In Collaboration with
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CALIBRATION LABORATORY

CAICT

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:3836

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	9.40	9.40	9.40	0.15	1.25	±12.7%
835	41.5	0.90	9.02	9.02	9.02	0.16	1.20	±12.7%
1750	40.1	1.37	8.01	8.01	8.01	0.32	0.93	±12.7%
1900	40.0	1.40	7.63	7.63	7.63	0.38	0.84	±12.7%
2100	39.8	1.49	7.70	7.70	7.70	0.21	1.09	±12.7%
2300	39.5	1.67	7.52	7.52	7.52	0.52	0.70	±12.7%
2450	39.2	1.80	7.30	7.30	7.30	0.53	0.71	±12.7%
2600	39.0	1.96	7.10	7.10	7.10	0.62	0.65	±12.7%
3300	38.2	2.71	6.88	6.88	6.88	0.44	0.92	±13.9%
3500	37.9	2.91	6.73	6.73	6.73	0.38	1.01	±13.9%
3700	37.7	3.12	6.55	6.55	6.55	0.42	1.02	±13.9%
3900	37.5	3.32	6.46	6.46	6.46	0.30	1.52	±13.9%
4100	37.2	3.53	6.44	6.44	6.44	0.35	1.25	±13.9%
4200	37.1	3.63	6.37	6.37	6.37	0.30	1.50	±13.9%
4400	36.9	3.84	6.25	6.25	6.25	0.35	1.35	±13.9%
4600	36.7	4.04	6.18	6.18	6.18	0.40	1.32	±13.9%
4800	36.4	4.25	6.09	6.09	6.09	0.40	1.40	±13.9%
4950	36.3	4.40	5.81	5.81	5.81	0.40	1.40	±13.9%
5250	35.9	4.71	5.27	5.27	5.27	0.40	1.40	±13.9%
5600	35.5	5.07	4.71	4.71	4.71	0.50	1.30	±13.9%
5750	35.4	5.22	4.82	4.82	4.82	0.40	1.52	±13.9%

[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 up to 6 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. 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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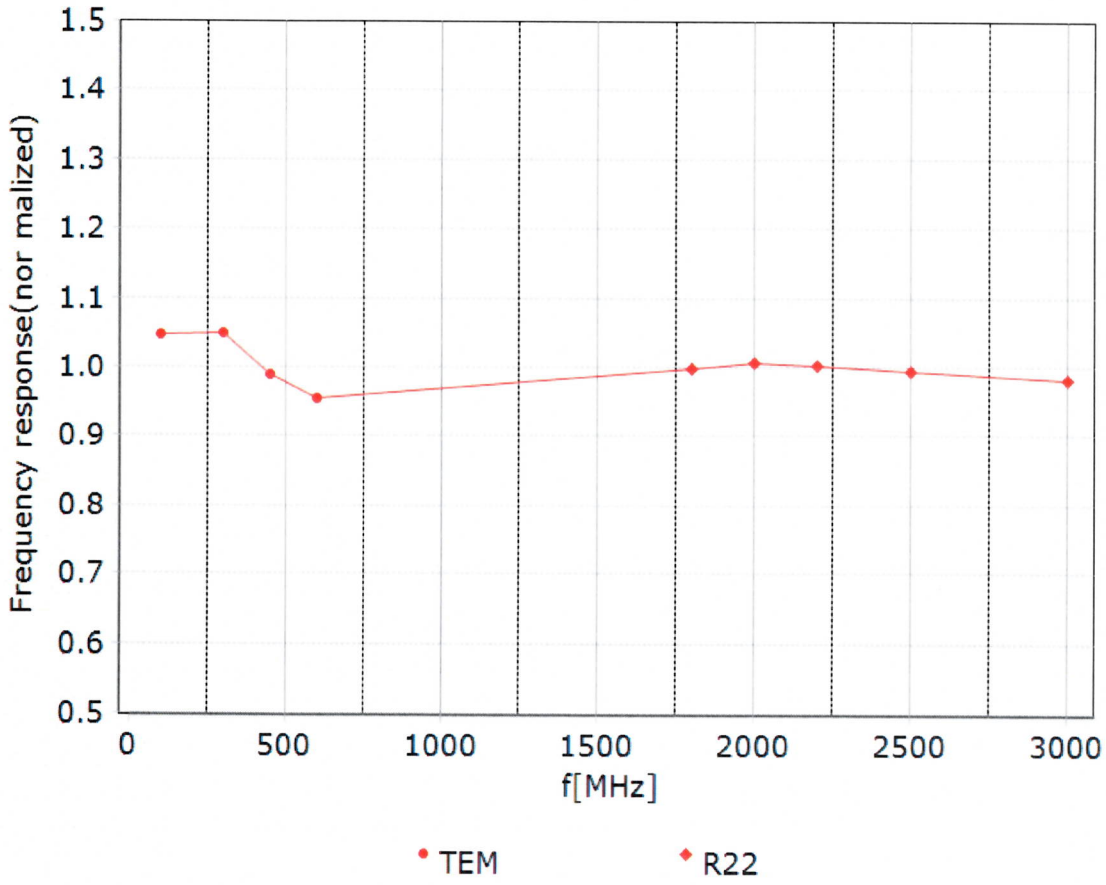
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.4% (*k*=2)

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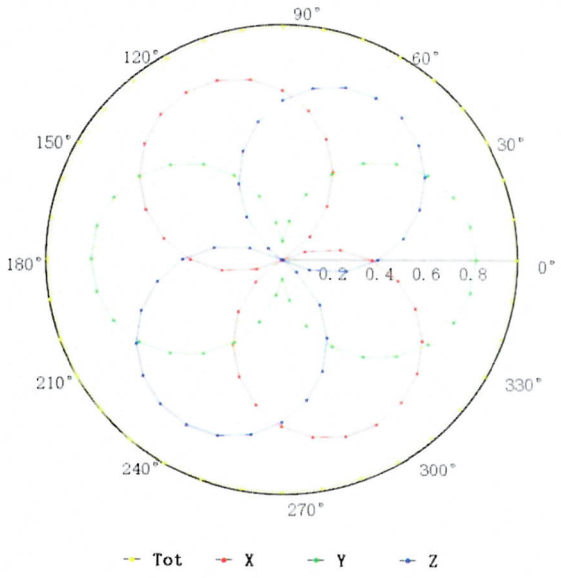
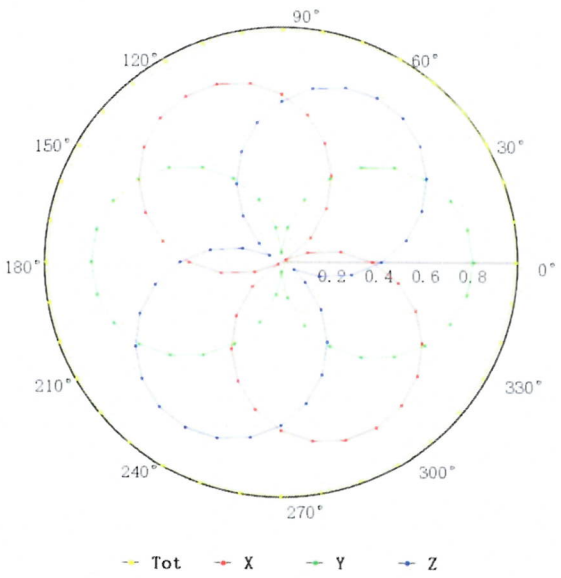
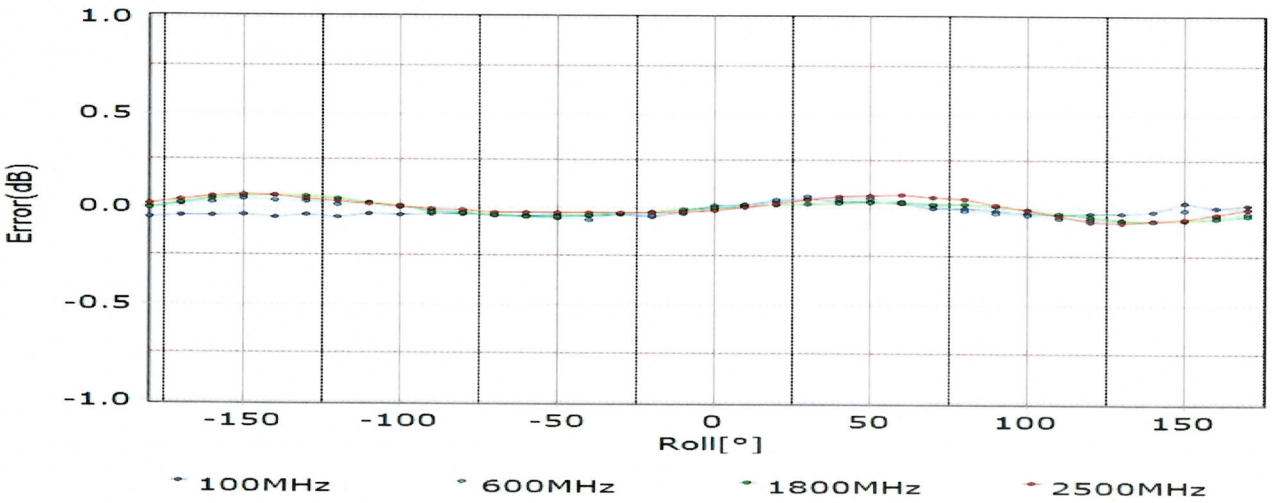
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±1.2% (k=2)

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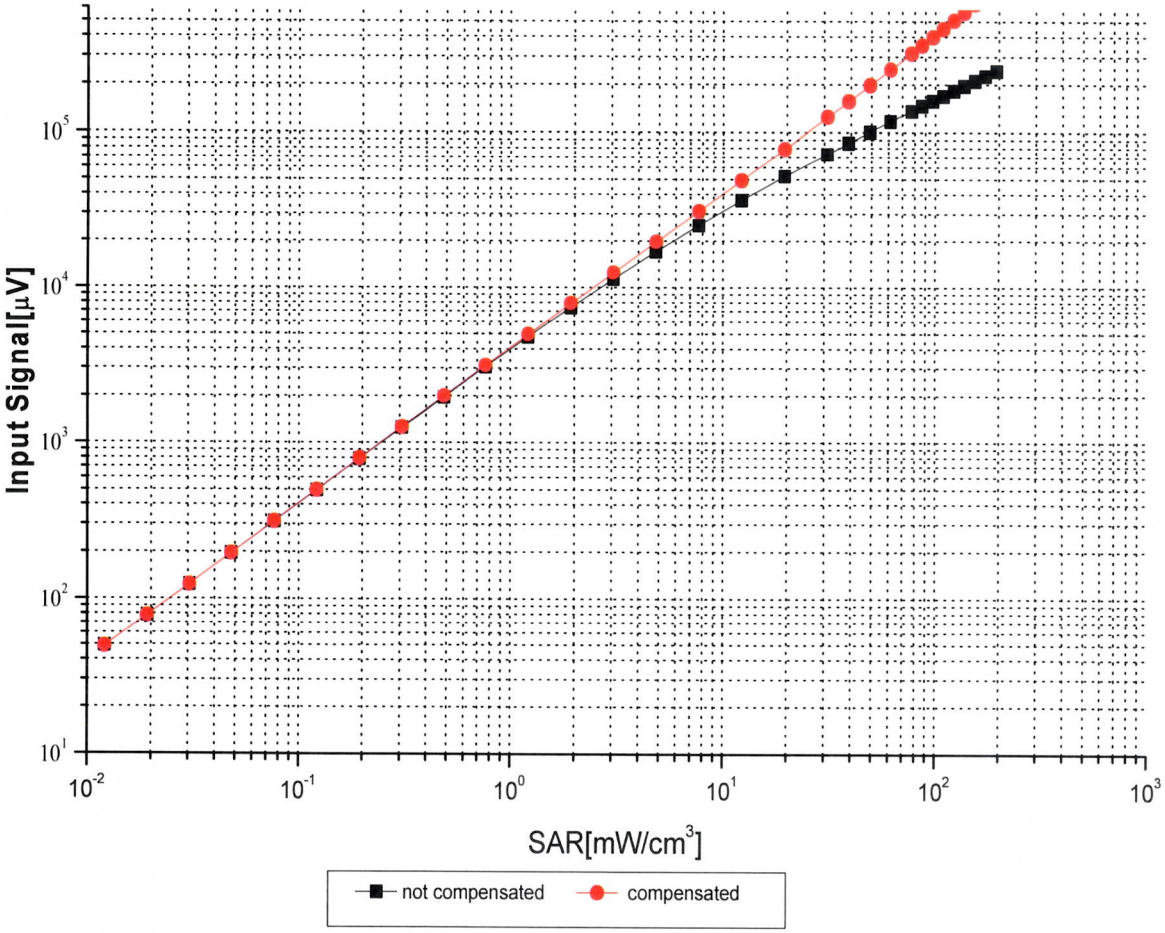
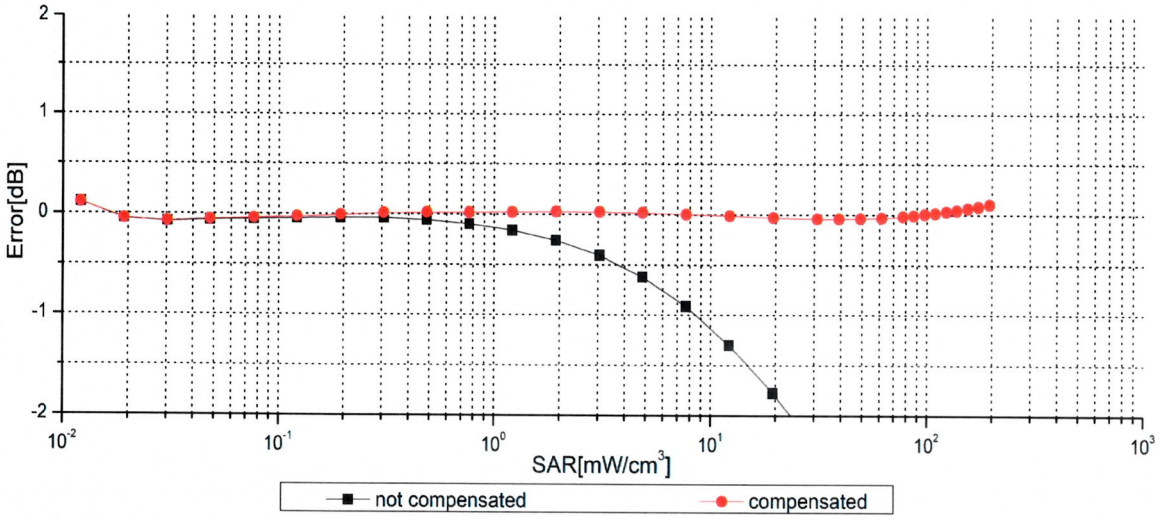
Dynamic Range f(SAR_{head})
(TEM cell, f = 900 MHz)





Uncertainty of Linearity Assessment: ±0.9% (*k*=2)

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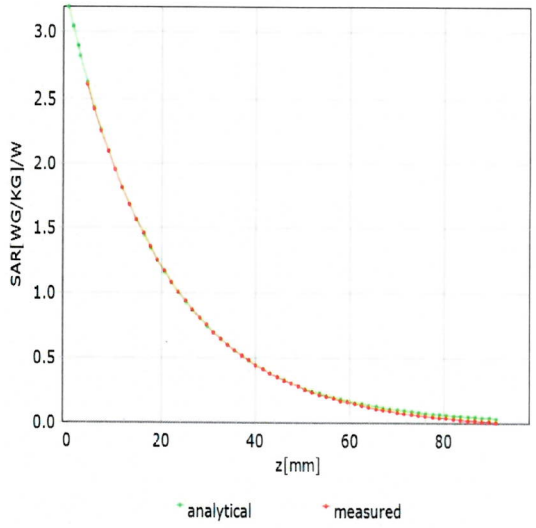
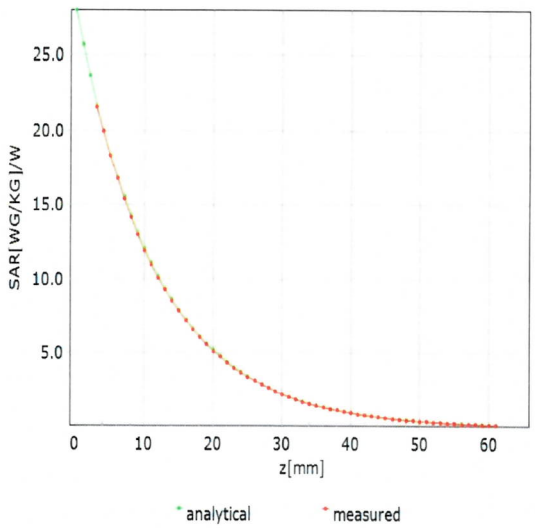
Conversion Factor Assessment

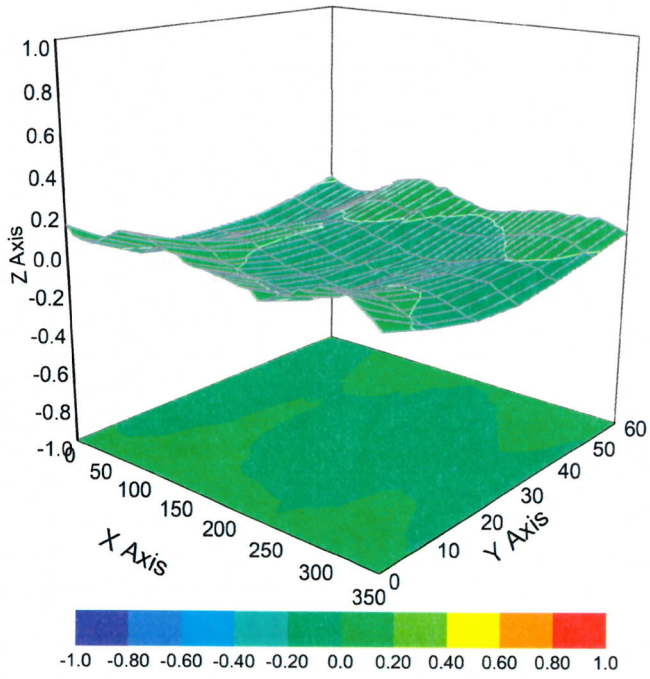
f=750 MHz,WGLS R9(H_convF)



f=1750 MHz,WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: ±3.2% (*k*=2)

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Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	46.2
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

Dipole D750V3 SN 1160				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ()
2022/6/6	-29.6	/	51.4	/
2023/6/4	-30.1	1.69%	52.2	0.8Ω

Dipole D1750V2 SN 1149				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ()
2022/6/17	-31.9	/	47.6	/
2023/6/14	-32.2	0.94%	48.9	1.3Ω

Dipole D2600V2 SN 1125				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ()
2022/6/14	-25.1	/	46.9	/
2023/6/13	-24.7	1.62%	47.5	0.6Ω