May 7, 2002
Supplement to SAR Test Report for Motorola portable cellular phone (FCC ID IHDT56BJ2)

Prepared by:
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Harvard, Illinois

Summary of FCC request for additional information

There was a request for additional information regarding Motorola's SAR Test Report for Motorola portable cellular phone (FCC ID IHDT56BJ2). The requested information is addressed below in the same numbering sequence received.

1) Statement of compliance with FCC RF exposure requirements. Such a statement could not be located.

The statement of compliance is on the cover page of Exhibit 11: SAR Test Report IHDT56CA1. It states "Motorola declares under its sole responsibility that portable cellular telephone FCC ID IHDT56CA1 to which this declaration relates, is in conformity with the appropriate RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices."

2) Justification for the body-worn test configurations used. It appears that the leather case was not tested with the "wishbone" as pictured.

The leather case was tested with both the "universal" belt-clip and the "wishbone" belt-clip. The results provided were for the "wishbone" belt-clip because this resulted in higher SAR results than the "universal" belt-clip. The particular accessory name is not specifically indicated on the provided dasy3 plot in appendix 3. The results for the "universal" belt-clip are shown below. In can be seen by comparing these to the "wishbone" belt-clip results shown in the original filing that the "universal" belt-clip results in lower measured SAR because of the increase of proximity separation.

f (MHz)	Description	Conducted Output Power (dBm)	**Leather Pouch with Wish Bone (Body Worn)**				
			Ant Fixed				
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Ambient. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.48	0.485	-0.29	0.518	21.4	21.75
	Channel 384	27.50	0.483	0.06	0.490	21.4	21.75
	Channel 799	27.43	0.532	-0.07	0.541	21.4	21.6
Digital 1900MHz	Channel 2	25.12	-0.260	-0.39	-0.284	22.1	21.2
	Channel 1001	24.98	0.173	-0.53	0.195	22.1	21.2
	Channel 1998	24.96	0.138	-0.23	0.146	22.1	21.2

3) Discussion of how the EUT was operated/controlled during the test to assure the testing of all appropriate modes, maximum power, and any duty factor driven parameters. Supplement C Appendix B part I 2.

The DASY v3.1 system specified in section 3.1 of the original filing SAR Test report was utilized within the intended operations as set by the SPEAG™ setup. The default style of “coarse” and “cube” scans were chosen and use for measurements. The grid spacing of the course scan was 15cm as shown in the SAR plots. Please refer to the DASY manual for additional information on SAR scanning procedures and algorithms used.

4) Additional description of the SAR measurement system. Please describe the main components of the system and how the SAR measurements are actually performed once setup: include coarse scan, determination of peak SAR location, scans to measure points in 1 gram volume, and procedure to determine SAR value from the measurement points. Per Supplement C Appendix B part II 7 and 8. Please include additional description/photographs of the phantom. Please provide details of the flat phantom. Test photographs show a groove in one picture but a flat surface in another. Please clarify.

The DASY v3.1 system specified in section 3.1 of the original filing SAR Test report was utilized within the intended operations as set by the SPEAG™ setup. The default style of “coarse” and “cube” scans were chosen and use for measurements. The grid spacing of the course scan was 15cm as shown in the SAR plots. Please refer to the DASY manual for additional information on SAR scanning procedures and algorithms used.

The “flat” phantom is made out of 1” thick natural High Density Polyethylene with a thickness at the bottom equal to 2.0mm. It measures 52.7cm(long) x 26.7cm(wide) x 21.2cm(tall). The measured dielectric constant of the material used is less than 2.3 and the loss tangent is less than 0.0046 all the way up to 2.184GHz. This “flat” phantom is placed on a platform of natural High Density Polyethylene. This platform has a slot in it that allows the EUT to be put into and bring the EUT up to the bottom of the “flat” phantom.

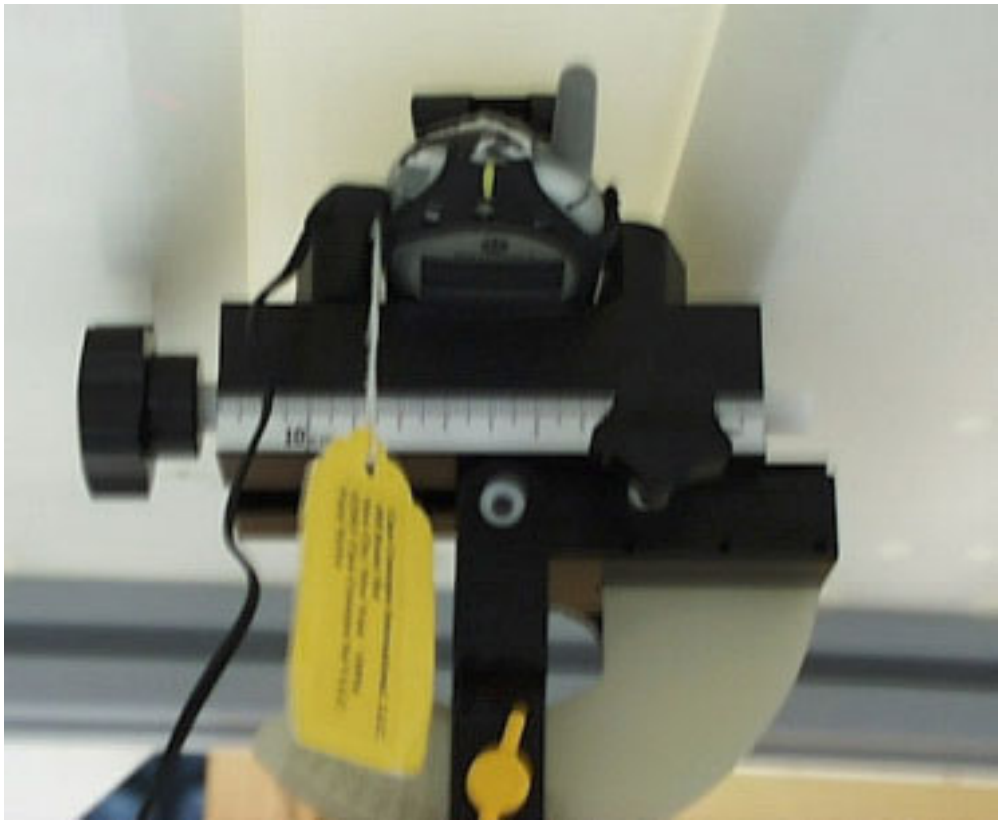


Figure 1. EUT Shown Against Bottom of Flat Phantom

5) Justification for use of 6.5 as the conversion factor for 835 MHZ head liquid. Calibration certificates suggest 6.4 should have been used. Also, please justify the difference probe conversion factors used during validation on 4/1 and 4/2. Consistent values should be used. Values with the lowest uncertainty should be used.

The 835MHz conversion factor of 6.5 for probe SN1398 is shown on the "Additional Conversion Factors" section of the attached probe calibration sheet. Also, the conversion factors changed for the system validation because there were two probes used for these measurements. These probes were indicated in section 3.1. The conversion factors used for the system validation are shown below. It can be seen that these values were used consistently.

Probe 1391	4/1	4/2
900MHz	6.31	6.31
1800MHz	5.43	5.43

Probe 1398	4/1	4/2
900MHz	6.43	6.43
1800MHz	5.39	5.39

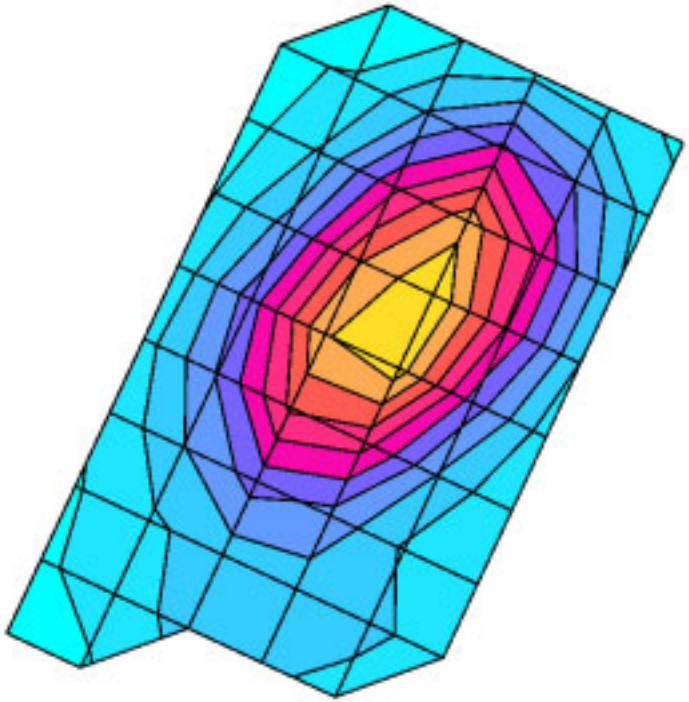
6) Provide SAR test plots for all measurements.

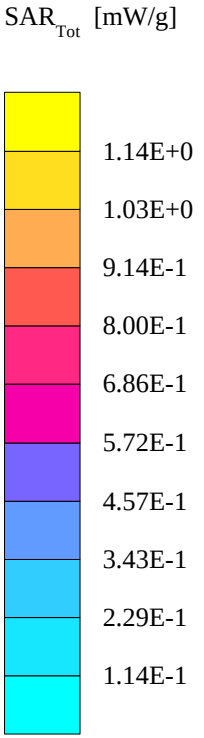
The SAR Test Report in the original filing for IHDT56BJ2 had SAR test plots for the highest SAR point for each band in each test configuration. These are typical for all measurements within that band and configuration. Attached is the SAR test plots for the rest of the SAR measurements.

04/01/02

s/n: A88BF79D

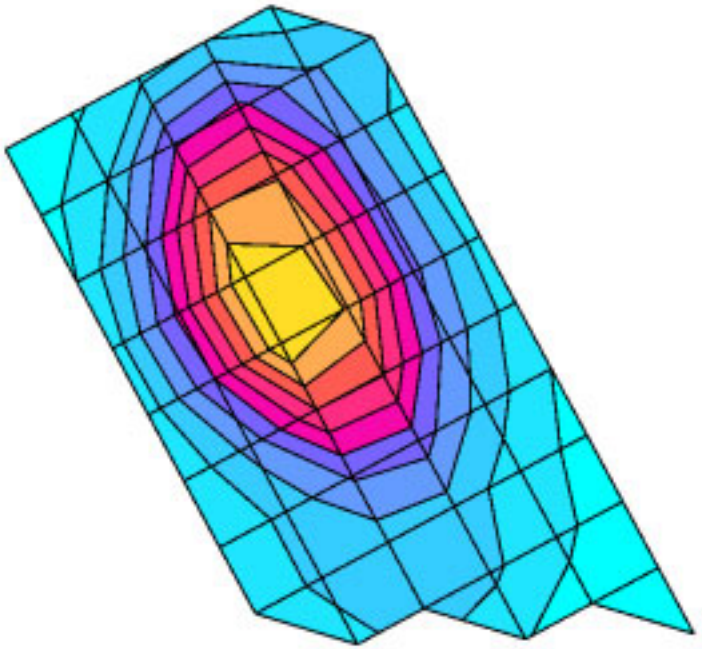
Ch# 384 / Pwr Step: 2 / Type of Modulation: 800 Analog / Battery Model #: SNN5570A
DEVICE POSITION: Cheek Touch / Simulate Temp: When Measured = 21.1 °C After Test = 20.8 °C
R5: TP-1132 SUGAR (rev.3) Phantom; R5 Gilligan Left Hand Section; Position: (90°,180°); Frequency: 837 MHz
Probe: ET3DV6 - SN1391 - IEEE Head; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.91 mho/m ε_r = 42.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.13 mW/g, SAR (10g): 0.790 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 16.3 (15.8, 16.7) [mm]
Powerdrift: -0.27 dB





s/n: A88BF79D

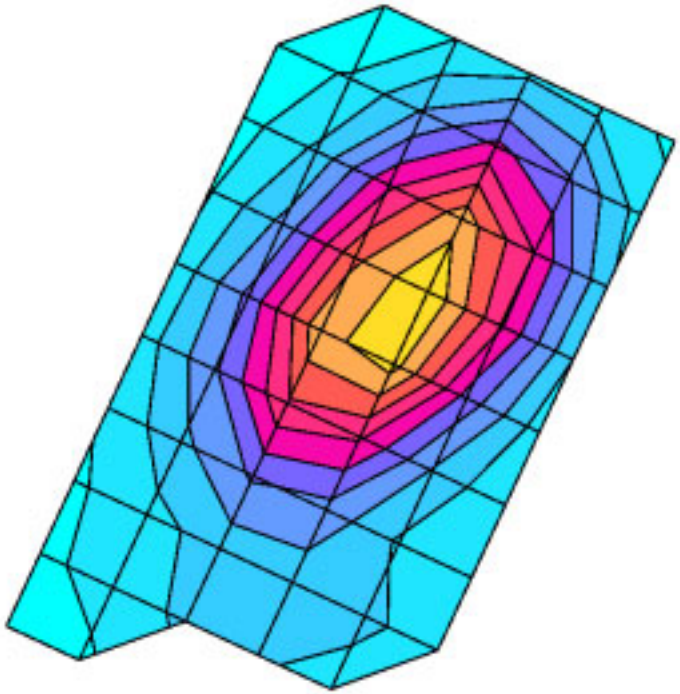
Ch# 384 / Pwr Step: 2 / Type of Modulation: 800 Analog / Battery Model #: SNN5570A
DEVICE POSITION: Cheek Touch / Simulate Temp: When Measured = 21.1 °C After Test = 20.8 °C
R5: TP-1132 SUGAR (rev.3) Phantom; R5 MaryAnn Right Hand Section; Position: (90°,180°); Frequency: 837 MHz
Probe: ET3DV6 - SN1391 - IEEE Head; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.91 mho/m ε_r = 42.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.05 mW/g, SAR (10g): 0.743 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 16.9 (16.6, 17.2) [mm]
Powerdrift: -0.09 dB



04/01/02

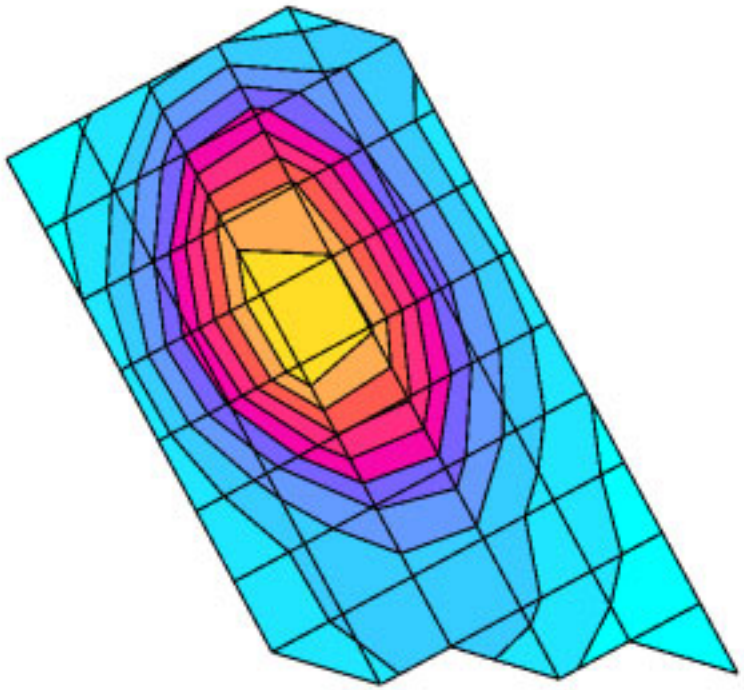
s/n: A88BF79D

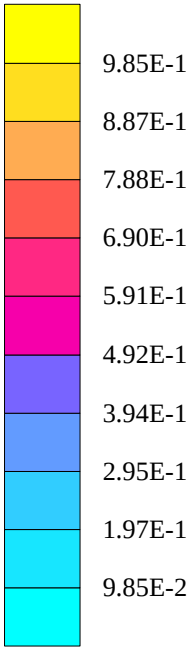
Ch# 991/ Pwr Step: 2 / Type of Modulation: 800 Analog / Battery Model #: SNN5570A
DEVICE POSITION: Cheek Touch / Simulate Temp: When Measured = 21.1 °C After Test = 20.8 °C
R5: TP-1132 SUGAR (rev.3) Phantom; R5 Gilligan Left Hand Section; Position: (90°,180°); Frequency: 824 MHz
Probe: ET3DV6 - SN1391 - IEEE Head; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.91 mho/m ε_r = 42.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.12 mW/g, SAR (10g): 0.783 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 16.1 (15.4, 16.8) [mm]
Powerdrift: -0.12 dB



s/n: A88BF79D

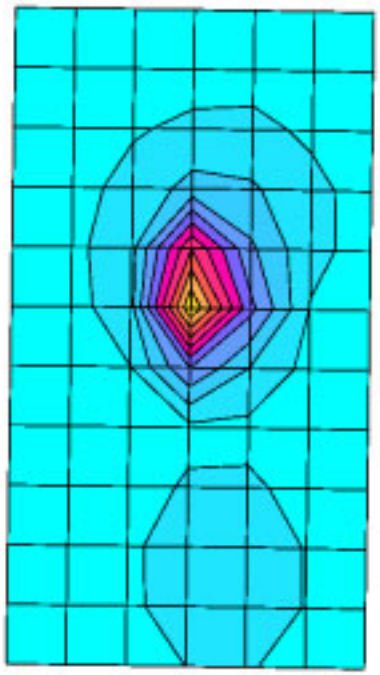
Ch# 991 / Pwr Step: Always Up / Type of Modulation: 800 Analog / Battery Model #: SNN5570A
DEVICE POSITION: Cheek Touch / Simulate Temp: When Measured = 21.1 °C After Test = 20.8 °C
R5: TP-1132 SUGAR (rev.3) Phantom; R5 MaryAnn Right Hand Section; Position: (90°,180°); Frequency: 824 MHz
Probe: ET3DV6 - SN1391 - IEEE Head; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.91 mho/m ε_r = 42.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.01 mW/g, SAR (10g): 0.723 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 17.6 (17.3, 17.8) [mm]
Powerdrift: -0.11 dB

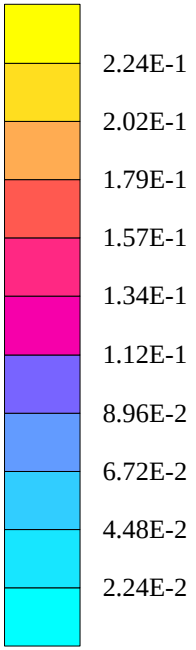




s/n: A88BF79D

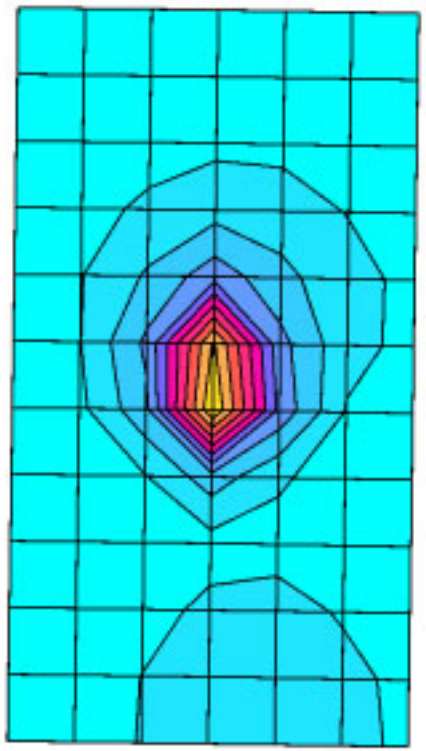
Ch#1175 / Pwr Step: 2 / Type of Modulation: 1900 CDMA / Battery Model #: SNN5570A
Accessory Name and Model #: SYN9170A SYN8763A
R5 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 1909 MHz
Probe: ET3DV6 - SN1391 - FCC Body; ConvF(5.00,5.00,5.00); Crest factor: 1.0; 1880 MHz Head & Body: σ = 1.53 mho/m ε_r = 51.9 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.218 mW/g, SAR (10g): 0.108 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 8.3 (7.8, 9.3) [mm]
Powerdrift: -0.15 dB

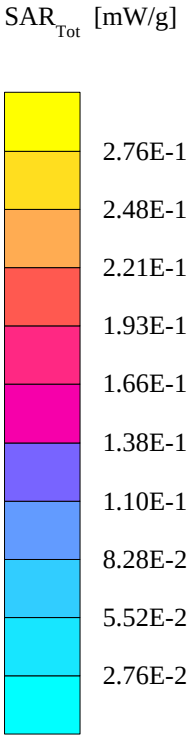




s/n: A88BF79D

Ch#600 / Pwr Step: 2 / Antenna Position: Fixed / Type of Modulation: 1900 CDMA / Battery Model #: SNN5570A
Accessory Name and Model #: SYN9170A SYN8763A
R5 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1391 - FCC Body; ConvF(5.00,5.00,5.00); Crest factor: 1.0; 1880 MHz Head & Body: σ = 1.53 mho/m ε_r = 51.9 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.286 mW/g, SAR (10g): 0.146 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 8.5 (8.0, 9.5) [mm]
Powerdrift: -0.16 dB

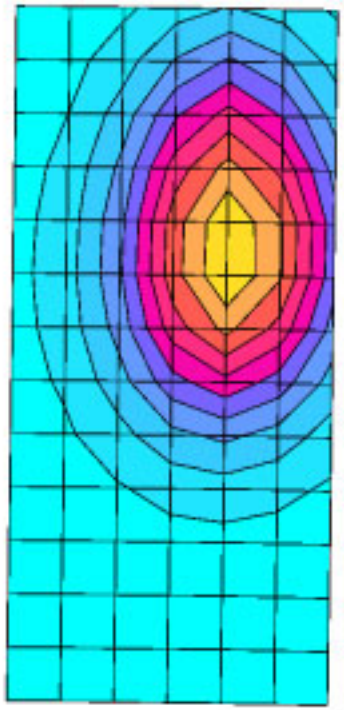


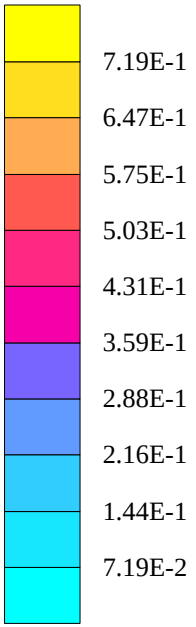


04/02/02

s/n: A88BF7C9

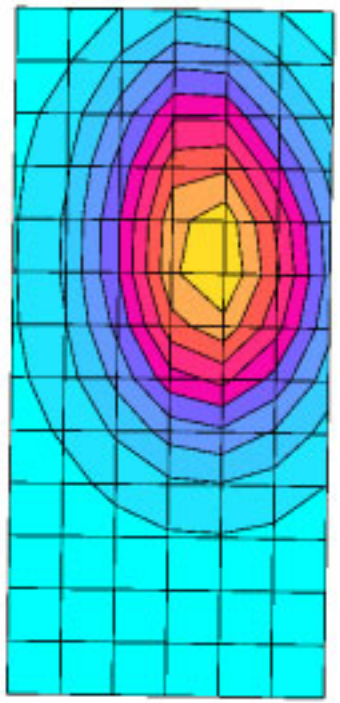
Ch# 384 / Pwr Step: 2 / Type of Modulation: 800 Analog / Battery Model #: SNN5570A
Accessory Name and Model #: Leather Pouch with Wishbone Belt Clip(SYN9170A with SYN8631A)
Simulate Temp. at time of measurement: 21.4C Simulate Temp. after test: 21.5C
R6 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 837 MHz
Probe: ET3DV6 - SN1398 - FCC Body; ConvF(6.30,6.30,6.30); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.97 mho/m ε_r = 53.5 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.725 mW/g, SAR (10g): 0.518 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 16.6 (15.4, 17.8) [mm]
Powerdrift: -0.01 dB

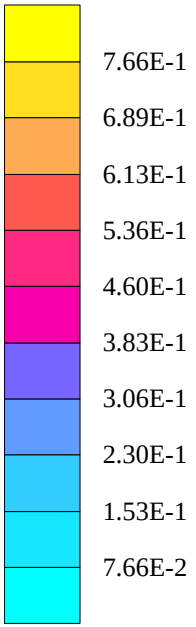




s/n: A88BF7C9

Ch# 991 / Pwr Step: 2 / Antenna Position: Fixed / Battery Model #: SNN5570A
Accessory Name and Model #: Leather Pouch with Wishbone Belt Clip(SYN9170A with SYN8631A)
Simulate Temp. at time of measurement: 21.4C Simulate Temp. after test: 21.7C
R6 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 824 MHz
Probe: ET3DV6 - SN1398 - FCC Body; ConvF(6.30,6.30,6.30); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.97 mho/m ε_r = 53.5 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.771 mW/g, SAR (10g): 0.552 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 16.5 (14.4, 18.7) [mm]
Powerdrift: -0.09 dB





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:	**1391**
Place of Calibration:	**Zurich**
Date of Calibration:	**October 25, 2001**
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:	N. Eglos E. Nevian
Approved by:	Marie Katz

Schmid & Partner
Engineering AG

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

Probe ET3DV6

SN:1391

Manufactured:	October 1, 1999
Remade:	October 11, 2001
Recalibrated:	October 25, 2001

Calibrated for System DASY3

DASY3 - Parameters of Probe: ET3DV6 SN:1391

Sensitivity in Free Space

NormX	**1.86**	$\mu V/(V/m)^2$
NormY	**1.73**	$\mu V/(V/m)^2$
NormZ	**1.76**	$\mu V/(V/m)^2$

Diode Compression

DCP X	**97**	mV
DCP Y	**97**	mV
DCP Z	**97**	mV

Sensitivity in Tissue Simulating Liquid

Head **450 MHz** e_r **= 40.4 ± 5%** s **= 0.87 ± 5% mho/m**

ConvF X	**6.75**	extrapolated	Boundary effect:	
ConvF Y	**6.75**	extrapolated	Alpha	**0.39**
ConvF Z	**6.75**	extrapolated	Depth	**2.39**

Head **900 MHz** e_r **= 41.5 ± 5%** s **= 0.97 ± 5% mho/m**

Head **835 MHz** e_r **= 41.5 ± 5%** s **= 0.90 ± 5% mho/m**

ConvF X	**6.31**	± 9.5% (k=2)	Boundary effect:	
ConvF Y	**6.31**	± 9.5% (k=2)	Alpha	**0.47**
ConvF Z	**6.31**	± 9.5% (k=2)	Depth	**2.30**

Head **1500 MHz** e_r **= 40.4 ± 5%** s **= 1.23 ± 5% mho/m**

ConvF X	**5.73**	interpolated	Boundary effect:	
ConvF Y	**5.73**	interpolated	Alpha	**0.58**
ConvF Z	**5.73**	interpolated	Depth	**2.19**

Head **1800 MHz** e_r **= 40.0 ± 5%** s **= 1.40 ± 5% mho/m**

Head **1900 MHz** e_r **= 40.0 ± 5%** s **= 1.40 ± 5% mho/m**

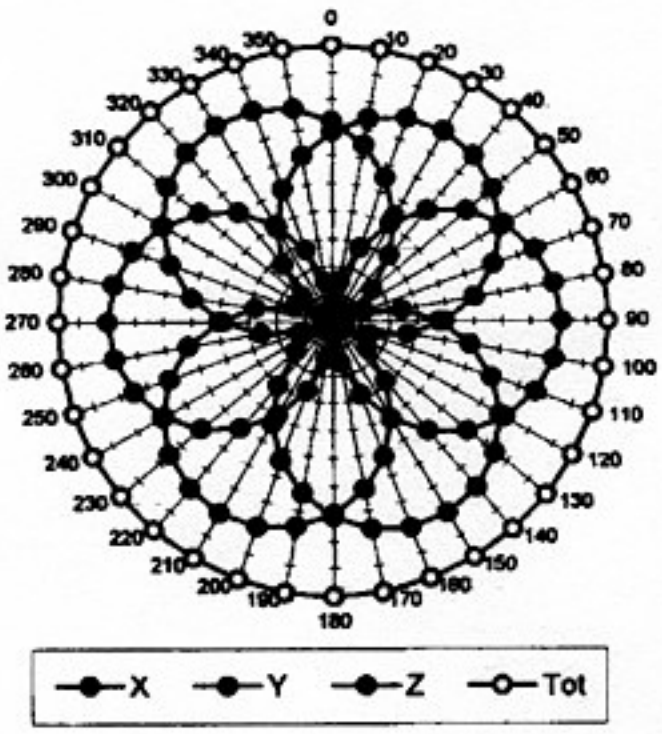
ConvF X	**5.43**	± 9.5% (k=2)	Boundary effect:	
ConvF Y	**5.43**	± 9.5% (k=2)	Alpha	**0.63**
ConvF Z	**5.43**	± 9.5% (k=2)	Depth	**2.13**

Sensor Offset

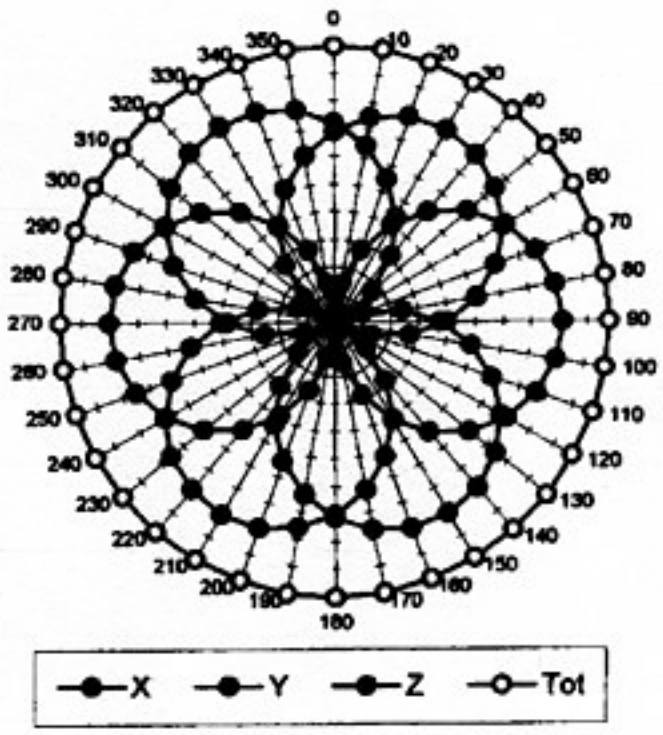
Probe Tip to Sensor Center	**2.7**	mm
Optical Surface Detection	**1.5 ± 0.2**	mm

Receiving Pattern (ϕ), θ = 0°

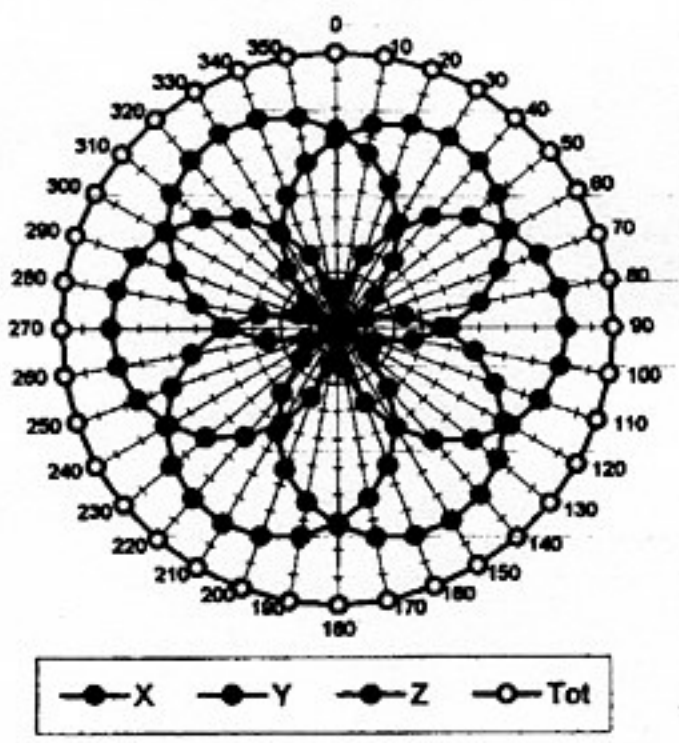
f = 30 MHz, TEM cell ifi110



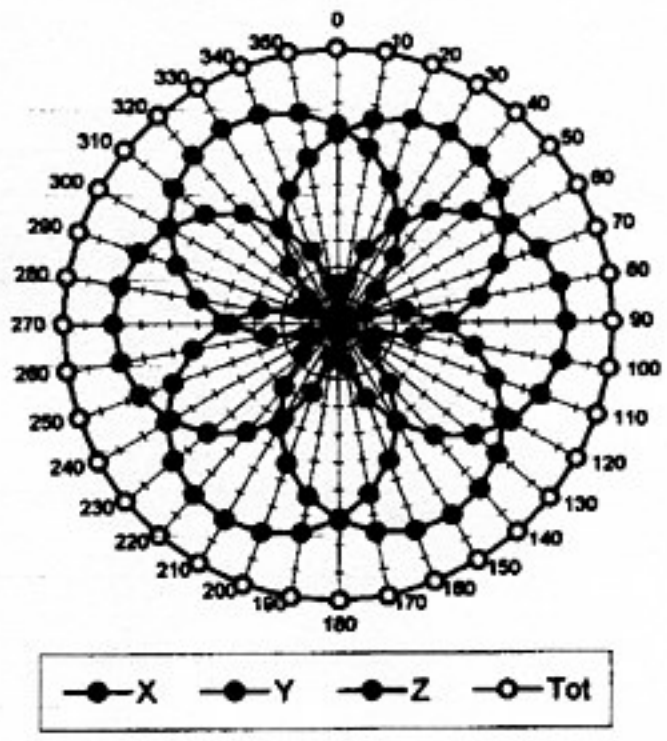
f = 100 MHz, TEM cell ifi110

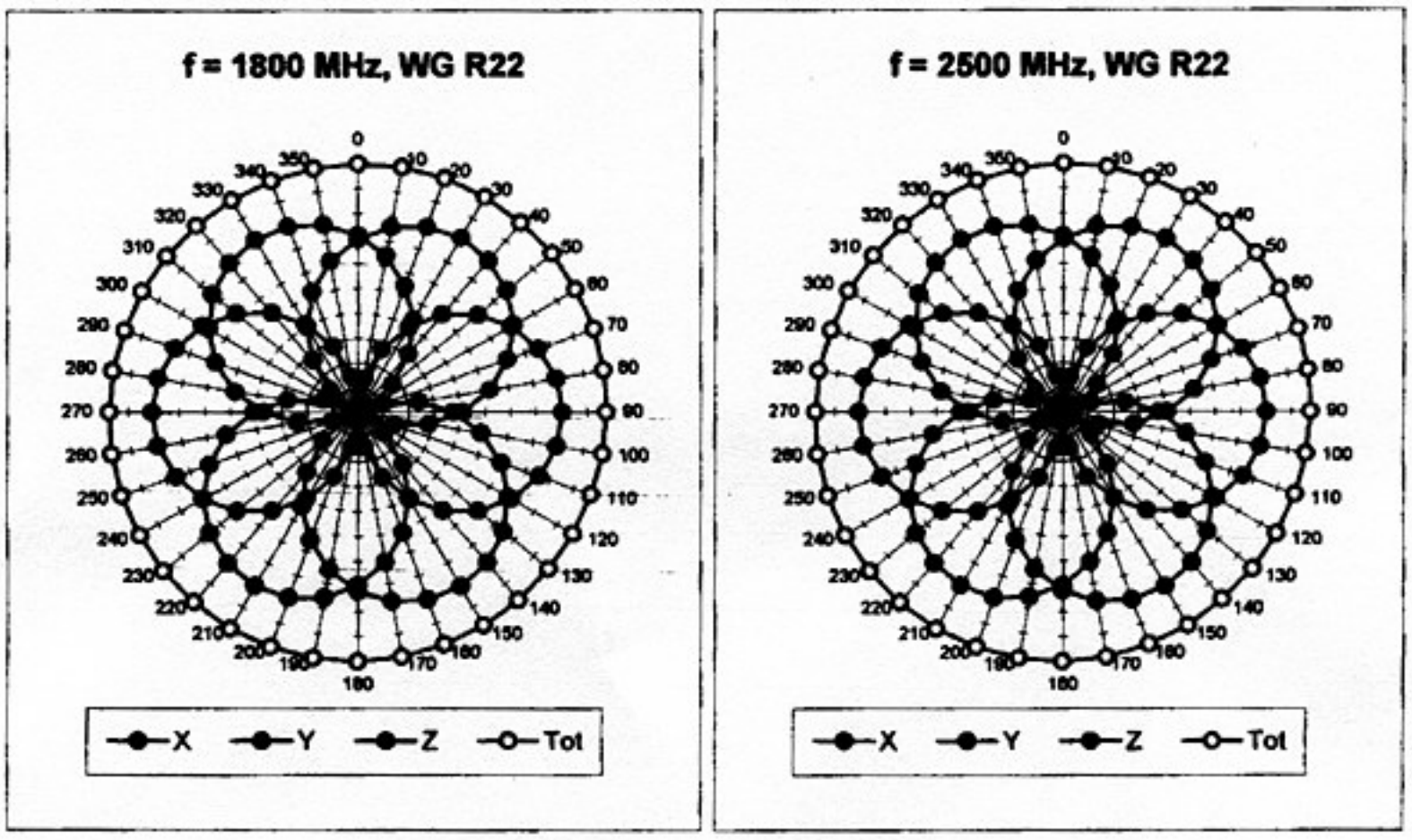


f = 300 MHz, TEM cell ifi110

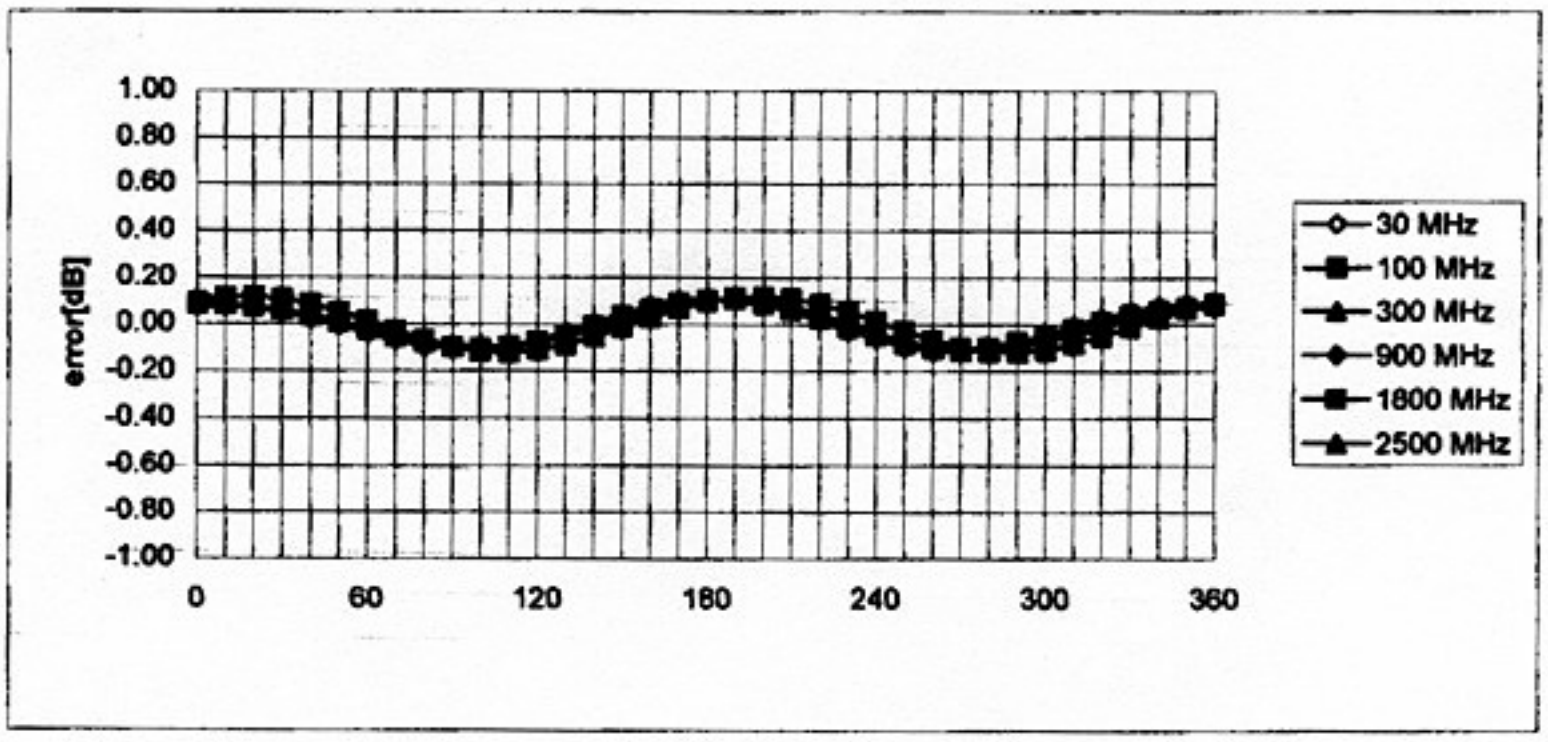


f = 900 MHz, TEM cell ifi110



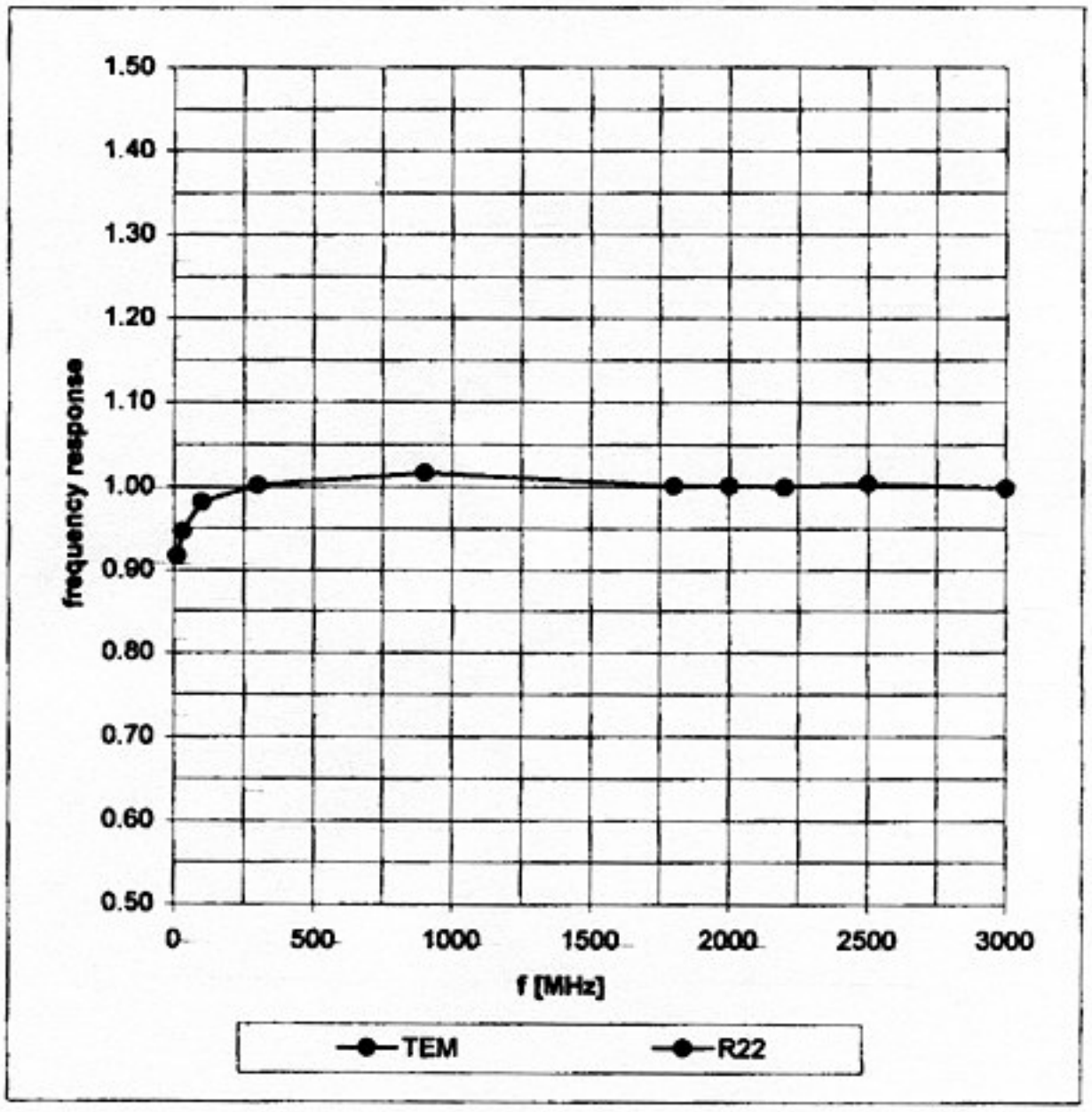


Isotropy Error (ϕ), θ = 0°



Frequency Response of E-Field

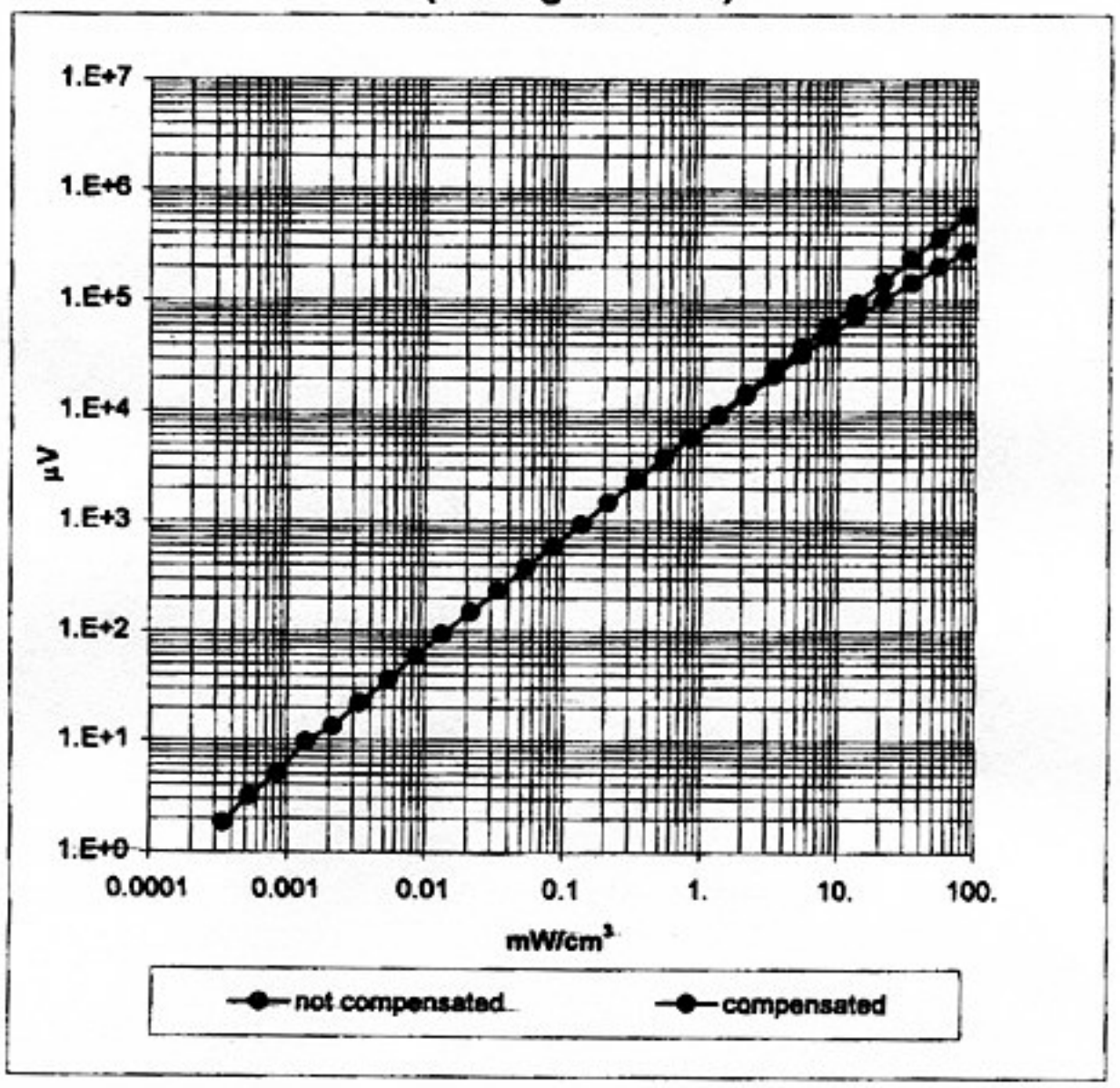
(TEM-Cell:ifi110, Waveguide R22)

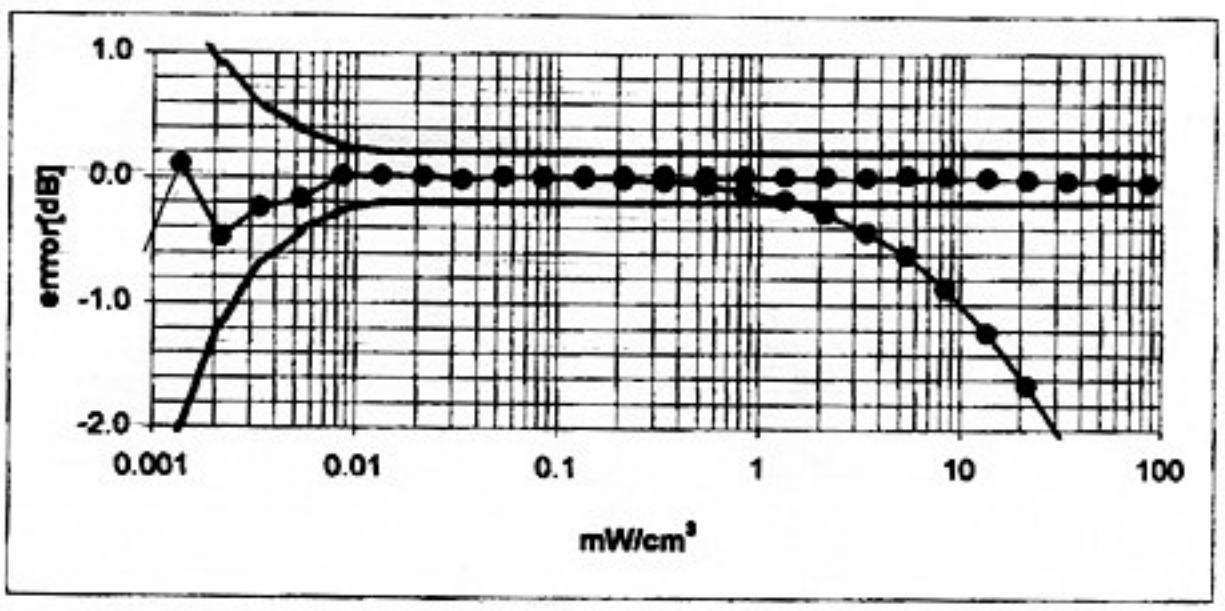


ET3DV6 SN:1391

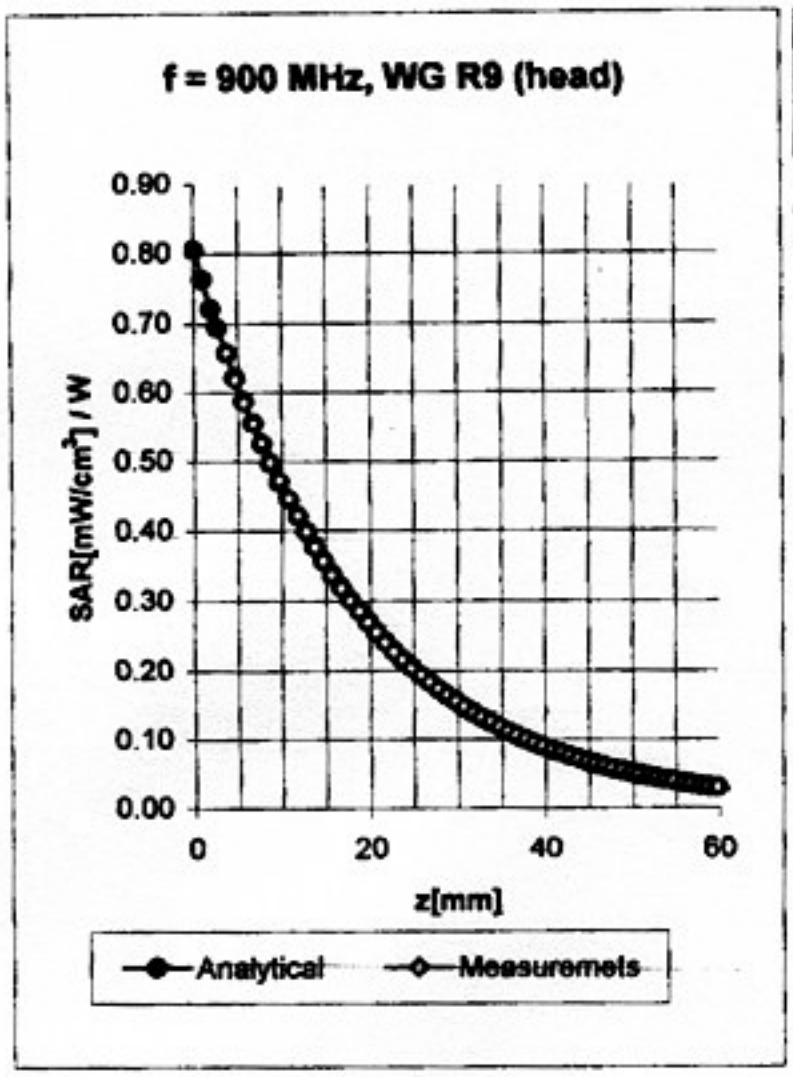
Dynamic Range f(SAR_{brain})

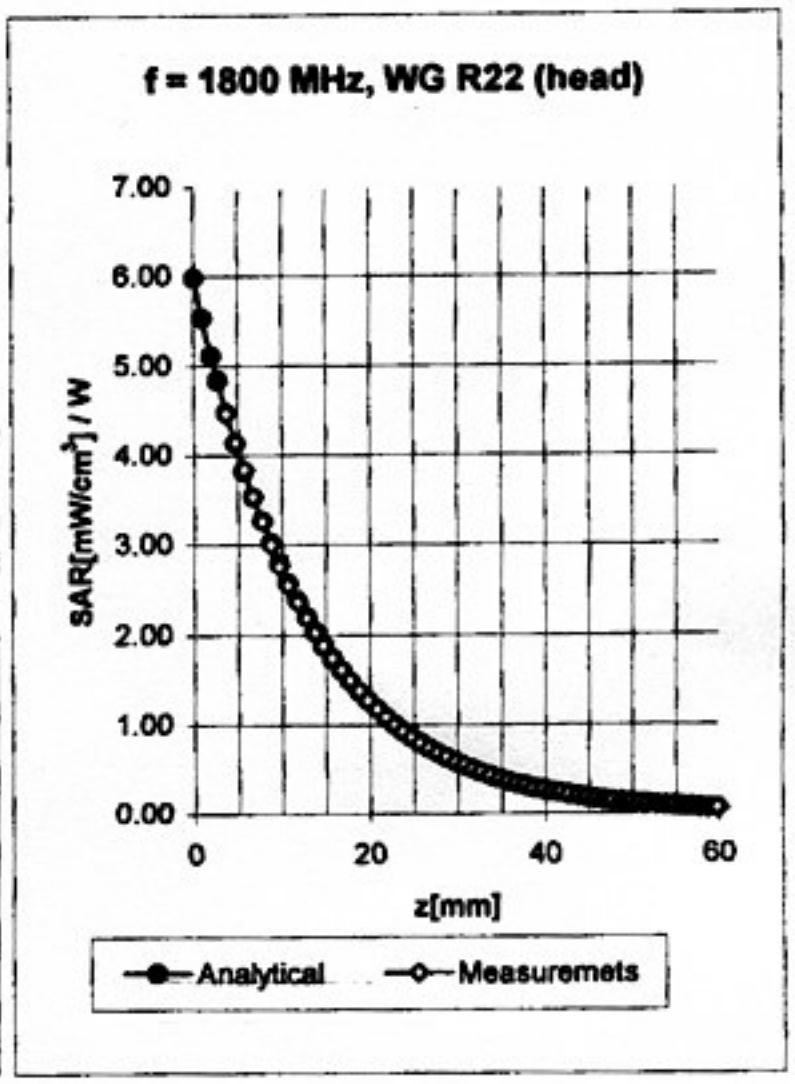
(Waveguide R22)





Conversion Factor Assessment



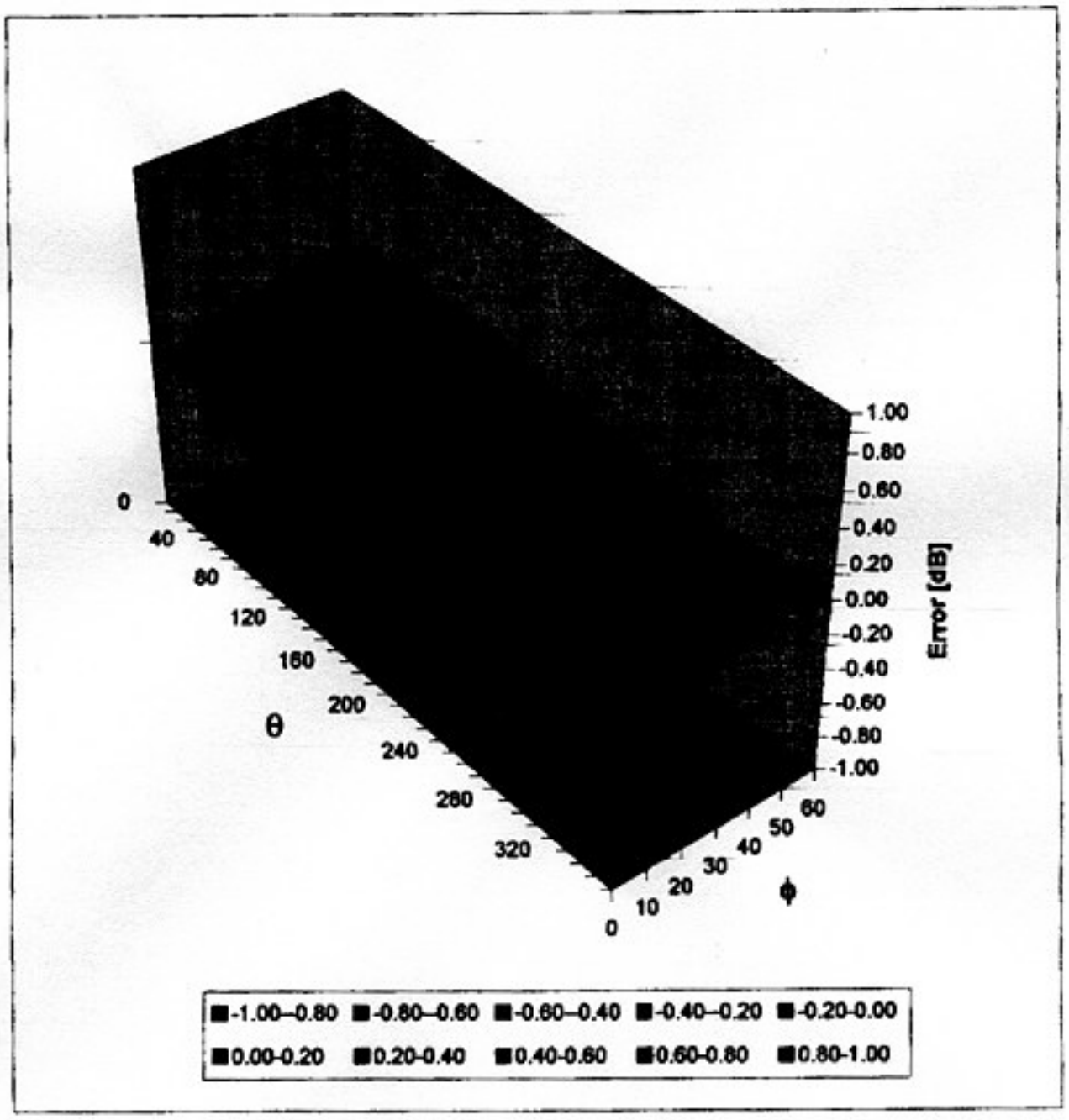


Head	**800 - 1000 MHz**		ε_r = 39.0 - 43.5	σ = 0.80 - 1.10 mho/m	
	ConvF X	**6.31**	± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**6.31**	± 9.5% (k=2)	Alpha	**0.47**
	ConvF Z	**6.31**	± 9.5% (k=2)	Depth	**2.30**

Head	**1700 - 1910 MHz**		ε_r = 39.5 - 41.0	σ = 1.20 - 1.55 mho/m	
	ConvF X	**5.43**	± 9.5% (k=2)	Boundary effect:	
	ConvF Y	**5.43**	± 9.5% (k=2)	Alpha	**0.63**
	ConvF Z	**5.43**	± 9.5% (k=2)	Depth	**2.13**

Deviation from Isotropy in HSL

Error (θ,φ), f = 900 MHz



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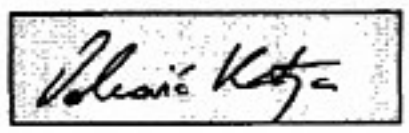
Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1391**
Place of Assessment:	**Zurich**
Date of Assessment:	**November 14, 2001**
Probe Calibration Date:	**October 25, 2001**

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:1391

Conversion factor (± standard deviation)

835 MHz	ConvF	**6.4 ± 8%**	**ε_r = 41.5** **σ = 0.90 mho/m** (head tissue)
1950 MHz	ConvF	**5.2 ± 8%**	**ε_r = 40.0** **σ = 1.40 mho/m** (head tissue)
835 MHz	ConvF	**6.2 ± 8%**	**ε_r = 55.2** **σ = 0.97 mho/m** (body tissue)
900 MHz	ConvF	**6.1 ± 8%**	**ε_r = 55.0** **σ = 1.05 mho/m** (body tissue)
1800 MHz	ConvF	**5.0 ± 8%**	**ε_r = 53.3** **σ = 1.52 mho/m** (body tissue)
1950 MHz	ConvF	**4.7 ± 8%**	**ε_r = 53.3** **σ = 1.52 mho/m** (body tissue)

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Calibration Certificate

Dosimetric E-Field Probe

Type:	ET3DV6
Serial Number:	1398
Place of Calibration:	Zurich
Date of Calibration:	August 31, 2001
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:1398

Manufactured:	October 24, 1999
Repaired:	August 24, 2001
Calibrated:	August 31, 2001

Calibrated for System DASY3

DASY3 - Parameters of Probe: ET3DV6 SN:1398

Sensitivity in Free Space

NormX	**1.62**	$\mu V/(V/m)^2$
NormY	**1.57**	$\mu V/(V/m)^2$
NormZ	**1.71**	$\mu V/(V/m)^2$

Diode Compression

DCP X	**97**	mV
DCP Y	**97**	mV
DCP Z	**97**	mV

Sensitivity in Tissue Simulating Liquid

Head **450 MHz** e_r **= 40.4 ± 5%** s **= 0.87 ± 5% mho/m**

ConvF X	**6.95**	extrapolated	Boundary effect:	
ConvF Y	**6.95**	extrapolated	Alpha	**0.45**
ConvF Z	**6.95**	extrapolated	Depth	**2.12**

Head **900 MHz** e_r **= 41.5 ± 5%** s **= 0.97 ± 5% mho/m**
Head **835 MHz** e_r **= 41.5 ± 5%** s **= 0.90 ± 5% mho/m**

ConvF X	**6.43**	± 7% (k=2)	Boundary effect:	
ConvF Y	**6.43**	± 7% (k=2)	Alpha	**0.49**
ConvF Z	**6.43**	± 7% (k=2)	Depth	**2.18**

Head **1500 MHz** e_r **= 40.4 ± 5%** s **= 1.23 ± 5% mho/m**

ConvF X	**5.74**	interpolated	Boundary effect:	
ConvF Y	**5.74**	interpolated	Alpha	**0.54**
ConvF Z	**5.74**	interpolated	Depth	**2.26**

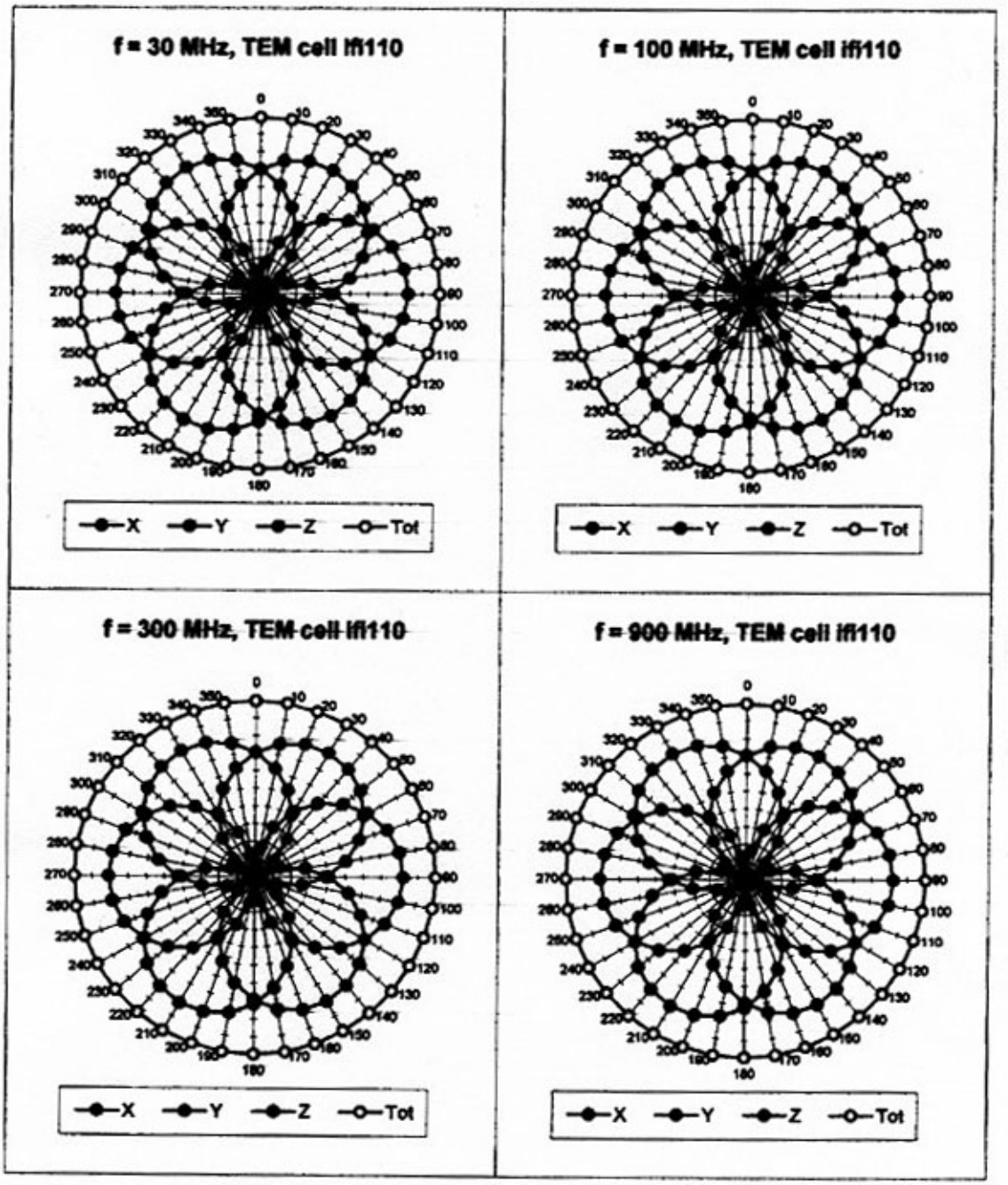
Head **1800 MHz** e_r **= 40.0 ± 5%** s **= 1.40 ± 5% mho/m**
Head **1900 MHz** e_r **= 40.0 ± 5%** s **= 1.40 ± 5% mho/m**

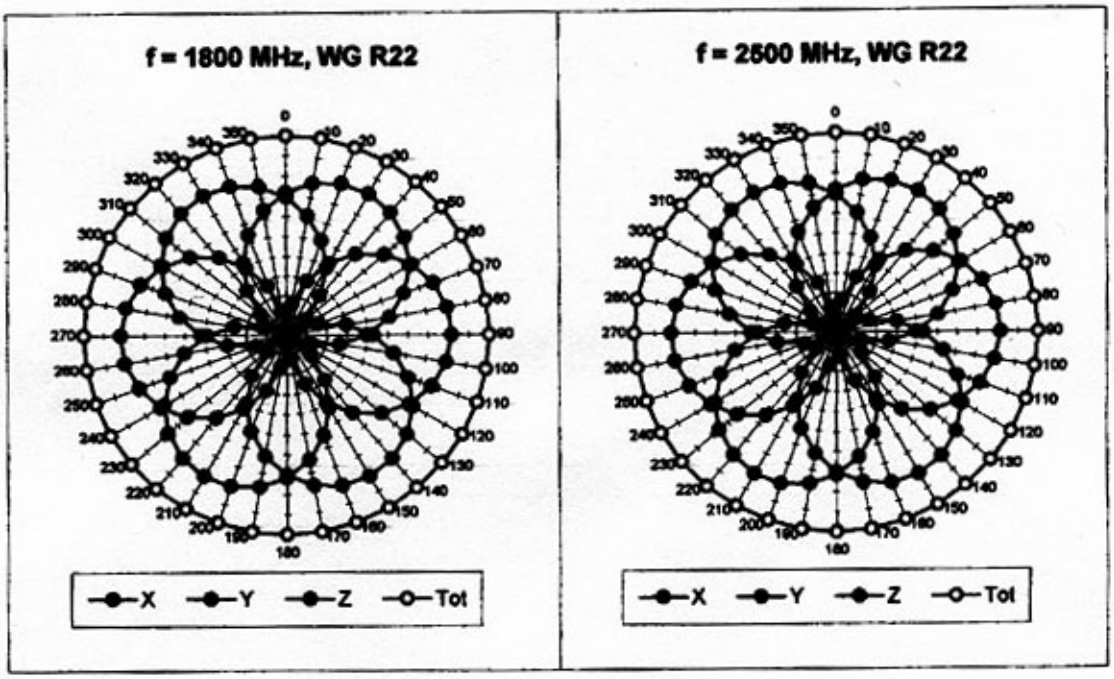
ConvF X	**5.39**	± 7% (k=2)	Boundary effect:	
ConvF Y	**5.39**	± 7% (k=2)	Alpha	**0.56**
ConvF Z	**5.39**	± 7% (k=2)	Depth	**2.30**

Sensor Offset

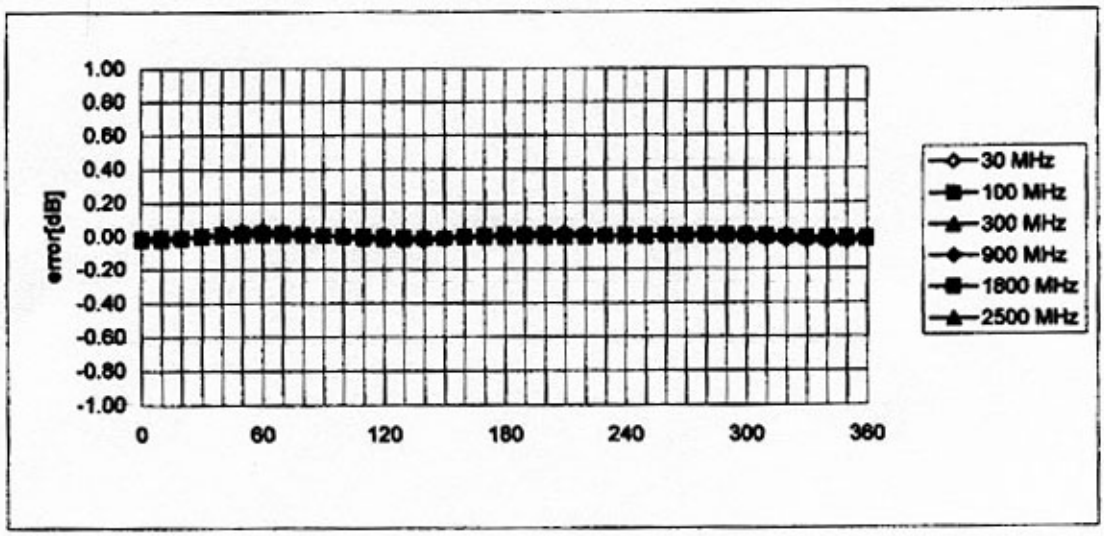
Probe Tip to Sensor Center	**2.7**	mm
Optical Surface Detection	**1.2 ± 0.2**	mm

Receiving Pattern (ϕ), θ = 0°



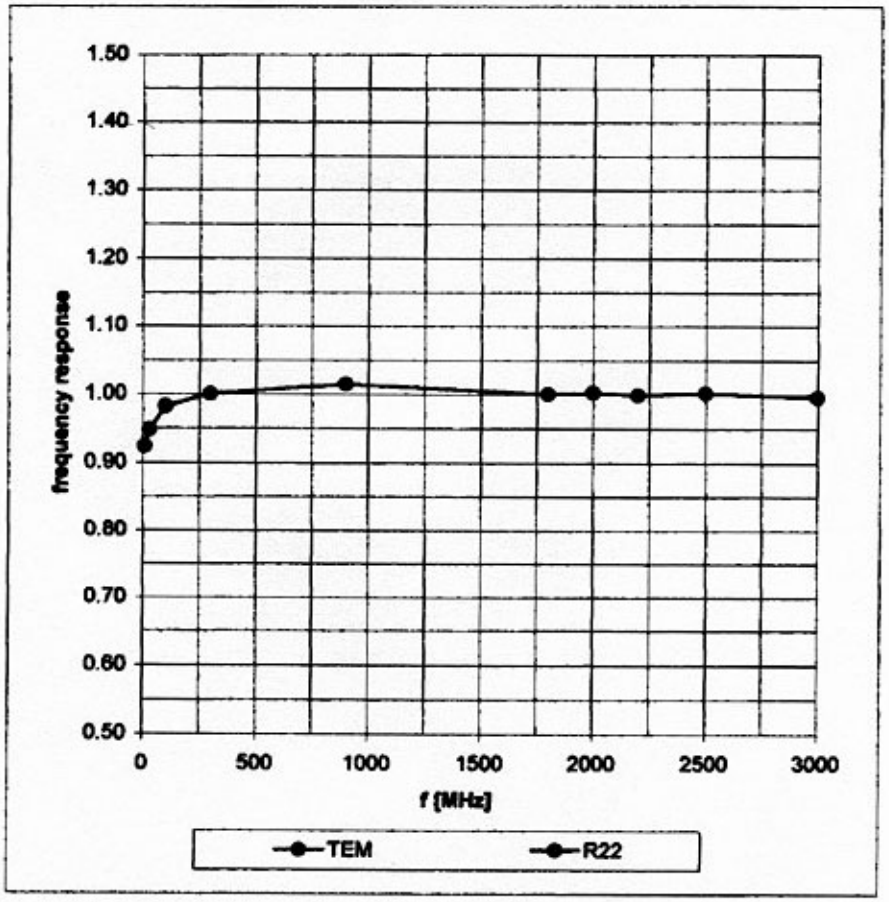


Isotropy Error (ϕ), θ = 0°



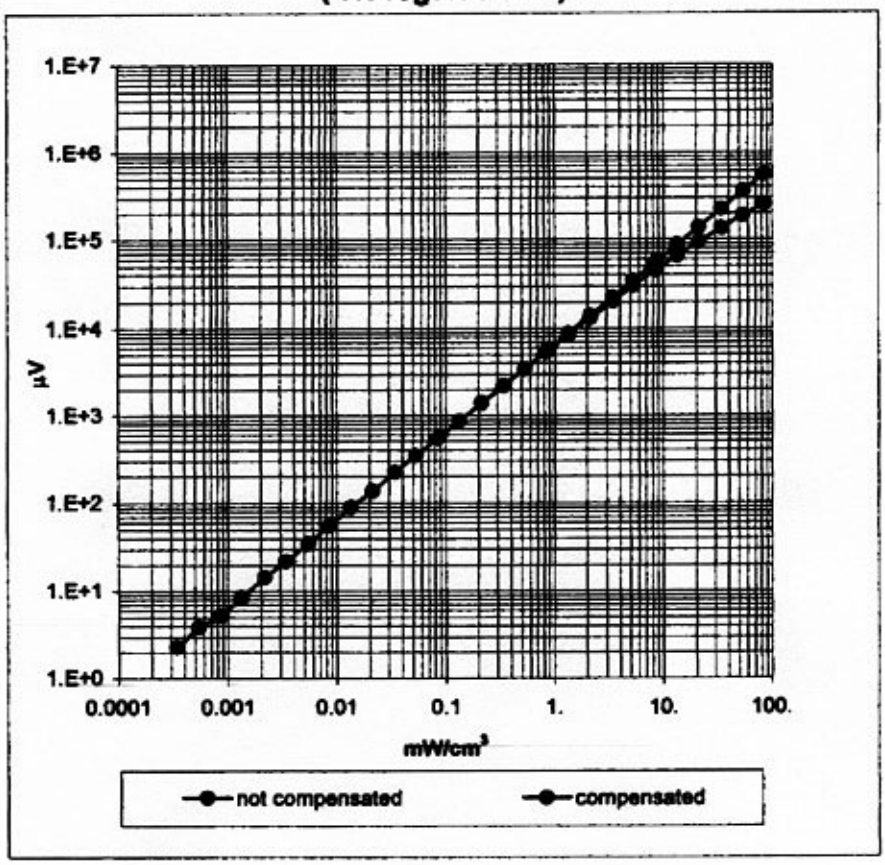
Frequency Response of E-Field

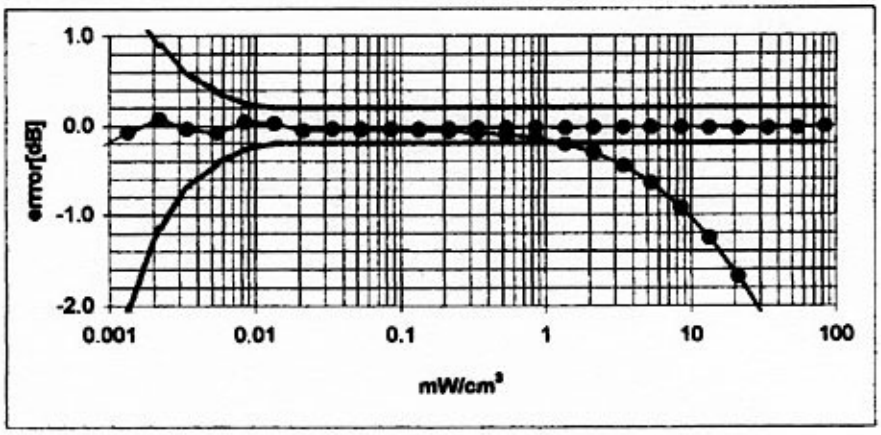
(TEM-Cell:ifi110, Waveguide R22)



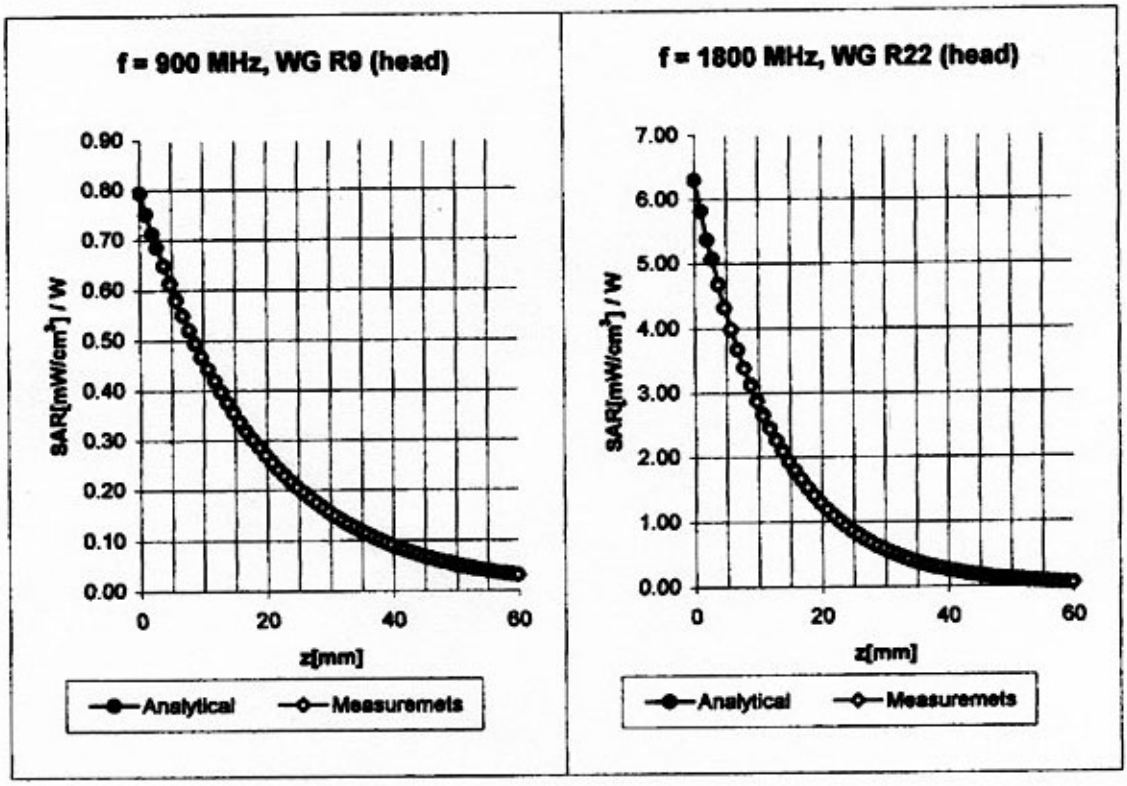
Dynamic Range f(SAR_{brain})

(Waveguide R22)





Conversion Factor Assessment



Head **900 MHz** $\varepsilon_r = 42 \pm 5\%$ $\sigma = 0.97 \pm 10\%$ mho/m

ConvF X	**6.43** ± 7% (k=2)	Boundary effect:	
ConvF Y	**6.43** ± 7% (k=2)	Alpha	**0.49**
ConvF Z	**6.43** ± 7% (k=2)	Depth	**2.18**

Head **1800 MHz** $\varepsilon_r = 40 \pm 5\%$ $\sigma = 1.40 \pm 10\%$ mho/m

ConvF X	**5.39** ± 7% (k=2)	Boundary effect:	
ConvF Y	**5.39** ± 7% (k=2)	Alpha	**0.56**
ConvF Z	**5.39** ± 7% (k=2)	Depth	**2.30**

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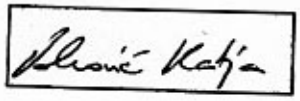
Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1398**
Place of Assessment:	**Zurich**
Date of Assessment:	**September 7, 2001**
Probe Calibration Date:	**August 31, 2001**

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:1398

Conversion factor (± standard deviation)

835 MHz	ConvF	**6.5 ± 8%**	ε_r = 41.5 σ = 0.90 mho/m (head tissue)
835 MHz	ConvF	**6.3 ± 8%**	ε_r = 55.2 σ = 0.97 mho/m (body tissue)
900 MHz	ConvF	**6.2 ± 8%**	ε_r = 55.0 σ = 1.05 mho/m (body tissue)
1950 MHz	ConvF	**5.1 ± 8%**	ε_r = 40.0 σ = 1.40 mho/m (head tissue)
1800 MHz	ConvF	**5.0 ± 8%**	ε_r = 53.3 σ = 1.52 mho/m (body tissue)
1950 MHz	ConvF	**4.7 ± 8%**	ε_r = 53.3 σ = 1.52 mho/m (body tissue)

Dosimetric E-Field Probe ET3DV6 SN:1398

Conversion factor (± standard deviation)

835 MHz	ConvF	**6.5 ± 8%**	ε_r = 44.0 σ = 0.90 mho/m (brain tissue)
835 MHz	ConvF	**6.4 ± 8%**	ε_r = 52.0 σ = 1.10 mho/m (muscle tissue)
900 MHz	ConvF	**6.4 ± 8%**	ε_r = 42.5 σ = 0.86 mho/m (brain tissue)
925 MHz	ConvF	**6.3 ± 8%**	ε_r = 44.0 σ = 0.93 mho/m (brain tissue)
925 MHz	ConvF	**6.3 ± 8%**	ε_r = 52.0 σ = 1.20 mho/m (muscle tissue)
1800 MHz	ConvF	**5.4 ± 8%**	ε_r = 40.3 σ = 1.35 mho/m (brain tissue)
1800 MHz	ConvF	**5.5 ± 8%**	ε_r = 41.0 σ = 1.69 mho/m (brain tissue)
1900 MHz	ConvF	**5.2 ± 8%**	ε_r = 39.9 σ = 1.42 mho/m (brain tissue)
1800 MHz	ConvF	**5.1 ± 8%**	ε_r = 50.0 σ = 1.58 mho/m (muscle tissue)
1900 MHz	ConvF	**5.0 ± 8%**	ε_r = 50.0 σ = 1.64 mho/m (muscle tissue)