

The Testcenter facility 'Dosimetric Test Lab' within IMST GmbH is accredited by the German National 'Deutsche Akkreditierungsstelle GmbH (DAkKS)' for testing according to the scope as listed in the accreditation certificate: D-PL-12139-01-01.

---

## **Appendix for the Report**

# **Dosimetric Assessment of the Portable Device KX-UDT131 (FCC ID: ACJ96NKX-UDT131) (IC: 216A-KXUDT131)**

## **According to the FCC Requirements SAR Distribution Plots**

November 19, 2012

**IMST GmbH**

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

**Customer**

Panasonic System Networks Co., Ltd.  
1 - 62, 4 - chome Minoshima, Hakata,  
Fukuoka 812-8531  
Japan

This revised version of the report supersedes all previous versions.

The test results only relate to the items tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. This version supersedes all previous versions of this report.

**Table of Contents**

1 SAR DISTRIBUTION PLOTS, HEAD MEASUREMENT ..... 3

2 SAR DISTRIBUTION PLOTS, BODY MEASUREMENT ..... 11

3 SAR Z-AXIS SCANS (VALIDATION) ..... 15

4 SAR Z-AXIS SCANS (MEASUREMENTS)..... 16

## 1 SAR Distribution Plots, Head Measurement

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131\\_FCC\\_vplm\\_1\\_ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Cheek Left/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.014 mW/g

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

Reference Value = 2.27 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.024 W/kg

**SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00701 mW/g**

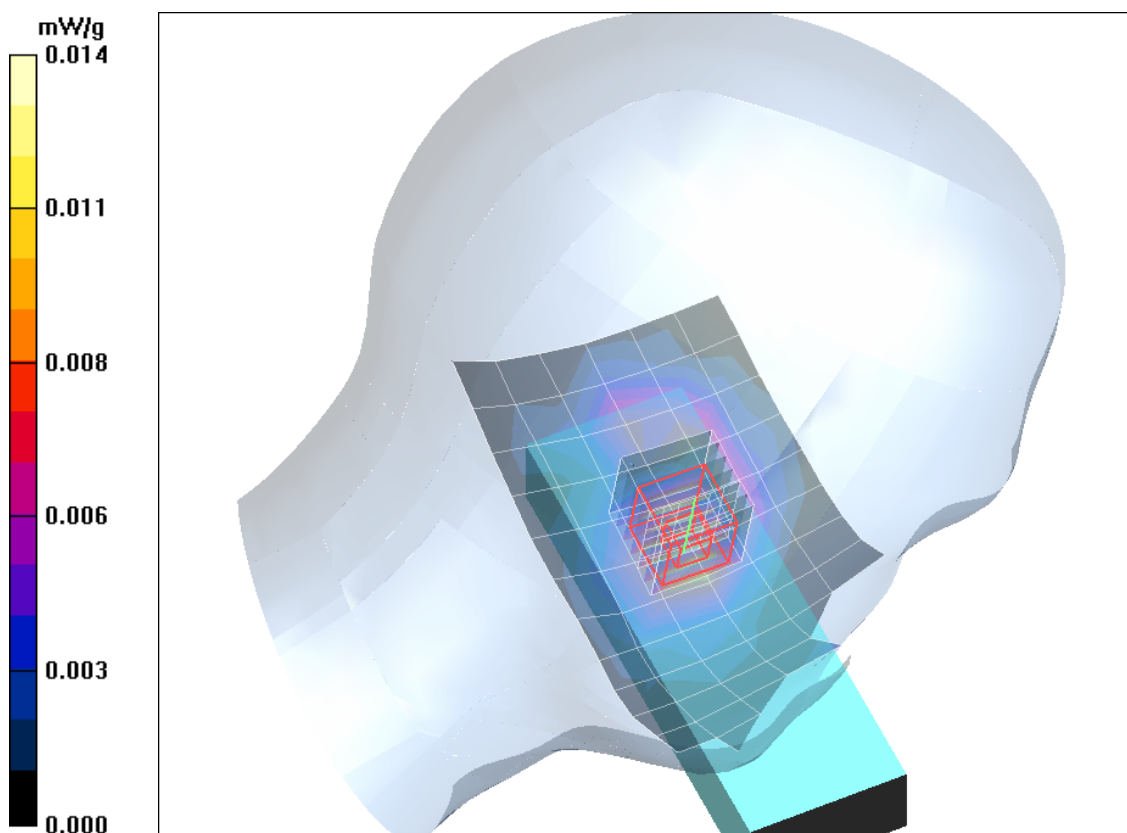


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head, Antenna 1 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yplm 2 ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Tilted Left/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.006 mW/g

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

Reference Value = 2.16 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.00589 mW/g; SAR(10 g) = 0.00319 mW/g**

Maximum value of SAR (measured) = 0.007 mW/g

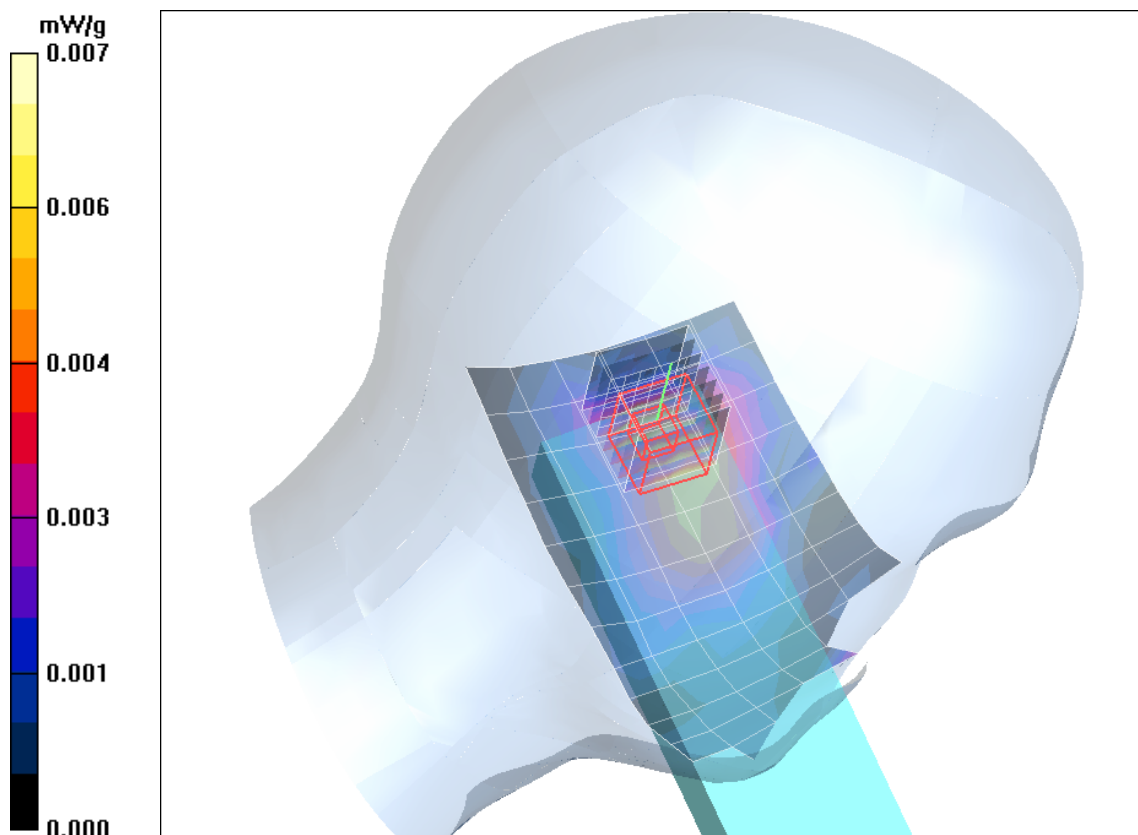


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head, Antenna 1 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yprm 1 ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Cheek Right/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.014 mW/g

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

Reference Value = 2.38 V/m; Power Drift = 0.131 dB

Peak SAR (extrapolated) = 0.022 W/kg

**SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00683 mW/g**

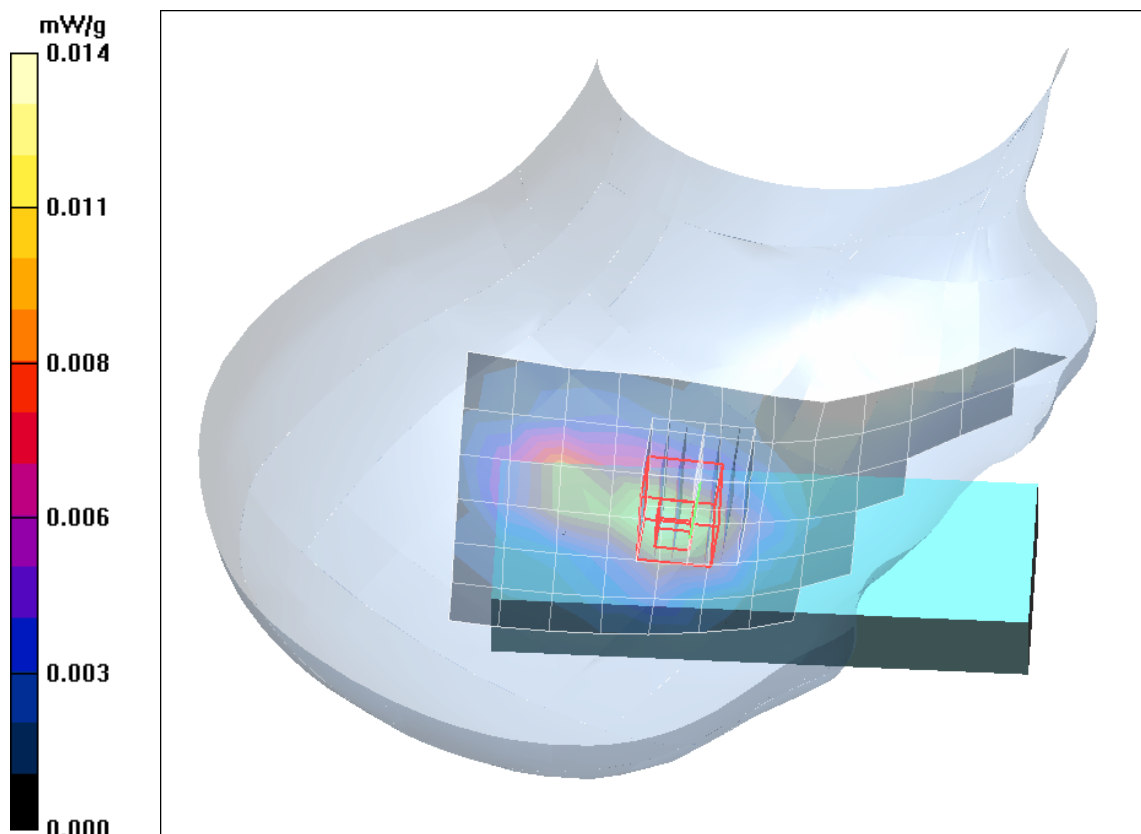


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head, Antenna 1 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yprm 2 ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Tilted Right/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.007 mW/g

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

Reference Value = 1.92 V/m; Power Drift = 0.174 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.00672 mW/g; SAR(10 g) = 0.00335 mW/g**

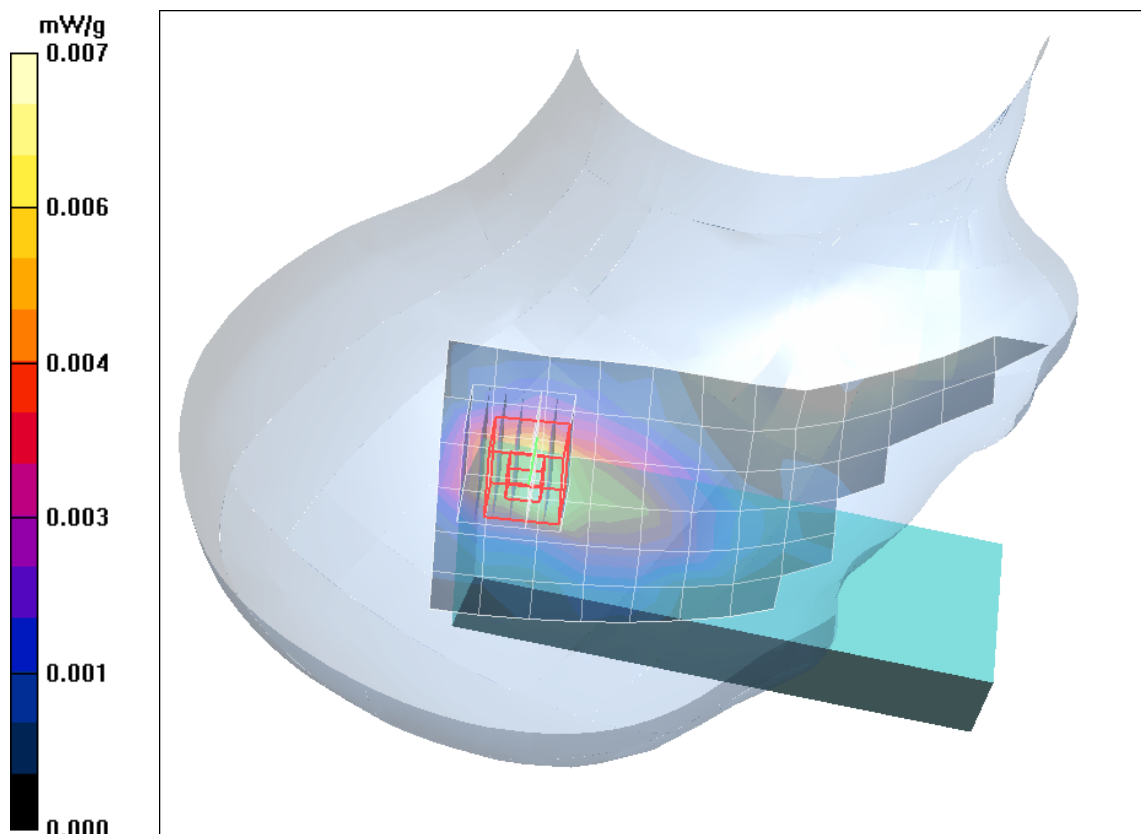


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head, Antenna 1 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yplm 1 ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Cheek Left/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.015 mW/g

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

Reference Value = 1.65 V/m; Power Drift = 0.038 dB

Peak SAR (extrapolated) = 0.024 W/kg

**SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00838 mW/g**

Maximum value of SAR (measured) = 0.017 mW/g

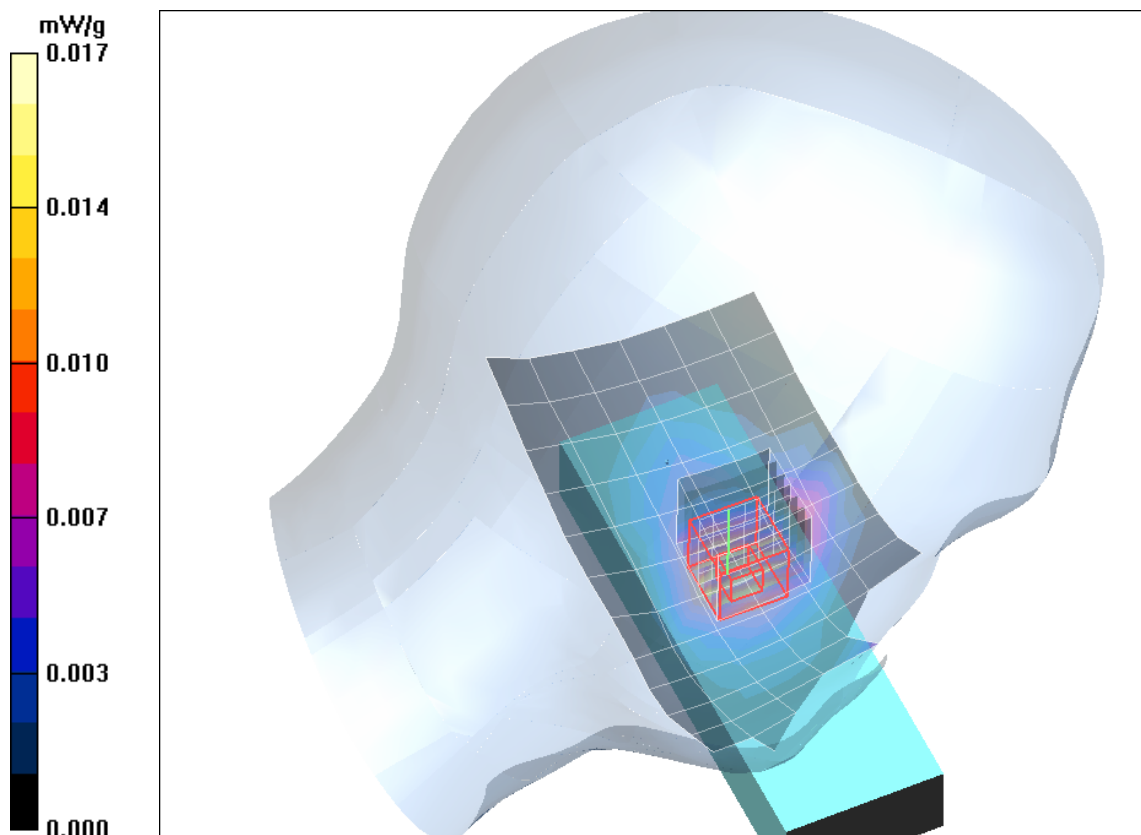


Fig. 5: SAR distribution for DECT US, channel 2, cheek position, left side of head, Antenna 2 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yplm 2 ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Tilted Left/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.006 mW/g

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

Reference Value = 1.77 V/m; Power Drift = 0.109 dB

Peak SAR (extrapolated) = 0.021 W/kg

**SAR(1 g) = 0.00489 mW/g; SAR(10 g) = 0.00184 mW/g**

Maximum value of SAR (measured) = 0.005 mW/g

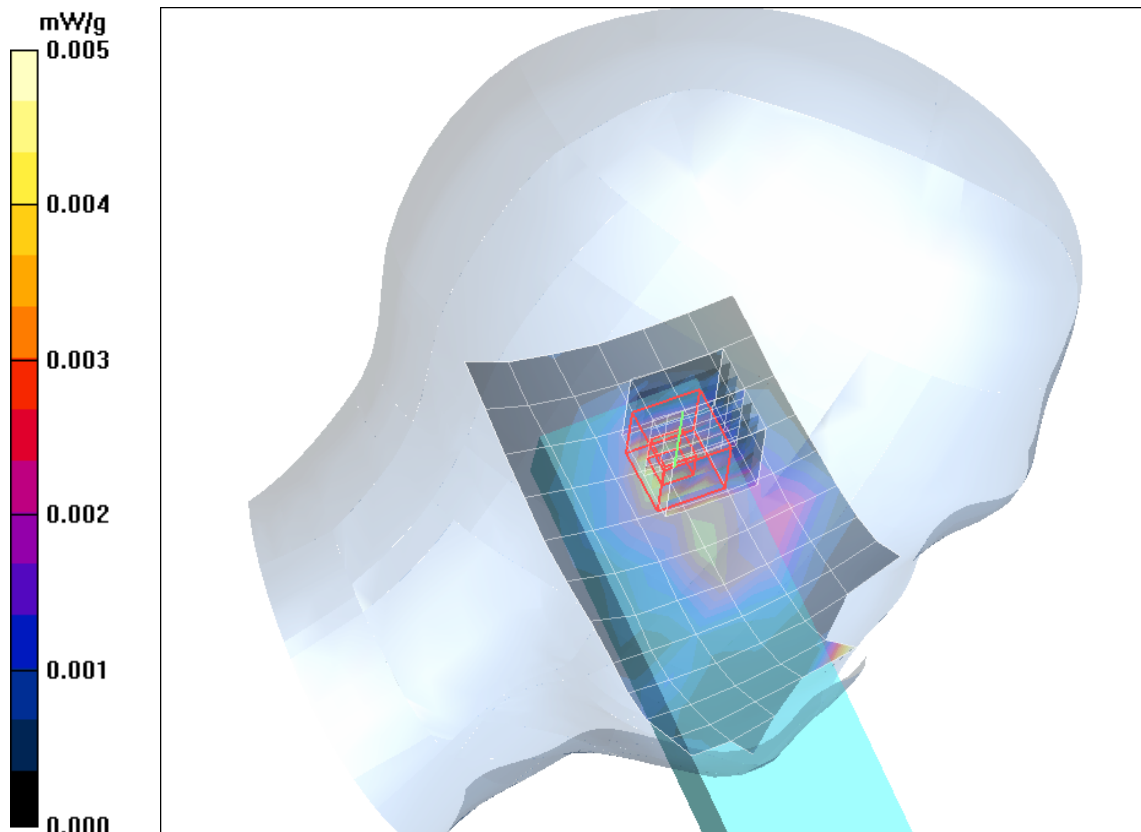


Fig. 6: SAR distribution for DECT US, channel 2, tilted position, left side of head, Antenna 2 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yprm 1 ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012

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

- Electronics: DAE4 Sn631; Calibrated: 20.09.2012

- 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

**Cheek Right/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.011 mW/g

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

Reference Value = 1.39 V/m; Power Drift = 0.177 dB

Peak SAR (extrapolated) = 0.020 W/kg

**SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00648 mW/g**

Maximum value of SAR (measured) = 0.013 mW/g

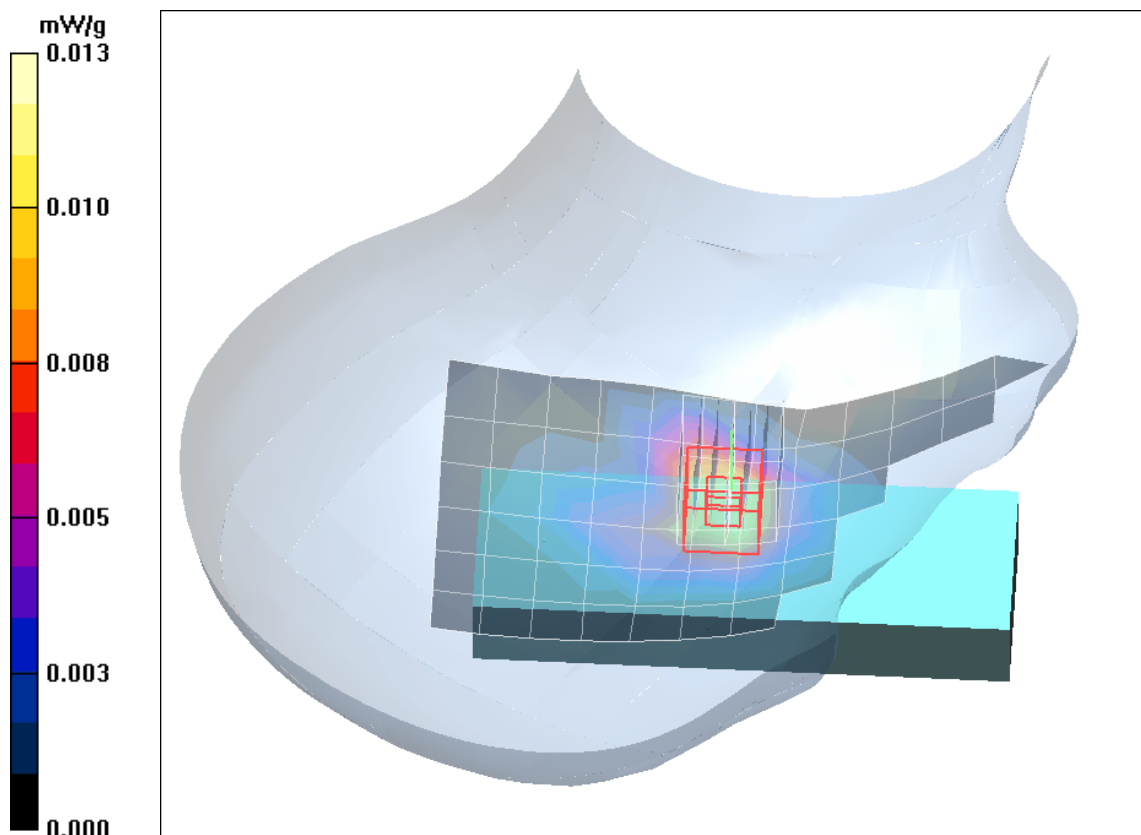


Fig. 7: SAR distribution for DECT US, channel 2, cheek position, right side of head, Antenna 2 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131 FCC yprm 2 ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.41, 8.41, 8.41); Calibrated: 24.09.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 20.09.2012
- 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

**Tilted Right/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.004 mW/g

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

Reference Value = 1.77 V/m; Power Drift = -0.136 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.00421 mW/g; SAR(10 g) = 0.00202 mW/g**

Maximum value of SAR (measured) = 0.005 mW/g

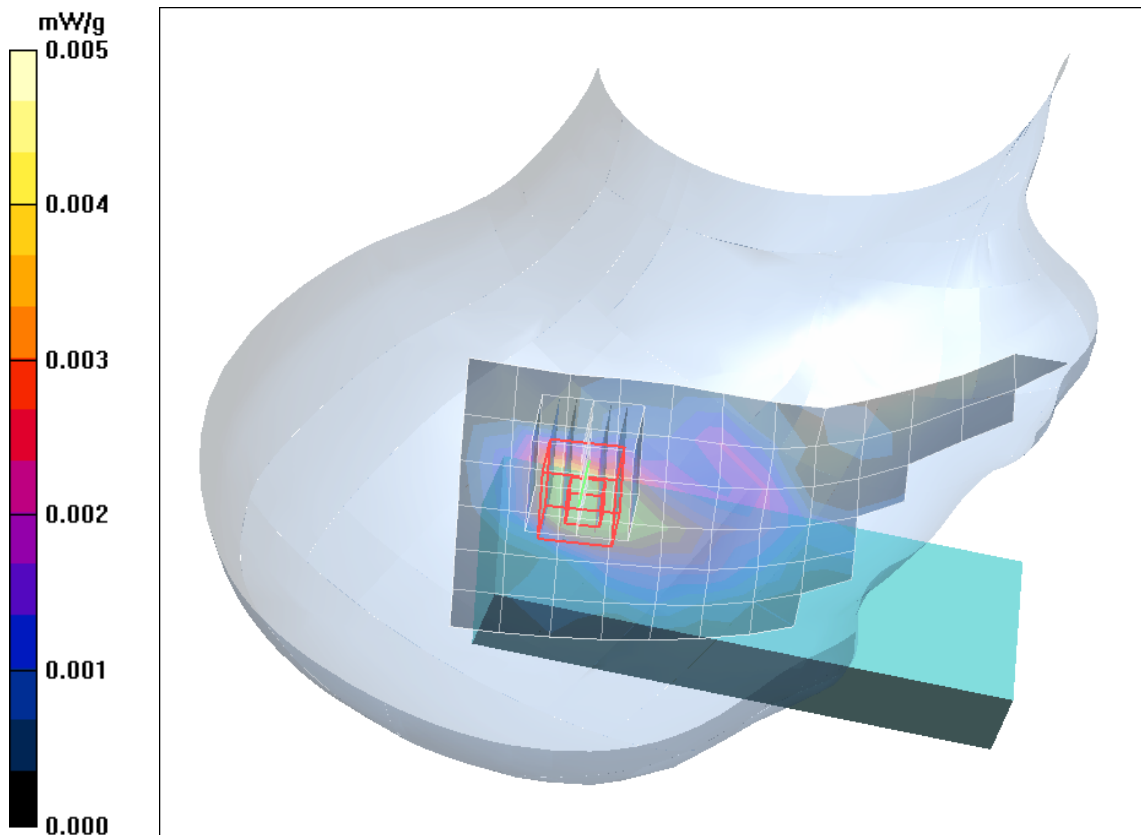


Fig. 8: SAR distribution for DECT US, channel 2, tilted position, right side of head, Antenna 2 (October 23, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.9°C)

## 2 SAR Distribution Plots, Body Measurement

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131\\_yphm\\_1\\_dspl\\_up\\_ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.4, 8.4, 8.4); Calibrated: 24.09.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 20.09.2012
- 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/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.008 mW/g

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

Reference Value = 1.74 V/m; Power Drift = -0.086 dB

Peak SAR (extrapolated) = 0.018 W/kg

**SAR(1 g) = 0.009 mW/g; SAR(10 g) = 0.005 mW/g**

Maximum value of SAR (measured) = 0.011 mW/g

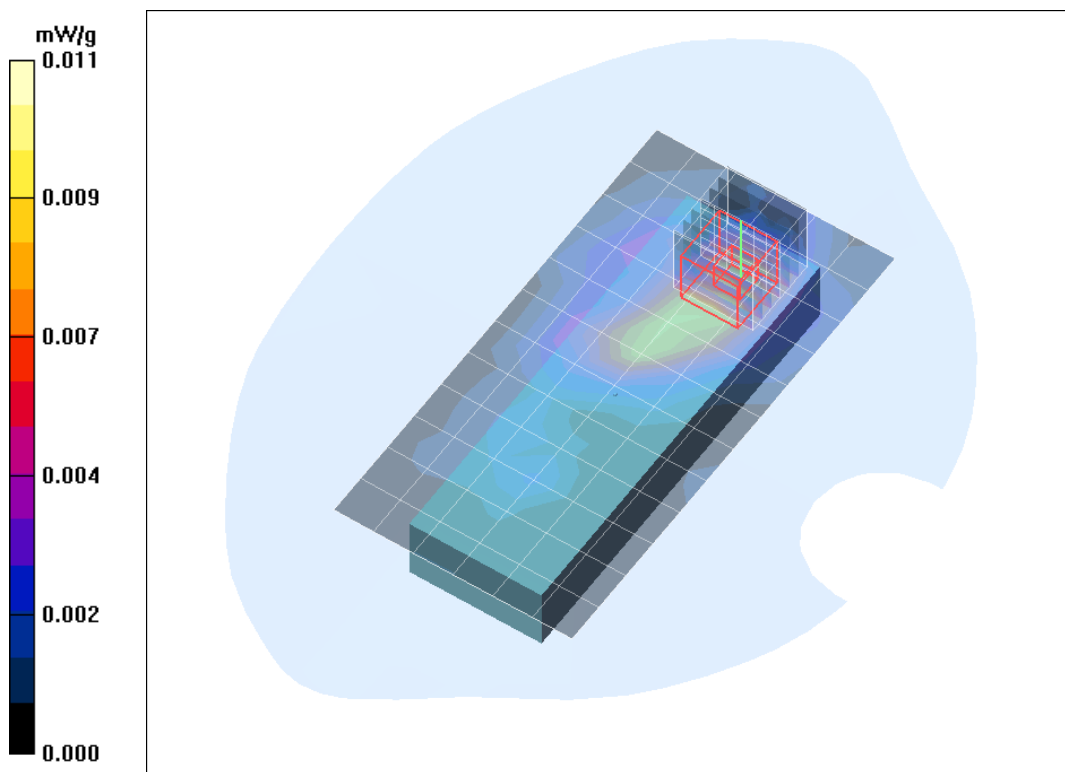


Fig. 9: SAR distribution for DECT US, channel 2, display up, Antenna 1 (November 16, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.8°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131\\_yphm\\_2\\_dspl\\_down\\_ant1.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.4, 8.4, 8.4); Calibrated: 24.09.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 20.09.2012
- 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/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.006 mW/g

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

Reference Value = 1.79 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 0.027 W/kg

**SAR(1 g) = 0.006 mW/g; SAR(10 g) = 0.002 mW/g**

Maximum value of SAR (measured) = 0.009 mW/g

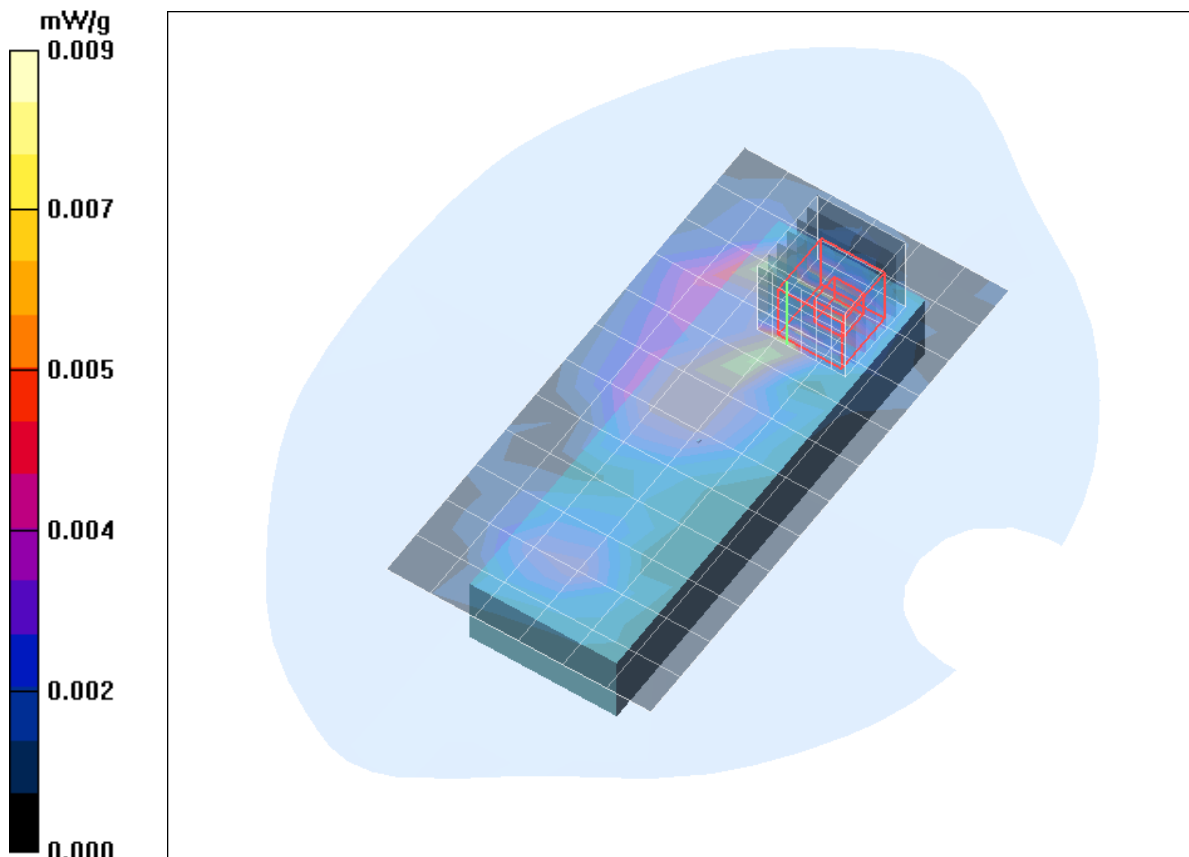


Fig. 10: SAR distribution for DECT US, channel 2, display down, Antenna 1 (November 16, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.8°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131\\_yphm\\_1\\_dspl\\_up\\_ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.4, 8.4, 8.4); Calibrated: 24.09.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 20.09.2012
- 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/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.013 mW/g

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

Reference Value = 2.42 V/m; Power Drift = 0.149 dB

Peak SAR (extrapolated) = 0.019 W/kg

**SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.006 mW/g**

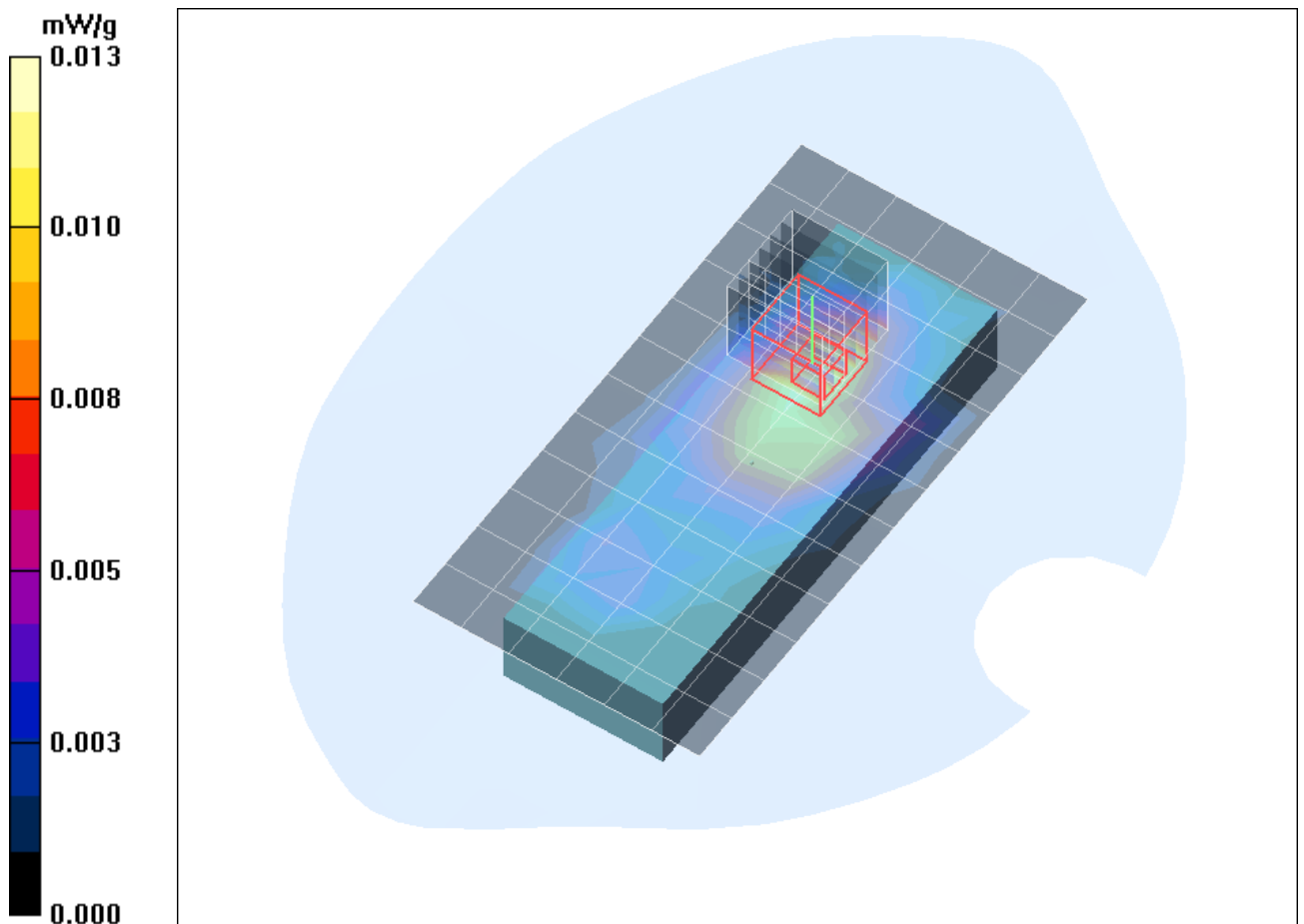


Fig. 11: SAR distribution for DECT US, channel 2, display up, Antenna 2 (November 16, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.8°C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [UDT131\\_yphm\\_2\\_dspl\\_down\\_ant2.da4](#)

DUT: Panasonic; Type: KX-UDT131;

Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.4, 8.4, 8.4); Calibrated: 24.09.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 20.09.2012
- 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/Area Scan (7x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.005 mW/g

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

Reference Value = 1.47 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.012 W/kg

**SAR(1 g) = 0.005 mW/g; SAR(10 g) = 0.0024 mW/g**

Maximum value of SAR (measured) = 0.006 mW/g

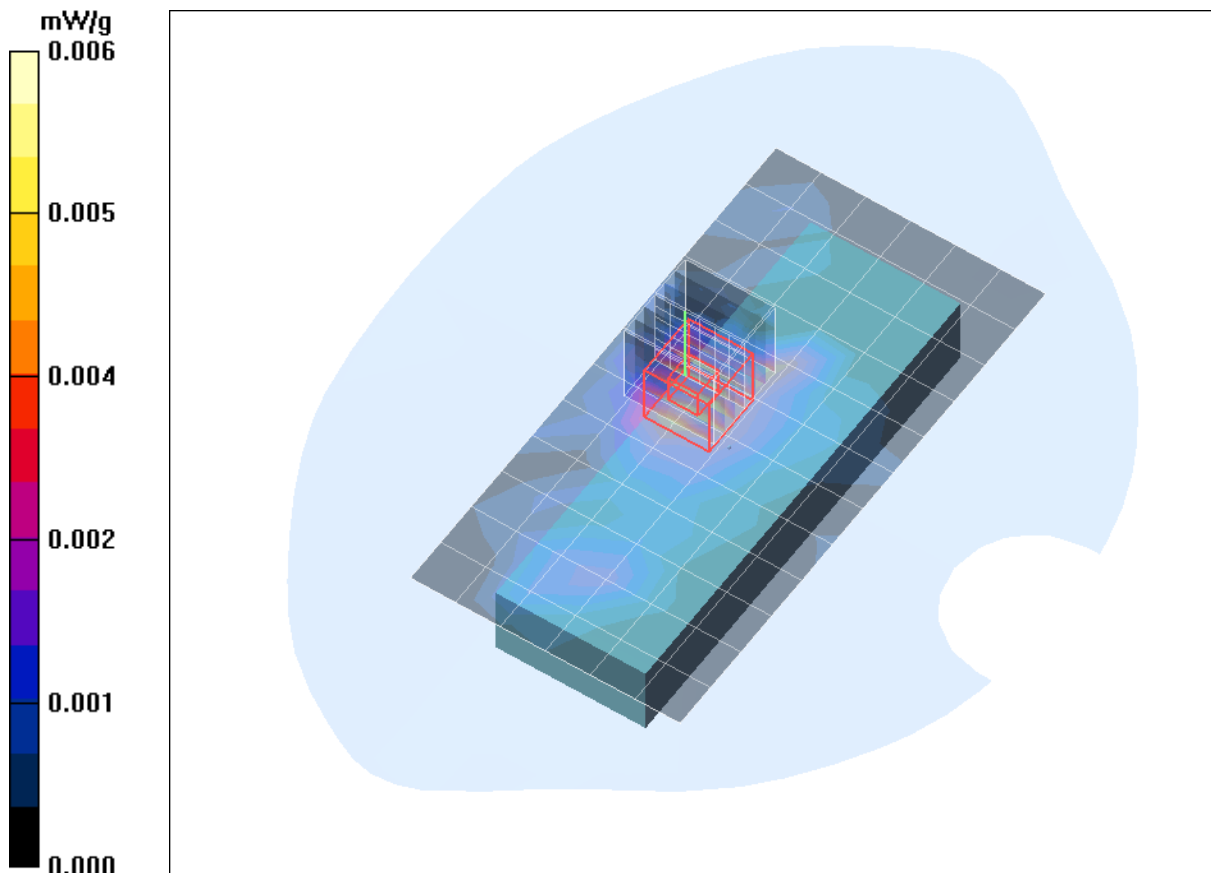


Fig. 12: SAR distribution for DECT US, channel 2, display down, Antenna 2 (November 16, 2012; Ambient Temperature: 22.0°C; Liquid Temperature: 21.8°C).

### 3 SAR Z-Axis Scans (Validation)

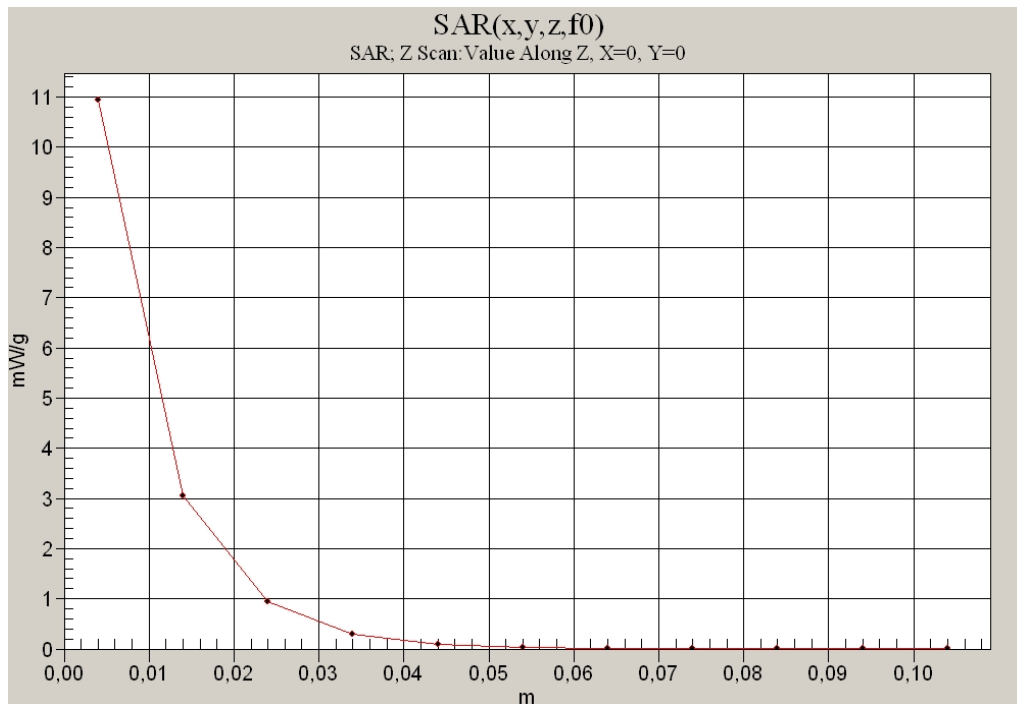


Fig. 13: SAR versus liquid depth, 1900 MHz, head (October 23, 2012; Ambient Temperature: 22.0° C; Liquid Temperature : 21.9° C).

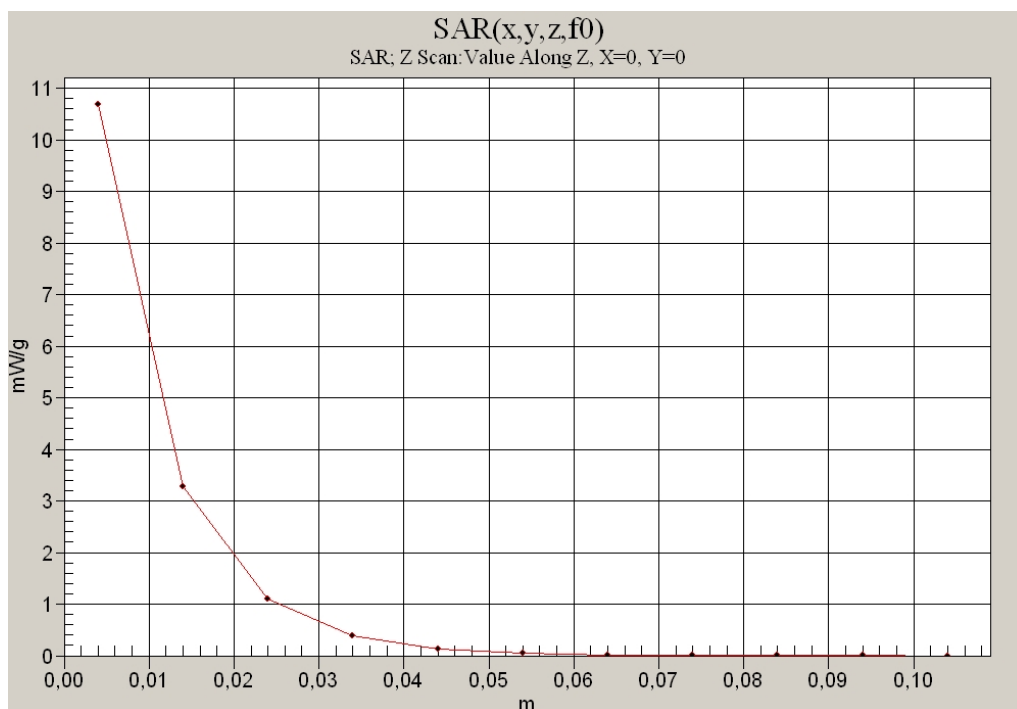


Fig. 14: SAR versus liquid depth, 1900 MHz, body (November 16, 2012; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).

### 4 SAR Z-Axis Scans (Measurements)

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

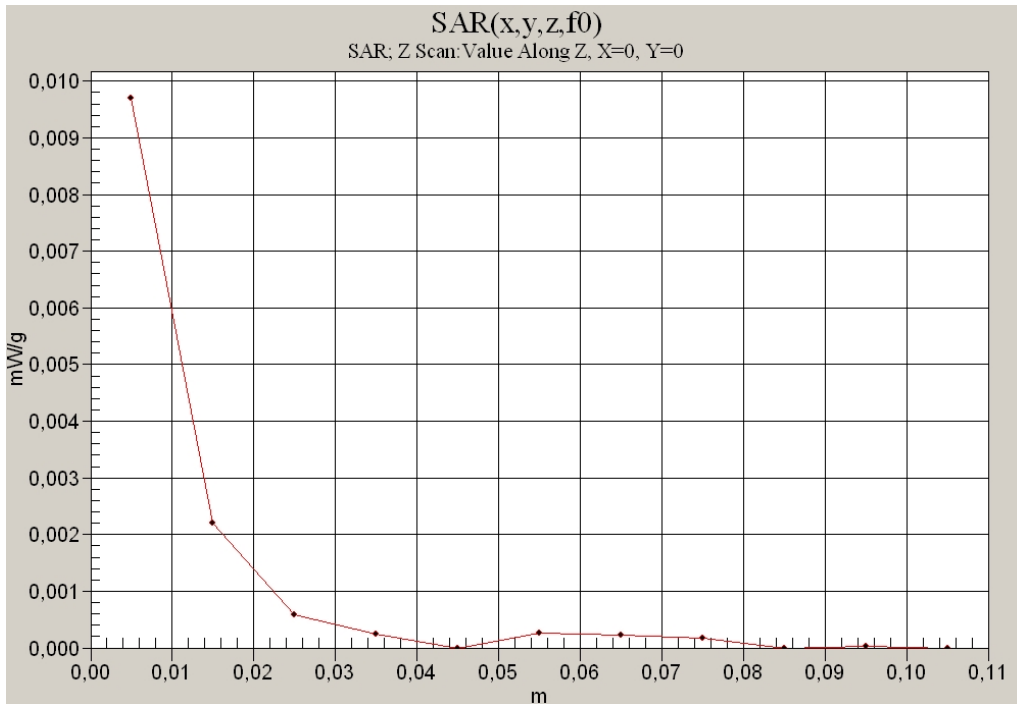


Fig. 15: SAR versus liquid depth, head: DECT US, channel 2, cheek position, left side of head, antenna 2 (October 23, 2012; Ambient Temperature: 22.0° C; Liquid Temperature : 21.9° C).

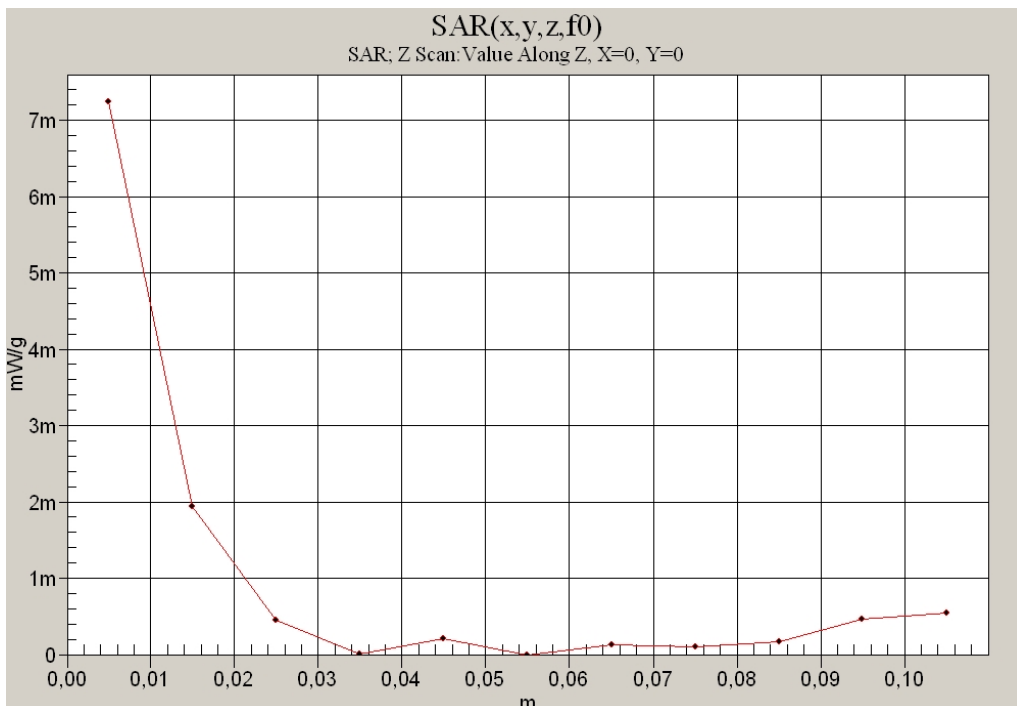


Fig. 16: SAR versus liquid depth, head: DECT US, channel 2, display up, antenna 2 (November 16, 2012; Ambient Temperature: 22.0° C; Liquid Temperature : 21.8° C).