TCC
Beijing

T207 (EN ISO/IEC 17025)

SAR Compliance Test Report

Test report no.:	TCC0342	**Date of report:**	2004-06-21
Template version:	2	**Number of pages:**	38
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Responsible test engineer:	Gao Min-Judy	**Product contact person:**	Thomas Reitmayer
Measurements made by:	Gao Min-Judy		
Tested device:	RH-50		
FCC ID:	PPIRH-50	**IC:**	661U-RH50
Supplement reports:	-		

Testing has been carried out in accordance with:

47CFR §2.1093
Radiofrequency Radiation Exposure Evaluation: Portable Devices

FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)
Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

RSS-102
Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields

IEEE 1528 - 2003
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

Documentation: The documentation of the testing performed on the tested devices is archived for 15 years at TCC Beijing.

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: **2004-06-30**

For the contents:

Gao Min

Gao Min
Test Engineer

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2004-05-26 to 2004-06-16
SN, HW and SW numbers of tested device	SN: 352509001723125 DUT: 0790 HW: 0774; SW: 4.03
Batteries used in testing	BL-5C
Headsets used in testing	HS-1C
Other accessories used in testing	-
State of sample	Prototype
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 limits.

1.2.1 Head Configuration

Mode	Ch / *f* (MHz)	ERP/EIRP	Position	SAR limit (1g avg)	Measured SAR value (1g avg)	Result
GSM850	190/836MHz	25.2dBm	Right, Cheek	1.6 W/kg	1.17 W/kg	PASSED
GSM1900	810/1910MHz	30.2dBm	Right, Cheek	1.6 W/kg	0.63 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / *f* (MHz)	ERP/EIRP	Separation distance	SAR limit (1g avg)	Measured SAR value (1g avg)	Result
GPRS850 2-slots without headset	190/836MHz	25.2dBm	2.2cm	1.6 W/kg	1.06 W/kg	PASSED
GPRS850 2-slots without headset	128/824MHz	25.1dBm	2.2cm	1.6 W/kg	1.06 W/kg	PASSED
GPRS1900 2-slots with headset HS-1C	810/1910MHz	30.2dBm	2.2cm	1.6 W/kg	0.45 W/kg	PASSED

1.2.3 Maximum Drift

Maximum drift during measurements	-0.24dB

1.2.4 Measurement Uncertainty

Extended Uncertainty (k=2) 95%	± 29.1 %

2. DESCRIPTION OF THE DEVICE UNDER TEST

Modes and Bands of Operation	GSM850	GSM1900	GPRS (GSM)	GPRS (GSM)
Modulation Mode	GMSK	GMSK	GMSK	GMSK
Duty Cycle	1/8	1/8	1/8 or 2/8	1/8 or 2/8
Transmitter Frequency Range (MHz)	824.2 – 848.8	1850.2 - 1909.8	824.2 – 848.8	1850.2 - 1909.8

Outside of USA and Canada, the transmitter of the device is capable of operating also in GSM1800, which is not part of this filing.

2.1 Picture of the Device

2.2 Description of the Antenna

The device has an internal antenna.

3. TEST CONDITIONS

3.1 Temperature and Humidity

Period of measurement:	2004-05-26 to 2004-06-16
Ambient temperature (°C):	23.8 to 26.1
Ambient humidity (RH %):	18% to 41%

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 power output was measured by a separate test laboratory on the same unit 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, DASY 3 software version d, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements on the device was the 'worst-case extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE3	480	12 months	10/2004
E-field Probe ET3DV6	1650	12 months	03/2005
Diploe validationkit, D900v2(body)	136	24 months	03/2006
Dipole validationKit, D900V2(head)	136	24 months	10/2005
Dipole Validationkit , D1800V2(head)	2d021	24 months	10/2005
Dipole Validationkit , D1800V2(body)	2d021	24 months	03/2006

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	Agilent 8648C	3847m00258	12months	12/2004
Amplifier	AR 5S1G4M3	302339	12months	12/2004
Power Meter	Agilent E4419B	MY41291520	12months	12/2004
Power Sensor	Agilent 8482A	US37295411	12months	12/2004
Call Tester	CMU200	835353/008	12months	07/2004
Vector Network Analyzer	Agilent 8753S	My40002096	12months	07/2004
Dielectric Probe Kit	Agilent 85070C	01033717	-	-

4.1.1 Isotropic E-field Probe: SN1650

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 μW/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 validation testing and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2003.

Validation tests were 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 Simulating Liquids

Recommended values for the dielectric parameters of the simulating liquids are given in IEEE 1528 - 2003 and FCC Supplement C to OET Bulletin 65. All tests were carried out using liquids 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 liquid was 15.0 ± 0.5 cm measured from the ear reference point during validation and device measurements.

4.3.1 Liquid Recipes

The following recipes were used for Head and Body liquids:

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 Verification of the System

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

System verification, head tissue stimulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
900	Reference result ± 10% window	2.59 2.33 to 2.85	42.3	0.96	N/A
	2004-06-14	2.71	41.3	0.97	22.5
1800	Reference result ± 10% window	9.52 8.57 to 10.47	41.0	1.38	N/A
	2004-06-15	9.10	39.2	1.35	22.9

System verification, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
900	Reference result ± 10% window	2.74 2.47 to 3.01	55.0	1.05	N/A
	2004-06-16	2.66	54.9	1.00	22.7
1800	Reference result ± 10% window	9.54 8.59 to 10.49	53.0	1.49	N/A
	2004-05-27	9.65	53.0	1.48	23.4
	2004-05-26	9.74	53.6	1.50	22.8

Plots of the Verification scans are given in Appendix A.

4.3.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
836	Recommended value ± 5% window	41.5 39.4 – 43.6	0.90 0.86 – 0.95	N/A
	2004-06-14	42.0	0.91	22.5
1880	Recommended value ± 5% window	40.0 38.0 – 42.0	1.40 1.33 – 1.47	N/A
	2004-06-15	39.0	1.33	23.1

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
836	Recommended value ± 5% window	55.2 52.4 – 58.0	0.97 0.92 – 1.02	N/A
	2004-06-16	55.6	0.93	23.4
1880	Recommended value ± 5% window	53.3 50.6 – 56.0	1.52 1.44 – 1.60	N/A
	2004-05-27	52.7	1.57	23.7
	2004-05-26	53.3	1.59	22.9

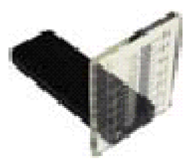
5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

A Nokia designed spacer (illustrated below) was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.



Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2003 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”.

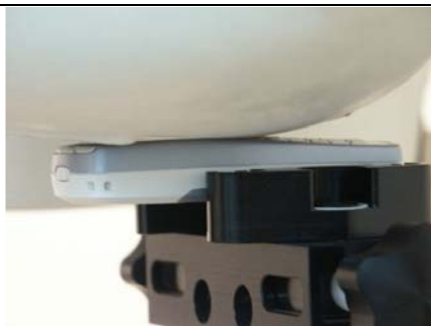


Photo of the device in "cheek" position

Photo of the device in "tilt" position

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in the photo below using a separate flat spacer that was removed before the start of the measurements. The device was oriented with its antenna facing the phantom since this orientation gave higher results.

Photo of the device positioned for Body SAR measurement.

The spacer was removed for the tests.

5.3 Scan Procedures

First coarse scans were used for determination of the field distribution. Next a cube scan, 5x5x7 or 7x7x7 points covering a volume of 32x32x30mm or 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 coarse scan and again at the end of the cube scan.

5.4 SAR Averaging Methods

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

The interpolation of the points was done with a 3d-Spline. The 3d-Spline comprised three one-dimensional splines with the "Not a knot" -condition [W. Gander, Computermathematik, p. 141-150] (x, y and z -directions) [Numerical Recipes in C, Second Edition, p 123].

The extrapolation was based on least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 30 mm in all z-axis, a fourth order polynomial was calculated. This polynomial was then used to evaluate the points between the phantom surface and the probe tip. The points, calculated from the phantom surface, were at 1mm spacing.

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	±4.8	N	1	1	±4.8	∞
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	±8.3	R	√3	1	±4.8	∞
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	E5.2	±3.9	R	√3	1	±2.3	∞
Test sample Related							
Test Sample Positioning	E4.2.1	±6.0	N	1	1	±6.0	11
Device Holder Uncertainty	E4.1.1	±5.0	N	1	1	±5.0	7
Output Power Variation - SAR drift measurement	6.6.3	±10.0	R	√3	1	±5.8	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±4.0	R	√3	1	±2.3	∞
Liquid Conductivity Target - tolerance	E3.2	±5.0	R	√3	0.64	±1.8	∞
Liquid Conductivity - measurement uncertainty	E3.3	±5.5	N	1	0.64	±3.5	5
Liquid Permittivity Target tolerance	E3.2	±5.0	R	√3	0.6	±1.7	∞
Liquid Permittivity - measurement uncertainty	E3.3	±2.9	N	1	0.6	±1.7	5
Combined Standard Uncertainty			RSS			±14.5	187
Coverage Factor for 95%			k=2				
Expanded Standard Uncertainty						±29.1	

7. RESULTS

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

GSM850 Head SAR results

Position		SAR, averaged over 1g (W/kg)		
		Ch 128 824MHz	Ch 190 836MHz	Ch 251 849 MHz
Power level		25.1dBm	25.2dBm	25.0dBm
Left	Cheek	1.15	1.16	1.15
	Tilt		0.64	
Right	Cheek	1.10	**1.17**	1.10
	Tilt		0.65	

GSM1900 Head SAR results

Position		SAR, averaged over 1g (W/kg)		
		Ch 512 1850MHz	Ch 661 1880MHz	Ch 810 1910MHz
Power level		30.3dBm	30.2dBm	30.2dBm
Left	Cheek		0.38	
	Tilt		0.39	
Right	Cheek	0.54	0.60	**0.63**
	Tilt		0.57	

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

GPRS850 Body SAR results

Body-worn location setup	SAR, averaged over 1g (W/kg)		
	Ch 128 824 MHz	Ch 190 836MHz	Ch 251 849 MHz
Power level	25.1dBm	25.2dBm	25.0dBm
Without headset	**1.06**	**1.06**	0.95
With Headset HS-1C	0.65	0.60	0.64

GPRS1900 Body SAR results

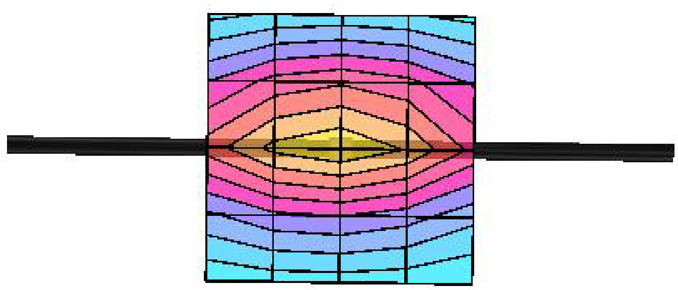
Body-worn location setup	SAR, averaged over 1g (W/kg)		
	Ch 512 1850MHz	Ch 661 1880MHz	Ch 810 1910MHz
Power level	30.3dBm	30.2dBm	30.2dBm
Without headset	0.36	0.39	0.42
With Headset HS-1C	0.42	0.44	**0.45**

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: VALIDATION SCANS

2004-06-14, Head 900MHz Validation

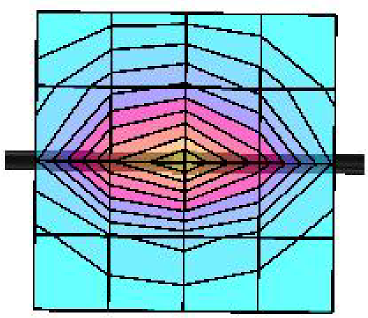
Dipole 900 MHz
SAM 1; Flat
Probe: ET3DV6 - SN1650; ConvF(6.53,6.53,6.53); Crest factor: 1.0; Head 900 MHz: σ = 0.97 mho/m ε_r = 41.3 ρ = 1.00 g/cm^3
Cubes (2): Peak: 4.11 mW/g ± 0.08 dB, SAR (1g): 2.71 mW/g ± 0.10 dB, SAR (10g): 1.74 mW/g ± 0.11 dB, (Advanced extrapolation)
Penetration depth: 12.2 (11.8, 12.9) [mm]
Powerdrift: -0.04 dB



2004-06-15, Head 1800MHz Validation

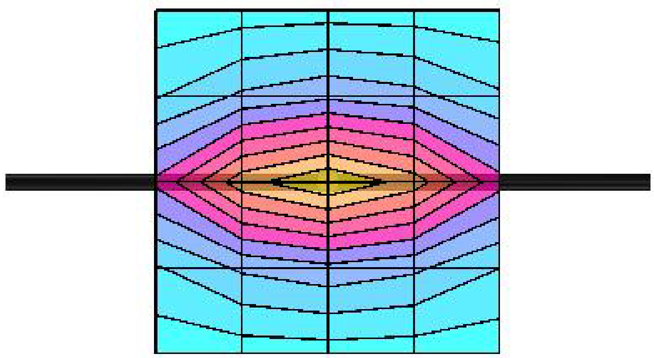
Dipole 1800 MHz

SAM 1 Phantom; Flat Section; Position: (90°,90°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1650; ConvF(5.36,5.36,5.36); Crest factor: 1.0; Head 1800 MHz: σ = 1.35 mho/m ε_r = 39.2 ρ = 1.00 g/cm^3
Cubes (2): SAR (1g): 9.10 mW/g ± 0.08 dB, SAR (10g): 4.84 mW/g ± 0.11 dB, (Advanced extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.02 dB



2004-06-16, Body 900MHz Validation

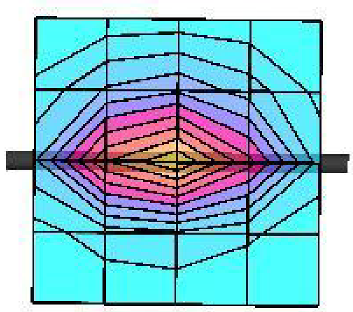
Dipole 900 MHz
SAM 2; Flat
Probe: ET3DV6 - SN1650; ConvF(6.23,6.23,6.23); Crest factor: 1.0; Body900MHz: σ = 1.00 mho/m ϵ_r = 54.9 ρ = 1.00 g/cm^3
Cubes (2): Peak: 3.92 mW/g ± 0.12 dB, SAR (1g): 2.66 mW/g ± 0.12 dB, SAR (10g): 1.74 mW/g ± 0.12 dB, (Advanced extrapolation)
Penetration depth: 13.3 (12.9, 13.8) [mm]
Powerdrift: 0.00 dB



2004-05-27, Body 1800MHz Validation

Dipole 1800 MHz

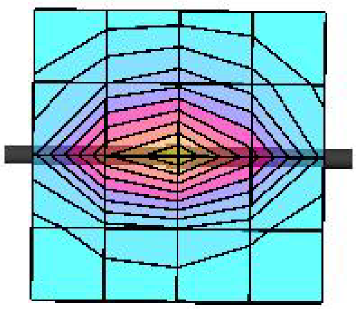
SAM 1; Flat
Probe: ET3DV6 - SN1650; ConvF(4.73,4.73,4.73); Crest factor: 1.0; Body1800MHz: σ = 1.48 mho/m ε_r = 53.0 ρ = 1.00 g/cm^3
Cubes (2): Peak: 16.4 mW/g ± 0.11 dB, SAR (1g): 9.65 mW/g ± 0.11 dB, SAR (10g): 5.22 mW/g ± 0.11 dB, (Advanced extrapolation)
Penetration depth: 9.9 (9.7, 10.2) [mm]
Powerdrift: 0.02 dB



2004-05-26, Body 1800MHz Validation

Dipole 1800 MHz

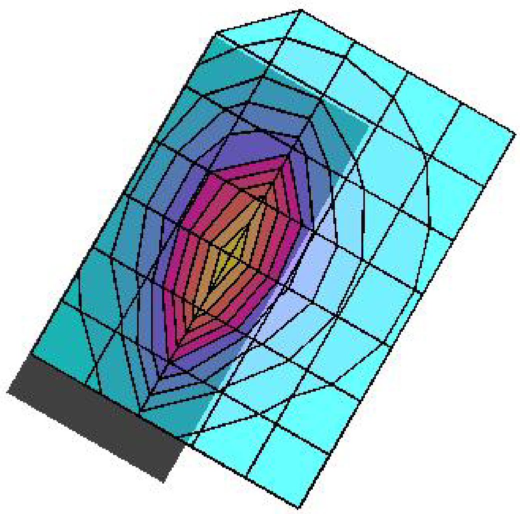
SAM 1 Phantom; Flat Section; Position: (90°,90°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1650; ConvF(4.73,4.73,4.73); Crest factor: 1.0; Body1800MHz: σ = 1.50 mho/m ε_r = 53.6 ρ = 1.00 g/cm^3
Cubes (2): SAR (1g): 9.74 mW/g ± 0.08 dB, SAR (10g): 5.24 mW/g ± 0.11 dB, (Advanced extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB



APPENDIX B: MEASUREMENT SCANS

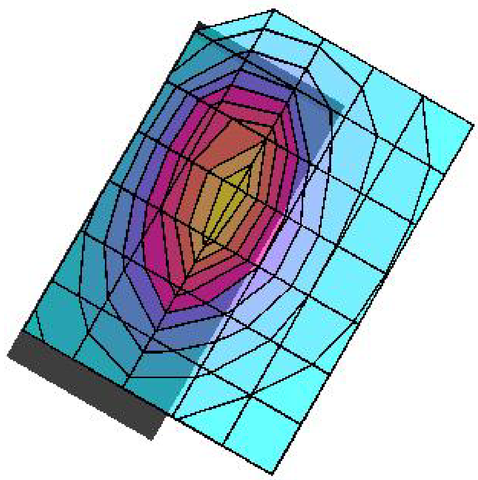
2004-06-14, GSM850 Head 836MHz, Left Cheek

SAM 1 Phantom; Left Hand Section; Position: (90°,60°); Frequency: 836 MHz
Probe: ET3DV6 - SN1650; ConvF(6.53,6.53,6.53); Crest factor: 8.0; Head850MHz: σ = 0.91 mho/m ε_r = 42.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.16 mW/g, SAR (10g): 0.717 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB



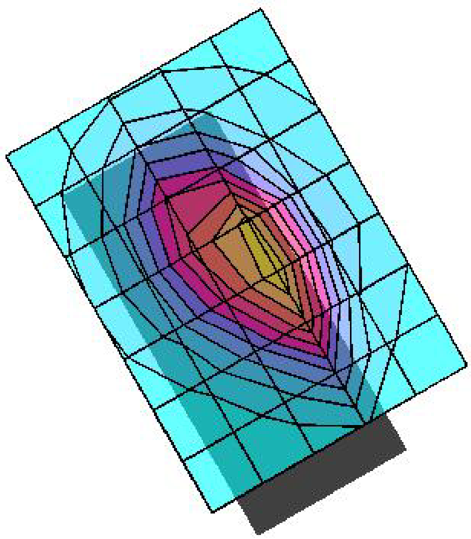
2004-06-14, GSM850 Head 836MHz, Left Tilt

SAM 1 Phantom; Left Hand Section; Position: (105°,60°); Frequency: 836 MHz
Probe: ET3DV6 - SN1650; ConvF(6.53,6.53,6.53); Crest factor: 8.0; Head850MHz: σ = 0.91 mho/m ε_r = 42.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.643 mW/g, SAR (10g): 0.409 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.04 dB



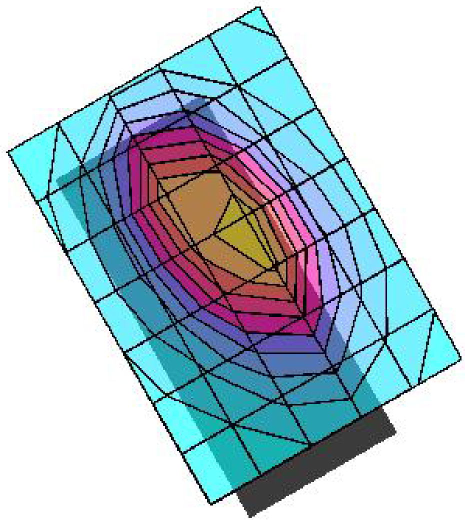
2004-06-14, GSM850 Head 836MHz, Right Cheek

SAM 1 Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 836 MHz
Probe: ET3DV6 - SN1650; ConvF(6.53,6.53,6.53); Crest factor: 8.0; Head850MHz: σ = 0.91 mho/m ε_r = 42.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.17 mW/g, SAR (10g): 0.715 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.08 dB



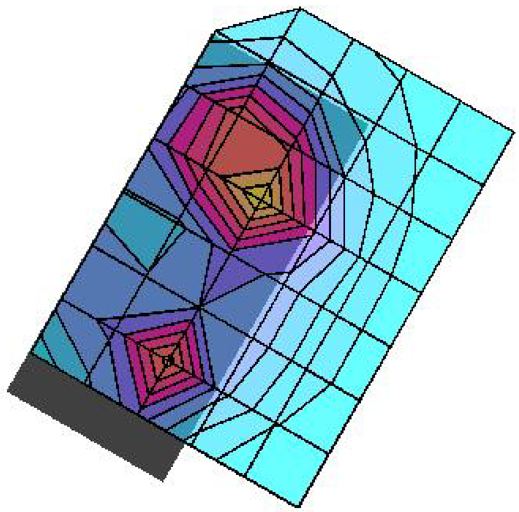
2004-06-14, GSM850 Head 836MHz, Right Tilt

SAM 1 Phantom; Righ Hand Section; Position: (105°,300°); Frequency: 836 MHz
Probe: ET3DV6 - SN1650; ConvF(6.53,6.53,6.53); Crest factor: 8.0; Head 850MHz: σ = 0.91 mho/m ϵ_r = 42.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.648 mW/g, SAR (10g): 0.406 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.02 dB



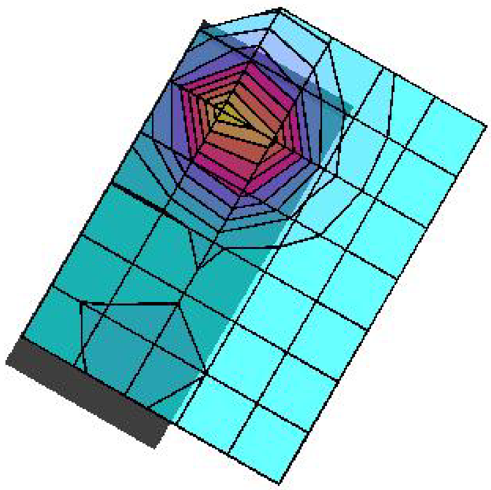
2004-06-15, GSM1900 Head 1880MHz, Left Cheek

SAM 1 Phantom; Left Hand Section; Position: (90°,60°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1650; ConvF(5.36,5.36,5.36); Crest factor: 8.0; Head 1900 MHz: σ = 1.33 mho/m ε_r = 39.0 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.382 mW/g, SAR (10g): 0.214 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.02 dB



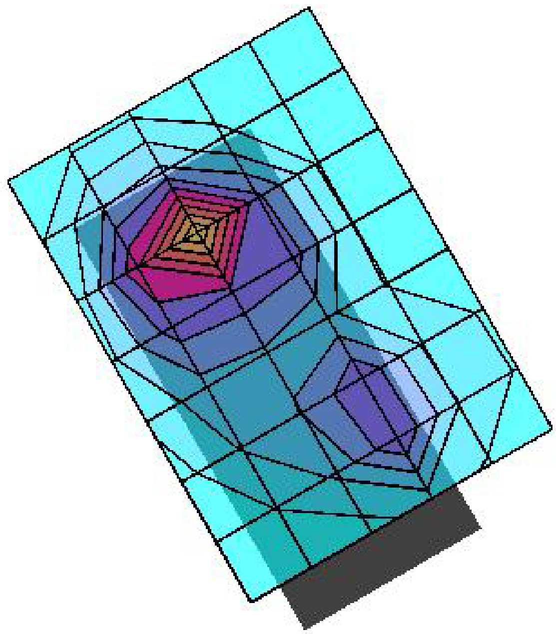
2004-06-15, GSM1900 Head 1880MHz, Left Tilt.

SAM 1 Phantom; Left Hand Section; Position: (105°,60°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1650; ConvF(5.36,5.36,5.36); Crest factor: 8.0; Head 1900 MHz: σ = 1.33 mho/m ε_r = 39.0 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.393 mW/g, SAR (10g): 0.207 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.06 dB



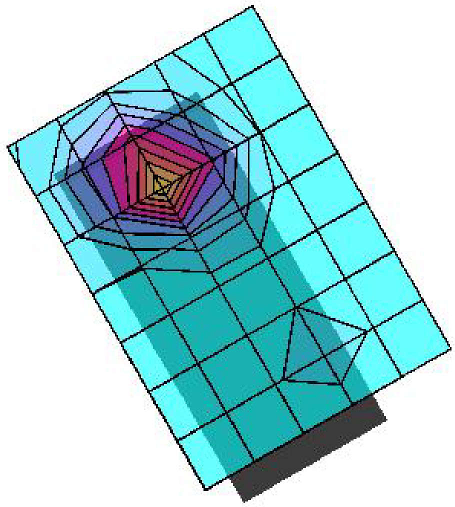
2004-06-15, GSM1900 Head 1910MHz, Right Cheek

SAM 1 Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1650; ConvF(5.36,5.36,5.36); Crest factor: 8.0; Head 1900 MHz: σ = 1.33 mho/m ε_r = 39.0 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.628 mW/g, SAR (10g): 0.300 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.08 dB



2004-06-15, GSM1900 Head 1880MHz, Right Tilt

SAM 1 Phantom; Righ Hand Section; Position: (105°,300°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1650; ConvF(5.36,5.36,5.36); Crest factor: 8.0; Head 1900 MHz: σ = 1.33 mho/m ϵ_r = 39.0 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.572 mW/g, SAR (10g): 0.274 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB



2004-06-16, GPRS850 (2 slots) Body 824MHz, Without Headset, Separation Distance 2.2cm

SAM 2 Phantom; Flat Section; Position: (90°,270°); Frequency: 824 MHz
Probe: ET3DV6 - SN1650; ConvF(6.23,6.23,6.23); Crest factor: 4.0; Body850MHz: σ = 0.93 mho/m ε_r = 55.6 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.06 mW/g, SAR (10g): 0.742 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.20 dB