

## **Appendix A:**

### **Validation Test Plots**

Test Laboratory: Kyocera Wireless Corp.

## 835Mhz Validation in Head Liquid @ 20dBm Probe 1714, DAE 493, Dipole 454

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

Medium: HSL900, Medium parameters used (interpolated):  $f = 835$  MHz;  $\sigma = 0.86$  mho/m;  $\epsilon_r = 43.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1714, ConvF(6.67, 6.67, 6.67), Calibrated: 8/30/2006

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn493, Calibrated: 11/7/2006

Measurement SW: DASY4, V4.7 Build 53

Postprocessing SW: SEMCAD, V1.8 Build 171

### Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

## 835Mhz Validation @ 20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

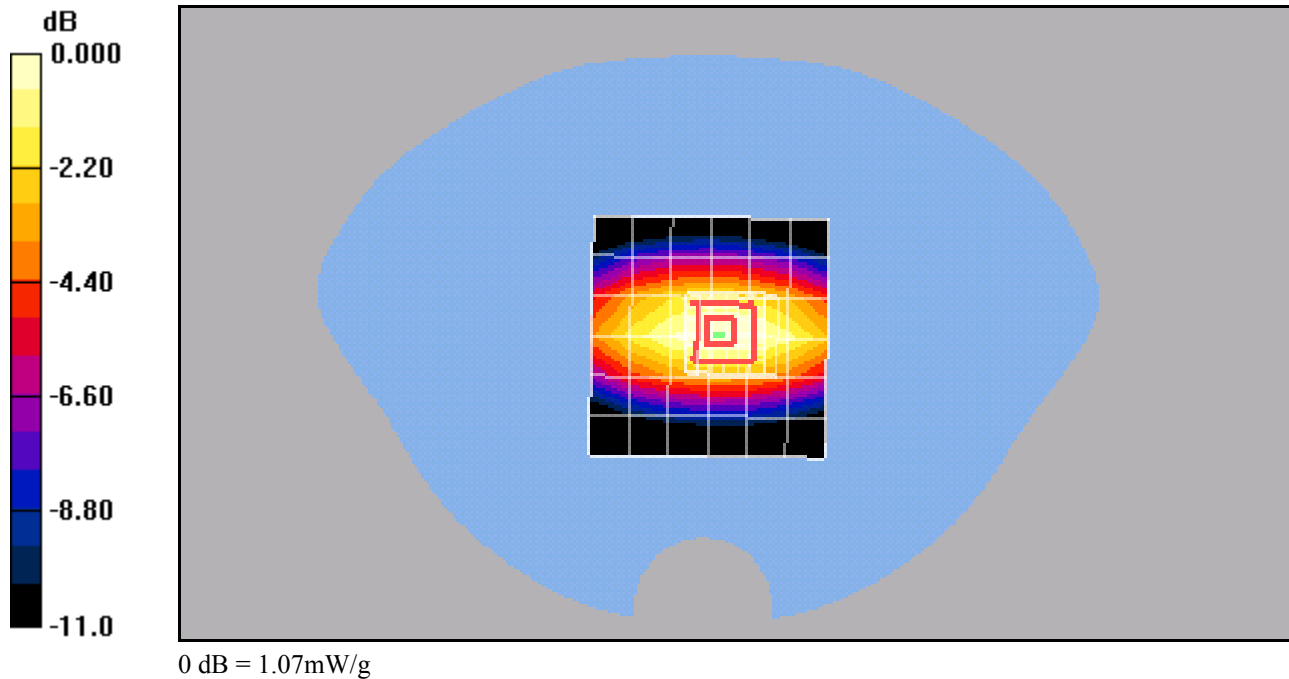
Reference Value = 35.7 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.632 mW/g

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

Maximum value of SAR (measured) = 1.07 mW/g



Test Laboratory: Kyocera Wireless Corp.

1900Mhz Validation in Head Liquid @ 20dBm Probe 1714, DAE 493, Dipole 5d003

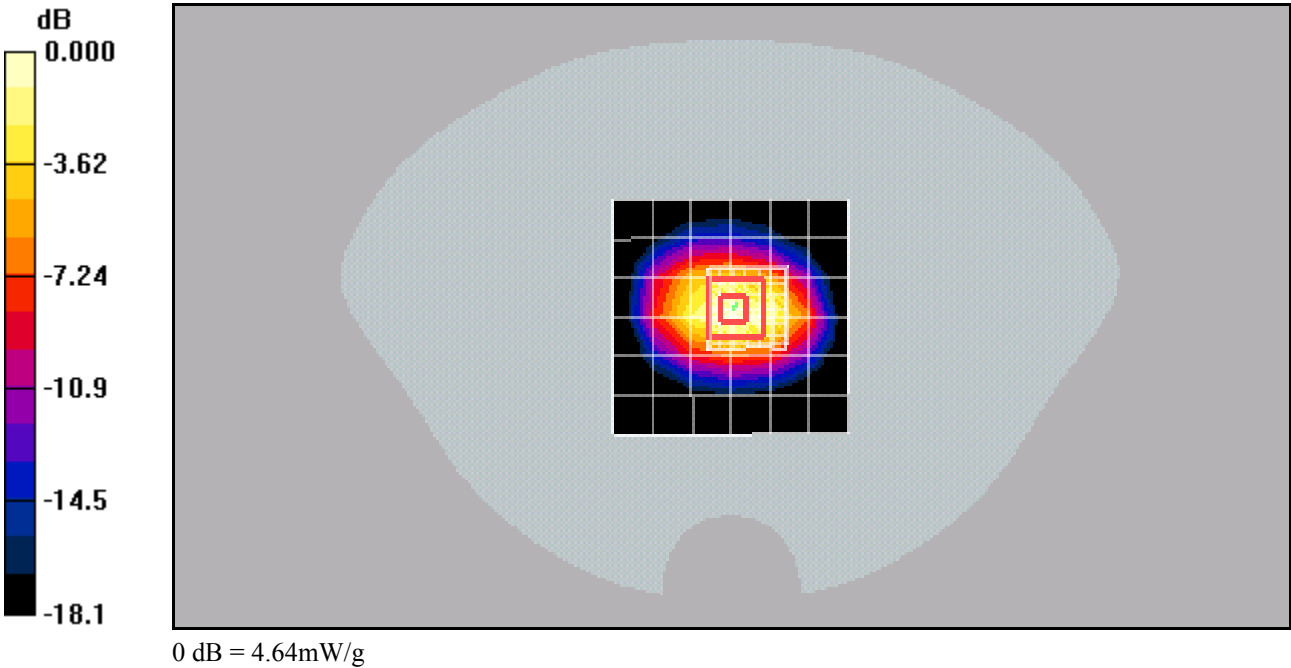
Communication System: CW, Frequency: 1900 MHz, Duty Cycle: 1:1  
Medium: HSL1800,Medium parameters used (interpolated): f = 1900 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 39;  $\rho$  = 1000 kg/m<sup>3</sup>  
Phantom: SAM 12,Phantom section: Flat Section

**DASY4 Configuration:**  
Probe: ET3DV6 - SN1714, ConvF(4.92, 4.92, 4.92), Calibrated: 8/30/2006  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn493,Calibrated: 11/7/2006  
Measurement SW: DASY4, V4.7 Build 53  
Postprocessing SW: SEMCAD, V1.8 Build 171

**Temperature:**  
Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 58.6 V/m; Power Drift = -0.002 dB  
Peak SAR (extrapolated) = 6.75 W/kg  
SAR(1 g) = 4.06 mW/g; SAR(10 g) = 2.18 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 4.64 mW/g



Test Laboratory: Kyocera Wireless Corp.

835Mhz Validation in Muscle Liquid @ 20dBm Probe 1714, DAE 493, Dipole 454

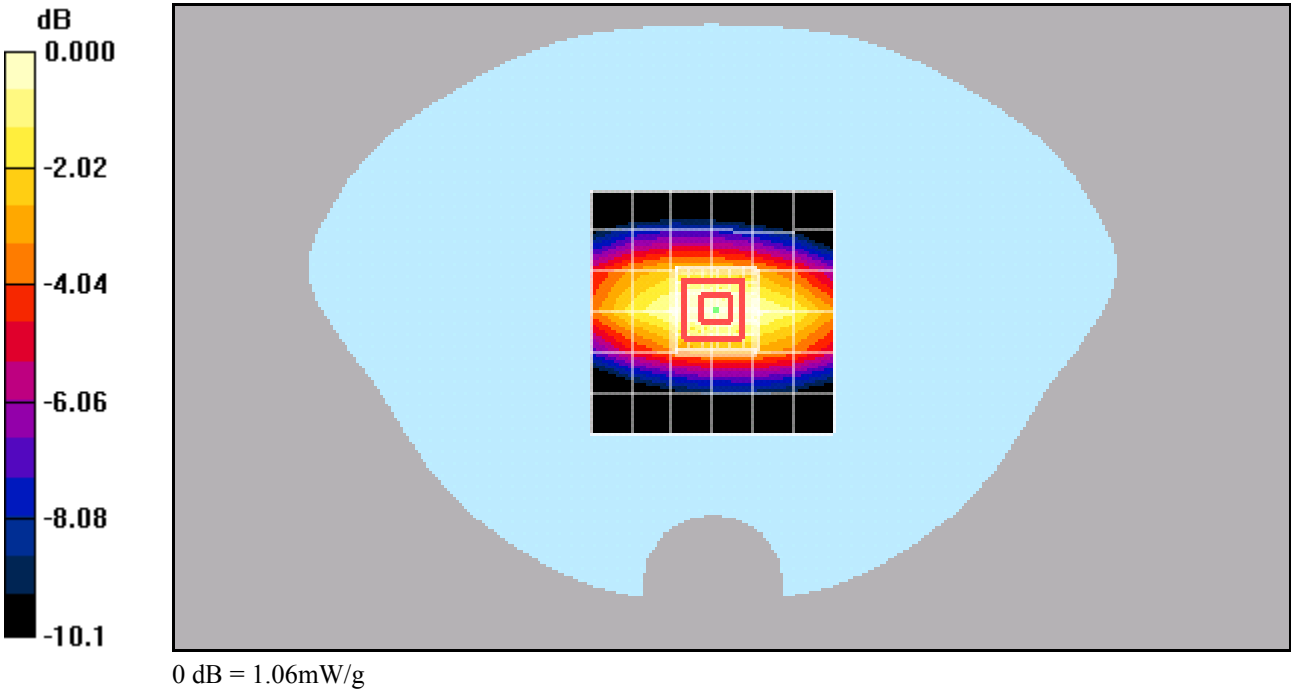
Communication System: CW, Frequency: 835 MHz, Duty Cycle: 1:1  
Medium: M900,Medium parameters used (interpolated): f = 835 MHz;  $\sigma$  = 0.933 mho/m;  $\epsilon_r$  = 54.8;  $\rho$  = 1000 kg/m<sup>3</sup>  
Phantom: SAM 12,Phantom section: Flat Section

**DASY4 Configuration:**  
Probe: ET3DV6 - SN1714, ConvF(6.41, 6.41, 6.41), Calibrated: 8/30/2006  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn493,Calibrated: 11/7/2006  
Measurement SW: DASY4, V4.7 Build 53  
Postprocessing SW: SEMCAD, V1.8 Build 171

**Temperature:**  
Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 34.7 V/m; Power Drift = -0.024 dB  
Peak SAR (extrapolated) = 1.44 W/kg  
SAR(1 g) = 0.976 mW/g; SAR(10 g) = 0.639 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 1.06 mW/g



Test Laboratory: Kyocera Wireless Corp.

## 835Mhz Validation in Muscle Liquid @ 20dBm Probe 1714, DAE 493, Dipole 454

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

Medium: M900,Medium parameters used (interpolated):  $f = 835$  MHz;  $\sigma = 0.979$  mho/m;  $\epsilon_r = 53.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12,Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1714, ConvF(6.41, 6.41, 6.41), Calibrated: 8/30/2006

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn493,Calibrated: 11/7/2006

Measurement SW: DASY4, V4.7 Build 53

Postprocessing SW: SEMCAD, V1.8 Build 171

### Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

## 835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

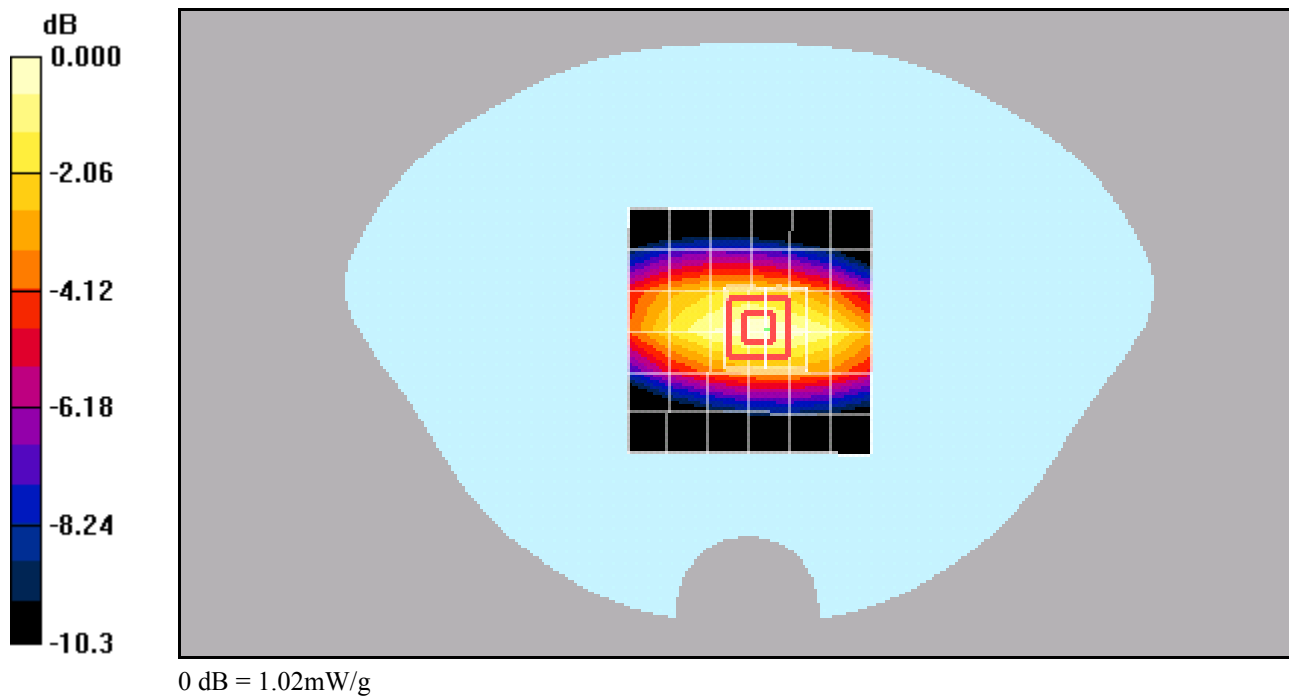
Reference Value = 33.1 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.937 mW/g; SAR(10 g) = 0.615 mW/g

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

Maximum value of SAR (measured) = 1.02 mW/g



Test Laboratory: Kyocera Wireless Corp.

1900Mhz Validation in Muscle Liquid @ 20dBm Probe 1714, DAE 493 and Dipole 5d003

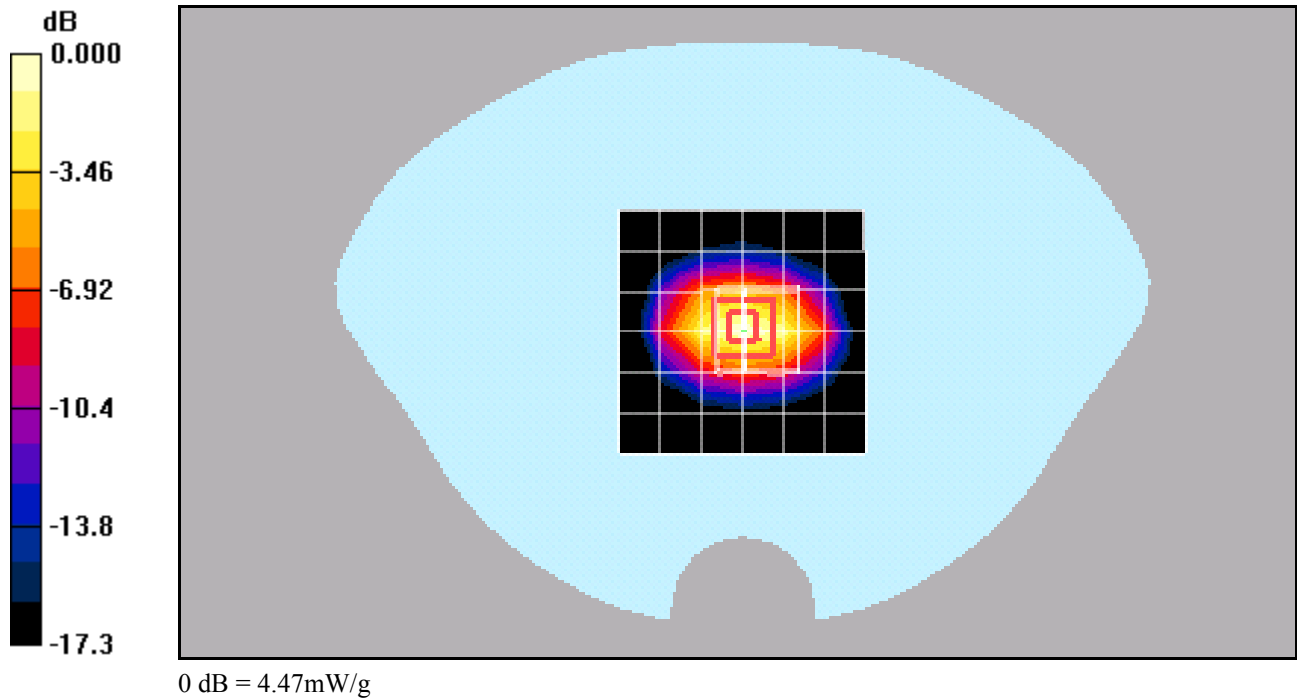
Communication System: CW, Frequency: 1900 MHz, Duty Cycle: 1:1  
Medium: M1800,Medium parameters used (interpolated): f = 1900 MHz;  $\sigma$  = 1.47 mho/m;  $\epsilon_r$  = 53;  $\rho$  = 1000 kg/m<sup>3</sup>  
Phantom: SAM 12,Phantom section: Flat Section

**DASY4 Configuration:**  
Probe: ET3DV6 - SN1714, ConvF(4.53, 4.53, 4.53), Calibrated: 8/30/2006  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn493,Calibrated: 11/7/2006  
Measurement SW: DASY4, V4.7 Build 53  
Postprocessing SW: SEMCAD, V1.8 Build 171

**Temperature:**  
Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 58.8 V/m; Power Drift = -0.034 dB  
Peak SAR (extrapolated) = 6.43 W/kg  
SAR(1 g) = 3.93 mW/g; SAR(10 g) = 2.13 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 4.47 mW/g



Test Laboratory: Kyocera Wireless Corp.

## 1900Mhz Validation in Muscle in Liquid @ 20dBm Probe 1714, DAE 493 and Dipole 5d003

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

Medium: M1800, Medium parameters used (interpolated):  $f = 1900$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1714, ConvF(4.53, 4.53, 4.53), Calibrated: 8/30/2006

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),

Electronics: DAE3 Sn493, Calibrated: 11/7/2006

Measurement SW: DASY4, V4.7 Build 53

Postprocessing SW: SEMCAD, V1.8 Build 171

### Temperature:

Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

## 1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

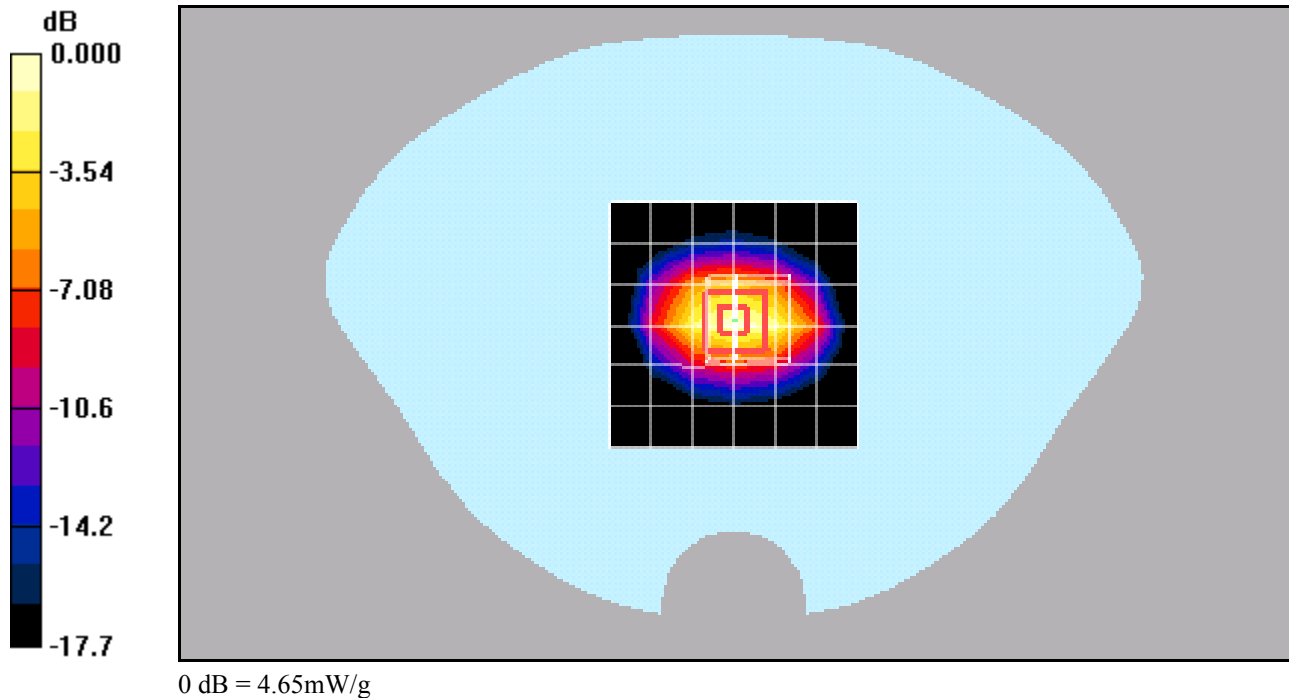
Reference Value = 56.7 V/m; Power Drift = 0.188 dB

Peak SAR (extrapolated) = 6.75 W/kg

SAR(1 g) = 4.12 mW/g; SAR(10 g) = 2.22 mW/g

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

Maximum value of SAR (measured) = 4.65 mW/g



Test Laboratory: Kyocera Wireless Corp.

1900Mhz Validation in Muscle Liquid @ 20dBm Probe 1714, DAE 493 and Dipole 5d003

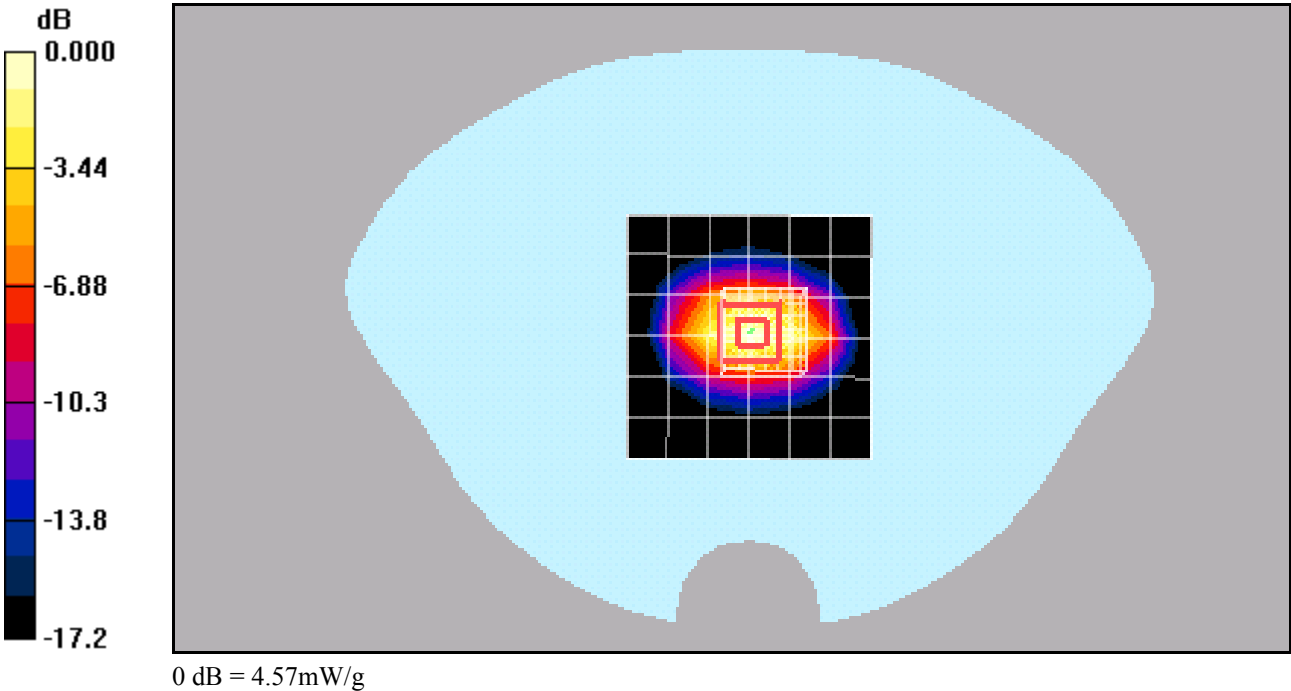
Communication System: CW, Frequency: 1900 MHz, Duty Cycle: 1:1  
Medium: M1800,Medium parameters used (interpolated): f = 1900 MHz;  $\sigma$  = 1.48 mho/m;  $\epsilon_r$  = 53.4;  $\rho$  = 1000 kg/m<sup>3</sup>  
Phantom: SAM 12,Phantom section: Flat Section

**DASY4 Configuration:**  
Probe: ET3DV6 - SN1714, ConvF(4.53, 4.53, 4.53), Calibrated: 8/30/2006  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn493,Calibrated: 11/7/2006  
Measurement SW: DASY4, V4.7 Build 53  
Postprocessing SW: SEMCAD, V1.8 Build 171

**Temperature:**  
Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 58.8 V/m; Power Drift = -0.035 dB  
Peak SAR (extrapolated) = 6.60 W/kg  
SAR(1 g) = 4.02 mW/g; SAR(10 g) = 2.18 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 4.57 mW/g



Test Laboratory: Kyocera Wireless Corp.

1900Mhz Validation in Muscle Liquid @ 20dBm Probe 1714, DAE 493 and Dipole 5d003

Communication System: CW, Frequency: 1900 MHz, Duty Cycle: 1:1  
Medium: M1800,Medium parameters used (interpolated): f = 1900 MHz;  $\sigma$  = 1.47 mho/m;  $\epsilon_r$  = 53.1;  $\rho$  = 1000 kg/m<sup>3</sup>  
Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:  
Probe: ET3DV6 - SN1714, ConvF(4.53, 4.53, 4.53), Calibrated: 8/30/2006  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn493,Calibrated: 11/7/2006  
Measurement SW: DASY4, V4.7 Build 53  
Postprocessing SW: SEMCAD, V1.8 Build 171

Temperature:  
Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 57.2 V/m; Power Drift = -0.026 dB  
Peak SAR (extrapolated) = 6.17 W/kg  
SAR(1 g) = 3.77 mW/g; SAR(10 g) = 2.05 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 4.25 mW/g

