

SAR TEST REPORT FCC 47 CFR Part 2.1093 ISED RSS-102 RF-Exposure evaluation of portable equipment	
Report Reference No.	G0M-1702-6295-TFC093SR-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	  FCC Test Firm Designation Number: DE0008 IC Testing Laboratory site: 3470A-2
Applicant's name	eResearchTechnology GmbH
Address	Sieboldstrasse 3 97230 Estenfeld GERMANY
Test specification:	
Standard	FCC 47 CFR Part 2 §2.1093 447498 D01 General RF Exposure Guidance v06 IEEE Std. 1528 - 2013 ISED RSS-102 Issue 5
Non-standard test method	None
Test scope	complete Radio compliance test
Equipment under test (EUT):	
Product description	Spirometer
Model No.	SpiroSphere – Sensor Unit
Additional Model(s)	None
Brand Name(s)	SpiroSphere
Hardware version	06.06.00
Firmware / Software version	Firmware µC: 00.12.00 / Bootloader µC: 01.00.00 / BT-Script: 8
	FCC-ID: 2AAUFSPS002 IC: 11335A-SPS002
Test result	Passed

Possible test case verdicts:

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

Testing:

Date of receipt of test item: 2017-03-23

Date (s) of performance of tests: 2017-04-10 - 2017-04-11

Compiled by: Burkhard Pudell

Tested by (+ signature).....: Burkhard Pudell
(Responsible for Test)



Approved by (+ signature).....: Christian Weber
(Head of Lab)



Date of issue: 2017-05-15

Total number of pages: 75

General remarks:

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

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

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

Additional comments:

Version History

Version	Issue Date	Remarks	Revised by
01	2017-05-15	Initial Release	

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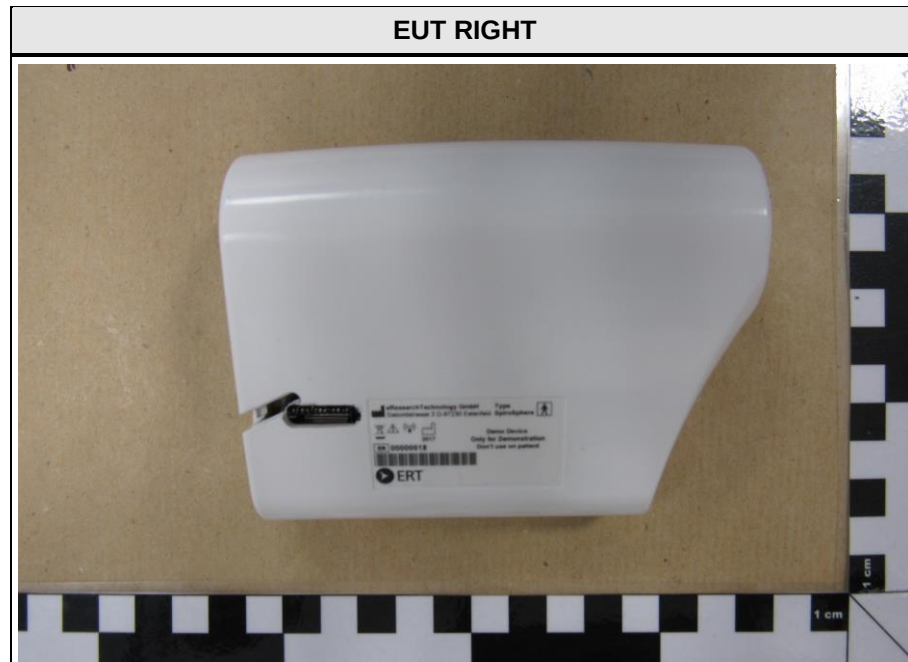
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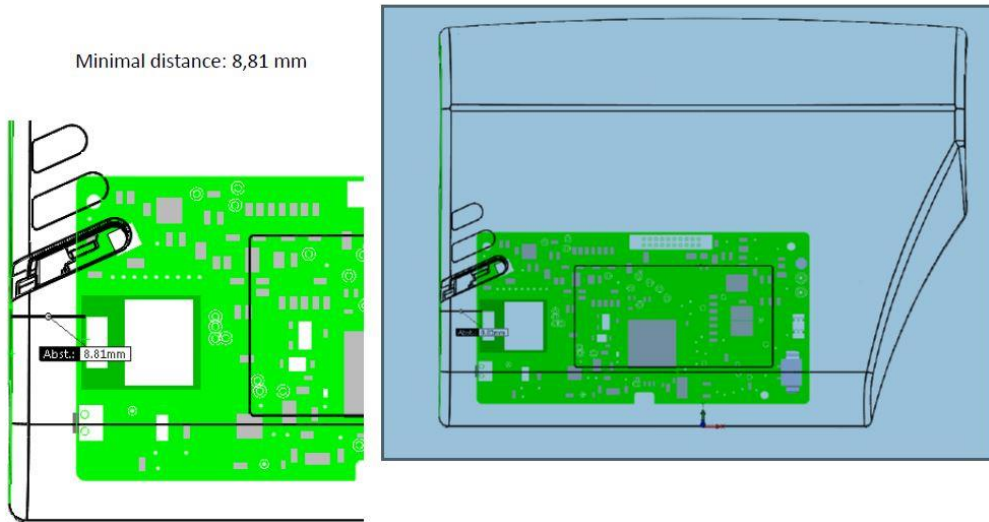
1 Equipment (Test item) Description

Description	Spirometer	
Model	SpiroSphere - Sensor Unit	
Additional Model(s)	None	
Brand Name(s)	SpiroSphere	
Serial number	None	
Hardware version	06.06.00 (SensorUnit)	
Software / Firmware version	Firmware μ C: 00.12.00 / Bootloader μ C: 01.00.00 / BT-Script: 8	
PMN	SpiroSphere	
HVIN	SpiroSphere Sensor	
FVIN	N/A	
HMN	N/A	
FCC-ID	2AAUFSPS002	
IC	11335A-SPS002	
Equipment type	End product	
Prototype or production unit	Production Unit	
Device category	Handset	
Environment	General public	
Radio technologies	Bluetooth - Classic	
Operating frequency ranges	2402 – 2480 MHz	
Modulations	GFSK	
Antenna	Type	integrated
	Model	ANT016008LCD2442MA1
	Manufacturer	TDK
	Gain	max 2 dBi (Declaration)
Power supply	V_{NOM}	3.7 VDC (Lithium Battery)
AC/DC-Adaptor	Model	N/A
	Vendor	N/A
	Input	N/A
	Output	N/A
Accessories	None	
Manufacturer	ecom instruments GmbH Industriestraße 2 97959 Assamstadt Germany	

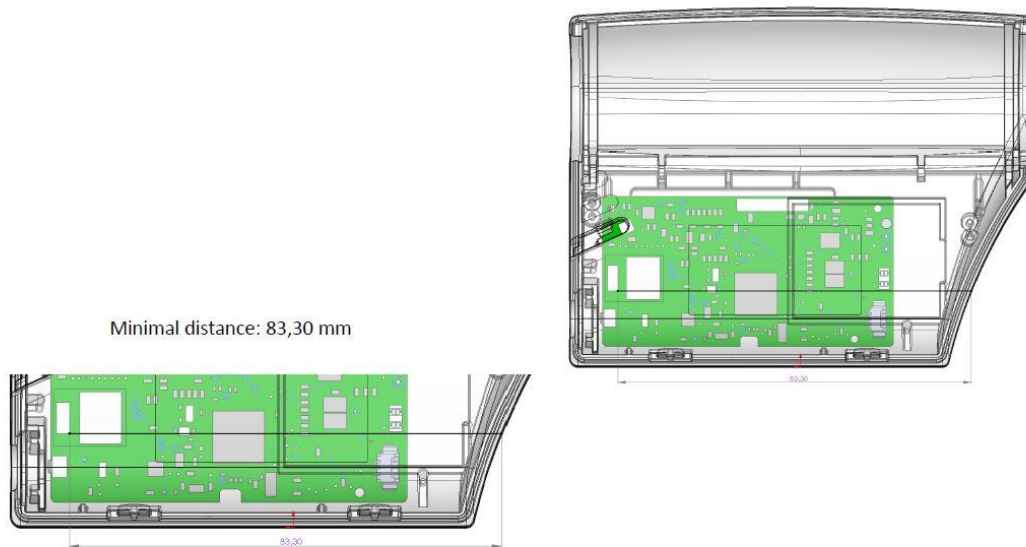
1.1 Equipment photos



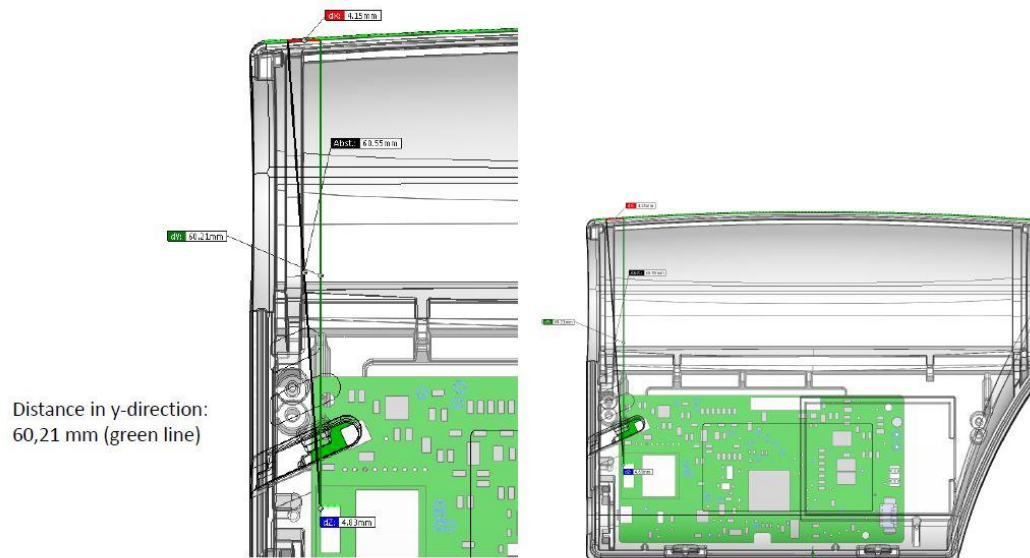
ANTENNA DISTANCE FRONT



ANTENNA DISTANCE BACK

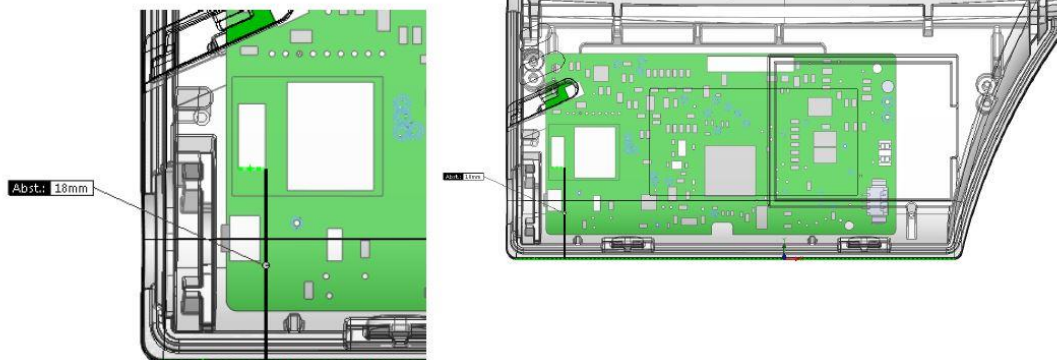


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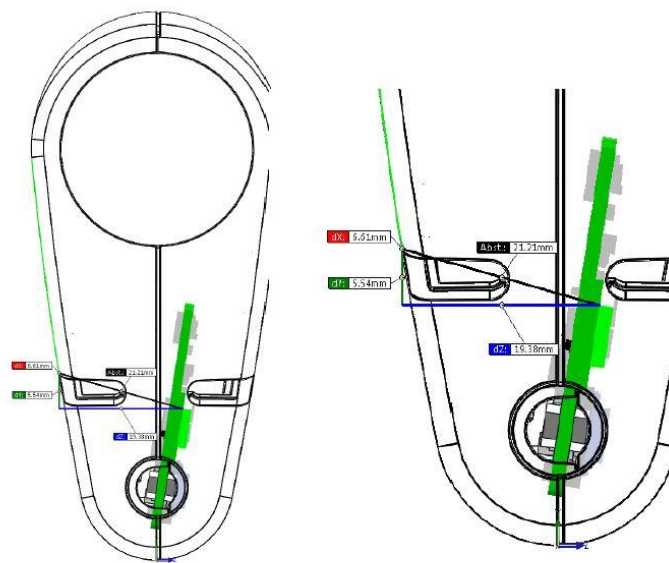


ANTENNA DISTANCE BOTTOM

Minimal distance:
18 mm

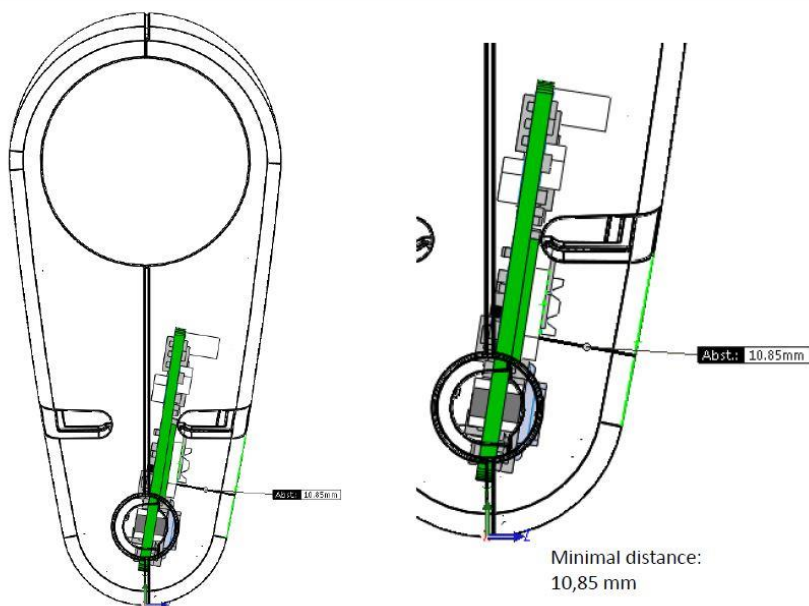


ANTENNA DISTANCE LEFT



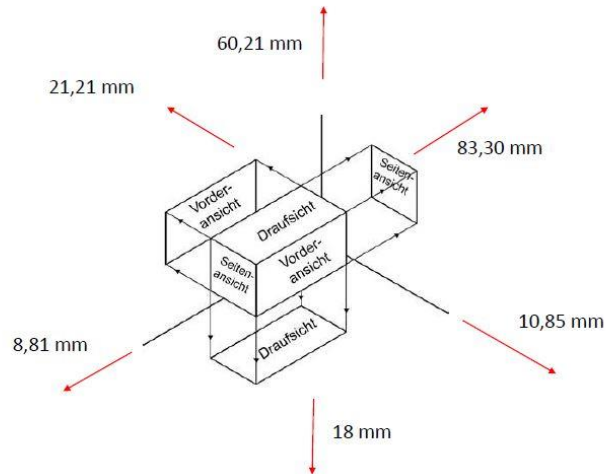
Minimal distance:
21,21 mm

ANTENNA DISTANCE RIGHT



Minimal distance:
10,85 mm

ANTENNA DISTANZ OVERVIEW



1.2 Equipment setup photos



EUT - FRONT



EUT - BOTTOM



1.3 Reference Documents

Document
KDB Publication 447498 : Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
KDB Publication 648474 : SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas
KDB Publication 648474 : Review and Approval Policies for SAR Evaluation of Handsets with Multiple Transmitters and Antennas
KDB Publication 865664 : SAR measurement procedures for devices operating between 100 MHz to 6 GHz
KDB Publication 941225: SAR Measurement Procedures for 3G Devices
KDB Publication 941225: 3GPP R6 HSPA and R7 HSPA+ SAR Guidance
KDB Publication 941225: Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE
KDB Publication 941225: SAR Test Consideration for LTE Handsets and Data Modems
KDB Publication 447498 : SAR Measurement Procedures for USB Dongle Transmitters
KDB Publication 248227 : SAR Measurement Procedures for 802.11 a/b/g Transmitters
KDB Publication 450824 : SAR Probe Calibration and System Verification considerations for measurements from 150 MHz to 3 GHz

1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
None				
*Note: Use the following abbreviations: AE : Auxiliary/Associated Equipment, or SIM : Simulator (Not Subjected to Test) CABL : Connecting cables				

1.5 Supported standalone operating modes

Mode	Modulation	Frequency range	Duty cycle
BT-BR	GFSK	2400 MHz - 2483.5 MHz	77%