
Appendix for the Report

Dosimetric Assessment of the BenQ Siemens S68 (FCC ID: PWX-S68)

According to the FCC Requirements

SAR Distribution Plots

January 05, 2006
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The test results only relate to the items tested.
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1 SAR Distribution Plots, PCS 1900 Head

Test Laboratory: Imst GmbH; File Name: [423yplm_1.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Cheek Left

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

Cheek Left/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.303 mW/g

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

Reference Value = 16.5 V/m; Power Drift = 0.156 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.344 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.395 mW/g

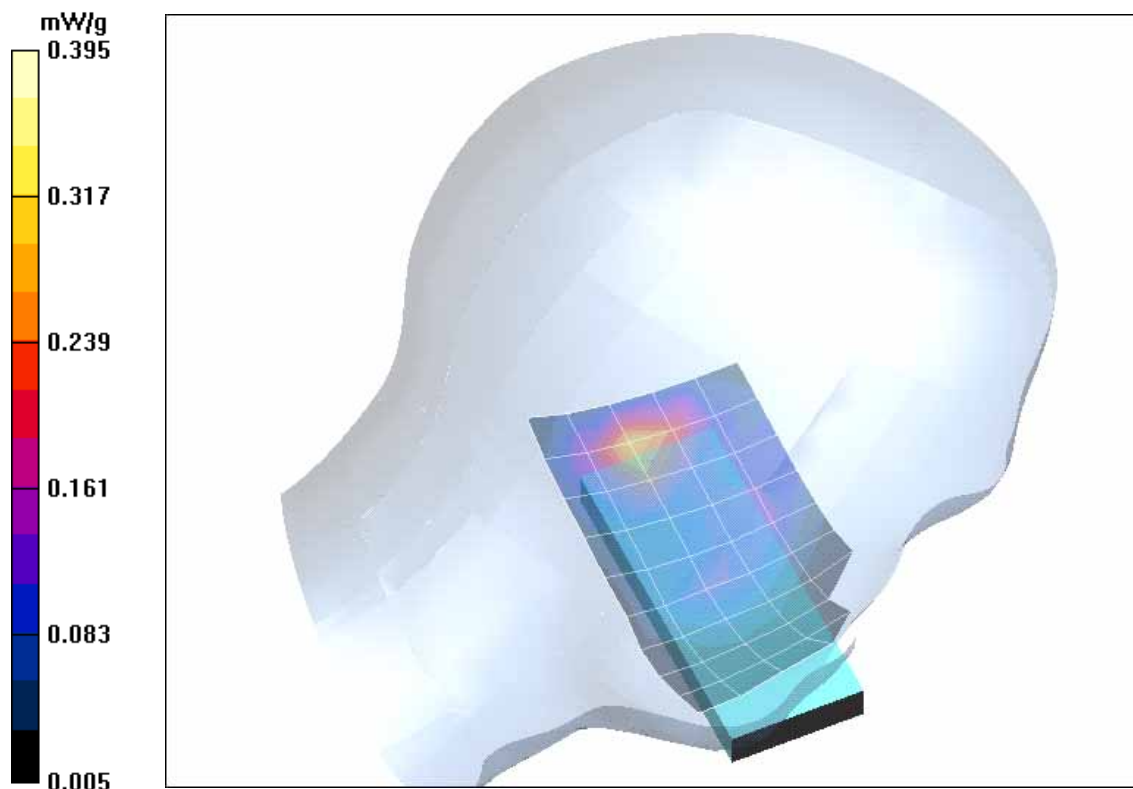


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head (December 30, 2005; Ambient Temperature: 20.8° C; Liquid Temperature: 20.2° C).

Test Laboratory: Imst GmbH; File Name: [423yplm_2.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Tilted Left

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

Tilted Left/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.371 mW/g

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

Reference Value = 18.6 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.678 W/kg

SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.220 mW/g

Maximum value of SAR (measured) = 0.484 mW/g

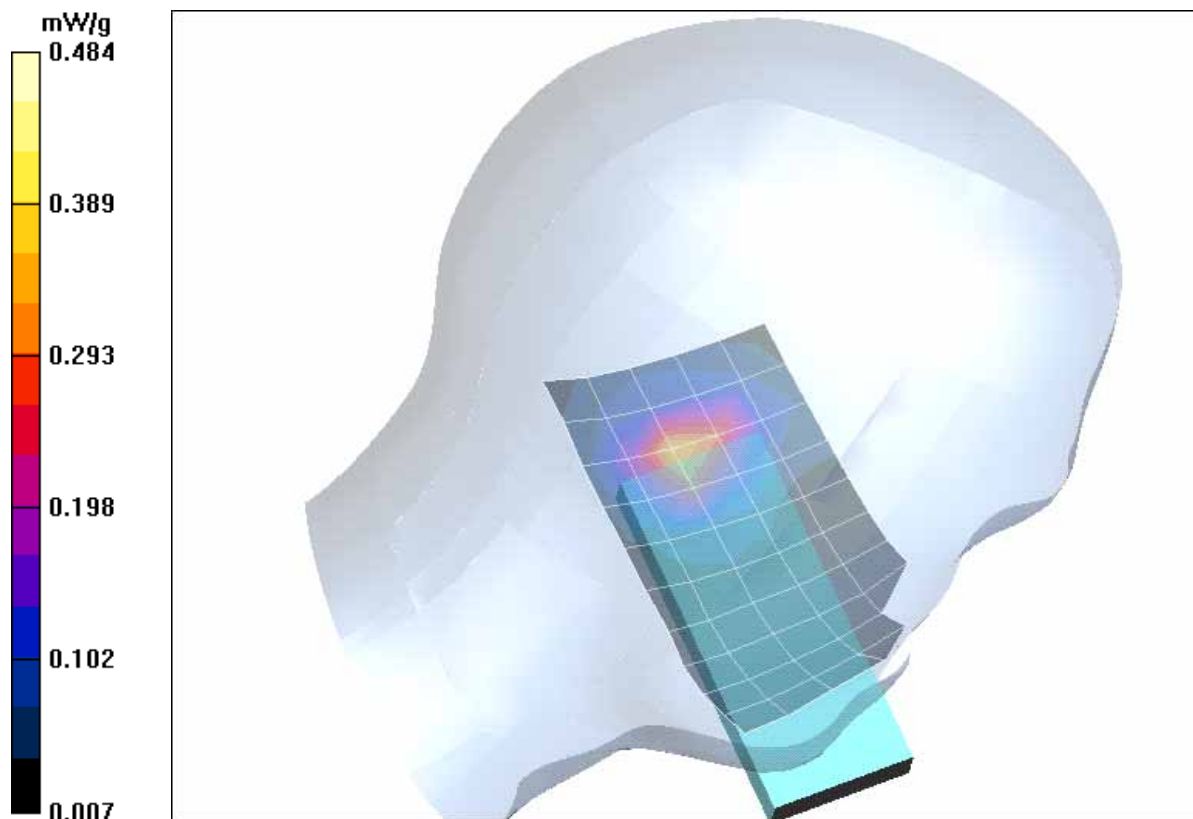


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (December 30, 2005; Ambient Temperature: 20.8° C; Liquid Temperature: 20.2° C).

Test Laboratory: Imst GmbH; File Name: [423yprm_1.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Cheek Right

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

Cheek Right/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.409 mW/g

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

Reference Value = 16.7 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 0.574 W/kg

SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.194 mW/g

Maximum value of SAR (measured) = 0.426 mW/g

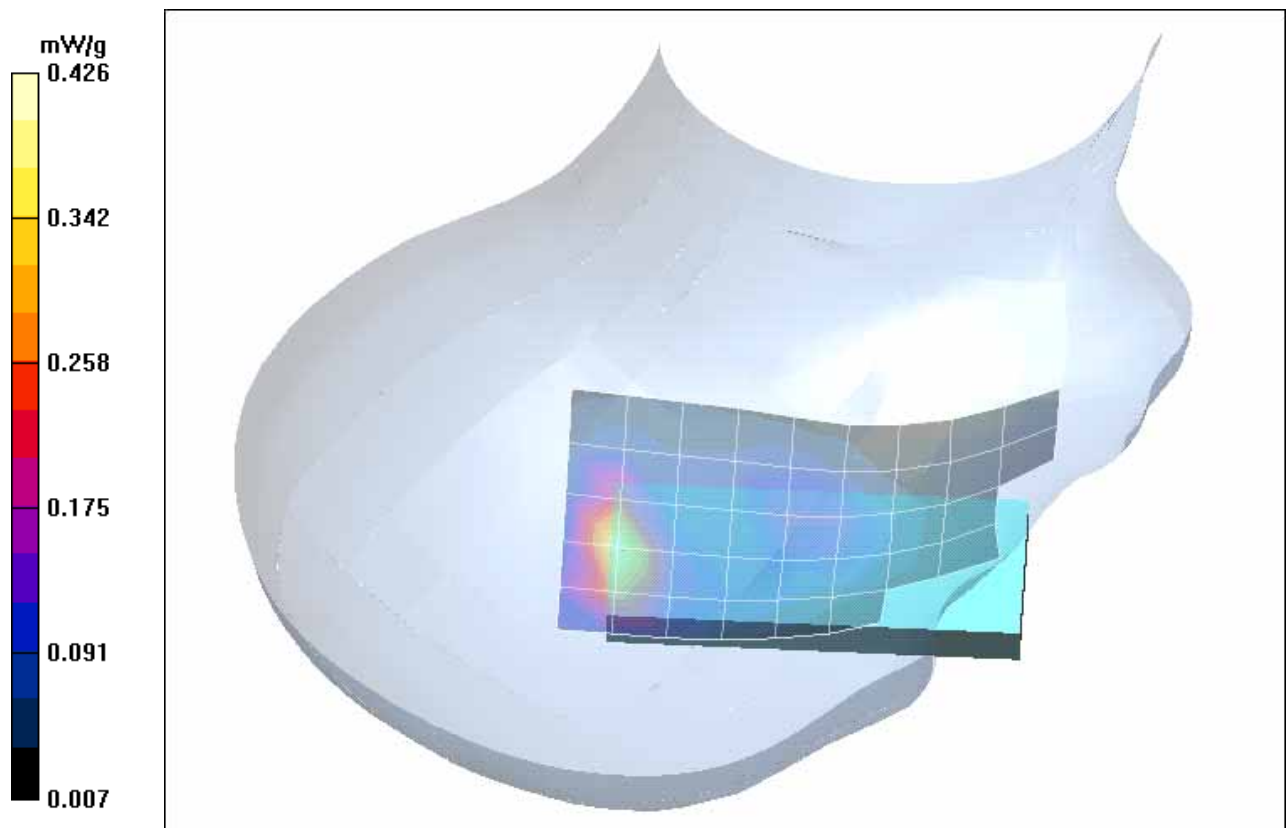


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head (December 30, 2005; Ambient Temperature: 20.8° C; Liquid Temperature: 20.2° C).

Test Laboratory: Imst GmbH; File Name: [423yprm_2.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Tilted Right

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

Tilted Right/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.512 mW/g

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

Reference Value = 19.4 V/m; Power Drift = 0.099 dB

Peak SAR (extrapolated) = 0.717 W/kg

SAR(1 g) = 0.453 mW/g; SAR(10 g) = 0.234 mW/g

Maximum value of SAR (measured) = 0.520 mW/g

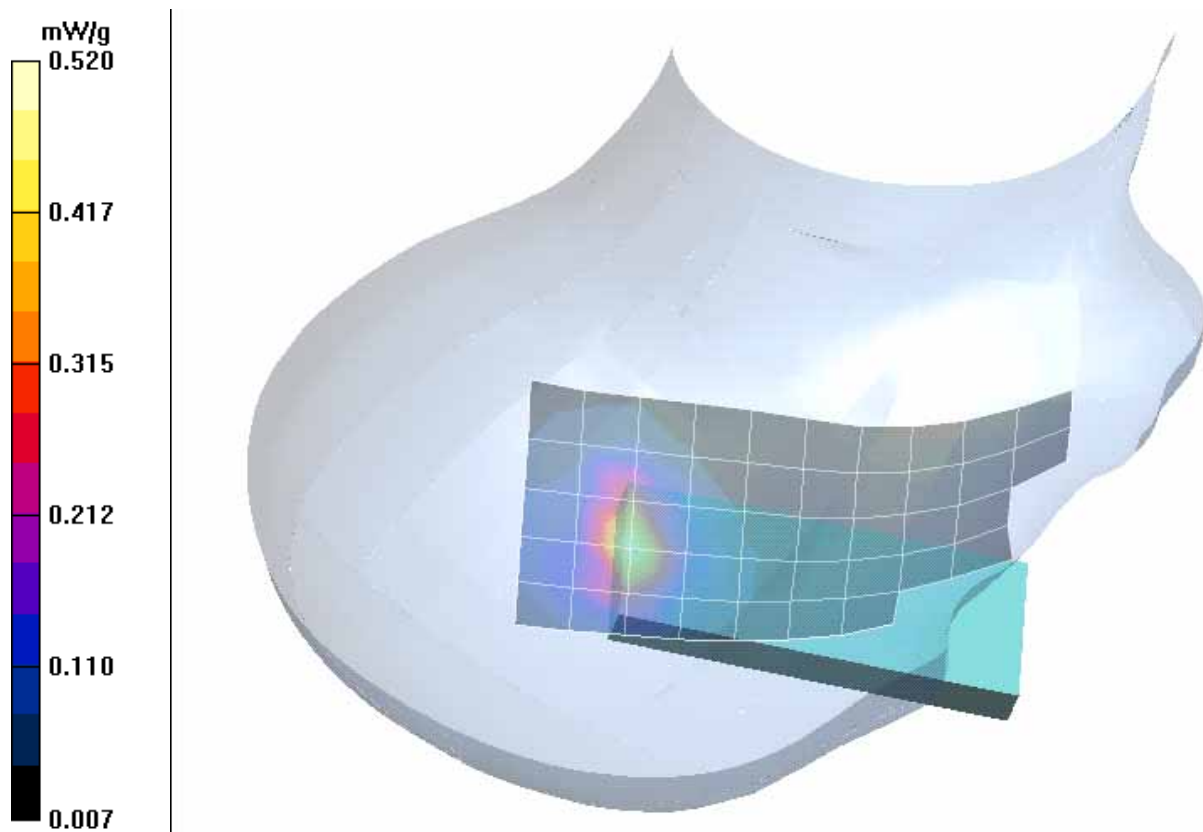


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (December 30, 2005; Ambient Temperature: 20.8° C; Liquid Temperature: 20.2° C)

Test Laboratory: Imst GmbH; File Name: [423yprm_2_BT.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Tilted Right

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

Tilted Right/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.452 mW/g

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

Reference Value = 17.7 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.616 W/kg

SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.209 mW/g

Maximum value of SAR (measured) = 0.462 mW/g

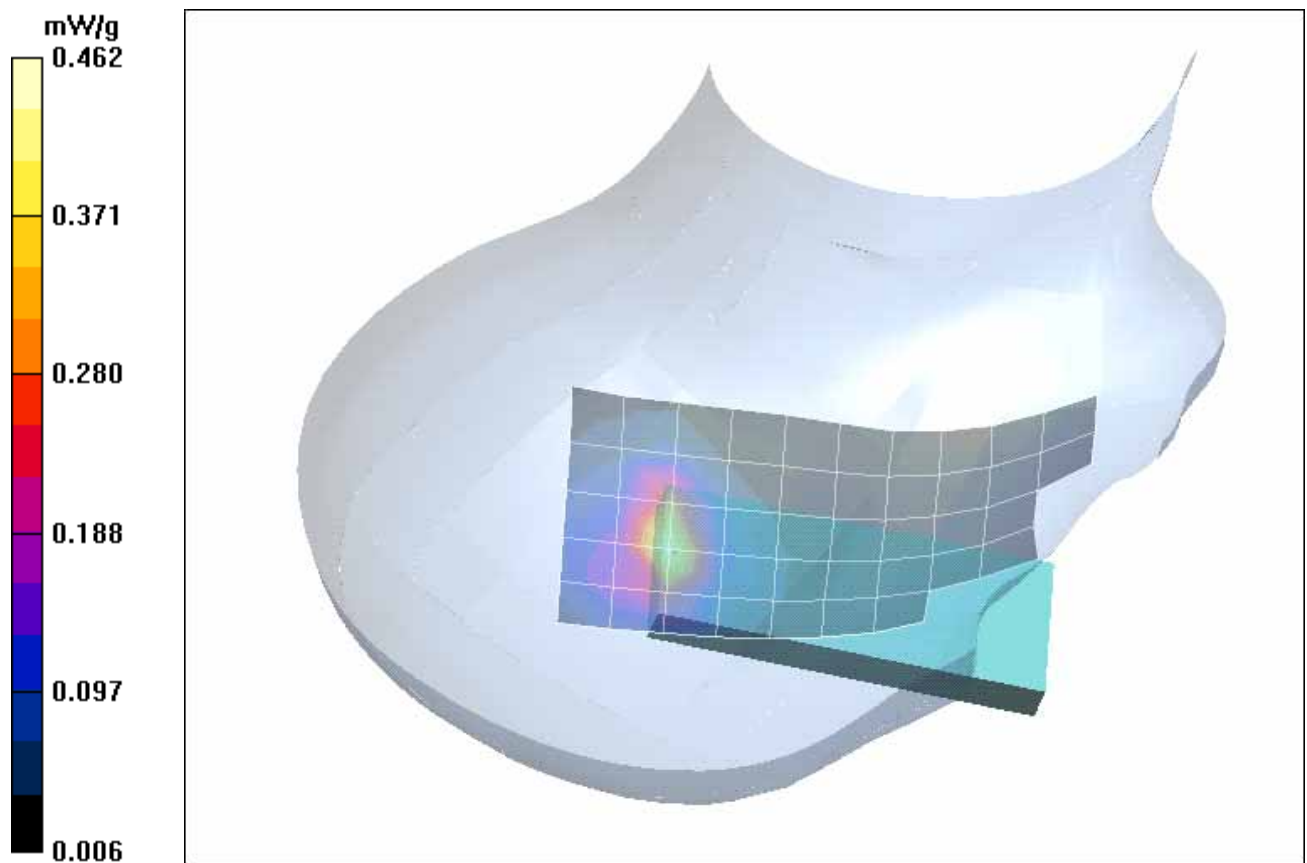


Fig. 5: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (December 30, 2005; Ambient Temperature: 20.9° C; Liquid Temperature: 20.2° C)

2 SAR Distribution Plots, PCS 1900 Body in GSM mode

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [423bphm_5_20mm_ohne.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.84, 7.84, 7.84); 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

Body Worn/Area Scan (6x10x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.916 mW/g

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

Reference Value = 3.27 V/m; Power Drift = -0.122 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.722 mW/g; SAR(10 g) = 0.385 mW/g

Maximum value of SAR (measured) = 0.856 mW/g

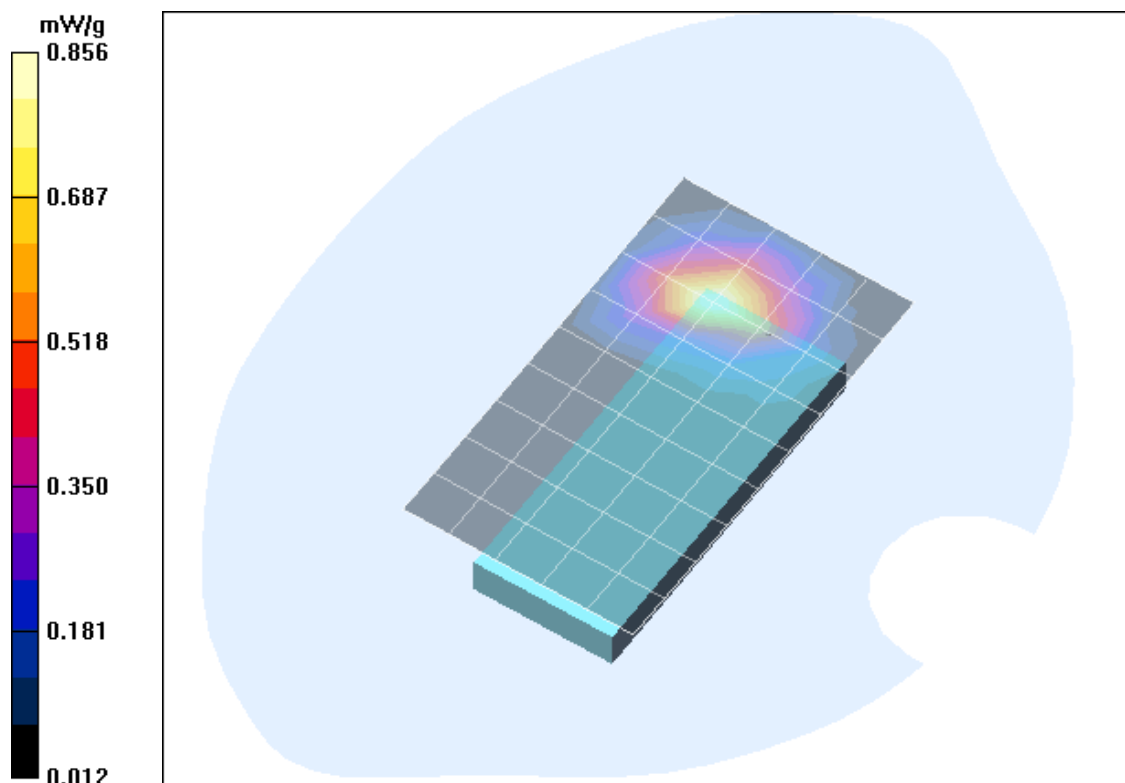


Fig. 6: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, without accessory, 20mm distance (January 03, 2006; Ambient Temperature: 21.2° C; Liquid Temperature: 20.5° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [423bphm 6 20mm headset.da4](#)

DUT: BenQ S68; **Type:** BenQ S68; **Serial:** 004400015057423

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.84, 7.84, 7.84); 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

Body Worn/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.749 mW/g

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

Reference Value = 3.18 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.745 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (measured) = 0.828 mW/g

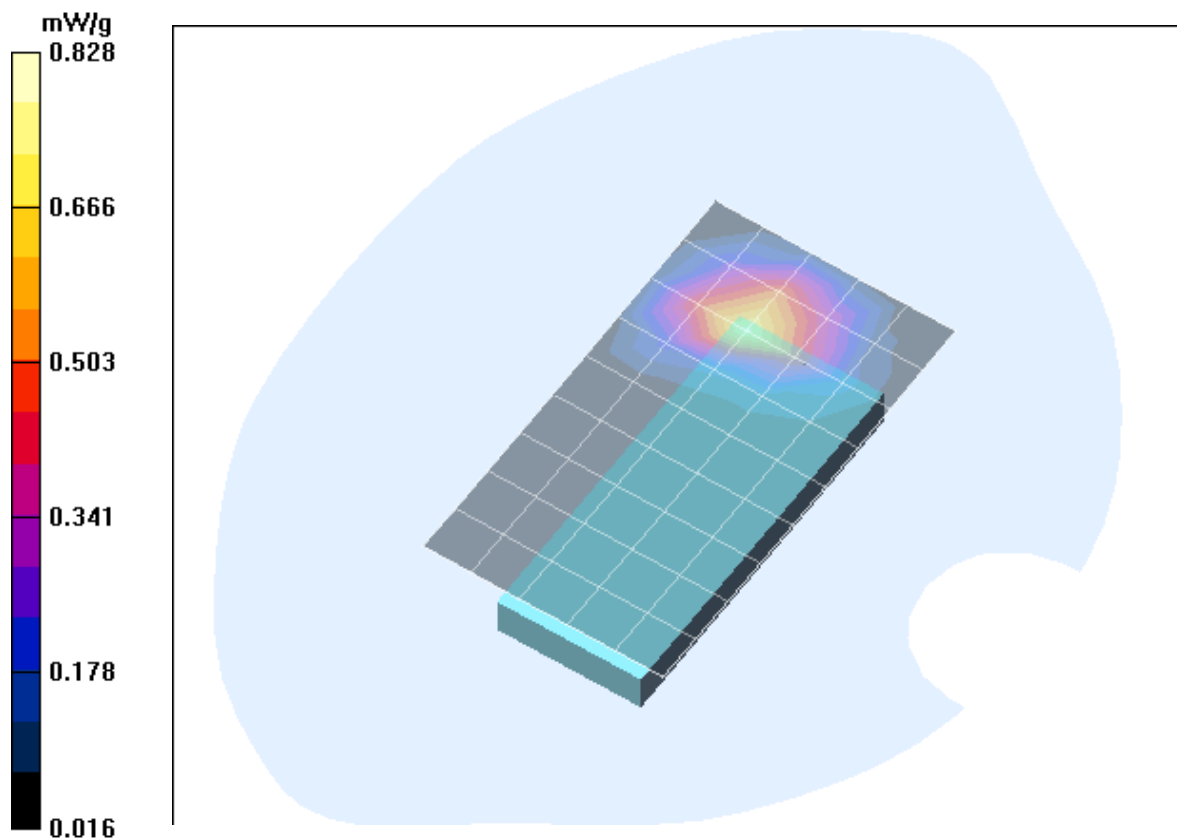


Fig. 7: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, with headset, 20mm distance (January 03, 2006; Ambient Temperature: 21.2° C; Liquid Temperature: 20.5° C).

3 SAR Distribution Plots, PCS 1900 Body in GPRS mode

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [423bphh_11_22mm_data.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.84, 7.84, 7.84); 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

Body Worn/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.44 mW/g

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

Reference Value = 4.60 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.763 mW/g

Maximum value of SAR (measured) = 1.55 mW/g

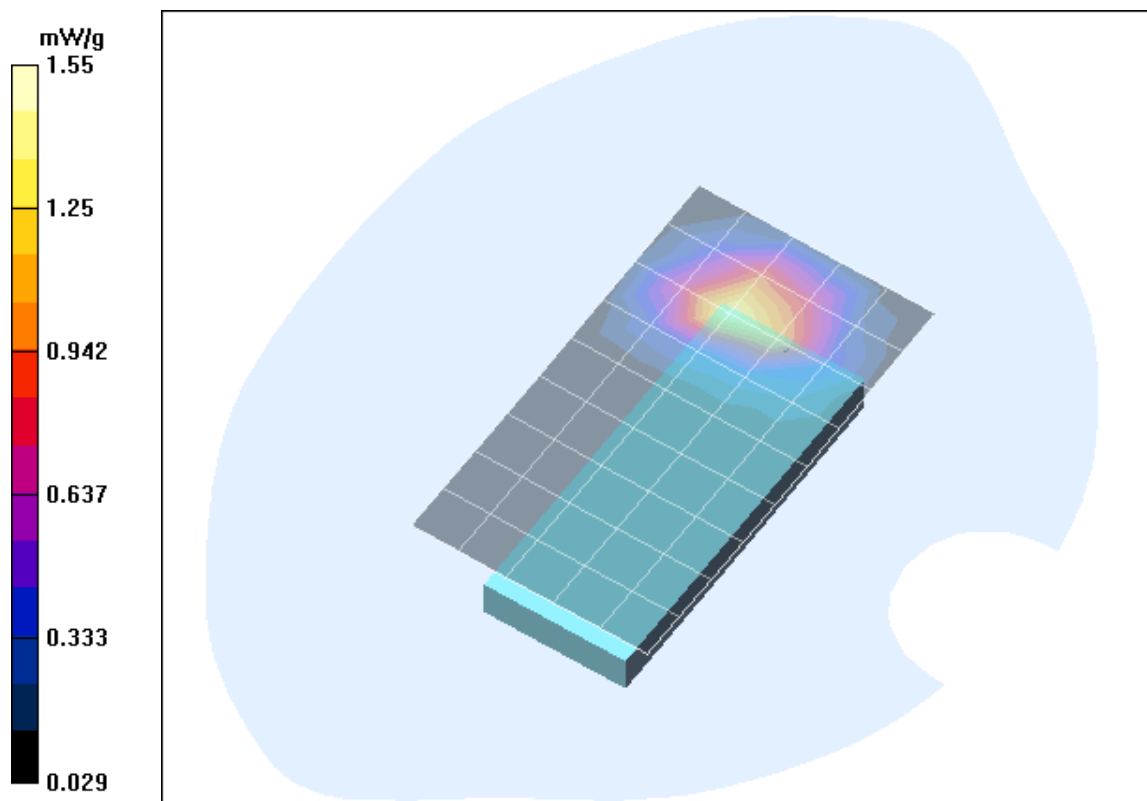


Fig. 8: SAR distribution for GPRS 1900 (Class 10), channel 810, body worn configuration, antenna towards the phantom, with data cable, 22mm distance (January 03, 2006; Ambient Temperature: 21.2°C; Liquid Temperature: 20.5°C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [423bphh_10_22mm_BT.da4](#)

DUT: BenQ S68; **Type:** BenQ S68; **Serial:** 004400015057423

Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.84, 7.84, 7.84); 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

Body Worn/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.41 mW/g

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

Reference Value = 4.59 V/m; Power Drift = 0.098 dB

Peak SAR (extrapolated) = 2.26 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.758 mW/g

Maximum value of SAR (measured) = 1.53 mW/g

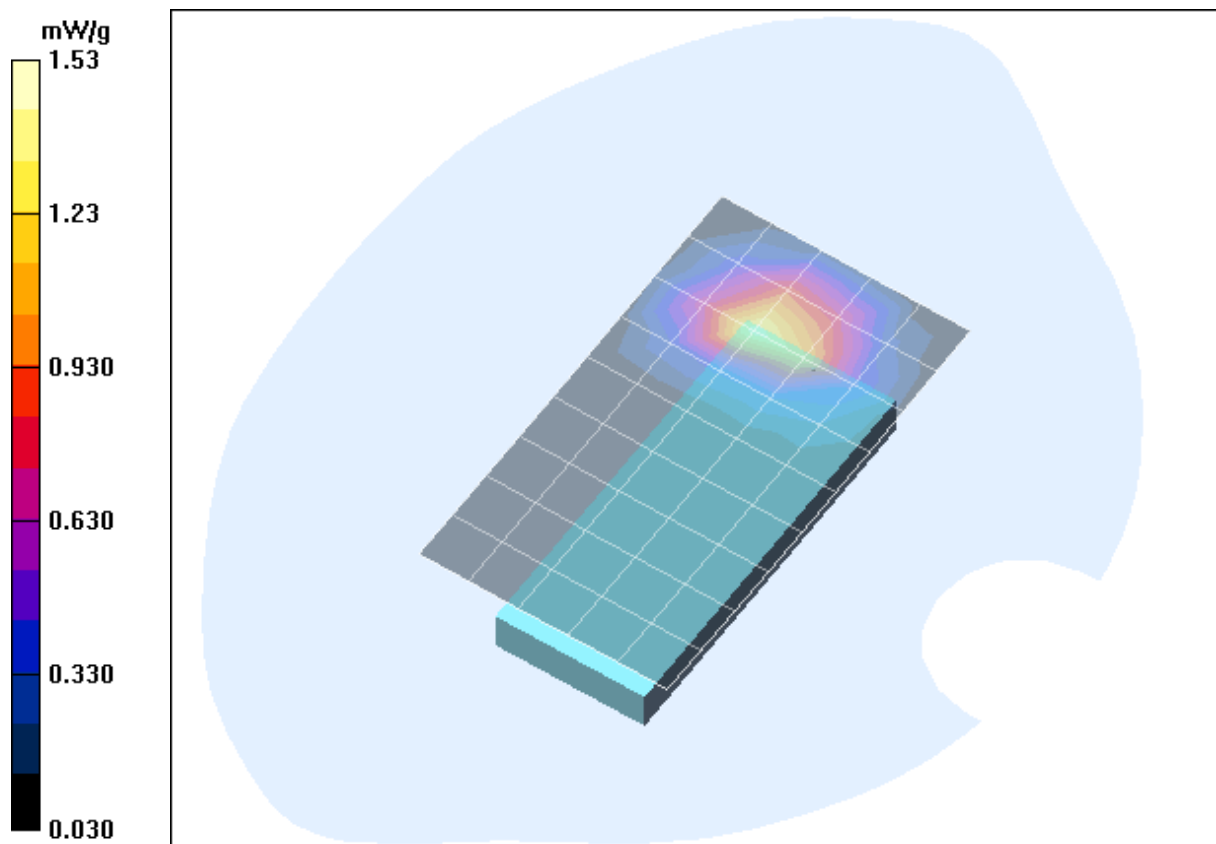


Fig. 9: SAR distribution for GPRS 1900 (Class 10), channel 810, body worn configuration, antenna towards the phantom, with BT activated, 22mm distance (January 03, 2006; Ambient Temperature: 21.2°C; Liquid Temperature: 20.5°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [423bphm_12_25mm_PTT.da4](#)

DUT: BenQ S68; Type: BenQ S68; Serial: 004400015057423

Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.84, 7.84, 7.84); 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

Body Worn/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.139 mW/g

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

Reference Value = 5.86 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.195 W/kg

SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.081 mW/g

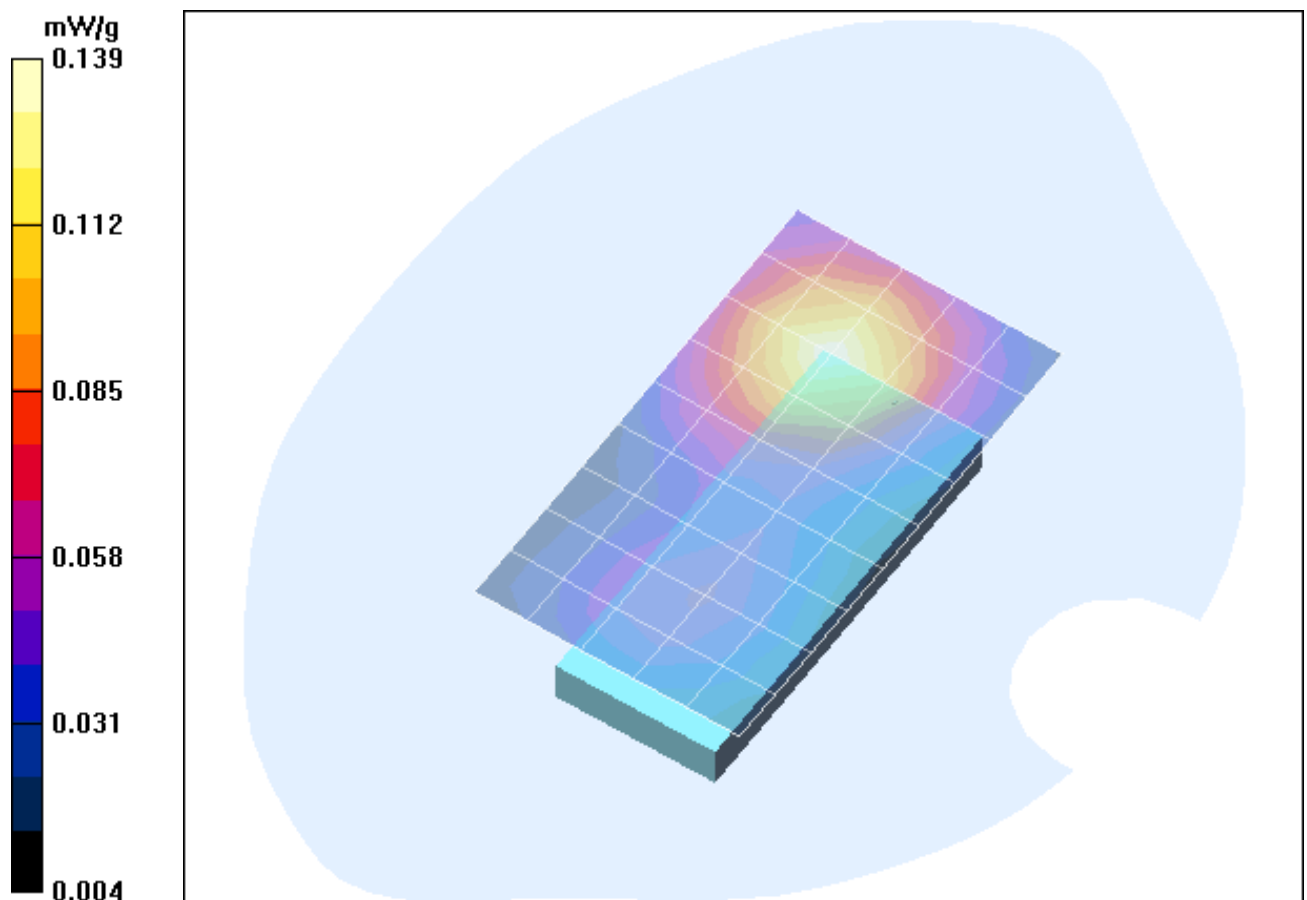


Fig. 10: SAR distribution for GPRS 1900 (Class 10), channel 661, body worn configuration, display towards the phantom, PTT mode, 25mm distance (January 03, 2006; Ambient Temperature: 21.2°C; Liquid Temperature: 20.5°C).

4 SAR z-axis scans (Validation)

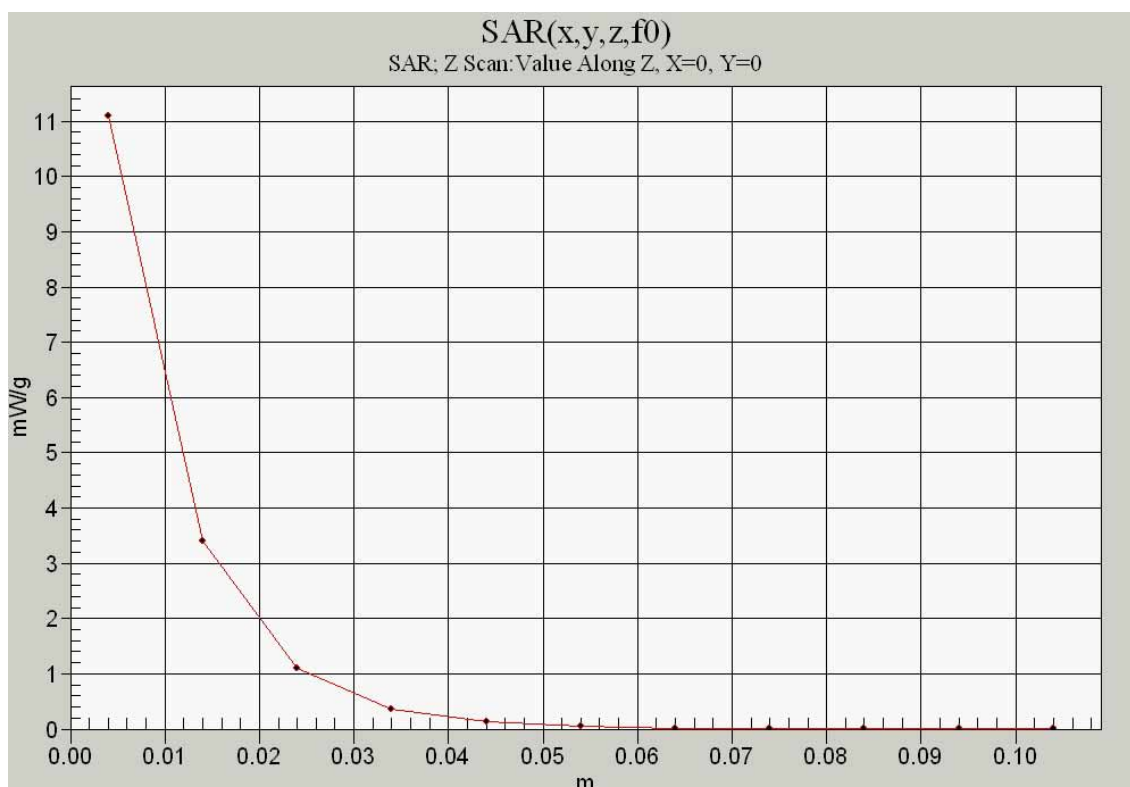


Fig. 11: SAR versus liquid depth, 1900 MHz, head (December 30, 2005; Ambient Temperature: 20.9° C; Liquid Temperature : 20.1° C).

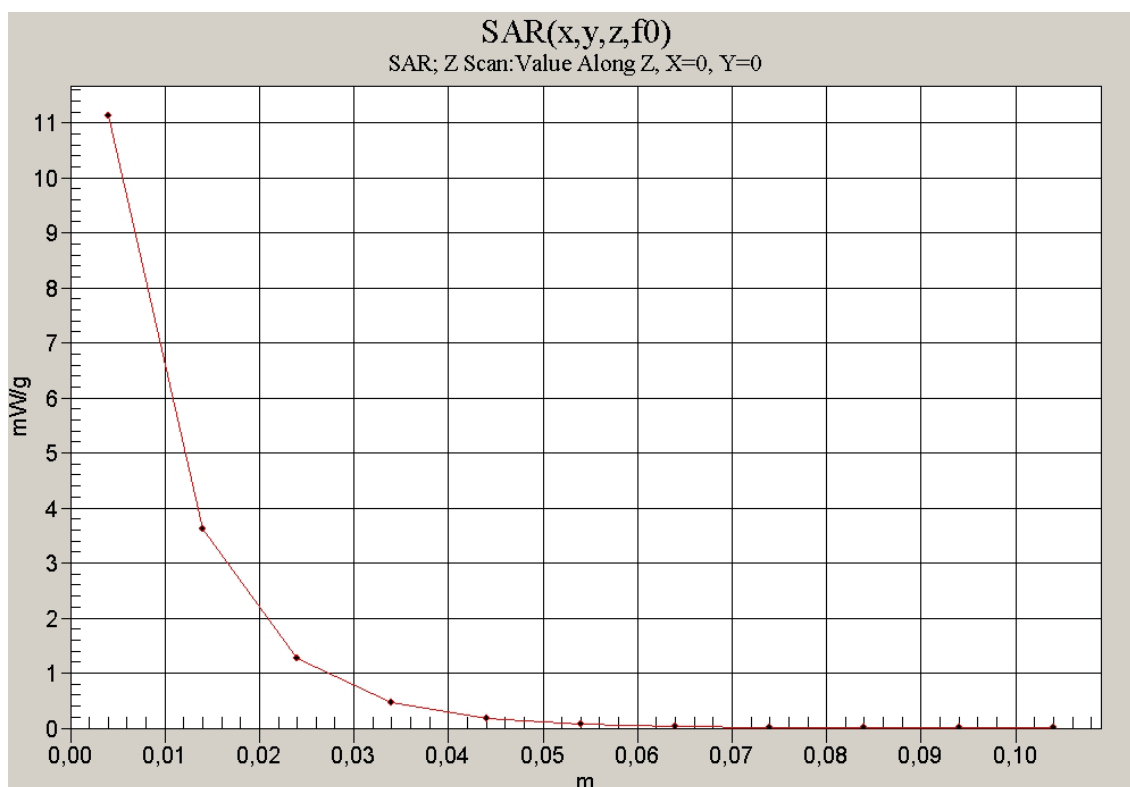


Fig. 12: SAR versus liquid depth, 1900 MHz, body (January 03, 2006; Ambient Temperature: 21.2° C; Liquid Temperature : 20.5° C).

5 SAR z-axis scans (Measurements)

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

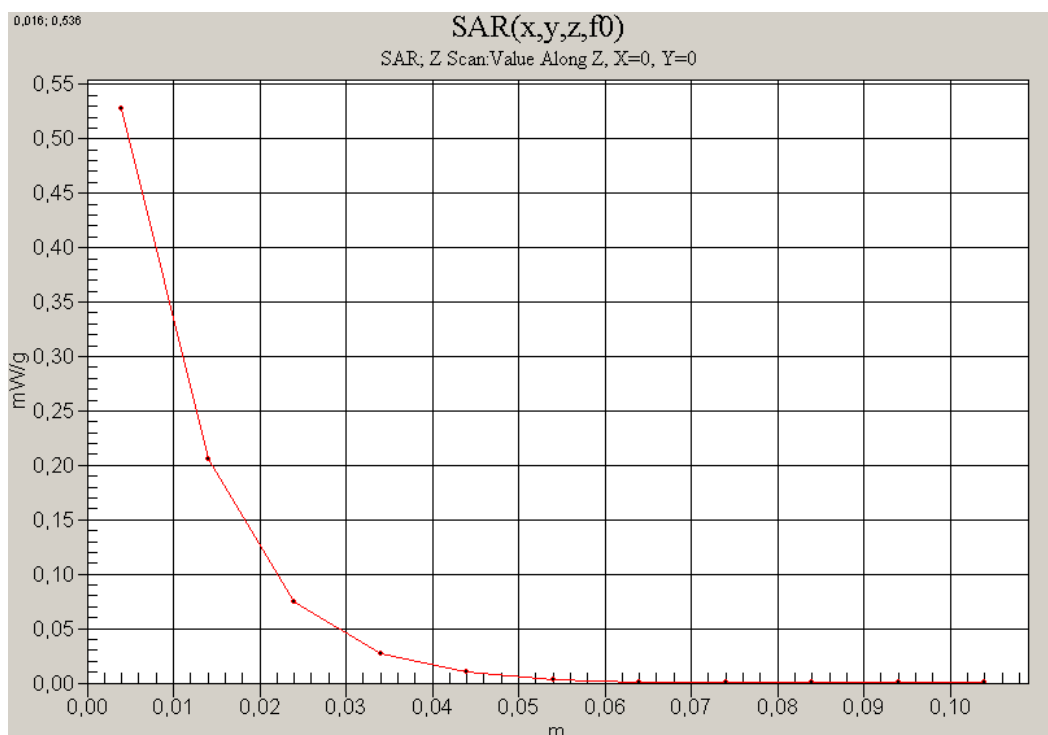


Fig. 13: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, right side of head (December 30, 2005; Ambient Temperature: 20.8° C; Liquid Temperature : 20.2° C).

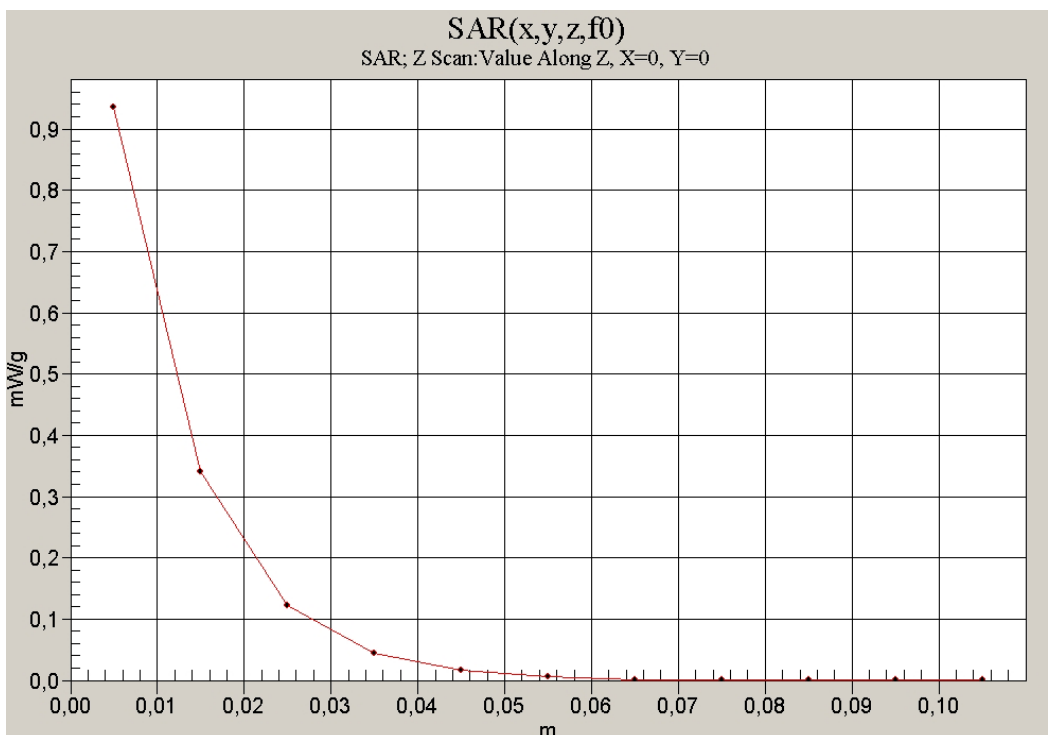


Fig. 14: SAR versus liquid depth, body: GPRS 1900 (Class 10), channel 810, data cable (January 03, 2006; Ambient Temperature: 21.2°C; Liquid Temperature: 20.5°C).