

SAR Compliance Test Report

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Tested device:	RM-227		
FCC ID:	PYARM-227	IC:	661V-RM227
Supplement reports:	Salo_SAR_0647_07		
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	2006-11-23 to 2006-12-04
SN, HW and SW numbers of tested device	SN: 004400/96/164754/0, HW: 2004, SW: 1.0633.08.01, DUT: 11596
Batteries used in testing	BP-4L, DUT: 11586, 11587, 11597
Headsets used in testing	HS-23, DUT: 10840
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	251/848.8MHz	26.2 dBm ERP	Left, Tilt	0.509 W/kg	0.57 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	512/1850.2MHz	30.9 dBm EIRP	Left, Tilt	0.713 W/kg	0.80 W/kg	1.6 W/kg	PASSED
WLAN2450	11/2462MHz	20.7 dBm EIRP	Left, Cheek	0.163 W/kg	0.18 W/kg	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	Left, Tilt	0.541 W/kg	0.61 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	Left, Tilt	0.745 W/kg	0.83 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/ 848.8MHz	26.2 dBm ERP	2.2cm	0.672 W/kg	0.75 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	512/ 1850.2MHz	30.9 dBm EIRP	2.2cm	0.510 W/kg	0.57 W/kg	1.6 W/kg	PASSED
WLAN2450	11/ 2462MHz	20.7 dBm EIRP	2.2cm	0.031 W/kg	0.04 W/kg	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	2.2cm	0.703 W/kg	0.79 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	2.2cm	0.541 W/kg	0.61 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	0.45dB

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	BT	WLAN
	850 / 1900	850 / 1900	850 / 1900		2450
Modulation Mode	GMSK	GMSK	GMSK / 8PSK	GFSK	
Duty Cycle	1/8	1/8 to 3/8	1/8 to 3/8		1
Transmitter Frequency Range (MHz)	824 - 849 1850 - 1910	824 - 849 1850 - 1910	824 - 849 1850 - 1910	2402-2480	2412-2462

Outside of USA and Canada, the transmitter of the device is capable of operating also in 900 / 1800 / 2100 MHz bands, which are not part of this filing.

This device has Voice-over-IP/Dual Transfer Mode 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 22.0
Ambient humidity (RH %):	35 to 50

3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester except for testing WLAN2450 where control software was used. 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
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
Dipole Validation Kit, D2450V2	729	24 months	2007-02
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	104983	-	-
Call Tester	CMU 200	835734	-	-
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
Application	Distance from probe tip to dipole centers: 2.7 mm 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

2450MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	56.0	70.2
Tween 20	44.0	29.62
Salt	-	0.18

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	
	± 10% window	2.03 – 2.49			
	2006-11-24	2.45	41.0	0.89	21.0
	2006-11-27	2.35	40.7	0.90	21.0
1900	Reference result	9.69	39.3	1.44	
	± 10% window	8.72 – 10.66			
	2006-11-29	9.43	39.9	1.46	21.0
	2006-11-30	9.45	40.3	1.44	21.0
2450	Reference result	14.2	39.9	1.78	
	± 10% window	12.8 – 15.6			
	2006-11-23	15.2	37.7	1.87	21.0

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
835	Reference result	2.42	54.9	1.00	
	$\pm 10\%$ window	2.18 – 2.66			
	2006-11-28	2.38	56.1	0.96	21.0
1900	Reference result	10.1	52.3	1.57	
	$\pm 10\%$ window	9.1 – 11.1			
	2006-12-01	9.81	54.1	1.53	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	
	$\pm 5\%$ window	39.4 – 43.6	0.86 – 0.95	
	2006-11-24	41.0	0.89	21.0
	2006-11-27	40.6	0.90	21.0
1880	Recommended value	40.0	1.40	
	$\pm 5\%$ window	38.0 – 42.0	1.33 – 1.47	
	2006-11-29	40.0	1.44	21.0
	2006-11-30	40.4	1.42	21.0
	2006-12-04	40.3	1.42	21.0
2442	Recommended value	39.2	1.79	
	$\pm 5\%$ window	37.3 – 41.2	1.70 – 1.88	
	2006-11-23	37.7	1.86	21.0

Body tissue simulant measurements

<i>f</i> [MHz]	Description	Dielectric Parameters		Temp [°C]
		ϵ_r	σ [S/m]	
836	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2006-11-28	56.2	0.96	21.0
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2006-12-01	54.2	1.51	21.0
	2006-12-04	54.4	1.50	21.0
2442	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
	2006-11-23	52.7	1.91	21.0

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 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.

5.3 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	C_i	$C_i \cdot u_i$ (%)	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		26.5 dBm	26.4 dBm	26.4 dBm
	Left	Cheek	-	0.164	-
2-slot GPRS	Power		26.5 dBm	26.3 dBm	26.2 dBm
	Left	Cheek	-	0.305	-
		Tilt	0.271	0.330	0.498
	Right	Cheek	-	0.252	-
		Tilt	-	0.273	-
3-slot GPRS	Power		21.6 dBm	21.8 dBm	22.9 dBm
	Left	Cheek	-	0.246	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Power		21.8 dBm	21.4 dBm	22.1 dBm
	Left	Tilt	-	-	0.133
2-slot GPRS	Left Tilt, BT active		-	-	0.509

1900MHz Head SAR results

Mode	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		31.0 dBm	30.0 dBm	30.7 dBm
	Left	Cheek	-	0.249	-
2-slot GPRS	Power		30.9 dBm	30.0 dBm	30.7 dBm
	Left	Cheek	-	0.477	-
		Tilt	0.653	0.501	0.508
	Right	Cheek	-	0.256	-
		Tilt	-	0.270	-
3-slot GPRS	Power		22.2 dBm	22.2 dBm	21.7 dBm
	Left	Cheek	-	0.458	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Power		28.0 dBm	27.1 dBm	27.8 dBm
	Left	Cheek	-	0.185	-
2-slot GPRS	Left Tilt, BT active		0.713	-	-

2450MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1 2412 MHz	Ch 7 2442 MHz	Ch 11 2462 MHz
WLAN	Power		19.9 dBm	22.2 dBm	20.7 dBm
	Left	Cheek	0.089	0.153	0.163
		Tilt	-	0.032	-
	Right	Cheek	-	0.120	-
		Tilt	-	0.031	-

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

850MHz Body SAR results

Mode	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	26.5 dBm	26.3 dBm	26.2 dBm
	Without headset	0.379	0.512	0.668
	Headset HS-23	0.268	0.378	0.415
2-slot GPRS	Without headset, BT active	-	-	0.672

1900MHz Body SAR results

Mode	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
2-slot GPRS	Power	30.9 dBm	30.0 dBm	30.7 dBm
	Without headset	0.510	0.439	0.389
	Headset HS-23	0.437	0.369	0.363
2-slot GPRS	Without headset, BT active	0.474	-	-

2450MHz Body SAR results

Mode	Test configuration	SAR, averaged over 1g (W/kg)		
		Ch 1 2412 MHz	Ch 7 2442 MHz	Ch 11 2462 MHz
WLAN	Power	19.9 dBm	22.2 dBm	20.7 dBm
	Without headset	0.016	0.031	0.031
	Headset HS-23	0.015	0.026	0.026

Simultaneous transmissions: Combined SAR results

Test configuration	Max. 1g SAR results			Combined 1g SAR values	
	WLAN	850MHz Band	1900MHz band	WLAN + 850MHz band	WLAN + 1900MHz band
Head: Left, Cheek	0.163	0.305	0.477	0.468	0.640
Head: Left, Tilt	0.032	0.509	0.713	0.541	0.745
Head: Right, Cheek	0.120	0.252	0.256	0.372	0.376
Head: Right, Tilt	0.031	0.273	0.270	0.304	0.301
Body: Without Headset	0.031	0.672	0.510	0.703	0.541
Body: Headset HS-23	0.026	0.415	0.437	0.441	0.463

Combining the maximum SAR values of WLAN2450 and the cellular bands tends to overestimate the SAR value since their maxima do not necessarily occur in the same location.

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2006-11-24 13:12:37

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900; Medium Notes: 21.3C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.892 \text{ mho/m}$; $\epsilon_r = 41$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

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

Maximum value of SAR (interpolated) = 2.57 mW/g

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

Reference Value = 55.9 V/m

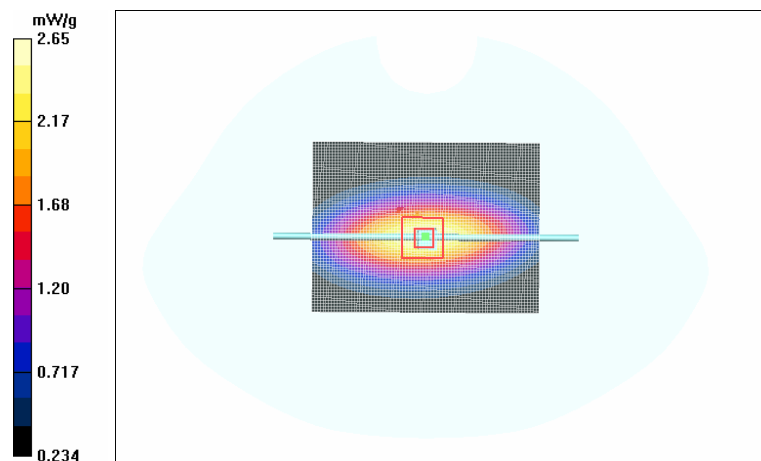
Peak SAR (extrapolated) = 3.70 W/kg

SAR(1 g) = 2.45 mW/g

SAR(10 g) = 1.6 mW/g

Power Drift = 0.090 dB

Maximum value of SAR (measured) = 2.65 mW/g



Date/Time: 2006-11-27 09:33:20

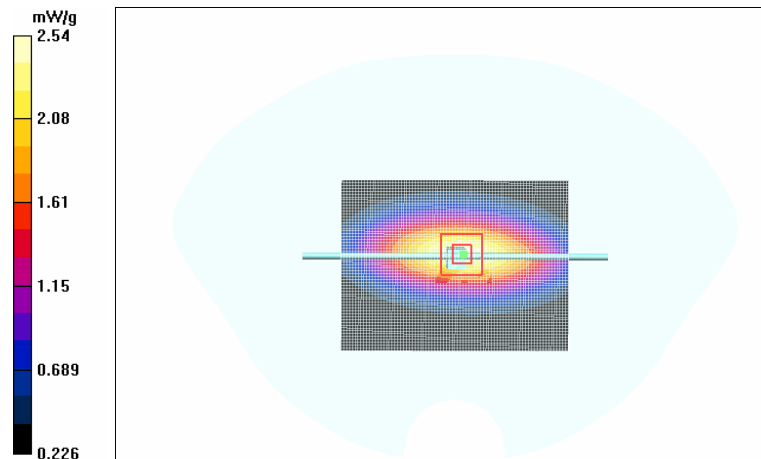
Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900; Medium Notes: 21.3C
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.897 \text{ mho/m}$; $\epsilon_r = 40.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.51 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.0 V/m
Peak SAR (extrapolated) = 3.58 W/kg
SAR(1 g) = 2.35 mW/g
SAR(10 g) = 1.53 mW/g
Power Drift = -0.018 dB
Maximum value of SAR (measured) = 2.54 mW/g



Date/Time: 2006-11-29 11:56:33

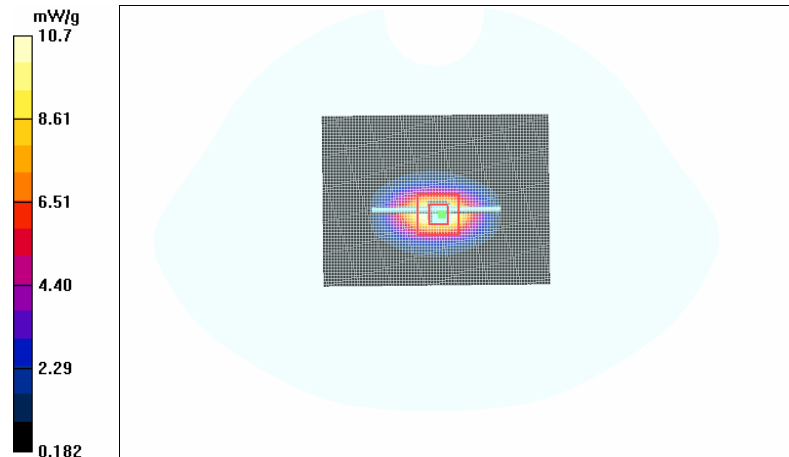
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: 21.0C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.3 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.7 V/m
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.43 mW/g
SAR(10 g) = 4.95 mW/g
Power Drift = -0.109 dB
Maximum value of SAR (measured) = 10.7 mW/g



Date/Time: 2006-11-30 11:45:52

Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: 20.7C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.3 mW/g

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

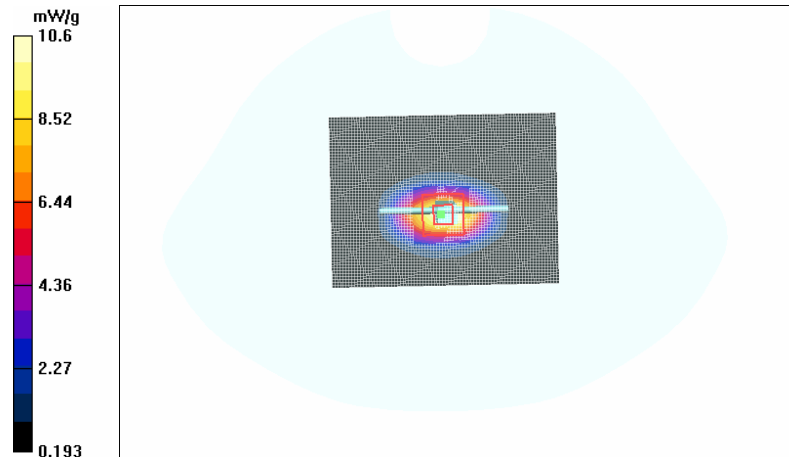
Reference Value = 89.9 V/m
Peak SAR (extrapolated) = 16.4 W/kg

SAR(1 g) = 9.45 mW/g

SAR(10 g) = 4.96 mW/g

Power Drift = -0.058 dB

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



Date/Time: 2006-12-04 12:31:39

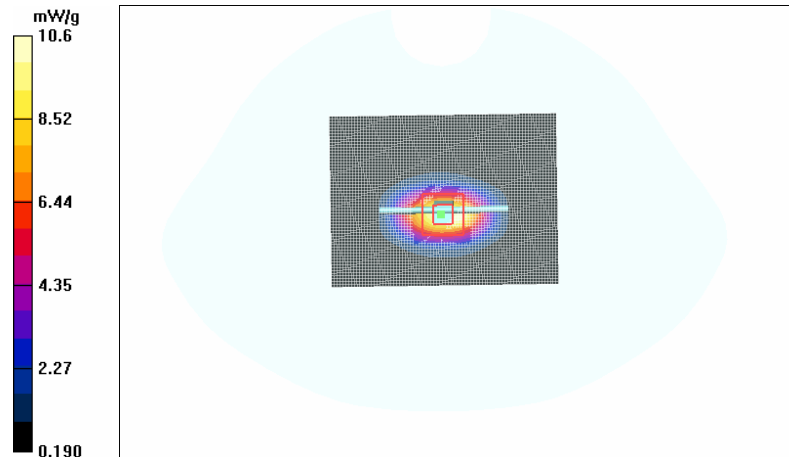
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: 21.0C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

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 = 90.1 V/m
Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 9.38 mW/g
SAR(10 g) = 4.93 mW/g
Power Drift = -0.059 dB
Maximum value of SAR (measured) = 10.6 mW/g



Date/Time: 2006-11-23 07:53:57

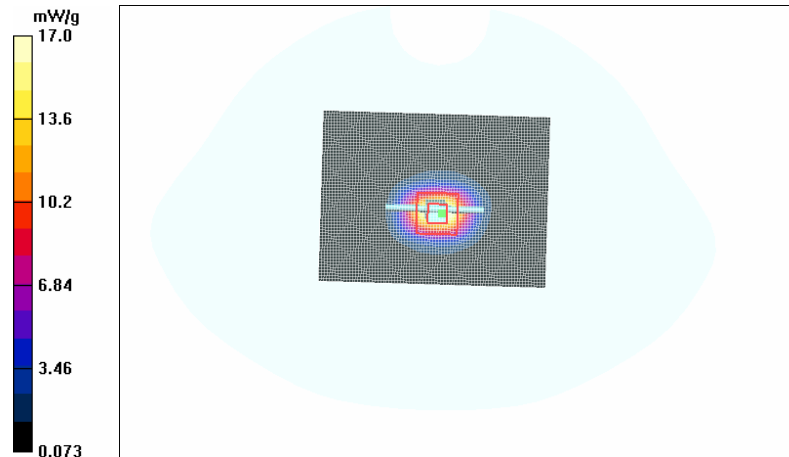
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: D2450V2 - SN:729

Communication System: CW
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.2 C
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.87$ mho/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.58, 4.58, 4.58); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 18.4 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.2 V/m
Peak SAR (extrapolated) = 33.2 W/kg
SAR(1 g) = 15.2 mW/g
SAR(10 g) = 6.89 mW/g
Power Drift = 0.099 dB
Maximum value of SAR (measured) = 17.0 mW/g



Date/Time: 2006-11-28 09:03:50

Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL800; Medium Notes: 20.6C
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.96 \text{ mho/m}$; $\epsilon_r = 56.1$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.2, 6.2, 6.2); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.56 mW/g

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

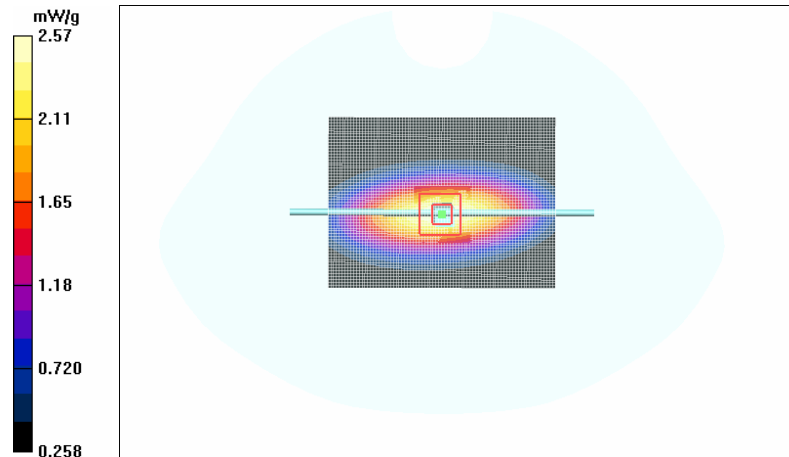
Reference Value = 53.5 V/m
Peak SAR (extrapolated) = 3.46 W/kg

SAR(1 g) = 2.38 mW/g

SAR(10 g) = 1.57 mW/g

Power Drift = 0.008 dB

Maximum value of SAR (measured) = 2.57 mW/g



Date/Time: 2006-12-01 12:53:39

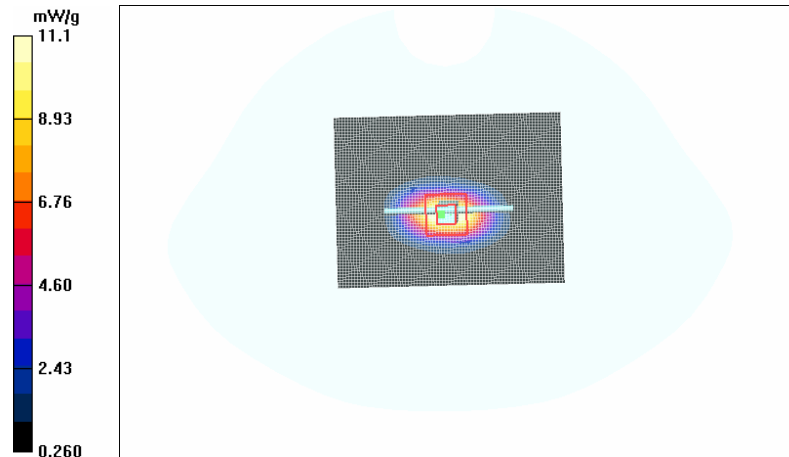
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: 21.0C
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(4.48, 4.48, 4.48); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.2 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.4 V/m
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 9.81 mW/g
SAR(10 g) = 5.33 mW/g
Power Drift = -0.019 dB
Maximum value of SAR (measured) = 11.1 mW/g



APPENDIX B: MEASUREMENT SCANS

Date/Time: 2006-11-24 14:02:57

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL900; Medium Notes: 21.3C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.169 mW/g

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

Reference Value = 11.4 V/m

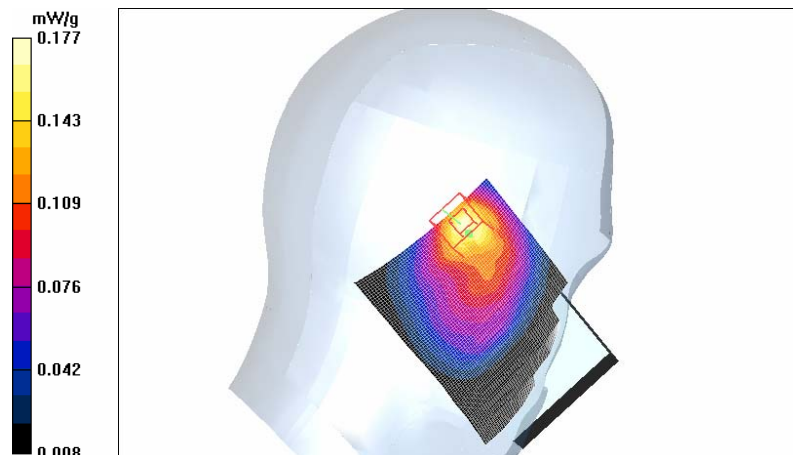
Peak SAR (extrapolated) = 0.290 W/kg

SAR(1 g) = 0.164 mW/g

SAR(10 g) = 0.096 mW/g

Power Drift = -0.055 dB

Maximum value of SAR (measured) = 0.177 mW/g



Date/Time: 2006-11-24 15:38:50

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.6C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.315 mW/g

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

Reference Value = 15.3 V/m

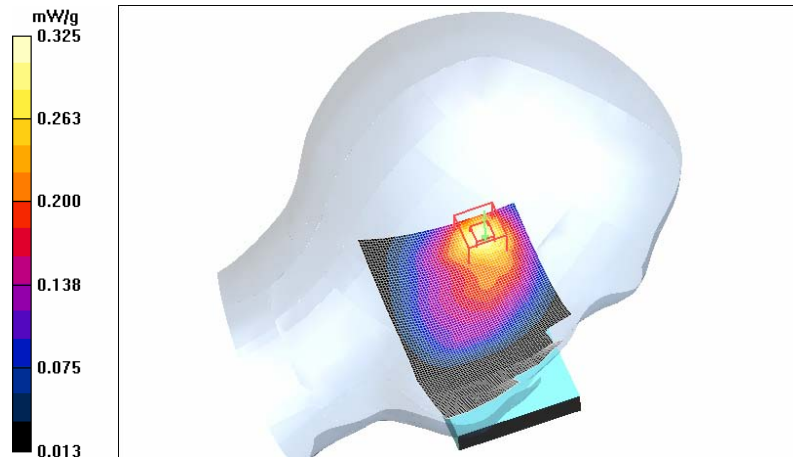
Peak SAR (extrapolated) = 0.543 W/kg

SAR(1 g) = 0.305 mW/g

SAR(10 g) = 0.179 mW/g

Power Drift = -0.070 dB

Maximum value of SAR (measured) = 0.325 mW/g



Date/Time: 2006-11-27 11:09:31

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.8C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, high/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.475 mW/g

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

Reference Value = 19.6 V/m

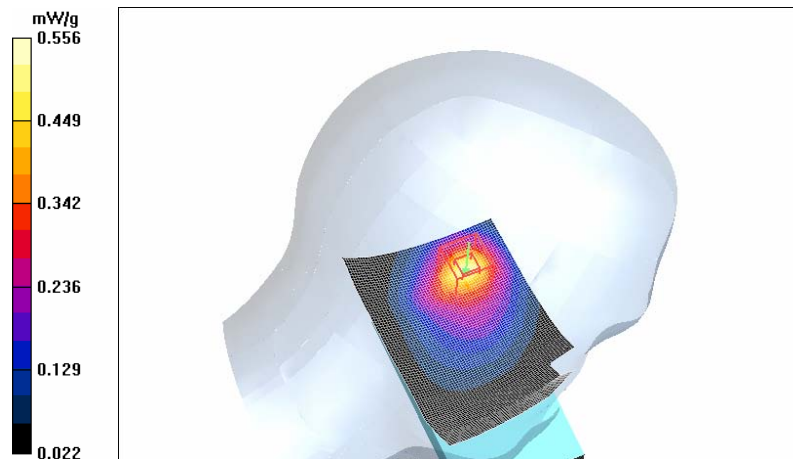
Peak SAR (extrapolated) = 0.932 W/kg

SAR(1 g) = 0.498 mW/g

SAR(10 g) = 0.277 mW/g

Power Drift = 0.010 dB

Maximum value of SAR (measured) = 0.556 mW/g



Date/Time: 2006-11-24 16:52:46

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.5C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.279 mW/g

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

Reference Value = 17.7 V/m

Peak SAR (extrapolated) = 0.380 W/kg

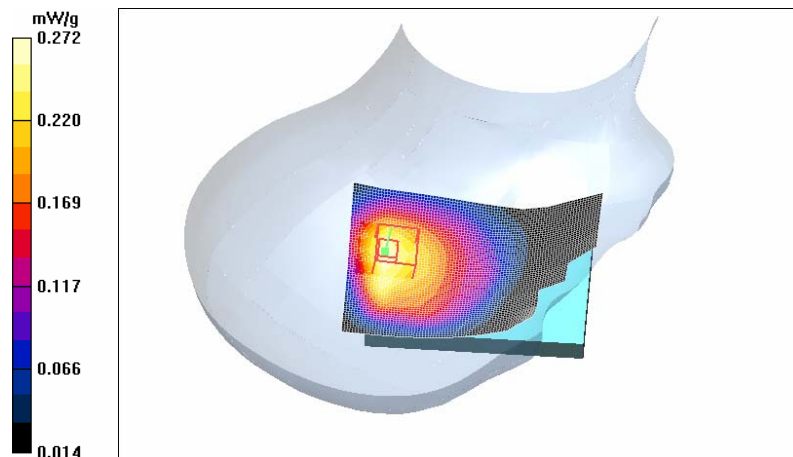
SAR(1 g) = 0.252 mW/g

SAR(10 g) = 0.171 mW/g

Power Drift = -0.052 dB

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.272 mW/g



Date/Time: 2006-11-24 17:09:18

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.5C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.280 mW/g

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

Reference Value = 18.2 V/m

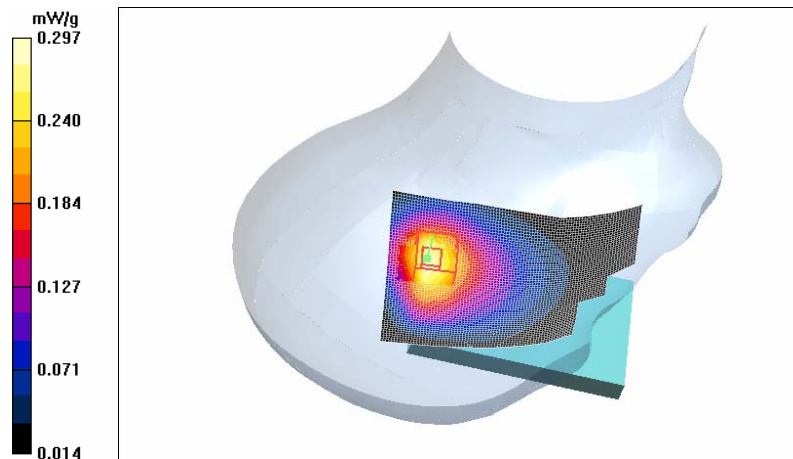
Peak SAR (extrapolated) = 0.430 W/kg

SAR(1 g) = 0.273 mW/g

SAR(10 g) = 0.173 mW/g

Power Drift = -0.015 dB

Maximum value of SAR (measured) = 0.297 mW/g



Date/Time: 2006-11-24 15:57:55

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: HSL900; Medium Notes: 20.6C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.255 mW/g

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

Reference Value = 13.5 V/m

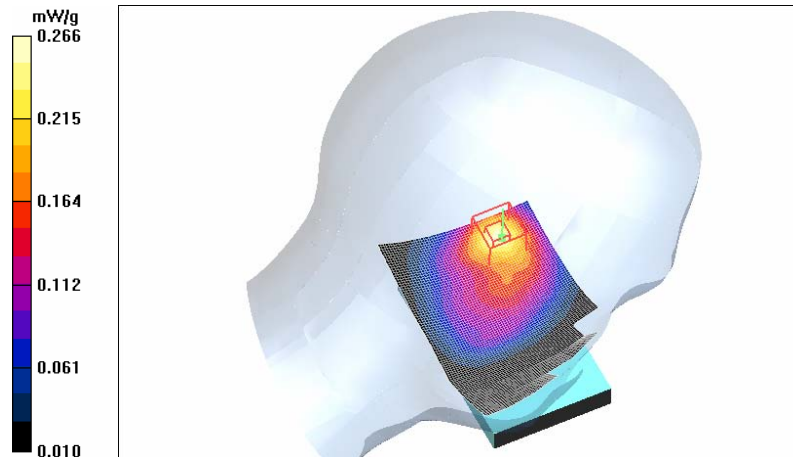
Peak SAR (extrapolated) = 0.437 W/kg

SAR(1 g) = 0.246 mW/g

SAR(10 g) = 0.145 mW/g

Power Drift = 0.046 dB

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



Date/Time: 2006-11-27 14:26:40

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot 8PSK EGPRS850

Frequency: 849 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.6C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, high/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.130 mW/g

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

Reference Value = 9.15 V/m

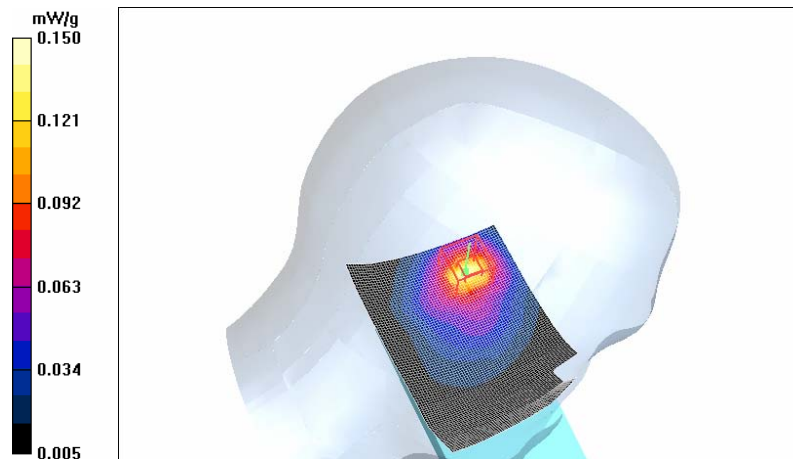
Peak SAR (extrapolated) = 0.304 W/kg

SAR(1 g) = 0.133 mW/g

SAR(10 g) = 0.070 mW/g

Power Drift = 0.050 dB

Maximum value of SAR (measured) = 0.150 mW/g



Date/Time: 2006-11-27 13:37:10

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: HSL900; Medium Notes: 20.6C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.42, 6.42, 6.42); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 3; Type: SAM 4.0; Serial: 1272
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, high BT/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.481 mW/g

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

Reference Value = 19.8 V/m

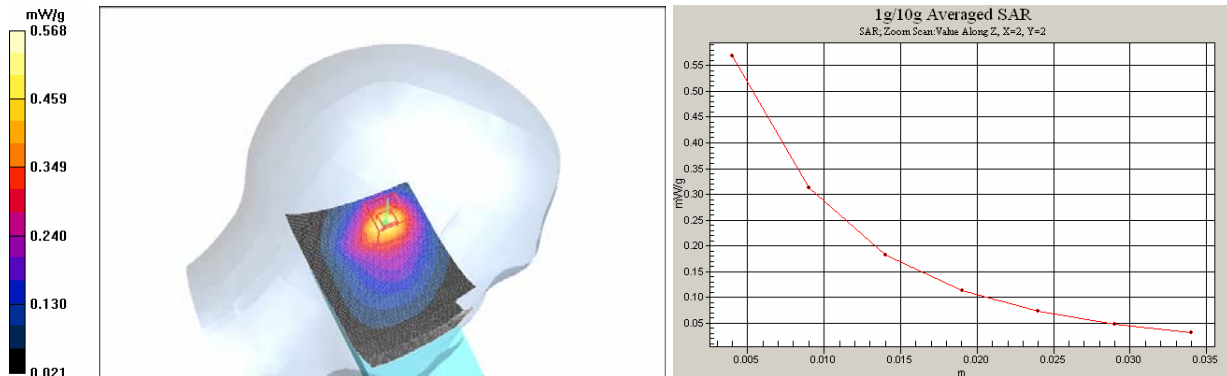
Peak SAR (extrapolated) = 0.972 W/kg

SAR(1 g) = 0.509 mW/g

SAR(10 g) = 0.279 mW/g

Power Drift = -0.036 dB

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



Date/Time: 2006-11-29 14:53:48

Test Laboratory: TCC Nokia
Type: RM-227; Serial: 004400/96/164754/0

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: 20.8C
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.251 mW/g

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

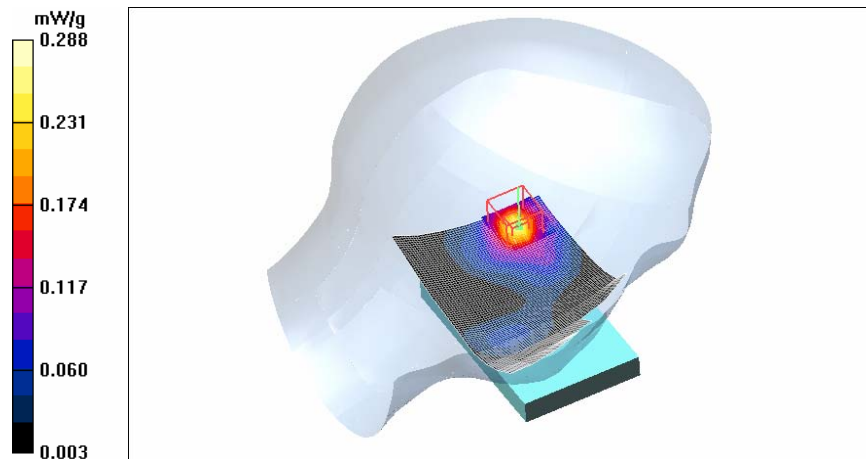
Reference Value = 7.98 V/m
Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.249 mW/g

SAR(10 g) = 0.122 mW/g

Power Drift = -0.027 dB

Maximum value of SAR (measured) = 0.288 mW/g



Date/Time: 2006-11-29 13:33:27

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.487 mW/g

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

Reference Value = 10.8 V/m

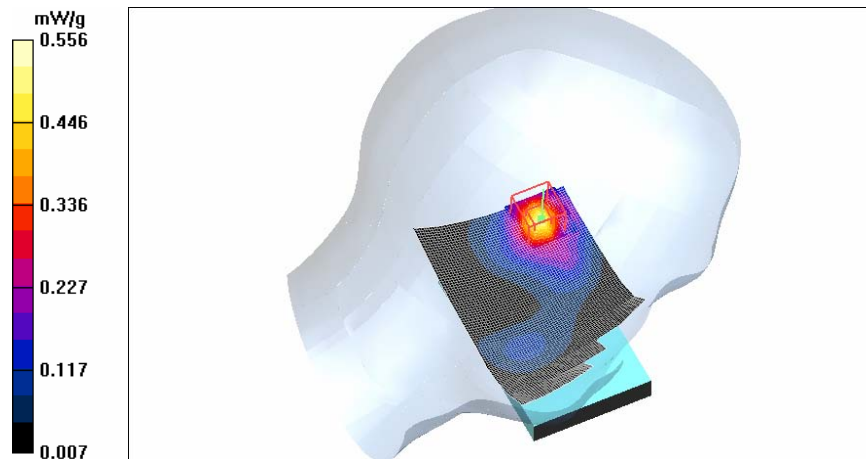
Peak SAR (extrapolated) = 0.930 W/kg

SAR(1 g) = 0.477 mW/g

SAR(10 g) = 0.235 mW/g

Power Drift = -0.058 dB

Maximum value of SAR (measured) = 0.556 mW/g



Date/Time: 2006-11-30 13:32:30

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.3C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.649 mW/g

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

Reference Value = 15.1 V/m

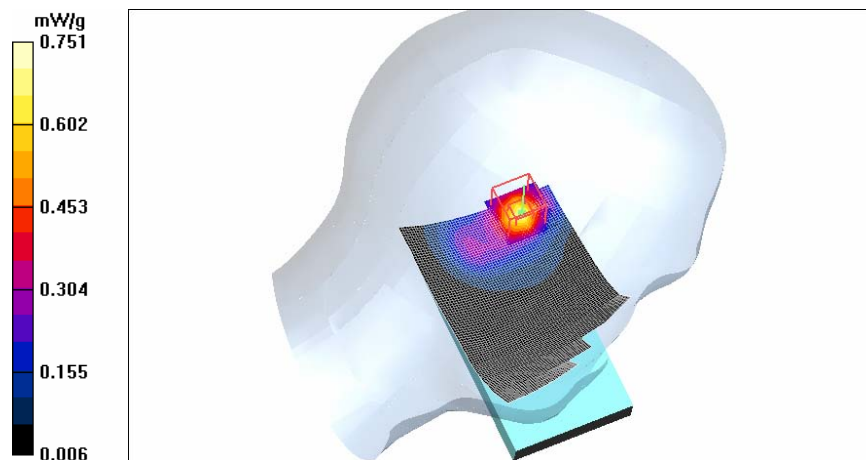
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.653 mW/g

SAR(10 g) = 0.318 mW/g

Power Drift = 0.052 dB

Maximum value of SAR (measured) = 0.751 mW/g



Date/Time: 2006-11-30 12:13:16

Test Laboratory: TCC Nokia
Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: HSL1900; Medium Notes: 20.5C
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g

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

Reference Value = 13.0 V/m
Peak SAR (extrapolated) = 0.446 W/kg

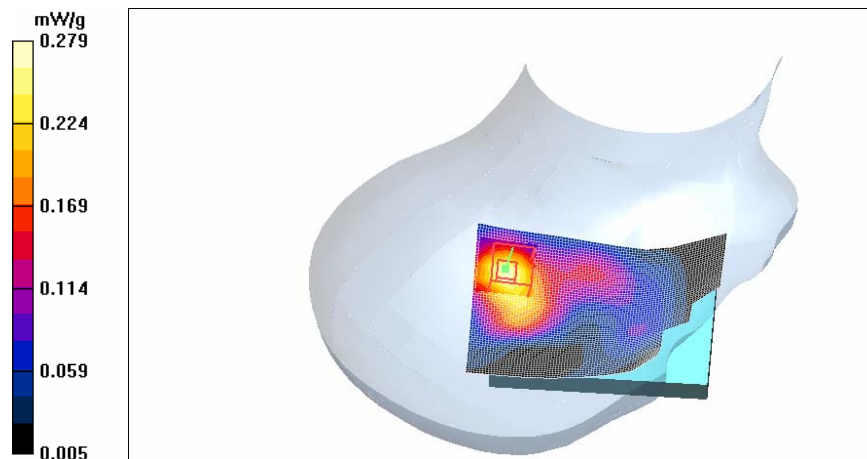
SAR(1 g) = 0.256 mW/g

SAR(10 g) = 0.146 mW/g

Power Drift = -0.078 dB

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.279 mW/g



Date/Time: 2006-11-30 12:50:34

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.272 mW/g

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

Reference Value = 12.7 V/m

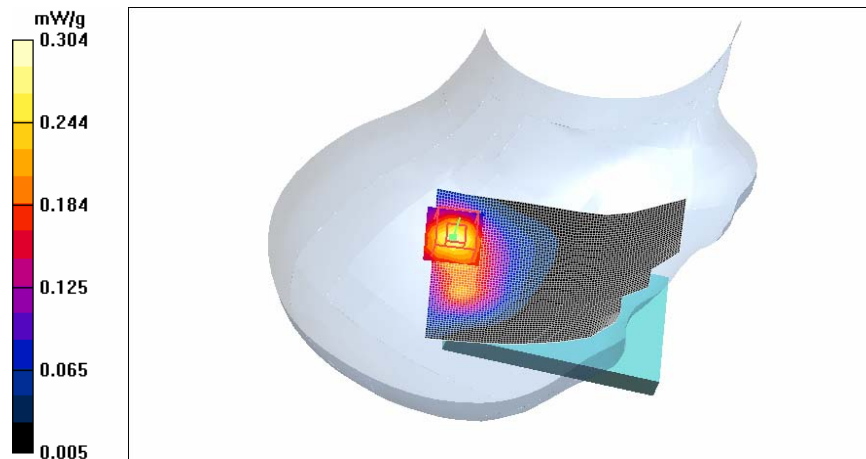
Peak SAR (extrapolated) = 0.488 W/kg

SAR(1 g) = 0.270 mW/g

SAR(10 g) = 0.147 mW/g

Power Drift = -0.040 dB

Maximum value of SAR (measured) = 0.304 mW/g



Date/Time: 2006-11-29 13:58:53

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 3-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: HSL1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.482 mW/g

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

Reference Value = 9.78 V/m

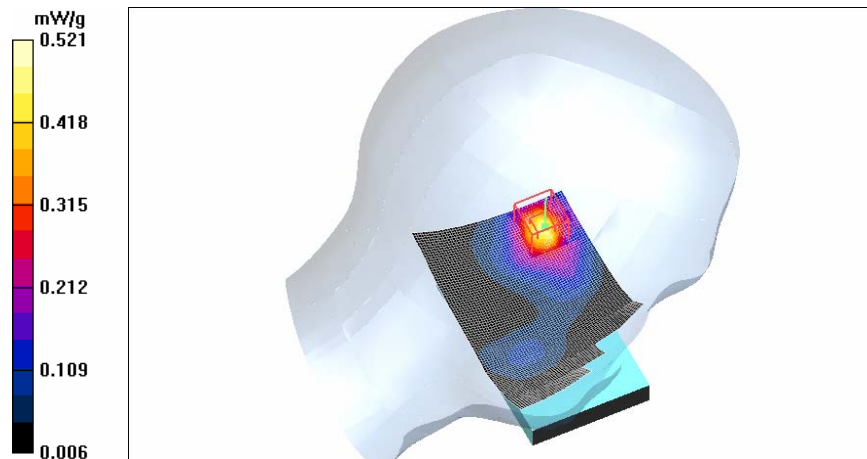
Peak SAR (extrapolated) = 0.870 W/kg

SAR(1 g) = 0.458 mW/g

SAR(10 g) = 0.227 mW/g

Power Drift = -0.045 dB

Maximum value of SAR (measured) = 0.521 mW/g



Date/Time: 2006-11-29 14:28:10

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot 8PSK EGPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.184 mW/g

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

Reference Value = 6.39 V/m

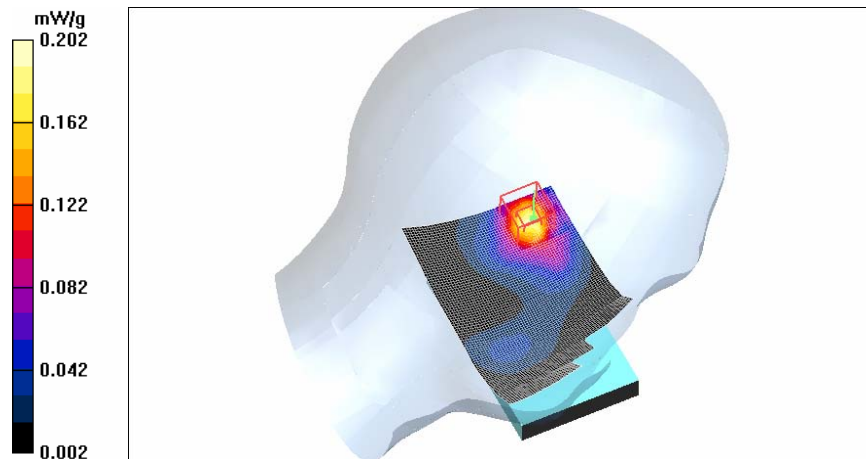
Peak SAR (extrapolated) = 0.364 W/kg

SAR(1 g) = 0.185 mW/g

SAR(10 g) = 0.092 mW/g

Power Drift = 0.077 dB

Maximum value of SAR (measured) = 0.202 mW/g



Date/Time: 2006-11-30 14:33:45

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.3C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- 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 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Low BT/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.691 mW/g

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

Reference Value = 15.4 V/m

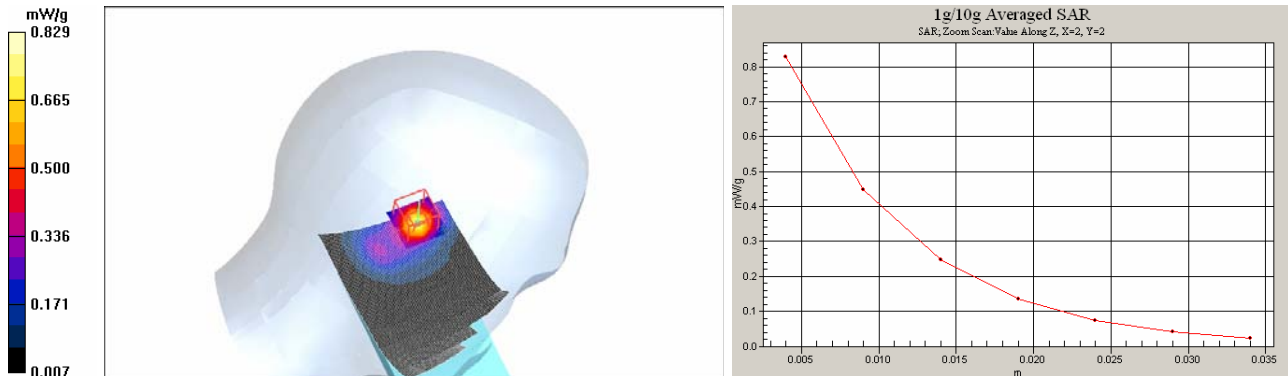
Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.713 mW/g

SAR(10 g) = 0.342 mW/g

Power Drift = -0.067 dB

Maximum value of SAR (measured) = 0.829 mW/g



Date/Time: 2006-11-23 10:52:11

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450; Medium Notes: 20.2 C

Medium parameters used: $f = 2462 \text{ MHz}$; $\sigma = 1.88 \text{ mho/m}$; $\epsilon_r = 37.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.58, 4.58, 4.58); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, High/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.179 mW/g

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

Reference Value = 3.00 V/m

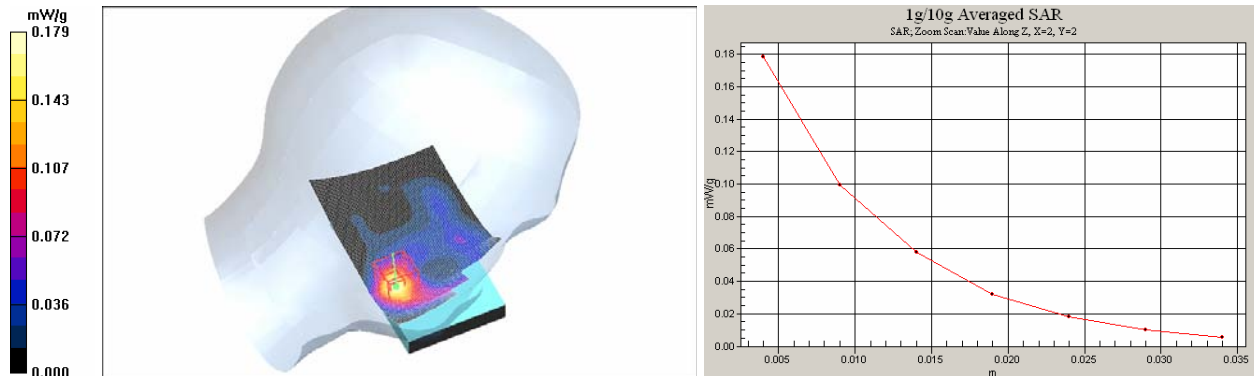
Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.163 mW/g

SAR(10 g) = 0.082 mW/g

Power Drift = 0.029 dB

Maximum value of SAR (measured) = 0.179 mW/g



SAR Report

Salo_SAR_0647_05

Applicant: Nokia Corporation

Type: RM-227

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Date/Time: 2006-11-23 09:14:14

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: HSL2450; Medium Notes: 20.2 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.58, 4.58, 4.58); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.037 mW/g

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

Reference Value = 3.11 V/m

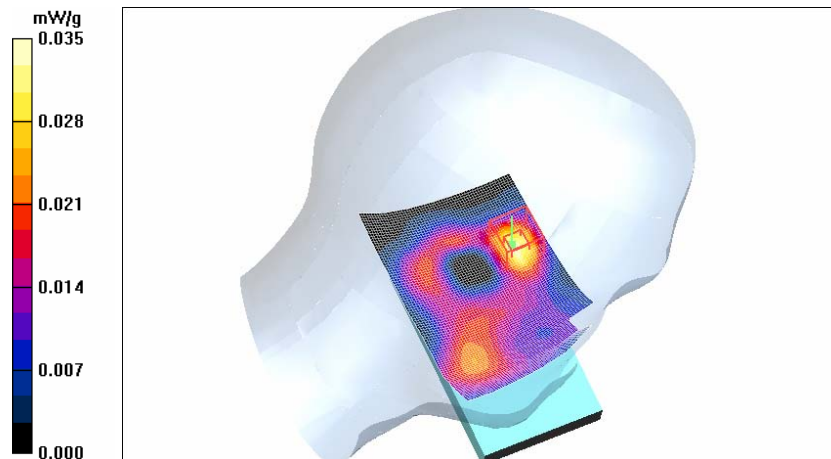
Peak SAR (extrapolated) = 0.062 W/kg

SAR(1 g) = 0.032 mW/g

SAR(10 g) = 0.016 mW/g

Power Drift = 0.007 dB

Maximum value of SAR (measured) = 0.035 mW/g



Date/Time: 2006-11-23 09:45:08

Test Laboratory: TCC Nokia
Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.2 C
Medium parameters used: $f = 2442 \text{ MHz}$; $\sigma = 1.86 \text{ mho/m}$; $\epsilon_r = 37.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.58, 4.58, 4.58); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek position, Middle/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 0.153 mW/g

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

Reference Value = 3.18 V/m
Peak SAR (extrapolated) = 0.225 W/kg

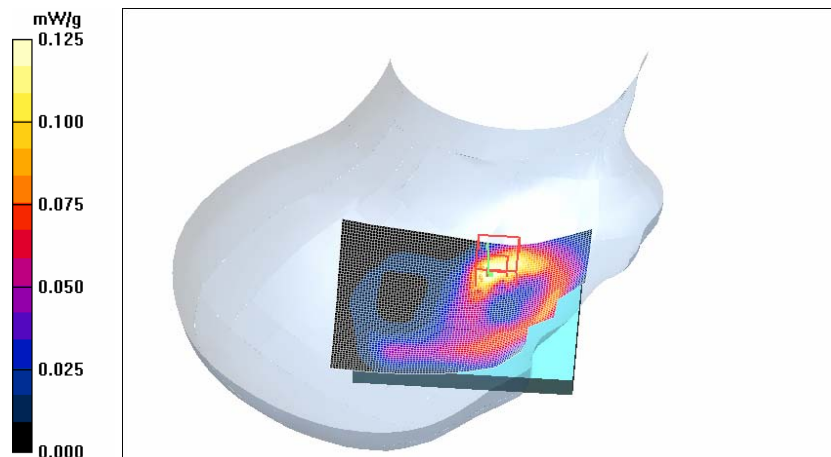
SAR(1 g) = 0.120 mW/g

SAR(10 g) = 0.060 mW/g

Power Drift = -0.067 dB

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.125 mW/g



Date/Time: 2006-11-23 10:04:00

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: HSL2450; Medium Notes: 20.2 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.58, 4.58, 4.58); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt position, Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.036 mW/g

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

Reference Value = 3.31 V/m

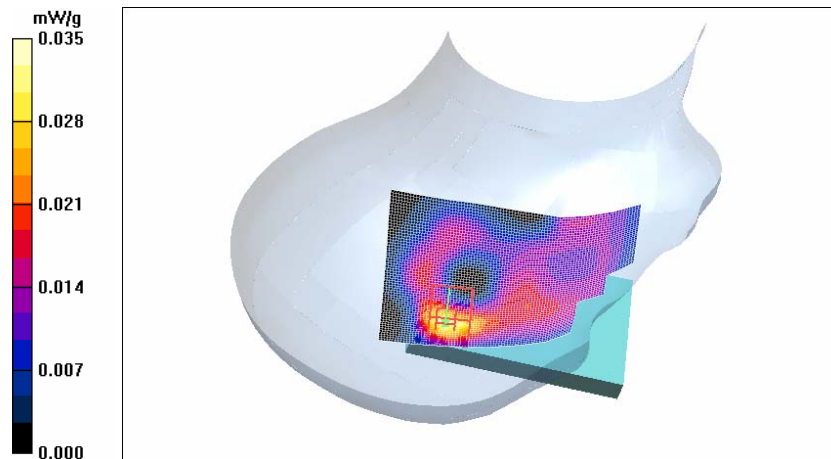
Peak SAR (extrapolated) = 0.064 W/kg

SAR(1 g) = 0.031 mW/g

SAR(10 g) = 0.015 mW/g

Power Drift = 0.094 dB

Maximum value of SAR (measured) = 0.035 mW/g



Date/Time: 2006-11-28 12:24:45

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: BSL800; Medium Notes: 20.6C

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.968 \text{ mho/m}$; $\epsilon_r = 56$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.2, 6.2, 6.2); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Measurement, high/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.706 mW/g

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

Reference Value = 17.2 V/m

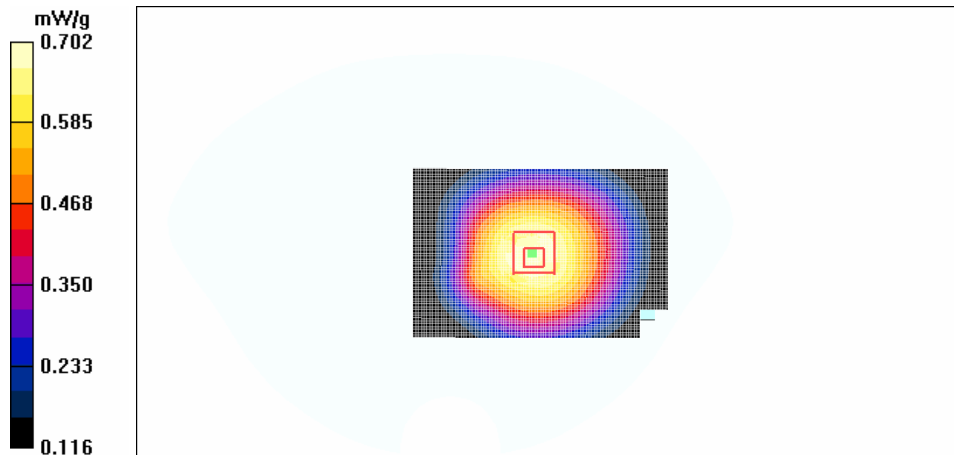
Peak SAR (extrapolated) = 0.838 W/kg

SAR(1 g) = 0.668 mW/g

SAR(10 g) = 0.505 mW/g

Power Drift = -0.157 dB

Maximum value of SAR (measured) = 0.702 mW/g



Date/Time: 2006-11-28 12:43:16

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: BSL800; Medium Notes: 20.6C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.968$ mho/m; $\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.2, 6.2, 6.2); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Measurement, high HS-23/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.436 mW/g

Body Measurement, high HS-23/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.7 V/m

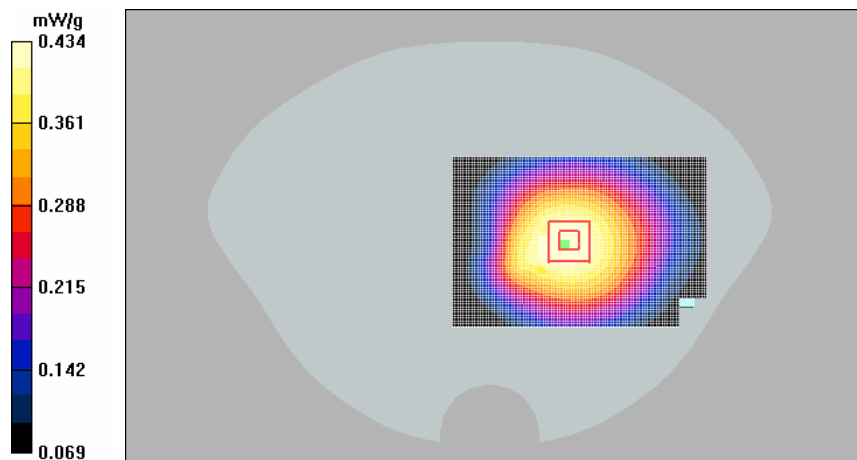
Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.415 mW/g

SAR(10 g) = 0.313 mW/g

Power Drift = 0.026 dB

Maximum value of SAR (measured) = 0.434 mW/g



Date/Time: 2006-11-28 13:17:36

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: BSL800; Medium Notes: 20.6C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.968$ mho/m; $\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(6.2, 6.2, 6.2); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Measurement, high BT/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.712 mW/g

Body Measurement, high BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 16.3 V/m

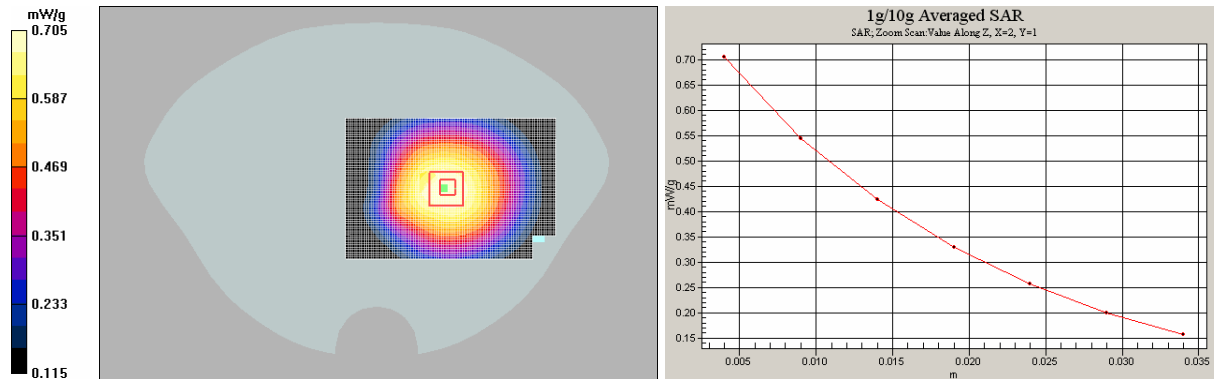
Peak SAR (extrapolated) = 0.843 W/kg

SAR(1 g) = 0.672 mW/g

SAR(10 g) = 0.509 mW/g

Power Drift = -0.008 dB

Maximum value of SAR (measured) = 0.705 mW/g



Date/Time: 2006-12-01 15:02:59

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: 20.3C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 54.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(4.48, 4.48, 4.48); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Body Measurement, low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 18.8 V/m

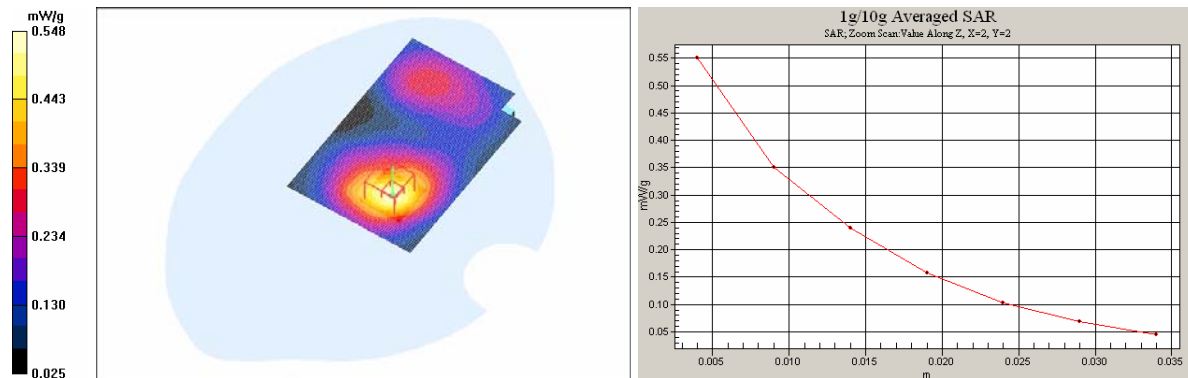
Peak SAR (extrapolated) = 0.825 W/kg

SAR(1 g) = 0.510 mW/g

SAR(10 g) = 0.321 mW/g

Power Drift = -0.085 dB

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



Date/Time: 2006-12-01 15:20:14

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: 20.3C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 54.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes: Advanced extrapolation
- ConvF(4.48, 4.48, 4.48); Calibrated: 2006-05-03
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2006-05-17
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 161

Body Measurement, low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.483 mW/g

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

Reference Value = 17.3 V/m

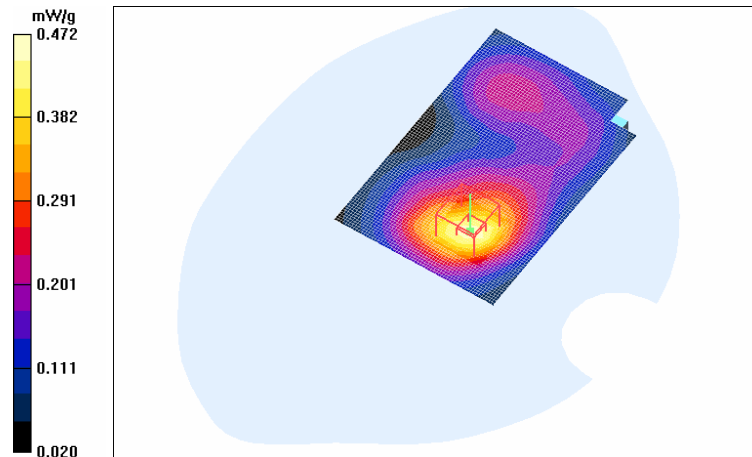
Peak SAR (extrapolated) = 0.707 W/kg

SAR(1 g) = 0.437 mW/g

SAR(10 g) = 0.272 mW/g

Power Drift = -0.028 dB

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



Date/Time: 2006-11-23 14:32:15

Test Laboratory: TCC Nokia

Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: M2450; Medium Notes: 21.2C

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.95$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.22, 4.22, 4.22); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Measurement, High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.033 mW/g

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

Reference Value = 3.76 V/m

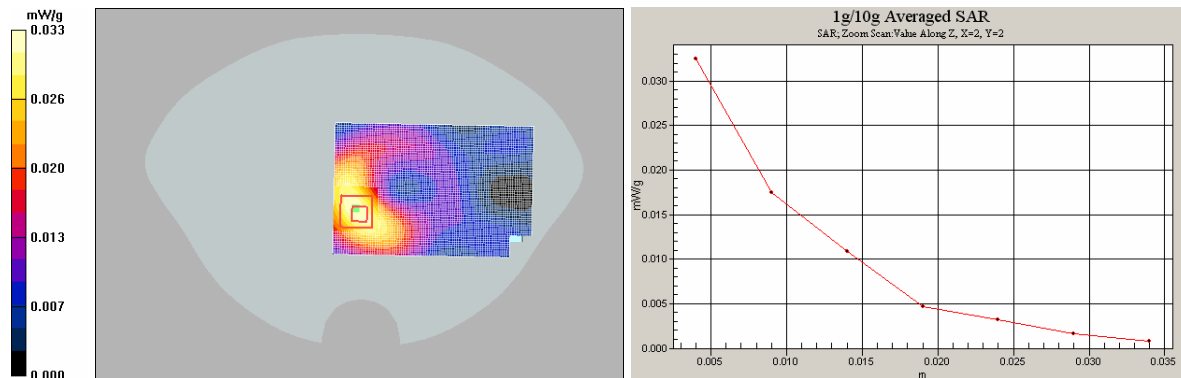
Peak SAR (extrapolated) = 0.060 W/kg

SAR(1 g) = 0.031 mW/g

SAR(10 g) = 0.018 mW/g

Power Drift = 0.025 dB

Maximum value of SAR (measured) = 0.033 mW/g



SAR Report

Salo_SAR_0647_05

Applicant: Nokia Corporation

Type: RM-227

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Date/Time: 2006-11-23 14:04:41

Test Laboratory: TCC Nokia
Type: RM-227; Serial: 004400/96/164754/0

Communication System: WLAN 2450
Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: M2450; Medium Notes: 21.2C
Medium parameters used: $f = 2462 \text{ MHz}$; $\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 52.5$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1396; Probe Notes: Advanced extrapolation
- ConvF(4.22, 4.22, 4.22); Calibrated: 2006-01-24
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2006-02-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Measurement, High, HS-23/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 0.028 mW/g

Body Measurement, High, HS-23/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.50 V/m
Peak SAR (extrapolated) = 0.054 W/kg

SAR(1 g) = 0.026 mW/g

SAR(10 g) = 0.015 mW/g

Power Drift = 0.023 dB

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.027 mW/g

