

**Appendix B-2  
K490 Family - PCS Color Energi**

**For**

**FCC ID: OVFKWC-K493**

# **Section 1**

## **CDMA 1900**

Date/Time: 06/13/04 10:28:30

Test Laboratory: Kyocera

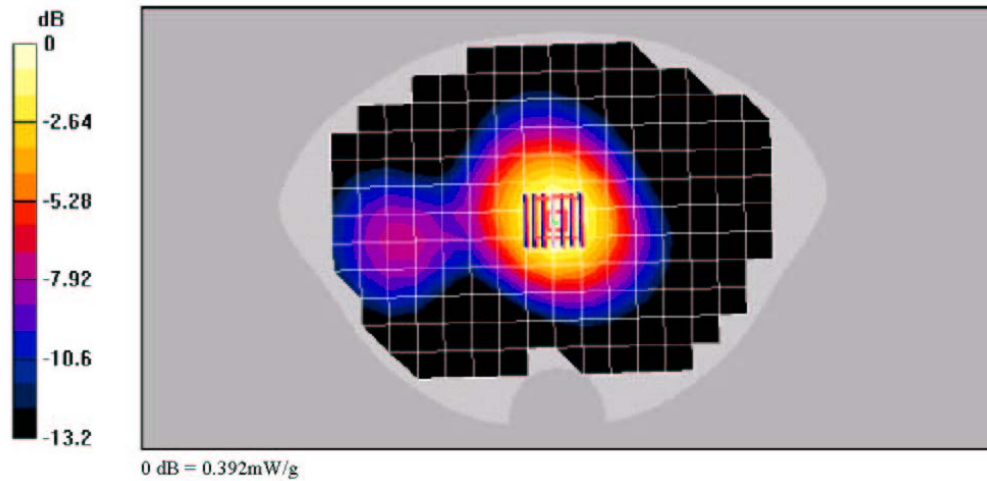
**K493LC #B79L, CDMA-1900 FLAT with 22.5mm Air Space and Backpack Clip Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
 Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.57$  mho/m,  $\epsilon_r = 53.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $\Delta x=5$ mm,  $\Delta y=5$ mm,  $\Delta z=5$ mm  
 Reference Value = 16.5 V/m, Power Drift = -0.0 dB  
 Maximum value of SAR (measured) = 0.392 mW/g  
 Peak SAR (extrapolated) = 0.578 W/kg  
**SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.234 mW/g**



Date/Time: 06/12/04 14:22:53

Test Laboratory: Kyocera

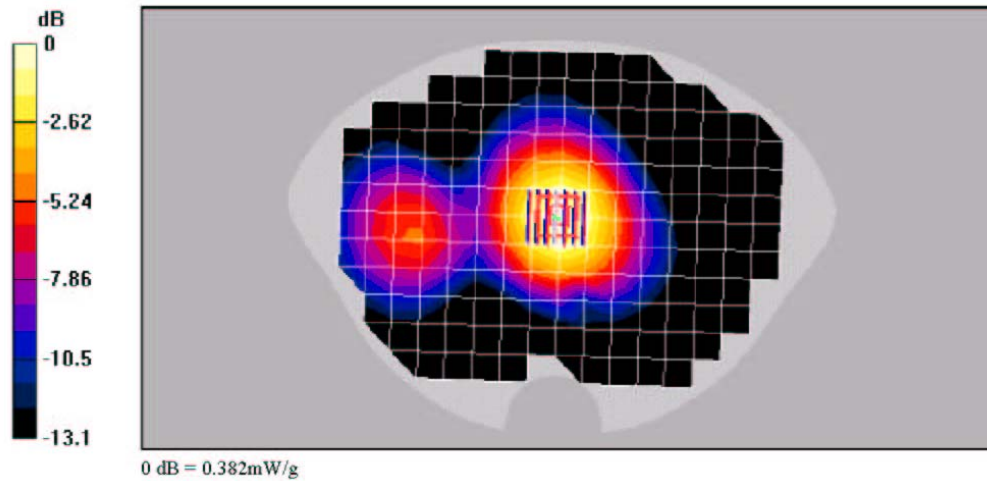
**K493LC #B79L, CDMA-1900 FLAT with 22.5mm Air Space Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
 Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.56$  mho/m,  $\epsilon_r = 53.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $\Delta x=5$ mm,  $\Delta y=5$ mm,  $\Delta z=5$ mm  
 Reference Value = 15.8 V/m, Power Drift = 0.1 dB  
 Maximum value of SAR (measured) = 0.382 mW/g  
 Peak SAR (extrapolated) = 0.568 W/kg  
 SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.226 mW/g



Date/Time: 06/13/04 11:27:36

Test Laboratory: Kyocera

**K493LC #B79L, CDMA-1900 FLAT with Belt Clip and Backpack Clip Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.57$  mho/m,  $\epsilon_r = 53.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**

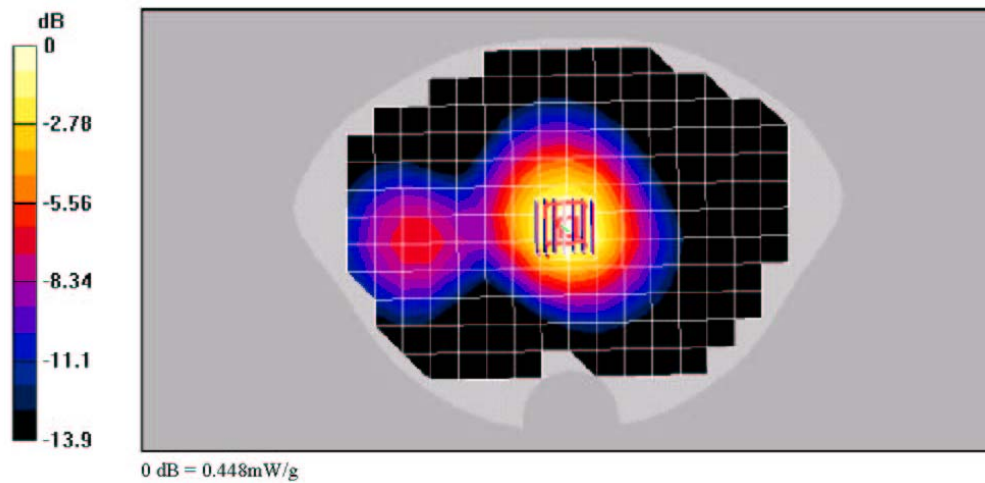
Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
Measurement SW: DASY4, V4.2 Build 44  
Postprocessing SW: SEMCAD, V1.8 Build 112

**Temperature:**

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0; Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 18 V/m, Power DnB = 0.0 dB  
Maximum value of SAR (measured) = 0.448 mW/g  
Peak SAR (extrapolated) = 0.671 W/kg  
SAR(1 g) = 0.416 mW/g; SAR(10 g) = 0.259 mW/g



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Date/Time: 06/12/04 15:38:58

Test Laboratory: Kyocera

**K493LC #B79L, CDMA-1900 FLAT with Belt Clip Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.56$  mho/m,  $\epsilon_r = 53.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**

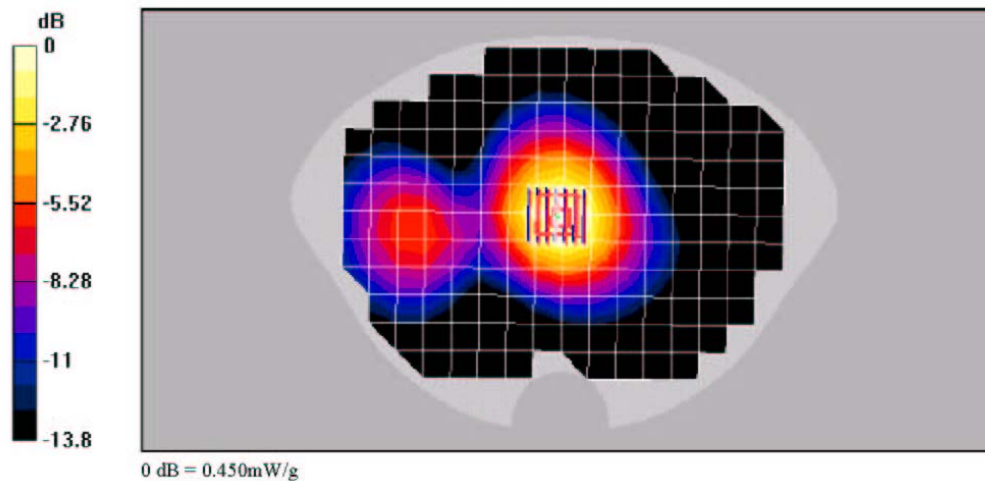
Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
Measurement SW: DASY4, V4.2 Build 44  
Postprocessing SW: SEMCAD, V1.8 Build 112

**Temperature:**

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 17.9 V/m, Power Drift = -0.0 dB  
Maximum value of SAR (measured) = 0.450 mW/g  
Peak SAR (extrapolated) = 0.678 W/kg  
SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.264 mW/g



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Date/Time: 06/13/04 12:04:33

Test Laboratory: Kyocera

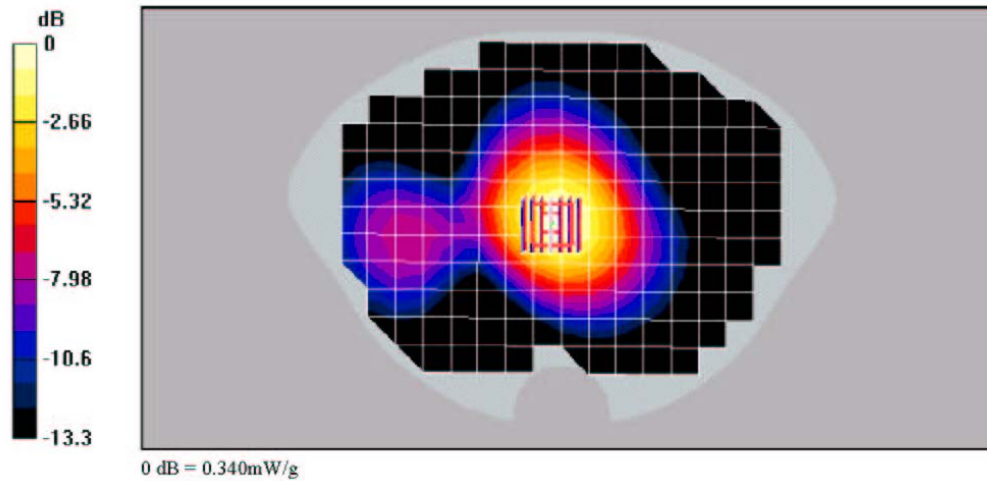
**K493LC #B79L, CDMA-1900 FLAT with Leather Case and Backpack Clip Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
 Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.57$  mho/m,  $\epsilon_r = 53.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $\Delta x=5$ mm,  $\Delta y=5$ mm,  $\Delta z=5$ mm  
 Reference Value = 15.7 V/m, Power Drift = -0.2 dB  
 Maximum value of SAR (measured) = 0.340 mW/g  
 Peak SAR (extrapolated) = 0.510 W/kg  
**SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.201 mW/g**



Date/Time: 06/12/04 15:00:56

Test Laboratory: Kyocera

**K493LC #B79L, CDMA-1900 FLAT with Leather Case Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.56$  mho/m,  $\epsilon_r = 53.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**

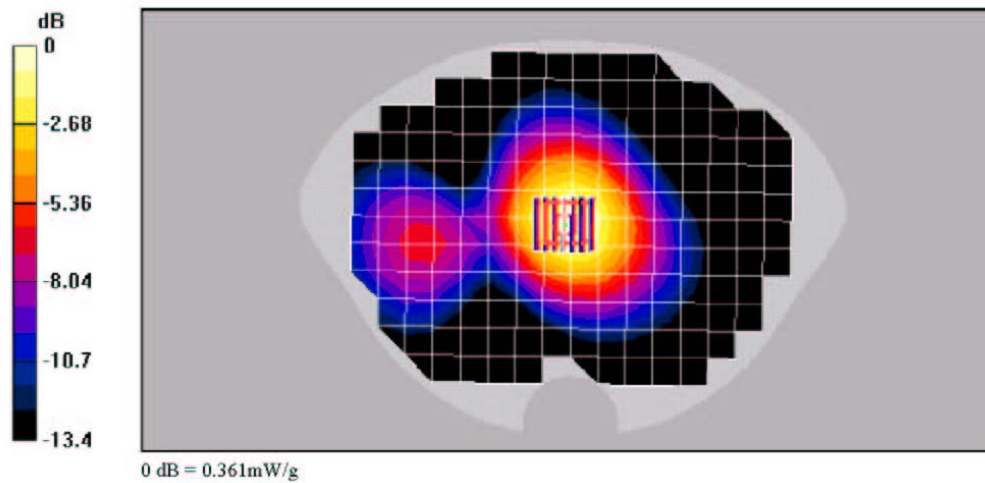
Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
Measurement SW: DASY4, V4.2 Build 44  
Postprocessing SW: SEMCAD, V1.8 Build 112

**Temperature:**

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

**CDMA-1900 Ch600/Zoom Scan (7x7x7)/Cube 0; Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.8 V/m, Power Drift = -0.2 dB  
Maximum value of SAR (measured) = 0.361 mW/g  
Peak SAR (extrapolated) = 0.545 W/kg  
SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.207 mW/g



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Date/Time: 06/12/04 15:38:58

Test Laboratory: Kyocera

**K493LC #B79L, CDMA-1900 FLAT Z-Scan with Belt Clip Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
Medium: M1800, Medium parameters used:  $f = 1880$  MHz,  $\sigma = 1.56$  mho/m,  $\epsilon_r = 53.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom: SAM 12, Phantom section: Flat Section

**DASY4 Configuration:**

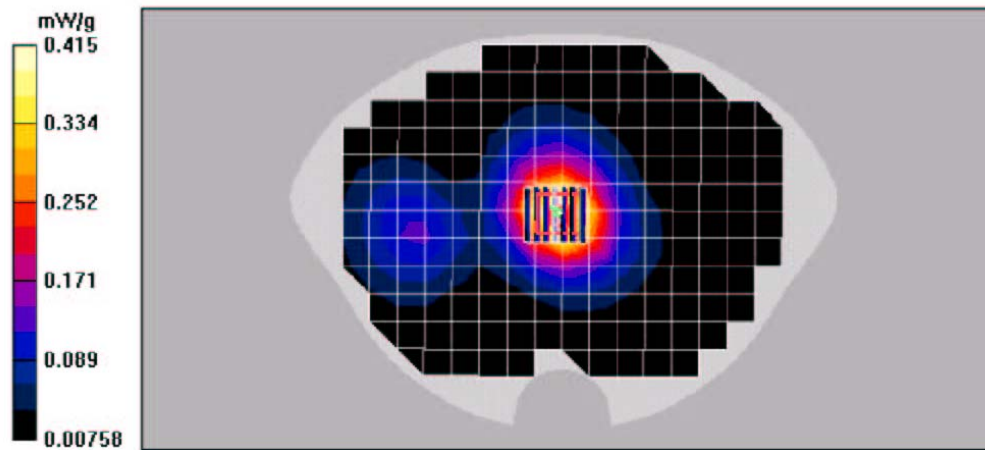
Probe: ET3DV6 - SN1712, ConvF(5, 5, 5), Calibrated: Probe not calibrated  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)  
Sensor-Surface: 0mm (Fix Surface)  
Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
Measurement SW: DASY4, V4.2 Build 44  
Postprocessing SW: SEMCAD, V1.8 Build 112

**Temperature:**

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

**CDMA-1900 Ch25 600/Z Scan (1x1x11):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Reference Value = 17.9 V/m, Power Drift = -0.0 dB  
Maximum value of SAR (measured) = 0.422 mW/g



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Date/Time: 06/02/04 09:17:01

Test Laboratory: Kyocera

**K493LC ENERGI #B79L CDMA-1900 Left Cheek Ch1175**

Communication System: CDMA 1900, Frequency: 1909 MHz, Duty Cycle: 1:1  
Medium: Head 1900 MHz, Medium parameters used (interpolated):  $f = 1909$  MHz,  $\sigma = 1.41$  mho/m,  $\epsilon_r = 39.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom: SAM 12, Phantom section: Left Section

**DASY4 Configuration:**

Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003  
Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
Measurement SW: DASY4, V4.2 Build 44  
Postprocessing SW: SEMCAD, V1.8 Build 112

**Temperature:**

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

**1175 LC/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

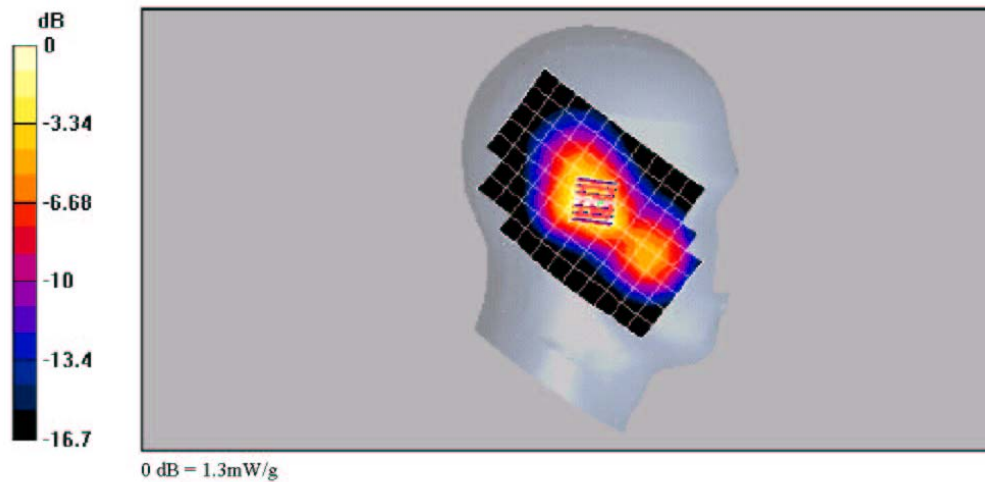
Reference Value = 28.7 V/m, Power Drift = -0.2 dB

Maximum value of SAR (measured) = 1.3 mW/g

Peak SAR (extrapolated) = 1.8 W/kg

**SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.671 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!



Date/Time: 06/02/04 09:16:54

Test Laboratory: Kyocera

**K493LC ENERGI #B79L, CDMA-1900 Left Cheek with Backpack Clip Ch1175**

Communication System: CDMA 1900, Frequency: 1909 MHz, Duty Cycle: 1:1  
 Medium: Head 1900 MHz, Medium parameters used (interpolated):  $f = 1909$  MHz,  $\sigma = 1.41$  mho/m,  $\epsilon_r = 39.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom: SAM 12, Phantom section: Left Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)  
 Sensor-Surface: 0mm (Fix Surface)  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

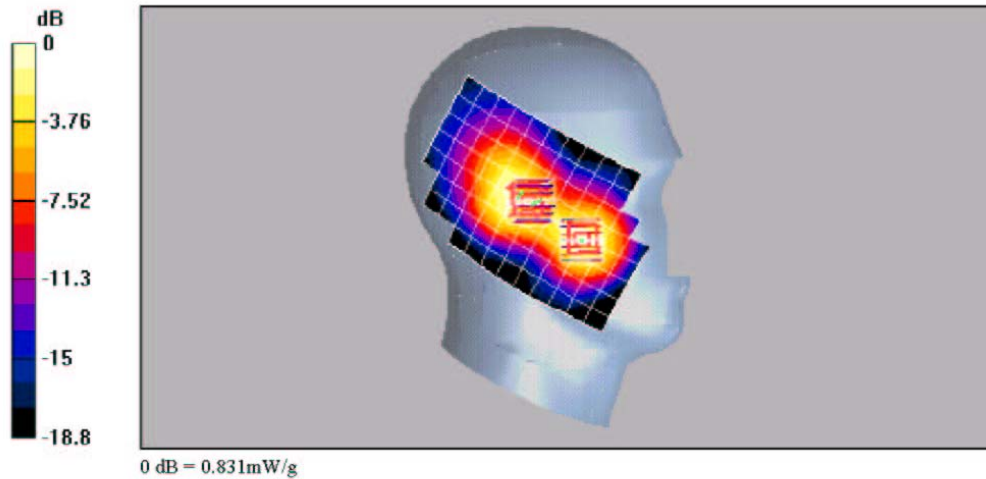
**Temperature:**  
 Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**1175 LC/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 26.1 V/m, Power Drift = -0.1 dB  
 Maximum value of SAR (measured) = 0.934 mW/g  
 Peak SAR (extrapolated) = 1.3 W/kg  
**SAR(1 g) = 0.850 mW/g; SAR(10 g) = 0.520 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!

**1175 LC/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 26.1 V/m, Power Drift = -0.1 dB  
 Maximum value of SAR (measured) = 0.831 mW/g  
 Peak SAR (extrapolated) = 1.04 W/kg  
**SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.500 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!



Date/Time: 06/02/04 09:17:01

Test Laboratory: Kyocera

**K493LC ENERGI #B79L CDMA-1900 Left Tilt Ch1175**

Communication System: CDMA 1900, Frequency: 1909 MHz, Duty Cycle: 1:1  
 Medium: Head 1900 MHz, Medium parameters used (interpolated):  $f = 1909$  MHz,  $\sigma = 1.41$  mho/m,  $\epsilon_r = 39.5$ ,  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom: SAM 12, Phantom section: Left Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

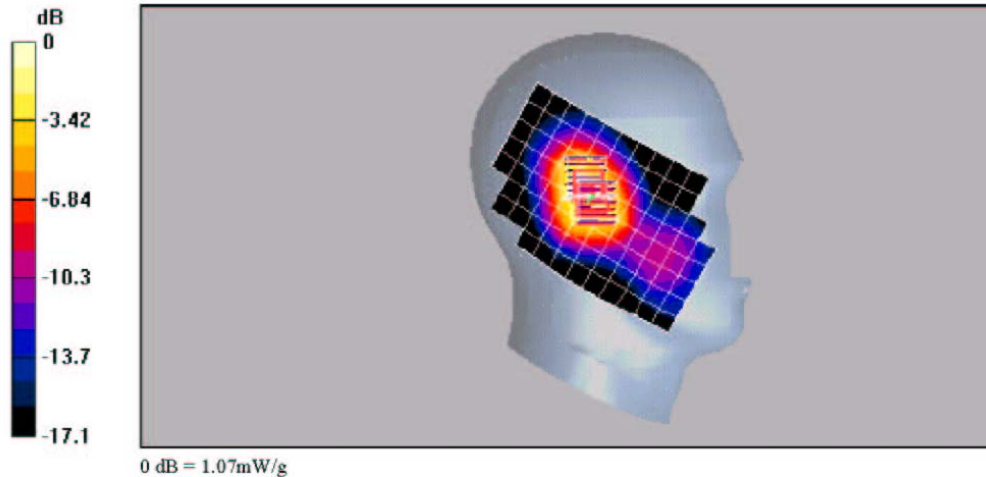
**Temperature:**  
 Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

**1175 LT/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 29 V/m, Power DnB = 0.0 dB  
 Maximum value of SAR (measured) = 1.09 mW/g  
 Peak SAR (extrapolated) = 1.52 W/kg  
**SAR(1 g) = 1 mW/g; SAR(10 g) = 0.632 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!

**1175 LT/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 29 V/m, Power DnB = 0.0 dB  
 Maximum value of SAR (measured) = 1.07 mW/g  
 Peak SAR (extrapolated) = 1.51 W/kg  
**SAR(1 g) = 0.972 mW/g; SAR(10 g) = 0.566 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!



Date/Time: 06/01/04 09:17:07

Test Laboratory: Kyocera

**K493LC ENERGI #B79L, CDMA-1900 Right Cheek Ch1175**

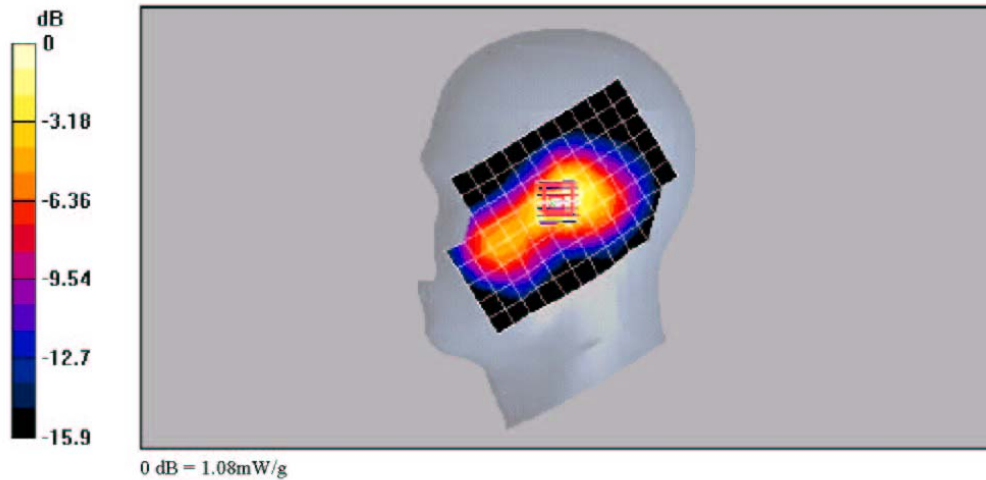
Communication System: CDMA 1900, Frequency: 1909 MHz, Duty Cycle: 1:1  
 Medium: Head 1900 MHz, Medium parameters used (interpolated):  $f = 1909 \text{ MHz}$ ,  $\sigma = 1.41 \text{ mho/m}$ ,  $\epsilon_r = 39.9$ ,  $\rho = 1000 \text{ kg/m}^3$   
 Phantom: SAM 12, Phantom section: Right Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

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

**1175 RC/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 25.8 V/m, Power Drift = 0.0 dB  
 Maximum value of SAR (measured) = 1.08 mW/g  
 Peak SAR (extrapolated) = 1.52 W/kg  
**SAR(1 g) = 0.979 mW/g; SAR(10 g) = 0.576 mW/g**

Info: Interpolated medium parameters used for SAR evaluation!



Date/Time: 06/01/04 09:17:07

Test Laboratory: Kyocera

**K493LC ENERGI #B79L, CDMA-1900 Right Tilt Ch600**

Communication System: CDMA 1900, Frequency: 1880 MHz, Duty Cycle: 1:1  
 Medium: Head 1900 MHz, Medium parameters used:  $f = 1880 \text{ MHz}$ ,  $\sigma = 1.41 \text{ mho/m}$ ,  $\epsilon_r = 39.9$ ,  $\rho = 1000 \text{ kg/m}^3$   
 Phantom: SAM 12, Phantom section: Right Section

**DASY4 Configuration:**  
 Probe: ET3DV6 - SN1712, ConvF(5.3, 5.3, 5.3), Calibrated: 9/19/2003  
 Sensor-Surface: 4mm (Mechanical And Optical Surface Detection),  
 Electronics: DAE3 Sn530, Calibrated: 12/22/2003  
 Measurement SW: DASY4, V4.2 Build 44  
 Postprocessing SW: SEMCAD, V1.8 Build 112

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

**600 RT/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 27.7 V/m, Power Drift = -0.0 dB  
 Maximum value of SAR (measured) = 1.09 mW/g  
 Peak SAR (extrapolated) = 1.53 W/kg  
**SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.591 mW/g**

