

	Document <b>Appendix A for the BlackBerry ® Smartphone Model RCL21CW SAR Report</b>	Page <b>1(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b> FCC ID: <b>L6ARCL20CW</b>

#### **APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION**

 <p>Document  <b>Appendix A for the BlackBerry ® Smartphone Model</b>  <b>RCL21CW SAR Report</b></p>			Page <b>2(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b>	FCC ID: <b>L6ARCL20CW</b>

Date/Time: 03/09/2009 12:10:00 AM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_835MHz\\_Amb\\_Tem\\_22.5\\_Liq\\_Tem\\_22.1\\_C\\_09\\_03\\_09.da4](#)

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:446**

**Program Name: System Performance Check at 835 MHz**

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.864 \text{ mho/m}$ ;  $\epsilon_r = 39.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.06, 6.06, 6.06); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 109.4 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 12.9 W/kg

**SAR(1 g) = 8.94 mW/g; SAR(10 g) = 5.91 mW/g**

Maximum value of SAR (measured) = 9.67 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 9.64 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**3(13)**

Author Data

**Andrew Becker**

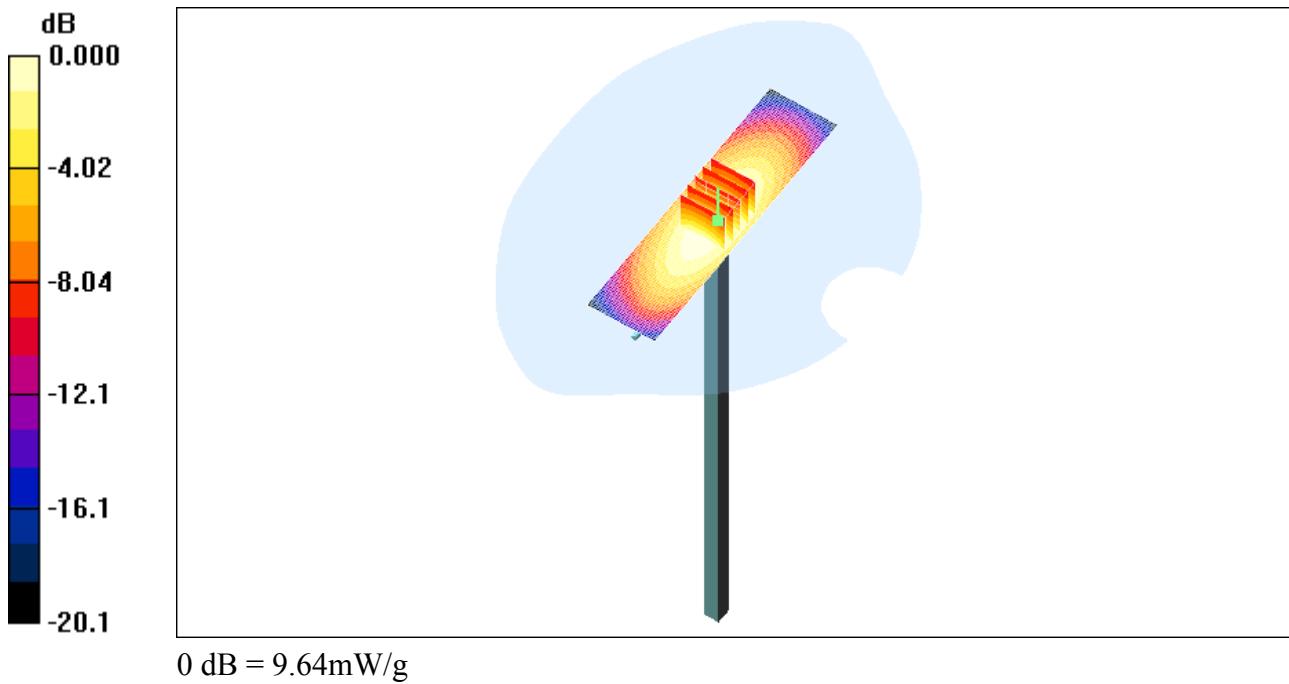
Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**

 <p>Document  <b>Appendix A for the BlackBerry ® Smartphone Model  RCL21CW SAR Report</b></p>			Page <b>4(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b>	FCC ID: <b>L6ARCL20CW</b>

Date/Time: 25/09/2009 12:48:01 AM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_835MHz\\_Amb\\_Tem\\_24.3\\_Liq\\_Tem\\_22.2\\_C\\_09\\_25\\_09.da4](#)

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:446**

**Program Name: System Performance Check at 835 MHz**

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

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.884$  mho/m;  $\epsilon_r = 41.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.06, 6.06, 6.06); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 110.4 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 13.4 W/kg

**SAR(1 g) = 9.27 mW/g; SAR(10 g) = 6.11 mW/g**

Maximum value of SAR (measured) = 10.0 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x121x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 9.96 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**5(13)**

Author Data

**Andrew Becker**

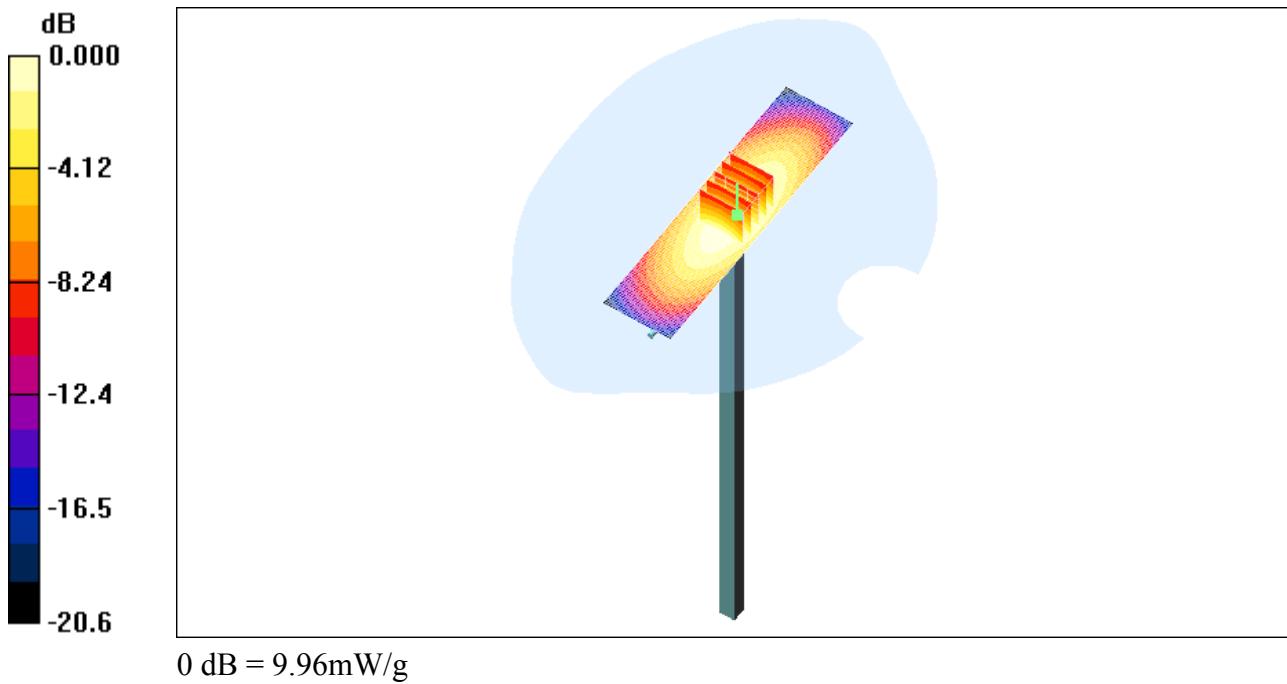
Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**

 <p>Document  <b>Appendix A for the BlackBerry ® Smartphone Model  RCL21CW SAR Report</b></p>			Page <b>6(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b>	FCC ID: <b>L6ARCL20CW</b>

Date/Time: 01/09/2009 6:03:17 PM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_1900MHz\\_Amb\\_Tem 22.7\\_Liq\\_Tem 22.1\\_C 09\\_01\\_09.da4](#)

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

**Program Name: System Performance Check at 1900 MHz**

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

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.45 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.14, 5.14, 5.14); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 182.1 V/m; Power Drift = -0.019 dB

Peak SAR (extrapolated) = 66.2 W/kg

**SAR(1 g) = 39.1 mW/g; SAR(10 g) = 20.8 mW/g**

Maximum value of SAR (measured) = 44.2 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 44.2 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**7(13)**

Author Data

**Andrew Becker**

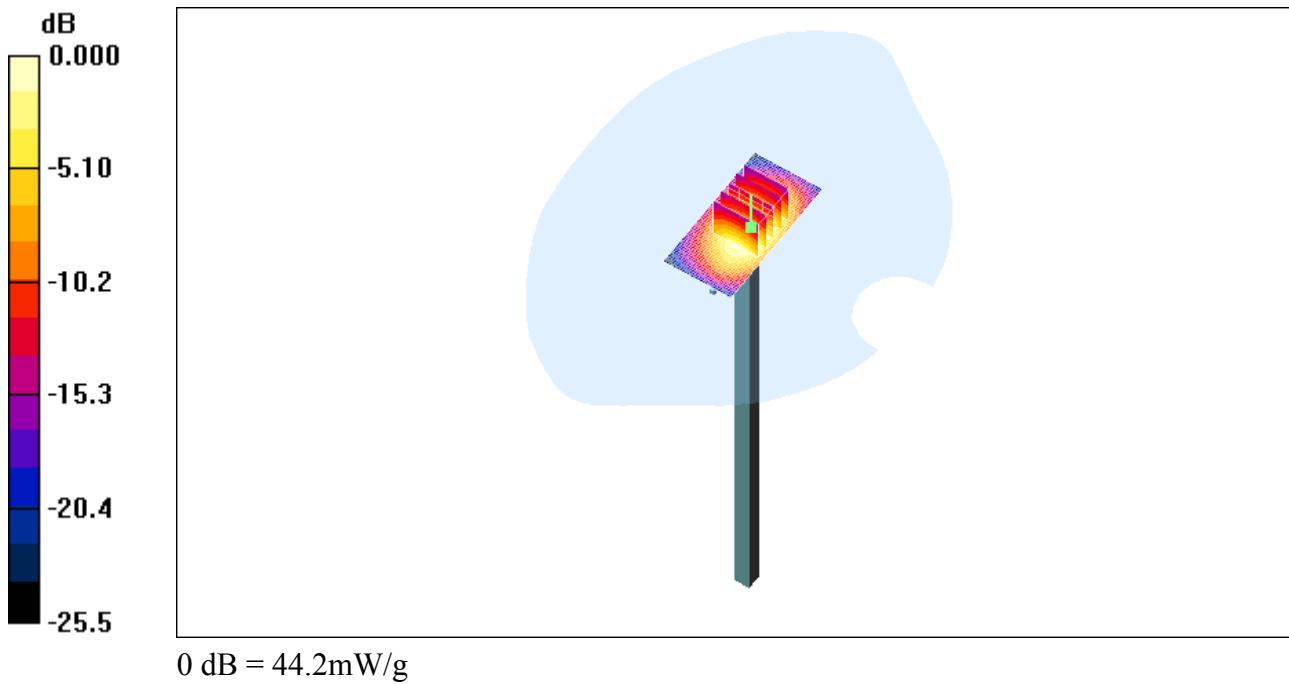
Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**

 <p>Document  <b>Appendix A for the BlackBerry ® Smartphone Model  RCL21CW SAR Report</b></p>			Page <b>8(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b>	FCC ID: <b>L6ARCL20CW</b>

Date/Time: 24/09/2009 6:57:05 PM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_1900MHz\\_Amb\\_Tem\\_23.2\\_Liq\\_Tem\\_22.0\\_C\\_09\\_24\\_09.da4](#)

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

**Program Name: System Performance Check at 1900 MHz**

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

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.4 \text{ mho/m}$ ;  $\epsilon_r = 40.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.14, 5.14, 5.14); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 177.0 V/m; Power Drift = 0.095 dB

Peak SAR (extrapolated) = 63.8 W/kg

**SAR(1 g) = 37 mW/g; SAR(10 g) = 19.4 mW/g**

Maximum value of SAR (measured) = 42.2 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 42.3 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**9(13)**

Author Data

**Andrew Becker**

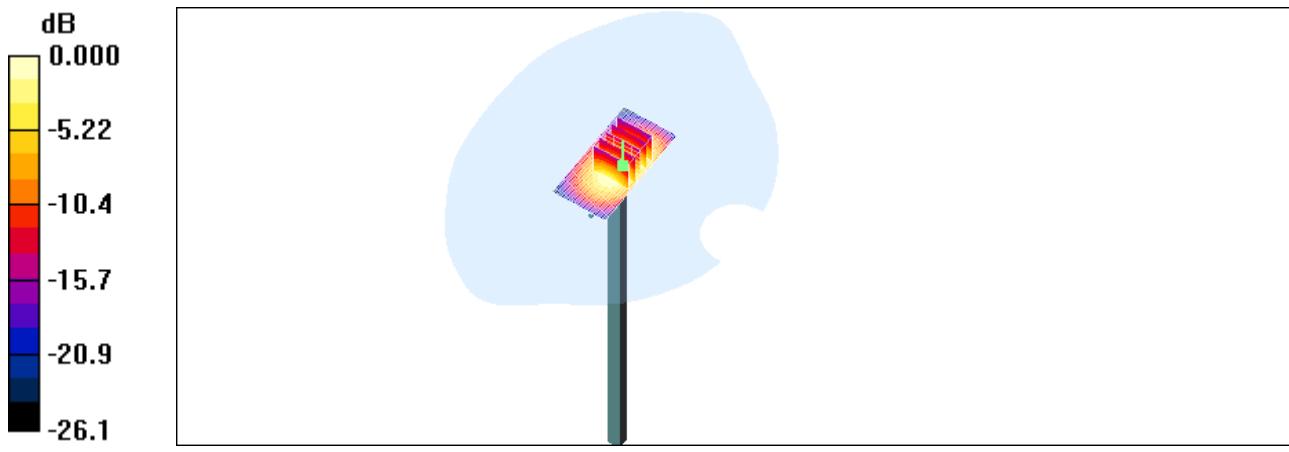
Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**

 <p>Document  <b>Appendix A for the BlackBerry ® Smartphone Model  RCL21CW SAR Report</b></p>			Page <b>10(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b>	FCC ID: <b>L6ARCL20CW</b>

Date/Time: 03/09/2009 10:15:15 PM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_2450MHz\\_Amb\\_Tem\\_23.2\\_Liq\\_Tem\\_21.9\\_C\\_09\\_03\\_09.da4](#)

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:747**

**Program Name: System Performance Check at 1900 MHz**

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

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.88$  mho/m;  $\epsilon_r = 37.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(4.54, 4.54, 4.54); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 191.4 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 129.4 W/kg

**SAR(1 g) = 58.4 mW/g; SAR(10 g) = 27.1 mW/g**

Maximum value of SAR (measured) = 63.5 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x61x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 69.4 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**11(13)**

Author Data

**Andrew Becker**

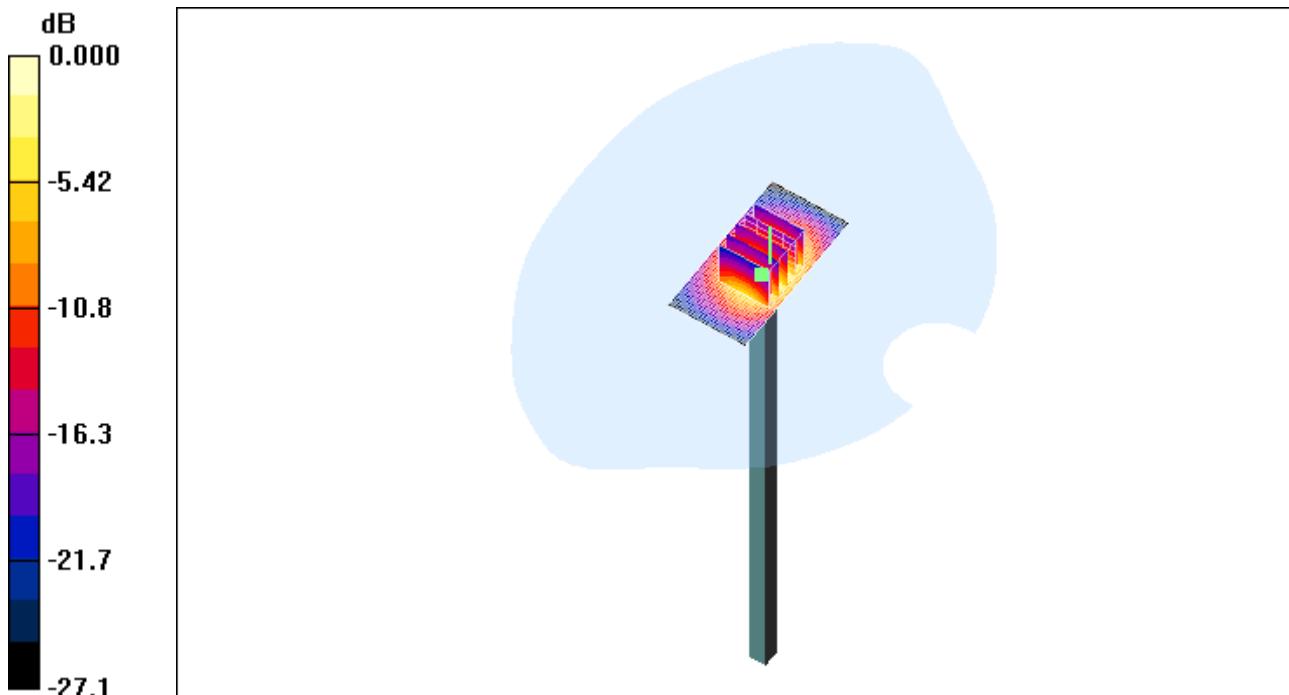
Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**

	Document <b>Appendix A for the BlackBerry ® Smartphone Model RCL21CW SAR Report</b>	Page <b>12(13)</b>
Author Data <b>Andrew Becker</b>	Dates of Test <b>September 1-29, 2009</b>	Test Report No <b>RTS-2068-0909-43</b> FCC ID: <b>L6ARCL20CW</b>

Date/Time: 28/09/2009 8:32:35 PM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation\\_2450MHz\\_Amb\\_Tem\\_24.2\\_Liq\\_Tem\\_22.1\\_C\\_09\\_28\\_09.da4](#)

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:747**

**Program Name: System Performance Check at 1900 MHz**

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

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.88$  mho/m;  $\epsilon_r = 37.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(4.54, 4.54, 4.54); Calibrated: 12/01/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 194.3 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 130.9 W/kg

**SAR(1 g) = 58.4 mW/g; SAR(10 g) = 26.9 mW/g**

Maximum value of SAR (measured) = 64.9 mW/g

**d=15mm, Pin=1000mW/Area Scan (31x61x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 69.8 mW/g



Document

**Appendix A for the BlackBerry ® Smartphone Model  
RCL21CW SAR Report**Page  
**13(13)**

Author Data

**Andrew Becker**

Dates of Test

**September 1-29, 2009**

Test Report No

**RTS-2068-0909-43**

FCC ID:

**L6ARCL20CW**