

## DASY/EASY – Parameters of Probe : EX3DV4 – SN:3823

### Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz] <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unct. (k=2)
900	41.5	0.97	9.30	9.30	9.30	0.18	1.12	±12.1%
1750	40.1	1.37	7.99	7.99	7.99	0.19	1.20	±12.1%
1900	40.0	1.40	7.74	7.74	7.74	0.19	1.18	±12.1%
2000	40.0	1.40	7.76	7.76	7.76	0.20	1.24	±12.1%
2300	39.5	1.67	7.56	7.56	7.56	0.40	0.80	±12.1%
2450	39.2	1.80	7.30	7.30	7.30	0.46	0.78	±12.1%
2600	39.0	1.96	7.00	7.00	7.00	0.57	0.70	±12.1%
3300	38.2	2.71	6.85	6.85	6.85	0.60	0.71	±13.3%
3500	37.9	2.91	6.65	6.65	6.65	0.64	0.68	±13.3%
3700	37.7	3.12	6.33	6.33	6.33	0.65	0.67	±13.3%
3900	37.5	3.32	6.23	6.23	6.23	0.30	1.40	±13.3%
4100	37.2	3.53	6.12	6.12	6.12	0.30	1.45	±13.3%
4200	37.1	3.63	6.02	6.02	6.02	0.40	1.20	±13.3%
4400	36.9	3.84	5.97	5.97	5.97	0.30	1.50	±13.3%
4600	36.7	4.04	5.83	5.83	5.83	0.40	1.36	±13.3%
4800	36.4	4.25	5.70	5.70	5.70	0.40	1.35	±13.3%
5250	35.9	4.71	5.29	5.29	5.29	0.40	1.35	±13.3%
5600	35.5	5.07	4.53	4.53	4.53	0.40	1.55	±13.3%
5750	35.4	5.22	4.59	4.59	4.59	0.40	1.65	±13.3%

<sup>C</sup> Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequency below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

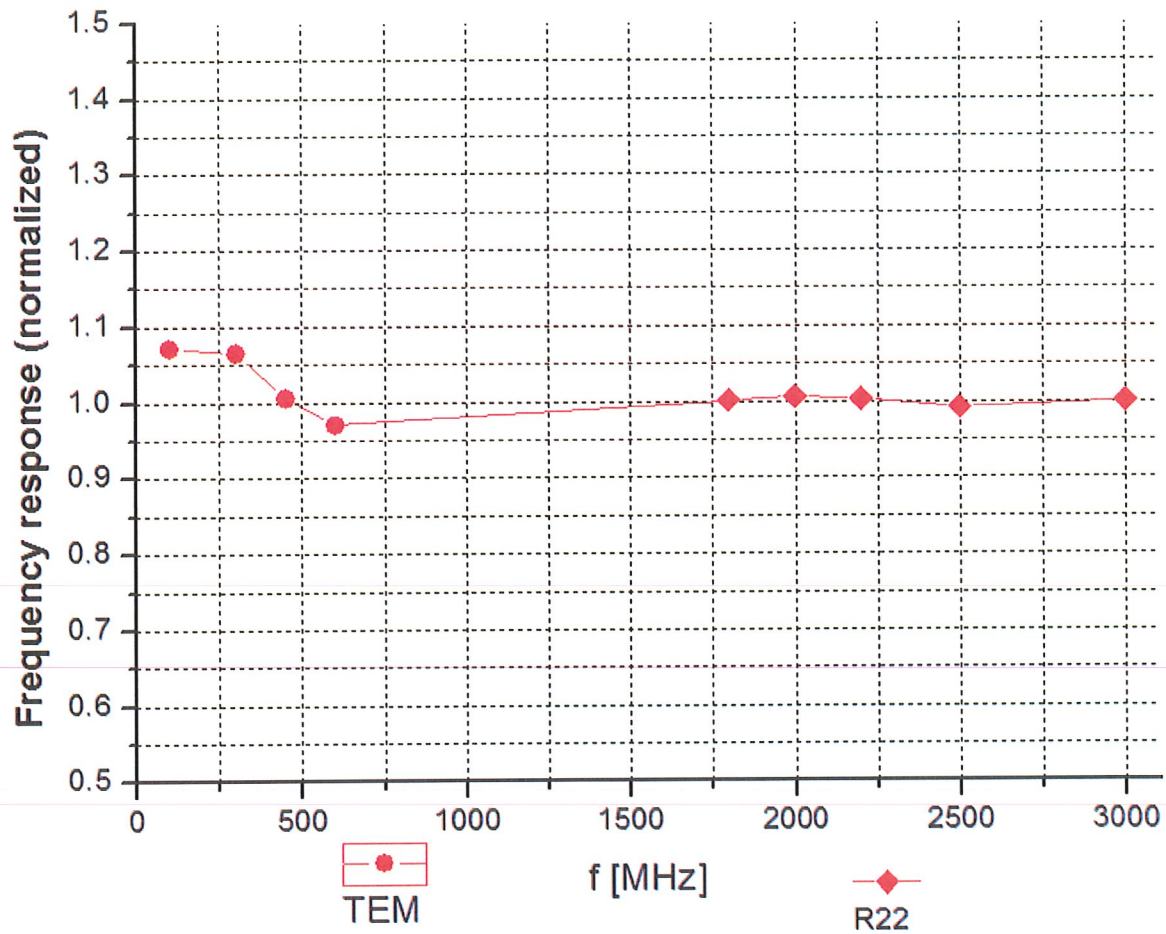
<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.



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## Frequency Response of E-Field (TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field:  $\pm 7.4\%$  ( $k=2$ )

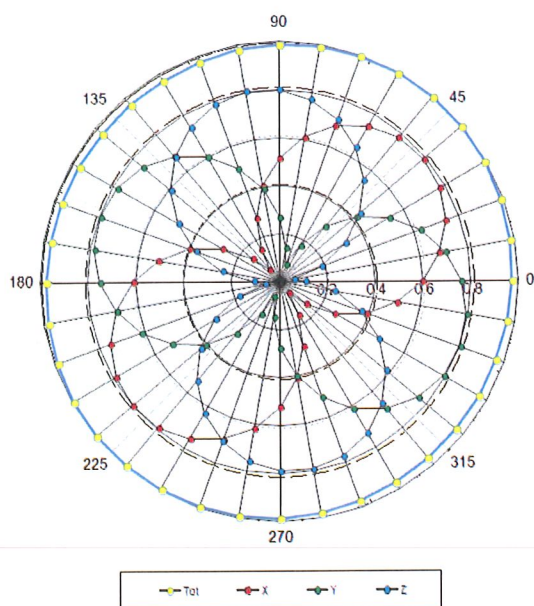


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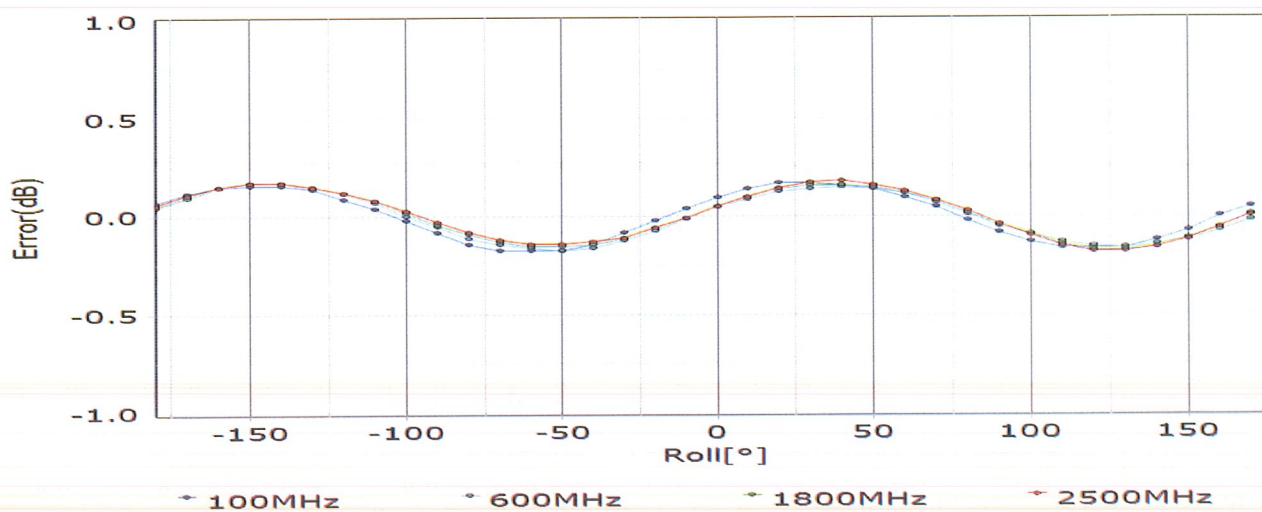
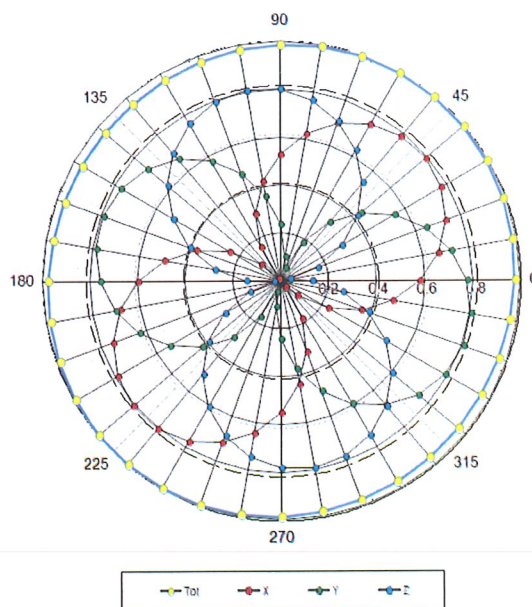
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## Receiving Pattern ( $\Phi$ ), $\theta=0^\circ$

**f=600 MHz, TEM**



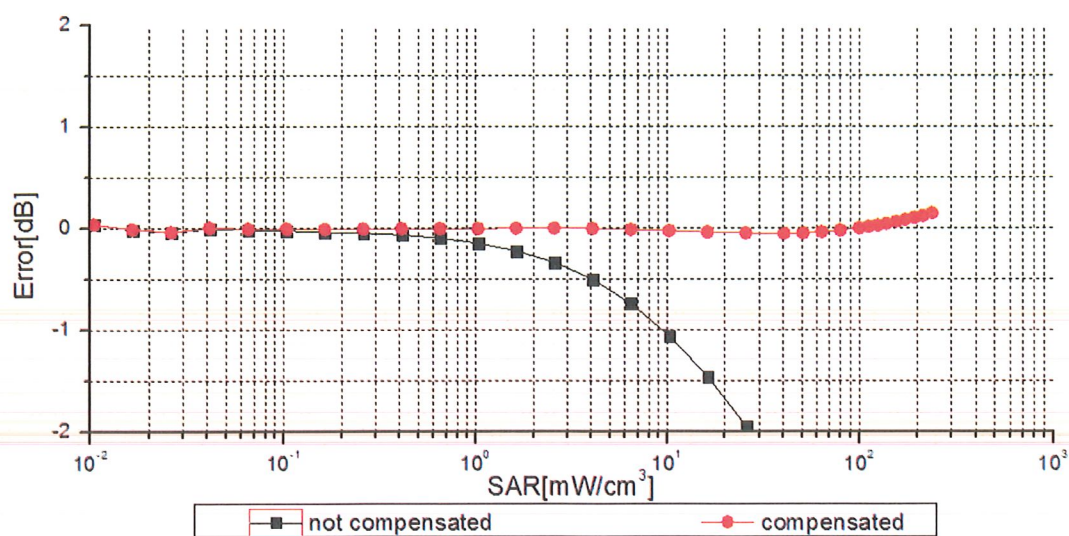
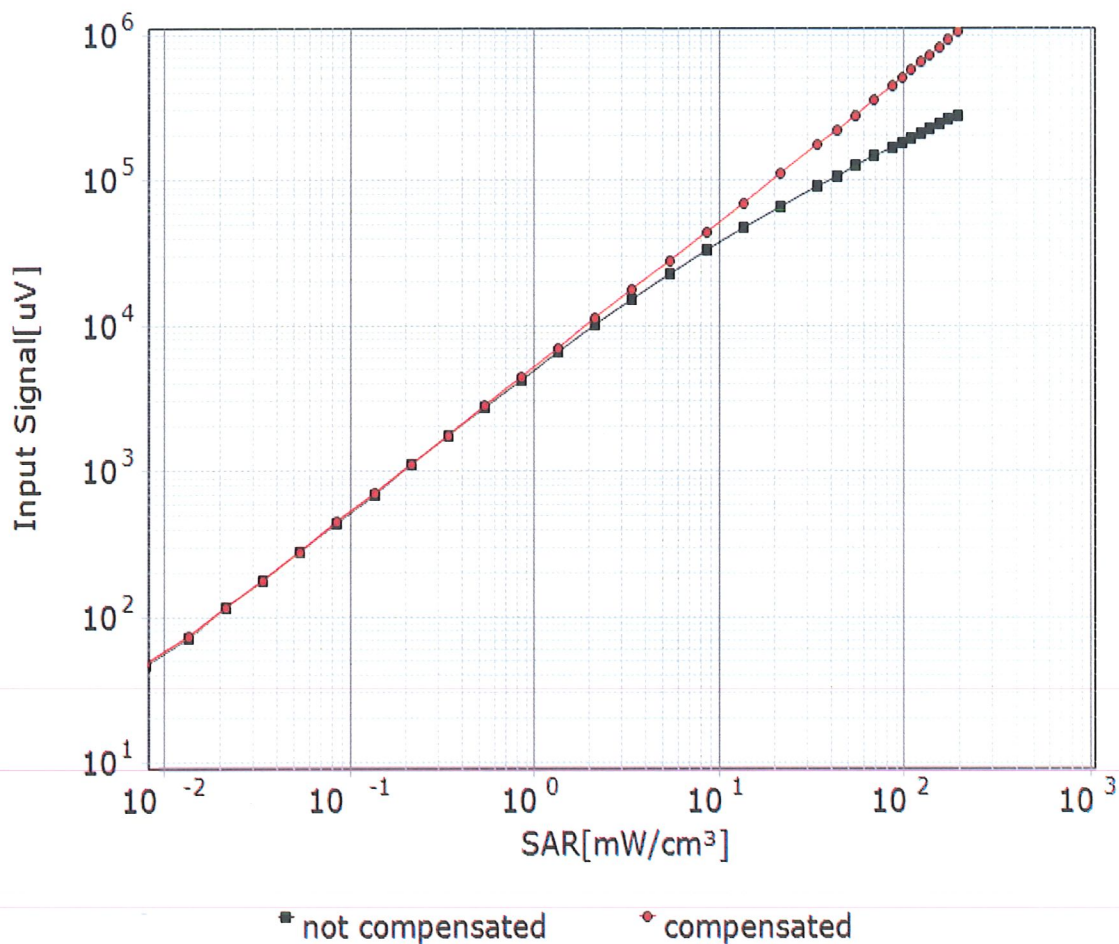
**f=1800 MHz, R22**



Uncertainty of Axial Isotropy Assessment:  $\pm 1.2\%$  ( $k=2$ )



## Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell, $f = 900 \text{ MHz}$ )

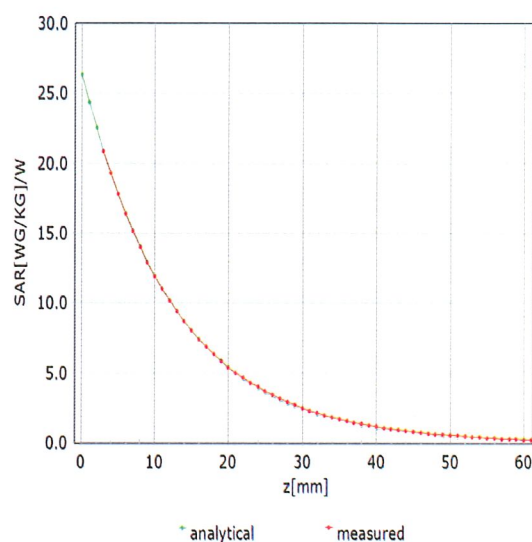
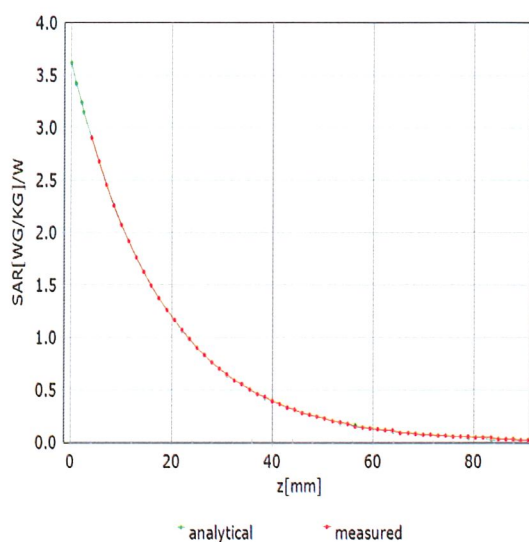


Uncertainty of Linearity Assessment:  $\pm 0.9\%$  ( $k=2$ )

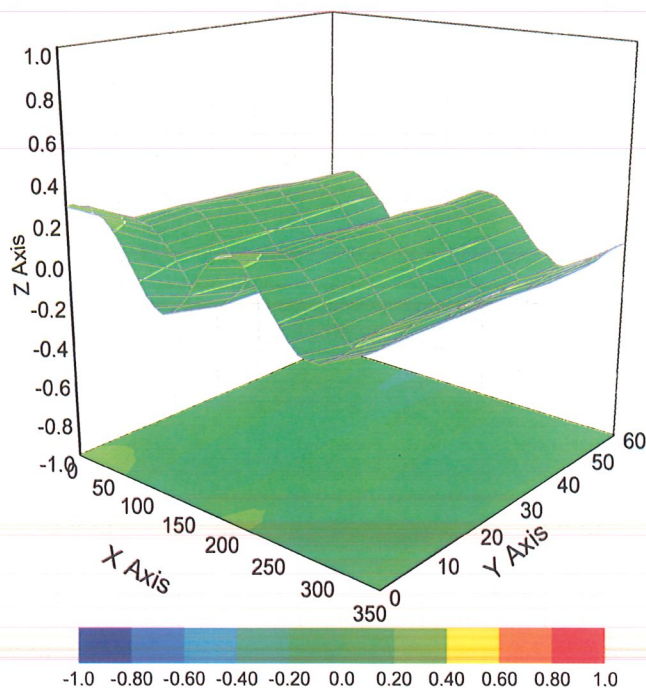
## Conversion Factor Assessment

**f=900 MHz,WGLS R9(H\_convF)**

**f=1750 MHz,WGLS R22(H\_convF)**



## Deviation from Isotropy in Liquid



**Uncertainty of Spherical Isotropy Assessment:  $\pm 3.2\%$  (K=2)**



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### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	168
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	10mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm