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Prepared (also subject responsible if other)		No.		
LD/SEMC/BGUG/NM Hamid Kami Shirazi		GUG/N 04:067		
Approved	Checked	Date	Rev	Reference
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File

SAR Test Report: PY7A1021041

Date of test: April. 20 to 22, 2004

Laboratory:
Electromagnetic Near Field and Radio Frequency Dosimetry Lab
Sonyericsson Mobile Communications AB
Nya Vatentornet
SE-221 82 LUND, Sweden

Test Responsible:
Hamid kami Shirazi B.SC.E.E
Quality & Type approval Engineer
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Statement of Compliance
Sony Ericsson Mobile Communications AB declares under its sole responsibility that the product

Sony Ericsson Type AAB-1021041-BV ; FCC ID: PY7A1021041

to which this declaration relates, is in conformity with the appropriate RF exposure standards recommendations and guidelines. It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(None)

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2 Introduction

In this test report, compliance of the Sony Ericsson PY7A1021041portable telephone with RF safety guidelines is demonstrated. The applicable RF safety guidelines and the SAR measurement specifications used for the test are described in the *SAR Measurement Specifications of Wireless Handsets* [1].

3 Device Under Test

3.1 Antenna Description

Type	Internal antenna	
Location	Inside back, near the top	
Dimensions	Max length	38mm
	Max width	14mm
Configuration	PIFA	

3.2 Device description

Device model	K700i
Serial number	A6101TWY9N
Mode	GSM 1900
Multiple Access Scheme	TDMA
Maximum Output Power Setting	30
Factory Tolerance in Power Setting	± 0.5dB
Maximum Peak Output Power	30.5dBm
Crest Factor	8
Transmitting Frequency Range	1850.2 – 1909.8 MHz
Prototype or Production Unit	Preproduction
Device Category	Portable
RF exposure environment	General population / uncontrolled

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4 Test equipment

4.1 Dosimetric system

SAR measurements were made using the DASY3 professional system (software version 3.1c) with SAM twin phantom, manufactured by Schmid & Partner Engineering AG (SPEAG). The list of calibrated equipment is given below.

Description	***Serial Number***	***Due Date***
DASY3 DAE V1	419	4/2005
E-field probe ETDV6	1585	4/2005
E-field probe ETDV6	1582	4/2005
Dipole Validation Kit, D1900 V2	5d002	2/2006

4.2 Additional equipment

Description	***Inventory Number***	***Due Date***
Signal generator ESG-D4000A	INV 462935	9/2004
Directional coupler HP778D	INV 2903	1/2005
Power meter R&S NRVD	INV 483920	1/2005
Power sensor R&S NRV-Z5	INV 2333	1/2005
Power sensor R&S NRV-Z5	INV 2334	1/2005
Termination 65N50-0-11	INV 2903	1/2005
Network analyzer HP8753C	INV421671	8/2004
S-parameter test set HP85047A	INV 421670	9/2004
Dielectric probe kit HP8507D	INV 20000053	2/2005

5 Electrical parameters on the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ε_r, and the conductivity, σ, of the tissue simulating liquids were measured with the dielectric probe kit. These values are shown in the table below. The mass density, ρ, entered into the DASY3 software is also given. Recommended limits for permittivity ε_r, conductivity σ and mass density ρ are also shown.

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Application Note: The head and body tissue dielectric parameter recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table is prepared according to the following receipts. **For 1900MHz Head: Water 54.9%, Salt 0.18% and DGBE 44.92%, and**
For 1900MHz Body: Water 56.1%, DGBE 33.4%, Salt 0.5%,

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ε_r	σ (S/m)	ρ (g/cm³)
1900	Head	Measured, 20/04/04	39.8	1.47	1.0
		Recommended	40.0	1.4	1.0
	Muscle	Measured, 21/04/04	50.3	1.51	1.0
		Recommended	53.3	1.52	1.0

6 System accuracy verification

A system accuracy verification of the DASY3 was performed using the dipole validation kit listed in section 3.1. The system verification test has done as the same day as the measurement of the DUT. The measurement made in ambient temperature 24°C and humanity 30%. The obtained results are displayed in the table below.
RF noise had been measured in liquid when all RF equipment in lab was set off. Measured value was 0.0010W/g in 1g mass.

f (MHz)	Tissue type	Measured / Reference	SAR (W/kg) 1g mass	Dielectric Parameters			t (°C)
				ε_r	σ (S/m)	ρ (g/cm³)	
1900	Head	Measured, 20/04/04	40.8	39.8	1.47	1.0	22
		Reference	41.6	38.8	1.44	1.0	-
	Muscle	Measured, 21/04/04	43.6	50.3	1.51	1.0	22
		Reference	43.2	51.2	1.59	1.0	-

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7 SAR measurement uncertainty

Error description	Uncertainty (%)	Distribution	Divisor	c_i 1g	Standard Uncertainty Head	Standard Uncertainty Body
Measurement system						
Probe calibration	±4.4	Normal	1	1	±4.4	±4.4
Axial isotropy	±4.7	Rectangular	√3	$(1\text{-}c_p)^{1/2}$	±1.9	±1.9
Spherical isotropy	±9.6	Rectangular	√3	$(c_p)^{1/2}$	±3.9	±3.9
Spatial resolution	±0.0	Rectangular	√3	1	±0.0	±0.0
Boundary effects	±5.5	Rectangular	√3	1	±3.2	±3.2
Probe linearity	±4.7	Rectangular	√3	1	±2.7	±2.7
Detection limit	±1.0	Rectangular	√3	1	±0.6	±0.6
Readout electronics	±1.0	Normal	1	1	±1.0	±1.0
Response time	±0.8	Rectangular	√3	1	±0.5	±0.5
Integration time	±1.4	Rectangular	√3	1	±0.8	±0.8
RF ambient conditions	±3.0	Rectangular	√3	1	±1.7	±1.7
Mech. Constraints of robot	±0.4	Rectangular	√3	1	±0.2	±0.2
Probe positioning	±2.9	Rectangular	√3	1	±1.7	±1.7
Extrap. and integration	±3.9	Rectangular	√3	1	±2.3	±2.3
					±8.3	**±8.3**
Test sample related						
Device positioning	±6.0	Normal	0.89	1	±6.7	±6.7
Device holder	±5.0	Normal	0.84	1	±5.9	±5.9
Power drift	-2.10/-1.4	Rectangular	√3	1	±1.2	±0.8
					±9.0	**±8.9**
Phantom and setup						
Phantom uncertainty	±4.0	Rectangular	√3	1	±2.3	±2.3
Liquid conductivity (target)	±5.0	Rectangular	√3	0.6	±1.7	±1.7
Liquid conductivity (meas)	-0.5/+5	Rectangular	√3	0.6	-0.3	+1.7
Liquid permittivity (target)	±5.0	Rectangular	√3	0.6	±1.7	±1.7
Liquid permittivity (meas)	+5/-0,1	Rectangular	√3	0.6	+1.7	-0.1
Phantom and Tissue parameter Uncertainty					**±3.7**	**±3.7**
Combined standard uncertainty					***±12.8***	***±12.7***
Extended standard uncertainty(k=2)					***±25.6***	***±25.5***

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8 Test results

The measured 1-gram averaged SAR values of the device against the head and the body are provided in Tables 1 and 2 respectively. The humidity and ambient temperature of test facility were 30.4% - 36.8% and 24 °C – 24.4 °C respectively. The depth of the head tissue simulating liquid was 15 cm and of the muscle tissue simulating liquid was 16.5cm. A base station simulator was used to control the device during the SAR measurement. The phone was supplied with full-charged battery for each measurement.

For head measurement, the device was tested on the right-hand phantom (corresponding to the right side of the head) and the left-hand phantom in two phone position, cheek (touch) and tilt (cheek + 15deg). For GSM 1900 modes, the device was tested at the lowest, middle and highest frequencies in the transmit band. On position and frequency where find max SAR values had been measured SAR with BT ON.

Mode	Channel	Peak Output Power (dBm)	Phone Position	Liquid temp(°C)	SAR (W/kg) in 1g mass	
					Right-hand	Left-hand
1900 GSM	512	30.5	**Cheek**	22.6/22.6	0.28	0.23
			Tilt	22.5/22.8	0.28	0.27
	661	30.5	**Cheek**	22.5/22.6	0.32	0.24
			Tilt	22.8/22.9	**0.37**	0.31
	810	30.5	**Cheek**	22.5/22.6	0.28	0.23
			Tilt	22.5/23	0.31	0.29

Table1: SAR measurement result for Sony Ericsson PY7A1021041 telephone. Measured against the head.

For body-worn measurements, the device was tested against flat phantom representing the user body. Under measurement phone was put in belt holder KRY 104 157 Sony Ericsson product and also without belt holder but with 15mm space from phantom and the measurement provides for both front and back part the phone to the phantom. Phone had been pared with Sony Ericsson HBH-60 hands free set. Result is provided in table2, row “Tilt + BT ON”.
We did GPRS measurement only for back part of the phone to find the max SAR value. This Was done in flat section of the phantom while the devise was either inside the belt holder or 15mm space from phantom. Data communication was sent in two time slots by using a base station.

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Mode	Channel	Peak Output Power(dBm)	Phone Position	Liquid temp(°C)	SAR(W/kg) in 1g mass
1900 GSM	512	30.5	**Front to Ph Belt holder**	22	0.05
			Back to Ph Belt holder	22	0.76
			Back to Ph Belt holder GPRS	22	0.83
			Front to Ph 15mm space	22	0.06
			Back to Ph 15mm space	22	0.66
			Back to Ph 15mm space GPRS	22	0.76
	661	30.5	**Front to Ph Belt holder**	22	0.07
			Back to Ph Belt holder	22	0.78
			Back to Ph Belt holder GPRS	22	1.13
			Front to Ph 15mm space	22	0.07
			Back to Ph 15mm space	22	0.94
			Back to Ph 15mm space GPRS	22	1.36
	810	30.5	**Front to Ph Belt holder**	22	0.05
			Back to Ph Belt holder	22	0.92
			Back to Ph Belt holder GPRS	22	1.15
			Front to Ph 15mm space	22	0.06
			Back to Ph 15mm space	22	**1.11**
			Back to Ph 15mm space Blue tooth on	22	**1.30**
			Back to Ph 15mm space GPRS	22	**1.39**

Table 2: SAR measurement result for Sony Ericsson PY7A1021041 telephone. Measured against the body.

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9 References

[1] R.Plicanic, “SAR Measurement Specification of Wireless Handsets”, Sony Ericsson internal document LD/SEMC/GUG/N 03:141

[2] FCC, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radio Frequency Emissions,” Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01).

[3] IEEE, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques,” Std 1528-200x .

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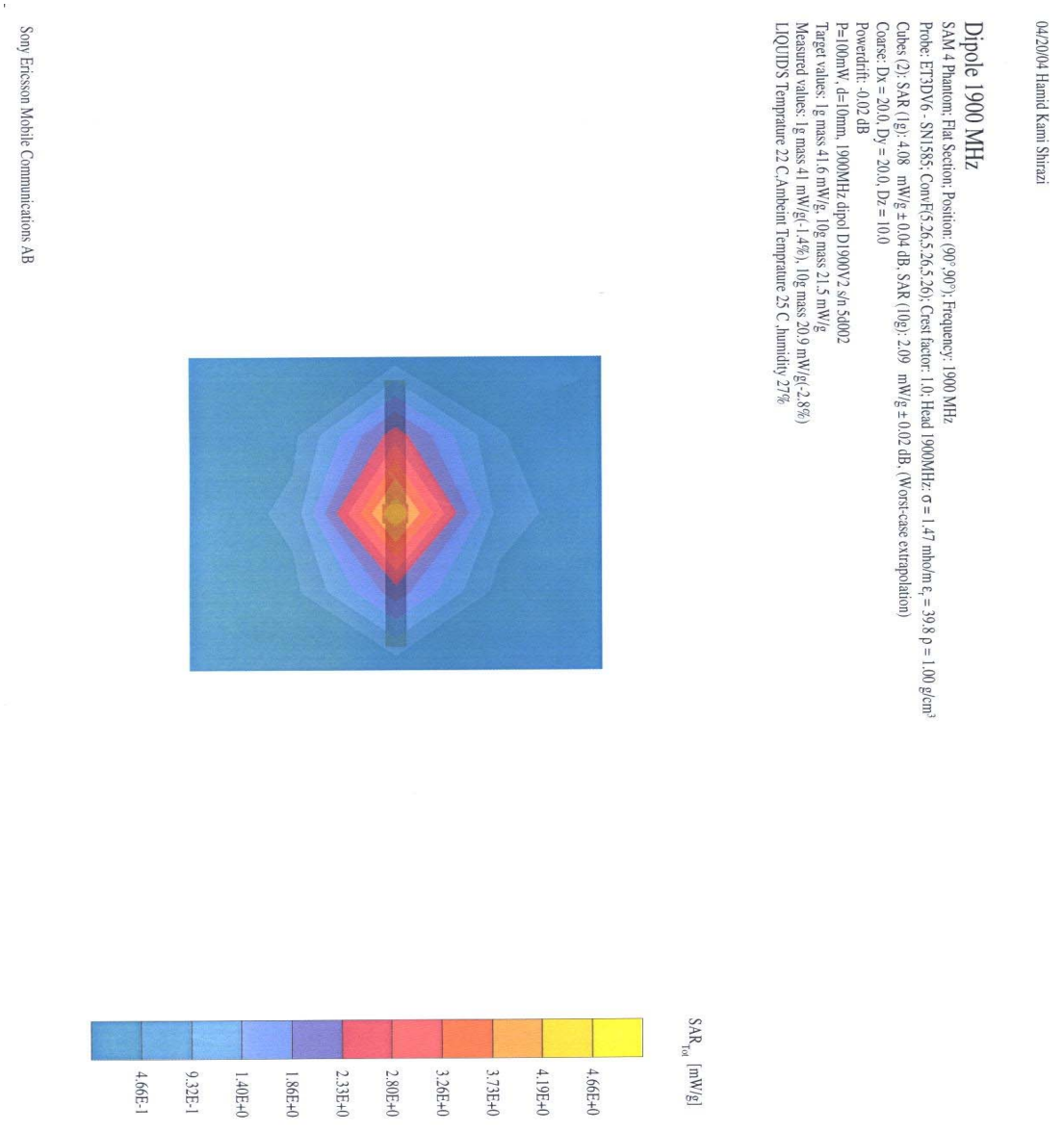
10 Appendix

10.1 SAR distribution comparison for system accuracy verification



Validation Dipole, measured with head simulating tissue on 20/04/04

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Date/Time: 04/09/03 18:49:39

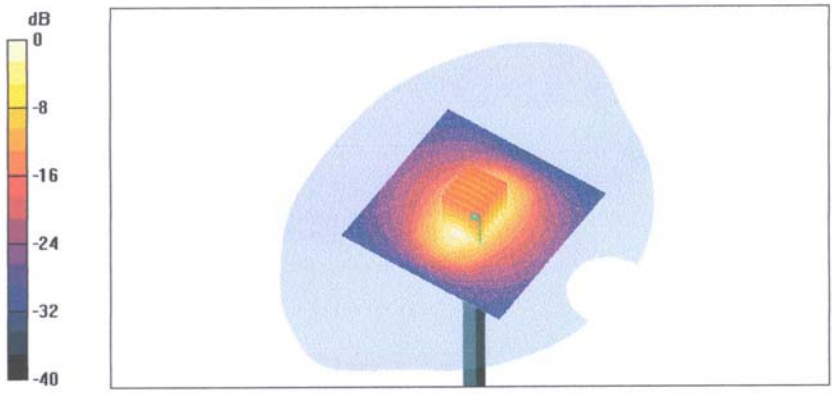
Test Laboratory: SPEAG, Zurich, Switzerland
File Name: SN5d002_SN1507_HSL1900_090403.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN5d002
Program: Dipole Calibration

Communication System: CW-1900; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL 1900 MHz (σ = 1.44 mho/m, ε_r = 38.78, ρ = 1000 kg/m^3)
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1507; ConvF(5.2, 5.2, 5.2); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.1 Build 33; Postprocessing SW: SEMCAD, V1.6 Build 109

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.2 V/m
Peak SAR = 18.2 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.38 mW/g
Power Drift = 0.01 dB



1900MHz SAR distribution of validation dipole from reference measurement with head simulating tissue

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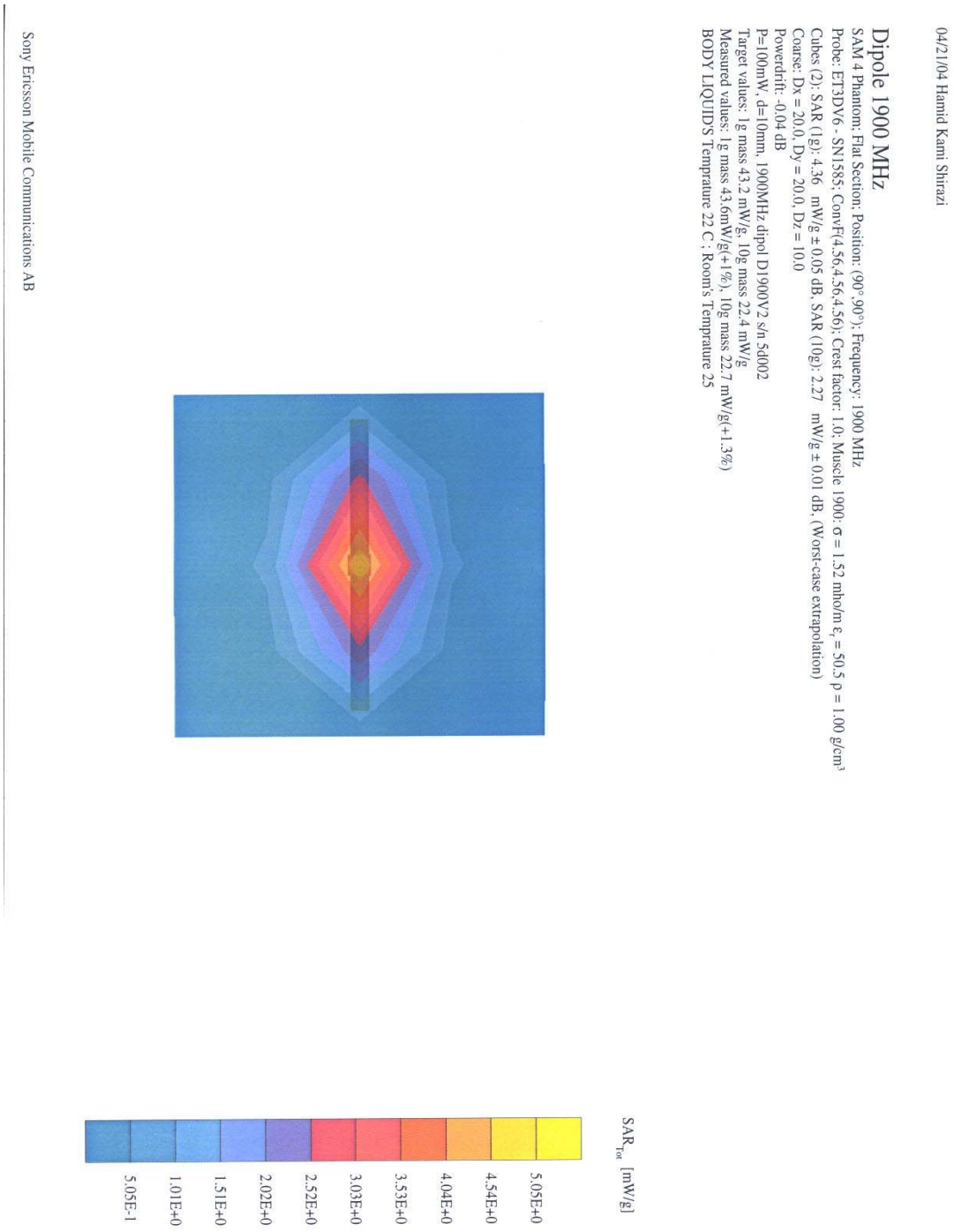

Validation Dipole, measured with muscle simulating tissue on 21/04/04

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Date/Time: 04/08/03 12:31:50

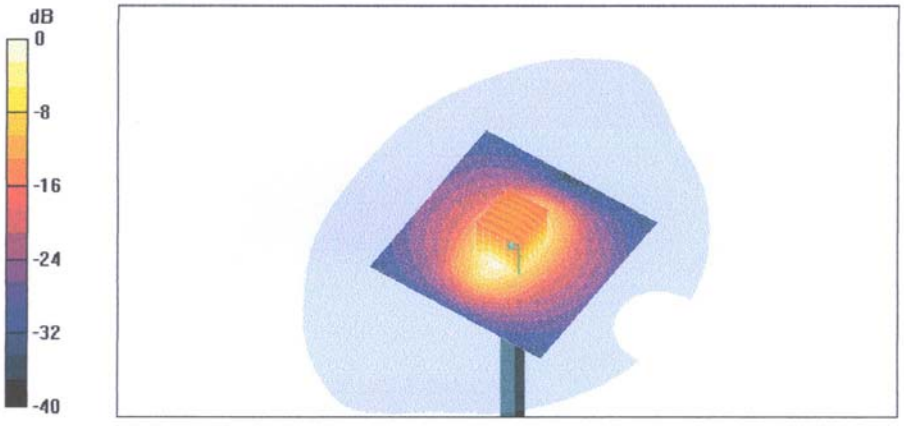
Test Laboratory: SPEAG, Zurich, Switzerland
File Name: SN5d002_SN1507_M1900_080403.da4

DUT: Dipole 1900 MHz; Serial: D1900V2 - SN5d002
Program: Dipole Calibration

Communication System: CW-1900; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Muscle 1900 MHz; (σ = 1.59 mho/m, ε_r = 51.2, ρ = 1000 kg/m^3)
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1507; ConvF(4.8, 4.8, 4.8); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.1 Build 33; Postprocessing SW: SEMCAD, V1.6 Build 109

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.8 V/m
Peak SAR = 18.9 W/kg
SAR(1 g) = 10.8 mW/g; SAR(10 g) = 5.6 mW/g
Power Drift = 0.02 dB



1900MHz SAR distribution of validation dipole from reference measurement with muscle simulating tissue

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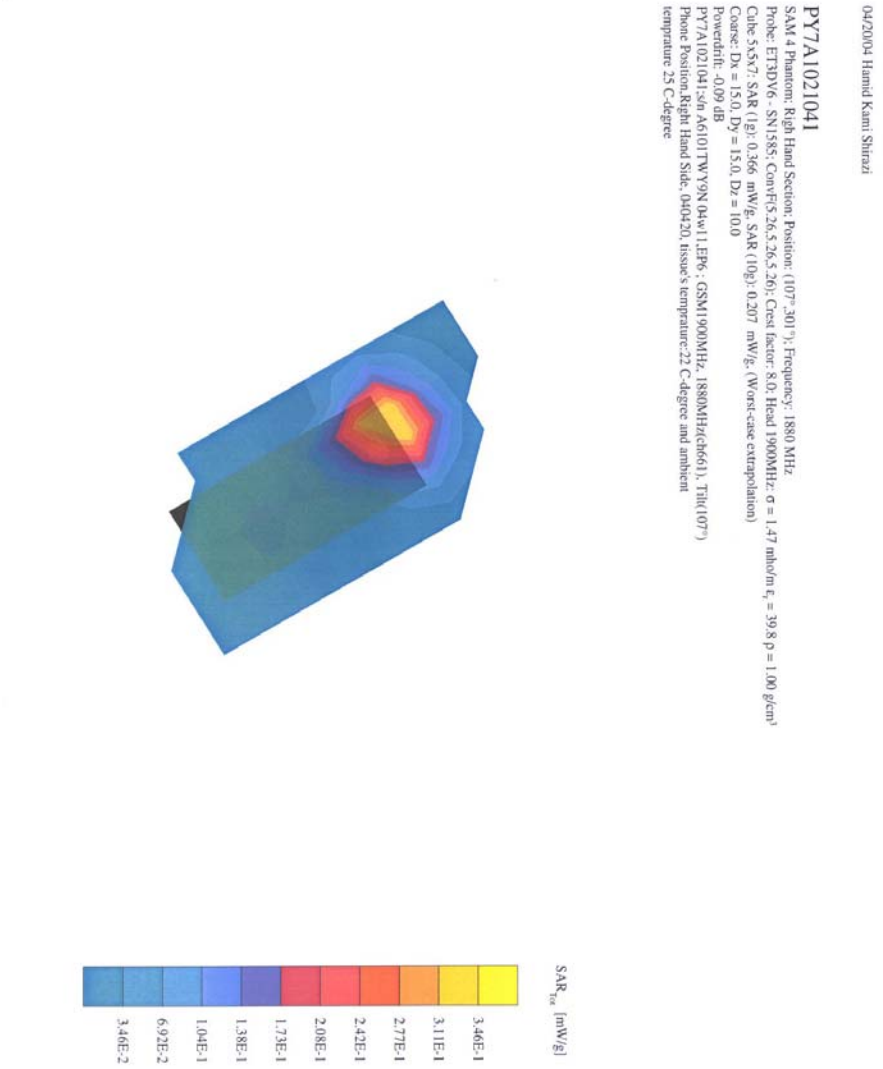
10.2 SAR distribution plot



**Distribution of max SAR in GSM 1900 mode at ch661,
Measured against the head for tilt phone position**

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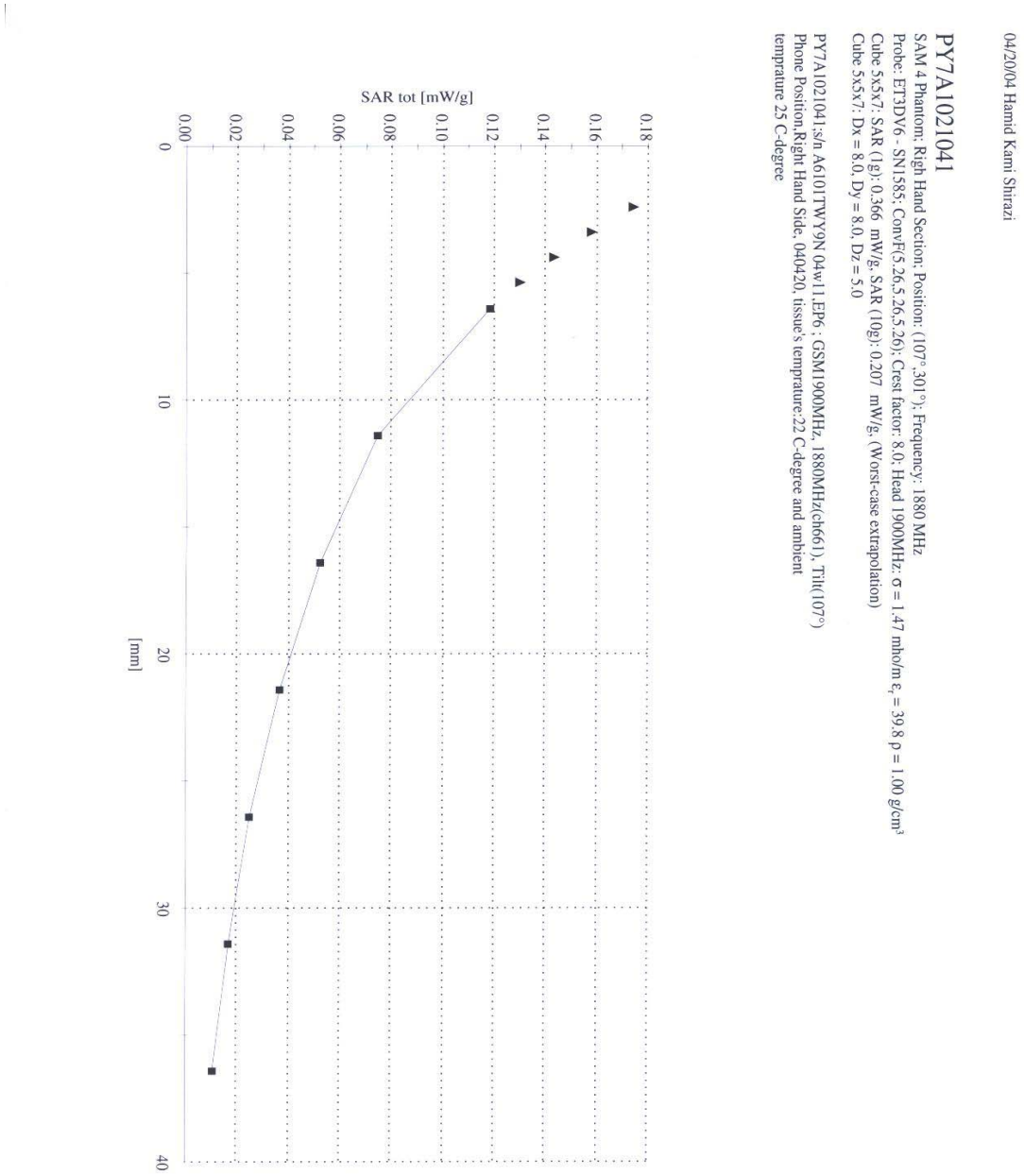

Z(x) distribution of max SAR in GSM1900 mode at ch661, Measured against the head for tilt phone position

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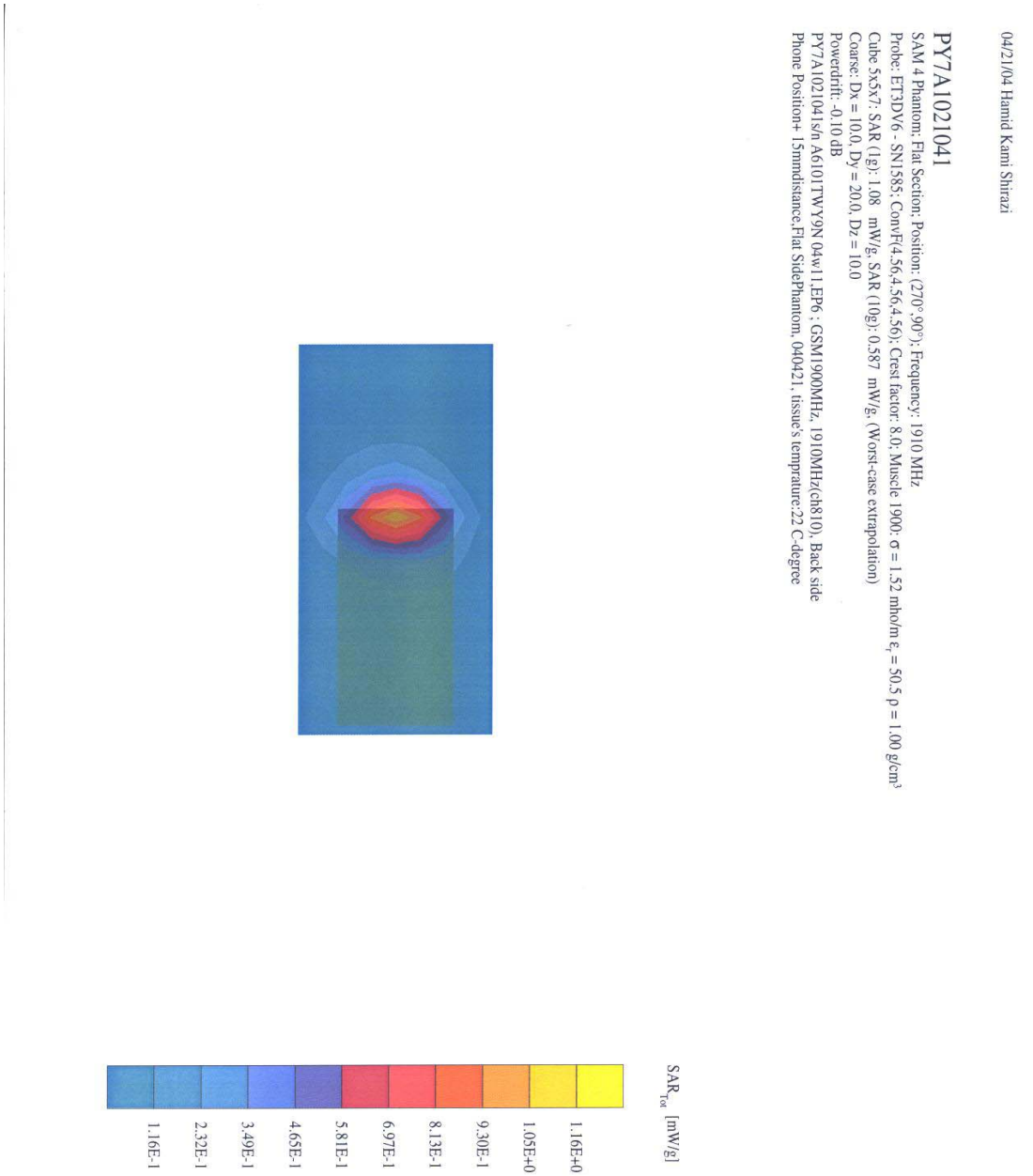

Distribution of max SAR in GSM1900 mode at ch512, Measured against the body for back phone part With 15mm space to phantom

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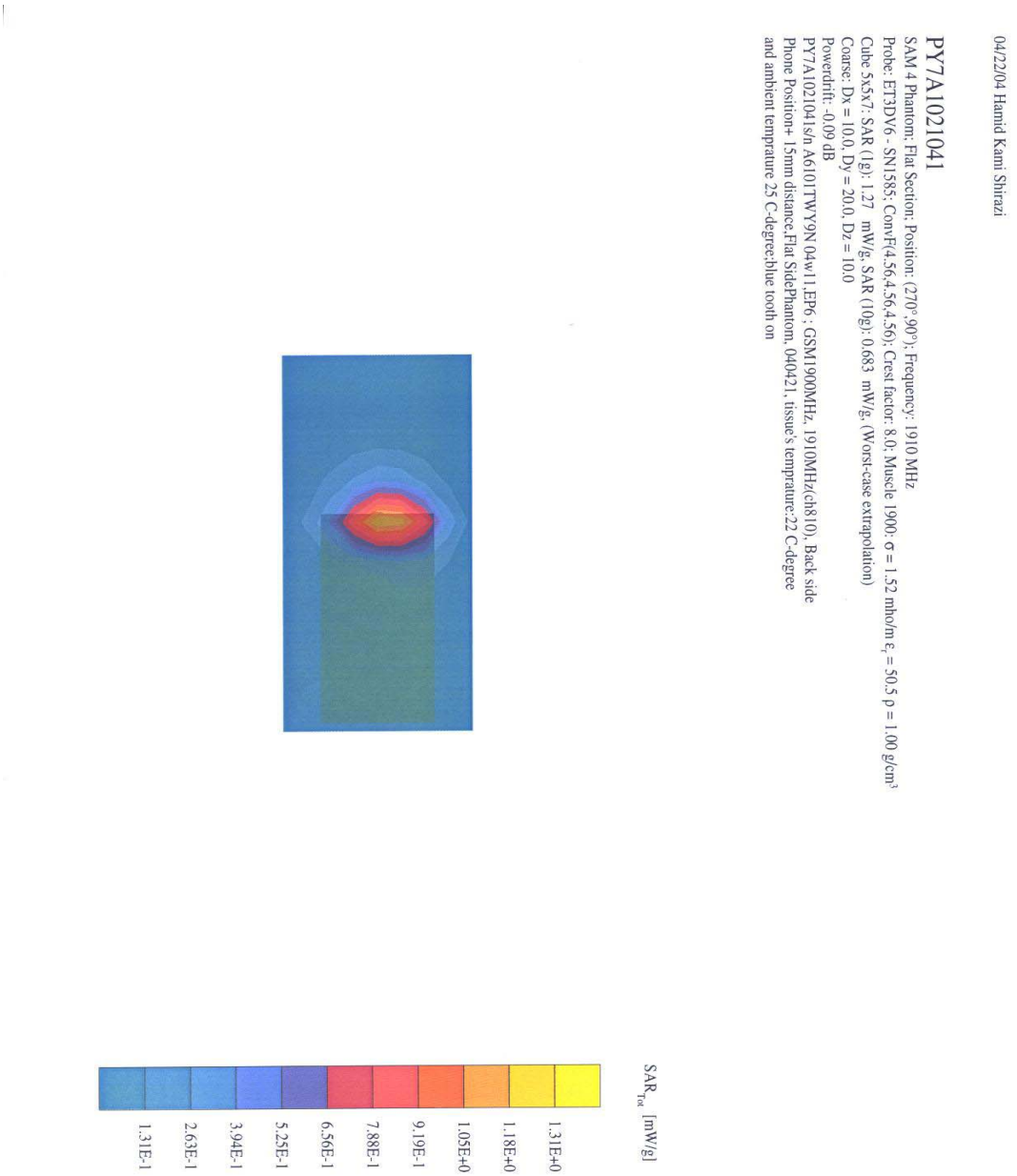

Distribution of max SAR in GSM1900 mode at ch810, Measured against the body for back phone part With 15mm space to phantom and blue tooth on

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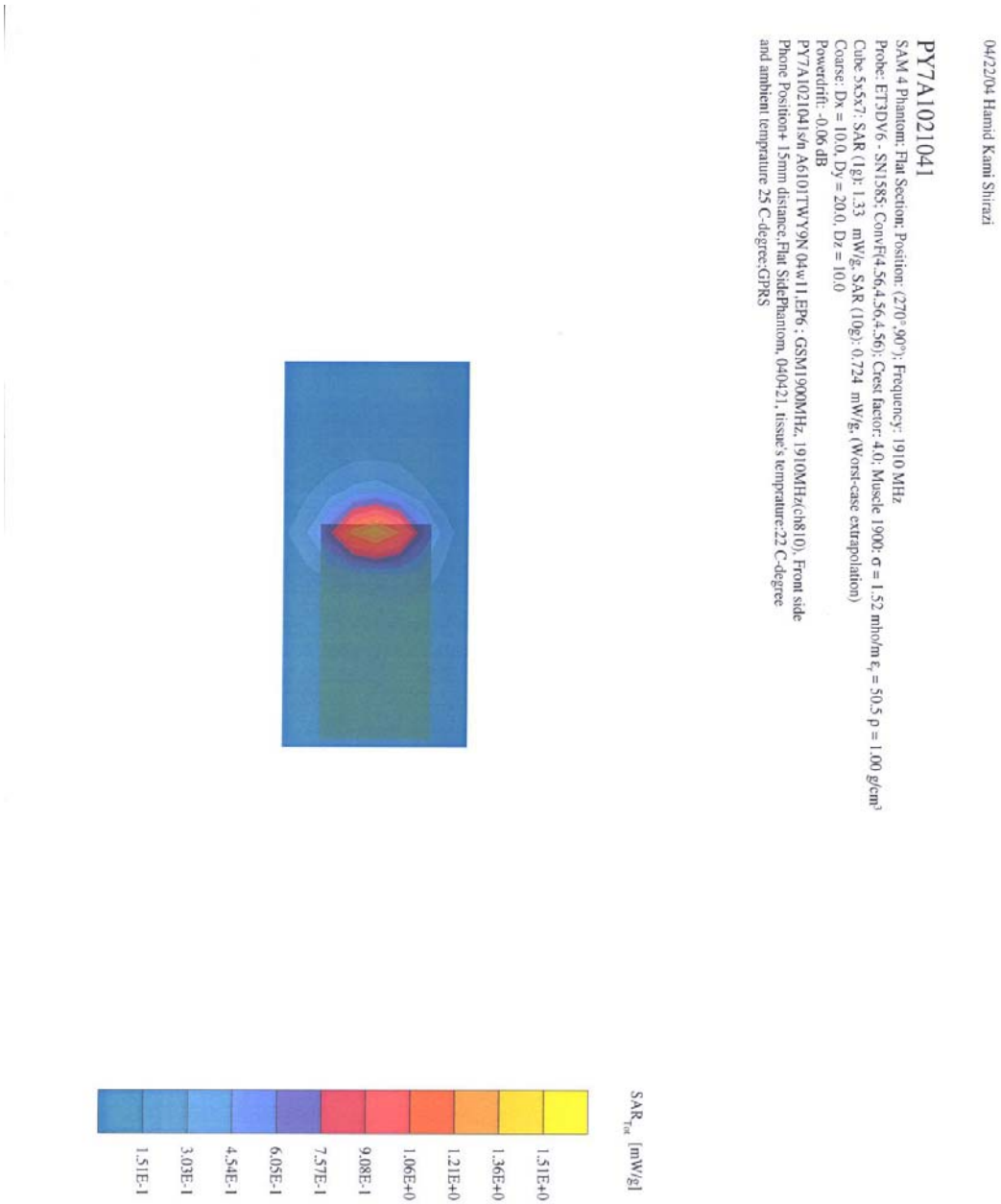

Distribution of max SAR in GSM1900 mode at ch810, Measured against the body for back phone part With 15mm space to phantom and GPRS measurement with two time slots

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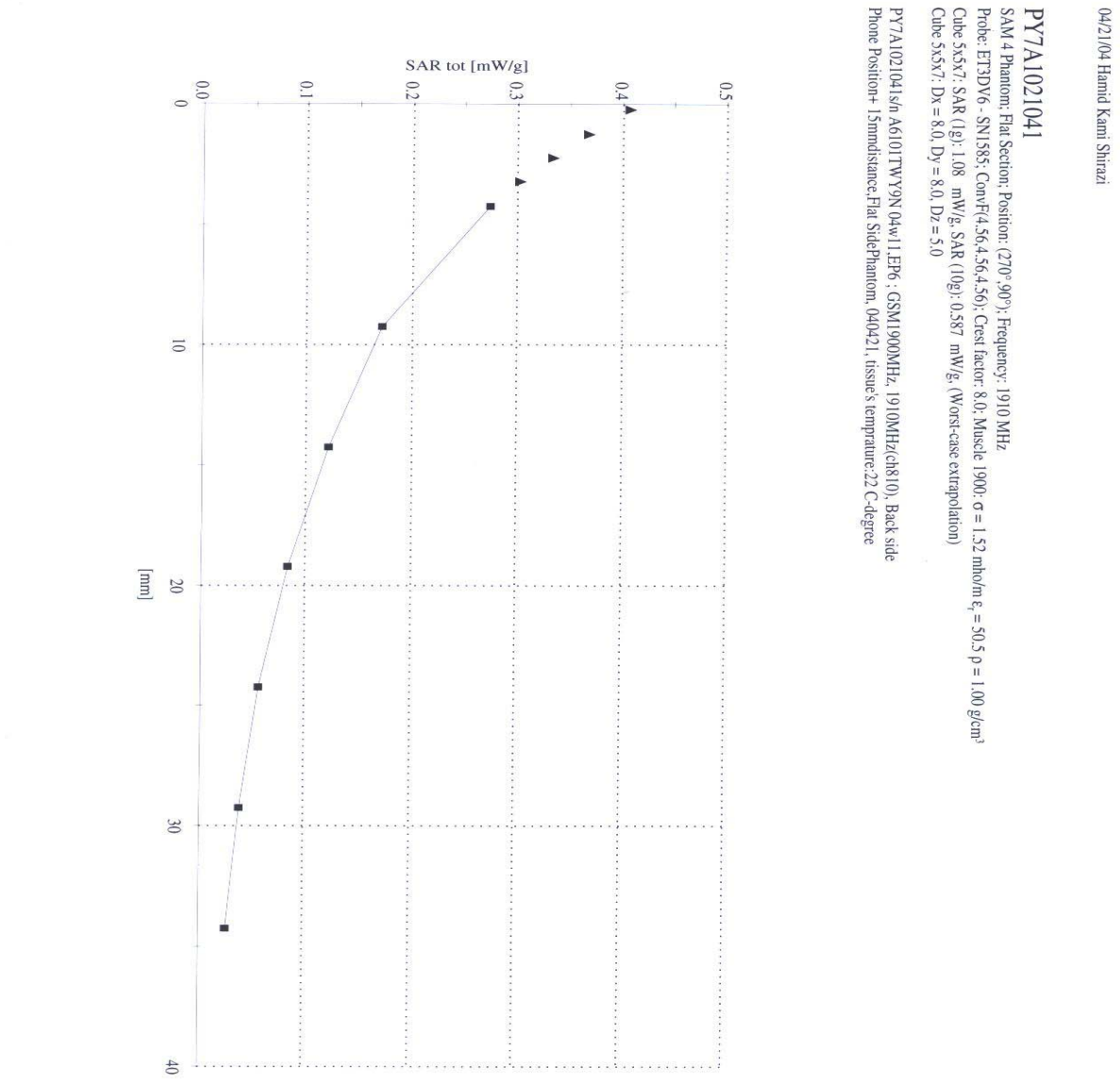

Z(x) distribution of max SAR in GSM1900 mode at ch810, Measured against the body

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10.3 Photographs of the device under test

Front and back

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Side

Battery

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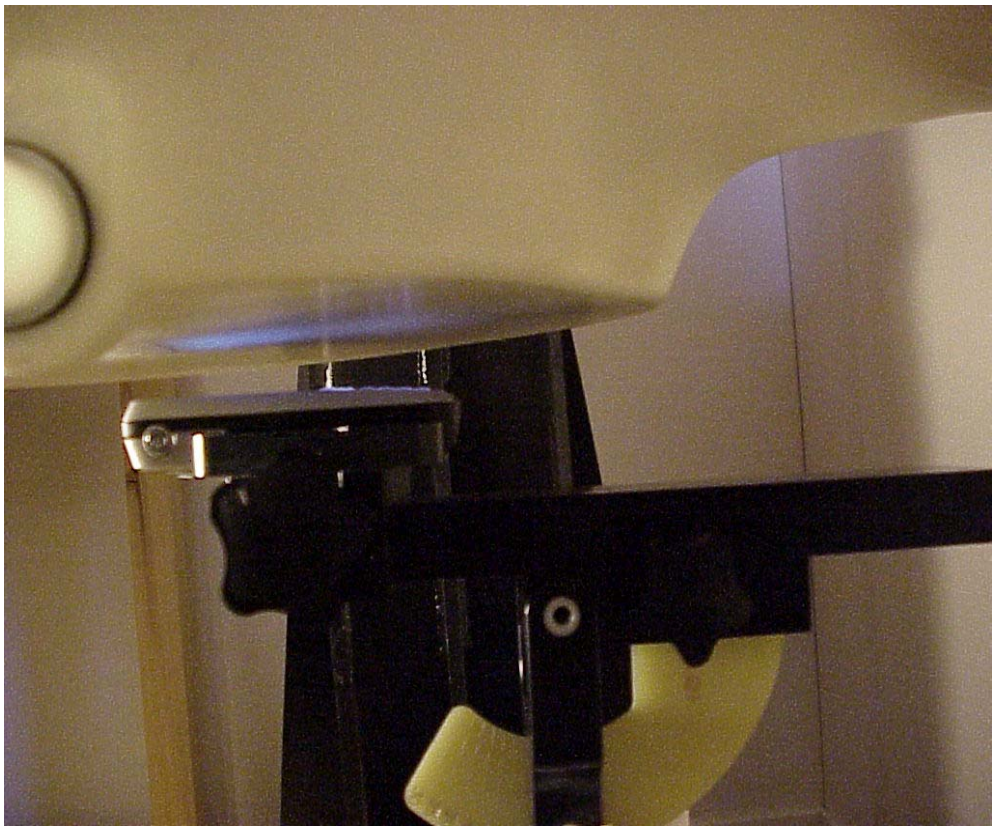
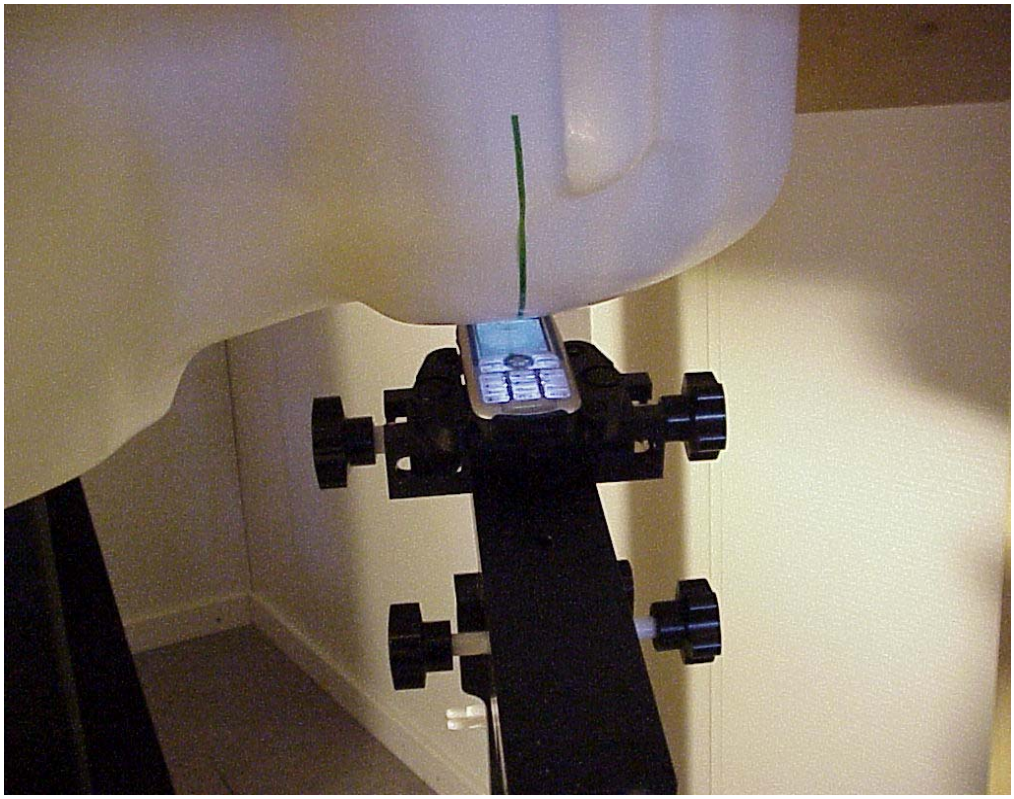


Device position against the body: Phone with 15mm space under phantom

10.4 Device position on SAM Twins Phantom



Device position against the head: Tilt phone position

Sony Ericsson

SecurityClass
REPORT

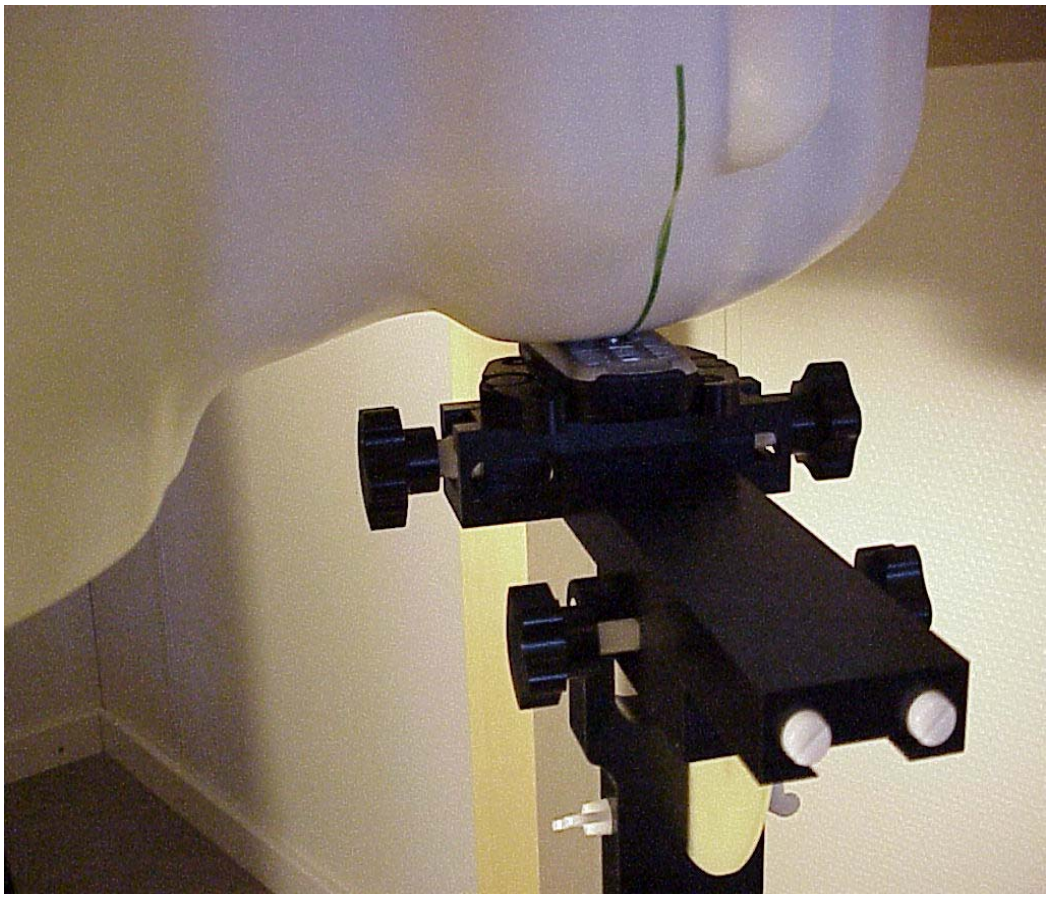
Prepared (also subject responsible if other)

LD/SEMC/BGUG/NM Hamid Kami Shirazi

No.

GUG/N 04:067

Approved	Checked	Date	Rev	Reference
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File



Device position against the head cheek phone position

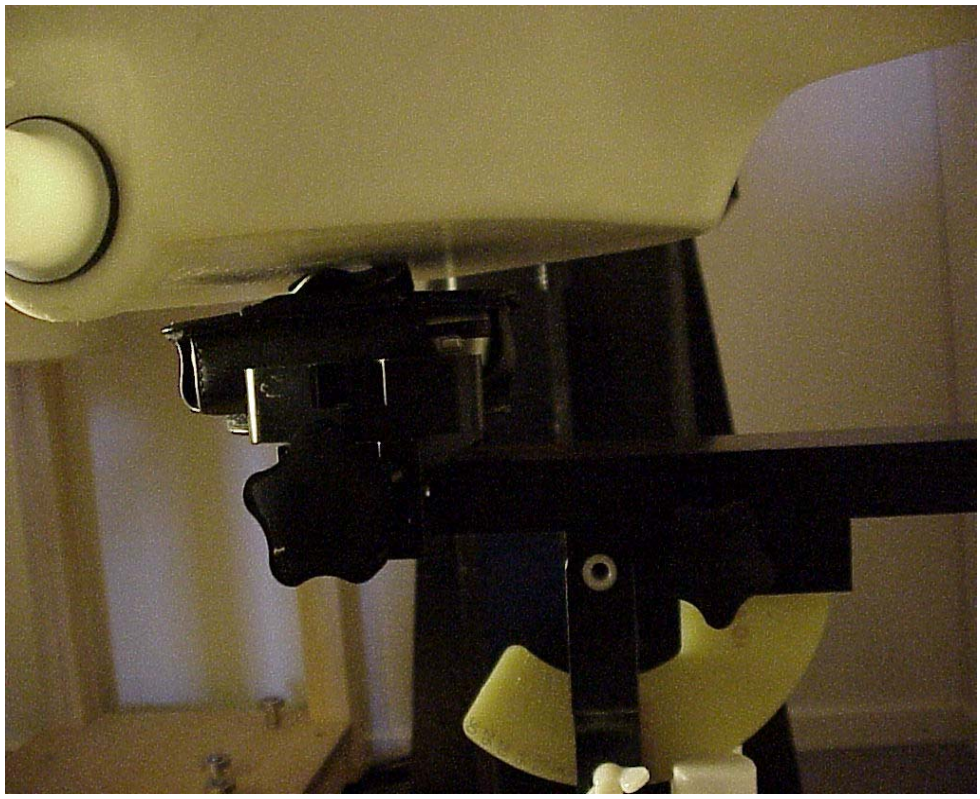
Sony Ericsson

SecurityClass
REPORT

Prepared (also subject responsible if other)
LD/SEMC/BGUG/NM Hamid Kami Shirazi

No.
GUG/N 04:067

Approved	Checked	Date	Rev	Reference
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File



Device position against the body: Phone with belt holder under phantom

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REPORT

Prepared (also subject responsible if other)		No.		
LD/SEMC/BGUG/NM Hamid Kami Shirazi		GUG/N 04:067		
Approved	**Checked**	**Date**	**Rev**	**Reference**
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File

Belt holder

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Prepared (also subject responsible if other) | No.

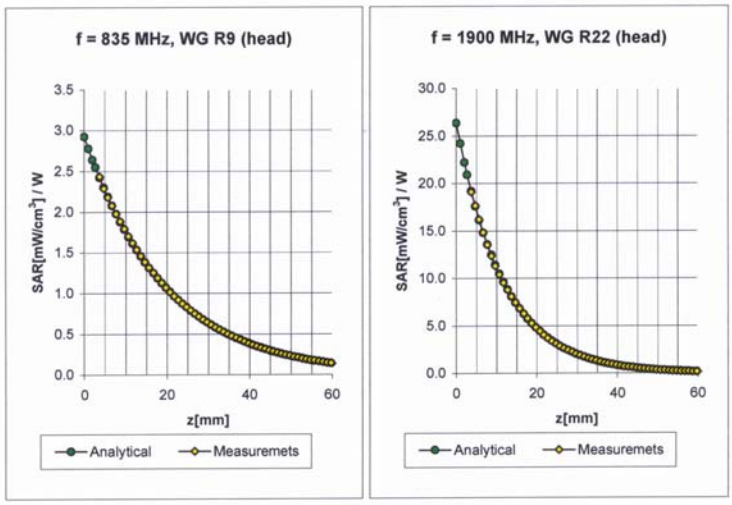
LD/SEMC/BGUG/NM Hamid Kami Shirazi | GUG/N 04:067

Approved	Checked	Date	Rev	Reference
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File

10.5 Probe calibration parameters

ET3DV6 SN:1582 April 16, 2003

Conversion Factor Assessment



Head **835 MHz** ε_r **= 41.5 ± 5%** σ **= 0.90 ± 5% mho/m**

ConvF X	**7.4** ± 8.9% (k=2)	Boundary effect:	
ConvF Y	**7.4** ± 8.9% (k=2)	Alpha	**0.28**
ConvF Z	**7.4** ± 8.9% (k=2)	Depth	**2.79**

Head **1900 MHz** ε_r **= 40.0 ± 5%** σ **= 1.40 ± 5% mho/m**

ConvF X	**5.3** ± 8.9% (k=2)	Boundary effect:	
ConvF Y	**5.3** ± 8.9% (k=2)	Alpha	**0.49**
ConvF Z	**5.3** ± 8.9% (k=2)	Depth	**2.57**

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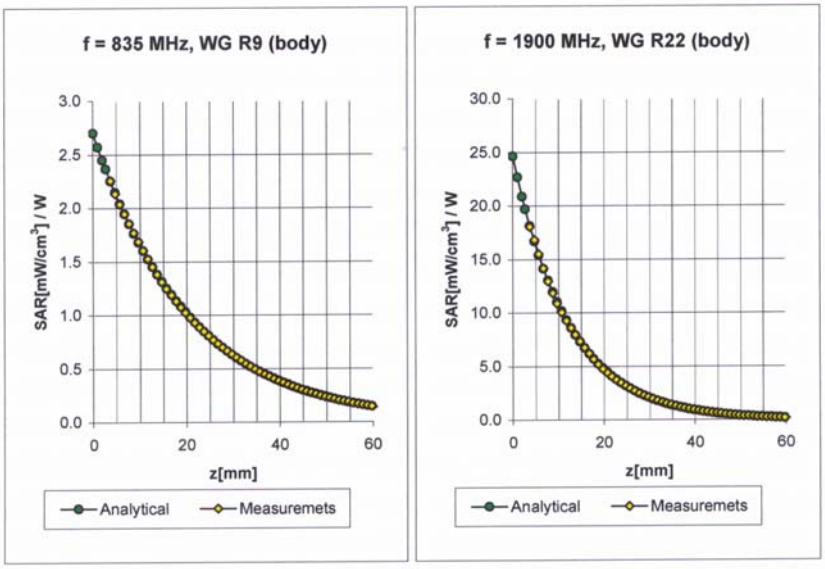
REPORT

Prepared (also subject responsible if other)		No.		
LD/SEMC/BGUG/NM Hamid Kami Shirazi		GUG/N 04:067		
Approved	Checked	Date	Rev	Reference
LD/SEMC/BGUG/NMC Mats Hansson	040430	040430	A	File

ET3DV6 SN:1585 April 16, 2003

Conversion Factor Assessment



Body **835 MHz** ε_r **= 55.2 ± 5%** σ **= 0.97 ± 5% mho/m**

Valid for f=800-1000 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	**6.7** ± 9.5% (k=2)	Boundary effect:	
ConvF Y	**6.7** ± 9.5% (k=2)	Alpha	**0.34**
ConvF Z	**6.7** ± 9.5% (k=2)	Depth	**2.48**

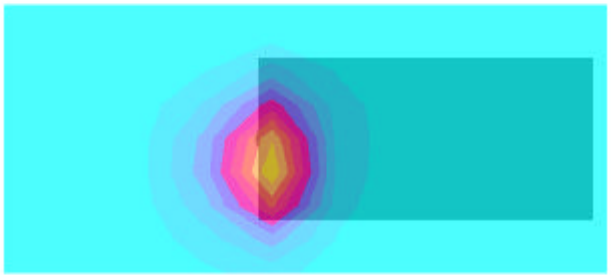
Body **1900 MHz** ε_r **= 53.3 ± 5%** σ **= 1.52 ± 5% mho/m**

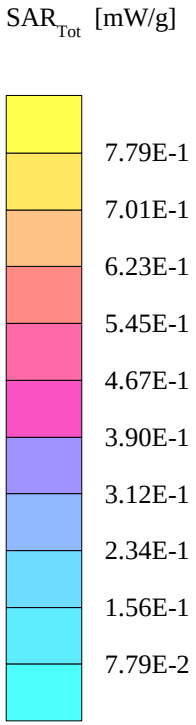
Valid for f=1710-1910 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	**4.8** ± 9.5% (k=2)	Boundary effect:	
ConvF Y	**4.8** ± 9.5% (k=2)	Alpha	**0.59**
ConvF Z	**4.8** ± 9.5% (k=2)	Depth	**2.55**

PY7A1021041

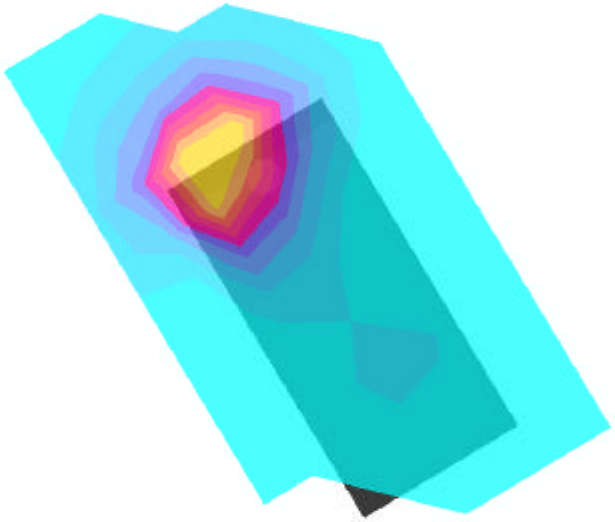
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.709 mW/g, SAR (10g): 0.393 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.08 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Back side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

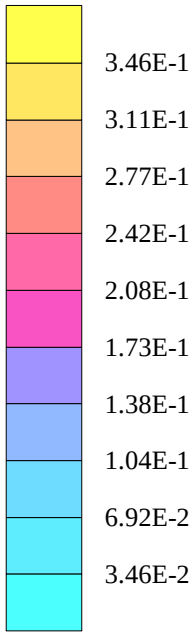




PY7A1021041

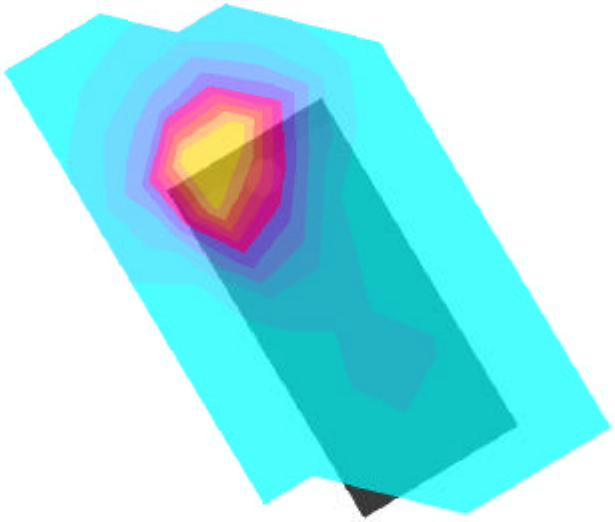
SAM 4 Phantom; Righ Hand Section; Position: (107°,301°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.366 mW/g, SAR (10g): 0.207 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.09 dB
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Tilt(107°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

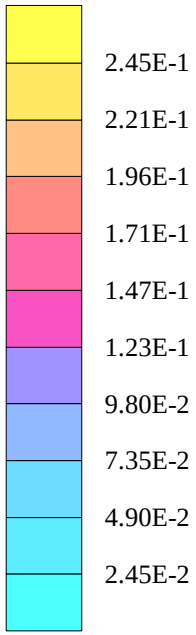




PY7A1021041

SAM 4 Phantom; Righ Hand Section; Position: (107°,301°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.259 mW/g, SAR (10g): 0.146 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.04 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Tilt(107°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

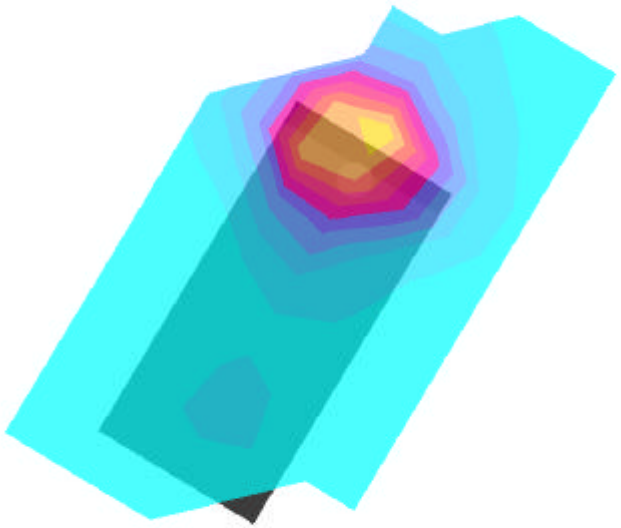


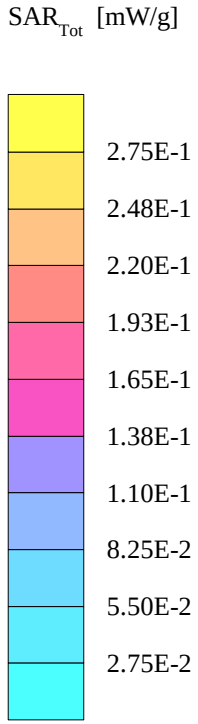


PY7A1021041

SAM 4 Phantom; Left Hand Section; Position: (107°,59°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.285 mW/g, SAR (10g): 0.162 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

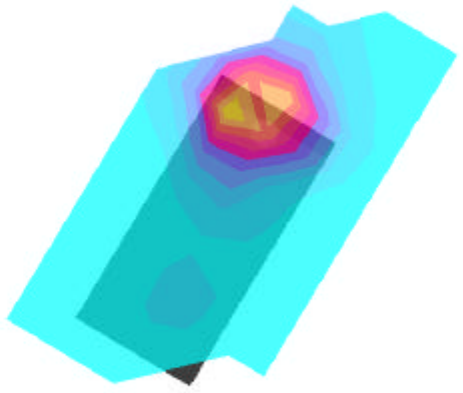
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), TIlt(107°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

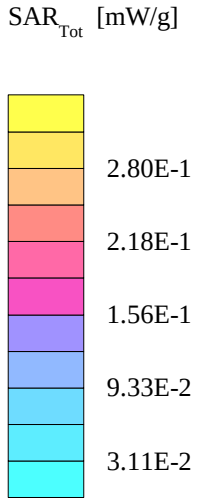




PY7A1021041

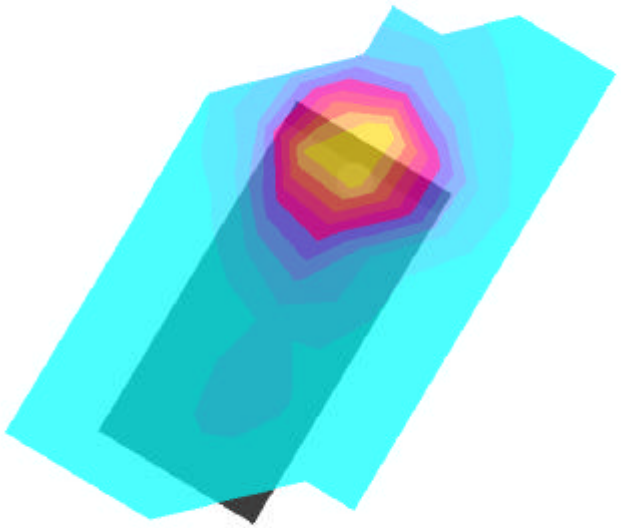
SAM 4 Phantom; Left Hand Section; Position: (107°,59°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cubes (2): SAR (1g): 0.305 mW/g ± 0.00 dB, SAR (10g): 0.175 mW/g ± 0.00 dB, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.09 dB
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Tilt(107°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree



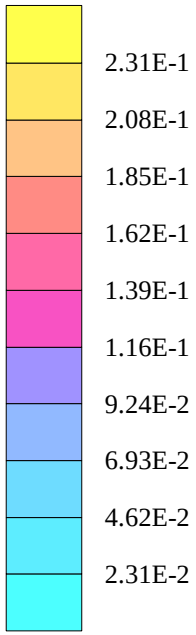


PY7A1021041

SAM 4 Phantom; Left Hand Section; Position: (107°,59°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.253 mW/g, SAR (10g): 0.144 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.05 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Tilt(107°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

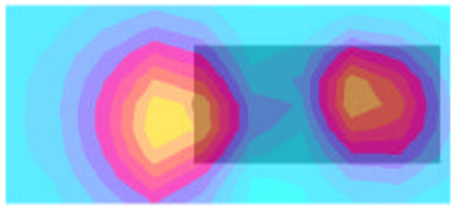


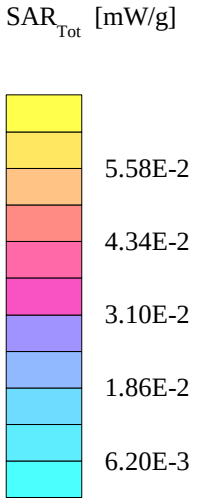
SAR$_{Tot}$ [mW/g]



PY7A1021041

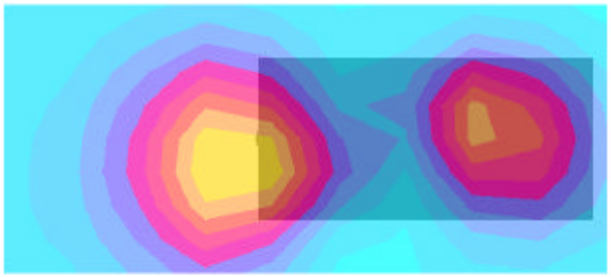
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0591 mW/g, SAR (10g): 0.0370 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.08 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Front side
Phone Position+ 15mmdistance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

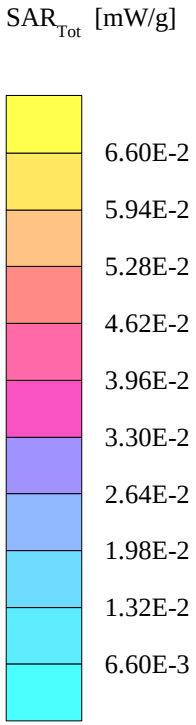




PY7A1021041

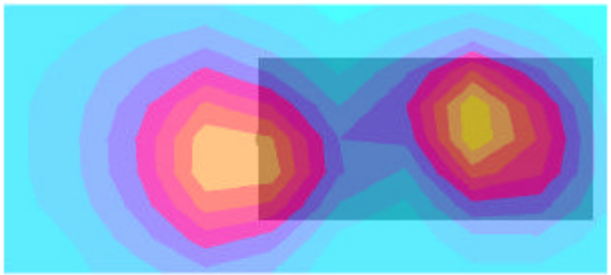
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cubes (2): SAR (1g): 0.0658 mW/g ± 0.02 dB, SAR (10g): 0.0414 mW/g ± 0.02 dB, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.06 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Front side
Phone Position+ 15mmdistance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

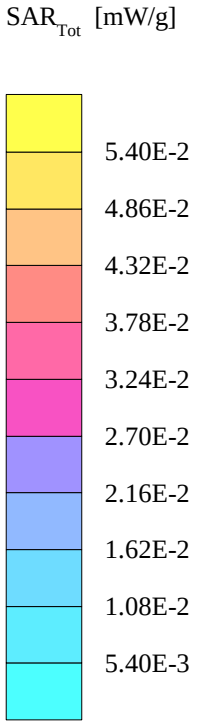




PY7A1021041

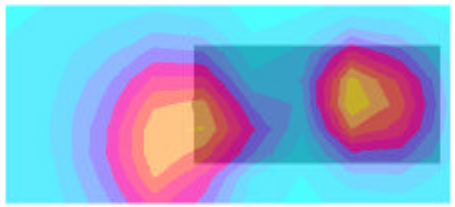
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0517 mW/g, SAR (10g): 0.0319 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.06 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Front side
Phone Position,Flat SidePhantom, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

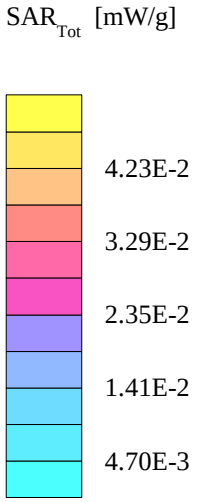




PY7A1021041

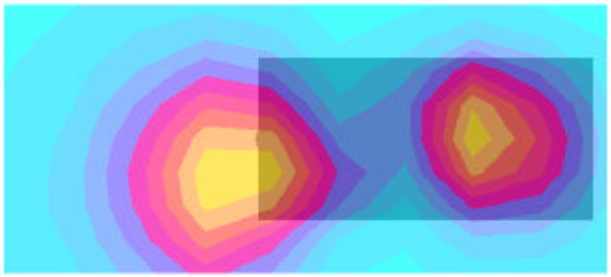
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0440 mW/g, SAR (10g): 0.0271 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.02 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Front side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

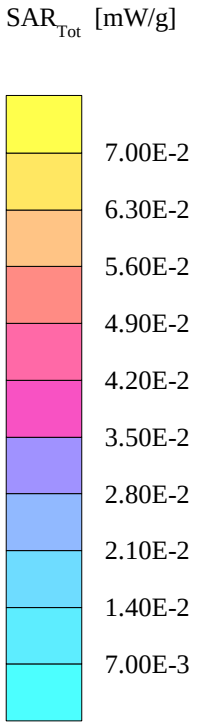




PY7A1021041

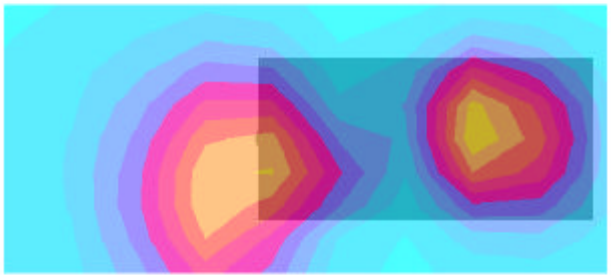
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cubes (2): SAR (1g): 0.0652 mW/g ± 0.01 dB, SAR (10g): 0.0413 mW/g ± 0.01 dB, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.15 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Front side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

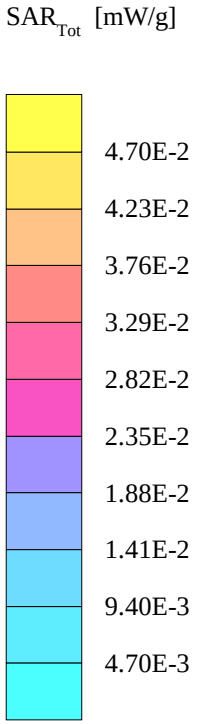




PY7A1021041

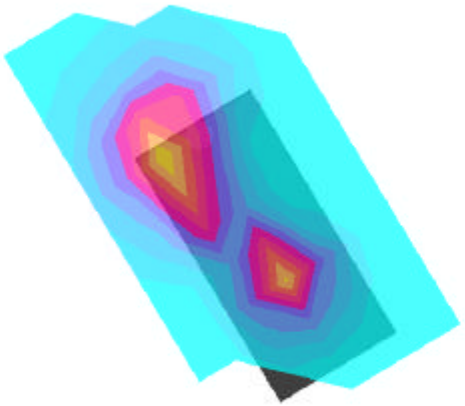
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0440 mW/g, SAR (10g): 0.0271 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.02 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Front side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

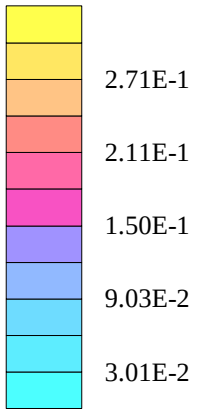




PY7A1021041

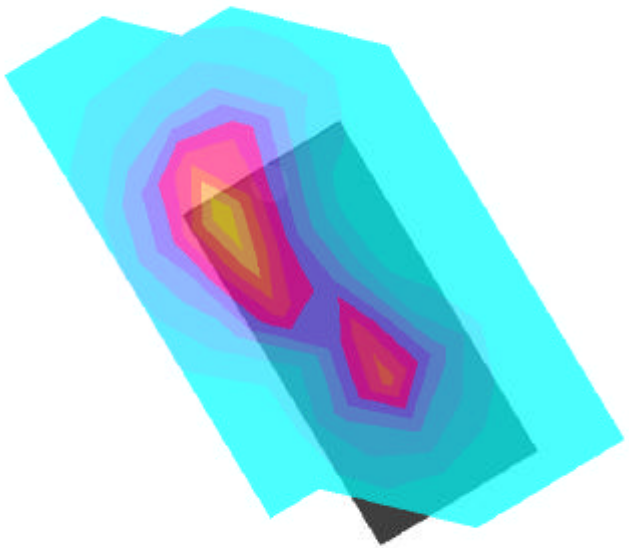
SAM 4 Phantom; Righ Hand Section; Position: (92°,301°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.271 mW/g, SAR (10g): 0.149 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.09 dB
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Cheek(92°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

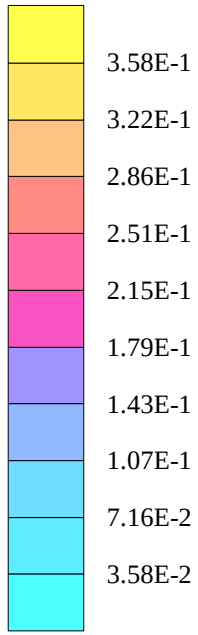




PY7A1021041

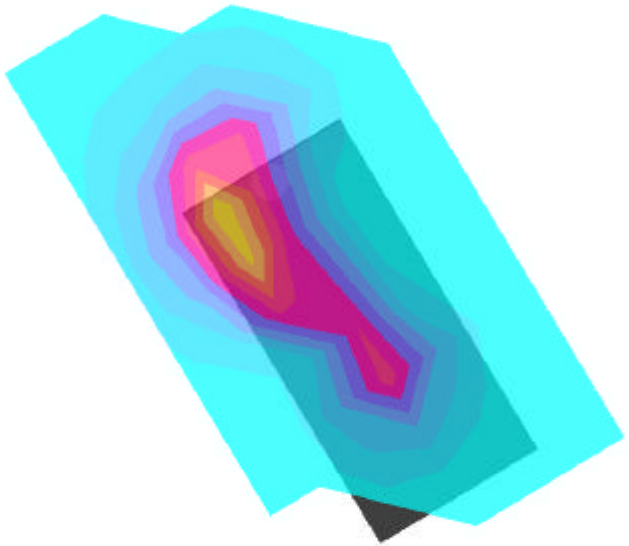
SAM 4 Phantom; Righ Hand Section; Position: (92°,301°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.319 mW/g, SAR (10g): 0.173 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.11 dB
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Cheek(92°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

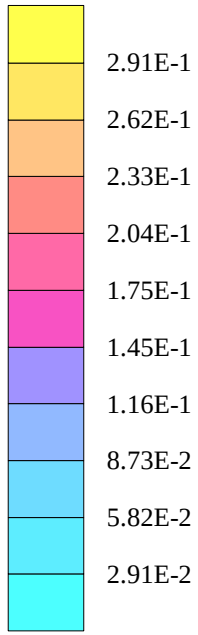




PY7A1021041

SAM 4 Phantom; Righ Hand Section; Position: (92°,301°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.262 mW/g, SAR (10g): 0.144 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.07 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Cheek(92°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree





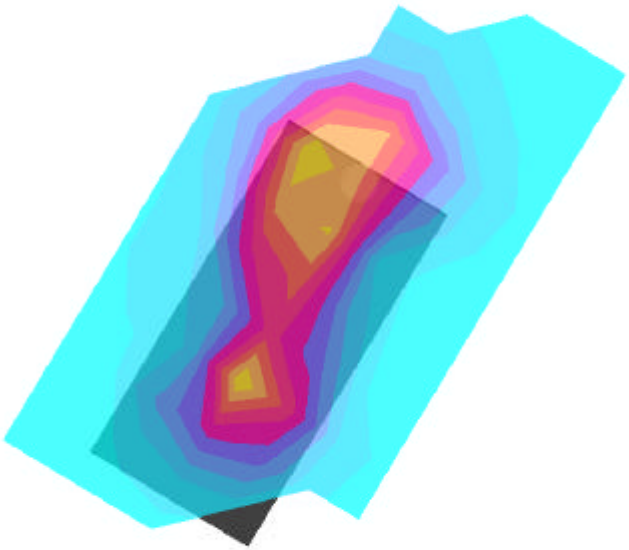
PY7A1021041

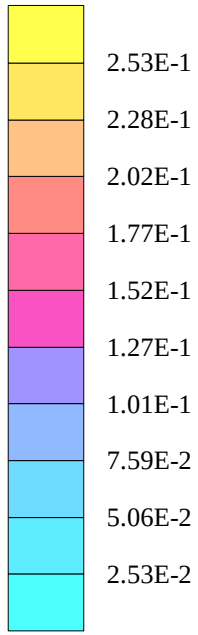
SAM 4 Phantom; Left Hand Section; Position: (92°,59°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.226 mW/g, SAR (10g): 0.124 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Cheek(92°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

PY7A1021041

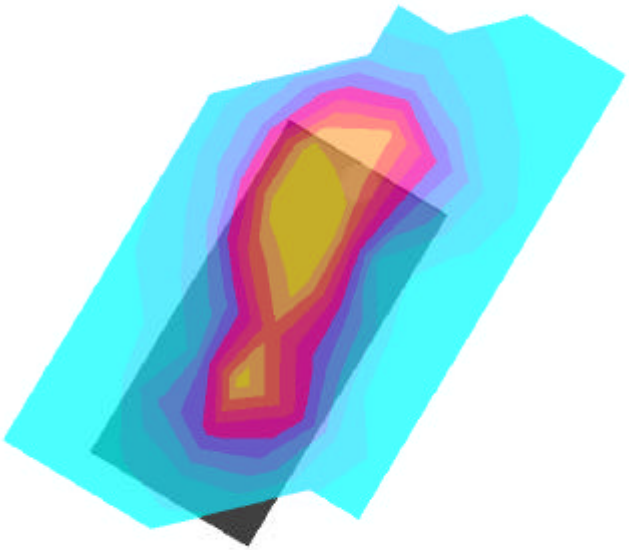
SAM 4 Phantom; Left Hand Section; Position: (92°,59°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.237 mW/g, SAR (10g): 0.141 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.08 dB
PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Cheek(92°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

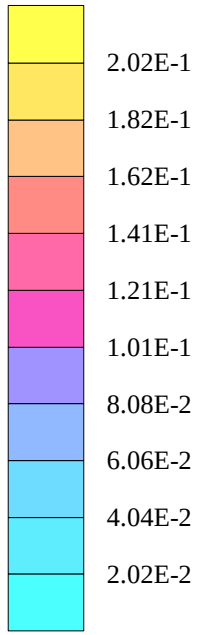




PY7A1021041

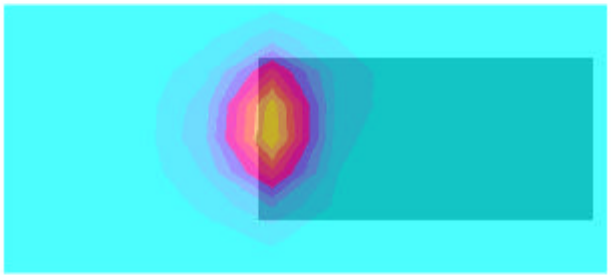
SAM 4 Phantom; Left Hand Section; Position: (92°,59°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.210 mW/g, SAR (10g): 0.124 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.14 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Cheek(92°)
Phone Position,Left Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree

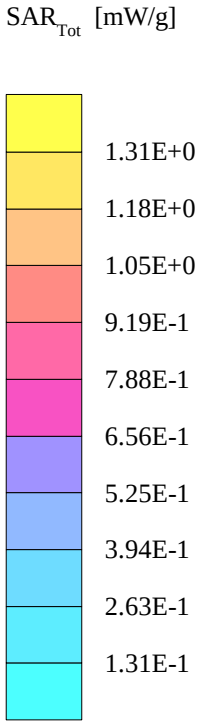




PY7A1021041

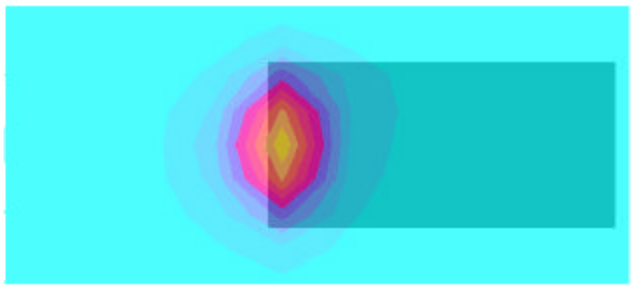
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.27 mW/g, SAR (10g): 0.683 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.09 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Back side
Phone Position+ 15mm distance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;blue tooth on

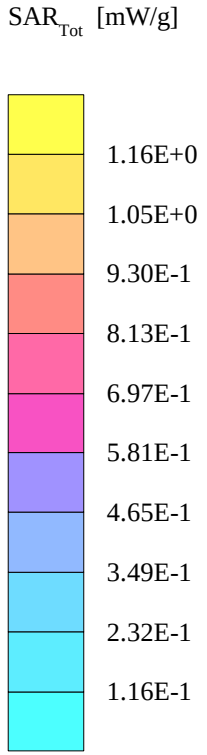




PY7A1021041

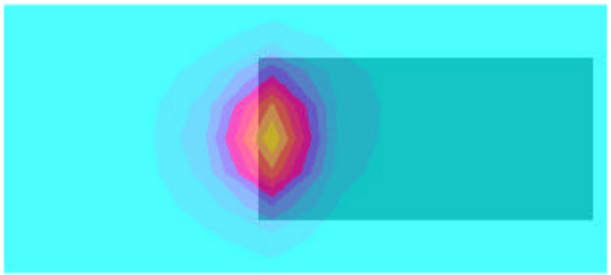
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.08 mW/g, SAR (10g): 0.587 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.10 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Back side
Phone Position+ 15mmdistance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree

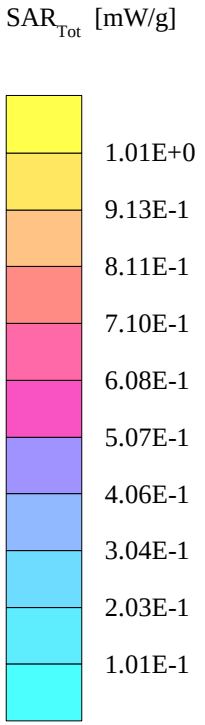




PY7A1021041

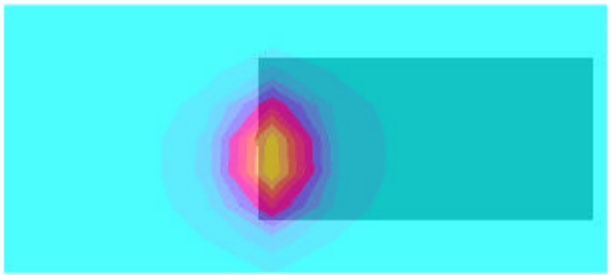
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.943 mW/g, SAR (10g): 0.515 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.10 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Back side
Phone Position+ 15mmdistance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

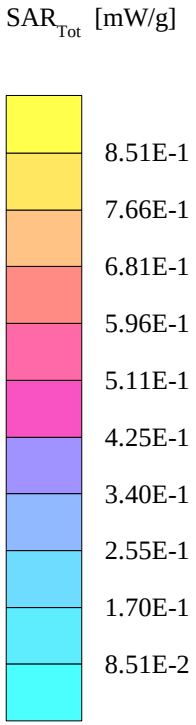




PY7A1021041

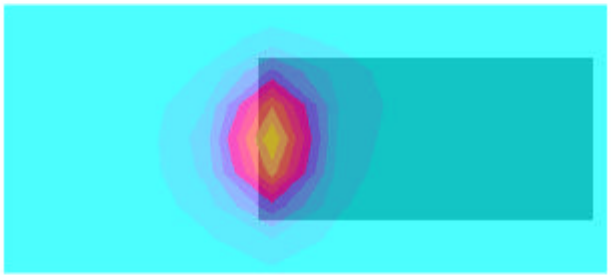
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.57 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.815 mW/g, SAR (10g): 0.437 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.03 dB
K700i;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Back side(90°)
Phone+15mm Distance ,Flat Side, Tissue's temprature:21 C-degree and ambient temprature
25 C-degree ,040406

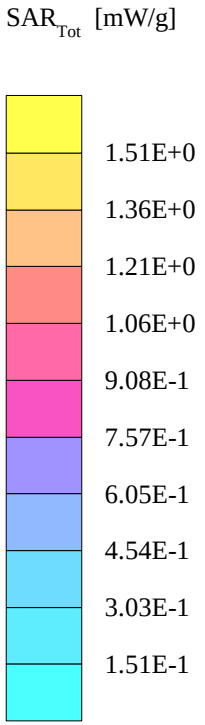




PY7A1021041

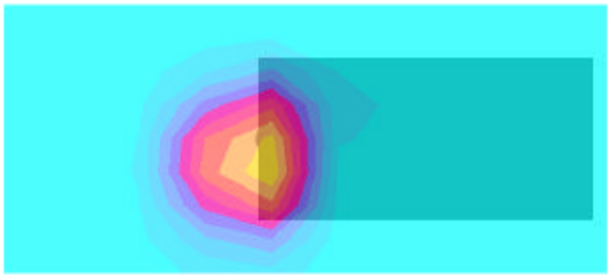
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.33 mW/g, SAR (10g): 0.724 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.06 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Front side
Phone Position+ 15mm distance,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS

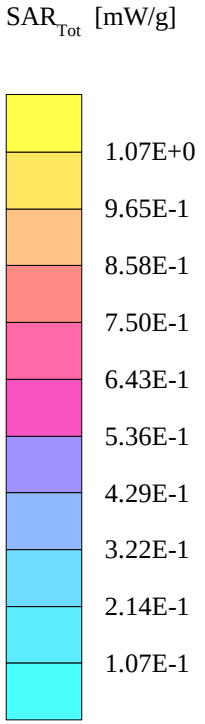




PY7A1021041

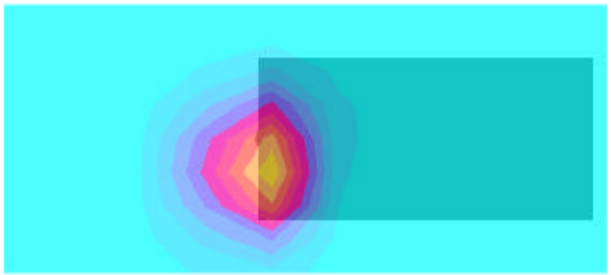
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.27 mW/g, SAR (10g): 0.701 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.16 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Back side
Phone Position+ Belt Holder ,Flat Side Phantom, 040422, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS+TWO time slots

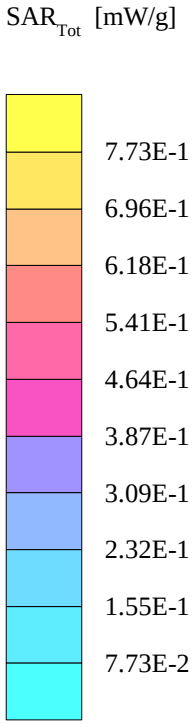




PY7A1021041

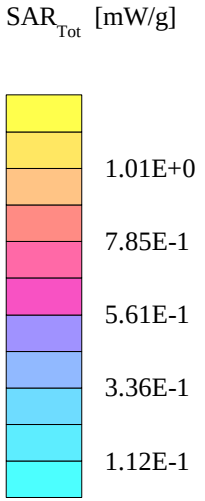
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.807 mW/g, SAR (10g): 0.447 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.04 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Back side
Phone Position+ Belt Holder ,Flat Side Phantom, 040422, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS+TWO time slots





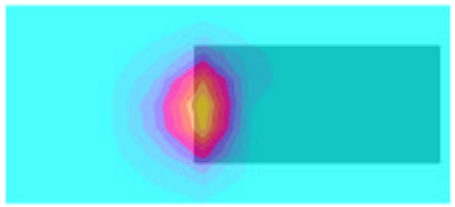
PY7A1021041

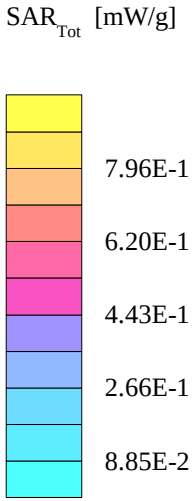
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.10 mW/g, SAR (10g): 0.598 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.08 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Back side
Phone Position+ Belt Holder ,Flat Side Phantom, 040422, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS+TWO time slots



PY7A1021041

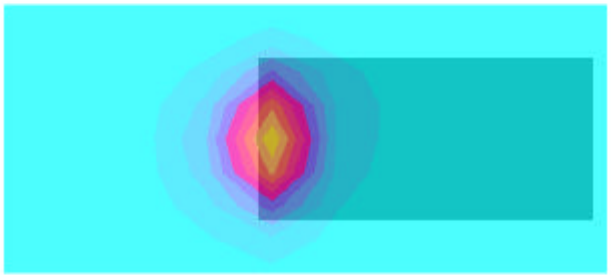
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m $?_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.897 mW/g, SAR (10g): 0.487 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.15 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Back side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

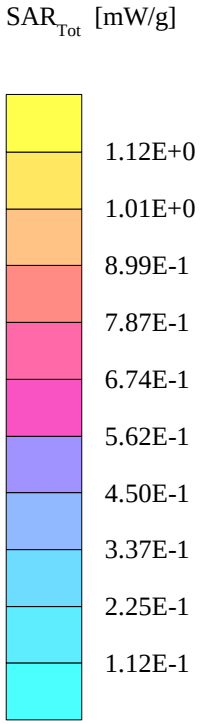




PY7A1021041

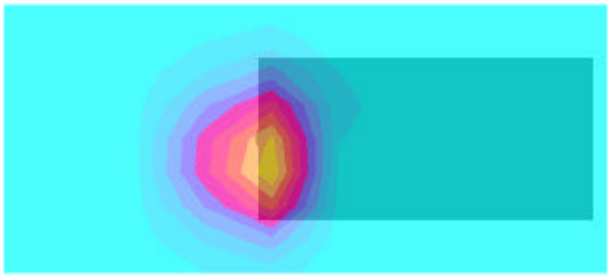
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.05 mW/g, SAR (10g): 0.571 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.03 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Back side
Phone Position+ Beltholder ,Flat Side Phantom, 040422, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS+TWO time slots

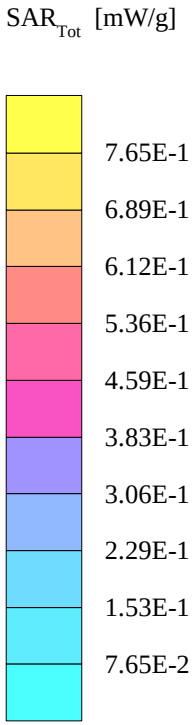




PY7A1021041

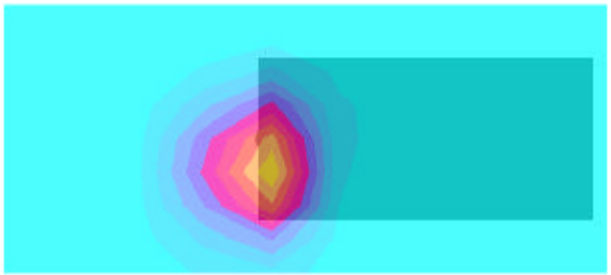
SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 8.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.784 mW/g, SAR (10g): 0.437 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.11 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1880MHz(ch661), Back side
Phone Position+ Belt Holder,Flat SidePhantom, 040421, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree

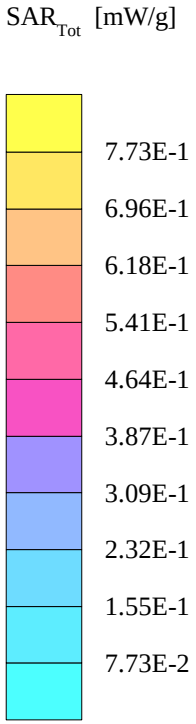




PY7A1021041

SAM 4 Phantom; Flat Section; Position: (270°,90°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1585; ConvF(4.56,4.56,4.56); Crest factor: 4.0; Muscle 1900: ? = 1.52 mho/m ?$_r$ = 50.5 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.807 mW/g, SAR (10g): 0.447 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.04 dB
PY7A1021041s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1850MHz(ch512), Back side
Phone Position+ Belt Holder ,Flat Side Phantom, 040422, tissue's temprature:22 C-degree
and ambient temprature 25 C-degree;GPRS+TWO time slots

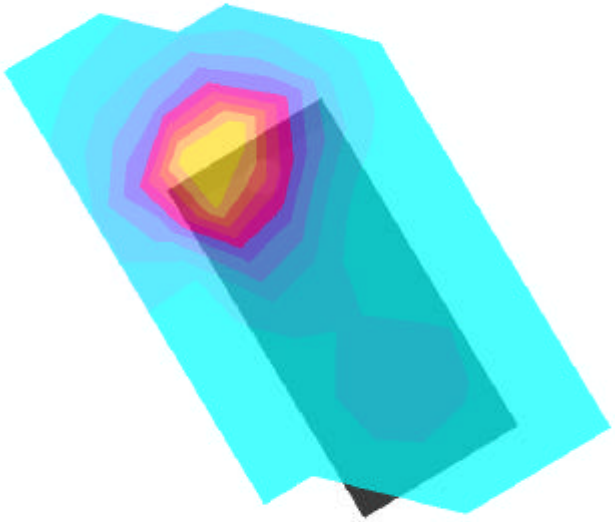


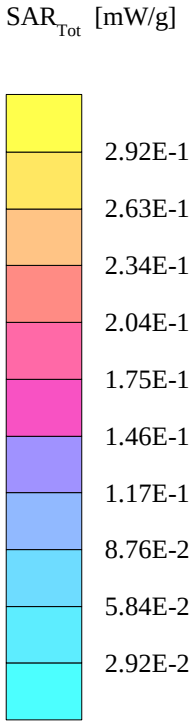


PY7A1021041

SAM 4 Phantom; Righ Hand Section; Position: (107°,301°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1585; ConvF(5.26,5.26,5.26); Crest factor: 8.0; Head 1900MHz: ? = 1.47 mho/m ?$_r$ = 39.8 ? = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.301 mW/g, SAR (10g): 0.171 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

PY7A1021041;s/n A6101TWY9N 04w11,EP6 ; GSM1900MHz, 1910MHz(ch810), Tilt(107°)
Phone Position,Right Hand Side, 040420, tissue's temprature:22 C-degree and ambient
temprature 25 C-degree





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

Client **Sony Ericsson Lund**

CALIBRATION CERTIFICATE

Object(s) ET3DV6 - SN:1585

Calibration procedure(s) QA CAL-01.v2
Calibration procedure for dosimetric E-field probes

Calibration date: March 18, 2004

Condition of the calibrated item In Tolerance (according to the specific calibration document)

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 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E4419B	GB41293874	2-Apr-03 (METAS, No 252-0250)	Apr-04
Power sensor E4412A	MY41495277	2-Apr-03 (METAS, No 252-0250)	Apr-04
Reference 20 dB Attenuator	SN: 5086 (20b)	3-Apr-03 (METAS, No. 251-0340)	Apr-04
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug-02)	In house check: Aug-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Nico Vetterli	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: March 19, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Probe ET3DV6

SN:1585

Manufactured:	May 7, 2001
Last calibrated:	April 16, 2003
Recalibrated:	March 18, 2004

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1585

Sensitivity in Free Space

		Diode Compression[A]		
NormX	**1.84** $\mu V/(V/m)^2$	DCP X	**95**	mV
NormY	**1.71** $\mu V/(V/m)^2$	DCP Y	**95**	mV
NormZ	**1.90** $\mu V/(V/m)^2$	DCP Z	**95**	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Plese see Page 7.

Boundary Effect

Head **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Cener to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	8.3	4.4
SAR_{be} [%]	With Correction Algorithm	0.0	0.2

Head **1800 MHz** **Typical SAR gradient: 10 % per mm**

Sensor to Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	12.1	8.2
SAR_{be} [%]	With Correction Algorithm	0.2	0.1

Sensor Offset

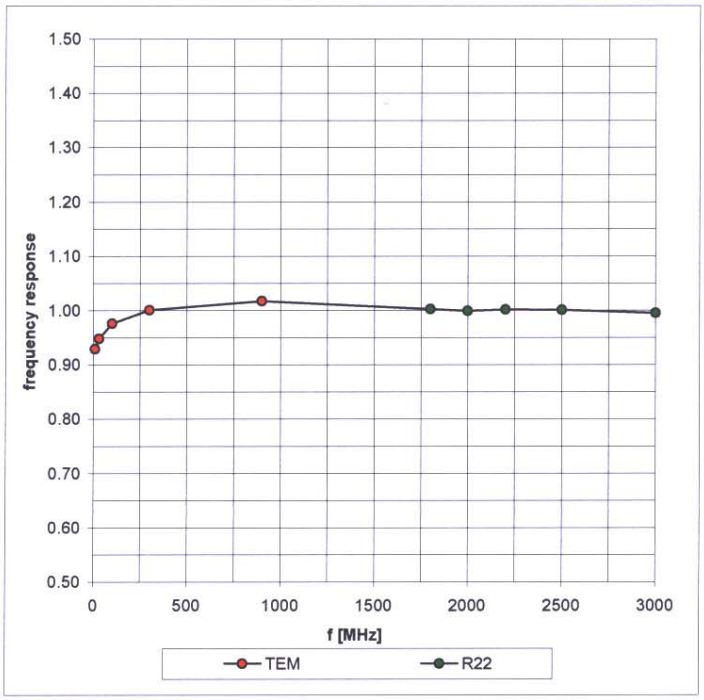
Probe Tip to Sensor Center	**2.7** mm
Optical Surface Detection	**in tolerance**

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

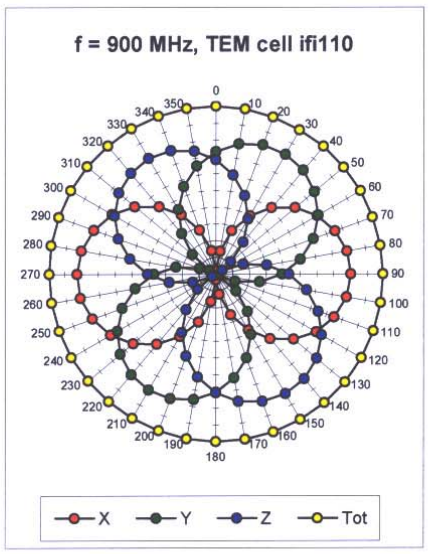
[A] numerical linearization parameter: uncertainty not required

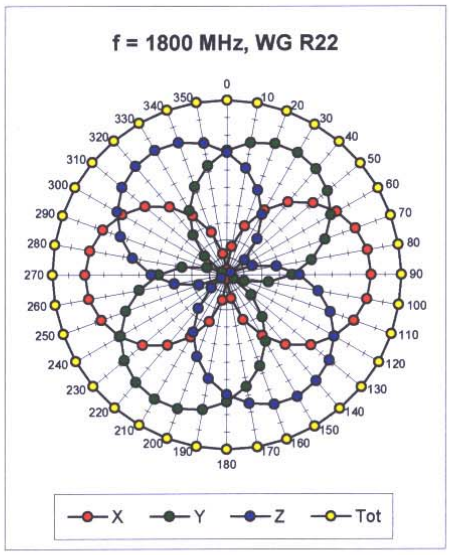
Frequency Response of E-Field

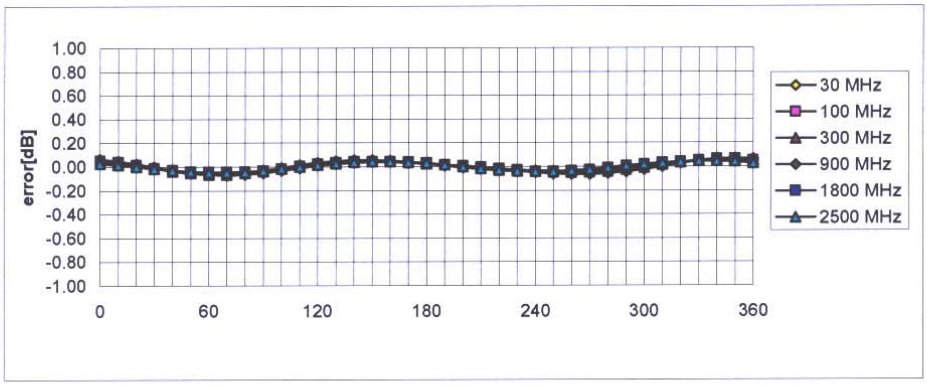
(TEM-Cell:ifi110, Waveguide R22)



Receiving Pattern (ϕ) , θ = 0°



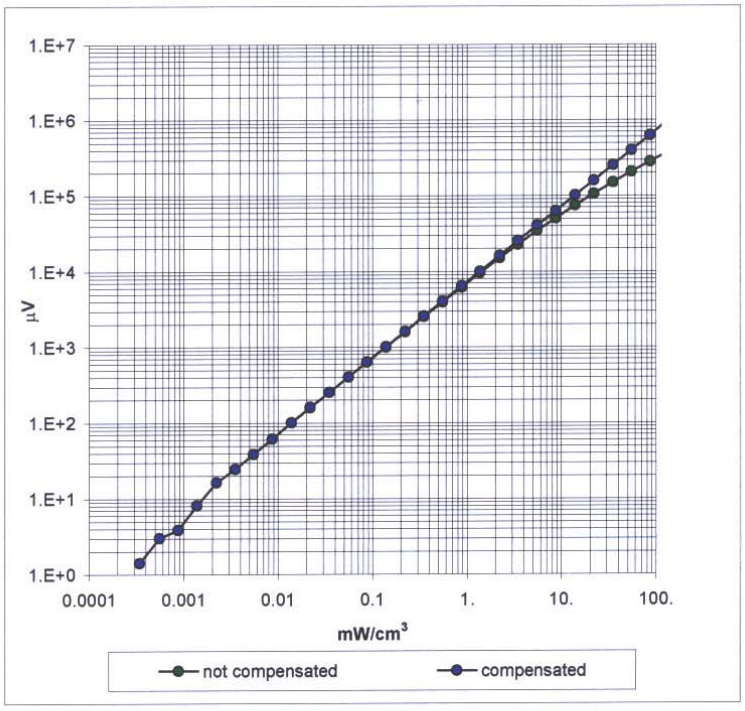


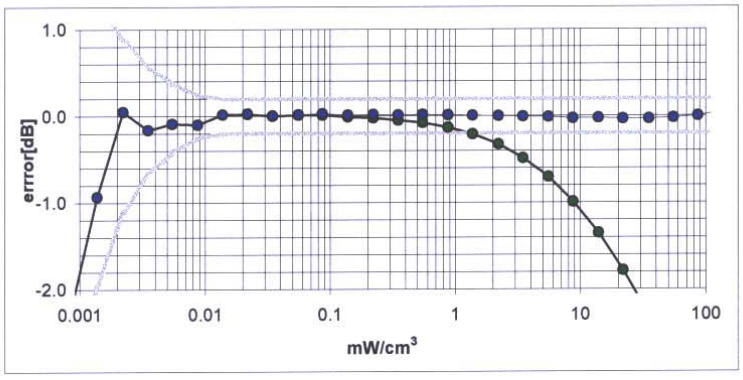


Axial Isotropy Error < ± 0.2 dB

Dynamic Range f(SAR_{head})

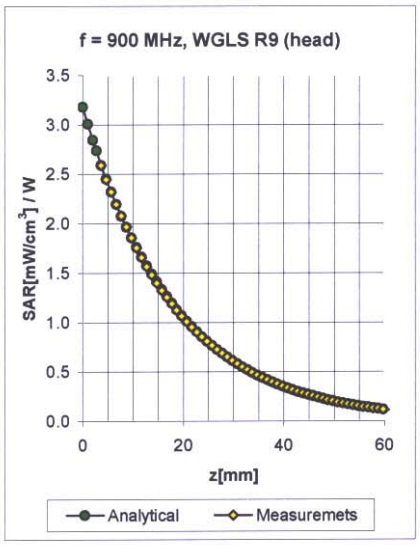
(Waveguide R22)

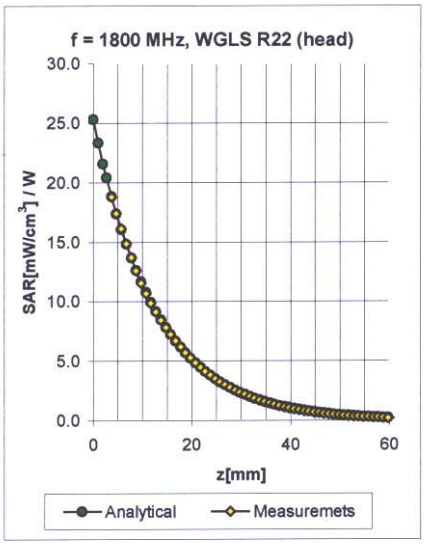




Probe Linearity < ± 0.2 dB

Conversion Factor Assessment



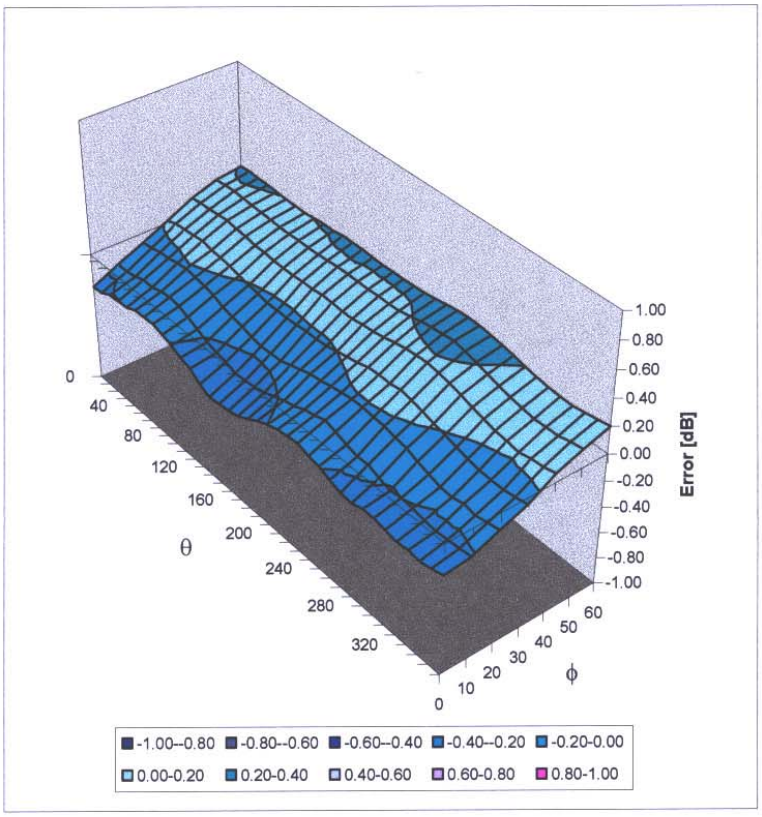


f [MHz]	Validity [MHz][B]	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	785-885	Head	41.5 ± 5%	0.90 ± 5%	0.43	2.18	6.91 ± 9.7% (k=2)
900	850-950	Head	41.5 ± 5%	0.97 ± 5%	0.58	1.83	6.67 ± 9.7% (k=2)
1750	1700-1800	Head	40.0 ± 5%	1.40 ± 5%	0.45	2.67	5.57 ± 9.7% (k=2)
1900	1850-1950	Head	40.0 ± 5%	1.40 ± 5%	0.45	2.94	5.26 ± 9.7% (k=2)
2000	1950-2050	Head	40.0 ± 5%	1.40 ± 5%	0.45	3.21	4.96 ± 9.7% (k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	0.80	2.03	4.74 ± 9.7% (k=2)
835	785-885	Body	55.2 ± 5%	0.97 ± 5%	0.46	2.10	6.58 ± 9.7% (k=2)
900	850-950	Body	55.0 ± 5%	1.05 ± 5%	0.81	1.51	6.38 ± 9.7% (k=2)
1750	1700-1800	Body	53.3 ± 5%	1.52 ± 5%	0.52	2.86	4.77 ± 9.7% (k=2)
1900	1850-1950	Body	53.3 ± 5%	1.52 ± 5%	0.56	2.88	4.56 ± 9.7% (k=2)
2000	1950-2050	Body	53.3 ± 5%	1.52 ± 5%	0.65	2.45	4.45 ± 9.7% (k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.01	1.60	4.36 ± 9.7% (k=2)

[B] The total standard uncertainty is calculated as root-sum-square of standard uncertainty of the Conversion Factor at calibration frequency and the standard uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL

Error (θ,ϕ), f = 900 MHz



Spherical Isotropy Error < ± 0.4 dB