

Probe ET3DV6

SN: 1560

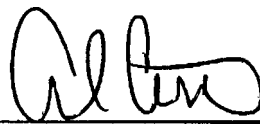
Manufactured:
Calibrated:

December 1, 2000
February 20, 2002

Calibrated for System DASY3

PCTEST Calibration Laboratory

Approved By:



Alfred Cirwithian
Vice President Engineering

DASY3 - Parameters of Probe: ET3DV6 SN:1560

Sensitivity in Free Space

NormX	1.48 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.51 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.43 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression

DCP X	98 mV
DCP Y	98 mV
DCP Z	98 mV

Sensitivity in Tissue Simulating Liquid

Head **835 MHz Brain** $\epsilon_r = 41.5 \pm 5\%$ $s = 0.90 \pm 5\% \text{ mho/m}$

ConvF X	6.78	Boundary effect:	
ConvF Y	6.78	Alpha	0.30
ConvF Z	6.78	Depth	2.90

Body **835 MHz Muscle** $\epsilon_r = 56.2 \pm 5\%$ $s = 0.95 \pm 5\% \text{ mho/m}$

ConvF X	6.52 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	6.52 $\pm 7\%$ (k=2)	Alpha	0.30
ConvF Z	6.52 $\pm 7\%$ (k=2)	Depth	2.90

Head **1900 MHz Brain** $\epsilon_r = 40.0 \pm 5\%$ $s = 1.40 \pm 5\% \text{ mho/m}$

ConvF X	5.16	Boundary effect:	
ConvF Y	5.16	Alpha	0.48
ConvF Z	5.16	Depth	2.40

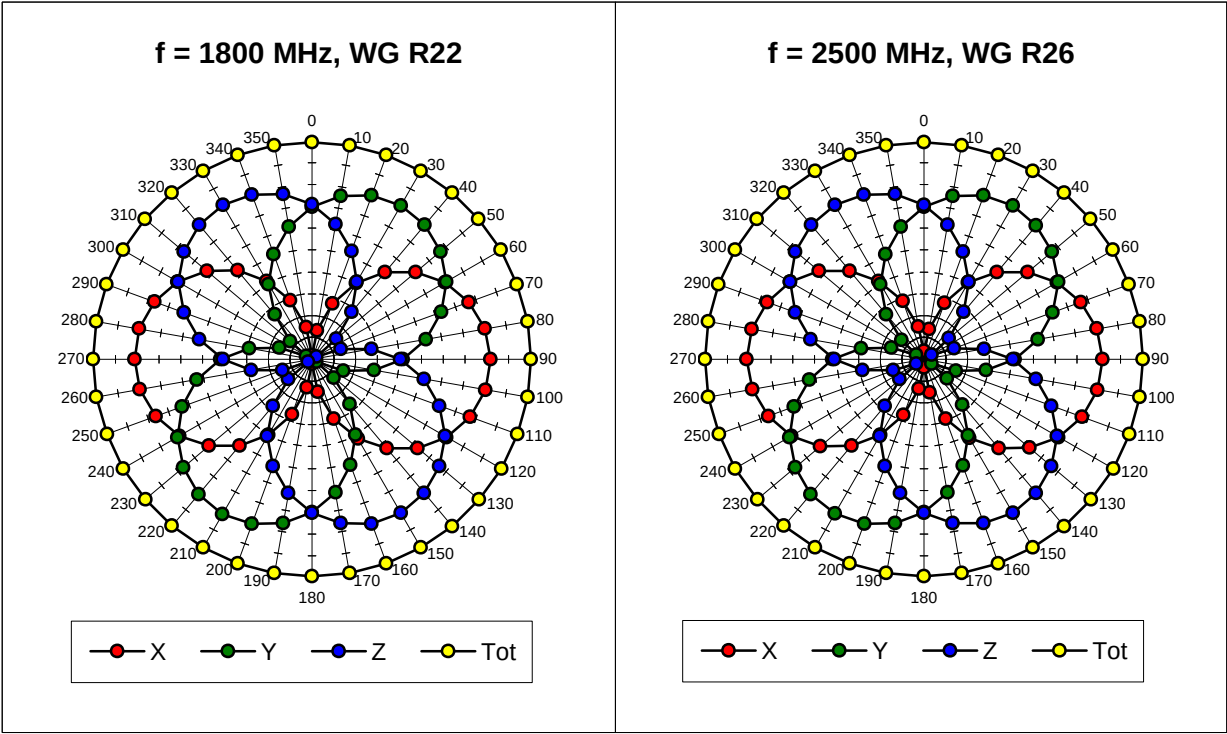
Body **1900 MHz Muscle** $\epsilon_r = 54.2 \pm 5\%$ $s = 1.50 \pm 5\% \text{ mho/m}$

ConvF X	4.70 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	4.70 $\pm 7\%$ (k=2)	Alpha	0.48
ConvF Z	4.70 $\pm 7\%$ (k=2)	Depth	2.40

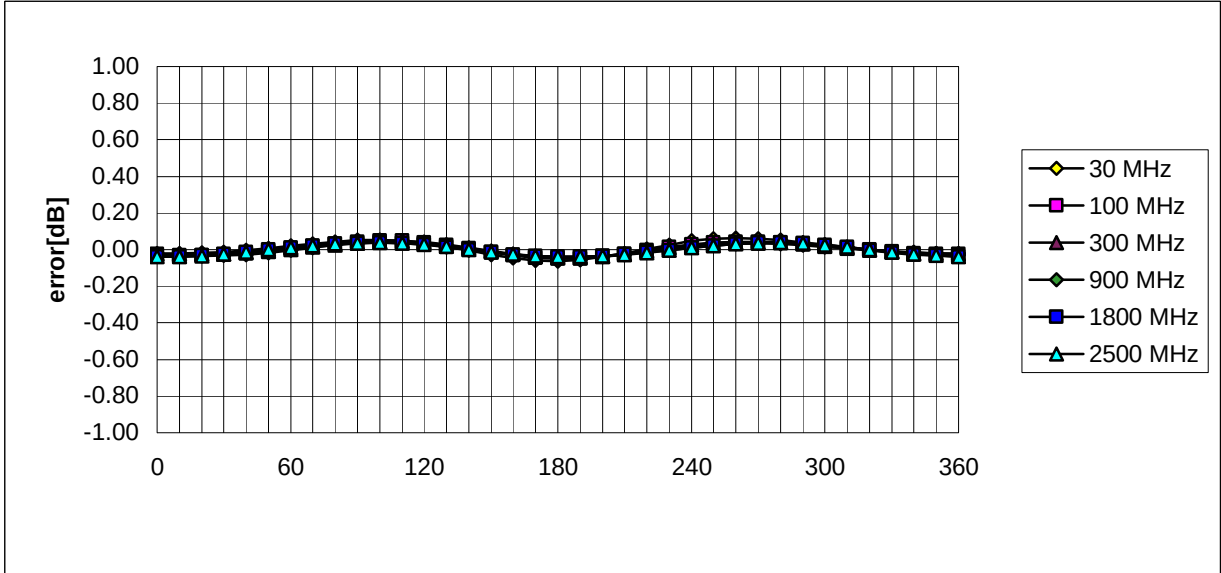
Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	2.0 $\pm$ 0.2	mm

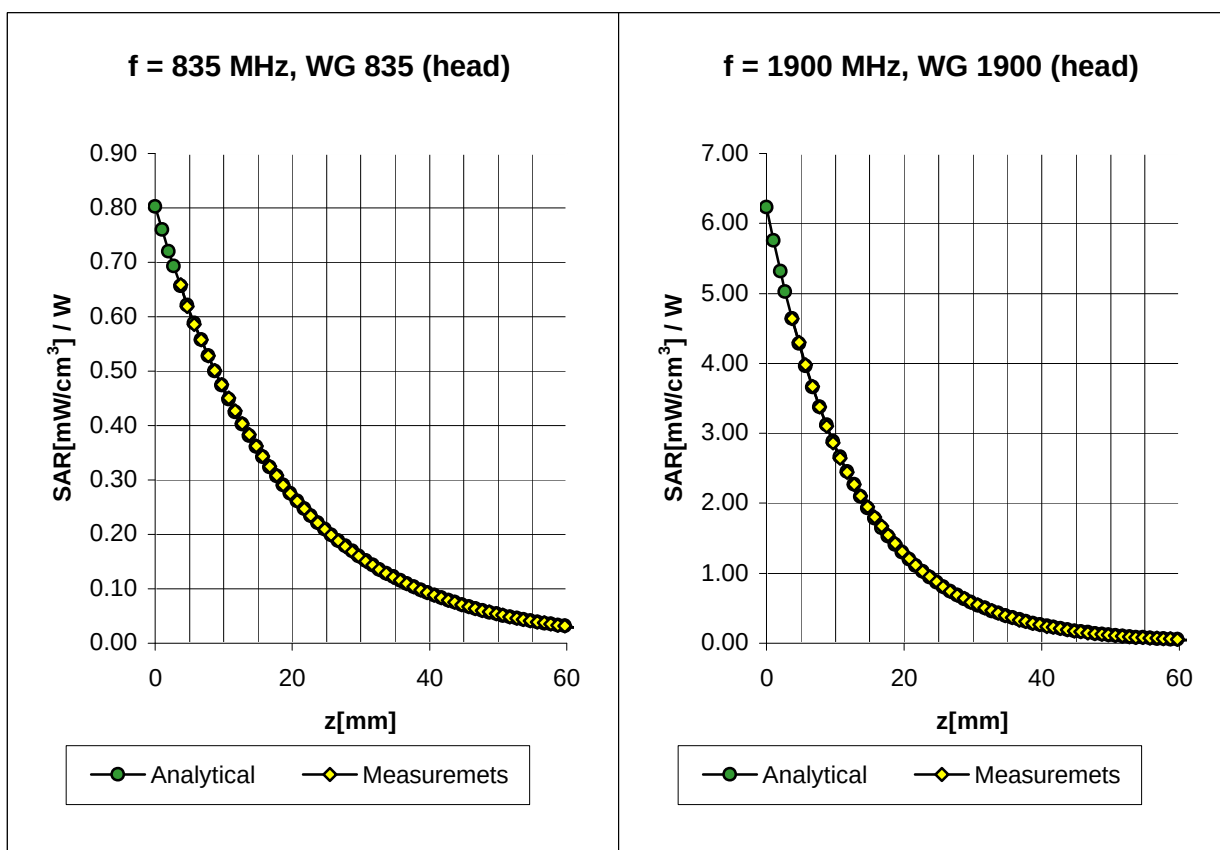
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Isotropy Error (f), q = 0°



Conversion Factor Assessment



Head	835 MHz Brain	$\epsilon_r = 42 \pm 5\%$	$s = 0.90 \pm 5\% \text{ mho/m}$
	ConvF X	6.78 $\pm 7\%$ (k=2)	Boundary effect:
	ConvF Y	6.78 $\pm 7\%$ (k=2)	Alpha 0.30
	ConvF Z	6.78 $\pm 7\%$ (k=2)	Depth 2.90
Head	1900 MHz Brain	$\epsilon_r = 40 \pm 5\%$	$s = 1.40 \pm 5\% \text{ mho/m}$
	ConvF X	5.16 $\pm 7\%$ (k=2)	Boundary effect:
	ConvF Y	5.16 $\pm 7\%$ (k=2)	Alpha 0.48
	ConvF Z	5.16 $\pm 7\%$ (k=2)	Depth 2.40

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Certificate of conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 BA
Series No	TP-1002 and higher
Manufacturer / Origin	Untersee Composites Hauptstr. 69 CH-8559 Fruthwilen Switzerland

Tests

The series production process used allows the limitation to test of first articles.
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

Test	Requirement	Details	Units tested
Shape	Compliance with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness	Compliant with the requirements according to the standards	2mm +/- 0.2mm in specific areas	First article, Samples
Material parameters	Dielectric parameters for required frequencies	200 MHz – 3 GHz Relative permittivity < 5 Loss tangent < 0.05.	Material sample TP 104-5
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards	Liquid type HSL 1800 and others according to the standard.	Pre-series, First article

Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9
- (*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

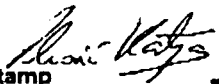
Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date

18.11.2001

Signature / Stamp



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