

RADIO REPORT FCC 47 CFR Part 15C ISED Canada RSS-247 Digital transmission systems operating within the 2400 – 2483.5 MHz band	
Report Reference No	G0M-1702-6295-TFC247WF-MU-V01
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 IC Testing Laboratory site: 3470A-2 IC Testing Laboratory site: 3470A-3
Applicant	eResearchTechnology GmbH
Address	Sieboldstrasse 3 97230 Estenfeld GERMANY
Test Specification	According to FCC/ISED rules
Standard	47 CFR Part 15C RSS-247, Issue 1, 2015-05
Non-Standard Test Method	None
Test Scope	partial compliance test
Equipment under Test (EUT):	
Product Description	Spirometer
Model(s)	SpiroSphere - Main Unit
Additional Model(s)	None
Brand Name(s)	SpiroSphere
Hardware Version(s)	04.04.03
Software Version(s)	Jet_Lib + Test_APP 0.14.0 ERT App: sd_SpiroSpherePackage-v1.1.19tgz
FCC-ID	2AAUFSPS001
IC	11335A-SPS001
Test Result	PASSED

Test Report No.: G0M-1702-6295-TFC247WF-MU-V01

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

Possible test case verdicts:		
required by standard but not tested	N/T	
not required by standard	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	2017-03-24	
Report:		
Compiled by	Sebastian Suckow	
Tested by (+ signature) (Responsible for Test)	Sebastian Suckow	
Approved by (+ signature) (Head of Lab)	Christian Weber	
Date of Issue	2017-05-12	
Total number of pages	95	
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 History			
Version	Issue Date	Remarks	Revised By
01	2017-05-12	Initial Release	

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
BPSK	Binary Phase Shift Keying
DSSS	Direct Sequence Spread Spectrum
EUT	Equipment Under Test
FCC	Federal Communications Commission
HT	High Throughput
IEEE 802.11	MAC and PHY Layer for WiFi
ISED	Innovation, Science and Economic Development Canada
OFDM	Orthogonal Frequency Division Multiple Access
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

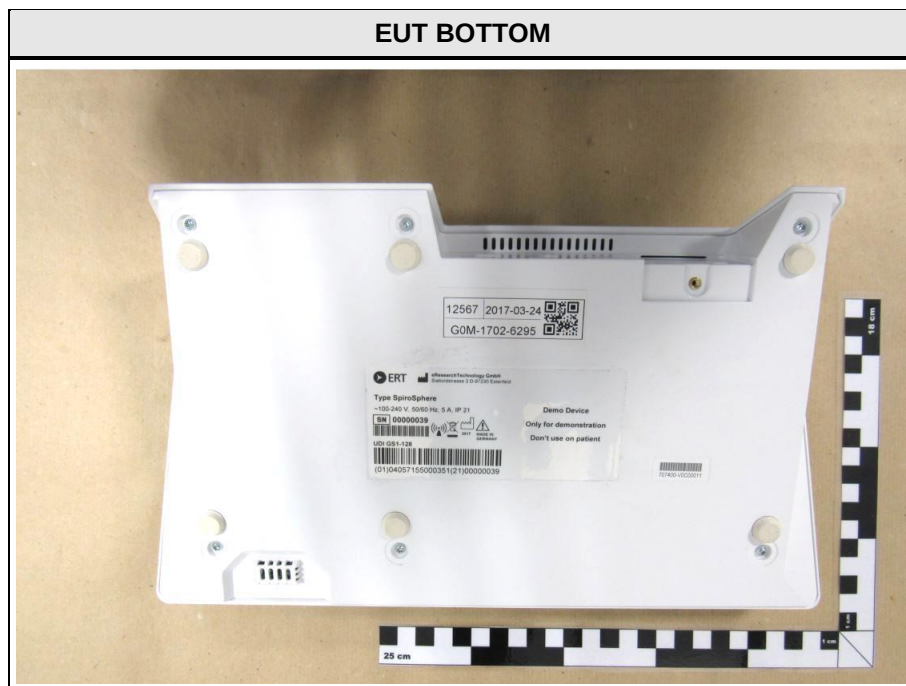
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1 Equipment (Test Item) Under Test

Description	Spirometer	
Model	SpiroSphere - Main Unit	
Additional Model(s)	None	
Brand Name(s)	SpiroSphere	
Serial Number(s)	None	
Hardware Version(s)	04.04.03	
Software Version(s)	Jet_Lib + Test_APP 0.14.0 ERT App: sd_SpiroSphere - Main Unit Package-v1.1.19tgz	
PMN	SpiroSphere	
HVIN	SpiroSphere	
FVIN	N/A	
HMN	N/A	
FCC-ID	2AAUFSPS001	
IC	11335A-SPS001	
Equipment type	End Product	
Radio type	Transceiver	
Assigned frequency bands	2400 - 2483.5 MHz	
Radio technology	IEEE 802.11 b/g/n (HT20 + HT40)	
Modulation	BPSK, QPSK, 16-QAM, 32-QAM	
Number of antenna ports	1	
Radio Module	Type	WLAN 802.11b/g/n HT20/40; Bluetooth and Bluetooth Low Energy Module
	Model	WL18 MODGB
	Manufacturer	Texas Instruments
	HW Version	n/a
	SW Version	n/a
	FCC-ID	Z64-WL18SBMOD
	IC	451I-WL18SBMOD
Antenna	Type	Integrated
	Model	ANT016008LCD2442MA
	Manufacturer	TDK
	Gain	2.4
Supply Voltage	V _{NOM}	230 VAC
Operating Temperature	T _{NOM}	25 °C
AC/DC-Adaptor	Model	RR9KA6000YL4CRVB3046
	Vendor	Globtek
	Input	100 to 240V /50/60Hz
	Output	5V /6A
Manufacturer	eResearchTechnology GmbH Sieboldstrasse 3 97230 Estenfeld GERMANY	

1.1 Photos – Equipment External



EUT INTERFACE



AC/DC Adaptor LABEL



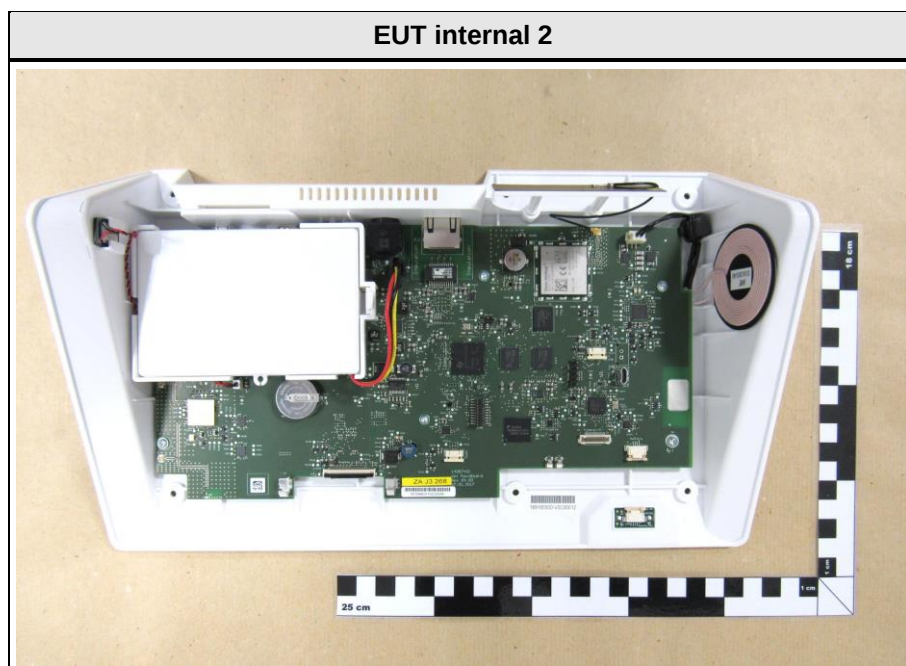
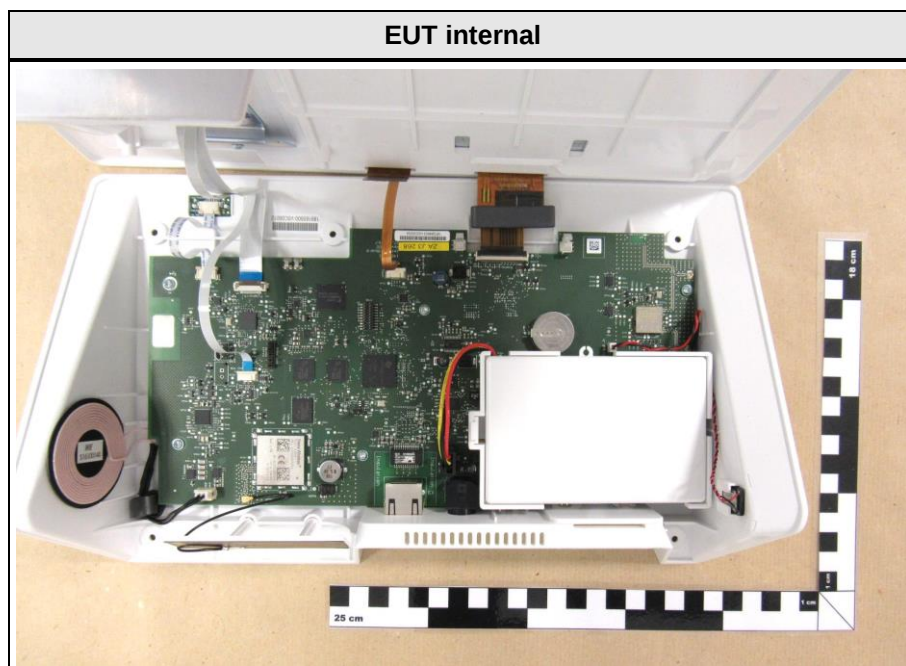
AC-DC ADAPTER BACK



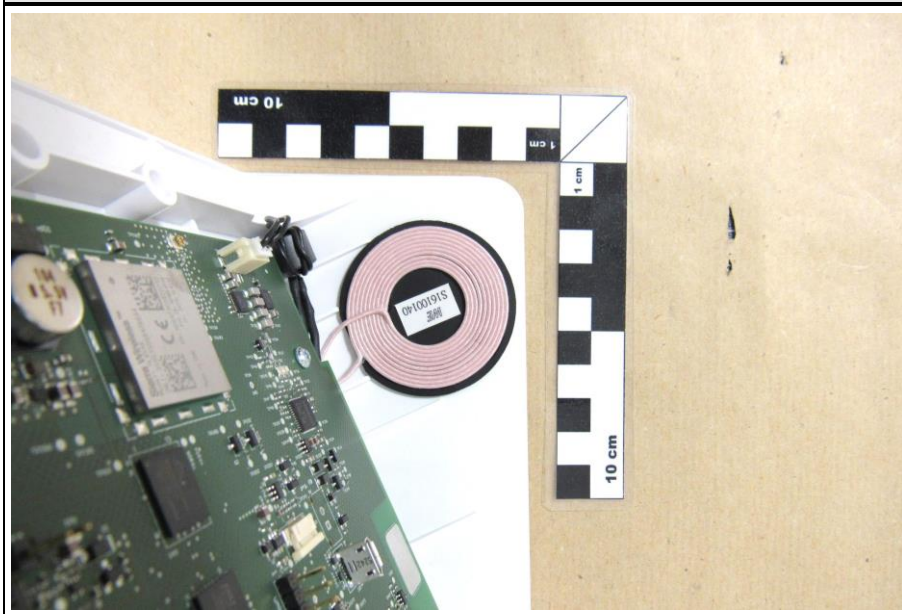
AC-DC ADAPTER SIDE



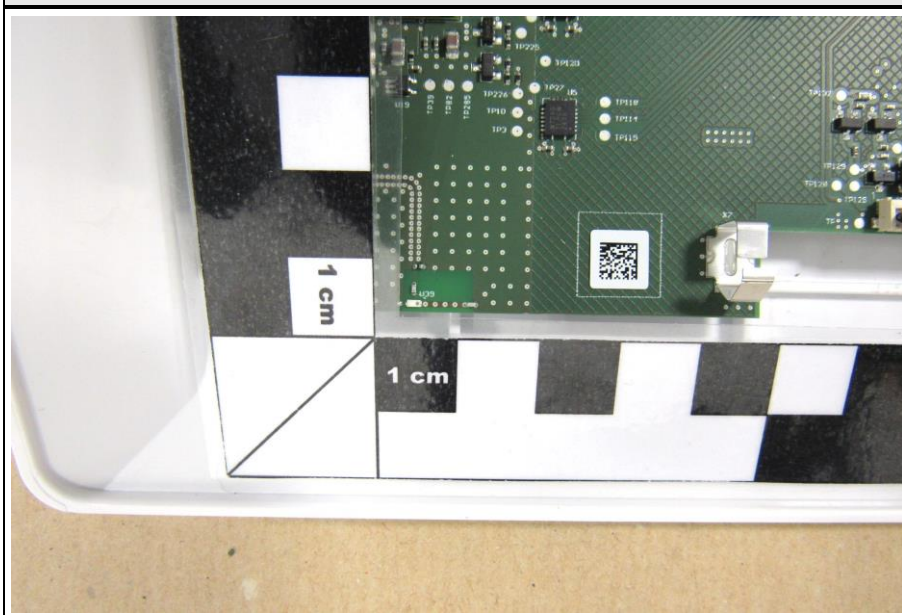
1.2 Photos – Equipment Internal



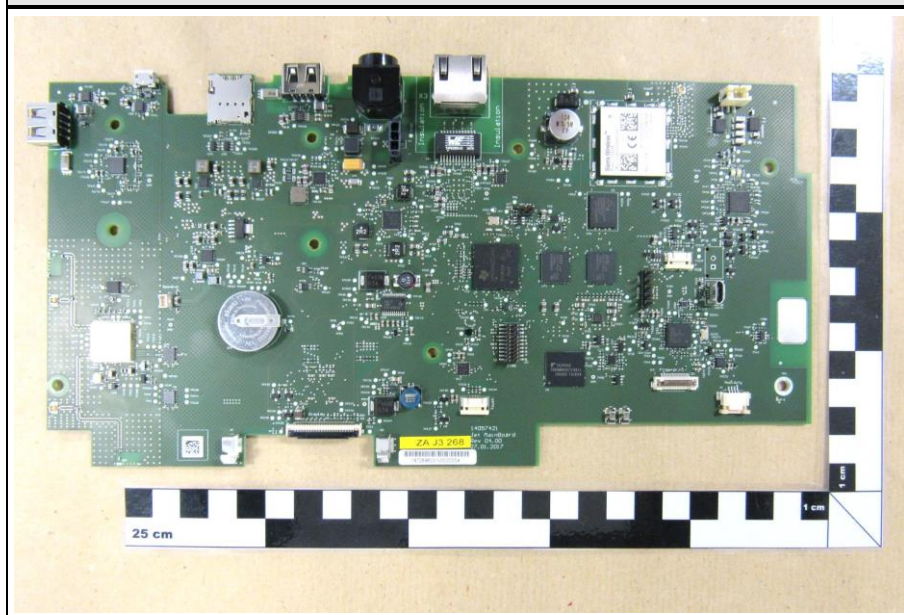
Loop antenna



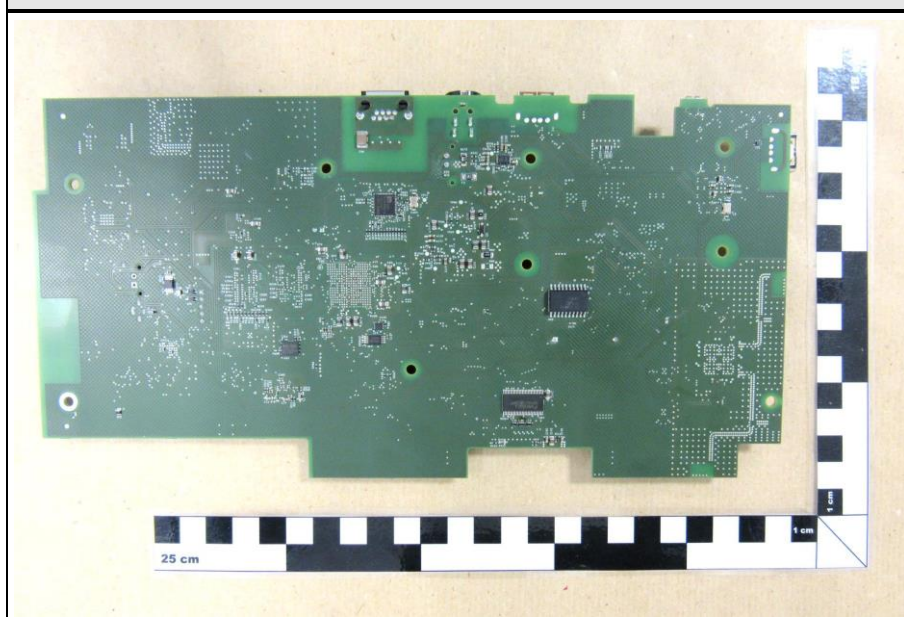
WLAN BT antenna



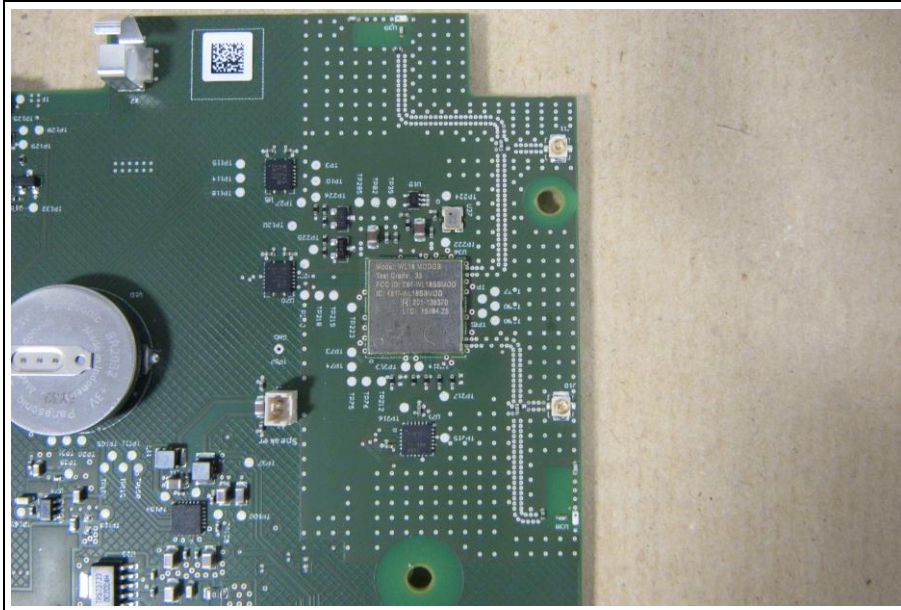
PCB Top



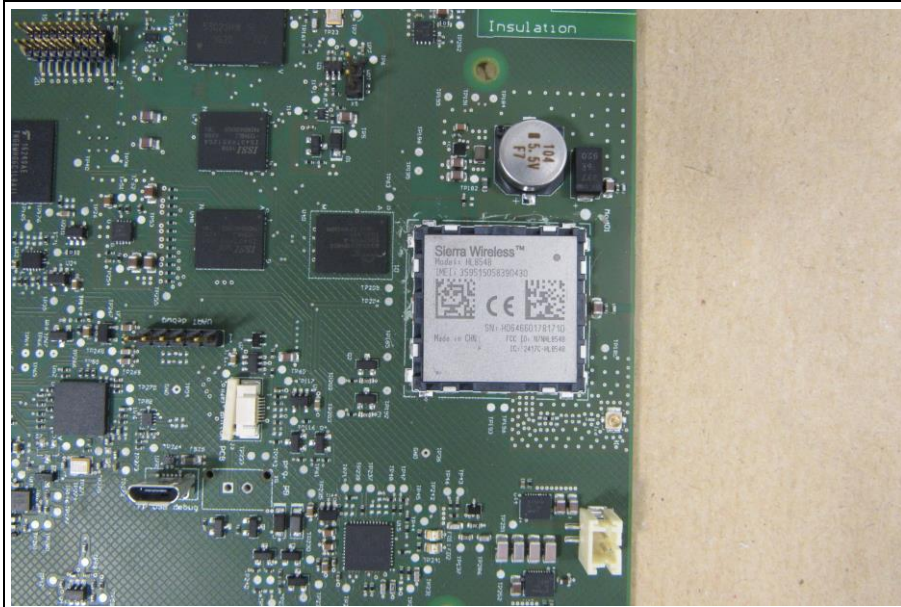
PCB Bottom



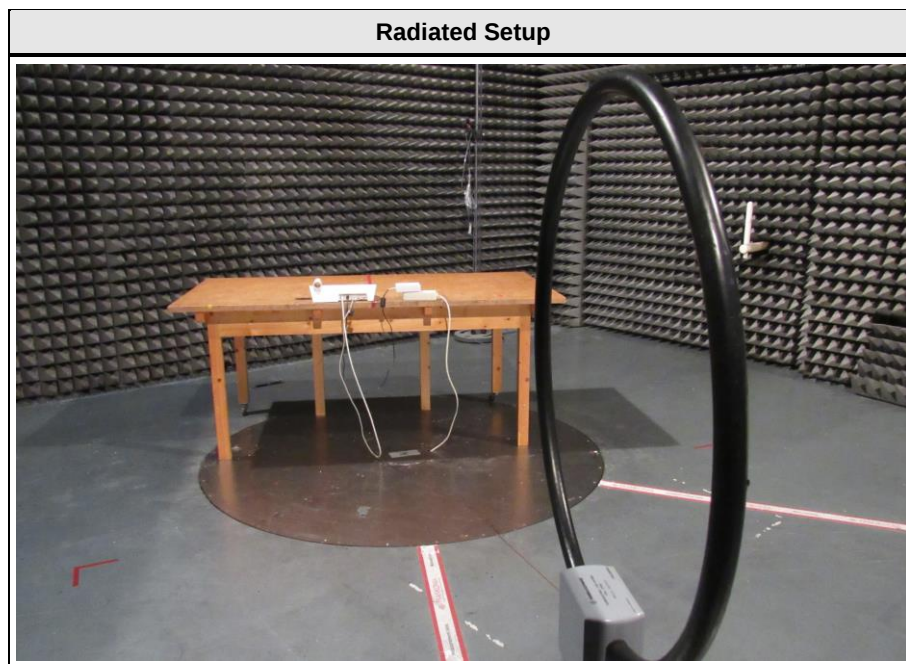
WLAN module



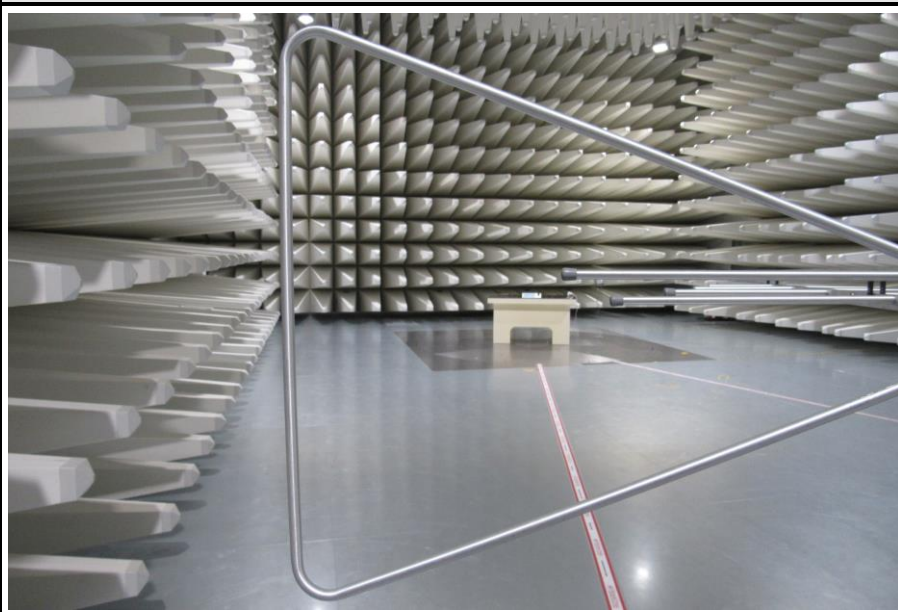
GSM module



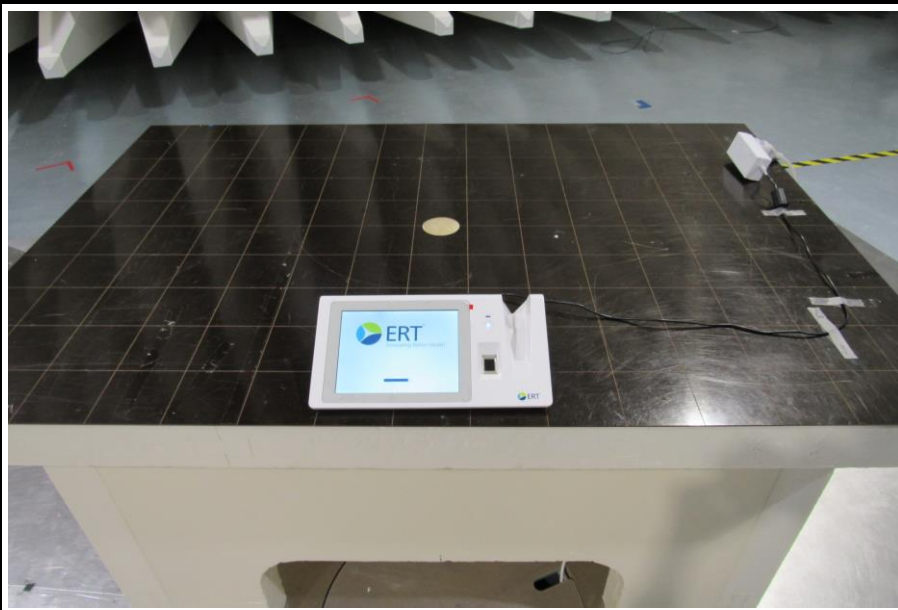
1.3 Photos – Test Setup



Setup Spurious radiated emissions



Setup Spurious radiated emissions



1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
None				
Description:				
AE	Auxillary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
Comment:				

1.5 Test Modes

Mode	Description
DSSS (IEEE 802.11b)	Mode = Transmit Modulation = BPSK Spreading = DSSS Bandwidth = 20 MHz Duty cycle = 100% Power setting = 19 dBm Data rate = 1 Mbps
OFDM (IEEE 802.11g)	Mode = Transmit Modulation = BPSK Spreading = OFDM Bandwidth = 20 MHz Duty cycle = 100% Power setting = 19 dBm Data rate = 6 Mbps
HT20 (IEEE 802.11n)	Mode = Transmit Modulation = BPSK Spreading = OFDM Bandwidth = 20 MHz Duty cycle = 100% Power setting (1 Simultaneous Tx) = 19 dBm Data rate (1 Simultaneous Tx) = 6.5 Mbps MCS (1 Simultaneous Tx) = 0
HT40 (IEEE 802.11n)	Mode = Transmit Modulation = BPSK Spreading = OFDM Bandwidth = 40 MHz Duty cycle = 100% Power setting (1 Simultaneous Tx) = 19 dBm Data rate (1 Simultaneous Tx) = 13.5 Mbps MCS (1 Simultaneous Tx) = 0
Receive	Mode = Receive
Comment: The above settings were found as worst case during pre-tests.	

1.6 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	1	2412
F2	Tx / Rx	3	2422
F3	Tx / Rx	6	2437
F4	Tx / Rx	9	2452
F5	Tx / Rx	11	2462

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:

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

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:

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

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 15C, ISED RSS-247				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
RSS-Gen 6.6	Occupied Bandwidth	ANSI C63.10	N/R	Informational only
FCC § 15.247(a)(2) ISED RSS-247 § 5.2	6 dB Bandwidth	ANSI C63.10	N/T	
FCC § 15.247(b)(3) ISED RSS-247 § 5.4	Maximum peak conducted power	ANSI C63.10	N/T	
FCC § 15.247(e) ISED RSS-247 § 5.2	Power spectral density	ANSI C63.10	N/T	
FCC § 15.207 ISED RSS-247 § 3.1	AC power line conducted emissions	ANSI C63.10	N/T	
FCC § 15.247(d) ISED RSS-247 § 5.5	Band edge compliance	ANSI C63.10	N/T	
FCC § 15.247(d) ISED RSS-247 § 5.5	Conducted spurious emissions	ANSI C63.10	N/T	
FCC § 15.247(d) FCC § 15.209 ISED RSS-GEN § 8.9	Transmitter radiated spurious emissions	ANSI C63.10	PASS	
ISED RSS-247 § 3.1	Receiver radiated spurious emissions	ANSI C63.10	PASS	
Comment:				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - Occupied bandwidth

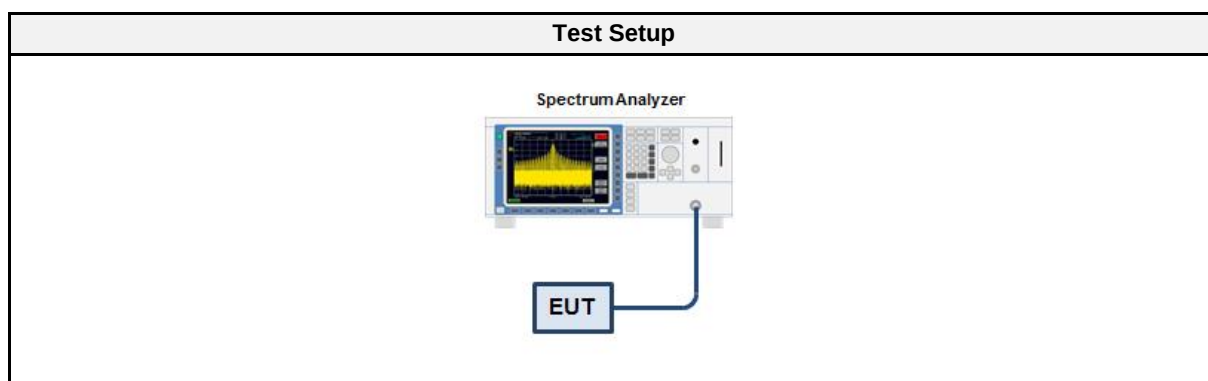
3.1.1 Information

Test Information	
Reference	ISED RSS-Gen 6.6
Measurement Method	ANSI C63.10 6.9.3
Operator	Sebastian Suckow
Date	2017-04-29

3.1.2 Limits

Limits
None (Informational only)

3.1.3 Setup



3.1.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSEK 30	EF00168	2016-12	2017-12

3.1.5 Procedure

Test Procedure
1. EUT transmitter is activated in test mode under normal conditions 2. The spectrum analyzer is set to peak detection and maximum hold with a span twice the emission spectrum 3. The resolution bandwidth is set to 1 % of the bandwidth 4. The occupied bandwidth is measured with the build-in analyzer function

3.1.6 Results

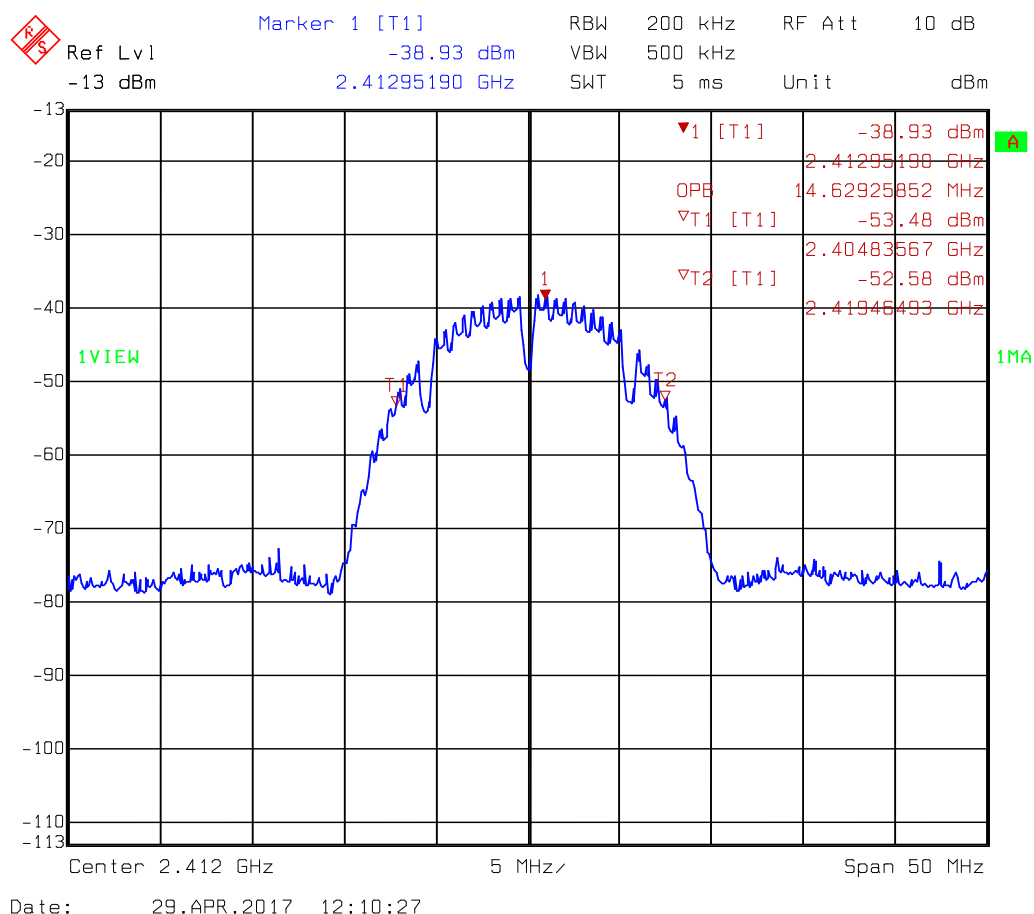
Test Results		
Mode	Frequency [MHz]	Bandwidth [MHz]
DSSS	2412	14.63
DSSS	2437	14.73
DSSS	2462	14.73
OFDM	2412	16.83
OFDM	2437	16.83
OFDM	2462	17.54
HT20	2412	17.94
HT20	2437	17.74
HT20	2462	18.04
HT40	2422	36.27
HT40	2437	36.47
HT40	2452	37.07

Occupied bandwidth – DSSS - 2412 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: DSSS 2412 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

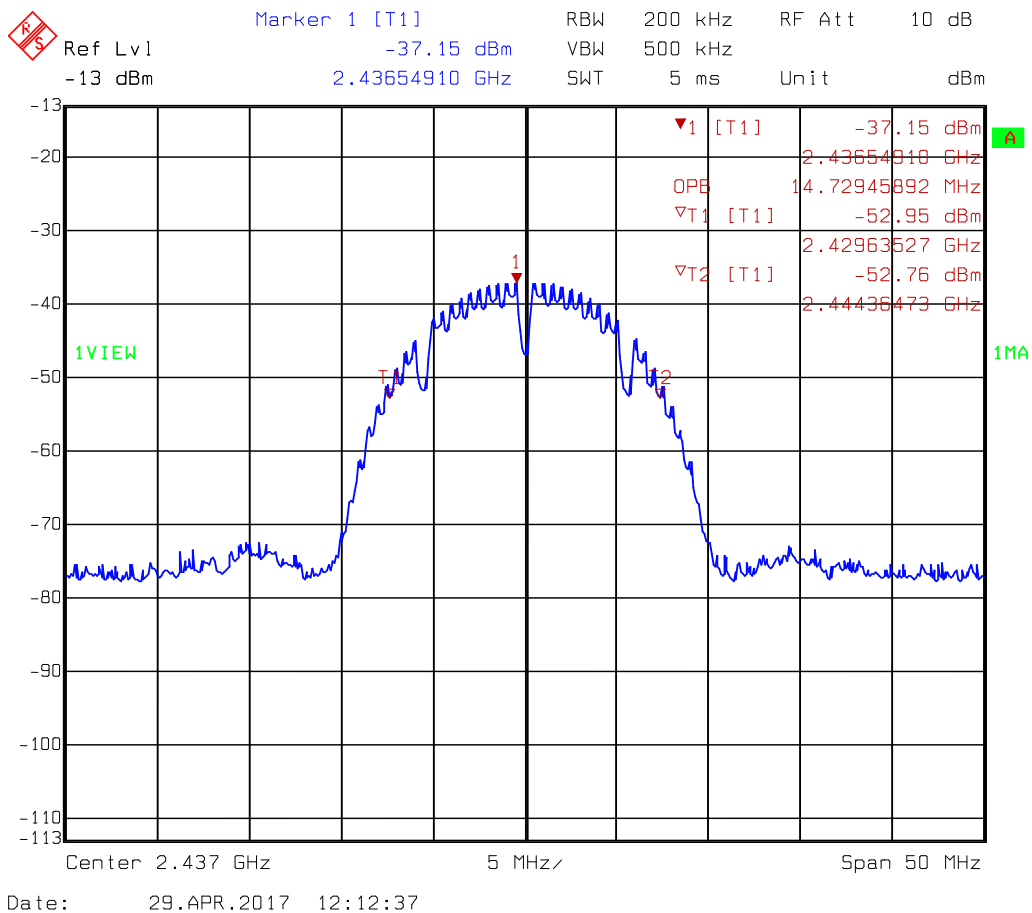


Occupied bandwidth – DSSS - 2437 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: DSSS 2437 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

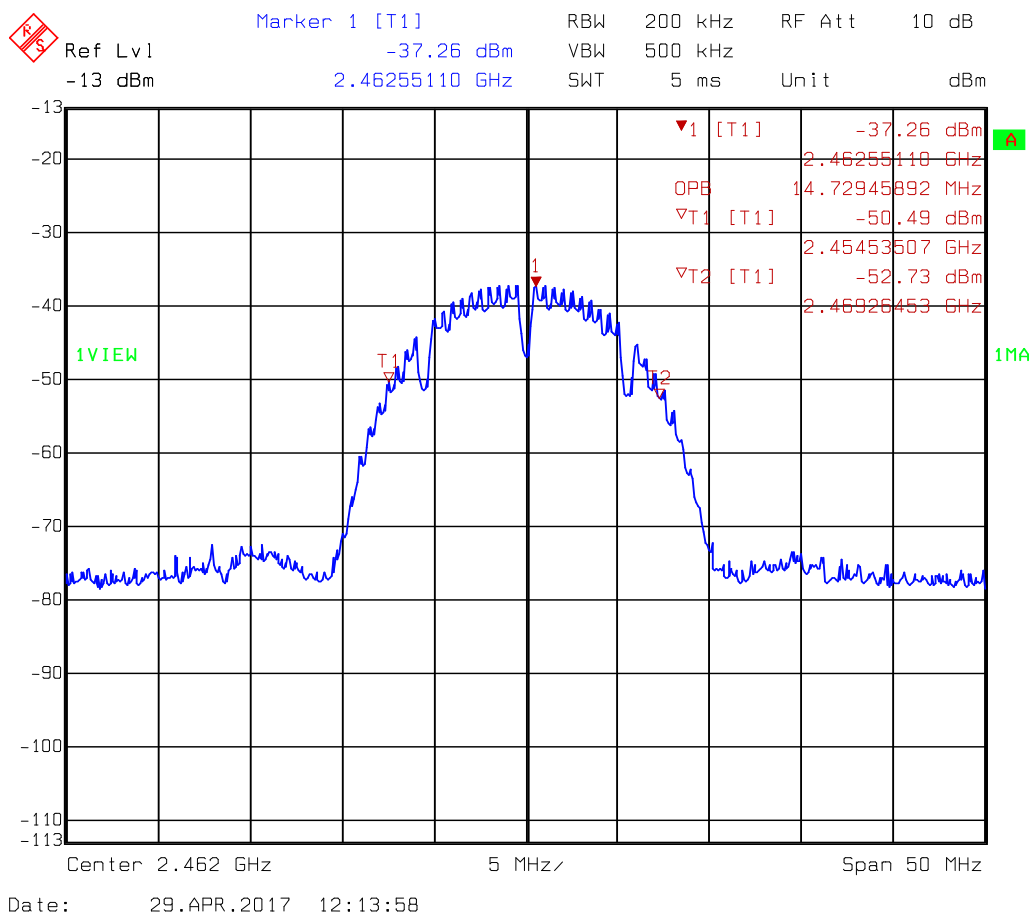


Occupied bandwidth – DSSS - 2462 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: DSSS 2462 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

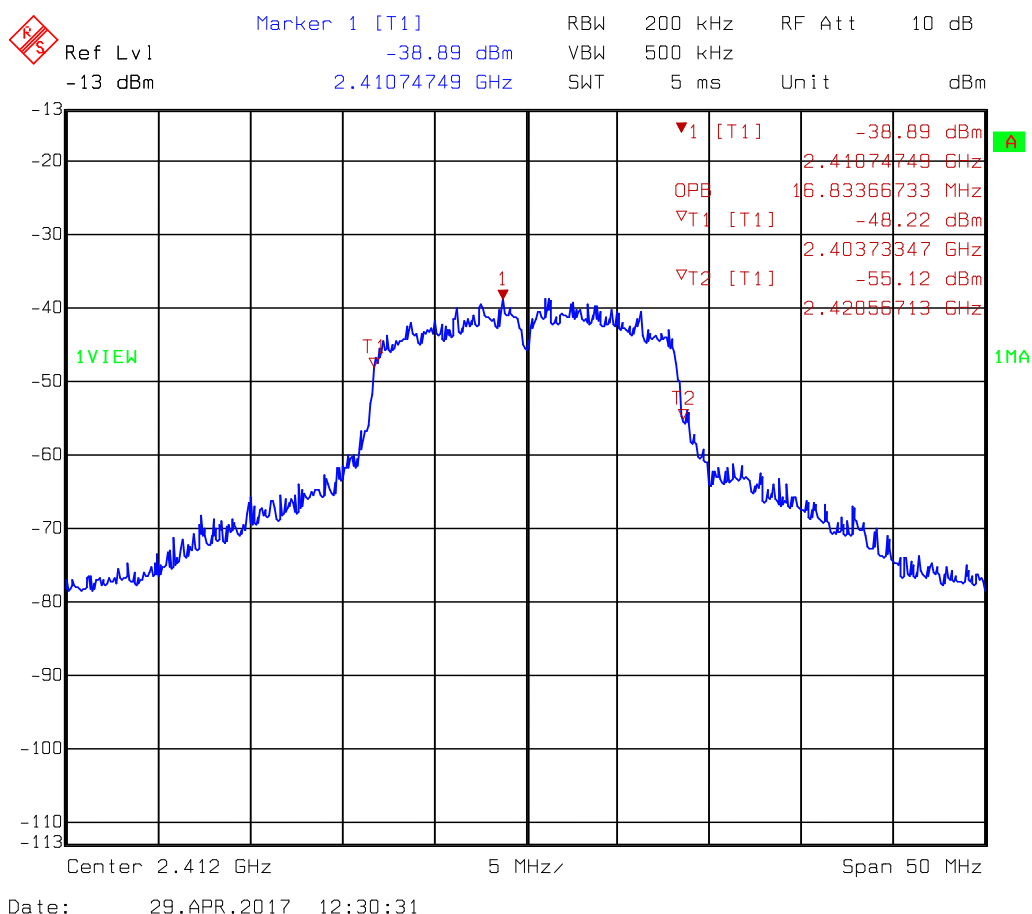


Occupied bandwidth – OFDM - 2412 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: OFDM 2412 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

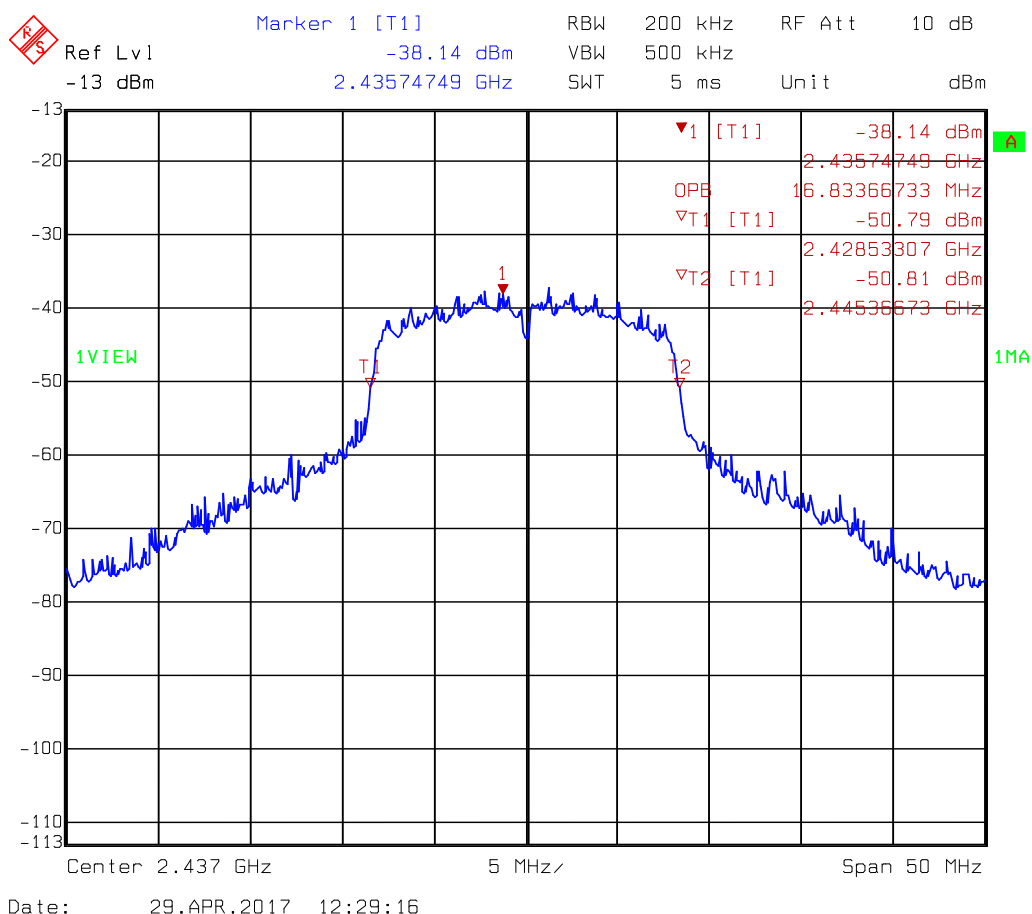


Occupied bandwidth – OFDM - 2437 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: OFDM 2437 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

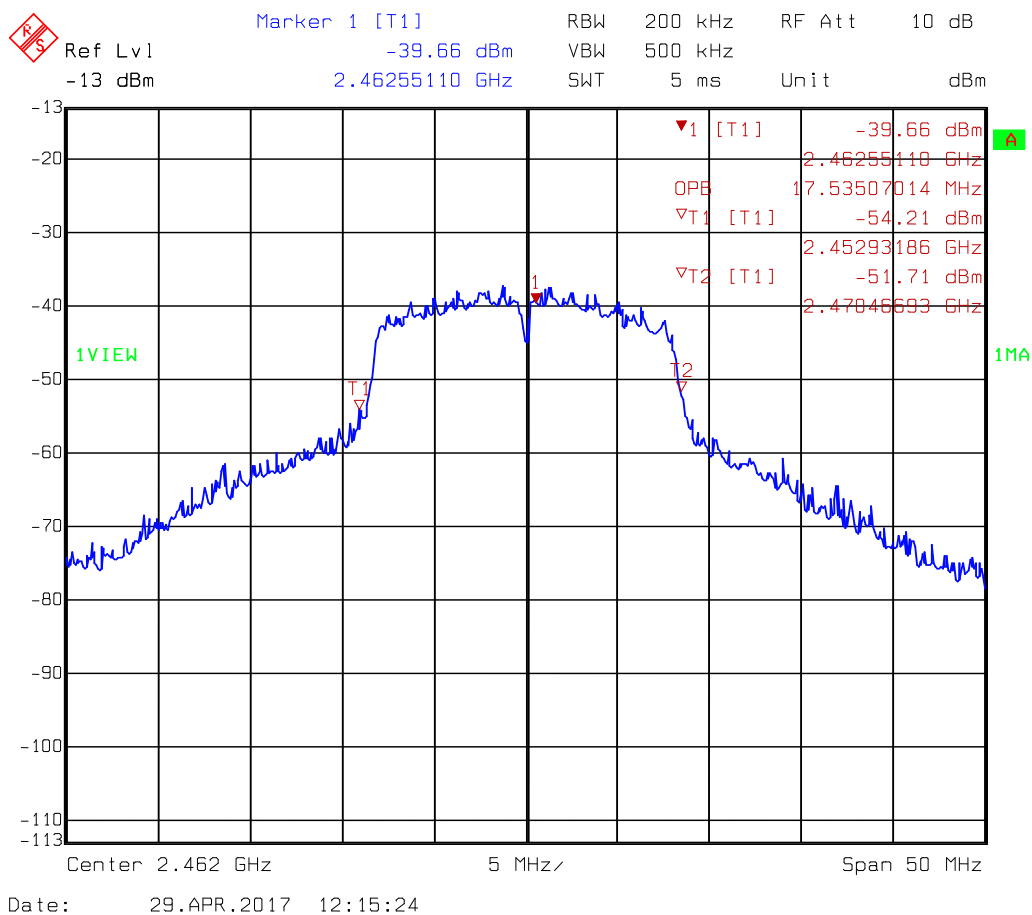


Occupied bandwidth – OFDM - 2462 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: OFDM 2462 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

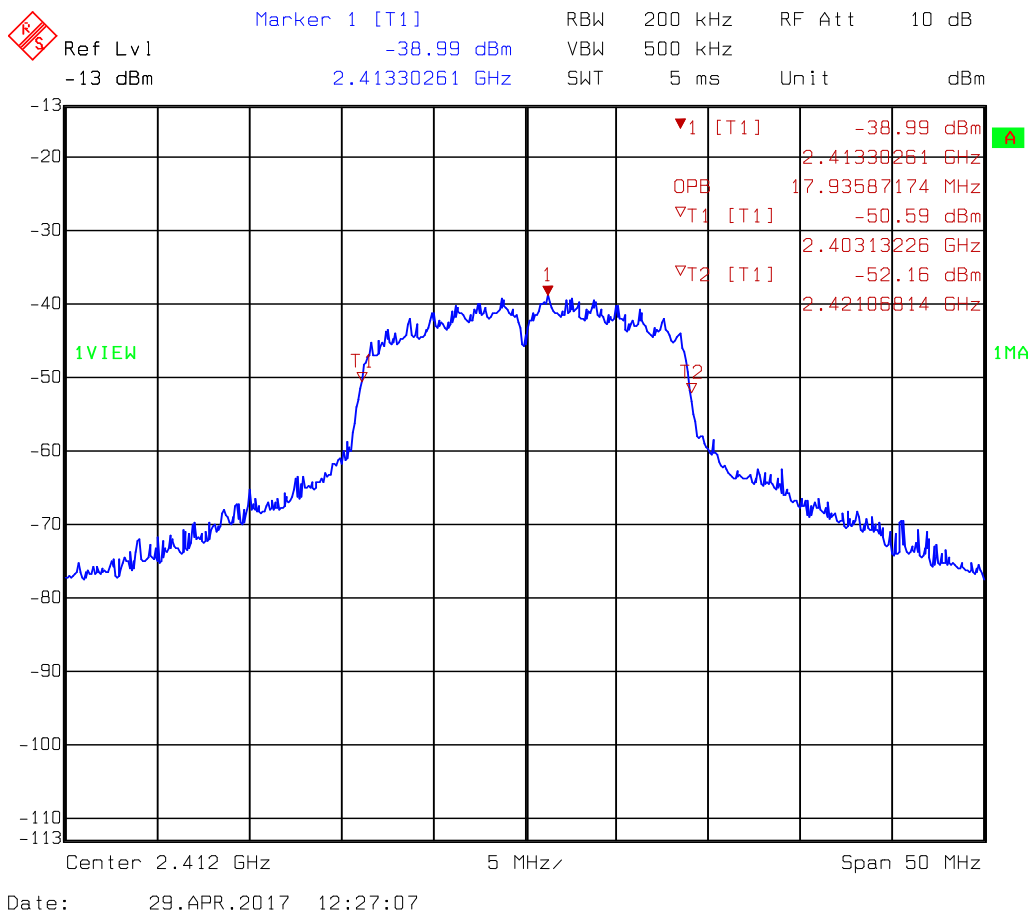


Occupied bandwidth – HT20 - 2412 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Christian Weber
 Test Conditions: Tnom / Vnom
 Mode: HT20 2412 MHz
 Test Date: 2017-04-29
 Verdict: NONE (INFORMATION ONLY)
 Note 1: measurement acc. to ANSI C63.10 6.9.3
 Note 2: Reference ISSED RSS-Gen 6.6

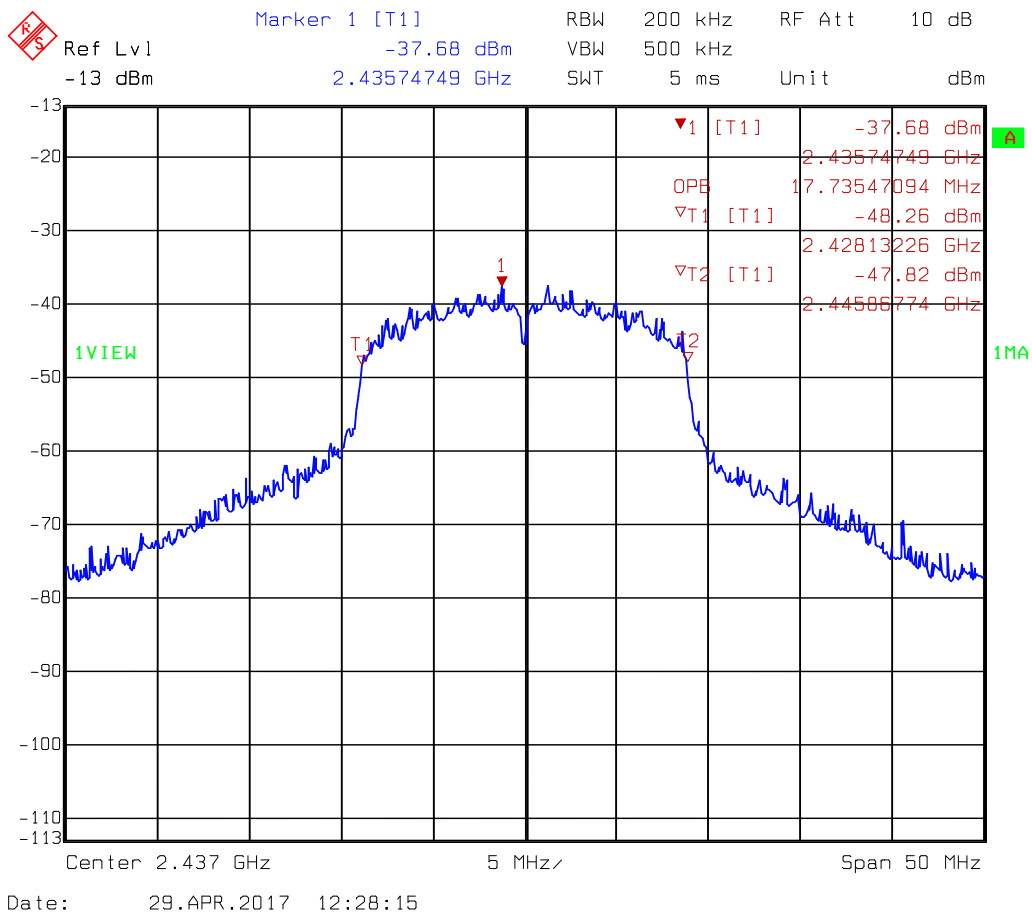


Occupied bandwidth – HT20 - 2437 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: HT20 2437 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

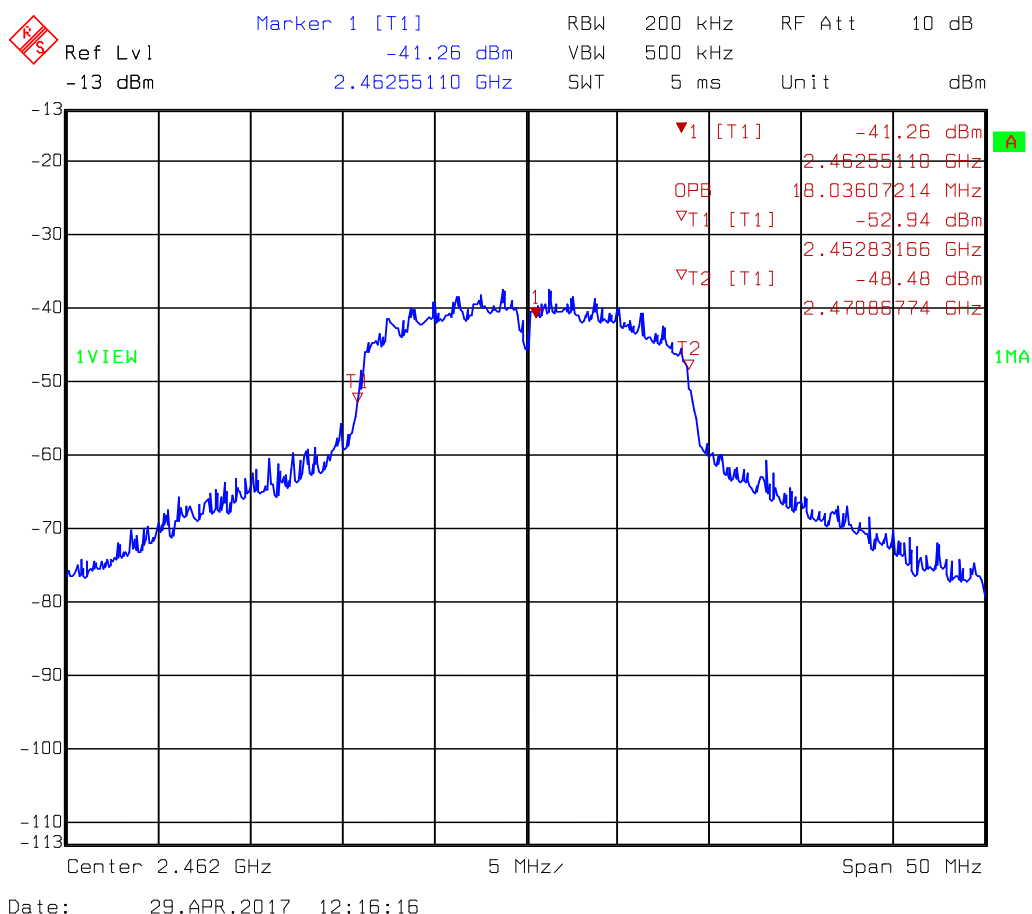


Occupied bandwidth – HT20 - 2462 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: HT20 2462 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

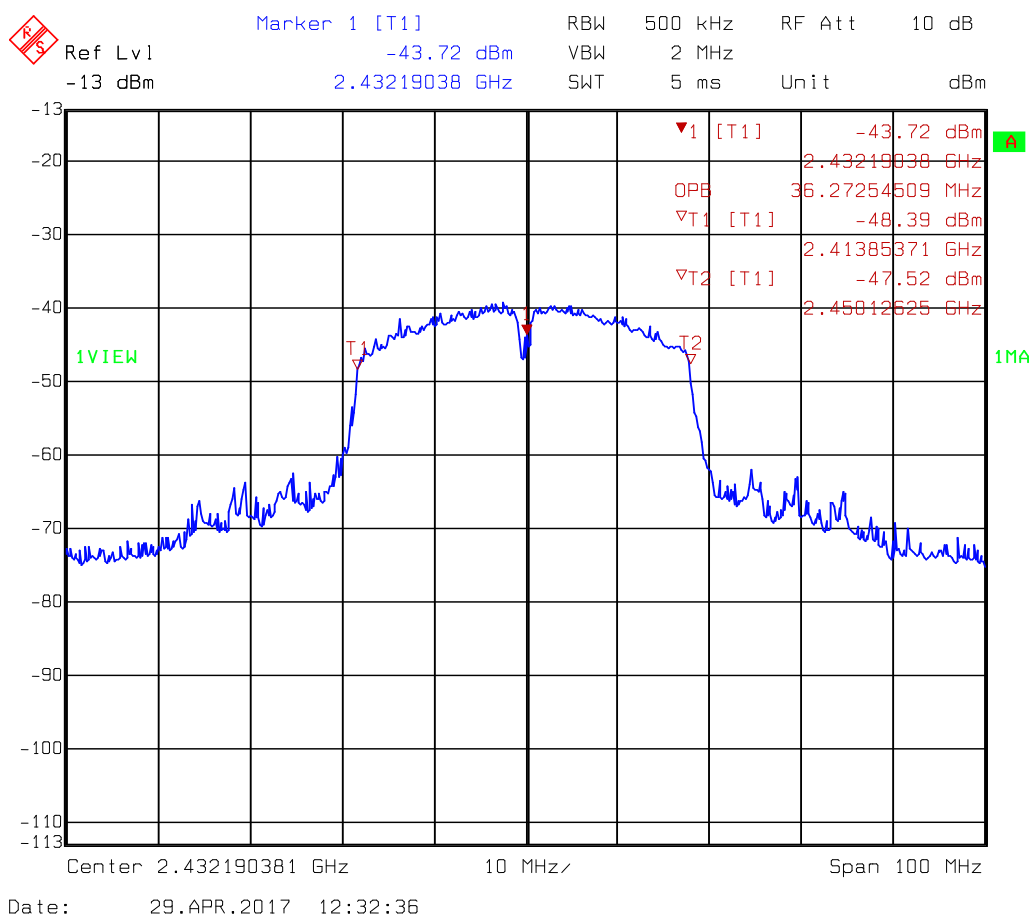


Occupied bandwidth – HT40 - 2422 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: HT40 2422 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

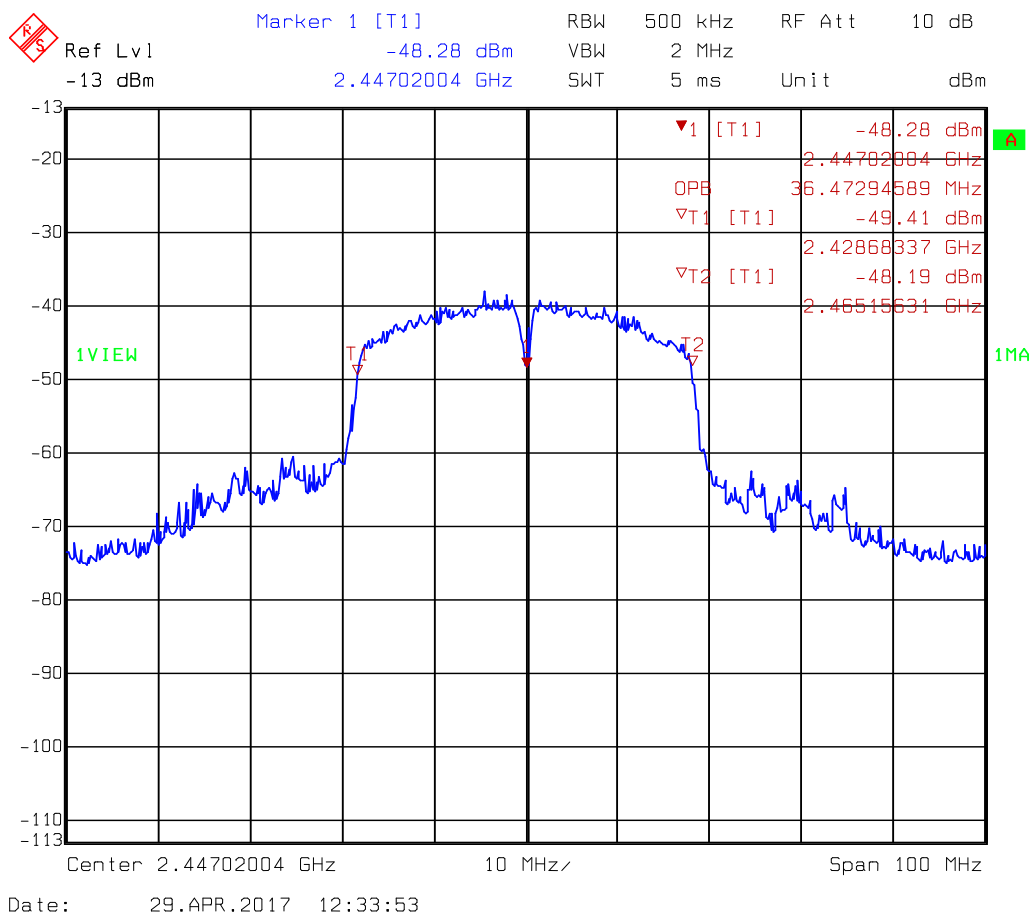


Occupied bandwidth – HT40 - 2437 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: HT40 2437 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6

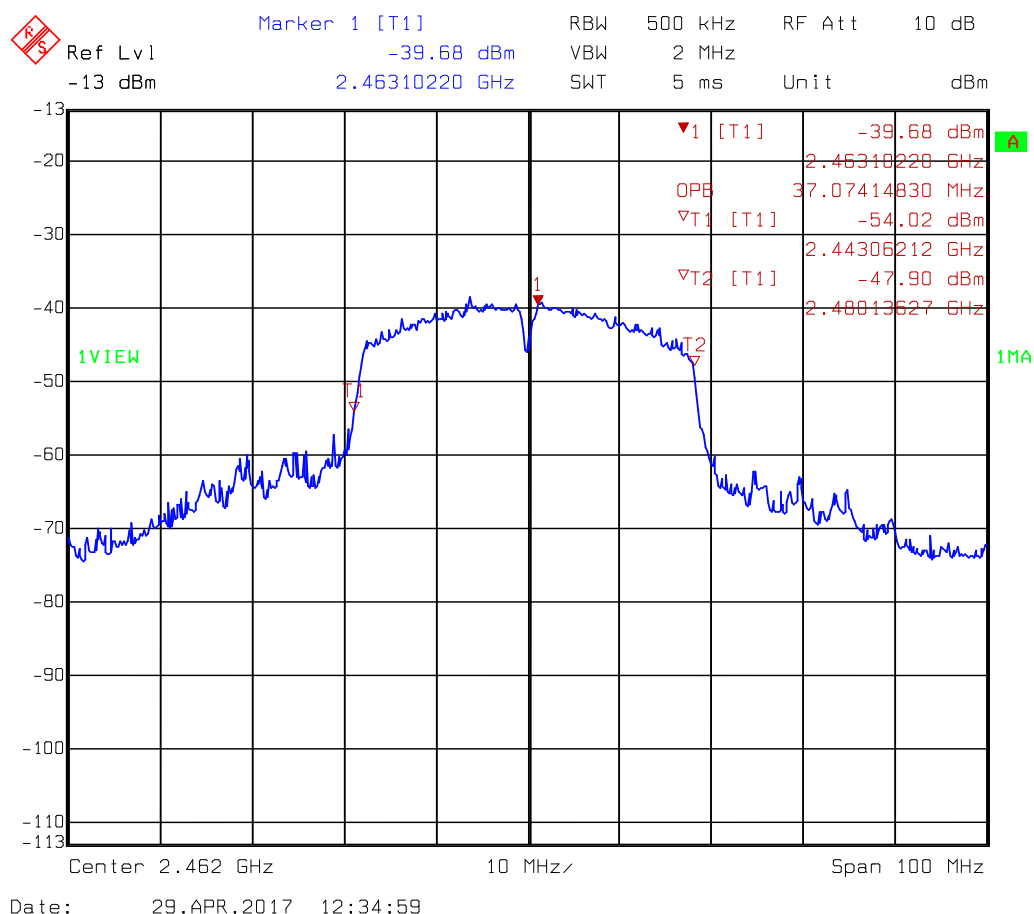


Occupied bandwidth – HT40 - 2452 MHz

Occupied bandwidth

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Christian Weber
Test Conditions: Tnom / Vnom
Mode: HT40 2452 MHz
Test Date: 2017-04-29
Verdict: NONE (INFORMATION ONLY)
Note 1: measurement acc. to ANSI C63.10 6.9.3
Note 2: Reference ISSED RSS-Gen 6.6



3.2 Test Conditions and Results - AC powerline conducted emissions

3.2.1 Information

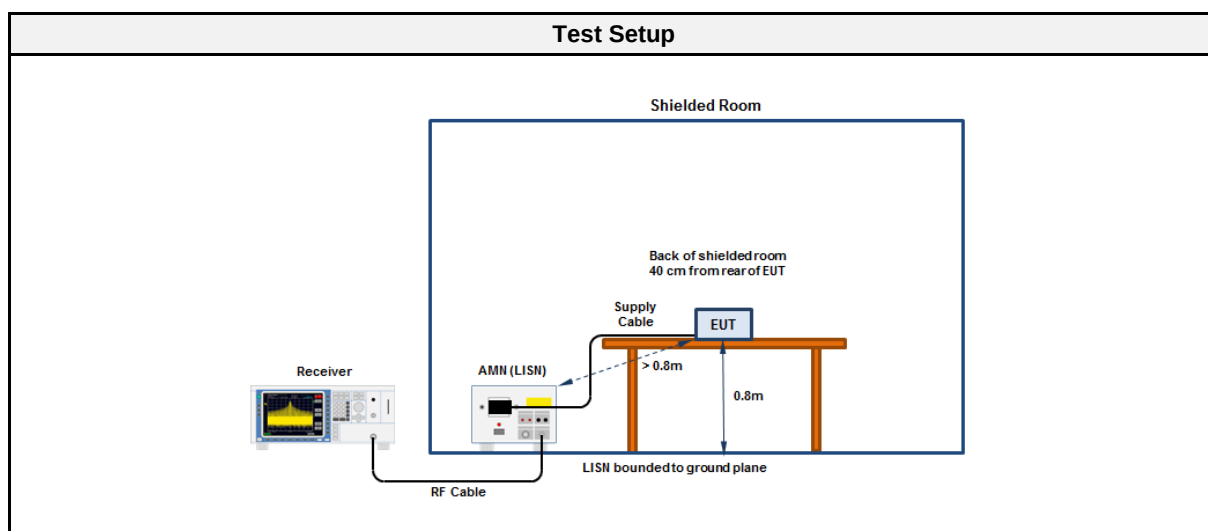
Test Information	
Reference	FCC 15.207
Measurement Method	ANSI C63.10 6.2
Operator	Marco Belz
Date	2017-04-20

3.2.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBμV]	Average [dBμV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.2.3 Setup



3.2.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Receiver	R&S	ESU 26	EF00241	2016-04	2018-04
LISN	R&S	ESH2-Z5	EF00182	2017-01	2019-01
LISN	R&S	ESH3-Z5	EF00036	2017-01	2019-01

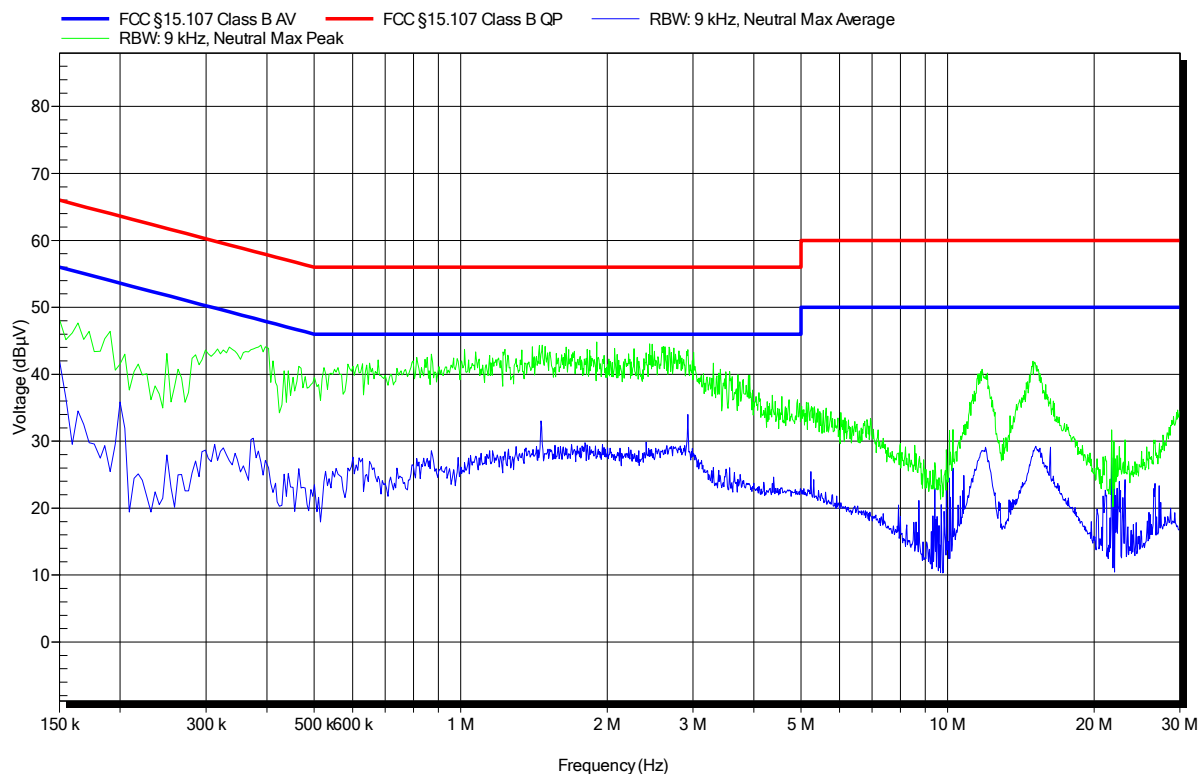
Conducted Emissions A

Conducted emissions according to FCC 15b

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Belz
 Test Conditions: Tnom: 22°C, Unom: 120 VAC
 LISN: Schwarzbeck NSLK 8128 (N)
 Mode: 1
 Test Date: 2017-04-20
 Note:

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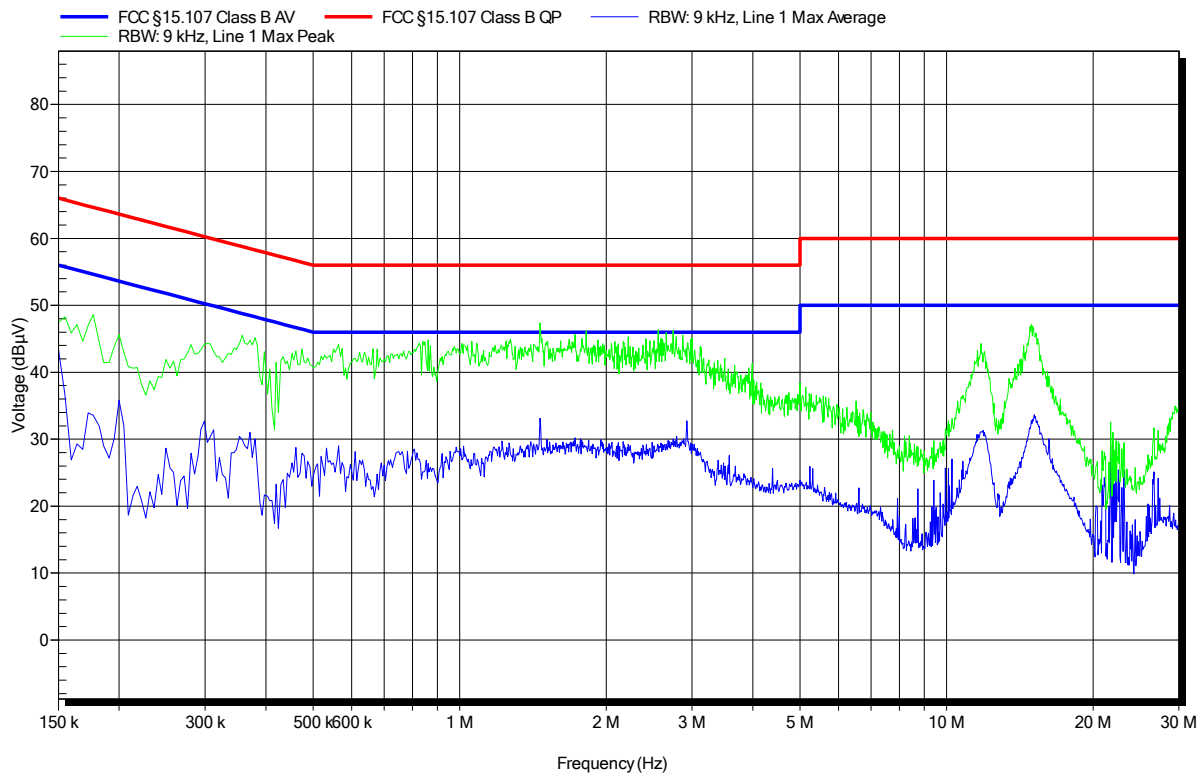
Conducted Emissions B

Conducted emissions according to FCC 15b

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Belz
 Test Conditions: Tnom: 22°C, Unom: 120 VAC
 LISN: Schwarzbeck NSLK 8128 (L)
 Mode: 1
 Test Date: 2017-04-20
 Note: PASS 120 VAC

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3.3 Test Conditions and Results - Transmitter radiated emissions

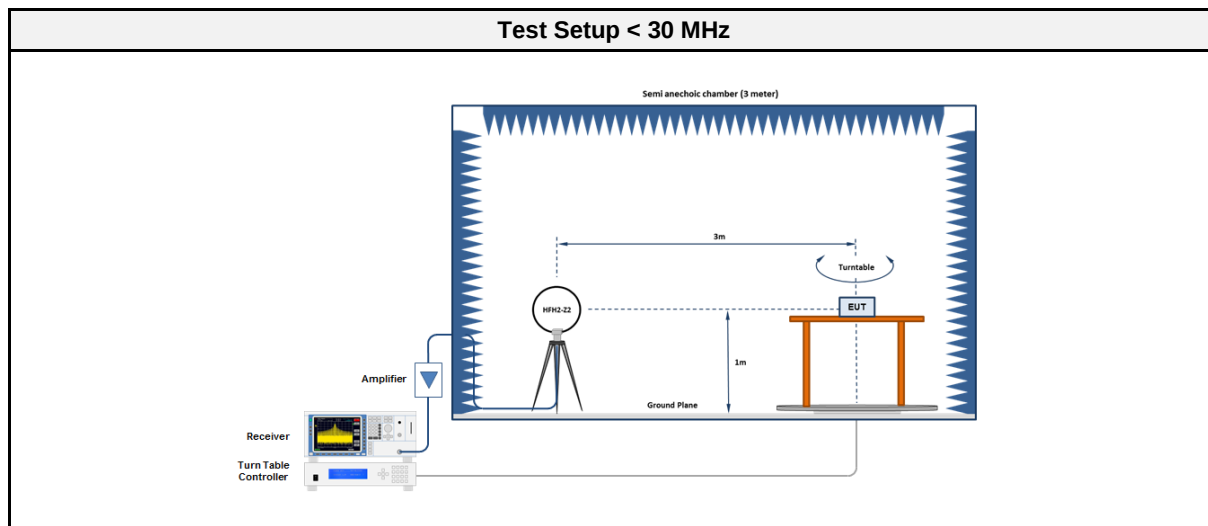
3.3.1 Information

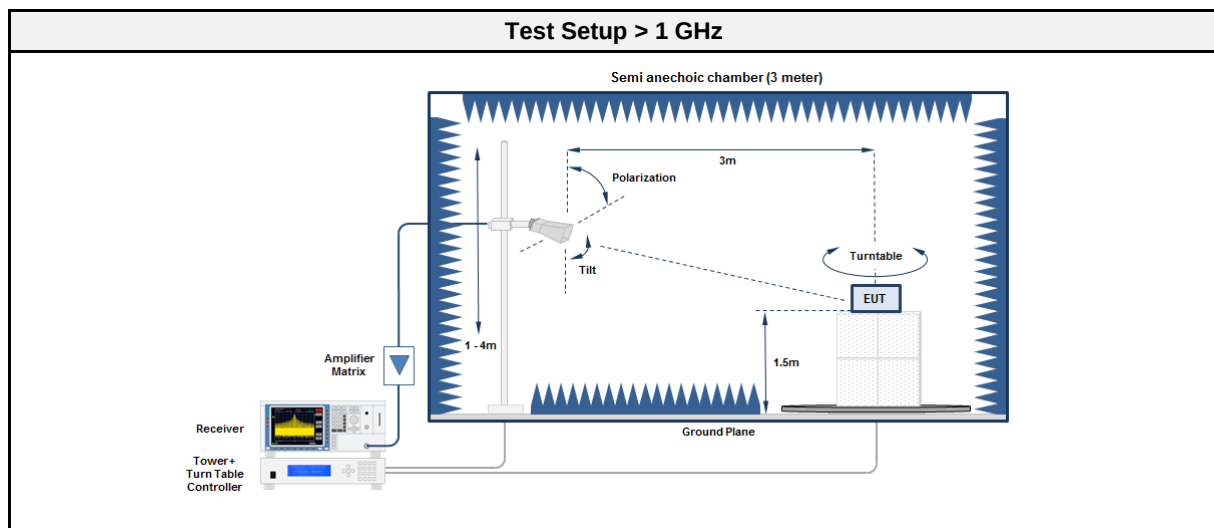
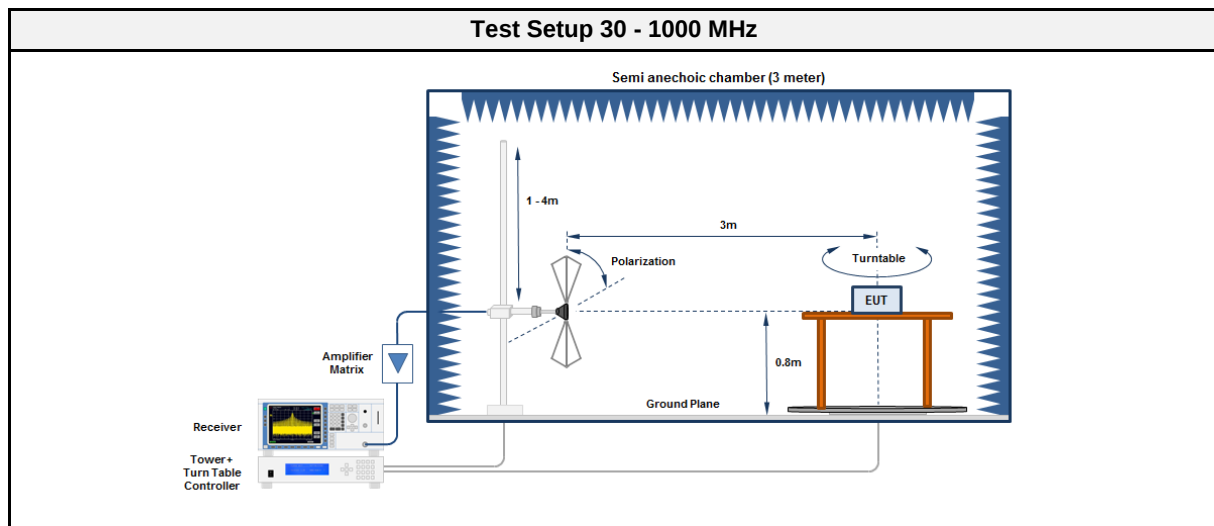
Test Information	
Reference	FCC 15.247(d) / ISSED RSS-GEN 8.9
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Sebastian Suckow
Date	2017-04-27 – 2017-05-02

3.3.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [dB μ V/m]	Measurement distance [m]
0.009 - 0.09	Average	2400/F[kHz]	300
0.09 - 0.110	Quasi-Peak	2400/F[kHz]	300
0.110 - 0.490	Average	2400/F[kHz]	300
0.490 - 1.705	Quasi-Peak	24000/F[kHz]	30
1.705 - 30.0	Quasi-Peak	30	30
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.3.3 Setup





3.3.4 Equipment

Test Equipment < 30 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2017-02	2020-02
Loop Antenna	R&S	HFH2-Z2	EF00184	2016-12	2018-12
Spectrum Analyzer	R&S	FSP 30	EF00312	2017-03	2018-03

Test Equipment 30 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC6	EF00910	2017-03	2020-03
Measurement Receiver	R&S	ESU 26	EF00887	2017-01	2018-01
TRILOG Broadband Antenna	Schwarzbeck	VULB 9162	EF00978	2016-11	2017-11

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC6	EF00910	2017-03	2020-03
Measurement Receiver	R&S	ESU 26	EF00887	2017-01	2018-01
Horn antenna	Schwarzbeck	BBHA9120D	EF00018	2016-09	2019-09
Horn antenna	Amplifier Research	AT4560	EF00302	2017-03	2018-03

3.3.5 Procedure

Test Procedure < 30 MHz
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The EUT is rotated through 360° 4. The emissions are measured with peak detector and max hold 5. All significant emissions are measured again using the corresponding final detector

Test Procedure 30 - 1000 MHz
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz
1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

3.3.6 Results

Test Results - OFDM						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2412	0.175135	-01.20	avg	-	22.80	-23.99
2412	323.76	39.00	QP	hor	46.00	-07.00
2412	37.14	30.80	QP	ver	95.00	-64.20
2437	0.172418	-01.60	avg	-	22.90	-24.53
2462	0.173437	-01.10	avg	-	22.80	-23.89
2462	2483.6	70.86	pk	ver	74.00	-03.14
2462	2483.6	49.54	RMS	ver	54.00	-04.46
2462	2483.7	72.85	pk	hor	74.00	-01.15
2462	2483.7	52.38	RMS	hor	54.00	-01.62
2462	2500	52.02	pk	hor	74.00	-21.98
2462	2500	50.31	pk	ver	74.00	-23.69

3.4 Test Conditions and Results - Receiver radiated emissions

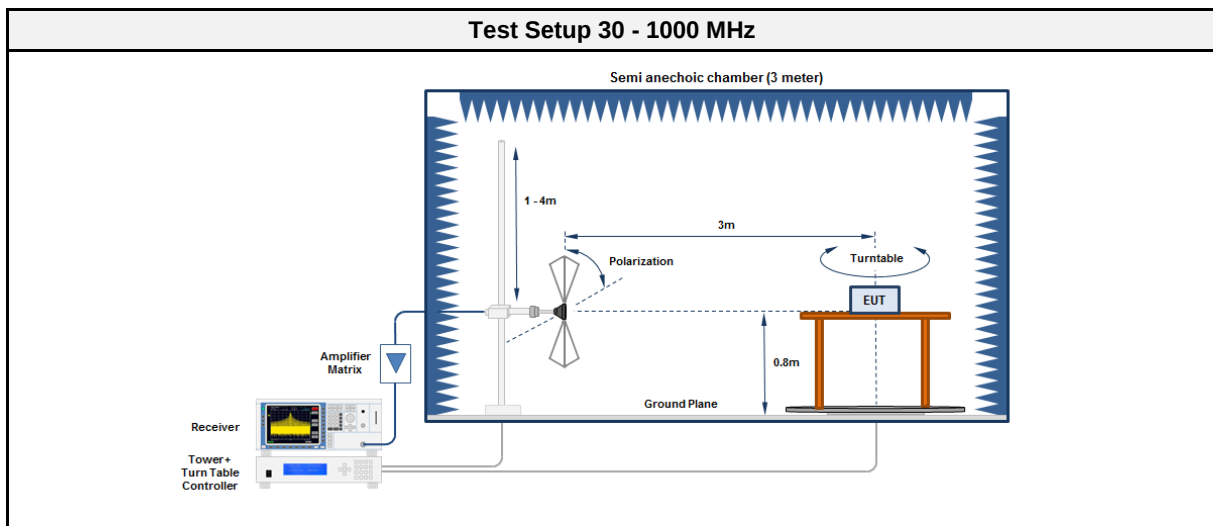
3.4.1 Information

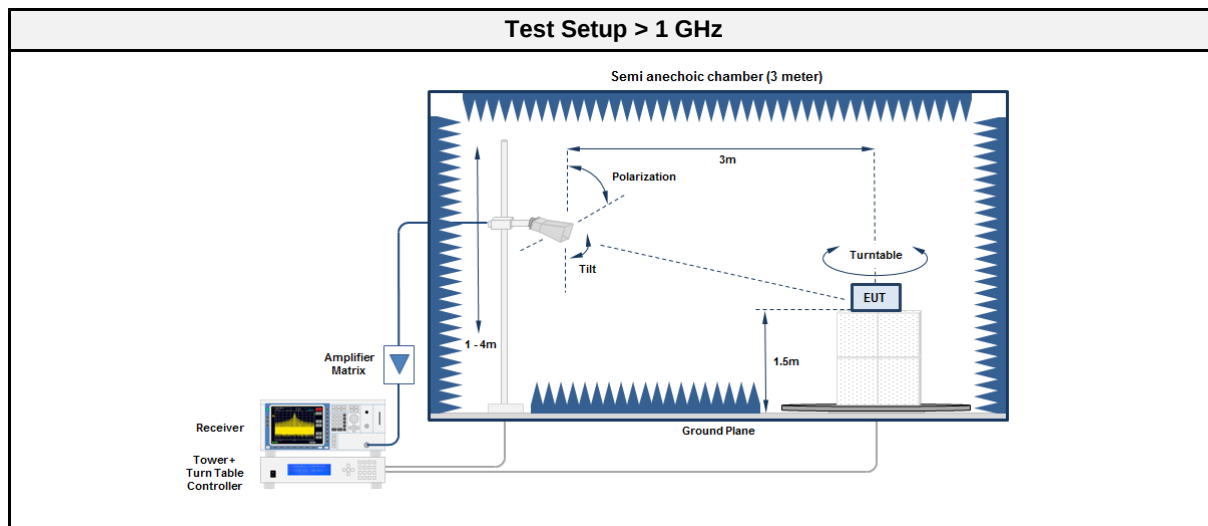
Test Information	
Reference	ISED RSS-247 3.1
Measurement Method	ANSI C63.10 6.5, 6.6, 11.12
Operator	Sebastian Suckow
Date	2017-04-27 – 2017-05-02

3.4.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [dB μ V/m]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.4.3 Setup





3.4.4 Equipment

Test Equipment 30 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC6	EF00910	2017-03	2020-03
Measurement Receiver	R&S	ESU 26	EF00887	2017-01	2018-01
TRILOG Broadband Antenna	Schwarzbeck	VULB 9162	EF00978	2016-11	2017-11

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC6	EF00910	2017-03	2020-03
Measurement Receiver	R&S	ESU 26	EF00887	2017-01	2018-01
Horn antenna	Schwarzbeck	BBHA9120D	EF00018	2016-09	2019-09
Horn antenna	Amplifier Research	AT4560	EF00302	2017-03	2018-03

3.4.5 Procedure

Test Procedure 30 - 1000 MHz
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz
1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

3.4.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2437	303.18	45.90	QP	hor	46	-00.10
2437	59.34	36.10	QP	ver	40	-03.90

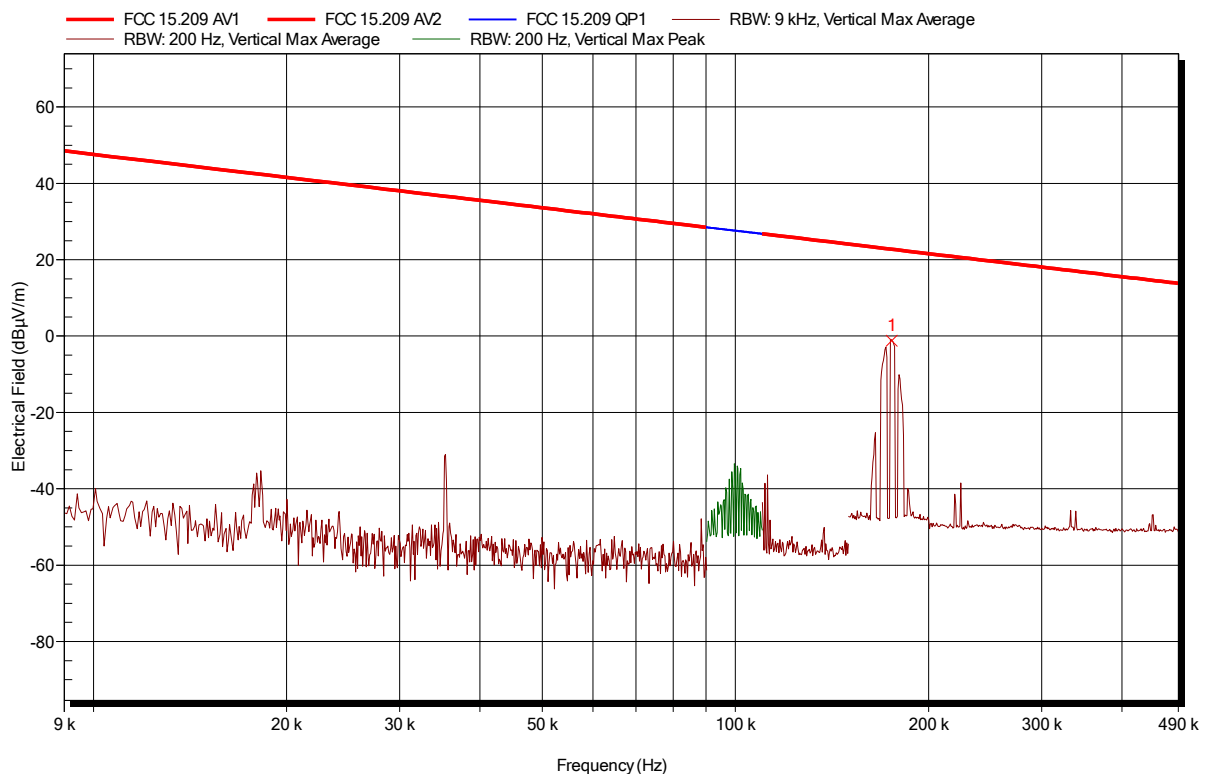
ANNEX A Transmitter sprurious emissions

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Conditions: Tnom: 24°C, Vnom: 120 VAC
 Antenna: Rohde & Schwarz HFH 2-Z2
 Measurement distance: 3 m converted to 300 m
 Mode: TX; IEEE 802.11g; 6Mbps; 2412 MHz
 Test Date: 2017-05-03
 Note:

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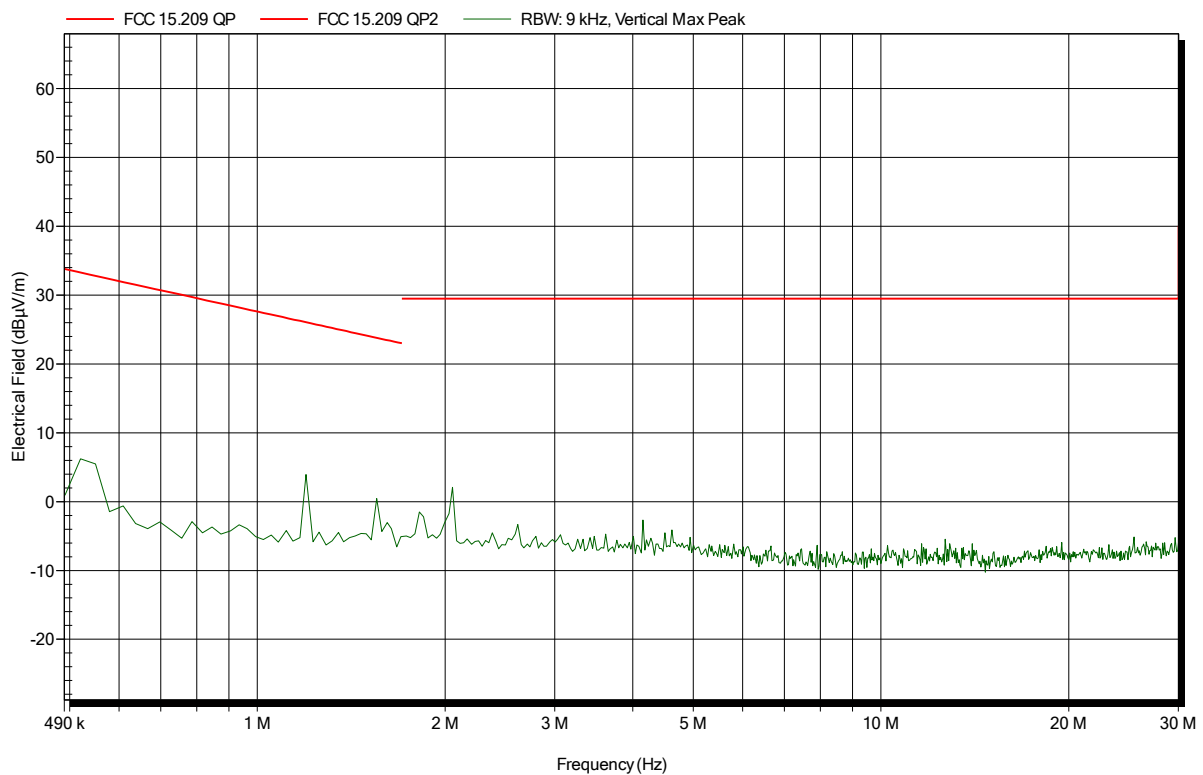
Frequency	Average	Average Limit	Average Difference	Average Status
175.135 kHz	-1.2 dBµV/m	22.8 dBµV/m	-23.99 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Conditions: Tnom: 24°C, Vnom: 120 VAC
 Antenna: Rohde & Schwarz HFH 2-Z2
 Measurement distance: 3 m converted to 30 m
 Mode: TX; IEEE 802.11g; 6Mbps; 2412 MHz
 Test Date: 2017-05-03
 Note:

Index 66

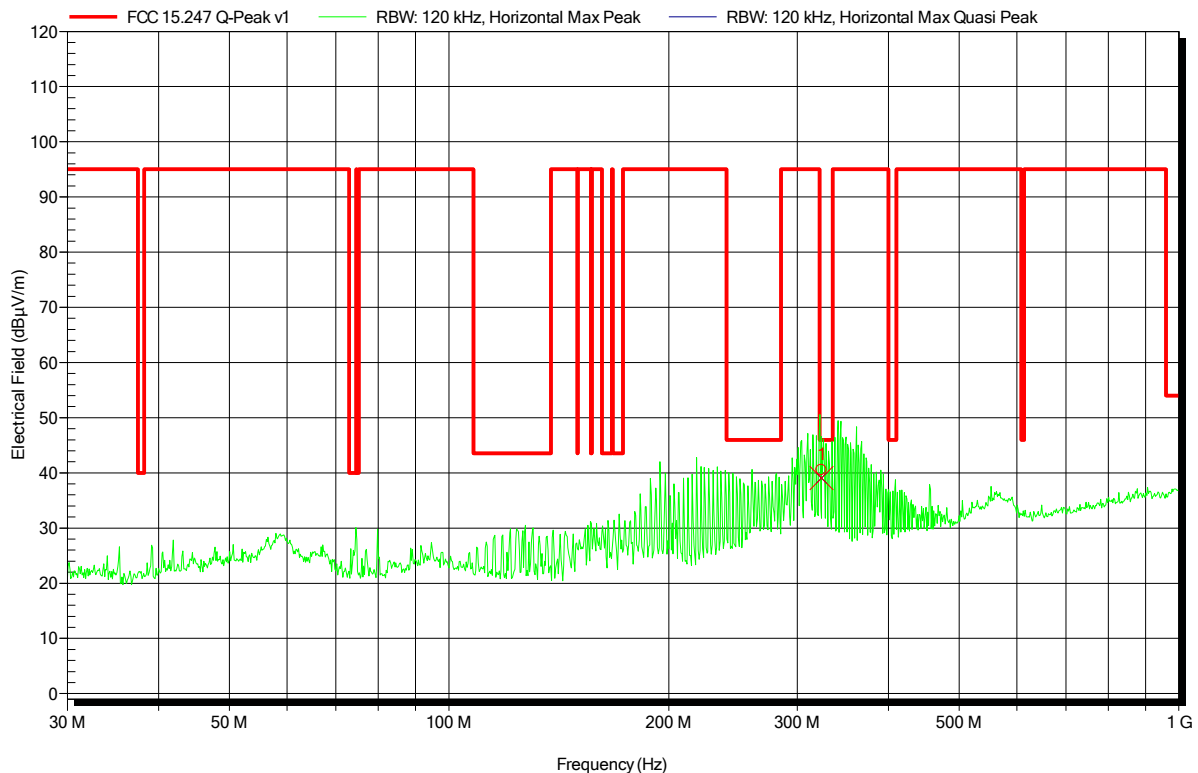


Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Unom: 230 VAC
Antenna: Schwarzbeck VULB 9162, Horizontal
Measurement distance: 3 m
Mode: WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-28
Note:

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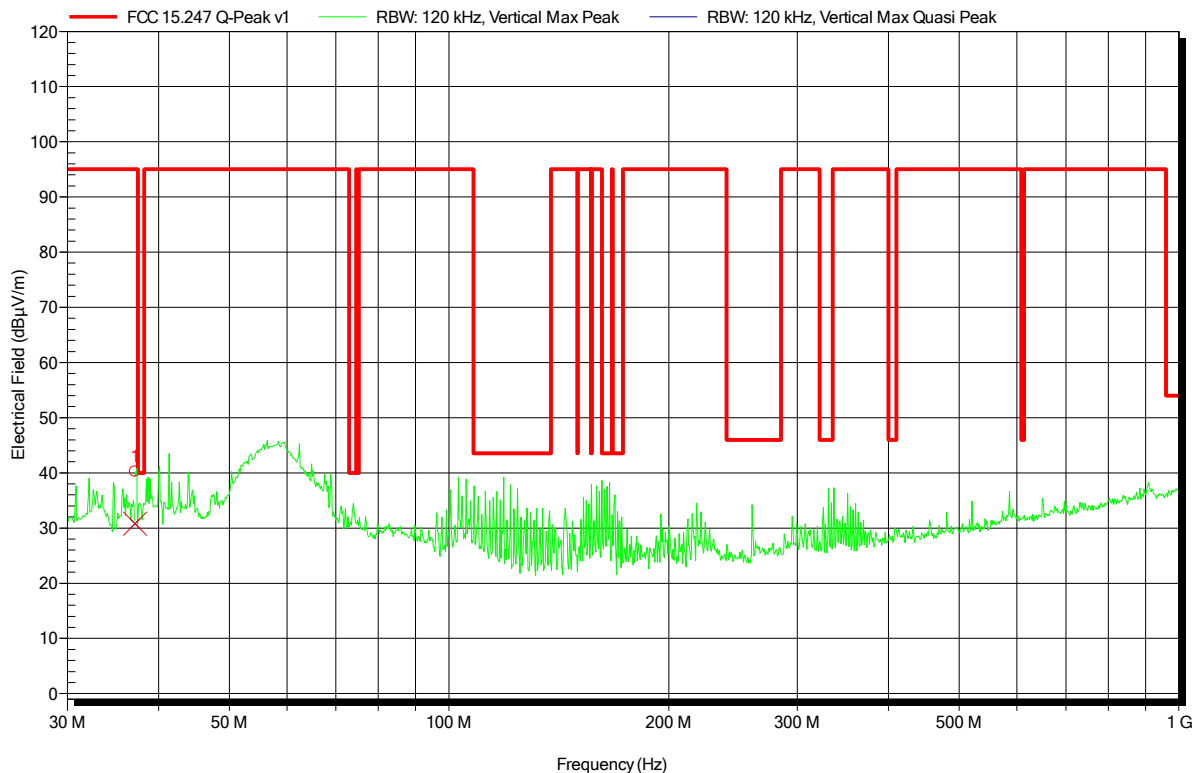
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	323.76 MHz	39 dBµV/m	46 dBµV/m	-7.0 dB	Pass	0 Degree	2.51 m

Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom: 230 VAC
 Antenna: Schwarzbeck VULB 9162, Vertical
 Measurement distance: 3 m
 Mode: WLAN 802.11g 6 Mbps 2412 MHz
 Test Date: 2017-04-28
 Note:

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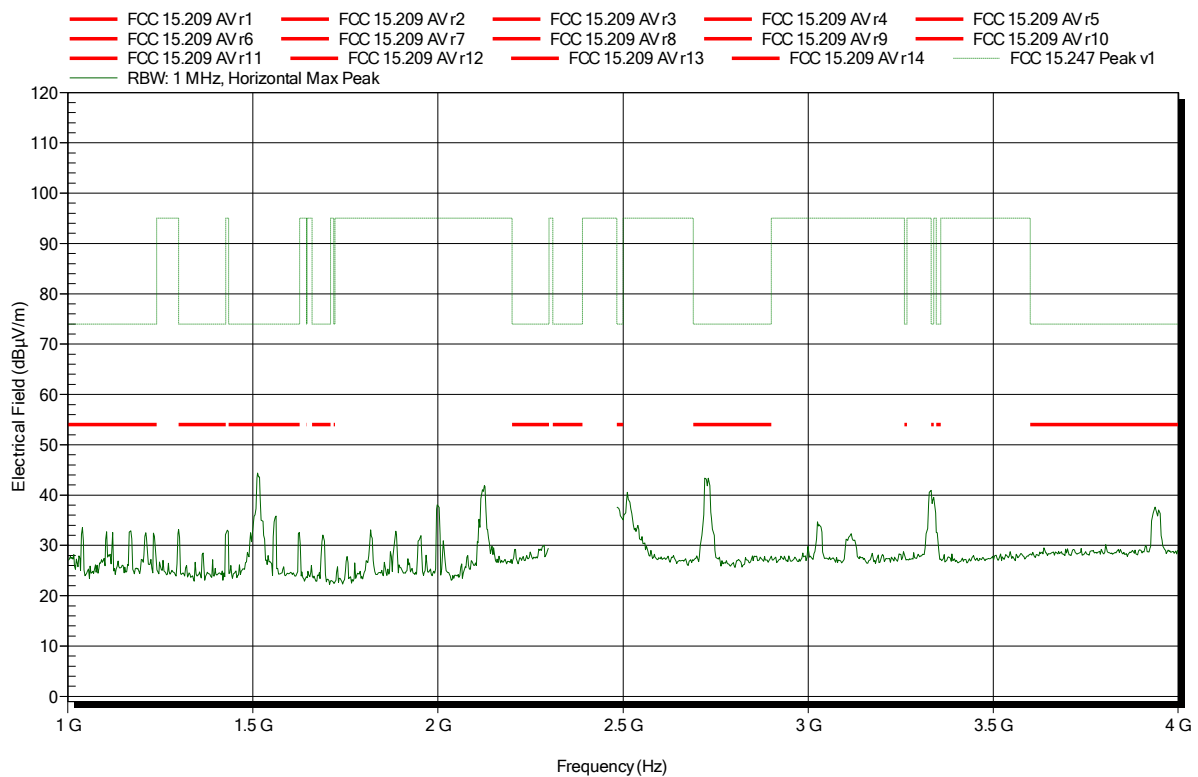
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37.14 MHz	30.8 dBμV/m	95 dBμV/m	-64.2 dB	Pass	0 Degree	2.51 m

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-27
Note:

Index 1

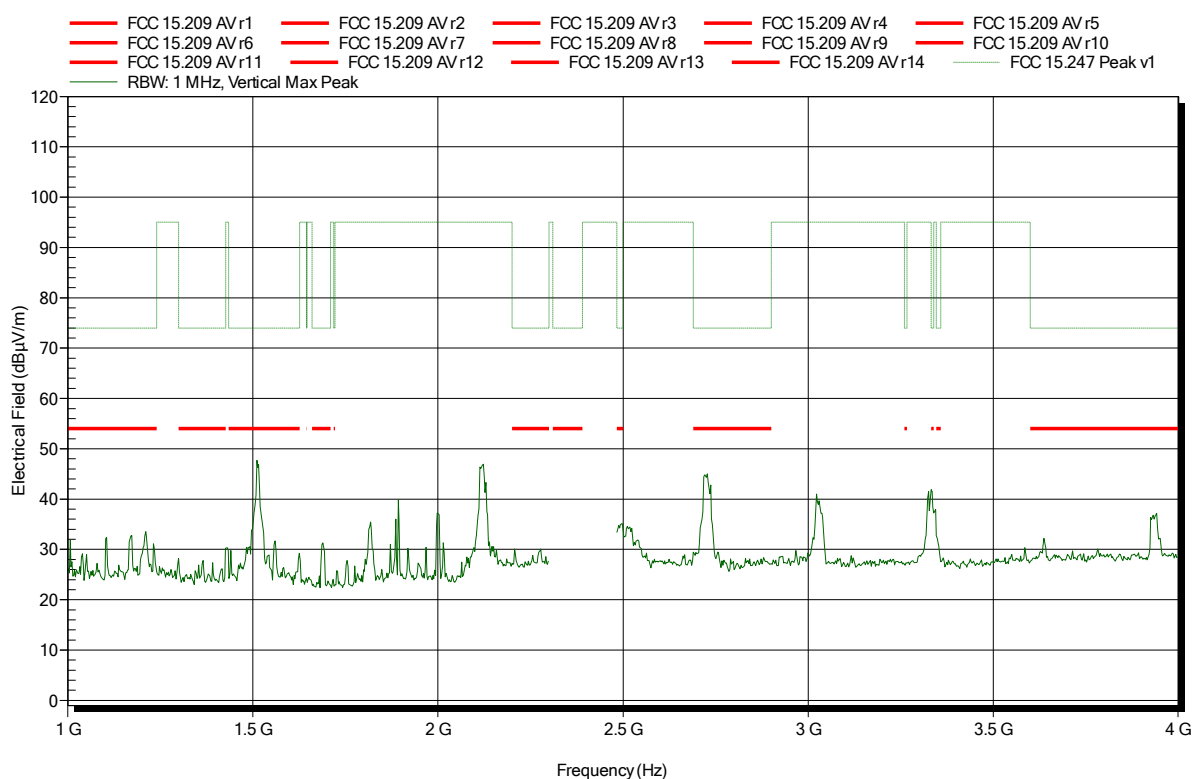


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
 Test Date: 2017-04-28
 Note:

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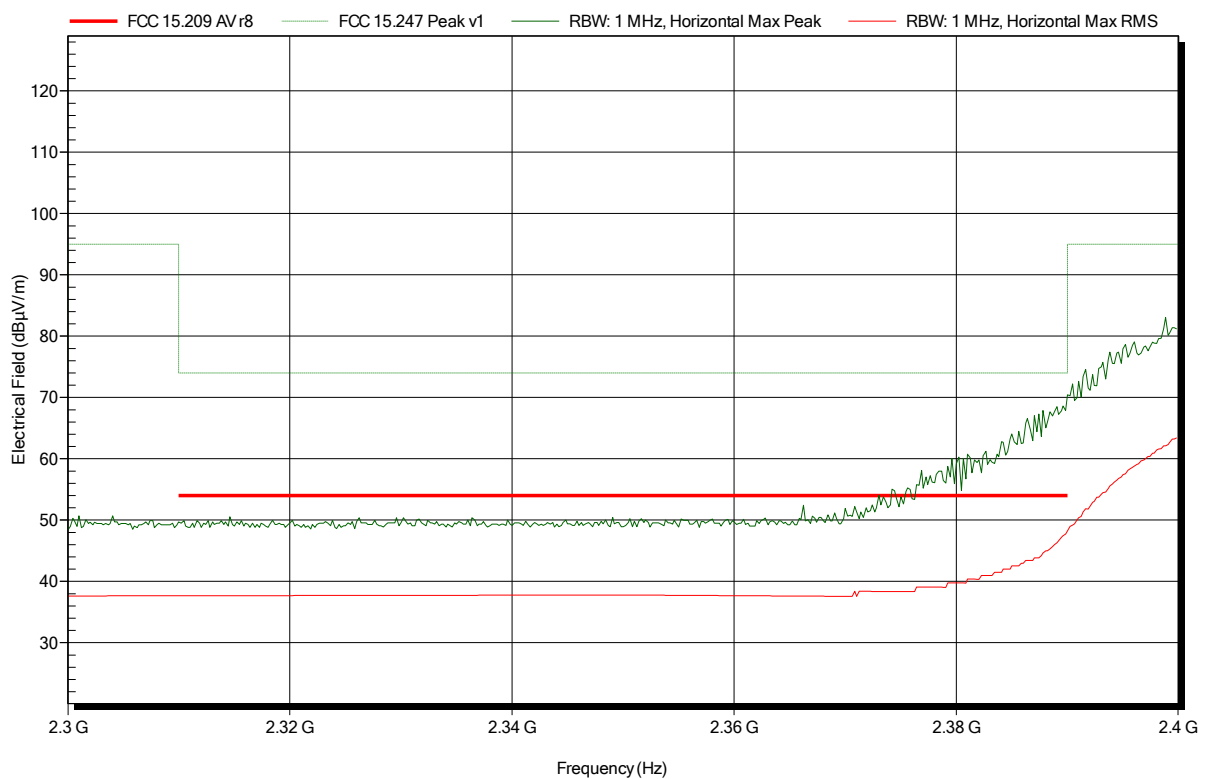


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-27
Note: lower bandedge

Index 2

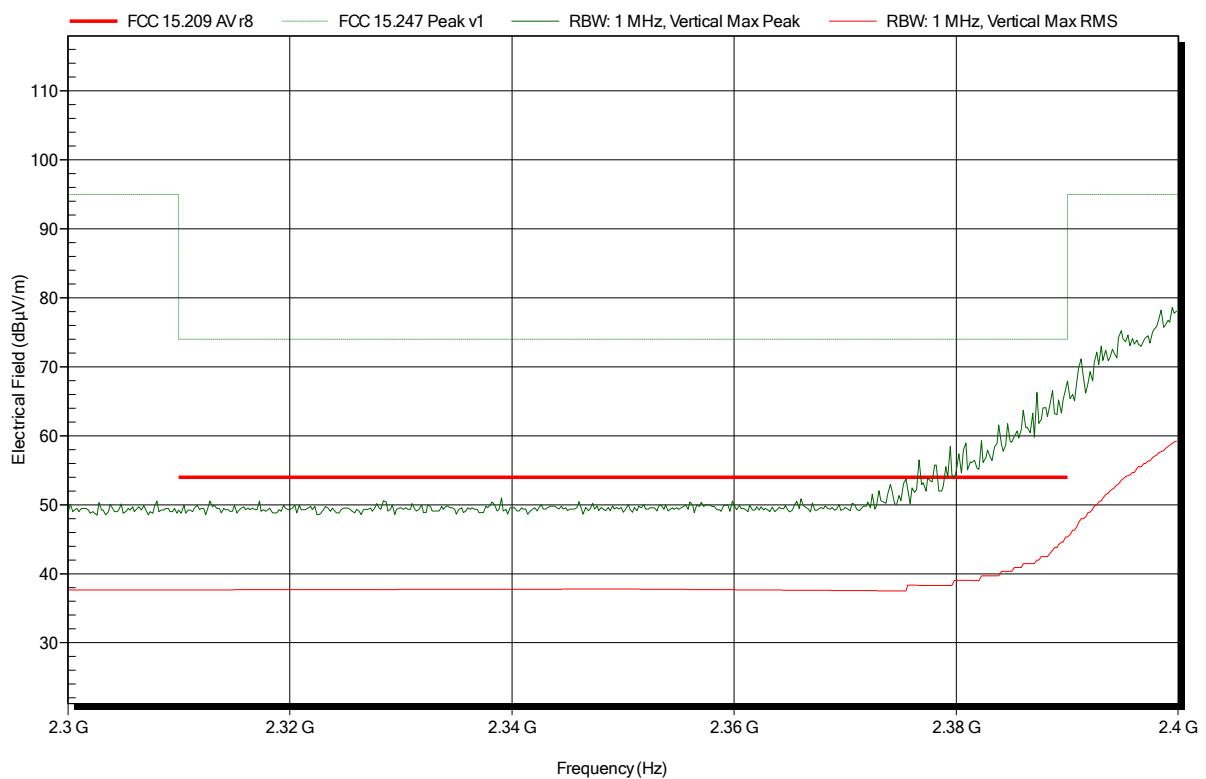


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-28
Note: lower bandedge

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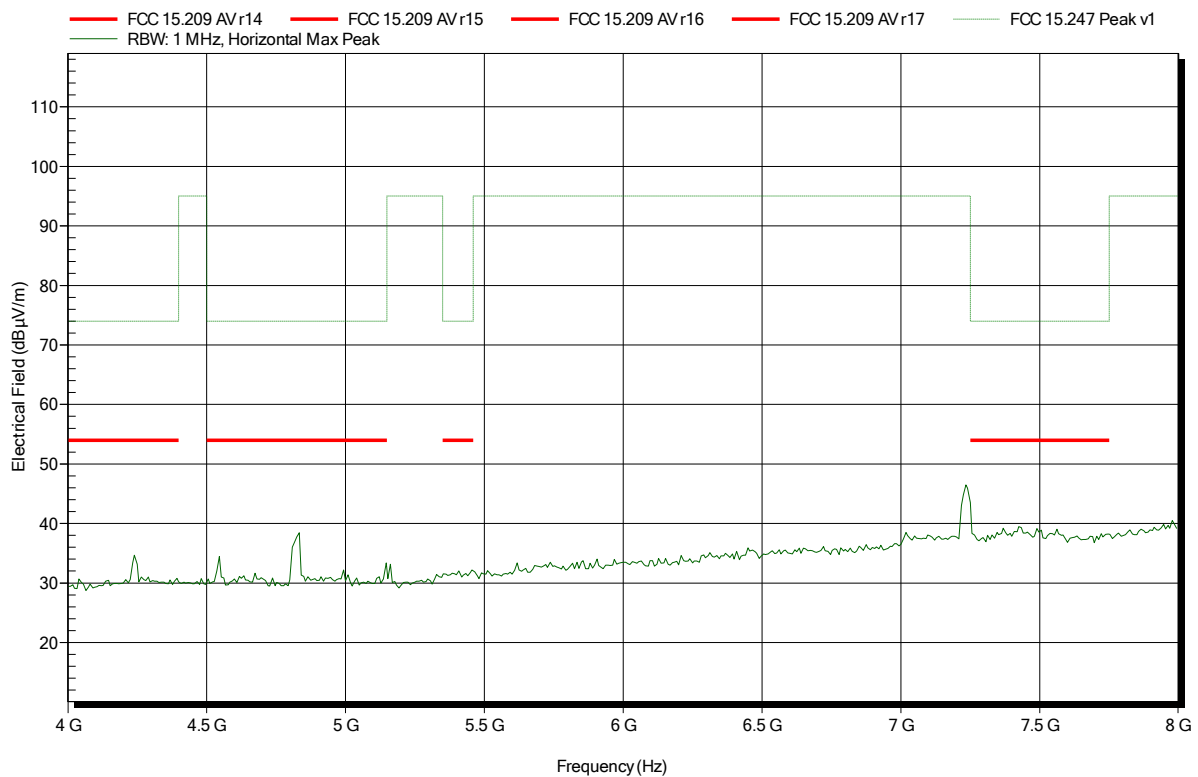


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
 Test Date: 2017-04-27
 Note:

Index 3

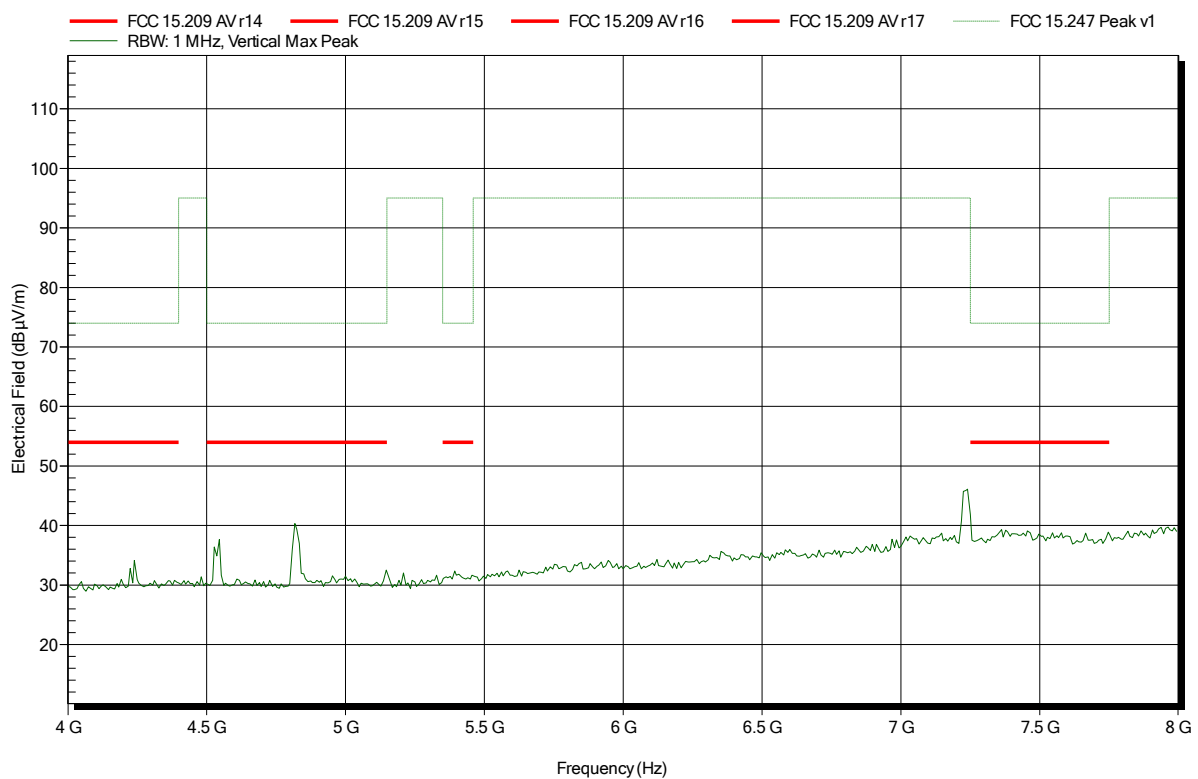


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
 Test Date: 2017-04-28
 Note:

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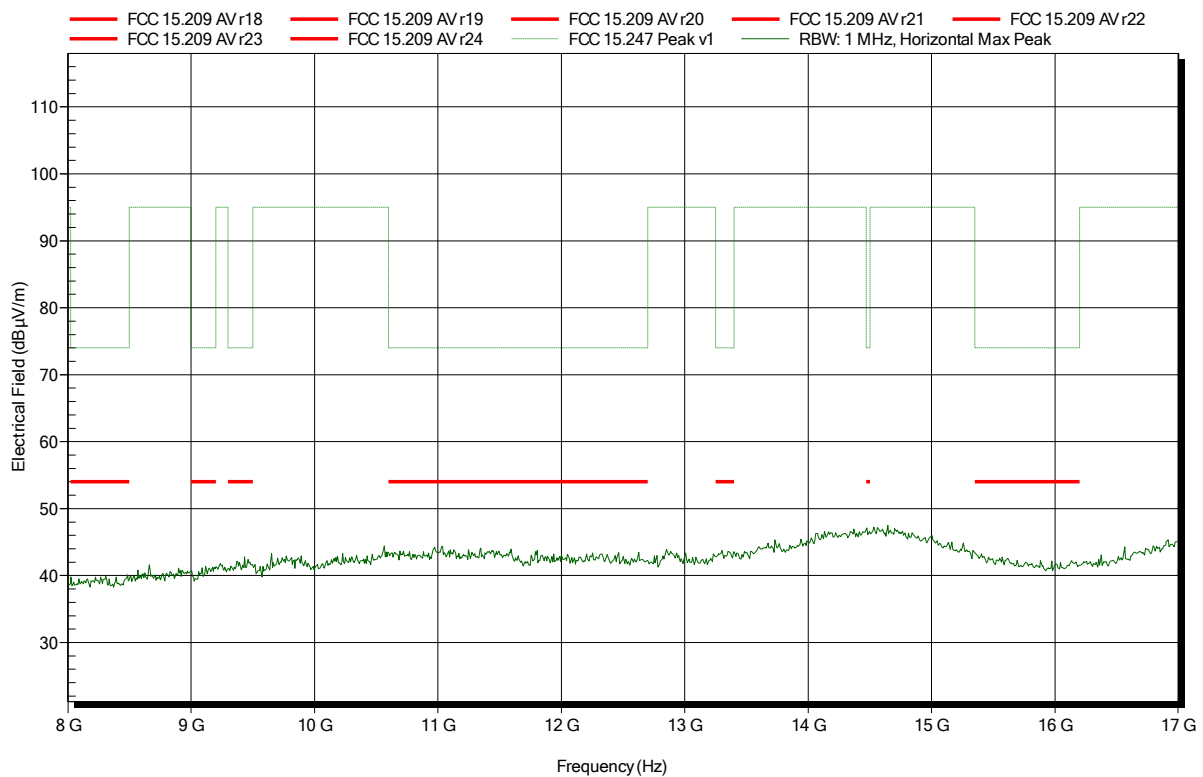


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-27
Note:

Index 4

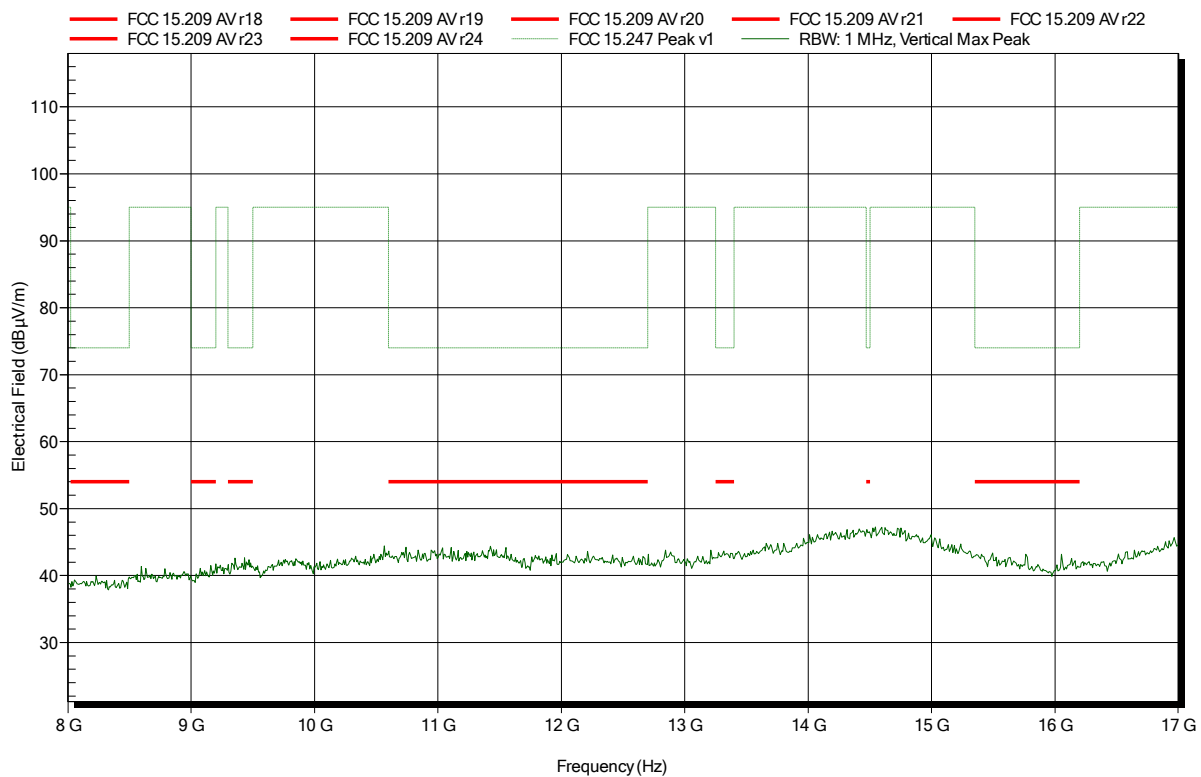


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-28
Note:

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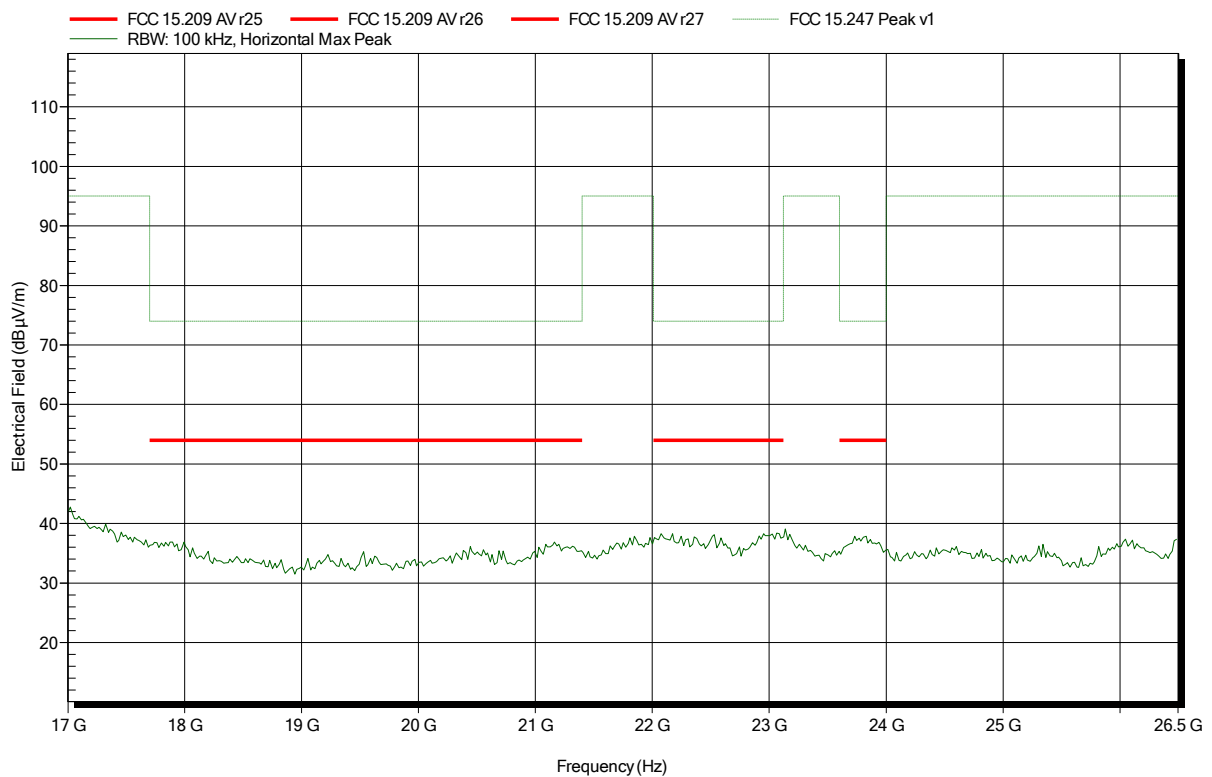


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Amplifier Research AT 4560, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
 Test Date: 2017-04-28
 Note:

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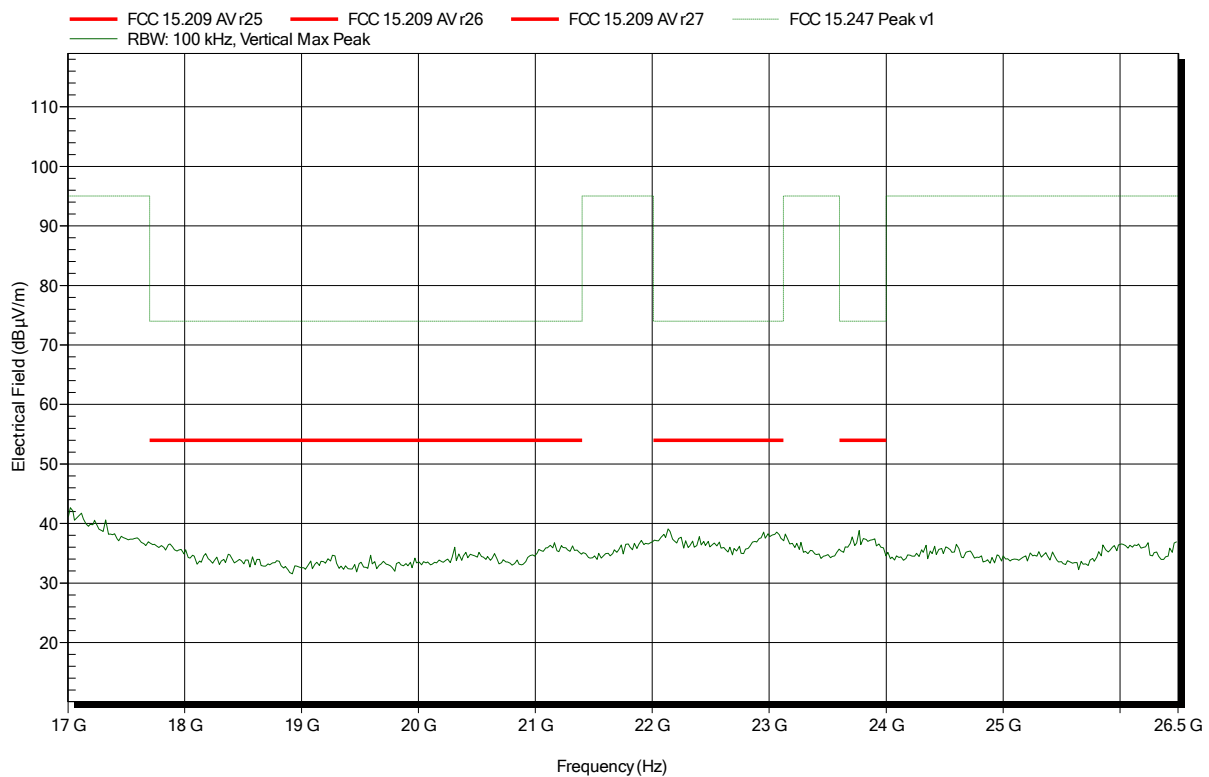


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Amplifier Research AT, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2412 MHz
Test Date: 2017-04-28
Note:

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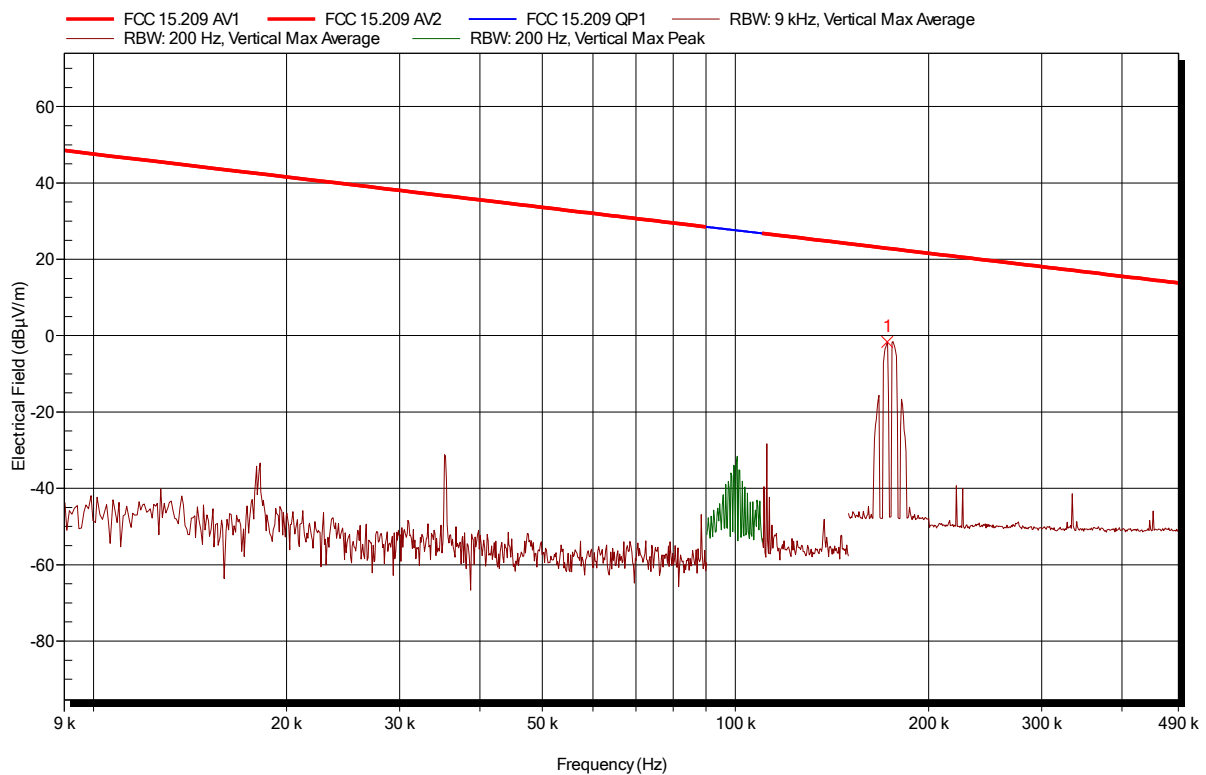


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Conditions: Tnom: 24°C, Vnom: 120 VAC
 Antenna: Rohde & Schwarz HFH 2-Z2
 Measurement distance: 3 m converted to 300 m
 Mode: TX; IEEE 802.11g; 6Mbps; 2437 MHz
 Test Date: 2017-05-03
 Note:

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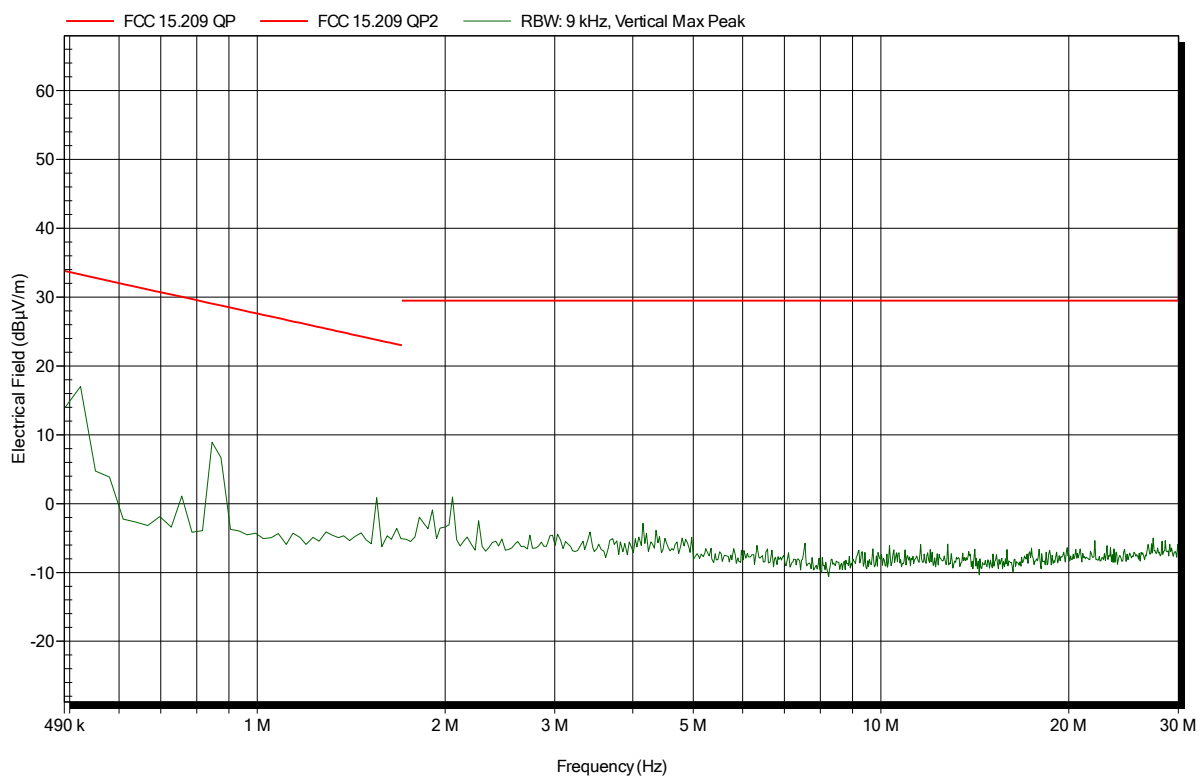
Frequency	Average	Average Limit	Average Difference	Average Status
172.418 kHz	-1.6 dBµV/m	22.9 dBµV/m	-24.53 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Treffke
 Test Conditions: Tnom: 24°C, Vnom: 120 VAC
 Antenna: Rohde & Schwarz HFH 2-Z2
 Measurement distance: 3 m converted to 30 m
 Mode: TX; IEEE 802.11g; 6Mbps; 2437 MHz
 Test Date: 2017-05-03
 Note:

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Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom: 230 VAC
 Antenna: Schwarzbeck VULB 9162, Horizontal
 Measurement distance: 3 m
 Mode: WLAN 802.11g 6 Mbps 2437 MHz
 Test Date: 2017-04-28
 Note:

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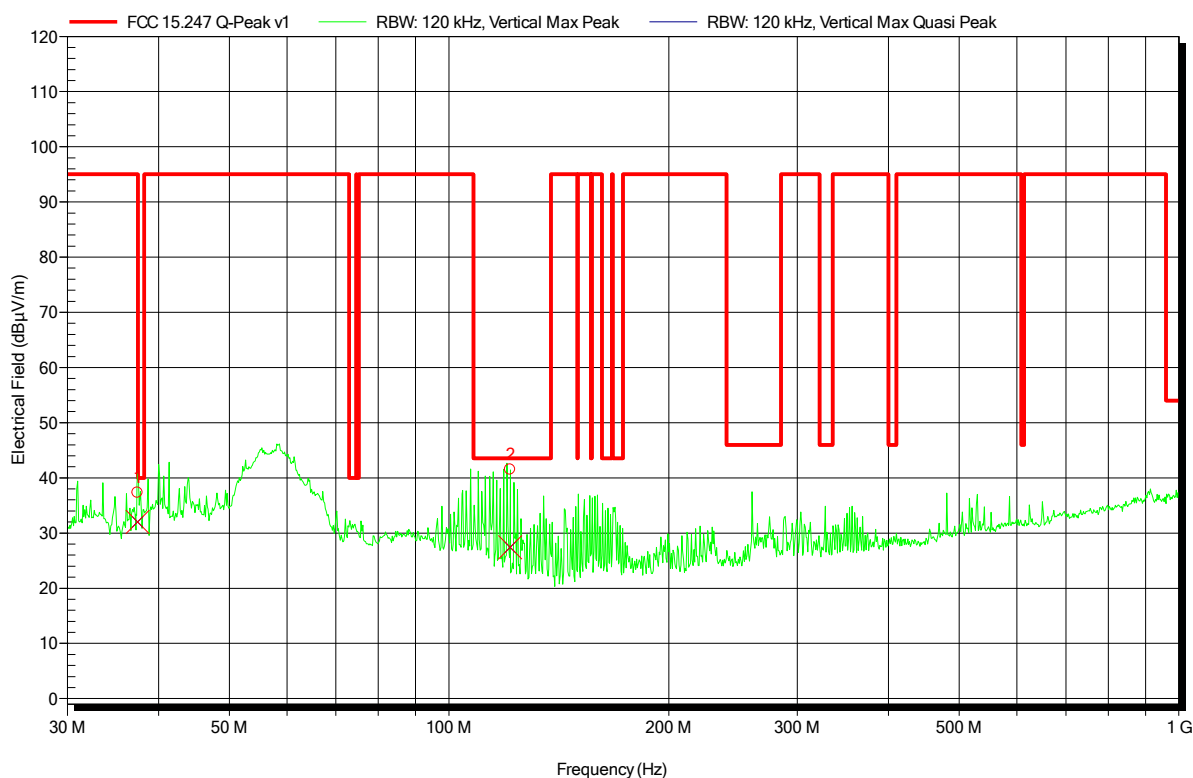
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	38.388 MHz	30 dBμV/m	95 dBμV/m	-65.0 dB	Pass	0 Degree	2.51 m
2	119.754 MHz	27.7 dBμV/m	43.5 dBμV/m	-15.8 dB	Pass	0 Degree	2.51 m

Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom: 230 VAC
 Antenna: Schwarzbeck VULB 9162, Vertical
 Measurement distance: 3 m
 Mode: WLAN 802.11g 6 Mbps 2437 MHz
 Test Date: 2017-04-28
 Note:

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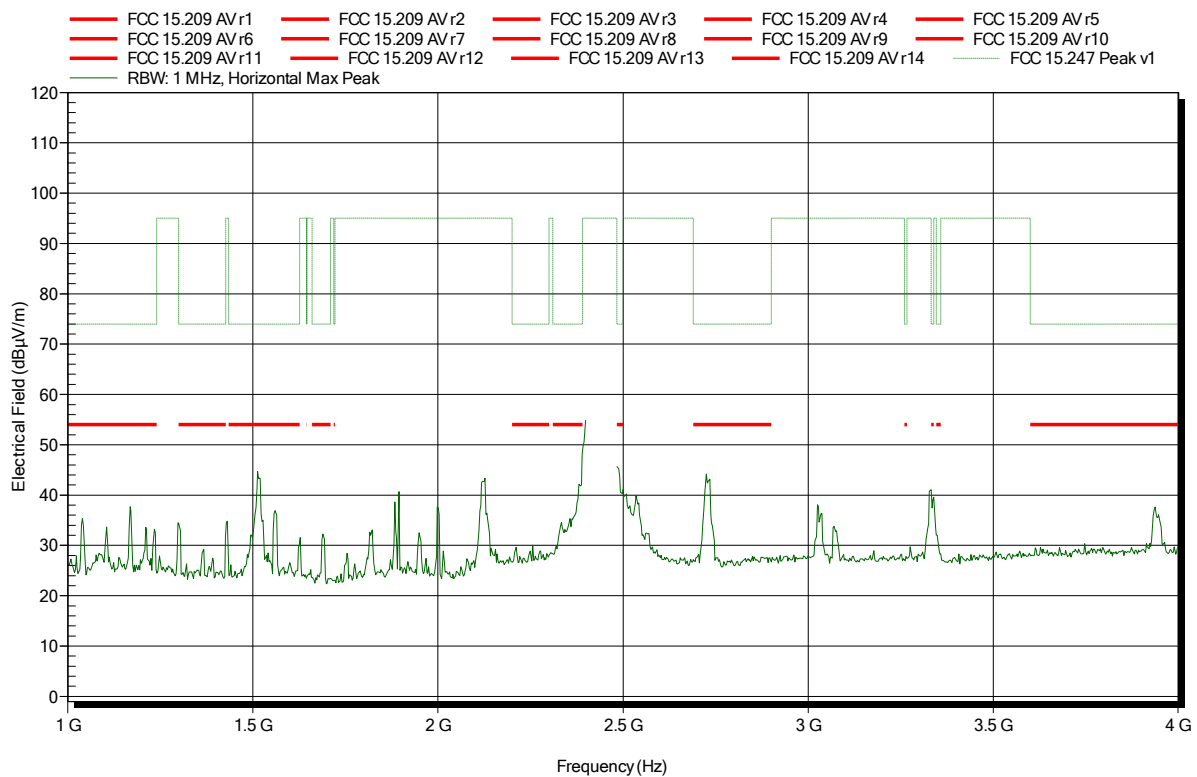
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37.452 MHz	32 dBμV/m	95 dBμV/m	-63.0 dB	Pass	0 Degree	2.51 m
2	121.284 MHz	27.4 dBμV/m	43.5 dBμV/m	-16.1 dB	Pass	0 Degree	2.51 m

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
 Test Date: 2017-04-28
 Note:

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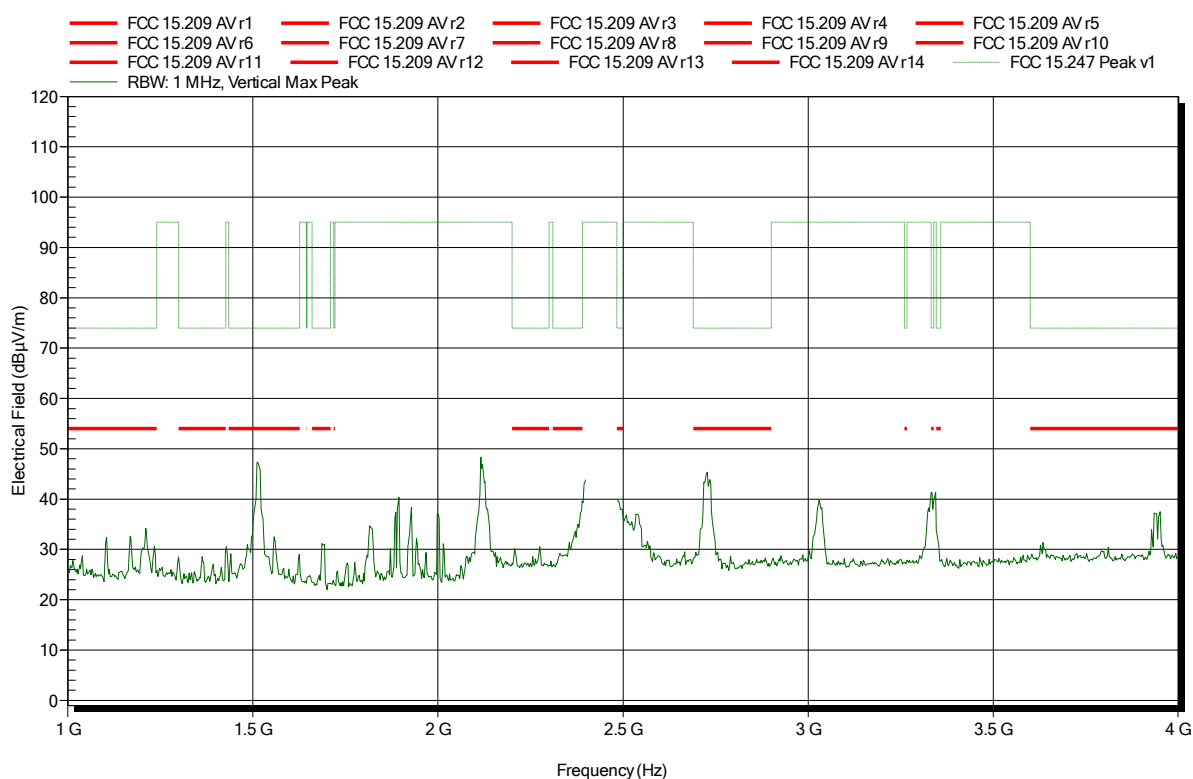


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
Test Date: 2017-04-28
Note:

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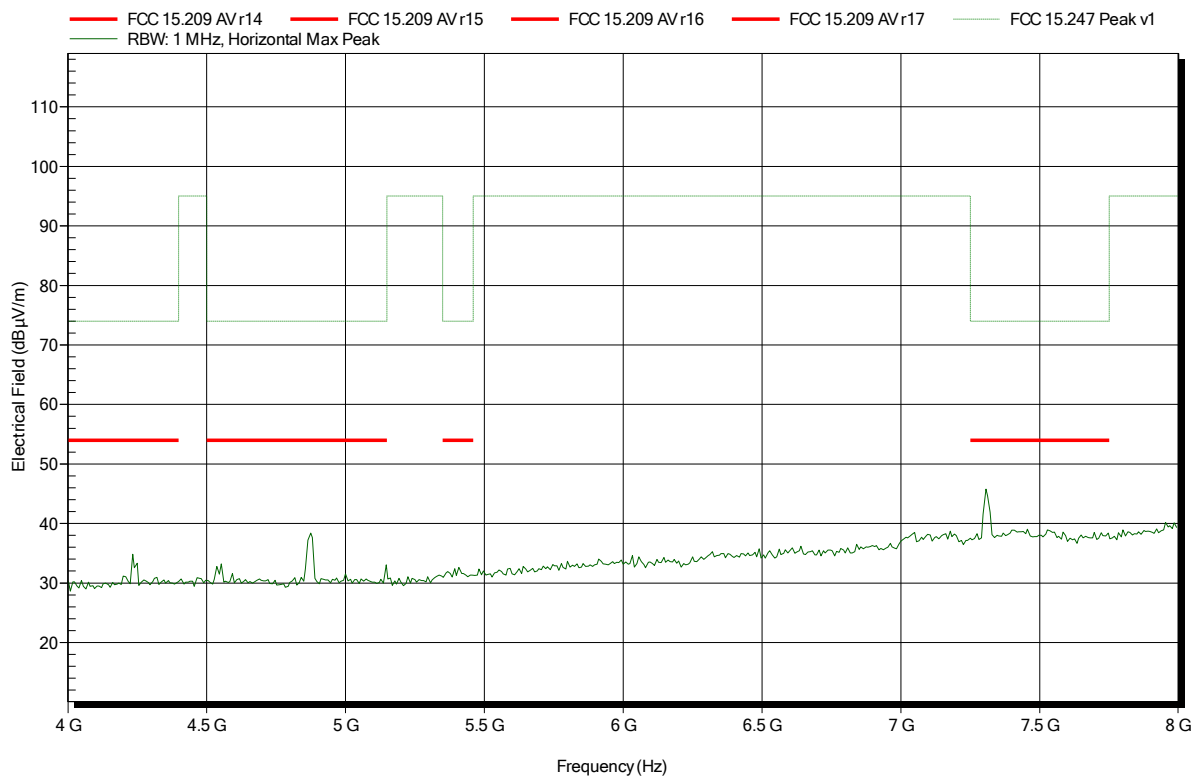


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
 Test Date: 2017-04-28
 Note:

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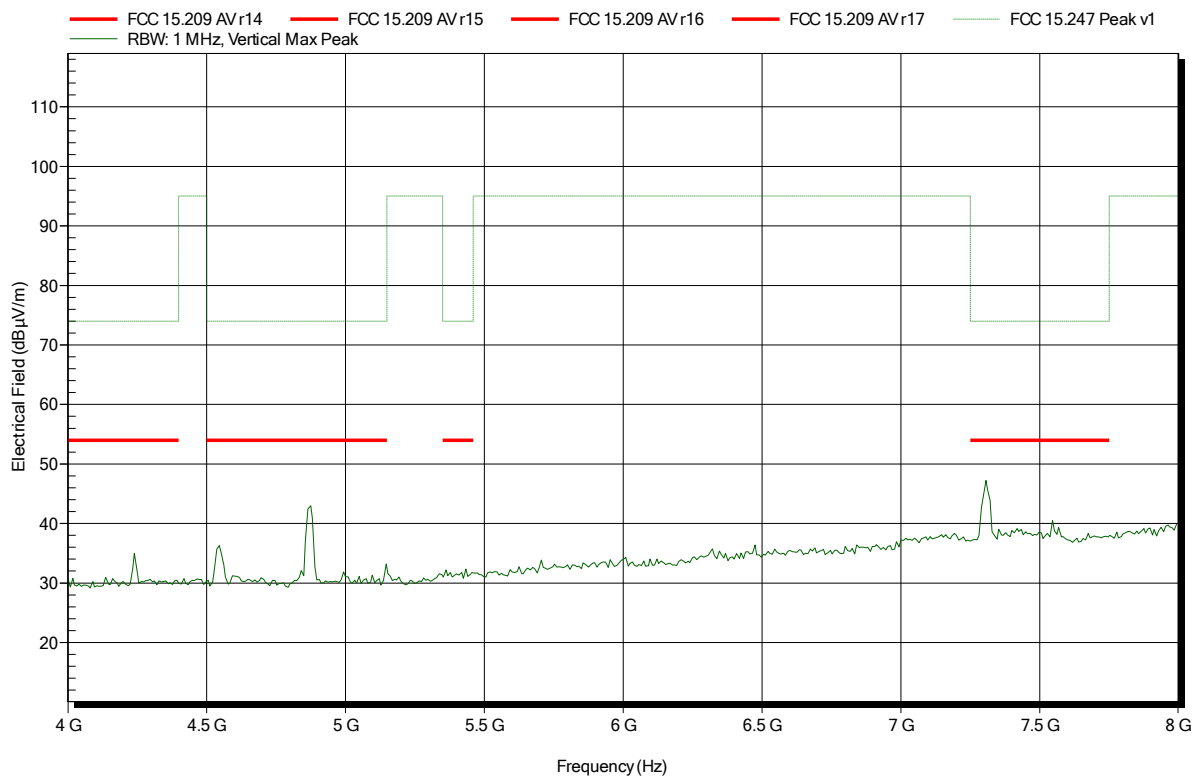


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
 Test Date: 2017-04-28
 Note:

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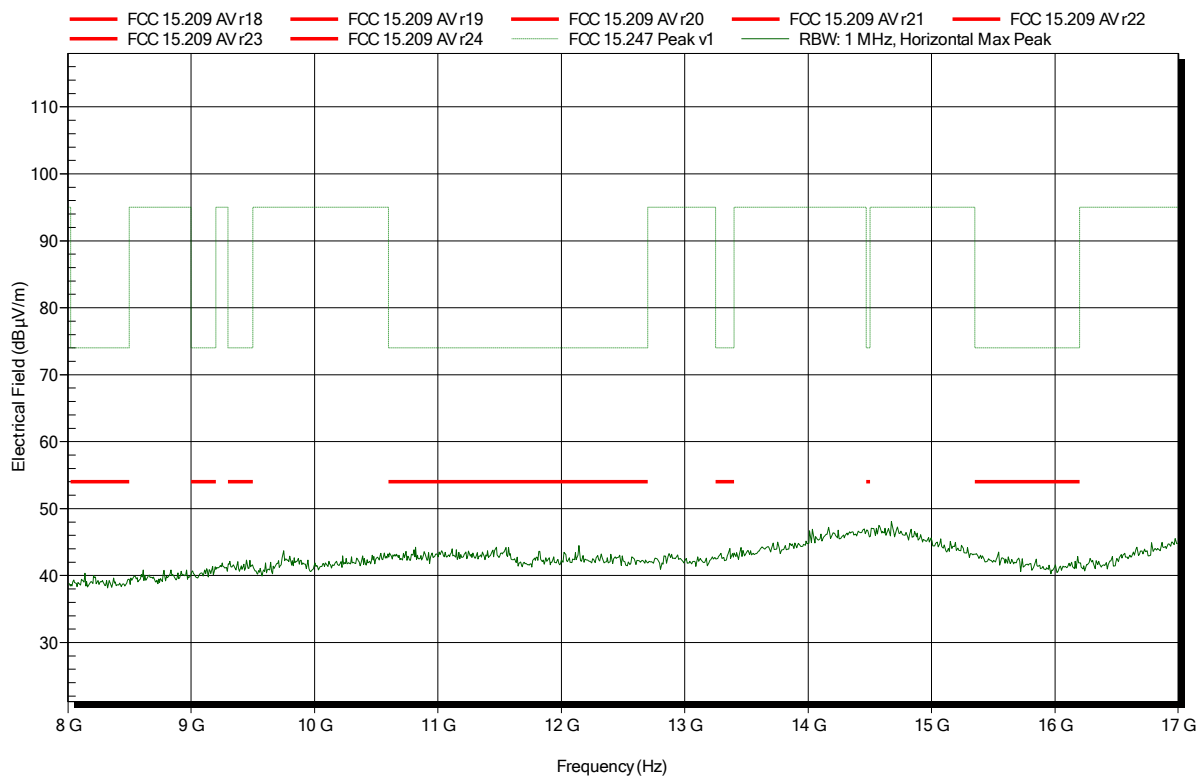


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
Test Date: 2017-04-28
Note:

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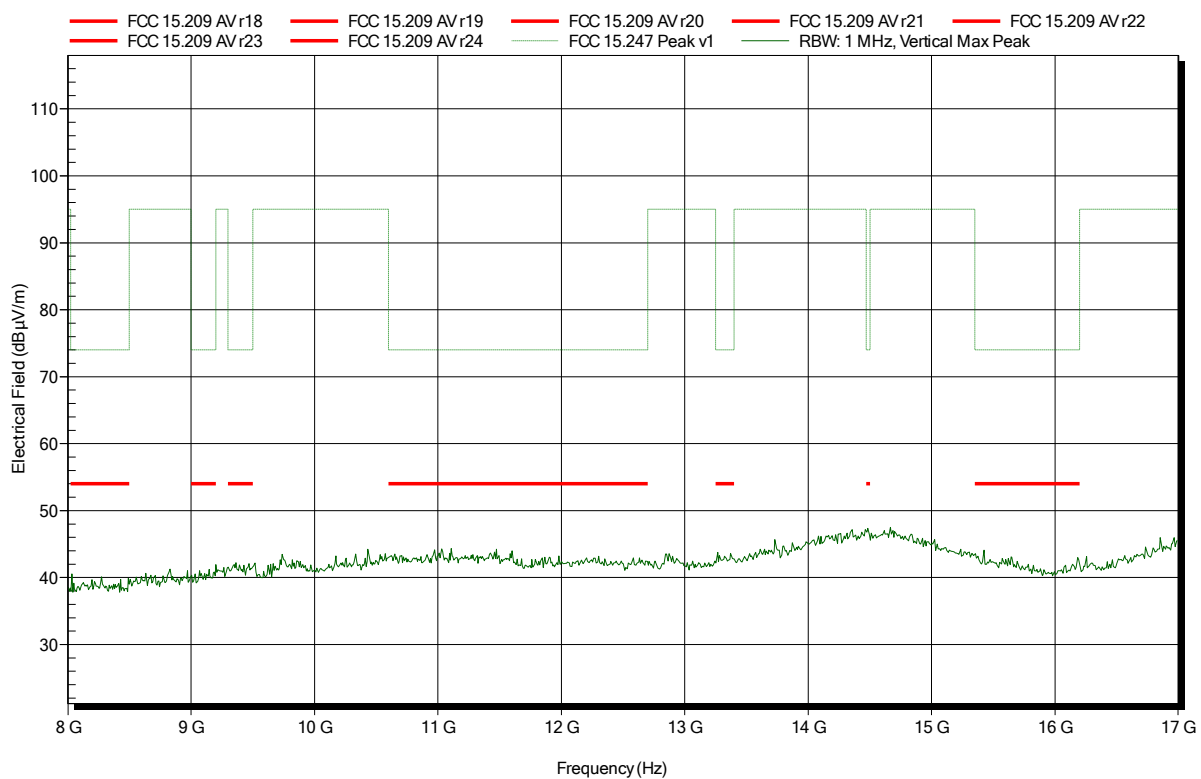


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
Test Date: 2017-04-28
Note:

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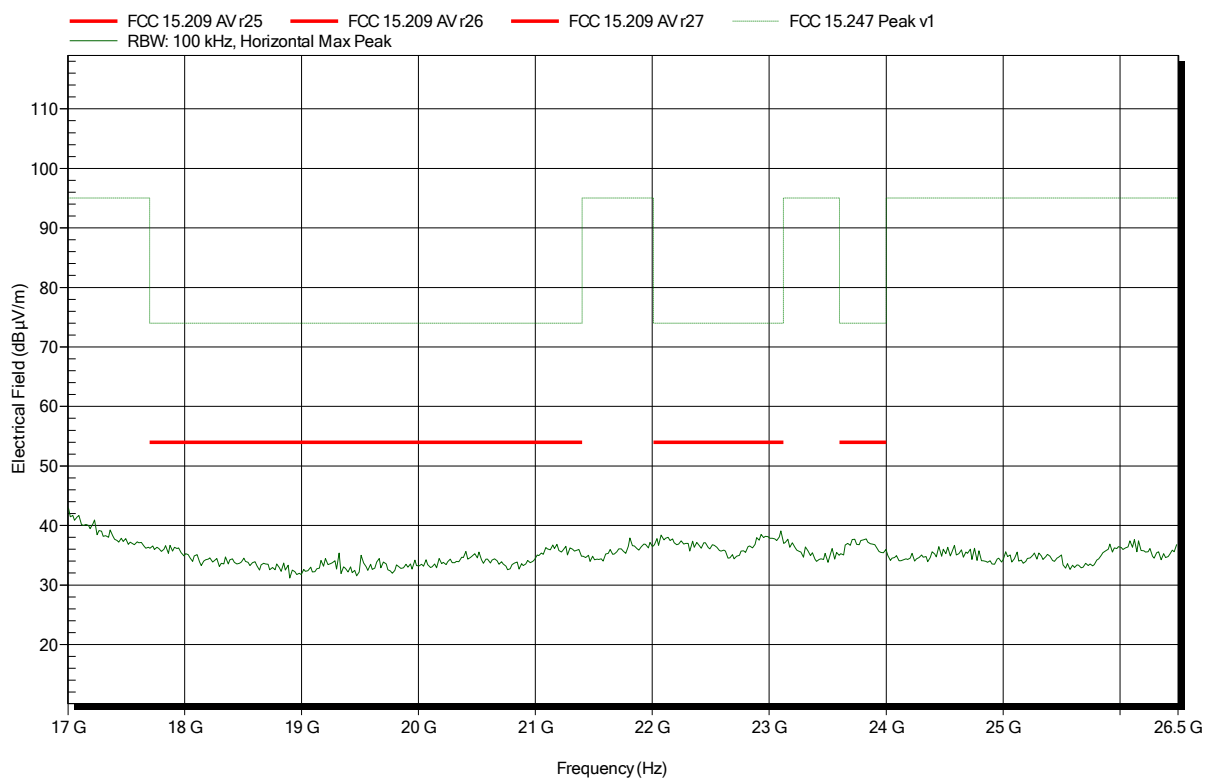


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Amplifier Research AT 4560, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
Test Date: 2017-04-28
Note:

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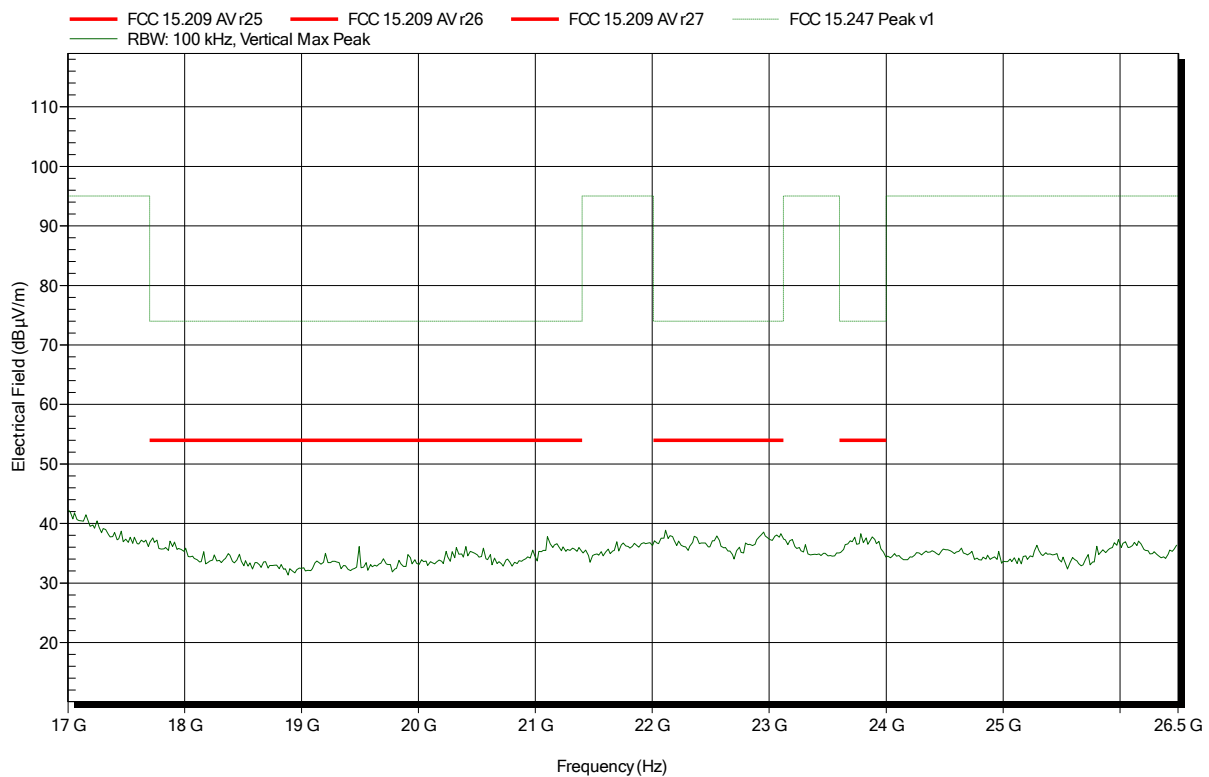


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Amplifier Research AT 4560, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2437 MHz
Test Date: 2017-04-28
Note:

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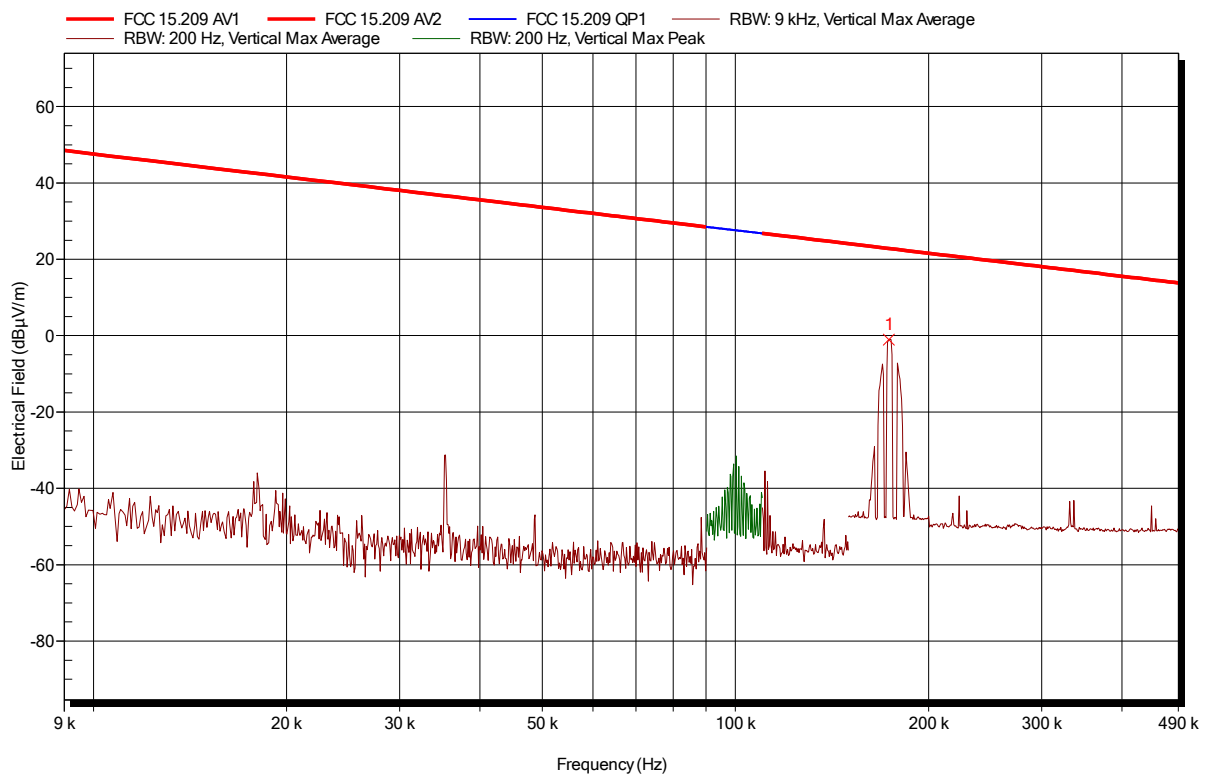


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Treffke
Test Conditions: Tnom: 24°C, Vnom: 120 VAC
Antenna: Rohde & Schwarz HFH 2-Z2
Measurement distance: 3 m converted to 300 m
Mode: TX; IEEE 802.11g; 6Mbps; 2462 MHz
Test Date: 2017-05-03
Note:

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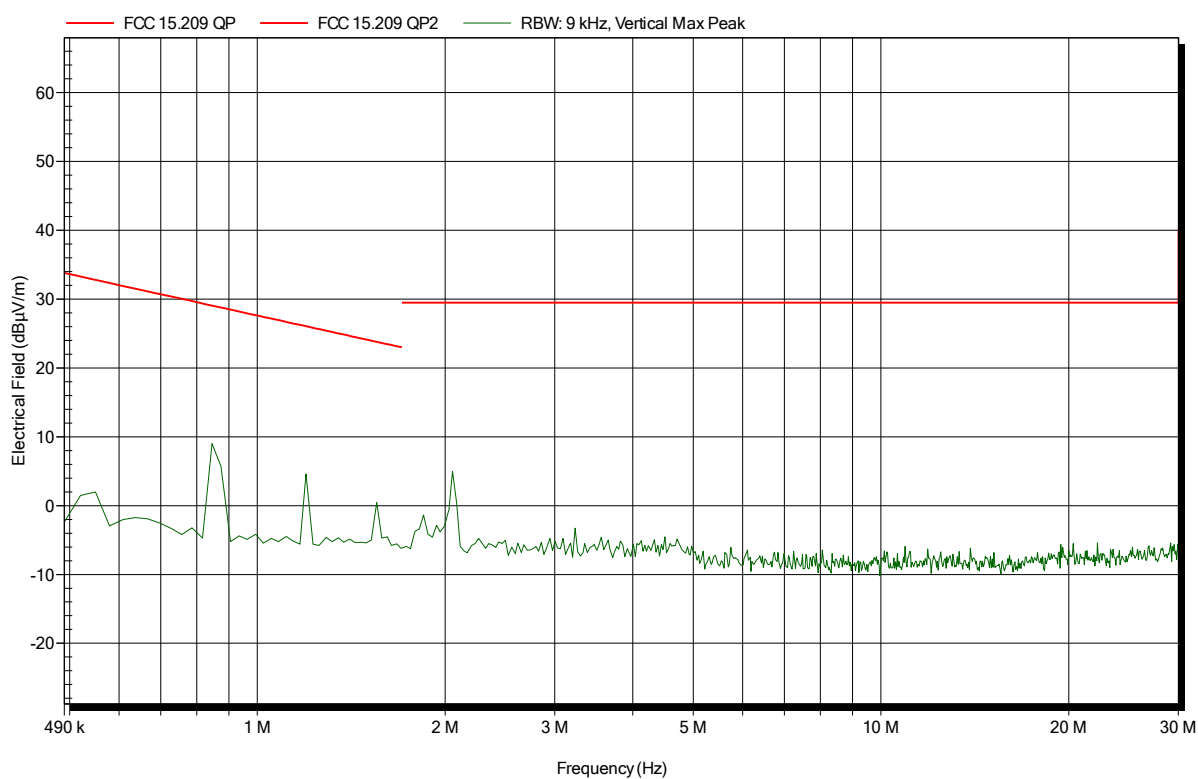
Frequency	Average	Average Limit	Average Difference	Average Status
173.437 kHz	-1.1 dBµV/m	22.8 dBµV/m	-23.89 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Treffke
Test Conditions: Tnom: 24°C, Vnom: 120 VAC
Antenna: Rohde & Schwarz HFH 2-Z2
Measurement distance: 3 m converted to 30 m
Mode: TX; IEEE 802.11g; 6Mbps; 2462 MHz
Test Date: 2017-05-03
Note:

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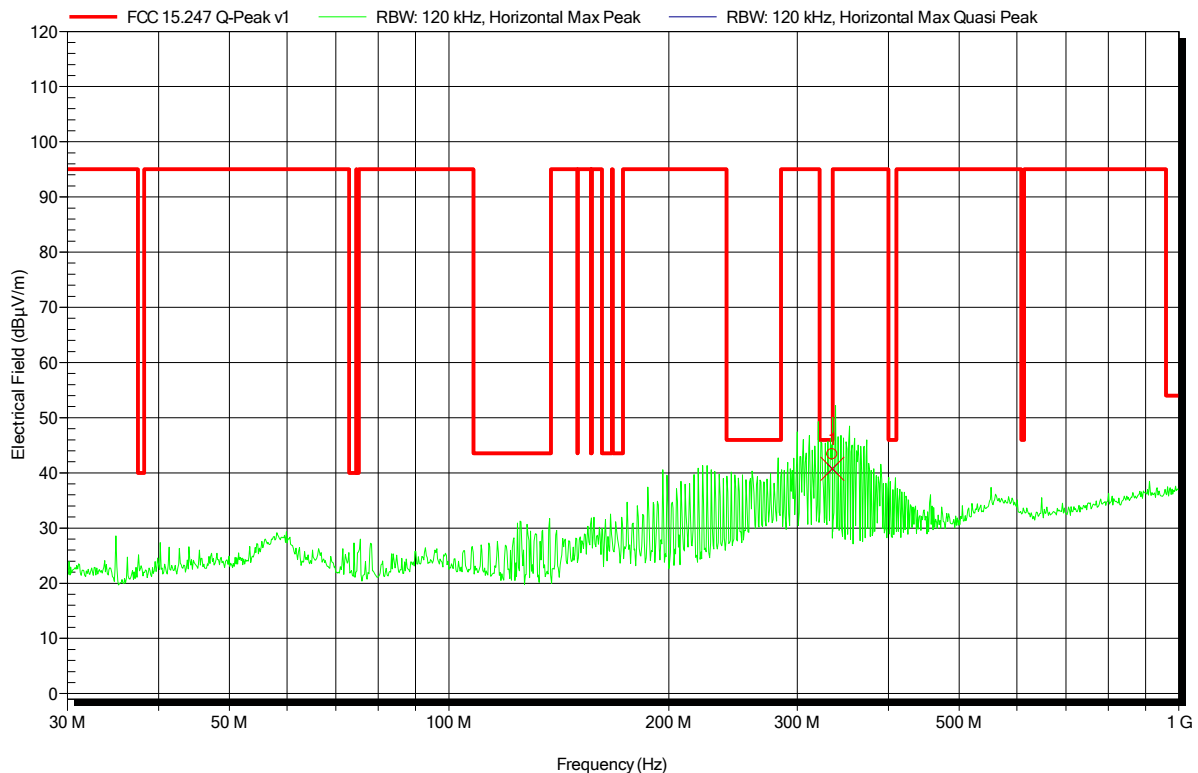


Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Unom: 230 VAC
Antenna: Schwarzbeck VULB 9162, Horizontal
Measurement distance: 3 m
Mode: WLAN 802.11g 6 Mbps 2462 MHz
Test Date: 2017-04-28
Note:

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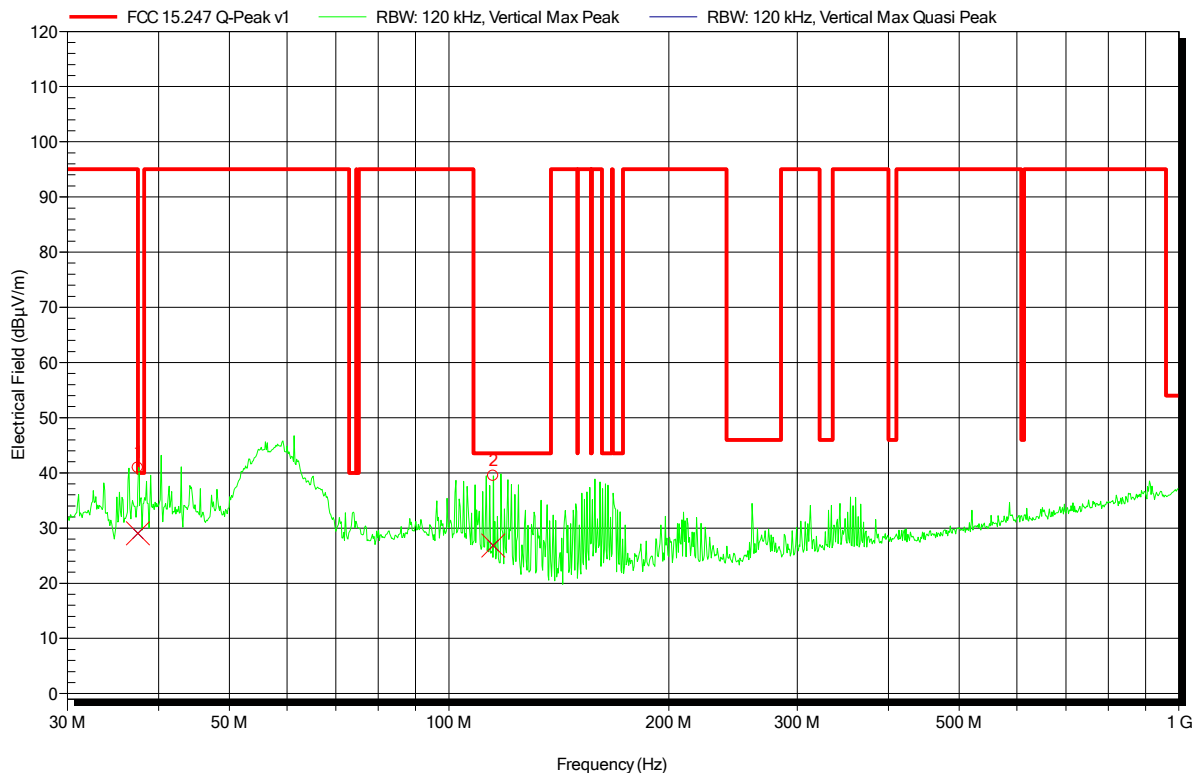
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	335.142 MHz	40.7 dBμV/m	46 dBμV/m	-5.3 dB	Pass	0 Degree	2.51 m

Radiated emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom: 230 VAC
 Antenna: Schwarzbeck VULB 9162, Vertical
 Measurement distance: 3 m
 Mode: WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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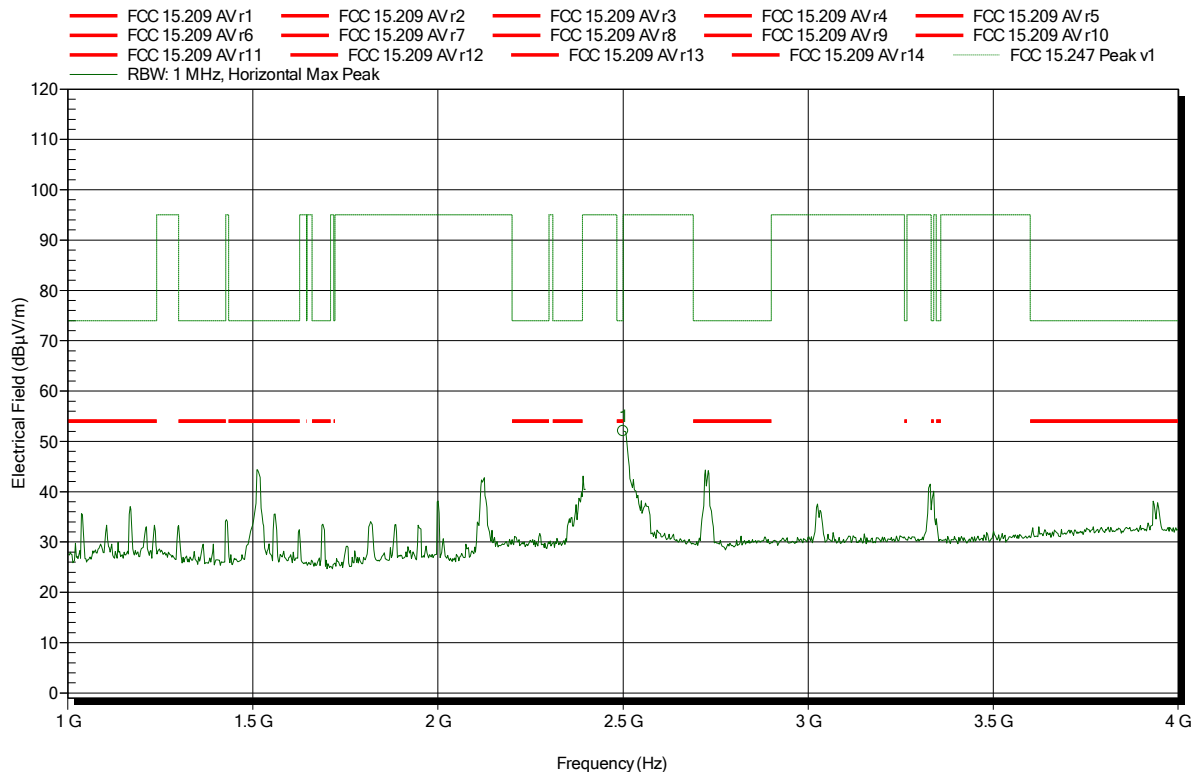
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37.494 MHz	29.1 dBμV/m	95 dBμV/m	-65.9 dB	Pass	0 Degree	2.51 m
2	114.954 MHz	26.8 dBμV/m	43.5 dBμV/m	-16.7 dB	Pass	0 Degree	2.51 m

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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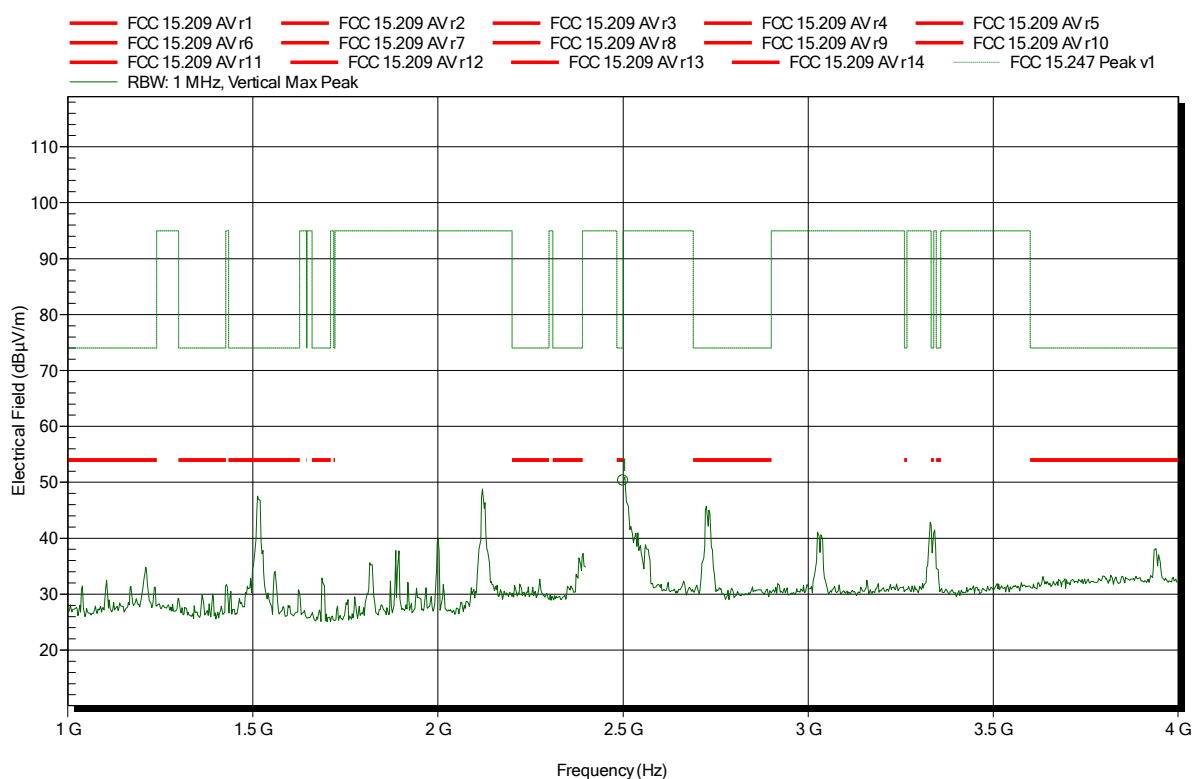
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.5 GHz	52.02 dBµV/m	74 dBµV/m	-21.98 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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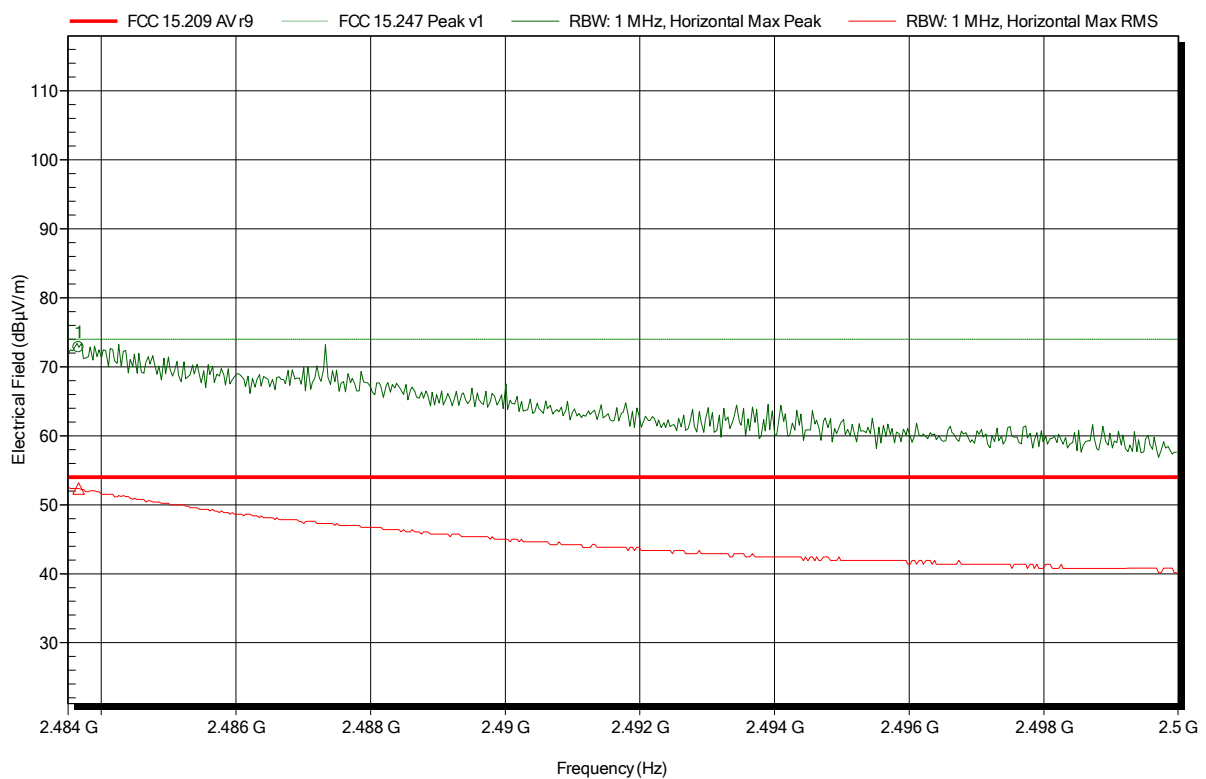
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.5 GHz	50.31 dBμV/m	74 dBμV/m	-23.69 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note: upper bandedge

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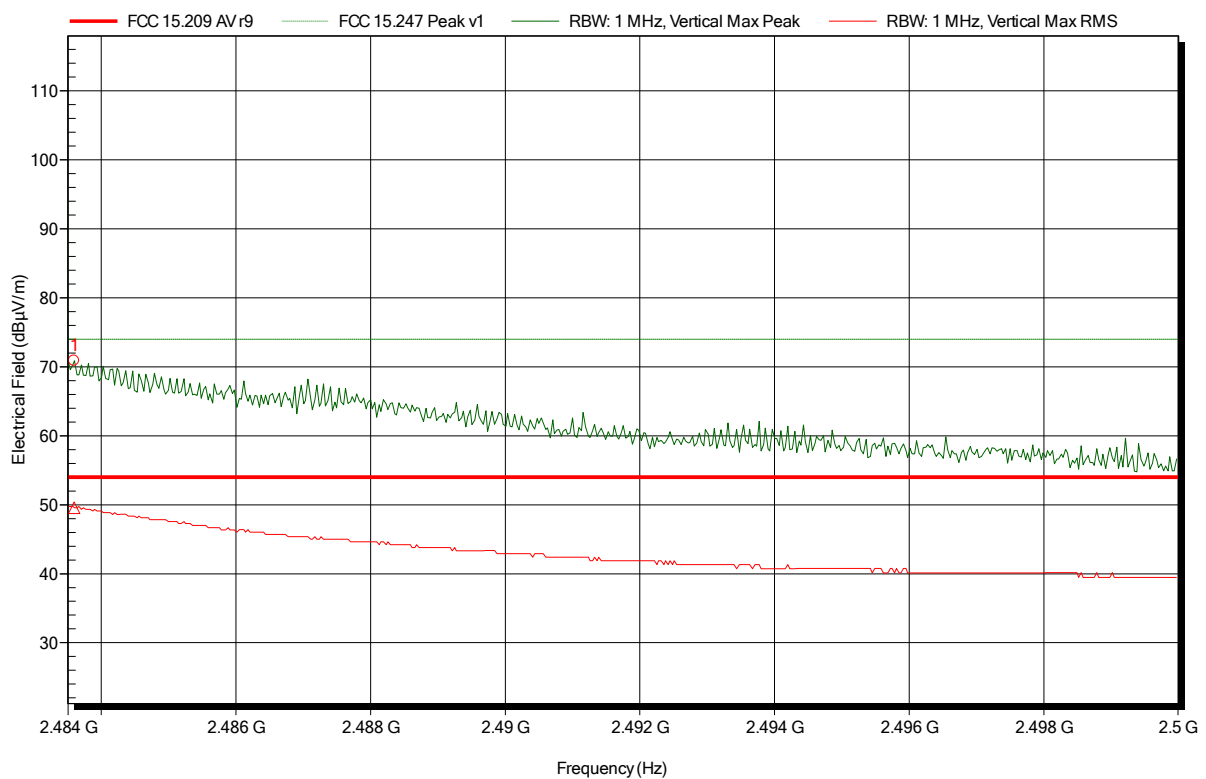
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.4837 GHz	72.85 dBµV/m	74 dBµV/m	-1.15 dB	Pass
Frequency	RMS	RMS Limit	RMS Difference	RMS Status
2.4837 GHz	52.38 dBµV/m	54 dBµV/m	-1.62 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note: upper bandedge

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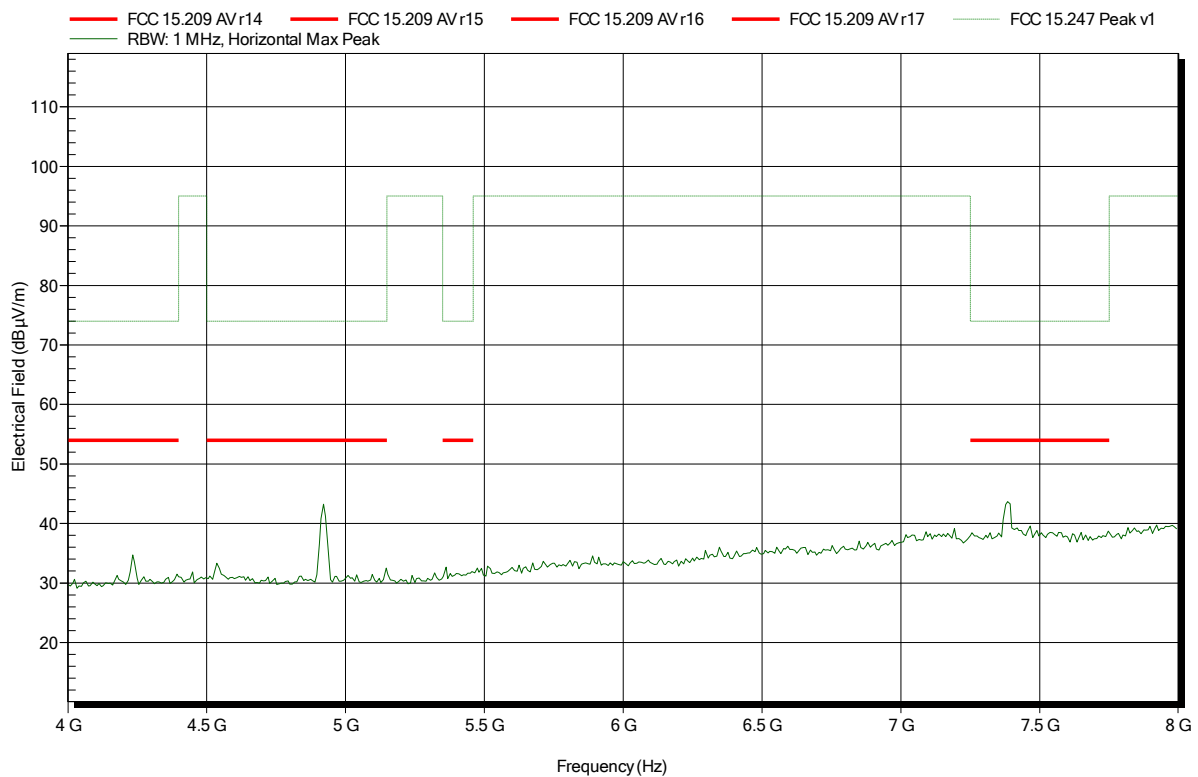
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.4836 GHz	70.86 dBµV/m	74 dBµV/m	-3.14 dB	Pass
Frequency	RMS	RMS Limit	RMS Difference	RMS Status
2.4836 GHz	49.54 dBµV/m	54 dBµV/m	-4.46 dB	Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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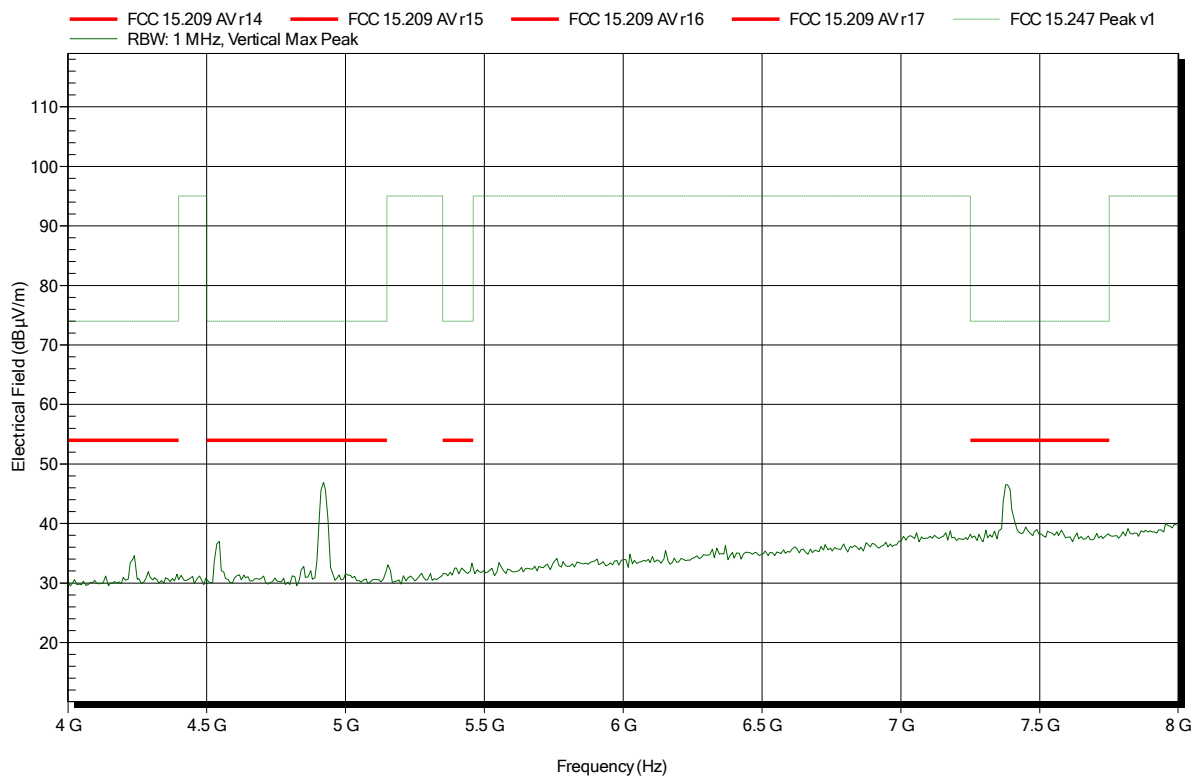


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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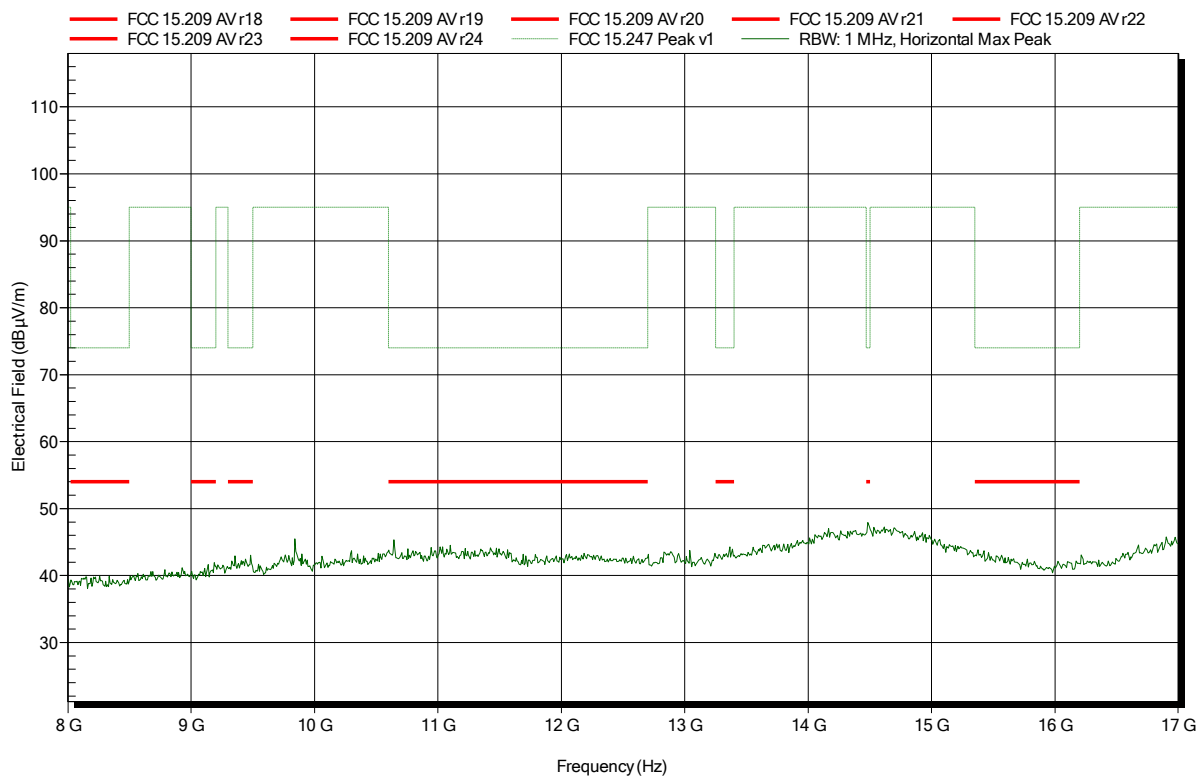


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
Test Date: 2017-04-28
Note:

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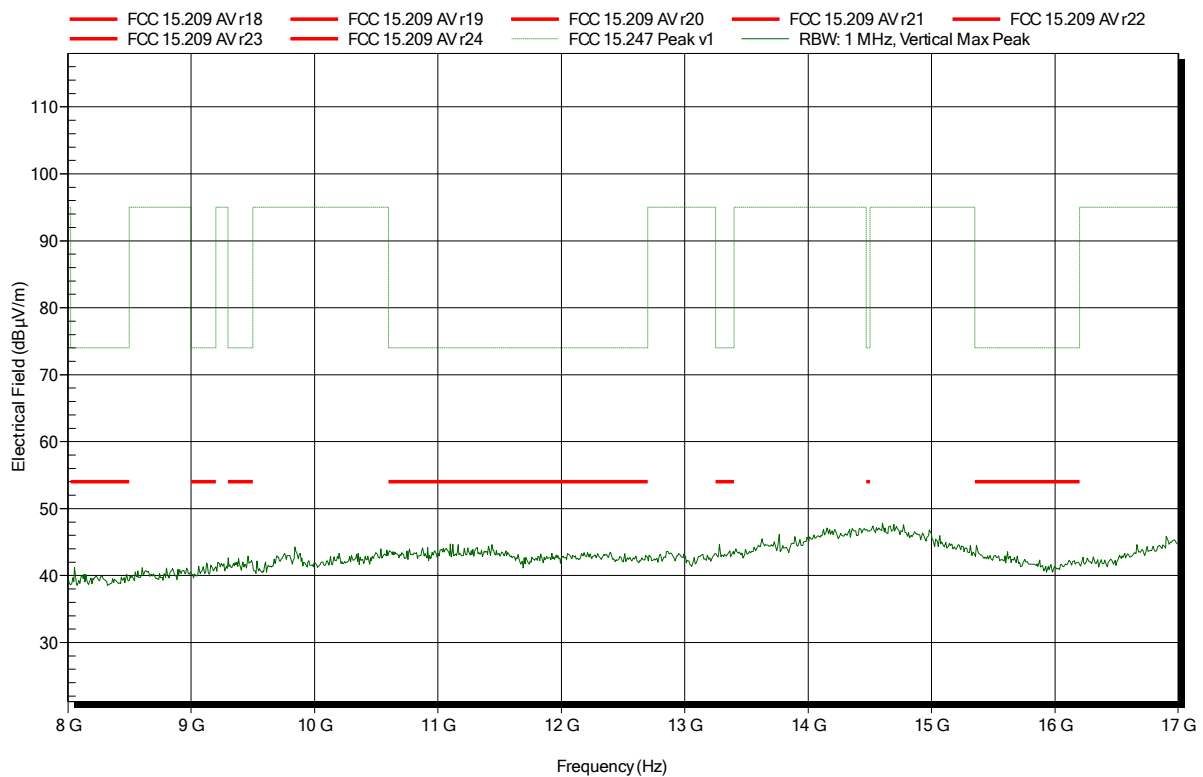


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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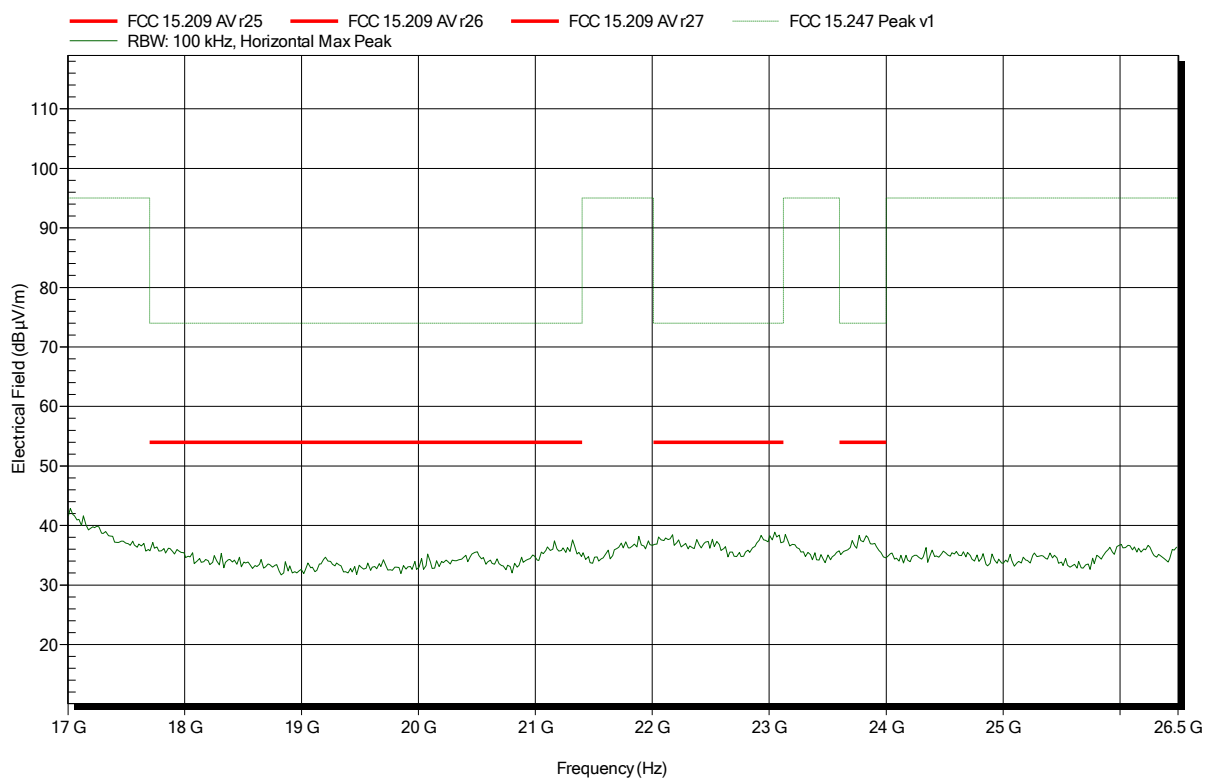


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Amplifier Research AT 4560, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
Test Date: 2017-04-28
Note:

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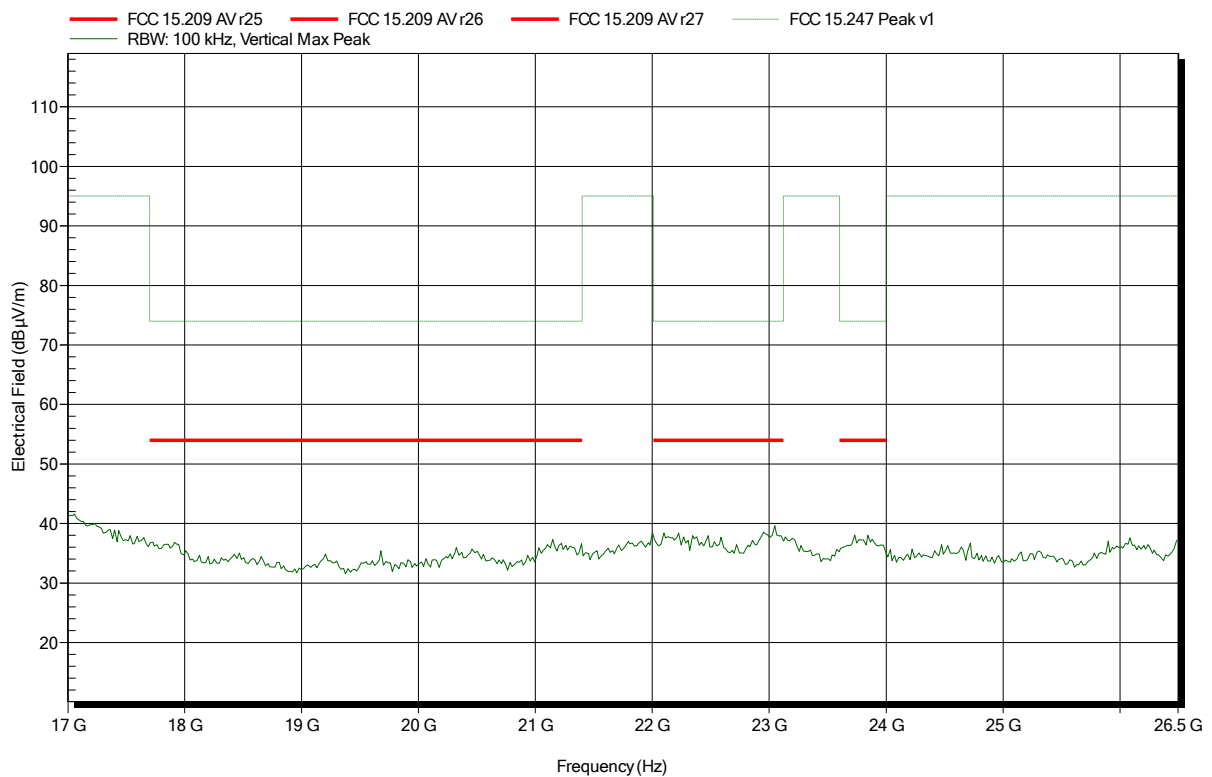


Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Amplifier Research AT 4560, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; WLAN 802.11g 6 Mbps 2462 MHz
 Test Date: 2017-04-28
 Note:

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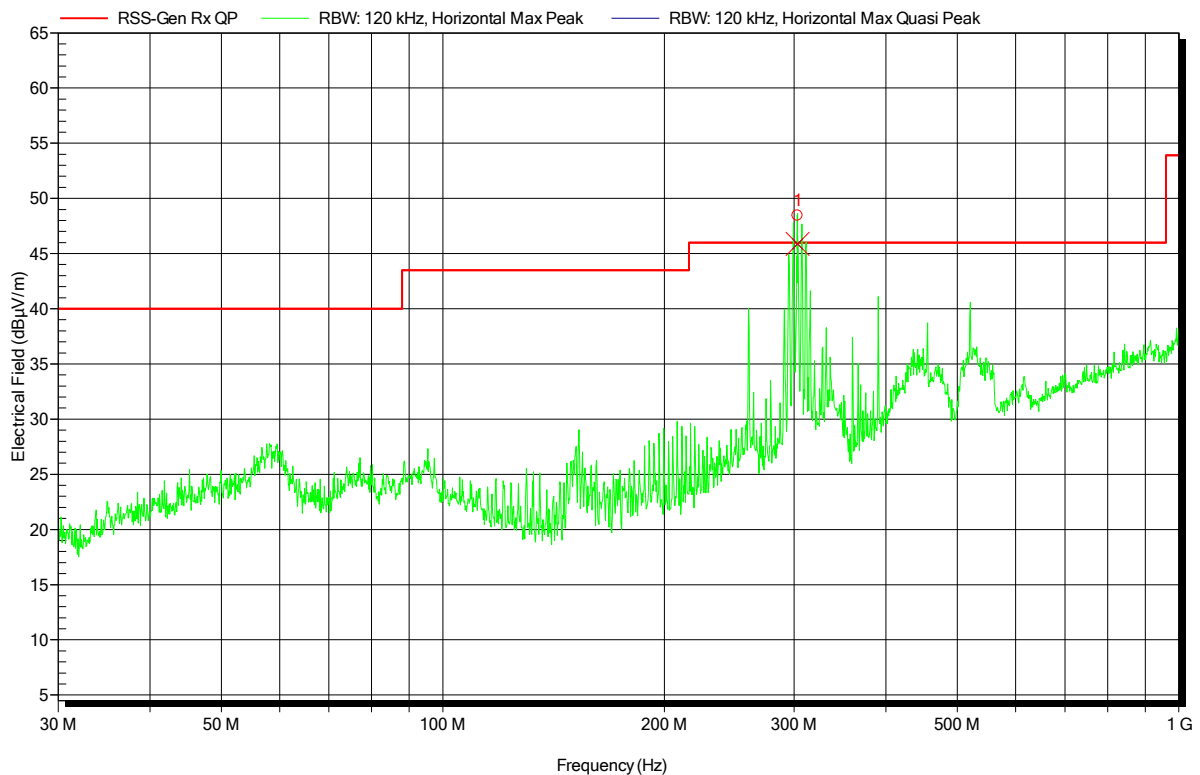
ANNEX B Receiver spurious emissions

Radiated emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom:
 Antenna: Schwarzbeck VULB 9162, Horizontal
 Measurement distance: 3 m
 Mode: WLAN 2437 MHz
 Test Date: 2017-05-02
 Note:

Index 1



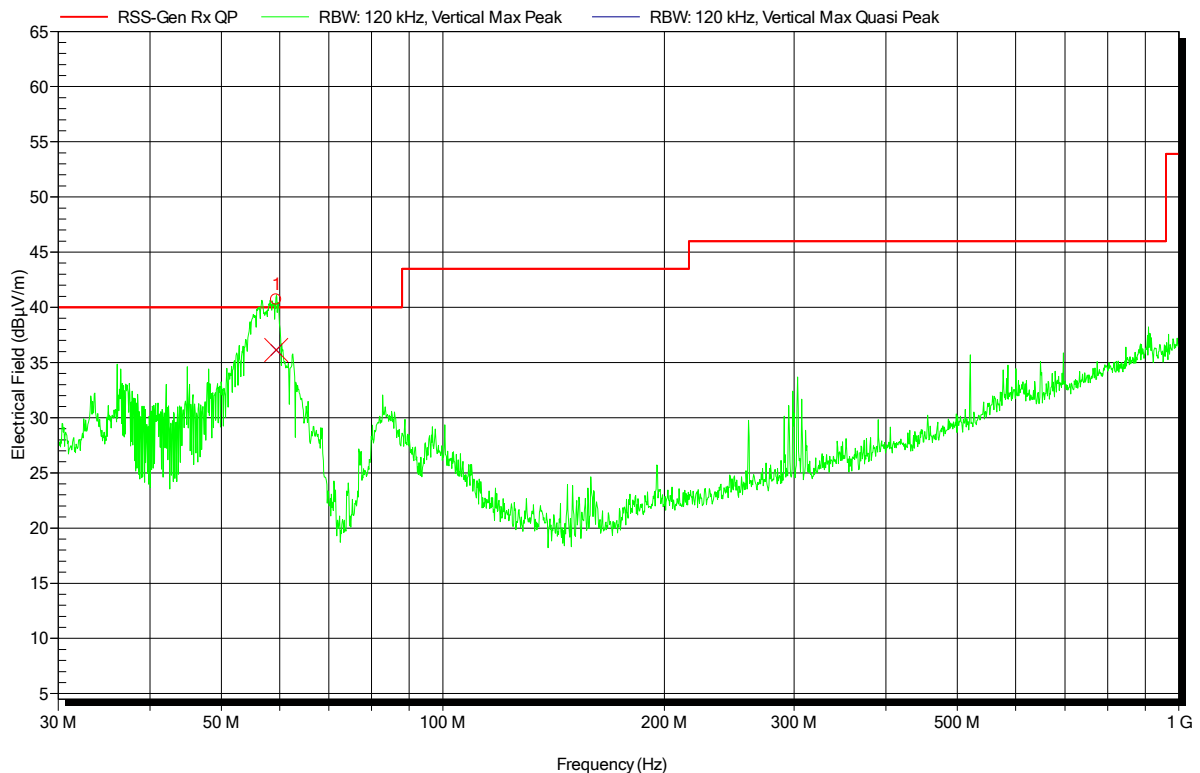
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	303.18 MHz	45.9 dBµV/m	46 dBµV/m	-0.1 dB	Pass	0 Degree	2.51 m

Radiated emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Unom:
 Antenna: Schwarzbeck VULB 9162, Vertical
 Measurement distance: 3 m
 Mode: WLAN 2437 MHz
 Test Date: 2017-05-02
 Note:

Index 2



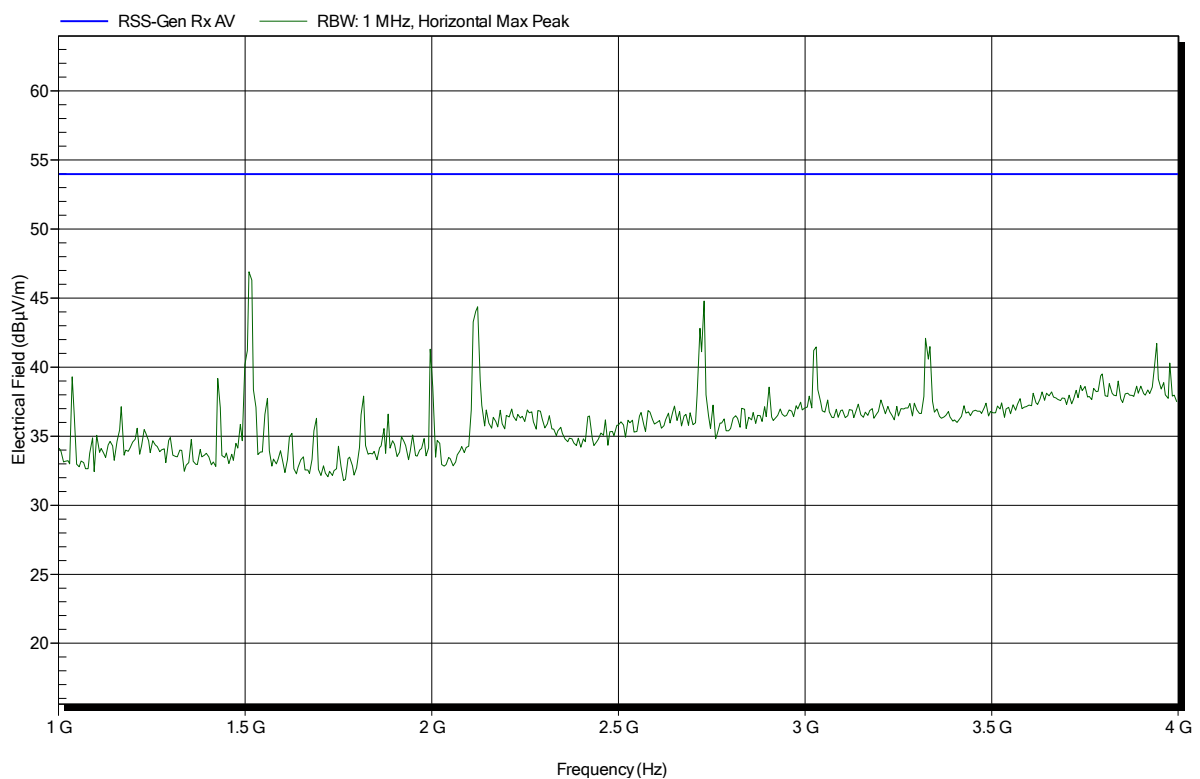
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	59.34 MHz	36.1 dBμV/m	40 dBμV/m	-3.9 dB	Pass	0 Degree	2.51 m

Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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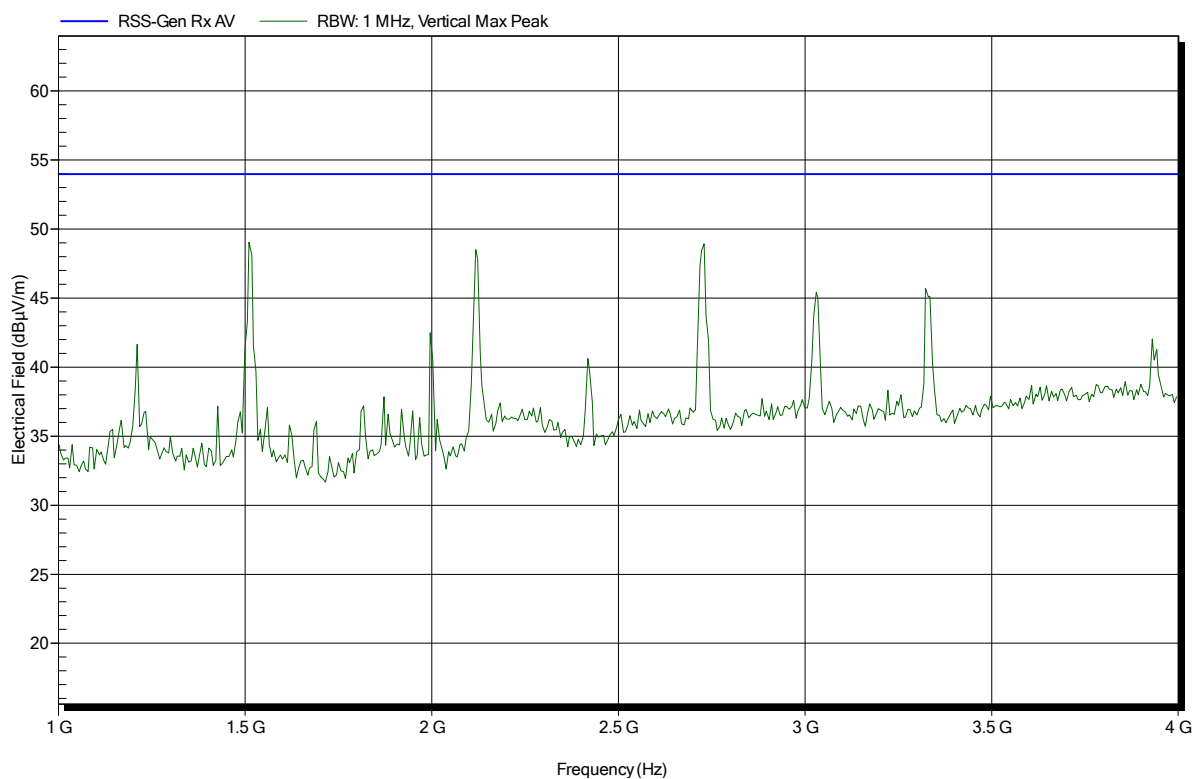


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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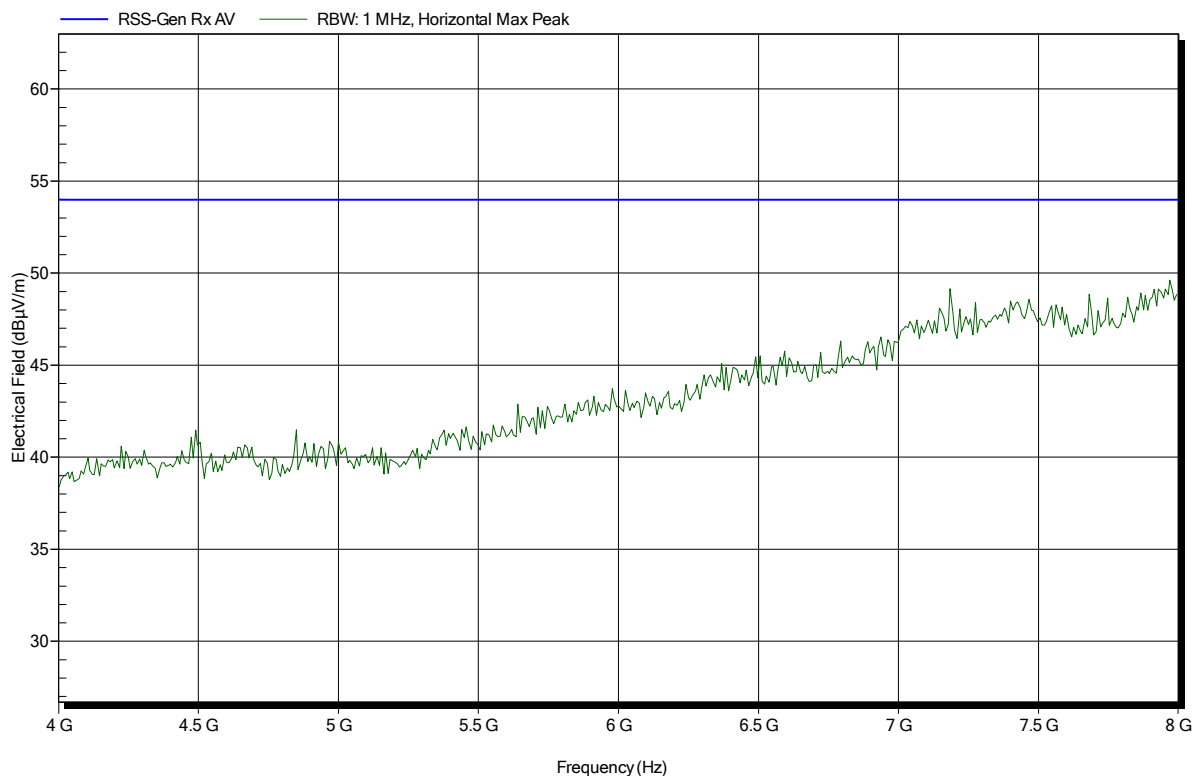


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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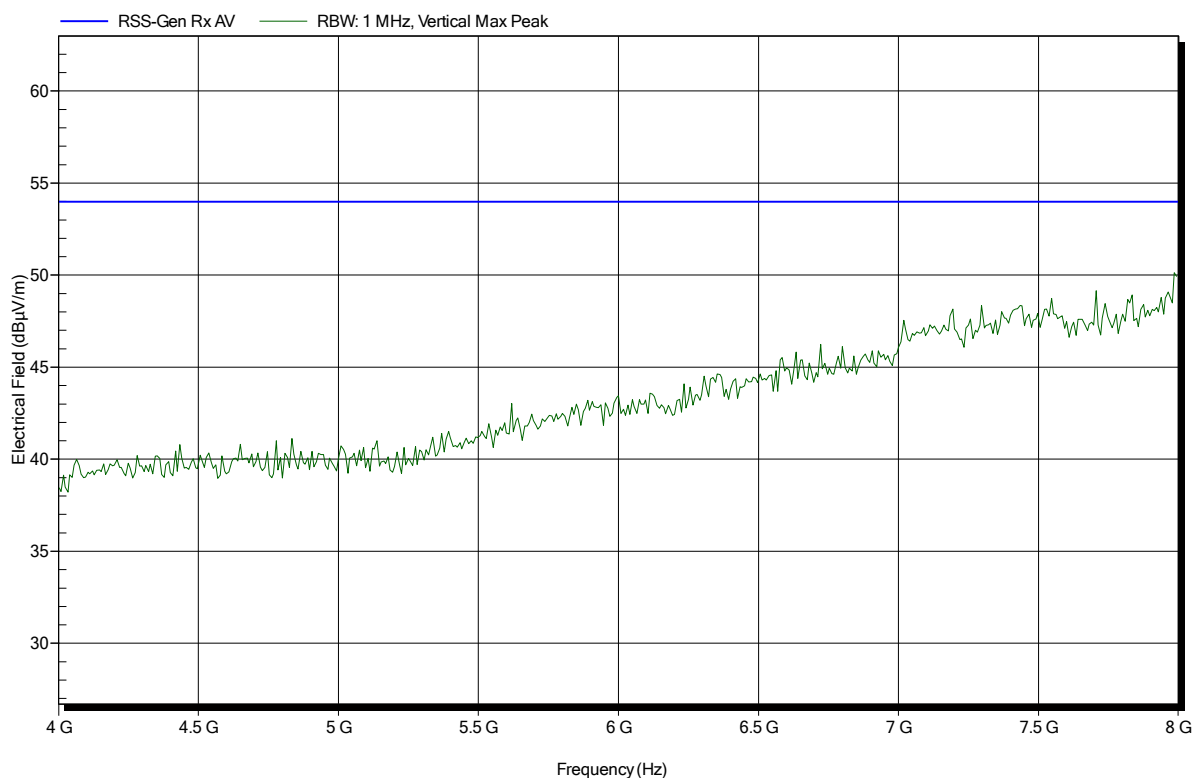


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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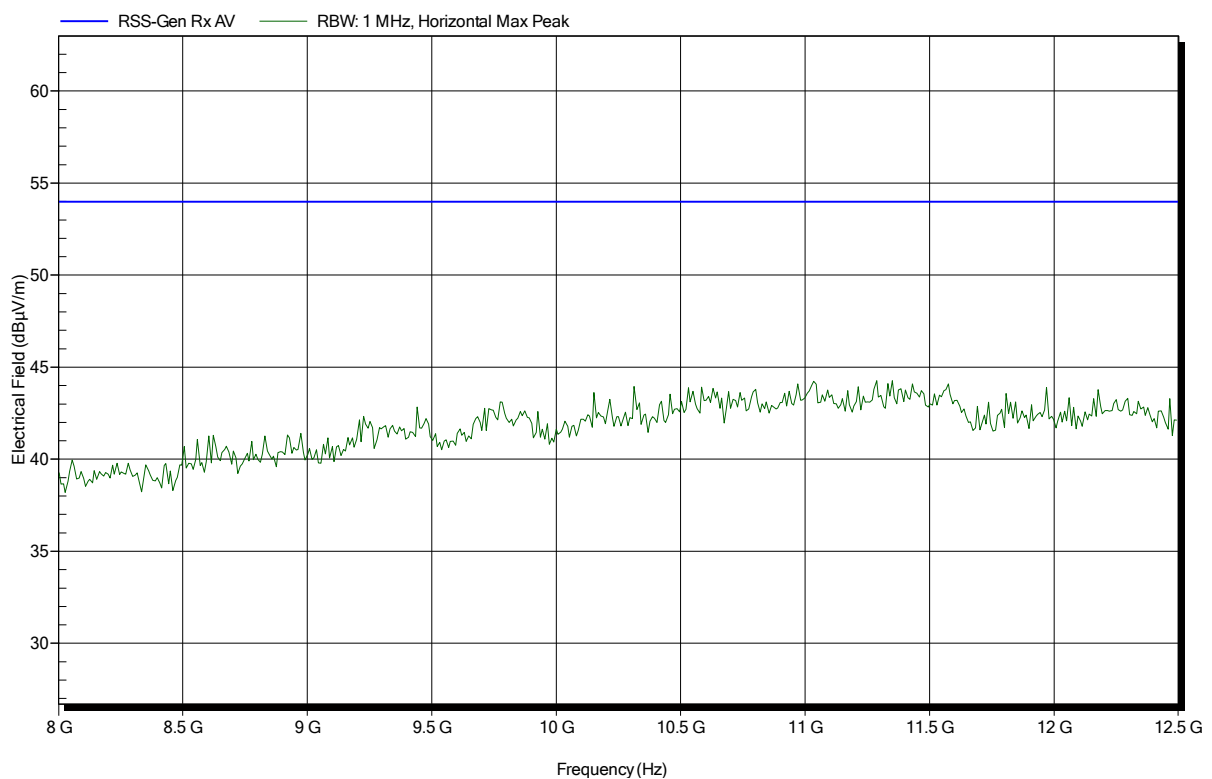


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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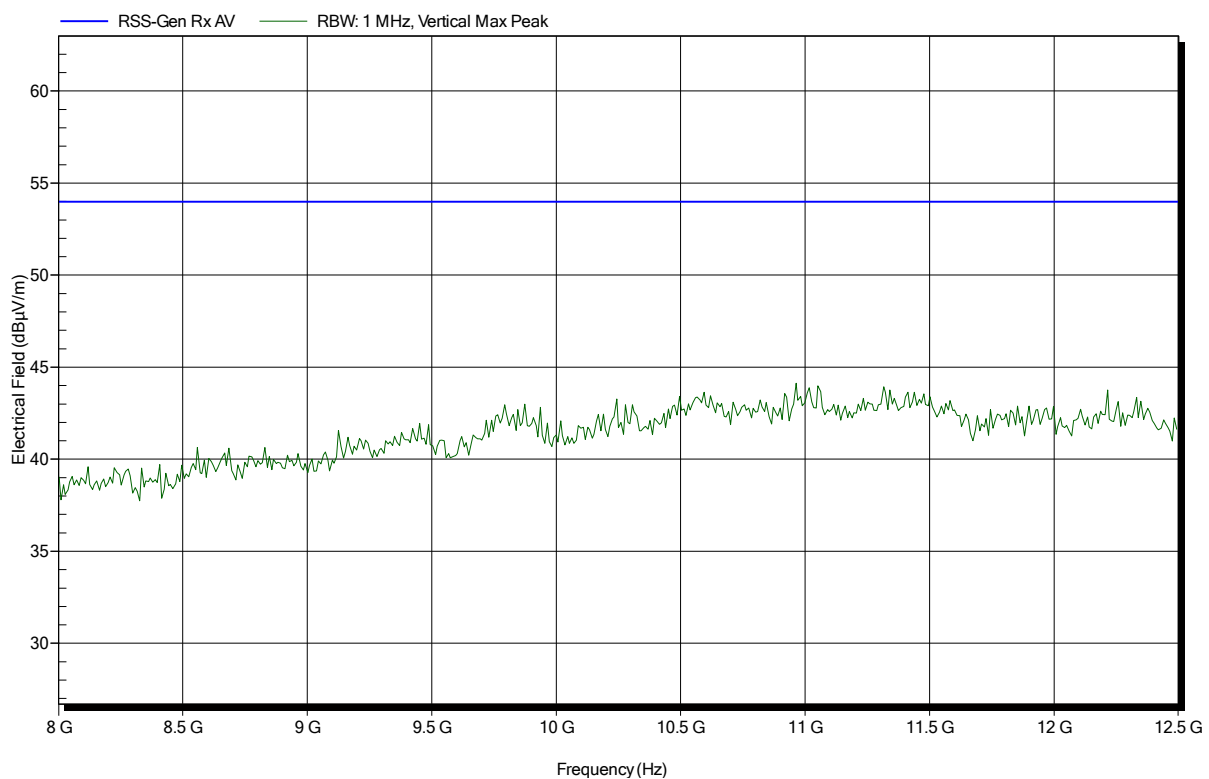


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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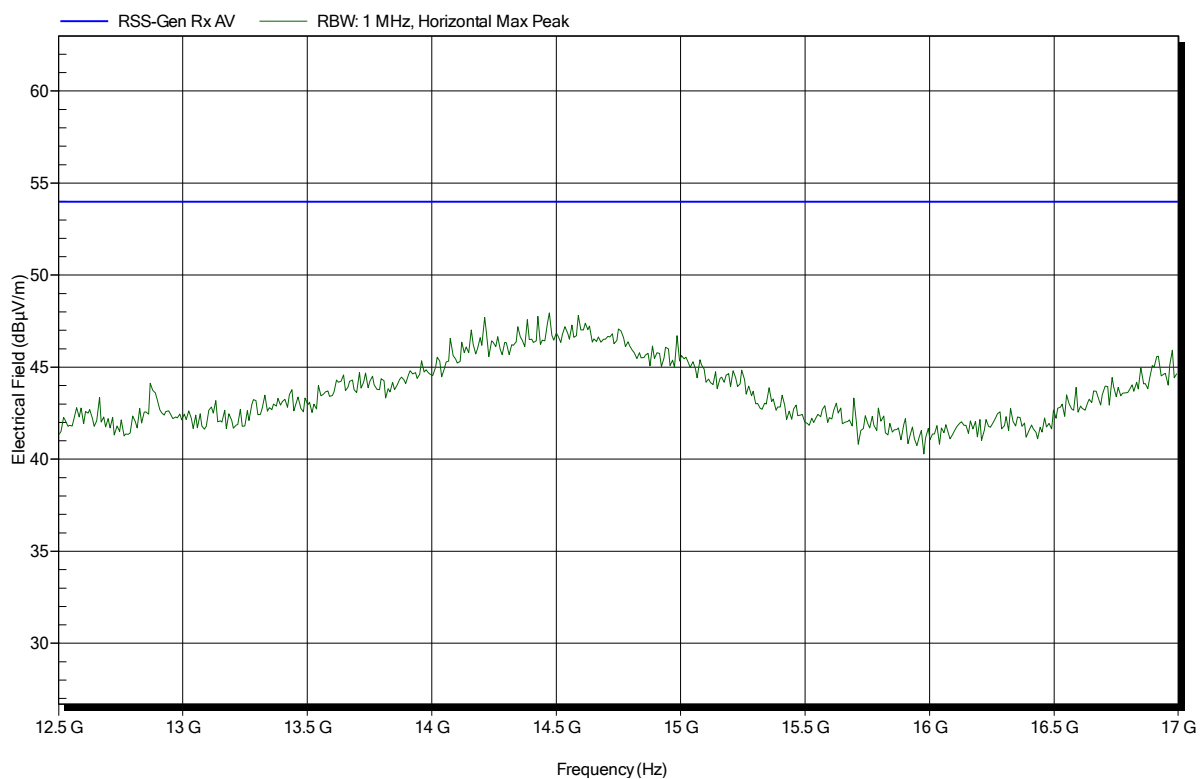


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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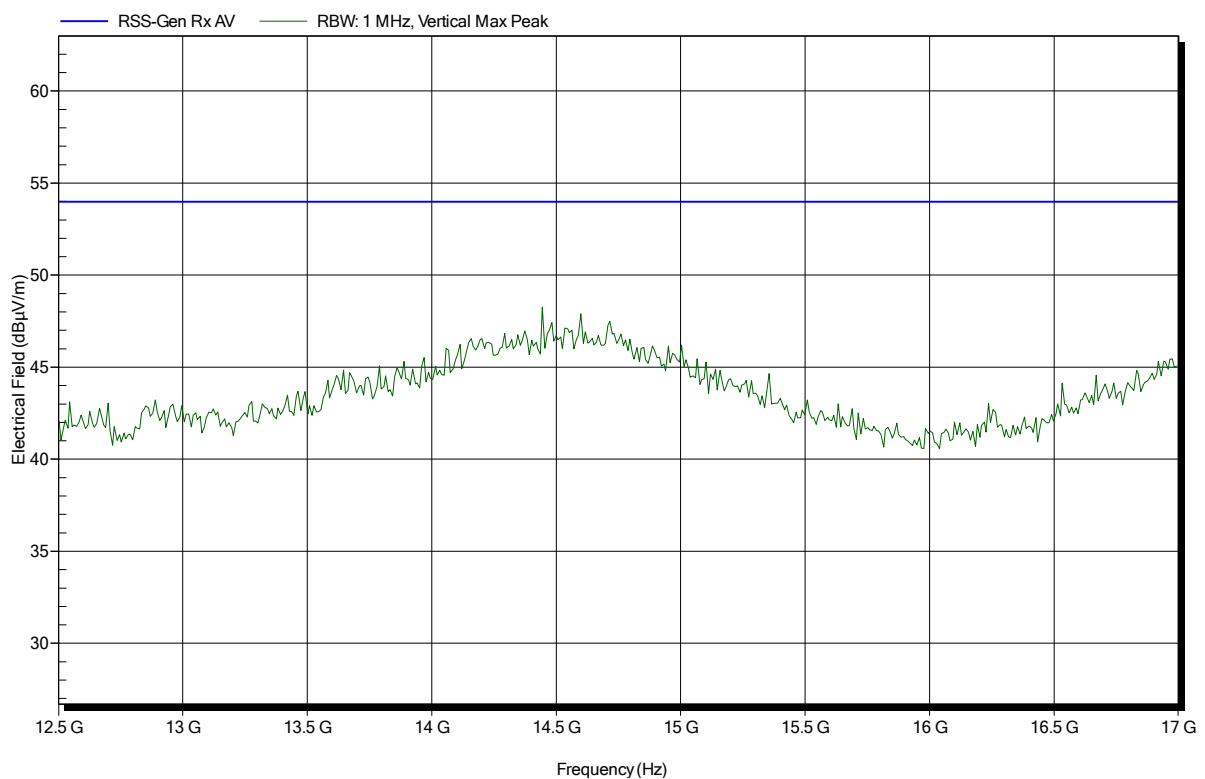


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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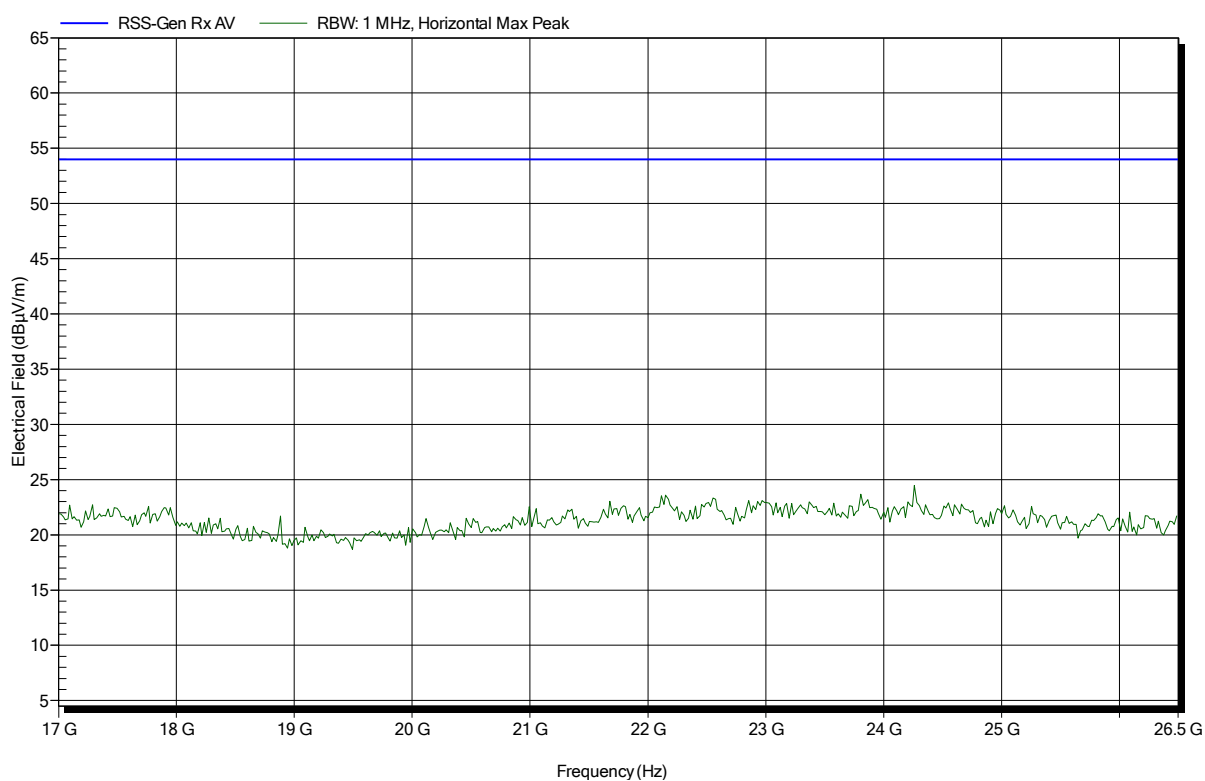


Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
EUT Name: Spirometer
Model: SpiroSphere - Main Unit
Test Site: Eurofins Product Service GmbH
Operator: Mr. Suckow
Test Conditions: Tnom: 20°C, Vnom: 230 VAC
Antenna: Amplifier Research AT 4560, Horizontal
Measurement distance: 1 m converted to 3m
Mode: RX; WLAN 2437 MHz
Test Date: 2017-04-28
Note:

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Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH
 EUT Name: Spirometer
 Model: SpiroSphere - Main Unit
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Suckow
 Test Conditions: Tnom: 20°C, Vnom: 230 VAC
 Antenna: Amplifier Research AT 4560, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: RX; WLAN 2437 MHz
 Test Date: 2017-04-28
 Note:

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