APPENDIX B - SYSTEM CHECK DATA

System Performance Check - 450MHz Dipole

Validation Planar Phantom; Planar Section

Probe: ET3DV6 - SN1590; ConvF(7.80,7.80,7.80); Crest factor: 1.0; 450 MHz Brain: $\sigma = 0.86$ mho/m $\varepsilon_r = 43.6$ $\rho = 1.00$ g/cm^3

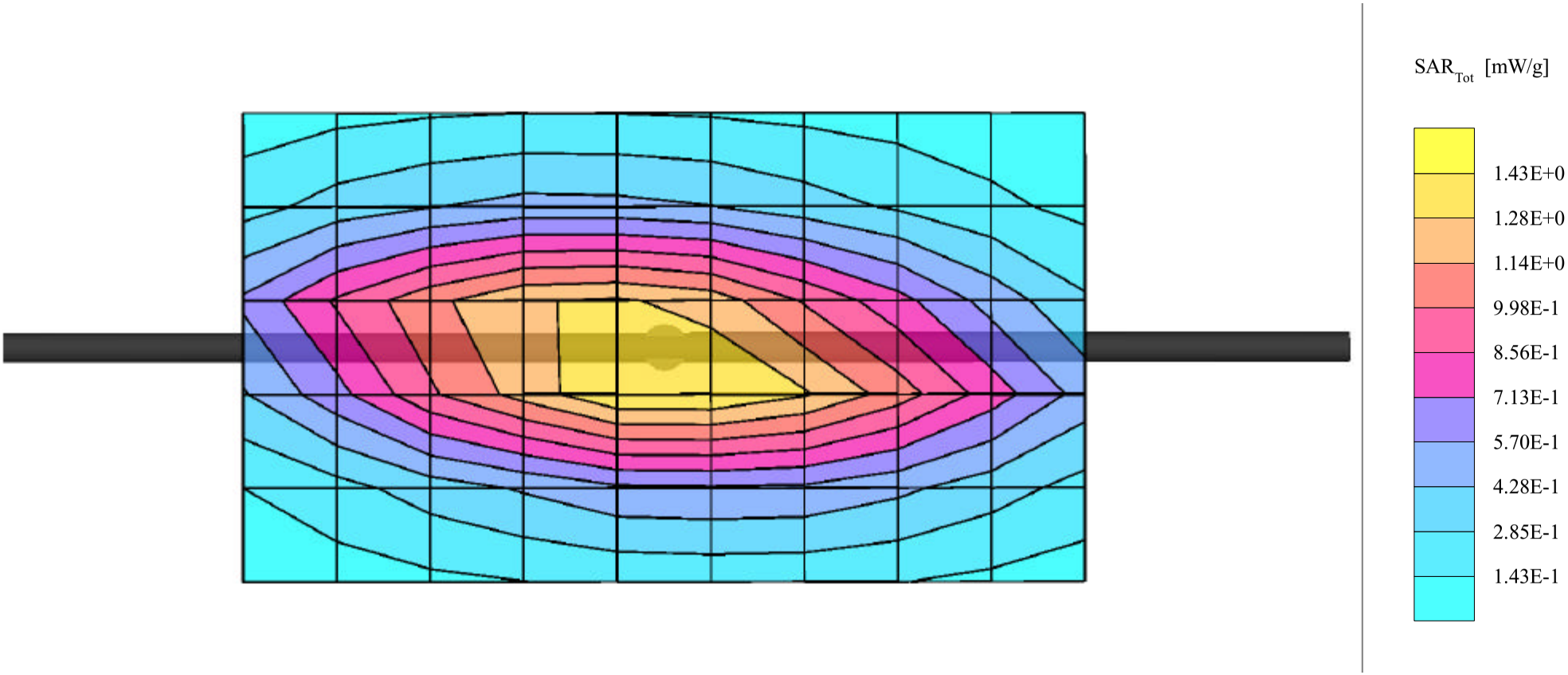
Cube 5x5x7: Peak: 1.92 mW/g, SAR (1g): 1.20 mW/g, SAR (10g): 0.783 mW/g, (Worst-case extrapolation)

Penetration depth: 12.2 (10.4, 14.1) [mm]; Powerdrift: -0.02 dB

Ambient Temp: 22.8°C; Fluid Temp: 22.5°C

Forward Conducted Power: 250 mW

Date Tested: March 03, 2003



System Performance Check - 450MHz Dipole

Validation Planar Phantom; Planar Section

Probe: ET3DV6 - SN1590; ConvF(7.80,7.80,7.80); Crest factor: 1.0; 450 MHz Brain: σ = 0.88 mho/m ε_r = 44.8 ρ = 1.00 g/cm^3

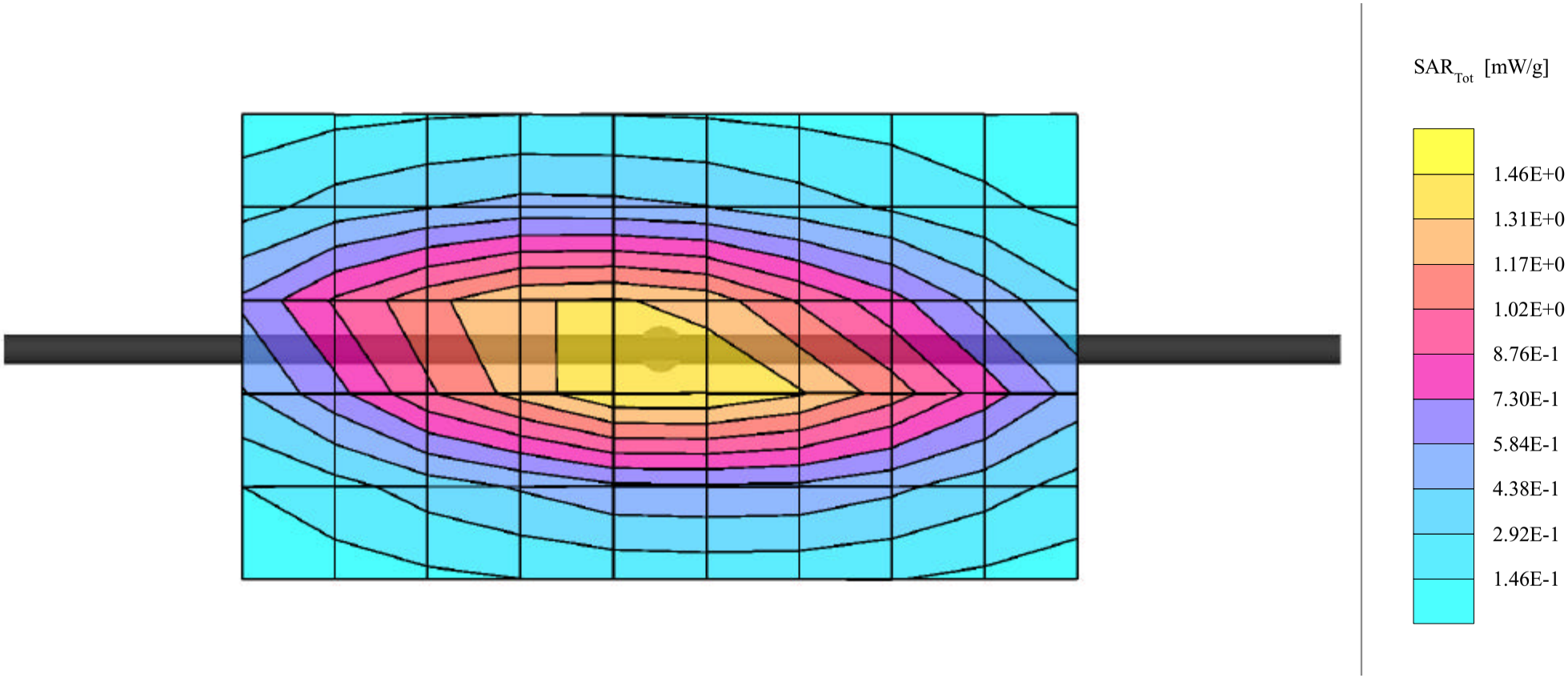
Cube 5x5x7: Peak: 1.97 mW/g, SAR (1g): 1.23 mW/g, SAR (10g): 0.800 mW/g, (Worst-case extrapolation)

Penetration depth: 12.1 (10.3, 14.0) [mm]; Powerdrift: -0.01 dB

Ambient Temp: 23.2°C; Fluid Temp: 20.4°C

Forward Conducted Power: 250 mW

Date Tested: March 04, 2003



System Performance Check - 450MHz Dipole

Validation Planar Phantom; Planar Section

Probe: ET3DV6 - SN1590; ConvF(7.80,7.80,7.80); Crest factor: 1.0; 450 MHz Brain: $\sigma = 0.87$ mho/m $\varepsilon_r = 44.1$ $\rho = 1.00$ g/cm^3

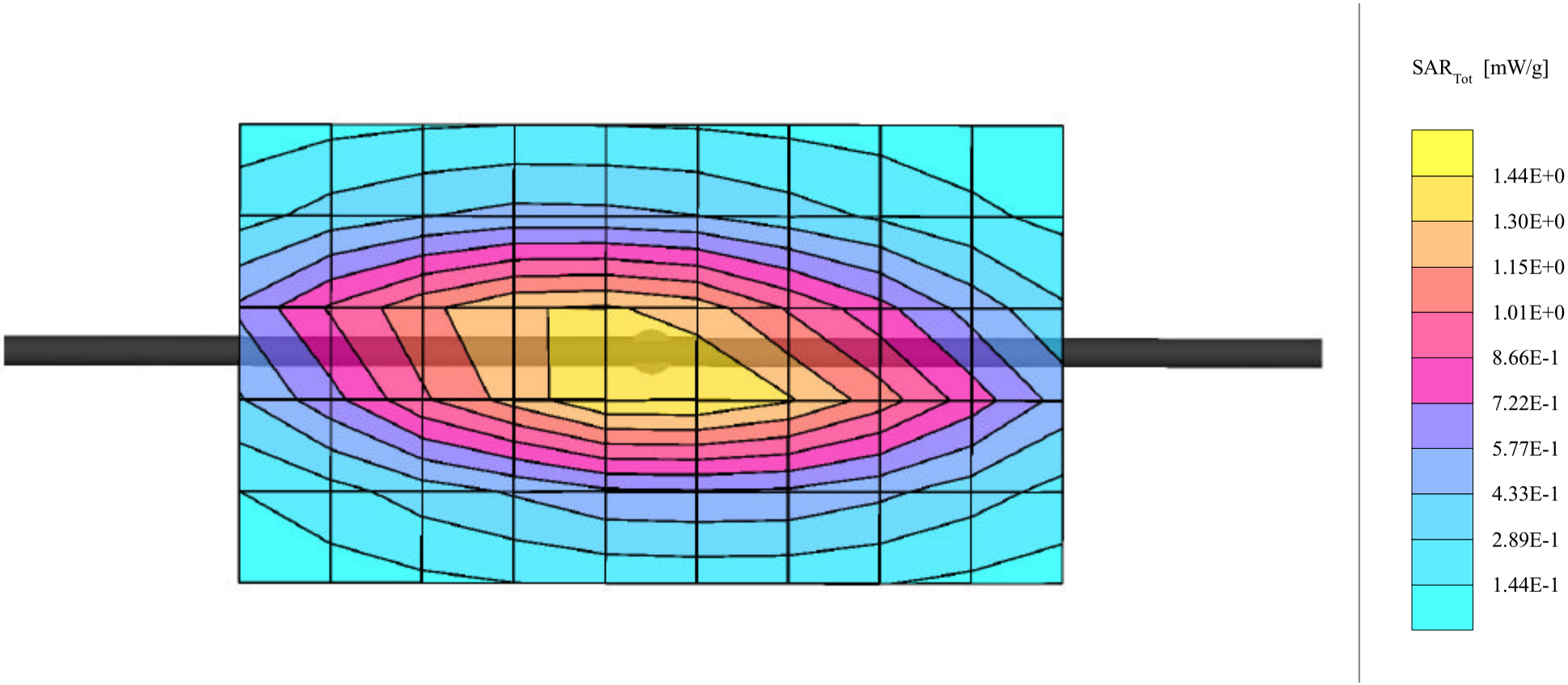
Cube 5x5x7: Peak: 2.03 mW/g, SAR (1g): 1.26 mW/g, SAR (10g): 0.819 mW/g, (Worst-case extrapolation)

Penetration depth: 12.1 (10.1, 14.0) [mm]; Powerdrift: 0.02 dB

Ambient Temp: 23.2°C; Fluid Temp: 22.4°C

Forward Conducted Power: 250 mW

Date Tested: March 05, 2003



System Performance Check - 450MHz Dipole

Validation Planar Phantom; Planar Section

Probe: ET3DV6 - SN1590; ConvF(7.80,7.80,7.80); Crest factor: 1.0; 450 MHz Brain: $\sigma = 0.86$ mho/m $\varepsilon_r = 44.3$ $\rho = 1.00$ g/cm^3

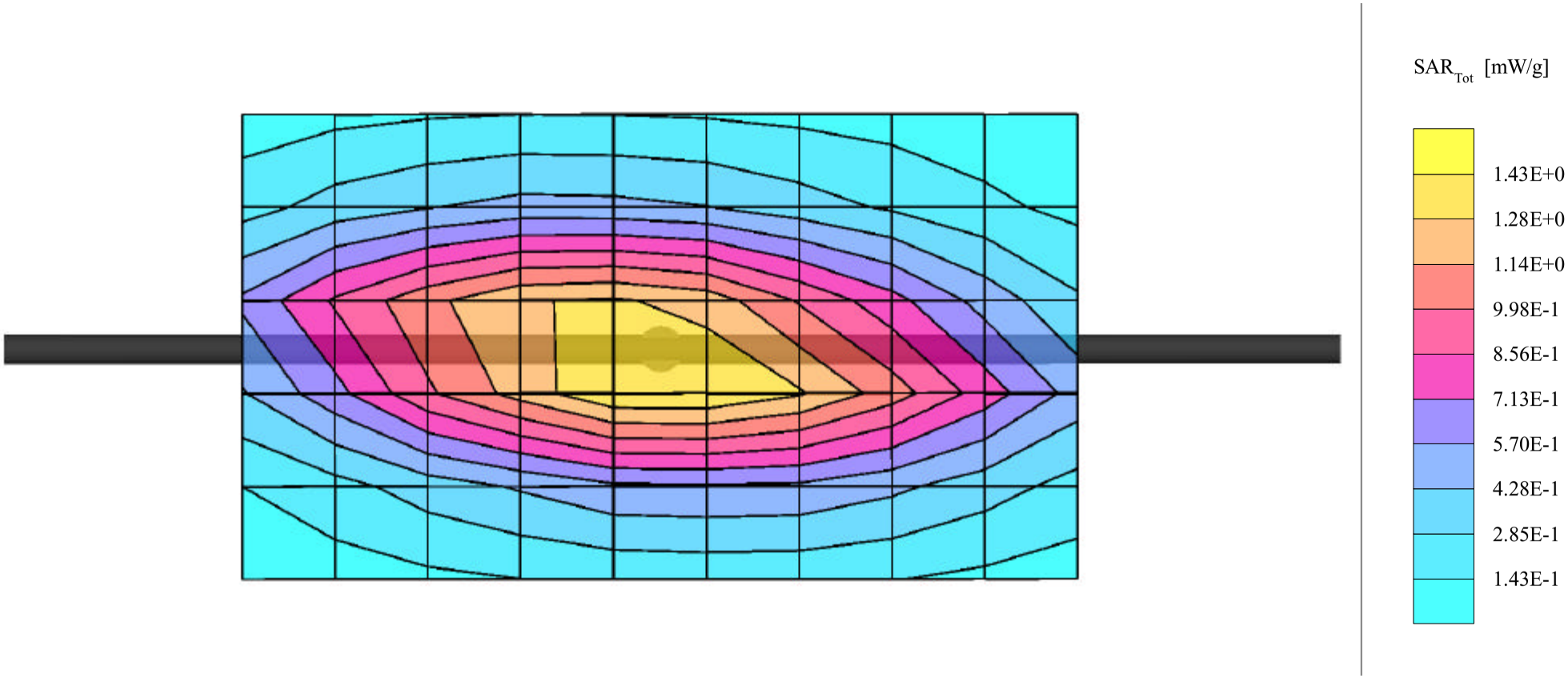
Cube 5x5x7: Peak: 1.95 mW/g, SAR (1g): 1.21 mW/g, SAR (10g): 0.786 mW/g, (Worst-case extrapolation)

Penetration depth: 11.9 (10.2, 14.0) [mm]; Powerdrift: -0.03 dB

Ambient Temp: 23.2°C; Fluid Temp: 22.7°C

Forward Conducted Power: 250 mW

Date Tested: March 06, 2003



System Performance Check - 450MHz Dipole

Validation Planar Phantom; Planar Section

Probe: ET3DV6 - SN1590; ConvF(7.80,7.80,7.80); Crest factor: 1.0; 450 MHz Brain: $\sigma = 0.89$ mho/m $\varepsilon_r = 44.6$ $\rho = 1.00$ g/cm^3

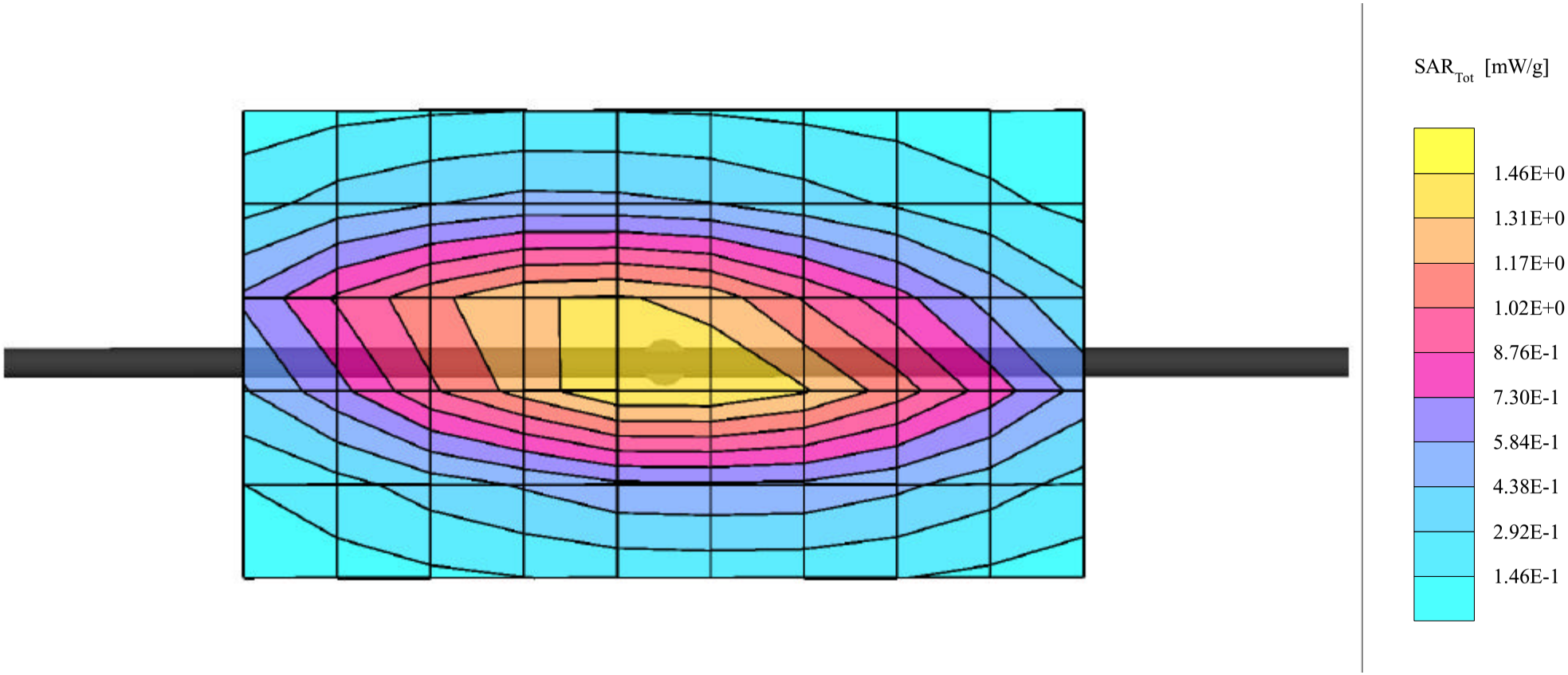
Cube 5x5x7: Peak: 2.00 mW/g, SAR (1g): 1.25 mW/g, SAR (10g): 0.810 mW/g, (Worst-case extrapolation)

Penetration depth: 12.0 (10.1, 14.1) [mm]; Powerdrift: -0.01 dB

Ambient Temp: 23.2°C; Fluid Temp: 20.5°C

Forward Conducted Power: 250 mW

Date Tested: March 07, 2003



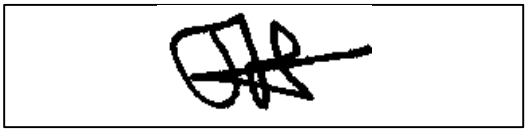
APPENDIX C - SYSTEM VALIDATION

450MHz SYSTEM VALIDATION DIPOLE

Type:	**450MHz Validation Dipole**
Serial Number:	**136**
Place of Calibration:	**Celltech Research Inc.**
Date of Calibration:	**October 17, 2002**

Celltech Research Inc. hereby certifies that this device has been calibrated on the date indicated above.

Calibrated by: 

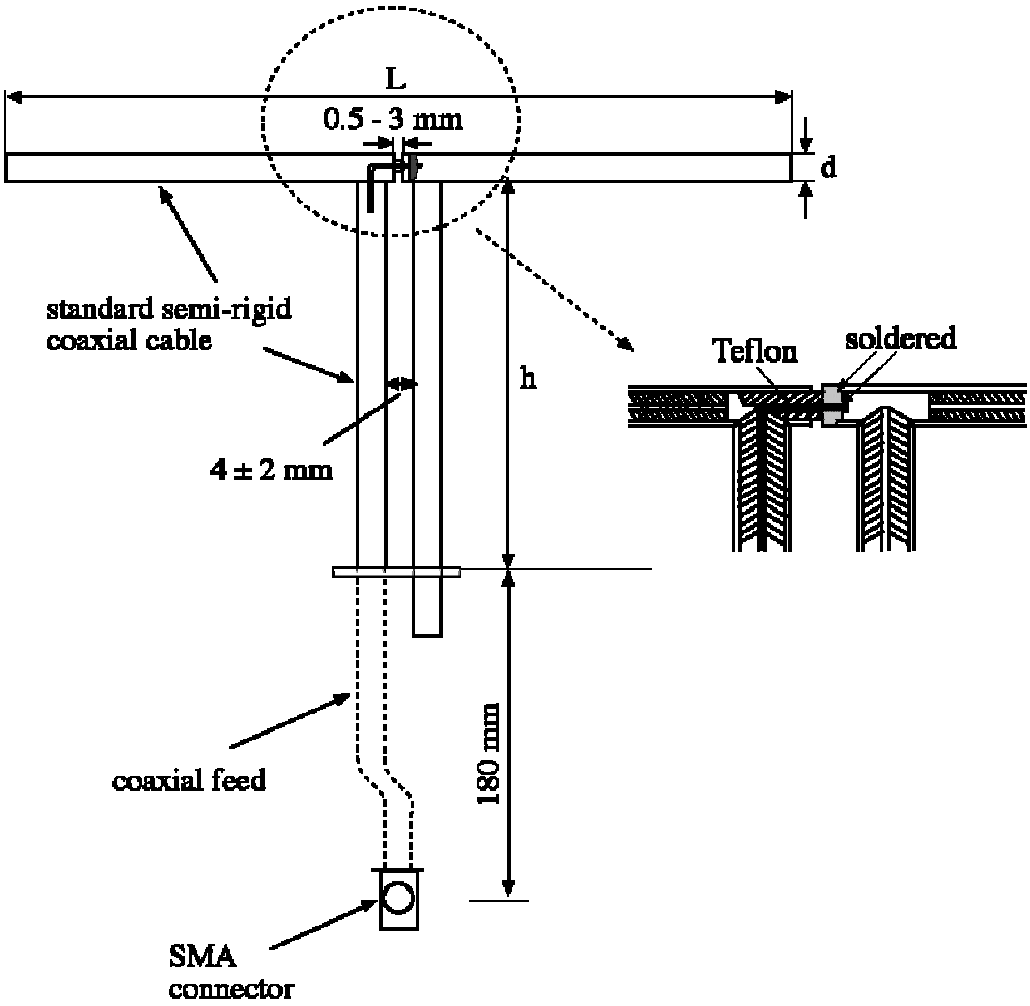
Approved by: 

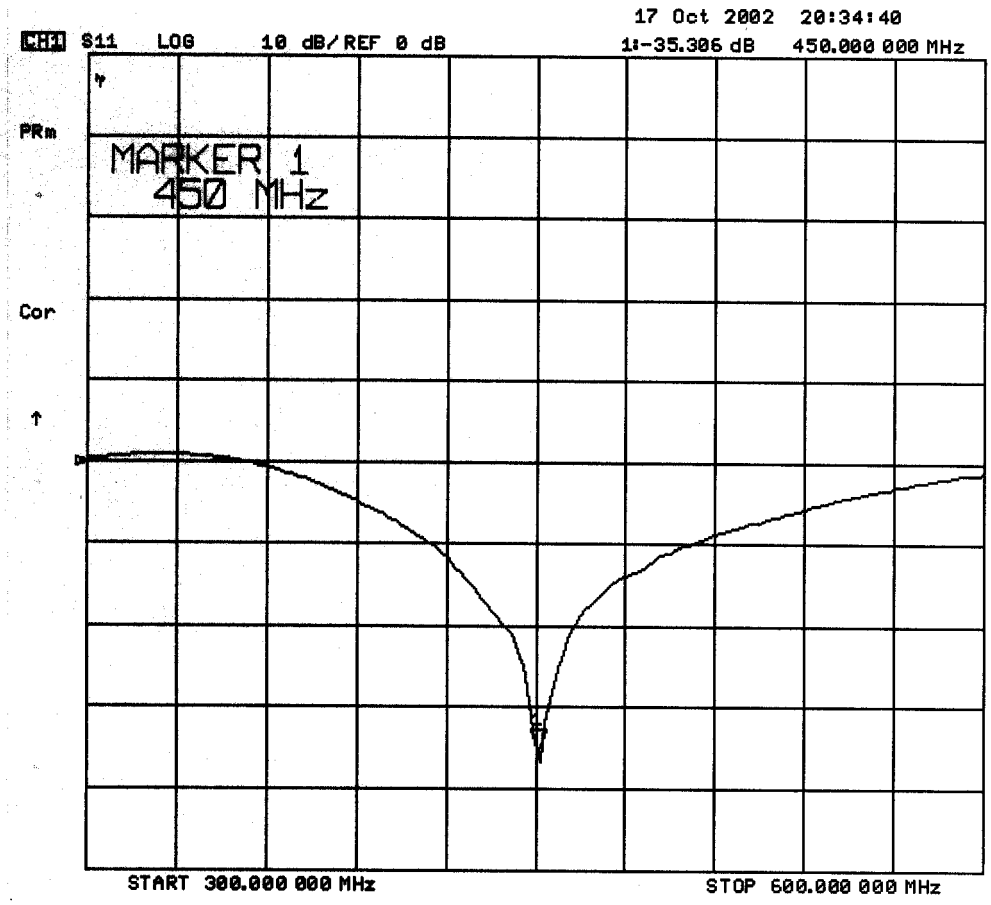
Celltech Research Inc. 1955 Moss Court, Kelowna, B.C. Canada V1Y 9L3
Tel. 250-448-7047 • Fax. 250-448-7046 • e-mail: info@celltechlabs.com
www.celltechlabs.com

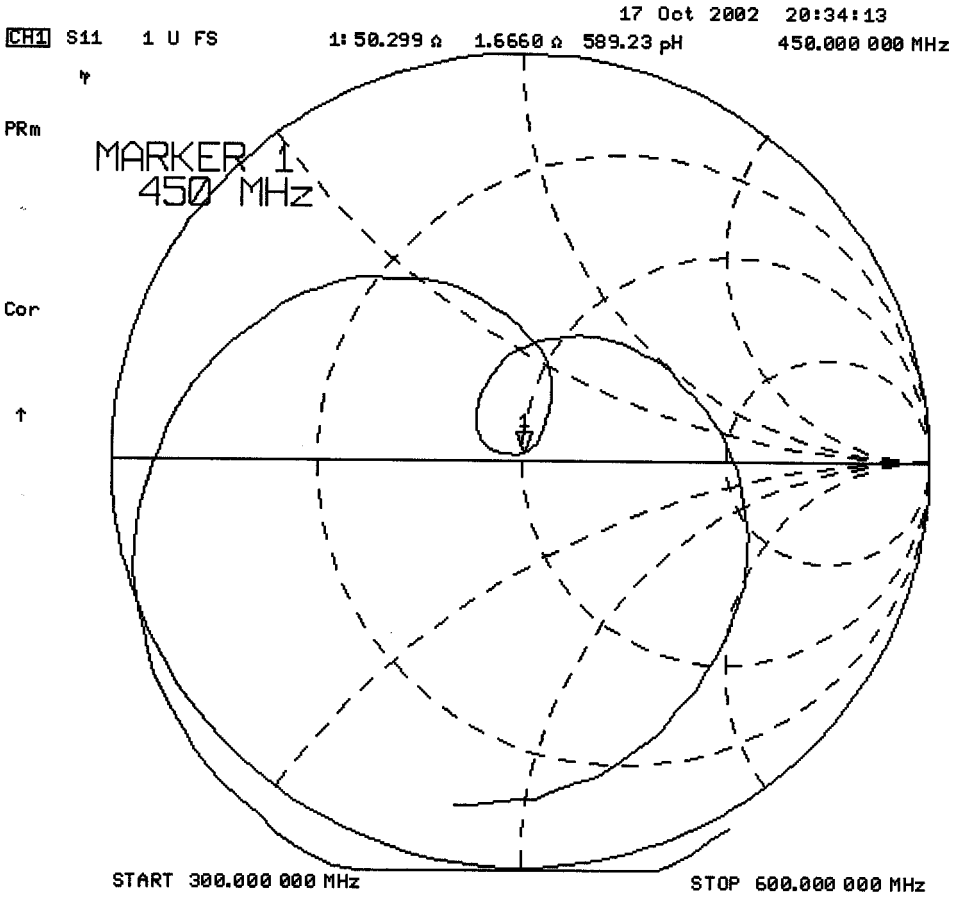
1. Dipole Construction & Electrical Characteristics

The validation dipole was constructed in accordance with the IEEE Std "Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques". The electrical properties were measured using an HP 8753E Network Analyzer. The network analyzer was calibrated to the validation dipole N-type connector feed point using an HP85032E Type N calibration kit. The dipole was placed parallel to a planar phantom at a separation distance of 15.0mm from the simulating fluid using a loss-less dielectric spacer. The measured input impedance is:

Feed point impedance at 450MHz	Re{Z} = 50.299Ω
	Im{Z} = 1.6660Ω
Return Loss at 450MHz	-35.306dB




17 Oct 2002 20:34:40
CH1 S11 LOG 10 dB/ REF 0 dB
1:-35.306 dB 450.000 000 MHz
PRm
MARKER 1
450 MHz
Cor
START 300.000 000 MHz
STOP 600.000 000 MHz


17 Oct 2002 20:34:13
CH1 S11 1 U FS
1: 50.299 Ω 1.6660 Ω 589.23 pH
450.000 000 MHz
PRm
MARKER 1
450 MHz
Cor
START 300.000 000 MHz
STOP 600.000 000 MHz

Validation Dipole Dimensions

Frequency (MHz)	L (mm)	h (mm)	d (mm)
300	420.0	250.0	6.2
450	288.0	167.0	6.2
835	161.0	89.8	3.6
900	149.0	83.3	3.6
1450	89.1	51.7	3.6
1800	72.0	41.7	3.6
1900	68.0	39.5	3.6
2000	64.5	37.5	3.6
2450	51.8	30.6	3.6
3000	41.5	25.0	3.6

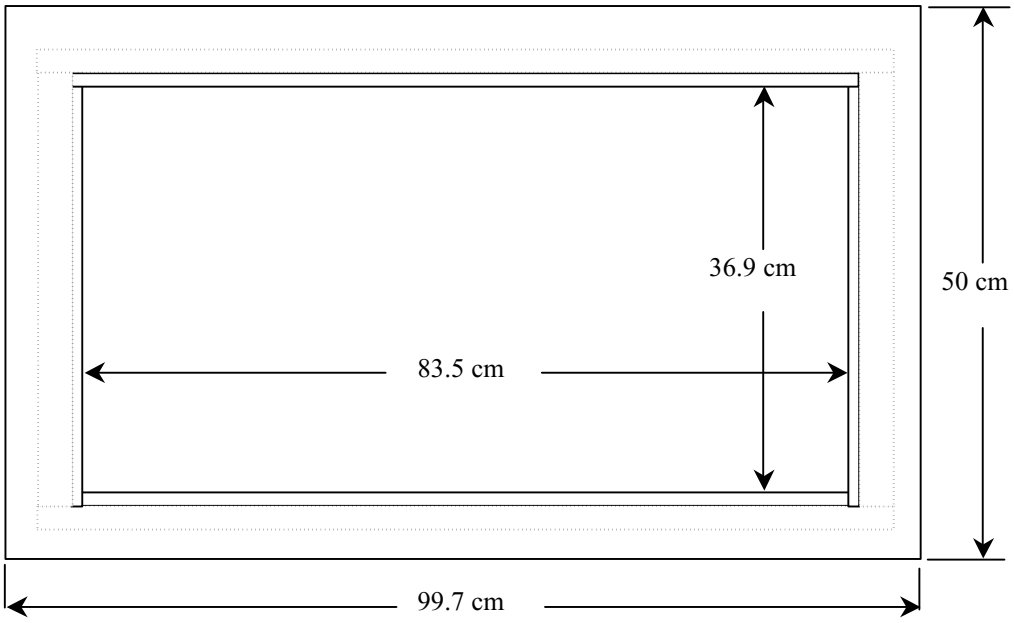
2. Validation Phantom

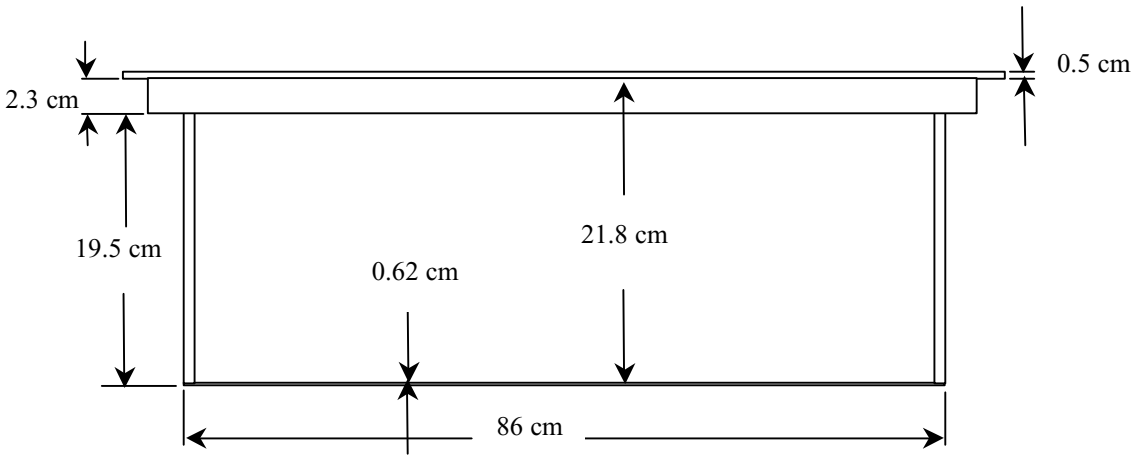
The validation phantom was constructed using relatively low-loss tangent Plexiglas material. The dimensions of the phantom are as follows:

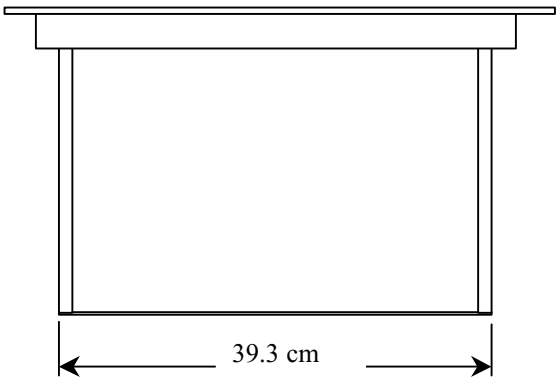
Length: 83.5 cm
Width: 36.9 cm
Height: 21.8 cm

The bottom of the phantom is constructed of 6.2 ± 0.1mm Plexiglas.

Dimensions of Plexiglas Planar Phantom







450MHz System Validation Setup

450MHz System Validation Setup

3. Measurement Conditions

The planar phantom was filled with brain simulating tissue having the following electrical parameters at 450MHz:

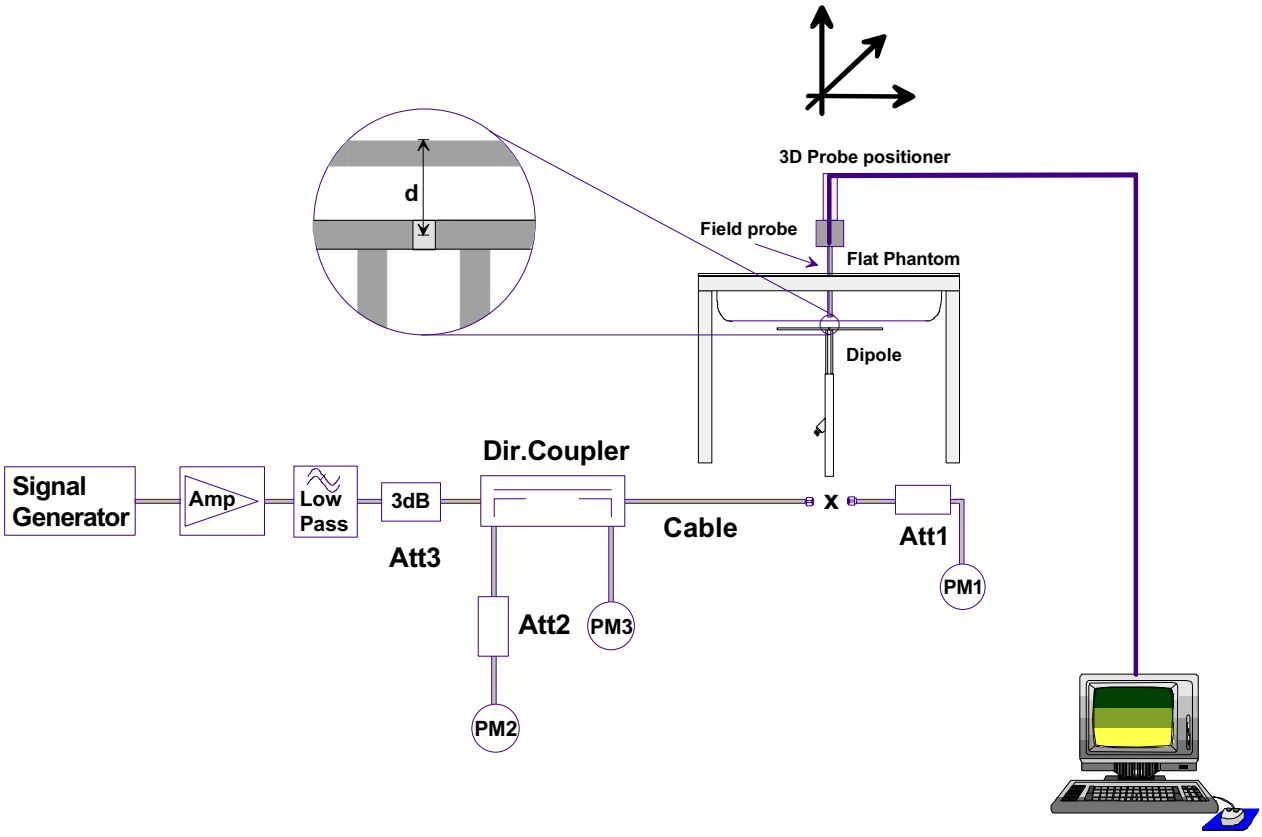
Relative Permittivity:	44.1
Conductivity:	0.88 mho/m
Ambient Temperature:	23.3 °C
Fluid Temperature:	22.2 °C
Fluid Depth:	≥ 15.0 cm

The 450MHz simulating tissue consists of the following ingredients:

Ingredient	Percentage by weight
Water	38.56%
Sugar	56.32%
Salt	3.95%
HEC	0.98%
Dowicil 75	0.19%
Target Dielectric Parameters at 22°C	ε_r = 43.5 σ = 0.87 S/m

4. SAR Measurement

The SAR measurement was performed with the E-field probe in mechanical detection mode only. The setup and determination of the forward power into the dipole was performed using the following procedures.



First the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the attenuation of Att1) as read by power meter PM2. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2. If the signal generator does not allow adjustment in 0.01dB steps, the remaining difference at PM2 must be taken into consideration. PM3 records the reflected power from the dipole to ensure that the value is not changed from the previous value. The reflected power should be 20dB below the forward power.

Ten SAR measurements were performed in order to achieve repeatability and to establish an average target value.

Validation Dipole SAR Test Results

Validation Measurement	SAR @ 0.25W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.25W Input averaged over 10g	SAR @ 1W Input averaged over 10g	Peak SAR @ 0.25W Input
Test 1	1.32	5.28	0.887	3.55	2.20
Test 2	1.26	5.04	0.856	3.42	2.09
Test 3	1.38	5.52	0.931	3.72	2.30
Test 4	1.36	5.44	0.917	3.67	2.27
Test 5	1.37	5.48	0.922	3.69	2.28
Test 6	1.33	5.32	0.896	3.58	2.22
Test 7	1.34	5.36	0.902	3.61	2.24
Test 8	1.33	5.32	0.895	3.58	2.21
Test 9	1.39	5.56	0.931	3.72	2.31
Test10	1.36	5.44	0.917	3.67	2.27
Average Value	1.34	5.38	0.905	3.62	2.24

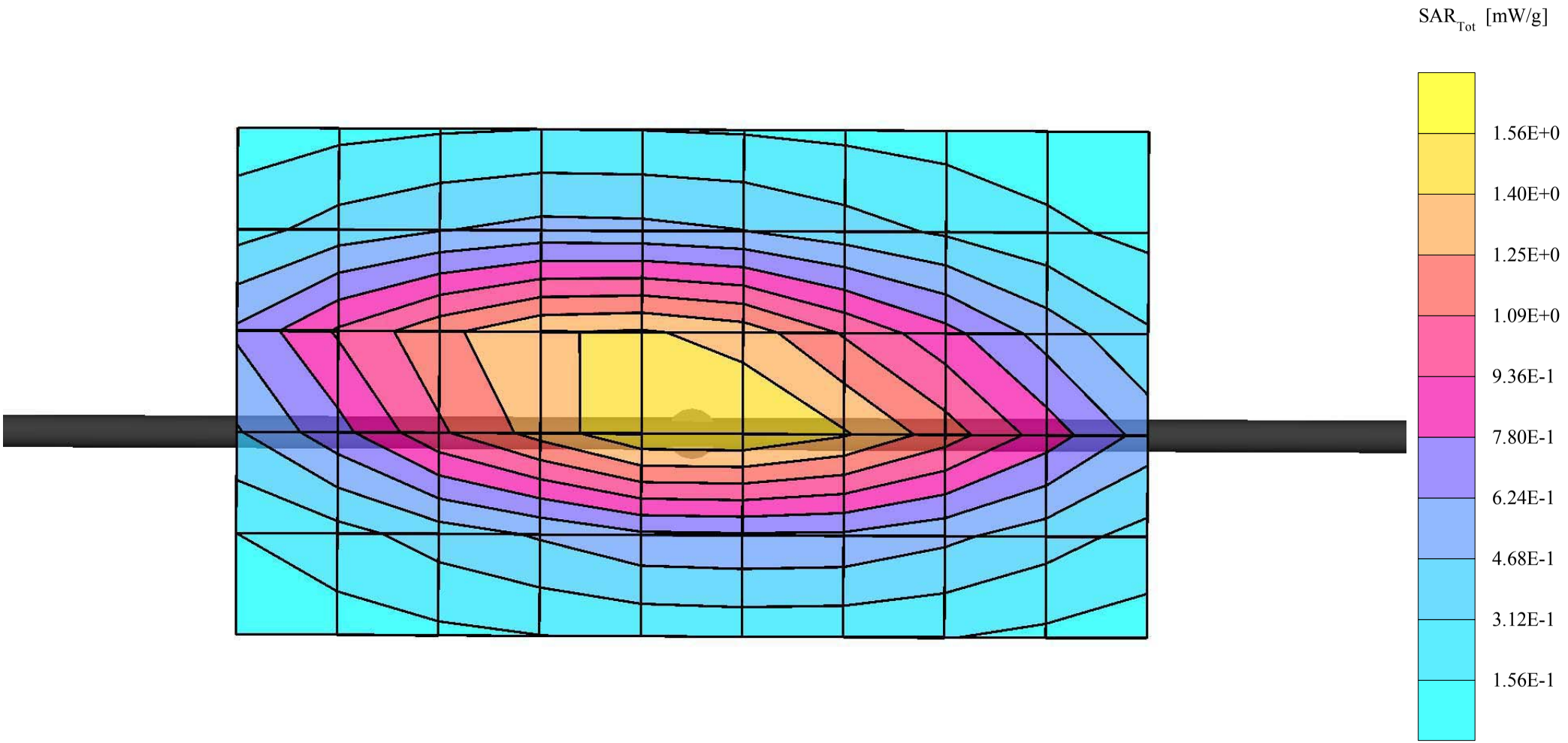
The results have been normalized to 1W (forward power) into the dipole.

Averaged over 1cm (1g) of tissue: 5.38 mW/g

Averaged over 10cm (10g) of tissue: 3.62 mW/g

Dipole 450MHz, d = 15 mm

Frequency: 450 MHz; Antenna Input Power: 250 [mW]
Large Planar Phantom; Planar Section
Probe: ET3DV6 - SN1387; ConvF(7.30,7.30,7.30); Crest factor: 1.0; 450 MHz Brain: σ = 0.88 mho/m ε_r = 44.1 ρ = 1.00 g/cm^3
Cube 5x5x7: Peak: 2.24 mW/g, SAR (1g): 1.34 mW/g, SAR (10g): 0.905 mW/g, (Worst-case extrapolation)
Penetration depth: 12.0 (10.5, 14.0) [mm]; Powerdrift: 0.01 dB; Ambient Temp.: 23.3°C; Fluid Temp.: 22.2°C
Calibration Date: October 17, 2002



450MHz System Validation

Measured Fluid Dielectric Parameters (Brain)

October 17, 2002

Frequency	e'	e''
350.000000 MHz	46.6334	40.6323
360.000000 MHz	46.3629	40.0034
370.000000 MHz	46.1498	39.3672
380.000000 MHz	45.8833	38.6723
390.000000 MHz	45.5947	38.0484
400.000000 MHz	45.3226	37.4538
410.000000 MHz	45.0977	36.9636
420.000000 MHz	44.8241	36.4841
430.000000 MHz	44.5839	35.9541
440.000000 MHz	44.3183	35.5098
450.000000 MHz	44.0572	35.0854
460.000000 MHz	43.8600	34.7069
470.000000 MHz	43.6544	34.3371
480.000000 MHz	43.4507	33.9296
490.000000 MHz	43.2880	33.5147
500.000000 MHz	43.0921	33.1731
510.000000 MHz	42.8781	32.7813
520.000000 MHz	42.6765	32.4193
530.000000 MHz	42.5864	32.1000
540.000000 MHz	42.4644	31.7180
550.000000 MHz	42.3042	31.4503

APPENDIX D - PROBE CALIBRATION

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1590**
Place of Calibration:	**Zurich**
Date of Calibration:	**December 1, 2002**
Calibration Interval:	**12 months**

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:	
Approved by:	

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Telephone +41 1 245 97 00, Fax +41 1 245 97 79

Probe ET3DV6

SN:1590

Manufactured:	March 19, 2001
Last calibration:	April 26, 2002
Recalibrated:	December 1, 2002

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1590

Sensitivity in Free Space

NormX	**1.75**	$\mu V/(V/m)^2$	
NormY	**1.89**	$\mu V/(V/m)^2$	
NormZ	**1.63**	$\mu V/(V/m)^2$	

Diode Compression

DCP X	**92**	mV
DCP Y	**92**	mV
DCP Z	**92**	mV

Sensitivity in Tissue Simulating Liquid

Head	**900 MHz**	ε_r = **41.5 ± 5%**	σ = **0.97 ± 5% mho/m**	
Head	**835 MHz**	ε_r = **41.5 ± 5%**	σ = **0.90 ± 5% mho/m**	
	ConvF X	**6.9** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**6.9** ± 9.5% (k=2)	Alpha	**0.30**
	ConvF Z	**6.9** ± 9.5% (k=2)	Depth	**2.71**
Head	**1800 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
Head	**1900 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
	ConvF X	**5.6** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**5.6** ± 9.5% (k=2)	Alpha	**0.42**
	ConvF Z	**5.6** ± 9.5% (k=2)	Depth	**2.56**

Boundary Effect

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

Probe Tip to Boundary		**1 mm**	**2 mm**
SAR_{be} [%]	Without Correction Algorithm	8.7	5.0
SAR_{be} [%]	With Correction Algorithm	0.3	0.5

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

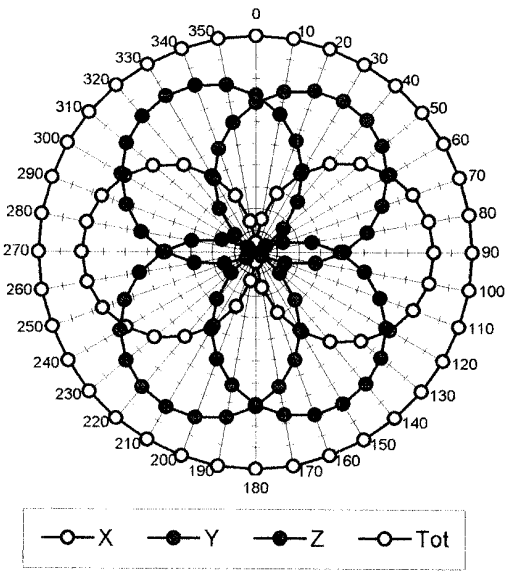
Probe Tip to Boundary		**1 mm**	**2 mm**
SAR_{be} [%]	Without Correction Algorithm	10.7	7.4
SAR_{be} [%]	With Correction Algorithm	0.1	0.3

Sensor Offset

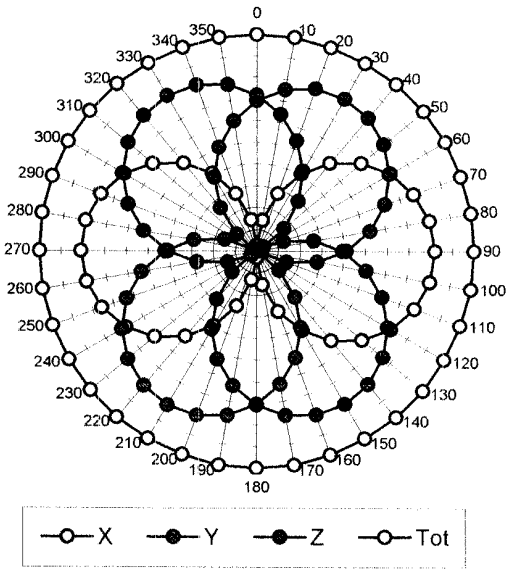
Probe Tip to Sensor Center	**2.7**	mm
Optical Surface Detection	**1.2 ± 0.2**	mm

Receiving Pattern (ϕ), θ = 0°

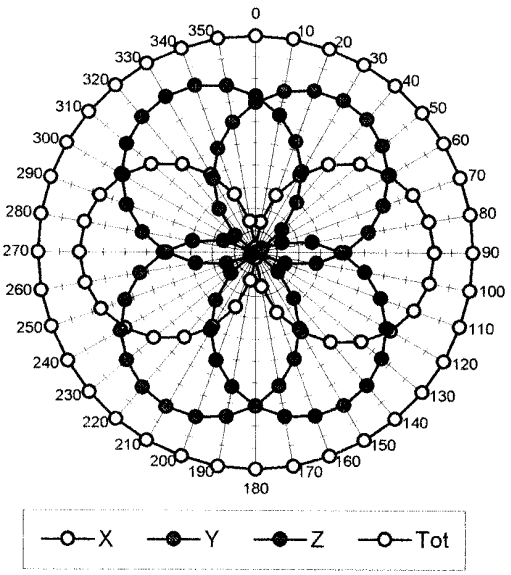
f = 30 MHz, TEM cell ifi110



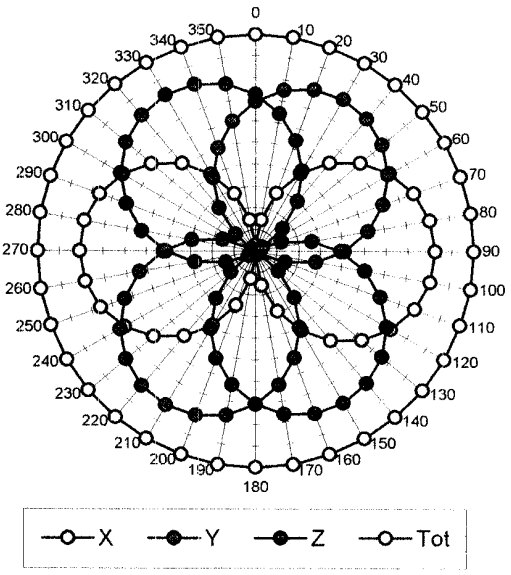
f = 100 MHz, TEM cell ifi110

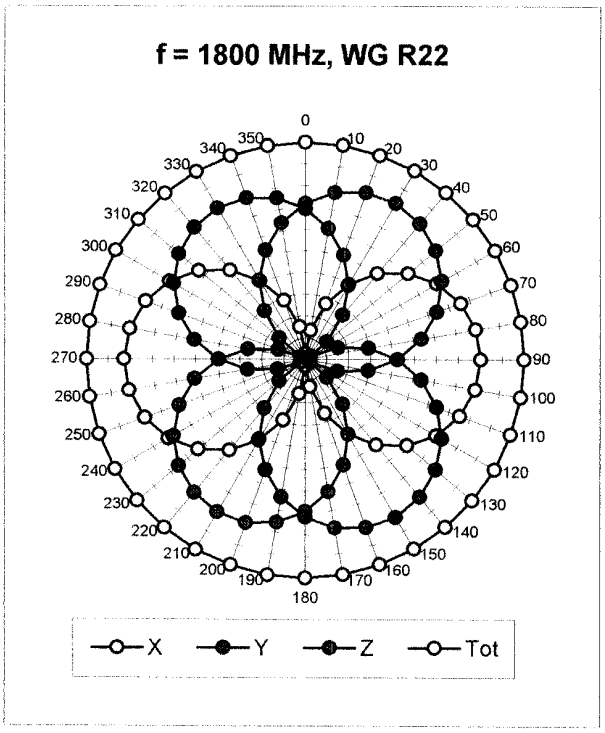


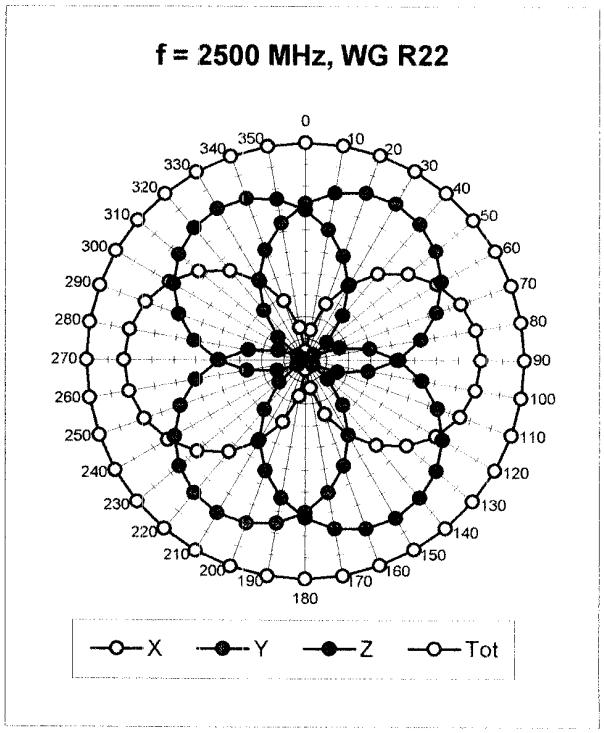
f = 300 MHz, TEM cell ifi110



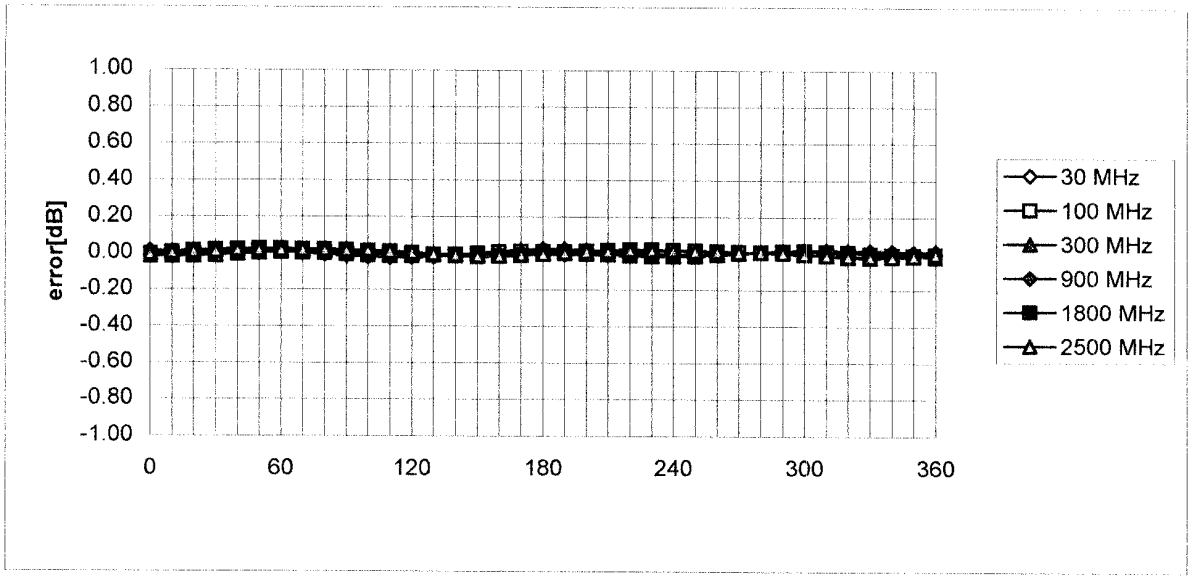
f = 900 MHz, TEM cell ifi110





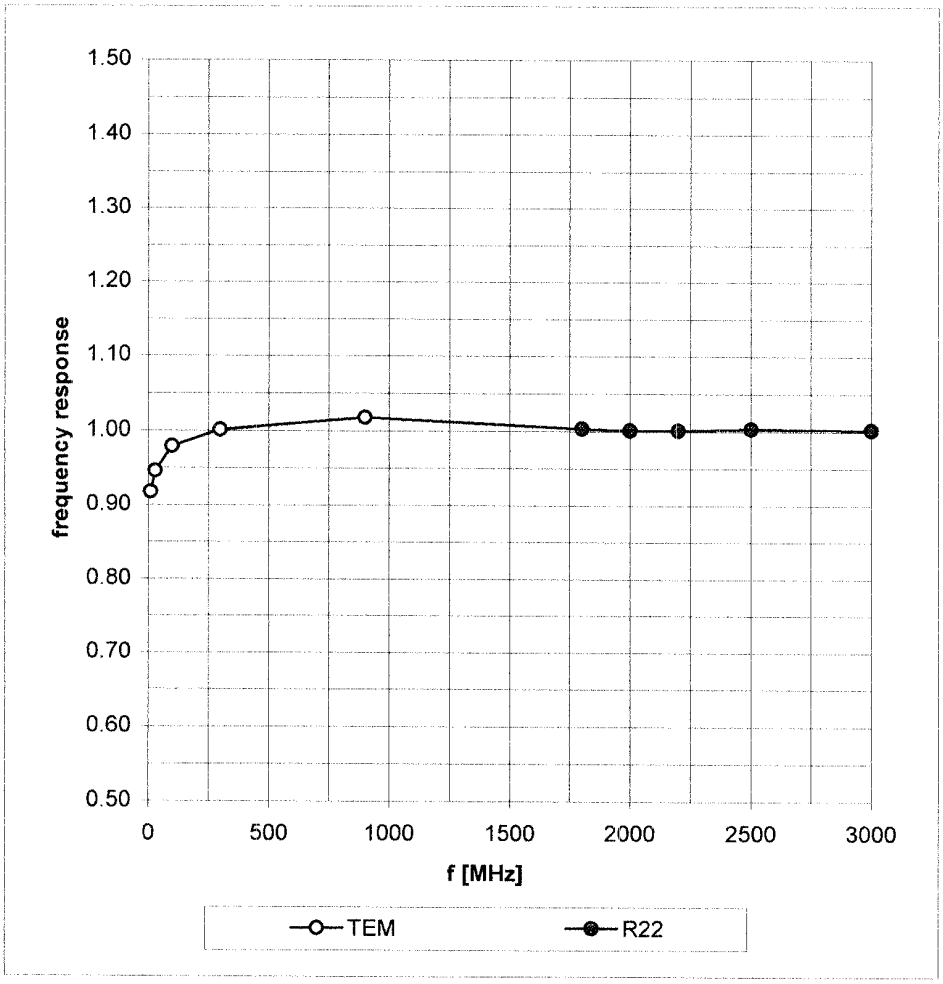


Isotropy Error (ϕ), θ = 0°



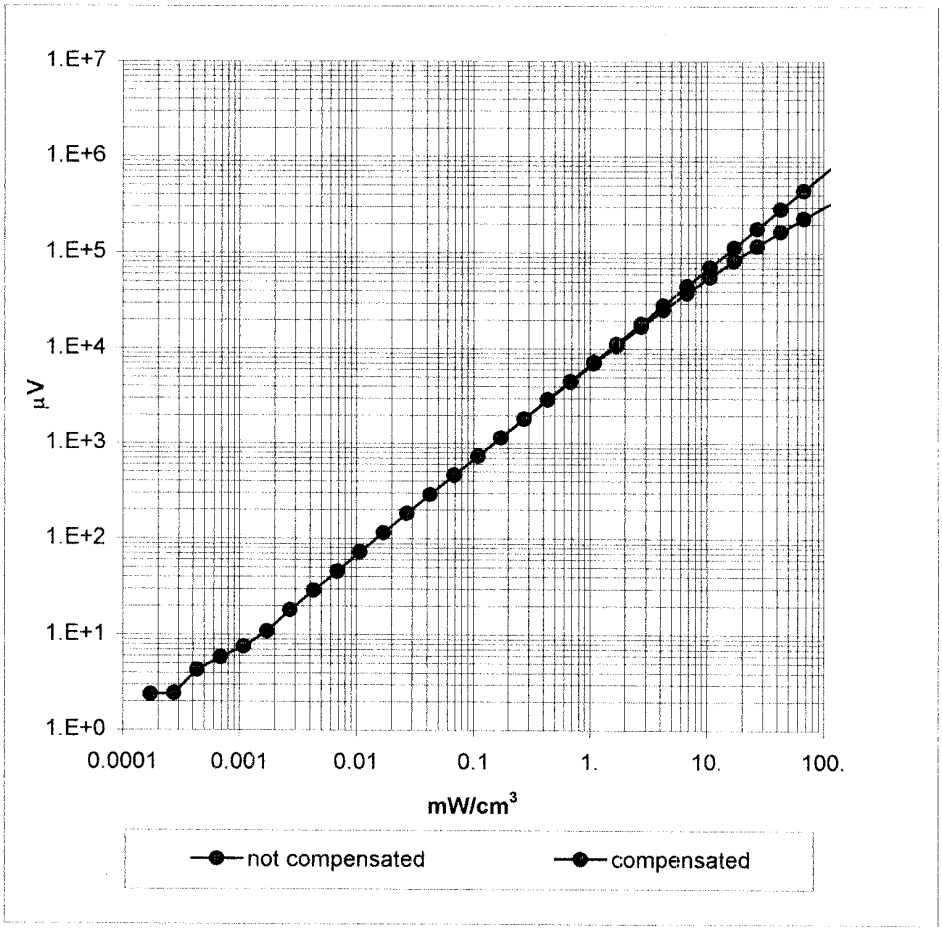
Frequency Response of E-Field

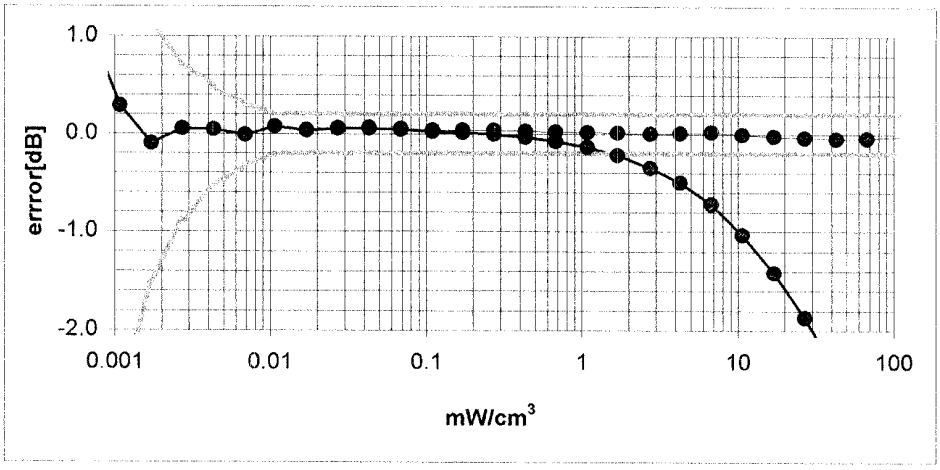
(TEM-Cell:ifi110, Waveguide R22)



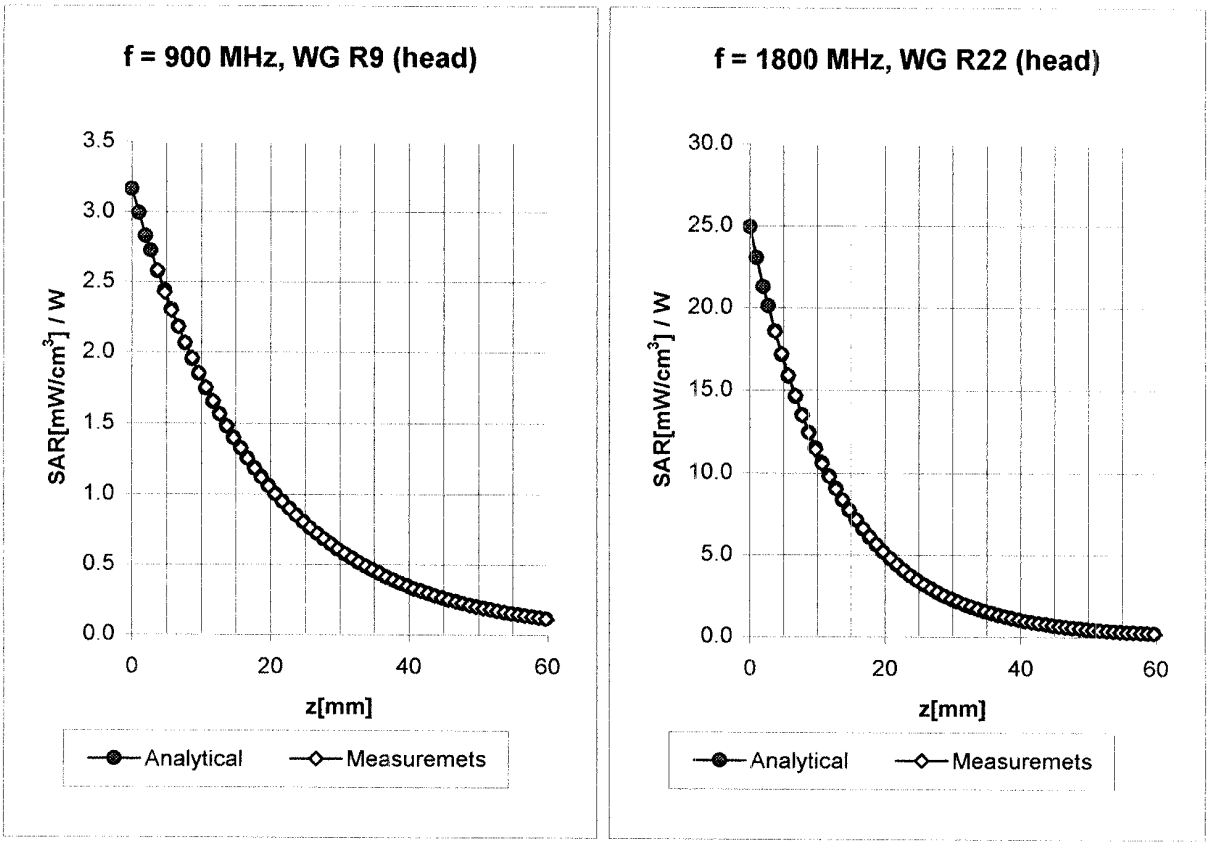
Dynamic Range f(SAR_{brain})

(Waveguide R22)





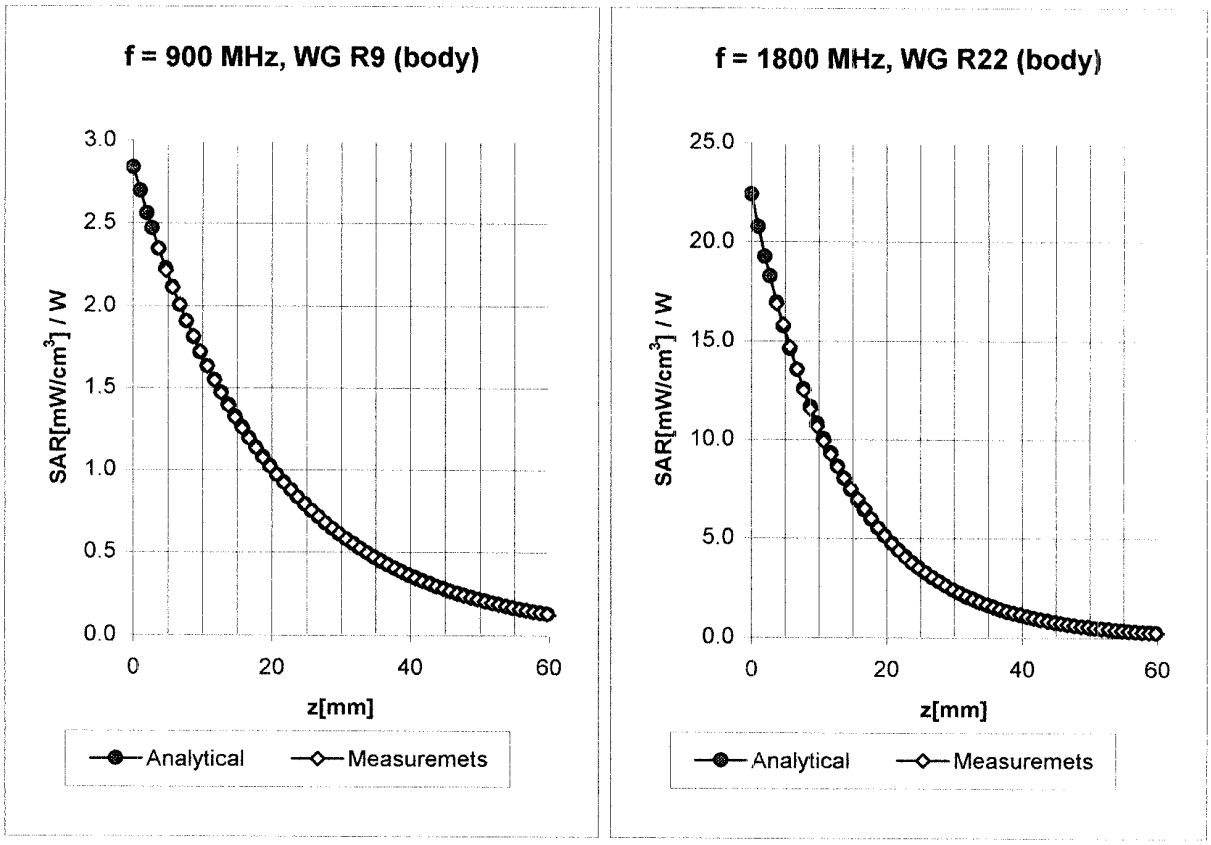
Conversion Factor Assessment



Head	**900 MHz**	ε_r = **41.5 ± 5%**	σ = **0.97 ± 5% mho/m**	
Head	**835 MHz**	ε_r = **41.5 ± 5%**	σ = **0.90 ± 5% mho/m**	
	ConvF X	**6.9** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**6.9** ± 9.5% (k=2)	Alpha	**0.30**
	ConvF Z	**6.9** ± 9.5% (k=2)	Depth	**2.71**

Head	**1800 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
Head	**1900 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
	ConvF X	**5.6** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**5.6** ± 9.5% (k=2)	Alpha	**0.42**
	ConvF Z	**5.6** ± 9.5% (k=2)	Depth	**2.56**

Conversion Factor Assessment

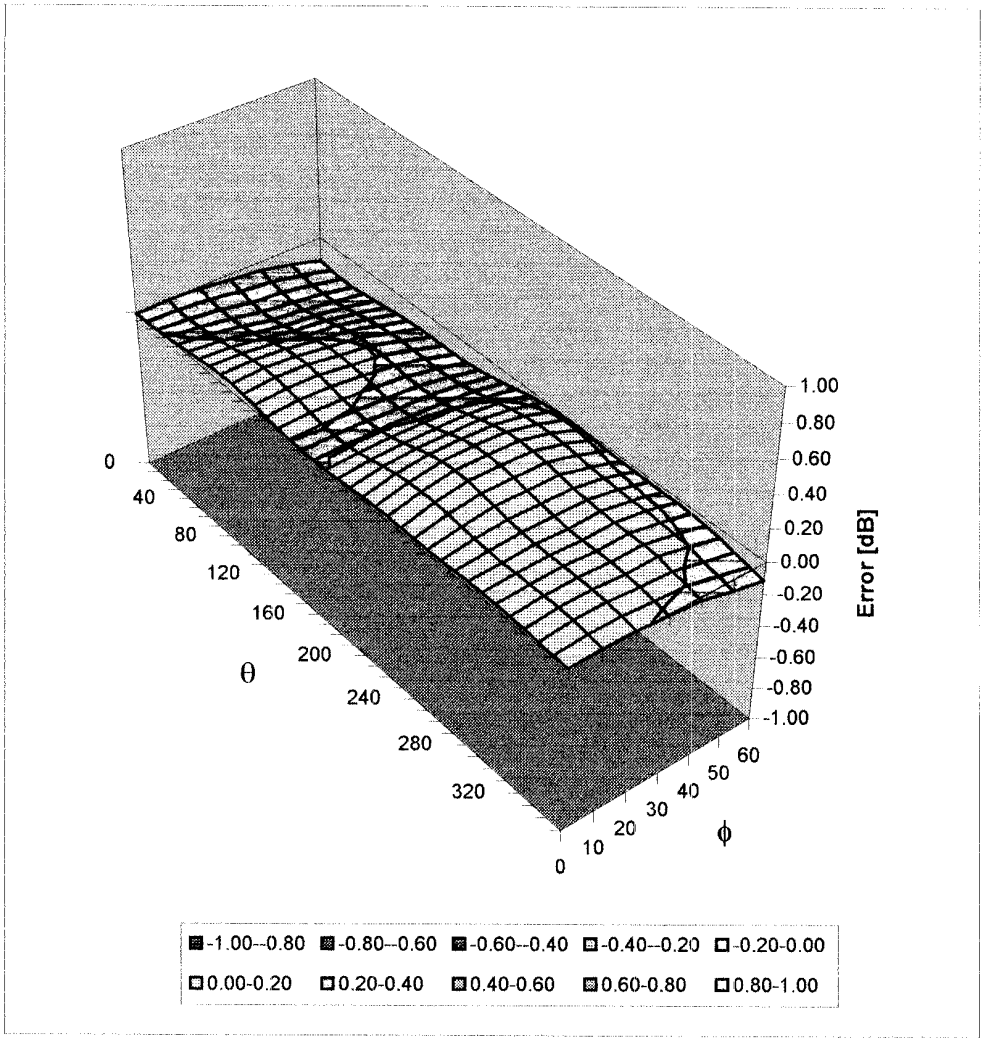


Body	**900 MHz**	ε_r = **55.0 ± 5%**	σ = **1.05 ± 5% mho/m**	
Body	**835 MHz**	ε_r = **55.2 ± 5%**	σ = **0.97 ± 5% mho/m**	
	ConvF X	**6.7** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**6.7** ± 9.5% (k=2)	Alpha	**0.34**
	ConvF Z	**6.7** ± 9.5% (k=2)	Depth	**2.57**

Body	**1800 MHz**	ε_r = **53.3 ± 5%**	σ = **1.52 ± 5% mho/m**	
Body	**1900 MHz**	ε_r = **53.3 ± 5%**	σ = **1.52 ± 5% mho/m**	
	ConvF X	**5.3** ± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**5.3** ± 9.5% (k=2)	Alpha	**0.52**
	ConvF Z	**5.3** ± 9.5% (k=2)	Depth	**2.46**

Deviation from Isotropy in HSL

Error (θ,φ), f = 900 MHz



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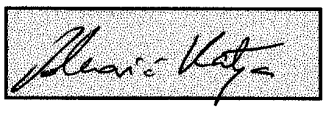
Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1590**
Place of Assessment:	**Zurich**
Date of Assessment:	**May 1, 2002**
Probe Calibration Date:	**April 26, 2002**

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 900 MHz or at 1800 MHz.

Assessed by: 

Dosimetric E-Field Probe ET3DV6 SN:1590

Conversion factor (± standard deviation)

150 MHz	ConvF	**9.4 ± 8%**	**ε_r = 52.3** **σ = 0.76 mho/m** (head tissue)
300 MHz	ConvF	**8.2 ± 8%**	**ε_r = 45.3** **σ = 0.87 mho/m** (head tissue)
450 MHz	ConvF	**7.8 ± 8%**	**ε_r = 43.5** **σ = 0.87mho/m** (head tissue)
150 MHz	ConvF	**9.1 ± 8%**	**ε_r = 61.9** **σ = 0.80 mho/m** (body tissue)
450 MHz	ConvF	**7.9 ± 8%**	**ε_r = 56.7** **σ = 0.94 mho/m** (body tissue)
2450 MHz	ConvF	**4.5 ± 8%**	**ε_r = 39.2** **σ = 1.80 mho/m** (head tissue)
2450 MHz	ConvF	**4.1 ± 8%**	**ε_r = 52.7** **σ = 1.95 mho/m** (body tissue)

APPENDIX E - MEASURED FLUID DIELECTRIC PARAMETERS

450MHz System Performance Check & EUT Evaluation (Face)

Measured Fluid Dielectric Parameters (Brain)

March 03, 2003

Frequency	e'	e''
350.000000 MHz	46.0841	39.7782
360.000000 MHz	45.7201	39.0717
370.000000 MHz	45.4678	38.4009
380.000000 MHz	45.1708	37.8042
390.000000 MHz	44.9872	37.2336
400.000000 MHz	44.7186	36.7448
410.000000 MHz	44.4998	36.2324
420.000000 MHz	44.3551	35.7535
430.000000 MHz	44.0837	35.2369
440.000000 MHz	43.8406	34.8358
450.000000 MHz	43.5681	34.4203
460.000000 MHz	43.3853	34.0372
470.000000 MHz	43.2153	33.6323
480.000000 MHz	42.9671	33.1421
490.000000 MHz	42.7245	32.7408
500.000000 MHz	42.5069	32.4371
510.000000 MHz	42.3130	32.1253
520.000000 MHz	42.1387	31.7896
530.000000 MHz	41.9384	31.4553
540.000000 MHz	41.8385	31.0681
550.000000 MHz	41.6391	30.8060

450MHz System Performance Check & EUT Evaluation (Face)

Measured Fluid Dielectric Parameters (Brain)

March 04, 2003

Frequency	e'	e''
350.000000 MHz	47.3734	40.7493
360.000000 MHz	47.1413	40.0265
370.000000 MHz	46.8594	39.3603
380.000000 MHz	46.6134	38.7023
390.000000 MHz	46.3342	38.1148
400.000000 MHz	46.0803	37.6164
410.000000 MHz	45.8755	37.0943
420.000000 MHz	45.6360	36.6824
430.000000 MHz	45.3460	36.1901
440.000000 MHz	45.0805	35.7173
450.000000 MHz	44.8191	35.3219
460.000000 MHz	44.6387	34.9038
470.000000 MHz	44.3962	34.4504
480.000000 MHz	44.1897	34.0014
490.000000 MHz	43.9285	33.5976
500.000000 MHz	43.7512	33.2305
510.000000 MHz	43.5749	32.9280
520.000000 MHz	43.4205	32.6170
530.000000 MHz	43.2124	32.2465
540.000000 MHz	43.1037	31.9036
550.000000 MHz	42.9139	31.6114

450MHz System Performance Check

Measured Fluid Dielectric Parameters (Brain)

March 05, 2003

Frequency	e'	e''
350.000000 MHz	46.6870	40.3711
360.000000 MHz	46.4549	39.6482
370.000000 MHz	46.1731	38.9824
380.000000 MHz	45.9275	38.3245
390.000000 MHz	45.6478	37.7363
400.000000 MHz	45.3939	37.2381
410.000000 MHz	45.1892	36.7167
420.000000 MHz	44.9496	36.3041
430.000000 MHz	44.6590	35.8118
440.000000 MHz	44.3941	35.3390
450.000000 MHz	44.1327	34.9436
460.000000 MHz	43.9523	34.5255
470.000000 MHz	43.7098	34.0721
480.000000 MHz	44.8762	33.6233
490.000000 MHz	43.2426	33.2192
500.000000 MHz	43.0648	32.8522
510.000000 MHz	42.8885	32.5497
520.000000 MHz	42.7341	32.2388
530.000000 MHz	42.5264	31.8682
540.000000 MHz	42.4173	31.5253
550.000000 MHz	42.2277	31.2331

450MHz EUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

March 05, 2003

Frequency	e'	e''
350.000000 MHz	59.5094	43.8435
360.000000 MHz	59.3379	42.9867
370.000000 MHz	59.1902	42.1686
380.000000 MHz	59.0189	41.3830
390.000000 MHz	58.8546	40.6661
400.000000 MHz	58.7221	39.9763
410.000000 MHz	58.5426	39.3468
420.000000 MHz	58.4216	38.7746
430.000000 MHz	58.2519	38.2358
440.000000 MHz	58.0705	37.7514
450.000000 MHz	57.8801	37.2794
460.000000 MHz	57.7962	36.7855
470.000000 MHz	57.6817	36.3071
480.000000 MHz	57.5652	35.8014
490.000000 MHz	57.3786	35.3652
500.000000 MHz	57.3129	34.9704
510.000000 MHz	57.1160	34.5158
520.000000 MHz	56.9793	34.1481
530.000000 MHz	56.8384	33.8106
540.000000 MHz	56.7731	33.3926
550.000000 MHz	56.6477	33.0823

450MHz System Performance Check

Measured Fluid Dielectric Parameters (Brain)

March 06, 2003

Frequency	e'	e''
350.000000 MHz	46.9078	39.8254
360.000000 MHz	46.6884	39.1511
370.000000 MHz	46.4002	38.4771
380.000000 MHz	46.1076	37.9161
390.000000 MHz	45.8356	37.3281
400.000000 MHz	45.5678	36.8319
410.000000 MHz	45.3067	36.2982
420.000000 MHz	45.0463	35.8302
430.000000 MHz	44.7723	35.3279
440.000000 MHz	44.5660	34.9439
450.000000 MHz	44.3123	34.5004
460.000000 MHz	44.1472	34.1452
470.000000 MHz	43.9199	33.7521
480.000000 MHz	43.7411	33.3324
490.000000 MHz	43.5177	32.9199
500.000000 MHz	43.2967	32.5751
510.000000 MHz	43.1022	32.2397
520.000000 MHz	42.9675	31.9235
530.000000 MHz	42.6931	31.6117
540.000000 MHz	42.5678	31.2380
550.000000 MHz	42.3655	30.9775

450MHz EUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

March 06, 2003

Frequency	e'	e''
350.000000 MHz	59.3665	43.7827
360.000000 MHz	59.1320	42.9510
370.000000 MHz	58.9691	42.1496
380.000000 MHz	58.8493	41.4355
390.000000 MHz	58.7162	40.6258
400.000000 MHz	58.5946	39.9788
410.000000 MHz	58.4228	39.2654
420.000000 MHz	58.2255	38.7107
430.000000 MHz	58.0542	38.0953
440.000000 MHz	57.8971	37.5713
450.000000 MHz	57.7042	37.1239
460.000000 MHz	57.6019	36.6666
470.000000 MHz	57.4788	36.2215
480.000000 MHz	57.3562	35.7566
490.000000 MHz	57.1904	35.3182
500.000000 MHz	57.0706	34.9031
510.000000 MHz	56.9381	34.4883
520.000000 MHz	56.8204	34.1180
530.000000 MHz	56.6432	33.7576
540.000000 MHz	56.5834	33.2836
550.000000 MHz	56.4438	32.9721

450MHz System Performance Check

Measured Fluid Dielectric Parameters (Brain)

March 07, 2003

Frequency	e'	e''
350.000000 MHz	46.9998	41.3454
360.000000 MHz	46.6875	40.7014
370.000000 MHz	46.4127	40.0539
380.000000 MHz	46.2105	39.4416
390.000000 MHz	45.8527	38.8071
400.000000 MHz	45.6179	38.3348
410.000000 MHz	45.3878	37.6799
420.000000 MHz	45.1793	37.1129
430.000000 MHz	45.0038	36.5179
440.000000 MHz	44.8368	36.0632
450.000000 MHz	44.5876	35.6414
460.000000 MHz	44.4487	35.2116
470.000000 MHz	44.2519	34.7819
480.000000 MHz	44.0376	34.3642
490.000000 MHz	43.7830	33.9708
500.000000 MHz	43.5682	33.6555
510.000000 MHz	43.3551	33.3026
520.000000 MHz	43.1707	32.9752
530.000000 MHz	42.9736	32.6304
540.000000 MHz	42.8826	32.1756
550.000000 MHz	42.6705	31.9470

450MHz EUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

March 07, 2003

Frequency	e'	e''
350.000000 MHz	60.4008	42.7545
360.000000 MHz	60.1844	41.9611
370.000000 MHz	59.9905	41.1810
380.000000 MHz	59.8433	40.4977
390.000000 MHz	59.7514	39.8467
400.000000 MHz	59.5817	39.2178
410.000000 MHz	59.4073	38.6388
420.000000 MHz	59.3857	38.0752
430.000000 MHz	59.1729	37.4522
440.000000 MHz	59.0309	36.9486
450.000000 MHz	58.8471	36.4931
460.000000 MHz	58.7212	36.0530
470.000000 MHz	58.5670	35.5435
480.000000 MHz	58.3958	35.0570
490.000000 MHz	58.1946	34.6488
500.000000 MHz	58.0281	34.2831
510.000000 MHz	57.8996	33.9046
520.000000 MHz	57.8023	33.5653
530.000000 MHz	57.6762	33.2272
540.000000 MHz	57.6114	32.8199
550.000000 MHz	57.5153	32.5047