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**Appendix for the Report**  
**Dosimetric Assessment of the**  
**Panasonic KX-TG4500**  
**(FCC ID: ACJPCCUKKX-TG4500)**  
**According to the FCC Requirements**  
**SAR Distribution Plots**

January 26, 2006  
**IMST GmbH**  
**Carl-Friedrich-Gauß-Str. 2**  
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Customer  
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The test results only relate to the items tested.  
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# 1 SAR Distribution Plots, WLAN 5800 MHz, Head, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A1b5lm\\_1.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;  
 Program Name: Cheek Left

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5  
 Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Left/Area Scan (8x24x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.180 mW/g

**Cheek Left/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.95 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 0.435 W/kg

**SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.045 mW/g**

Maximum value of SAR (measured) = 0.178 mW/g

**Cheek Left/Zoom Scan (8x8x8)/Cube 1:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.95 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 0.278 W/kg

**SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.020 mW/g**

Maximum value of SAR (measured) = 0.095 mW/g

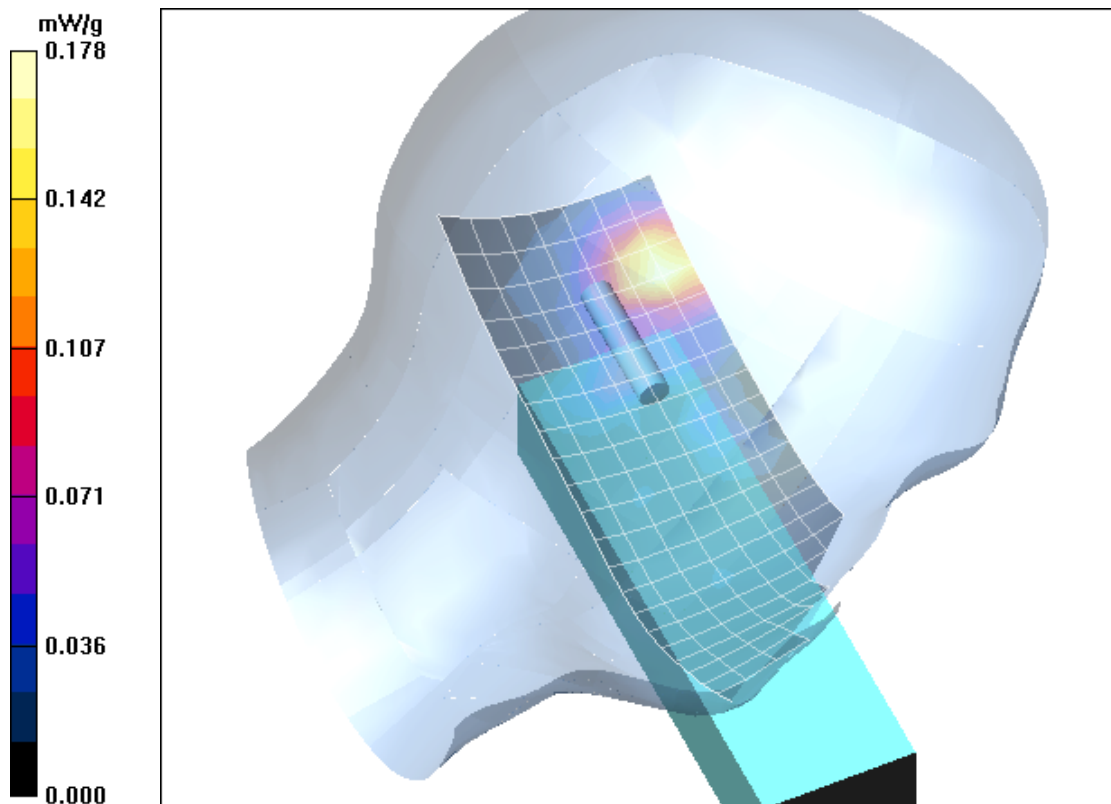


Fig. 1: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, cheek position, left side of head (January 23, 2006; Ambient Temperature: 21.5°C; Liquid Temperature: 20.5°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A1b5lm\\_2.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;

Program Name: Tilted Left

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5

Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

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

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Left/Area Scan (8x24x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.347 mW/g

**Cheek Left/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 2.04 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 0.805 W/kg

**SAR(1 g) = 0.213 mW/g; SAR(10 g) = 0.078 mW/g**

Maximum value of SAR (measured) = 0.337 mW/g

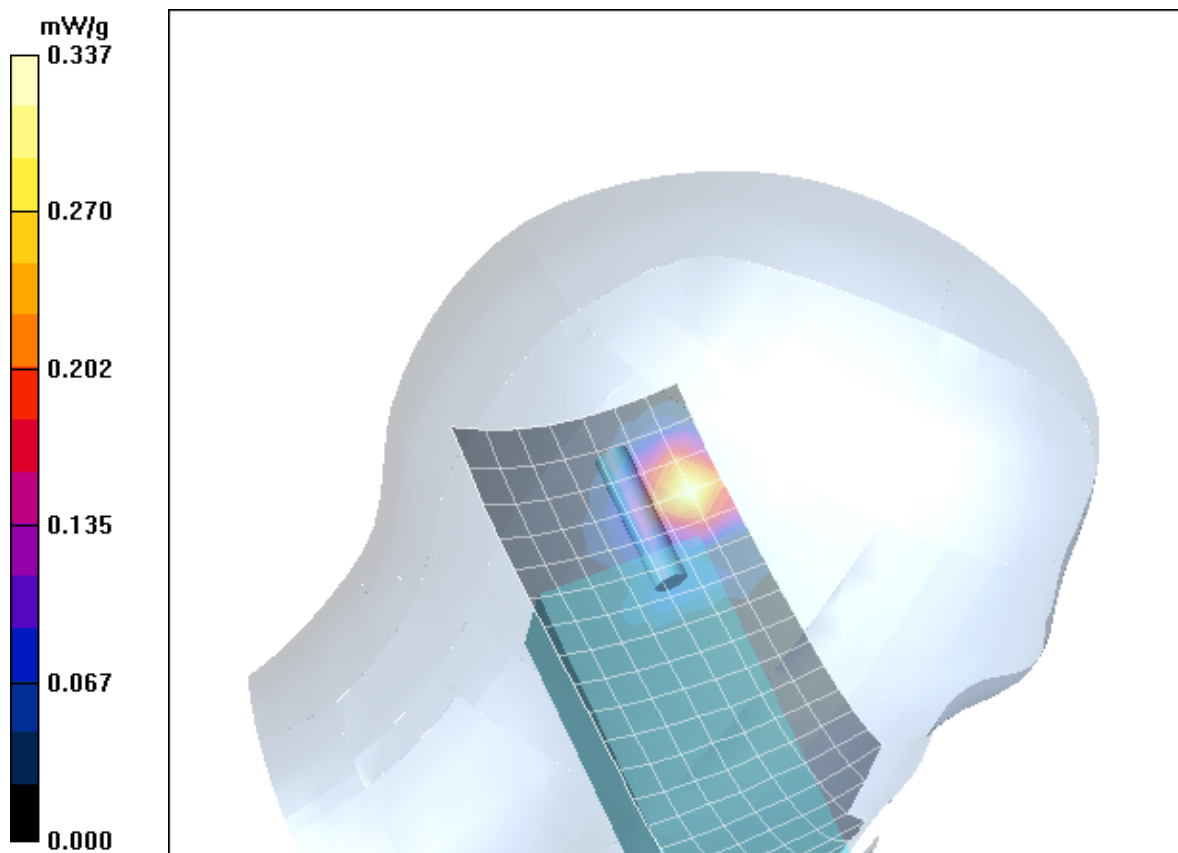


Fig. 2: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, tilted position, left side of head (January 23, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.5° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A1b5rm\\_1.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;  
 Program Name: Cheek Right

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5  
 Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Right/Area Scan (6x16x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.122 mW/g

**Cheek Right/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.98 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 0.426 W/kg

**SAR(1 g) = 0.063 mW/g; SAR(10 g) = 0.023 mW/g**

Maximum value of SAR (measured) = 0.126 mW/g

**Cheek Right/Zoom Scan (8x8x8)/Cube 1:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.98 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 0.204 W/kg

**SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.026 mW/g**

Maximum value of SAR (measured) = 0.115 mW/g

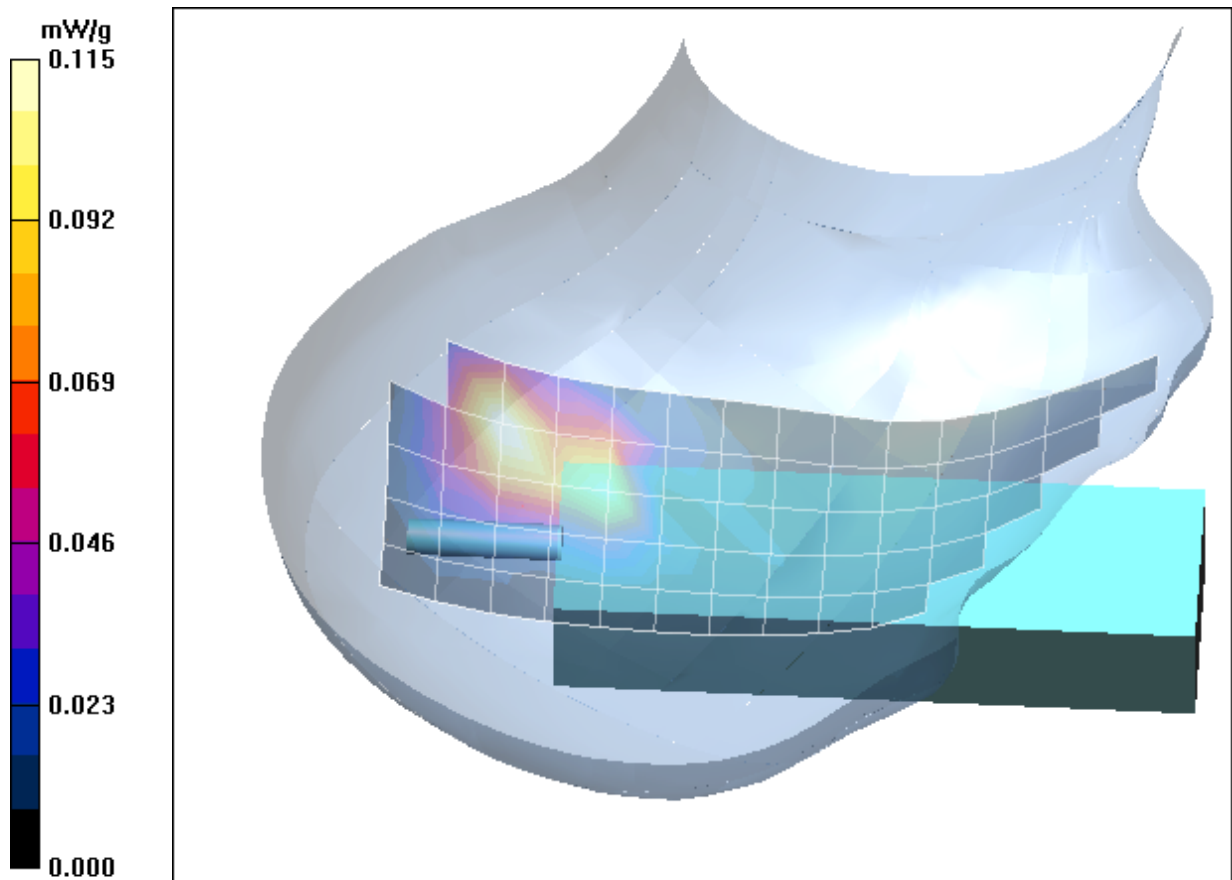


Fig. 3: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, cheek position, right side of head (January 23, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.5° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A1b5rm\\_2.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;  
 Program Name: Tilted Right

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5  
 Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Right/Area Scan (6x16x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.198 mW/g

**Cheek Right/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 2.29 V/m; Power Drift = 0.184 dB

Peak SAR (extrapolated) = 1.00 W/kg

**SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.052 mW/g**

Maximum value of SAR (measured) = 0.230 mW/g

**Cheek Right/Zoom Scan (8x8x8)/Cube 1:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 2.29 V/m; Power Drift = 0.184 dB

Peak SAR (extrapolated) = 0.417 W/kg

**SAR(1 g) = 0.106 mW/g; SAR(10 g) = 0.036 mW/g**

Maximum value of SAR (measured) = 0.203 mW/g

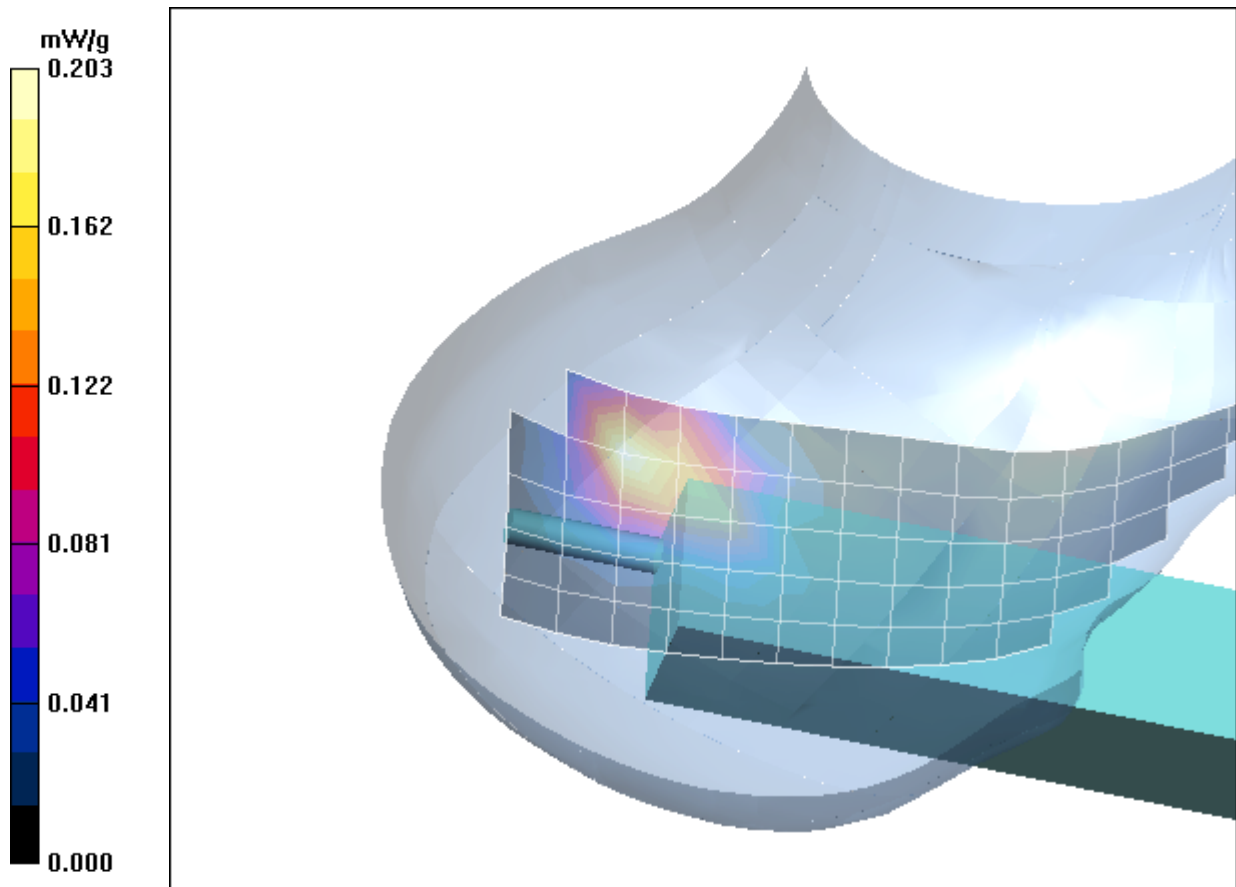


Fig. 4: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, tilted position, right side of head (January 23, 2006; Ambient Temperature: 21.6 °C; Liquid Temperature : 20.5° C)

## 2 SAR Distribution Plots, WLAN 5800 MHz, Head, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A2b5Im\\_1.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;  
Program Name: Cheek Left

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5  
Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Left/Area Scan (8x24x1):** Measurement grid: dx=10mm, dy=10mm

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

**Cheek Left/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.716 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.009 W/kg

**SAR(1 g) = 0.00026 mW/g; SAR(10 g) = 3.07e-005 mW/g**

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

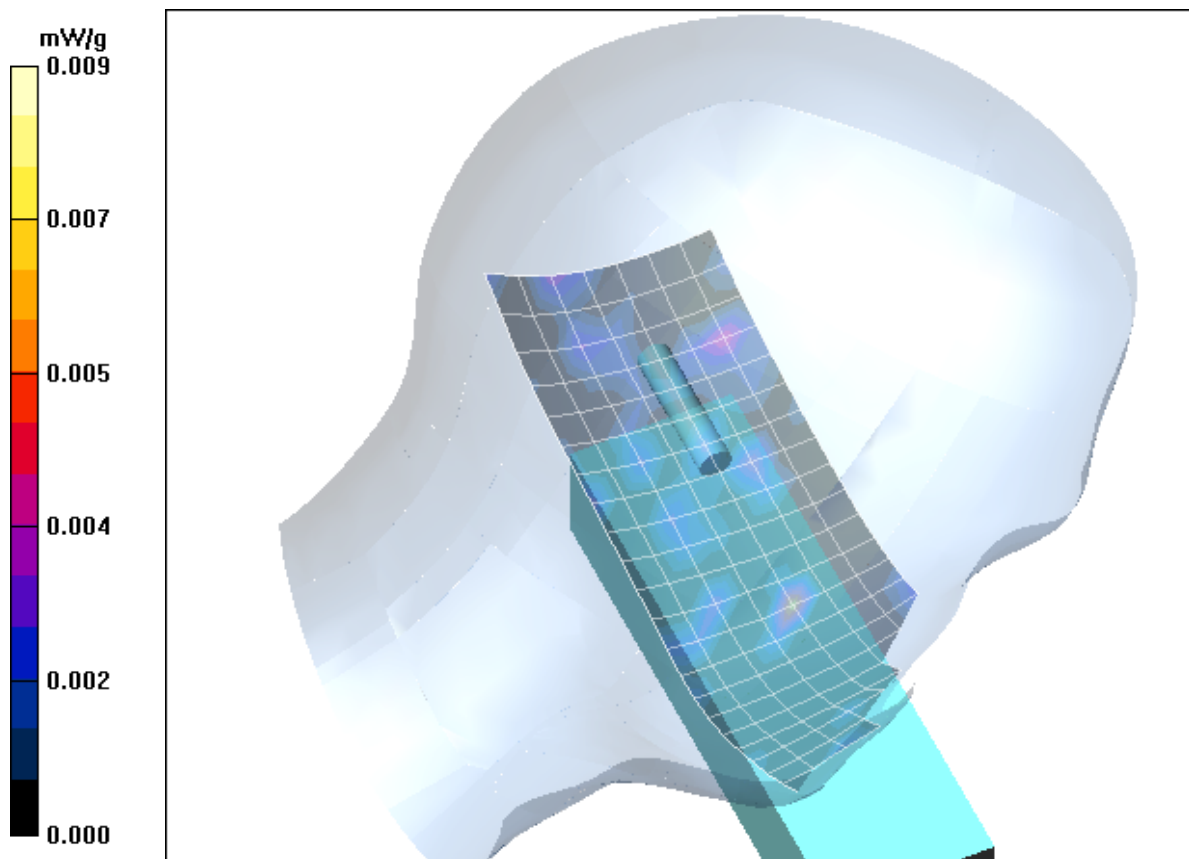


Fig. 5: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, cheek position, left side of head (January 23, 2006; Ambient Temperature: 21.5°C; Liquid Temperature: 20.5°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A2b5lm\\_2.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;

Program Name: Tilted Left

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5

Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

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

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Tilted Left/Area Scan (10x25x1):** Measurement grid: dx=10mm, dy=10mm

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

**Tilted Left/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.588 V/m; Power Drift = 0.110 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.000585 mW/g; SAR(10 g) = 0.000132 mW/g**

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

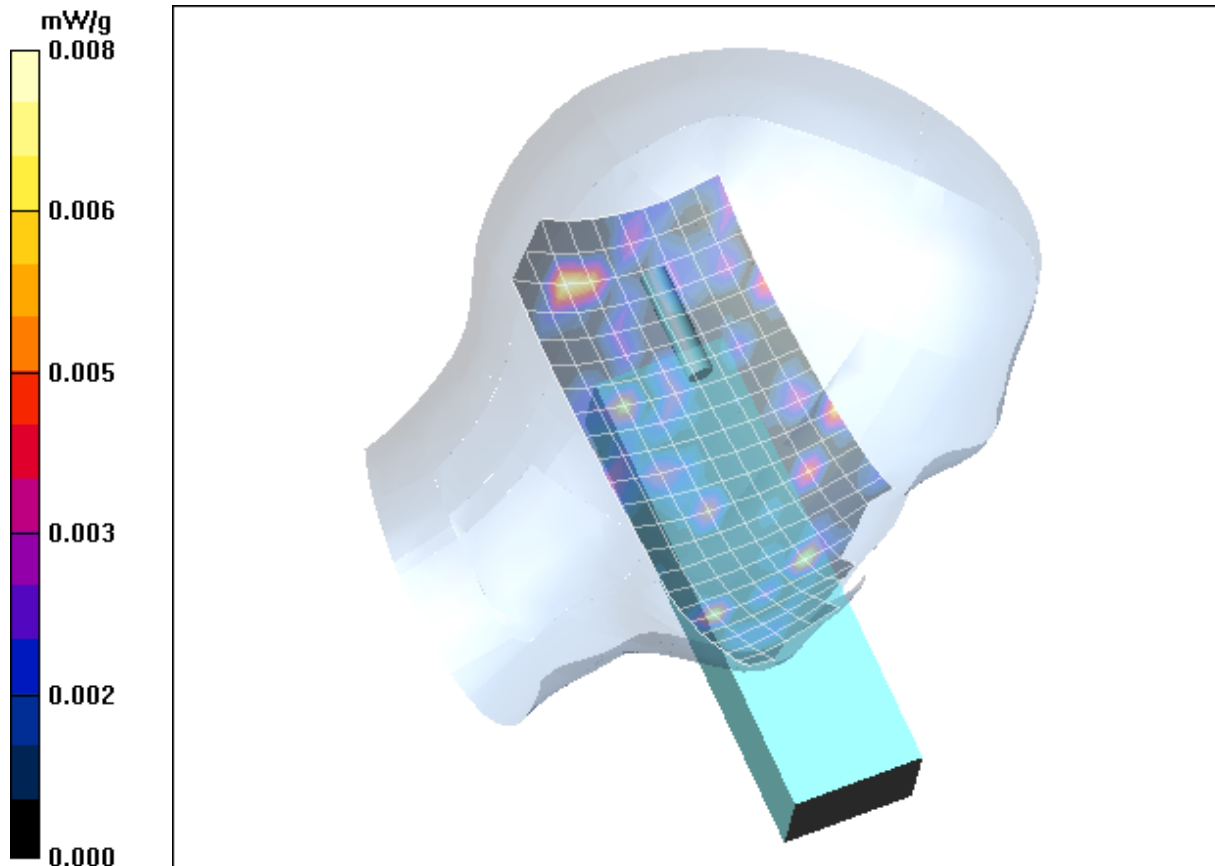


Fig. 6: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, tilted position, left side of head (January 23, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.5° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A2b5rm\\_1.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;

Program Name: Cheek Right

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5

Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

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

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Cheek Right/Area Scan (7x16x1):** Measurement grid: dx=15mm, dy=15mm

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

**Cheek Right/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.593 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.000162 mW/g; SAR(10 g) = 2.15e-005 mW/g**

Maximum value of SAR (measured) = 0.011 mW/g

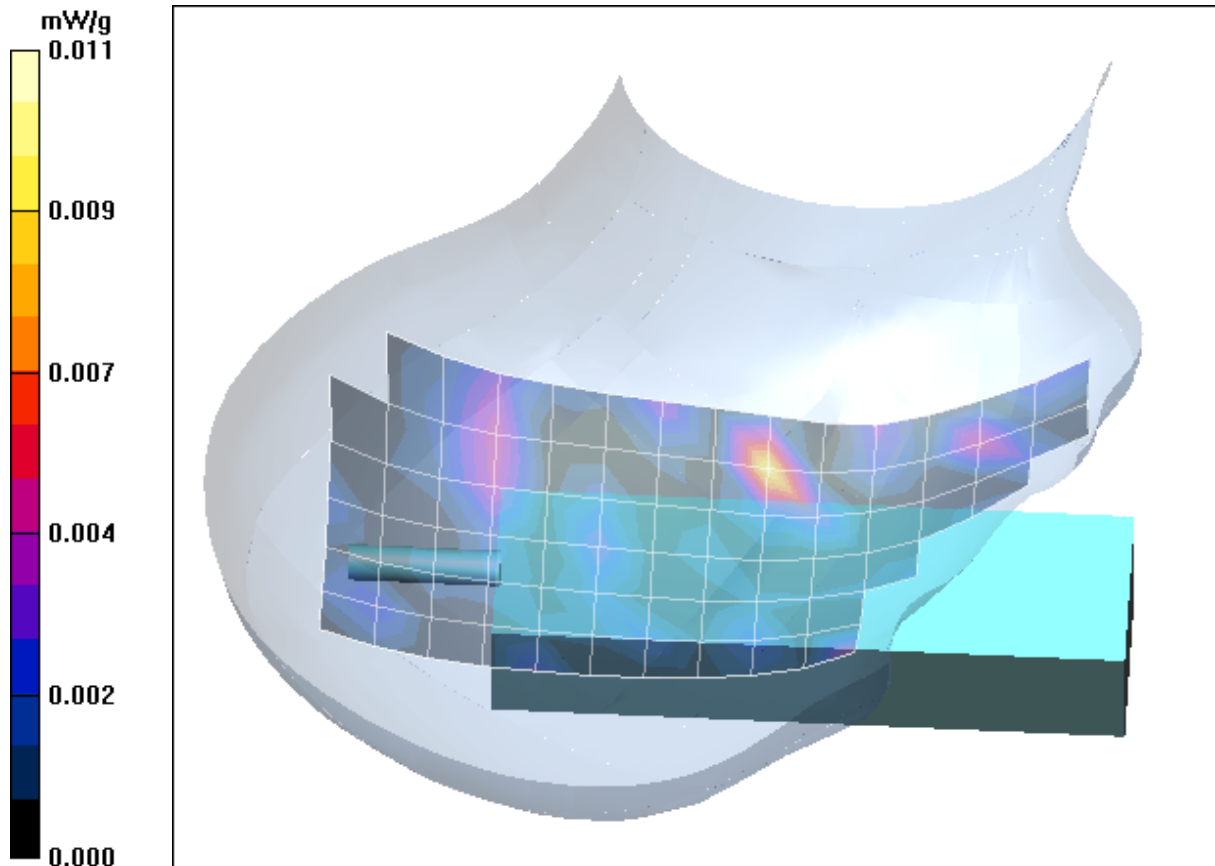


Fig. 7: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, cheek position, right side of head (January 23, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.5° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A2b5rm\\_2.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;

Program Name: Tilted Right

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5

Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 5.41$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.73, 4.73, 4.73); Calibrated: 23.09.2005

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

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

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

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Tilted Right/Area Scan (7x16x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.159 V/m; Power Drift = 0.198 dB

Peak SAR (extrapolated) = 0.078 W/kg

**SAR(1 g) = 0.00242 mW/g; SAR(10 g) = 0.00033 mW/g**

Maximum value of SAR (measured) = 0.038 mW/g

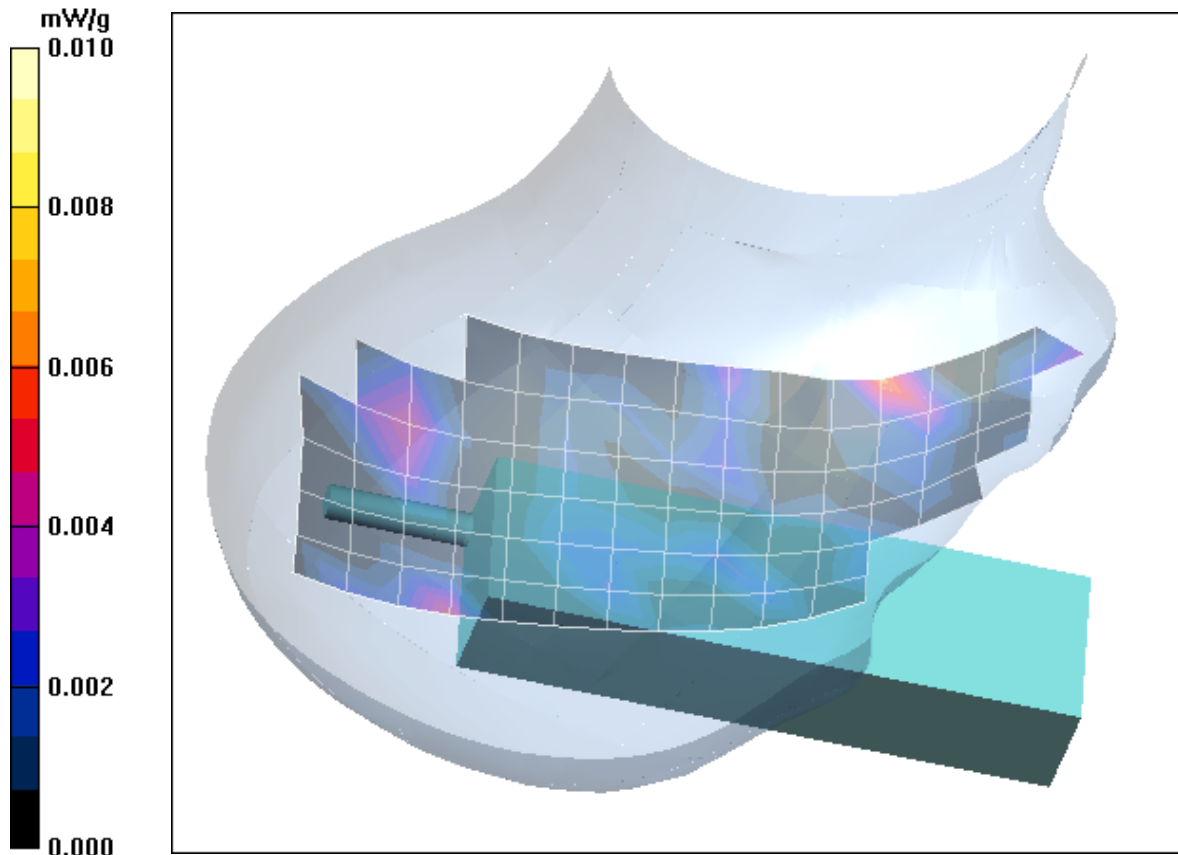


Fig. 8: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, tilted position, right side of head (January 23, 2006; Ambient Temperature: 21.5 °C; Liquid Temperature : 20.5° C)

### 3 SAR Distribution Plots, 5800 MHz, Body with headset, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A1b5hm\\_1.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;  
 Program Name: Body

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5  
 Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 6.05$  mho/m;  $\epsilon_r = 47.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.56, 4.56, 4.56); Calibrated: 23.09.2005
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body/Area Scan (11x24x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.052 mW/g

**Body/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.950 V/m; Power Drift = 0.108 dB

Peak SAR (extrapolated) = 0.313 W/kg

**SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.013 mW/g**

Maximum value of SAR (measured) = 0.055 mW/g

**Body/Zoom Scan (8x8x8)/Cube 1:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.950 V/m; Power Drift = 0.108 dB

Peak SAR (extrapolated) = 0.233 W/kg

**SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.00923 mW/g**

Maximum value of SAR (measured) = 0.039 mW/g

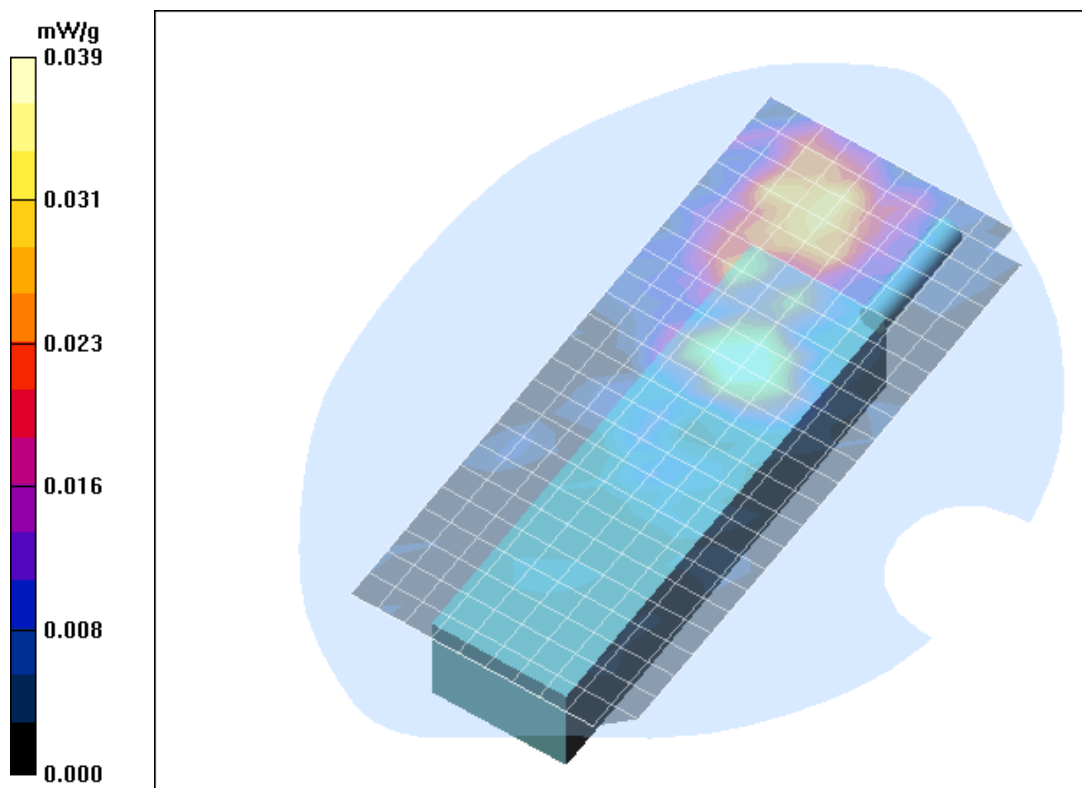


Fig. 9: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, body worn configuration, display towards the ground, with headset and 0 mm distance (January 25, 2006; Ambient Temperature: 21.5°C; Liquid Temperature: 20.5°C).

## 4 SAR Distribution Plots, 5800 MHz, Body with headset, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [A2b5hm\\_2.da4](#)

DUT: Panasonic KX-TG4500; Type: KX-TG4500;

Program Name: Body

Communication System: 5.8 GHz; Frequency: 5787.94 MHz; Duty Cycle: 1:12.5

Medium parameters used (interpolated):  $f = 5787.94$  MHz;  $\sigma = 6.05$  mho/m;  $\epsilon_r = 47.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(4.56, 4.56, 4.56); Calibrated: 23.09.2005

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

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

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body/Area Scan (11x24x1):** Measurement grid: dx=10mm, dy=10mm

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

**Body/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.607 V/m; Power Drift = 0.836 dB

Peak SAR (extrapolated) = 0.008 W/kg

**SAR(1 g) = 4.36e-005 mW/g; SAR(10 g) = 1.29e-005 mW/g (Values below detection limit)**

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

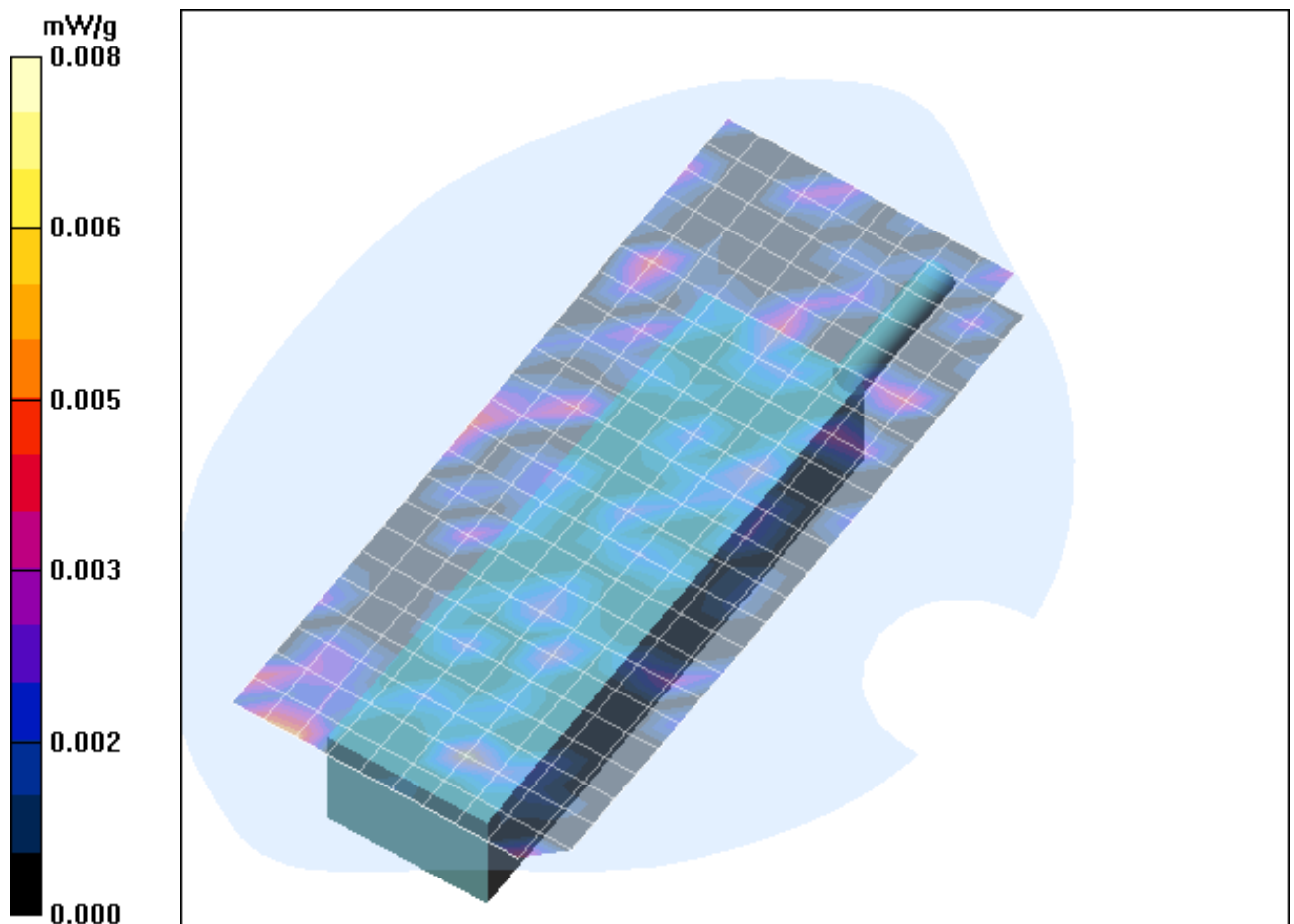


Fig. 10: SAR distribution for Panasonic KX-TG4500 handset, channel 18/28, body worn configuration, display towards the ground, with headset and 0 mm distance (January 25, 2006; Ambient Temperature: 21.5°C; Liquid Temperature: 20.5°C).

## 5 SAR z-axis scans (Validation)

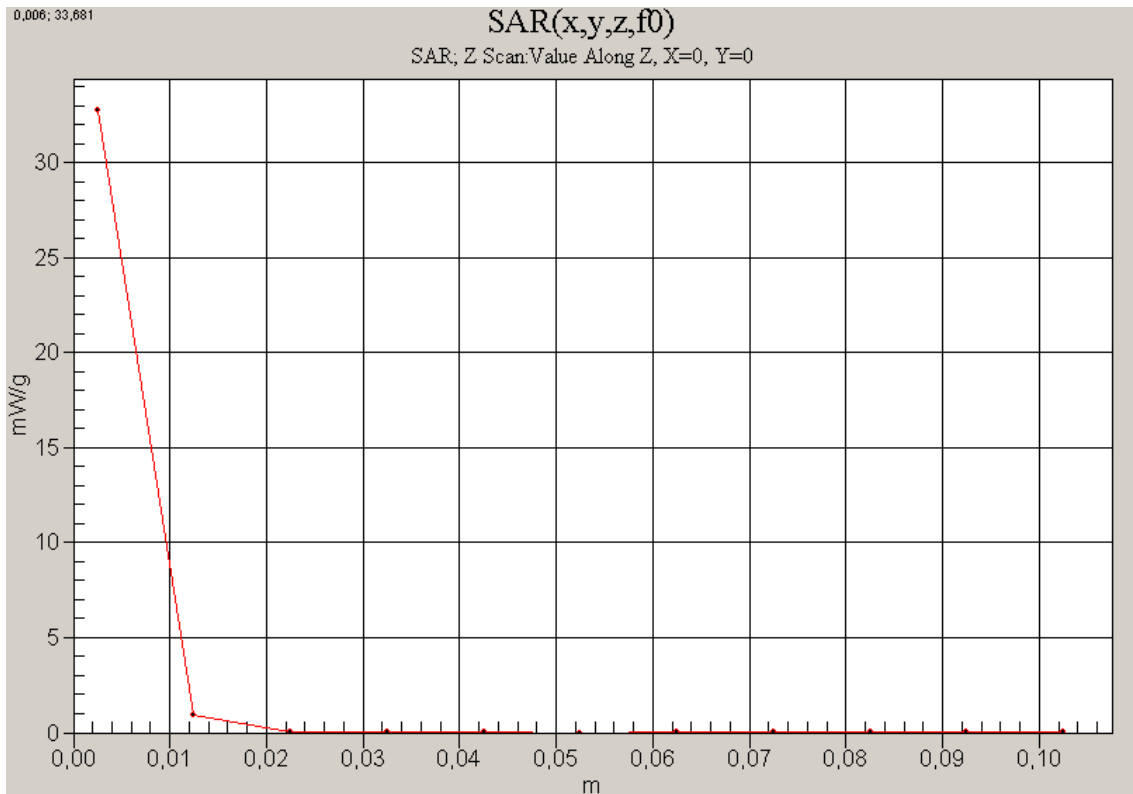


Fig. 11: SAR versus liquid depth, 5800 MHz, head (January 23, 2006; Ambient Temperature: 21.1° C; Liquid Temperature : 20.5° C).

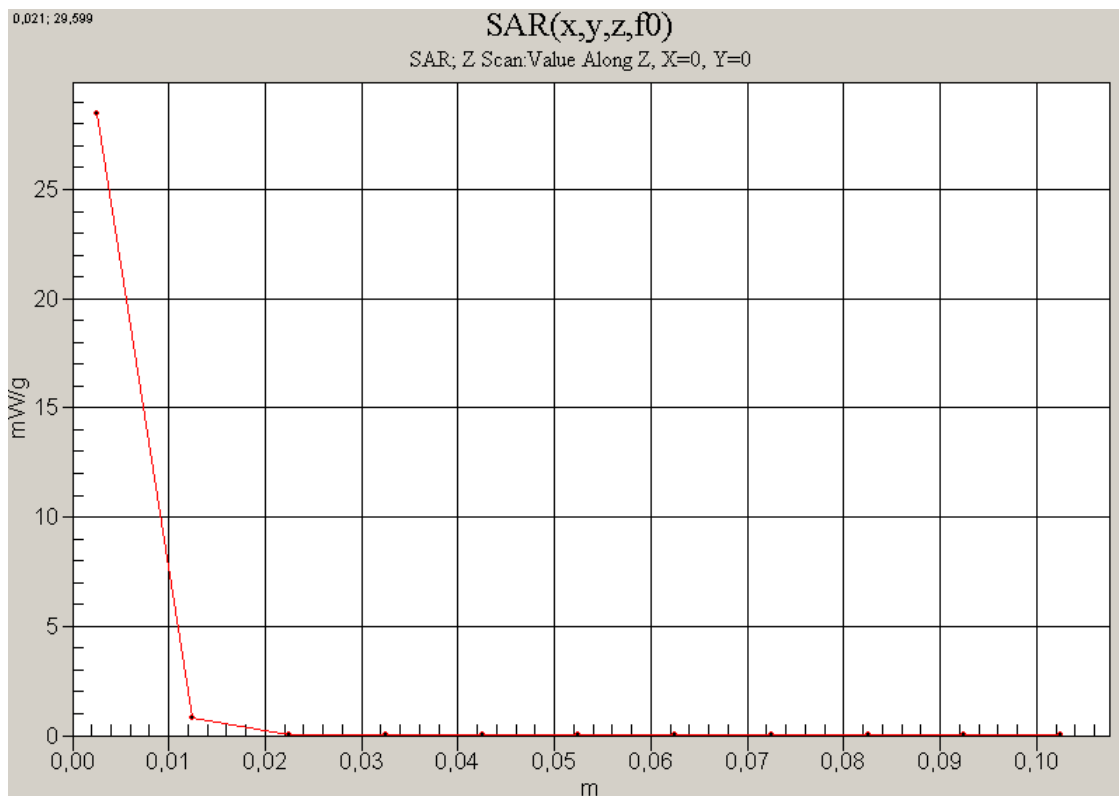


Fig. 12: SAR versus liquid depth, 5800 MHz, body (January 25, 2006; Ambient Temperature: 21.4° C; Liquid Temperature : 20.5° C).

## 6 SAR z-axis scans (Measurements)

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

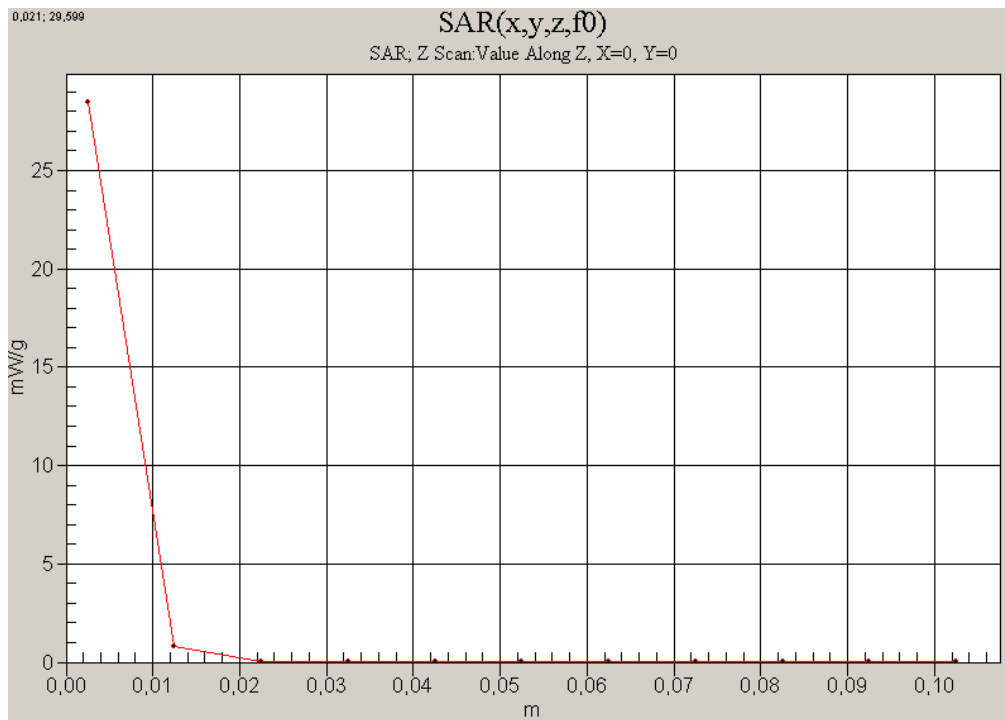


Fig. 13: SAR versus liquid depth, head: 5.800 MHz, channel 18/28, tilted position, left side of head, Antenna 1 (January 23, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.5° C).

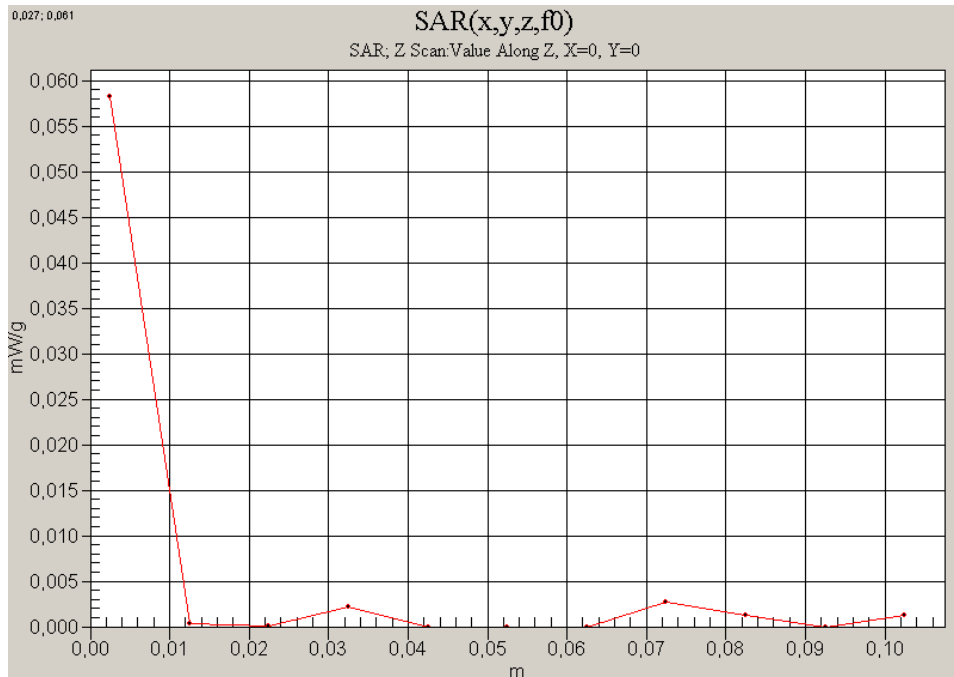


Fig. 14: SAR versus liquid depth, body: 5800 MHz, channel 18/28, display towards the ground, with headset and 0 mm distance, Antenna 1 (January 25, 2006; Ambient Temperature: 21.5° C; Liquid Temperature: 20.5° C).