Deutscher Akkreditierungs Rat

TTI-P-G 158

Appendix for the Report

Dosimetric Assessment of the Alcatel One Touch 756 (FCC ID: RAD004) According to the FCC Requirements

SAR Distribution Plots

May 13, 2004

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1 SAR Distribution Plots, PCS 1900 Head

Test Laboratory: IMST GmbH; File Name: 196plm_1.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Cheek Left

Communication System: GSM 1900; Frequency: 1880.0 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1880.0 MHz; σ = 1.44 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.19, 5.19, 5.19); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn901; Calibrated: 12.01.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 16.4 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.602 mW/g

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

Reference Value = 16.4 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.611 mW/g

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.569 mW/g; SAR(10 g) = 0.331 mW/g

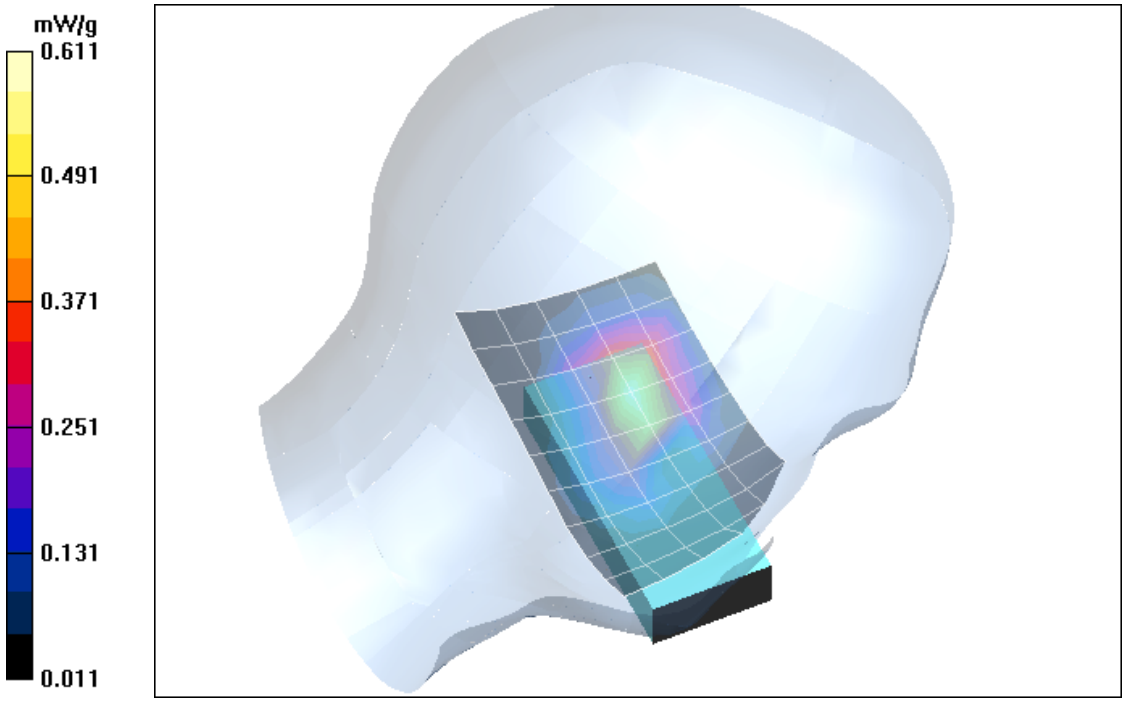

Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head. (21.04.2004; Ambient Temperature: 22.8° C; Liquid Temperature : 21.0° C).

Test Laboratory: IMST GmbH; File Name: 196plm_2.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Tilted Left

Communication System: GSM 1900; Frequency: 1880.0 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1880.0 MHz; σ = 1.44 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.19, 5.19, 5.19); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn901; Calibrated: 12.01.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 20.5 V/m; Power Drift = -0.0818 dB

Maximum value of SAR (measured) = 0.515 mW/g

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

Reference Value = 20.5 V/m; Power Drift = -0.0818 dB

Maximum value of SAR (measured) = 0.550 mW/g

Peak SAR (extrapolated) = 0.896 W/kg

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.299 mW/g

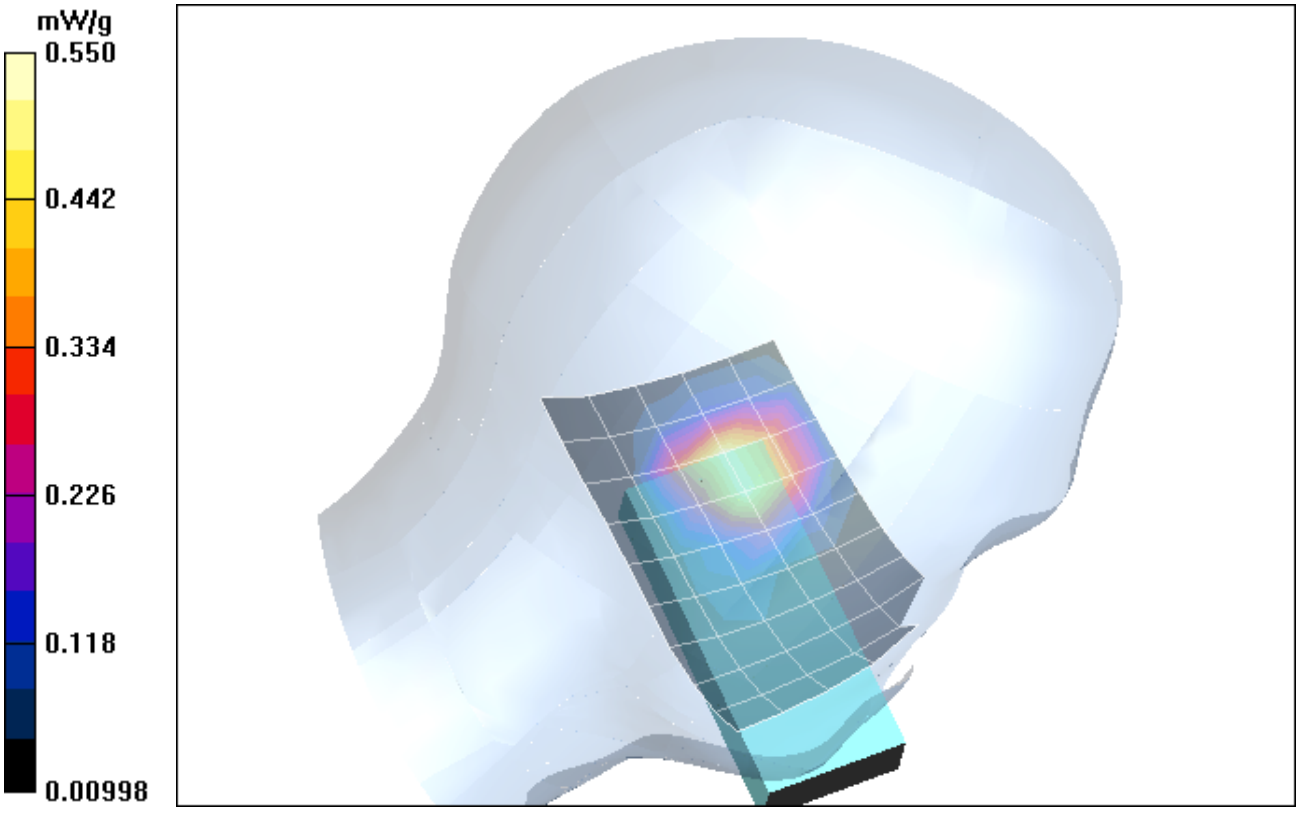

Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head. (21.04.2004; Ambient Temperature: 22.8° C; Liquid Temperature : 21.0° C).

Test Laboratory: IMST GmbH; File Name: 196prm_1.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Cheek Right

Communication System: GSM 1900; Frequency: 1880.0 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1880.0 MHz; σ = 1.44 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.19, 5.19, 5.19); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn901; Calibrated: 12.01.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 13.2 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.410 mW/g

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

Reference Value = 13.2 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.475 mW/g

Peak SAR (extrapolated) = 0.642 W/kg

SAR(1 g) = 0.437 mW/g; SAR(10 g) = 0.272 mW/g

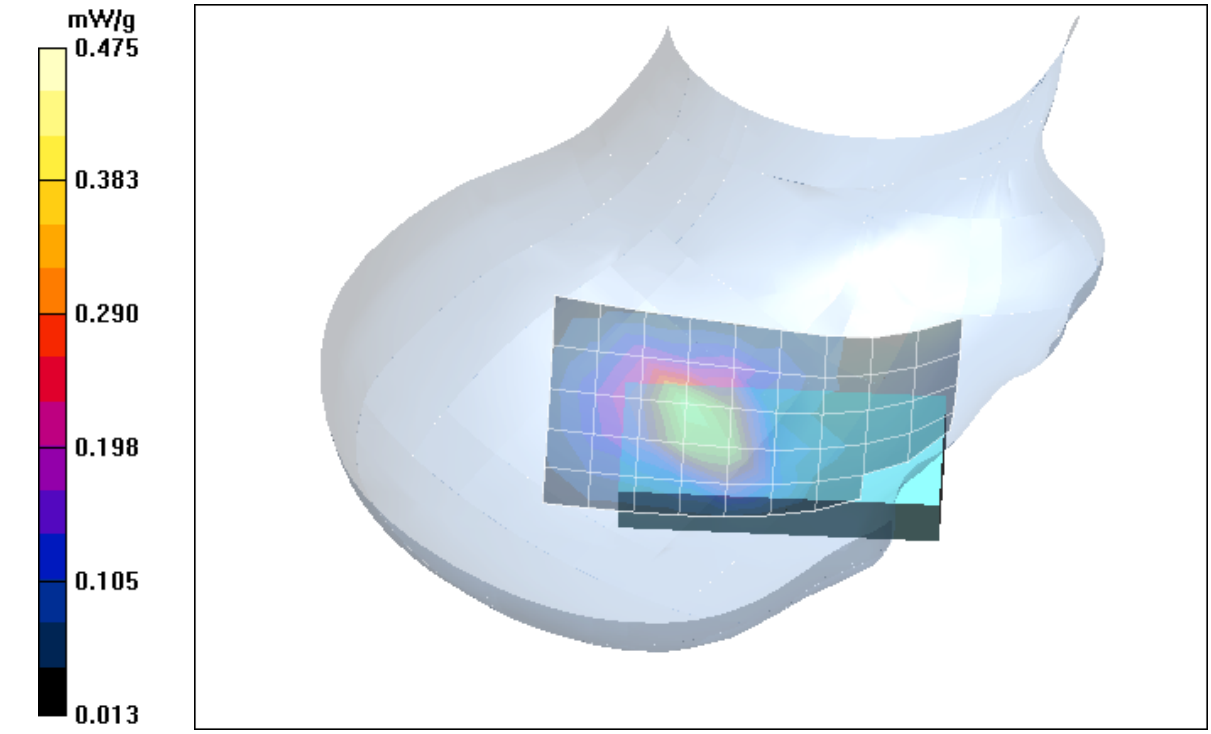

Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head. (21.04.2004; Ambient Temperature: 22.7° C; Liquid Temperature : 20.9° C).

Test Laboratory: IMST GmbH; File Name: 196prm_2.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Tilted Right

Communication System: GSM 1900; Frequency: 1880.0 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1880.0 MHz; σ = 1.44 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(5.19, 5.19, 5.19); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn901; Calibrated: 12.01.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 17.3 V/m; Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.407 mW/g

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

Reference Value = 17.3 V/m; Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.448 mW/g

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.246 mW/g

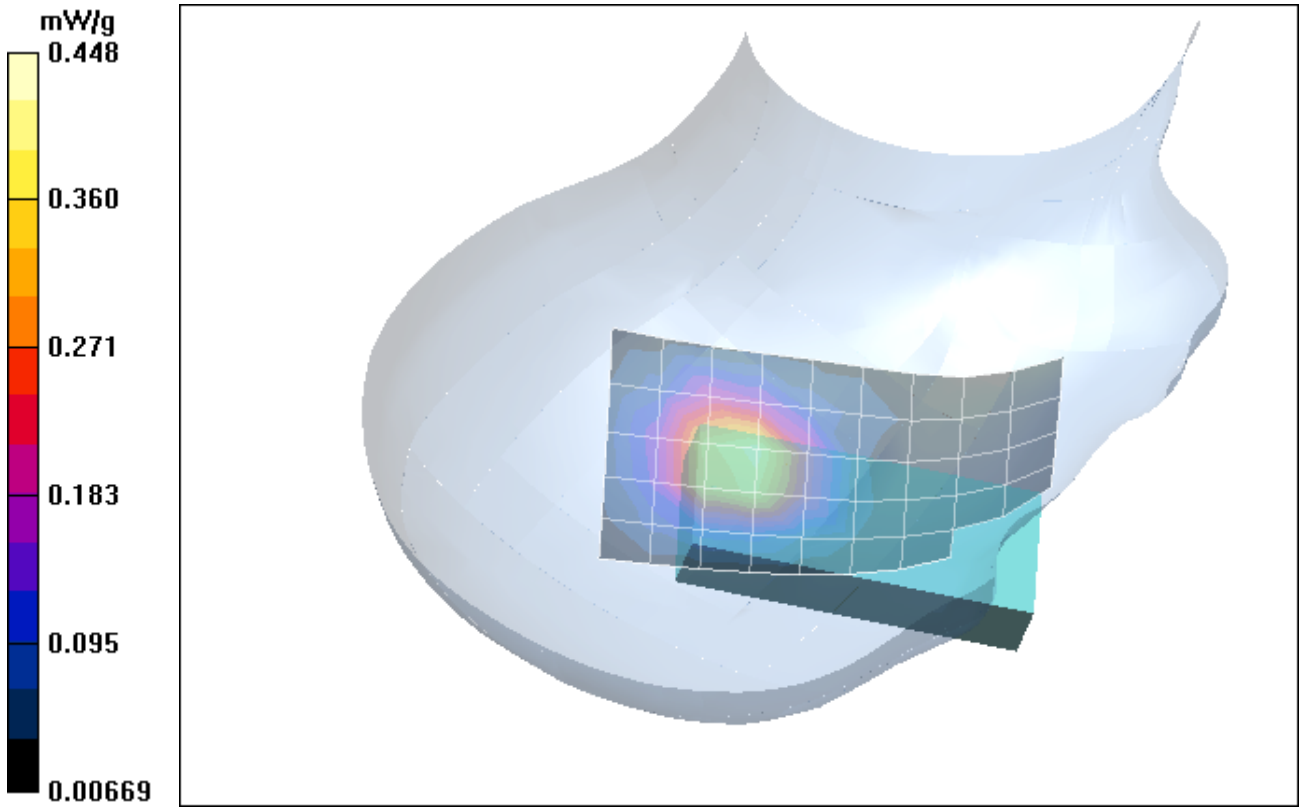

Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head. (21.04.2004; Ambient Temperature: 22.7° C; Liquid Temperature : 21.9° C).

2 SAR Distribution Plots, PCS 1900 Body with headset

Test Laboratory: IMST GmbH; File Name: 429phm_2_2cm.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Body Worn

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

Medium parameters used: σ = 1.48; mho/m, ε_r = 51.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(4.54, 4.54, 4.54); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 26.04.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 12.9 V/m; Power Drift = 0.053 dB

Maximum value of SAR (measured) = 0.422 mW/g

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

Reference Value = 12.9 V/m; Power Drift = 0.053 dB

Maximum value of SAR (measured) = 0.431 mW/g

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.228 mW/g

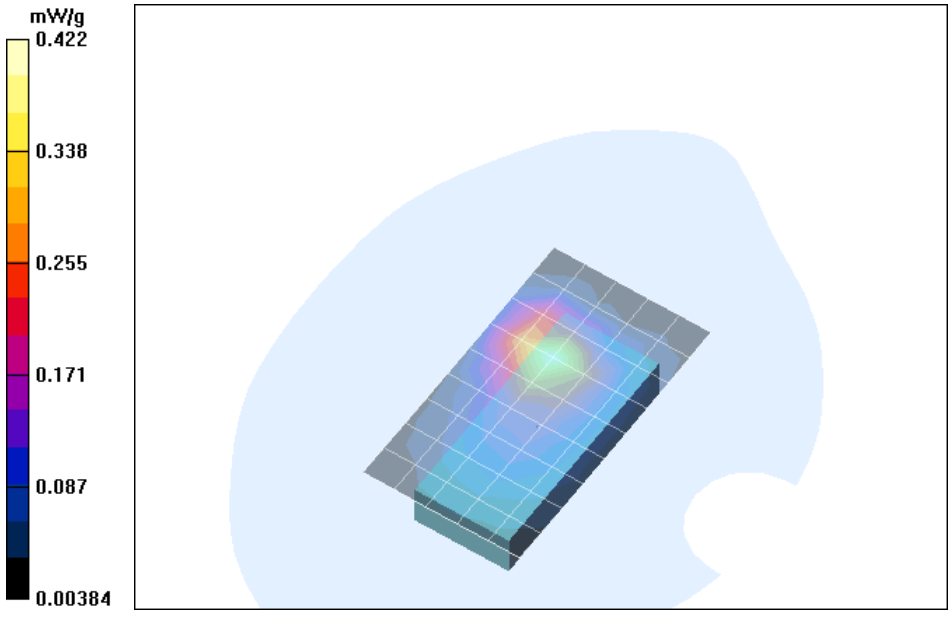

Fig. 5: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, with headset (May 13,2004; Ambient Temperature: 20.4° C; Liquid Temperature : 19.6° C).

3 SAR Distribution Plots, PCS 1900 Body GPRS

Since all three channels have similar distributions, only the worst case is shown.

Test Laboratory: IMST GmbH; File Name: 429phh_1_2cm.da4

DUT: Alcatel ; Type: One Touch 756; Serial: 33058753387429

Program Name: Body Worn

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

Medium parameters used: σ = 1.48; mho/m, ε_r = 51.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(4.54, 4.54, 4.54); Calibrated: 18.03.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 26.04.2004
- Phantom: SAM Glycol; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

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

Reference Value = 19.4 V/m; Power Drift = -0.0825 dB

Maximum value of SAR (measured) = 1.03 mW/g

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

Reference Value = 19.4 V/m; Power Drift = -0.0825 dB

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

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.997 mW/g; SAR(10 g) = 0.572 mW/g

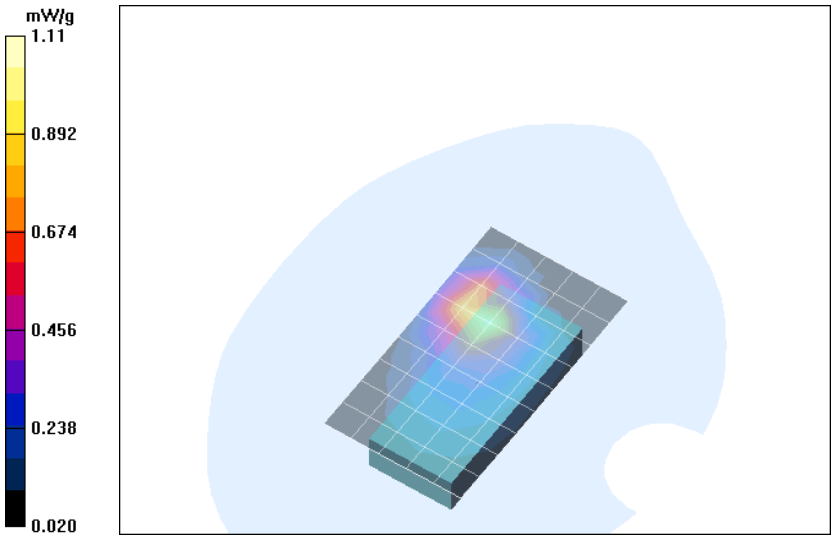

Fig. 6: Worst case SAR distribution for PCS 1900, channel 810, body worn configuration, antenna towards the phantom, 2TX (May 13, 2004; Ambient Temperature: 20,3° C; Liquid Temperature : 19,6° C).

4 SAR z-axis scans (Validation)

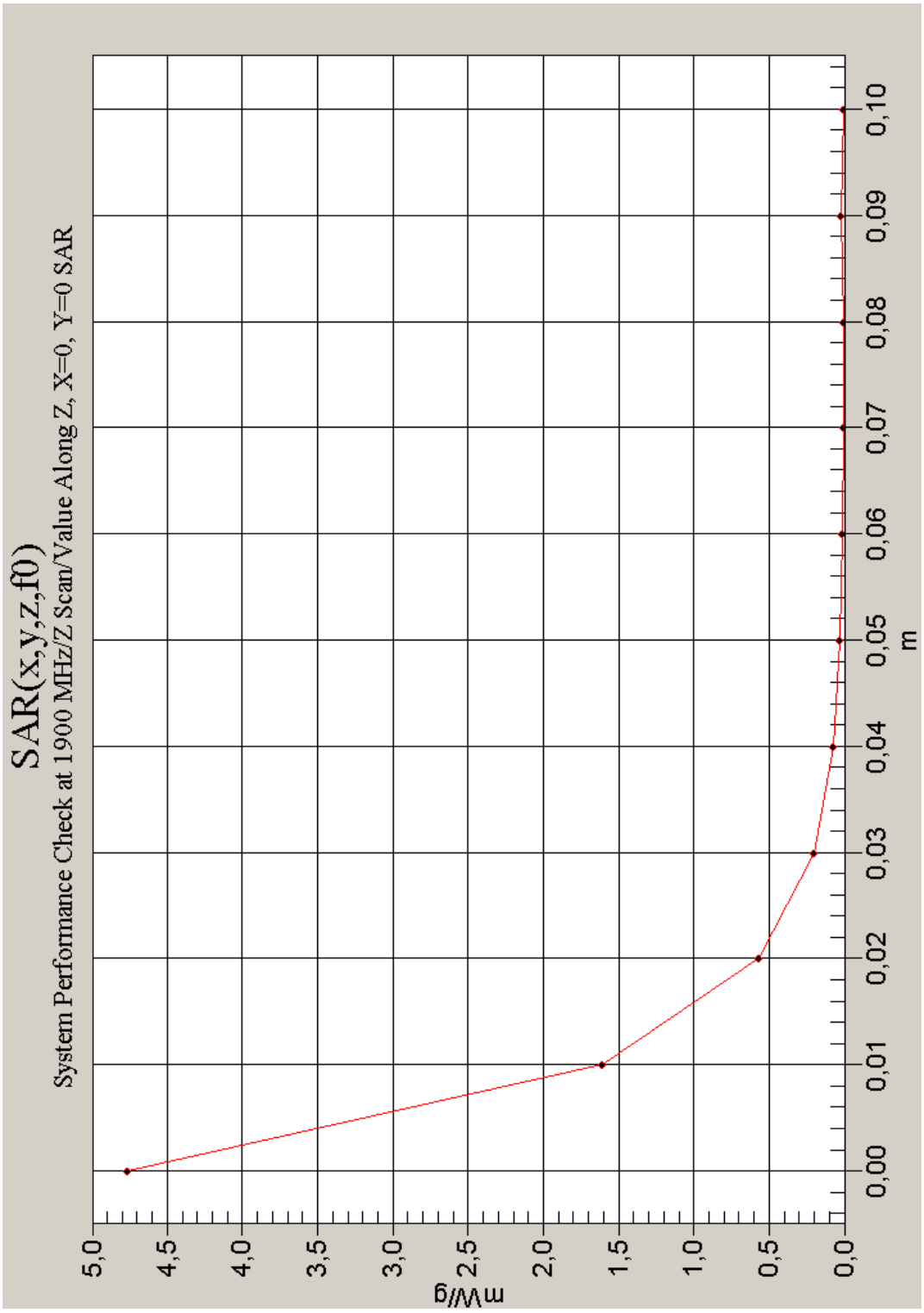

Fig. 7: SAR versus liquid depth, 1900 MHz, head (21.04.2004; Ambient Temperature: 22.0° C; Liquid Temperature : 20.6° C).

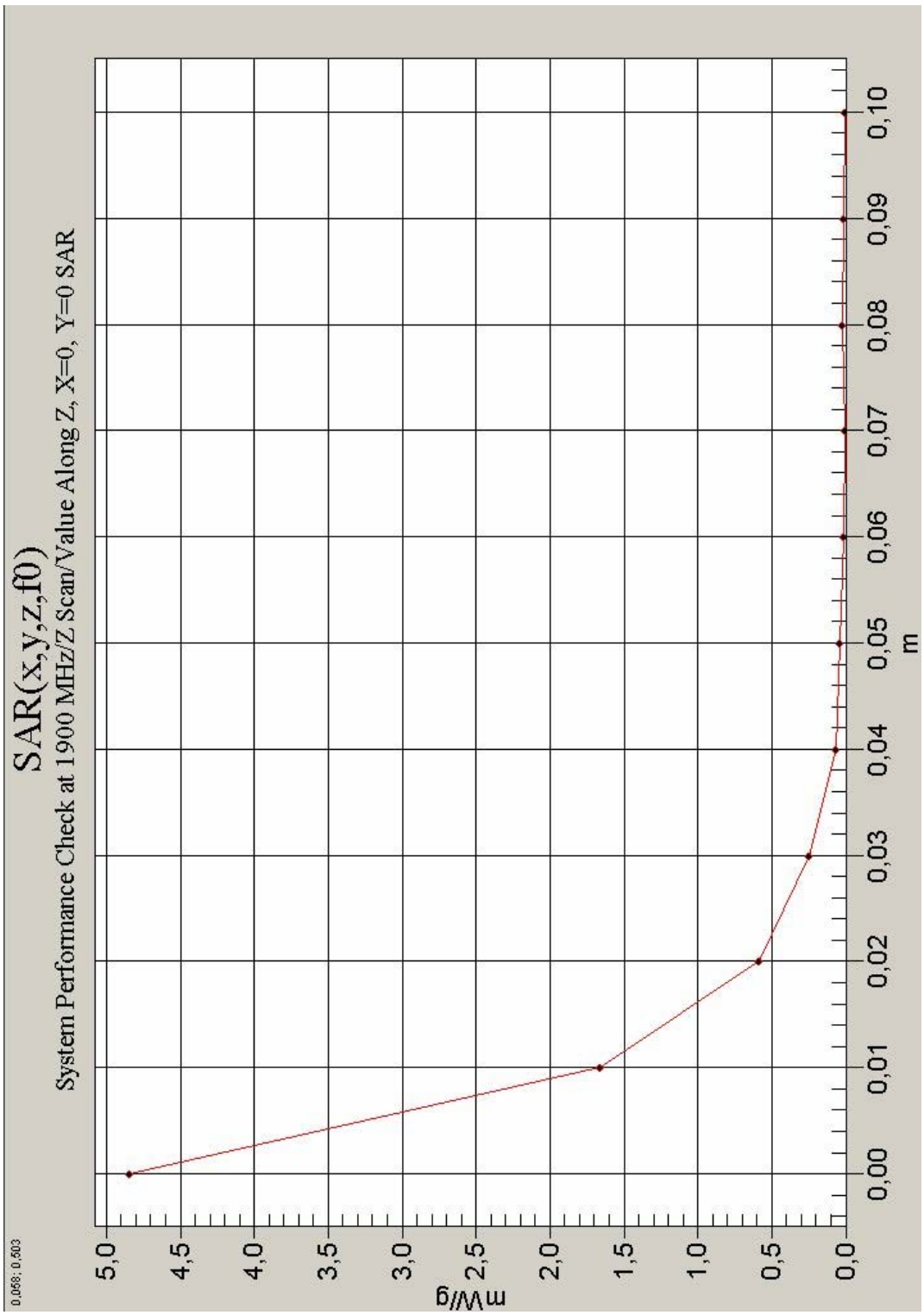

Fig. 8: SAR versus liquid depth, 1900 MHz, body (May 13, 2004; Ambient Temperature: 19.9° C; Liquid Temperature : 19.6° C).

5 SAR z-axis scans (Measurements)

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

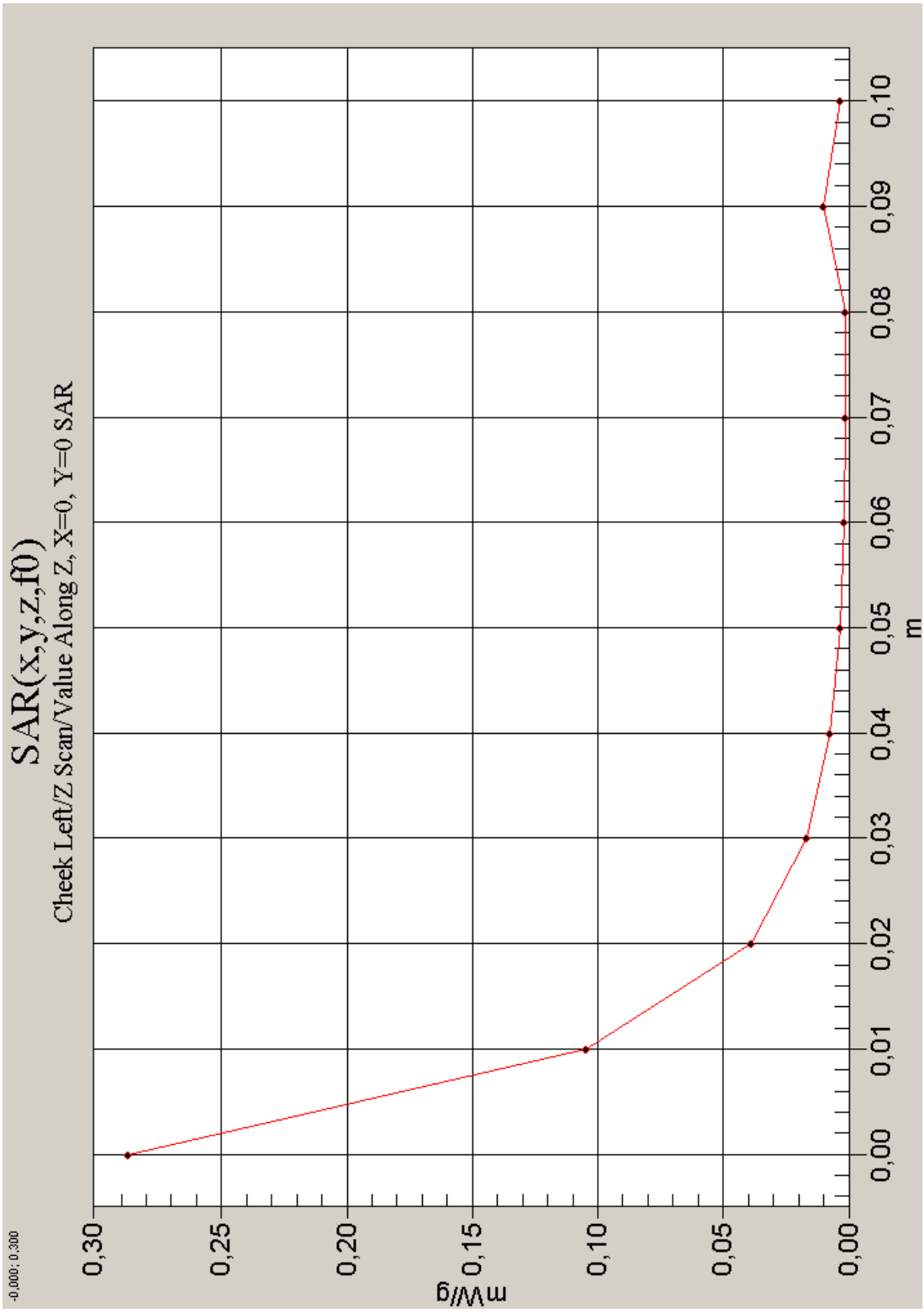

Fig. 9: SAR versus liquid depth, head: PCS 1900, channel 661, cheek position, left side of head. (21.04.2004, Ambient Temperature: 22.8° C; Liquid Temperature : 21.0° C).

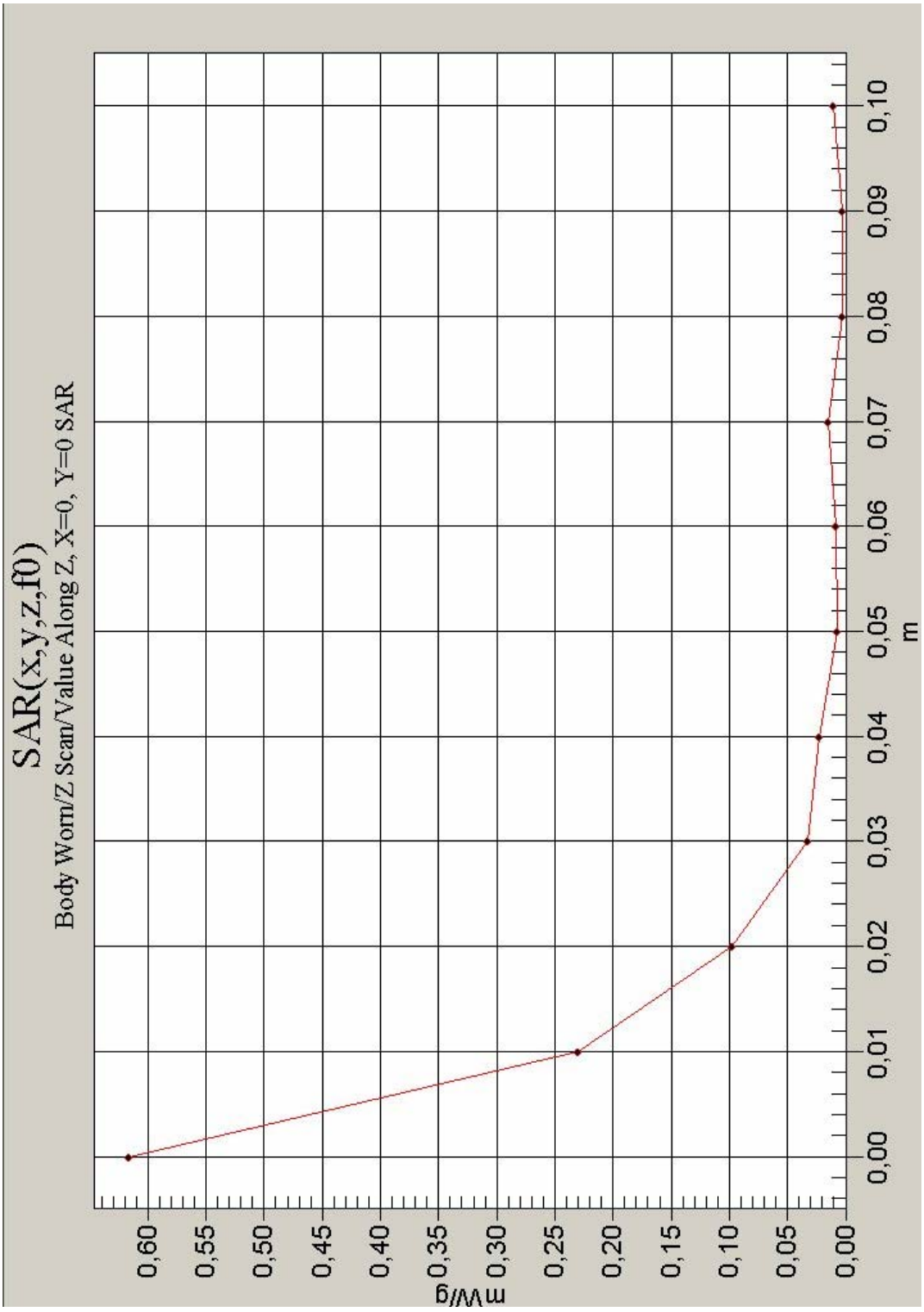

Fig. 10: SAR versus liquid depth: PCS 1900, channel 810, body worn configuration, antenna towards the phantom, 2TX (May 13, 2004, Ambient Temperature: 20.3° C; Liquid Temperature : 19.6° C).