

Test Laboratory: BTL Inc.

Date: 1/14/2016

### System Check\_H835\_0114

**DUT: Dipole 835 MHz D835V2;SN:4d160;**

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.888$  S/m;  $\epsilon_r = 42.52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.2 °C; Liquid Temperature: 22.3 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(9.75, 9.75, 9.75); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Front; Type: Twin SAM; Serial: 1784
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.05 W/kg

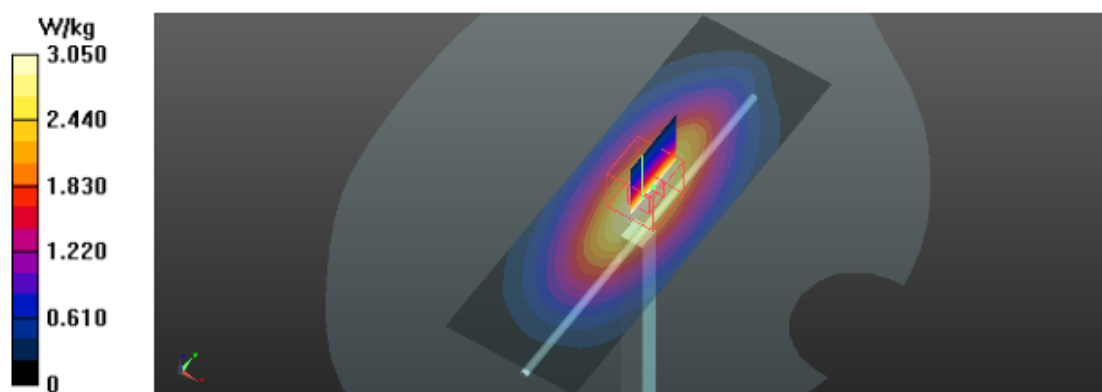
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.91 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.34 W/kg

**SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.56 W/kg**

Maximum value of SAR (measured) = 2.94 W/kg



Test Laboratory: BTL Inc.

Date: 02/24/2016

### System Check\_H835\_0224

**DUT: Dipole 835 MHz D835V2;SN:4d160;**

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.9$  S/m;  $\epsilon_r = 42.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.5 °C; Liquid Temperature: 22.2 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(9.6, 9.6, 9.6); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Front; Type: Twin SAM; Serial: 1784
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.13 W/kg

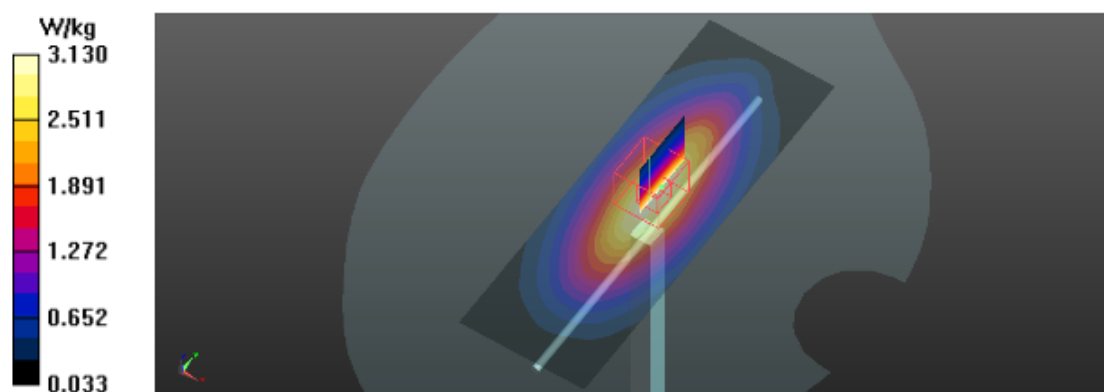
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.53 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.44 W/kg

**SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.58 W/kg**

Maximum value of SAR (measured) = 3.01 W/kg



Test Laboratory: BTL Inc.

Date: 03/14/2016

### System Check\_H835\_0314

**DUT: Dipole 835 MHz D835V2;SN:4d160;**

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 41.93$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.5 °C; Liquid Temperature: 22.4 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(9.6, 9.6, 9.6); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Front; Type: Twin SAM; Serial: 1784
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.21 W/kg

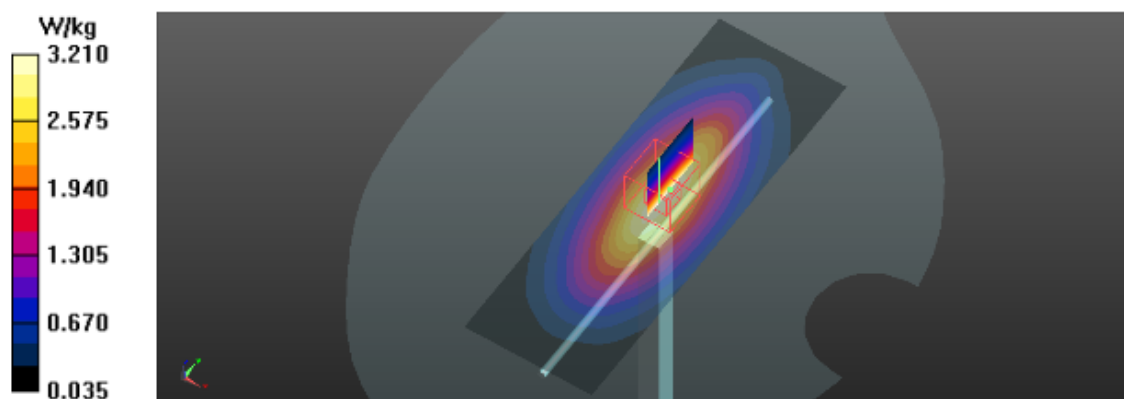
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.64 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.48 W/kg

**SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.62 W/kg**

Maximum value of SAR (measured) = 3.03 W/kg



Test Laboratory: BTL Inc.

Date: 1/14/2016

## System Check\_H1900\_0114

**DUT: Dipole 1900 MHz D1900V2;SN:5d179;**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.425$  S/m;  $\epsilon_r = 39.25$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.4 °C; Liquid Temperature: 22.1 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(8.23, 8.23, 8.23); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (6x6x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 15.2 W/kg

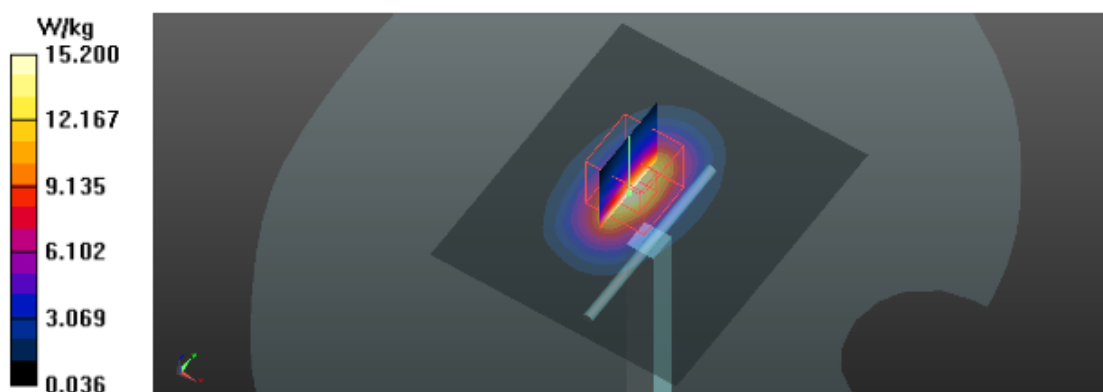
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 84.82 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 16.4 W/kg

**SAR(1 g) = 9.88 W/kg; SAR(10 g) = 5.15 W/kg**

Maximum value of SAR (measured) = 13.5 W/kg



Test Laboratory: BTL Inc.

Date: 03/12/2016

## System Check\_H1900\_0312

**DUT: Dipole 1900 MHz D1900V2;SN:5d179;**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.375$  S/m;  $\epsilon_r = 39.04$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.5 °C; Liquid Temperature: 22.3 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(7.94, 7.94, 7.94); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (7x8x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 15.8 W/kg

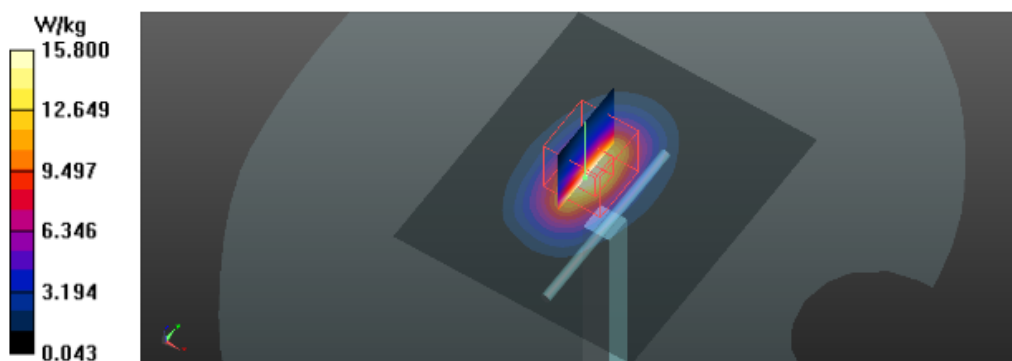
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 88.53 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.34 W/kg**

Maximum value of SAR (measured) = 14.1 W/kg



Test Laboratory: BTL Inc.

Date: 1/14/2016

### System Check\_H2450\_0114

**DUT: Dipole 2450 MHz D2450V2;SN:919;**

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.851$  S/m;  $\epsilon_r = 38.79$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3 °C; Liquid Temperature: 22.2 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(7.38, 7.38, 7.38); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (9x9x1):** Interpolated grid:  $dx=12$  mm,  $dy=12$  mm

Maximum value of SAR (interpolated) = 21.3 W/kg

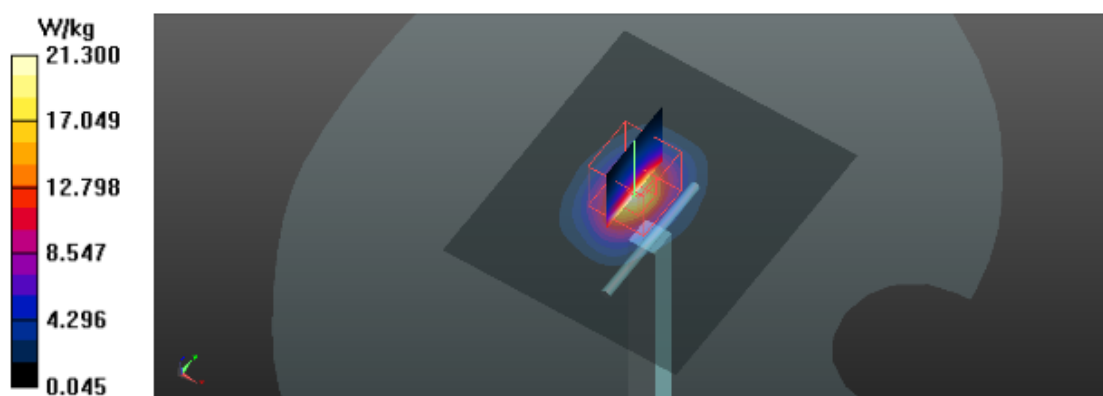
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 89.52 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 23.7 W/kg

**SAR(1 g) = 12.87 W/kg; SAR(10 g) = 6.08 W/kg**

Maximum value of SAR (measured) = 18.6 W/kg



Test Laboratory: BTL Inc.

Date: 03/16/2016

## System Check\_H2450\_0316

**DUT: Dipole 2450 MHz D2450V2;SN:919;**

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.834$  S/m;  $\epsilon_r = 38.941$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.4 °C; Liquid Temperature: 22.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(7.17, 7.17, 7.17); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (9x9x1):** Interpolated grid:  $dx=12$  mm,  $dy=12$  mm

Maximum value of SAR (interpolated) = 21.1 W/kg

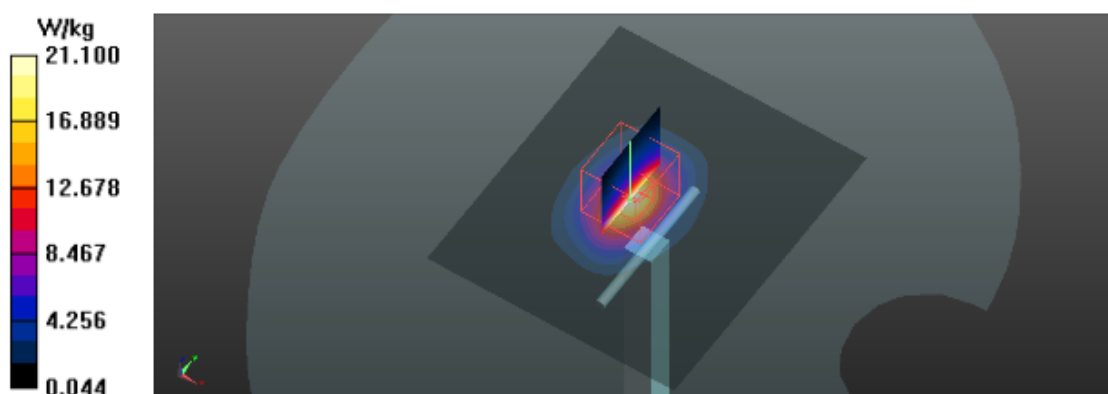
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 89.32 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 23.3 W/kg

**SAR(1 g) = 12.73 W/kg; SAR(10 g) = 6.01 W/kg**

Maximum value of SAR (measured) = 18.1 W/kg



Test Laboratory: BTL Inc.

Date: 1/14/2016

## System Check\_B835\_0114

**DUT: Dipole 835 MHz D835V2;SN:4d160;**

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.973$  S/m;  $\epsilon_r = 54.29$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.5 °C; Liquid Temperature: 22.4 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(10.19, 10.19, 10.19); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Front; Type: Twin SAM; Serial: 1784
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.22 W/kg

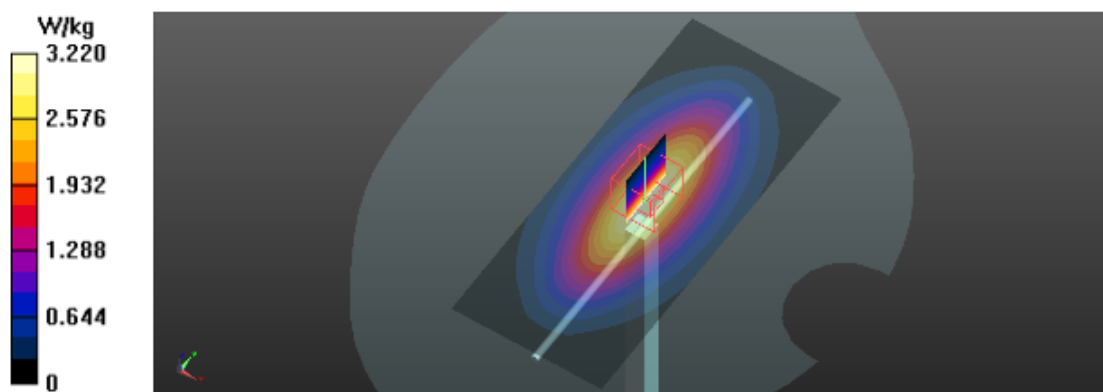
**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 59.74 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 3.90 W/kg

**SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.72 W/kg**

Maximum value of SAR (measured) = 3.34 W/kg



Test Laboratory: BTL Inc.

Date: 02/25/2016

### System Check\_B835\_0225

**DUT: Dipole 835 MHz D835V2;SN:4d160;**

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.991$  S/m;  $\epsilon_r = 55.29$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3 °C; Liquid Temperature: 22.1 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(9.68, 9.68, 9.68); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -9.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.62 W/kg

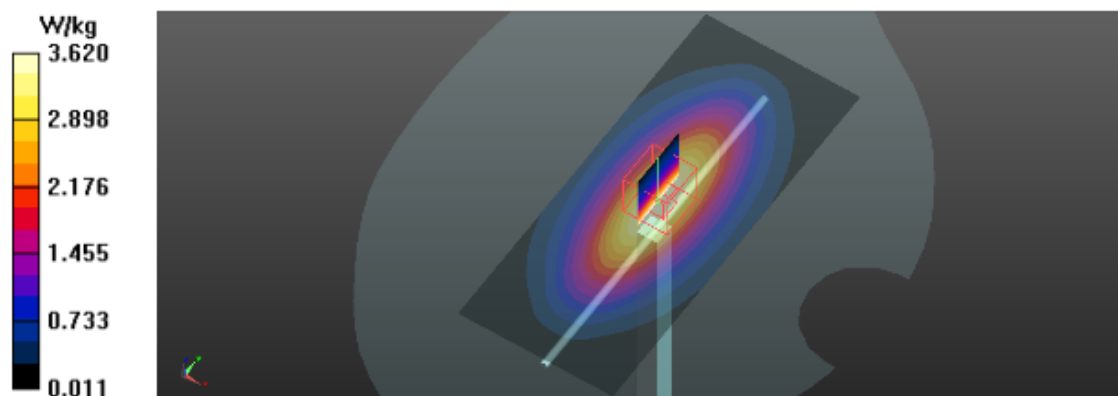
**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 61.85 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 4.36 W/kg

**SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.74 W/kg**

Maximum value of SAR (measured) = 3.73 W/kg



Test Laboratory: BTL Inc.

Date: 03/14/2016

#### System Check\_B835\_0314

DUT: Dipole 835 MHz D835V2;SN:4d160;

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.975$  S/m;  $\epsilon_r = 55.874$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.2 °C; Liquid Temperature: 22.6 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(9.68, 9.68, 9.68); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -9.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/10/2013
- Phantom: SAM Front; Type: Twin SAM; Serial: 1784
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (5x12x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.22 W/kg

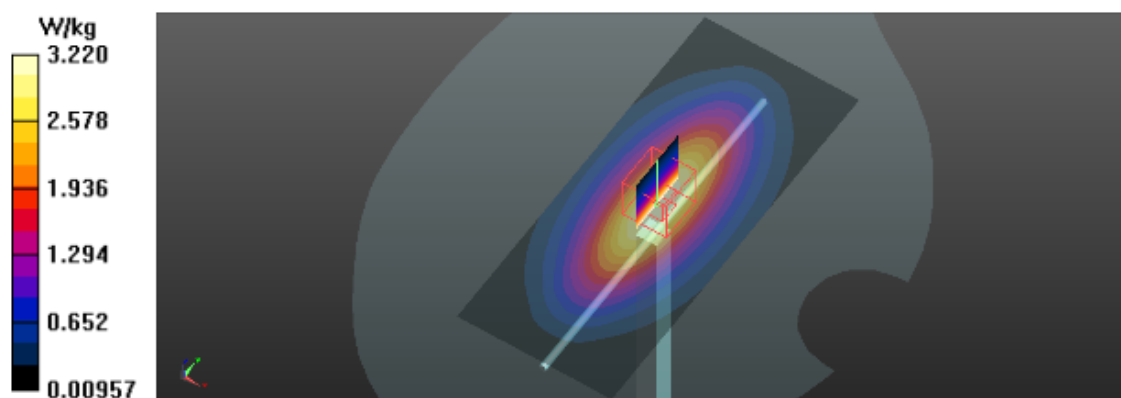
**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 60.15 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 3.94 W/kg

**SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.71 W/kg**

Maximum value of SAR (measured) = 3.67 W/kg



Test Laboratory: BTL Inc.

Date: 1/15/2016

### System Check\_B1900\_0115

**DUT: Dipole 1900 MHz D1900V2;SN:5d179;**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.546$  S/m;  $\epsilon_r = 52.76$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3 °C; Liquid Temperature: 22.2 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(7.86, 7.86, 7.86); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (6x6x1):** Interpolated grid:  $dx=15$  mm,  $dy=15$  mm

Maximum value of SAR (interpolated) = 14.9 W/kg

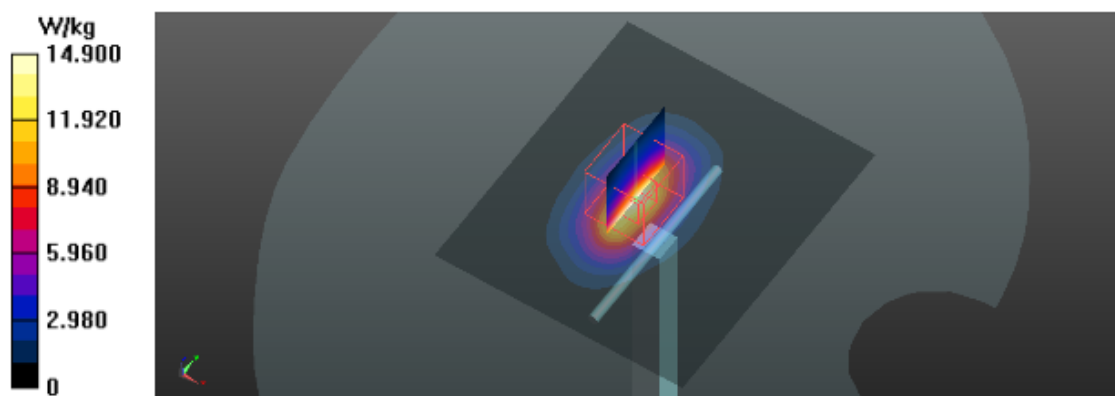
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 83.14 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 15.7 W/kg

**SAR(1 g) = 9.77 W/kg; SAR(10 g) = 5.48 W/kg**

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



Test Laboratory: BTL Inc.

Date: 03/15/2016

### System Check\_B1900\_0315

**DUT: Dipole 1900 MHz D1900V2;SN:5d179;**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.557$  S/m;  $\epsilon_r = 52.94$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.1 °C; Liquid Temperature: 22.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(8.08, 8.08, 8.08); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (6x6x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 14.6 W/kg

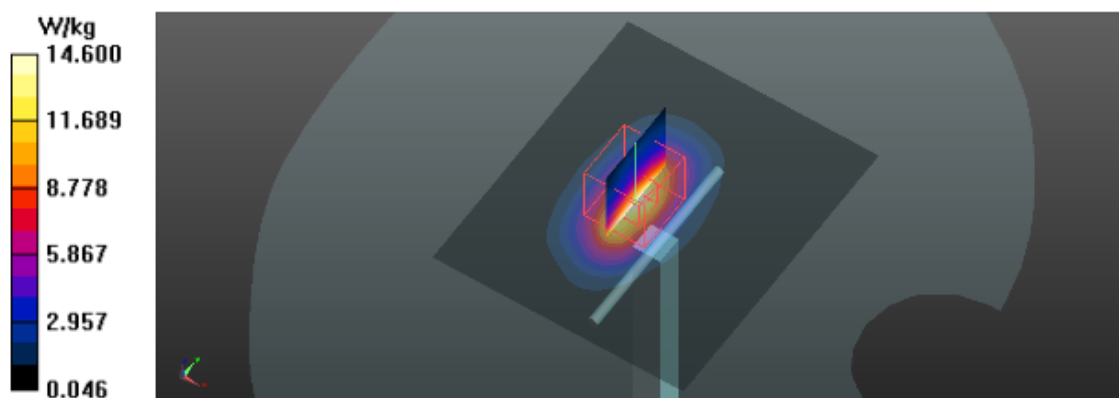
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.26 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 15.3 W/kg

**SAR(1 g) = 9.72 W/kg; SAR(10 g) = 5.43 W/kg**

Maximum value of SAR (measured) = 13.2 W/kg



Test Laboratory: BTL Inc.

Date: 1/15/2016

### System Check\_B2450\_0115

**DUT: Dipole 2450 MHz D2450V2;SN:919;**

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.997$  S/m;  $\epsilon_r = 51.42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3 °C; Liquid Temperature: 22.4 °C

DASY Configuration:

- Probe: EX3DV4 - SN3932; ConvF(7.6, 7.6, 7.6); Calibrated: 01/30/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Front; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (9x9x1):** Interpolated grid:  $dx=12$  mm,  $dy=12$  mm

Maximum value of SAR (interpolated) = 21.5 W/kg

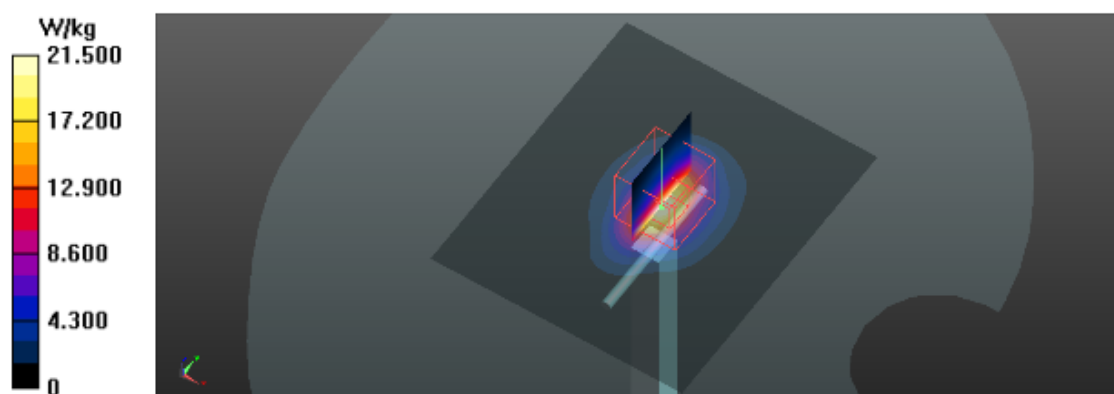
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 99.12 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 24.7 W/kg

**SAR(1 g) = 12.68 W/kg; SAR(10 g) = 6.38 W/kg**

Maximum value of SAR (measured) = 19.7 W/kg



Test Laboratory: BTL Inc.

Date: 03/15/2016

### System Check\_B2450\_0315

**DUT: Dipole 2450 MHz D2450V2;SN:919;**

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.984$  S/m;  $\epsilon_r = 51.789$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.5 °C; Liquid Temperature: 22.2 °C

DASY Configuration:

- Probe: EX3DV4 - SN3661; ConvF(7.31, 7.31, 7.31); Calibrated: 04/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1390; Calibrated: 09/18/2015
- Phantom: SAM Right; Type: Twin SAM; Serial: 1896
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Area Scan (9x9x1):** Interpolated grid:  $dx=12$  mm,  $dy=12$  mm

Maximum value of SAR (interpolated) = 21.7 W/kg

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

Reference Value = 100.6 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 24.9 W/kg

**SAR(1 g) = 12.84 W/kg; SAR(10 g) = 6.42 W/kg**

Maximum value of SAR (measured) = 19.9 W/kg

