



## **Appendix A. SAR Plots of System Verification**

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

### System Check\_H750\_140713

**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H07T08N2\_0713 Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.912 \text{ S/m}$ ;  $\epsilon_r = 40.638$ ;  $\rho = 1000 \text{ kg/m}^3$

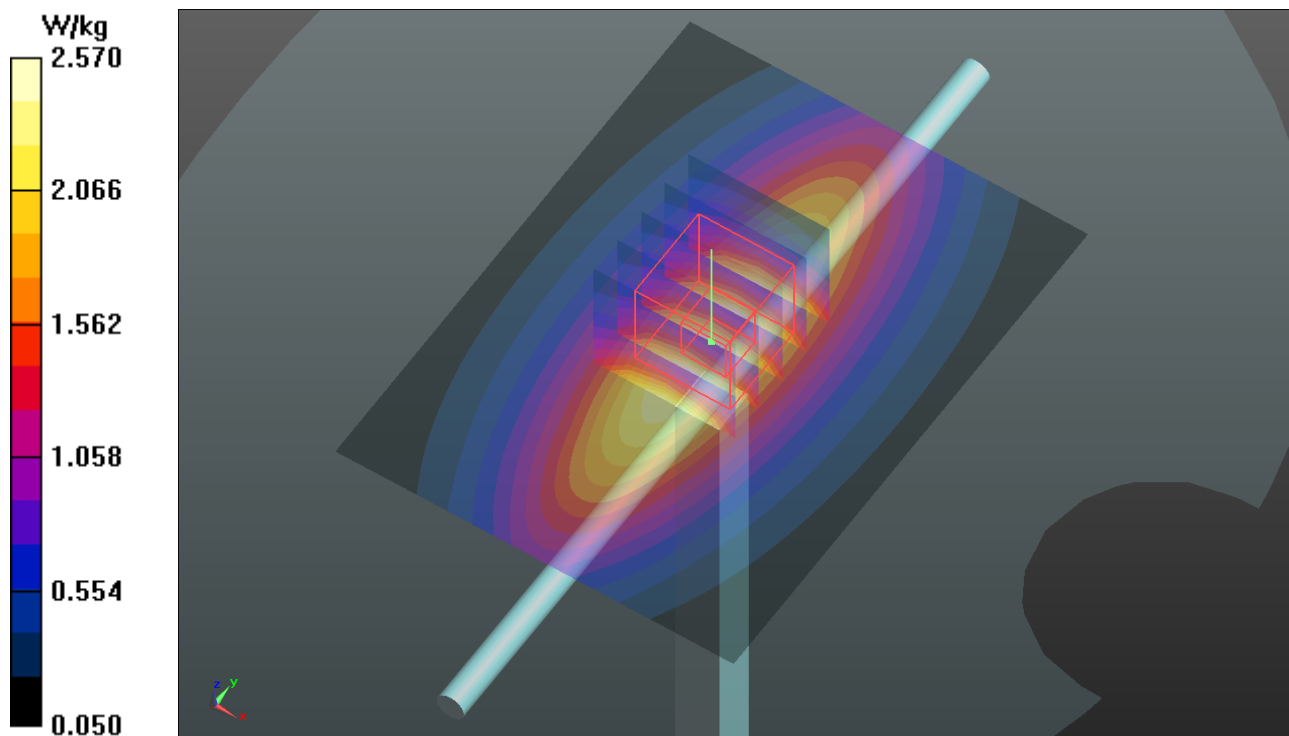
Ambient Temperature :  $22.5^\circ\text{C}$ ; Liquid Temperature :  $21.5^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.95, 8.95, 8.95); Calibrated: 2014/06/24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x81x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) =  $2.57 \text{ W/kg}$

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value =  $54.44 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$   
Peak SAR (extrapolated) =  $2.99 \text{ W/kg}$   
**SAR(1 g) =  $2.04 \text{ W/kg}$ ; SAR(10 g) =  $1.36 \text{ W/kg}$**   
Maximum value of SAR (measured) =  $2.57 \text{ W/kg}$



### System Check\_H835\_140713

**DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: H08T09N2\_0713 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.922 \text{ S/m}$ ;  $\epsilon_r = 41.793$ ;  $\rho = 1000 \text{ kg/m}^3$

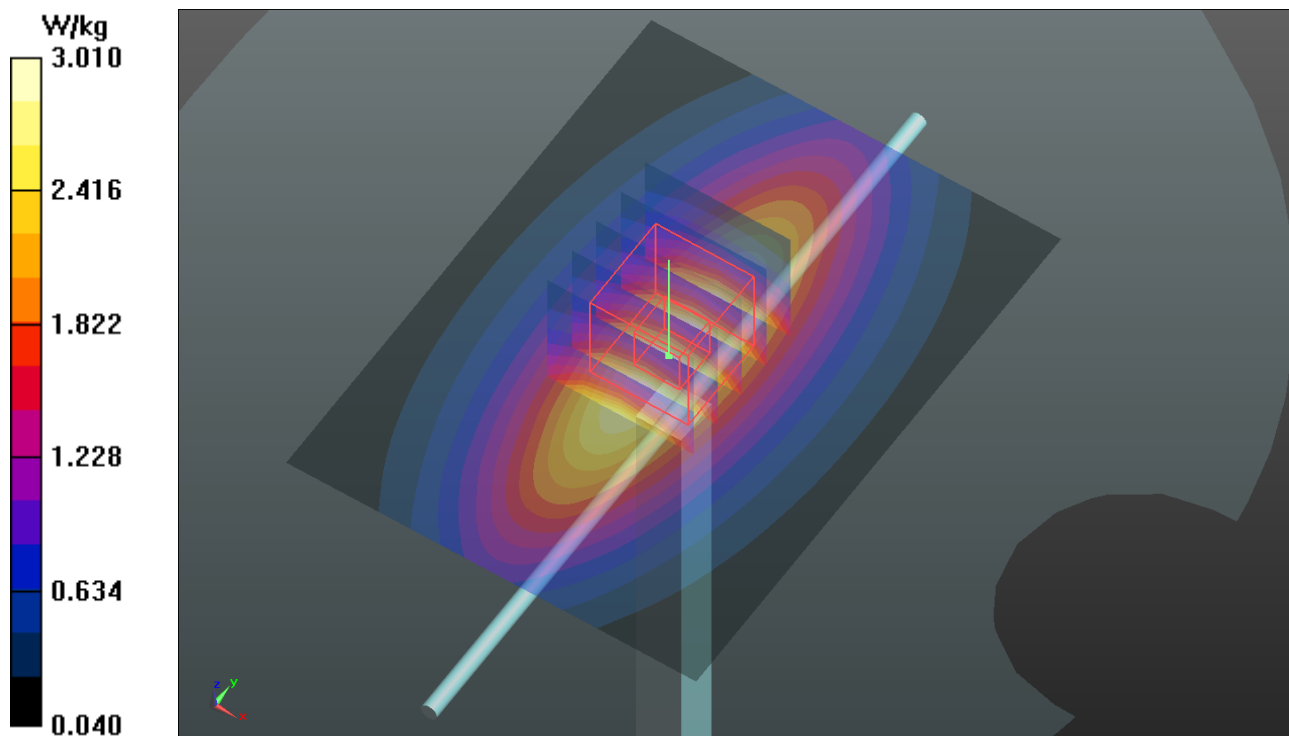
Ambient Temperature :  $22.1^\circ\text{C}$ ; Liquid Temperature :  $21.6^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.59, 8.59, 8.59); Calibrated: 2014/06/24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x81x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) =  $3.01 \text{ W/kg}$

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value =  $58.24 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$   
Peak SAR (extrapolated) =  $3.55 \text{ W/kg}$   
**SAR(1 g) =  $2.35 \text{ W/kg}$ ; SAR(10 g) =  $1.54 \text{ W/kg}$**   
Maximum value of SAR (measured) =  $3.01 \text{ W/kg}$



## System Check\_H1750\_140712

**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: H17T18N2\_0712 Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.374$  S/m;  $\epsilon_r = 40.859$ ;  $\rho = 1000$  kg/m<sup>3</sup>

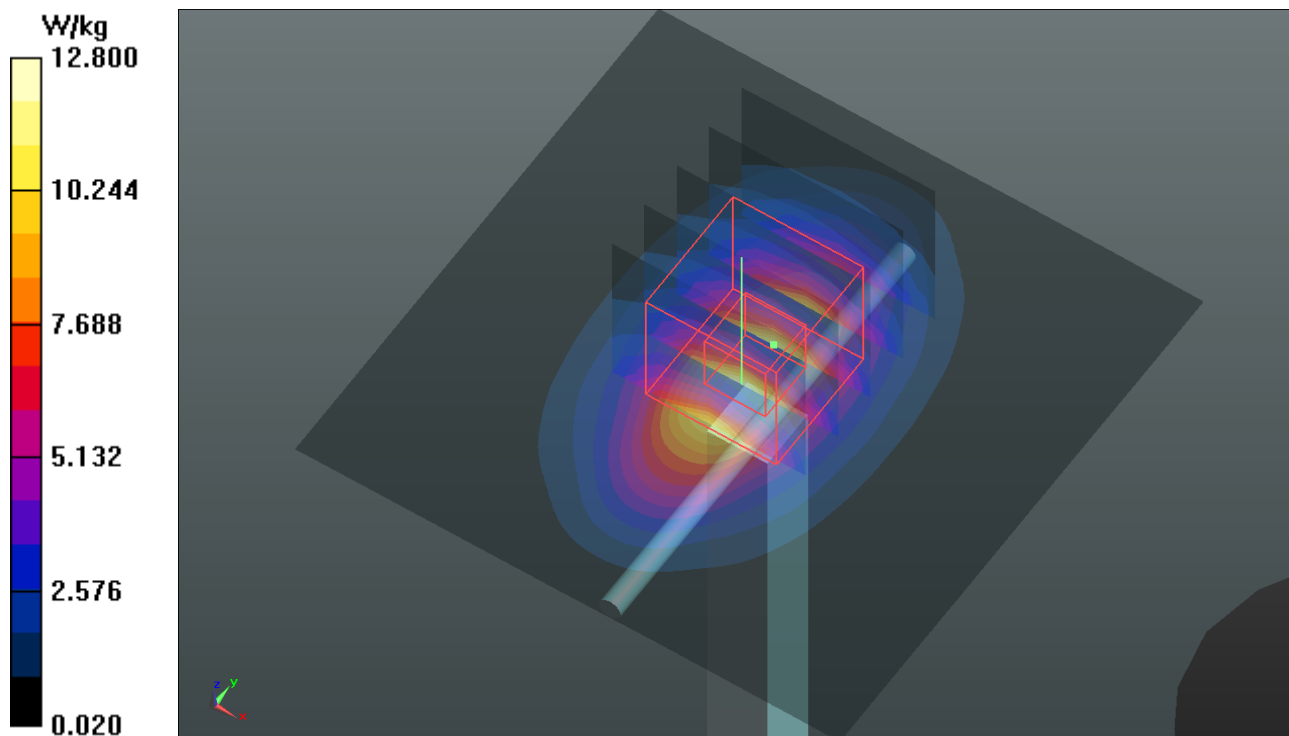
Ambient Temperature : 22.1°C; Liquid Temperature : 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.71, 7.71, 7.71); Calibrated: 2014/06/24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 12.8 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 96.05 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 15.5 W/kg  
**SAR(1 g) = 8.57 W/kg; SAR(10 g) = 4.55 W/kg**  
Maximum value of SAR (measured) = 12.2 W/kg



## System Check\_H1900\_140712

**DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H18T19N2\_0712 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.442$  S/m;  $\epsilon_r = 39.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>

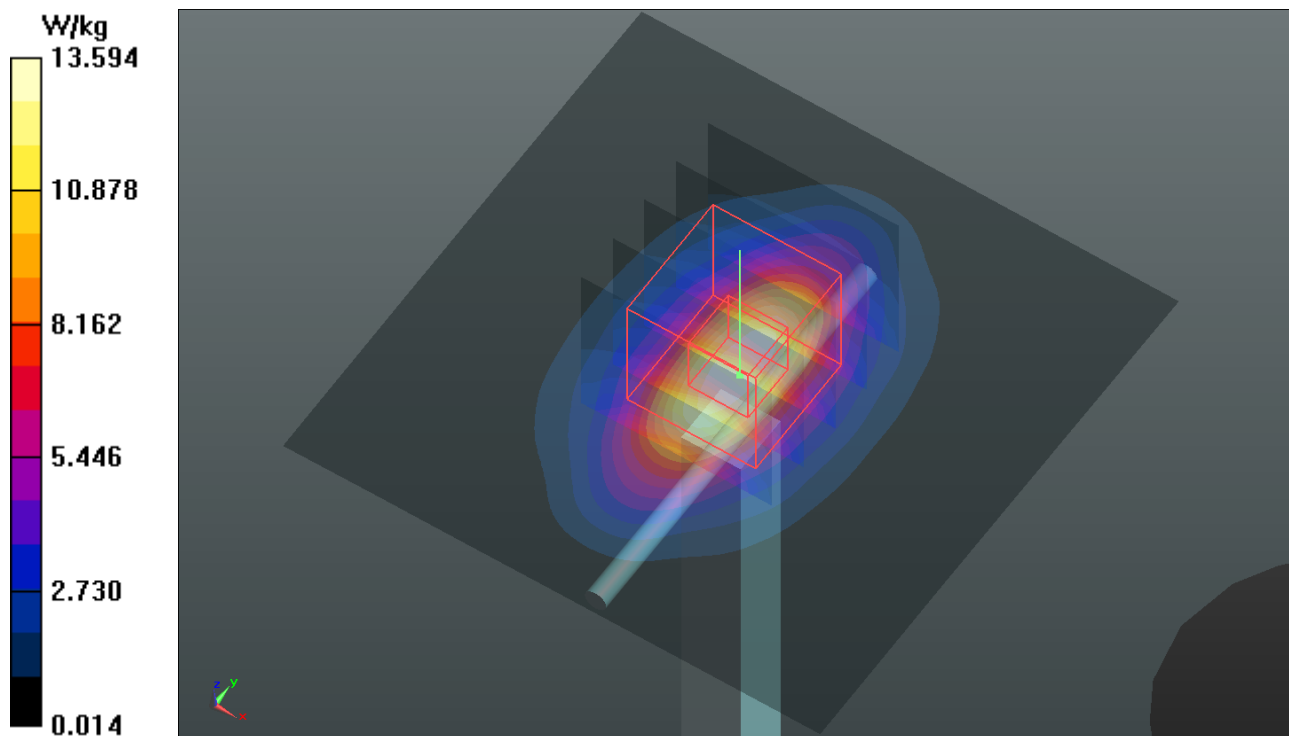
Ambient Temperature : 22.1°C; Liquid Temperature : 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.35, 7.35, 7.35); Calibrated: 2014/06/24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 13.6 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 98.68 V/m; Power Drift = 0.15 dB  
Peak SAR (extrapolated) = 18.5 W/kg  
**SAR(1 g) = 9.62 W/kg; SAR(10 g) = 4.85 W/kg**  
Maximum value of SAR (measured) = 14.1 W/kg



### System Check\_H2450\_140701

**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H24T25N1\_0701 Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.854$  S/m;  $\epsilon_r = 38.574$ ;  $\rho = 1000$  kg/m<sup>3</sup>

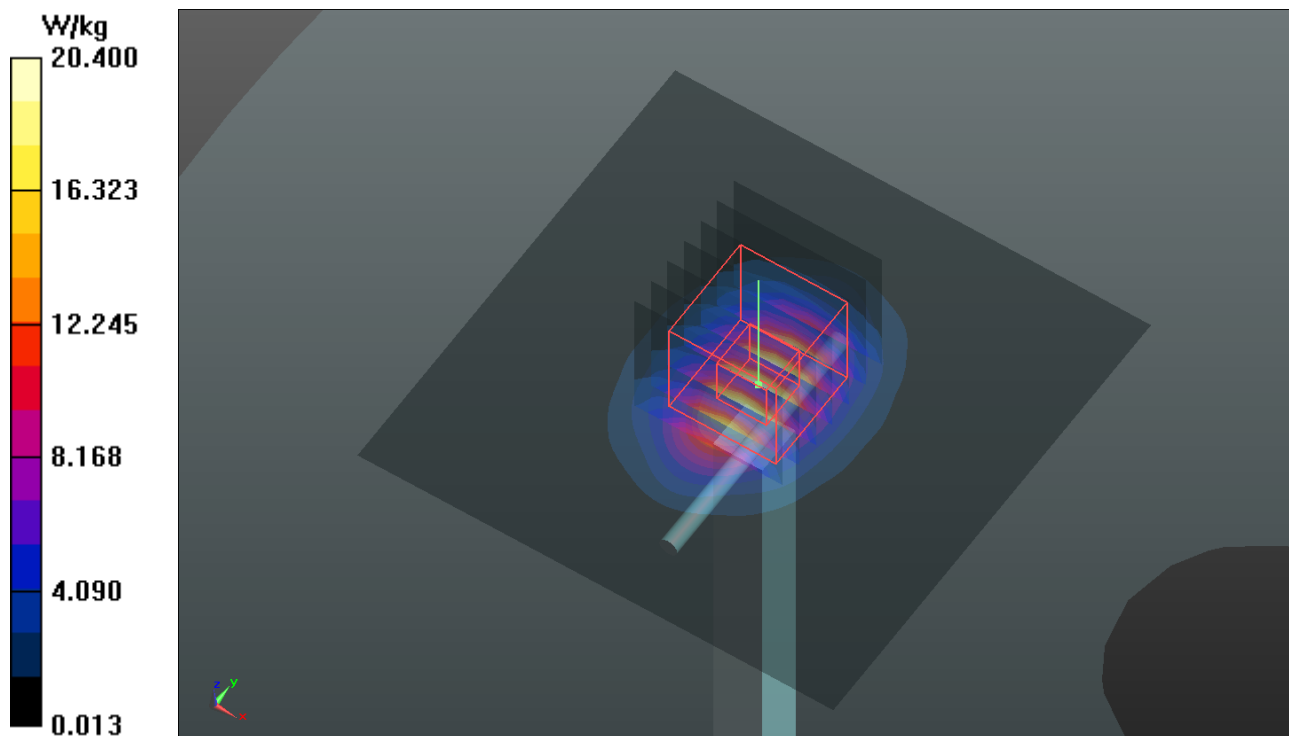
Ambient Temperature : 21.7°C; Liquid Temperature : 21.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(7.95, 7.95, 7.95); Calibrated: 2014/03/04;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 20.4 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 105.9 V/m; Power Drift = -0.01 dB  
Peak SAR (extrapolated) = 28.3 W/kg  
**SAR(1 g) = 13 W/kg; SAR(10 g) = 5.89 W/kg**  
Maximum value of SAR (measured) = 20.4 W/kg



## System Check\_H2600\_140706

**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H25T26N1\_0706 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.047$  S/m;  $\epsilon_r = 37.736$ ;  $\rho = 1000$  kg/m<sup>3</sup>

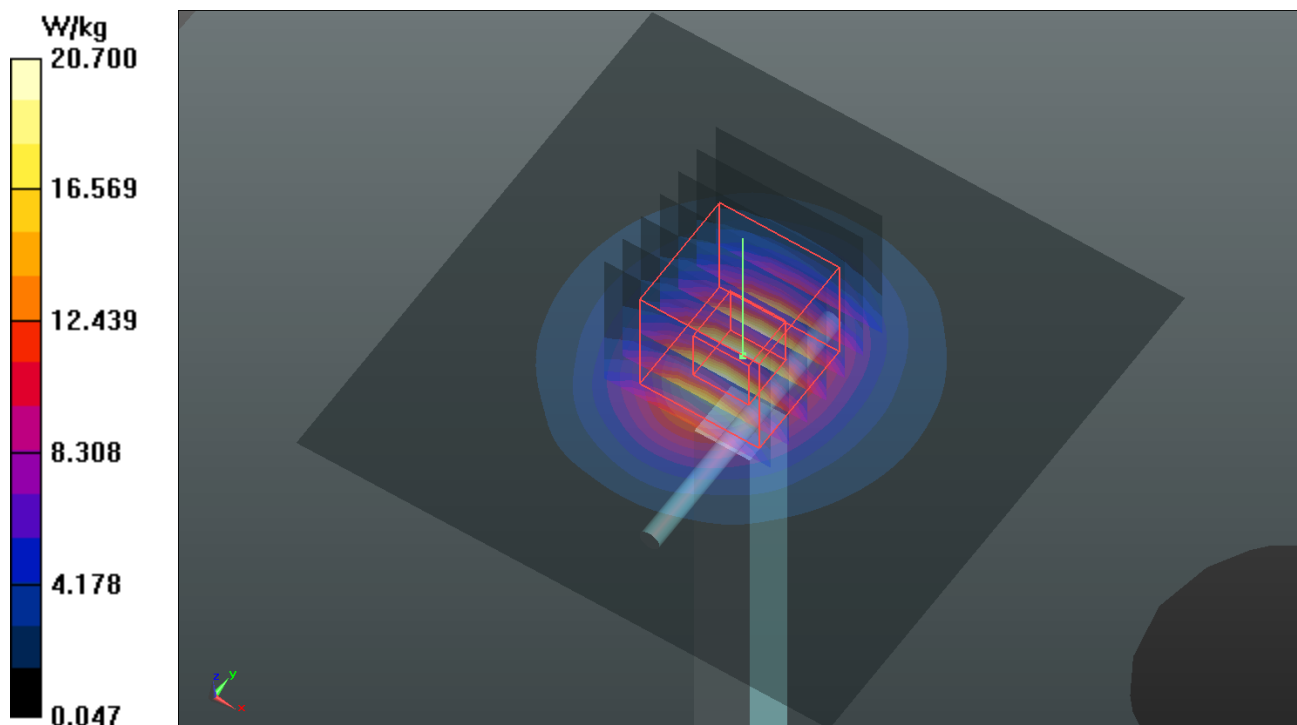
Ambient Temperature : 22.1 °C; Liquid Temperature : 21.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(6.73, 6.73, 6.73); Calibrated: 2014/05/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2014/03/24
- Phantom: SAM Phantom\_Right; Type: SAM V5.0; Serial: TP 1822
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 20.7 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 102.0 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 28.2 W/kg  
**SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.61 W/kg**  
Maximum value of SAR (measured) = 20.8 W/kg



## System Check\_B750\_140719

**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: B07T08N2\_0719 Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.966$  S/m;  $\epsilon_r = 55.257$ ;  $\rho = 1000$  kg/m<sup>3</sup>

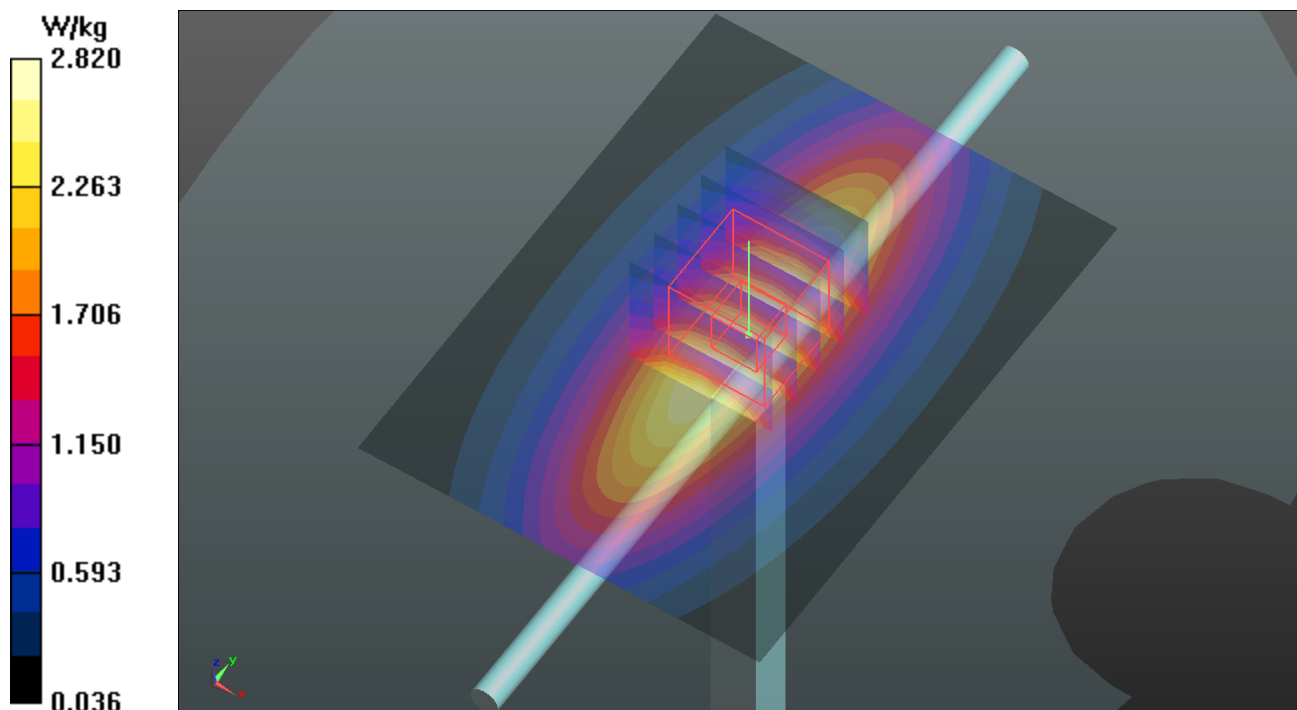
Ambient Temperature : 22.6 °C; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(9.91, 9.91, 9.91); Calibrated: 2014/03/31;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2014/03/24
- Phantom: SAM Phantom\_Left; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 2.82 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 55.17 V/m; Power Drift = -0.04 dB  
Peak SAR (extrapolated) = 3.26 W/kg  
**SAR(1 g) = 2.25 W/kg; SAR(10 g) = 1.52 W/kg**  
Maximum value of SAR (measured) = 2.81 W/kg





## System Check\_B835\_140719

**DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: B08T09N2\_0719 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.974 \text{ S/m}$ ;  $\epsilon_r = 55.307$ ;  $\rho = 1000 \text{ kg/m}^3$

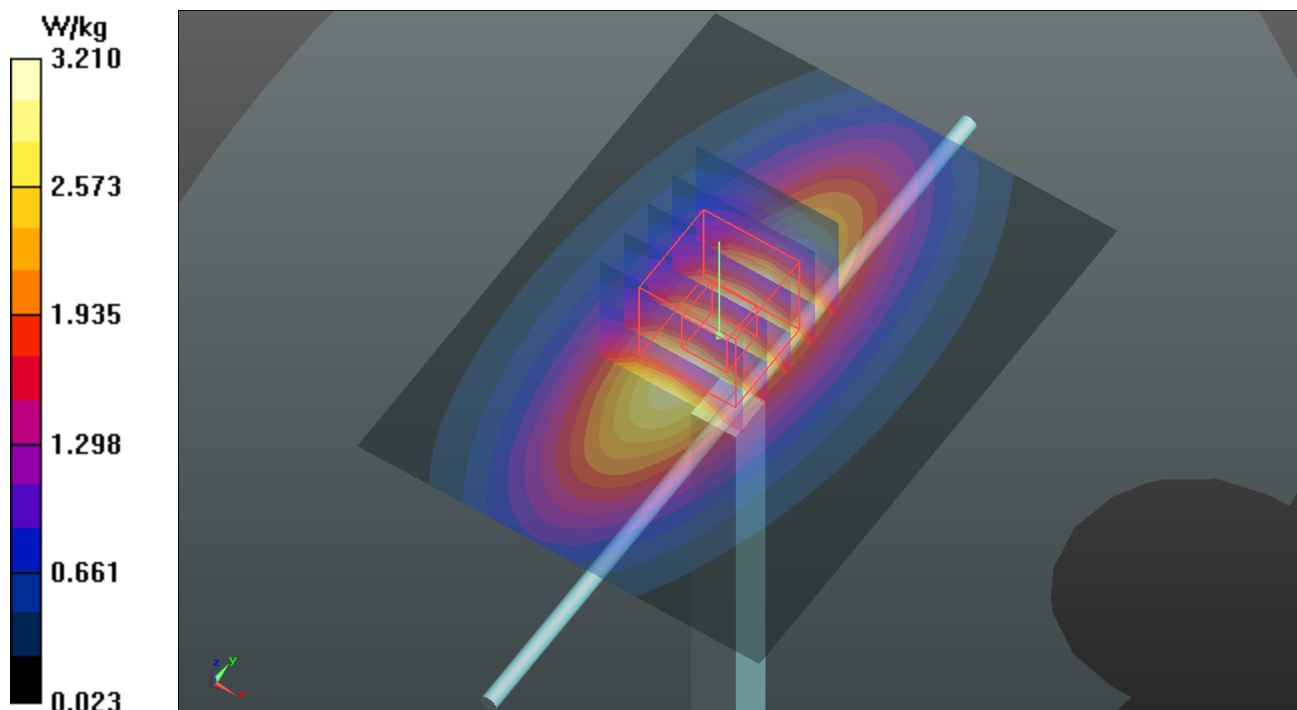
Ambient Temperature :  $22.5 \text{ }^\circ\text{C}$ ; Liquid Temperature :  $21.6 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(9.74, 9.74, 9.74); Calibrated: 2014/03/31;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2014/03/24
- Phantom: SAM Phantom\_Left; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x81x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) =  $3.21 \text{ W/kg}$

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value =  $57.82 \text{ V/m}$ ; Power Drift =  $0.07 \text{ dB}$   
Peak SAR (extrapolated) =  $3.79 \text{ W/kg}$   
**SAR(1 g) =  $2.56 \text{ W/kg}$ ; SAR(10 g) =  $1.69 \text{ W/kg}$**   
Maximum value of SAR (measured) =  $3.24 \text{ W/kg}$



## System Check\_B1750\_140713

**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: B17T18N3\_0713 Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.43$  S/m;  $\epsilon_r = 53.53$ ;  $\rho = 1000$  kg/m<sup>3</sup>

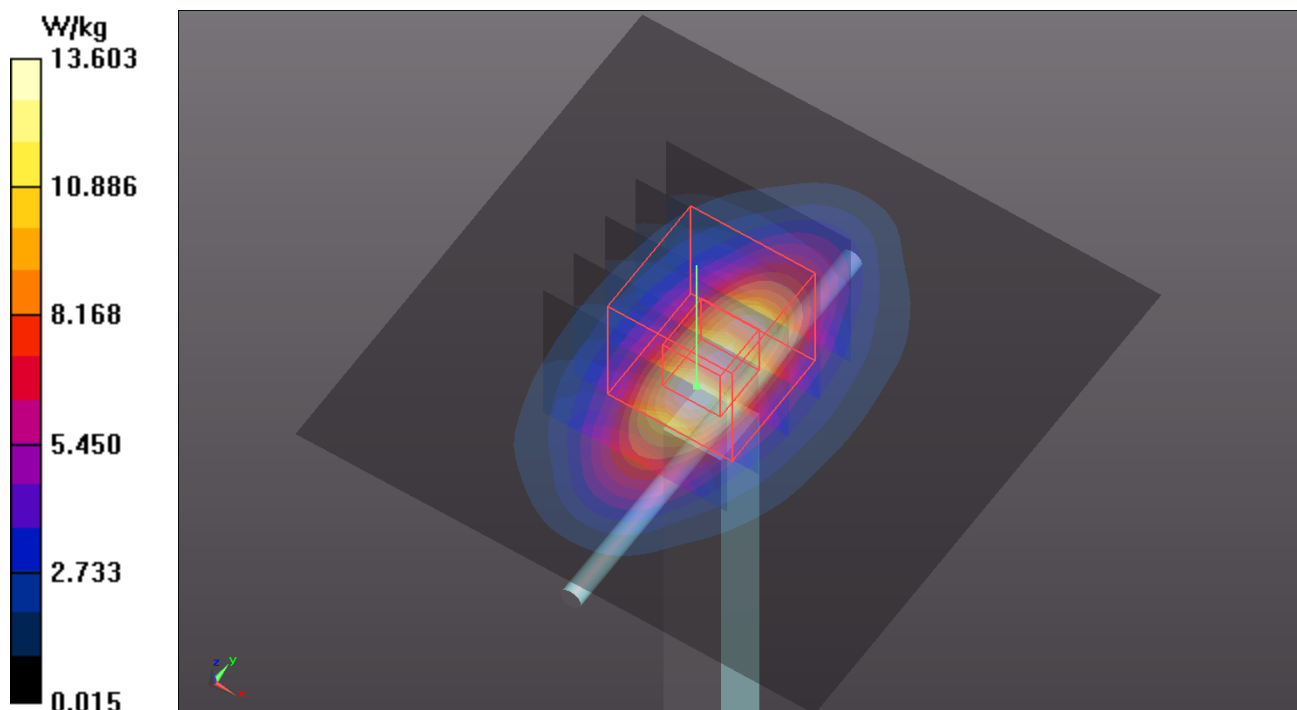
Ambient Temperature : 21.2 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(7.48, 7.48, 7.48); Calibrated: 2014/05/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2014/03/24
- Phantom: Flat Phantom ELI 5.0\_Front; Type: QDOVA001BB; Serial: SN:1204
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 13.6 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 95.91 V/m; Power Drift = 0.00 dB  
Peak SAR (extrapolated) = 16.0 W/kg  
**SAR(1 g) = 9.2 W/kg; SAR(10 g) = 4.96 W/kg**  
Maximum value of SAR (measured) = 12.7 W/kg



## System Check\_B1900\_140715

**DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: B18T19N1\_0715 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.533$  S/m;  $\epsilon_r = 53.731$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 21.8°C; Liquid Temperature : 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.86, 6.86, 6.86); Calibrated: 2014/06/24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: SAM Phantom\_Right; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 13.6 W/kg

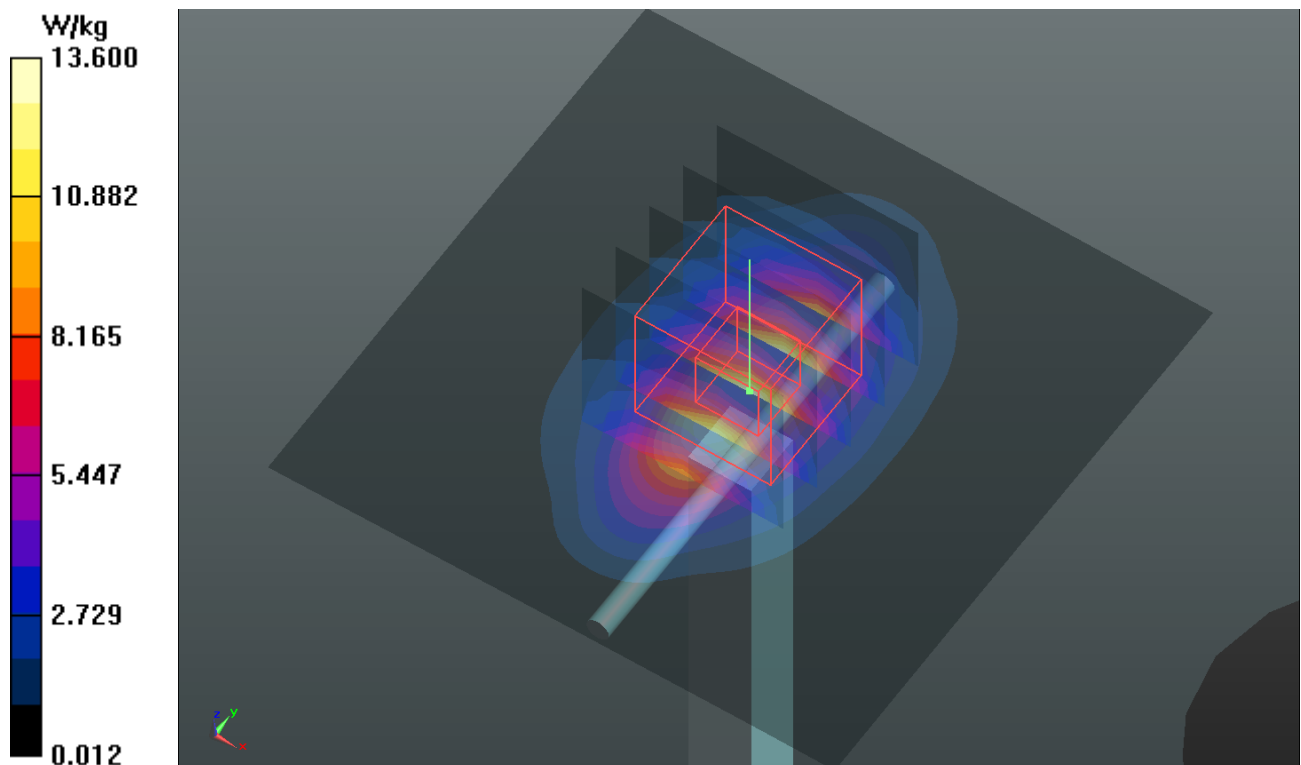
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 95.95 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 9.49 W/kg; SAR(10 g) = 4.93 W/kg**

Maximum value of SAR (measured) = 13.6 W/kg



### System Check\_B2450\_140701

**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: B24T25N2\_0701 Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.972$  S/m;  $\epsilon_r = 51.404$ ;  $\rho = 1000$  kg/m<sup>3</sup>

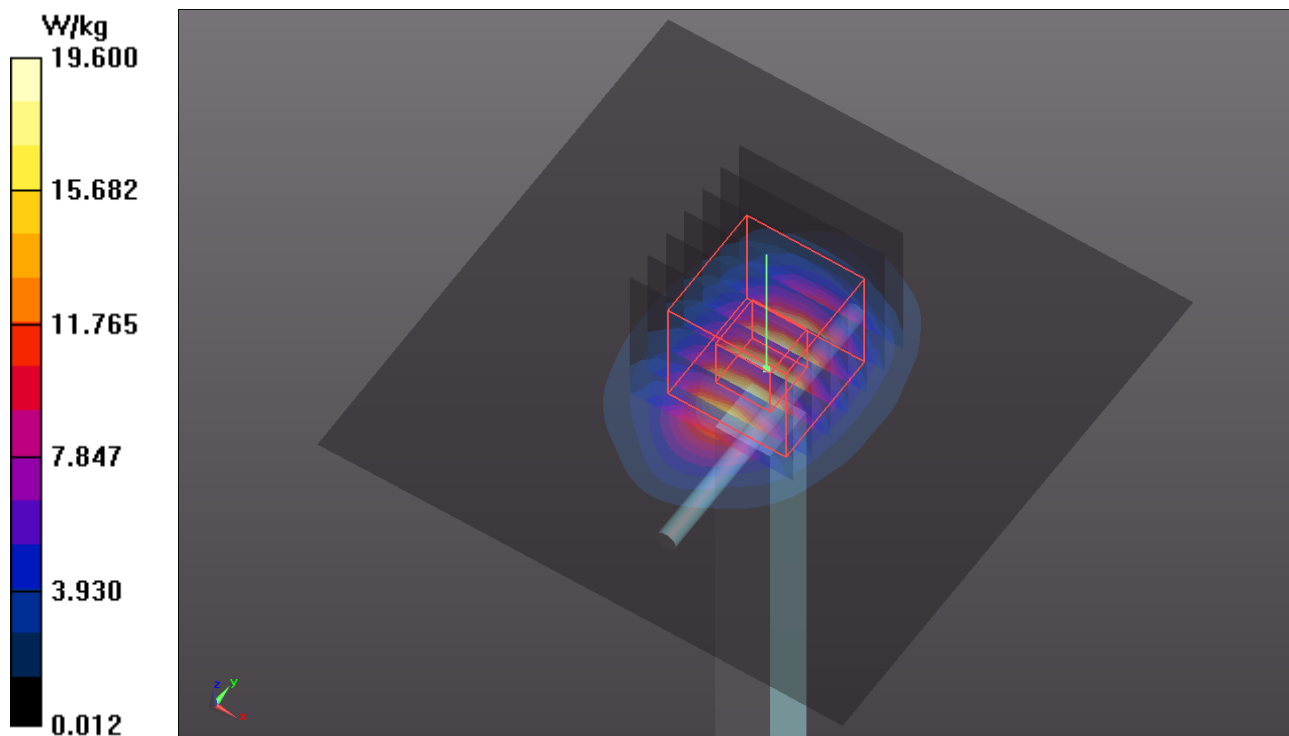
Ambient Temperature : 21.7°C; Liquid Temperature : 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(7.72, 7.72, 7.72); Calibrated: 2014/03/04;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2014/04/23
- Phantom: ELI v4.0\_Left; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 19.6 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 100.4 V/m; Power Drift = -0.04 dB  
Peak SAR (extrapolated) = 27.1 W/kg  
**SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.76 W/kg**  
Maximum value of SAR (measured) = 19.7 W/kg



## System Check\_B2600\_140704

**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: B25T26N1\_0704 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.199$  S/m;  $\epsilon_r = 52.35$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 21.9 °C; Liquid Temperature : 21.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(6.63, 6.63, 6.63); Calibrated: 2014/05/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2014/03/24
- Phantom: SAM Phantom\_Left; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 20.2 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 95.51 V/m; Power Drift = -0.01 dB  
Peak SAR (extrapolated) = 28.5 W/kg  
**SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.71 W/kg**  
Maximum value of SAR (measured) = 20.5 W/kg

