
Appendix for the Report

Dosimetric Assessment of the O2XM (FCC ID: S3YO2XM) from FL Telecom ApS

According to the FCC Requirements

SAR Distribution Plots

March 18, 2005
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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, DASY Blue (I); File Name: [196bplm_1.da4](#)

DUT: O2 XM; Type: O2 XM; Serial: 35596100004196

Program Name: Cheek Left

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

Medium parameters used: $\sigma = 1.4 \text{ mho/m}$, $\epsilon_r = 38.4$; $\rho = 1000 \text{ kg/m}^3$

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 Sn489; Calibrated: 03.09.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Cheek Left/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.552 mW/g

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

Reference Value = 5.77 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.835 W/kg

SAR(1 g) = 0.530 mW/g; SAR(10 g) = 0.315 mW/g

Maximum value of SAR (measured) = 0.575 mW/g

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

Reference Value = 5.77 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.613 W/kg

SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.277 mW/g

Maximum value of SAR (measured) = 0.470 mW/g

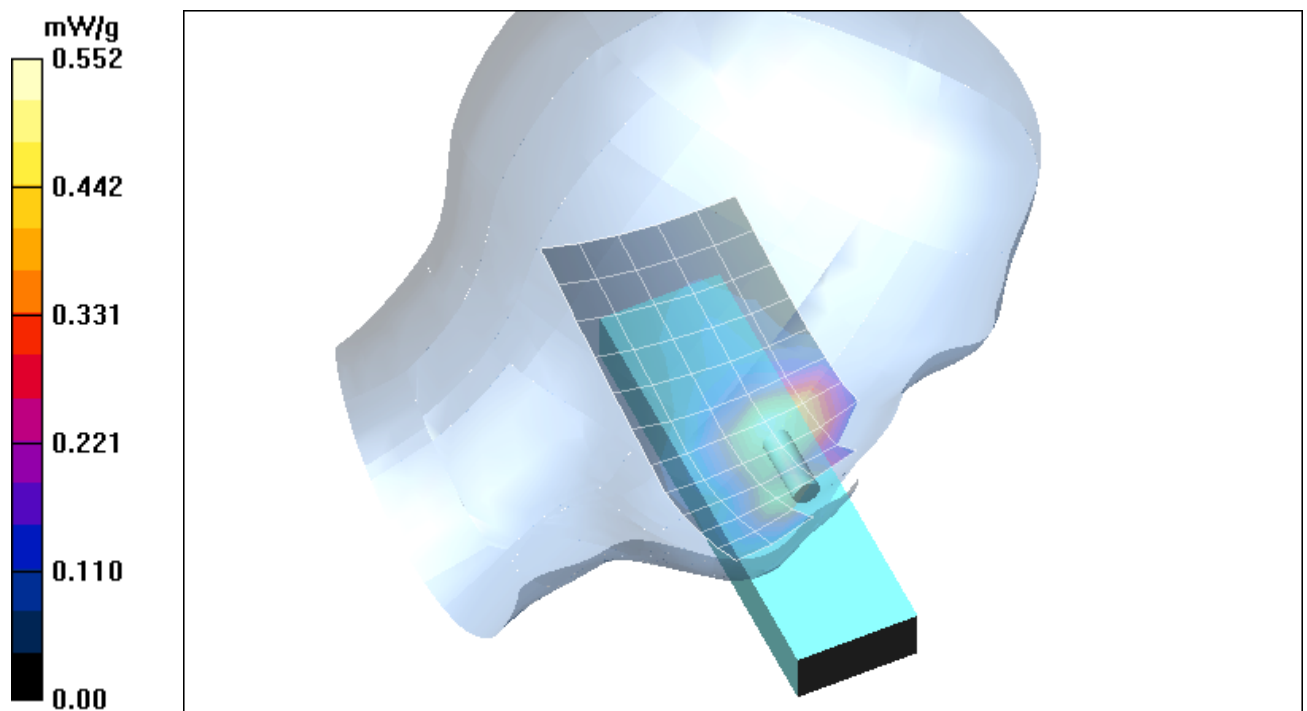


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head (16.03.2005; Ambient Temperature: 21.2° C; Liquid Temperature: 20.2° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [196bplm 2.da4](#)

DUT: O2 XM; **Type:** O2 XM; **Serial:** 35596100004196

Program Name: Tilted Left

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

Medium parameters used: $\sigma = 1.4$ mho/m, $\epsilon_r = 38.4$; $\rho = 1000$ 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 Sn489; Calibrated: 03.09.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilted Left/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.143 mW/g

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

Reference Value = 7.92 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 0.192 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.081 mW/g

Maximum value of SAR (measured) = 0.145 mW/g

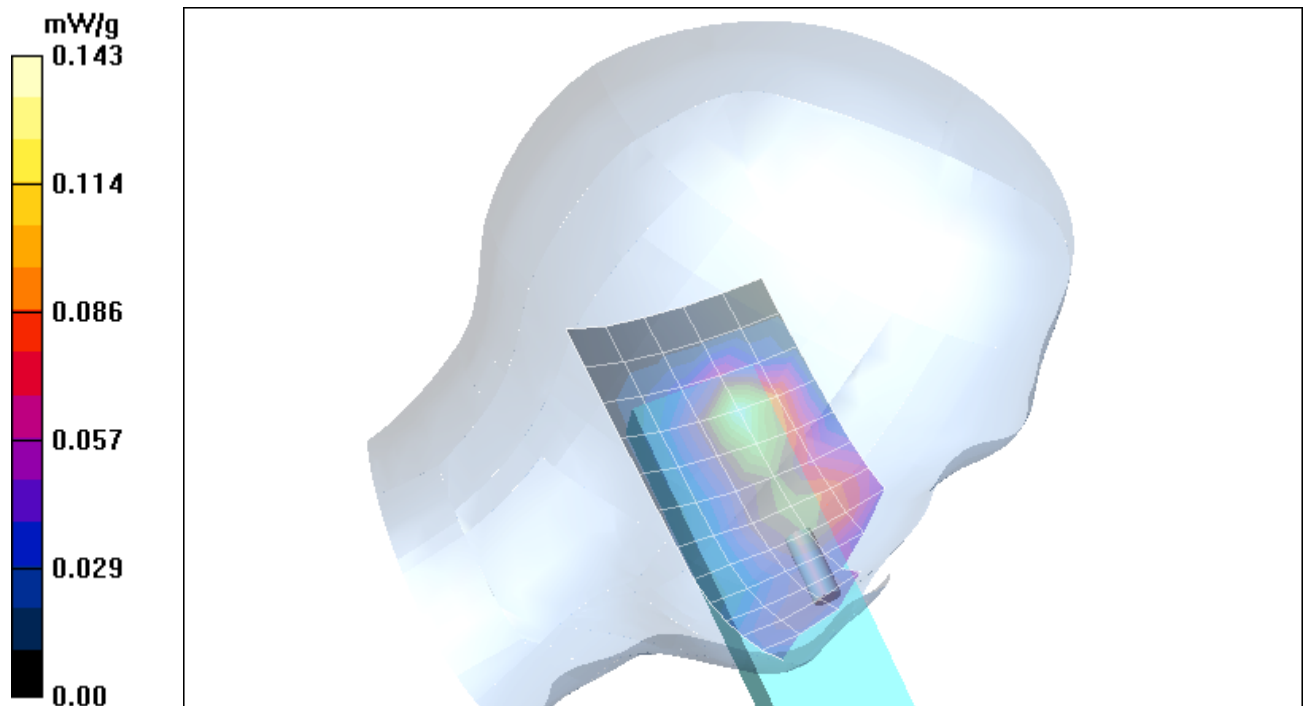


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (16.03.2005; Ambient Temperature: 21.2° C; Liquid Temperature : 20.2° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [196bprm_1.da4](#)

DUT: O2 XM; **Type:** O2 XM; **Serial:** 35596100004196

Program Name: Cheek Right

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

Medium parameters used: $\sigma = 1.4$ mho/m, $\epsilon_r = 38.4$; $\rho = 1000$ 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 Sn489; Calibrated: 03.09.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Cheek Right/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 7.59 V/m; Power Drift = -0.2 dB

Peak SAR (extrapolated) = 0.780 W/kg

SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.298 mW/g

Maximum value of SAR (measured) = 0.541 mW/g

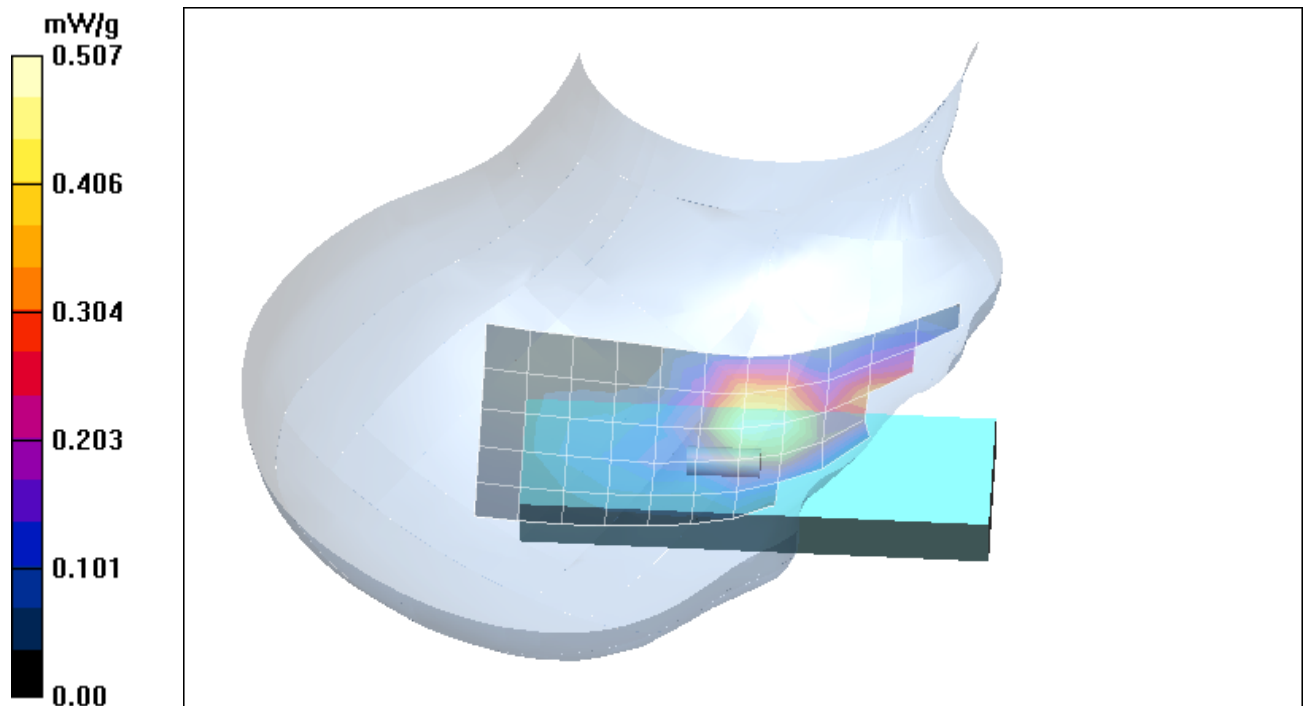


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head (16.03.2005; Ambient Temperature: 21.2° C; Liquid Temperature : 20.2° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [196bprm 2.da4](#)

DUT: O2 XM; Type: O2 XM; Serial: 35596100004196

Program Name: Tilted Right

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

Medium parameters used: $\sigma = 1.4$ mho/m, $\epsilon_r = 38.4$; $\rho = 1000$ 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 Sn489; Calibrated: 03.09.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilted Right/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.120 mW/g

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

Reference Value = 8.90 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.161 W/kg

SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.075 mW/g

Maximum value of SAR (measured) = 0.130 mW/g

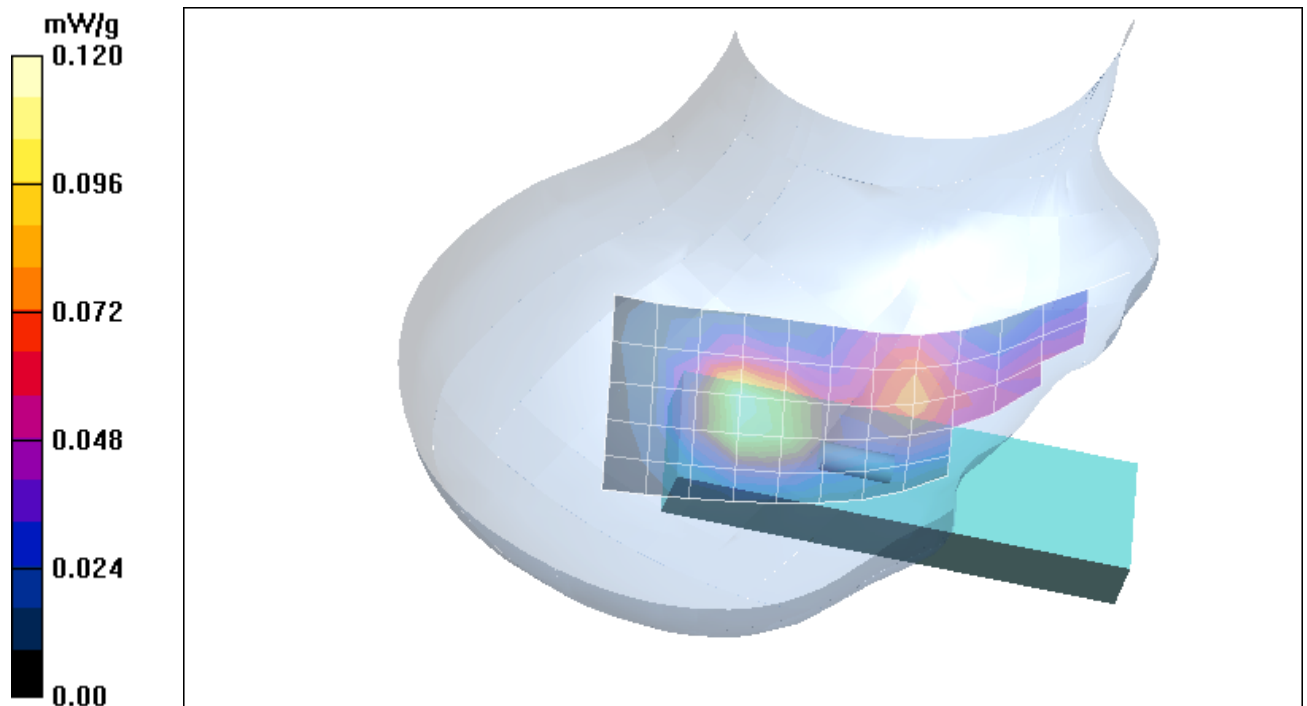


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (16.03.2005; Ambient Temperature: 21.1° C; Liquid Temperature : 20.2° C).

2 SAR Distribution Plots, PCS 1900 Body worn (gap = 15 mm)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [196yphm_3.da4](#)

DUT: O2 XM; Type: O2 XM; Serial: 35596100004196

Program Name: Cheek Left

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

Medium parameters used: $\sigma = 1.52$ mho/m, $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.54, 7.54, 7.54); Calibrated: 27.08.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body 1900/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.428 mW/g

Body 1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 0.682 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.249 mW/g

Maximum value of SAR (measured) = 0.467 mW/g

Body 1900/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 0.432 W/kg

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (measured) = 0.323 mW/g

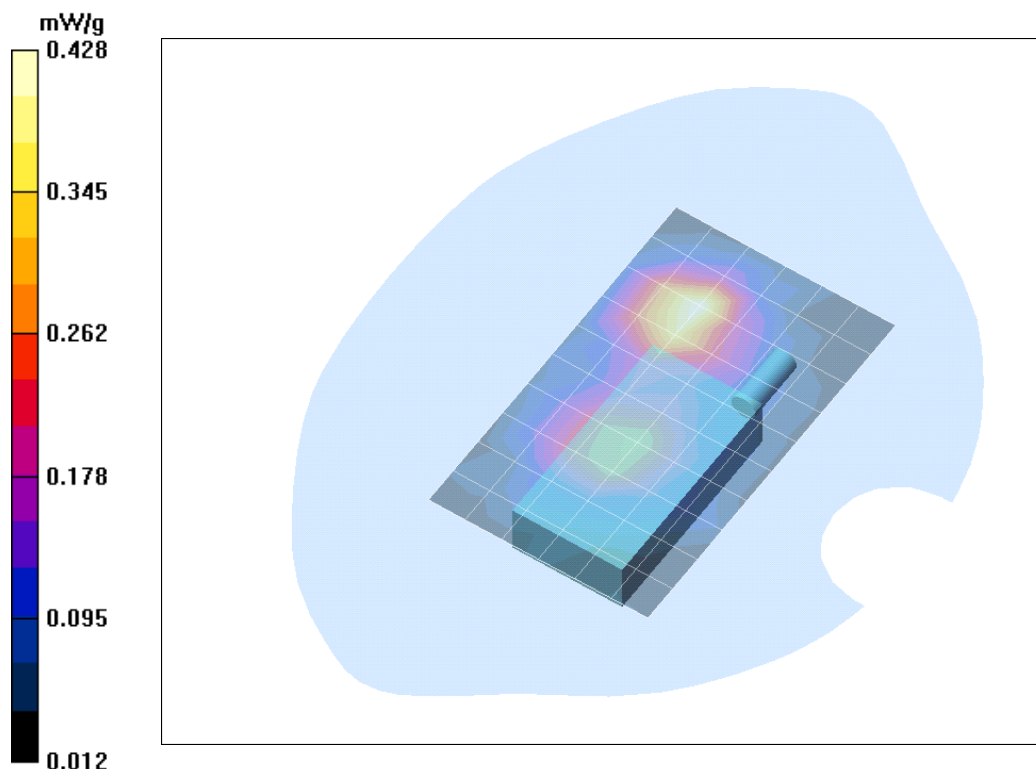


Fig. 5: SAR distribution for PCS 1900, channel 661, antenna towards the phantom, GPRS Class 8 with headset, (17.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

Test Laboratory: IMST GmbH, DASY Yellow (II); **File Name:** [196yphm_1.da4](#)

DUT: O2 XM; **Type:** O2 XM; **Serial:** 35596100004196

Program Name: Cheek Left

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

Medium parameters used: $\sigma = 1.52$ mho/m, $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.54, 7.54, 7.54); Calibrated: 27.08.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body 1900/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.877 mW/g

Body 1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.9 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.871 mW/g; SAR(10 g) = 0.512 mW/g

Maximum value of SAR (measured) = 0.968 mW/g

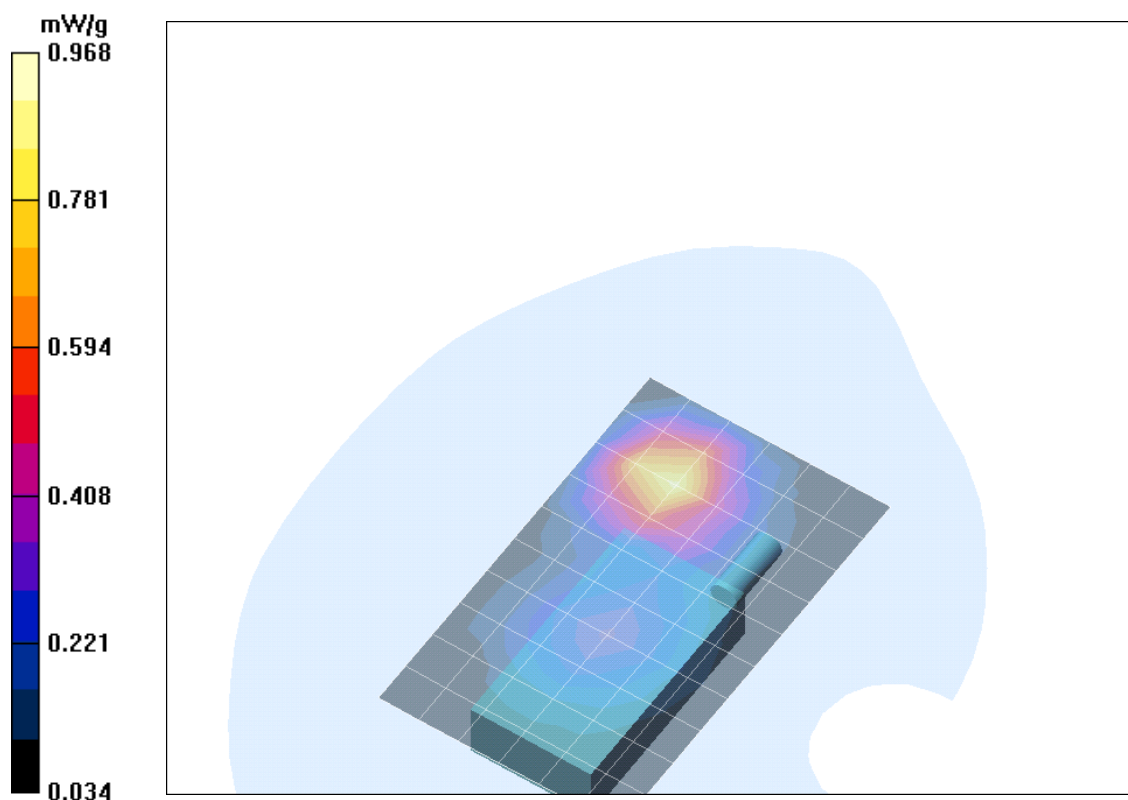


Fig. 6: Worst case SAR distribution for PCS 1900, channel 661, antenna towards the phantom, GPRS Class 10, (17.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

Test Laboratory: IMST GmbH, DASY Yellow (II); **File Name:** [196yphm_2.da4](#)

DUT: O2 XM; **Type:** O2 XM; **Serial:** 35596100004196

Program Name: Cheek Left

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

Medium parameters used: $\sigma = 1.52$ mho/m, $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.54, 7.54, 7.54); Calibrated: 27.08.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body 1900/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.310 mW/g

Body 1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = -0.2 dB

Peak SAR (extrapolated) = 0.453 W/kg

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.194 mW/g

Maximum value of SAR (measured) = 0.349 mW/g

Body 1900/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = -0.2 dB

Peak SAR (extrapolated) = 0.717 W/kg

SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.144 mW/g

Maximum value of SAR (measured) = 0.249 mW/g

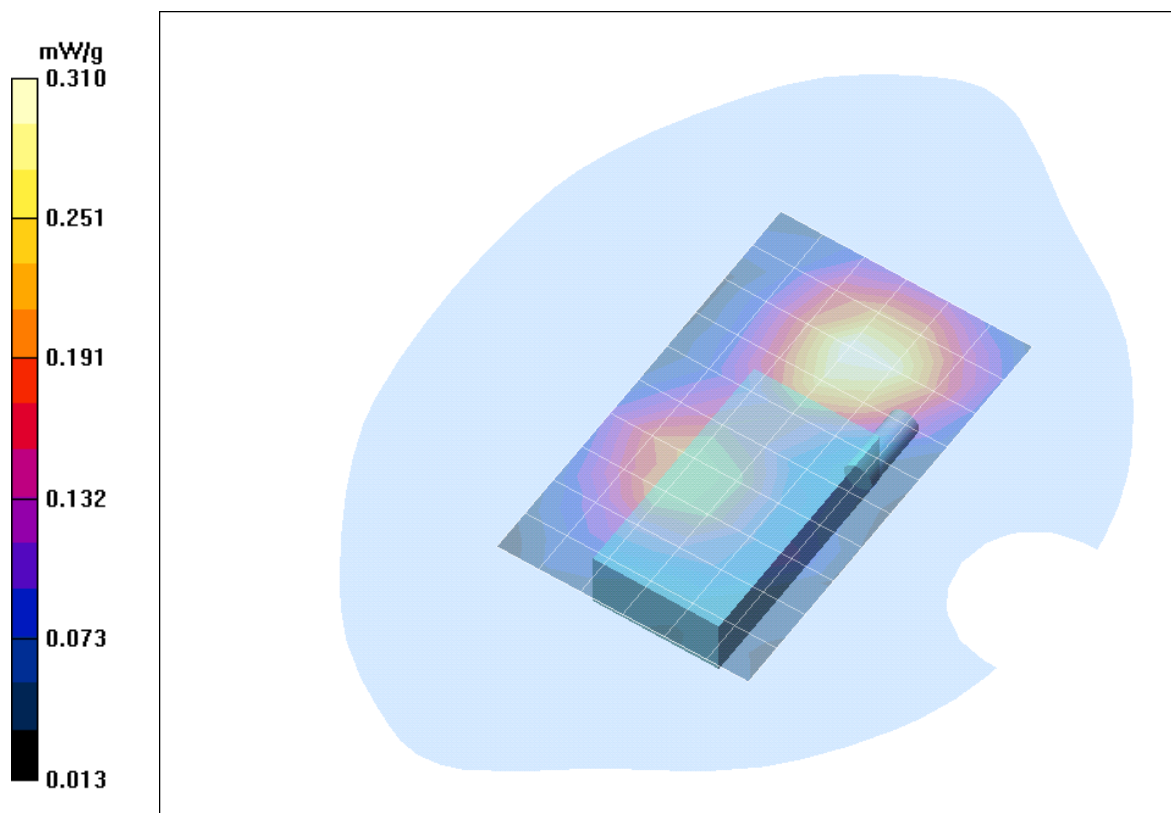


Fig. 7: SAR distribution for PCS 1900, channel 661, antenna towards the ground, GPRS Class 10, (17.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.1° C).

3 SAR z-axis scans (Validation)

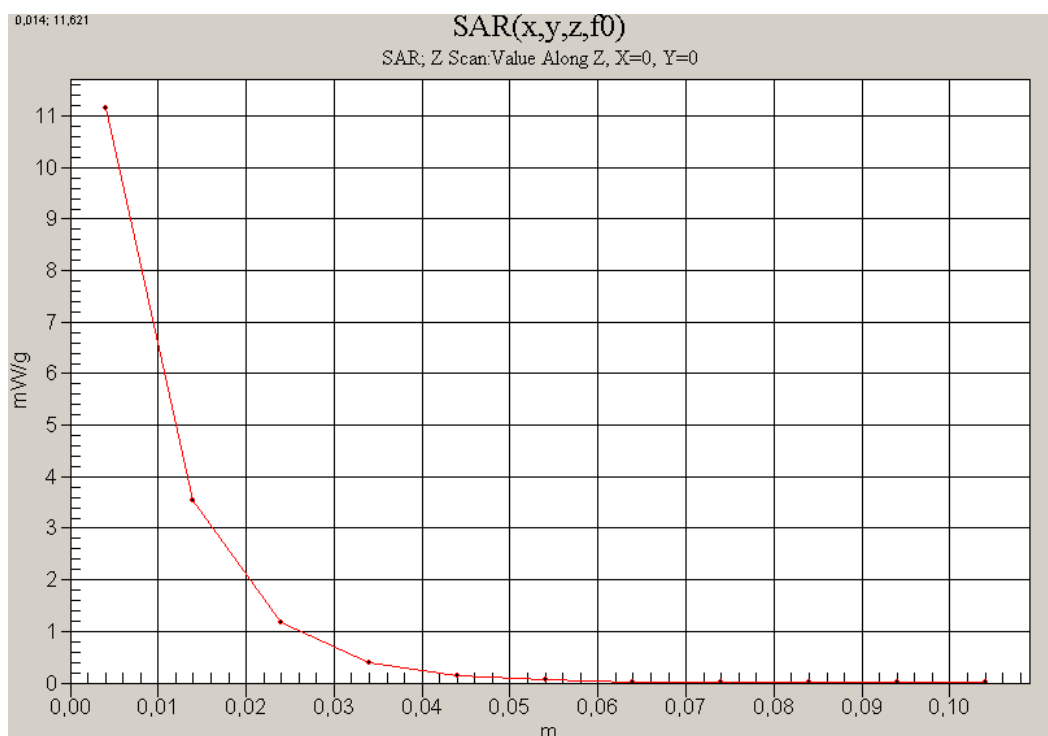


Fig. 8: SAR versus liquid depth, 1900 MHz, head (16.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

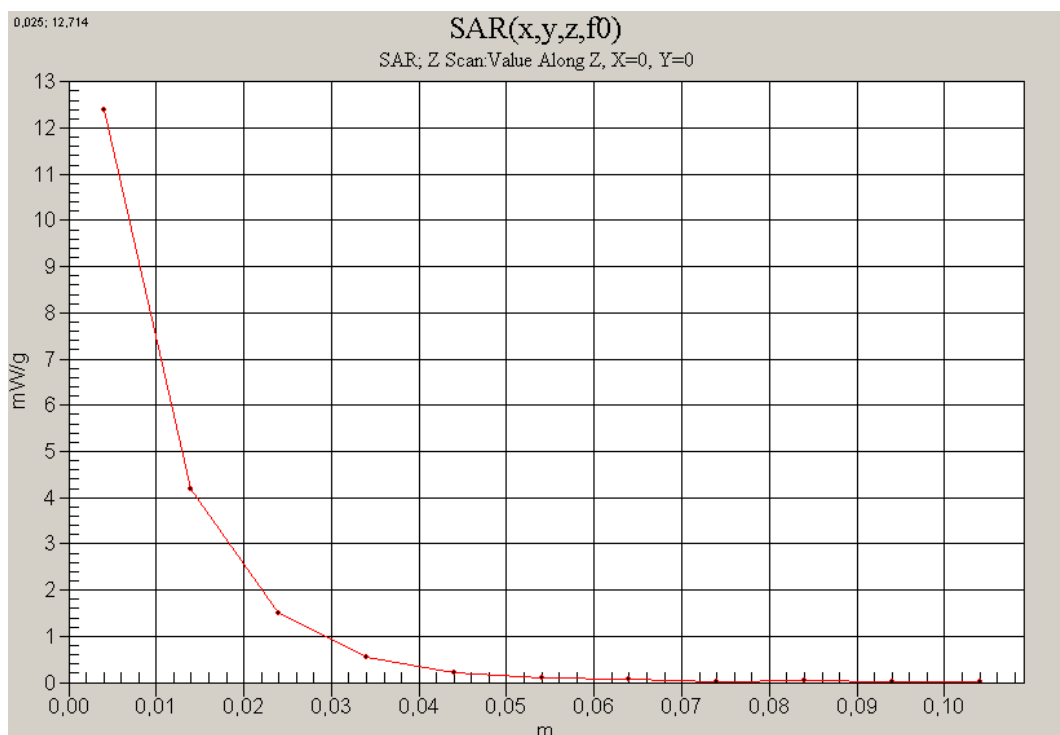


Fig. 9: SAR versus liquid depth, 1900 MHz, body (17.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

4 SAR z-axis scans (Measurements)

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

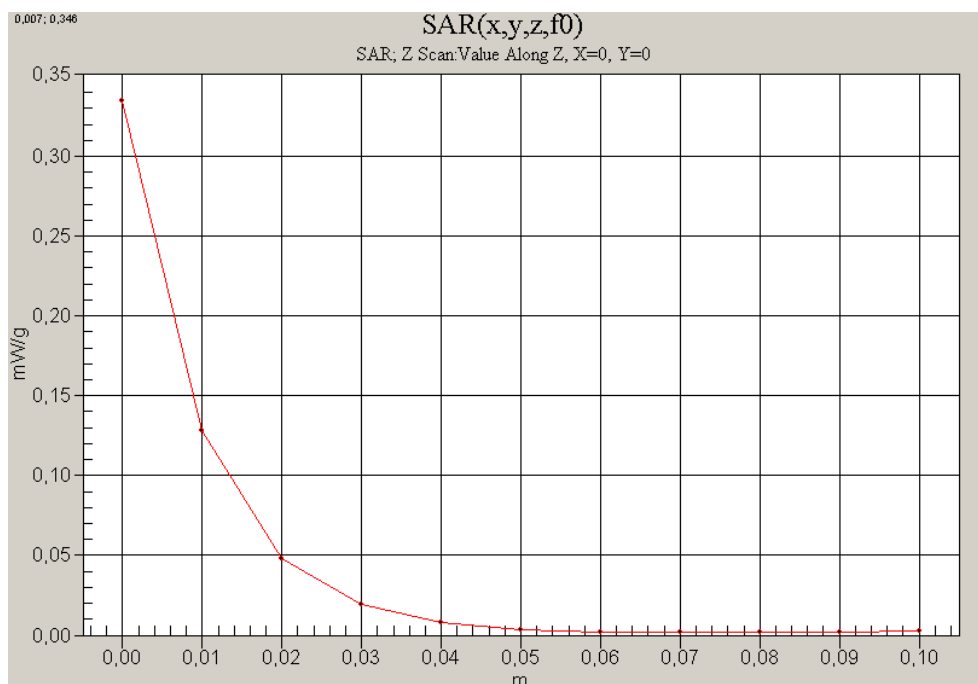


Fig. 10: SAR versus liquid depth, head: PCS 1900, channel 661, cheek position, left side of head (16.03.2005, Ambient Temperature: 21.2° C; Liquid Temperature : 20.2° C).

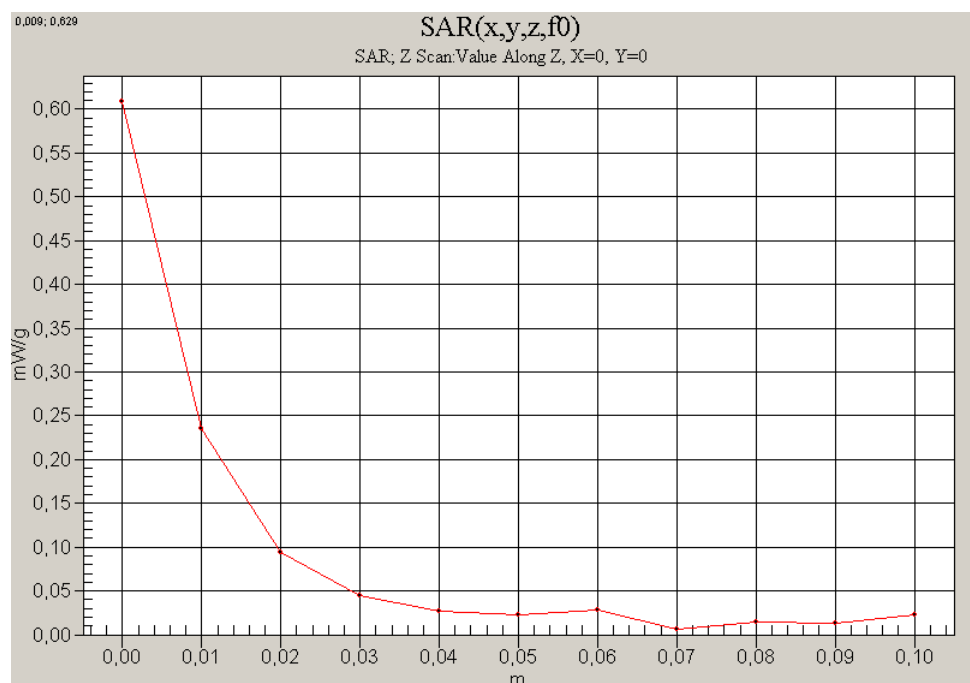


Fig. 11: SAR versus liquid depth, body: PCS 1900, channel 661, antenna towards the phantom, GPRS Class 10 (17.03.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).