

**APPENDIX 5 : Dosimetric E-Field Probe Calibration**  
**(ET3DV6,S/N: 1684)**

# Schmid & Partner Engineering AG

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## IMPORTANT NOTICE

### USAGE OF PROBES IN ORGANIC SOLVENTS

Diethylene Glycol Monobuthy Ether (the basis for HSL1800 and M1800 liquids), as many other organic solvents, is a very effective softener for synthetic materials. These solvents can cause irreparable damage to certain SPEAG products, except those which are explicitly declared as compliant with organic solvents.

#### Compatible Probes:

- ET3DV6
- ET3DV6R
- ES3DV2
- ER3DV6
- H3DV6

#### Important Note for ET3DV6 Probes:

The ET3DV6 probes shall not be exposed to solvents longer than necessary for the measurements and shall be cleaned daily after use with warm water and stored dry.

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## Calibration Certificate

### Dosimetric E-Field Probe

Type:

ET3DV6

Serial Number:

1684

Place of Calibration:

Zurich

Date of Calibration:

November 20, 2002

Calibration Interval:

12 months

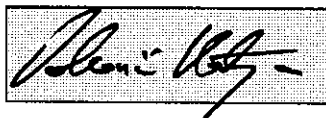
Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

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:



# Probe ET3DV6

## SN:1684

Manufactured:	April 3, 2002
Last calibration:	May 10, 2002
Recalibrated:	November 20, 2002

**Calibrated for DASYS Systems**

(Note: non-compatible with DASYS2 system!)

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## DASY - Parameters of Probe: ET3DV6 SN:1684

### Sensitivity in Free Space

NormX	<b>1.55</b> $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	<b>1.54</b> $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	<b>1.58</b> $\mu\text{V}/(\text{V}/\text{m})^2$

### Diode Compression

DCP X	<b>96</b>	mV
DCP Y	<b>96</b>	mV
DCP Z	<b>96</b>	mV

### Sensitivity in Tissue Simulating Liquid

Head	<b>900 MHz</b>	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Head	<b>835 MHz</b>	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
ConvF X	<b>6.8</b> $\pm 9.5\%$ (k=2)		Boundary effect:
ConvF Y	<b>6.8</b> $\pm 9.5\%$ (k=2)		Alpha <b>0.31</b>
ConvF Z	<b>6.8</b> $\pm 9.5\%$ (k=2)		Depth <b>2.51</b>
Head	<b>1800 MHz</b>	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Head	<b>1900 MHz</b>	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
ConvF X	<b>5.5</b> $\pm 9.5\%$ (k=2)		Boundary effect:
ConvF Y	<b>5.5</b> $\pm 9.5\%$ (k=2)		Alpha <b>0.40</b>
ConvF Z	<b>5.5</b> $\pm 9.5\%$ (k=2)		Depth <b>2.61</b>

### Boundary Effect

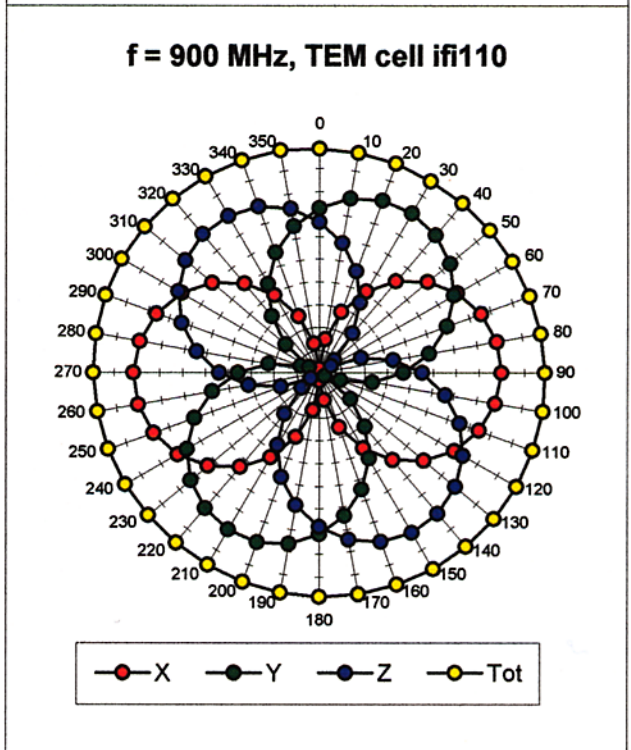
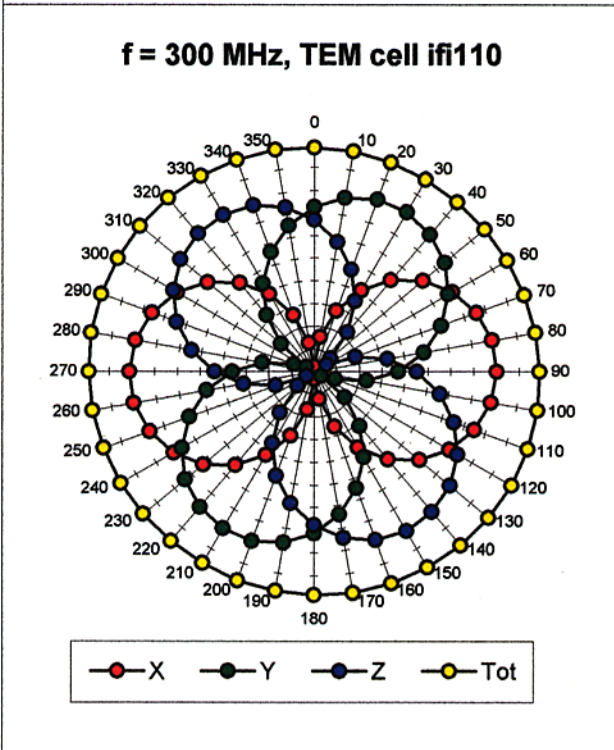
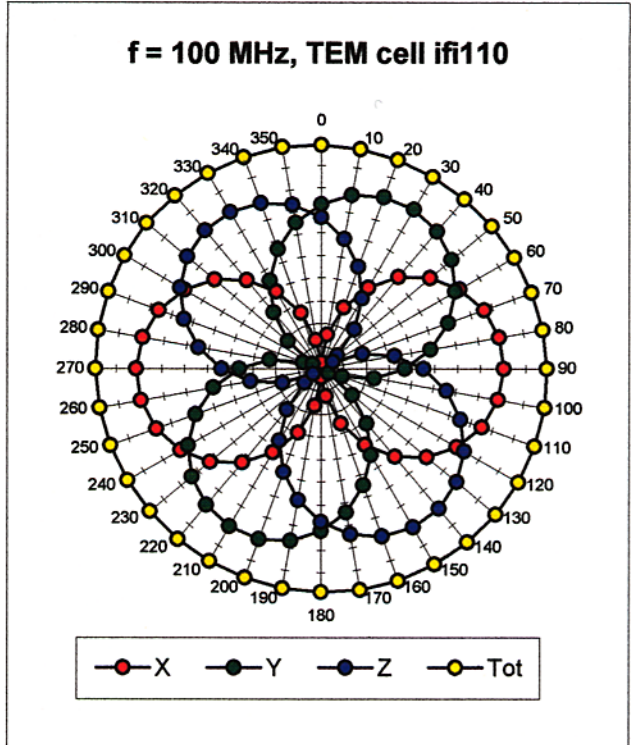
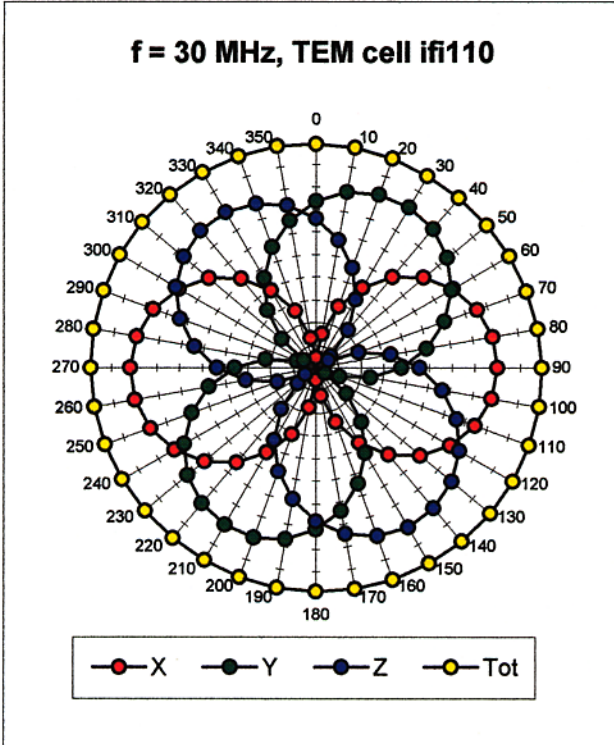
Head	<b>900 MHz</b>	<b>Typical SAR gradient: 5 % per mm</b>	
	Probe Tip to Boundary	<b>1 mm</b>	<b>2 mm</b>
	SAR <sub>be</sub> [%] Without Correction Algorithm	7.8	4.5
	SAR <sub>be</sub> [%] With Correction Algorithm	0.2	0.4

Head	<b>1800 MHz</b>	<b>Typical SAR gradient: 10 % per mm</b>	
	Probe Tip to Boundary	<b>1 mm</b>	<b>2 mm</b>
	SAR <sub>be</sub> [%] Without Correction Algorithm	10.6	7.4
	SAR <sub>be</sub> [%] With Correction Algorithm	0.2	0.2

### Sensor Offset

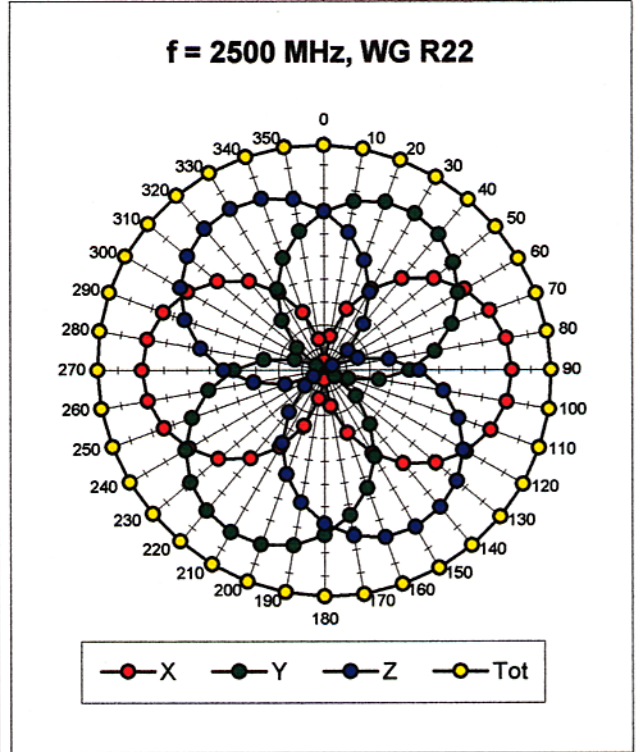
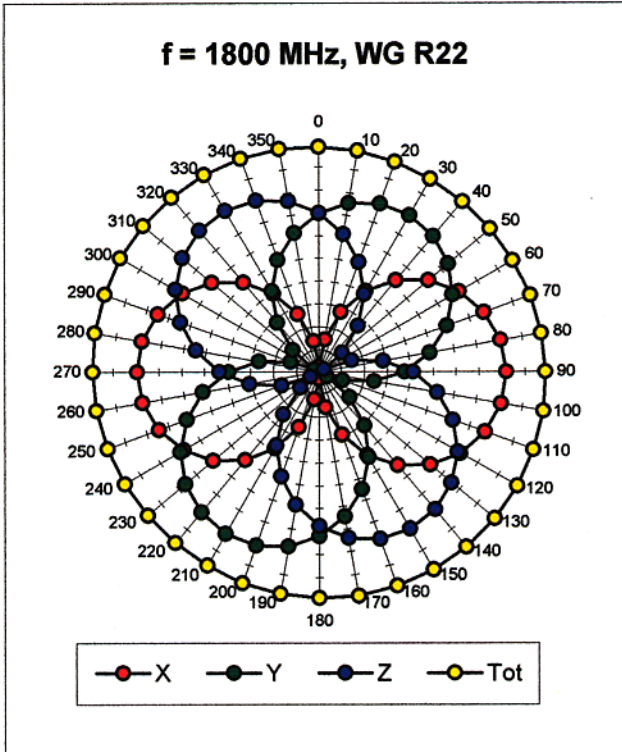
Probe Tip to Sensor Center	<b>2.7</b>	mm
Optical Surface Detection	<b>1.5 <math>\pm</math> 0.2</b>	mm

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

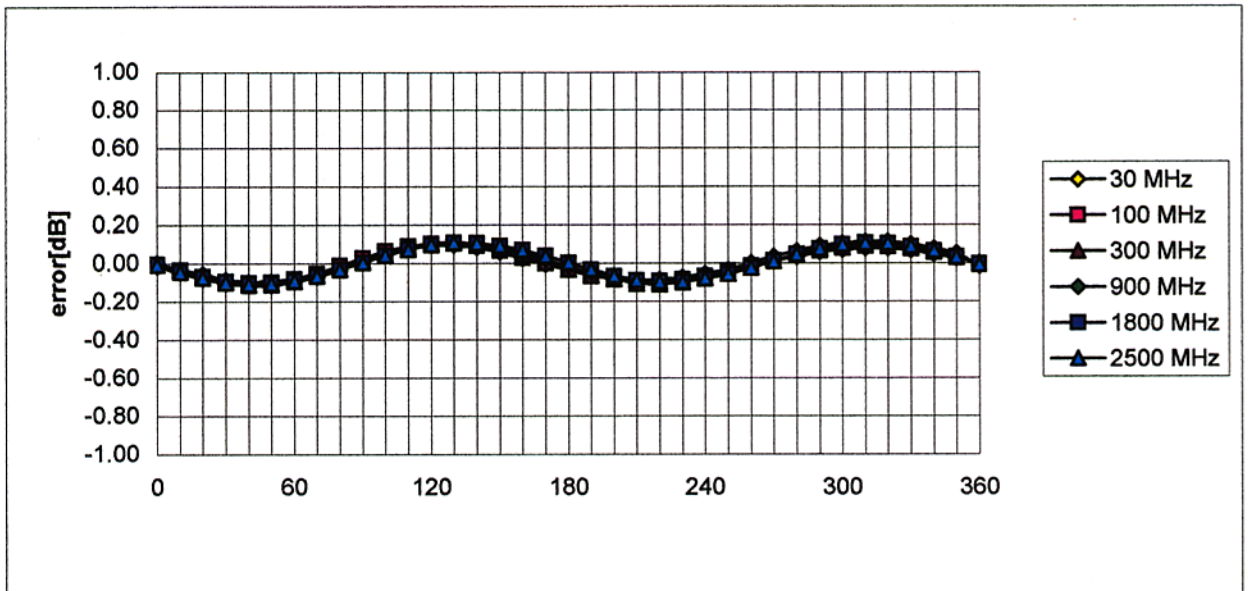


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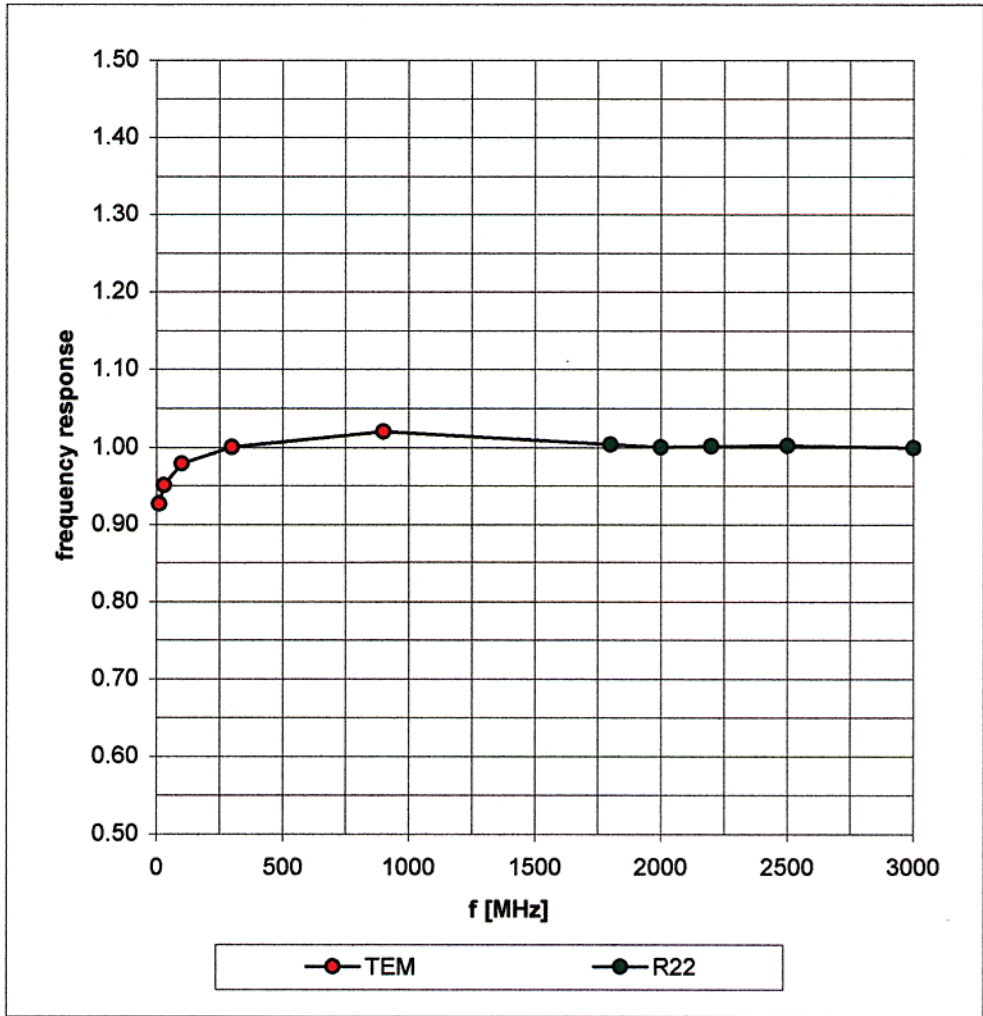


### Isotropy Error ( $\phi$ ), $\theta = 0^\circ$



# Frequency Response of E-Field

( TEM-Cell:ifi110, Waveguide R22)





### Dynamic Range f(SAR<sub>brain</sub>) ( Waveguide R22 )

