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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3753

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	9.36	9.36	9.36	0.40	0.80	±12.1%
835	41.5	0.90	9.03	9.03	9.03	0.13	1.45	±12.1%
900	41.5	0.97	9.12	9.12	9.12	0.17	1.31	±12.1%
1450	40.5	1.20	8.39	8.39	8.39	0.15	1.14	±12.1%
1750	40.1	1.37	8.06	8.06	8.06	0.24	1.05	±12.1%
1900	40.0	1.40	7.77	7.77	7.77	0.29	0.96	±12.1%
2000	40.0	1.40	7.95	7.95	7.95	0.27	0.97	±12.1%
2300	39.5	1.67	7.76	7.76	7.76	0.50	0.76	±12.1%
2450	39.2	1.80	7.40	7.40	7.40	0.60	0.73	±12.1%
2600	39.0	1.96	7.20	7.20	7.20	0.63	0.70	±12.1%
3500	37.9	2.91	6.97	6.97	6.97	0.60	0.98	±13.3%
5250	35.9	4.71	5.41	5.41	5.41	0.40	1.40	±13.3%
5600	35.5	5.07	4.76	4.76	4.76	0.40	1.35	±13.3%
5750	35.4	5.22	4.79	4.79	4.79	0.45	1.55	±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.

DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3753

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	9.58	9.58	9.58	0.40	0.80	±12.1%
835	55.2	0.97	9.24	9.24	9.24	0.18	1.39	±12.1%
900	55.0	1.05	9.20	9.20	9.20	0.25	1.14	±12.1%
1450	54.0	1.30	8.21	8.21	8.21	0.12	1.49	±12.1%
1750	53.4	1.49	7.76	7.76	7.76	0.23	1.10	±12.1%
1900	53.3	1.52	7.52	7.52	7.52	0.20	1.20	±12.1%
2000	53.3	1.52	7.76	7.76	7.76	0.21	1.17	±12.1%
2300	52.9	1.81	7.54	7.54	7.54	0.65	0.76	±12.1%
2450	52.7	1.95	7.36	7.36	7.36	0.39	1.08	±12.1%
2600	52.5	2.16	7.03	7.03	7.03	0.69	0.72	±12.1%
3500	51.3	3.31	6.56	6.56	6.56	0.55	1.05	±13.3%
5250	48.9	5.36	4.88	4.88	4.88	0.50	1.65	±13.3%
5600	48.5	5.77	4.28	4.28	4.28	0.59	1.37	±13.3%
5750	48.3	5.94	4.53	4.53	4.53	0.59	1.29	±13.3%

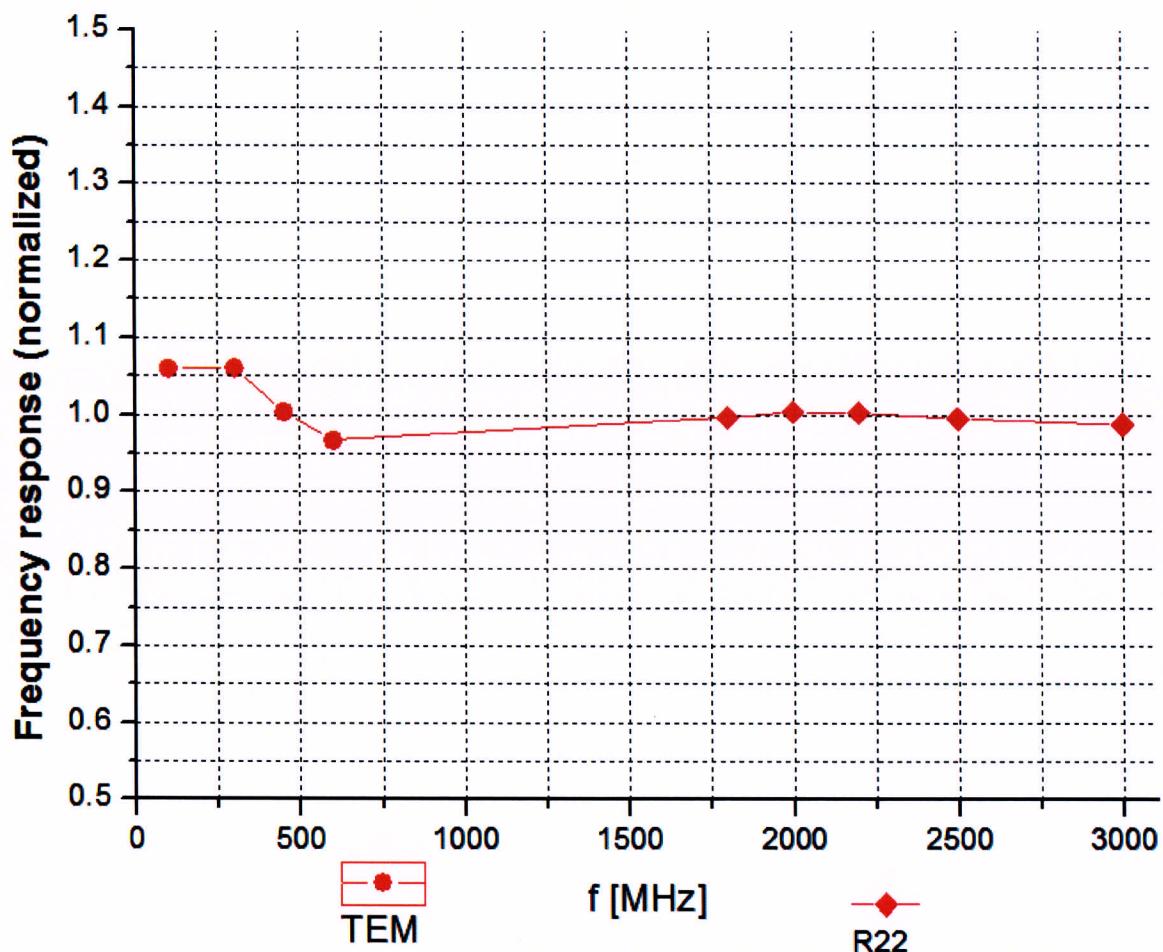
^C Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 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)

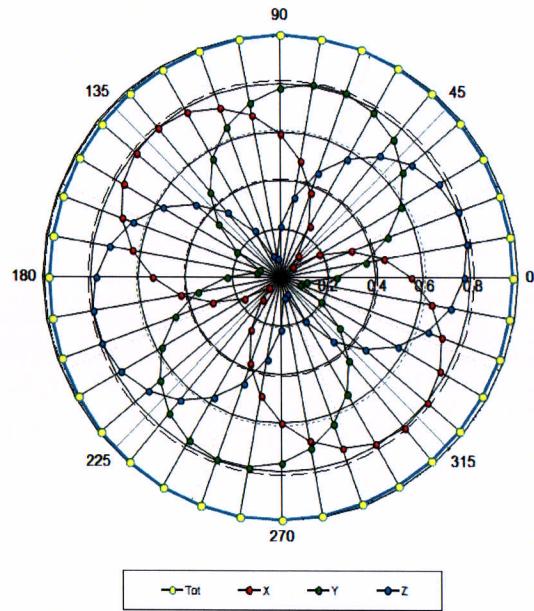


Uncertainty of Frequency Response of E-field: $\pm 7.4\%$ ($k=2$)

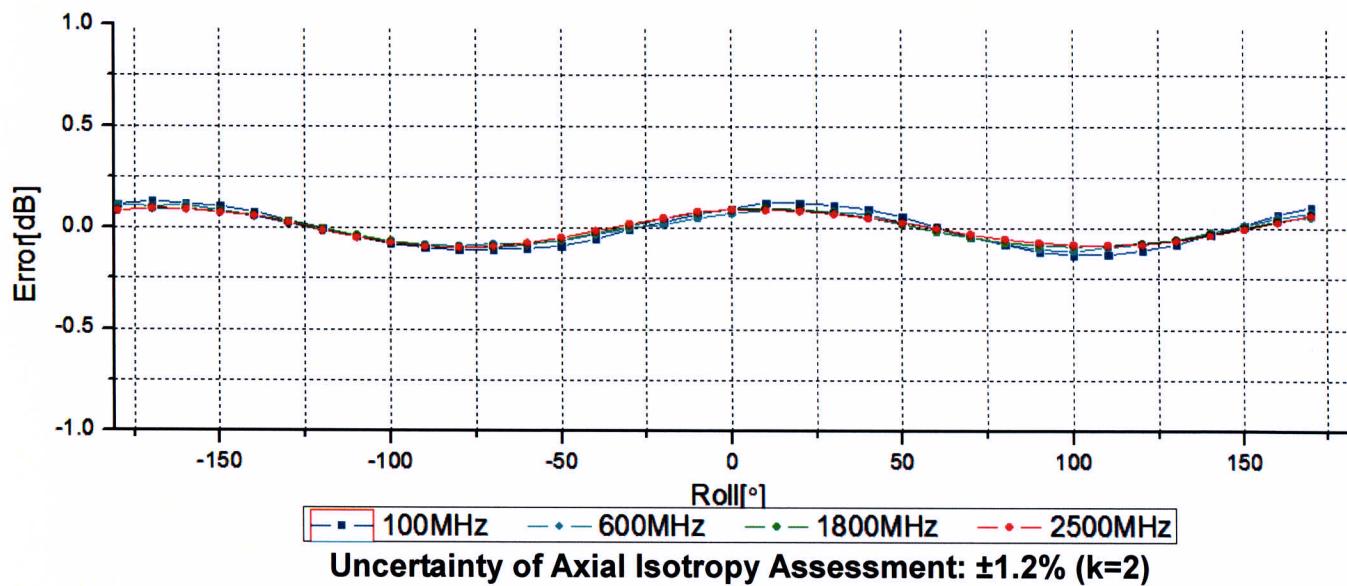
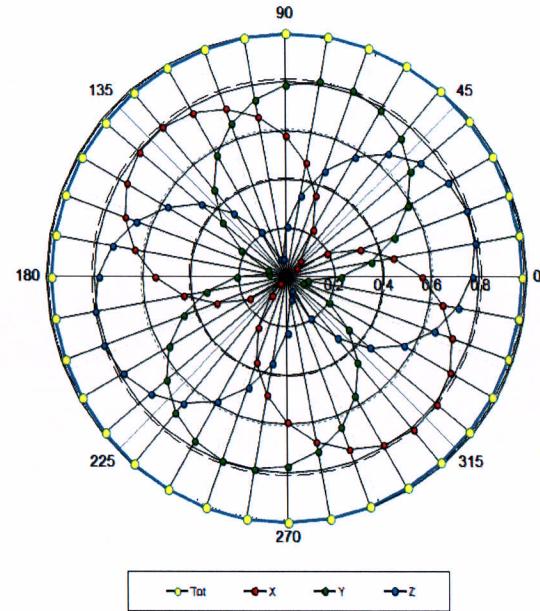
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Receiving Pattern (Φ), $\theta=0^\circ$

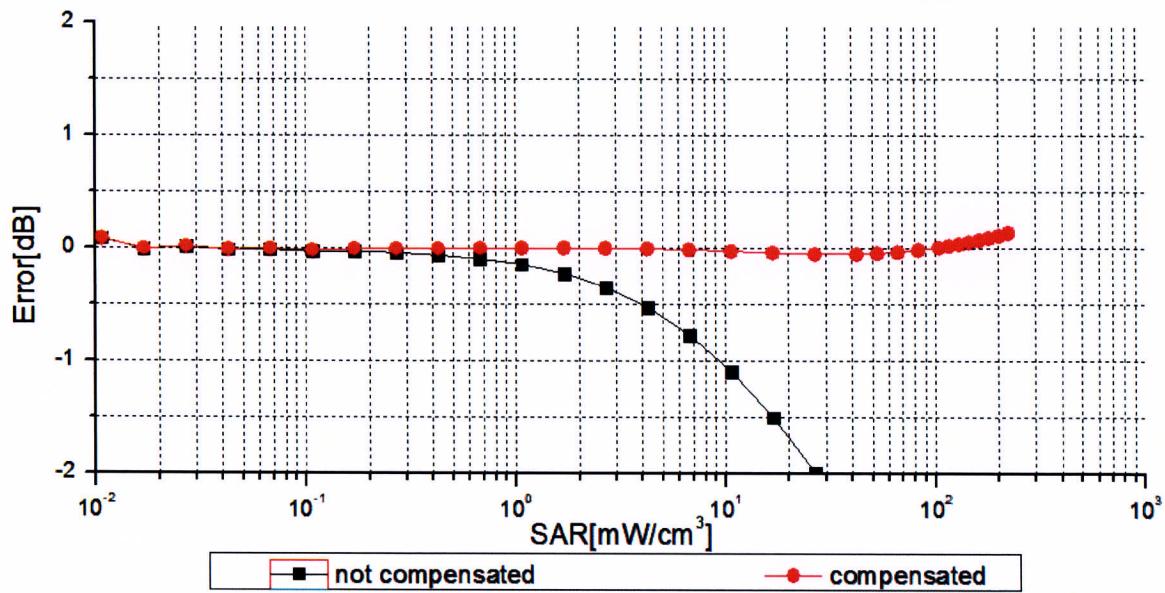
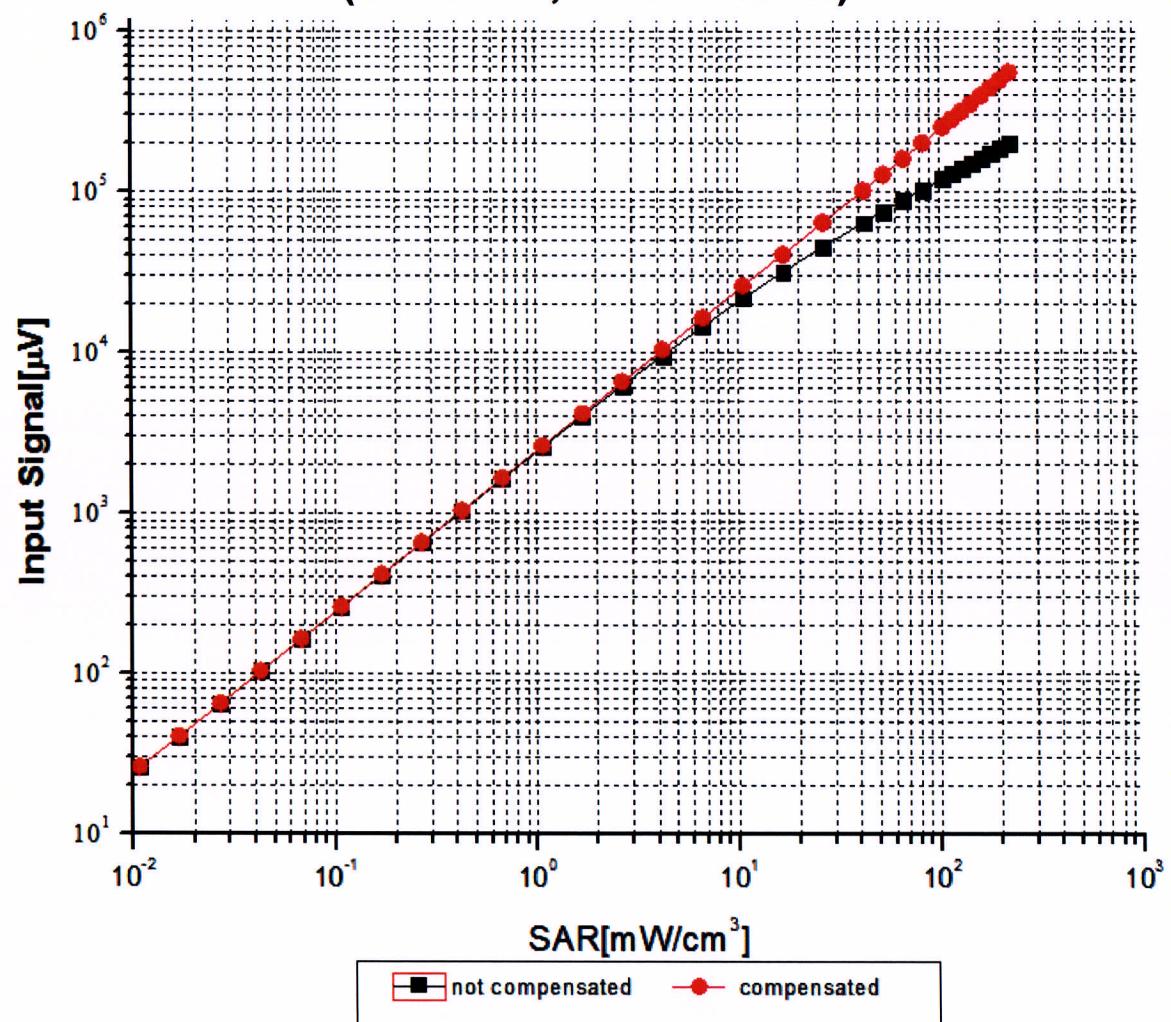
f=600 MHz, TEM



f=1800 MHz, R22



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



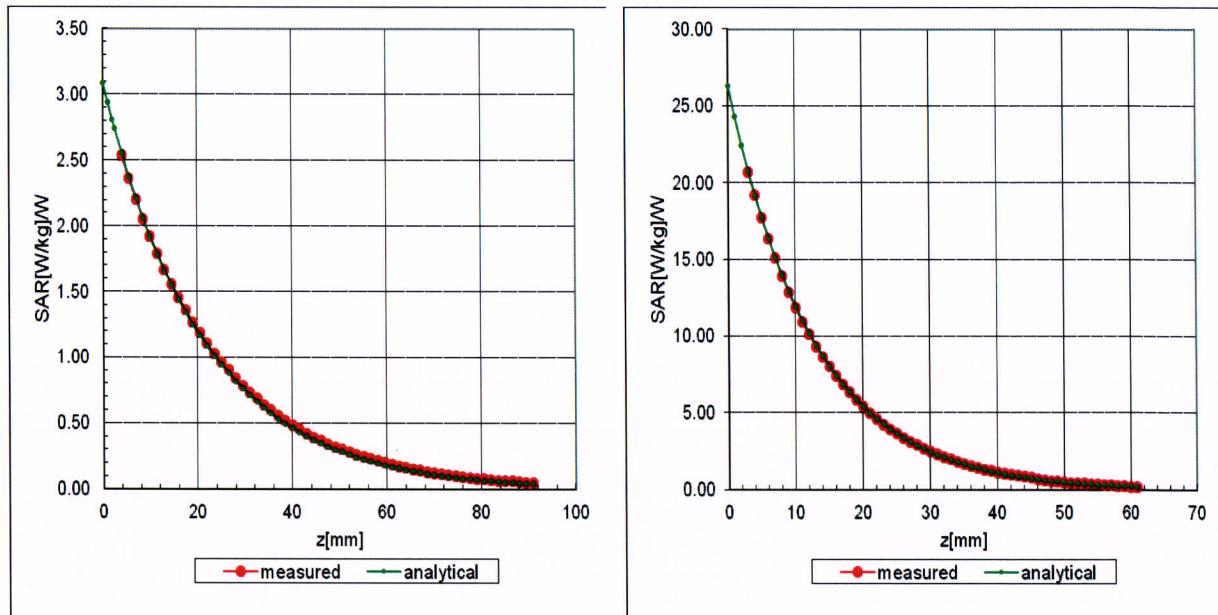
Uncertainty of Linearity Assessment: ±0.9% (k=2)

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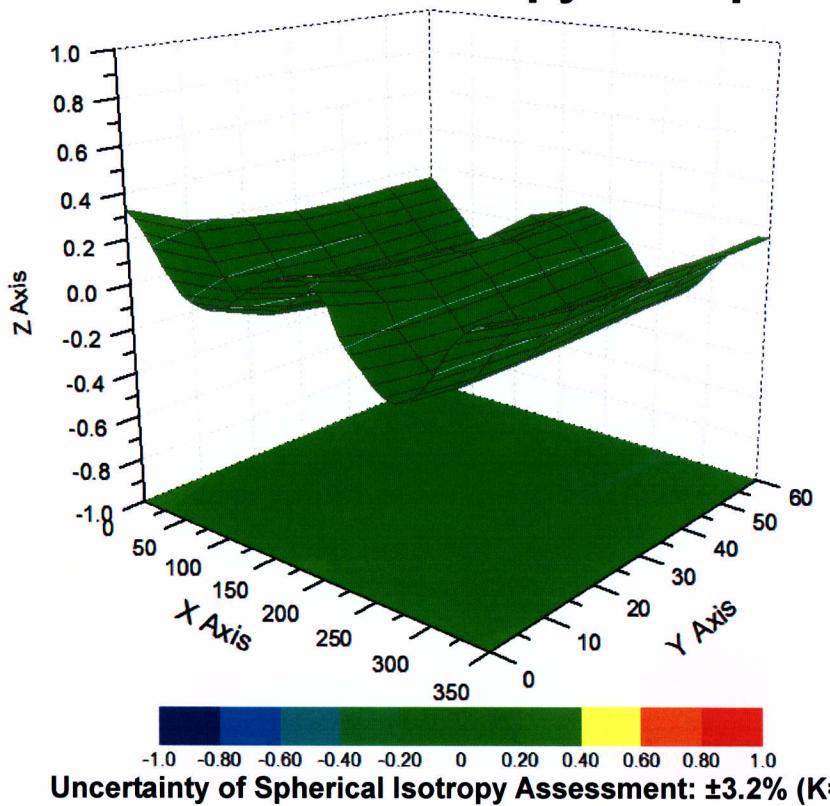
Conversion Factor Assessment

f=750 MHz, WGLS R9(H_convF)

f=1750 MHz, WGLS R22(H_convF)



Deviation from Isotropy in Liquid



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Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	38.1
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