

SAR Compliance Test Report

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Tested device:	RM-289		
FCC ID:	QMNRM-289	IC:	661X-RM289
Supplement reports:	Salo_SAR_0707_05_Setup_photos		
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 Technique		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
Date and signatures:			
For the contents:			

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2007-02-24 to 2007-03-05
SN, HW and SW numbers of tested device	SN: 004400/99/175041/3, HW: 3130, SW: gr06w47_07w04, DUT: 11754
Batteries used in testing	BL-5C, DUT: 11546, 11731
Headsets used in testing	HS-9, DUT: 11732
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
2-slot GPRS850	190 / 836.6	27.9 dBm ERP	Right, Cheek	0.601 W/kg	0.67 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	22.1 dBm ERP	Right, Cheek	0.969 W/kg	1.09 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	661 / 1880.0	28.0 dBm EIRP	Left, Cheek	0.609 W/kg	0.68 W/kg	1.6 W/kg	PASSED
WCDMA1900	9400 / 1880.0	25.5 dBm EIRP	Left, Cheek	1.12 W/kg	1.25 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
WCDMA850	4233 / 846.6	24.3 dBm ERP	2.2cm	0.789 W/kg	0.88 W/kg	1.6 W/kg	PASSED
WCDMA1900	9400 / 1880.0	26.1 dBm EIRP	2.2cm	0.304 W/kg	0.34 W/kg	1.6 W/kg	PASSED

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

1.2.3 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	0.34dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 25.8%
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2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

Modes and Bands of Operation	GSM	GPRS	EGPRS	WCDMA	BT
	850 / 1900	850 / 1900	850 / 1900	850 / 1900	
Modulation Mode	GMSK	GMSK	GMSK / 8PSK	QPSK	GFSK
Duty Cycle	1/8	1/8 to 2/8	1/8 to 2/8	1	
Transmitter Frequency Range (MHz)	824 - 849 1850 - 1910	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 900 / 1800 MHz bands, which are not part of this filing.

This device has Push to Talk capability for use at the ear. Therefore, SAR for multi slot GPRS mode was evaluated against the head profile of the phantom.

2.1 Description of the Antenna

The device has an internal antenna.

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	21.0 to 23.0
Ambient humidity (RH %):	30 to 45

3.2 Test Signal, Frequencies and Output Power

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

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

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

The radiated output power of the device was measured by a separate test laboratory on the same unit(s) 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 4	538	12 months	2007-05
DAE 4	728	12 months	2008-02
E-field Probe ET3DV6	1395	12 months	2007-07
E-field Probe ET3DV6	1396	12 months	2008-02
E-field Probe ET3DV6	1766	12 months	2007-05
Dipole Validation Kit, D835V2	462	24 months	2008-07
Dipole Validation Kit, D1900V2	5d013	24 months	2008-07
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SML03	101265	12 months	2007-07
Amplifier	ZHL-42 (SMA)	N072095-5	12 months	2007-07
Power Meter	NRVS	849305/028	12 months	2007-07
Power Sensor	NRV-Z32	839176/020	12 months	2007-07
Call Tester	CMU 200	101111	-	-
Call Tester	CMU 200	103293	-	-
Call Tester	CMU 200	100084	-	-
Vector Network Analyzer	8753E	US38432928	12 months	2007-07
Dielectric Probe Kit	85070B	US33020420	-	-

4.1.1 Isotropic E-field Probe Type ET3DV6

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 checks 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 recipe(s) were used for Head and Body tissue stimulant(s):

800MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	51.50	69.25
Tween 20	47.35	30.00
Salt	1.15	0.75

1900MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.50	70.25
Tween 20	45.23	29.41
Salt	0.27	0.34

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	2.26	41.0	0.88	
	$\pm 10\%$ window	2.03 – 2.49			
	2007-02-27	2.28	41.4	0.89	21.0
1900	Reference result	9.69	39.3	1.44	
	$\pm 10\%$ window	8.72 – 10.66			
	2007-02-24	9.41	39.8	1.41	21.0

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
1900	Reference result	10.1	52.3	1.57	
	$\pm 10\%$ window	9.1 – 11.1			
	2007-03-05	10.1	52.8	1.54	21.0

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	21.0
	$\pm 5\%$ window	39.4 – 43.6	0.86 – 0.95	
	2007-02-27	41.4	0.89	
1880	Recommended value	40.0	1.40	21.0
	$\pm 5\%$ window	38.0 – 42.0	1.33 – 1.47	
	2007-02-24	39.9	1.39	

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ϵ_r	σ [S/m]	
836	Recommended value	55.2	0.97	21.0
	$\pm 5\%$ window	52.4 – 58.0	0.92 – 1.02	
	2007-02-27	55.6	0.98	
1880	Recommended value	53.3	1.52	21.0
	$\pm 5\%$ window	50.6 – 56.0	1.44 – 1.60	
	2007-03-05	52.9	1.52	

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".

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 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.

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:

850MHz Head SAR results

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
GSM	Power		32.7 dBm	30.2 dBm	31.3 dBm
Flip open	Left	Cheek	-	0.553	-
		Tilt	-	-	-
	Right	Cheek	-	0.592	-
		Tilt	-	-	-
2-slot GPRS	Power		29.8 dBm	27.9 dBm	28.8 dBm
Flip open	Left	Cheek	-	0.548	-
		Tilt	-	-	-
	Right	Cheek	-	0.601	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Power		26.1 dBm	24.4 dBm	24.5 dBm
Flip open	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	-	0.183	-
		Tilt	-	-	-
Option used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Power		20.9 dBm	22.1 dBm	21.9 dBm
Flip open	Left	Cheek	0.634	0.871	0.802
		Tilt	-	0.491	-
	Right	Cheek	0.657	0.962	0.892
		Tilt	-	0.513	-
WCDMA Flip open	Right Cheek, BT active		-	0.969	-

1900MHz Head SAR results

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		30.3 dBm	30.6 dBm	32.5 dBm
Flip open	Left	Cheek	-	0.424	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Power		29.4 dBm	28.0 dBm	29.0 dBm
Flip open	Left	Cheek	-	0.609	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Power		28.3 dBm	27.5 dBm	29.0 dBm
Flip open	Left	Cheek	-	0.301	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
Option used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA	Power		24.5 dBm	25.5 dBm	26.1 dBm
Flip open	Left	Cheek	0.909	1.12	0.932
		Tilt	-	0.196	-
	Right	Cheek	-	0.777	-
		Tilt	-	0.214	-
WCDMA	Left Cheek, BT active		-	1.11	-

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

800MHz Body SAR results

Option used	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Power	23.4 dBm	24.8 dBm	24.3 dBm
Flip closed	Without headset	0.589	0.743	0.760
	Headset HS-9	0.423	0.441	0.530
WCDMA Flip closed	Without headset, BT active	-	-	0.789

1900MHz Body SAR results

Option used	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA	Power	23.4 dBm	26.1 dBm	25.5 dBm
Flip closed	Without headset	0.239	0.303	0.287
	Headset HS-9	0.257	0.298	0.284
WCDMA Flip closed	Without headset, BT active	-	0.304	-

Note: in each band, only the mode giving the highest SAR has been evaluated; this mode was identified during Head SAR testing.

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2007-02-27 07:18:27

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.3C

Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.44 mW/g

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

Reference Value = 54.3 V/m

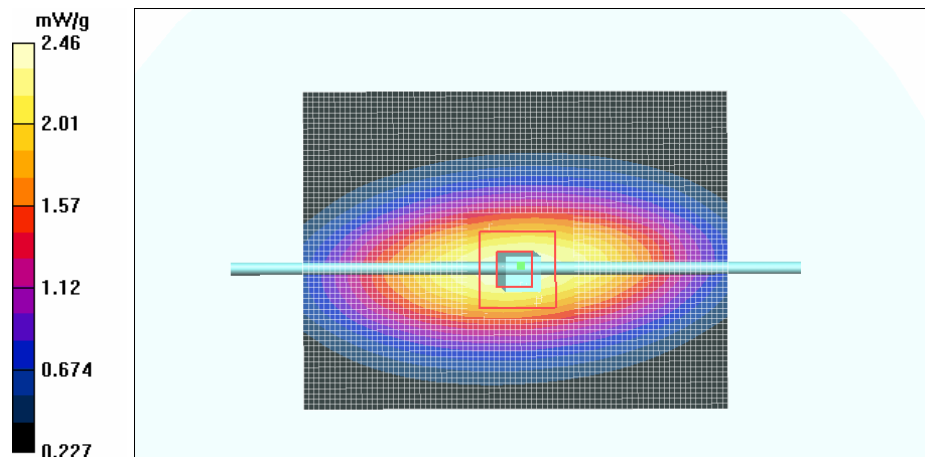
Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 2.28 mW/g

SAR(10 g) = 1.5 mW/g

Power Drift = 0.007 dB

Maximum value of SAR (measured) = 2.46 mW/g



Date/Time: 2007-02-24 12:40:54

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 21.2C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.1 mW/g

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

Reference Value = 92.5 V/m

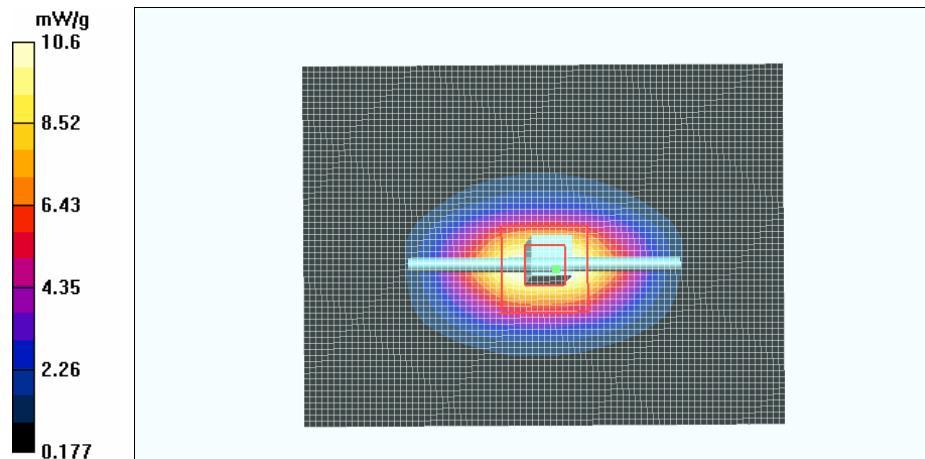
Peak SAR (extrapolated) = 16.5 W/kg

SAR(1 g) = 9.41 mW/g

SAR(10 g) = 4.95 mW/g

Power Drift = -0.002 dB

Maximum value of SAR (measured) = 10.6 mW/g



Date/Time: 2007-03-05 11:27:33

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: t=20.7C

Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ϵ_r = 52.8; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1395
- ConvF(4.35, 4.35, 4.35); Calibrated: 2006-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.7 mW/g

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

Reference Value = 90.1 V/m

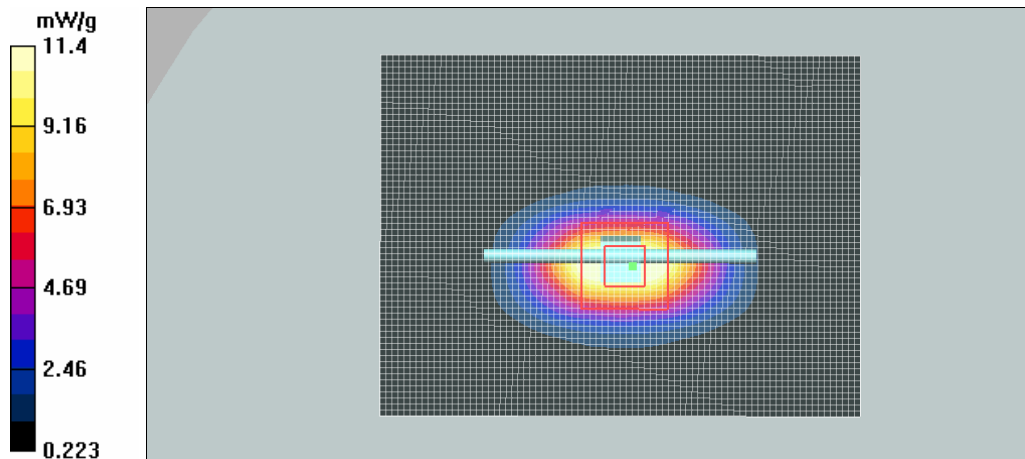
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.1 mW/g

SAR(10 g) = 5.34 mW/g

Power Drift = -0.013 dB

Maximum value of SAR (measured) = 11.4 mW/g



APPENDIX B: MEASUREMENT SCANS

Date/Time: 2007-02-27 07:55:17

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835; Medium Notes: t=21.1C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.888$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.582 mW/g

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

Reference Value = 13.8 V/m

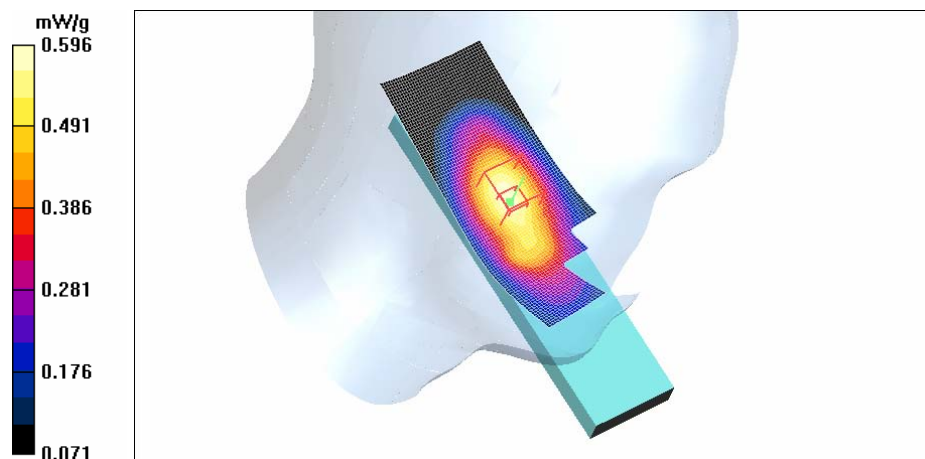
Peak SAR (extrapolated) = 0.731 W/kg

SAR(1 g) = 0.553 mW/g

SAR(10 g) = 0.394 mW/g

Power Drift = -0.072 dB

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



Date/Time: 2007-02-27 12:55:27

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835; Medium Notes: $t=21.3C$

Medium parameters used: $f = 837 \text{ MHz}$; $\sigma = 0.888 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.623 mW/g

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

Reference Value = 13.7 V/m

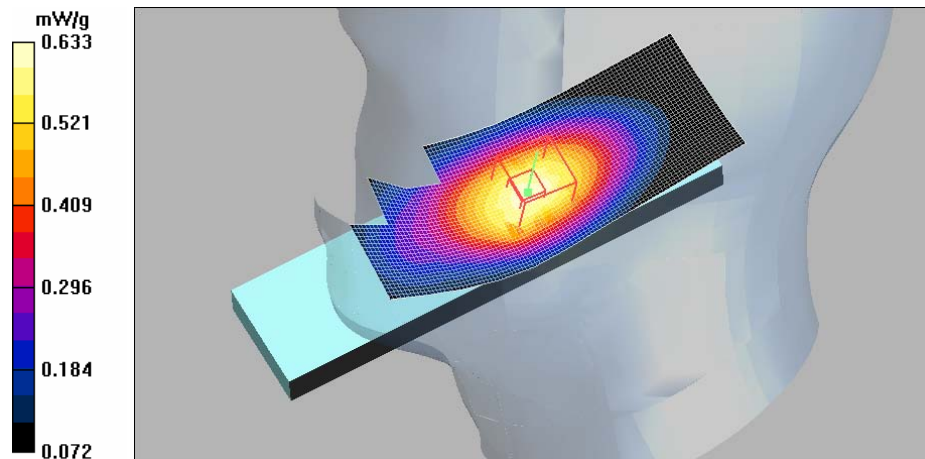
Peak SAR (extrapolated) = 0.786 W/kg

SAR(1 g) = 0.592 mW/g

SAR(10 g) = 0.423 mW/g

Power Drift = -0.092 dB

Maximum value of SAR (measured) = 0.633 mW/g



Date/Time: 2007-02-27 08:17:28

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL835; Medium Notes: t=21.1C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.888$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 13.9 V/m

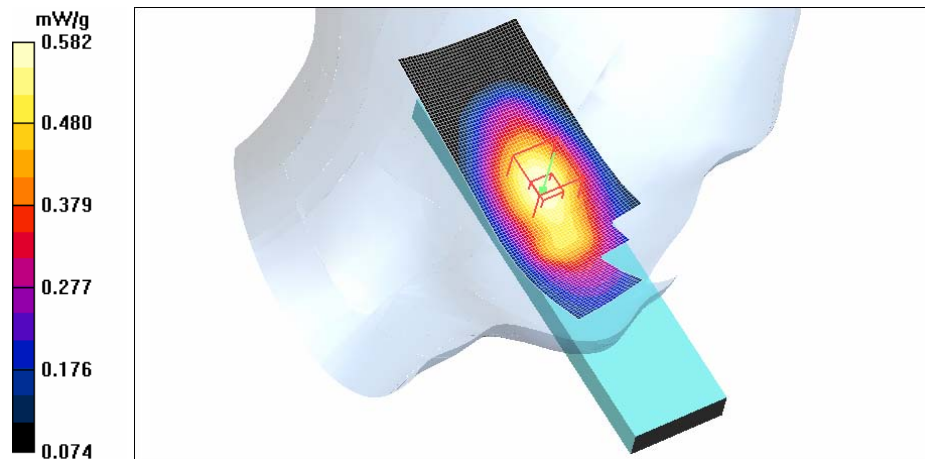
Peak SAR (extrapolated) = 0.710 W/kg

SAR(1 g) = 0.548 mW/g

SAR(10 g) = 0.392 mW/g

Power Drift = -0.133 dB

Maximum value of SAR (measured) = 0.582 mW/g



Date/Time: 2007-02-27 12:34:03

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL835; Medium Notes: t=21.3C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.888$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.642 mW/g

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

Reference Value = 14.0 V/m

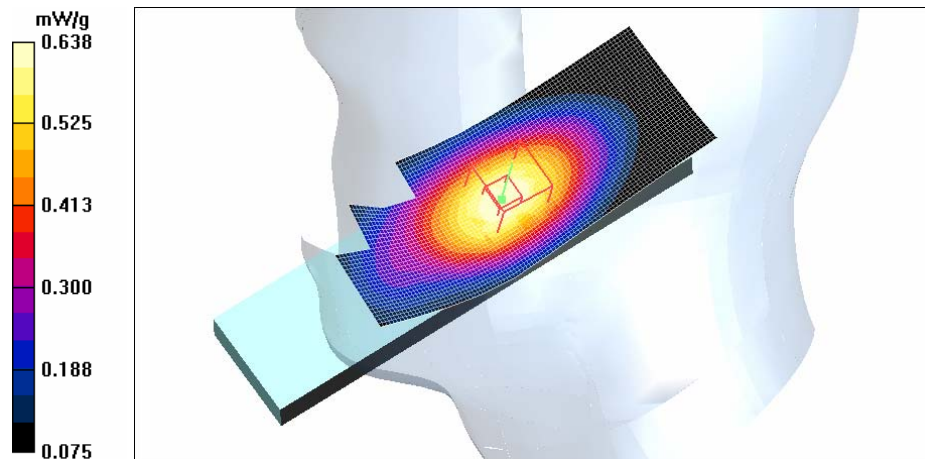
Peak SAR (extrapolated) = 0.788 W/kg

SAR(1 g) = 0.601 mW/g

SAR(10 g) = 0.432 mW/g

Power Drift = -0.171 dB

Maximum value of SAR (measured) = 0.638 mW/g



Date/Time: 2007-02-27 13:18:49

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: 2-slot 8PSK EGPRS850

Frequency: 836 MHz; Duty Cycle: 1:4.2

Medium: HSL835; Medium Notes: t=21.3C

Medium parameters used: $f = 836 \text{ MHz}$; $\sigma = 0.889 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.207 mW/g

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

Reference Value = 7.52 V/m

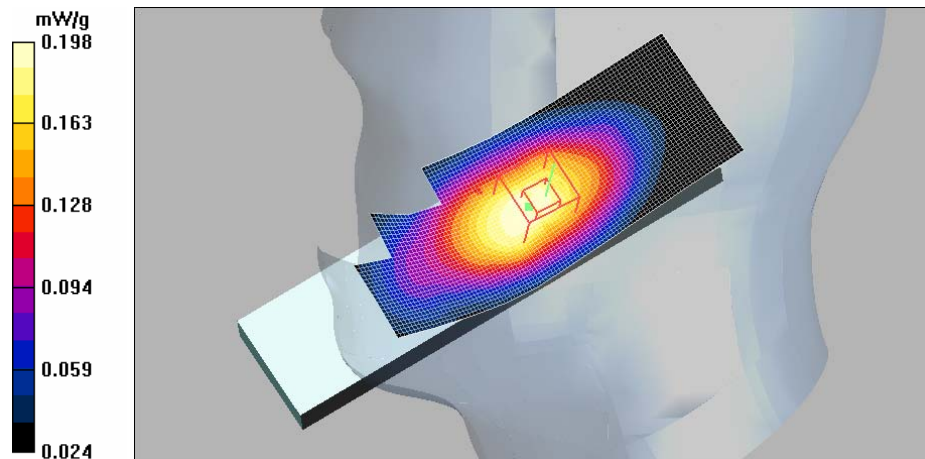
Peak SAR (extrapolated) = 0.242 W/kg

SAR(1 g) = 0.183 mW/g

SAR(10 g) = 0.132 mW/g

Power Drift = 0.340 dB

Maximum value of SAR (measured) = 0.198 mW/g



Date/Time: 2007-02-27 08:46:54

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.1C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.942 mW/g

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

Reference Value = 17.3 V/m

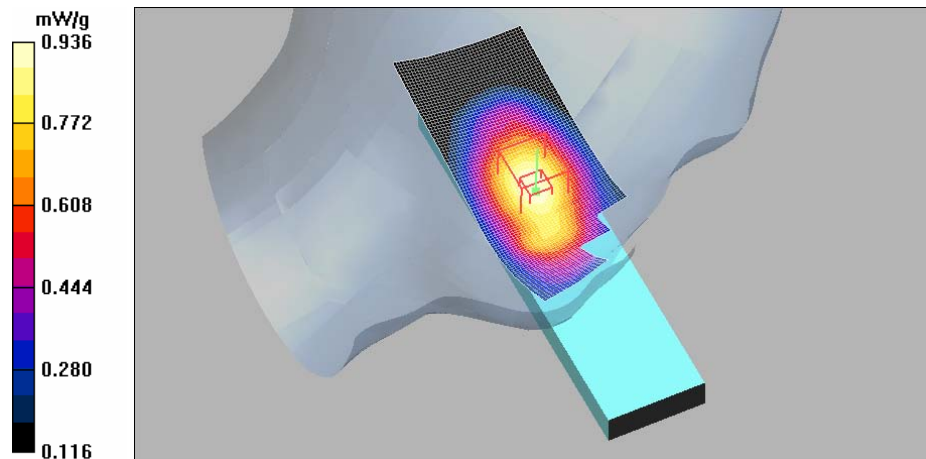
Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.871 mW/g

SAR(10 g) = 0.624 mW/g

Power Drift = -0.124 dB

Maximum value of SAR (measured) = 0.936 mW/g



Date/Time: 2007-02-27 09:05:27

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.1C

Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.518 mW/g

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

Reference Value = 20.9 V/m

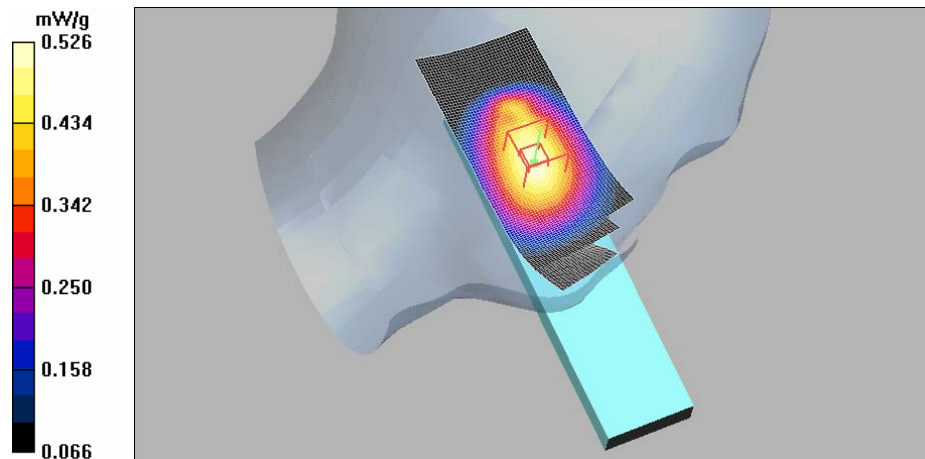
Peak SAR (extrapolated) = 0.632 W/kg

SAR(1 g) = 0.491 mW/g

SAR(10 g) = 0.354 mW/g

Power Drift = 0.080 dB

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



Date/Time: 2007-02-27 09:35:16

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.3C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.04 mW/g

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

Reference Value = 18.6 V/m

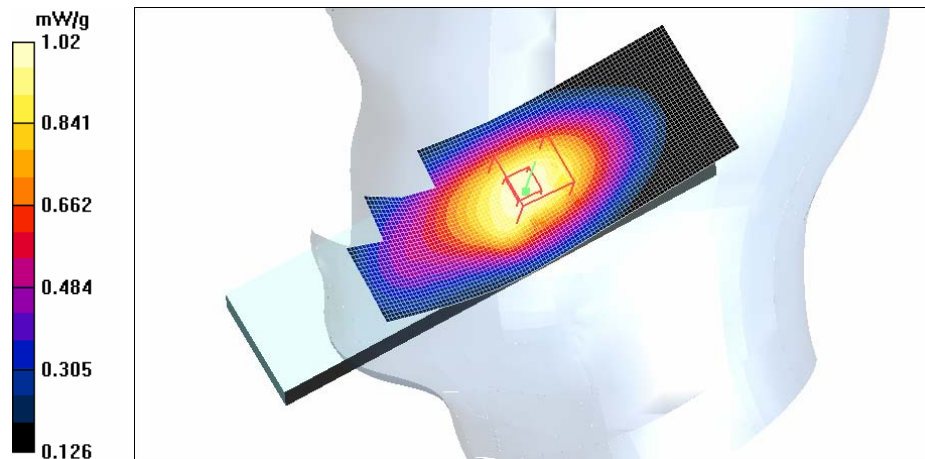
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.962 mW/g

SAR(10 g) = 0.692 mW/g

Power Drift = -0.142 dB

Maximum value of SAR (measured) = 1.02 mW/g



Date/Time: 2007-02-27 09:54:36

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.1C

Medium parameters used: f = 835 MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.548 mW/g

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

Reference Value = 21.1 V/m

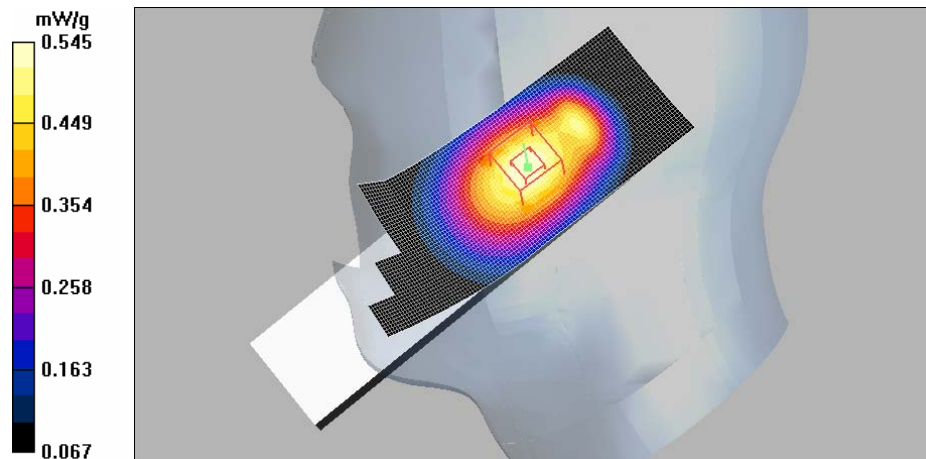
Peak SAR (extrapolated) = 0.656 W/kg

SAR(1 g) = 0.513 mW/g

SAR(10 g) = 0.372 mW/g

Power Drift = 0.034 dB

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



Date/Time: 2007-02-27 12:05:29

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: t=21.3C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.86, 6.86, 6.86); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open, BT/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.05 mW/g

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

Reference Value = 19.4 V/m

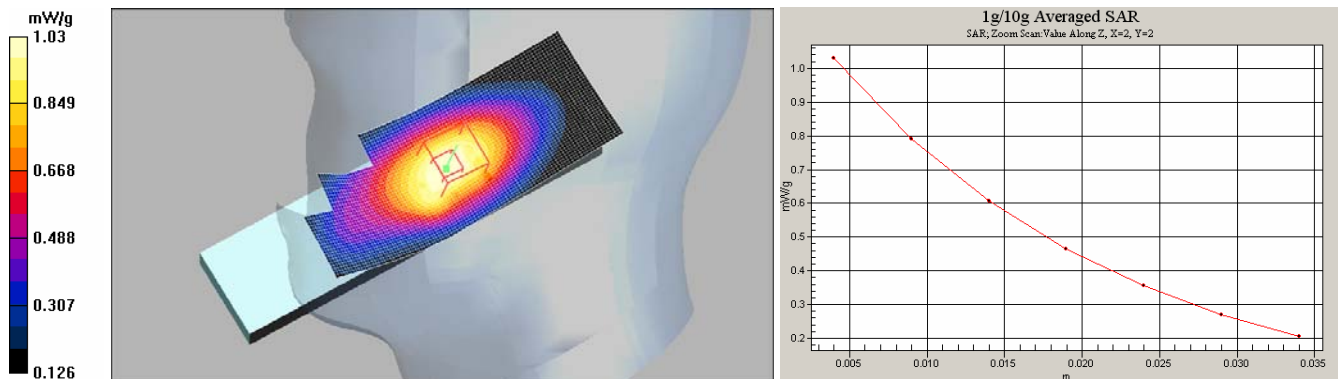
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.969 mW/g

SAR(10 g) = 0.702 mW/g

Power Drift = -0.109 dB

Maximum value of SAR (measured) = 1.03 mW/g



Date/Time: 2007-02-24 13:30:21

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: GSM1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900; Medium Notes: 21.2C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.459 mW/g

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

Reference Value = 5.04 V/m

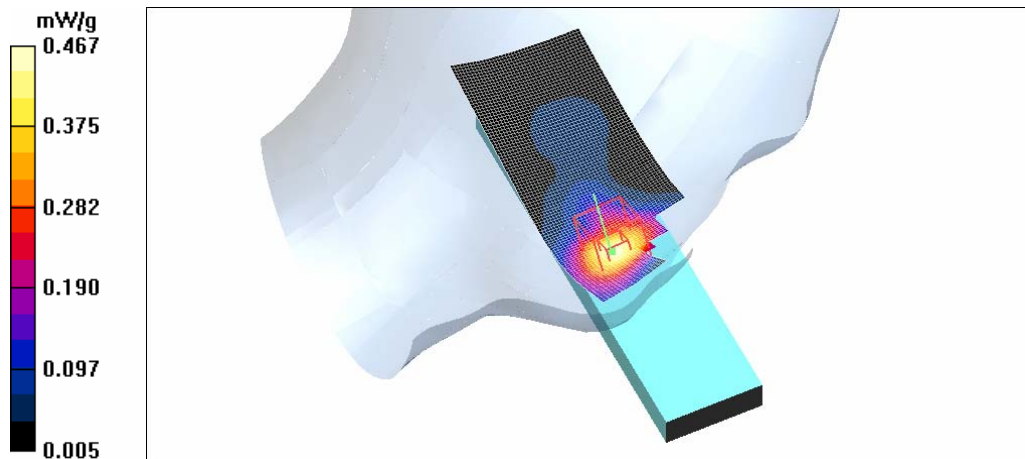
Peak SAR (extrapolated) = 0.616 W/kg

SAR(1 g) = 0.424 mW/g

SAR(10 g) = 0.259 mW/g

Power Drift = -0.051 dB

Maximum value of SAR (measured) = 0.467 mW/g



Date/Time: 2007-02-24 13:54:12

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 21.2C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.657 mW/g

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

Reference Value = 6.10 V/m

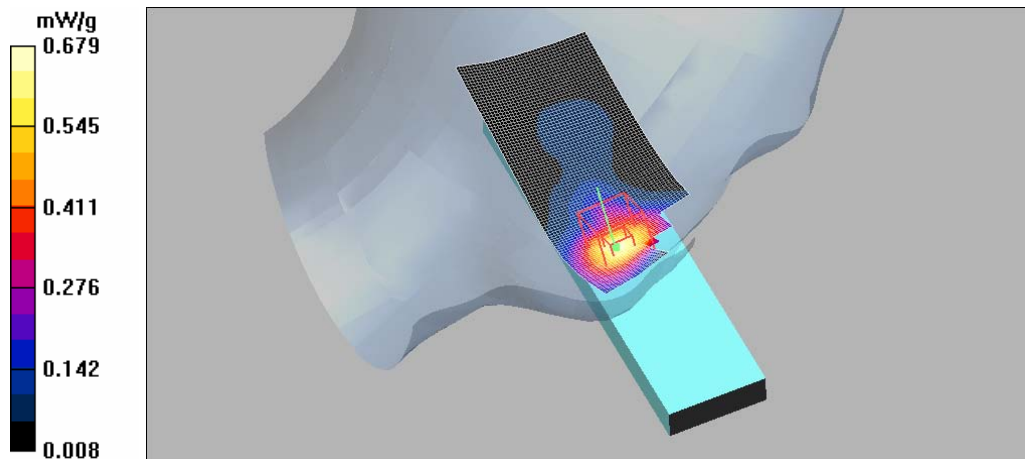
Peak SAR (extrapolated) = 0.889 W/kg

SAR(1 g) = 0.609 mW/g

SAR(10 g) = 0.370 mW/g

Power Drift = -0.151 dB

Maximum value of SAR (measured) = 0.679 mW/g



Date/Time: 2007-02-24 18:23:22

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: 2-slot 8PSK EGPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.1C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.322 mW/g

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

Reference Value = 4.31 V/m

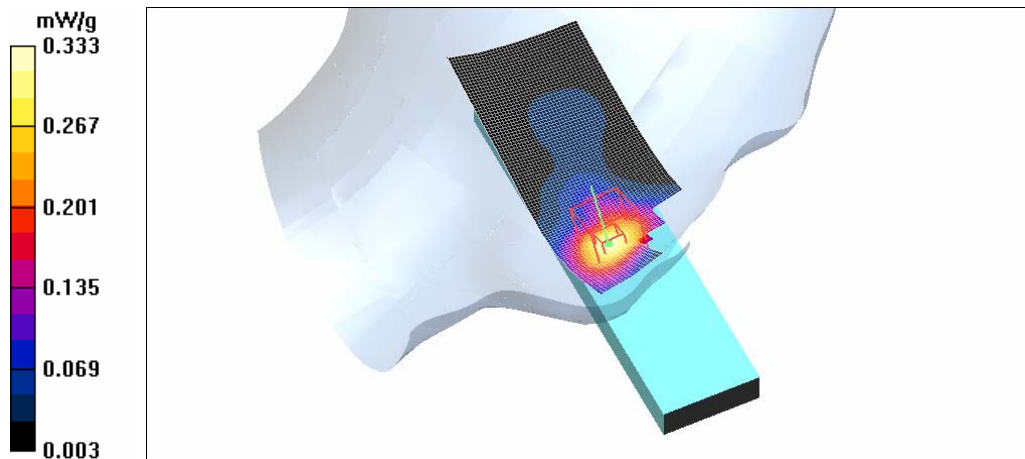
Peak SAR (extrapolated) = 0.425 W/kg

SAR(1 g) = 0.301 mW/g

SAR(10 g) = 0.183 mW/g

Power Drift = -0.076 dB

Maximum value of SAR (measured) = 0.333 mW/g



Date/Time: 2007-02-24 14:55:34

Test Laboratory: TCC Nokia
Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.22 mW/g

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

Reference Value = 7.70 V/m

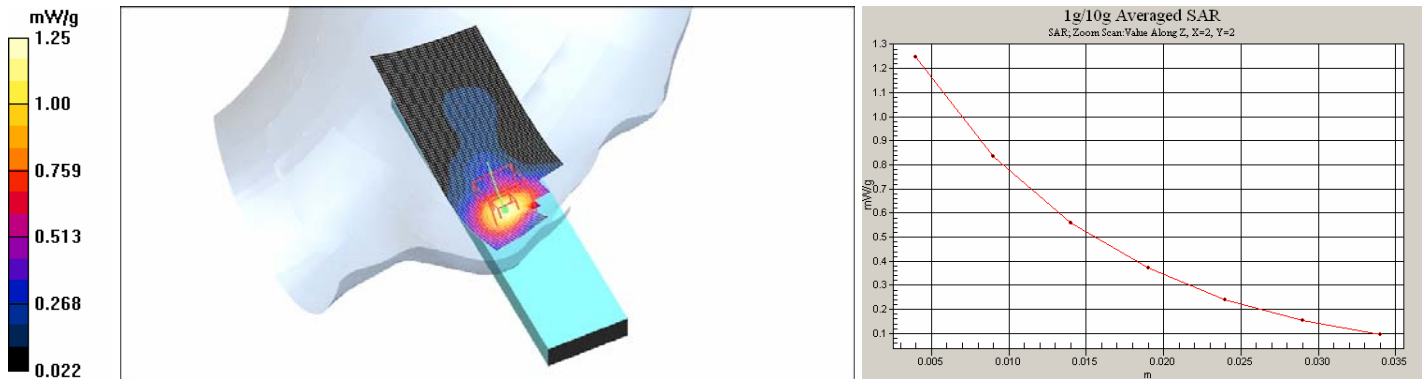
Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.12 mW/g

SAR(10 g) = 0.681 mW/g

Power Drift = -0.152 dB

Maximum value of SAR (measured) = 1.25 mW/g



Date/Time: 2007-02-24 15:18:00

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.243 mW/g

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

Reference Value = 11.8 V/m

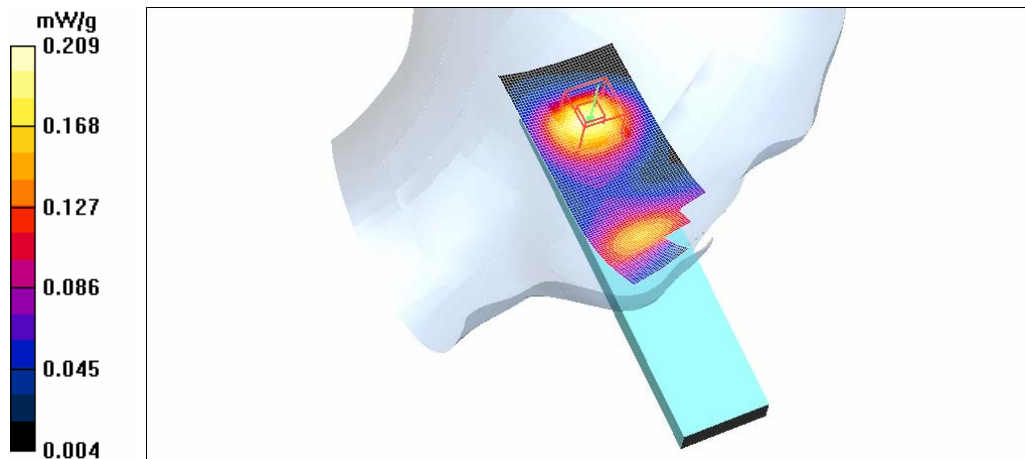
Peak SAR (extrapolated) = 0.288 W/kg

SAR(1 g) = 0.196 mW/g

SAR(10 g) = 0.121 mW/g

Power Drift = -0.122 dB

Maximum value of SAR (measured) = 0.209 mW/g



Date/Time: 2007-02-24 15:45:11

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.4C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.864 mW/g

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

Reference Value = 6.51 V/m

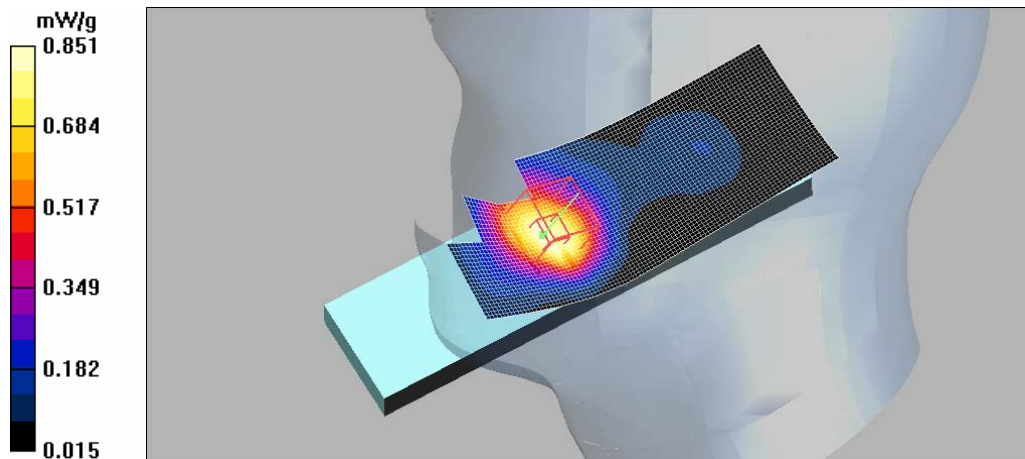
Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.777 mW/g

SAR(10 g) = 0.489 mW/g

Power Drift = -0.176 dB

Maximum value of SAR (measured) = 0.851 mW/g



Date/Time: 2007-02-24 16:05:42

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.4C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position, Middle, open/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.266 mW/g

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

Reference Value = 10.1 V/m

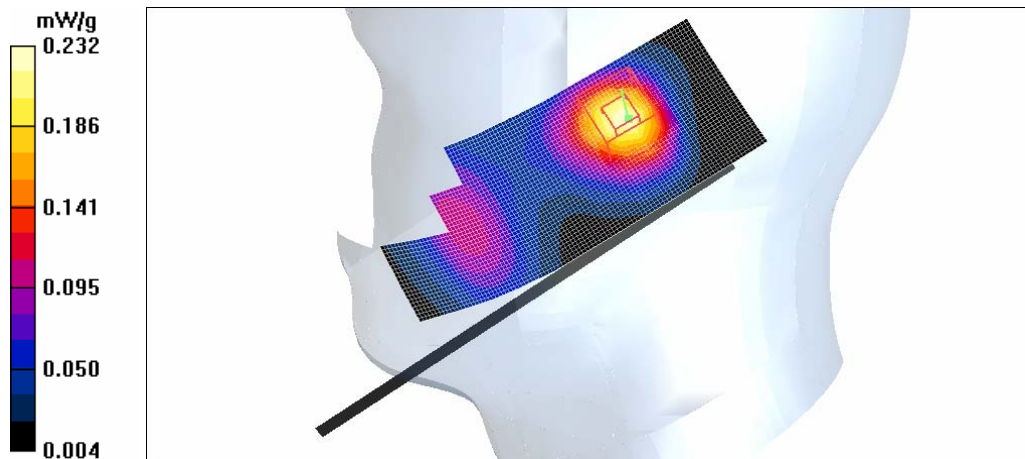
Peak SAR (extrapolated) = 0.330 W/kg

SAR(1 g) = 0.214 mW/g

SAR(10 g) = 0.126 mW/g

Power Drift = -0.024 dB

Maximum value of SAR (measured) = 0.232 mW/g



Date/Time: 2007-02-24 17:47:47

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.1C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766
- ConvF(4.99, 4.99, 4.99); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open, BT/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.20 mW/g

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

Reference Value = 8.39 V/m

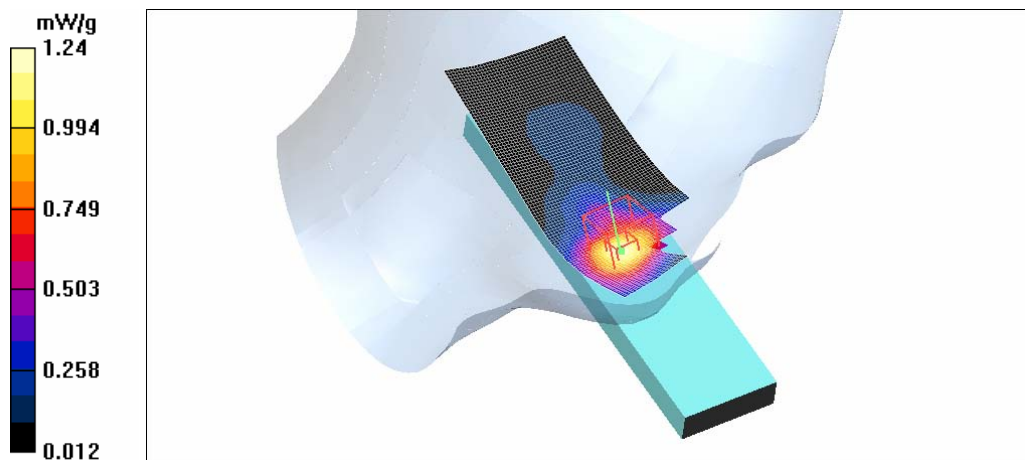
Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 1.11 mW/g

SAR(10 g) = 0.668 mW/g

Power Drift = -0.158 dB

Maximum value of SAR (measured) = 1.24 mW/g



Date/Time: 2007-02-27 15:06:27

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: M835; Medium Notes: 22.0 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.989$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.62, 6.62, 6.62); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, High, closed, no accessory/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.808 mW/g

Body Measurement, High, closed, no accessory/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 28.1 V/m

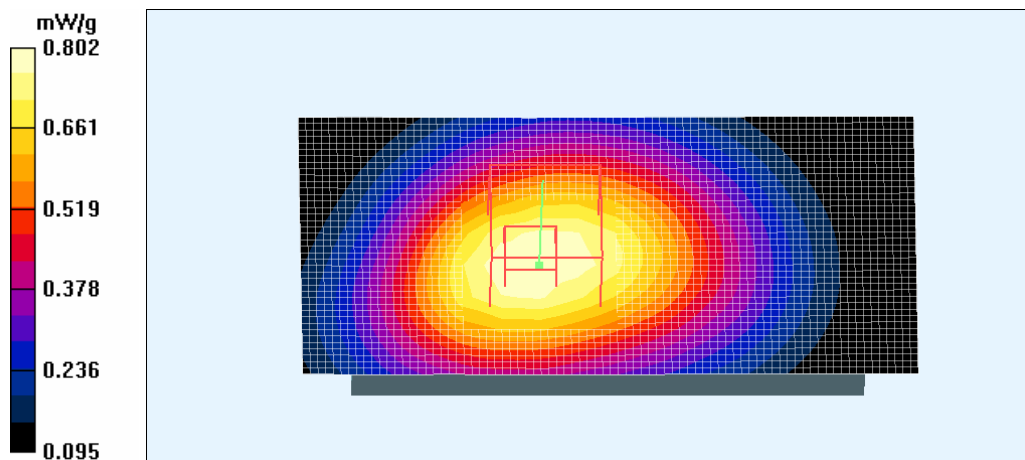
Peak SAR (extrapolated) = 0.987 W/kg

SAR(1 g) = 0.760 mW/g

SAR(10 g) = 0.547 mW/g

Power Drift = -0.030 dB

Maximum value of SAR (measured) = 0.802 mW/g



Date/Time: 2007-02-27 14:49:05

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: M835; Medium Notes: 22.0 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.989$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.62, 6.62, 6.62); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, High, closed, HS-9/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.567 mW/g

Body Measurement, High, closed, HS-9/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 23.7 V/m

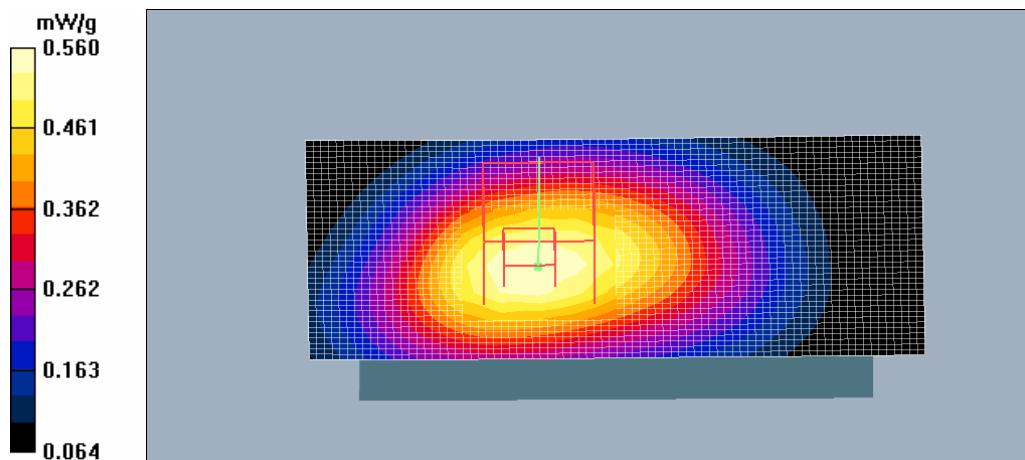
Peak SAR (extrapolated) = 0.697 W/kg

SAR(1 g) = 0.530 mW/g

SAR(10 g) = 0.378 mW/g

Power Drift = -0.061 dB

Maximum value of SAR (measured) = 0.560 mW/g



Date/Time: 2007-02-27 17:33:36

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: M835; Medium Notes: 21.9 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.989$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396
- ConvF(6.62, 6.62, 6.62); Calibrated: 2007-02-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2007-02-13
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, High, closed, no accessory, BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.821 mW/g

Body Measurement, High, closed, no accessory, BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 29.4 V/m

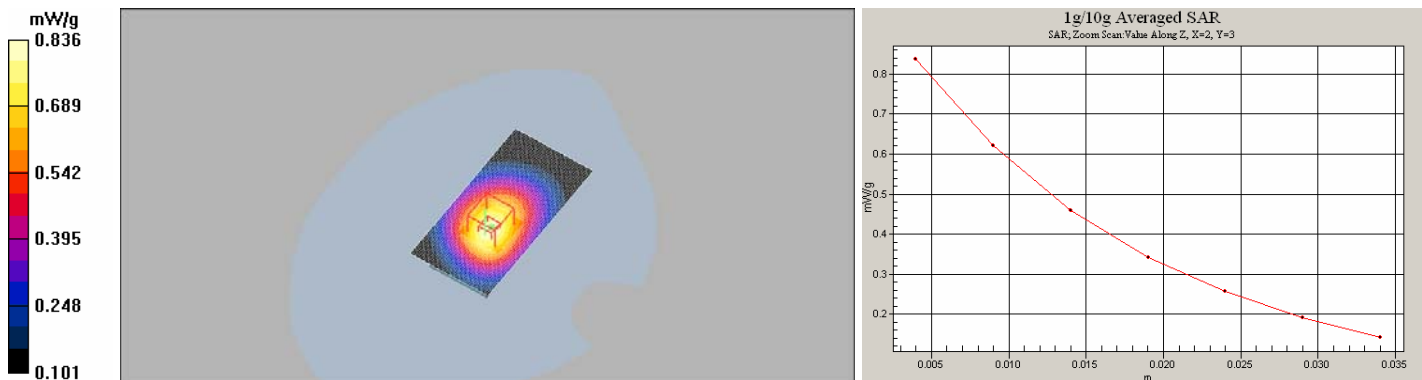
Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.789 mW/g

SAR(10 g) = 0.562 mW/g

Power Drift = -0.088 dB

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



Date/Time: 2007-03-05 12:36:02

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: t=20.3C

Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ϵ_r = 52.9; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1395
- ConvF(4.35, 4.35, 4.35); Calibrated: 2006-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, Middle, closed, no accessory/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.323 mW/g

Body Measurement, Middle, closed, no accessory/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.2 V/m

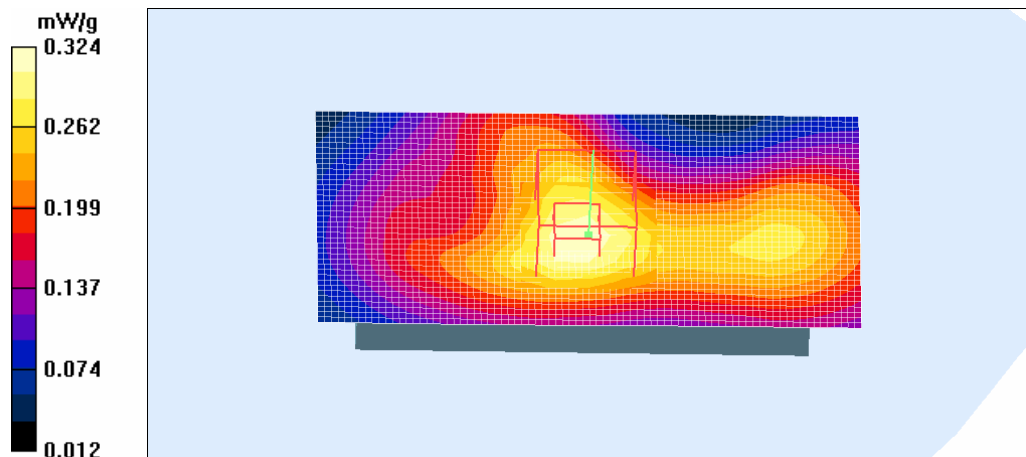
Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.303 mW/g

SAR(10 g) = 0.190 mW/g

Power Drift = -0.087 dB

Maximum value of SAR (measured) = 0.324 mW/g



Date/Time: 2007-03-05 12:50:45

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t=20.3^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 52.9$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1395
- ConvF(4.35, 4.35, 4.35); Calibrated: 2006-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, Middle, closed, HS-9/Area Scan (41x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.321 mW/g

Body Measurement, Middle, closed, HS-9/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.9 V/m

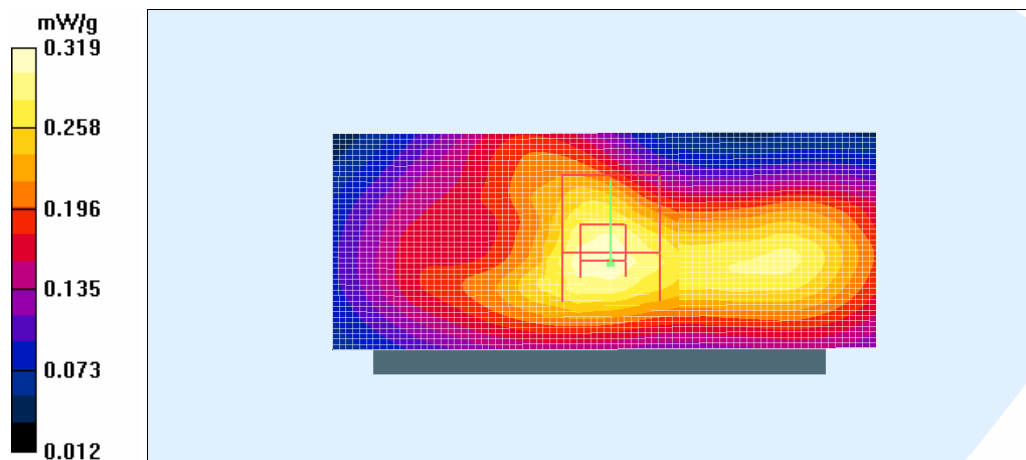
Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.298 mW/g

SAR(10 g) = 0.188 mW/g

Power Drift = -0.081 dB

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



Date/Time: 2007-03-05 14:28:29

Test Laboratory: TCC Nokia

Type: RM-289; Serial: 004400/99/175041/3

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: t=20.3C

Medium parameters used: f = 1880 MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1395
- ConvF(4.35, 4.35, 4.35); Calibrated: 2006-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, Middle, Closed, no accessory, BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.326 mW/g

Body Measurement, Middle, Closed, no accessory, BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.5 V/m

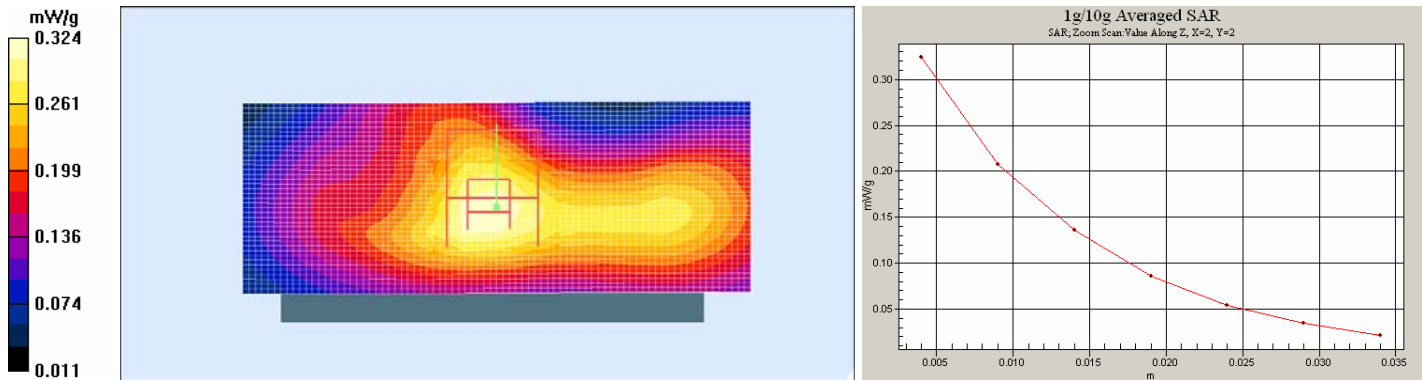
Peak SAR (extrapolated) = 0.477 W/kg

SAR(1 g) = 0.304 mW/g

SAR(10 g) = 0.192 mW/g

Power Drift = -0.149 dB

Maximum value of SAR (measured) = 0.324 mW/g



APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)

See the next 9 pages.

APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)

See the next 6 pages.