
Appendix for the Report

Dosimetric Assessment of the Portable Device Ascom DH5 with Bluetooth (FCC ID: BXZDH5BL)

According to the FCC Requirements

SAR Distribution Plots

February 10, 2010

IMST GmbH

Carl-Friedrich-Gauß-Str. 2

D-47475 Kamp-Lintfort

Customer

Ascom Sweden AB

Wireless Solution P.O. Box 8783

SE-40276 Göteborg

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.

Table of Contents

1	SAR DISTRIBUTION PLOTS, HEAD MEASUREMENTS, ANTENNA 1.....	3
2	SAR DISTRIBUTION PLOTS, HEAD MEASUREMENTS, ANTENNA 2.....	7
3	SAR DISTRIBUTION PLOTS, BODY MEASUREMENTS, ANTENNA 1	11
4	SAR DISTRIBUTION PLOTS, BODY MEASUREMENTS, ANTENNA 2	13
5	SAR Z-AXIS SCANS (VALIDATION)	15
6	SAR Z-AXIS SCANS (MEASUREMENTS).....	16

1 SAR Distribution Plots, Head Measurements, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bplm_1_ant1.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Cheek Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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) = 0.007 mW/g

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

Reference Value = 1.96 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.018 W/kg

SAR(1 g) = 0.00604 mW/g; SAR(10 g) = 0.00323 mW/g

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

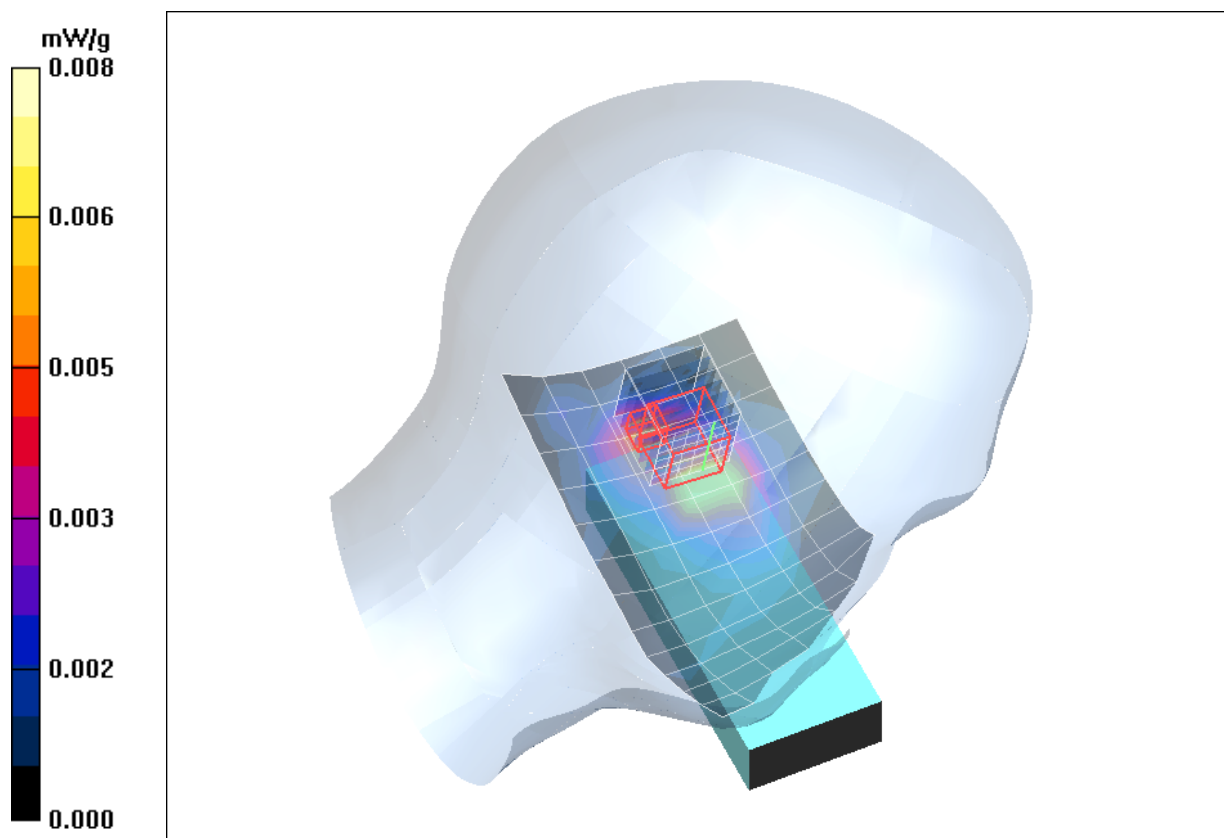


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bplm_2_ant1.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Tilted Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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) = 0.007 mW/g

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

Reference Value = 1.71 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 0.015 W/kg

SAR(1 g) = 0.00494 mW/g; SAR(10 g) = 0.00209 mW/g

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

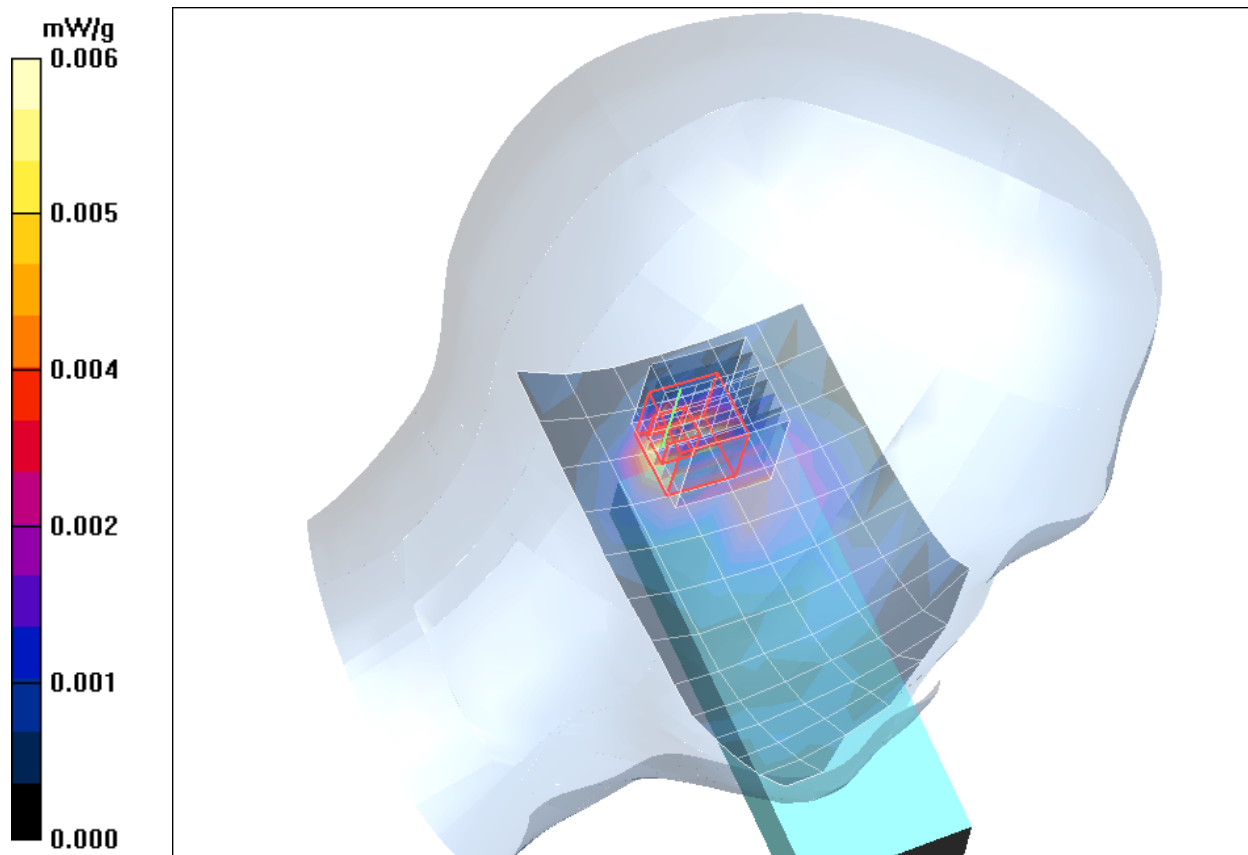


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bprm_1_ant1.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Cheek Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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) = 0.007 mW/g

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

Reference Value = 1.61 V/m; Power Drift = 0.143 dB

Peak SAR (extrapolated) = 0.012 W/kg

SAR(1 g) = 0.00635 mW/g; SAR(10 g) = 0.00287 mW/g

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

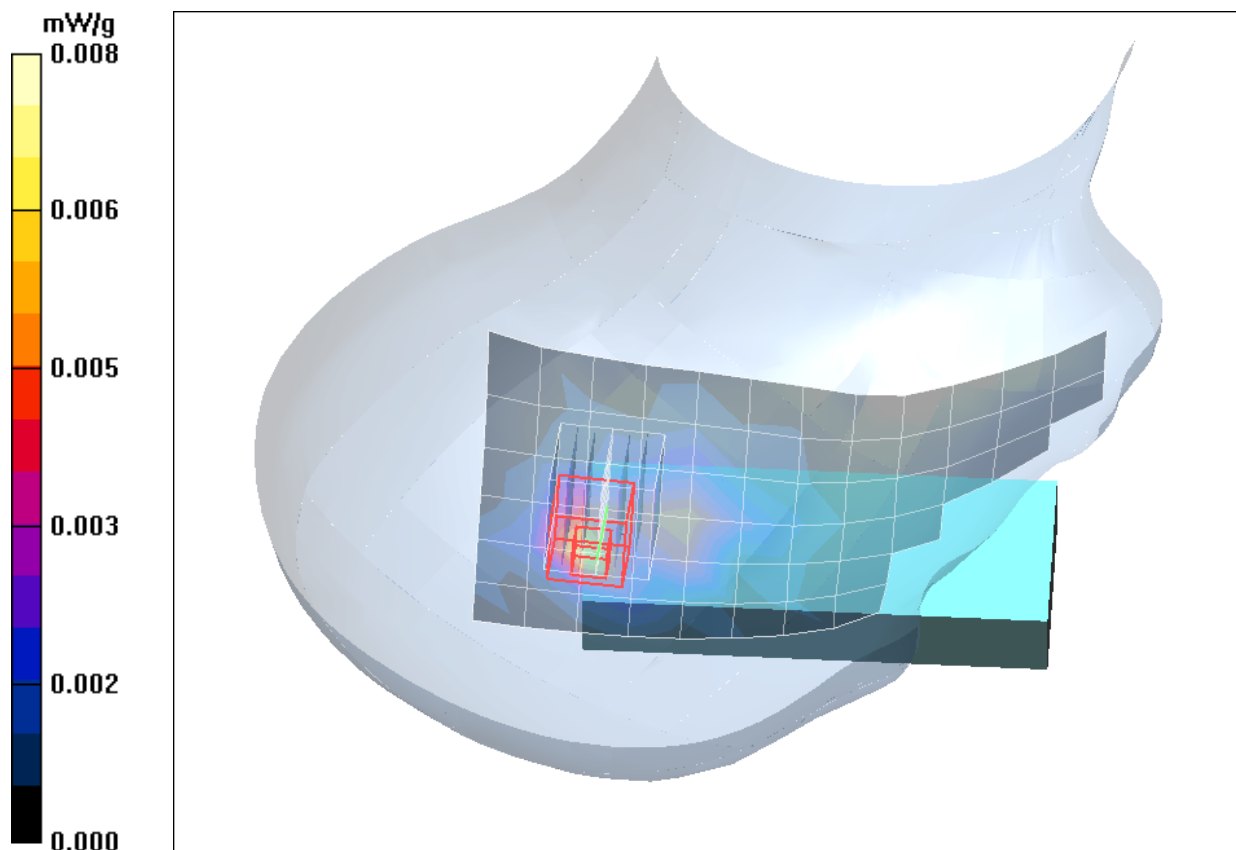


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bprm_2_ant1.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Tilted Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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 = 1.39 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 0.013 W/kg

SAR(1 g) = 0.00637 mW/g; SAR(10 g) = 0.0029 mW/g

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

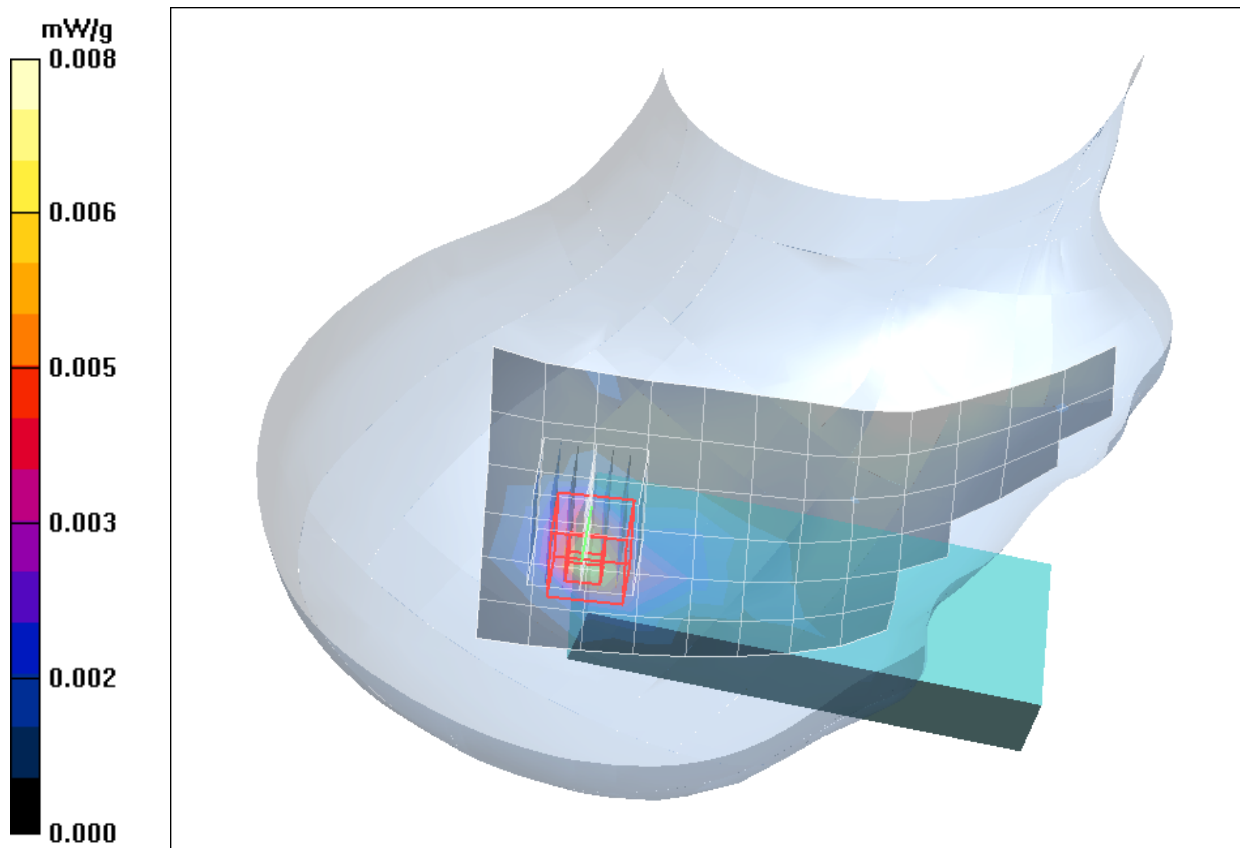


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C)

2 SAR Distribution Plots, Head Measurements, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bplm_1_ant2.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Cheek Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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) = 0.009 mW/g

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

Reference Value = 2.16 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.00947 mW/g; SAR(10 g) = 0.00503 mW/g

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

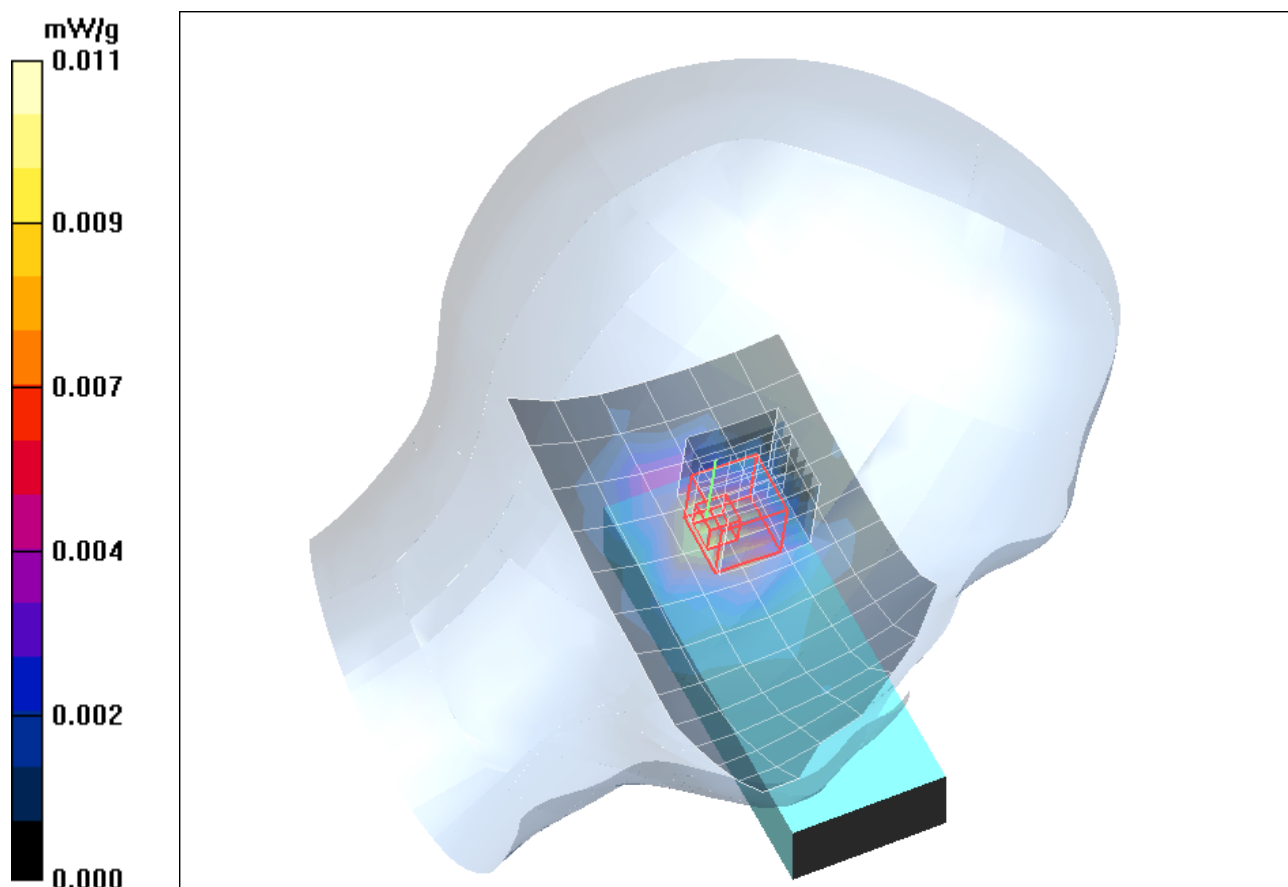


Fig. 5: SAR distribution for DECT US, channel 2, cheek position, left side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bplm_2_ant2.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Tilted Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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 = 1.93 V/m; Power Drift = -0.168 dB

Peak SAR (extrapolated) = 0.010 W/kg

SAR(1 g) = 0.00622 mW/g; SAR(10 g) = 0.00278 mW/g

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

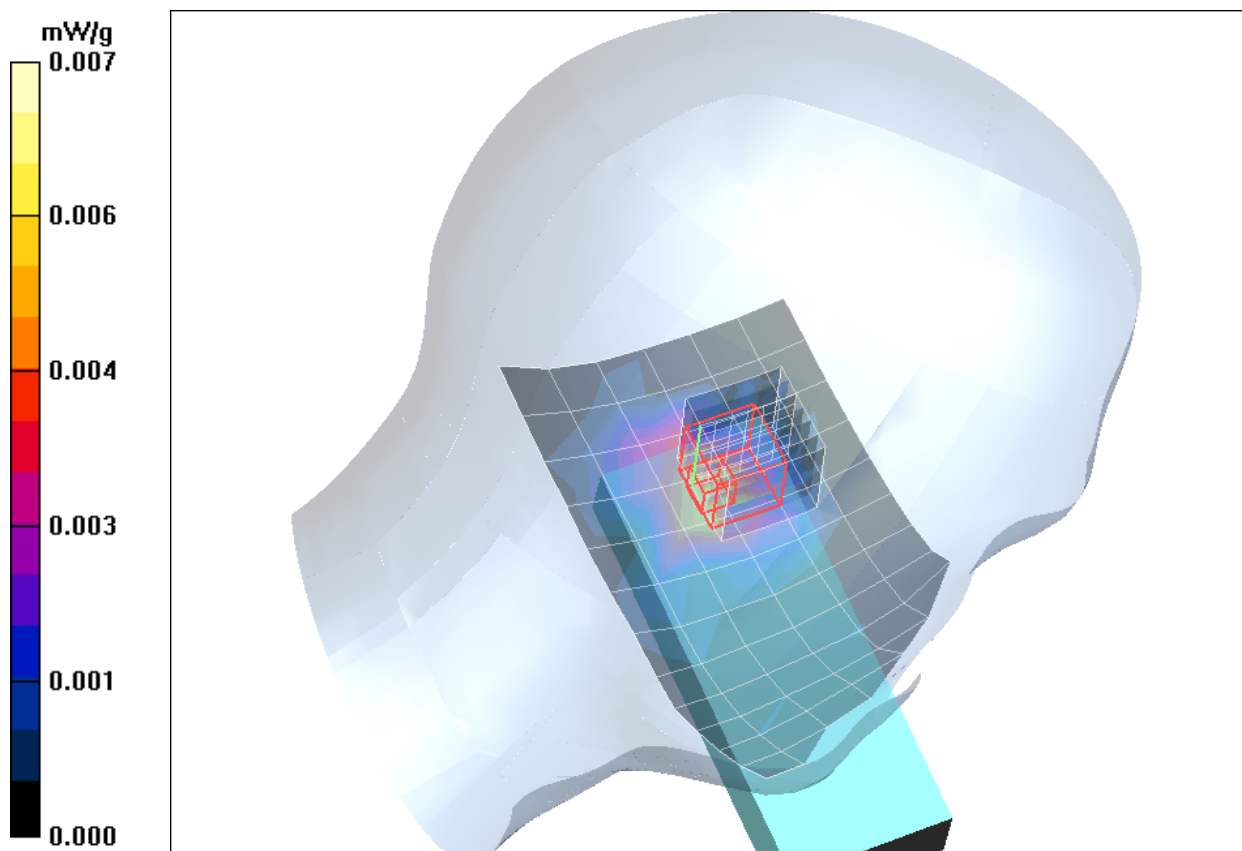


Fig. 6: SAR distribution for DECT US, channel 2, tilted position, left side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bprm_1_ant2.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Cheek Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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) = 0.012 mW/g

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

Reference Value = 2.35 V/m; Power Drift = 0.163 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00728 mW/g

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

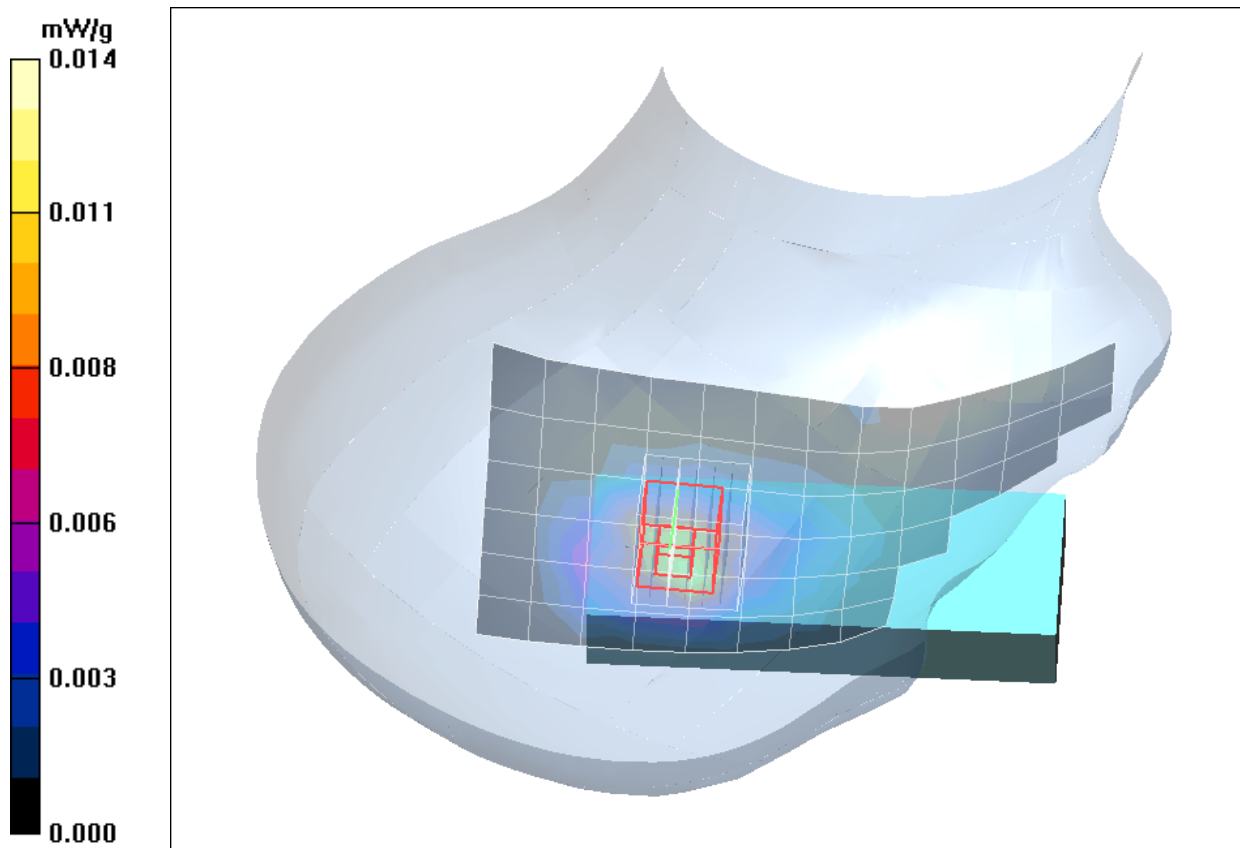


Fig. 7: SAR distribution for DECT US, channel 2, cheek position, right side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bprm_2_ant2.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Tilted Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 18.09.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 14.09.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- 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 = 2.13 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.00781 mW/g; SAR(10 g) = 0.00447 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

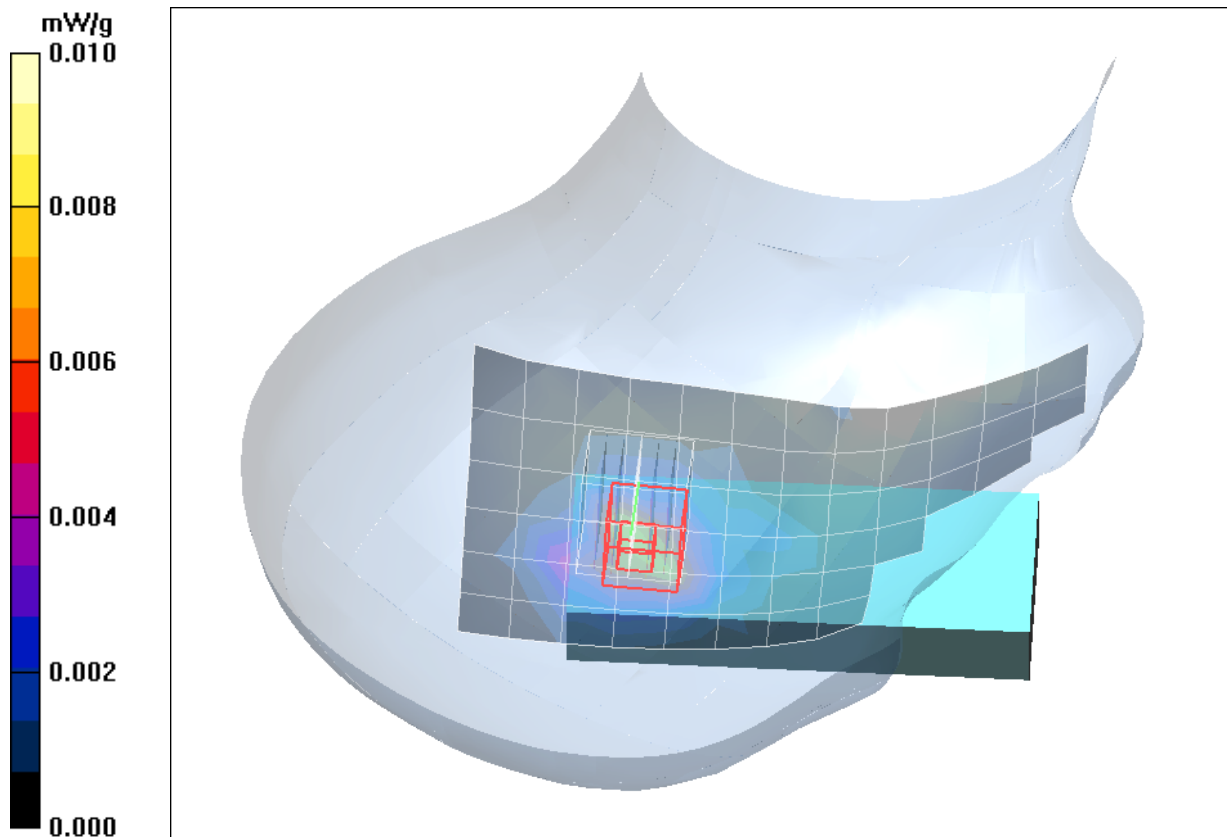


Fig. 8: SAR distribution for DECT US, channel 2, tilted position, right side of head (February 08, 2010; Ambient Temperature: 20.6°C; Liquid Temperature: 20.1°C)

3 SAR Distribution Plots, Body Measurements, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bphm_1_ant1_hs_up.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Body Worn

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³

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 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.12 V/m; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.013 W/kg

SAR(1 g) = 0.00886 mW/g; SAR(10 g) = 0.0046 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

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

Reference Value = 1.12 V/m; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.016 W/kg

SAR(1 g) = 0.00773 mW/g; SAR(10 g) = 0.00362 mW/g

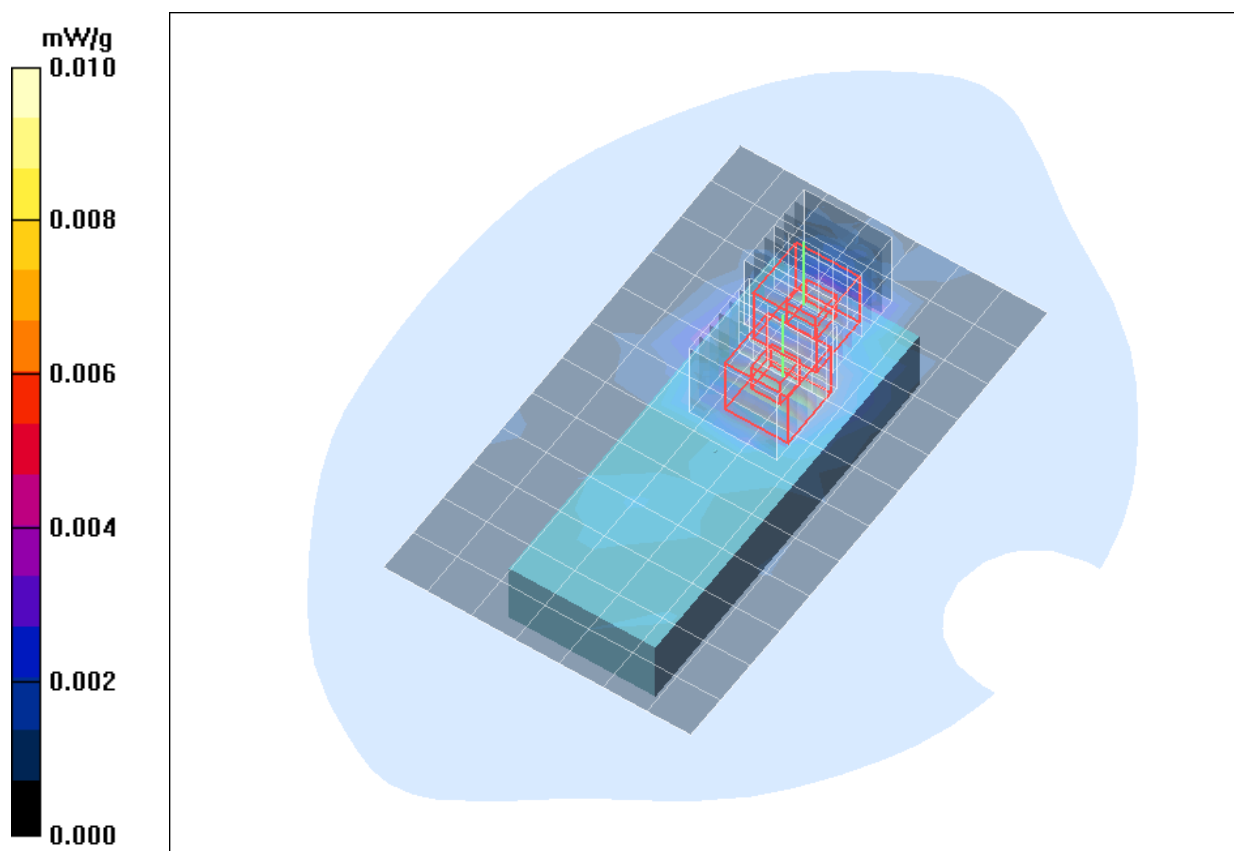


Fig. 9: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and 0 mm distance (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature: 20.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bphm_2_ant1_hs_down.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Body Worn

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³

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 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.002 mW/g

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

Reference Value = 0.797 V/m; Power Drift = 0.107 dB

Peak SAR (extrapolated) = 0.010 W/kg

SAR(1 g) = 0.00223 mW/g; SAR(10 g) = 0.00109 mW/g

Maximum value of SAR (measured) = 0.003 mW/g

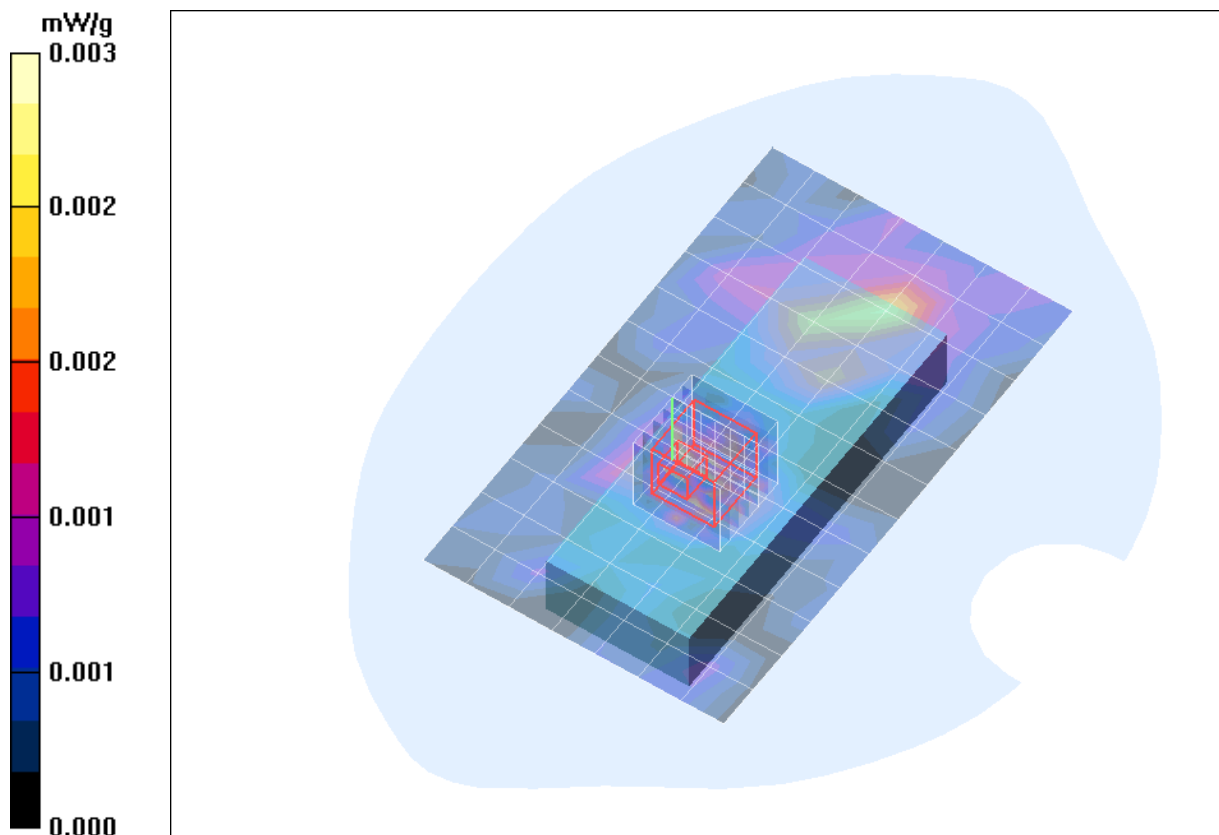


Fig. 10: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and 0 mm distance (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature: 20.1° C).

4 SAR Distribution Plots, Body Measurements, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bphm_1_ant2_hs_up.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Body Worn

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³

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 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.66 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 0.024 W/kg

SAR(1 g) = 0.014 mW/g; SAR(10 g) = 0.00791 mW/g

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

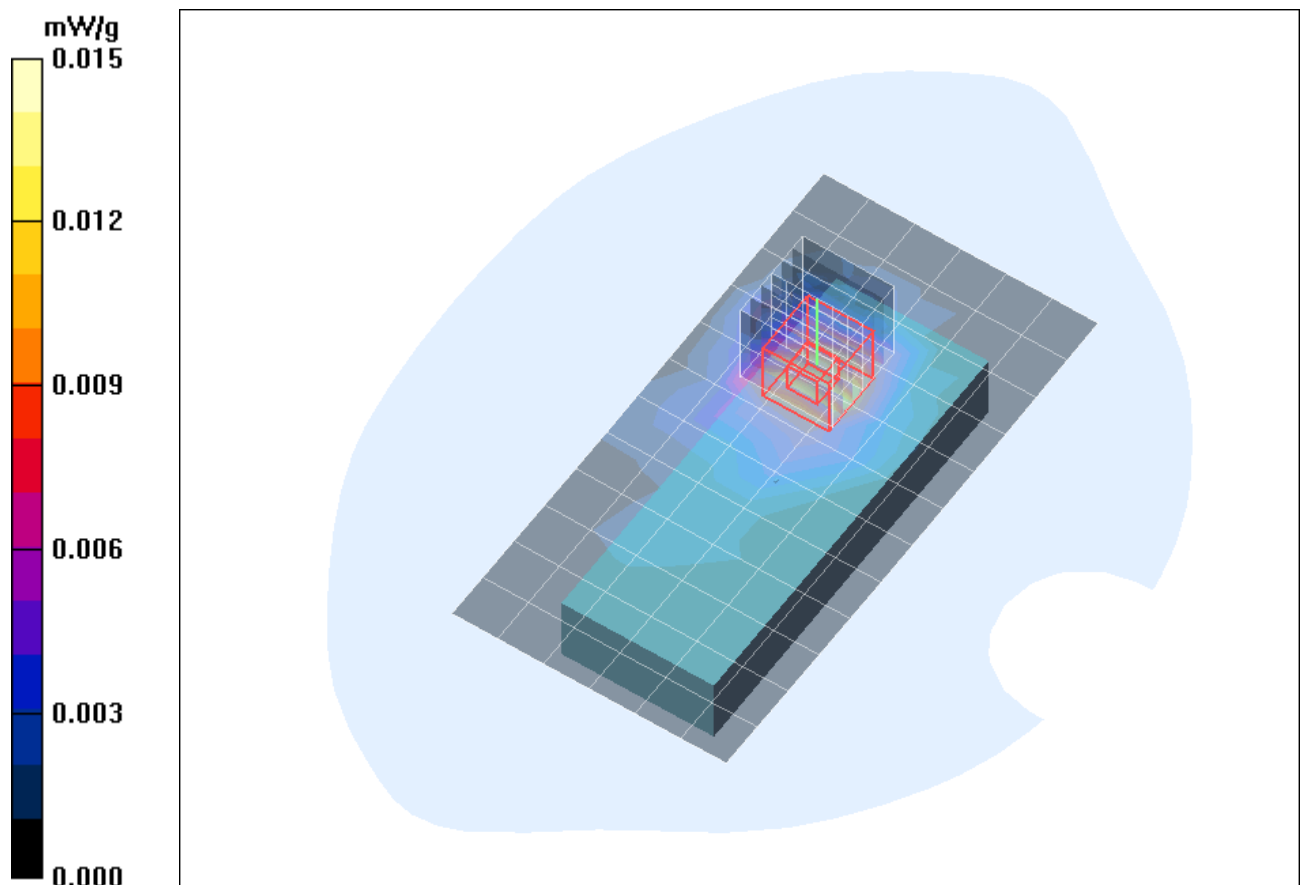


Fig. 11: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and 0 mm distance (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature: 20.1° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [DH5_480_bphm_2_ant2_hs_down.da4](#)

DUT: ASCOM; Type: DH5; Serial: 10084480

Program Name: Body Worn

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³

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 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.889 V/m; Power Drift = 0.165 dB

Peak SAR (extrapolated) = 0.028 W/kg

SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00836 mW/g

Maximum value of SAR (measured) = 0.019 mW/g

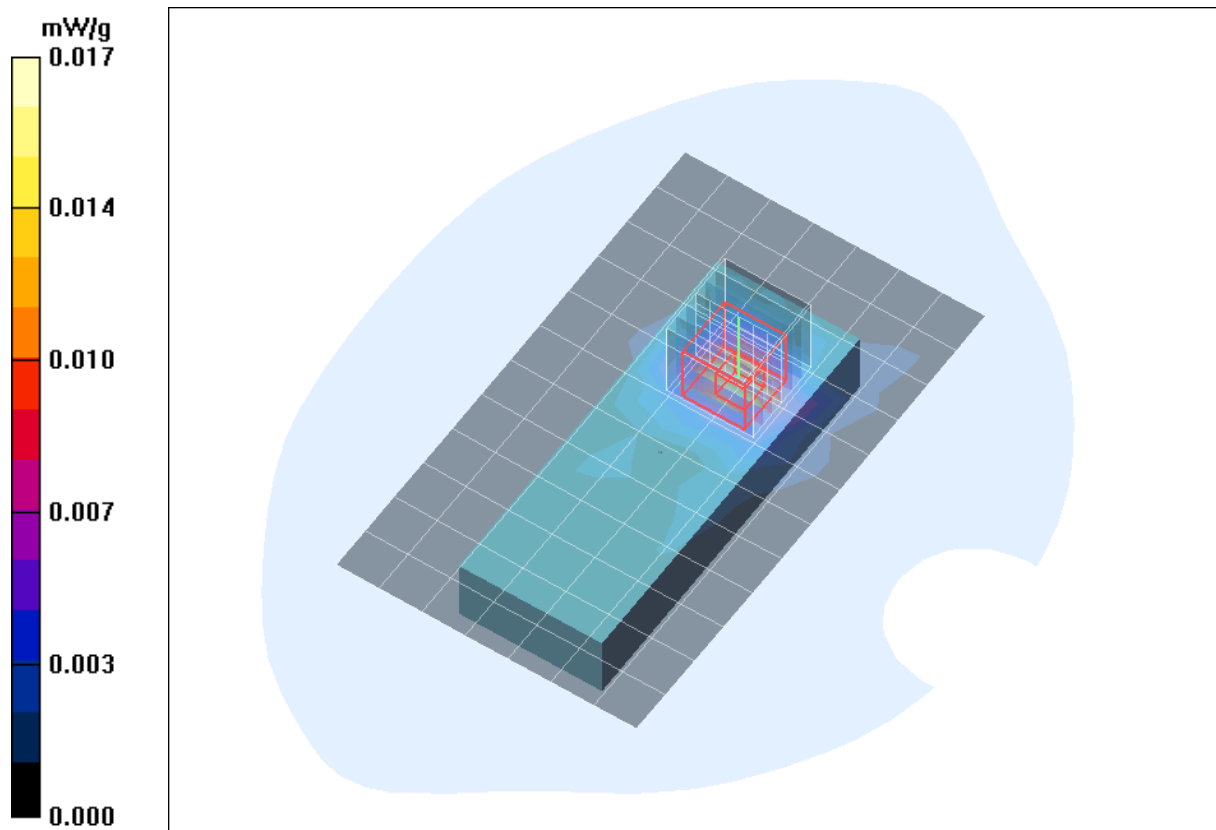


Fig. 12: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and 0 mm distance (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature: 20.1° C).

5 SAR z-axis scans (Validation)

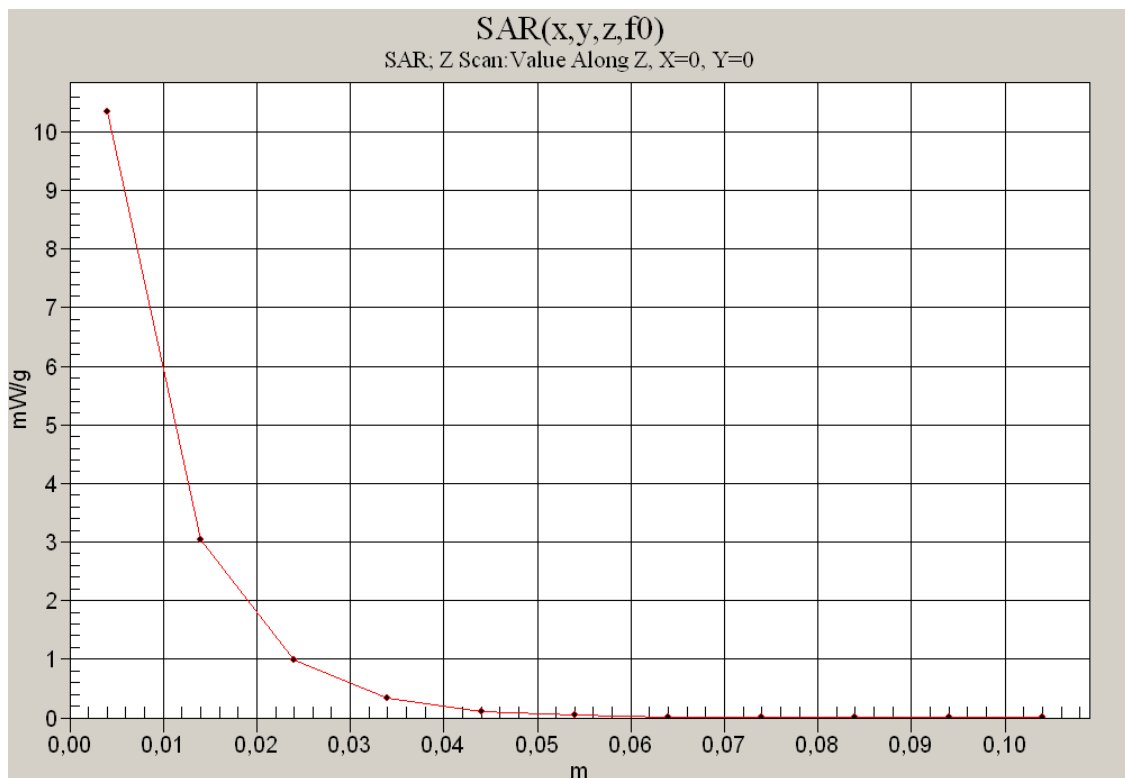


Fig. 13: SAR versus liquid depth, 1900 MHz, head (February 08, 2010; Ambient Temperature: 20.6° C; Liquid Temperature : 20.1° C).

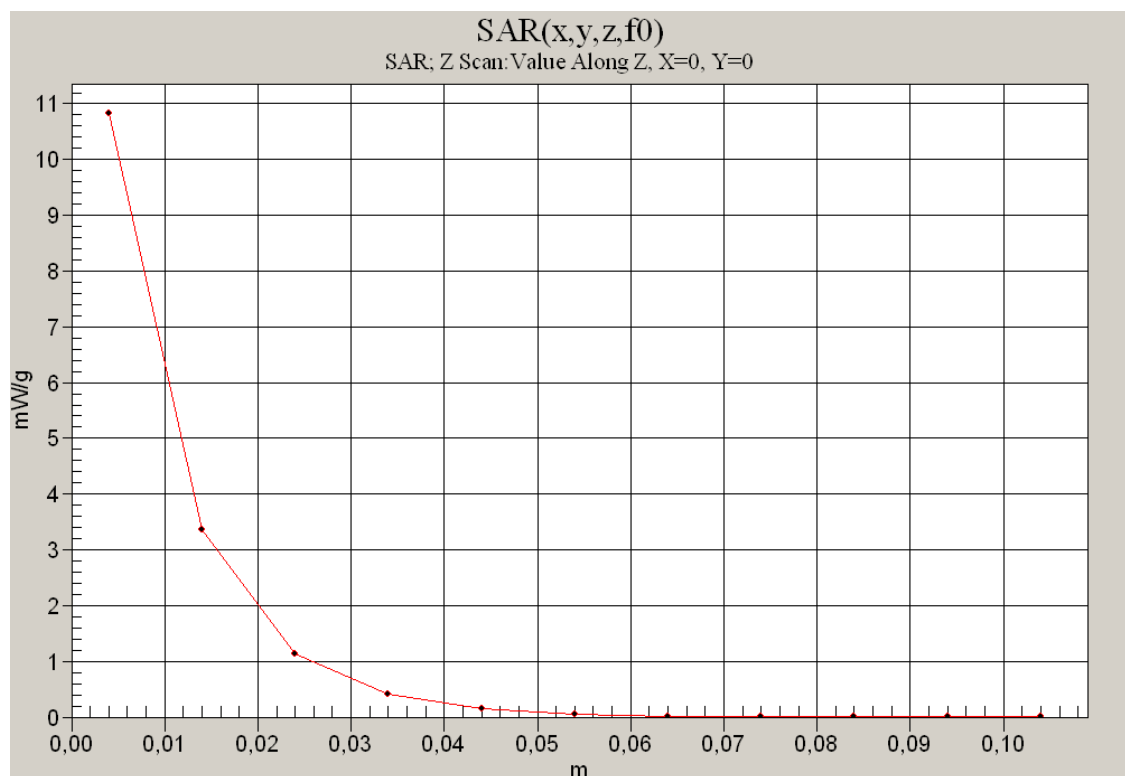


Fig. 14: SAR versus liquid depth, 1900 MHz, body (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature : 20.1° C).

6 SAR z-axis scans (Measurements)

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

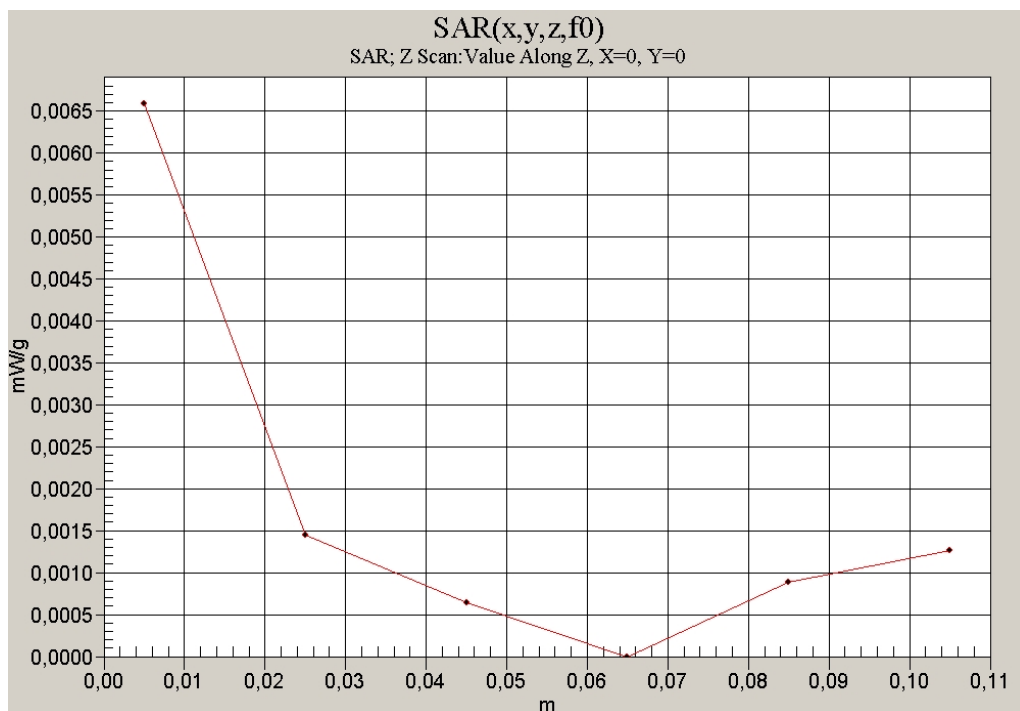


Fig. 15: SAR versus liquid depth, head: DECT US, channel 2, cheek position, right side of head, antenna 2 (February 08, 2010; Ambient Temperature: 20.6° C; Liquid Temperature : 20.1° C).

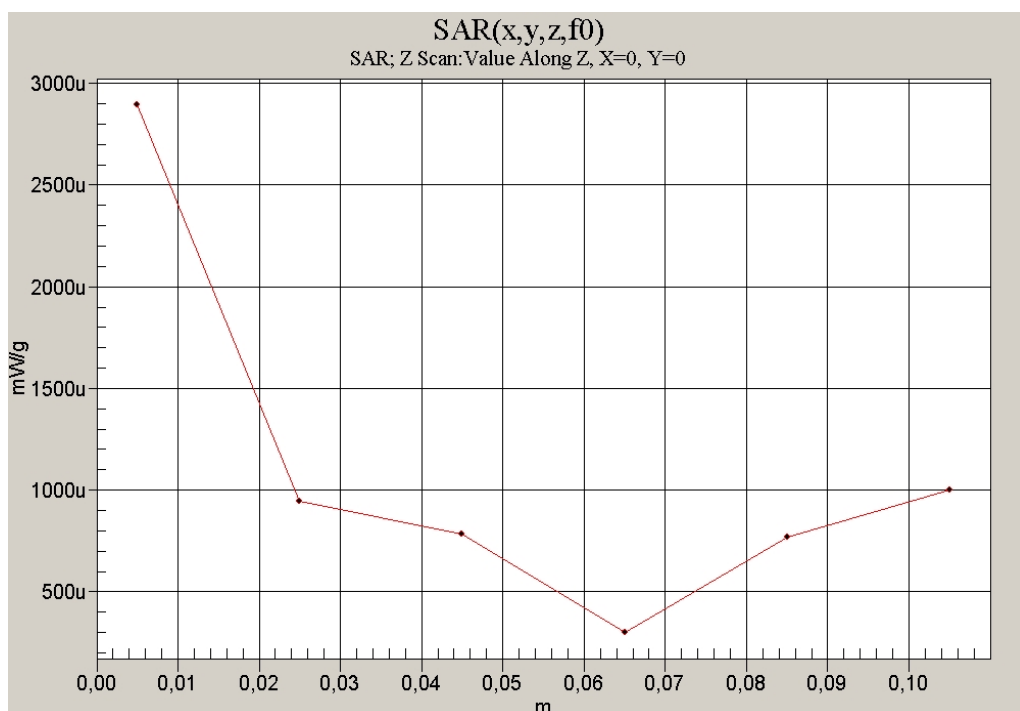


Fig. 16: SAR versus liquid depth, body: DECT US, channel 2, headset and 0 mm distance, antenna 2, display towards the ground (February 10, 2010; Ambient Temperature: 20.5° C; Liquid Temperature: 20.1° C).