TCC
Nokia

FINAS
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T117 (EN ISO/IEC 17025)

SAR Compliance Test Report

Test report no.:	Cph_SAR_0729_05	**Date of report:**	2007-08-05
Template version:	6.0	**Number of pages:**	56
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	**Client:**	Nokia Corporation Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934
Responsible test engineer:	Leif Funch Klysner	**Product contact person:**	Daniela Stenhoff
Measurements made by:	Jesper Nielsen, Leif Klysner		
Tested device:	RM-264		
FCC ID:	QTKRM-264	**IC:**	661AD-RM264
Supplement reports:	Cph_SAR_0729_06		

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:

Leif Funch Klysner
Test System Manager

Digitally signed by Leif Funch Klysner
DN: cn=Leif Funch Klysner, c=DK, o=Radio Spectrum, ou=CertT, email=leif.klysner@nokia.com
Reason: I am approving this document
Date: 2007.08.08 09:22:03 +02'00'

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2007-07-11 to 2007-08-02
SN, HW and SW numbers of tested device	SN: 004401/01/276336/9, HW: 0310, SW: Vpnd3.02, DUT: 27539 SN: 004401/01/276285/8, HW:0310, SW: Vpnd3.02, DUT#27557
Batteries used in testing	BL-6P, DUT: 27243, 27520, 27521, 27547, 27548
Headsets used in testing	HS-82, DUT: 27234
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
GSM 850	190 / 836.6	32.3 dBm ERP	Left, Cheek	0.832W/kg	**0.93W/kg**	1.6 W/kg	PASSED
WCDMA 850	4233 / 846.6	19.5 dBm ERP	Left, Cheek	0.551W/kg	**0.62W/kg**	1.6 W/kg	PASSED
GSM 1900	512 / 1850.2	29.5 dBm EIRP	Left, Cheek	0.745W/kg	**0.83W/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
GSM 850	190 / 836.6	32.3 dBm ERP	1.5 cm	0.721W/kg	**0.81W/kg**	1.6 W/kg	PASSED
WCDMA 850	4233 / 846.6	19.5 dBm ERP	1.5 cm	0.435W/kg	**0.49W/kg**	1.6 W/kg	PASSED
GSM 1900	512 / 1850.2	29.5 dBm EIRP	1.5 cm	0.468W/kg	**0.52W/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
0.5 dB	0.45 dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 25.8%

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)		1	826 – 847
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, GSM/GPRS/EGPRS1800 and WCDMA2100 bands which are not part of this filing.

This device has 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):	20.5 to 22.5
Ambient humidity (RH %):	35 to 55

3.2 Test Signal, Frequencies and Output Power

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

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

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

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

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
DAE3	573	12 months	2007-09
DAE4	682	12 months	2007-08
E-field Probe ES3DV3	3116	12 months	2007-08
E-field Probe ES3DV3	3117	12 months	2007-08
Dipole Validation Kit, D835V2	4d042	24 months	2008-09
Dipole Validation Kit, D1900V2	5d026	24 months	2008-02
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SME06	848650/011	36 months	2008-07
Amplifier	2100-BBS3Q8CCJ	1003	-	-
Power Meter	NRP	100808	24 months	2008-03
Power Sensor	NRP-Z51	100412	24 months	2008-03
Call Tester	CMU200	105900	-	-
Call Tester	CMU200	110735	-	-
BT Tester	CBT	100263	-	-
Vector Network Analyzer	AT8753ES	MY40001091	12 months	2007-08
Dielectric Probe Kit	HP85070B	US33020403	-	-

4.1.1 Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors 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 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 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 ± 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	39.74	55.97
HEC	0.25	1.21
Sugar	58.31	41.76
Preservative	0.15	0.27
Salt	1.55	0.79

1900MHz band

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

4.3.2 System Checking

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

System checking, head tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.33	42.2	0.90	
	± 10% window	2.10 – 2.56			
835	2007-07-11	2.50	42.1	0.91	20.8
	2007-07-20	2.47	41.2	0.90	20.8
	Reference result	9.83	39.4	1.42	
	± 10% window	8.85 – 10.81			
1900	2007-08-02	10.4	38.3	1.40	21.5

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.45	53.8	0.98	
	± 10% window	2.20 – 2.70			
835	2007-07-17	2.51	53.9	0.97	21.2
	2007-07-18	2.48	53.8	0.96	21.5
	Reference result	10.0	54.8	1.54	
	± 10% window	9.0 – 11.0			
1900	2007-08-02	10.8	53.1	1.54	21.5

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	
	2007-07-11	42.1	0.91	20.8
	2007-07-20	41.2	0.90	20.8
1880	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
	2007-08-02	38.3	1.38	21.5

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	
	2007-07-17	53.9	0.97	21.2
	2007-07-18	53.8	0.96	21.5
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2007-08-02	53.2	1.52	21.5

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	$c_i . u_i$ (%)	v_i
Measurement System							
Probe Calibration	E2.1	±5.9	N	1	1	±5.9	∞
Axial Isotropy	E2.2	±4.7	R	√3	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	E2.2	±9.6	R	√3	$(c_p)^{1/2}$	±3.9	∞
Boundary Effect	E2.3	±1.0	R	√3	1	±0.6	∞
Linearity	E2.4	±4.7	R	√3	1	±2.7	∞
System Detection Limits	E2.5	±1.0	R	√3	1	±0.6	∞
Readout Electronics	E2.6	±1.0	N	1	1	±1.0	∞
Response Time	E2.7	±0.8	R	√3	1	±0.5	∞
Integration Time	E2.8	±2.6	R	√3	1	±1.5	∞
RF Ambient Conditions - Noise	E6.1	±3.0	R	√3	1	±1.7	∞
RF Ambient Conditions - Reflections	E6.1	±3.0	R	√3	1	±1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	±0.4	R	√3	1	±0.2	∞
Probe Positioning with respect to Phantom Shell	E6.3	±2.9	R	√3	1	±1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E5	±3.9	R	√3	1	±2.3	∞
Test sample Related							
Test Sample Positioning	E4.2	±6.0	N	1	1	±6.0	11
Device Holder Uncertainty	E4.1	±5.0	N	1	1	±5.0	7
Output Power Variation - SAR drift measurement	6.6.3	±0.0	R	√3	1	±0.0	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±4.0	R	√3	1	±2.3	∞
Conductivity Target - tolerance	E3.2	±5.0	R	√3	0.64	±1.8	∞
Conductivity - measurement uncertainty	E3.3	±5.5	N	1	0.64	±3.5	5
Permittivity Target - tolerance	E3.2	±5.0	R	√3	0.6	±1.7	∞
Permittivity - measurement uncertainty	E3.3	±2.9	N	1	0.6	±1.7	5
Combined Standard Uncertainty			RSS			**±12.9**	116
Coverage Factor for 95%			**k=2**				
Expanded Uncertainty						**±25.8**	

7. RESULTS

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

850 MHz Head SAR results

Option Used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM	Power		32.0 dBm	32.3 dBm	32.1 dBm
	Left	Cheek	0.720	**0.832**	0.776
		Tilt	-	0.407	-
	Right	Cheek	-	0.788	-
		Tilt	-	0.399	-
2-Slot GPRS	Power		28.8 dBm	29.3 dBm	29.3 dBm
	Left	Cheek	-	0.817	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-Slot GPRS	Power		27.0 dBm	27.5 dBm	27.5 dBm
	Left	Cheek	-	0.801	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
1-Slot 8PSK EGPRS	Power		24.1 dBm	25.4 dBm	25.1 dBm
	Left	Cheek	-	0.213	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
GSM	Left Cheek, BT Active		-	0.808	-
Option Used	**Test configuration**		**Ch 4132 826.4 MHz**	**Ch 4175 835.0 MHz**	**Ch 4233 846.6 MHz**
WCDMA	Power		17.9 dBm	19.1 dBm	19.5 dBm
	Left	Cheek	0.387	0.487	**0.551**
		Tilt		0.234	
	Right	Cheek		0.485	
		Tilt		0.250	
WCDMA	Left Cheek, BT Active		-	-	0.547

1900 MHz 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**		**29.5 dBm**	**26.4 dBm**	**25.6 dBm**
	Left	Cheek	**0.745**	0.656	0.672
		Tilt	-	0.246	-
	Right	Cheek	-	0.494	-
		Tilt	-	0.261	-
2-Slot GPRS	**Power**		**26.8 dBm**	**24.4 dBm**	**22.0 dBm**
	Left	Cheek	-	0.586	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-Slot GPRS	**Power**		**25.1 dBm**	**22.7 dBm**	**20.1 dBm**
	Left	Cheek	-	0.554	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
1-Slot 8PSK EGPRS	**Power**		**24.8 dBm**	**22.6 dBm**	**19.6 dBm**
	Left	Cheek	0.254	-	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
GSM	Left Cheek, BT Active		0.740	-	-

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

850 MHz 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	32.0 dBm	32.3 dBm	32.1 dBm
	Without headset	0.690	**0.721**	0.645
	Headset HS-82	0.384	0.437	0.383
GSM	Without headset, BT Active	-	0.667	-
Option used	Test configuration	Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Power	17.9 dBm	19.1 dBm	19.5 dBm
	Without headset	0.398	0.339	**0.420**
	Headset HS-82	0.262	0.211	0.267
WCDMA	Without headset, BT Active	-	-	**0.435**

1900 MHz 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
GSM	Power	29.5 dBm	26.4 dBm	25.6 dBm
	Without headset	**0.468**	0.361	0.285
	Headset HS-82	0.415	0.328	0.264
GSM	Without headset, BT Active	0.463	-	-

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

See the following pages.

Date/Time: 2007-07-11 10:03:49

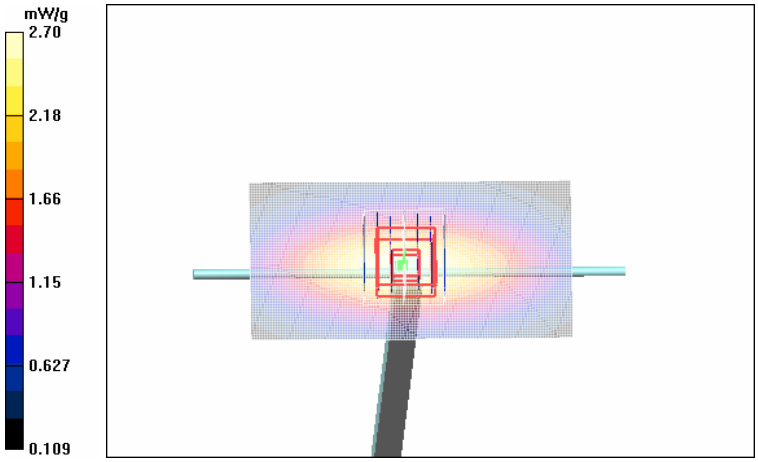
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 835 MHz; σ = 0.911 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.70 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.9 V/m
Peak SAR (extrapolated) = 3.70 W/kg
SAR(1 g) = 2.5 mW/g
SAR(10 g) = 1.64 mW/g
Power Drift = -0.004 dB
Maximum value of SAR (measured) = 2.70 mW/g



Date/Time: 2007-07-20 16:10:23

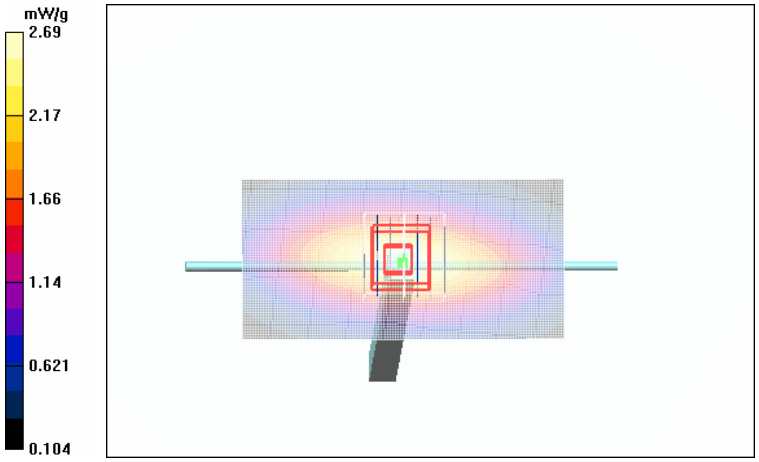
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 835 MHz; σ = 0.898 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.69 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.47 mW/g
SAR(10 g) = 1.62 mW/g
Power Drift = -0.048 dB
Maximum value of SAR (measured) = 2.67 mW/g



Date/Time: 2007-08-02 09:44:00

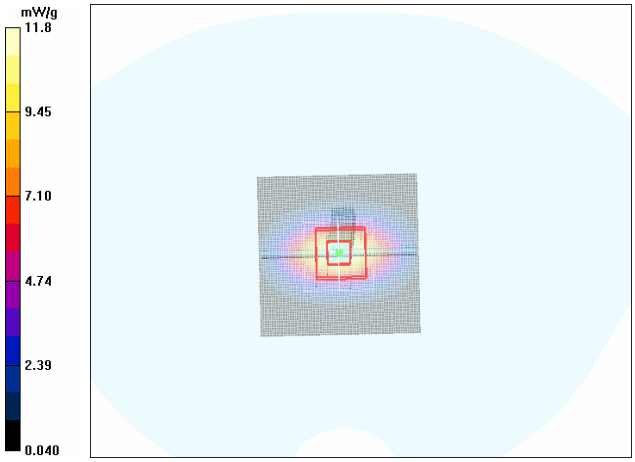
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d026

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.9 V/m
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.4 mW/g
SAR(10 g) = 5.39 mW/g
Power Drift = 0.074 dB
Maximum value of SAR (measured) = 11.8 mW/g



Date/Time: 2007-07-17 12:12:34

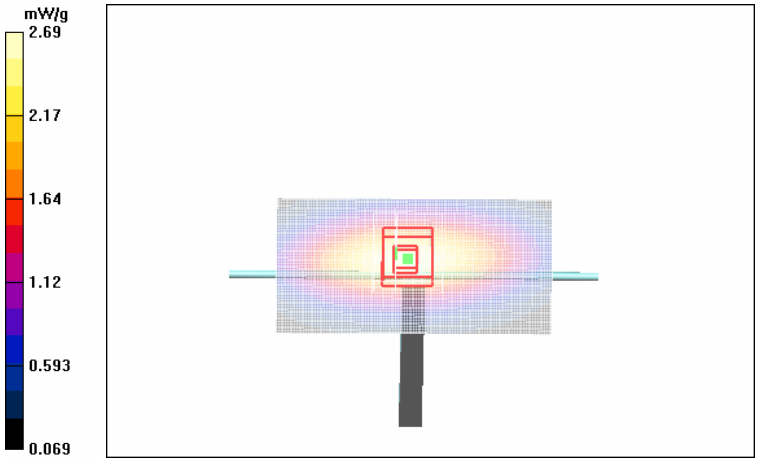
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: 21.2 C
Medium parameters used: f = 835 MHz; σ = 0.966 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.69 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.8 V/m
Peak SAR (extrapolated) = 3.72 W/kg
SAR(1 g) = 2.51 mW/g
SAR(10 g) = 1.65 mW/g
Power Drift = 0.010 dB
Maximum value of SAR (measured) = 2.70 mW/g



Date/Time: 2007-07-18 08:34:07

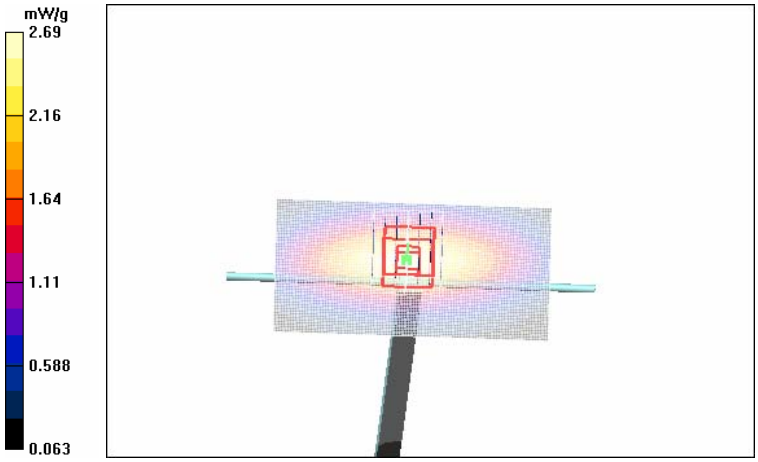
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 835 MHz; σ = 0.961 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.69 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.7 V/m
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.48 mW/g
SAR(10 g) = 1.64 mW/g
Power Drift = -0.086 dB
Maximum value of SAR (measured) = 2.67 mW/g



Date/Time: 2007-08-02 15:30:09

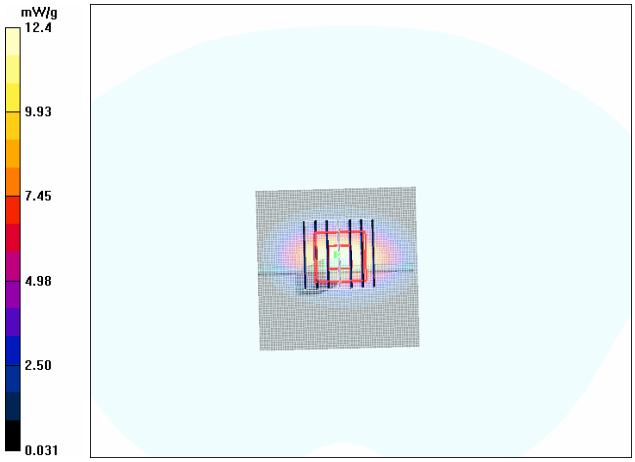
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d026

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.66, 4.66, 4.66); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 82.2 V/m
Peak SAR (extrapolated) = 19.6 W/kg
SAR(1 g) = 10.8 mW/g
SAR(10 g) = 5.66 mW/g
Power Drift = 0.042 dB
Maximum value of SAR (measured) = 12.1 mW/g



APPENDIX B: MEASUREMENT SCANS

See the following pages.

Date/Time: 2007-07-11 10:46:23

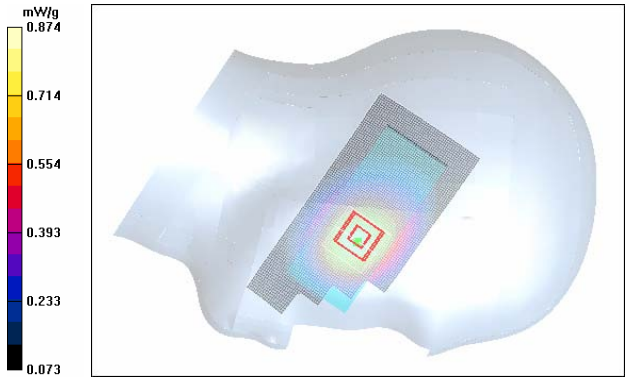
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

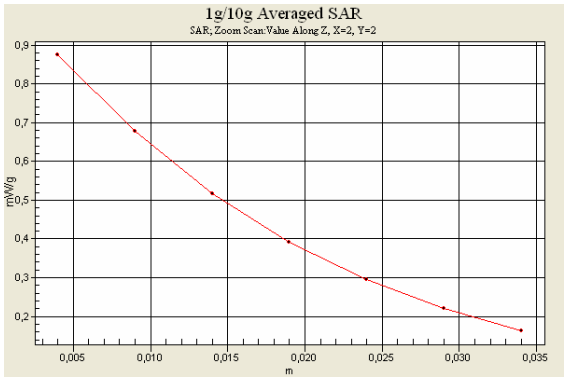
Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.914 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.869 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.832 mW/g
SAR(10 g) = 0.595 mW/g
Power Drift = -0.346 dB
Maximum value of SAR (measured) = 0.874 mW/g





Date/Time: 2007-07-11 11:01:05

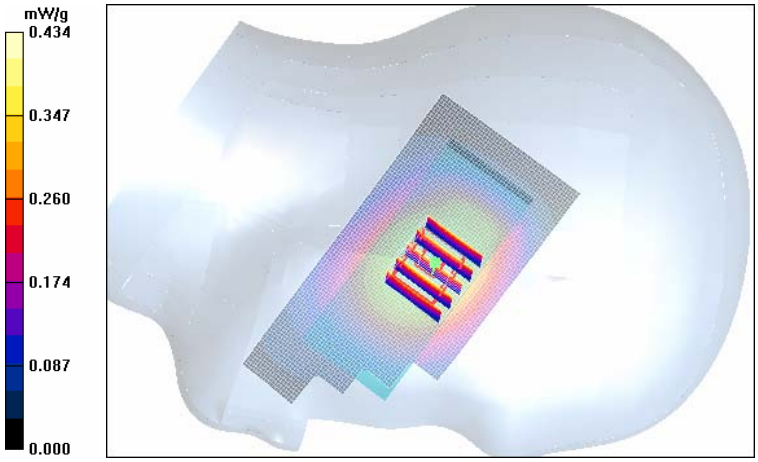
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.914 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.434 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.6 V/m
Peak SAR (extrapolated) = 0.510 W/kg
SAR(1 g) = 0.407 mW/g
SAR(10 g) = 0.304 mW/g
Power Drift = -0.048 dB
Maximum value of SAR (measured) = 0.430 mW/g



Date/Time: 2007-07-11 11:33:35

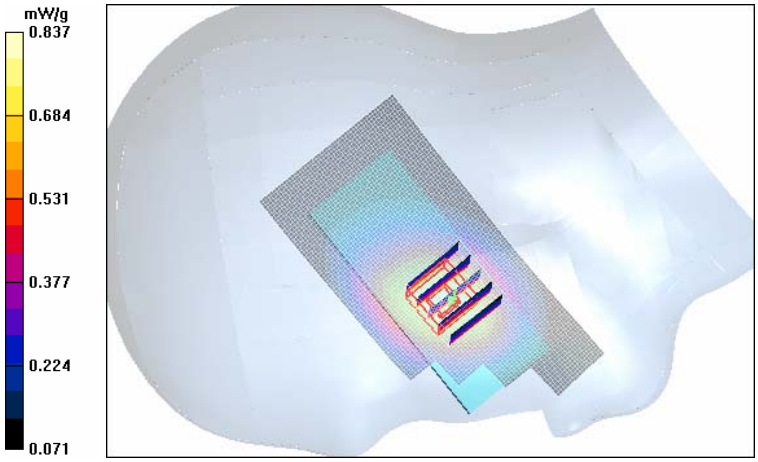
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.914 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.823 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.1 V/m
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.788 mW/g
SAR(10 g) = 0.564 mW/g
Power Drift = -0.116 dB
Maximum value of SAR (measured) = 0.837 mW/g



Date/Time: 2007-07-11 11:48:00

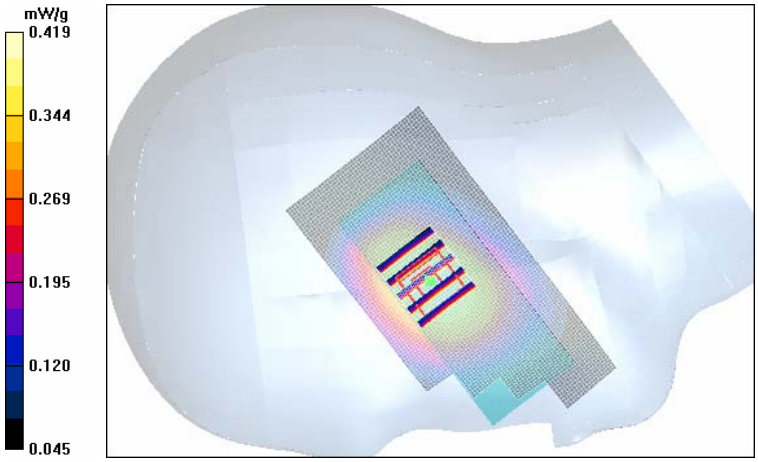
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.914 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.430 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.4 V/m
Peak SAR (extrapolated) = 0.501 W/kg
SAR(1 g) = 0.399 mW/g
SAR(10 g) = 0.299 mW/g
Power Drift = 0.011 dB
Maximum value of SAR (measured) = 0.419 mW/g



Date/Time: 2007-07-20 16:58:39

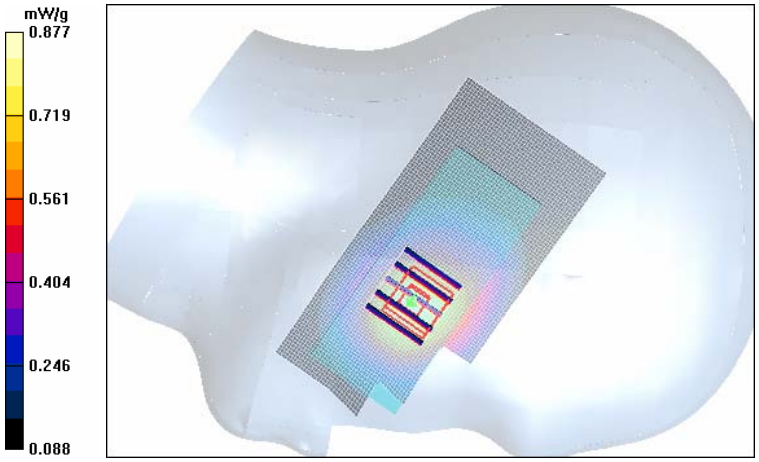
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.879 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.817 mW/g
SAR(10 g) = 0.586 mW/g
Power Drift = 0.014 dB
Maximum value of SAR (measured) = 0.877 mW/g



Date/Time: 2007-07-20 16:43:18

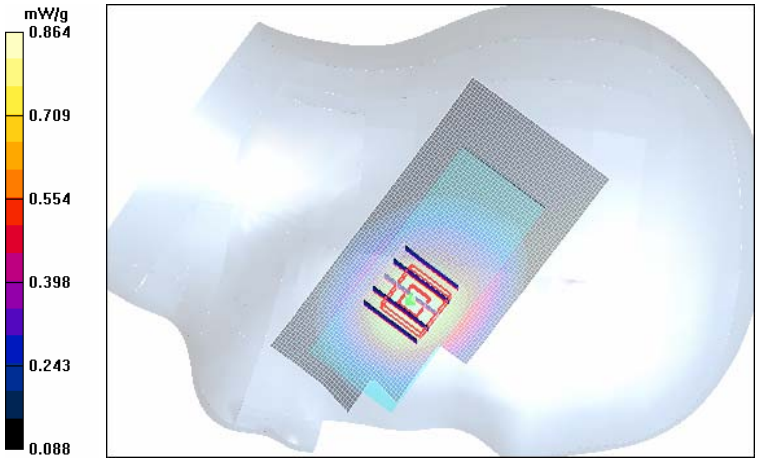
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: 3-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.8
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.869 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.9 V/m
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.801 mW/g
SAR(10 g) = 0.574 mW/g
Power Drift = -0.248 dB
Maximum value of SAR (measured) = 0.864 mW/g



Date/Time: 2007-07-20 17:16:07

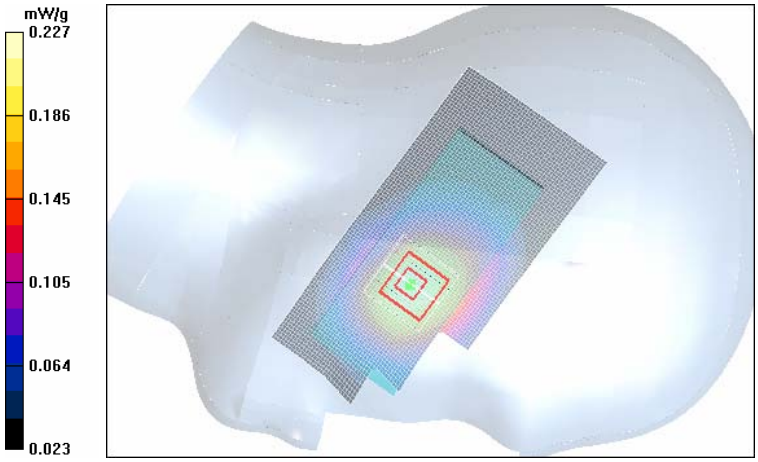
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: 1-slot 8PSK EGPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.224 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.38 V/m
Peak SAR (extrapolated) = 0.287 W/kg
SAR(1 g) = 0.213 mW/g
SAR(10 g) = 0.157 mW/g
Power Drift = 0.111 dB
Maximum value of SAR (measured) = 0.227 mW/g



Date/Time: 2007-07-11 12:42:44

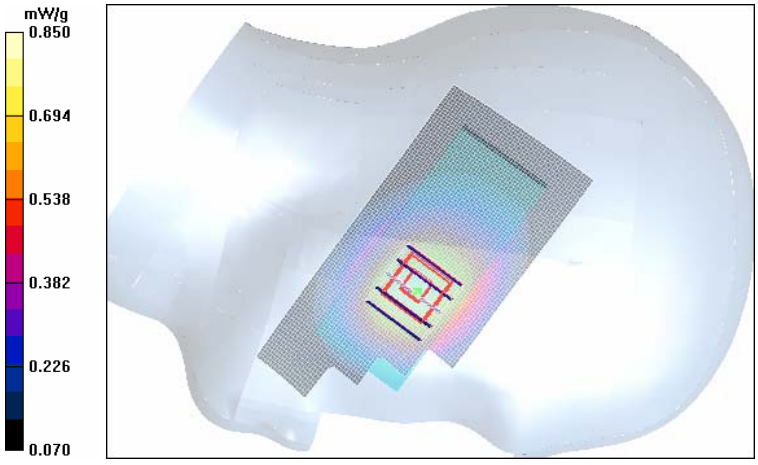
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 837 MHz; σ = 0.914 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle - BT Active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.838 mW/g

Cheek position - Middle - BT Active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.808 mW/g
SAR(10 g) = 0.578 mW/g
Power Drift = 0.011 dB
Maximum value of SAR (measured) = 0.850 mW/g



Date/Time: 2007-07-11 14:47:02

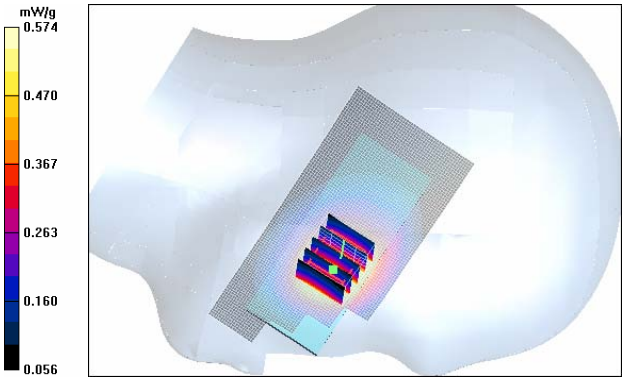
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 847 MHz; σ = 0.923 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.576 mW/g

Cheek position - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.98 V/m
Peak SAR (extrapolated) = 0.714 W/kg
SAR(1 g) = 0.551 mW/g
SAR(10 g) = 0.395 mW/g
Power Drift = 0.080 dB
Maximum value of SAR (measured) = 0.574 mW/g



Date/Time: 2007-07-11 13:40:31

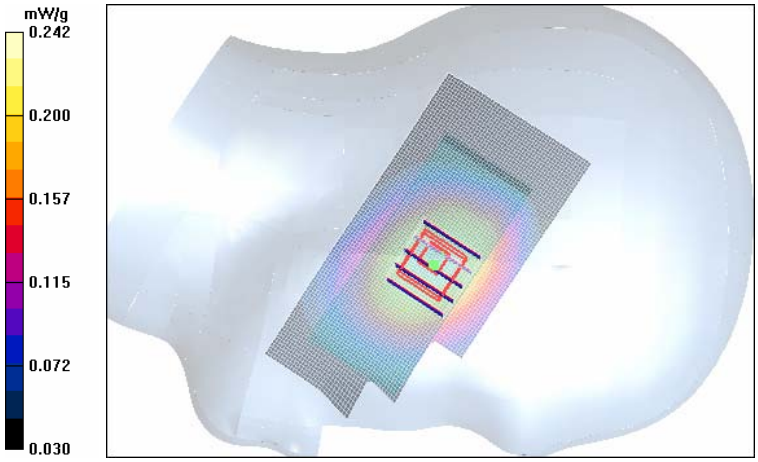
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 835 MHz; σ = 0.911 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.246 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 0.294 W/kg
SAR(1 g) = 0.234 mW/g
SAR(10 g) = 0.176 mW/g
Power Drift = -0.165 dB
Maximum value of SAR (measured) = 0.242 mW/g



Date/Time: 2007-07-11 14:04:56

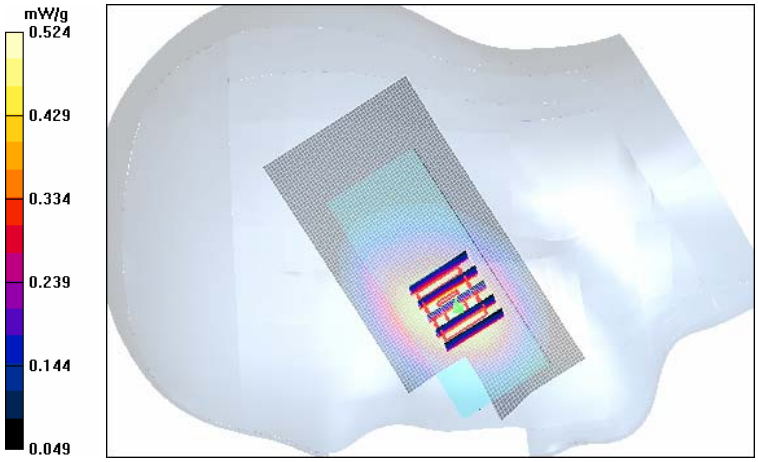
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 835 MHz; σ = 0.911 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.514 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.69 V/m
Peak SAR (extrapolated) = 0.632 W/kg
SAR(1 g) = 0.485 mW/g
SAR(10 g) = 0.345 mW/g
Power Drift = -0.452 dB
Maximum value of SAR (measured) = 0.524 mW/g



Date/Time: 2007-07-11 14:18:47

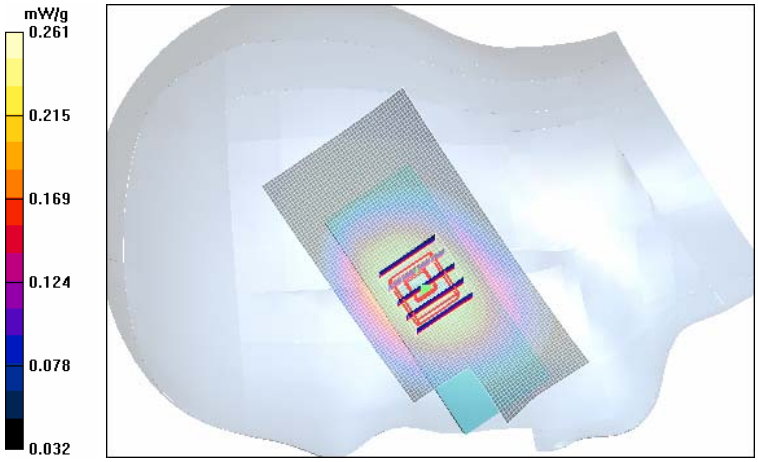
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 835 MHz; σ = 0.911 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.262 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.2 V/m
Peak SAR (extrapolated) = 0.312 W/kg
SAR(1 g) = 0.250 mW/g
SAR(10 g) = 0.188 mW/g
Power Drift = -0.059 dB
Maximum value of SAR (measured) = 0.261 mW/g



Date/Time: 2007-07-11 15:08:59

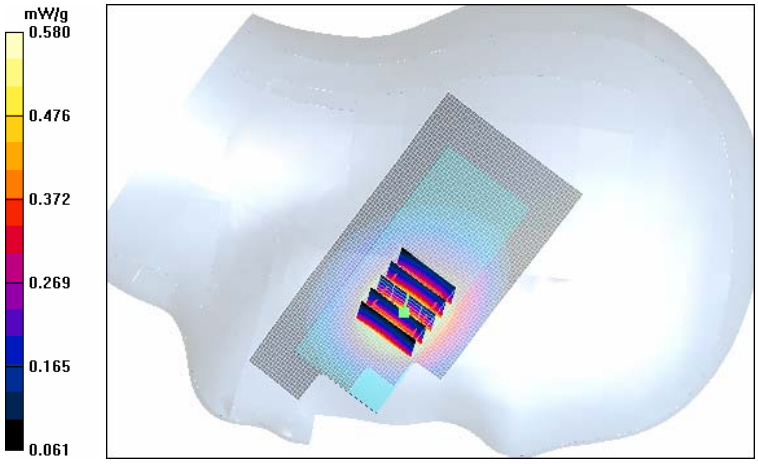
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 20.8 C
Medium parameters used: f = 847 MHz; σ = 0.923 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.78, 5.78, 5.78); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - High - BT active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.587 mW/g

Cheek position - High - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.82 V/m
Peak SAR (extrapolated) = 0.704 W/kg
SAR(1 g) = 0.547 mW/g
SAR(10 g) = 0.395 mW/g
Power Drift = -0.017 dB
Maximum value of SAR (measured) = 0.580 mW/g



Date/Time: 2007-08-02 13:08:41

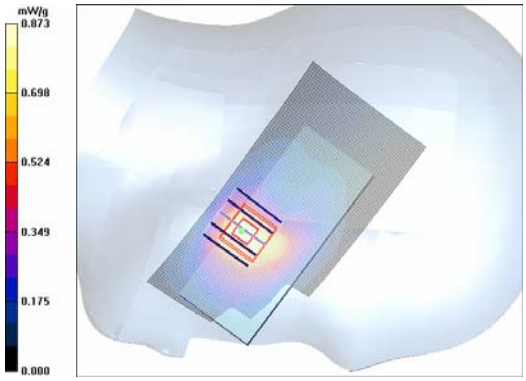
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

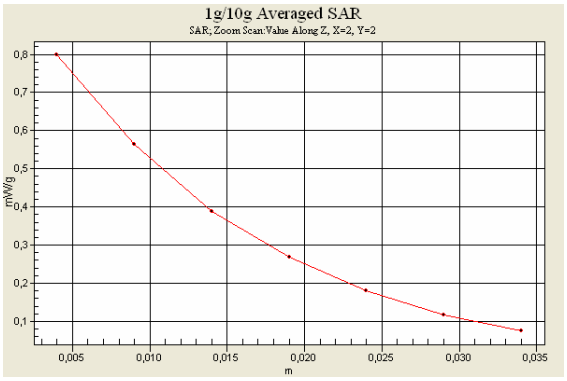
Communication System: GSM 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.873 mW/g

Cheek position - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.28 V/m
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.745 mW/g
SAR(10 g) = 0.483 mW/g
Power Drift = 0.329 dB
Maximum value of SAR (measured) = 0.795 mW/g





Date/Time: 2007-08-02 11:51:10

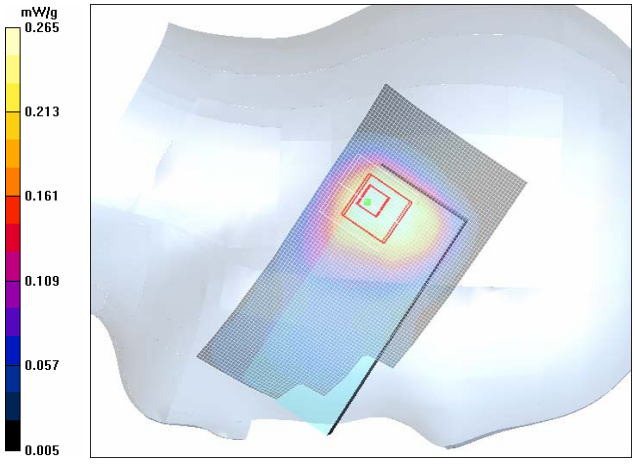
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.289 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m
Peak SAR (extrapolated) = 0.359 W/kg
SAR(1 g) = 0.246 mW/g
SAR(10 g) = 0.161 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) = 0.265 mW/g



Date/Time: 2007-08-02 12:23:25

Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

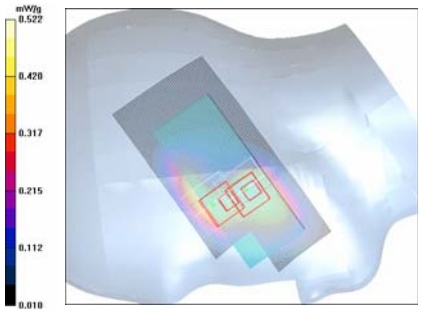
Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.589 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.37 V/m
Peak SAR (extrapolated) = 0.716 W/kg
SAR(1 g) = 0.494 mW/g
SAR(10 g) = 0.317 mW/g
Power Drift = 0.298 dB
Maximum value of SAR (measured) = 0.522 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.37 V/m
Peak SAR (extrapolated) = 0.669 W/kg
SAR(1 g) = 0.430 mW/g
SAR(10 g) = 0.278 mW/g
Power Drift = 0.298 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. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.462 mW/g



Date/Time: 2007-08-02 12:48:28

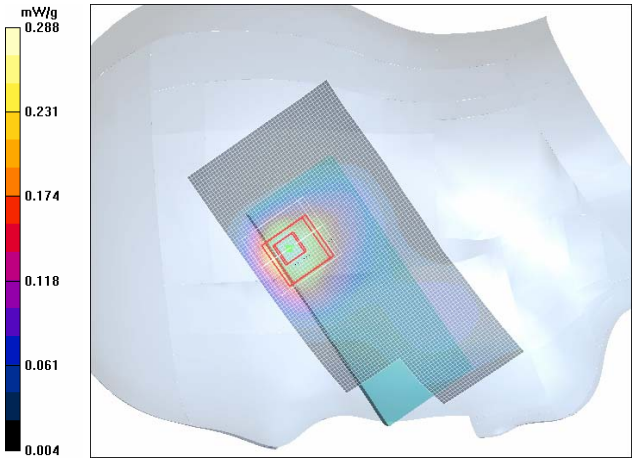
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: GSM 1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.329 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.78 V/m
Peak SAR (extrapolated) = 0.402 W/kg
SAR(1 g) = 0.261 mW/g
SAR(10 g) = 0.156 mW/g
Power Drift = -0.074 dB
Maximum value of SAR (measured) = 0.288 mW/g



Date/Time: 2007-08-02 11:11:25

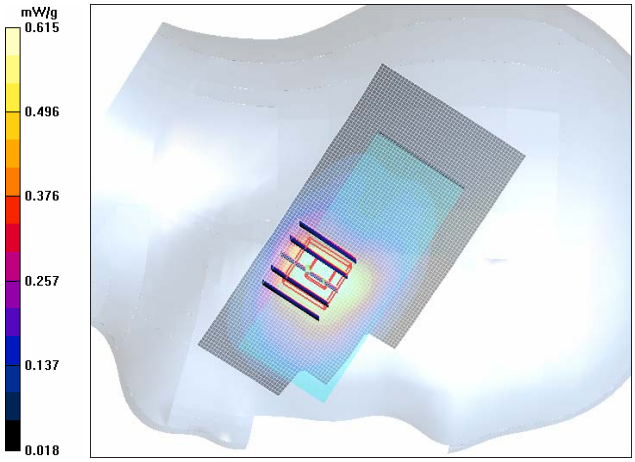
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.672 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.88 V/m
Peak SAR (extrapolated) = 0.810 W/kg
SAR(1 g) = 0.586 mW/g
SAR(10 g) = 0.382 mW/g
Power Drift = -0.138 dB
Maximum value of SAR (measured) = 0.615 mW/g



Date/Time: 2007-08-02 11:36:51

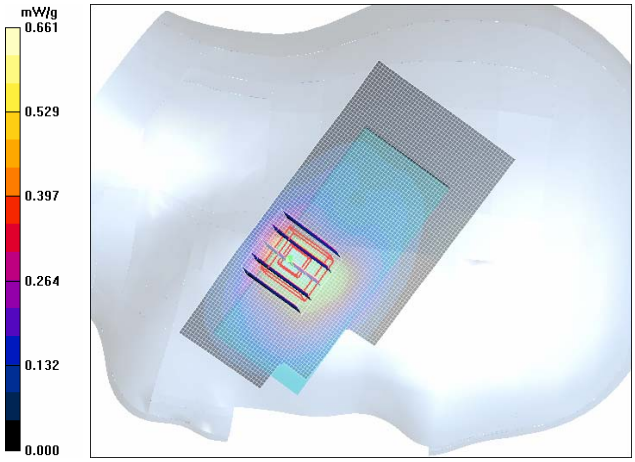
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: 3-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:2.8
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.661 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.69 V/m
Peak SAR (extrapolated) = 0.805 W/kg
SAR(1 g) = 0.554 mW/g
SAR(10 g) = 0.361 mW/g
Power Drift = 0.400 dB
Maximum value of SAR (measured) = 0.595 mW/g



Date/Time: 2007-08-02 15:31:25

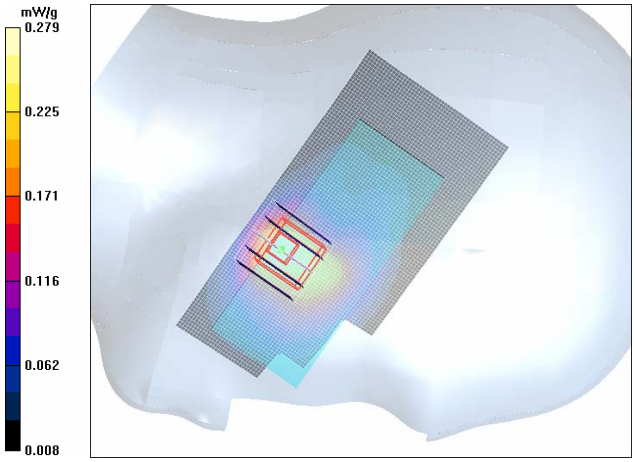
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: 1-slot 8PSK EGPRS 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.299 mW/g

Cheek position - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.95 V/m
Peak SAR (extrapolated) = 0.349 W/kg
SAR(1 g) = 0.254 mW/g
SAR(10 g) = 0.162 mW/g
Power Drift = 0.353 dB
Maximum value of SAR (measured) = 0.279 mW/g



Date/Time: 2007-08-02 14:46:22

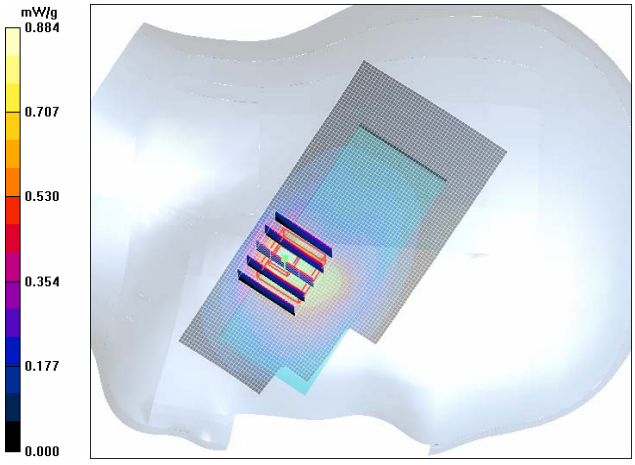
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: GSM 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.02, 5.02, 5.02); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Cheek position - Low - BT Active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.884 mW/g

Cheek position - Low - BT Active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.85 V/m
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.740 mW/g
SAR(10 g) = 0.466 mW/g
Power Drift = 0.032 dB
Maximum value of SAR (measured) = 0.812 mW/g



Date/Time: 2007-07-17 19:20:18

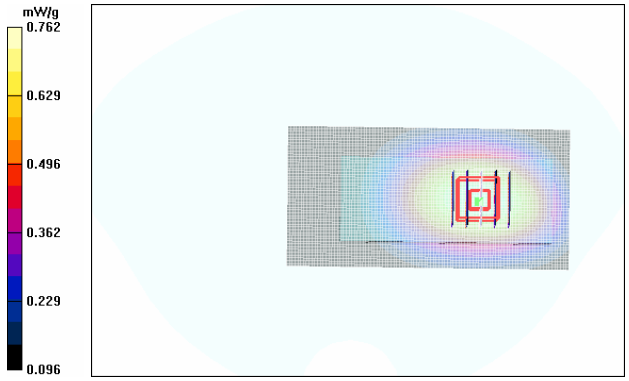
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

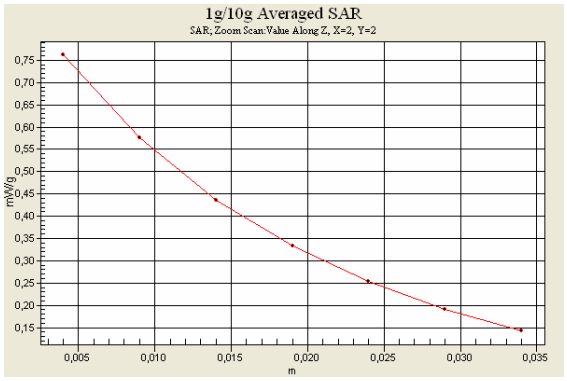
Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850; Medium Notes: Medium Temperature: 21.2 C
Medium parameters used: f = 837 MHz; σ = 0.969 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Middle - No Accessory/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.767 mW/g

Body - Middle - No Accessory/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m
Peak SAR (extrapolated) = 0.940 W/kg
SAR(1 g) = 0.721 mW/g
SAR(10 g) = 0.525 mW/g
Power Drift = -0.077 dB
Maximum value of SAR (measured) = 0.762 mW/g





Date/Time: 2007-07-17 20:06:14

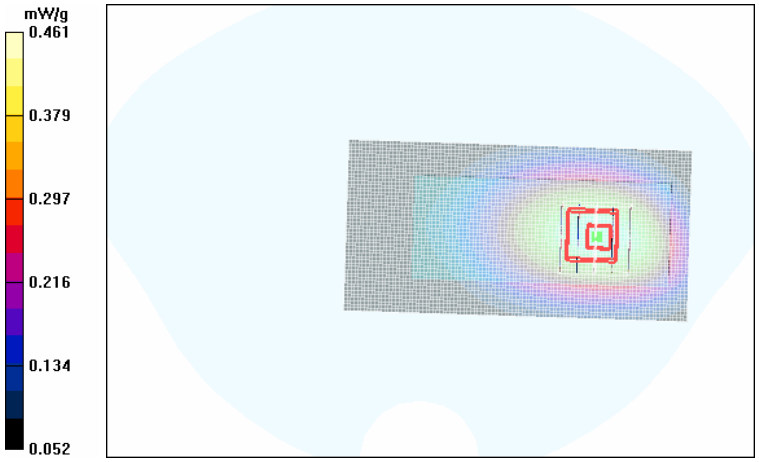
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850; Medium Notes: Medium Temperature: 21.2 C
Medium parameters used: f = 837 MHz; σ = 0.969 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Middle - HS-82/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.465 mW/g

Body - Middle - HS-82/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.25 V/m
Peak SAR (extrapolated) = 0.575 W/kg
SAR(1 g) = 0.437 mW/g
SAR(10 g) = 0.316 mW/g
Power Drift = 0.065 dB
Maximum value of SAR (measured) = 0.461 mW/g



Date/Time: 2007-07-18 09:11:10

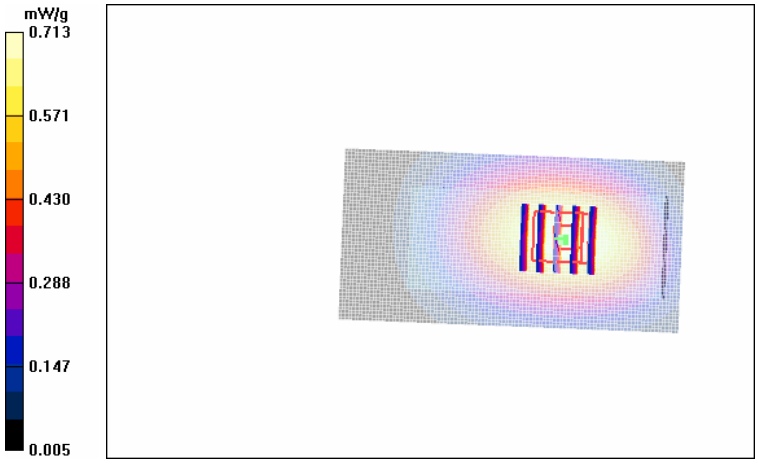
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 837 MHz; σ = 0.963 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Middle - No Accessory - BT Active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.713 mW/g

Body - Middle - No Accessory - BT Active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 0.880 W/kg
SAR(1 g) = 0.667 mW/g
SAR(10 g) = 0.486 mW/g
Power Drift = -0.117 dB
Maximum value of SAR (measured) = 0.699 mW/g



Date/Time: 2007-07-18 10:08:11

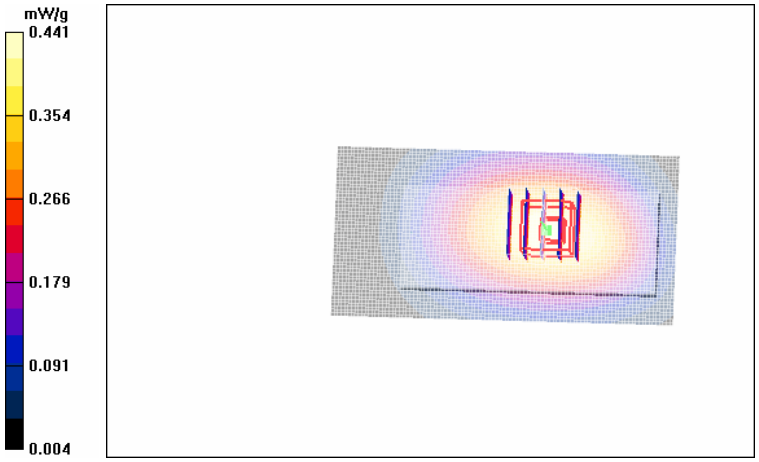
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 847 MHz; σ = 0.973 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - High - No Accessory/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.441 mW/g

Body - High - No Accessory/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.2 V/m
Peak SAR (extrapolated) = 0.555 W/kg
SAR(1 g) = 0.420 mW/g
SAR(10 g) = 0.306 mW/g
Power Drift = 0.102 dB
Maximum value of SAR (measured) = 0.442 mW/g



Date/Time: 2007-07-18 10:26:45

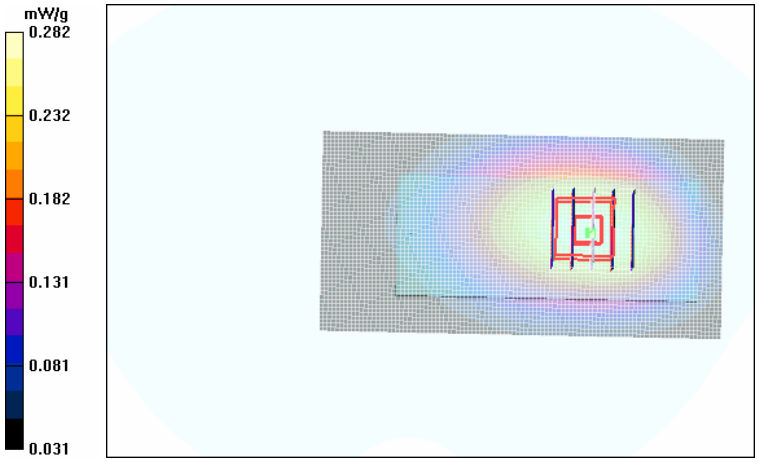
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 847 MHz; σ = 0.973 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - High - HS-82/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.279 mW/g

Body - High - HS-82/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.83 V/m
Peak SAR (extrapolated) = 0.355 W/kg
SAR(1 g) = 0.267 mW/g
SAR(10 g) = 0.193 mW/g
Power Drift = -0.049 dB
Maximum value of SAR (measured) = 0.282 mW/g



Date/Time: 2007-07-18 11:59:47

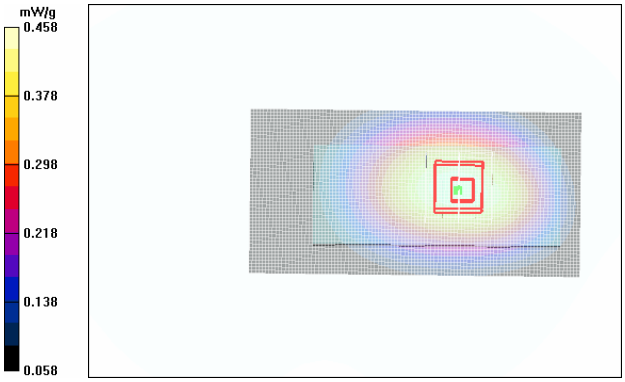
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276336/9

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used: f = 847 MHz; σ = 0.973 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.71, 5.71, 5.71); Calibrated: 2006-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2006-09-08
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - High - No Accessory - BT active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.459 mW/g

Body - High - No Accessory - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.5 V/m
Peak SAR (extrapolated) = 0.565 W/kg
SAR(1 g) = 0.435 mW/g
SAR(10 g) = 0.318 mW/g
Power Drift = -0.083 dB
Maximum value of SAR (measured) = 0.458 mW/g



Date/Time: 2007-08-02 16:59:17

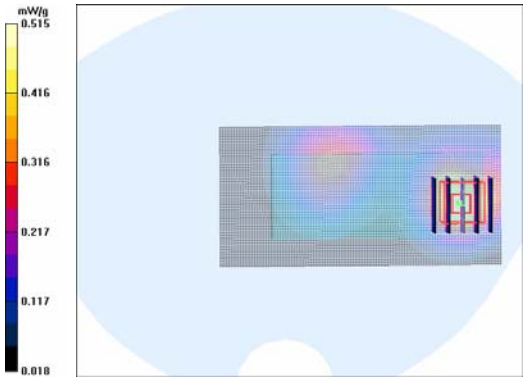
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

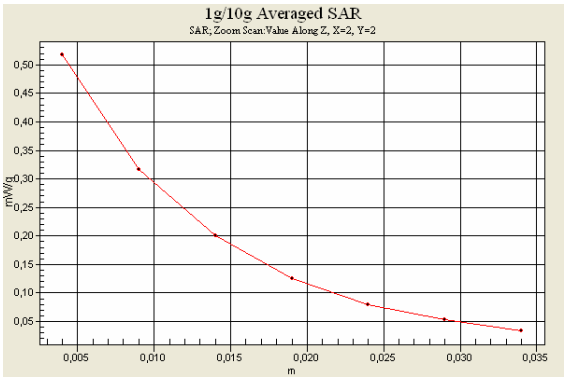
Communication System: GSM 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.66, 4.66, 4.66); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Low - No Accessory/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.519 mW/g

Body - Low - No Accessory/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.49 V/m
Peak SAR (extrapolated) = 0.784 W/kg
SAR(1 g) = 0.468 mW/g
SAR(10 g) = 0.274 mW/g
Power Drift = 0.014 dB
Maximum value of SAR (measured) = 0.515 mW/g





Date/Time: 2007-08-02 17:35:31

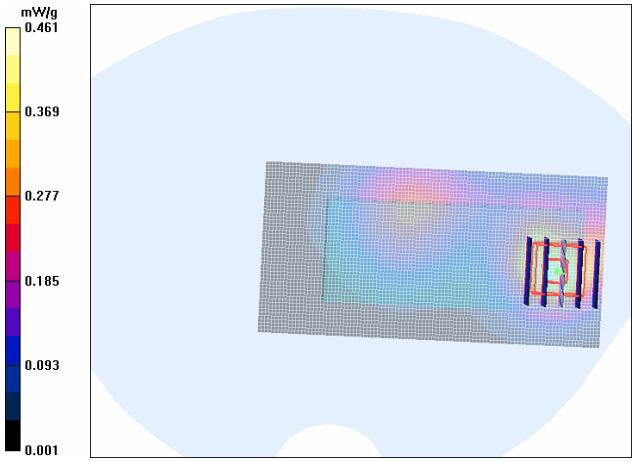
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: GSM 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.66, 4.66, 4.66); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Low - HS-82/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.461 mW/g

Body - Low - HS-82/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.10 V/m
Peak SAR (extrapolated) = 0.695 W/kg
SAR(1 g) = 0.415 mW/g
SAR(10 g) = 0.244 mW/g
Power Drift = -0.322 dB
Maximum value of SAR (measured) = 0.453 mW/g



Date/Time: 2007-08-02 18:13:40

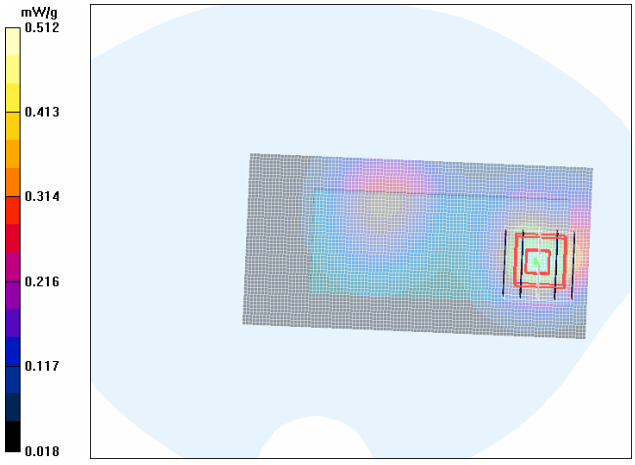
Test Laboratory: TCC Nokia
Type: RM-264; Serial: 004401/01/276285/8

Communication System: GSM 1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.66, 4.66, 4.66); Calibrated: 2006-08-18
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2006-08-09
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Body - Low - No Accessory - BT active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.516 mW/g

Body - Low - No Accessory - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.37 V/m
Peak SAR (extrapolated) = 0.770 W/kg
SAR(1 g) = 0.463 mW/g
SAR(10 g) = 0.271 mW/g
Power Drift = -0.039 dB
Maximum value of SAR (measured) = 0.512 mW/g



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

See the following pages.

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

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

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

Accreditation No.: SCS 108

Client **Nokia DK TCC**

Certificate No: ES3-3116_Aug06

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3116
Calibration procedure(s)	QA CAL-01.v5 Calibration procedure for dosimetric E-field probes
Calibration date:	August 18, 2006
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

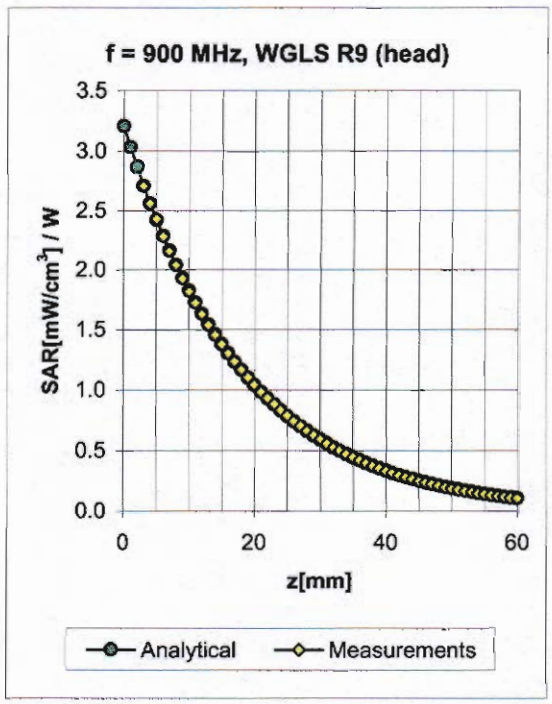
Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-06 (METAS, No. 217-00592)	Aug-07
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-06 (METAS, No. 217-00593)	Aug-07
Reference Probe ES3DV2	SN: 3013	2-Jan-06 (SPEAG, No. ES3-3013_Jan06)	Jan-07
DAE4	SN: 654	21-Jun-06 (SPEAG, No. DAE4-654_Jun06)	Jun-07

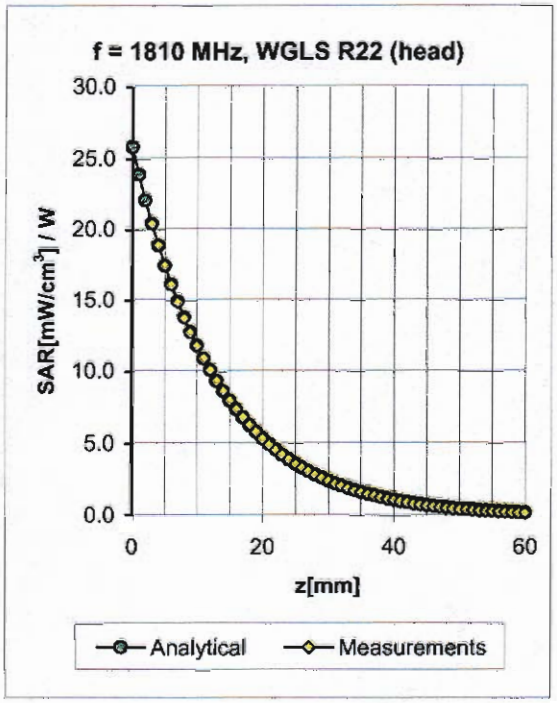
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov 06

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: August 30, 2006

Conversion Factor Assessment





f [MHz]	Validity [MHz][c]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.48	1.48	5.78 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.99	1.10	5.09 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.60	1.35	4.78 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.95	1.15	4.43 ± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.80	1.32	5.70 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.50	1.53	4.66 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.93	1.21	4.51 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.89	1.13	4.20 ± 11.8% (k=2)

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

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

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

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

Accreditation No.: SCS 108

Client Nokia DK TCC

Certificate No: ES3-3117_Aug06

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3117
Calibration procedure(s)	QA CAL-01.v5 Calibration procedure for dosimetric E-field probes
Calibration date:	August 29, 2006
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

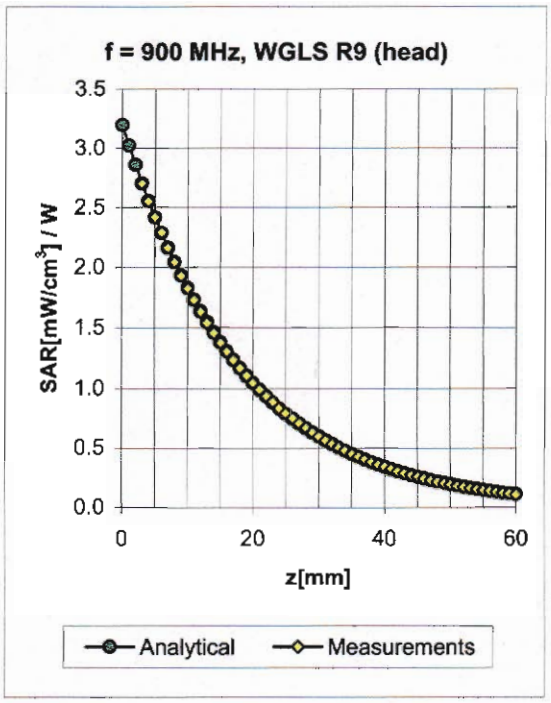
Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-06 (METAS, No. 217-00592)	Aug-07
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-06 (METAS, No. 217-00593)	Aug-07
Reference Probe ES3DV2	SN: 3013	2-Jan-06 (SPEAG, No. ES3-3013_Jan06)	Jan-07
DAE4	SN: 654	21-Jun-06 (SPEAG, No. DAE4-654_Jun06)	Jun-07

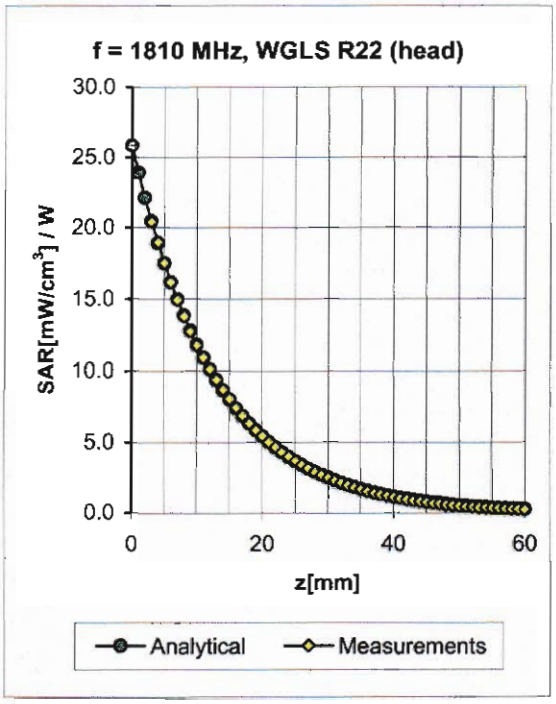
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov 06

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: August 30, 2006

Conversion Factor Assessment





f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.47	1.42	5.95 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.46	1.71	5.02 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.30	1.97	4.76 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.48	1.48	4.37 ± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.64	1.24	5.71 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.35	2.14	4.67 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.82	1.32	4.44 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.99	1.00	4.16 ± 11.8% (k=2)

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

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

See the following pages.

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

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

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

Accreditation No.: SCS 108

Client **Nokia DK R&D**

Certificate No: D835V2-4d042_Sep06

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d042
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	September 19, 2006
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ET3DV6	SN 1507	28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	M. Meili
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 19, 2006

DASY4 Validation Report for Head TSL

Date/Time: 14.08.2006 14:29:57

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d042

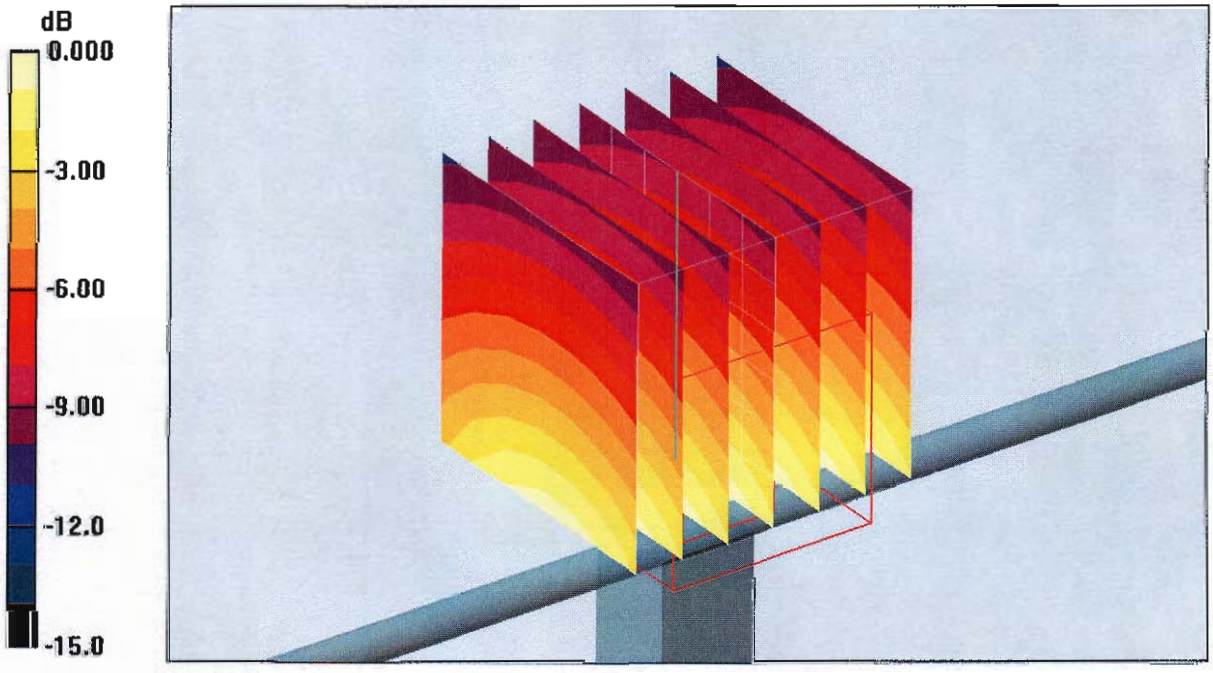
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900;
Medium parameters used: f = 835 MHz; σ = 0.9 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(6.09, 6.09, 6.09); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.3 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 3.46 W/kg
SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.52 mW/g



0 dB = 2.52mW/g

DASY4 Validation Report for Body TSL

Date/Time: 19.09.2006 15:10:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042

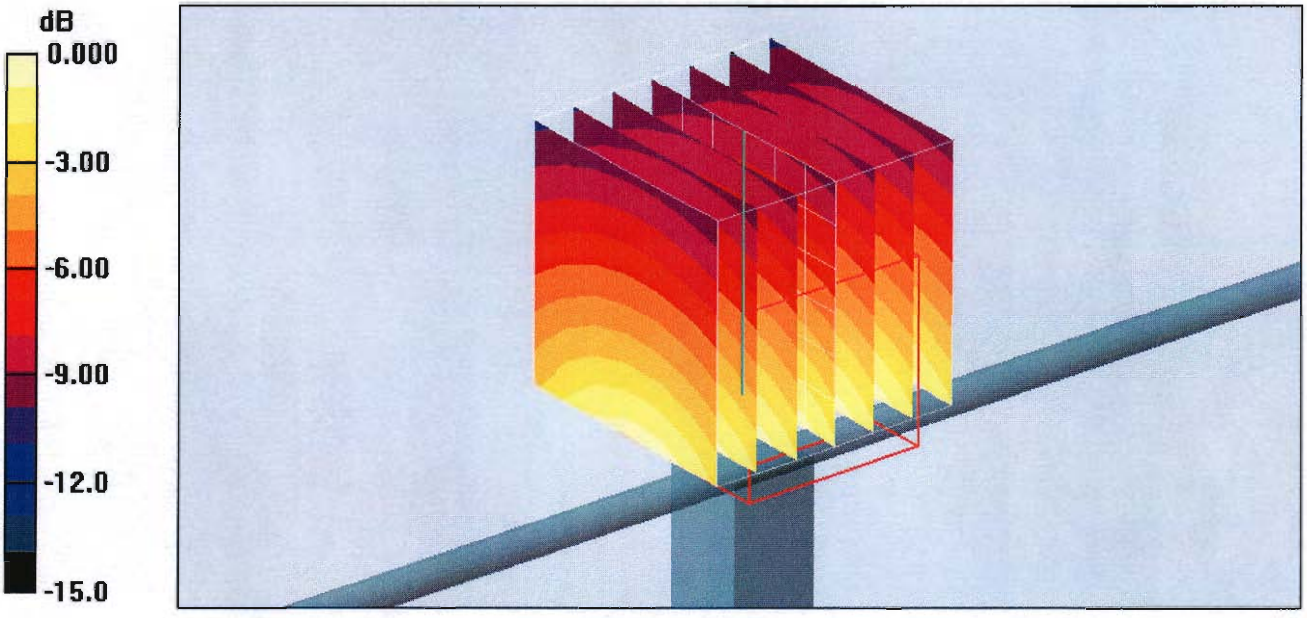
Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL 900;
Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.84, 5.84, 5.84); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.8 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.61 mW/g



0 dB = 2.61mW/g

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

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

Accredited by the Swiss Federal Office of Metrology and Accreditation
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Accreditation No.: SCS 108

Client Nokia Denmark A/S

Certificate No: D1900V2-5d026_Feb06/2

CALIBRATION CERTIFICATE (Replacement of No: D1900V2-5d026_Feb06)

Object	D1900V2 - SN: 5d026
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	February 21, 2006
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference 10 dB Attenuator	SN: 5047.2 (10r)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference Probe ET3DV6	SN 1507	28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	M. Meili
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 9, 2006

DASY4 Validation Report for Head TSL

Date/Time: 21.02.2006 13:52:34

Test Laboratory: SPEAG, Zurich, Switzerland

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

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

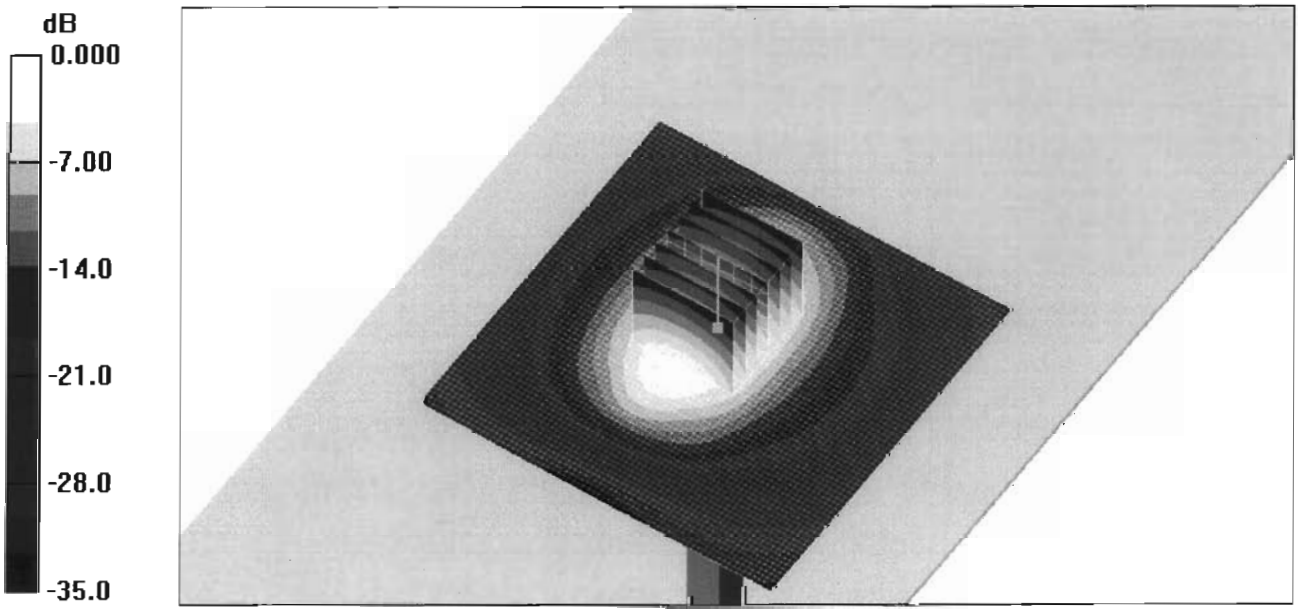
- Probe: ET3DV6 - SN1507 (HF); ConvF(4.74, 4.74, 4.74); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA
- Measurement SW: DASY4, V4.6 Build 57; Postprocessing SW: SEMCAD, V1.8 Build 160

Pin = 250 mW; d = 10 mm/Area Scan (71x71x1):

Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.1 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.2 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.83 mW/g; SAR(10 g) = 5.2 mW/g
Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

DASY4 Validation Report for Body TSL

Date/Time: 21.02.2006 15:46:28

Test Laboratory: SPEAG, Zurich, Switzerland

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

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U10;
Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 54.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

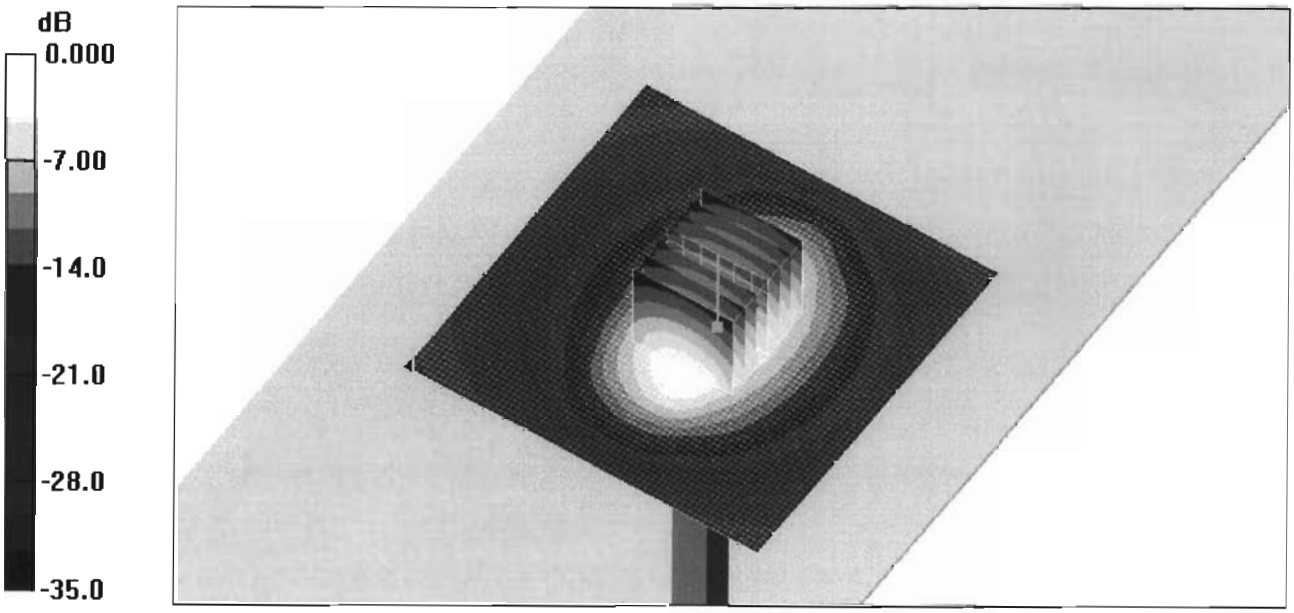
- Probe: ET3DV6 - SN1507 (HF); ConvF(4.3, 4.3, 4.3); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA
- Measurement SW: DASY4, V4.6 Build 57; Postprocessing SW: SEMCAD, V1.8 Build 160

Pin = 250 mW; d = 10 mm/Area Scan (71x71x1):

Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.1 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan 2 (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.1 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 10 mW/g; SAR(10 g) = 5.38 mW/g
Maximum value of SAR (measured) = 11.5 mW/g



0 dB = 11.5mW/g