
Appendix for the Report

Dosimetric Assessment of the BenQ AL21 (FCC ID: PWX-AL21)

According to the FCC Requirements

SAR Distribution Plots

February 14, 2006
IMST GmbH
Carl-Friedrich-Gauß-Str. 2
D-47475 Kamp-Lintfort

Customer
BenQ Denmark a/s
Siemens Kaj 1
DK-9400 Norresundby

The test results only relate to the items tested.
This report shall not be reproduced except in full without the written
approval of the testing laboratory.

Table of Contents

1	SAR DISTRIBUTION PLOTS, PCS 1900 HEAD	3
2	SAR DISTRIBUTION PLOTS, PCS 1900 BODY, WITHOUT ACCESSORY, GSM MODE.....	11
3	SAR DISTRIBUTION PLOTS, PCS 1900 BODY, WITH HEADSET, GSM MODE	13
4	SAR DISTRIBUTION PLOTS, PCS 1900 BODY, WITH DATA CABLE, GPRS CLASS 8 MODE ..	15
5	SAR Z-AXIS SCANS (VALIDATION)	17
6	SAR Z-AXIS SCANS (MEASUREMENTS).....	18

1 SAR Distribution Plots, PCS 1900 Head

Test Laboratory: Imst GmbH; File Name: [460yplm_1_su.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.234 mW/g

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

Reference Value = 10.4 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.338 W/kg

SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.147 mW/g

Maximum value of SAR (measured) = 0.259 mW/g

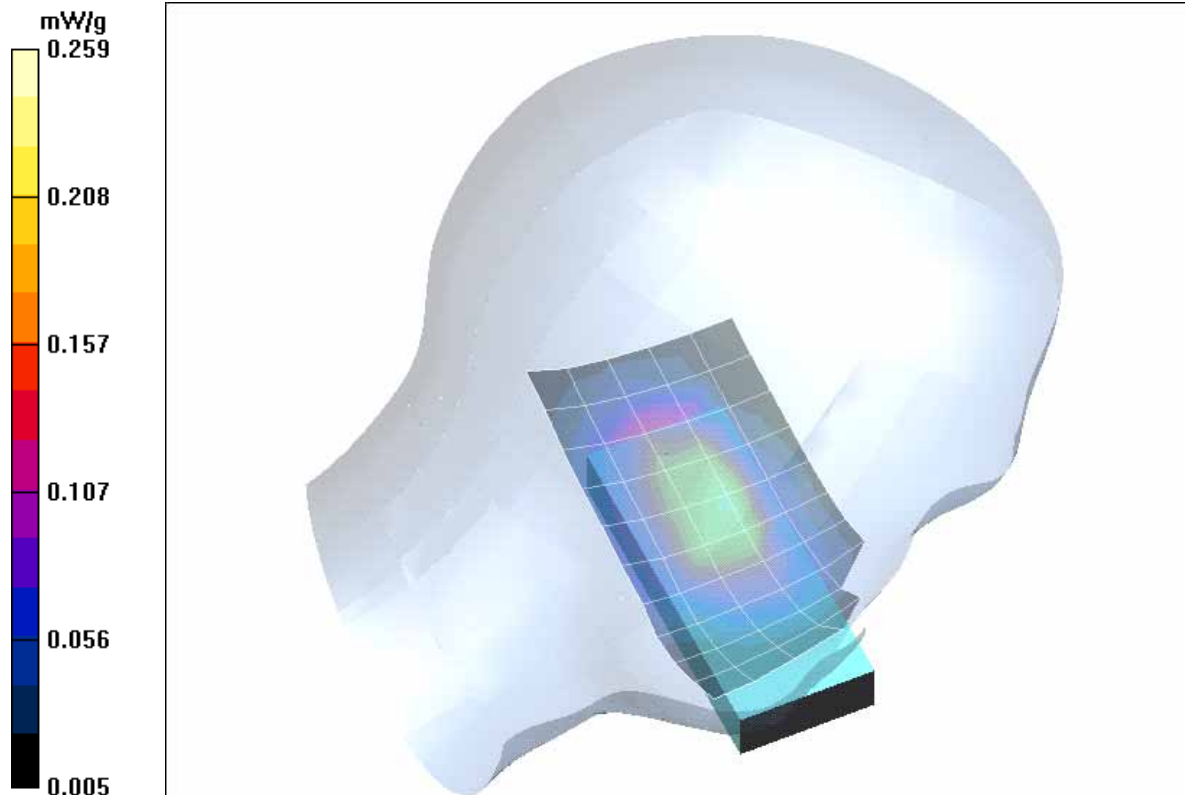


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head, slider up, February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yplm 2 su.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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) = 0.207 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.321 W/kg

SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.123 mW/g

Maximum value of SAR (measured) = 0.222 mW/g

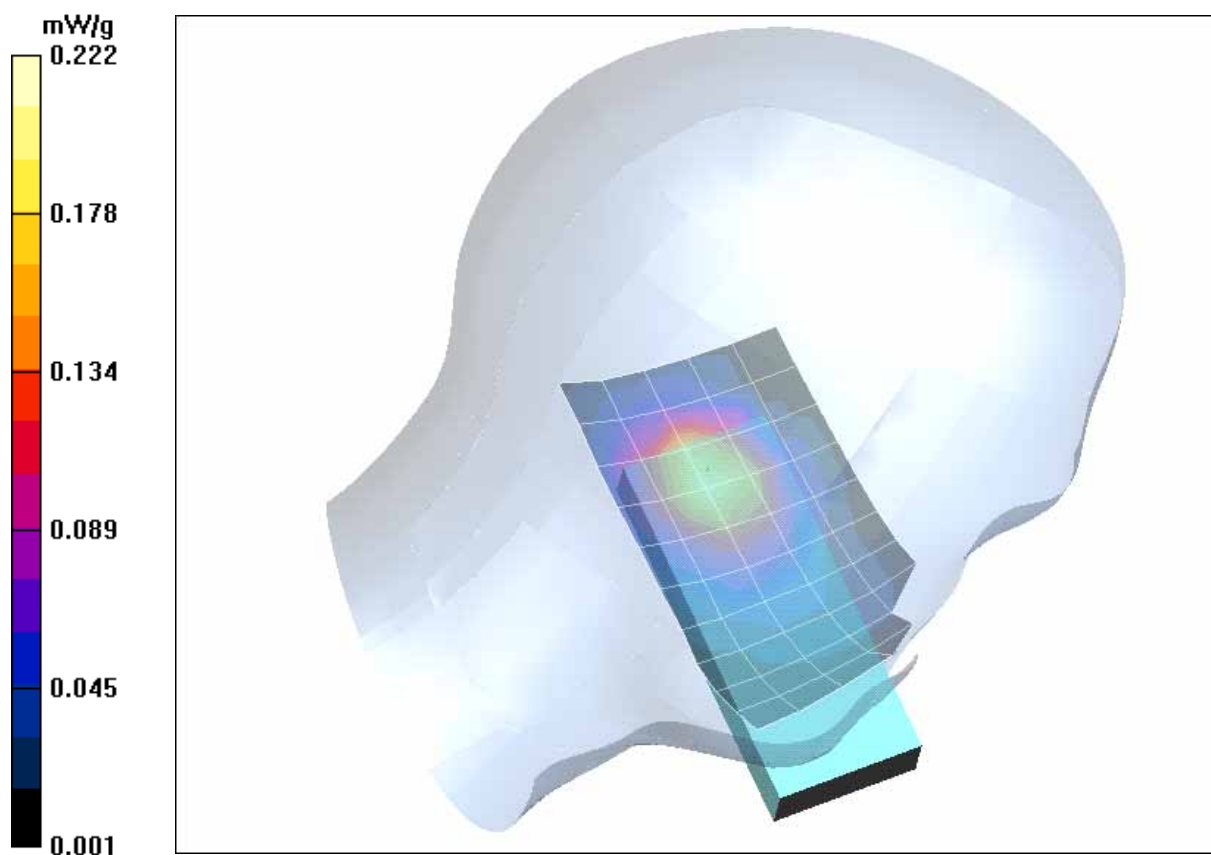


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yprm_1_su.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.218 mW/g

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

Reference Value = 10.0 V/m; Power Drift = 0.098 dB

Peak SAR (extrapolated) = 0.347 W/kg

SAR(1 g) = 0.210 mW/g; SAR(10 g) = 0.135 mW/g

Maximum value of SAR (measured) = 0.227 mW/g

Cheek Right/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.0 V/m; Power Drift = 0.098 dB

Peak SAR (extrapolated) = 0.427 W/kg

SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.098 mW/g

Maximum value of SAR (measured) = 0.209 mW/g

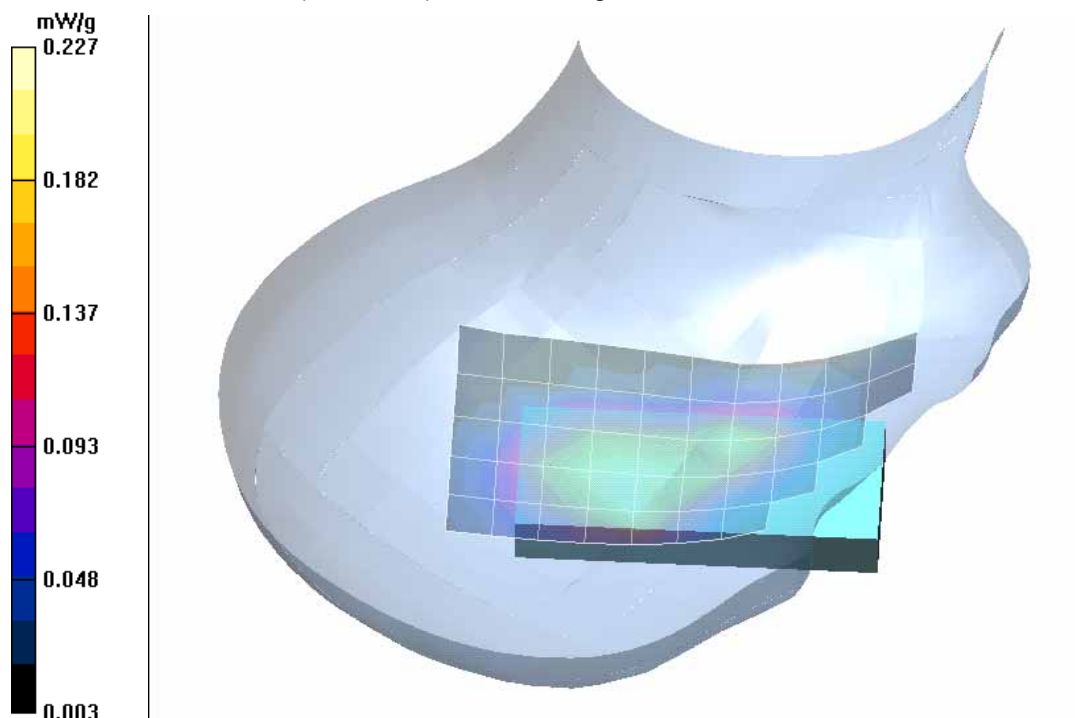


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head, slider up (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yprm 2 su.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005

- 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) = 0.252 mW/g

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

Reference Value = 12.2 V/m; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.154 mW/g

Maximum value of SAR (measured) = 0.285 mW/g

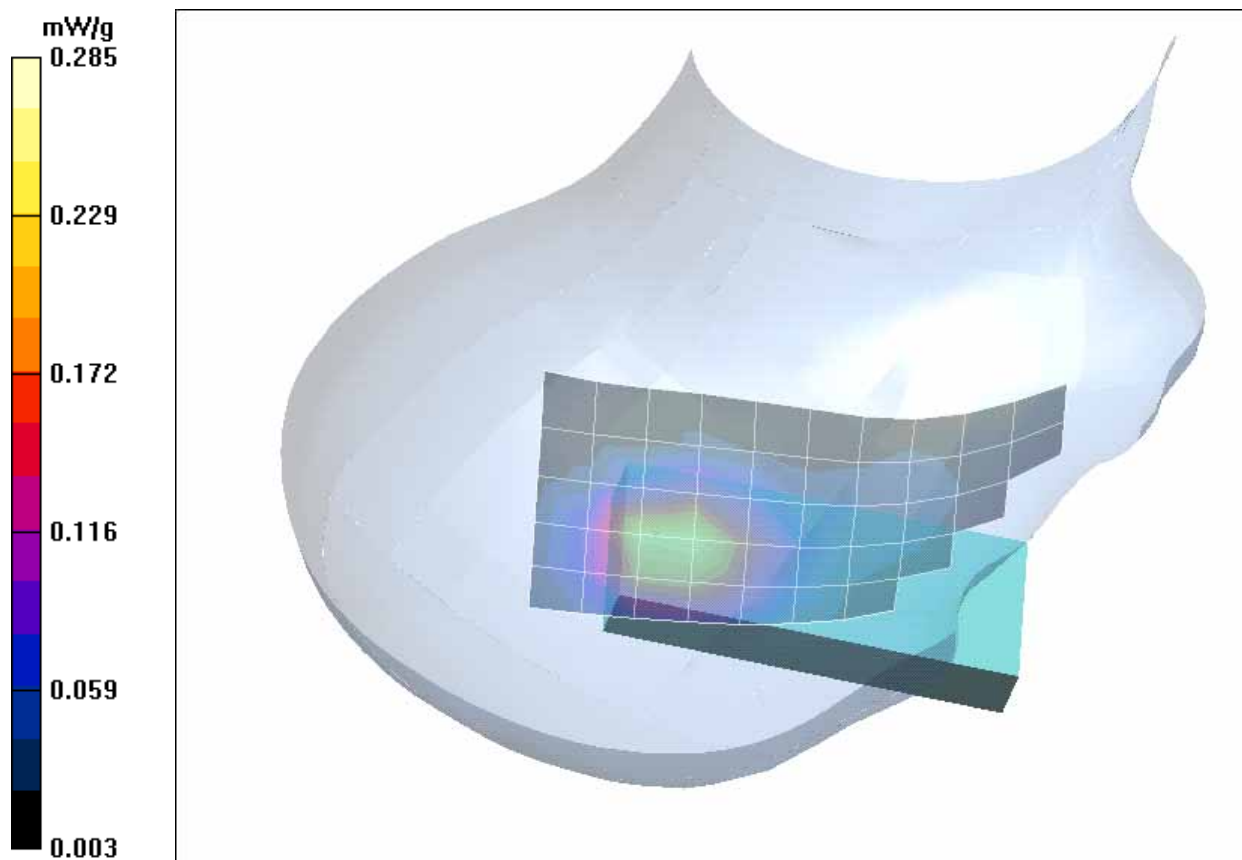


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head, slider up (February 08, 2006; Ambient Temperature: 21.7 °C; Liquid Temperature : 20.9° C)

Test Laboratory: Imst GmbH; **File Name:** [460yplm 1 sd.da4](#)

DUT: BenQ; **Type:** AL21; **Serial:** 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.219 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 0.311 W/kg

SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.125 mW/g

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

Cheek Left/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 0.246 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.113 mW/g

Maximum value of SAR (measured) = 0.187 mW/g

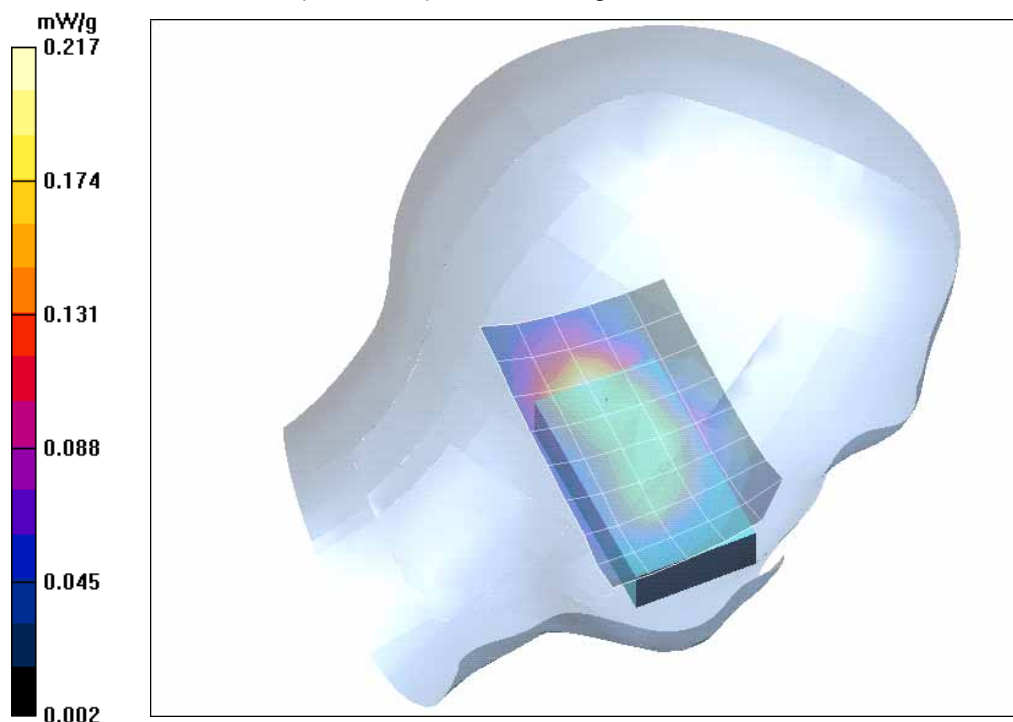


Fig. 5: SAR distribution for PCS 1900, channel 661, cheek position, left side of head, slider down, February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yplm 2 sd.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.181 mW/g

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

Reference Value = 9.66 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 0.269 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.097 mW/g

Maximum value of SAR (measured) = 0.187 mW/g

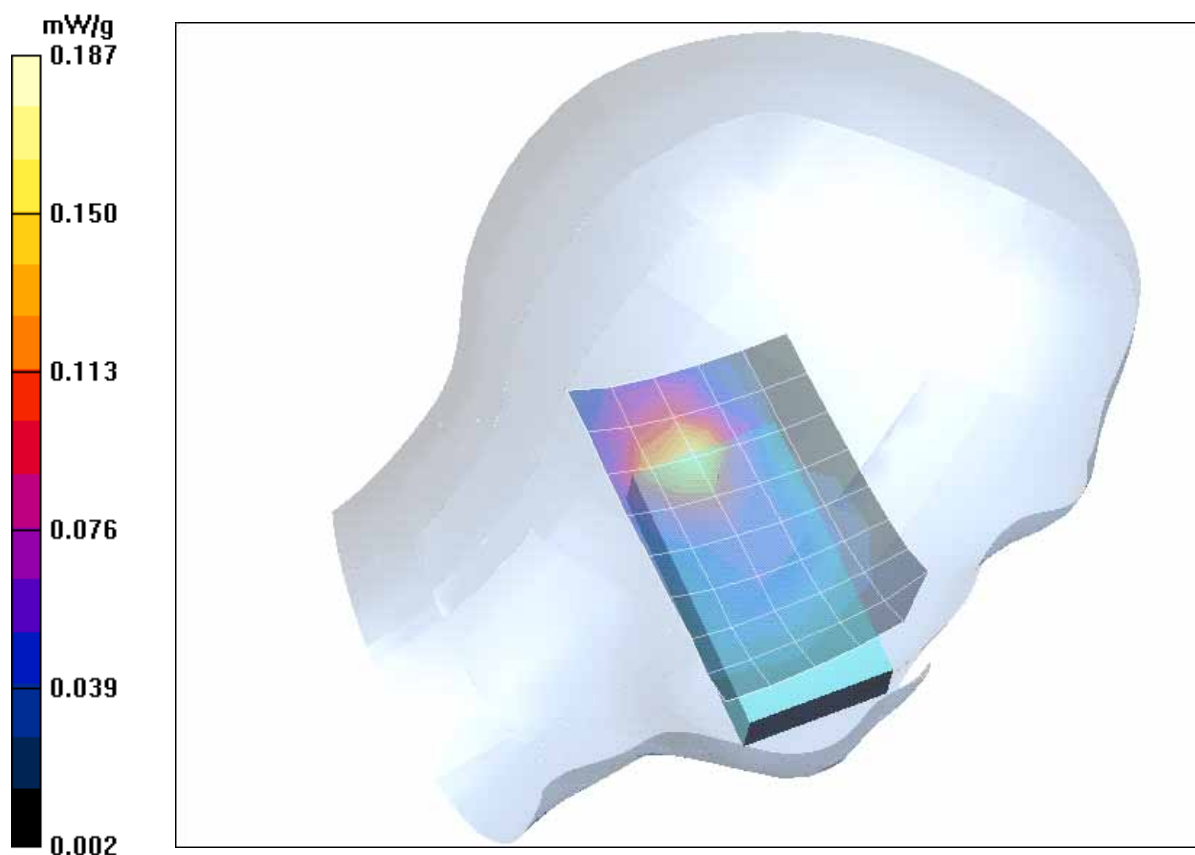


Fig. 6: SAR distribution for PCS 1900, channel 661, tilted position, left side of head, slider down (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yprm_1_sd.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.243 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.369 W/kg

SAR(1 g) = 0.231 mW/g; SAR(10 g) = 0.134 mW/g

Maximum value of SAR (measured) = 0.255 mW/g

Cheek Right/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.227 mW/g

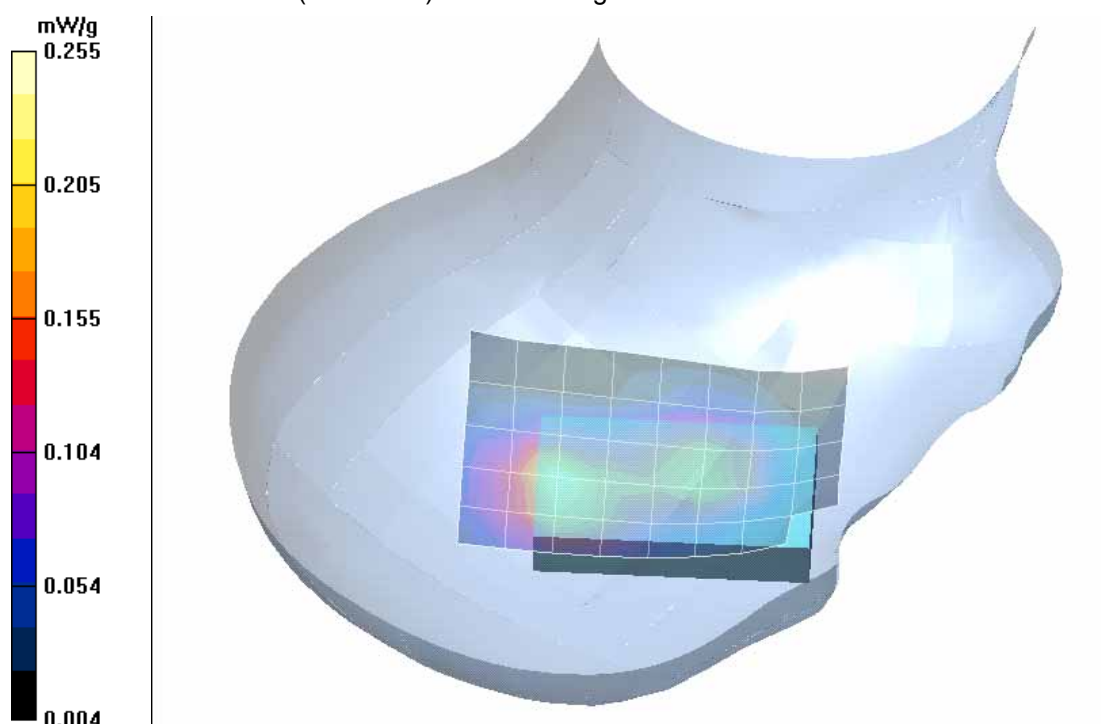


Fig. 7: SAR distribution for PCS 1900, channel 661, cheek position, right side of head , slider down (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: Imst GmbH; File Name: [460yprm 2 sd.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

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; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.255 mW/g

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

Reference Value = 11.4 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.141 mW/g

Maximum value of SAR (measured) = 0.275 mW/g

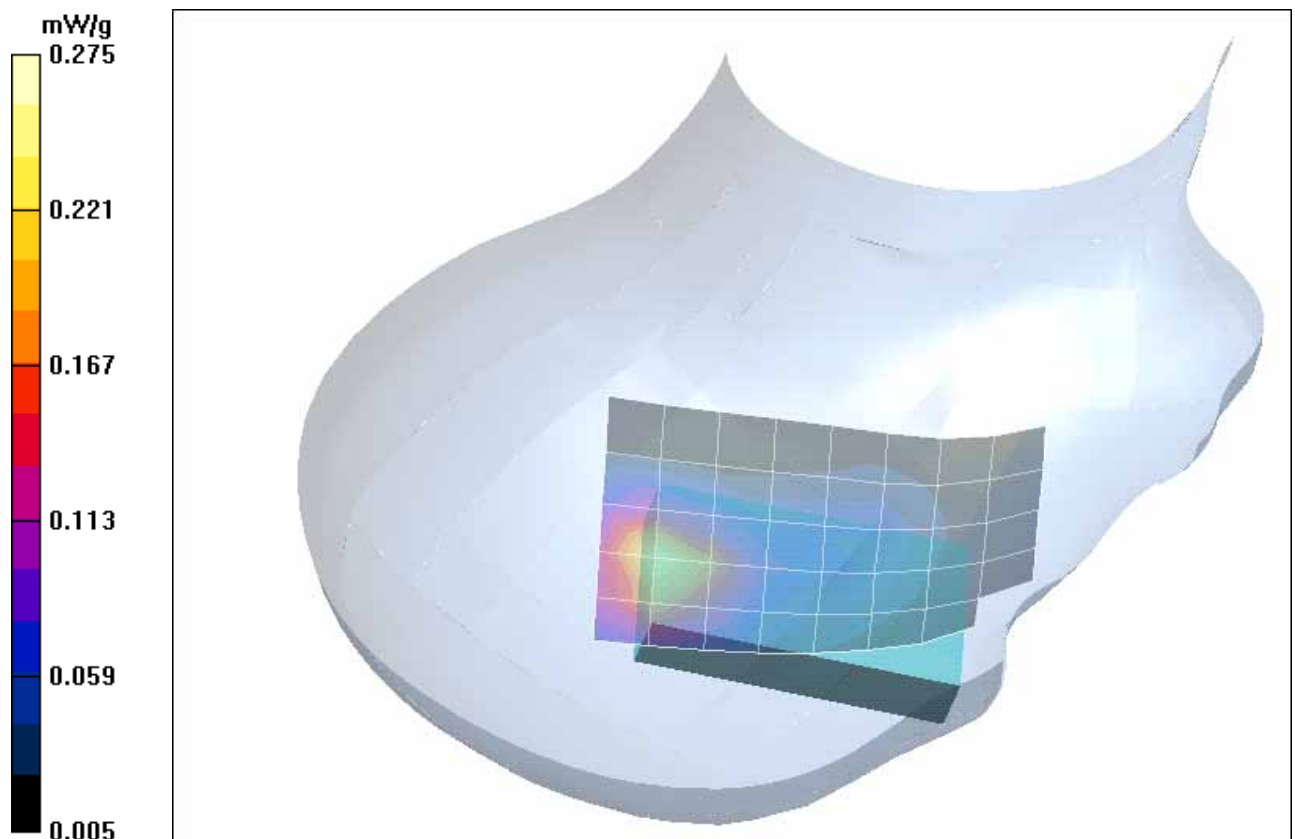


Fig. 8: SAR distribution for PCS 1900, channel 661, tilted position, right side of head, slider down (February 08, 2006; Ambient Temperature: 21.7 °C; Liquid Temperature : 20.9° C)

2 SAR Distribution Plots, PCS 1900 Body, without accessory, GSM mode

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [460bphl_4_su_ohne_15mm.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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) = 0.837 mW/g

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

Reference Value = 14.7 V/m; Power Drift = 0.074 dB

Peak SAR (extrapolated) = 1.96 W/kg

SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.574 mW/g

Maximum value of SAR (measured) = 1.24 mW/g

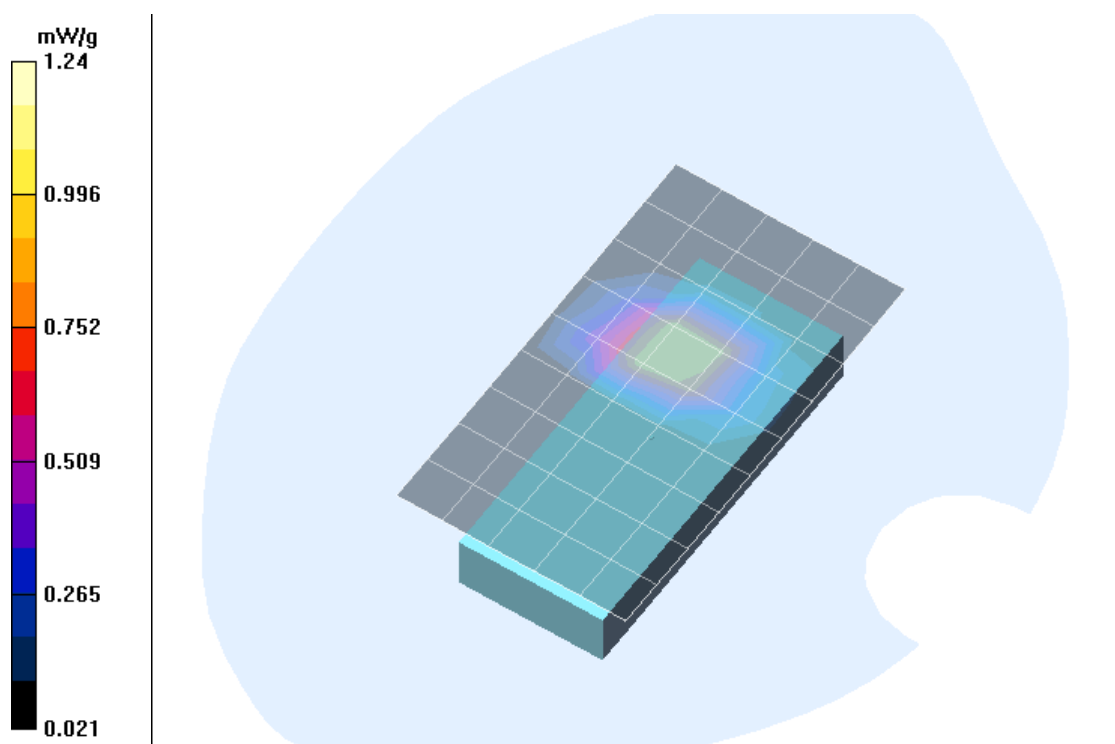


Fig. 9: SAR distribution for PCS 1900, channel 512, body worn configuration, antenna towards the phantom, slider up with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [460bphl 4 sd ohne 15mm.da4](#)

DUT: BenQ; **Type:** AL21; **Serial:** 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.13 mW/g

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

Reference Value = 5.41 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 1.91 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.567 mW/g

Maximum value of SAR (measured) = 1.22 mW/g

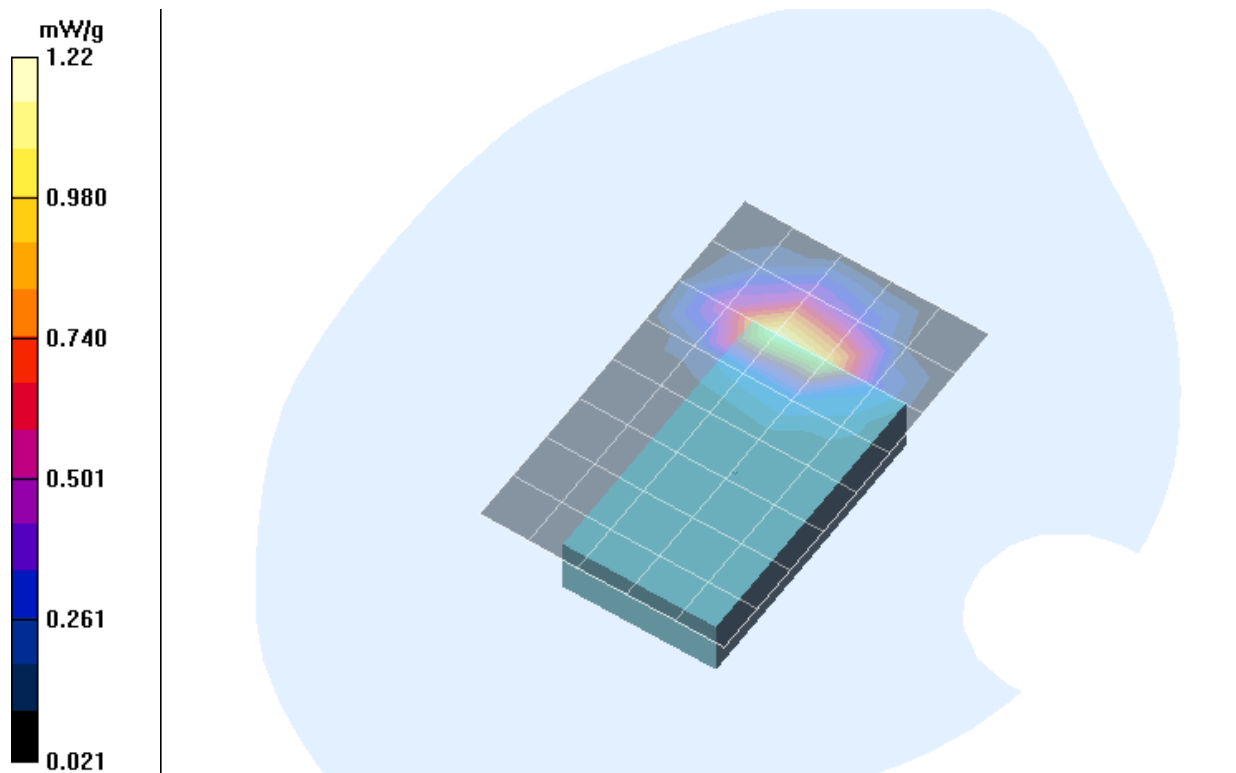


Fig. 10: SAR distribution for PCS 1900, channel 512, body worn configuration, antenna towards the phantom, slider down with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

3 SAR Distribution Plots, PCS 1900 Body, with headset, GSM mode

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [460bphl_5_su_headset_15mm.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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) = 1.01 mW/g

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

Reference Value = 12.4 V/m; Power Drift = 0.063 dB

Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.607 mW/g

Maximum value of SAR (measured) = 1.32 mW/g

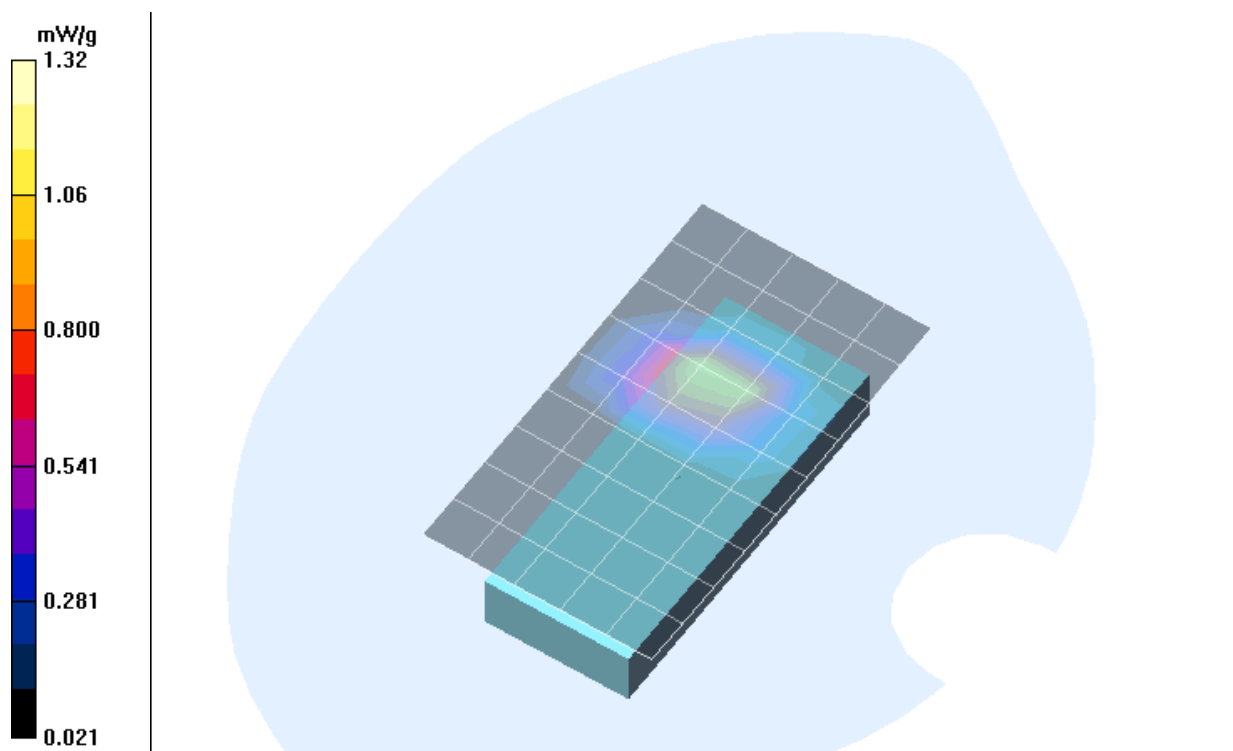


Fig. 11: SAR distribution for PCS 1900, channel 512, body worn configuration, antenna towards the phantom, slider up with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [460bphh 5 sd headset 15mm.da4](#)

DUT: BenQ; **Type:** AL21; **Serial:** 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.22 mW/g

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

Reference Value = 7.66 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 2.17 W/kg

SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.601 mW/g

Maximum value of SAR (measured) = 1.32 mW/g

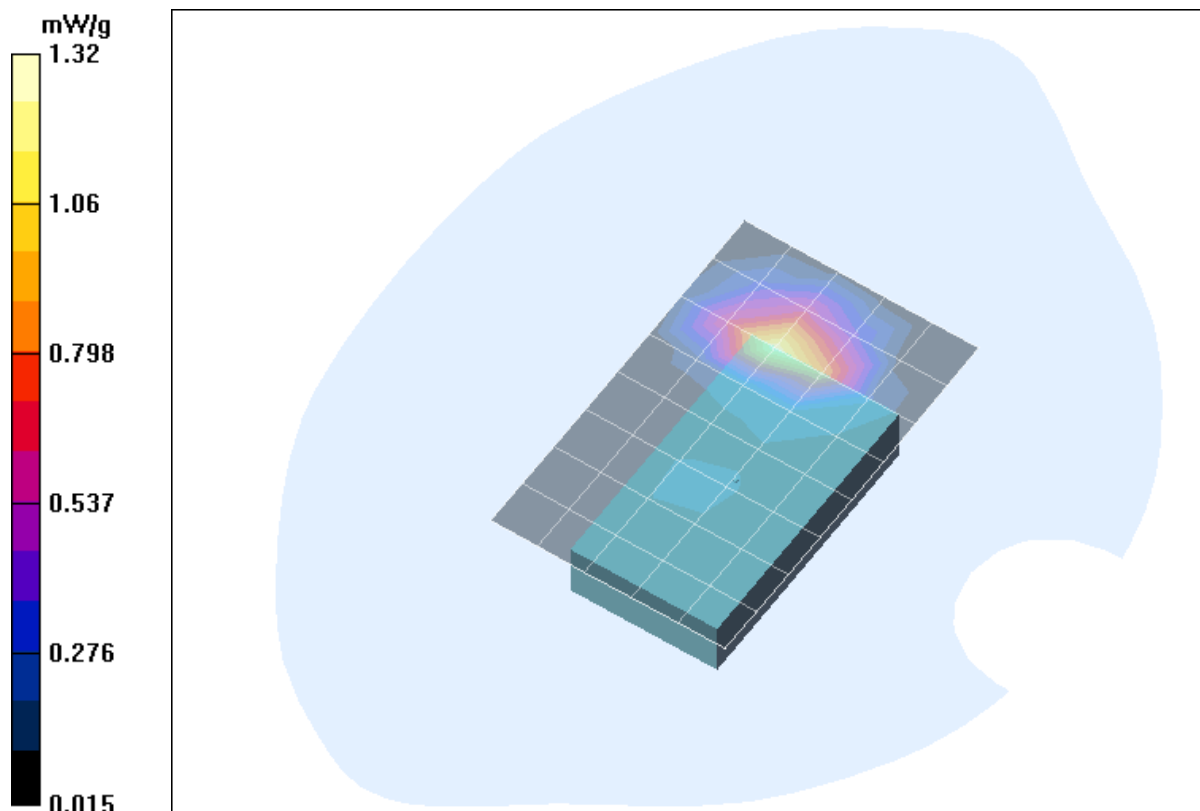


Fig. 12: SAR distribution for PCS 1900, channel 810, body worn configuration, antenna towards the phantom, slider down with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

4 SAR Distribution Plots, PCS 1900 Body, with data cable, GPRS Class 8 mode

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [460bphl_6_su_data_15mm.da4](#)

DUT: BenQ; Type: AL21; Serial: 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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) = 1.10 mW/g

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

Reference Value = 30.5 V/m; Power Drift = 0.079 dB

Peak SAR (extrapolated) = 2.22 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.628 mW/g

Maximum value of SAR (measured) = 1.38 mW/g

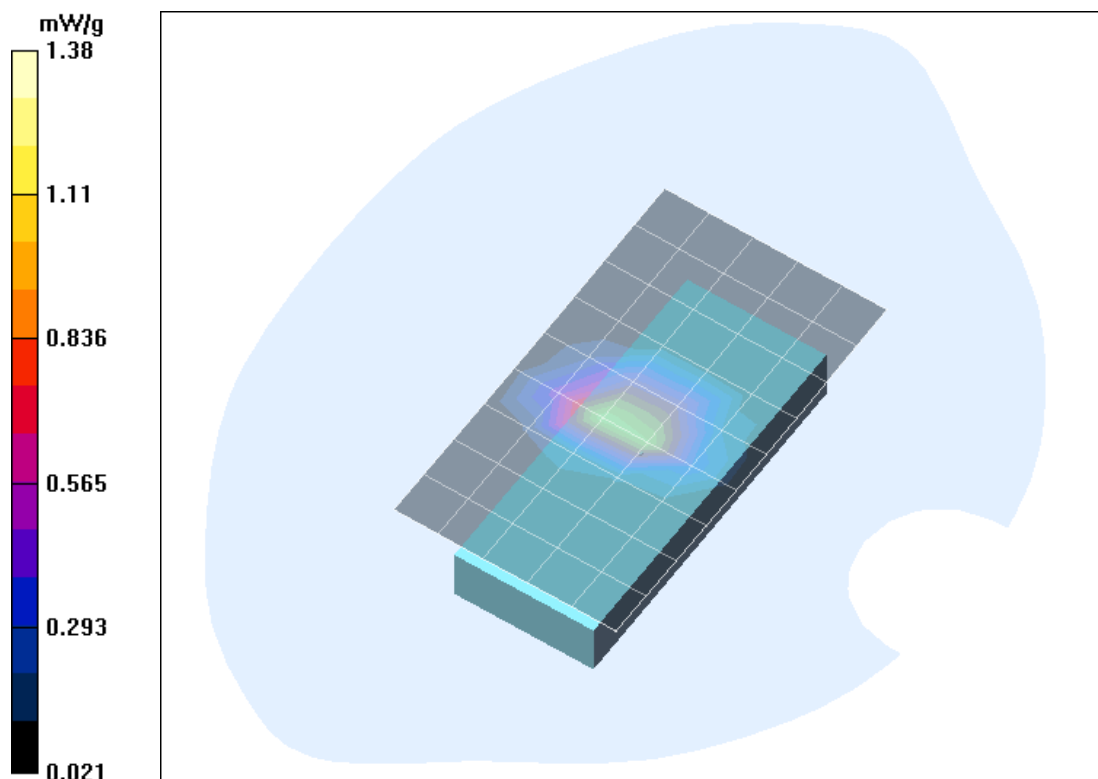


Fig. 13: SAR distribution for GPRS 1900, channel 512, body worn configuration, antenna towards the phantom, slider up with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [460bphl 6 sd data 15mm.da4](#)

DUT: BenQ; **Type:** AL21; **Serial:** 004400016916460

Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.55, 4.55, 4.55); Calibrated: 18.01.2006
- 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 (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.11 mW/g

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

Reference Value = 6.67 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.601 mW/g

Maximum value of SAR (measured) = 1.30 mW/g

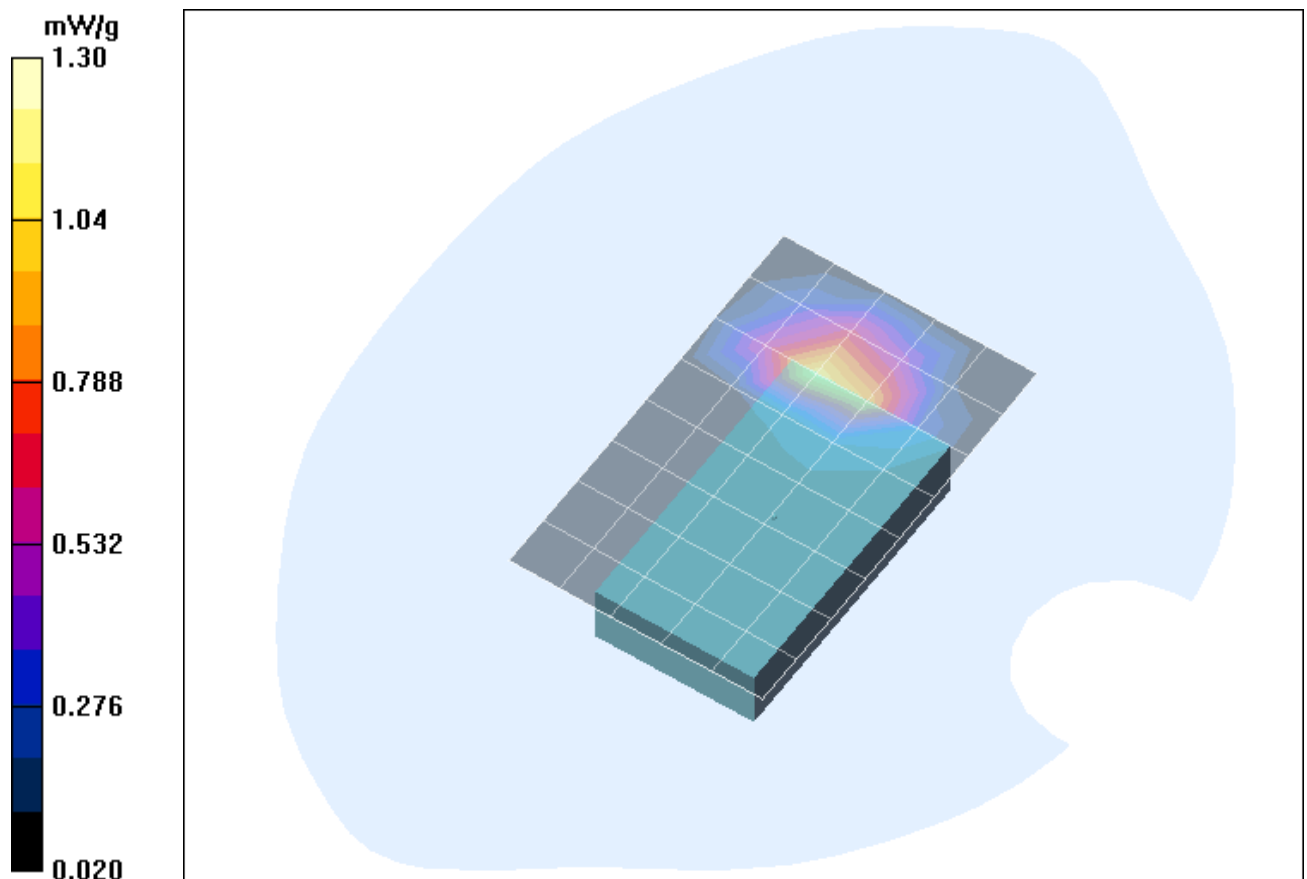


Fig. 14: SAR distribution for GPRS 1900, channel 512, body worn configuration, antenna towards the phantom, slider up with 15 mm distance (February 10, 2006; Ambient Temperature: 20.9° C; Liquid Temperature: 20.3° C).

5 SAR z-axis scans (Validation)

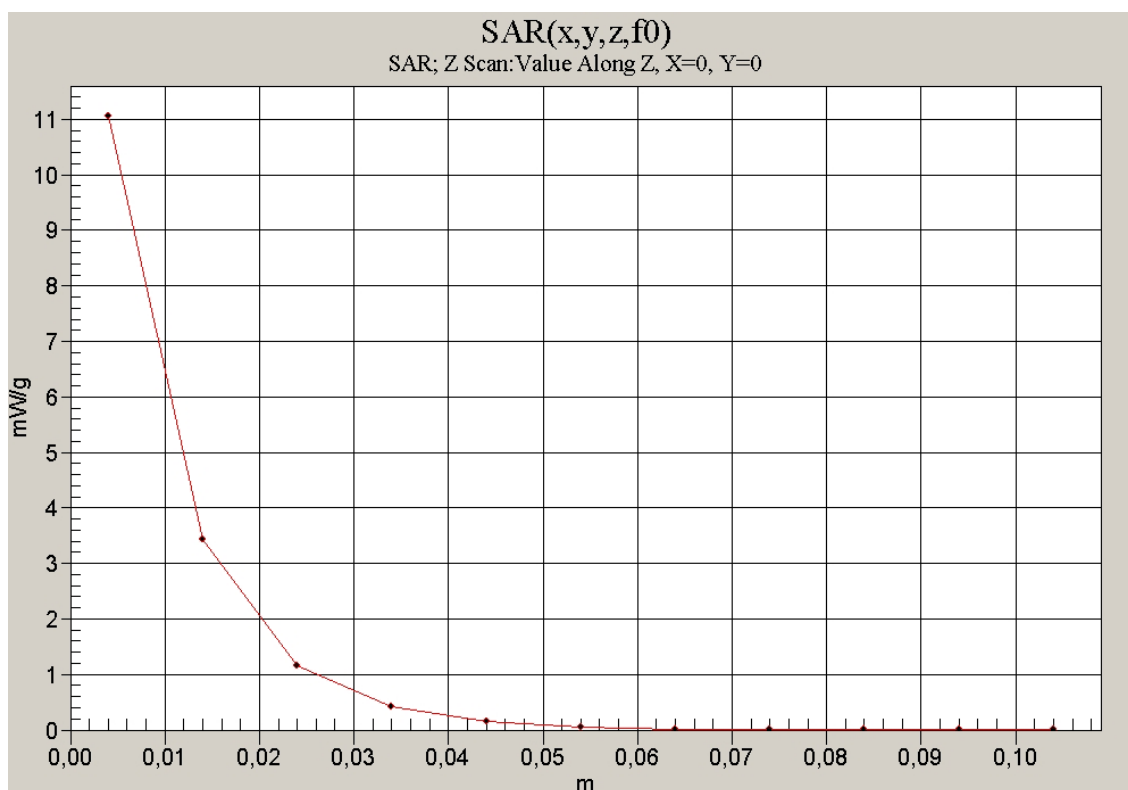


Fig. 15: SAR versus liquid depth, 1900 MHz, head (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

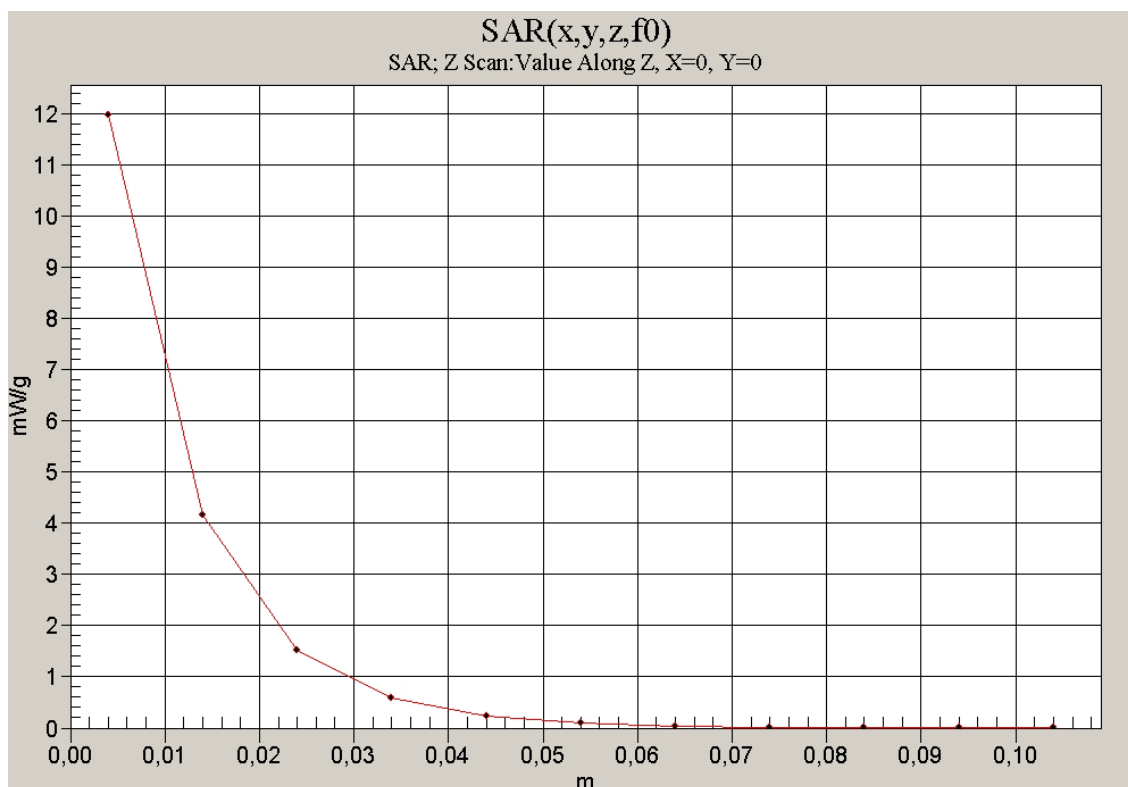


Fig. 16: SAR versus liquid depth, 1900 MHz, body (February 10, 2006; Ambient Temperature: 21.4° C; Liquid Temperature : 20.6° C).

6 SAR z-axis scans (Measurements)

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

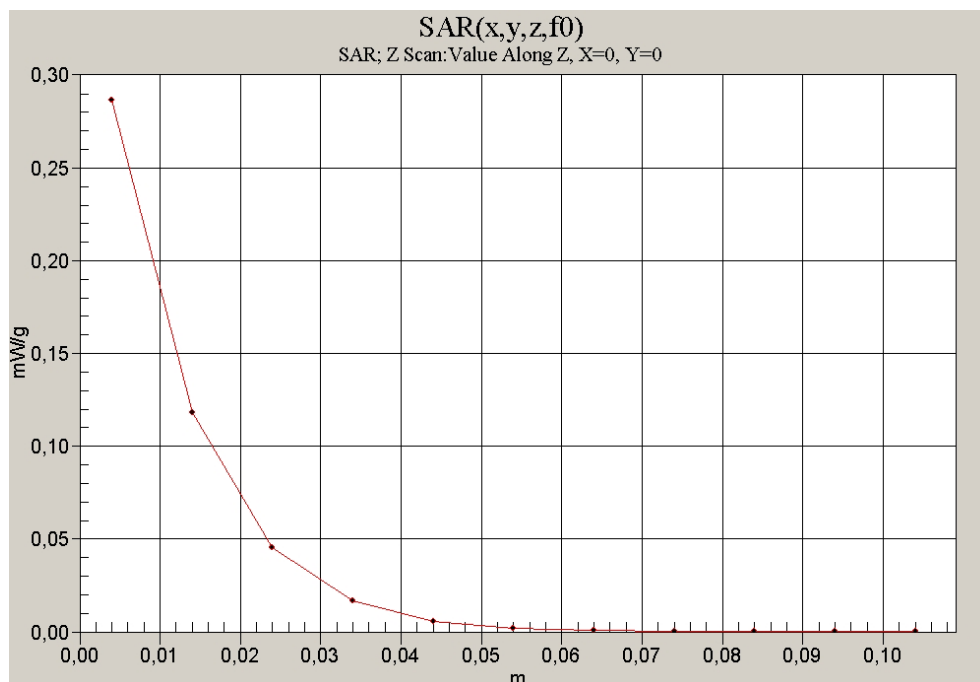


Fig. 17: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, right side of head (February 08, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

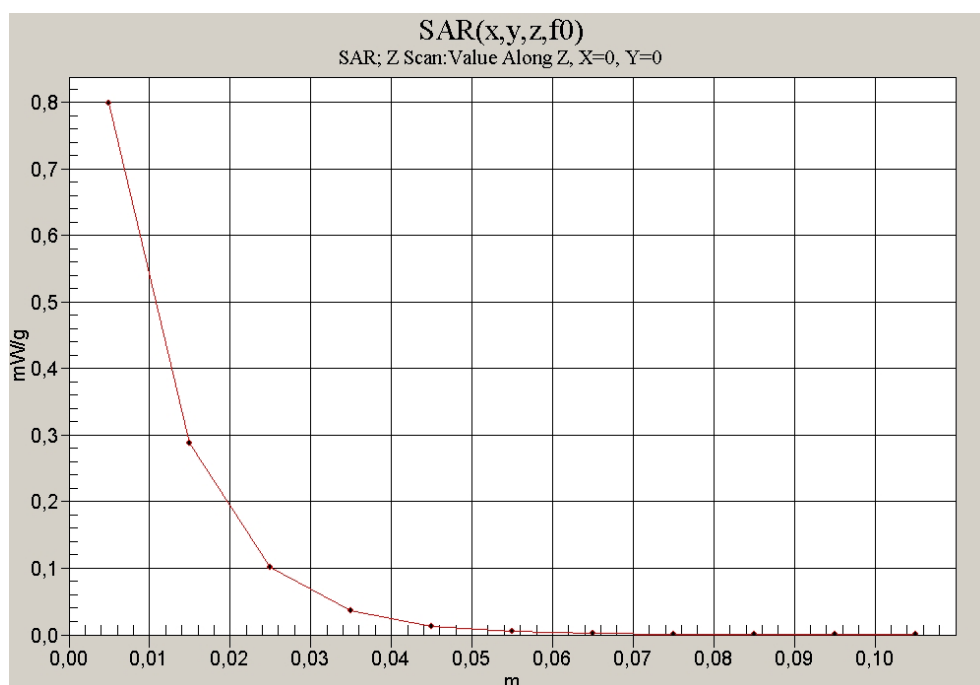


Fig. 18: SAR versus liquid depth, body: GPRS 1900 Class 8, channel 512, data cable, antenna towards the phantom, slider up, 15 mm distance, (February 10, 2006; Ambient Temperature: 22.1° C; Liquid Temperature: 21.3° C).