

## TEST REPORT

Test report no.: 1-5178/12-01-04-B



### Testing laboratory

**CETECOM ICT Services GmbH**  
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#### Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS). The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01  
 Area of Testing: Radio/Satellite Communications

### Applicant

**Sonic Innovations Inc.**  
 2501 Cottontail Lane  
 Somerset, NJ 08873 / UNITED STATES  
 Contact: Joe Lugara  
 e-mail: [joe@sonici.com](mailto:joe@sonici.com)  
 Phone: +1 73 25 60 32 20

### Manufacturer

**Sonic Innovations Inc.**  
 2501 Cottontail Lane  
 Somerset, NJ 08873 / UNITED STATES

### Test standard/s

- |                   |  |
|-------------------|--|
| 47 CFR Part 15    | Title 47 of the Code of Federal Regulations; Chapter I<br>Part 15 - Radio frequency devices  |
| RSS - 210 Issue 8 | Spectrum Management and Telecommunications - Radio Standards Specification<br>Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands):<br>Category I Equipment |
| RSS - Gen Issue 3 | General Requirements and Information for the Certification of Radiocommunication<br>Equipment  |

For further applied test standards please refer to section 3 of this test report.

### Test Item

**Kind of test item:** Air Conduction Hearing Aid with Wireless Functionality  
**Model name:** BL100 MN, BL80 MN  
**FCC ID:** ZTOMBTE1  
**IC:** 9799A-MBTE1  
**Frequency:** 3.84 MHz  
**Technology tested:** Inductive data transmission  
**Antenna:** Integrated coil antenna  
**Power Supply:** 1.4 V DC by Zinc-Air-Battery  
**Temperature Range:** 0°C to +40 °C



This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### Test report authorised:

p.o.

Marco Bertolino  
 Testing Manager

### Test performed:

Tobias Wittenmeier

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## 2 General information

### 2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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In no case this test report can be considered as a Letter of Approval.

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### 2.2 Application details

Date of receipt of order:	2012-09-14
Date of receipt of test item:	2012-10-16
Start of test:	2012-10-17
End of test:	2012-10-17
Person(s) present during the test:	-/-

## 3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	2010-10	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	2010-12	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment
RSS - Gen Issue 3	2010-12	General Requirements and Information for the Certification of Radiocommunication Equipment

#### 4 Test environment

Temperature:	$T_{nom}$	+22 °C during room temperature tests
	$T_{max}$	+40 °C during high temperature tests
	$T_{min}$	0 °C during low temperature tests
Relative humidity content:		55 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	$V_{nom}$	1.4 V DC by Zinc-Air-Battery
	$V_{max}$	1.5 V
	$V_{min}$	1.1 V

#### 5 Test item

Kind of test item	:	<b>Air Conduction Hearing Aid with Wireless Functionality</b>
Type identification	:	<b>BL100 MN, BL80 MN</b>
S/N serial number	:	Rad. TX: 21495896; 21499803 RX: 21496650
HW hardware status	:	<b>Accord 112496, PCB Rev. 1</b>
SW software status	:	<b>Unknown</b>
Frequency band [MHz]	:	<b>3.84 MHz</b>
Type of radio transmission	:	<b>single carrier</b>
Use of frequency spectrum	:	
Type of modulation	:	<b>A1D</b>
Number of channels	:	<b>1</b>
Antenna	:	<b>Integrated coil antenna</b>
Power supply	:	<b>1.4 V DC by Zinc-Air-Battery</b>
Temperature range	:	<b>0°C to +40 °C</b>

#### 6 Test laboratories sub-contracted

None

**7 Summary of measurement results**

- No deviations from the technical specifications were ascertained**
- There were deviations from the technical specifications ascertained

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15 RSS 210, Issue 8	Passed	2012-12-19	-/-

Test Specification Clause	Test Case	Temperature Conditions	Power Source Voltages	Pass	Fail	NA	NP	Results
§ 15.35 (c) / RSS-GEN Issue 3 Section 4.5	Timing of the transmitter (Duty cycle correction factor )	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.223 / RSS-210 Issue 8	Bandwidth of the modulated carrier	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.223 / RSS-210 Issue 8	Fieldstrength of fundamental	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.209 (a) / RSS-210 Issue 8	Fieldstrength of harmonics and spurious	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.109 / RSS-210 Issue 8	Receiver spurious emissions	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.107 / § 15.207	Conducted limits	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-

**Note:** NA = Not Applicable; NP = Not Performed

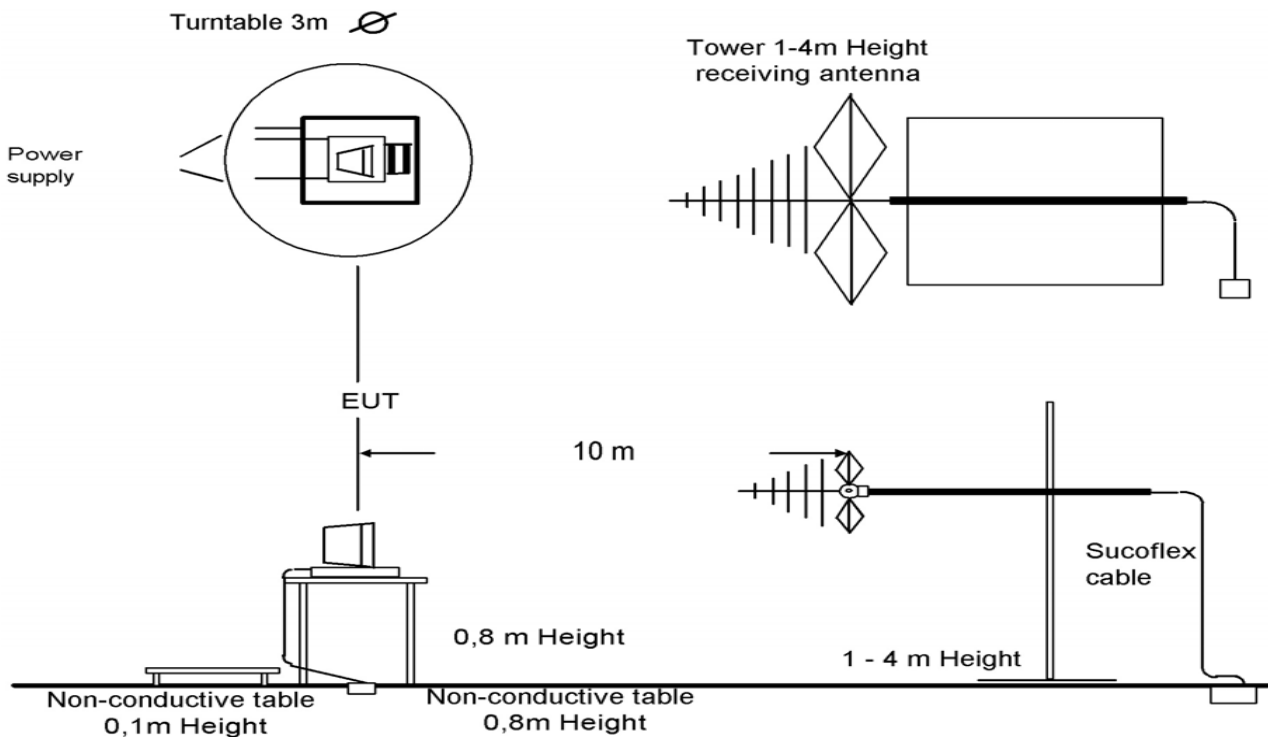
## 8 RF measurement testing

### 8.1 Description of test setup

#### 8.1.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 and ANSI C63.4-2009. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-2003. Antennas are confirmed with ANSI C63.2-1996 item 15.

Semi anechoic chamber



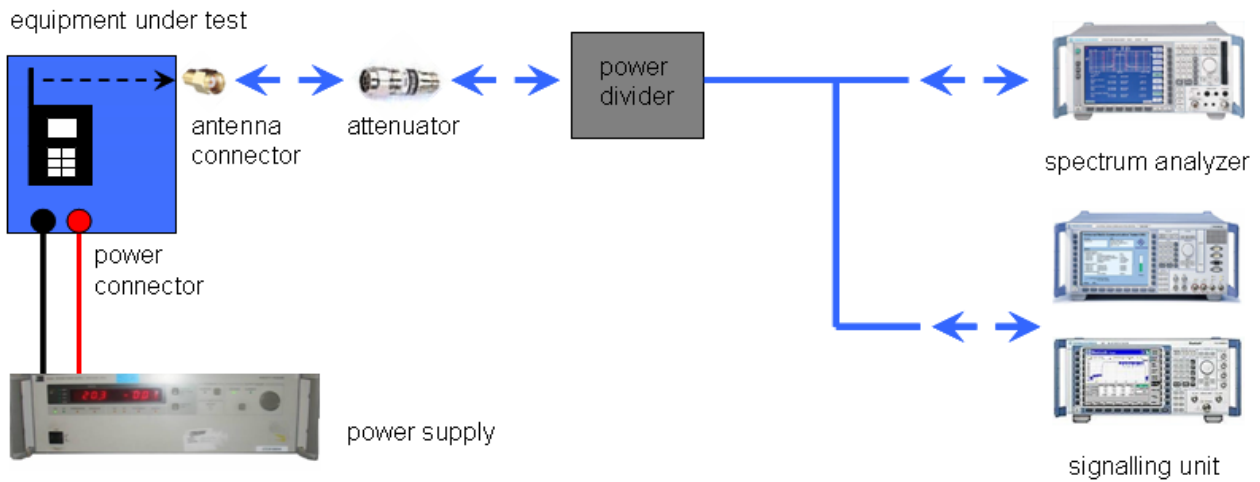
Picture 1: Diagram radiated measurements

9 kHz - 30 MHz:	active loop antenna
30 MHz – 1 GHz:	tri-log antenna
> 1 GHz:	horn antenna

The EUT is powered by an external power supply with nominal voltage. The signalling (if needed) is performed from outside the chamber with a signalling unit by air link using signalling antenna.

### 8.1.2 Conducted measurements

The EUT's RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, and the spectrum analyzer are impedance matched on 50 Ohm.



Picture 2: Diagram conducted measurements

### 8.2 Additional comments

Reference documents: None

Special test descriptions: None

Configuration descriptions: None

### 8.3 RSP100 test report cover sheet / performance test data

Test Report Number	:	1-5178/12-01-04-B
Equipment Model Number	:	BL100 MN, BL80 MN
Certification Number	:	9799A-MBTE1
Manufacturer (complete Address)	:	Sonic Innovations Inc. 2501 Cottontail Lane Somerset, NJ 08873 / UNITED STATES
Tested to radio standards specification no.	:	RSS 210, Issue 8, Annex 2
Open Area Test Site IC No.	:	IC 3462C-1
Frequency Range or fixed frequency	:	3.84 MHz
Field Strength [dB $\mu$ V/m]	:	58.5 @1m
Occupied bandwidth (99%-BW) [kHz]	:	190.8 kHz
Type of modulation	:	A1D
Emission Designator (TRC-43)	:	191KA1D
Antenna Information	:	Integrated coil antenna
Transmitter Spurious (worst case) [dB $\mu$ V/m @ 10m]:		22.5 @ 917 MHz (noise floor)

#### ATTESTATION:

#### DECLARATION OF COMPLIANCE:

I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned Industry Canada standard(s); and that the equipment identified in this application has been subjected to all the applicable test conditions specified in the Industry Canada standards and all of the requirements of the standard have been met.

#### Laboratory Manager:

2012-12-14

Date

Tobias Wittenmeier

Name



Signature



## 9 Measurement results

### 9.1 Timing of the transmitter

#### Measurement:

Measurement parameter	
Detector:	-/-
Sweep time:	-/-
Resolution bandwidth:	-/-
Video bandwidth:	-/-
Span:	-/-
Trace-Mode:	-/-

#### Limits:

FCC	IC
Timing of the transmitter	
<p>(c) Unless otherwise specified, e.g. Section 15.255(b), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.</p>	

**Duty cycle of the sample with test mode: 50%**

**Result: [The result of the measurement is passed.](#)**

## 9.2 Bandwidth of the modulated carrier

**Limits:**

FCC	IC
Bandwidth of the modulated carrier	

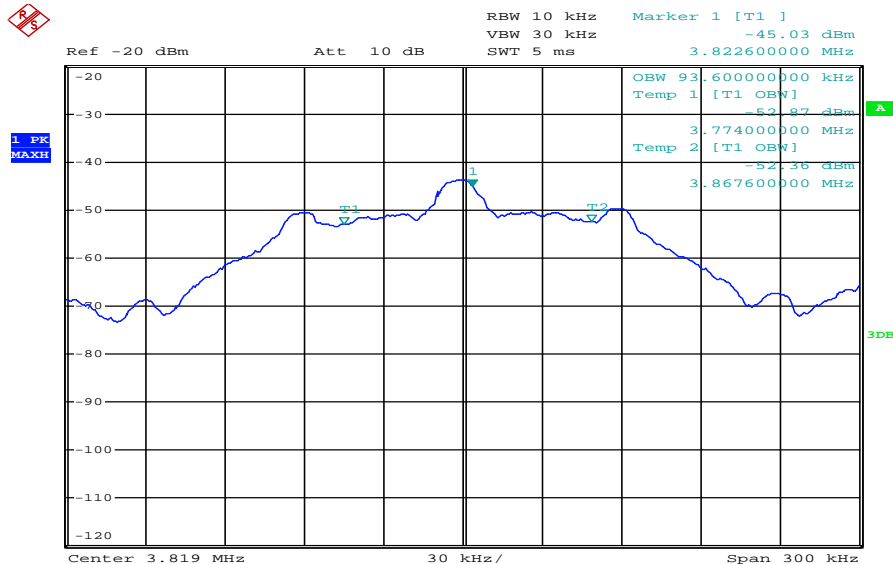
Measured with the integrated OBW-function of the spectrum analyser Rohde&Schwarz ESPI (measurement criteria is the integrated power in %)

**Result:**

	Occupied Bandwidth (kHz)
6 dB (75%)	93.6
20 dB (99%)	190.8

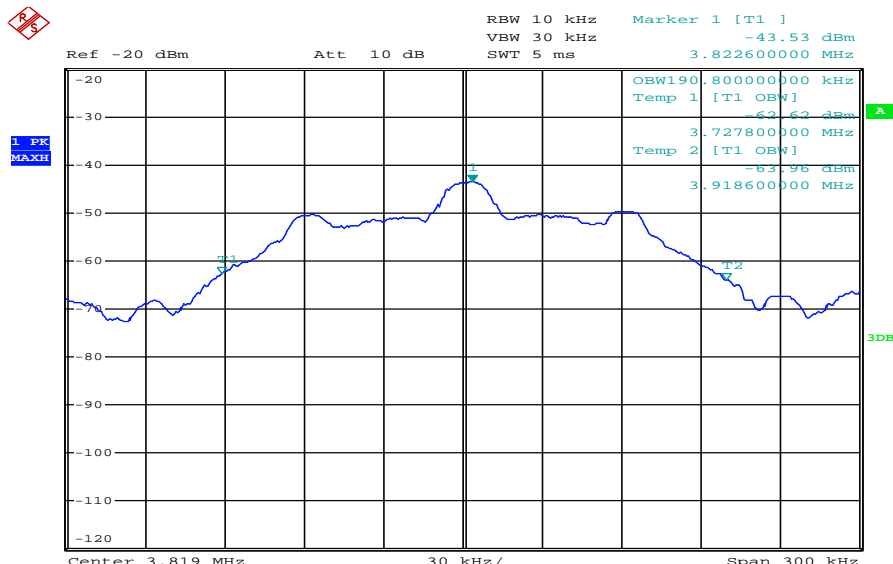
Plots of the measurement

Plot 1: 6dB (75%) – bandwidth



Date: 17.OCT.2012 13:22:47

Plot 2: 20dB (99%) - bandwidth



Date: 17.OCT.2012 13:21:47

### 9.3 Field strength of the fundamental

#### Measurement:

Measurement parameter	
Detector:	Quasi Peak (CISPR)
Resolution bandwidth:	10kHz
Trace-Mode:	Max Hold

#### Limits:

FCC		IC
Fundamental Frequency (MHz)	Field strength of Fundamental ( $\mu\text{V}/\text{m}$ )	Measurement distance (m)
1.705 – 10.0	[15] or [6dB-BW(kHz) / F(MHz)] Whichever is higher	30

#### Result:

1. EUT SN 21495896

TEST CONDITIONS		MAXIMUM POWER (dB $\mu\text{V}/\text{m}$ )	
Frequency		3.84 MHz	3.84 MHz
Mode		at 1 m distance	at 30 m distance
$T_{\text{nom}}$	$V_{\text{nom}}$	57.0	-3.0
Measurement uncertainty		±3dB	

2. EUT SN 21499803

TEST CONDITIONS		MAXIMUM POWER (dB $\mu\text{V}/\text{m}$ )	
Frequency		3.84 MHz	3.84 MHz
Mode		at 1 m distance	at 30 m distance
$T_{\text{nom}}$	$V_{\text{nom}}$	58.5	-1.5
Measurement uncertainty		±3dB	

Recalculation to a measurement distance of 30m with a correction of 40 dB/decade.

The EUT with the highest field strength was selected for the further measurements.

**Result:** The result of the measurement is passed.

## 9.4 Fieldstrength of the harmonics and spurious

**Measurement:**

Measurement parameter	
Detector:	Average / Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	3 kHz – 120 kHz
Video bandwidth:	Comparable to RBW
Span:	See plots
Trace-Mode:	Max Hold

**Limits:**

FCC		IC
Field strength of the harmonics and spurious.		
Frequency (MHz)	Field strength ( $\mu\text{V}/\text{m}$ )	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30 (29.5 dB $\mu\text{V}/\text{m}$ )	30
30 – 88	100 (40 dB $\mu\text{V}/\text{m}$ )	3
88 – 216	150 (43.5 dB $\mu\text{V}/\text{m}$ )	3
216 – 960	200 (46 dB $\mu\text{V}/\text{m}$ )	3

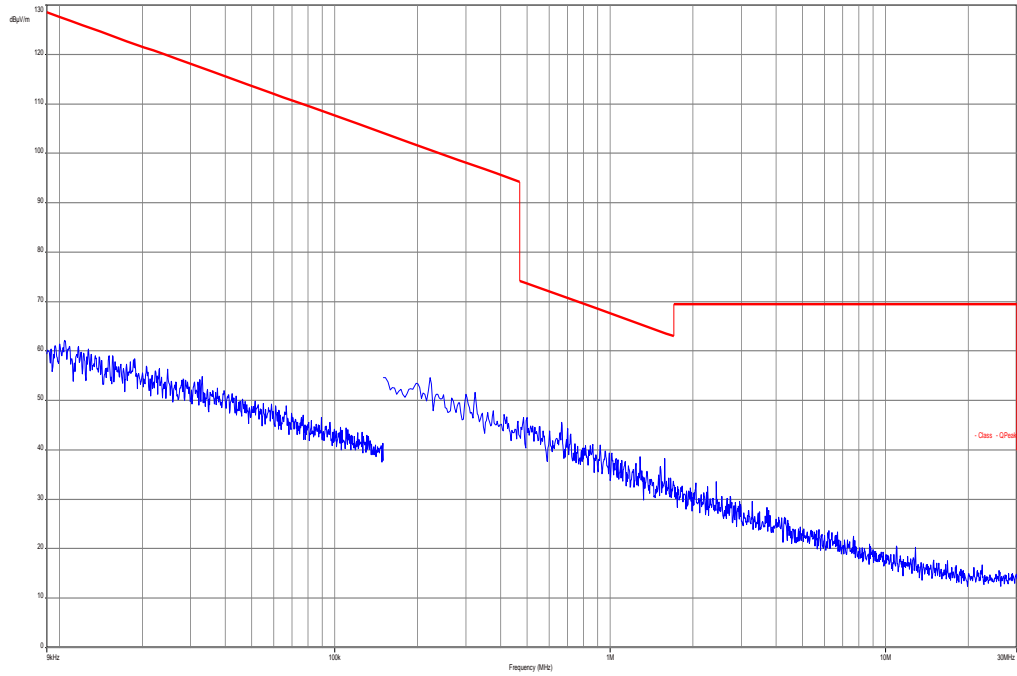
**Result:**

EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dB $\mu\text{V}/\text{m}$ ]	Amplitude of emission [dB $\mu\text{V}/\text{m}$ ]	Results
No critical peaks detected!				

**Result:** The result of the measurement is passed.

**Plots of the measurements**

Plot 1: 9 kHz – 30 MHz (magnetic)



Plot 2: 30 MHz – 1000 MHz

**CETECOM ICT Services GmbH**

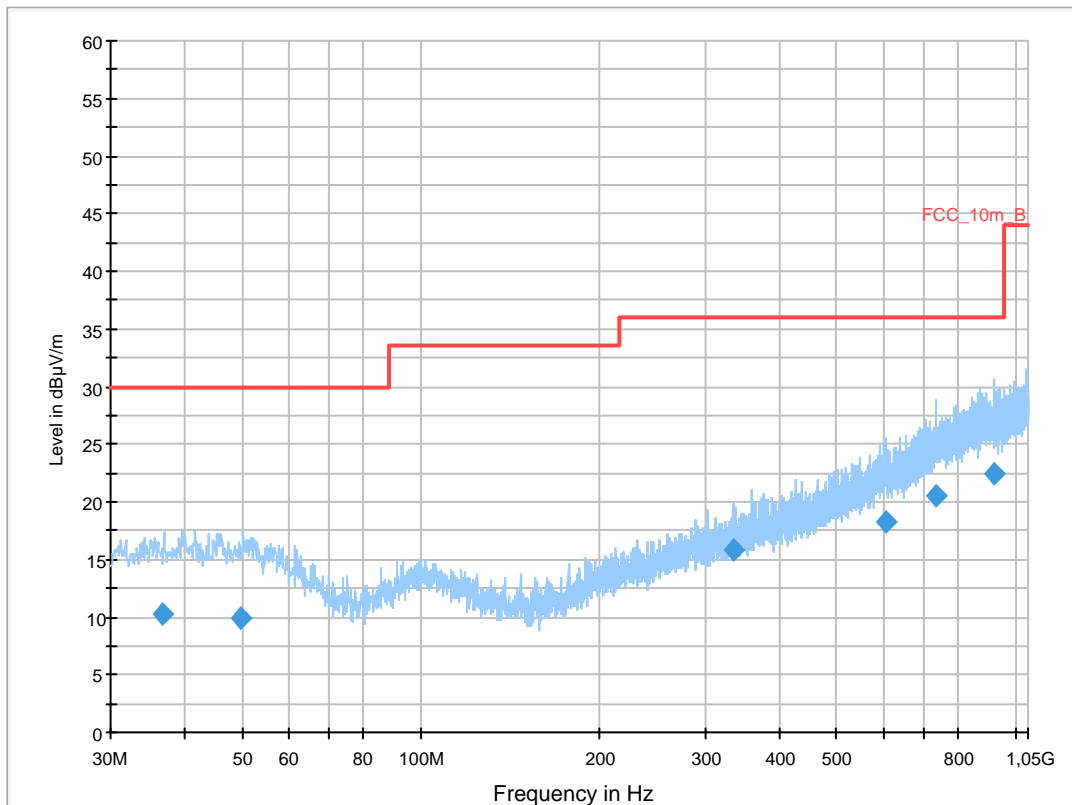
**Common Information**

EUT: Pepper Mini BTE  
 Serial Number: 21499803  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: tx  
 Operator Name: Wolsdorfer  
 Comment: battery powered 1,4V

**Scan Setup: STAN\_Fin [EMI radiated]**

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESCI 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.634950	10.2	1000.0	120.000	170.0	H	80.0	13.2	19.8	30.0	
49.618200	9.9	1000.0	120.000	98.0	V	88.0	13.4	20.1	30.0	
335.002650	15.9	1000.0	120.000	170.0	V	175.0	15.6	20.1	36.0	
604.287750	18.3	1000.0	120.000	170.0	V	15.0	20.8	17.7	36.0	
734.915550	20.6	1000.0	120.000	170.0	V	280.0	23.3	15.4	36.0	
917.349300	22.5	1000.0	120.000	170.0	H	88.0	25.3	13.5	36.0	

## Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]  
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch  
FW 1.0

Antenna: VULB 9163  
SN 9163-295, FW ---  
Correction Table (vertical): VULP6113  
Correction Table (horizontal): VULP6113  
Correction Table (vertical): Cable\_EN\_1GHz (1005)  
Correction Table (horizontal): Cable\_EN\_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]  
@ GPIB0 (ADR 8), FW REV 3.12

Turntable: Turntable [EMCO Turntable]  
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52



## 9.5 Receiver spurious emissions

### Measurement:

Measurement parameter	
Detector:	Average / Quasi peak
Sweep time:	Auto
Resolution bandwidth:	3 kHz – 120 kHz
Video bandwidth:	Comparable to RBW
Trace-Mode:	Max hold

### Limits:

FCC		IC	
Field strength of the harmonics and spurious.			
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)	
0.009 – 0.490	2400/F(kHz)	300	
0.490 – 1.705	24000/F(kHz)	30	
1.705 – 30	30 (29.5 dBµV/m)	30	
30 – 88	100 (40 dBµV/m)	3	
88 – 216	150 (43.5 dBµV/m)	3	
216 – 960	200 (46 dBµV/m)	3	

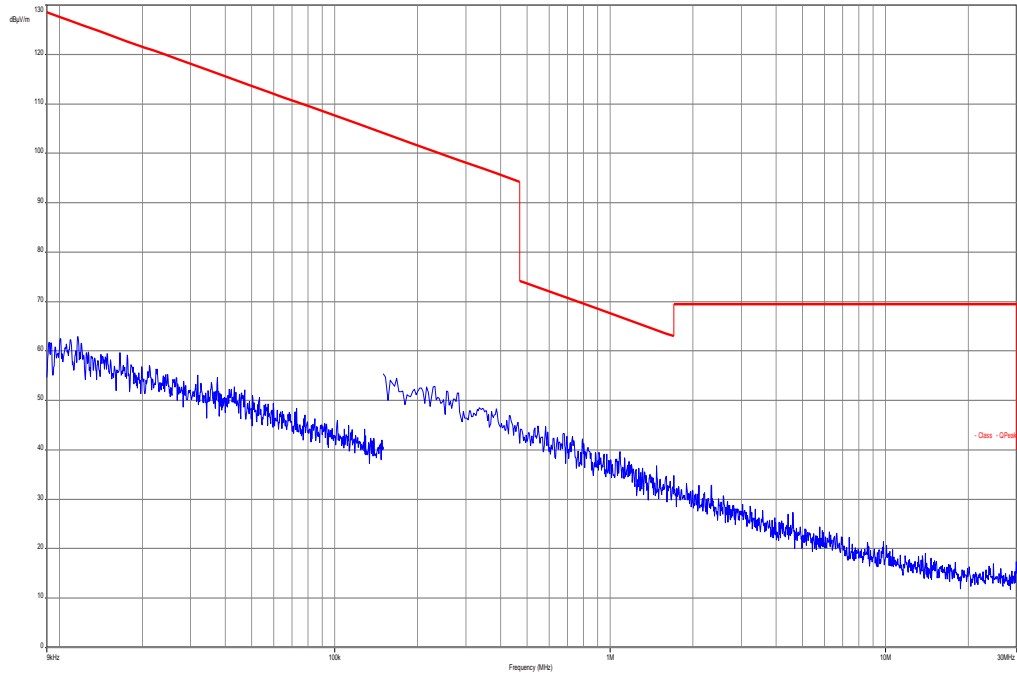
### Result:

EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dBµV/m]	Amplitude of emission [dBµV/m]	Results
No critical peaks detected!				

**Result:** The result of the measurement is passed.

**Plots of the measurements**

Plot 1: 9 kHz – 30 MHz



Plot 2: 30 MHz – 1000 MHz

**CETECOM ICT Services GmbH**

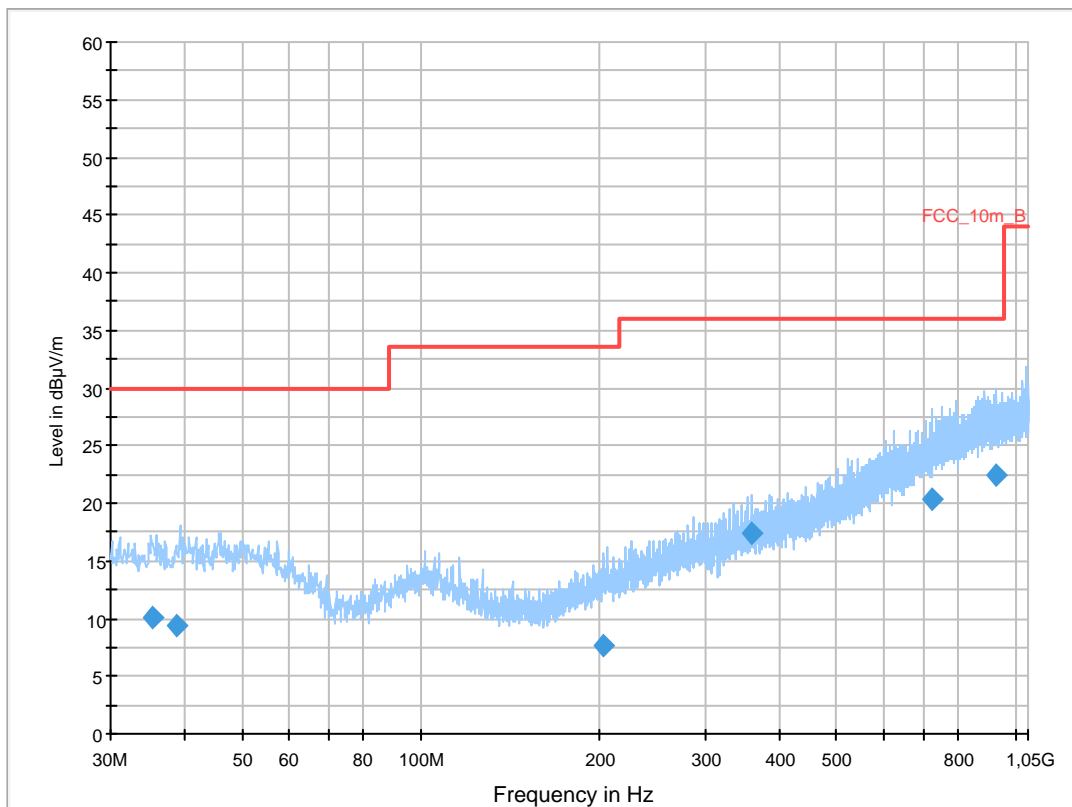
**Common Information**

EUT: Pepper Mini BTE  
 Serial Number: 521496650  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: rx  
 Operator Name: Wolsdorfer  
 Comment: battery powered 1,4V

**Scan Setup: STAN\_Fin [EMI radiated]**

Hardware Setup: Electric Field (NOS)  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.302050	10.1	1000.0	120.000	123.0	V	88.0	13.0	19.9	30.0	
38.726400	9.4	1000.0	120.000	98.0	H	2.0	13.3	20.6	30.0	
202.153500	7.7	1000.0	120.000	170.0	H	90.0	11.8	25.8	33.5	
360.001350	17.5	1000.0	120.000	170.0	V	178.0	16.2	18.5	36.0	
722.273550	20.3	1000.0	120.000	170.0	V	280.0	23.0	15.7	36.0	
927.535050	22.5	1000.0	120.000	121.0	V	10.0	25.3	13.5	36.0	

## Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]  
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch  
FW 1.0

Antenna: VULB 9163  
SN 9163-295, FW ---  
Correction Table (vertical): VULP6113  
Correction Table (horizontal): VULP6113  
Correction Table (vertical): Cable\_EN\_1GHz (1005)  
Correction Table (horizontal): Cable\_EN\_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]  
@ GPIB0 (ADR 8), FW REV 3.12

Turntable: Turntable [EMCO Turntable]  
@ GPIB0 (ADR 9), FW REV 3.12

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## 9.6 Conducted limits

Not applicable

## 10 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Labor/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	n. a.	Active Loop Antenna	6502	EMCO	2210	300001015	ne		
2	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
3	Spec.A. 2_2e	System rack for EMI measurement solution	85900	HP I.V.	*	300000222	ne		
4	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2012	06.01.2014
5	n. a.	Relais Matrix	3488A	HP Meßtechnik	2719A15013	300001156	ne		
6	n. a.	Relais Matrix	PSU	R&S	890167/024	300001168	ne		
7	n. a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
8	n. a.	Switch / Control Unit	3488A	HP	2605e08770	300001443	ne		
9	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
10	n. a.	Band Reject filter	WRCG185 5/1910-1835/1925-40/8SS	Wainwright	7	300003350	ev		
11	n. a.	Band Reject filter	WRCG240 0/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
12	n. a.	Highpass Filter	WHKX2.9/1 8G-12SS	Wainwright	1	300003492	ev		
13	n. a.	Highpass Filter	WHK1.1/15 G-10SS	Wainwright	3	300003255	ev		
14	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	ne		
15	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vkI!	14.10.2011	14.10.2014
16	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	19.12.2011	19.12.2012
17	n. a.	EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059	k	22.08.2012	22.08.2013

### Agenda: Kind of Calibration

k calibration / calibrated  
 ne not required (k, ev, izw, zw not required)  
 ev periodic self verification  
 Ve long-term stability recognized  
 vkI! Attention: extended calibration interval  
 NK! Attention: not calibrated

EK limited calibration  
 zw cyclical maintenance (external cyclical maintenance)  
 izw internal cyclical maintenance  
 g blocked for accredited testing

\*) next calibration ordered / currently in progress

## 11 Observations

No observations exceeding those reported with the single test cases have been made.

**Annex A Photographs of the test setup**

Photo documentation:

Photo 1:

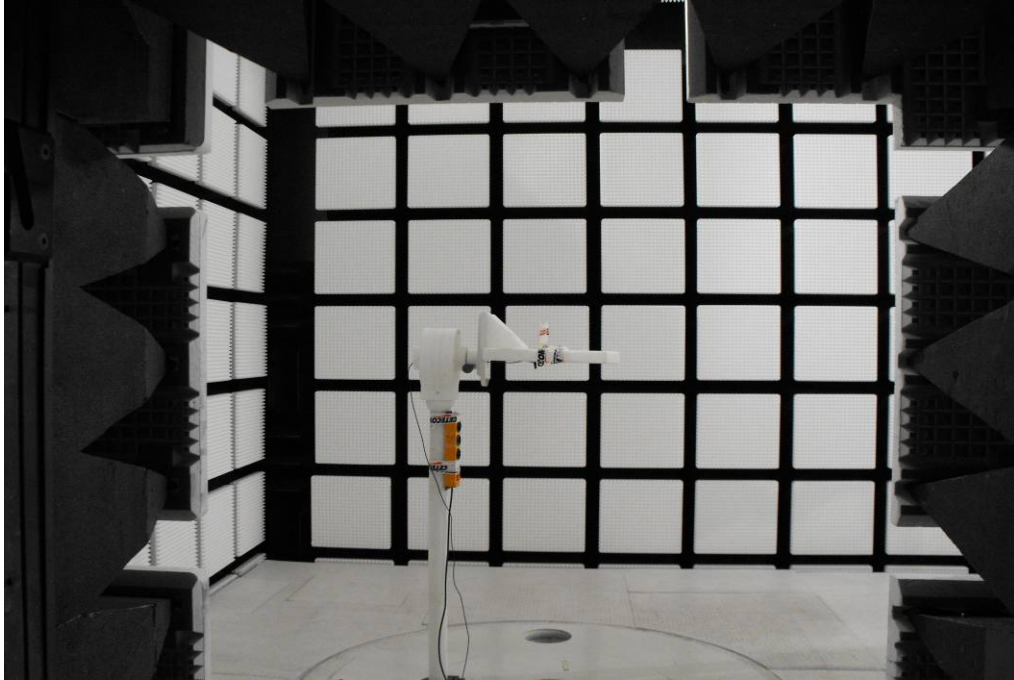


Photo 2:

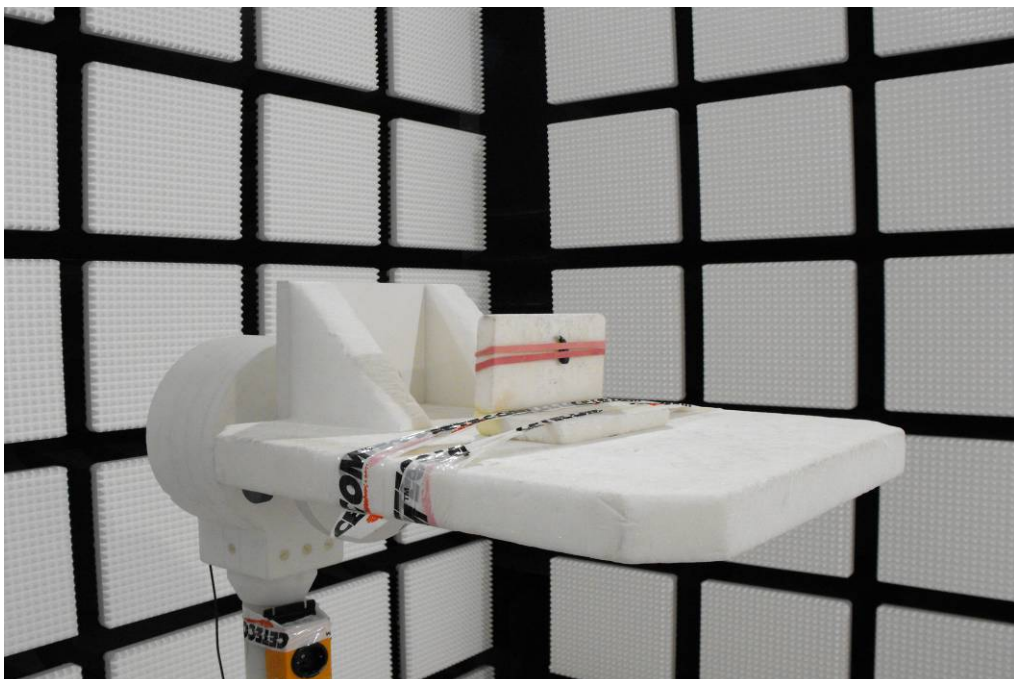




Photo 3:

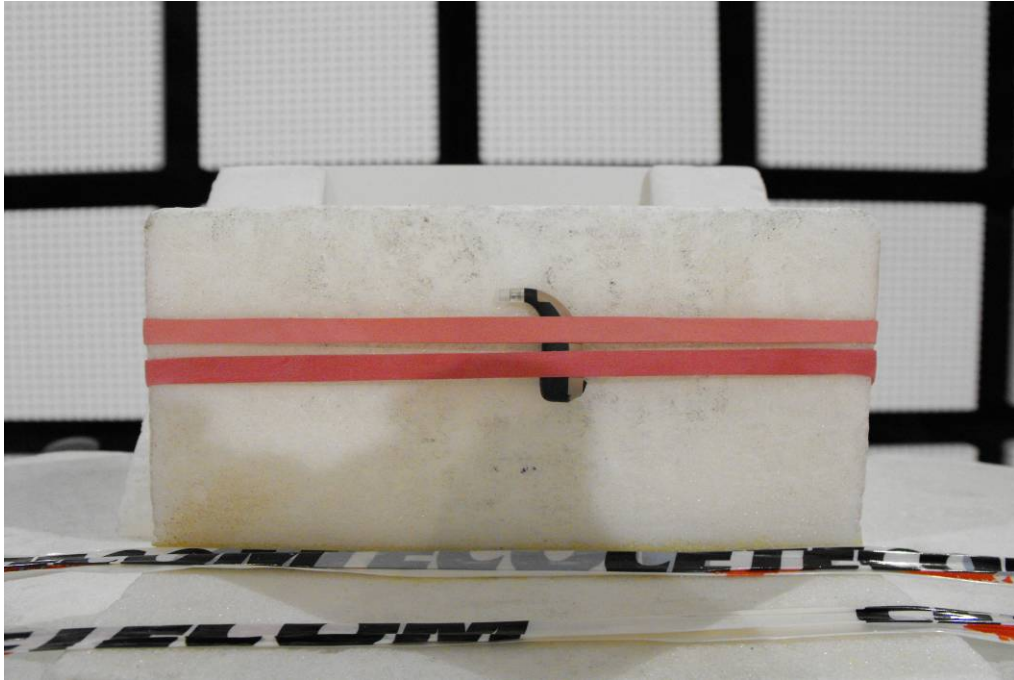


Photo 4:



Photo 5:



Photo 6:



Photo 7:



Photo 8:





Photo 9:



Photo 10:

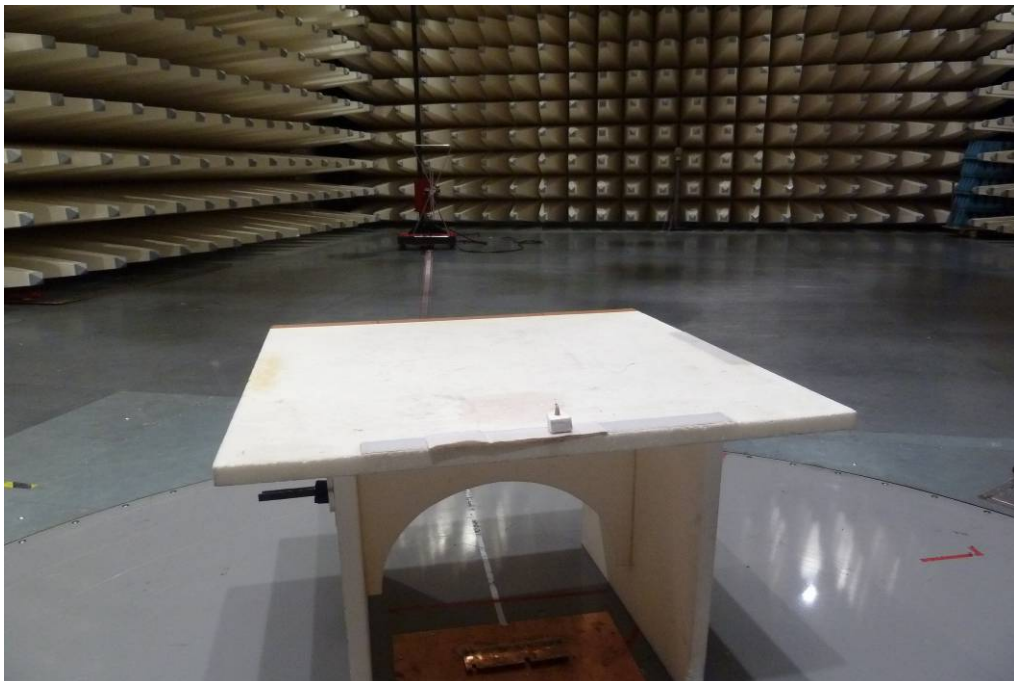


Photo 11:



Photo 12:



**Annex B External photographs of the EUT**

Photo documentation:

Photo 1:



Photo 2:





Photo 3:



Photo 4:

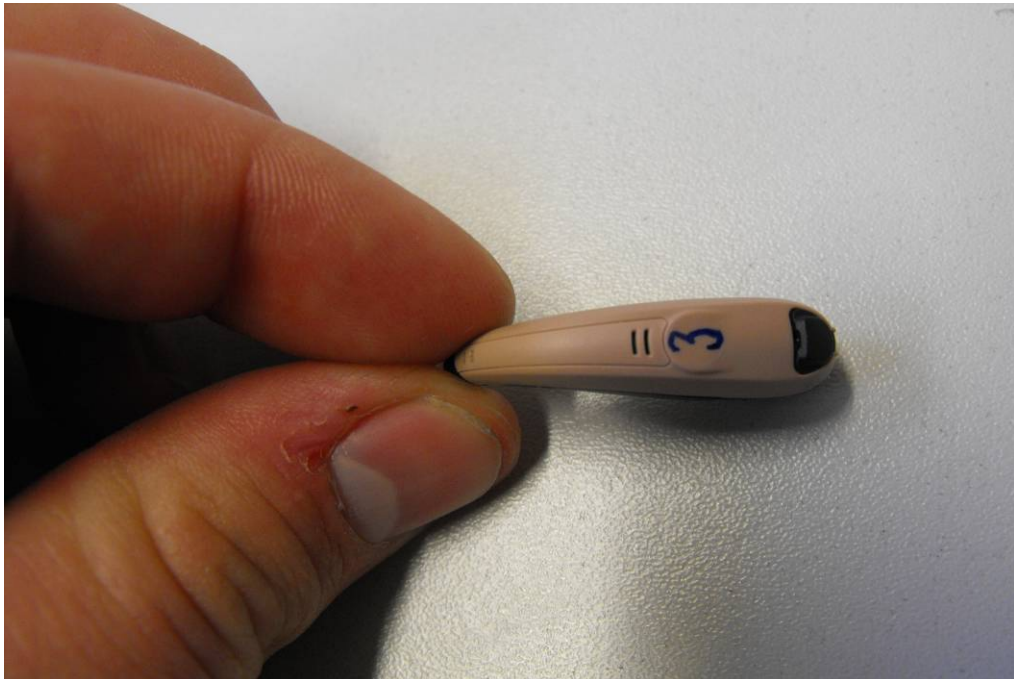


Photo 5:



Photo 6:

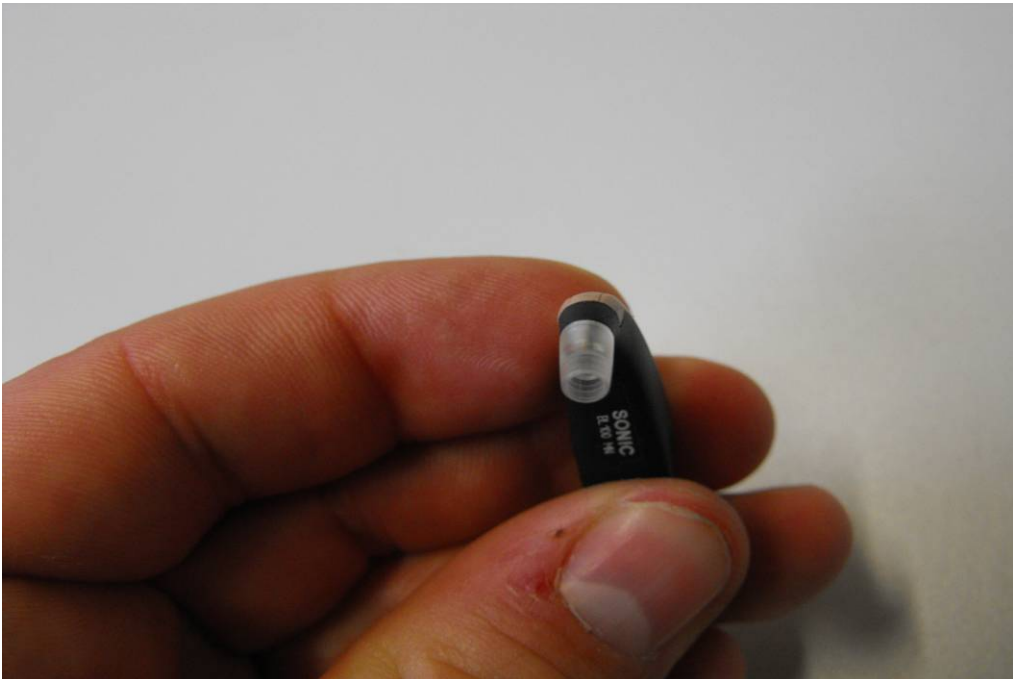




Photo 7:



Photo 8:

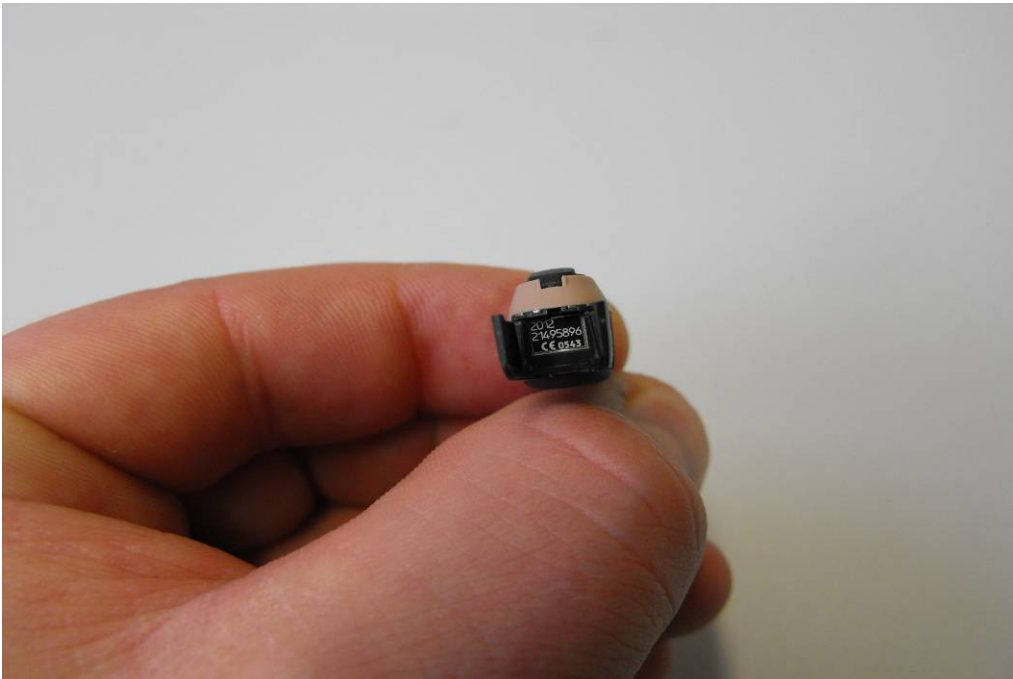


Photo 9:



**Annex C Internal photographs of the EUT**

Photo documentation:

Photo 1:



Photo 2:

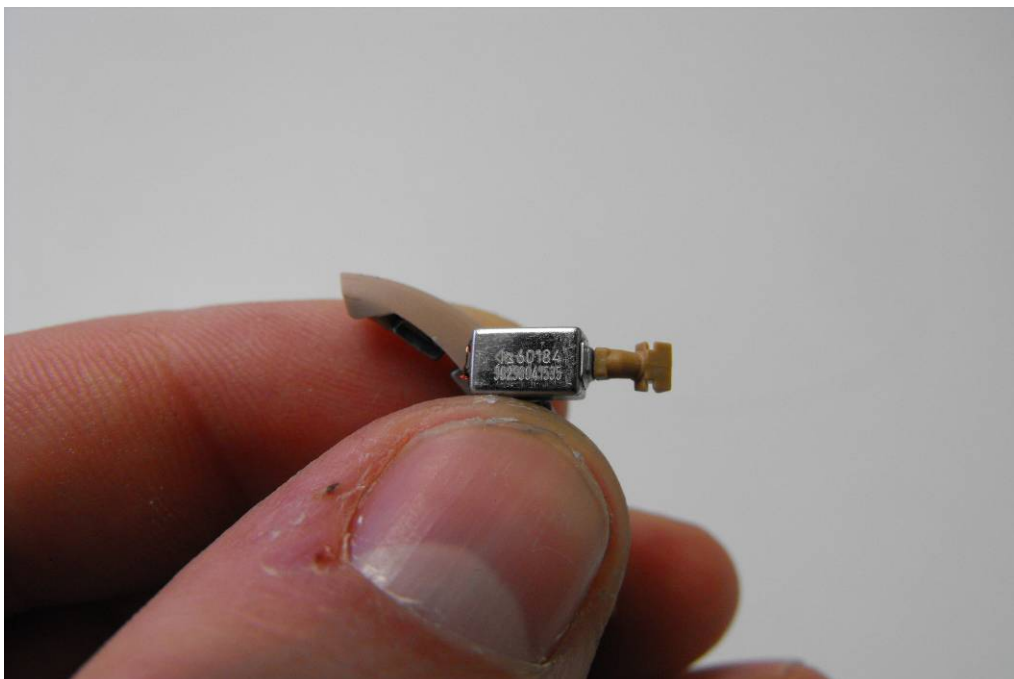


Photo 3:

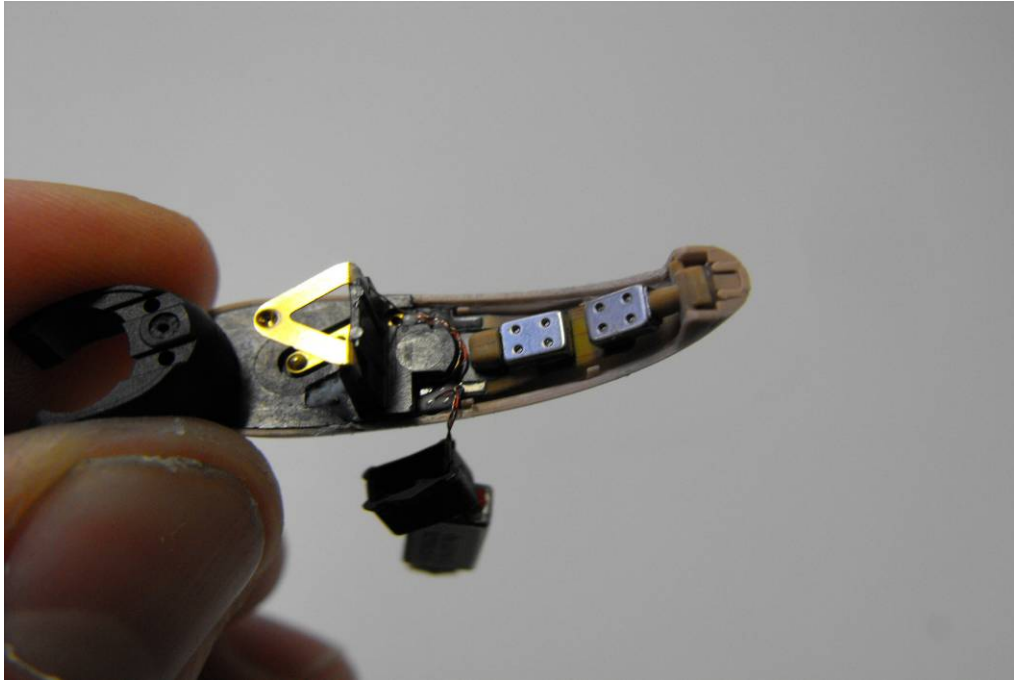


Photo 4:



Photo 5:

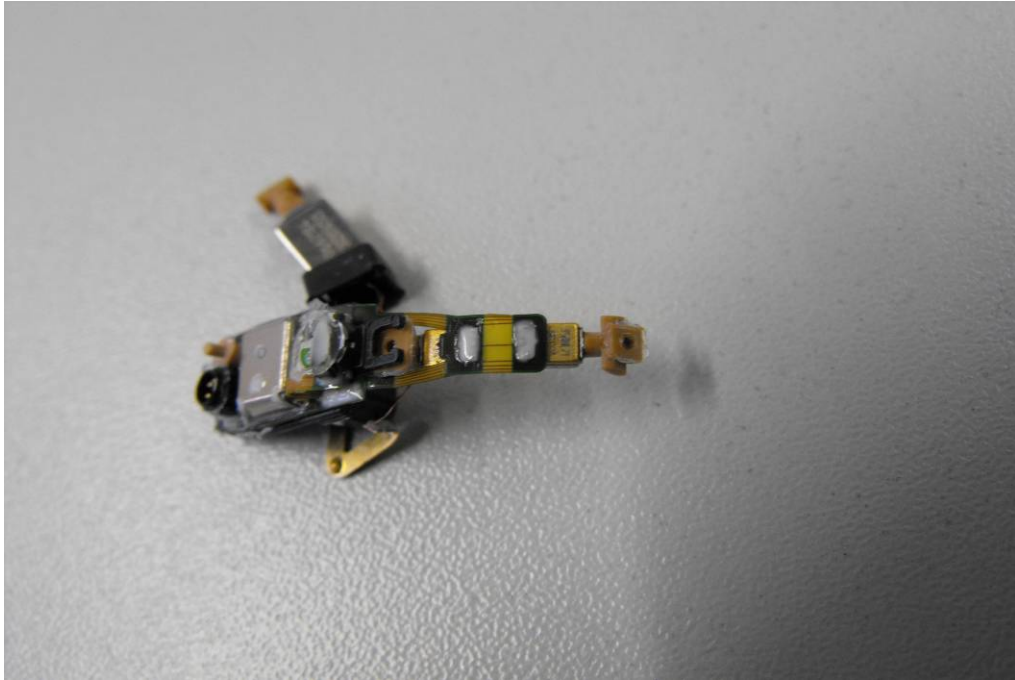


Photo 6:





**Annex D Document history**

Version	Applied changes	Date of release
1.0	Initial release	2012-10-19
-A	changed model name	2012-12-14
-B	Correction on cover sheet	2012-12-19

**Annex E Further information****Glossary**

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software

**Annex F Accreditation Certificate**



Deutsche Akkreditierungsstelle GmbH  
German Accreditation Body

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV  
Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

**Accreditation**



The Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) attests that the testing laboratory

**CETECOM ICT Services GmbH**  
Untertürkheimer Straße 6-10  
66117 Saarbrücken

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

- Wired communications and DECT
- Acoustic
- Radio
- Shirt Range Devices (SRD)
- RFID
- WiMax and Richtfunk
- Mobile radio (GSM / DCS), Over the Air (OTA) Performance
- Electromagnetic Compatibility (EMC) incl. Automotive
- Product safety
- SAR and Hearing Aid Compatibility (HAC)
- Environmental simulation
- Smart Card Terminals
- Bluetooth
- Wi-Fi-Services

The accreditation certificate shall only apply in connection with the notice of accreditation of 13.04.2011 with the accreditation number D-PL-12076-01 and is valid until 03.09.2014. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 82 pages.

Registration number of the certificate: **D-PL-12076-01-01**

Frankfurt am Main, 13.04.2011

Dipl.-Ing. (FH) Dr. Egner  
Head of Division 2

This document is a translation. The definitive version is the original German accreditation certificate.  
[www.dakks.de](http://www.dakks.de)

Deutsche Akkreditierungsstelle GmbH

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Spittelmarkt 10  
10117 Berlin

Office Frankfurt am Main  
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60594 Frankfurt am Main

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Bundesallee 100  
38116 Braunschweig

The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkkS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkkS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008; p. 30). DAkkS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:  
EA: [www.european-accreditation.org](http://www.european-accreditation.org)  
ILAC: [www.ilac.org](http://www.ilac.org)  
IAF: [www.iaf.eu](http://www.iaf.eu)

Front side of certificate

Back side of certificate

**Note:**

The current certificate including annex is published on our website (see link below) or may be received from CETECOM ICT Services on request.

[http://www.cetecom.com/fileadmin/de/CETECOM\\_D\\_Saarbruecken/accreditations\\_Jan\\_2010/DAKKS\\_Akkredi\\_Urk\\_EN17025-En\\_incl\\_Annex.pdf](http://www.cetecom.com/fileadmin/de/CETECOM_D_Saarbruecken/accreditations_Jan_2010/DAKKS_Akkredi_Urk_EN17025-En_incl_Annex.pdf)