

# **Appendix for the SAR Test Report**

## **Dosimetric Assessment of the Portable Device KX-TGEA20 from Panasonic** (FCC ID: ACJ96NKX-TGEA20A)

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

July 15, 2015

**IMST GmbH**  
Carl-Friedrich-Gauß-Str. 2 - 4  
47475 Kamp-Lintfort  
Germany

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

The test results only relate to the items tested.

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## SAR Distribution Plots for Head and Body Worn Configuration

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGEA20\\_vplm\\_1.da4](#)

DUT: Panasonic; Type: KX-TGEA20; Serial: KX-TGEA20A

Program Name: DECT

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

Medium parameters used:  $f = 1925$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.037 mW/g

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

Reference Value = 3.82 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 0.071 W/kg

**SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.018 mW/g**

Maximum value of SAR (measured) = 0.038 mW/g

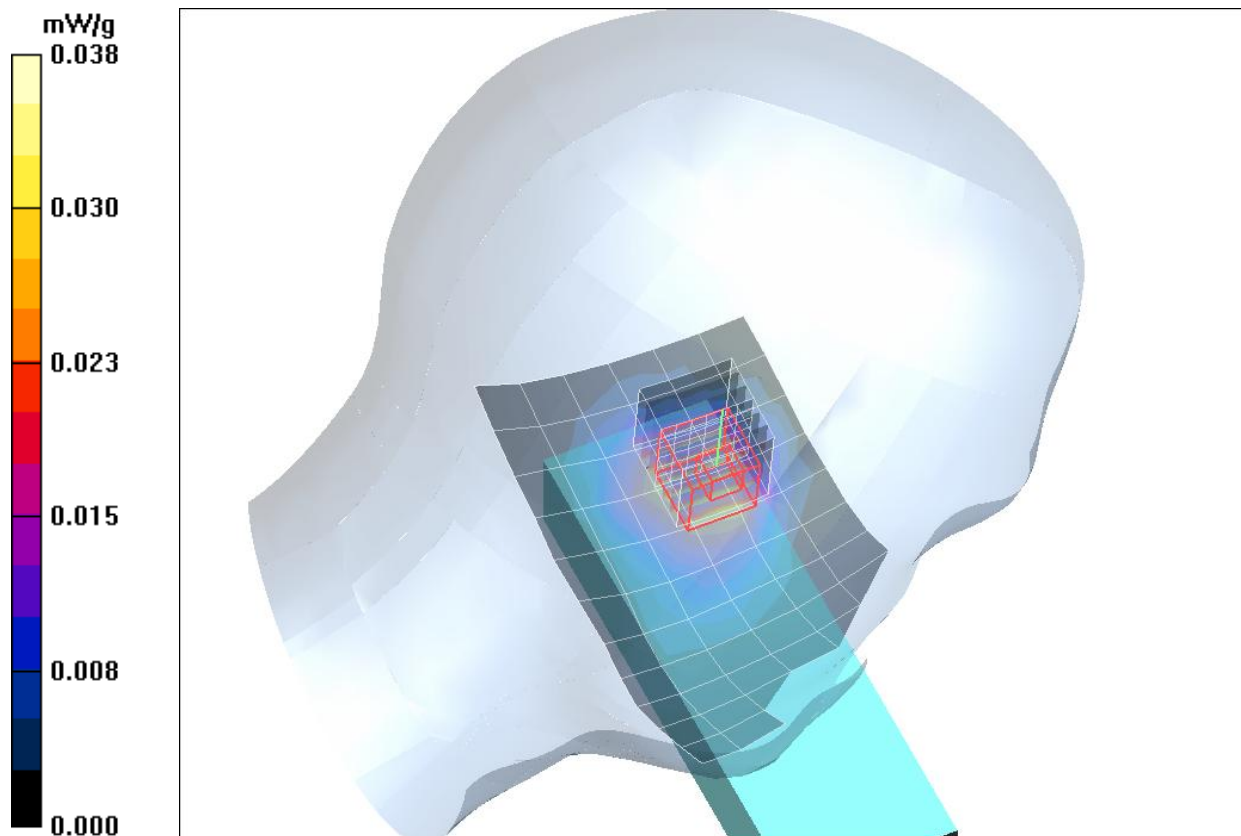


Fig. 1: SAR distribution for DECT US, channel 2, cheek position, left side of head (July 13, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_yplm\\_2.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** DECT

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

Medium parameters used:  $f = 1925$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.017 mW/g

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

Reference Value = 3.45 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 0.032 W/kg

**SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00995 mW/g**

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

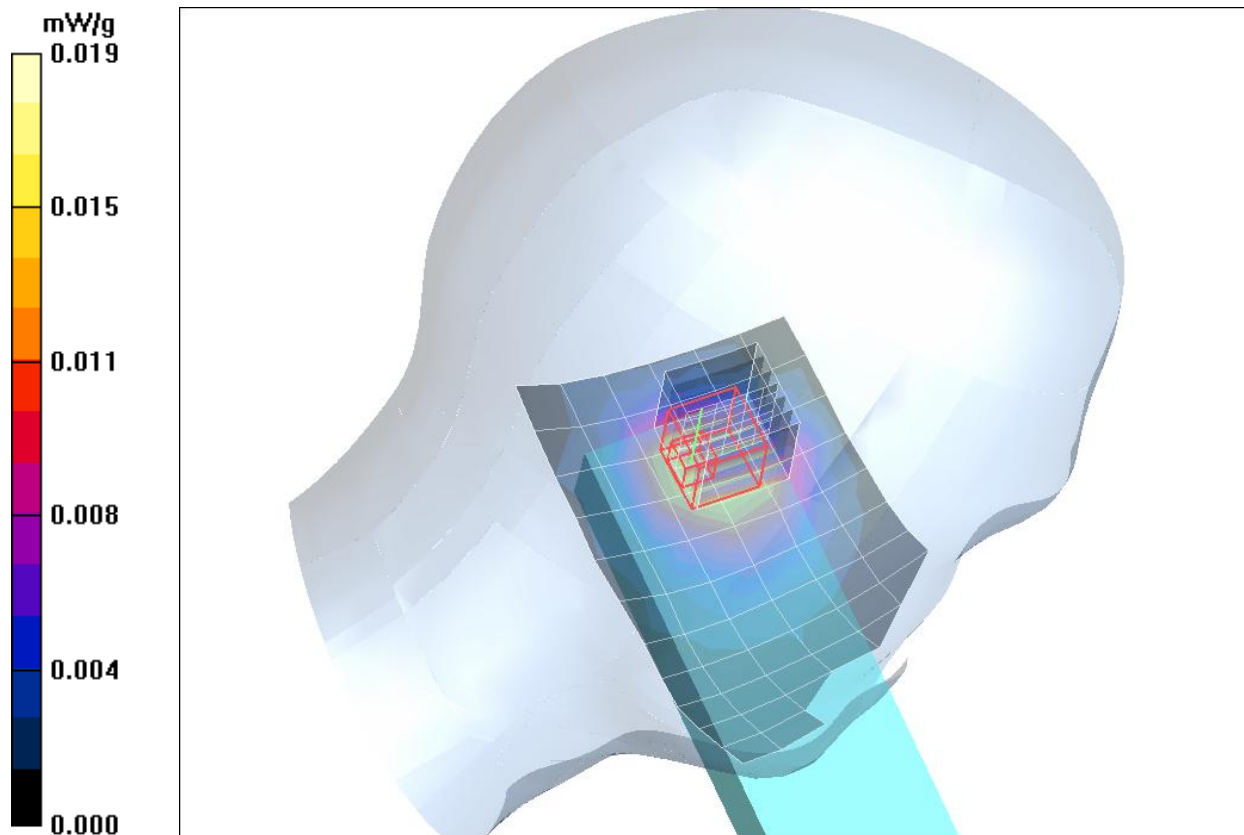


Fig. 2: SAR distribution for DECT US, channel 2, tilted position, left side of head (July 13, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_yprm\\_1.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** DECT

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

Medium parameters used:  $f = 1925$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.028 mW/g

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

Reference Value = 4.13 V/m; Power Drift = 0.197 dB

Peak SAR (extrapolated) = 0.047 W/kg

**SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.016 mW/g**

Maximum value of SAR (measured) = 0.030 mW/g

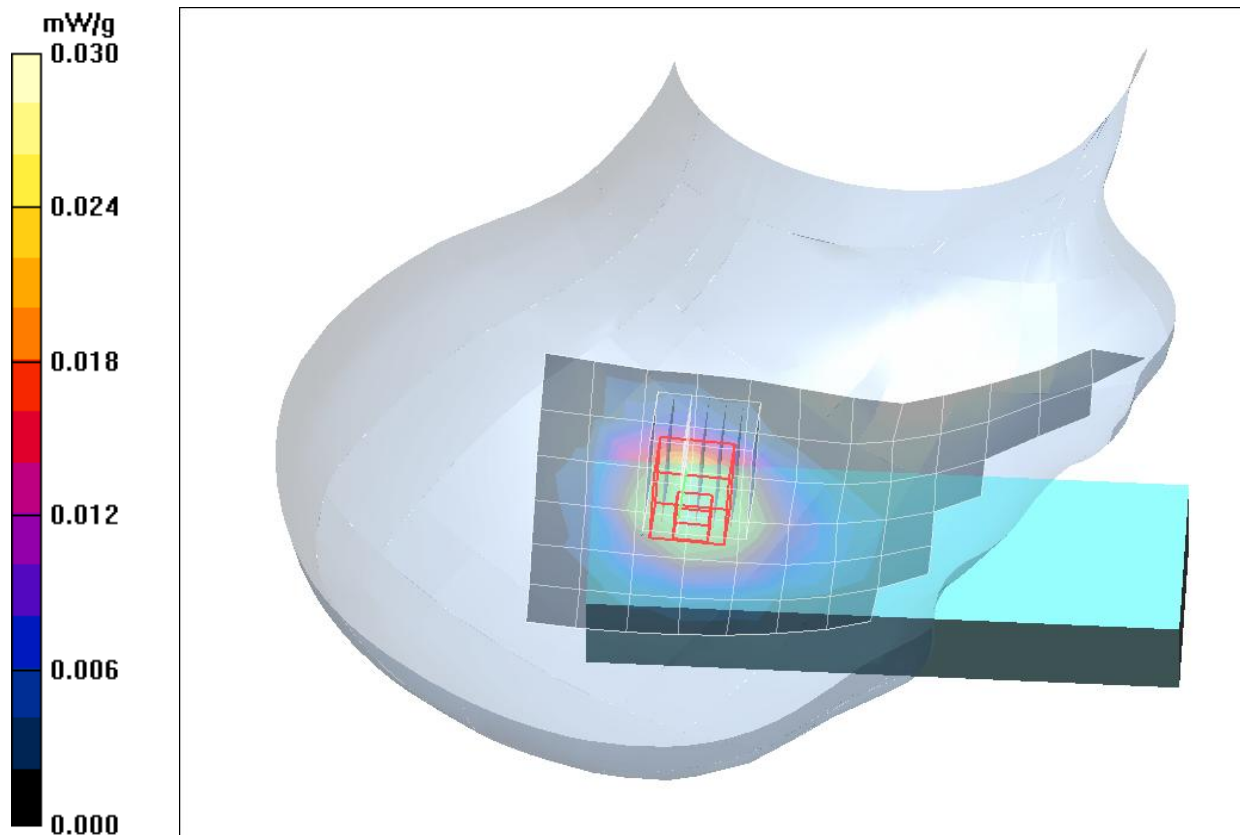


Fig. 3: SAR distribution for DECT US, channel 2, cheek position, right side of head (July 13, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_yprm\\_2.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** DECT

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

Medium parameters used:  $f = 1925$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.016 mW/g

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

Reference Value = 3.51 V/m; Power Drift = 0.081 dB

Peak SAR (extrapolated) = 0.029 W/kg

**SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00914 mW/g**

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

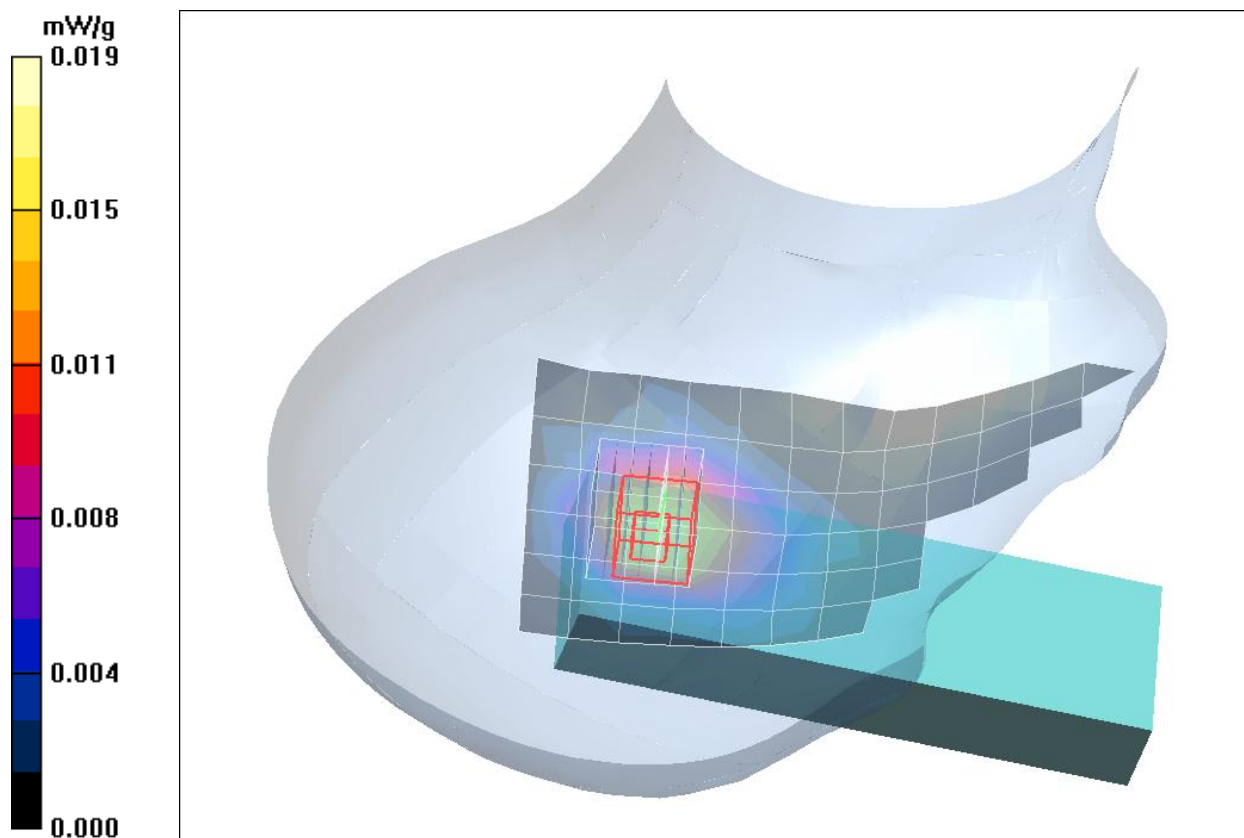


Fig. 4: SAR distribution for DECT US, channel 2, tilted position, right side of head (July 13, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_ypll\\_1.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** DECT

Communication System: DECT Handset; Frequency: 1921.54 MHz; Duty Cycle: 1:24

Medium parameters used (interpolated):  $f = 1921.54$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.035 mW/g

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

Reference Value = 3.95 V/m; Power Drift = 0.100 dB

Peak SAR (extrapolated) = 0.063 W/kg

**SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.018 mW/g**

Maximum value of SAR (measured) = 0.036 mW/g

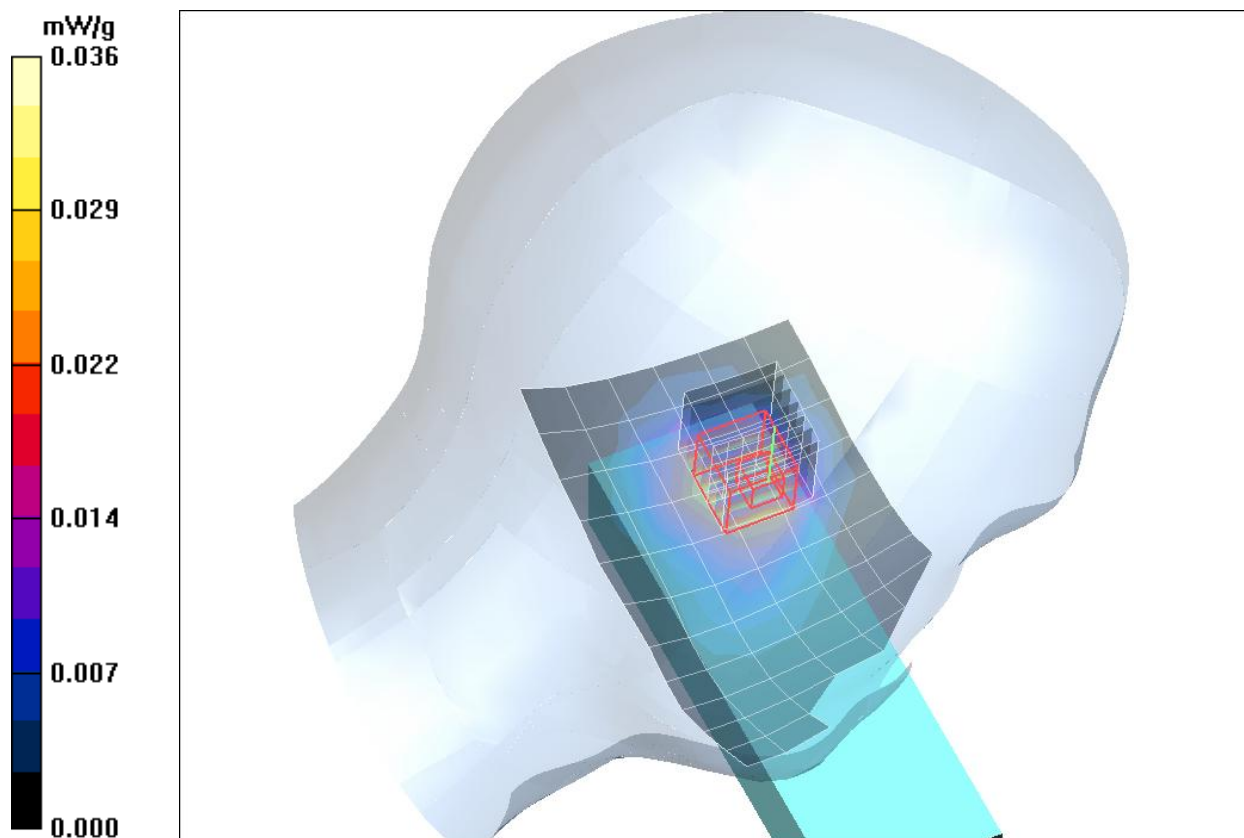


Fig. 5: SAR distribution for DECT US, channel 4, cheek position, left side of head (July 13, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_yplh\\_1.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** DECT

Communication System: DECT Handset; Frequency: 1928.45 MHz; Duty Cycle: 1:24

Medium parameters used (extrapolated):  $f = 1928.45$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(7.95, 7.95, 7.95); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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) = 0.036 mW/g

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

Reference Value = 3.87 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.068 W/kg

**SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.018 mW/g**

Maximum value of SAR (measured) = 0.037 mW/g

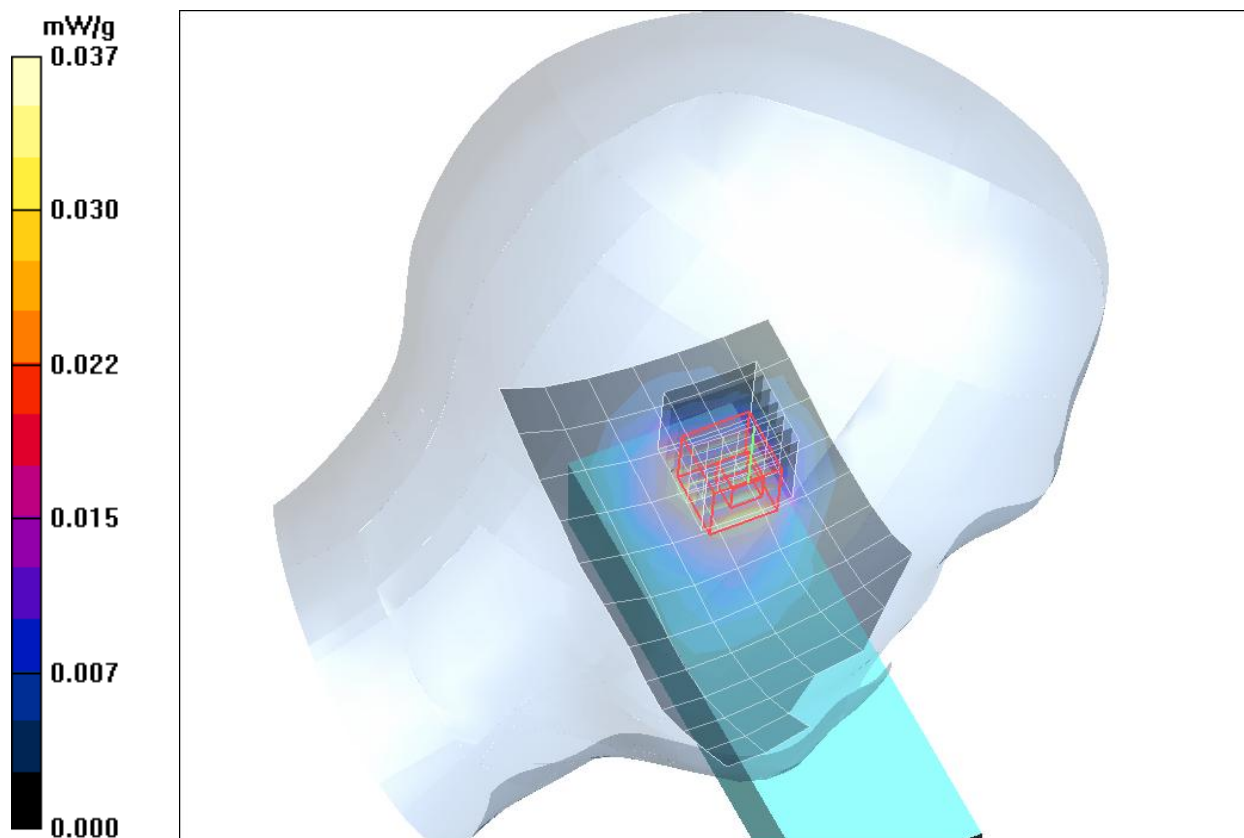


Fig. 6: SAR distribution for DECT US, channel 0, cheek position, left side of head (July 13, 2015)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGEA20\\_yphm\\_front\\_0mm\\_HS.da4](#)

DUT: Panasonic; Type: KX-TGEA20; Serial: KX-TGEA20A

Program Name: US DECT

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

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.59$  mho/m;  $\epsilon_r = 52.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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 (7x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.029 mW/g

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

Reference Value = 1.31 V/m; Power Drift = -0.129 dB

Peak SAR (extrapolated) = 0.050 W/kg

**SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.016 mW/g**

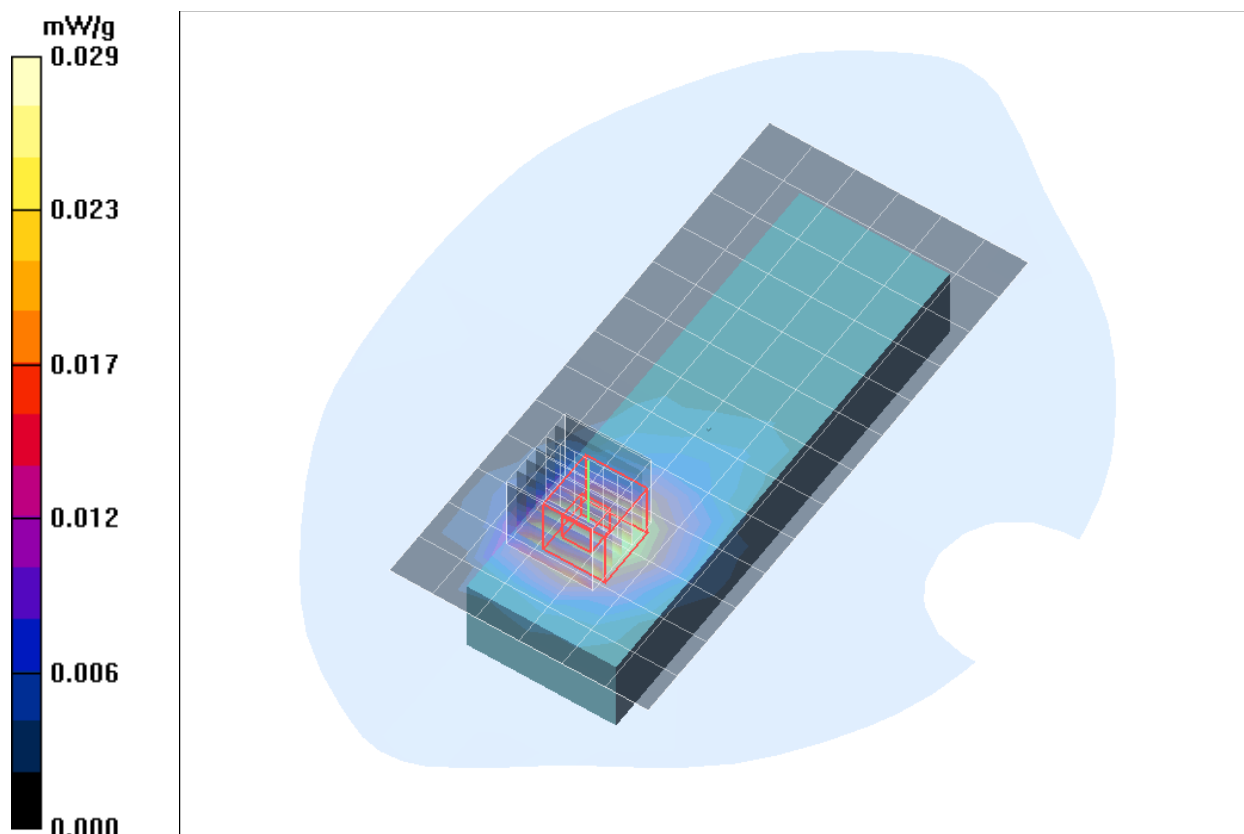


Fig. 7: SAR distribution for DECT US, channel 2, body worn configuration, front side of the device towards the phantom, HS attached (July 14, 2015)

**Test Laboratory:** IMST GmbH, DASY Yellow (II); **File Name:** [TGEA20\\_yphm\\_back\\_0mm\\_HS.da4](#)

**DUT:** Panasonic; **Type:** KX-TGEA20; **Serial:** KX-TGEA20A

**Program Name:** US DECT

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

Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.59$  mho/m;  $\epsilon_r = 52.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- 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 (7x14x1):** Measurement grid: dx=15mm, dy=15mm

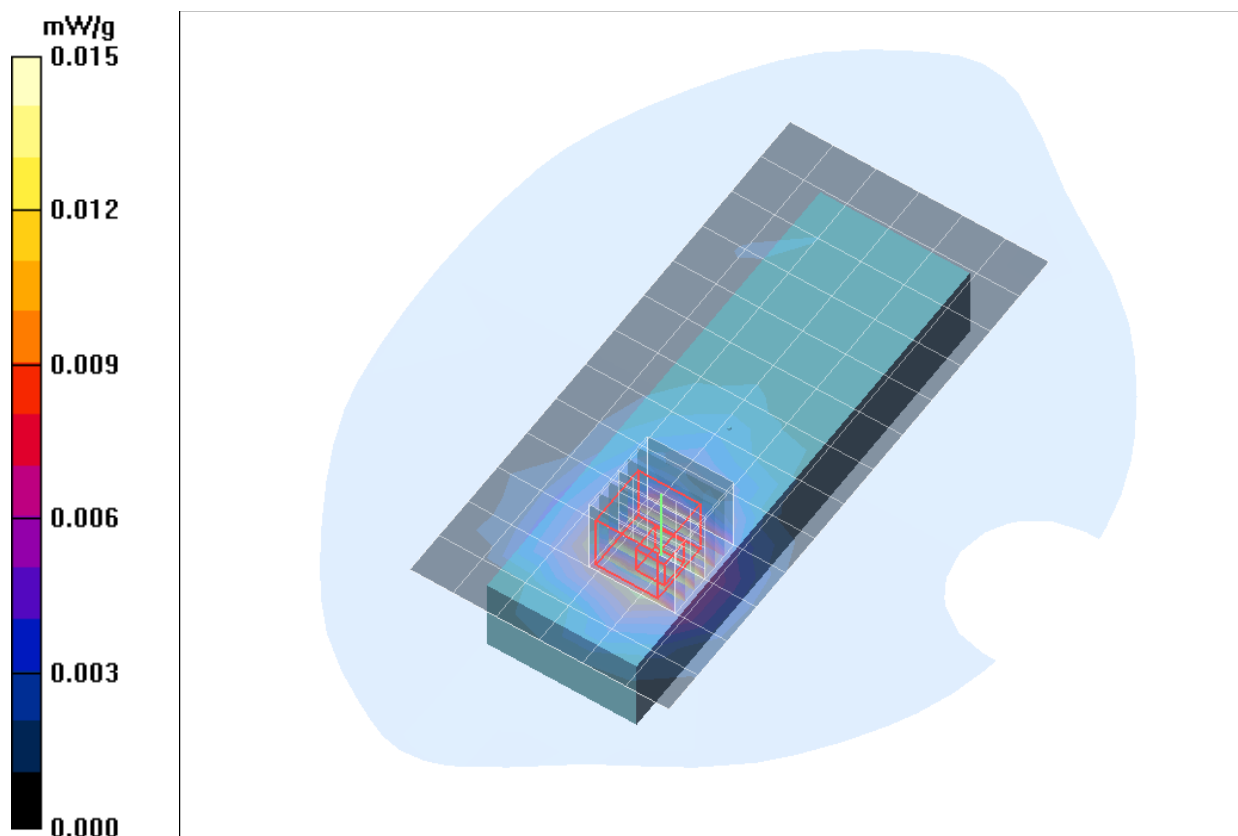
Maximum value of SAR (measured) = 0.015 mW/g

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

Reference Value = 0.890 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.026 W/kg

**SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00704 mW/g**



*Fig. 8: SAR distribution for DECT US, channel 2, body worn configuration, back side of the device towards the phantom, HS attached (July 14, 2015)*