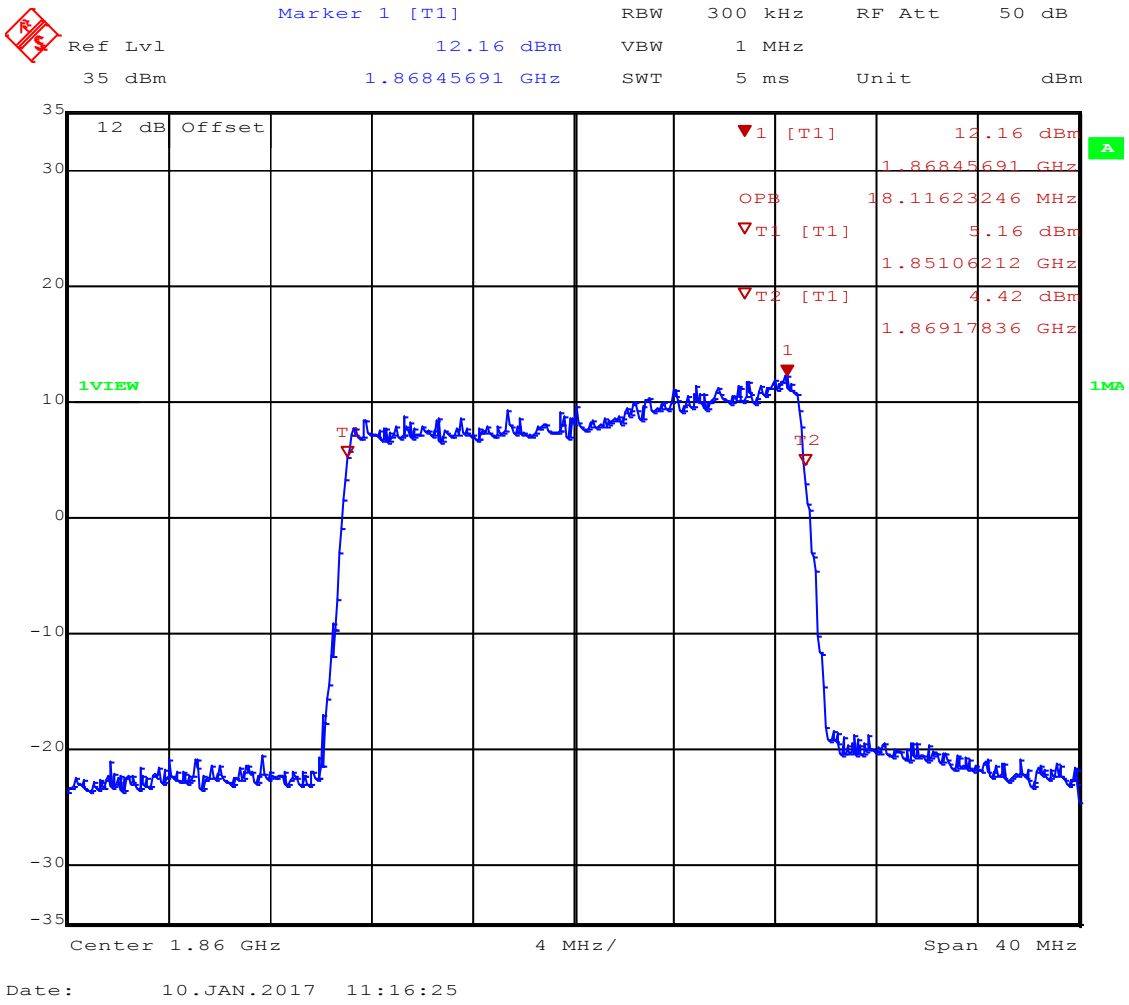


Occupied Bandwidth – LTE 2_QPSK-BW20 F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18700 / BW: 20MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 18.116 MHz

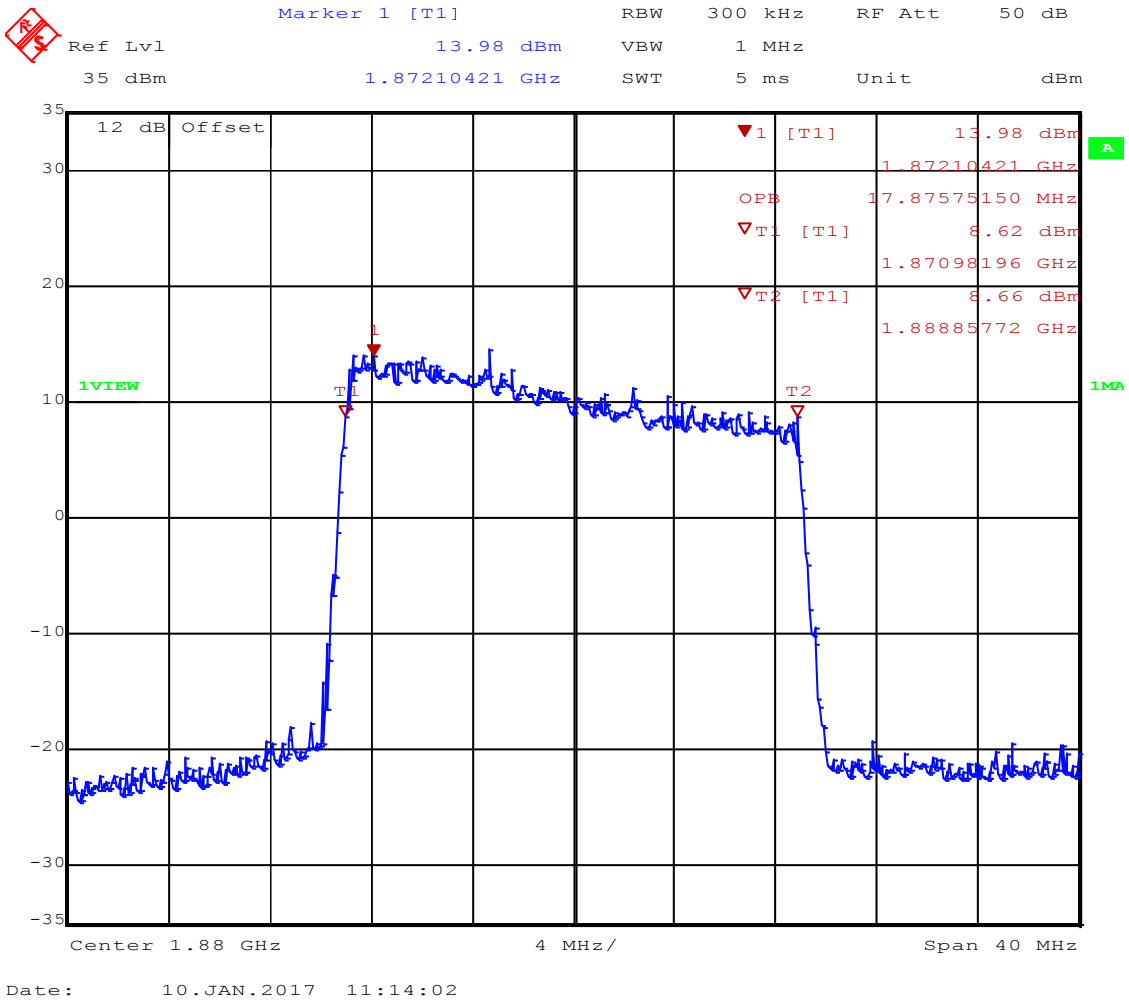


Occupied Bandwidth – LTE 2_QPSK-BW20 F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 18900 / BW: 20MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 17.876 MHz

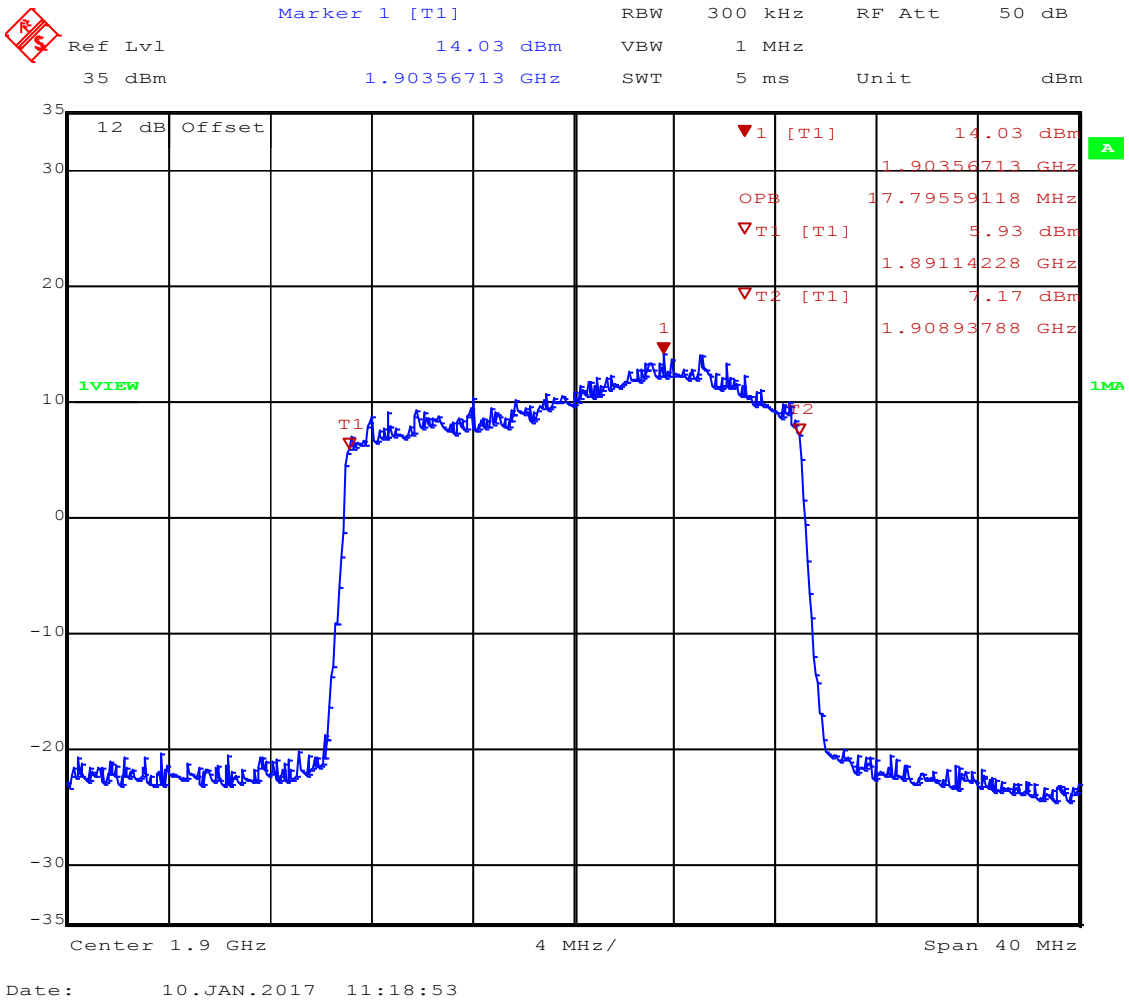


Occupied Bandwidth – LTE 2_QPSK-BW20 F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1607-5773

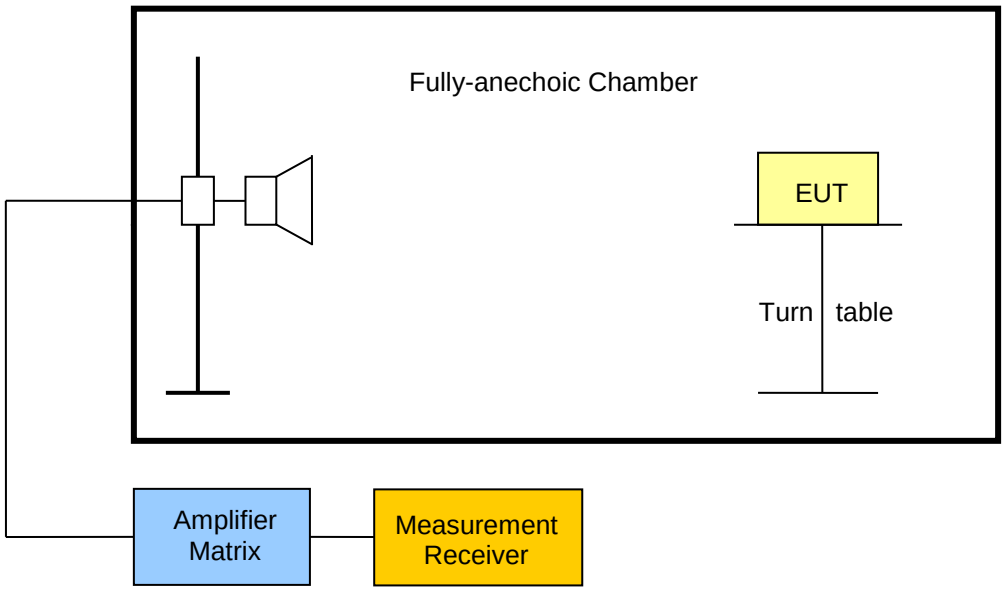
Applicant:	FALCOM GmbH
EUT Name:	UMTS/GSM/GPS/LTE-Device
Model:	FOX3-4G-NA
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	LTE FDD 2 / CH: 19100 / BW: 20MHz; QPSK
Test Date:	2017-01-10
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 17.796 MHz



3.2 Test Conditions and Results – Effective radiated power / Equivalent isotropic radiated power

Radiated power acc. to FCC 22H / FCC 24E / ISED RSS-132 / ISED RSS-133		**Verdict: PASS**
EUT requirement rule parts and clause	Reference	
	FCC § 22.913(a) / FCC § 24.232(c) ISED RSS-132 § 4.4 / ISED RSS-133 § 6.4	
Test according to measurement reference	Reference Method	
	FCC § 22.913(a) / FCC § 24.232(c) / ANSI/TIA-603-D ISED RSS-132 § 4.4 / ISED RSS-133 § 6.4 / ANSI C63.26-2015 5.2	
Test frequency range	Tested frequencies	
	F_{LOW} / F_{MID} / F_{HIGH}	
Limits		
Carrier Frequency range	Equipment type	Power limit
824-849 MHz	Mobile transmitter	FCC : 7 Watts (38.45 dBm) e.r.p. IC : 11.5 Watts (40.60 dBm) e.i.r.p.
1850-1910 MHz	Mobile transmitter	FCC : 2 Watts (33 dBm) e.i.r.p. IC : 2 Watts (33 dBm) e.i.r.p.

Test setup



Test procedure

1. EUT set to test mode
2. The radiated power is measured with a measurement antenna in vertical polarization
3. To obtain maximum level the EUT is rotated
4. The EUT is replaced with a half-wave dipole and the power to the dipole is adjusted to obtain same radiated power measurement value

Test results – GSM850 E.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.r.p]	Limit [dBm e.r.p]	Margin [dB]	Result
F_{LOW}	826.6	FDD - CS	Hor	22.1	38.45	-16.35	PASS
F_{MID}	835.0	FDD - CS	Hor	21.5	38.45	-16.95	PASS
F_{HIGH}	846.4	FDD - CS	Hor	22.4	38.45	-16.05	PASS
F_{LOW}	829.0	QPSK BW 10	Hor	21.2	38.45	-17.25	PASS
F_{MID}	836.5	QPSK BW 10	Hor	23.4	38.45	-15.05	PASS
F_{HIGH}	844.0	QPSK BW 10	Hor	24.9	38.45	-14.45	PASS
Test results – GSM850 E.I.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.i.r.p]	Limit [dBm e.i.r.p]	Margin [dB]	Result
F_{LOW}	826.6	FDD - CS	Hor	24.25	40.6	-16.35	PASS
F_{MID}	835.0	FDD - CS	Hor	23.65	40.6	-16.95	PASS
F_{HIGH}	846.4	FDD - CS	Hor	24.55	40.6	-16.05	PASS
F_{LOW}	829.0	QPSK BW 10	Hor	23.35	40.6	-17.25	PASS
F_{MID}	836.5	QPSK BW 10	Hor	25.65	40.6	-15.05	PASS
F_{HIGH}	844.0	QPSK BW 10	Hor	27.15	40.6	-14.45	PASS
Test results – GSM1900 E.I.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.i.r.p]	Limit [dBm e.i.r.p]	Margin [dB]	Result
F_{LOW}	1852.6	FDD - CS	Hor	15.3	33	-17.7	PASS
F_{MID}	1880.0	FDD - CS	Hor	17.4	33	-15.6	PASS
F_{HIGH}	1907.4	FDD - CS	Hor	15.5	33	-17.5	PASS
F_{LOW}	1855.0	QPSK BW 10	Hor	15.3	33	-17.7	PASS
F_{MID}	1880.0	QPSK BW 10	Hor	17.8	33	-15.2	PASS
F_{HIGH}	1905.0	QPSK BW 10	Hor	16.6	33	-16.4	PASS
Comments:							

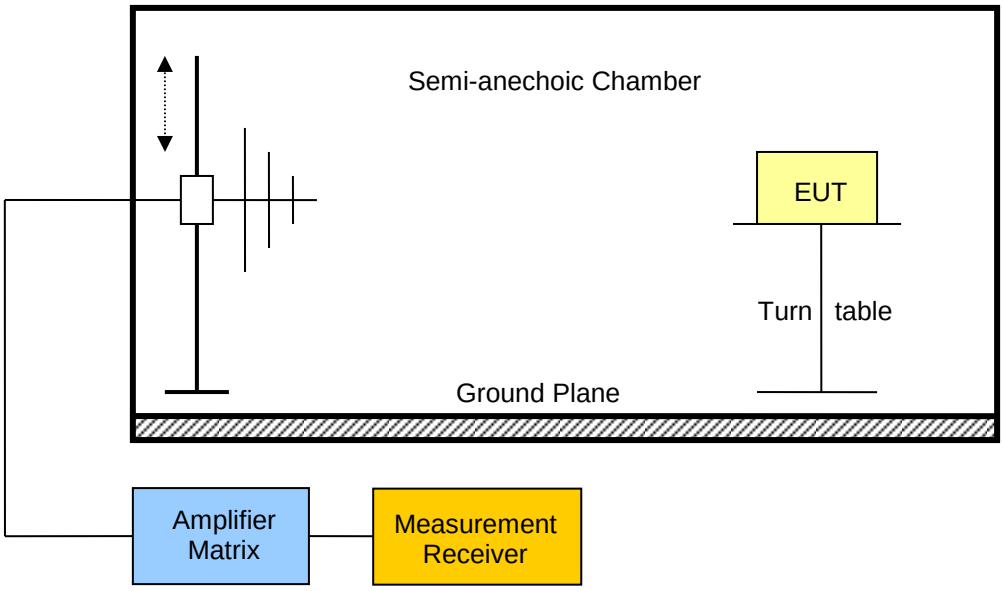
3.3 Test Conditions and Results – Transmitter radiated emissions

Transmitter radiated power acc. to FCC 22H / FCC 24E / ISED RSS-132 / ISED RSS-133	**Verdict: PASS**
Test according referenced standards	Reference Method
	FCC § 22.917(a) / FCC § 24.238(a) ISED RSS-132 § 4.5 / ISED RSS-133 § 6.5
Test according to measurement reference	Reference Method
	ANSI/TIA-603-D / ANSI C63.26-2015 5.5
Test frequency range	Tested frequencies
	30 MHz – 10th Harmonic

Limits

Carrier Frequency range	Limit
824-849 MHz	Attenuation below transmitter power ≥ 43 + 10 · $\log_{10}$(P) [dB] = -13 dBm
1850-1910 MHz	Attenuation below transmitter power ≥ 43 + 10 · $\log_{10}$(P) [dB] = -13 dBm

Test setup



Test procedure

1. EUT set to test mode
2. Maximum emission level is measured by rotating the EUT and adjusting the antenna height for vertical polarization
3. The EUT is replaced by a substitution antenna and generator
4. The power level is set to obtain the same power reading
5. Measurement is repeated for horizontal polarization

Test results – W-CDMA FDD V							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
F_{LOW}	826.6	FDD - CS	845	-28	Hor	-13	-15
F_{MID}	835.0	FDD - CS	950	-25	Ver	-13	-12
F_{HIGH}	846.4	FDD - CS	895	-25	Ver	-13	-12
Comments:							

Test results – LTE 5							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
F_{LOW}	829.0	QPSK BW 10	845	-28	Hor	-13	-15
F_{MID}	836.5	QPSK BW 10	950	-26	Ver	-13	-13
F_{HIGH}	844.0	QPSK BW 10	930	-27	Hor	-13	-14
Comments:							

Test results – W-CDMA FDD II							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
F_{LOW}	1852.6	FDD - CS	705	-27	Ver	-13	-14
F_{MID}	1880	FDD - CS	950	-26	Hor	-13	-13
F_{HIGH}	1907.4	FDD - CS	895	-25	Hor	-13	-12
Comments:							

Test results – LTE II							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
F_{LOW}	1855.0	QPSK BW 10	880	-26	Ver	-13	-13
F_{MID}	1880.0	QPSK BW 10	950	-27	Hor	-13	-14
F_{HIGH}	1905.0	QPSK BW 10	895	-27	Hor	-13	-14
Comments:							

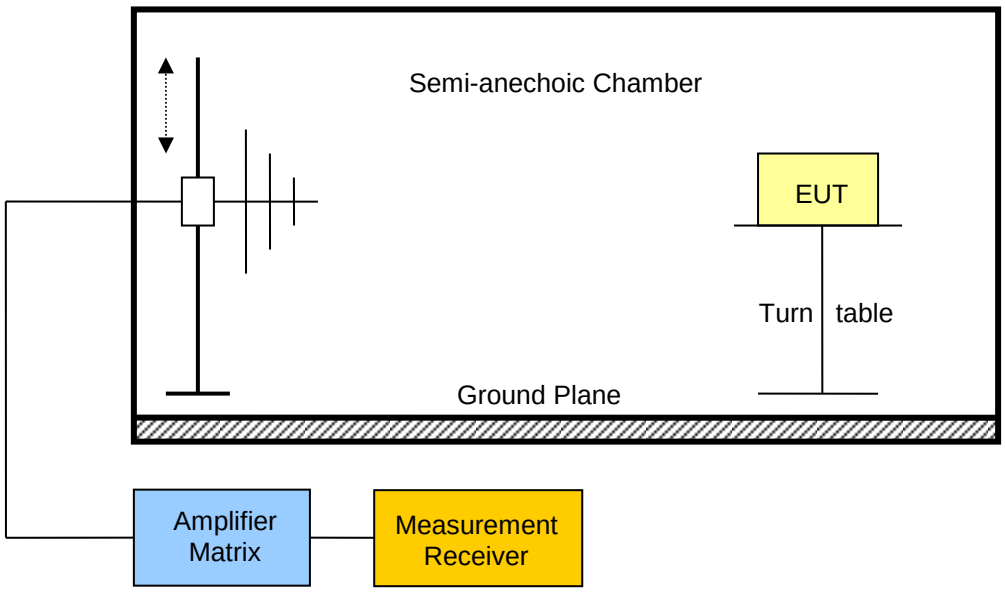
3.4 Test Conditions and Results – Receiver radiated emissions

Receiver radiated emissions acc. to ISED RSS-210	**Verdict: PASS**
Test according referenced standards	Reference Method
	ISED RSS-132 5.6 / 133 6.6
Test according to measurement reference	Reference Method
	ANSI C63.4
Test frequency range	Tested frequencies
	30 MHz – 5th Harmonic
EUT test mode	Receive

Limits

Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3

Test setup



Test procedure
1. EUT set to receive mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1MHz with peak/average detector is used above 1GHz 4. Markers are set to peak emission levels

Test results

Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Emission Level [µV/m]	Det.	Limit [µV/m]	Margin [µV/m]
F_{MID}			**				

Comments:
* Physical distance between EUT and measurement antenna.
** Emission level corresponds to ambient noise floor