

SAR Compliance Test Report

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Tested device:	RM-277		
FCC ID:	QMNRM-277	IC:	661X-RM277
Supplement reports:	Salo_SAR_0740_12		
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	2007-09-29 to 2007-10-03
SN, HW and SW numbers of tested device	SN: 004401/01/259444/2, HW: 4650, SW: 3.20, DUT: 12266
Batteries used in testing	BL-5C, DUT: 12265, 11735, 11954
Headsets used in testing	HS-47, DUT: 11926
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

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

1.2.1 Head Configuration

Mode	Ch / f (MHz)	Radiated power	Position	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
GSM850	251 / 848.8	29.1 dBm ERP	Right, Cheek	0.576 W/kg	0.65 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	21.0 dBm ERP	Right, Cheek	0.753 W/kg	0.84 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	661 / 1880.0	29.6 dBm EIRP	Left, Cheek	0.592 W/kg	0.66 W/kg	1.6 W/kg	PASSED
WCDMA1900	9262 / 1852.4	24.8 dBm EIRP	Left, Cheek	0.909 W/kg	1.02 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
GSM850	251 / 848.8	30.9 dBm ERP	2.2cm	0.511 W/kg	0.57 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	22.2 dBm ERP	2.2cm	0.610 W/kg	0.68 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	661 / 1880.0	29.7 dBm EIRP	2.2cm	0.152 W/kg	0.17 W/kg	1.6 W/kg	PASSED
WCDMA1900	9262 / 1852.4	23.5 dBm EIRP	2.2cm	0.249 W/kg	0.28 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	0.35 dB

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 of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)
GSM	850 1900	GMSK	1/8	824 – 849 1850 – 1910
GPRS	850 1900	GMSK	1/8 to 3/8	824 – 849 1850 – 1910
EGPRS	850 1900	GMSK / 8PSK	1/8 to 3/8	824 – 849 1850 – 1910
WCDMA	850 (Band V) 1900 (Band II)		1	826 – 847 1852 – 1908
BT	2450	GFSK	1	2402 – 2480

Outside of USA and Canada, the transmitter of the device is capable of operating also in GSM/GPRS/EGPRS900 and GSM/GPRS/EGPRS1800 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):	20.5 to 23.7
Ambient humidity (RH %):	40 to 60

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.

The transmission mode of the device in all WCDMA tests was configured to 12.2kbps RMC with all TPC bits set as “1”.

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	555	12 months	2008-03
DAE 4	728	12 months	2008-02
E-field Probe ET3DV6	1396	12 months	2008-02
E-field Probe ET3DV6	1766	12 months	2008-03
Dipole Validation Kit, D835V2	480	24 months	2009-05
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	2008-07
Amplifier	ZHL-42 (SMA)	N072095-5	12 months	2008-07
Power Meter	NRVS	849305/028	12 months	2008-07
Power Sensor	NRV-Z32	839176/020	12 months	2008-07
Call Tester	CMU 200	101111	-	-
Call Tester	CMU 200	103293	-	-
Call Tester	CMU 200	100084	-	-
Vector Network Analyzer	8753E	US38432928	12 months	2008-07
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 simulant(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	2.29	41.6	0.90	
	± 10% window	2.06 – 2.52			
	2007-09-29	2.33	41.8	0.90	21.0
	2007-09-30	2.34	41.6	0.89	21.0
1900	Reference result	9.69	39.3	1.44	
	± 10% window	8.72 – 10.66			
	2007-10-01	9.87	39.4	1.44	21.0
	2007-10-02	9.77	39.5	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	
	± 10% window	9.1 – 11.1			
	2007-10-03	9.64	52.2	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	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2007-09-29	41.7	0.90	21.0
	2007-09-30	41.6	0.89	21.0
1880	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
	2007-10-01	39.5	1.42	21.0
	2007-10-02	39.6	1.39	21.0

Body tissue simulant measurements

f [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	
	2007-09-30	55.4	0.98	21.0
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2007-10-02	52.4	1.52	21.0
	2007-10-03	52.3	1.52	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 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 indicated in Section 1.2.2 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	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		30.6 dBm	30.1 dBm	29.1 dBm
Flip open	Left	Cheek		0.446	
		Tilt		0.225	
	Right	Cheek	0.408	0.472	0.576
		Tilt		0.227	
2-slot GPRS	Power		29.2 dBm	28.4 dBm	27.1 dBm
Flip open	Left	Cheek	-	0.394	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	Power		26.2 dBm	25.4 dBm	25.3 dBm
Flip open	Left	Cheek	-	0.389	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
1-slot 8PSK EGPRS	Power		24.0 dBm	23.5 dBm	22.3 dBm
Flip open	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	-	-	0.082
		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		20.5 dBm	21.0 dBm	20.1 dBm
Flip open	Left	Cheek	-	0.731	-
		Tilt	-	0.385	-
	Right	Cheek	0.561	0.753	0.672
		Tilt	-	0.379	-
WCDMA Flip open	Right Cheek, BT active		-	0.739	-

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

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		30.8 dBm	29.6 dBm	29.8 dBm
Flip open	Left	Cheek	-	0.494	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Power		28.4 dBm	29.6 dBm	28.6 dBm
Flip open	Left	Cheek	0.526	0.592	0.560
		Tilt	-	0.090	-
	Right	Cheek	-	0.405	-
		Tilt	-	0.101	-
3-slot GPRS	Power		27.0 dBm	27.7 dBm	26.9 dBm
Flip open	Left	Cheek	-	0.516	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Power		27.3 dBm	27.9 dBm	27.2 dBm
Flip open	Left	Cheek	-	0.285	-
		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		24.8 dBm	24.6 dBm	24.4 dBm
Flip open	Left	Cheek	0.874	0.826	0.738
		Tilt	-	0.121	-
	Right	Cheek	-	0.572	-
		Tilt	-	0.123	-
WCDMA Flip open	Left Cheek, BT active		0.909	-	-

850MHz Body 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	30.4 dBm	31.5 dBm	30.9 dBm
Flip closed	Without headset	0.333	0.425	0.511
	Headset HS-47	0.211	0.300	0.347
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	22.2 dBm	21.8 dBm
Flip closed	Without headset	0.503	0.610	0.580
	Headset HS-47	0.306	0.378	0.395
WCDMA Flip closed	Without headset, BT active	-	0.600	-

1900MHz Body 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
2-slot GPRS	Power	28.8 dBm	29.7 dBm	28.7 dBm
Flip closed	Without headset	0.129	0.149	0.146
	Headset HS-47	0.133	0.152	0.151
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	23.5 dBm	23.9 dBm	24.4 dBm
Flip closed	Without headset	0.232	0.211	0.187
	Headset HS-47	0.249	0.232	0.198
WCDMA Flip closed	Headset HS-47, BT active	0.248	-	-

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2007-09-29 10:38:34

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- 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) = 2.50 mW/g

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

Reference Value = 54.7 V/m

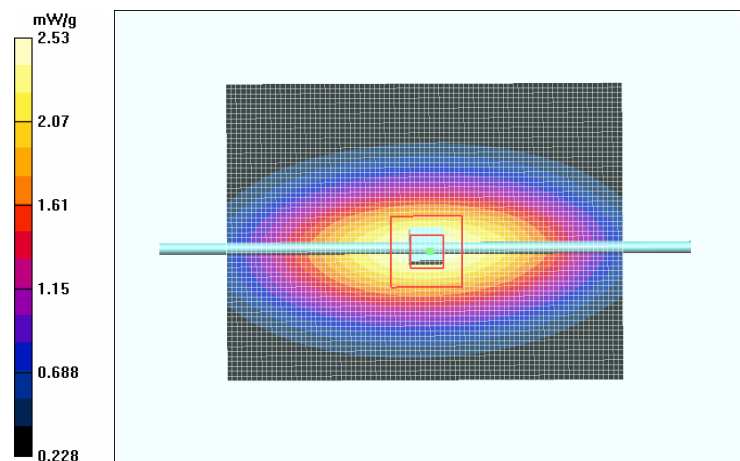
Peak SAR (extrapolated) = 3.43 W/kg

SAR(1 g) = 2.33 mW/g

SAR(10 g) = 1.53 mW/g

Power Drift = 0.023 dB

Maximum value of SAR (measured) = 2.53 mW/g



Date/Time: 2007-09-30 09:07:00

Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 21.6C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- 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) = 2.51 mW/g

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

Reference Value = 55.1 V/m

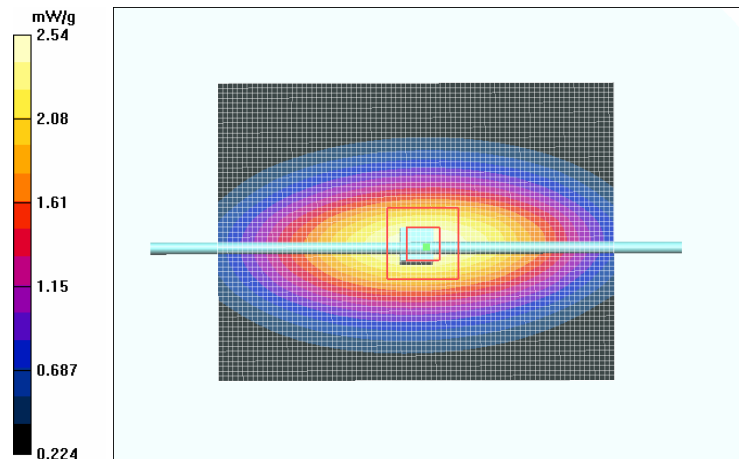
Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 2.34 mW/g

SAR(10 g) = 1.53 mW/g

Power Drift = 0.010 dB

Maximum value of SAR (measured) = 2.54 mW/g



Date/Time: 2007-10-01 11:09:09

Test Laboratory: TCC Nokia

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.7C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 11.9 mW/g

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

Reference Value = 94.3 V/m

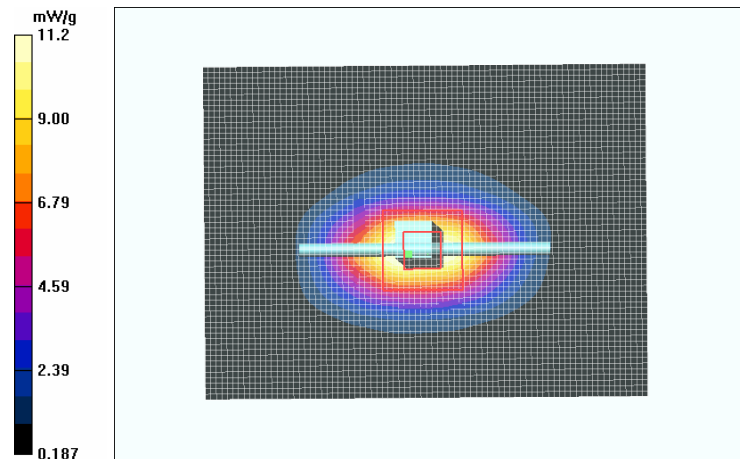
Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 9.87 mW/g

SAR(10 g) = 5.22 mW/g

Power Drift = -0.051 dB

Maximum value of SAR (measured) = 11.2 mW/g



SAR Report

Salo_SAR_0740_11

Applicant: Nokia Corporation

Type: RM-277

Copyright © 2007 TCC Nokia

Date/Time: 2007-10-02 09:43:21

Test Laboratory: TCC Nokia

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.9C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

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

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

Reference Value = 93.6 V/m

Peak SAR (extrapolated) = 16.7 W/kg

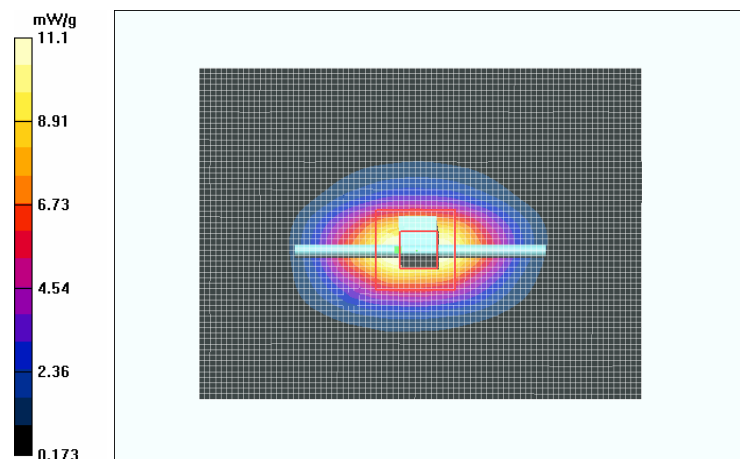
SAR(1 g) = 9.77 mW/g

SAR(10 g) = 5.17 mW/g

Power Drift = 0.028 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) = 11.1 mW/g



Date/Time: 2007-10-03 09:51:07

Test Laboratory: TCC Nokia

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: 20.9C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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) = 11.6 mW/g

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

Reference Value = 90.4 V/m

Peak SAR (extrapolated) = 16.4 W/kg

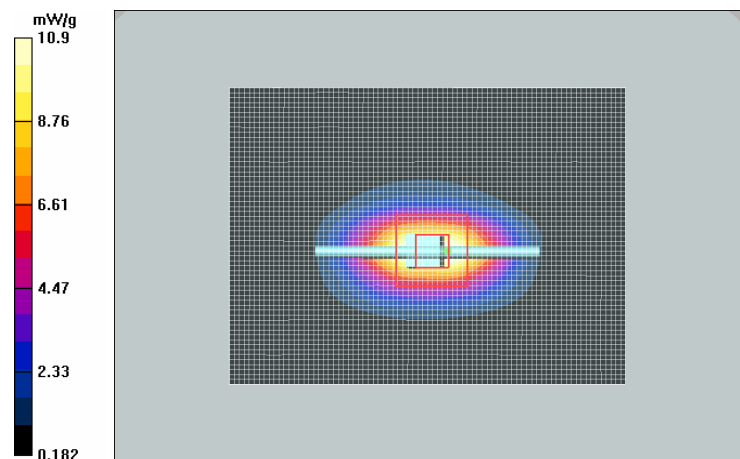
SAR(1 g) = 9.64 mW/g

SAR(10 g) = 5.13 mW/g

Power Drift = -0.002 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) = 10.9 mW/g



SAR Report

Salo_SAR_0740_11

Applicant: Nokia Corporation

Type: RM-277

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APPENDIX B: MEASUREMENT SCANS

Date/Time: 2007-09-29 11:17:13

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.484 mW/g

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

Reference Value = 12.6 V/m

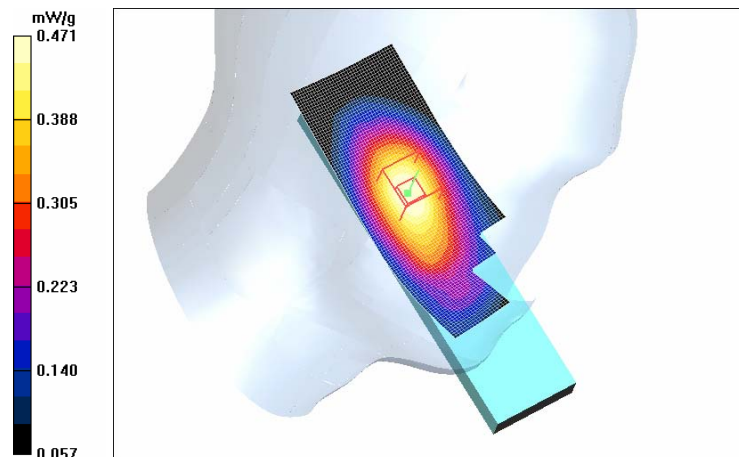
Peak SAR (extrapolated) = 0.593 W/kg

SAR(1 g) = 0.446 mW/g

SAR(10 g) = 0.313 mW/g

Power Drift = -0.106 dB

Maximum value of SAR (measured) = 0.471 mW/g



Date/Time: 2007-09-29 11:57:57

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- 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) = 0.237 mW/g

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

Reference Value = 13.9 V/m

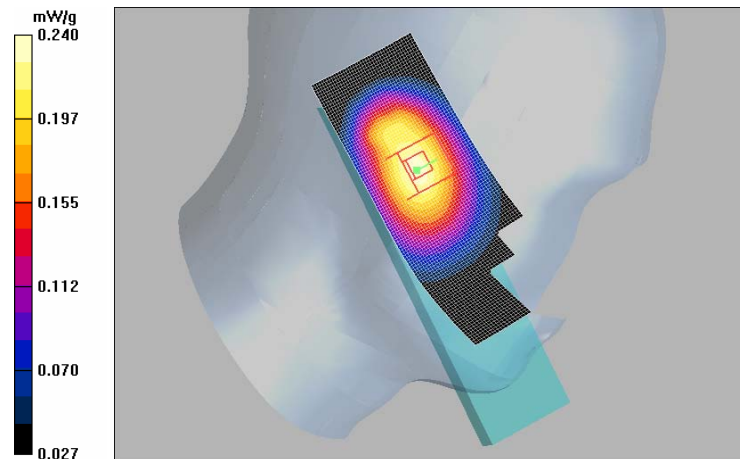
Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.225 mW/g

SAR(10 g) = 0.160 mW/g

Power Drift = 0.033 dB

Maximum value of SAR (measured) = 0.240 mW/g



Date/Time: 2007-09-29 14:12:15

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.905$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.600 mW/g

Cheek position, High, 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) = 0.785 W/kg

SAR(1 g) = 0.576 mW/g

SAR(10 g) = 0.400 mW/g

Power Drift = -0.033 dB

Maximum value of SAR (measured) = 0.627 mW/g

Cheek position, High, open/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.8 V/m

Peak SAR (extrapolated) = 0.781 W/kg

SAR(1 g) = 0.519 mW/g

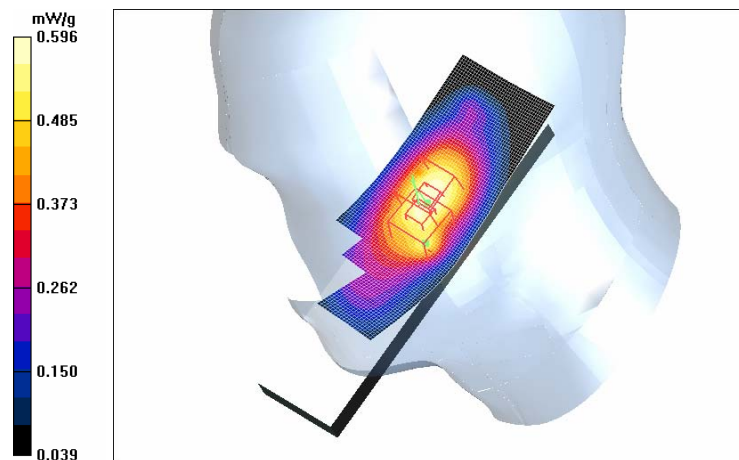
SAR(10 g) = 0.321 mW/g

Power Drift = -0.033 dB

Warning: Maximum averaged SAR over 1 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 averaged SAR over 10 g is located on the boundary of the measurement cube.

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



Date/Time: 2007-09-29 12:43:14

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- 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 = 13.2 V/m

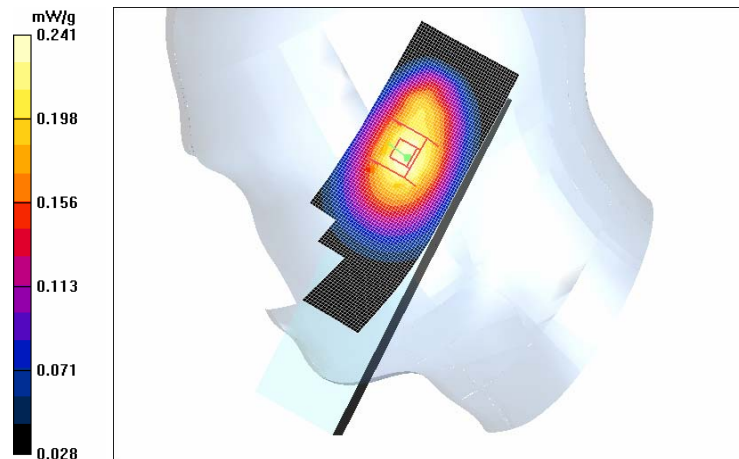
Peak SAR (extrapolated) = 0.297 W/kg

SAR(1 g) = 0.227 mW/g

SAR(10 g) = 0.161 mW/g

Power Drift = -0.011 dB

Maximum value of SAR (measured) = 0.241 mW/g



Date/Time: 2007-09-29 11:35:55

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.419 mW/g

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

Reference Value = 12.1 V/m

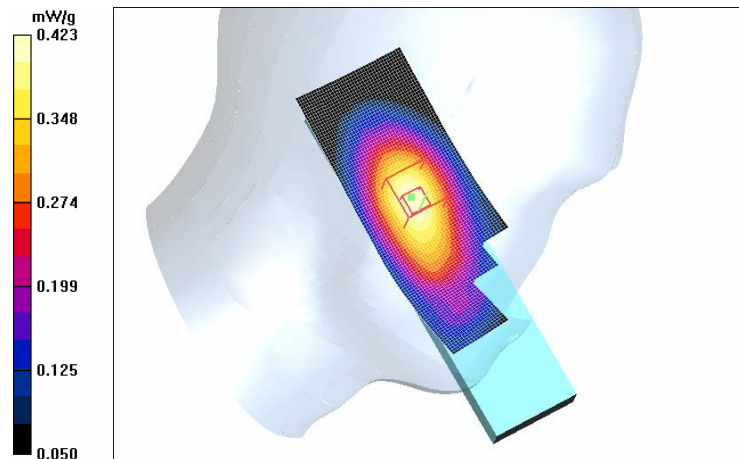
Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.394 mW/g

SAR(10 g) = 0.276 mW/g

Power Drift = -0.074 dB

Maximum value of SAR (measured) = 0.423 mW/g



Date/Time: 2007-09-29 13:05:20

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: HSL850; Medium Notes: 20.3C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.425 mW/g

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

Reference Value = 11.4 V/m

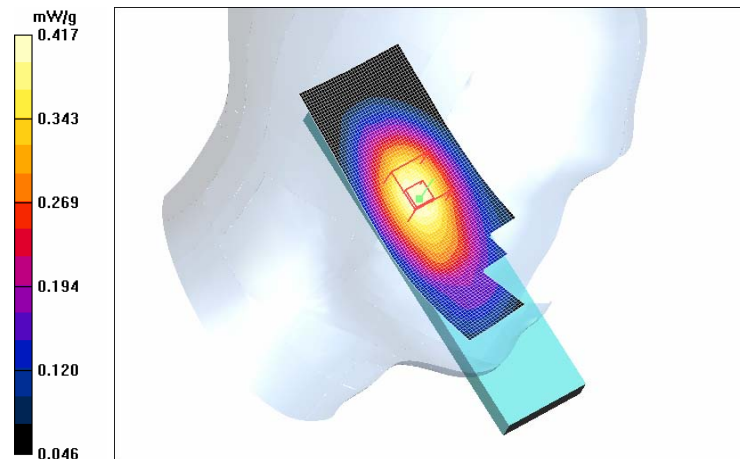
Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.389 mW/g

SAR(10 g) = 0.274 mW/g

Power Drift = -0.196 dB

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



Date/Time: 2007-09-29 15:26:14

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 1-slot 8PSK EGPRS850

Frequency: 849 MHz; Duty Cycle: 1:8.3

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.905 \text{ mho/m}$; $\epsilon_r = 41.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.087 mW/g

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

Reference Value = 5.46 V/m

Peak SAR (extrapolated) = 0.110 W/kg

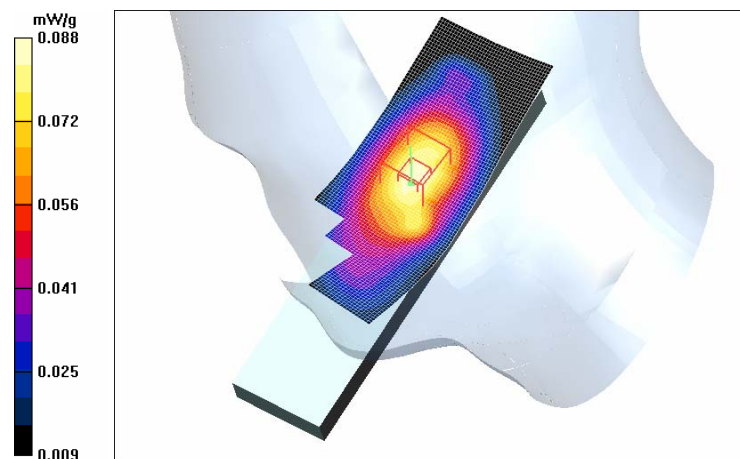
SAR(1 g) = 0.082 mW/g

SAR(10 g) = 0.058 mW/g

Power Drift = -0.027 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) = 0.088 mW/g



Date/Time: 2007-09-29 16:05:49

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 21.0C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position, Middle, open/Area Scan (41x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.780 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 = 15.2 V/m

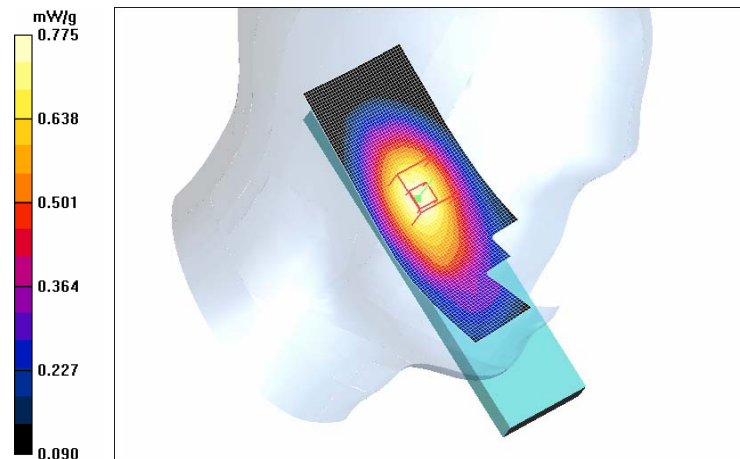
Peak SAR (extrapolated) = 0.990 W/kg

SAR(1 g) = 0.731 mW/g

SAR(10 g) = 0.510 mW/g

Power Drift = -0.072 dB

Maximum value of SAR (measured) = 0.775 mW/g



Date/Time: 2007-09-29 16:22:50

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 21.0C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.398 mW/g

Tilt 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 = 17.2 V/m

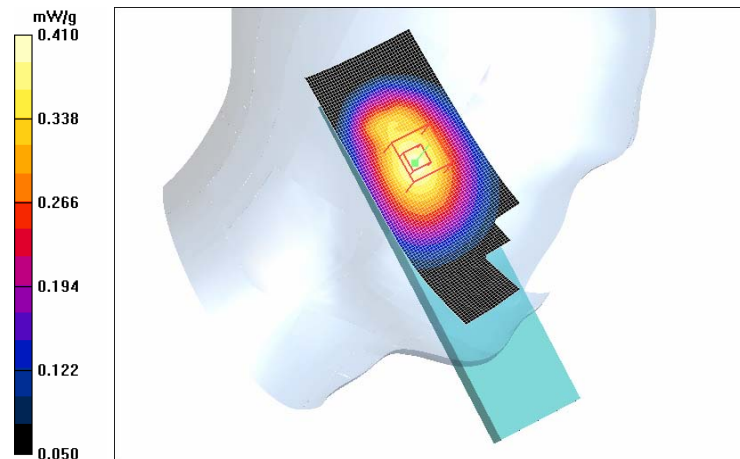
Peak SAR (extrapolated) = 0.506 W/kg

SAR(1 g) = 0.385 mW/g

SAR(10 g) = 0.275 mW/g

Power Drift = 0.027 dB

Maximum value of SAR (measured) = 0.410 mW/g



Date/Time: 2007-09-29 17:59:19

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- 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) = 0.801 mW/g

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

Reference Value = 16.7 V/m

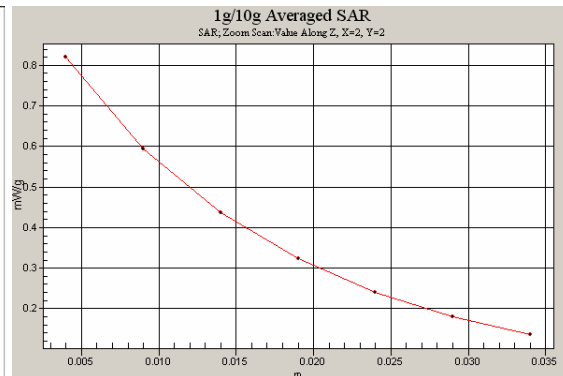
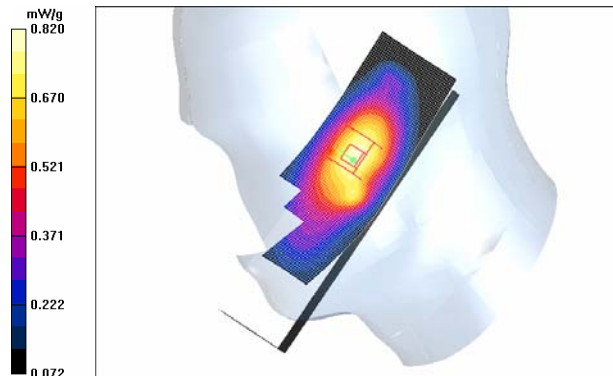
Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.753 mW/g

SAR(10 g) = 0.526 mW/g

Power Drift = -0.004 dB

Maximum value of SAR (measured) = 0.820 mW/g



Date/Time: 2007-09-29 18:15:35

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 20.2C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.401 mW/g

Tilt 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 = 17.0 V/m

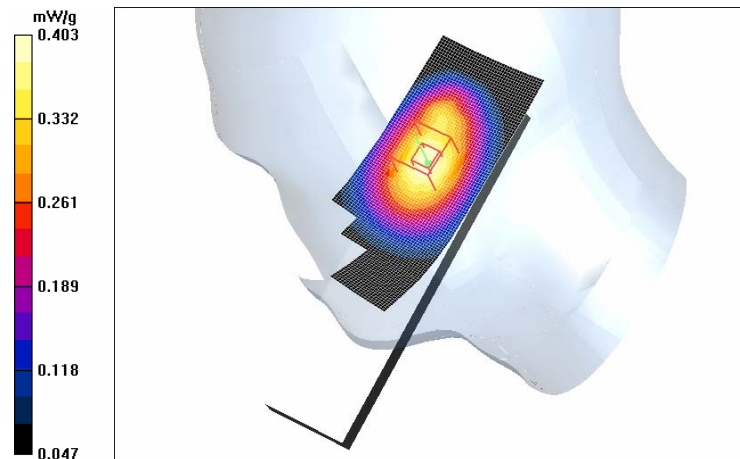
Peak SAR (extrapolated) = 0.500 W/kg

SAR(1 g) = 0.379 mW/g

SAR(10 g) = 0.270 mW/g

Power Drift = 0.008 dB

Maximum value of SAR (measured) = 0.403 mW/g



SAR Report

Salo_SAR_0740_11

Applicant: Nokia Corporation

Type: RM-277

Copyright © 2007 TCC Nokia

Date/Time: 2007-09-30 10:37:28

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL850; Medium Notes: 21.4C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.889 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.796 mW/g

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

Reference Value = 16.2 V/m

Peak SAR (extrapolated) = 0.988 W/kg

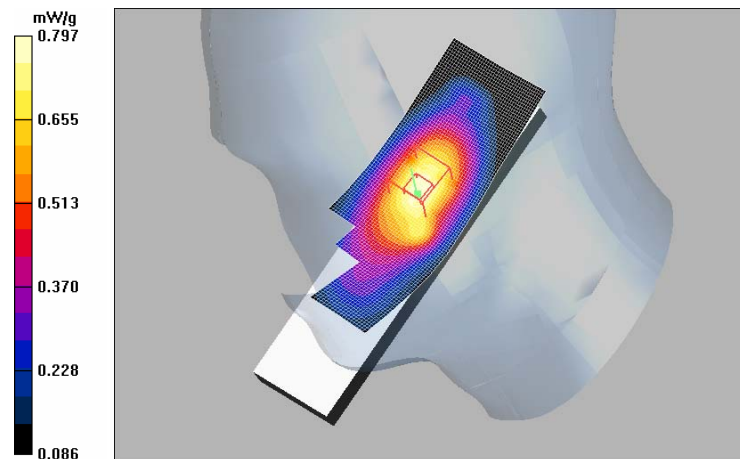
SAR(1 g) = 0.739 mW/g

SAR(10 g) = 0.519 mW/g

Power Drift = 0.020 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) = 0.797 mW/g



Date/Time: 2007-10-01 11:49:14

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900; Medium Notes: 20.6C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

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

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

Reference Value = 4.46 V/m

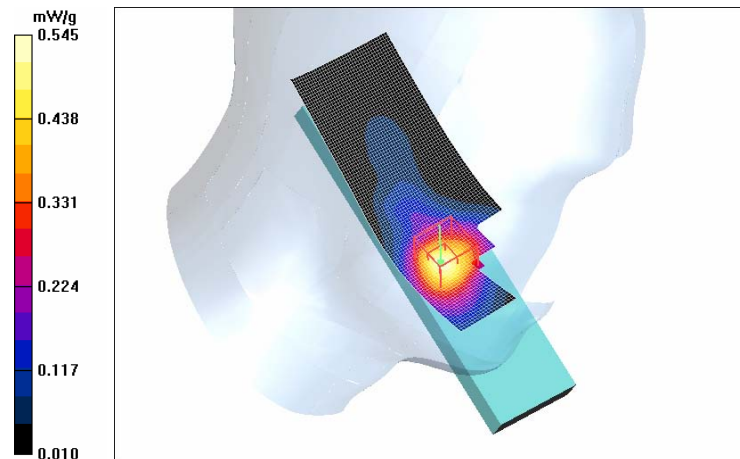
Peak SAR (extrapolated) = 0.791 W/kg

SAR(1 g) = 0.494 mW/g

SAR(10 g) = 0.292 mW/g

Power Drift = 0.126 dB

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



Date/Time: 2007-10-01 12:07:58

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.6C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.632 mW/g

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

Reference Value = 4.89 V/m

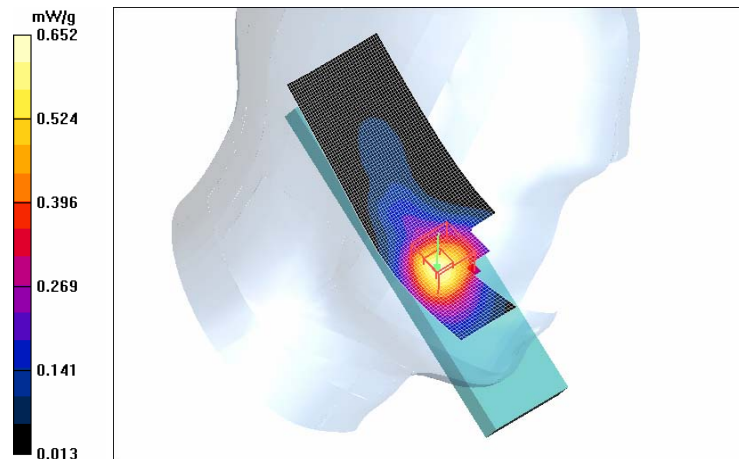
Peak SAR (extrapolated) = 0.923 W/kg

SAR(1 g) = 0.592 mW/g

SAR(10 g) = 0.353 mW/g

Power Drift = 0.032 dB

Maximum value of SAR (measured) = 0.652 mW/g



Date/Time: 2007-10-01 12:44:18

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

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; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.113 mW/g

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

Reference Value = 7.48 V/m

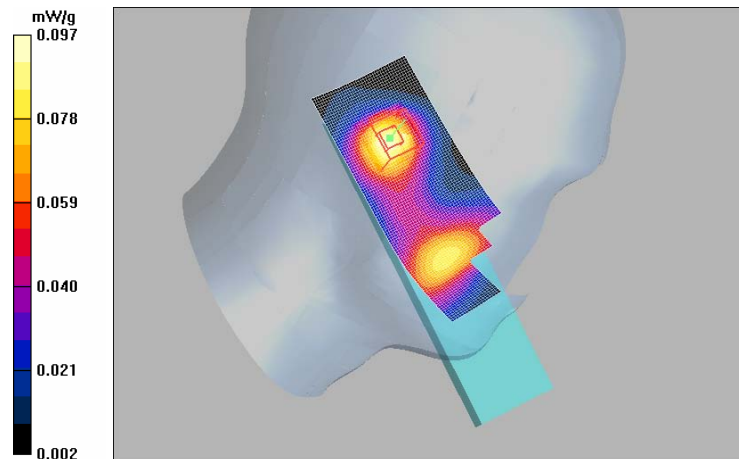
Peak SAR (extrapolated) = 0.128 W/kg

SAR(1 g) = 0.090 mW/g

SAR(10 g) = 0.055 mW/g

Power Drift = -0.144 dB

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



Date/Time: 2007-10-01 13:09:28

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

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; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.539 mW/g

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

Reference Value = 5.62 V/m

Peak SAR (extrapolated) = 0.769 W/kg

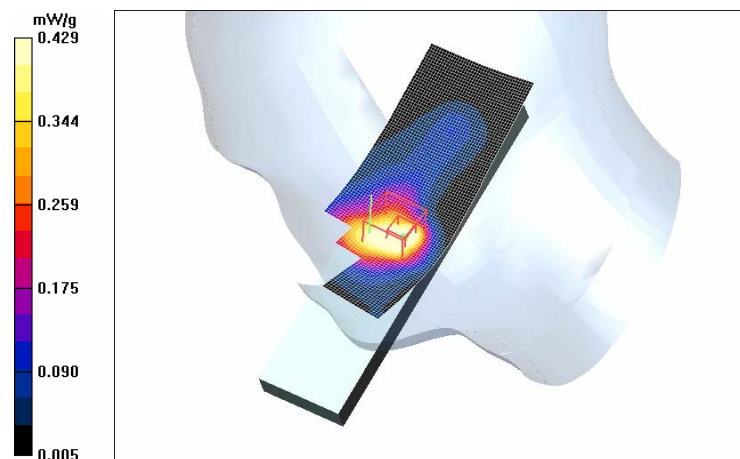
SAR(1 g) = 0.405 mW/g

SAR(10 g) = 0.252 mW/g

Power Drift = 0.196 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) = 0.429 mW/g



Date/Time: 2007-10-01 13:43:28

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: 20.4C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.129 mW/g

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

Reference Value = 8.20 V/m

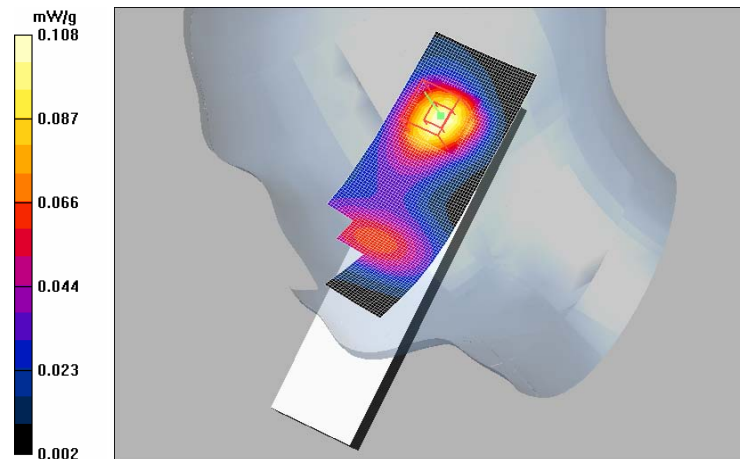
Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.101 mW/g

SAR(10 g) = 0.062 mW/g

Power Drift = -0.125 dB

Maximum value of SAR (measured) = 0.108 mW/g



Date/Time: 2007-10-01 12:23:57

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 3-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: HSL1900; Medium Notes: 20.6C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.562 mW/g

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

Reference Value = 4.65 V/m

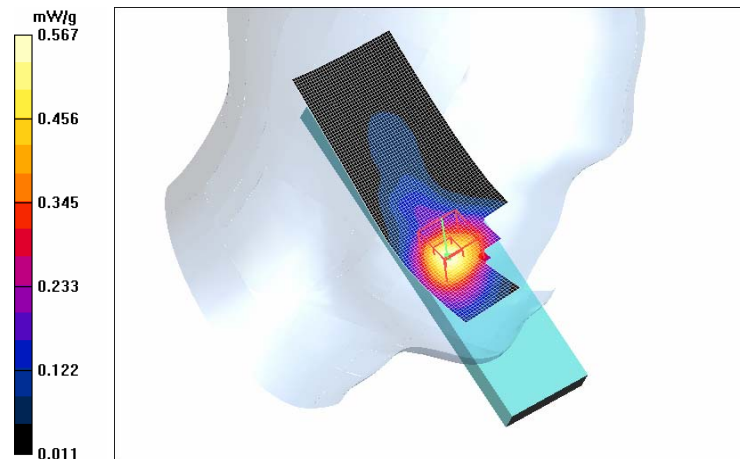
Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.516 mW/g

SAR(10 g) = 0.310 mW/g

Power Drift = -0.024 dB

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



Date/Time: 2007-10-02 10:24:57

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

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; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.302 mW/g

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

Reference Value = 3.34 V/m

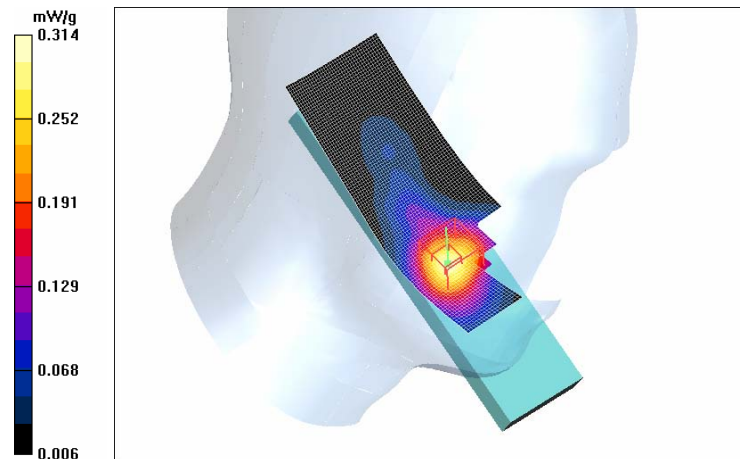
Peak SAR (extrapolated) = 0.442 W/kg

SAR(1 g) = 0.285 mW/g

SAR(10 g) = 0.170 mW/g

Power Drift = -0.150 dB

Maximum value of SAR (measured) = 0.314 mW/g



Date/Time: 2007-10-02 12:51:36

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.8C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.940 mW/g

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

Reference Value = 5.62 V/m

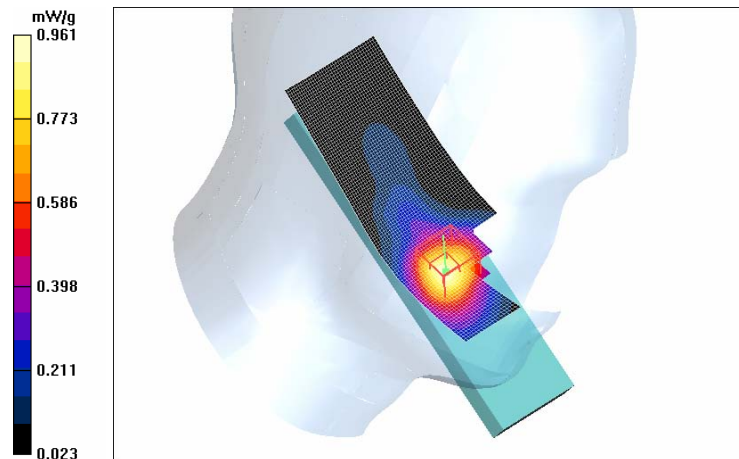
Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.874 mW/g

SAR(10 g) = 0.532 mW/g

Power Drift = -0.172 dB

Maximum value of SAR (measured) = 0.961 mW/g



Date/Time: 2007-10-02 11:02:03

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.165 mW/g

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

Reference Value = 8.42 V/m

Peak SAR (extrapolated) = 0.172 W/kg

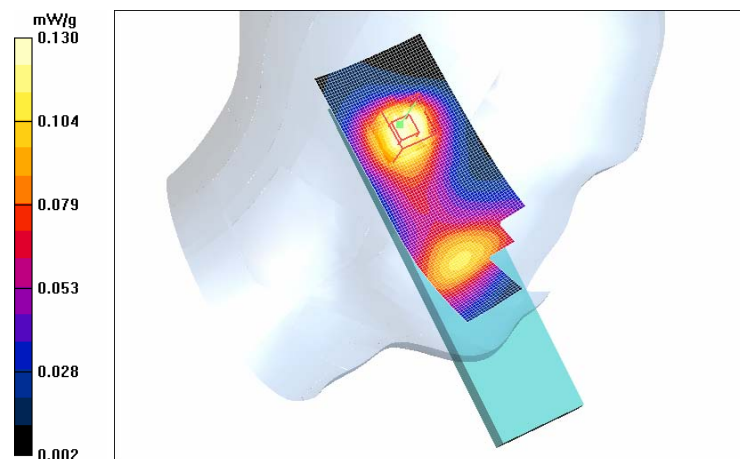
SAR(1 g) = 0.121 mW/g

SAR(10 g) = 0.075 mW/g

Power Drift = -0.286 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) = 0.130 mW/g



Date/Time: 2007-10-02 11:45:55

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.3C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.756 mW/g

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

Reference Value = 6.73 V/m

Peak SAR (extrapolated) = 1.19 W/kg

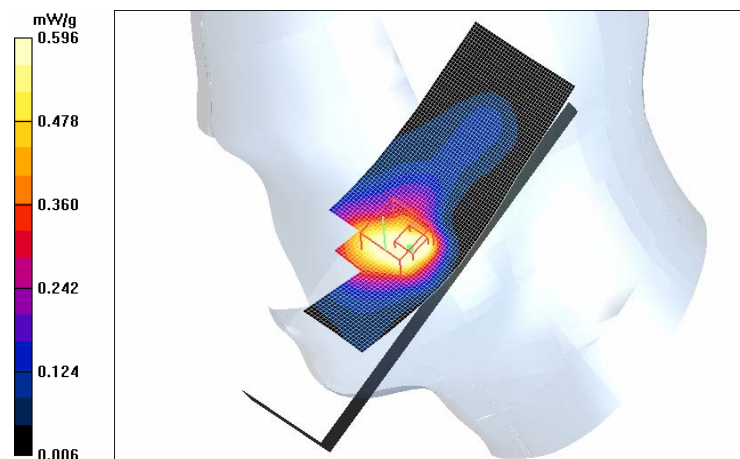
SAR(1 g) = 0.572 mW/g

SAR(10 g) = 0.356 mW/g

Power Drift = -0.292 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) = 0.596 mW/g



Date/Time: 2007-10-02 12:07:09

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.3C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.157 mW/g

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

Reference Value = 8.97 V/m

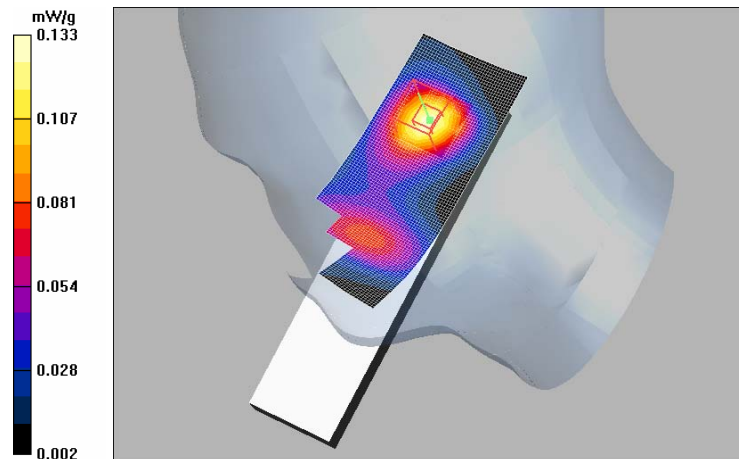
Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.123 mW/g

SAR(10 g) = 0.075 mW/g

Power Drift = -0.073 dB

Maximum value of SAR (measured) = 0.133 mW/g



Date/Time: 2007-10-02 13:29:44

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: 20.1C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.97, 4.97, 4.97); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 1.01 mW/g

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

Reference Value = 6.38 V/m

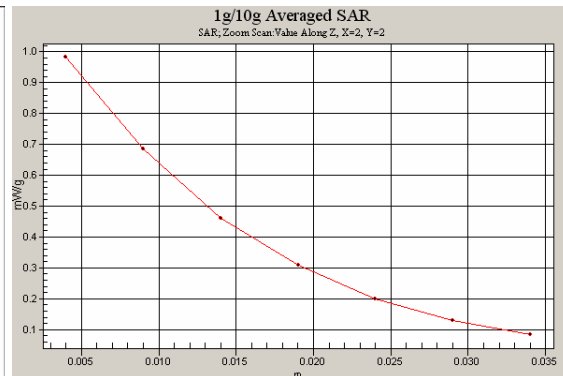
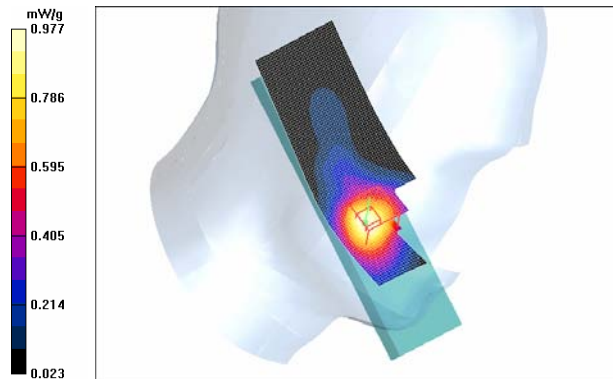
Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.909 mW/g

SAR(10 g) = 0.564 mW/g

Power Drift = -0.224 dB

Maximum value of SAR (measured) = 0.977 mW/g



Date/Time: 2007-09-30 14:19:51

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: M850; Medium Notes: 20.9C

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.987 \text{ mho/m}$; $\epsilon_r = 55.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 3; Type: Twin SAM 040 CA; Serial: TP-1179
- 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: $dx=15\text{mm}$, $dy=15\text{mm}$

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

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

Reference Value = 23.6 V/m

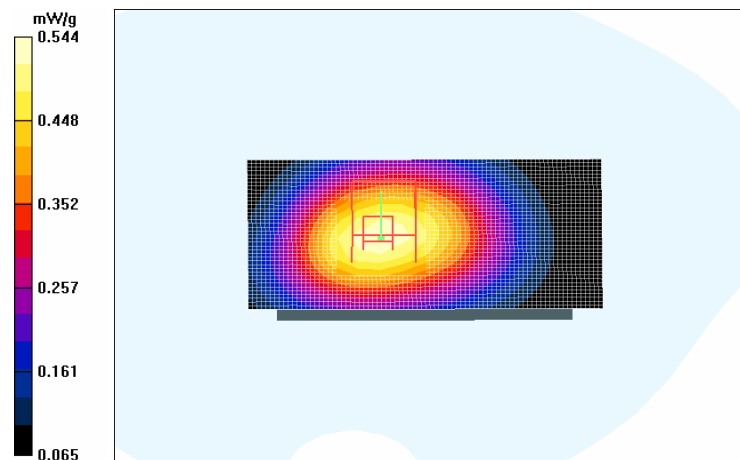
Peak SAR (extrapolated) = 0.653 W/kg

SAR(1 g) = 0.511 mW/g

SAR(10 g) = 0.368 mW/g

Power Drift = -0.010 dB

Maximum value of SAR (measured) = 0.544 mW/g



Date/Time: 2007-09-30 14:06:20

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: M850; Medium Notes: 20.9C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.987$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, High, Closed, HS-47/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.372 mW/g

Body Measurement, High, Closed, HS-47/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 19.6 V/m

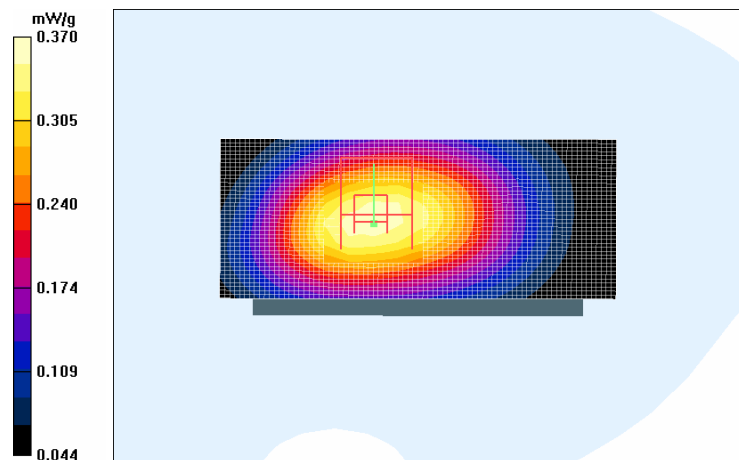
Peak SAR (extrapolated) = 0.449 W/kg

SAR(1 g) = 0.347 mW/g

SAR(10 g) = 0.250 mW/g

Power Drift = -0.072 dB

Maximum value of SAR (measured) = 0.370 mW/g



Date/Time: 2007-09-30 15:14:20

Test Laboratory: TCC Nokia
Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M850; Medium Notes: 20.9C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.979$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 3; Type: Twin SAM 040 CA; Serial: TP-1179
- 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) = 0.650 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 = 26.5 V/m

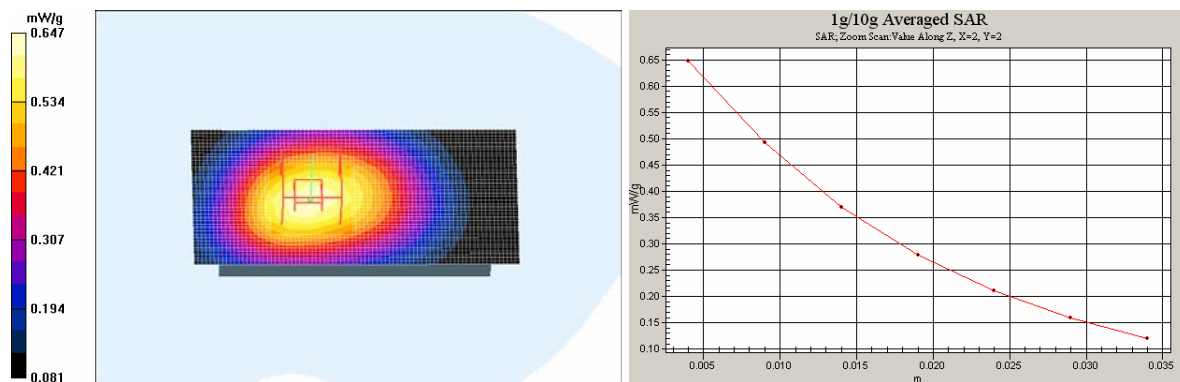
Peak SAR (extrapolated) = 0.783 W/kg

SAR(1 g) = 0.610 mW/g

SAR(10 g) = 0.442 mW/g

Power Drift = -0.032 dB

Maximum value of SAR (measured) = 0.647 mW/g



Date/Time: 2007-09-30 17:10:10

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: M850; Medium Notes: 21.1C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.987$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body Measurement, High, Closed, HS-47/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.416 mW/g

Body Measurement, High, Closed, HS-47/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 20.7 V/m

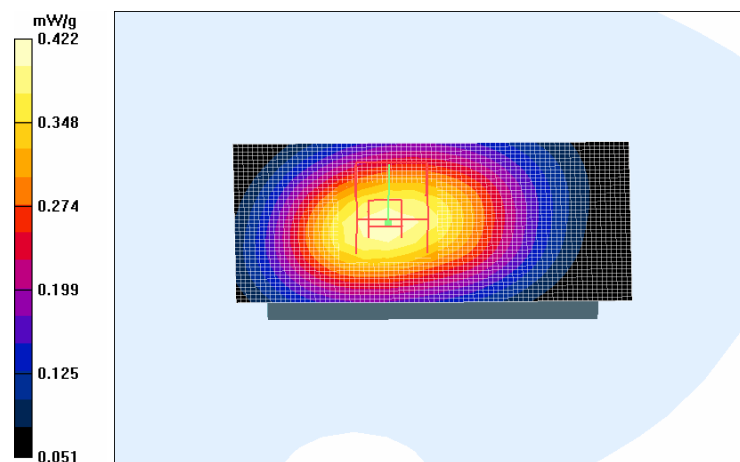
Peak SAR (extrapolated) = 0.510 W/kg

SAR(1 g) = 0.395 mW/g

SAR(10 g) = 0.285 mW/g

Power Drift = -0.022 dB

Maximum value of SAR (measured) = 0.422 mW/g



Date/Time: 2007-09-30 17:41:37

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M850; Medium Notes: 21.1C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.979 \text{ mho/m}$; $\epsilon_r = 55.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1396; Probe Notes:
- 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 3; Type: Twin SAM 040 CA; Serial: TP-1179
- 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: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.634 mW/g

Body Measurement, Middle, Closed, no accessory, BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.1 V/m

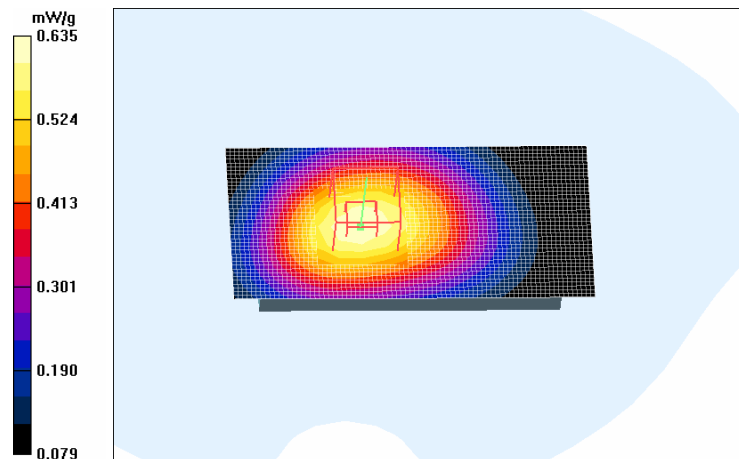
Peak SAR (extrapolated) = 0.772 W/kg

SAR(1 g) = 0.600 mW/g

SAR(10 g) = 0.433 mW/g

Power Drift = -0.118 dB

Maximum value of SAR (measured) = 0.635 mW/g



Date/Time: 2007-10-03 10:44:18

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: M1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.161 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 = 9.61 V/m

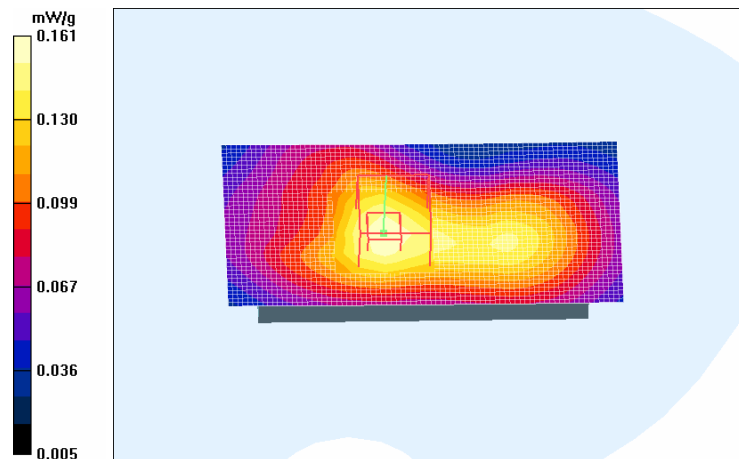
Peak SAR (extrapolated) = 0.225 W/kg

SAR(1 g) = 0.149 mW/g

SAR(10 g) = 0.096 mW/g

Power Drift = 0.016 dB

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



Date/Time: 2007-10-03 10:30:57

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: M1900; Medium Notes: 20.8C

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.52 \text{ mho/m}$; $\epsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

Body Measurement, Middle, Closed, HS-47/Area Scan (41x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.166 mW/g

Body Measurement, Middle, Closed, HS-47/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.80 V/m

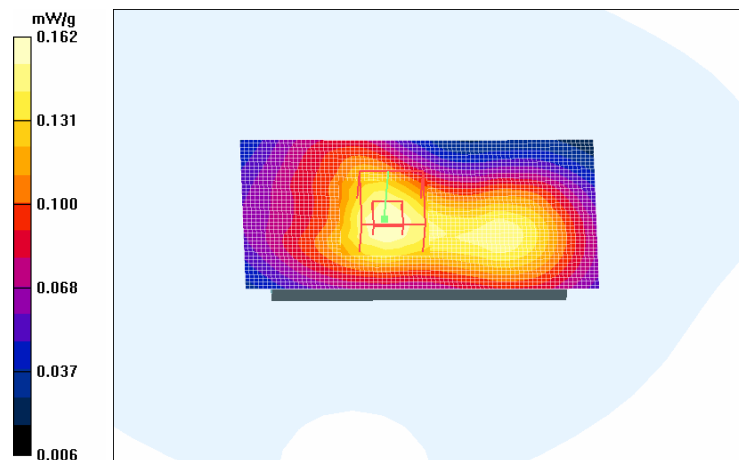
Peak SAR (extrapolated) = 0.227 W/kg

SAR(1 g) = 0.152 mW/g

SAR(10 g) = 0.098 mW/g

Power Drift = -0.100 dB

Maximum value of SAR (measured) = 0.162 mW/g



Date/Time: 2007-10-02 17:55:20

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: M1900; Medium Notes: 20.2C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

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

Maximum value of SAR (interpolated) = 0.251 mW/g

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

Reference Value = 11.5 V/m

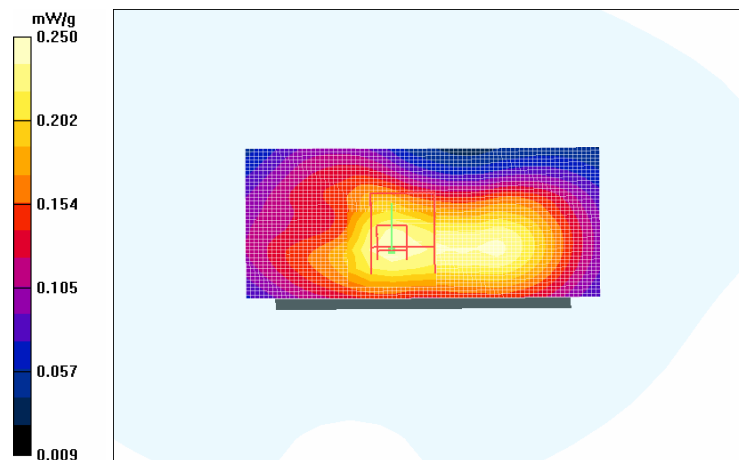
Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.232 mW/g

SAR(10 g) = 0.151 mW/g

Power Drift = -0.010 dB

Maximum value of SAR (measured) = 0.250 mW/g



Date/Time: 2007-10-02 17:28:24

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: M1900; Medium Notes: 20.2C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

Body Measurement, Low, Closed, HS-47/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.276 mW/g

Body Measurement, Low, Closed, HS-47/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.1 V/m

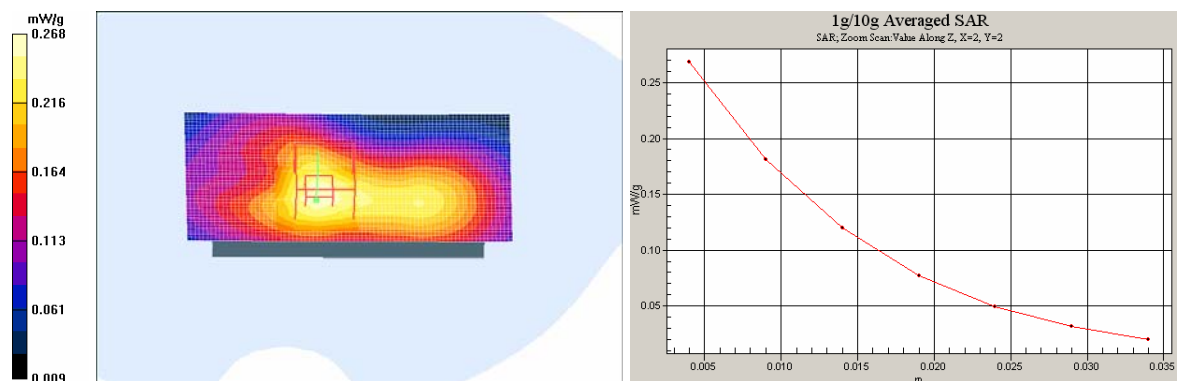
Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.249 mW/g

SAR(10 g) = 0.161 mW/g

Power Drift = -0.215 dB

Maximum value of SAR (measured) = 0.268 mW/g



SAR Report

Salo_SAR_0740_11

Applicant: Nokia Corporation

Type: RM-277

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Date/Time: 2007-10-03 13:00:25

Test Laboratory: TCC Nokia

Type: RM-277; Serial: 004401/01/259444/2

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: M1900; Medium Notes: 20.2C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1766; Probe Notes:
- ConvF(4.68, 4.68, 4.68); Calibrated: 2007-03-19
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2007-03-15
- 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

Body Measurement, Low, Closed, HS-47, BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.268 mW/g

Body Measurement, Low, Closed, HS-47, BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.9 V/m

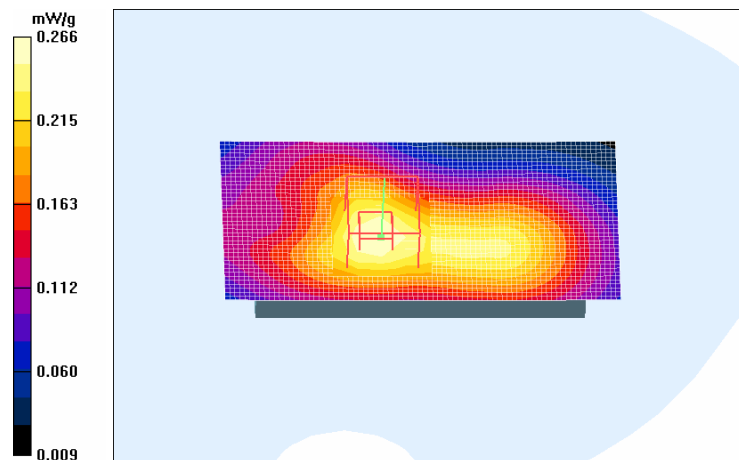
Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.248 mW/g

SAR(10 g) = 0.160 mW/g

Power Drift = -0.120 dB

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



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

See the next six pages.

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

See the next six pages