In Collaboration with
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CALIBRATION LABORATORY

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:3962

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm(μV/(V/m)²)[A]	0.42	0.47	0.44	±10.0%
DCP(mV)[B]	102.2	101.8	94.3	

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	158.8	±2.1%
		Y	0.0	0.0	1.0		162.2	
		Z	0.0	0.0	1.0		151.9	

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	10.16	10.16	10.16	0.40	0.80	±12.1%
835	41.5	0.90	9.85	9.85	9.85	0.13	1.47	±12.1%
1750	40.1	1.37	8.50	8.50	8.50	0.20	1.08	±12.1%
1900	40.0	1.40	8.21	8.21	8.21	0.28	1.02	±12.1%
2300	39.5	1.67	7.95	7.95	7.95	0.48	0.73	±12.1%
2450	39.2	1.80	7.60	7.60	7.60	0.47	0.77	±12.1%
2600	39.0	1.96	7.42	7.42	7.42	0.63	0.68	±12.1%
3300	38.2	2.71	7.48	7.48	7.48	0.65	0.69	±13.3%
3500	37.9	2.91	7.07	7.07	7.07	0.49	0.83	±13.3%
3700	37.7	3.12	6.67	6.67	6.67	0.54	0.81	±13.3%
3900	37.5	3.32	6.56	6.56	6.56	0.35	1.21	±13.3%
4100	37.2	3.53	6.46	6.46	6.46	0.40	1.20	±13.3%
4400	36.9	3.84	6.33	6.33	6.33	0.35	1.35	±13.3%
4600	36.7	4.04	6.15	6.15	6.15	0.40	1.40	±13.3%
4800	36.4	4.25	5.98	5.98	5.98	0.45	1.35	±13.3%
4950	36.3	4.40	5.82	5.82	5.82	0.40	1.35	±13.3%
5250	35.9	4.71	5.56	5.56	5.56	0.45	1.20	±13.3%
5600	35.5	5.07	4.82	4.82	4.82	0.45	1.50	±13.3%
5750	35.4	5.22	4.88	4.88	4.88	0.50	1.40	±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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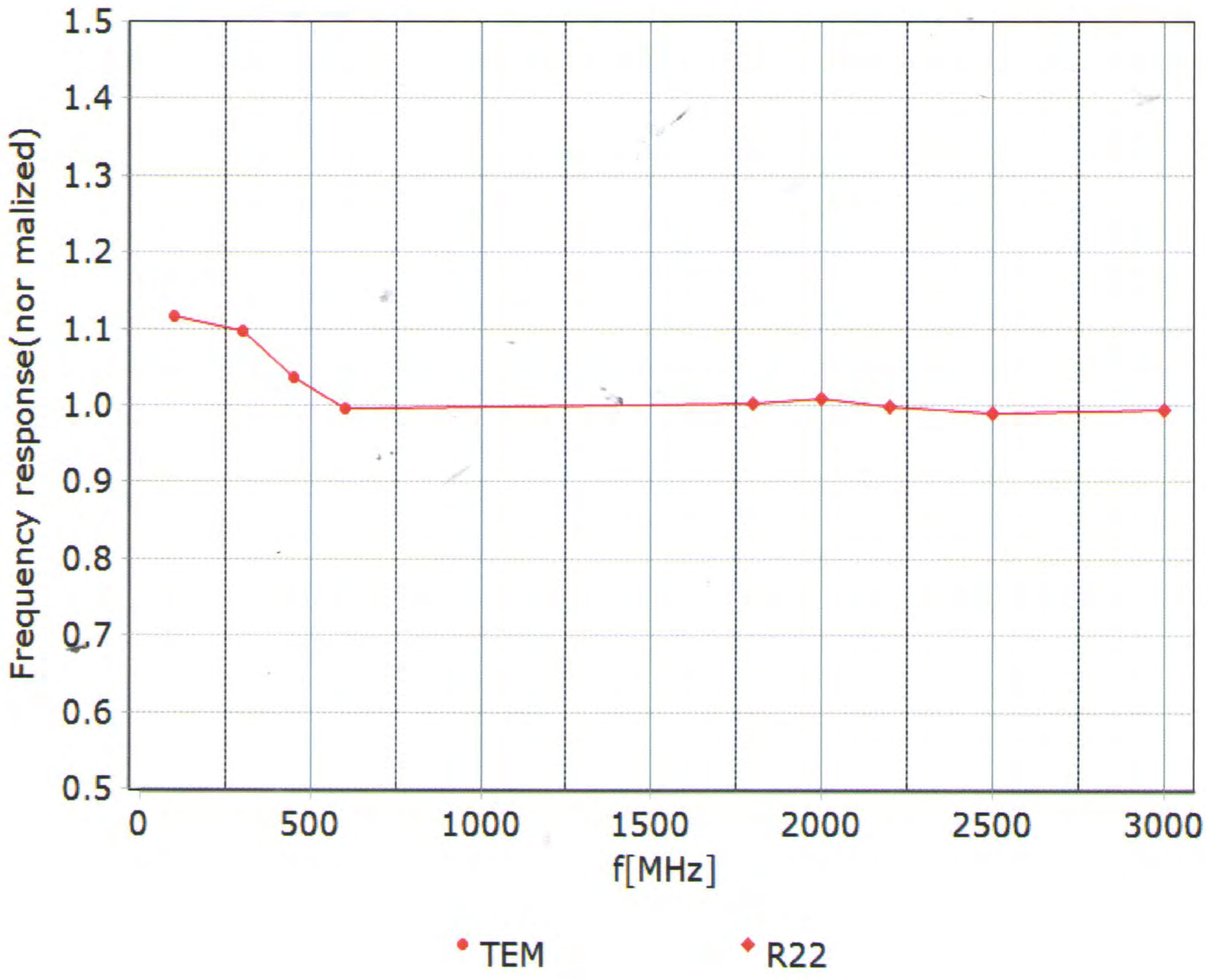
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



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

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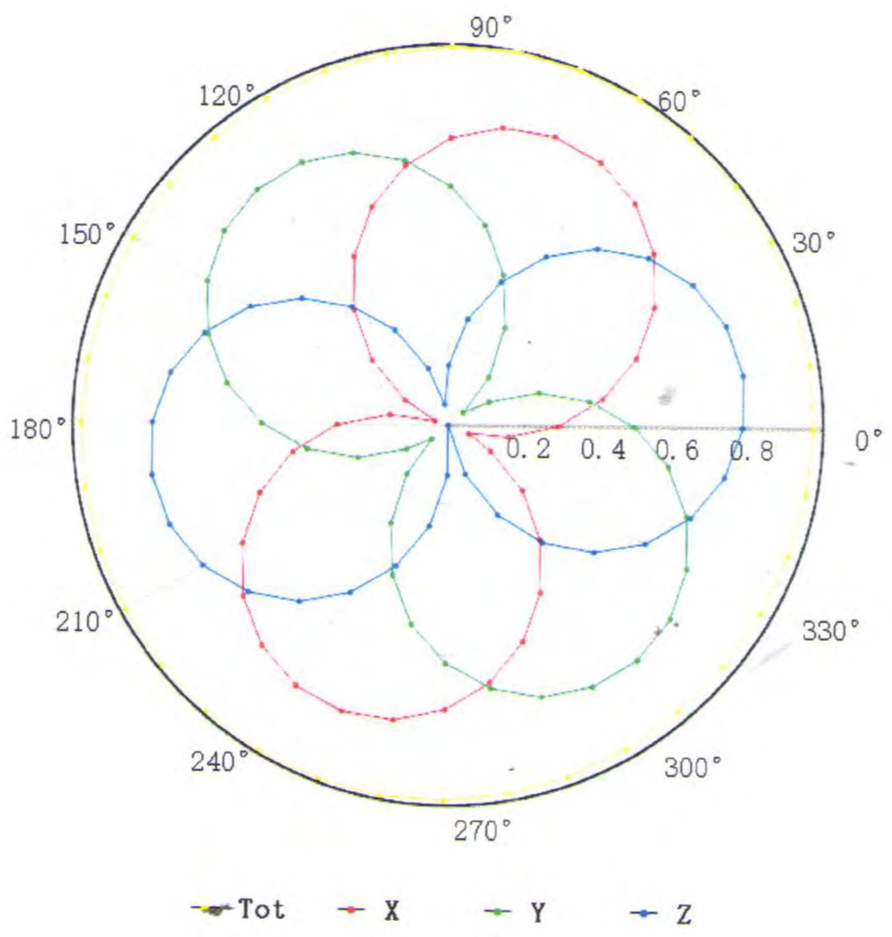
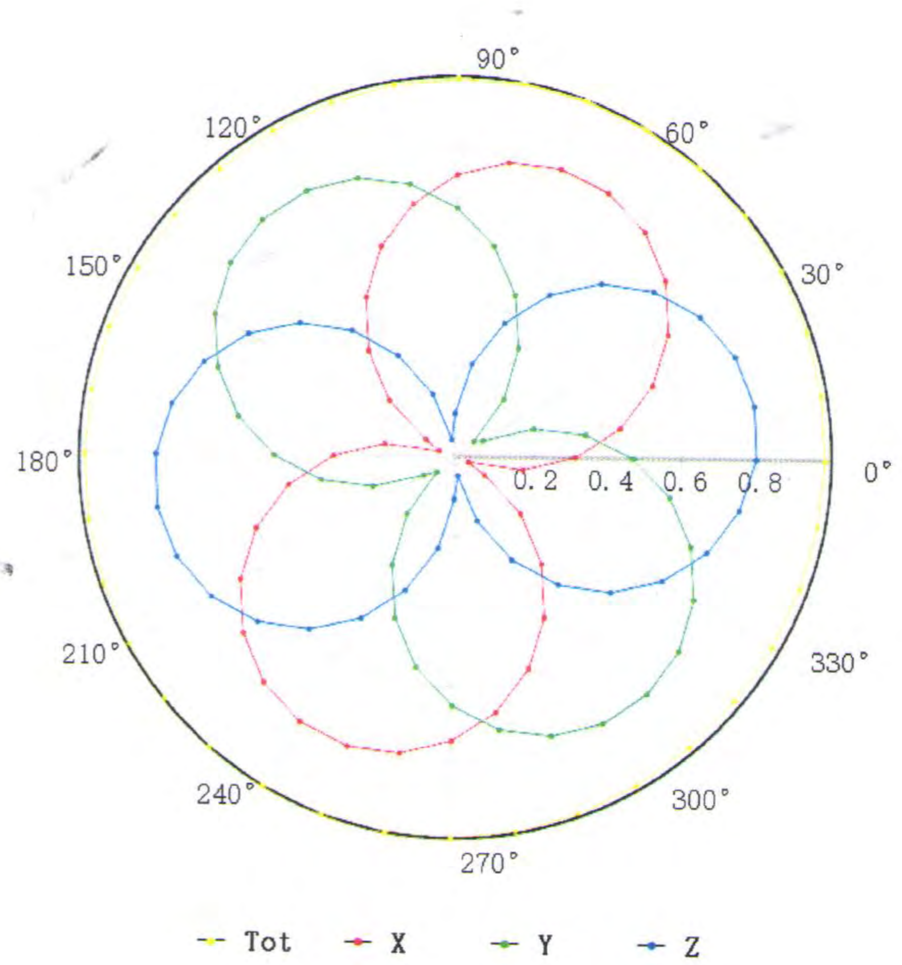
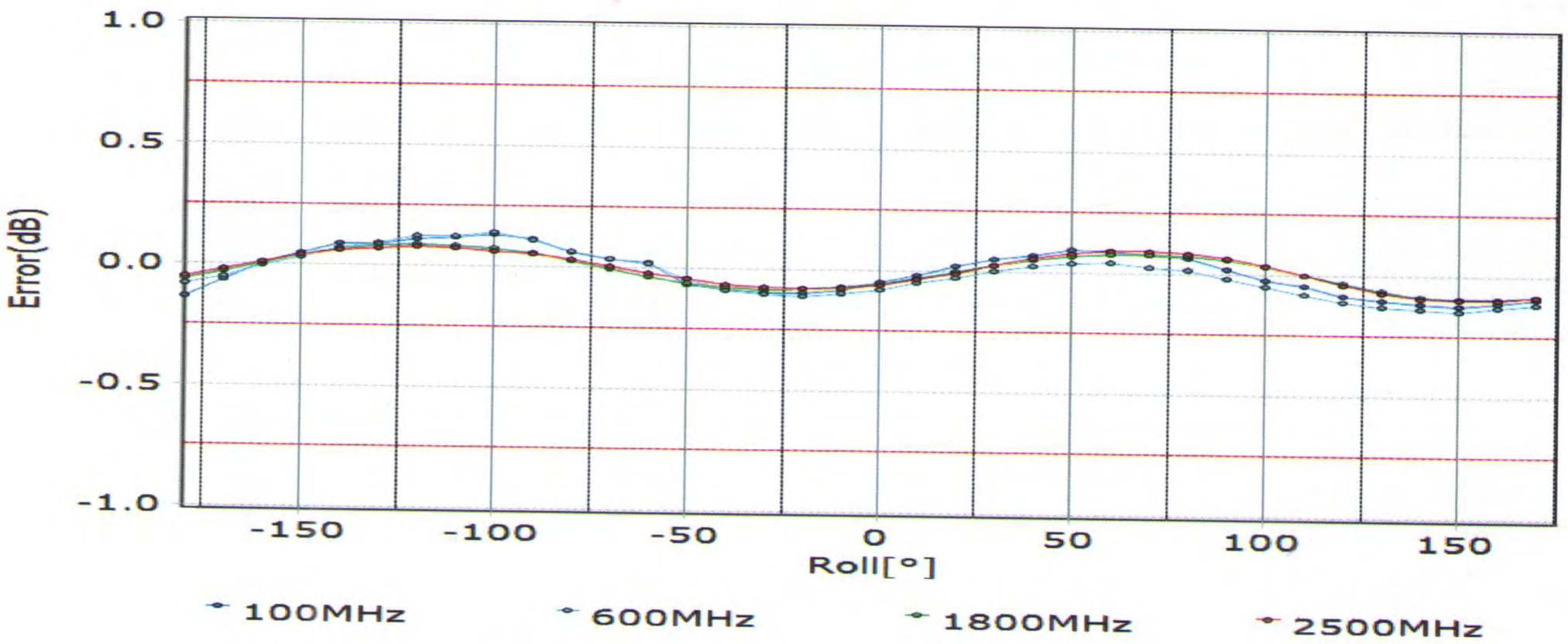
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





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

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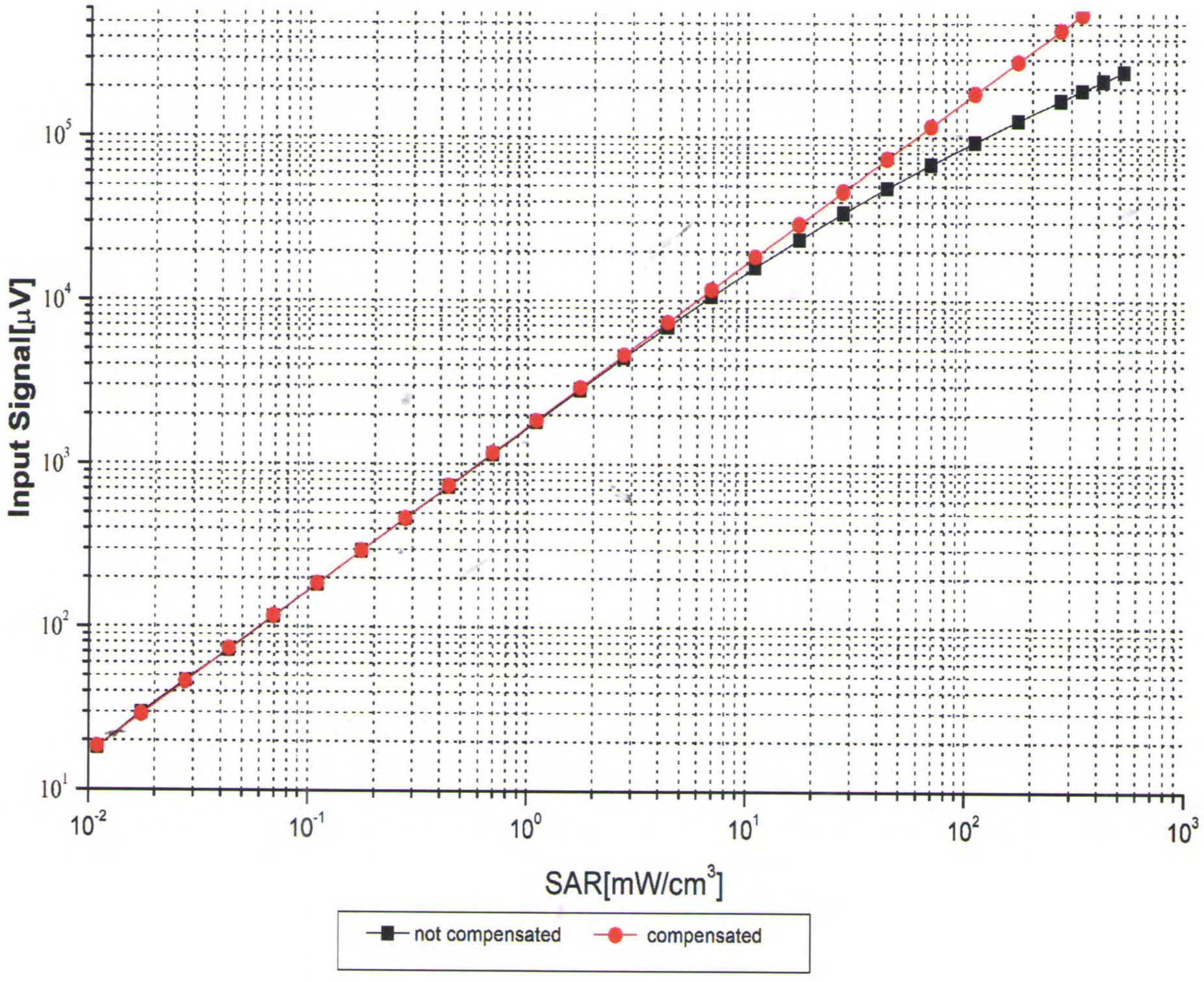
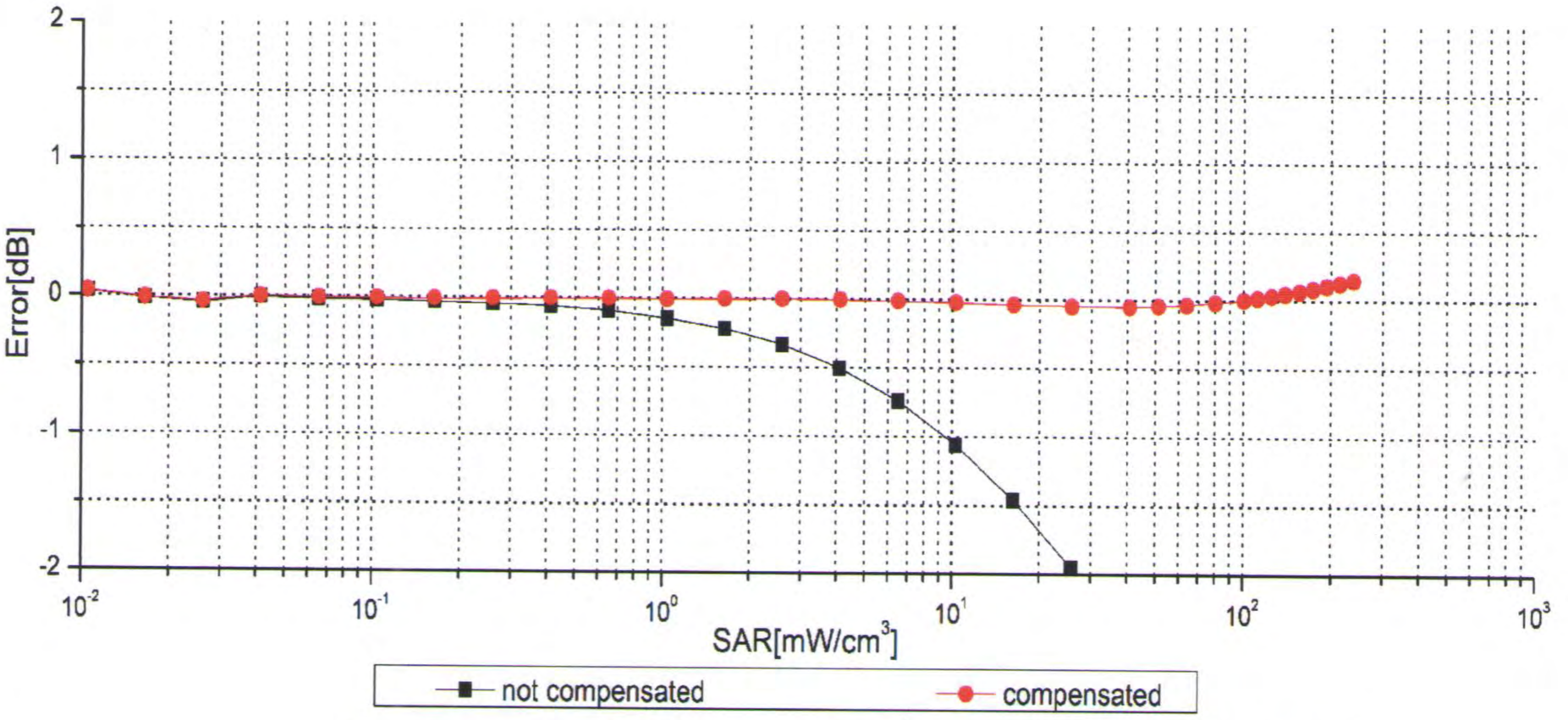
Dynamic Range f(SAR_{head})
(TEM cell, f = 900 MHz)





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

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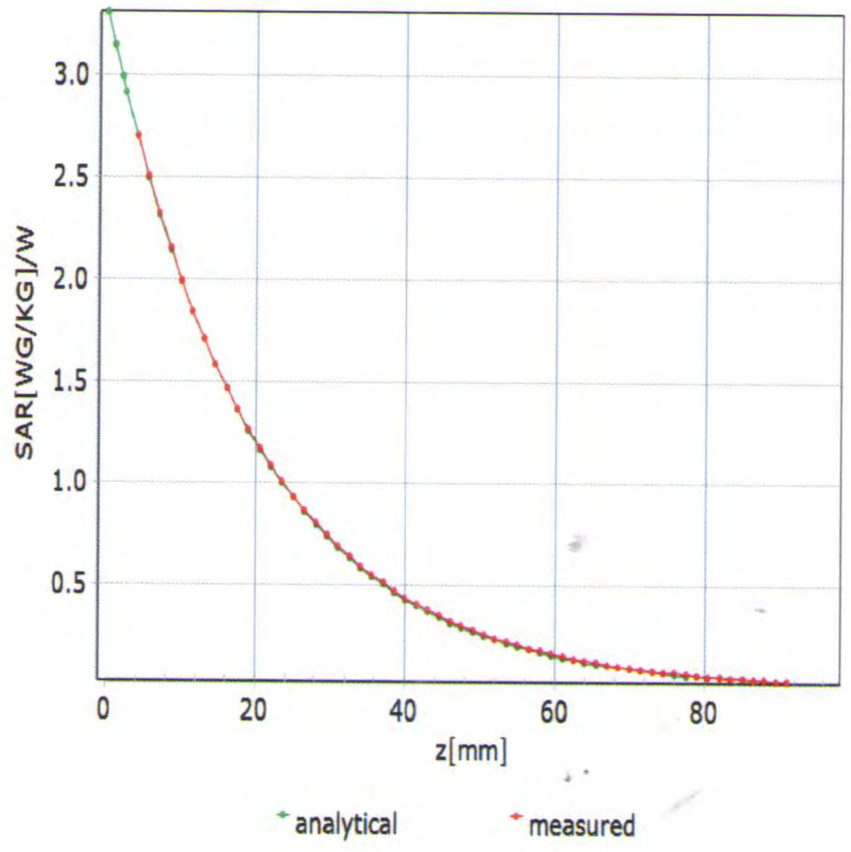
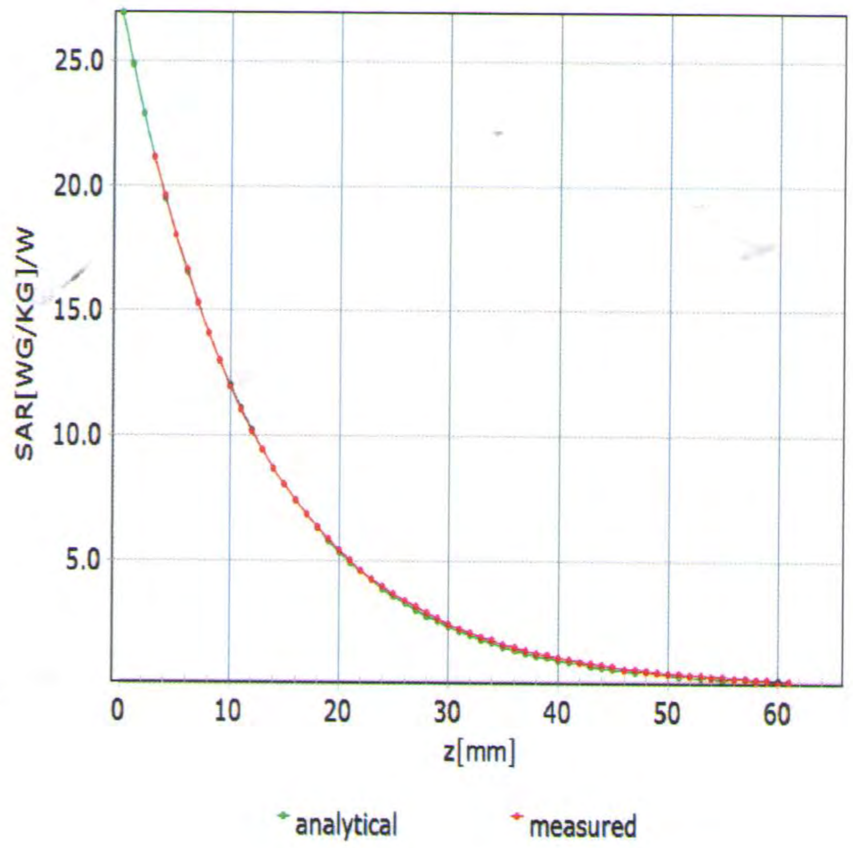
Conversion Factor Assessment

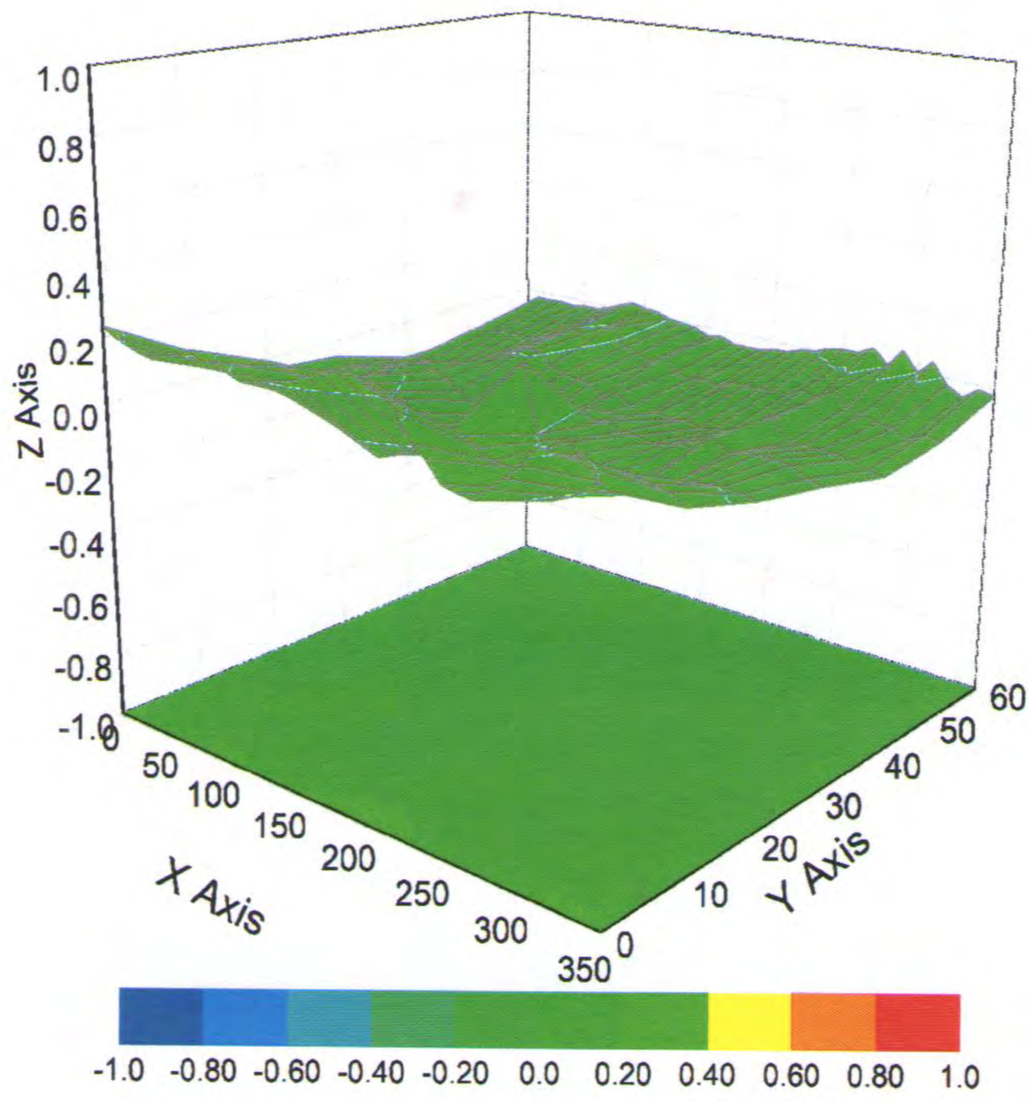
f=835 MHz,WGLS R9(H_convF)



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 (°)	151.2
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