

EX3DV4 Sn:3708 (2/7)

EX3DV4 - SN:3708 October 22, 2018

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3708

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>1</sup>	Relative Permittivity <sup>2</sup>	Conductivity (S/m) <sup>2</sup>	Coef. X	Coef. Y	Coef. Z	Alpha <sup>3</sup>	Depth (mm)	Unc. (k=2)
400	62.5	0.27	9.79	9.79	9.79	0.16	1.20	± 13.3 %
750	41.9	0.80	9.50	9.50	9.50	0.54	0.80	± 12.0 %
900	41.5	0.90	9.10	9.10	9.10	0.61	0.70	± 12.0 %
1450	40.5	1.20	8.50	8.50	8.50	0.83	0.60	± 12.0 %
1750	39.1	1.57	8.20	8.20	8.20	0.94	0.54	± 12.0 %
1900	40.0	1.60	7.80	7.80	7.80	0.90	0.60	± 12.0 %
2200	40.0	1.60	7.60	7.60	7.60	0.84	0.60	± 12.0 %
2300	39.8	1.67	7.51	7.51	7.51	0.87	0.60	± 12.0 %
2400	39.2	1.80	7.13	7.13	7.13	0.88	0.60	± 12.0 %
2600	38.9	1.96	7.01	7.01	7.01	0.90	0.60	± 12.0 %
4000	36.0	4.66	6.46	6.46	6.46	1.00	1.00	± 13.1 %
5000	35.0	6.76	6.20	6.20	6.20	1.00	1.00	± 13.1 %
6000	34.6	8.07	6.04	6.04	6.04	1.00	1.00	± 13.1 %
8000	33.2	9.77	5.70	5.70	5.70	1.00	1.00	± 13.1 %

<sup>1</sup> Frequency validity above 300 MHz of a 100 MHz only applies for DASY v4 and higher (see Page 3), else it is restricted to a 50 MHz. The uncertainty is the RMS of the Coef. uncertainty of calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is a 10, 20, 40, 60 and 70 MHz for Coef. assessments at 30, 60, 120, 180 and 230 MHz respectively. Above 3 GHz frequency validity can be extended to a 150 MHz.  
<sup>2</sup> At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to a 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 1%. The uncertainty is the RMS of the Coef. uncertainty for indicated target tissue parameters.  
<sup>3</sup> Alpha/Depth are determined during calibration. SARAC warns 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 frequencies between 3-6 GHz at any distance larger than half the probe to diameter from the boundary.

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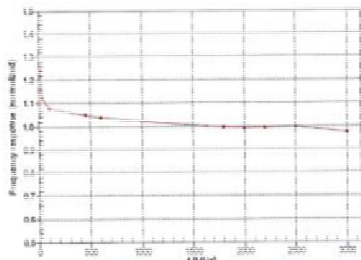
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>1</sup>	Relative Permittivity <sup>2</sup>	Conductivity (S/m) <sup>2</sup>	Coef. X	Coef. Y	Coef. Z	Alpha <sup>3</sup>	Depth (mm)	Unc. (k=2)
400	56.7	0.24	10.30	10.30	10.30	0.08	1.30	± 13.3 %
750	38.6	0.68	9.51	9.51	9.51	0.50	0.80	± 12.0 %
900	38.2	0.77	9.23	9.23	9.23	0.47	0.84	± 12.0 %
1450	34.0	1.30	7.84	7.84	7.84	0.38	0.80	± 12.0 %
1750	33.4	1.69	7.60	7.60	7.60	0.37	0.80	± 12.0 %
1900	33.3	1.62	7.56	7.56	7.56	0.42	0.84	± 12.0 %
2200	33.5	1.62	7.50	7.50	7.50	0.41	0.84	± 12.0 %
2300	32.9	1.81	7.34	7.34	7.34	0.39	0.80	± 12.0 %
2400	32.7	1.95	7.10	7.10	7.10	0.39	0.84	± 12.0 %
2600	32.5	2.16	7.14	7.14	7.14	0.32	0.80	± 12.0 %
4000	29.0	4.94	4.63	4.63	4.63	0.60	1.00	± 13.1 %
5000	28.0	7.04	4.41	4.41	4.41	0.60	1.00	± 13.1 %
6000	28.6	8.77	4.68	4.68	4.68	0.60	1.00	± 13.1 %
8000	28.2	9.99	4.31	4.31	4.31	0.60	1.00	± 13.1 %

<sup>1</sup> Frequency validity above 300 MHz of a 100 MHz only applies for DASY v4 and higher (see Page 3), else it is restricted to a 50 MHz. The uncertainty is the RMS of the Coef. uncertainty of calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is a 10, 20, 40, 60 and 70 MHz for Coef. assessments at 30, 60, 120, 180 and 230 MHz respectively. Above 3 GHz frequency validity can be extended to a 150 MHz.  
<sup>2</sup> At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to a 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 1%. The uncertainty is the RMS of the Coef. uncertainty for indicated target tissue parameters.  
<sup>3</sup> Alpha/Depth are determined during calibration. SARAC warns 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 frequencies between 3-6 GHz at any distance larger than half the probe to diameter from the boundary.

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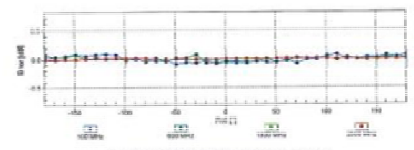
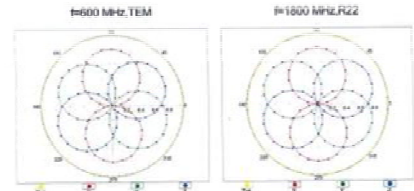
Frequency Response of E-Field  
(TEM-Cell:R110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-Field: ± 0.5% (k=2)

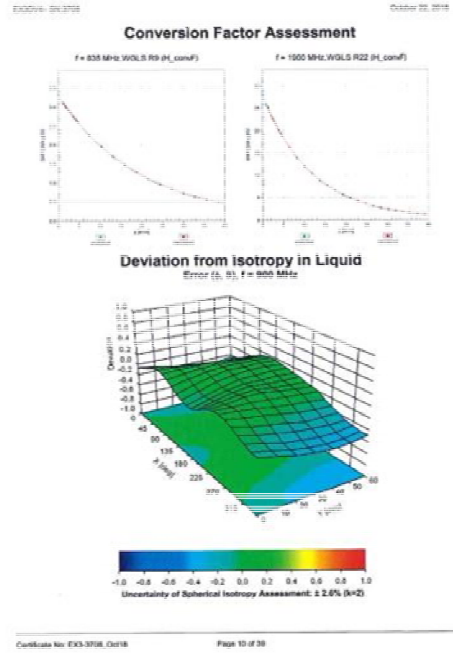
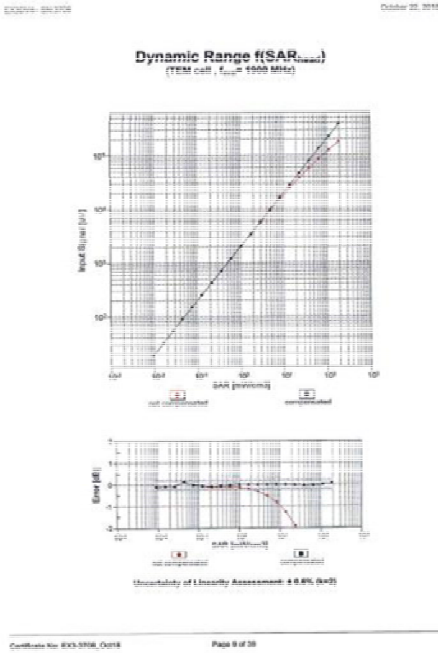
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Receiving Pattern (θ) = 0°



Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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### DASY/EASY - Parameters of Probe: EX3DV4 - SN:3708

Other Probe Parameters

Sensor Arrangement	Triangular
Sensor Angle (°)	60.0
Mechanical Surface Detection Mode	endFace
Optical Surface Detection Mode	endFace
Probe Overall Length	224 mm
Probe Body Diameter	10 mm
Tip Length	6 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	5 mm
Probe Tip to Sensor Y Calibration Point	5 mm
Probe Tip to Sensor Z Calibration Point	5 mm
Recommended Measurement Distance from Surface	1.4 mm

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