Deutscher Akkreditierungs Rat

DAT-P-152/98-01

Appendix for the Report

Dosimetric Assessment of the Alcatel OT-C651 (FCC ID: RAD012)

According to the FCC Requirements

SAR Distribution Plots

Macrh 08, 2005

IMST GmbH
Carl-Friedrich-Gauß-Str. 2
D-47475 Kamp-Lintfort

Customer
TCL & Alcatel mobile phones
32, avenue Kléber
F 97202 Colombes Cedex

Table of Contents

1 SAR Distribution Plots, PCS 1900 head

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: 726bplm_1.da4

DUT: Alcatel ; Type: OT-C651; Serial: 355432000132726
Program Name: Cheek Left

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.4; mho/m, ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

Cheek Left/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.169 mW/g
Cheek Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.23 V/m; Power Drift = -0.2 dB
Peak SAR (extrapolated) = 0.238 W/kg
SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.187 mW/g

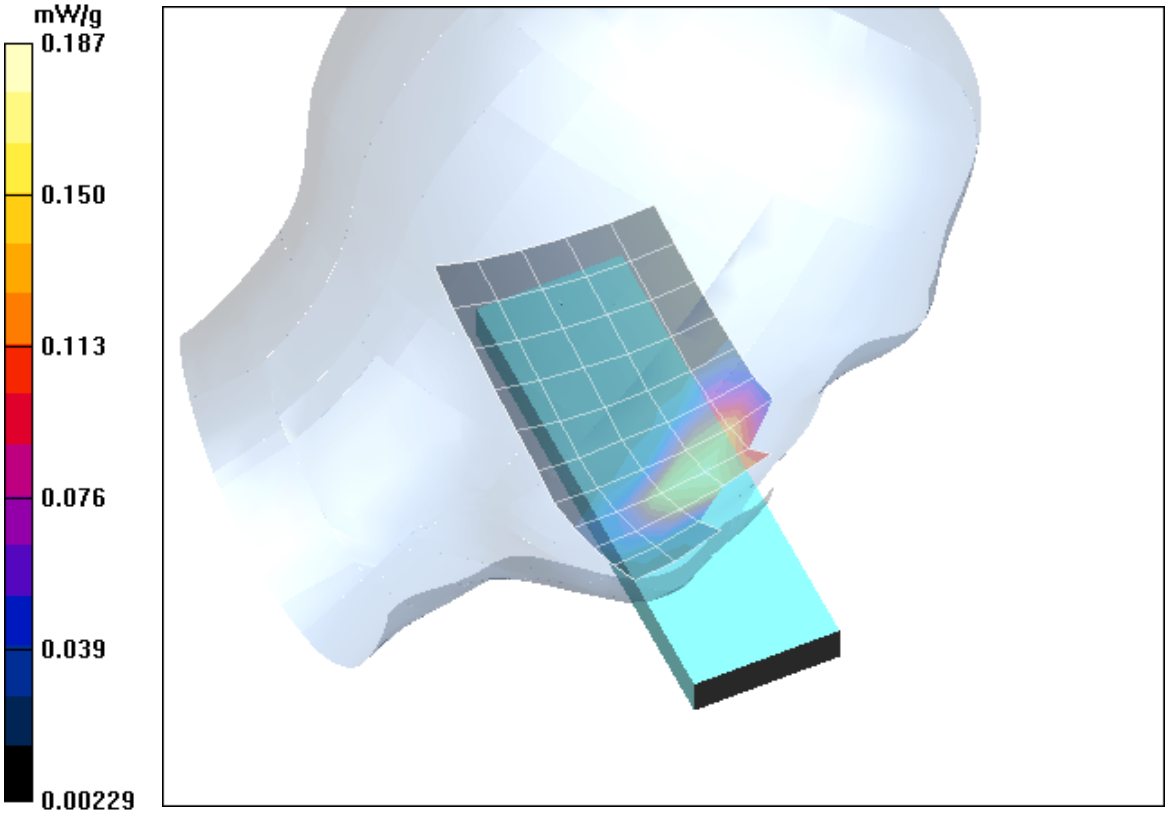

Fig. 1: SAR distribution for PCS 1900, channel 661, cheek position, left side of head (03.04.2005; Ambient Temperature: 21.0° C; Liquid Temperature: 20.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: 139bplm_2.da4

DUT: Alcatel ; Type: OT-C651; Serial: 355432000132726
Program Name: Tilted Left

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.4; mho/m, ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

Tilted Left/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.030 mW/g
Tilted Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.45 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 0.039 W/kg
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.020 mW/g

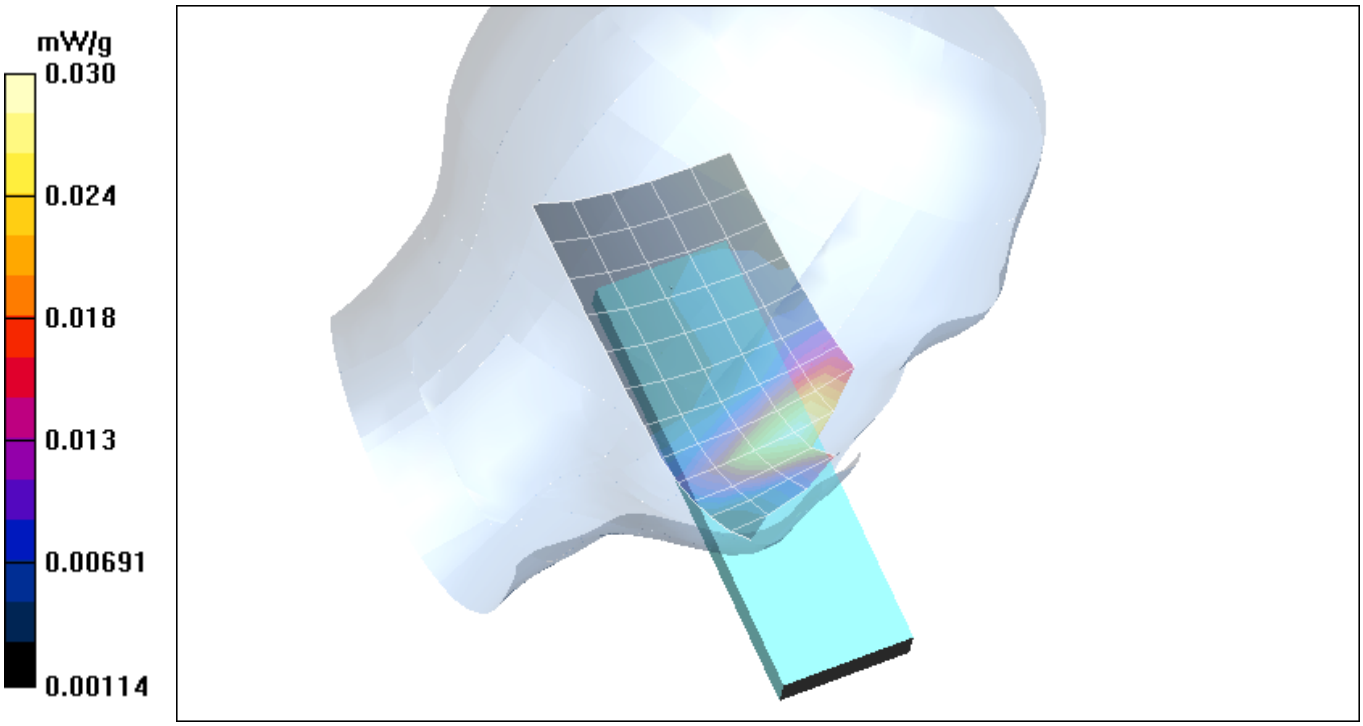

Fig. 2: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (03.04.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.2° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: 139bprm_1.da4

DUT: Alcatel ; Type: OT-C651; Serial: 355432000132726
Program Name: Cheek Right

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.4; mho/m, ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

Cheek Right/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.300 mW/g
Cheek Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.79 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.480 W/kg
SAR(1 g) = 0.323 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.353 mW/g

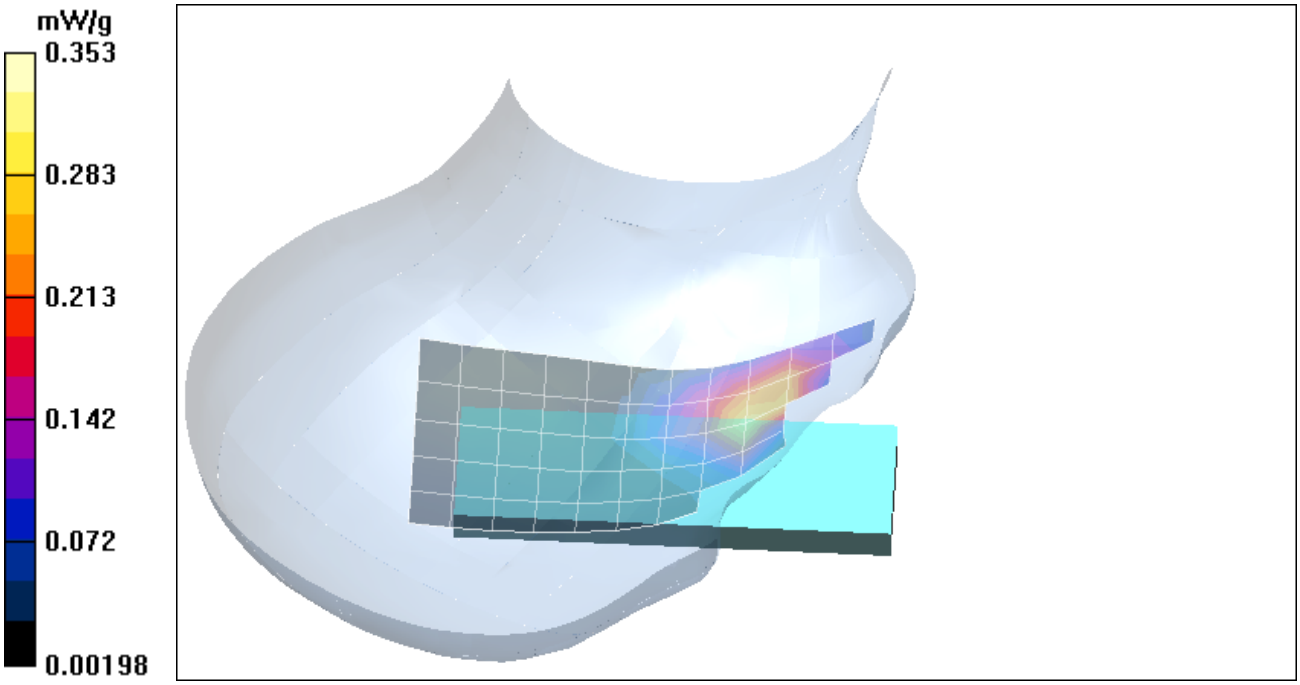

Fig. 3: SAR distribution for PCS 1900, channel 661, cheek position, right side of head (03.04.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.2° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: 726bprm_2.da4

DUT: Alcatel ; Type: OT-C651; Serial: 355432000132726
Program Name: Tilted Right

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.4; mho/m, ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(5.28, 5.28, 5.28); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.3 Build 16; Postprocessing SW: SEMCAD, V1.8 Build 127

Tilted Right/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.040 mW/g
Tilted Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.05 V/m; Power Drift = -0.2 dB
Peak SAR (extrapolated) = 0.053 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.025 mW/g

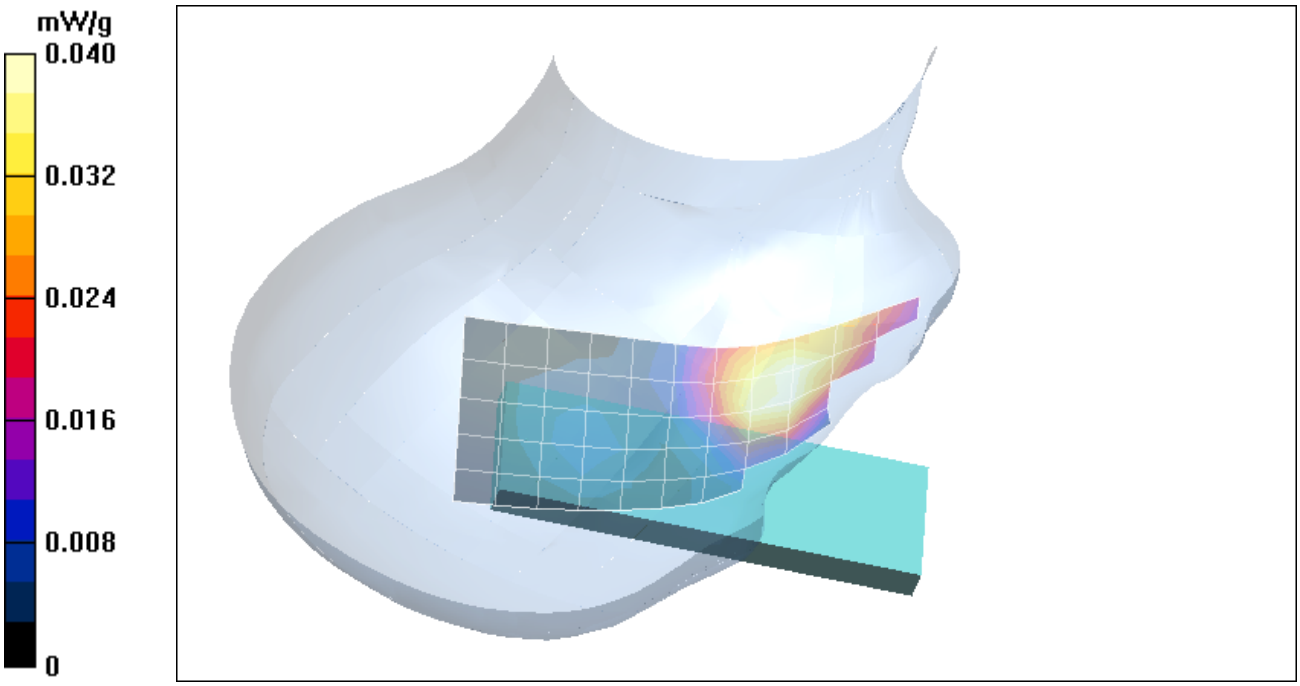

Fig. 4: SAR distribution for PCS 1900, channel 661, tilted position, right side of head (03.04.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.1° C).

2 SAR Distribution Plots, PCS 1900 Body worn (gap = 15 mm)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: 726yphm_5.da4

DUT: Alcatel ; Type: OT-C651; Serial: 300100007875139
Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.54; mho/m, ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(4.69, 4.69, 4.69); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.547 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.839 W/kg
SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.262 mW/g
Maximum value of SAR (measured) = 0.568 mW/g

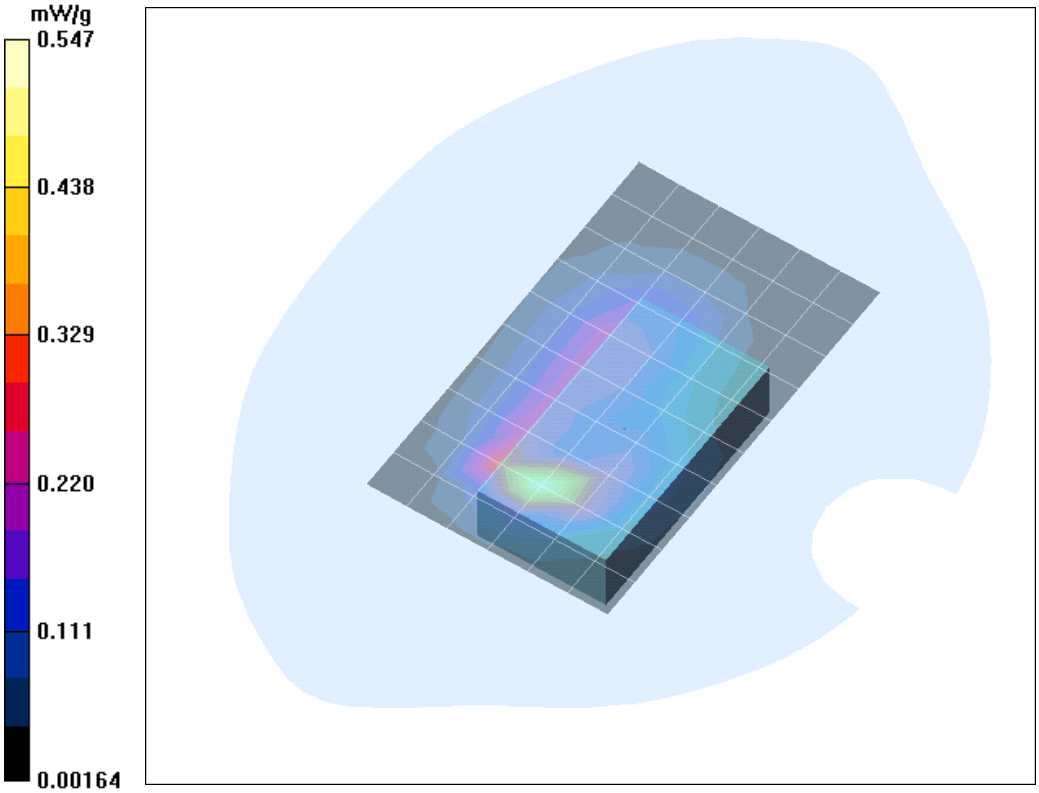

Fig. 5: SAR distribution for PCS 1900, channel 661, antenna towards the phantom, GSM with headset (03.07.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.1 C).

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: 726yphm_3.da4

DUT: Alcatel ; Type: OT-C651; Serial: 300100007875139
Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: σ = 1.54; mho/m, ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(4.69, 4.69, 4.69); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.785 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 35.9 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.963 mW/g; SAR(10 g) = 0.506 mW/g
Maximum value of SAR (measured) = 1.07 mW/g

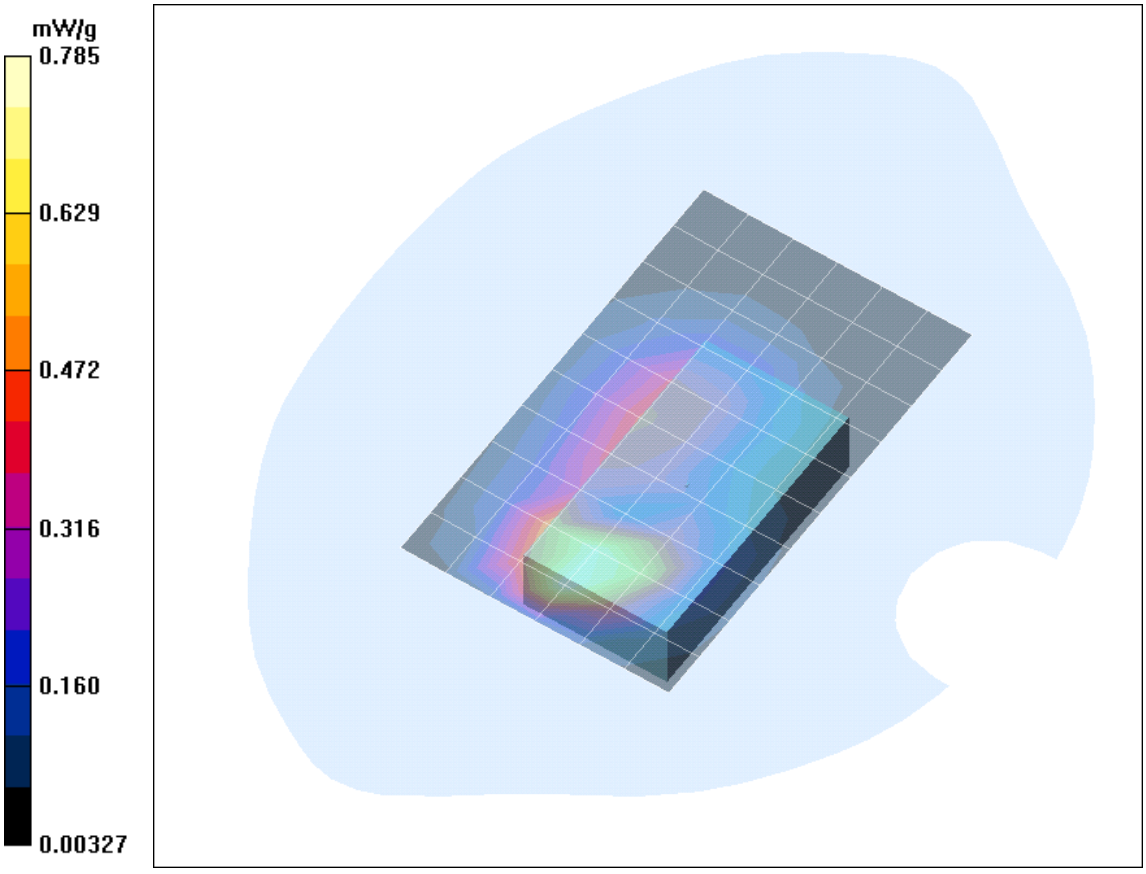

Fig. 6: SAR distribution for PCS 1900, channel 661, antenna towards the phantom, GPRS Class 10, (03.07.2005; Ambient Temperature: 21.1° C; Liquid Temperature : 20.0° C).

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: 726yphl_3.da4

DUT: Alcatel ; Type: OT-C651; Serial: 300100007875139
Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium parameters used: σ = 1.54; mho/m, ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(4.69, 4.69, 4.69); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.559 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 39.8 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 0.916 W/kg
SAR(1 g) = 0.567 mW/g; SAR(10 g) = 0.316 mW/g
Maximum value of SAR (measured) = 0.641 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 39.8 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 0.681 W/kg
SAR(1 g) = 0.459 mW/g; SAR(10 g) = 0.297 mW/g
Maximum value of SAR (measured) = 0.492 mW/g

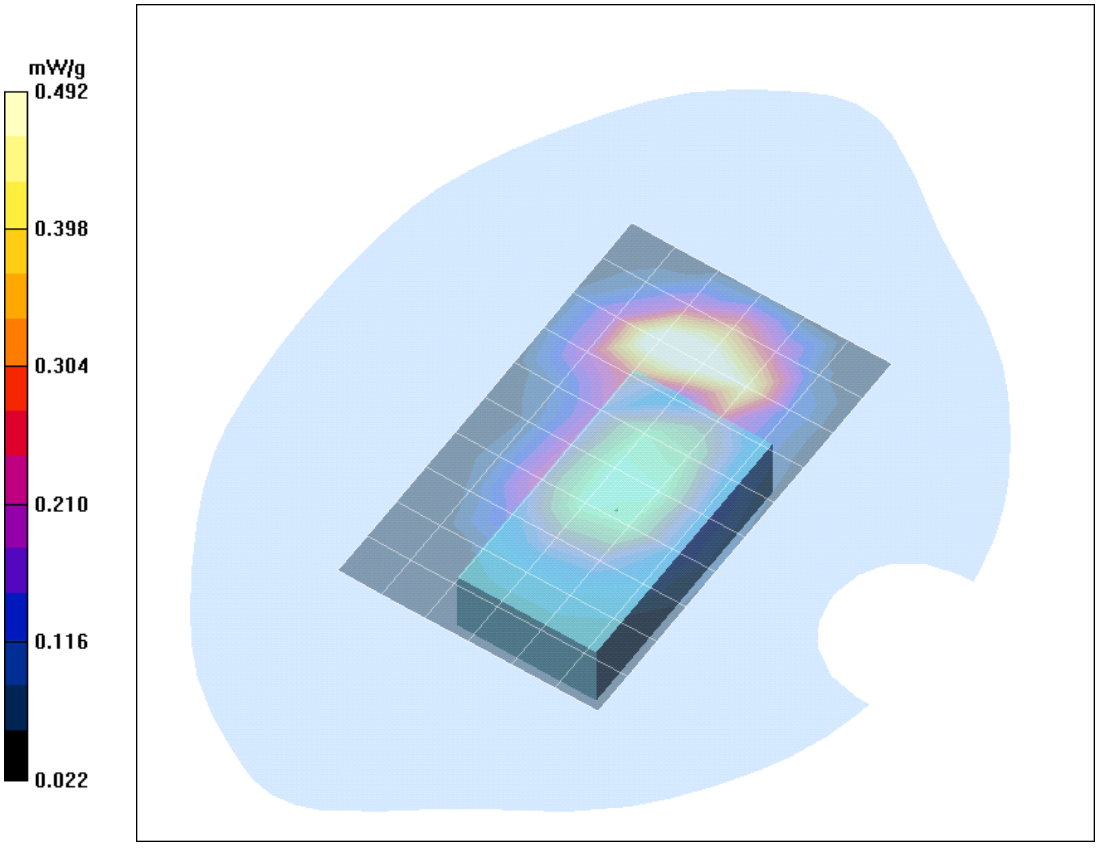

Fig. 7: SAR distribution for PCS 1900, channel 512, antenna towards the phantom, GPRS Class 10, (03.07.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.2° C).

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: 726yphh_3.da4

DUT: Alcatel ; Type: OT-C651; Serial: 300100007875139
Program Name: Body Worn

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: σ = 1.54; mho/m, ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(4.69, 4.69, 4.69); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body Worn/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.794 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 36.7 V/m; Power Drift = -0.2 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.750 mW/g; SAR(10 g) = 0.413 mW/g
Maximum value of SAR (measured) = 0.838 mW/g

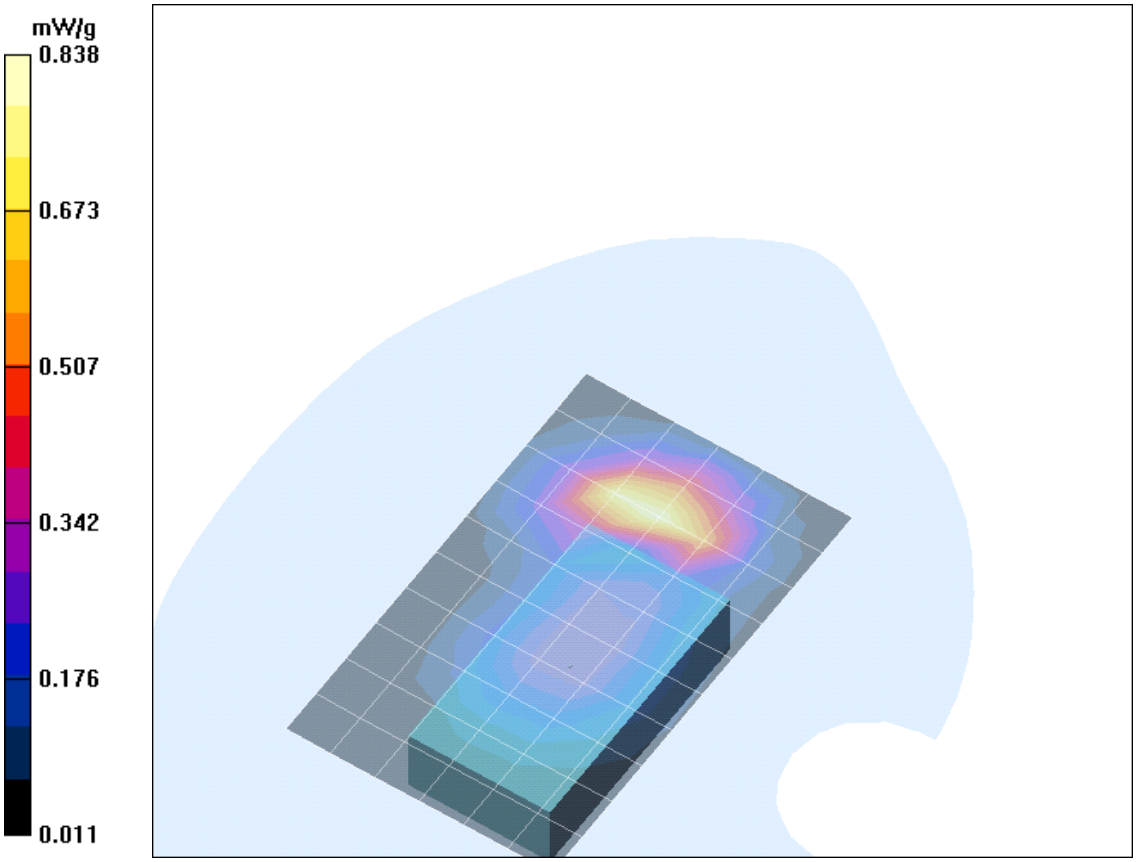

Fig. 8: SAR distribution for PCS 1900, channel 810, antenna towards the phantom, GPRS Class 10, (03.07.2005; Ambient Temperature: 21.0° C; Liquid Temperature : 20.1° C).

3 SAR Distribution Plots, PCS 1900 Body worn, PTT (gap = 25 mm)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: 726yphm_2.da4

DUT: Alcatel ; Type: OT-C651; Serial: 355432000132726
Program Name: Body Worn

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 1.54; mho/m, ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1579; ConvF(4.69, 4.69, 4.69); Calibrated: 13.01.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2004
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.3 Build 22; Postprocessing SW: SEMCAD, V1.8 Build 127

Body Worn/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.094 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.16 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 0.139 W/kg
SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.095 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.16 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 0.075 W/kg
SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.033 mW/g
Maximum value of SAR (measured) = 0.054 mW/g

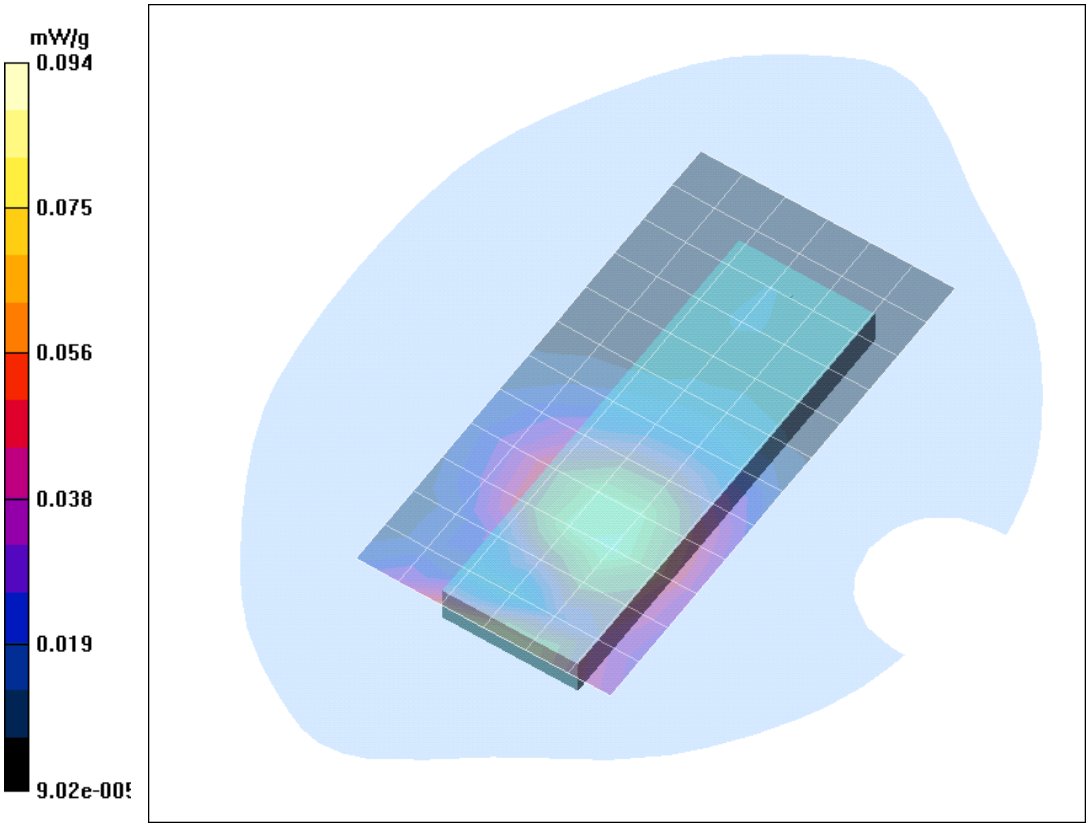

Fig. 9: SAR distribution for PCS 1900, channel 661, antenna towards the ground, GSM (03.07.2005; Ambient Temperature: 21.1° C; Liquid Temperature : 20.1° C).

4 SAR z-axis scans (Validation)

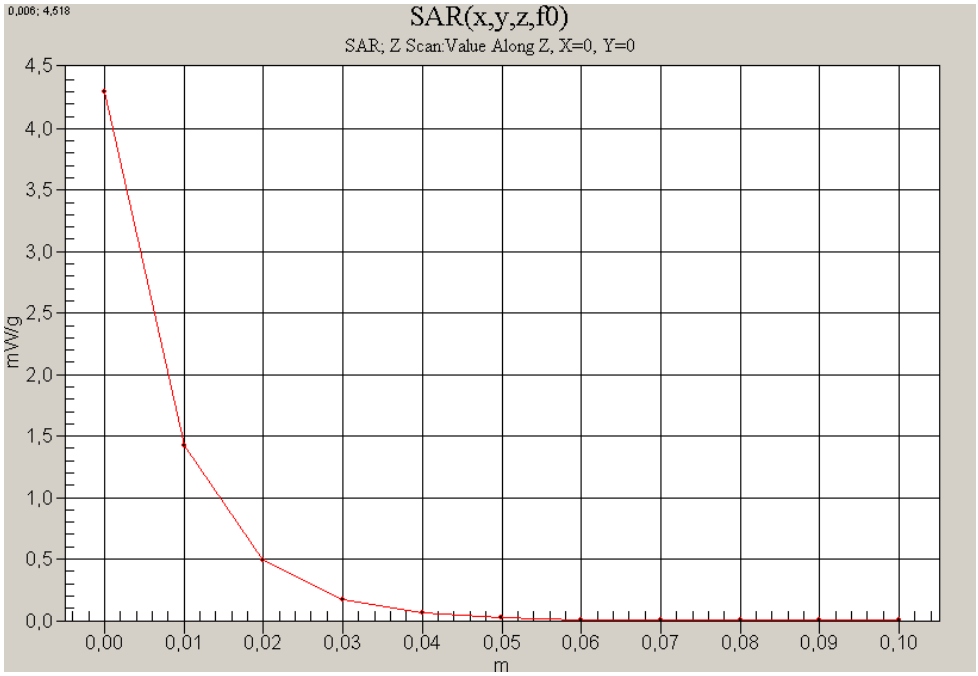

Fig. 10: SAR versus liquid depth, 1900 MHz, head (03.04.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

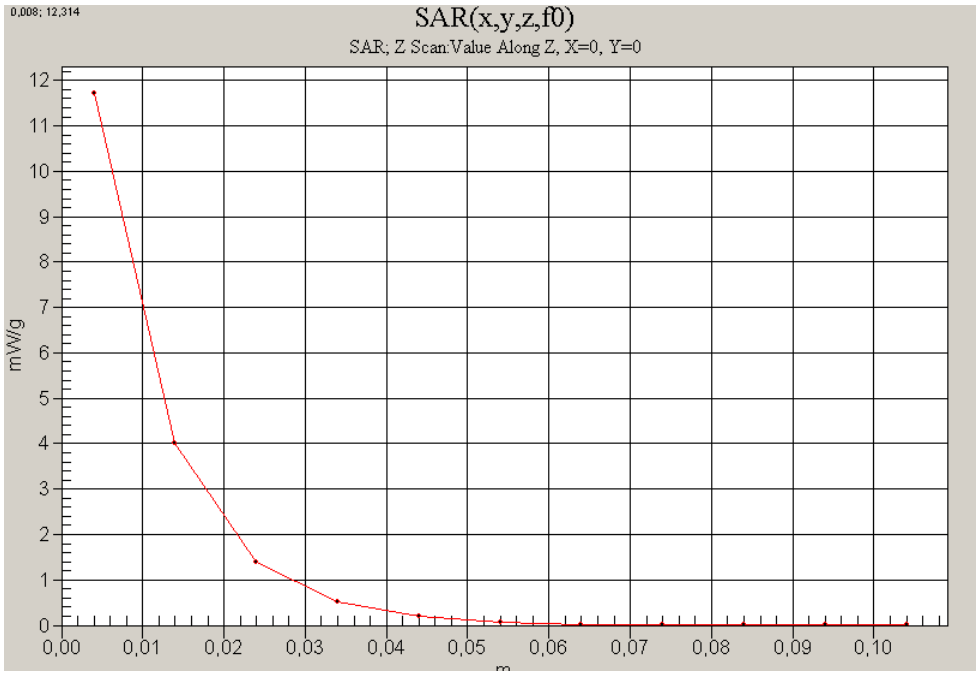

Fig. 11: SAR versus liquid depth, 1900 MHz, body (03.07.2005; Ambient Temperature: 22.0° C; Liquid Temperature : 20.4° C).

5 SAR z-axis scans (Measurements)

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

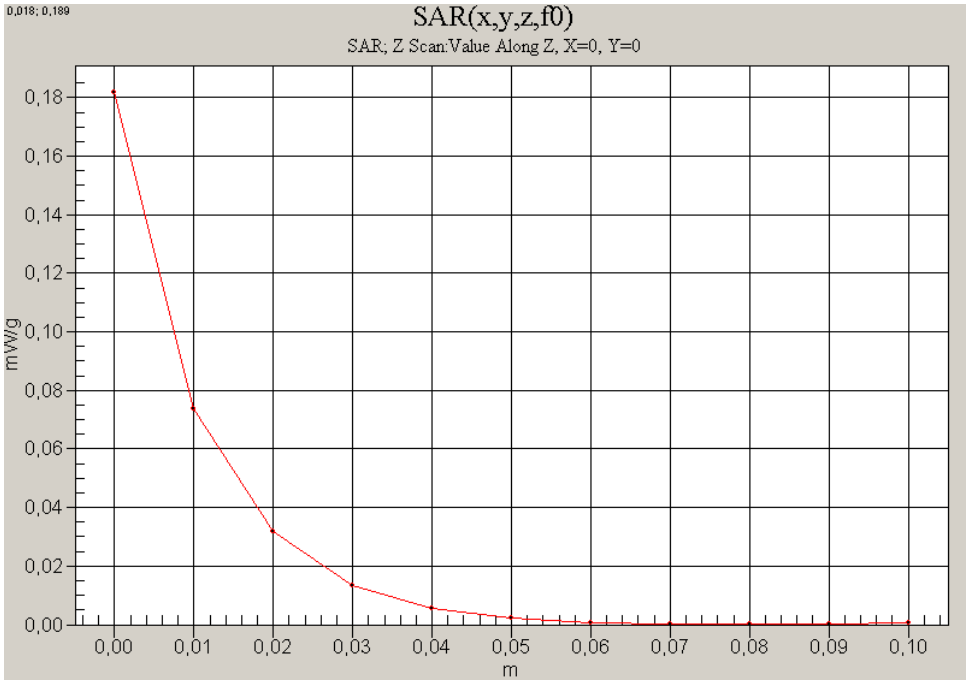

Fig. 12: SAR versus liquid depth, head: PCS 1900, channel 661, cheek position, right side of head (03.04.2005, Ambient Temperature: 21.0° C; Liquid Temperature : 21.2° C).

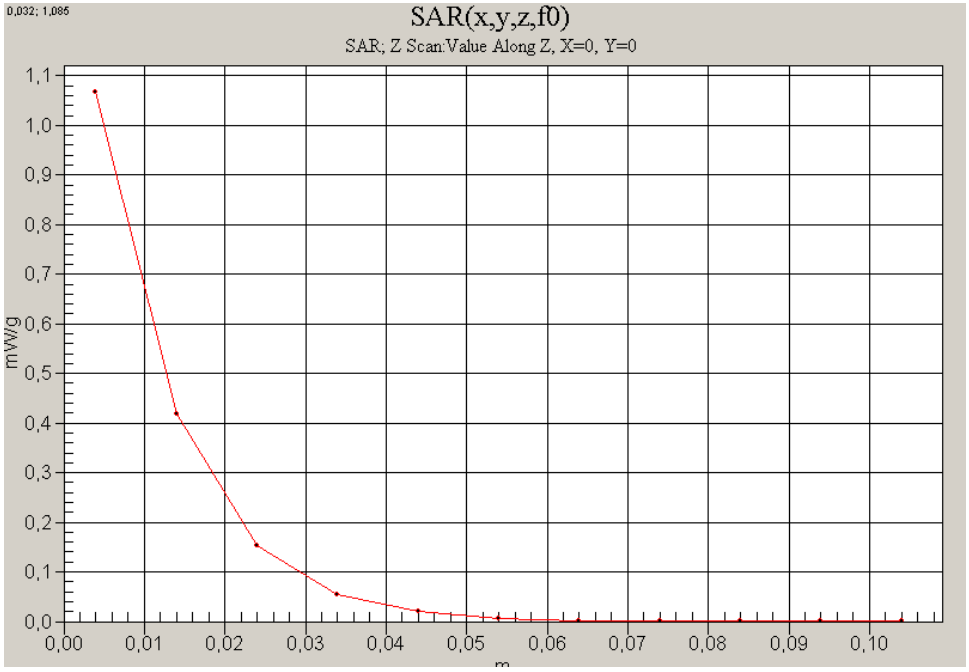

Fig. 13: SAR versus liquid depth, body: PCS 1900, channel 661, antenna towards the phantom, GPRS Class 10 (03.07.2005; Ambient Temperature: 21.1° C; Liquid Temperature : 20.0° C).