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# **Appendix for the Report**

## **Dosimetric Assessment of the BenQ Siemens AL21a (FCC ID: PWX-AL21a)**

### **According to the FCC Requirements**

### **SAR Distribution Plots**

March 28, 2006  
**IMST GmbH**  
**Carl-Friedrich-Gauß-Str. 2**  
**D-47475 Kamp-Lintfort**

Customer  
BenQ Denmark a/s  
Siemens Kaj 1  
DK-9400 Norresundby

The test results only relate to the items tested.  
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# 1 SAR Distribution Plots, GSM 850 Head, slider up

Test Laboratory: Imst GmbH; File Name: [268yalm\\_1\\_su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Left

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Left/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.313 mW/g

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

Reference Value = 12.1 V/m; Power Drift = -0.171 dB

Peak SAR (extrapolated) = 0.399 W/kg

**SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.215 mW/g**

Maximum value of SAR (measured) = 0.326 mW/g

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

Reference Value = 12.1 V/m; Power Drift = -0.171 dB

Peak SAR (extrapolated) = 0.366 W/kg

**SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.200 mW/g**

Maximum value of SAR (measured) = 0.311 mW/g

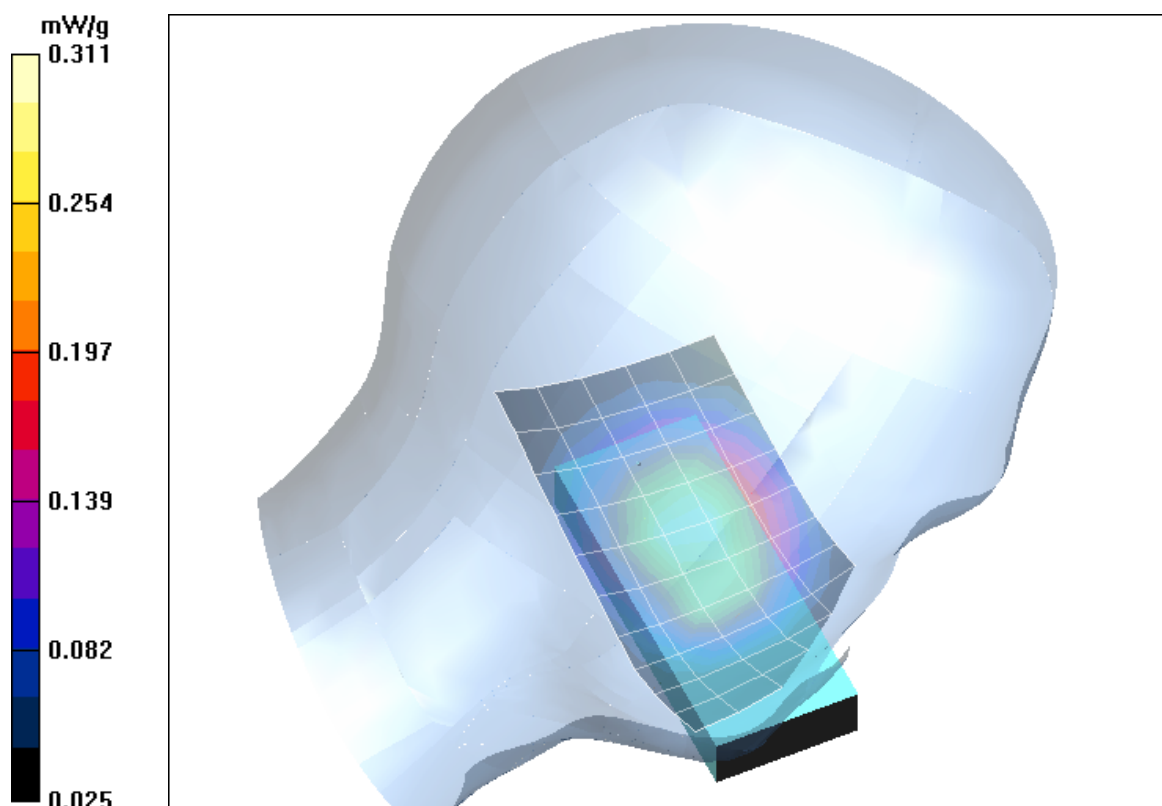


Fig. 1: SAR distribution for GSM 850, channel 190, cheek position, left side of head, March 24, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yalm 2 su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Left

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Left/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.142 mW/g

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

Reference Value = 9.74 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.187 W/kg

**SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.101 mW/g**

Maximum value of SAR (measured) = 0.151 mW/g

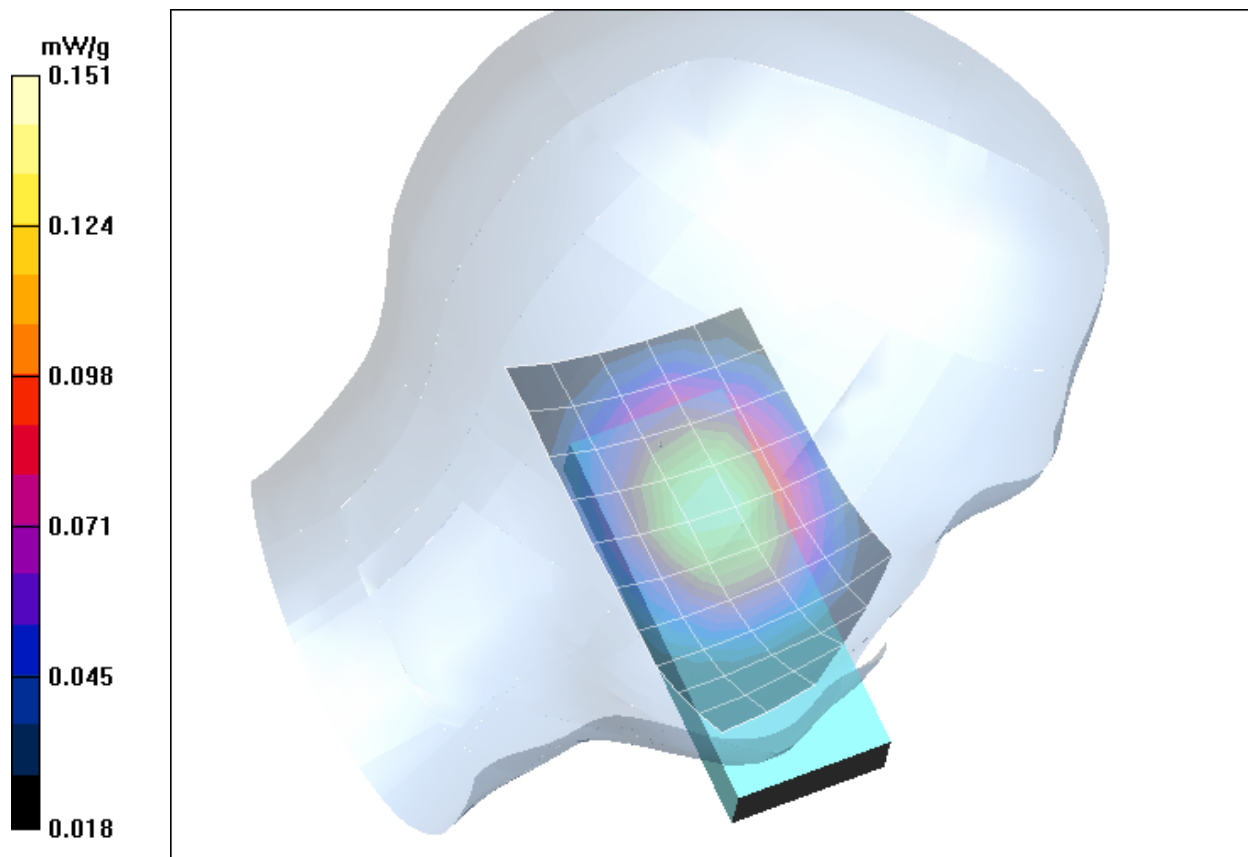


Fig. 2: SAR distribution for GSM 850, channel 190, tilted position, left side of head (March 24, 2006; Ambient Temperature: 21.6°C; Liquid Temperature: 21.0°C).

Test Laboratory: Imst GmbH; File Name: [268yarm\\_1\\_su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Right

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Right/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.332 mW/g

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

Reference Value = 12.0 V/m; Power Drift = -0.125 dB

Peak SAR (extrapolated) = 0.538 W/kg

**SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.253 mW/g**

Maximum value of SAR (measured) = 0.373 mW/g

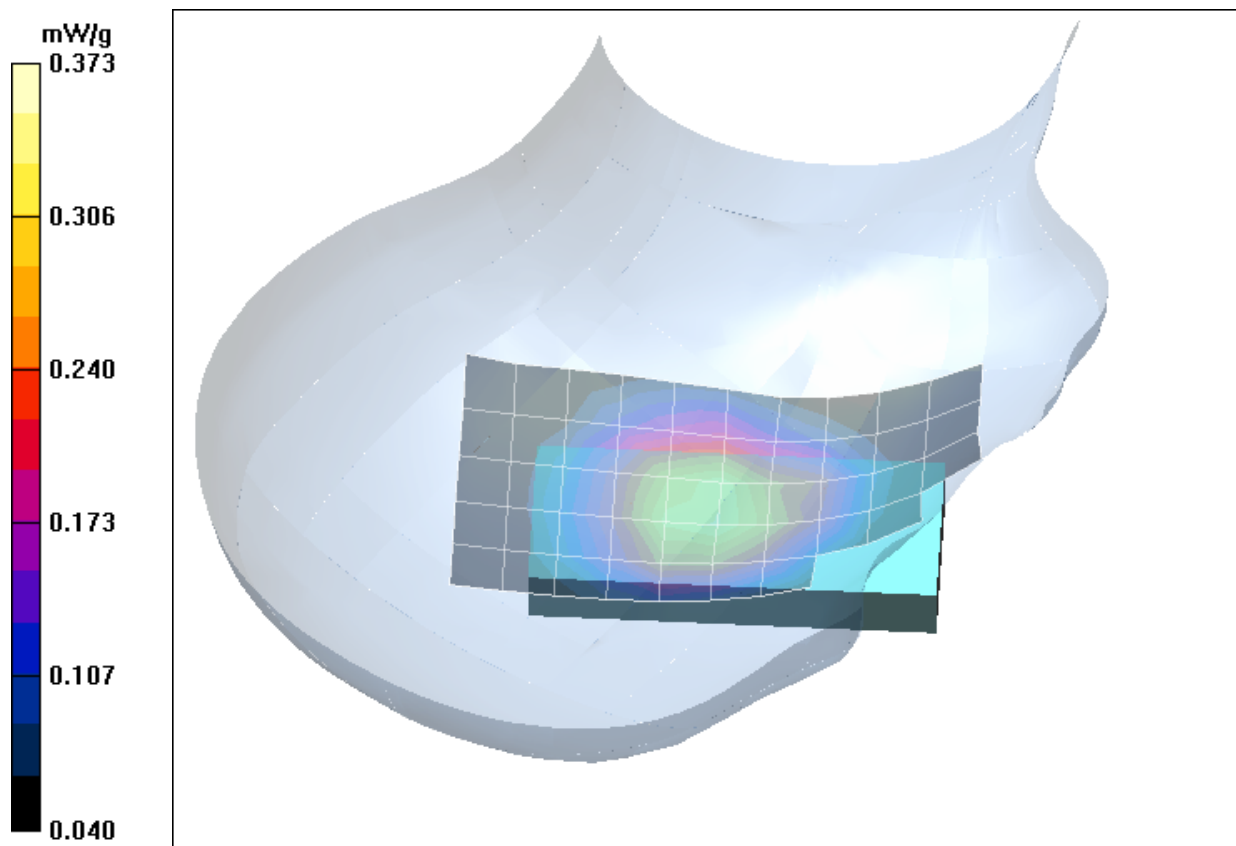


Fig. 3: SAR distribution for GSM 850, channel 190, cheek position, right side of head, (March 24, 2006; Ambient Temperature: 21.6° C; Liquid Temperature: 21.0° C).

Test Laboratory: Imst GmbH; File Name: [268yarm 2 su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Right

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

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

Maximum value of SAR (measured) = 0.176 mW/g

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

Reference Value = 10.5 V/m; Power Drift = -0.094 dB

Peak SAR (extrapolated) = 0.227 W/kg

**SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.121 mW/g**

Maximum value of SAR (measured) = 0.179 mW/g

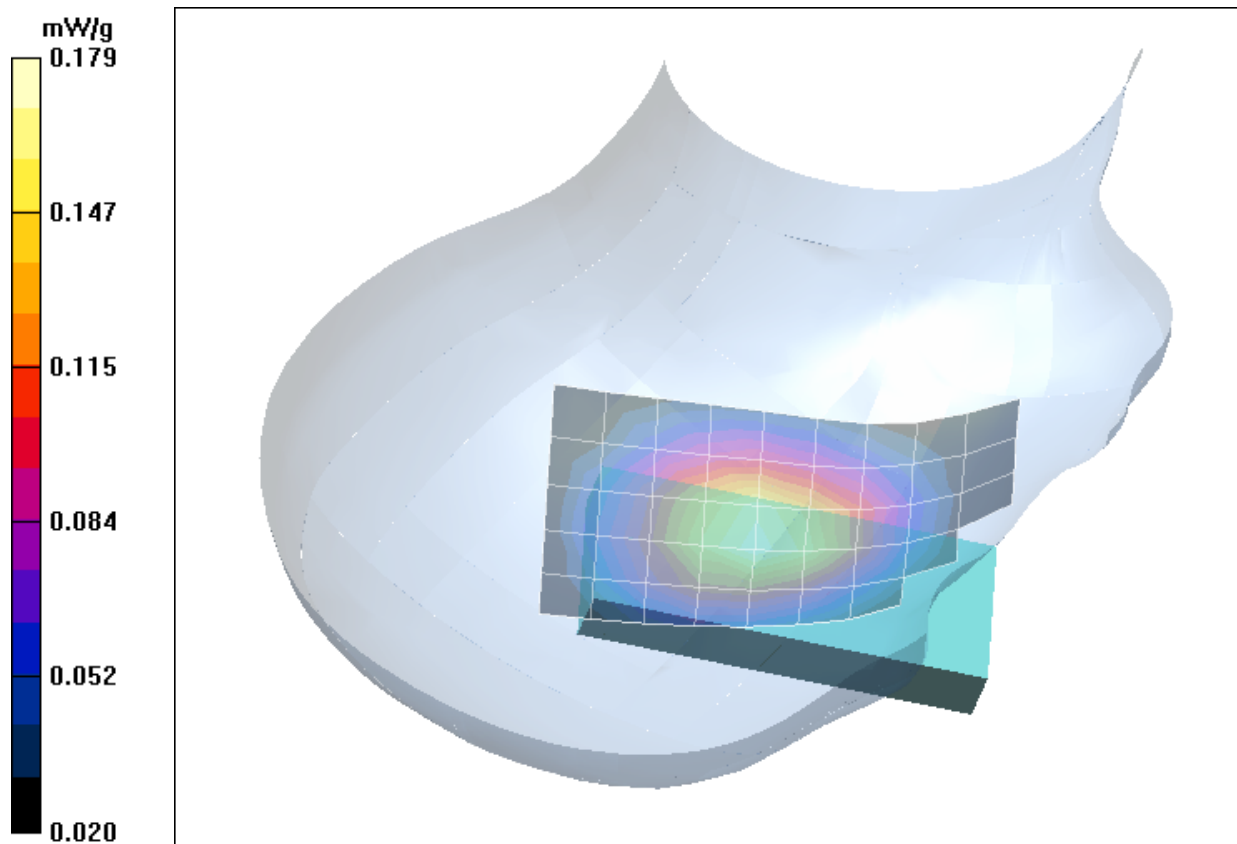


Fig. 4: SAR distribution for GSM 850, channel 190, tilted position, right side of head, (March 24, 2006; Ambient Temperature: 21.6 °C; Liquid Temperature : 21.0° C)

## 2 SAR Distribution Plots, GSM 850 Head, slider down

Test Laboratory: Imst GmbH; File Name: [268yalm\\_1\\_sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Left

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Left/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.462 mW/g

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

Reference Value = 19.2 V/m; Power Drift = -0.137 dB

Peak SAR (extrapolated) = 0.634 W/kg

**SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.309 mW/g**

Maximum value of SAR (measured) = 0.489 mW/g

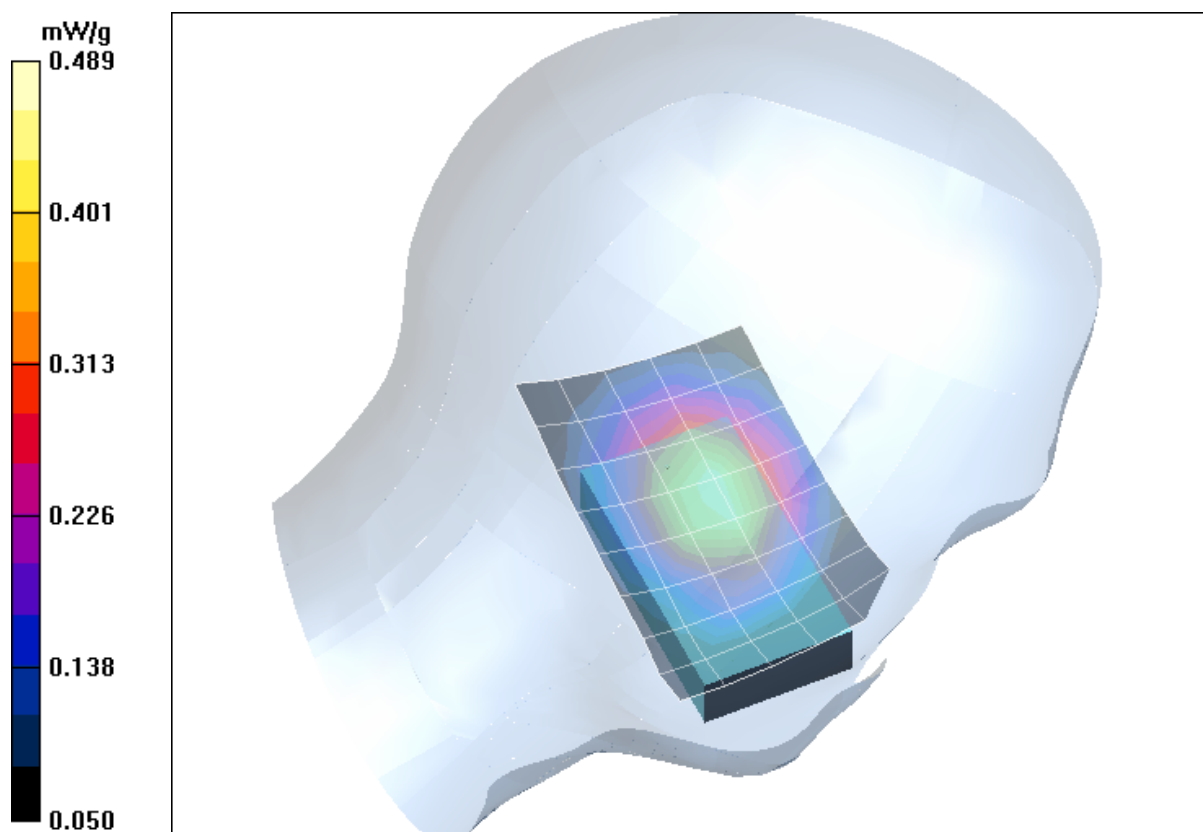


Fig. 5: SAR distribution for GSM 850, channel 190, cheek position, left side of head, March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 21.1° C).

Test Laboratory: Imst GmbH; File Name: [268yalm 2 sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Left

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Left/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.250 mW/g

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

Reference Value = 16.1 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.319 W/kg

**SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.165 mW/g**

Maximum value of SAR (measured) = 0.252 mW/g

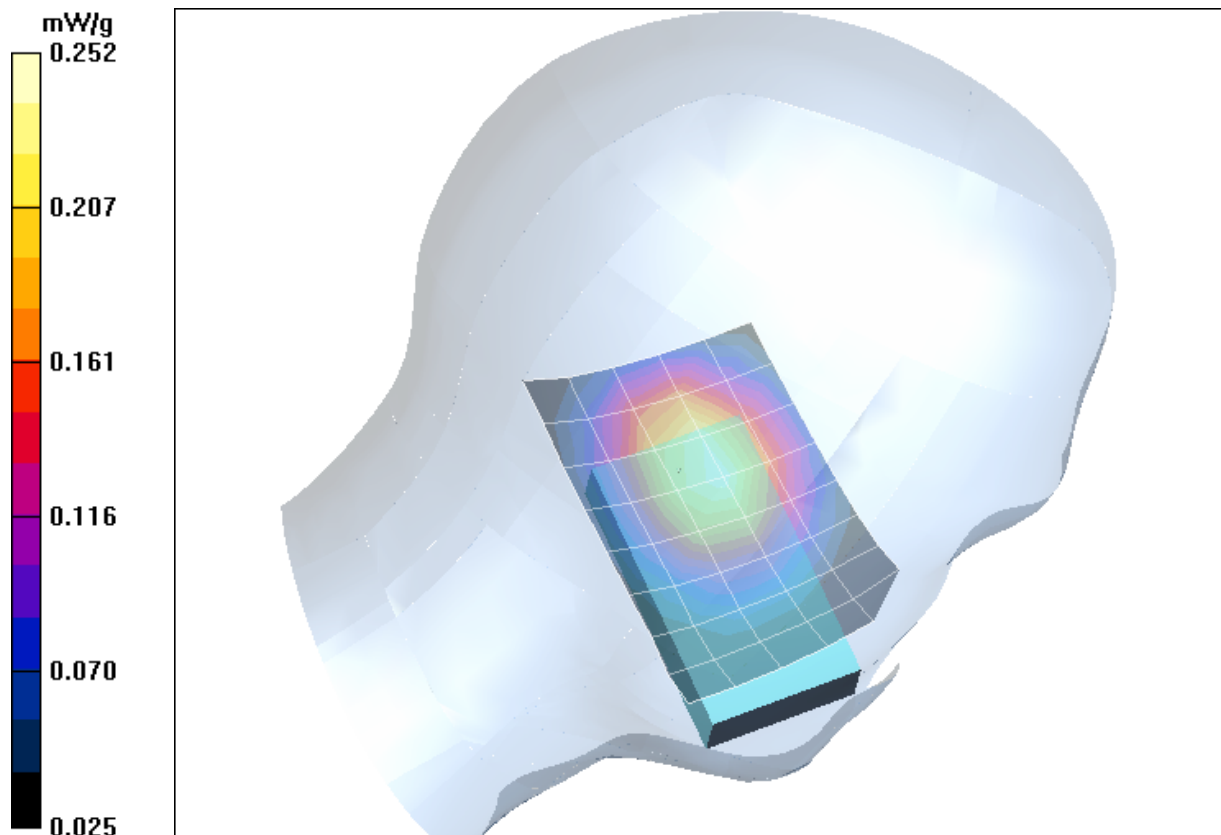


Fig. 6: SAR distribution for GSM 850, channel 190, tilted position, left side of head, (March 24, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yarm\\_1\\_sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Right

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Right/Area Scan (6x9x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.408 mW/g

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

Reference Value = 17.7 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 0.553 W/kg

**SAR(1 g) = 0.401 mW/g; SAR(10 g) = 0.279 mW/g**

Maximum value of SAR (measured) = 0.423 mW/g

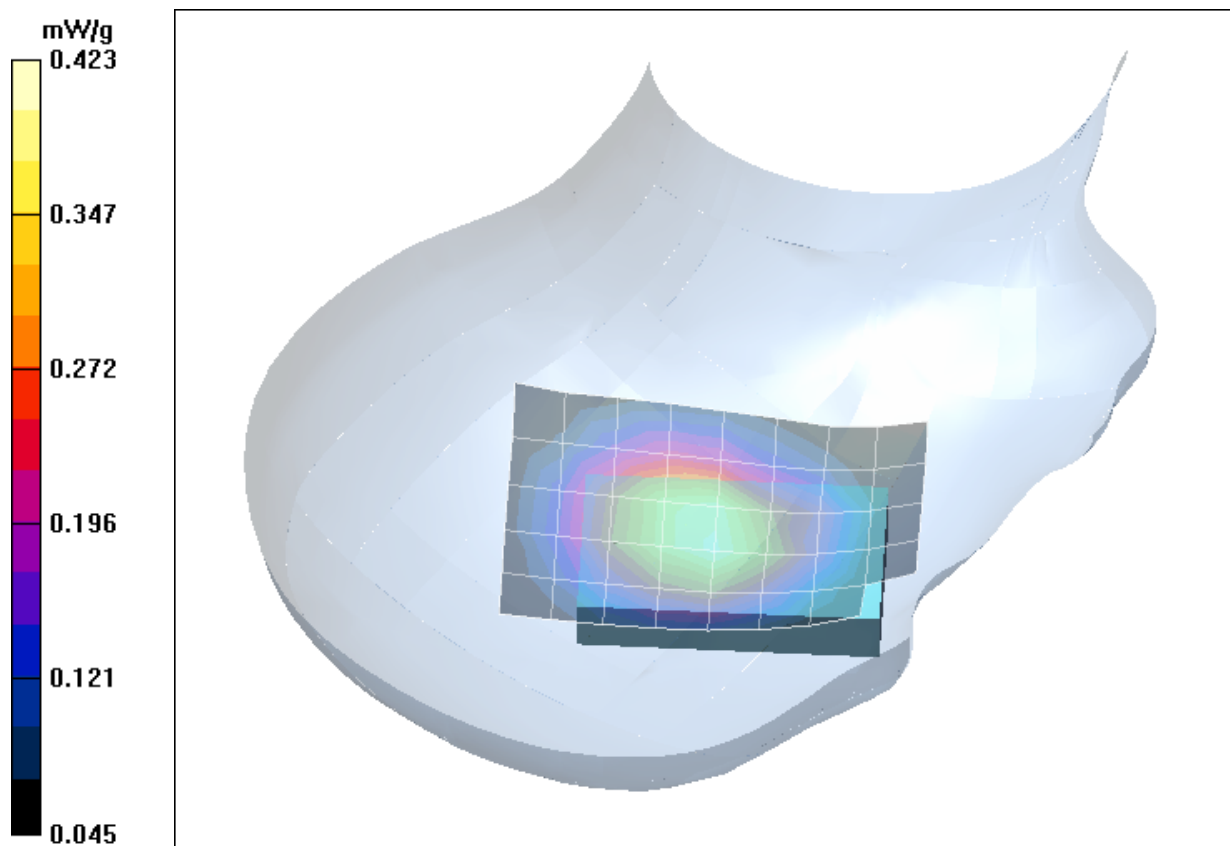


Fig. 7: SAR distribution for GSM 850, channel 190, cheek position, right side of head , (March 24, 2006; Ambient Temperature: 21.6°C; Liquid Temperature : 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yarm 2 sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Right

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.72, 9.72, 9.72); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Right/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.213 mW/g

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

Reference Value = 15.0 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.289 W/kg

**SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.149 mW/g**

Maximum value of SAR (measured) = 0.224 mW/g

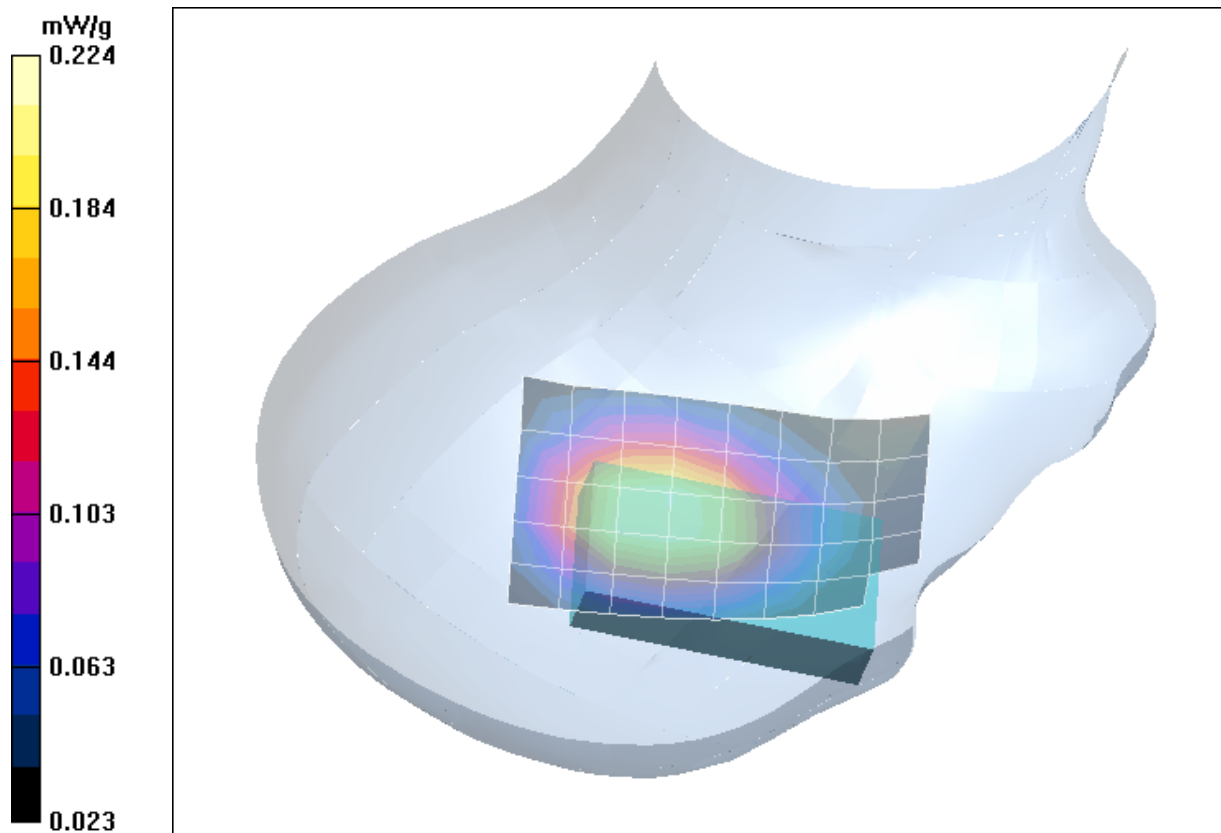


Fig. 8: SAR distribution for GSM 850, channel 190, tilted position, right side of head, (March 24, 2006; Ambient Temperature: 21.6 °C; Liquid Temperature: 21.1°C)

### 3 SAR Distribution Plots, PCS 1900 Head, slider up

Test Laboratory: Imst GmbH; File Name: [268yplm\\_1\\_su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Left

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Left/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.273 mW/g

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

Reference Value = 12.3 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 0.429 W/kg

**SAR(1 g) = 0.283 mW/g; SAR(10 g) = 0.176 mW/g**

Maximum value of SAR (measured) = 0.306 mW/g

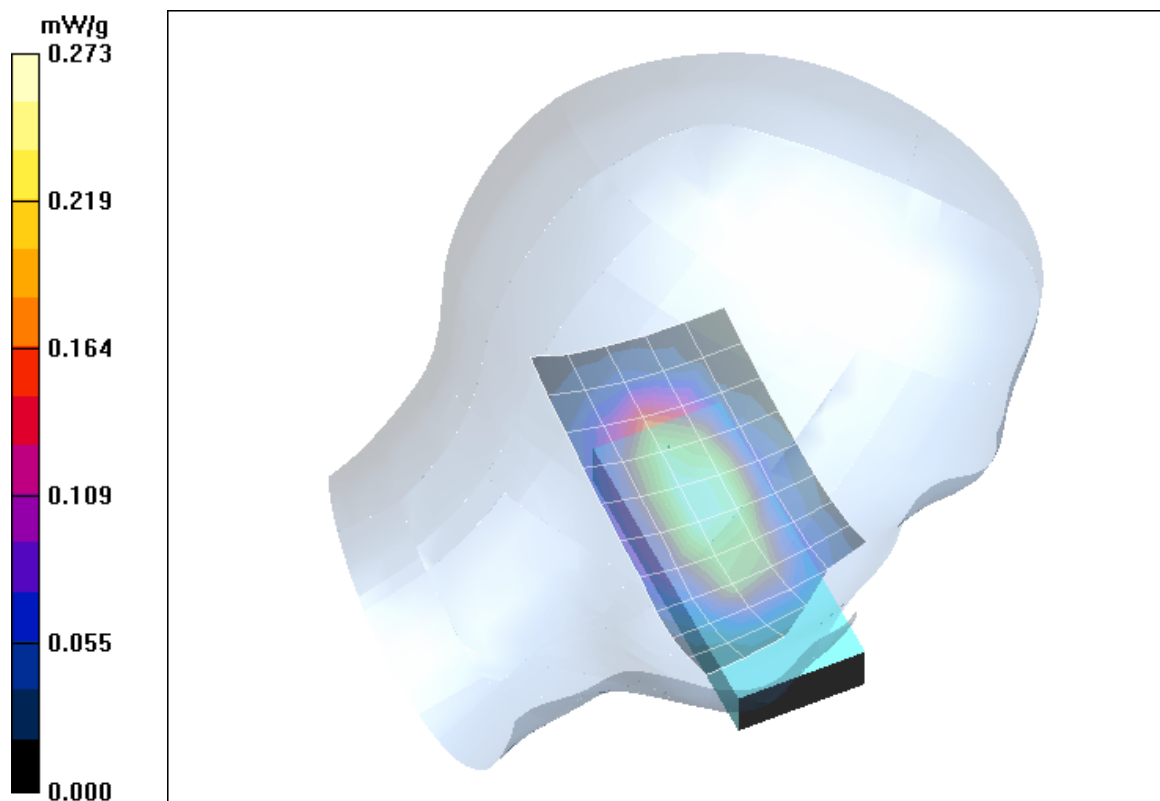


Fig. 9: SAR distribution for PCS 1900, channel 661, cheek position, left side of head, March 22, 2006; Ambient Temperature: 21.8°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yplm 2 su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Left

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Left/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.305 mW/g

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

Reference Value = 14.4 V/m; Power Drift = 0.185 dB

Peak SAR (extrapolated) = 0.475 W/kg

**SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.172 mW/g**

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

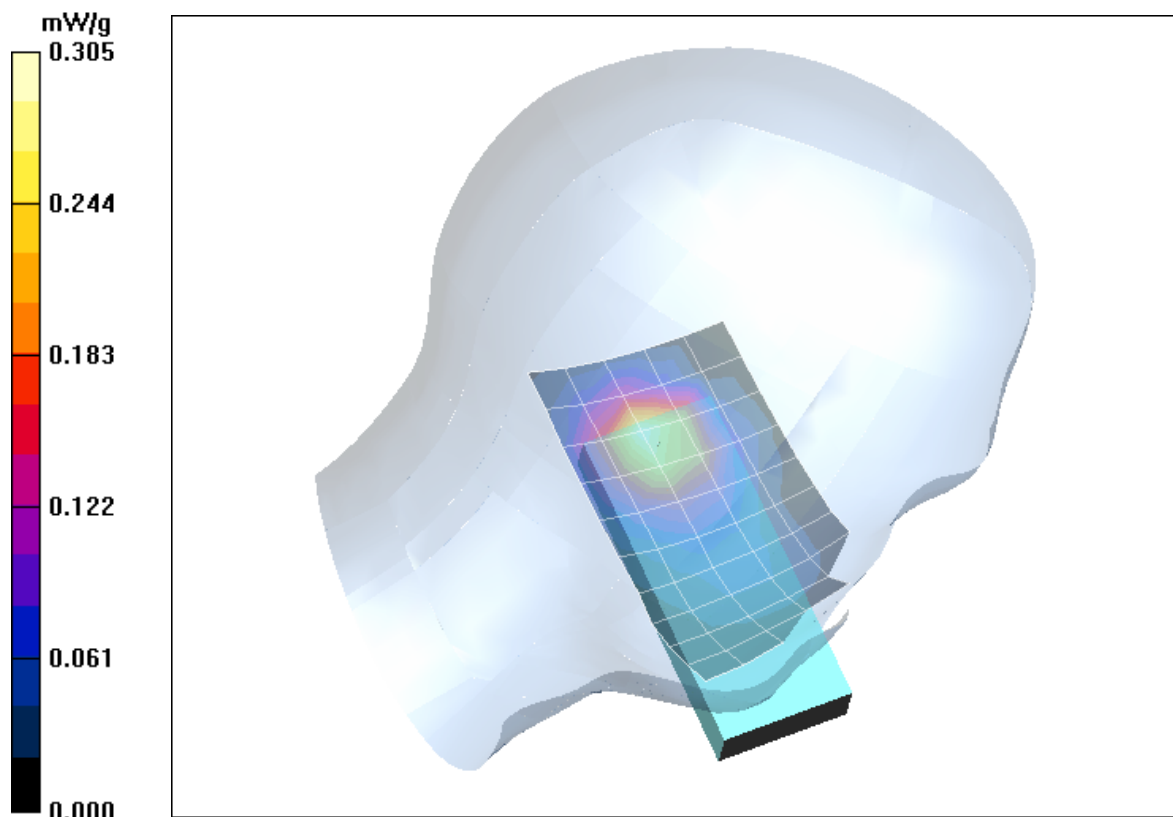


Fig. 10: SAR distribution for PCS 1900, channel 661, tilted position, left side of head (March 22, 2006; Ambient Temperature: 21.8°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yprm\\_1\\_su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Right

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005

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

- Electronics: DAE3 Sn335; Calibrated: 09.03.2006

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Right/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.285 mW/g

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

Reference Value = 12.3 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.421 W/kg

**SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.175 mW/g**

Maximum value of SAR (measured) = 0.298 mW/g

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

Reference Value = 12.3 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.455 W/kg

**SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.180 mW/g**

Maximum value of SAR (measured) = 0.337 mW/g

**Cheek Right/Zoom Scan (7x7x7)/Cube 2:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.419 W/kg

**SAR(1 g) = 0.276 mW/g; SAR(10 g) = 0.170 mW/g**

Maximum value of SAR (measured) = 0.314 mW/g

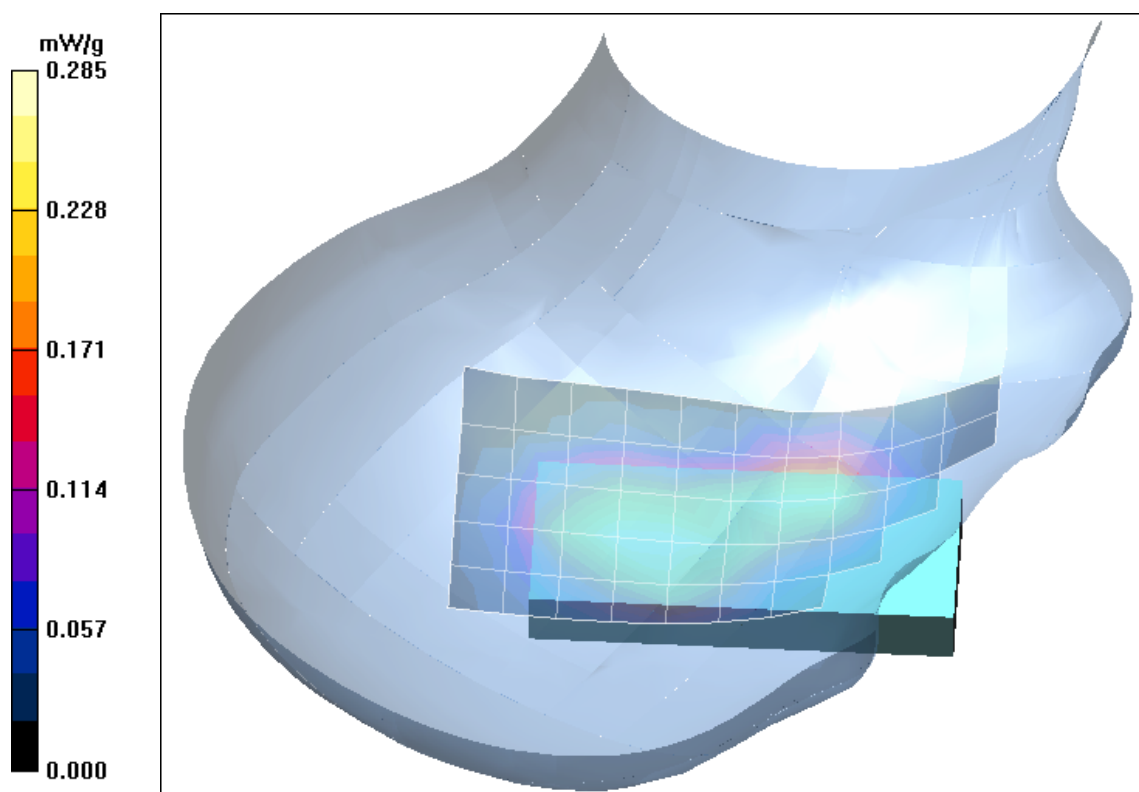


Fig. 11: SAR distribution for PCS 1900, channel 661, cheek position, right side of head, (March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yprm 2 su.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Right

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Right/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.326 mW/g

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

Reference Value = 14.9 V/m; Power Drift = -0.007 dB

Peak SAR (extrapolated) = 0.525 W/kg

**SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.193 mW/g**

Maximum value of SAR (measured) = 0.361 mW/g

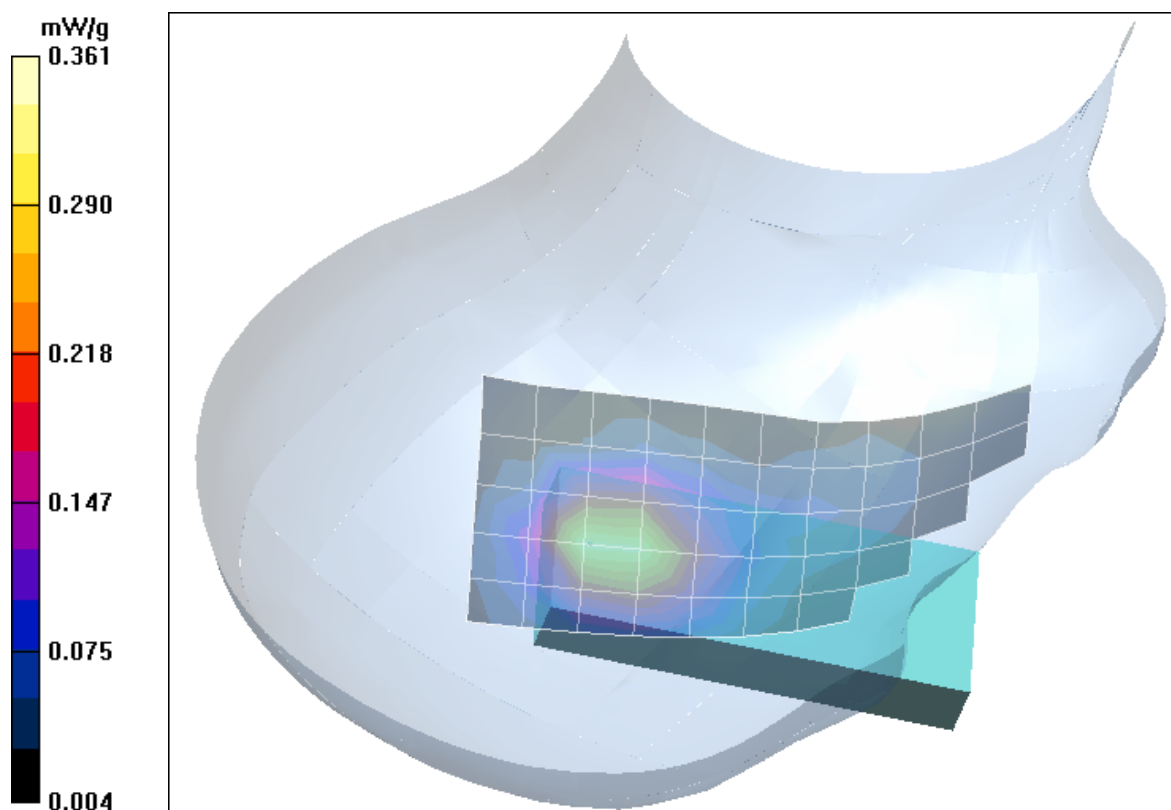


Fig. 12: SAR distribution for PCS 1900, channel 661, tilted position, right side of head, (March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C)

#### 4 SAR Distribution Plots, PCS 1900 Head, slider down

Test Laboratory: Imst GmbH; File Name: [268yplm\\_1\\_sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Left

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Left/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.235 mW/g

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

Reference Value = 12.3 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 0.352 W/kg

**SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.133 mW/g**

Maximum value of SAR (measured) = 0.239 mW/g

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

Reference Value = 12.3 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 0.293 W/kg

**SAR(1 g) = 0.203 mW/g; SAR(10 g) = 0.128 mW/g**

Maximum value of SAR (measured) = 0.220 mW/g

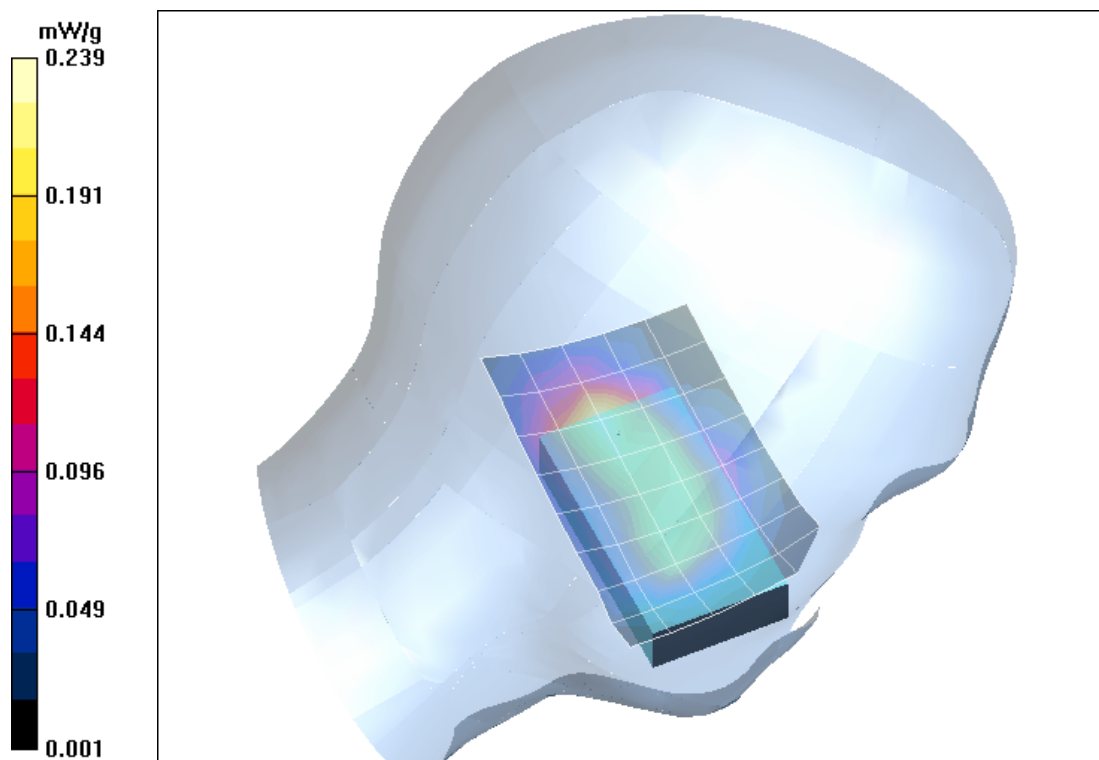


Fig. 13: SAR distribution for PCS 1900, channel 661, cheek position, left side of head, March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yplm 2 sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Left

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Left/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.233 mW/g

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

Reference Value = 12.2 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.344 W/kg

**SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.117 mW/g**

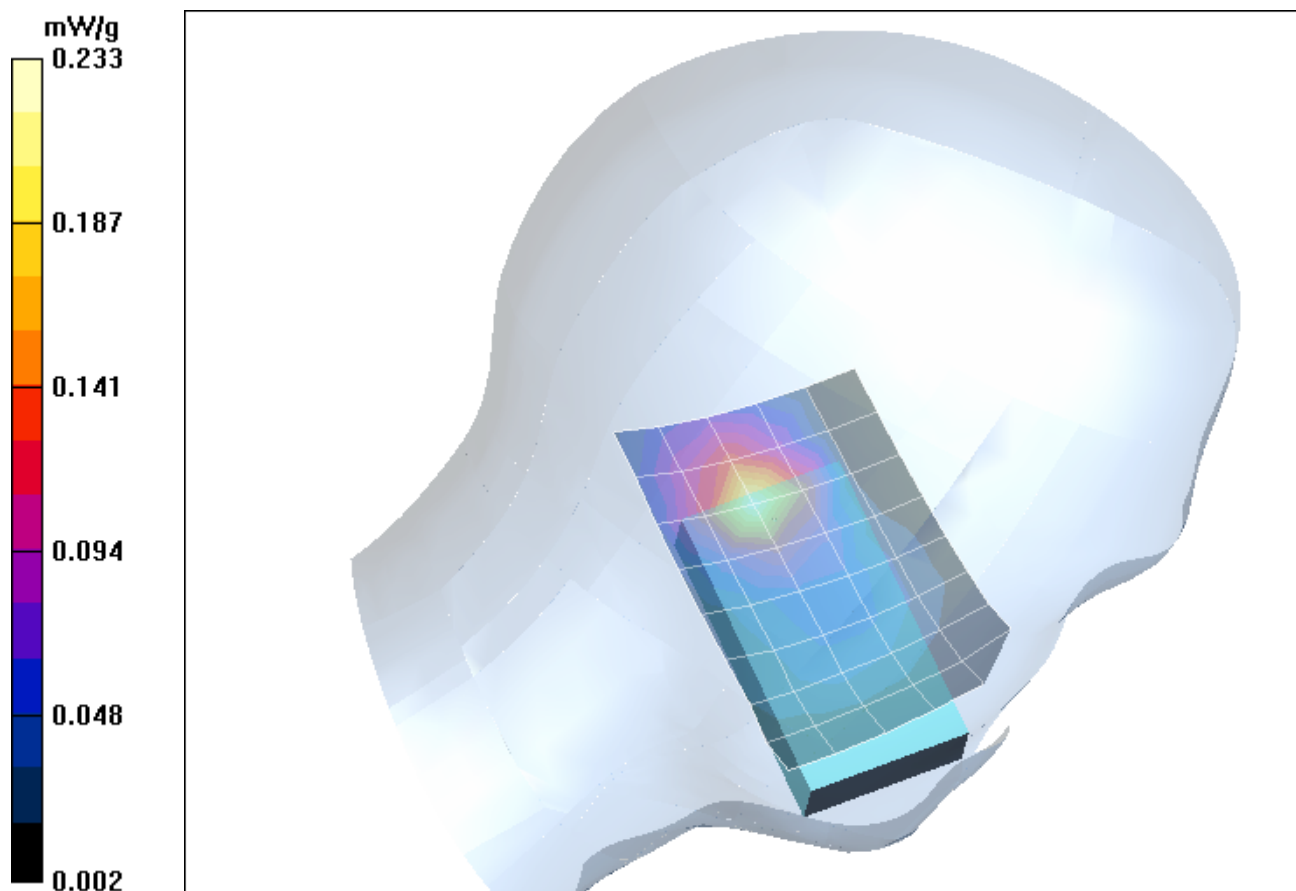


Fig. 14: SAR distribution for PCS 1900, channel 661, tilted position, left side of head, (March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yprm\\_1\\_sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Cheek Right

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Cheek Right/Area Scan (6x9x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.271 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.432 W/kg

**SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.151 mW/g**

Maximum value of SAR (measured) = 0.289 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.348 W/kg

**SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.148 mW/g**

Maximum value of SAR (measured) = 0.260 mW/g

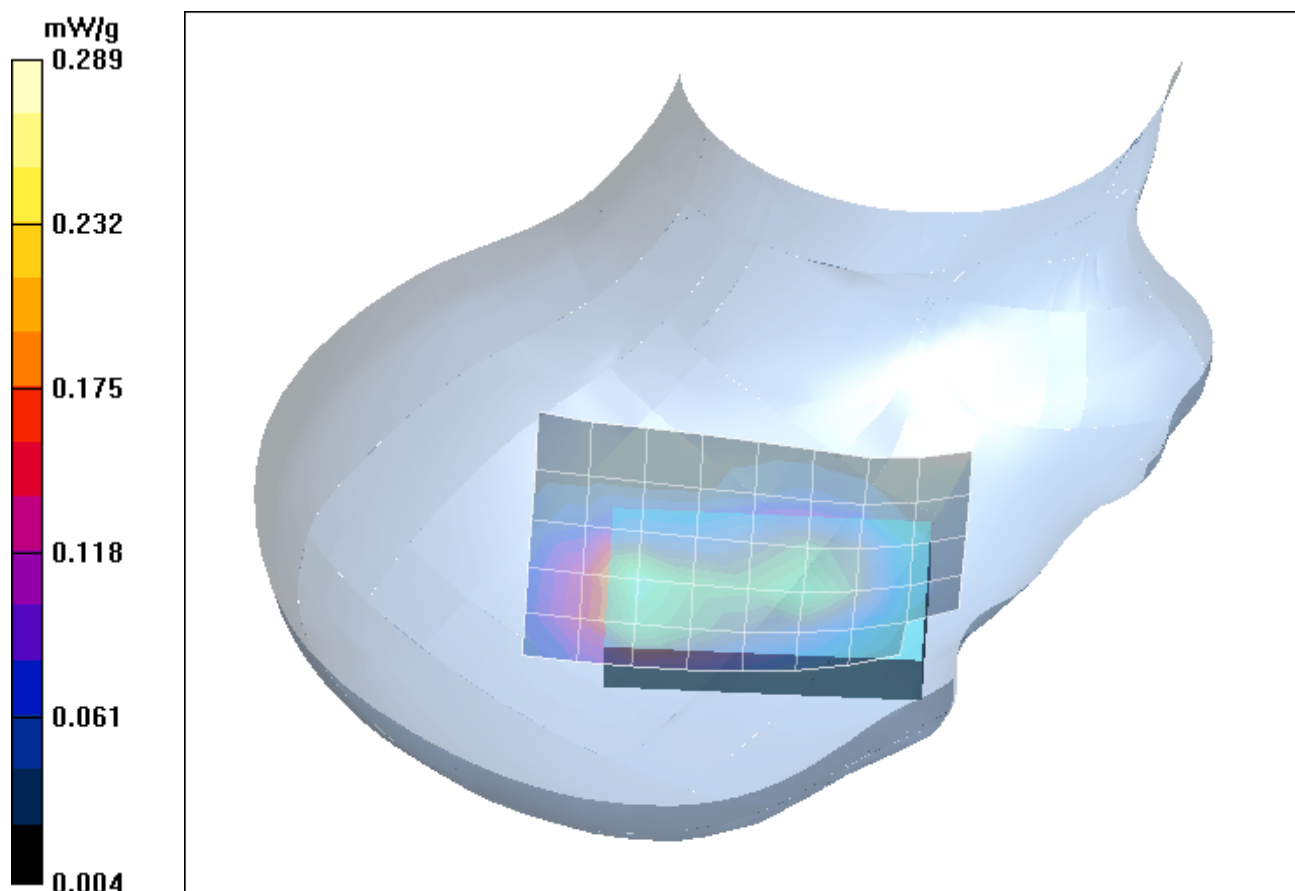


Fig. 15: SAR distribution for PCS 1900, channel 661, cheek position, right side of head, (March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C).

Test Laboratory: Imst GmbH; File Name: [268yprm 2 sd.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Tilted Right

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.25, 8.25, 8.25); Calibrated: 23.09.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**Tilted Right/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.311 mW/g

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

Reference Value = 12.9 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.481 W/kg

**SAR(1 g) = 0.292 mW/g; SAR(10 g) = 0.159 mW/g**

Maximum value of SAR (measured) = 0.325 mW/g

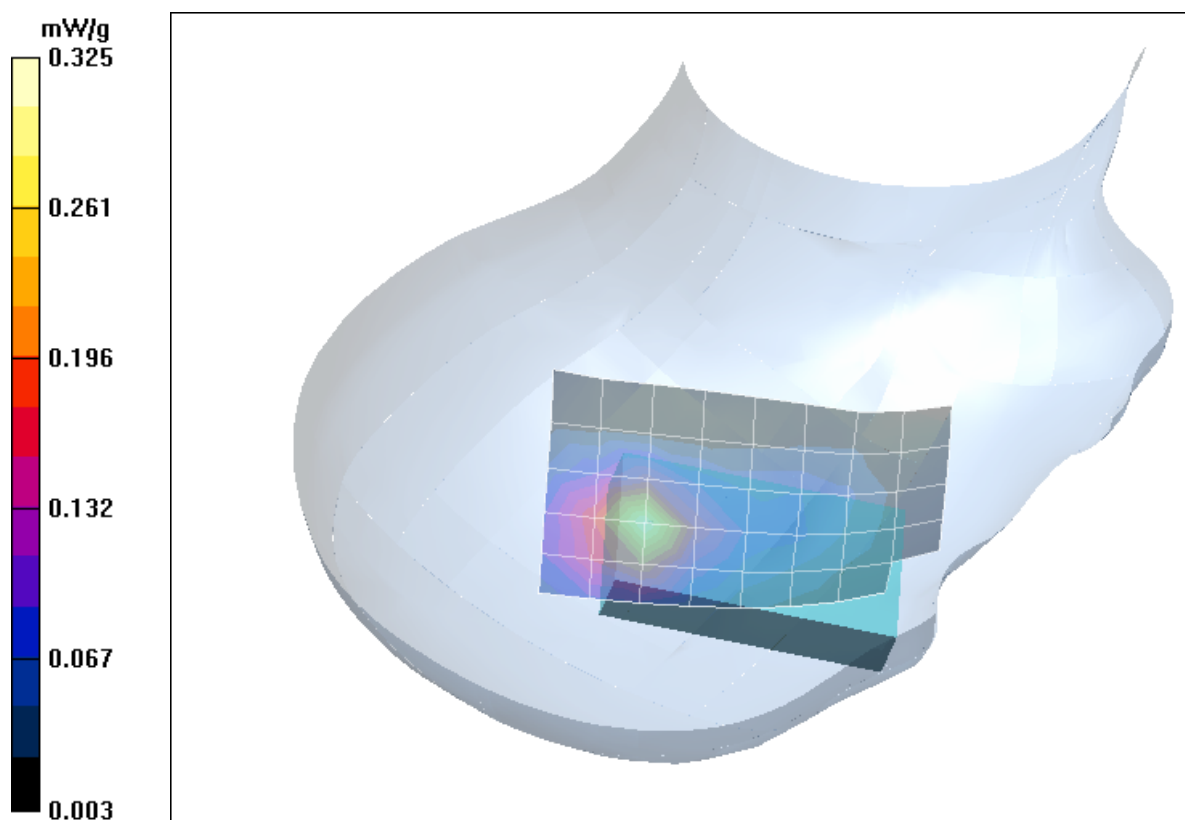


Fig. 16: SAR distribution for PCS 1900, channel 661, tilted position, right side of head, (March 22, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 21.1°C)

## 5 SAR Distribution Plots, GSM 850 Body, without accessory

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm 7 su ohne 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006

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

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.501 mW/g

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

Reference Value = 22.6 V/m; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.642 W/kg

**SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.336 mW/g**

Maximum value of SAR (measured) = 0.508 mW/g

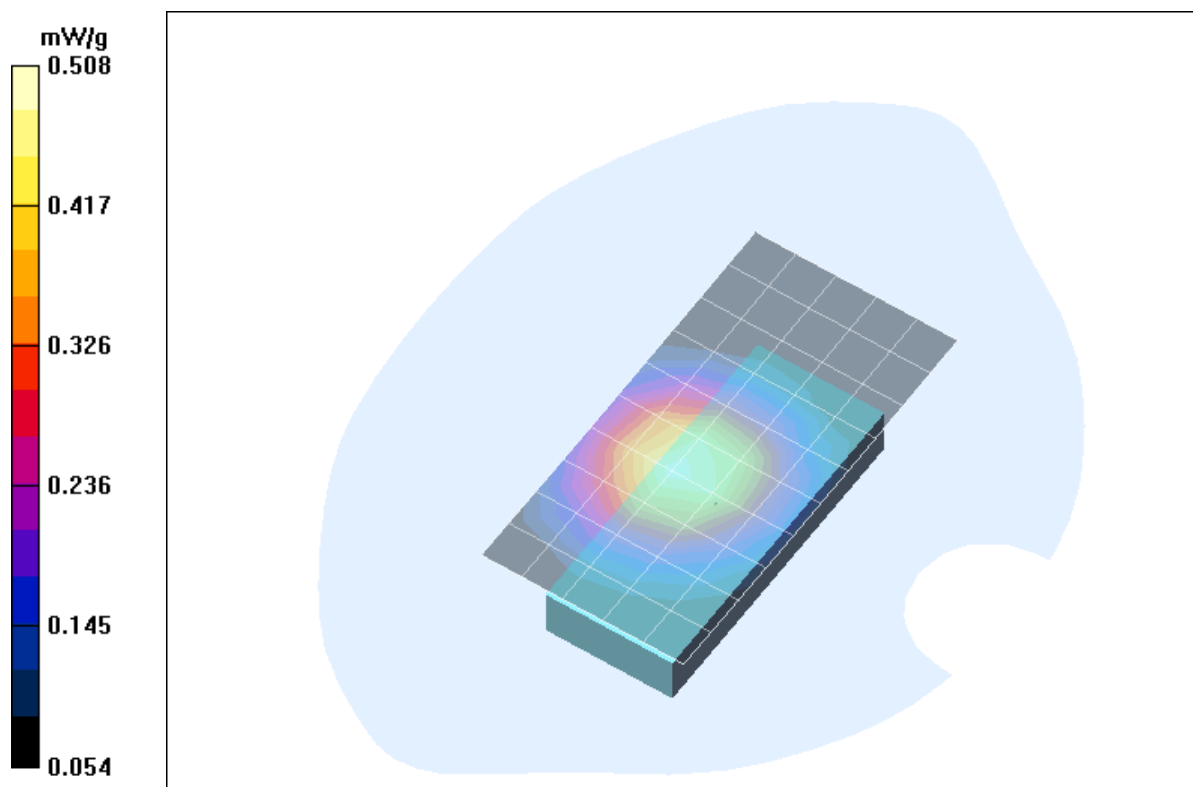


Fig. 17: SAR distribution for GSM 850, channel 190, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm 7 sd ohne 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.394 mW/g

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

Reference Value = 20.6 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.519 W/kg

**SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.265 mW/g**

Maximum value of SAR (measured) = 0.404 mW/g

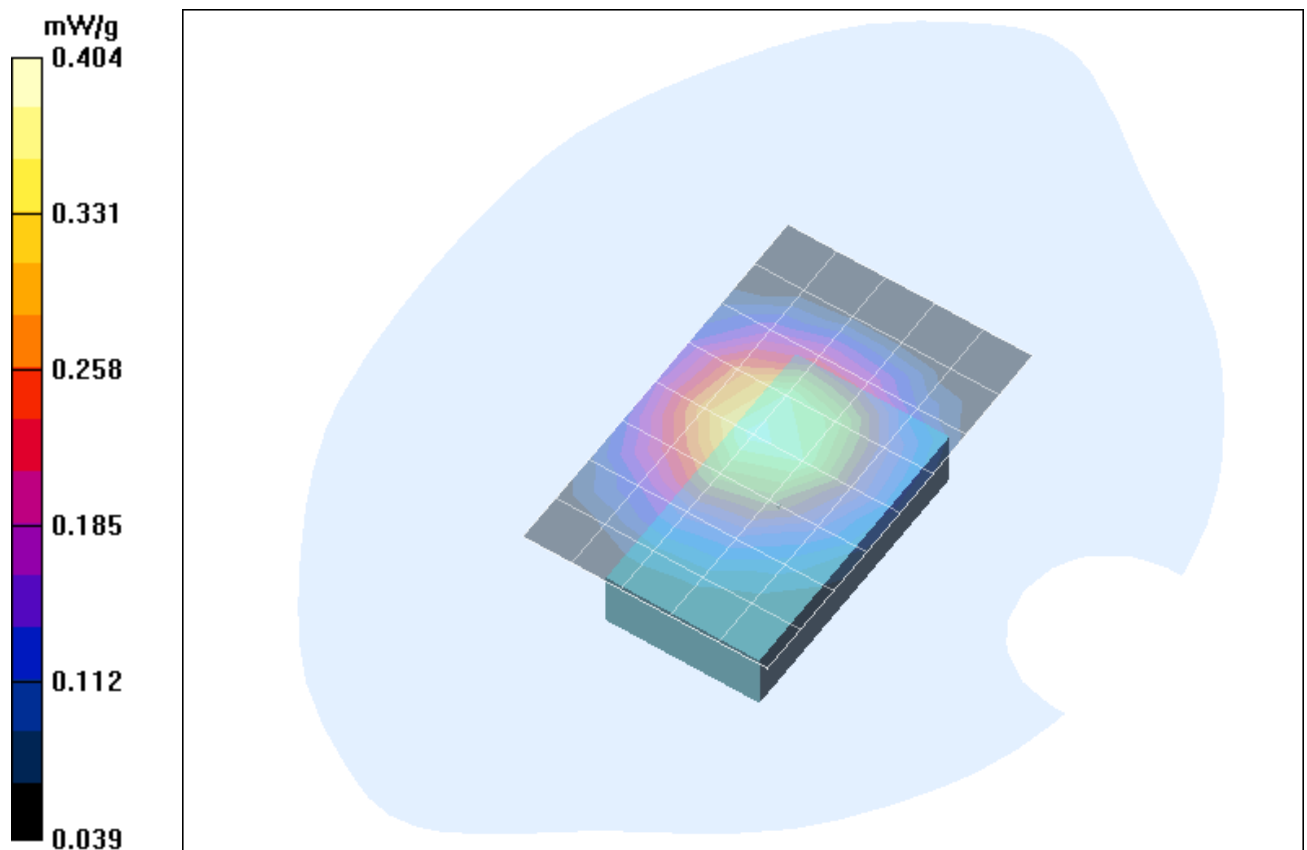


Fig. 18: SAR distribution for GSM 850, channel 190, body worn configuration, antenna towards the phantom, slider down with 20 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

## 6 SAR Distribution Plots, PCS 1900 Body, without accessory

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bphm\\_7\\_su\\_ohne\\_20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.570 mW/g

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

Reference Value = 8.97 V/m; Power Drift = -0.178 dB

Peak SAR (extrapolated) = 1.14 W/kg

**SAR(1 g) = 0.653 mW/g; SAR(10 g) = 0.353 mW/g**

Maximum value of SAR (measured) = 0.725 mW/g

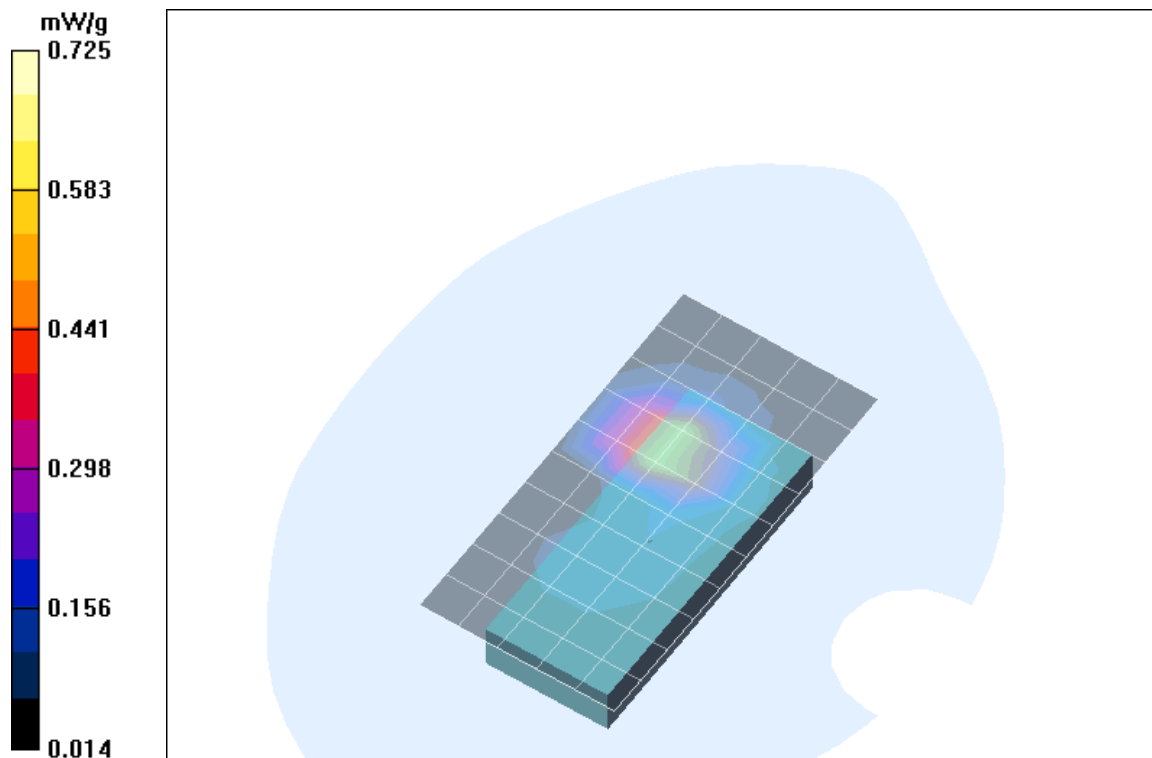


Fig. 19: SAR distribution for PCS 1900, channel 661 body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bphm 7 sd ohne 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.740 mW/g

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

Reference Value = 6.03 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.677 mW/g; SAR(10 g) = 0.368 mW/g**

Maximum value of SAR (measured) = 0.757 mW/g

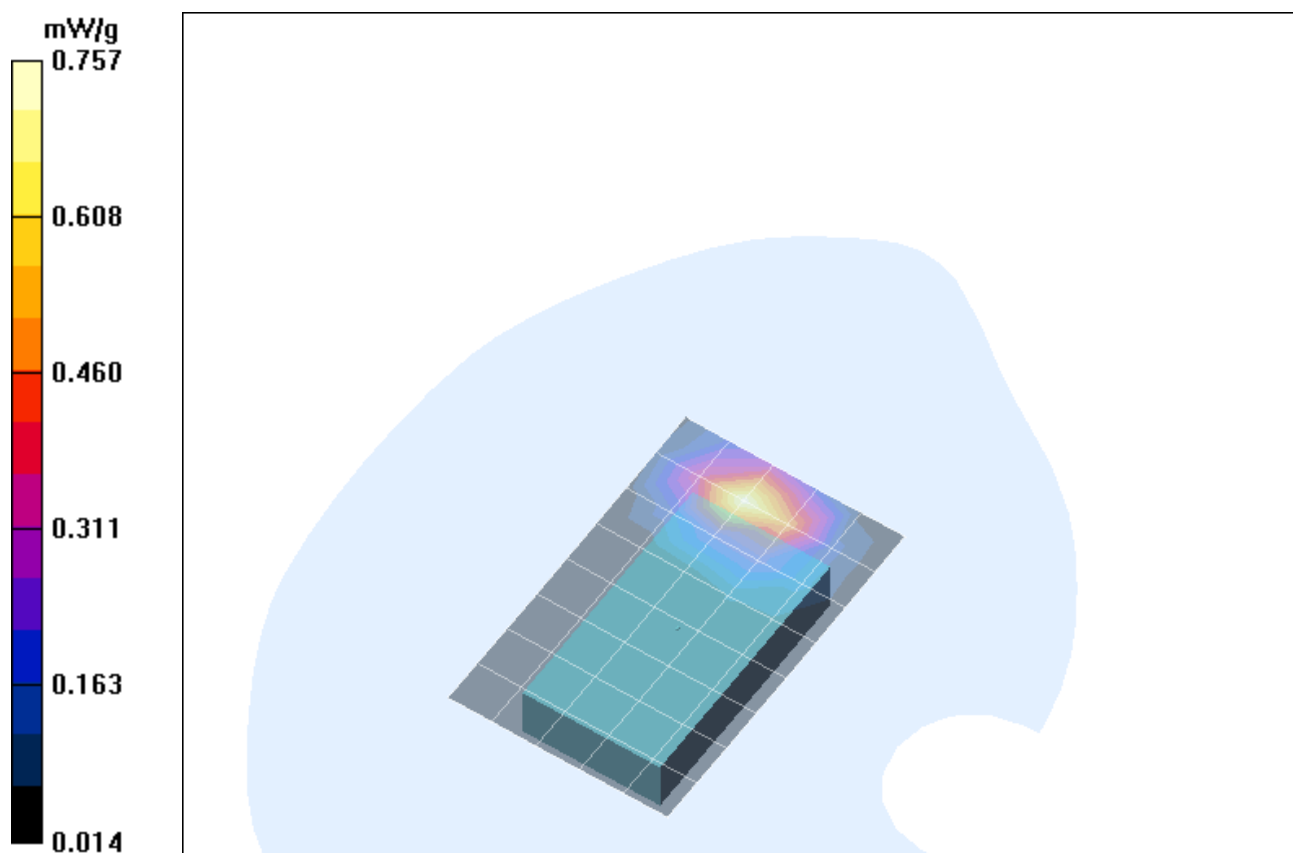


Fig. 20: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, slider down with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

## 7 SAR Distribution Plots, GSM 850 Body, with headset

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm\\_8\\_su\\_headset\\_20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 161

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.327 mW/g

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

Reference Value = 18.8 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.441 W/kg

**SAR(1 g) = 0.321 mW/g; SAR(10 g) = 0.223 mW/g**

Maximum value of SAR (measured) = 0.343 mW/g

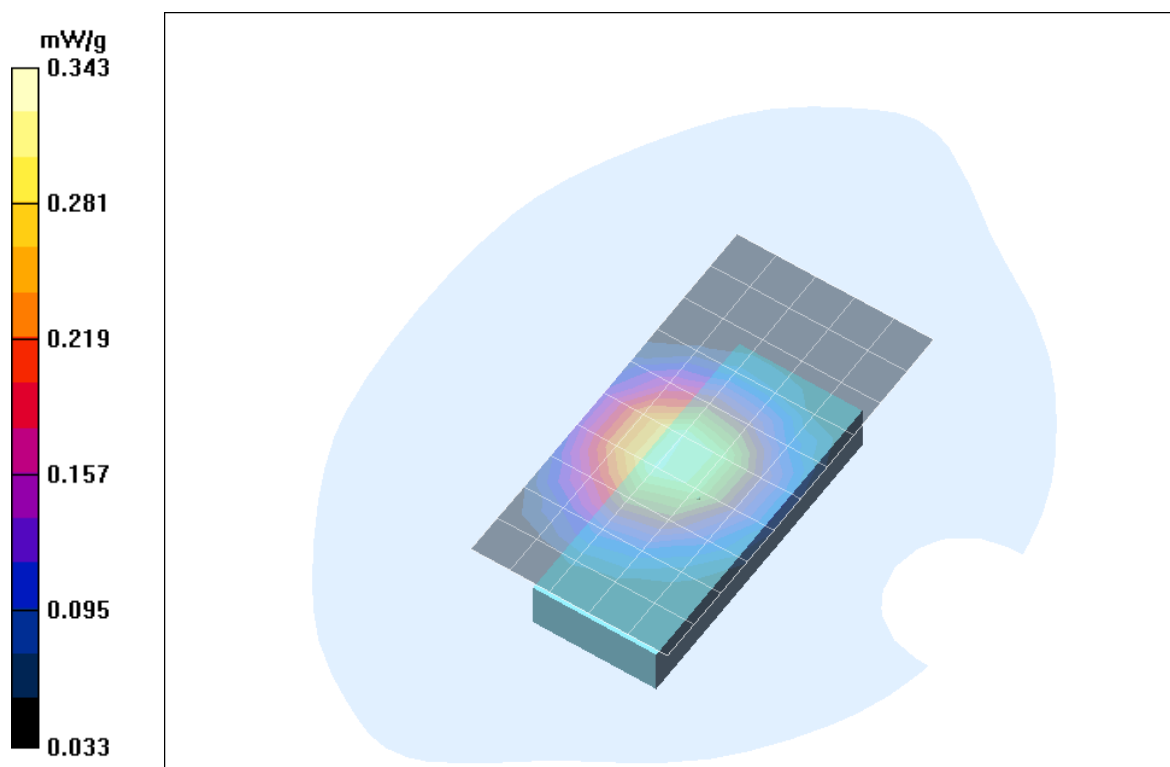


Fig. 21: SAR distribution for GSM 850, channel 190, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm 8 sd headset 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.224 mW/g

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

Reference Value = 15.3 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.303 W/kg

**SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.151 mW/g**

Maximum value of SAR (measured) = 0.235 mW/g

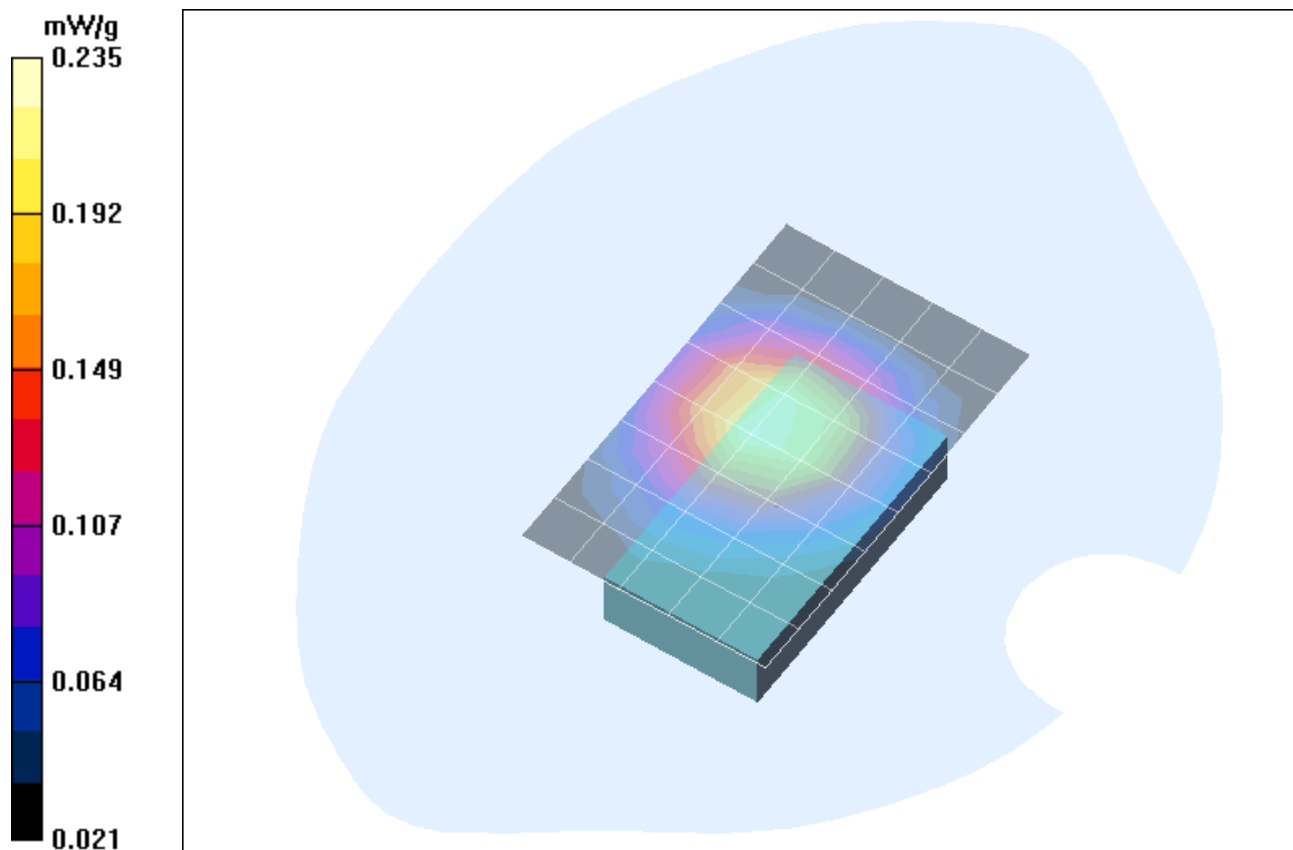


Fig. 22: SAR distribution for GSM 850, channel 190, body worn configuration, antenna towards the phantom, slider down with 20 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

## 8 SAR Distribution Plots, PCS 1900 Body, with headset

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bphm\\_8\\_su\\_headset\\_20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.474 mW/g

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

Reference Value = 8.14 V/m; Power Drift = 0.093 dB

Peak SAR (extrapolated) = 0.948 W/kg

**SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.294 mW/g**

Maximum value of SAR (measured) = 0.608 mW/g

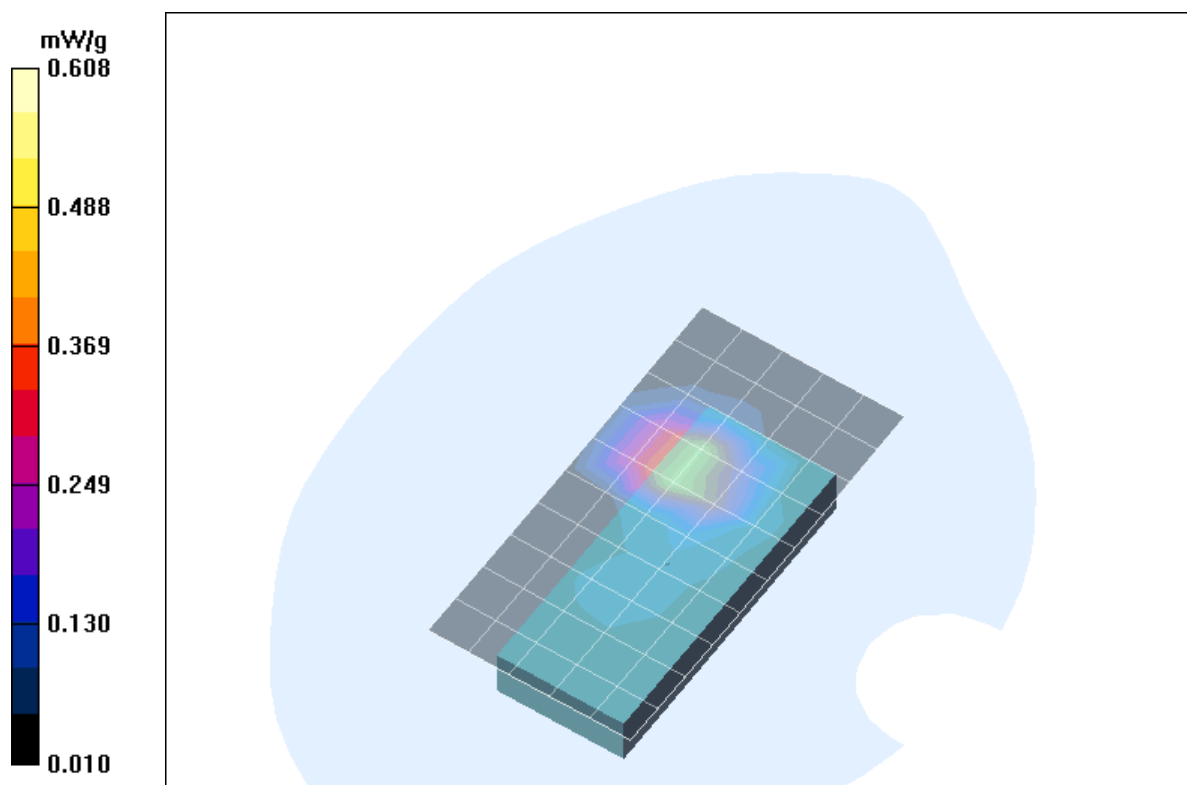


Fig. 23: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

**Test Laboratory:** IMST GmbH, DASY Blue (I); **File Name:** [268bphm 8 sd headset 20mm.da4](#)

**DUT:** BenQ; **Type:** AL21a; **Serial:** 004401430049268

**Program Name:** Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.728 mW/g

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

Reference Value = 5.87 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.658 mW/g; SAR(10 g) = 0.359 mW/g**

Maximum value of SAR (measured) = 0.735 mW/g

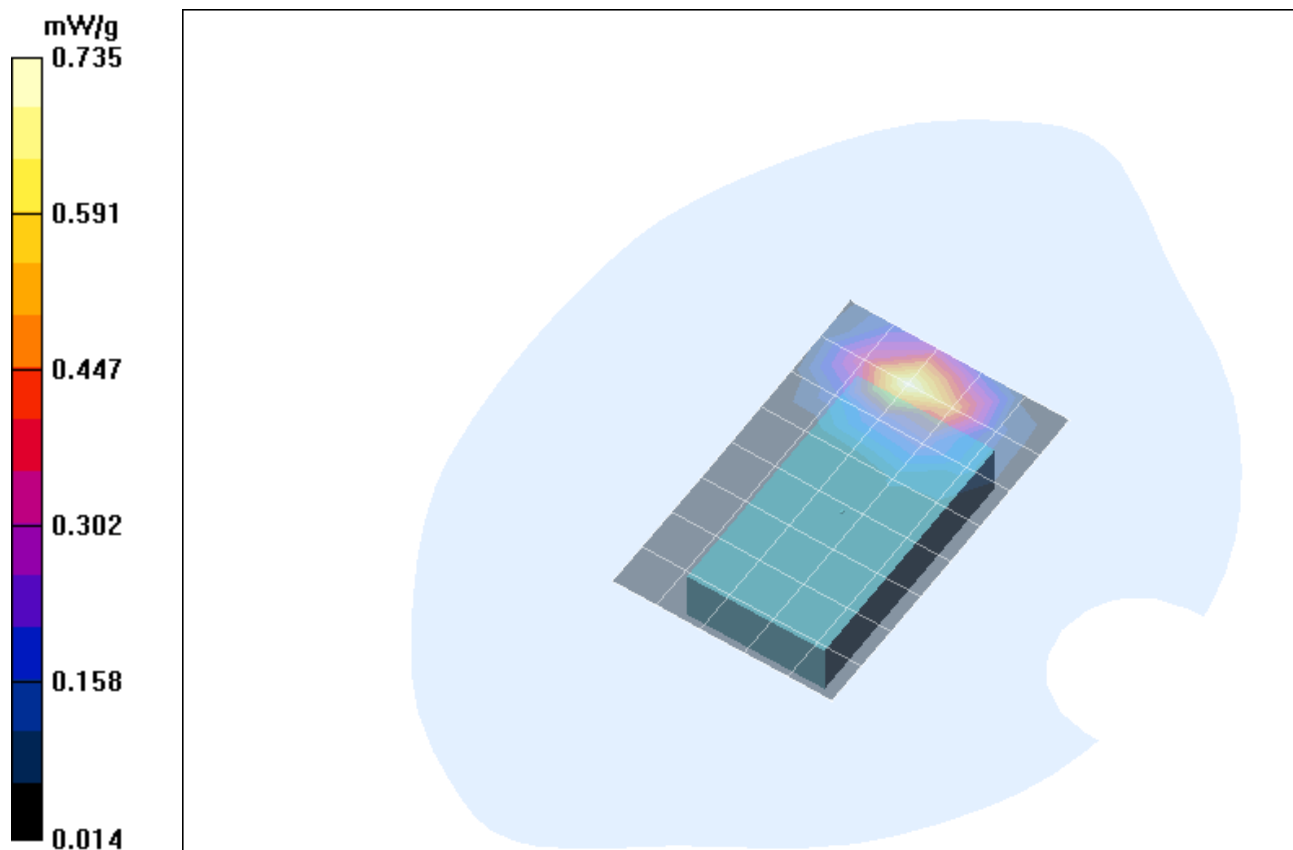


Fig. 24: SAR distribution for PCS 1900, channel 661, body worn configuration, antenna towards the phantom, slider down with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

## 9 SAR Distribution Plots, GPRS 850 (Class 8) Body, with data cable

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm\\_9\\_su\\_data\\_20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006

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

- Electronics: DAE4 Sn631; Calibrated: 07.07.2005

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.191 mW/g

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

Reference Value = 14.0 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.251 W/kg

**SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.126 mW/g**

Maximum value of SAR (measured) = 0.193 mW/g

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

Reference Value = 14.0 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.130 W/kg

**SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.069 mW/g**

Maximum value of SAR (measured) = 0.104 mW/g

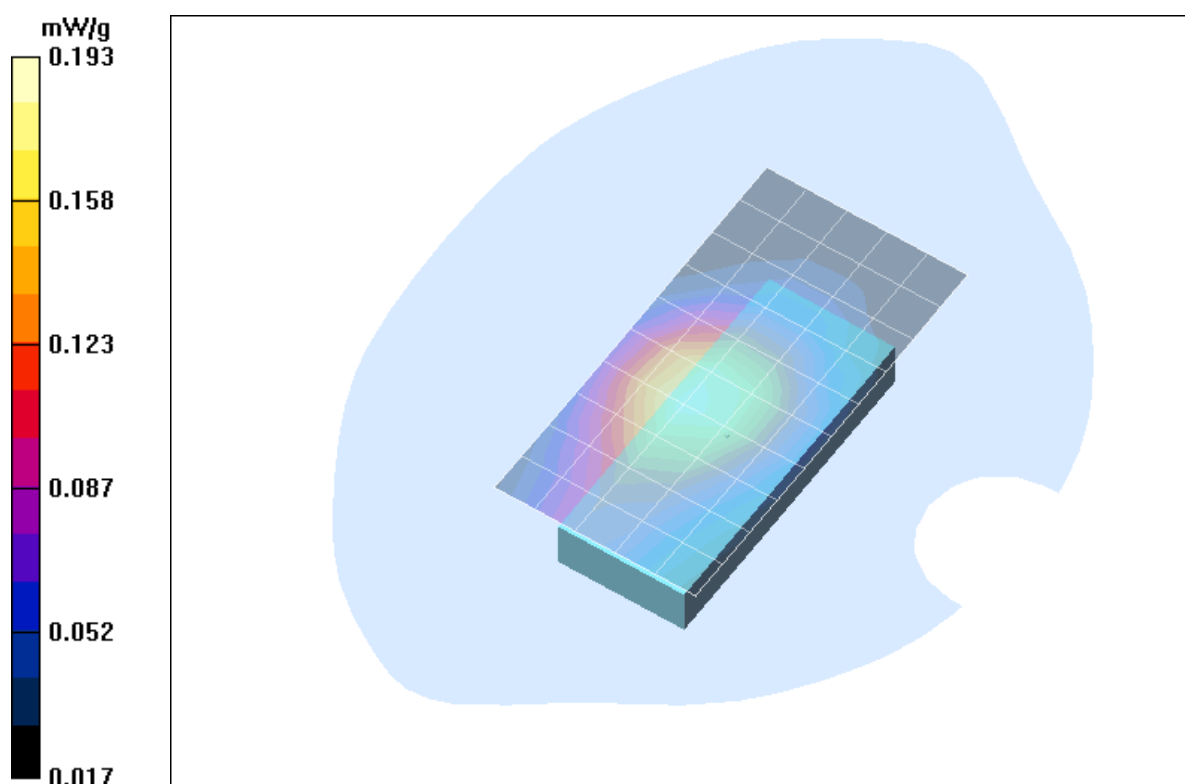


Fig. 25: SAR distribution for GPRS 850, channel 190, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bahm 9 sd data 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.237 mW/g

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

Reference Value = 15.8 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.307 W/kg

**SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.156 mW/g**

Maximum value of SAR (measured) = 0.238 mW/g

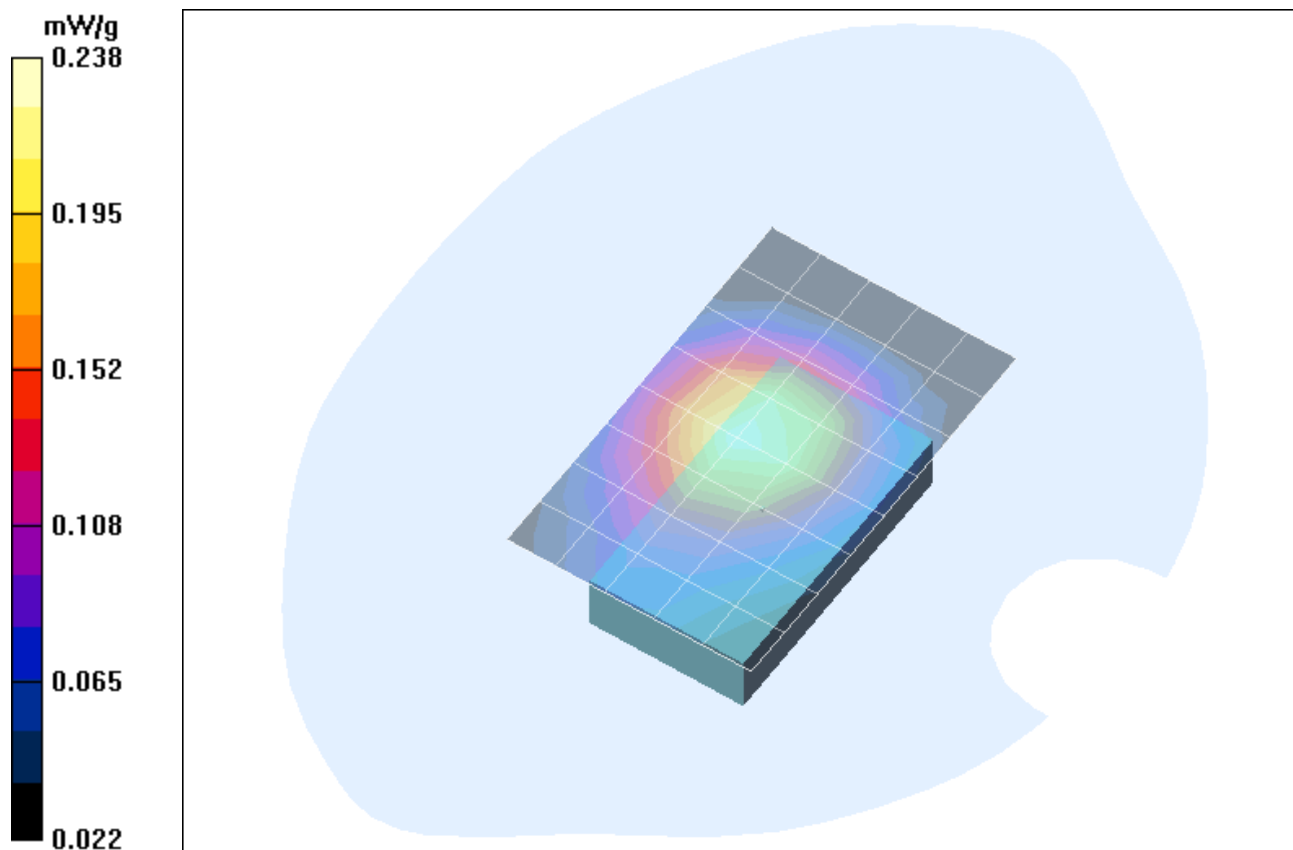


Fig. 26: SAR distribution for GPRS 850, channel 190, body worn configuration, antenna towards the phantom, slider up with 15 mm distance (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

## 10 SAR Distribution Plots, GPRS 1900 (Class 8) Body, with data cable

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bphm\\_9\\_su\\_data\\_20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.652 mW/g

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

Reference Value = 8.43 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.746 mW/g; SAR(10 g) = 0.397 mW/g**

Maximum value of SAR (measured) = 0.844 mW/g

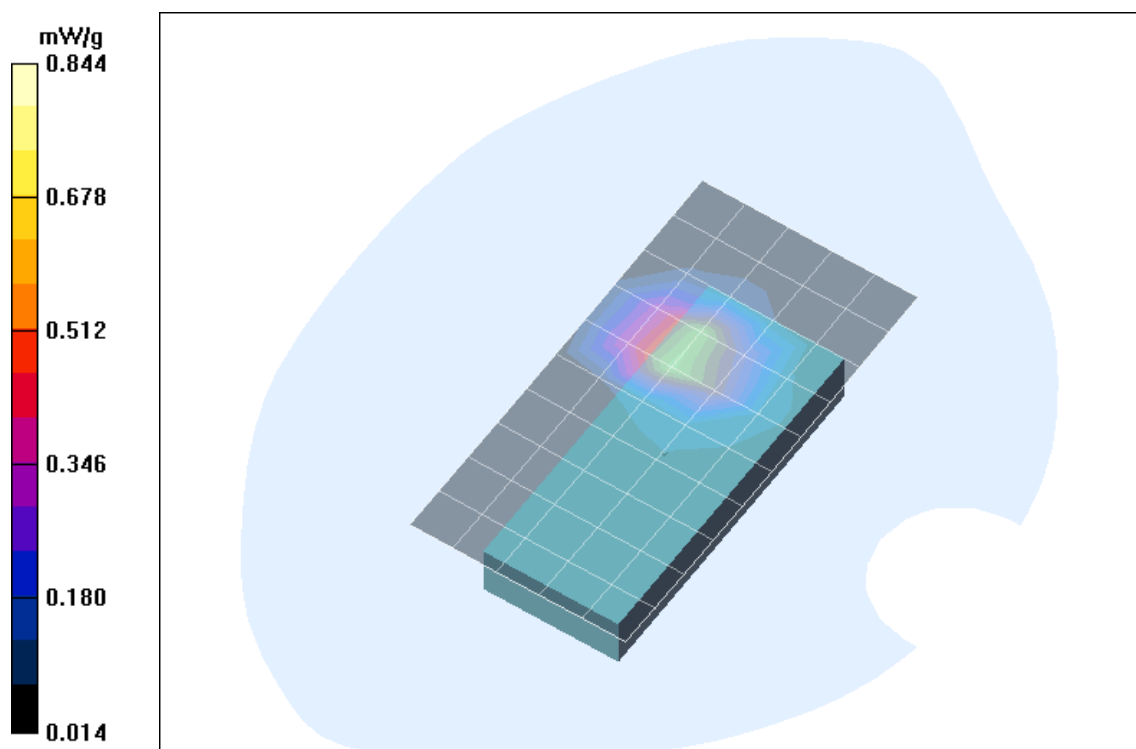


Fig. 27: SAR distribution for GPRS 1900, channel 661, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [268bphm 9 sd data 20mm.da4](#)

DUT: BenQ; Type: AL21a; Serial: 004401430049268

Program Name: Body Worn

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 07.07.2005
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

**Body Worn/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.695 mW/g

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

Reference Value = 5.93 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 1.09 W/kg

**SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.348 mW/g**

Maximum value of SAR (measured) = 0.708 mW/g

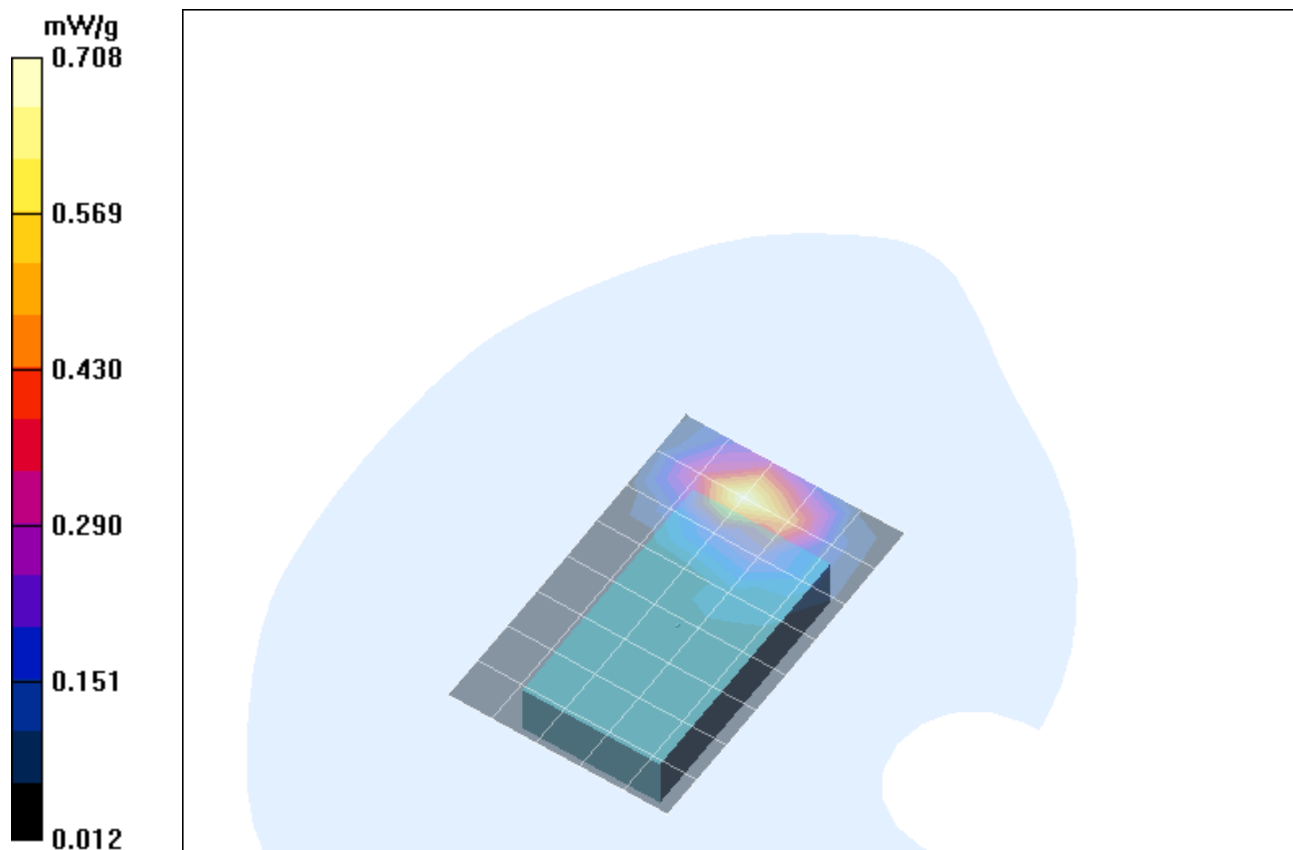


Fig. 28: SAR distribution for GPRS 1900, channel 661, body worn configuration, antenna towards the phantom, slider up with 20 mm distance (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

## 11 SAR z-axis scans (Validation)

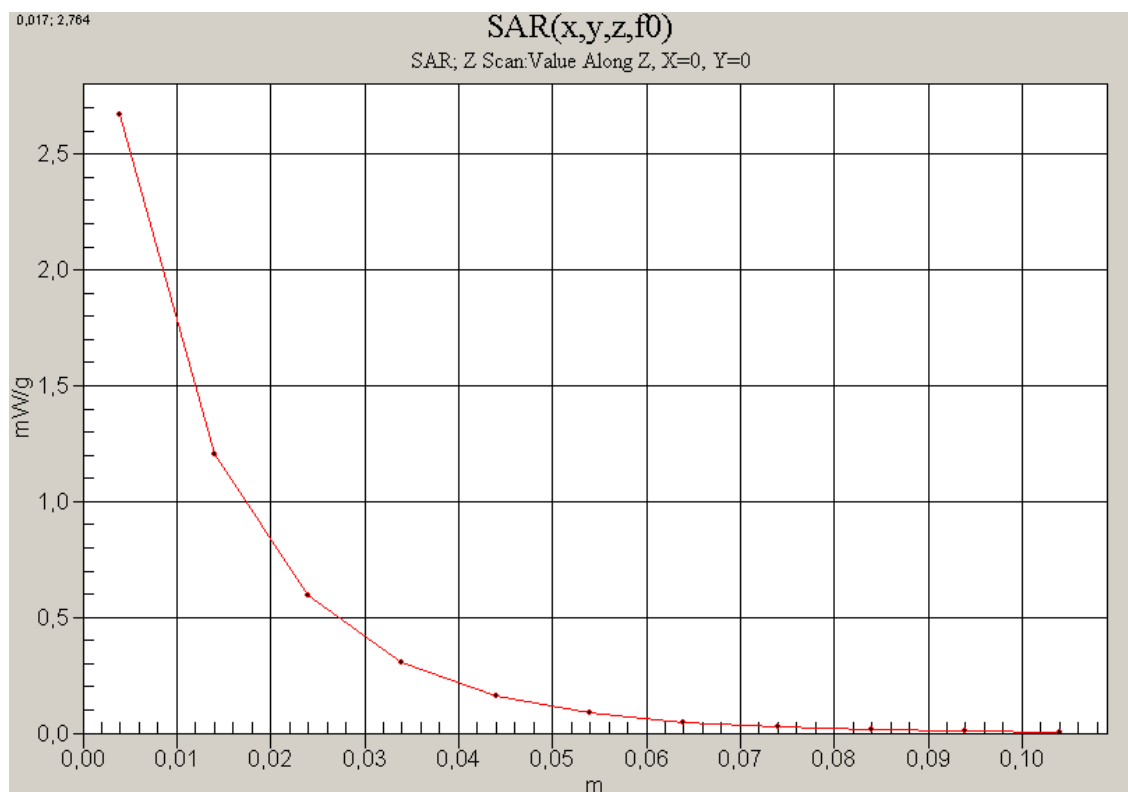


Fig. 29: SAR versus liquid depth, 835 MHz, head (March 24, 2006; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

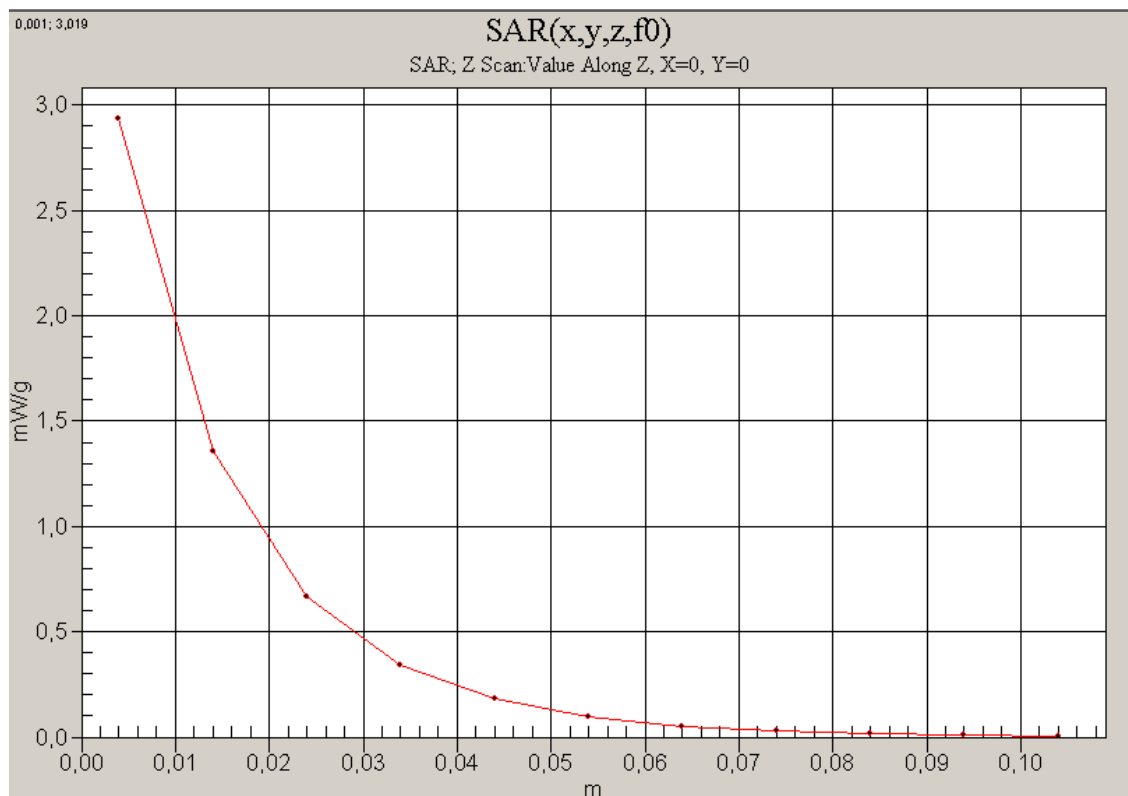


Fig. 30: SAR versus liquid depth, 835 MHz, body (March 24, 2006; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

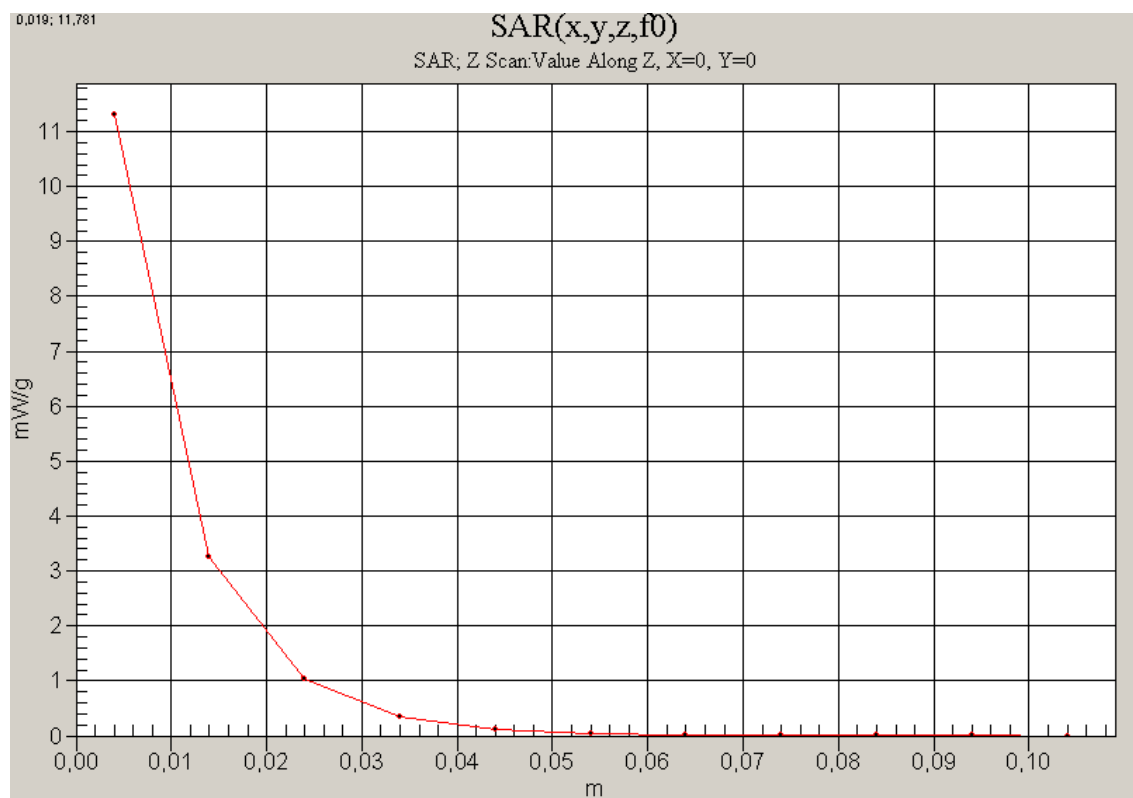


Fig. 31: SAR versus liquid depth, 1900 MHz, head (March 22, 2006; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

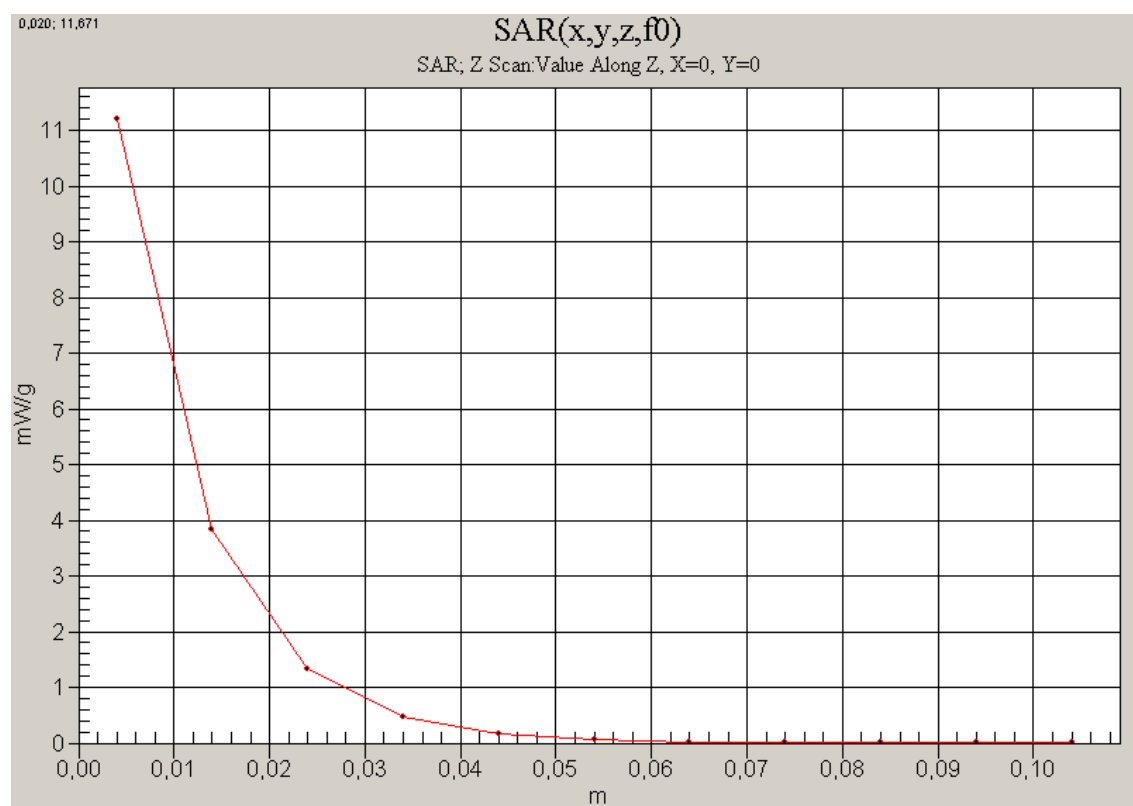


Fig. 32: SAR versus liquid depth, 1900 MHz, body (March 27, 2006; Ambient Temperature: 22.0° C; Liquid Temperature : 21.0° C).

## 12 SAR z-axis scans (Measurements)

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

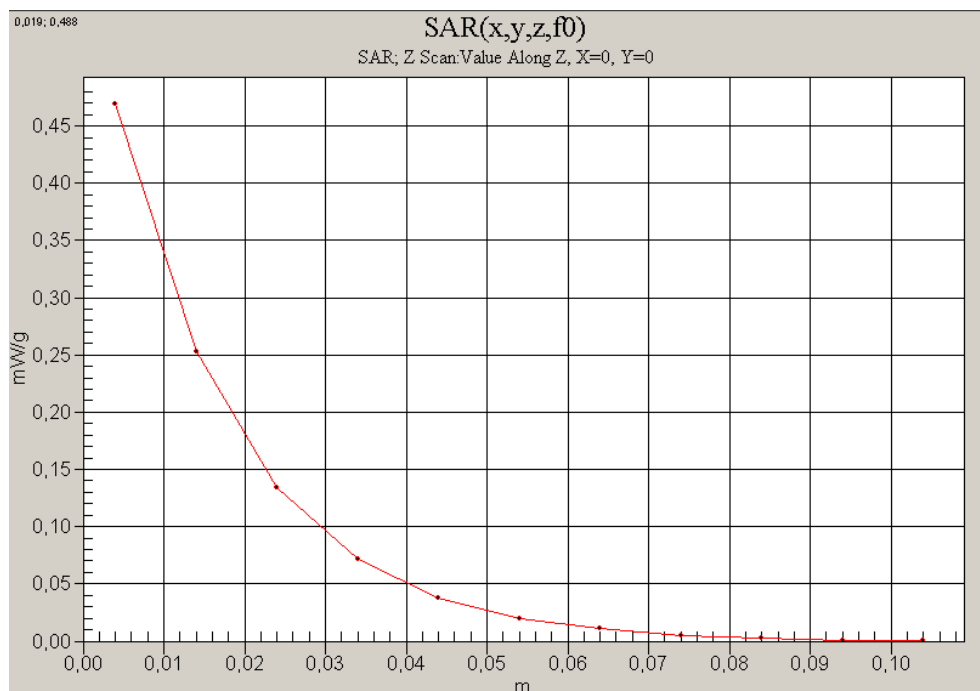


Fig. 33: SAR versus liquid depth, head: GSM 850, channel 190, cheek position, left side of head, slider down (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 21.1° C).

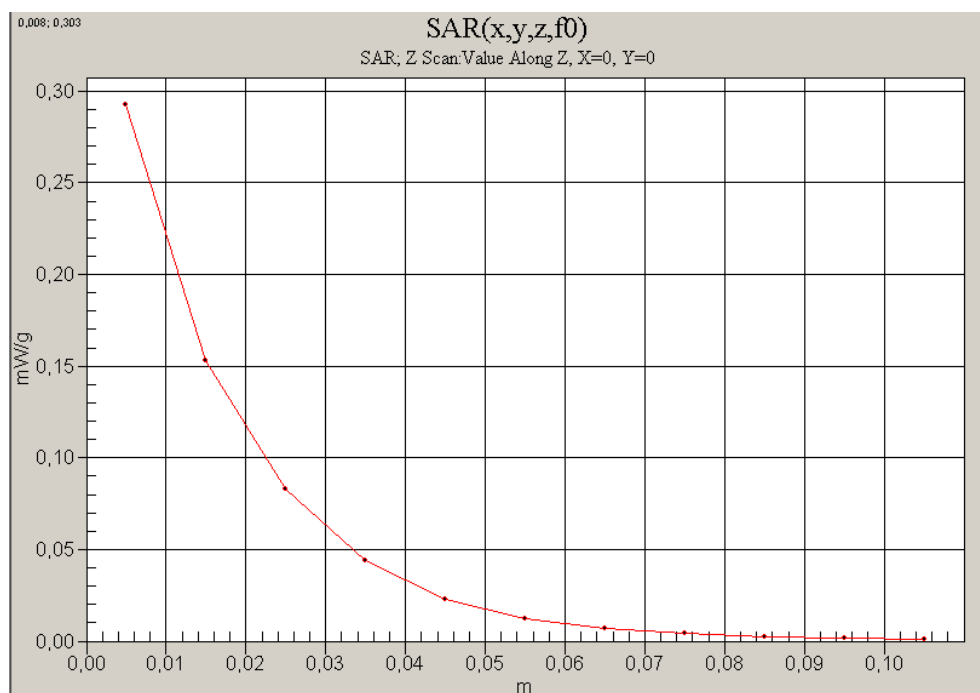


Fig. 34: SAR versus liquid depth, body: GPRS 850 Class 8, channel 190, without accessory, antenna towards the phantom, slider up, 20 mm distance, (March 24, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).

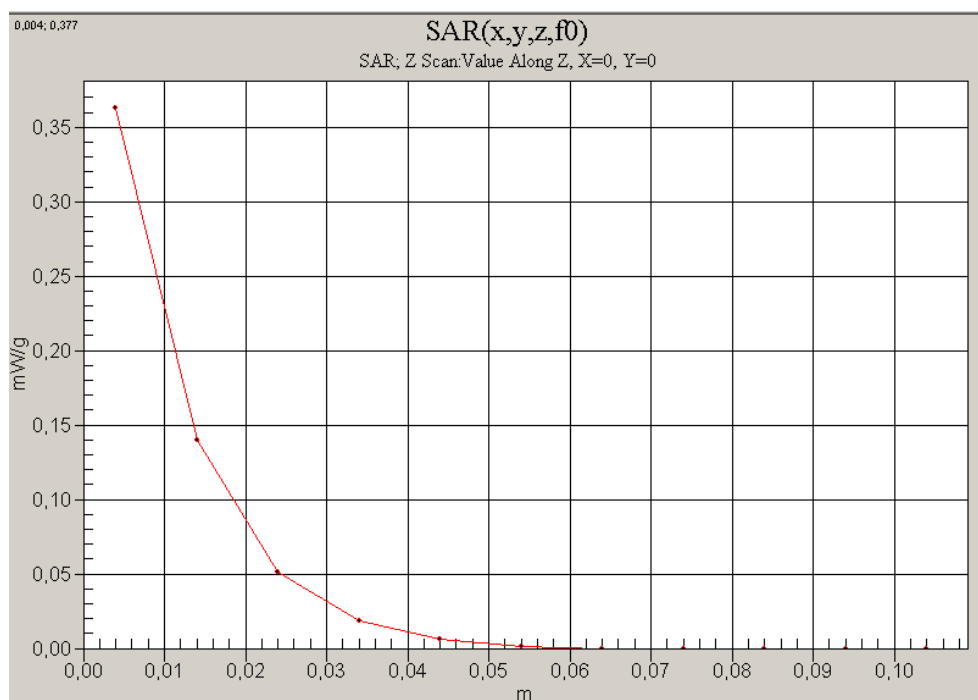


Fig. 35: SAR versus liquid depth, head: PCS 1900, channel 661, tilted position, right side of head, slider up (March 22, 2006; Ambient Temperature: 21.7° C; Liquid Temperature : 21.0° C).

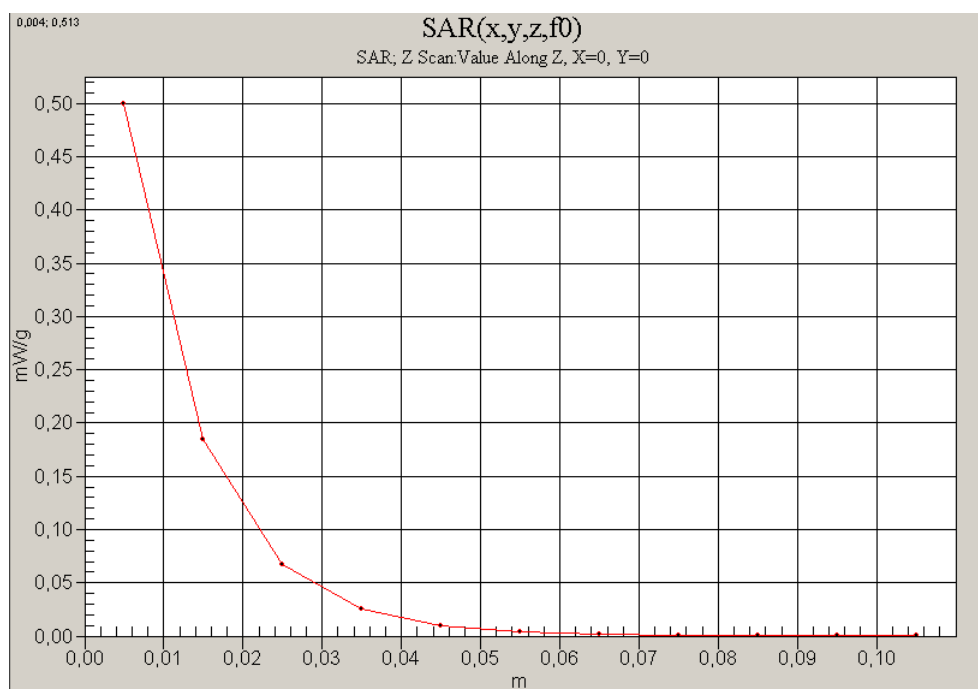


Fig. 36: SAR versus liquid depth, body: GPRS 1900 Class 8, channel 661, data cable, antenna towards the phantom, slider up, 20 mm distance, (March 27, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 21.0° C).