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CALIBRATION LABORATORY

CAICT

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:3789

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (*k*=2)
Norm(μV/(V/m)²)[A]	0.45	0.53	0.51	±10.0%
DCP(mV)[B]	102.5	101.2	99.3	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (*k*=2)
0	CW	X	0.0	0.0	1.0	0.00	162.8	±2.1%
		Y	0.0	0.0	1.0		178.0	
		Z	0.0	0.0	1.0		172.3	

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor *k*=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of Norm X, Y, Z do not affect the E^2-field uncertainty inside TSL (see Page 4).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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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	9.04	9.04	9.04	0.25	0.89	±12.7%
835	41.5	0.90	8.64	8.64	8.64	0.10	1.42	±12.7%
1450	40.5	1.20	7.90	7.90	7.90	0.13	1.27	±12.7%
1750	40.1	1.37	7.71	7.71	7.71	0.19	1.10	±12.7%
1900	40.0	1.40	7.38	7.38	7.38	0.19	1.18	±12.7%
2300	39.5	1.67	7.20	7.20	7.20	0.65	0.66	±12.7%
2450	39.2	1.80	6.98	6.98	6.98	0.62	0.70	±12.7%
2600	39.0	1.96	6.80	6.80	6.80	0.65	0.68	±12.7%
3300	38.2	2.71	6.49	6.49	6.49	0.54	0.85	±13.9%
3500	37.9	2.91	6.40	6.40	6.40	0.35	1.15	±13.9%
3700	37.7	3.12	6.15	6.15	6.15	0.35	1.30	±13.9%
3900	37.5	3.32	6.16	6.16	6.16	0.35	1.45	±13.9%
4100	37.2	3.53	6.22	6.22	6.22	0.40	1.15	±13.9%
4400	36.9	3.84	6.03	6.03	6.03	0.40	1.25	±13.9%
4600	36.7	4.04	5.98	5.98	5.98	0.50	1.10	±13.9%
4800	36.4	4.25	5.93	5.93	5.93	0.50	1.15	±13.9%
5250	35.9	4.71	5.11	5.11	5.11	0.45	1.40	±13.9%
5600	35.5	5.07	4.53	4.53	4.53	0.55	1.22	±13.9%
5750	35.4	5.22	4.67	4.67	4.67	0.55	1.22	±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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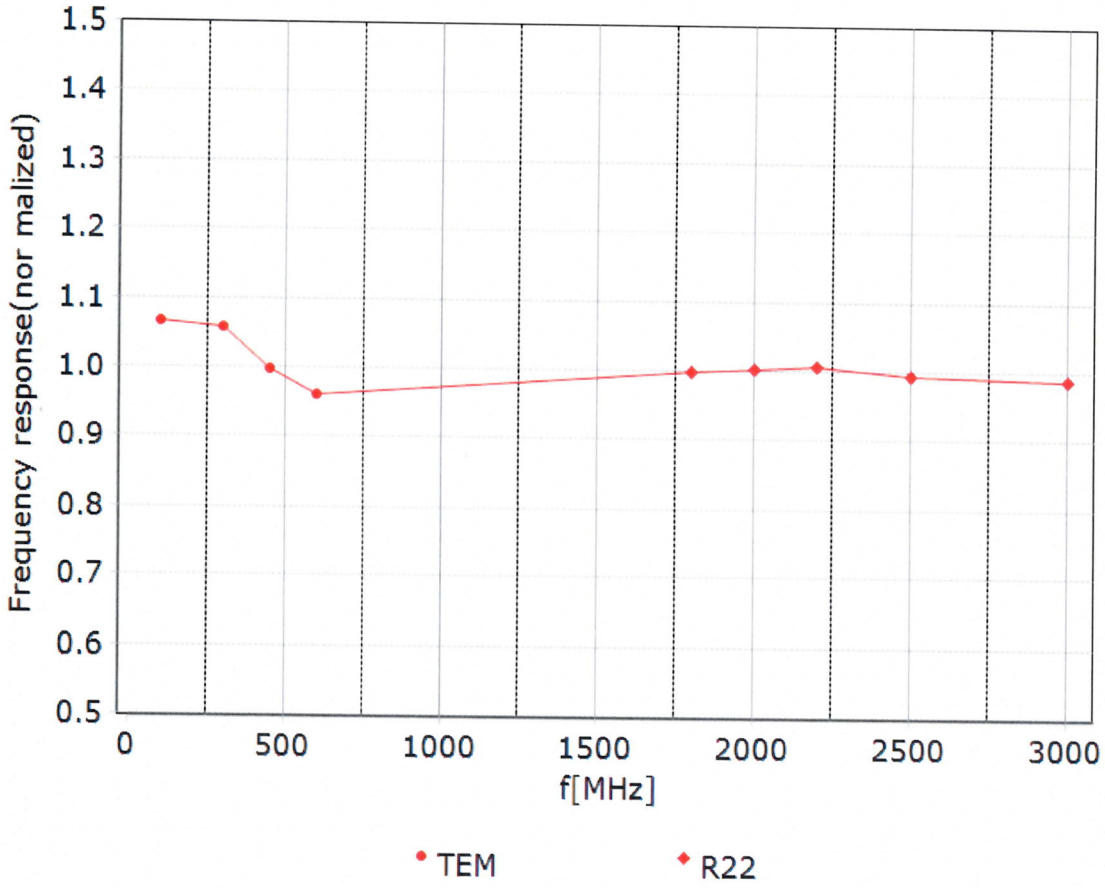
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



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

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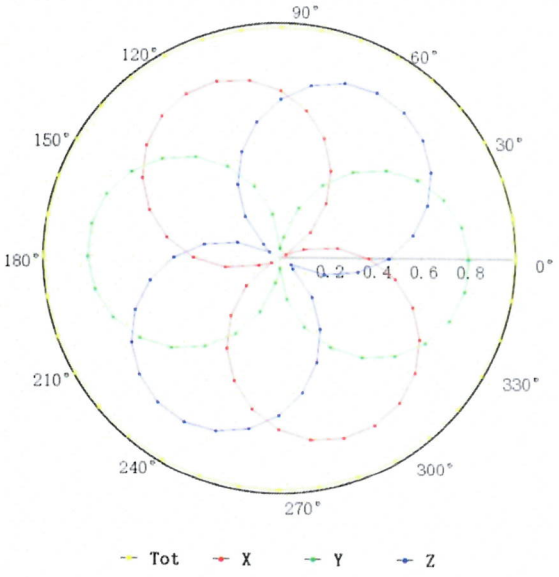
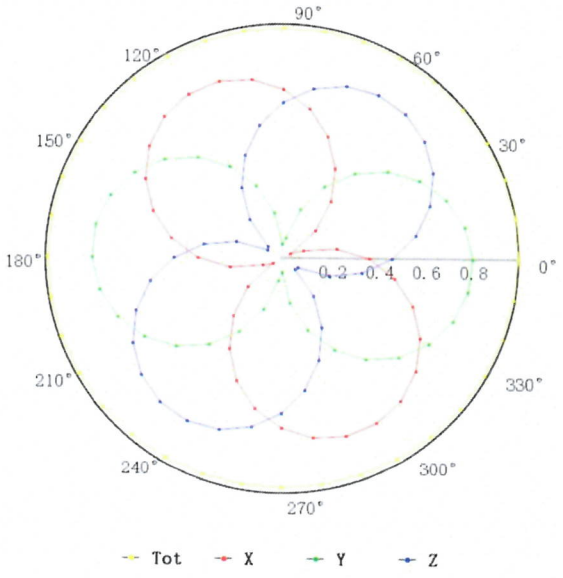
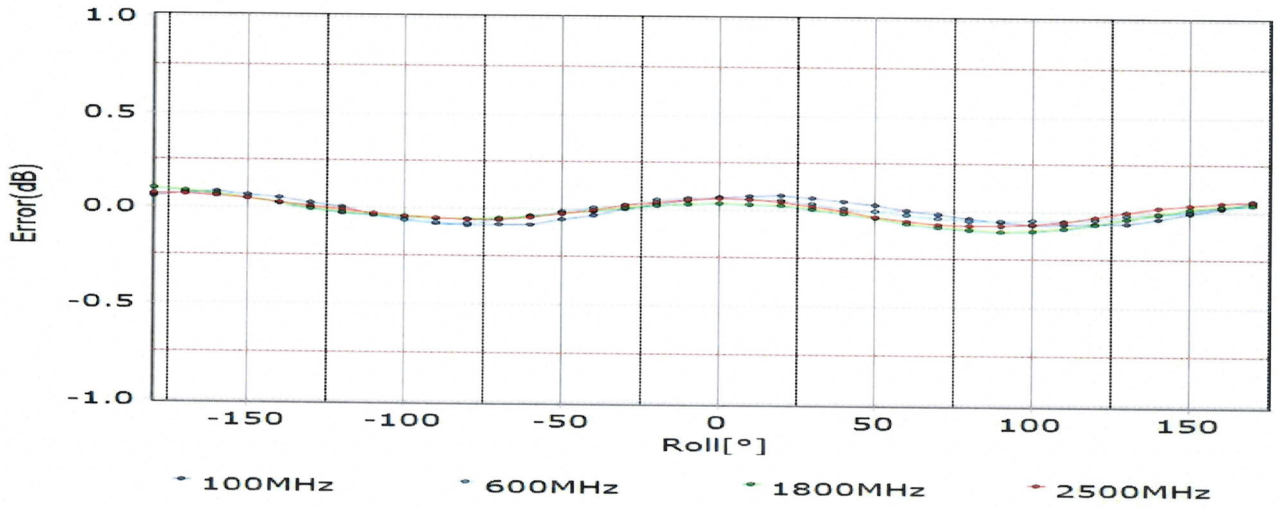
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





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

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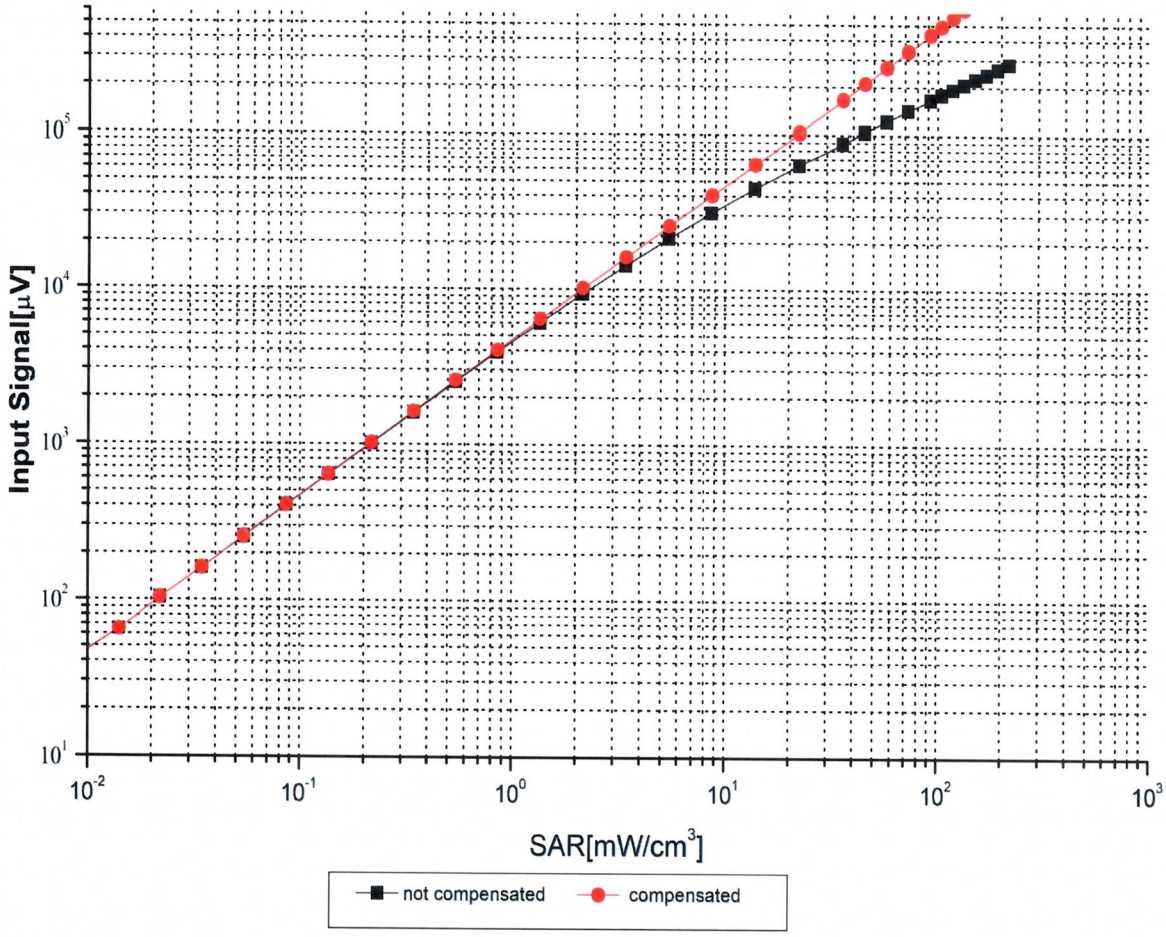
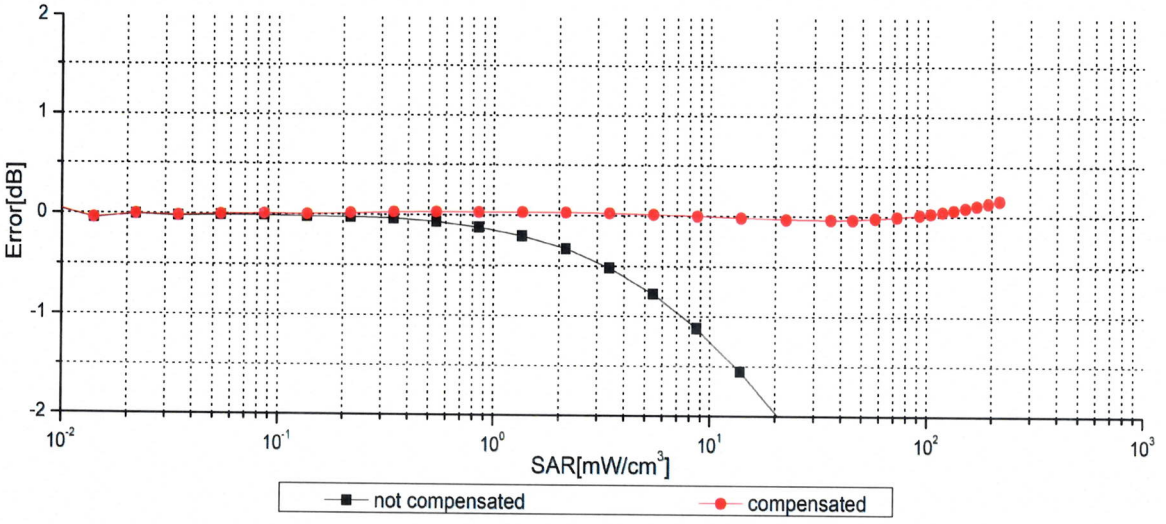
Dynamic Range f(SAR_{head})
(TEM cell, f = 900 MHz)





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

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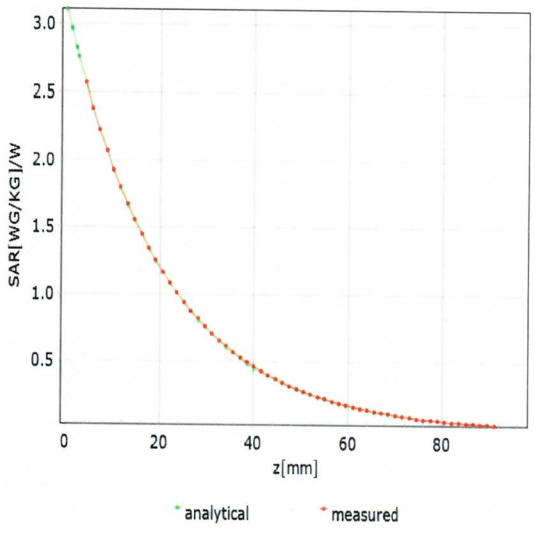
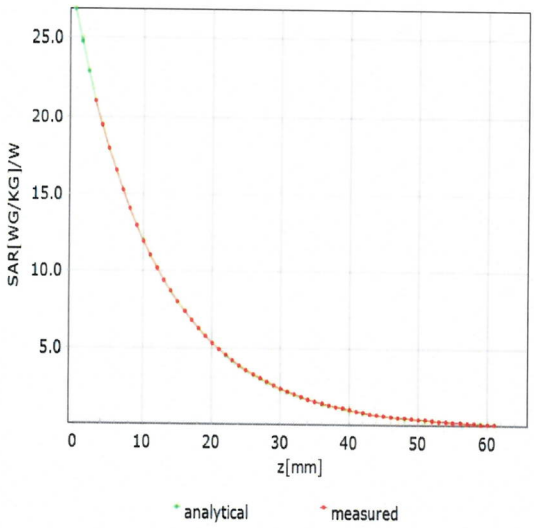
Conversion Factor Assessment

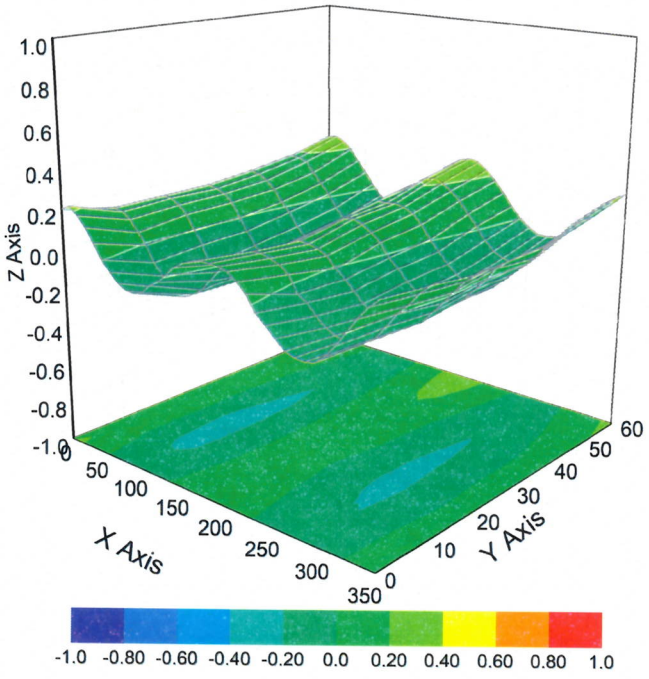
f=750 MHz,WGLS R9(H_convF)



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 (°)	45.1
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 D2450V2 SN 733				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ()
2022/11/2	-28.7	/	50.2	/
2024/10/31	-28.1	2.14%	50.7	0.5Ω

- End of Appendix -