

DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3887

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz] ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unct. (k=2)
750	55.5	0.96	9.96	9.96	9.96	0.40	0.80	± 12.1%
835	55.2	0.97	9.66	9.66	9.66	0.16	1.42	± 12.1%
900	55.0	1.05	9.54	9.54	9.54	0.19	1.31	± 12.1%
1450	54.0	1.30	8.57	8.57	8.57	0.13	1.41	± 12.1%
1750	53.4	1.49	7.97	7.97	7.97	0.18	1.20	± 12.1%
1900	53.3	1.52	7.65	7.65	7.65	0.19	1.20	± 12.1%
2000	53.3	1.52	7.99	7.99	7.99	0.18	1.23	± 12.1%
2300	52.9	1.81	7.63	7.63	7.63	0.44	0.89	± 12.1%
2450	52.7	1.95	7.49	7.49	7.49	0.54	0.79	± 12.1%
2600	52.5	2.16	7.15	7.15	7.15	0.31	1.18	± 12.1%
5250	48.9	5.36	5.09	5.09	5.09	0.48	1.27	± 13.3%
5600	48.5	5.77	4.34	4.34	4.34	0.51	1.39	± 13.3%
5750	48.3	5.94	4.36	4.36	4.36	0.53	1.42	± 13.3%

^C 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.

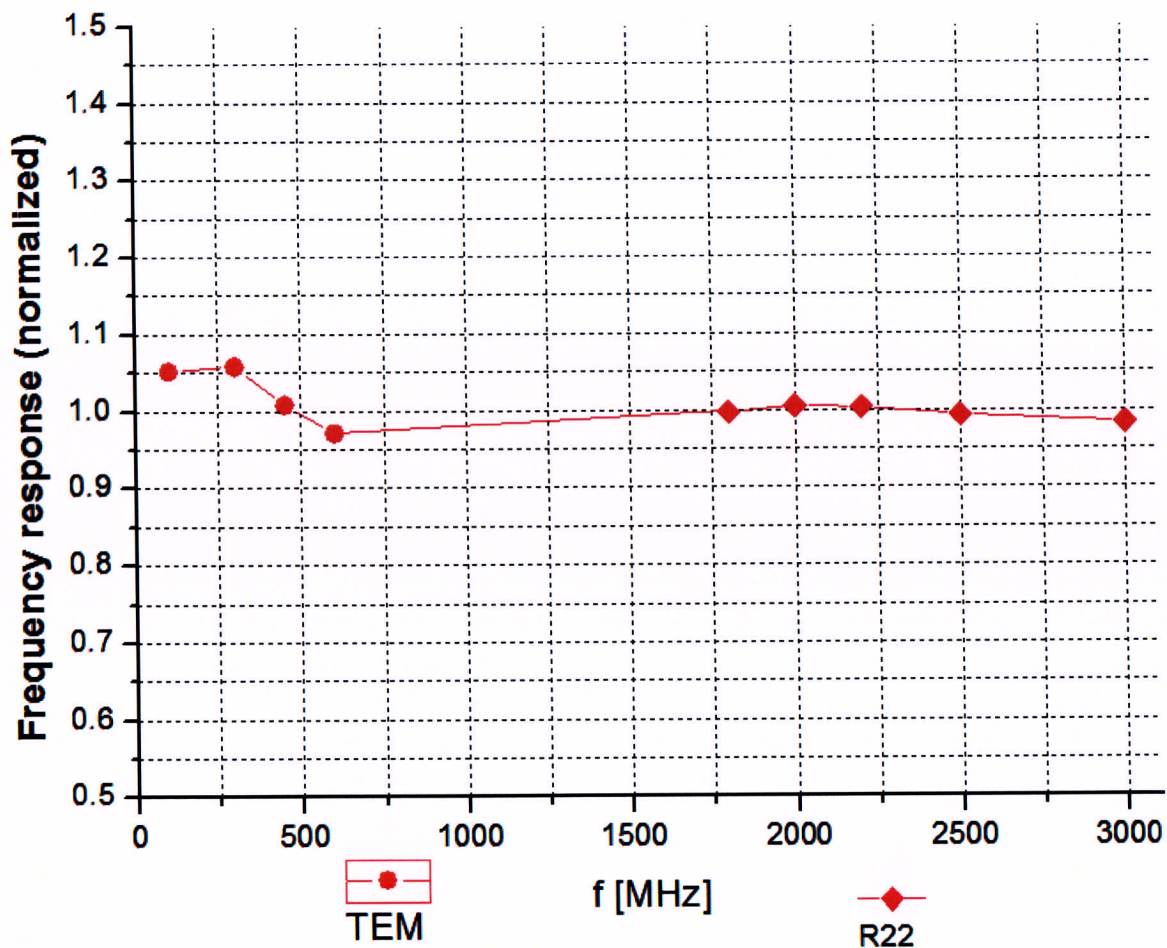
^F At frequency below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G 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: $\pm 7.4\%$ ($k=2$)



In Collaboration with

s p e a g
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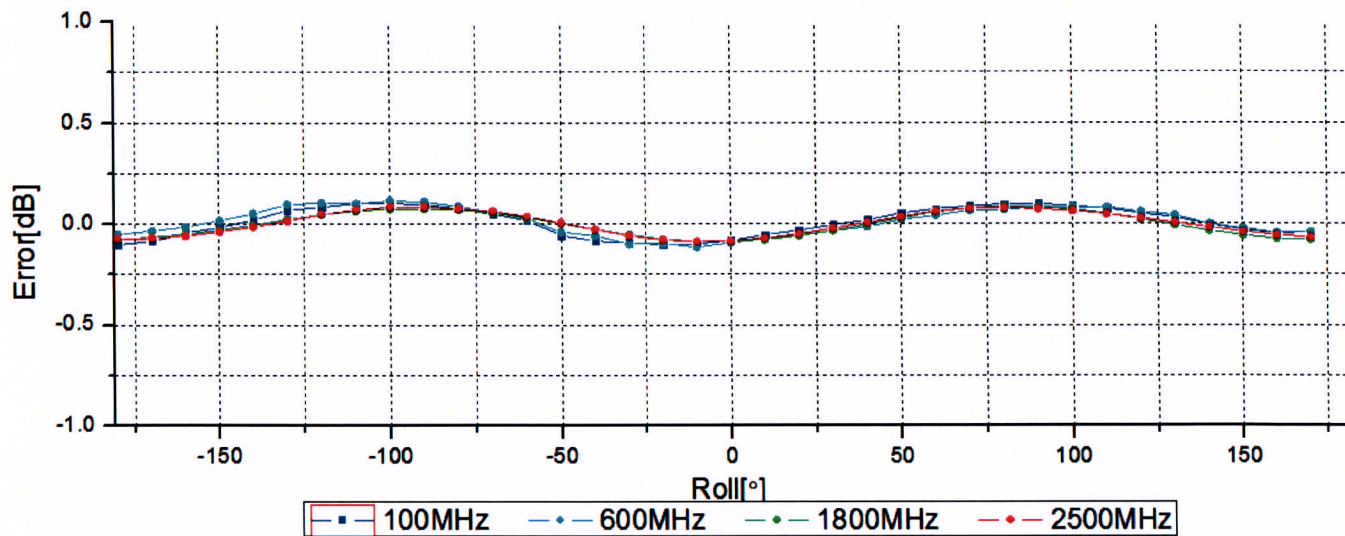
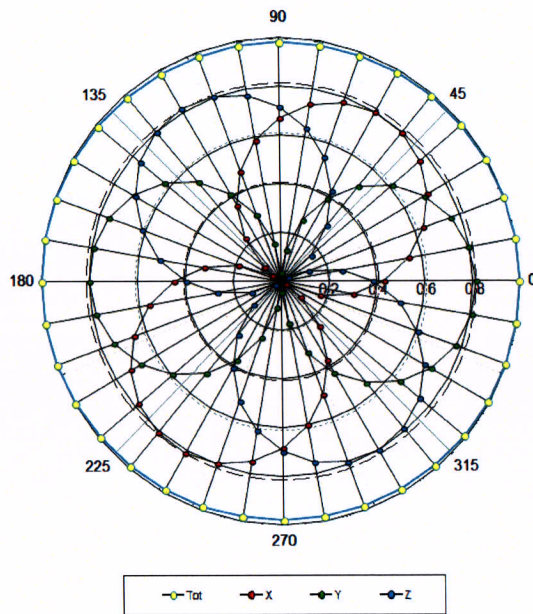
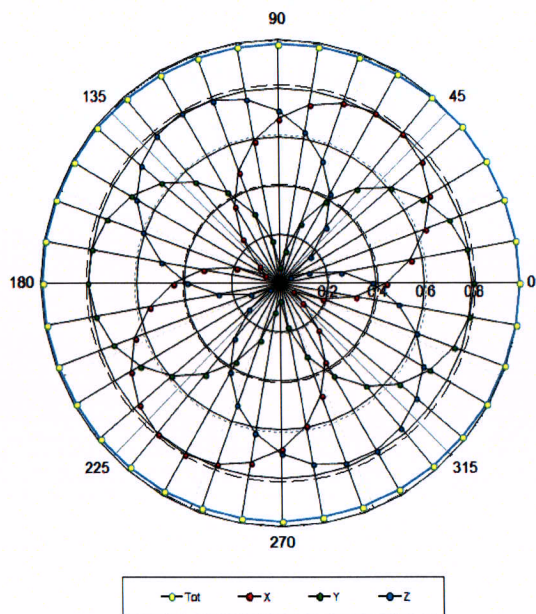
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Receiving Pattern (Φ), $\theta=0^\circ$

f=600 MHz, TEM

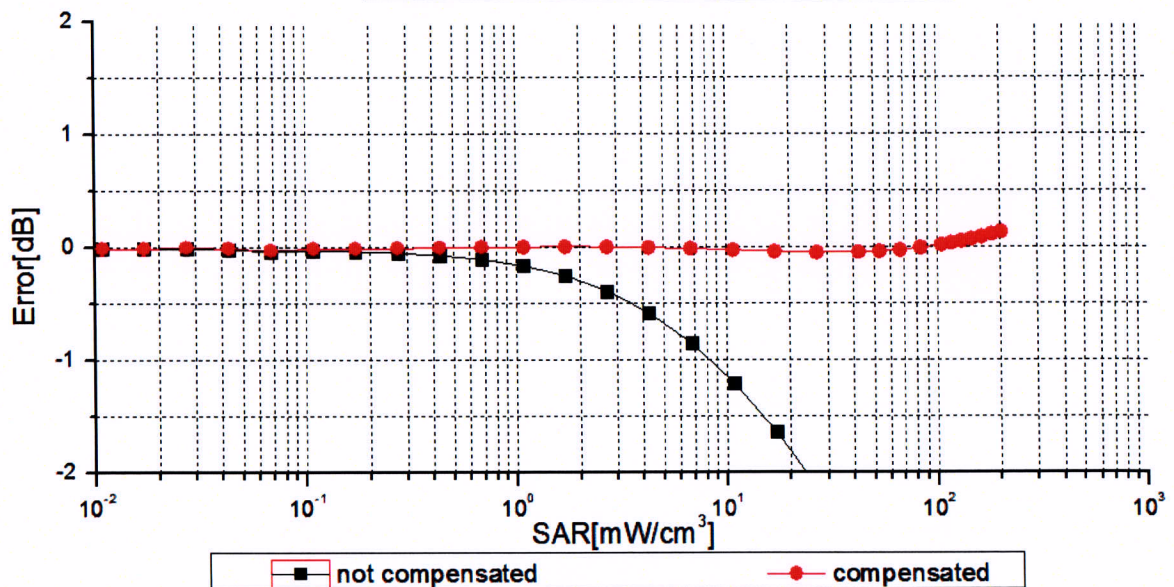
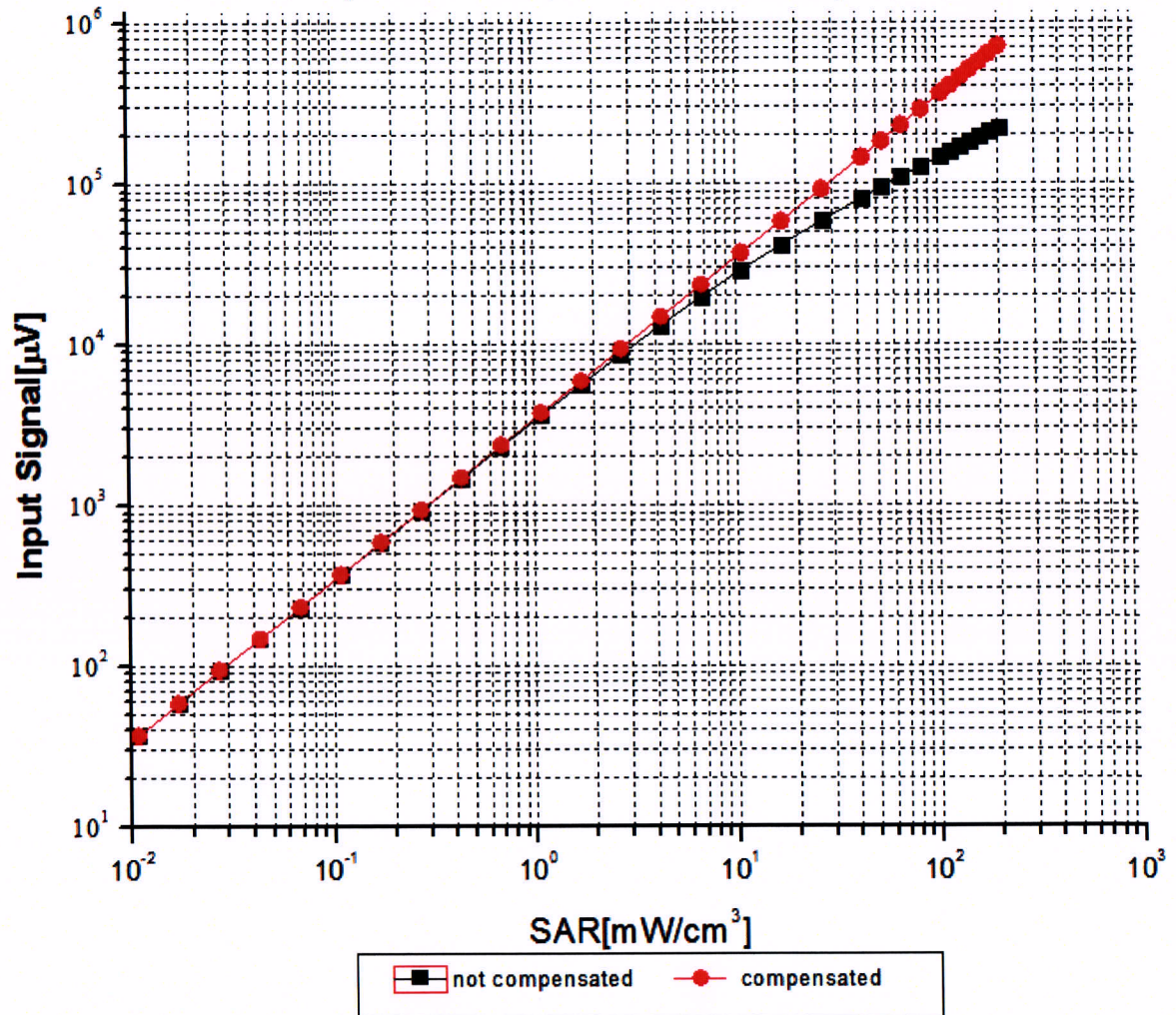
f=1800 MHz, R22



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



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



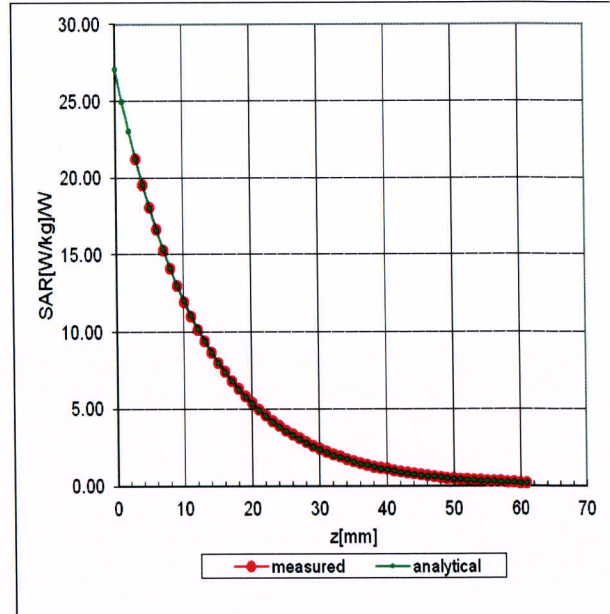
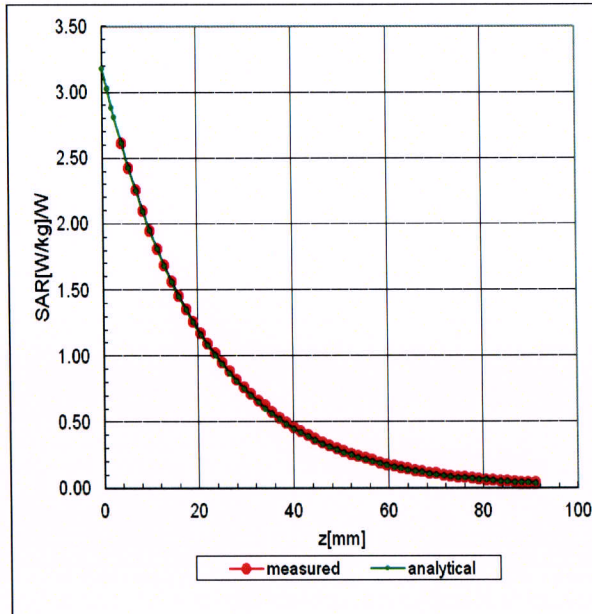
Uncertainty of Linearity Assessment: $\pm 0.9\%$ ($k=2$)



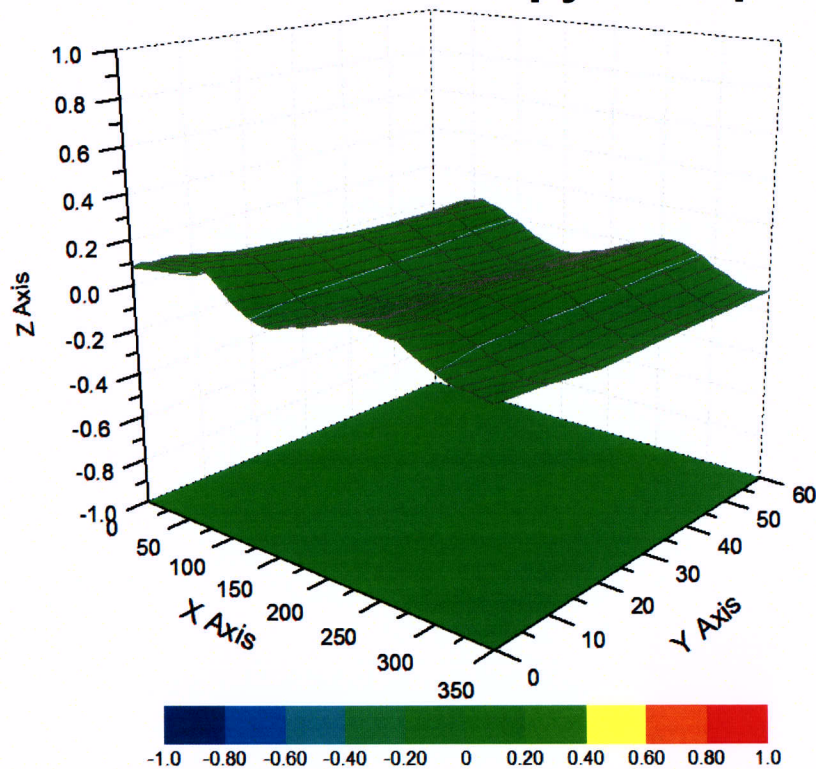
Conversion Factor Assessment

f=750 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 (°)	144.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
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