Deutscher Akkreditierungs Rat

DAT-P-152/98-01

Appendix for the Report

Dosimetric Assessment of the Portable Device GDP-04Ai from Jablocom (FCC ID: VXPGDP-04I)

According to the FCC Requirements

SAR Distribution Plots

January 13, 2010

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

Customer

7layers AG
Borsigstrasse 11
D-40880 Ratingen

Table of Contents

1 SAR Distribution Plots, GSM 850 Body

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: GDP-04Ai_693_bahm_1.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693
Program Name: GSM 850

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.98 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1669; ConvF(5.89, 5.89, 5.89); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (13x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.154 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.20 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.208 W/kg
SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.102 mW/g
Maximum value of SAR (measured) = 0.160 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.20 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.301 W/kg
SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.084 mW/g
Maximum value of SAR (measured) = 0.168 mW/g

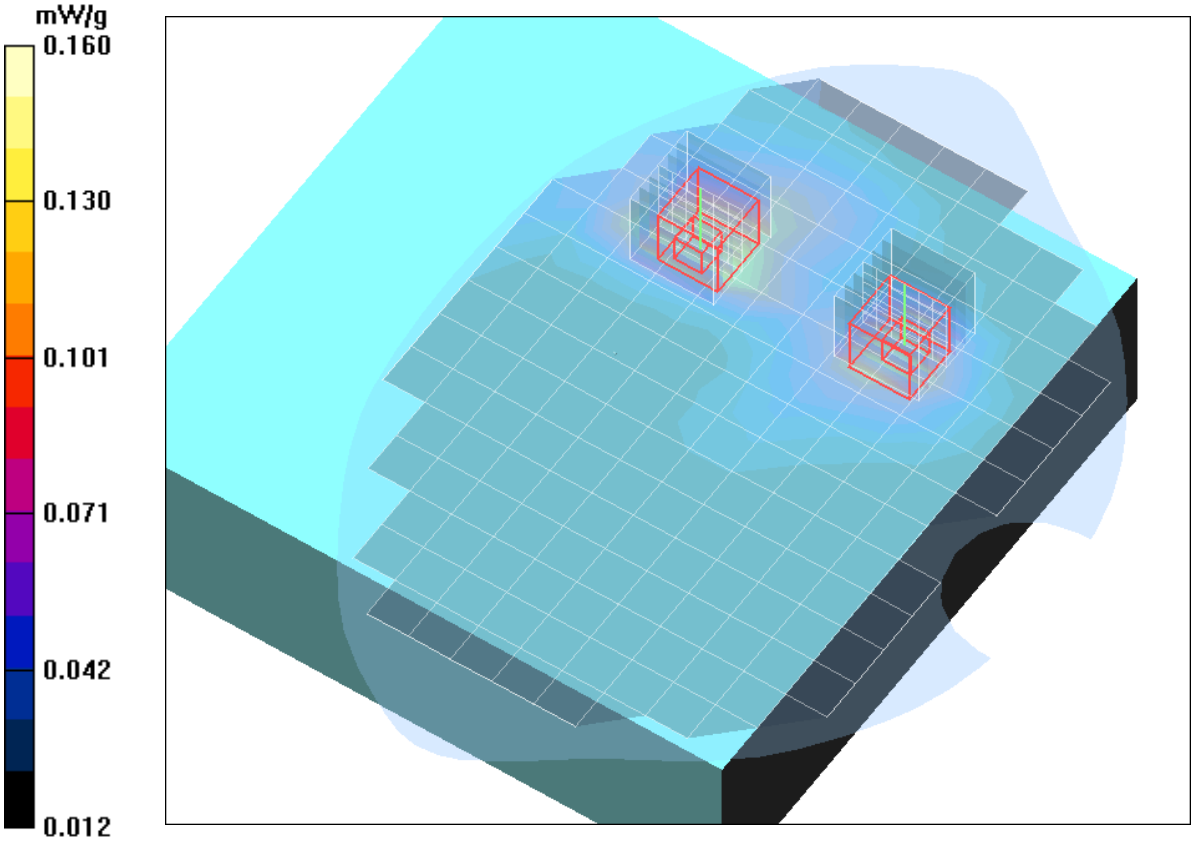

Fig. 1: SAR distribution for GSM 850 channel 190, Position 1 (January 04, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.2°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: GDP-04Ai_693_bahm_2.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693
Program Name: GSM 850

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.98 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1669; ConvF(5.89, 5.89, 5.89); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.062 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.47 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.090 W/kg
SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.067 mW/g

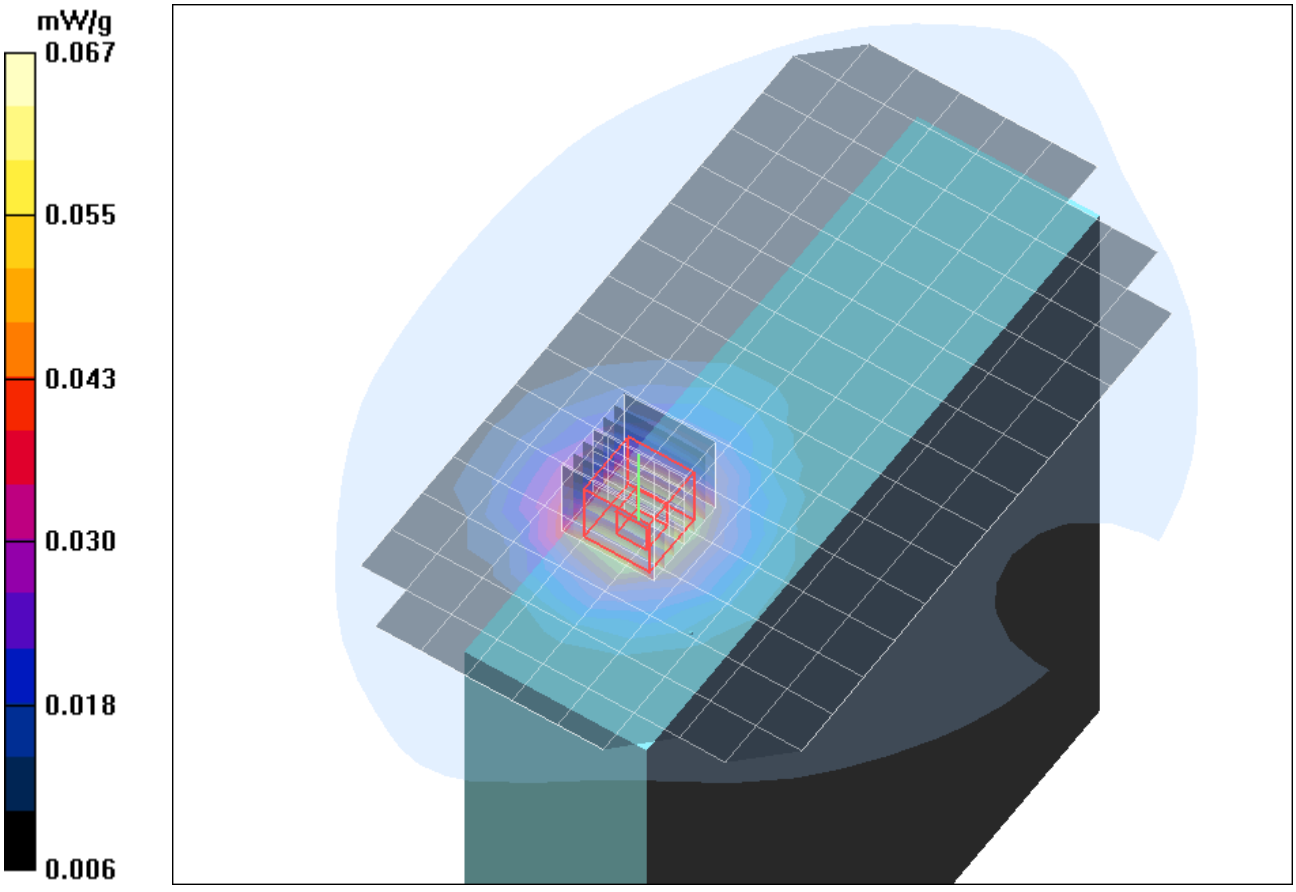

Fig. 2: SAR distribution for GSM 850, channel 190, Position 2 (January 04, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.2°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: GDP-04Ai_693_bahm_3.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693
Program Name: GSM 850

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.98 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1669; ConvF(5.89, 5.89, 5.89); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.008 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.57 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.012 W/kg
SAR(1 g) = 0.00861 mW/g; SAR(10 g) = 0.00606 mW/g
Maximum value of SAR (measured) = 0.009 mW/g

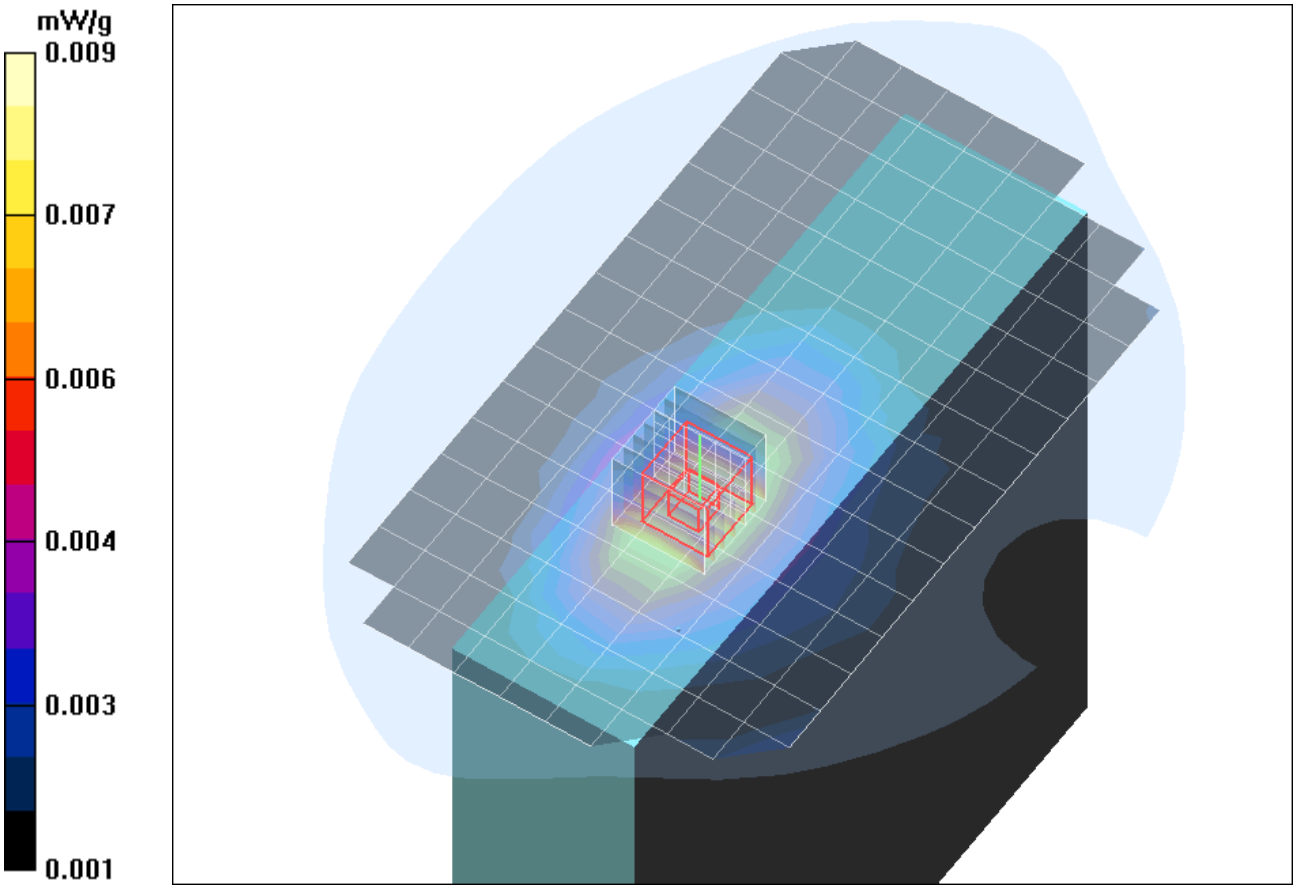

Fig. 3: SAR distribution for GSM 850, channel 190, Position 3 (January 04, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.2°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: GDP-04Ai_693_bahm_4.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693
Program Name: GSM 850

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.98 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6R - SN1669; ConvF(5.89, 5.89, 5.89); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.078 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.13 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 0.097 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.051 mW/g
Maximum value of SAR (measured) = 0.079 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.13 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 0.092 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.046 mW/g
Maximum value of SAR (measured) = 0.075 mW/g

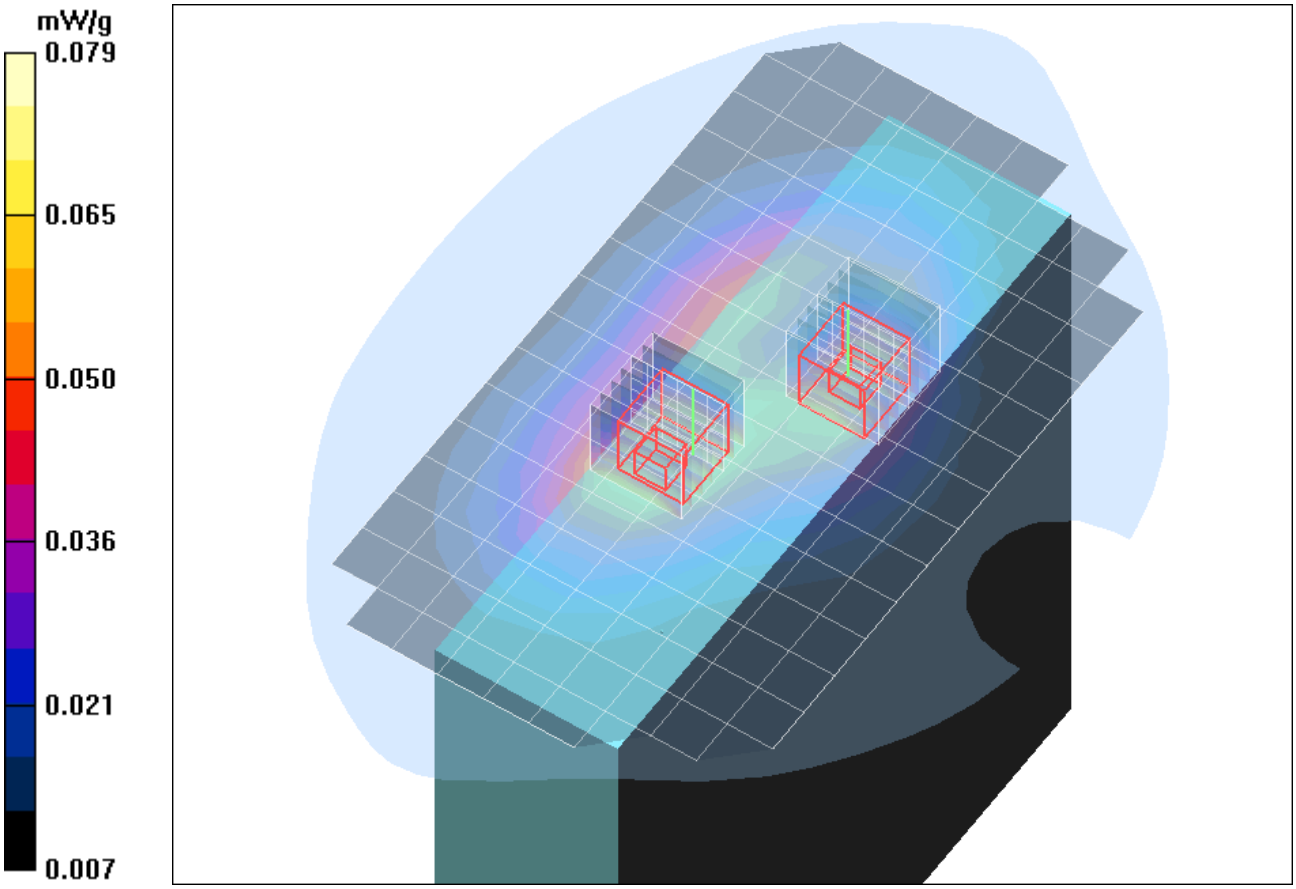

Fig. 4: SAR distribution for GSM 850, channel 190, Position 4 (January 04, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.2°C).

2 SAR Distribution Plots, GSM 1900 Body

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: GDP-04Ai_693_yphm_1.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693
Program Name: PCS 1900

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(8.11, 8.11, 8.11); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (13x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.162 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.93 V/m; Power Drift = -0.140 dB
Peak SAR (extrapolated) = 0.237 W/kg
SAR(1 g) = 0.151 mW/g; SAR(10 g) = 0.090 mW/g
Maximum value of SAR (measured) = 0.165 mW/g

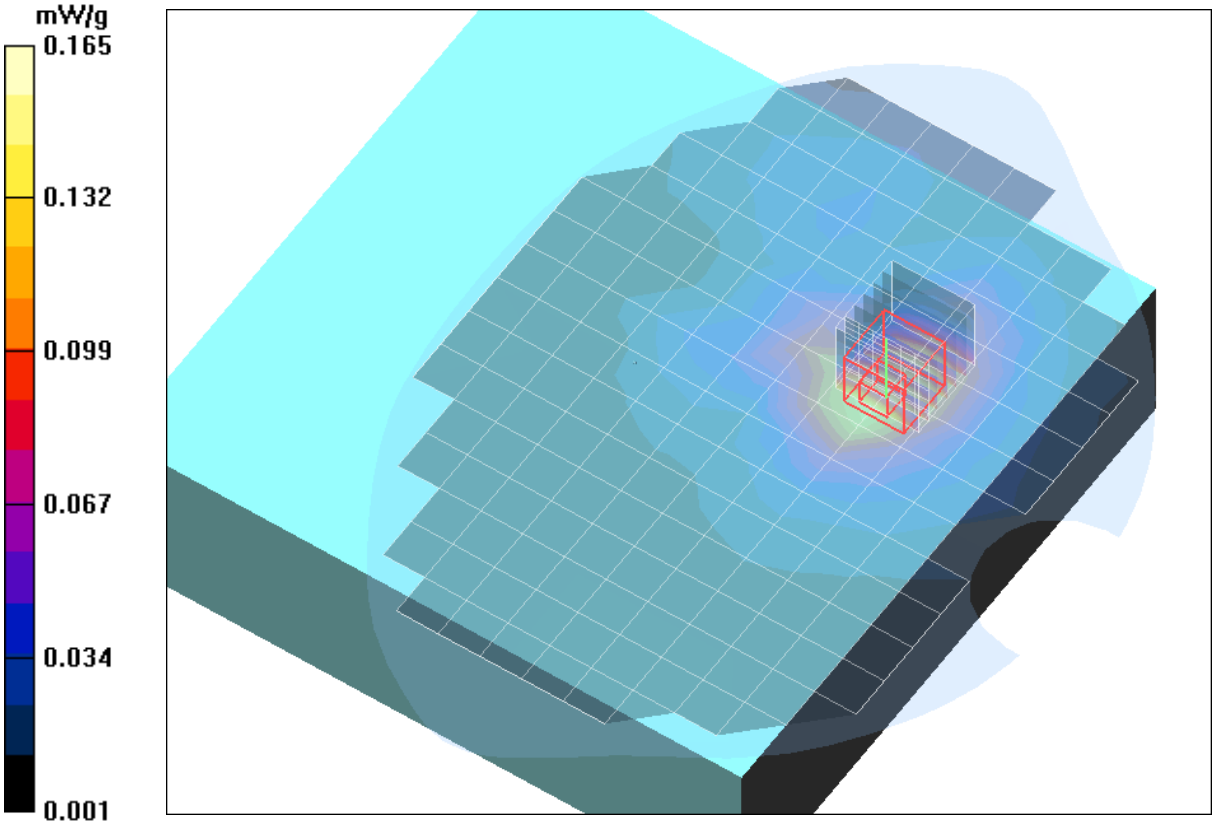

Fig. 5: SAR distribution for GSM 1900, channel 661, Position 1 (January 12, 2010; Ambient Temperature: 20.9°C; Liquid Temperature: 20.3°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: GDP-04Ai_693_yphm_2.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693

Program Name: PCS 1900

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(8.11, 8.11, 8.11); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.250 mW/g
Body Worn/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.23 V/m; Power Drift = -0.141 dB
Peak SAR (extrapolated) = 0.383 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 0.259 mW/g

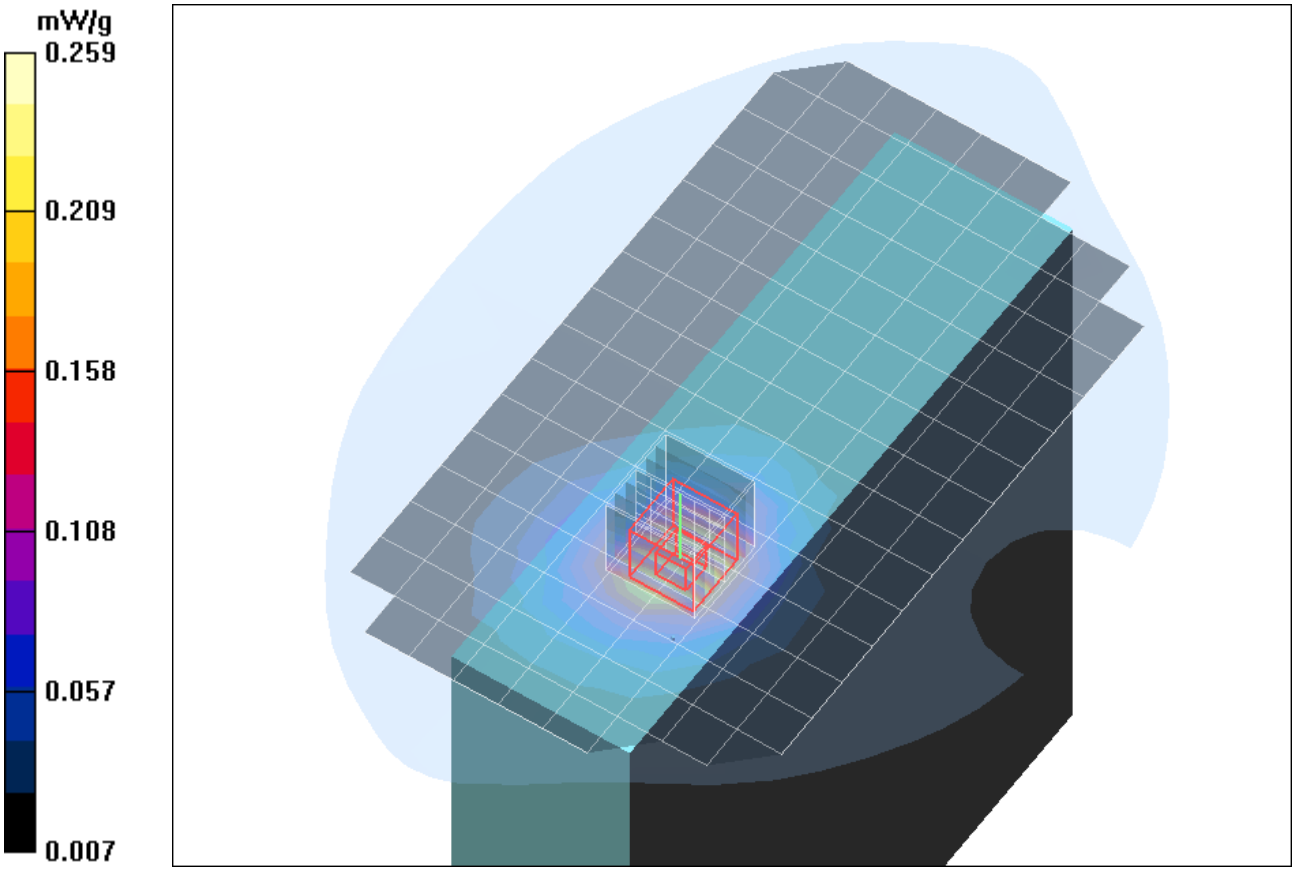

Fig. 6: SAR distribution for GSM 1900, channel 661, Position 2 (January 12, 2010; Ambient Temperature: 20.9°C; Liquid Temperature: 20.3°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: GDP-04Ai_693_yphm_3.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693

Program Name: PCS 1900

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

Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.11, 8.11, 8.11); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.012 mW/g

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

Reference Value = 2.28 V/m; Power Drift = 0.074 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00793 mW/g

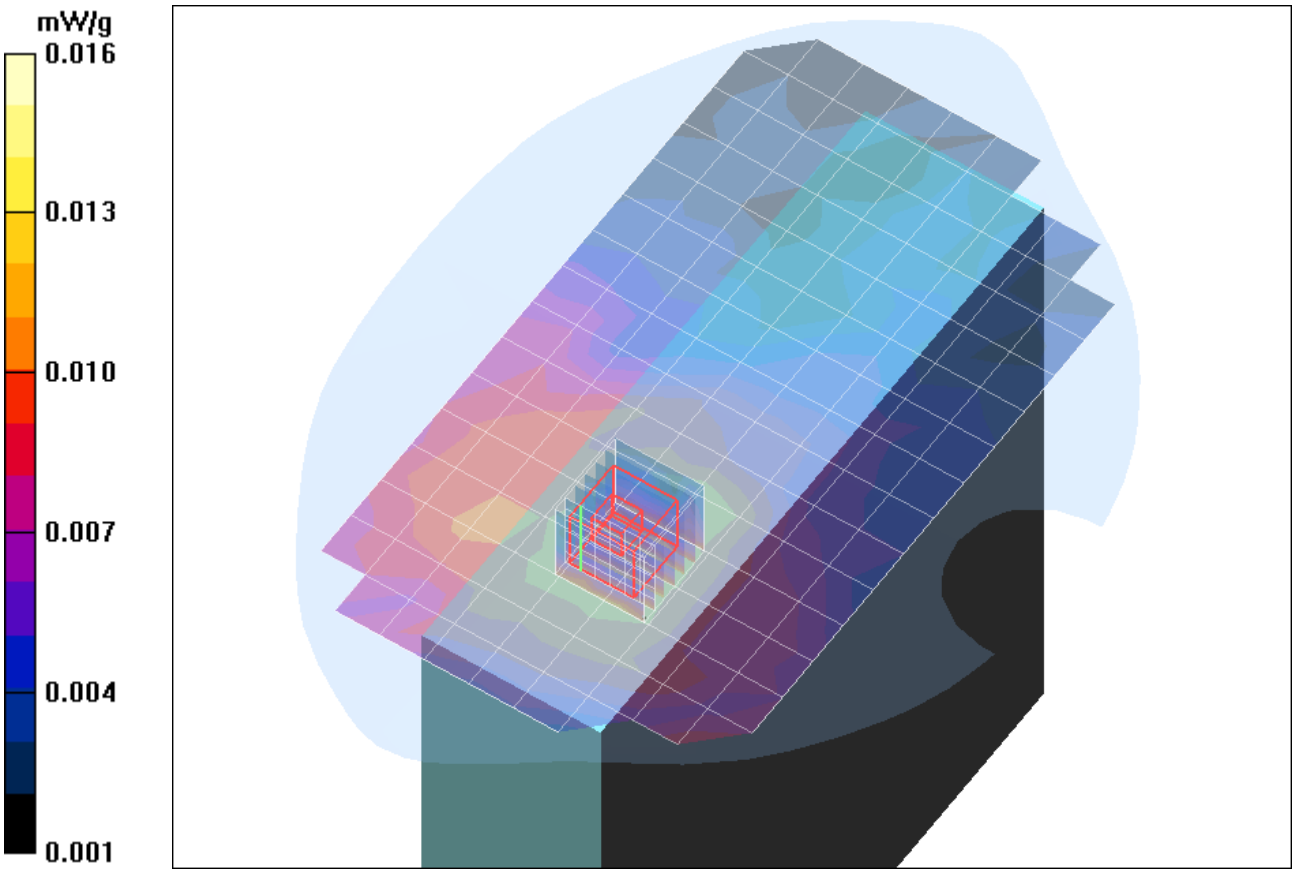

Fig. 7: SAR distribution for GSM 1900, channel 661, Position 3 (January 12, 2010; Ambient Temperature: 20.9°C; Liquid Temperature: 20.3°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: GDP-04Ai_693_yphm_4.da4

DUT: JABLOCOM; Type: GDP-04Ai; Serial: 356614020036693

Program Name: PCS 1900

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

Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.11, 8.11, 8.11); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.076 mW/g

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

Reference Value = 5.63 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.116 W/kg

SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.045 mW/g

Maximum value of SAR (measured) = 0.078 mW/g

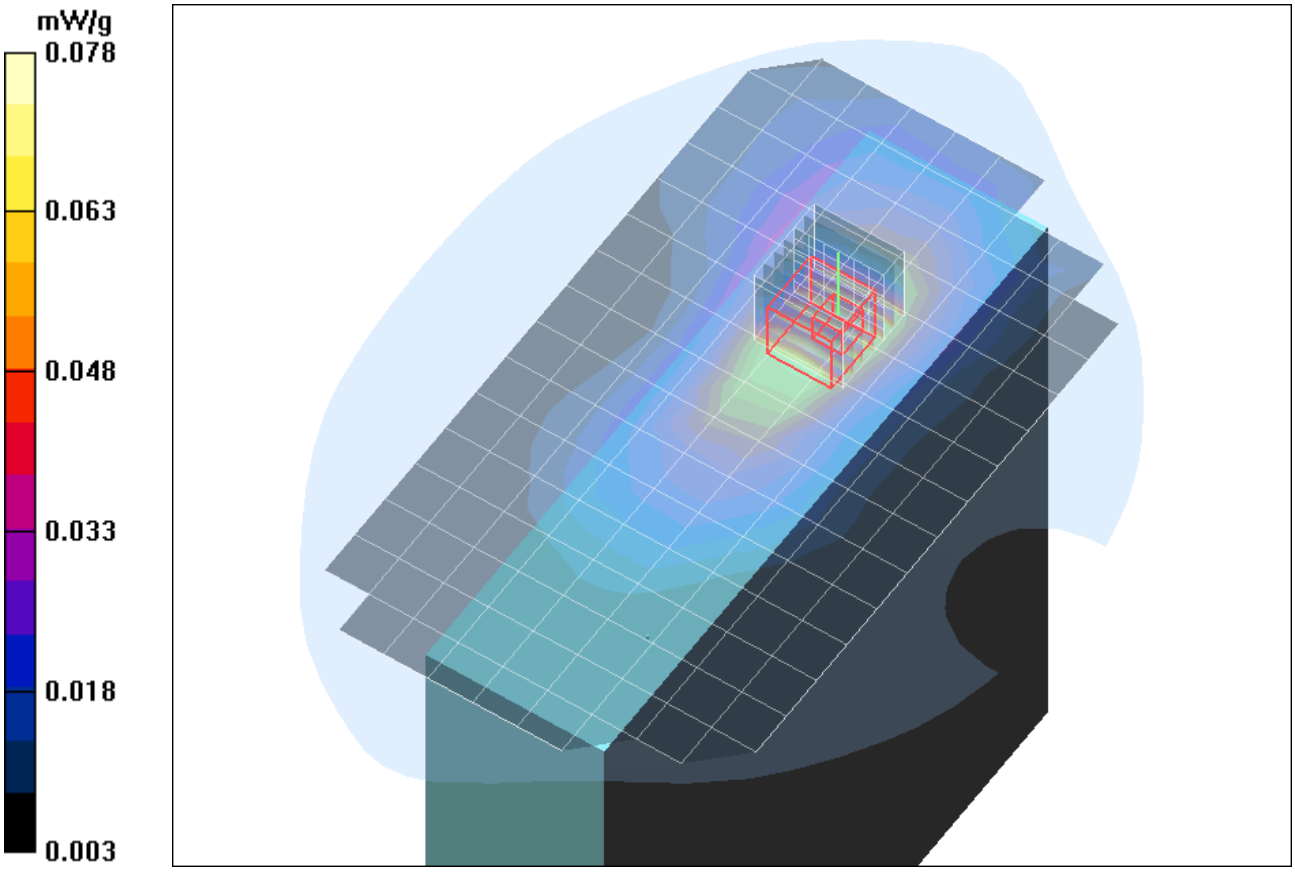

Fig. 8: SAR distribution for GSM 1900, channel 661, Position 4 (January 12, 2010; Ambient Temperature: 20.9°C; Liquid Temperature: 20.3°C).

3 SAR z-axis scans (Validation)

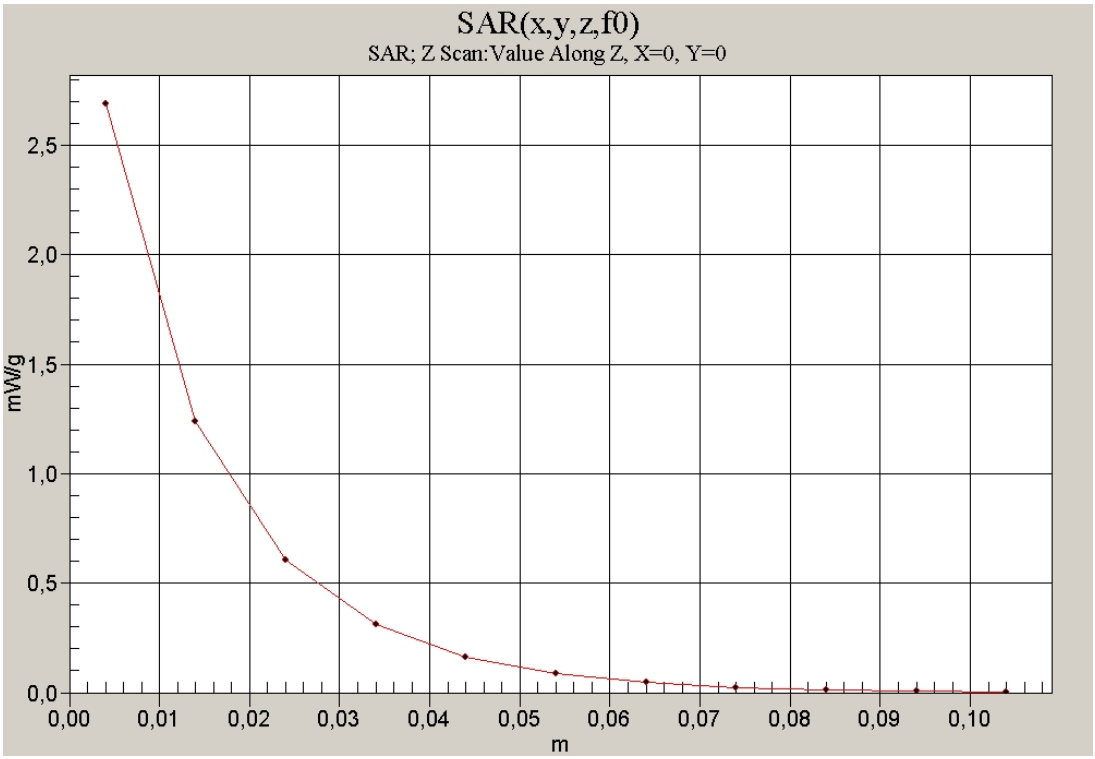

Fig. 9: SAR versus liquid depth, 835 MHz, body (January 04, 2010; Ambient Temperature: 20.4°C; Liquid Temperature: 20.2°C).

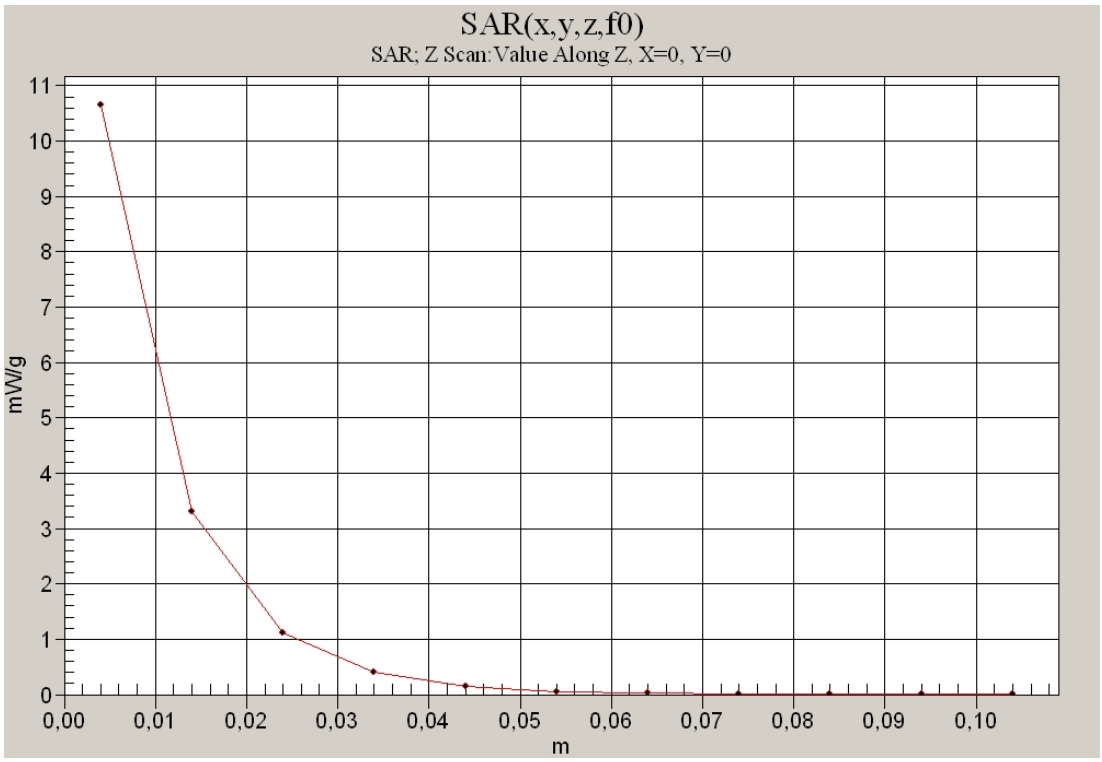

Fig. 10: SAR versus liquid depth, 1900 MHz, body (January 12, 2010; Ambient Temperature: 20.7°C; Liquid Temperature: 20.2°C).

4 SAR z-axis scans (Measurements)

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

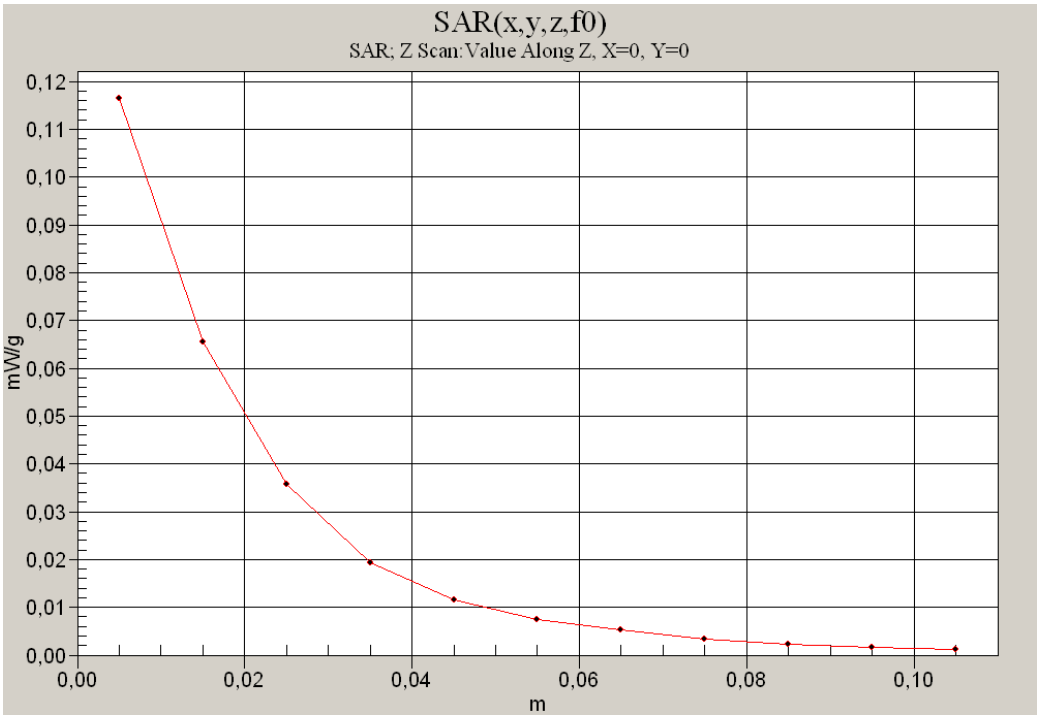

Fig. 11: SAR versus liquid depth, body: GSM 850, channel 190, Position 1 (January 04, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.2°C).

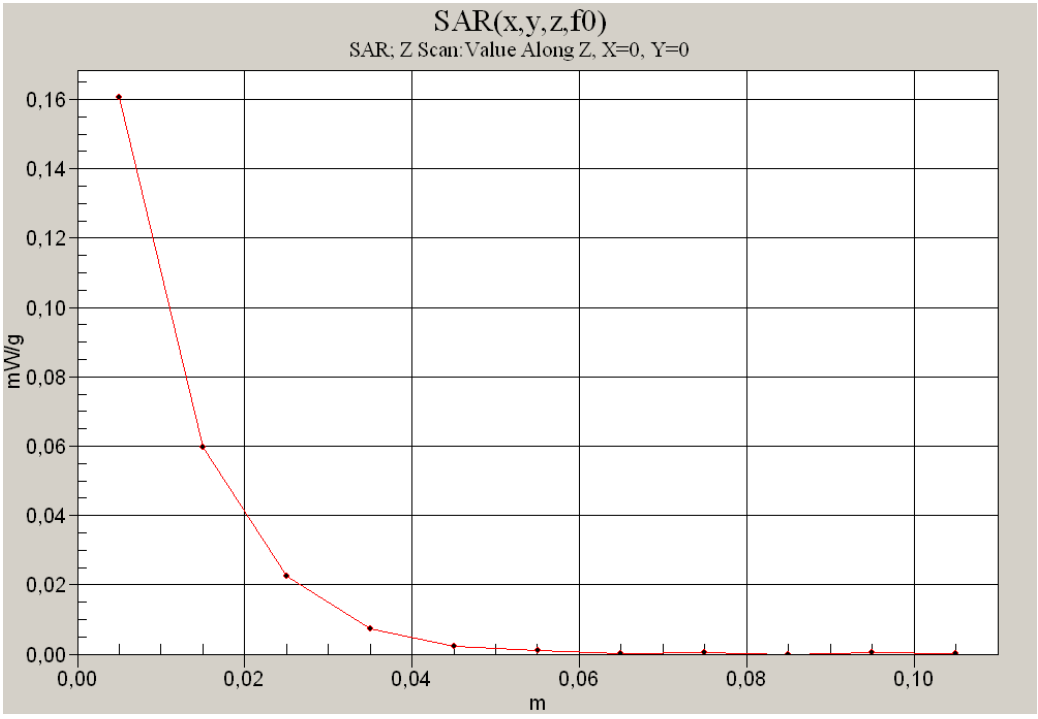

Fig. 12: SAR versus liquid depth, body: GSM 1900, channel 661, Position 2 (January 12, 2010; Ambient Temperature: 20.9°C; Liquid Temperature: 20.3°C).