Appendix A: Validation test printout

Test Laboratory: Kyocera Wireless Corporation
File Name: 1900MHz Validation for FCC, Probe 1618, DAE 322, Dipole #5d005, @20dBm 11-13-03,1.da4

1900MHz Validation, Probe 1618, DAE 322, Dipole #5d005, @20dBm

DUT: Dipole 1900 MHz

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

Medium: Head 1900 MHz, ($\sigma = 1.39$ mho/m, $\varepsilon_r = 39.44$, $\rho = 1000$ kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(5.3, 5.3, 5.3), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn322,Calibrated: 7/17/2003
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

1900MHz/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 64.8 V/m
Power Drift = -0.05 dB
Maximum value of SAR = 5.21 mW/g

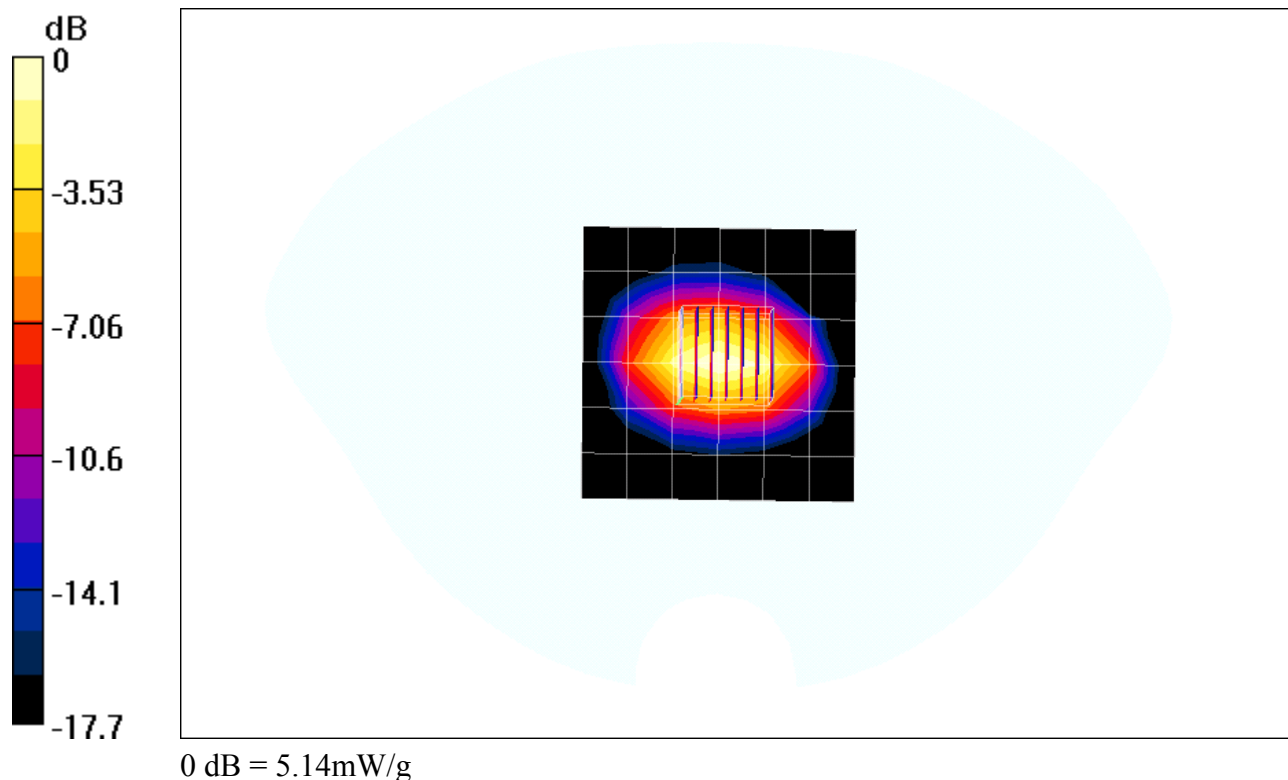**1900MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 7.96 W/kg
SAR(1 g) = 4.6 mW/g; SAR(10 g) = 2.39 mW/g
Reference Value = 64.8 V/m
Power Drift = -0.05 dB
Maximum value of SAR = 5.14 mW/g

0 dB = 5.14mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 1900MHz Validation for FCC, Probe 1618, DAE 322, Dipole #5d005, @20dBm 11-14-03,1.da4

1900MHz Validation, Probe 1618, DAE 322, Dipole #5d005, @20dBm

DUT: Dipole 1900 MHz

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

Medium: Head 1900 MHz, ($\sigma = 1.44$ mho/m, $\varepsilon_r = 39.44$, $\rho = 1000$ kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(5.3, 5.3, 5.3), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

1900MHz/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.7 V/m
Power Drift = 0.007 dB
Maximum value of SAR = 3.81 mW/g

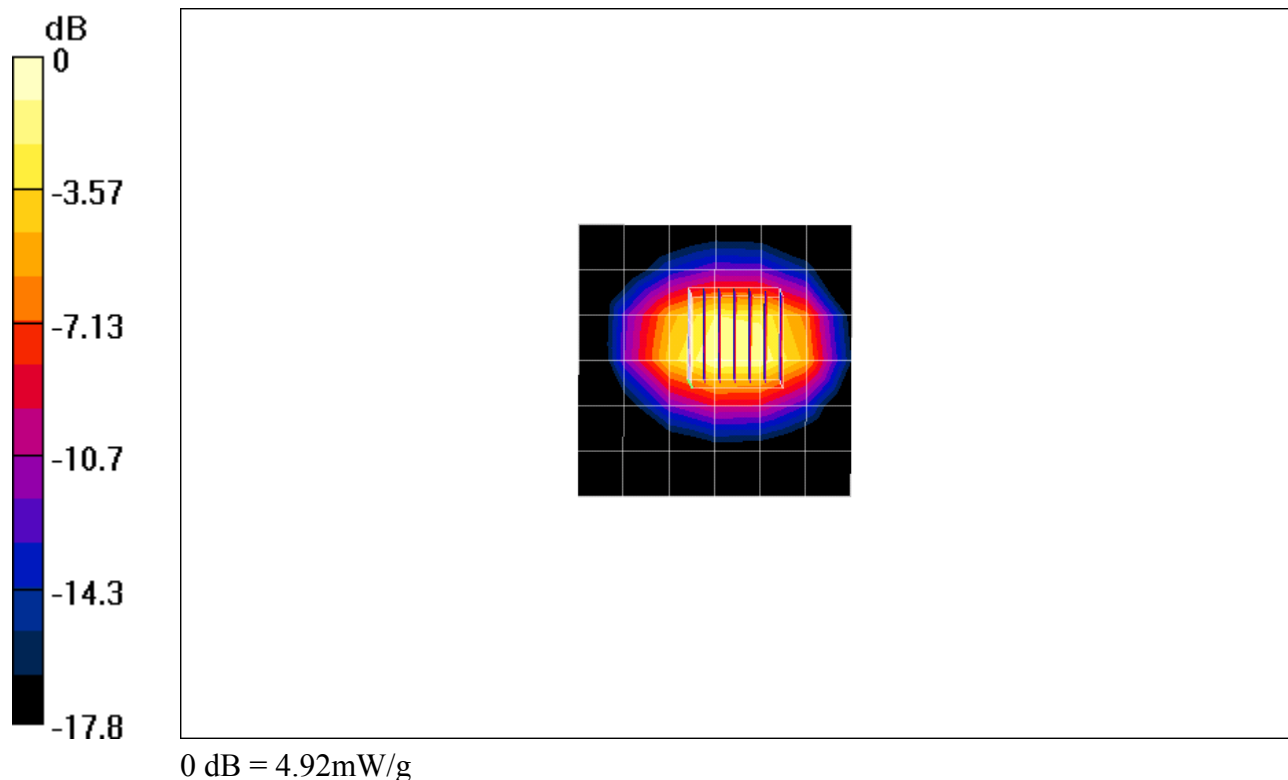**1900MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 7.74 W/kg
SAR(1 g) = 4.42 mW/g; SAR(10 g) = 2.29 mW/g
Reference Value = 54.7 V/m
Power Drift = 0.007 dB
Maximum value of SAR = 4.92 mW/g

dB
0
-3.57
-7.13
-10.7
-14.3
-17.8

0 dB = 4.92mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 1900MHz Validation(Muscle) for FCC, Probe 1618, DAE 322, Dipole #5d005, @20dBm 11-15-03,1.da4

1900MHz Validation, Probe 1618, DAE 322, Dipole #5d005, @20dBm

DUT: Dipole 1900 MHz

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

Medium: Head 1900 MHz, (σ = 1.46 mho/m, ε_r = 39.15, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(5.3, 5.3, 5.3), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

1900MHz/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 51.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 3.46 mW/g

1900MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
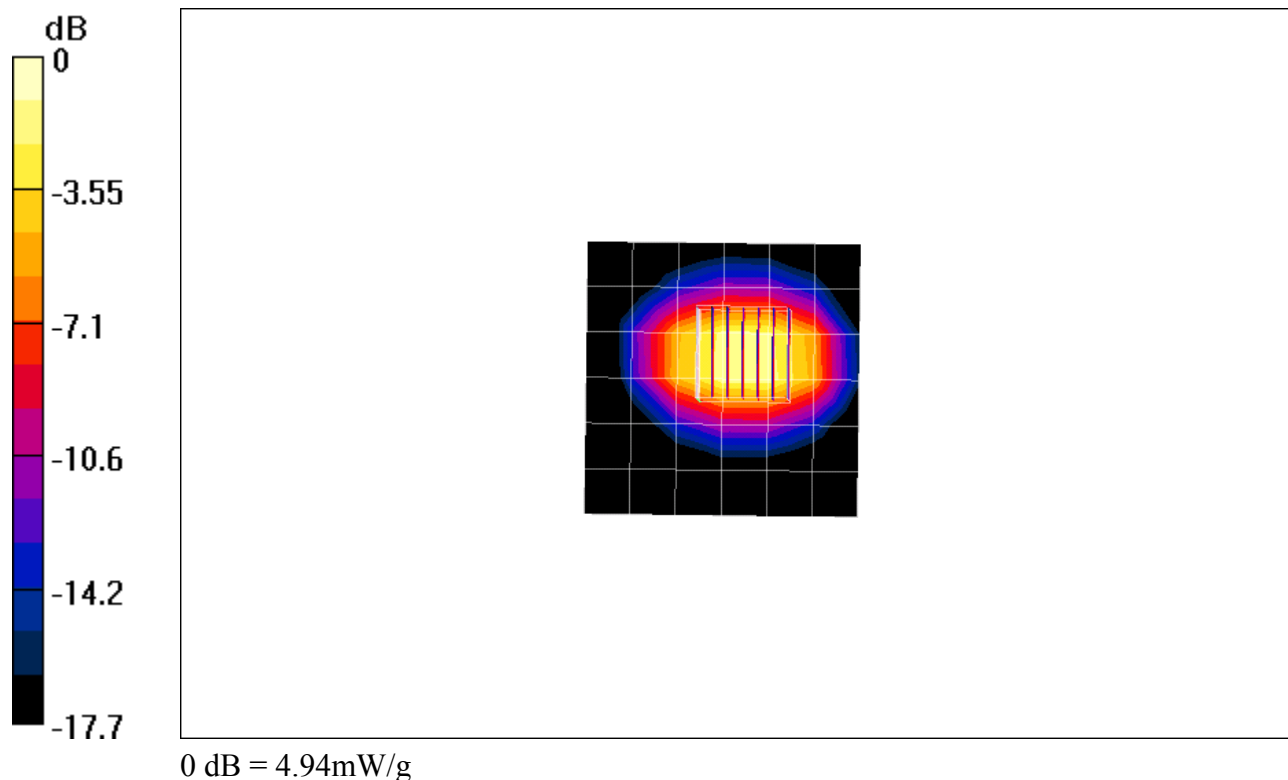Peak SAR (extrapolated) = 7.77 W/kg
SAR(1 g) = 4.4 mW/g; SAR(10 g) = 2.28 mW/g
Reference Value = 51.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 4.94 mW/g

0 dB = 4.94mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 1900MHz Validation(Muscle) for FCC, Probe 1618, DAE 327, Dipole #5d005, @20dBm 11-19-03,1.da4

1900MHz Validation, Probe 1618, DAE 327, Dipole #5d005, @20dBm

DUT: Dipole 1900 MHz

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

Medium: Head 1900 MHz, (σ = 1.46 mho/m, ε_r = 39.75, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(5.3, 5.3, 5.3), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

1900MHz/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.4 V/m
Power Drift = -0.04 dB
Maximum value of SAR = 3.82 mW/g

1900MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
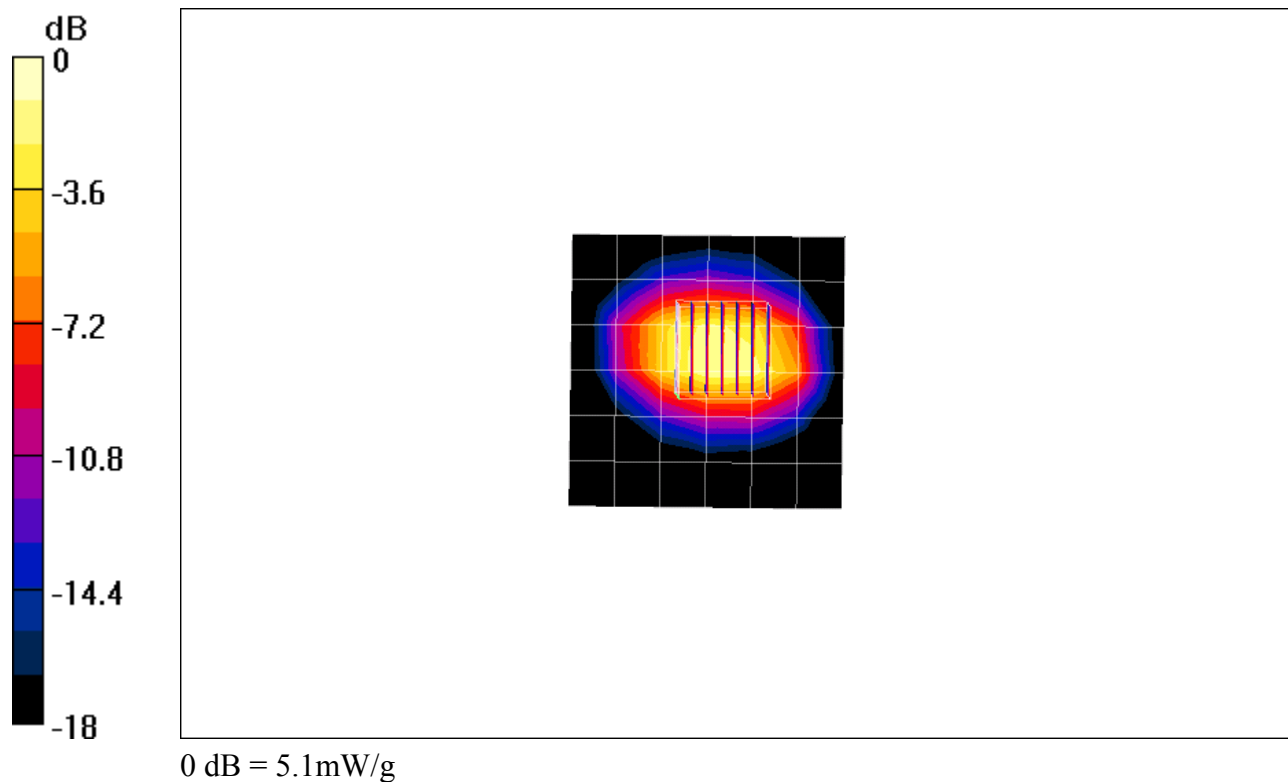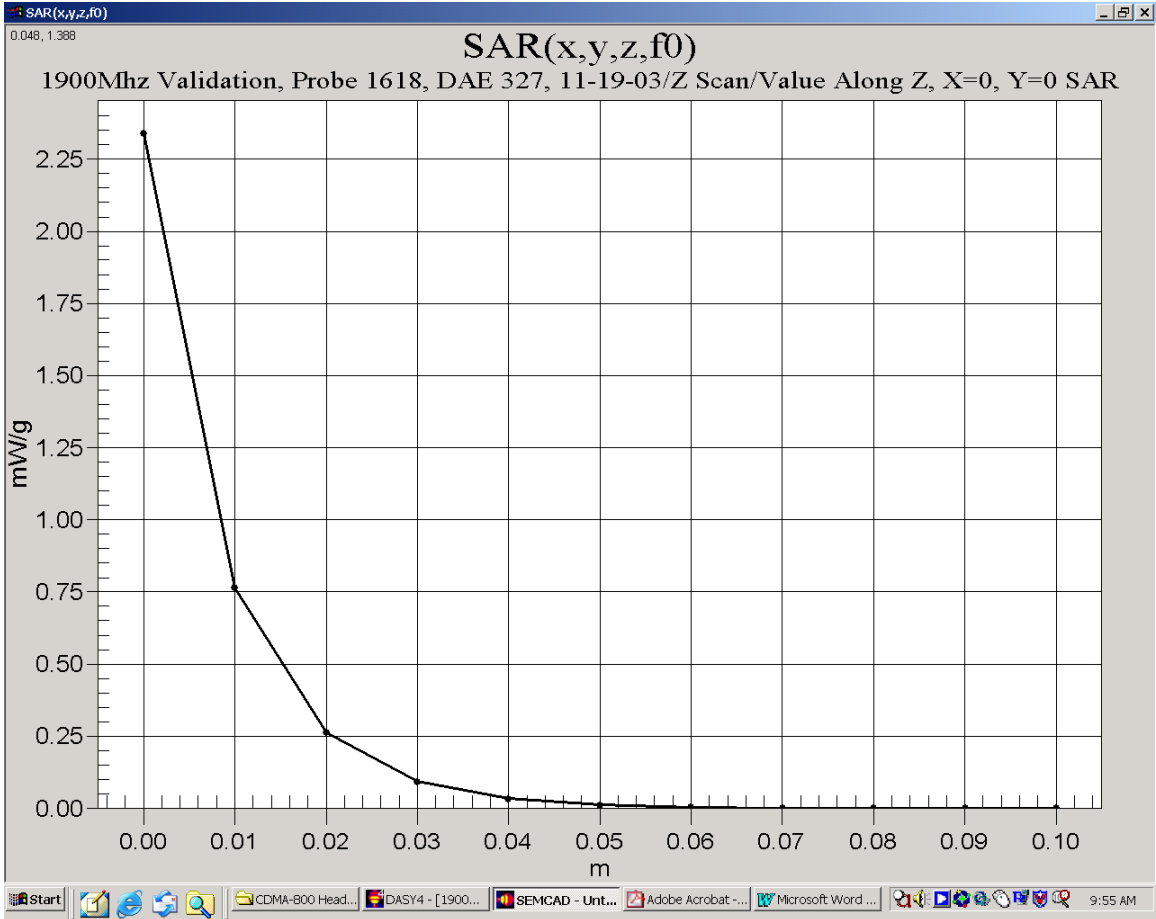Peak SAR (extrapolated) = 8.07 W/kg
SAR(1 g) = 4.54 mW/g; SAR(10 g) = 2.34 mW/g
Reference Value = 54.4 V/m
Power Drift = -0.04 dB
Maximum value of SAR = 5.1 mW/g

0 dB = 5.1mW/g

SAR(x,y,z,f0)

1900Mhz Validation, Probe 1618, DAE 327, 11-19-03/Z Scan/Value Along Z, X=0, Y=0 SAR

Test Laboratory: Kyocera Wireless Corporation
File Name: 835MHz Validation for FCC, Probe 1618, DAE 527, Dipole #453, @20dBm 11-16-03.da4

835MHz Validation, Probe 1618, DAE 527, Dipole #453, @20dBm

DUT: Dipole 835 MHz

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

Medium: Head 835 MHz, (σ = 0.911 mho/m, ε_r = 42.44, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(6.9, 6.9, 6.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

835MHz/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 34.7 V/m
Power Drift = -0.02 dB
Maximum value of SAR = 1.04 mW/g

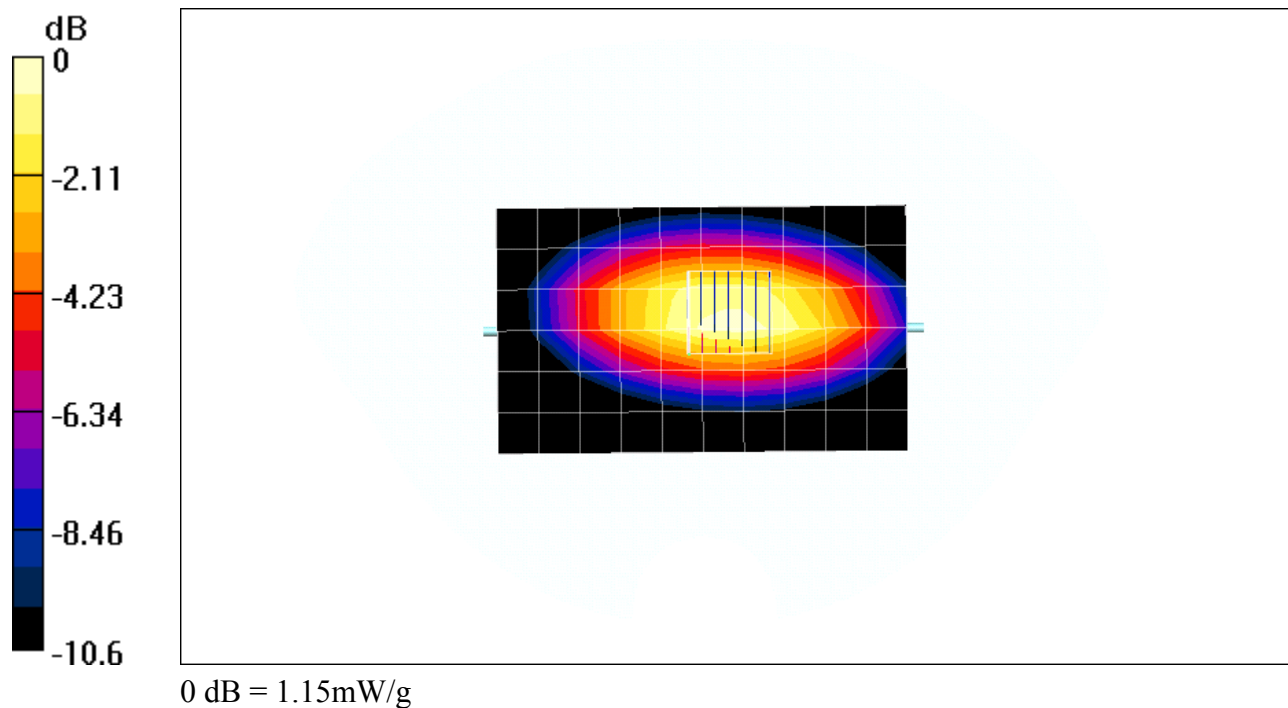**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.689 mW/g
Reference Value = 34.7 V/m
Power Drift = -0.02 dB
Maximum value of SAR = 1.15 mW/g

0 dB = 1.15mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 835MHz Validation for FCC, Probe 1618, DAE 527, Dipole #453, @20dBm 11-17-03.da4

835MHz Validation, Probe 1618, DAE 527, Dipole #453, @20dBm

DUT: Dipole 835 MHz

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

Medium: Head 835 MHz, (σ = 0.886 mho/m, ε_r = 42.25, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(6.9, 6.9, 6.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

835MHz/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 34.4 V/m
Power Drift = -0.009 dB
Maximum value of SAR = 1.02 mW/g

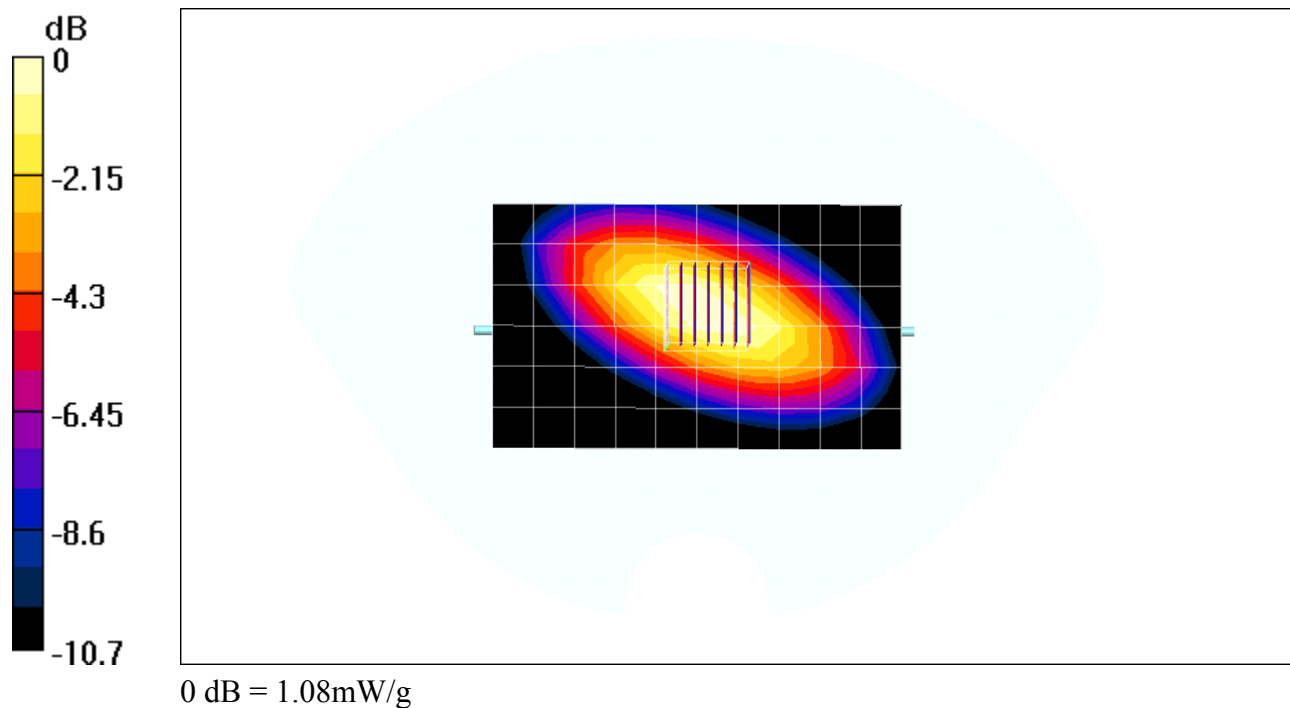**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.655 mW/g
Reference Value = 34.4 V/m
Power Drift = -0.009 dB
Maximum value of SAR = 1.08 mW/g

0 dB = 1.08mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 835MHz Validation for FCC(Muscle), Probe 1618, DAE 527, Dipole #453, @20dBm 11-18-03.da4

835MHz Validation, Probe 1618, DAE 527, Dipole #453, @20dBm

DUT: Dipole 835 MHz

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

Medium: Head 835 MHz, (σ = 0.872 mho/m, ε_r = 41, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(6.9, 6.9, 6.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

835MHz/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 34.8 V/m
Power Drift = -0.07 dB
Maximum value of SAR = 0.951 mW/g

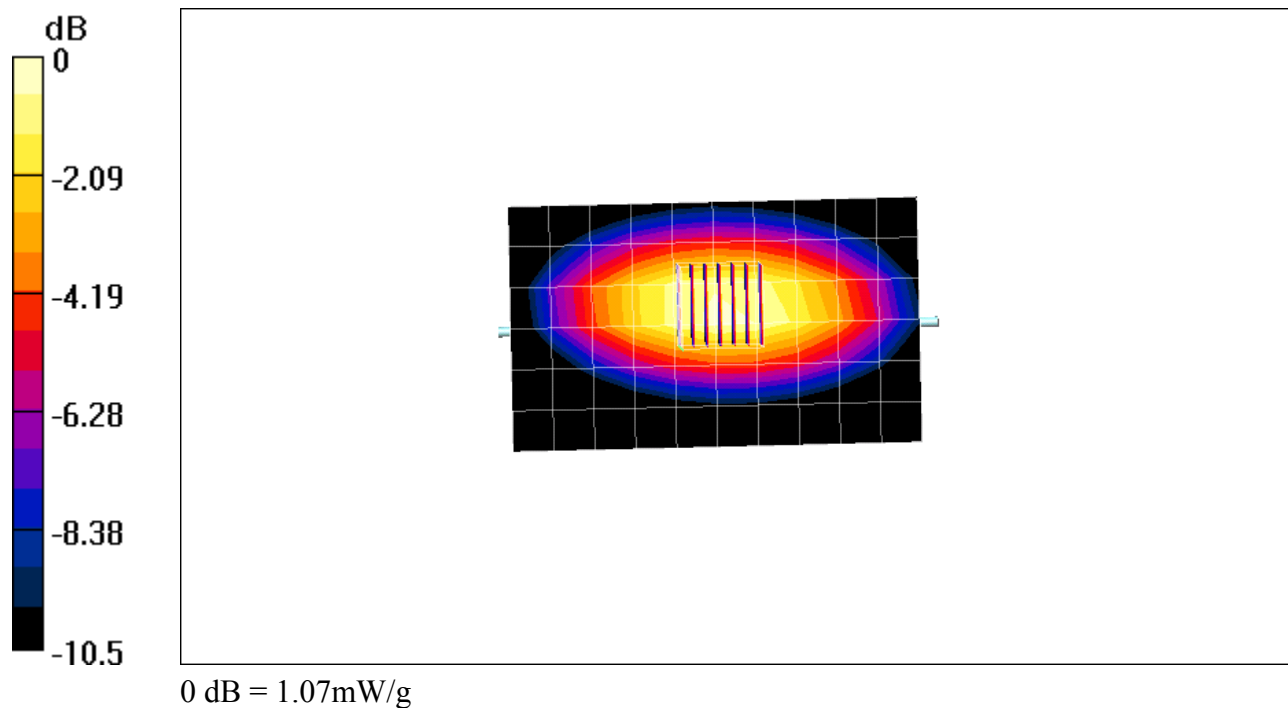**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.652 mW/g
Reference Value = 34.8 V/m
Power Drift = -0.07 dB
Maximum value of SAR = 1.07 mW/g

0 dB = 1.07mW/g

Test Laboratory: Kyocera Wireless Corporation
File Name: 835MHz Validation for FCC(Muscle), Probe 1618, DAE 527, Dipole #453, @20dBm 11-19-03.da4

835MHz Validation for, Probe 1618, DAE 527, Dipole #453, @20dBm

DUT: Dipole 835 MHz

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

Medium: Head 835 MHz, ($\sigma = 0.903$ mho/m, $\varepsilon_r = 42.25$, $\rho = 1000$ kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(6.9, 6.9, 6.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

835MHz/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 35.4 V/m
Power Drift = 0.008 dB
Maximum value of SAR = 1.07 mW/g

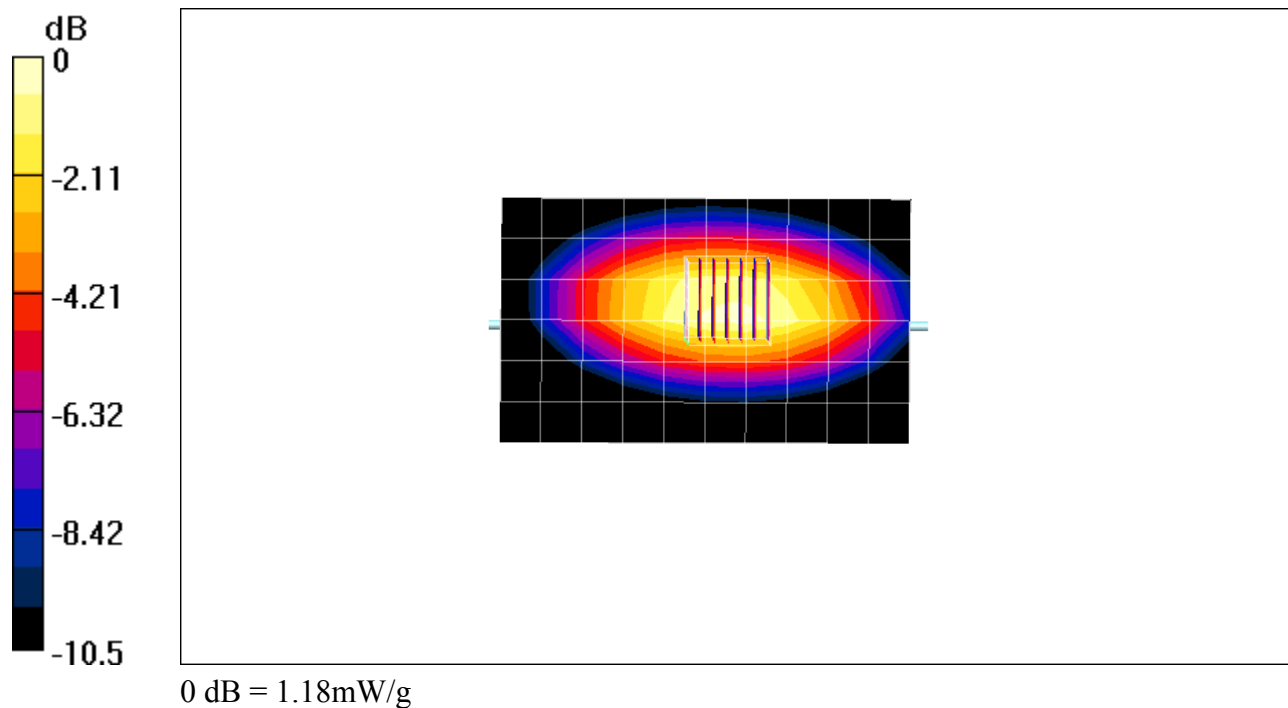**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
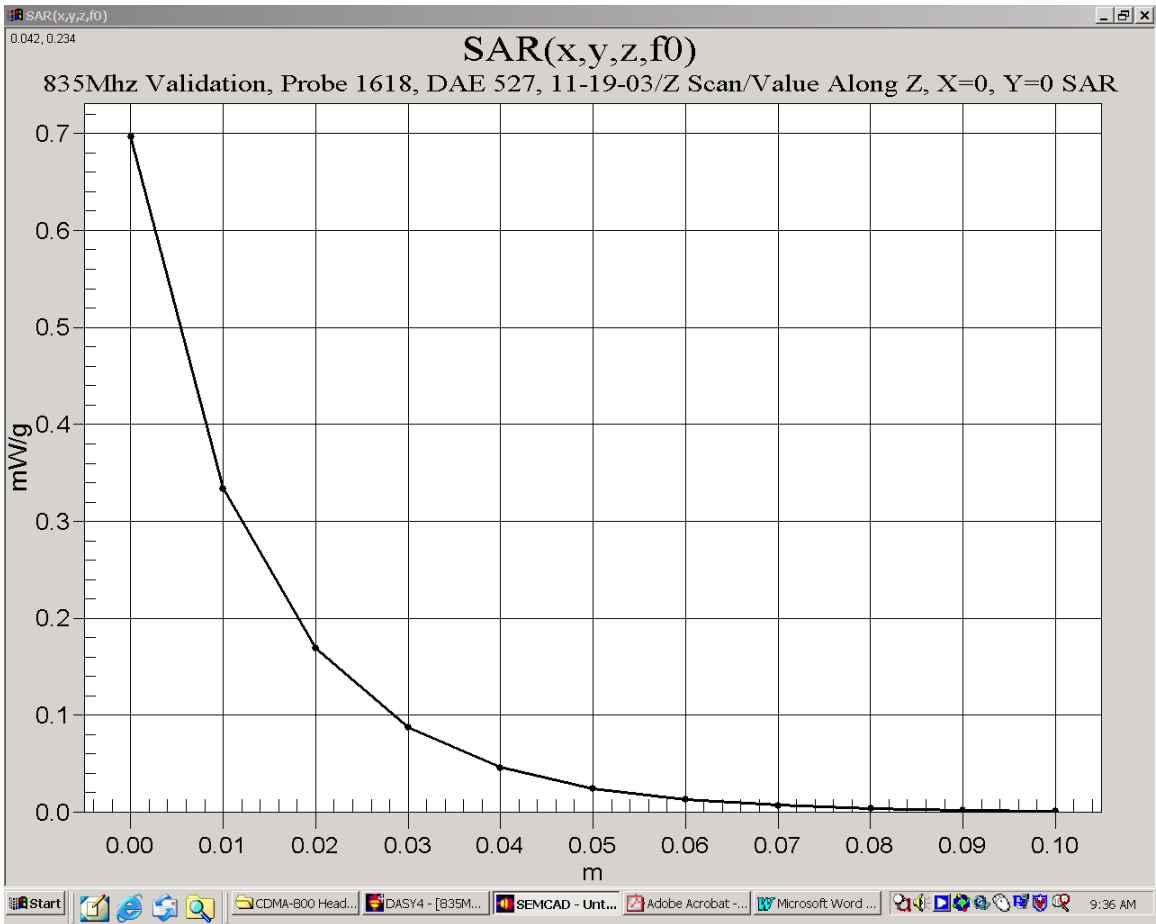Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.714 mW/g
Reference Value = 35.4 V/m
Power Drift = 0.008 dB
Maximum value of SAR = 1.18 mW/g

dB
0
-2.11
-4.21
-6.32
-8.42
-10.5

0 dB = 1.18mW/g

SAR(x,y,z,f0)

0.042, 0.234

SAR(x,y,z,f0)

835Mhz Validation, Probe 1618, DAE 527, 11-19-03/Z Scan/Value Along Z, X=0, Y=0 SAR

Test Laboratory: Kyocera Wireless Corporation
File Name: 835MHz Validation for FCC(Muscle), Probe 1618, DAE 527, Dipole #453, @20dBm 11-20-03.da4

835MHz Validation, Probe 1618, DAE 527, Dipole #453, @20dBm

DUT: Dipole 835 MHz

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

Medium: Head 835 MHz, (σ = 0.891 mho/m, ε_r = 42.12, ρ = 1000 kg/m^3)

Phantom: SAM 12,Phantom section: Flat Section

DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(6.9, 6.9, 6.9), Calibrated: 10/10/2003
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),
Electronics: DAE3 Sn527,Calibrated: DAE not calibrated
Measurement SW: DASY4, V4.1 Build 47
Postprocessing SW: SEMCAD, V1.6 Build 115

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

835MHz/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 36.2 V/m
Power Drift = -0.2 dB
Maximum value of SAR = 1.07 mW/g

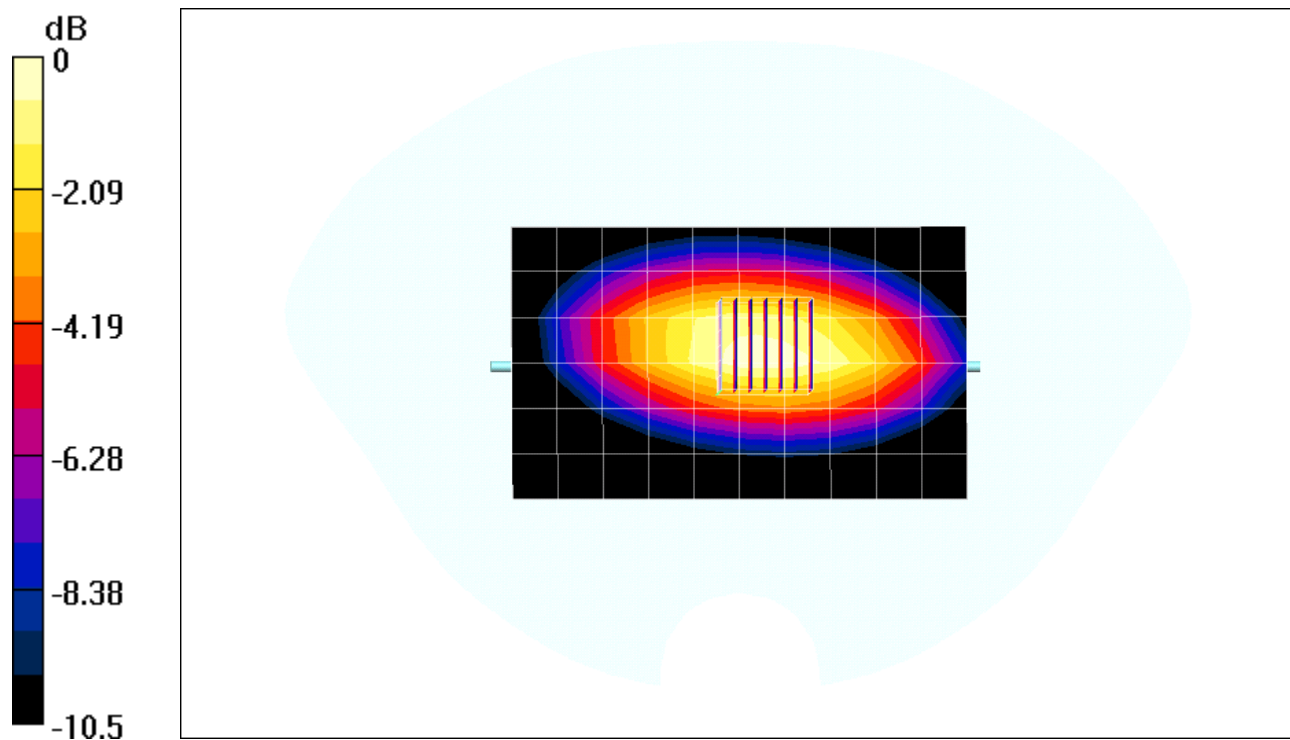**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.692 mW/g
Reference Value = 36.2 V/m
Power Drift = -0.2 dB
Maximum value of SAR = 1.14 mW/g

0 dB = 1.14mW/g