

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>1(65)</b>         |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09, 2006</b>                                                                        | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

## APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

|                                                |                                                                                                           |                                           |                              |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <div>RTS</div> <div>RIM Testing Services</div> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/>RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>2(65)</b>         |
| Author Data<br><b>Daoud Attayi</b>             | Dates of Test<br><b>05-09 June, 2006</b>                                                                  | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

Date/Time: 06/06/2006 10:41:17 AM

Test Laboratory: RTS

File Name: [Dipole Validation 835 MHz Amb Temp. 24.1 Liq Temp. 22.8 06 06 06.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:  $f = 835 \text{ MHz}$ ;  $s = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 40.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

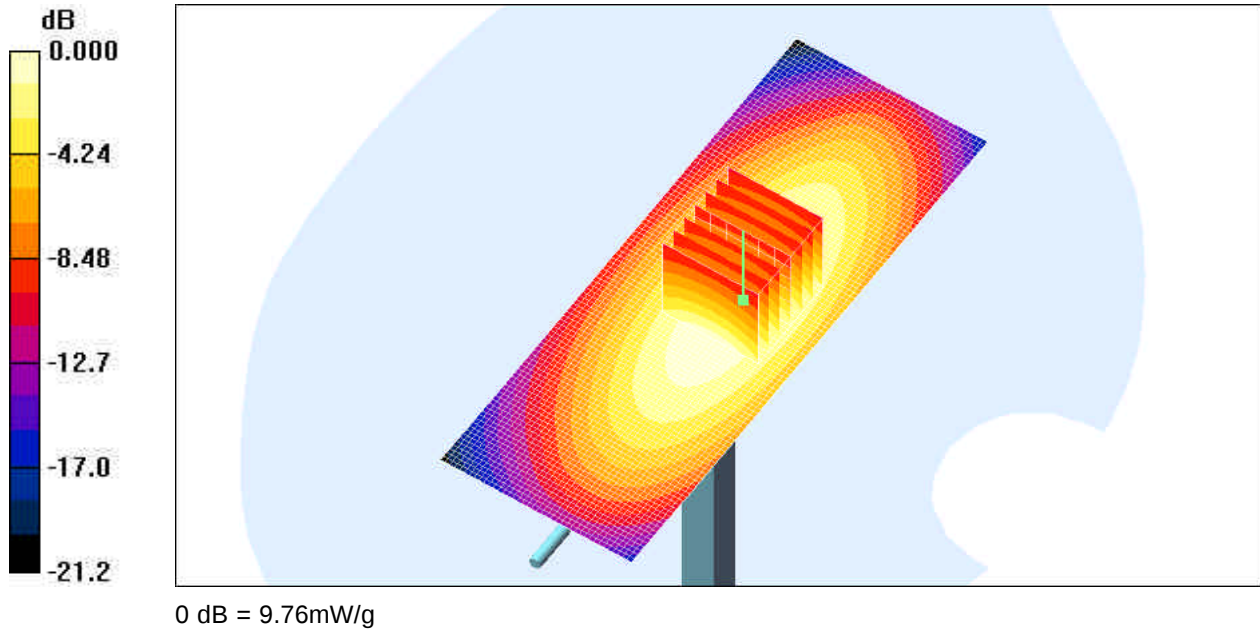
DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.36, 6.36, 6.36); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

**d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 104.3 V/m; Power Drift = -0.021 dB  
Peak SAR (extrapolated) = 13.8 W/kg  
**SAR(1 g) = 9.22 mW/g; SAR(10 g) = 5.99 mW/g**  
Maximum value of SAR (measured) = 9.96 mW/g

**d=15mm, Pin=250mW/Area Scan (41x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 9.76 mW/g

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>3(65)</b>         |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>4(65)</b>                      |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

Date/Time: 05/06/2006 3:38:31 PM

Test Laboratory: RTS

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

**Program Name: Unnamed Program**

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

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $s = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.8$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.18, 5.18, 5.18); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value = 194.3 V/m; Power Drift = 0.020 dB

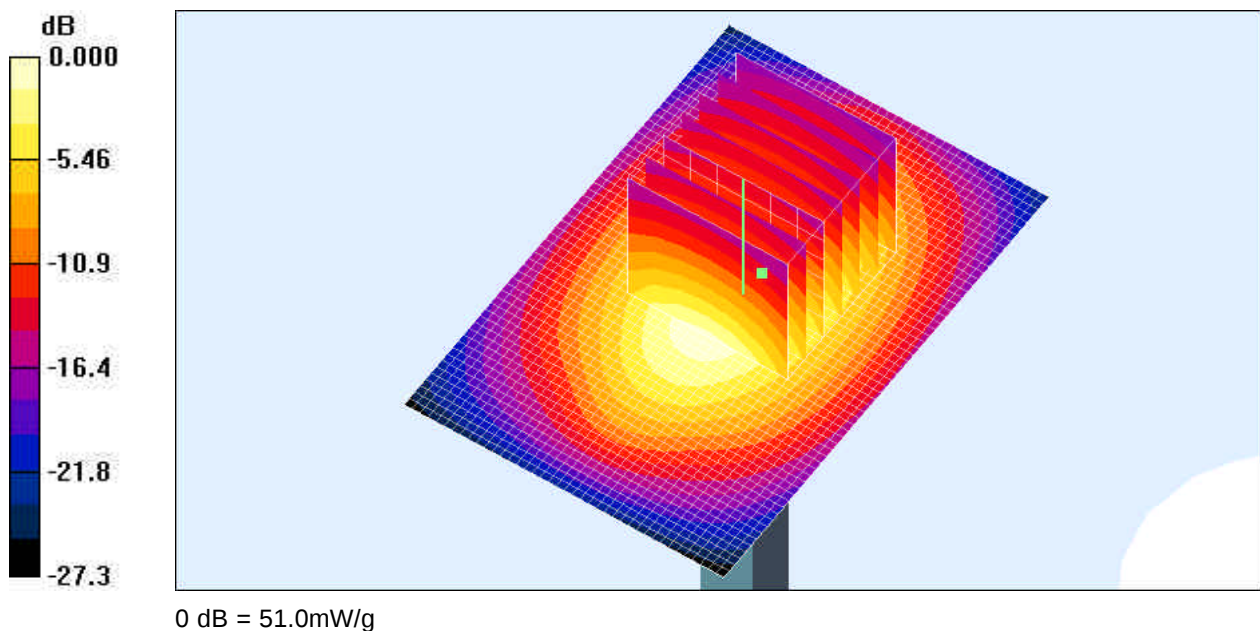
Peak SAR (extrapolated) = 76.8 W/kg

**SAR(1 g) = 43.2 mW/g; SAR(10 g) = 22.6 mW/g**

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

**Dipole Validation/Area Scan (41x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 51.0 mW/g



|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>5(65)</b>         |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>6(65)</b>                      |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

Date/Time: 09/06/2006 10:02:55 AM

Test Laboratory: RTS

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

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1900$  MHz;  $s = 1.45$  mho/m;  $\epsilon_r = 38.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.18, 5.18, 5.18); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value = 176.1 V/m; Power Drift = 0.107 dB

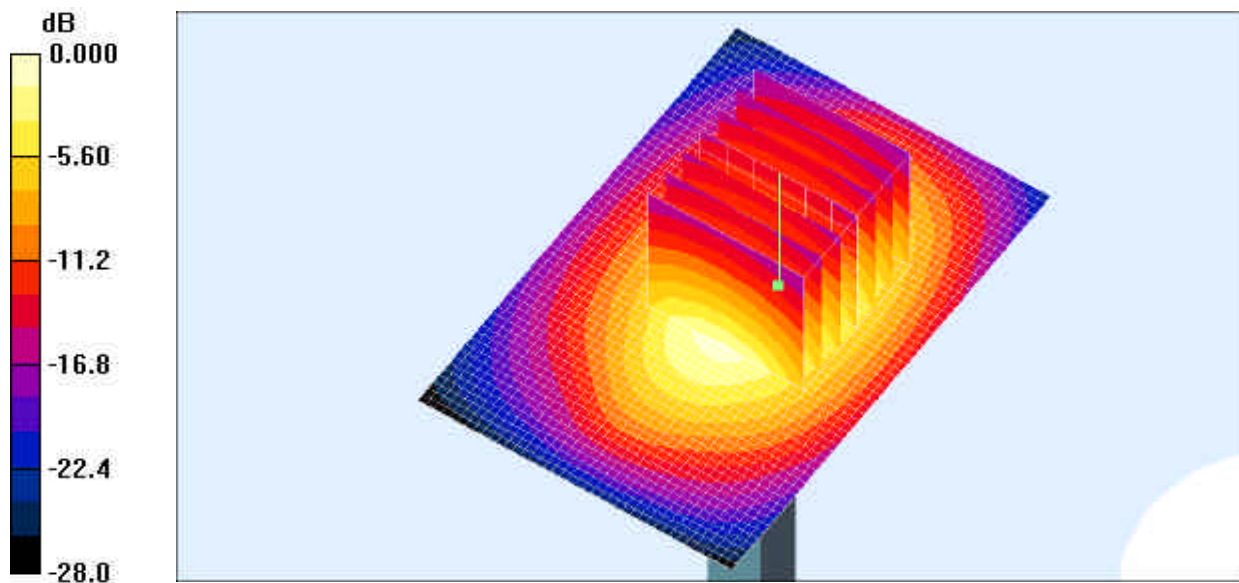
Peak SAR (extrapolated) = 68.1 W/kg

**SAR(1 g) = 39.2 mW/g; SAR(10 g) = 20.6 mW/g**

Maximum value of SAR (measured) = 44.3 mW/g

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

Maximum value of SAR (interpolated) = 46.7 mW/g



0 dB = 46.7mW/g

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>7(65)</b>         |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

## APPENDIX B: SAR DISTRIBUTION PLOTS FOR HEAD CONFIGURATION

|                                                |                                                                                                   |                                    |                       |
|------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------|-----------------------|
| <div>RTS</div> <div>RIM Testing Services</div> | Document<br>Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                                    | Page<br>8(65)         |
| Author Data<br>Daoud Attayi                    | Dates of Test<br>05-09 June, 2006                                                                 | Test Report No<br>RTS-0258-0606-16 | FCC ID:<br>L6ARBD50UW |

Date/Time: 06/06/2006 11:32:26 AM

Test Laboratory: RTS

File Name:

[RightHandSide\\_Touch\\_GSM850\\_High\\_Chan\\_Amb\\_Temp\\_23\\_4\\_Liq\\_Temp\\_22\\_8.da4](#)

**DUT: BlackBerry Wireless Handheld Model RBD52UW; Type: Sample**  
**Program Name: Compliance Testing: P1528 Protocol (Right-Hand Side)**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 40.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.36, 6.36, 6.36); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

**Touch position - Low/Area Scan (51x91x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 1.16 mW/g

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

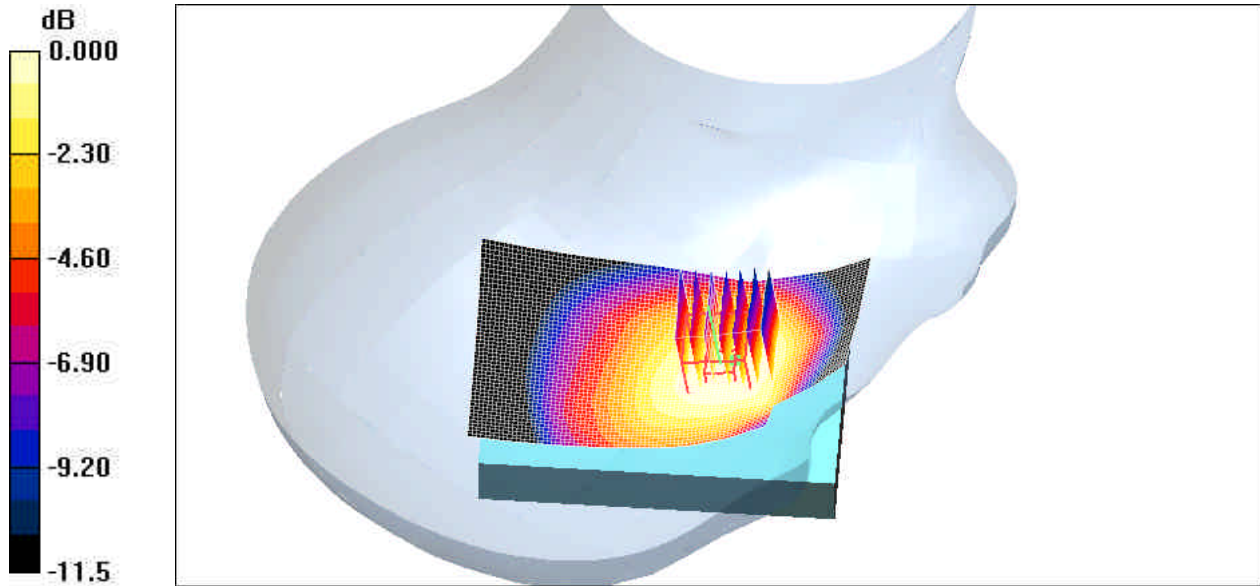
Reference Value = 16.5 V/m; Power Drift = -0.173 dB

Peak SAR (extrapolated) = 1.53 W/kg

**SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.807 mW/g**

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

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>9(65)</b>                      |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |



0 dB = 1.18mW/g

|                             |                                                                                                   |                                   |                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------|
| RTS<br>RIM Testing Services | Document<br>Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                                   | Page<br>10(65)                     |
|                             | Author Data<br>Daoud Attayi                                                                       | Dates of Test<br>05-09 June, 2006 | Test Report No<br>RTS-0258-0606-16 |
|                             |                                                                                                   | FCC ID:<br>L6ARBD50UW             |                                    |

Date/Time: 09/06/2006 11:09:02 AM

Test Laboratory: RTS

File Name: [Right Touch GSM1900 Low Chan\\_Amb Temp 23.9 C Liq Temp 22 1 C.da4](#)

**DUT: BlackBerry Wireless Handheld Model RBD51UW; Type: Sample ;  
Program Name: Compliance Testing: P1528 Protocol (Right-Hand Side)**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $s = 1.45 \text{ mho/m}$ ;  $\epsilon_r = 38.3$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.18, 5.18, 5.18); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

**Touch position - Middle/Area Scan (51x91x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 0.907 mW/g

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

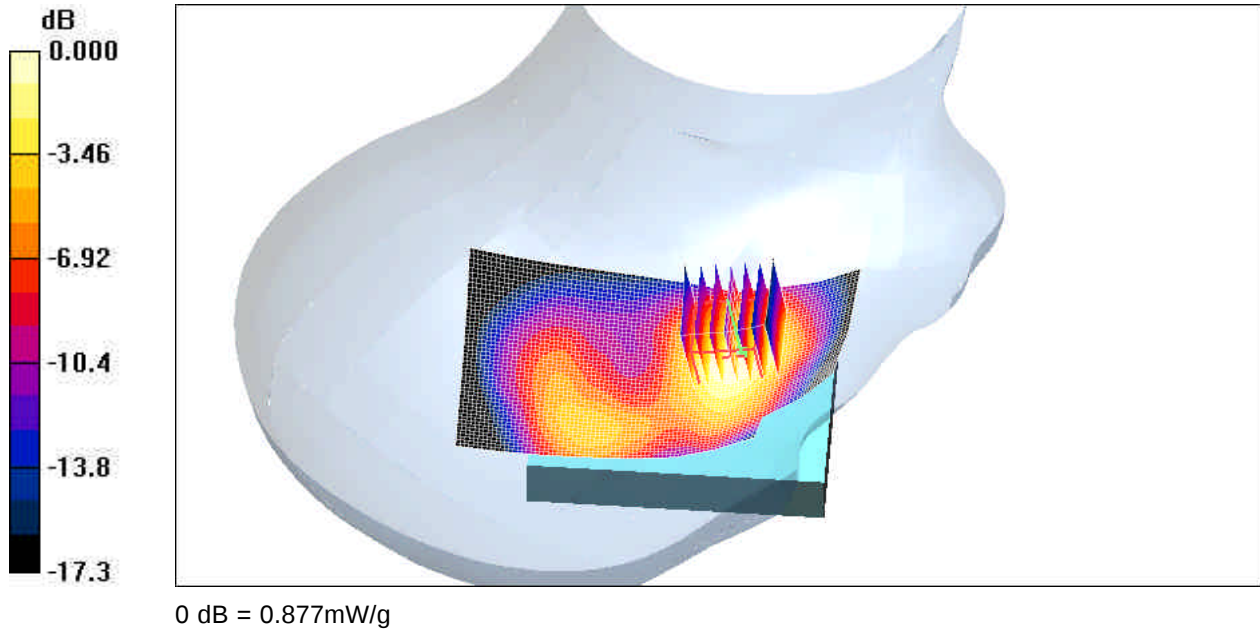
Reference Value = 13.3 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 1.14 W/kg

**SAR(1 g) = 0.793 mW/g; SAR(10 g) = 0.477 mW/g**

Maximum value of SAR (measured) = 0.877 mW/g

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>11(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



|                                           |                                                                                                       |                                           |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> | Page<br><b>12(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>              |                                                                                                       |                                           |

Date/Time: 05/06/2006 4:01:26 PM

Test Laboratory: RTS

File Name:

[Right\\_Touch\\_GSM1900\\_Low\\_Chan\\_Battery\\_2\\_Amb\\_Temp\\_24\\_3\\_C\\_Liq\\_Temp\\_23\\_5\\_C.da4](#)

**DUT: BlackBerry Wireless Handheld Model RBD52UW; Type: Sample**  
**Program Name: Compliance Testing: P1528 Protocol (Right-Hand Side)**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $s = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.8$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(5.18, 5.18, 5.18); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

**Touch position - Middle/Area Scan (51x91x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 1.30 mW/g

**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 = 13.1 V/m; Power Drift = -0.594 dB

Peak SAR (extrapolated) = 1.58 W/kg

**SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.671 mW/g**

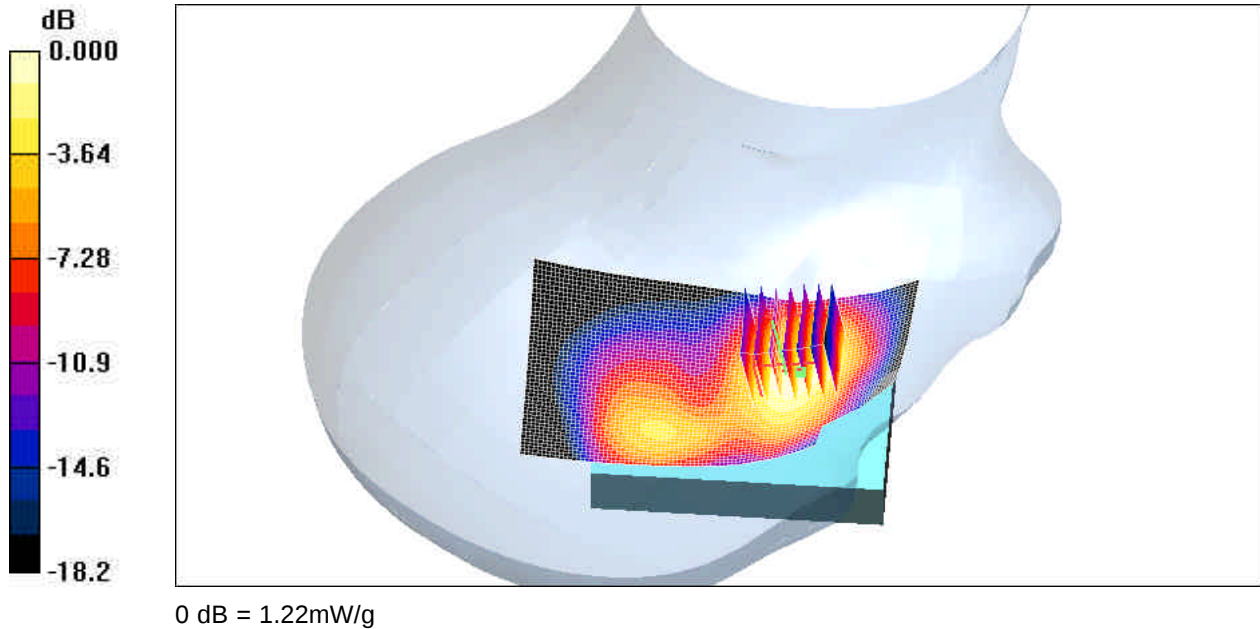
Maximum value of SAR (measured) = 1.22 mW/g

Interpolated calculated SAR due to large power drift:

$$\text{SAR}(1 \text{ g}) = 1.13 \text{ mW/g} * 10^{(0.594/10)}$$

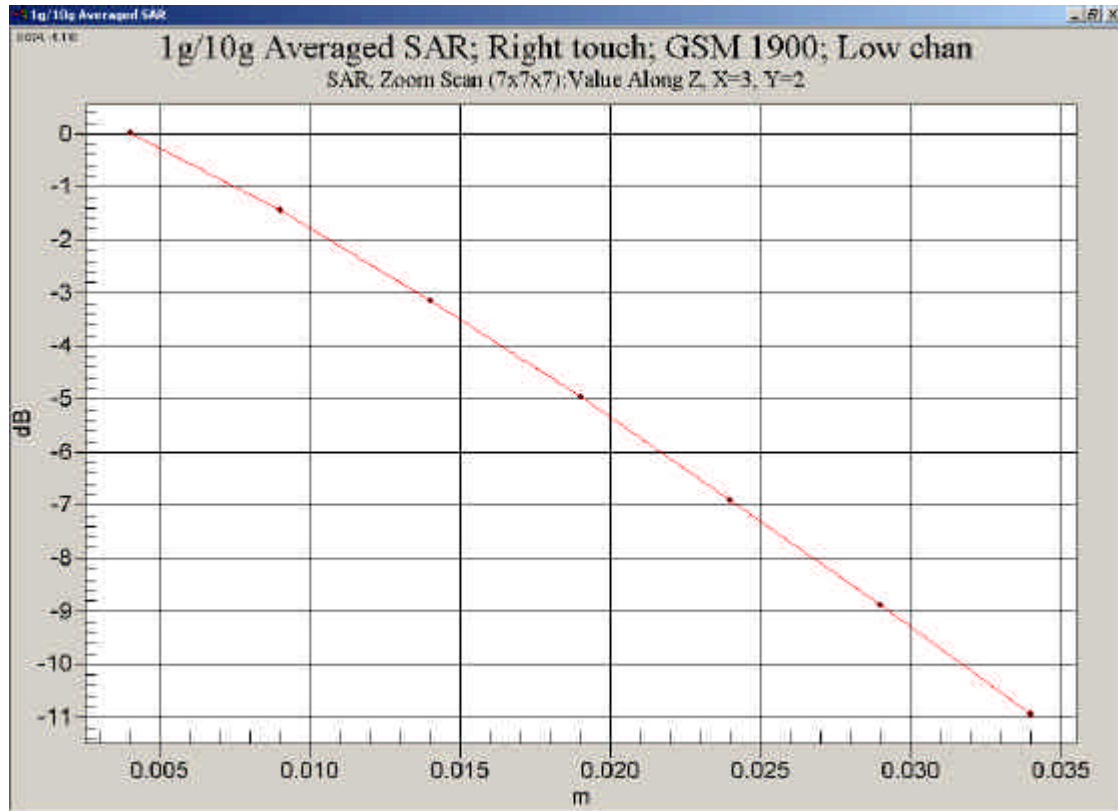
$$= 1.30 \text{ mW/g}$$

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>13(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



|                             |                                                                                                   |                                   |                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------|
| RTS<br>RIM Testing Services | Document<br>Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                                   | Page<br>14(65)                     |
|                             | Author Data<br>Daoud Attayi                                                                       | Dates of Test<br>05-09 June, 2006 | Test Report No<br>RTS-0258-0606-16 |
|                             |                                                                                                   |                                   | FCC ID:<br>L6ARBD50UW              |

**Z-axis plot for worst-case head figuration:**



|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>15(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

## APPENDIX C: SAR DISTRIBUTION PLOTS FOR BODY-WORN CONFIGURATION

|                                           |                                                                                                       |                                           |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> | Page<br><b>16(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>              |                                                                                                       |                                           |

Date/Time: 07/06/2006 10:55:08 AM

Test Laboratory: RTS

File Name:

[Body\\_worn\\_Holster1\\_RBD52UW\\_GPRS850\\_High\\_Chan\\_Front\\_2\\_Slots\\_Uplink\\_31dBm\\_Amb\\_Temp\\_24\\_4\\_C\\_Liq\\_Temp\\_24\\_0\\_C.da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**  
**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.2  
Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value =  $34.4 \text{ V/m}$ ; Power Drift =  $-0.038 \text{ dB}$

Peak SAR (extrapolated) =  $1.56 \text{ W/kg}$

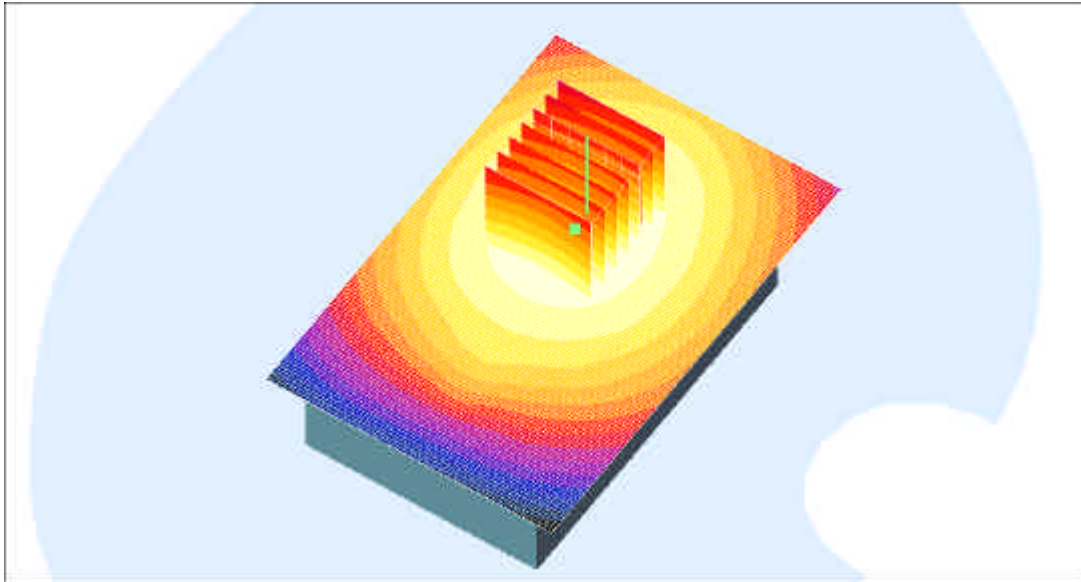
**SAR(1 g) =  $1.19 \text{ mW/g}$ ; SAR(10 g) =  $0.880 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.26 \text{ mW/g}$

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $1.26 \text{ mW/g}$

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>17(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



0 dB = 1.26mW/g

|                                           |                                                                                                       |                                           |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> | Page<br><b>18(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>              |                                                                                                       |                                           |

Date/Time: 07/06/2006 9:58:24 AM

Test Laboratory: RTS

File Name: [Body\\_worn\\_Holster2\\_RBD52UW](#)

[GPRS850\\_High\\_Chan\\_Front\\_2\\_Slots\\_Uplink\\_31dBm\\_Amb\\_Temp\\_23\\_8\\_C\\_Liq\\_Temp\\_22\\_7\\_C\\_da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**  
**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.2  
Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

DASY4 Configuration:

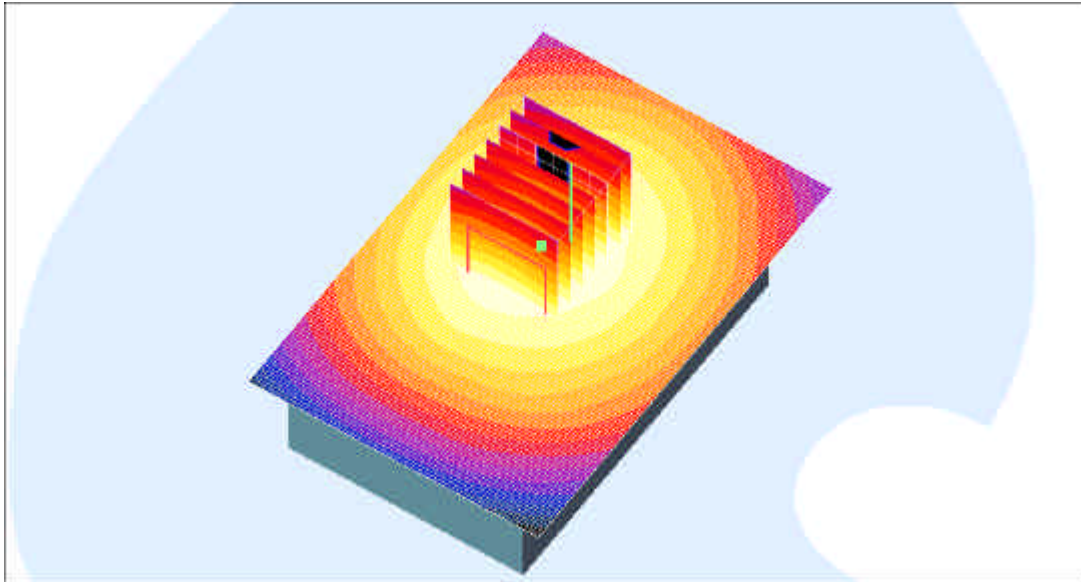
- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

**Unnamed procedure/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 32.3 V/m; Power Drift = 0.051 dB  
Peak SAR (extrapolated) = 1.63 W/kg  
**SAR(1 g) = 0.985 mW/g; SAR(10 g) = 0.647 mW/g**

Maximum value of SAR (measured) = 0.992 mW/g

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$   
Maximum value of SAR (interpolated) = 0.981 mW/g

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br>19(65)                            |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            | FCC ID:<br><b>L6ARBD50UW</b>             |                                           |



0 dB = 0.981mW/g

|                                           |                                                                                                       |                                           |                              |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>20(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

Date/Time: 07/06/2006 10:25:53 AM

Test Laboratory: RTS

File Name: [Body\\_worn\\_Holster2\\_GPRS850\\_RBD52UW\\_High Chan Back 2 Slots Uplink 31dBm Amb Temp 24 7 C Liq Temp 23 0 C.da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**  
**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.2  
Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value =  $34.8 \text{ V/m}$ ; Power Drift =  $-0.009 \text{ dB}$

Peak SAR (extrapolated) =  $1.42 \text{ W/kg}$

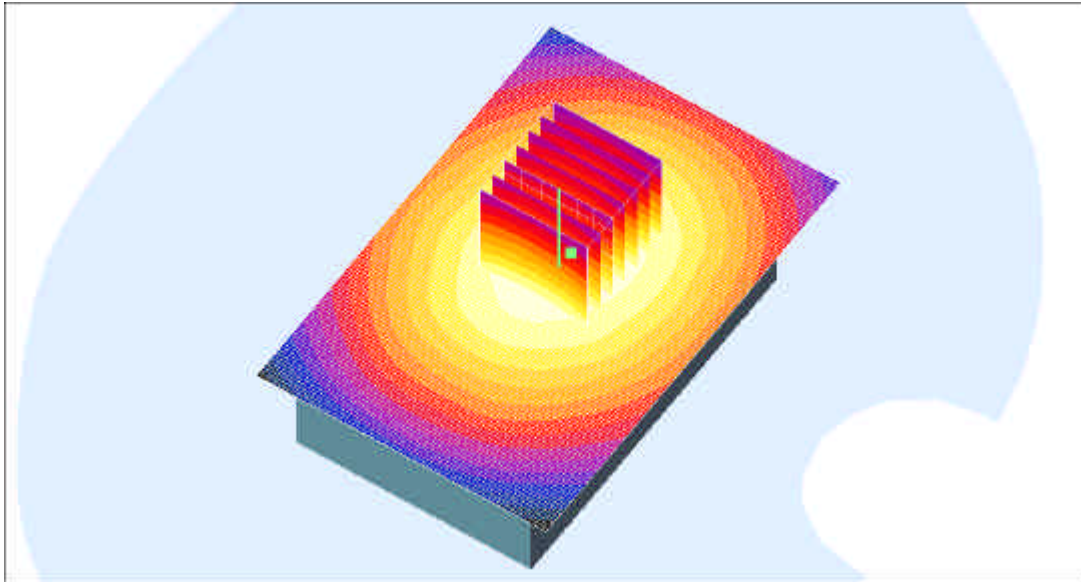
**SAR(1 g) =  $1.07 \text{ mW/g}$ ; SAR(10 g) =  $0.780 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.13 \text{ mW/g}$

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $1.13 \text{ mW/g}$

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br>21(65)                            |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            | FCC ID:<br><b>L6ARBD50UW</b>             |                                           |



0 dB = 1.13mW/g

|                                                |                                                                                                   |                                    |                       |
|------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------|-----------------------|
| <div>RTS</div> <div>RIM Testing Services</div> | Document<br>Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                                    | Page<br>22(65)        |
| Author Data<br>Daoud Attayi                    | Dates of Test<br>05-09 June, 2006                                                                 | Test Report No<br>RTS-0258-0606-16 | FCC ID:<br>L6ARBD50UW |

Date/Time: 07/06/2006 4:39:54 PM

Test Laboratory: RTS

File Name: [Body\\_worn\\_Holster3\\_GPRS850\\_RBD51UW\\_High Chan Back 2 Slots Uplink 31dBm Amb Temp 24 2 C Liq Temp 23 1 C.da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**  
**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:4.2  
Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value =  $34.6 \text{ V/m}$ ; Power Drift =  $0.151 \text{ dB}$

Peak SAR (extrapolated) =  $1.60 \text{ W/kg}$

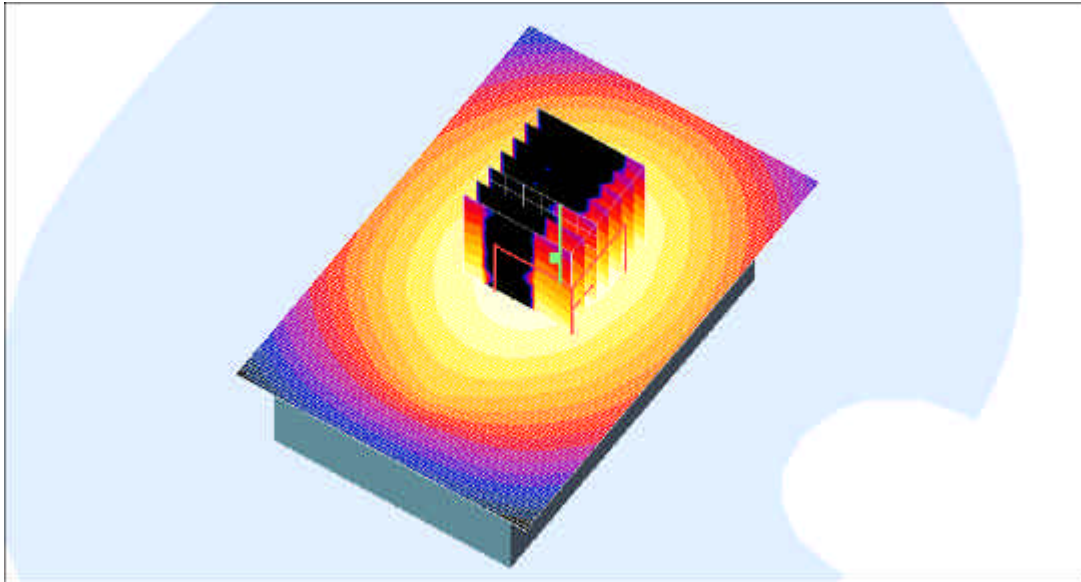
**SAR(1 g) =  $1.01 \text{ mW/g}$ ; SAR(10 g) =  $0.381 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.10 \text{ mW/g}$

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $1.15 \text{ mW/g}$

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>23(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



0 dB = 1.15mW/g

|                                                |                                                                                                           |                                           |                              |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <div>RTS</div> <div>RIM Testing Services</div> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/>RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br>24(65)               |
| Author Data<br><b>Daoud Attayi</b>             | Dates of Test<br><b>05-09 June, 2006</b>                                                                  | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

Date/Time: 07/06/2006 11:24:40 AM

Test Laboratory: RTS

File Name: [Body\\_worn\\_Holster3\\_GPRS850\\_RBD52UW](#)

[High\\_Chan\\_Back\\_2\\_Slots\\_Uplink\\_31dBm\\_Amb\\_Temp\\_24\\_2\\_C\\_Liq\\_Temp\\_23\\_6\\_C.da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**

**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value =  $36.5 \text{ V/m}$ ; Power Drift =  $-0.118 \text{ dB}$

Peak SAR (extrapolated) =  $1.54 \text{ W/kg}$

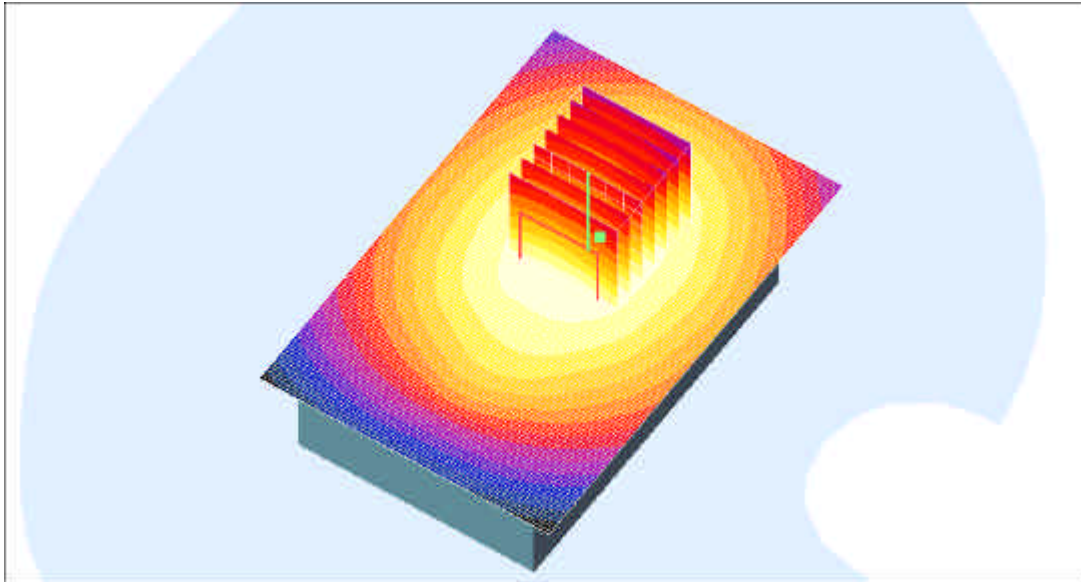
**SAR(1 g) =  $1.21 \text{ mW/g}$ ; SAR(10 g) =  $0.896 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.27 \text{ mW/g}$

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $1.28 \text{ mW/g}$

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>25(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



0 dB = 1.28mW/g

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>26(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

Date/Time: 07/06/2006 12:22:18 PM

Test Laboratory: RTS

File Name: [Body\\_worn\\_Holster4\\_GPRS850\\_RBD52UW](#)

[High\\_Chan\\_Back\\_2\\_Slots\\_Uplink\\_31dBm\\_Amb\\_Temp\\_23\\_4\\_C\\_Liq\\_Temp\\_23\\_0\\_C.da4](#)

**DUT: BlackBerry Wireless Handheld ; Type: Sample ; Serial: Not Specified**

**Program Name: Compliance Testing: Body-worn with holster**

Communication System: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $s = 0.99 \text{ mho/m}$ ;  $\epsilon_r = 52.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1642; ConvF(6.13, 6.13, 6.13); Calibrated: 19/01/2006
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

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

Reference Value =  $14.6 \text{ V/m}$ ; Power Drift =  $0.175 \text{ dB}$

Peak SAR (extrapolated) =  $0.871 \text{ W/kg}$

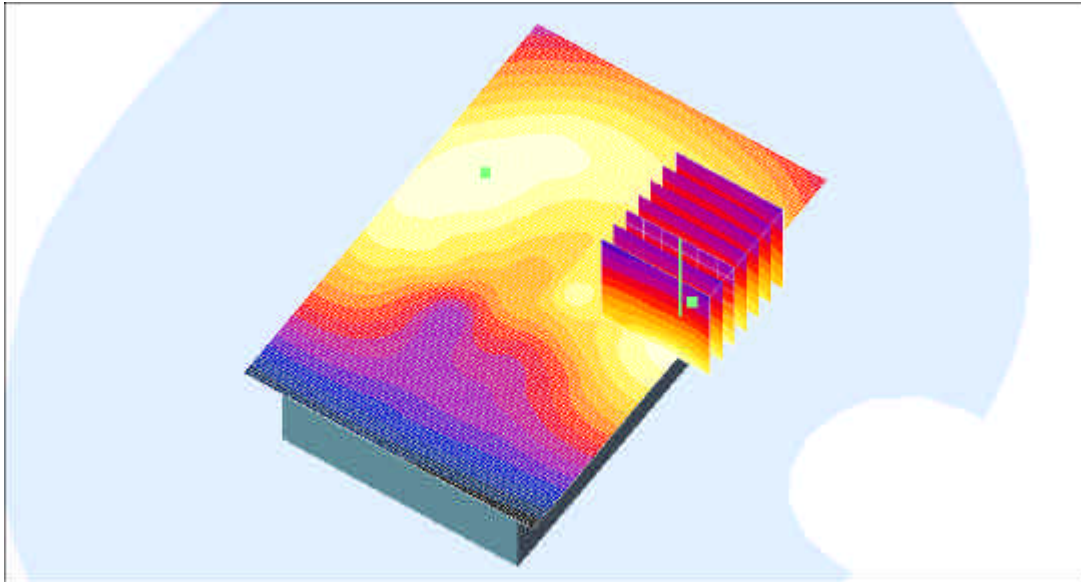
**SAR(1 g) =  $0.537 \text{ mW/g}$ ; SAR(10 g) =  $0.348 \text{ mW/g}$**

Maximum value of SAR (measured) =  $0.585 \text{ mW/g}$

**Unnamed procedure/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $0.578 \text{ mW/g}$

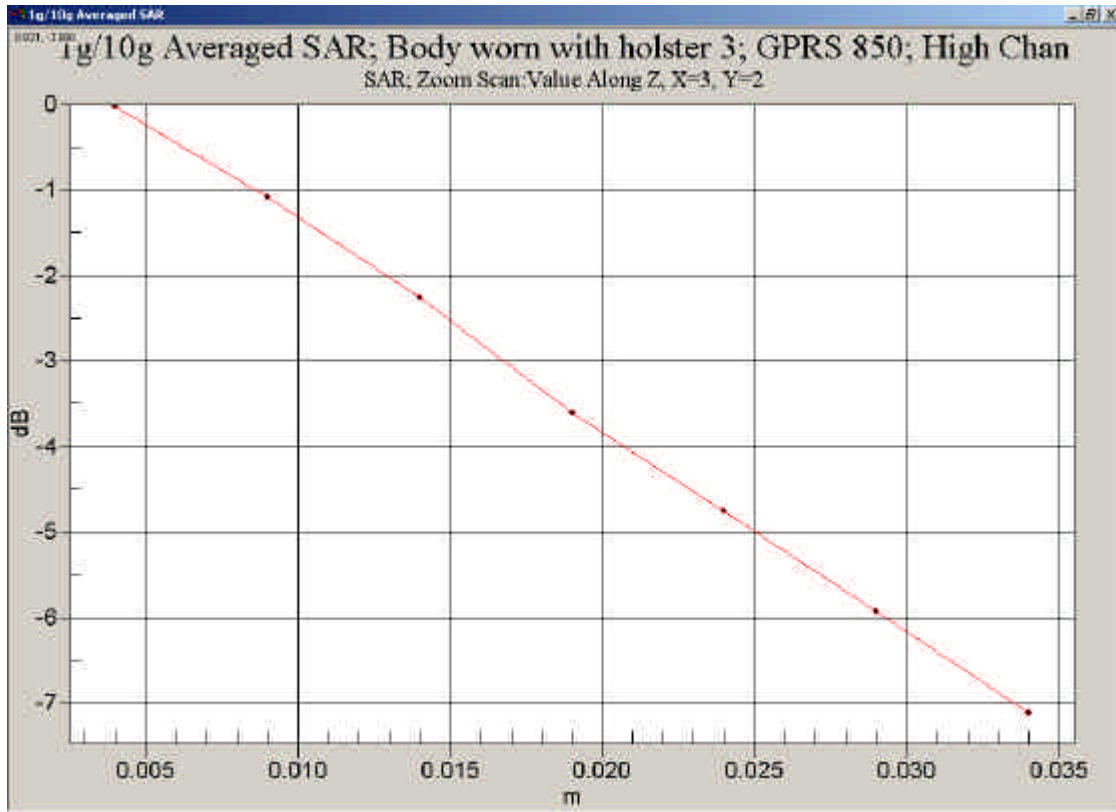
|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>27(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



0 dB = 0.578mW/g

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>28(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

**Z-axis plot for worst-case body worn configuration:**



|                                                   |                                                                                                                           |                                                          |                                             |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b>         | <small>Document</small><br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                                          | <small>Page</small><br><b>29(65)</b>        |
| <small>Author Data</small><br><b>Daoud Attayi</b> | <small>Dates of Test</small><br><b>05-09 June, 2006</b>                                                                   | <small>Test Report No</small><br><b>RTS-0258-0606-16</b> | <small>FCC ID:</small><br><b>L6ARBD50UW</b> |

#### APPENDIX D: PROBE & DIPOLE CALIBRATION DATA

|                                                |                                                                                       |                  |            |
|------------------------------------------------|---------------------------------------------------------------------------------------|------------------|------------|
| <div>RTS</div> <div>RIM Testing Services</div> | Document                                                                              |                  | Page       |
|                                                | Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                  | 30(65)     |
| Author Data                                    | Dates of Test                                                                         | Test Report No   | FCC ID:    |
| Daoud Attayi                                   | 05-09 June, 2006                                                                      | RTS-0258-0606-16 | L6ARBD50UW |

Calibration Laboratory of  
Schmid & Partner  
Engineering AG  
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst  
S Service suisse d'étalonnage  
C Servizio svizzero di taratura  
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client **RIM**

Certificate No: **ET3-1642\_Jan06**

## CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1642**

Calibration procedure(s) **QA-CAL-01.v5  
Calibration procedure for dosimetric E-field probes**

Calibration date: **January 19, 2006**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility; environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #            | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|----------------------------|-----------------|-------------------------------------------|-----------------------|
| Power meter E4419B         | GB41293874      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Power sensor E4412A        | MY41495277      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Power sensor E4412A        | MY41496067      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 11-Aug-05 (METAS, No. 251-00469)          | Aug-06                |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 3-May-05 (METAS, No. 251-00467)           | May-06                |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 11-Aug-05 (METAS, No. 251-00500)          | Aug-06                |
| Reference Probe ES3DV2     | SN: 3013        | 2-Jan-06 (SPEAG, No. ES3-3013_Jan06)      | Jan-07                |
| DAE4                       | SN: 654         | 27-Oct-05 (SPEAG, No. DAE4-654_Oct05)     | Oct-06                |

| Secondary Standards       | ID #         | Check Date (in house)                    | Scheduled Check        |
|---------------------------|--------------|------------------------------------------|------------------------|
| RF generator HP 8548C     | US3642U01700 | 4-Aug-99 (SPEAG, in house check Nov-05)  | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585   | 16-Oct-01 (SPEAG, in house check Nov-05) | In house check: Nov-06 |

|                | Name          | Function          | Signature |
|----------------|---------------|-------------------|-----------|
| Calibrated by: | Katja Polovic | Technical Manager |           |
| Approved by:   | Fin Bomholt   | R&D Director      |           |

Issued: January 20, 2006

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: ET3-1642\_Jan06

Page 1 of 9

|                                    |                                                                                                            |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> | Page<br><b>31(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>       |                                                                                                            |                                           |

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zaughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

#### Glossary:

|                        |                                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                    | tissue simulating liquid                                                                                                                       |
| NORM <sub>x,y,z</sub>  | sensitivity in free space                                                                                                                      |
| ConvF                  | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                     |
| DCP                    | diode compression point                                                                                                                        |
| Polarization $\varphi$ | $\varphi$ rotation around probe axis                                                                                                           |
| Polarization $\theta$  | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis |

#### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz)", July 2001

#### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>32(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>33(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

**ET3DV6 SN:1642**

**January 19, 2006**

# Probe ET3DV6

## SN:1642

|                  |                  |
|------------------|------------------|
| Manufactured:    | November 7, 2001 |
| Last calibrated: | January 7, 2005  |
| Recalibrated:    | January 19, 2006 |

**Calibrated for DASY Systems**

(Note: non-compatible with DASY2 system!)

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>34(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>35(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

**ET3DV6 SN:1642**

**January 19, 2006**

## **DASY - Parameters of Probe: ET3DV6 SN:1642**

### **Sensitivity in Free Space<sup>A</sup>**

### **Diode Compression<sup>B</sup>**

|       |              |                 |       |       |
|-------|--------------|-----------------|-------|-------|
| NormX | 1.66 ± 10.1% | $\mu V/(V/m)^2$ | DCP X | 94 mV |
| NormY | 1.91 ± 10.1% | $\mu V/(V/m)^2$ | DCP Y | 94 mV |
| NormZ | 1.64 ± 10.1% | $\mu V/(V/m)^2$ | DCP Z | 94 mV |

### **Sensitivity in Tissue Simulating Liquid (Conversion Factors)**

**Please see Page 8.**

### **Boundary Effect**

**TSL                      900 MHz      Typical SAR gradient: 5 % per mm**

|                                           |                              |        |        |
|-------------------------------------------|------------------------------|--------|--------|
| Sensor Center to Phantom Surface Distance |                              | 3.7 mm | 4.7 mm |
| SAR <sub>90%</sub> [%]                    | Without Correction Algorithm | 8.5    | 4.5    |
| SAR <sub>90%</sub> [%]                    | With Correction Algorithm    | 0.1    | 0.1    |

**TSL                      1810 MHz      Typical SAR gradient: 10 % per mm**

|                                           |                              |        |        |
|-------------------------------------------|------------------------------|--------|--------|
| Sensor Center to Phantom Surface Distance |                              | 3.7 mm | 4.7 mm |
| SAR <sub>90%</sub> [%]                    | Without Correction Algorithm | 12.3   | 8.1    |
| SAR <sub>90%</sub> [%]                    | With Correction Algorithm    | 0.6    | 0.3    |

### **Sensor Offset**

Probe Tip to Sensor Center                      **2.7 mm**

**The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.**

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Page 8).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>36(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

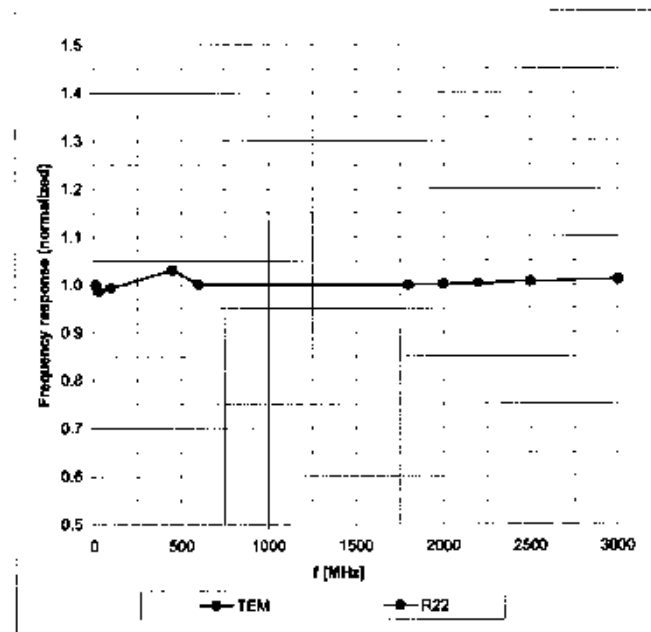
|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>37(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

ET3DV6 SN:1642

January 19, 2006

## Frequency Response of E-Field

(TEM-Cell: M110 EXX, Waveguide: R22)



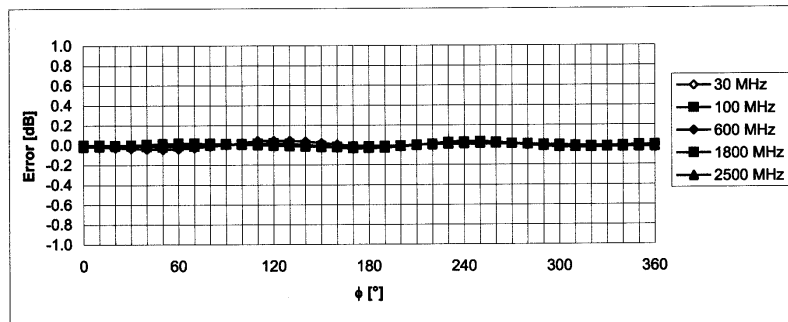
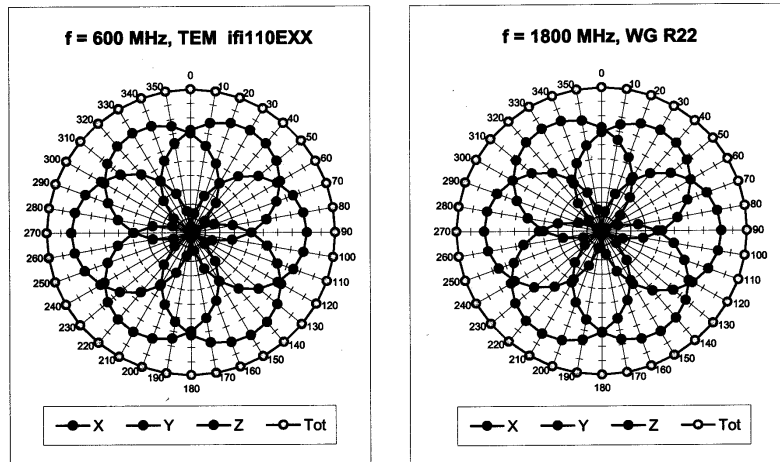
Uncertainty of Frequency Response of E-field:  $\pm 8.3\%$  ( $k=2$ )

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>38(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

ET3DV6 SN:1642

January 19, 2006

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

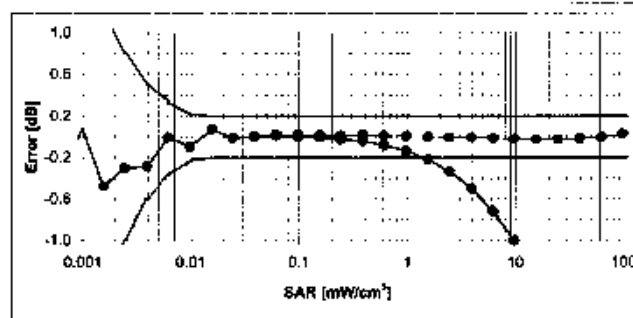
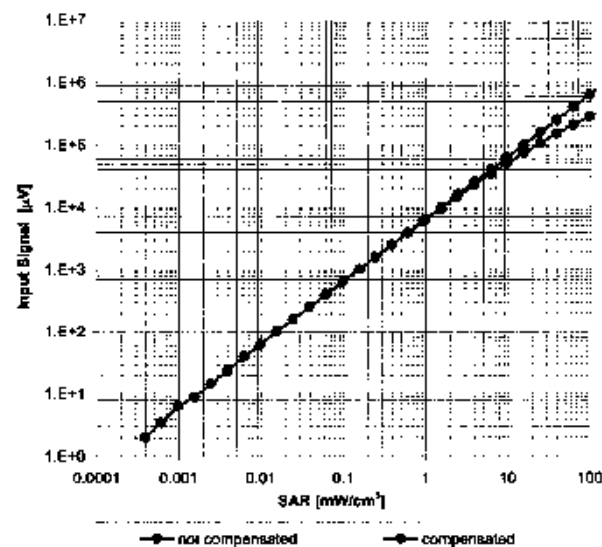
|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>39(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

|                                    |                                                                                                            |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> | Page<br><b>40(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>       |                                                                                                            |                                           |

ET3DVB SN:1642

January 19, 2006

### Dynamic Range f(SAR<sub>head</sub>) (Waveguide R22, f = 1800 MHz)



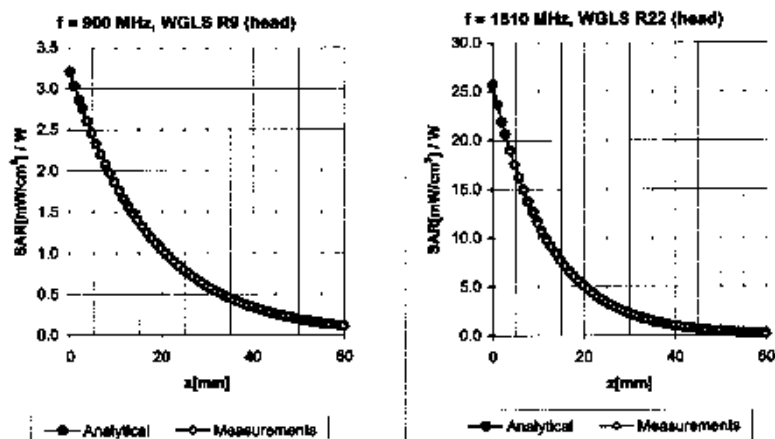
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  (k=2)

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>41(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

ET3DV6 SN:1642

January 18, 2006

## Conversion Factor Assessment



| f [MHz] | Validity [MHz] <sup>c</sup> | TSL  | Permittivity | Conductivity | Alpha | Depth | ConvF        | Uncertainty |
|---------|-----------------------------|------|--------------|--------------|-------|-------|--------------|-------------|
| 900     | ± 50 / ± 100                | Head | 41.5 ± 5%    | 0.97 ± 5%    | 0.67  | 1.88  | 6.38 ± 11.0% | (k=2)       |
| 1810    | ± 50 / ± 100                | Head | 40.0 ± 5%    | 1.40 ± 5%    | 0.66  | 2.12  | 5.18 ± 11.0% | (k=2)       |
| 1950    | ± 50 / ± 100                | Head | 40.0 ± 5%    | 1.40 ± 5%    | 0.73  | 1.55  | 5.02 ± 11.0% | (k=2)       |
| 900     | ± 50 / ± 100                | Body | 55.0 ± 5%    | 1.05 ± 5%    | 0.50  | 2.06  | 6.13 ± 11.0% | (k=2)       |
| 1810    | ± 50 / ± 100                | Body | 53.3 ± 5%    | 1.52 ± 5%    | 0.67  | 2.05  | 4.72 ± 11.0% | (k=2)       |
| 1950    | ± 50 / ± 100                | Body | 53.3 ± 5%    | 1.52 ± 5%    | 0.64  | 2.44  | 4.36 ± 11.0% | (k=2)       |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v6.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

|                                           |                                                                                                            |                                           |                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b> | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>42(65)</b>        |
| Author Data<br><b>Daoud Attayi</b>        | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

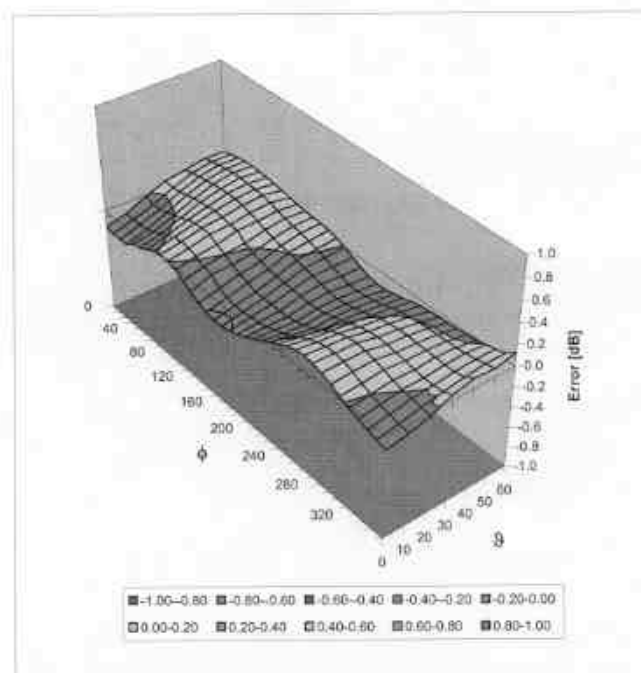
|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>43(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

ET3DV6 SN:1642

January 19, 2006

### Deviation from Isotropy in HSL

Error ( $\phi, \theta$ ),  $f = 900$  MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  ( $k=2$ )

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>44(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **RIM**

Certificate No: **D835V2-446\_Jan05**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN: 446**

Calibration procedure(s) **QA CAL-05.v6**  
**Calibration procedure for dipole validation kits**

Calibration date: **January 7, 2005**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #             | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|----------------------------|------------------|-------------------------------------------|-----------------------|
| Power meter EPM E442       | GB37480704       | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                |
| Power sensor HP 8481A      | US37292783       | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                |
| Reference 20 dB Attenuator | SN: 5086 (20g)   | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                |
| Reference Probe ET3DV6     | SN 1507          | 26-Oct-04 (SPEAG, No. ET3-1507_Oct04)     | Oct-05                |
| DAE4                       | SN 907           | 03-May-04 (SPEAG, No. DAE4-907_May04)     | May-05                |

| Secondary Standards       | ID #             | Check Date (in house)                    | Scheduled Check        |
|---------------------------|------------------|------------------------------------------|------------------------|
| Power sensor HP 8481A     | MY41092317       | 18-Oct-02 (SPEAG, in house check Oct-03) | In house check: Oct-05 |
| RF generator R&S SML-03   | 100698           | 27-Mar-02 (SPEAG, in house check Dec-03) | In house check: Dec-05 |
| Network Analyzer HP 8753E | US37390585 S4206 | Oct-01 (SPEAG, in house check Nov-04)    | In house check: Nov-05 |

|                |                              |                                          |               |
|----------------|------------------------------|------------------------------------------|---------------|
| Calibrated by: | Name<br><b>Judith Möller</b> | Function<br><b>Laboratory Technician</b> | Signature<br> |
| Approved by:   | Name<br><b>Katja Pokovic</b> | Technical Manager                        |               |

Issued: January 13, 2005

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: **D835V2-446\_Jan05**

Page 1 of 6

|                                    |                                                                                                       |                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> | Page<br><b>45(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>       |                                                                                                       |                                           |

**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**S** Service suisse d'étalonnage  
**C** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

TSL                      tissue simulating liquid  
ConvF                  sensitivity in TSL / NORM x,y,z  
N/A                      not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

**Additional Documentation:**

- d) DASY4 System Handbook

**Methods Applied and Interpretation of Parameters:**

- **Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- **Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- **Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- **Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- **SAR measured:** SAR measured at the stated antenna input power.
- **SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- **SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

|                                    |                                                                                                            |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> | Page<br><b>46(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>       |                                                                                                            |                                           |

#### Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                           |             |
|-------------------------------------|---------------------------|-------------|
| <b>DASY Version</b>                 | DASY4                     | V4.4        |
| <b>Extrapolation</b>                | Advanced Extrapolation    |             |
| <b>Phantom</b>                      | Modular Flat Phantom V4.9 |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                     | with Spacer |
| <b>Area Scan resolution</b>         | dx, dy = 15 mm            |             |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm         |             |
| <b>Frequency</b>                    | 835 MHz $\pm$ 1 MHz       |             |

#### Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>      | 22.0 °C             | 41.5           | 0.90 mho/m           |
| <b>Measured Head TSL parameters</b>     | (22.0 $\pm$ 0.2) °C | 42.2 $\pm$ 6 % | 0.91 mho/m $\pm$ 6 % |
| <b>Head TSL temperature during test</b> | (22.0 $\pm$ 0.2) °C | ----           | ----                 |

#### SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | condition          |                                                  |
|-------------------------------------------------------------|--------------------|--------------------------------------------------|
| SAR measured                                                | 250 mW input power | 2.27 mW / g                                      |
| SAR normalized                                              | normalized to 1W   | 9.08 mW / g                                      |
| SAR for nominal Head TSL parameters <sup>1</sup>            | normalized to 1W   | <b>9.10 mW / g <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                  |
|---------------------------------------------------------------|--------------------|--------------------------------------------------|
| SAR measured                                                  | 250 mW input power | 1.48 mW / g                                      |
| SAR normalized                                                | normalized to 1W   | 5.92 mW / g                                      |
| SAR for nominal Head TSL parameters <sup>1</sup>              | normalized to 1W   | <b>5.93 mW / g <math>\pm</math> 16.5 % (k=2)</b> |

<sup>1</sup> Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>47(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

## Appendix

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 50.1 $\Omega$ - 7.1 j $\Omega$ |
| Return Loss                          | - 22.9 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.385 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                  |
|-----------------|------------------|
| Manufactured by | SPEAG            |
| Manufactured on | October 24, 2001 |

|                             |                                                                                                   |                                   |                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------|
| RTS<br>RIM Testing Services | Document<br>Appendices for the BlackBerry Wireless Handheld Model<br>RBD51UW / RBD52GW SAR Report |                                   | Page<br>48(65)                     |
|                             | Author Data<br>Daoud Attayi                                                                       | Dates of Test<br>05-09 June, 2006 | Test Report No<br>RTS-0258-0606-16 |
|                             |                                                                                                   | FCC ID:<br>L6ARBD50UW             |                                    |

#### DASY4 Validation Report for Head TSL

Date/Time: 01/07/05 15:08:43

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN446**

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

Medium: HSL 900 MHz;

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.24, 6.24, 6.24); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 03.05.2004
- Phantom: Flat Phantom 4.9L; Type: QD000P50AA; Serial: SN:1001;
- Measurement SW: DASY4, V4.4 Build 10; Postprocessing SW: SEMCAD, V1.8 Build 133

**Pin = 250 mW; d = 15 mm/Area Scan (81x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 2.44 mW/g

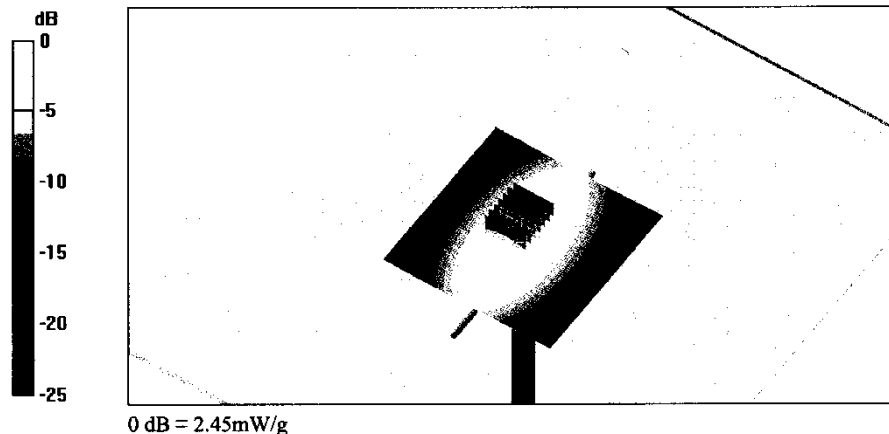
**Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 54.2 V/m; Power Drift = 0.0 dB

Peak SAR (extrapolated) = 3.36 W/kg

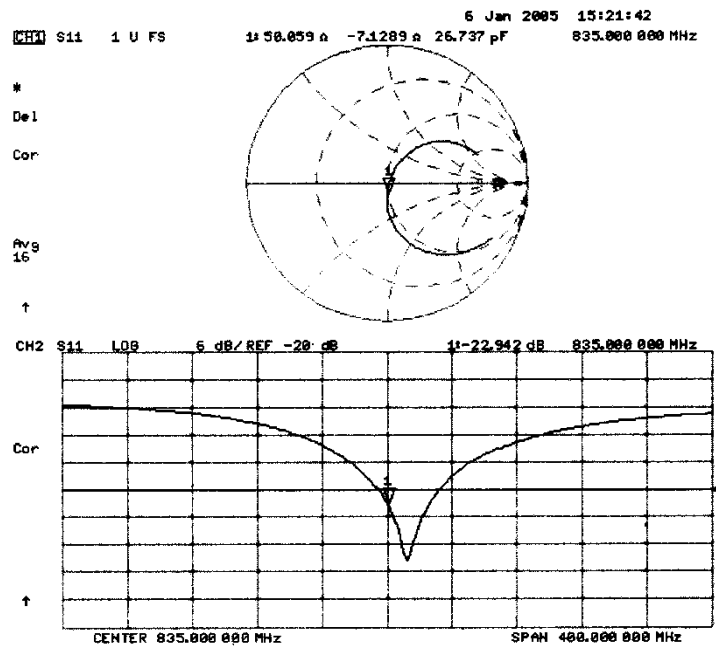
**SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.48 mW/g**

Maximum value of SAR (measured) = 2.45 mW/g



|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>49(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

# Impedance Measurement Plot for Head TSL



|                                                   |                                                                                                                           |                                                          |                                             |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b>         | <small>Document</small><br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                                          | <small>Page</small><br><b>50(65)</b>        |
| <small>Author Data</small><br><b>Daoud Attayi</b> | <small>Dates of Test</small><br><b>05-09 June, 2006</b>                                                                   | <small>Test Report No</small><br><b>RTS-0258-0606-16</b> | <small>FCC ID:</small><br><b>L6ARBD50UW</b> |

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>51(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |

**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
Zaughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **RIM**

Certificate No: **D1900V2-545\_Jan05**

| CALIBRATION CERTIFICATE                                                                                                                                                                                                                                                       |                                                                         |                                           |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------|--------------------------|
| Object                                                                                                                                                                                                                                                                        | D1900V2 - SN: 545                                                       |                                           |                          |
| Calibration procedure(s)                                                                                                                                                                                                                                                      | <b>QA CAL-05.v6</b><br>Calibration procedure for dipole validation kits |                                           |                          |
| Calibration date:                                                                                                                                                                                                                                                             | January 06, 2005                                                        |                                           |                          |
| Condition of the calibrated item                                                                                                                                                                                                                                              | In Tolerance                                                            |                                           |                          |
| This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).<br>The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. |                                                                         |                                           |                          |
| All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.                                                                                                                                                |                                                                         |                                           |                          |
| Calibration Equipment used (M&TE critical for calibration)                                                                                                                                                                                                                    |                                                                         |                                           |                          |
| Primary Standards                                                                                                                                                                                                                                                             | ID #                                                                    | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration    |
| Power meter EPM E442                                                                                                                                                                                                                                                          | GB37480704                                                              | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                   |
| Power sensor HP 8481A                                                                                                                                                                                                                                                         | US37292783                                                              | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                   |
| Reference 20 dB Attenuator                                                                                                                                                                                                                                                    | SN: 5086 (20g)                                                          | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                   |
| Reference 10 dB Attenuator                                                                                                                                                                                                                                                    | SN: 5047.2 (10r)                                                        | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                   |
| Reference Probe ET3DV6                                                                                                                                                                                                                                                        | SN 1507                                                                 | 26-Oct-04 (SPEAG, No. ET3-1507_Oct04)     | Oct-05                   |
| DAE4                                                                                                                                                                                                                                                                          | SN 907                                                                  | 03-May-04 (SPEAG, No. DAE4-907_May04)     | May-05                   |
| Secondary Standards                                                                                                                                                                                                                                                           | ID #                                                                    | Check Date (in house)                     | Scheduled Check          |
| Power sensor HP 8481A                                                                                                                                                                                                                                                         | MY41092317                                                              | 18-Oct-02 (SPEAG, in house check Oct-03)  | In house check: Oct-05   |
| RF generator R&S SML-03                                                                                                                                                                                                                                                       | 100698                                                                  | 27-Mar-02 (SPEAG, in house check Dec-03)  | In house check: Dec-05   |
| Network Analyzer HP 8753E                                                                                                                                                                                                                                                     | US37390585 S4206                                                        | 18-Oct-01 (SPEAG, in house check Nov-04)  | In house check: Nov 05   |
| Calibrated by:                                                                                                                                                                                                                                                                | Name<br>Judith Müller                                                   | Function<br>Laboratory Technician         | Signature<br>            |
| Approved by:                                                                                                                                                                                                                                                                  | Katja Pokovic                                                           | Technical Manager                         |                          |
|                                                                                                                                                                                                                                                                               |                                                                         |                                           | Issued: January 13, 2005 |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory.                                                                                                                                                               |                                                                         |                                           |                          |

Certificate No: D1900V2-545\_Jan05

Page 1 of 6

|                                    |                                                                                                       |                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> | Page<br><b>52(65)</b>                     |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                              | Test Report No<br><b>RTS-0258-0606-16</b> |
| FCC ID:<br><b>L6ARBD50UW</b>       |                                                                                                       |                                           |

**Calibration Laboratory of**  
**Schmid & Partner**  
Engineering AG  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**S** Service suisse d'étalonnage  
**C** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

TSL tissue simulating liquid  
ConvF sensitivity in TSL / NORM x,y,z  
N/A not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

**Additional Documentation:**

- DASY4 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>53(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

### Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                           |             |
|-------------------------------------|---------------------------|-------------|
| <b>DASY Version</b>                 | DASY4                     | V4.4        |
| <b>Extrapolation</b>                | Advanced Extrapolation    |             |
| <b>Phantom</b>                      | Modular Flat Phantom V4.9 |             |
| <b>Distance Dipole Center - TSL</b> | 10 mm                     | with Spacer |
| <b>Area Scan resolution</b>         | dx, dy = 15 mm            |             |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm         |             |
| <b>Frequency</b>                    | 1900 MHz $\pm$ 1 MHz      |             |

### Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>      | 22.0 °C             | 40.0           | 1.40 mho/m           |
| <b>Measured Head TSL parameters</b>     | (22.0 $\pm$ 0.2) °C | 38.9 $\pm$ 6 % | 1.45 mho/m $\pm$ 6 % |
| <b>Head TSL temperature during test</b> | (22.0 $\pm$ 0.2) °C | ----           | ----                 |

### SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | condition          |                                                  |
|-------------------------------------------------------------|--------------------|--------------------------------------------------|
| SAR measured                                                | 250 mW input power | 10.2 mW / g                                      |
| SAR normalized                                              | normalized to 1W   | 40.8 mW / g                                      |
| SAR for nominal Head TSL parameters <sup>1</sup>            | normalized to 1W   | <b>39.5 mW / g <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                  |
|---------------------------------------------------------------|--------------------|--------------------------------------------------|
| SAR measured                                                  | 250 mW input power | 5.34 mW / g                                      |
| SAR normalized                                                | normalized to 1W   | 21.4 mW / g                                      |
| SAR for nominal Head TSL parameters <sup>1</sup>              | normalized to 1W   | <b>20.7 mW / g <math>\pm</math> 16.5 % (k=2)</b> |

<sup>1</sup> Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>54(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |

## Appendix

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 51.7 $\Omega$ + 2.1 j $\Omega$ |
| Return Loss                          | - 31.5 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.198 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.  
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                   |
|-----------------|-------------------|
| Manufactured by | SPEAG             |
| Manufactured on | November 15, 2001 |

|                                    |                                                                                                       |                                          |                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>55(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                    | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                       |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

#### DASY4 Validation Report for Head TSL

Date/Time: 01/06/05 18:30:23

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN545**

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

Medium: HSL 1900 MHz;

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.96, 4.96, 4.96); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 03.05.2004
- Phantom: Flat Phantom quarter size; Type: QD000P50AA; Serial: SN:1001;
- Measurement SW: DASY4, V4.4 Build 10; Postprocessing SW: SEMCAD, V1.8 Build 133

**Pin = 250 mW; d = 10 mm/Area Scan (81x81x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 11.6 mW/g

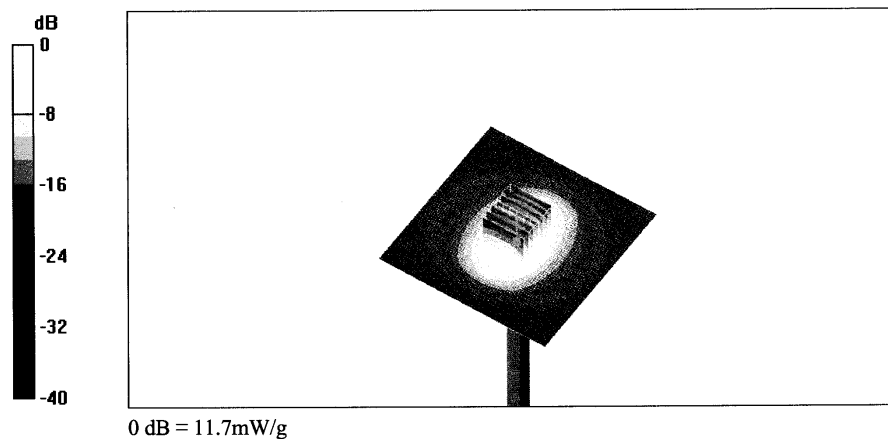
**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.2 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 18 W/kg

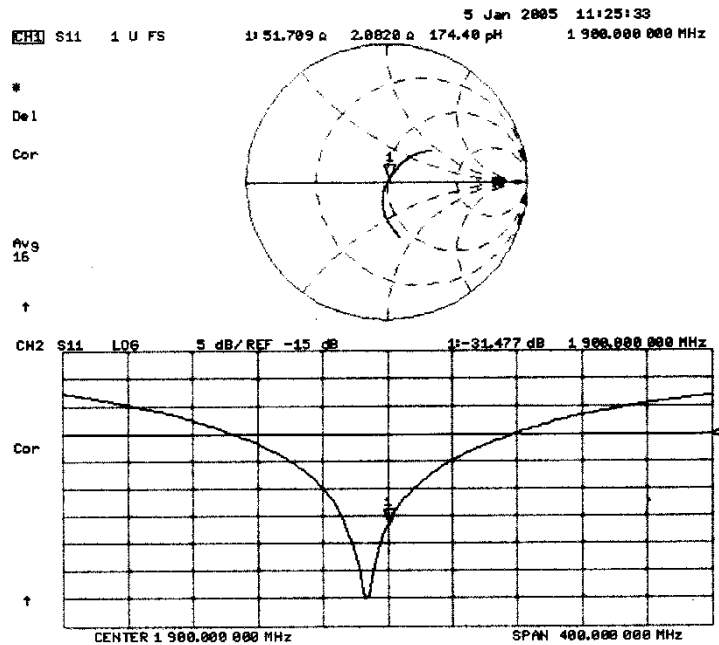
**SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.34 mW/g**

Maximum value of SAR (measured) = 11.7 mW/g



|                                    |                                                                                                            |                                          |                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                          | Page<br><b>56(65)</b>                     |
|                                    | Author Data<br><b>Daoud Attayi</b>                                                                         | Dates of Test<br><b>05-09 June, 2006</b> | Test Report No<br><b>RTS-0258-0606-16</b> |
|                                    |                                                                                                            |                                          | FCC ID:<br><b>L6ARBD50UW</b>              |

# Impedance Measurement Plot for Head TSL



|                                                   |                                                                                                                           |                                                          |                                             |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|
| <b>RTS</b><br><b>RIM Testing Services</b>         | <small>Document</small><br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                                          | <small>Page</small><br><b>57(65)</b>        |
| <small>Author Data</small><br><b>Daoud Attayi</b> | <small>Dates of Test</small><br><b>05-09 June, 2006</b>                                                                   | <small>Test Report No</small><br><b>RTS-0258-0606-16</b> | <small>FCC ID:</small><br><b>L6ARBD50UW</b> |

## APPENDIX E: SAR SET UP PHOTOS

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>58(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E1. Right touch position (RBD51UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>59(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E2. Right touch position (RBD52UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>60(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E3. Body worn with Holster 1; front (RBD52UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>61(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E4. Body worn with Holster 2; front (RBD52UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>62(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E5. Body worn with Holster 2; back (RBD52UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>63(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E6. Body worn with Holster 3; back (RBD52UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>64(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E7. Body worn with Holster 3; back (RBD51UW)**

|                                    |                                                                                                            |                                           |                              |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|
| <b>RTS</b><br>RIM Testing Services | Document<br><b>Appendices for the BlackBerry Wireless Handheld Model<br/> RBD51UW / RBD52GW SAR Report</b> |                                           | Page<br><b>65(65)</b>        |
| Author Data<br><b>Daoud Attayi</b> | Dates of Test<br><b>05-09 June, 2006</b>                                                                   | Test Report No<br><b>RTS-0258-0606-16</b> | FCC ID:<br><b>L6ARBD50UW</b> |



**Figure E8. Body worn with Holster 4; back (RBD52UW)**