

# **Appendix for the SAR Test Report**

## **Dosimetric Assessment of the Portable Device KX-TGMA45 from Panasonic** (FCC ID: ACJ96NKX-TGMA45)

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

March 16, 2016

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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.

## SAR Distribution Plots for Head and Body Worn Configuration

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45 b dect Im 1.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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) = 0.016 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 = -0.031 dB

Peak SAR (extrapolated) = 0.025 W/kg

**SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00997 mW/g**

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

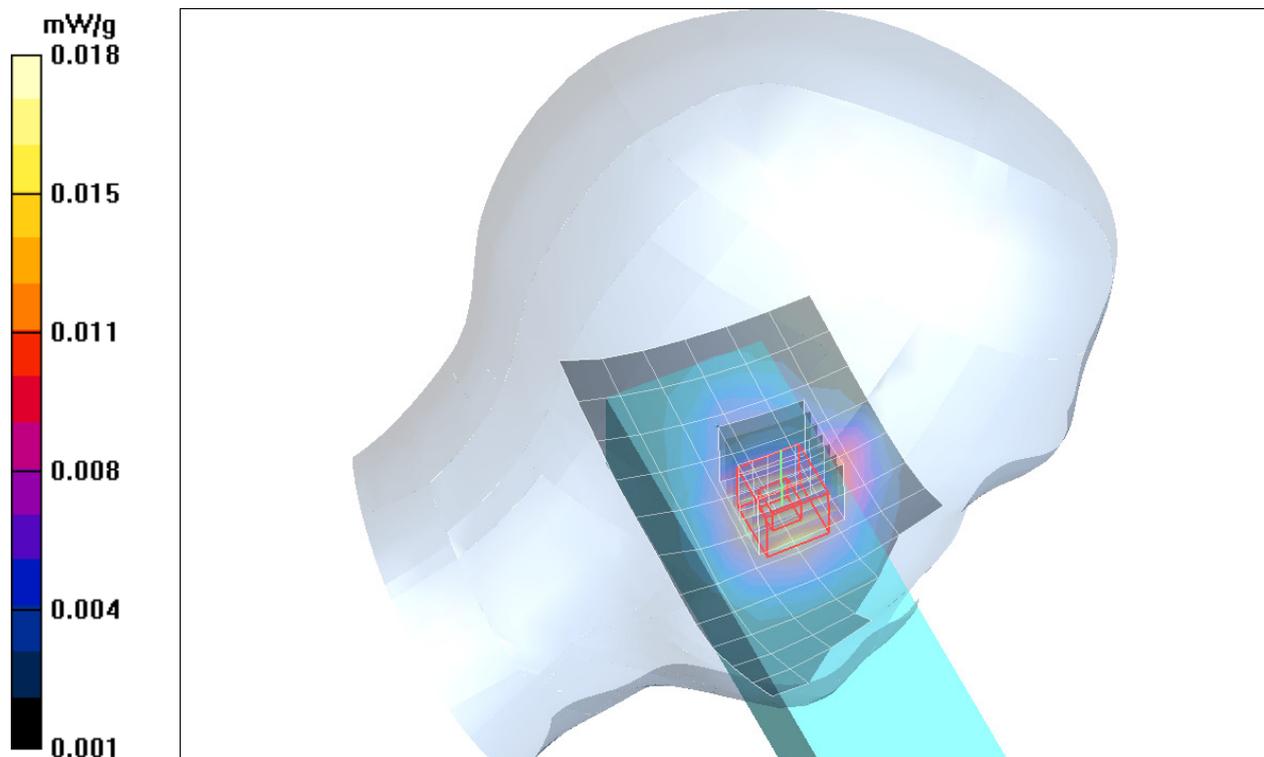


Fig. 1: SAR distribution for DECT US, channel 2, antenna 1, cheek position, left side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45\\_b\\_dect\\_lm\\_2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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 = 2.26 V/m; Power Drift = 0.137 dB

Peak SAR (extrapolated) = 0.010 W/kg

**SAR(1 g) = 0.00691 mW/g; SAR(10 g) = 0.00446 mW/g**

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

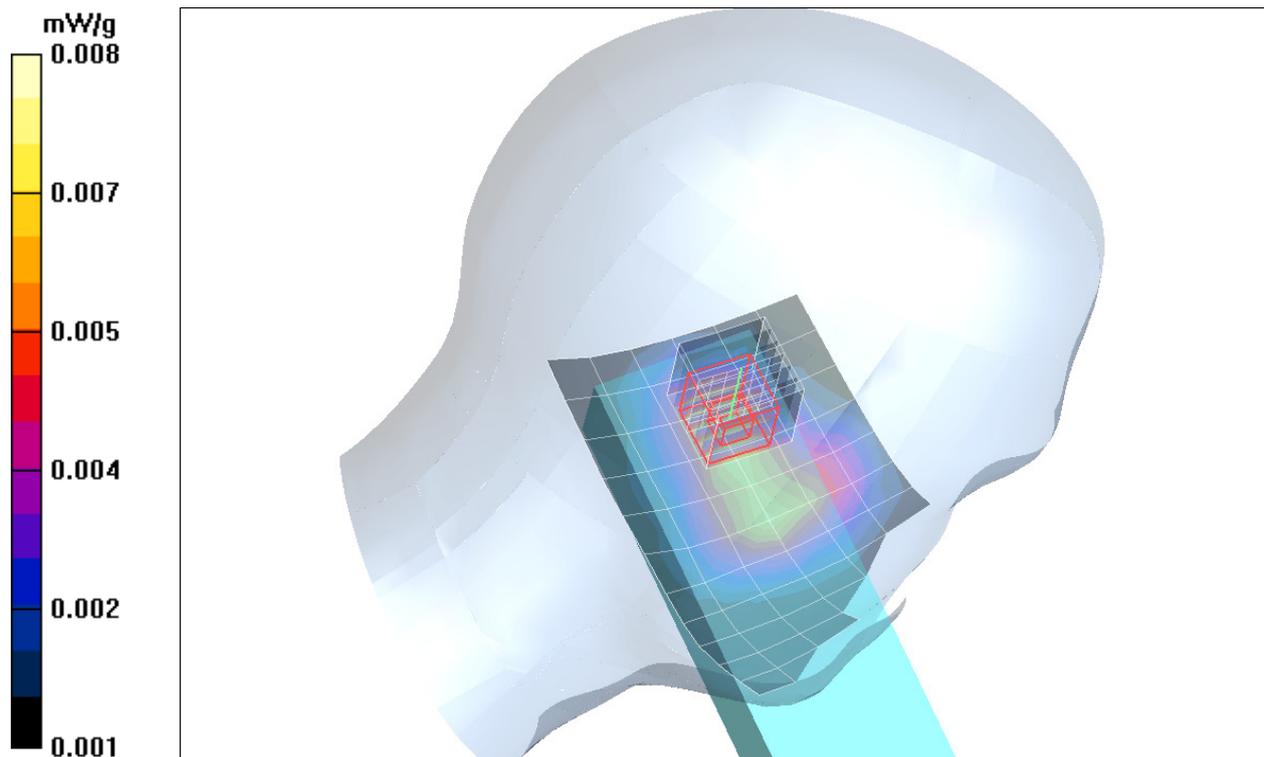


Fig. 2: SAR distribution for DECT US, channel 2, antenna 1, tilted position, left side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45\\_b\\_dect\\_rm\\_1.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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) = 0.014 mW/g

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

Reference Value = 2.43 V/m; Power Drift = 0.184 dB

Peak SAR (extrapolated) = 0.020 W/kg

**SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00837 mW/g**

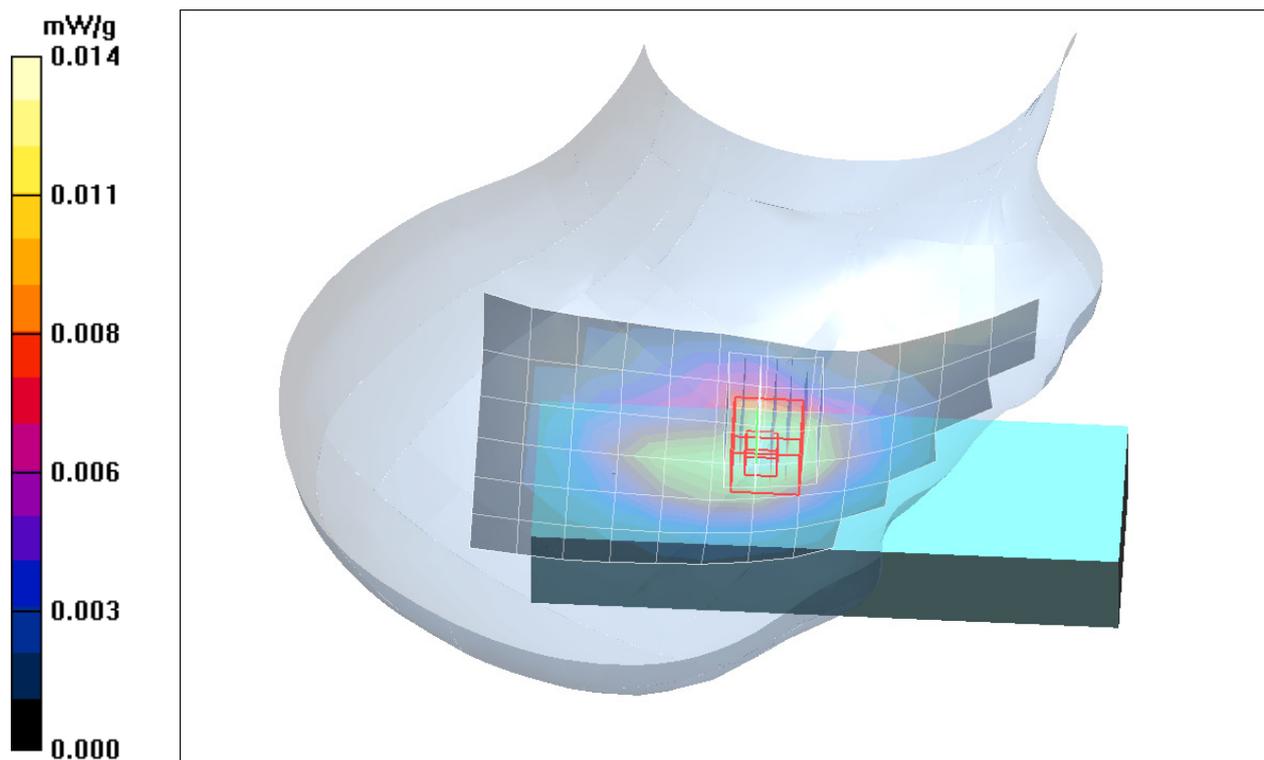


Fig. 3: SAR distribution for DECT US, channel 2, antenna 1, cheek position, right side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45 b dect rm 2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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) = 0.008 mW/g

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

Reference Value = 2.56 V/m; Power Drift = 0.071 dB

Peak SAR (extrapolated) = 0.011 W/kg

**SAR(1 g) = 0.00782 mW/g; SAR(10 g) = 0.00492 mW/g**

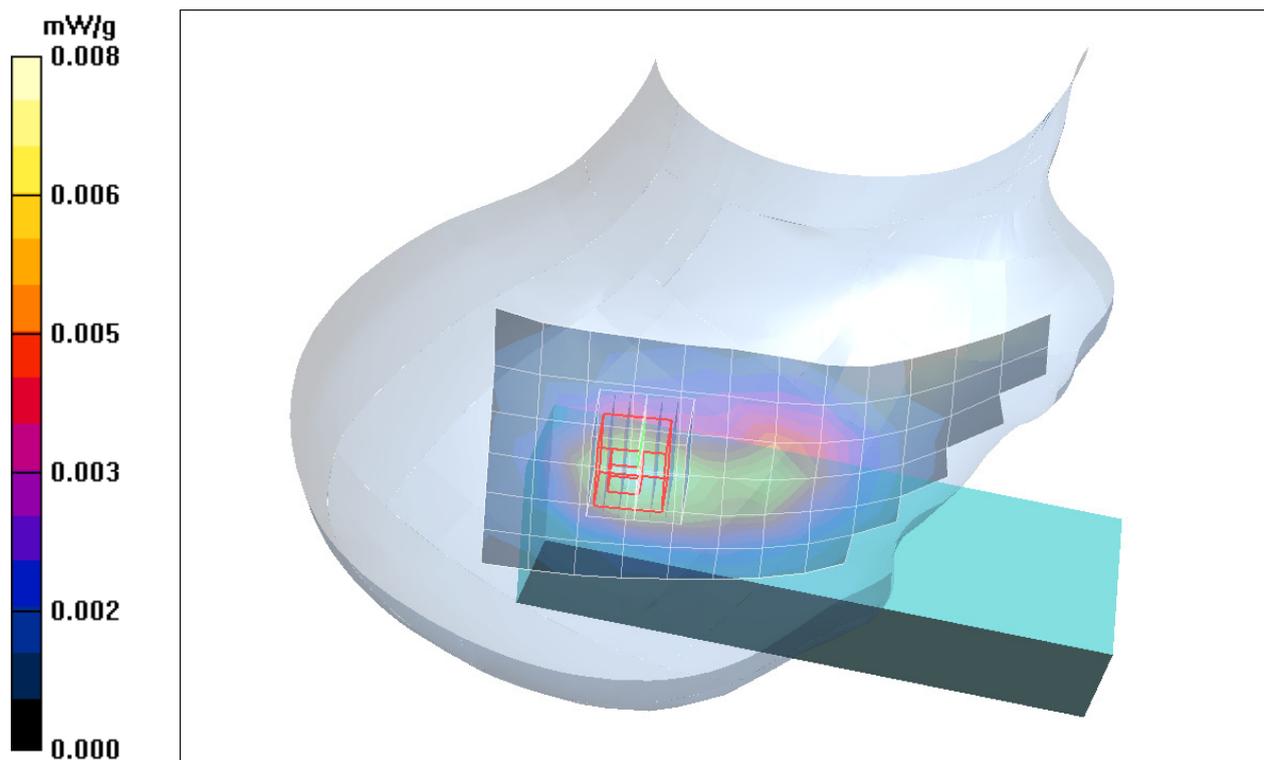


Fig. 4: SAR distribution for DECT US, channel 2, antenna 1, tilted position, right side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45 b dect Im 1 ant2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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 (8x13x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 1.41 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.007 W/kg

**SAR(1 g) = 0.00529 mW/g; SAR(10 g) = 0.00349 mW/g**

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

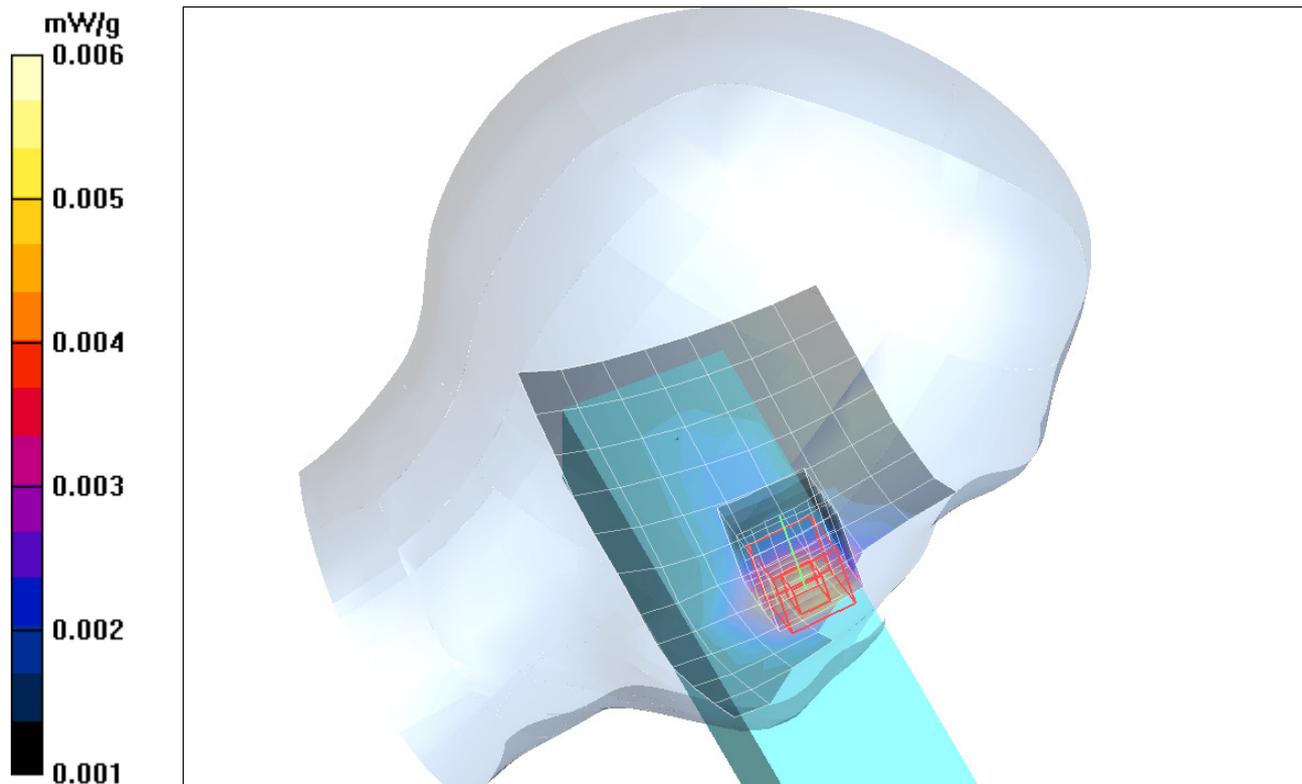


Fig. 5: SAR distribution for DECT US, channel 2, antenna 2, cheek position, left side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45 b dect Im 2 ant2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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 (8x13x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 0.961 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 0.005 W/kg

**SAR(1 g) = 0.00255 mW/g; SAR(10 g) = 0.00171 mW/g**

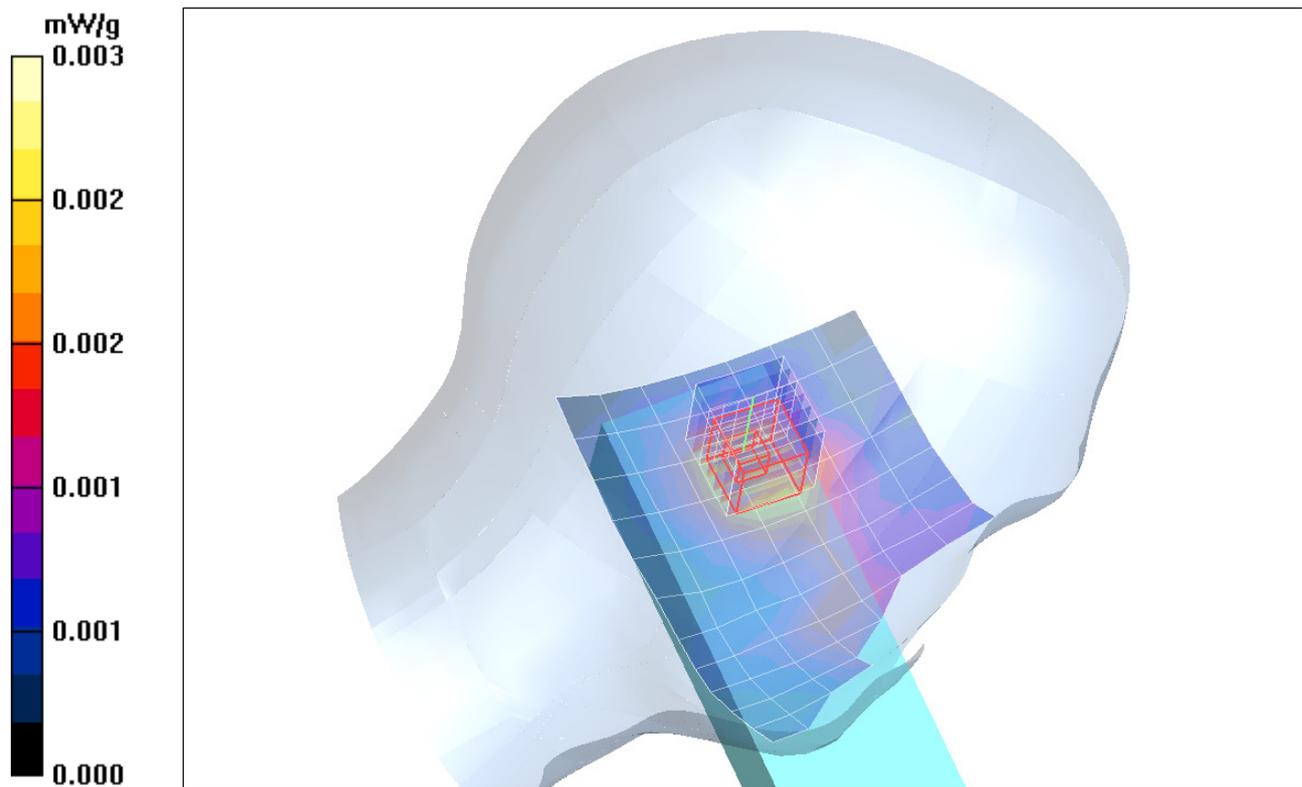


Fig. 6: SAR distribution for DECT US, channel 2, antenna 2, tilted position, left side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45\\_b\\_dect\\_rm\\_1\\_ant2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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) = 0.008 mW/g

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

Reference Value = 1.37 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.010 W/kg

**SAR(1 g) = 0.00695 mW/g; SAR(10 g) = 0.0044 mW/g**

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

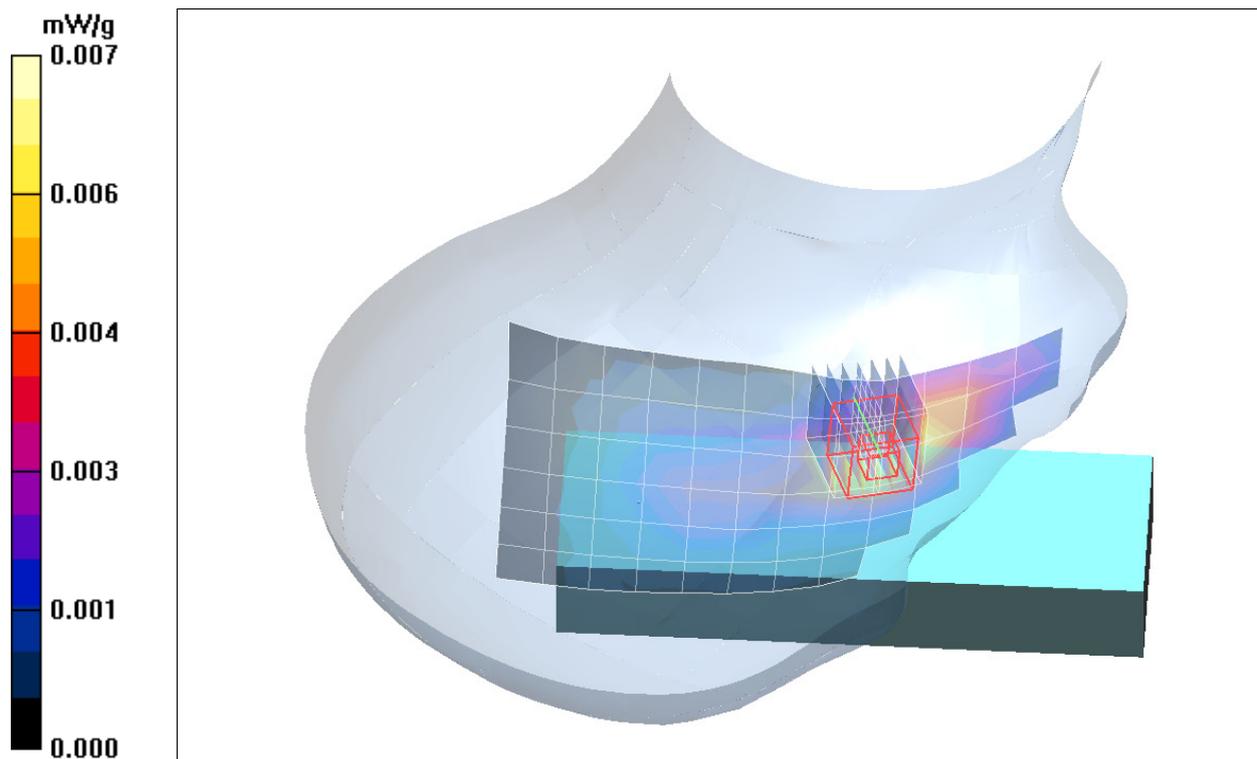


Fig. 7: SAR distribution for DECT US, channel 2, antenna 2, cheek position, right side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [TGMA45\\_b\\_dect\\_rm\\_2\\_ant2.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.97, 4.97, 4.97); Calibrated: 19.02.2015
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 16.02.2016
- 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) = 0.003 mW/g

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

Reference Value = 1.47 V/m; Power Drift = 0.169 dB

Peak SAR (extrapolated) = 0.004 W/kg

**SAR(1 g) = 0.00252 mW/g; SAR(10 g) = 0.00166 mW/g**

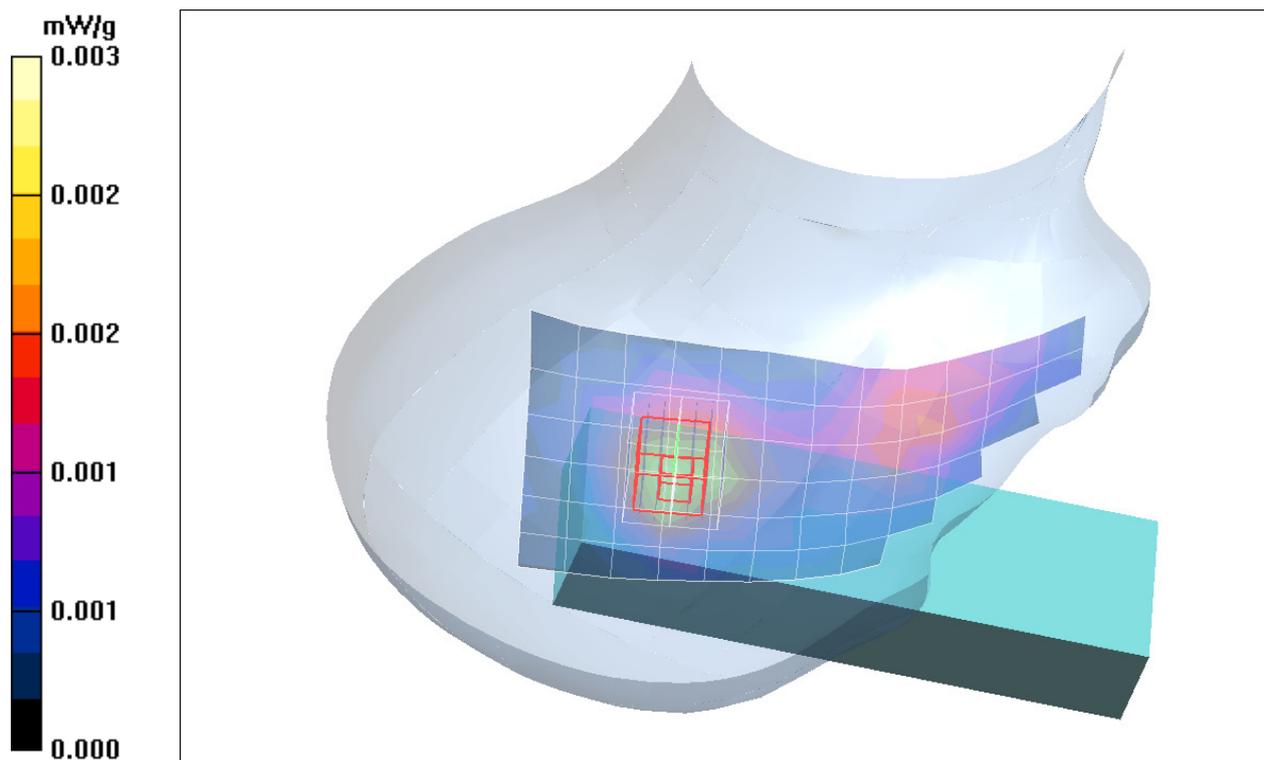


Fig. 8: SAR distribution for DECT US, channel 2, antenna 2, tilted position, right side of head (February 29, 2016)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGMA45\\_y\\_dect\\_fm\\_front\\_ant1\\_0mm.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: US DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 54.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.63, 4.63, 4.63); Calibrated: 2/23/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 9/16/2015
- Phantom: SAM 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 (7x15x1):** 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 = 1.92 V/m; Power Drift = 0.170 dB

Peak SAR (extrapolated) = 0.018 W/kg

**SAR(1 g) = 0.00987 mW/g; SAR(10 g) = 0.00578 mW/g**

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

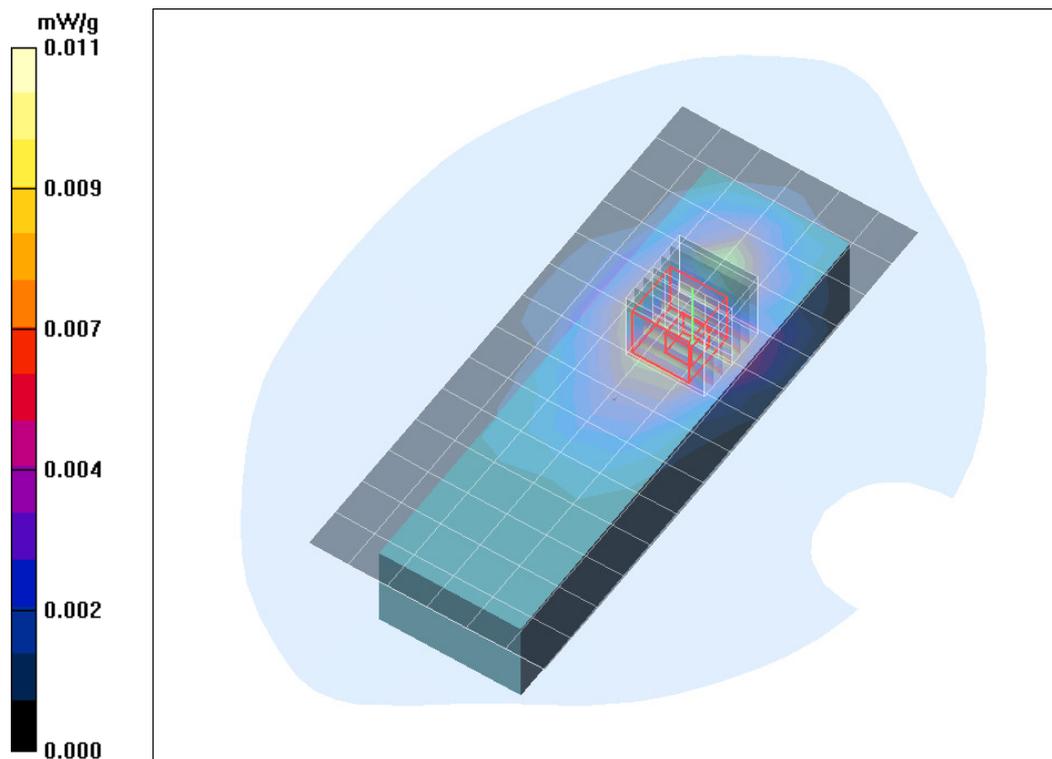


Fig. 9: SAR distribution for DECT US, channel 2, antenna 1, body worn configuration, front side of the device towards the phantom, HS attached (March 03, 2016)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGMA45\\_y\\_dect\\_fm\\_back\\_ant1\\_0mm.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: US DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 54.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.63, 4.63, 4.63); Calibrated: 2/23/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 9/16/2015
- Phantom: SAM 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 (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 3.59 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.028 W/kg

**SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.0096 mW/g**

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

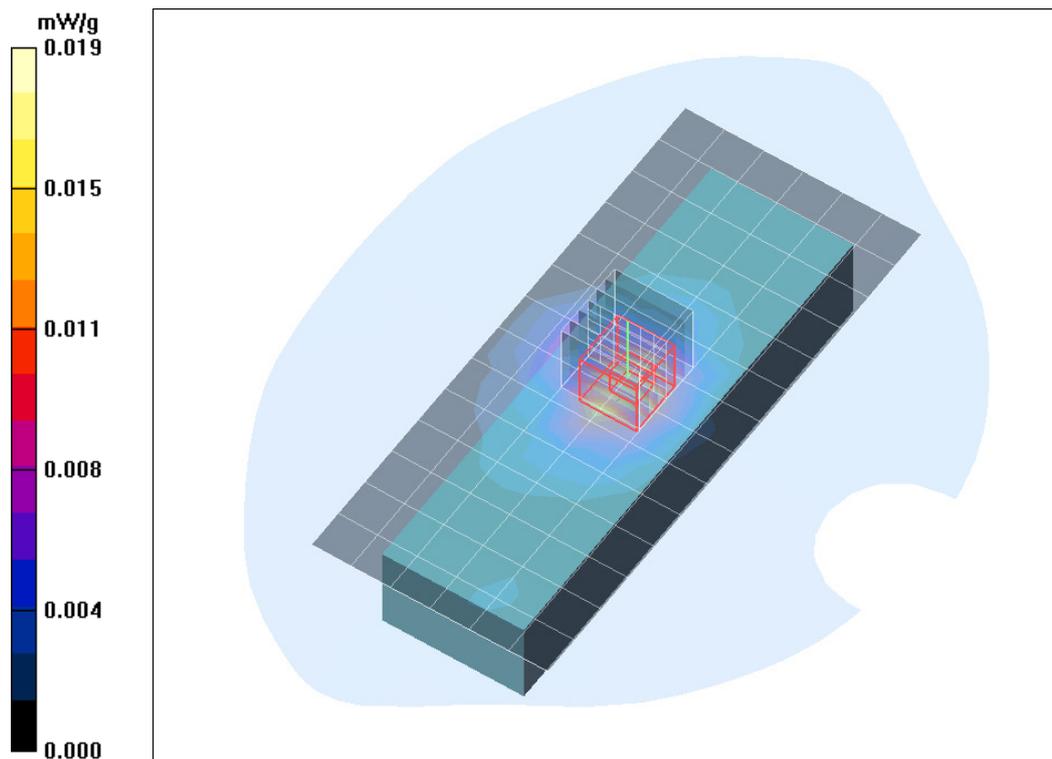


Fig. 10: SAR distribution for DECT US, channel 2, antenna 1, body worn configuration, back side of the device towards the phantom, HS attached (March 03, 2016)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGMA45\\_y\\_dect\\_fm\\_front\\_ant2\\_0mm.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: US DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 54.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.63, 4.63, 4.63); Calibrated: 2/23/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 9/16/2015
- Phantom: SAM 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 (7x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.020 mW/g

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

Reference Value = 1.16 V/m; Power Drift = 0.144 dB

Peak SAR (extrapolated) = 0.031 W/kg

**SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.011 mW/g**

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

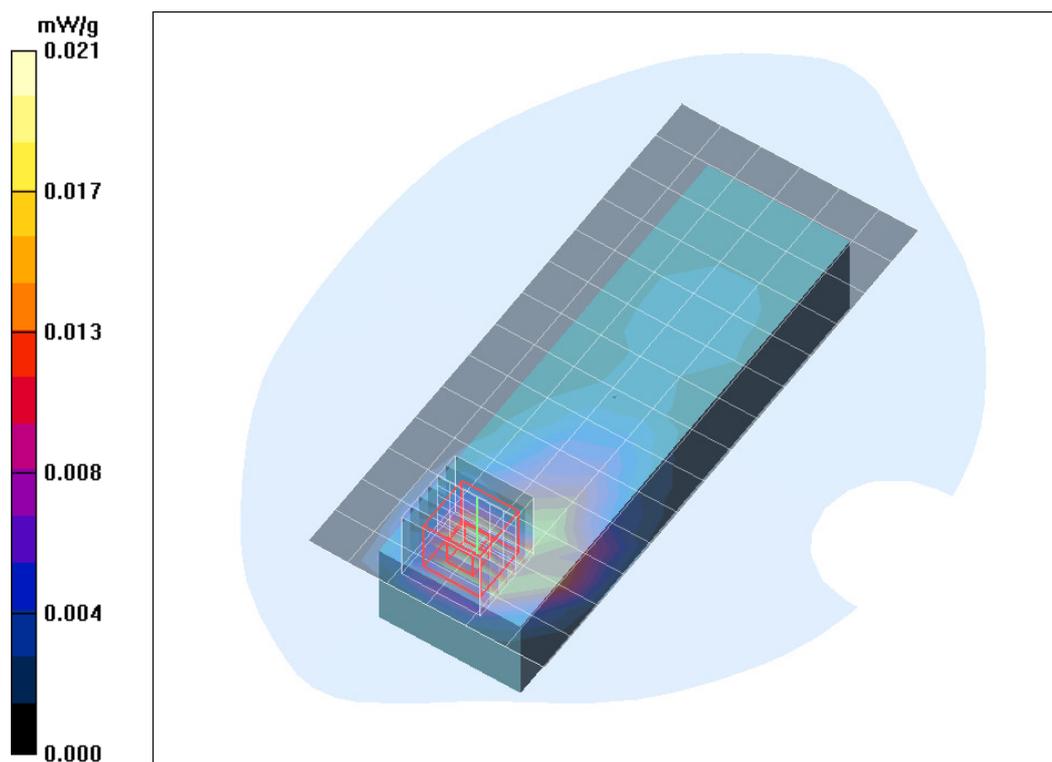


Fig. 11: SAR distribution for DECT US, channel 2, antenna 2, body worn configuration, front side of the device towards the phantom, HS attached (March 03, 2016)

Test Laboratory: IMST GmbH, DASY Yellow (II); File Name: [TGMA45\\_y\\_dect\\_fm\\_back\\_ant2\\_0mm.da4](#)

DUT: Panasonic; Type: KX-TGMA45; Serial: 6160093\_000001  
Program Name: US DECT

Communication System: DECT US; Frequency: 1924.99 MHz; Duty Cycle: 1:24  
Medium parameters used:  $f = 1924.99$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 54.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(4.63, 4.63, 4.63); Calibrated: 2/23/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 9/16/2015
- Phantom: SAM 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 (7x15x1):** 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 = 2.77 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 0.016 W/kg

**SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00645 mW/g**

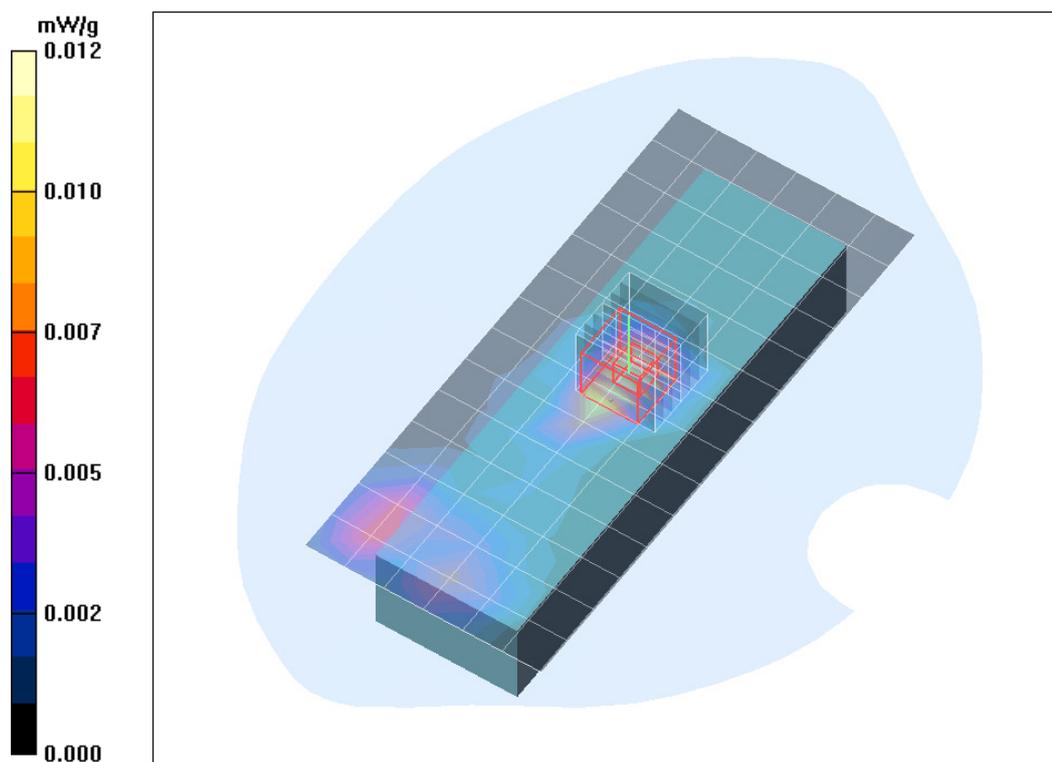


Fig. 12: SAR distribution for DECT US, channel 2, antenna 2, body worn configuration, back side of the device towards the phantom, HS attached (March 03, 2016)