**CETECOMTM****CETECOM ICT Services**

consulting - testing - certification >>>

TEST REPORT

Test report no.: 1-8028/14-01-02

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

Oticon A/S

Kongebakken 9

2765 Smørum / DENMARK

Phone: +45 39 17 71 00

Contact: Ole Myrtue

e-mail: olmy@oticon.dk

Phone: +45 3913 7744

Manufacturer

Oticon 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

RSS - Gen Issue 3

Spectrum Management and Telecommunications Radio Standards Specifications - General Requirements and Information for the Certification of Radio Apparatus

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

Test Item

Kind of test item: Hearing aid**Model name:** DRITE**FCC ID:** U28FU2DRIT**IC:** 1350B-FU2DRIT

Frequency: 3.84 MHz

Technology tested: Magnetic coupling

Antenna: Integrated coil antenna

Power supply: 1.40V 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:

Stefan Bös
Professional

Test performed:

Tobias Wittenmeier
Experienced

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	Conducted measurements	6
8	Summary of measurement results	7
9	Additional comments	8
10	Measurement results	9
10.1	Timing of the transmitter	9
10.2	Bandwidth of the modulated carrier	10
10.3	Fieldstrength of the fundamental	14
10.4	Fieldstrength of the harmonics and spurious	16
10.5	Receiver spurious emissions	19
10.6	Conducted limits	22
11	Test equipment and ancillaries used for tests	23
12	Observations	24
Annex A	Document history	25
Annex B	Further information	25
Annex C	Accreditation Certificate	26

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:	2014-05-26
Date of receipt of test item:	2014-06-16
Start of test:	2014-06-17
End of test:	2014-06-17
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	2012-10	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 - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment
RSS - Gen Issue 3	2010-12	Spectrum Management and Telecommunications Radio Standards Specifications - General Requirements and Information for the Certification of Radio Apparatus

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}	1.40 V DC by zinc - air Battery
	V_{max}	1.40 V
	V_{min}	1.26 V

5 Test item

Kind of test item	:	Hearing aid
Type identification	:	DRITE
S/N serial number	:	TX units: EUT No. 1: 24248988 EUT No. 2: 24253017 EUT No. 3: 23751131 RX units: EUT No. 5: 23732400 Photo unit: EUT No. 9: 23344094
HW hardware status	:	HI: rev. 02, radio module: rev. 07
SW software status	:	epack-revB-25-1_0_0
Frequency band [MHz]	:	3.84 MHz
Type of radio transmission	:	Modulated carrier
Use of frequency spectrum	:	
Type of modulation	:	ASK
Number of channels	:	1
Antenna	:	Integrated coil antenna
Power supply	:	1.40 V DC by zinc - air Battery
Temperature range	:	0°C to +40 °C

5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-8028/14-01-01_AnnexA
 1-8028/14-01-01_AnnexB
 1-8028/14-01-01_AnnexD

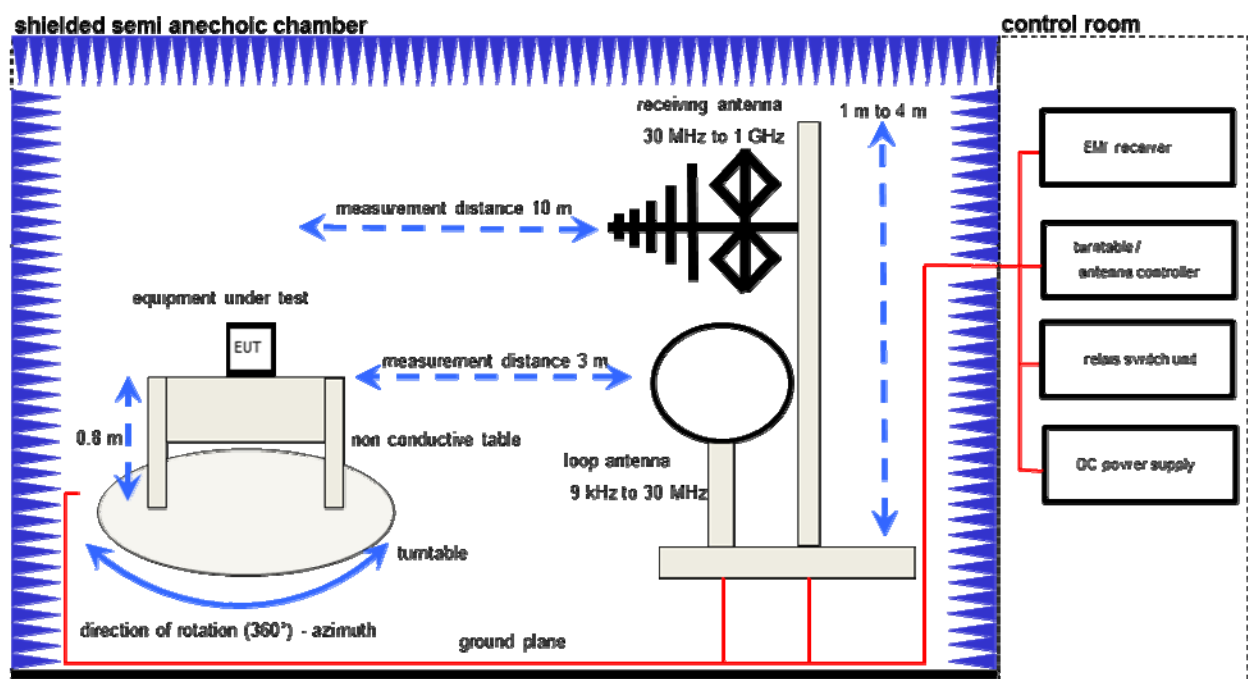
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements

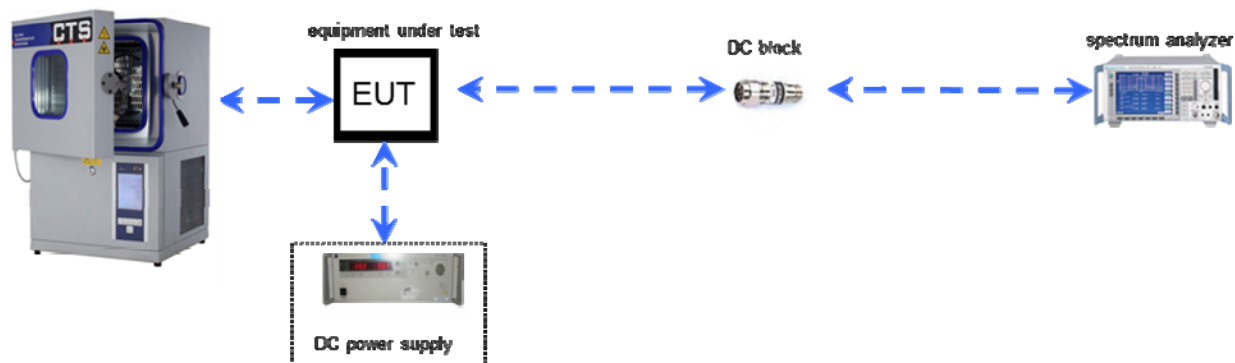
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas 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
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 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 RSS 210, Issue 8	Passed	2014-07-10	-/-

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	☒	☐	☐	☐	complies
§ 15.223 / RSS-210 Issue 8	Bandwidth of the modulated carrier	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.223 / RSS-210 Issue 8	Fieldstrength of fundamental	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.209 (a) / RSS-210 Issue 8	Fieldstrength of harmonics and spurious	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.109 / RSS-210 Issue 8	Receiver spurious emissions	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.107 / § 15.207	Conducted limits	Nominal	Nominal	☐	☐	☒	☐	-

Note: NA = Not Applicable; NP = Not Performed

9 Additional comments

Reference documents: Oticon Wireless Hearing Aids and Accessories EMC and RF Test Setup, May 2014, JNP, Oticon A/S.

Manufacturer statement:

The RF-carrier frequency in Oticons wireless hearing aids, targeted for 3.84 MHz, is in the current Fusion platform generated by an RC-oscillator in turn feeding an LC-tank circuit in the transceiver. In other words, there is NO stable crystal oscillator and NO closed phase lock loop keeping the oscillator frequency in place. Furthermore, due to tolerances of the self induction of the antenna coil, which is part of the RF-tank circuit, and tolerances of the parallel capacitors, the initial carrier frequency tolerance of the RF-carrier is about plus and minus 2.5%. Finally due to the configuration of the RF-carrier frequency generating parts as described above an uncorrelated temperature drift of about plus and minus 2.5% can be added to the initial tolerance, resulting in an overall frequency accuracy of about plus minus 5.0% worst case!

Note: The EUT with the maximum field strength was used to perform the radiated spurious emissions tests!

Manufacturer declaration:

The provided test sample for radiated measurements had a transmitter duty cycle of 20% for ease of test, while the transmitter duty cycle in normal use is approximately 2.5%.

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

10 Measurement results

10.1 Timing of the transmitter

Measurement:

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

Limits:

FCC	IC
CFR 47 SUBCLAUSE §15.35(c)	RSS-GEN Issue3 Section 4.5
Timing of the transmitter	
(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.	

Duty cycle of the sample with test mode (EUT No. 1: 24248988): 20.4 %

In normal use the duty cycle is approximately 2.5 % (declared by the manufacturer).

Result: **Passed.**

10.2 Bandwidth of the modulated carrier**Limits:**

FCC	IC
CFR Part SUBCLAUSE § 15.223	RSS-210 Issue 8
Bandwidth of the modulated carrier	

Measured with the integrated OBW-function of the spectrum analyser Rohde&Schwarz FSIQ26 (measurement criteria is the integrated power in %)

Result:

EUT No. 1: 24248988

	Occupied Bandwidth (kHz)
6 dB (75%)	112
20 dB (99%)	358

EUT No. 2: 24253017

	Occupied Bandwidth (kHz)
6 dB (75%)	97
20 dB (99%)	354

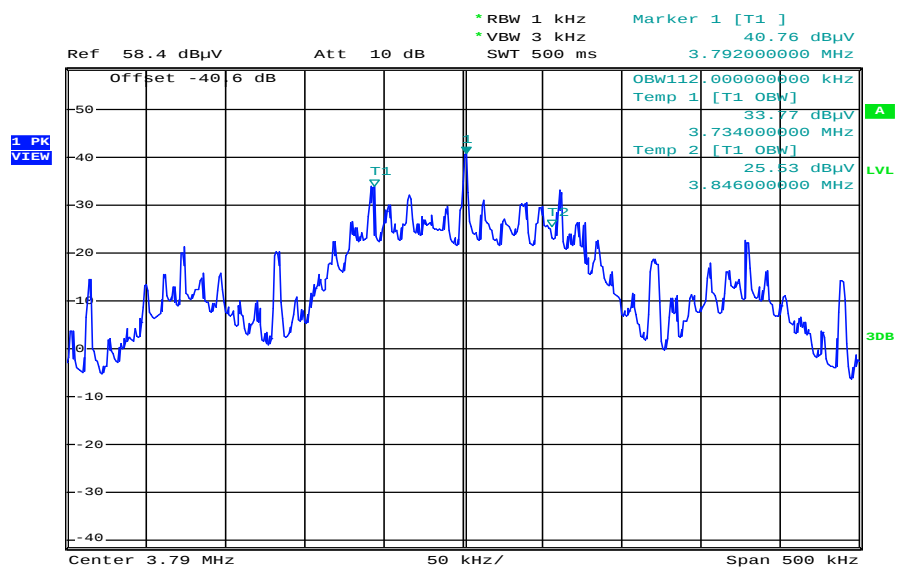
EUT No. 3: 23751131

	Occupied Bandwidth (kHz)
6 dB (75%)	95
20 dB (99%)	355

Plots of the measurements:

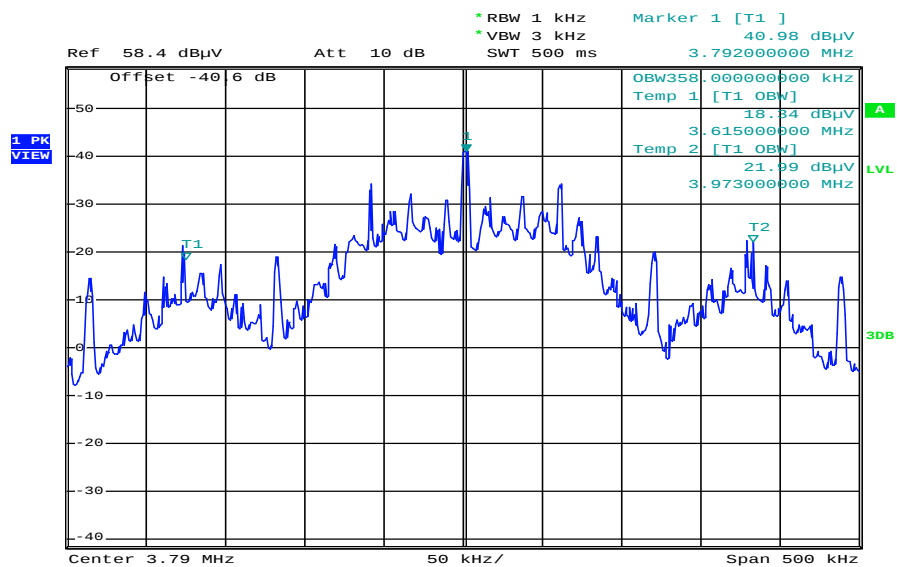
EUT No. 1: 24248988

Plot 1: 6dB (75%) – bandwidth



Date: 17.JUN.2014 08:27:03

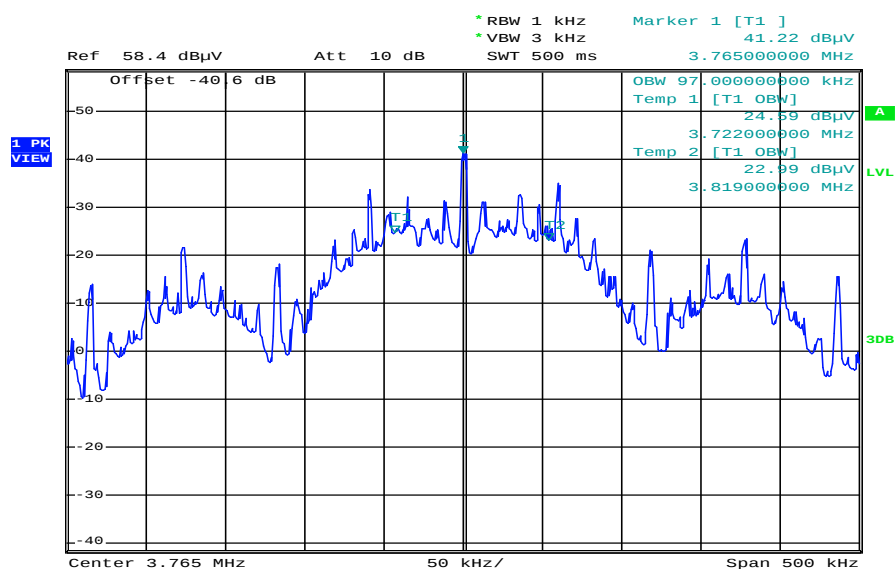
Plot 2: 20dB (99%) – bandwidth



Date: 17.JUN.2014 08:27:56

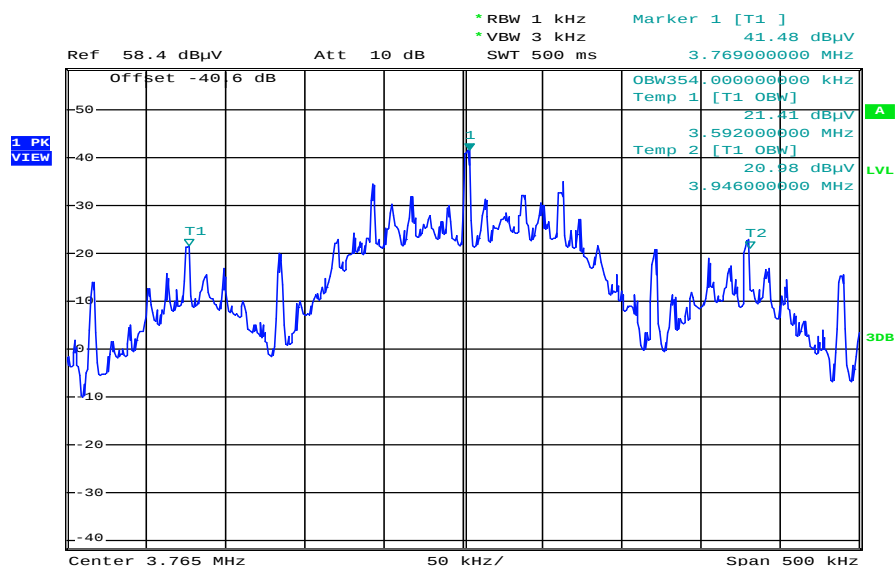
EUT No. 2: 24253017

Plot 1: 6dB (75%) – bandwidth



Date: 17.JUN.2014 08:30:43

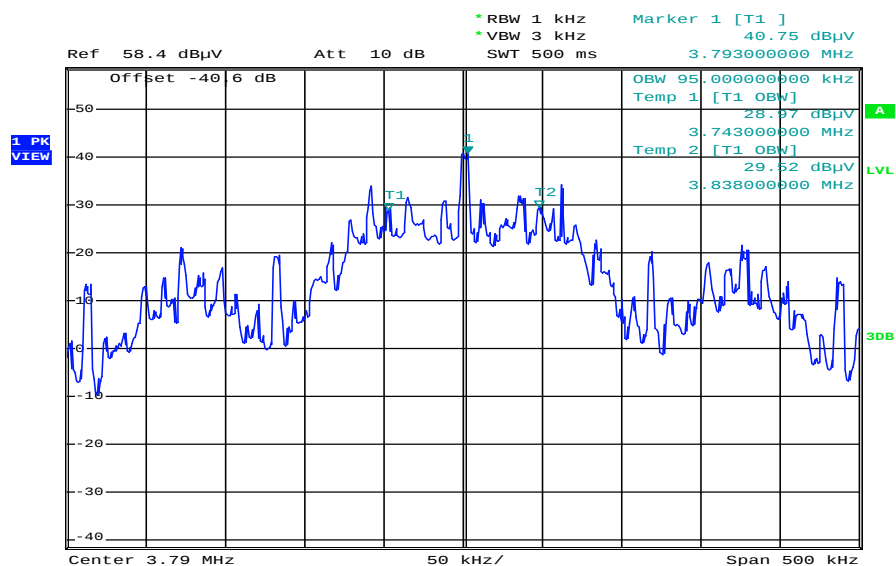
Plot 2: 20dB (99%) – bandwidth



Date: 17.JUN.2014 08:29:43

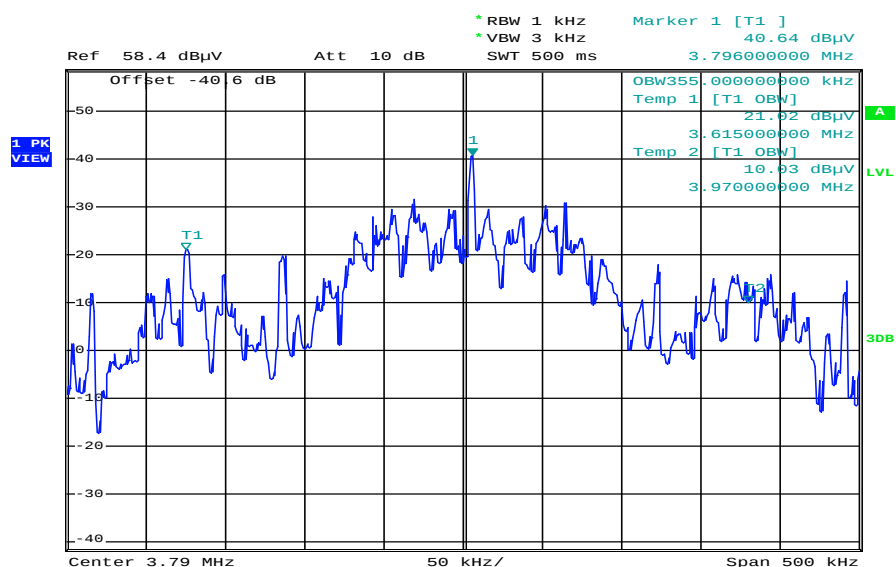
EUT No. 3: 23751131

Plot 1: 6dB (75%) – bandwidth



Date: 17.JUN.2014 08:32:59

Plot 2: 20dB (99%) – bandwidth



Date: 17.JUN.2014 08:36:12

10.3 Fieldstrength of the fundamental

Measurement:

Measurement parameter	
Detector:	Average
Resolution bandwidth:	10kHz
Trace-Mode:	Max Hold

Limits:

FCC		IC
CFR Part SUBCLAUSE § 15.223		RSS-210 Issue 8
Fundamental Frequency (MHz)	Fieldstrength of Fundamental (µV/m)	Measurement distance (m)
1.705 – 10.0	[15] or [6dB-BW(kHz) / F(MHz)] Whichever is higher	30

Results:

TEST CONDITIONS		MAXIMUM POWER (dBµV/m)	
Frequency		3.84 MHz	3.84 MHz
EUT No. 1: 24248988		at 1 m distance	at 30 m distance
T _{nom}	V _{nom}	48	-12.0
EUT No. 2: 24253017		at 1 m distance	at 30 m distance
T _{nom}	V _{nom}	46	-14.0
EUT No. 3: 23751131		at 1 m distance	at 30 m distance
T _{nom}	V _{nom}	44	-16.0
Measurement uncertainty		±3dB	

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

Result: **Passed**

Noise floor: 26.5 dB μ V/m

***Note:**

- Calculation: Measured maximum field strength @ 1 m: 48.0 dB μ V/m

Correction factor from 1m to 10m: -40 dB (40 dB / decade)

48.0 dB μ V/m @ 1 meter - 40 dB = 8.0 dB μ V/m @ 10 meter

Correction factor from 1m to 30m: -60 dB (40 dB / decade)

48.0 dB μ V/m @ 1 meter - 60 dB = -12.0 dB μ V/m @ 30 meter

10.4 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
Trace-Mode:	Max hold

Limits:

FCC		IC
SUBCLAUSE § 15.209 (a)		RSS-210 Issue 8
Fieldstrength of the harmonics and spurious.		
Frequency (MHz)	Fieldstrength ($\mu\text{V/m}$)	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 $\mu\text{V/m}$)	30
30 – 88	100 (40 dB $\mu\text{V/m}$)	3
88 – 216	150 (43.5 dB $\mu\text{V/m}$)	3
216 – 960	200 (46 dB $\mu\text{V/m}$)	3

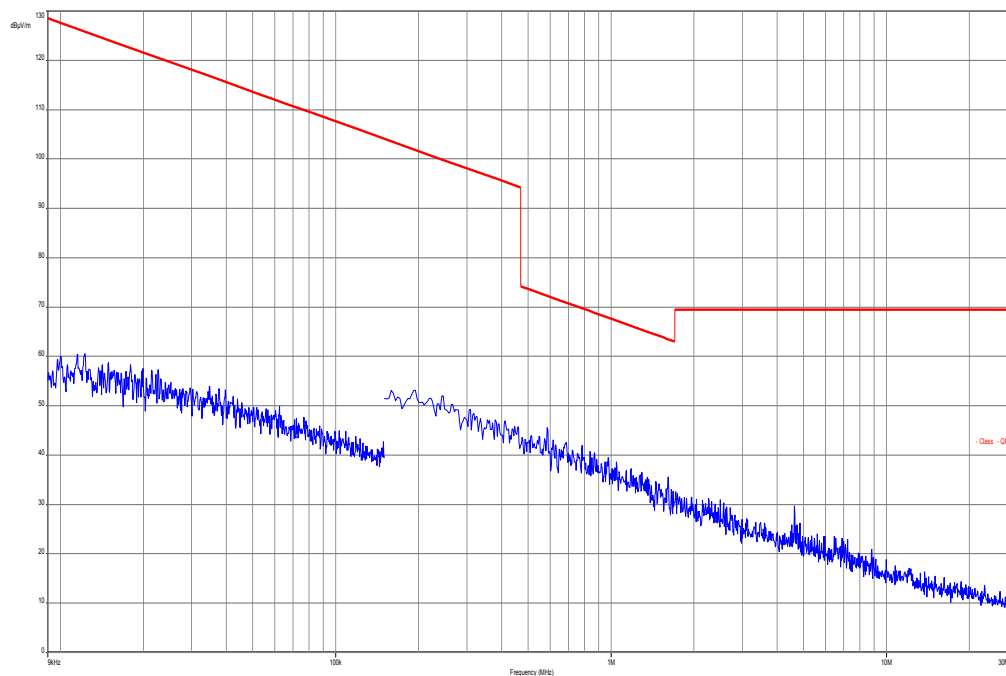
Result:

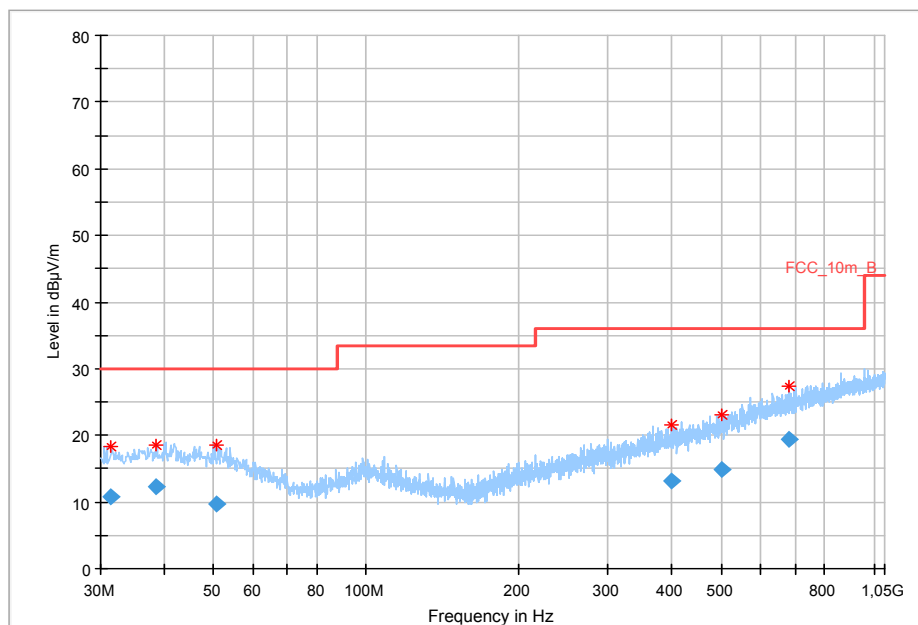
EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dB $\mu\text{V/m}$]	Amplitude of emission [dB $\mu\text{V/m}$]	Results
No peaks detected. All detected emissions are below the limit!				

Result: **Passed**

Plots of the measurements: EUT No. 1: 24248988

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical & horizontal polarization, TX MODE


Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.398000	10.84	30.00	19.16	1000.0	120.000	220.0	V	311	13.5
38.712450	12.19	30.00	17.81	1000.0	120.000	98.0	V	176	14.0
50.866200	9.64	30.00	20.36	1000.0	120.000	220.0	H	120	13.5
400.745100	13.17	36.00	22.83	1000.0	120.000	215.0	H	289	16.9
502.837800	14.98	36.00	21.02	1000.0	120.000	220.0	V	260	18.7
678.396150	19.39	36.00	16.61	1000.0	120.000	220.0	V	210	21.3

10.5 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	
SUBCLAUSE § 15.109		RSS-210 Issue 8	
Fieldstrength of the harmonics and spurious.			
Frequency (MHz)	Fieldstrength (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:

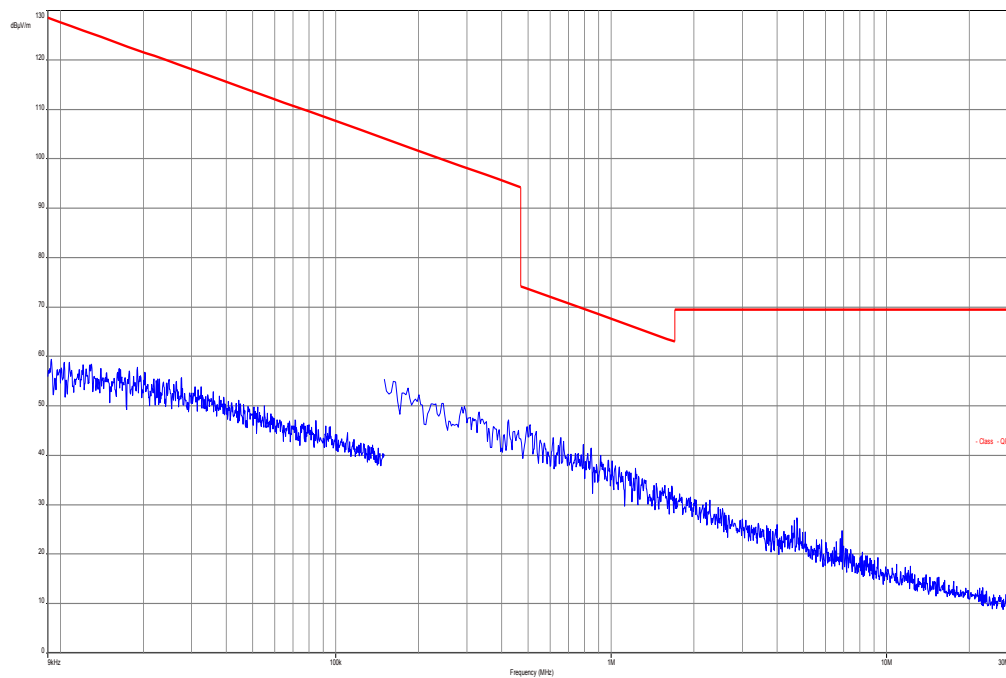
EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dBµV/m]	Amplitude of emission [dBµV/m]	Results
No peaks detected. All detected emissions are below the limit!				

Result: Passed

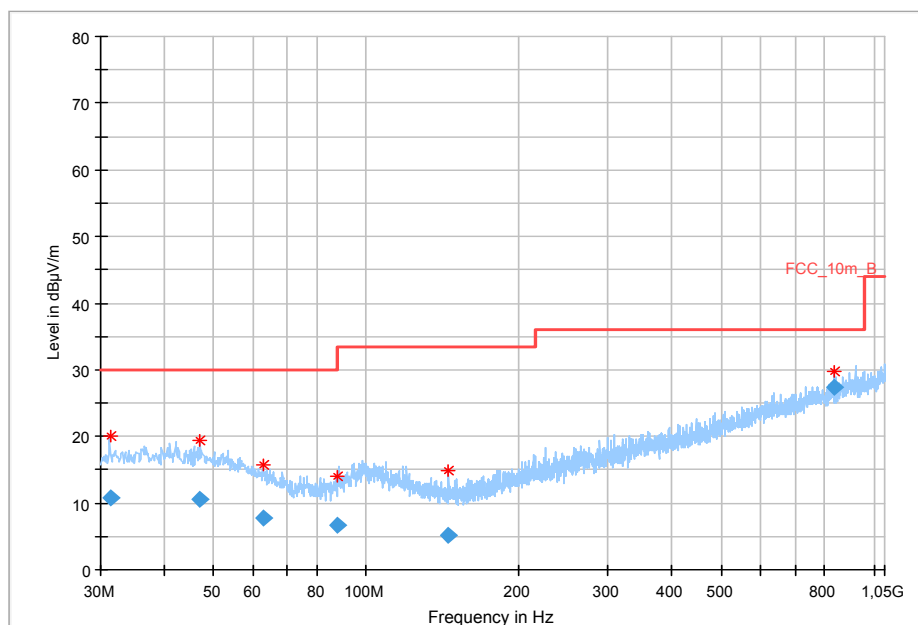
Plots of the measurements

Plots of the measurements: EUT No. 5: 23732400, RX MODE

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical & horizontal polarization, RX MODE



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.438650	10.88	30.00	19.12	1000.0	120.000	215.0	V	140	13.5
47.114850	10.55	30.00	19.45	1000.0	120.000	220.0	H	230	13.8
62.735850	7.74	30.00	22.26	1000.0	120.000	220.0	H	-15	11.0
87.494850	6.58	30.00	23.42	1000.0	120.000	220.0	V	19	10.1
145.534950	5.15	33.50	28.35	1000.0	120.000	215.0	H	140	8.8
836.582550	27.36	36.00	8.64	1000.0	120.000	98.0	V	130	23.3

10.6 Conducted limits

Not applicable!

The EUT is battery powered only!

No possibility to connect to the mains power supply!

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
1	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
2	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
3	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
4	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
5	n. a.	Band Reject filter	WRCG185 5/1910-1835/1925-40/8SS	Wainwright	7	300003350	ev		
6	n. a.	Band Reject filter	WRCG240 0/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
7	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	ne		
8	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	13.03.2014	13.03.2015
9	n. a.	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne		
10	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
11	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	27.01.2014	27.01.2015
12	n. a.	Funkstörmeßempfänger 20Hz-26,5GHz	ESU26	R&S	100037	300003555	k	28.02.2014	28.02.2015
13	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
14	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
15	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
16	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	22.04.2014	22.04.2016
17	n. a.	Spectrum Analyzer 9kHz to 30GHz - 140..+30dBm	FSP30	R&S	100886	300003575	k	22.08.2012	22.08.2014

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

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	2014-07-10

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

Befähigte 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 / GPRS / UMTS / LTE) 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

Stellenbesetzung der Urkunde

Im Auftrag D-PL-12076-01-00
Hildegard Pfeiffer

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 Deutschen Akkreditierungsstelle GmbH (DAkkS). Ausgenommen davon ist die separate
Weiterverbreitung des Deckblattes 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 Akkreditierungsstellen (AkkStelleG) vom
31. Juli 2009 (BGBl. I S. 2675) sowie der Verordnung (EG) 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 218 vom 9. Juli 2008, S. 30).
Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der
European co-operation for Accreditation (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>