
Appendix for the Report

Dosimetric Assessment of the Siemens SP65 (FCC ID: PWX-SP65)

According to the FCC Requirements

SAR Distribution Plots

February 08, 2005
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1 SAR Distribution Plots, PCS 1900 head

Test Laboratory: IMST GmbH; File Name: [730bplm_1.da4](#); DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Cheek Left

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

Medium parameters used: $\sigma = 1.43$; mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.08.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

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

Maximum value of SAR (measured) = 0.359 mW/g

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

Reference Value = 27.8 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 0.610 W/kg

SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.200 mW/g

Maximum value of SAR (measured) = 0.398 mW/g

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

Reference Value = 27.8 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 0.431 W/kg

SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.179 mW/g

Maximum value of SAR (measured) = 0.302 mW/g

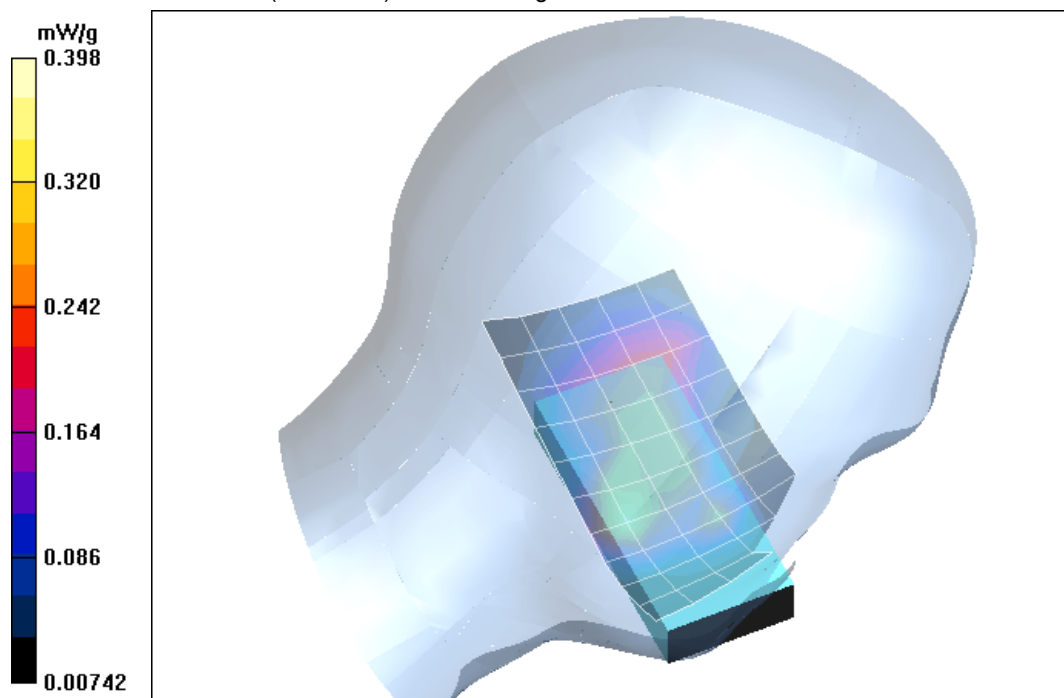


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head (31.01.2005; Ambient Temperature: 21.8° C; Liquid Temperature: 20.9° C).

Test Laboratory: IMST GmbH; File Name: [730bplm 2.da4](#)

DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Tilted Left

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

Medium parameters used: $\sigma = 1.43$; mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.08.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

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

Maximum value of SAR (measured) = 0.331 mW/g

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

Reference Value = 30.1 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.508 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.177 mW/g

Maximum value of SAR (measured) = 0.334 mW/g

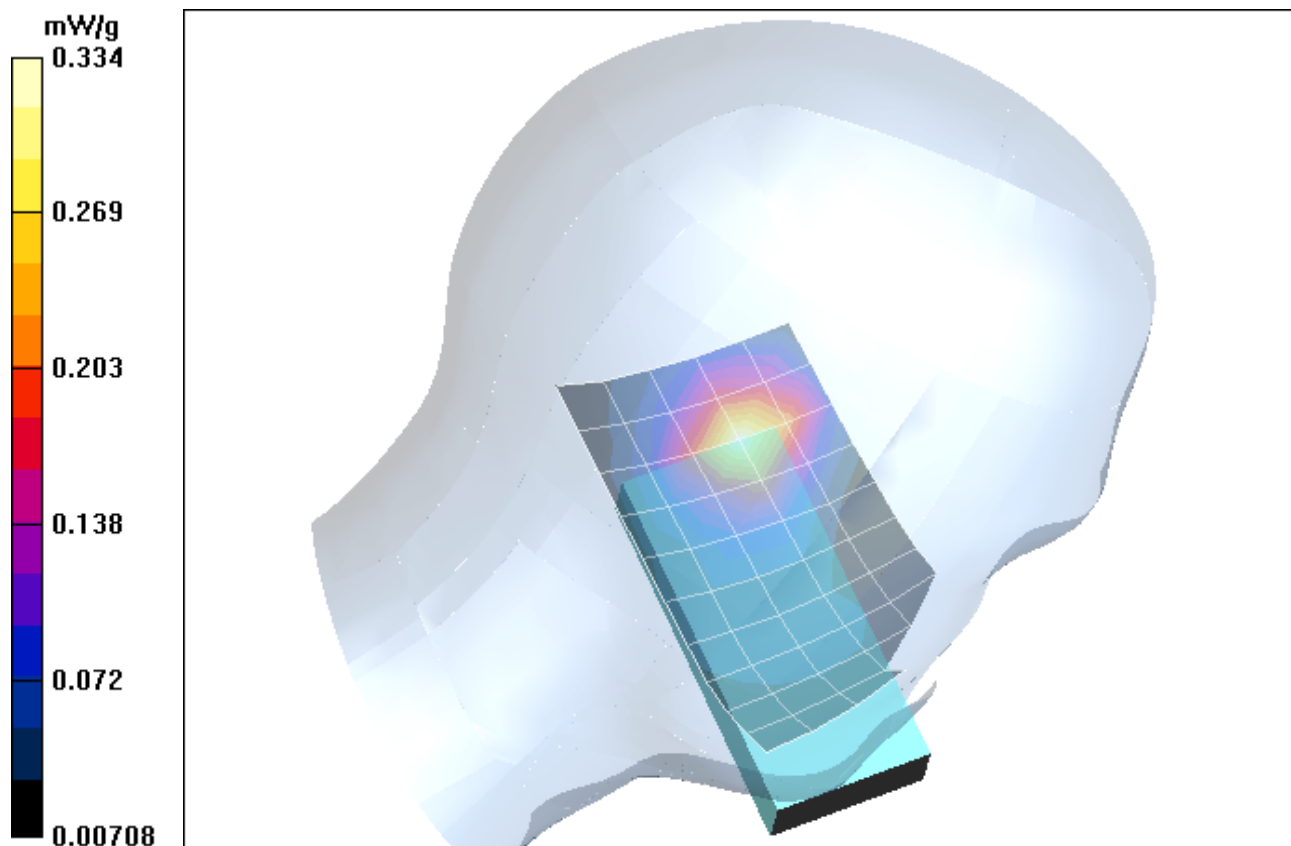


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (31.01.2005; Ambient Temperature: 21.8° C; Liquid Temperature : 20.9° C).

Test Laboratory: IMST GmbH; **File Name:** [730bprm_1.da4](#)

DUT: Siemens; **Type:** SP65; **Serial:** 353910009449730

Program Name: Cheek Right

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

Medium parameters used: $\sigma = 1.43$; mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005

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

- Electronics: DAE3 Sn335; Calibrated: 05.08.2004

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

- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

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

Maximum value of SAR (measured) = 0.366 mW/g

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

Reference Value = 24.7 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.175 mW/g

Maximum value of SAR (measured) = 0.362 mW/g

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

Reference Value = 24.7 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.718 W/kg

SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.184 mW/g

Maximum value of SAR (measured) = 0.456 mW/g

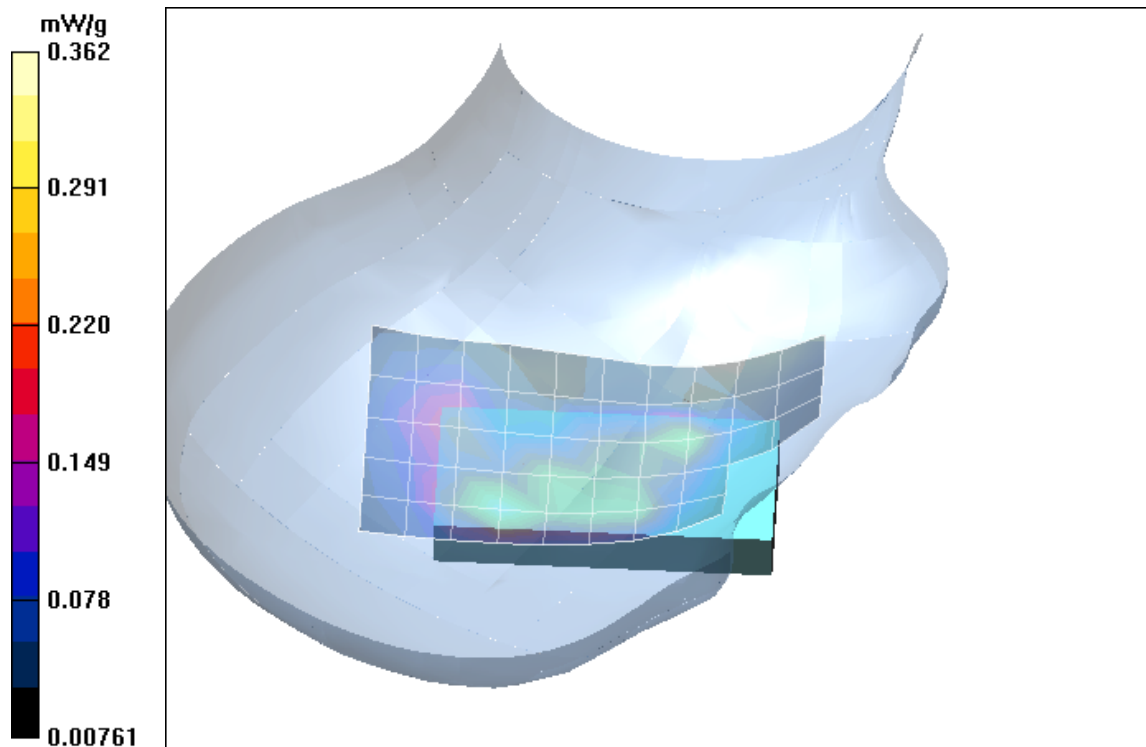


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head (31.01.2005; Ambient Temperature: 21.9° C; Liquid Temperature : 20.9° C).

Test Laboratory: IMST GmbH; File Name: [730bprm 2.da4](#)

DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Tilted Right

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

Medium parameters used: $\sigma = 1.43$; mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.08.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

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

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

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

Reference Value = 27 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.127 mW/g

Maximum value of SAR (measured) = 0.248 mW/g

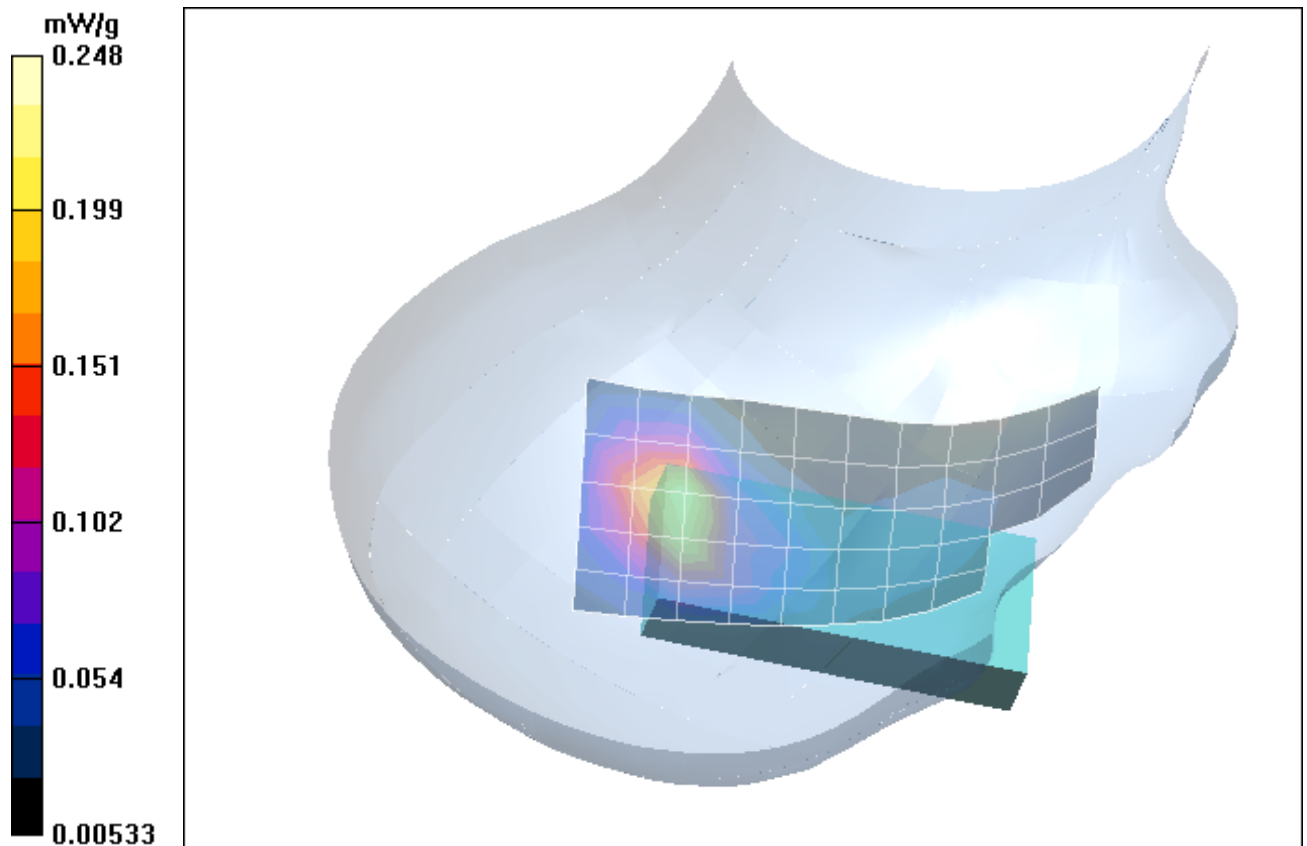


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (31.01.2005; Ambient Temperature: 22.1° C; Liquid Temperature : 21.0° C).

Test Laboratory: IMST GmbH; **File Name:** [730bprm_1_BT.da4](#)

DUT: Siemens; **Type:** SP65; **Serial:** 353910009449730

Program Name: Cheek Right

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

Medium parameters used: $\sigma = 1.43$; mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.08.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 130

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

Maximum value of SAR (measured) = 0.370 mW/g

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

Reference Value = 9.32 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.581 W/kg

SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.376 mW/g

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

Reference Value = 9.32 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.854 W/kg

SAR(1 g) = 0.452 mW/g; SAR(10 g) = 0.209 mW/g

Maximum value of SAR (measured) = 0.540 mW/g

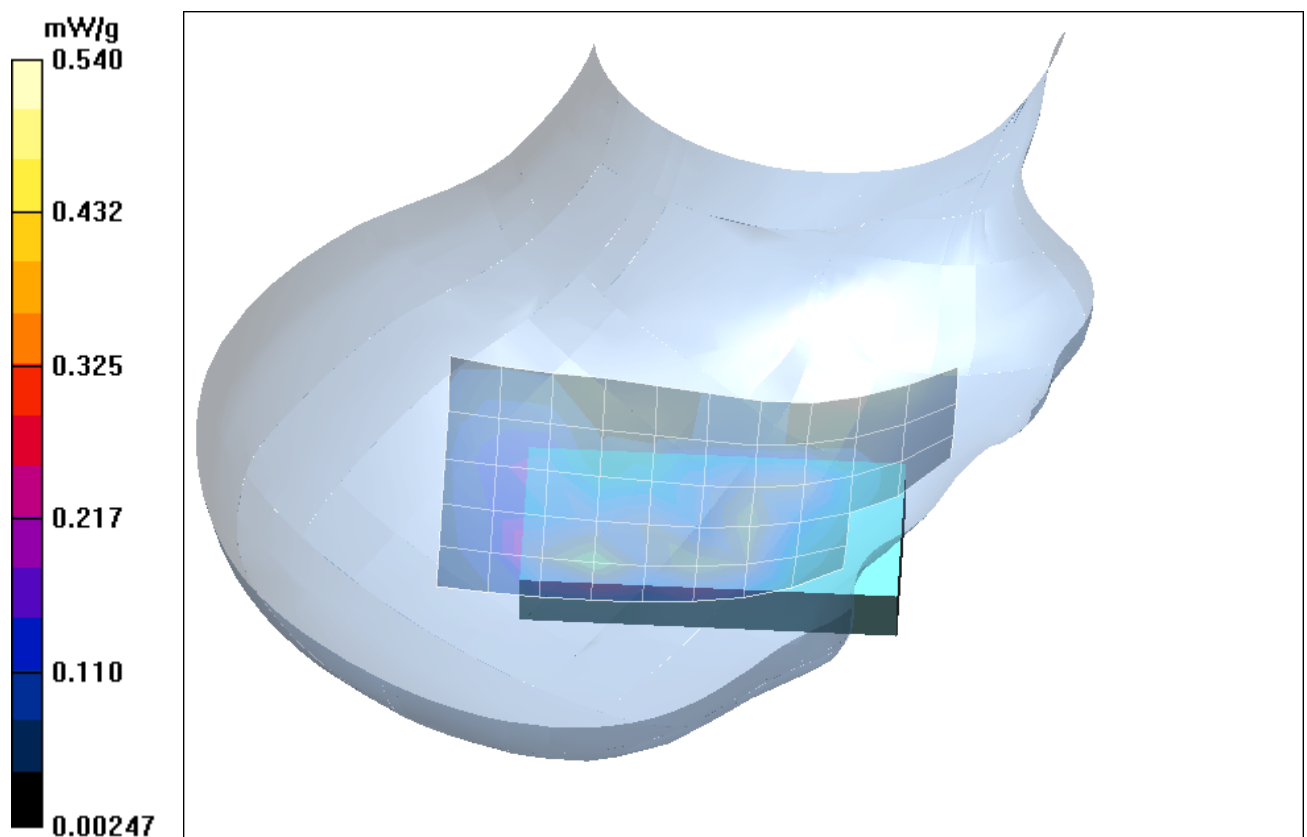


Fig. 5: SAR distribution for PCS 1900, worst case with Bluetooth, channel 661, cheek position, right side of head (31.01.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

2 SAR Distribution Plots, PCS 1900 Body with headset in GSM mode

Test Laboratory: IMST GmbH; File Name: [730yphm_1.da4](#)

DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Body Worn

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

Medium parameters used: $\sigma = 1.57$; mho/m, $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.52, 4.52, 4.52); Calibrated: 13.01.2005
- 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, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

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

Maximum value of SAR (measured) = 0.102 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.083 dB

Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.110 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.083 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.062 mW/g

Maximum value of SAR (measured) = 0.108 mW/g

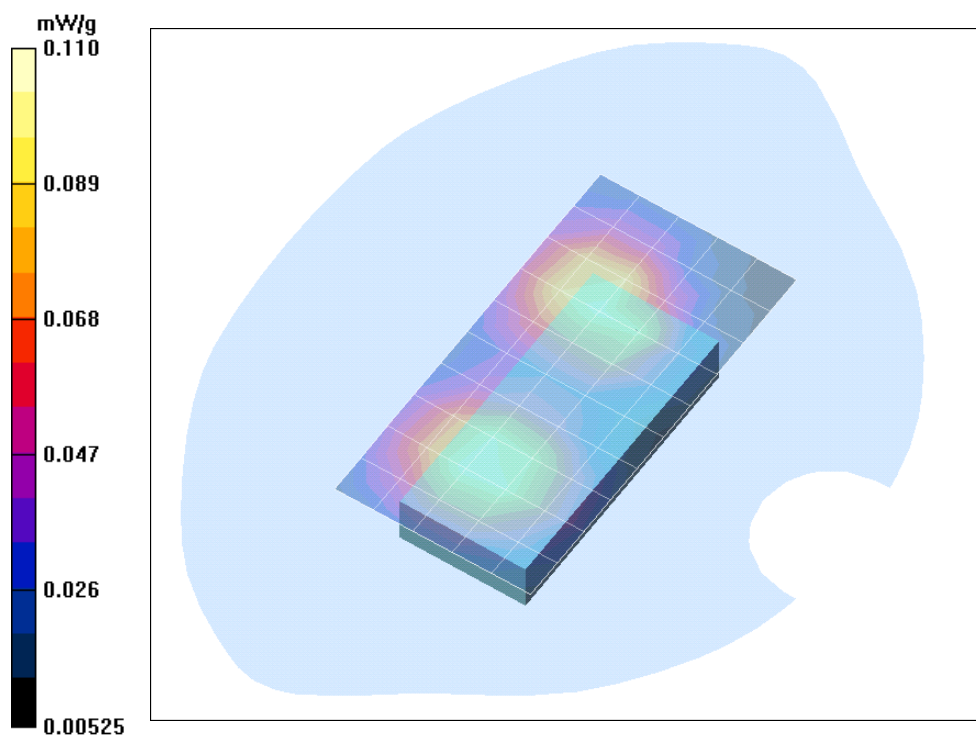


Fig. 6: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, with headset, gap = 22mm (02.02.2005; Ambient Temperature: 21.8° C; Liquid Temperature : 20.9° C).

3 SAR Distribution Plots, GPRS 1900 (Class 10)

Test Laboratory: IMST GmbH; File Name: [730yphm_3.da4](#)

DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Body Worn

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

Medium parameters used: $\sigma = 1.57$; mho/m, $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.52, 4.52, 4.52); Calibrated: 13.01.2005
- 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, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

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

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

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

Reference Value = 16.7 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.227 mW/g; SAR(10 g) = 0.147 mW/g

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

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

Reference Value = 16.7 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 0.323 W/kg

SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.143 mW/g

Maximum value of SAR (measured) = 0.236 mW/g

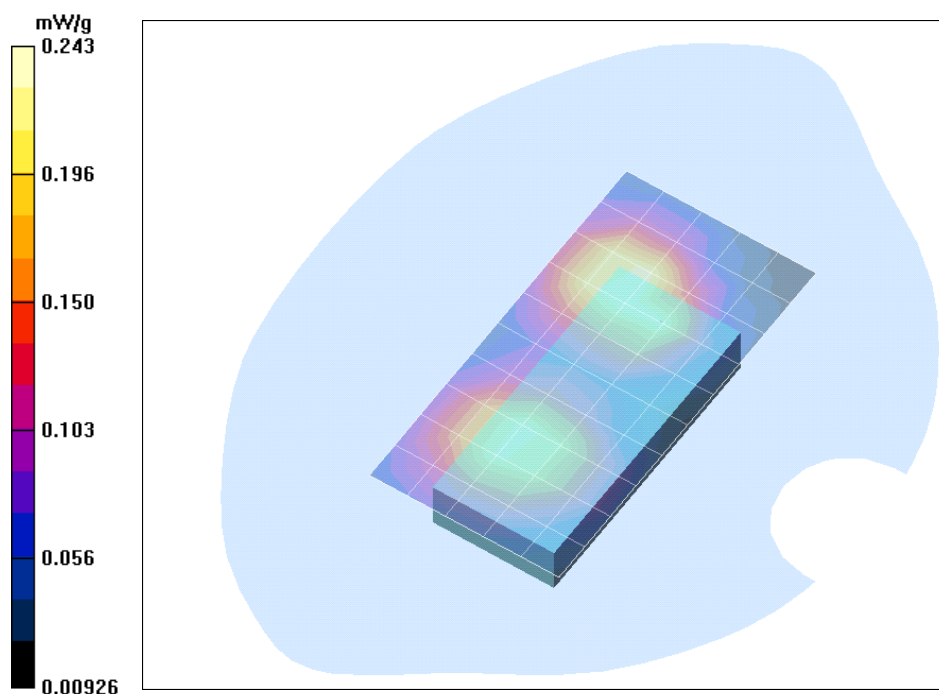


Fig. 7: SAR distribution for PCS 1900, worst case with Bluetooth channel 661, body worn configuration, antenna towards the phantom, GPRS 1900 (Class 10), Gap = 22mm (02.02.2005; Ambient Temperature: 21.9° C; Liquid Temperature : 20.9° C).

Test Laboratory: IMST GmbH; File Name: [730yphm_5.da4](#)

DUT: Siemens; Type: SP65; Serial: 353910009449730

Program Name: Body Worn

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

Medium parameters used: $\sigma = 1.57$; mho/m, $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.52, 4.52, 4.52); Calibrated: 13.01.2005
- 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, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

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

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

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

Reference Value = 16.4 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.146 mW/g

Maximum value of SAR (measured) = 0.242 mW/g

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

Reference Value = 16.4 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.140 mW/g

Maximum value of SAR (measured) = 0.233 mW/g

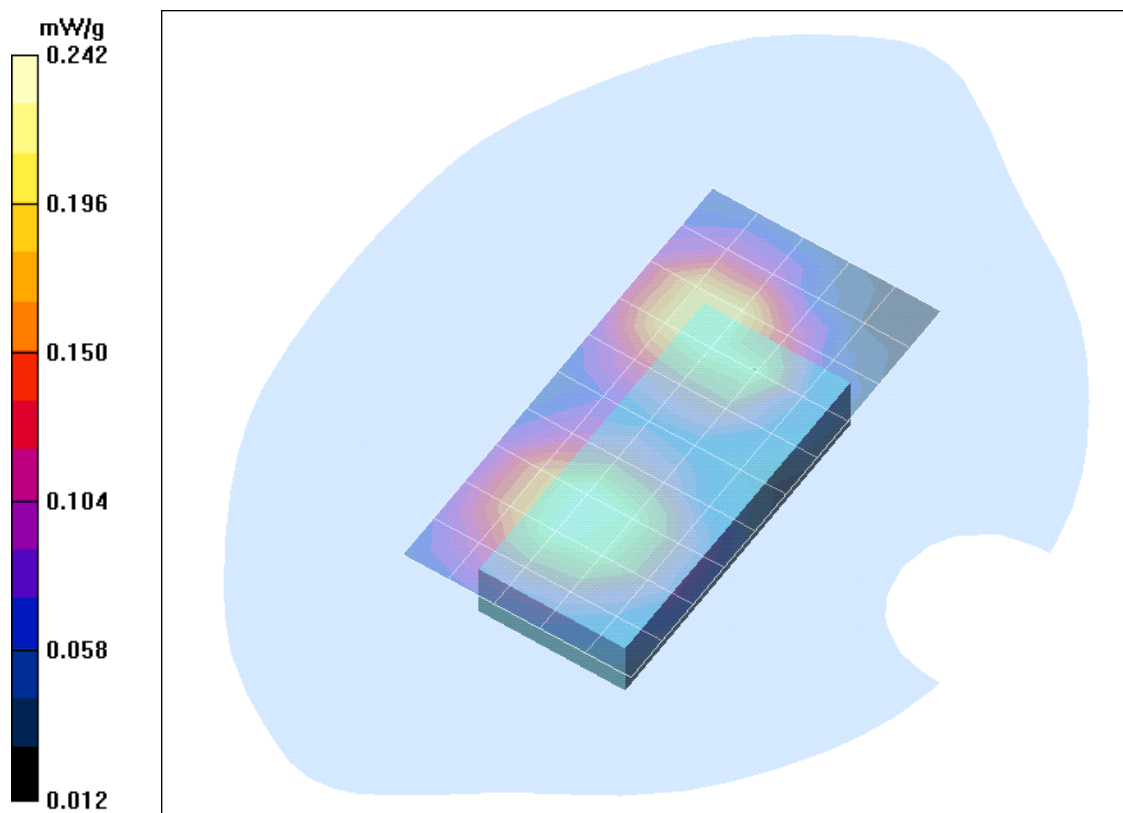


Fig. 8: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, GPRS 1900 (Class 10), Gap = 22mm (02.02.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 20.9° C).

4 SAR z-axis scans (Validation)

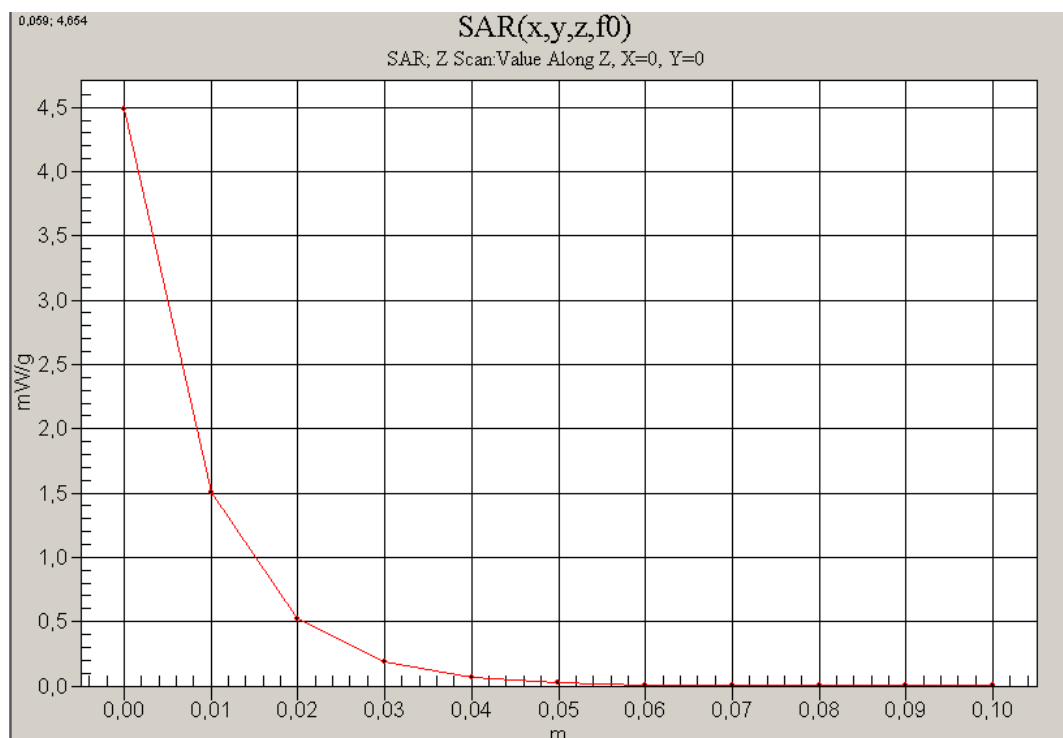


Fig. 9: SAR versus liquid depth, 1900 MHz, head (31.01.2005; Ambient Temperature: 21.8° C; Liquid Temperature : 20.9° C).

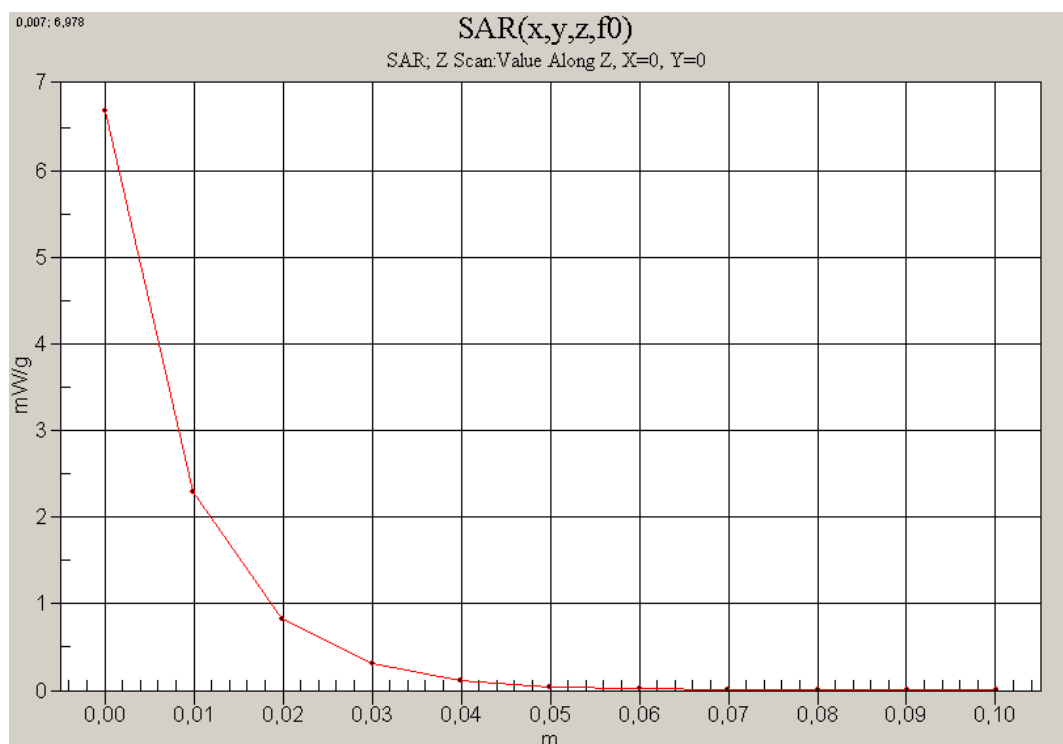


Fig. 10: SAR versus liquid depth, 1900 MHz, body (02.02.2005; Ambient Temperature: 21.9° C; Liquid Temperature : 21.1° C).

5 SAR z-axis scans (Measurements)

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

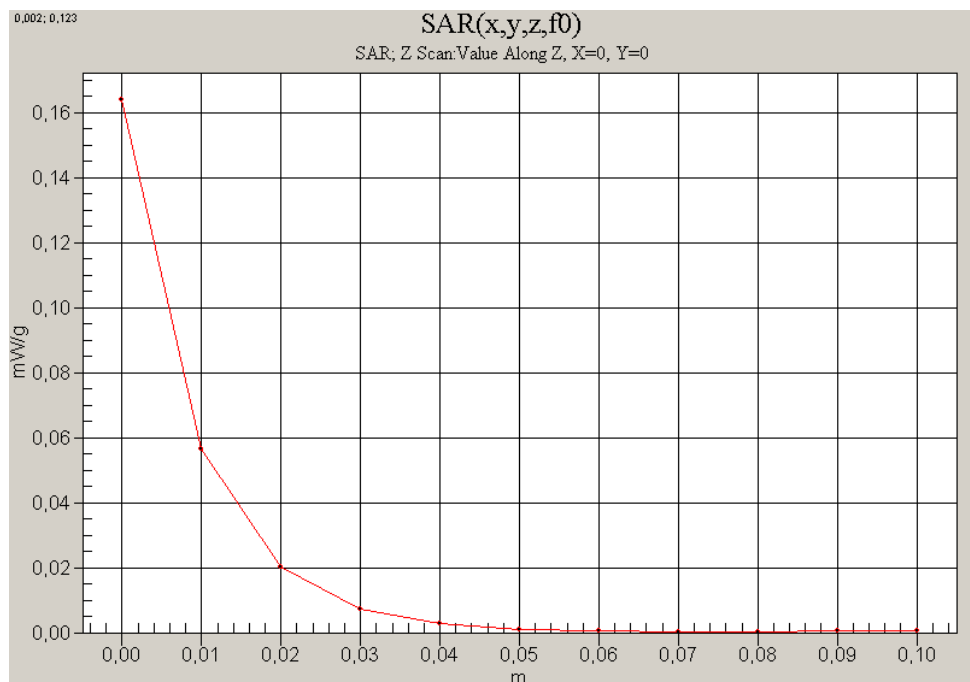


Fig. 11: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, right side of head with Bluetooth (31.01.2005, Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

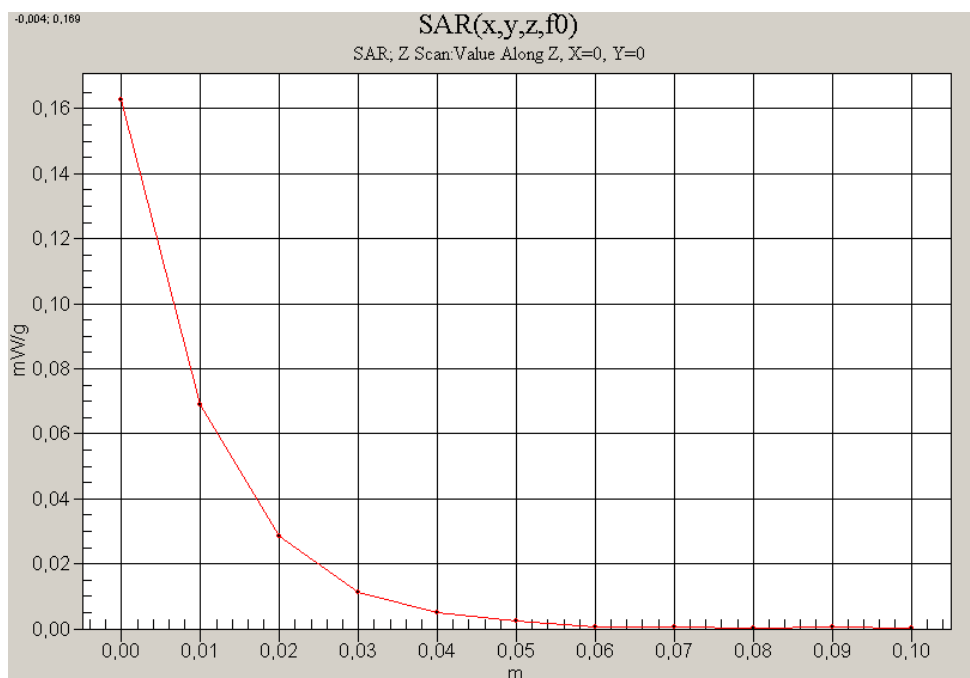


Fig. 12: SAR versus liquid depth: PCS 1900, channel 661, body worn configuration, antenna towards the phantom, GPRS 1900 (Class10) with Bluetooth (02.02.2005, Ambient Temperature: 21.9° C; Liquid Temperature: 20.9° C).