
Appendix for the Report
Dosimetric Assessment of the
Panasonic KX-TGA939
(FCC ID: ACJ96NKX-TGA939)
According to the FCC Requirements
SAR Distribution Plots

May 27, 2008
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The test results only relate to the items tested.
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1 SAR Distribution Plots, Head Measurements, Antenna 1

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bplm_1_Ant1.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Cheek Left

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.017 mW/g

Cheek Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.46 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 0.031 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00796 mW/g

Maximum value of SAR (measured) = 0.020 mW/g

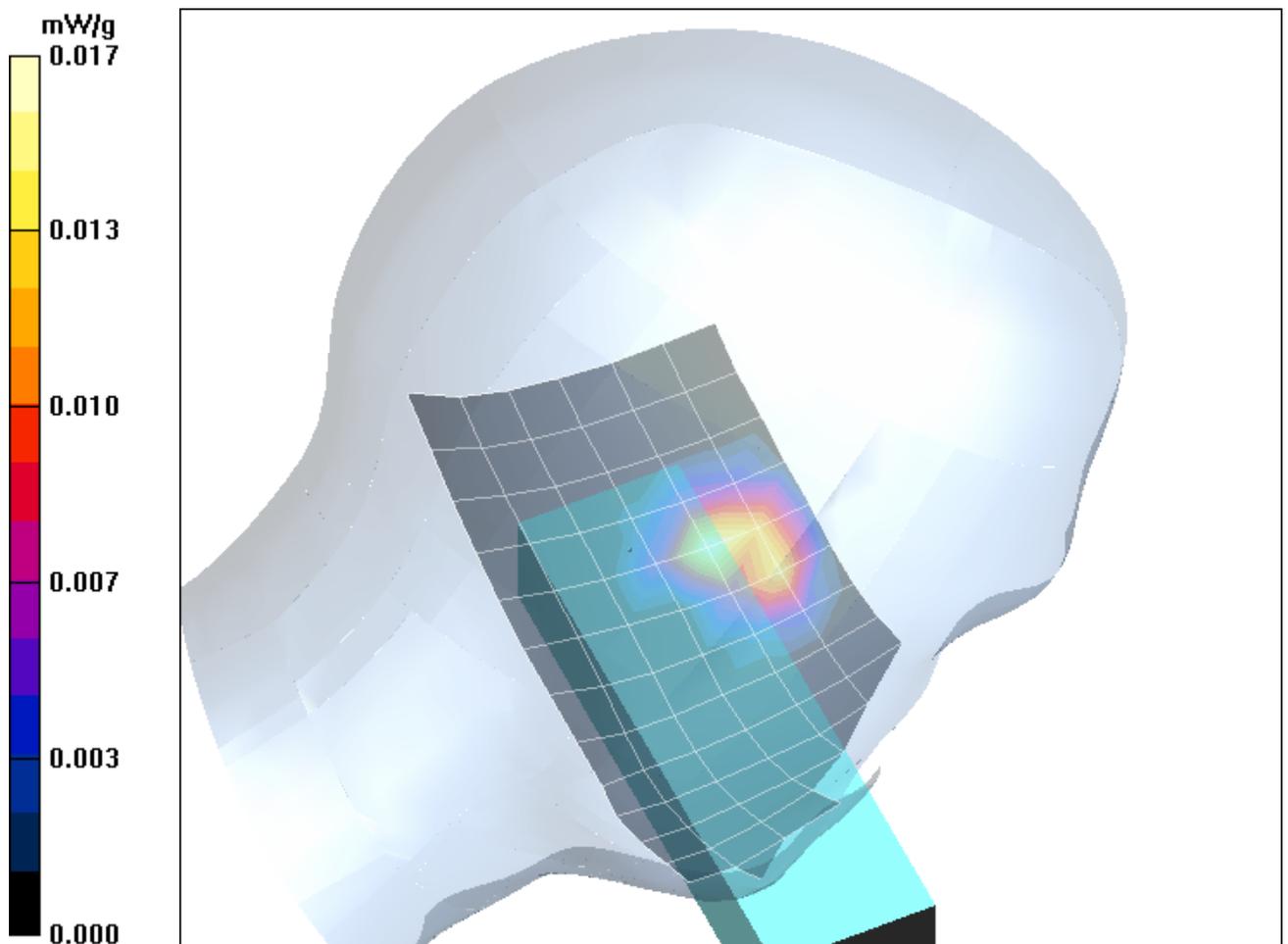


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bplm_2_Ant1.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Tilted Left

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.008 mW/g

Tilted Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.967 V/m; Power Drift = 0.131 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.008 mW/g; SAR(10 g) = 0.00334 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

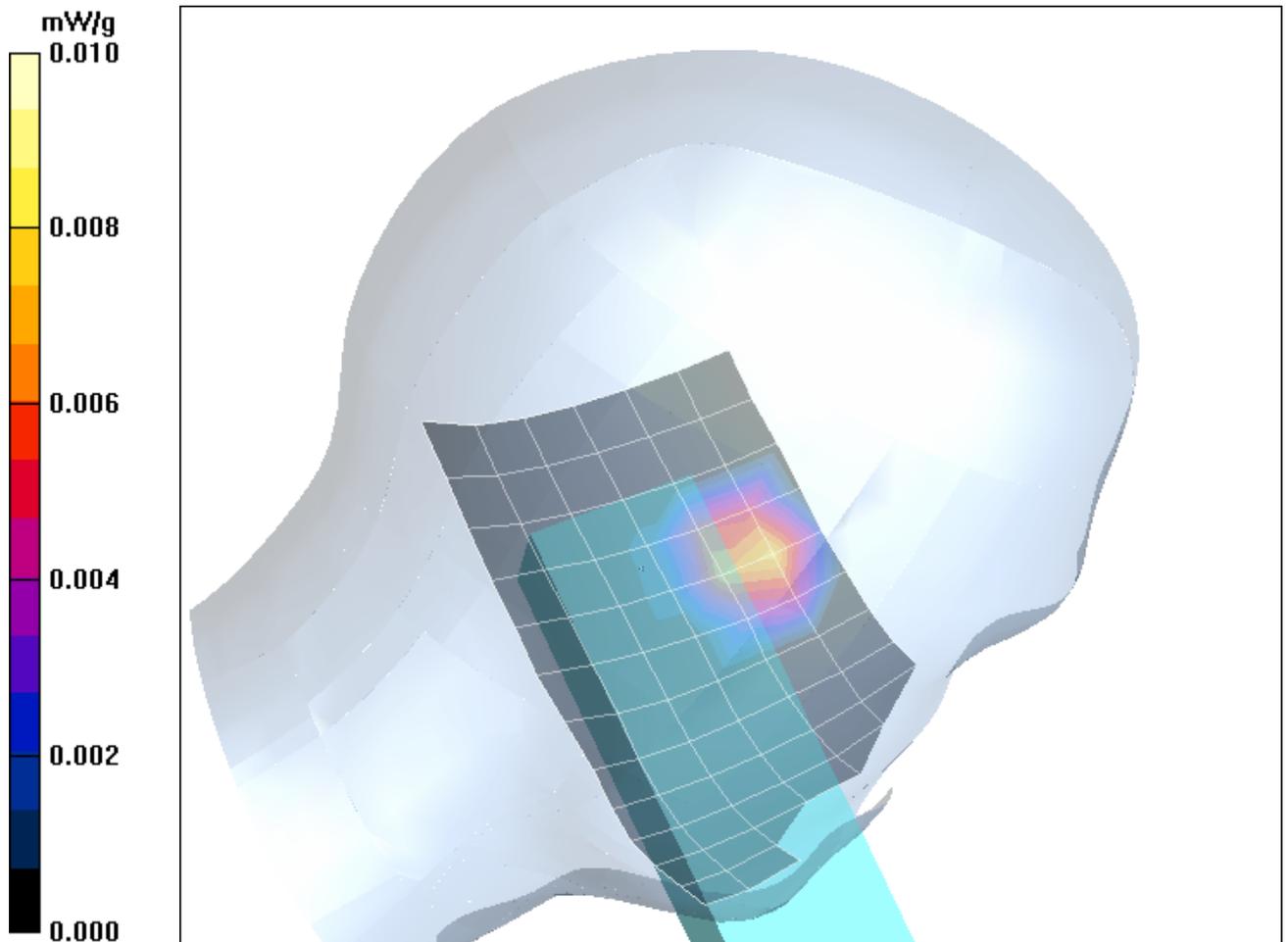


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bprm_1_Ant1.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Cheek Right

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.009 mW/g

Cheek Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.70 V/m; Power Drift = 0.131 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.010 mW/g; SAR(10 g) = 0.00486 mW/g

Maximum value of SAR (measured) = 0.012 mW/g

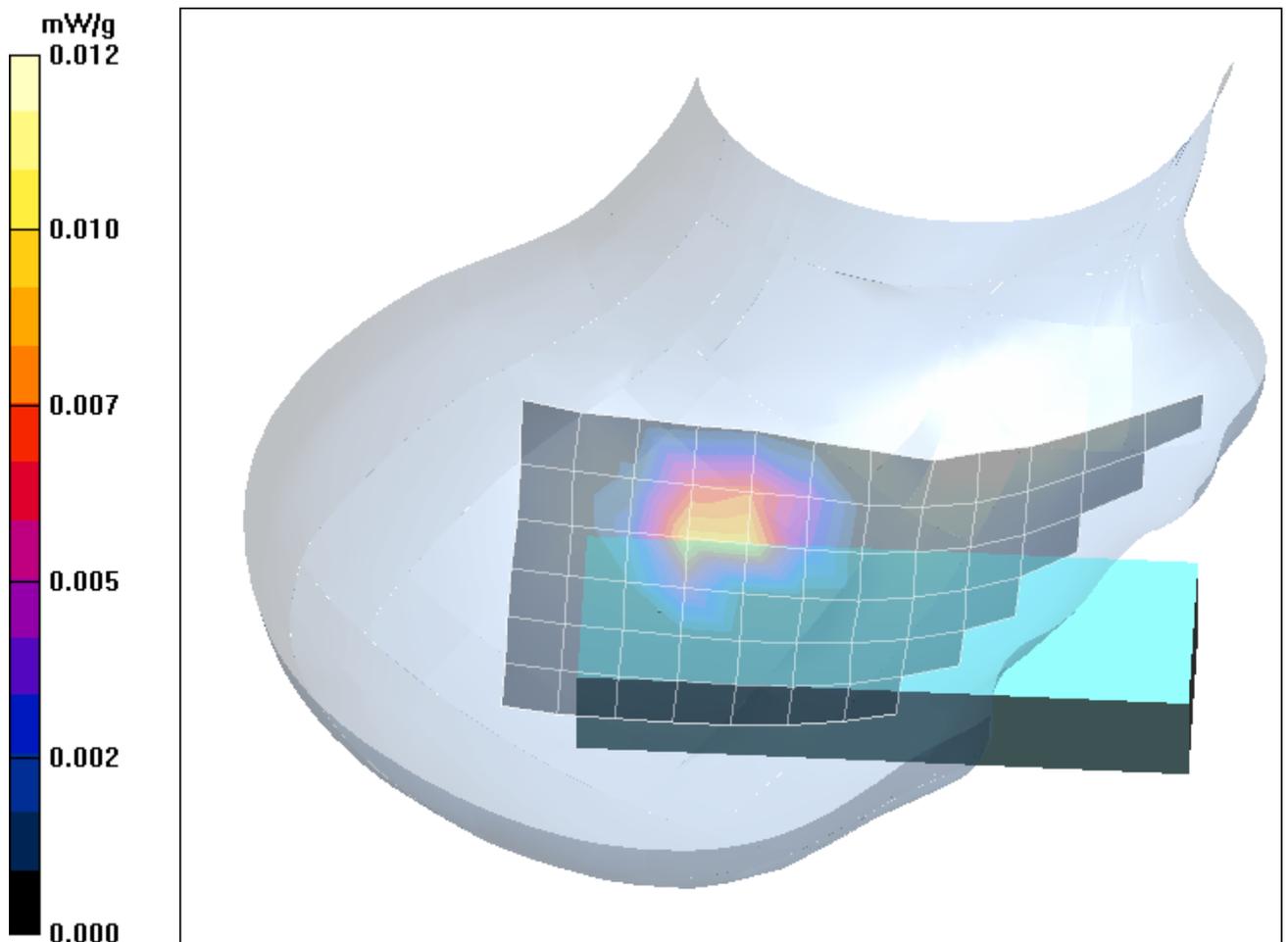


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bprm_2_Ant1.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Tilted Right

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.005 mW/g

Tilted Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.10 V/m; Power Drift = -0.195 dB

Peak SAR (extrapolated) = 0.018 W/kg

SAR(1 g) = 0.00529 mW/g; SAR(10 g) = 0.00206 mW/g

Maximum value of SAR (measured) = 0.006 mW/g

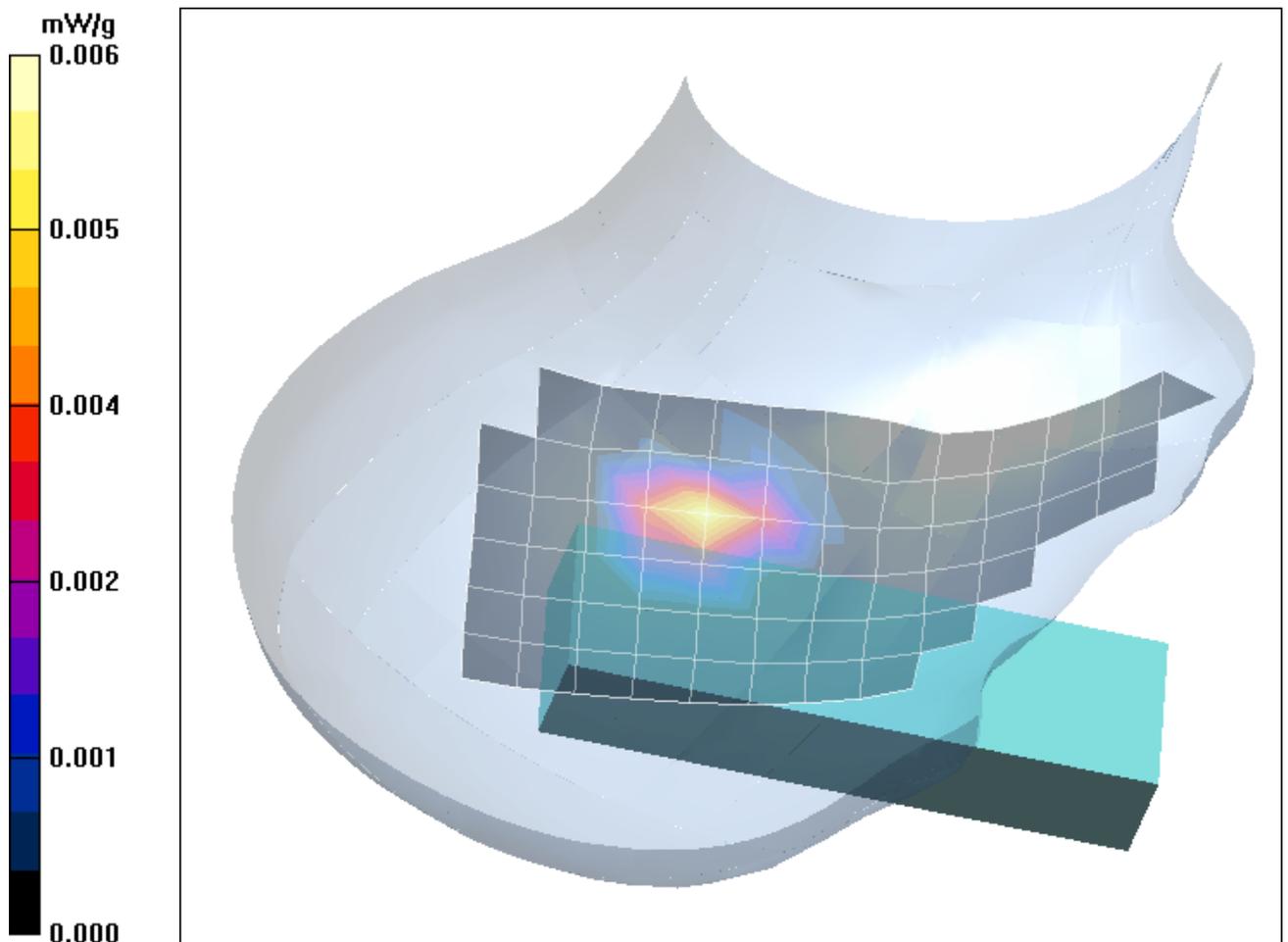


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C)

2 SAR Distribution Plots, Head Measurements, Antenna 2

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bplm_1_Ant2.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Cheek Left

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.008 mW/g

Cheek Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.61 V/m; Power Drift = 0.152 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.00772 mW/g; SAR(10 g) = 0.0033 mW/g

Maximum value of SAR (measured) = 0.009 mW/g

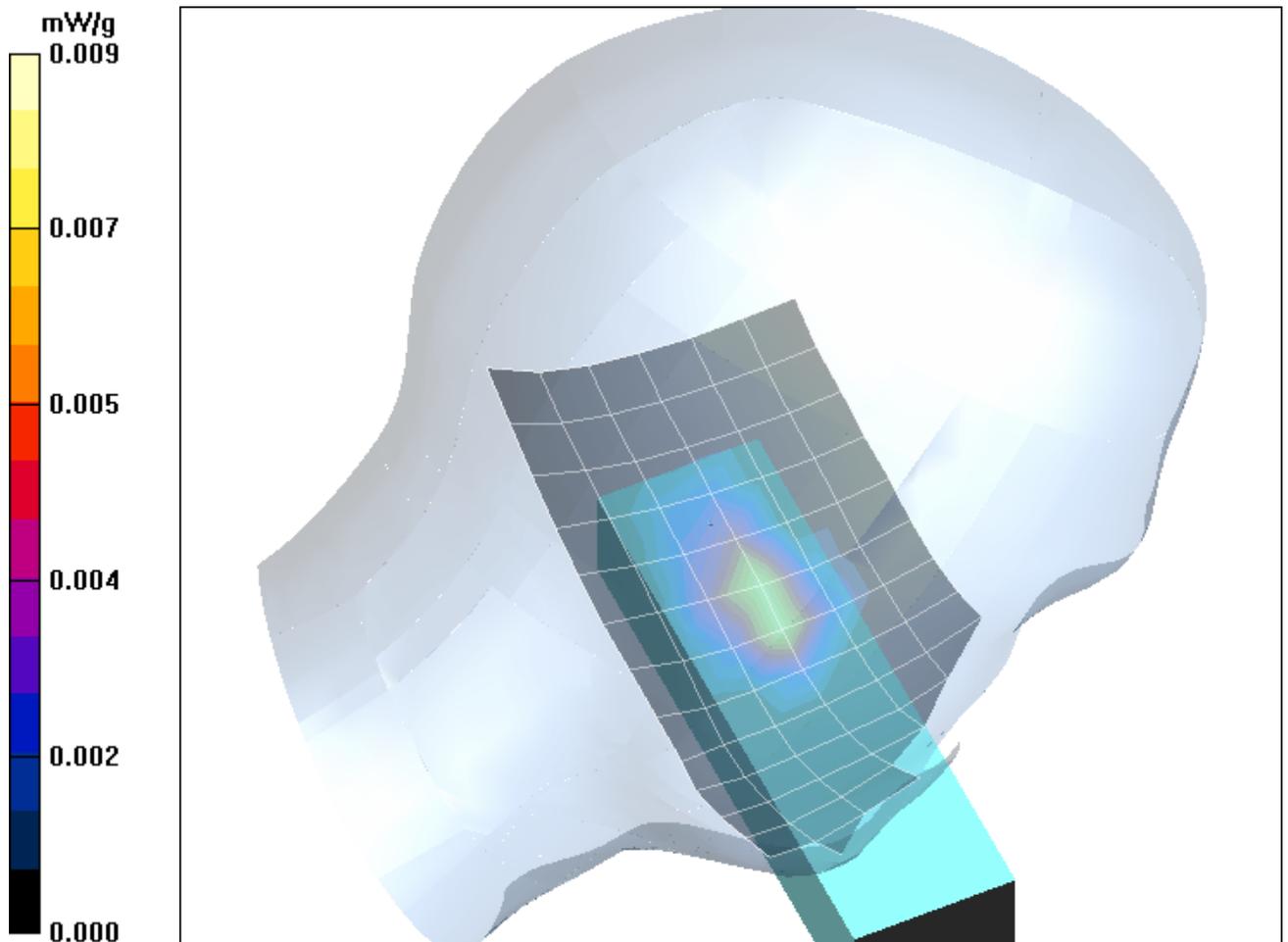


Fig. 5: SAR distribution for DECT US, channel 2, cheek position, left side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_bplm_2_Ant2.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Tilted Left

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.003 mW/g

Tilted Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.50 V/m; Power Drift = -0.187 dB

Peak SAR (extrapolated) = 0.018 W/kg

SAR(1 g) = 0.00342 mW/g; SAR(10 g) = 0.00093 mW/g

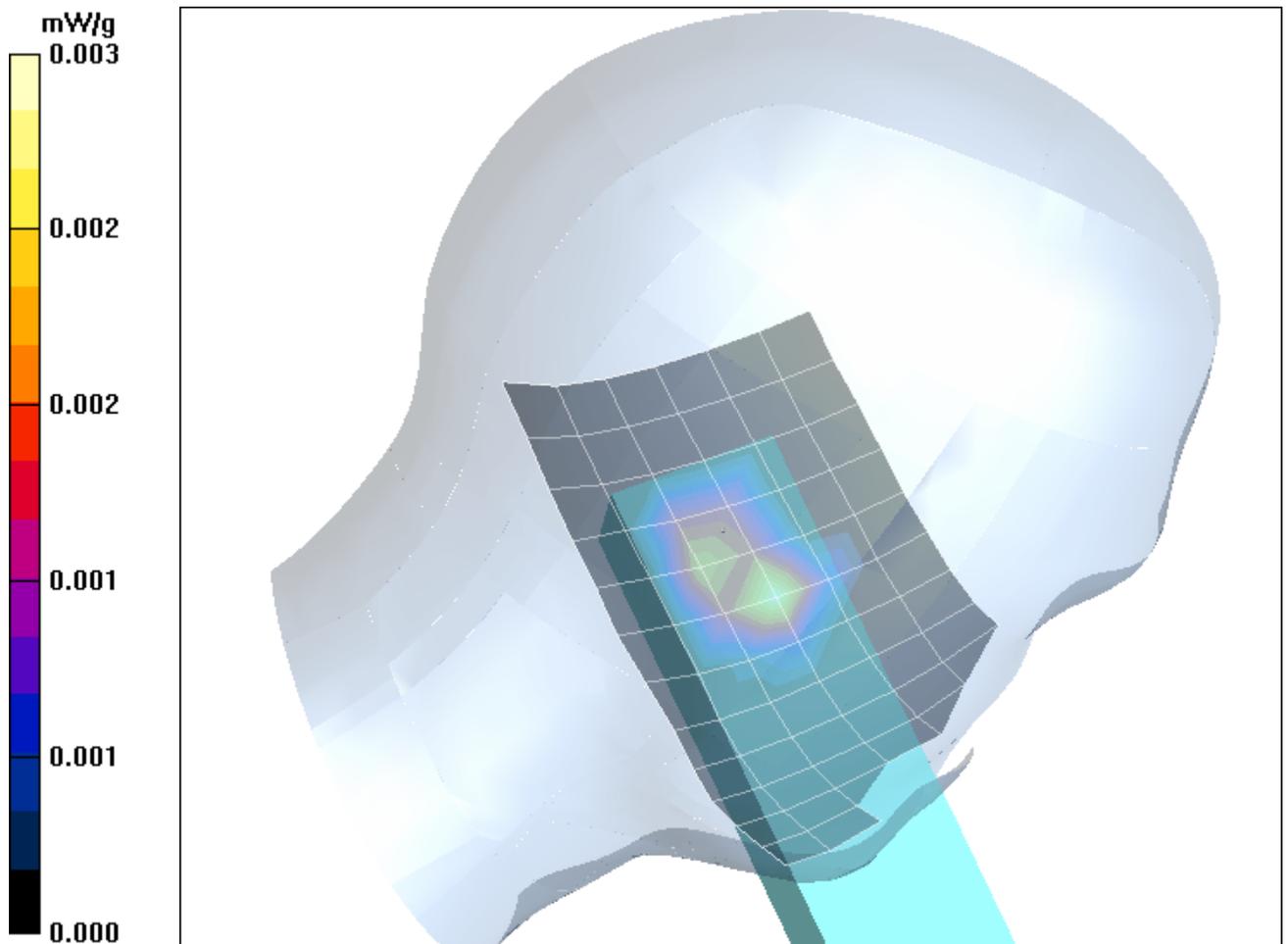


Fig. 6: SAR distribution for DECT US, channel 2, tilted position, left side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_yprm_1_Ant2.da4](#)

DUT: Panasonic; Type: KX-TGA939;
 Program Name: Cheek Right

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
 Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.008 mW/g

Cheek Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.40 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.014 W/kg

SAR(1 g) = 0.00866 mW/g; SAR(10 g) = 0.004 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

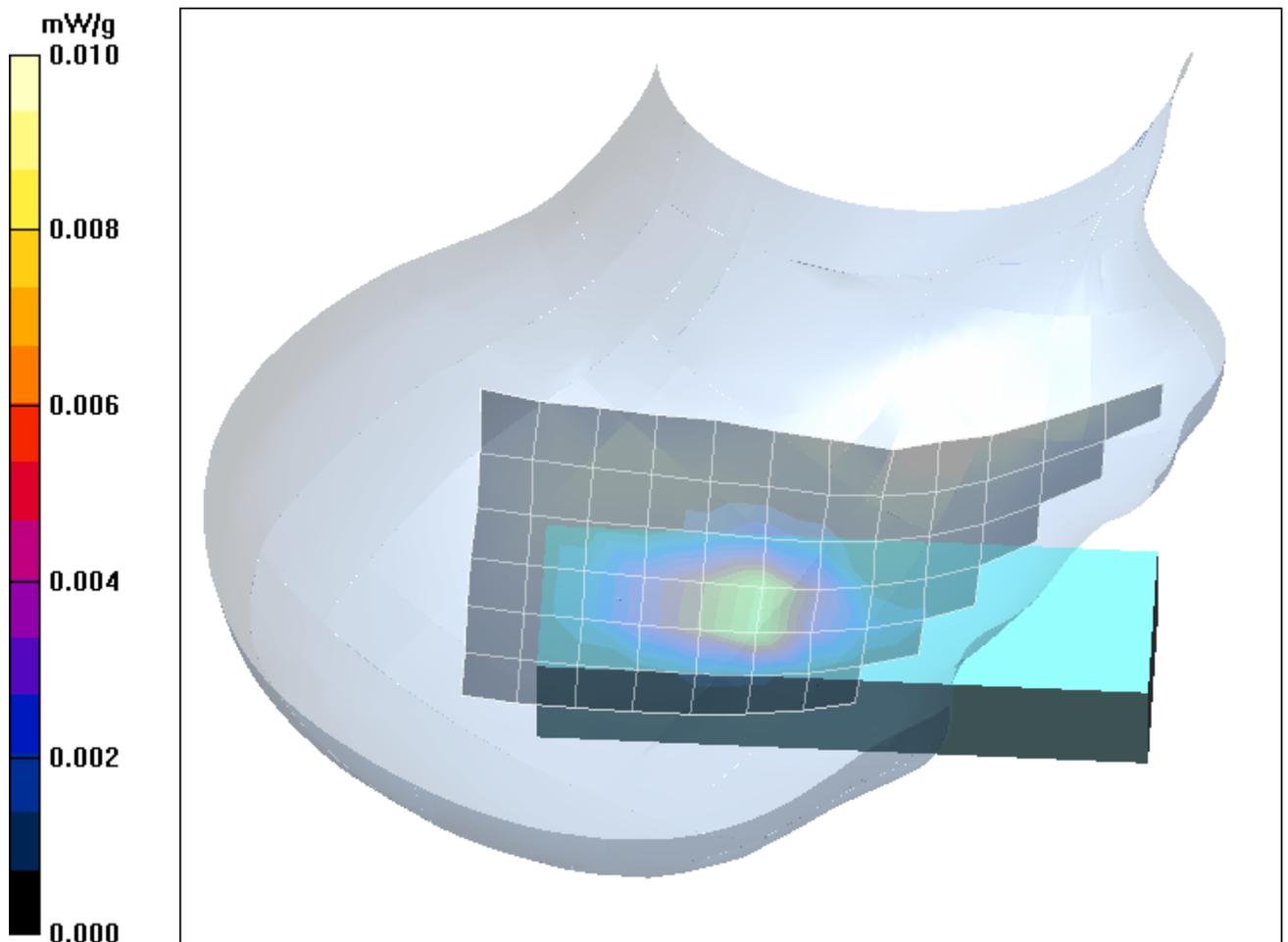


Fig. 7: SAR distribution for DECT US, channel 2, cheek position, right side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [TGA939_yprm_2_Ant2.da4](#)

DUT: Panasonic; Type: KX-TGA939;

Program Name: Tilted Right

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used (extrapolated): $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.85, 7.85, 7.85); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.004 mW/g

Tilted Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.40 V/m; Power Drift = 0.174 dB

Peak SAR (extrapolated) = 0.014 W/kg

SAR(1 g) = 0.00406 mW/g; SAR(10 g) = 0.00184 mW/g

Maximum value of SAR (measured) = 0.005 mW/g

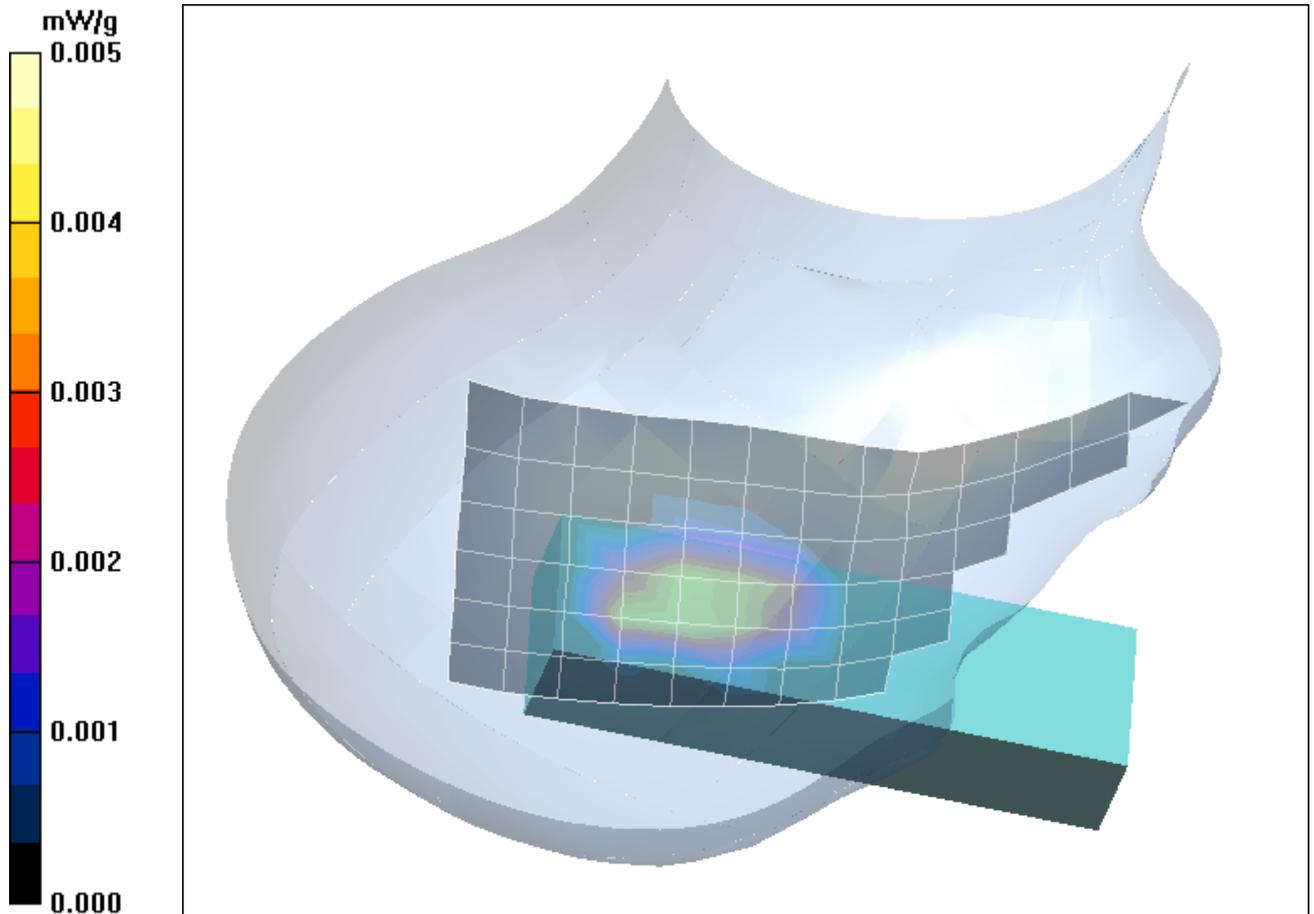


Fig. 8: SAR distribution for DECT US, channel 2, tilted position, right side of head (May 26, 2008; Ambient Temperature: 21.9°C; Liquid Temperature: 21.1°C)

3 SAR Distribution Plots, Body Measurements, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name:

[TGA939_bphm_1_Ant1_headset_dspl_up.da4](#)

DUT: Panasonic; Type: KX-TGA939;

Program Name: Body Worn

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.67, 7.67, 7.67); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.014 mW/g

Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.000 V/m; Power Drift = 0.000 dB

Peak SAR (extrapolated) = 0.023 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00637 mW/g

Maximum value of SAR (measured) = 0.015 mW/g

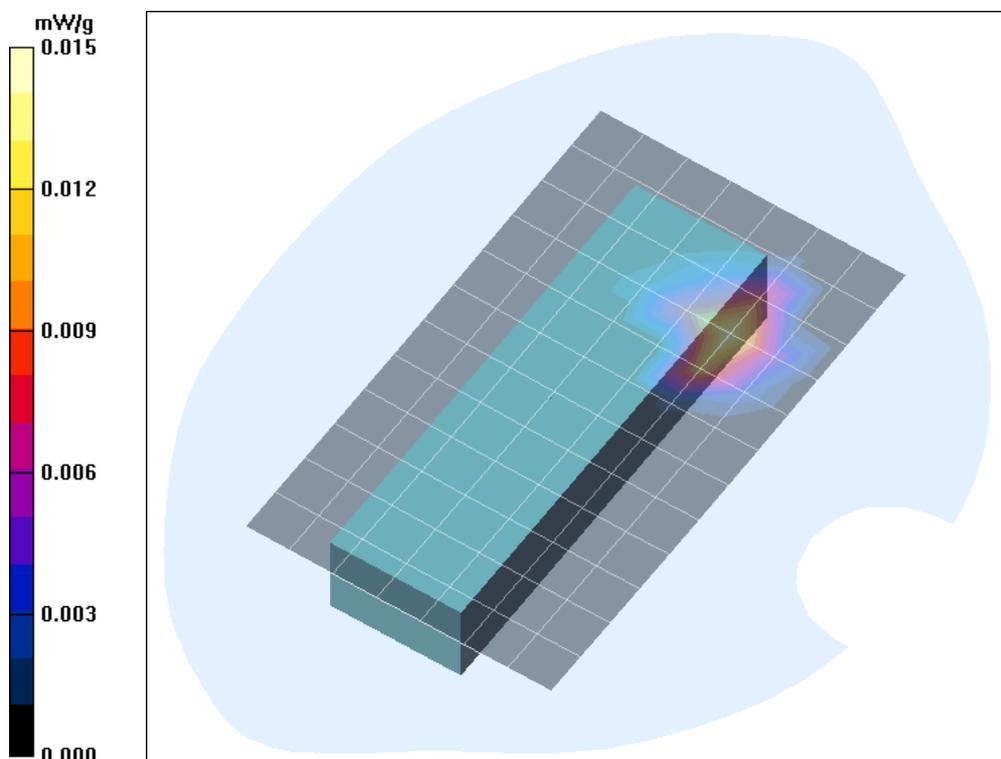


Fig. 9: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and 0 mm distance (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature: 21.6° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name:

[TGA939_bphm_1_Ant1_headset_dspl_down.da4](#)

DUT: Panasonic; Type: KX-TGA939;

Program Name: Body Worn

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.67, 7.67, 7.67); Calibrated: 18.09.2007

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 08.02.2008

- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176

- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.008 mW/g

Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.000 V/m; Power Drift = 0.0 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.00882 mW/g; SAR(10 g) = 0.00437 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

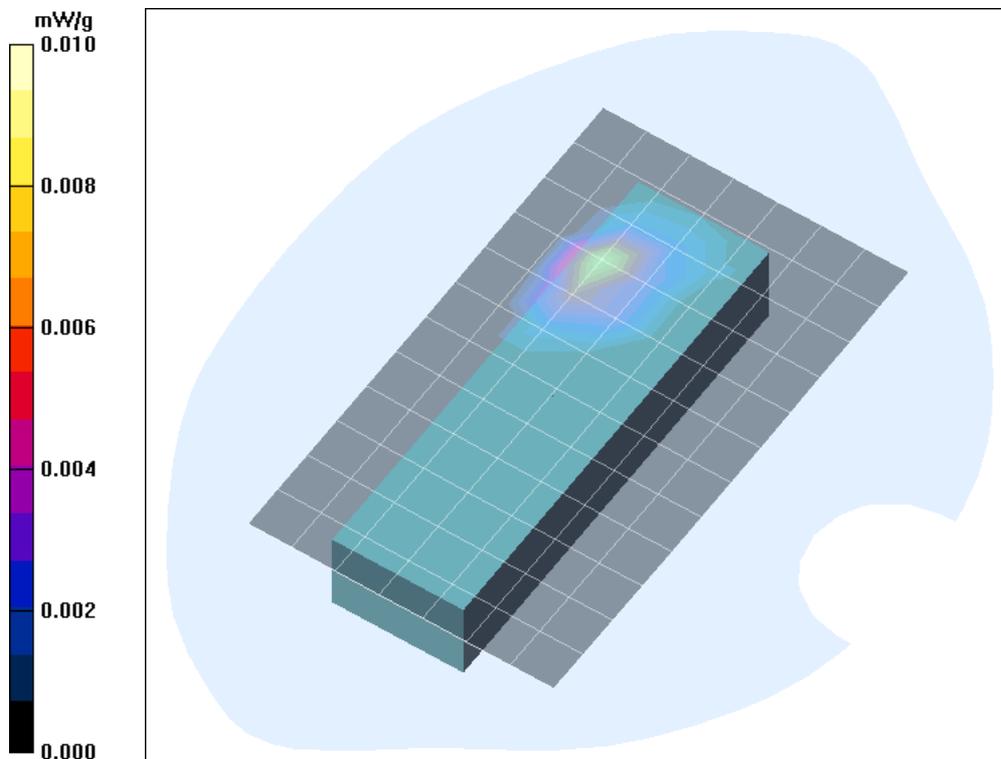


Fig. 10: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and 0 mm distance (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature: 21.6° C).

4 SAR Distribution Plots, Body Measurements, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name:

[TGA939_bphm_2_Ant2_headset_dspl_up.da4](#)

DUT: Panasonic; Type: KX-TGA939;

Program Name: Body Worn

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.67, 7.67, 7.67); Calibrated: 18.09.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.005 mW/g

Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.93 V/m; Power Drift = 0.175 dB

Peak SAR (extrapolated) = 0.009 W/kg

SAR(1 g) = 0.00641 mW/g; SAR(10 g) = 0.00398 mW/g

Maximum value of SAR (measured) = 0.007 mW/g

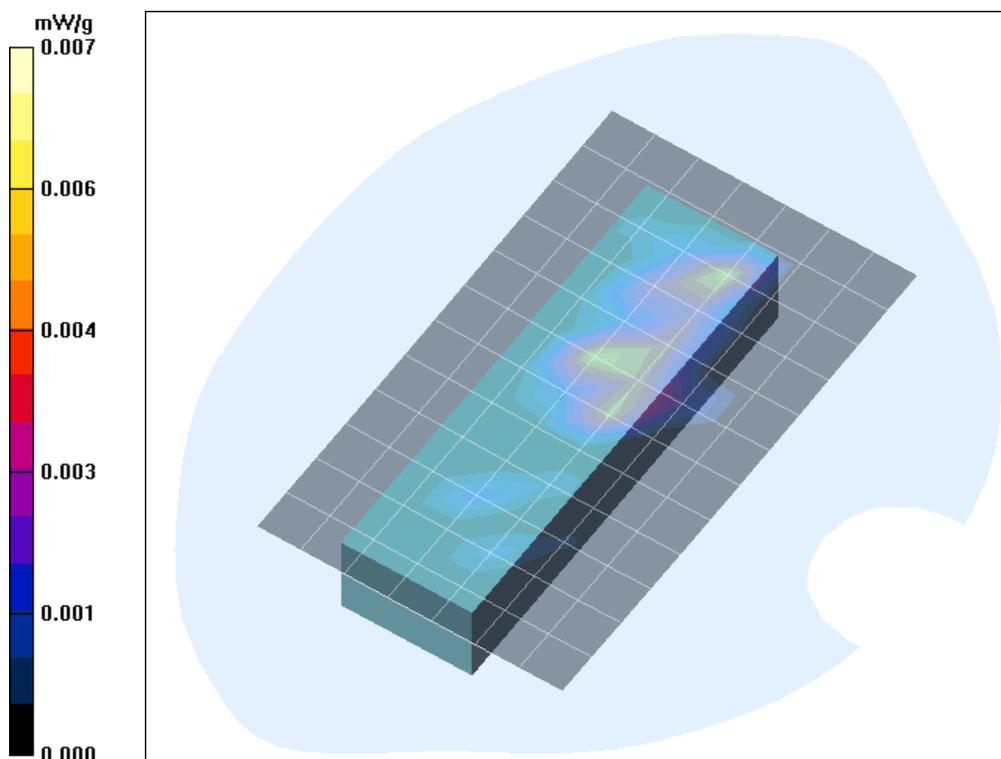


Fig. 11: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and 0 mm distance (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature: 21.6° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name:

[TGA939_bphm_2_Ant2_headset_dspl_down.da4](#)

DUT: Panasonic; Type: KX-TGA939;

Program Name: Body Worn

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.67, 7.67, 7.67); Calibrated: 18.09.2007

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 08.02.2008

- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176

- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.001 mW/g

Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.000 V/m; Power Drift = 0.0 dB

SAR(1 g) = below detection limit; SAR(10 g) = below detection limit

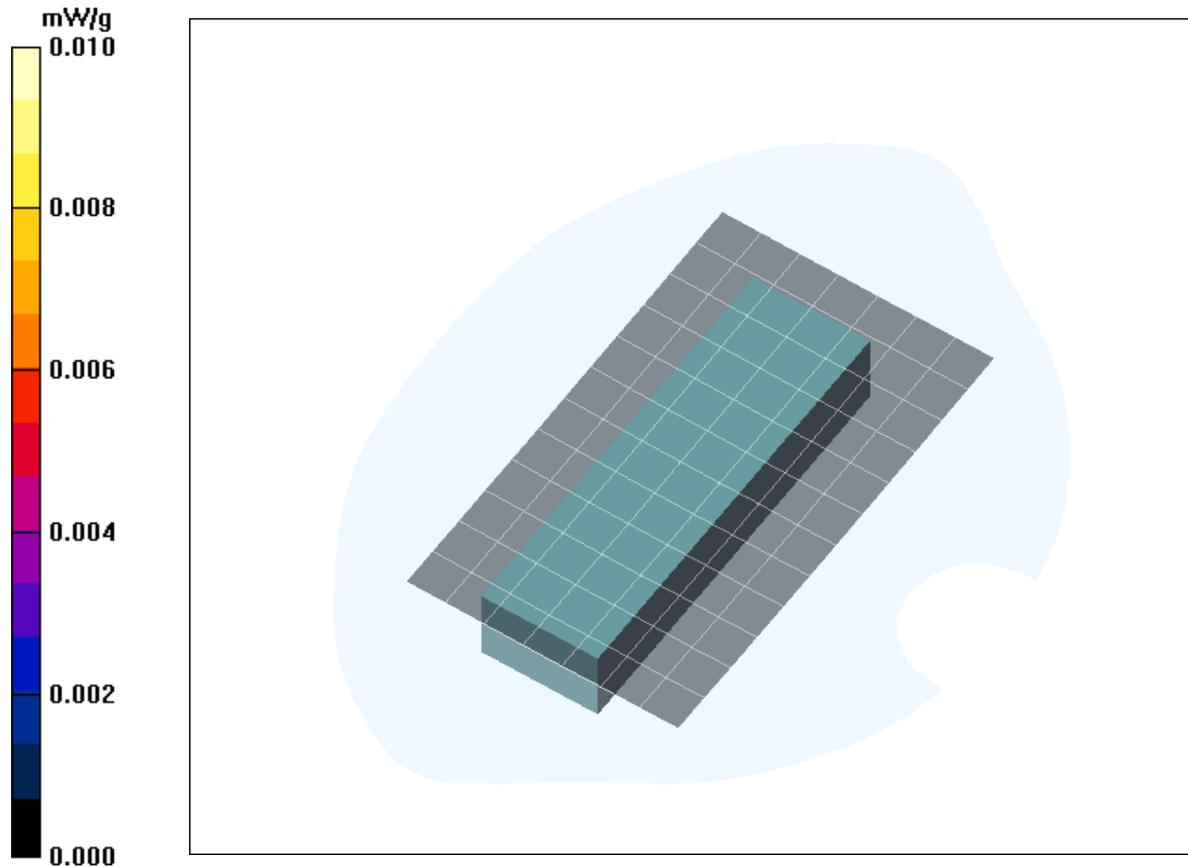


Fig. 12: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and 0 mm distance (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature: 21.6° C).

5 SAR z-axis scans (Validation)

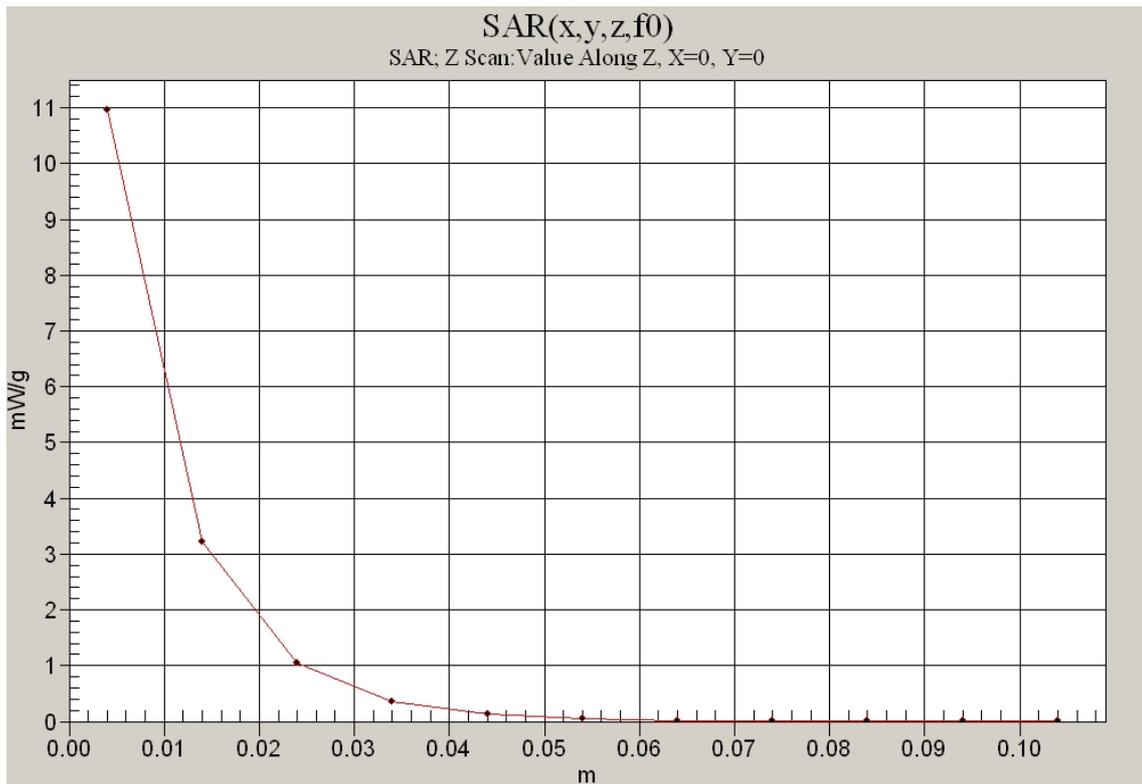


Fig. 13: SAR versus liquid depth, 1900 MHz, head (May 26, 2008; Ambient Temperature: 21.9° C; Liquid Temperature : 21.1° C).

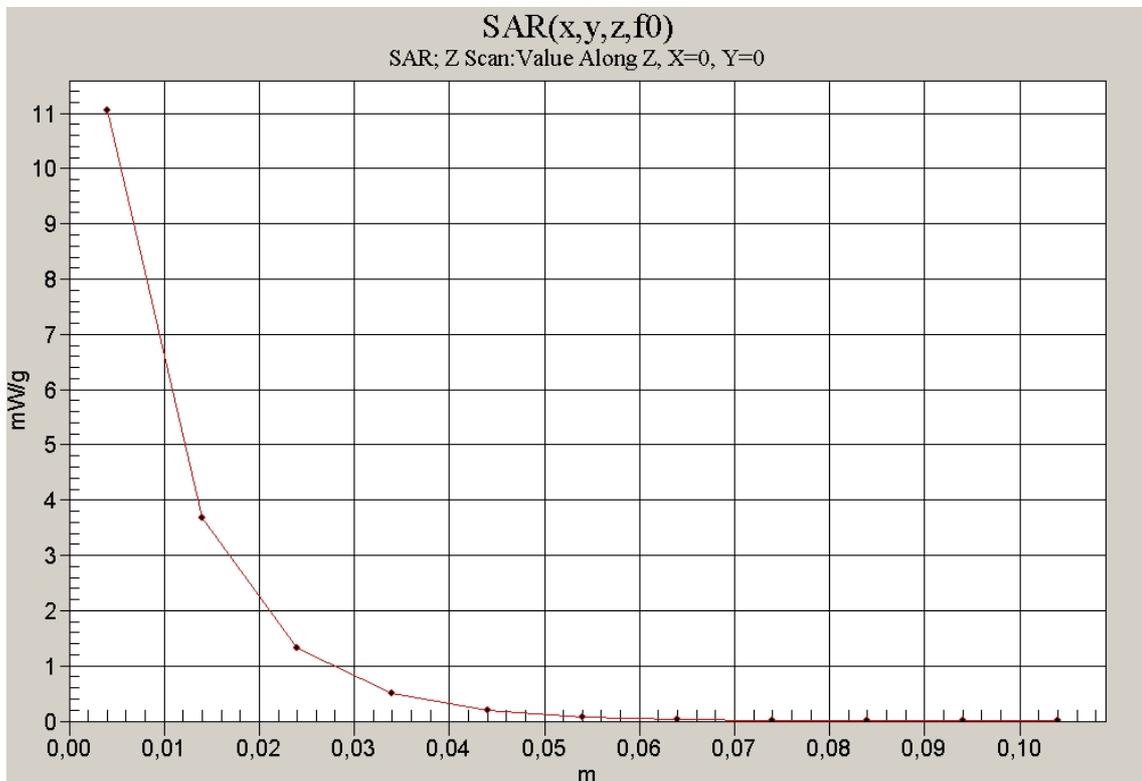


Fig. 14: SAR versus liquid depth, 1900 MHz, body (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature : 21.7° C).

6 SAR z-axis scans (Measurements)

The following pictures show the plots of SAR versus liquid depth for the worst case values.

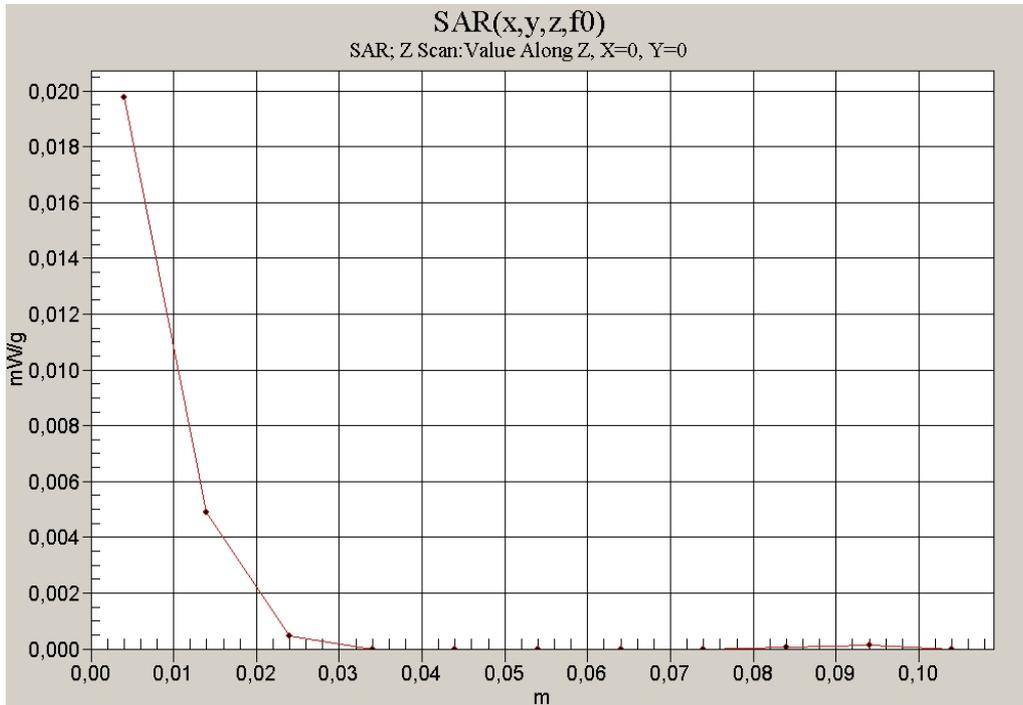


Fig. 15: SAR versus liquid depth, head: DECT US, channel 2, cheek position, left side of head, antenna 1 (May 26, 2008; Ambient Temperature: 21.9° C; Liquid Temperature : 21.1° C).

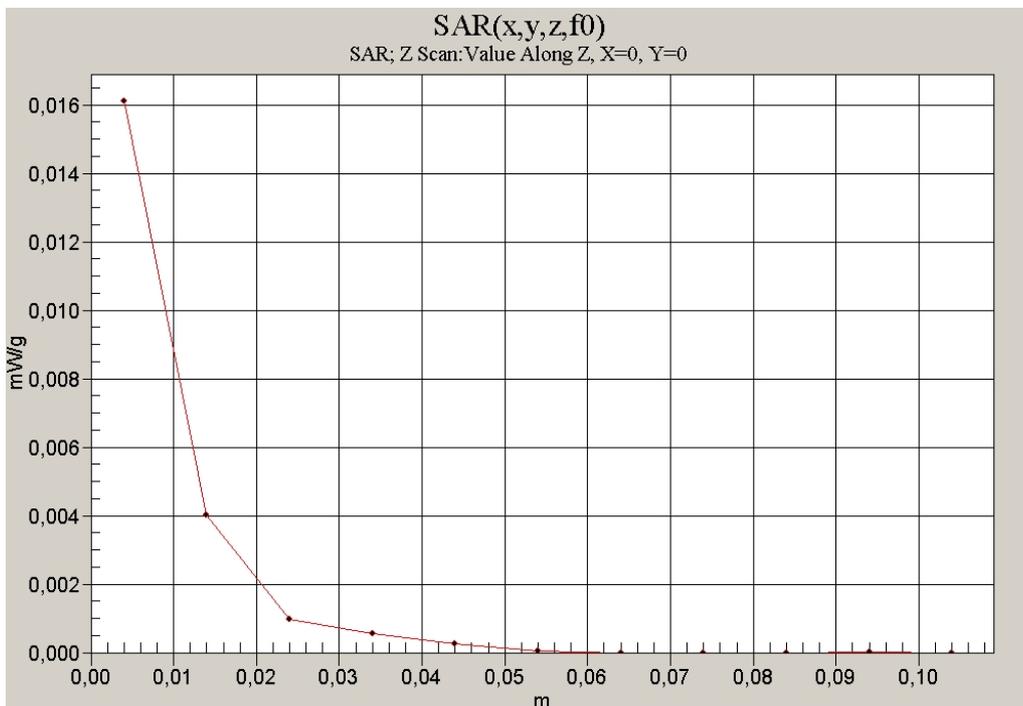


Fig. 16: SAR versus liquid depth, body: DECT US 1900, channel 2, headset and 0 mm distance, antenna 1, display towards the phantom (May 27, 2008; Ambient Temperature: 22.5° C; Liquid Temperature: 21.6° C).