

## **APPENDIX 1 : 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 30mm x 30mm x 30mm or more was assessed by measuring 7 x 7 x 7 points at least. And for any secondary peaks found in the Step2 which are within 2dB of maximum peak 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 1mm(EX3DV3) 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

### i) GSM850 Body

#### <Reference DATA> SC-02D GSM850(GPRS 3slots) Rear 10mm 836.6 MHz

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz);

Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.94$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(10.49, 10.49, 10.49); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.956 mW/g

**Zoom Scan (7x9x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.382 V/m; Power Drift = -0.02 dB

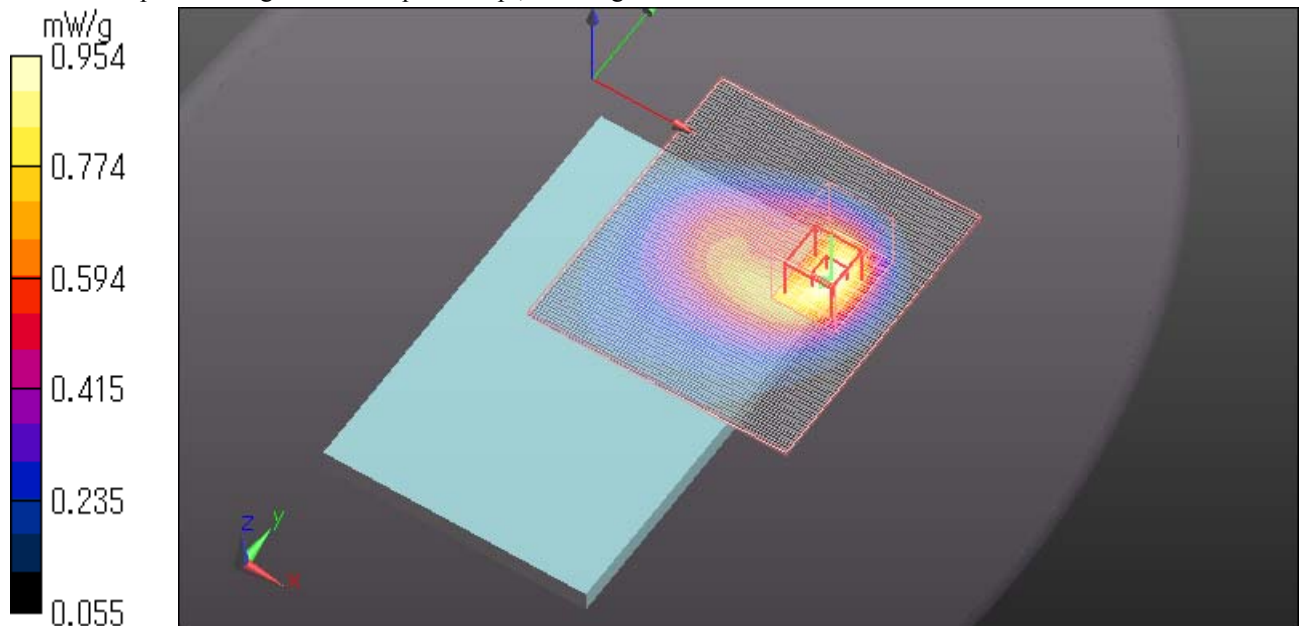
Peak SAR (extrapolated) = 1.170 W/kg

**SAR(1 g) = 0.727 mW/g; SAR(10 g) = 0.465 mW/g**

Maximum value of SAR (measured) = 0.954 mW/g

Date: 2011/09/30

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.5 degree.C.



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**SC-02D GSM850(GPRS 3slots) Rear 7mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.327 mW/g

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

Reference Value = 12.732 V/m; Power Drift = -0.03 dB

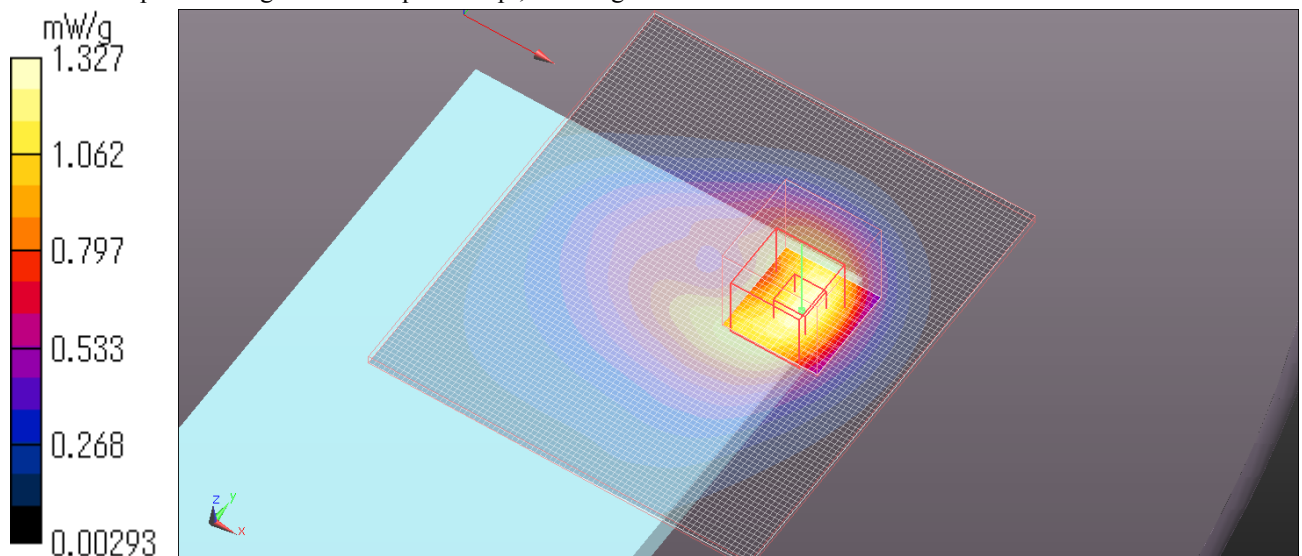
Peak SAR (extrapolated) = 1.605 W/kg

**SAR(1 g) = 0.983 mW/g; SAR(10 g) = 0.609 mW/g**

Maximum value of SAR (measured) = 1.303 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



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**Z Scan at maximum Body SAR in WWAN GSM850band**

**SC-02D GSM850(GPRS 3slots) Rear 7mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

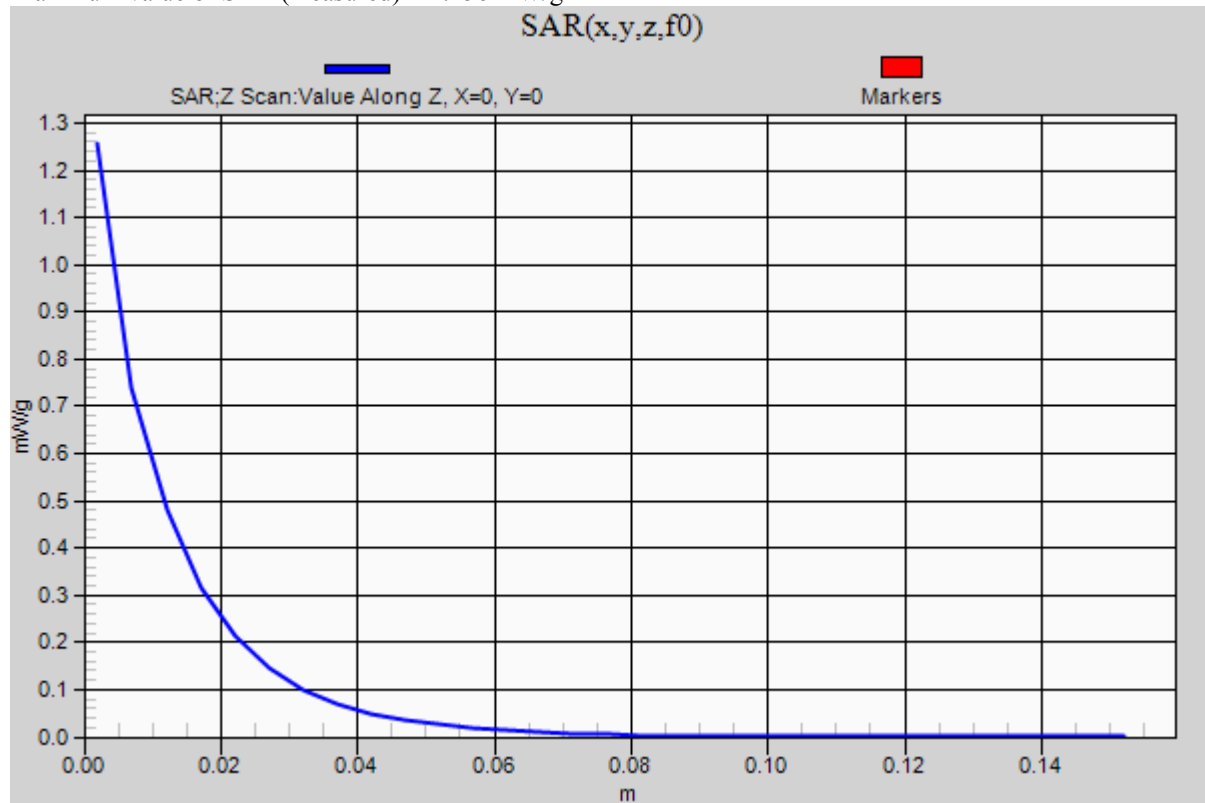
Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Z Scan (1x1x31):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 1.256 mW/g



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**SC-02D GSM850(GPRS 3slots) Rear 0mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz);

Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.94$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(10.49, 10.49, 10.49); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.455 mW/g

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

Reference Value = 2.446 V/m; Power Drift = 0.15 dB

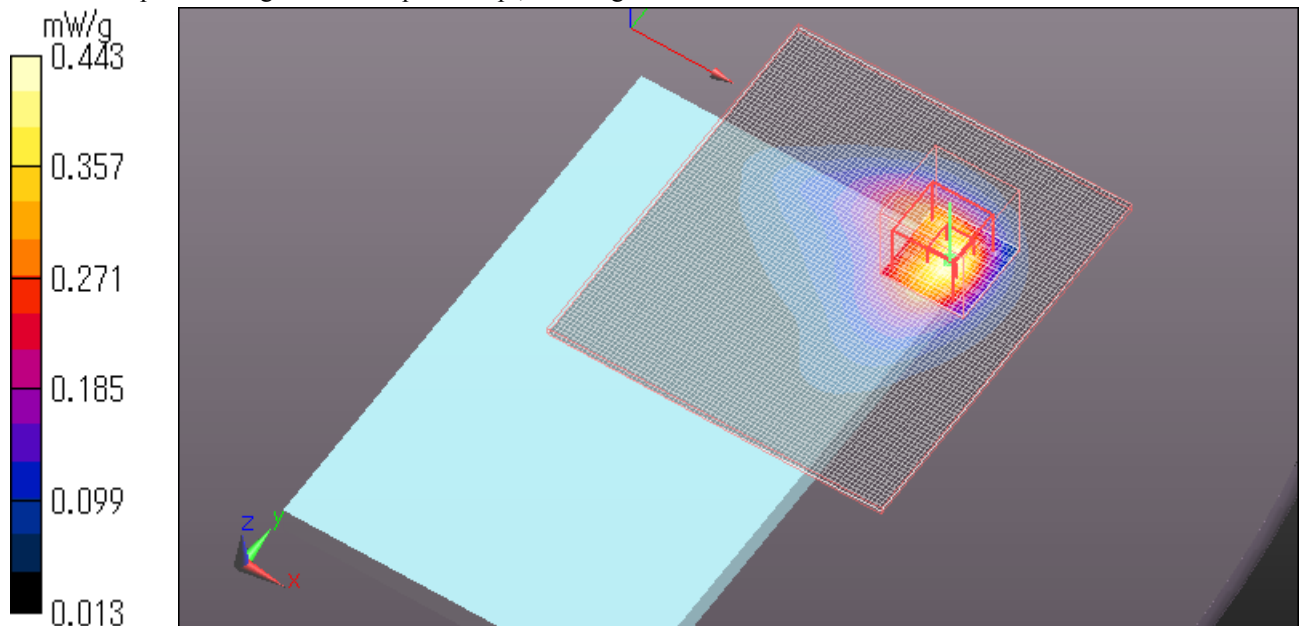
Peak SAR (extrapolated) = 0.605 W/kg

**SAR(1 g) = 0.301 mW/g; SAR(10 g) = 0.166 mW/g**

Maximum value of SAR (measured) = 0.443 mW/g

Date: 2011/09/30

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.5 degree.C.



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### SC-02D GSM850(GPRS 3slots) Top 3mm 836.6 MHz

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.150 mW/g

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

Reference Value = 27.019 V/m; Power Drift = 0.03 dB

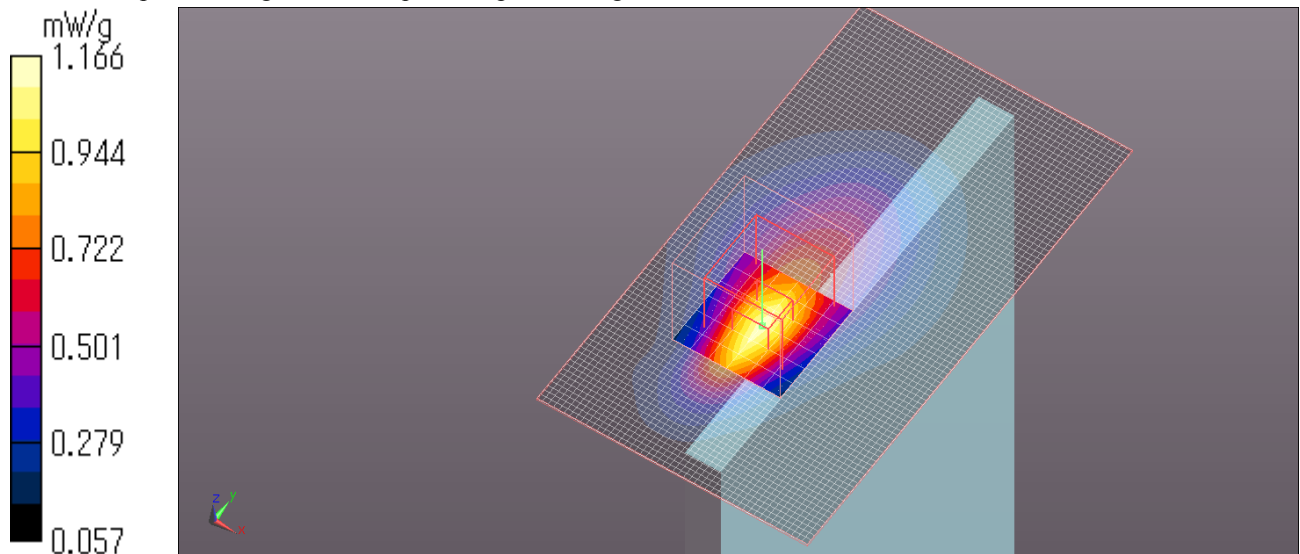
Peak SAR (extrapolated) = 1.430 W/kg

**SAR(1 g) = 0.831 mW/g; SAR(10 g) = 0.479 mW/g**

Maximum value of SAR (measured) = 1.166 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



**SC-02D GSM850(GPRS 3slots) Top 0mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz);

Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.94$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(10.49, 10.49, 10.49); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.159 mW/g

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

Reference Value = 11.744 V/m; Power Drift = -0.09 dB

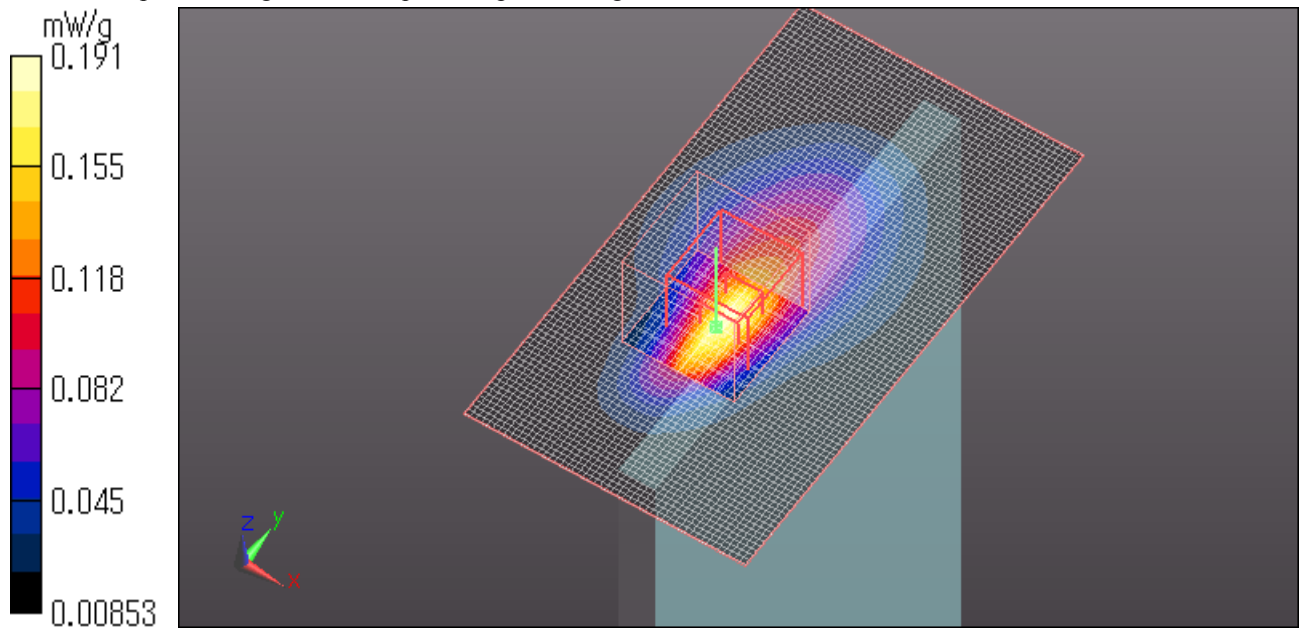
Peak SAR (extrapolated) = 0.259 W/kg

**SAR(1 g) = 0.133 mW/g; SAR(10 g) = 0.074 mW/g**

Maximum value of SAR (measured) = 0.191 mW/g

Date: 2011/09/30

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.5 degree.C.



**SC-02D GSM850(GPRS 3slots) Left edge 0mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz);

Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.94$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(10.49, 10.49, 10.49); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.878 mW/g

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

Reference Value = 11.677 V/m; Power Drift = 0.11 dB

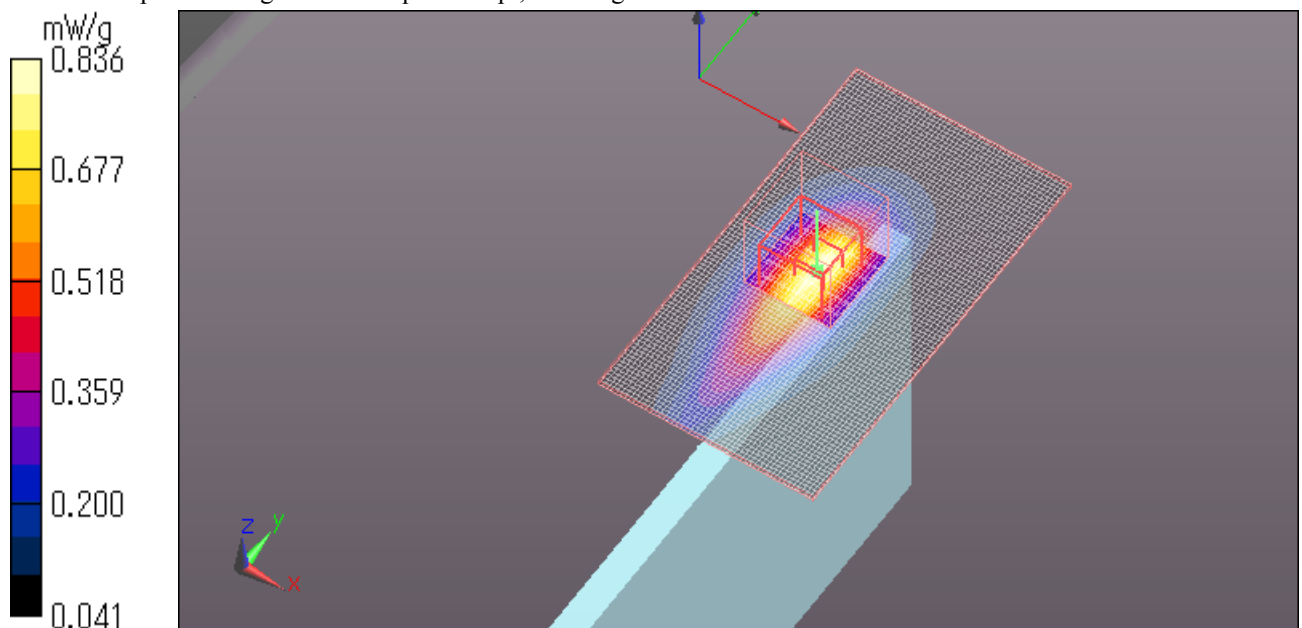
Peak SAR (extrapolated) = 1.087 W/kg

**SAR(1 g) = 0.608 mW/g; SAR(10 g) = 0.356 mW/g**

Maximum value of SAR (measured) = 0.836 mW/g

Date: 2011/09/30

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.5 degree.C.



**<Reference DATA> SC-02D GSM850(GPRS 3slots) Front 10mm 836.6 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz);

Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.94$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(10.49, 10.49, 10.49); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.857 mW/g

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.616 V/m; Power Drift = 0.09 dB

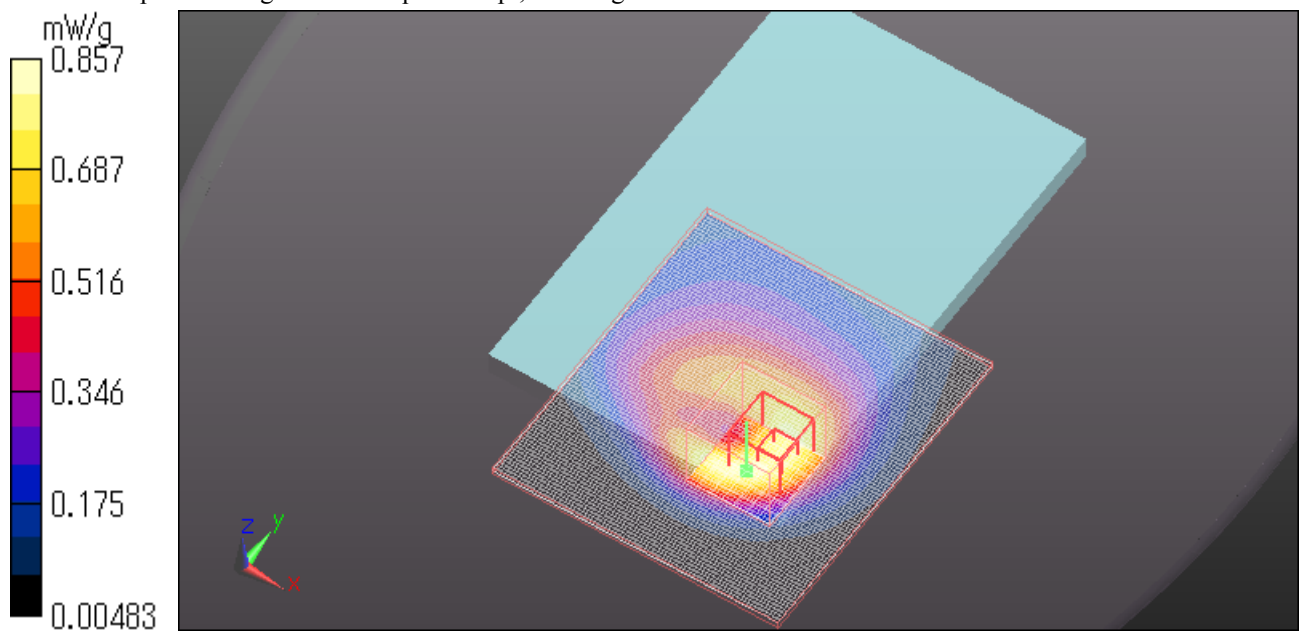
Peak SAR (extrapolated) = 1.003 W/kg

**SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.421 mW/g**

Maximum value of SAR (measured) = 0.822 mW/g

Date: 2011/09/30

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.5 degree.C.



**SC-02D GSM850 GPRS 3slots Rear 7mm 824.2 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.949$  mho/m;  $\epsilon_r = 53.706$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm  
grid: dx=15mm, dy=15mm

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.245 mW/g

**Zoom Scan (7x9x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.542 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.516 W/kg

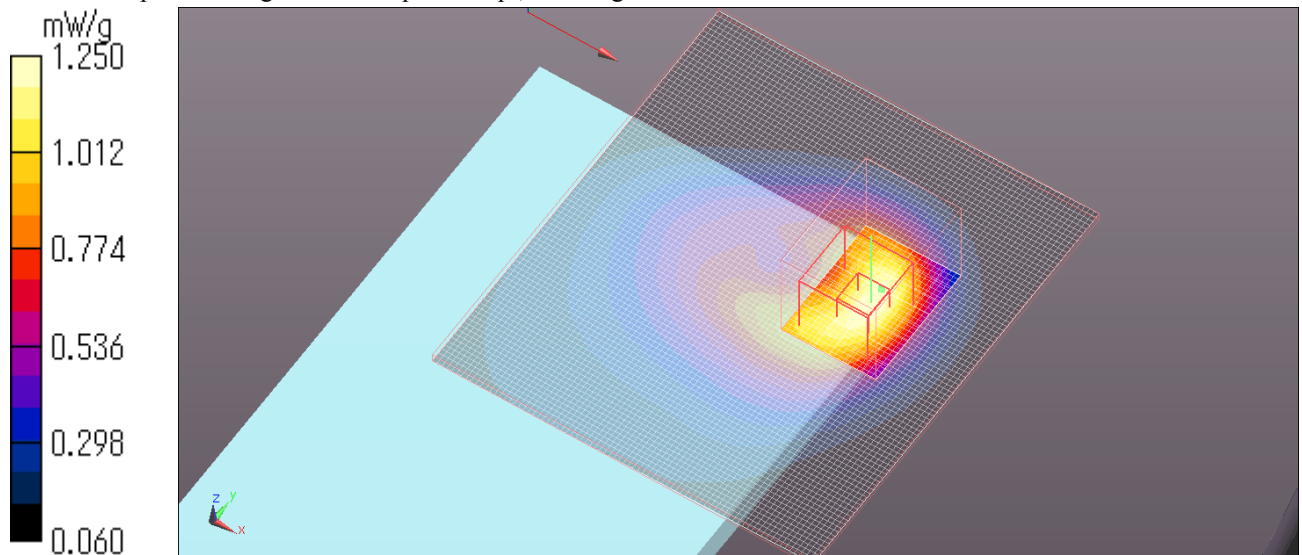
**SAR(1 g) = 0.936 mW/g; SAR(10 g) = 0.582 mW/g**

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.232 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



**SC-02D GSM850 GPRS 3slots Rear 7mm 848.8 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.969$  mho/m;  $\epsilon_r = 53.508$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS5, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.309 mW/g

**Zoom Scan (7x9x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.502 V/m; Power Drift = 0.0055 dB

Peak SAR (extrapolated) = 1.575 W/kg

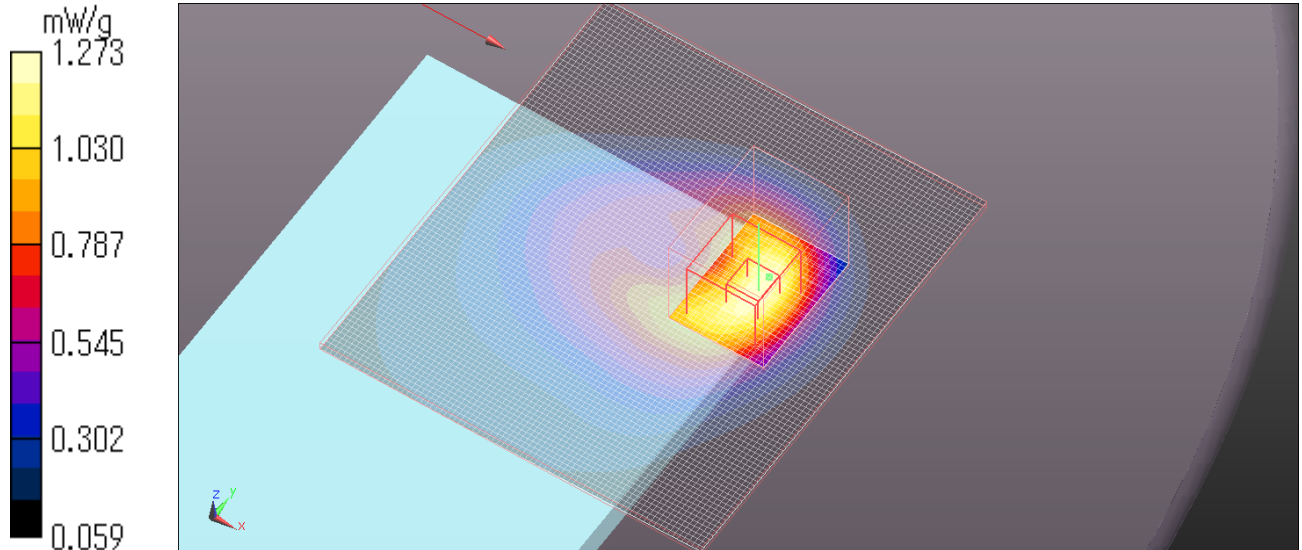
**SAR(1 g) = 0.980 mW/g; SAR(10 g) = 0.605 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.291 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



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**SC-02D GSM850 GPRS 3slots Top 3mm 824.2 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.949$  mho/m;  $\epsilon_r = 53.706$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.160 mW/g

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

Reference Value = 27.627 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.423 W/kg

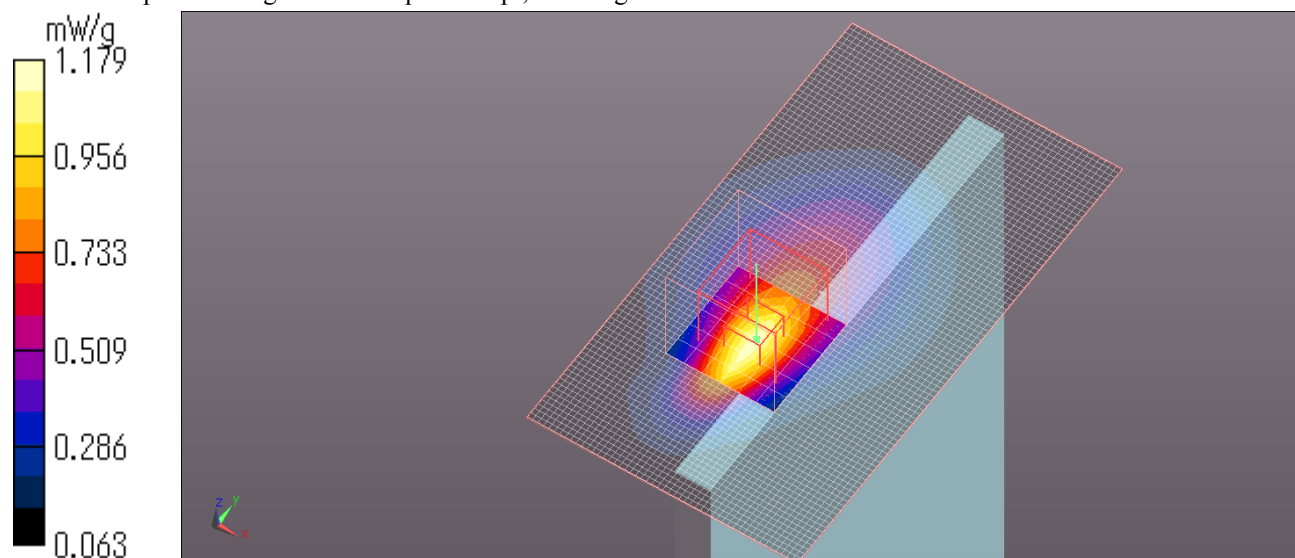
**SAR(1 g) = 0.843 mW/g; SAR(10 g) = 0.494 mW/g**

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.162 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



**SC-02D GSM850 GPRS 3slots Top 3mm 848.8 MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.969$  mho/m;  $\epsilon_r = 53.508$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.129 mW/g

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

Reference Value = 26.673 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.427 W/kg

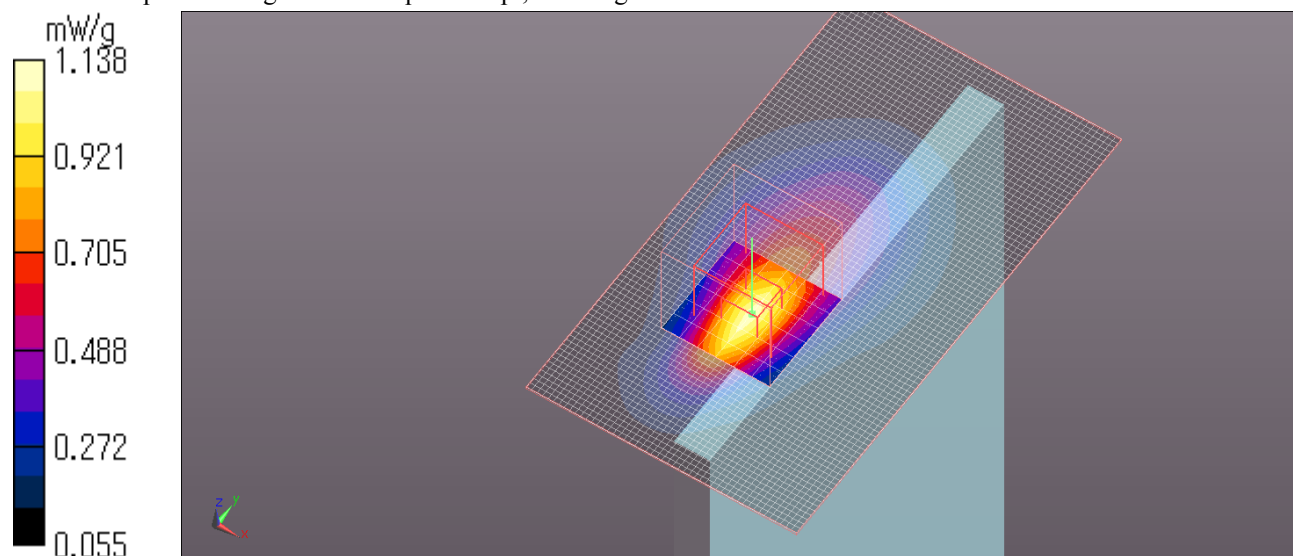
**SAR(1 g) = 0.822 mW/g; SAR(10 g) = 0.473 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.154 mW/g

Date: 2011/10/13

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



**SC-02D GSM850 GPRS 3slots WWAN antenna vertex 0mm Top 45degree 836.6MHz**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 835$  MHz;  $\sigma = 1$  mho/m;  $\epsilon_r = 53.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

- Probe: EX3DV4 - SN3540; ConvF(10.29, 10.29, 10.29); Calibrated: 2011/07/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn509; Calibrated: 2011/07/20
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.131 mW/g

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

Reference Value = 12.285 V/m; Power Drift = -0.19 dB

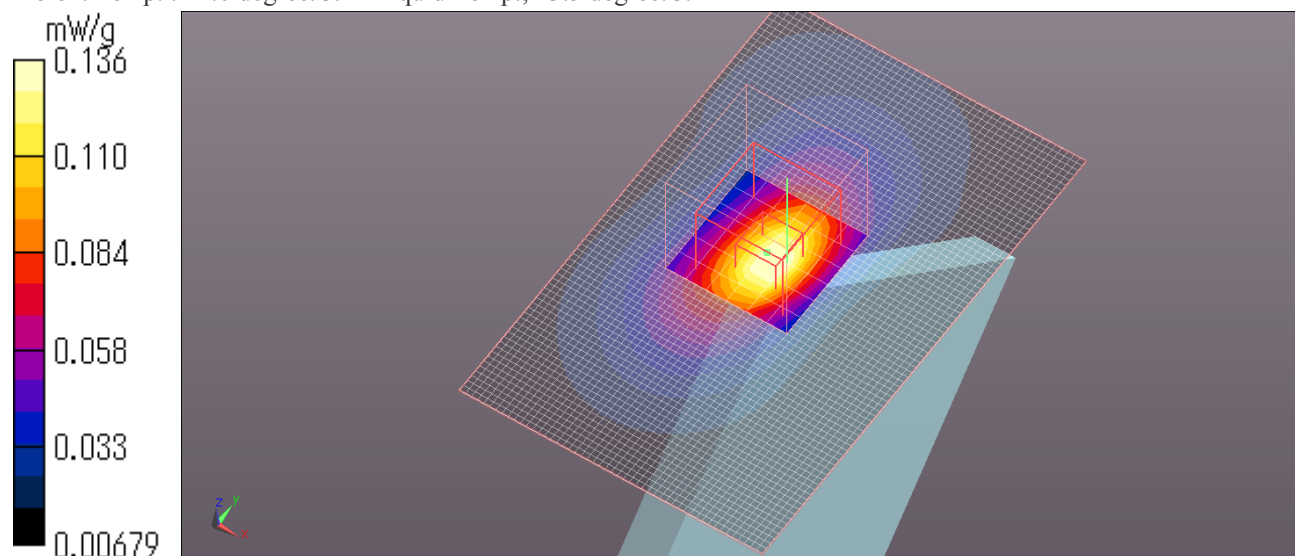
Peak SAR (extrapolated) = 0.189 W/kg

**SAR(1 g) = 0.100 mW/g; SAR(10 g) = 0.056 mW/g**

Maximum value of SAR (measured) = 0.136 mW/g

Date: 2011/11/08

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



ii) **PCS1900 Body/Body-worn**

**<Reference DATA> SC-02D PCS1900(GPRS 3slots) Rear 10mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76669

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.683 mW/g

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

Reference Value = 6.382 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.810 W/kg

**SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.254 mW/g**

Maximum value of SAR (measured) = 0.619 mW/g

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

Reference Value = 6.382 V/m; Power Drift = -0.08 dB

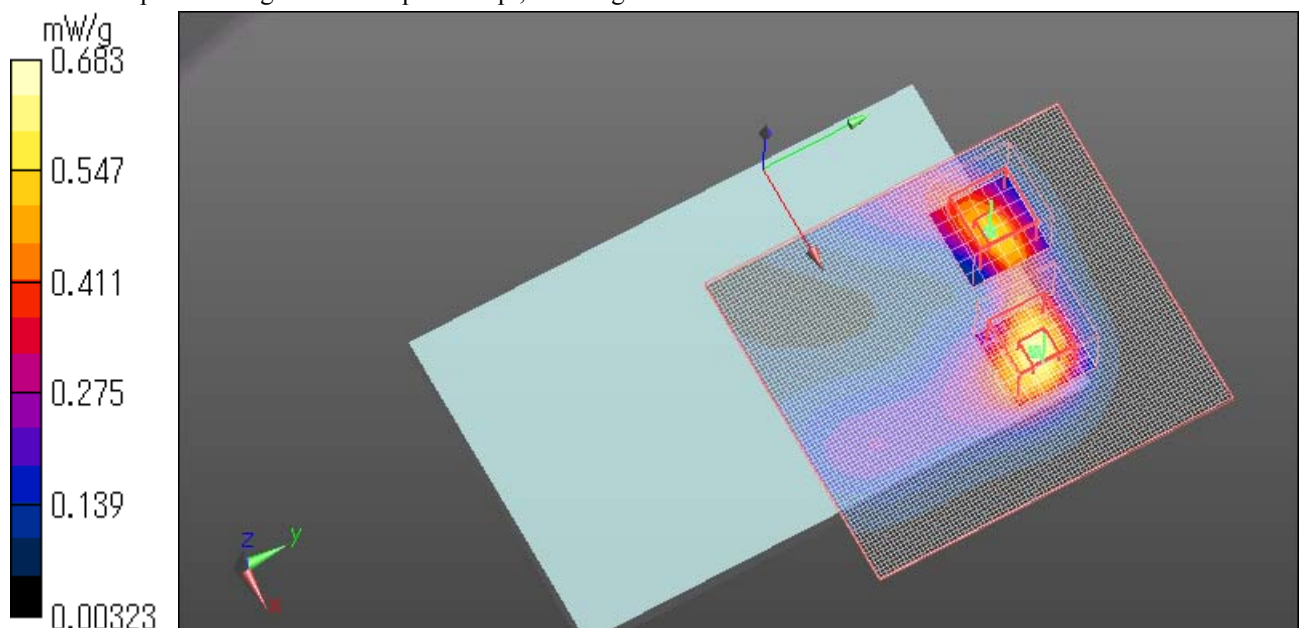
Peak SAR (extrapolated) = 0.717 W/kg

**SAR(1 g) = 0.409 mW/g; SAR(10 g) = 0.221 mW/g**

Maximum value of SAR (measured) = 0.566 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



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**SC-02D PCS1900 GPRS 3slots Rear 7mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76669

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 50.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(7.95, 7.95, 7.95); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.924 mW/g

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

Reference Value = 7.142 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.268 W/kg

**SAR(1 g) = 0.669 mW/g; SAR(10 g) = 0.376 mW/g**

Maximum value of SAR (measured) = 0.941 mW/g

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

Reference Value = 7.142 V/m; Power Drift = -0.07 dB

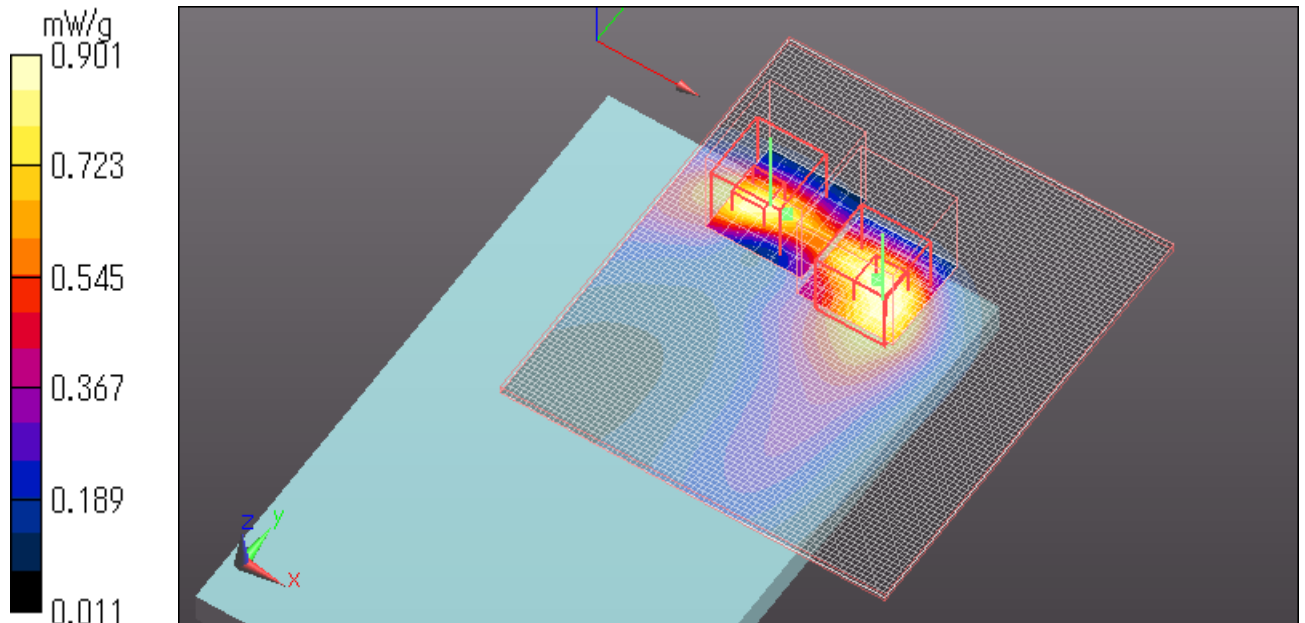
Peak SAR (extrapolated) = 1.187 W/kg

**SAR(1 g) = 0.639 mW/g; SAR(10 g) = 0.315 mW/g**

Maximum value of SAR (measured) = 0.901 mW/g

Date: 2011/10/14

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.3 degree.C.



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**SC-02D PCS1900(GPRS 3slots) Rear 0mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76669

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.385 mW/g

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

Reference Value = 1.480 V/m; Power Drift = 0.16 dB

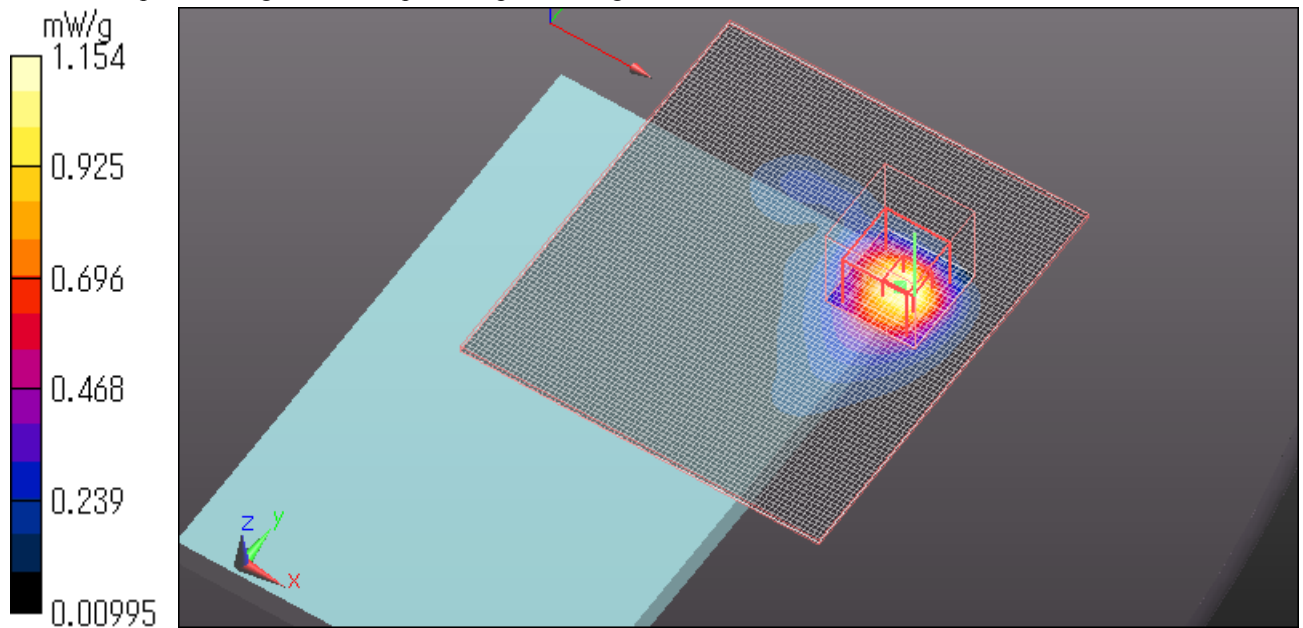
Peak SAR (extrapolated) = 1.739 W/kg

**SAR(1 g) = 0.749 mW/g; SAR(10 g) = 0.378 mW/g**

Maximum value of SAR (measured) = 1.154 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



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**SC-02D PCS1900 GPRS 3slots Top 3mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 50.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(7.95, 7.95, 7.95); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.663 mW/g

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

Reference Value = 18.526 V/m; Power Drift = -0.09 dB

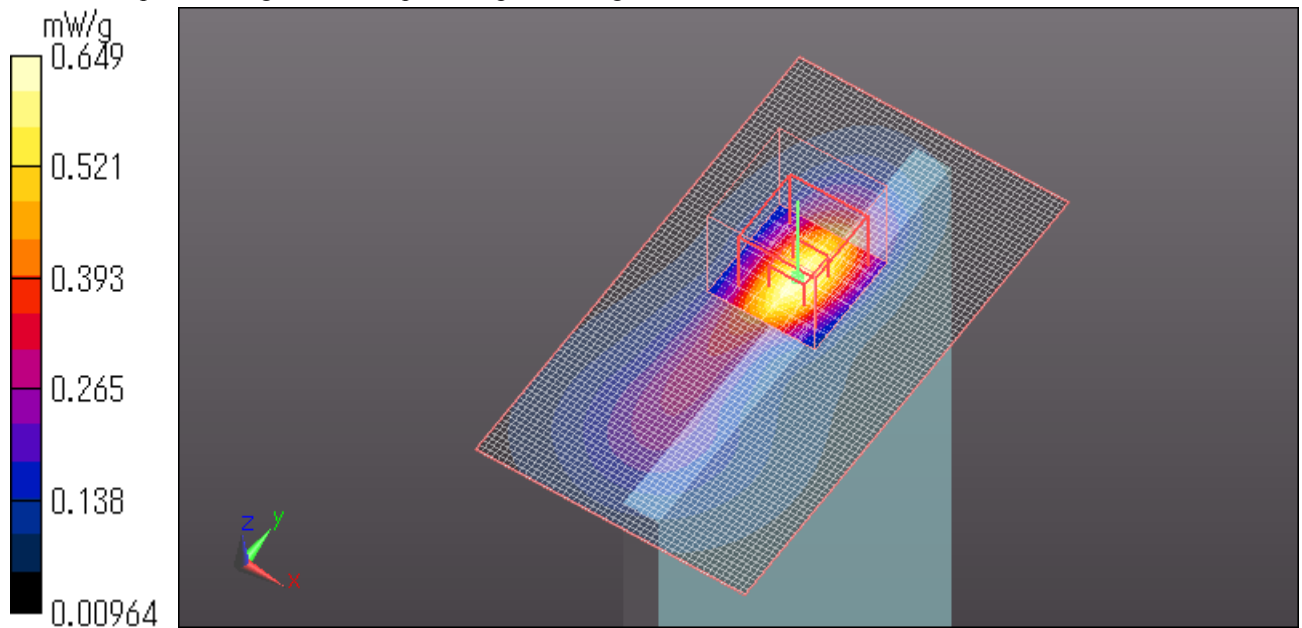
Peak SAR (extrapolated) = 0.811 W/kg

**SAR(1 g) = 0.469 mW/g; SAR(10 g) = 0.250 mW/g**

Maximum value of SAR (measured) = 0.649 mW/g

Date: 2011/10/14

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 24.3 degree.C.



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**SC-02D PCS1900(GPRS 3slots) Top 0mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.313 mW/g

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

Reference Value = 12.931 V/m; Power Drift = -0.19 dB

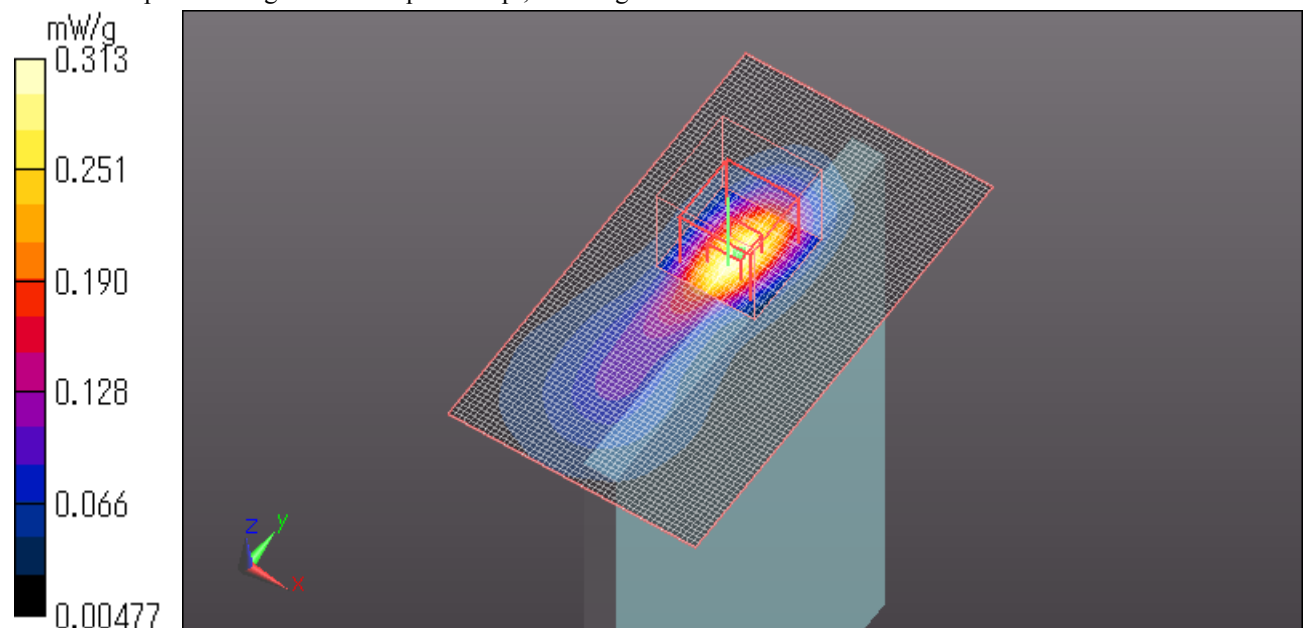
Peak SAR (extrapolated) = 0.416 W/kg

**SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.114 mW/g**

Maximum value of SAR (measured) = 0.324 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



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**SC-02D PCS1900(GPRS 3slots) Left edge 0mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.043 mW/g

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

Reference Value = 18.655 V/m; Power Drift = -0.11 dB

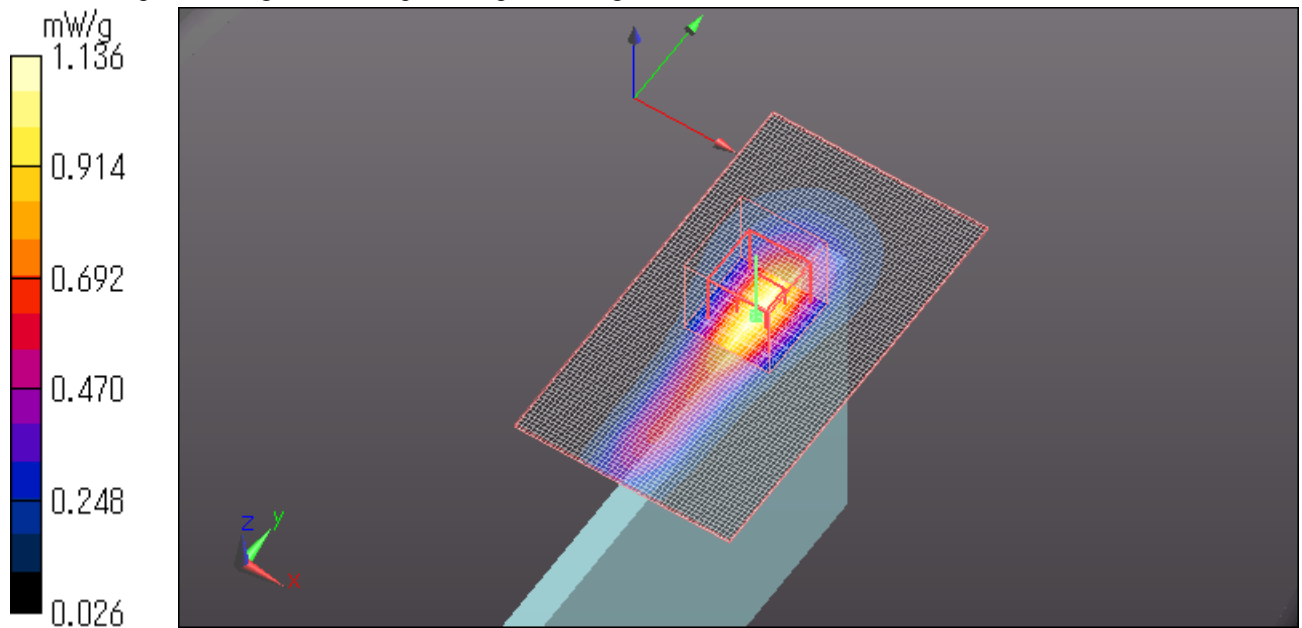
Peak SAR (extrapolated) = 1.489 W/kg

**SAR(1 g) = 0.765 mW/g; SAR(10 g) = 0.401 mW/g**

Maximum value of SAR (measured) = 1.136 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



**Z Scan at maximum Body SAR in WWAN PCS1900band**

**SC-02D PCS1900(GPRS 3slots) Right edge 0mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

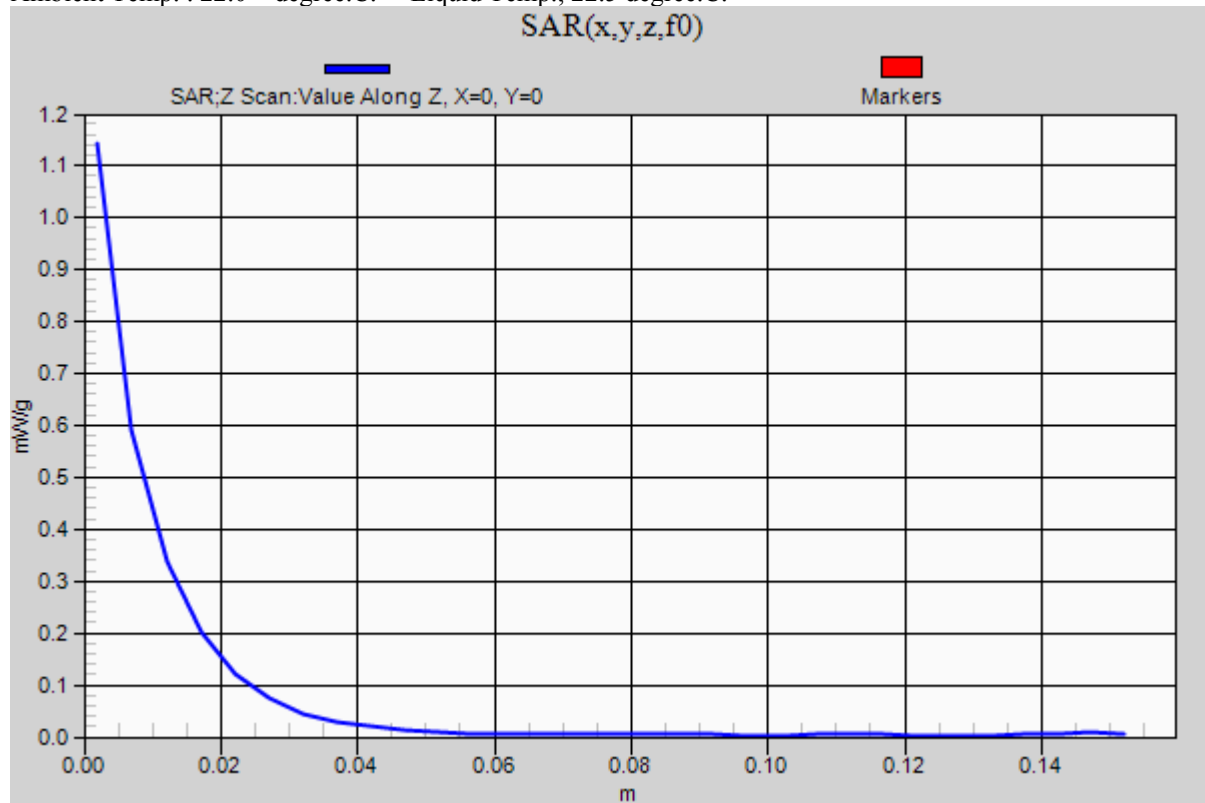
Phantom: ELI 4.0; Type: QDOVA001BA;

**Z Scan (1x1x31):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 1.142 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



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**<Reference DATA> SC-02D PCS1900(GPRS 3slots) Front 10mm 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);

Frequency: 1880 MHz; Duty Cycle: 1:2.76669

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV3 - SN3507; ConvF(8.09, 8.09, 8.09); Calibrated: 2011/03/16

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.6 (1);

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.482 mW/g

**Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.024 V/m; Power Drift = 0.14 dB

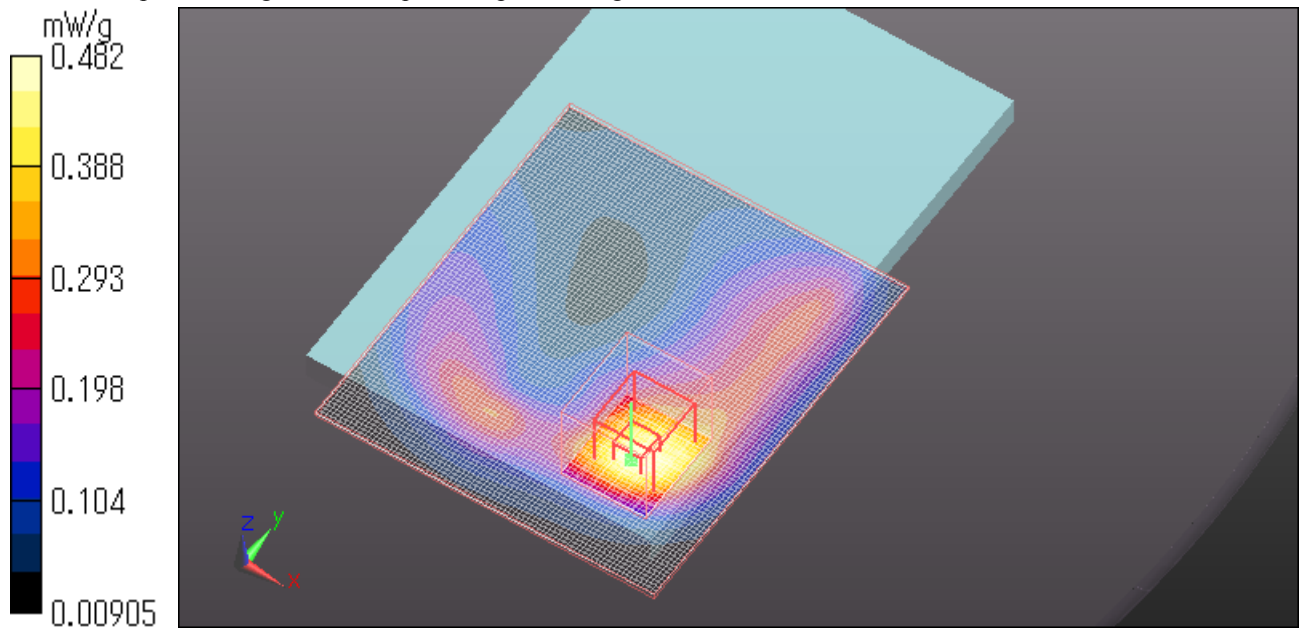
Peak SAR (extrapolated) = 0.598 W/kg

**SAR(1 g) = 0.360 mW/g; SAR(10 g) = 0.218 mW/g**

Maximum value of SAR (measured) = 0.474 mW/g

Date: 2011/10/03

Ambient Temp. : 22.0 degree.C. Liquid Temp.; 22.5 degree.C.



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**SC-02D PCS1900 GPRS 3slots WWAN antenna vertex 0mm Top 45degree 1880MHz**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Frequency: 1880 MHz; Duty Cycle: 1:2.76058

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration

Probe: EX3DV4 - SN3540; ConvF(7.95, 7.95, 7.95); Calibrated: 2011/07/21

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn509; Calibrated: 2011/07/20

Phantom: ELI 4.0; Type: QDOVA001BA

Measurement SW: DASYS2, Version 52.6 (1);

**Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.470 mW/g

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

Reference Value = 16.404 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.626 W/kg

**SAR(1 g) = 0.352 mW/g; SAR(10 g) = 0.192 mW/g**

Maximum value of SAR (measured) = 0.494 mW/g

Date: 2011/11/08

Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

