

## **Appendix A:**

### **Validation Test Plots**

Test Laboratory: Kyocera-Wireless Corp.

## 835Mhz Validation @ 20dBm Probe 1664, DAE 602 and Dipole 467

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

Medium: HSL900, Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.908 \text{ mho/m}$ ;  $\epsilon_r = 42.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1664, ConvF(6.47, 6.47, 6.47), Calibrated: 6/23/2008

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

Electronics: DAE4 Sn602, Calibrated: 6/25/2008

Measurement SW: DASY4, V4.7 Build 71

Postprocessing SW: SEMCAD, V1.8 Build 176

### Temperature:

Room T =  $21.8 \pm 1 \text{ deg C}$ , Liquid T =  $22.0 \pm 1 \text{ deg C}$

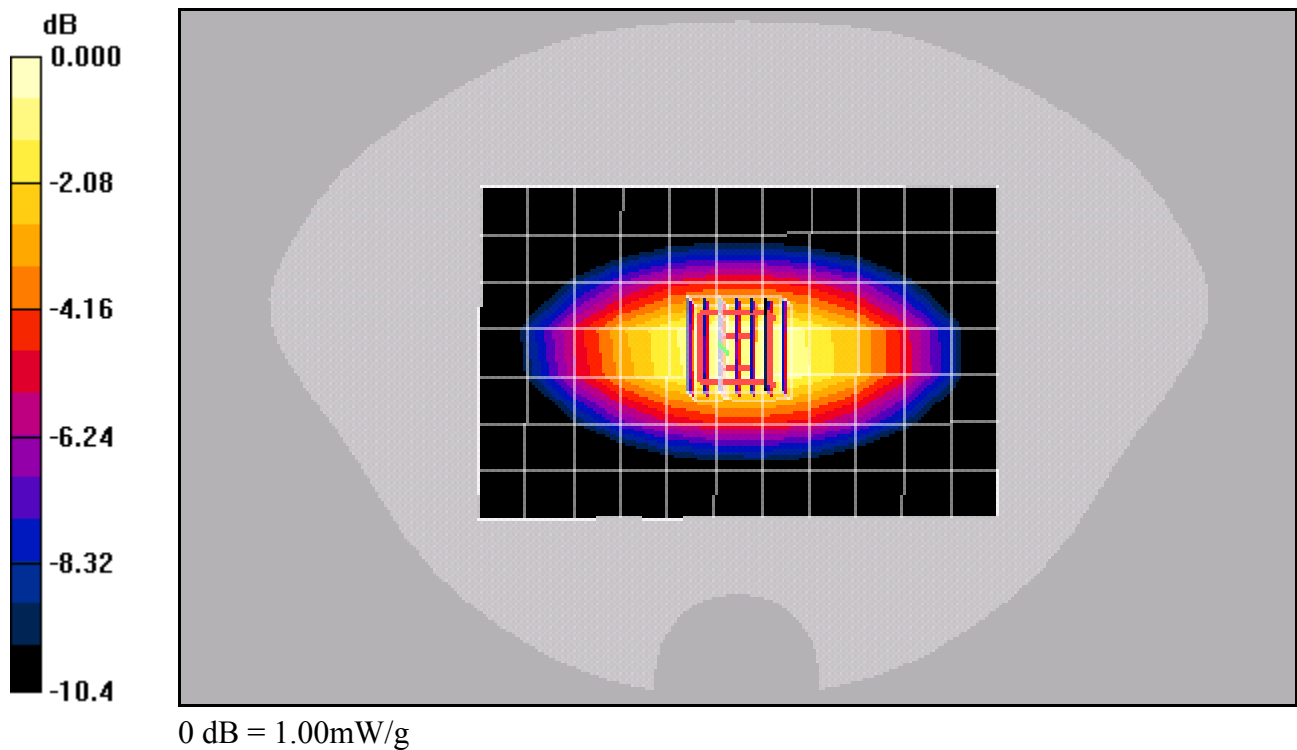
## 835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$ , $dy=5\text{mm}$ , $dz=5\text{mm}$

Reference Value =  $34.7 \text{ V/m}$ ; Power Drift =  $0.036 \text{ dB}$

Peak SAR (extrapolated) =  $1.27 \text{ W/kg}$

SAR(1 g) =  $0.922 \text{ mW/g}$ ; SAR(10 g) =  $0.609 \text{ mW/g}$

Maximum value of SAR (measured) =  $1.00 \text{ mW/g}$



Test Laboratory: Kyocera-Wireless Corp.

## 835Mhz Validation (In Muscle) @ 20dBm Probe 1664, DAE 602 and Dipole 467

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

Medium: M900, Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.981 \text{ mho/m}$ ;  $\epsilon_r = 55.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1664, ConvF(6.26, 6.26, 6.26), Calibrated: 6/23/2008

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

Electronics: DAE4 Sn602, Calibrated: 6/25/2008

Measurement SW: DASY4, V4.7 Build 71

Postprocessing SW: SEMCAD, V1.8 Build 176

### Temperature:

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

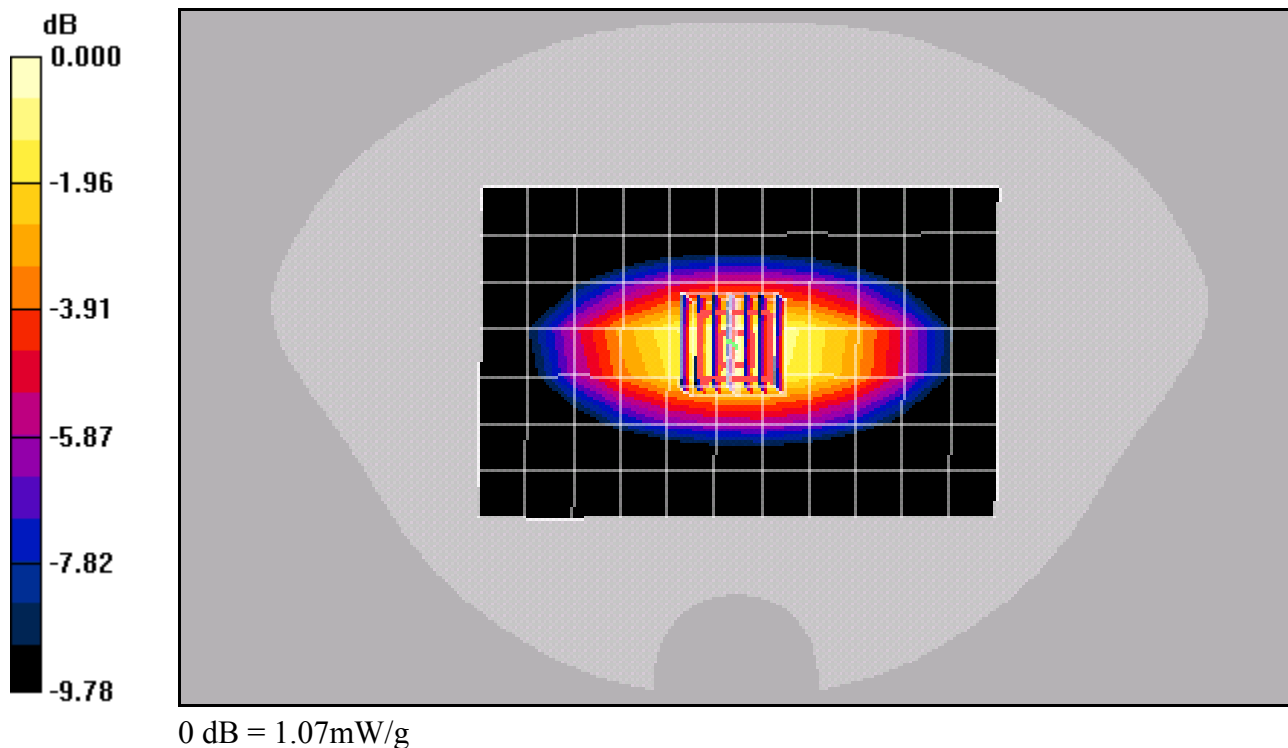
## 835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.6 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.972 mW/g; SAR(10 g) = 0.650 mW/g

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



Test Laboratory: Kyocera-Wireless Corp.

## 1900Mhz Validation @ 20dBm Probe 1664, DAE 602 and Dipole 5d016

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

Medium: HSL1900, Medium parameters used (interpolated):  $f = 1900$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1664, ConvF(5.08, 5.08, 5.08), Calibrated: 6/23/2008

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

Electronics: DAE4 Sn602, Calibrated: 6/25/2008

Measurement SW: DASY4, V4.7 Build 71

Postprocessing SW: SEMCAD, V1.8 Build 176

### 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

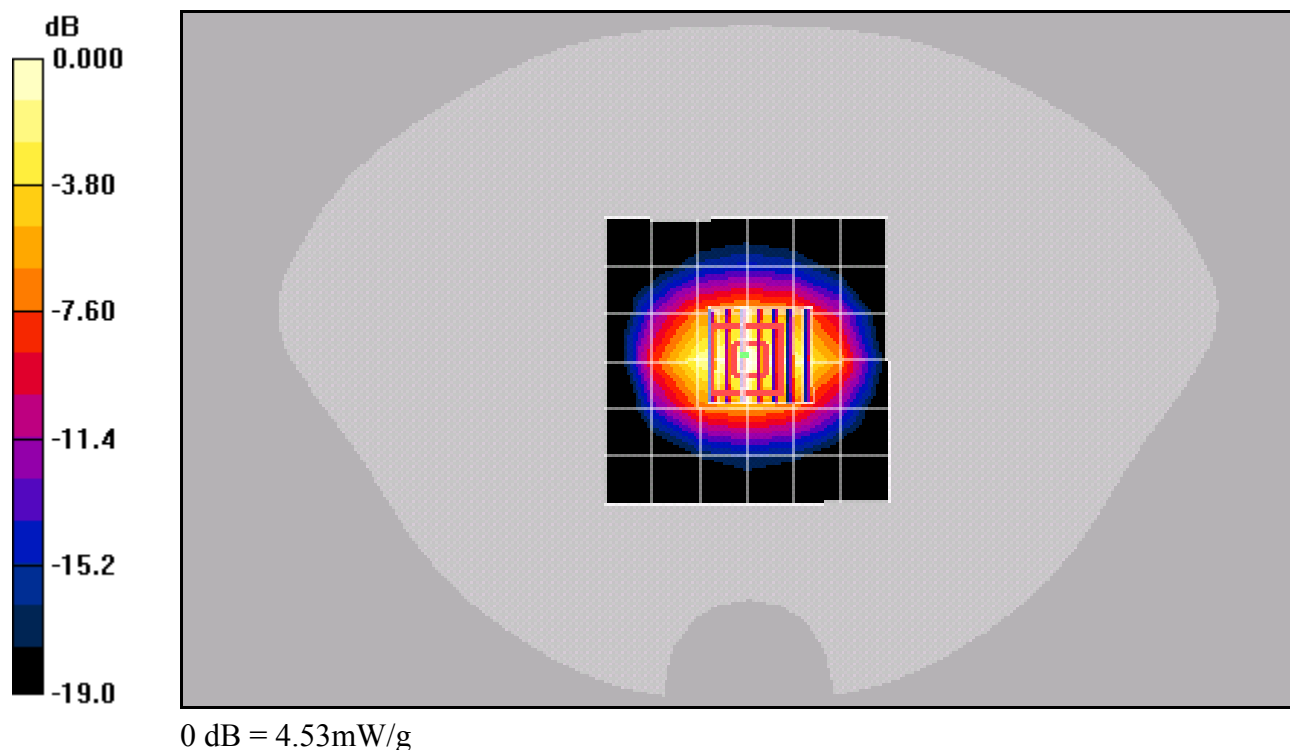
Reference Value = 58.4 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 7.56 W/kg

SAR(1 g) = 4.07 mW/g; SAR(10 g) = 2.1 mW/g

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

Maximum value of SAR (measured) = 4.53 mW/g



Test Laboratory: Kyocera-Wireless Corp.

## 1900Mhz Validation (In Muscle) @ 20dBm Probe 1664, DAE 602 and Dipole 5d016

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

Medium: M1800, Medium parameters used (interpolated):  $f = 1900$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 52.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ET3DV6 - SN1664, ConvF(4.44, 4.44, 4.44), Calibrated: 6/23/2008

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

Electronics: DAE4 Sn602, Calibrated: 6/25/2008

Measurement SW: DASY4, V4.7 Build 71

Postprocessing SW: SEMCAD, V1.8 Build 176

### 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

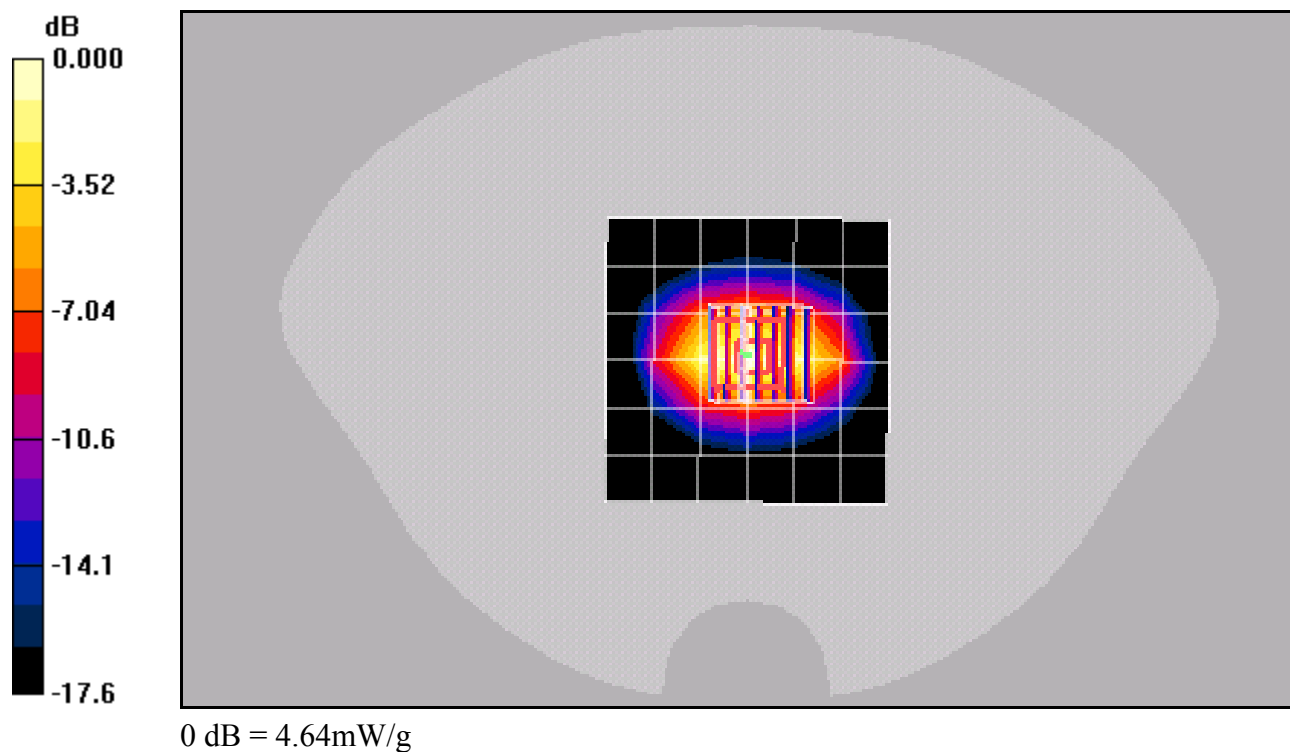
Reference Value = 57.9 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 7.55 W/kg

SAR(1 g) = 4.16 mW/g; SAR(10 g) = 2.2 mW/g

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

Maximum value of SAR (measured) = 4.64 mW/g



Test Laboratory: Kyocera-Wireless Corp.

## 2450Mhz Validation @ 20dBm Probe 3078, DAE 602 and Dipole 776

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

Medium: HSL2450, Medium parameters used (interpolated):  $f = 2450$  MHz;  $\sigma = 1.84$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom: SAM 12, Phantom section: Flat Section

### DASY4 Configuration:

Probe: ES3DV3 - SN3078, ConvF(4.46, 4.46, 4.46), Calibrated: 6/23/2008

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

Electronics: DAE4 Sn602, Calibrated: 6/25/2008

Measurement SW: DASY4, V4.7 Build 71

Postprocessing SW: SEMCAD, V1.8 Build 176

### Temperature:

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

## 2450MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.2 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 12.4 W/kg

SAR(1 g) = 5.55 mW/g; SAR(10 g) = 2.5 mW/g

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

Maximum value of SAR (measured) = 6.19 mW/g

