

# Probe ET3DV6

**SN:1790**

Manufactured: May 28, 2003  
Last calibration: August 29, 2003

**Calibrated for DASYS Systems**

(Note: non-compatible with DASYS2 system!)

**DASY - Parameters of Probe: ET3DV6 SN:1790****Sensitivity in Free Space**

NormX	<b>1.74</b> $\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	<b>96</b>	mV
NormY	<b>1.69</b> $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	<b>96</b>	mV
NormZ	<b>1.76</b> $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	<b>96</b>	mV

**Diode Compression****Sensitivity in Tissue Simulating Liquid**

Head                      900 MHz                       $\epsilon_r = 41.5 \pm 5\%$                        $\sigma = 0.97 \pm 5\%$  mho/m

Valid for f=800-1000 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	<b>6.4</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>6.4</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.48</b>
ConvF Z	<b>6.4</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.13</b>

Head                      1800 MHz                       $\epsilon_r = 40.0 \pm 5\%$                        $\sigma = 1.40 \pm 5\%$  mho/m

Valid for f=1710-1910 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	<b>5.1</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>5.1</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.49</b>
ConvF Z	<b>5.1</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.70</b>

**Boundary Effect**

Head                      900 MHz                      Typical SAR gradient: 5 % per mm

Probe Tip to Boundary		<b>1 mm</b>	<b>2 mm</b>
SAR <sub>be</sub> [%]	Without Correction Algorithm	9.4	5.2
SAR <sub>be</sub> [%]	With Correction Algorithm	0.2	0.4

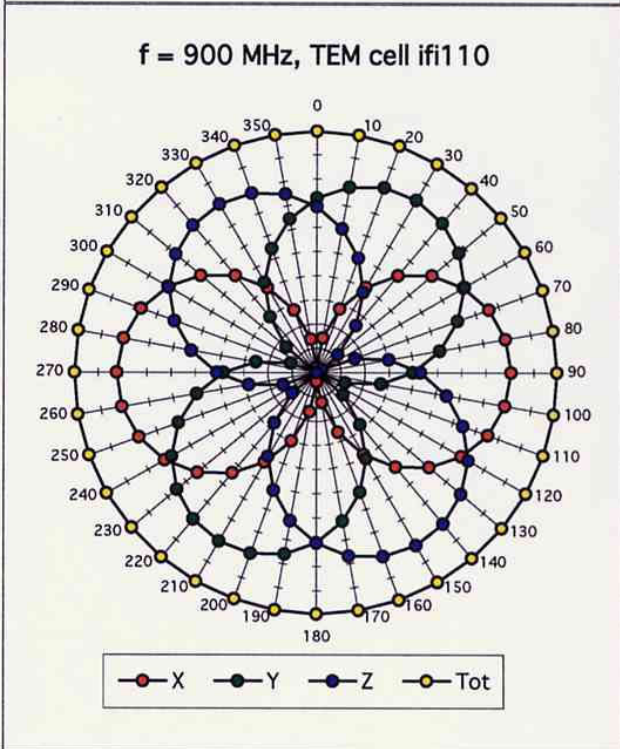
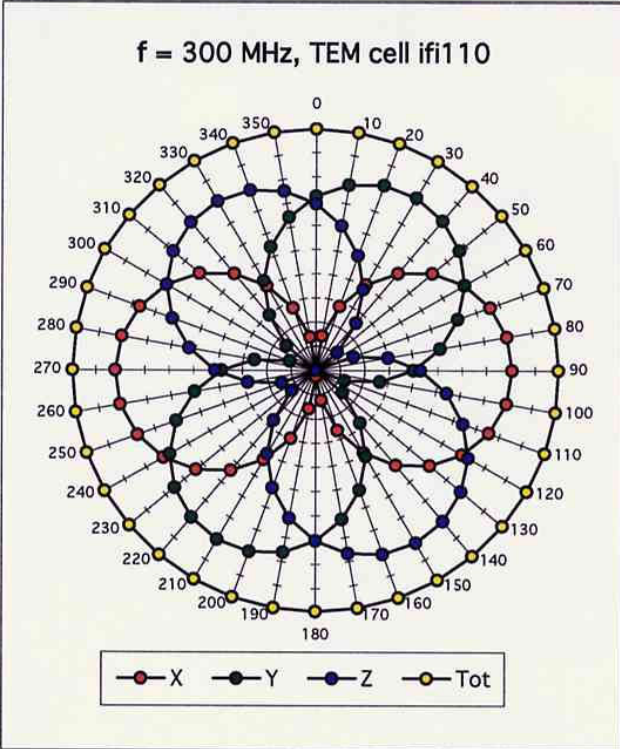
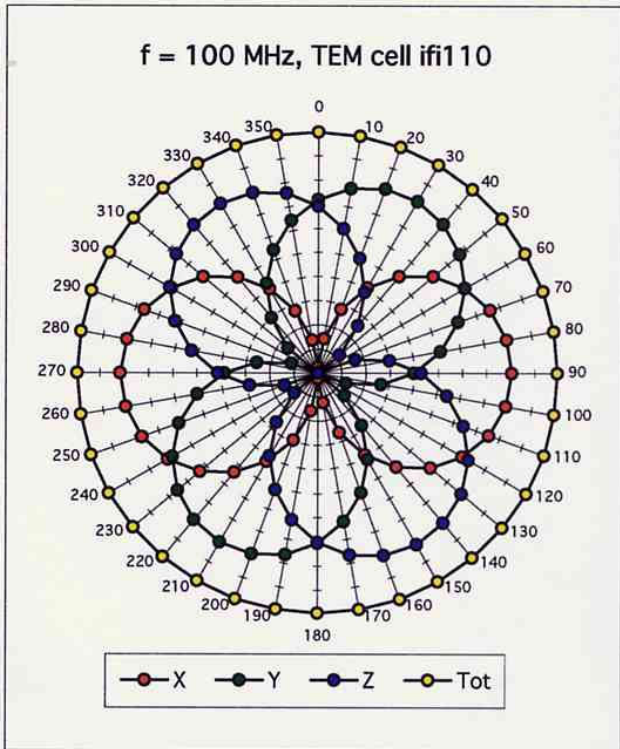
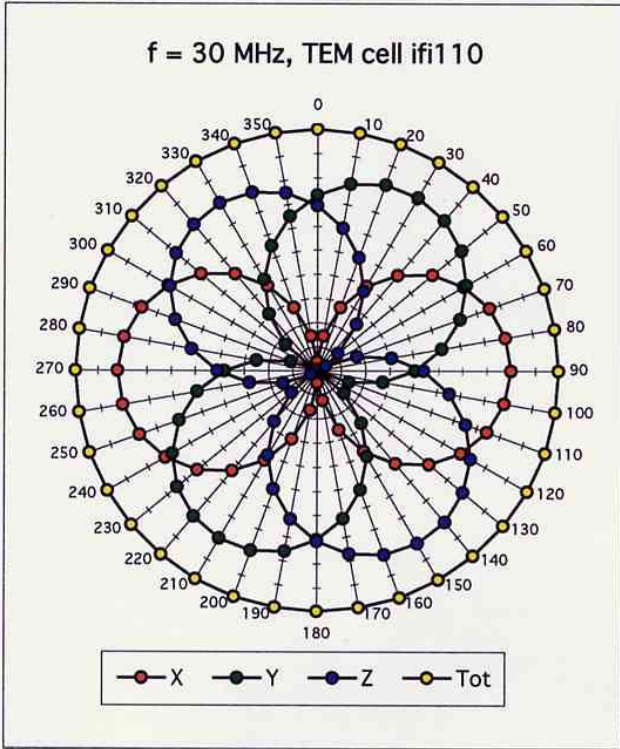
Head                      1800 MHz                      Typical SAR gradient: 10 % per mm

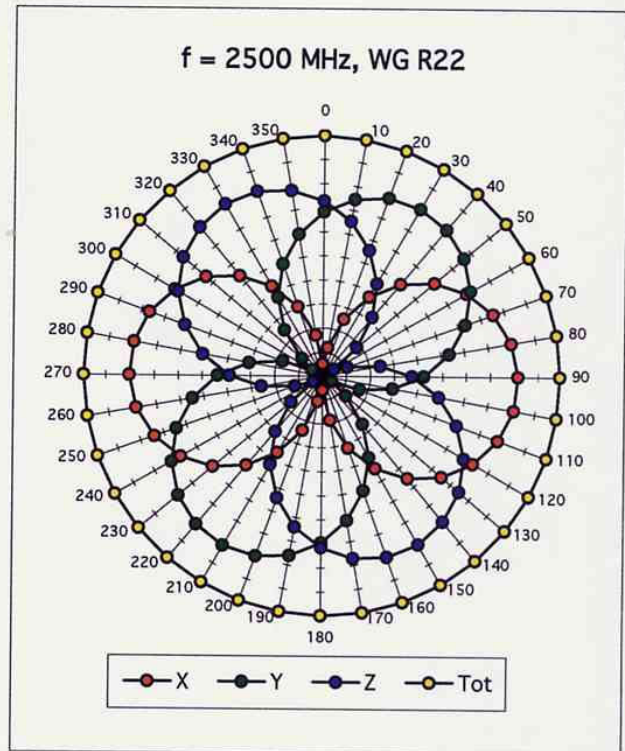
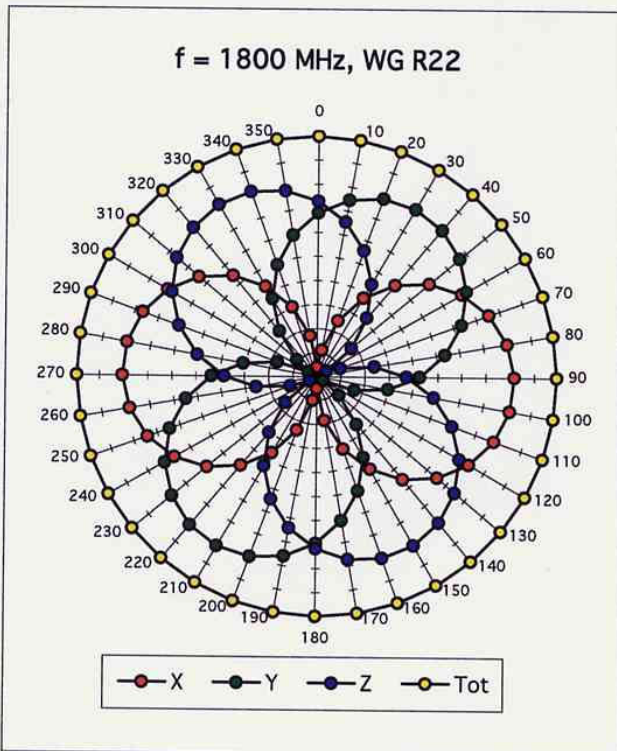
Probe Tip to Boundary		<b>1 mm</b>	<b>2 mm</b>
SAR <sub>be</sub> [%]	Without Correction Algorithm	13.9	9.5
SAR <sub>be</sub> [%]	With Correction Algorithm	0.2	0.1

**Sensor Offset**

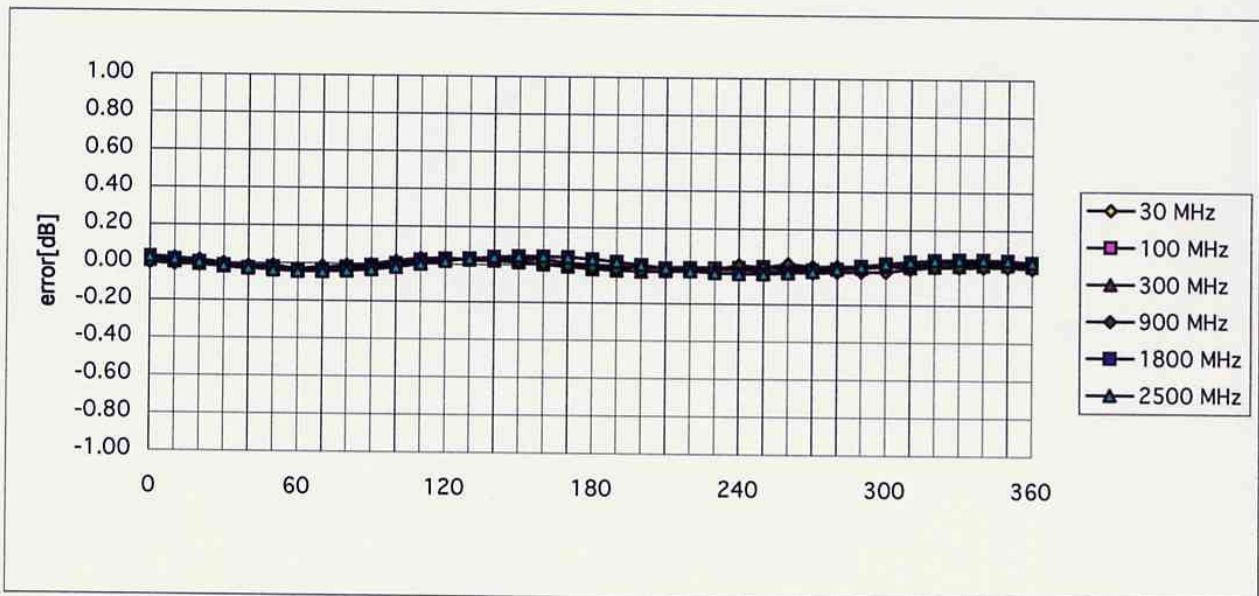
Probe Tip to Sensor Center	<b>2.7</b>	mm
Optical Surface Detection	<b>1.6 <math>\pm</math> 0.2</b>	mm

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



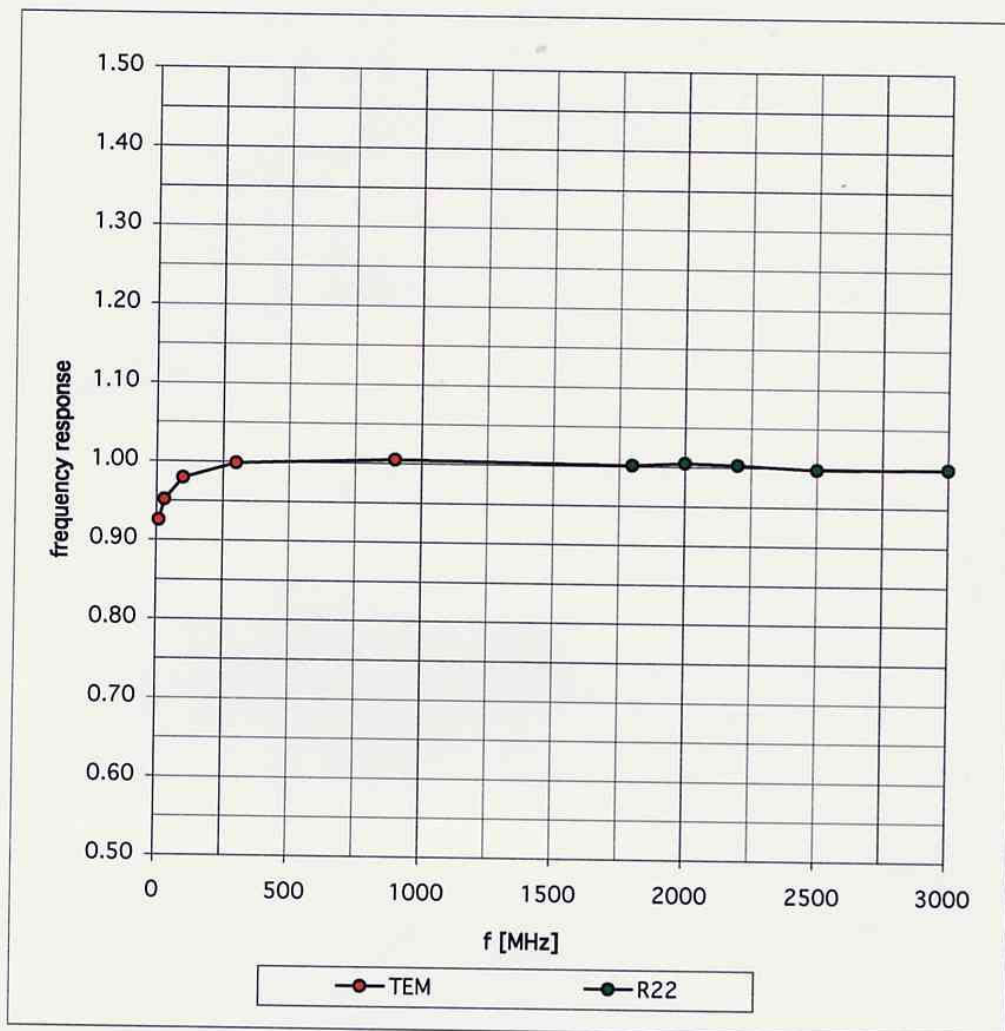


### Isotropy Error ( $\phi$ ), $\theta = 0^\circ$



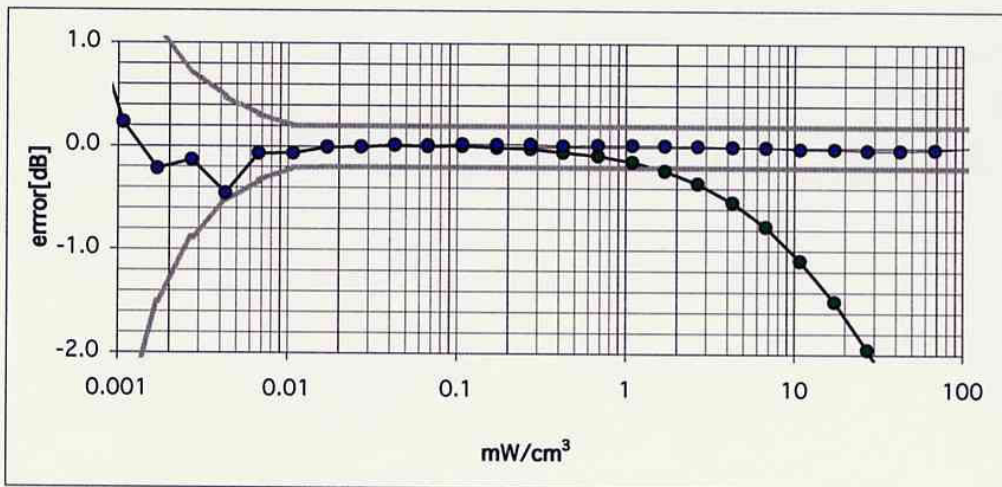
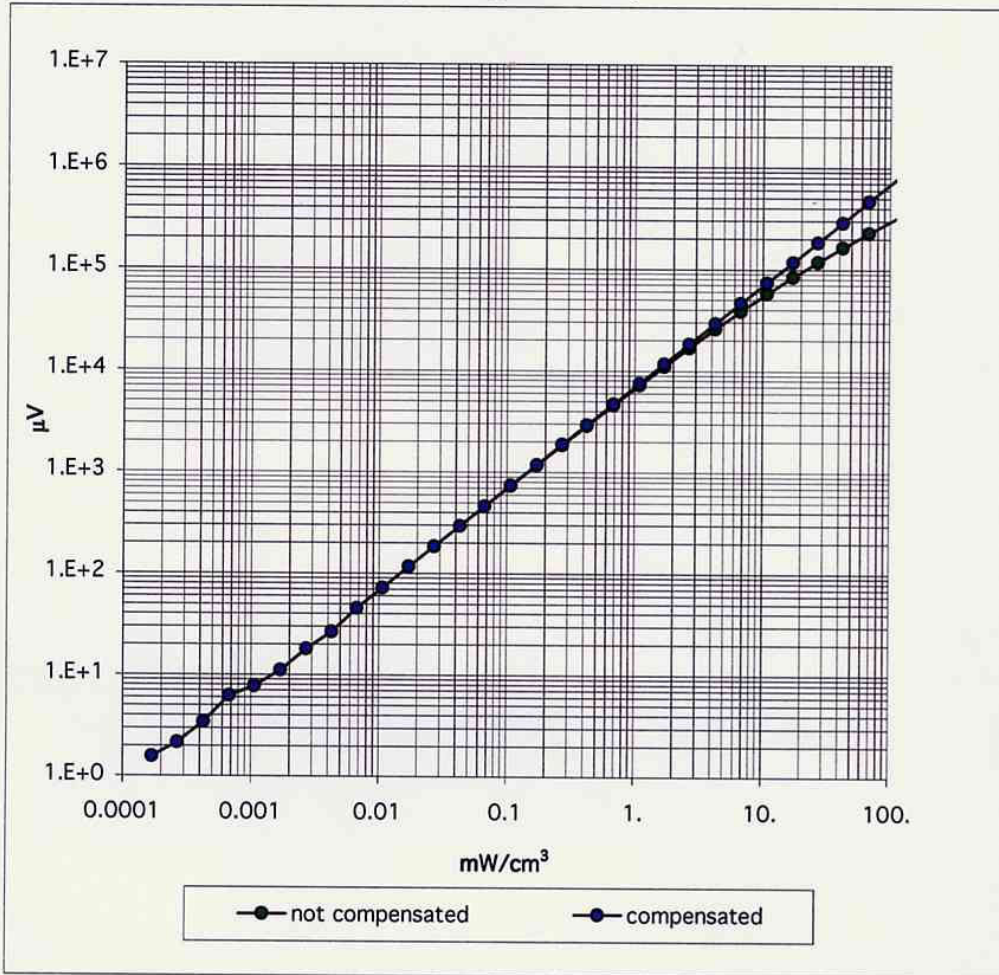
# Frequency Response of E-Field

( TEM-Cell:ifi110, Waveguide R22)

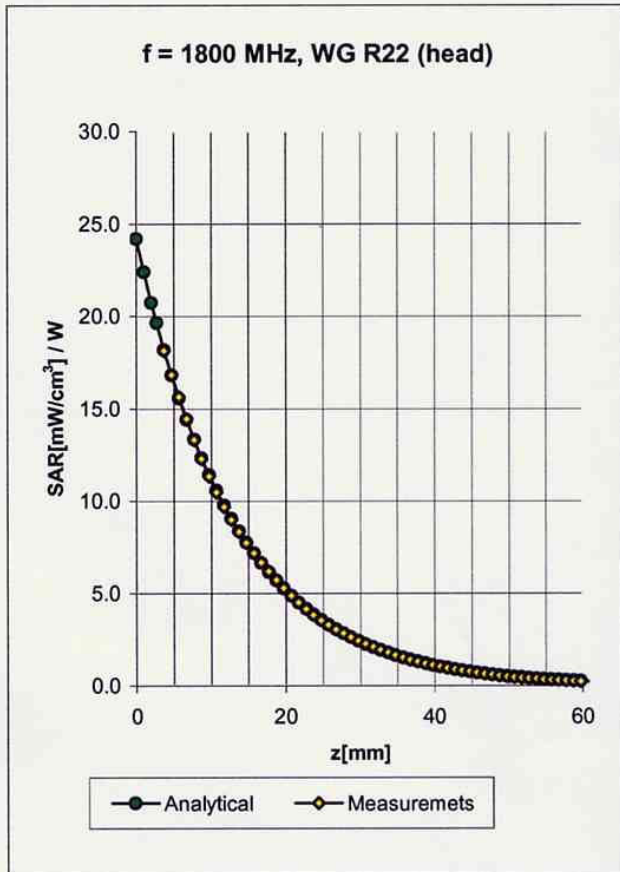
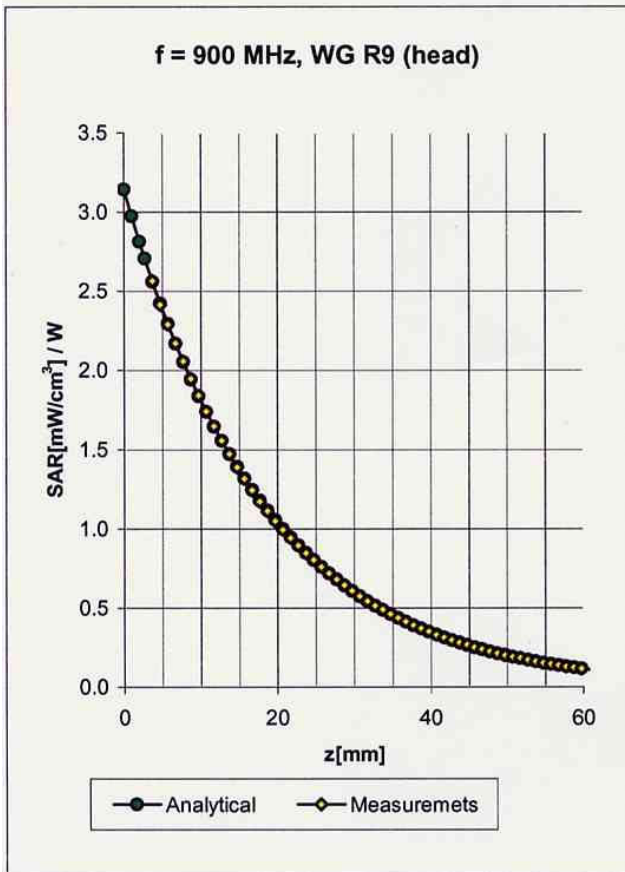


### Dynamic Range f(SAR<sub>brain</sub>)

( Waveguide R22 )



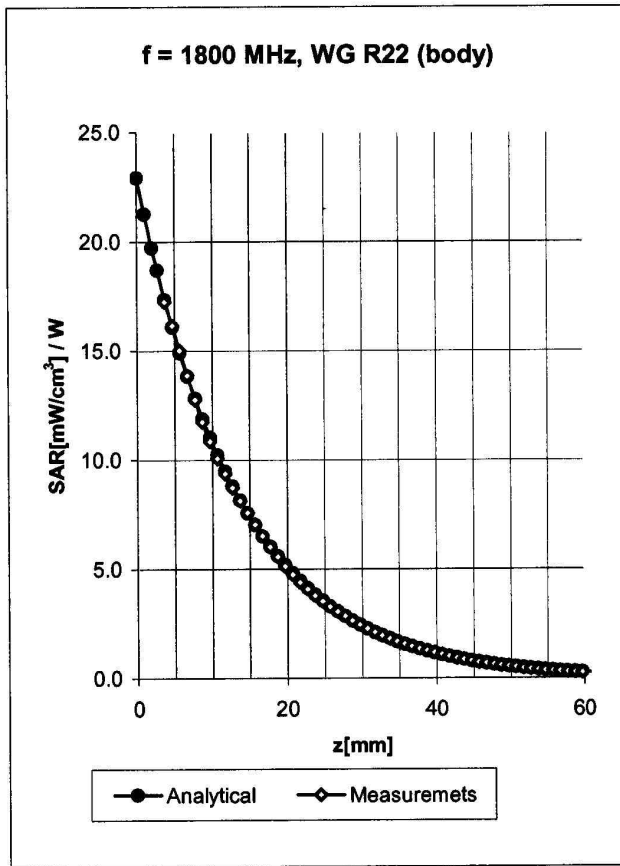
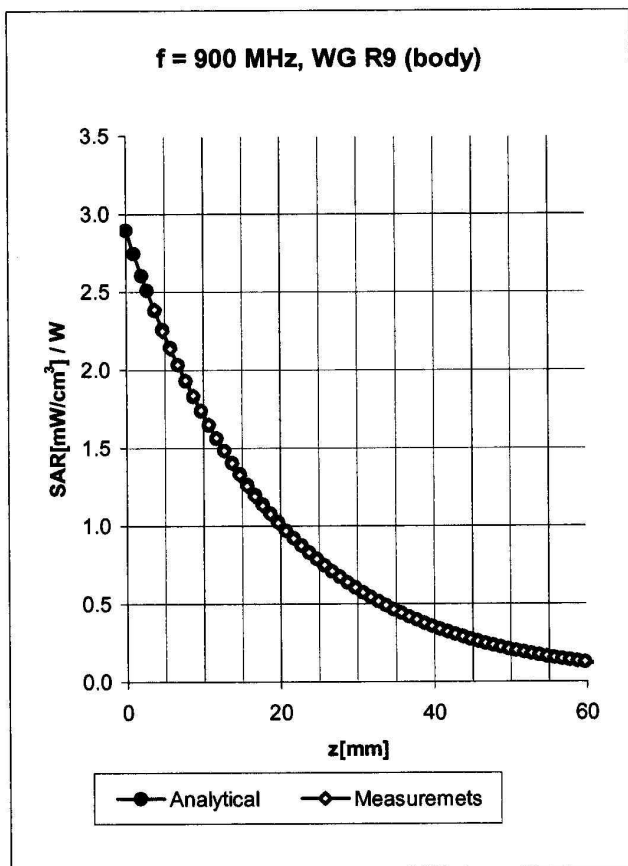
### Conversion Factor Assessment



Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\%$ mho/m
Valid for f=800-1000 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	<b>6.4</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>6.4</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.48</b>
ConvF Z	<b>6.4</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.13</b>

Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
Valid for f=1710-1910 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	<b>5.1</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>5.1</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.49</b>
ConvF Z	<b>5.1</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.70</b>

### Conversion Factor Assessment



Body                      900 MHz                       $\epsilon_r = 55.0 \pm 5\%$                        $\sigma = 1.05 \pm 5\%$  mho/m

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

ConvF X	<b>6.2</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>6.2</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.40</b>
ConvF Z	<b>6.2</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.57</b>

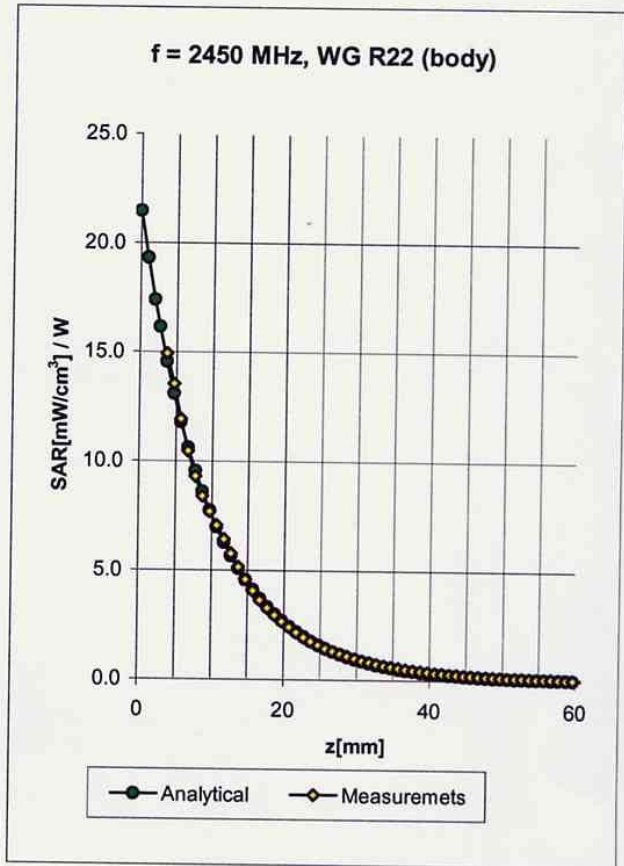
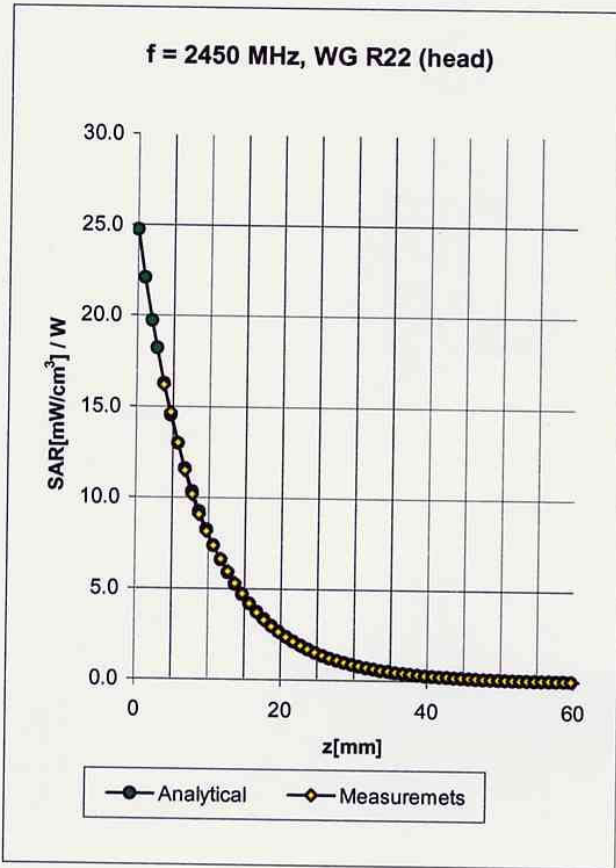
Body                      1800 MHz                       $\epsilon_r = 53.3 \pm 5\%$                        $\sigma = 1.52 \pm 5\%$  mho/m

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

ConvF X	<b>4.8</b> $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	<b>4.8</b> $\pm 9.5\%$ (k=2)	Alpha	<b>0.54</b>
ConvF Z	<b>4.8</b> $\pm 9.5\%$ (k=2)	Depth	<b>2.76</b>



### Conversion Factor Assessment



Head      2450      MHz       $\epsilon_r = 39.2 \pm 5\%$        $\sigma = 1.80 \pm 5\%$  mho/m

Valid for f=2400-2500 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	4.7 ± 8.9% (k=2)	Boundary effect:	
ConvF Y	4.7 ± 8.9% (k=2)	Alpha	1.00
ConvF Z	4.7 ± 8.9% (k=2)	Depth	1.89

Body      2450      MHz       $\epsilon_r = 52.7 \pm 5\%$        $\sigma = 1.95 \pm 5\%$  mho/m

Valid for f=2400-2500 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.4 ± 8.9% (k=2)	Boundary effect:	
ConvF Y	4.4 ± 8.9% (k=2)	Alpha	1.21
ConvF Z	4.4 ± 8.9% (k=2)	Depth	1.59

### Deviation from Isotropy in HSL

Error ( $\theta, \phi$ ),  $f = 900$  MHz

