

TEST REPORT

Test report no.: 1-7780/14-01-02-B



Deutsche
Akkreditierungsstelle
D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH

Untertuerkheimer Strasse 6 – 10

66117 Saarbruecken / Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

Internet: <http://www.cetecom.com>

e-mail: ict@cetecom.com

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 Communications & EMC (RCE)

Applicant

SBO Hearing A/S

Kongebakken 9

2765 Smørum / DENMARK

Phone: +45 39 17 71 00

Fax: -/-

Contact: Ole Myrtue

e-mail: olmy@oticon.dk

Phone: +45 39 13 77 44

Manufacturer

SBO Hearing A/S

Kongebakken 9

2765 Smørum / DENMARK

Test standard/s

47 CFR Part 15

Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

RSS - 210 Issue 8

Spectrum Management and Telecommunications Radio Standards Specification - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

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

Test Item

Kind of test item: Hearing device accessory

Model name: RCRM

FCC ID: 2ACAHREMCTR01

IC: 11936A-REMCTR01

Frequency: 3.48 MHz

Technology tested: proprietary

Antenna: Integrated PCB loop antenna

Power supply: 3.0 V DC by Zink-Air battery

Temperature range: +5°C to +35°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:

Marco Bertolino
Testing Manager

Test performed:

Christoph Schneider
Expert

1 Table of contents

1	Table of contents	2
2	General information	3
2.1	Notes and disclaimer	3
2.2	Application details	3
3	Test standard/s	3
4	Test environment	4
5	Test item	4
5.1	Additional information	4
6	Test laboratories sub-contracted	4
7	Description of the test setup	5
7.1	Radiated measurements	5
7.2	Open area site	6
7.3	Conducted measurements	7
8	Summary of measurement results	8
9	Additional comments	9
10	Measurement results	11
10.1	Field strength of the fundamental	11
10.2	Emission bandwidth (6 dB bandwidth)	12
10.3	Occupied bandwidth (99% bandwidth)	13
10.4	Field strength of the harmonics and spurious	15
11	Test equipment and ancillaries used for tests	20
12	Observations	21
Annex A	Document history	22
Annex B	Further information	22
Annex C	Accreditation Certificate	23

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.

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM ICT Services GmbH.

The testing service provided by CETECOM ICT Services GmbH has been rendered under the current "General Terms and Conditions for CETECOM ICT Services GmbH".

CETECOM ICT Services GmbH will not be liable for any loss or damage resulting from false, inaccurate, inappropriate or incomplete product information provided by the customer.

Under no circumstances does the CETECOM ICT Services GmbH test report include any endorsement or warranty regarding the functionality, quality or performance of any other product or service provided.

Under no circumstances does the CETECOM ICT Services GmbH test report include or imply any product or service warranties from CETECOM ICT Services GmbH, including, without limitation, any implied warranties of merchantability, fitness for purpose, or non-infringement, all of which are expressly disclaimed by CETECOM ICT Services GmbH.

All rights and remedies regarding vendor's products and services for which CETECOM ICT Services GmbH has prepared this test report shall be provided by the party offering such products or services and not by CETECOM ICT Services GmbH.

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:	2014-03-18
Date of receipt of test item:	2014-04-11
Start of test:	2014-04-15
End of test:	2014-04-15
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	-/-	Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 210 Issue 8	-/-	Spectrum Management and Telecommunications Radio Standards Specification - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

4 Test environment

Temperature:	T_{nom}	+22 °C during room temperature tests
	T_{max}	+35 °C during high temperature tests
	T_{min}	+5 °C during low temperature tests
Relative humidity content:		43 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.0 V DC by Zink-Air battery
	V_{max}	3.3 V
	V_{min}	2.5 V

5 Test item

Kind of test item	:	Hearing device accessory
Type identification	:	RCRM
S/N serial number	:	EUT 1: 18.15 EUT 2: 27.4
HW hardware status	:	B2
SW software status	:	-/-
Firmware Version		2.1.4
Frequency band [MHz]	:	3.48 MHz
Type of radio transmission	:	Single channel RF carrier
Use of frequency spectrum	:	
Type of modulation	:	ASK
Number of channels	:	1
Antenna	:	Integrated PCB loop antenna
Power supply	:	3.0 V DC by Zink-Air battery
Temperature range	:	+5°C to +35 °C

5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-7780/14-01-01_AnnexB
1-7780/14-01-01_AnnexD

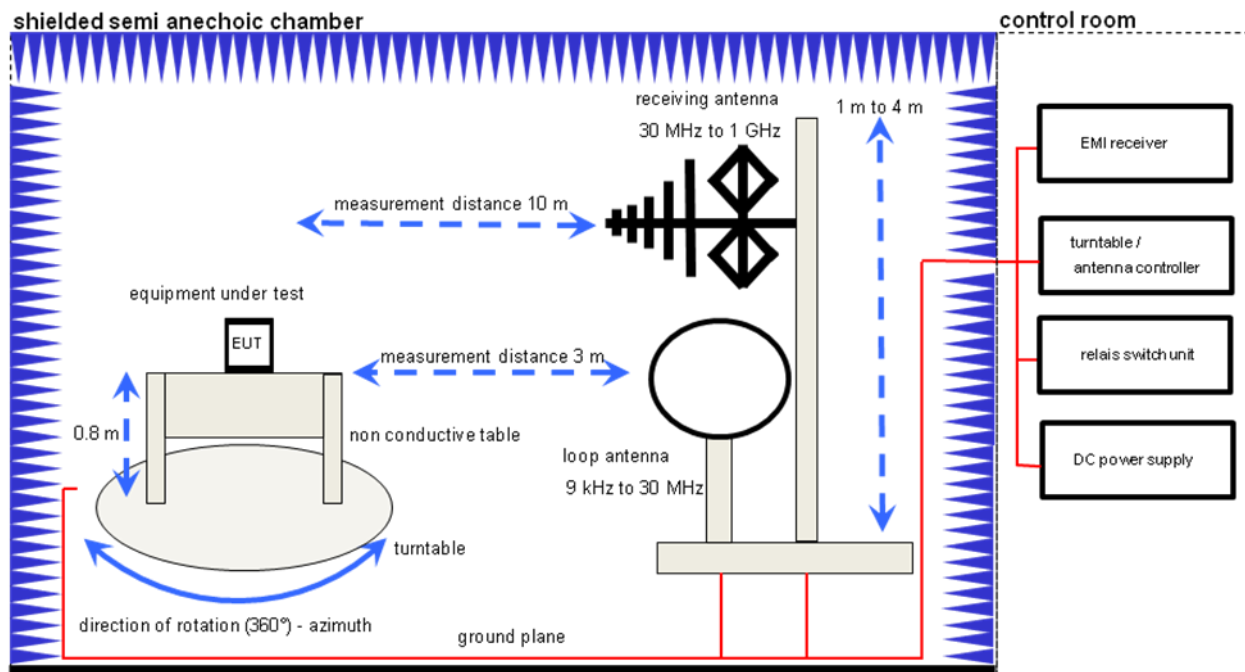
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 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. 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.

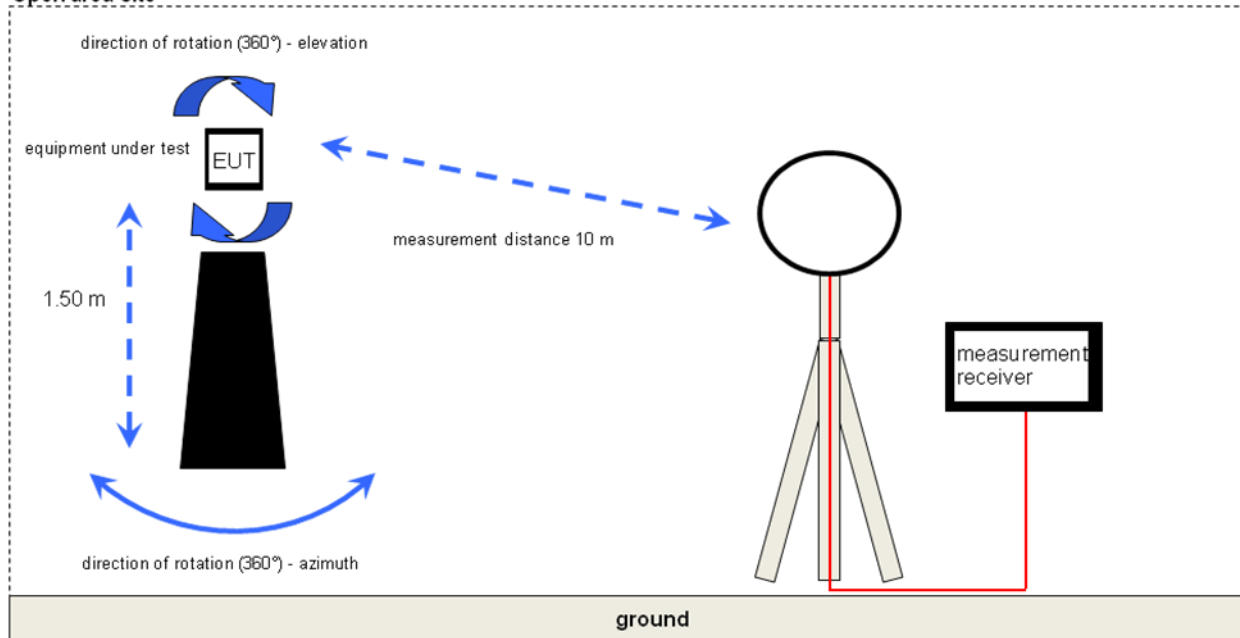


Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745
Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746
Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747
TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787
Test Receiver	ESH2	R&S	871921/095	300002505
Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824
EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059

7.2 Open area site

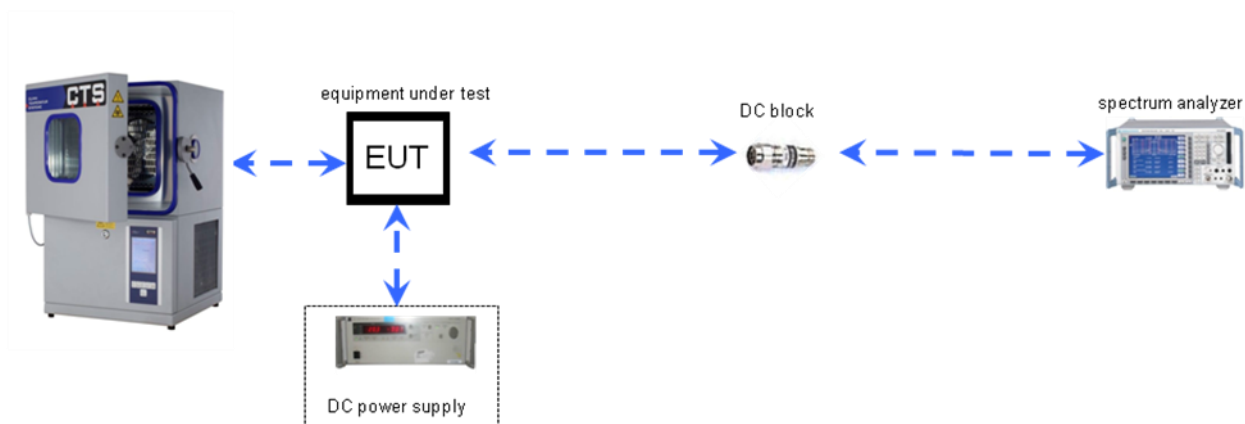
Open area site



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Test Receiver	ESH2	R&S	871921/095	300002505
Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824
EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059
Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256

7.3 Conducted measurements



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
DC Power Supply 0 – 32V	1108-32	Heiden	001802	300001383
Temperature Test Chamber	T-40/50	CTS GmbH	064023	300003540
Spectrum Analyzer 20 Hz - 50 GHz	FSU50	R&S	200012	300003443

8 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	Passed	2014-06-12	-/-

Test Specification Clause	Test Case	Temperature Conditions	Power Source Voltages	Pass	Fail	NA	NP	Remark
§ 15.223(a)	Fieldstrength of Fundamental	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.223(a)	Emission bandwidth 6 dB bandwidth	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
-/-	Occupied bandwidth 99 % bandwidth	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.209	Fieldstrength of harmonics and spurious	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.209	Receiver spurious emissions (radiated)	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

9 Additional comments

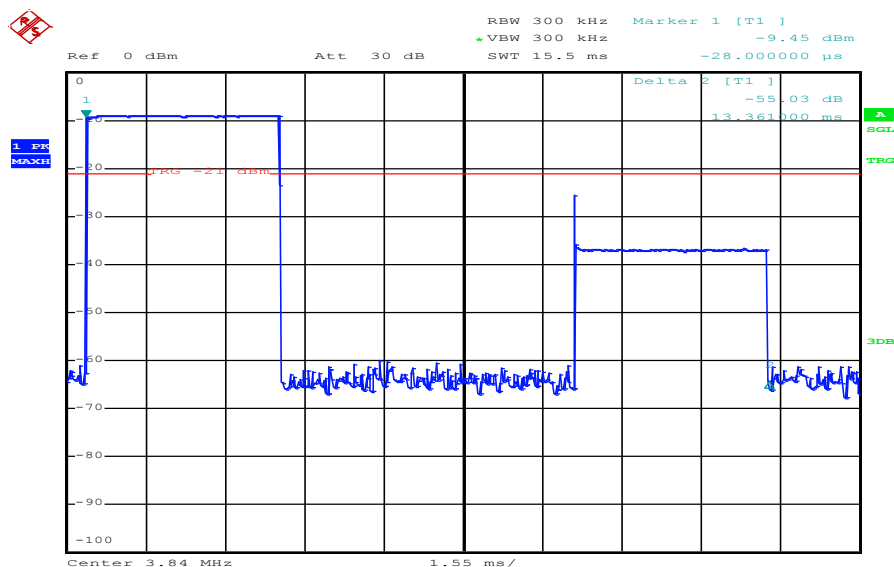
Reference documents: None

Special test descriptions: We perform the radiated pre-scans in different spherical positions and consolidate the results in one result plot. The test procedure includes scans in the theta axes every 120° and in phi axes @ 0° and 90° for both polarizations vertical & horizontal or magnetic emissions.

Configuration descriptions: None

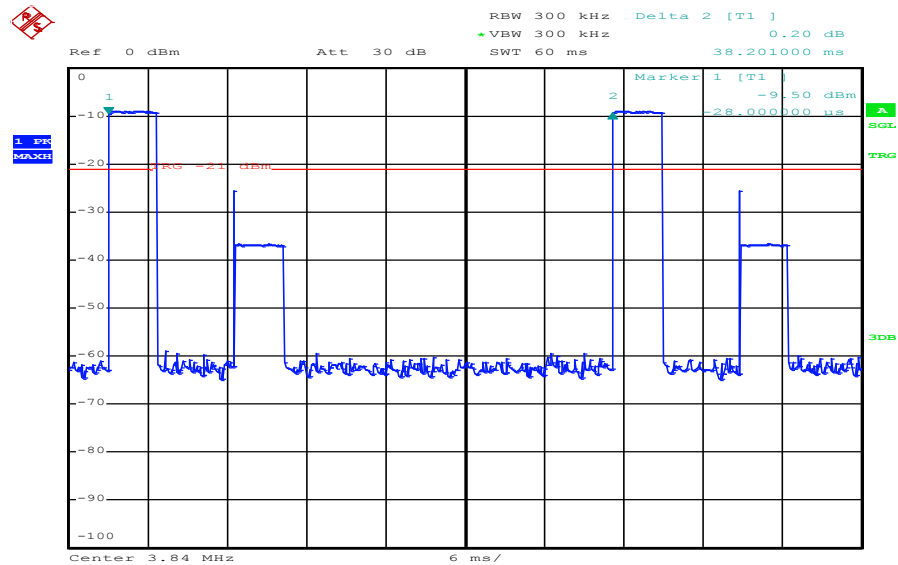
Additional information:

Plot 1: Timing of the transmitter; TX and RX packets



Date: 15.APR.2014 11:20:48

Plot 2: Timing of the transmitter; TX interval



Date: 15.APR.2014 11:22:13

Measured TX duty cycle:

$$DC = \text{TX packet length} / \text{TX interval} * 100 \% = 34.9 \%$$

10 Measurement results

10.1 Field strength of the fundamental

Measurement:

Measurement parameter	
Detector:	Peak / AVG
Sweep time:	-/-
Resolution bandwidth:	1 MHz
Video bandwidth:	≥ RBW
Span:	-/-
Trace-Mode:	Max Hold

Limits:

FCC	-/-
<p>The field strength of any emission within the band 1.705-10.0 MHz shall not exceed 100 microvolts/meter at a distance of 30 meters.</p> <p>However, if the bandwidth of the emission is less than 10% of the centre frequency, the field strength shall not exceed 15 microvolts/meter or (the bandwidth of the device in kHz) divided by (the centre frequency of the device in MHz) microvolts/meter at a distance of 30 meters, whichever is the higher level</p>	

Results:

Test conditions	Radiated field strength (dBμV/m)			
	at 3 m distance		at 30 m distance	
EUT	AVG	Peak	AVG	Peak
EUT 1: 18.15	58.5	77.7	18.5*	37.7*
EUT 2: 27.4	57.9	77.1	17.9*	37.1*
Measurement uncertainty	±3dB			

* Re-calculated from 3 m to 30m with 40 dB/decade according to FCC 15.31 (f2)

AVG Limit for EUT1: $107 / 3.84 = 27.87$ $\triangleq 28.90$ dBμV/m @ 30m

AVG Limit for EUT2: $114 / 3.84 = 29.69$ $\triangleq 29.45$ dBμV/m @ 30m

Result: Passed

10.2 Emission bandwidth (6 dB bandwidth)**Measurement:**

Measurement parameter	
Detector:	Peak
Sweep time:	60 s
Resolution bandwidth:	500 Hz
Video bandwidth:	500 Hz
Span:	3 MHz
Trace-Mode:	Max Hold

Limits:

FCC
For the purposes of this Section, bandwidth is determined at the points 6 dB down from the modulated carrier

Results:

EUT	6 dB bandwidth
EUT 1: 18.15	107 kHz
EUT 2: 27.4	114 kHz
Measurement uncertainty	±500Hz

Result: **Passed**

10.3 Occupied bandwidth (99% bandwidth)

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	1 kHz
Video bandwidth:	3 kHz
Span:	1 MHz
Trace-Mode:	Max Hold

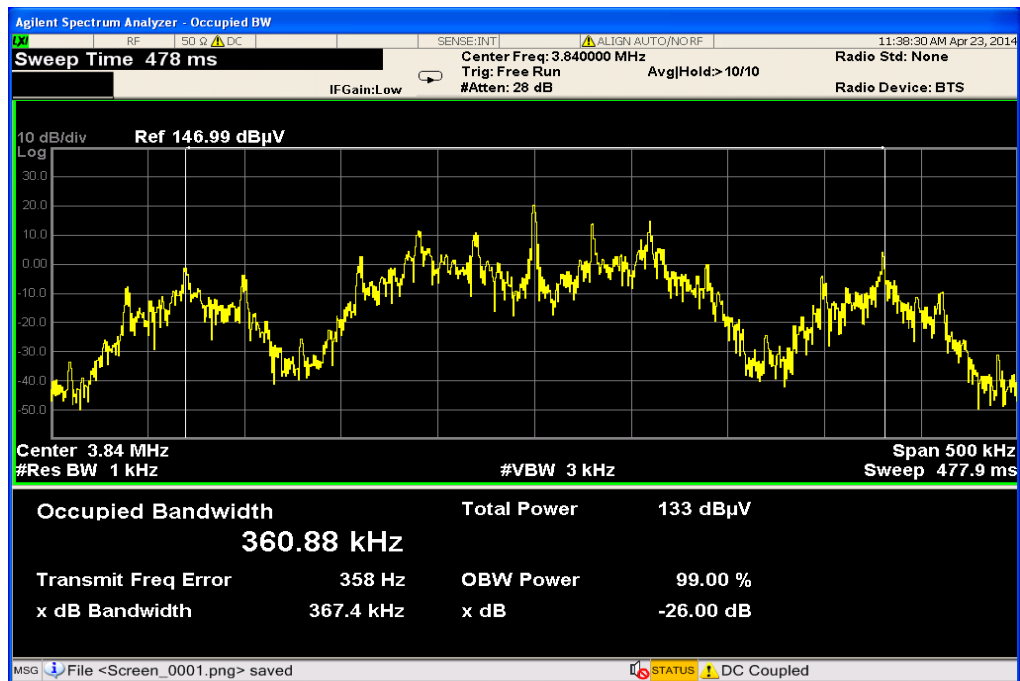
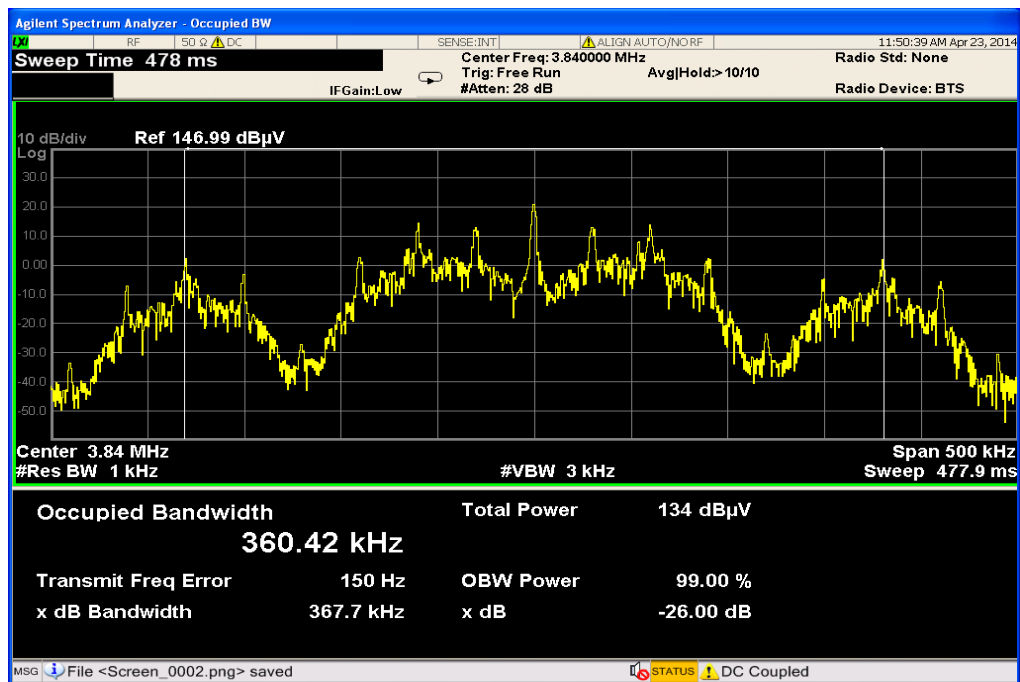
Limits:

-/-
-/-

Results:

EUT	99 % bandwidth
EUT 1: 18.15	360.88 kHz
EUT 2: 27.4	360.42 kHz
Measurement uncertainty	± 500Hz

Result: **Passed**

Plots:**Plot 1: 99% bandwidth, EUT 1****Plot 1: 99% bandwidth, EUT 2**

10.4 Field strength of the harmonics and spurious

Measurement:

Measurement parameter	
Detector:	Average / Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	F < 150 kHz: 200 Hz 150 kHz > F > 30 MHz: 9 kHz F > 30 MHz: 120 kHz
Video bandwidth:	F < 150 kHz: 1 kHz 150 kHz > F > 30 MHz: 100 kHz F > 30 MHz: 300 kHz
Span:	See plots!
Trace-Mode:	Max hold

Limits:

FCC		-/-
Field strength of the harmonics and spurious.		
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.0009 – 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:

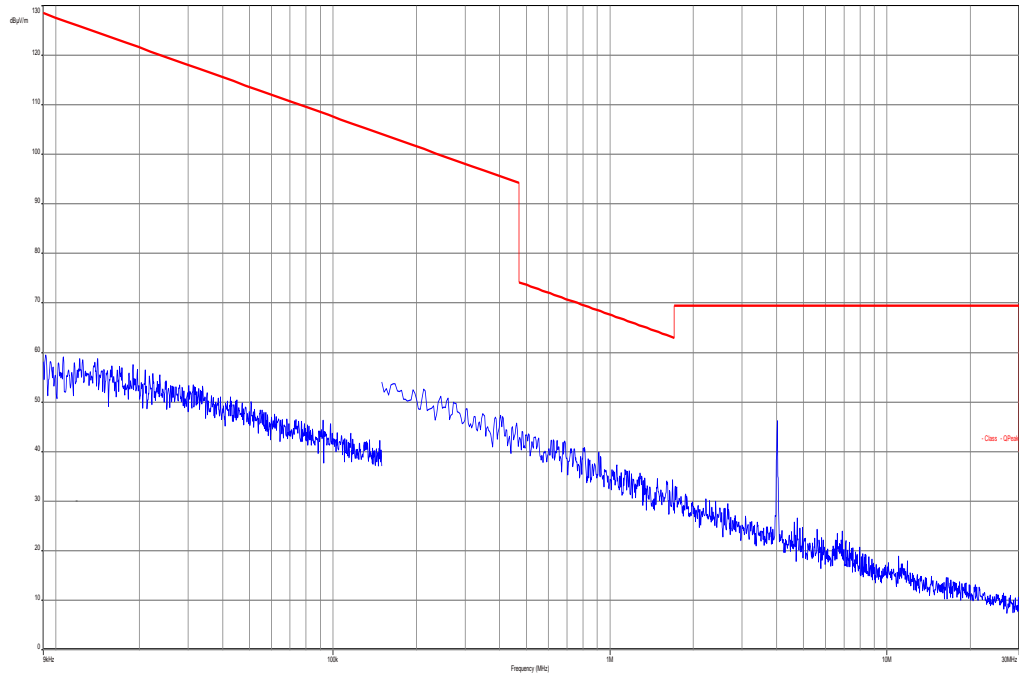
Spurious emissions				
f [MHz]	Detector	Limit max. allowed [dBµV/m]	Amplitude of emission [dBµV/m]	Results
No peaks near the limit detected.				

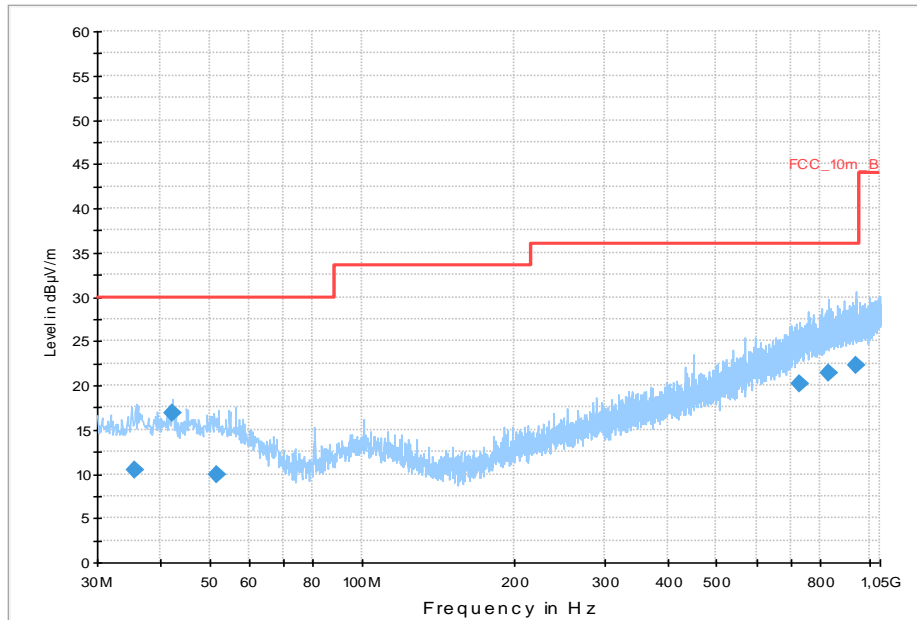
Result: Passed

Note: The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

Plots: TX mode, EUT 1

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical and horizontal polarization

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
35.608800	10.4	1000.0	120.000	170.0	V	280.0	13.1	19.6	30.0	
42.272550	16.9	1000.0	120.000	121.0	V	260.0	13.4	13.1	30.0	
51.737250	9.9	1000.0	120.000	170.0	V	273.0	13.2	20.1	30.0	
727.049850	20.2	1000.0	120.000	170.0	H	-10.0	23.1	15.8	36.0	
834.978900	21.4	1000.0	120.000	170.0	V	280.0	24.3	14.6	36.0	
945.445500	22.2	1000.0	120.000	145.0	H	100.0	25.3	13.8	36.0	

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

Subrange 1

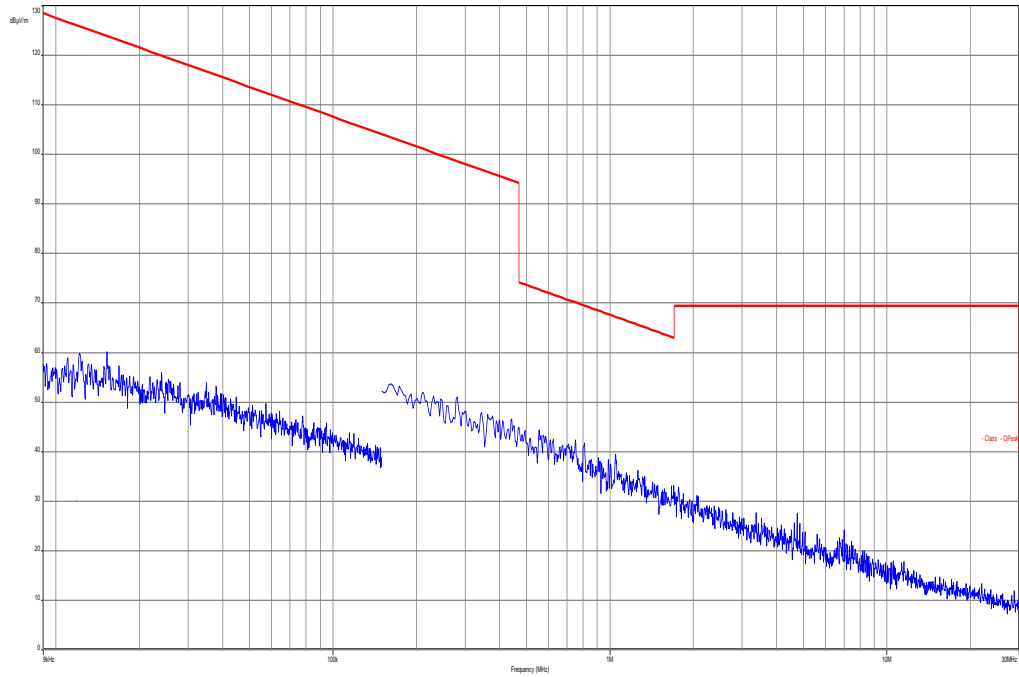
Frequency Range: 30 MHz - 2 GHz

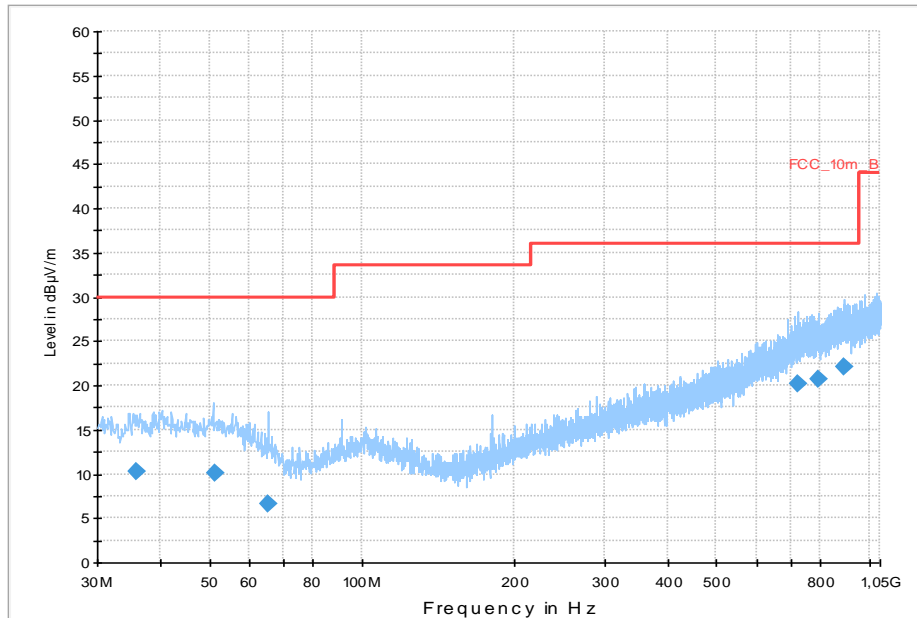
Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42Signal Path: without Notch
FW 1.0Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plots: Idle mode

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical and horizontal polarization

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.777100	10.3	1000.0	120.000	120.0	H	0.0	13.1	19.7	30.0	
51.293700	10.1	1000.0	120.000	170.0	V	-10.0	13.2	19.9	30.0	
65.133600	6.6	1000.0	120.000	170.0	V	100.0	10.4	23.4	30.0	
723.654750	20.1	1000.0	120.000	170.0	H	100.0	23.1	15.9	36.0	
792.264900	20.7	1000.0	120.000	170.0	V	93.0	23.8	15.3	36.0	
893.985900	22.1	1000.0	120.000	170.0	V	170.0	25.1	13.9	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

11 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 (Lab/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
11	n. a.	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2818A03450	300001040	Ve	12.01.2012	12.01.2015
2	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	08.05.2013	08.05.2015
3	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
4	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
5	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	30.01.2014	30.01.2016
6	9	Isolating Transformer	MPL IEC625 Bus Regeltrennt ravo	Erfi	91350	300001155	ne		
7	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
8	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
9	n. a.	Band Reject filter	WRCG185 5/1910-1835/1925-40/8SS	Wainwright	7	300003350	ev		
10	n. a.	Band Reject filter	WRCG240 0/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
11	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	ne		
12	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vIKI!	14.10.2011	14.10.2014
13	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	13.03.2014	13.03.2015
14	n. a.	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne		
15	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g	24.01.2014	24.01.2016
16	50	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580	ne	09.03.2012	09.03.2015
17	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	27.01.2014	27.01.2015
18	n. a.	Funkstörmessung Empfänger 20Hz-26,5GHz	ESU26	R&S	100037	300003555	k	28.02.2014	28.02.2015
19	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
20	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
21	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
22	n. a.	TRILOG Broadband	VULB9163	Schwarzbeck	295	300003787	k	22.04.2014	22.04.2016

		Test-Antenna 30 MHz - 3 GHz							
23	n. a.	Test Receiver	ESH2	R&S	871921/095	300002505	Ve	24.01.2014	24.01.2016
24	n. a.	Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824	vlk!!	09.03.2012	09.03.2015
25	n. a.	EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059	k	24.01.2014	24.01.2015

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
 vlk!! 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

12 Observations

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

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2014-05-28
-A	Measurement equipment information added	2014-06-06
-B	Updated model name	2014-06-12

Annex B 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 C Accreditation Certificate

Front side of certificate



Deutsche Akkreditierungsstelle GmbH

Befehlens gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

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

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Drahtgebundene Kommunikation einschließlich xDSL

VoIP und DECT

Akustik

Funk einschließlich WLAN

Short Range Devices (SRD)

RFID

WiMax und Richtfunk

Mobilfunk (GSM / DCS, Over the Air (OTA) Performance)

Elektromagnetische Verträglichkeit (EMV) einschließlich Automotive

Produktsicherheit

SAR und Hearing Aid Compatibility (HAC)

Umweltsimulation

Smart Card Terminals

Bluetooth

Wi-Fi Services

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 07.03.2014 mit der
Akkreditierungsnummer D-PL-12076-01 und ist gültig 17.01.2018. Sie besteht aus diesem Deckblatt, der
Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 77 Seiten.

Registrierungsnummer der Urkunde: D-PL-12076-01-00

Frankfurt am Main, 07.03.2014

Zurückseite auf der Rückseite

Im Auftrag D-PL-12076-01-01
Hildegard

Back side of certificate

Deutsche Akkreditierungsstelle GmbH

Standort Berlin
Spittelmarkt 10
10117 Berlin

Standort Frankfurt am Main
Gartenstraße 6
60504 Frankfurt am Main

Standort Braunschweig
Bundesallee 100
38116 Braunschweig

Die auszugsweise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen
Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkkS). Ausgenommen davon ist die separate
Weiterverbreitung des Deckblatts durch die umseitig genannte Konformitätsbewertungsstelle in
unveränderter Form.

Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt,
die über den durch die DAkkS bestätigten Akkreditierungsbereich hinausgehen.

Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom
31. Juli 2009 (BGBl. I S. 2025) sowie der Verordnung (VO) Nr. 765/2008 des Europäischen Parlaments
und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung
im Zusammenhang mit der Vermarktung von Produkten (Abt. L 228 vom 9. Juli 2008, S. 30).
Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der
Europäischen Organisation für Akkreditierung (EA), des International Accreditation Forum (IAF) und
der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen
erkennen ihre Akkreditierungen gegenseitig an.

Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden:
EA: www.european-accreditation.org
IAF: www.iaf.org
ILAC: www.ilac.org

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/eu/de/cetecom-group/europa/deutschland-saarbruecken/akkreditierungen.html>