

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7620

Basic Calibration Parameters

| | Sensor X | Sensor Y | Sensor Z | Unc (k=2) |
|---|----------|----------|----------|-----------|
| Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A | 0.64 | 0.60 | 0.59 | ± 10.1 % |
| DCP (mV) ^B | 109.5 | 109.7 | 108.0 | |

Calibration Results for Modulation Response

| UID | Communication System Name | | A dB | B dB√μV | C | D dB | VR mV | Max dev. | Unc ^E (k=2) |
|-----|---------------------------|---|---------|------------|-----|---------|----------|-------------|---------------------------|
| 0 | CW | X | 0.0 | 0.0 | 1.0 | 0.00 | 153.1 | ± 3.0 % | ± 4.7 % |
| | | Y | 0.0 | 0.0 | 1.0 | | 138.8 | | |
| | | Z | 0.0 | 0.0 | 1.0 | | 135.7 | | |

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 E²-field uncertainty inside TSL (see Page 5).
^B Numerical linearization parameter: uncertainty not required.
^E Uncertainty 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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Other Probe Parameters

| | |
|---|------------|
| Sensor Arrangement | Triangular |
| Connector Angle (°) | -118.1 |
| Mechanical Surface Detection Mode | enabled |
| Optical Surface Detection Mode | disabled |
| Probe Overall Length | 337 mm |
| Probe Body Diameter | 10 mm |
| Tip Length | 9 mm |
| Tip Diameter | 2.5 mm |
| Probe Tip to Sensor X Calibration Point | 1 mm |
| Probe Tip to Sensor Y Calibration Point | 1 mm |
| Probe Tip to Sensor Z Calibration Point | 1 mm |
| Recommended Measurement Distance from Surface | 1.4 mm |

Note: Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

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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) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750 | 41.9 | 0.89 | 11.14 | 11.14 | 11.14 | 0.34 | 1.07 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 10.85 | 10.85 | 10.85 | 0.43 | 0.80 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 9.24 | 9.24 | 9.24 | 0.32 | 0.85 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 8.98 | 8.98 | 8.98 | 0.27 | 0.85 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 8.59 | 8.59 | 8.59 | 0.32 | 0.90 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 8.25 | 8.25 | 8.25 | 0.36 | 0.90 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 8.06 | 8.06 | 8.06 | 0.38 | 0.90 | ± 12.0 % |

^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies 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 frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.