

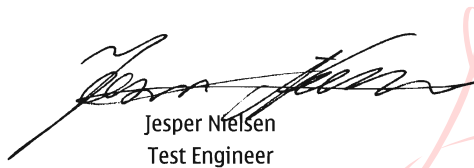
SAR Compliance Test Report

Test report no.:	Cph_SAR_0608_05	Date of report:	2006-02-22
Template version:	5	Number of pages:	72
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 Ulm Lise Meitner Strasse 10 89081 Ulm Germany Tel. +49 731 1754 6728 Fax. +49 731 1754 6806
Responsible test engineer:	Jesper Nielsen	Product contact person:	Thomas Reitmayer
Measurements made by:	Leif Klysner / Jesper Nielsen		
Tested device:	RM-162		
FCC ID:	PPIRM-162X	IC:	661U-RM162
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.		
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:

2006-03-07

For the contents:



Jesper Nielsen
Test Engineer

Digitally signed by Jesper Nielsen
DN: cn=Jesper Nielsen, c=DK, o=Radio
Spectrum, ou=CertT, email=ext-
jesper.2.nielsen@nokia.com
Reason: I am approving this document
Date: 2006.03.07 18:33:53 +01'00'

CONTENTS

1. SUMMARY OF SAR TEST REPORT.....	3
1.1 TEST DETAILS.....	3
1.2 MAXIMUM RESULTS.....	3
1.2.1 Head Configuration.....	3
1.2.2 Body Worn Configuration	3
1.2.3 Maximum Drift	4
1.2.4 Measurement Uncertainty	4
2. DESCRIPTION OF THE DEVICE UNDER TEST.....	5
2.1 PICTURE OF THE DEVICE.....	5
2.2 DESCRIPTION OF THE ANTENNA	6
3. TEST CONDITIONS	6
3.1 TEMPERATURE AND HUMIDITY	6
3.2 TEST SIGNAL, FREQUENCIES AND OUTPUT POWER	6
4. DESCRIPTION OF THE TEST EQUIPMENT	7
4.1 MEASUREMENT SYSTEM AND COMPONENTS	7
4.1.1 Isotropic E-field Probe Type 1786 & 1807.....	8
4.2 PHANTOMS	8
4.3 TISSUE SIMULANTS	9
4.3.1 Tissue Simulant Recipes	9
4.3.2 System Checking	10
4.3.3 Tissue Simulants used in the Measurements.....	11
5. DESCRIPTION OF THE TEST PROCEDURE	11
5.1 DEVICE HOLDER.....	12
5.2 TEST POSITIONS.....	12
5.2.1 Against Phantom Head.....	12
5.2.2 Body Worn Configuration	13
5.3 SCAN PROCEDURES.....	14
5.4 SAR AVERAGING METHODS.....	14
6. MEASUREMENT UNCERTAINTY	15
7. RESULTS	16
APPENDIX A: SYSTEM CHECKING SCANS.....	20
APPENDIX B: MEASUREMENT SCANS.....	29
APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS	71
APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORTS	72

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2006-01-30 to 2006-02-20
SN, HW and SW numbers of tested device	IMEI: 004400/78/170017/2 HW: 3030 SW: Vpbl05w07_05w49.1 DUT#28216 (V2) IMEI: 004400/78/170023/0 HW: 3030 SW: Vpbl05w07_05w49.1 DUT#28215 (V3)
Batteries used in testing	BL-4C, DUT#28480, DUT#28481, DUT#28482
Headsets used in testing	HS-6, DUT# 28715
Other accessories used in testing	-
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 standard(s) 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	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
GSM850	251 / 848.8	33.5 dBm ERP	Right, Cheek	0.55 W/kg	0.62 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	661 / 1880.0	31.7 dBm EIRP	Right, Cheek	0.79 W/kg	0.89 W/kg	1.6 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / f (MHz)	Radiated power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
2-slot GPRS850	251 / 848.8	31.0 dBm ERP	2.2 cm	0.79 W/kg	0.89 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	810 / 1909.8	31.0 dBm EIRP	2.2 cm	0.56 W/kg	0.63 W/kg	1.6 W/kg	PASSED

*SAR values are scaled up by 12% to cover measurement drift.

SAR Report
Cph_SAR_0608_05
Applicant: Nokia Corporation

Type: RM-162

Copyright © 2006 TCC Copenhagen

1.2.3 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	-0.26 dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	$\pm 25.8\%$
--------------------------------	--------------

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	BT
Modulation Mode	GMSK	GMSK	GMSK / 8PSK	GFSK
Duty Cycle	1/8	1/8 or 2/8	1/8 or 2/8	
Transmitter Frequency Range (MHz)	824 – 849 1850 - 1910	824 – 849 1850 - 1910	824 – 849 1850 - 1910	2402-2480

Outside of USA and Canada, the transmitter of the device is capable of operating also in the 1800 band, which is not part of this filing.

SAR for 2-slot GPRS mode was evaluated against the head profile of the phantom for version V2 of this device since this version has Push to Talk capability for use at the ear. V3 does not have Push to Talk capability.

2.1 Picture of the Device



2.2 Description of the Antenna

The device has an external stubby antenna.

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	20.5 to 21.5
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 units 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, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE 3	573	12 months	2006-09
DAE 3	339	12 months	2006-08
E-field Probe ET3DV6	1808	12 months	2006-08
E-field Probe ET3DV6	1813	12 months	2006-09
Dipole Validation Kit, D835V2	476	24 months	2006-09
Dipole Validation Kit, D1900V2	5d063	24 months	2008-01
DASY4 software	Version 4.6	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SME06	848650/011	36 months	2008-07
Amplifier	ZHL-42W	E012903	-	-
Power Meter	NRVD	840297/008	24 months	2007-11
Power Sensor	NRV-Z51	100184	24 months	2007-11
Call Tester	CMU200	836203/022	-	-
Call Tester	4400M	0411216	-	-
Vector Network Analyzer	AT8753ES	MY40001091	12 months	2006-08
Dielectric Probe Kit	HP85070B	US33020403	-	-

4.1.1 Isotropic E-field Probe Type 1808 & 1813

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 μ W/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 $\pm 5\%$ 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]	
835	Reference result	2.27	42.0	0.91	
	$\pm 10\%$ window	2.04 - 2.50			
	2006-02-19	2.21	40.9	0.89	21.5
	2006-02-20	2.42	40.5	0.88	21.4
1900	Reference result	10.3	38.6	1.48	
	$\pm 10\%$ window	9.3 - 11.3			
	2006-01-30	10.3	38.5	1.41	21.7
	2006-01-31	10.3	38.7	1.41	21.6
	2006-02-01	10.3	38.2	1.44	21.4

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
835	Reference result	2.47	54.9	1.01	
	$\pm 10\%$ window	2.22 - 2.72			
	2006-01-31	2.46	53.4	0.97	21.4
1900	Reference result	10.5	53.0	1.53	
	$\pm 10\%$ window	9.5 - 11.6			
	2006-02-17	10.5	51.5	1.54	21.1
	2006-02-19	10.3	51.7	1.52	21.7

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]	
836	Recommended value	41.5	0.90	
	$\pm 5\%$ window	39.4 – 43.6	0.86 – 0.95	
	2006-02-19	40.9	0.89	21.5
	2006-02-20	40.5	0.88	21.4
1880	Recommended value	40.0	1.40	
	$\pm 5\%$ window	38.0 – 42.0	1.33 – 1.47	
	2006-01-30	38.6	1.39	21.7
	2006-01-31	38.8	1.39	21.6
	2006-02-01	38.3	1.42	21.4

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ϵ_r	σ [S/m]	
836	Recommended value	55.2	0.97	
	$\pm 5\%$ window	52.4 – 58.0	0.92 – 1.02	
	2006-01-31	53.4	0.97	21.4
1880	Recommended value	53.3	1.52	
	$\pm 5\%$ window	50.6 – 56.0	1.44 – 1.60	
	2006-02-17	51.6	1.52	21.1
	2006-02-19	51.8	1.50	21.7

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".

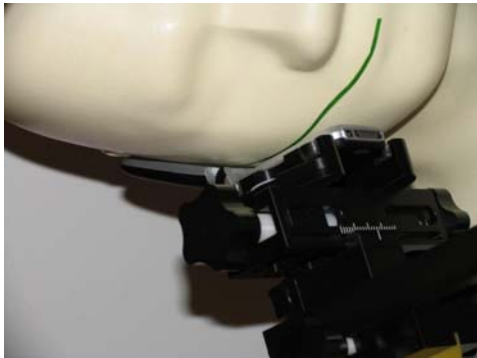


Photo of the device in "cheek" position

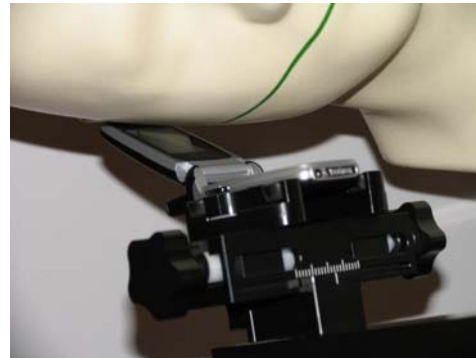


Photo of the device in "tilt" position

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	G_i	$G_i \cdot U_i$ (%)	V_i
Measurement System							
Probe Calibration	E2.1	±5.9	N	1	1	±5.9	∞
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	±1.0	R	√3	1	±0.6	∞
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	±3.9	R	√3	1	±2.3	∞
Test sample Related							
Test Sample Positioning	E4.2	±6.0	N	1	1	±6.0	11
Device Holder Uncertainty	E4.1	±5.0	N	1	1	±5.0	7
Output Power Variation - SAR drift measurement	6.6.3	±0.0	R	√3	1	±0.0	∞
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			±12.9	116
Coverage Factor for 95%			K=2				
Expanded Uncertainty						±25.8	

7. RESULTS

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

850 MHz SAR results

Hardware ID	Option used	Test configuration		SAR, averaged over 1g (W/kg)		
				Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
2-slot GPRS		Power		27.1 dBm	27.4 dBm	28.2 dBm
V2	Flip open	Left	Cheek	-	0.345	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
GSM		Power		32.6 dBm	32.8 dBm	33.5 dBm
V2	Flip open	Left	Cheek	-	0.418	-
			Tilt	-	0.136	-
		Right	Cheek	0.337	0.460	0.521
			Tilt	-	0.168	-
2-slot EGPRS		Power		27.8 dBm	28.4 dBm	29.0 dBm
V2	Flip open	Right Cheek position		-	-	0.469
GSM		Power		31.9 dBm	32.0 dBm	32.2 dBm
V3	Flip open	Left	Cheek	-	0.393	-
			Tilt	-	0.122	-
		Right	Cheek	0.297	0.424	0.493
			Tilt	-	0.156	-
V2	GSM Flip open	Right Cheek position with BT active		-	-	0.548

1900 MHz SAR results

Hardware ID	Option used	Test configuration		SAR, averaged over 1g (W/kg)		
				Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM		Power		33.0 dBm	31.7 dBm	31.5 dBm
V2	Flip open	Left	Cheek	-	0.334	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot GPRS		Power		32.7 dBm	31.7 dBm	31.7 dBm
V2	Flip open	Left	Cheek	-	0.538	-
			Tilt	-	0.091	-
		Right	Cheek	0.641	0.773	0.68
			Tilt	-	0.131	-
2-slot EGPRS		Power		30.6 dBm	28.0 dBm	28.5 dBm
V2	Flip open	Right Cheek position		-	0.339	-
GSM		Power		33.0 dBm	31.2 dBm	31.0 dBm
V3	Flip open	Left	Cheek	-	0.353	-
			Tilt	-	0.061	-
		Right	Cheek	0.485	0.501	0.480
			Tilt	-	0.083	-
V2	2-slot GPRS Flip open	Right Cheek position with BT active		-	0.794	-

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

850 MHz Body SAR results

Hardware ID	Option used	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
2-slot GPRS		Power	24.6 dBm	24.7 dBm	25.5 dBm
V2	Flip closed	Without headset	-	0.325	-
		Headset HS-6	-	-	-
GSM		Power	28.8 dBm	30.5 dBm	31.7 dBm
V2	Flip closed	Without headset	0.268	0.381	0.446
		Headset HS-6	0.143	0.224	0.301
GSM		Power	28.6 dBm	29.7 dBm	31.1 dBm
V3	Flip closed	Without headset	-	0.330	-
		Headset HS-6	-	-	-
2-slot GPRS		Power	28.6 dBm	29.7 dBm	31.0 dBm
V3	Flip closed	Without headset	0.435	0.591	0.750
		Headset HS-6	0.266	0.427	0.573
V3	2-slot GPRS Flip closed	Without headset with BT active	-	-	0.791

1900 MHz Body SAR results

Hardware ID	Option used	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM		Power	33.0 dBm	32.2 dBm	31.7 dBm
V2	Flip closed	Without headset	-	0.321	-
		Headset HS-6	-	-	-
2-slot GPRS		Power	33.0 dBm	32.3 dBm	31.7 dBm
V2	Flip closed	Without headset	0.432	0.465	0.498
		Headset HS-6	0.416	0.450	0.506
GSM		Power	33.0 dBm	31.2 dBm	31.0 dBm
V3	Flip closed	Without headset	-	0.300	-
		Headset HS-6	-	-	-
2-slot GPRS		Power	33.0 dBm	31.1 dBm	31.0 dBm
V3	Flip closed	Without headset	0.523	0.559	0.563
		Headset HS-6	0.480	0.521	0.549
V3	2-slot GPRS Flip closed	Without headset with BT active	-	-	0.551

APPENDIX A: SYSTEM CHECKING SCANS

See the following pages.

Date/Time: 2006-02-19 17:12:09

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: $t=21.5\text{ C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.891\text{ mho/m}$; $\epsilon_r = 40.9$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 2.38 mW/g

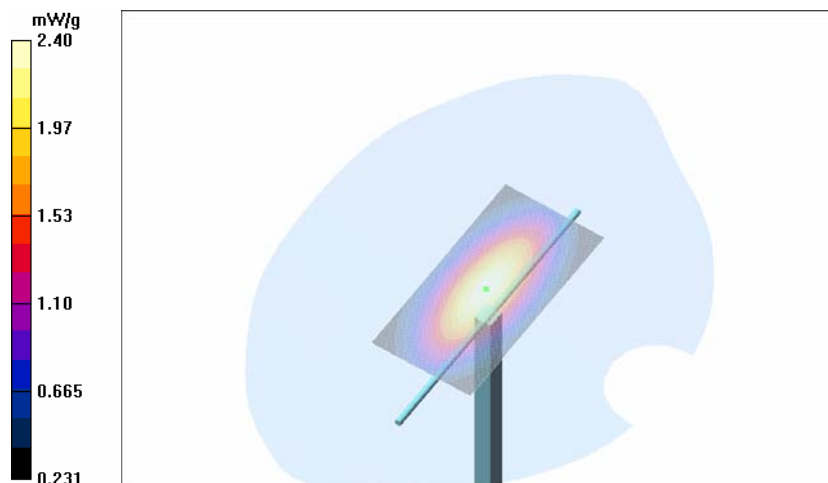
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.6 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 2.21 mW/g; SAR(10 g) = 1.47 mW/g

Maximum value of SAR (measured) = 2.40 mW/g



Date/Time: 2006-02-20 15:26:08

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: $t=21.4$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.883$ mho/m; $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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) = 2.61 mW/g

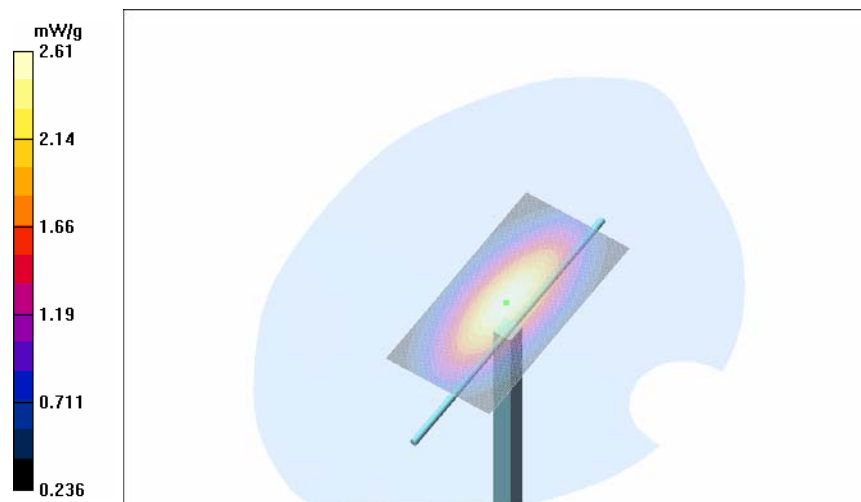
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.0 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 3.63 W/kg

SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.57 mW/g

Maximum value of SAR (measured) = 2.61 mW/g



Date/Time: 2006-01-30 17:44:07

Test Laboratory: TCC Copenhagen

Type: D1900V2; Serial: D1900V2 - SN: 5d063

Communication System: Continuous Wave

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: t=21.7 C

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ϵ_r = 38.5; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- Phantom: SAM Low Band; Type: QD000P40CB; 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) = 11.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.9 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.43 mW/g

Maximum value of SAR (measured) = 11.6 mW/g



Date/Time: 2006-01-31 14:11:41

Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d063

Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.6\text{ }^{\circ}\text{C}$
Medium parameters used: $f = 1900\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- Phantom: SAM Low Band; Type: QD000P40CB; 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: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 11.6 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 94.9 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.39 mW/g
Maximum value of SAR (measured) = 11.7 mW/g



Date/Time: 2006-02-01 10:42:32

Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d063

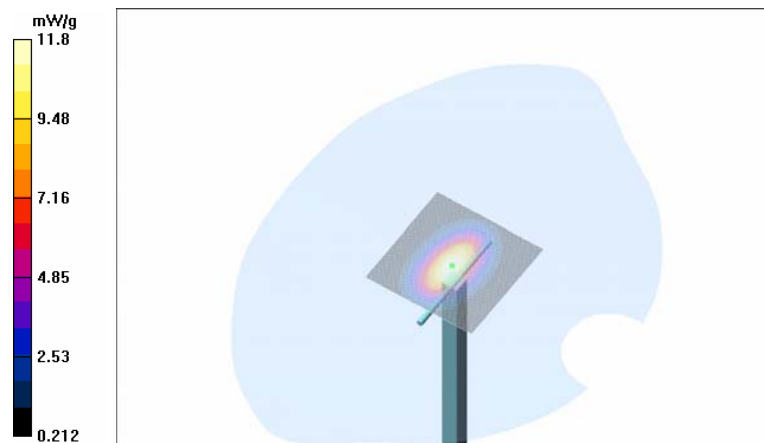
Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.4$ C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- Phantom: SAM Low Band; Type: QD000P40CB; 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) = 11.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.3 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.43 mW/g
Maximum value of SAR (measured) = 11.8 mW/g



Date/Time: 2006-01-31 09:50:13

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: $t = 21.4$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.968$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- 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) = 2.67 mW/g

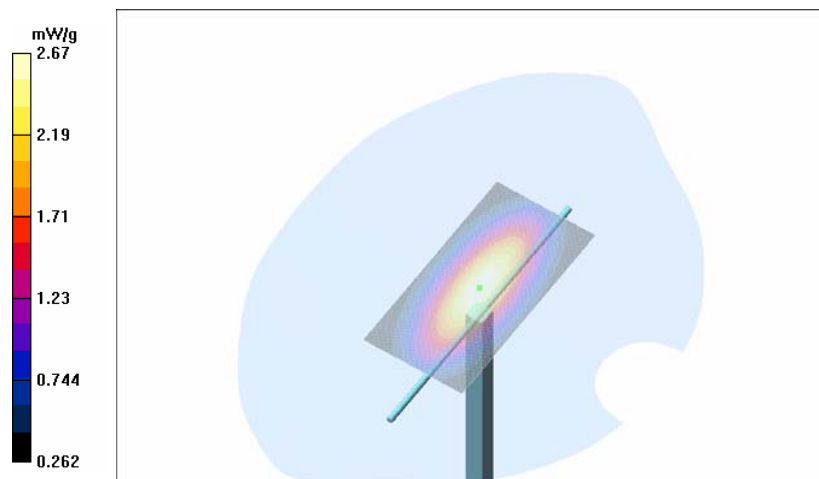
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.6 V/m; Power Drift = 0.017 dB

Peak SAR (extrapolated) = 3.55 W/kg

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.67 mW/g



Date/Time: 2006-02-17 15:30:00

Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d063

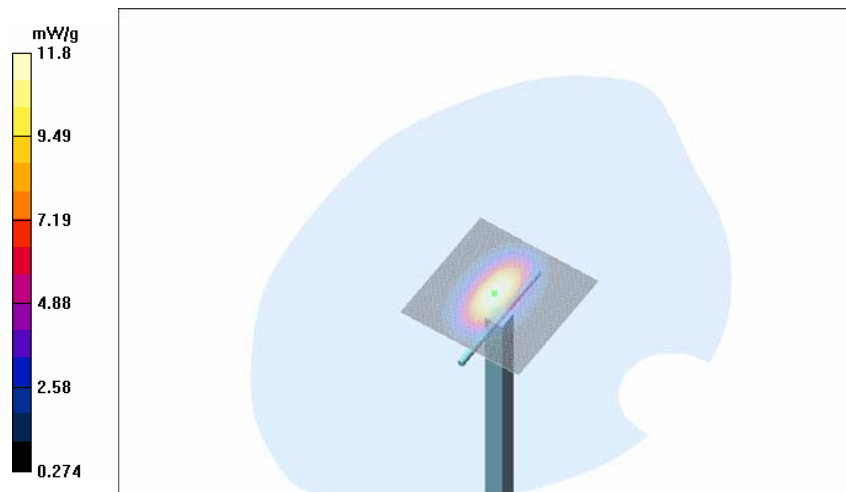
Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.1$ C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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 = 91.6 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.59 mW/g
Maximum value of SAR (measured) = 11.8 mW/g



Date/Time: 2006-02-19 15:40:29

Test Laboratory: TCC Copenhagen
Type: D1900V2; Serial: 5d063

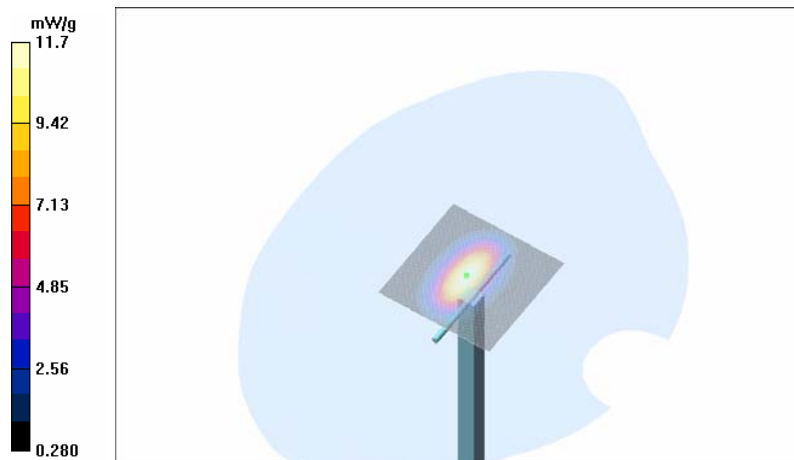
Communication System: Continuous Wave
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.7\text{ }^{\circ}\text{C}$
Medium parameters used: $f = 1900\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 11.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 91.5 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.49 mW/g
Maximum value of SAR (measured) = 11.7 mW/g



APPENDIX B: MEASUREMENT SCANS

SEE THE FOLLOWING PAGES

Date/Time: 2006-02-19 18:24:13

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: $t=21.5$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.369 mW/g

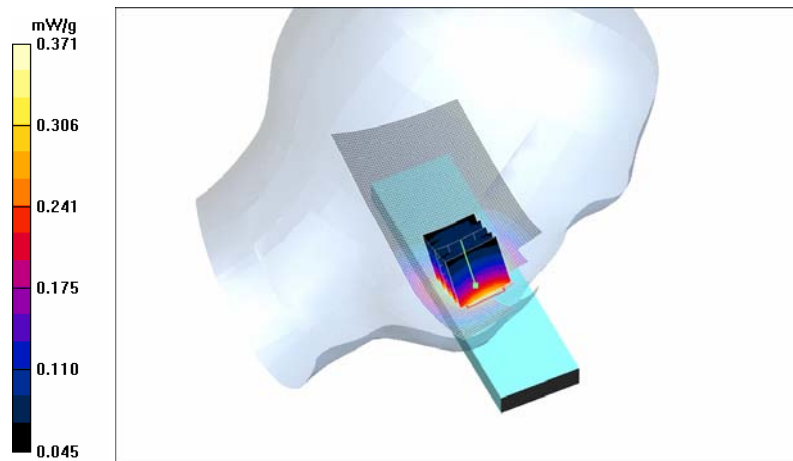
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 3.56 V/m; Power Drift = 0.093 dB

Peak SAR (extrapolated) = 0.459 W/kg

SAR(1 g) = 0.345 mW/g; SAR(10 g) = 0.250 mW/g

Maximum value of SAR (measured) = 0.371 mW/g



Date/Time: 2006-02-19 18:02:30

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

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; $\sigma = 0.893$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.442 mW/g

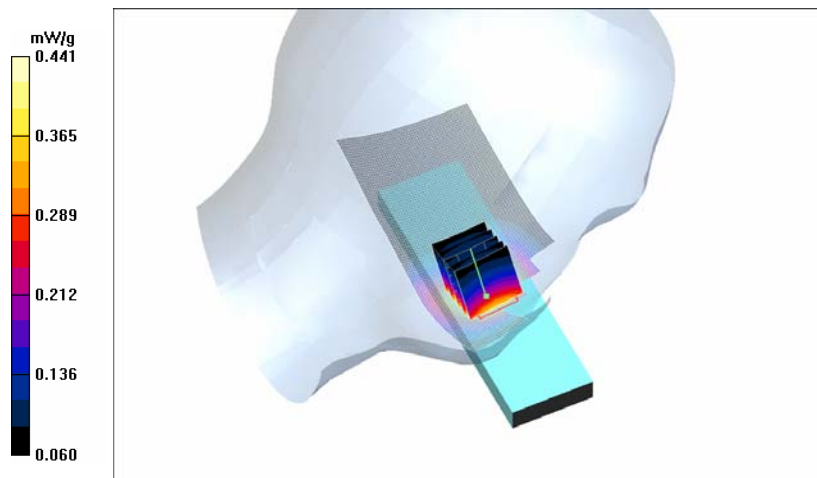
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 3.96 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.300 mW/g

Maximum value of SAR (measured) = 0.441 mW/g



Date/Time: 2006-02-19 18:41:20

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: $t=21.5\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.893\text{ mho/m}$; $\epsilon_r = 40.9$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.140 mW/g

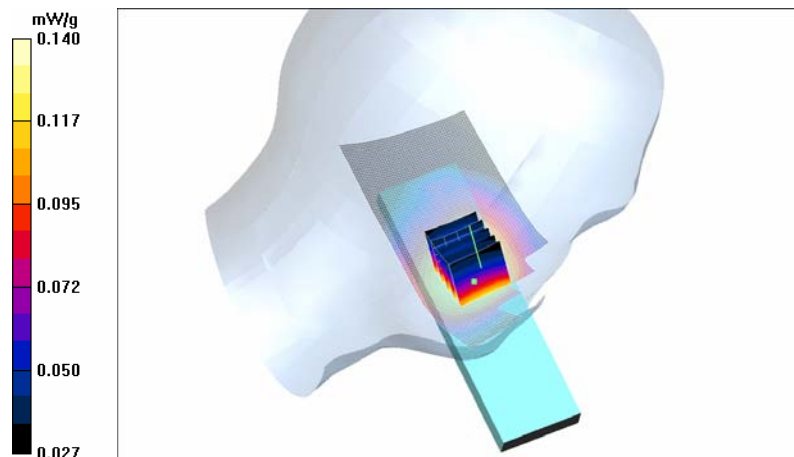
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.41 V/m ; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 0.171 W/kg

SAR(1 g) = 0.136 mW/g ; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.140 mW/g



Date/Time: 2006-02-19 20:00:35

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: $t=21.5\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.904\text{ mho/m}$; $\epsilon_r = 40.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.553 mW/g

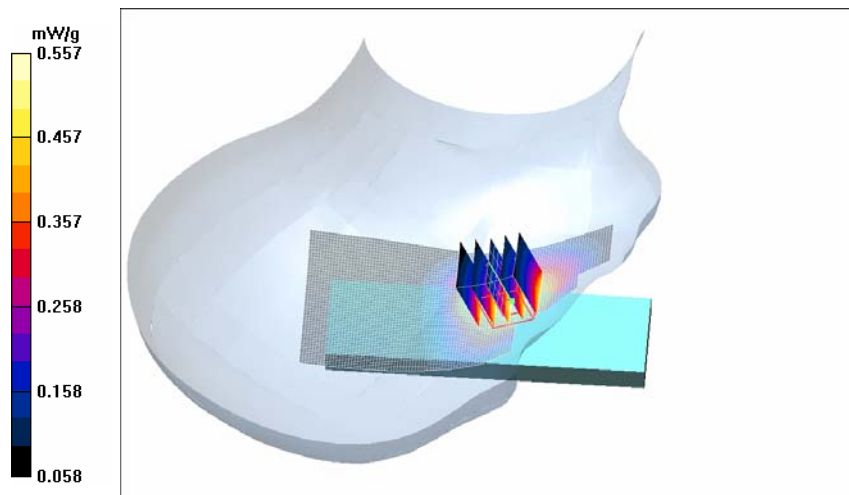
Cheek position - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 3.57 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.705 W/kg

SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.370 mW/g

Maximum value of SAR (measured) = 0.557 mW/g



Date/Time: 2006-02-19 19:28:23

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

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; ϵ_r = 40.9; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.176 mW/g

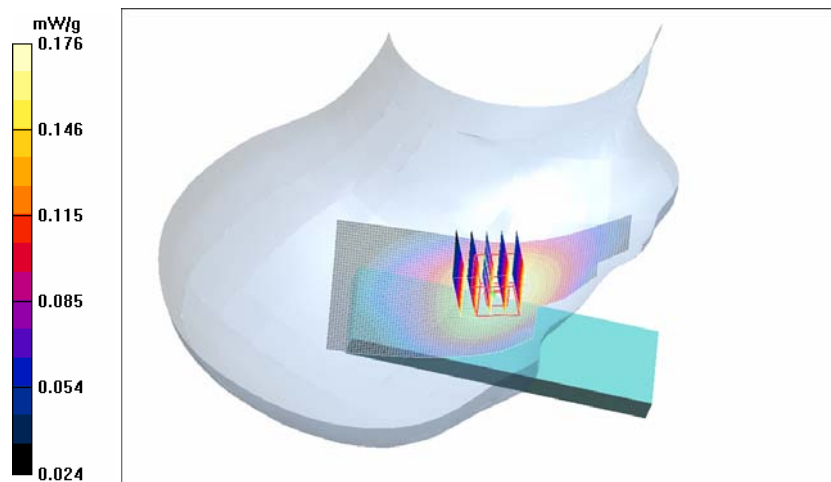
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.38 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 0.213 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.176 mW/g



Date/Time: 2006-02-19 21:23:42

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot EGPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: t=21.5 C

Medium parameters used: f = 849 MHz; σ = 0.904 mho/m; ϵ_r = 40.7; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.498 mW/g

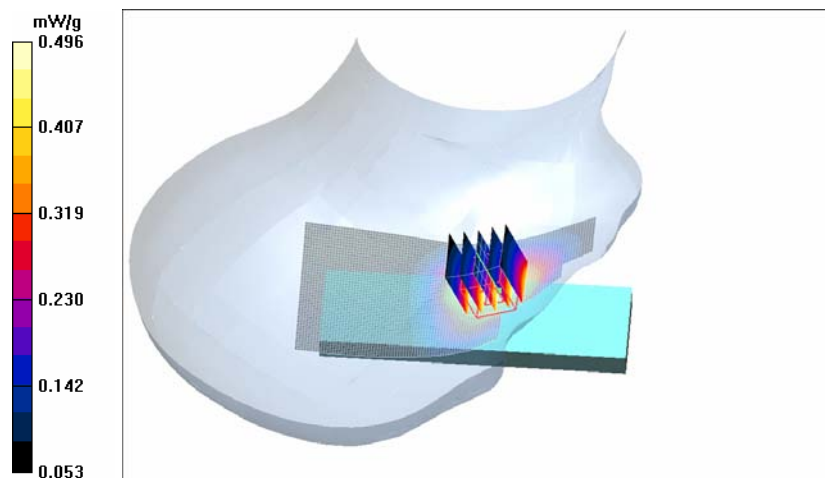
Cheek position - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.02 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.631 W/kg

SAR(1 g) = 0.469 mW/g; SAR(10 g) = 0.334 mW/g

Maximum value of SAR (measured) = 0.496 mW/g



Date/Time: 2006-02-20 16:37:51

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: $t=21.4$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.884$ mho/m; $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.415 mW/g

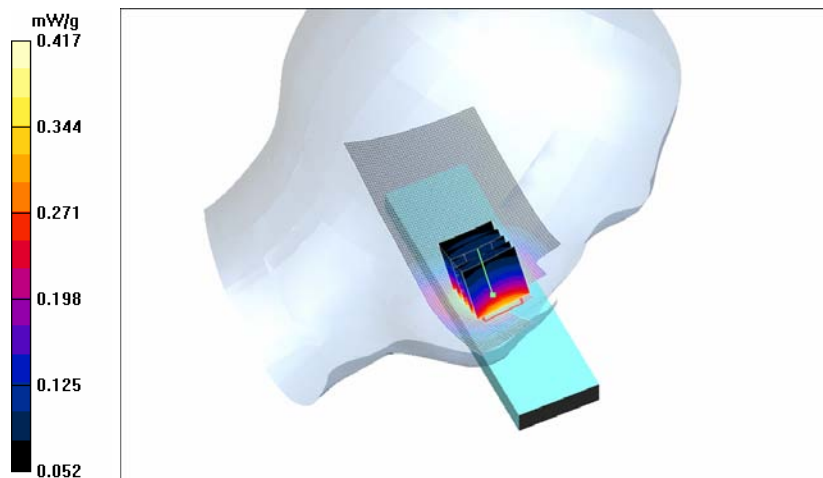
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 3.51 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.515 W/kg

SAR(1 g) = 0.393 mW/g; SAR(10 g) = 0.282 mW/g

Maximum value of SAR (measured) = 0.417 mW/g



Date/Time: 2006-02-20 16:53:42

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: $t=21.4\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.884\text{ mho/m}$; $\epsilon_r = 40.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.127 mW/g

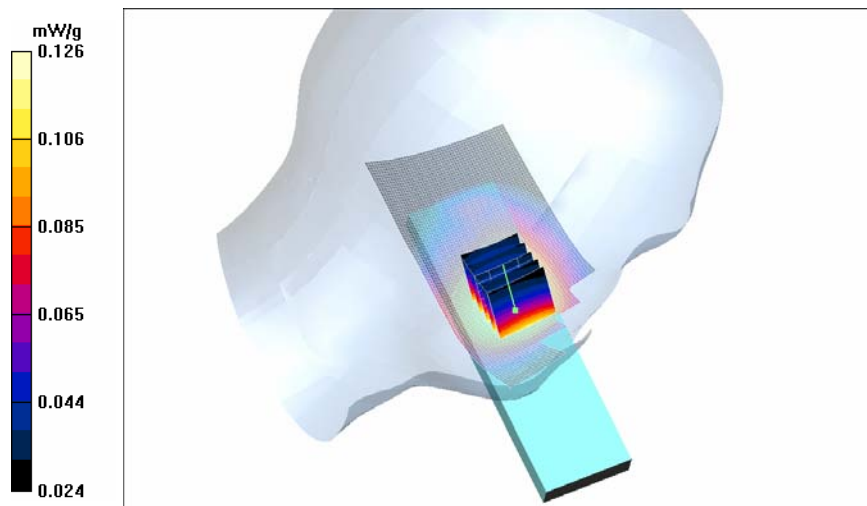
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.83 V/m ; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 0.152 W/kg

SAR(1 g) = 0.122 mW/g ; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.126 mW/g



Date/Time: 2006-02-20 18:04:16

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: t=21.4 C

Medium parameters used: f = 849 MHz; σ = 0.895 mho/m; ϵ_r = 40.4; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.526 mW/g

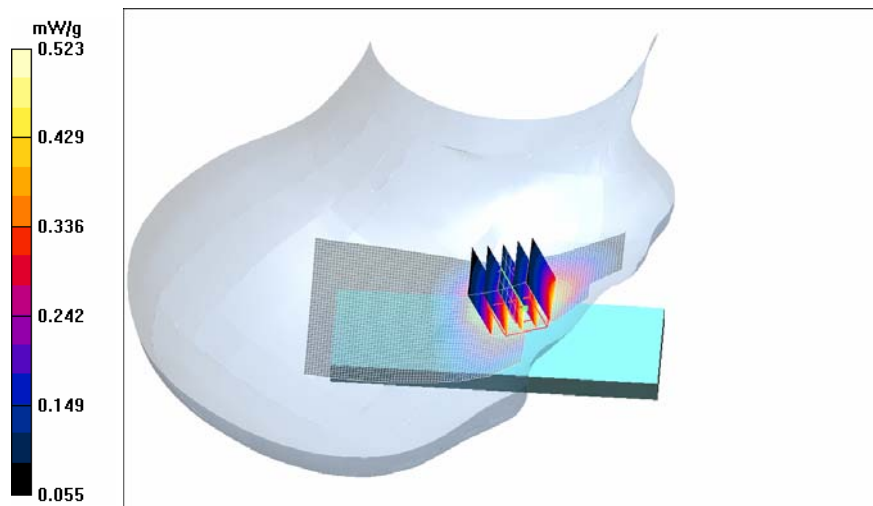
Cheek position - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.69 V/m; Power Drift = 0.100 dB

Peak SAR (extrapolated) = 0.669 W/kg

SAR(1 g) = 0.493 mW/g; SAR(10 g) = 0.348 mW/g

Maximum value of SAR (measured) = 0.523 mW/g



Date/Time: 2006-02-20 17:26:36

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: t=21.4 C

Medium parameters used: f = 837 MHz; σ = 0.884 mho/m; ϵ_r = 40.5; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.161 mW/g

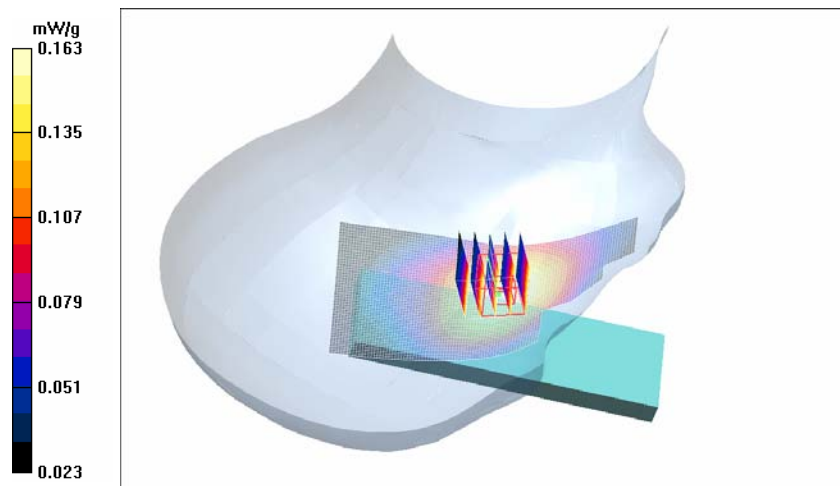
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.01 V/m; Power Drift = 0.017 dB

Peak SAR (extrapolated) = 0.197 W/kg

SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.119 mW/g

Maximum value of SAR (measured) = 0.163 mW/g



Date/Time: 2/19/2006-02-19 20:23:35

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

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 = 0.904 mho/m; ϵ_r = 40.7; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(6.17, 6.17, 6.17); Calibrated: 8/30/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 9/21/2005
- 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 - BT active/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.581 mW/g

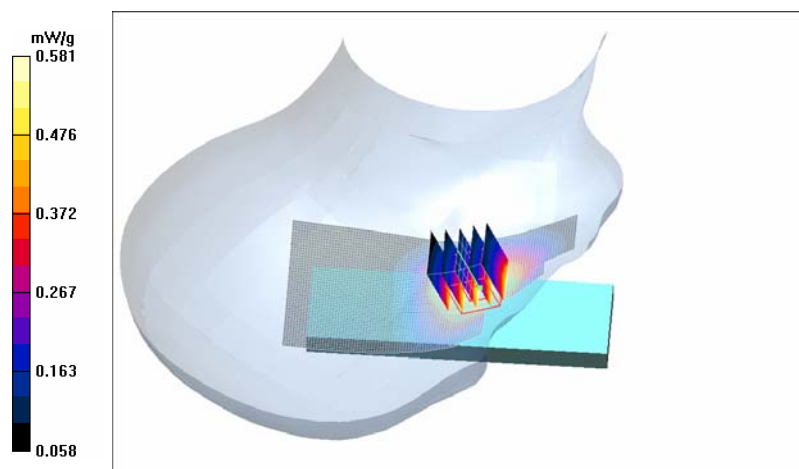
Cheek position - High - BT active/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

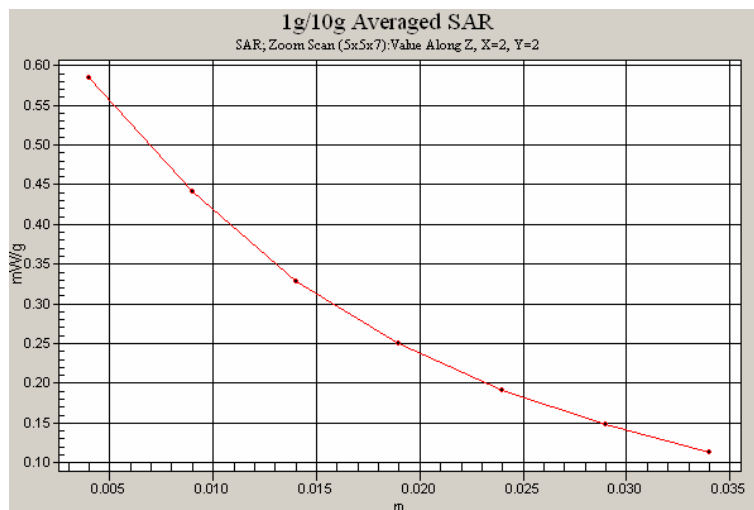
Reference Value = 3.61 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.735 W/kg

SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.390 mW/g

Maximum value of SAR (measured) = 0.581 mW/g





Date/Time: 2006-01-30 19:54:01

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.7$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.353 mW/g

Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

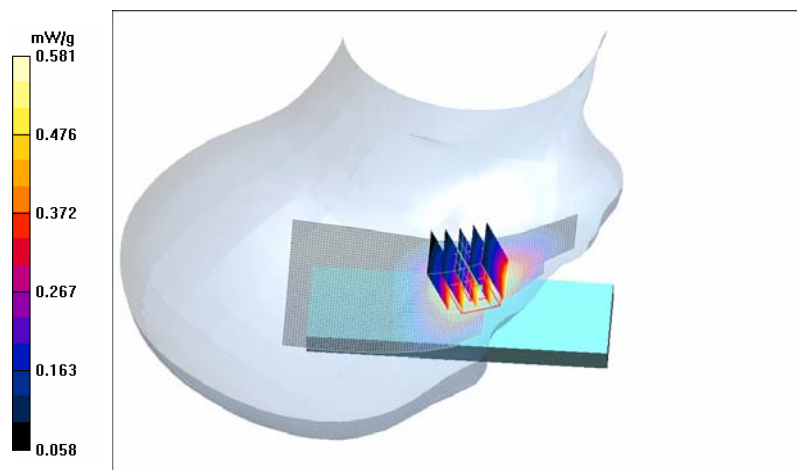
Reference Value = 5.48 V/m; Power Drift = -0.048 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.219 mW/g

Warning: Missing measurement points in grid. Zoom Scan requires a completely measured grid.

Maximum value of SAR (measured) = 0.358 mW/g



Date/Time: 2006-01-30 18:48:42

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.39\text{ mho/m}$; $\epsilon_r = 38.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.568 mW/g

Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.61 V/m ; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.817 W/kg

SAR(1 g) = 0.538 mW/g ; SAR(10 g) = 0.352 mW/g

Maximum value of SAR (measured) = 0.573 mW/g

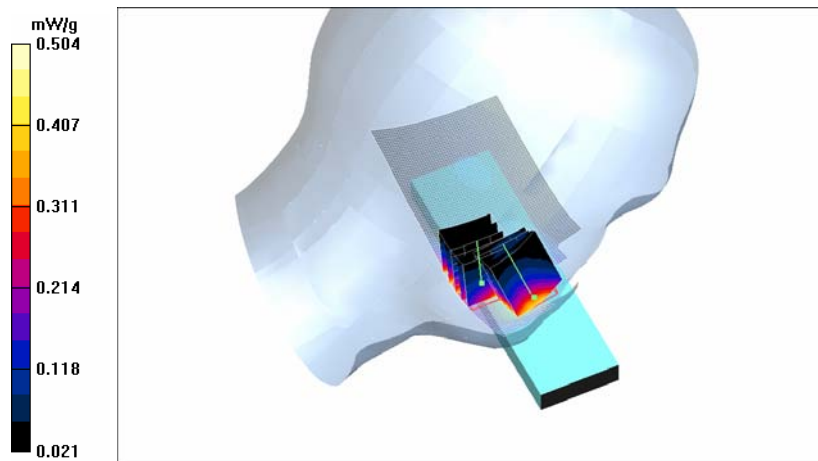
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.61 V/m ; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.751 W/kg

SAR(1 g) = 0.457 mW/g ; SAR(10 g) = 0.266 mW/g

Maximum value of SAR (measured) = 0.504 mW/g



Date/Time: 2006-01-30 19:23:56

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: t=21.7 C

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ϵ_r = 38.6; ρ = 1000 kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.097 mW/g

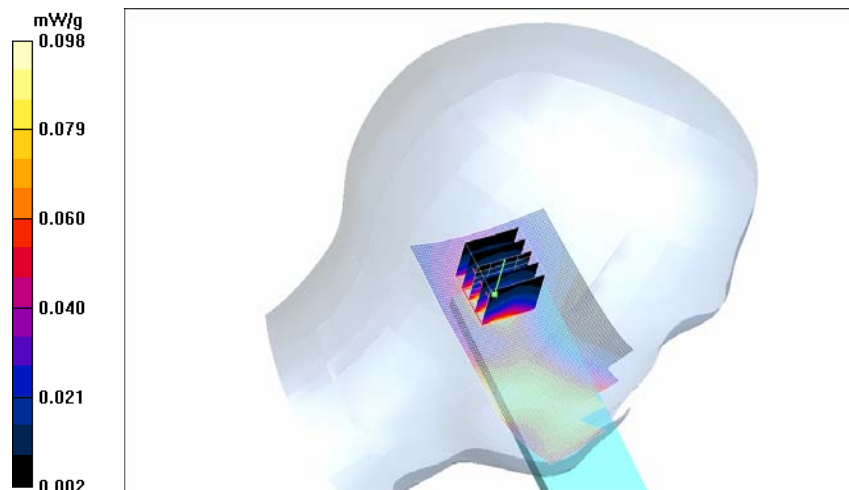
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.21 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.135 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (measured) = 0.098 mW/g



Date/Time: 2006-01-31 19:25:28

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.6$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 38.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.836 mW/g

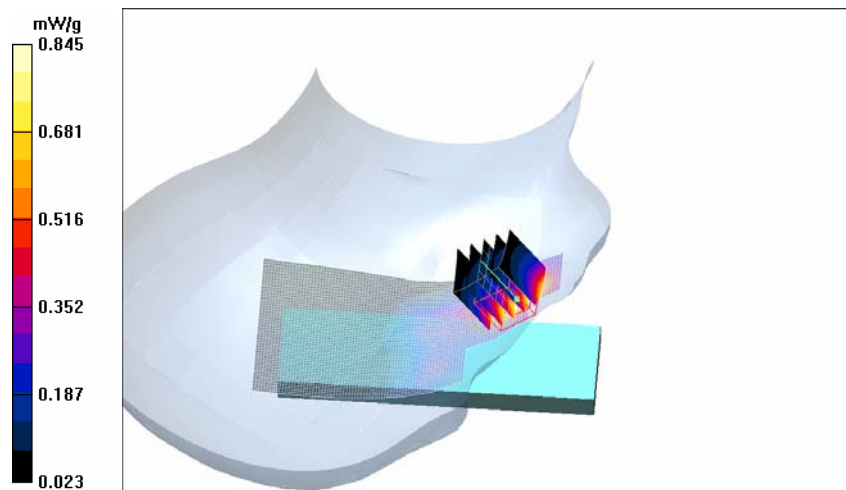
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 6.31 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.485 mW/g

Maximum value of SAR (measured) = 0.845 mW/g



Date/Time: 2006-01-30 21:06:40

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.39\text{ mho/m}$; $\epsilon_r = 38.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.143 mW/g

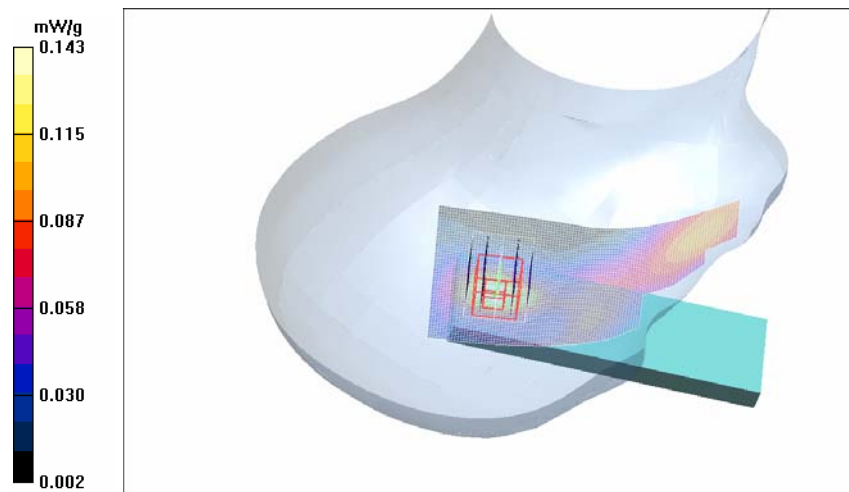
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.25 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 0.225 W/kg

SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.076 mW/g

Maximum value of SAR (measured) = 0.143 mW/g



Date/Time: 2006-02-01 21:02:54

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot EGPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.4$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.366 mW/g

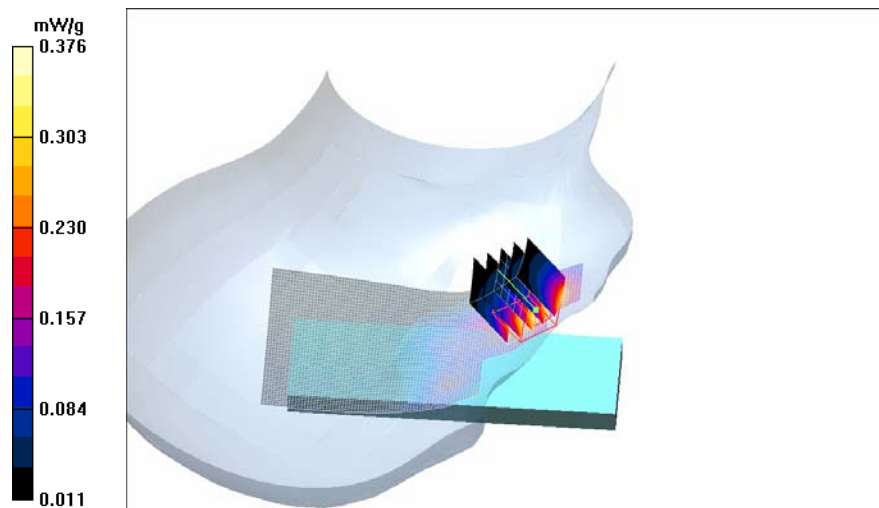
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 3.83 V/m; Power Drift = 0.160 dB

Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.213 mW/g

Maximum value of SAR (measured) = 0.376 mW/g



Date/Time: 2006-02-01 11:35:13

Test Laboratory: TCC Copenhagen
Type: RM-162; Serial: 004400/78/170023/0

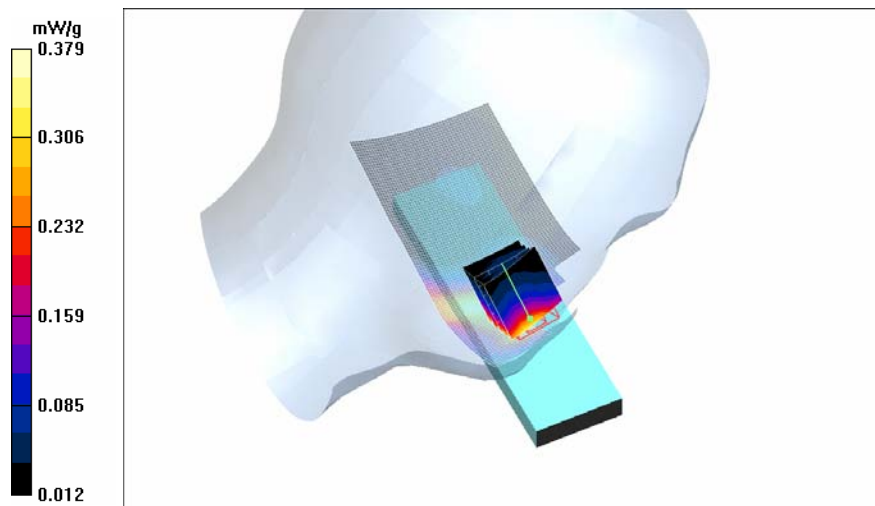
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.4$ C
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 0.376 mW/g

Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
Reference Value = 5.74 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.233 mW/g
Maximum value of SAR (measured) = 0.379 mW/g



Date/Time: 2006-02-01 11:53:48

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: t=21.4 C

Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ϵ_r = 38.3; ρ = 1000 kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.066 mW/g

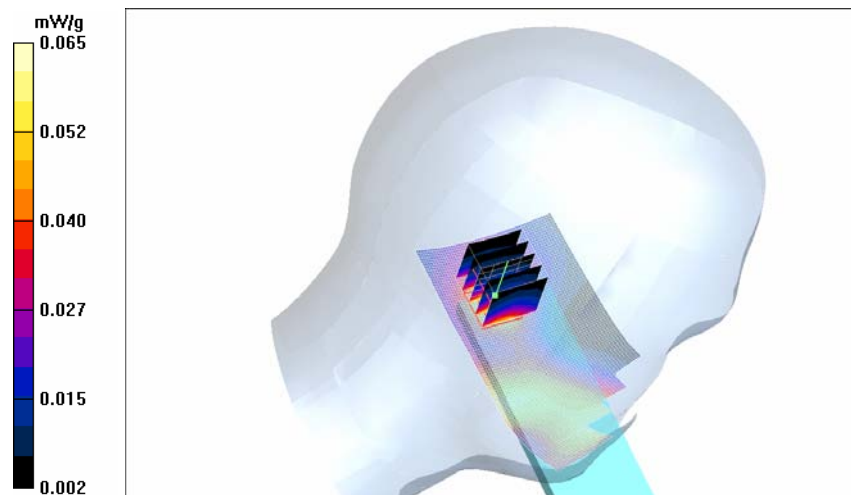
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.55 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.093 W/kg

SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.036 mW/g

Maximum value of SAR (measured) = 0.065 mW/g



Date/Time: 2006-02-01 12:14:30

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.4$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.540 mW/g

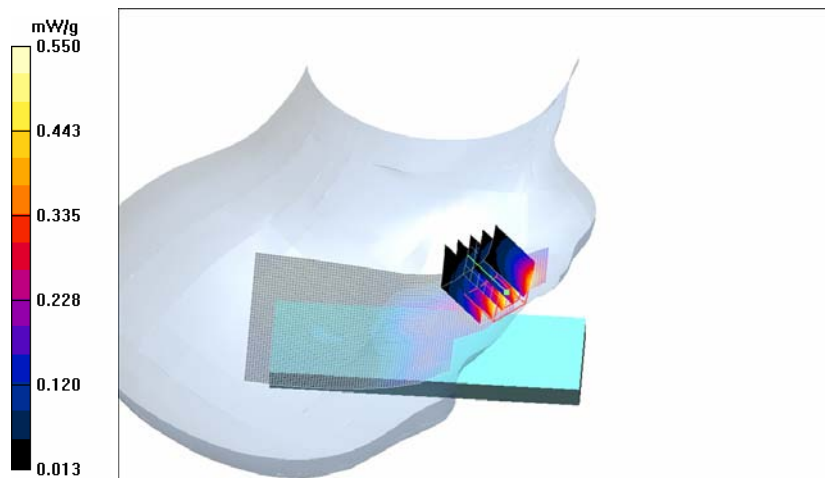
Cheek position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 5.25 V/m; Power Drift = 0.065 dB

Peak SAR (extrapolated) = 0.750 W/kg

SAR(1 g) = 0.501 mW/g; SAR(10 g) = 0.313 mW/g

Maximum value of SAR (measured) = 0.550 mW/g



Date/Time: 2006-02-01 12:30:53

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: t=21.4 C

Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ϵ_r = 38.3; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.089 mW/g

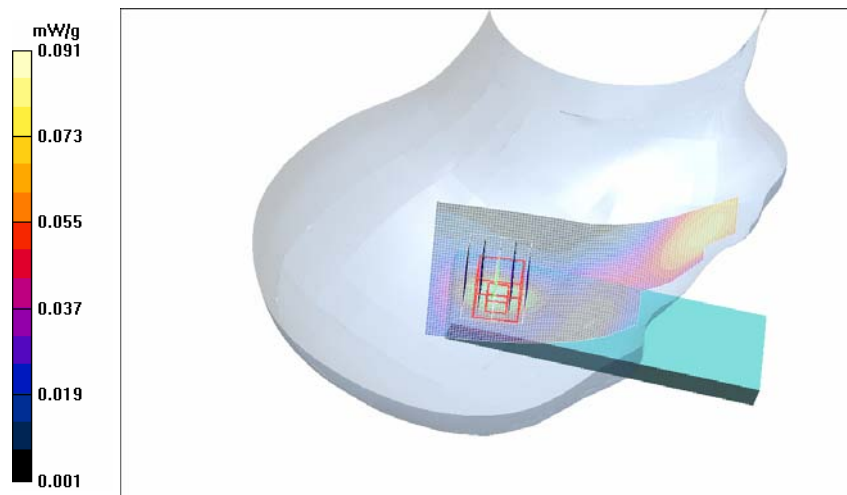
Tilt position - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.47 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.132 W/kg

SAR(1 g) = 0.083 mW/g; SAR(10 g) = 0.048 mW/g

Maximum value of SAR (measured) = 0.091 mW/g



Date/Time: 2006-01-31 18:40:22

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=21.6$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 38.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1808; Probe Notes: Advanced Extrapolation
- ConvF(4.78, 4.78, 4.78); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2005-09-21
- 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 BT active/Area Scan (51x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.855 mW/g

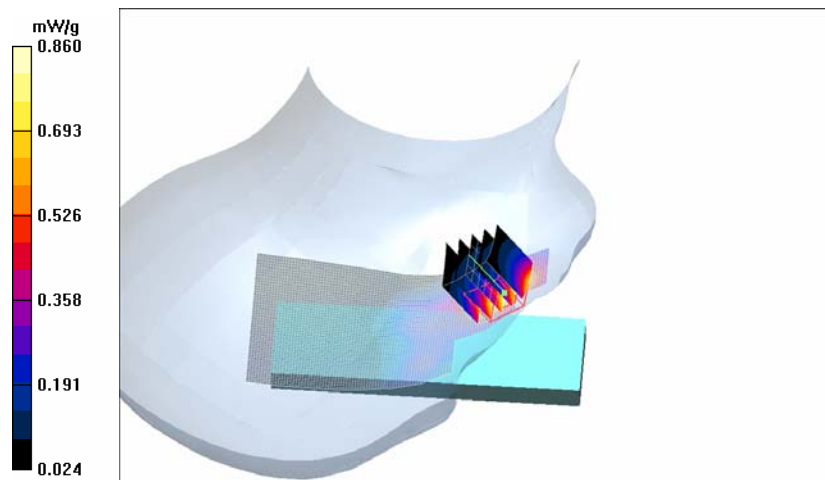
Cheek position - Middle BT active/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

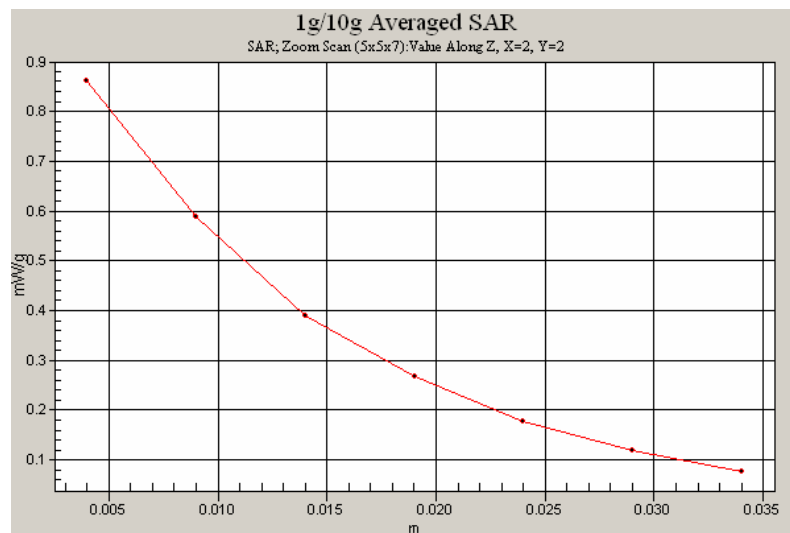
Reference Value = 6.46 V/m; Power Drift = -0.184 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.794 mW/g; SAR(10 g) = 0.495 mW/g

Maximum value of SAR (measured) = 0.860 mW/g





Date/Time: 2006-01-31 13:36:50

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.971$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - Middle - No Accessory/Area Scan (51x91x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.343 mW/g

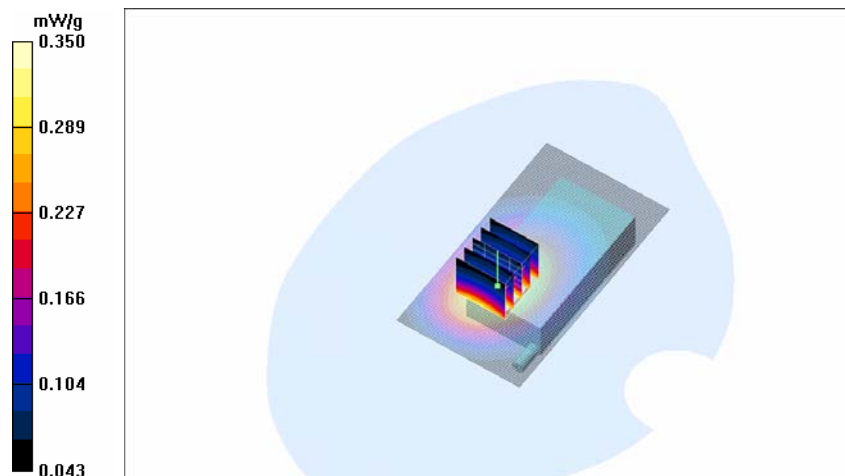
Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 19.0 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.417 W/kg

SAR(1 g) = 0.325 mW/g; SAR(10 g) = 0.233 mW/g

Maximum value of SAR (measured) = 0.350 mW/g



Date/Time: 2006-01-31 14:07:01

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4\text{ C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - No Accessory/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.472 mW/g

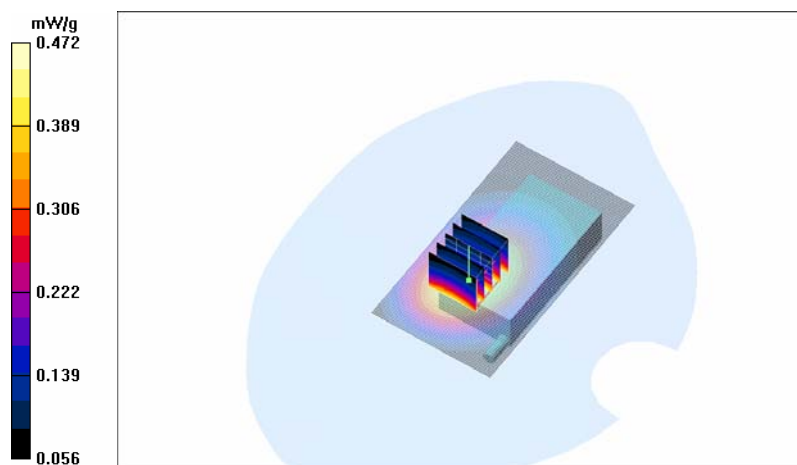
Body - High - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 22.2 V/m ; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.595 W/kg

SAR(1 g) = 0.446 mW/g ; SAR(10 g) = 0.320 mW/g

Maximum value of SAR (measured) = 0.472 mW/g



Date/Time: 2006-01-31 14:22:25

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170017/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4\text{ C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High + HS-6/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.319 mW/g

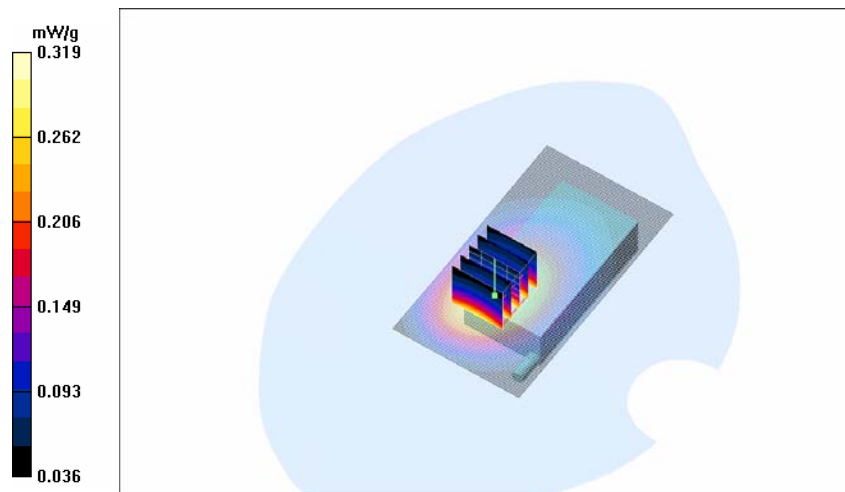
Body - High + HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.1 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.301 mW/g; SAR(10 g) = 0.214 mW/g

Maximum value of SAR (measured) = 0.319 mW/g



Date/Time: 2006-01-31 16:21:31

Test Laboratory: TCC Copenhagen
Type: RM-162; Serial: 004400/78/170023/0

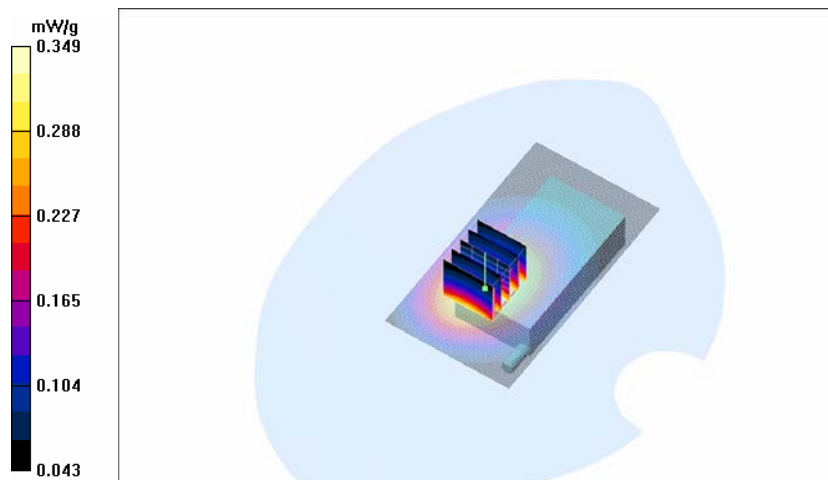
Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4$ C
Medium parameters used: $f = 837$ MHz; $\sigma = 0.971$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - Middle - No Accessory/Area Scan (51x91x1): Measurement grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 0.347 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
Reference Value = 19.2 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.431 W/kg
SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.349 mW/g



Date/Time: 2006-01-31 17:08:38

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4\text{ C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - No Accessory/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.818 mW/g

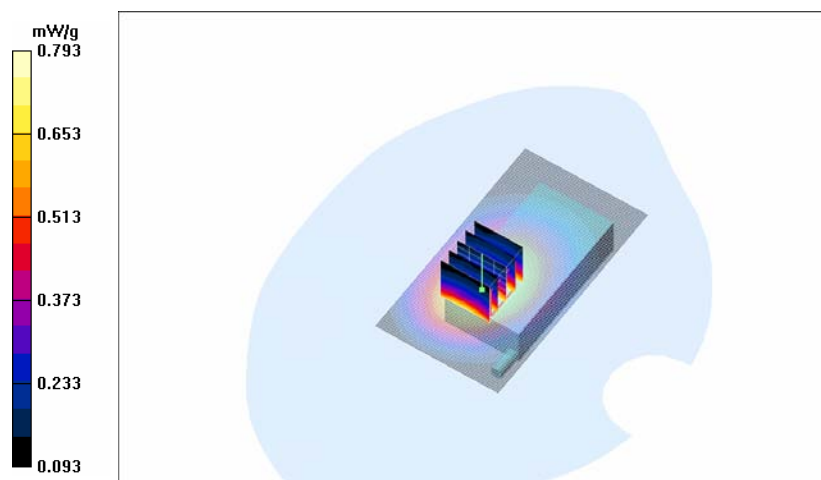
Body - High - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 29.0 V/m ; Power Drift = -0.158 dB

Peak SAR (extrapolated) = 0.968 W/kg

SAR(1 g) = 0.750 mW/g ; SAR(10 g) = 0.542 mW/g

Maximum value of SAR (measured) = 0.793 mW/g



Date/Time: 2006-01-31 18:24:59

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4\text{ C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - HS-6/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.628 mW/g

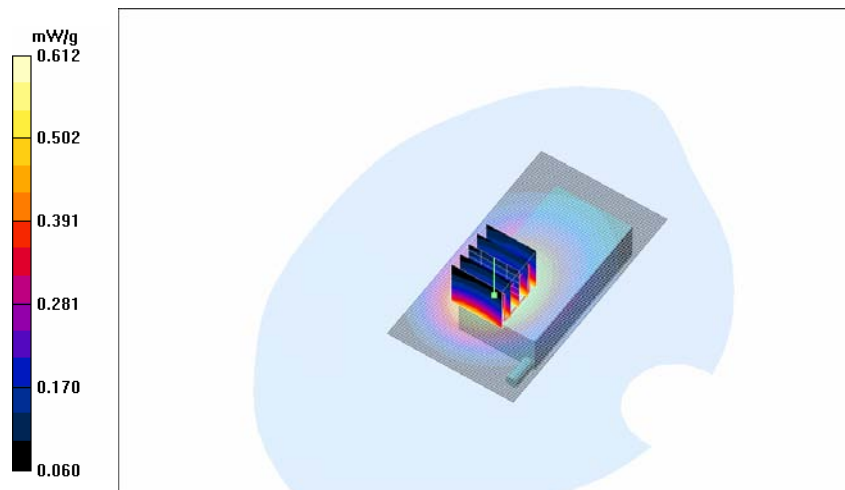
Body - High - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 25.1 V/m; Power Drift = -0.127 dB

Peak SAR (extrapolated) = 0.763 W/kg

SAR(1 g) = 0.573 mW/g; SAR(10 g) = 0.409 mW/g

Maximum value of SAR (measured) = 0.612 mW/g



Date/Time: 2006-01-31 19:04:16

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: $t = 21.4\text{ C}$

Medium parameters used: $f = 849\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(6.18, 6.18, 6.18); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - No Accessory - BT active/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.838 mW/g

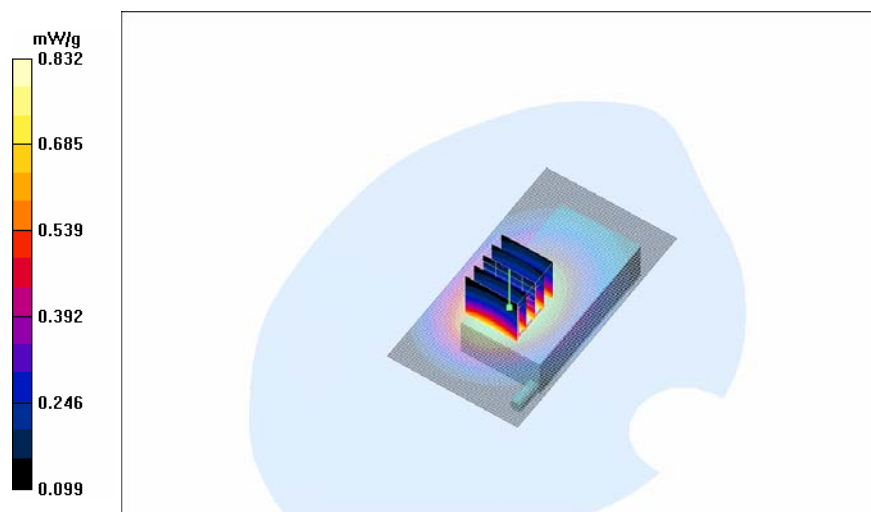
Body - High - No Accessory - BT active/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

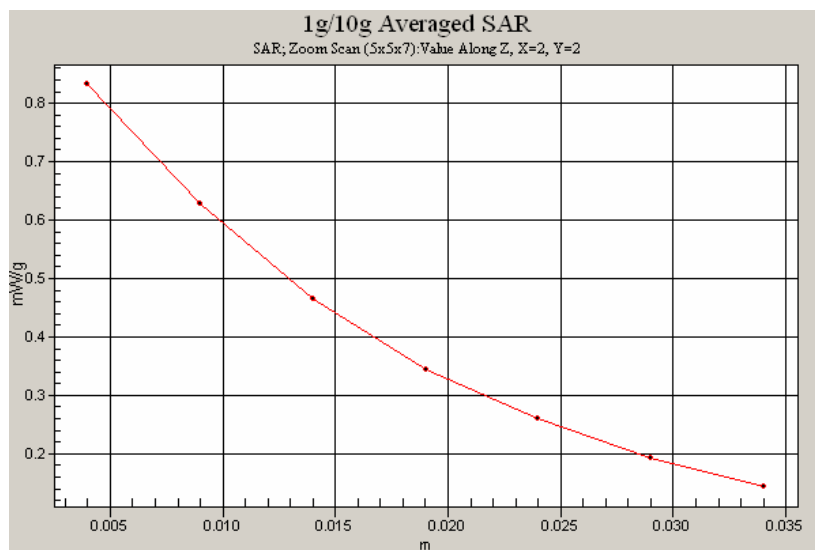
Reference Value = 28.4 V/m ; Power Drift = -0.099 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.791 mW/g ; SAR(10 g) = 0.569 mW/g

Maximum value of SAR (measured) = 0.832 mW/g





Date/Time: 2006-02-19 16:09:26

Test Laboratory: TCC Copenhagen
Type: RM-162; Serial: 004400/78/170023/0

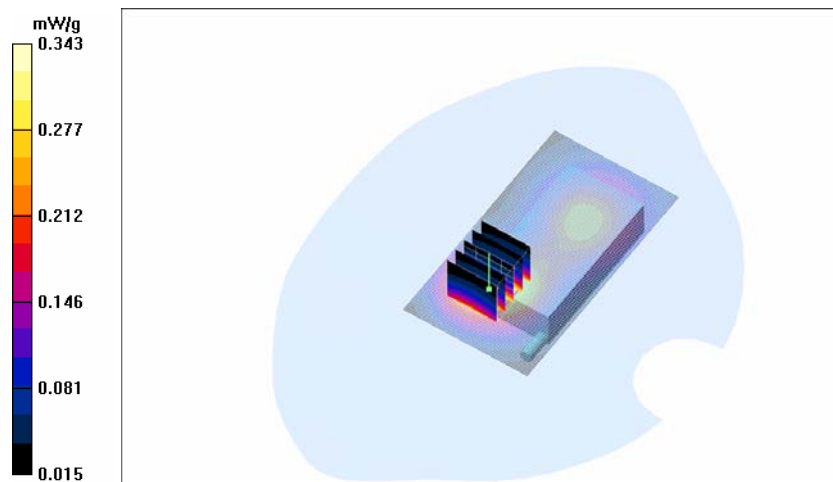
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.7\text{ C}$
Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.5\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 0.350 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 15.1 V/m ; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 0.499 W/kg
SAR(1 g) = 0.321 mW/g ; SAR(10 g) = 0.204 mW/g
Maximum value of SAR (measured) = 0.343 mW/g



Date/Time: 2006-02-17 17:16:33

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.1 C

Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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) = 0.537 mW/g

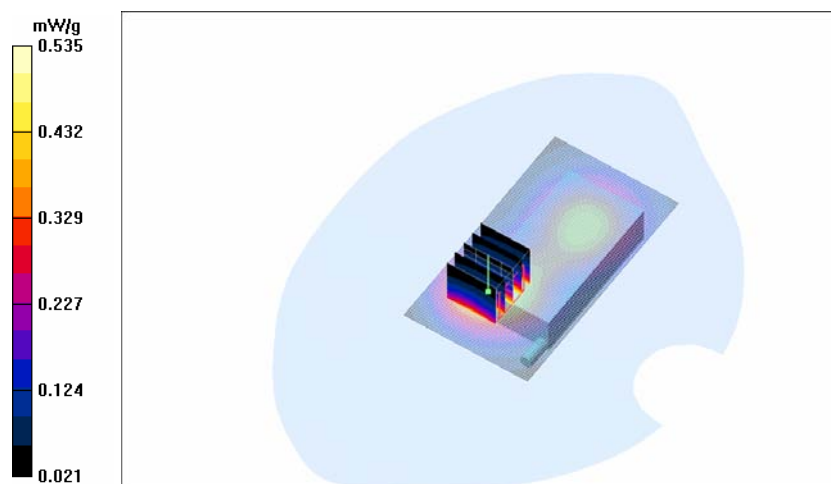
Body - High - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 18.5 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.803 W/kg

SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.313 mW/g

Maximum value of SAR (measured) = 0.535 mW/g



Date/Time: 2006-02-17 17:56:24

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.1 C

Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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) = 0.543 mW/g

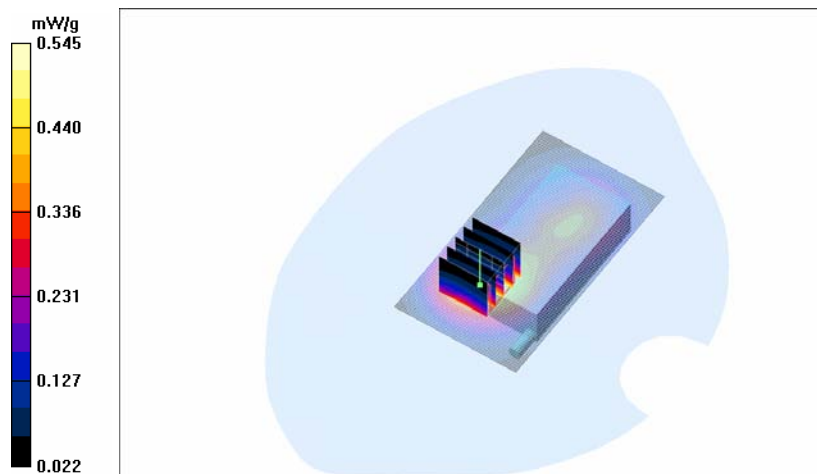
Body - High - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 19.0 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.810 W/kg

SAR(1 g) = 0.506 mW/g; SAR(10 g) = 0.318 mW/g

Maximum value of SAR (measured) = 0.545 mW/g



Date/Time: 2006-02-19 16:37:10

Test Laboratory: TCC Copenhagen
Type: RM-162; Serial: 004400/78/170023/0

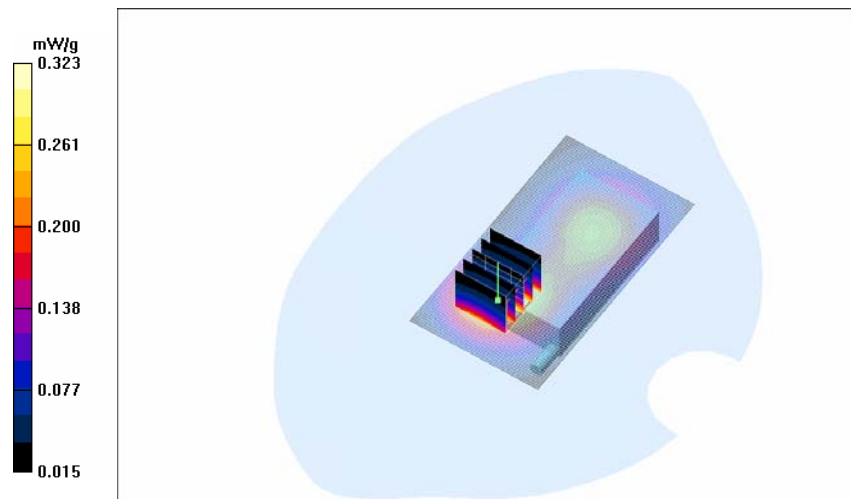
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.7$ C
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 0.326 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
Reference Value = 14.6 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.461 W/kg
SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.191 mW/g
Maximum value of SAR (measured) = 0.323 mW/g



Date/Time: 2006-02-19 17:21:12

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1910\text{ MHz}$; $\sigma = 1.53\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.602 mW/g

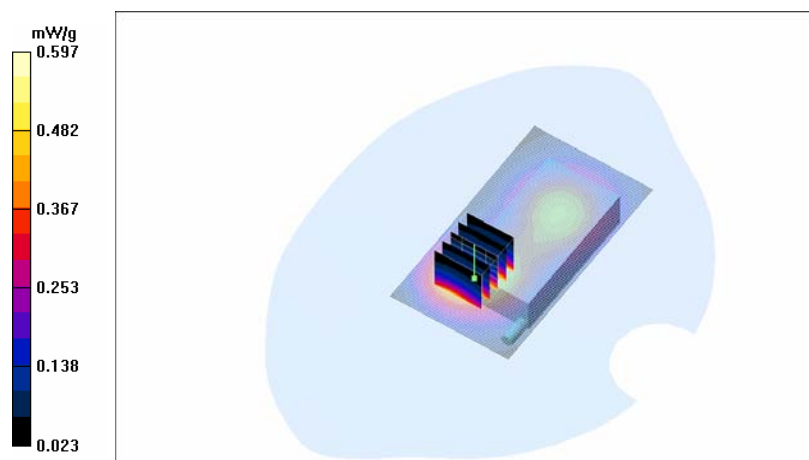
Body - High - No Accessory/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

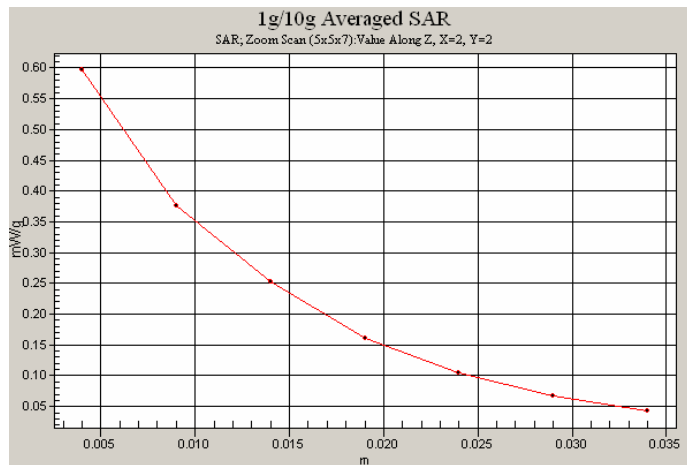
Reference Value = 19.4 V/m ; Power Drift = -0.091 dB

Peak SAR (extrapolated) = 0.960 W/kg

SAR(1 g) = 0.563 mW/g ; SAR(10 g) = 0.351 mW/g

Maximum value of SAR (measured) = 0.597 mW/g





Date/Time: 2006-02-19 18:03:10

Test Laboratory: TCC Copenhagen

Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.7 C

Medium parameters used: f = 1910 MHz; σ = 1.53 mho/m; ϵ_r = 51.7; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; 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) = 0.598 mW/g

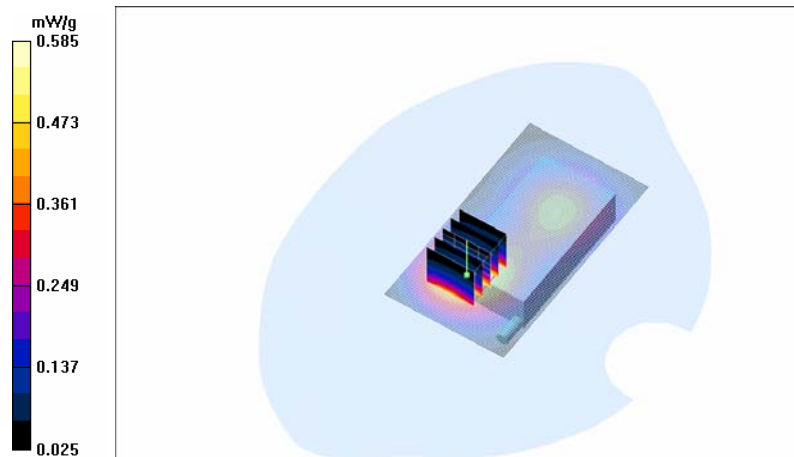
Body - High - HS-6/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 19.1 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.868 W/kg

SAR(1 g) = 0.549 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.585 mW/g



Date/Time: 2006-02-19 18:24:52

Test Laboratory: TCC Copenhagen
Type: RM-162; Serial: 004400/78/170023/0

Communication System: 2-slot GPRS1900
Frequency: 1909.8 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: $t=21.7\text{ }^{\circ}\text{C}$
Medium parameters used: $f = 1910\text{ MHz}$; $\sigma = 1.53\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1813; Probe Notes: Advanced Extrapolation
- ConvF(4.36, 4.36, 4.36); Calibrated: 2005-09-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2005-08-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body - High - No ass - BT active/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 0.605 mW/g

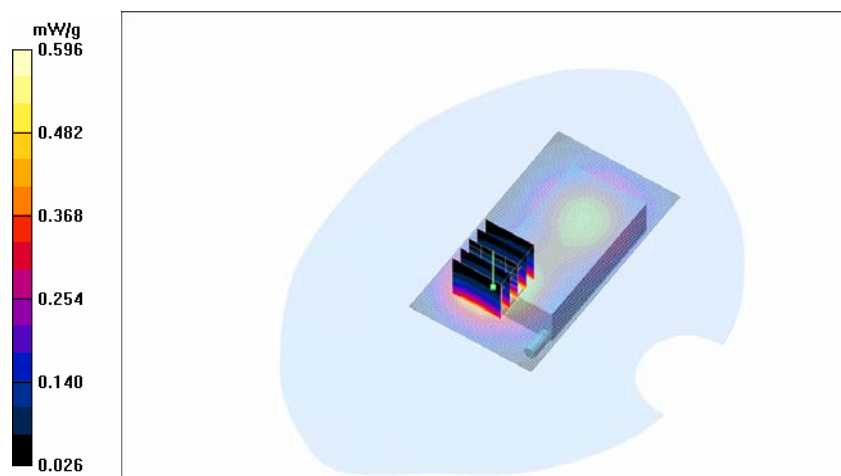
Body - High - No ass - BT active/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.3 V/m ; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 0.888 W/kg

SAR(1 g) = 0.551 mW/g ; SAR(10 g) = 0.345 mW/g

Maximum value of SAR (measured) = 0.596 mW/g



APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS

See the following pages

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: **ET3-1808_Aug05**

CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1808**

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

Calibration date: **August 30, 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	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41495277	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41498087	3-May-05 (METAS, No. 251-00466)	May-06
Reference 3 dB Attenuator	SN: S5054 (3c)	11-Aug-05 (METAS, No. 251-00499)	Aug-06
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-05 (METAS, No. 251-00467)	May-06
Reference 30 dB Attenuator	SN: S5129 (30b)	11-Aug-05 (METAS, No. 251-00500)	Aug-06
Reference Probe ES3DV2	SN: 3013	7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	Jan-06
DAE4	SN: 654	29-Nov-04 (SPEAG, No. DAE4-654_Nov04)	Nov-05

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
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: August 30, 2005

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY - Parameters of Probe: ET3DV6 SN:1808**Sensitivity in Free Space^A****Diode Compression^B**

NormX	1.94 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	94 mV
NormY	1.68 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	94 mV
NormZ	1.95 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	94 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect**TSL 900 MHz Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	8.1	4.4
SAR _{be} [%]	With Correction Algorithm	0.1	0.2

TSL 1750 MHz Typical SAR gradient: 10 % per mm

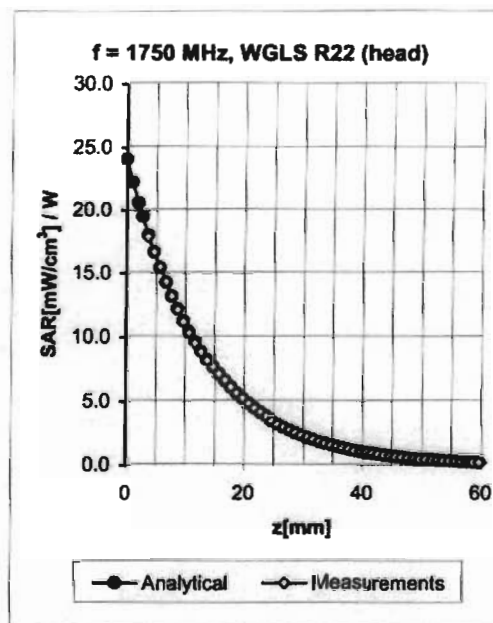
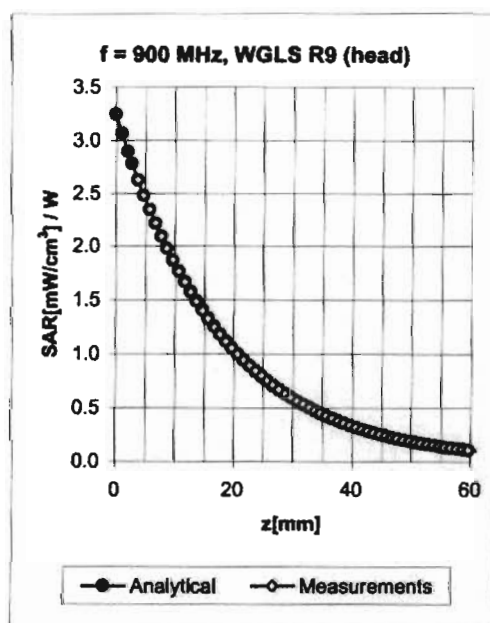
Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	12.3	8.4
SAR _{be} [%]	With Correction Algorithm	0.8	0.2

Sensor OffsetProbe Tip to Sensor Center **2.7 mm**

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).^B Numerical linearization parameter: uncertainty not required.

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%	0.62	1.73	6.17 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.57	1.83	5.92 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.58	2.30	4.90 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.57	2.46	4.78 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.55	2.54	4.60 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.70	2.15	4.27 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.47	2.10	6.07 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.47	2.11	5.78 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.56	2.73	4.26 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.59	2.66	4.20 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.59	2.51	4.11 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.76	1.89	4.02 ± 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.

19368

**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 (NMP / Copenhagen)**

Certificate No: **ET3-1813_Sep04**

CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1813**

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

Calibration date: **September 30, 2004**

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 $(22 \pm 3)^{\circ}\text{C}$ 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)	3-Apr-03 (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)	3-Apr-03 (METAS, No. 251-00404)	Aug-05
Reference Probe ES3DV2	SN:3013	8-Jan-04 (SPEAG, No. ES3-3013_Jan04)	Jan-05
DAE4	SN: 617	26-May-04 (SPEAG, No. DAE4-617_May04)	May-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-03)	In house check: Nov 04

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

Issued: October 1, 2004

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY - Parameters of Probe: ET3DV6 SN:1813**Sensitivity in Free Space^A****Diode Compression^B**

NormX	1.66 ± 9.9%	$\mu V/(V/m)^2$	DCP X	95 mV
NormY	1.72 ± 9.9%	$\mu V/(V/m)^2$	DCP Y	95 mV
NormZ	1.56 ± 9.9%	$\mu V/(V/m)^2$	DCP Z	95 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect**TSL 900 MHz Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{bo} [%]	Without Correction Algorithm	9.5	5.2
SAR _{bo} [%]	With Correction Algorithm	0.7	0.0

TSL 1750 MHz Typical SAR gradient: 10 % per mm

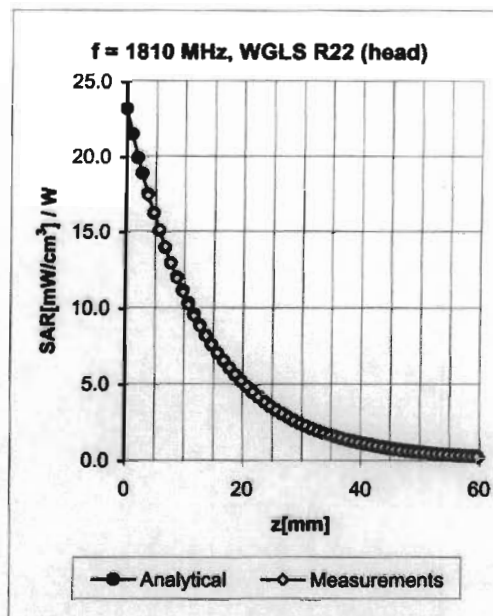
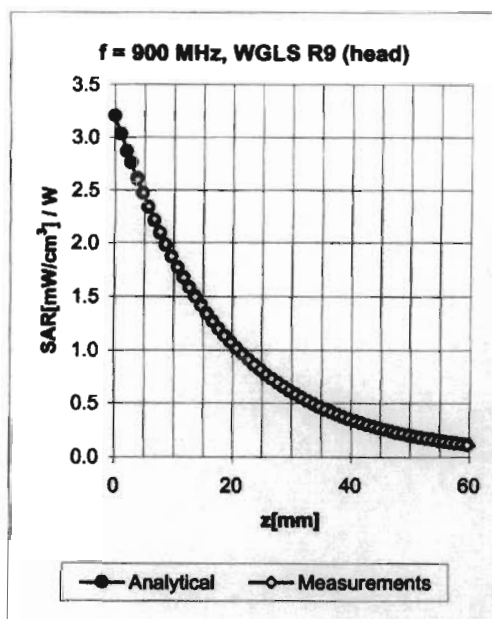
Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{bo} [%]	Without Correction Algorithm	12.9	8.6
SAR _{bo} [%]	With Correction Algorithm	0.5	0.2

Sensor OffsetProbe Tip to Sensor Center **2.7 mm**

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).^B Numerical linearization parameter: uncertainty not required.

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%	1.02	1.53	6.37 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.96	1.59	6.17 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.58	2.33	5.13 ± 11.0% (k=2)
1900	± 50 / ± 101	Head	40.0 ± 5%	1.40 ± 5%	0.55	2.52	4.96 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.50	2.77	4.75 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.62	2.37	4.50 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.99	1.58	6.17 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.93	1.65	5.95 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.53	2.77	4.55 ± 11.0% (k=2)
1900	± 50 / ± 101	Body	53.3 ± 5%	1.52 ± 5%	0.53	2.96	4.41 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.53	2.67	4.42 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.59	2.30	4.21 ± 11.8% (k=2)

^c The validity of ± 100 MHz only applies for DASY 4.3 B17 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

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 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 $(22 \pm 3)^\circ\text{C}$ 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

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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; $\sigma = 0.91$ mho/m; $\epsilon_r = 42$; $\rho = 1000$ kg/m³

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

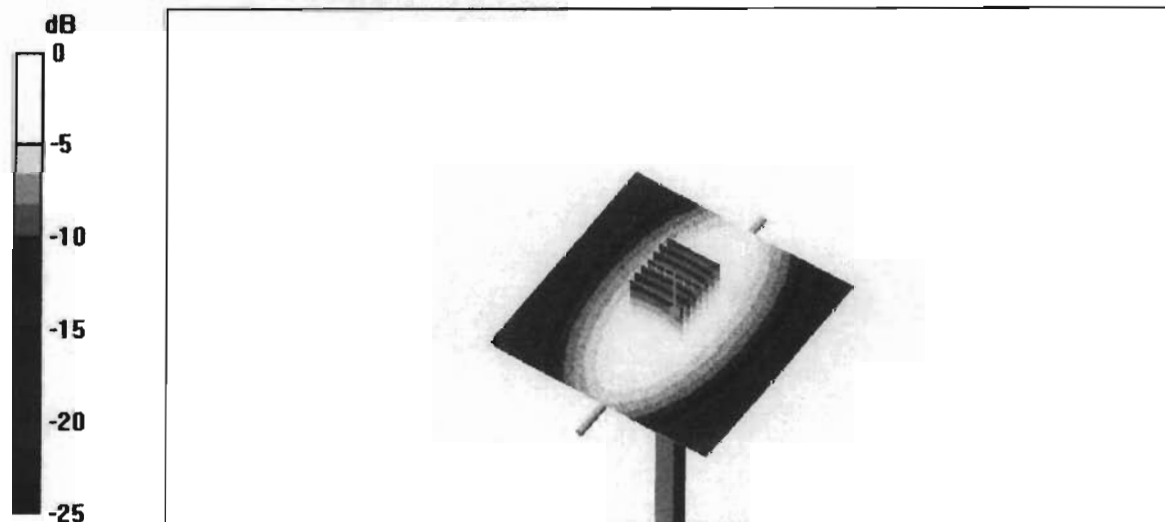
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 54.9$; $\rho = 1000 \text{ kg/m}^3$

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: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 2.68 mW/g

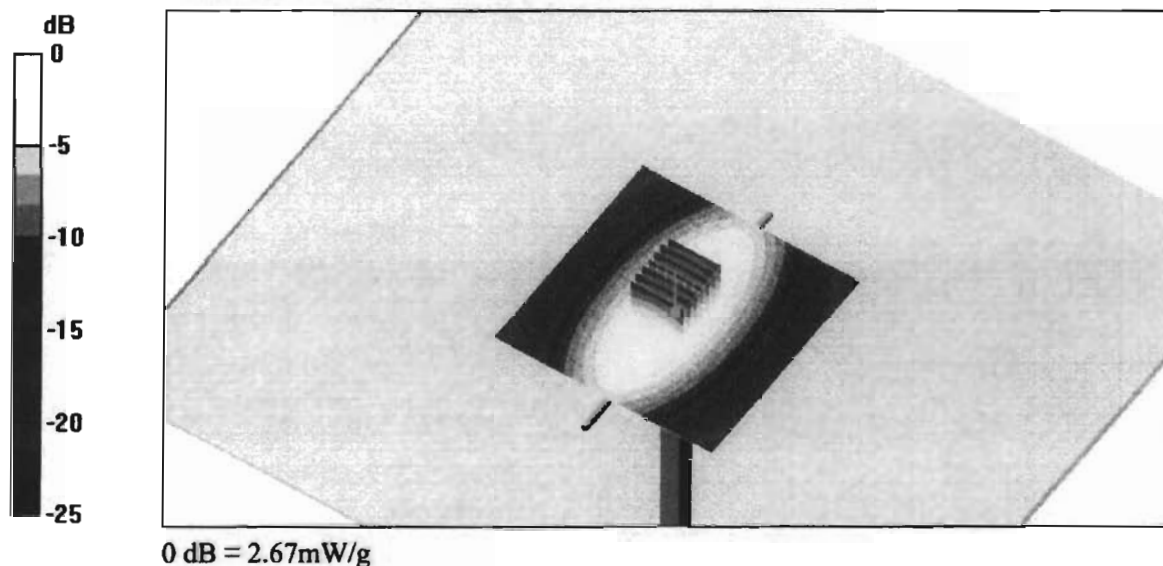
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

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





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

META

Certificate No: **D1900V2-5d063_Oct05**

CALIBRATION CERTIFICATE

Object

D1900V2 - SN 5d063

Calibration procedure(s)

**QA CAL-05.v6
Calibration procedure for dipole validation kits**

Calibration date:

October 25, 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	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference 10 dB Attenuator	SN: 5047.2 (10r)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference Probe ET3DV8	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-05)	In house check: Oct-07
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 Prokovic	Technical Manager	

Issued: October 26, 2005

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY4 Validation Report for Head TSL

Date/Time: 25.10.2005 16:04:03

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

Communication System: CW-1900; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL 1900 MHz;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.96, 4.96, 4.96); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.6 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 159

Pin = 250 mW; d = 10 mm/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.1 mW/g

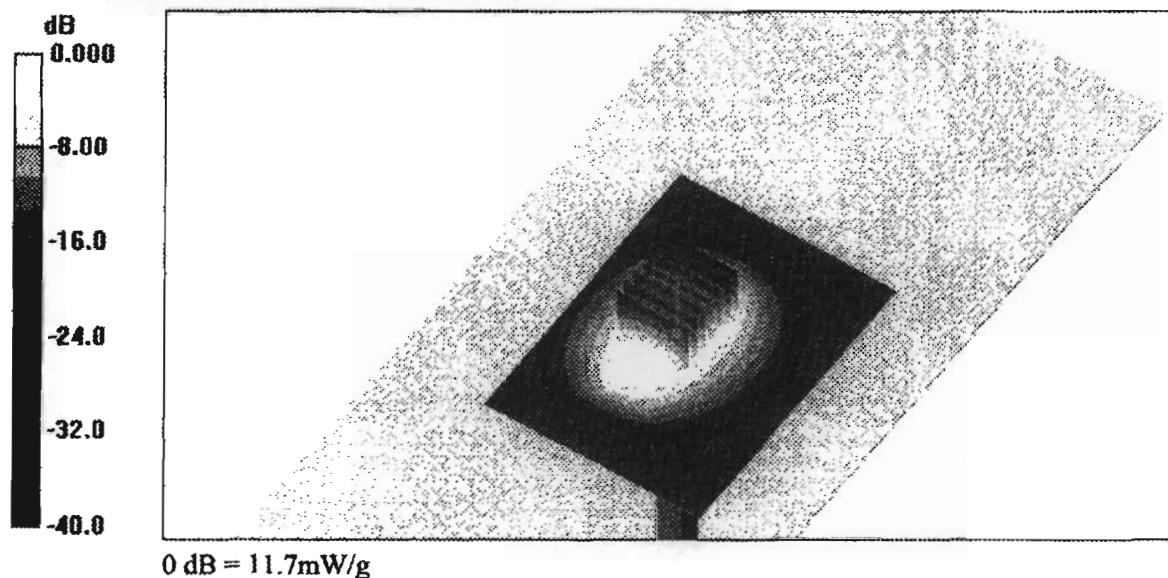
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.3 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.36 mW/g

Maximum value of SAR (measured) = 11.7 mW/g





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 Denmark**

Certificate No.: **D1900V2-5d063_Jan06**

CALIBRATION CERTIFICATE

Object: **D1900V2 - SN: 5d063**

Calibration procedure(s): **QA CAL-05.v6
Calibration procedure for dipole validation kits**

Calibration date: **January 10, 2006**

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 $(22 \pm 3)^\circ\text{C}$ 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-442A	GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5088 (20g)	11-Aug-05 (METAS, No. 251-00498)	Aug-06
Reference 10 dB Attenuator	SN: 5047.2 (10r)	11-Aug-05 (METAS, No. 251-00498)	Aug-06
Reference Probe ET3DV6	SN 1507	28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 54206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Joachim Müller	Laboratory Technician	
Approved by:	Katja Polakovic	Technical Manager	

Issued: January 17, 2006

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY4 Validation Report for Body TSL

Date/Time: 10.01.2006 15:46:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL U10;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.3, 4.3, 4.3); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Pin = 250 mW; d = 10 mm 2/Area Scan (61x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.0 mW/g

Pin = 250 mW; d = 10 mm 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.2 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.6 mW/g

Maximum value of SAR (measured) = 12.0 mW/g

