
Appendix for the Report
Dosimetric Assessment of the
Panasonic KX-TGA402
(FCC ID: ACJ96NKX-TGA106)
According to the FCC Requirements
SAR Distribution Plots

November 18, 2009
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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..... 3

2 SAR DISTRIBUTION PLOTS, BODY MEASUREMENTS 7

3 SAR Z-AXIS SCANS (VALIDATION) 9

4 SAR Z-AXIS SCANS (MEASUREMENTS)..... 10

1 SAR Distribution Plots, Head Measurements

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402_bplm_1.da4](#)

DUT: Panasonic; Type: KX-TGA402;
 Program Name: Cheek Left

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24
 Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ 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 (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.023 mW/g

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

Reference Value = 1.13 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.065 W/kg

SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.00951 mW/g

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

Reference Value = 1.13 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.038 W/kg

SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.010 mW/g

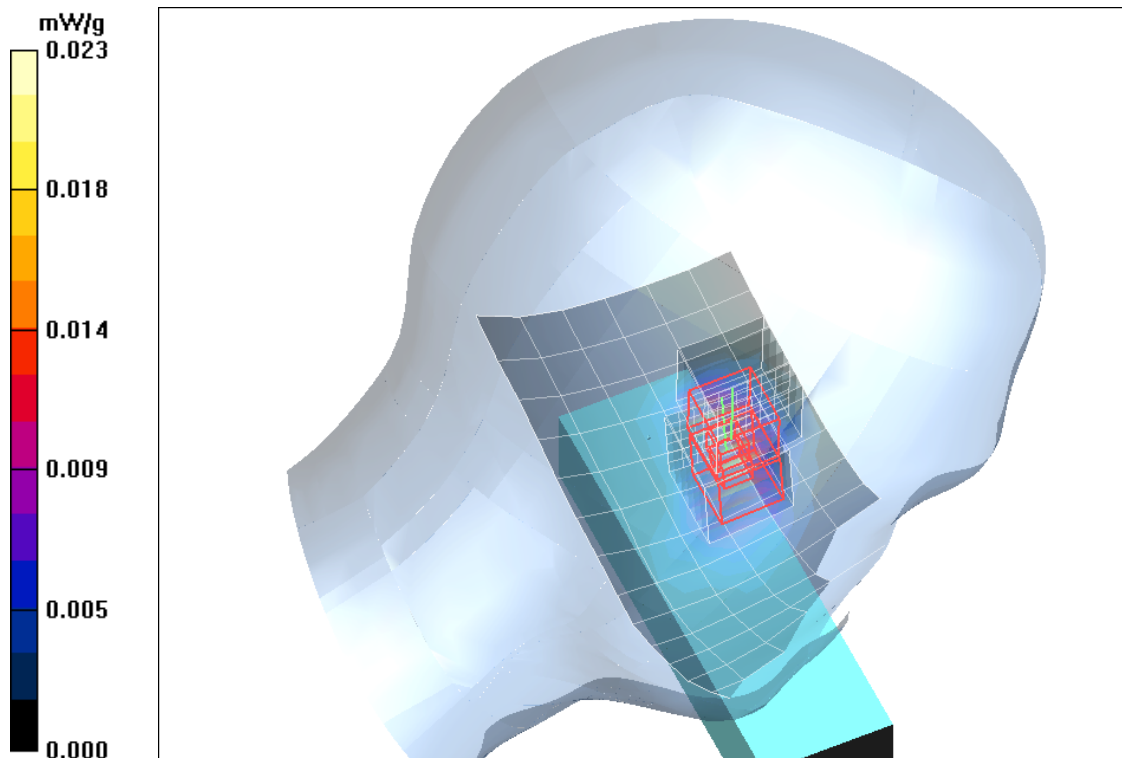


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head (November 17, 2009; Ambient Temperature: 21.5°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402_bplm_2.da4](#)

DUT: Panasonic; Type: KX-TGA402;

Program Name: Tilted Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ 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 (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.634 V/m; Power Drift = 0.099 dB

Peak SAR (extrapolated) = 0.014 W/kg

SAR(1 g) = 0.0082 mW/g; SAR(10 g) = 0.00417 mW/g

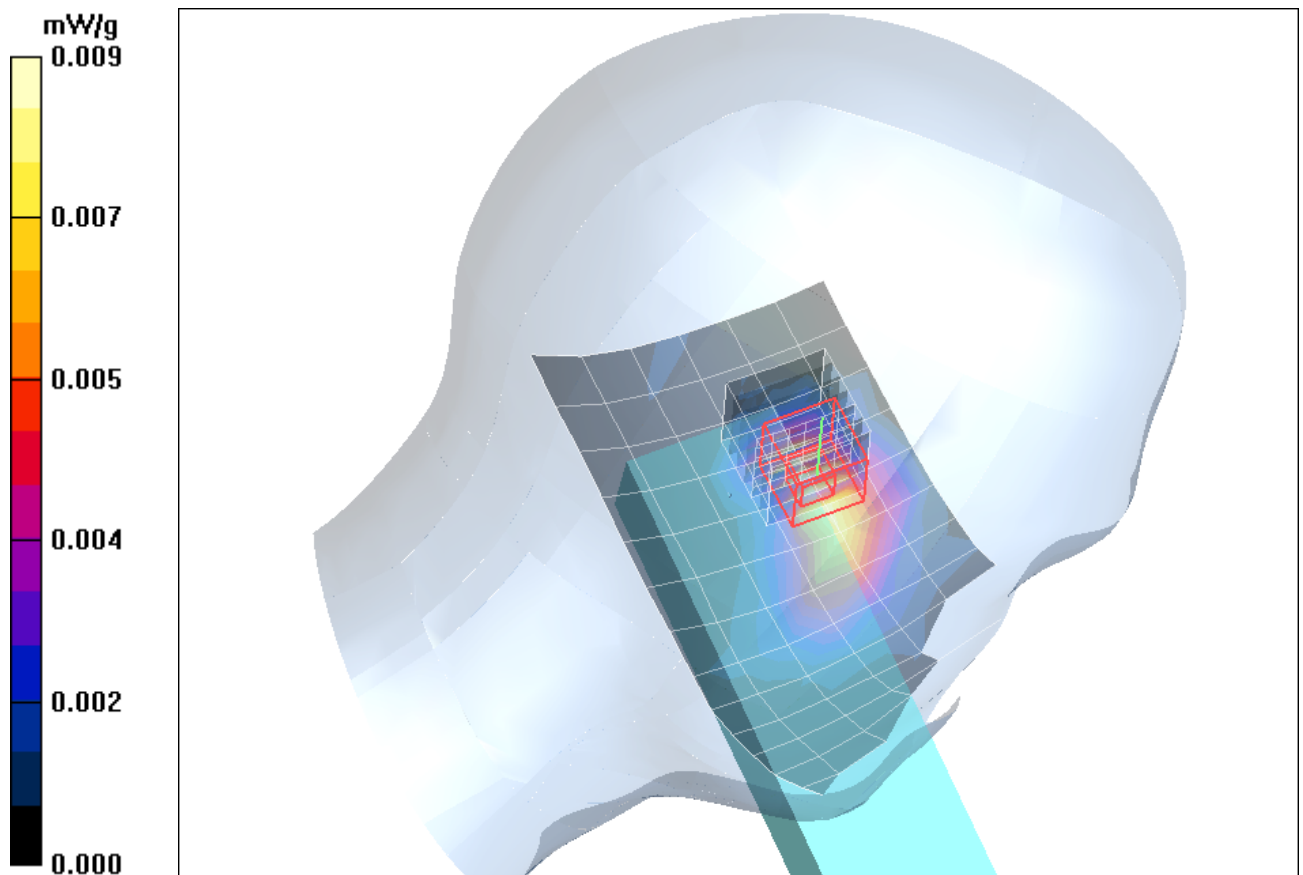


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head (November 17, 2009; Ambient Temperature: 21.5°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402_bprm_1.da4](#)

DUT: Panasonic; Type: KX-TGA402;

Program Name: Cheek Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ 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 (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.25 V/m; Power Drift = 0.093 dB

Peak SAR (extrapolated) = 0.028 W/kg

SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00846 mW/g

Maximum value of SAR (measured) = 0.018 mW/g

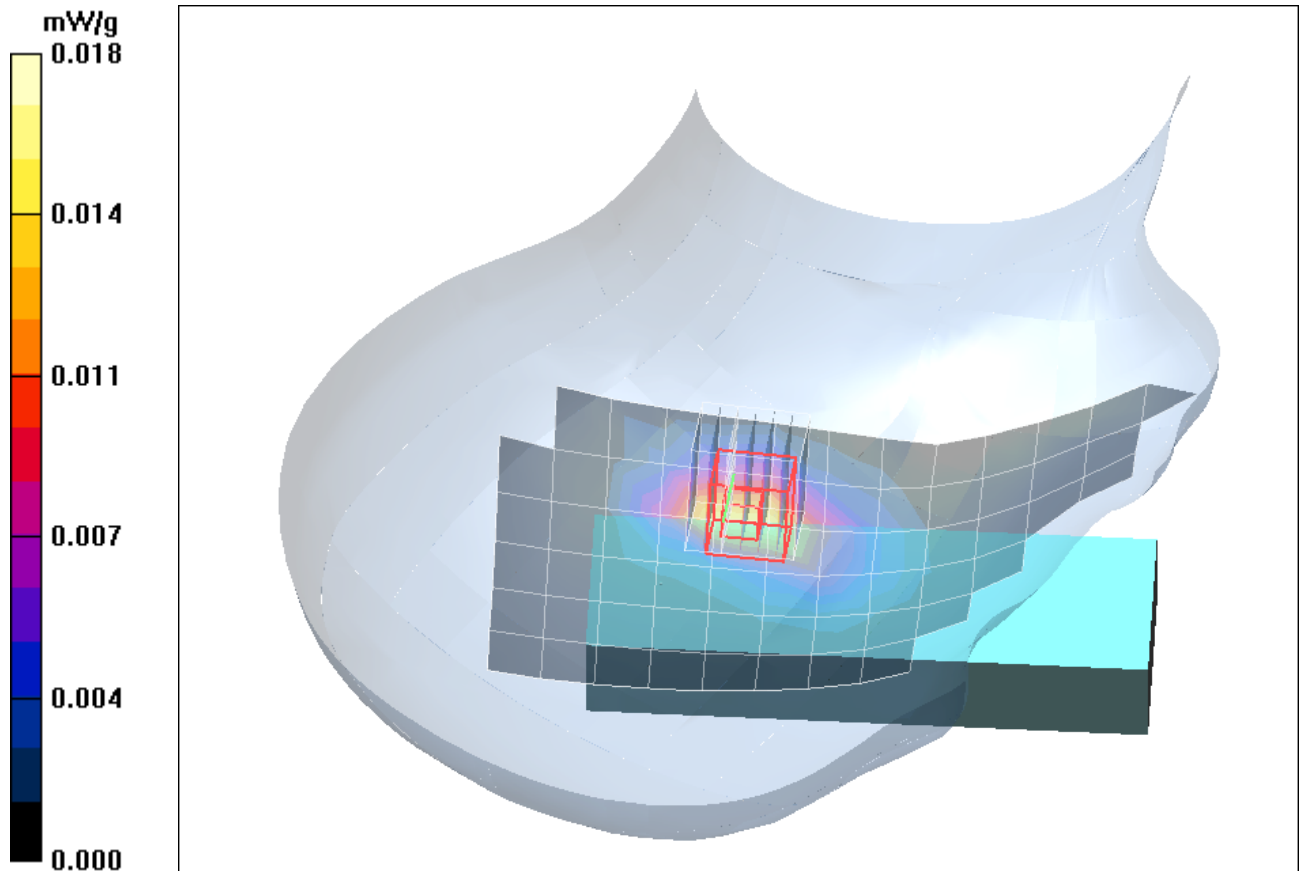


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head (November 17, 2009; Ambient Temperature: 21.5°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402_bprm_2.da4](#)

DUT: Panasonic; Type: KX-TGA402;

Program Name: Tilted Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ 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 (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.995 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.023 W/kg

SAR(1 g) = 0.00543 mW/g; SAR(10 g) = 0.00244 mW/g

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

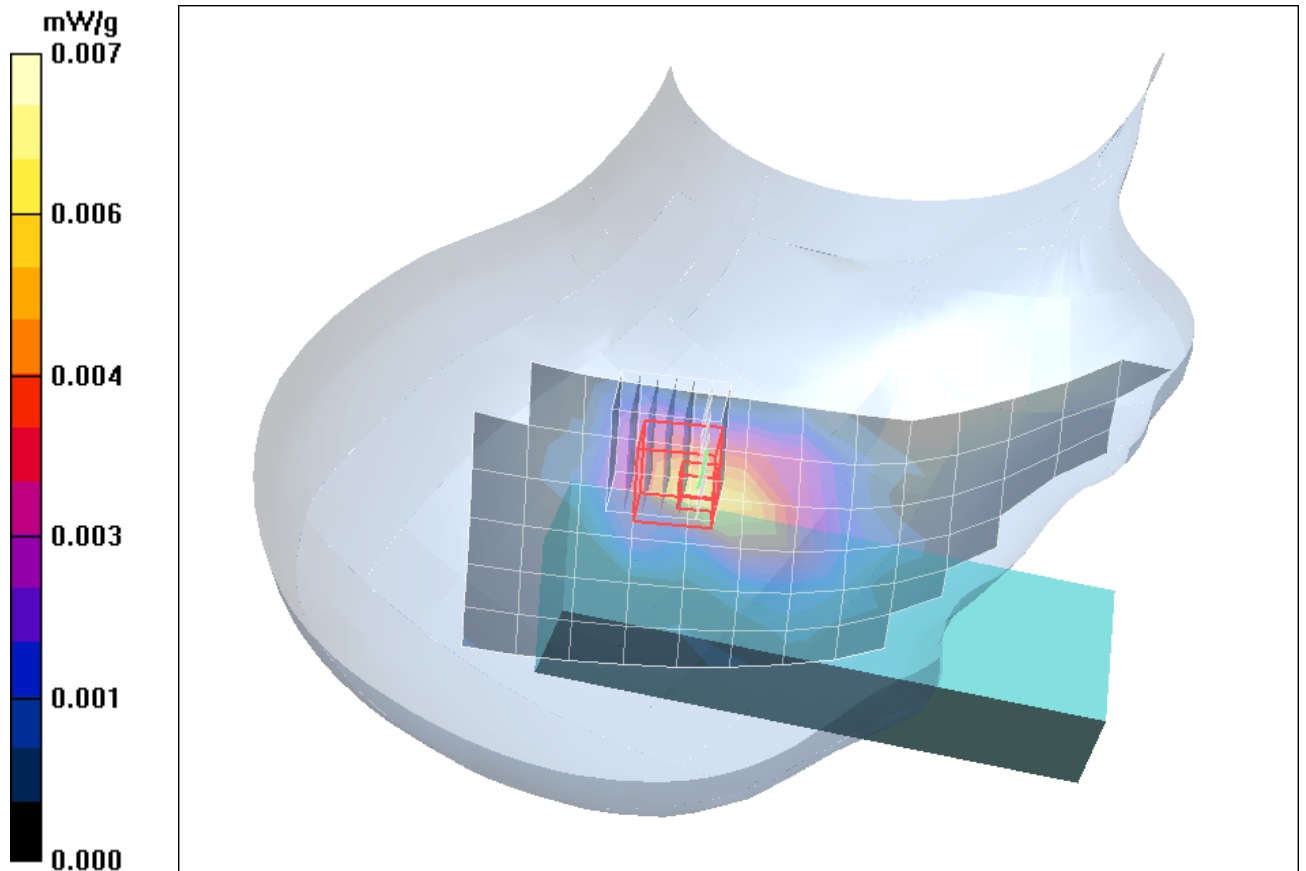


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head (November 17, 2009; Ambient Temperature: 21.5°C; Liquid Temperature: 20.9°C)

2 SAR Distribution Plots, Body Measurements

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402_bphm_1_dspl_up_clip.da4](#)

DUT: Panasonic; Type: KX-TGA402;

Program Name: Body

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.66, 4.66, 4.66); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body/Area Scan (8x14x1): 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 = 1.77 V/m; Power Drift = -0.068 dB

Peak SAR (extrapolated) = 0.028 W/kg

SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00884 mW/g

Maximum value of SAR (measured) = 0.018 mW/g

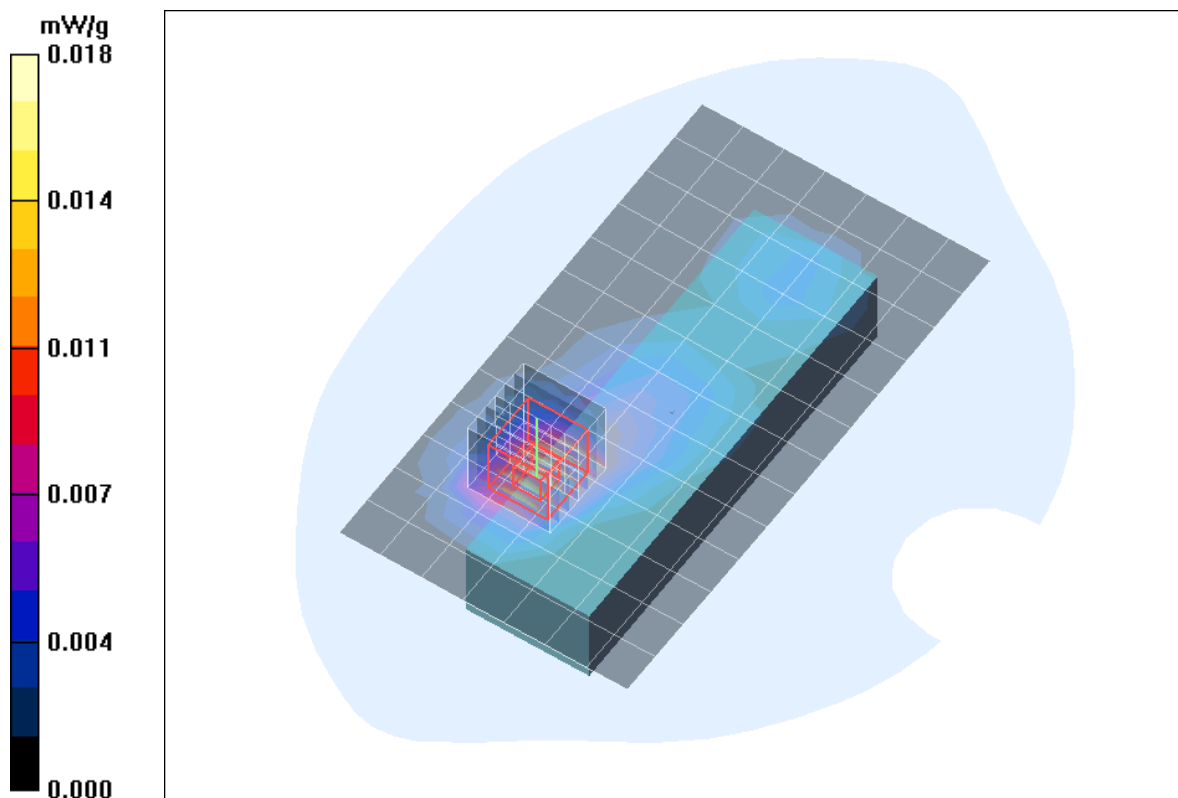


Fig. 5: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with belt clip, 0 mm distance (November 16, 2009; Ambient Temperature: 21.8° C; Liquid Temperature: 21.4° C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA402 bphm 2 dspl down clip.da4](#)

DUT: Panasonic; Type: KX-TGA402;

Program Name: Body

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.66, 4.66, 4.66); Calibrated: 10.02.2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.02.2009
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.93 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.00892 mW/g; SAR(10 g) = 0.00493 mW/g

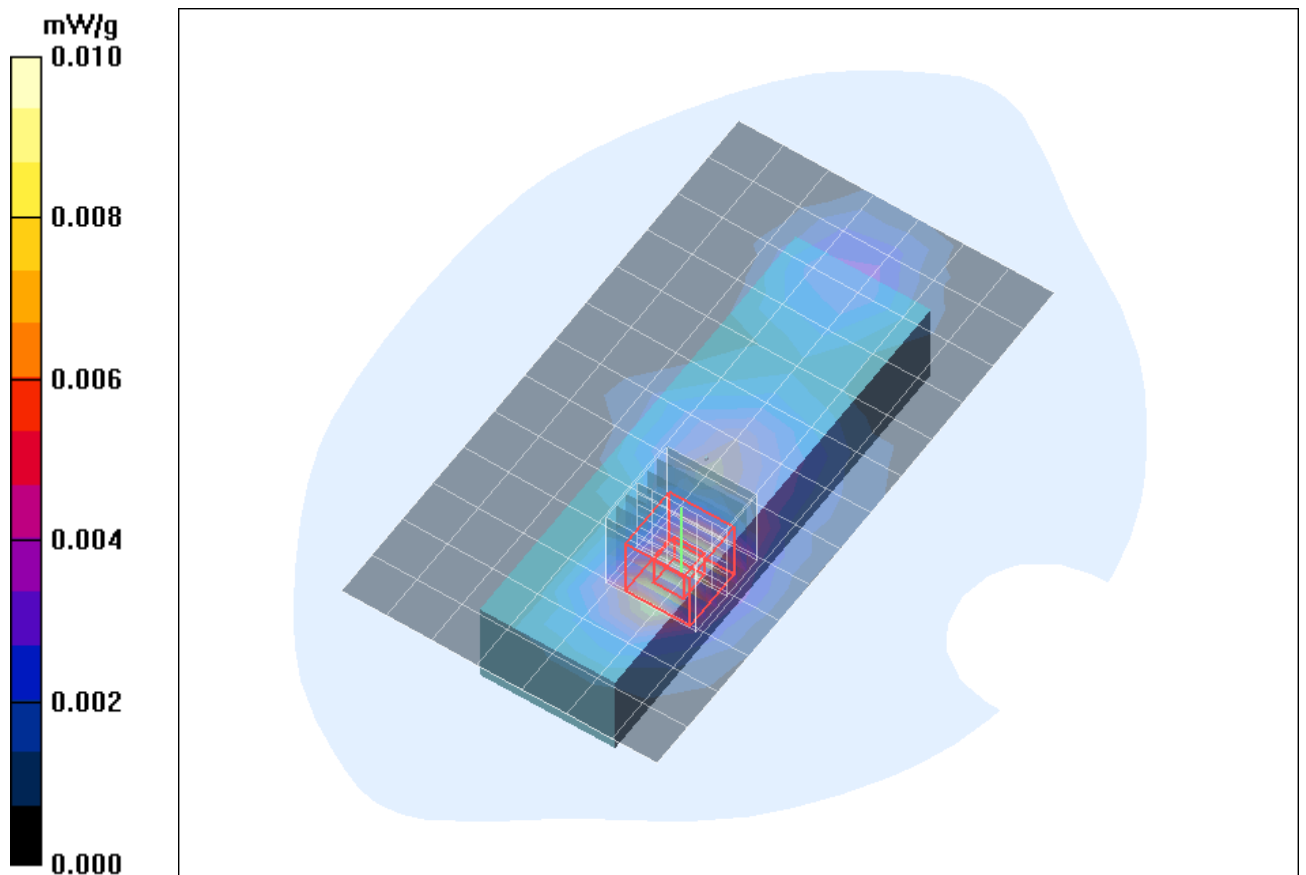


Fig. 6: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with belt clip, 0 mm distance (November 16, 2009; Ambient Temperature: 21.8° C; Liquid Temperature: 21.4° C).

3 SAR z-axis scans (Validation)

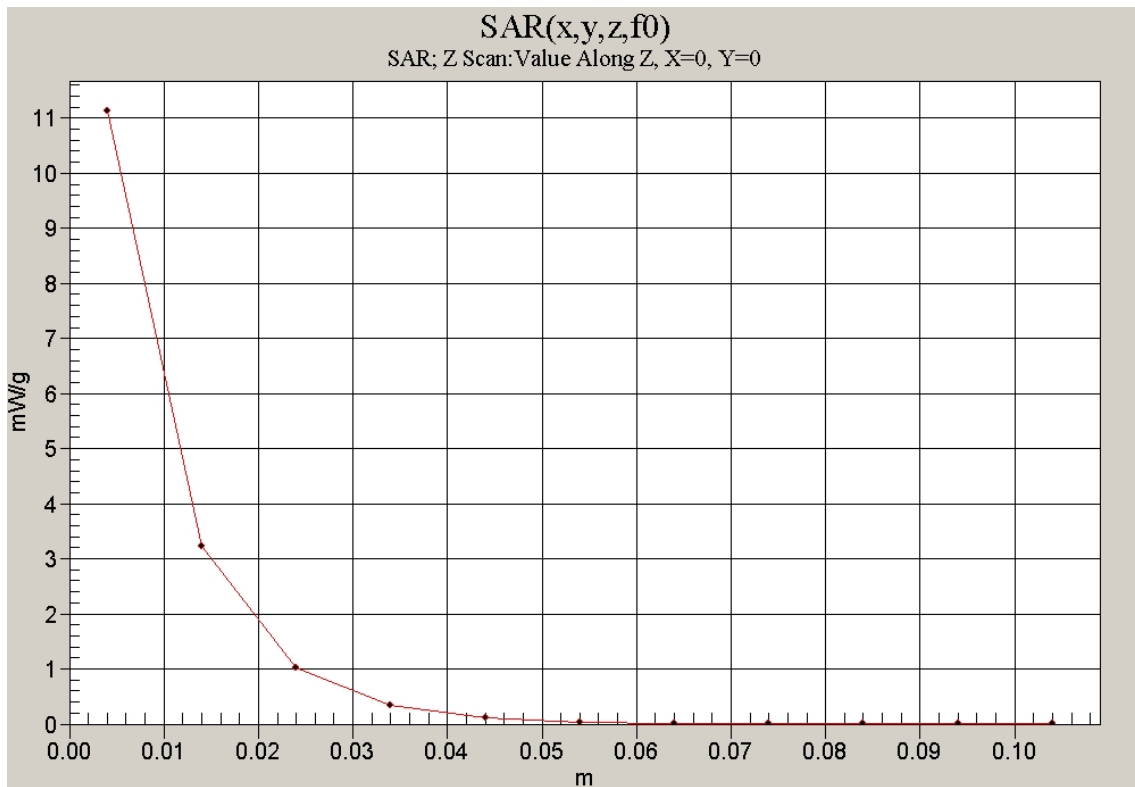


Fig. 7: SAR versus liquid depth, 1900 MHz, head (November 17, 2009; Ambient Temperature: 21.2° C; Liquid Temperature : 20.8° C).

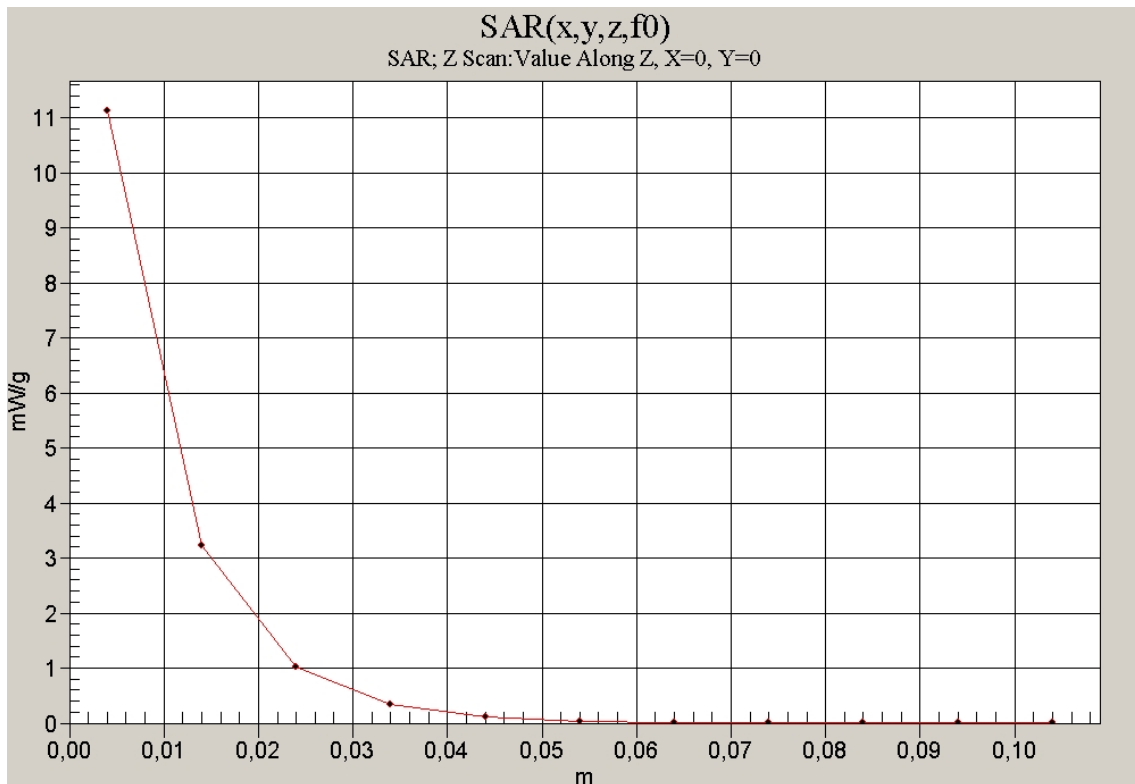


Fig. 8: SAR versus liquid depth, 1900 MHz, body (November 16, 2009; Ambient Temperature: 21.8° C; Liquid Temperature : 21.4° C).

4 SAR z-axis scans (Measurements)

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

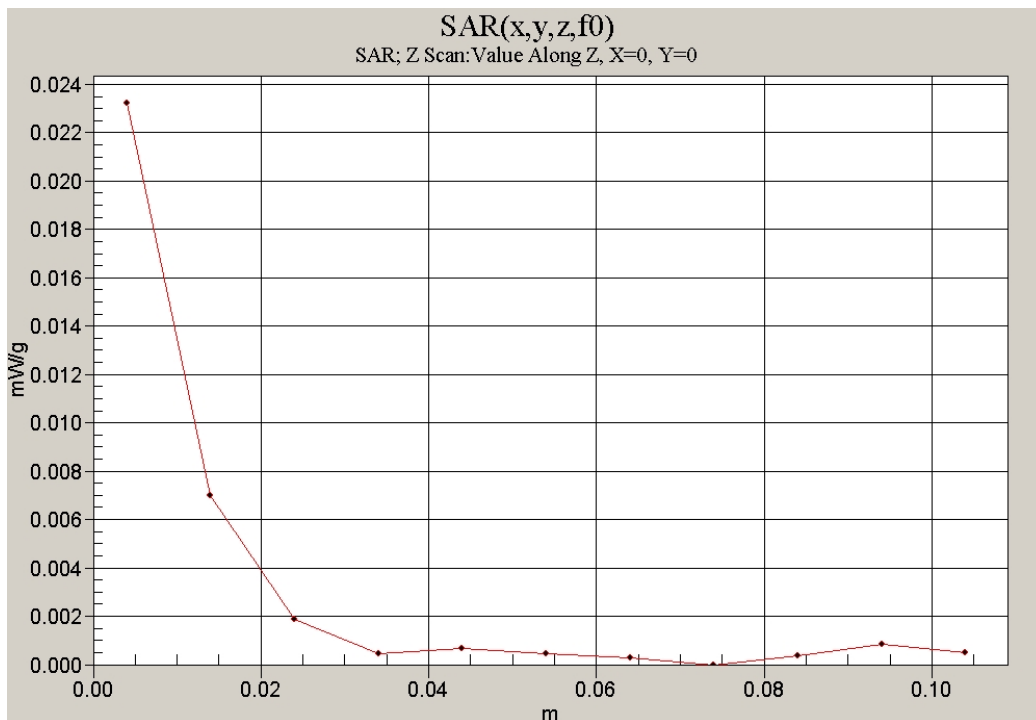


Fig. 9: SAR versus liquid depth, head: DECT US, channel 2, cheek position, left side of head (November 17, 2009; Ambient Temperature: 21.5° C; Liquid Temperature : 20.9° C).

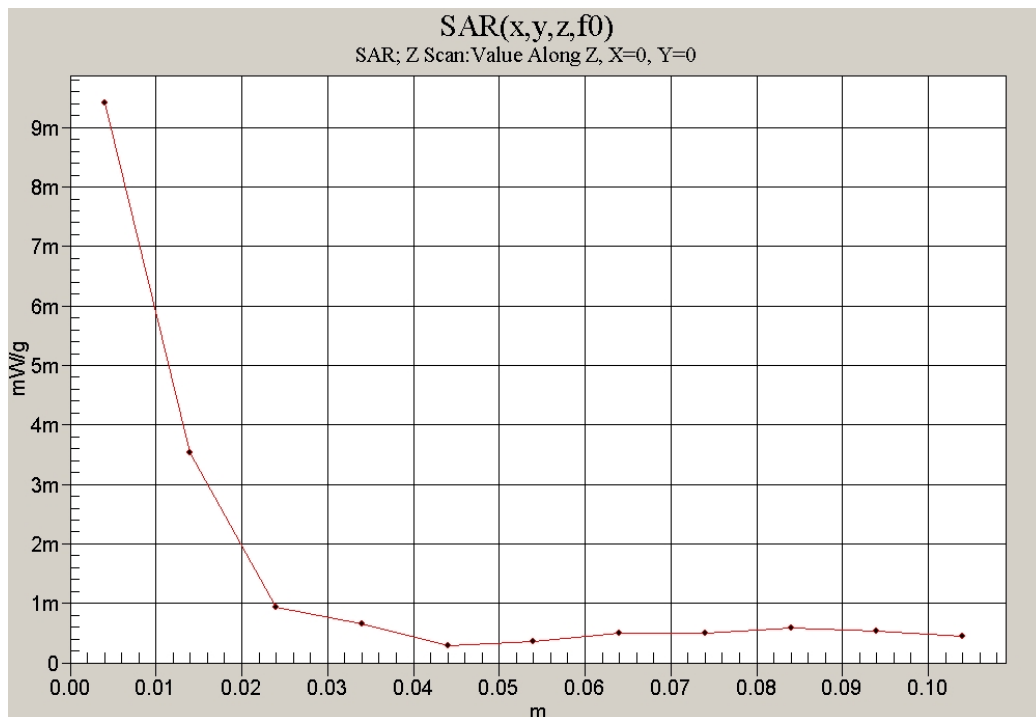


Fig. 10: SAR versus liquid depth, body: DECT US 1900, channel 2, with belt clip, display towards the phantom (November 16, 2009; Ambient Temperature: Temperature: 21.8° C; Liquid Temperature: 21.4° C).

