



TTI-P-G 158



Appendix for the Report

Dosimetric Assessment of the Alcatel One Touch 331a (FCC ID: RAD002) According to the FCC Requirements

SAR Distribution Plots

October 10, 2003
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The test results only relate to the items tested.
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1 SAR Distribution Plots, GSM850

Test Laboratory: IMST

File Name: [331glm_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 29.3 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.654 mW/g

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

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.674 mW/g; SAR(10 g) = 0.382 mW/g

Reference Value = 29.3 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.734 mW/g

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

Peak SAR (extrapolated) = 0.815 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.35 mW/g

Reference Value = 29.3 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.59 mW/g

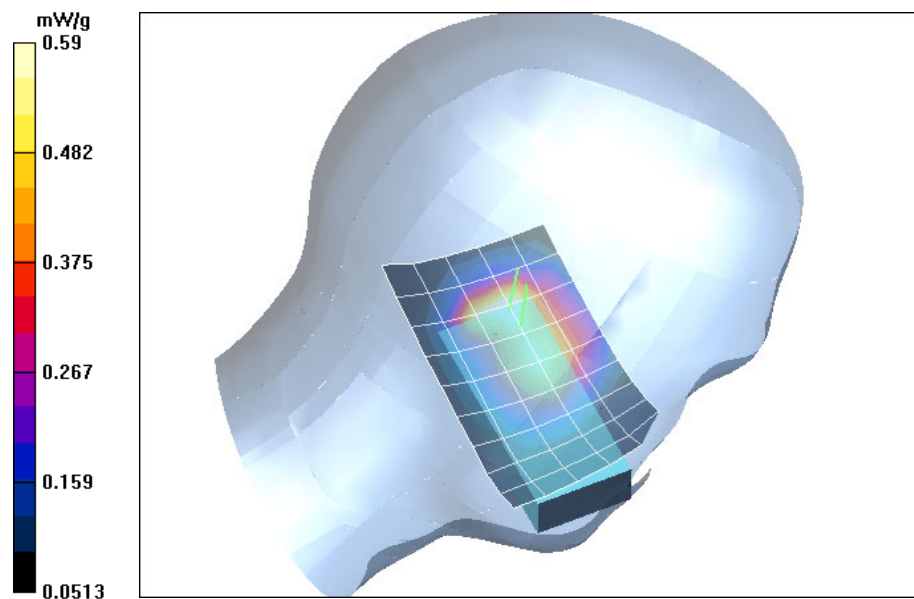


Fig. 1: SAR distribution for GSM 850, channel 190, cheek position, left side of head. (October 06, 2003; Ambient Temperature: 20.8°C; Liquid Temperature: 19.9°C).

Test Laboratory: IMST

File Name: [331glm_2.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 24.6 V/m

Power Drift = -0.02 dB

Maximum value of SAR = 0.529 mW/g

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

Peak SAR (extrapolated) = 0.862 W/kg

SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.294 mW/g

Reference Value = 24.6 V/m

Power Drift = -0.02 dB

Maximum value of SAR = 0.54 mW/g

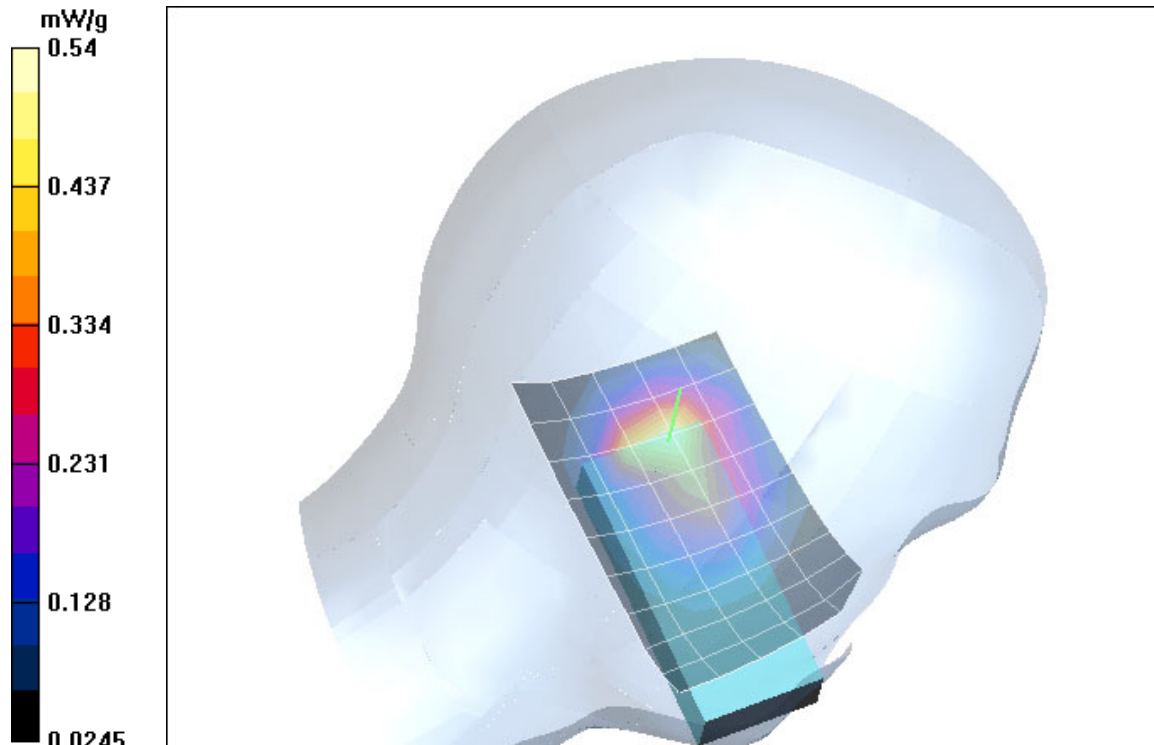


Fig. 2: SAR distribution for GSM 850, channel 190, tilted position, left side of head. (October 06, 2003; Ambient Temperature: 20.8°C; Liquid Temperature: 19.9°C).

Test Laboratory: IMST

File Name: [331grm_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 28.6 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.751 mW/g

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

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.72 mW/g; SAR(10 g) = 0.396 mW/g

Reference Value = 28.6 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.797 mW/g

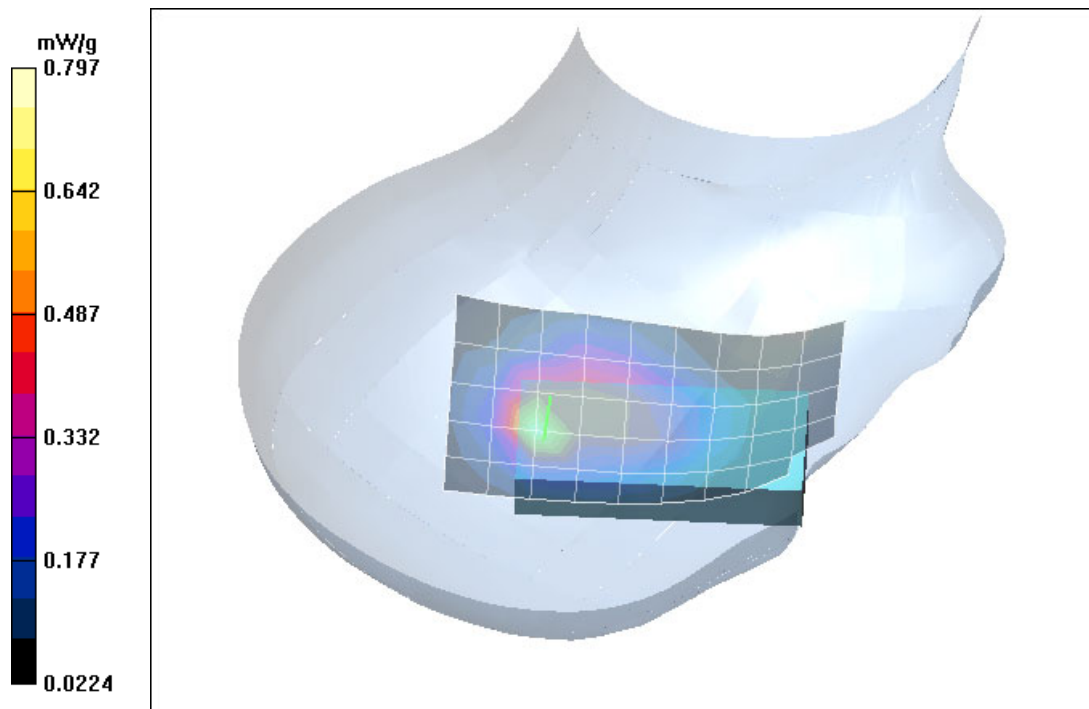


Fig. 3: SAR distribution for GSM 850, channel 190, cheek position, right side of head, . (October 06, 2003; Ambient Temperature: 20.8°C; Liquid Temperature: 19.9°C).

Test Laboratory: IMST

File Name: [331grm_2.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 25 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.497 mW/g

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

Peak SAR (extrapolated) = 0.906 W/kg

SAR(1 g) = 0.515 mW/g; SAR(10 g) = 0.304 mW/g

Reference Value = 25 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.558 mW/g

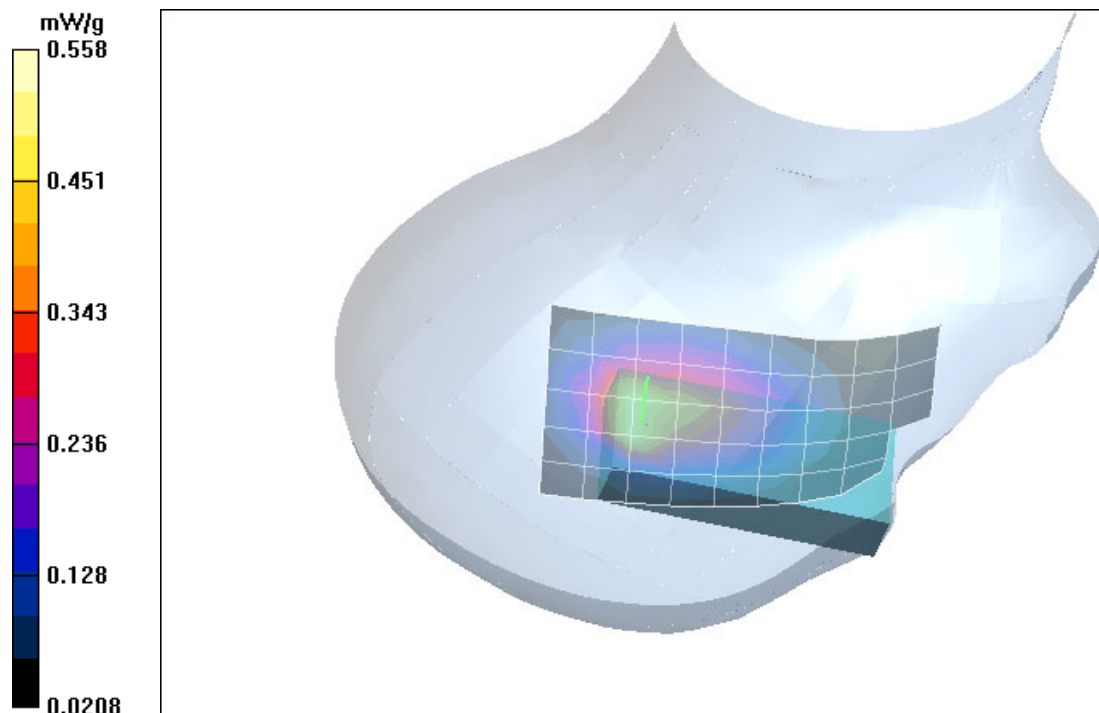


Fig. 4: SAR distribution for GSM 850, channel 190, tilted position, right side of head, . (October 06, 2003; Ambient Temperature: 20.9°C; Liquid Temperature: 19.9°C).

Test Laboratory: IMST

File Name: [331grl_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 26 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.625 mW/g

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

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.336 mW/g

Reference Value = 26 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.682 mW/g

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

Peak SAR (extrapolated) = 0.595 W/kg

SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.289 mW/g

Reference Value = 26 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.461 mW/g

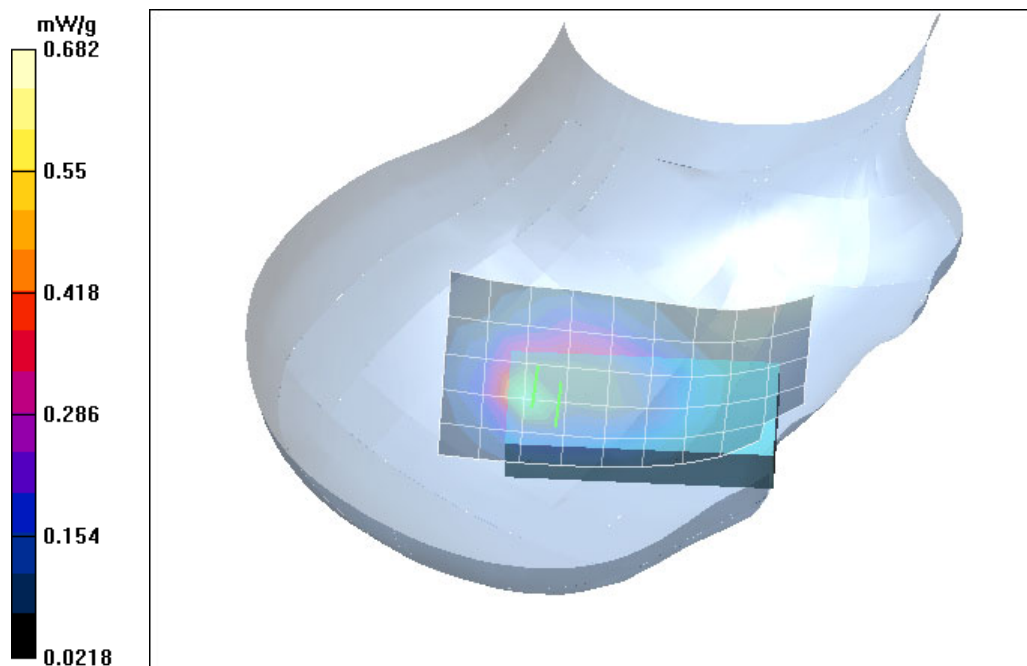


Fig. 5: SAR distribution for GSM 850, channel 128, cheek position, right side of head, . (October 06, 2003; Ambient Temperature: 20.9°C; Liquid Temperature: 19.9°C).

Test Laboratory: IMST

File Name: [331grh_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8

Medium: Head 835 MHz ($\sigma = 0.89$ mho/m, $\epsilon_r = 42.1$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.8, 6.8, 6.8); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059; Type: SAM; Serial: 1059

- 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 = 30.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.715 mW/g

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

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.761 mW/g; SAR(10 g) = 0.439 mW/g

Reference Value = 30.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.816 mW/g

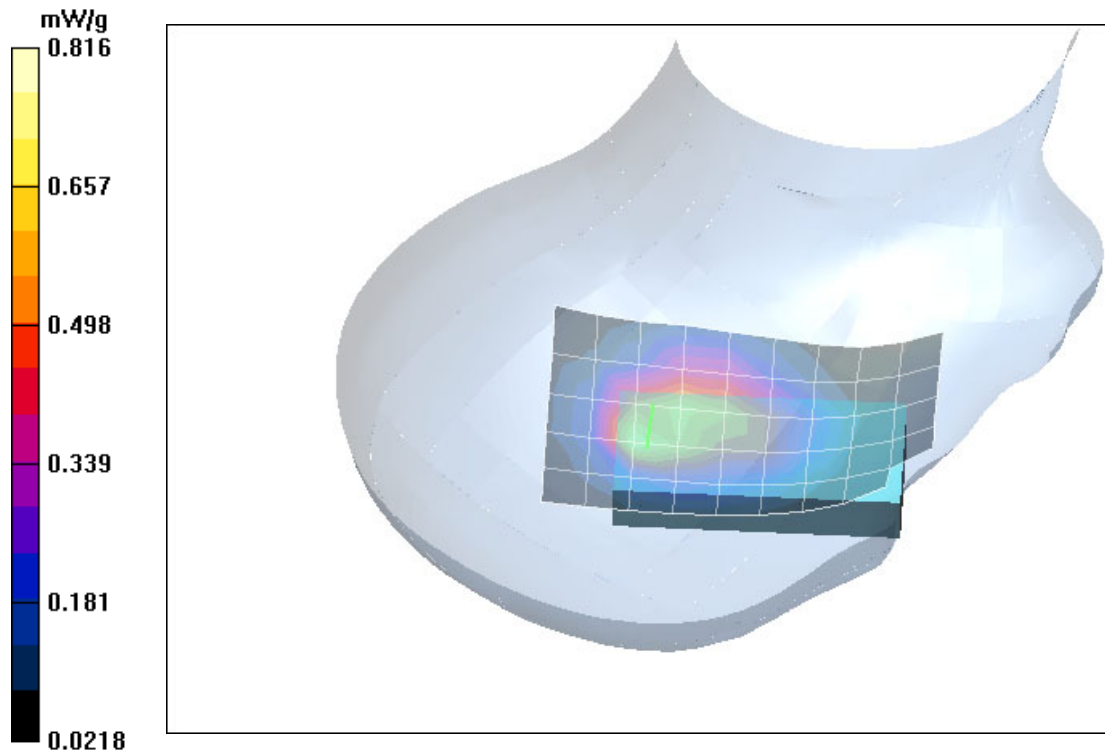


Fig. 6: SAR distribution for GSM 850, channel 251, tilted position, right side of head, . (October 06, 2003; Ambient Temperature: 20.9°C; Liquid Temperature: 19.9°C).

2 SAR Distribution Plots, GSM 850 Body with clip

Test Laboratory: IMST

File Name: [331ghm_3.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Body 835 MHz ($\sigma = 0.99$ mho/m, $\epsilon_r = 54.6$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.6, 6.6, 6.6); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059;

- 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 = 19.5 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.383 mW/g

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

Peak SAR (extrapolated) = 0.67 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.275 mW/g

Reference Value = 19.5 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.467 mW/g

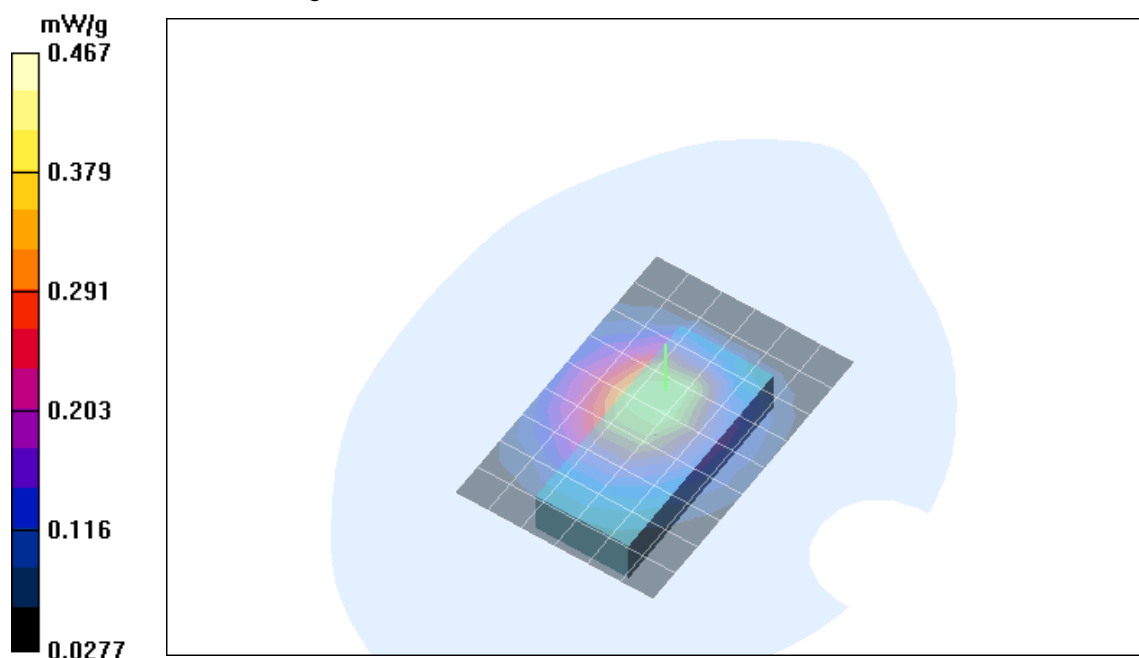


Fig. 7: SAR distribution for GSM 850, channel 190, body worn configuration, display towards the ground, with headset (October 07, 2003; Ambient Temperature: 21.0° C; Liquid Temperature : 20.3° C).

Test Laboratory: IMST; File Name: [331ghm_4.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Body 835 MHz ($\sigma = 0.99$ mho/m, $\epsilon_r = 54.6$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.6, 6.6, 6.6); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059;

- 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 = 12.9 V/m

Power Drift = -0.001 dB

Maximum value of SAR = 0.168 mW/g

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

Peak SAR (extrapolated) = 0.221 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.118 mW/g

Reference Value = 12.9 V/m

Power Drift = -0.001 dB

Maximum value of SAR = 0.179 mW/g

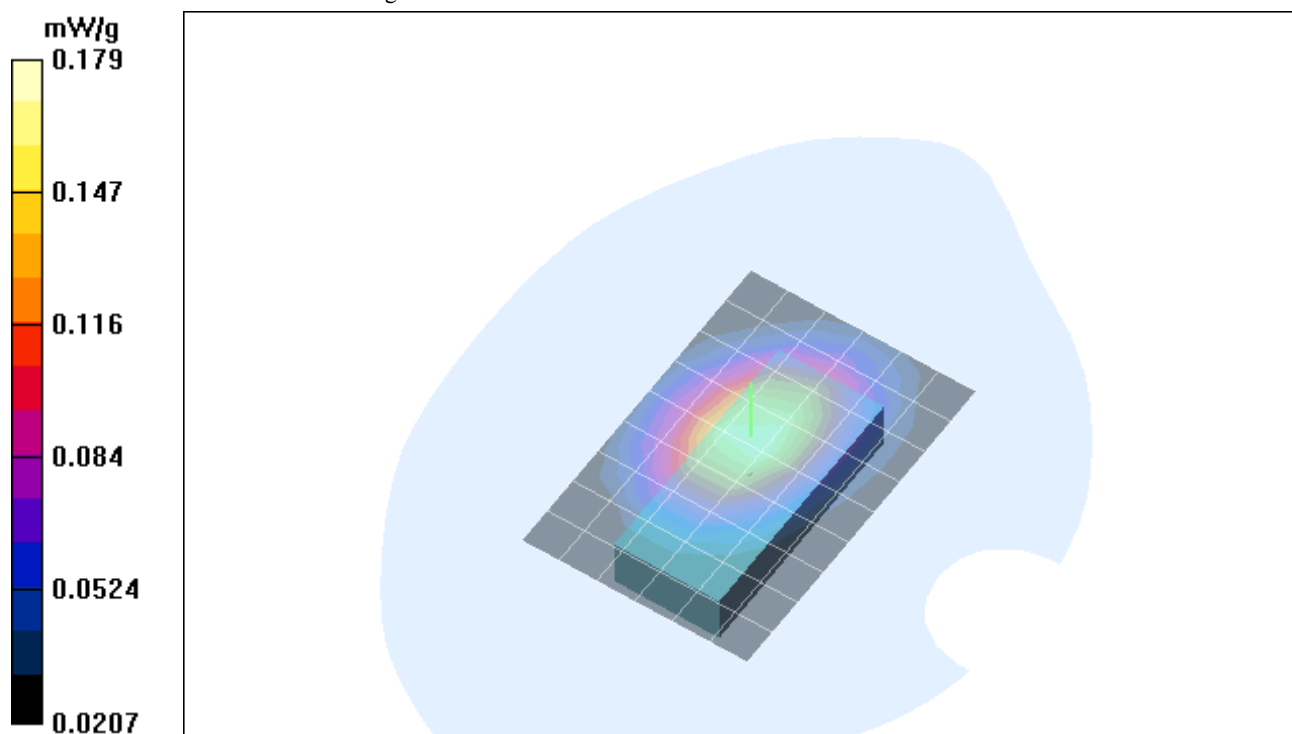


Fig. 8: SAR distribution for GSM 850, channel 190, body worn configuration, display towards the phantom, with headset (October 07, 2003; Ambient Temperature: 21.0° C; Liquid Temperature : 20.3° C).

3 SAR Distribution Plots, GSM850 Body with 1.5 cm distance to the phantom

Test Laboratory: IMST; File Name: [331ghm_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Body 835 MHz ($\sigma = 0.99$ mho/m, $\epsilon_r = 54.6$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.6, 6.6, 6.6); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059;

- 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 = 25.6 V/m

Power Drift = -0.06 dB

Maximum value of SAR = 0.702 mW/g

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

Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.682 mW/g; SAR(10 g) = 0.475 mW/g

Reference Value = 25.6 V/m

Power Drift = -0.06 dB

Maximum value of SAR = 0.717 mW/g

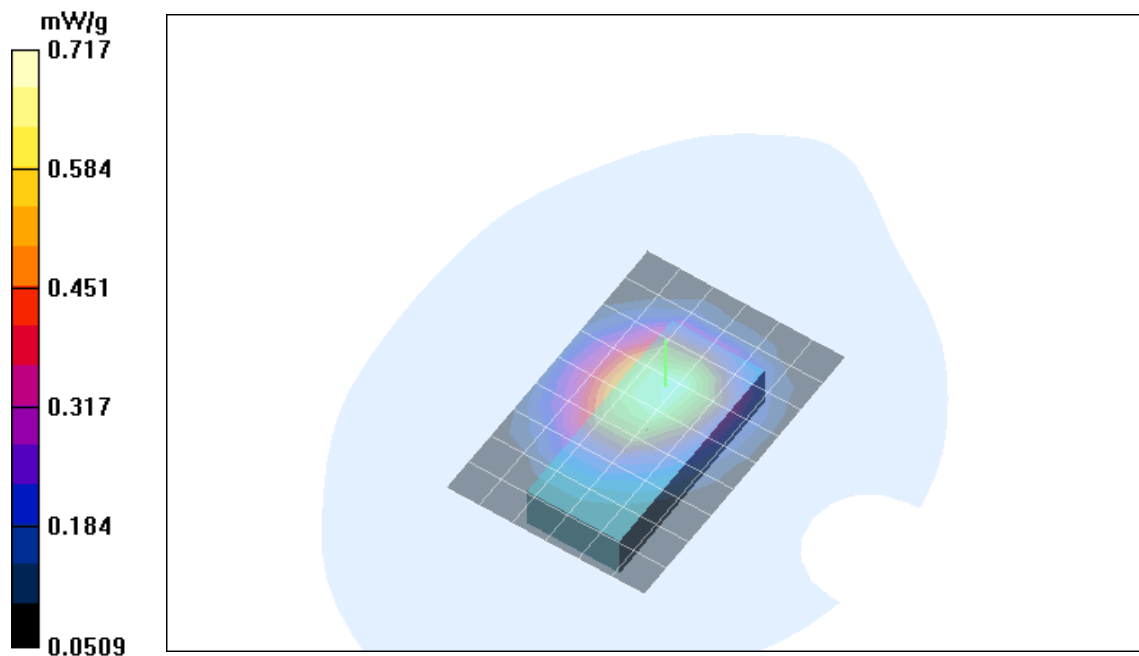


Fig. 9: SAR distribution for GSM 850, channel 190, body worn configuration, display towards the ground, with headset (October 07, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.3° C).

Test Laboratory: IMST

File Name: [331ghm_2.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: Body 835 MHz ($\sigma = 0.99$ mho/m, $\epsilon_r = 54.6$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1669; ConvF(6.6, 6.6, 6.6); Calibrated: 21.03.2003

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

- Electronics: DAE3 Sn335; Calibrated: 05.05.2003

- Phantom: SAM TP:1059;

- 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 = 15.4 V/m

Power Drift = -0.007 dB

Maximum value of SAR = 0.241 mW/g

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

Peak SAR (extrapolated) = 0.331 W/kg

SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.169 mW/g

Reference Value = 15.4 V/m

Power Drift = -0.007 dB

Maximum value of SAR = 0.26 mW/g

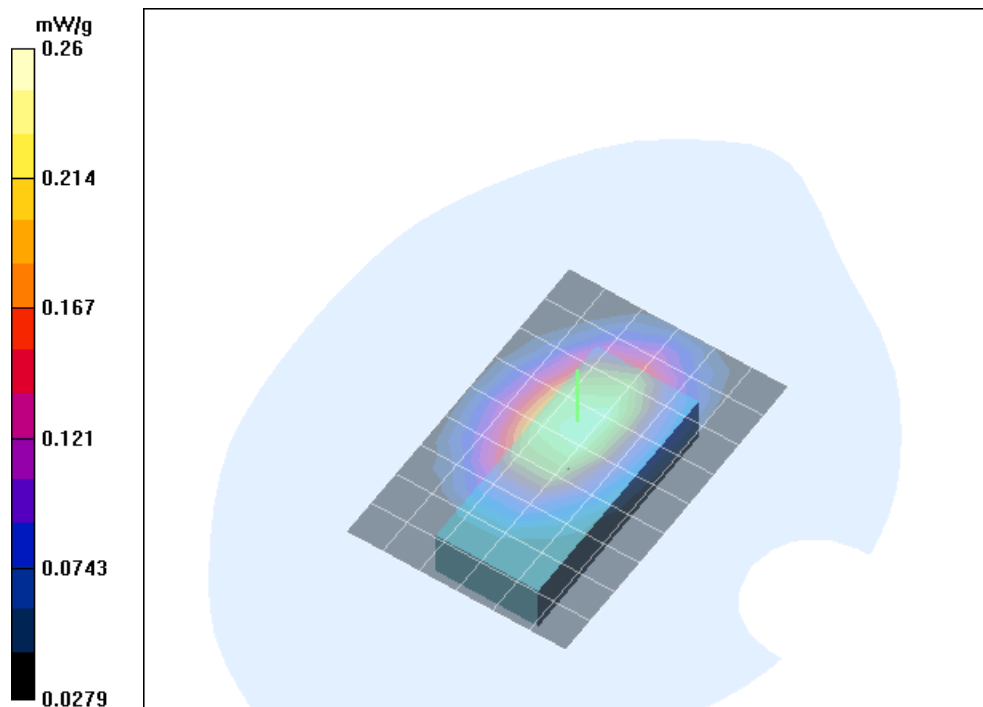


Fig. 10: SAR distribution for GSM 850, channel 190, body worn configuration, display towards the phantom, with headset (October 07, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.3° C).

4 SAR Distribution Plots, PCS 1900 Head

Test Laboratory: IMST; File Name: [331plm_1.da4](#)

DUT: Alcatel ; Type: OT331a; 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/m³)

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;

- 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 = 11.9 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.262 mW/g

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

Peak SAR (extrapolated) = 0.441 W/kg

SAR(1 g) = 0.258 mW/g; SAR(10 g) = 0.135 mW/g

Reference Value = 11.9 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.287 mW/g

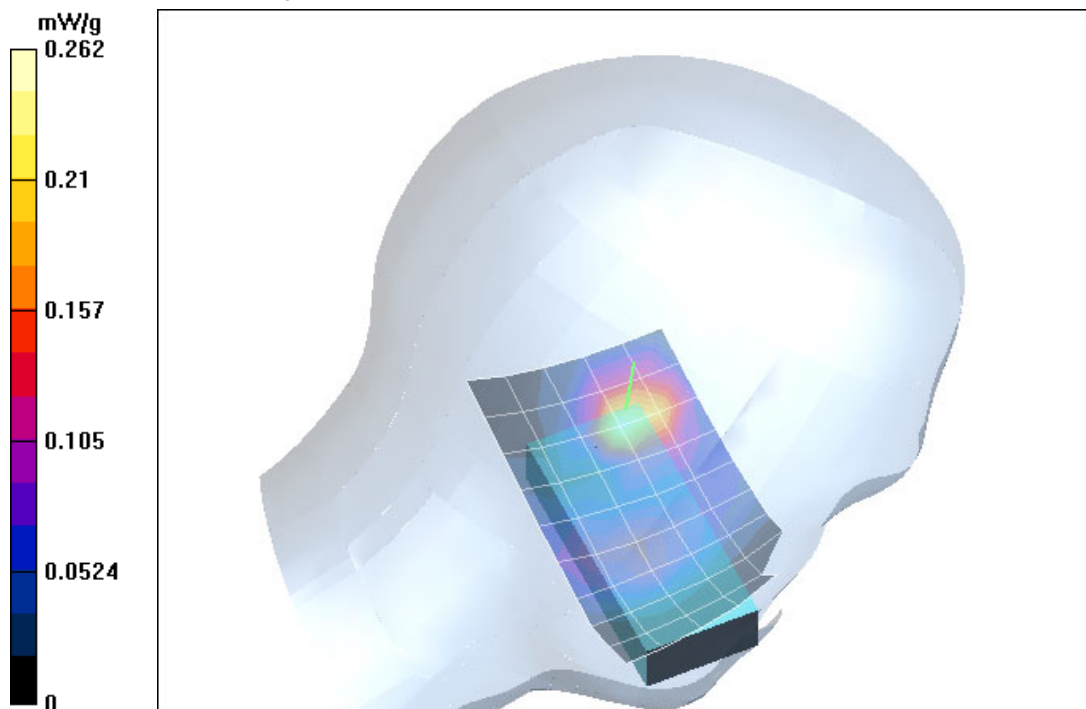


Fig. 11: SAR distribution for PCS 1900, channel 661, cheek position, left side of head, blue cover. (October 09, 2003; Ambient Temperature: 20.8° C; Liquid Temperature : 20.4° C).

Test Laboratory: IMST File Name: [plm_2.da4](#)

DUT: Alcatel ; Type: OT331a; 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/m³)

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 = 12.7 V/m

Power Drift = 0.008 dB

Maximum value of SAR = 0.287 mW/g

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

Peak SAR (extrapolated) = 0.451 W/kg

SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.138 mW/g

Reference Value = 12.7 V/m

Power Drift = 0.008 dB

Maximum value of SAR = 0.297 mW/g

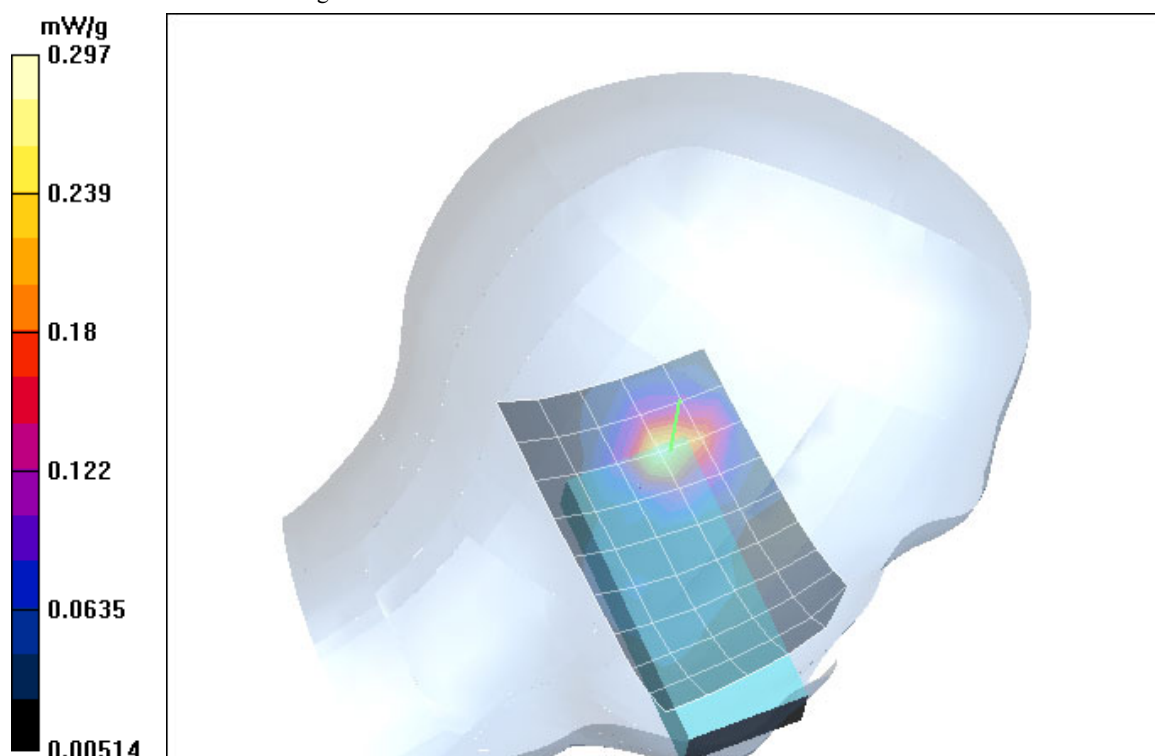


Fig. 12: SAR distribution for PCS 1900, channel 661, tilted position, left side of head, blue cover. (October 09, 2003; Ambient Temperature: 20.9° C; Liquid Temperature : 20.4° C).

Test Laboratory: IMST File Name: [331prm_1.da4](#)

DUT: Alcatel ; Type: OT331a; 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/m³)

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 = 12.4 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 0.177 mW/g

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

Peak SAR (extrapolated) = 0.297 W/kg

SAR(1 g) = 0.18 mW/g; SAR(10 g) = 0.0978 mW/g

Reference Value = 12.4 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 0.2 mW/g

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

Peak SAR (extrapolated) = 0.196 W/kg

SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.0894 mW/g

Reference Value = 12.4 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 0.154 mW/g

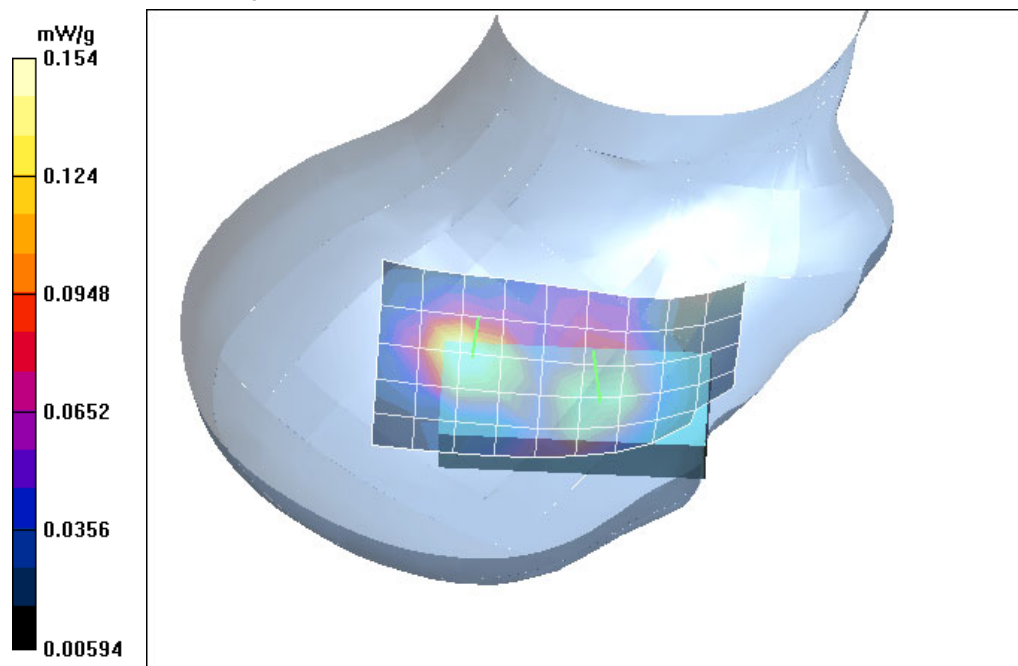


Fig. 13: SAR distribution for PCS 1900, channel 661, cheek position, right side of head. (October 09, 2003; Ambient Temperature: 20.9° C; Liquid Temperature : 20.3° C).

Test Laboratory: IMST File Name: [331prm_2.da4](#)

DUT: Alcatel ; Type: OT331a; 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/m³)

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 = 12.5 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.186 mW/g

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

Peak SAR (extrapolated) = 0.293 W/kg

SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.0993 mW/g

Reference Value = 12.5 V/m

Power Drift = 0.04 dB

Maximum value of SAR = 0.202 mW/g

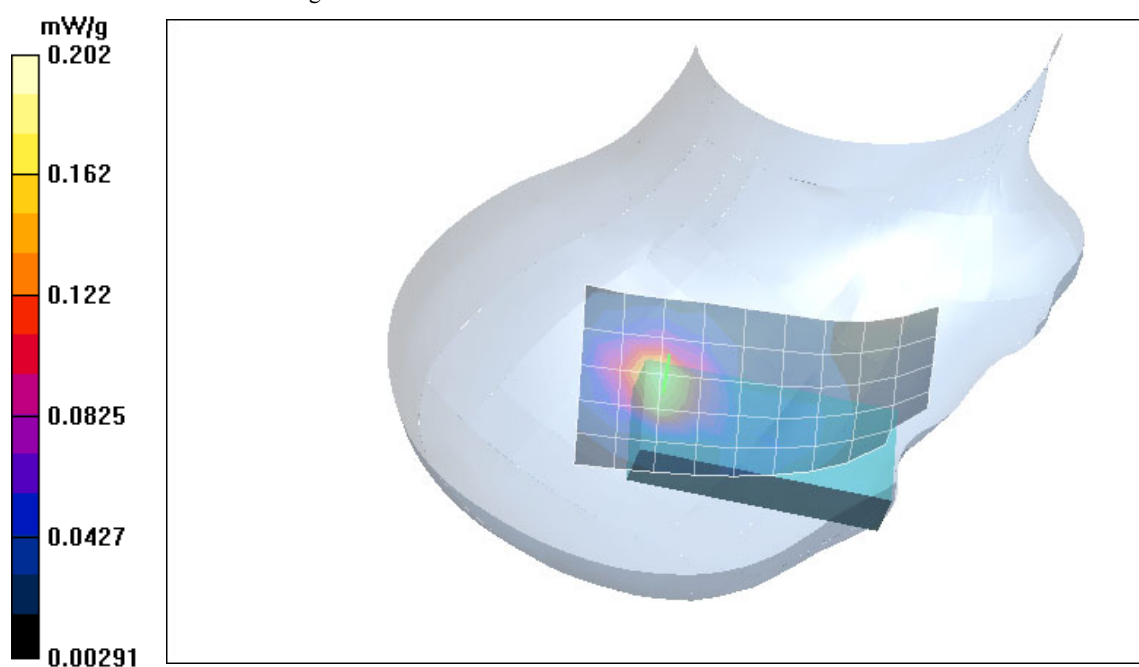


Fig. 14: SAR distribution for PCS 1900, channel 661, tilted position, right side of head. (October 09, 2003; Ambient Temperature: 20.8° C; Liquid Temperature : 20.2° C).

5 SAR Distribution Plots, PCS 1900 Body with clip

Test Laboratory: IMST

File Name: [331phm_1.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

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

Medium: Body1900 MHz ($\sigma = 1.56$ mho/m, $\epsilon_r = 50.9$, $\rho = 1000$ kg/m³)

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 = 13.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.398 mW/g

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

Peak SAR (extrapolated) = 0.92 W/kg

SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.216 mW/g

Reference Value = 13.8 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.424 mW/g

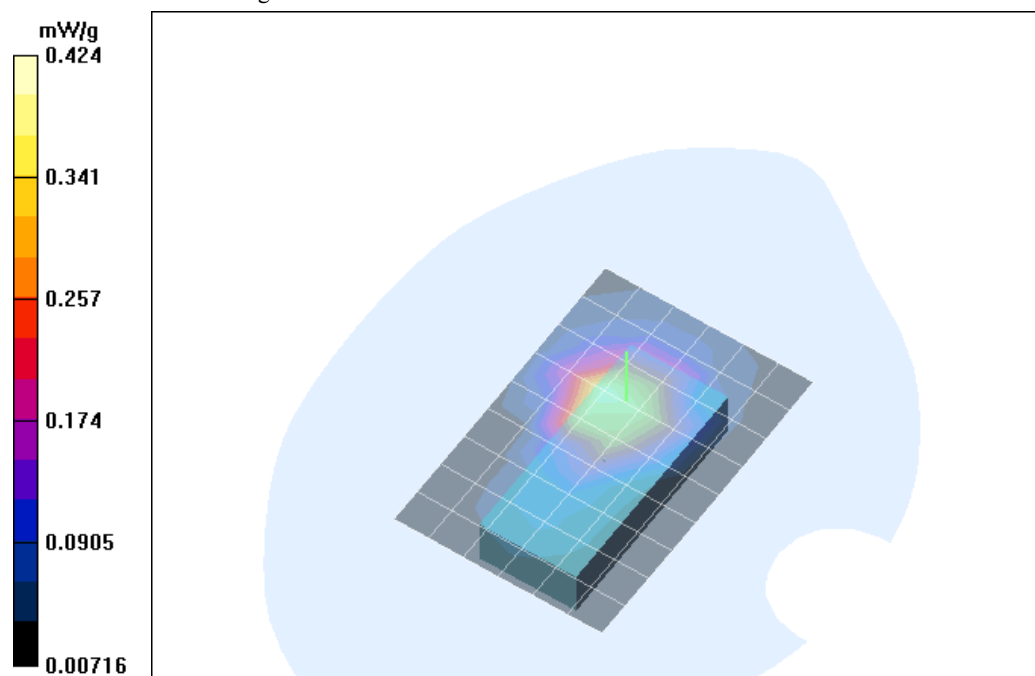


Fig. 15: SAR distribution for PCS 1900, channel 661, body worn configuration, display towards the ground, with headset (October 08, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).

Test Laboratory: IMST; File Name: [331phm_2.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

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

Medium: Body1900 MHz ($\sigma = 1.56$ mho/m, $\epsilon_r = 50.9$, $\rho = 1000$ kg/m³)

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 = 7.37 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.104 mW/g

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

Peak SAR (extrapolated) = 0.179 W/kg

SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.0554 mW/g

Reference Value = 7.37 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.118 mW/g

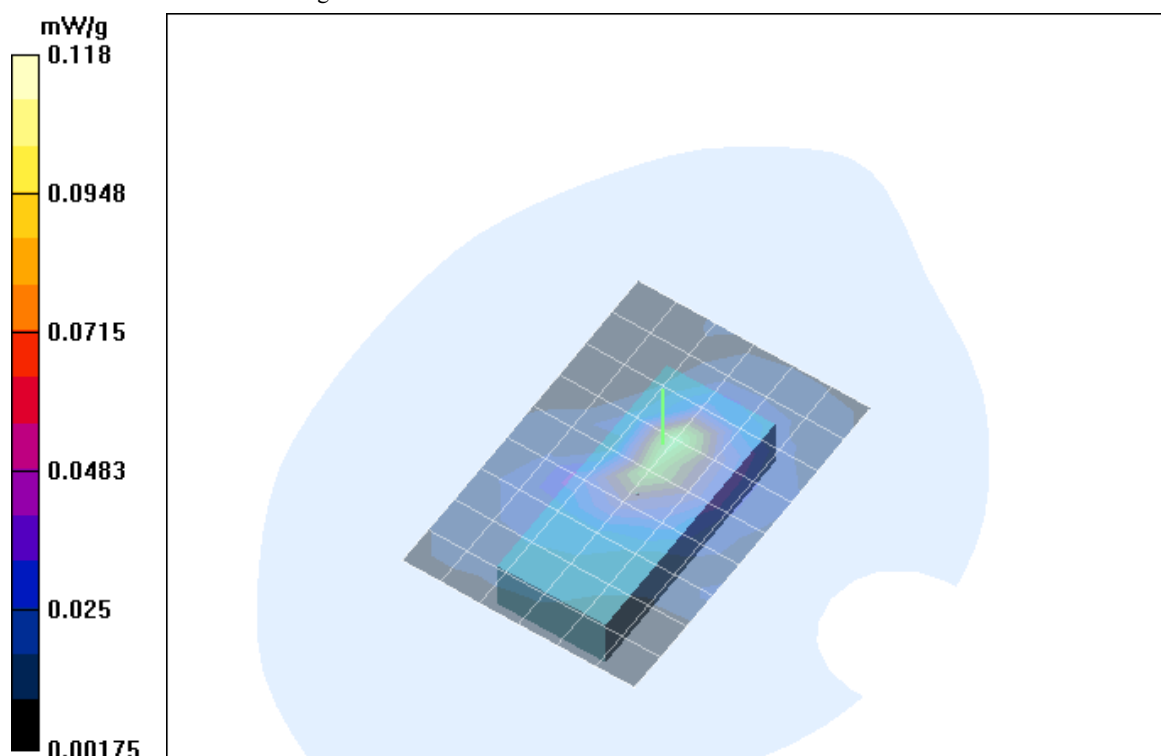


Fig. 16: SAR distribution for PCS 1900, channel 661, body worn configuration, display towards the phantom, with headset (October 08, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).

6 SAR Distribution Plots, PCS 1900 Body with 1.5 cm distance to the phantom

Test Laboratory: IMST; File Name: [331phm_3.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

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

Medium: Body1900 MHz ($\sigma = 1.56$ mho/m, $\epsilon_r = 50.9$, $\rho = 1000$ kg/m³)

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 = 19 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.581 mW/g

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

Peak SAR (extrapolated) = 0.881 W/kg

SAR(1 g) = 0.564 mW/g; SAR(10 g) = 0.347 mW/g

Reference Value = 19 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.603 mW/g

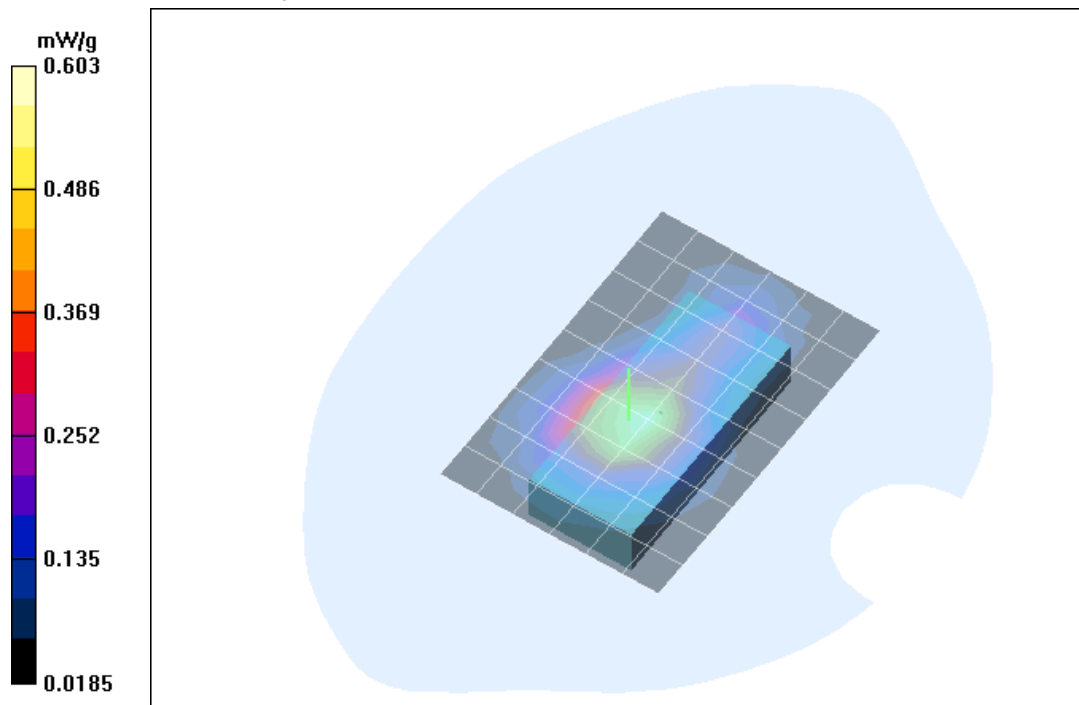


Fig. 17: SAR distribution for PCS 1900, channel 661, body worn configuration, display towards the ground, with headset (October 08, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).

Test Laboratory: IMST

File Name: [331phm_4.da4](#)

DUT: Alcatel ; Type: OT331a; Serial: 330587533874290

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

Medium: Body 1900 MHz ($\sigma = 1.56$ mho/m, $\epsilon_r = 50.9$, $\rho = 1000$ kg/m³)

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 = 4.5 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0611 mW/g

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

Peak SAR (extrapolated) = 0.0982 W/kg

SAR(1 g) = 0.0592 mW/g; SAR(10 g) = 0.0359 mW/g

Reference Value = 4.5 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0635 mW/g

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

Peak SAR (extrapolated) = 0.079 W/kg

SAR(1 g) = 0.0426 mW/g; SAR(10 g) = 0.0282 mW/g

Reference Value = 4.5 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0782 mW/g

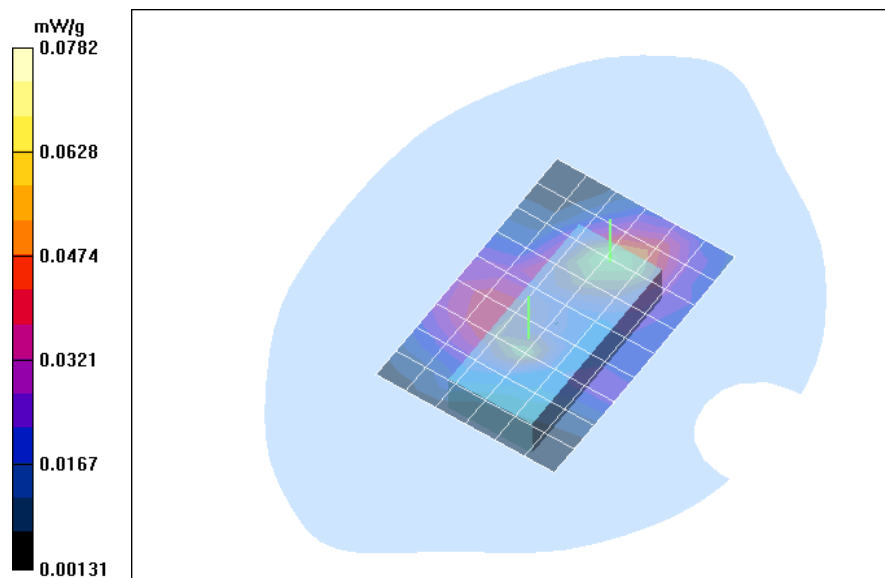


Fig. 18: SAR distribution for PCS 1900, channel 661, body worn configuration, display towards the phantom, with headset (October 07, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).

7 SAR z-axis scans (Validation)

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

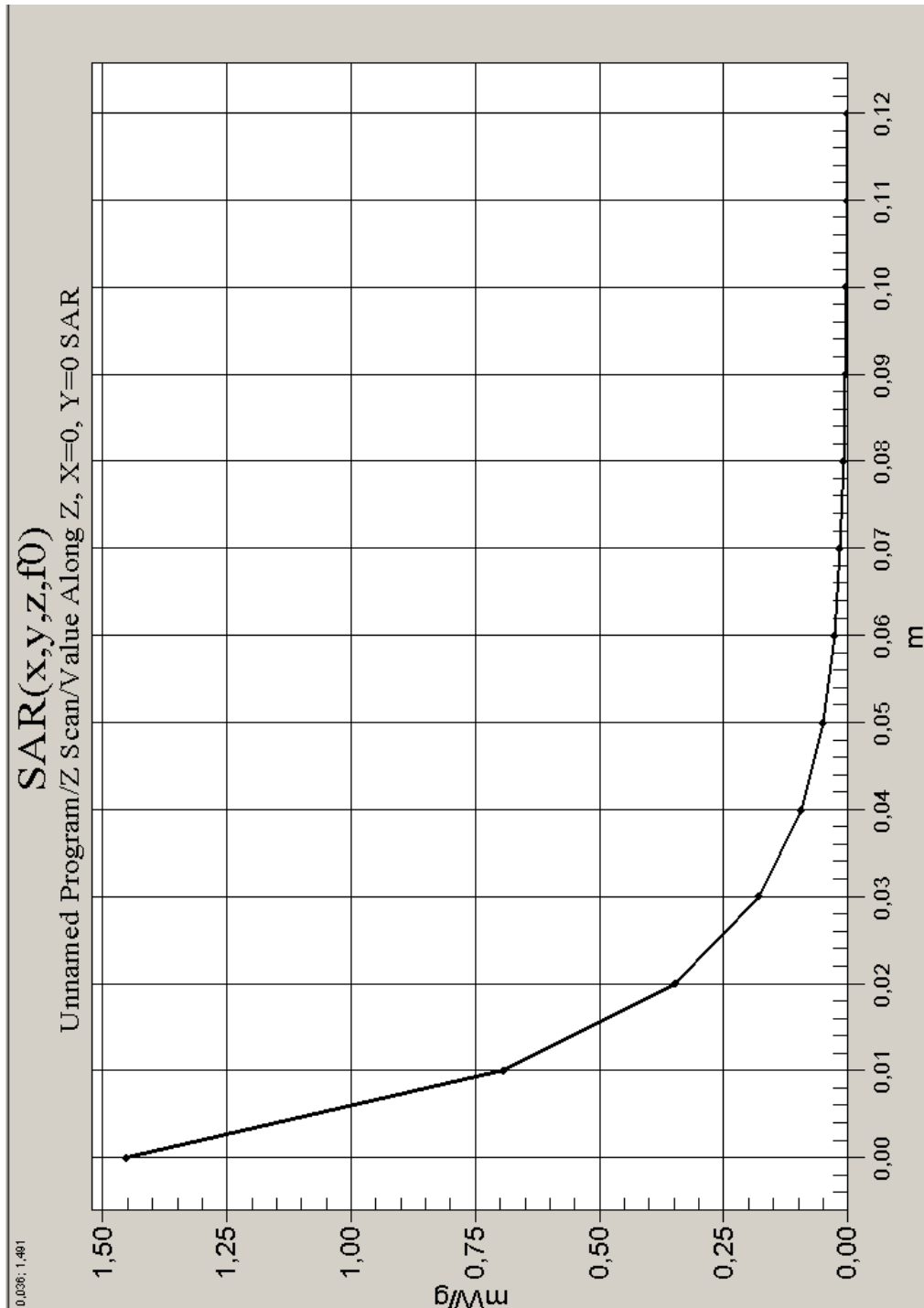


Fig. 19: SAR versus liquid depth, 835 MHz, head (October 06, 2003; Ambient Temperature: 20.6° C; Liquid Temperature : 19.9° C).

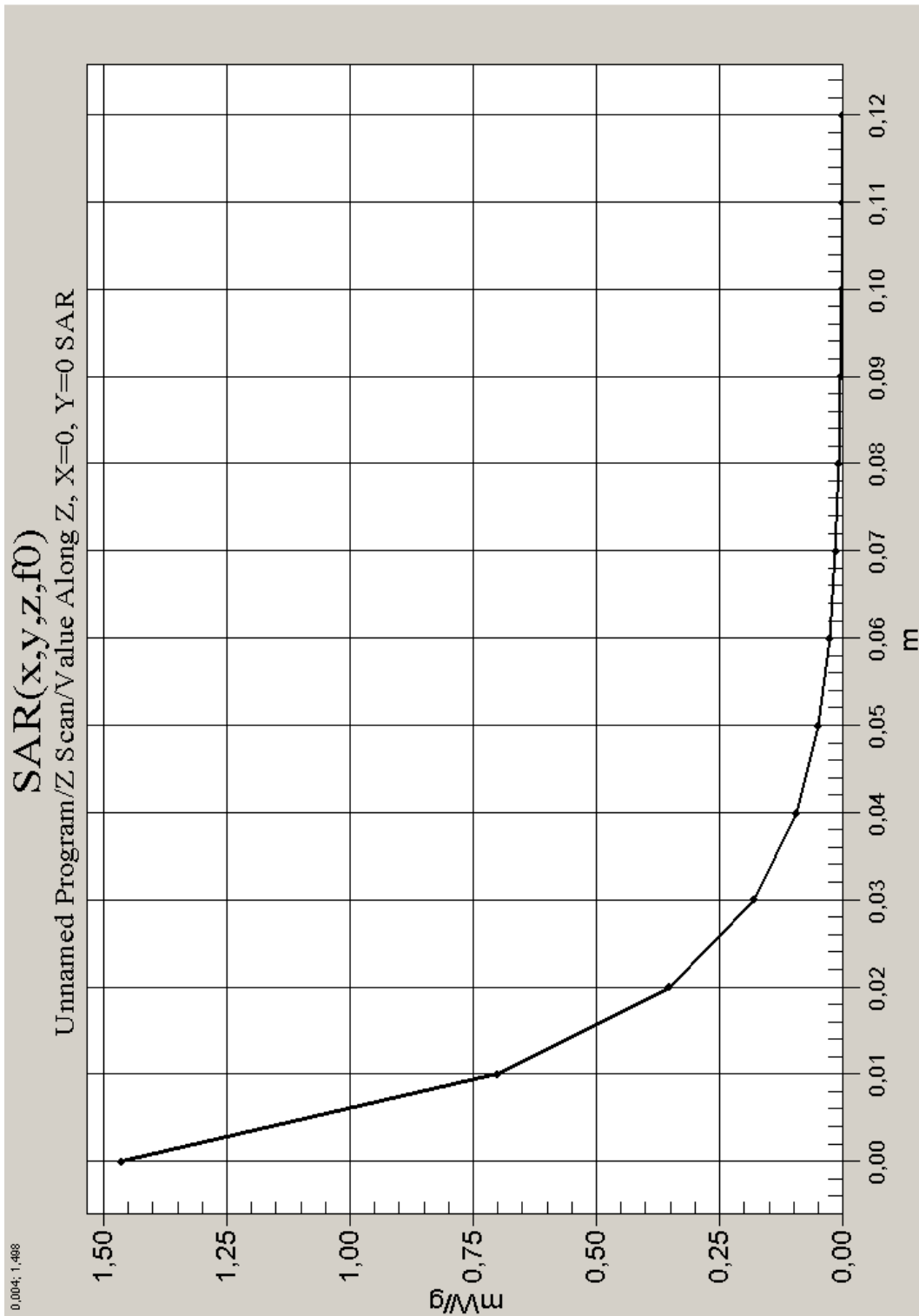


Fig. 20: SAR versus liquid depth, 835 MHz, body (October 07, 2003; Ambient Temperature: 20.8° C; Liquid Temperature : 20.3° C).

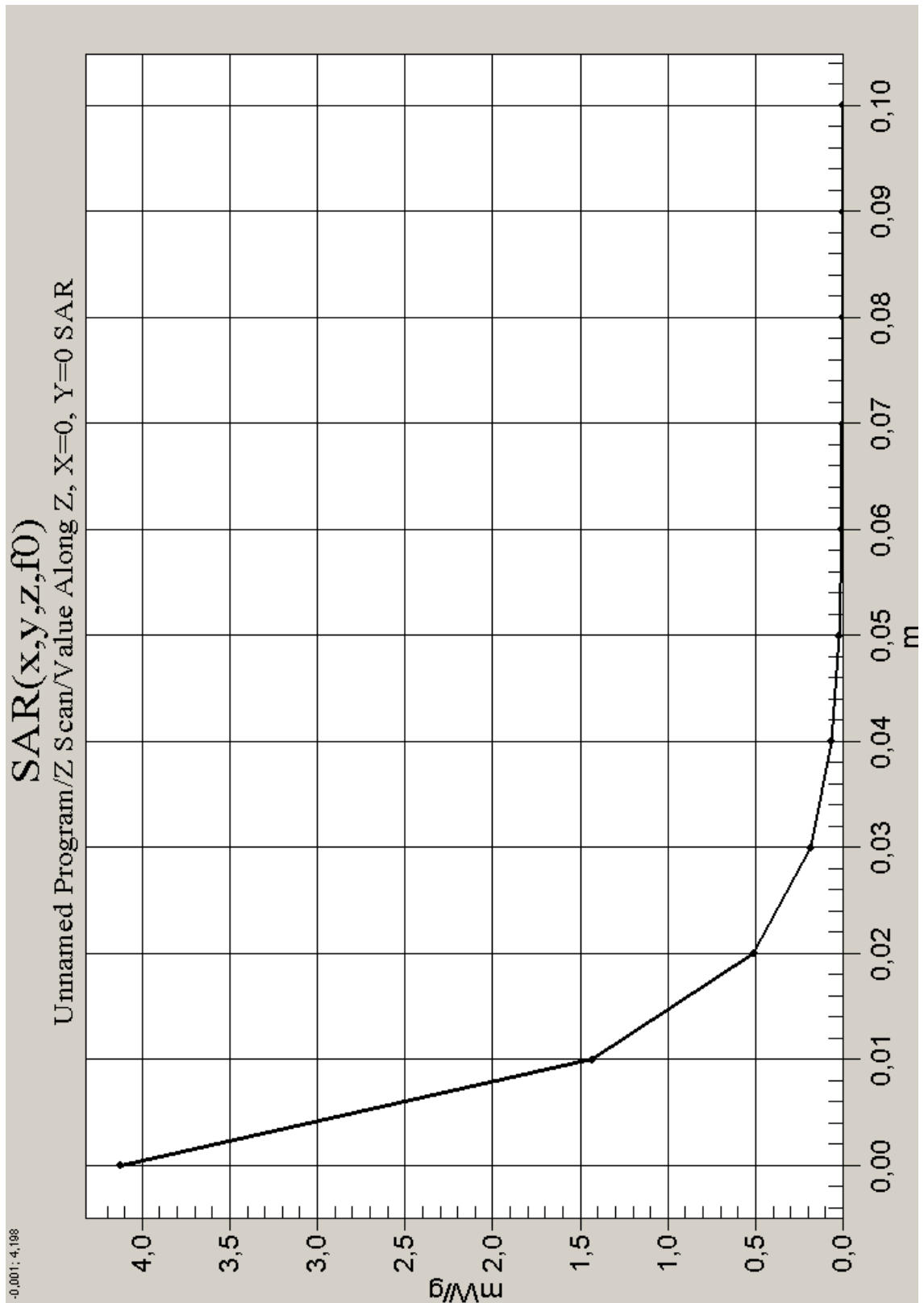


Fig. 21: SAR versus liquid depth, 1900 MHz, head (October 09, 2003; Ambient Temperature: 20.8° C; Liquid Temperature : 20.4° C).

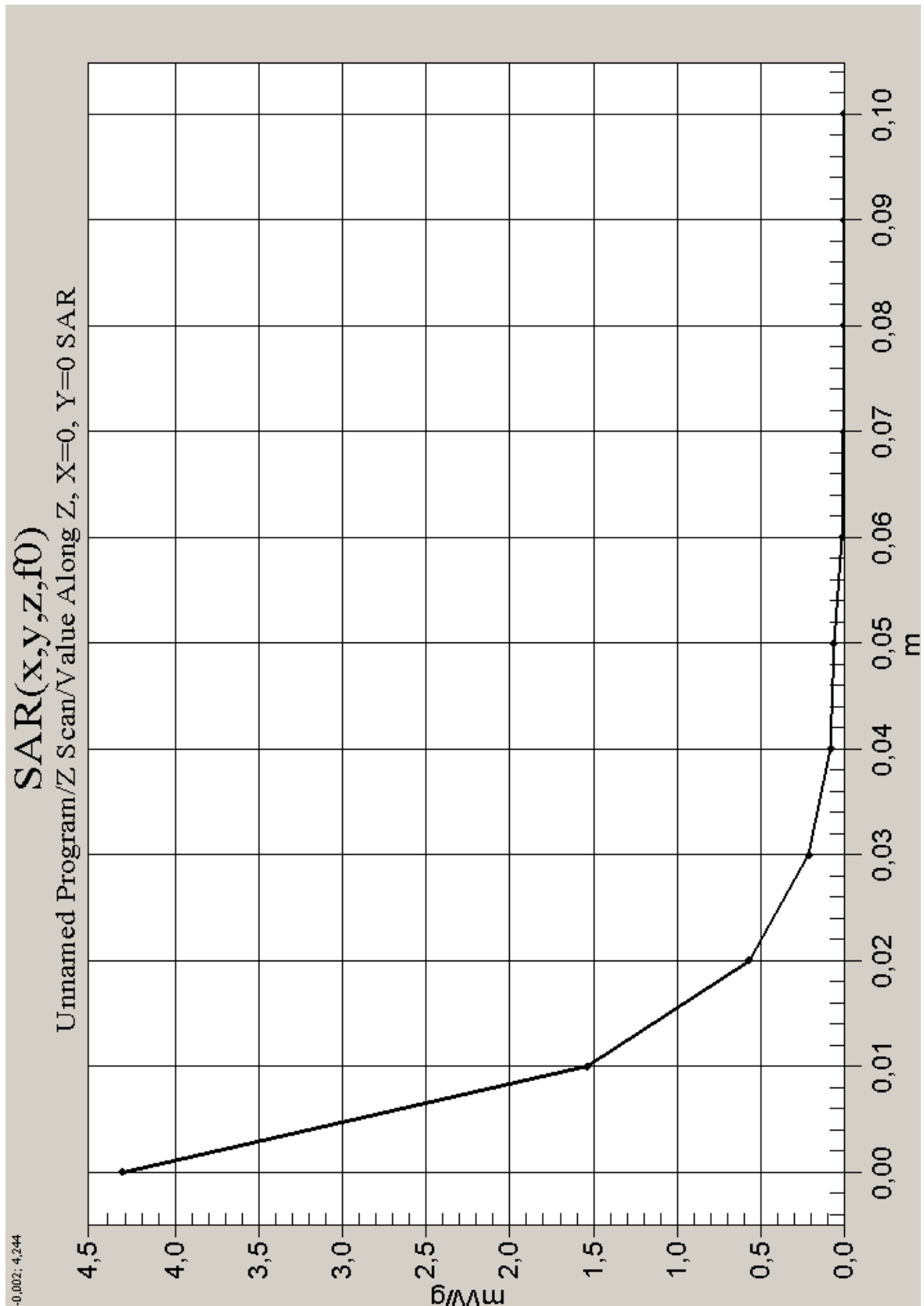


Fig. 22: SAR versus liquid depth, 1900MHz, body (October 08, 2003; Ambient Temperature: 20.8° C; Liquid Temperature : 20.7° C).

8 SAR z-axis scans (Measurements)

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

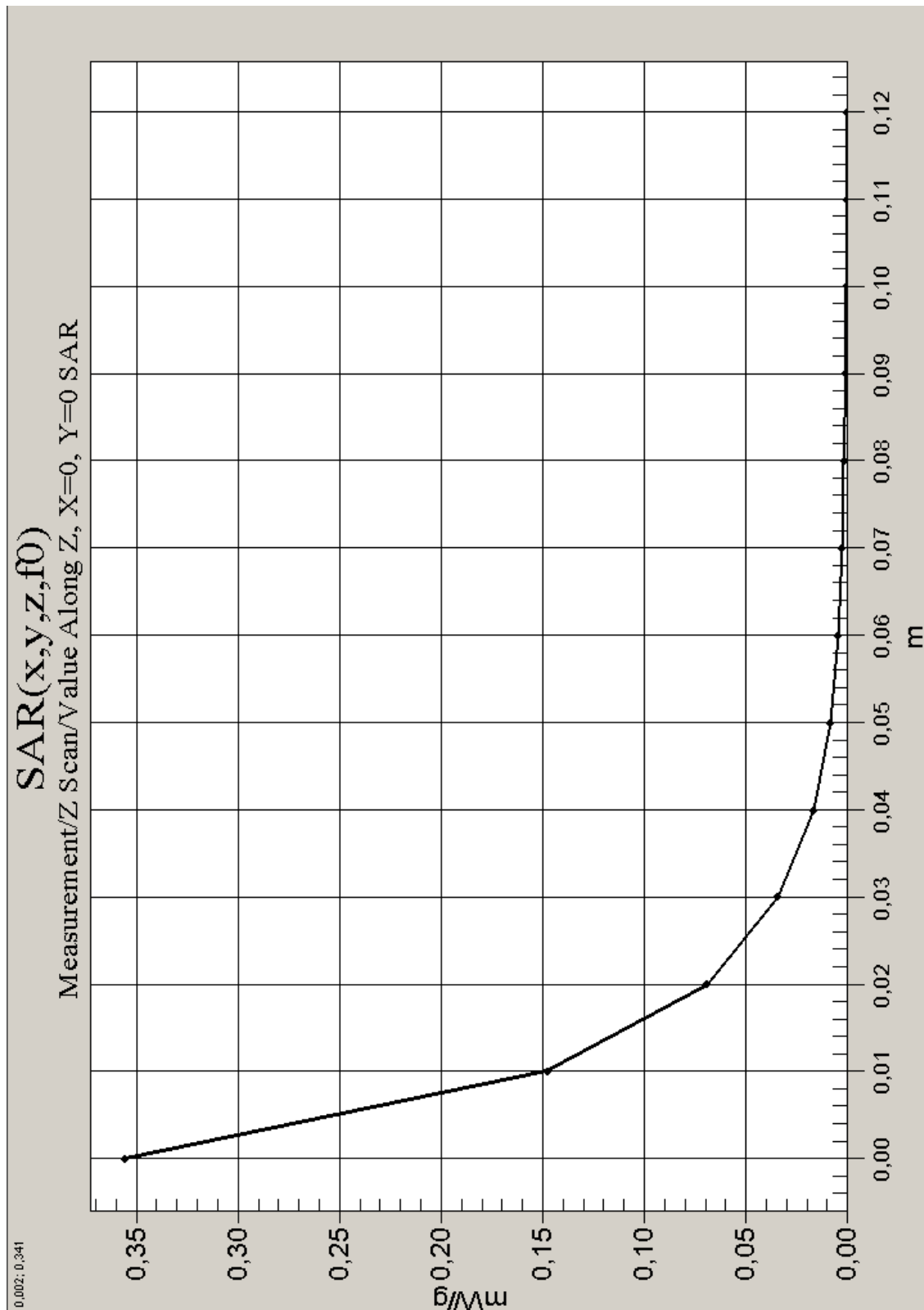


Fig. 23: SAR versus liquid depth, head: GSM 850, channel 251, cheek position, left side of head (October 06, 2003; Ambient Temperature: 20.9° C; Liquid Temperature : 19.9° C).

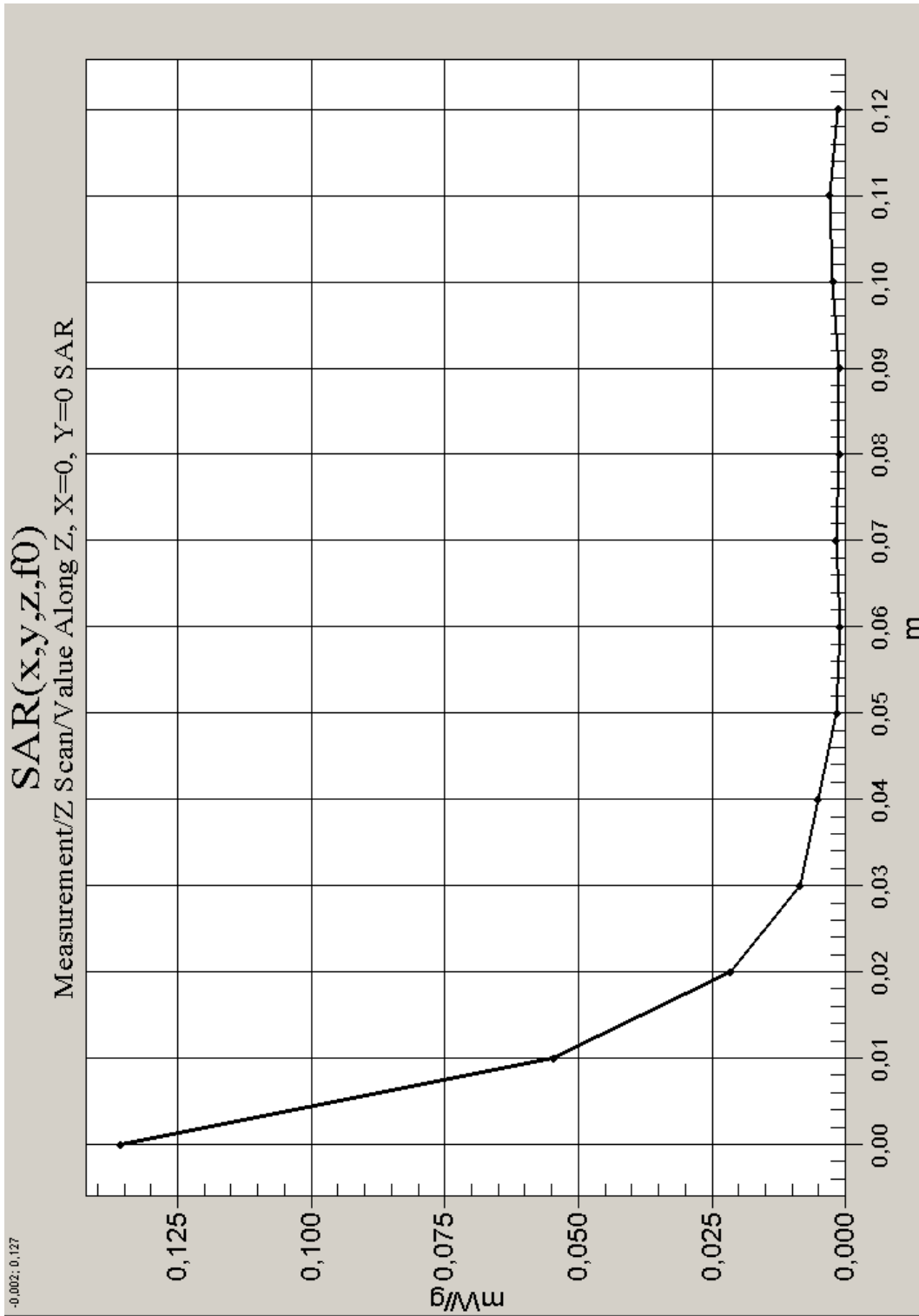


Fig. 24: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, left side of head (October 09, 2003; Ambient Temperature: 20.9° C; Liquid Temperature : 20.4° C).

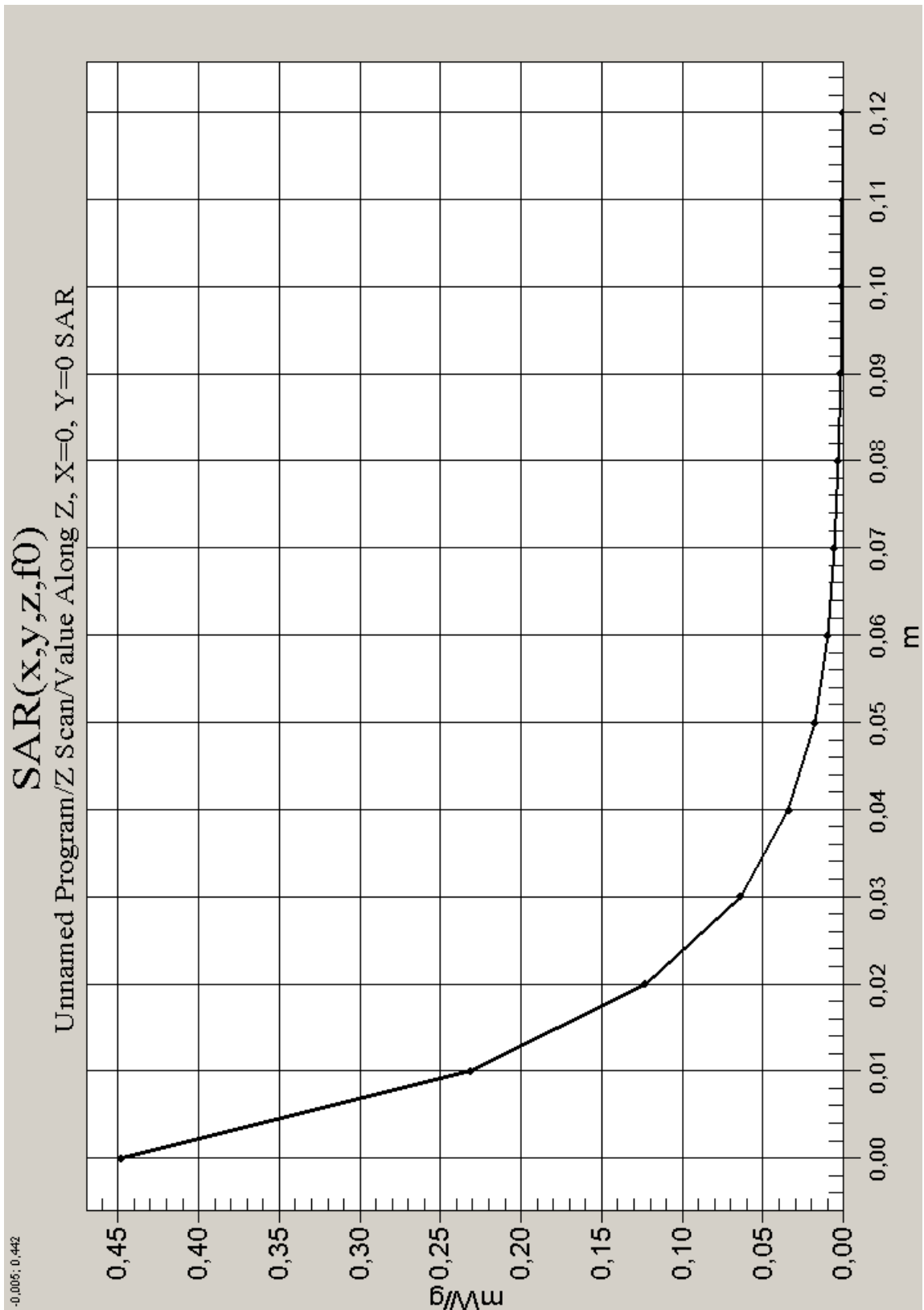


Fig. 25: SAR versus liquid depth, body: GSM 850, channel 190, 1.5cm distance to the phantom, with headset, display towards the ground (October 07, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.3° C).

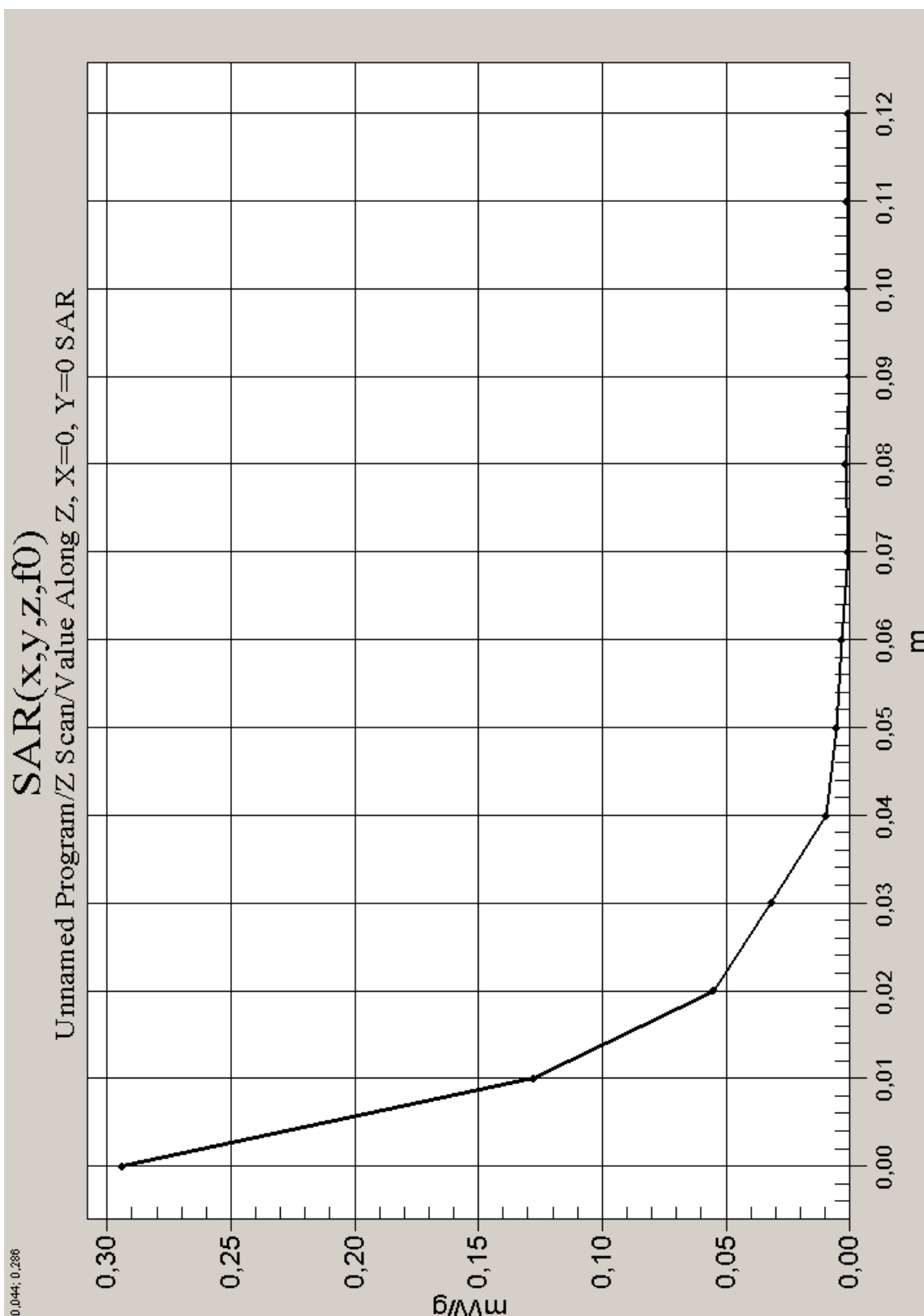


Fig. 26: SAR versus liquid depth, body: PCS 1900, channel 661, 1.5cm distance to the phantom, with headset, display towards the ground (October 08, 2003; Ambient Temperature: 21.1° C; Liquid Temperature : 20.7° C).