Date/Time: 10/19/04 23:54:38

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH512_20041020_Earphone_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium: Body 1900MHz Medium parameters used (interpolated): f = 1850.2 MHz; s = 1.5 mho/m; e_r = 53.1;
Conductivity=kg/m^3 ;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

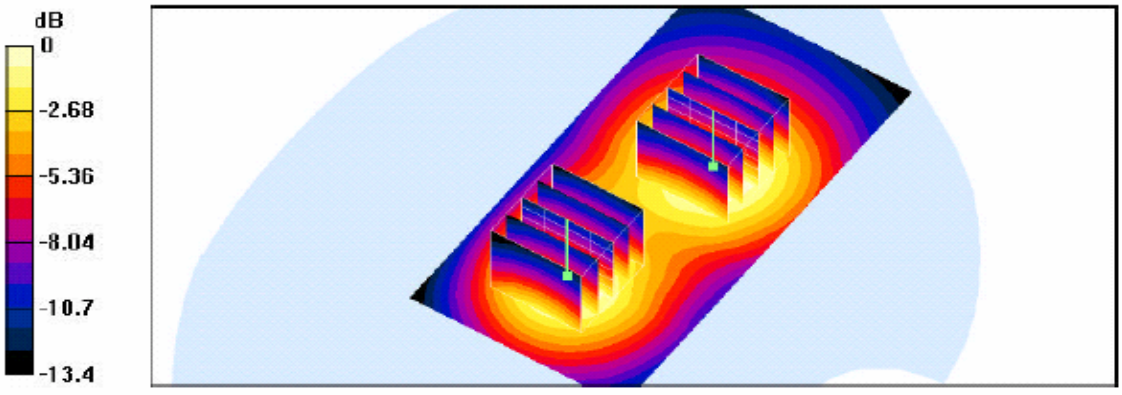
Maximum value of SAR (interpolated) = 0.272 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.1 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.146 mW/g

Maximum value of SAR (measured) = 0.254 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.1 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.327 W/kg
SAR(1 g) = 0.227 mW/g; SAR(10 g) = 0.148 mW/g

Maximum value of SAR (measured) = 0.245 mW/g



0 dB = 0.245mW/g

Body-SAR Test Result for Flat Position – Channel 512

Date/Time: 10/20/04 00:17:51

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH661_20041020_Earphone_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: Body 1900MHz Medium parameters used: f = 1880 MHz; s = 1.52 mho/m; e_r = 53;
Conductivity=1000kg/m3;;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

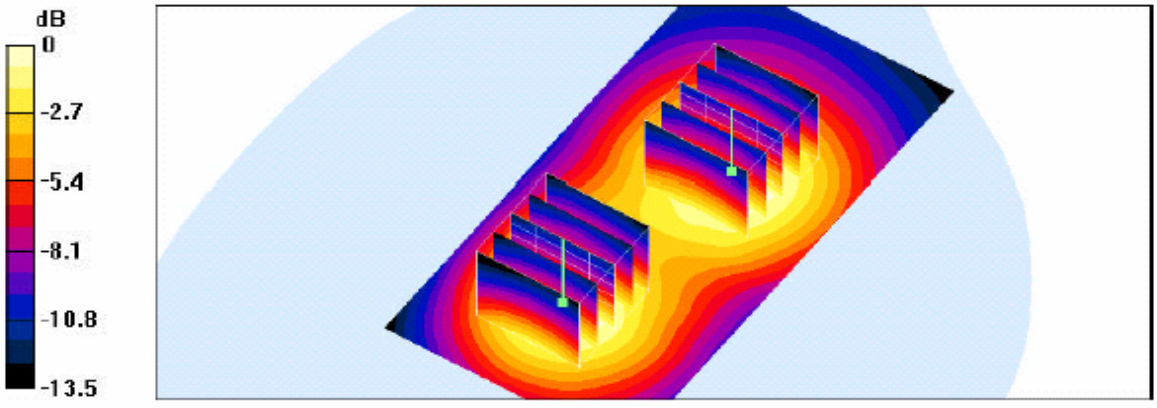
Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.252 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.8 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.342 W/kg
SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.237 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.8 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.139 mW/g

Maximum value of SAR (measured) = 0.233 mW/g



0 dB = 0.233mW/g

Body-SAR Test Result for Flat Position – Channel 661

Date/Time: 10/20/04 00:41:16

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH810_20041020_Earphone_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: Body 1900MHz Medium parameters used (interpolated): f = 1909.8 MHz; s = 1.56 mho/m; e_r = 53.1;
Conductivity=1000 kg/m^3 ;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

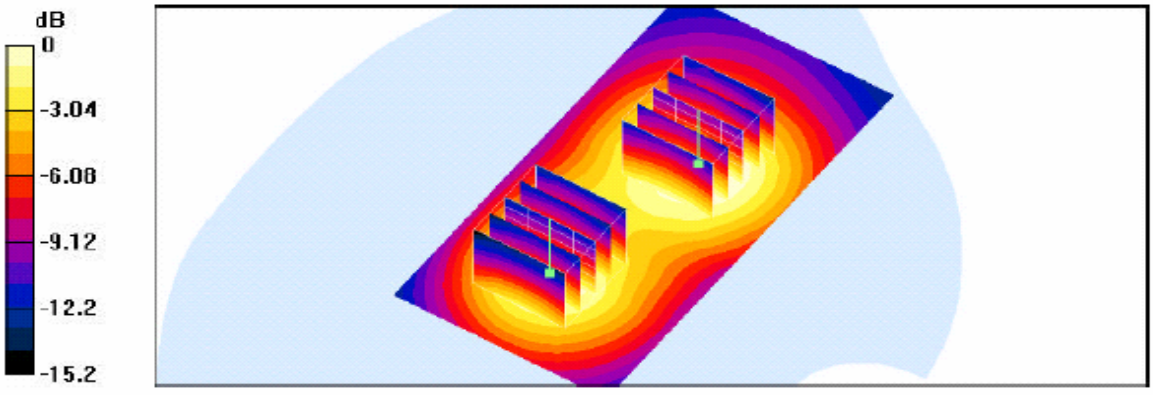
Maximum value of SAR (interpolated) = 0.217 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.299 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.215 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.288 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.112 mW/g

Maximum value of SAR (measured) = 0.197 mW/g



0 dB = 0.197mW/g

Body-SAR Test Result for Flat Position – Channel 810

Date/Time: 10/20/04 01:07:00

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH512_20041020_Earphone_GPRS_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: PCS 1900 GPRS(2Down,2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium: Body 1900MHz Medium parameters used (interpolated): f = 1850.2 MHz; s = 1.5 mho/m; e_r = 53.1;
Conductivity=1000kg/m^3 ;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

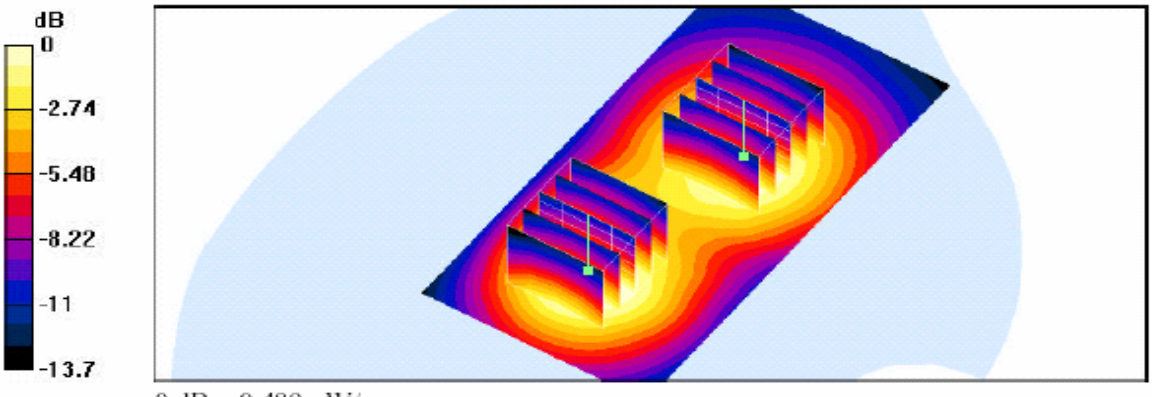
Maximum value of SAR (interpolated) = 0.644 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.1 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.907 W/kg
SAR(1 g) = 0.569 mW/g; SAR(10 g) = 0.340 mW/g

Maximum value of SAR (measured) = 0.618 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.1 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.665 W/kg
SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.294 mW/g

Maximum value of SAR (measured) = 0.489 mW/g



0 dB = 0.489mW/g

Body-GPRS SAR Test Result for Flat Position – Channel 512

Date/Time: 10/20/04 01:36:29

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH661_20041020_Earphone_GPRS_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: PCS 1900 GPRS(2Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium: Body 1900MHz Medium parameters used: f = 1880 MHz; s = 1.52 mho/m; e_r = 53;
Conductivity=1000kg/m3;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

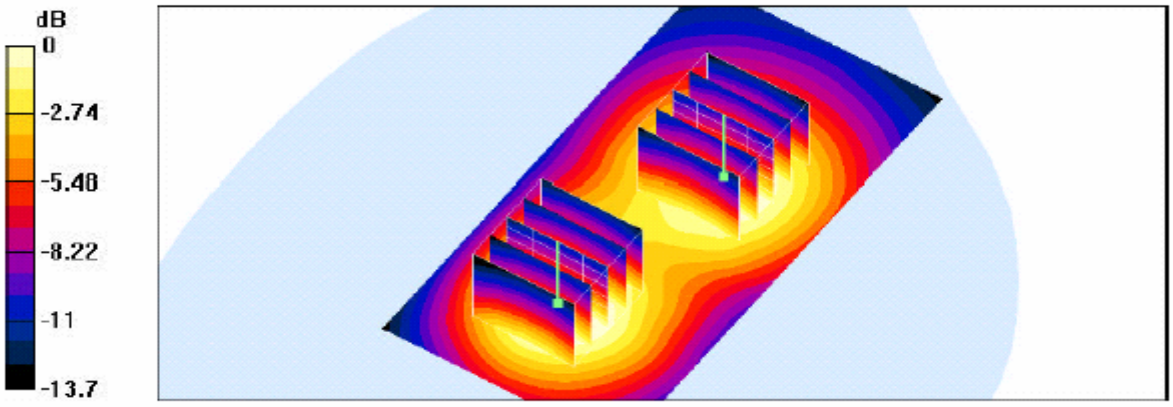
Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.578 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.802 W/kg
SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.309 mW/g

Maximum value of SAR (measured) = 0.550 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.278 mW/g

Maximum value of SAR (measured) = 0.443 mW/g



0 dB = 0.443mW/g

Body-GPRS SAR Test Result for Flat Position – Channel 661

Date/Time: 10/20/04 01:58:21

Test Laboratory: A Test Lab Techno Corp.

04-0517-S_Philips 568_Flat_PCS CH810_20041020_Earphone_GPRS_

DUT: Philips 568; Type: GSM Three Band Mobile Phone; Serial: 354054000000488

Communication System: PCS 1900 GPRS(2Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4.2
Medium: Body 1900MHz Medium parameters used (interpolated): f = 1909.8 MHz; s = 1.56 mho/m; e_r = 53.1;
Conductivity=1000 kg/m^3 ;Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1530; ConvF(4.43, 4.43, 4.43); Calibrated: 9/1/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 1/8/2004
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Flat/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

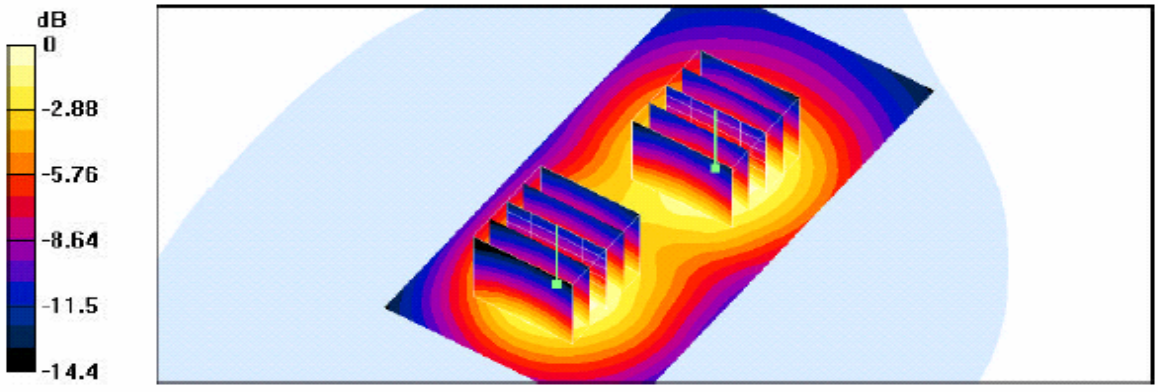
Maximum value of SAR (interpolated) = 0.507 mW/g

Flat/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 37.3 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.726 W/kg
SAR(1 g) = 0.444 mW/g; SAR(10 g) = 0.268 mW/g

Maximum value of SAR (measured) = 0.480 mW/g

Flat/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 37.3 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.631 W/kg
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.266 mW/g

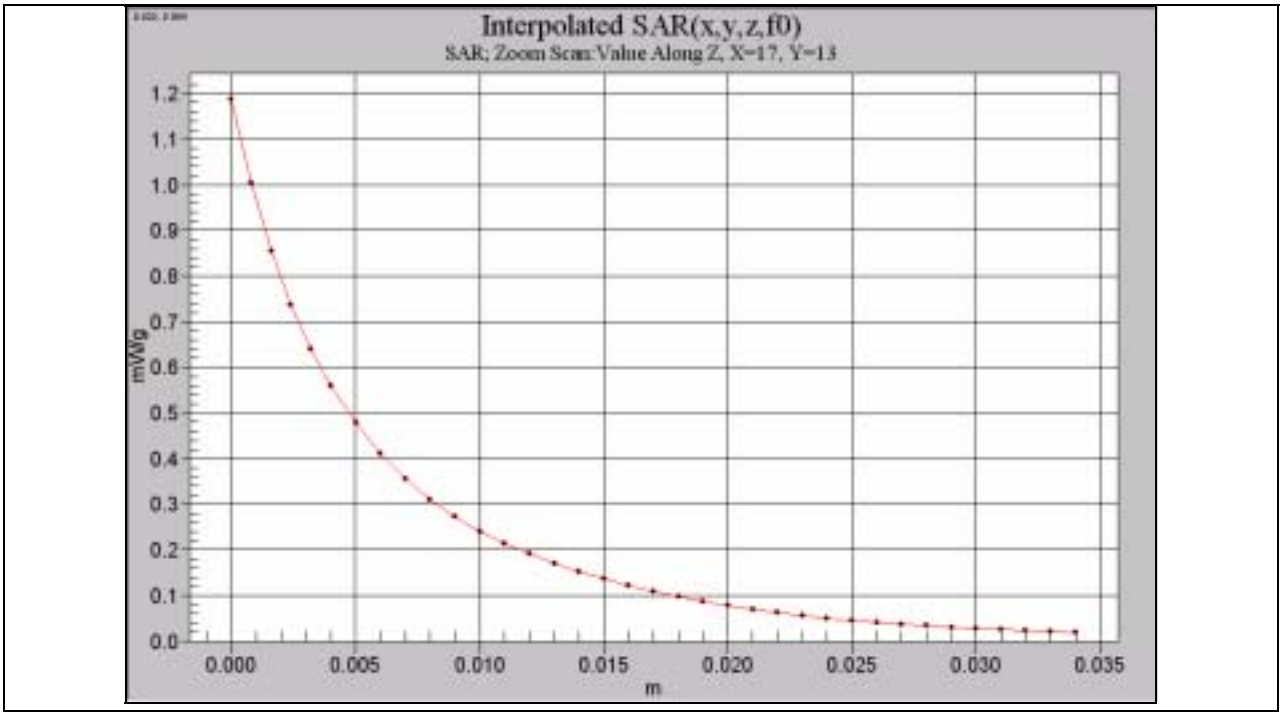
Maximum value of SAR (measured) = 0.447 mW/g



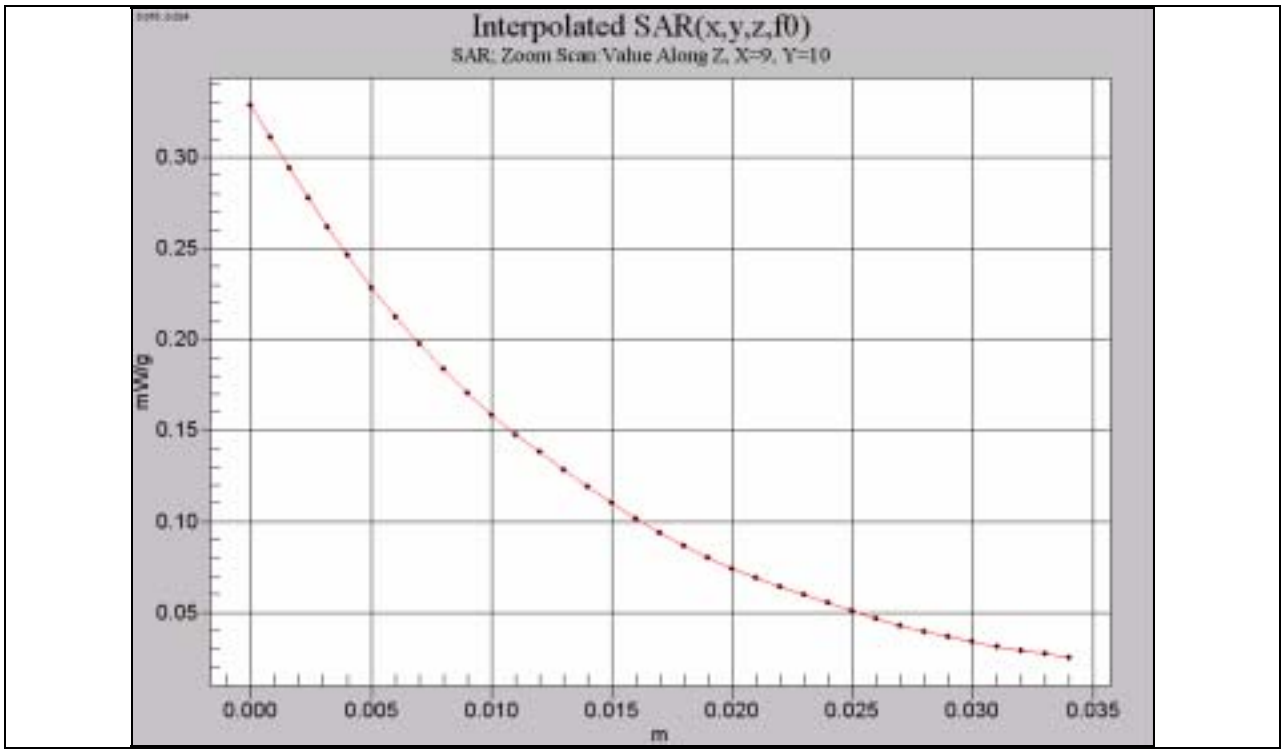
0 dB = 0.447mW/g

Body-GPRS SAR Test Result for Flat Position – Channel 810

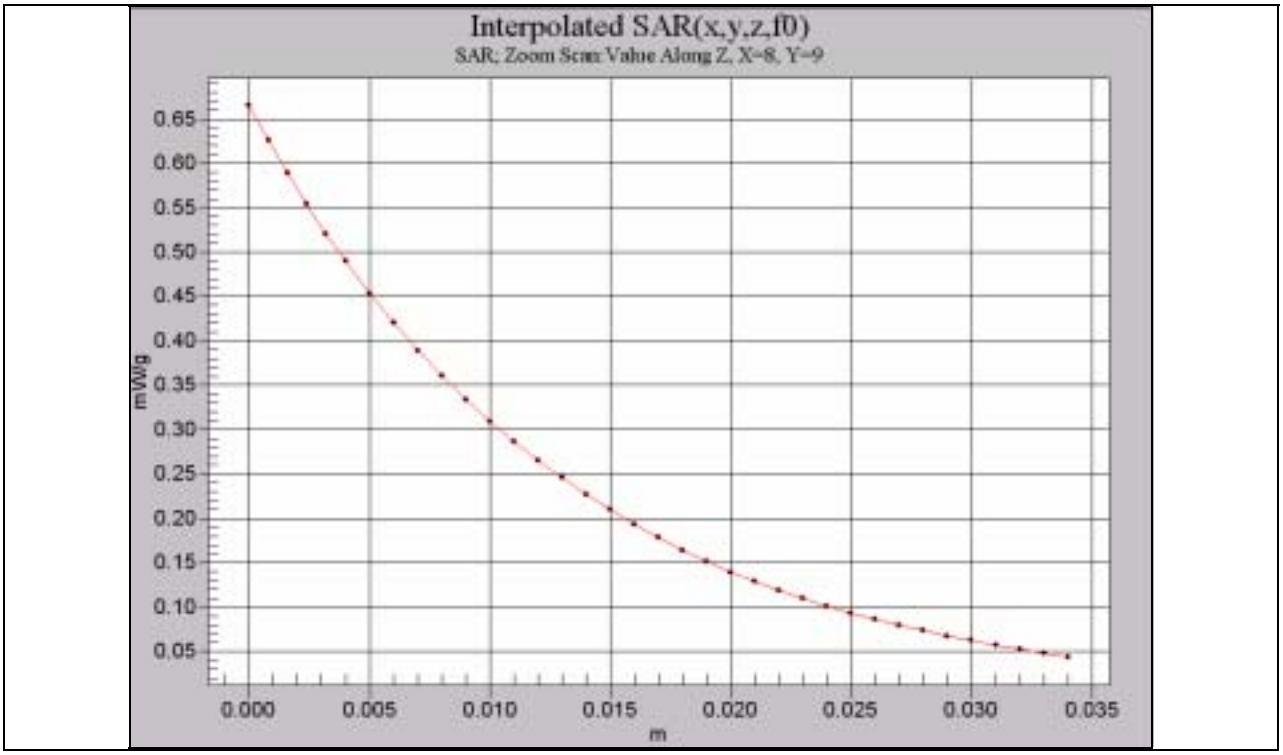
Z-axis Plot for Maximum SAR



Head-SAR Test Result for Right Cheek Position – Channel 661



Body-SAR Test Result for Flat Position – Channel 512



Body-GPRS SAR Test Result for Flat Position – Channel 512

Appendix C – Dipole Calibration

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client Auden

CALIBRATION CERTIFICATE

Object(s)	D900V2 - SN:172
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits
Calibration date:	January 13, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: January 19, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

合格
93.1.13
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專用章

880-KP0301061-A

Page 1 (1)

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Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

DASY

Dipole Validation Kit

Type: D900V2

Serial: 172

Manufactured: September 23, 2002
Calibrated: January 13, 2004

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 900 MHz:

Relative Dielectricity	**40.3**	± 5%
Conductivity	**0.94 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.6 at 900 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**10.3 mW/g** ± 16.8 % (k=2)[1]
averaged over 10 cm^3 (10 g) of tissue:	**6.68 mW/g** ± 16.2 % (k=2)[1]

[1] validation uncertainty

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.399 ns**	(one direction)
Transmission factor:	**0.987**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 900 MHz:	Re{Z} = **51.0 Ω**
	Im {Z} = **-4.3 Ω**
Return Loss at 900 MHz	**-27.1 dB**

4. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **body simulating solution** of the following electrical parameters at 900 MHz:

Relative Dielectricity	**54.4**	± 5%
Conductivity	**1.04 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.3 at 900 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250mW ± 3 %. The results are normalized to 1W input power.

5. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 4. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**10.8 mW/g** ± 16.8 % $(k=2)^2$
averaged over 10 cm^3 (10 g) of tissue:	**7.00 mW/g** ± 16.2 % $(k=2)^2$

6. Dipole Impedance and Return Loss

The dipole was positioned at the flat phantom sections according to section 4 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 900 MHz:	Re{Z} = **46.1 Ω**
	Im {Z} = **-6.4 Ω**
Return Loss at 900 MHz	**-22.2 dB**

7. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

8. Design

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

9. Power Test

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

[2] validation uncertainty

Date/Time: 01/13/04 15:34:21

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN172

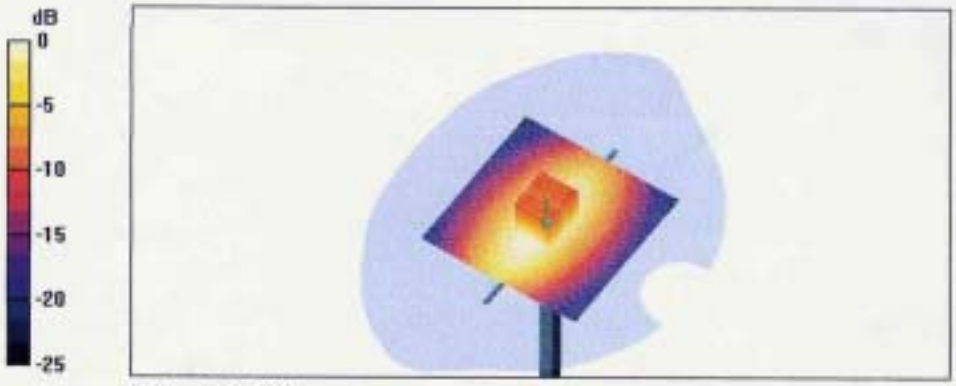
Communication System: CW-900; Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.94 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

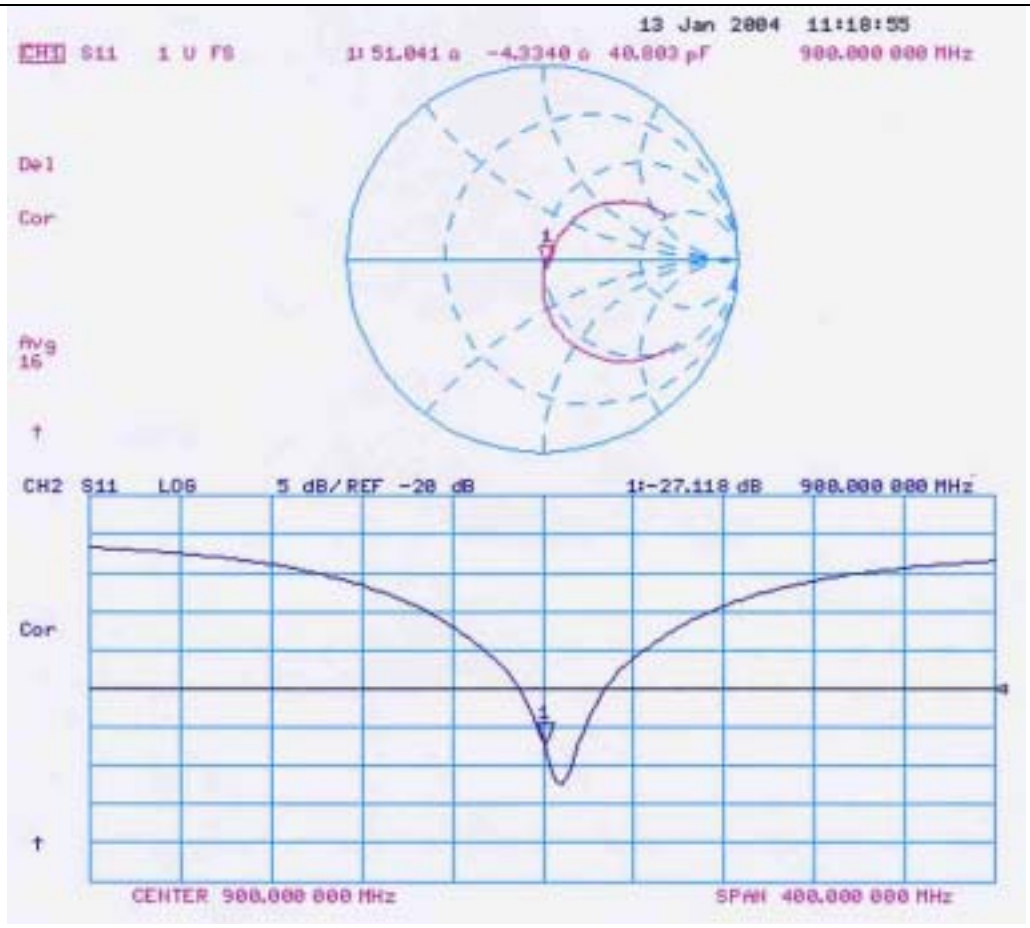
- Probe: ET3DV6 - SN1507; ConvF(6.6, 6.6, 6.6); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 56.5 V/m
Power Drift = 0.002 dB
Maximum value of SAR = 2.8 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 3.86 W/kg
SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.67 mW/g
Reference Value = 56.5 V/m
Power Drift = 0.002 dB
Maximum value of SAR = 2.79 mW/g



0 dB = 2.79mW/g


13 Jan 2004 11:18:55
CH1 S11 1 U FS
1: 51.041 Ω -4.3340 Ω 40.803 pF
900.000 000 MHz
Del
Cor
Avg
16
CH2 S11 LOG 5 dB/ REF -20 dB
1:-27.118 dB 900.000 000 MHz
Cor
CENTER 900.000 000 MHz
SPAN 400.000 000 MHz

Date/Time: 01/12/04 15:05:23

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN172

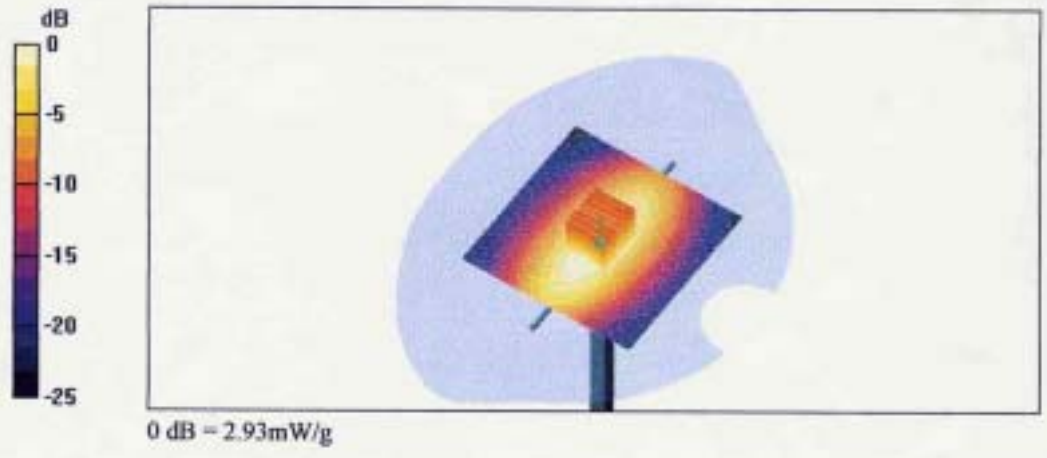
Communication System: CW-900; Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 1.04 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

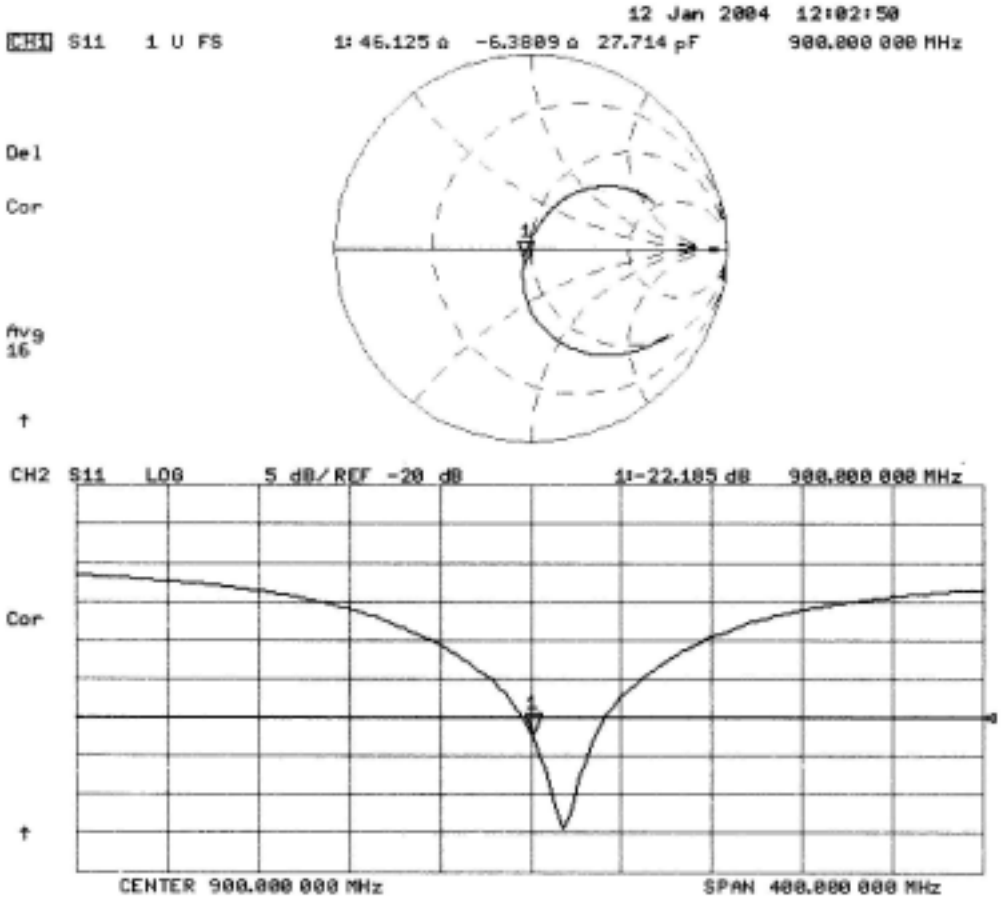
DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.3, 6.3, 6.3); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 55 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 2.89 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 4.01 W/kg
SAR(1 g) = 2.7 mW/g; SAR(10 g) = 1.75 mW/g
Reference Value = 55 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 2.93 mW/g




12 Jan 2004 12:02:50
CH1 S11 1 U FS
1: 46.125 Ω -6.3809 Ω 27.714 pF
900.000 000 MHz
Del
Cor
Avg
16
CH2 S11 LOG 5 dB/ REF -20 dB
1: -22.185 dB 900.000 000 MHz
Cor
CENTER 900.000 000 MHz
SPAN 400.000 000 MHz

AEL 031

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client **Auden**

CALIBRATION CERTIFICATE

Object(s)	D1800V2 - SN:2d057
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits
Calibration date:	February 9, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: February 18, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

合格
93.2.09
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880-KP030106-A

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Zeughausstrasse 43, 8004 Zurich, Switzerland
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DASY

Dipole Validation Kit

Type: D1800V2

Serial: 2d057

Manufactured: Octobre 16, 2002
Calibrated: February 9, 2004

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 1800 MHz:

Relative Dielectricity	**39.2**	± 5%
Conductivity	**1.37 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 5.08 at 1800 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**39.6 mW/g** ± 16.8 % (k=2)[1]
averaged over 10 cm^3 (10 g) of tissue:	**21.1 mW/g** ± 16.2 % (k=2)[1]

[1] validation uncertainty

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.201 ns**	(one direction)
Transmission factor:	**0.997**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 1800 MHz:	Re{Z} = **48.9 Ω**
	Im {Z} = **-5.0 Ω**
Return Loss at 1800 MHz	**-25.8 dB**

4. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **body simulating solution** of the following electrical parameters at 1800 MHz:

Relative Dielectricity	**53.0**	± 5%
Conductivity	**1.49 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 4.61 at 1800 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250 mW ± 3 %. The results are normalized to 1W input power.

5. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 4. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**39.8 mW/g** ± 16.8 % (k=2)[2]
averaged over 10 cm^3 (10 g) of tissue:	**21.6 mW/g** ± 16.2 % (k=2)[2]

6. Dipole Impedance and Return Loss

The dipole was positioned at the flat phantom sections according to section 4 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 1800 MHz:	Re{Z} = **44.8 Ω**
	Im {Z} = **-3.9 Ω**
Return Loss at 1800 MHz	**-23.2 dB**

7. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

8. Design

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

9. Power Test

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

[2] validation uncertainty

Date/Time: 02/05/04 14:15:32

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN2d057

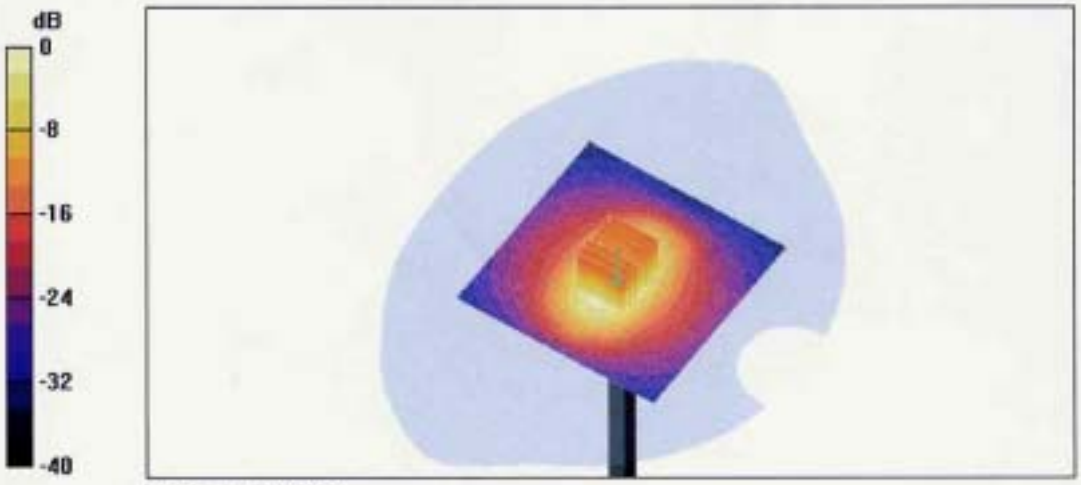
Communication System: CW-1800; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: HSL 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

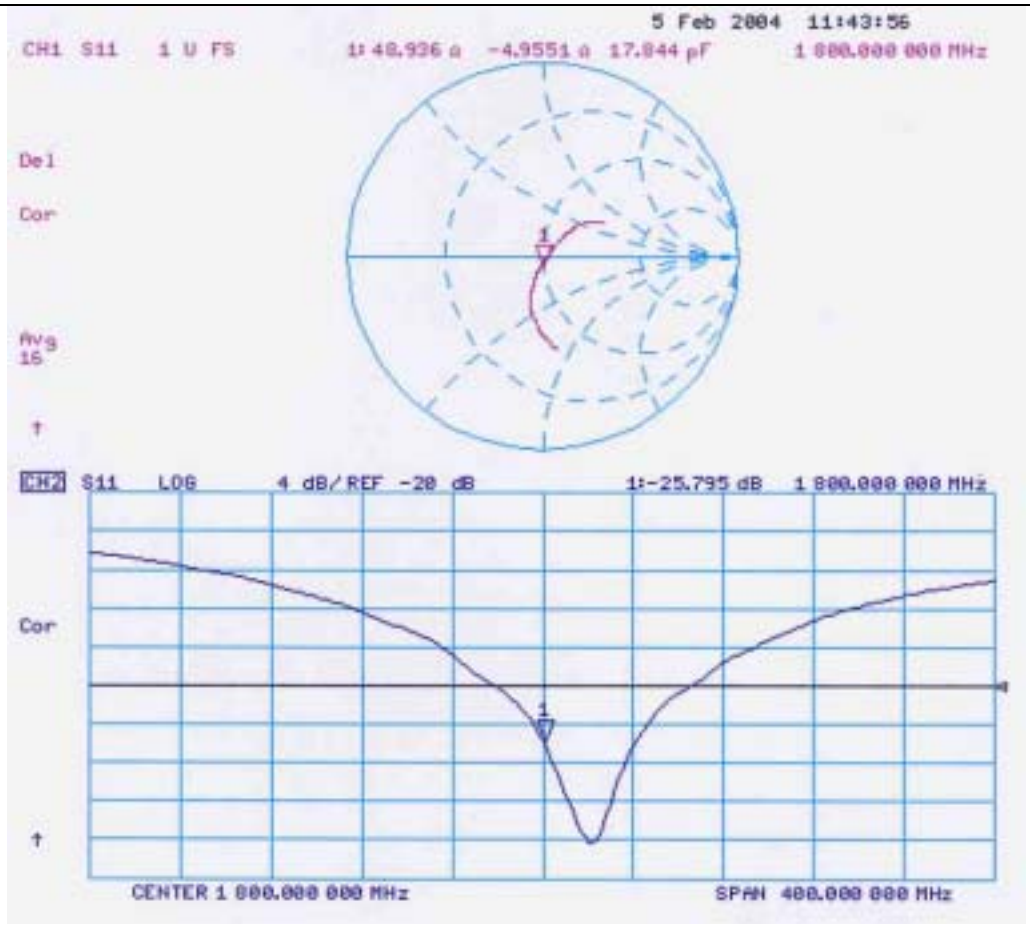
- Probe: ET3DV6 - SN1507; ConvF(5.08, 5.08, 5.08); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 25; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 93.5 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 11.2 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.9 mW/g; SAR(10 g) = 5.27 mW/g
Reference Value = 93.5 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 11.2 mW/g



0 dB = 11.2mW/g


5 Feb 2004 11:43:55
CH1 S11 1 U FS
1: 48.936 Ω -4.9551 Ω 17.844 pF
1 800.000 000 MHz
Del
Cor
Avg
15
CH2 S11 LOG 4 dB/ REF -20 dB
1:-25.795 dB 1 800.000 000 MHz
Cor
CENTER 1 800.000 000 MHz
SPAN 400.000 000 MHz

Date/Time: 02/09/04 13:04:47

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN2d057

Communication System: CW-1800; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: Muscle 1800 MHz;
Medium parameters used: f = 1800 MHz; σ = 1.49 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

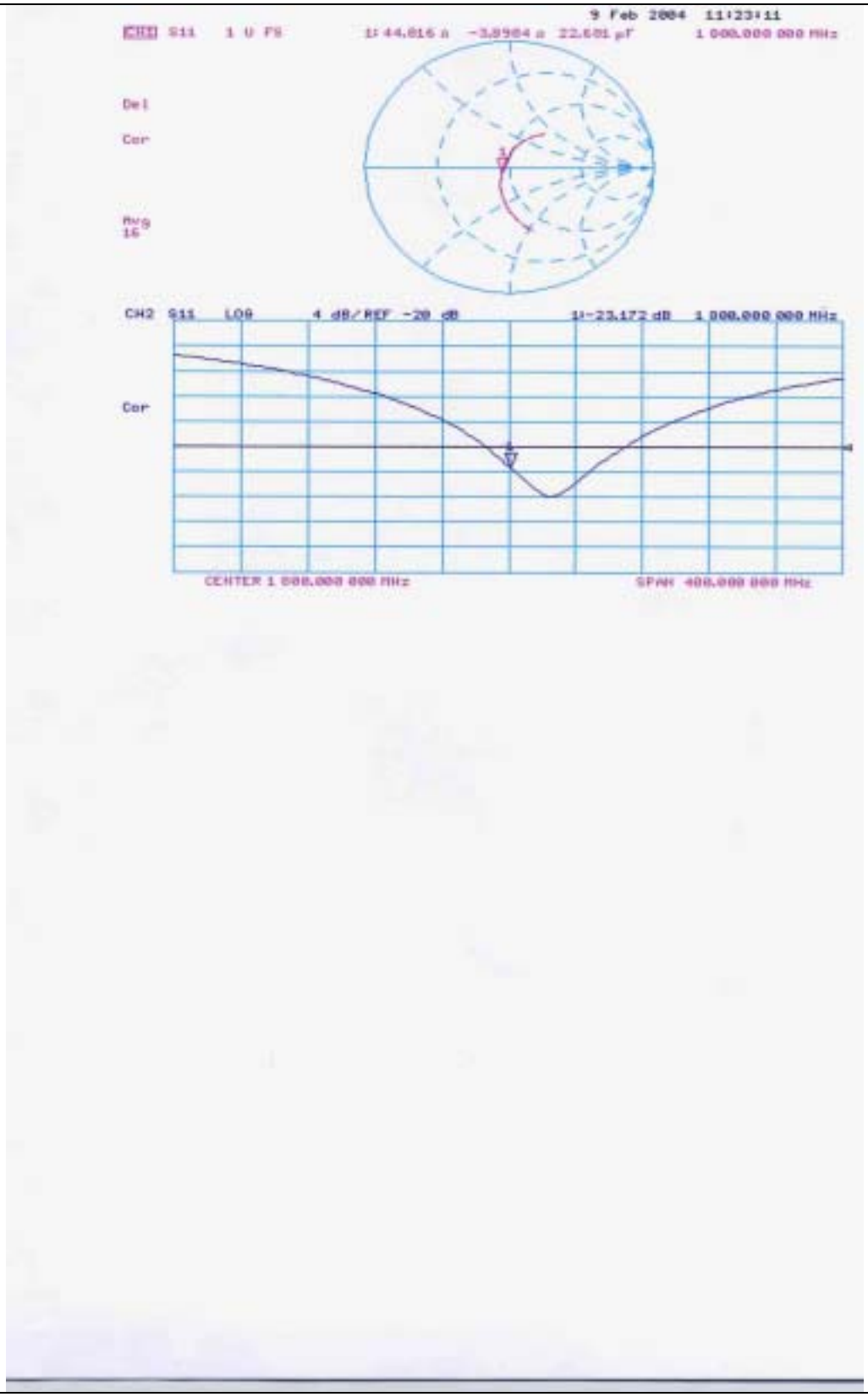
DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.61, 4.61, 4.61); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 25; Postprocessing SW: SEMCAD, V1.8 Build 101

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 93.4 V/m; Power Drift = -0.002 dB
Maximum value of SAR (interpolated) = 11.2 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.4 V/m; Power Drift = -0.002 dB
Maximum value of SAR (measured) = 11.2 mW/g
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.95 mW/g; SAR(10 g) = 5.39 mW/g

0 dB = 11.2mW/g



Appendix D – Probe Calibration

AEL-07

Schmid & Partner Engineering AG

s p e a g

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IMPORTANT NOTICE

USAGE OF PROBES IN ORGANIC SOLVENTS

Diethylene Gycol Monobuthy Ether (the basis for liquids above 1 GHz), as many other organic solvents, is a very effective softener for synthetic materials. These solvents can cause irreparable damage to certain SPEAG products, except those which are explicitly declared as compliant with organic solvents.

Compatible Probes:
- ET3DV6
- ET3DV6R
- ES3DV2
- ER3DV6
- H3DV6

Important Note for ET3DV6 Probes:
The ET3DV6 probes shall not be exposed to solvents longer than necessary for the measurements and shall be cleaned daily after use with warm water and stored dry.

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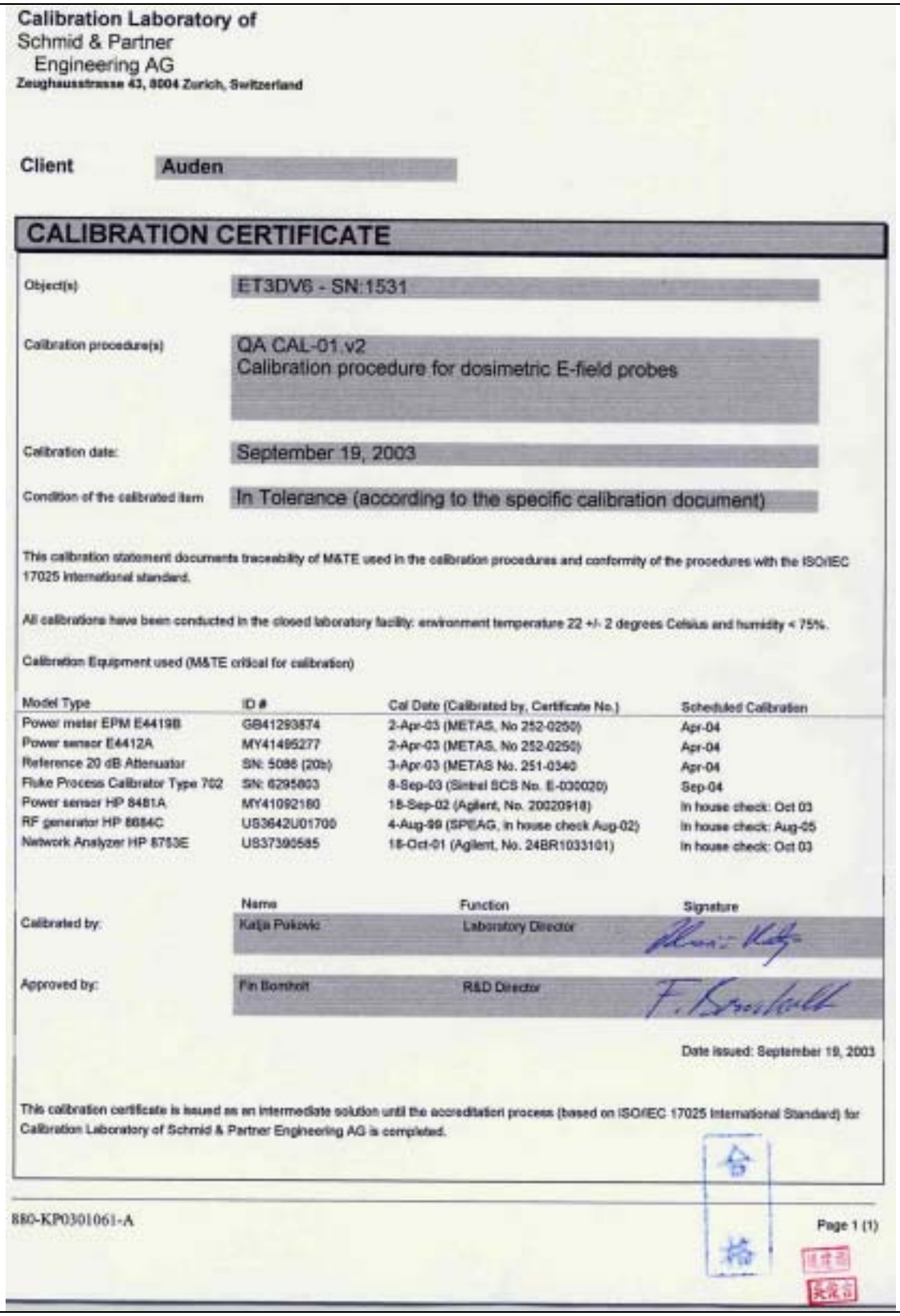
合格

Technical Note 01.06.15-1 June 2002



Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client Auden

CALIBRATION CERTIFICATE

Object(s)	ET3DV6 - SN:1531
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	September 19, 2003
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E4419B	GB41293874	2-Apr-03 (METAS, No 252-0250)	Apr-04
Power sensor E4412A	MY41495277	2-Apr-03 (METAS, No 252-0250)	Apr-04
Reference 20 dB Attenuator	SN: 5086 (20b)	3-Apr-03 (METAS No. 251-0340	Apr-04
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04
Power sensor HP 8481A	MY41092180	18-Sep-02 (Agilent, No. 20020918)	In house check: Oct 03
RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug-02)	In house check: Aug-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (Agilent, No. 24BR1033101)	In house check: Oct 03

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Laboratory Director	
Approved by:	Fin Bomholt	R&D Director	

Date issued: September 19, 2003

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

880-KP0301061-A

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info@speag.com, http://www.speag.com

Probe ET3DV6

SN:1531

Manufactured:	July 15, 2000
Last calibration:	August 27, 2002
Recalibrated:	September 19, 2003

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

ET3DV6 SN:1531 **September 19, 2003**

DASY - Parameters of Probe: ET3DV6 SN:1531

Sensitivity in Free Space

Diode Compression

NormX	**1.45** $\mu V/(V/m)^2$	DCP X	**95**	mV
NormY	**1.48** $\mu V/(V/m)^2$	DCP Y	**95**	mV
NormZ	**1.51** $\mu V/(V/m)^2$	DCP Z	**95**	mV

Sensitivity in Tissue Simulating Liquid

Head 900 MHz ε_r = 41.5 ± 5% σ = 0.97 ± 5% mho/m

Valid for f=855-945 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	**6.3** ± 9.5% (k=2)	Boundary effect:	
ConvF Y	**6.3** ± 9.5% (k=2)	Alpha	**0.29**
ConvF Z	**6.3** ± 9.5% (k=2)	Depth	**3.64**

Head 1800 MHz ε_r = 40.0 ± 5% σ = 1.40 ± 5% mho/m

Valid for f=1710-1890 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	**5.3** ± 9.5% (k=2)	Boundary effect:	
ConvF Y	**5.3** ± 9.5% (k=2)	Alpha	**0.52**
ConvF Z	**5.3** ± 9.5% (k=2)	Depth	**2.58**

Boundary Effect

Head 900 MHz **Typical SAR gradient: 5 % per mm**

Probe Tip to Boundary		1 mm	2 mm
SAR_{be} [%]	Without Correction Algorithm	12.5	7.8
SAR_{be} [%]	With Correction Algorithm	0.8	0.8

Head 1800 MHz **Typical SAR gradient: 10 % per mm**

Probe Tip to Boundary		1 mm	2 mm
SAR_{be} [%]	Without Correction Algorithm	13.9	9.2
SAR_{be} [%]	With Correction Algorithm	0.1	0.0

Sensor Offset

Probe Tip to Sensor Center	**2.7**	mm
Optical Surface Detection	**1.4 ± 0.2**	mm

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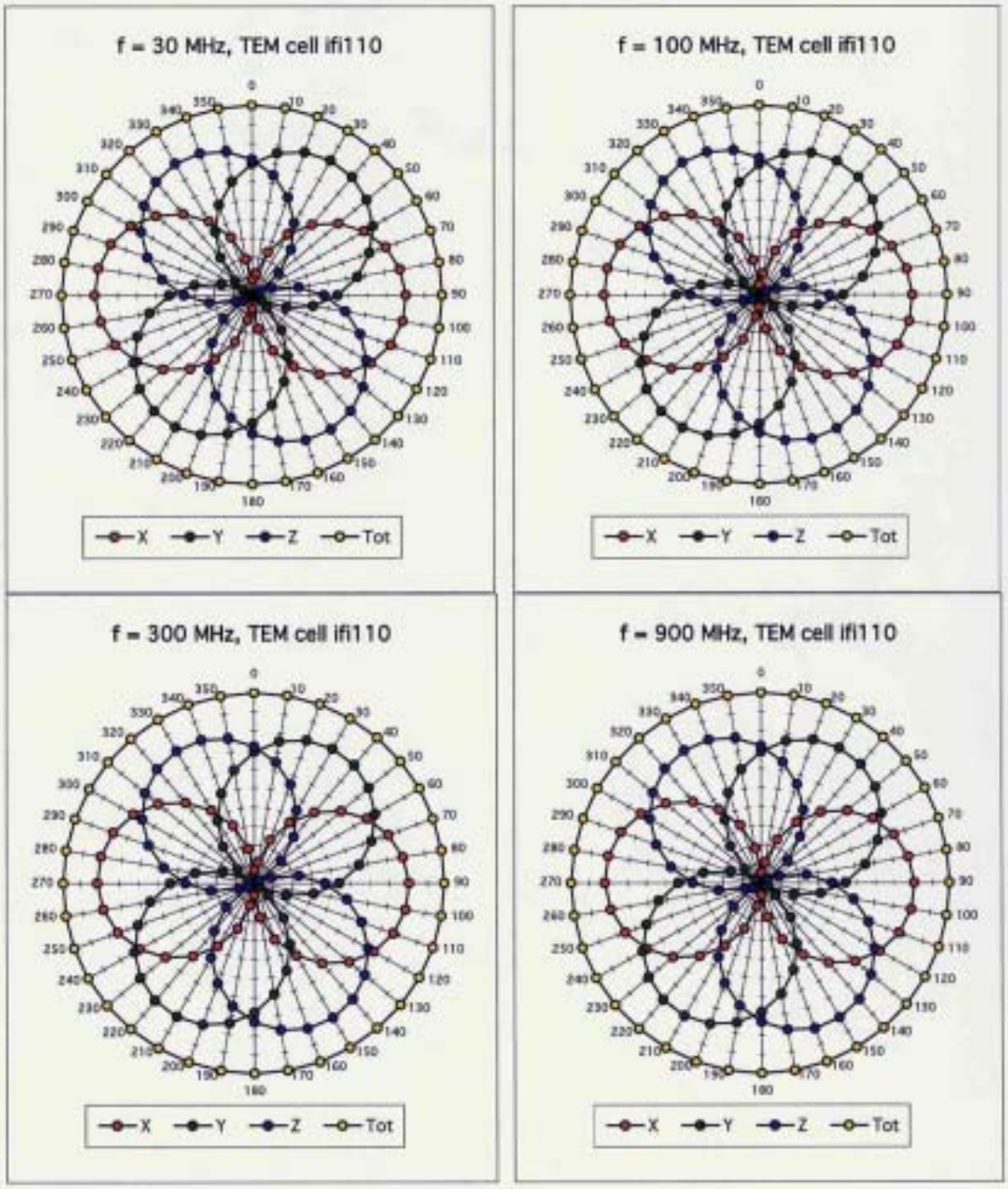
ET3DV6 SN:1531 September 19, 2003

Receiving Pattern (ϕ), θ = 0°



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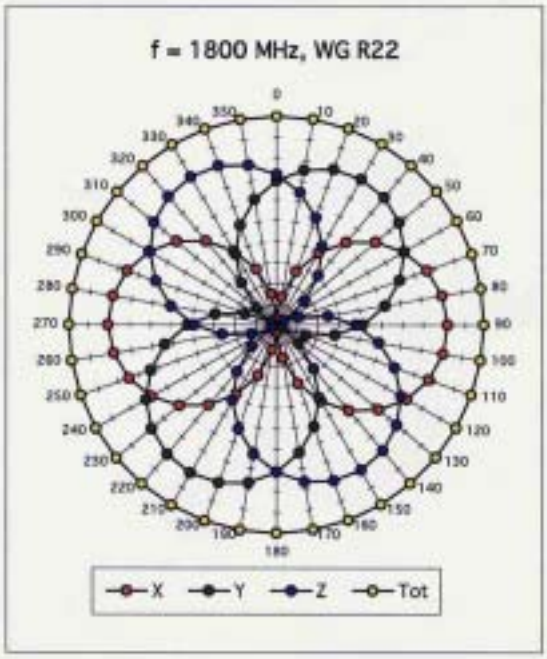
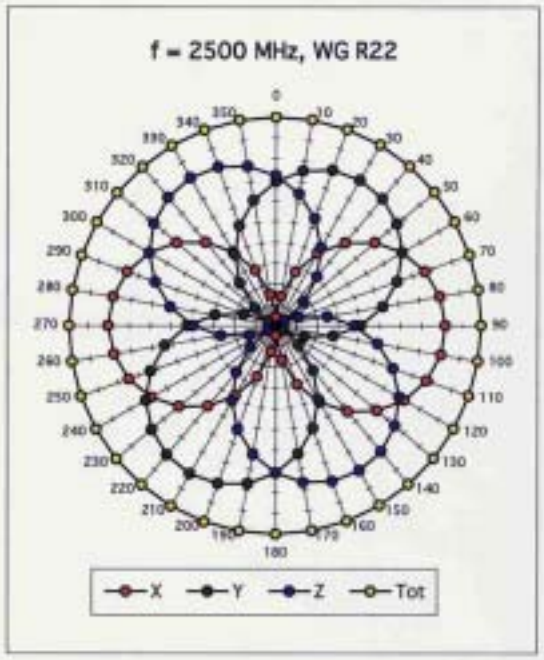
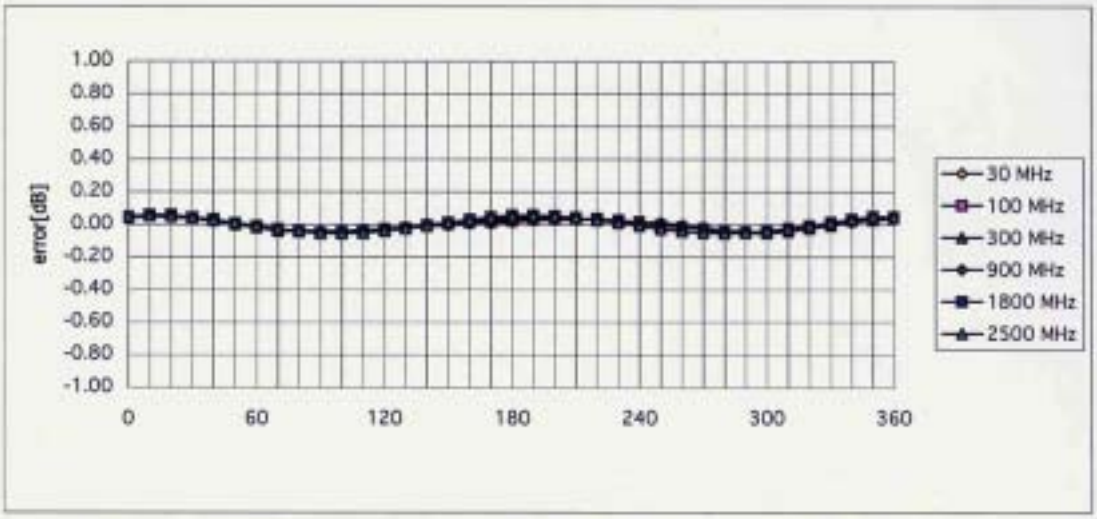
ET3DV6 SN:1531 September 19, 2003





Isotropy Error (ϕ), θ = 0°



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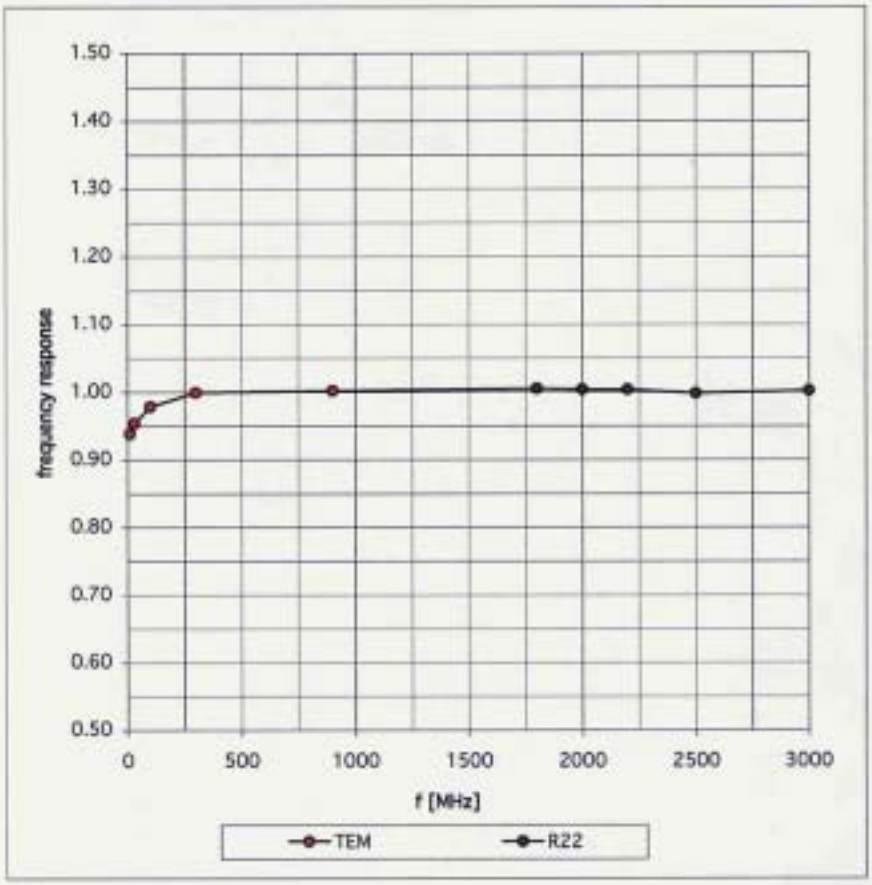
ET3DV6 SN:1531 September 19, 2003

Frequency Response of E-Field

(TEM-Cell:ifi110, Waveguide R22)



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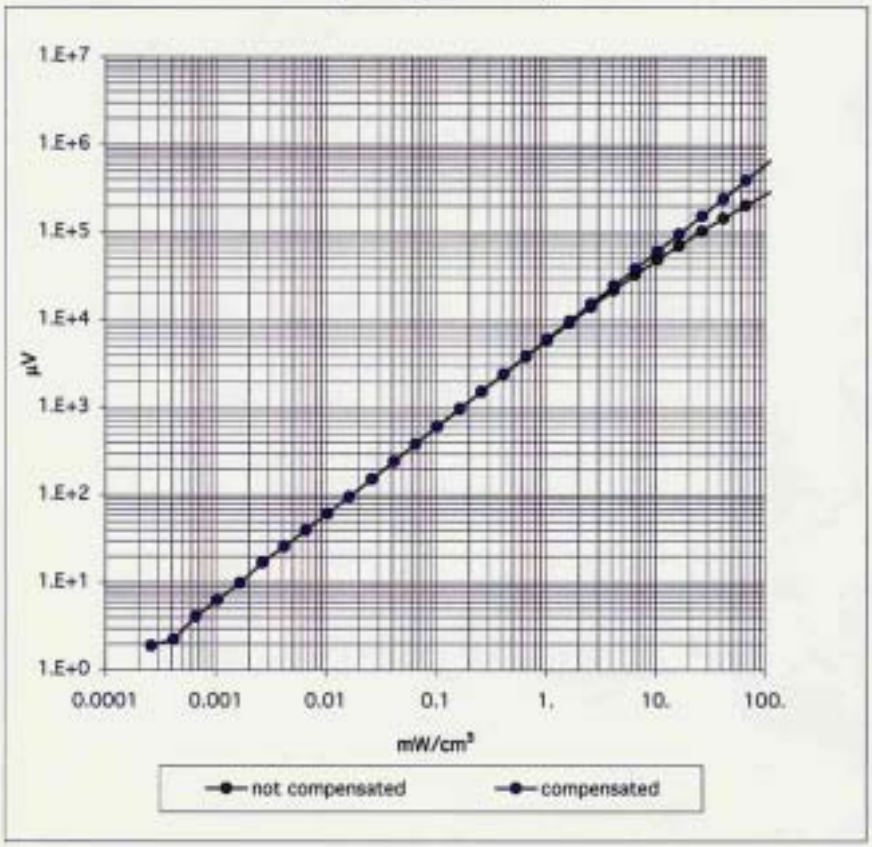
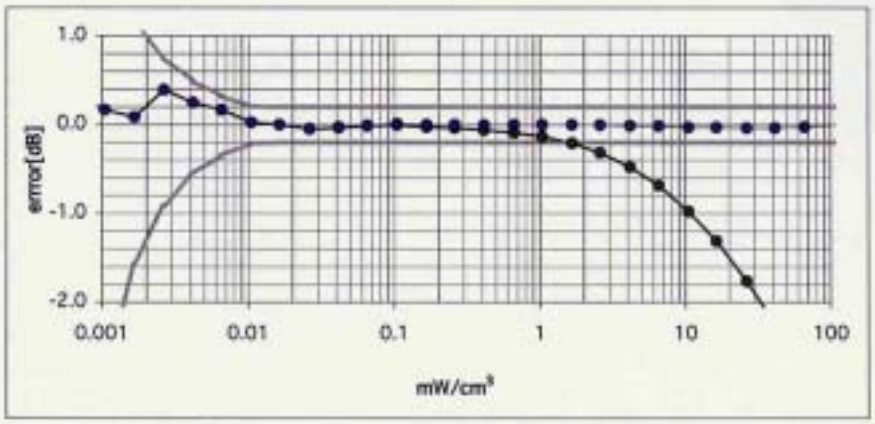
ET3DV6 SN:1531 September 19, 2003

Dynamic Range f(SARhead)

(Waveguide R22)





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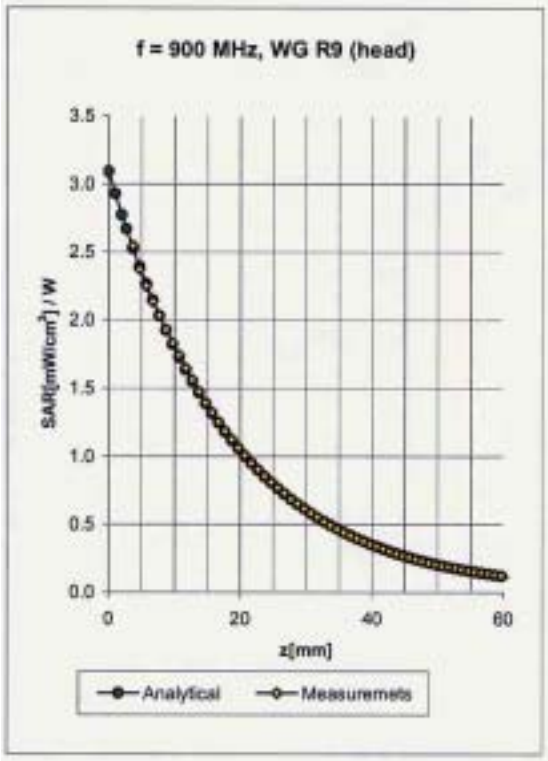
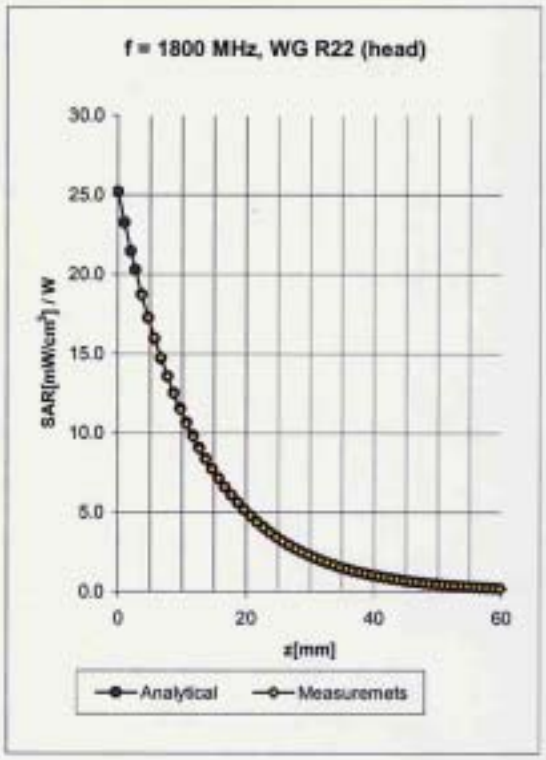
ET3DV6 SN:1531 **September 19, 2003**

Conversion Factor Assessment





Head 900 MHz ε_r = 41.5 ± 5% σ = 0.97 ± 5% mho/m

Valid for f=855-945 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	6.3 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	6.3 ± 9.5% (k=2)	Alpha	0.29
ConvF Z	6.3 ± 9.5% (k=2)	Depth	3.64

Head 1800 MHz ε_r = 40.0 ± 5% σ = 1.40 ± 5% mho/m

Valid for f=1710-1890 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	5.3 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	5.3 ± 9.5% (k=2)	Alpha	0.52
ConvF Z	5.3 ± 9.5% (k=2)	Depth	2.58

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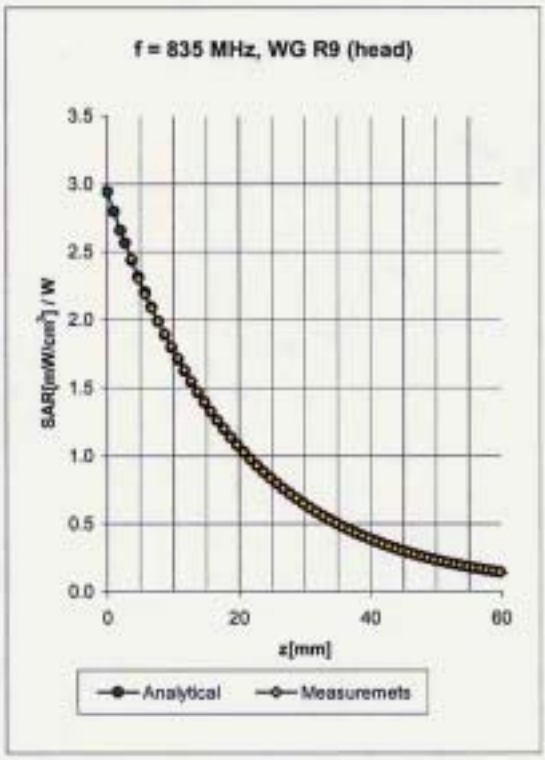
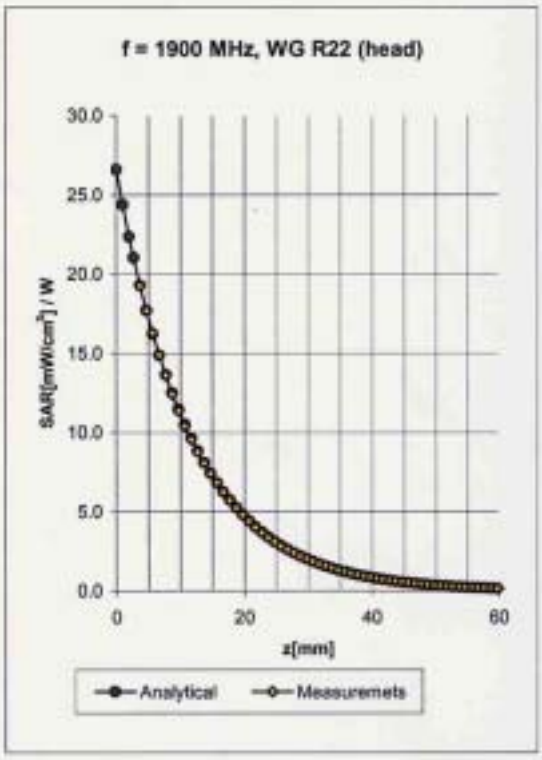
ET3DV6 SN:1531 September 19, 2003

Conversion Factor Assessment





Head 835 MHz ε_r = 41.5 ± 5% σ = 0.90 ± 5% mho/m

Valid for f=793-877 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	6.3 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	6.3 ± 9.5% (k=2)	Alpha	0.33
ConvF Z	6.3 ± 9.5% (k=2)	Depth	2.99

Head 1900 MHz ε_r = 40.0 ± 5% σ = 1.40 ± 5% mho/m

Valid for f=1805-1995 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	5.0 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	5.0 ± 9.5% (k=2)	Alpha	0.54
ConvF Z	5.0 ± 9.5% (k=2)	Depth	1.00

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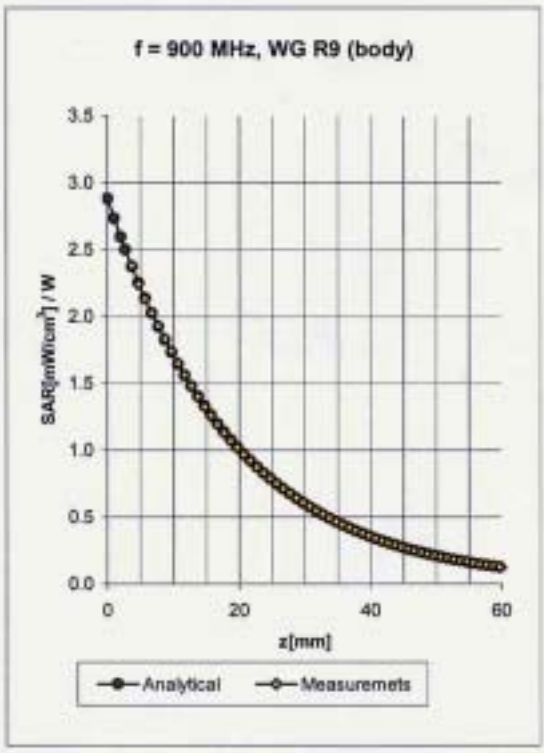
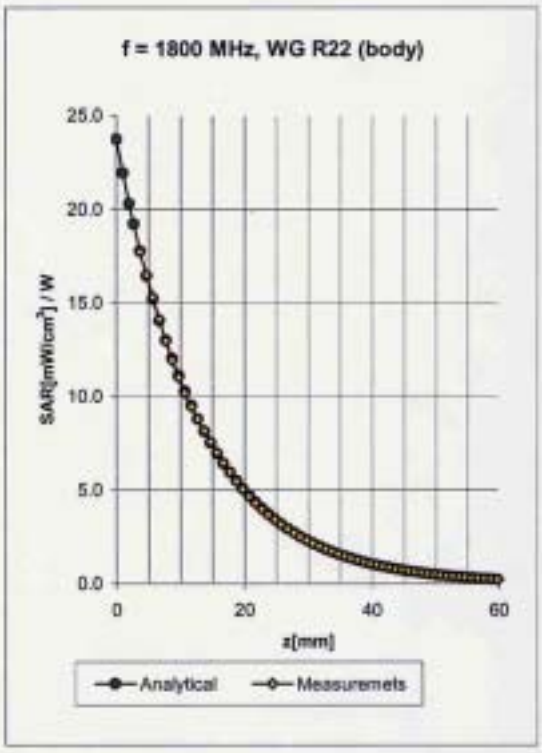
ET3DV6 SN:1531 **September 19, 2003**

Conversion Factor Assessment





Body 900 MHz ε_r = 55.0 ± 5% σ = 1.05 ± 5% mho/m

Valid for f=855-945 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	6.2 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	6.2 ± 9.5% (k=2)	Alpha	0.40
ConvF Z	6.2 ± 9.5% (k=2)	Depth	2.58

Body 1800 MHz ε_r = 53.3 ± 5% σ = 1.52 ± 5% mho/m

Valid for f=1710-1890 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.7 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	4.7 ± 9.5% (k=2)	Alpha	0.55
ConvF Z	4.7 ± 9.5% (k=2)	Depth	2.84

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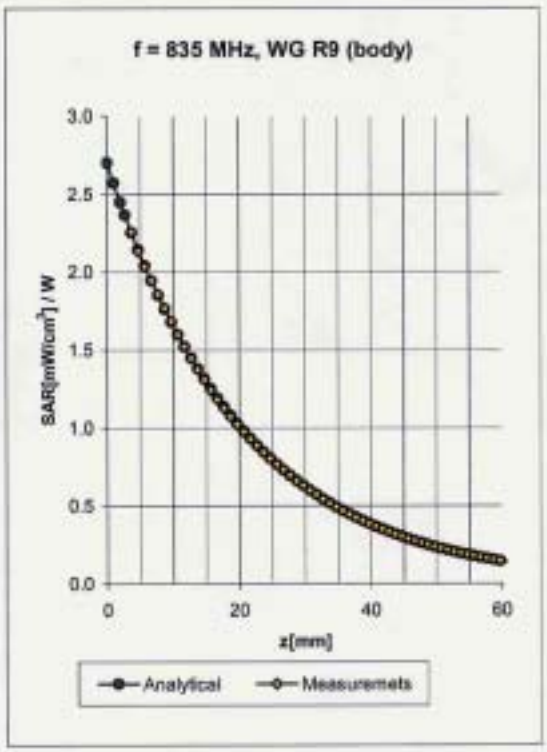
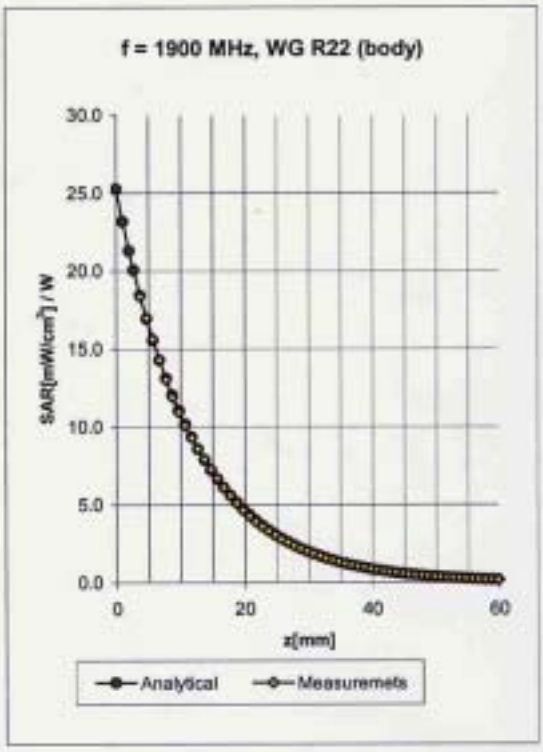
Conversion Factor Assessment





Body 835 MHz ε_r = 55.2 ± 5% σ = 0.97 ± 5% mho/m

Valid for f=793-877 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	6.3 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	6.3 ± 9.5% (k=2)	Alpha	0.47
ConvF Z	6.3 ± 9.5% (k=2)	Depth	2.28

Body 1900 MHz ε_r = 53.3 ± 5% σ = 1.52 ± 5% mho/m

Valid for f=1805-995 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.7 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	4.7 ± 9.5% (k=2)	Alpha	0.57
ConvF Z	4.7 ± 9.5% (k=2)	Depth	2.89

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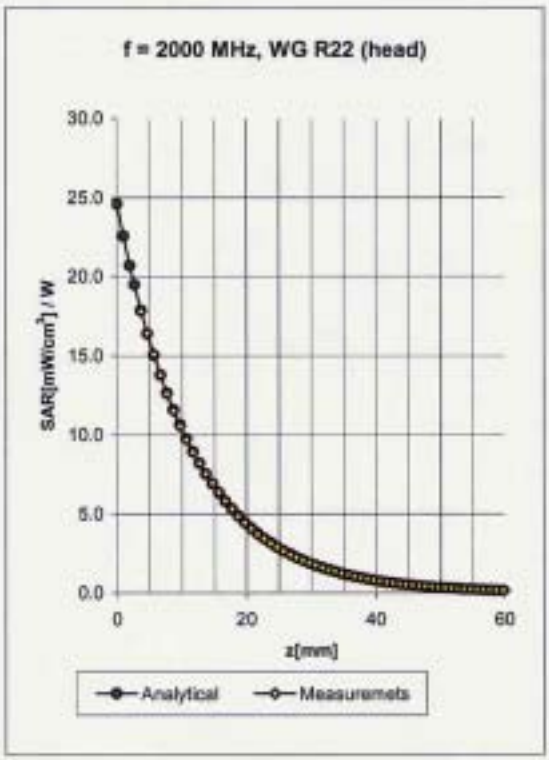
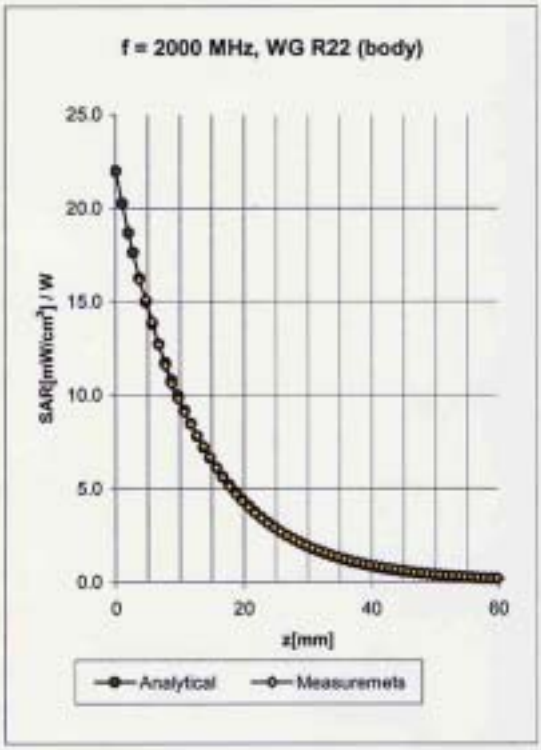
Conversion Factor Assessment





Head 2000 MHz ε_r = 40.0 ± 5% σ = 1.40 ± 5% mho/m

Valid for f=1900-2100 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	4.8 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	4.8 ± 9.5% (k=2)	Alpha	0.52
ConvF Z	4.8 ± 9.5% (k=2)	Depth	2.84

Body 2000 MHz ε_r = 53.3 ± 5% σ = 1.52 ± 5% mho/m

Valid for f=1900-2100 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.6 ± 9.5% (k=2)	Boundary effect:	
ConvF Y	4.6 ± 9.5% (k=2)	Alpha	0.80
ConvF Z	4.6 ± 9.5% (k=2)	Depth	2.20

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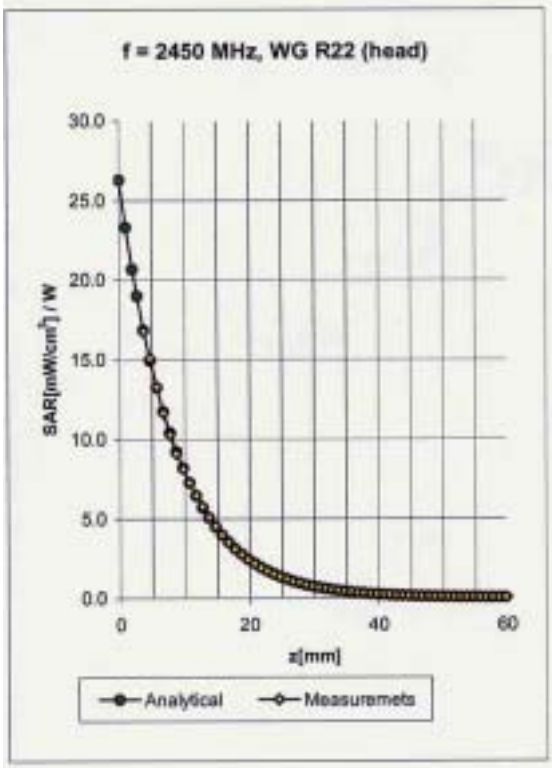
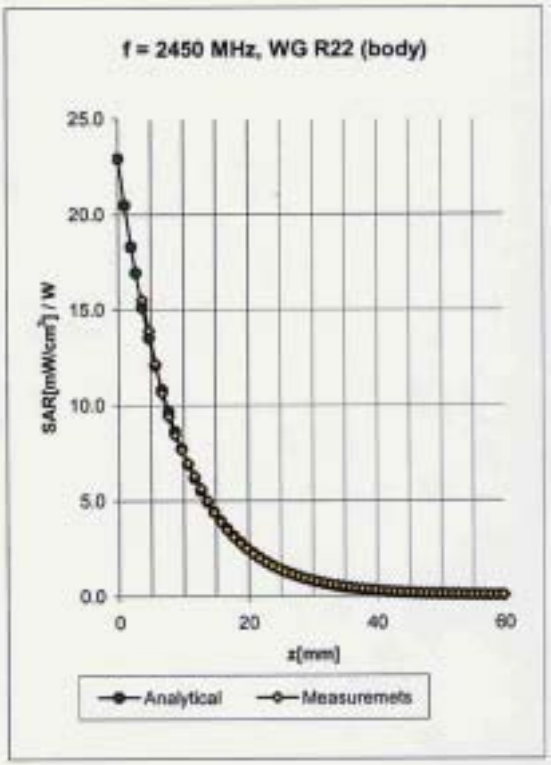
Conversion Factor Assessment





Head 2450 MHz ε_r = 39.2 ± 5% σ = 1.80 ± 5% mho/m

Valid for f=2400-2500 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	4.8 ± 8.9% (k=2)	Boundary effect:	
ConvF Y	4.8 ± 8.9% (k=2)	Alpha	1.11
ConvF Z	4.8 ± 8.9% (k=2)	Depth	1.76

Body 2450 MHz ε_r = 52.7 ± 5% σ = 1.95 ± 5% mho/m

Valid for f=2400-2500 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.4 ± 8.9% (k=2)	Boundary effect:	
ConvF Y	4.4 ± 8.9% (k=2)	Alpha	1.55
ConvF Z	4.4 ± 8.9% (k=2)	Depth	1.41

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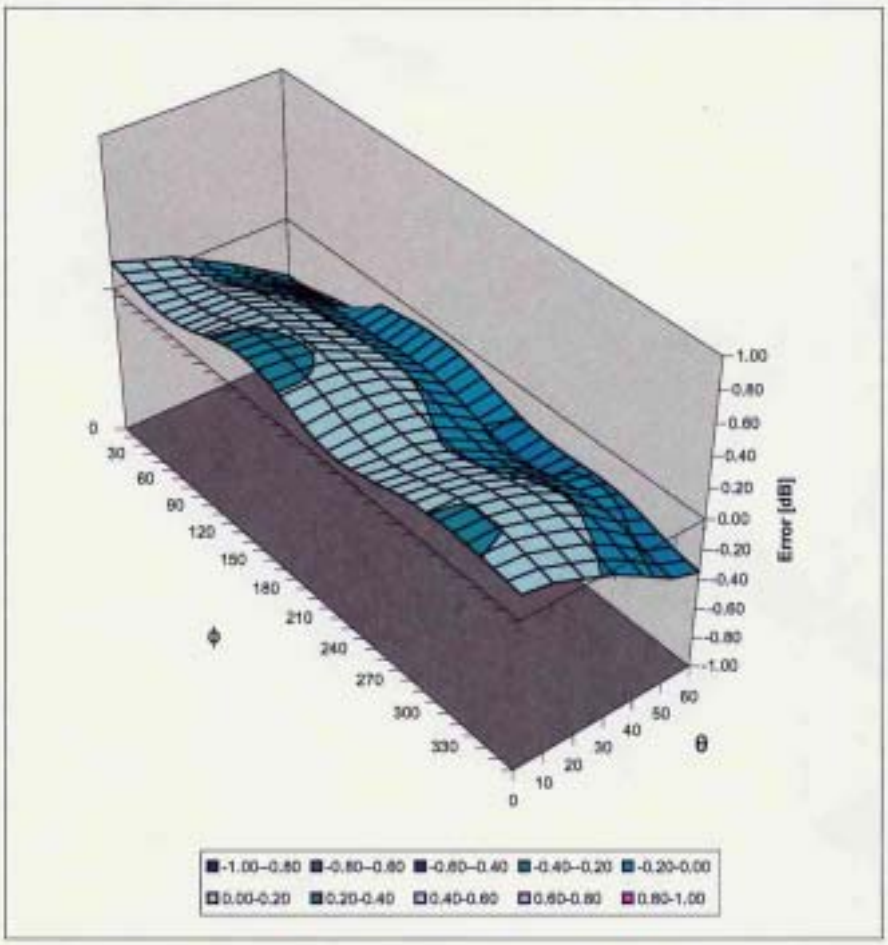
Deviation from Isotropy in HSL

Error (θ,ϕ), f = 900 MHz



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Appendix E – Data Acquisition Electronic (DAE) Calibration

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client Auden

CALIBRATION CERTIFICATE

Object(s)	DAE3 – SD 000 D03 AA – SN:393
Calibration procedure(s)	QA CAL-06.v5a Calibration procedure for the data acquisition unit (DAE)
Calibration date:	08.01.2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03	Sep-04

	Name	Function	Signature
Calibrated by:	Philipp Storchenegger	Technician	
Approved by:	Fin Bomholt	R&D Director	

Date issued: 08.01.2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

合格
93.1.08
緯登科技品保部
專用章

DAE3 SN: 393 DATE: 08.01.2004

1. Cal Lab. Incoming Inspection & Pre Test

Modification Status	Note Status here → → → →	BC
Visual Inspection	Note anomalies.....	None
	.....	.....
Pre Test	**Indication**	**Yes/No**
Probe Touch	Function	Yes
Probe Collision	Function	Yes
Probe Touch&Collision	Function	Yes

2. DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	full range =	400 mV
Low Range:	1LSB =	61nV ,	full range =	4 mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	**X**	**Y**	**Z**
High Range	403.989	404.251	404.118
Low Range	3.96967	3.95088	3.95250
Connector Angle to be used	in DASY System	15 °	

High Range	**Input**	**Reading in μV**	**% Error**
Channel X + Input	200mV	199999.5	0.00
	20mV	19999.8	0.00
Channel X - Input	20mV	-19992.4	-0.04
Channel Y + Input	200mV	200000.2	0.00
	20mV	19996.1	-0.02
Channel Y - Input	20mV	-19992.5	-0.04
Channel Z + Input	200mV	200000.0	0.00
	20mV	20001.4	0.01
Channel Z - Input	20mV	-19998.8	-0.01

Low Range	**Input**	**Reading in μV**	**% Error**
Channel X + Input	2mV	1999.91	0.00
	0.2mV	199.98	-0.01
Channel X - Input	0.2mV	-200.39	0.19
Channel Y + Input	2mV	1999.94	0.00
	0.2mV	199.28	-0.36
Channel Y - Input	0.2mV	-200.58	0.29
Channel Z + Input	2mV	2000.03	0.00
	0.2mV	199.19	-0.41
Channel Z - Input	0.2mV	-201.21	0.61

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DAE3 SN: 393 DATE: 08.01.2004

6. Input Offset Measurement

DASY measurement parameters:
Auto Zero Time: 3 sec, Measuring time: 3 sec
Number of measurements: 100, Low Range

Input 10MΩ

in µV	Average	min. Offset	max. Offset	Std. Deviation
Channel X	1.27	0.41	1.94	0.27
Channel Y	-1.15	-2.03	-0.01	0.32
Channel Z	-0.17	-2.91	1.44	0.42

Input shorted

in µV	Average	min. Offset	max. Offset	Std. Deviation
Channel X	0.14	-0.33	0.69	0.18
Channel Y	-0.77	-1.88	-0.17	0.22
Channel Z	-0.87	-2.76	0.98	0.38

7. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

8. Input Resistance

In MOhm	Calibrating	Measuring
Channel X	0.1999	198.3
Channel Y	0.2001	198.4
Channel Z	0.1998	198.6

9. Low Battery Alarm Voltage

in V	Alarm Level
Supply (+ Vcc)	8.01
Supply (- Vcc)	-7.74

10. Power Consumption

in mA	Switched off	Stand by	Transmitting
Supply (+ Vcc)	0.00	5.43	13.8
Supply (- Vcc)	-0.01	-7.60	-8.79

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