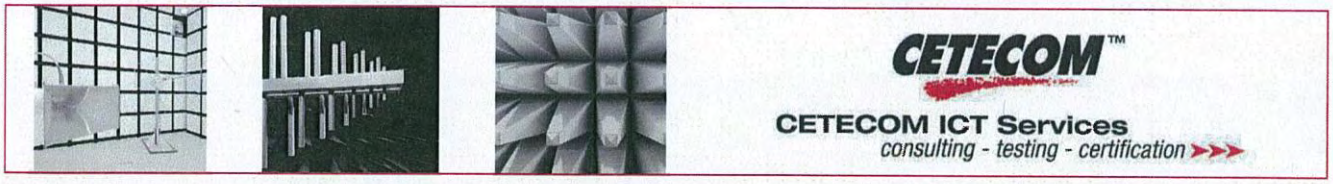

TEST REPORT

Test report no.: 1-4254/12-10-08

DAkkS 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/Satellite Communications

Applicant

Sony Ericsson Mobile Communications AB
Nya Vattentornet
22188 Lund / SWEDEN
Phone: +46 46 19 30 00
Fax: +46 46 19 32 95
Contact: Håkan Sjöberg
e-mail: hakan.sjoberg@sonyericsson.com
Phone: +46 46 19 35 59

Manufacturer

Sony Ericsson Mobile Communications AB
Nya Vattentornet
22188 Lund / SWEDEN

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 Low-power Licence-exempt Radiocommunication Devices (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:	**GSM Mobile Phone GPRS/EGPRS 850/900/1800/1900; UMTS FDDI/FDDII/FDDV/FDDVIII; HSPA; BT2.1+EDR; WLAN b/g/n; GPS; RFID, FM Rx**
Model name:	**AAD-3880134-BV**
FCC ID:	**PY7A3880134**
IC:	**4170B-A3880134**
Frequency:	13.56 MHz
Technology tested:	RFID
Antenna:	Integrated antenna
Power Supply:	3.7 V DC by Li-polymer battery
Temperature Range:	-20°C to +50 °C

Test report authorised:

2012-03-12 Jakob Reschke
Testing Manager

Test performed:

2012-03-12 Christoph Schneider

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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 electronical signatures, the public keys can be requested at the testing laboratory.

2.2 Application details

Date of receipt of order:	2012-01-10
Date of receipt of test item:	2012-01-16
Start of test:	2012-01-16
End of test:	2012-03-12
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

4 Test environment

Temperature:	T_{nom}	+22	°C during room temperature tests
	T_{max}	+50	°C during high temperature tests
	T_{min}	-20	°C during low temperature tests
Relative humidity content:		55 %	
Barometric pressure:		not relevant for this kind of testing	
Power supply:	V_{nom}	3.7 V	DC by Li-polymer battery
	V_{max}	-/- V	
	V_{min}	-/- V	

5 Test item

Kind of test item	**:**	**GSM Mobile Phone GPRS/EGPRS 850/900/1800/1900; UMTS FDDI/FDDII/FDDV/FDDVIII; HSPA; BT2.1+EDR; WLAN b/g/n; GPS; RFID, FM Rx**
Type identification	**:**	**AAD-3880134-BV**
S/N serial number	**:**	**Rad. CB511VNPAZ, CB511VNP9V**
HW hardware status	**:**	**AP1.3**
SW software status	**:**	**6.0.B.1.274, 6.0.B.1.227** **S_atp_pepper_0_0_95_3_c**
Frequency band [MHz]	**:**	**13.56 MHz**
Type of modulation	**:**	**N0N**
Number of channels	**:**	**1**
Antenna	**:**	**Integrated antenna**
Power supply	**:**	**3.7 V DC by Li-polymer battery**
Temperature range	**:**	**-20°C to +50 °C**

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 7, Annex 2.6	Passed	2012-03-12	-/-

Test Specification Clause	Test Case	Temperature Conditions	Power Source Voltages	Pass	Fail	NA	NP	Results (max.)
§ 15.35 (c)/ RSS-GEN Issue 2 Section 4.5	Timing of the transmitter (Duty cycle correction factor)	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.225 (a)/ RSS-210 Issue 7 Annex 2.6	Fieldstrength of Fundamental	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.209/ RSS-210 Issue 7 Annex 2.6	Fieldstrength of harmonics and spurious	Nominal	Nominal	☒	☐	☐	☐	complies
§ 15.225 (e)/ RSS-210 Issue 7 Annex 2.6	Frequency tolerance	Nominal	Extreme	☒	☐	☐	☐	complies
		Extreme	Nominal	☒	☐	☐	☐	

Note: NA = Not Applicable; NP = Not Performed

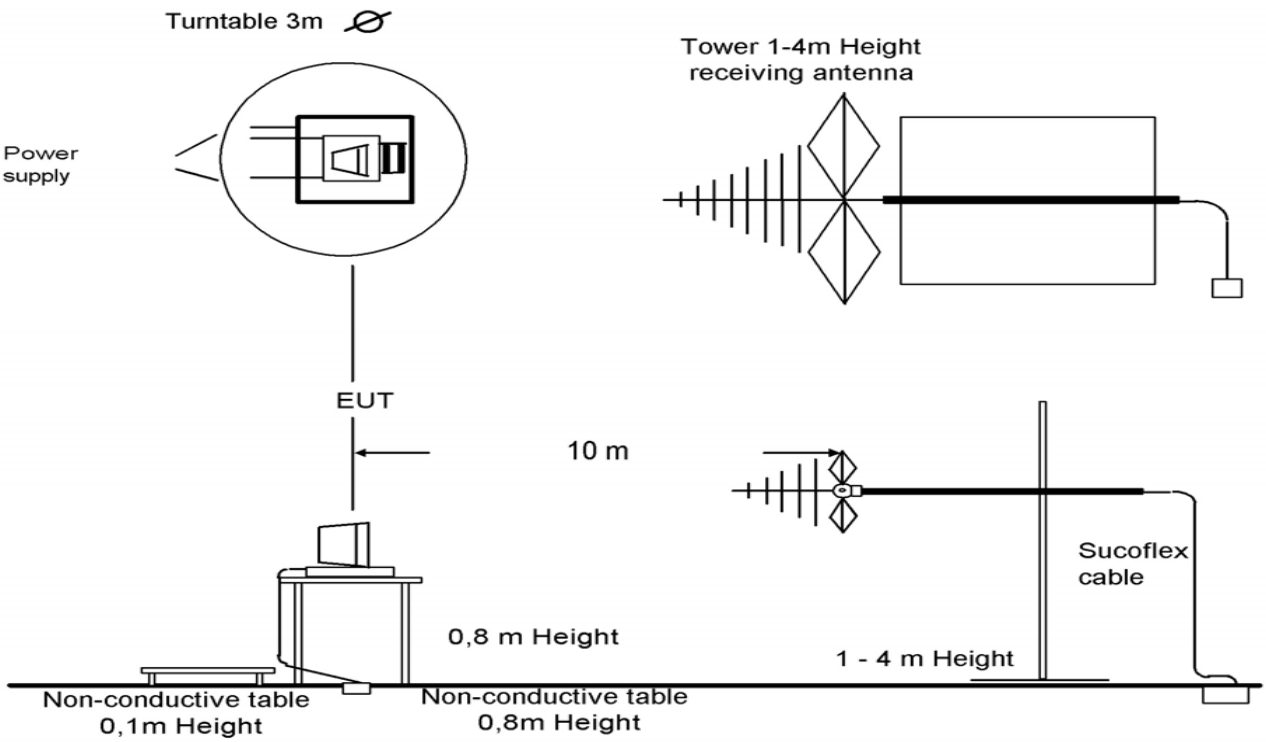
8 RF measurement testing

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 clause 15 and ANSI C63.4-2003 clause 4.1.5. 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 clause 4.2.
Antennas are confirmed with ANSI C63.2-1996 item 15.

Semi anechoic chamber



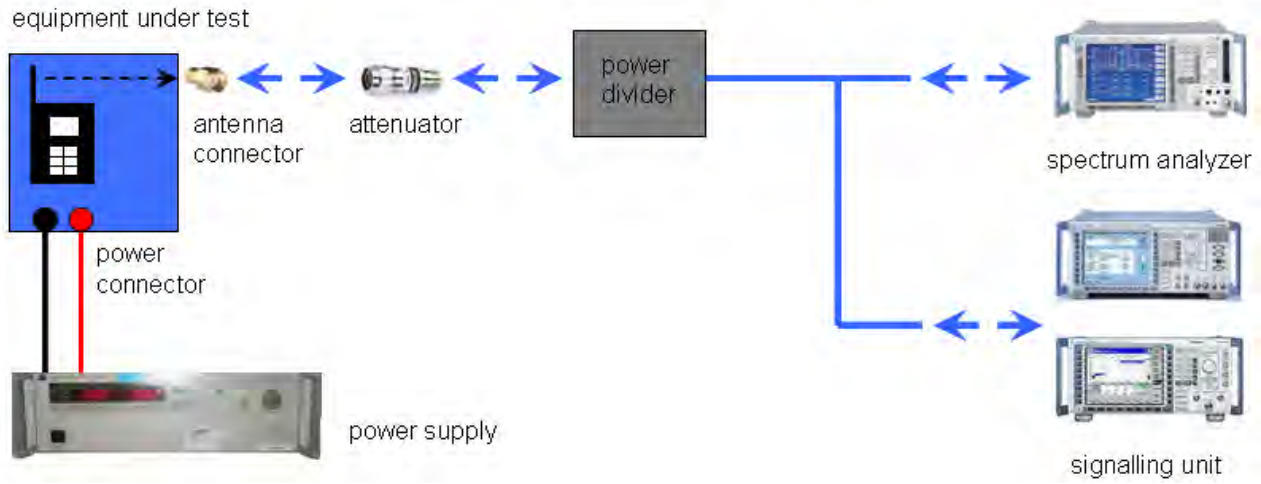
Picture 1: Diagram radiated measurements

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 is performed from outside the chamber with a signalling unit (CMU200 or other) 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). One of the signal paths is connected to the communication base Station (CMU200 or other), the other one is connected to the spectrum analyzer. The specific losses for both signal paths are first checked within a calibration. The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit 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	:	1-4254/12-10-08
Equipment Model Number	:	AAD-3880134-BV
Certification Number	:	4170B-A3880134
Manufacturer (complete Address)	:	Sony Ericsson Mobile Communications AB Nya Vattentornet 22188 Lund / SWEDEN
Tested to radio standards specification no.	:	RSS 210, Issue 7, Annex 8
Open Area Test Site IC No.	:	IC 3462C-1
Frequency Range or fixed frequency	:	13.56 MHz
Field Strength [dBµV/m] (at which distance)	:	49.0 dBµV/m @ 10m 29.0 dBµV/m @ 30m
Occupied bandwidth (99%-BW) [kHz]	:	1 kHz
Type of modulation	:	N0N
Emission Designator (TRC-43)	:	1H0N0N
Antenna Information	:	Integrated antenna
Transmitter Spurious (worst case) [µV/m @ 3m]	:	30 dBµV/m @ 1 GHz (noise floor)
Receiver Spurious (worst case) [µV/m @ 3m]	:	No receiver mode!

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:

2012-03-12	**Christoph Schneider**	
Date	Name	Signature

9 Measurement results

9.1 Field strength of the fundamental

Measurement:

Measurement parameter	
Detector:	Quai Peak
Sweep time:	Auto
Resolution bandwidth:	200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz
Video bandwidth:	≥ RBW
Span:	10 kHz
Trace-Mode:	Max Hold

Limits:

FCC		IC
CFR Part SUBCLAUSE § 15.225 (b)		RSS-210 Issue 7 Section A1.1.2 / 2.7 Table 4
Fundamental Frequency (MHz)	**Field strength of Fundamental (µV/m)**	**Measurement distance (m)**
13.553 to 13.567	15848 µV/m (84 dBµV/m)	30
	158489 µV/m (104 dBµV/m)	10 (Recalculated acc. to FCC part15.31 (f2))

Result:

TEST CONDITIONS		MAXIMUM POWER (dBµV/m)	
Frequency		13.56 MHz	13.56 MHz
Mode		at 10 m distance	at 30 m distance
T_{nom} = 22 °C	$V_{nom=}$ V DC	49.0	29.0
Measurement uncertainty		±3dB	

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

9.2 Field strength of the harmonics and spurious

Measurement:

Measurement parameter	
Detector:	Average / Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz
Video bandwidth:	≥ RBW
Span:	Steps 100 MHz
Trace-Mode:	Max Hold

Limits:

FCC		IC
SUBCLAUSE § 15.209		
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

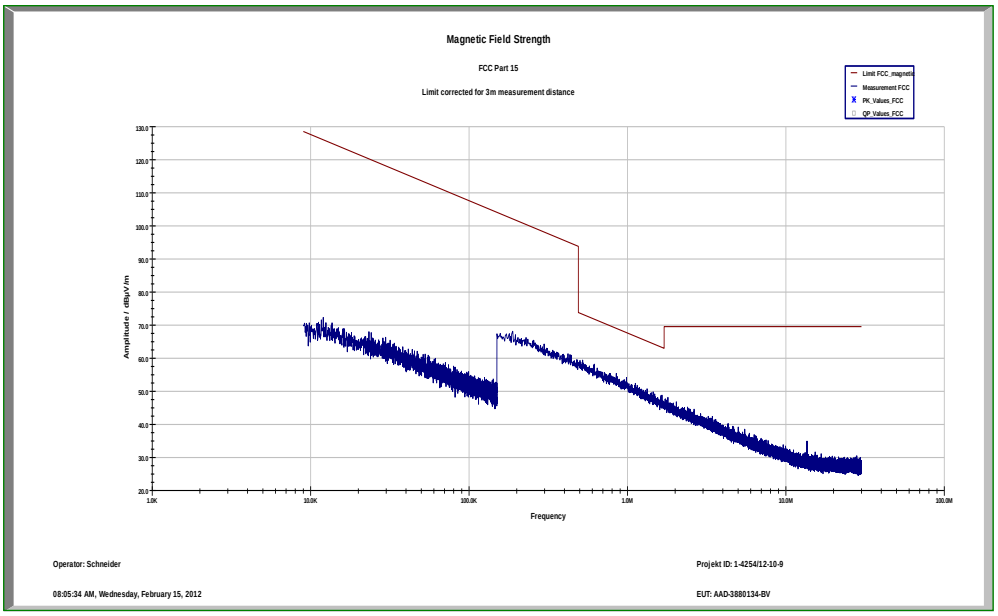
Result:

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

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

Plots of the measurements

Plot 1: 9 kHz – 30 MHz;
Part 15.209 Magnetics, Measurement distance 3m



Plot 2: 30 MHz – 1000 MHz

Common Information

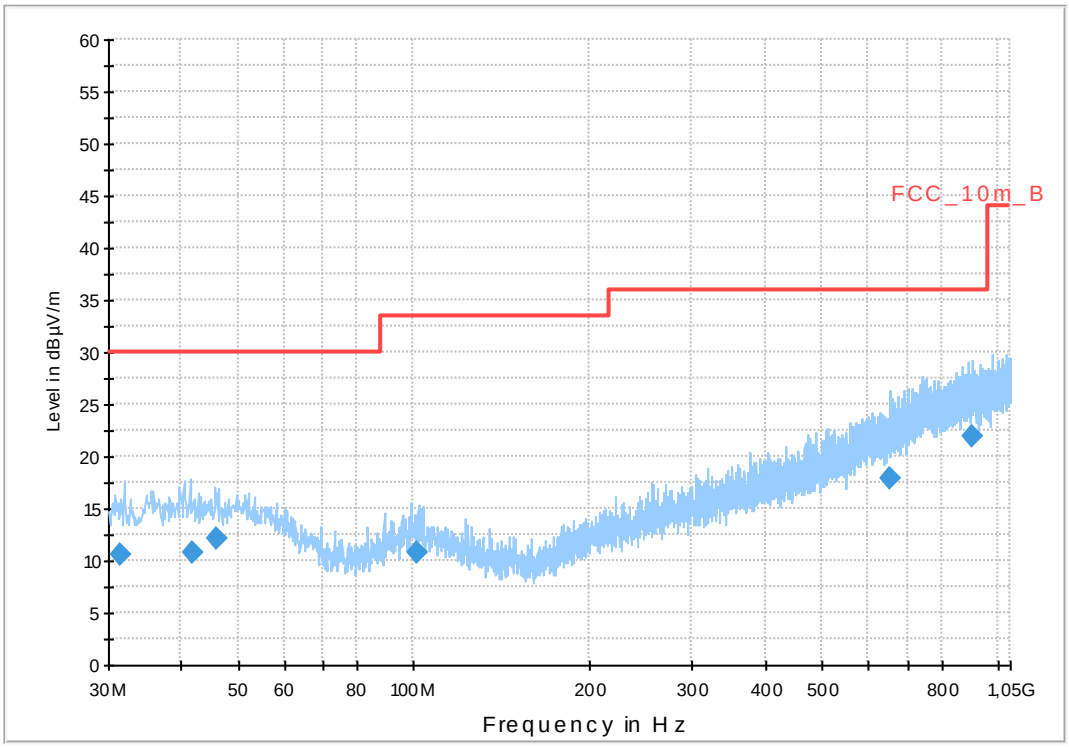
EUT:	AAD-3880134-BV
Serial Number:	sample 1: CB511VNPCS IMEI: 00440214-475692-5 | sample 2: CB511VBP99 IMEI: 00440214-475665-1
Test Description:	FCC class B @ 10 m
Operating Conditions:	RFID TX + charging
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

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

FCC_10m(B)_3

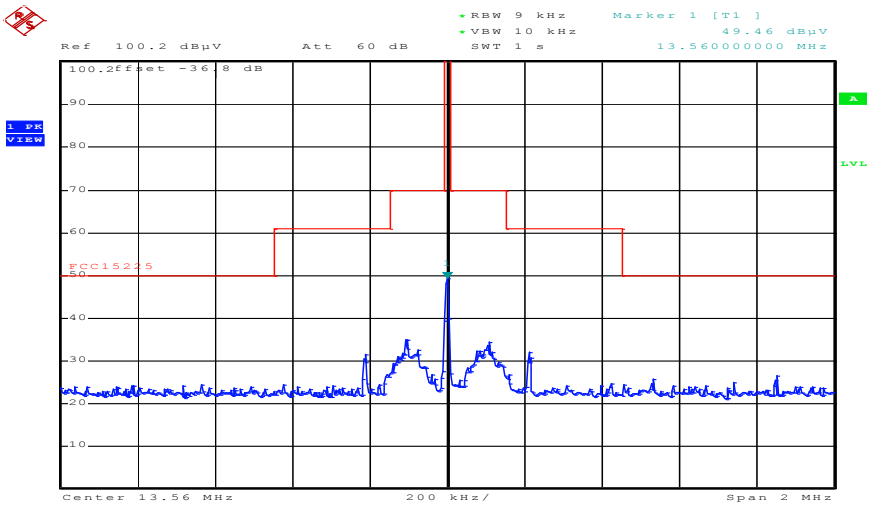


Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.466400	10.5	1000.0	120.000	157.0	V	106.0	12.7	19.5	30.0	
41.757000	10.8	1000.0	120.000	98.0	V	7.0	13.4	19.2	30.0	
45.996300	12.1	1000.0	120.000	156.0	V	106.0	13.3	17.9	30.0	
101.224950	10.8	1000.0	120.000	155.0	V	266.0	11.8	22.7	33.5	
651.634650	17.9	1000.0	120.000	120.0	V	273.0	21.2	18.1	36.0	
904.750350	21.9	1000.0	120.000	170.0	H	194.0	25.2	14.1	36.0	

Plot 3: Spectrum mask part15.225 (a,b,c,d)

Limits recalculated from 30m to 3m with 40 dB/decade according to FCC 15.31 (f2)



Date: 14.FEB.2012 13:46:57

The transmitter holds the requirements of FCC 15.225 (a,b,c and d)

9.3 Frequency tolerance

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	100 Hz
Video bandwidth:	300 Hz
Span:	30 kHz
Trace-Mode:	Max Hold

Limits:

FCC	IC
SUBCLAUSE § 15.225	RSS-210 Issue 7 Annex 2.6
The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.	

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

Frequency tolerance								
Over temperature variation			Over voltage variation					
Limit is +/- 1.356 kHz			Limit is +/- 1.356 kHz			MHz		
T (°C)]	Frequency	result	Power voltage	Frequency	result	F [MHz]	Detector	Level [µV/m]
-20°	13.559 985	Pass	Not applicable					
-10°	13.559 985	Pass						
0°	13.559 985	Pass						
10°	13.559 985	Pass						
20°	13.559 985	Pass						
30°	13.559 985	Pass						
40°	13.559 985	Pass						
50°	13.559 985	Pass						
Measurement uncertainty			±100 Hz					

9.4 AC line conducted

Measurement:

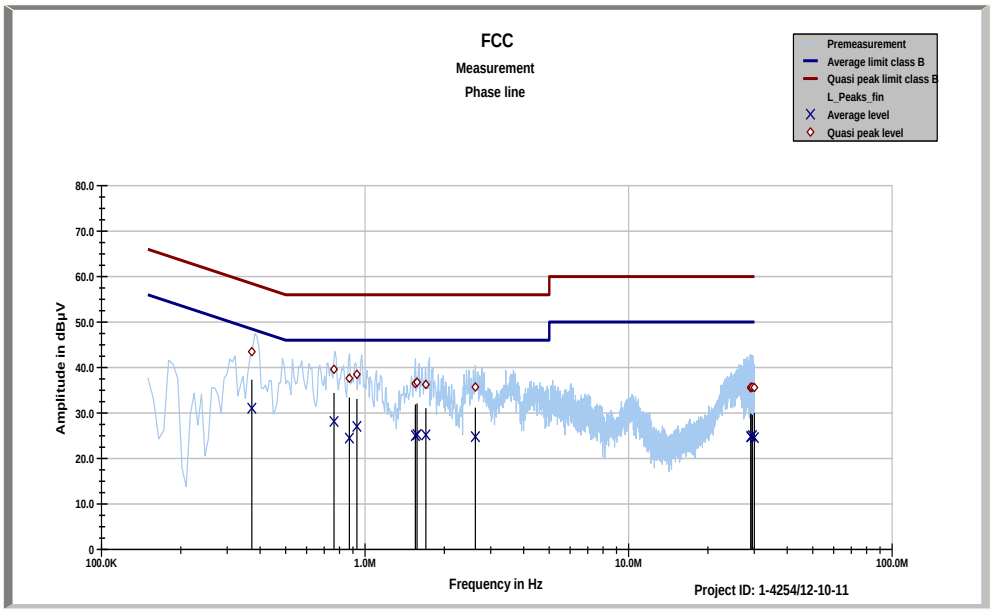
Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	9 kHz
Video bandwidth:	9 kHz
Span:	1 MHz Steps
Trace-Mode:	Max Hold

Limits:

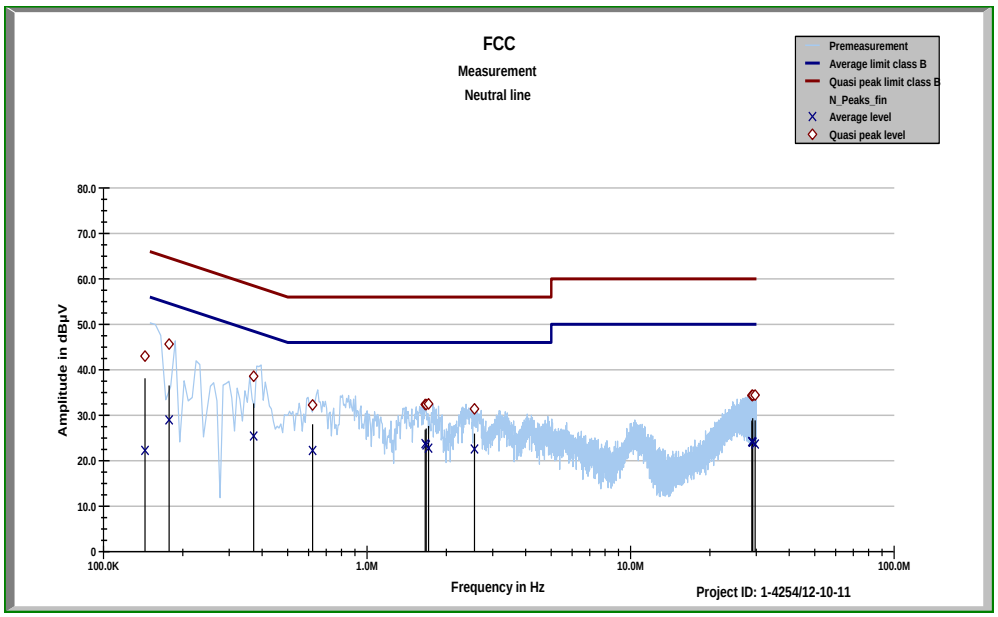
FCC	IC	
SUBCLAUSE § 15.107 / 15.207	**RSS-210 Issue 7 Section 6.6, 7.4**	
Frequency of Emission (MHz)	**Conducted Limit (dBµV)**	
	Quasi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50

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

Plot 1, Phase line:



Plot 2, Neutral line:



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.	Spectrum Analyzer 9kHz to 30GHz - 140..+30dBm	FSP30	R&S	100886	300003575	k	07.09.2010	07.09.2012
2	n. a.	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2818A03450	300001040	Ve	12.01.2012	12.01.2015
3	n. a.	Coaxial Attenuator 30dB/500W	8325	Bird	1530	300001595	ev		
4	n. a.	Biconical Antenna, 20 MHz - 200 MHz	3104	EMCO	3758	300001602	g		
5	n. a.	Log. Period. Antenna	3146	EMCO	2130	300001603	g		
6	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKl!	11.05.2011	11.05.2013
7	n. a.	Active Loop Antenna	6502	EMCO	2210	300001015	ne		
21	n. a.	Drucker	Paintjet 3630A	HP I.V.	3040a98124	300001634	g		
22	n. a.	Drucker	Laserjet IIIp	HP I.V.	3128juc1qc	300001635	g		
23	n. a.	Antenna mast	AM9104	Schwarzbeck		300001278	ne		
24	n. a.	Antenna mast	UAAlp9107	Schwarzbeck		300002478			
25	n. a.	Triple Loop Antenna 9 kHz to 30 MHz	HM020	R&S	832211/003	300002243	ne		
26	62	Inductive Probe for ESH2/ESH3 100 kHz - 30 MHz	HFH2-Z4	R&S	881468/026	300001464	ne		
27	Spec.A. 2_2e	System rack for EMI measurement solution	85900	HP I.V.	*	300000222	ne		
28	Spec.A. 2_2a	Spectrum Analyzer 2_2a	8566B	HP Meßtechnik	2747A05275	300000219	NK!	18.01.2008	
29	Spec.A. 2_2d	Quasi-Peak-Adapter	85650A	HP Meßtechnik	2811A01135	300000216	NK!	23.01.2008	
30	EMV Sys. 2/5	RF-Preselector	85685A	HP Meßtechnik	2837A00779	300000218	vk		
31	Spec.A. 1_1a	Spectrum Analyzer	85660B	HP Meßtechnik	3138A07614	300001207	NK!	13.12.2007	
32	Spec.A. 1_1b	Spectrum Analyzer Display 1	85662A	HP Meßtechnik	3144A28627	300001208	NK!	13.12.2007	
33	n. a.	Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	891847-35	300001169	ne		
34	Spec.A. 1_1d	Quasi-Peak Adapter	85650A	HP Meßtechnik	2811A01204	300002308	NK!	13.12.2007	
35	n. a.	Relaismatrix (FTA)	HP3488A	HP Meßtechnik	2719A15013	300000151	ne		
36	n. a.	NF PCM Tester	PCM 23	W&G	P-0049	300000196	NK!		
37	n. a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
38	n. a.	Broadband Horn Antenna EMI	35155P	HP Meßtechnik		300002300	ne		
39	n. a.	Arbeitsplatzrechner	Vectra VL	HP Meßtechnik		300001688	g		
40	n. a.	VHF Measurement antenna	VHA 9103	Schwarzbeck		300001778	ne		
41	Spec.A. 2_2b	Spectrum Analyzer Display 2_2b	85662A	HP Meßtechnik	2816A16497	300001690	NK!	23.01.2008	
42	Spec.A. 1_1c	RF-Preselector	85685A	HP Meßtechnik	2837A00778	300002448	NK!	13.12.2007	

43	n. a.	VHF Measurement antenna	VHA 9103	Schwarzbeck		300001780	NK!	01.07.2004	
44	Spec.A. 2_2c	RF-Preselector	85685A	HP Meßtechnik	2833A00768	400000081	NK!	18.01.2008	
45	n. a.	Biconical Antenna, 20 MHz - 200 MHz	3104 C	EMCO	9909-4868	300002590	ne		
46	n. a.	Band Reject filter	WRCG1855/1910-1835/1925-40/8SS	Wainwright	7	300003350	ev		
47	n. a.	Band Reject filter	WRCG2400/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
49	n. a.	USB/GPIB Interface	82357A	Meilhaus	MY45468646	300003428	ne		
50	n. a.	EGPRS-Treiber	EGPRS-Treiber für EMQ-100 Software	EMCO	none	300003441	ne		
51	n. a.	TILE-Software Emission	Quantum Change, Modell TILE-ICS/FULL	EMCO	none	300003451	ne		
52	n. a.	Highpass Filter	WHKX2.9/18G-12SS	Wainwright	1	300003492	ev		
53	n. a.	Hygro-Thermometer	-/-, 5-45°C, 20-100%rF		-/-	400000110	izw	04.08.2011	04.08.2012
57	n. a.	Highpass Filter	WHK1.1/15G-10SS	Wainwright	3	300003255	ev		
58	n. a.	Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789	ne		
59	n. a.	PSA Spectrum Analyzer 3 Hz - 26.5 GHz	E4440A	Agilent Technologies	MY48250080	300003812	k	08.09.2010	08.09.2012
60	n. a.	MXG Microwave Analog Signal Generator	N5183A	Agilent Technologies	MY47420220	300003813	k	13.09.2010	13.09.2012
61	n. a.	RF Filter Section 9kHz - 1GHz	N9039A	Agilent Technologies	MY48260003	300003825	vlKl!	08.09.2010	08.09.2012
62	n. a.	Conical Log-Spiral Antenna	3102	ETS-LINDGREN	00091823	300003849	NK!	30.10.2008	
63	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vlKl!	14.10.2011	14.10.2014
64	n. a.	High Pass Filter	VHF-3500+	Mini Circuits	-/-	400000193	ne		
65	n. a.	Digital Multimeter	VC 820	Voltcraft	1090451771	400000258	ne		
66	n. a.	Signal Analyzer 20Hz-26,5GHz-150 to + 30 DBM	FSiQ26	R&S	835111/0004	300002678	Ve	04.11.2010	04.11.2012
67	n. a.	Test Receiver	ESH2	R&S	871921/095	300002505	Ve	12.01.2012	12.01.2014
68	n. a.	Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824	vlKl!	18.11.2008	18.03.2012

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlkl!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

11 Observations

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

Annex D Document history

Version	Applied changes	Date of release
1.0	Initial release	2012-03-12

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

DAkkS Deutsche Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH
German Accreditation Body

Entrusted according to Section 8 subsection1 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) Rolf Egner
Head of Division 2

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Front side of certificate

Deutsche Akkreditierungsstelle GmbH

Office Berlin	Office Frankfurt am Main	Office Braunschweig
Spittelmarkt 10	Gartenstraße 6	Bundesallee 100
10117 Berlin	60594 Frankfurt am Main	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
ILAC: www.ilac.org
IAF: www.iaf.nu

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