

APPENDIX 2 : SAR Measurement data

1. Evaluation procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the E-field at a fixed location above the ear point or central position of flat phantom was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of head or body position was measured at a distance of each device from the inner surface of the shell. The area covered the entire dimension of the antenna of EUT and the horizontal grid spacing was 15 mm x 15 mm . Based on these data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point found in the Step 2 (area scan) , a volume of 28mm x 28mm x 22.5mm was assessed by measuring 8 x 8 x 10 points. And for any secondary peaks found in the Step2 which are within 2dB of maximum peak (level more than ambient noise (≥ 0.012 W/kg)) and not with this Step3 (Zoom scan) is repeated. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

(1). The data at the surface were extrapolated, since the center of the dipoles is 2.7mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm [4]. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

(2). The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x, y and z-directions) [4], [5]. The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

(3). All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the E-field at the same location as in Step 1.

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2. Measurement data (Head SAR)

BCL-D60/ Left Head / Cheek / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Phantom: SAM 1196

- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.122 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 5.01 V/m; Power Drift = -0.206 dB

Peak SAR (extrapolated) = 0.192 W/kg

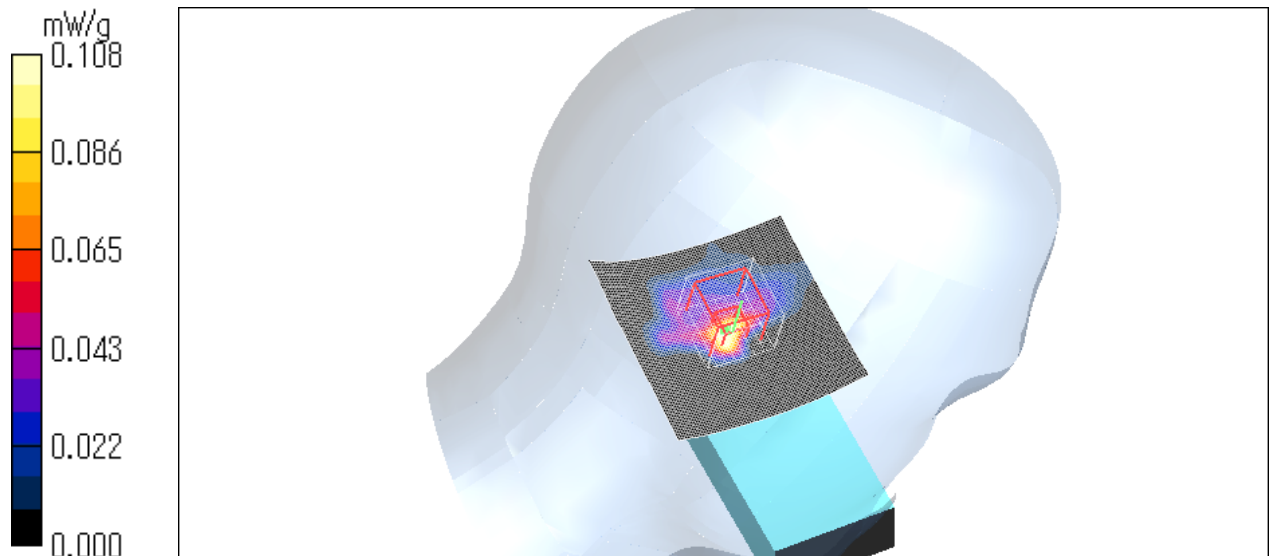
SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.014 mW/g

Maximum value of SAR (measured) = 0.108 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 24.0 degree.C , After 24.0 degree.C



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BCL-D60/ Left Head / Tilt / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.091 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 4.11 V/m; Power Drift = 0.200 dB

Peak SAR (extrapolated) = 0.164 W/kg

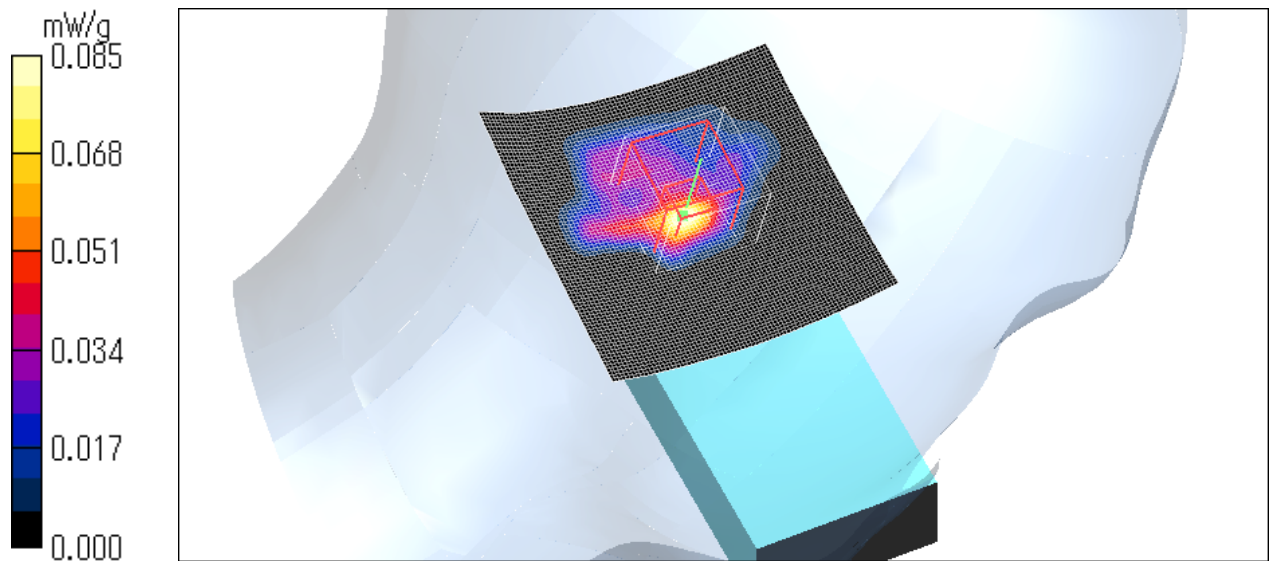
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.085 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 24.0 degree.C , After 24.0 degree.C



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BCL-D60/ Right Head / Cheek / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.083 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.04 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 0.437 W/kg

SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.071 mW/g

Zoom Scan (8x8x10)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.04 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 0.131 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.00939 mW/g

Maximum value of SAR (measured) = 0.075 mW/g

Zoom Scan (8x8x10)/Cube 2: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.04 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 0.114 W/kg

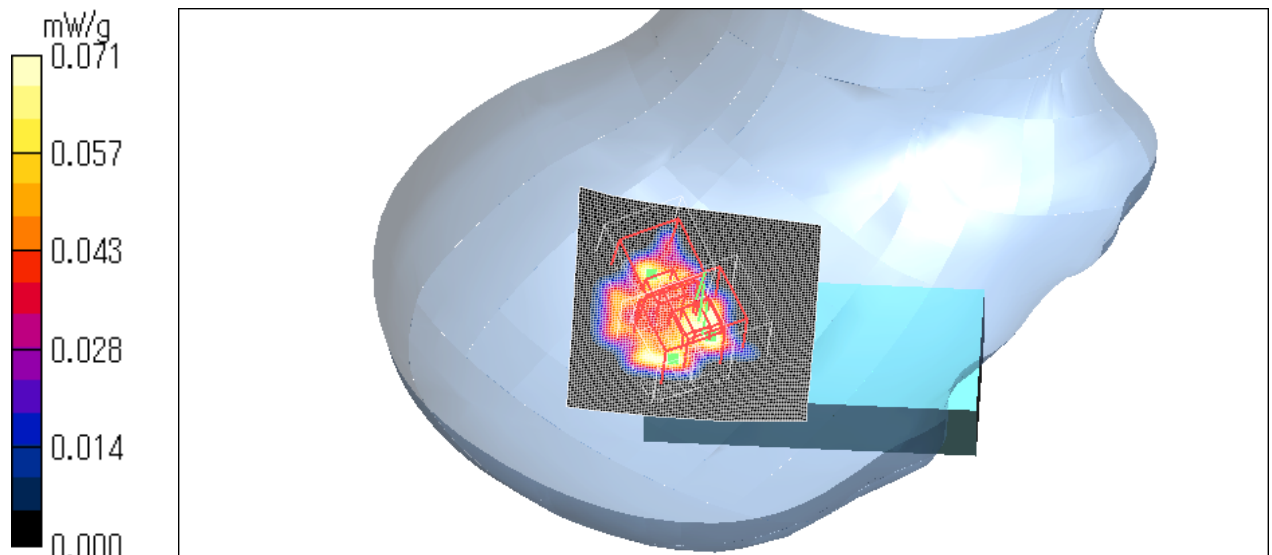
SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.00838 mW/g

Maximum value of SAR (measured) = 0.051 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 23.8 degree.C , After 23.8 degree.C



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BCL-D60/ Right Head / Tilt / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.090 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.32 V/m; Power Drift = -0.173 dB

Peak SAR (extrapolated) = 0.142 W/kg

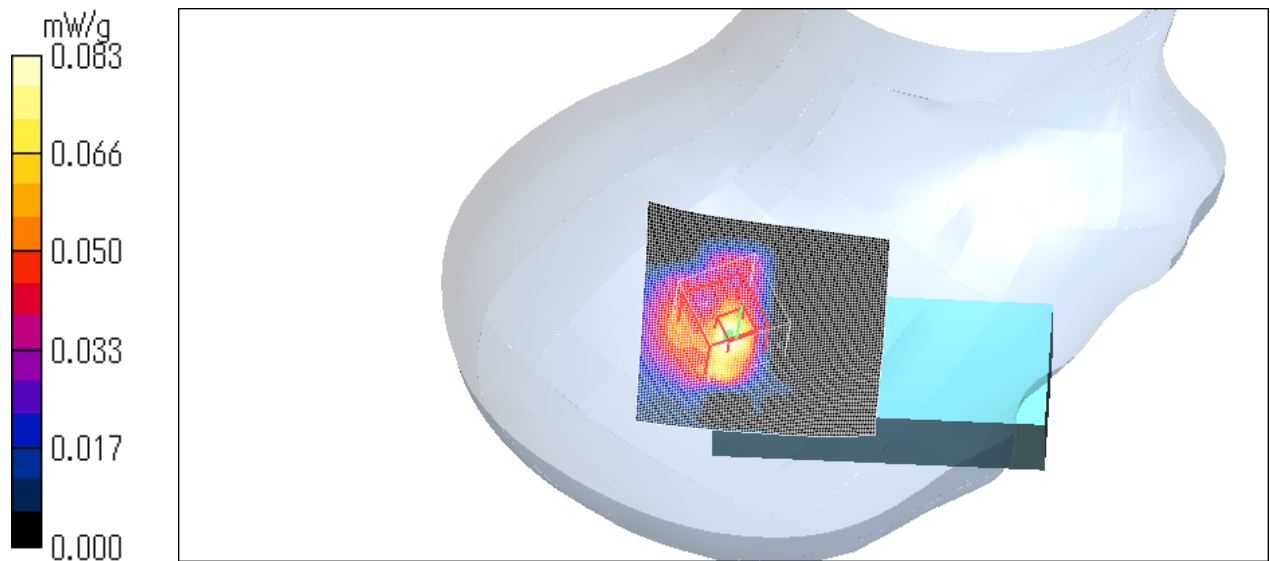
SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.014 mW/g

Maximum value of SAR (measured) = 0.083 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 23.8 degree.C , After 23.8 degree.C



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BCL-D60/ Left Head / Cheek / 1ch(5725.809328 MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.174 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 5.18 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.269 W/kg

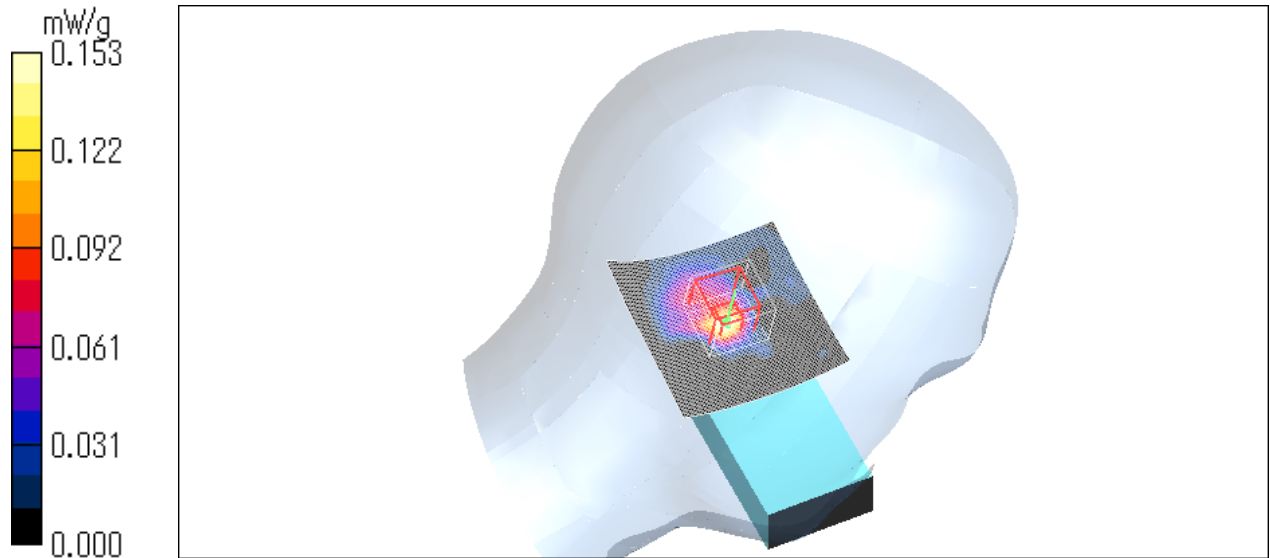
SAR(1 g) = 0.075 mW/g; SAR(10 g) = 0.023 mW/g

Maximum value of SAR (measured) = 0.153 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 23.8 degree.C , After 23.8 degree.C



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BCL-D60/ Left Head / Cheek / 139ch(5848.889420MHz)

Crest factor: 9.4

Medium: HSL 5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.44$ mho/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.81, 4.81, 4.81); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.117 mW/g

Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.24 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.096 mW/g

Zoom Scan (8x8x10)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.24 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 0.367 W/kg

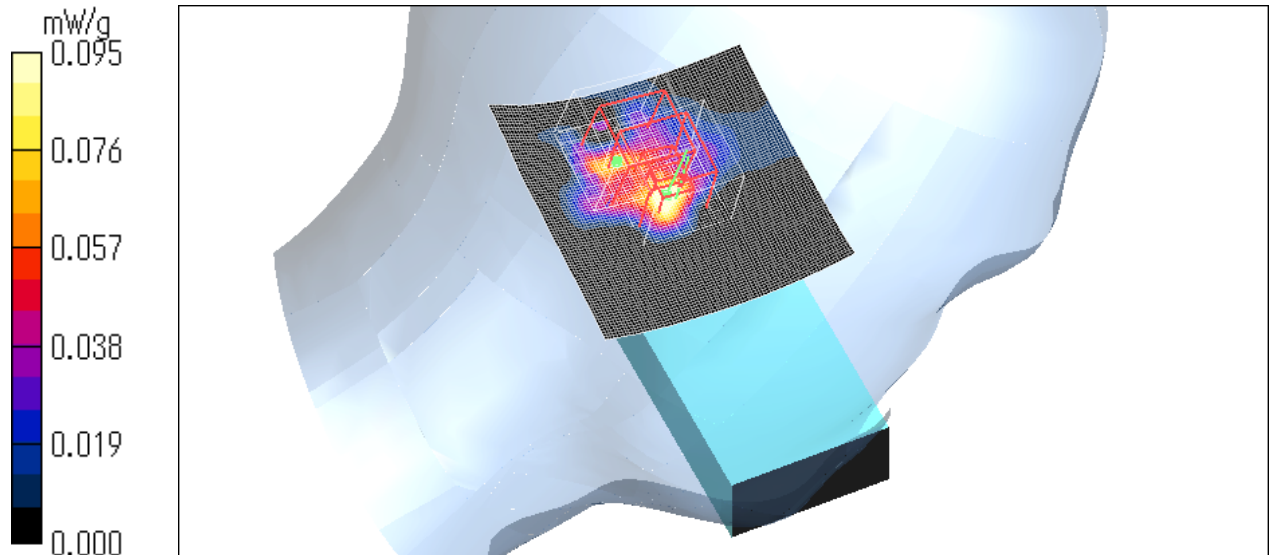
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.095 mW/g

Test Date = 04/03/08

Ambient Temperature = 24.6 degree.c

Liquid Temperature = Before 23.8 degree.C , After 23.8 degree.C



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3. Measurement data (Body-worn SAR)

BCL-D60/ Body / Front/ Separation 15mm / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: M5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.14$ mho/m; $\epsilon_r = 46$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.64, 4.64, 4.64); Calibrated: 2008/01/25

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Phantom: SAM 1196

- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (91x111x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.041 mW/g

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 1.11 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 0.088 W/kg

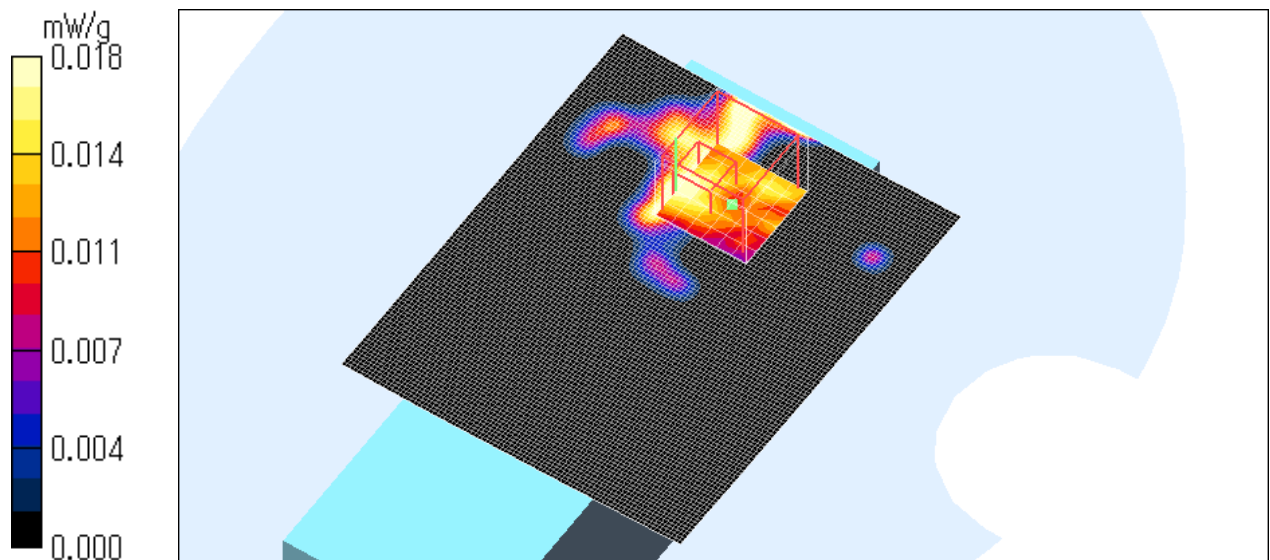
SAR(1 g) = 0.00718 mW/g; SAR(10 g) = 0.00294 mW/g

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

Test Date = 04/04/08

Ambient Temperature = 23.9 degree.c

Liquid Temperature = Before 23.4 degree.C , After 23.4 degree.C



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BCL-D60/ Body / Rear/ Separation 15mm / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: M5800 Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 6.14 \text{ mho/m}$; $\epsilon_r = 46$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.64, 4.64, 4.64); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.395 mW/g

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 7.77 V/m; Power Drift = -0.156 dB

Peak SAR (extrapolated) = 0.805 W/kg

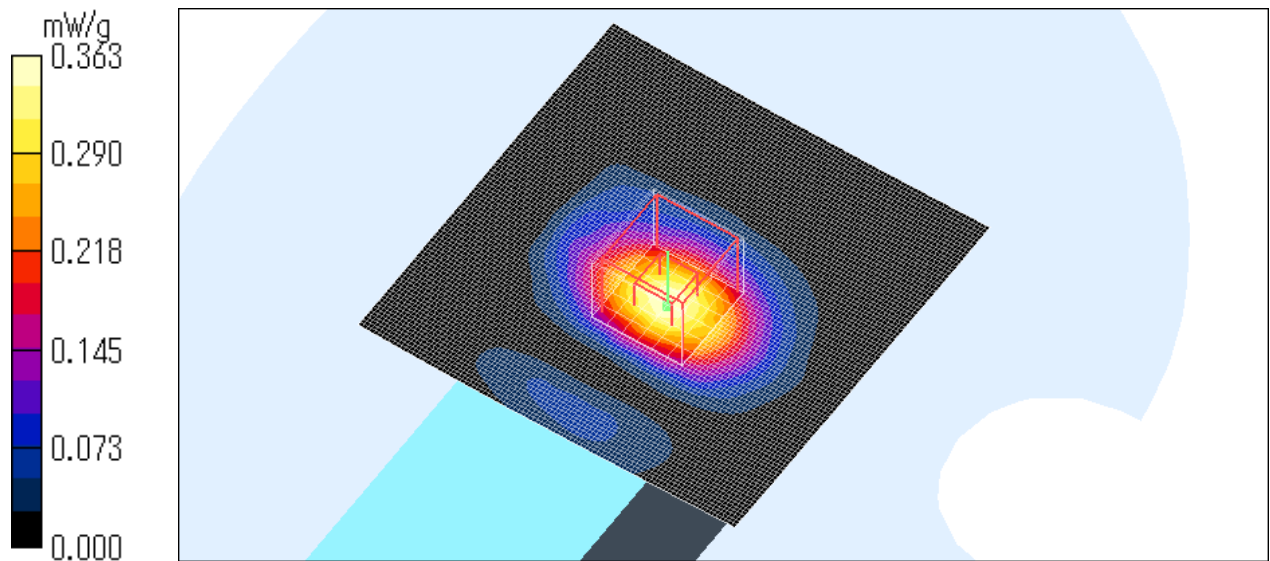
SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.079 mW/g

Maximum value of SAR (measured) = 0.363 mW/g

Test Date = 04/04/08

Ambient Temperature = 23.9 degree.c

Liquid Temperature = Before 23.4 degree.C , After 23.4 degree.C



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Z-axis scan at max SAR location

BCL-D60/ Body / Rear/ Separation 15mm / 71ch(5788.240269MHz)

Crest factor: 9.4

Medium: M5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.14$ mho/m; $\epsilon_r = 46$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

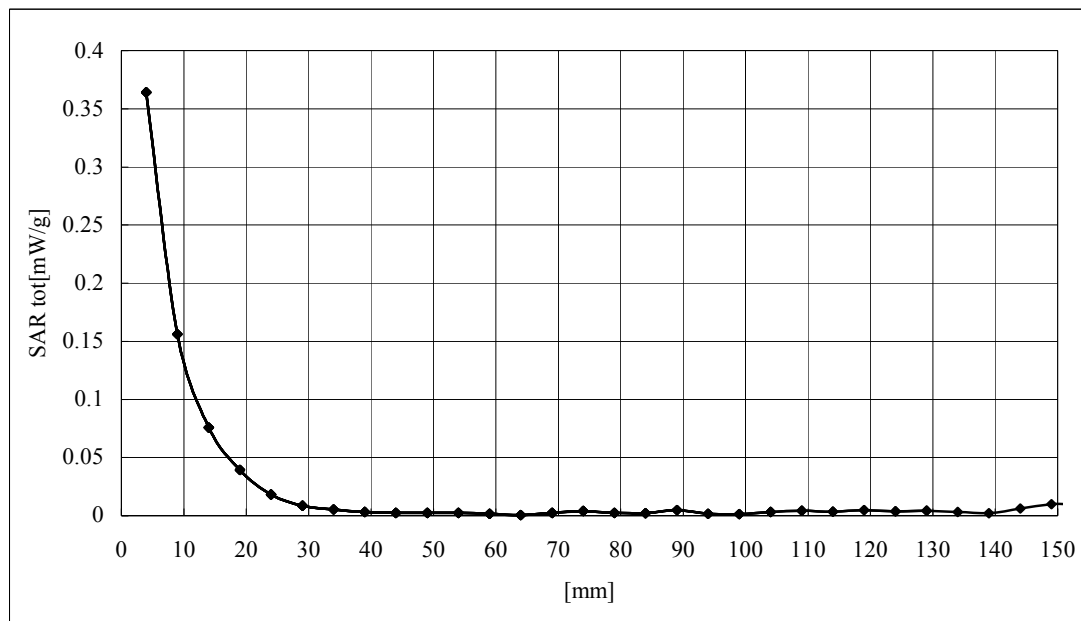
DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.64, 4.64, 4.64); Calibrated: 2008/01/25

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Phantom: SAM 1196

- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176



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BCL-D60/ Body / Rear/ Separation 15mm / 1ch(5725.809328 MHz)

Crest factor: 9.4

Medium: M5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.14$ mho/m; $\epsilon_r = 46$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.64, 4.64, 4.64); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.360 mW/g

Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.11 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.765 W/kg

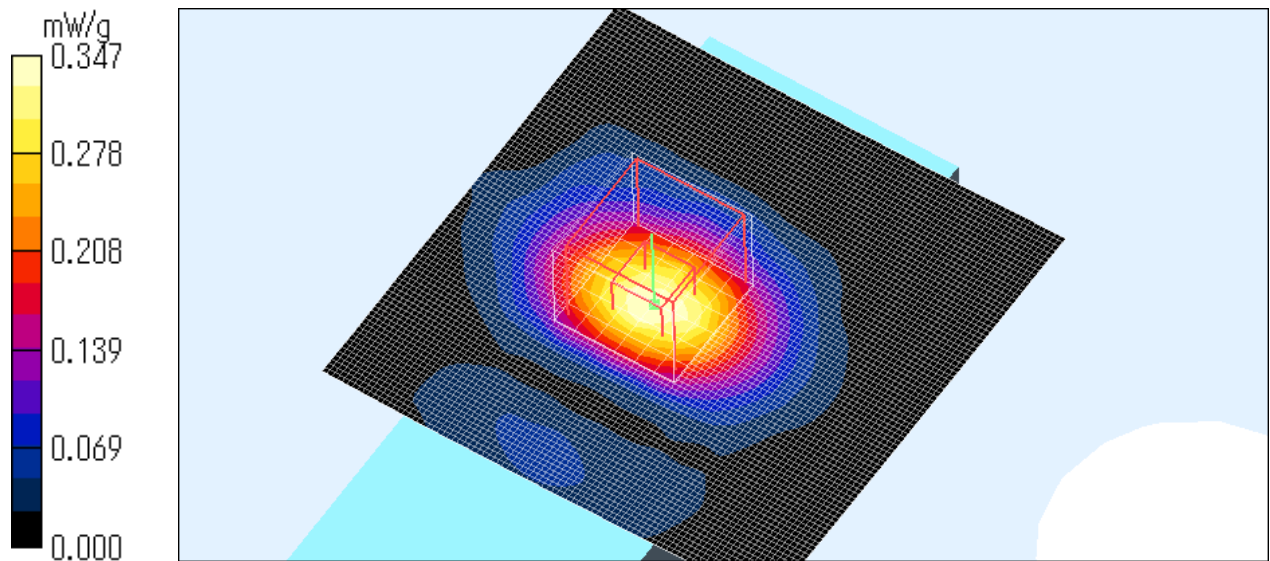
SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.076 mW/g

Maximum value of SAR (measured) = 0.347 mW/g

Test Date = 04/04/08

Ambient Temperature = 23.9 degree.c

Liquid Temperature = Before 23.4 degree.C , After 23.4 degree.C



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BCL-D60/ Body / Rear/ Separation 15mm / 139ch(5848.889420MHz)

Crest factor: 9.4

Medium: M5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.14$ mho/m; $\epsilon_r = 46$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3507; ConvF(4.64, 4.64, 4.64); Calibrated: 2008/01/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM 1196
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Area Scan (91x111x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.309 mW/g

Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 6.76 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 0.664 W/kg

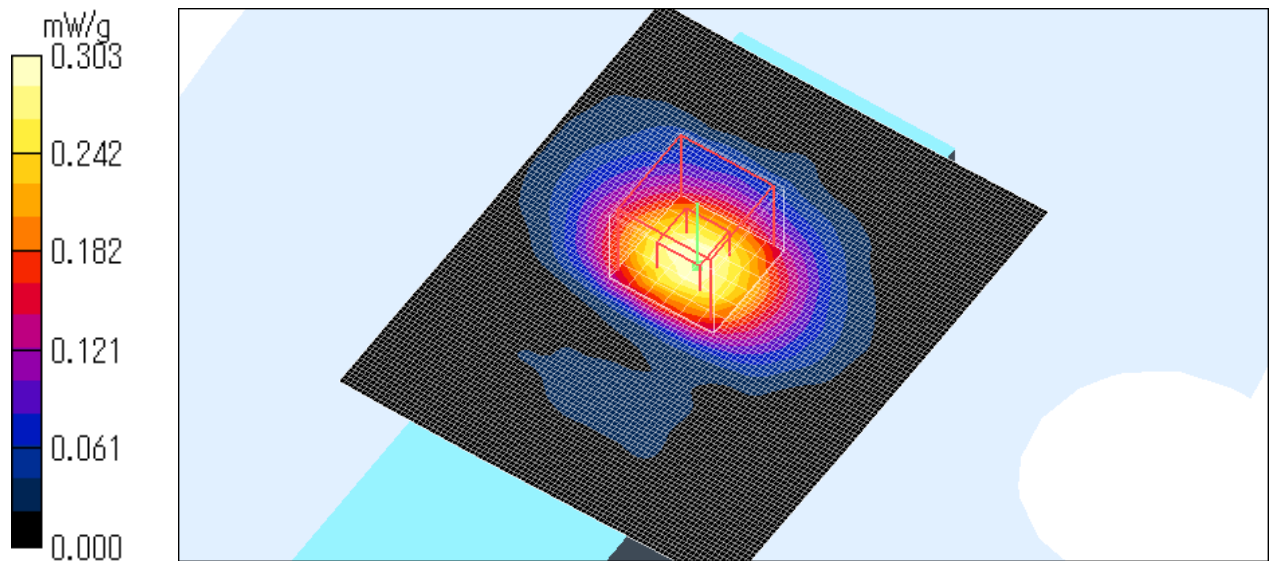
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.303 mW/g

Test Date = 04/04/08

Ambient Temperature = 23.9 degree.c

Liquid Temperature = Before 23.4 degree.C , After 23.4 degree.C



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