

EMC TEST REPORT

FCC 47 CFR Part 15B
Industry Canada ICES-003

Electromagnetic compatibility - Unintentional radiators

Report Reference No. : G0M-1712-7088-EF0115B-V02

Testing Laboratory : Eurofins Product Service GmbH

Address : Storkower Str. 38c
15526 Reichenwalde
Germany

Accreditation :



A2LA Accredited Testing Laboratory, Certificate No.: 1983.01
FCC Test Firm Designation Number: DE0008
IC Testing Laboratory site: 3470A-2

Applicant's name : FALCOM GmbH

Address : Gewerbering 6
98704 Langewiesen
GERMANY

Test specification:

Standard..... : 47 CFR Part 15 Subpart B
ICES-003, Issue 6:2016
ANSI C63.4:2014

Equipment under test (EUT):

Product description	UMTS/GSM-Stick	
Model No.	SAMBA3G-G	
Additional Models	None	
Hardware version	F_311_rev01b	
Firmware / Software version	None	
	FCC-ID: QIXSAMBA3G-G	IC: 5383A-SAMBA3GG
Test result	Passed	

Test Report No.: G0M-1712-7088-EF0115B-V02

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Possible test case verdicts:

- not applicable to test object: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing:

Date of receipt of test item: 2017-12-12

Date (s) of performance of tests: 2018-03-05 - 2018-03-12

Compiled by: Christian Weber

Tested by (+ signature).....: Christian Weber /
Matthias Handrik

Approved by (+ signature): Jens Marquardt
Deputy Head of Lab

Date of issue: 2018-04-23

Total number of pages: 57

C. Weber / Handrik

J. Marquardt

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.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Version History

Version	Issue Date	Remarks	Revised by
V01	2018-03-16	Initial Release	
V02	2018-04-23	FCC ID corrected.	C. Weber

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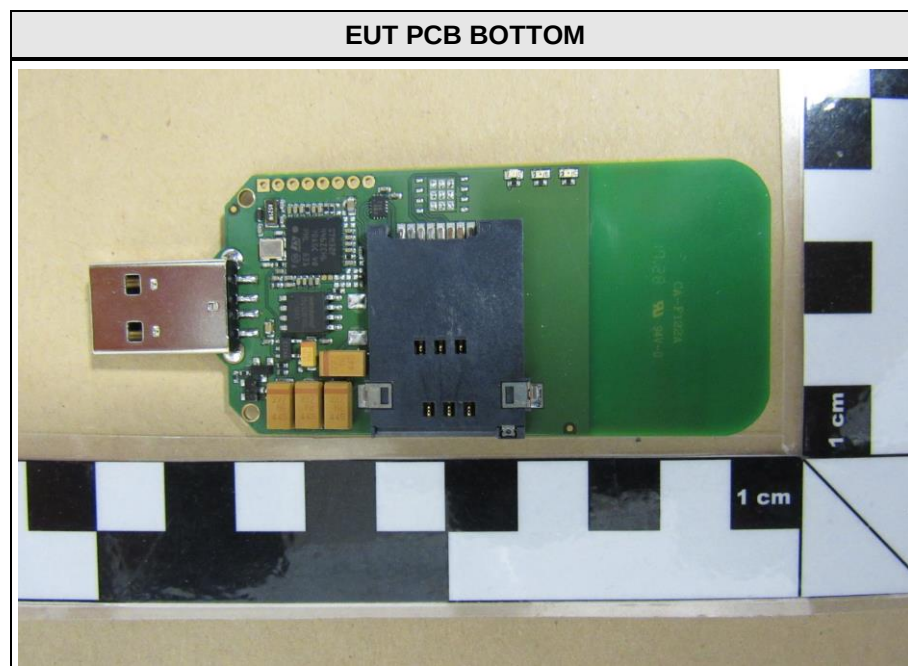
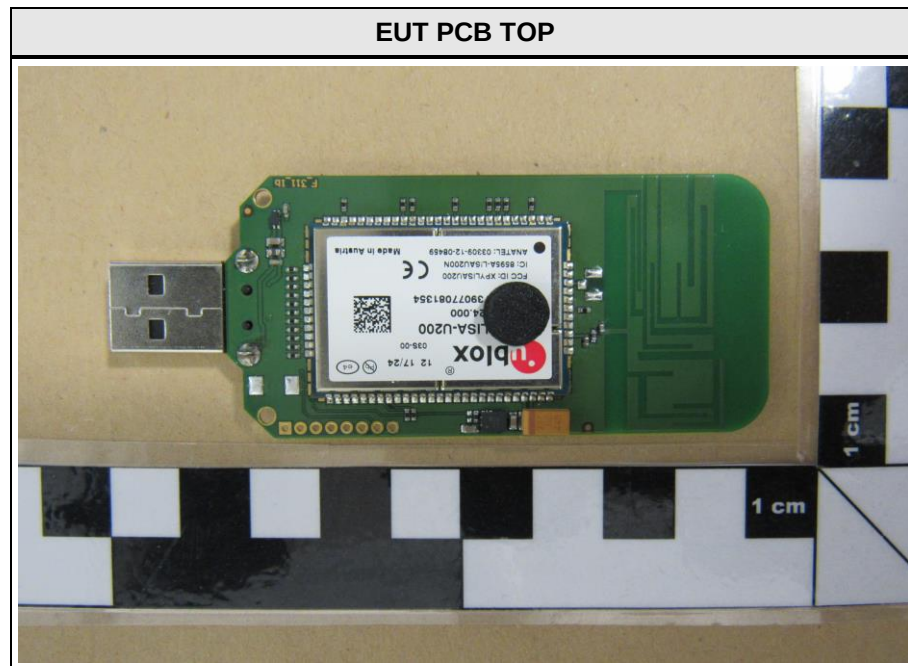
1 Equipment (Test item) Description

Description	UMTS/GSM-Stick	
Model	SAMBA3G-G	
Additional Models	None	
Serial number	None	
Hardware version	F_311_rev01b	
Software / Firmware version	None	
FCC-ID	QIXSAMBA3G-G	
Contains IC	5383A-SAMBA3GG	
Power supply	5V DC (USB)	
AC/DC-Adaptor	None	
Radio module	Type	GSM/UMTS module
	Model	LISA-U200
	Manufacturer	uBlox
	HW Version	146AB2
	SW Version	23.41
	FCC-ID	XPYLISAU200
	IC	8595A-LISAU200N
Manufacturer	FALCOM GmbH Gewerbering 6 98704 Langewiesen GERMANY	
Highest internal frequency	Fmax [MHz] = 2100	
Device classification	Class B	
Equipment type	Tabletop	
Number of tested samples	1	

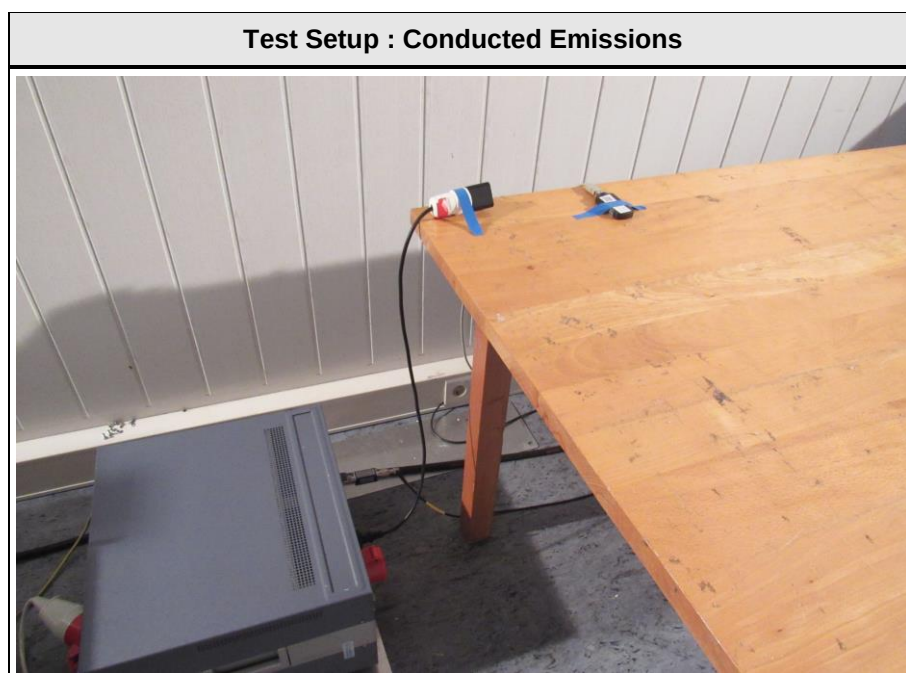
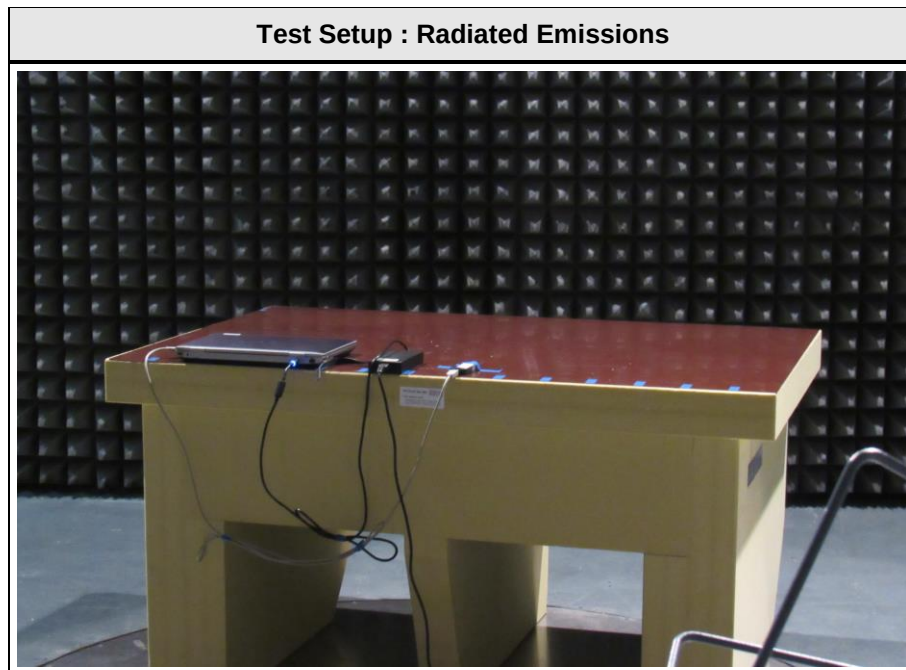
1.1 Photos – Equipment external



1.2 Photos – Equipment internal



1.3 Photos – Test setup



1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments (e.g. serial no.)
SIM	Communication tester	Rohde & Schwarz	CMW500	
AE	Laptop	Dell	Latitude E6420	S/N CXJ43R1
AE	AC/DC-Adapter	Blackberry	PSM03E-050Q-3	
*Note: Use the following abbreviations: AE : Auxiliary/Associated Equipment, or SIM : Simulator (Not Subjected to Test) CABL : Connecting cables				

1.5 Input / Output Ports

Port #	Name	Type*	Max. Cable Length	Cable Shielded	Comments (e.g. Cat. of Cable)
1	USB	DC / I/O	1m	Yes	
*Note: Use the following abbreviations: AC : AC power port DC : DC power port N/E : Non electrical I/O : Signal input or output port TP : Telecommunication port					

1.6 Operating Modes and Configurations

Mode #	Description
1	GPRS 850/1900; gamma: 3; 2 slots.
2	UMTS FDD II/V; TPC: All 1
3	Idle

Configuration #	EUT Configuration
1	EUT and laptop is placed inside the measurement chamber. EUT powered via USB from laptop. Radio communication tester is placed outside the measurement chamber and the EUT is controlled (antenna) via GSM/UMTS radio link.
2	EUT powered via ac/dc-adaptor over USB from ac mains. Radio communication tester is placed outside the measurement test set and the EUT is controlled (antenna) via GSM/UMTS radio link.

1.7 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2016.1.10

Conducted emissions SR1					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00182	2017-01	2019-01
AMN	R&S	ESH3-Z5	EF00036	2017-01	2019-01
EMI Test Receiver	R&S	ESR7	EF00943	2017-07	2018-07
Cable	-	RG223/U	-	System Cal.	System Cal.

Radiated emissions AC1					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Biconical antenna	Rohde & Schwarz Vertriebs GmbH	HK116	EF00203	2016-06	2018-06
LPD Antenna	R&S	HL 223	EF00187	2016-05	2019-05
Double-Ridged Guide Antenna	ETS-Lindgren USA	3117	EF01256	2017-07	2018-07
MXE EMI Receiver	Keysight Technologies	N9038A- 526/WXP	EF01070	2017-08	2018-08
RF Cable			-	System Cal.	System Cal
RF Cable			-	System Cal.	System Cal

1.8 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:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

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:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

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 15B, Industry Canada ICES-003				
Product Specific Standard	Requirement – Test	Reference Method	Result	Remarks
47 CFR 15.109 ICES-003 Item 6.2	Radiated emissions	ANSI C 63.4	PASS	
47 CFR 15.107 ICES-003 Item 6.1	AC power line conducted emissions	ANSI C63.4	PASS	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Radiated emissions

Radiated emissions acc. FCC 47 CFR 15.109 / ICES-003				Verdict: PASS		
Laboratory Parameters:		Required prior to the test		During the test		
Ambient Temperature		10 to 40 °C		25°C		
Relative Humidity		10 – 90 %		28%		
Test according referenced standards		Reference Method				
		ANSI C63.4				
Sample is tested with respect to the requirements of the equipment class		Equipment class				
		Class B				
Test frequency range determined from highest emission frequency		Highest emission frequency				
		Fmax [MHz] = 2100				
Fully configured sample scanned over the following frequency range		Frequency range				
		30 MHz to 11 GHz				
Operating mode		1 / 2 / 3				
Configuration		1 / 2				
Limits and results Class B						
Frequency [MHz]	Quasi-Peak [dBµV/m]	Result	Average [dBµV/m]	Result	Peak [dBµV/m]	Result
30 – 88	40	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46	PASS	-		-	-
960 – 1000	54	PASS	-		-	-
> 1000	-	-	54	PASS	74	PASS
Comments:						

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non-conductive table at a height of 0.8m.
- The EUT and support equipment, if needed, were set up to simulate typical usage.
- Cables, of type and length specified by the manufacturer, were connected to at least one port of each type and were terminated by a device or simulating load of actual usage.
- The antenna was placed at a distance of 3 or 10 m.
- The received signal was monitored at the measurement receiver.
 - Cables not bundled were manipulated within the range of likely arrangements to produce the highest emission amplitude
 - To maximize the suspected emissions the EUT is rotated 360 degrees. If the signal exceeds the previous amplitude, go back to the corresponding azimuth and manipulate the cables again for maximizing the emissions if possible.
 - Move the antenna from 1 to 4m to maximize the suspected highest amplitude signal.
- This procedure has to be performed in both antenna polarizations, horizontal and vertical.
- The arrangement of the equipment with the maximum emission level is shown on the setup picture at item 1.3.

Final measurement:

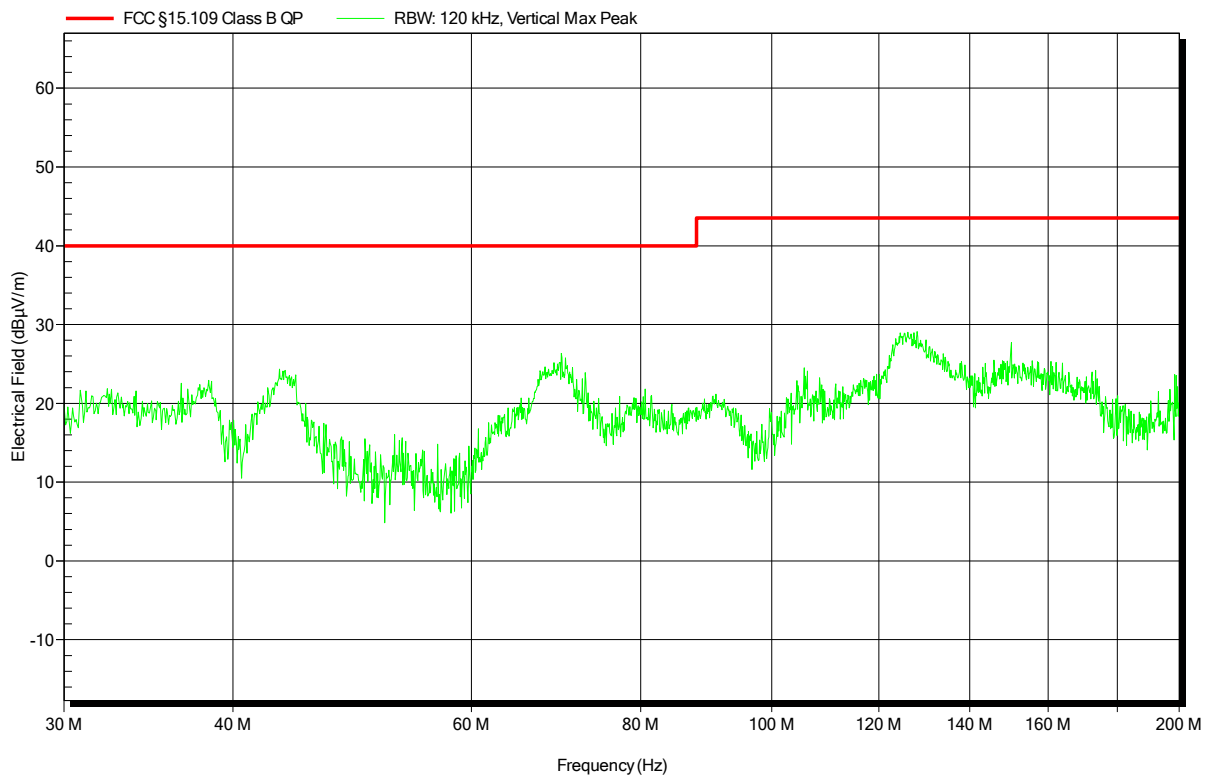
- The EUT was placed on a 0.8 m non-conductive table at a 3 m distance from the receive antenna. The antenna output was connected to the measurement receiver
- A biconical antenna was used for the frequency range 30 – 200 MHz, a logarithmic periodical antenna was used for the frequency range from 200 – 1000 MHz. Above one 1 GHz a Double Ridged Broadband Horn antenna was used. The antenna was placed on an adjustable height antenna mast
- The EUT and cable arrangement were based on the exploratory measurement results
- Emissions were maximized at each frequency by rotating the EUT and adjusting the receive antenna height and polarization. The maximum values were recorded.
- The test data of the worst-case conditions were recorded and shown on the next pages.

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 23°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: GPRS 850
 Test Date: 2018-03-05
 Note:

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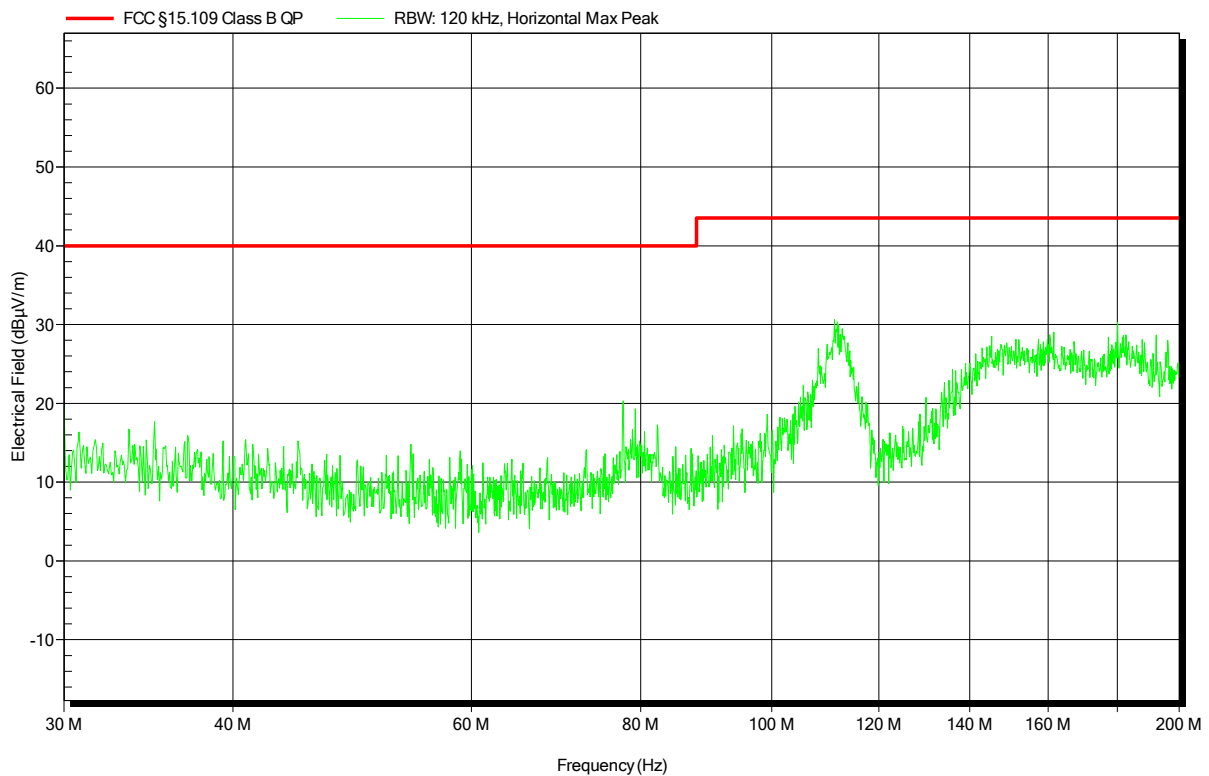


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 23°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: GPRS 850
 Test Date: 2018-03-05
 Note:

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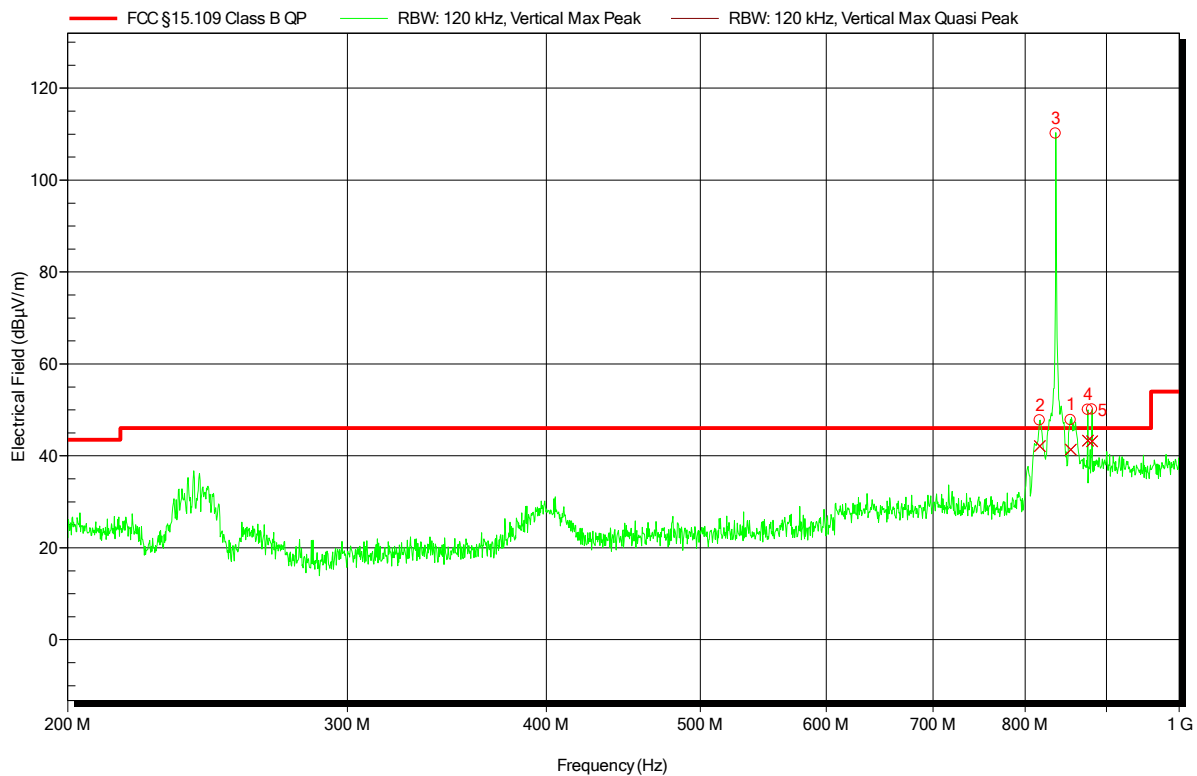


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Handrik
Test Conditions: Tnom: 23°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: GPRS 850
Test Date: 2018-03-05
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	854.752 MHz	41.35 dBµV/m	46.02 dBµV/m	-4.67 dB	Pass	116 Degree	1 m
2	817.214 MHz	42.13 dBµV/m	46.02 dBµV/m	-3.89 dB	Pass	116 Degree	1 m
3	836.205 MHz	GSM Uplink Signal					
4	876.061 MHz	43.33 dBµV/m	46.02 dBµV/m	-2.69 dB	Pass	116 Degree	1 m
5	881.267 MHz	43.15 dBµV/m	46.02 dBµV/m	-2.87 dB	Pass	116 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

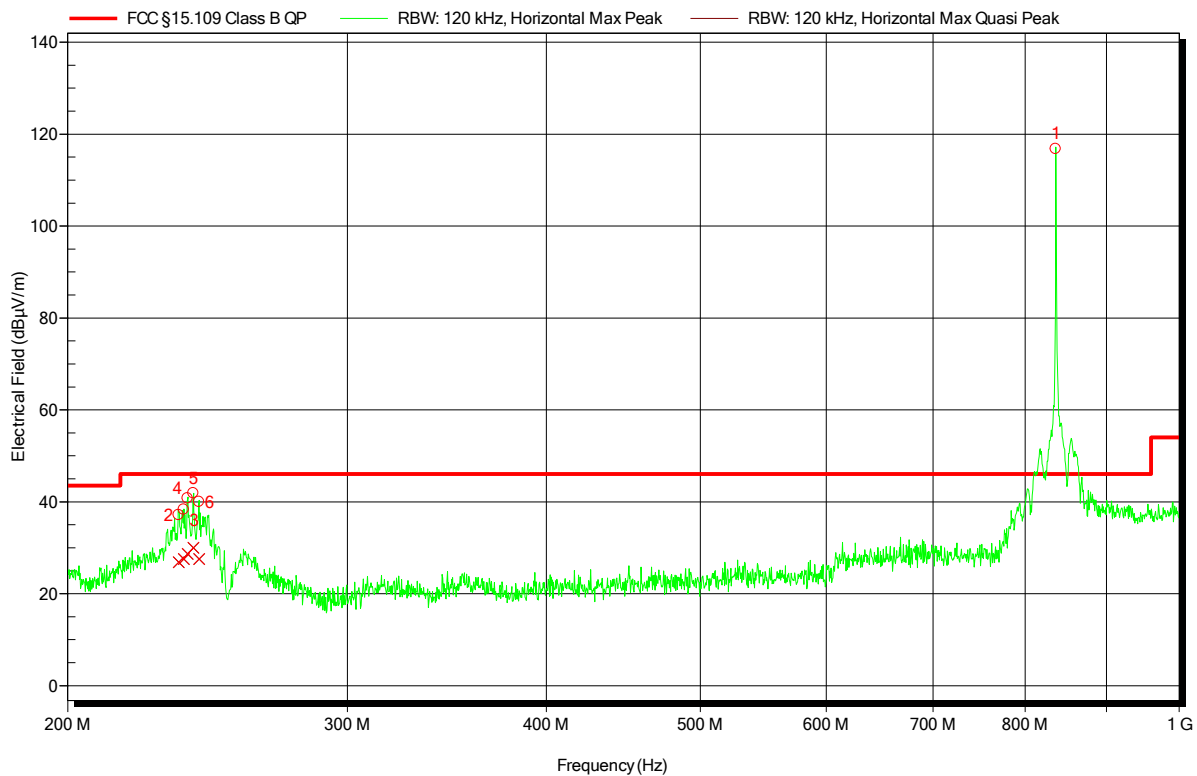
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Handrik
Test Conditions: Tnom: 23°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: GPRS 850
Test Date: 2018-03-05
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	836.205 MHz	GSM Uplink Signal					
2	235.004 MHz	26.86 dBμV/m	46.02 dBμV/m	-19.16 dB	Pass	0 Degree	1 m
3	236.734 MHz	27.55 dBμV/m	46.02 dBμV/m	-18.47 dB	Pass	0 Degree	1 m
4	238.073 MHz	28.69 dBμV/m	46.02 dBμV/m	-17.33 dB	Pass	0 Degree	1 m
5	240.006 MHz	29.99 dBμV/m	46.02 dBμV/m	-16.03 dB	Pass	0 Degree	1 m
6	242.011 MHz	27.54 dBμV/m	46.02 dBμV/m	-18.48 dB	Pass	0 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

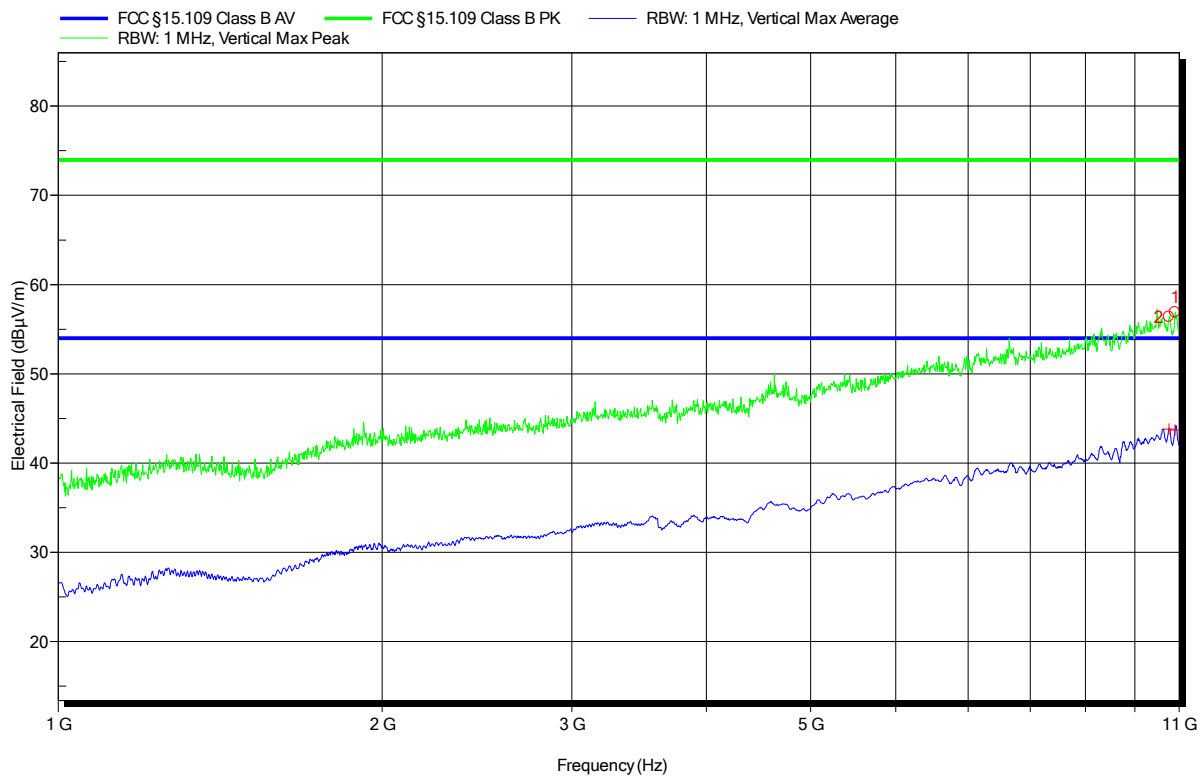
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Vertical
 Measurement distance: 3 m
 Mode: GPRS 850
 Test Date: 2018-03-12
 Note:

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Peak Number	Frequency	Peak	Angle	Height
1	10.899 GHz	56.88 dBμV/m	339 Degree	2.1 m
2	10.759 GHz	56.37 dBμV/m	339 Degree	2.1 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	10.899 GHz	43.7 dBμV/m	53.98 dBμV/m	-10.28 dB	Pass	339 Degree	2.1 m
2	10.759 GHz	43.8 dBμV/m	53.98 dBμV/m	-10.17 dB	Pass	339 Degree	2.1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

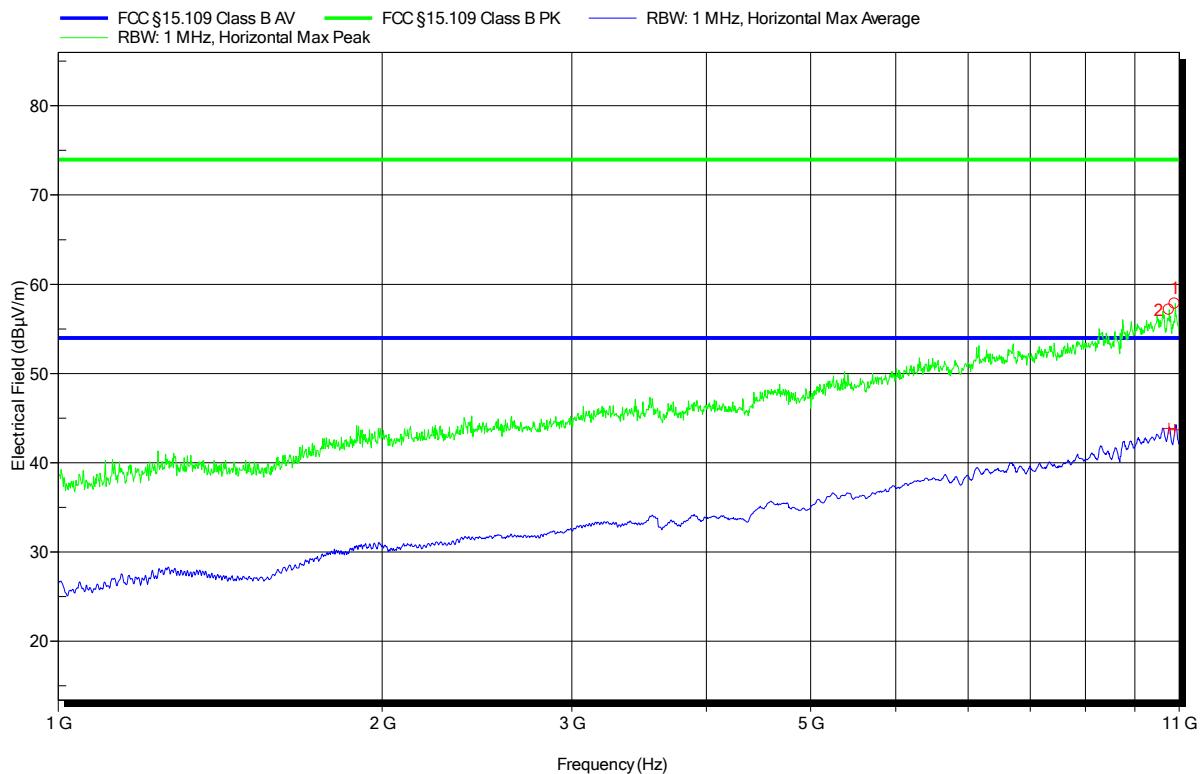
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Horizontal
 Measurement distance: 3 m
 Mode: GPRS 850
 Test Date: 2018-03-12
 Note:

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Peak Number	Frequency	Peak	Angle	Height
1	10.895 GHz	57.83 dBμV/m	330 Degree	1.3 m
2	10.758 GHz	57.15 dBμV/m	330 Degree	1.3 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	10.895 GHz	43.7 dBμV/m	53.98 dBμV/m	-10.28 dB	Pass	330 Degree	1.3 m
2	10.758 GHz	43.85 dBμV/m	53.98 dBμV/m	-10.13 dB	Pass	330 Degree	1.3 m

Test Report No.: G0M-1712-7088-EF0115B-V02

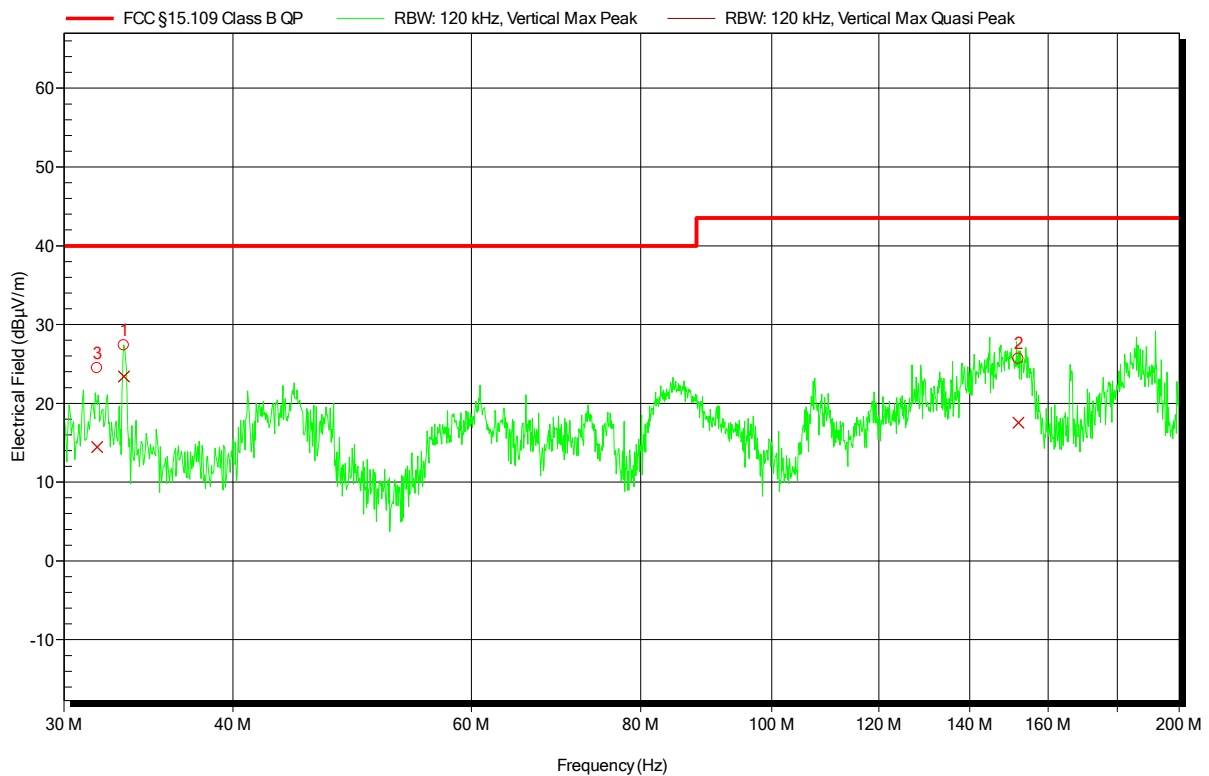
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Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: GPRS 1900
Test Date: 2018-03-06
Note:

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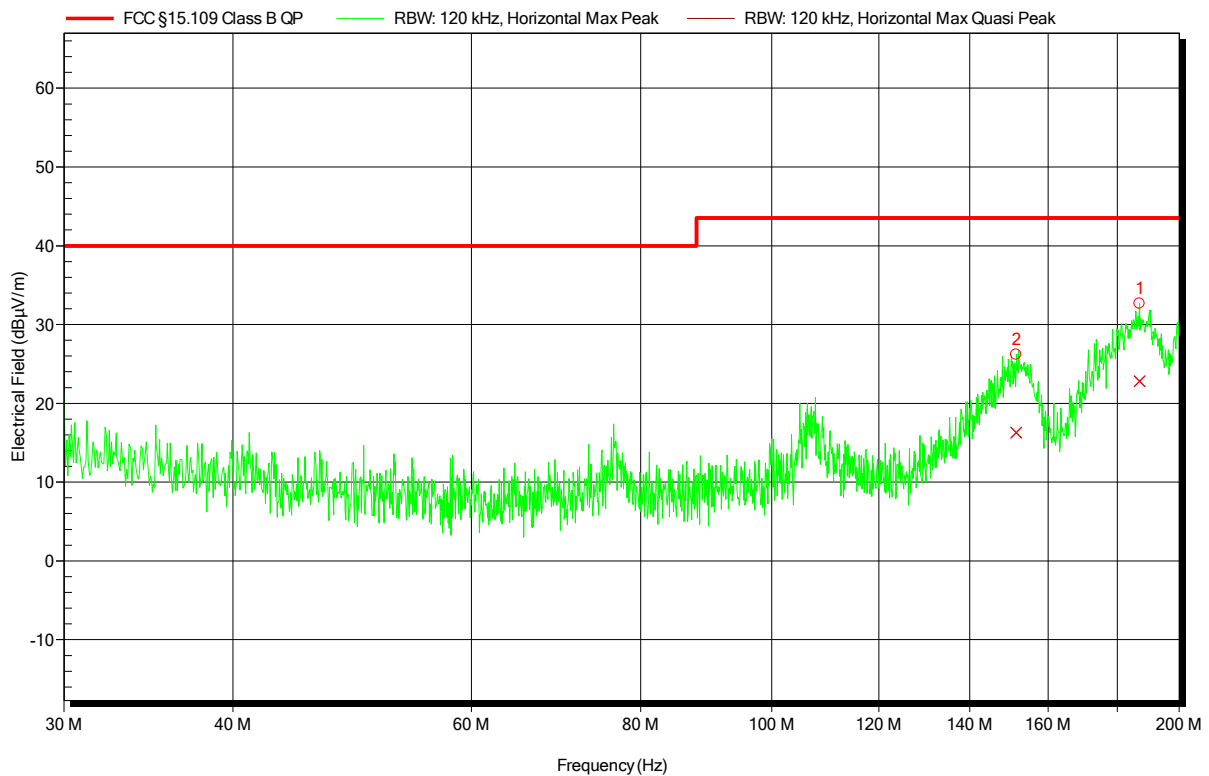
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	33.225 MHz	23.42 dBµV/m	40 dBµV/m	-16.58 dB	Pass	180 Degree	1 m
2	152.171 MHz	17.53 dBµV/m	43.52 dBµV/m	-25.99 dB	Pass	180 Degree	1 m
3	31.741 MHz	14.46 dBµV/m	40 dBµV/m	-25.54 dB	Pass	180 Degree	1 m

Radiated emissions under normal conditions according to FCC Part 15B

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Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: GPRS 1900
Test Date: 2018-03-06
Note:

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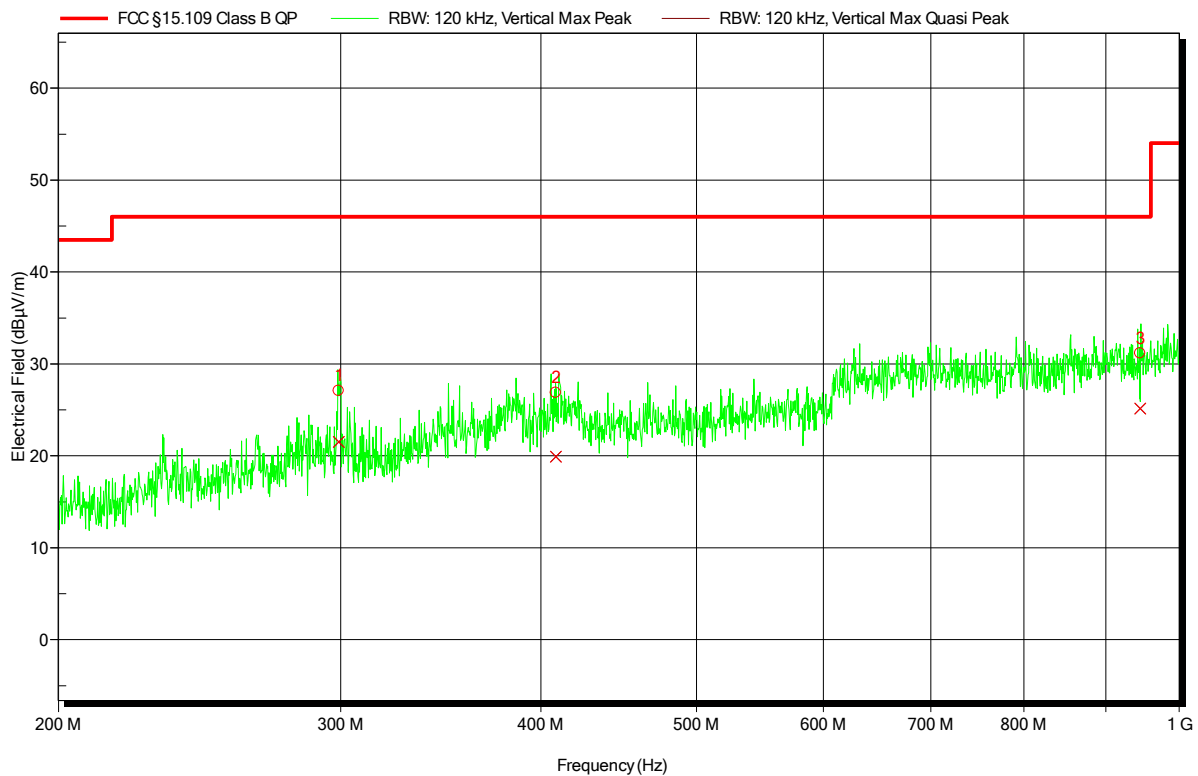
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	186.914 MHz	22.8 dBµV/m	43.52 dBµV/m	-20.73 dB	Pass	180 Degree	2 m
2	151.539 MHz	16.29 dBµV/m	43.52 dBµV/m	-27.24 dB	Pass	180 Degree	2 m

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Operator: Mr. Weber
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Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: GPRS 1900
Test Date: 2018-03-06
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	299.201 MHz	21.53 dBµV/m	46.02 dBµV/m	-24.5 dB	Pass	90 Degree	1 m
2	408.742 MHz	19.92 dBµV/m	46.02 dBµV/m	-26.1 dB	Pass	90 Degree	1 m
3	945.35 MHz	25.14 dBµV/m	46.02 dBµV/m	-20.88 dB	Pass	90 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

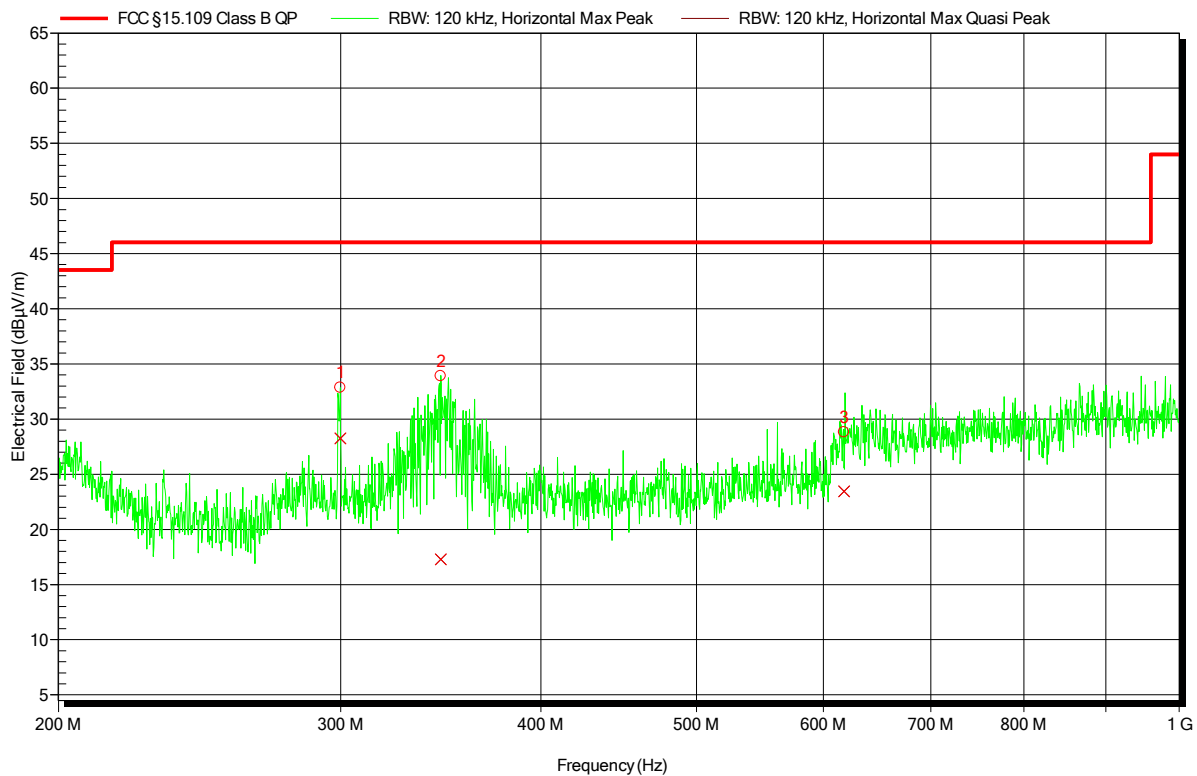
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Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: GPRS 1900
Test Date: 2018-03-06
Note:

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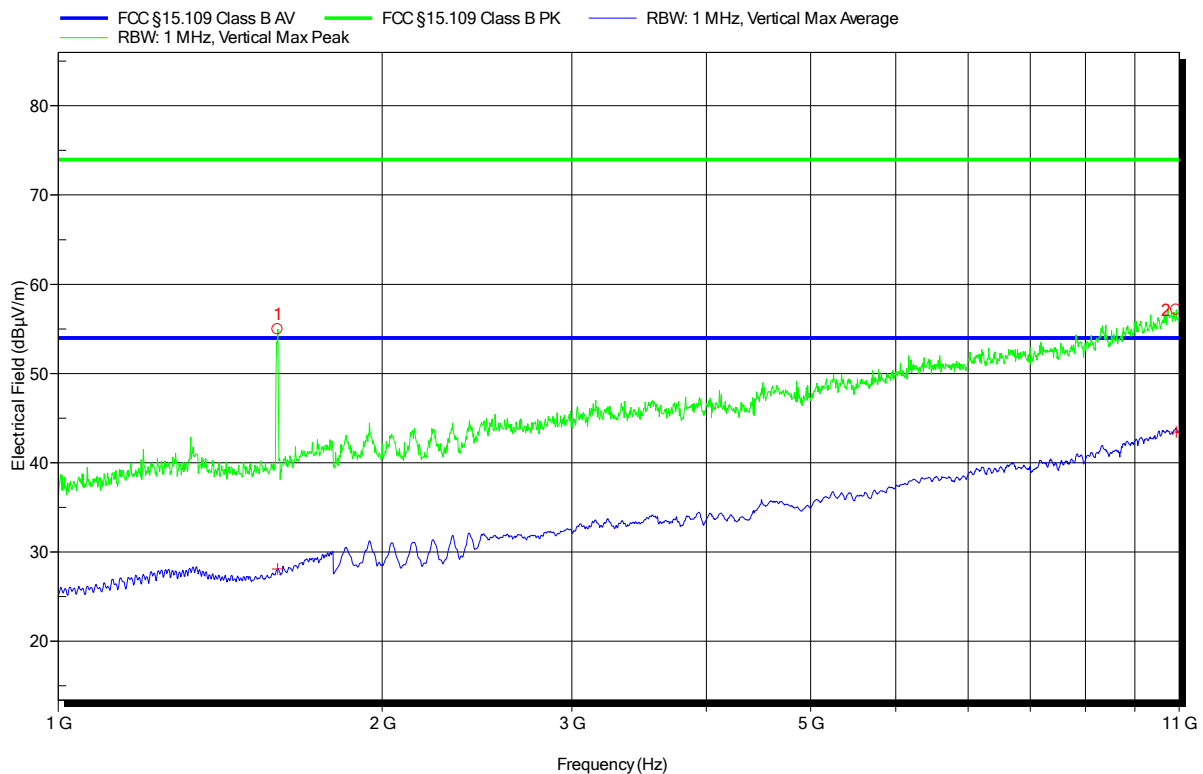
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	299.862 MHz	28.26 dBµV/m	46.02 dBµV/m	-17.77 dB	Pass	190 Degree	1 m
2	346.406 MHz	17.28 dBµV/m	46.02 dBµV/m	-28.74 dB	Pass	190 Degree	1 m
3	618.085 MHz	23.45 dBµV/m	46.02 dBµV/m	-22.57 dB	Pass	190 Degree	1 m

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EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 22°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: ETS-Lindgren 3117, Vertical
Measurement distance: 3 m
Mode: GPRS 1900
Test Date: 2018-03-13
Note:

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Peak Number	Frequency	Peak	Angle	Height
1	1.599 GHz	54.94 dBμV/m	270 Degree	1.8 m
2	10.928 GHz	57.13 dBμV/m	270 Degree	1.8 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.599 GHz	28.1 dBμV/m	53.98 dBμV/m	-25.88 dB	Pass	270 Degree	1.8 m
2	10.928 GHz	43.44 dBμV/m	53.98 dBμV/m	-10.54 dB	Pass	270 Degree	1.8 m

Test Report No.: G0M-1712-7088-EF0115B-V02

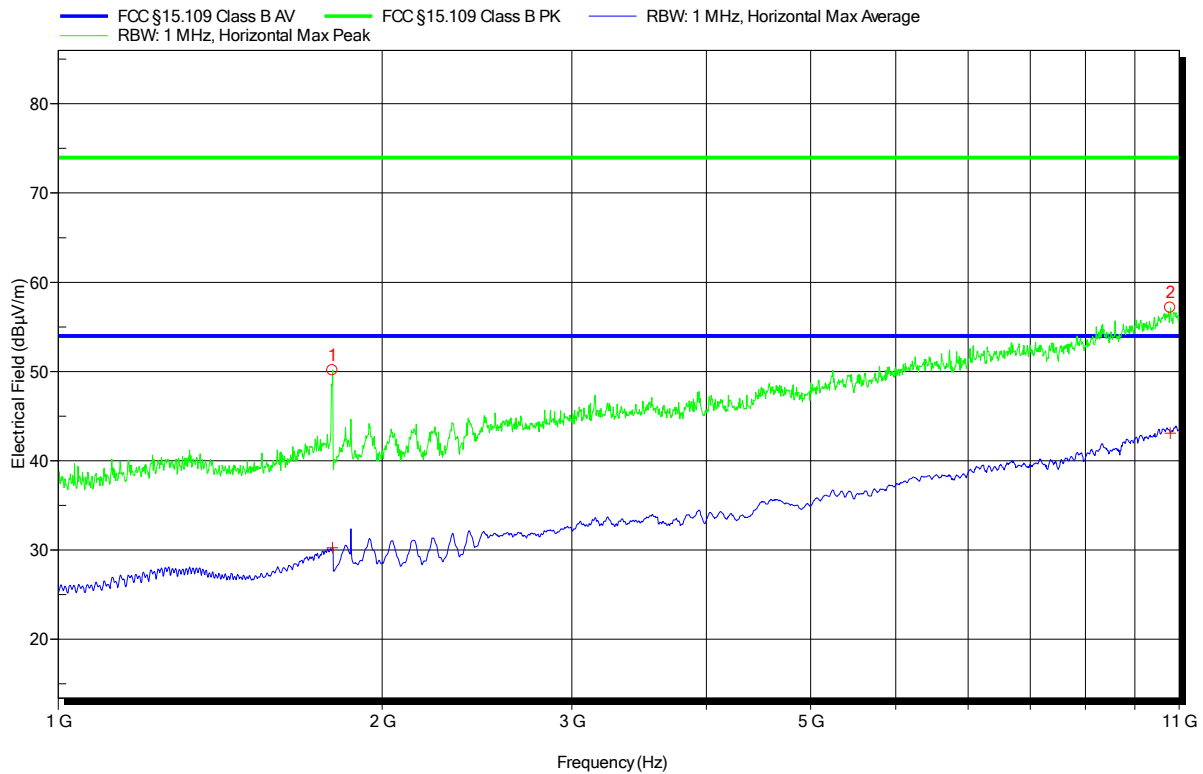
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 22°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Horizontal
 Measurement distance: 3 m
 Mode: GPRS 1900
 Test Date: 2018-03-13
 Note:

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Peak Number	Frequency	Peak	Angle	Height
1	1.798 GHz	50.13 dBµV/m	70 Degree	1.4 m
2	10.79 GHz	57.14 dBµV/m	70 Degree	1.4 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.798 GHz	30.26 dBµV/m	53.98 dBµV/m	-23.72 dB	Pass	70 Degree	1.4 m
2	10.79 GHz	43.09 dBµV/m	53.98 dBµV/m	-10.89 dB	Pass	70 Degree	1.4 m

Test Report No.: G0M-1712-7088-EF0115B-V02

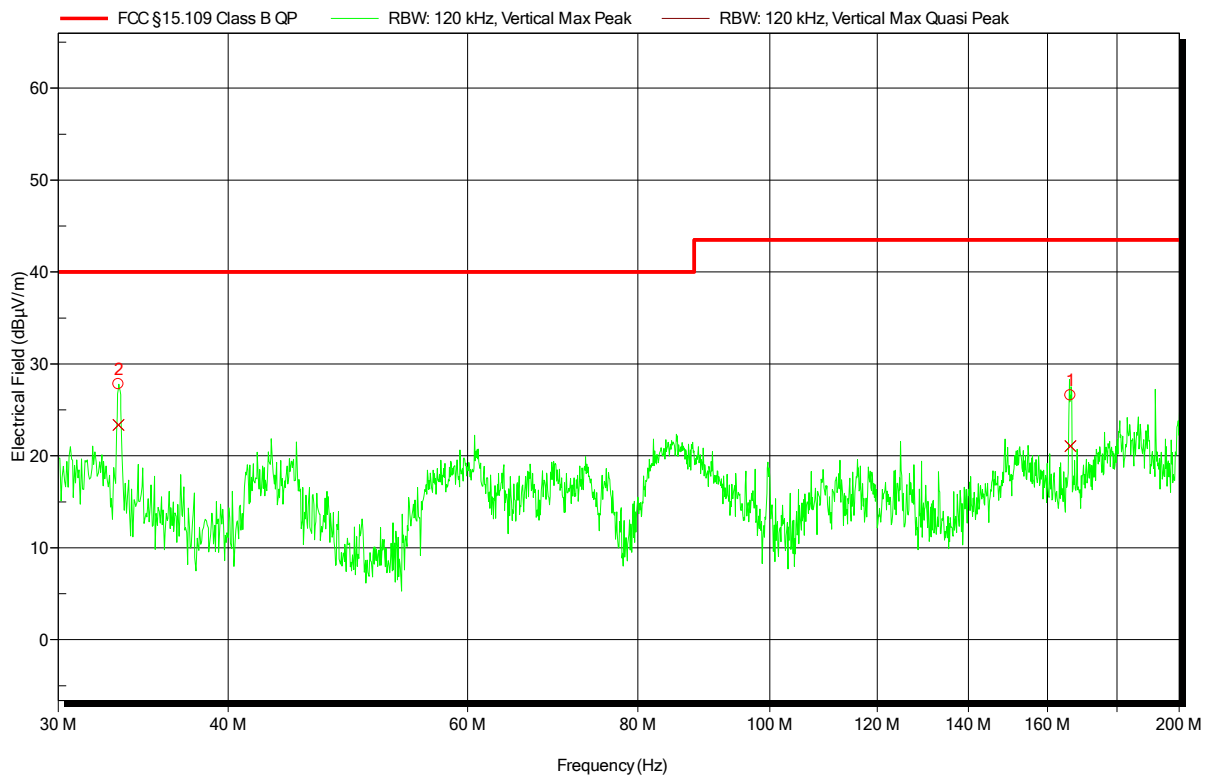
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: UMTS FDDII
Test Date: 2018-03-06
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	166.323 MHz	21.08 dBµV/m	43.52 dBµV/m	-22.44 dB	Pass	0 Degree	1 m
2	33.237 MHz	23.38 dBµV/m	40 dBµV/m	-16.62 dB	Pass	0 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

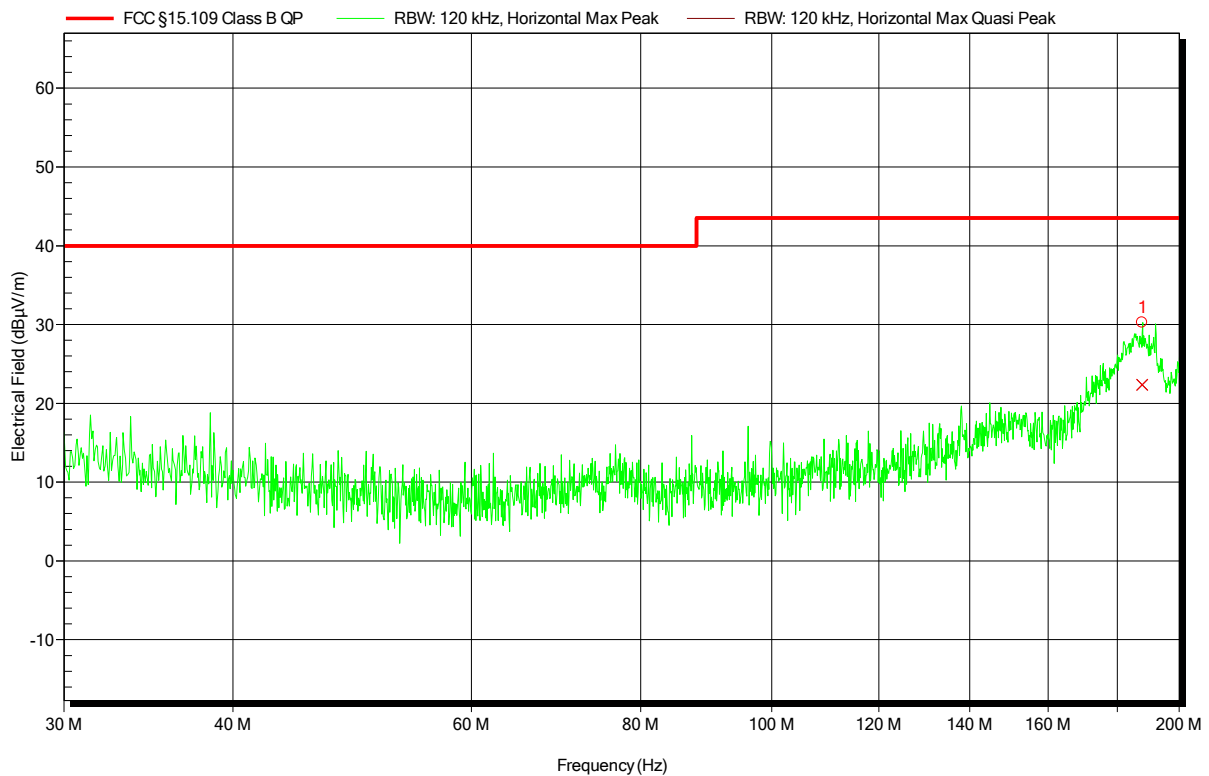
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: UMTS FDDII
Test Date: 2018-03-06
Note:

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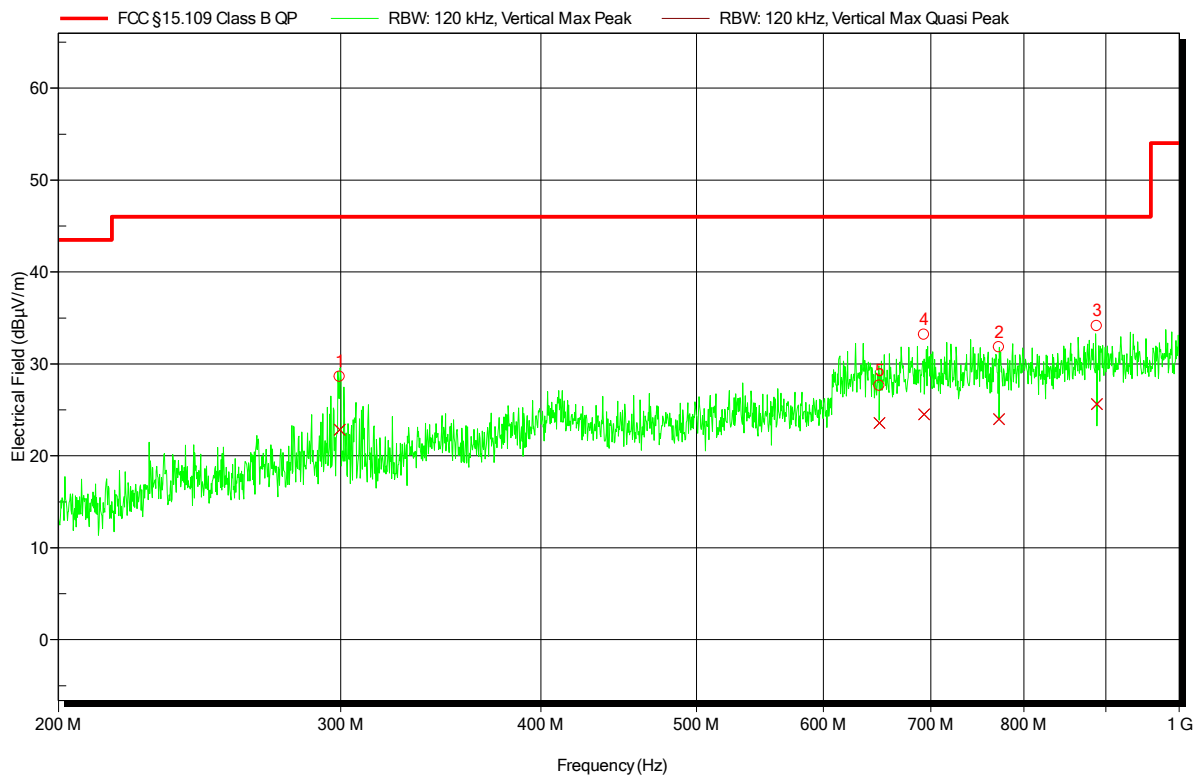
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	187.762 MHz	22.36 dBµV/m	43.52 dBµV/m	-21.16 dB	Pass	185 Degree	2 m

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: UMTS FDDII
 Test Date: 2018-03-06
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	299.652 MHz	22.83 dBµV/m	46.02 dBµV/m	-23.19 dB	Pass	100 Degree	1 m
2	772.086 MHz	23.99 dBµV/m	46.02 dBµV/m	-22.03 dB	Pass	100 Degree	1 m
3	888.622 MHz	25.64 dBµV/m	46.02 dBµV/m	-20.38 dB	Pass	100 Degree	1 m
4	693.125 MHz	24.53 dBµV/m	46.02 dBµV/m	-21.49 dB	Pass	100 Degree	1 m
5	650.213 MHz	23.57 dBµV/m	46.02 dBµV/m	-22.45 dB	Pass	100 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

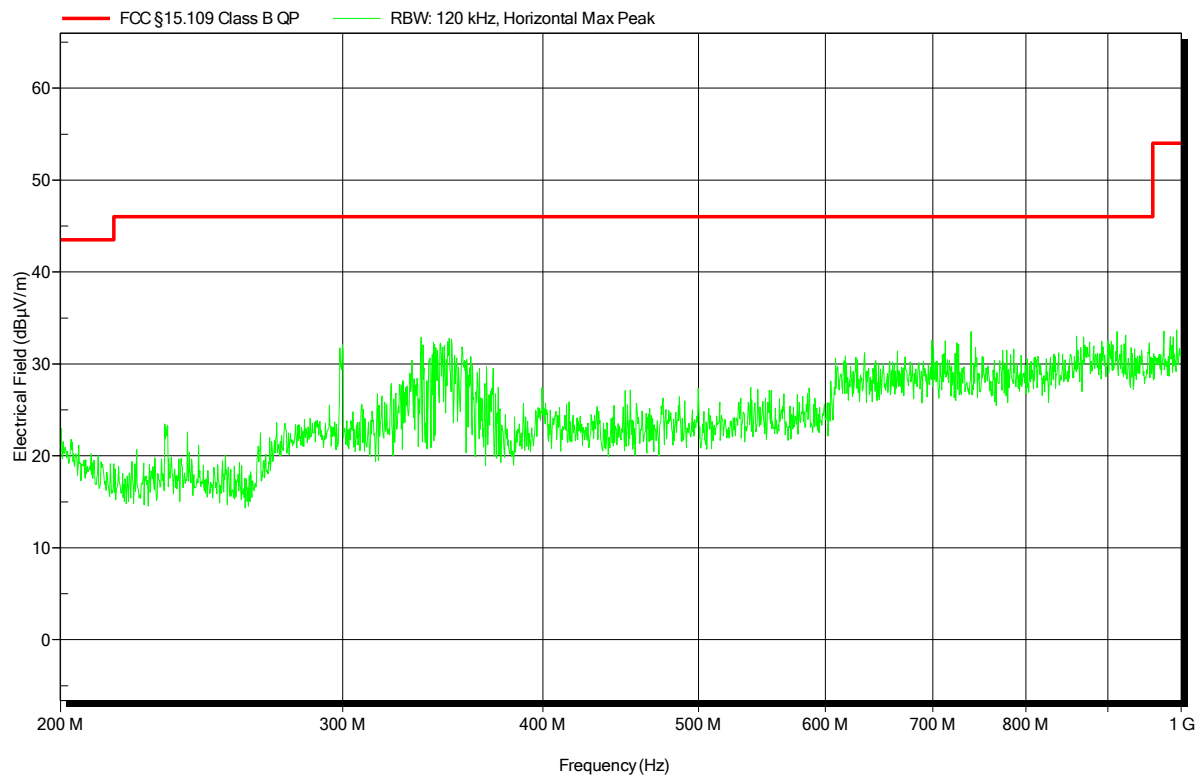
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: UMTS FDDII
 Test Date: 2018-03-06
 Note:

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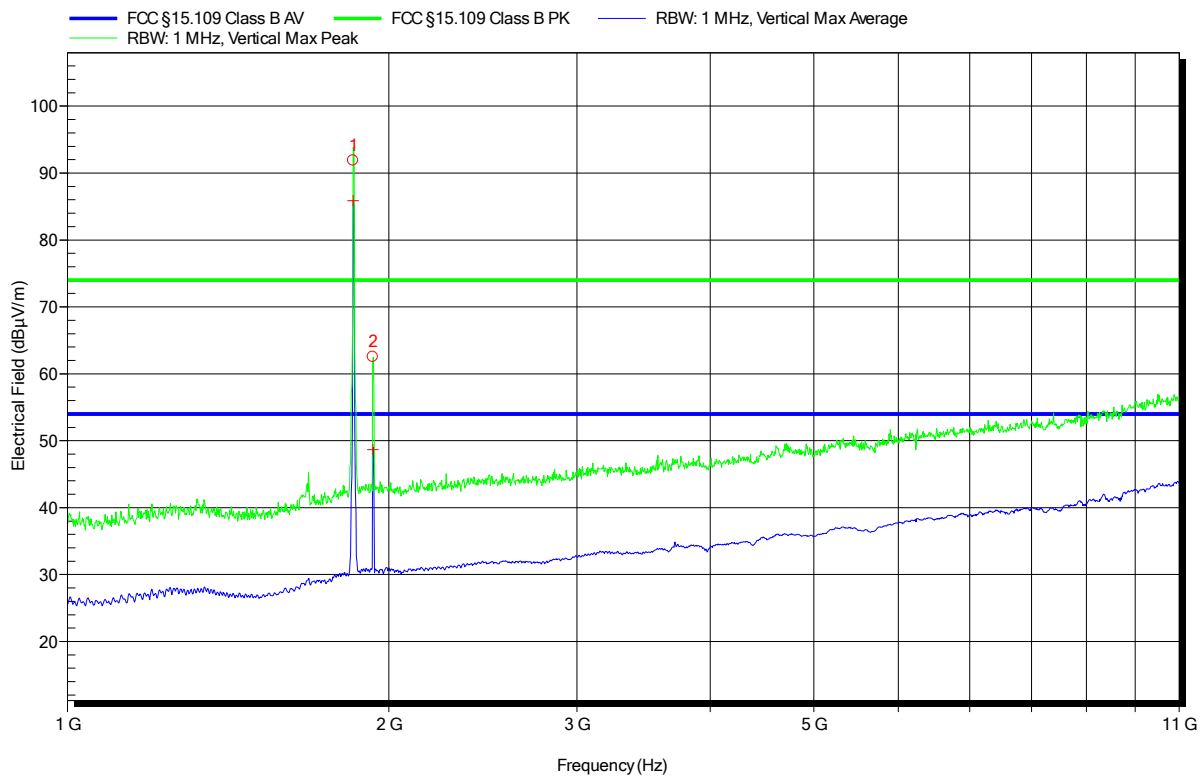


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: ETS-Lindgren 3117, Vertical
Measurement distance: 3 m
Mode: UMTS FDDII
Test Date: 2018-03-12
Note:

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Peak Number	Frequency	Peak	Angle	Height
1	1.853 GHz	UMTS Uplink Signal		
2	1.933 GHz	UMTS Downlink Signal		

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.853 GHz	UMTS Uplink Signal					
2	1.933 GHz	UMTS Downlink Signal					

Test Report No.: G0M-1712-7088-EF0115B-V02

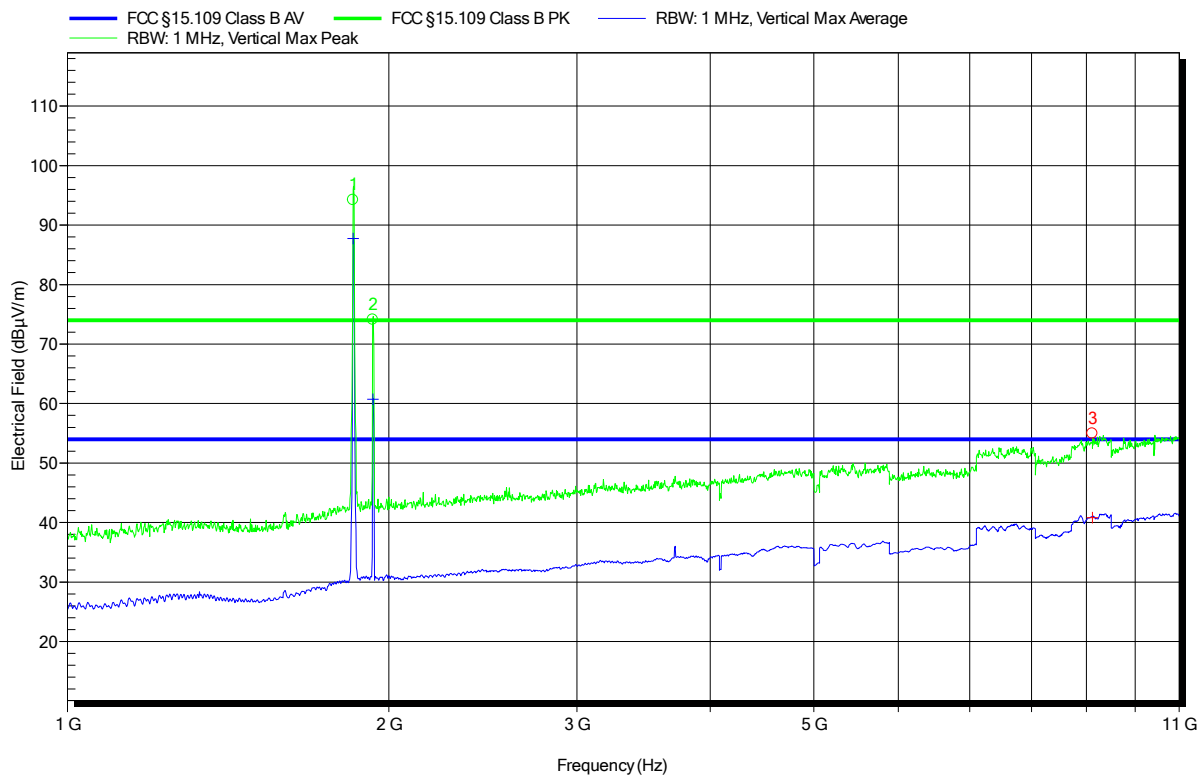
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: ETS-Lindgren 3117, Vertical
Measurement distance: 3 m
Mode: UMTS FDDII
Test Date: 2018-03-12
Note:

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Peak Number	Frequency	Peak	Angle	Height
1	1.853 GHz	UMTS Uplink Signal		
2	1.933 GHz	UMTS Downlink Signal		
3	9.124 GHz	54.94 dBμV/m	0 Degree	1 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.853 GHz	UMTS Uplink Signal					
2	1.933 GHz	UMTS Downlink Signal					
3	9.124 GHz	40.8 dBμV/m	53.98 dBμV/m	-13.18 dB	Pass	60 Degree	1.76 m

Test Report No.: G0M-1712-7088-EF0115B-V02

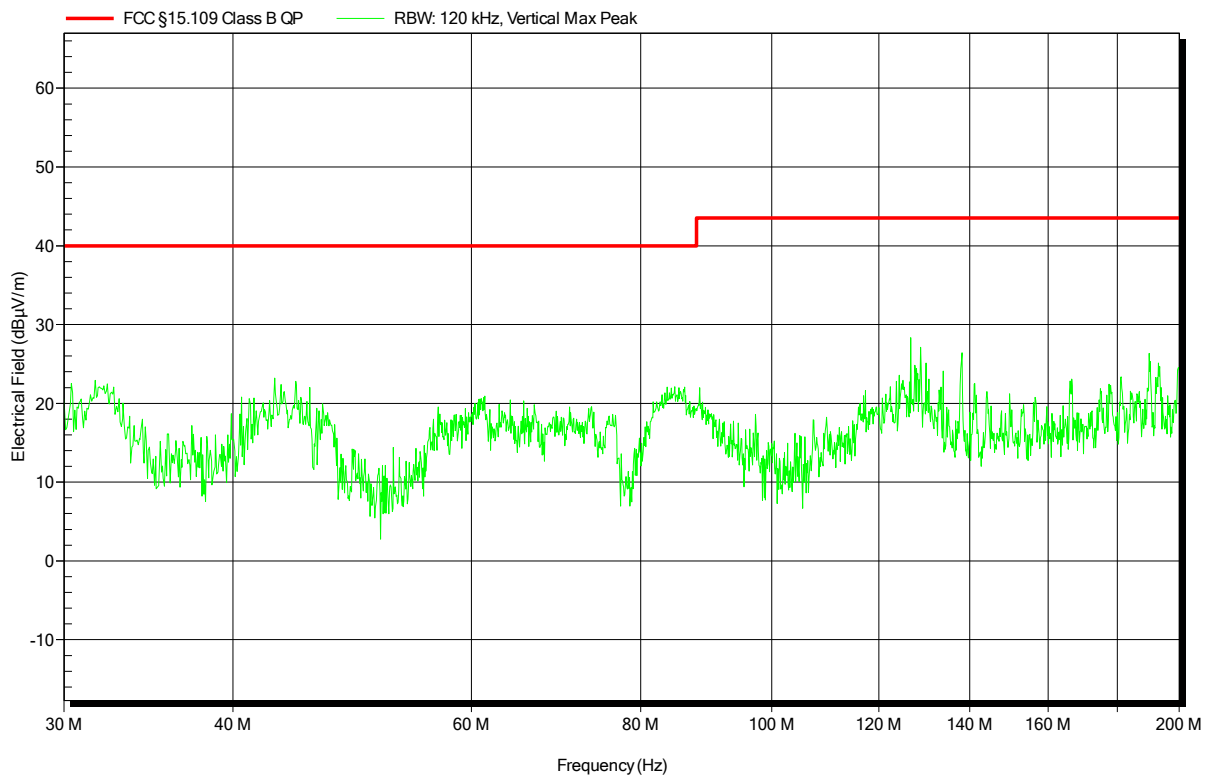
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: UMTS FDDV
 Test Date: 2018-03-06
 Note:

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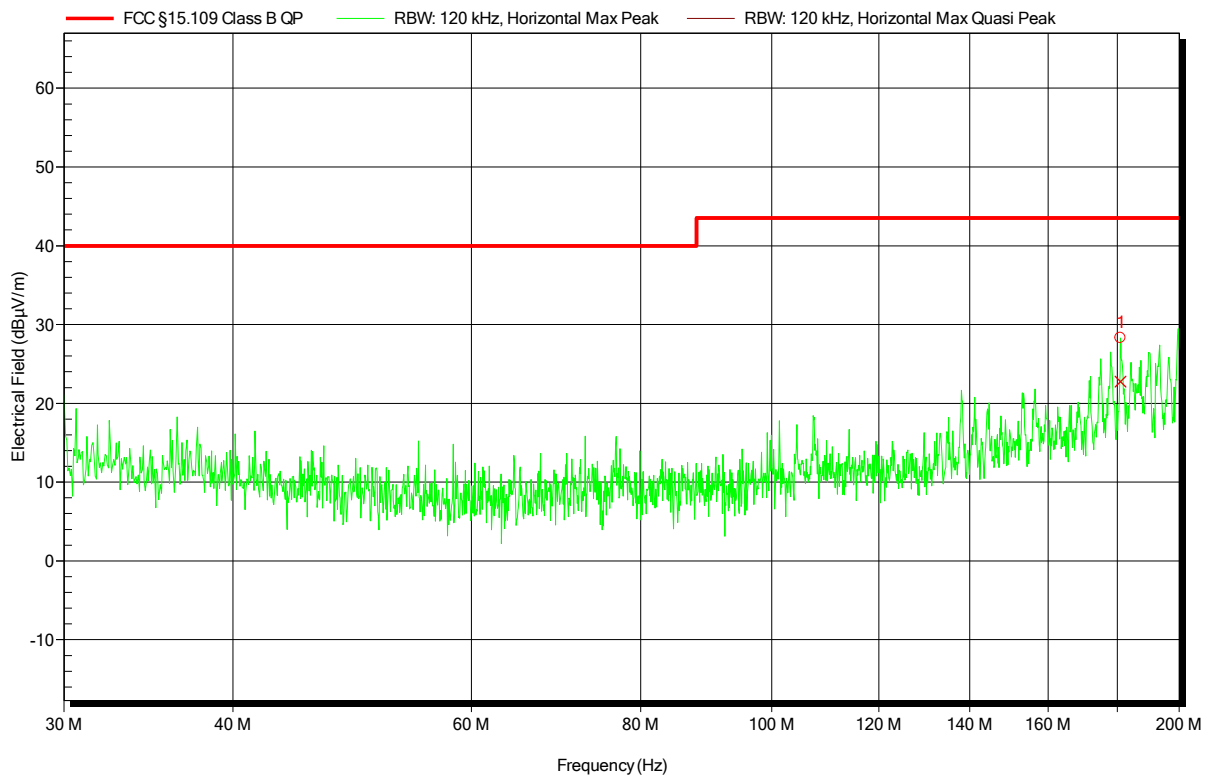


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: UMTS FDDV
Test Date: 2018-03-06
Note:

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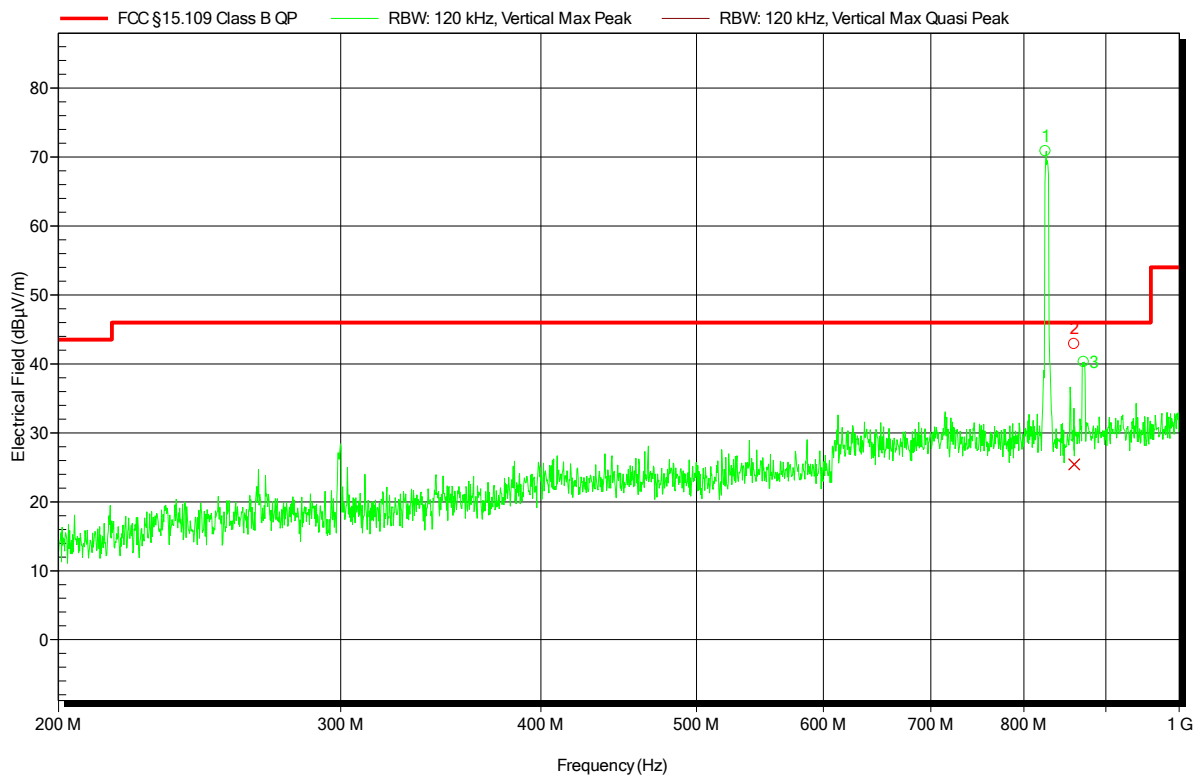
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	180.963 MHz	22.77 dBµV/m	43.52 dBµV/m	-20.75 dB	Pass	180 Degree	2 m

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: UMTS FDDV
 Test Date: 2018-03-06
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	825.518 MHz	UMTS Uplink Signal					
2	859.982 MHz	25.44 dBμV/m	46.02 dBμV/m	-20.58 dB	Pass	120 Degree	1 m
3	871.87 MHz	UMTS Downlink Signal					

Test Report No.: G0M-1712-7088-EF0115B-V02

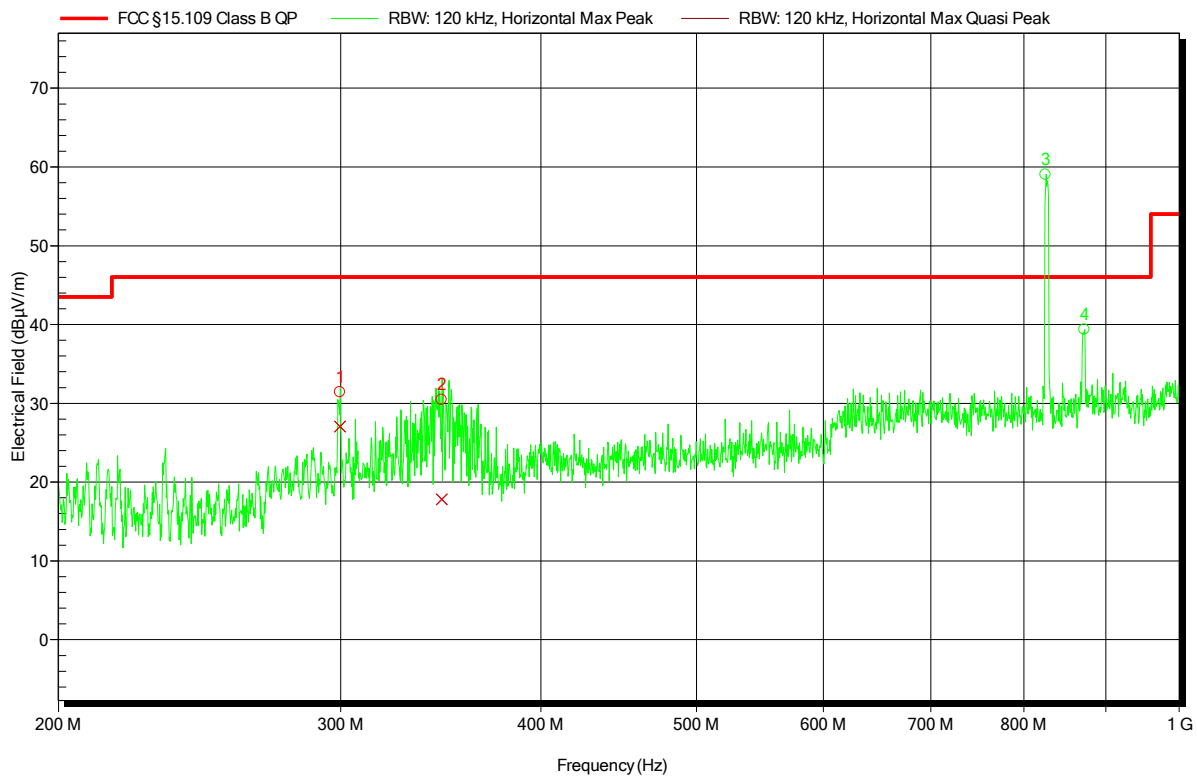
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: UMTS FDDV
Test Date: 2018-03-06
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	299.856 MHz	27.07 dBµV/m	46.02 dBµV/m	-18.95 dB	Pass	200 Degree	1 m
2	346.959 MHz	17.8 dBµV/m	46.02 dBµV/m	-28.22 dB	Pass	200 Degree	1 m
3	825.518 MHz	UMTS Uplink Signal					
4	872.59 MHz	UMTS Downlink Signal					

Test Report No.: G0M-1712-7088-EF0115B-V02

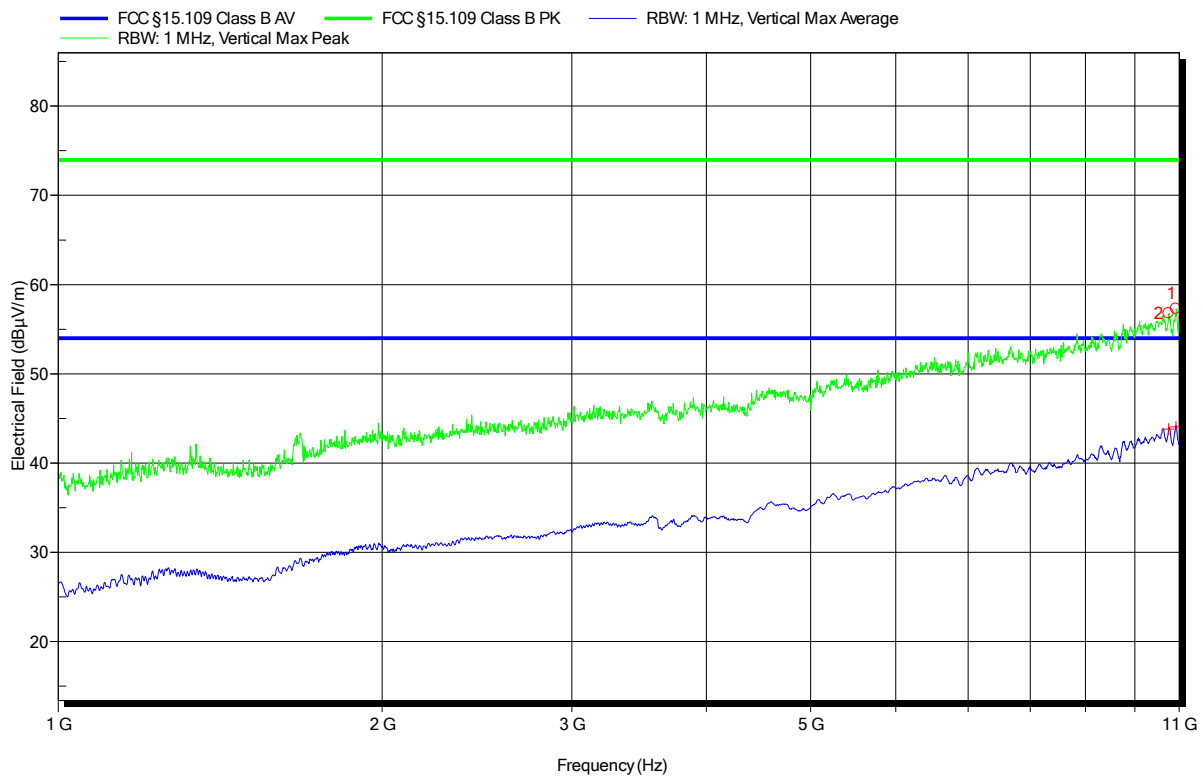
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Vertical
 Measurement distance: 3 m
 Mode: UMTS FDDV
 Test Date: 2018-03-12
 Note:

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Peak Number	Frequency	Peak	Angle	Height
1	10.919 GHz	57.3 dBμV/m	90 Degree	1.34 m
2	10.755 GHz	56.8 dBμV/m	90 Degree	1.34 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	10.919 GHz	44.05 dBμV/m	53.98 dBμV/m	-9.93 dB	Pass	90 Degree	1.34 m
2	10.755 GHz	43.81 dBμV/m	53.98 dBμV/m	-10.17 dB	Pass	90 Degree	1.34 m

Test Report No.: G0M-1712-7088-EF0115B-V02

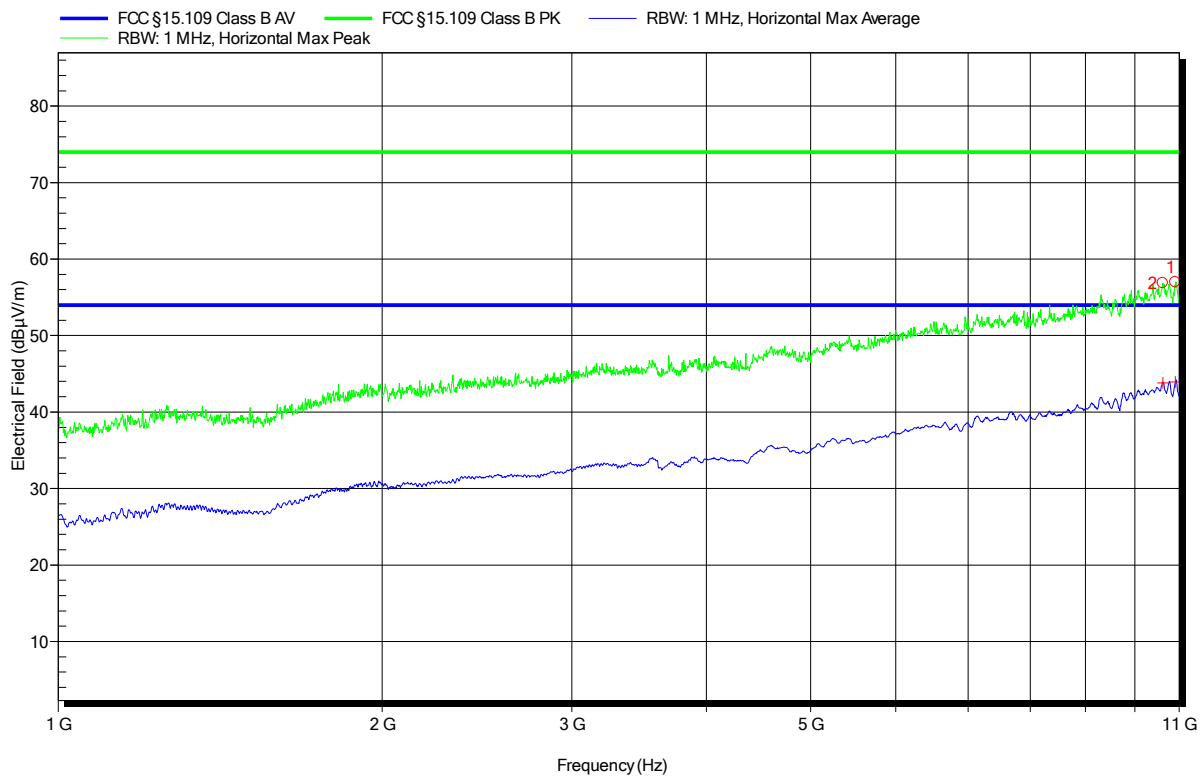
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Horizontal
 Measurement distance: 3 m
 Mode: UMTS FDDV
 Test Date: 2018-03-12
 Note:

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Peak Number	Frequency	Peak	Angle	Height
1	10.907 GHz	57 dBµV/m	270 Degree	1.65 m
2	10.62 GHz	56.85 dBµV/m	270 Degree	1.65 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	10.907 GHz	43.94 dBµV/m	53.98 dBµV/m	-10.03 dB	Pass	270 Degree	1.65 m
2	10.62 GHz	43.81 dBµV/m	53.98 dBµV/m	-10.17 dB	Pass	270 Degree	1.65 m

Test Report No.: G0M-1712-7088-EF0115B-V02

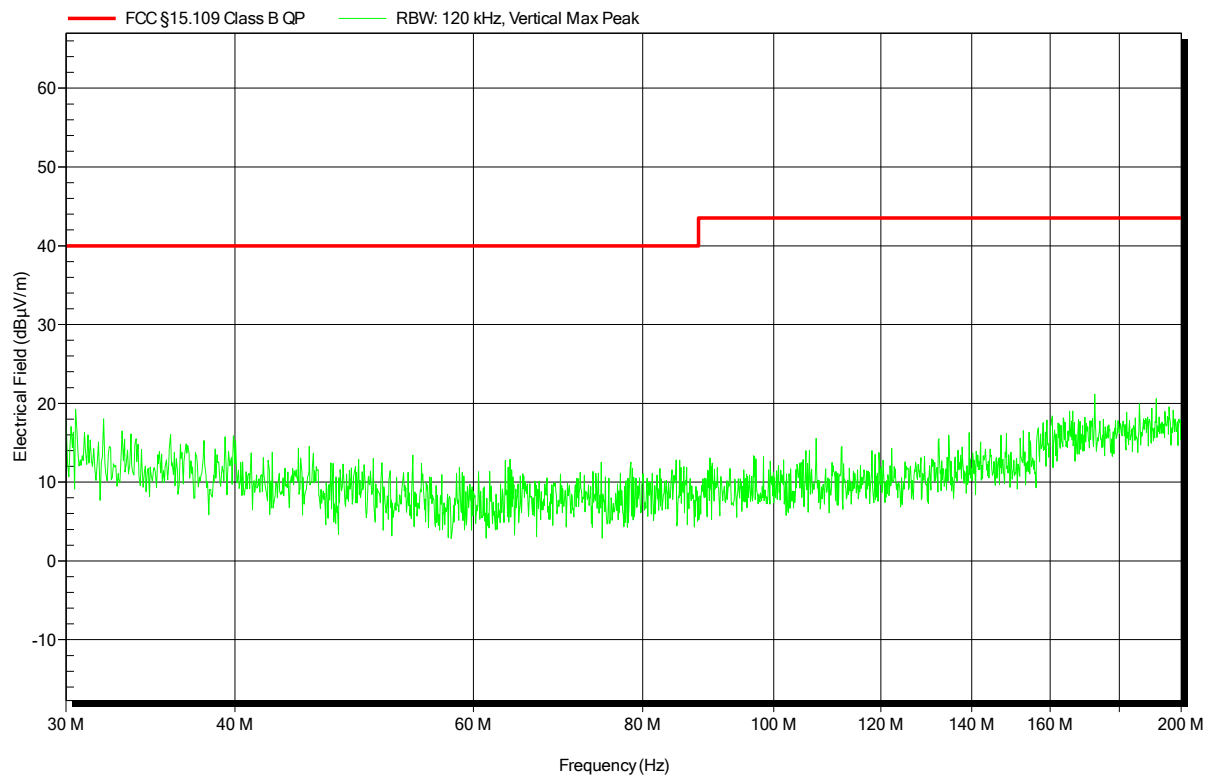
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: Idle
Test Date: 2018-03-06
Note:

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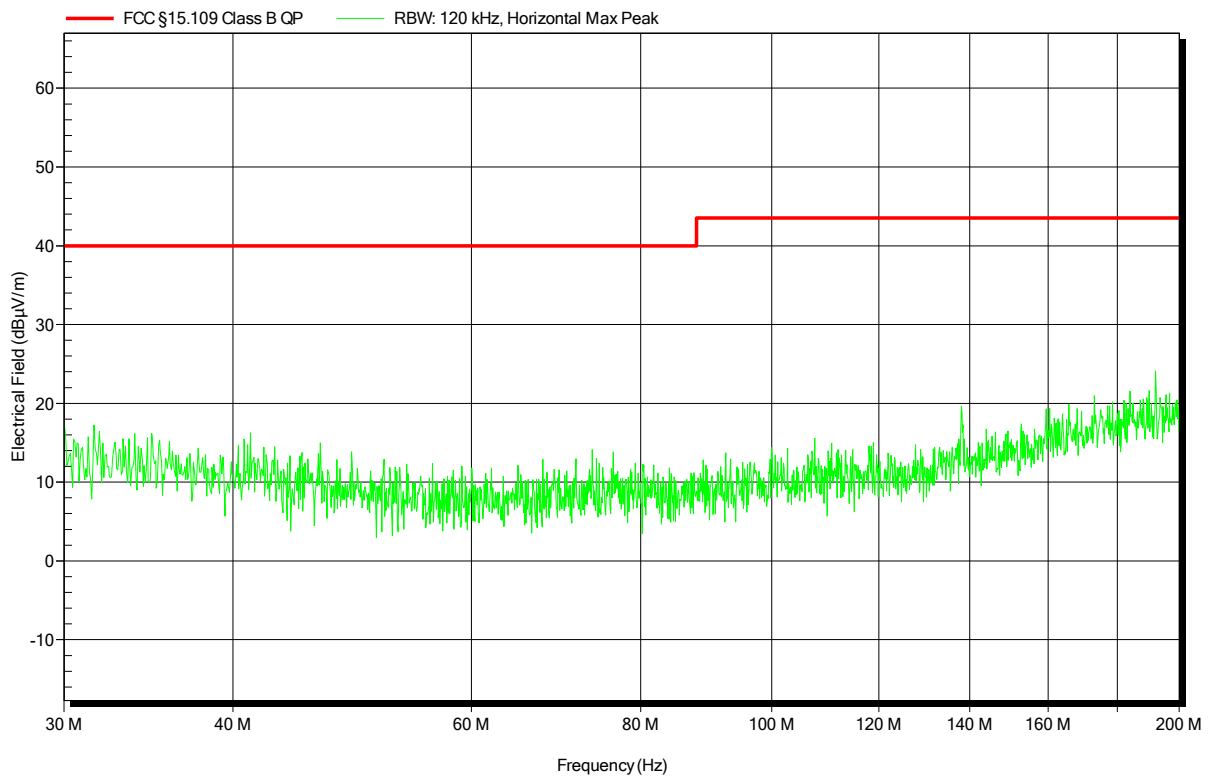


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: Idle
 Test Date: 2018-03-06
 Note:

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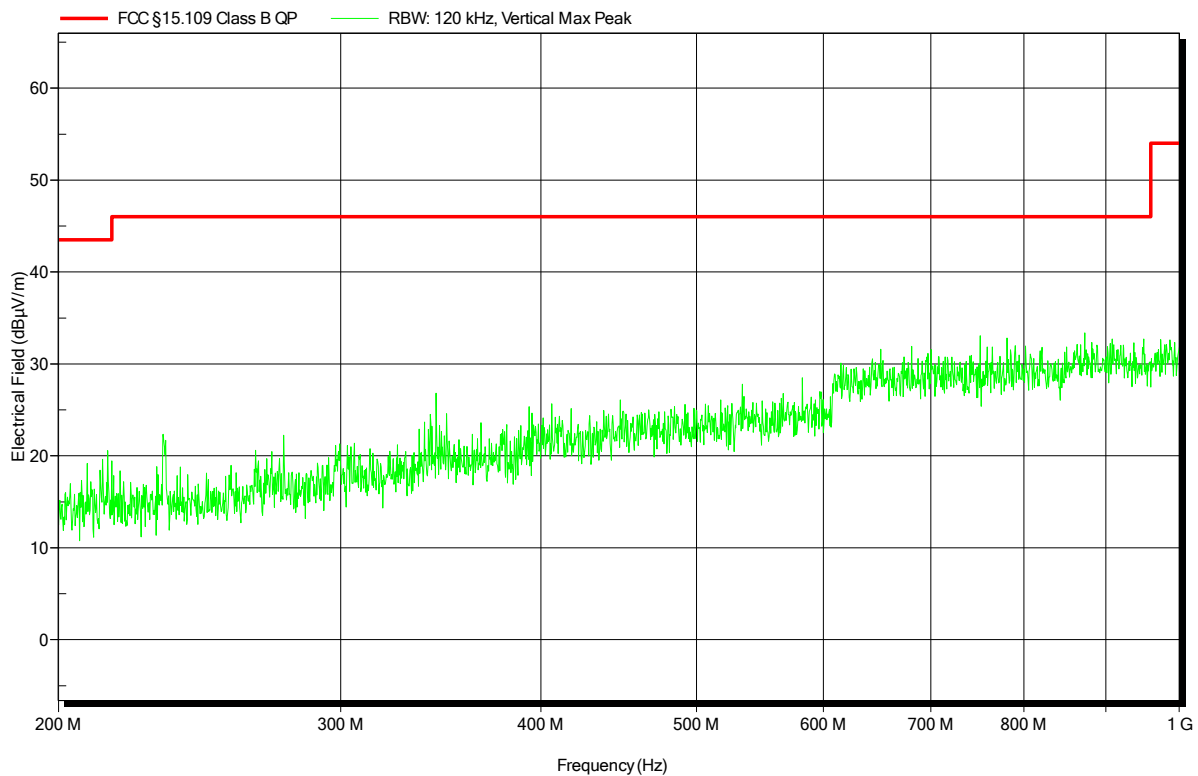


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: Idle
 Test Date: 2018-03-06
 Note:

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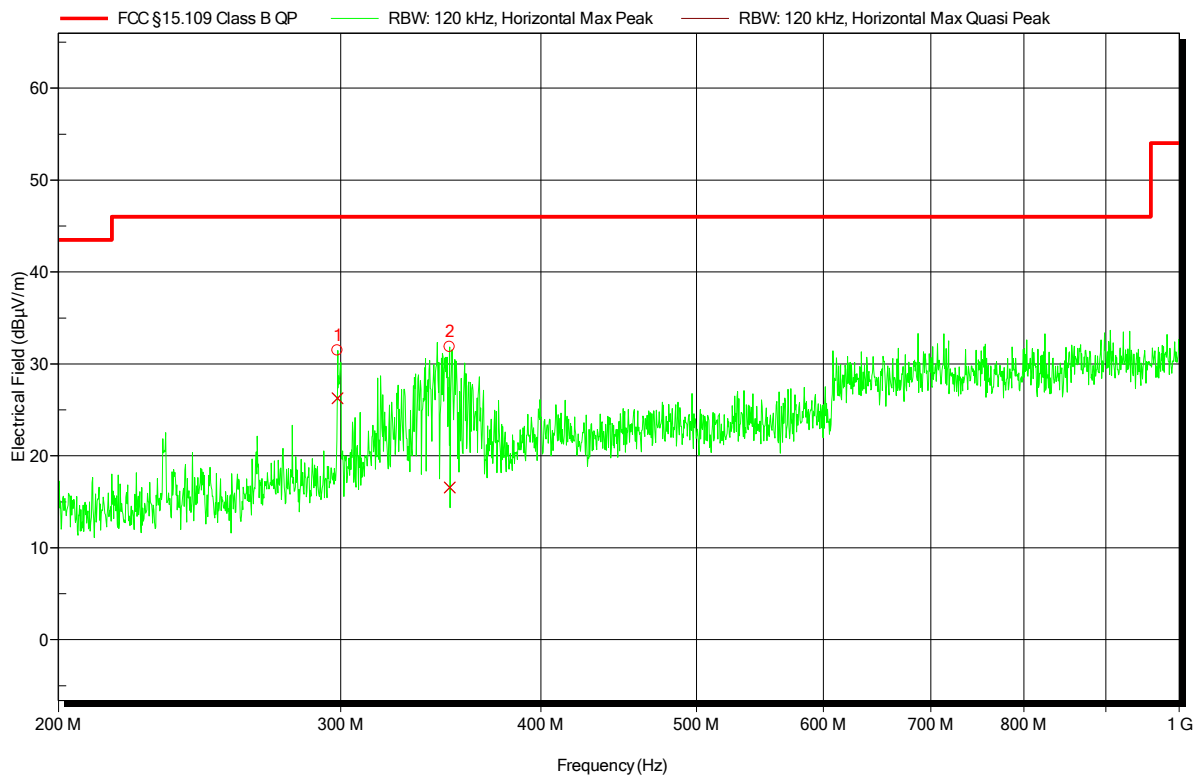


Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 25°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: Idle
Test Date: 2018-03-06
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	298.745 MHz	26.28 dBµV/m	46.02 dBµV/m	-19.74 dB	Pass	200 Degree	1 m
2	350.862 MHz	16.57 dBµV/m	46.02 dBµV/m	-29.45 dB	Pass	200 Degree	1 m

Test Report No.: G0M-1712-7088-EF0115B-V02

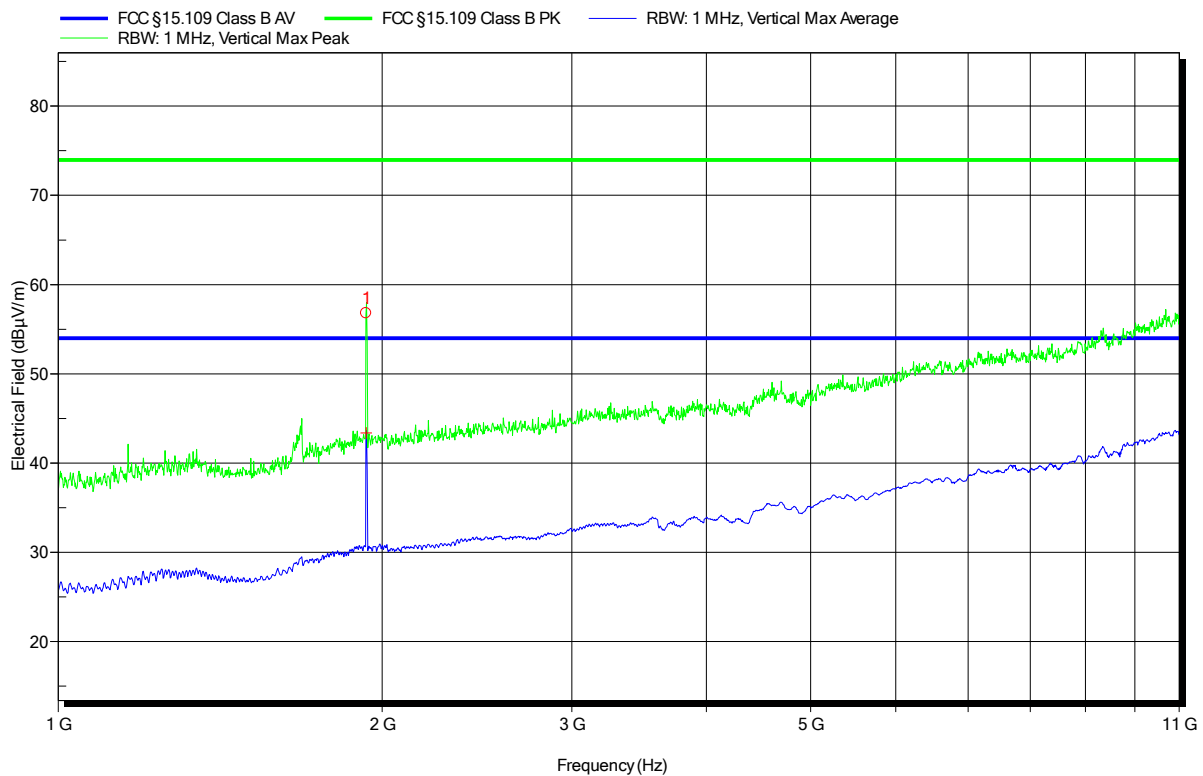
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
Antenna: ETS-Lindgren 3117, Vertical
Measurement distance: 3 m
Mode: Idle
Test Date: 2018-03-12
Note:

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Peak Number	Frequency	Peak	Angle	Height
1	1.933 GHz	GSM Downlink Signal		

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.933 GHz	GSM Downlink Signal					

Test Report No.: G0M-1712-7088-EF0115B-V02

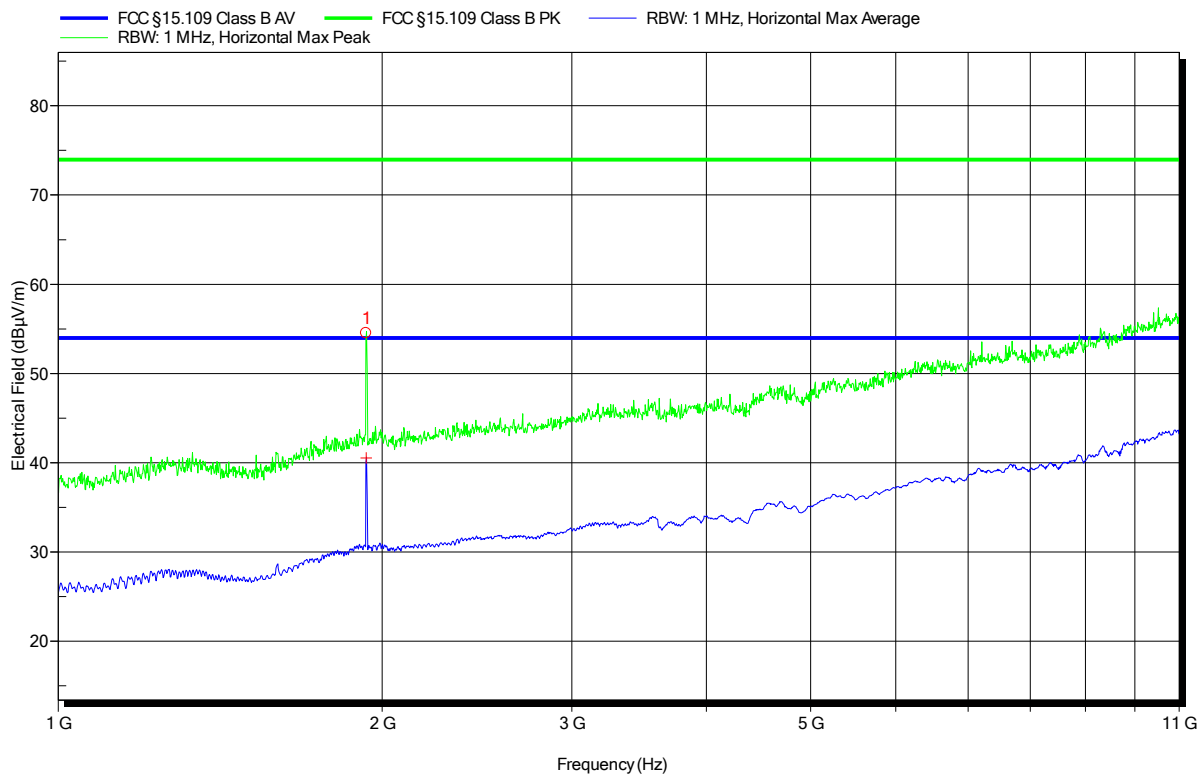
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions under normal conditions according to FCC Part 15B

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC via AC/DC-Adaptor
 Antenna: ETS-Lindgren 3117, Horizontal
 Measurement distance: 3 m
 Mode: Idle
 Test Date: 2018-03-12
 Note: h=175
 TT=60°

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Peak Number	Frequency	Peak	Angle	Height
1	1.933 GHz	GSM Downlink Signal		

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.933 GHz	GSM Downlink Signal					

Test Report No.: G0M-1712-7088-EF0115B-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.2 Test Conditions and Results – AC power line conducted emissions

Conducted emissions acc. FCC 47 CFR 15.107 / ICES-003			Verdict: PASS	
Laboratory Parameters:		Required prior to the test		During the test
Ambient Temperature		10 to 40 °C		23 °C
Relative Humidity		10 to 90 %		24 %
Test according referenced standards		Reference Method		
		ANSI C63.4		
Fully configured sample scanned over the following frequency range		Frequency range		
		0.15 MHz to 30 MHz		
Sample is tested with respect to the requirements of the equipment class		Equipment class		
		Class B		
Points of Application		Application Interface		
AC Mains		LISN		
Operating mode		1 / 2 / 3		
Configuration		2		
Limits and results Class B				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS
0.5 to 5	56	PASS	46	PASS
5 to 30	60	PASS	50	PASS
Comments:				
* Limit decreases linearly with the logarithm of the frequency.				

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- I/O cables were bundled not longer than 0.4 m
- Measurement was performed in the frequency range 0.15 – 30MHz on each current-carrying conductor
- To maximize the emissions the cable positions were manipulated
- The worst configuration of EUT and cables is shown on a test setup picture at item 1.3

Test Procedure:**Final measurement:**

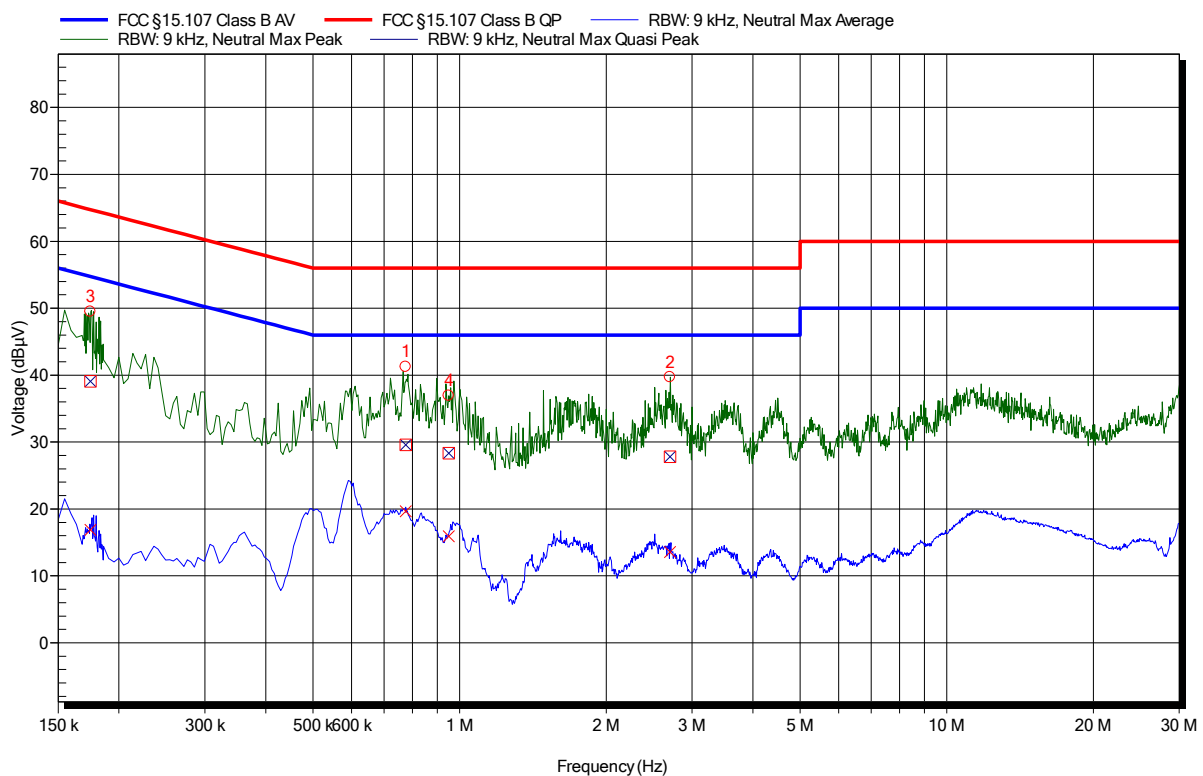
- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- The EUT and cable arrangement were based on the exploratory measurement results
- The test data of the worst-case conditions were recorded and shown on the next pages.

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 N
 Mode: GSM 850 Ch.191, Gamma3, Slot2
 Test Date: 2018-03-08
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	775.5 kHz	29.6 dBμV	56 dBμV	-26.4 dB	Pass
2	2.706 MHz	27.82 dBμV	56 dBμV	-28.18 dB	Pass
3	174.75 kHz	39.06 dBμV	64.73 dBμV	-25.67 dB	Pass
4	951 kHz	28.31 dBμV	56 dBμV	-27.69 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	775.5 kHz	19.66 dBμV	46 dBμV	-26.34 dB	Pass
2	2.706 MHz	13.56 dBμV	46 dBμV	-32.44 dB	Pass
3	174.75 kHz	16.86 dBμV	54.73 dBμV	-37.87 dB	Pass
4	951 kHz	15.9 dBμV	46 dBμV	-30.1 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

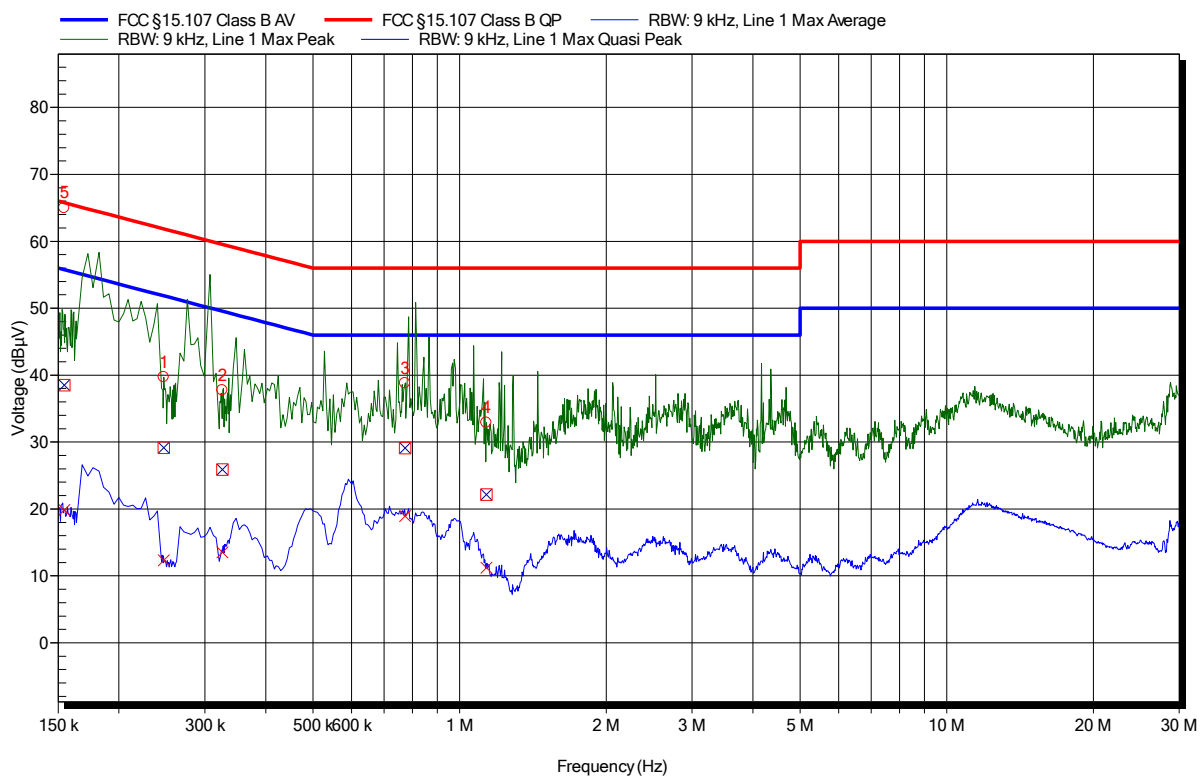
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 L
 Mode: GSM 850 Ch.191, Gamma3, Slot2
 Test Date: 2018-03-08
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	247.2 kHz	29.15 dBμV	61.85 dBμV	-32.7 dB	Pass
2	325.95 kHz	25.87 dBμV	59.55 dBμV	-33.68 dB	Pass
3	772.8 kHz	29.08 dBμV	56 dBμV	-26.92 dB	Pass
4	1.135 MHz	22.16 dBμV	56 dBμV	-33.84 dB	Pass
5	154.5 kHz	38.51 dBμV	65.75 dBμV	-27.25 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	247.2 kHz	12.33 dBμV	51.85 dBμV	-39.52 dB	Pass
2	325.95 kHz	13.54 dBμV	49.55 dBμV	-36.01 dB	Pass
3	772.8 kHz	18.94 dBμV	46 dBμV	-27.06 dB	Pass
4	1.135 MHz	11.2 dBμV	46 dBμV	-34.8 dB	Pass
5	154.5 kHz	19.87 dBμV	55.75 dBμV	-35.89 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

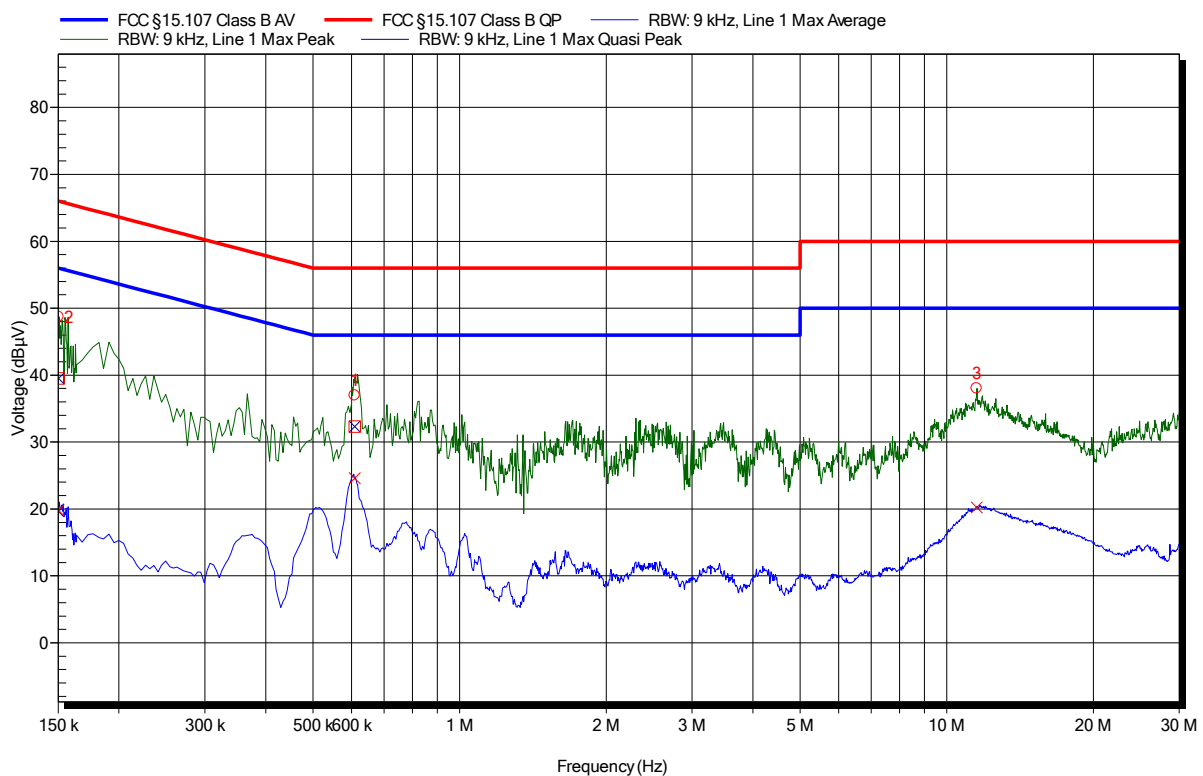
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 L
 Mode: GSM 1900 Ch.661, Gamma3, Slot2
 Test Date: 2018-03-08
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	609 kHz	32.33 dBμV	56 dBμV	-23.67 dB	Pass
2	150.45 kHz	39.51 dBμV	65.98 dBμV	-26.47 dB	Pass
3	11.513 MHz				

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	609 kHz	24.6 dBμV	46 dBμV	-21.4 dB	Pass
2	150.45 kHz	19.78 dBμV	55.98 dBμV	-36.2 dB	Pass
3	11.513 MHz	20.23 dBμV	50 dBμV	-29.77 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

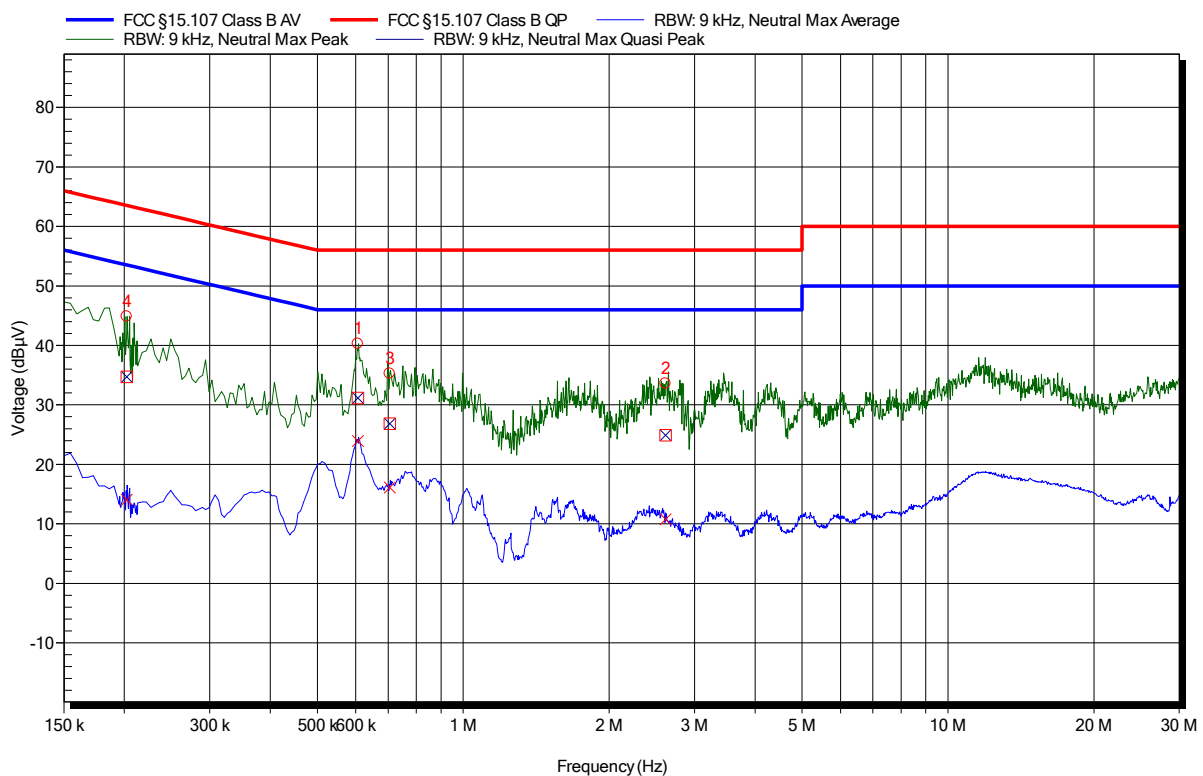
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA-3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 24°C, Unom: 5 VDC
LISN: ESH2-Z5 N
Mode: GSM 1900 Ch.661, Gamma3, Slot2
Test Date: 2018-03-08
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	606.75 kHz	31.14 dBμV	56 dBμV	-24.86 dB	Pass
2	2.613 MHz	24.9 dBμV	56 dBμV	-31.1 dB	Pass
3	705.3 kHz	26.84 dBμV	56 dBμV	-29.16 dB	Pass
4	202.2 kHz	34.71 dBμV	63.52 dBμV	-28.81 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	606.75 kHz	23.94 dBμV	46 dBμV	-22.06 dB	Pass
2	2.613 MHz	10.75 dBμV	46 dBμV	-35.25 dB	Pass
3	705.3 kHz	16.13 dBμV	46 dBμV	-29.87 dB	Pass
4	202.2 kHz	14.07 dBμV	53.52 dBμV	-39.45 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

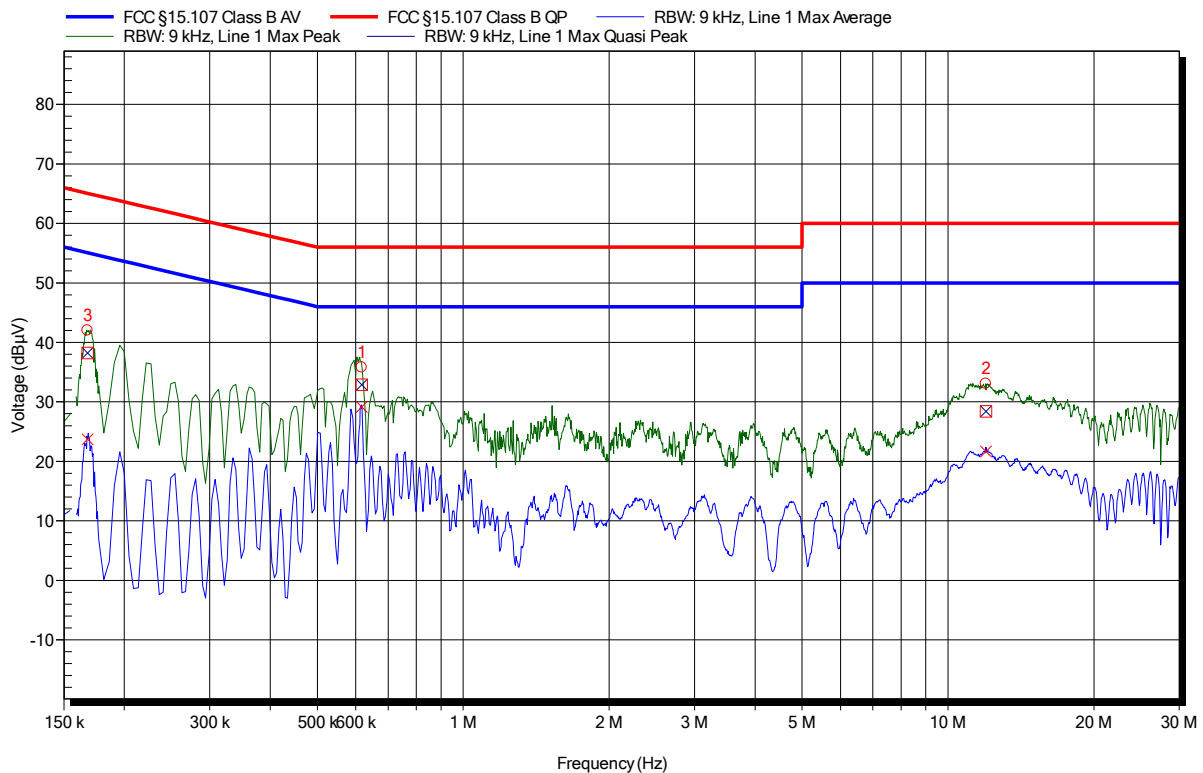
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 L
 Mode: UMTS FDDV CH. 4132
 Test Date: 2018-03-07
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	617.1 kHz	32.88 dBμV	56 dBμV	-23.12 dB	Pass
2	11.967 MHz	28.38 dBμV	60 dBμV	-31.62 dB	Pass
3	168 kHz	38.21 dBμV	65.06 dBμV	-26.85 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	617.1 kHz	29.14 dBμV	46 dBμV	-16.86 dB	Pass
2	11.967 MHz	21.68 dBμV	50 dBμV	-28.32 dB	Pass
3	168 kHz	23.71 dBμV	55.06 dBμV	-31.35 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

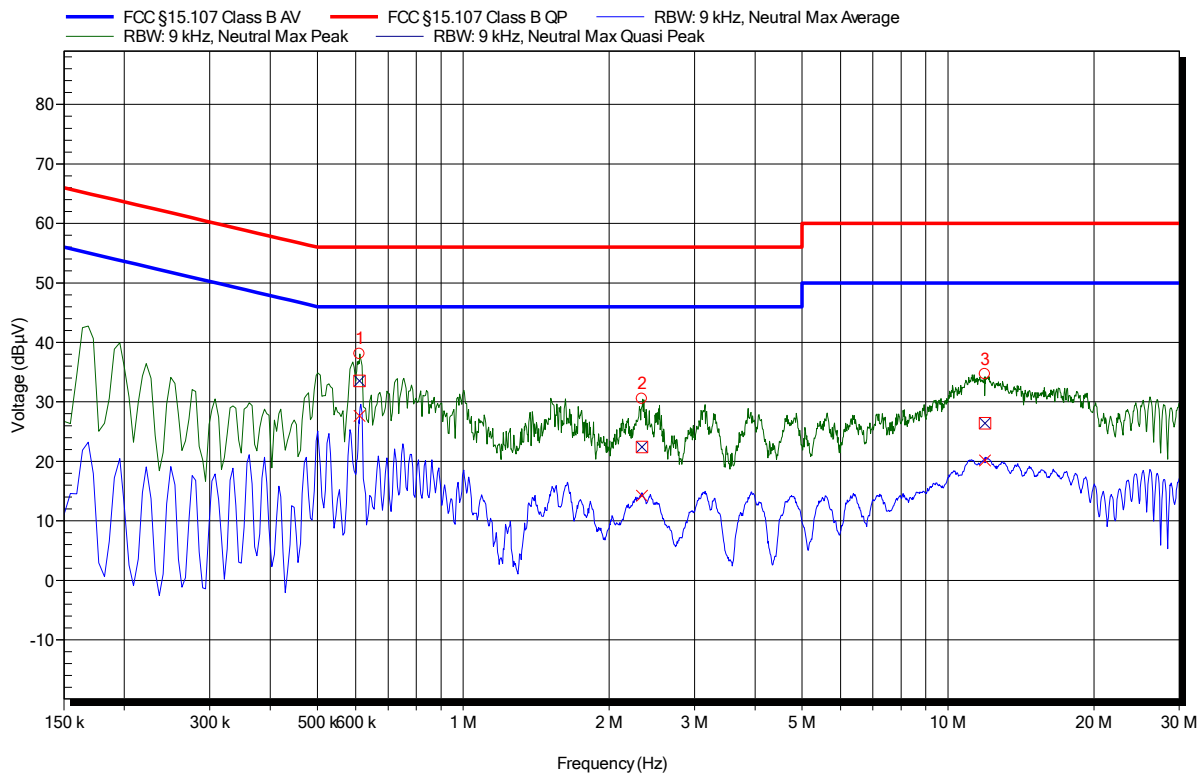
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA-3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 24°C, Unom: 5 VDC
LISN: ESH2-Z5 N
Mode: UMTS FDDV CH. 4132
Test Date: 2018-03-07
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	610.8 kHz	33.54 dBμV	56 dBμV	-22.46 dB	Pass
2	2.337 MHz	22.39 dBμV	56 dBμV	-33.61 dB	Pass
3	11.918 MHz	26.4 dBμV	60 dBμV	-33.6 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	610.8 kHz	27.63 dBμV	46 dBμV	-18.37 dB	Pass
2	2.337 MHz	14.23 dBμV	46 dBμV	-31.77 dB	Pass
3	11.918 MHz	20.14 dBμV	50 dBμV	-29.86 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

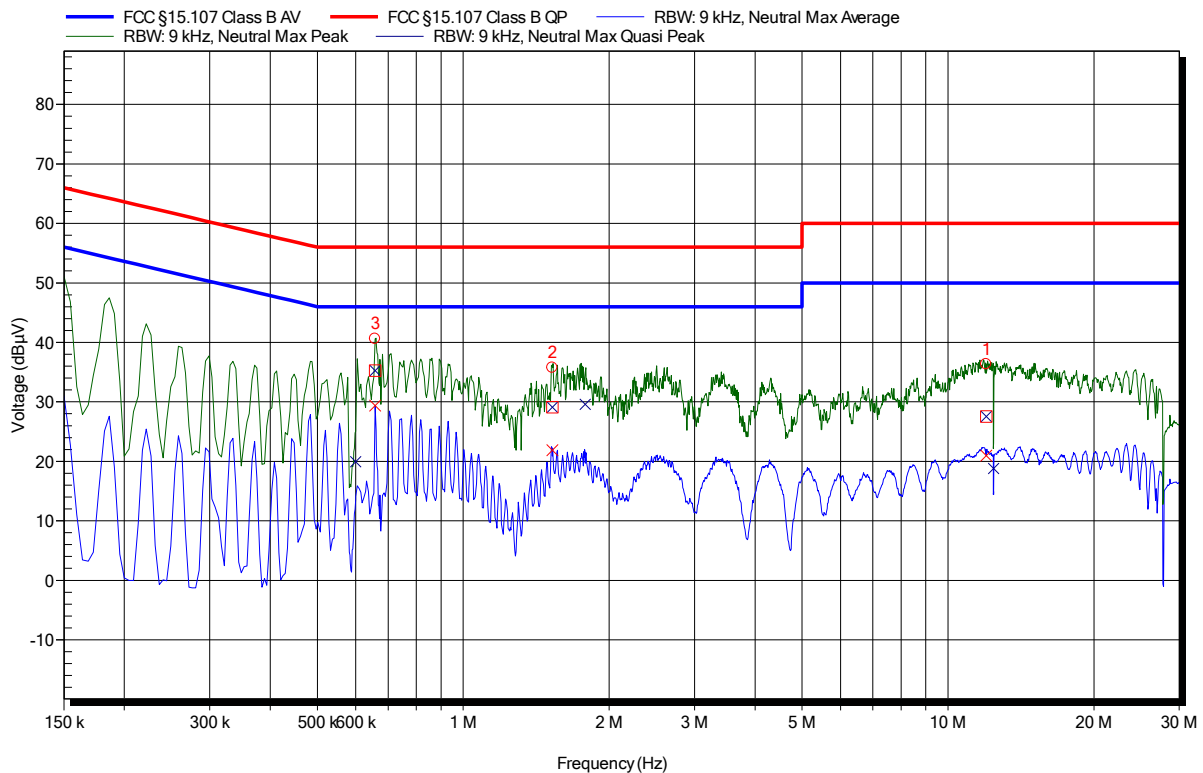
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
EUT Name: UMTS/GSM-Stick
Model: SAMBA-3G-G
Test Site: Eurofins Product Service GmbH
Operator: Mr. Weber
Test Conditions: Tnom: 24°C, Unom: 5 VDC
LISN: ESH2-Z5 N
Mode: UMTS FDDII CH. 9262
Test Date: 2018-03-07
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	11.99 MHz	27.52 dBμV	60 dBμV	-32.48 dB	Pass
2	1.528 MHz	29.09 dBμV	56 dBμV	-26.91 dB	Pass
3	658.5 kHz	35.25 dBμV	56 dBμV	-20.75 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	11.99 MHz	20.96 dBμV	50 dBμV	-29.04 dB	Pass
2	1.528 MHz	21.85 dBμV	46 dBμV	-24.15 dB	Pass
3	658.5 kHz	29.38 dBμV	46 dBμV	-16.62 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

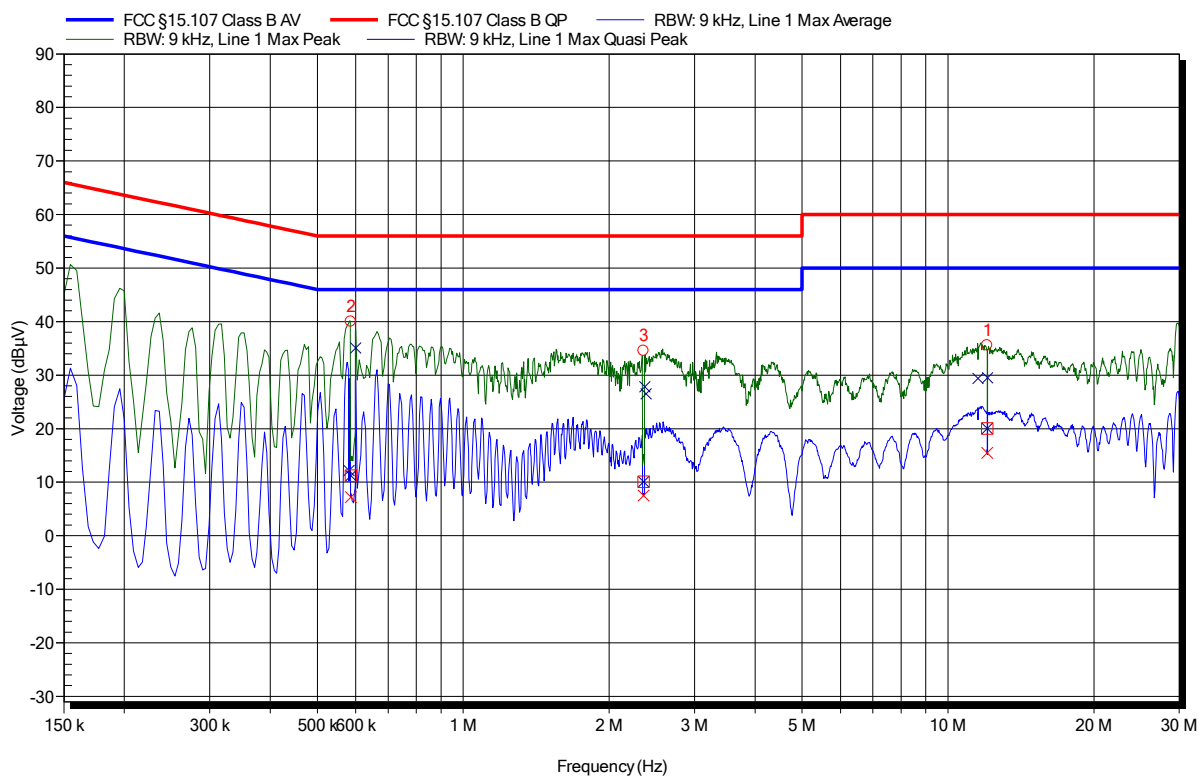
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 L
 Mode: UMTS FDDII CH. 9262
 Test Date: 2018-03-07
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	12.055 MHz	20.02 dBμV	60 dBμV	-39.98 dB	Pass
2	586.5 kHz	11.2 dBμV	56 dBμV	-44.8 dB	Pass
3	2.355 MHz	10.07 dBμV	56 dBμV	-45.93 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	12.055 MHz	15.48 dBμV	50 dBμV	-34.52 dB	Pass
2	586.5 kHz	7.23 dBμV	46 dBμV	-38.77 dB	Pass
3	2.355 MHz	7.53 dBμV	46 dBμV	-38.47 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

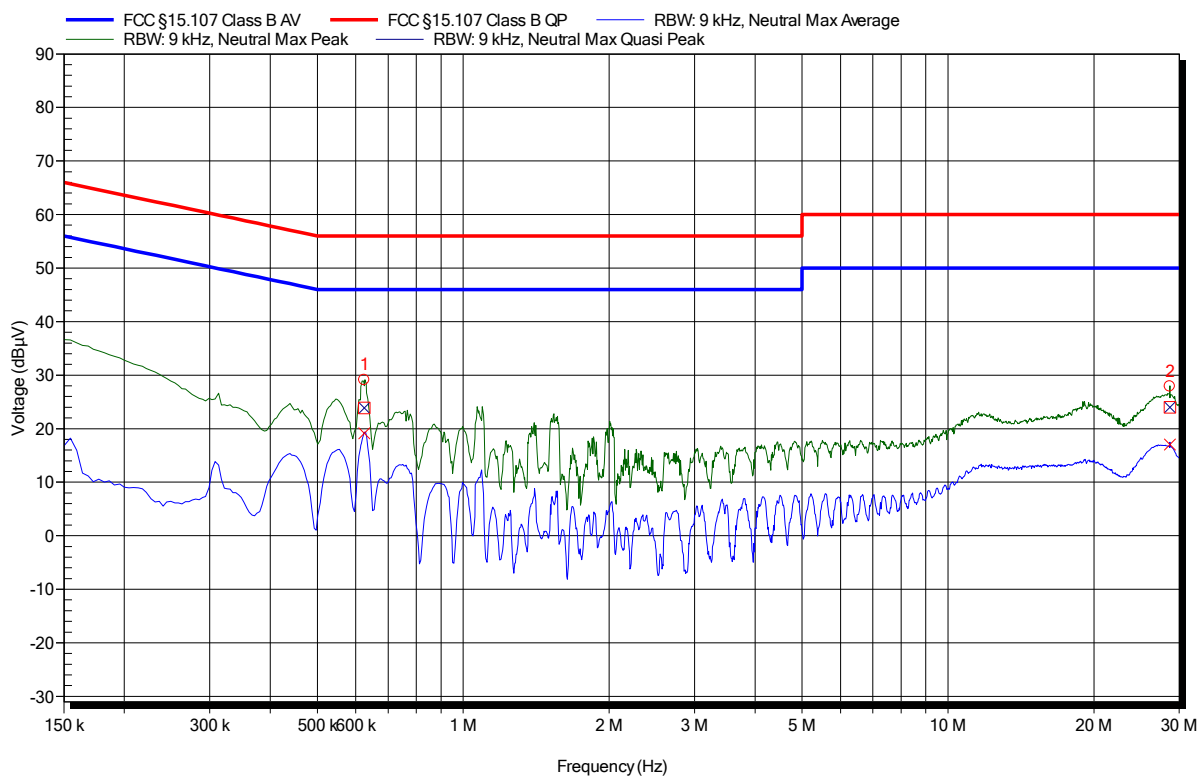
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 N
 Mode: Idle
 Test Date: 2018-03-08
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	625.2 kHz	23.84 dBμV	56 dBμV	-32.16 dB	Pass
2	28.671 MHz	23.99 dBμV	60 dBμV	-36.01 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	625.2 kHz	19.14 dBμV	46 dBμV	-26.86 dB	Pass
2	28.671 MHz	17.03 dBμV	50 dBμV	-32.97 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

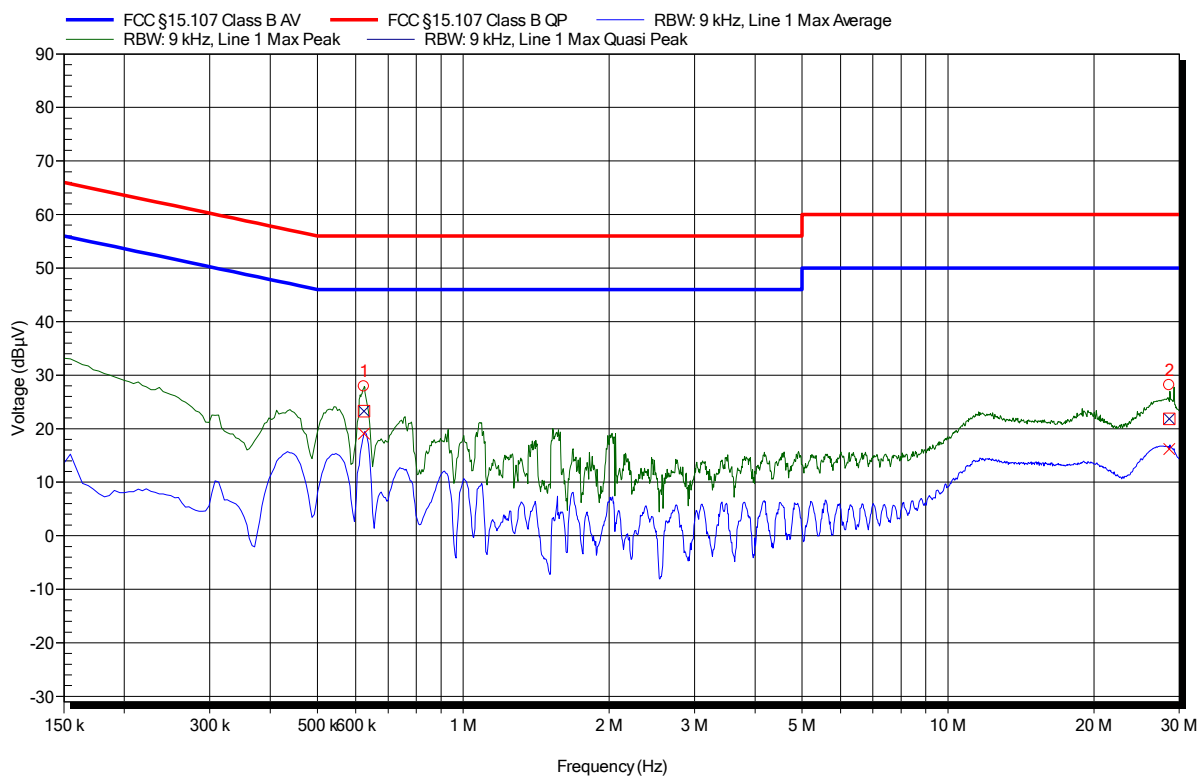
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1712-7088

Applicant: FALCOM GmbH
 EUT Name: UMTS/GSM-Stick
 Model: SAMBA-3G-G
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Weber
 Test Conditions: Tnom: 24°C, Unom: 5 VDC
 LISN: ESH2-Z5 L
 Mode: Idle
 Test Date: 2018-03-08
 Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	623.85 kHz	23.26 dBμV	56 dBμV	-32.74 dB	Pass
2	28.604 MHz	21.85 dBμV	60 dBμV	-38.15 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	623.85 kHz	19.06 dBμV	46 dBμV	-26.94 dB	Pass
2	28.604 MHz	16.22 dBμV	50 dBμV	-33.78 dB	Pass

Test Report No.: G0M-1712-7088-EF0115B-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany