

RTS RIM Testing Services	Document Appendices for the BlackBerry 7130e Wireless Handheld Model RAV20CW SAR Report		Page 1(21)
Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01	FCC ID: L6ARAV20CW

APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

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		FCC ID: L6ARAV20CW

Date/Time: 20/06/2005 11:44:38 AMDate/Time: 20/06/2005 11:37:17 AM

Lab: RIM Testing Services (RTS)

Validation 835 MHz_Liquid_Temp_22.5_celsius_Ambient_Temp_24.1_celsius

DUT: Dipole 835 MHz; Type: D835V2

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

Medium: 835 MHz Head Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 43.5$; $\rho = 1000$

kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 110.5 V/m; Power Drift = 0.01 dB

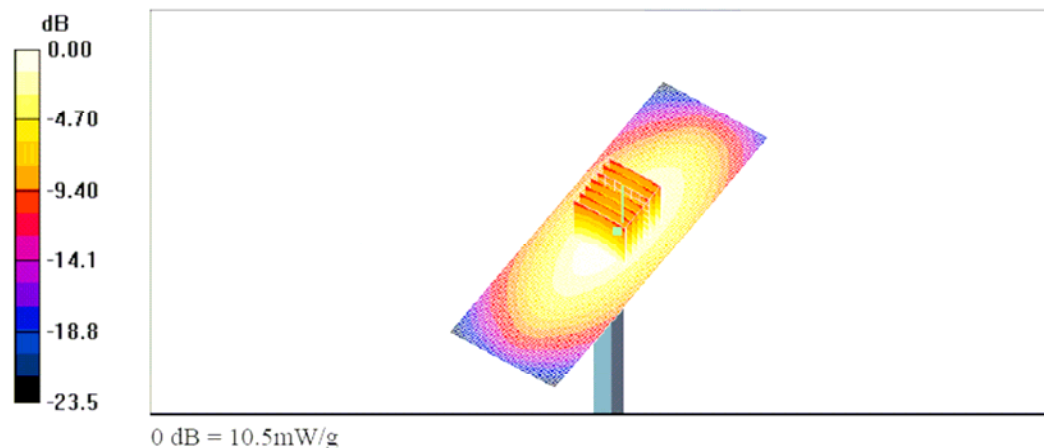
Peak SAR (extrapolated) = 14.5 W/kg

SAR(1 g) = 9.73 mW/g; SAR(10 g) = 6.33 mW/g

Maximum value of SAR (measured) = 10.5 mW/g

Unnamed procedure/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 10.5 mW/g



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Date/Time: 28/06/2005 8:32:44 AM Date/Time: 28/06/2005 8:25:21 AM

Lab: RIM Testing Services (RTS)

Validation 835 MHz_Liquid
Temp_22.3_Celsius_Ambient_Temp_22.2_celsius_06_28_05

DUT: Dipole 835 MHz; Type: D835V2

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 43$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.4 V/m; Power Drift = -0.022 dB

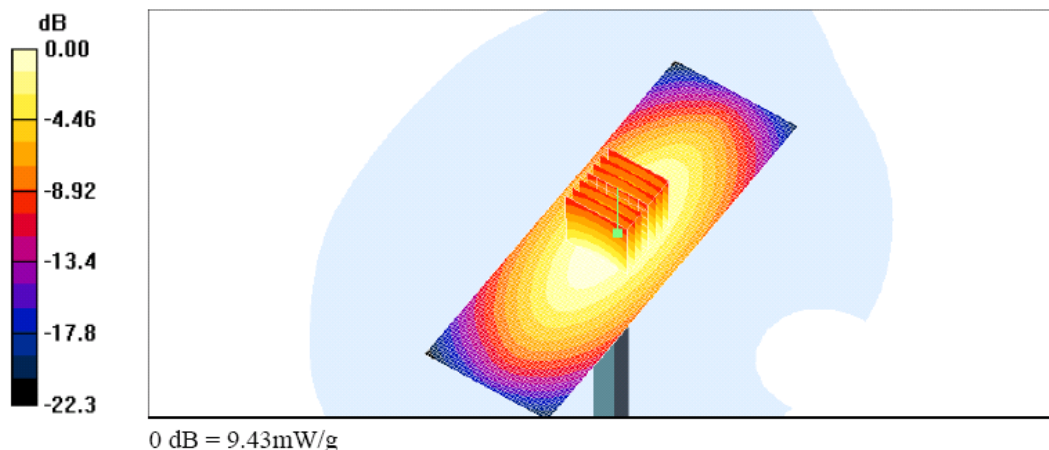
Peak SAR (extrapolated) = 12.4 W/kg

SAR(1 g) = 8.77 mW/g; SAR(10 g) = 5.79 mW/g

Maximum value of SAR (measured) = 9.50 mW/g

Unnamed procedure/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 9.43 mW/g



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Date/Time: 16/08/2005 11:22:55 AM Date/Time: 16/08/2005 11:16:06 AM

Lab: RIM Testing Services (RTS)

835MHz_Validation_Ambient_Temp_24_6_C_Liquid_Temp_22_7_C_08-16-2005

DUT: Dipole 835 MHz; Type: D835V2

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 42.1$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM I; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Dipole Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 112.6 V/m; Power Drift = 0.01 dB

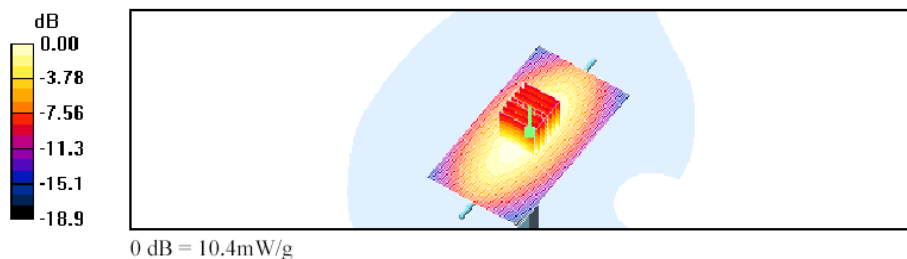
Peak SAR (extrapolated) = 14.5 W/kg

SAR(1 g) = 9.64 mW/g; SAR(10 g) = 6.26 mW/g

Maximum value of SAR (measured) = 10.5 mW/g

Dipole Validation/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.4 mW/g



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Date/Time: 21/06/2005 11:43:34 AM Date/Time: 21/06/2005 11:39:42 AM

Test Laboratory: RTS

Validation 1900 MHz; Liquid Temp. 22.2 Deg. Cel.; Ambient Temp. 24.8 Deg. Cel.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:545

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

Medium: HSL1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$

kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 190.4 V/m; Power Drift = -0.113 dB

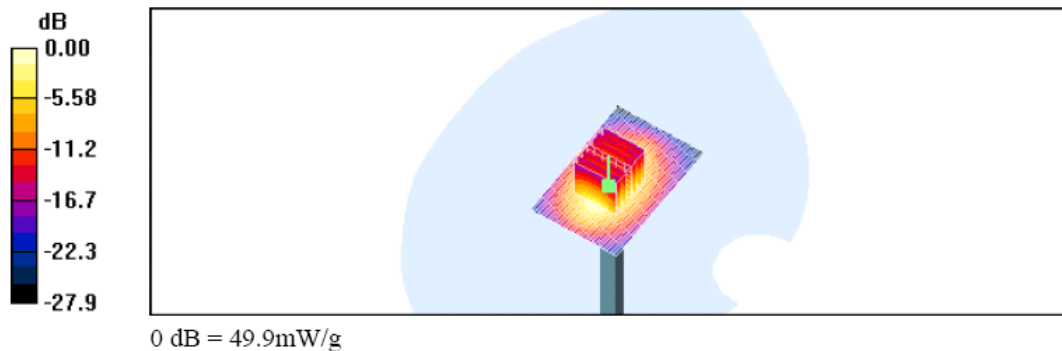
Peak SAR (extrapolated) = 73.9 W/kg

SAR(1 g) = 41 mW/g; SAR(10 g) = 21.2 mW/g

Maximum value of SAR (measured) = 46.4 mW/g

Unnamed procedure/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 49.9 mW/g



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Date/Time: 30/06/2005 10:02:53 AM Date/Time: 30/06/2005 9:58:57 AM

Test Laboratory: RTS

Validation_1900 MHz_Liquid_Temp_23_0_Celsius_Ambient_Temp_24_5_Celsius

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:545

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

Medium: HSL1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$

kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 191.3 V/m; Power Drift = 0.029 dB

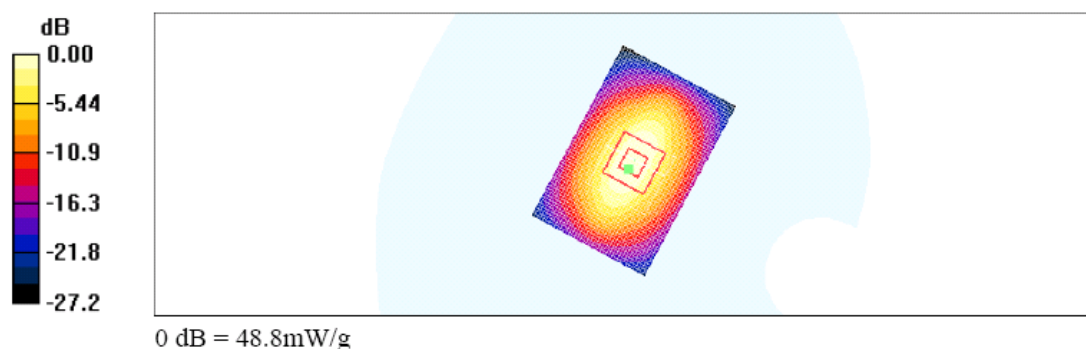
Peak SAR (extrapolated) = 76.5 W/kg

SAR(1 g) = 42.6 mW/g; SAR(10 g) = 22.1 mW/g

Maximum value of SAR (measured) = 48.2 mW/g

Unnamed procedure/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 48.8 mW/g



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Date/Time: 04/07/2005 9:09:43 AM Date/Time: 04/07/2005 9:05:43 AM

Lab: RIM Testing Services (RTS)

Validation_1900 MHz_Liquid_Temp_22_9_Celsuis_Ambient_Temp_24_2_Celsius

DUT: Dipole 1900 MHz; Type: D1900V2

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

Medium: HSL1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$

kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005

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

- Electronics: DAE3 Sn472; Calibrated: 03/01/2005

- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076

- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 190.3 V/m; Power Drift = 0.049 dB

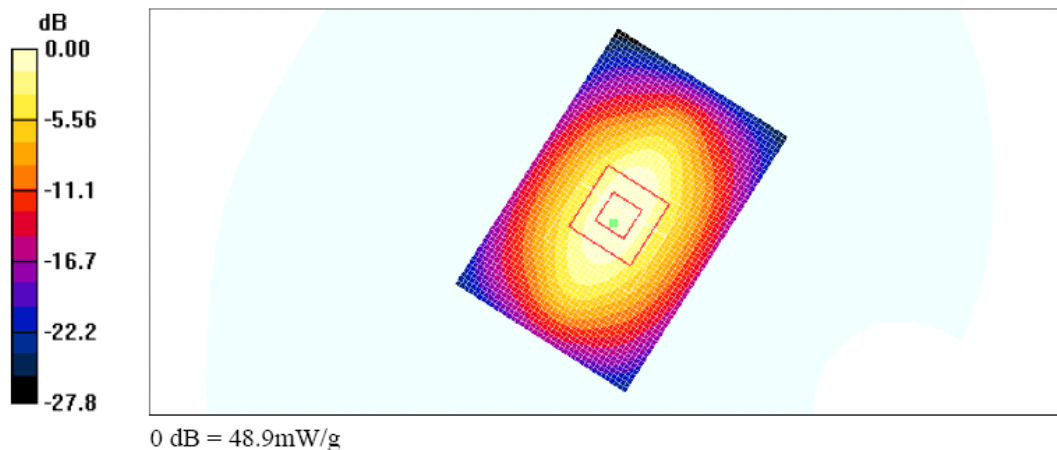
Peak SAR (extrapolated) = 76.2 W/kg

SAR(1 g) = 42.3 mW/g; SAR(10 g) = 21.9 mW/g

Maximum value of SAR (measured) = 48.1 mW/g

Unnamed procedure/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 48.9 mW/g



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Date/Time: 25/08/2005 9:48:50 AM Date/Time: 25/08/2005 9:44:54 AM

Lab: RIM Testing Services (RTS)

1900MHz_Validation_Ambient_Temp_23_5_C_Liquid_Temp_22_2_C_08-25-2005

DUT: Dipole 1900 MHz; Type: D1900V2

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$
kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM I; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Dipole Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 195.3 V/m; Power Drift = -0.022 dB

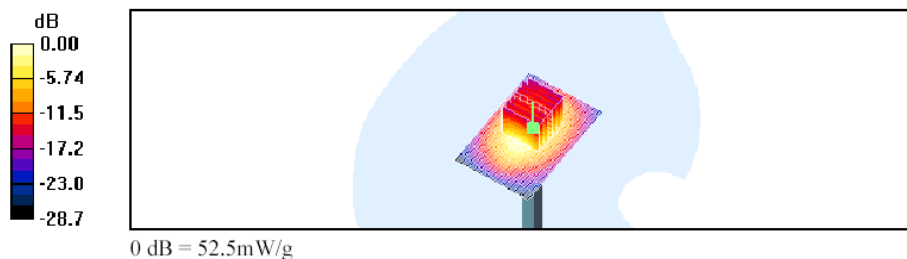
Peak SAR (extrapolated) = 77.4 W/kg

SAR(1 g) = 43.3 mW/g; SAR(10 g) = 22.4 mW/g

Maximum value of SAR (measured) = 48.8 mW/g

Dipole Validation/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 52.5 mW/g



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APPENDIX B: SAR DISTRIBUTION PLOTS FOR HEAD CONFIGURATION

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Date/Time: 20/06/2005 2:55:51 PM Date/Time: 20/06/2005 3:03:33 PM

Test Laboratory: RTS

Right_Side_Touch_CDMA800_Mid_Chan_Ambient_Temp_25_6_celsius_

Liquid_Temp_22_5_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 800; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 MHz Head Medium parameters used: $f = 836.52$ MHz; $s = 0.91$ mho/m; $\epsilon_r = 43.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.13 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

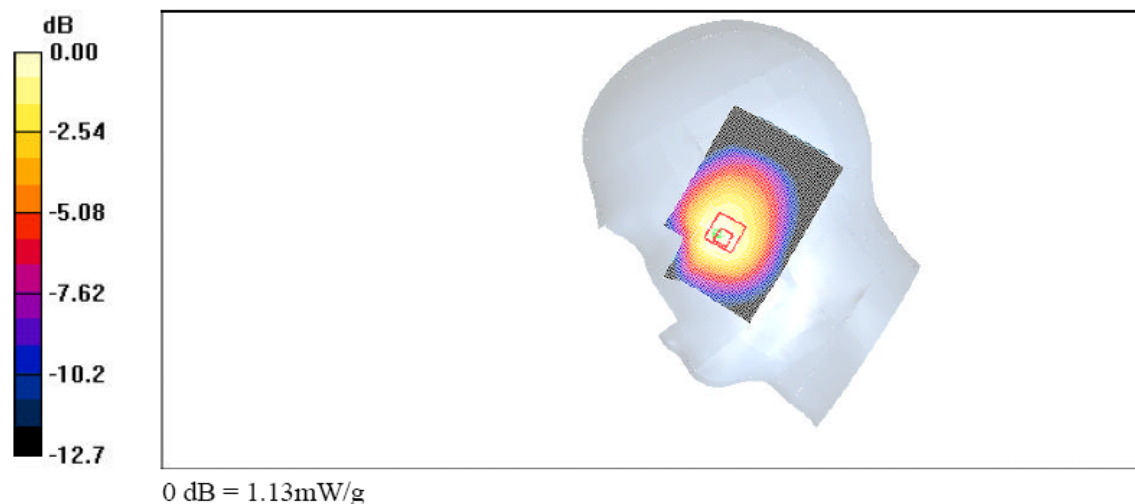
dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.9 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.749 mW/g

Maximum value of SAR (measured) = 1.13 mW/g



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Date/Time: 20/06/2005 4:13:54 PM Date/Time: 20/06/2005 4:07:20 PM

Test Laboratory: RTS

Right_Side_Tilt_CDMA800_Mid_Chan_Ambient_Temp_25_8_celsius_

Liquid_Temp_22_7_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 800; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head Medium parameters used: $f = 836.52 \text{ MHz}$; $s = 0.91 \text{ mho/m}$; $\epsilon_r = 43.5$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM I; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.6 V/m; Power Drift = 0.077 dB

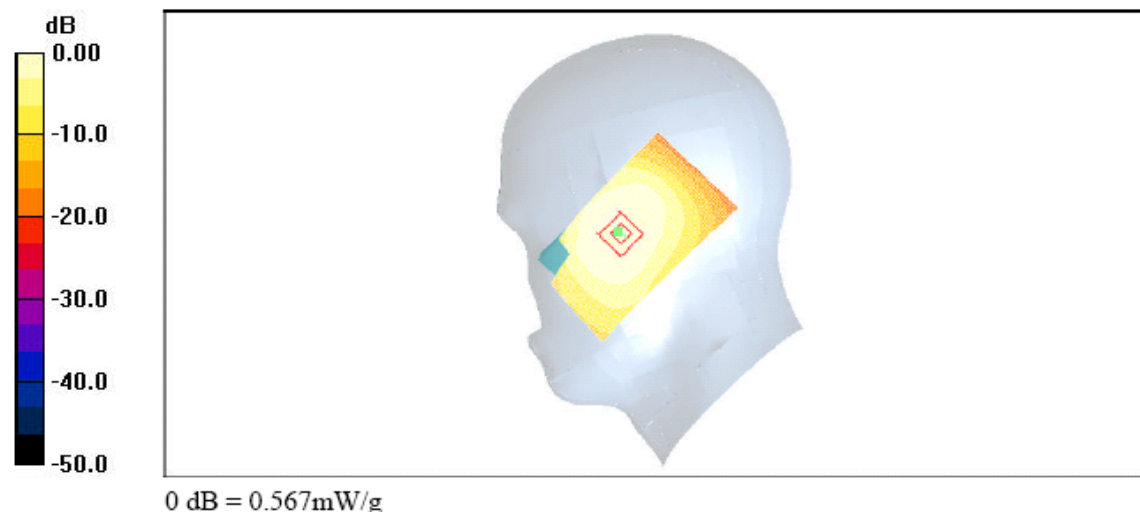
Peak SAR (extrapolated) = 0.652 W/kg

SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.397 mW/g

Maximum value of SAR (measured) = 0.561 mW/g

Tilt position - Middle/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.567 mW/g



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Date/Time: 20/06/2005 6:37:49 PM Date/Time: 20/06/2005 6:29:27 PM

Test Laboratory: RTS

Left_Side_Touch_CDMA800_Mid_Chan_Ambient_Temp_25_7_celsius_

Liquid_Temp_22_6_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 800; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head Medium parameters used: $f = 836.52 \text{ MHz}$; $s = 0.91 \text{ mho/m}$; $\epsilon_r = 43.5$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

$dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.4 V/m; Power Drift = 0.120 dB

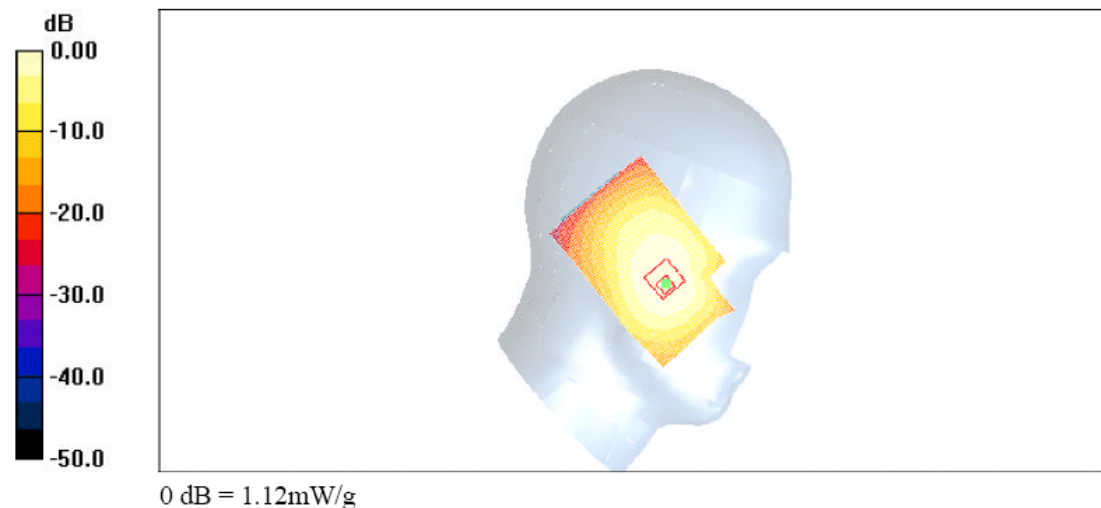
Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.730 mW/g

Maximum value of SAR (measured) = 1.13 mW/g

Touch position - Middle/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.12 mW/g



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Date/Time: 20/06/2005 7:45:56 PM Date/Time: 20/06/2005 7:37:41 PM

Test Laboratory: RTS

Left_Side_Tilt_CDMA800_Mid_Chann_Ambient_Temp_25_8_celsius_

Liquid_Temp_22_8_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 800; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head Medium parameters used: $f = 836.52 \text{ MHz}$; $s = 0.91 \text{ mho/m}$; $\epsilon_r = 43.5$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.52, 6.52, 6.52); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.9 V/m; Power Drift = -0.00 dB

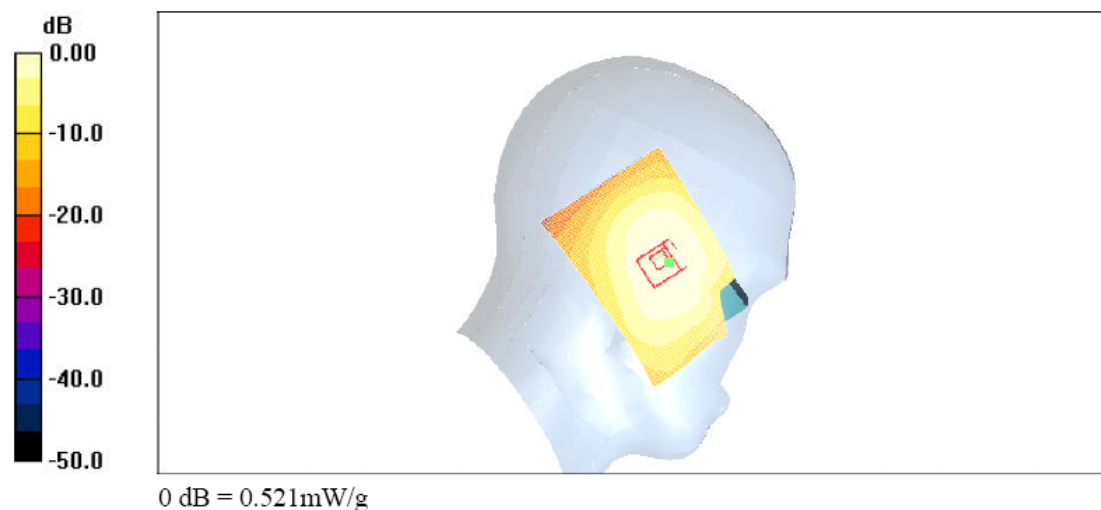
Peak SAR (extrapolated) = 0.593 W/kg

SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.351 mW/g

Maximum value of SAR (measured) = 0.509 mW/g

Tilt position - Middle/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.521 mW/g



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Date/Time: 21/06/2005 4:31:08 PM Date/Time: 21/06/2005 4:38:42 PM

Test Laboratory: RTS

Right_Side_Touch_CDMA1900_High_Chan_Ambient_Temp_25.0_celsius_

Liquid_Temp_22_5_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

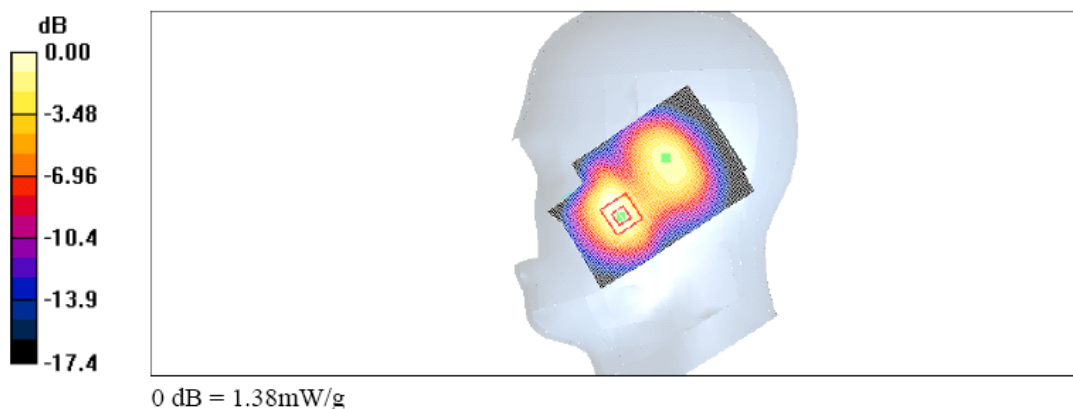
Communication System: CDMA 1900; Frequency: 1908.5 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: $f = 1908.5 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - High/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 1.38 mW/g

Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 22.6 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.725 mW/g
Maximum value of SAR (measured) = 1.38 mW/g



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Author Data	Dates of Test	Test Report No	FCC ID:
Lauren Weber	June 20 – July 04, 2005	RTS-0181-0507-02 rev. 01	L6ARAV20CW

Date/Time: 21/06/2005 3:49:01 PM Date/Time: 21/06/2005 3:56:36 PM

Test Laboratory: RTS

Right_Side_Tilt_CDMA1900_High_Chan_Ambient_Temp_24.8_celsius_

Liquid_Temp_22_6_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 1900; Frequency: 1908.5 MHz; Duty Cycle: 1:1

Medium: HSL1900 Medium parameters used: $f = 1908.5$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$

kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.857 mW/g

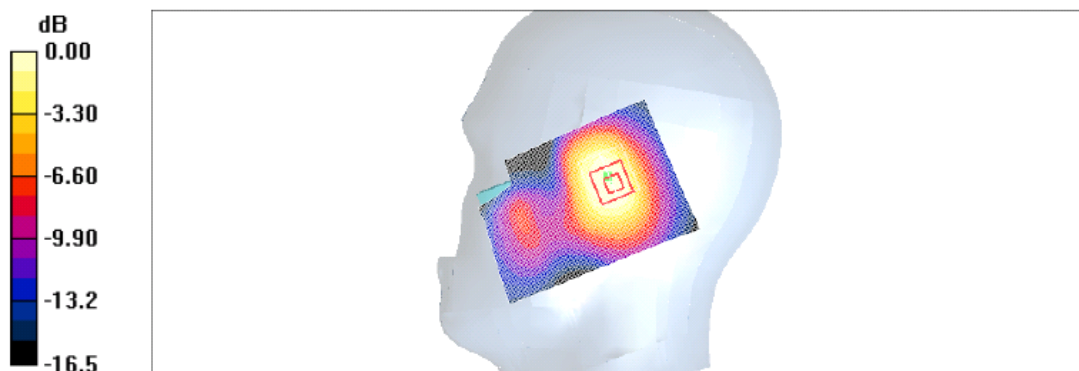
Tilt position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.4 V/m; Power Drift = 0.165 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.745 mW/g; SAR(10 g) = 0.479 mW/g

Maximum value of SAR (measured) = 0.801 mW/g



0 dB = 0.801mW/g

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Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01	FCC ID: L6ARAV20CW

Date/Time: 21/06/2005 5:56:35 PM Date/Time: 21/06/2005 5:48:56 PM

Test Laboratory: RTS

Left_Side_Touch_CDMA1900_Mid_Chant_Ambient_Temp_24_4_celsius_

Liquid_Temp_22_6_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL1900 Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000$

kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.3 V/m; Power Drift = 0.088 dB

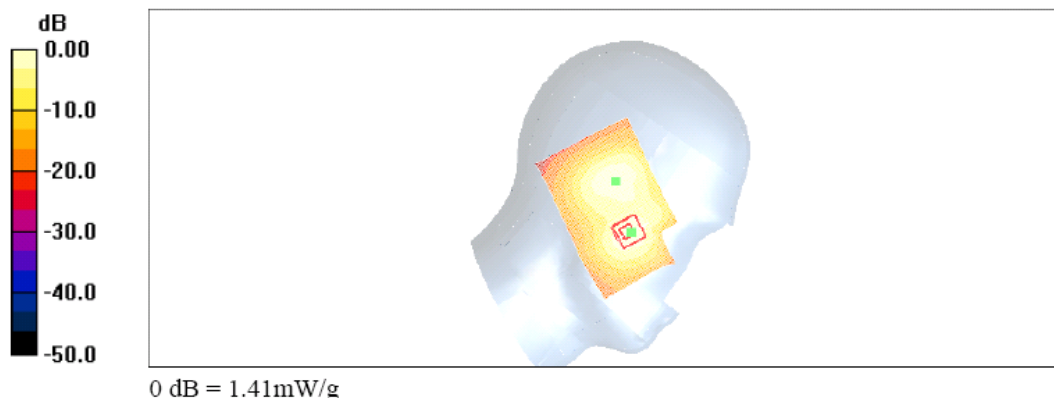
Peak SAR (extrapolated) = 1.79 W/kg

SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.688 mW/g

Maximum value of SAR (measured) = 1.31 mW/g

Touch position - Middle/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.41 mW/g



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Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01	FCC ID: L6ARAV20CW

Date/Time: 21/06/2005 7:07:23 PM Date/Time: 21/06/2005 7:00:50 PM

Test Laboratory: RTS

Left_Side_Tilt_CDMA1900_Mid_Chan_Ambient_Temp_25_2_celsius_

Liquid_Temp_22_8_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

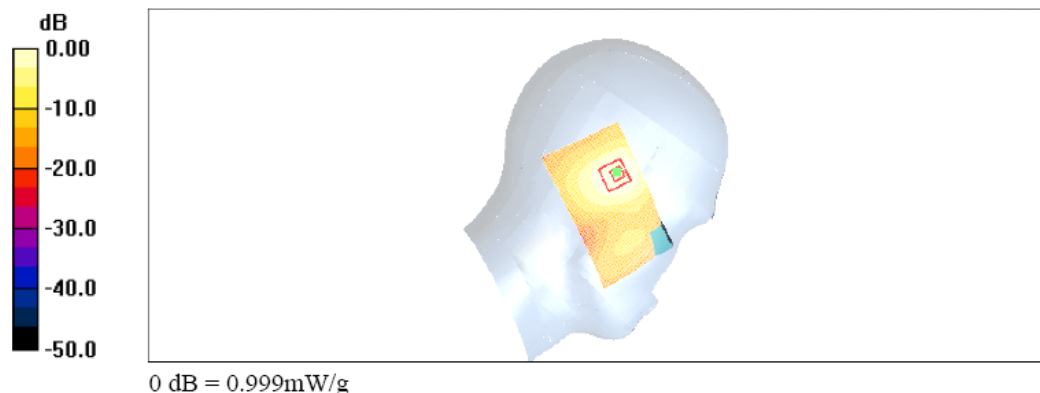
Communication System: CDMA 1900; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = 0.059 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.889 mW/g; SAR(10 g) = 0.545 mW/g
Maximum value of SAR (measured) = 0.963 mW/g

Tilt position - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.999 mW/g



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Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01	FCC ID: L6ARAV20CW

Date/Time: 21/06/2005 7:43:51 PM Date/Time: 21/06/2005 7:51:25 PM

Test Laboratory: RTS

Right_Side_Touch_Batt2_CDMA1900_High_Chan_Ambient_Temp_25.1_celsius_

Liquid_Temp_22_6_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 1900; Frequency: 1908.5 MHz; Duty Cycle: 1:1

Medium: HSL1900 Medium parameters used: $f = 1908.5 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - High Batt2/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.18 mW/g

Touch position - High Batt2/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

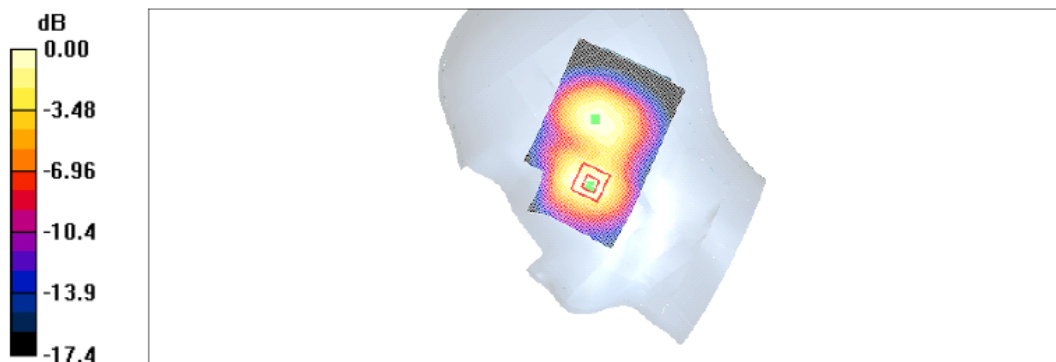
$dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.6 V/m; Power Drift = -0.213 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.616 mW/g

Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

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Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01
		FCC ID: L6ARAV20CW

Date/Time: 21/06/2005 8:17:36 PMDate/Time: 21/06/2005 8:25:11 PM

Test Laboratory: RTS

Right_Side_Touch_Batt3_CDMA1900_High_Chan_Ambient_Temp_24.8_celsius_

Liquid_Temp_22_8_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

Communication System: CDMA 1900; Frequency: 1908.5 MHz;Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: $f = 1908.5 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000$

kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - High Batt3/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.29 mW/g

Touch position - High Batt3/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

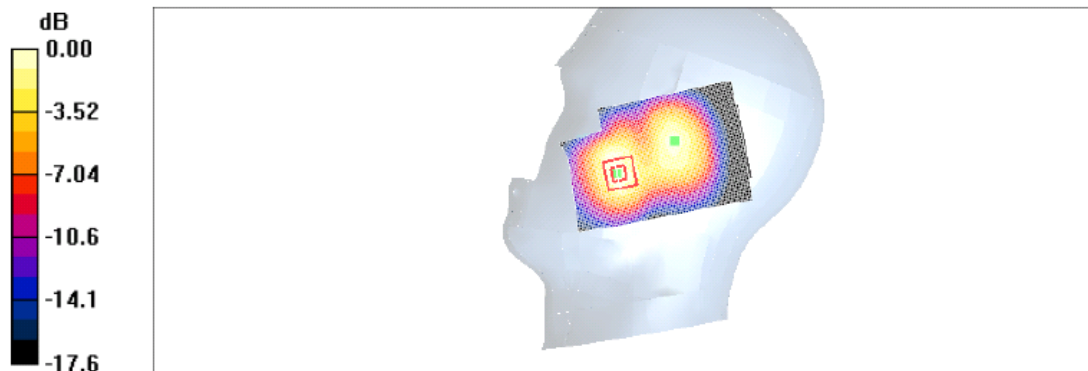
$dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.9 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.679 mW/g

Maximum value of SAR (measured) = 1.24 mW/g



0 dB = 1.24mW/g

RTS RIM Testing Services	Document Appendices for the BlackBerry 7130e Wireless Handheld Model RAV20CW SAR Report		Page 20(21)
Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01	FCC ID: L6ARAV20CW

Date/Time: 21/06/2005 8:51:56 PMDate/Time: 21/06/2005 8:59:30 PM

Test Laboratory: RTS

Right_Side_Touch_Batt4_CDMA1900_High_Chan_Ambient_Temp_24.7_celsius_

Liquid_Temp_22_9_celsius

DUT: BlackBerry Wireless Handheld; Type: Sample

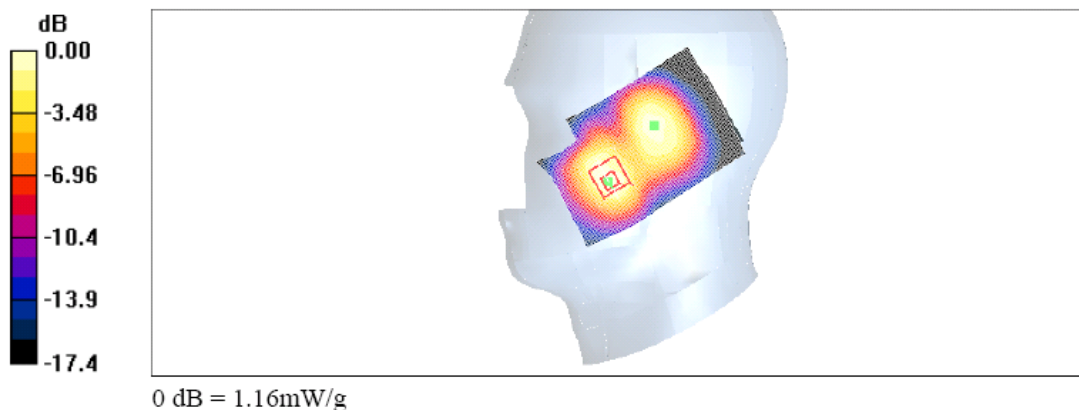
Communication System: CDMA 1900; Frequency: 1908.5 MHz;Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: $f = 1908.5 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.29, 5.29, 5.29); Calibrated: 07/01/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - High Batt4/Area Scan (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 1.20 mW/g

Touch position - High Batt4/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:
 $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 18.9 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.628 mW/g
Maximum value of SAR (measured) = 1.16 mW/g



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Author Data Lauren Weber	Dates of Test June 20 – July 04, 2005	Test Report No RTS-0181-0507-02 rev. 01
FCC ID: L6ARAV20CW		

Z-axis plots for worst-case head configuration:

