

Probe ET3DV6R

SN:1522

Manufactured:	March 21, 2000
Last calibration:	April 25, 2002
Recalibrated:	March 21, 2003

Calibrated for DASYS Systems

(Note: non-compatible with DASYS2 system!)

DASY - Parameters of Probe: ET3DV6R SN:1522**Sensitivity in Free Space**

NormX	1.41 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.23 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.29 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression

DCP X	96	mV
DCP Y	96	mV
DCP Z	96	mV

Sensitivity in Tissue Simulating Liquid

Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\%$ mho/m
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\%$ mho/m
ConvF X	4.7 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	4.7 $\pm 9.5\%$ (k=2)	Alpha	0.57
ConvF Z	4.7 $\pm 9.5\%$ (k=2)	Depth	1.94
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
ConvF X	3.4 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	3.4 $\pm 9.5\%$ (k=2)	Alpha	0.49
ConvF Z	3.4 $\pm 9.5\%$ (k=2)	Depth	3.01

Boundary Effect

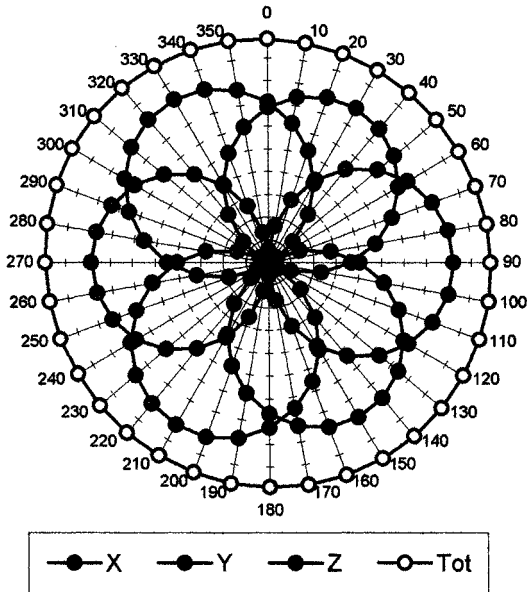
Head	900 MHz	Typical SAR gradient: 5 % per mm	
	Probe Tip to Boundary	1 mm	2 mm
	SAR _{be} [%] Without Correction Algorithm	9.3	5.1
	SAR _{be} [%] With Correction Algorithm	0.1	0.2
Head	1800 MHz	Typical SAR gradient: 10 % per mm	
	Probe Tip to Boundary	1 mm	2 mm
	SAR _{be} [%] Without Correction Algorithm	16.1	12.0
	SAR _{be} [%] With Correction Algorithm	0.5	0.5

Sensor Offset

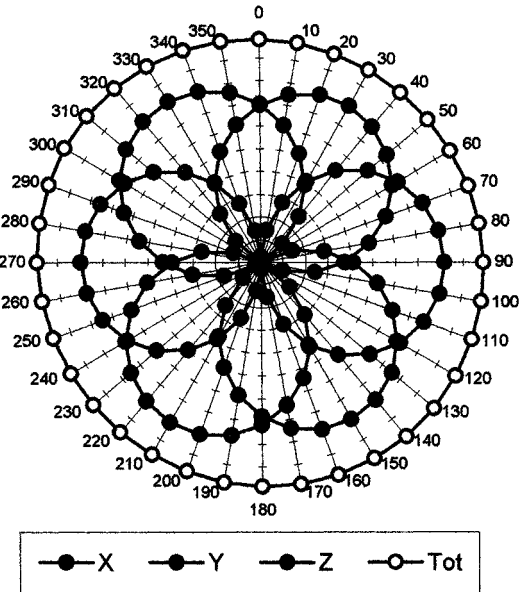
Probe Tip to Sensor Center	2.7	mm
----------------------------	------------	----

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

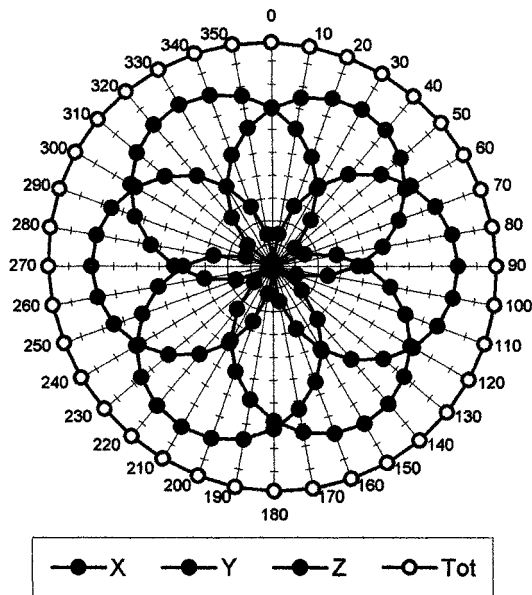
f = 30 MHz, TEM cell ifi110



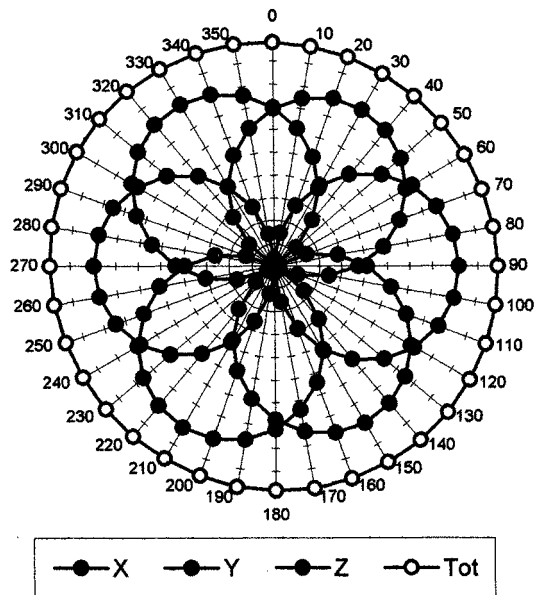
f = 100 MHz, TEM cell ifi110

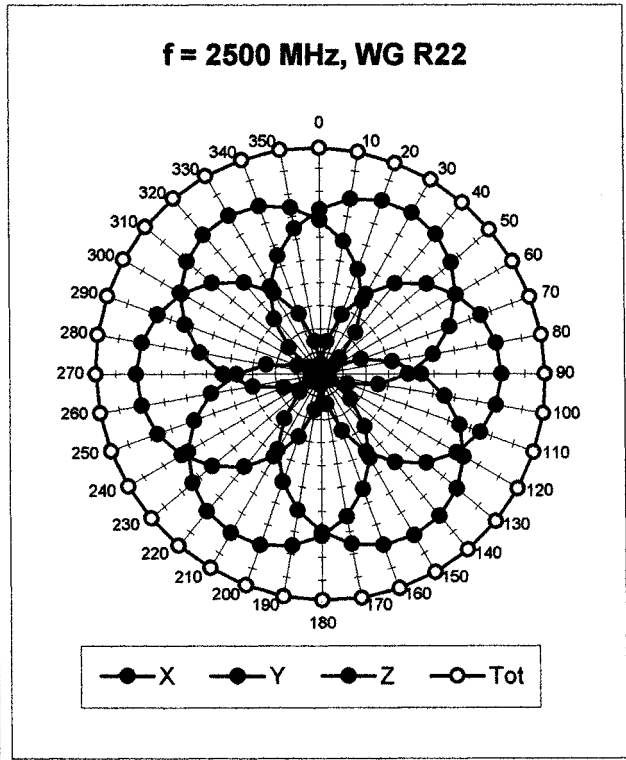
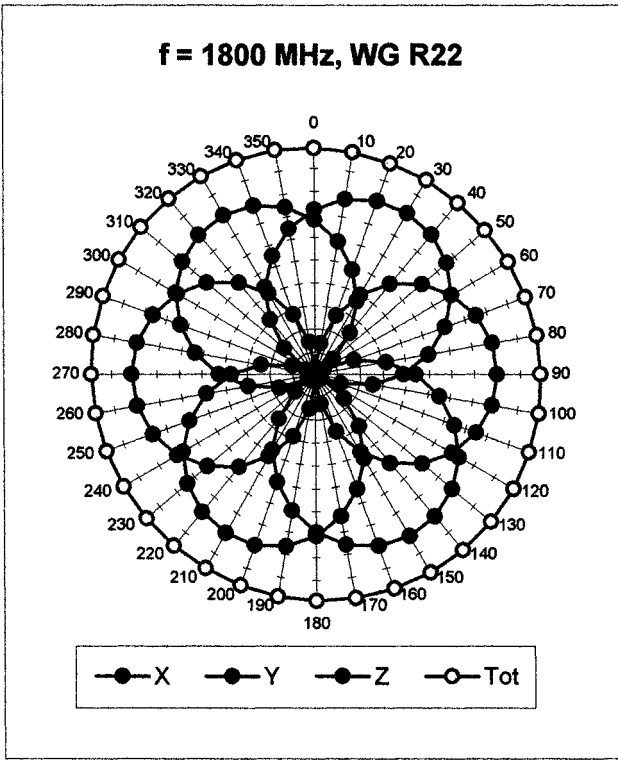


f = 300 MHz, TEM cell ifi110

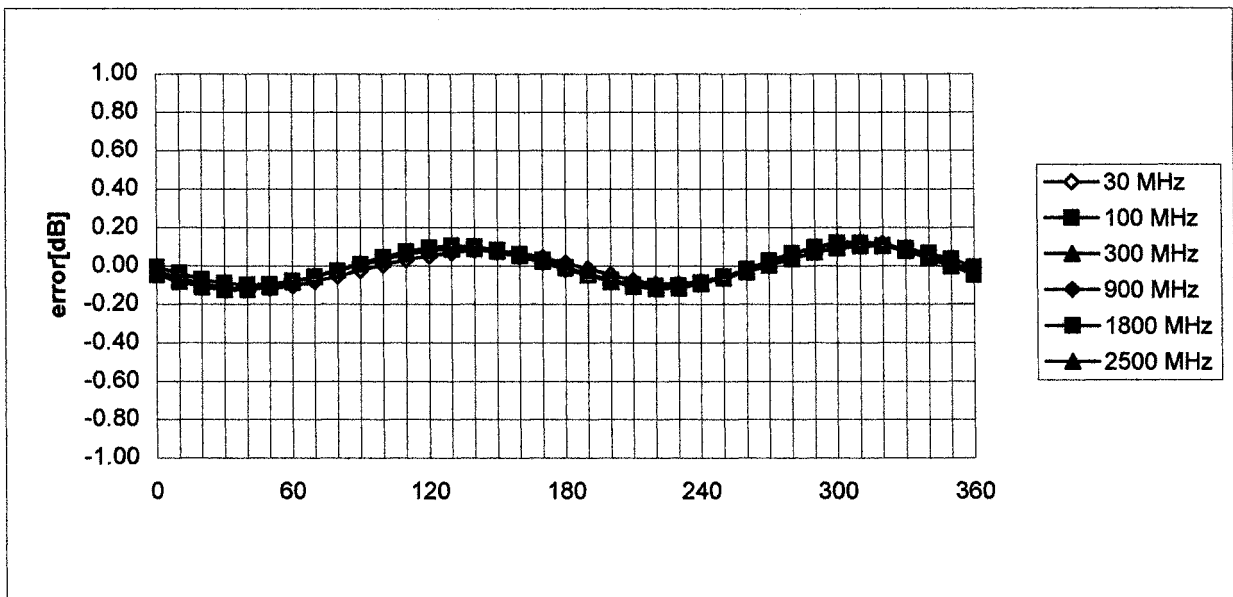


f = 900 MHz, TEM cell ifi110



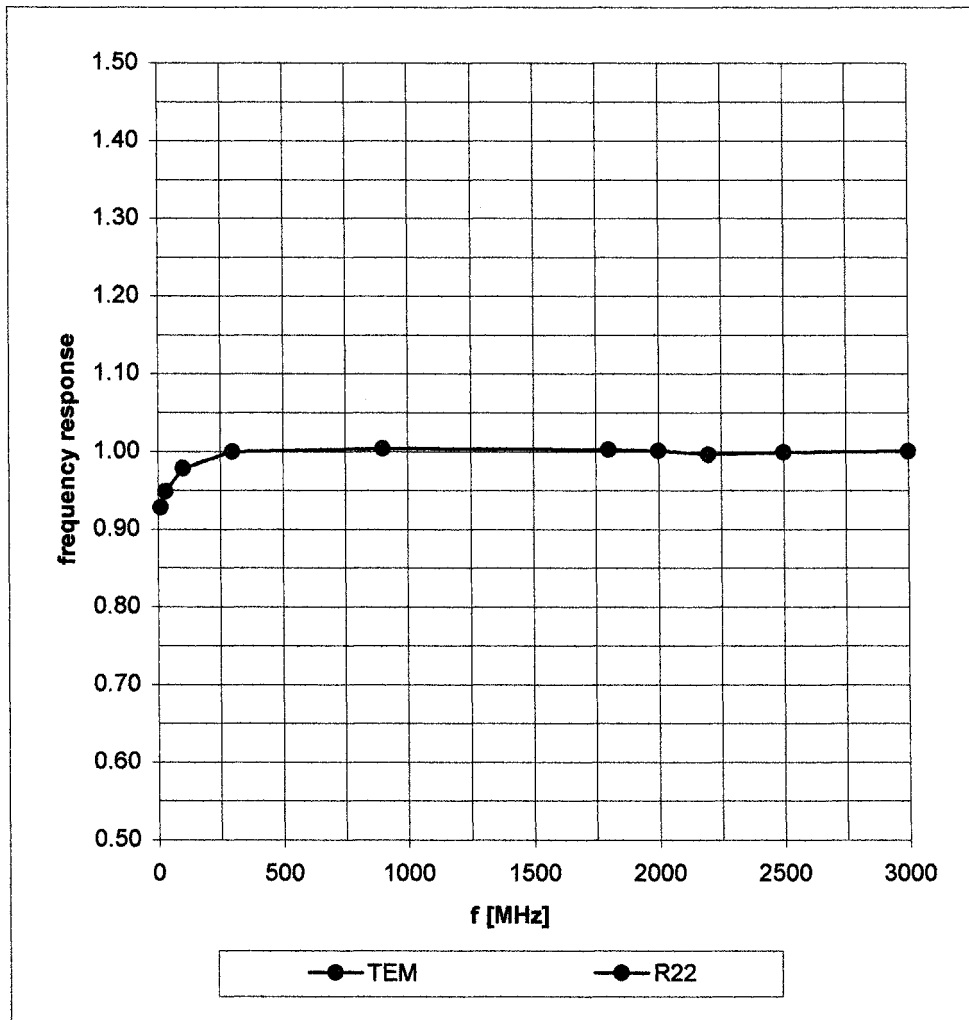


Isotropy Error (ϕ), $\theta = 0^\circ$

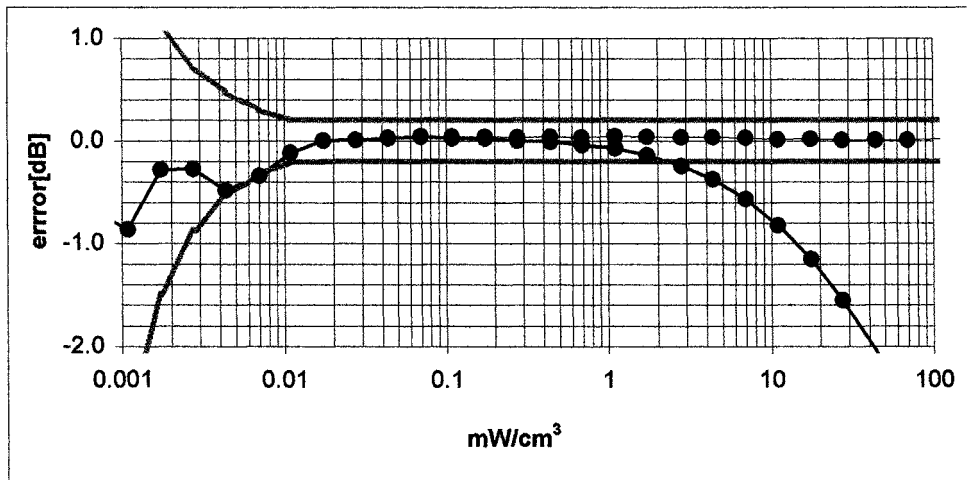
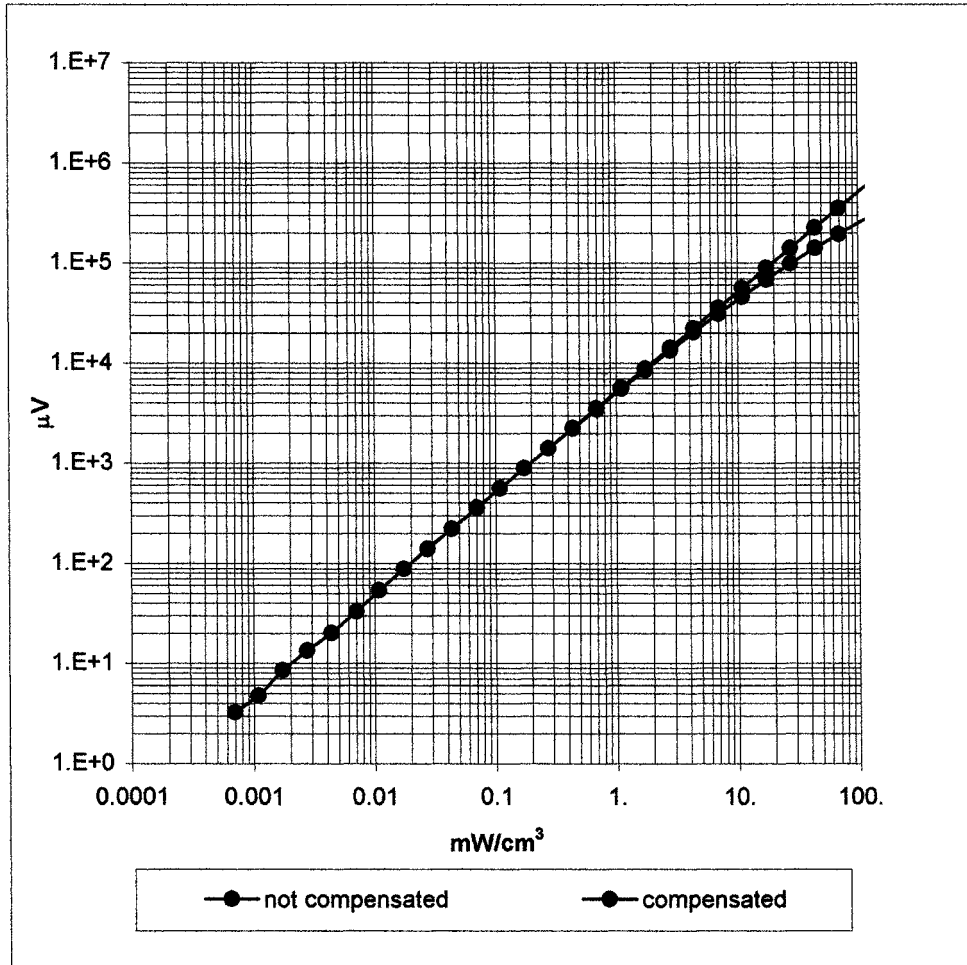


Frequency Response of E-Field

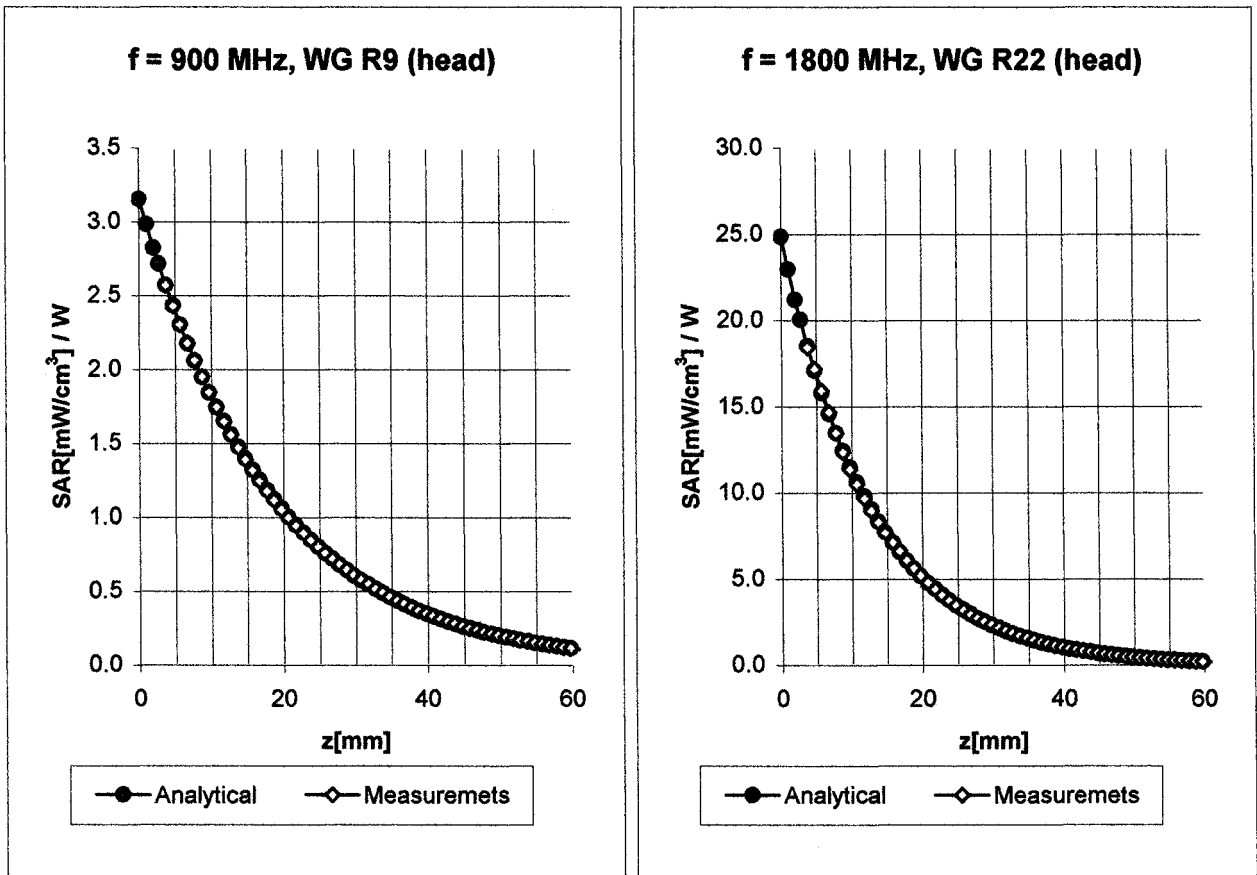
(TEM-Cell:ifi110, Waveguide R22)



Dynamic Range f(SAR_{brain}) (Waveguide R22)

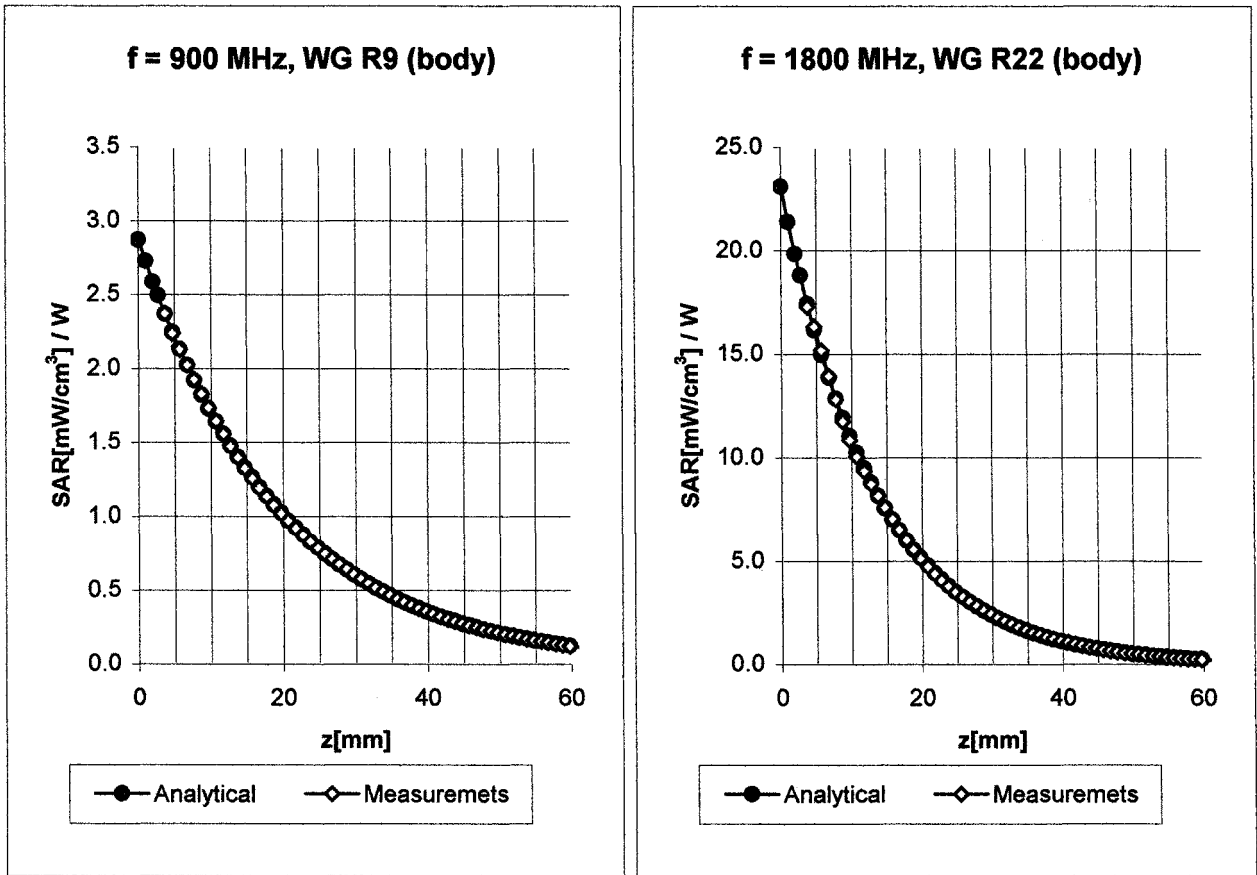


Conversion Factor Assessment



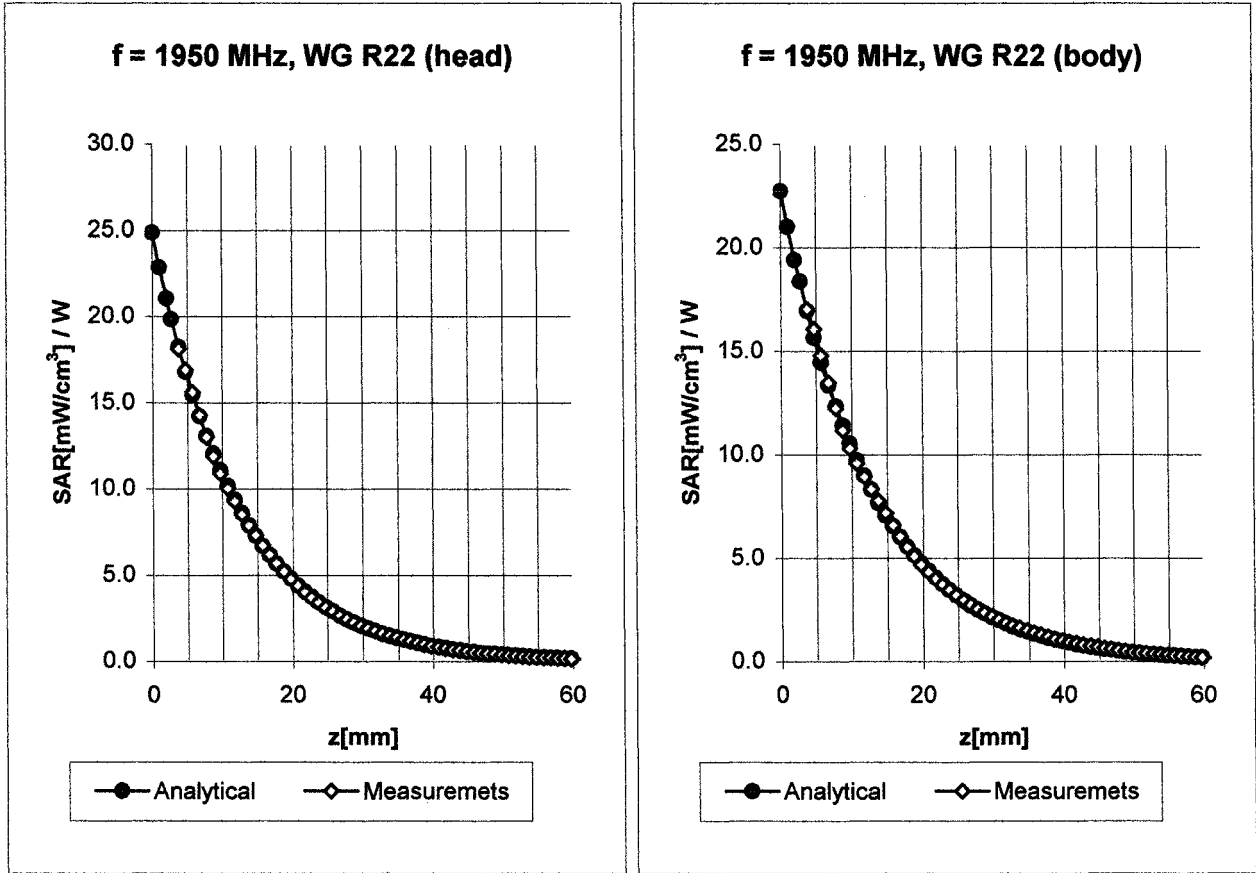
Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
	ConvF X	4.7 $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	4.7 $\pm 9.5\%$ (k=2)	Alpha 0.57
	ConvF Z	4.7 $\pm 9.5\%$ (k=2)	Depth 1.94
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
	ConvF X	3.4 $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	3.4 $\pm 9.5\%$ (k=2)	Alpha 0.49
	ConvF Z	3.4 $\pm 9.5\%$ (k=2)	Depth 3.01

Conversion Factor Assessment



Body	900 MHz	$\epsilon_r = 55.0 \pm 5\%$	$\sigma = 1.05 \pm 5\% \text{ mho/m}$
Body	835 MHz	$\epsilon_r = 55.2 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
	ConvF X	4.4 $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	4.4 $\pm 9.5\%$ (k=2)	Alpha 0.36
	ConvF Z	4.4 $\pm 9.5\%$ (k=2)	Depth 2.79
Body	1800 MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
Body	1900 MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
	ConvF X	3.1 $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	3.1 $\pm 9.5\%$ (k=2)	Alpha 0.58
	ConvF Z	3.1 $\pm 9.5\%$ (k=2)	Depth 2.97

Conversion Factor Assessment



Head	1950	MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
	ConvF X		3.2 $\pm 8.9\%$ (k=2)	Boundary effect:
	ConvF Y		3.2 $\pm 8.9\%$ (k=2)	Alpha 0.55
	ConvF Z		3.2 $\pm 8.9\%$ (k=2)	Depth 2.95
Body	1950	MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
	ConvF X		2.7 $\pm 8.9\%$ (k=2)	Boundary effect:
	ConvF Y		2.7 $\pm 8.9\%$ (k=2)	Alpha 0.65
	ConvF Z		2.7 $\pm 8.9\%$ (k=2)	Depth 2.71

Deviation from Isotropy in HSL

Error (θ, ϕ), $f = 900$ MHz

