



TTI-P-G 158



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# **Appendix for the Report**

## **Dosimetric Assessment of the Alcatel One Touch 331P (FCC ID: RAD001) According to the FCC Requirements**

### **SAR Distribution Plots**

July 08, 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

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Head 1900 MHz ( $\sigma = 1.38 \text{ mho/m}$ ,  $\epsilon_r = 39.3$ ,  $\rho = 1000 \text{ kg/m}^3$ )

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

Reference Value = 9.79 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 0.223 mW/g

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

Peak SAR (extrapolated) = 0.409 W/kg

SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.122 mW/g

Reference Value = 9.79 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 0.261 mW/g

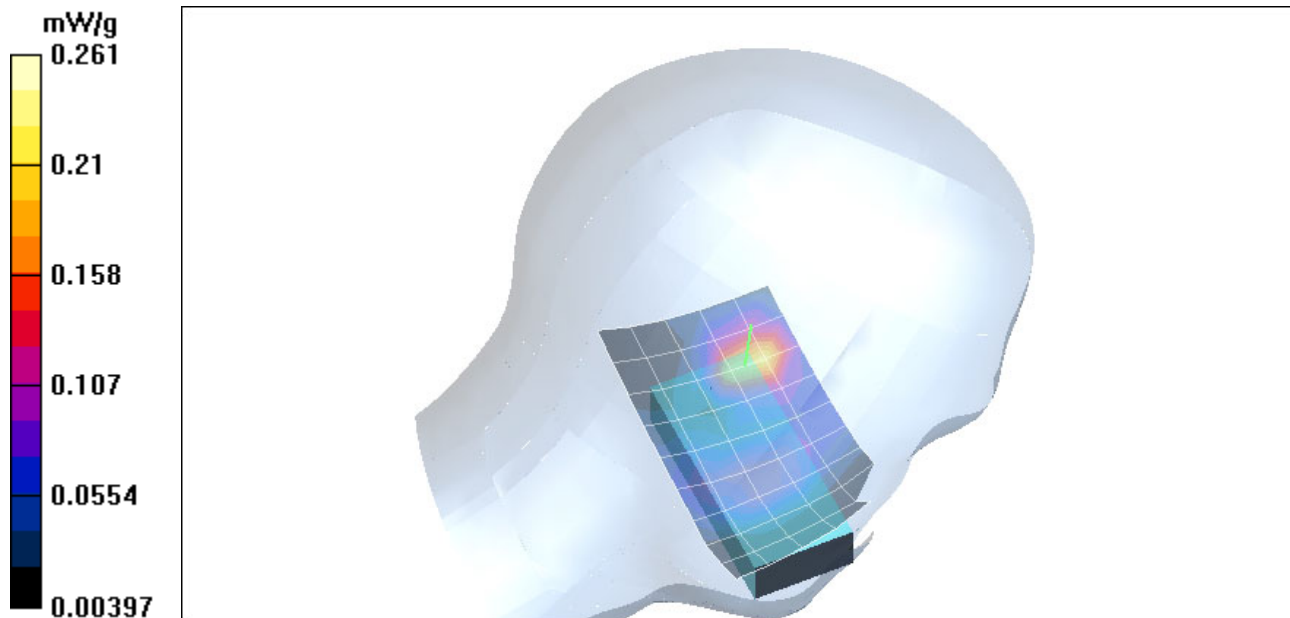


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head. (25.06.2003; Ambient Temperature: 21.5° C; Liquid Temperature: 20.1° C).

Test Laboratory: IMST

File Name: [331plm\\_2.da4](#)

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Head 1900 MHz ( $\sigma = 1.38 \text{ mho/m}$ ,  $\epsilon_r = 39.3$ ,  $\rho = 1000 \text{ kg/m}^3$ )

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 = 10.8 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 0.208 mW/g

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

Peak SAR (extrapolated) = 0.337 W/kg

SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.109 mW/g

Reference Value = 10.8 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 0.233 mW/g

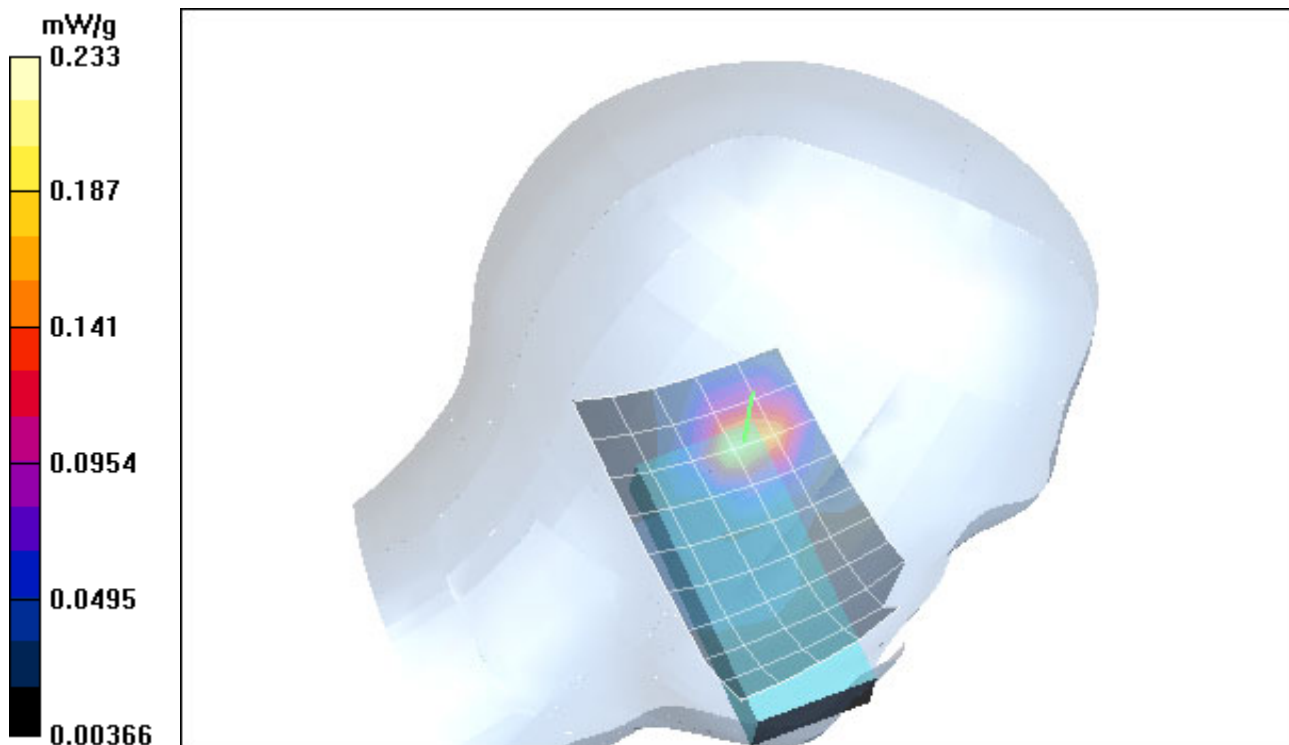


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head. (25.06.2003; Ambient Temperature: 21.7° C; Liquid Temperature : 19.9° C).

Test Laboratory: IMST  
 File Name: [331prm\\_1.da4](#)

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Head 1900 MHz ( $\sigma = 1.38$  mho/m,  $\epsilon_r = 39.3$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 = 11.2 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.147 mW/g

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

Peak SAR (extrapolated) = 0.259 W/kg

SAR(1 g) = 0.16 mW/g; SAR(10 g) = 0.0881 mW/g

Reference Value = 11.2 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.176 mW/g

**cheek right/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.205 W/kg

SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.0891 mW/g

Reference Value = 11.2 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.157 mW/g

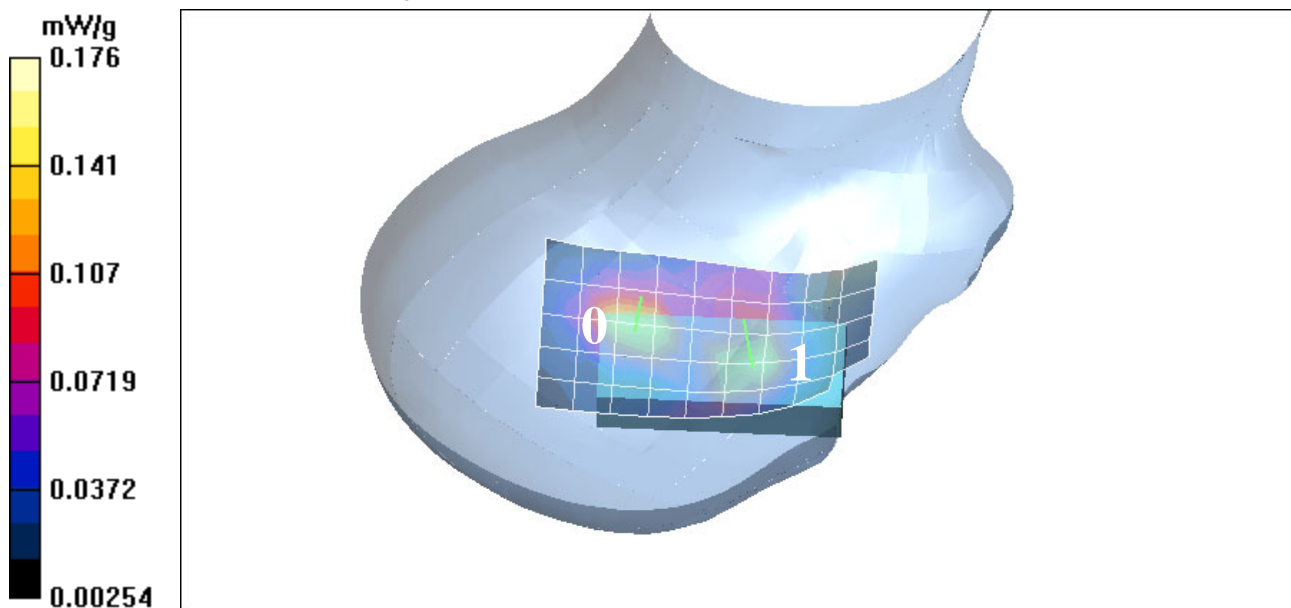


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head ( 25.06.2003; Ambient Temperature: 21.7° C; Liquid Temperature : 19.9° C).

Test Laboratory: IMST

File Name: [331prm\\_2.da4](#)

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Head 1900 MHz ( $\sigma = 1.38$  mho/m,  $\epsilon_r = 39.3$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 = 11.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.162 mW/g

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

Peak SAR (extrapolated) = 0.262 W/kg

SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.0881 mW/g

Reference Value = 11.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.173 mW/g

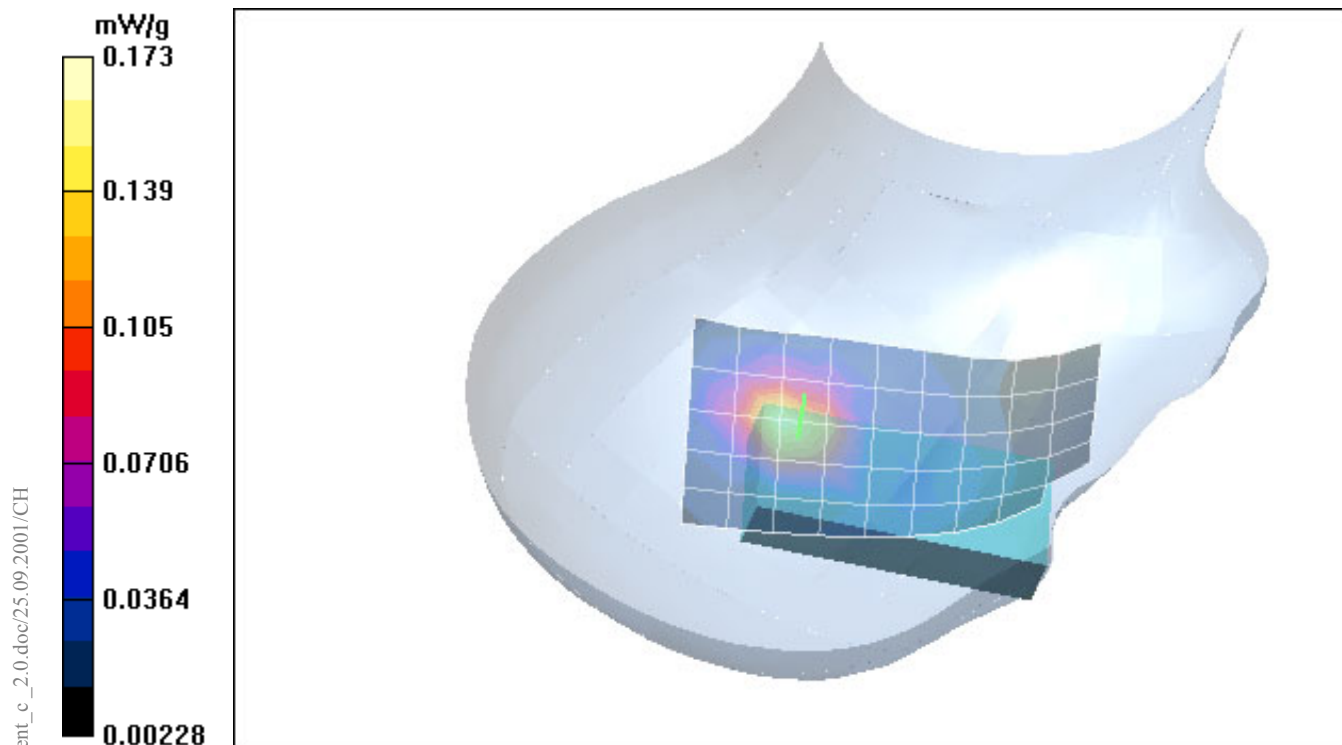


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head. (25.06.2003; Ambient Temperature: 21.8° C; Liquid Temperature : 19.9° C).

## 2 SAR Distribution Plots, PCS 1900 Body

Test Laboratory: IMST

File Name: [33lphm\\_3.da4](#)

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Body1900 MHz ( $\sigma = 1.54$  mho/m,  $\epsilon_r = 51.4$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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; Type: SAM; Serial: 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 = 9.92 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.408 mW/g

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

Peak SAR (extrapolated) = 0.744 W/kg

SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.216 mW/g

Reference Value = 9.92 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.416 mW/g

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

Peak SAR (extrapolated) = 0.827 W/kg

SAR(1 g) = 0.307 mW/g; SAR(10 g) = 0.187 mW/g

Reference Value = 9.92 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.374 mW/g

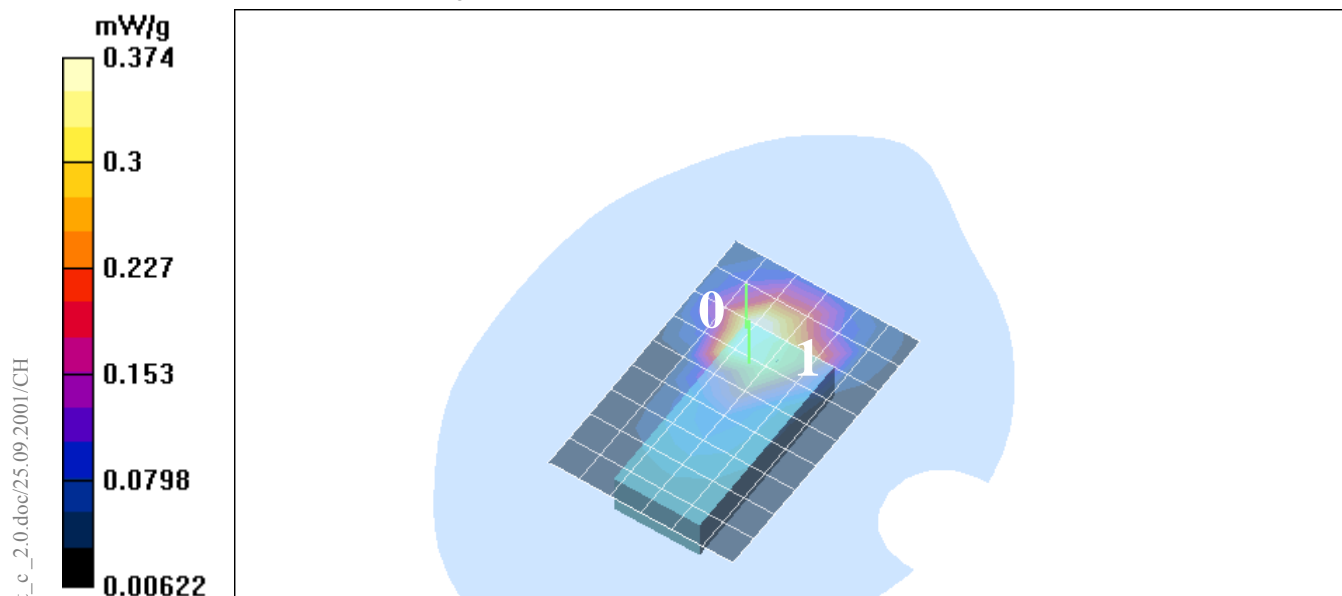


Fig. 5: SAR distribution for belt clip with headset, PCS 1900, channel 661, display towards the ground. (26.05.2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).

Test Laboratory: IMST

File Name: [331phm\\_4.da4](#)

**DUT: Alcatel ; Type: ONE TOUCH 331 P; Serial: 330587533874290**

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

Medium: Body1900 MHz ( $\sigma = 1.54$  mho/m,  $\epsilon_r = 51.4$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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; Type: SAM; Serial: 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 = 5.41 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.149 mW/g

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

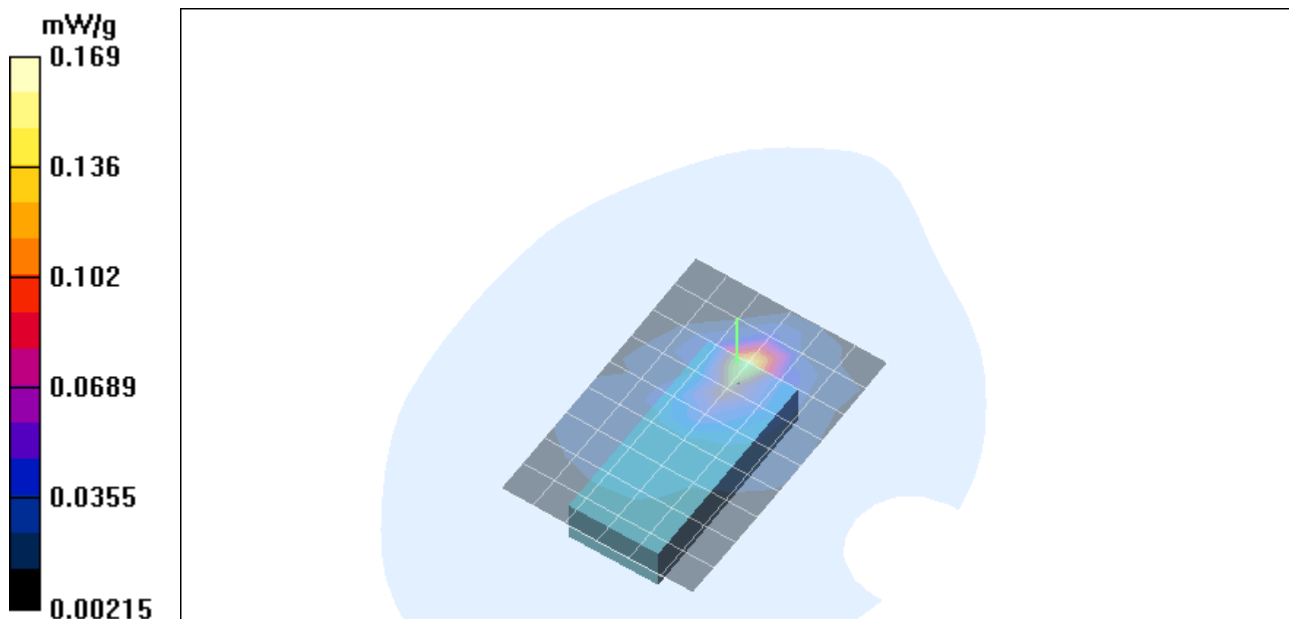
Peak SAR (extrapolated) = 0.307 W/kg

SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.0669 mW/g

Reference Value = 5.41 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.169 mW/g



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Fig. 6: SAR distribution for belt clip with headset, PCS 1900, channel 661, display towards the phantom. (26.05.2003; Ambient Temperature: 21.1° C; Liquid Temperature : 19.9° C).



### 3 SAR z-axis scans (Validation)

The following pictures show the z-axis scan for the worst case values.

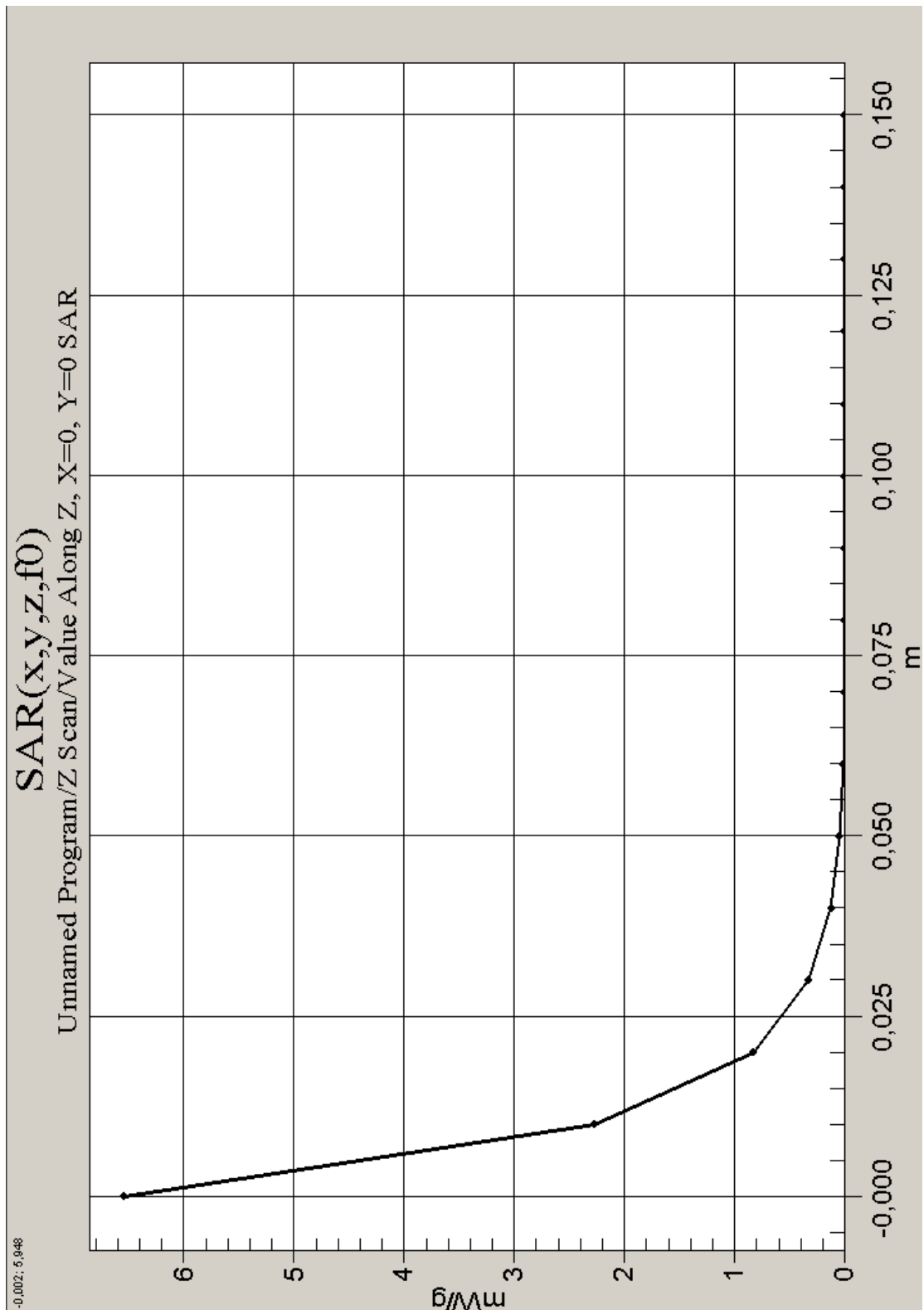


Fig. 7: Validation measurement 1900 MHz Head (25.06.2003), coarse grid. Ambient Temperature: 21.2° C, Liquid Temperature: 20.1° C.

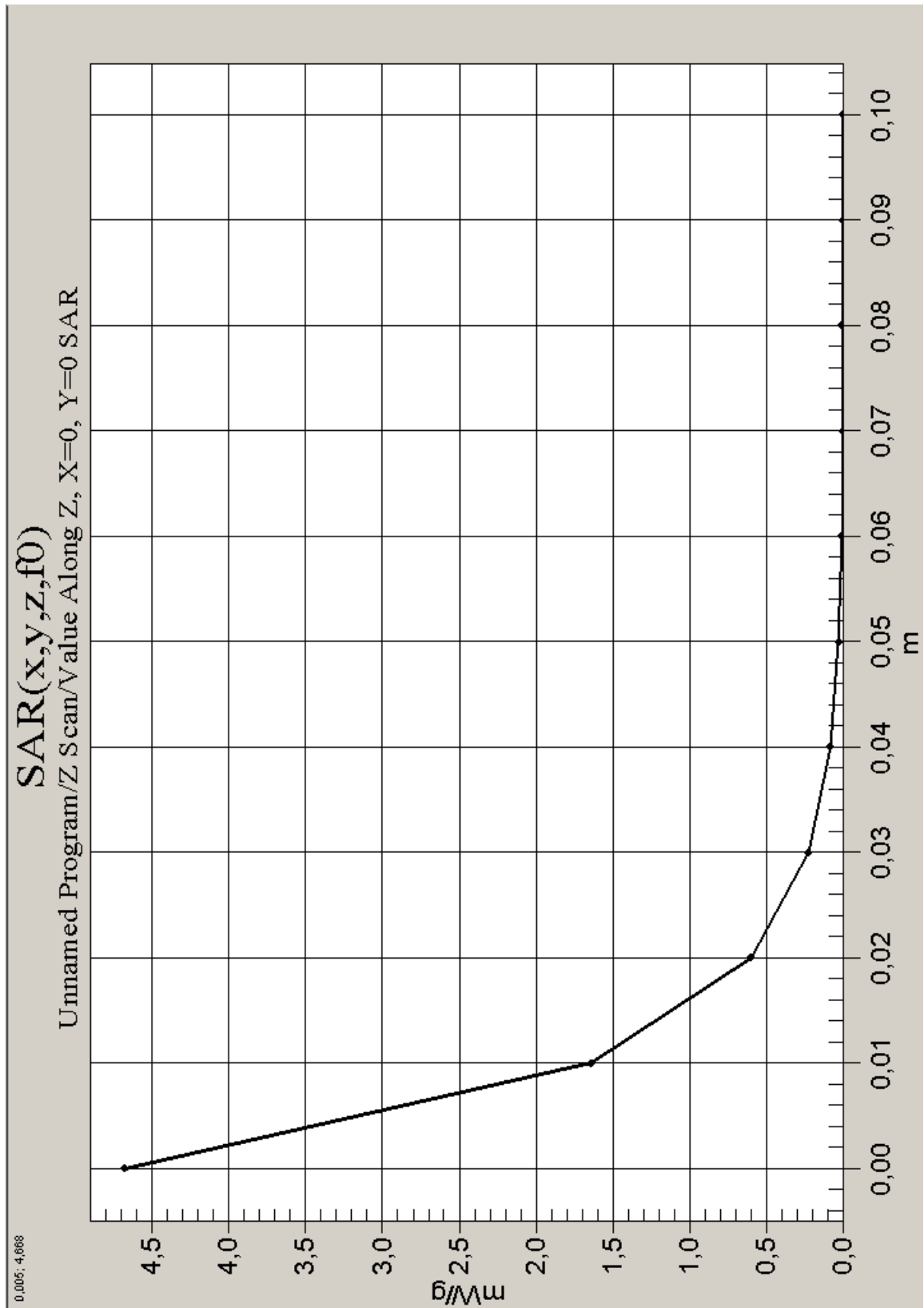


Fig. 8: Validation measurement 1900 MHz body (26.06.2003). Ambient Temperature: 21.0° C, Liquid Temperature: 20.5° C

### 4 SAR z-axis scans (Measurements)

The following pictures show the z-axis scan for the worst case values.

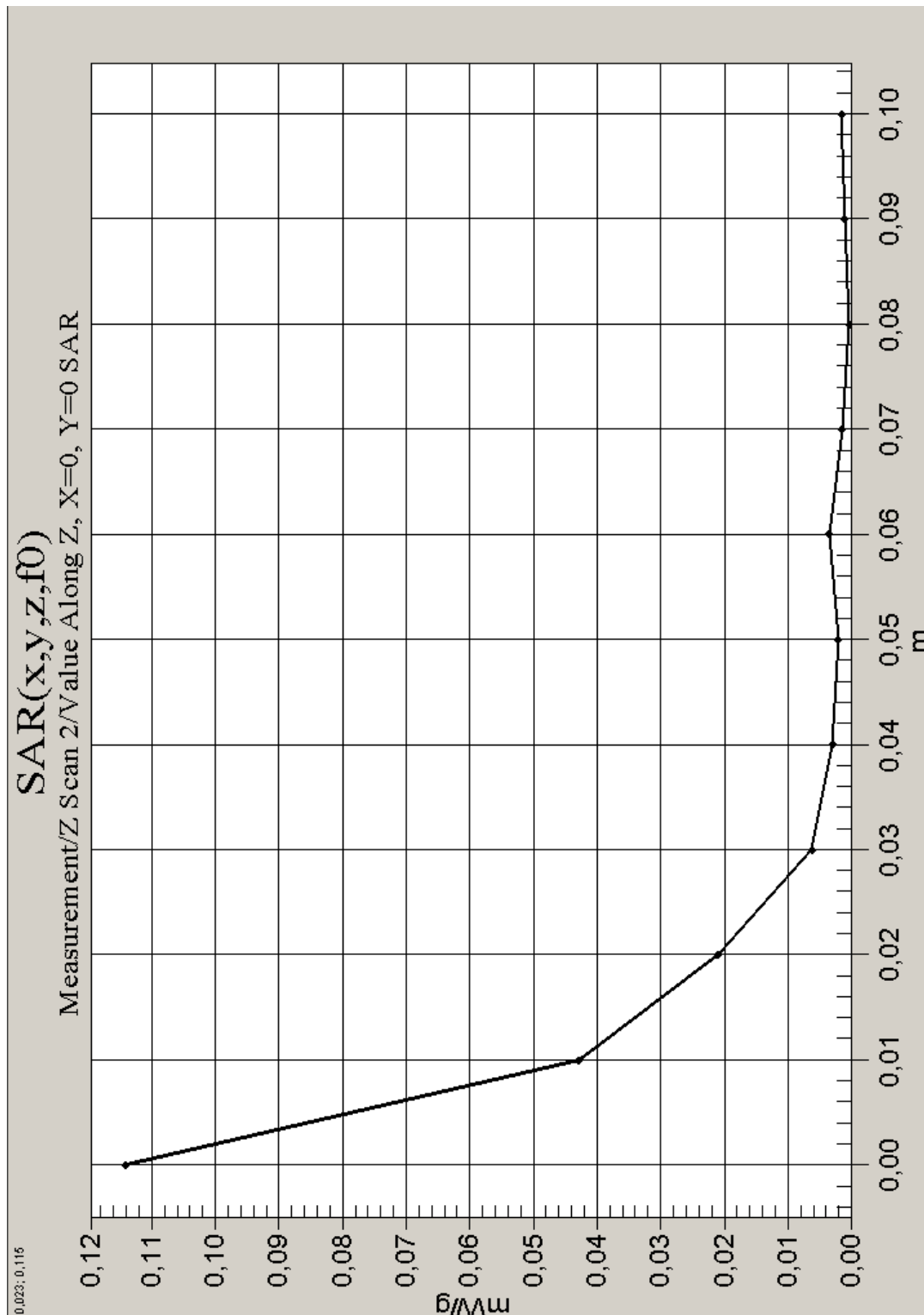


Fig. 9: PCS 1900, cheek position, left side of head, channel 661 (25.06.2003; Ambient Temperature: 21.5° C; Liquid Temperature : 20.1° C).

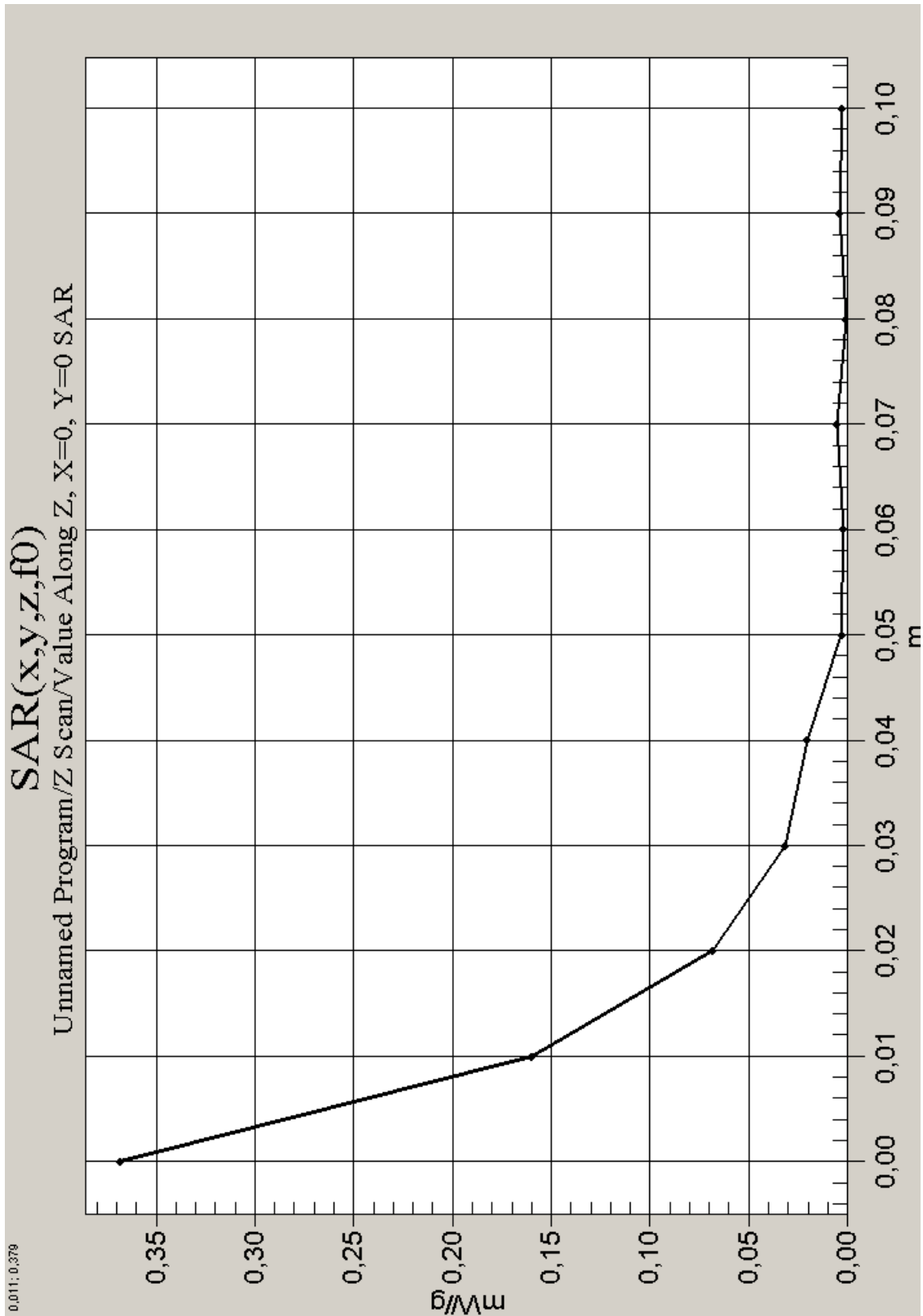


Fig. 10: PCS 1900, channel 661, belt clip with headset, display towards the ground. (26.05.2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).