Deutscher Akkreditierungs Rat

TTI-P-G 158

Appendix for the Report

Dosimetric Assessment of the Siemens MC60 (FCC ID: MC60) According to the FCC Requirements

SAR Distribution Plots

July 30, 2003

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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; File Name: mc6plm_1.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Program: Measurement

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Head 1900 MHz (σ = 1.37 mho/m, ε_r = 40.2, ρ = 1000 kg/m^3)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.2, 5.2, 5.2); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176; Type: SAM 4.0; Serial: 1176
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

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

Peak SAR (extrapolated) = 0.896 W/kg

SAR(1 g) = 0.586 mW/g; SAR(10 g) = 0.344 mW/g

Reference Value = 17.2 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.641 mW/g

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

Reference Value = 17.2 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.532 mW/g

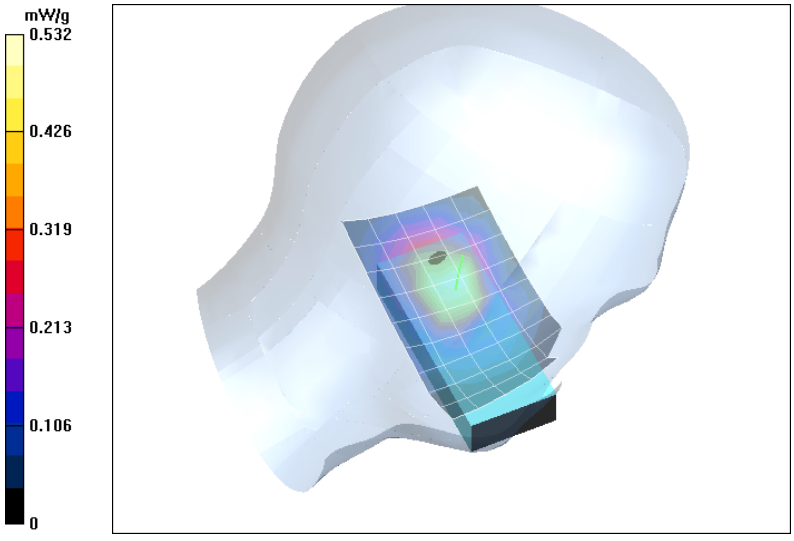

Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head. (22.07.2003; Liquid Temperature: 19.7° C; Ambient Temperature : 22.4° C).

Test Laboratory: IMST; File Name: mc6plm_2.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Program: Measurement

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Head 1900 MHz (σ = 1.37 mho/m, ε_r = 40.2, ρ = 1000 kg/m^3)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.2, 5.2, 5.2); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176; Type: SAM 4.0; Serial: 1176
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

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

Reference Value = 17.7 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.386 mW/g

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

Peak SAR (extrapolated) = 0.655 W/kg

SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.25 mW/g

Reference Value = 17.7 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.435 mW/g

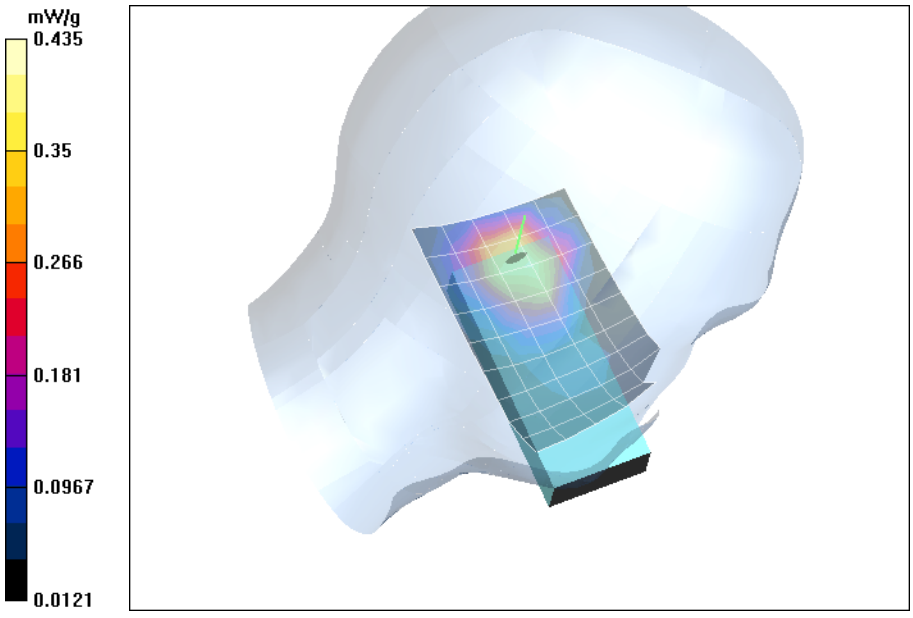

Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head. (22.07.2003; Liquid Temperature: 19.7° C; Ambient Temperature : 22.5°C).

Test Laboratory: IMST; File Name: mc6prm_1.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Program: Measurement

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Head 1900 MHz (σ = 1.37 mho/m, ε_r = 40.2, ρ = 1000 kg/m^3)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.2, 5.2, 5.2); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176; Type: SAM 4.0; Serial: 1176
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

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

Reference Value = 19.9 V/m

Power Drift = 0.07 dB

Maximum value of SAR = 0.683 mW/g

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

Peak SAR (extrapolated) = 0.962 W/kg

SAR(1 g) = 0.65 mW/g; SAR(10 g) = 0.394 mW/g

Reference Value = 19.9 V/m

Power Drift = 0.07 dB

Maximum value of SAR = 0.704 mW/g

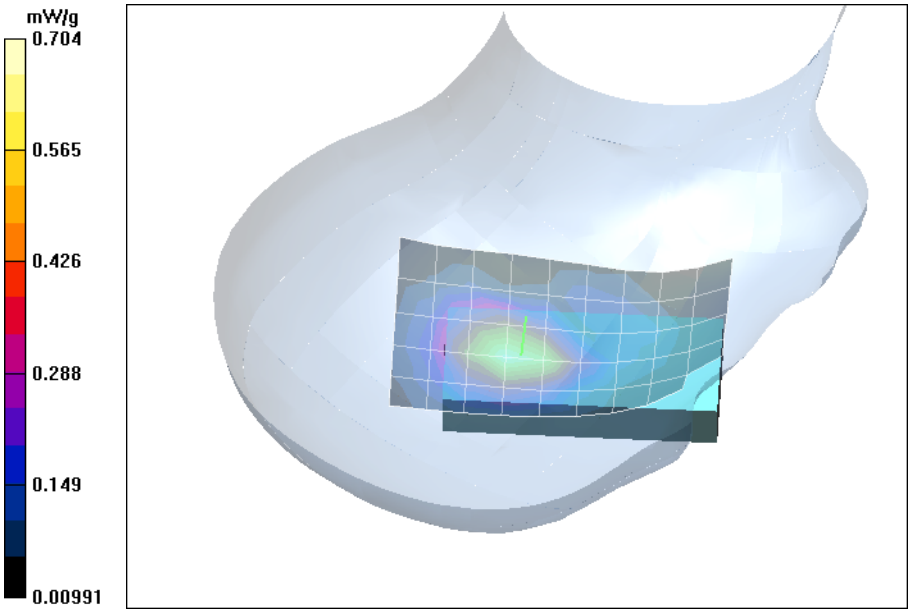

Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head. (22.07.2003; Liquid Temperature: 19.7° C; Ambient Temperature : 23.0 C).

Test Laboratory: IMST

File Name: mc6prm_2.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Program: Measurement

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Head 1900 MHz (σ = 1.37 mho/m, ε_r = 40.2, ρ = 1000 kg/m^3)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.2, 5.2, 5.2); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176; Type: SAM 4.0; Serial: 1176
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

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

Reference Value = 20.2 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.544 mW/g

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

Peak SAR (extrapolated) = 0.825 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.31 mW/g

Reference Value = 20.2 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.561 mW/g

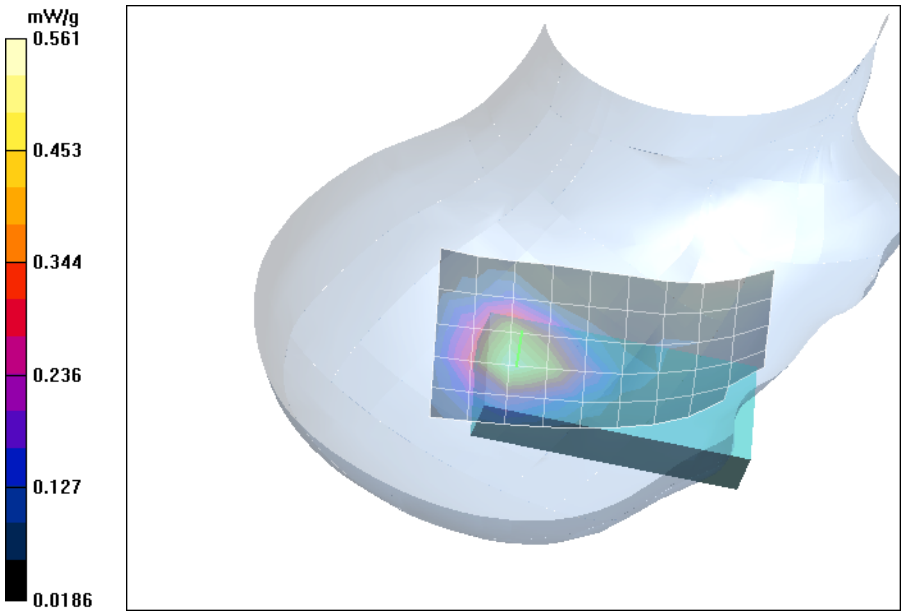

Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head. (22.07.2003; Liquid Temperature: 19.7° C; Ambient Temperature : 23.1 C).

2 SAR Distribution Plots, PCS 1900 Body with headset

Test Laboratory: IMST; File Name: mc6phm_3.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Body1900 MHz (σ = 1.5 mho/m, ε_r = 53, ρ = 1000 kg/m^3)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(4.8, 4.8, 4.8); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176;
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

Unnamed procedure/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 10.7 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.308 mW/g

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

Peak SAR (extrapolated) = 0.462 W/kg

SAR(1 g) = 0.286 mW/g; SAR(10 g) = 0.18 mW/g

Reference Value = 10.7 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.303 mW/g

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

Peak SAR (extrapolated) = 0.452 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.192 mW/g

Reference Value = 10.7 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.324 mW/g

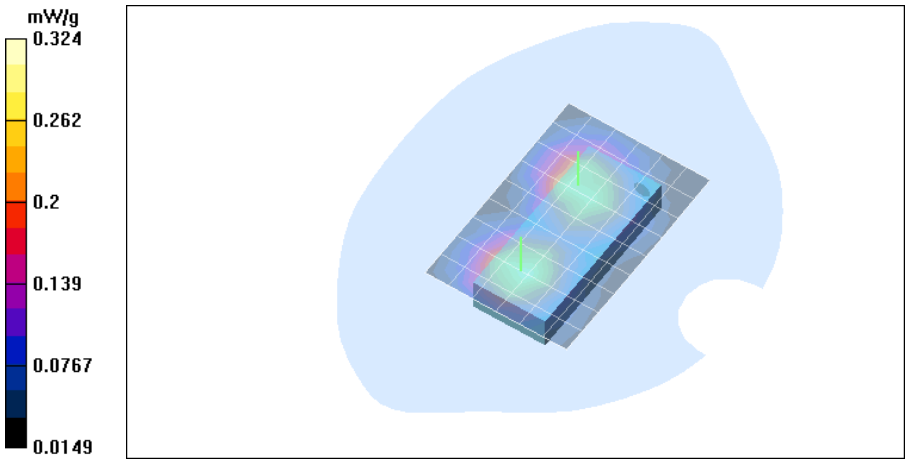

Fig. 5: SAR distribution for PCS 1900, channel 661, body worn configuration, display away from phantom, with headset (23.07.2003; Liquid Temperature: 20.3° C; Ambient Temperature : 22.3° C).

3 SAR Distribution Plots, PCS 1900 Body with datacable

Test Laboratory: IMST, File Name: mc6phm_2.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Body1900 MHz (σ = 1.5 mho/m, ε_r = 53, ρ = 1000 kg/m^3)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(4.8, 4.8, 4.8); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176;
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

Unnamed procedure/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 11.1 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.209 mW/g

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

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.128 mW/g

Reference Value = 11.1 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.21 mW/g

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

Peak SAR (extrapolated) = 0.247 W/kg

SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.112 mW/g

Reference Value = 11.1 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.175 mW/g

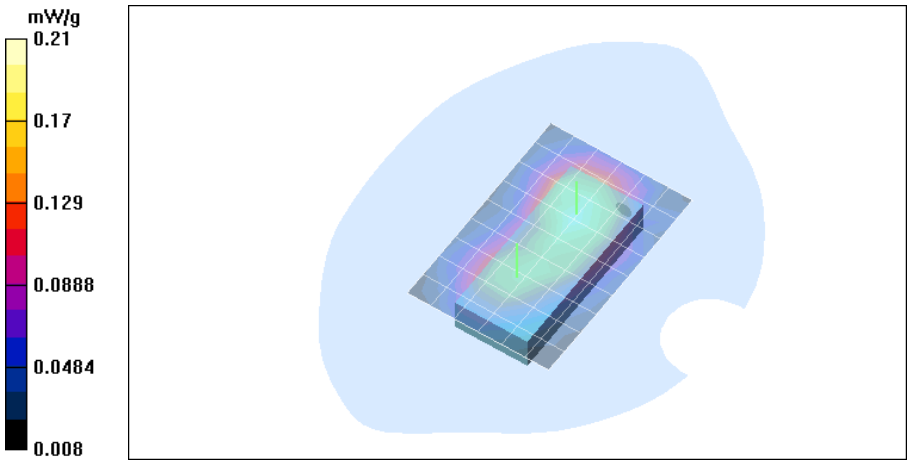

Fig. 6: SAR distribution for PCS 1900, channel 661, body worn configuration, display away from phantom, with datacable (23.07.2003; Liquid Temperature: 20.3° C; Ambient Temperature : 22.2° C).

4 SAR Distribution Plots, PCS 1900 Body, MC60

Test Laboratory: IMST; File Name: mc6phm_1.da4

DUT: Siemens; Type: MC60; Serial: 004999002361649

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8

Medium: Body1900 MHz (σ = 1.5 mho/m, ε_r = 53, ρ = 1000 kg/m^3)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(4.8, 4.8, 4.8); Calibrated: 21.03.2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 05.05.2003
- Phantom: SAM TP:1176;
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

Unnamed procedure/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 9.64 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.29 mW/g

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

Peak SAR (extrapolated) = 0.437 W/kg

SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.188 mW/g

Reference Value = 9.64 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.317 mW/g

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

Peak SAR (extrapolated) = 0.41 W/kg

SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.157 mW/g

Reference Value = 9.64 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.27 mW/g

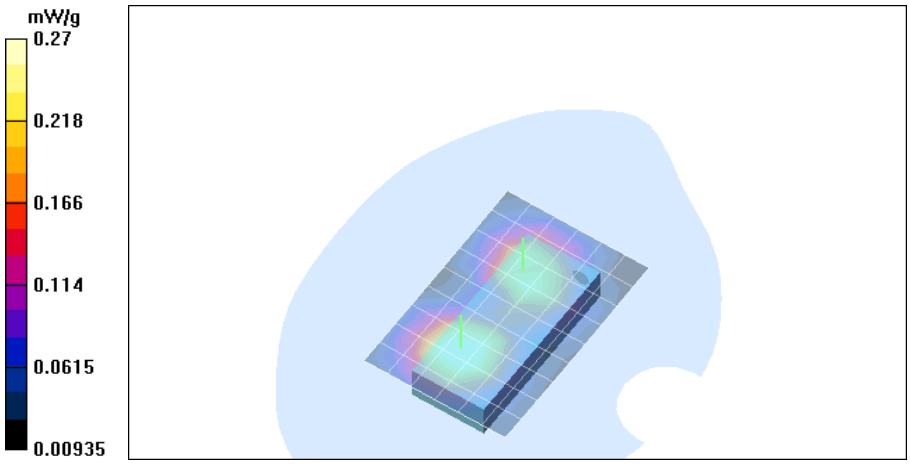

Fig. 7: SAR distribution for PCS 1900, channel 661, body worn configuration, display away from phantom, MC60 (23.07.2003; Liquid Temperature: 20.3° C; Ambient Temperature : 22.1° C).

5 SAR z-axis scans (Validation)

The following pictures show the plots of SAR versus liquid depth.

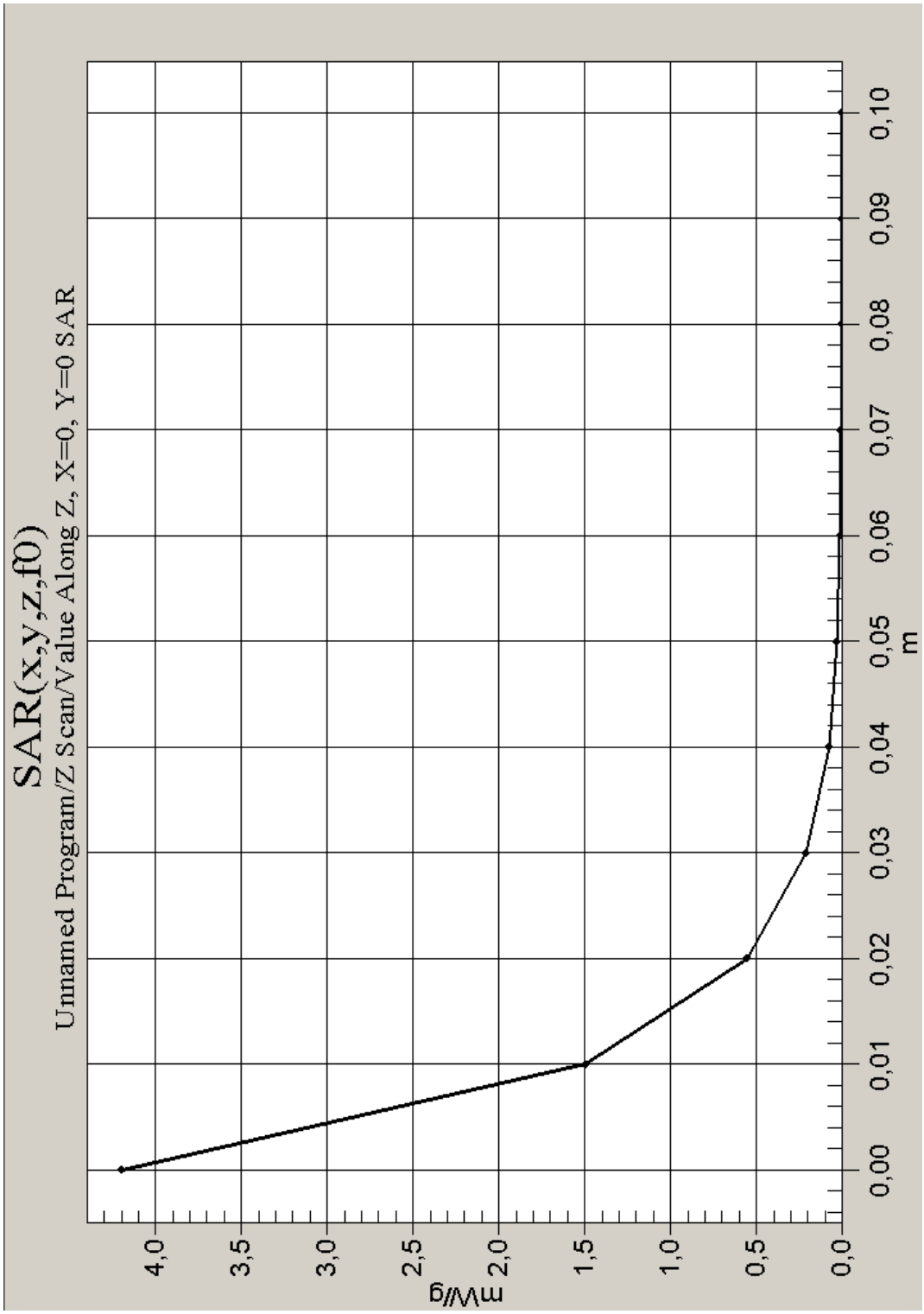

Fig. 8: SAR versus liquid depth, 1900 MHz, head (22.07.2003, Liquid Temperature: 19.7° C; Ambient Temperature : 22.0° C).

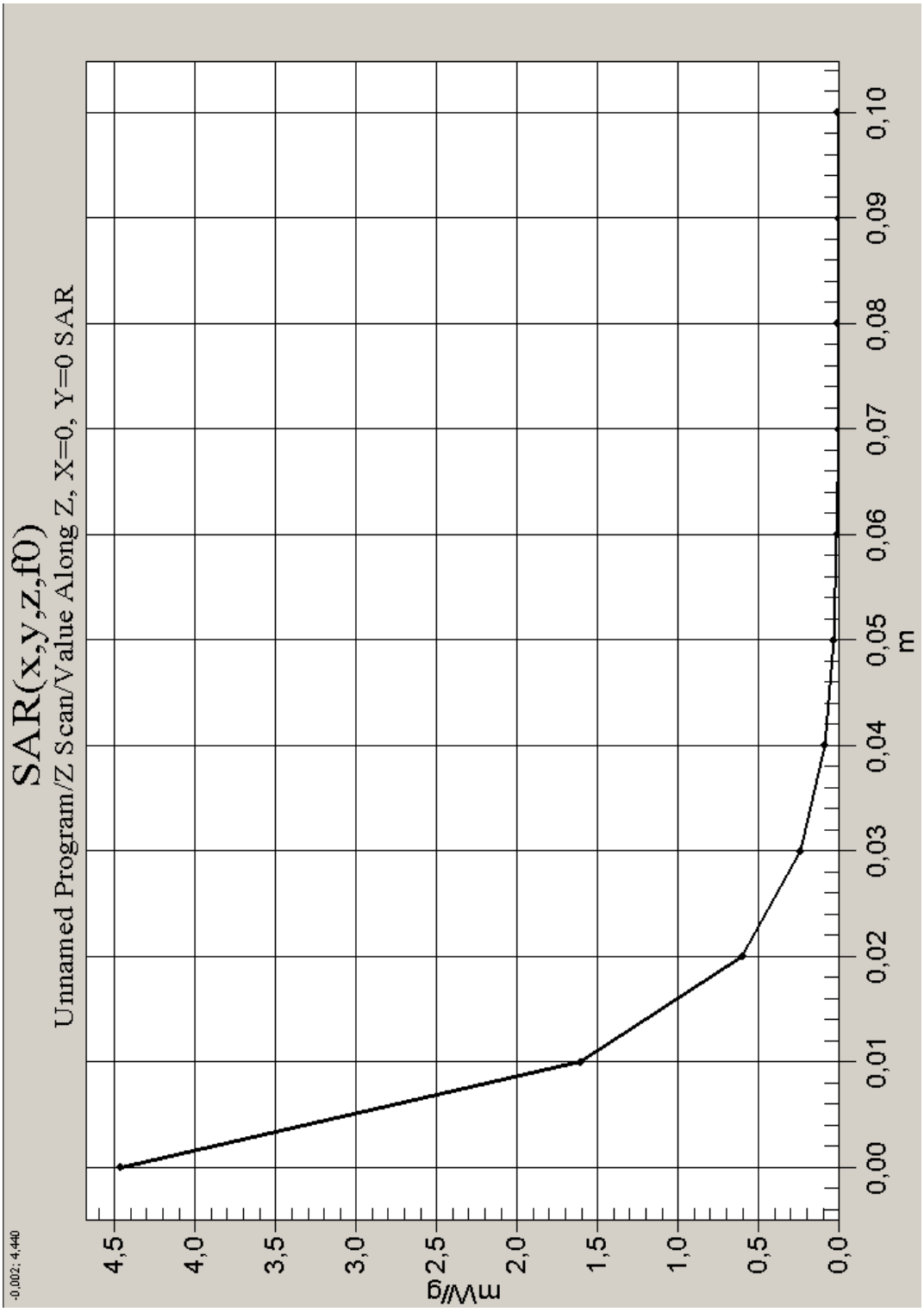

Fig. 9: SAR versus liquid depth, 1900 MHz, body (23.07.2003; Liquid Temperature: 20.1° C; Ambient Temperature : 21.2° C).

6 SAR z-axis scans (Measurements)

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

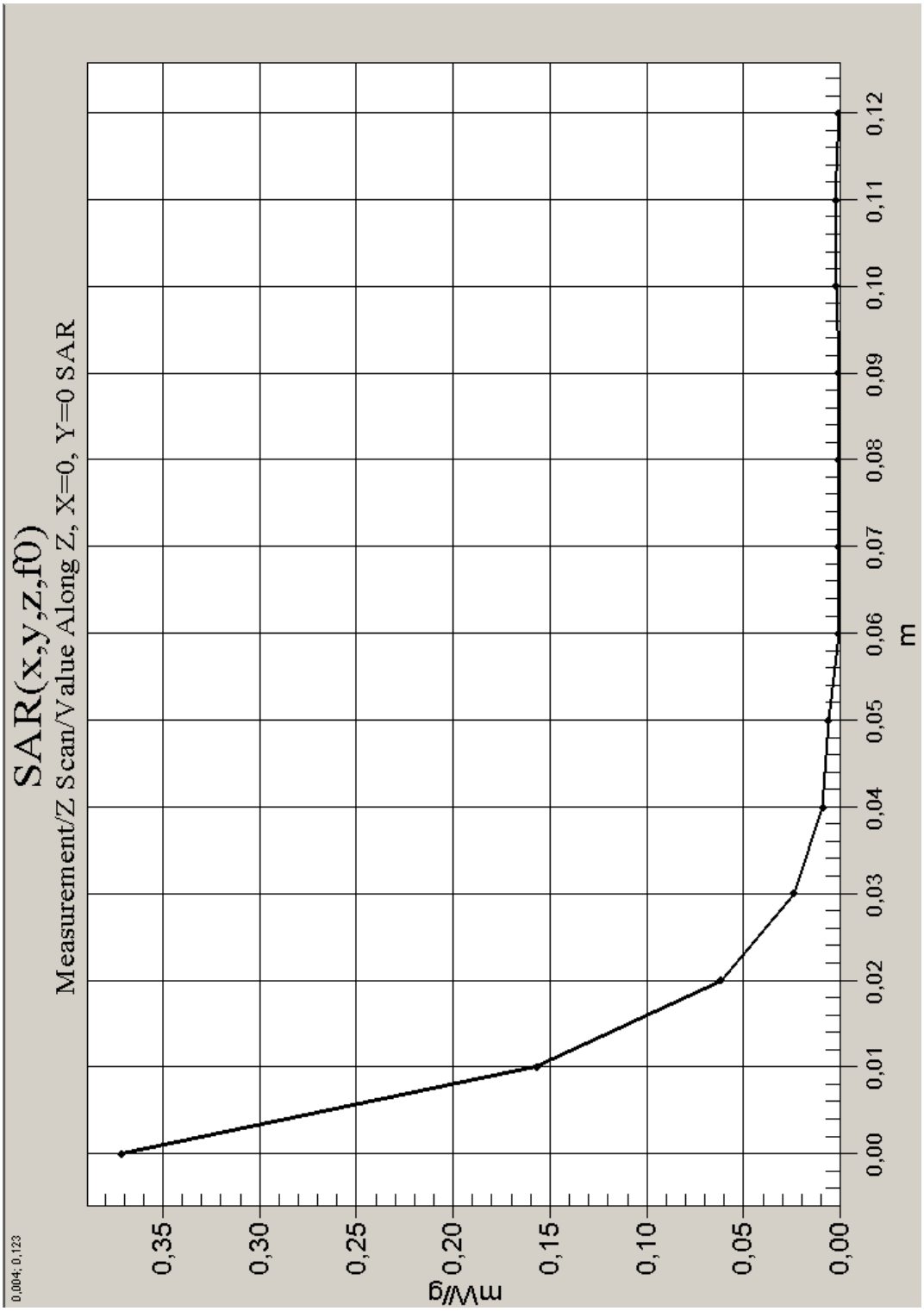

Fig. 10: SAR versus liquid depth, head: PCS 1900, channel 661, cheek position, right side of head. (22.07.2003, Liquid Temperature: 19.7° C; Ambient Temperature : 23.0°C).

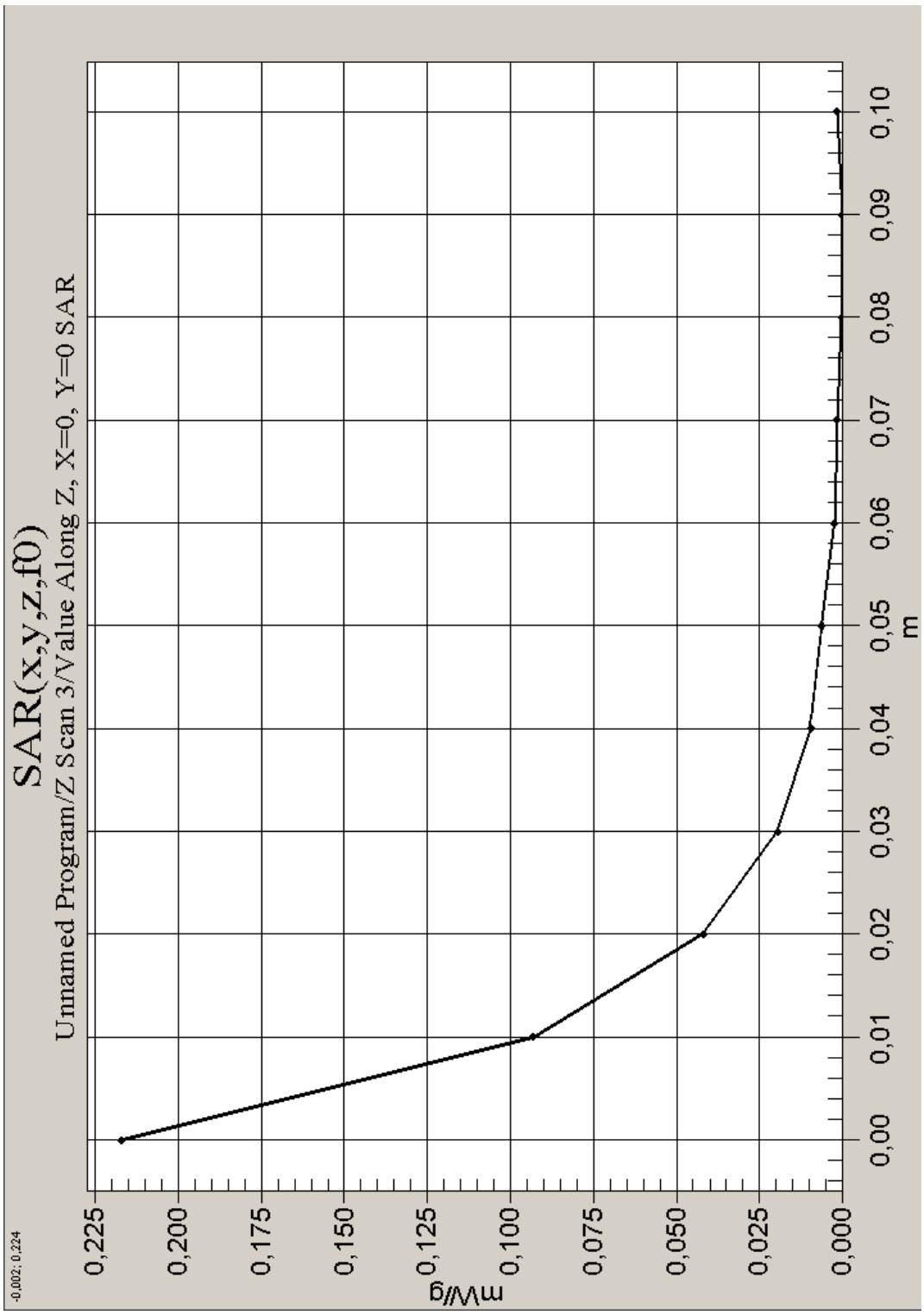

Fig. 11: SAR versus liquid depth: PCS 1900, channel 661, body worn configuration, display away from phantom, GSM mode (1TX), (23.07.2003, Liquid Temperature: 20.3° C; Ambient Temperature : 22.3° C).