
Appendix for the Report

Dosimetric Assessment of the Alcatel OT-S853 (FCC ID: RAD026)

According to the FCC Requirements

SAR Distribution Plots

August 19, 2005
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The test results only relate to the items tested.
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Table of Contents

1	SAR DISTRIBUTION PLOTS, PCS 1900 HEAD	3
2	SAR DISTRIBUTION PLOTS, PCS 1900 HEAD WITH BLUETOOTH ACTIVATED	7
3	SAR DISTRIBUTION PLOTS, PCS 1900 BODY WITH HEADSET IN GSM MODE	8
4	SAR DISTRIBUTION PLOTS, GPRS 1900 BODY	9
5	SAR Z-AXIS SCANS (VALIDATION)	10
6	SAR Z-AXIS SCANS (MEASUREMENTS).....	11

1 SAR Distribution Plots, PCS 1900 Head

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [xxxbp1m_1.da4](#)

DUT: Alcatel; Type: OT-S853; Serial: N/A

Program Name: Cheek Left

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (measured) = 0.144 mW/g

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

Reference Value = 7.39 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.198 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.154 mW/g

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

Reference Value = 7.39 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.219 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.080 mW/g

Maximum value of SAR (measured) = 0.146 mW/g

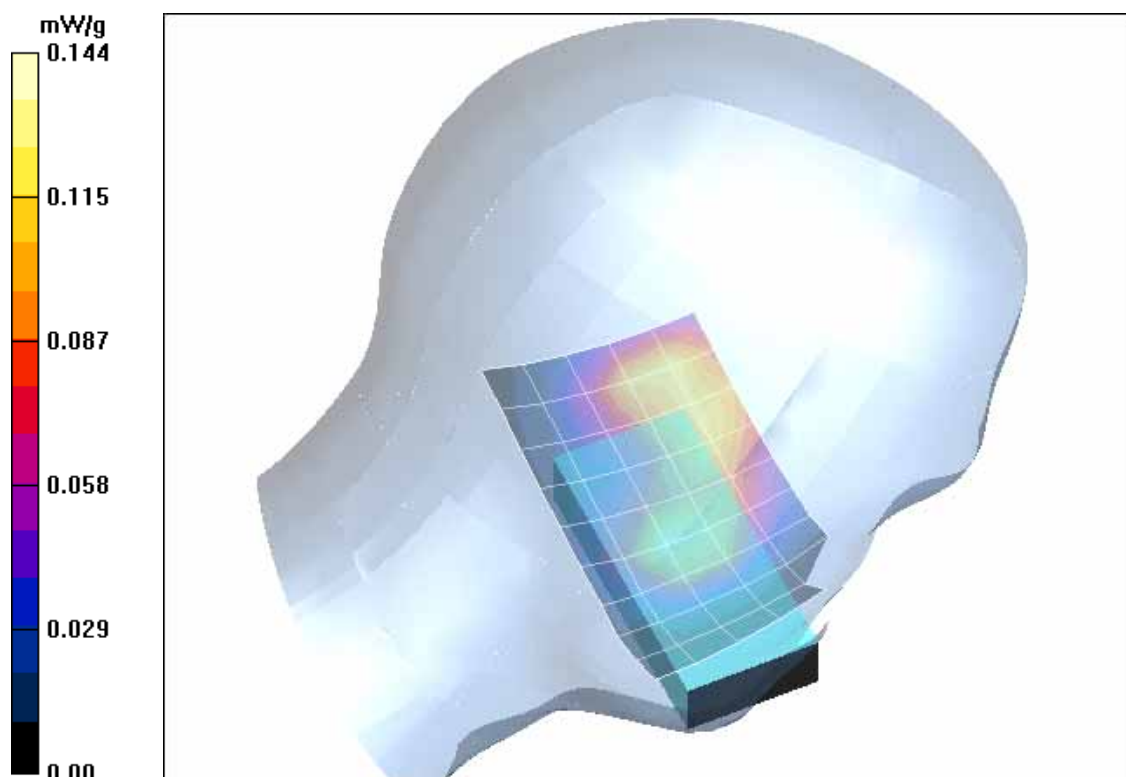


Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [xxxbp1m_2.da4](#)

DUT: Alcatel; **Type:** OT-S853;
Program Name: Tilted Left

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³
 Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (measured) = 0.152 mW/g

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

Reference Value = 9.52 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.092 mW/g

Maximum value of SAR (measured) = 0.177 mW/g

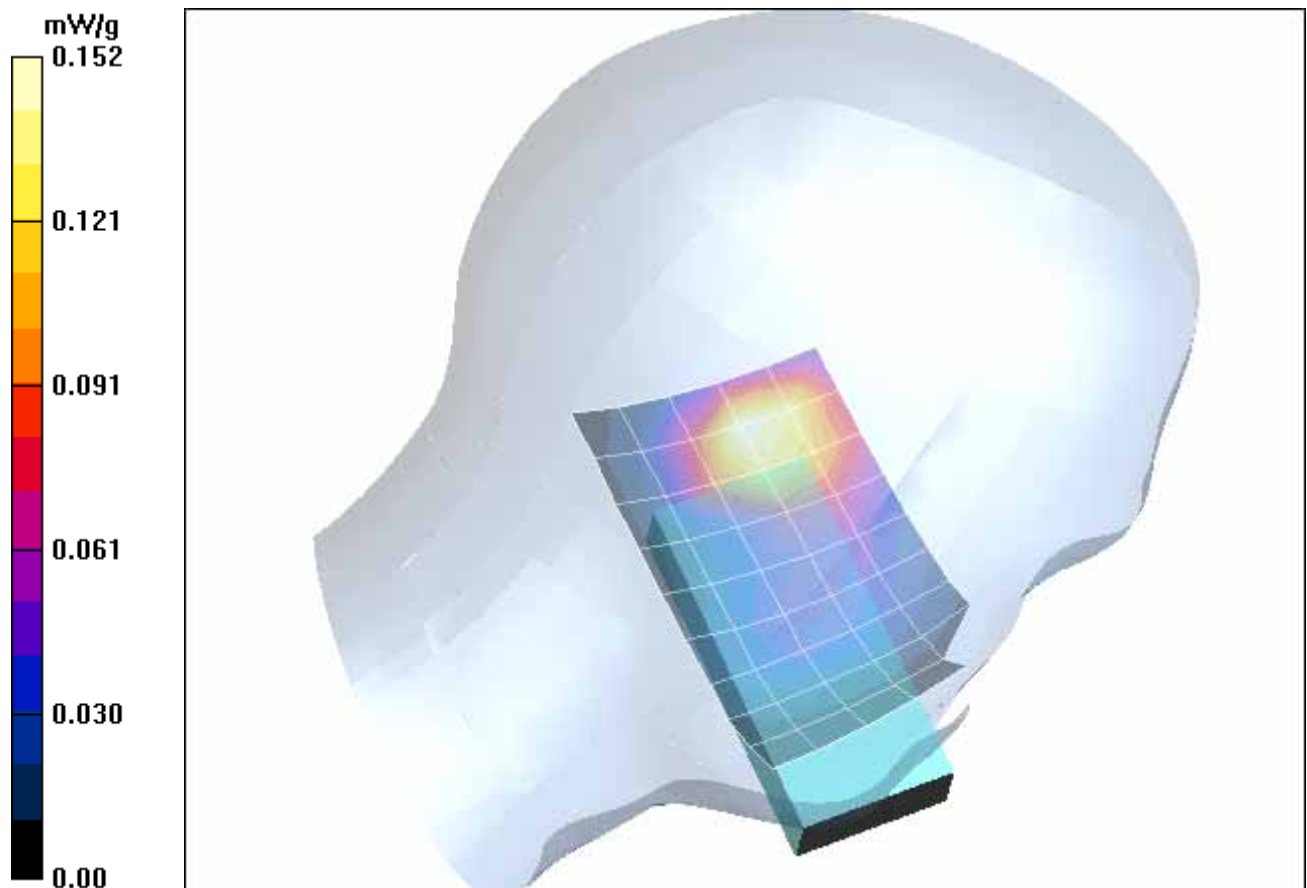


Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [xxx_bprm_1.da4](#)

DUT: Alcatel; **Type:** OT-S853; **Serial:** N/A

Program Name: Cheek Right

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (measured) = 0.167 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.2 dB

Peak SAR (extrapolated) = 0.217 W/kg

SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.101 mW/g

Maximum value of SAR (measured) = 0.172 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.2 dB

Peak SAR (extrapolated) = 0.277 W/kg

SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.098 mW/g

Maximum value of SAR (measured) = 0.181 mW/g

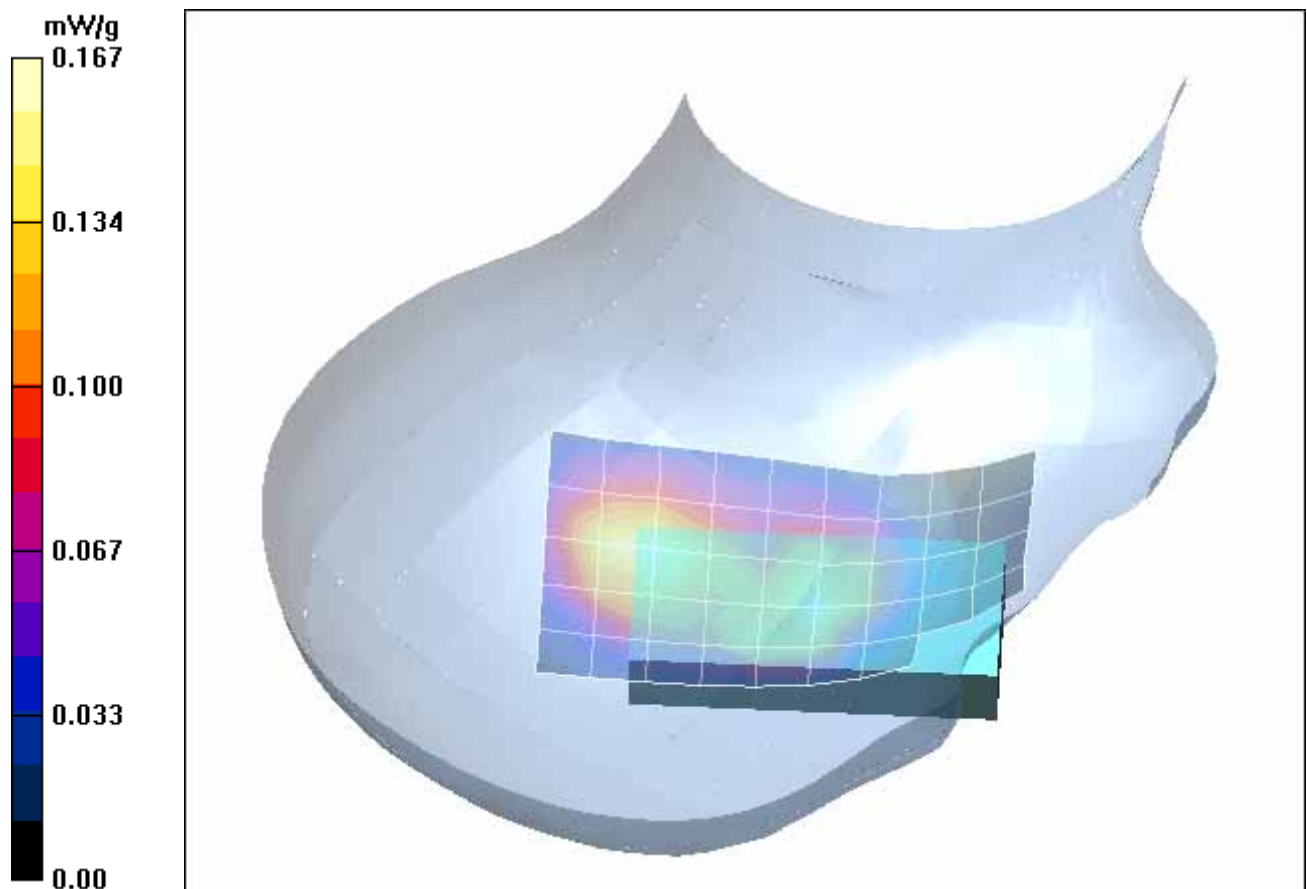


Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [xxxbprrm 2.da4](#)

DUT: Alcatel; **Type:** OT-S853;

Program Name: Tilted Right

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (measured) = 0.199 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.207 mW/g

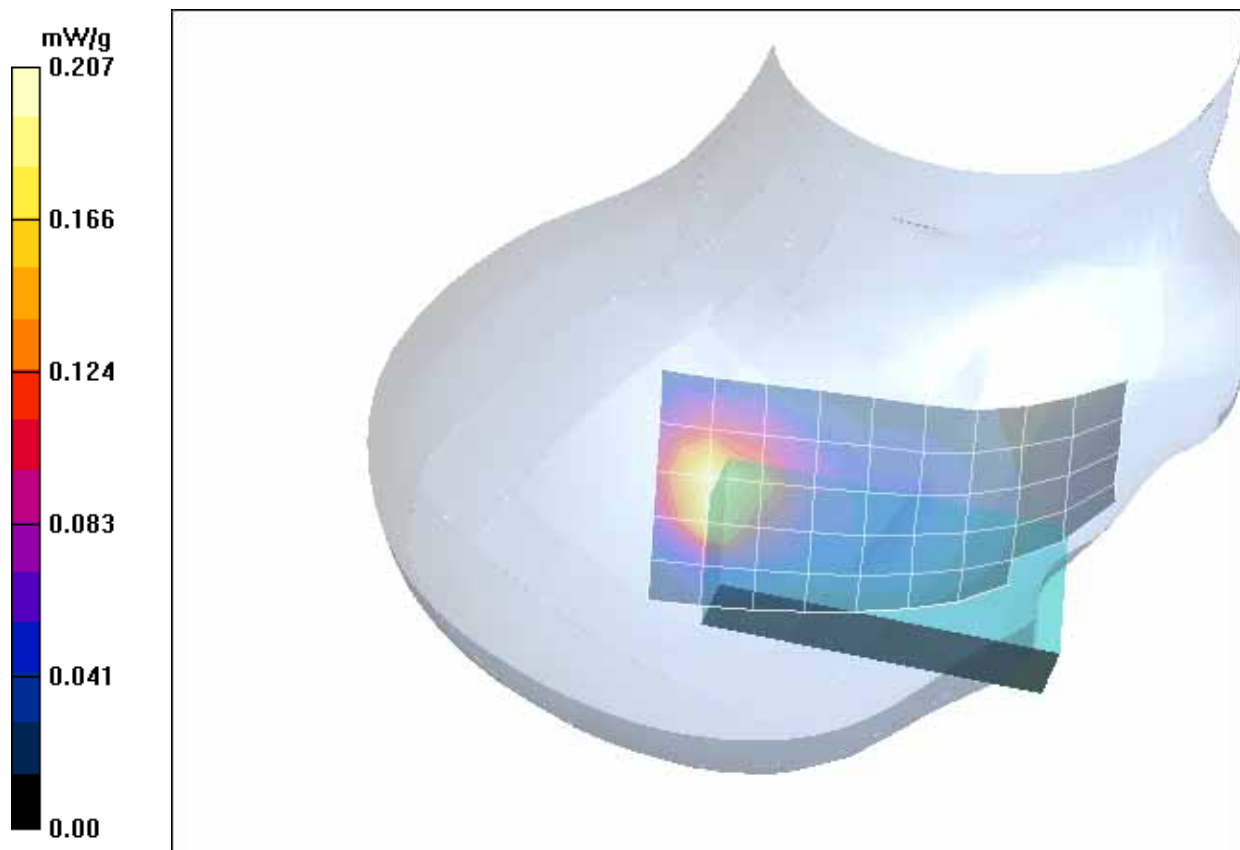


Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (August 15, 2005; Ambient Temperature: 22.0 °C; Liquid Temperature : 21.8° C)

2 SAR Distribution Plots, PCS 1900 Head with Bluetooth activated

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [xxxbprrm 2 BT.da4](#)

DUT: Alcatel; Type: OT-S853; Serial: N/A

Program Name: Tilted Right

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(5.11, 5.11, 5.11); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (measured) = 0.202 mW/g

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

Reference Value = 11.1 V/m; Power Drift = -0.080 dB

Peak SAR (extrapolated) = 0.324 W/kg

SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.212 mW/g

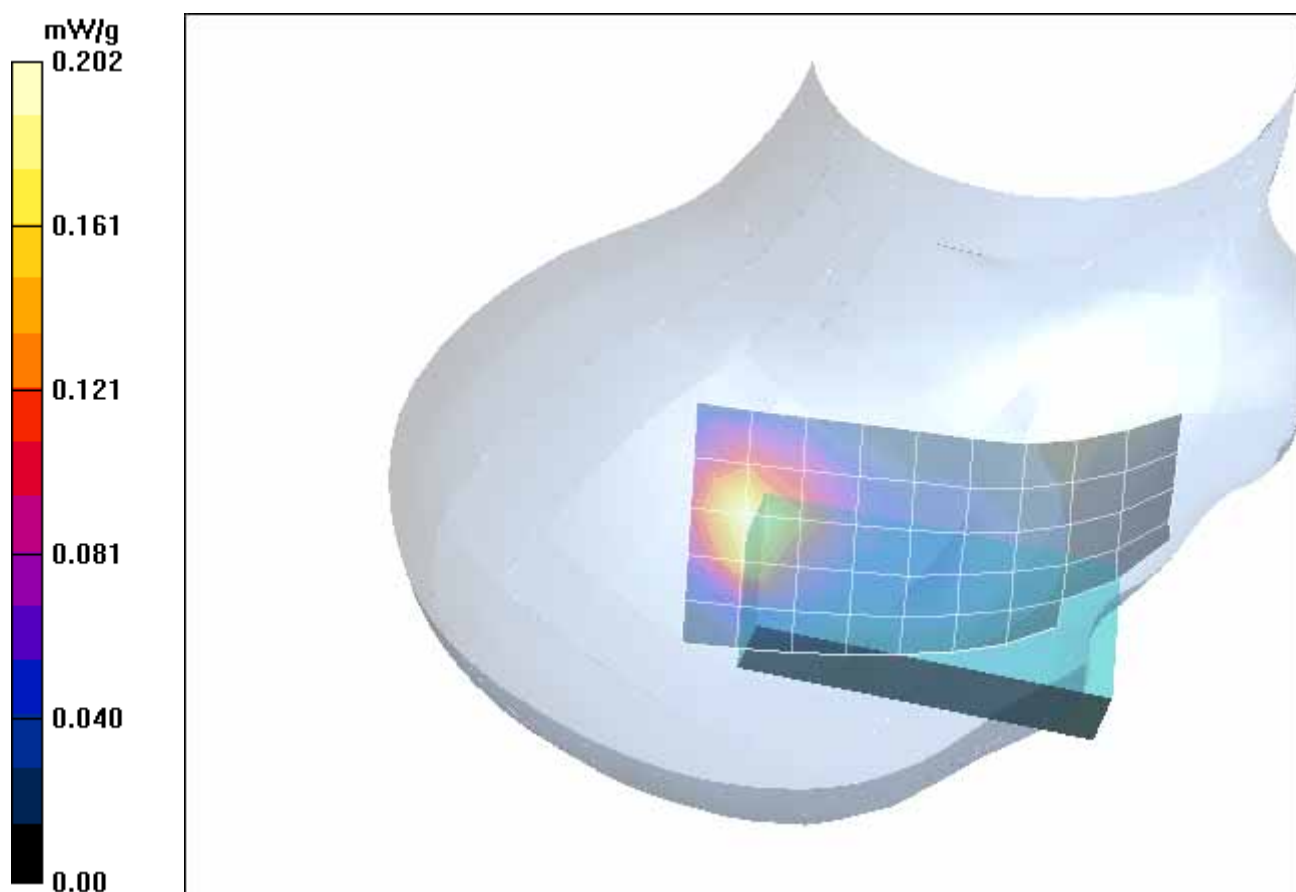


Fig. 5: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

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

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [xxxlbphm_3.da4](#)

DUT: Alcatel; Type: OT-S853; Serial: N/A

Program Name: Body Worn

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 51.3$; $\rho = 1000$ kg/m³

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: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.164 mW/g

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

Reference Value = 7.39 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.151 mW/g; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.163 mW/g

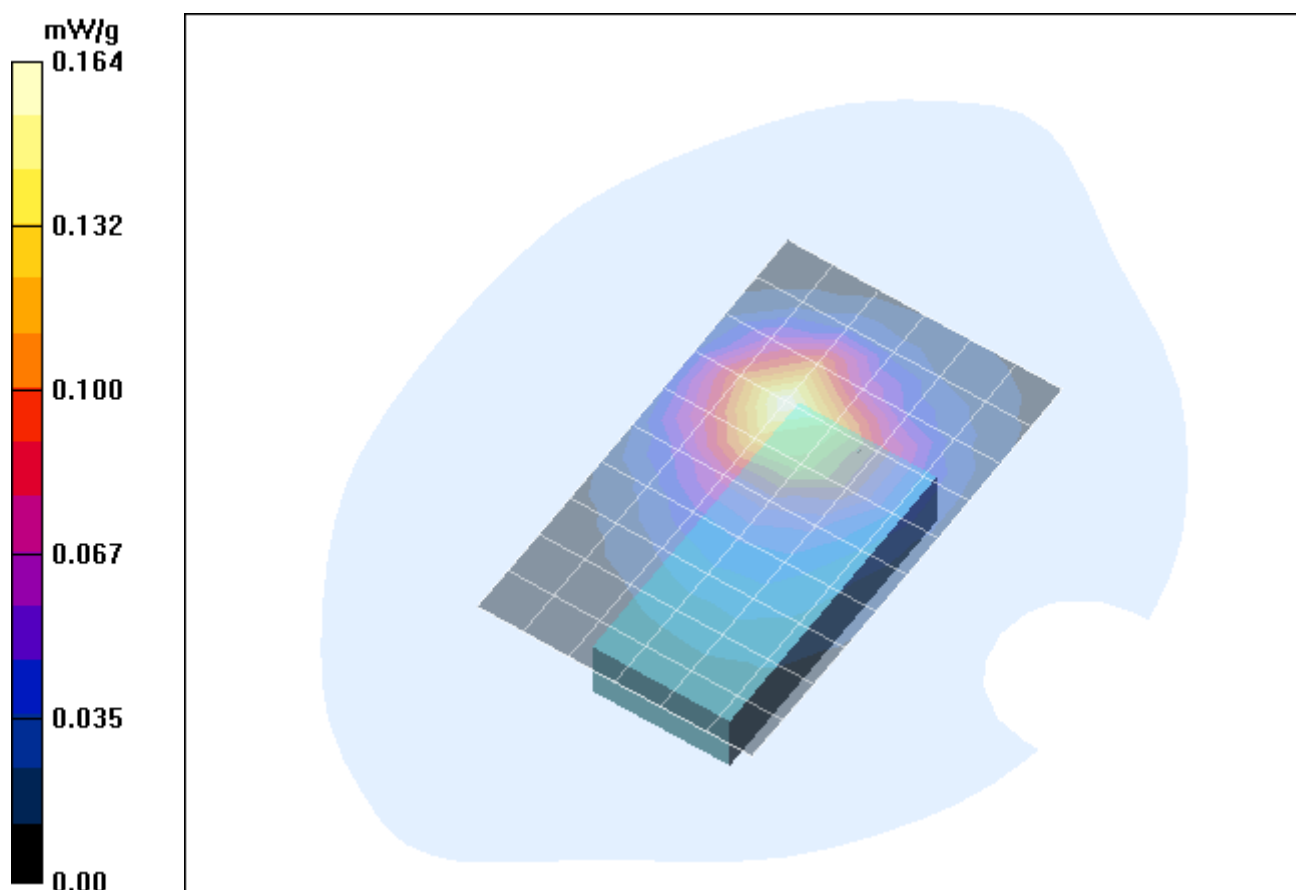


Fig. 6: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, with headset and 20 mm distance (August 16, 2005; Ambient Temperature: 22.1° C; Liquid Temperature: 21.0° C).

4 SAR Distribution Plots, GPRS 1900 Body

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: xxxlbphm_1.da4

DUT: Alcatel; Type: OT-S853; Serial: N/A

Program Name: Body Worn

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 51.3$; $\rho = 1000$ kg/m³

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: DAE3 Sn335; Calibrated: 17.03.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.310 mW/g

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

Reference Value = 10.5 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 0.951 W/kg

SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.118 mW/g

Maximum value of SAR (measured) = 0.320 mW/g

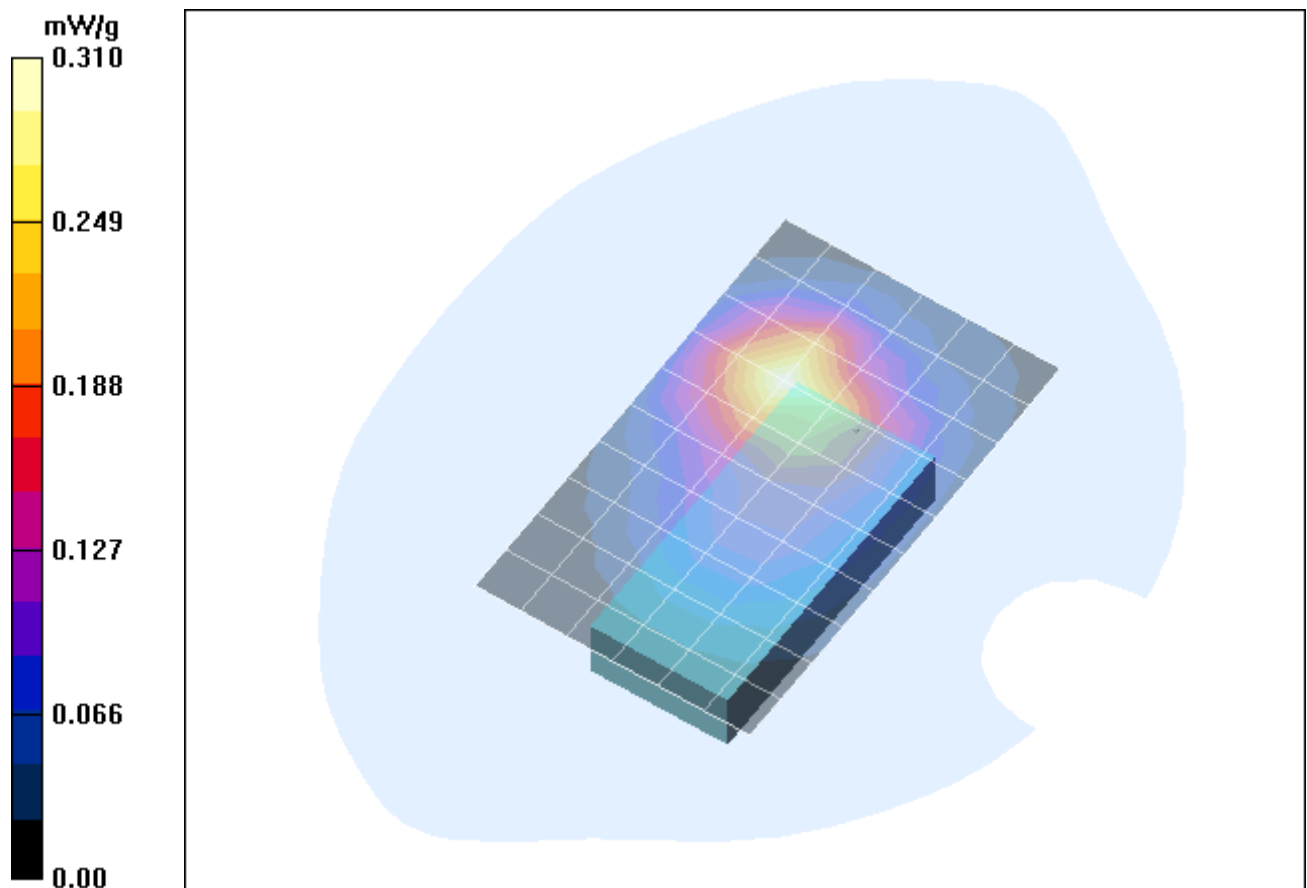


Fig. 7: SAR distribution for GPRS 1900 (Class 10), channel 661, body worn configuration, antenna towards the phantom, with 20 mm distance (August 16, 2005; Ambient Temperature: 22.0° C; Liquid Temperature: 21.0° C).

5 SAR z-axis scans (Validation)

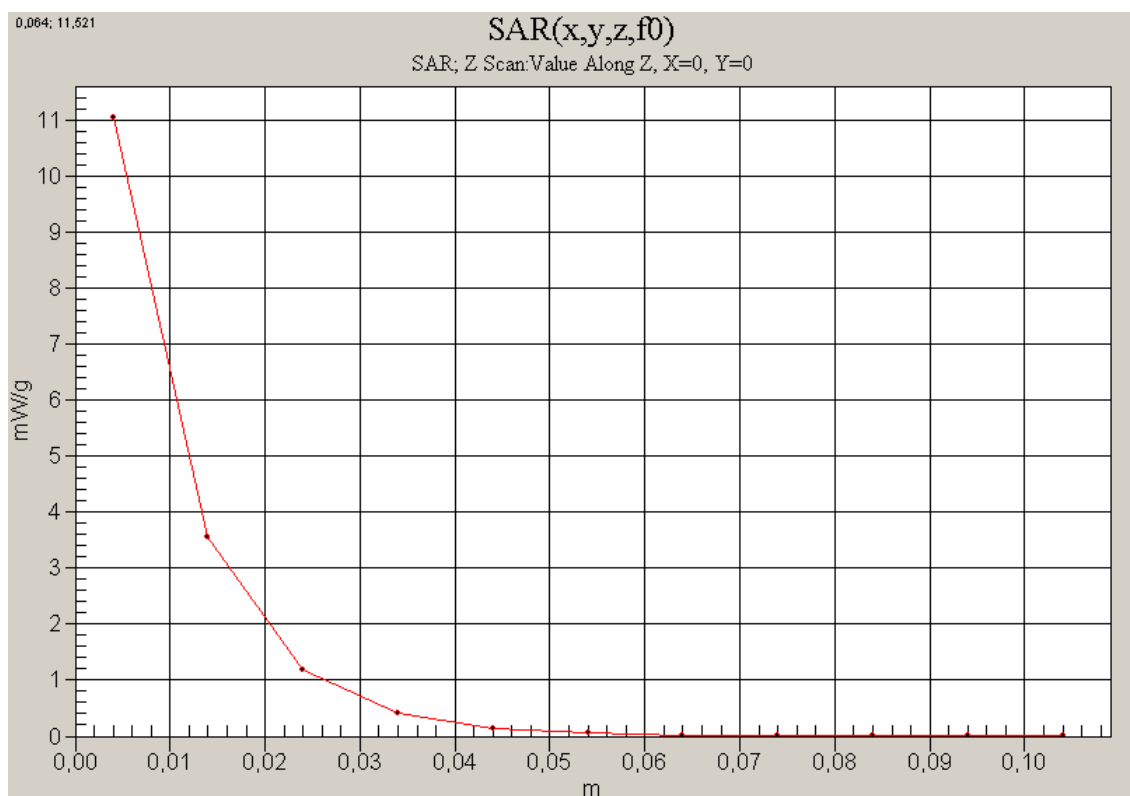


Fig. 8: SAR versus liquid depth, 1900 MHz, head (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

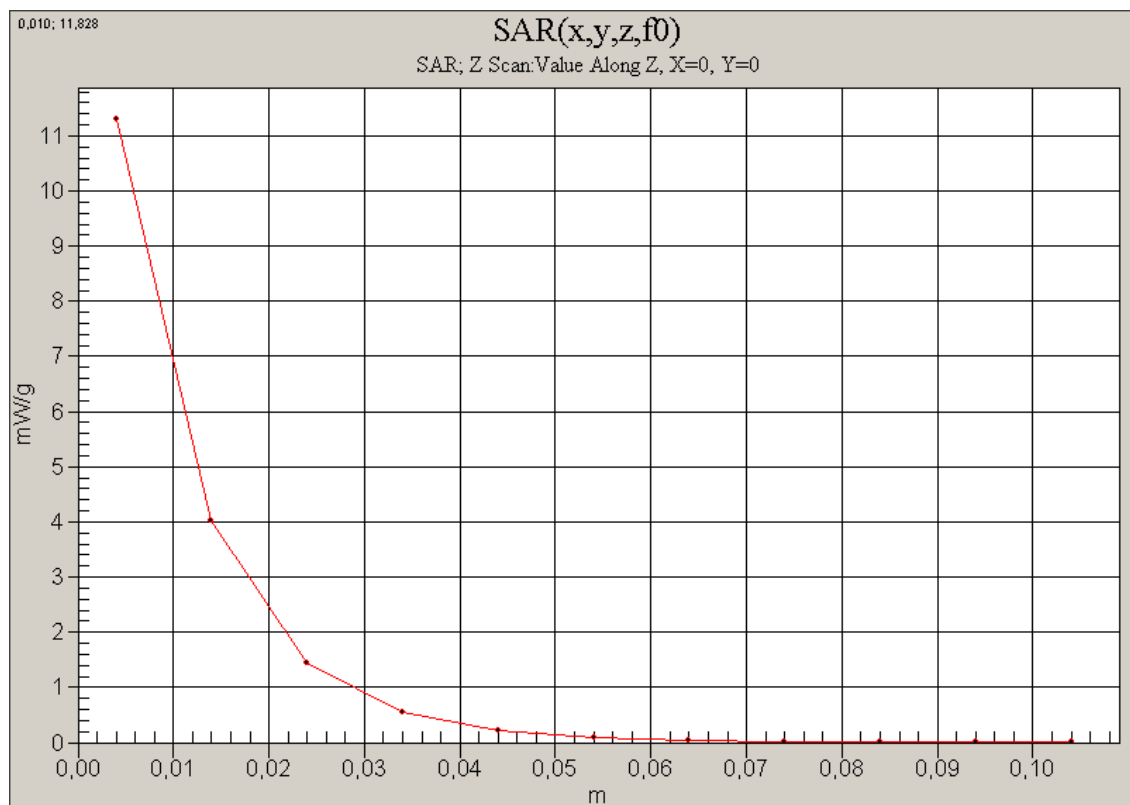


Fig. 9: SAR versus liquid depth, 1900 MHz, body (August 16, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

6 SAR z-axis scans (Measurements)

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

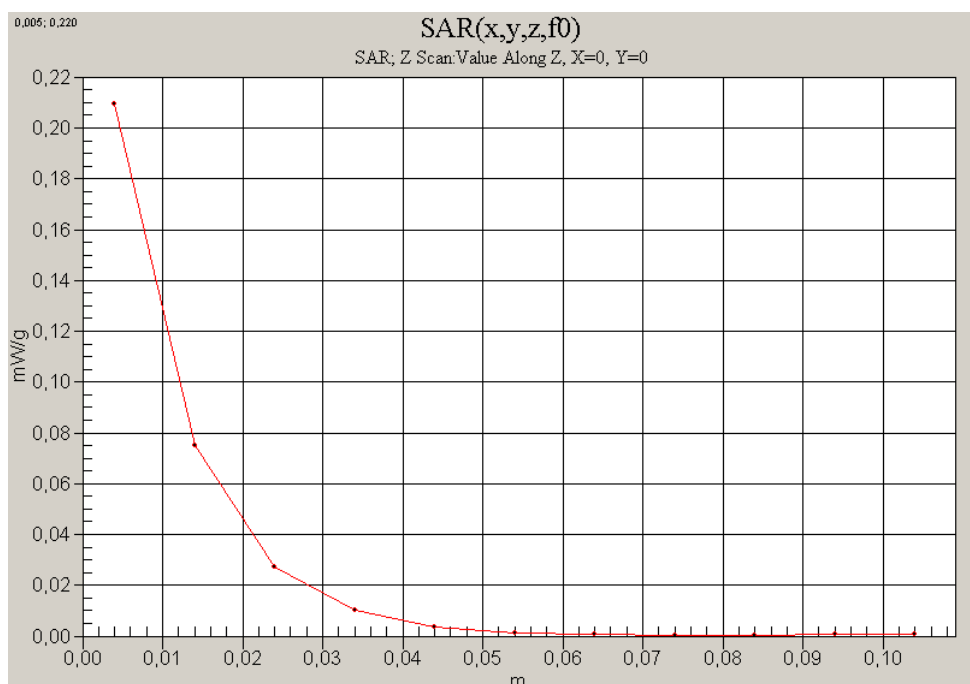


Fig. 10: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, right side of head, with BT (August 15, 2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

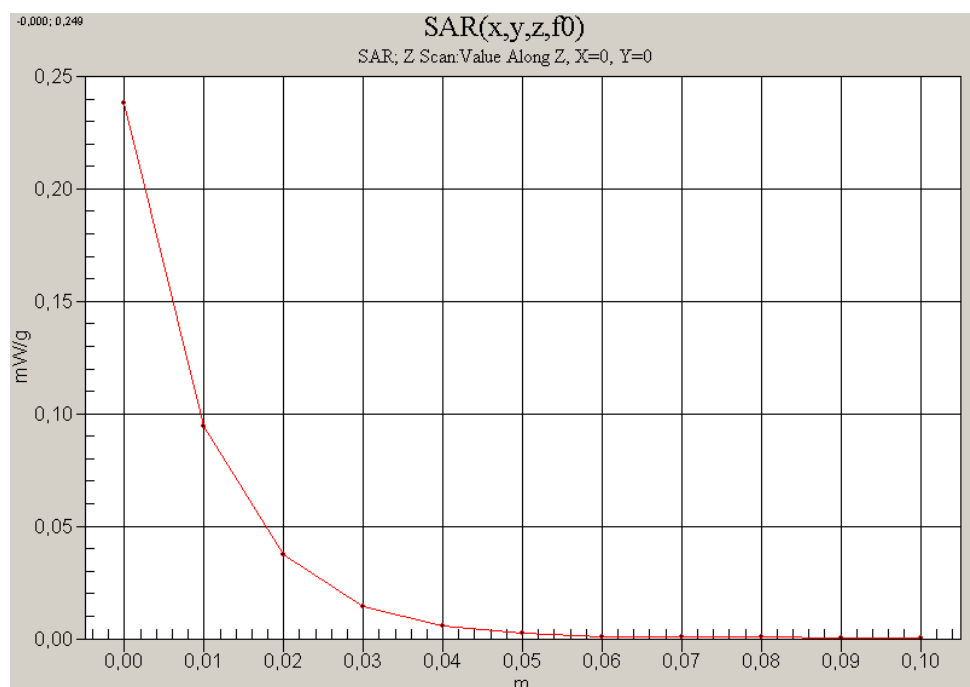


Fig. 11: SAR versus liquid depth, body: GPRS 1900 (Class 10), channel 661, (August 16, 2005; Ambient Temperature: 22.0° C; Liquid Temperature: 21.0° C).