Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2010/1/21

#### System Check\_2450MHz\_100121

#### **DUT: Dipole 2450 MHz**

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

Medium: HSL\_2450\_100121 Medium parameters used: f = 2450 MHz;  $\sigma = 1.86$  mho/m;  $\epsilon_r = 37.5$ ;  $\rho$ 

 $= 1000 \text{ kg/m}^3$ 

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

# DASY5 Configuration:

- Probe: EX3DV4 SN3697; ConvF(6.69, 6.69, 6.69); Calibrated: 2009/11/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn3432=Ecrkdtcvgf <422; 13318
- Phantom: SAM2; Type: SAM; Serial: TP-1479
- O gcuwtgo gpv'UY "<FCU 7."X704"Dwkrf "384="UGO ECF 'Z "Xgtukqp"3602"Dwkrf "79

Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 7.15 mW/g

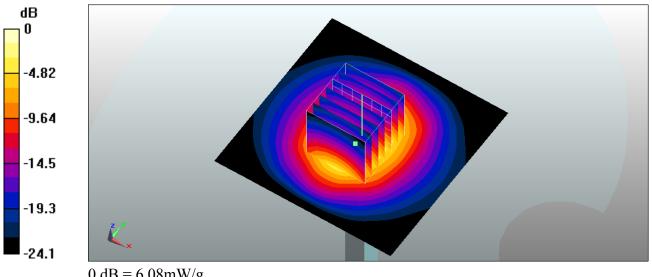
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 61.2 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 11.6 W/kg

SAR(1 g) = 5.37 mW/g; SAR(10 g) = 2.45 mW/g

Maximum value of SAR (measured) = 6.08 mW/g



0 dB = 6.08 mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2010/2/2

#### System Check 2450MHz 100202

#### **DUT: Dipole 2450 MHz**

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

Medium: HSL\_2450\_100202 Medium parameters used: f = 2450 MHz;  $\sigma = 1.84$  mho/m;  $\varepsilon_r = 38.7$ ;  $\rho = 1000$ 

 $kg/m^3$ 

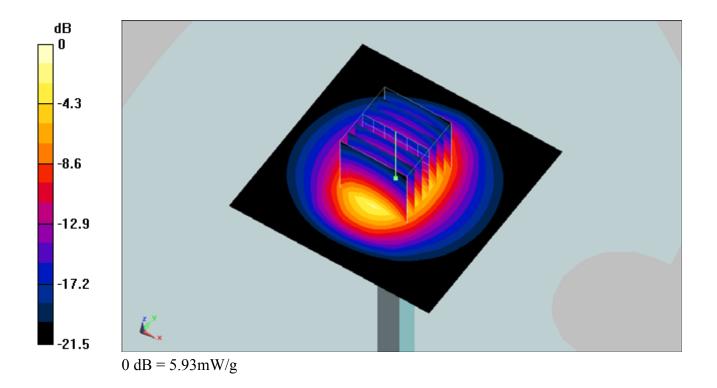
Ambient Temperature: 22.5; Liquid Temperature: 21.5

### DASY5 Configuration:

- Probe: ET3DV6 SN1788; ConvF(4.68, 4.68, 4.68); Calibrated: 2008/9/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2009/9/18
- Phantom: SAM Front; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 6.03 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 58.3 V/m; Power Drift = 0.012 dB Peak SAR (extrapolated) = 11.9 W/kg SAR(1 g) = 5.31 mW/g; SAR(10 g) = 2.48 mW/g Maximum value of SAR (measured) = 5.93 mW/g



#### **DUT: Dipole 2450 MHz**

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

Medium: MSL 2450 100208 Medium parameters used: f = 2450 MHz;  $\sigma = 1.93$  mho/m;  $\varepsilon_r = 53.3$ ;  $\rho$ 

Date: 2010/2/8

 $= 1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.3 °C; Liquid Temperature: 21.3 °C

#### DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(3.96, 3.96, 3.96); Calibrated: 2009/5/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 5.62 mW/g

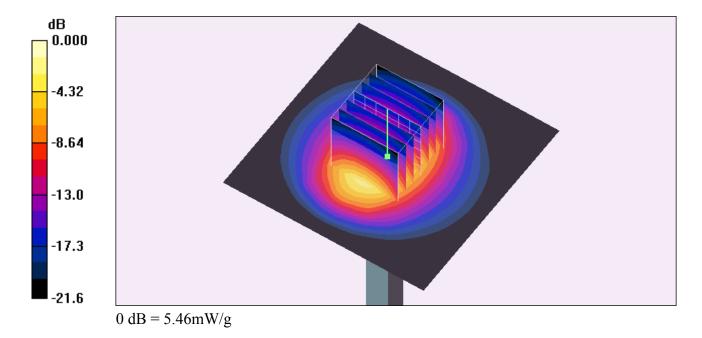
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.2 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 11.4 W/kg

SAR(1 g) = 4.91 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (measured) = 5.46 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: HSL\_5000~6000\_100130 Medium parameters used: f = 5200 MHz;  $\sigma = 4.56$  mho/m;  $\varepsilon_r =$ 

Date: 2010/1/30

35.9;  $\rho = 1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.4 °C; Liquid Temperature: 21.4 °C

#### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(4.07, 4.07, 4.07); Calibrated: 2009/6/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 12.2 mW/g

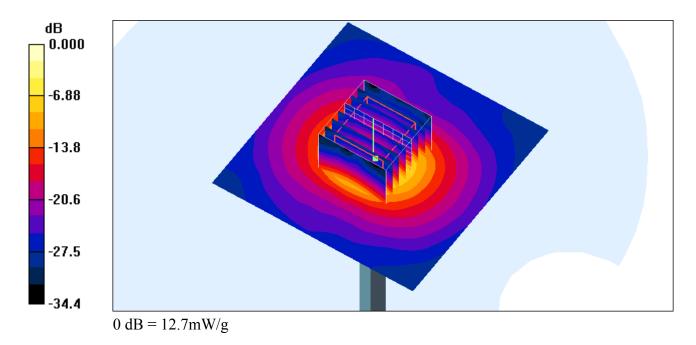
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 55.4 V/m; Power Drift = 0.236 dB

Peak SAR (extrapolated) = 30.0 W/kg

SAR(1 g) = 8.64 mW/g; SAR(10 g) = 2.48 mW/g

Maximum value of SAR (measured) = 12.7 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: MSL\_5G\_100209 Medium parameters used: f = 5200 MHz;  $\sigma = 5.11$  mho/m;  $\varepsilon_r = 47.4$ ;  $\rho =$ 

Date: 2010/2/9

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.3 °C; Liquid Temperature: 21.3 °C

#### DASY4 Configuration:

- Probe: EX3DV3 SN3514; ConvF(4.27, 4.27, 4.27); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 12.7 mW/g

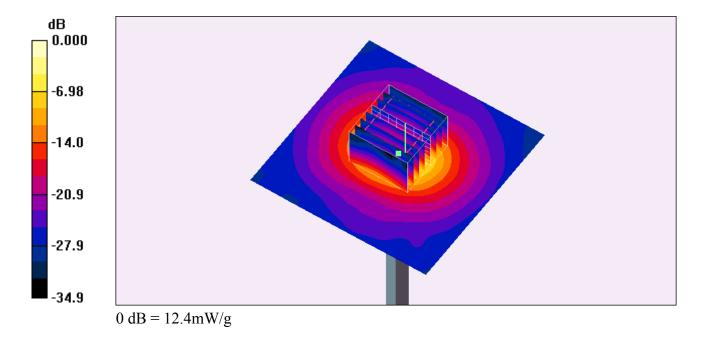
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 51.4 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 25.6 W/kg

SAR(1 g) = 7.19 mW/g; SAR(10 g) = 2.04 mW/g

Maximum value of SAR (measured) = 12.4 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: MSL 5G 100213 Medium parameters used: f = 5200 MHz;  $\sigma = 5.14$  mho/m;  $\varepsilon_r = 47.5$ ;  $\rho =$ 

Date: 2010/2/13

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.5 °C; Liquid Temperature: 21.3 °C

#### DASY4 Configuration:

- Probe: EX3DV4 SN3661; ConvF(4.59, 4.59, 4.59); Calibrated: 2009/12/30
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 14.8 mW/g

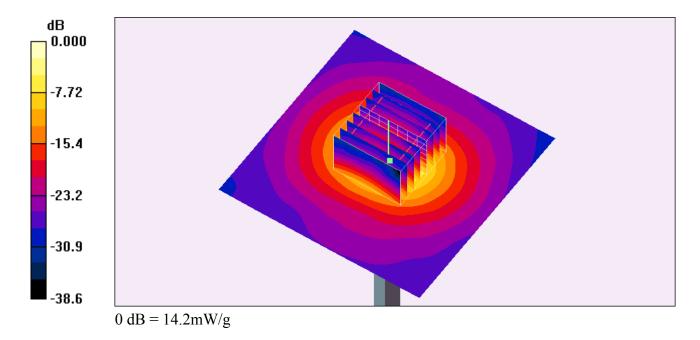
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 55.3 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 29.7 W/kg

SAR(1 g) = 8.23 mW/g; SAR(10 g) = 2.35 mW/g

Maximum value of SAR (measured) = 14.2 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: MSL 5G 100214 Medium parameters used: f = 5200 MHz;  $\sigma = 5.34$  mho/m;  $\varepsilon_r = 47.5$ ;  $\rho =$ 

Date: 2010/2/14

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.6 °C; Liquid Temperature: 21.3 °C

### DASY4 Configuration:

- Probe: EX3DV3 SN3514; ConvF(4.27, 4.27, 4.27); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

# **Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 13.3 mW/g

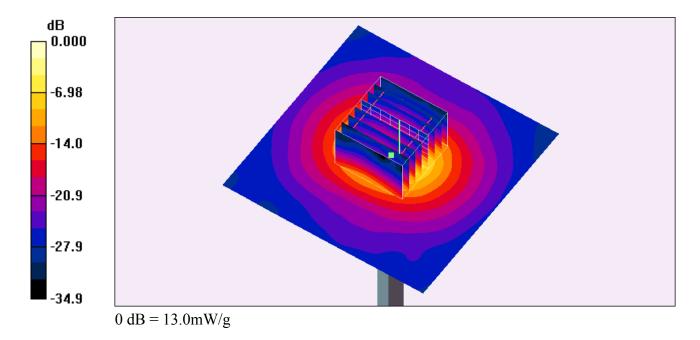
# Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 51.4 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 26.7 W/kg

SAR(1 g) = 7.5 mW/g; SAR(10 g) = 2.12 mW/g

Maximum value of SAR (measured) = 13.0 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: HSL 5000~6000 100201 Medium parameters used: f = 5500 MHz;  $\sigma = 4.86$  mho/m;  $\varepsilon_r =$ 

Date: 2010/2/1

35.1;  $\rho = 1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.7 °C; Liquid Temperature: 22.4 °C

#### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(3.8, 3.8, 3.8); Calibrated: 2009/6/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 14.9 mW/g

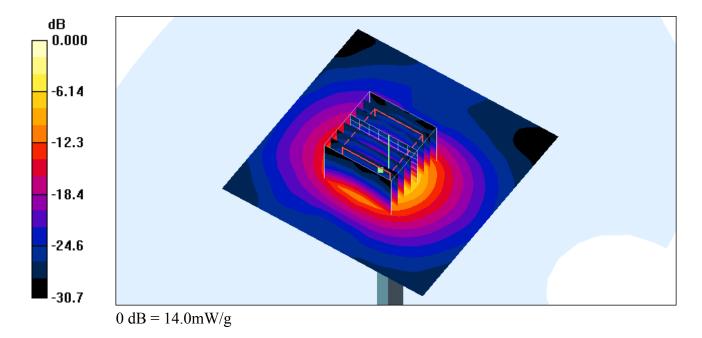
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 52.6 V/m; Power Drift = -0.168 dB

Peak SAR (extrapolated) = 35.6 W/kg

SAR(1 g) = 9.38 mW/g; SAR(10 g) = 2.65 mW/g

Maximum value of SAR (measured) = 14.0 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: MSL 5G 100209 Medium parameters used: f = 5500 MHz;  $\sigma = 5.49$  mho/m;  $\varepsilon_r = 47$ ;  $\rho =$ 

Date: 2010/2/9

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.4 °C; Liquid Temperature: 21.3 °C

### DASY4 Configuration:

- Probe: EX3DV3 SN3514; ConvF(3.86, 3.86, 3.86); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 13.7 mW/g

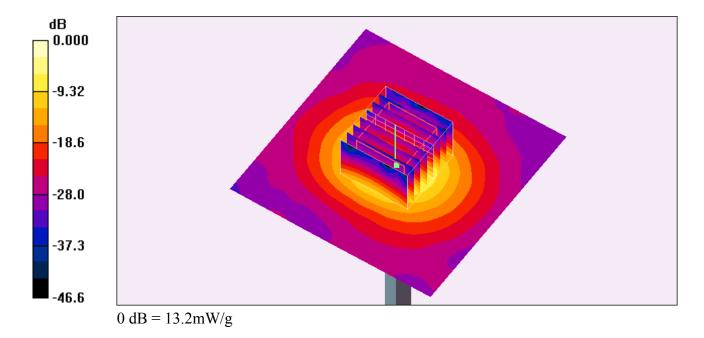
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 55.3 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 29.5 W/kg

SAR(1 g) = 7.88 mW/g; SAR(10 g) = 2.21 mW/g

Maximum value of SAR (measured) = 13.2 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: MSL\_5G\_100214 Medium parameters used: f = 5500 MHz;  $\sigma = 5.73$  mho/m;  $\varepsilon_r = 46.9$ ;  $\rho =$ 

Date: 2010/2/14

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.4 °C; Liquid Temperature: 21.3 °C

#### DASY4 Configuration:

- Probe: EX3DV3 SN3514; ConvF(3.86, 3.86, 3.86); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 14.4 mW/g

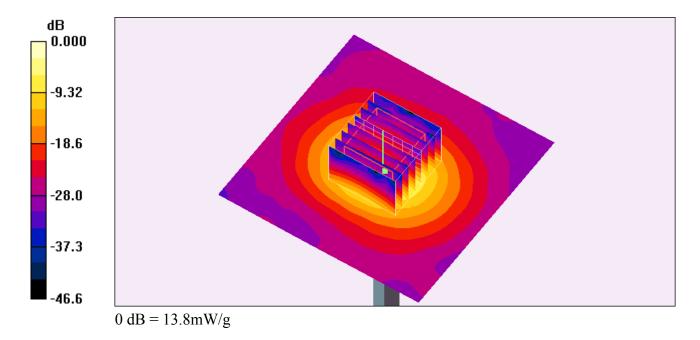
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 55.3 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 30.8 W/kg

SAR(1 g) = 8.23 mW/g; SAR(10 g) = 2.31 mW/g

Maximum value of SAR (measured) = 13.8 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: HSL\_5000~6000\_100130 Medium parameters used: f = 5800 MHz;  $\sigma = 5.17$  mho/m;  $\varepsilon_r =$ 

Date: 2010/1/30

34.9;  $\rho = 1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.6°C; Liquid Temperature: 21.4°C

#### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(3.7, 3.7, 3.7); Calibrated: 2009/6/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 13.4 mW/g

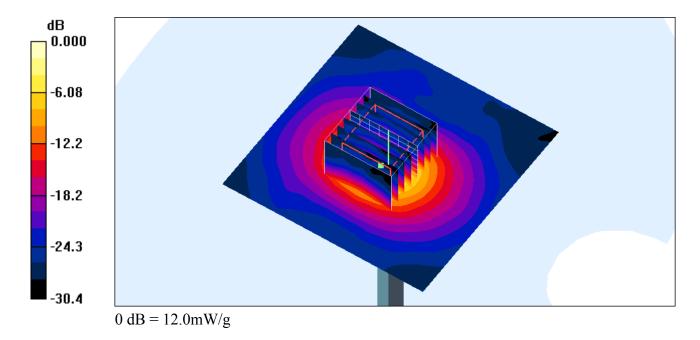
Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 48.5 V/m; Power Drift = -0.110 dB

Peak SAR (extrapolated) = 30.3 W/kg

SAR(1 g) = 8.03 mW/g; SAR(10 g) = 2.28 mW/g

Maximum value of SAR (measured) = 12.0 mW/g



# **DUT: Dipole 5GHz**

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: MSL\_5G\_100209 Medium parameters used: f = 5800 MHz;  $\sigma = 5.96$  mho/m;  $\varepsilon_r = 46.5$ ;  $\rho =$ 

Date: 2010/2/13

 $1000 \text{ kg/m}^3$ 

Ambient Temperature: 22.3 °C; Liquid Temperature: 21.3 °C

#### DASY4 Configuration:

- Probe: EX3DV3 SN3514; ConvF(3.9, 3.9, 3.9); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2009/8/24
- Phantom: ELI 4.0 Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Pin=100mW/Area Scan (91x91x1):** Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 14.2 mW/g

Pin=100mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 51.9 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 27.7 W/kg

SAR(1 g) = 7.84 mW/g; SAR(10 g) = 2.22 mW/g

Maximum value of SAR (measured) = 13.3 mW/g

