
Appendix for the Report
Dosimetric Assessment of the
Panasonic KX-TGA641
(FCC ID: ACJ96NKX-TGA640)
According to the FCC Requirements
SAR Distribution Plots

October 06, 2008
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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.

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1 SAR Distribution Plots, Head Measurements, Antenna 1

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bplm_1_ant_1.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Cheek Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 2.99 V/m; Power Drift = -0.080 dB

Peak SAR (extrapolated) = 0.021 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.0068 mW/g

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

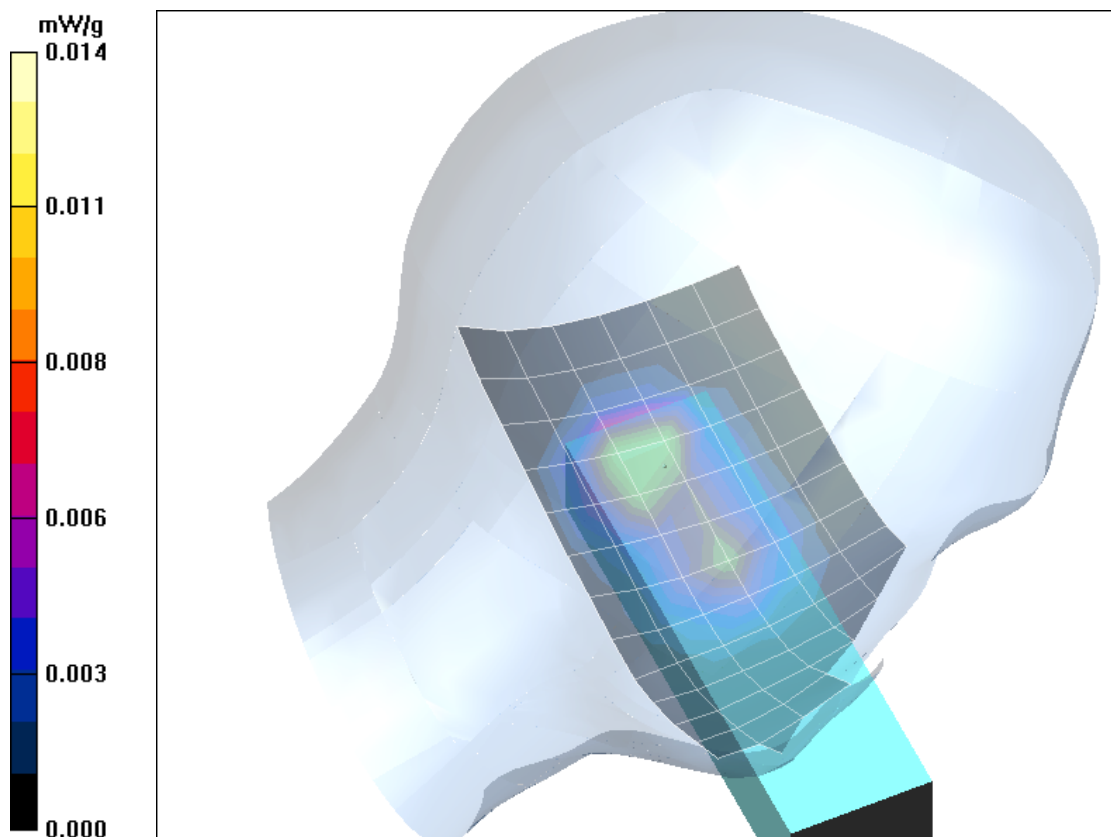


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bplm_2_ant_1.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Tilted Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 2.44 V/m; Power Drift = 0.062 dB

Peak SAR (extrapolated) = 0.014 W/kg

SAR(1 g) = 0.0078 mW/g; SAR(10 g) = 0.0042 mW/g

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

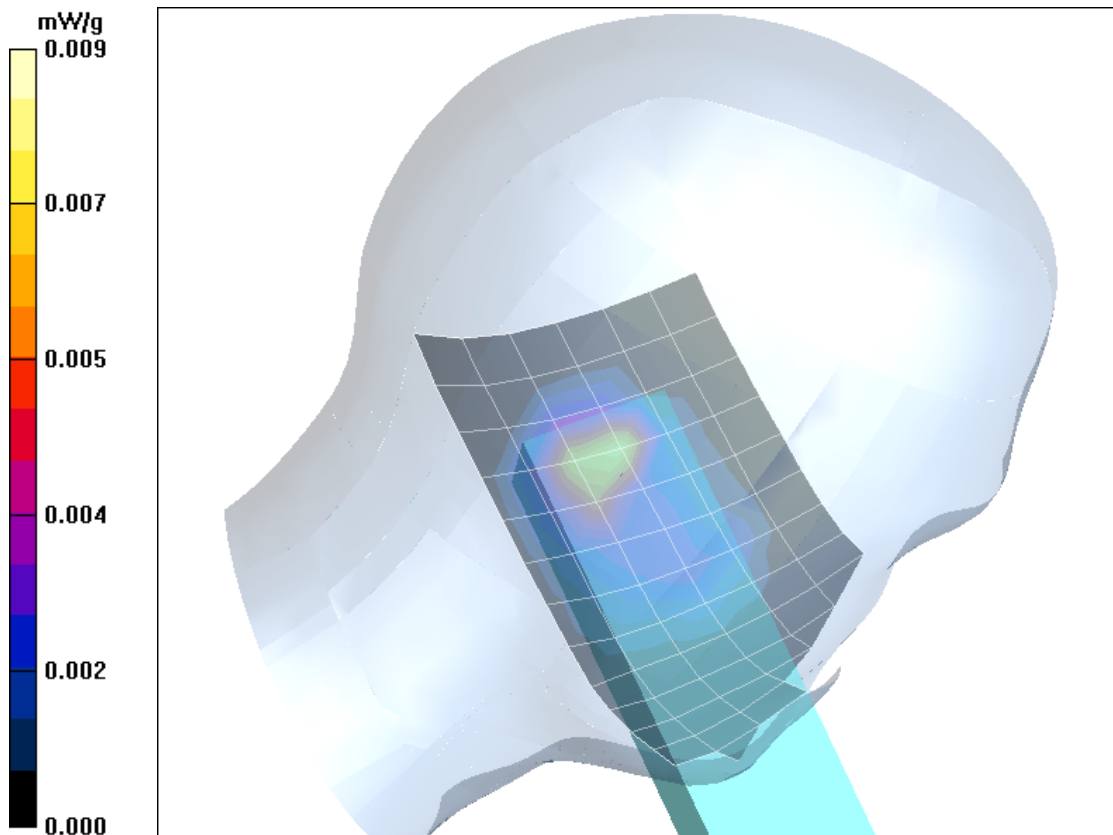


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bprm_1_ant_1.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Cheek Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 2.71 V/m; Power Drift = 0.174 dB

Peak SAR (extrapolated) = 0.034 W/kg

SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.0095 mW/g

Maximum value of SAR (measured) = 0.021 mW/g

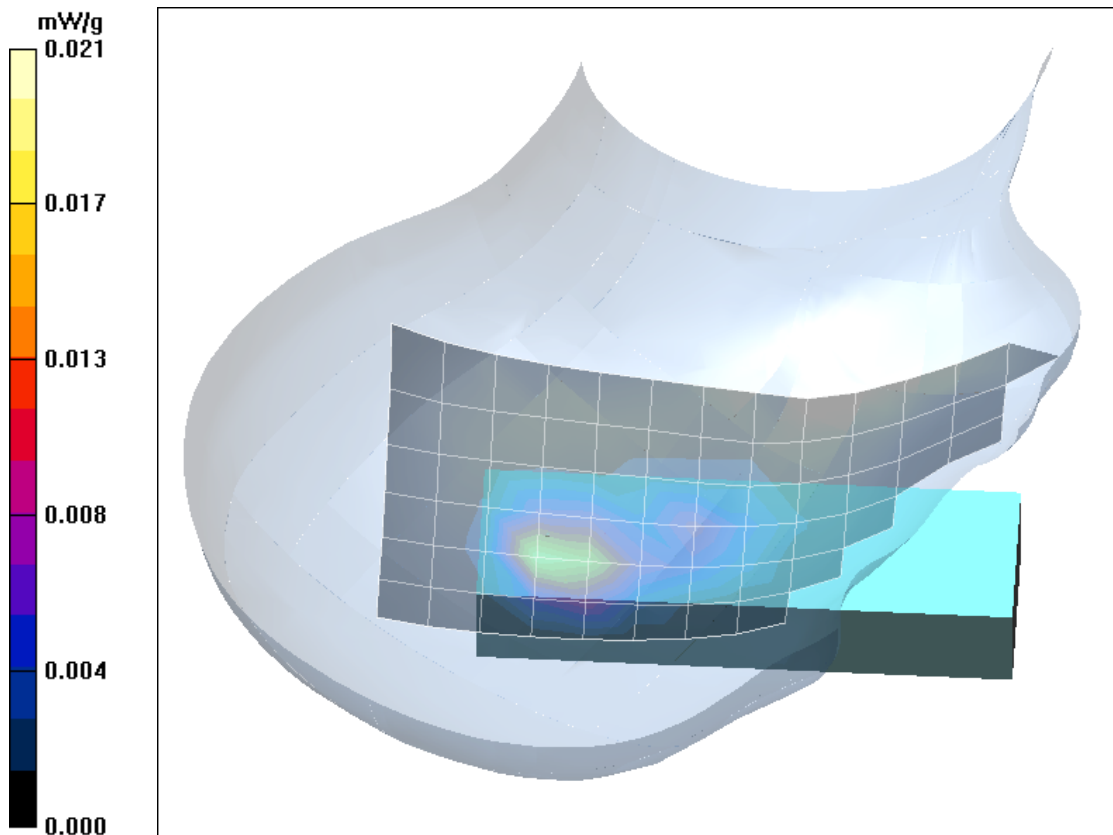


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bprm_2_ant_1.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Tilted Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 2.31 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 0.021 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.0061 mW/g

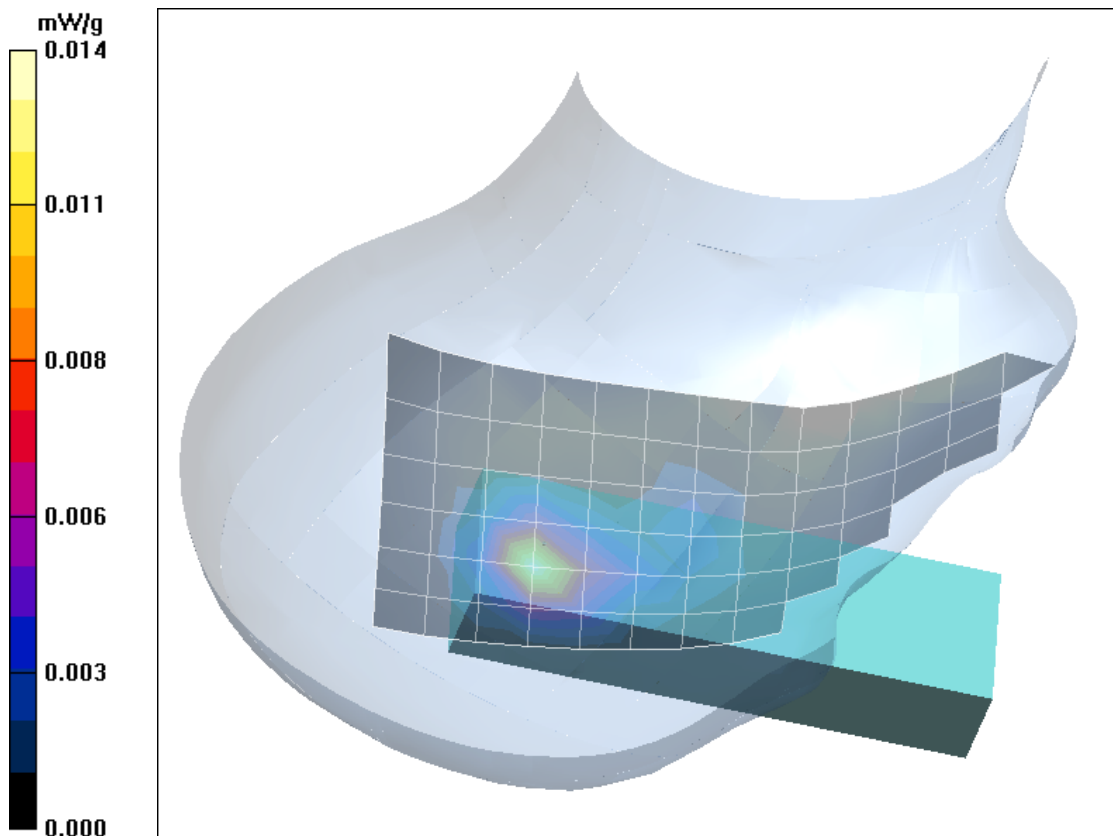


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C)

2 SAR Distribution Plots, Head Measurements, Antenna 2

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bplm_1_ant_2.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Cheek Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Left/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.016 mW/g

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

Reference Value = 2.21 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.026 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.0082 mW/g

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

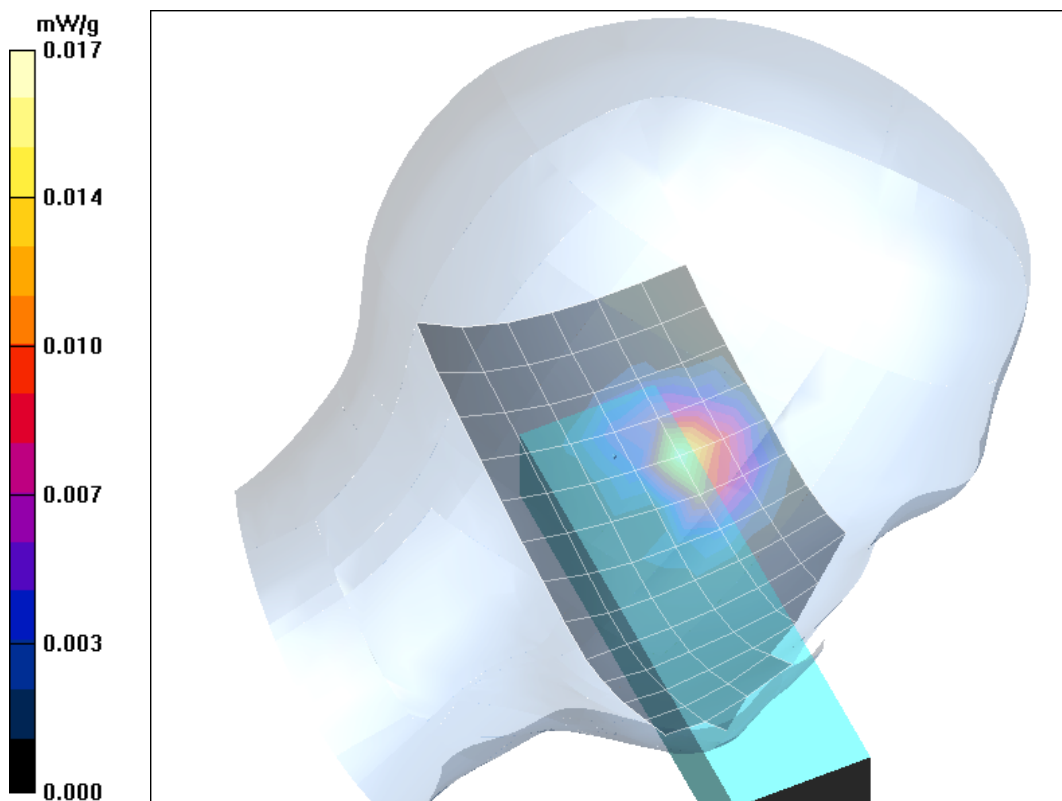


Fig. 5: SAR distribution for DECT US, channel 2, cheek position, left side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bplm_2_ant_2.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Tilted Left

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Left/Area Scan (7x14x1): 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 = 1.74 V/m; Power Drift = 0.151 dB

Peak SAR (extrapolated) = 0.011 W/kg

SAR(1 g) = 0.0066 mW/g; SAR(10 g) = 0.0036 mW/g

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

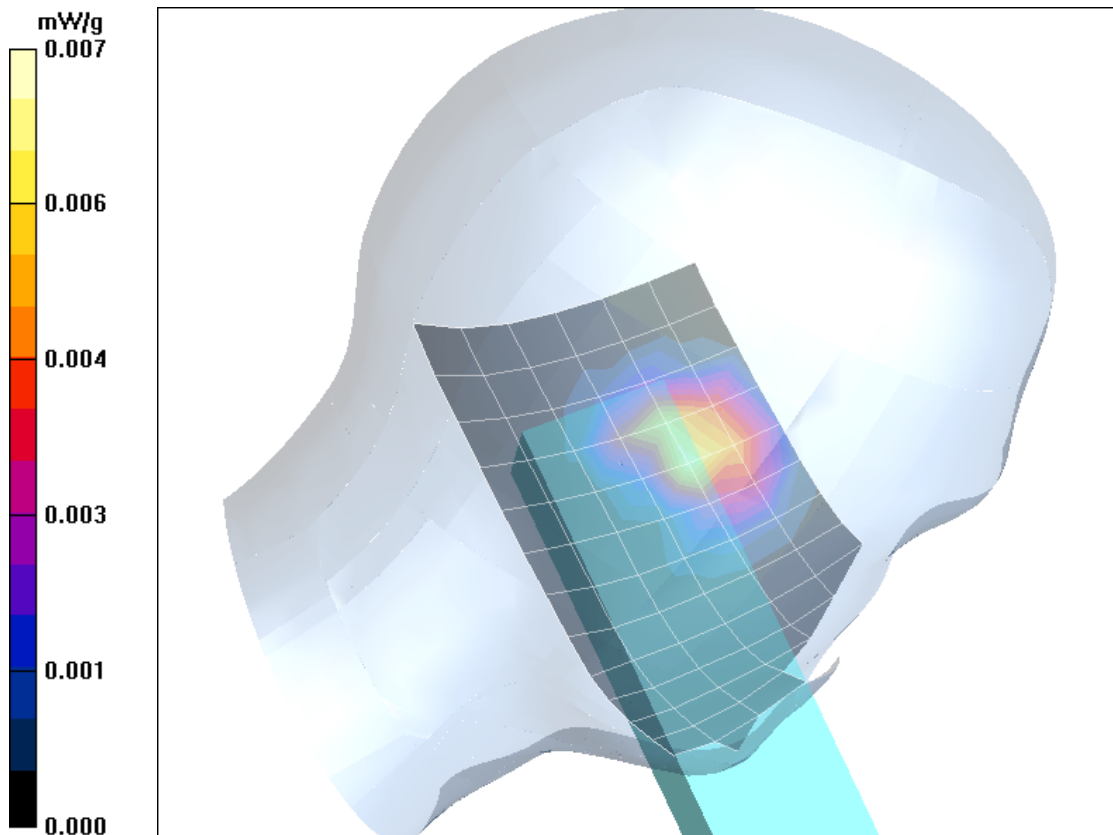


Fig. 6: SAR distribution for DECT US, channel 2, tilted position, left side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bprm_1_ant_2.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Cheek Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek Right/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.97 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.010 mW/g; SAR(10 g) = 0.0056 mW/g

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

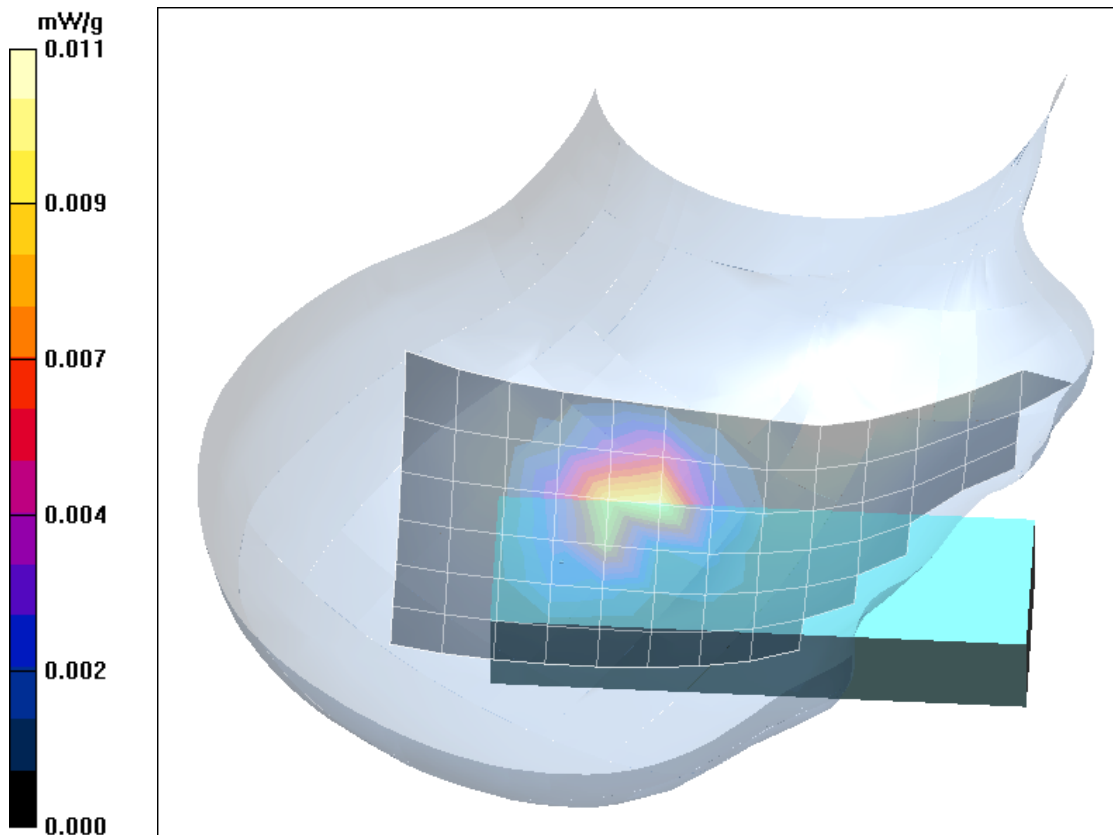


Fig. 7: SAR distribution for DECT US, channel 2, cheek position, right side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGA641_bprm_2_ant_2.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Tilted Right

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

Medium parameters used: $f = 1924.99$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(5.01, 5.01, 5.01); Calibrated: 23.01.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 08.02.2008
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilted Right/Area Scan (7x14x1): 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 = 1.54 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 0.007 W/kg

SAR(1 g) = 0.0044 mW/g; SAR(10 g) = 0.0025 mW/g

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

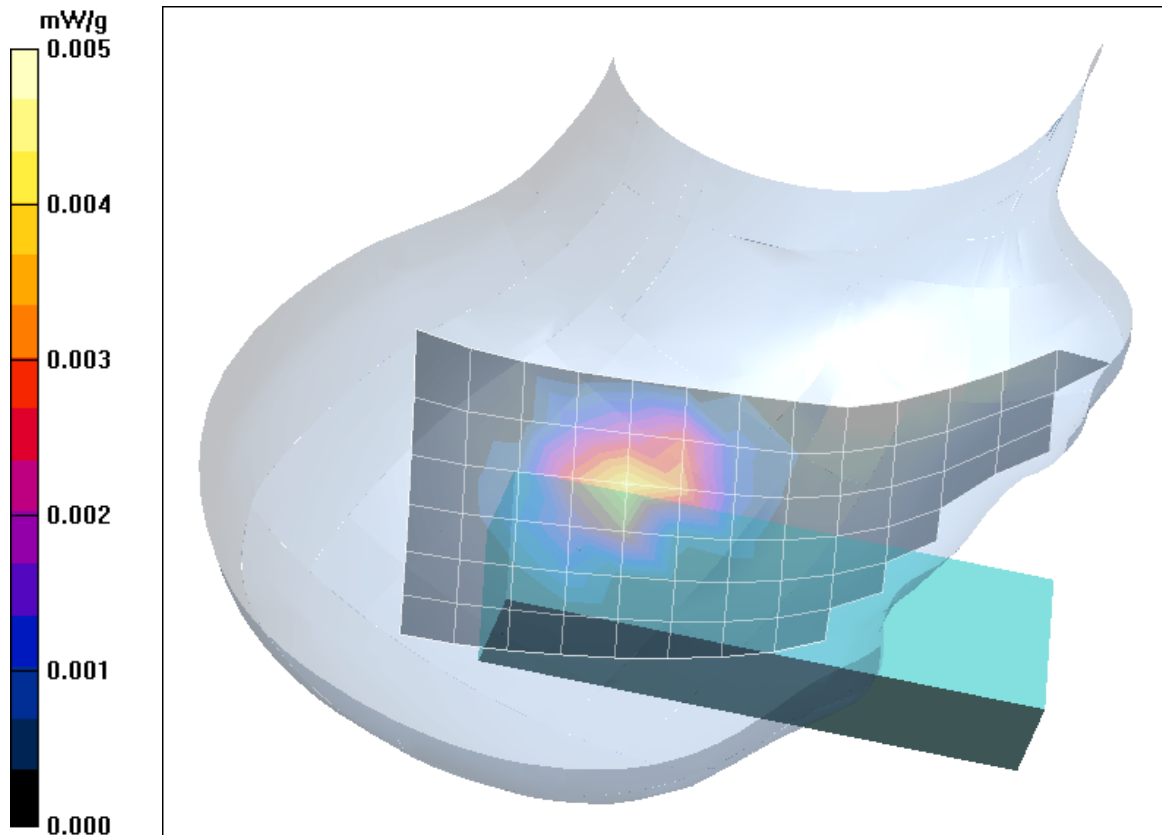


Fig. 8: SAR distribution for DECT US, channel 2, tilted position, right side of head (October 01, 2008; Ambient Temperature: 21.8°C; Liquid Temperature: 20.9°C)

3 SAR Distribution Plots, Body Measurements, Antenna 1

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:

[TGA641_yphm_1_ant_1_dspl_up_HS.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Body

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(8.15, 8.15, 8.15); Calibrated: 19.09.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 17.09.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body/Area Scan (7x14x1): 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 = 1.65 V/m; Power Drift = 0.270 dB

Peak SAR (extrapolated) = 0.025 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.0065 mW/g

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

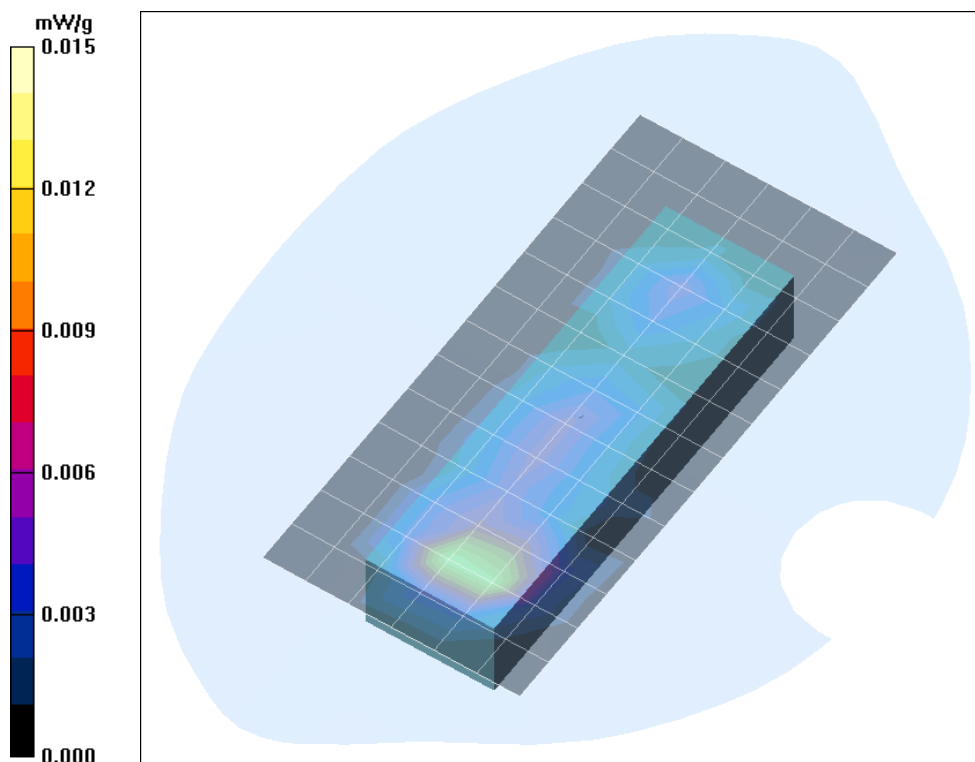


Fig. 9: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and belt clip, 0 mm distance (October 01, 2008; Ambient Temperature: 22.2° C; Liquid Temperature: 21.1° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:

[TGA641_yphm_2_ant_1_dspl_down_HS.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Body

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(8.15, 8.15, 8.15); Calibrated: 19.09.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 17.09.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body/Area Scan (7x14x1): 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 = 0.834 V/m; Power Drift = 0.614 dB

Peak SAR (extrapolated) = 0.010 W/kg

SAR(1 g) = 0.0045 mW/g; SAR(10 g) = 0.0021 mW/g

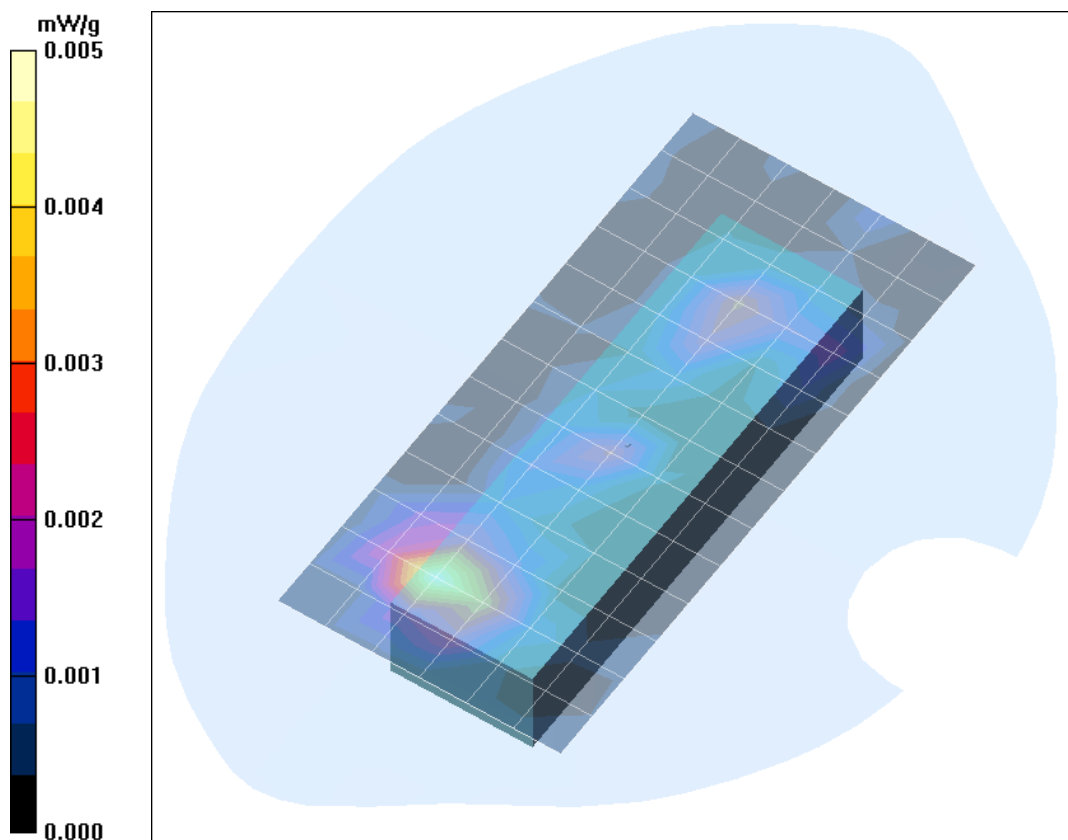


Fig. 10: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and belt clip, 0 mm distance (October 01, 2008; Ambient Temperature: 22.2° C; Liquid Temperature: 21.1° C).

4 SAR Distribution Plots, Body Measurements, Antenna 2

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:

[TGA641_yphm_3_ant_2_dspl_up_HS.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Body

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(8.15, 8.15, 8.15); Calibrated: 19.09.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 17.09.2008
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.236 V/m; Power Drift = 0.572 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.0053 mW/g

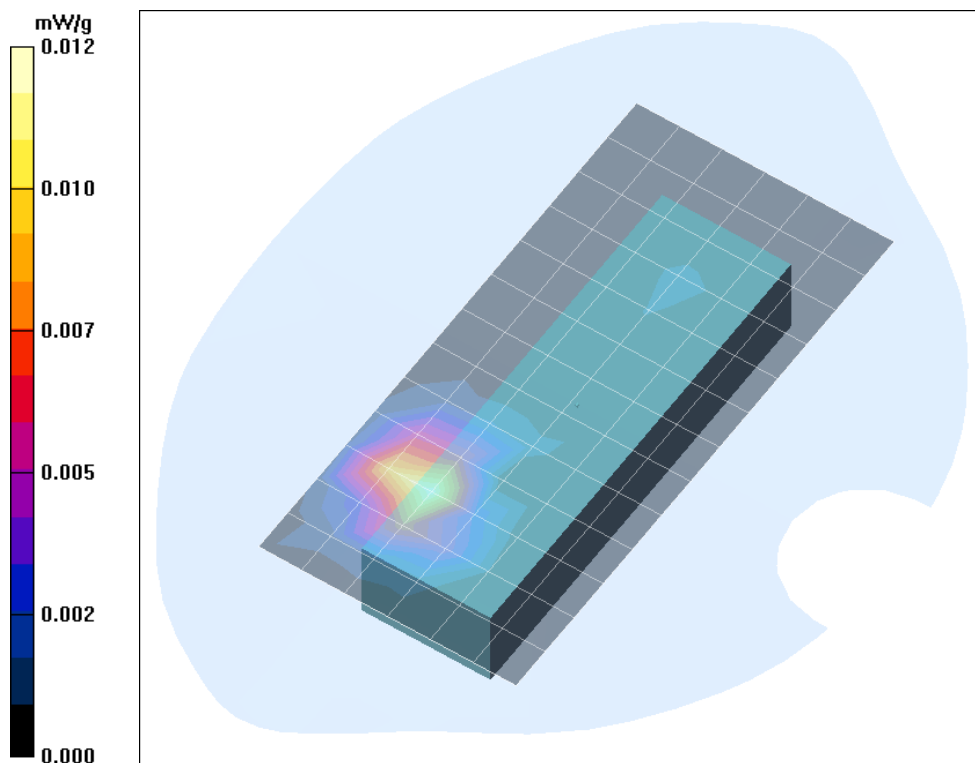


Fig. 11: SAR distribution for DECT US, channel 2, body worn configuration, display towards the phantom, with headset and belt clip, 0 mm distance (October 01, 2008; Ambient Temperature: 22.2° C; Liquid Temperature: 21.1° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:

[TGA641_yphm_4_ant_2_dspl_down_HS.da4](#)

DUT: Panasonic; Type: KX-TGA641; Serial: 3

Program Name: Body

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(8.15, 8.15, 8.15); Calibrated: 19.09.2008

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

- Electronics: DAE4 Sn631; Calibrated: 17.09.2008

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

- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.504 V/m; Power Drift = 0.440 dB

Peak SAR (extrapolated) = 0.024 W/kg

SAR(1 g) = 0.0074 mW/g; SAR(10 g) = 0.0028 mW/g

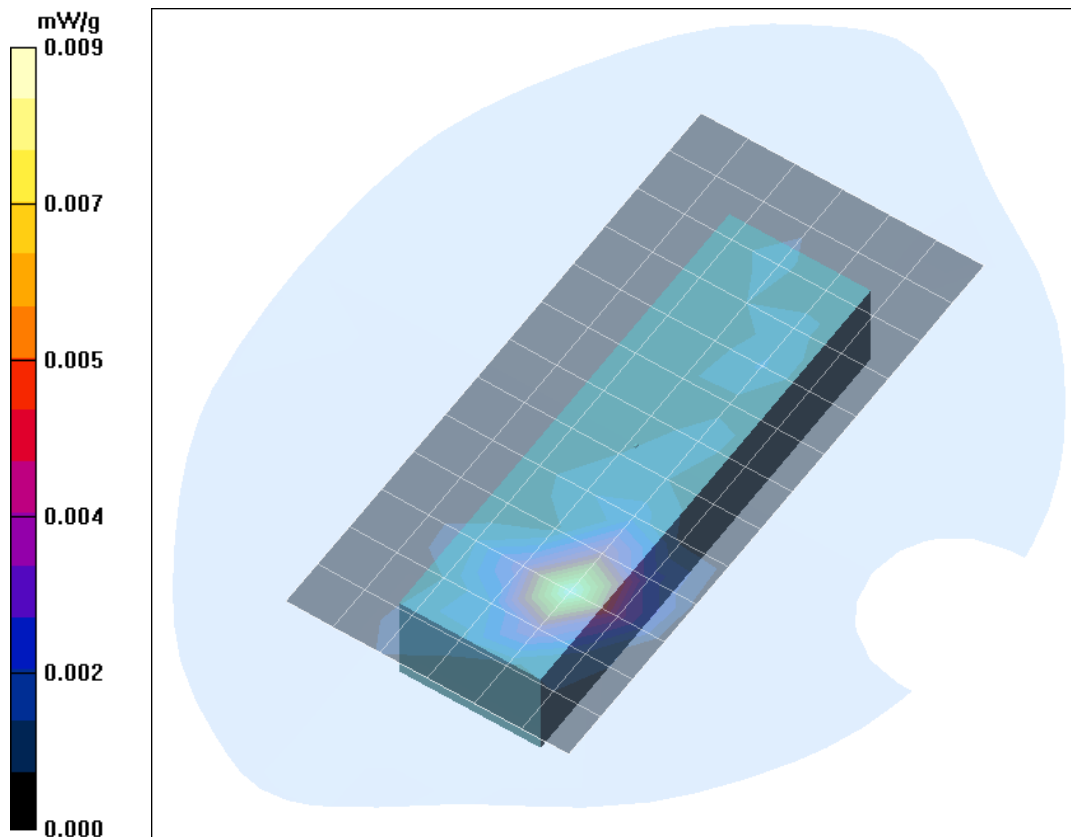


Fig. 12: SAR distribution for DECT US, channel 2, body worn configuration, display towards the ground, with headset and belt clip, 0 mm distance (October 01, 2008; Ambient Temperature: 22.2° C; Liquid Temperature: 21.1° C).

5 SAR z-axis scans (Validation)

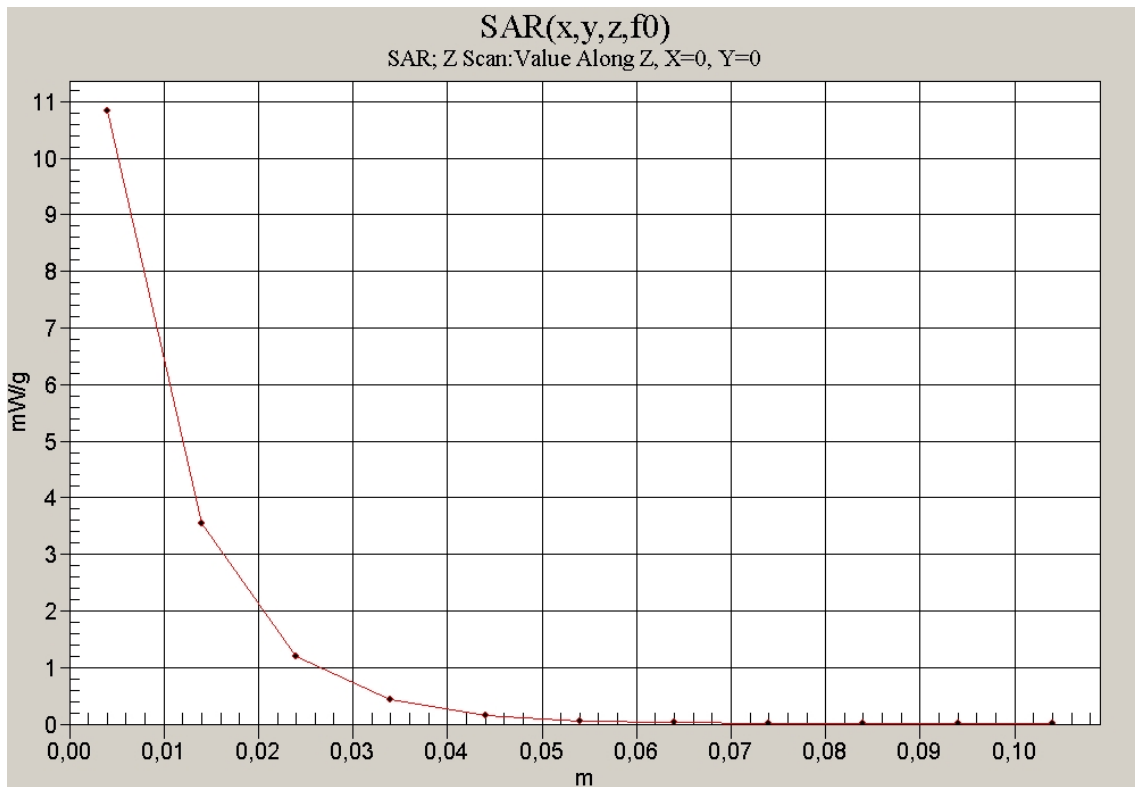


Fig. 13: SAR versus liquid depth, 1900 MHz, head (October 01, 2008; Ambient Temperature: 21.7° C; Liquid Temperature : 20.9° C).

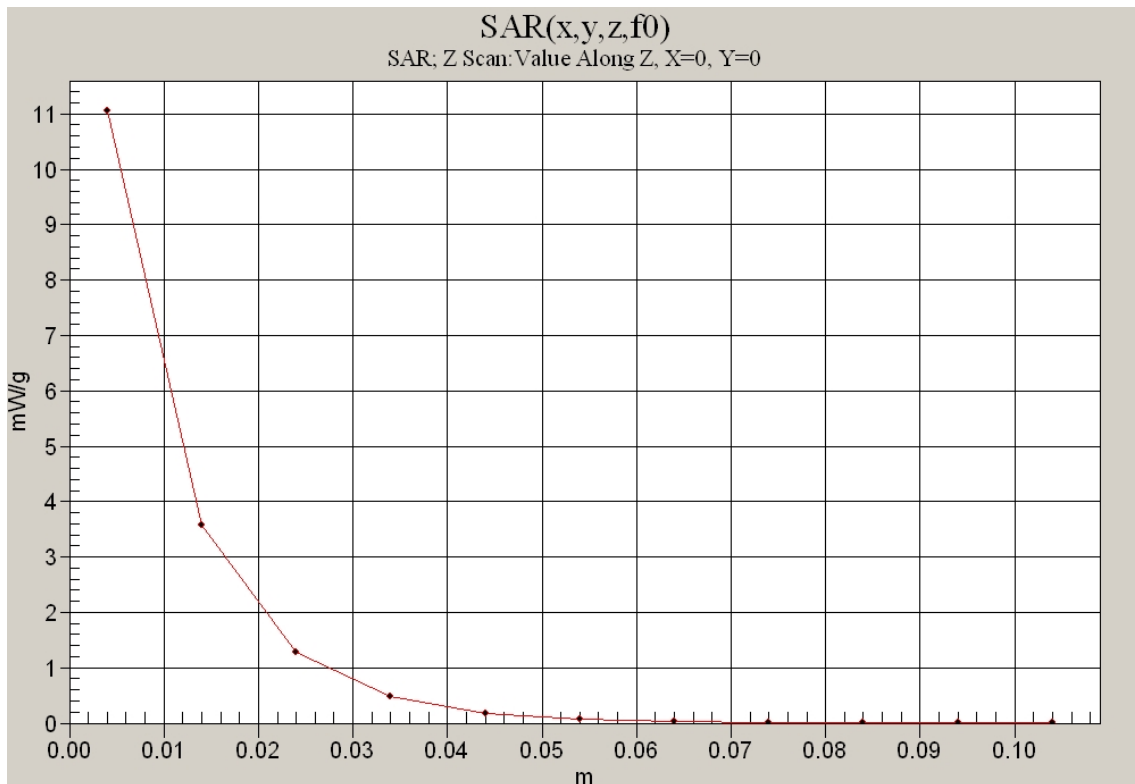


Fig. 14: SAR versus liquid depth, 1900 MHz, body (October 01, 2008; Ambient Temperature: 22.0° C; Liquid Temperature : 21.1° C).

6 SAR z-axis scans (Measurements)

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

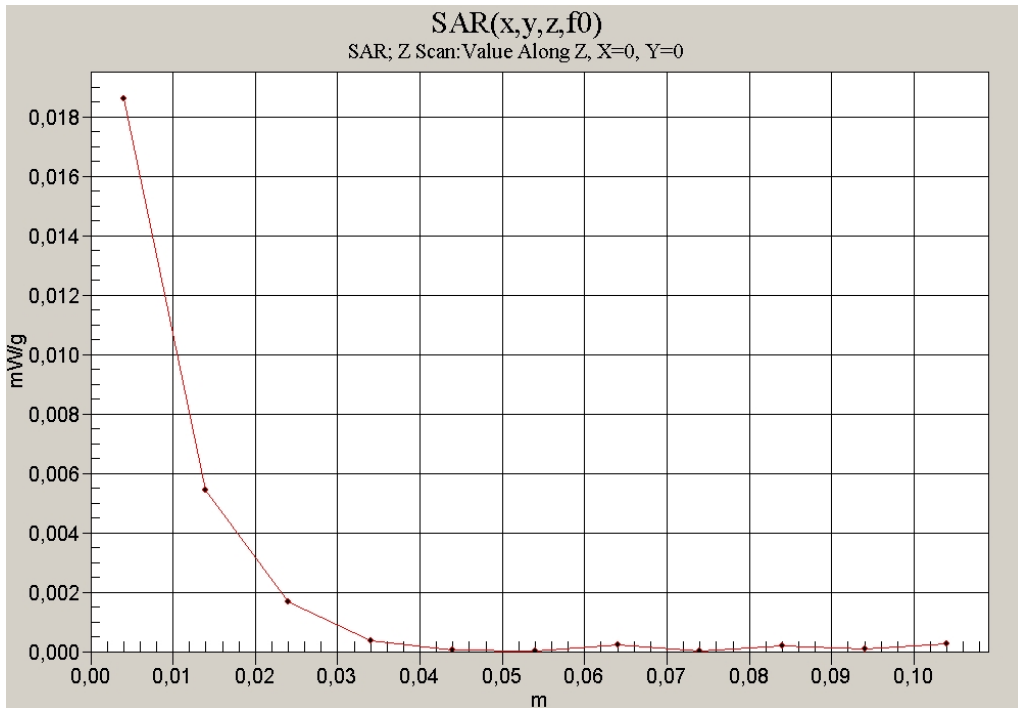


Fig. 15: SAR versus liquid depth, head: DECT US, channel 2, cheek position, left side of head, antenna 1 (October 01, 2008; Ambient Temperature: 21.8° C; Liquid Temperature : 20.9° C).

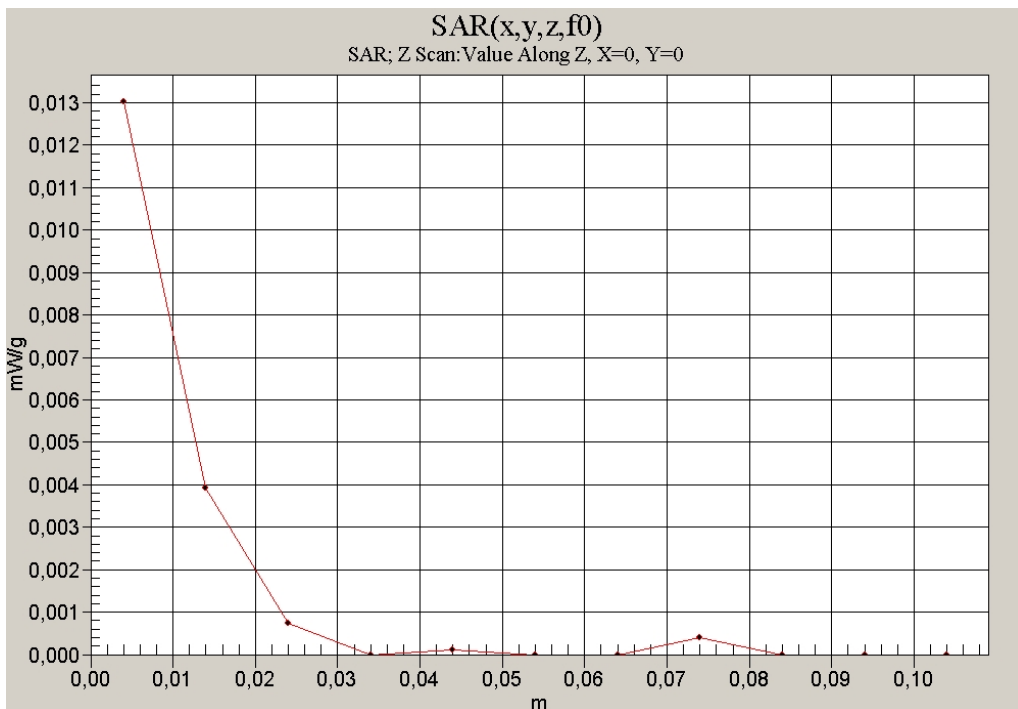


Fig. 16: SAR versus liquid depth, body: DECT US 1900, channel 2, headset and 0 mm distance, antenna 1, display towards the phantom (October 01, 2008; Ambient Temperature: Temperature: 22.2° C; Liquid Temperature: 21.1° C).