



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

DASY/EASY – Parameters of Probe: EX3DV4 – SN:7524

Calibration Parameter Determined in Head 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	41.9	0.89	10.41	10.41	10.41	0.16	1.23	±12.1%
835	41.5	0.90	10.05	10.05	10.05	0.17	1.20	±12.1%
1750	40.1	1.37	8.43	8.43	8.43	0.21	1.04	±12.1%
1900	40.0	1.40	8.05	8.05	8.05	0.23	1.02	±12.1%
2000	40.0	1.40	8.14	8.14	8.14	0.17	1.21	±12.1%
2300	39.5	1.67	7.92	7.92	7.92	0.50	0.69	±12.1%
2450	39.2	1.80	7.65	7.65	7.65	0.48	0.72	±12.1%
2600	39.0	1.96	7.45	7.45	7.45	0.58	0.67	±12.1%
3300	38.2	2.71	7.13	7.13	7.13	0.33	0.97	±13.3%
3500	37.9	2.91	7.04	7.04	7.04	0.46	0.88	±13.3%
3700	37.7	3.12	6.86	6.86	6.86	0.38	1.02	±13.3%
3900	37.5	3.32	6.71	6.71	6.71	0.30	1.50	±13.3%
4100	37.2	3.53	6.61	6.61	6.61	0.30	1.38	±13.3%
5250	35.9	4.71	5.38	5.38	5.38	0.45	1.45	±13.3%
5600	35.5	5.07	4.74	4.74	4.74	0.45	1.52	±13.3%
5750	35.4	5.22	4.87	4.87	4.87	0.45	1.58	±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.



In Collaboration with

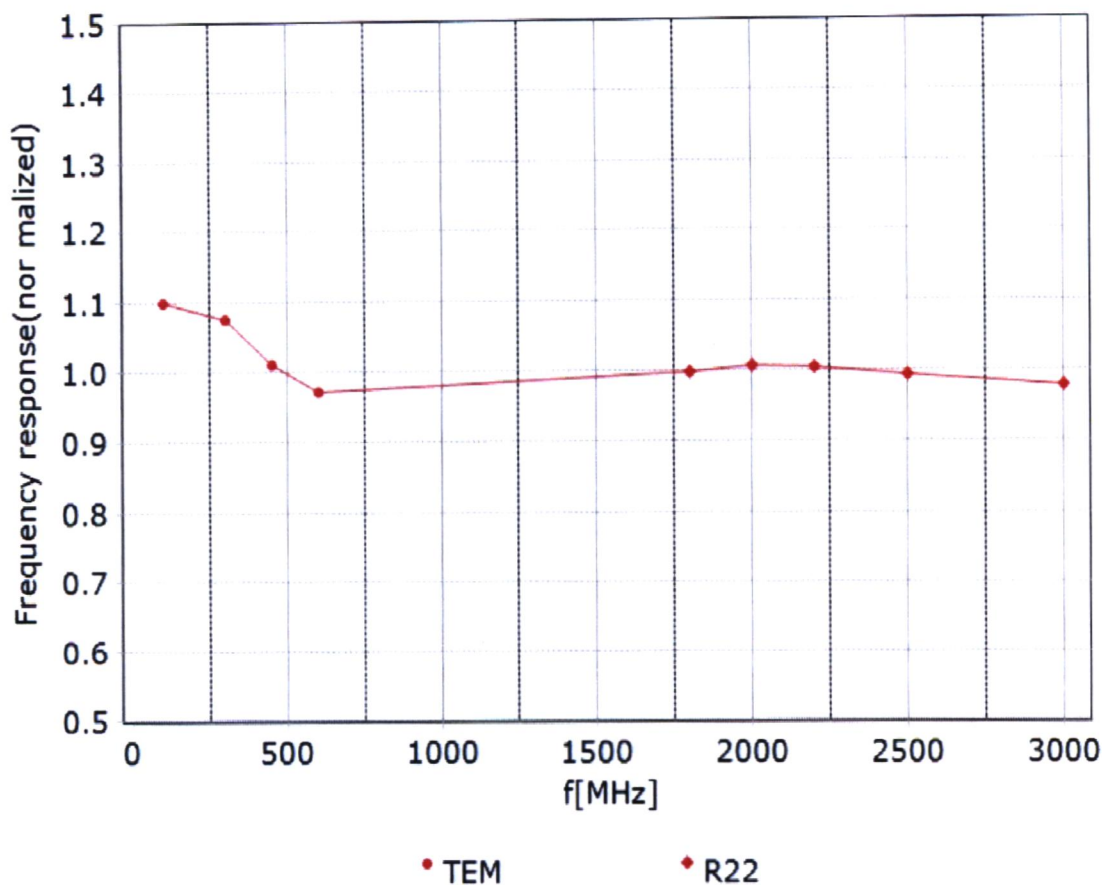
s p e a g

CALIBRATION LABORATORY



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



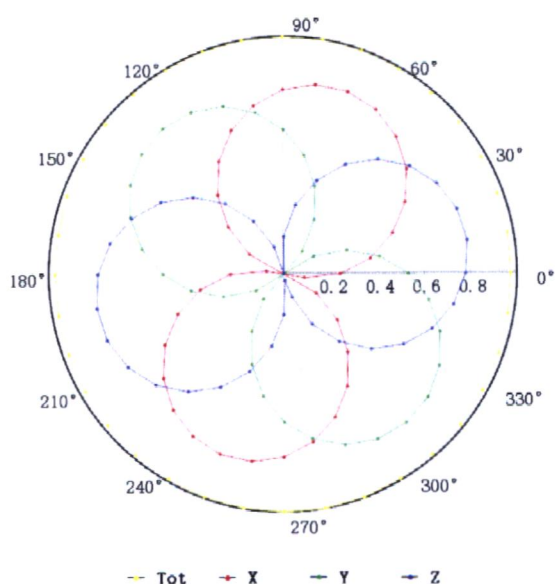
Uncertainty of Frequency Response of E-field: $\pm 7.4\%$ ($k=2$)



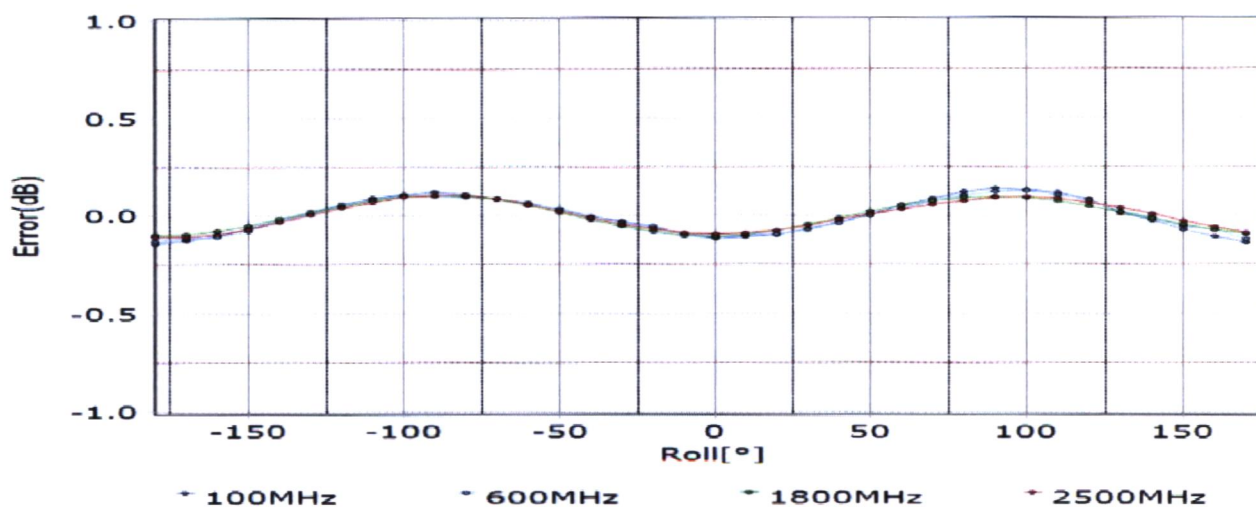
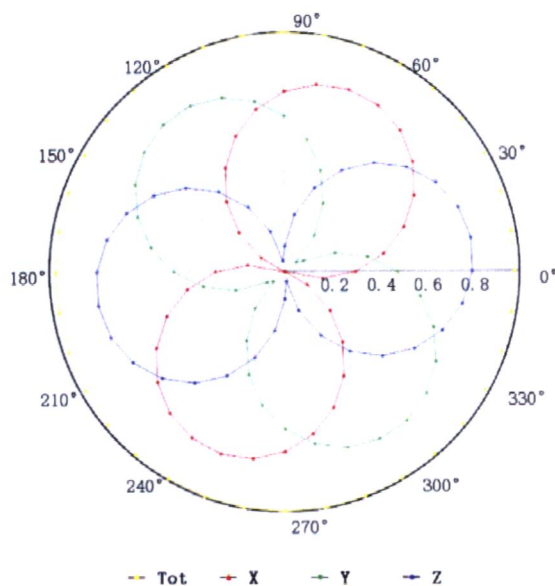
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Receiving Pattern (Φ), $\theta=0^\circ$

f=600 MHz, TEM



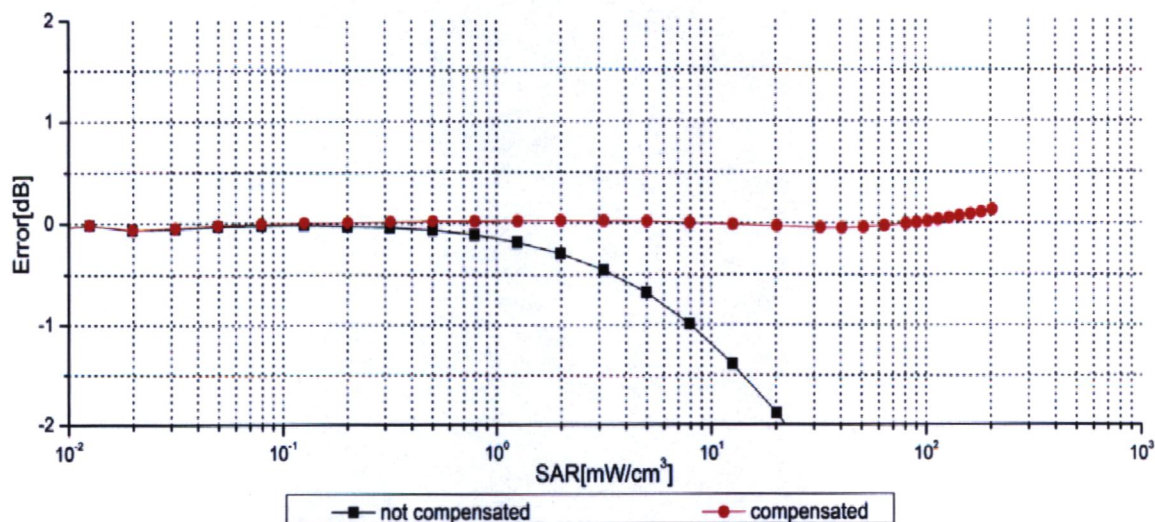
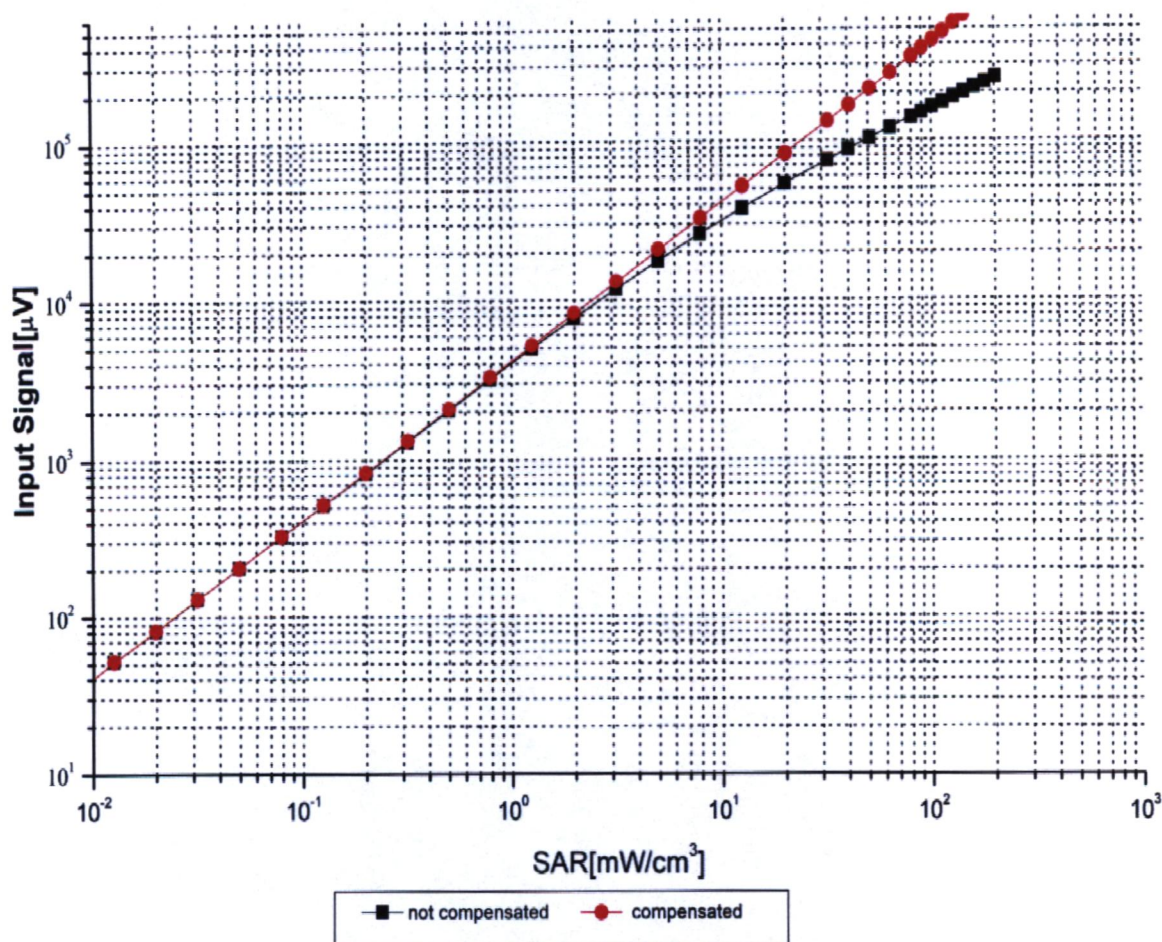
f=1800 MHz, R22



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

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



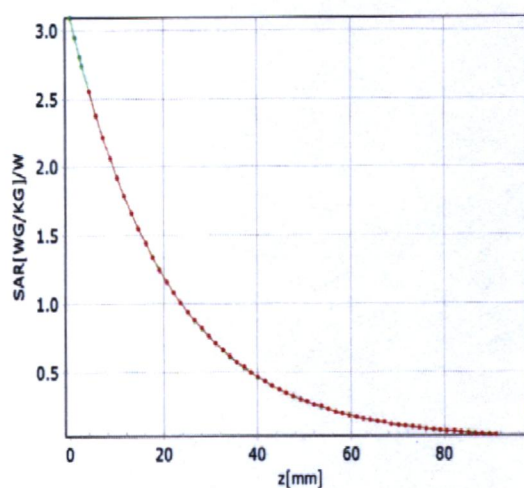
Uncertainty of Linearity Assessment: $\pm 0.9\%$ ($k=2$)

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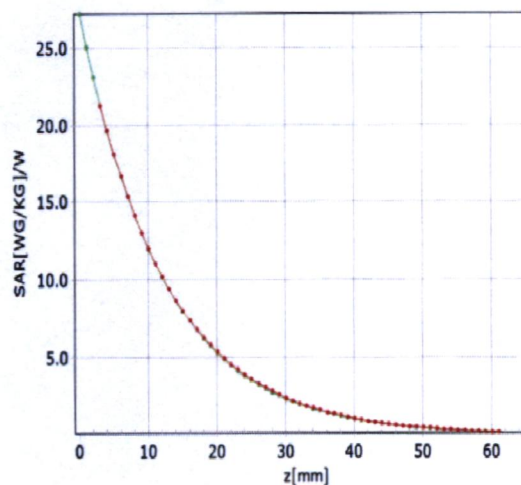
Conversion Factor Assessment

f=750 MHz,WGLS R9(H_convF)

f=1750 MHz,WGLS R22(H_convF)

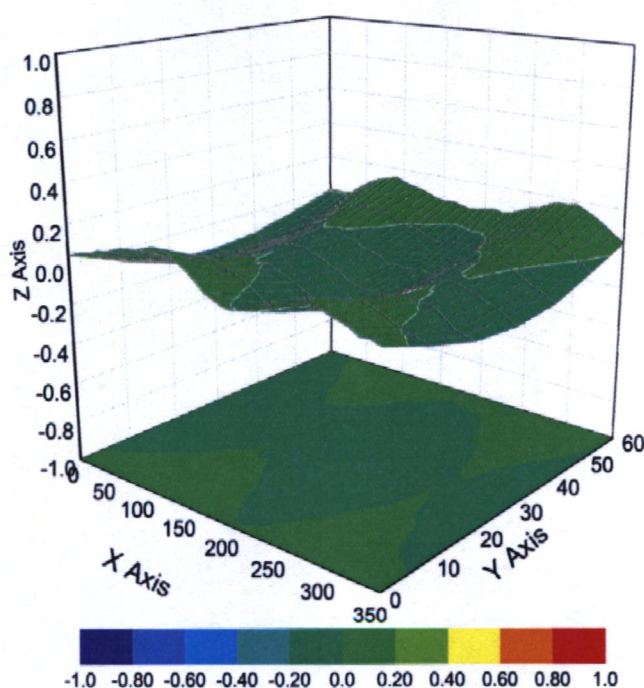


* analytical * measured



* analytical * measured

Deviation from Isotropy in Liquid



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

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:7524

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	93.8
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