TCC
Nokia

FINAS
Finnish Accreditation Service
T117 (EN ISO/IEC 17025)

SAR Compliance Test Report

Test report no.:	Cph_SAR_0546_04	**Date of report:**	2005-11-14
Template version:	4	**Number of pages:**	71
Testing laboratory:	TCC Copenhagen Nokia Danmark A/S Frederikskaj DK-1790 Copenhagen V Denmark Tel. +45 33 29 29 29 Fax. +45 33 29 20 01	**Client:**	Nokia Danmark A/S Frederikskaj DK-1790 Copenhagen V Denmark Tel. +45 33 29 29 29 Fax. +45 33 29 20 01
Responsible test engineer:	Leif Funch Klysner	**Product contact person:**	Ernest Mayer
Measurements made by:	Leif Klysner/Jesper Nielsen		
Tested device:	RM-79		
FCC ID:	QTKRM-79	**IC:**	661AD-RM79
Supplement reports:	-		

Testing has been carried out in accordance with:

47CFR §2.1093
Radiofrequency Radiation Exposure Evaluation: Portable Devices

FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)
Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

RSS-102
Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields

IEEE 1528 - 2003
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

Documentation: The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.

Test results: **The tested device complies with the requirements in respect of all parameters subject to the test.** The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.

Date and signatures: **2005-12-08**

For the contents:

Leif Funch Klysner
Test System Manager

Digitally signed by Leif Funch Klysner
DN: cn=Leif Funch Klysner, c=DK, o=Radio Spectrum, ou=CertT, email=leif.klysner@nokia.com
Reason: I am approving this document
Date: 2005.12.08 12:25:24 +01'00'

CONTENTS

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2005-11-09 to 2005-11-22
SN, HW and SW numbers of tested device	IMEI: 004400/72/174305/0 HW: 0510 SW:03.09 DUT#28461 IMEI: 004400/72/174582/4 HW: 0510 SW:03.09 DUT#28468
Batteries used in testing	BP-6M, DUT#28464, 28465, 28465, 28466, 28467
Headsets used in testing	HS-6, DUT#28715
Other accessories used in testing	SD card, DUT#28460
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

The maximum measured SAR values for Head configuration and Body Worn configuration are given in section 1.2.1 and 1.2.2 respectively. The device conforms to the requirements of the standards when the maximum measured SAR value is less than or equal to the limit.

1.2.1 Head Configuration

Mode	Ch / *f* (MHz)	Radiated power	Position	SAR limit (1g avg)	Measured SAR value (1g avg)	Result
GSM850	251 / 848.8	30.4 dBm ERP	Right, Cheek	1.6 W/kg	0.71 W/kg	PASSED
GSM1900	661 / 1880.0	26.7 dBm EIRP	Right, Cheek	1.6 W/kg	0.51 W/kg	PASSED
WCDMA1900	9538 / 1907.6	17.1 dBm EIRP	Left, Tilt	1.6 W/kg	0.96 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / *f* (MHz)	Radiated power	Separation distance	SAR limit (1g avg)	Measured SAR value (1g avg)	Result
2-Slot GPRS850	190 / 836.6	27.8 dBm ERP	2.2 cm	1.6 W/kg	1.08 W/kg	PASSED
2-Slot GPRS1900	661 / 1880	26.4 dBm EIRP	2.2 cm	1.6 W/kg	0.74 W/kg	PASSED
WCDMA1900	9262 / 1852.4	17.4 dBm EIRP	2.2 cm	1.6 W/kg	0.37 W/kg	PASSED

1.2.3 Maximum Drift

Maximum drift during measurements	0.31 dB

1.2.4 Measurement Uncertainty

Extended Uncertainty (k=2) 95%	± 29.8 %

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

Modes and Bands of Operation	GSM 850 / 1900	GPRS 850 / 1900	EGPRS 850 / 1900	WCDMA 1900	BT
Modulation Mode	GMSK	GMSK	8PSK	QPSK	GFSK
Duty Cycle	1/8	1/8 or 2/8	1/8 or 2/8	1	
Transmitter Frequency Range (MHz)	824 – 849 1850 - 1910	824 – 849 1850 - 1910	824 – 849 1850 – 1910	1850-1910	2402-2480

Outside of USA and Canada, the transmitter of the device is capable of operating also in GSM900 and GSM1800, which are not part of this filing.

EGPRS mode was not measured, because maximum averaged output power is more than 3 dB lower in EGPRS mode than in GPRS mode.

2.1 Picture of the Device

Front - closed

Front - open

Side

Rear

2.2 Description of the Antenna

The device has an internal patch antenna.

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	20.5 to 22.5
Ambient humidity (RH %):	35 to 55

3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester. Communication between the device and the call tester was established by air link.

The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.

In all operating bands the measurements were performed on lowest, middle and highest channels.

The radiated output power of the device was measured by a separate test laboratory on the same unit as used for SAR testing.

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

The measurements were performed using an automated near-field scanning system, DASY4 software version 4.6, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements on the device was the 'worst-case extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE 3	501	12 months	2006-01
DAE 3	339	12 months	2006-08
E-field Probe ET3DV6	1807	12 months	2006-01
E-field Probe ET3DV6	1786	12 months	2006-01
Dipole Validation Kit, D835V2	476	24 months	2007-01
Dipole Validation Kit, D1900V2	5d013	24 months	2006-07

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SMIQ03B	826046/034	36 months	2007-02
Amplifier	ZHL-42W	E012903	-	-
Power Meter	NRVD	833696/030	24 months	2006-05
Power Sensor	NRV-Z51	843275/004	24 months	2007-02
Call Tester	4400M	0411216	-	-
Vector Network Analyzer	AT8753ES	MY40001091	12 months	2006-08
Dielectric Probe Kit	HP85070B	US33020403	-	-

4.1.1 Isotropic E-field Probes 1786 & 1807

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to 3 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

The phantom used for all tests i.e. for both system checking and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2003.

System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2003 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.

The depth of the tissue simulant was 15.0 ± 0.5 cm measured from the ear reference point during system checking and device measurements.

4.3.1 Tissue Simulant Recipes

The following recipes were used for Head and Body tissue simulants:

800MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	39.74	55.97
HEC	0.25	1.21
Sugar	58.31	41.76
Preservative	0.15	0.27
Salt	1.55	0.79

1900MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.88	69.02
Butyl Diglycol	44.91	30.76
Salt	0.21	0.22

4.3.2 System Checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below.

System checking, head tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.27	42.0	0.91	
	± 10% window	2.04 – 2.50			
835	2005-11-17	2.14	41.4	0.89	21.5
	Reference result	10.0	39.4	1.44	
	± 10% window	9.0 – 11.0			
1900	2005-11-09	10.2	39.2	1.43	21.2
	2005-11-10	11.0	39.0	1.44	21.1

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.47	54.9	1.01	
	± 10% window	2.22 – 2.72			
835	2005-11-18	2.48	54.6	0.97	21.2
	Reference result	10.4	52.2	1.58	
	± 10% window	9.4 – 11.4			
1900	2005-11-21	10.6	54.3	1.60	21.5
	2005-11-22	10.6	54.2	1.59	21.3

Plots of the system checking scans are given in Appendix A.

4.3.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
836	2005-11-17	41.4	0.89	21.5
	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
1880	2005-11-09	39.3	1.41	21.2
	2005-11-10	39.1	1.42	21.1

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
836	2005-11-18	54.6	0.97	21.2
	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
1880	2005-11-21	54.4	1.58	21.5
	2005-11-22	54.2	1.57	21.3

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

A Nokia designed spacer (illustrated below) was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.

Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2003 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”.

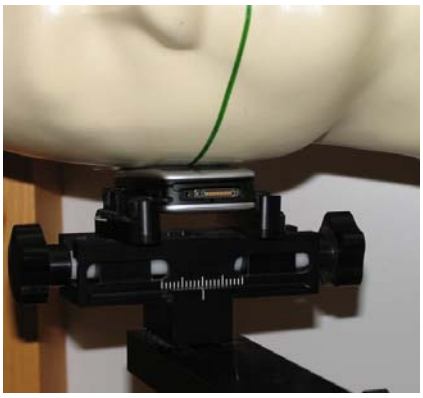


Photo of the device with the slide closed in "cheek" position

Photo of the device with the slide closed in "tilt" position

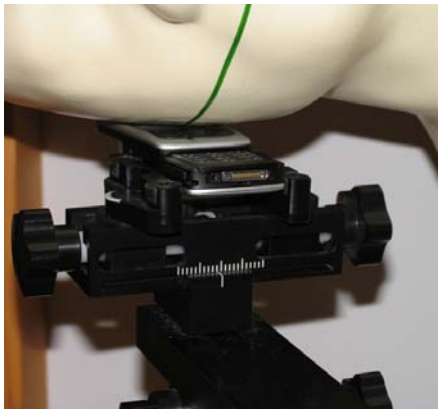


Photo of the device with the slide open in "cheek" position

Photo of the device with the slide open in "tilt" position

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in the photo below using a separate flat spacer that was removed before the start of the measurements. The device was oriented with its antenna facing the phantom since this orientation gives higher results.

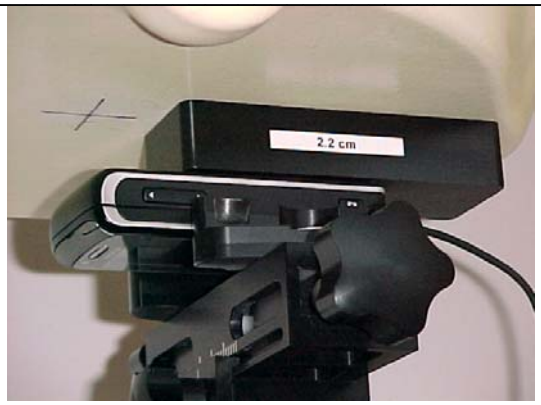


Photo of the device positioned for Body SAR measurement.
The spacer was removed for the tests.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy4 are all based on the modified Quadratic Shepard's method (Robert J. Renka, "Multivariate Interpolation Of Large Sets Of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	c_i	$c_i . u_i$ (%)	v_i
Measurement System							
Probe Calibration	E2.1	±5.8	N	1	1	±5.8	∞
Axial Isotropy	E2.2	±4.7	R	√3	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	E2.2	±9.6	R	√3	$(c_p)^{1/2}$	±3.9	∞
Boundary Effect	E2.3	±8.3	R	√3	1	±4.8	∞
Linearity	E2.4	±4.7	R	√3	1	±2.7	∞
System Detection Limits	E2.5	±1.0	R	√3	1	±0.6	∞
Readout Electronics	E2.6	±1.0	N	1	1	±1.0	∞
Response Time	E2.7	±0.8	R	√3	1	±0.5	∞
Integration Time	E2.8	±2.6	R	√3	1	±1.5	∞
RF Ambient Conditions - Noise	E6.1	±3.0	R	√3	1	±1.7	∞
RF Ambient Conditions - Reflections	E6.1	±3.0	R	√3	1	±1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	±0.4	R	√3	1	±0.2	∞
Probe Positioning with respect to Phantom Shell	E6.3	±2.9	R	√3	1	±1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E5.2	±3.9	R	√3	1	±2.3	∞
Test sample Related							
Test Sample Positioning	E4.2.1	±6.0	N	1	1	±6.0	11
Device Holder Uncertainty	E4.1.1	±5.0	N	1	1	±5.0	7
Output Power Variation - SAR drift measurement	6.6.3	±10.0	R	√3	1	±5.8	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±4.0	R	√3	1	±2.3	∞
Conductivity Target - tolerance	E3.2	±5.0	R	√3	0.64	±1.8	∞
Conductivity - measurement uncertainty	E3.3	±5.5	N	1	0.64	±3.5	5
Permittivity Target - tolerance	E3.2	±5.0	R	√3	0.6	±1.7	∞
Permittivity - measurement uncertainty	E3.3	±2.9	N	1	0.6	±1.7	5
Combined Standard Uncertainty			RSS			**±14.9**	206
Coverage Factor for 95%			**k=2**				
Expanded Standard Uncertainty						**±29.8**	

7. RESULTS

The measured Head SAR values for the test device are tabulated below:

850 MHz Head SAR results

Option	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM850	**Power**		**28.7 dBm**	**29.4 dBm**	**30.4 dBm**
Slide Closed	Left	Cheek	-	0.54	-
		Tilt	-	0.36	-
	Right	Cheek	0.45	0.57	**0.67**
		Tilt	-	0.43	-
GSM850	**Power**		**26.6 dBm**	**27.3 dBm**	**27.9 dBm**
Slide Open	Left	Cheek	-	0.23	-
		Tilt	-	0.10	-
	Right	Cheek	-	0.25	-
		Tilt	-	0.12	-
Slide Closed	Highest SAR configuration in this band repeated with SD-Card		-	**-**	**0.71**
Slide Closed	Highest SAR value measurement in this band repeated with BT active		**-**	-	0.70

1900 MHz Head SAR results

Option	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM1900	**Power**		**29.2 dBm**	**26.7 dBm**	**26.5 dBm**
Slide Closed	Left	Cheek	-	0.31	-
		Tilt	-	0.32	-
	Right	Cheek	0.44	**0.51**	0.49
		Tilt	-	0.49	-
GSM1900	**Power**		**29.0 dBm**	**25.8 dBm**	**25.1 dBm**
Slide Open	Left	Cheek	-	0.16	-
		Tilt	-	0.10	-
	Right	Cheek	-	0.14	-
		Tilt	-	0.11	-
Slide Closed	Highest SAR Value measurement in this band repeated with SD-Card		-	0.45	-
Slide Closed	Highest SAR value measurement in this band repeated with BT active		-	0.33	-

WCDMA 1900 Head SAR results

Option	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA 1900	**Power**		**18.6 dBm**	**16.6 dBm**	**17.1 dBm**
Slide Closed	Left	Cheek	-	0.63	-
		Tilt	0.93	0.76	**0.95**
	Right	Cheek	-	0.57	-
		Tilt	-	0.66	-
WCDMA 1900	**Power**		**20.5 dBm**	**17.6 dBm**	**15.5 dBm**
Slide Open	Left	Cheek	-	0.49	-
		Tilt	-	0.34	-
	Right	Cheek	-	0.33	-
		Tilt	-	0.27	-
Slide Closed	Highest SAR Value measurement in this band repeated with SD-Card		**-**	**-**	0.87
Slide Closed	Highest SAR value measurement in this band repeated with BT active		-	-	**0.96**

The measured Body SAR values for the test device are tabulated below:

850 MHz Body SAR results

Option	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM850	**Power**	**28.7 dBm**	**29.4 dBm**	**30.4 dBm**
Slide Closed	Without headset	-	0.57	-
	Headset HS-6	-	-	-
2-Slot GPRS850	**Power**	**27.2 dBm**	**27.8 dBm**	**29.8 dBm**
Slide Closed	Without headset	0.97	**1.05**	0.94
	Headset HS-6	0.55	0.66	0.70
Slide Closed	Highest SAR value measurement in this mode repeated with SD-Card	-	**1.08**	-
Slide Closed	Highest SAR value measurement in this mode repeated with BT active	-	0.94	-

1900 MHz Body SAR results

Option	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM1900	**Power**	**29.2 dBm**	**26.7 dBm**	**26.5 dBm**
Slide Closed	Without headset	-	0.40	-
	Headset HS-6	-	-	-
2-Slot GPRS1900	**Power**	**28.2 dBm**	**26.4 dBm**	**25.4 dBm**
Slide Closed	Without headset	0.69	**0.74**	0.71
	Headset HS-6	0.71	0.69	0.71
Slide Closed	Highest SAR value measurement in this mode repeated with SD-Card	-	0.67	-
Slide Closed	Highest SAR value measurement in this mode repeated with BT active	-	0.74	-

WCDMA 1900 Body SAR results

Option	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA 1900	**Power**	**17.4 dBm**	**16.7 dBm**	**17.5 dBm**
Slide Closed	Without headset	0.34	0.34	0.35
	Headset HS-6	**0.37**	0.36	0.36
Slide Closed	Highest SAR value measurement in this mode repeated with SD-Card	0.35	-	-
Slide Closed	Highest SAR value measurement in this mode repeated with BT active	0.35	-	-

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

See the following pages.

Date/Time: 2005-11-17 16:21:41

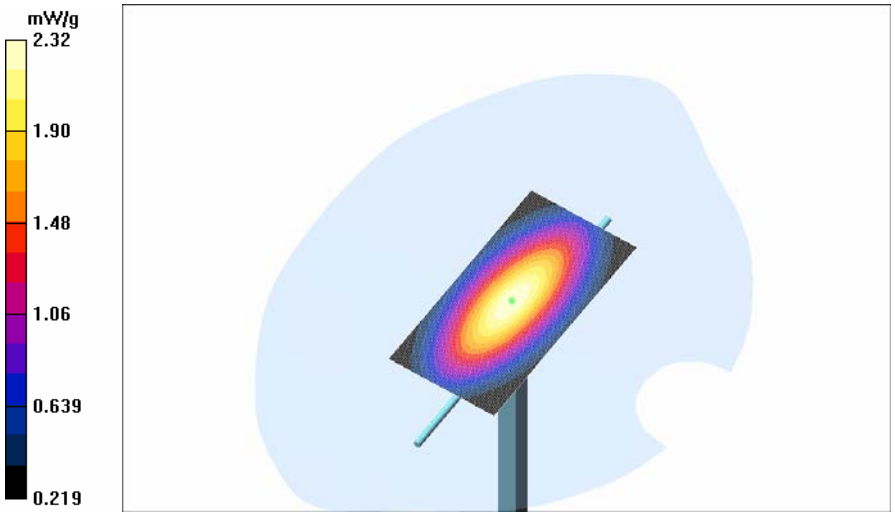
Test Laboratory: TCC Copenhagen
Type: D835V2; Serial: 476

Communication System: Continuous Wave
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Advanced Extrapolation
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.32 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.0 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 3.03 W/kg
SAR(1 g) = 2.14 mW/g; SAR(10 g) = 1.42 mW/g
Maximum value of SAR (measured) = 2.32 mW/g



Date/Time: 2005-11-09 15:06:58

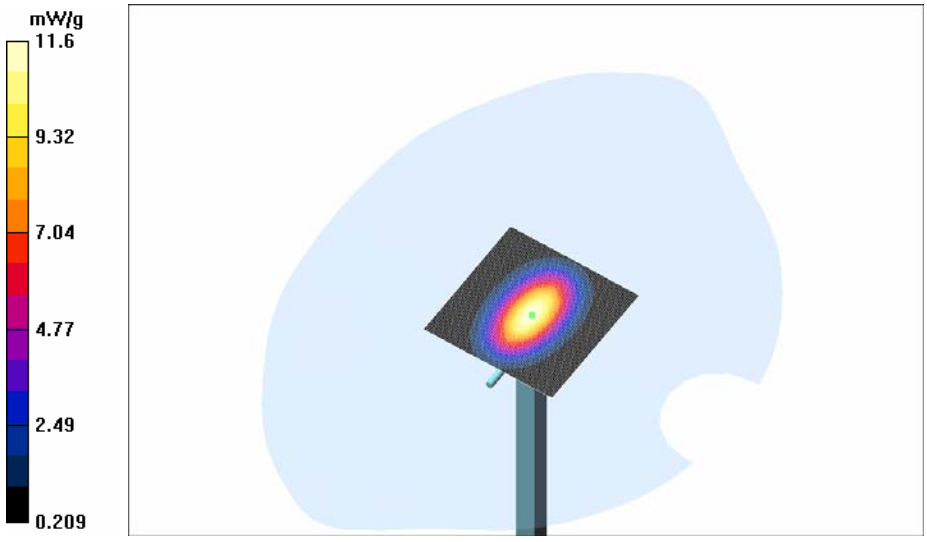
Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d013

Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; εr = 39.2; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Advanced Extrapolation
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2004-08-30
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.7 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.1 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 17.1 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.39 mW/g
Maximum value of SAR (measured) = 11.6 mW/g



Date/Time: 2005-11-10 10:00:24

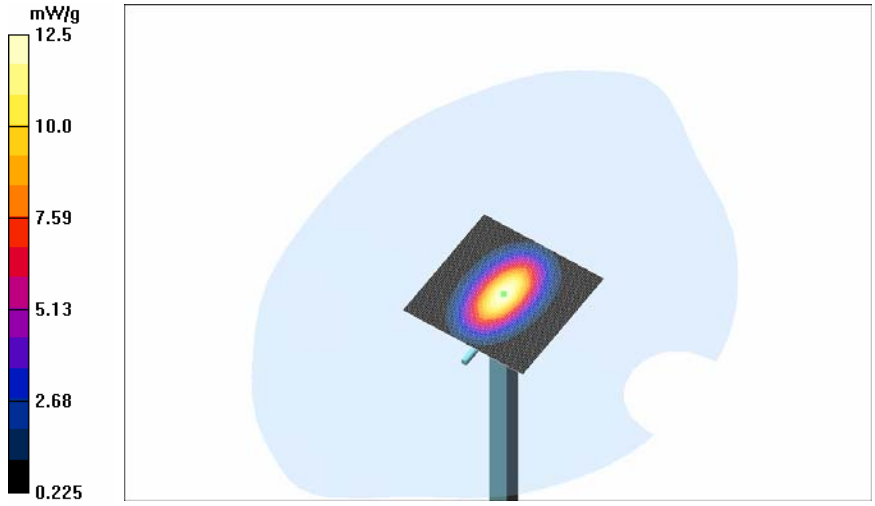
Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d013

Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1900 MHz; σ = 1.44 mho/m; εr = 39; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Advanced Extrapolation
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 12.6 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.2 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 11 mW/g; SAR(10 g) = 5.75 mW/g
Maximum value of SAR (measured) = 12.5 mW/g



Date/Time: 2005-11-18 15:24:33

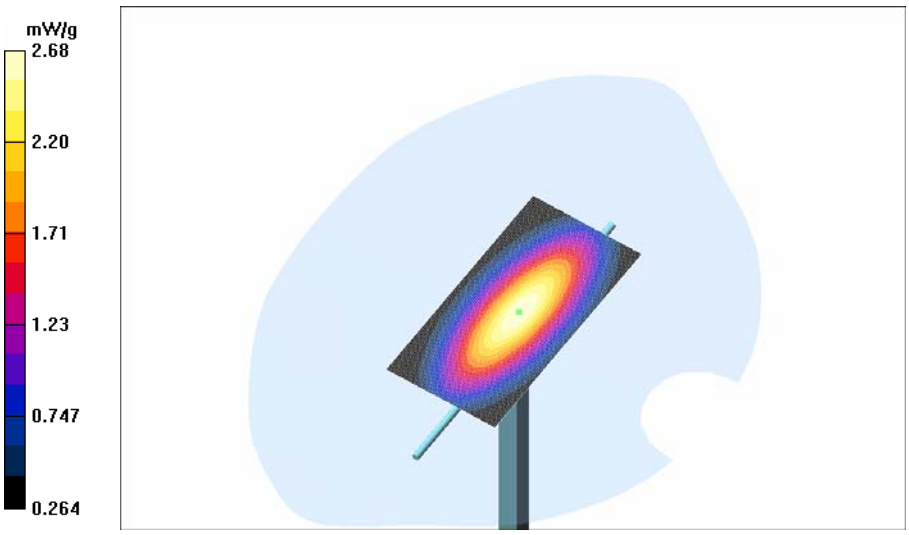
Test Laboratory: TCC Copenhagen
Type: D835V2; Serial: 476

Communication System: Continuous Wave
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: t= 21.2 C
Medium parameters used: f = 835 MHz; σ = 0.972 mho/m; εr = 54.6; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Advanced Extrapolation
- ConvF(6.26, 6.26, 6.26); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM High band; Type: Twin Phantom; Serial: TP-1274
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.68 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.68 mW/g



Date/Time: 2005-11-21 15:35:15

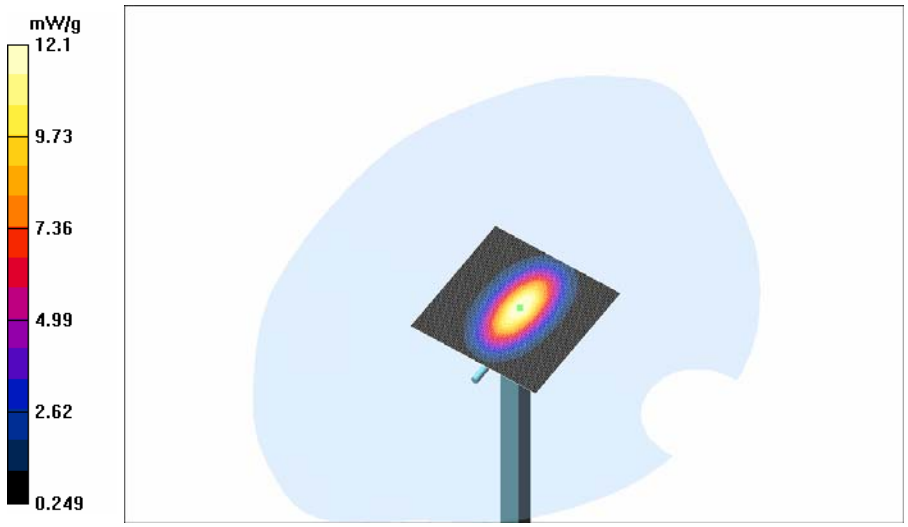
Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: D1900V2 - SN:5d026

Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 1900 MHz; σ = 1.6 mho/m; εr = 54.3; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Advanced Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 12.4 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.6 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.55 mW/g
Maximum value of SAR (measured) = 12.1 mW/g



Date/Time: 2005-11-22 14:05:00

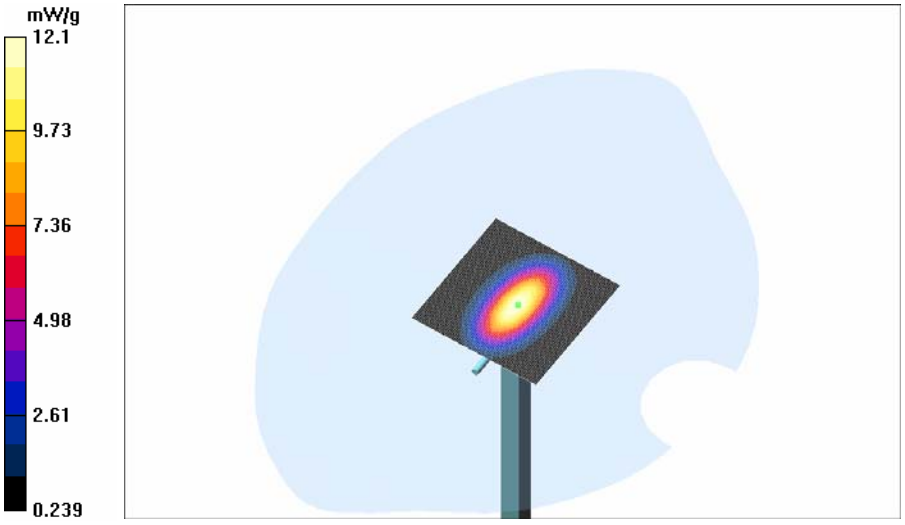
Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: D1900V2 - SN:5d026

Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C
Medium parameters used: f = 1900 MHz; σ = 1.59 mho/m; εr = 54.2; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Advanced Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 12.2 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.4 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.53 mW/g
Maximum value of SAR (measured) = 12.1 mW/g



APPENDIX B: MEASUREMENT SCANS

SEE THE FOLLOWING PAGES

Date/Time: 2005-11-17 17:17:47

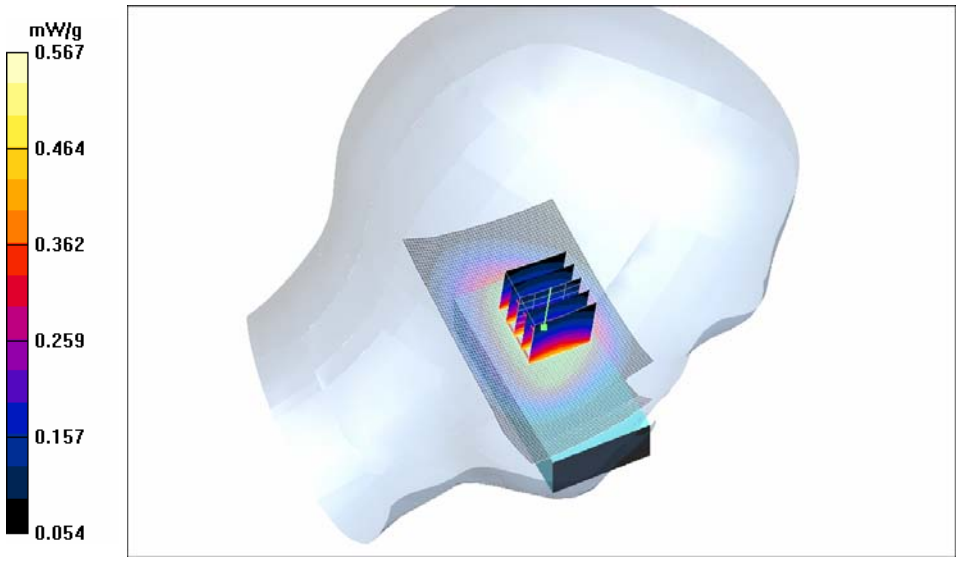
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.583 mW/g

Cheek position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.792 W/kg
SAR(1 g) = 0.540 mW/g; SAR(10 g) = 0.381 mW/g
Maximum value of SAR (measured) = 0.567 mW/g



Date/Time: 2005-11-17 17:35:39

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.394 mW/g

Tilt position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.4 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.531 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.251 mW/g

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.382 mW/g

Date/Time: 2005-11-17 20:53:28

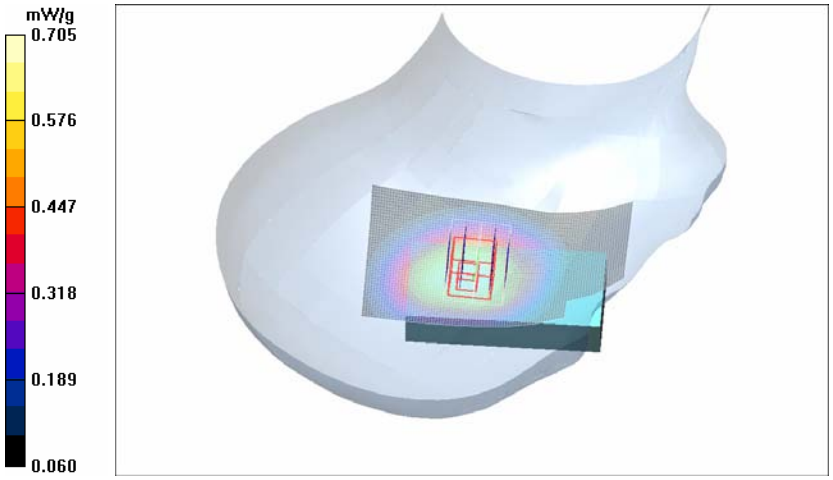
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 849 MHz; σ = 0.906 mho/m; εr = 41.2; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - High - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.700 mW/g

Cheek position - High - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 24.1 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.671 mW/g; SAR(10 g) = 0.465 mW/g
Maximum value of SAR (measured) = 0.705 mW/g



Date/Time: 2005-11-17 19:30:49

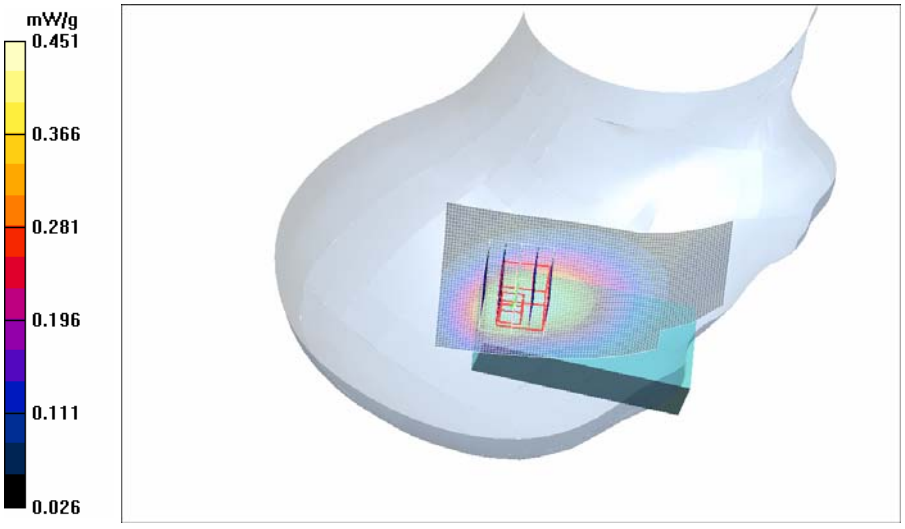
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.468 mW/g

Tilt position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.3 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.282 mW/g
Maximum value of SAR (measured) = 0.451 mW/g



Date/Time: 2005-11-17 18:18:06

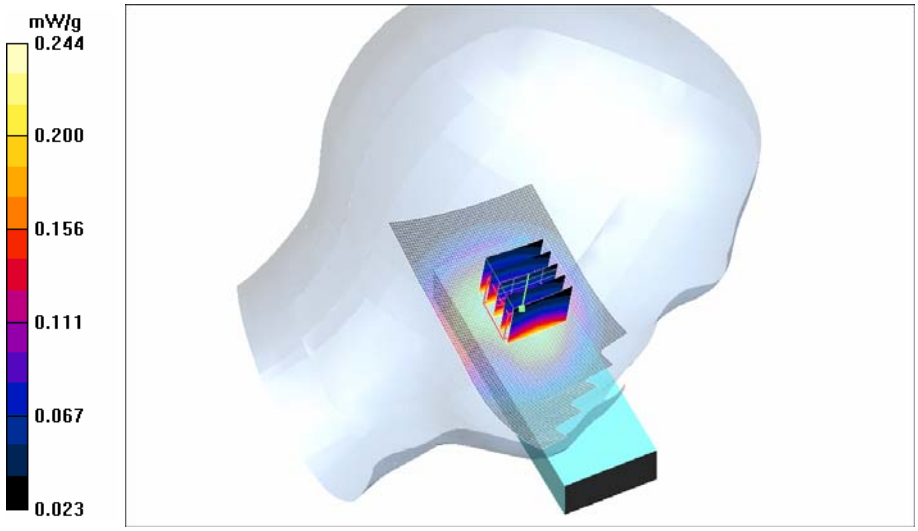
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.250 mW/g

Cheek position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.332 W/kg
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.165 mW/g
Maximum value of SAR (measured) = 0.244 mW/g



Date/Time: 2005-11-17 18:42:19

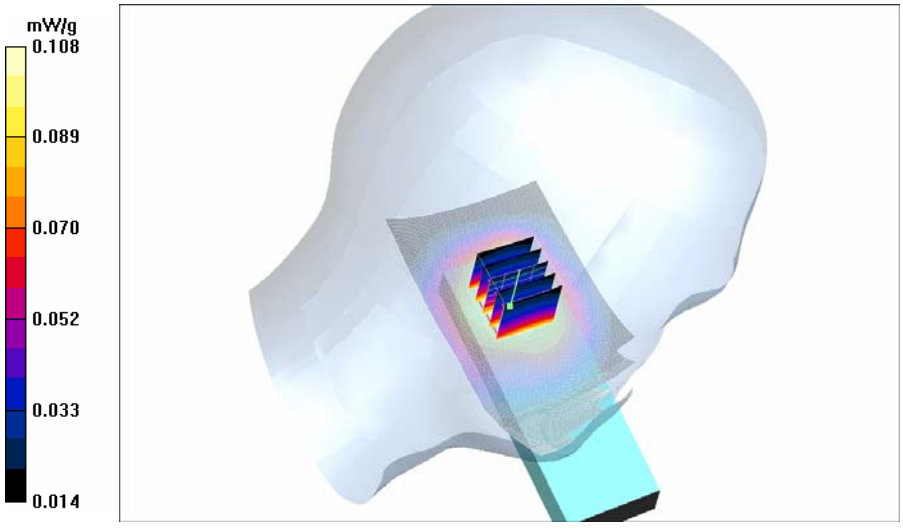
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide open/Area Scan (81x171x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.109 mW/g

Tilt position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.68 V/m; Power Drift = -0.063 dB
Peak SAR (extrapolated) = 0.149 W/kg
SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.108 mW/g



Date/Time: 2005-11-17 19:51:07

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

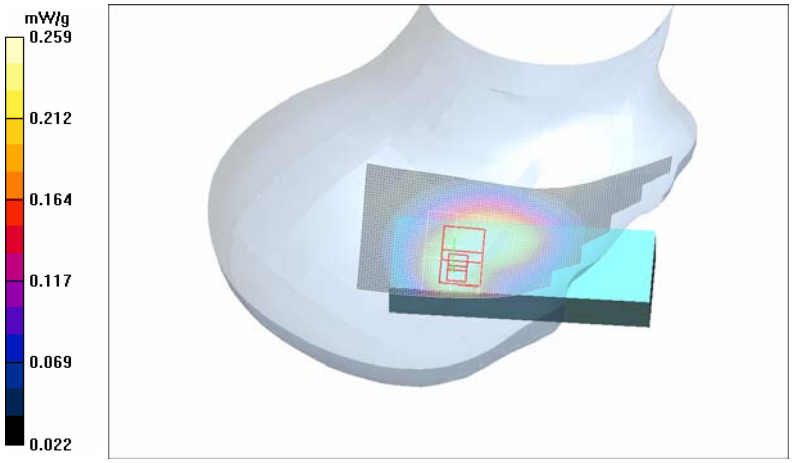
Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

Cheek position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.247 mW/g; SAR(10 g) = 0.169 mW/g

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.259 mW/g



Date/Time: 2005-11-17 20:06:25

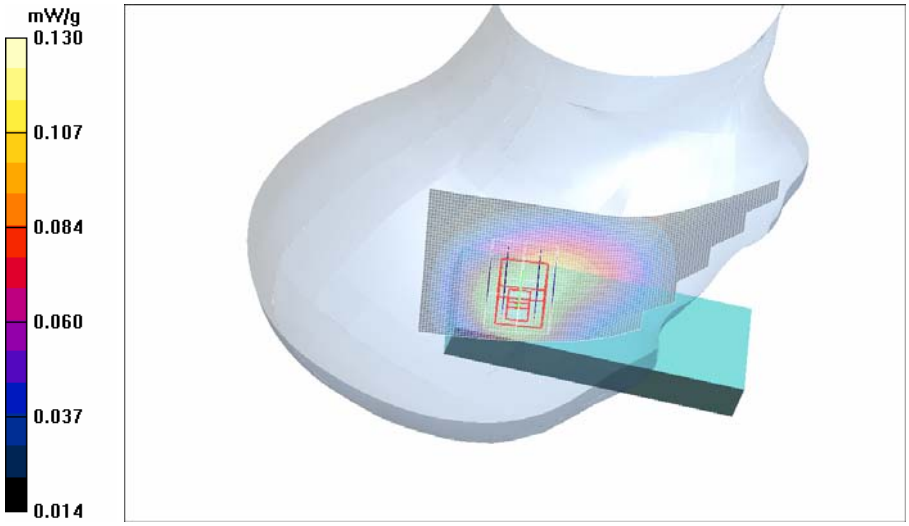
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 837 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.132 mW/g

Tilt position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.65 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 0.189 W/kg
SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.086 mW/g
Maximum value of SAR (measured) = 0.130 mW/g



Date/Time: 2005-11-17 21:12:14

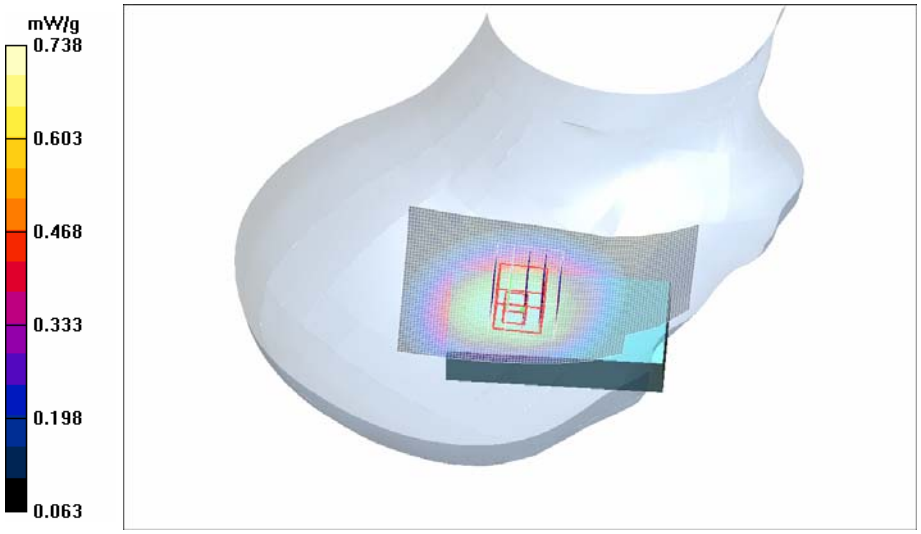
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

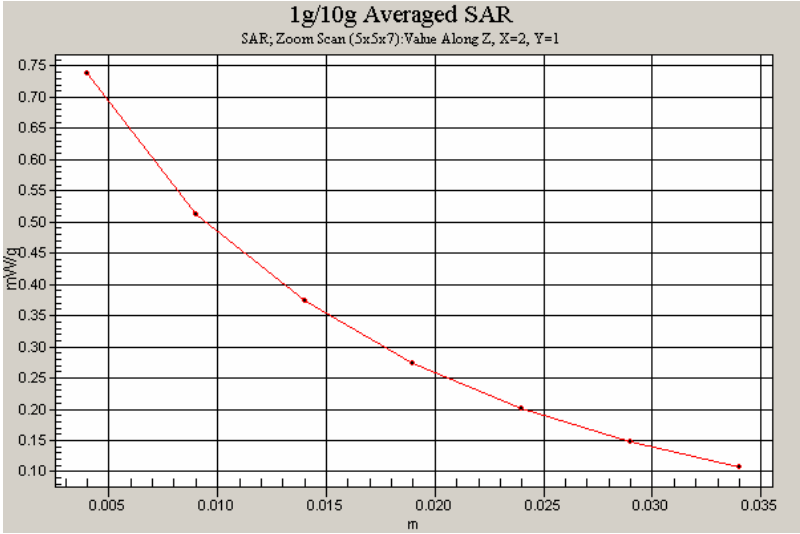
Communication System: GSM850
Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 849 MHz; σ = 0.906 mho/m; εr = 41.2; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(6.56, 6.56, 6.56); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM High Band; Type: QD000P40CB; Serial: TP-1301
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - High - Slide closed - SD card/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.747 mW/g

Cheek position - High - Slide closed - SD card/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.706 mW/g; SAR(10 g) = 0.490 mW/g
Maximum value of SAR (measured) = 0.738 mW/g





Date/Time: 2005-11-09 17:16:16

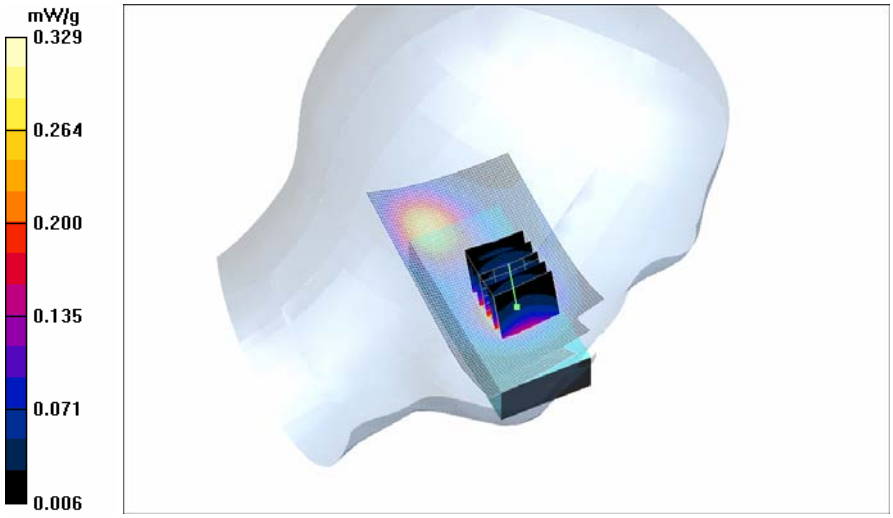
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.346 mW/g

Cheek position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.306 mW/g; SAR(10 g) = 0.182 mW/g
Maximum value of SAR (measured) = 0.329 mW/g



Date/Time: 2005-11-09 17:33:11

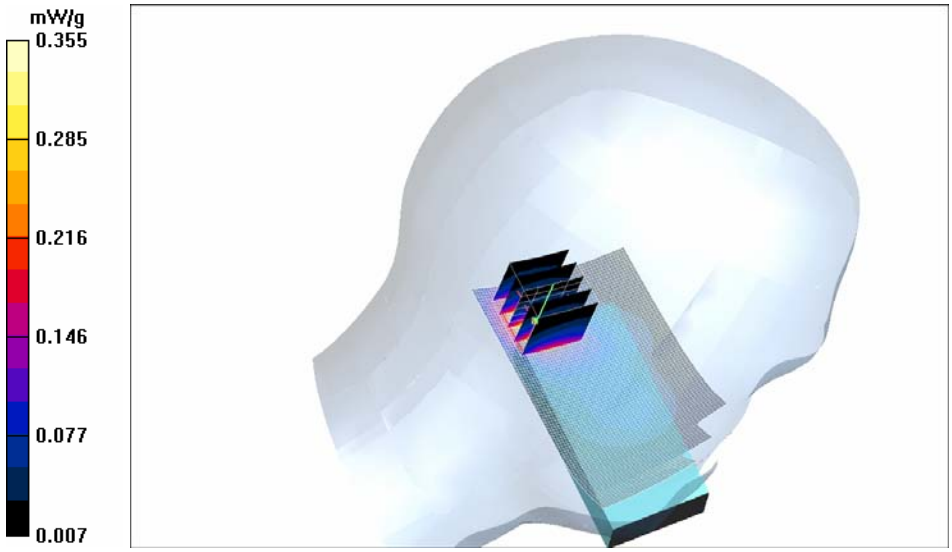
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.355 mW/g

Tilt position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.176 dB
Peak SAR (extrapolated) = 0.638 W/kg
SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.355 mW/g



Date/Time: 2005-11-09 18:07:54

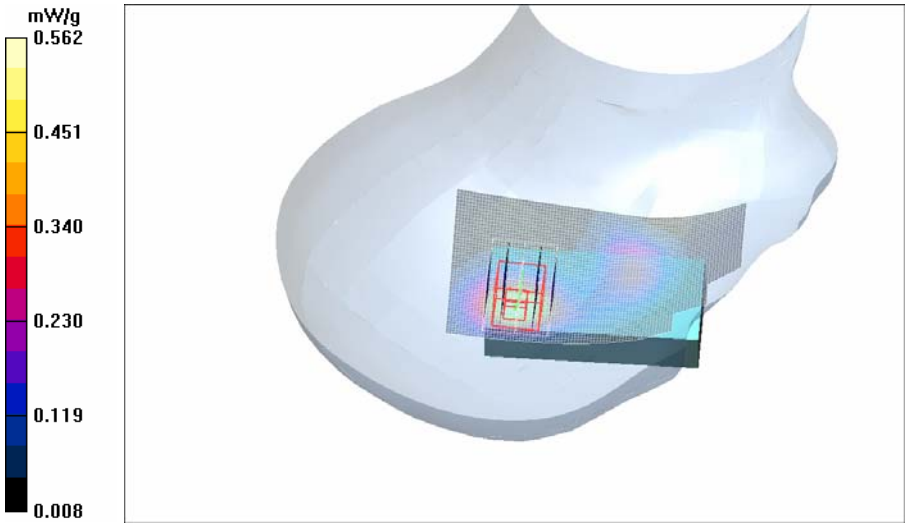
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

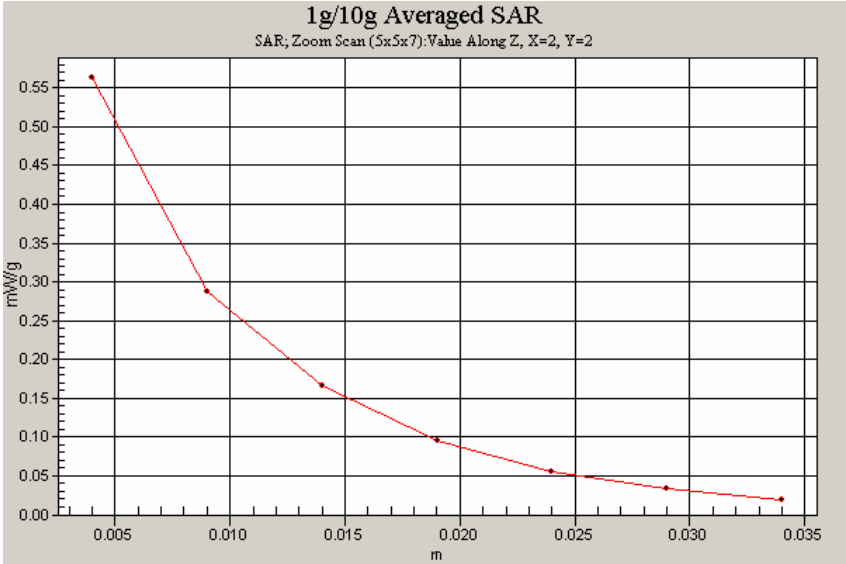
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.532 mW/g

Cheek position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = 0.135 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.562 mW/g





Date/Time: 2005-11-09 18:50:03

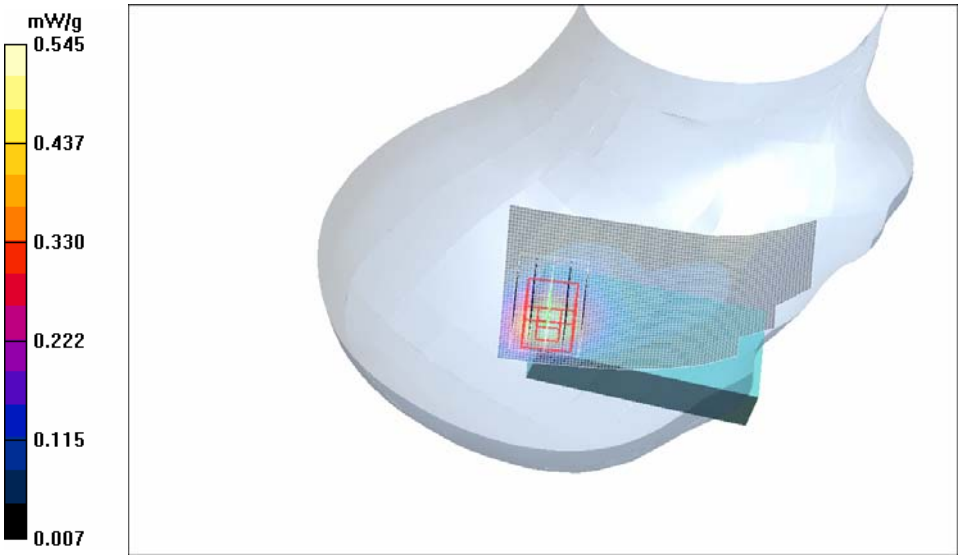
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.520 mW/g

Tilt position - Middle - Slide closed/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.493 mW/g; SAR(10 g) = 0.252 mW/g
Maximum value of SAR (measured) = 0.545 mW/g



Date/Time: 2005-11-09 16:35:07

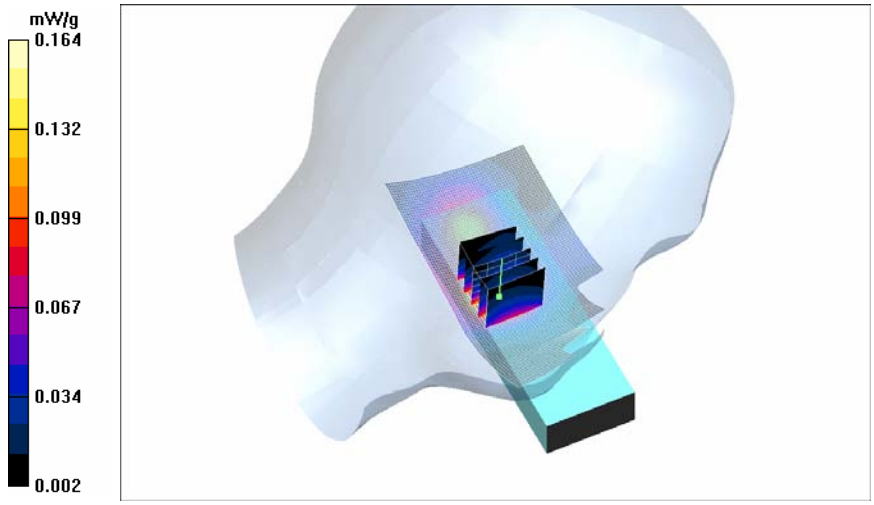
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.168 mW/g

Cheek position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.11 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.094 mW/g
Maximum value of SAR (measured) = 0.164 mW/g



Date/Time: 2005-11-09 16:58:11

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

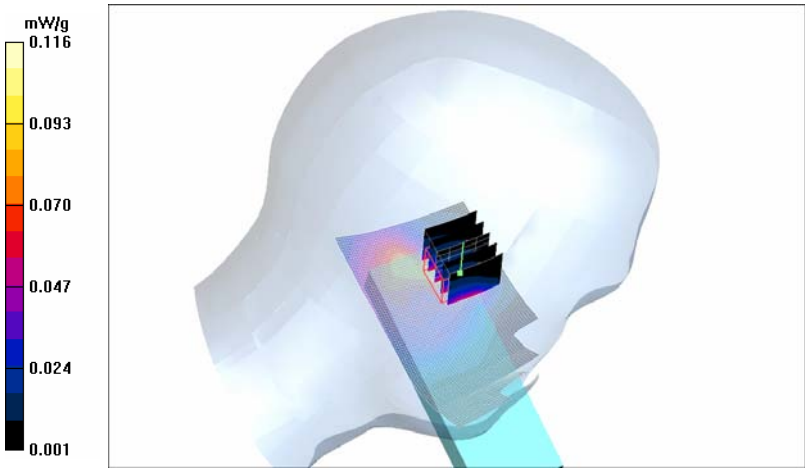
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.085 mW/g

Tilt position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.85 V/m; Power Drift = 0.197 dB
Peak SAR (extrapolated) = 0.220 W/kg
SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.050 mW/g

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.116 mW/g



Date/Time: 2005-11-09 19:49:28

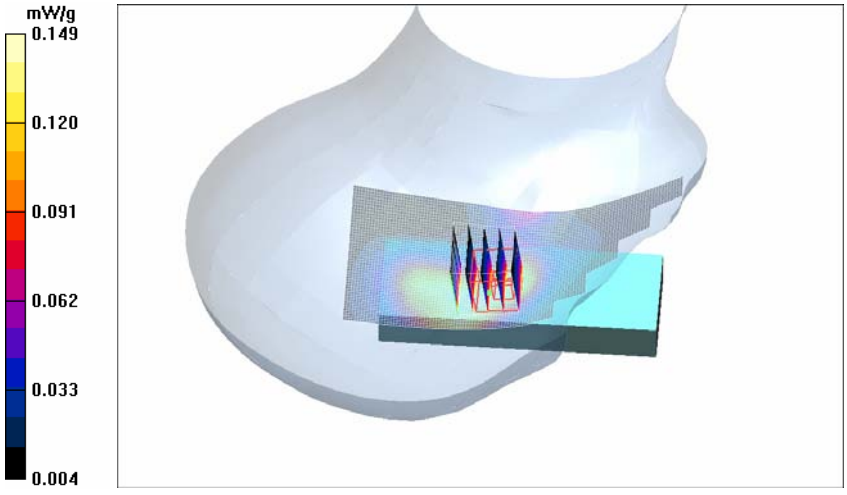
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.151 mW/g

Cheek position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.72 V/m; Power Drift = -0.098 dB
Peak SAR (extrapolated) = 0.327 W/kg
SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.088 mW/g
Maximum value of SAR (measured) = 0.149 mW/g



Date/Time: 2005-11-09 20:08:00

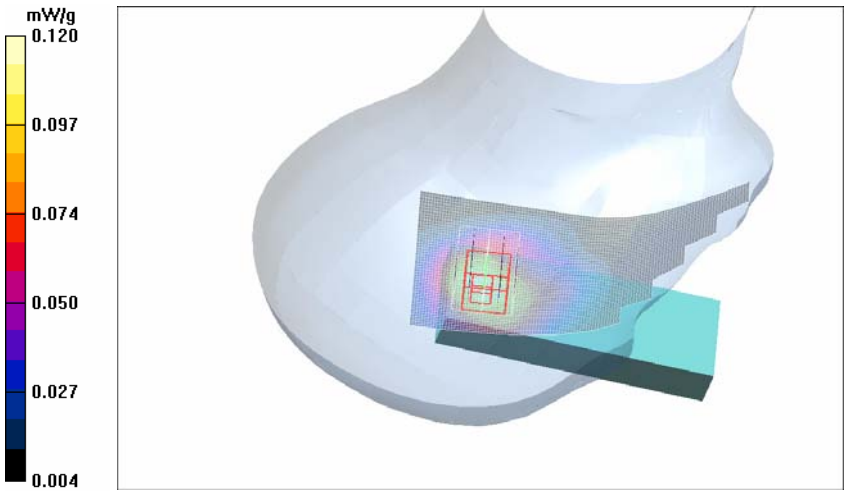
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.2 C
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 39.3; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.119 mW/g

Tilt position - Middle - Slide open/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.34 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.206 W/kg
SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.120 mW/g



Date/Time: 2005-11-10 11:03:55

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

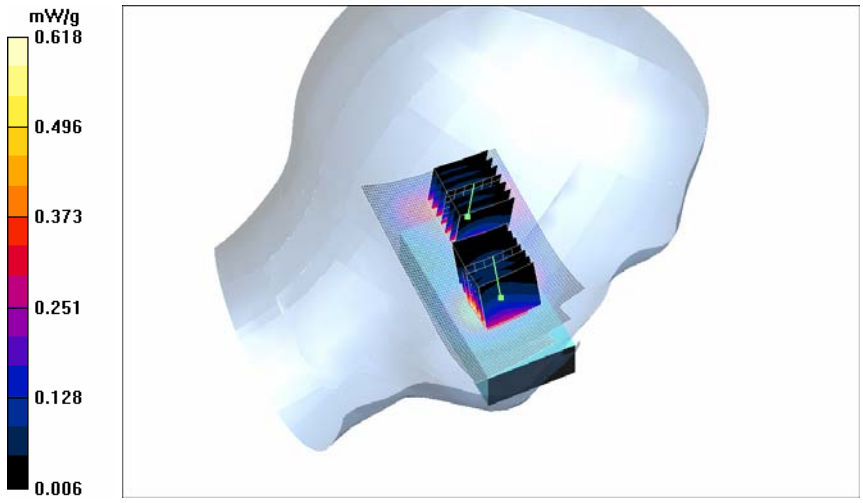
Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide Closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.651 mW/g

Cheek position - Middle - Slide Closed/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.5 V/m; Power Drift = 0.313 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.628 mW/g; SAR(10 g) = 0.332 mW/g
Maximum value of SAR (measured) = 0.681 mW/g

Cheek position - Middle - Slide Closed/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.5 V/m; Power Drift = 0.313 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.567 mW/g; SAR(10 g) = 0.330 mW/g
Maximum value of SAR (measured) = 0.618 mW/g



Date/Time: 2005-11-10 15:43:21

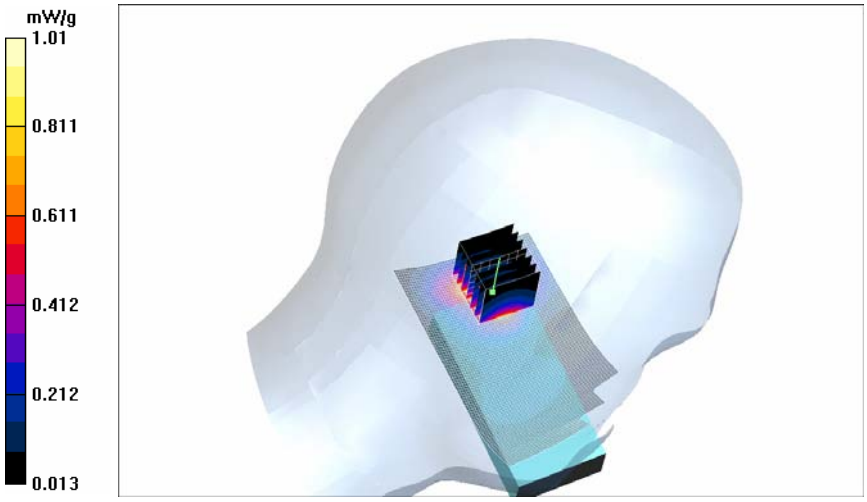
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1908 MHz; σ = 1.45 mho/m; εr = 39; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High - Slide Closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.10 mW/g

Tilt position - High - Slide Closed/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.6 V/m; Power Drift = 0.155 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 0.945 mW/g; SAR(10 g) = 0.517 mW/g
Maximum value of SAR (measured) = 1.01 mW/g



Date/Time: 2005-11-10 14:52:25

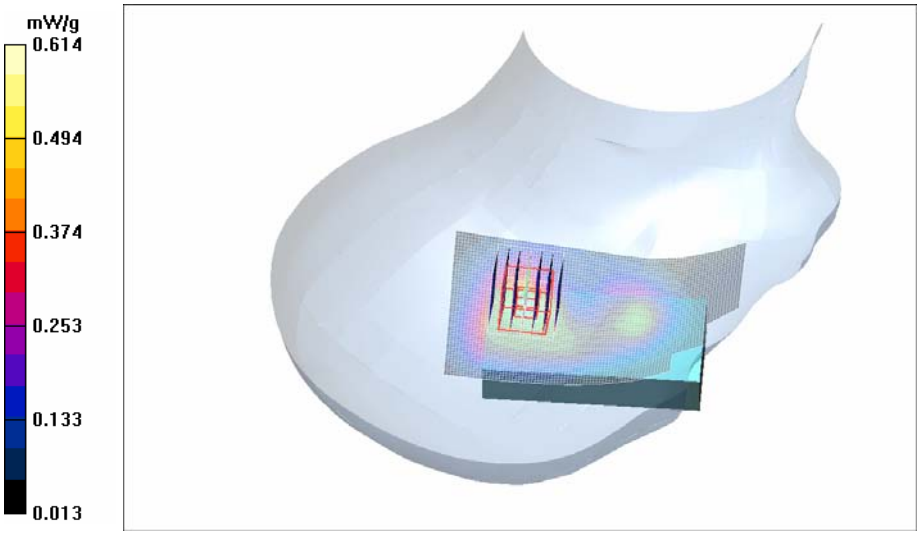
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide Closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.595 mW/g

Cheek position - Middle - Slide Closed/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.7 V/m; Power Drift = 0.056 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.570 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.614 mW/g



Date/Time: 2005-11-10 13:36:00

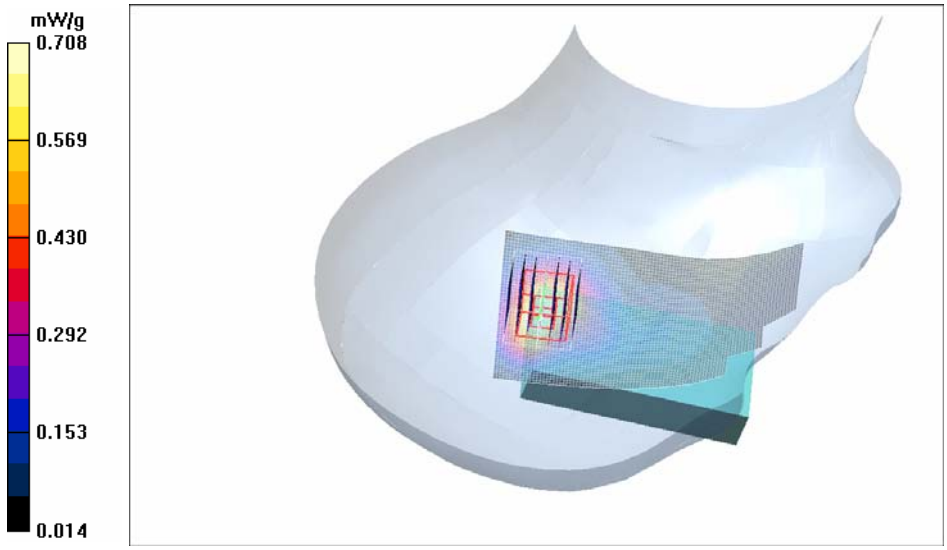
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide Closed/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.729 mW/g

Tilt position - Middle - Slide Closed/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.2 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.659 mW/g; SAR(10 g) = 0.375 mW/g
Maximum value of SAR (measured) = 0.708 mW/g



Date/Time: 2005-11-10 12:11:10

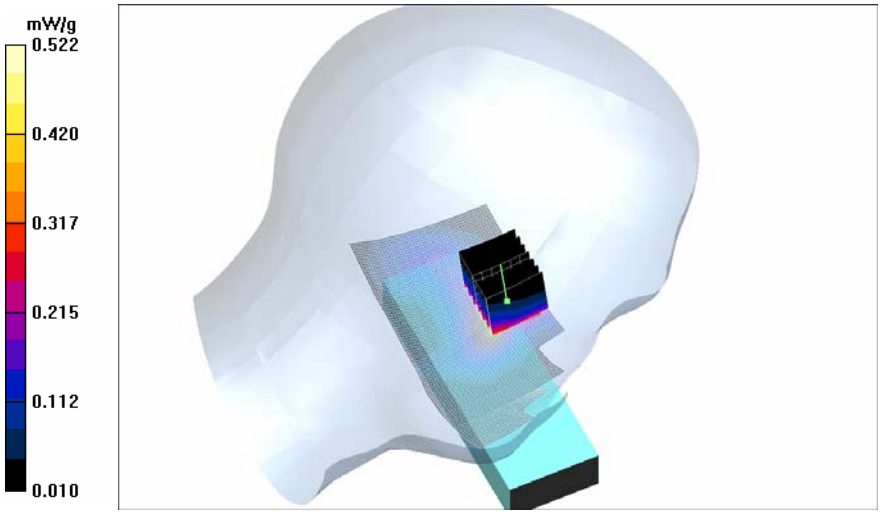
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide Open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.477 mW/g

Cheek position - Middle - Slide Open/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.486 mW/g; SAR(10 g) = 0.246 mW/g
Maximum value of SAR (measured) = 0.522 mW/g



Date/Time: 2005-11-10 12:34:31

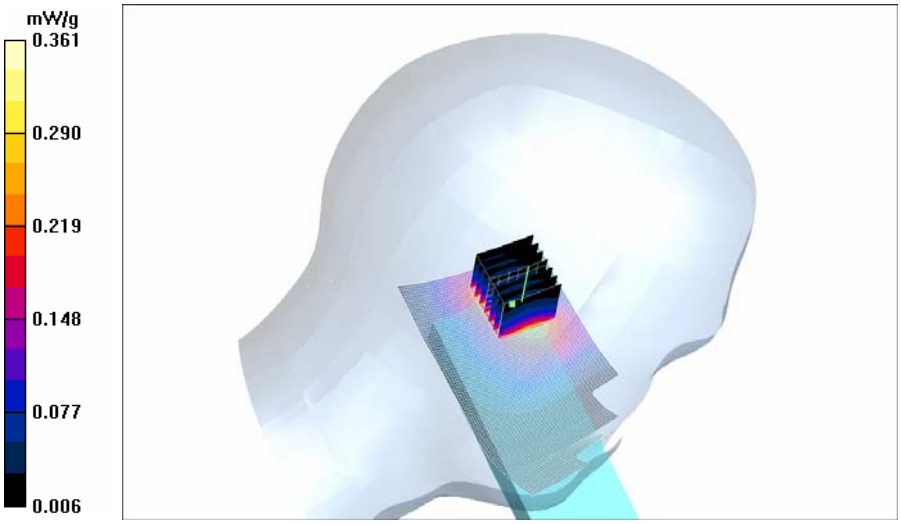
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide Open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

Tilt position - Middle - Slide Open/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.702 W/kg
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.190 mW/g
Maximum value of SAR (measured) = 0.361 mW/g



Date/Time: 2005-11-10 13:59:18

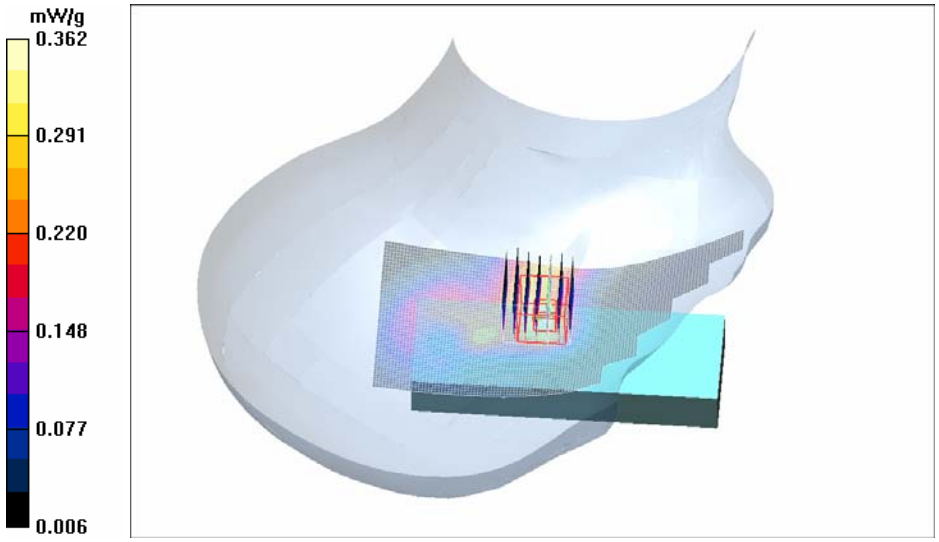
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek position - Middle - Slide Open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.365 mW/g

Cheek position - Middle - Slide Open/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = 0.180 dB
Peak SAR (extrapolated) = 0.642 W/kg
SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.187 mW/g
Maximum value of SAR (measured) = 0.362 mW/g



Date/Time: 2005-11-10 14:21:28

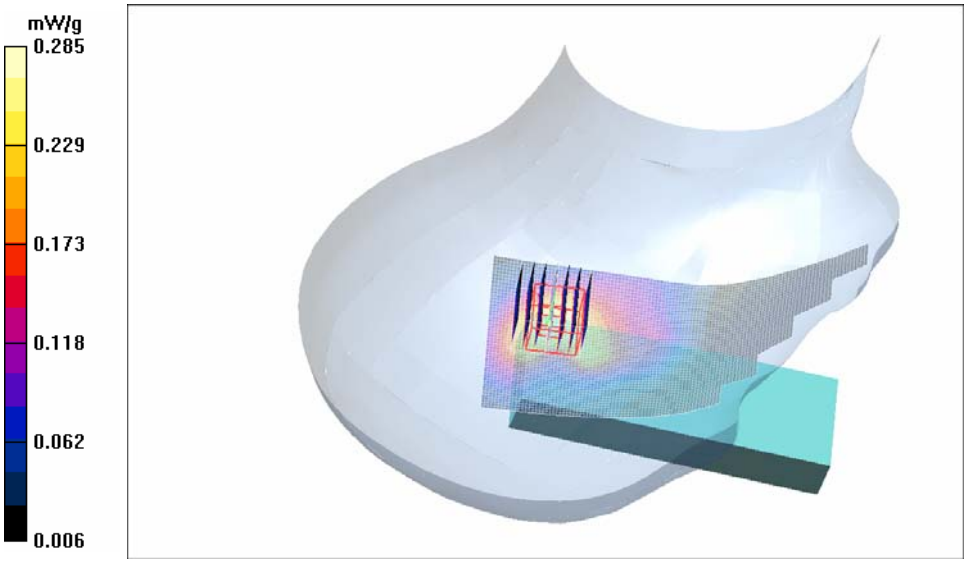
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 39.1; ρ = 1000 kg/m3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Middle - Slide Open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.272 mW/g

Tilt position - Middle - Slide Open/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 0.462 W/kg
SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.162 mW/g
Maximum value of SAR (measured) = 0.285 mW/g



Date/Time: 2005-11-10 16:50:19

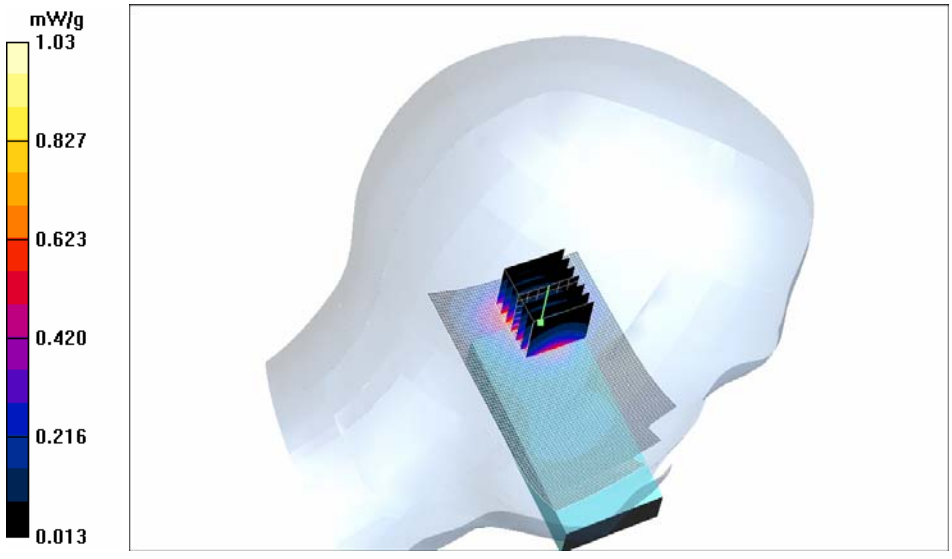
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174582/4

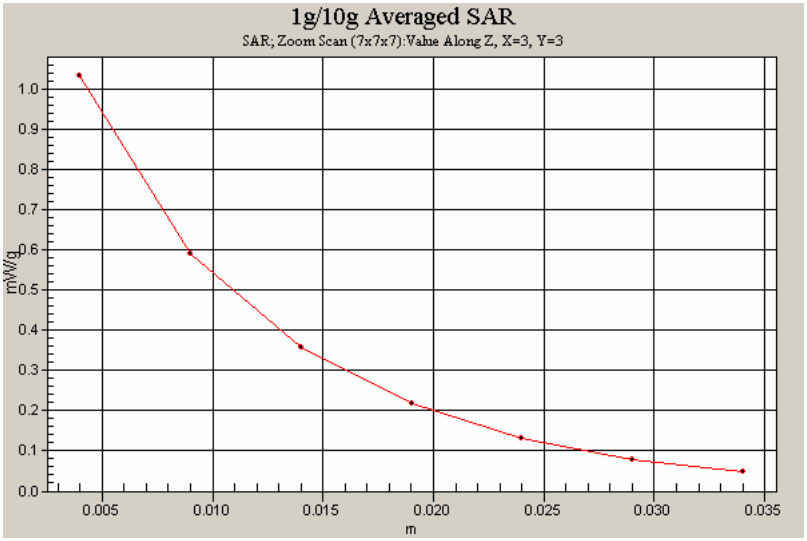
Communication System: WCDMA1900
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: t=21.1 C
Medium parameters used: f = 1908 MHz; σ = 1.45 mho/m; εr = 39; ρ = 1000 kg/m3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1786; Probe Notes: Worst Case Extrapolation.
- ConvF(5.11, 5.11, 5.11); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM Low Band; Type: QD000P40CB; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High - Slide Closed - BT active/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.06 mW/g

Tilt position - High - Slide Closed - BT active/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 0.956 mW/g; SAR(10 g) = 0.516 mW/g
Maximum value of SAR (measured) = 1.03 mW/g





Date/Time: 2005-11-18 16:54:25

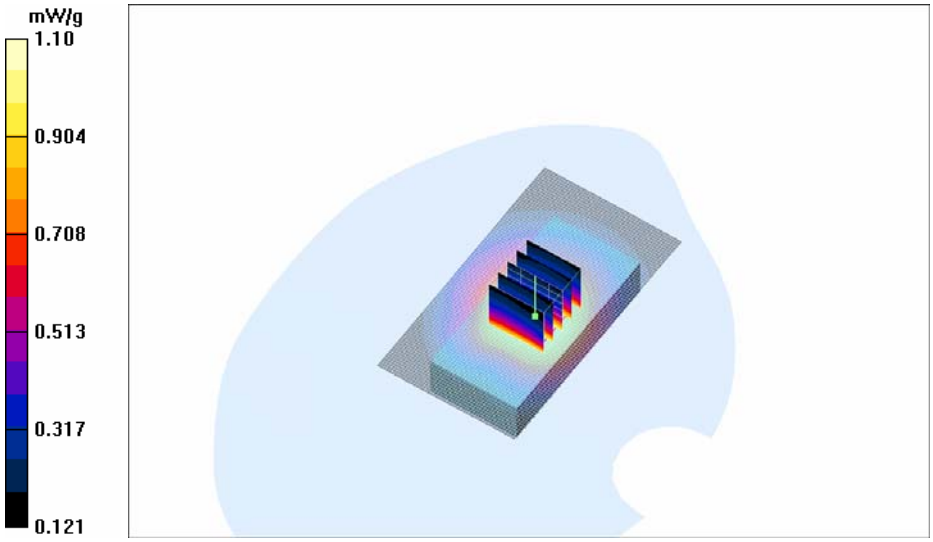
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174317/5

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Body 850; Medium Notes: Medium Temperature: t= 21.2 C
Medium parameters used: f = 837 MHz; σ = 0.974 mho/m; εr = 54.6; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(6.26, 6.26, 6.26); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM High band; Type: Twin Phantom; Serial: TP-1274
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - Middle - No Accessory/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.8 V/m; Power Drift = -0.195 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.737 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



Date/Time: 2005-11-18 17:44:04

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174317/5

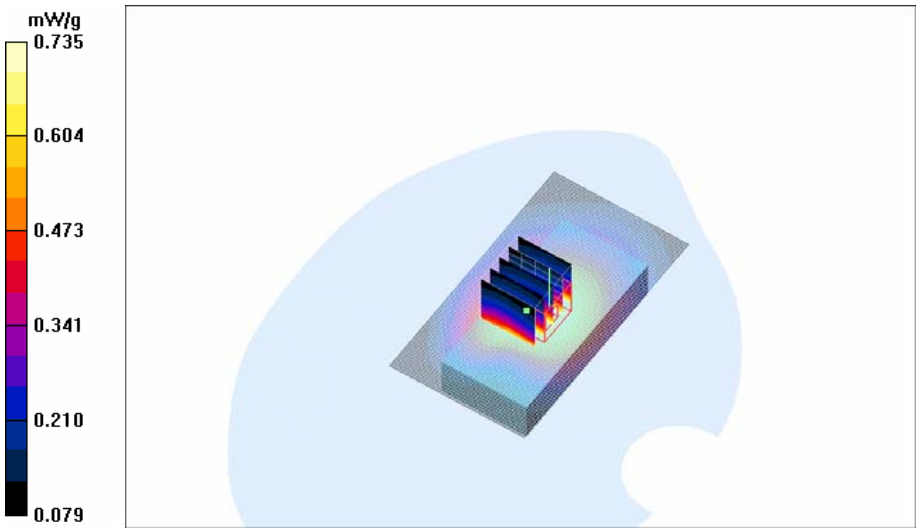
Communication System: 2-slot GPRS850
Frequency: 848.8 MHz; Duty Cycle: 1:4.2
Medium: Body 850; Medium Notes: Medium Temperature: t= 21.2 C
Medium parameters used: f = 849 MHz; σ = 0.987 mho/m; εr = 54.5; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(6.26, 6.26, 6.26); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM High band; Type: Twin Phantom; Serial: TP-1274
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - HS-6/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.708 mW/g

Body - High - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.0 V/m; Power Drift = -0.070 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.701 mW/g; SAR(10 g) = 0.491 mW/g

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.735 mW/g



Date/Time: 2005-11-18 19:10:54

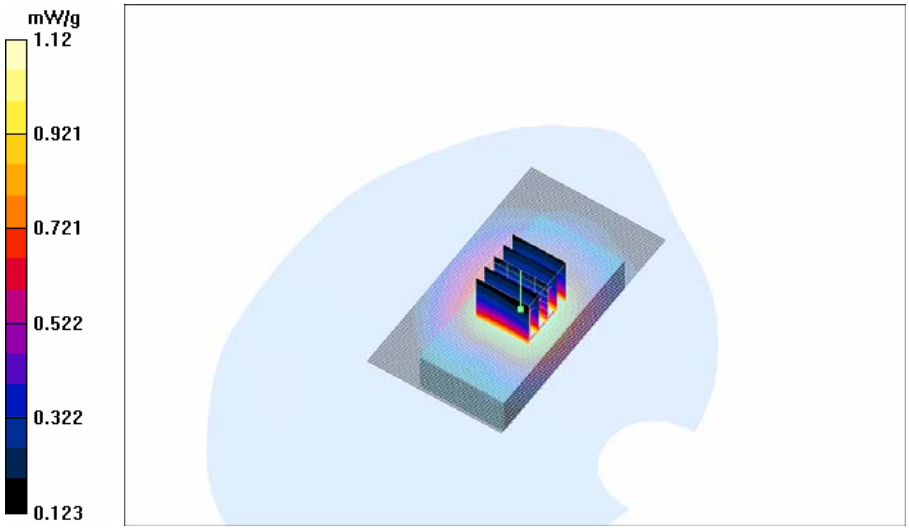
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Body 850; Medium Notes: Medium Temperature: t= 21.2 C
Medium parameters used: f = 837 MHz; σ = 0.974 mho/m; εr = 54.6; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(6.26, 6.26, 6.26); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM High band; Type: Twin Phantom; Serial: TP-1274
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - Middle - No Accessory - SD card/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.17 mW/g

Body - Middle - No Accessory - SD card/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.6 V/m; Power Drift = -0.156 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.753 mW/g
Maximum value of SAR (measured) = 1.12 mW/g



Date/Time: 2005-11-21 16:56:02

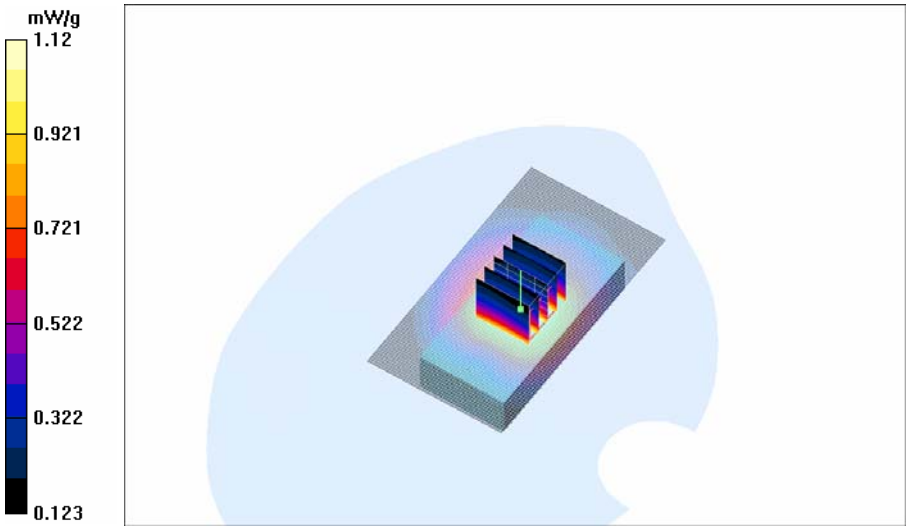
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

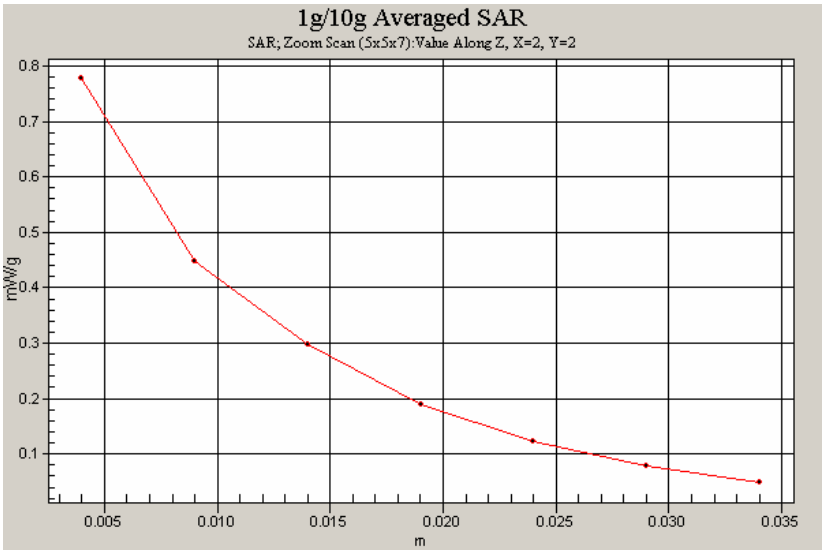
Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.58 mho/m; εr = 54.4; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - Middle - No Accessory/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.814 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.5 V/m; Power Drift = -0.153 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.737 mW/g; SAR(10 g) = 0.427 mW/g
Maximum value of SAR (measured) = 0.777 mW/g





Date/Time: 2005-11-21 17:45:17

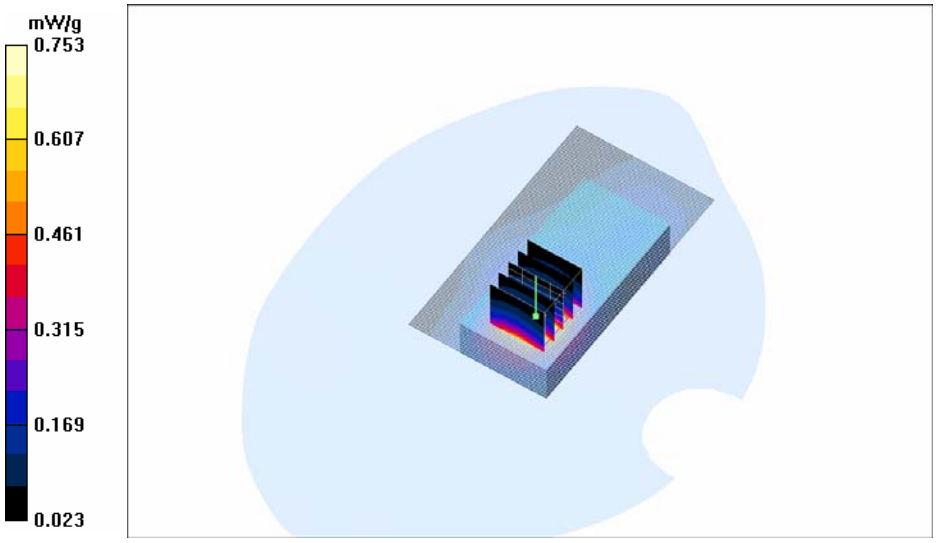
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: 2-slot GPRS1900
Frequency: 1909.8 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.5 C
Medium parameters used: f = 1910 MHz; σ = 1.61 mho/m; εr = 54.3; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - HS-6/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.773 mW/g

Body - High - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.6 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.714 mW/g; SAR(10 g) = 0.412 mW/g
Maximum value of SAR (measured) = 0.753 mW/g



Date/Time: 2005-11-22 16:13:37

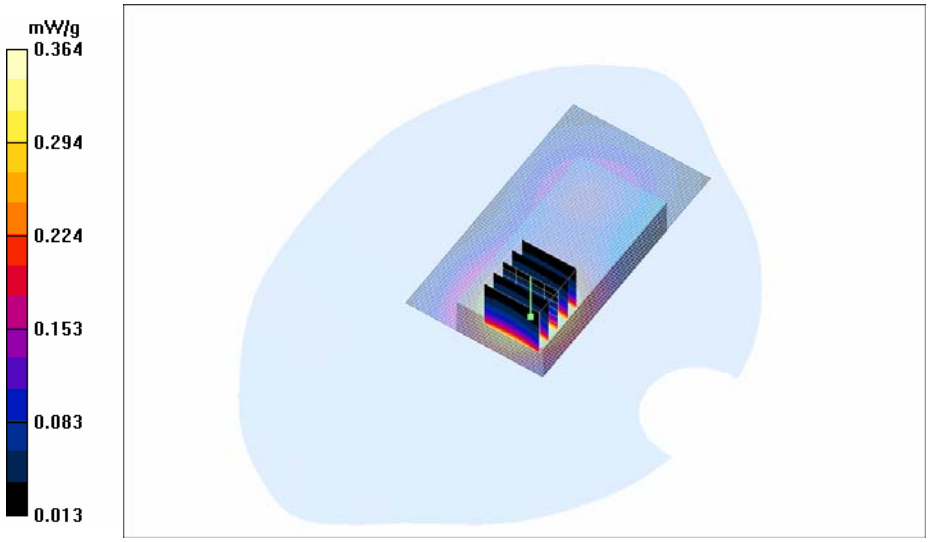
Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: WCDMA1900
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C
Medium parameters used: f = 1908 MHz; σ = 1.6 mho/m; εr = 54.1; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - No Accessory/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.363 mW/g

Body - High - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.737 W/kg
SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.214 mW/g
Maximum value of SAR (measured) = 0.364 mW/g



Date/Time: 2005-11-22 17:08:07

Test Laboratory: TCC Copenhagen
Type: RM-79; Serial: 004400/72/174305/0

Communication System: WCDMA1900
Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.54 mho/m; εr = 54.3; ρ = 1000 kg/m3
Phantom section: Flat Section

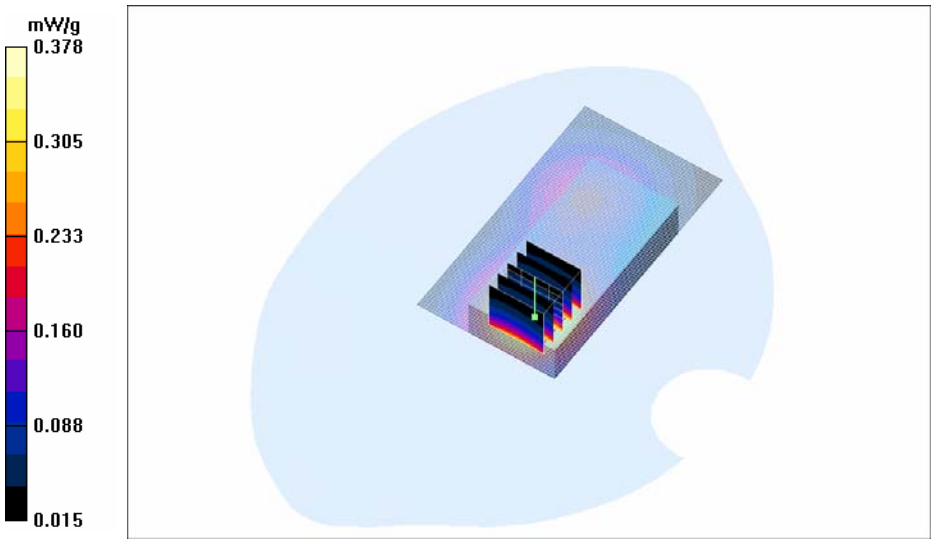
DASY4 Configuration:
- Probe: ET3DV6 - SN1807; Probe Notes: Worst Case Extrapolation
- ConvF(4.44, 4.44, 4.44); Calibrated: 2005-01-21
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2005-01-24
- Phantom: SAM Body; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

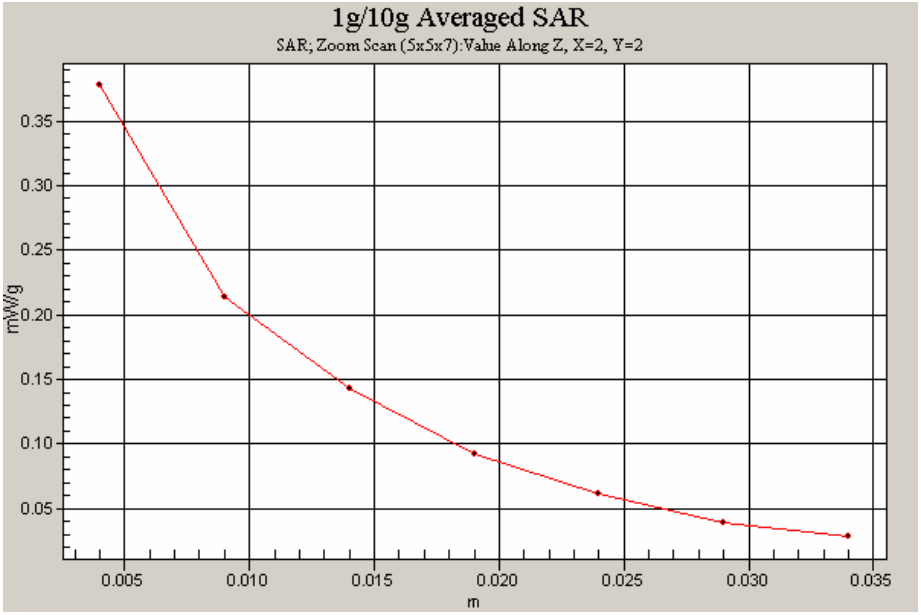
Body - Low - HS-6/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.389 mW/g

Body - Low - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 0.731 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.223 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.378 mW/g





APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS

SEE THE FOLLOWING PAGES

18976

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client Nokia DK

Certificate No: ET3-1786_Jan05

CALIBRATION CERTIFICATE

Object: ET3DV6 - SN:1786

Calibration procedure(s): QA CAL-01.v5
Calibration procedure for dosimetric E-field probes

Calibration date: January 21, 2005

Condition of the calibrated item: In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-May-04 (METAS, No. 251-00388)	May-05
Power sensor E4412A	MY41495277	5-May-04 (METAS, No. 251-00388)	May-05
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-04 (METAS, No. 251-00403)	Aug-05
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-04 (METAS, No. 251-00389)	May-05
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-04 (METAS, No. 251-00404)	Aug-05
Reference Probe ES3DV2	SN: 3013	7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	Jan-06
DAE4	SN: 617	29-Sep-04 (SPEAG, No. DAE4-617_Sep04)	Sep-05

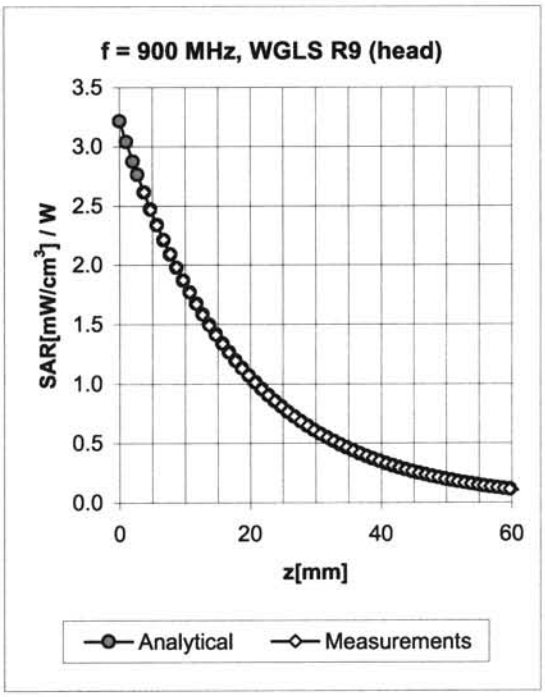
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov 05

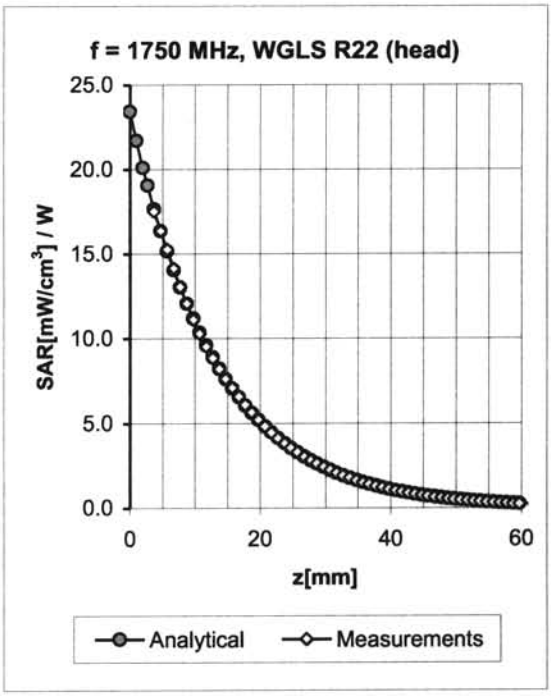
	Name	Function	Signature
Calibrated by:	Nico Vetterli	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 21, 2005

28/1-05

Conversion Factor Assessment





f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.67	1.74	6.56 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.59	1.86	6.36 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.62	2.23	5.29 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.59	2.40	5.11 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.57	2.59	4.74 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.71	2.10	4.55 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.59	1.91	6.38 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.47	2.19	6.06 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.57	2.68	4.68 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.57	2.82	4.52 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.62	2.45	4.41 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.72	2.03	4.20 ± 11.8% (k=2)

[C] **The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.**

19227

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Accreditation No.: SCS 108

Client Nokia DK

Certificate No: ET3-1807_Jan05

CALIBRATION CERTIFICATE

Object: ET3DV6 - SN:1807

Calibration procedure(s): QA CAL-01.v5
Calibration procedure for dosimetric E-field probes

Calibration date: January 21, 2005

Condition of the calibrated item: In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-May-04 (METAS, No. 251-00388)	May-05
Power sensor E4412A	MY41495277	5-May-04 (METAS, No. 251-00388)	May-05
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-04 (METAS, No. 251-00403)	Aug-05
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-04 (METAS, No. 251-00389)	May-05
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-04 (METAS, No. 251-00404)	Aug-05
Reference Probe ES3DV2	SN: 3013	7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	Jan-06
DAE4	SN: 617	29-Sep-04 (SPEAG, No. DAE4-617_Sep04)	Sep-05

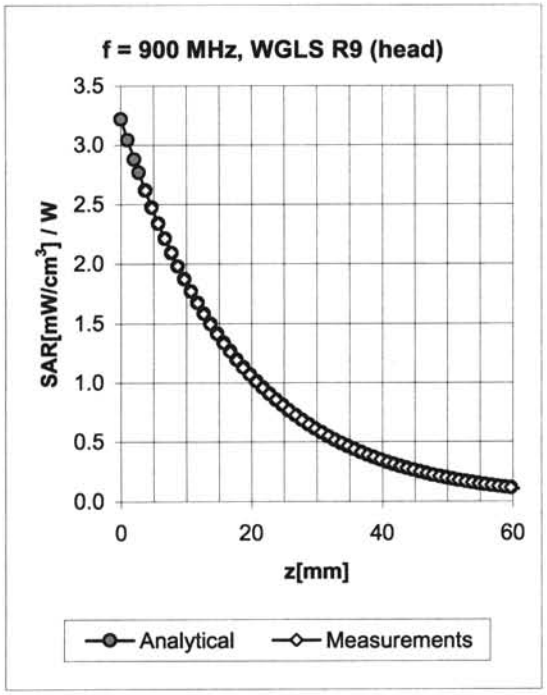
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov 05

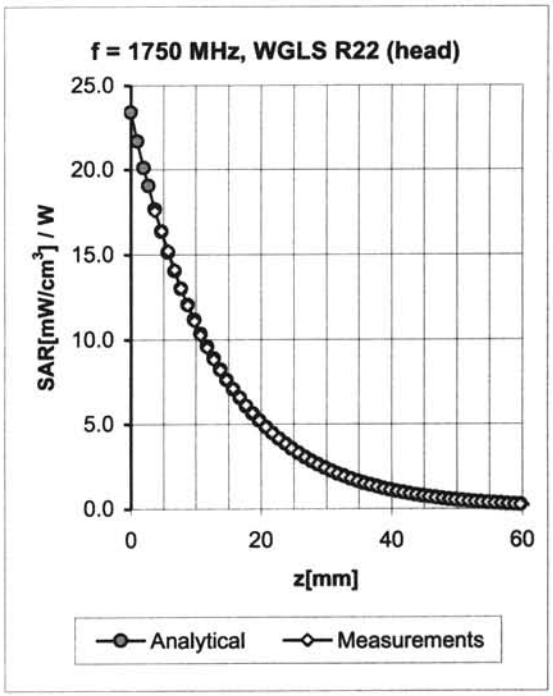
	Name	Function	Signature
Calibrated by:	Nico Vetterli	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 21, 2005

28/1-05

Conversion Factor Assessment





f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.68	1.75	6.46 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.64	1.81	6.25 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.56	2.34	5.19 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.51	2.58	5.04 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.53	2.68	4.70 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.62	2.29	4.47 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.50	2.07	6.26 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.49	2.15	5.97 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.50	2.86	4.59 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.51	2.94	4.44 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.55	2.63	4.35 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.63	2.18	4.12 ± 11.8% (k=2)

[C] **The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.**

APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORTS

SEE THE FOLLOWING PAGES

18308

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Accreditation No.: SCS 108

Client Nokia DK 2

Certificate No: D835V2-476_Jan05

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 476
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	January 18, 2005
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Power sensor HP 8481A	US37292783	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference Probe ET3DV6	SN 1507	26-Oct-04 (SPEAG, No. ET3-1507_Oct04)	Oct-05
DAE4	SN 601	07-Jan-05 (SPEAG, No. DAE4-601_Jan05)	Jan-06
DAE4	SN 907	03-May-04 (SPEAG, No. DAE4-907_May04)	May-05

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-03)	In house check: Oct-05
RF generator R&S SML-03	100698	27-Mar-02 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov-05

	Name	Function	Signature
Calibrated by:	Judith Müller	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 19, 2005

28/1-05
DC

DASY4 Validation Report for Head TSL

Date/Time: 01/18/05 14:32:56

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN476

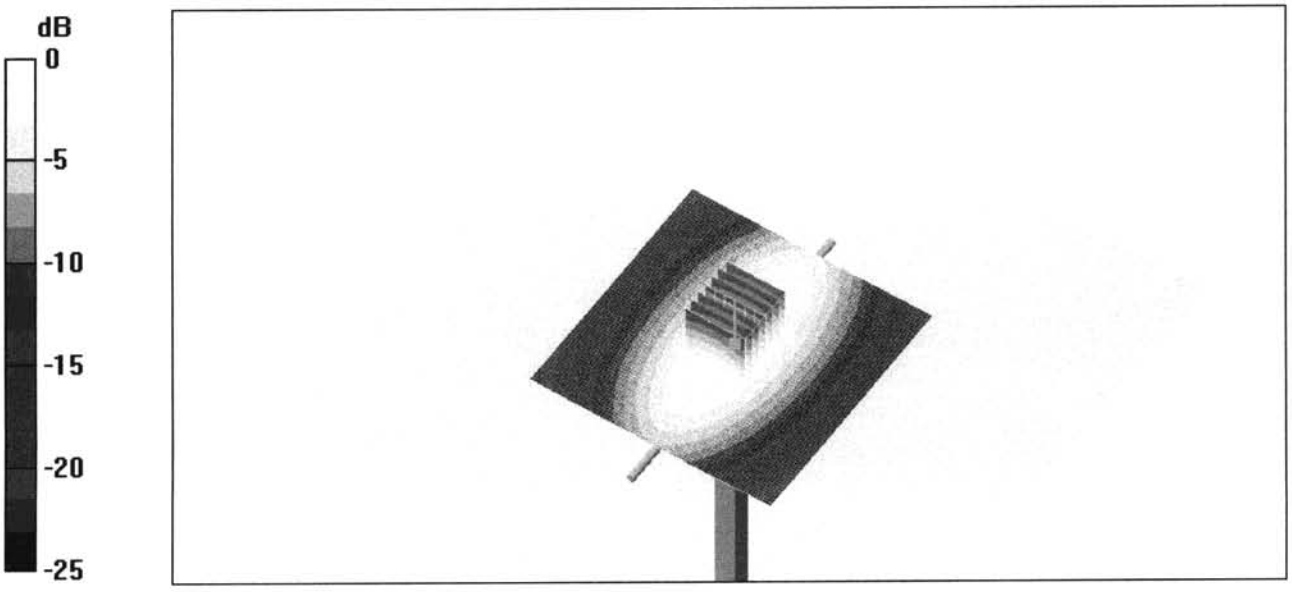
Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 900 MHz;
Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.24, 6.24, 6.24); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom half size; Type: QD000P49AA; Serial: SN:1001;
- Measurement SW: DASY4, V4.4 Build 11; Postprocessing SW: SEMCAD, V1.8 Build 133

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.47 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 3.32 W/kg
SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.49 mW/g
Maximum value of SAR (measured) = 2.46 mW/g



0 dB = 2.46mW/g

DASY4 Validation Report for Body TSL

Date/Time: 01/11/05 10:36:02

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN476

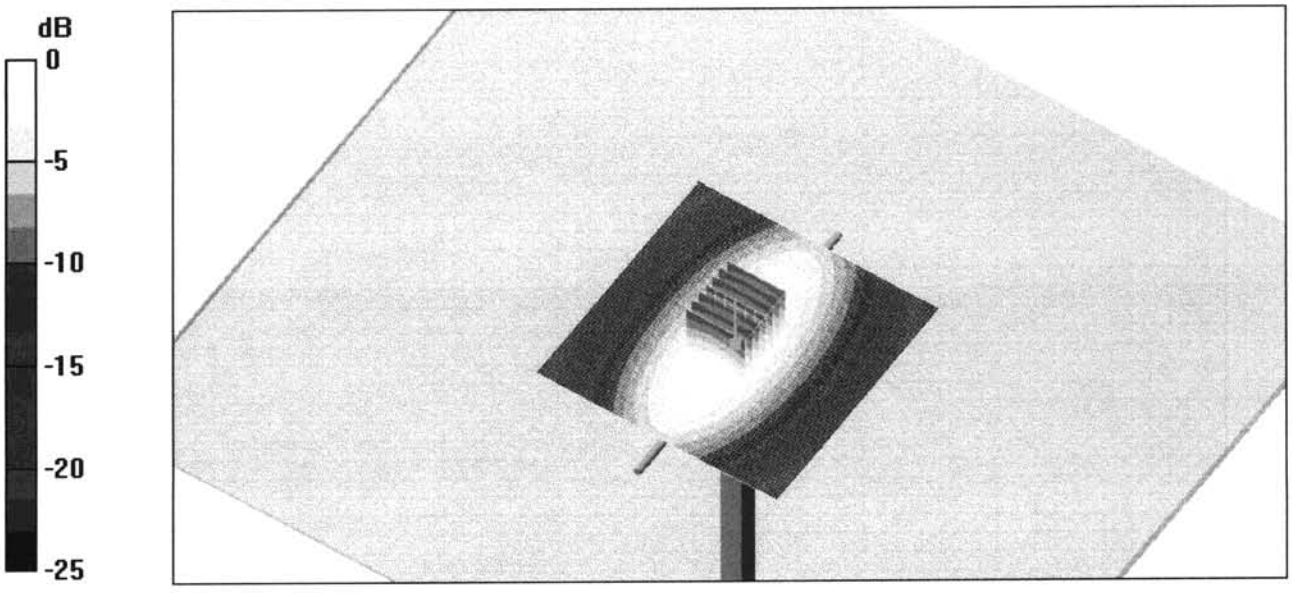
Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL 900 MHz;
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.98, 5.98, 5.98); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 03.05.2004
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001;
- Measurement SW: DASY4, V4.4 Build 10; Postprocessing SW: SEMCAD, V1.8 Build 133

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.68 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.7 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 3.56 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.67 mW/g



0 dB = 2.67mW/g

18307

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Accreditation No.: SCS 108

Client Nokia DK2

Certificate No: D1900V2-5d026_Jan05

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d026
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	January 17, 2005
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Power sensor HP 8481A	US37292783	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference Probe ET3DV6	SN 1507	26-Oct-04 (SPEAG, No. ET3-1507_Oct04)	Oct-05
DAE4	SN 601	07-Jan-05 (SPEAG, No. DAE4-601_Jan05)	Jan-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-03)	In house check: Oct-05
RF generator R&S SML-03	100698	27-Mar-02 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov 05

	Name	Function	Signature
Calibrated by:	Judith Müller	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 20, 2005

28/1-05

DASY4 Validation Report for Head TSL

Date/Time: 01/17/05 15:43:59

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026

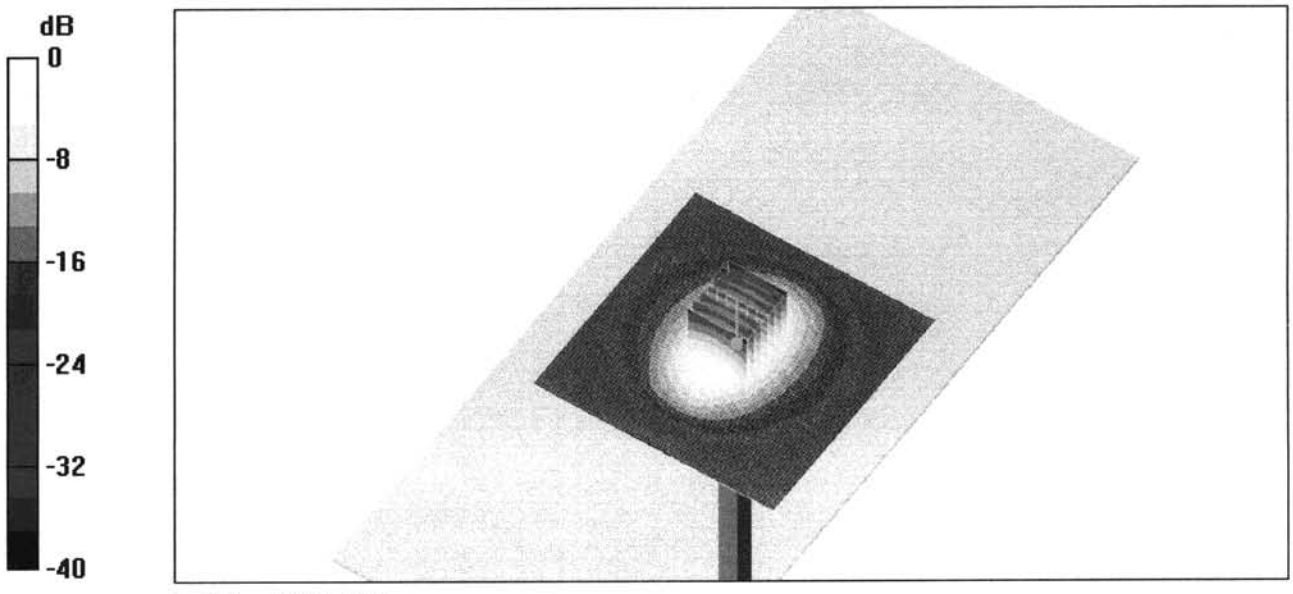
Communication System: CW-1900; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL 1900 MHz;
Medium parameters used: f = 1900 MHz; σ = 1.46 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.2, 5.2, 5.2); Calibrated: 24.01.2002
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0; Type: QD000P50AA; Serial: 1001;
- Measurement SW: DASY4, V4.4 Build 11; Postprocessing SW: SEMCAD, V1.8 Build 133

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.8 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.9 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 9.49 mW/g; SAR(10 g) = 4.94 mW/g
Maximum value of SAR (measured) = 10.7 mW/g



0 dB = 10.7mW/g

DASY4 Validation Report for Body TSL

Date/Time: 01/12/05 18:39:42

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:51d026

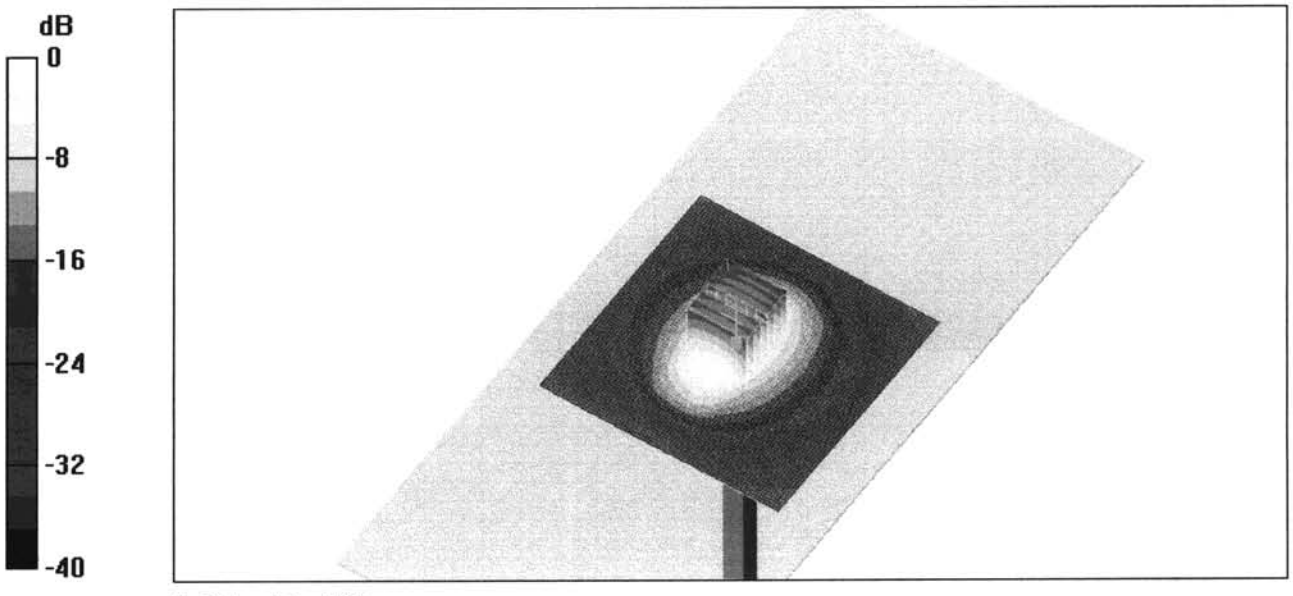
Communication System: CW-1900; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: Muscle 1800 MHz;
Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.43, 4.43, 4.43); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0; Type: QD000P50AA; Serial: 1001;
- Measurement SW: DASY4, V4.4 Build 11; Postprocessing SW: SEMCAD, V1.8 Build 133

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.1 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.5 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.65 mW/g; SAR(10 g) = 5.11 mW/g
Maximum value of SAR (measured) = 11 mW/g



0 dB = 11mW/g