




<b>RADIO REPORT</b> <b>FCC 47 CFR Part 15C</b> <b>ISED Canada RSS-247</b> <b>Frequency hopping systems operating within the 2400 – 2483.5 MHz band</b>	
<b>Report Reference No</b>	G0M-1702-6295-TFC247BT-MU-V01
<b>Testing Laboratory</b>	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	 <p>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01                      FCC Filed Test Laboratory, Reg.-No.: 96970                      IC Testing Laboratory site: 3470A-2</p>
<b>Applicant</b>	eResearchTechnology GmbH
<b>Address</b>	Sieboldstrasse 3 97230 Estenfeld GERMANY
<b>Test Specification</b>	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
<b>Equipment under Test (EUT):</b>	
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
<b>Test Result</b>	<b>PASSED</b>

<b>Possible test case verdicts:</b>		
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)	
<b>Testing:</b>		
Test Lab Temperature	20 - 23 °C	
Test Lab Humidity	32 – 38 %	
Date of receipt of test item	2017-04-25	
<b>Report:</b>		
Compiled by	Christian Weber	
Tested by (+ signature) (Responsible for Test)	Burkhard Pudell	
Approved by (+ signature) (Head of Lab)	Christian Weber	
Date of Issue	2017-05-12	
Total number of pages	82	
<b>General Remarks:</b>		
<p>The test results presented in this report relate only to the object tested.</p> <p>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.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p>		
<b>Additional Comments:</b>		

## VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2017-05-12	Initial Release	

**ABBREVIATIONS AND ACRONYMS**

Acronyms	
Acronym	Description
BR	Bluetooth Basic Rate mode
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V <sub>NOM</sub>	Nominal supply voltage

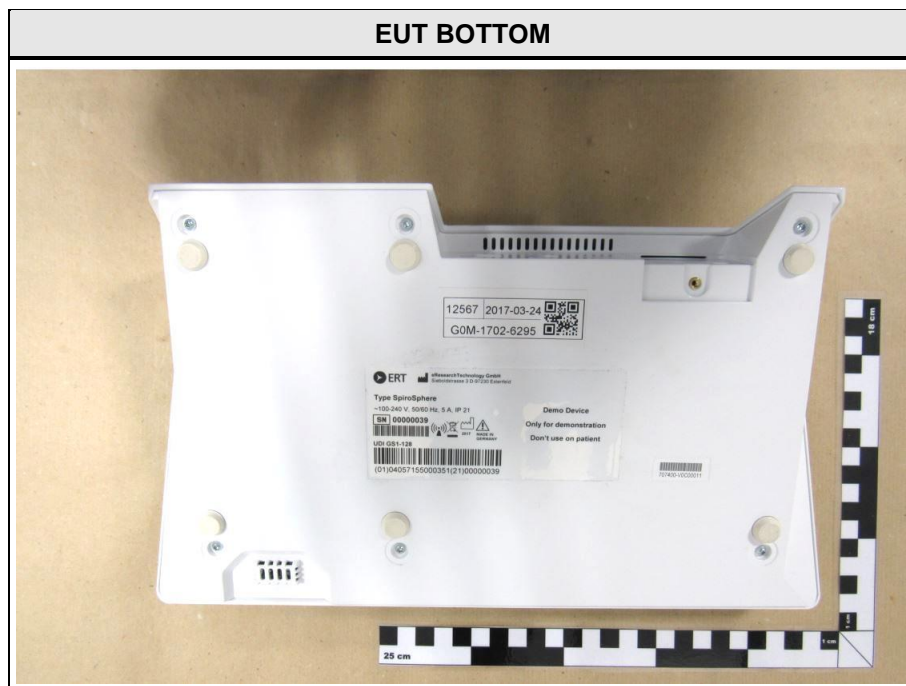
**REPORT INDEX**

<b>1</b>	<b>Equipment (Test Item) Under Test.....</b>	<b>6</b>
1.1	Photos – Equipment External.....	7
1.2	Photos – Equipment Internal.....	10
1.3	Photos – Test Setup.....	14
1.4	Support Equipment.....	15
1.5	Test Modes.....	16
1.6	Test Frequencies.....	17
1.7	Sample emission level calculation.....	18
<b>2</b>	<b>Result Summary.....</b>	<b>19</b>
<b>3</b>	<b>Test Conditions and Results.....</b>	<b>20</b>
3.1	Test Conditions and Results - Occupied bandwidth.....	20
3.2	Test Conditions and Results - AC powerline conducted emissions.....	24
3.3	Test Conditions and Results - Transmitter radiated emissions.....	27
3.4	Test Conditions and Results - Receiver radiated emissions.....	30
ANNEX A	Transmitter spurious emissions.....	33
ANNEX B	Receiver spurious emissions.....	73

## 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 UnitPackage-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	Bluetooth	
Modulation	GFSK	
Number of antenna ports	1	
Radio Module	Type	WLAN-BT-module
	Model	WL18 MODGB
	Manufacturer	Texas Instruments
	FCC-ID	Z64-WL18SBMOD
	IC	451I-WL18SBMOD
Antenna	Type	integral
	Model	ANT016008LCD2442MA1
	Manufacturer	TDK
	Gain	2.4 dBi
Supply Voltage	V <sub>NOM</sub>	230 V AC
Operating Temperature	T <sub>NOM</sub>	25 °C
AC/DC-Adaptor	Model	GTM91099-3099-4.0-T2
	Vendor	GlobTec Inc.
	Input	110-240 V AC 50-60 Hz
	Output	5.0 V DC 6A
Manufacturer	eResearchTechnology GmbH Sieboldstrasse 3 97230 Estenfeld GERMANY	

1.1 Photos – Equipment External







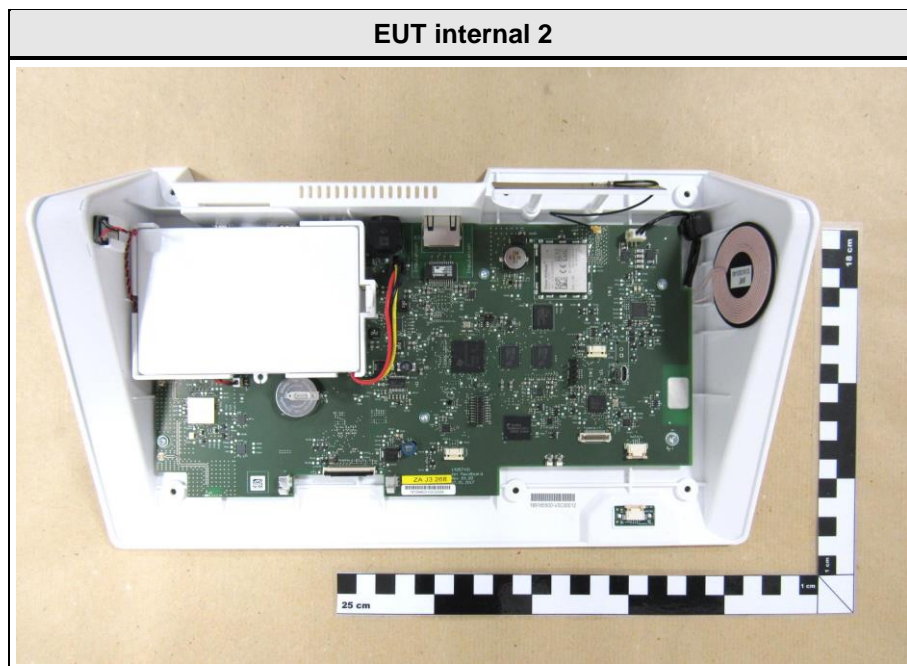
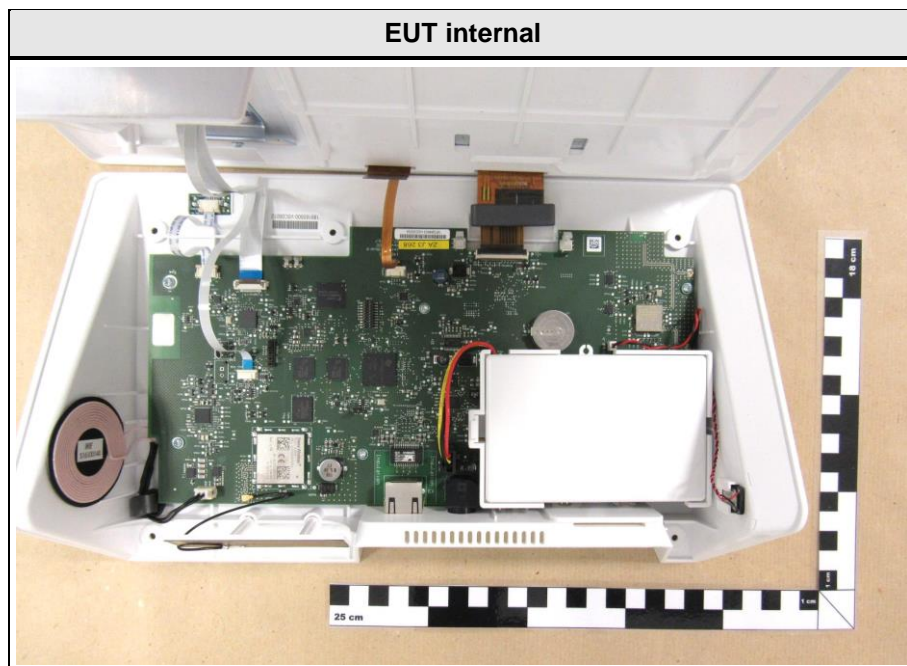
AC-DC ADAPTER BACK



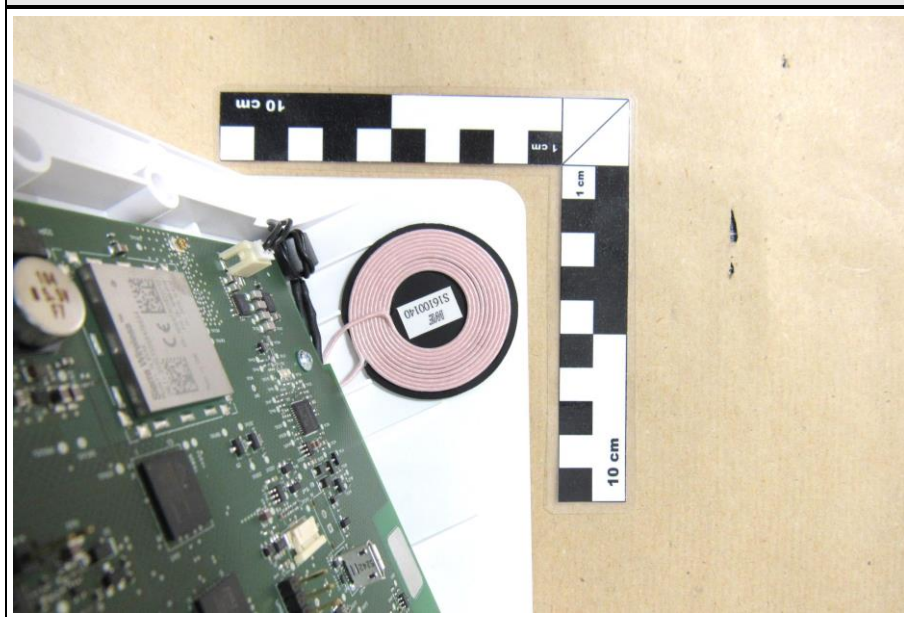
AC-DC ADAPTER SIDE



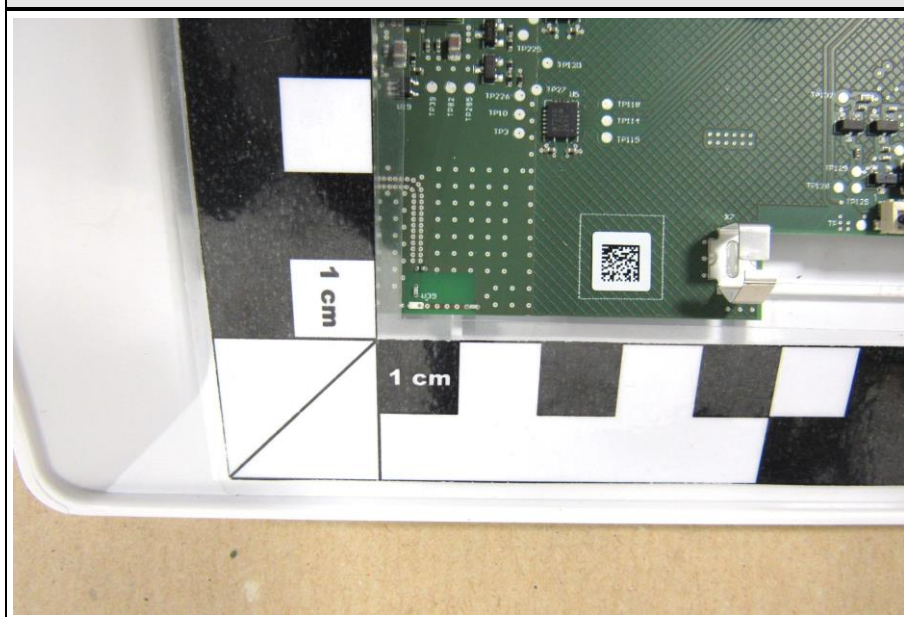
1.2 Photos – Equipment Internal

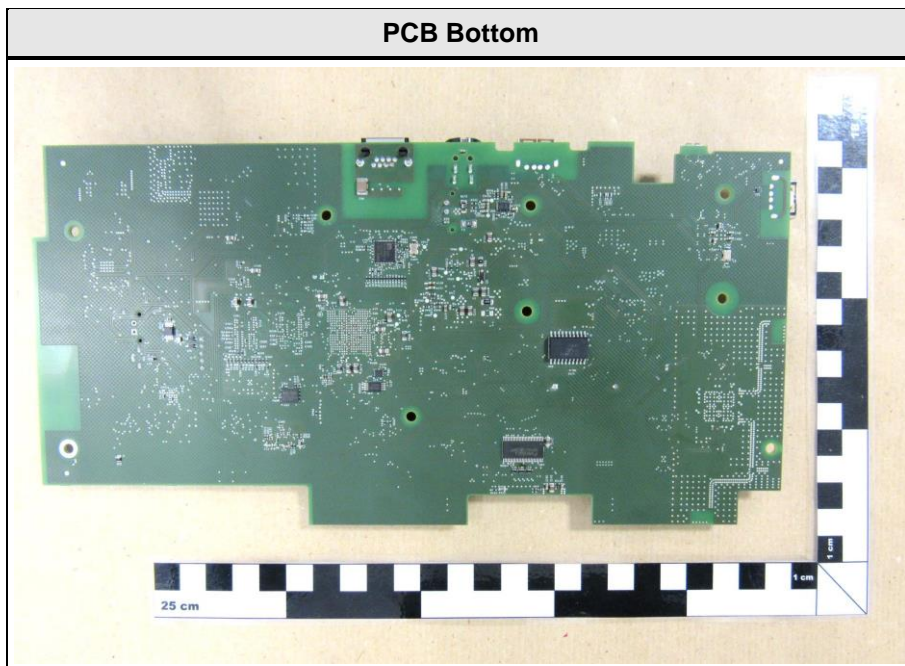
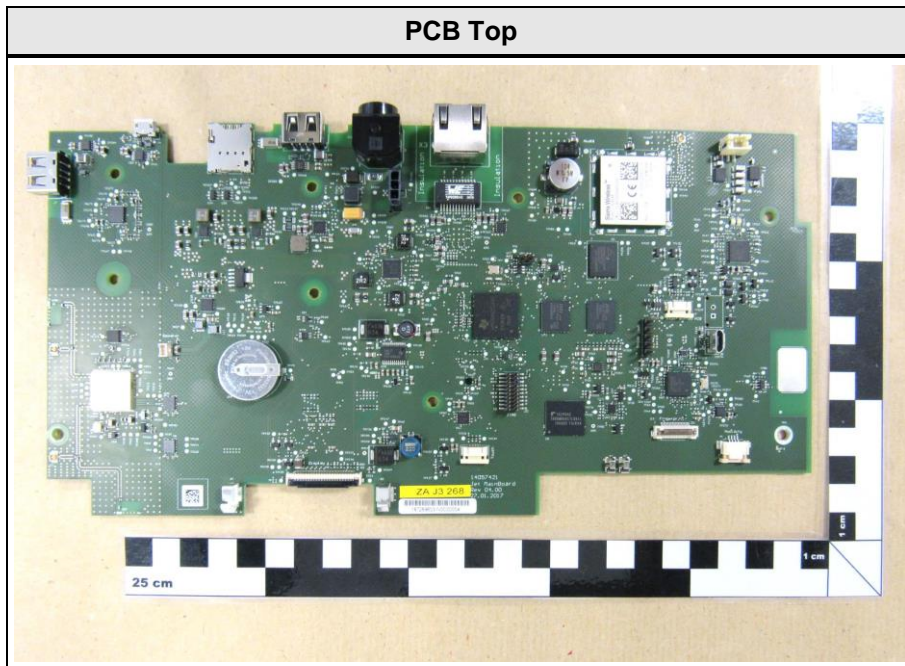


Loop antenna

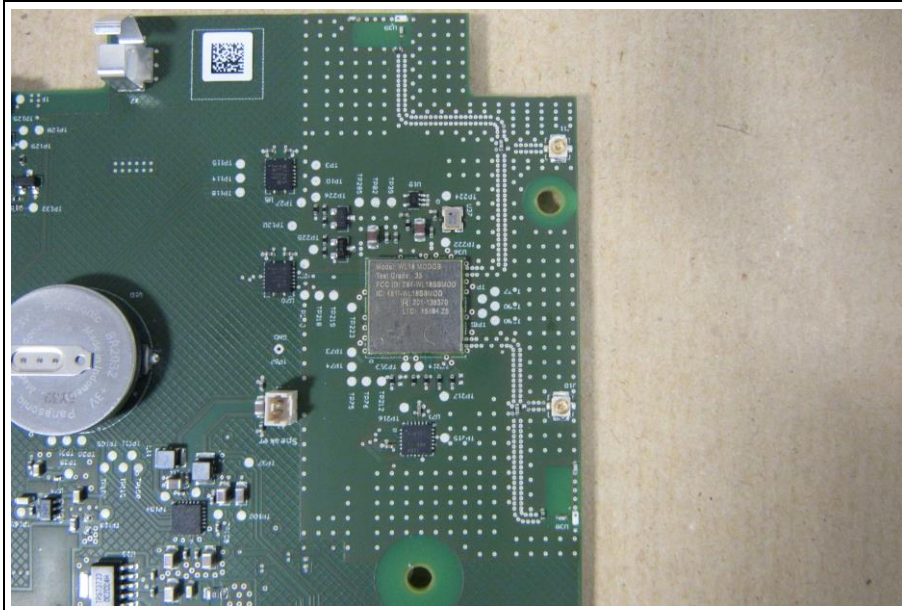


WLAN BT antenna

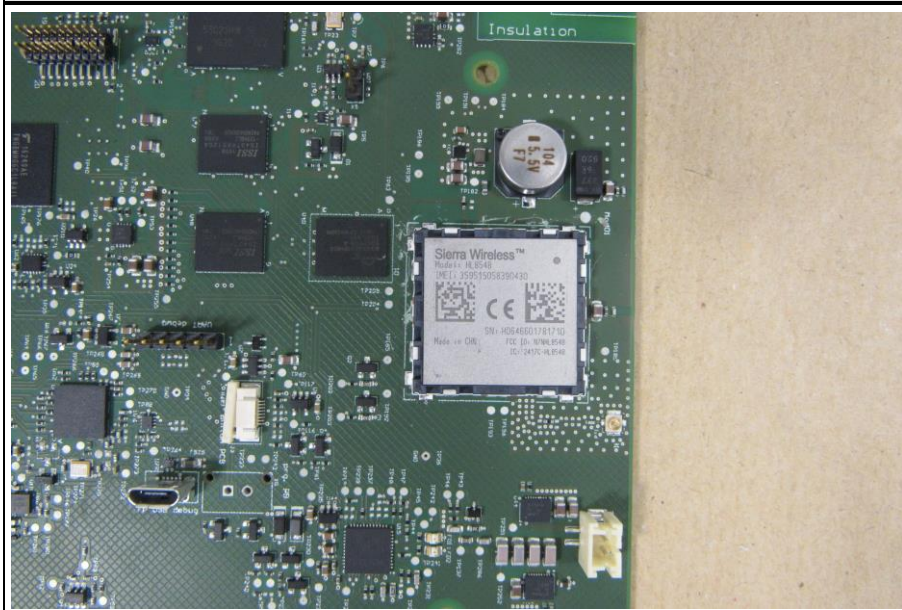




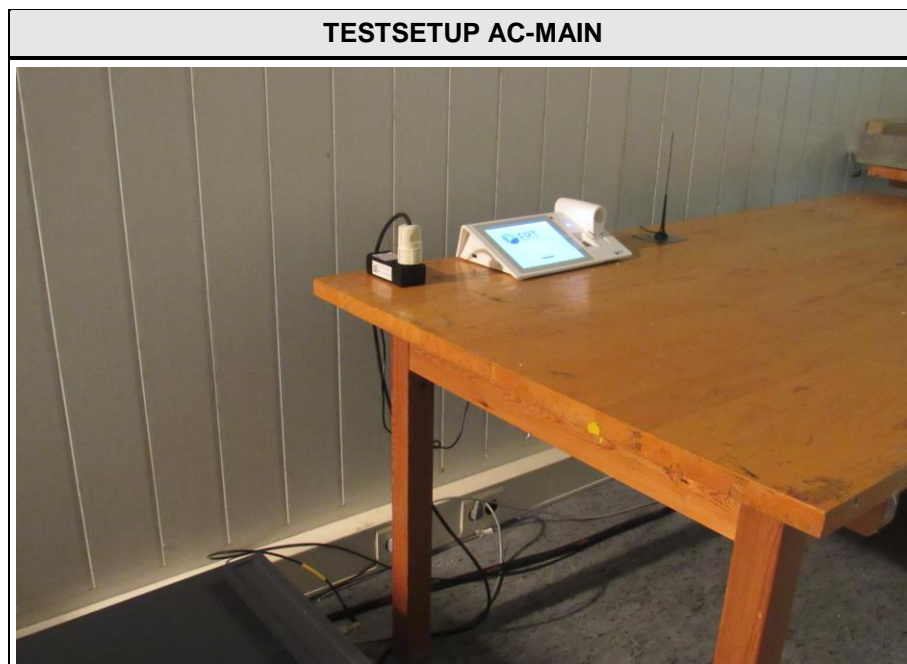
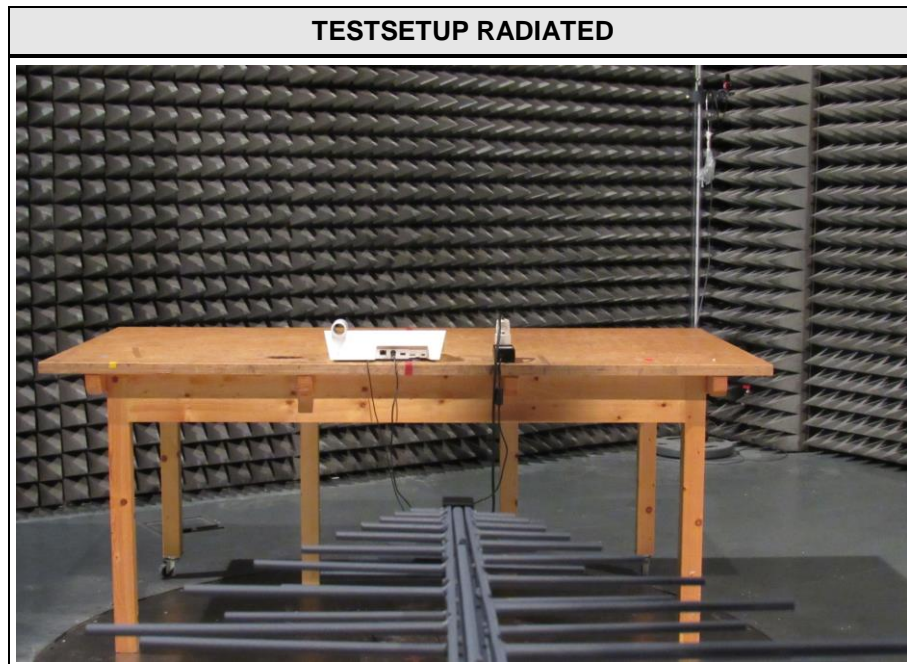
**BT module**



**GSM module**



### 1.3 Photos – Test Setup



**1.4 Support Equipment**

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	DELL	E5330	Control unit
Description:				
AE	Auxillary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
Comment:				

**1.5 Test Modes**

Mode	Description
DH5 Single	Mode = Transmit Modulation = GFSK Spreading = None Packet type = DH5 Duty cycle = 78%
Receive	Mode = Receive (Scan)
Comment:	



## 1.6 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	0	2402
F2	Tx / Rx	39	2441
F3	Tx / Rx	78	2480

### 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)(1) ISED RSS-247 § 5.1	20 dB Bandwidth	ANSI C63.10	N/T	
FCC § 15.247(a)(1)(iii) ISED RSS-247 § 5.1	Number of hopping frequencies	ANSI C63.10	N/T	
FCC § 15.247(a)(1) ISED RSS-247 § 5.1	Frequency hopping channel separation	ANSI C63.10	N/T	
FCC § 15.247(a)(1)(iii) ISED RSS-247 § 5.1	Time of occupancy (Dwell time)	ANSI C63.10	N/T	
FCC § 15.247(b)(1) ISED RSS-247 § 5.4	Maximum peak conducted power	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

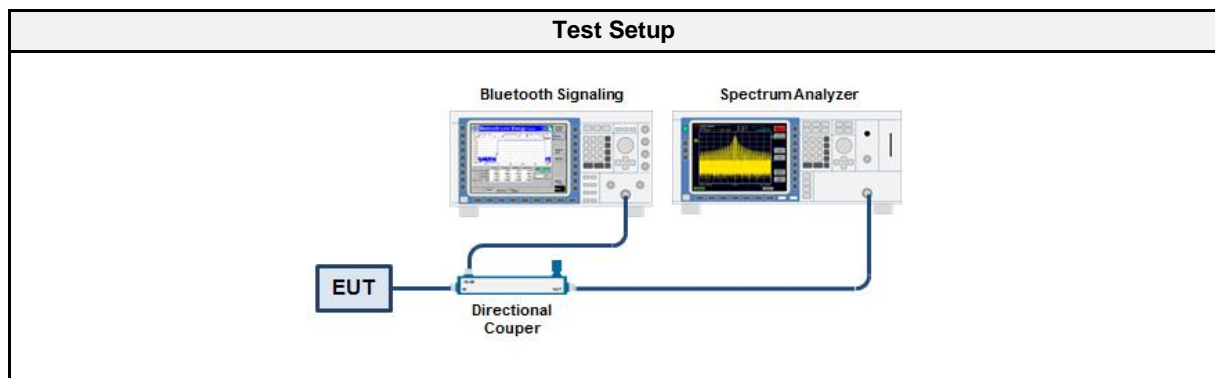
##### 3.1.1 Information

Test Information	
Reference	ISED RSS-Gen 6.6
Measurement Method	ANSI C63.10 6.9.3
Operator	Burkhard Pudell
Date	2017-04-28

##### 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	FSIQ 26	EF00151	2017-03	2018-03

##### 3.1.5 Procedure

Test Procedure
<ol style="list-style-type: none"> <li>EUT transmitter is activated in test mode under normal conditions</li> <li>The spectrum analyzer is set to peak detection and maximum hold with a span twice the emission spectrum</li> <li>The resolution bandwidth is set to 1 % of the bandwidth</li> <li>The occupied bandwidth is measured with the build-in analyzer function</li> </ol>

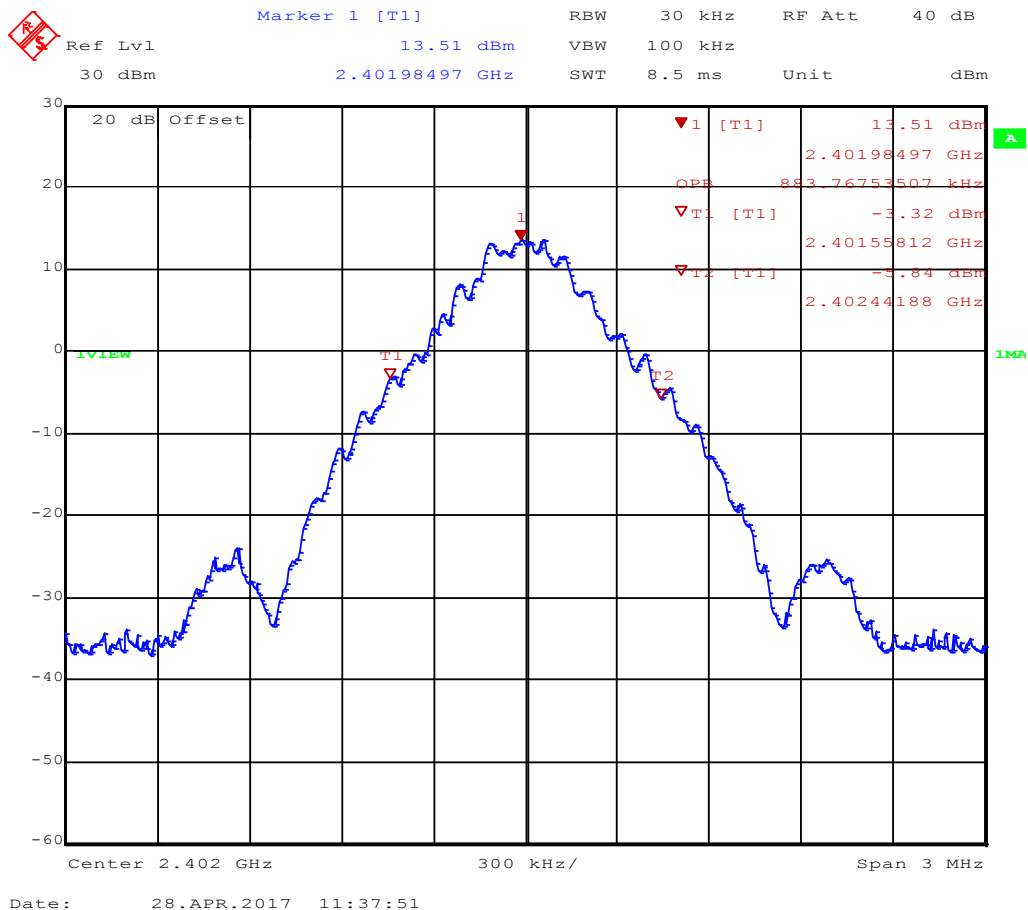
##### 3.1.6 Results

Test Results		
Mode	Frequency [MHz]	Bandwidth [MHz]
DH5	2402	0.884
DH5	2440	0.866
DH5	2480	0.884

### Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1702-6295

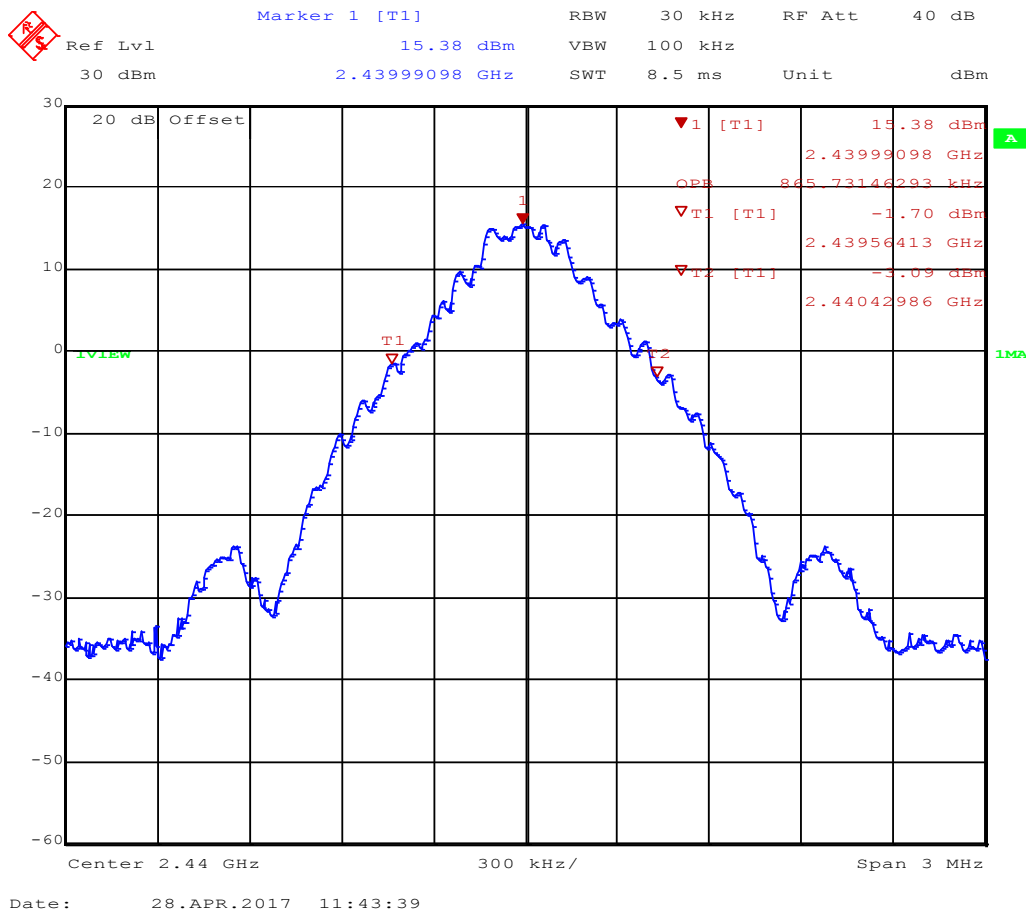
Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Burkhard Pudell  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, BT-BR, CH: 0, 2402 MHz, Basic  
 Test Date: 2017-04-28  
 Verdict: NONE (INFORMATION ONLY)  
 Note 1: A spectrum analyzer with an integrated 99% power bandwidth function  
 Note 2: OBW= 0.884 MHz



### Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1702-6295

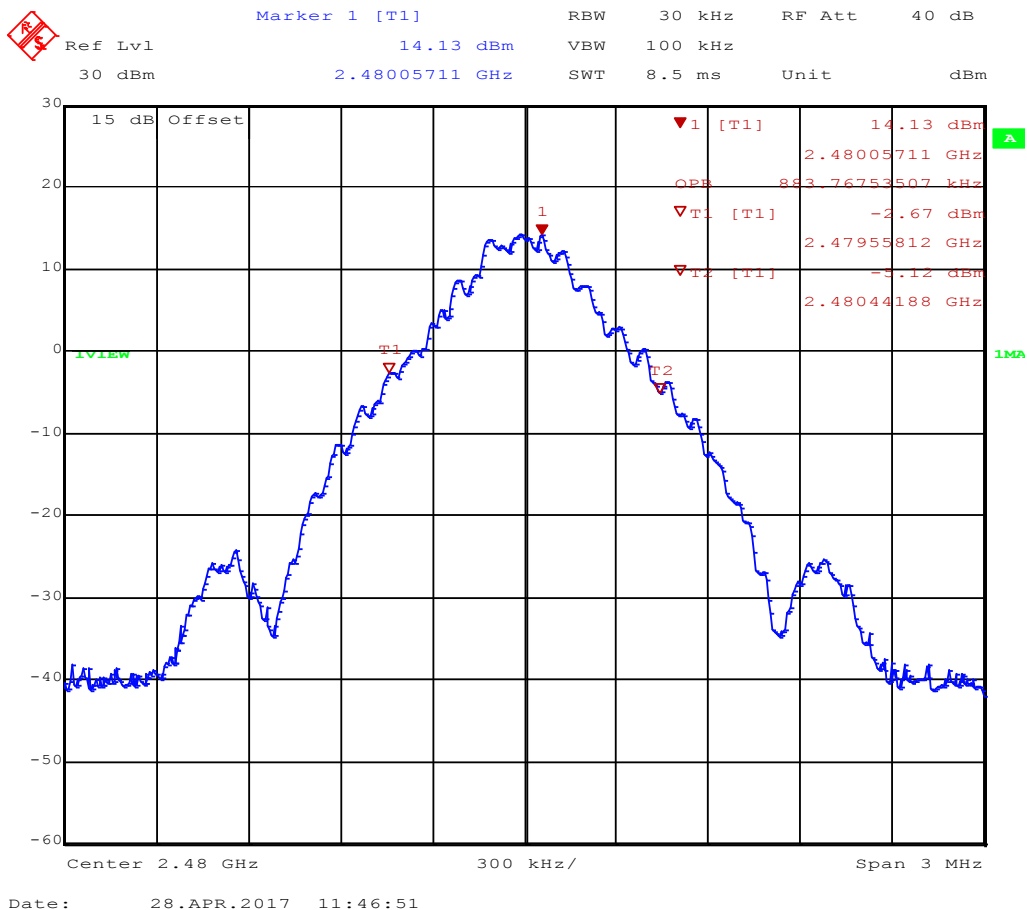
Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Burkhard Pudell  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, BT-BR, CH: 38, 2440 MHz, Basic  
 Test Date: 2017-04-28  
 Verdict: NONE (INFORMATION ONLY)  
 Note 1: A spectrum analyzer with an integrated 99% power bandwidth function  
 Note 2: OBW= 0.866 MHz



### Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Burkhard Pudell  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, BT-BR, CH: 78, 2480 MHz, Basic  
 Test Date: 2017-04-28  
 Verdict: NONE (INFORMATION ONLY)  
 Note 1: A spectrum analyzer with an integrated 99% power bandwidth function  
 Note 2: OBW= 0.884 MHz



### 3.2 Test Conditions and Results - AC powerline conducted emissions

#### 3.2.1 Information

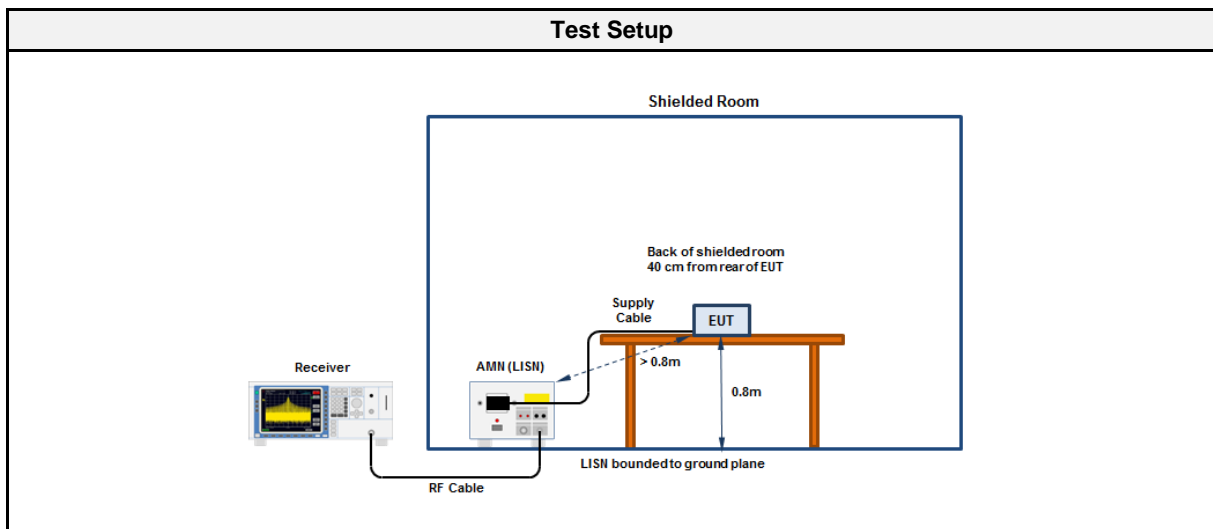
Test Information	
Reference	FCC 15.207
Measurement Method	ANSI C63.10 6.2
Operator	Burkhard Pudell
Date	2017-03-31

#### 3.2.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dB $\mu$ V]	Average [dB $\mu$ V]
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

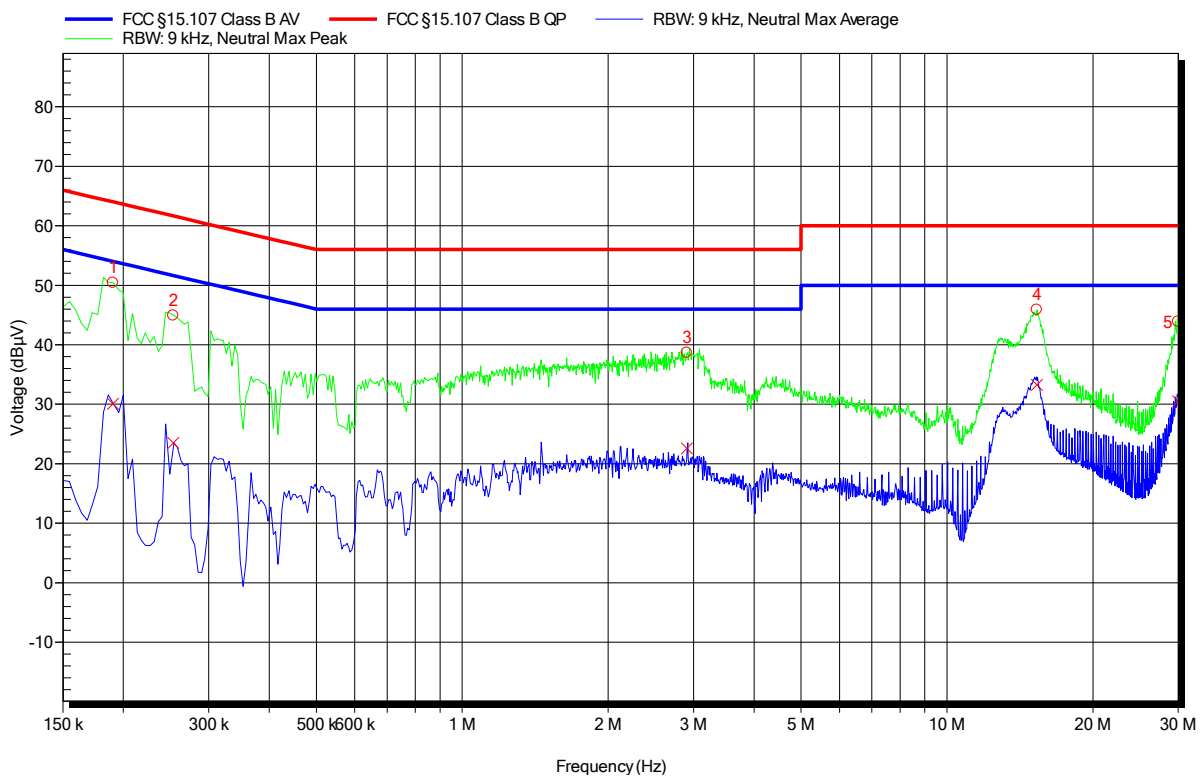


**EMI voltage test in the ac-mains according to FCC 15B**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Unom: 115 V AC  
 LISN: ESH2-Z5 N  
 Mode: GPRS 850; CH 188; UL 1xSlot; Gamma3; ANT integral  
 Test Date: Donnerstag, 30. März 2017  
 Note:

Index 60



Peak Number	Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1	190,5 kHz	50,42 dBµV	64,01 dBµV	-13,6 dB	Pass
2	253,5 kHz	44,88 dBµV	61,64 dBµV	-16,76 dB	Pass
3	2,909 MHz	38,64 dBµV	56 dBµV	-17,36 dB	Pass
4	15,333 MHz	45,87 dBµV	60 dBµV	-14,13 dB	Pass
5	29,99 MHz	43,87 dBµV	60 dBµV	-16,13 dB	Pass

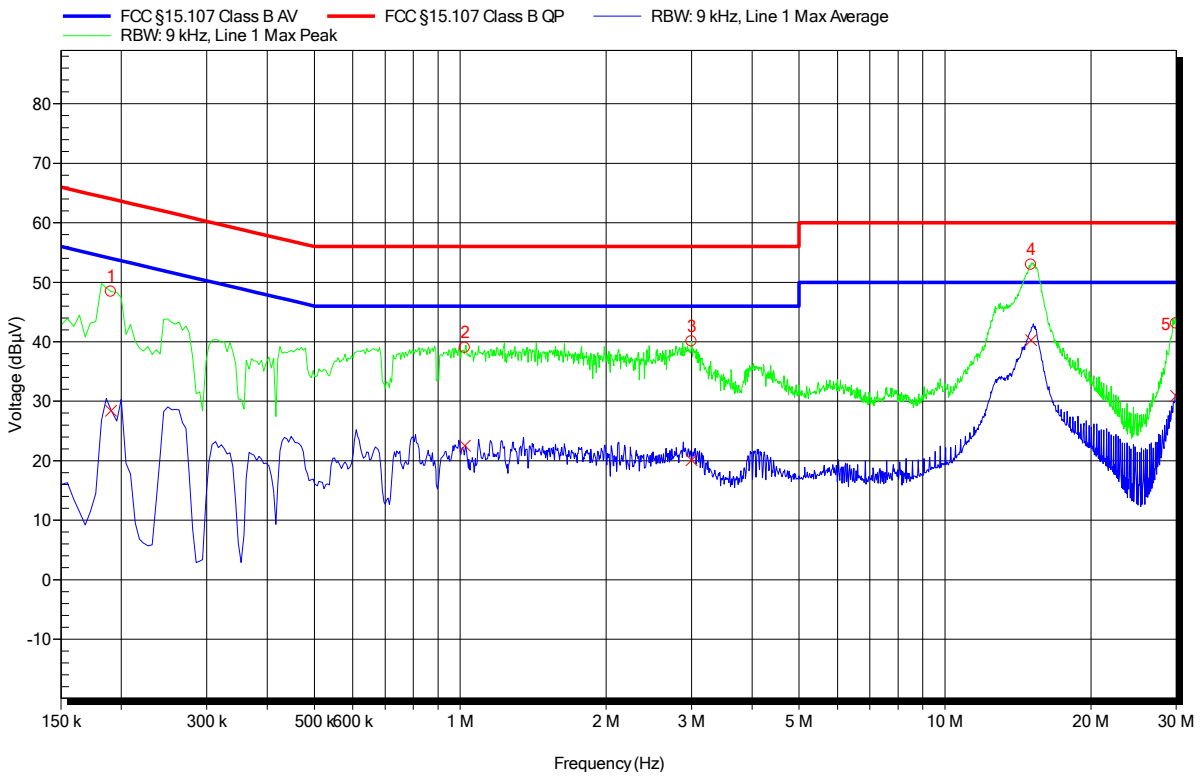
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	190,5 kHz	30,09 dBµV	54,01 dBµV	-23,93 dB	Pass
2	253,5 kHz	23,52 dBµV	51,64 dBµV	-28,12 dB	Pass
3	2,909 MHz	22,57 dBµV	46 dBµV	-23,43 dB	Pass
4	15,333 MHz	33,27 dBµV	50 dBµV	-16,73 dB	Pass
5	29,99 MHz	30,52 dBµV	50 dBµV	-19,48 dB	Pass

**EMI voltage test in the ac-mains according to FCC 15B**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Unom: 115 V AC  
 LISN: ESH2-Z5 L  
 Mode: GPRS 850; CH 188; UL 1xSlot; Gamma3; ANT integral  
 Test Date: Donnerstag, 30. März 2017  
 Note:

Index 61



Peak Number	Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1	190,5 kHz	48,42 dBµV	64,01 dBµV	-15,6 dB	Pass
2	1,023 MHz	38,98 dBµV	56 dBµV	-17,02 dB	Pass
3	2,999 MHz	40,04 dBµV	56 dBµV	-15,96 dB	Pass
4	15,05 MHz	52,93 dBµV	60 dBµV	-7,07 dB	Pass
5	29,976 MHz	43,06 dBµV	60 dBµV	-16,94 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	190,5 kHz	28,42 dBµV	54,01 dBµV	-25,6 dB	Pass
2	1,023 MHz	22,55 dBµV	46 dBµV	-23,45 dB	Pass
3	2,999 MHz	20,1 dBµV	46 dBµV	-25,9 dB	Pass
4	15,05 MHz	40,24 dBµV	50 dBµV	-9,76 dB	Pass
5	29,976 MHz	30,87 dBµV	50 dBµV	-19,13 dB	Pass

### 3.3 Test Conditions and Results - Transmitter radiated emissions

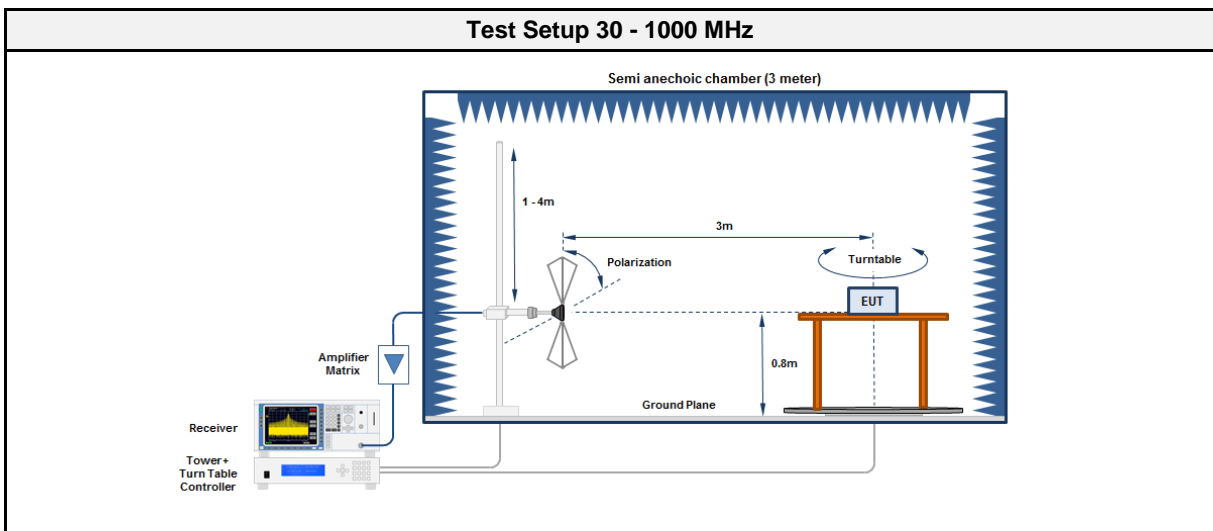
#### 3.3.1 Information

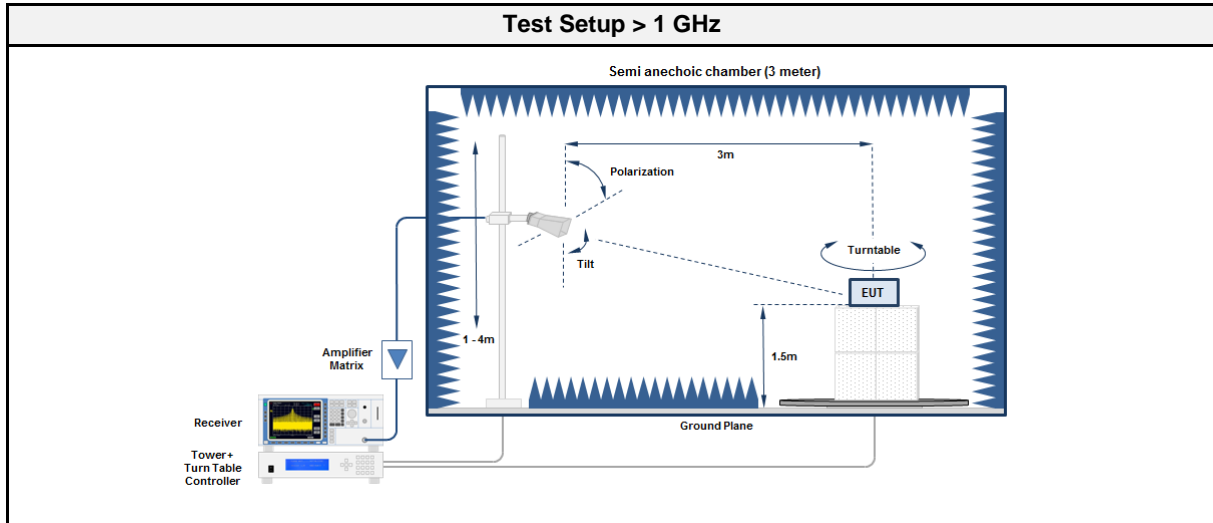
Test Information	
Reference	FCC 15.247(d) / ISED RSS-GEN 8.9
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6
Operator	Burkhard Pudell
Date	2017-04-28

#### 3.3.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [dB $\mu$ 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 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	-	-
Antenna	R&S	HK 116	EF00186	2016-02	2018-02
Antenna	R&S	HL 223	EF00187	2016-05	2019-05
Measurement Receiver	R&S	N9038A-526/WXP	EF01070	2016-08	2017-08

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	-	-
Antenna	R&S	HL 025	EF00327	2015-10	2018-10
Measurement Receiver	R&S	N9038A-526/WXP	EF01070	2016-08	2017-08

### 3.3.5 Procedure

Test Procedure 30 - 1000 MHz
<ol style="list-style-type: none"> <li>1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground</li> <li>2. EUT set to test mode</li> <li>3. The receiver is set to peak detection with max hold</li> <li>4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>5. All significant emissions are measured again using the corresponding final detector</li> </ol>

Test Procedure > 1 GHz
<ol style="list-style-type: none"> <li>1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground</li> <li>2. EUT set to test mode</li> <li>3. The receiver is set to peak detection with max hold</li> <li>4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>5. All significant emissions are measured again using the corresponding final detector</li> </ol>

## 3.3.6 Results

Test Results - DH5						
Channel [MHz]	Emission [MHz]	Level [dB $\mu$ V/m]	Det.	Pol.	Limit [dB $\mu$ V/m]	Margin [dB]
2402	259.97	41.40	pk	hor	46.00	-04.55
2402	259.97	38.90	qpk	hor	46.00	-07.15
2402	1512	47.24	pk	hor	74.00	-26.76
2402	1515	46.93	pk	ver	74.00	-27.07
2402	2723	50.45	pk	ver	74.00	-23.55
2402	2732	45.59	pk	hor	74.00	-28.41
2402	4804	54.71	pk	ver	74.00	-19.29
2402	4804	50.49	avg	ver	54.00	-03.51
2402	4804	52.62	pk	hor	74.00	-21.38
2402	4804	48.12	avg	hor	54.00	-05.88
2441	260.04	44.50	pk	hor	46.00	-01.53
2441	260.04	42.00	qpk	hor	46.00	-03.95
2441	1512	47.53	pk	ver	74.00	-26.47
2441	1515	46.06	pk	hor	74.00	-27.94
2441	2723	46.77	pk	hor	74.00	-27.23
2441	2725	49.94	pk	ver	74.00	-24.06
2441	2725	35.35	avg	ver	54.00	-18.65
2441	4880	52.48	pk	ver	74.00	-21.52
2441	4880	47.91	avg	ver	54.00	-06.09
2441	4880	48.51	pk	hor	74.00	-25.49
2480	259.99	44.00	pk	hor	46.00	-02.01
2480	259.99	42.20	qpk	hor	46.00	-03.82
2480	1515	47.47	pk	ver	74.00	-26.53
2480	1515	47.24	pk	hor	74.00	-26.76
2480	2484	57.26	pk	ver	74.00	-16.74
2480	2484	51.01	avg	ver	54.00	-02.99
2480	2484	56.92	pk	hor	74.00	-17.08
2480	2484	50.76	avg	hor	54.00	-03.24
2480	2725	53.25	pk	ver	74.00	-20.75
2480	2725	37.74	avg	ver	54.00	-16.26
2480	4960	51.92	pk	ver	74.00	-22.08
2480	4960	46.99	avg	ver	54.00	-07.01
2480	4960	48.59	pk	hor	74.00	-25.41
2480	4960	41.02	avg	hor	54.00	-12.98
2480	7440	51.22	pk	ver	74.00	-22.78
2480	7440	40.28	avg	ver	54.00	-13.72
2480	7440	52.82	pk	hor	74.00	-21.18
2480	7440	43.33	avg	hor	54.00	-10.67

### 3.4 Test Conditions and Results - Receiver radiated emissions

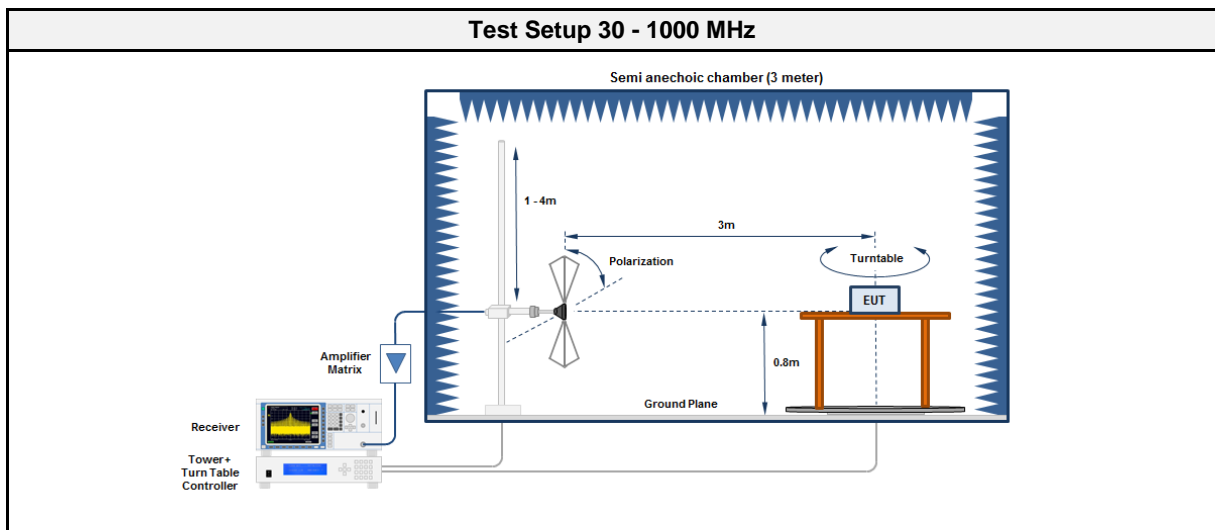
#### 3.4.1 Information

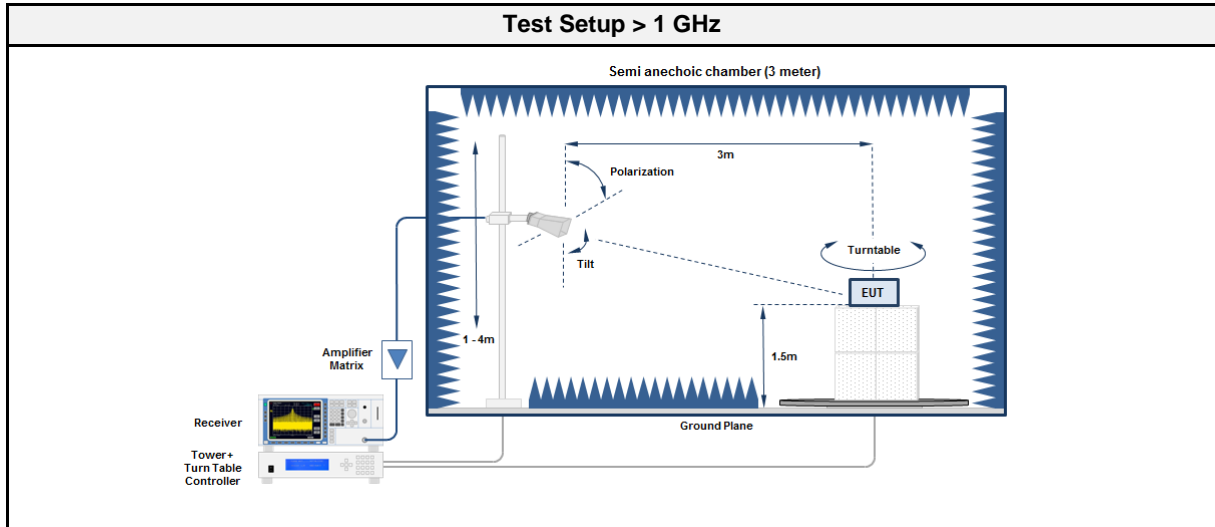
Test Information	
Reference	ISED RSS-247 3.1
Measurement Method	ANSI C63.10 6.5, 6.6
Operator	Burkhard Pudell
Date	2017-04-28

#### 3.4.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [dB $\mu$ 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	AC1	EF00062	-	-
Antenna	R&S	HK 116	EF00186	2016-02	2018-02
Antenna	R&S	HL 223	EF00187	2016-05	2019-05
Measurement Receiver	R&S	N9038A-526/WXP	EF01070	2016-08	2017-08

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	-	-
Antenna	R&S	HL 025	EF00327	2015-10	2018-10
Measurement Receiver	R&S	N9038A-526/WXP	EF01070	2016-08	2017-08

### 3.4.5 Procedure

Test Procedure 30 - 1000 MHz
<ol style="list-style-type: none"> <li>EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground</li> <li>EUT set to test mode</li> <li>The receiver is set to peak detection with max hold</li> <li>The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>All significant emissions are measured again using the corresponding final detector</li> </ol>

Test Procedure > 1 GHz
<ol style="list-style-type: none"> <li>EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground</li> <li>EUT set to test mode</li> <li>The receiver is set to peak detection with max hold</li> <li>The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>All significant emissions are measured again using the corresponding final detector</li> </ol>

## 3.4.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dB $\mu$ V/m]	Det.	Pol.	Limit [dB $\mu$ V/m]	Margin [dB]
2441	30.3017	35.90	pk	ver	40.00	-04.09
2441	30.3017	33.20	qpk	ver	40.00	-06.85
2441	32.3374	34.40	pk	ver	40.00	-05.60
2441	32.3374	31.60	qpk	ver	40.00	-08.40
2441	34.4369	37.10	pk	ver	40.00	-02.89
2441	34.4369	32.80	qpk	ver	40.00	-07.21
2441	54.0841	35.10	pk	ver	40.00	-04.91
2441	54.0841	30.90	qpk	ver	40.00	-09.08
2441	56.4896	34.10	pk	ver	40.00	-05.90
2441	56.4896	30.20	qpk	ver	40.00	-09.80
2441	260	43.20	pk	hor	46.00	-02.79
2441	260	43.40	qpk	hor	46.00	-02.56
2441	294.92	43.80	pk	hor	46.00	-02.17
2441	294.92	41.70	qpk	hor	46.00	-04.29
2441	298.952	46.90	pk	hor	46.00	00.94
2441	298.952	44.50	qpk	hor	46.00	-01.53
2441	302.9	46.70	pk	hor	46.00	00.70
2441	302.9	45.30	qpk	hor	46.00	-00.73
2441	303.02	39.50	pk	ver	46.00	-06.47
2441	307.16	46.10	pk	hor	46.00	00.11
2441	307.16	44.00	qpk	hor	46.00	-02.00
2441	311.18	43.80	pk	hor	46.00	-02.18
2441	311.18	42.50	qpk	hor	46.00	-03.49
2441	389.942	40.40	pk	hor	46.00	-05.61
2441	389.942	36.30	qpk	hor	46.00	-09.72
2441	519.926	39.40	pk	ver	46.00	-06.58
2441	519.926	34.60	qpk	ver	46.00	-11.39
2441	905.006	40.80	pk	hor	46.00	-05.24
2441	905.006	33.30	qpk	hor	46.00	-12.71
2441	1511	45.04	pk	hor	53.98	-08.94
2441	1516	49.31	pk	ver	53.98	-04.67
2441	2117	44.50	pk	hor	53.98	-09.48
2441	2728	49.03	pk	ver	53.98	-04.95



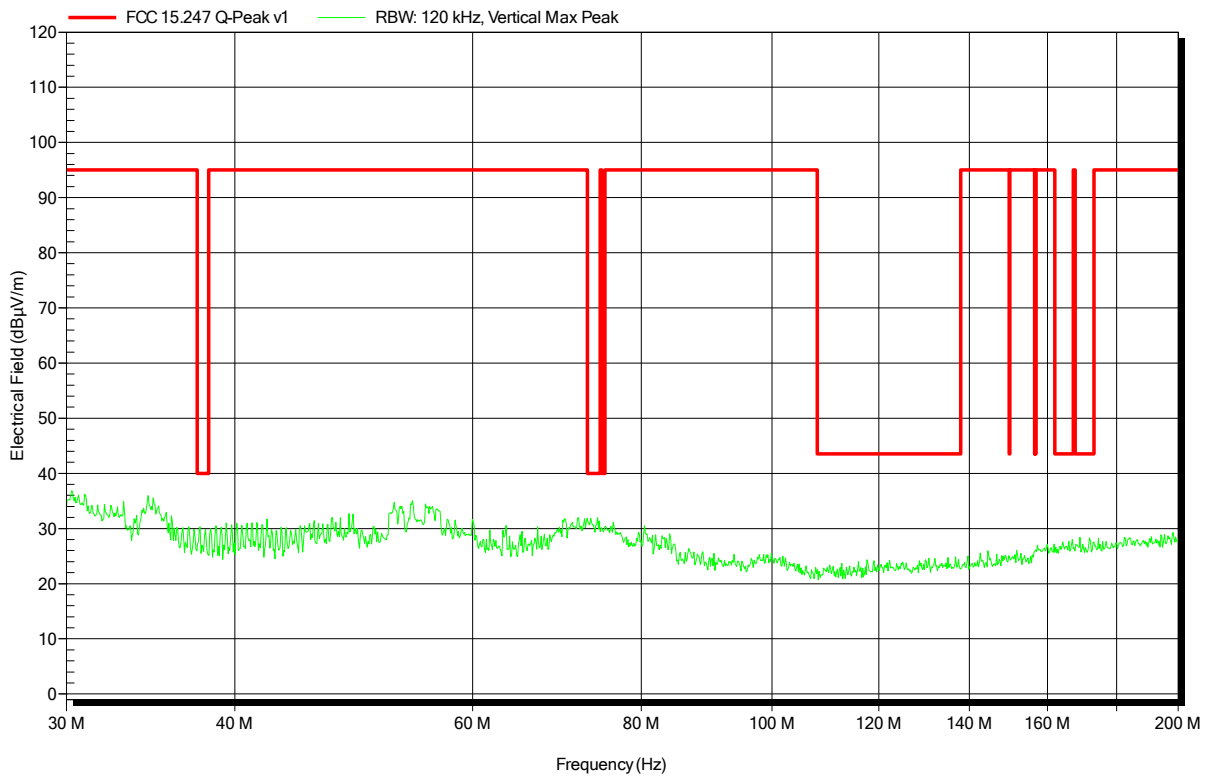
## ANNEX A Transmitter spurious emissions

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 116

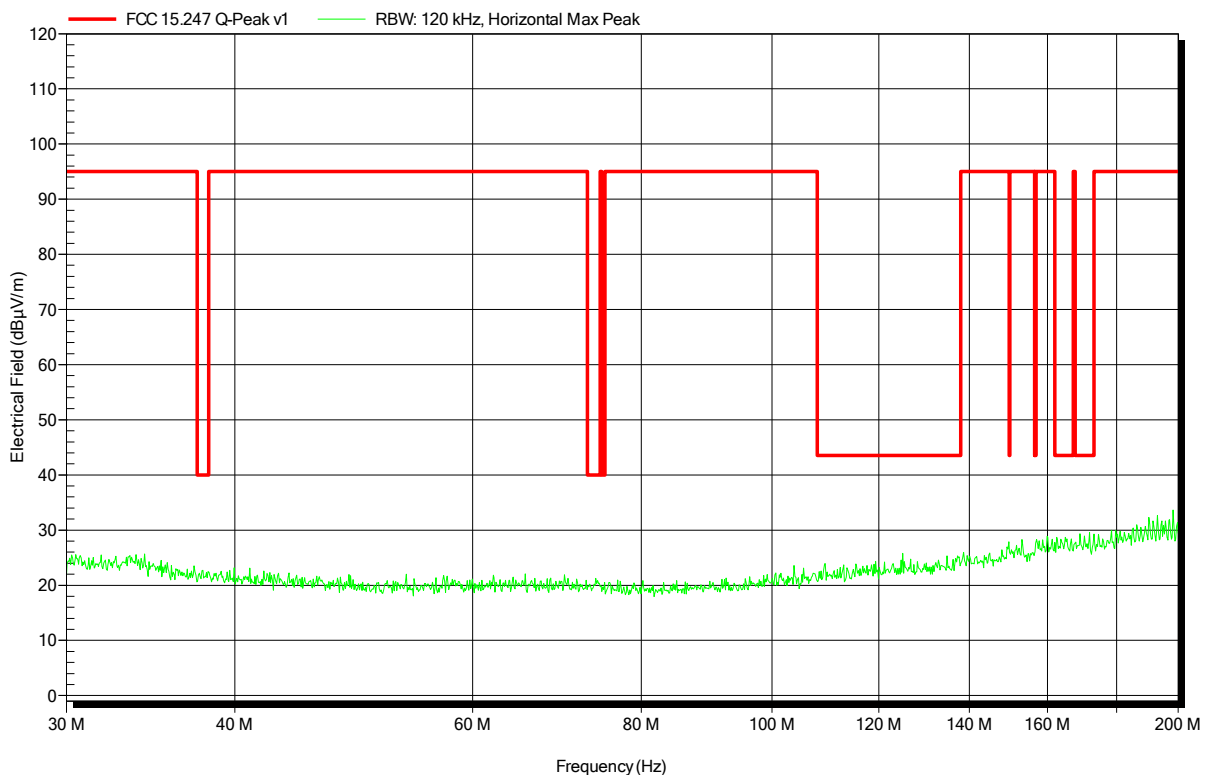


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 121

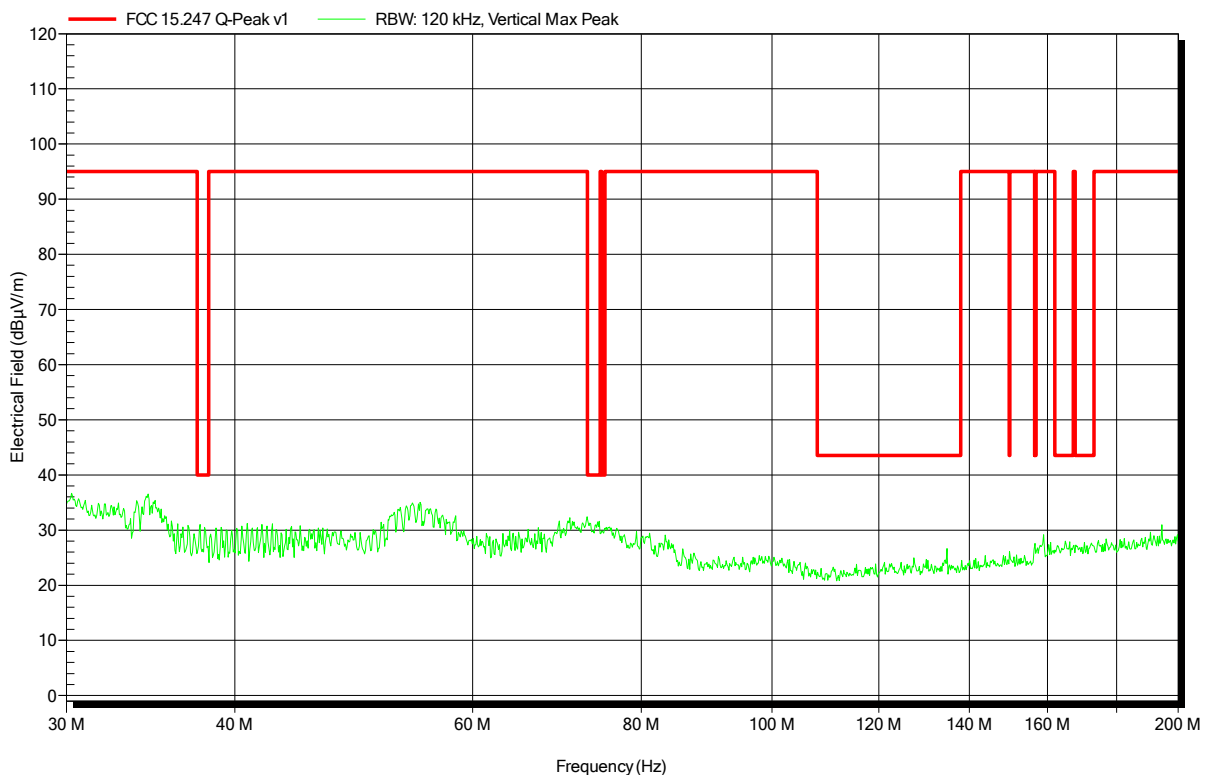


**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 117

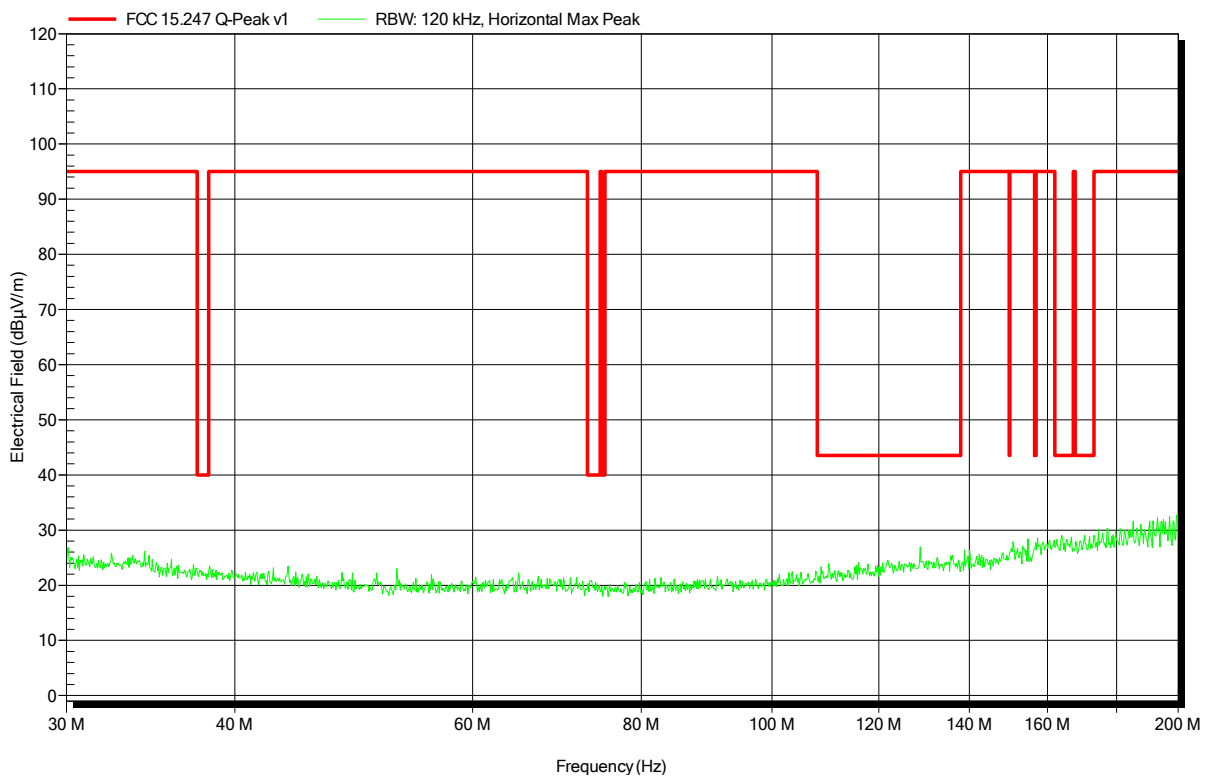


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 120

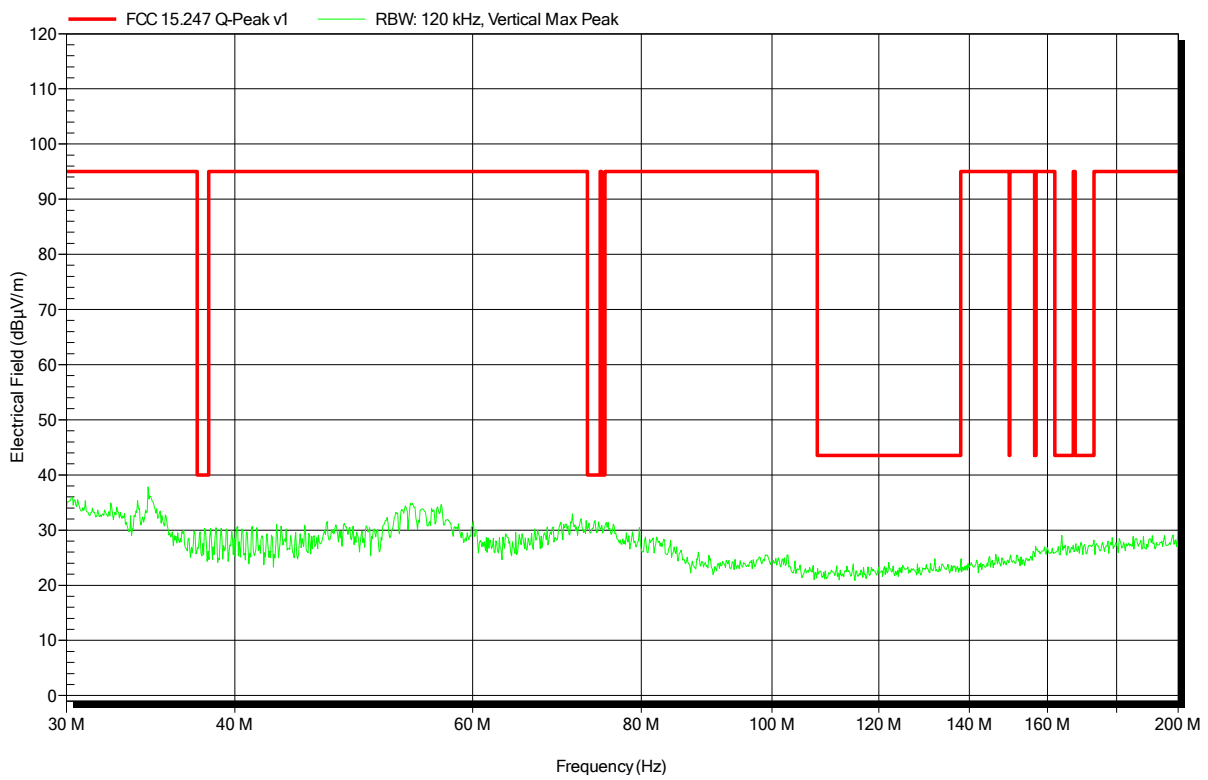


**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 118

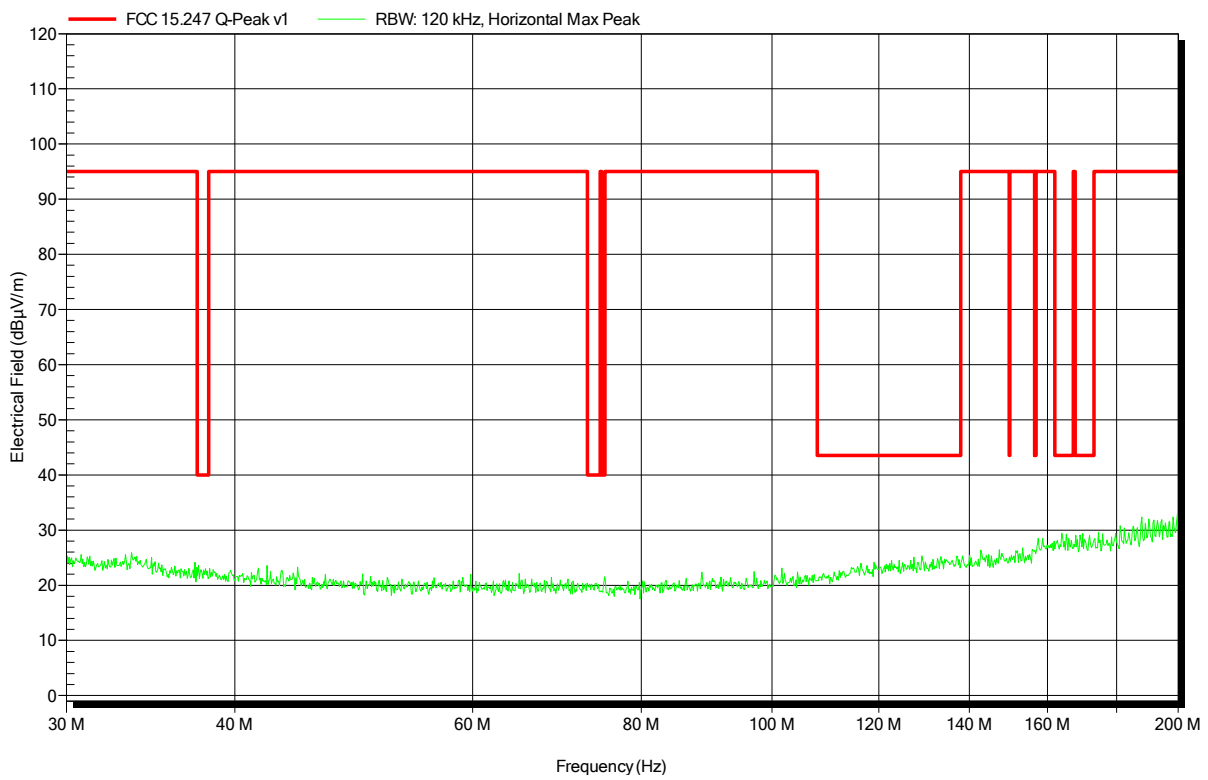


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 119

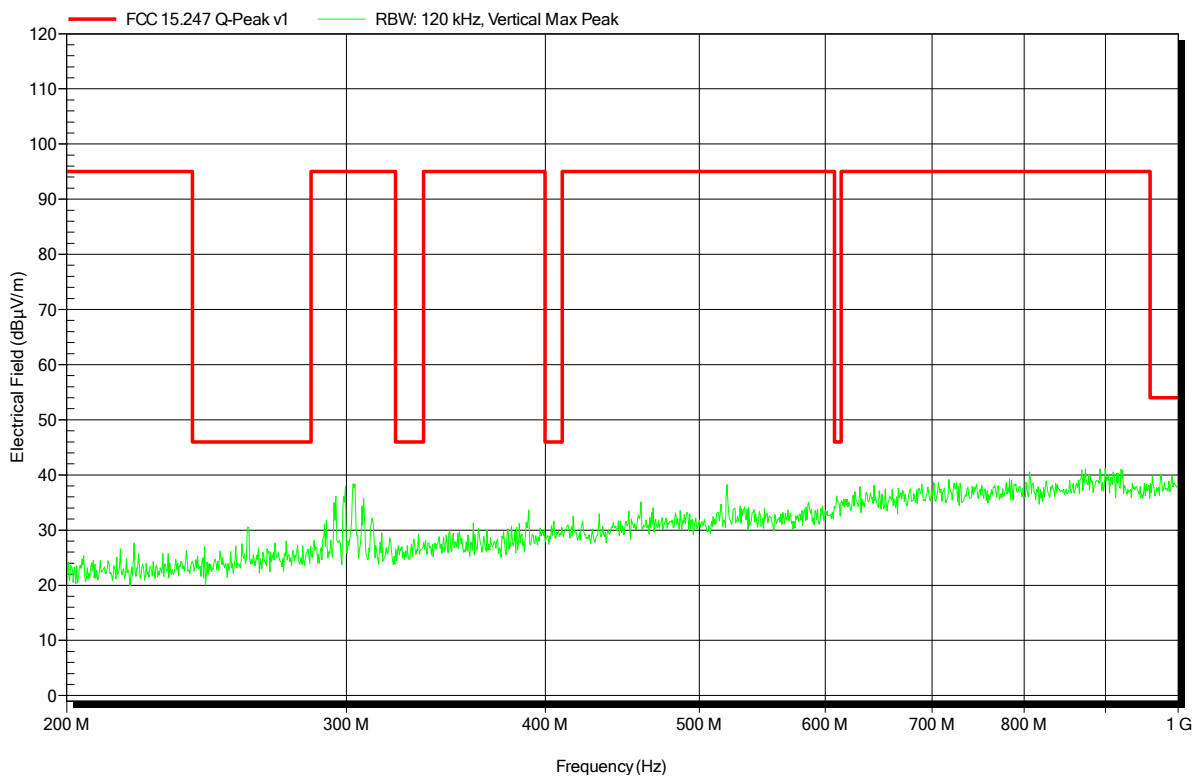


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 115

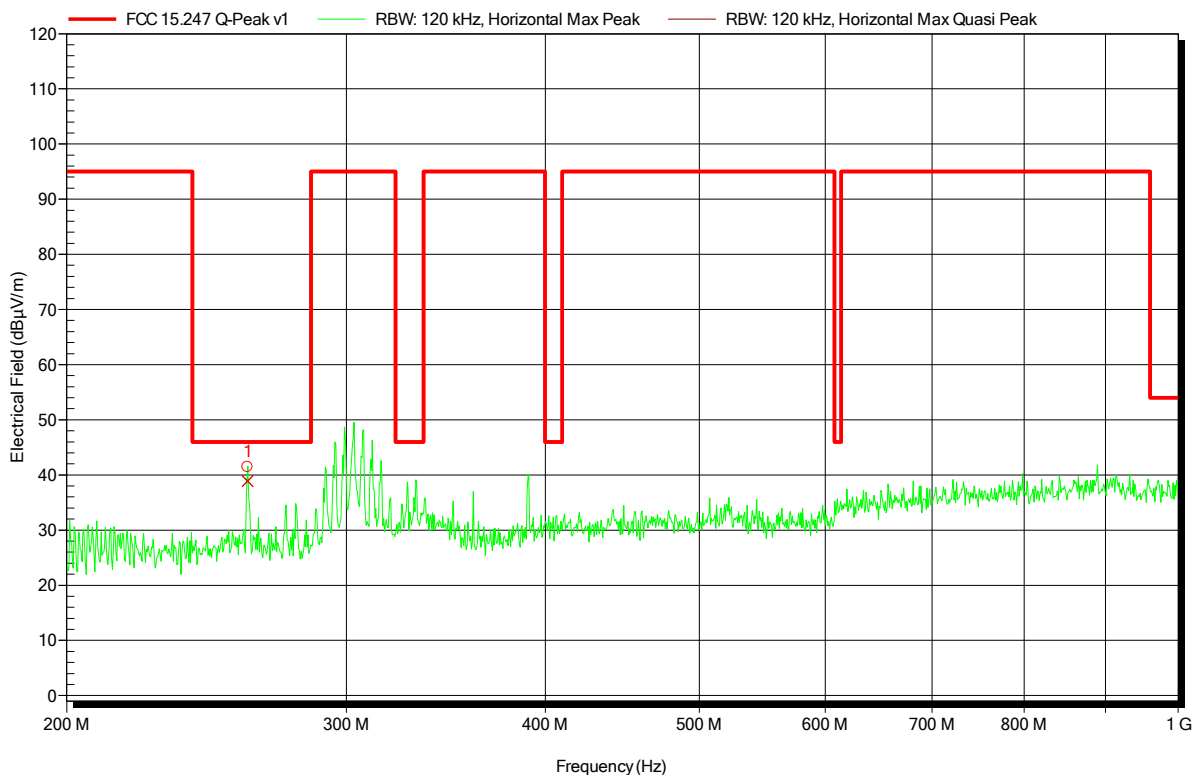


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 110



Frequency	Peak	Peak Limit	Peak Difference	Status
259.97 MHz	41.4 dBµV/m	46 dBµV/m	-4.55 dB	Pass
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
259.97 MHz	38.9 dBµV/m	46 dBµV/m	-7.15 dB	Pass

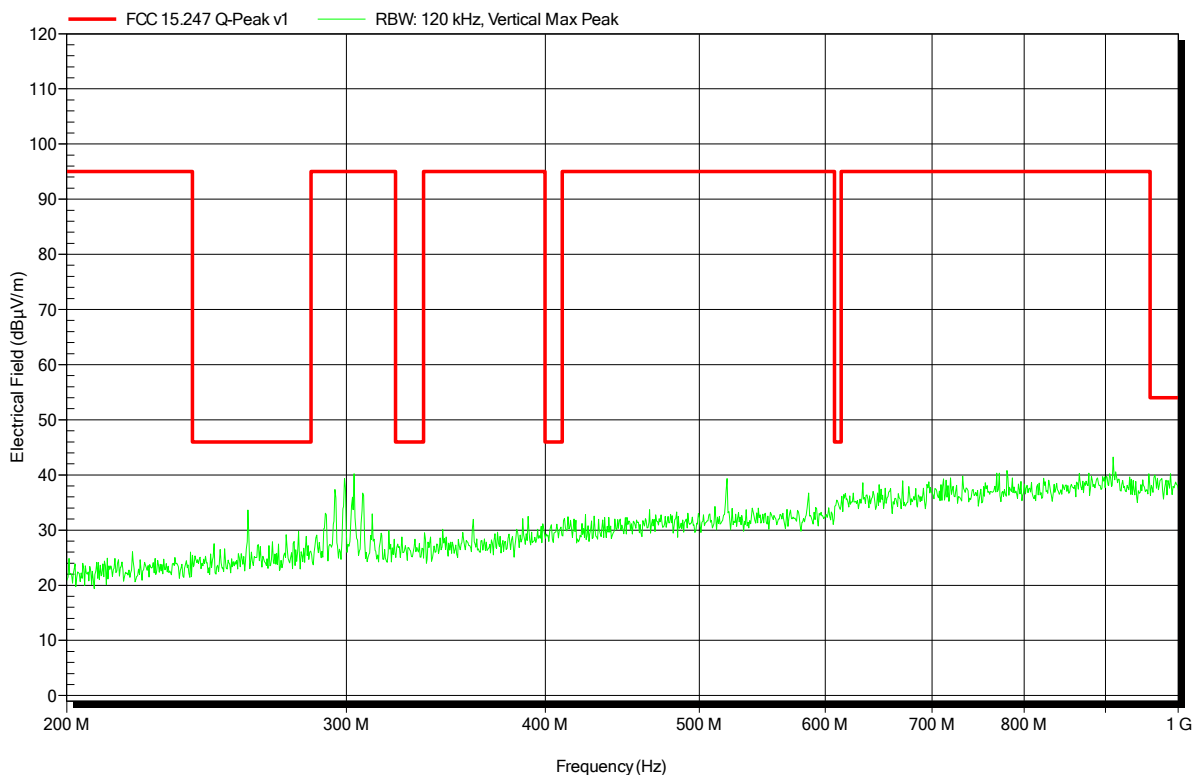


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 114

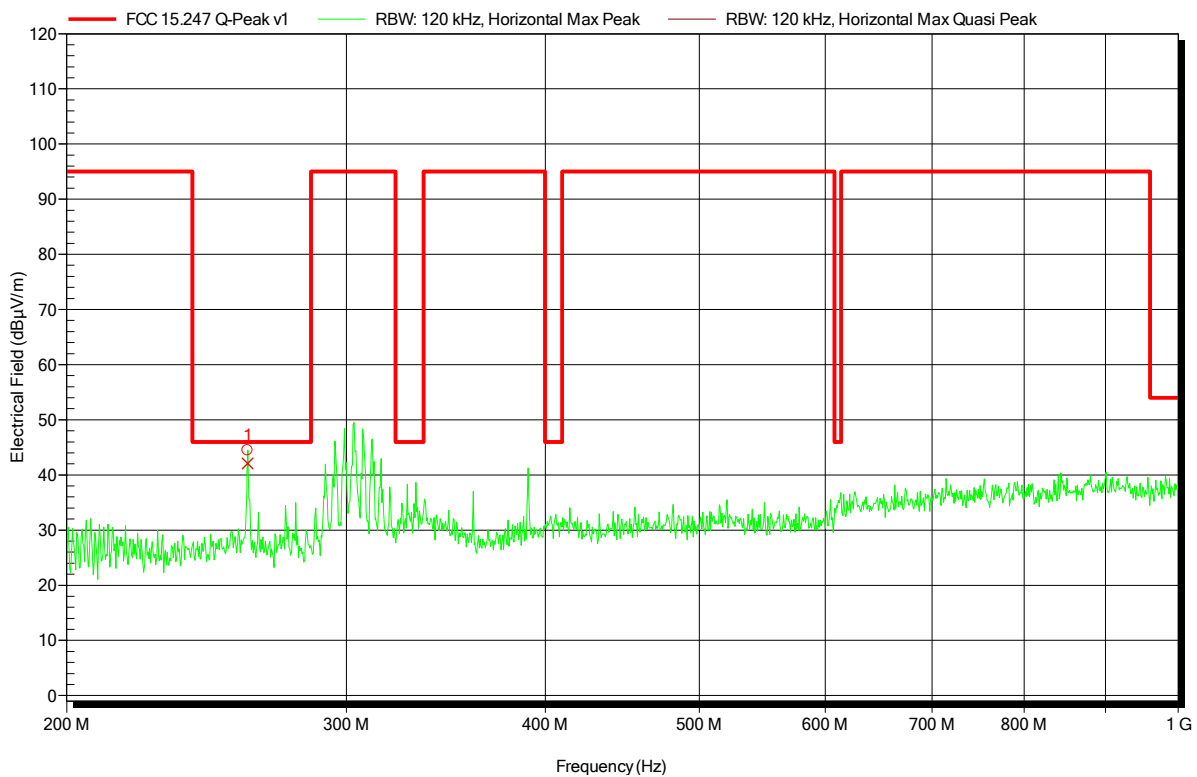


**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 111



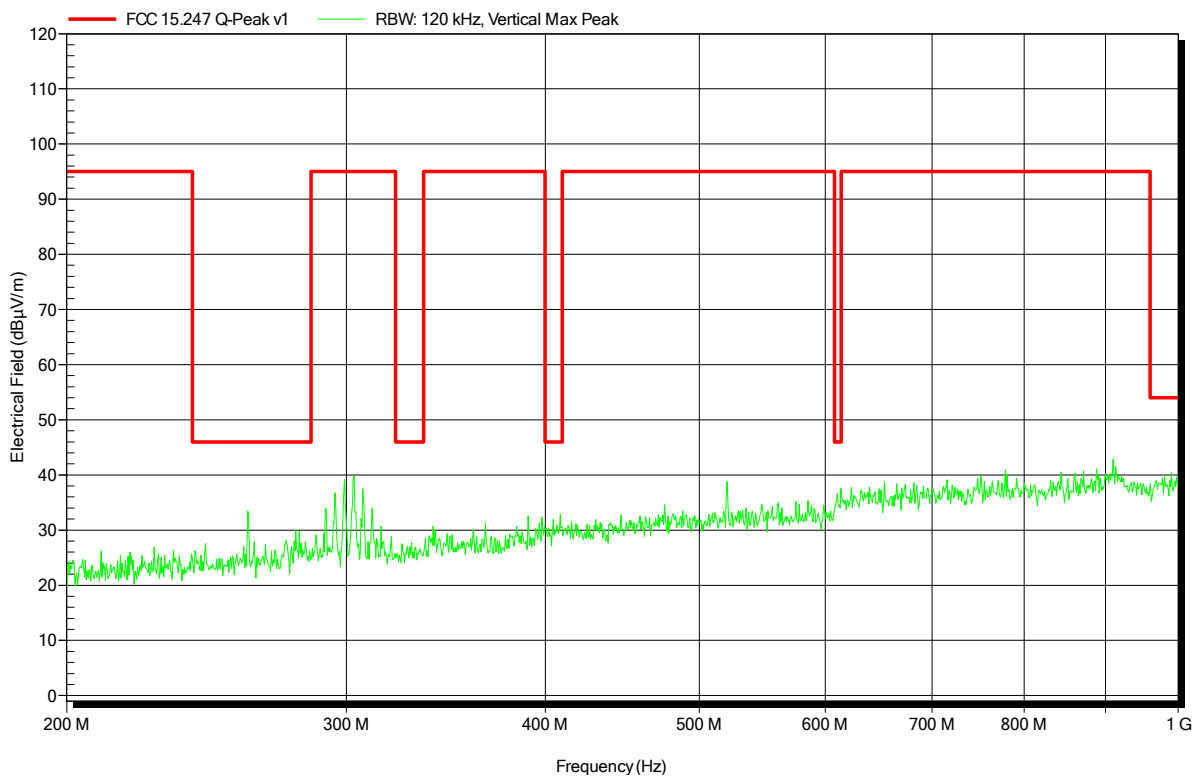
Frequency	Peak	Peak Limit	Peak Difference	Status
260.04 MHz	44.5 dBµV/m	46 dBµV/m	-1.53 dB	Pass
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
260.04 MHz	42 dBµV/m	46 dBµV/m	-3.95 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 113

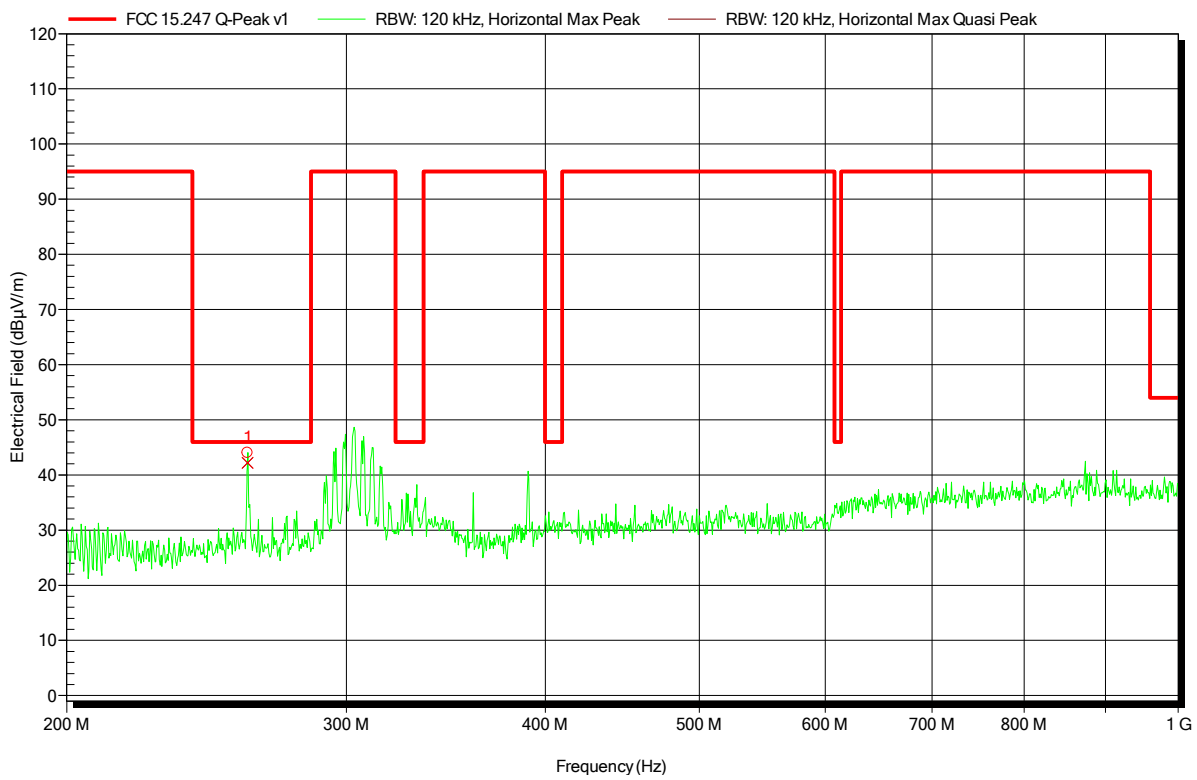


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 112



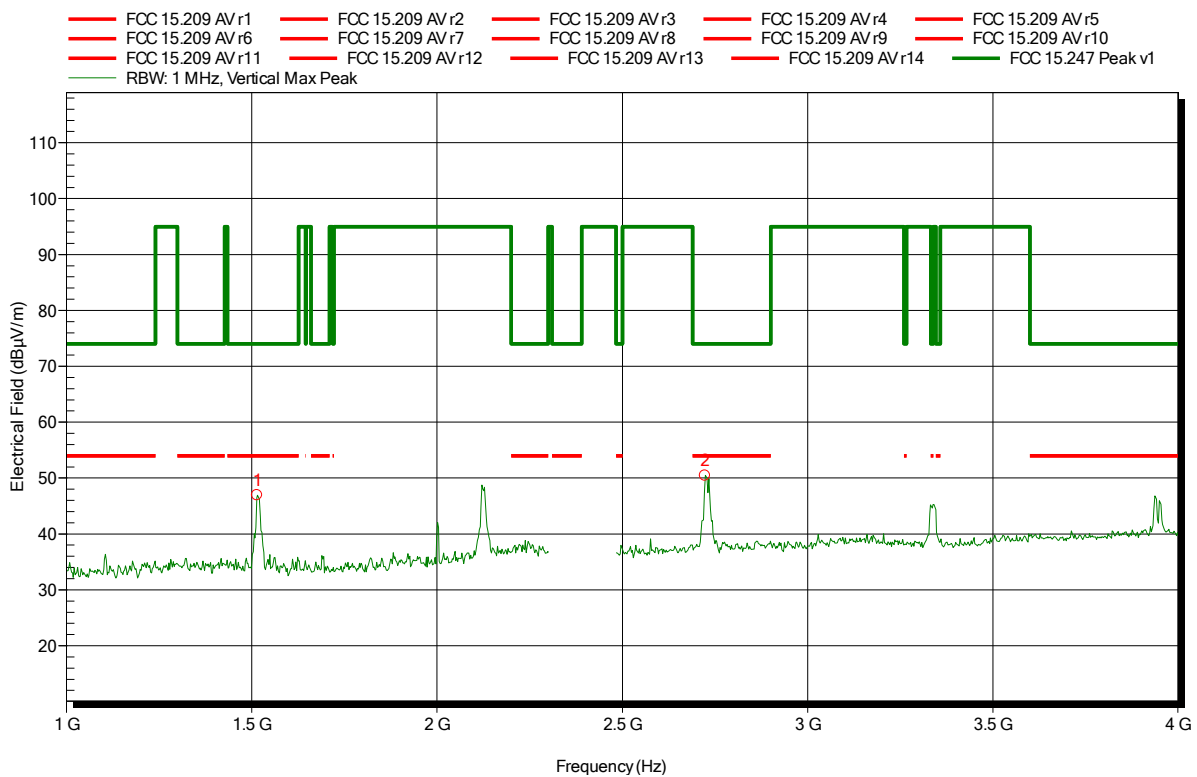
Frequency	Peak	Peak Limit	Peak Difference	Status
259.99 MHz	44 dBµV/m	46 dBµV/m	-2.01 dB	Pass
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
259.99 MHz	42.2 dBµV/m	46 dBµV/m	-3.82 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 74



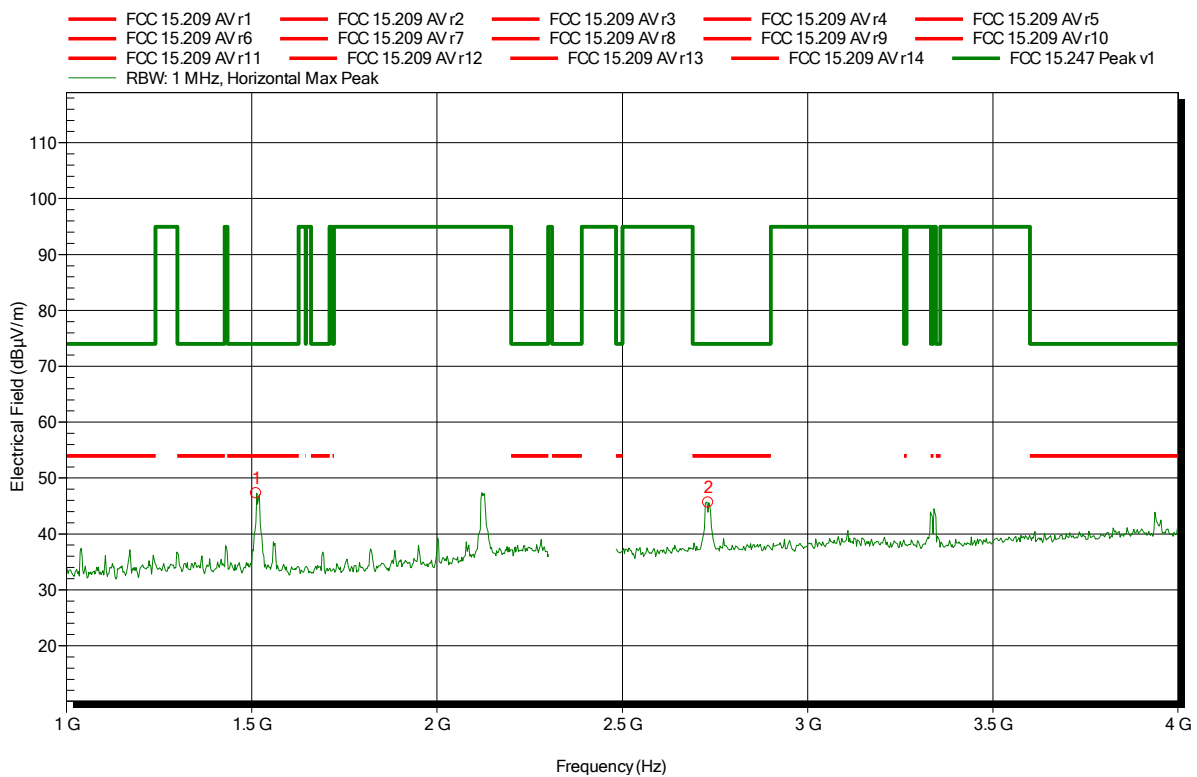
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.515 GHz	46.93 dBµV/m	74 dBµV/m	-27.07 dB	Pass
2.723 GHz	50.45 dBµV/m	74 dBµV/m	-23.55 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 81



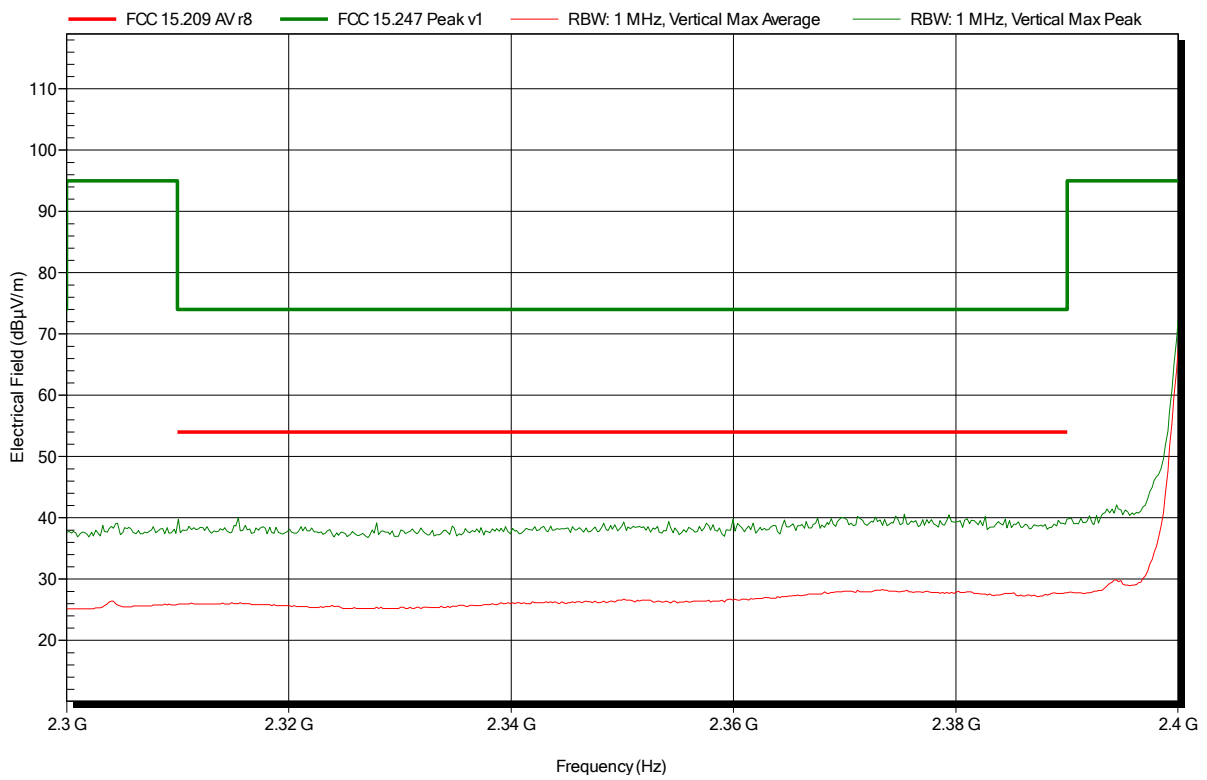
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.512 GHz	47.24 dBµV/m	74 dBµV/m	-26.76 dB	Pass
2.732 GHz	45.59 dBµV/m	74 dBµV/m	-28.41 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal; lower bandedge

Index 77

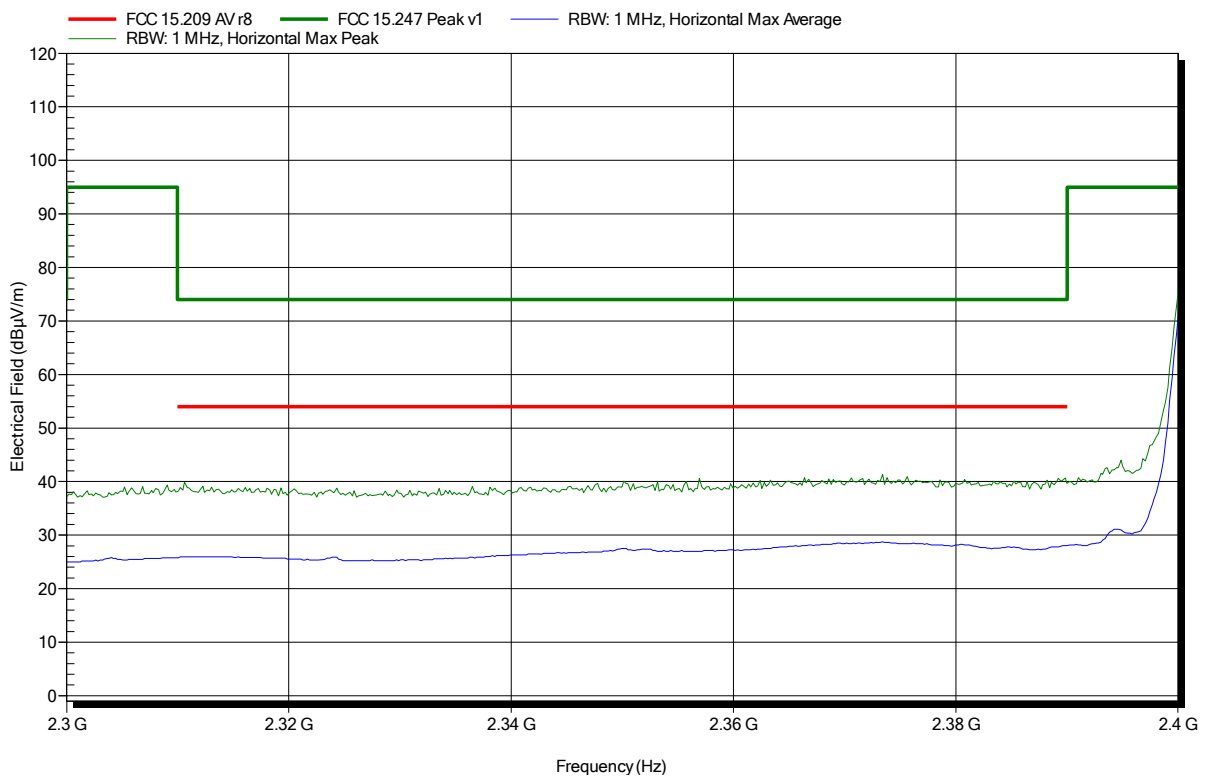


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 82



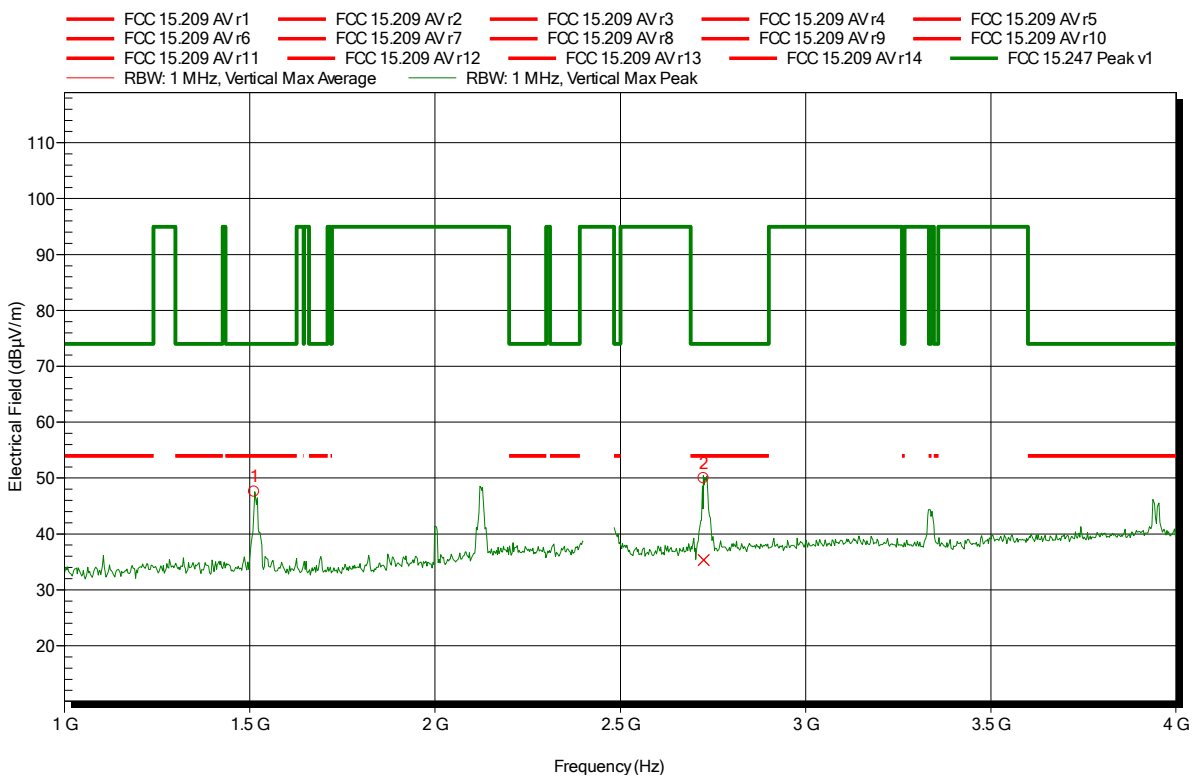


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 98



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.512 GHz	47.53 dBµV/m	74 dBµV/m	-26.47 dB	Pass
2.725 GHz	49.94 dBµV/m	74 dBµV/m	-24.06 dB	Pass

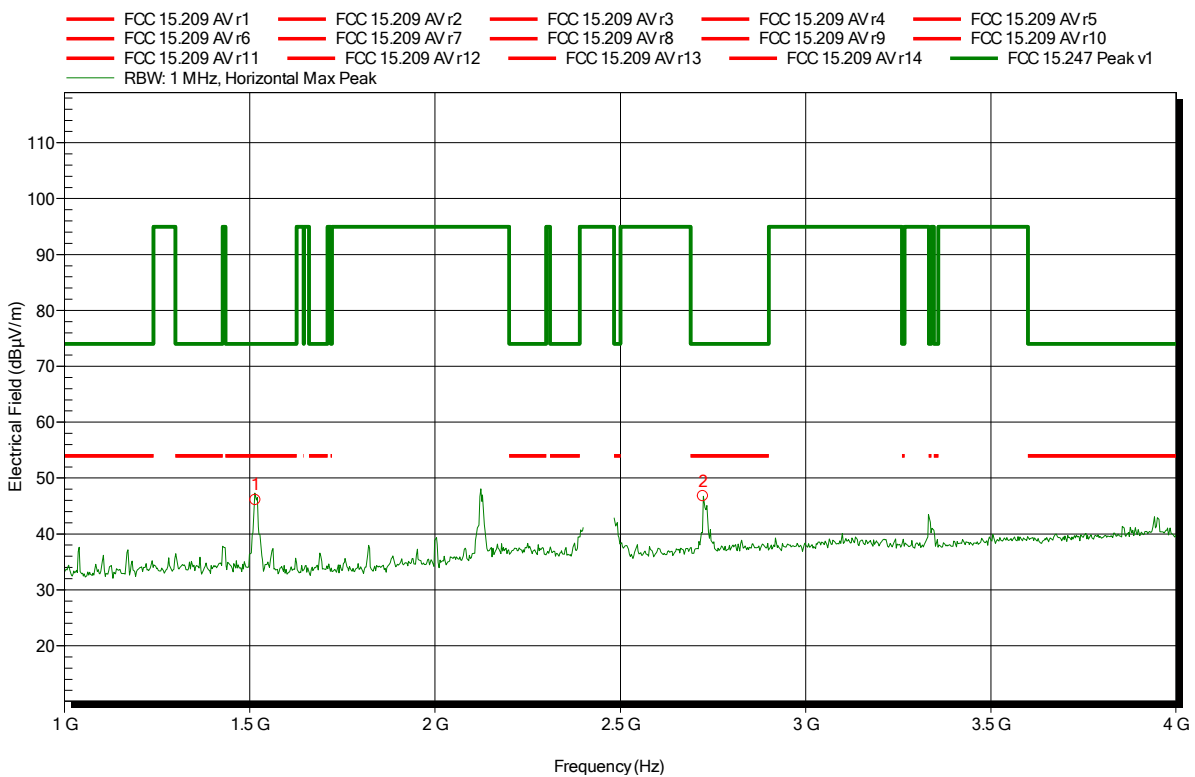
Frequency	Average	Average Limit	Average Difference	Average Status
2.725 GHz	35.35 dBµV/m	54 dBµV/m	-18.65 dB	Pass

**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 95



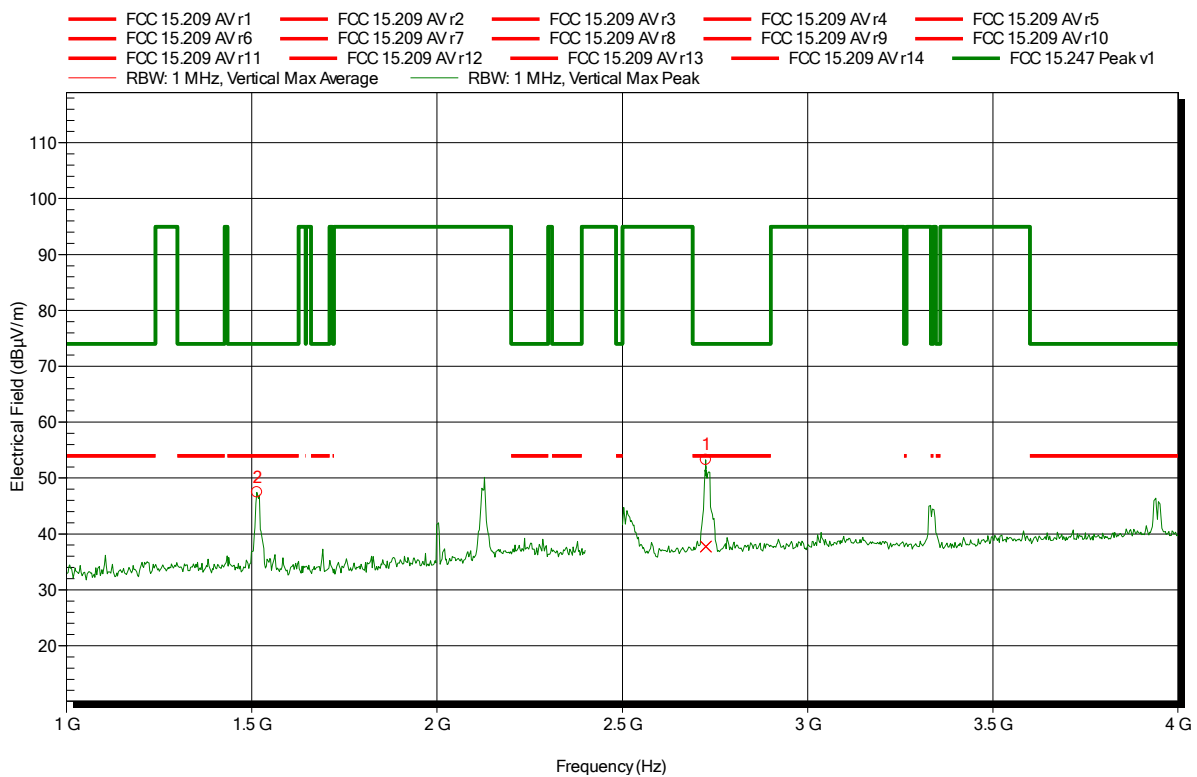
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.515 GHz	46.06 dBµV/m	74 dBµV/m	-27.94 dB	Pass
2.723 GHz	46.77 dBµV/m	74 dBµV/m	-27.23 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 99



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.515 GHz	47.47 dBµV/m	74 dBµV/m	-26.53 dB	Pass
2.725 GHz	53.25 dBµV/m	74 dBµV/m	-20.75 dB	Pass

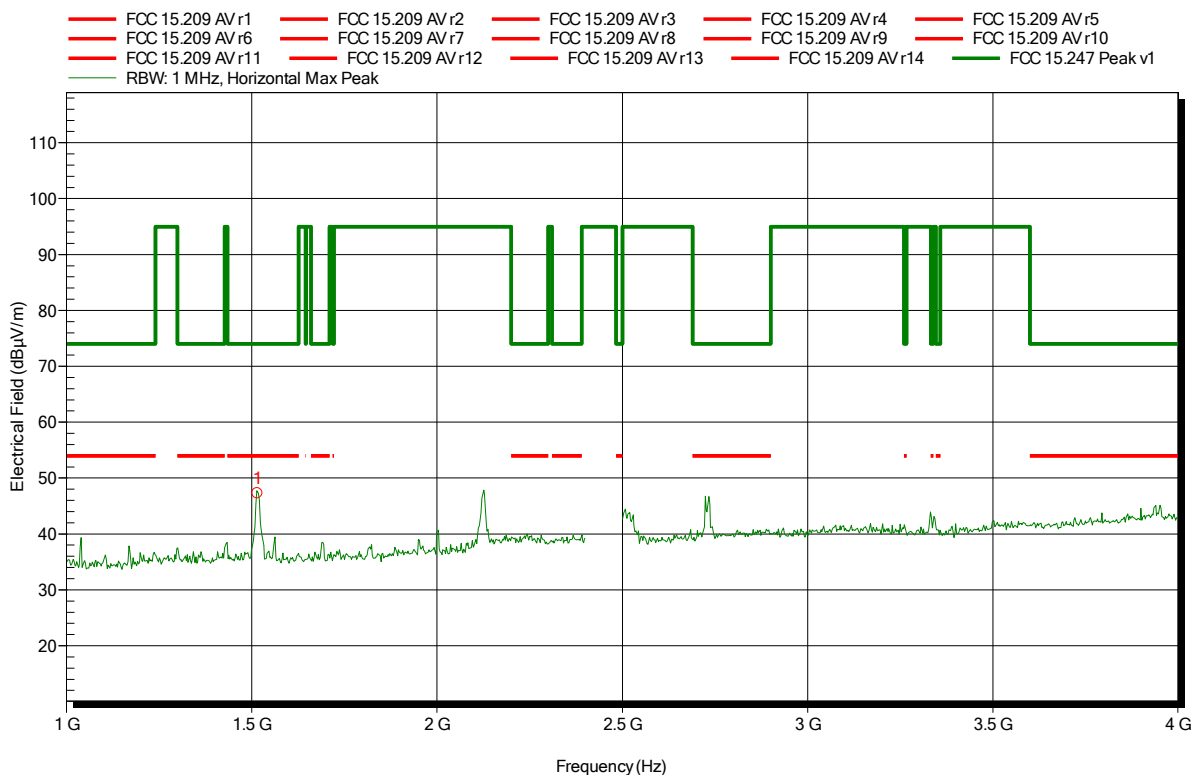
Frequency	Average	Average Limit	Average Difference	Average Status
2.725 GHz	37.74 dBµV/m	54 dBµV/m	-16.26 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 103



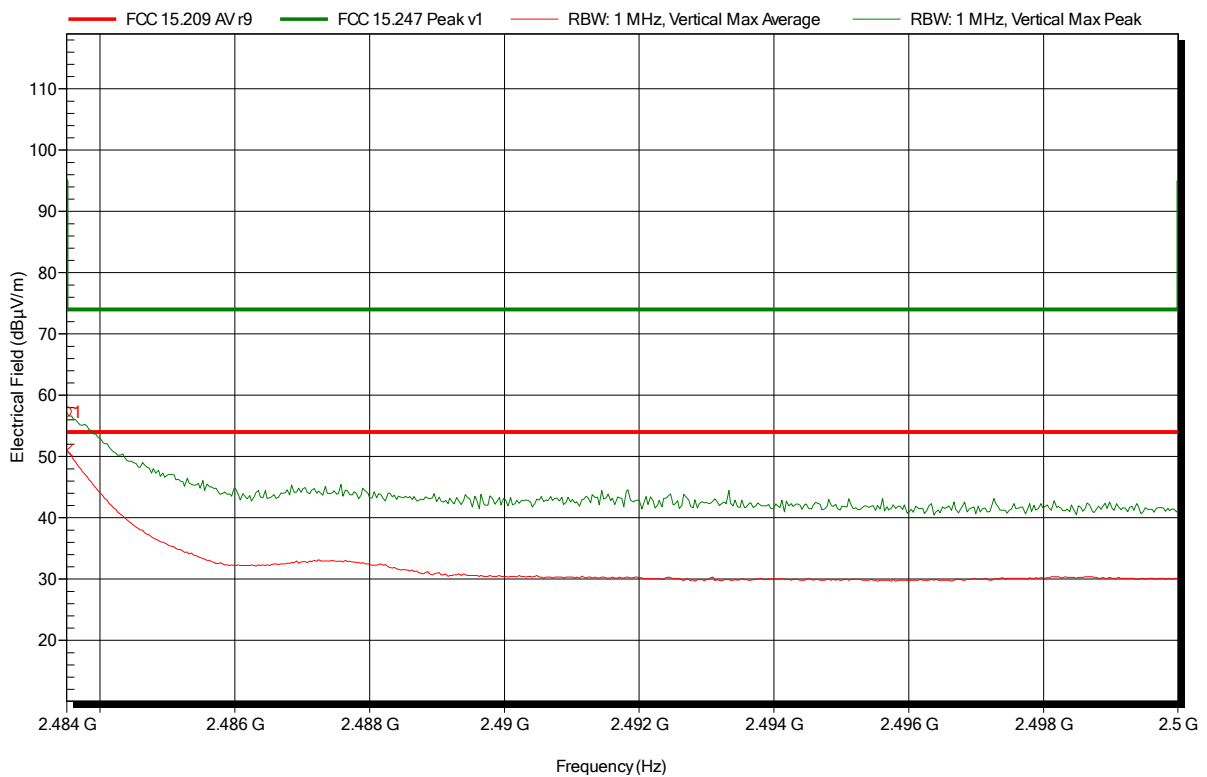
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.515 GHz	47.24 dBµV/m	74 dBµV/m	-26.76 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal; higher bandedge

Index 101



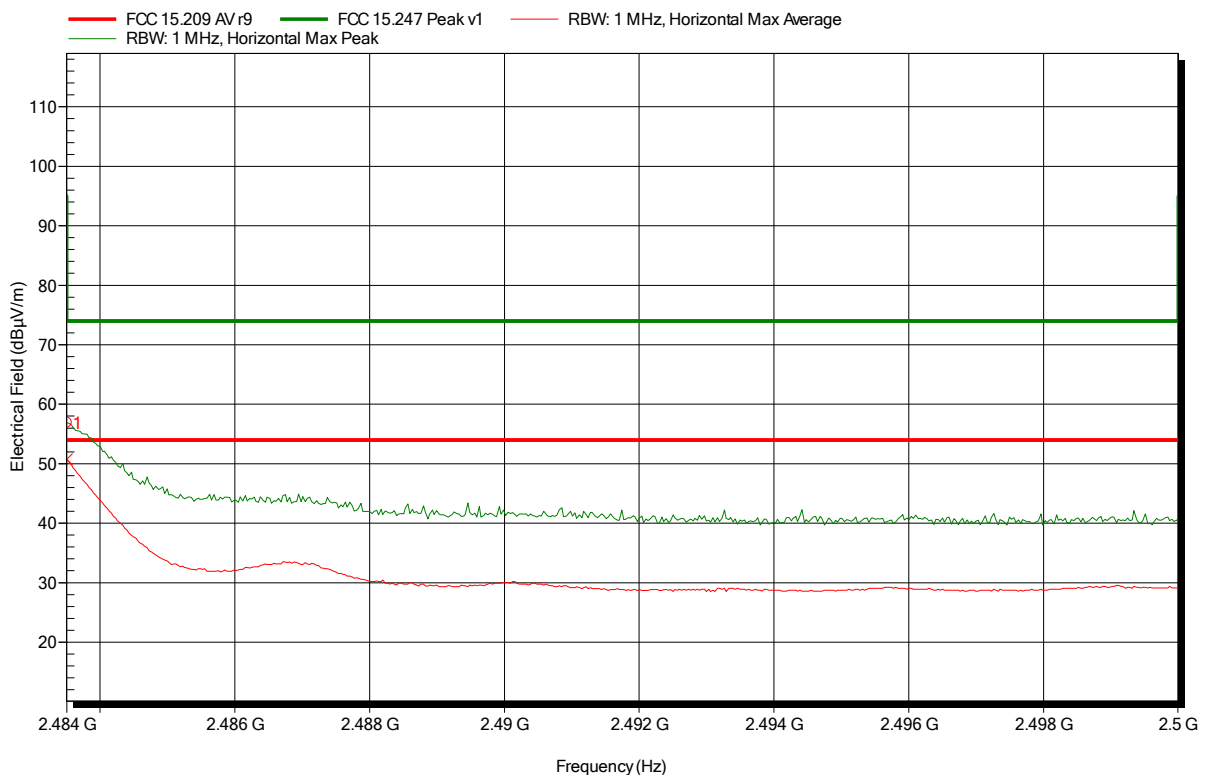
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.484 GHz	57.26 dBµV/m	74 dBµV/m	-16.74 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
2.484 GHz	51.01 dBµV/m	54 dBµV/m	-2.99 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal; higher bandedge

Index 105



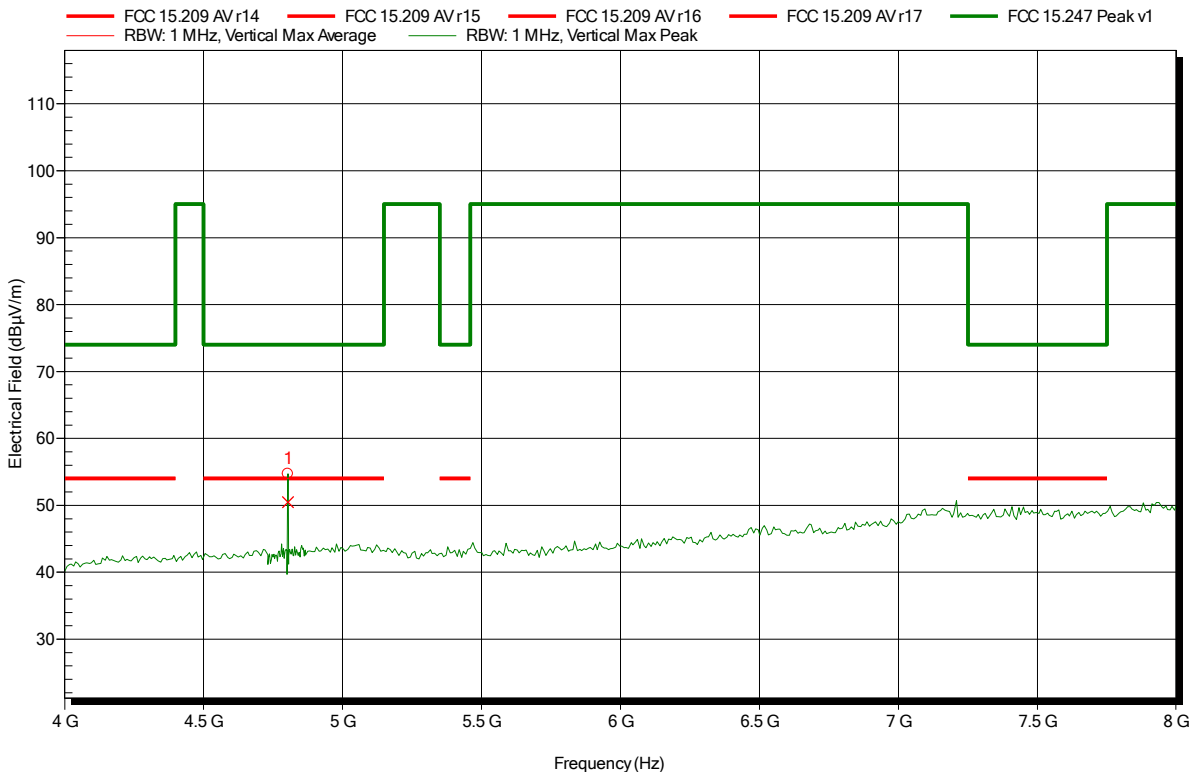
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.484 GHz	56.92 dBµV/m	74 dBµV/m	-17.08 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
2.484 GHz	50.76 dBµV/m	54 dBµV/m	-3.24 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 78



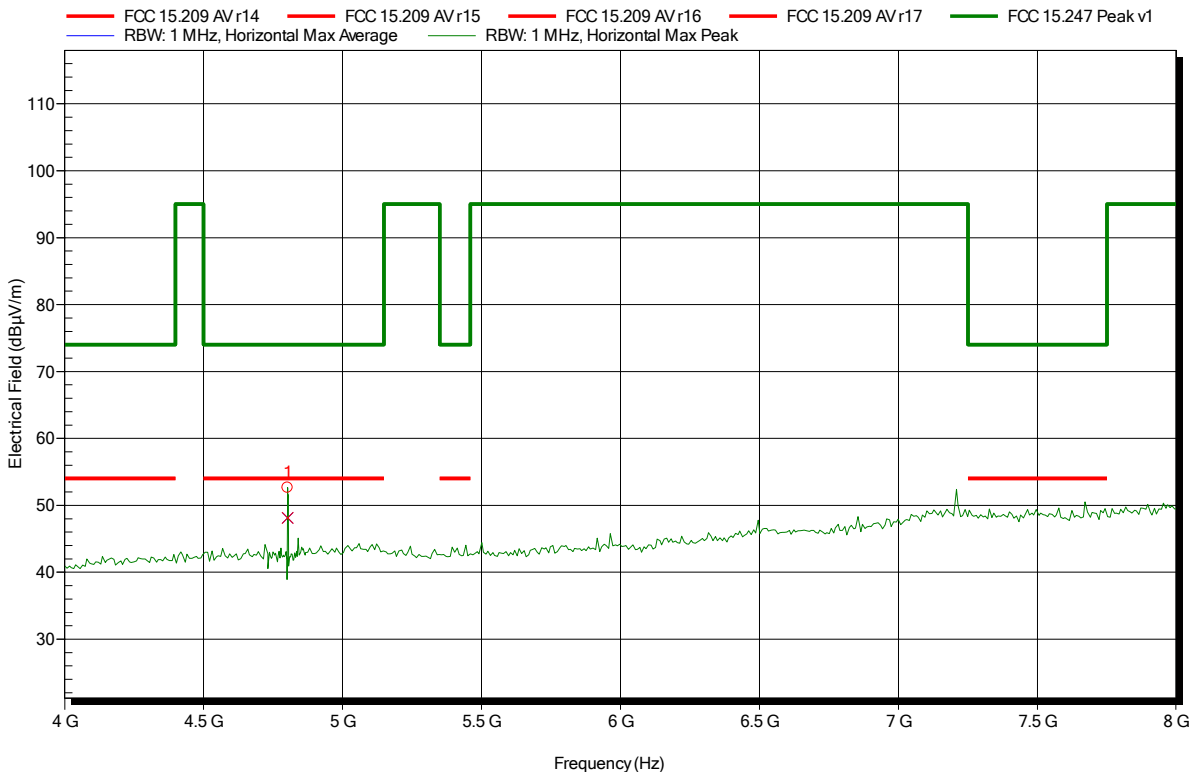
Frequency	Peak	Peak Limit	Peak Difference	Status
4.804 GHz	54.71 dBµV/m	74 dBµV/m	-19.29 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
4.804 GHz	50.49 dBµV/m	54 dBµV/m	-3.51 dB	Pass

**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 83



Frequency	Peak	Peak Limit	Peak Difference	Status
4.804 GHz	52.62 dBµV/m	74 dBµV/m	-21.38 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
4.804 GHz	48.12 dBµV/m	54 dBµV/m	-5.88 dB	Pass

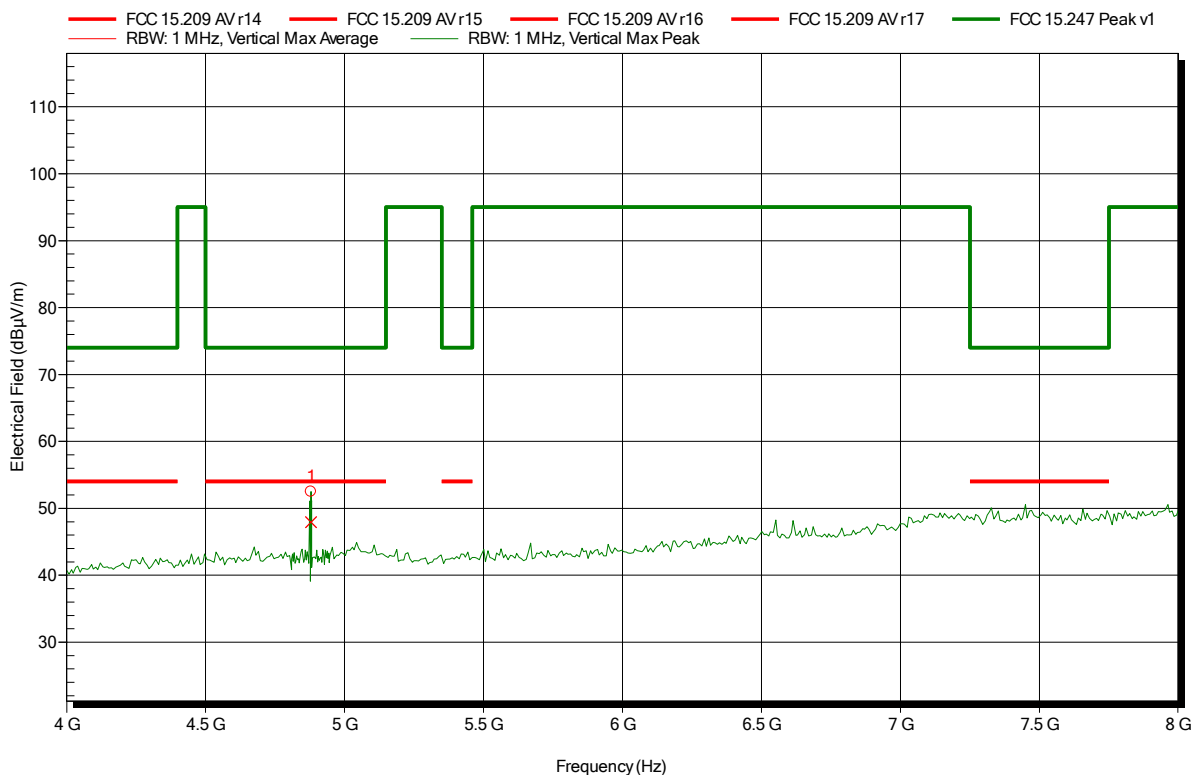


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 97



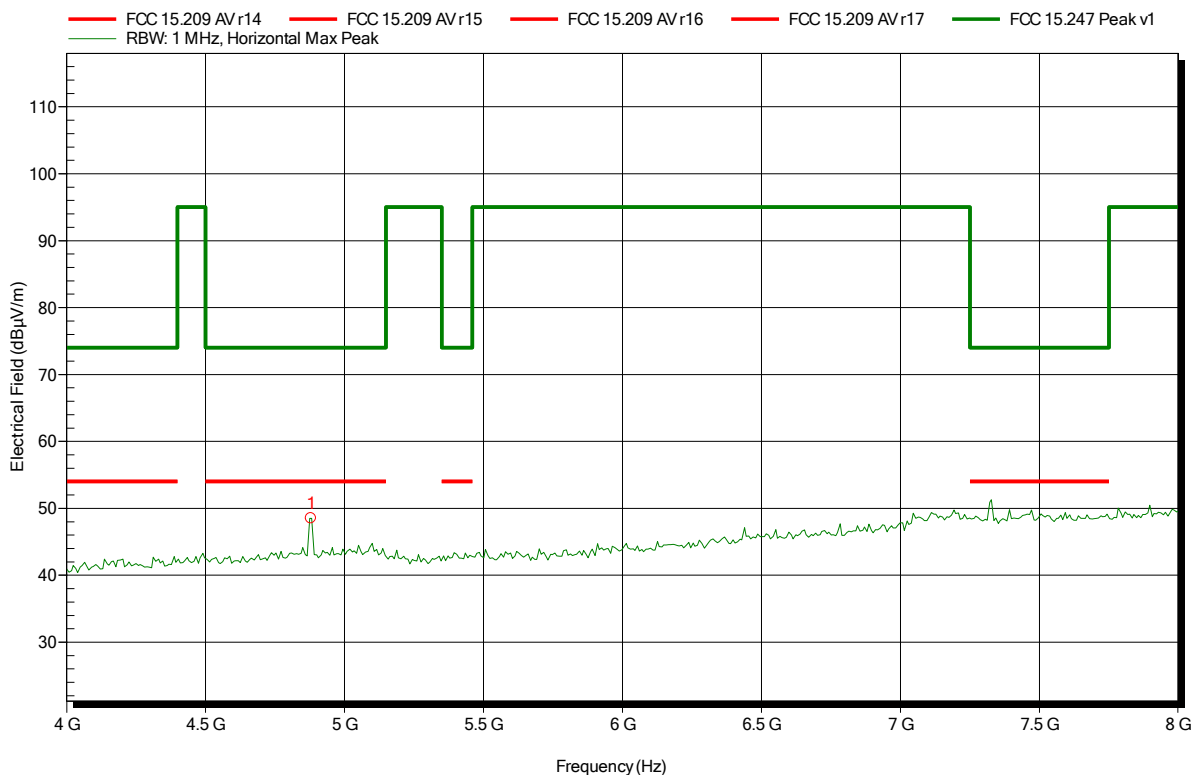
Frequency	Peak	Peak Limit	Peak Difference	Status
4.88 GHz	52.48 dBµV/m	74 dBµV/m	-21.52 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
4.88 GHz	47.91 dBµV/m	54 dBµV/m	-6.09 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 96



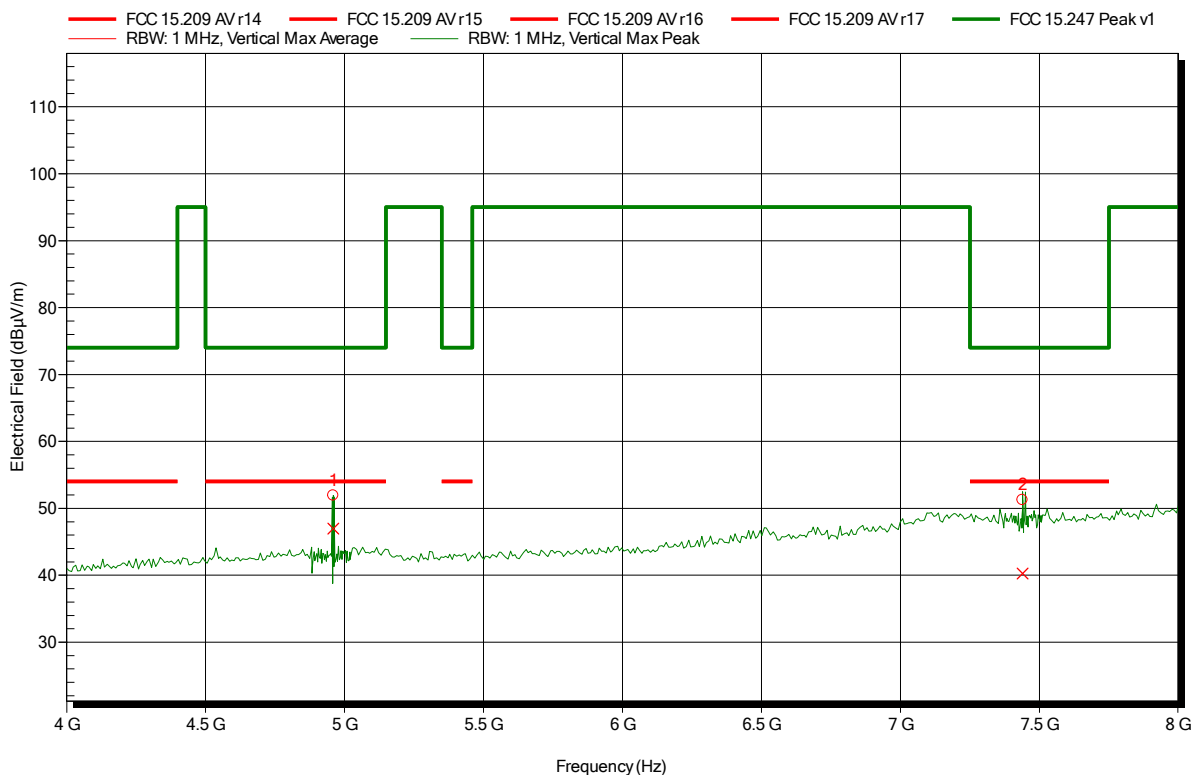
Frequency	Peak	Peak Limit	Peak Difference	Status
4.88 GHz	48.51 dBµV/m	74 dBµV/m	-25.49 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 102



Frequency	Peak	Peak Limit	Peak Difference	Status
4.96 GHz	51.92 dBµV/m	74 dBµV/m	-22.08 dB	Pass
7.44 GHz	51.22 dBµV/m	74 dBµV/m	-22.78 dB	Pass

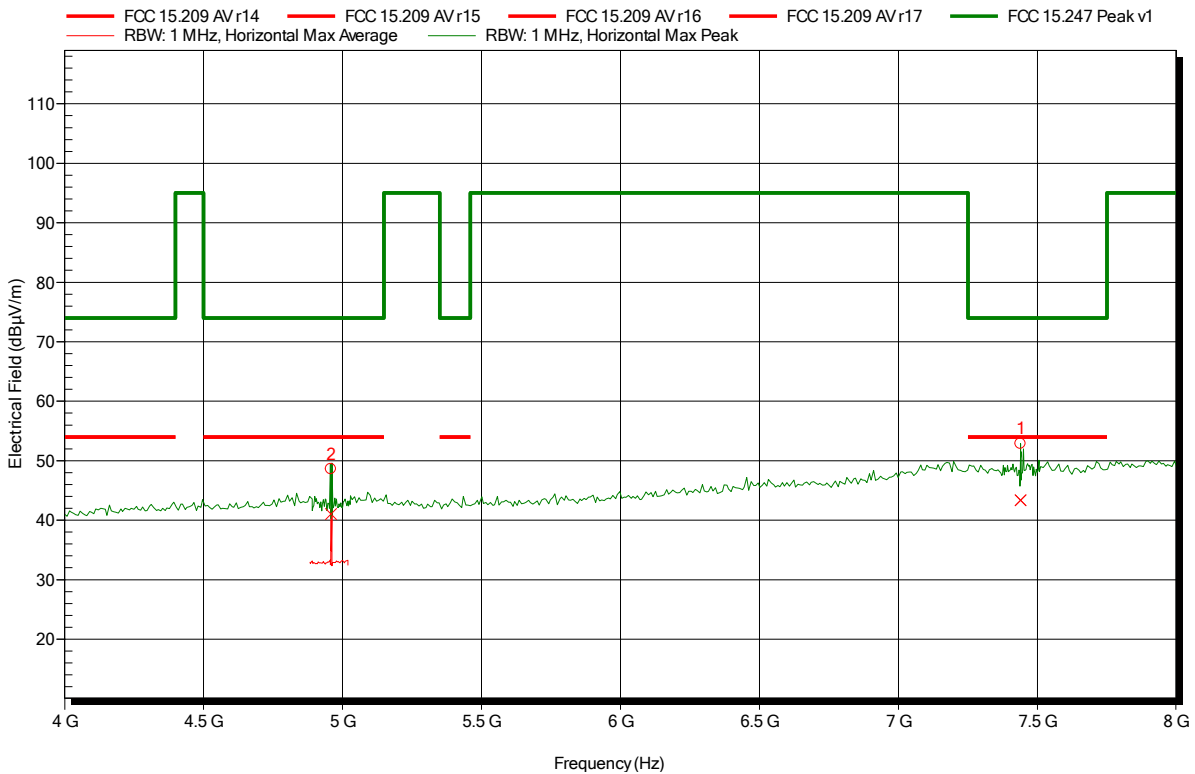
Frequency	Average	Average Limit	Average Difference	Average Status
4.96 GHz	46.99 dBµV/m	54 dBµV/m	-7.01 dB	Pass
7.44 GHz	40.28 dBµV/m	54 dBµV/m	-13.72 dB	Pass

**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 106



Frequency	Peak	Peak Limit	Peak Difference	Status
4.96 GHz	48.59 dBµV/m	74 dBµV/m	-25.41 dB	Pass
7.44 GHz	52.82 dBµV/m	74 dBµV/m	-21.18 dB	Pass

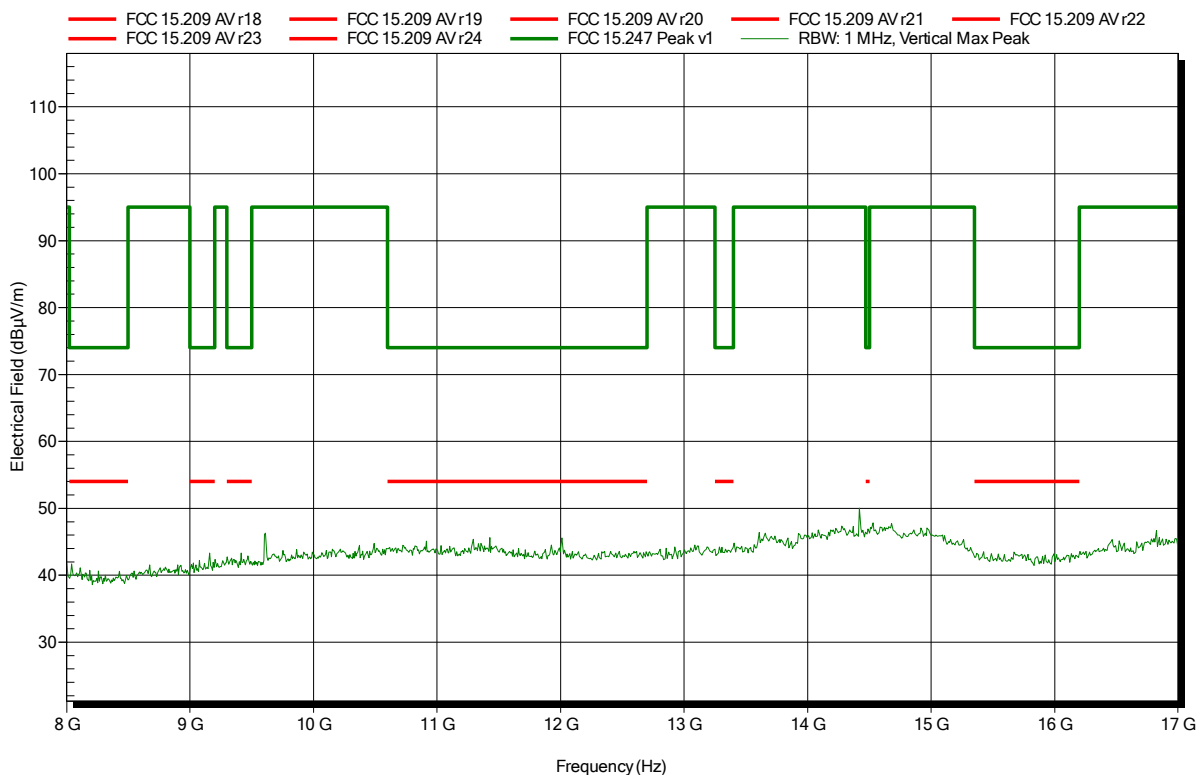
Frequency	Average	Average Limit	Average Difference	Average Status
4.96 GHz	41.02 dBµV/m	54 dBµV/m	-12.98 dB	Pass
7.44 GHz	43.33 dBµV/m	54 dBµV/m	-10.67 dB	Pass

### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 84

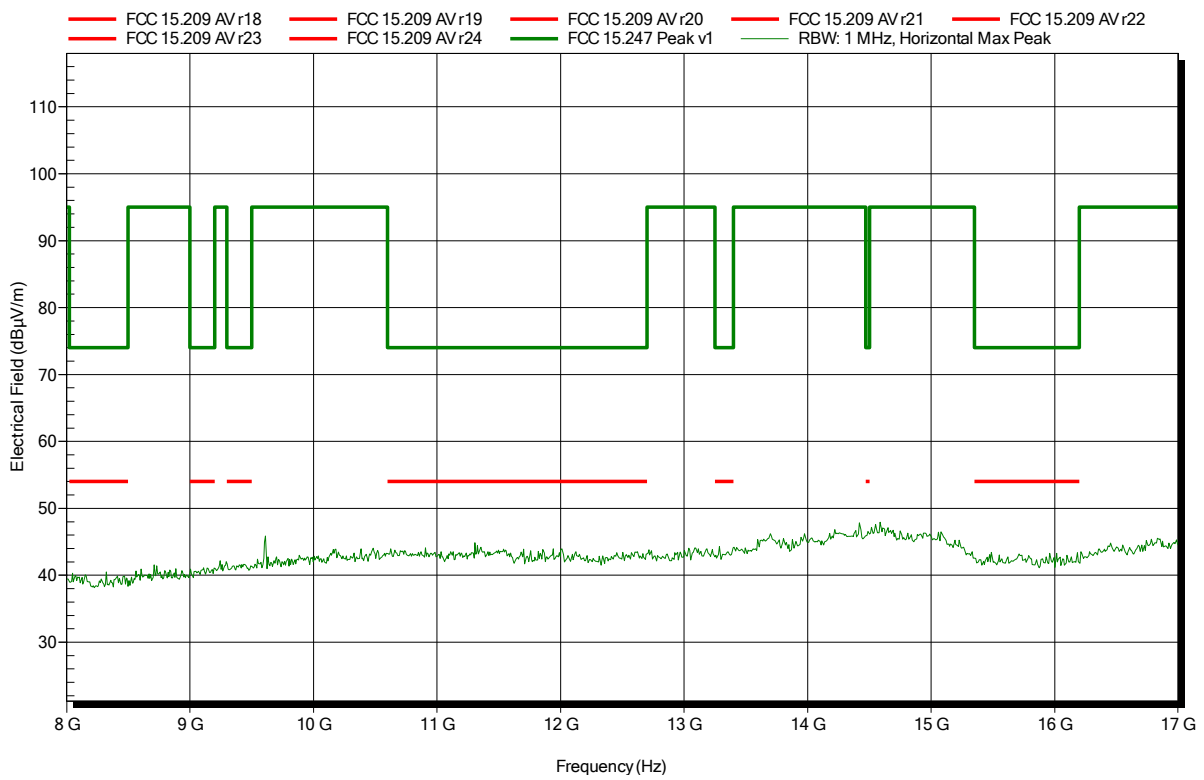


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 85

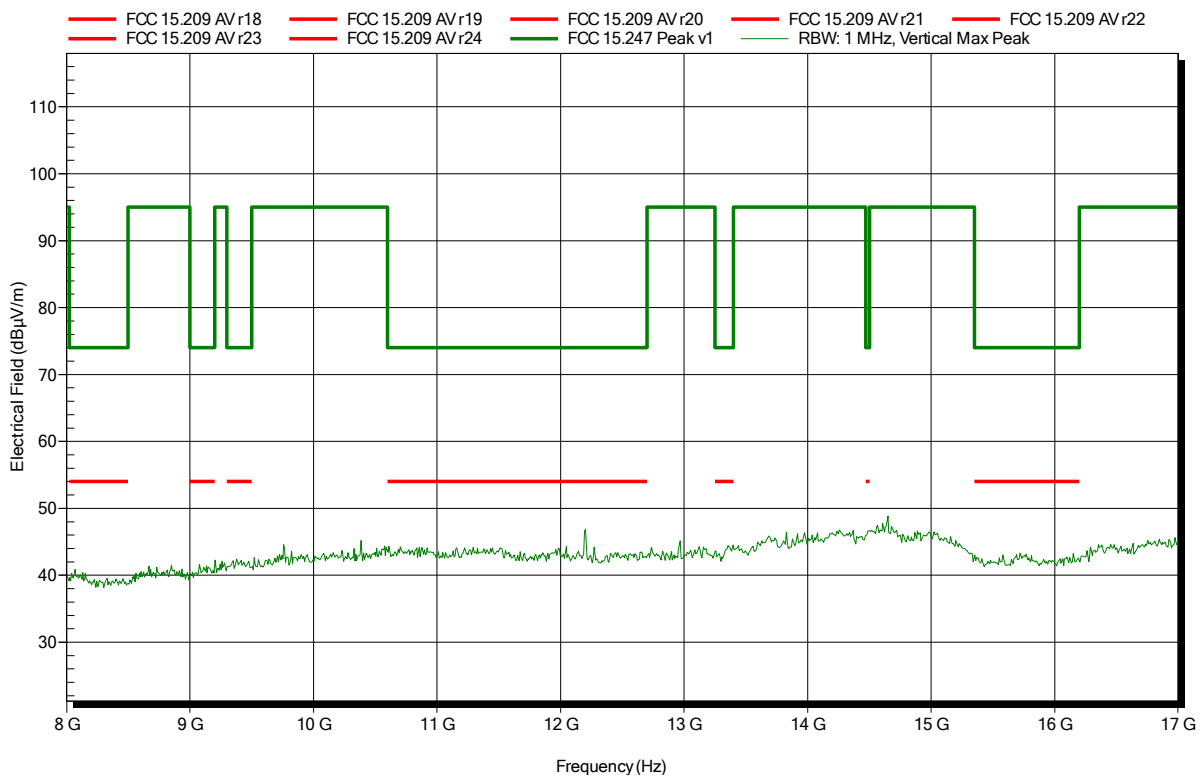


**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 93

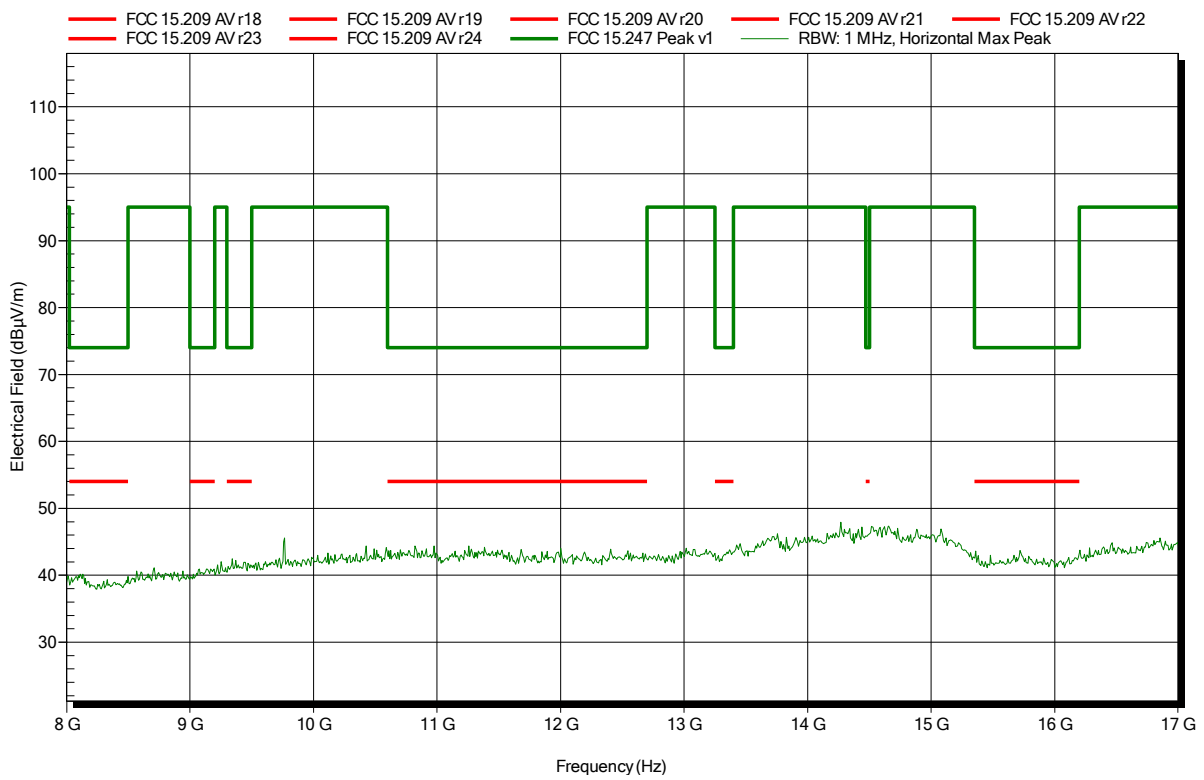


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 94



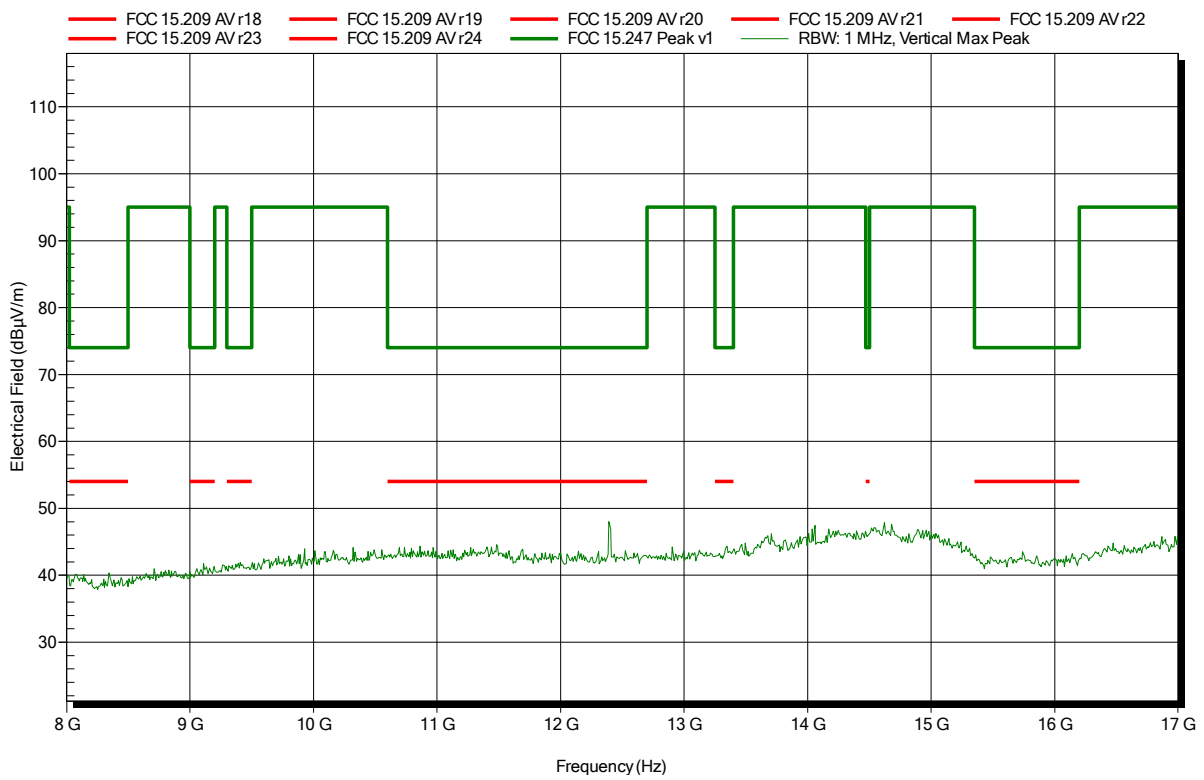


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 108

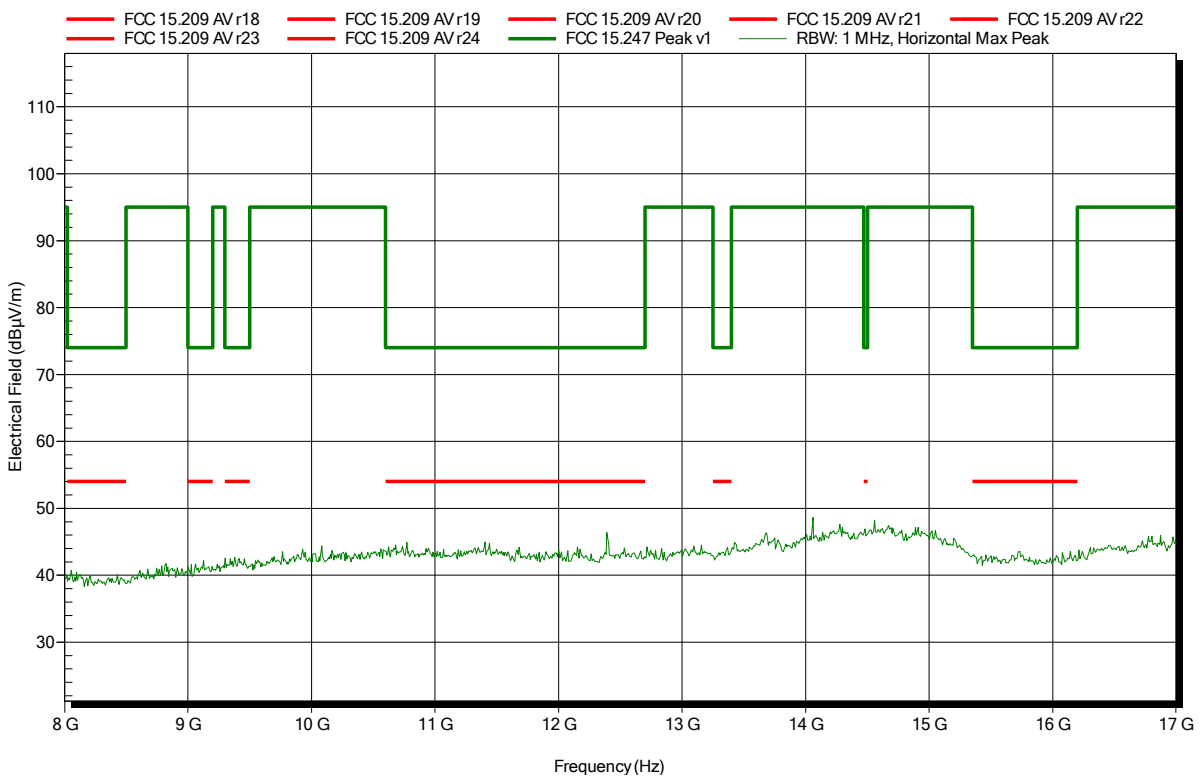


**Spurious emissions according to FCC 15.247**

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 107

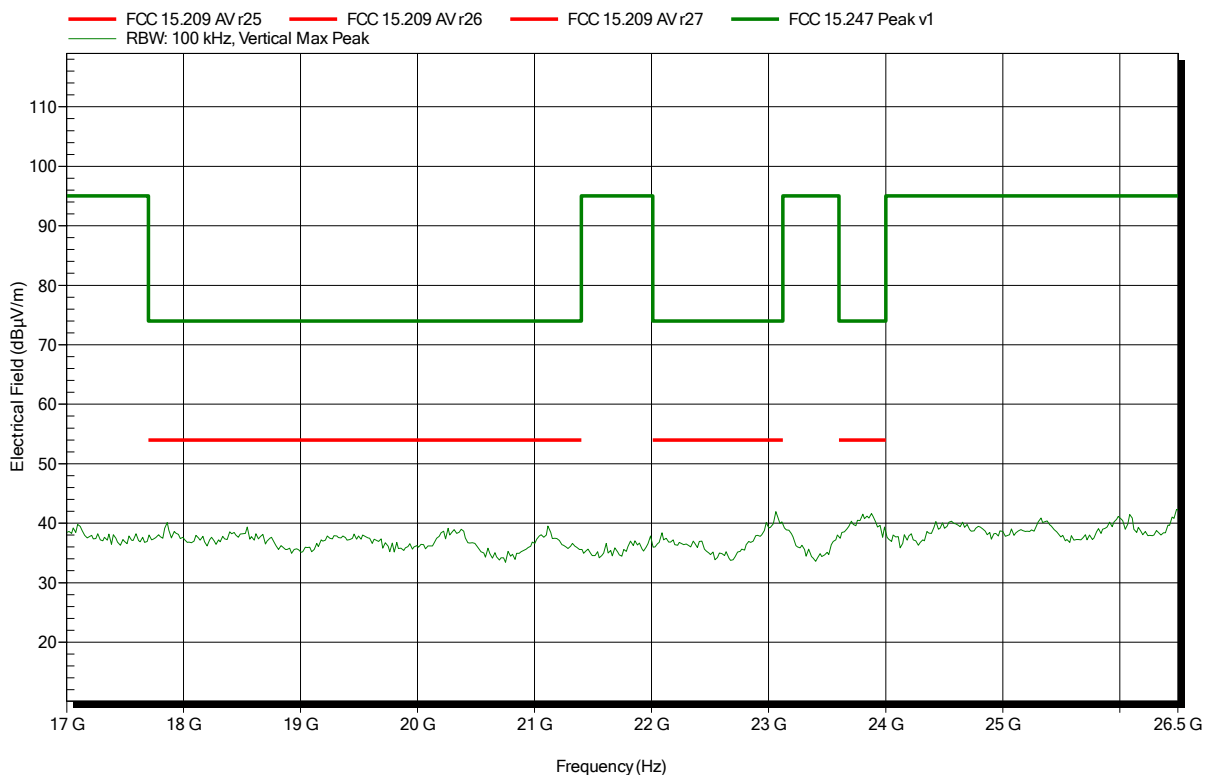


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 87

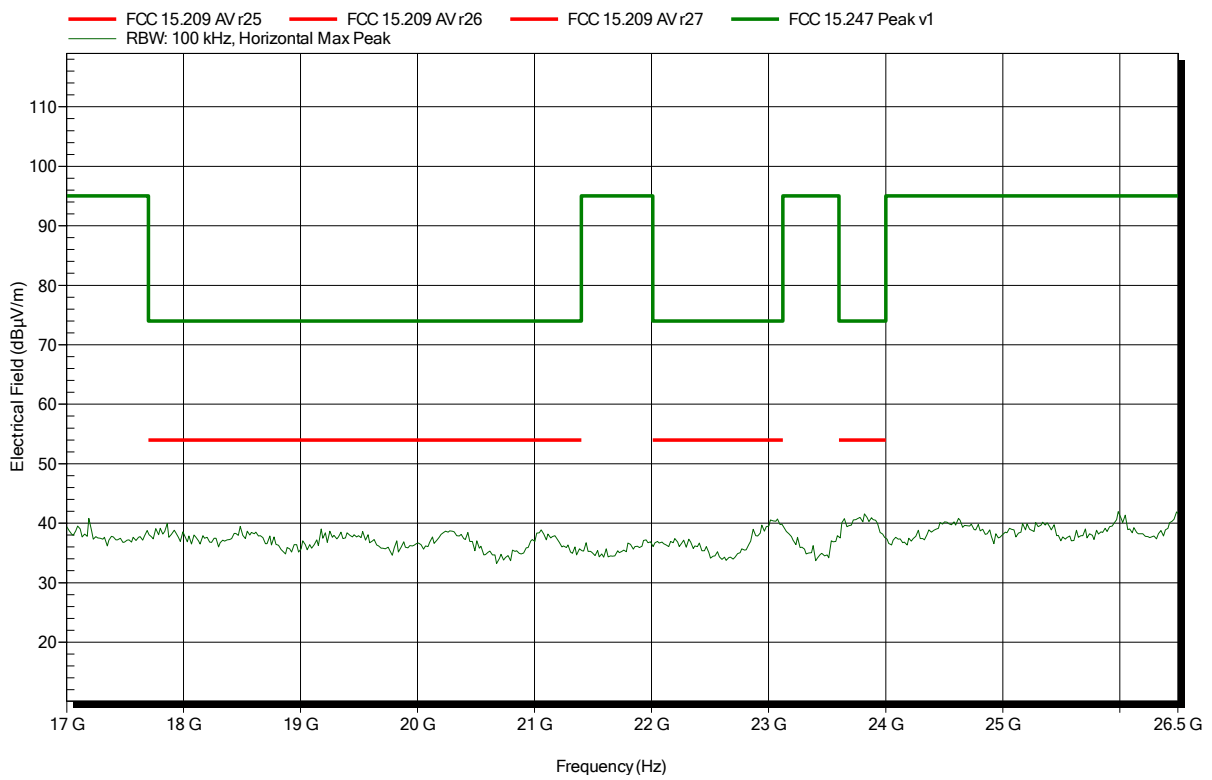


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2402 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 86

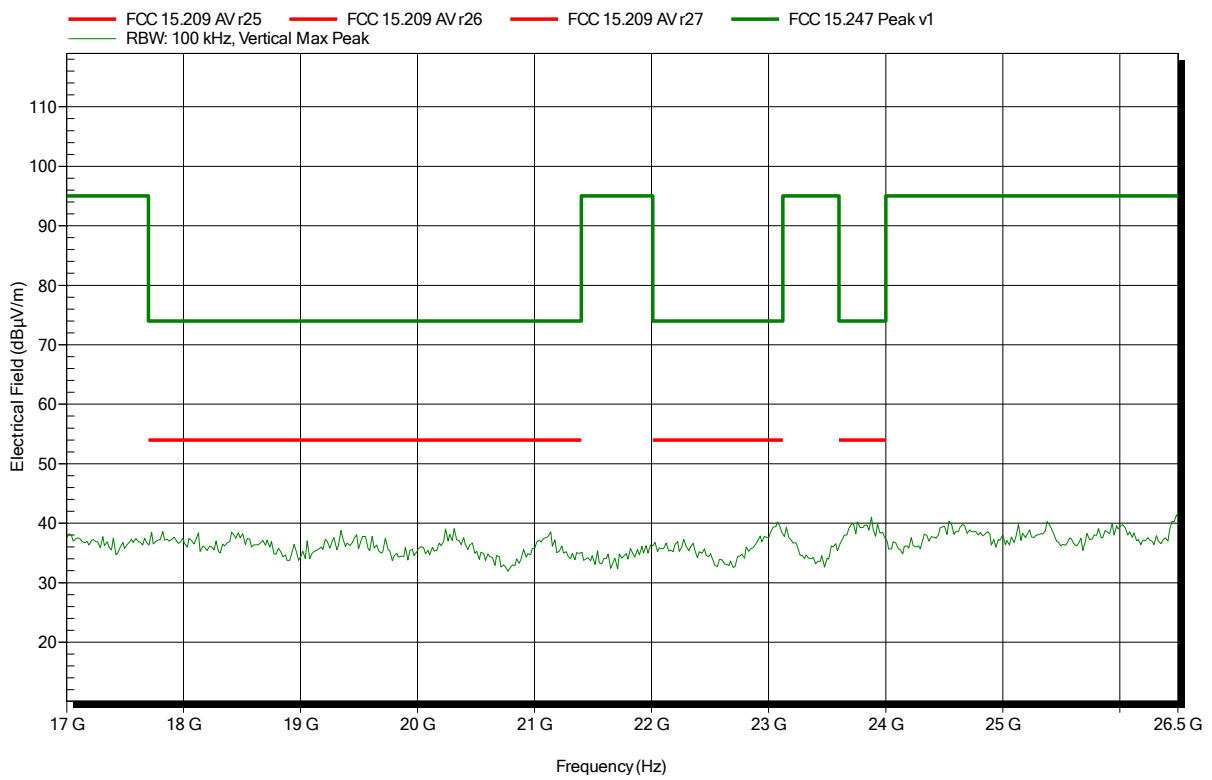


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 88

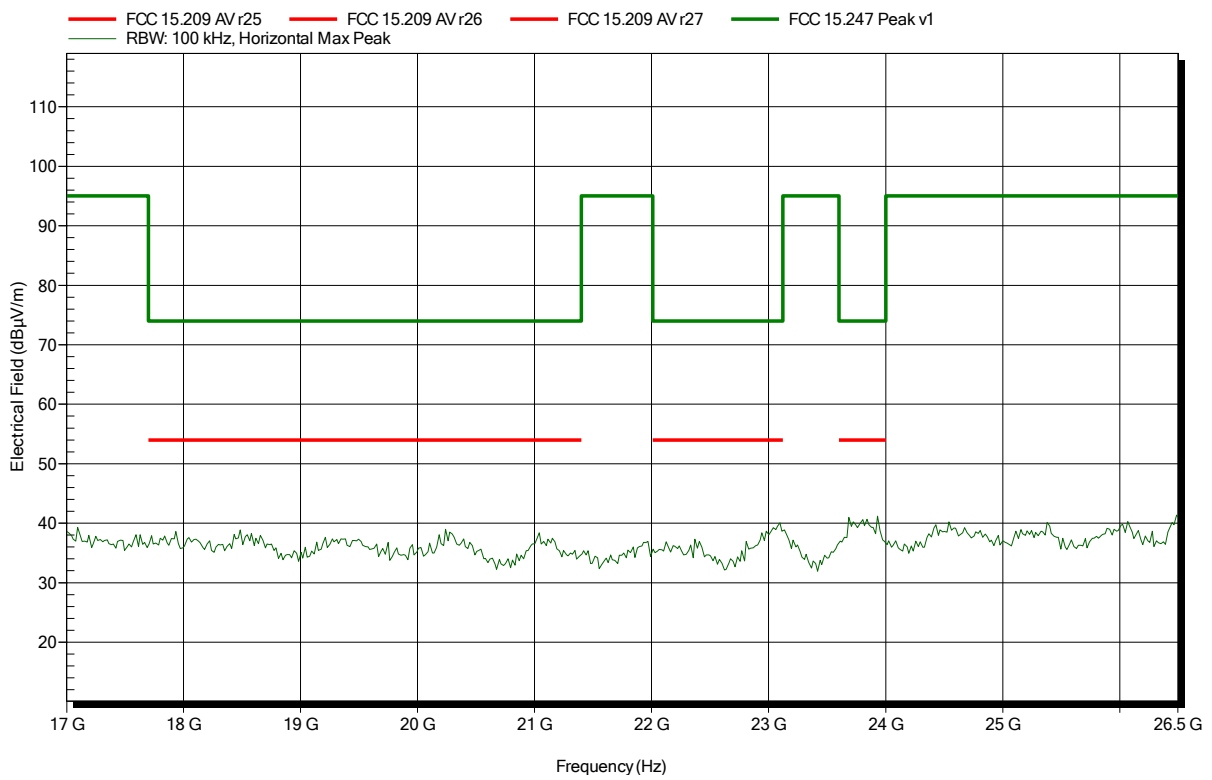


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2441 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 90

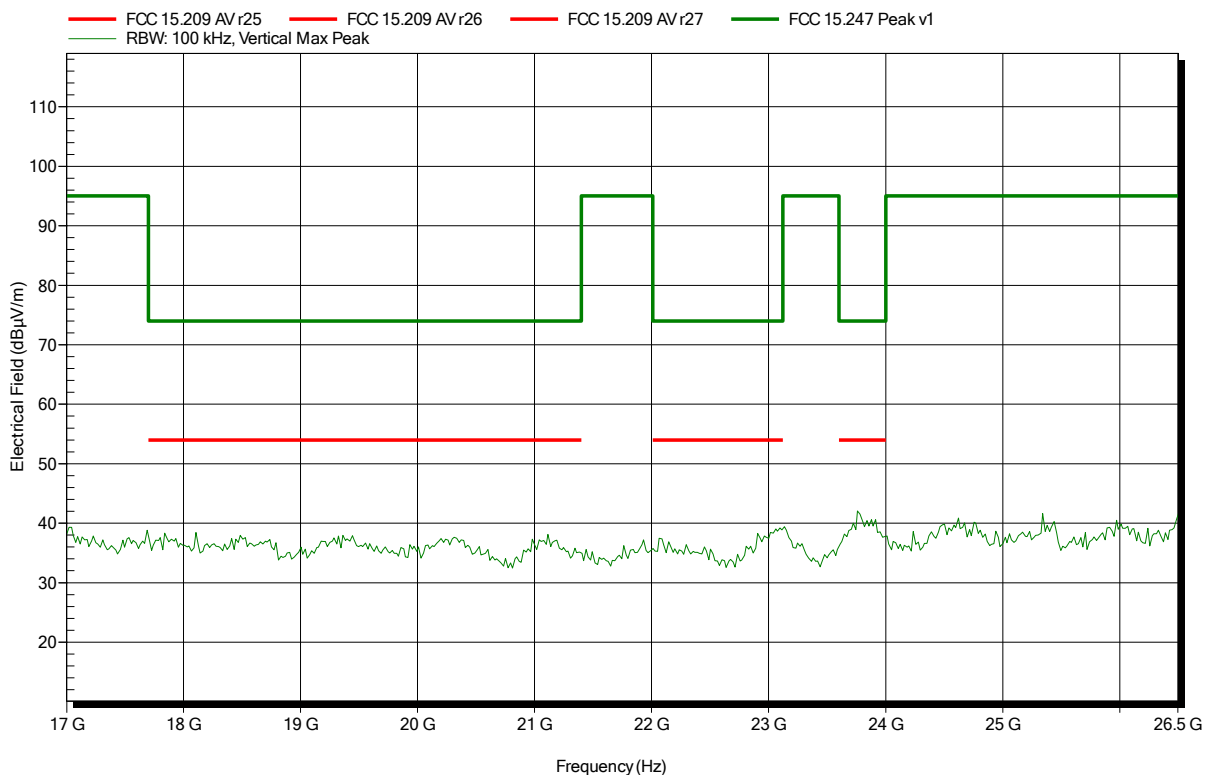


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 92

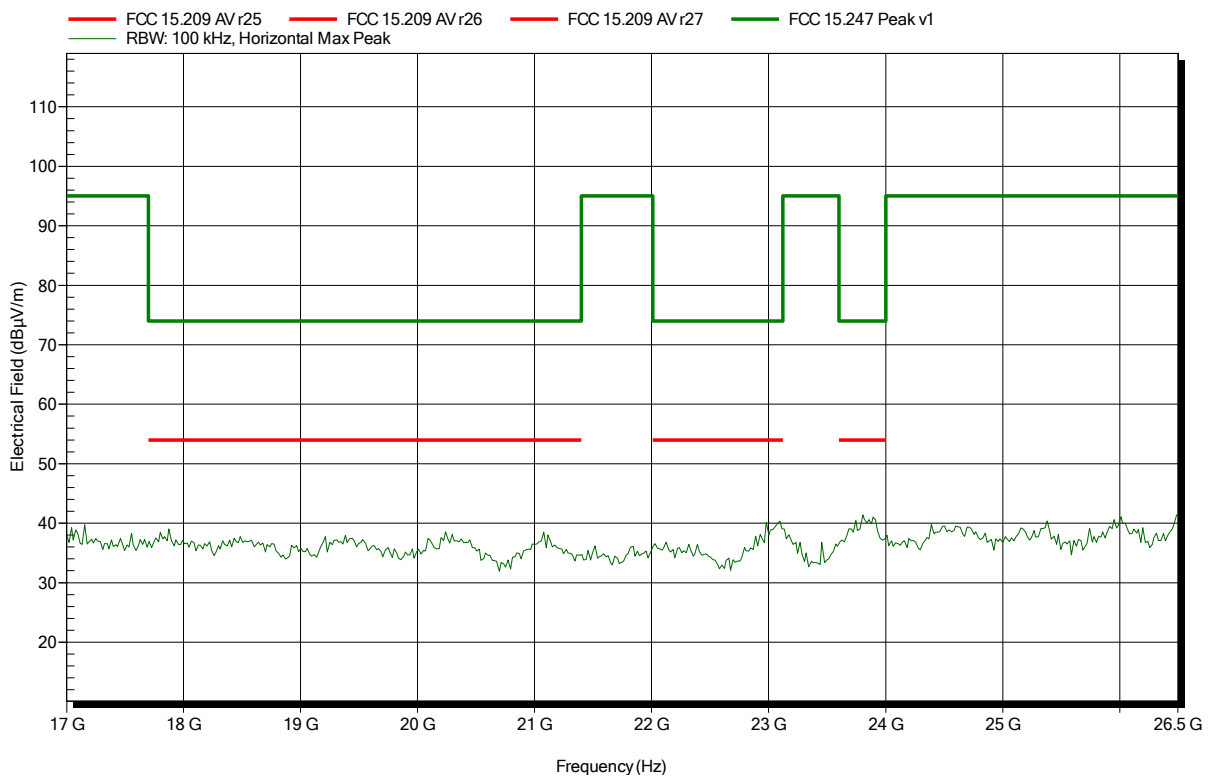


### Spurious emissions according to FCC 15.247

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: ATH18G40, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; BT-BR; DH5; 2480 MHz; ANT integral  
 Test Date: 2017-04-28  
 Note: EUT horizontal

Index 91





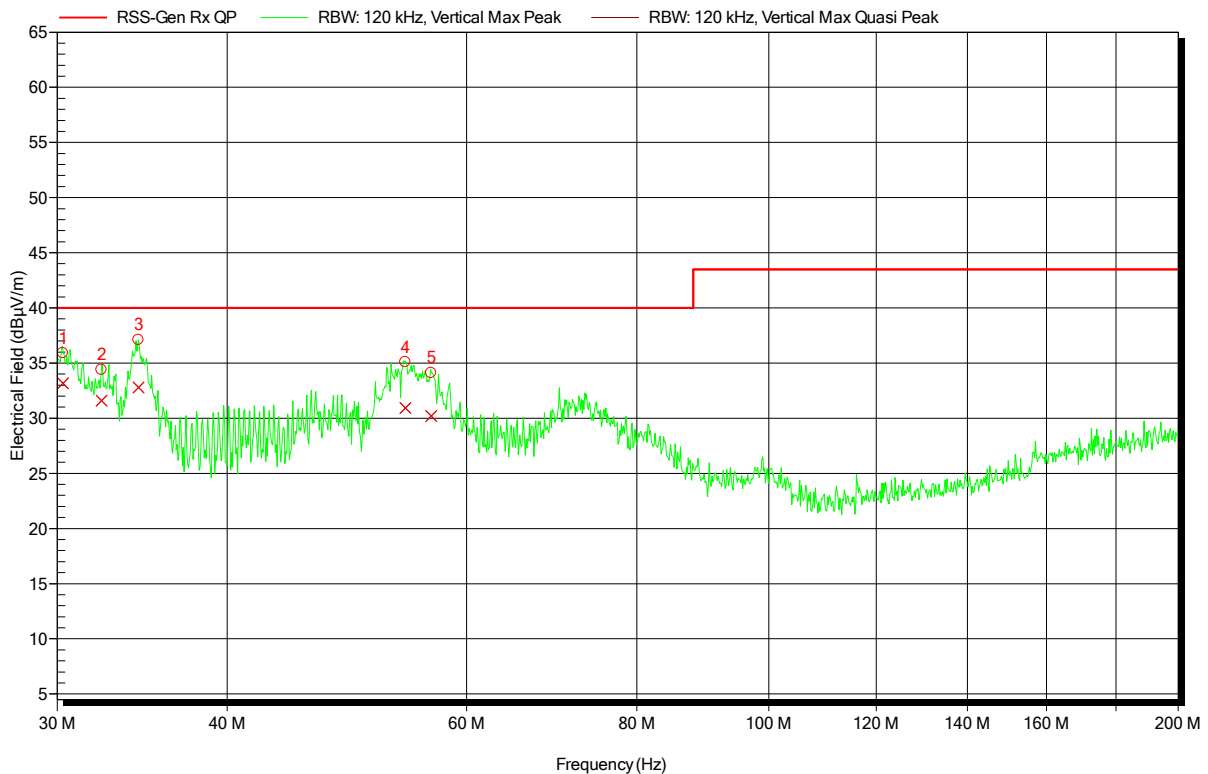
## ANNEX B Receiver spurious emissions

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 77



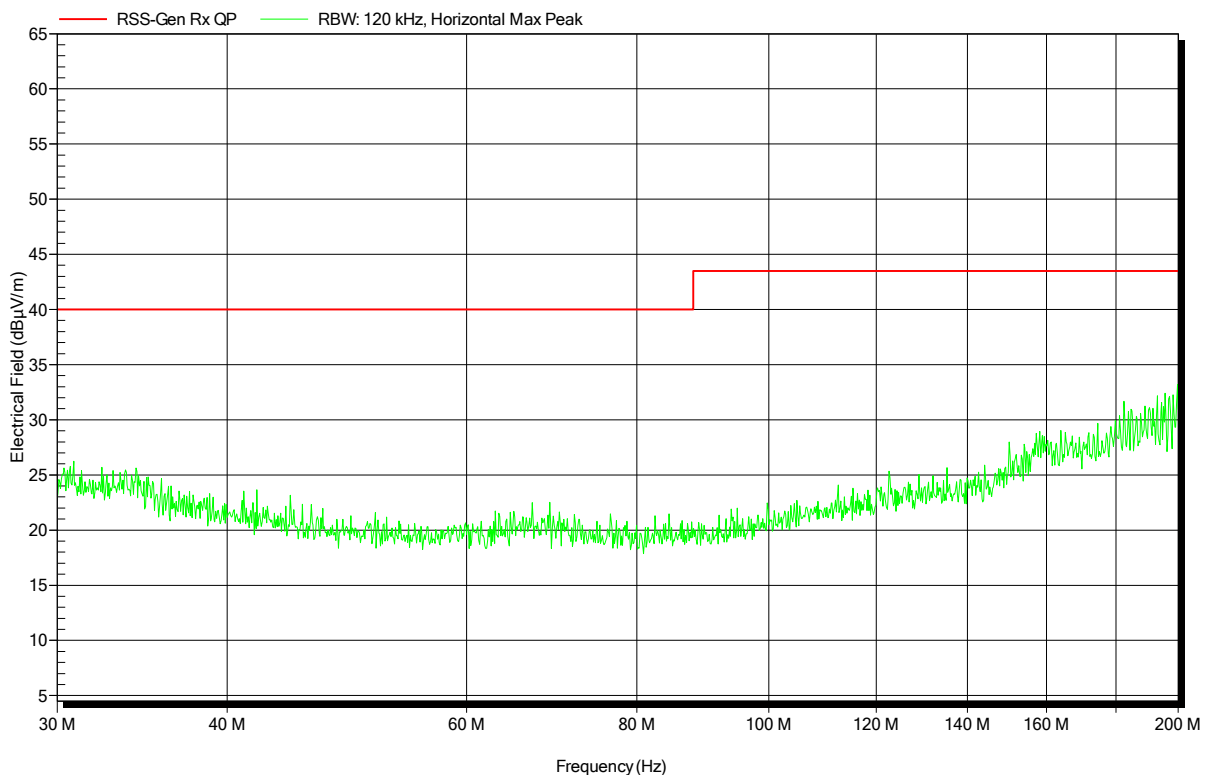
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
30.3017 MHz	33.2 dBµV/m	40 dBµV/m	-6.85 dB	Pass
32.3374 MHz	31.6 dBµV/m	40 dBµV/m	-8.4 dB	Pass
34.4369 MHz	32.8 dBµV/m	40 dBµV/m	-7.21 dB	Pass
54.0841 MHz	30.9 dBµV/m	40 dBµV/m	-9.08 dB	Pass
56.4896 MHz	30.2 dBµV/m	40 dBµV/m	-9.8 dB	Pass

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 78

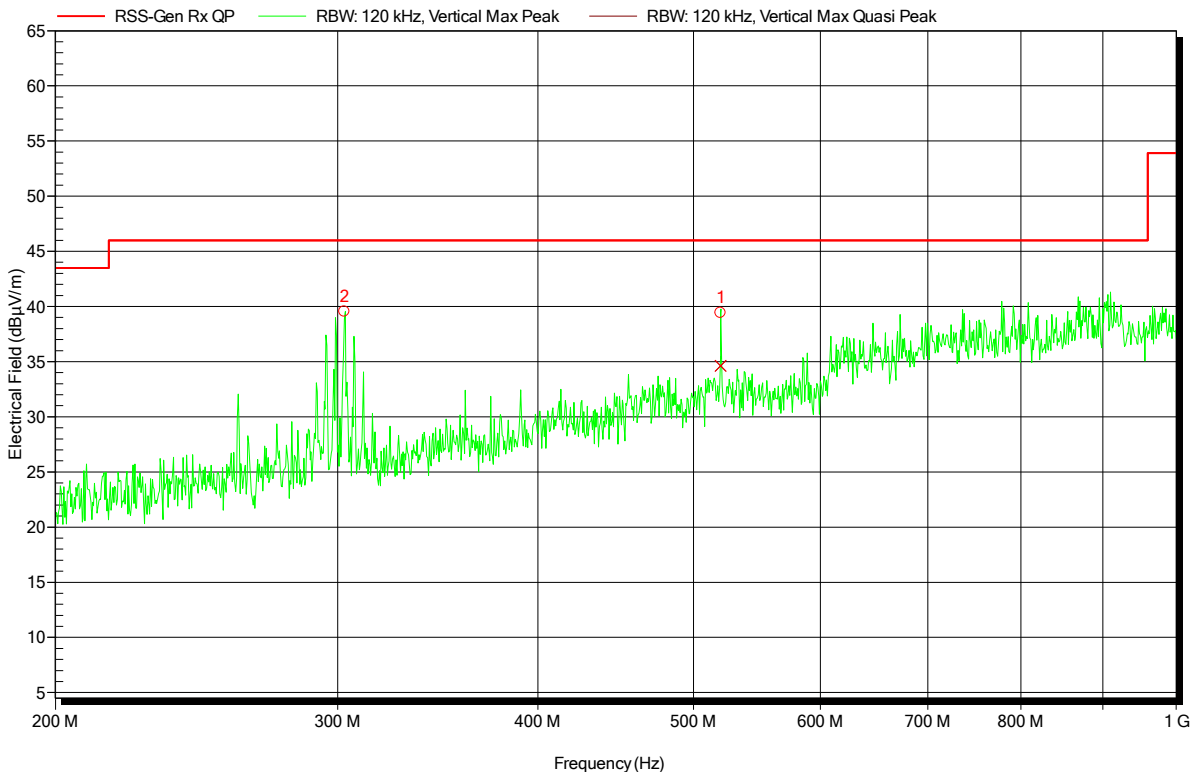


### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 76



Frequency	Peak	Peak Limit	Peak Difference	Status
303.02 MHz	39.5 dBµV/m	46 dBµV/m	-6.47 dB	Pass
519.926 MHz	39.4 dBµV/m	46 dBµV/m	-6.58 dB	Pass

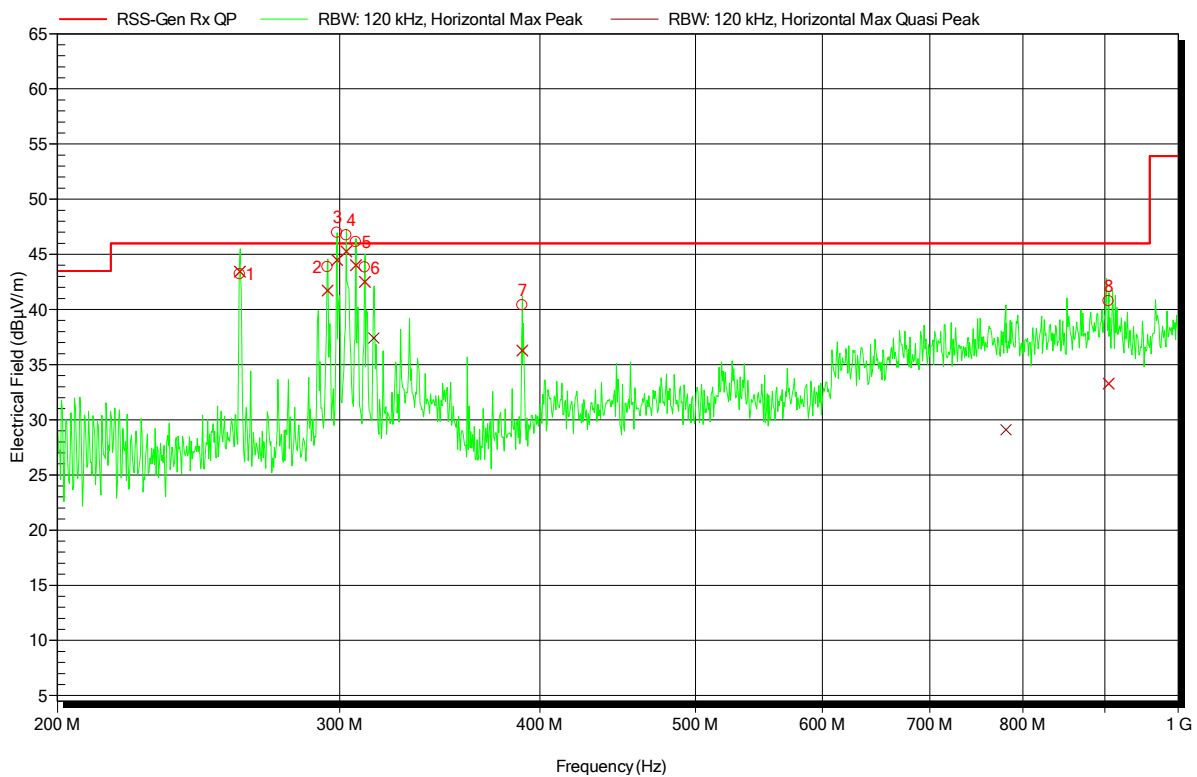
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
519.926 MHz	34.6 dBµV/m	46 dBµV/m	-11.39 dB	Pass

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-04-29  
 Note: EUT horizontal

Index 74



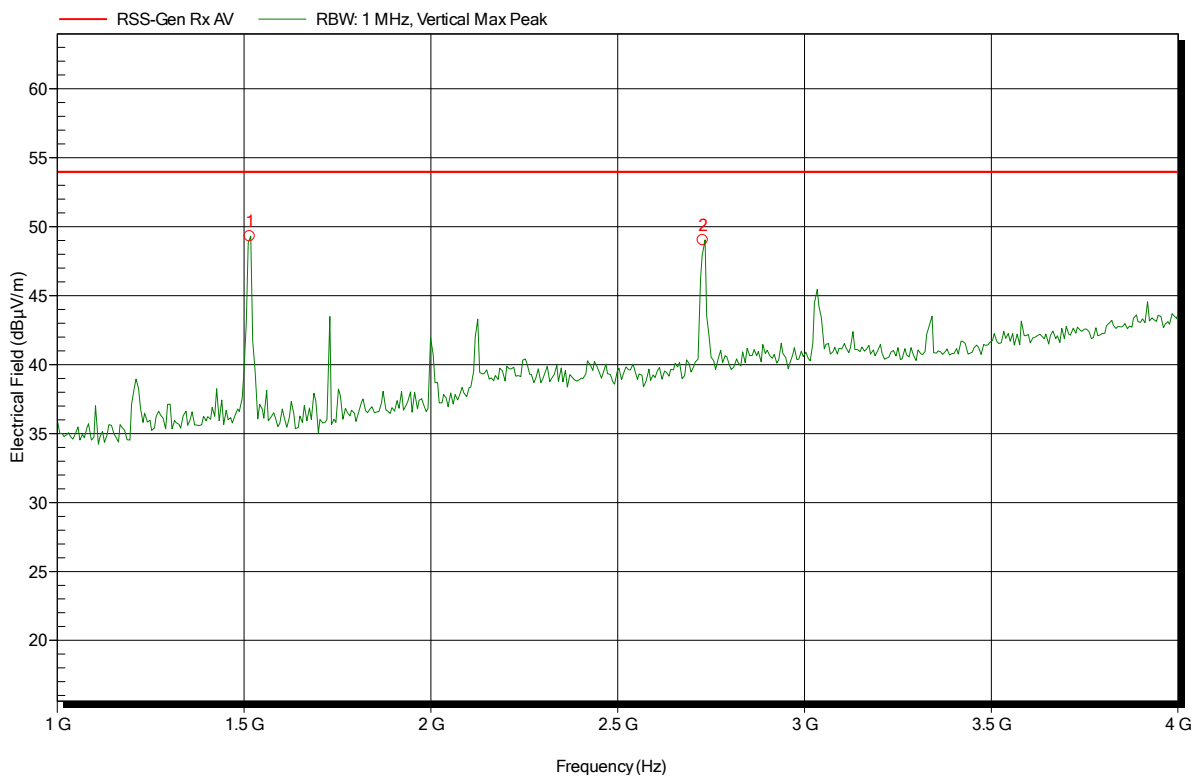
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
260 MHz	43.4 dBµV/m	46 dBµV/m	-2.56 dB	Pass
294.92 MHz	41.7 dBµV/m	46 dBµV/m	-4.29 dB	Pass
298.952 MHz	44.5 dBµV/m	46 dBµV/m	-1.53 dB	Pass
302.9 MHz	45.3 dBµV/m	46 dBµV/m	-0.73 dB	Pass
307.16 MHz	44 dBµV/m	46 dBµV/m	-2 dB	Pass
311.18 MHz	42.5 dBµV/m	46 dBµV/m	-3.49 dB	Pass
389.942 MHz	36.3 dBµV/m	46 dBµV/m	-9.72 dB	Pass
905.006 MHz	33.3 dBµV/m	46 dBµV/m	-12.71 dB	Pass

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 79



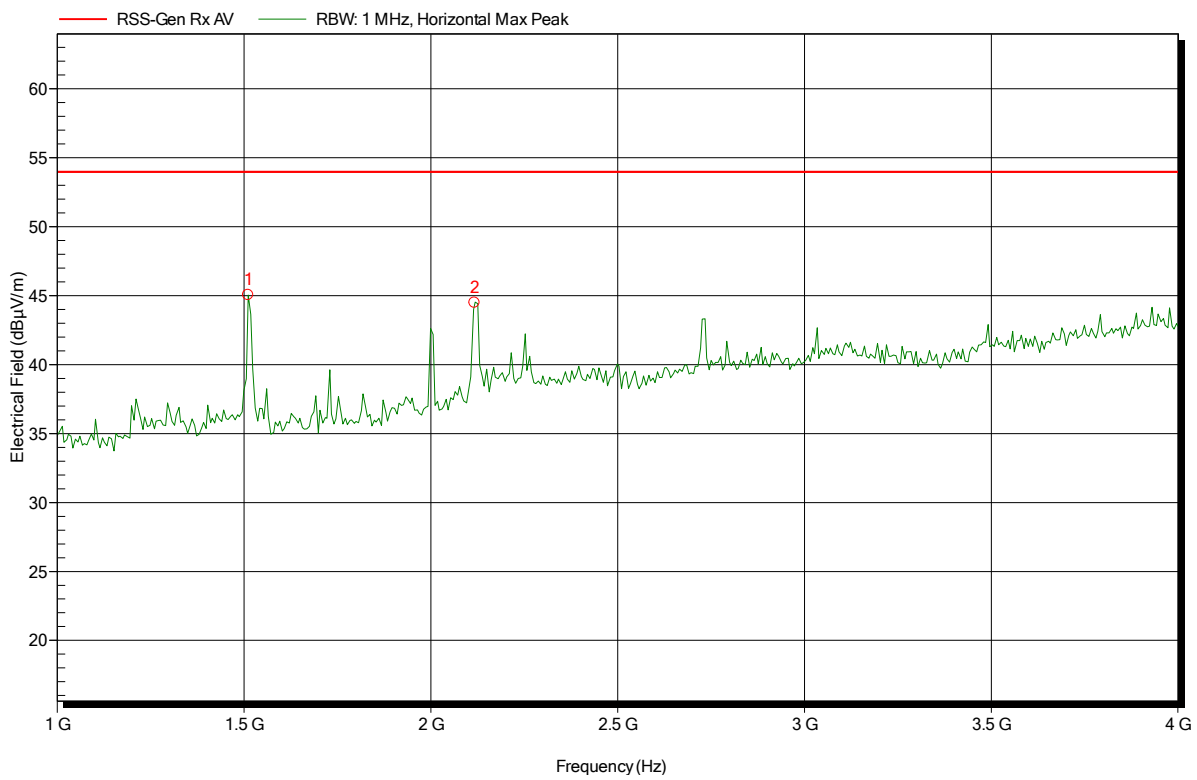
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.516 GHz	49.31 dBµV/m	53.98 dBµV/m	-4.67 dB	Pass
2.728 GHz	49.03 dBµV/m	53.98 dBµV/m	-4.95 dB	Pass

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 84



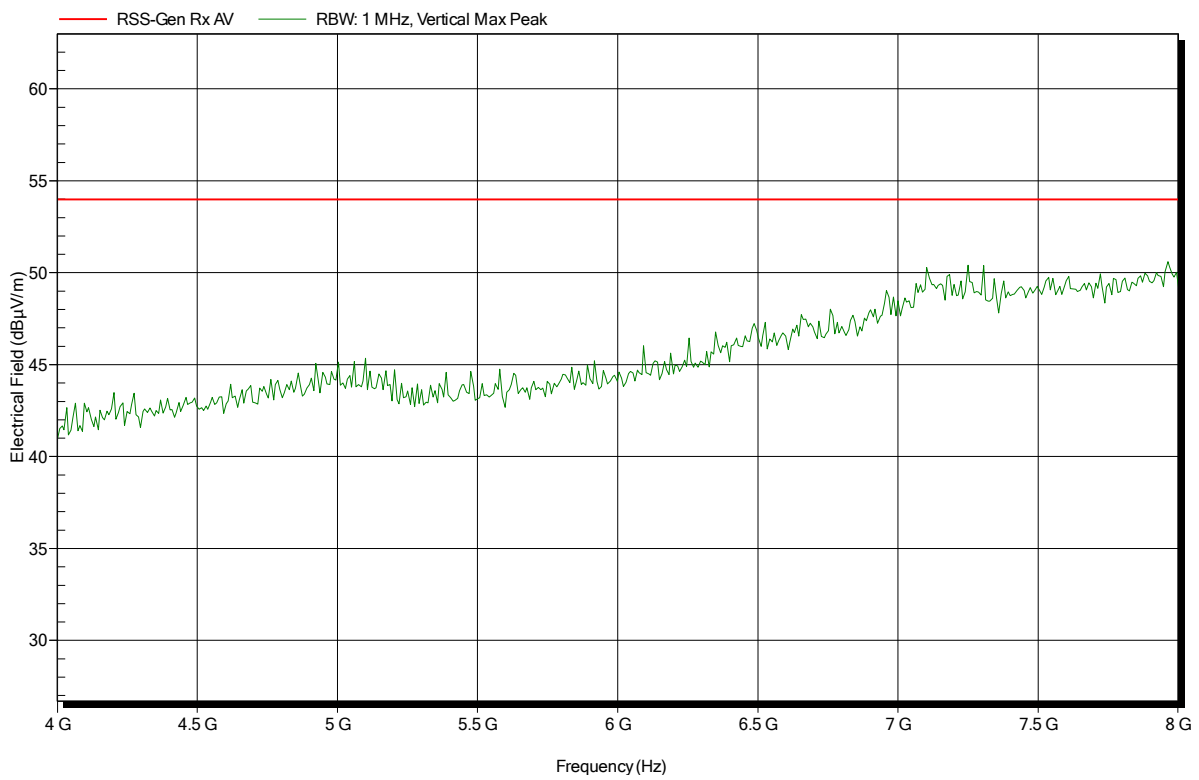
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.511 GHz	45.04 dBµV/m	53.98 dBµV/m	-8.94 dB	Pass
2.117 GHz	44.5 dBµV/m	53.98 dBµV/m	-9.48 dB	Pass

### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 80

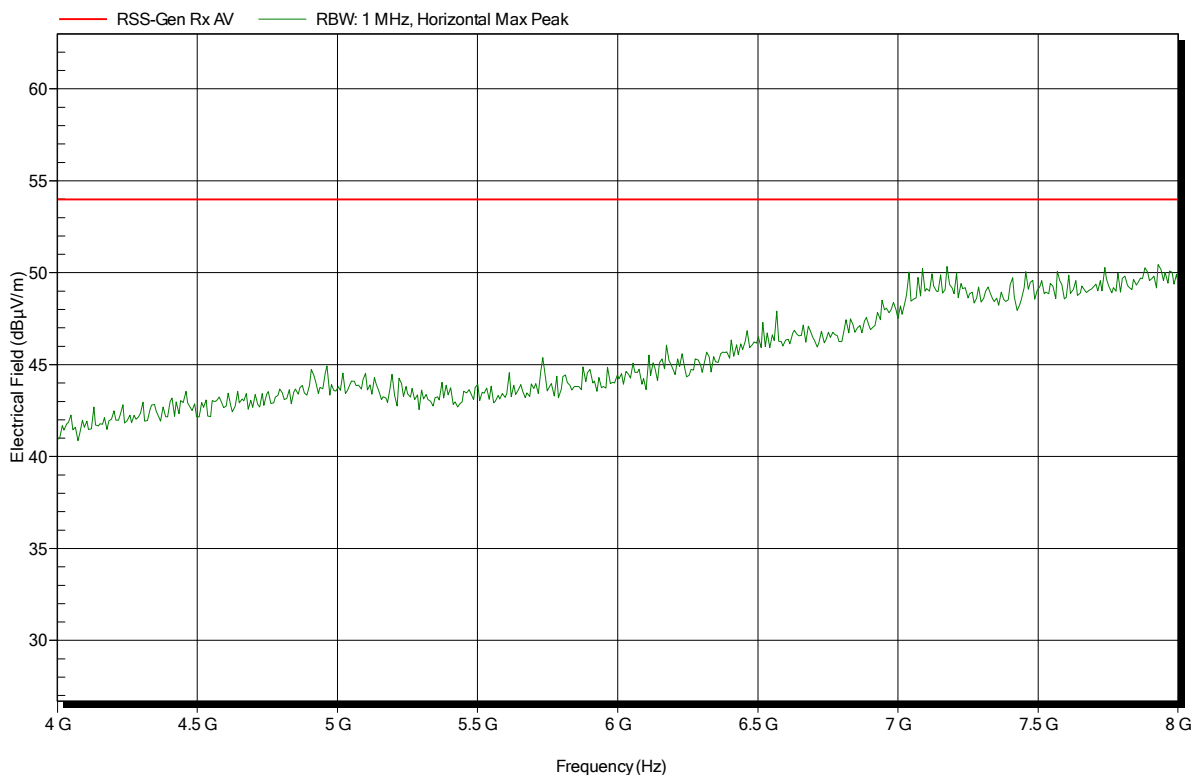


### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 83



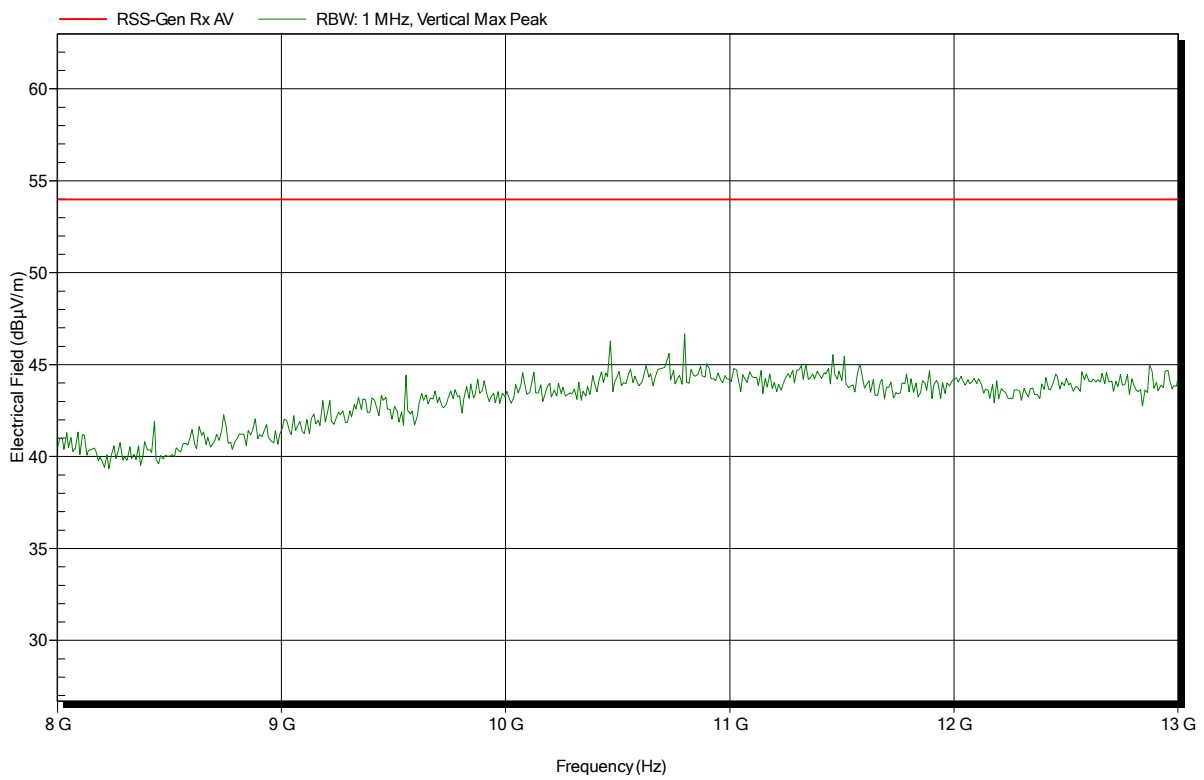


### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 81



### Spurious emissions according to RSS-Gen

Project number: G0M-1702-6295

Applicant: eResearchTechnology GmbH  
 EUT Name: Spirometer  
 Model: SpiroSphere - MainUnit  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 230 V AC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; BT-BR; CH: 2441 MHz; ANT integral  
 Test Date: 2017-05-02  
 Note: EUT horizontal

Index 82

