

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 1(1)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

APPENDIX A: SAR DISTRIBUTION COMPARISON FOR THE ACCURACY VERIFICATION

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			2(2)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/29/03 13:14:58

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.6 (°C); Liquid Temperature: 22.2 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 MHz Head ($\sigma = 0.89$ mho/m, $\epsilon_r = 41.29$, $\rho = 1000$ kg/m³)
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.6, 6.6, 6.6); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (81x151x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 113.8 V/m

Power Drift = 0.004 dB

Maximum value of SAR = 10.7 mW/g

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

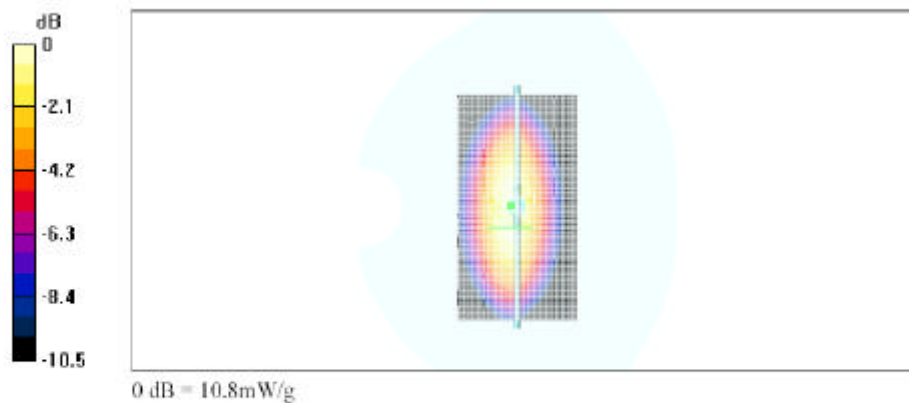
Peak SAR (extrapolated) = 14.6 W/kg

SAR(1 g) = 10 mW/g; SAR(10 g) = 6.52 mW/g

Reference Value = 113.8 V/m

Power Drift = 0.004 dB

Maximum value of SAR = 10.8 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Dipole%20validation%20for%2083... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			3(3)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/24/03 11:31:08

Test Laboratory: Research In Motion Limited
Ambient Temperature: 23.9 (°C) Liquid Temperature: 23.2 (°C)

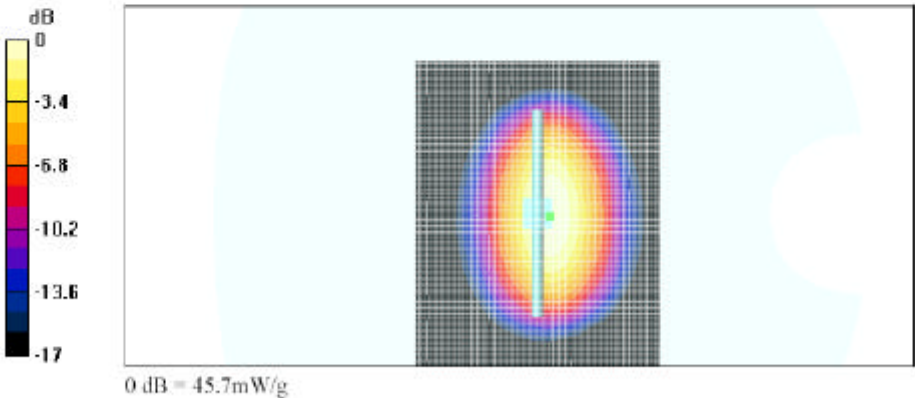
Dipole 1900MHz; Type: D1900V2; Serial: D1900V2 - SN:545

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900 ($\sigma = 1.46 \text{ mho/m}$, $\epsilon_r = 39.92$, $\rho = 1000 \text{ kg/m}^3$)
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1644; ConvF(5.4, 5.4, 5.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (81x101x1): Measurement grid: dx=10mm, dy=10mm
Reference Value = 177.0 V/m
Power Drift = -0.03 dB
Maximum value of SAR = 46.2 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 73.1 W/kg
SAR(1 g) = 40.9 mW/g; SAR(10 g) = 21.2 mW/g
Reference Value = 177.0 V/m
Power Drift = -0.03 dB
Maximum value of SAR = 45.7 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\1900%20MHz%20dipole%20validat... 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 4(4)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

APPENDIX B: SAR DISTRIBUTION PLOTS FOR HEAD CONFIGURATION

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			5(5)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/29/03 14:45:08

Test Laboratory: Research In Motion Limited

Ambient Temperature: 24.6 (°C); Liquid Temperature: 22.2 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Touch left side of head

Communication System: GSM 835; Frequency: 836.8 MHz; Duty Cycle: 1:8.3

Medium: 835 MHz Head ($\sigma = 0.89$ mho/m, $\epsilon_r = 41.29$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.6, 6.6, 6.6); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 7.31 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.56 mW/g

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

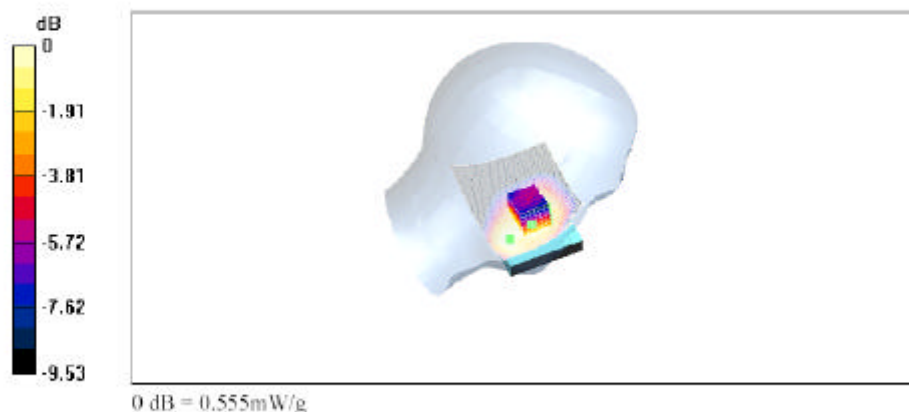
Peak SAR (extrapolated) = 0.655 W/kg

SAR(1 g) = 0.527 mW/g; SAR(10 g) = 0.394 mW/g

Reference Value = 7.31 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.555 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Touch%20left%20mid%20chan-4.htm 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			6(6)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 2

Date/Time: 09/29/03 15:58:10

Test Laboratory: Research In Motion Limited

Ambient Temperature: 24.6 (°C); Liquid Temperature: 22.2 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Tilted left side of head

Communication System: GSM 835; Frequency: 836.8 MHz; Duty Cycle: 1:8.3

Medium: 835 MHz Head ($\sigma = 0.89$ mho/m, $\epsilon_r = 41.29$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.6, 6.6, 6.6); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 9.02 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.299 mW/g

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

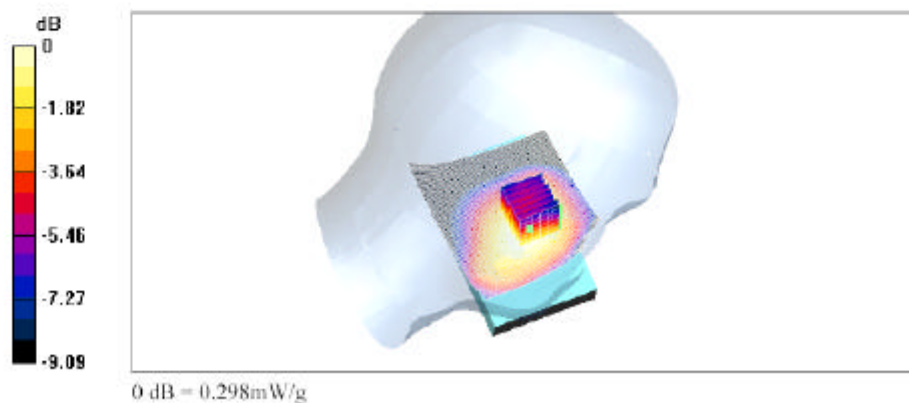
Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.217 mW/g

Reference Value = 9.02 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.298 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Tilt%20left%20mid%20chan-4.htm 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			7(7)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/29/03 16:40:53

Test Laboratory: Research In Motion Limited

Ambient Temperature: 24.5 (°C); Liquid Temperature: 22.1 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Touch right side of head

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3

Medium: 835 MHz Head ($\sigma = 0.89$ mho/m, $\epsilon_r = 41.29$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.6, 6.6, 6.6); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 7.86 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.405 mW/g

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

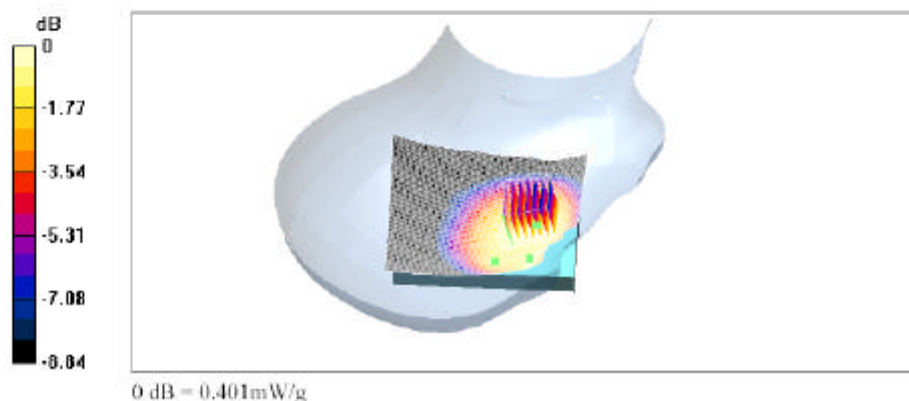
Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.289 mW/g

Reference Value = 7.86 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.401 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Touch%20right%20mid%20chan-5.... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			8(8)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/29/03 17:17:30

Test Laboratory: Research In Motion Limited

Ambient Temperature: 24.5 (°C); Liquid Temperature: 22.1 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Tilted right side of head

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3

Medium: 835 MHz Head ($\sigma = 0.89$ mho/m, $\epsilon_r = 41.29$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.6, 6.6, 6.6); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 10.8 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.281 mW/g

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

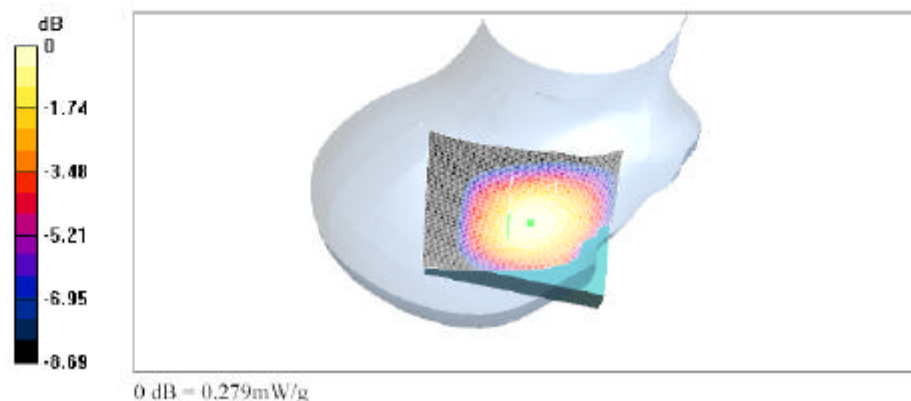
Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.206 mW/g

Reference Value = 10.8 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 0.279 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Tilt%20right%20mid%20chan-4.htm 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 9(9)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

Page 1 of 1

Date/Time: 09/24/03 13:51:31

Test Laboratory: Research In Motion Limited

Ambient Temperature: 23.9 (°C); Liquid Temperature: 23.4 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Touch left side of head

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 ($\sigma = 1.46$ mho/m, $\epsilon_r = 39.92$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.4, 5.4, 5.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 16.1 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 1.76 mW/g

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

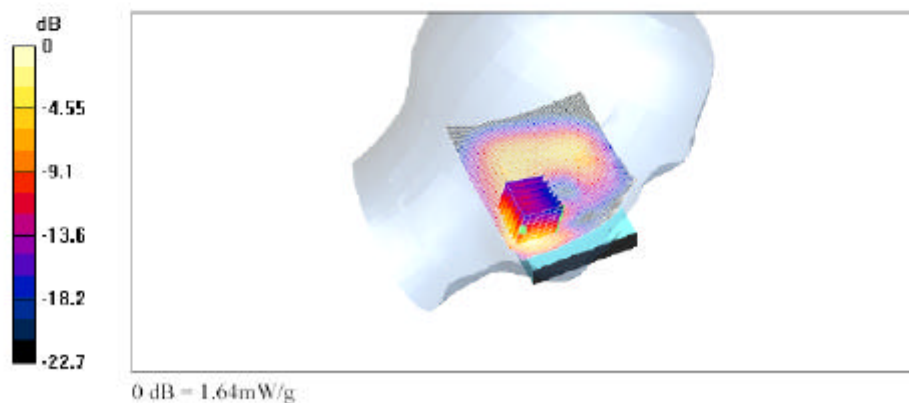
Peak SAR (extrapolated) = 3.18 W/kg

SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.635 mW/g

Reference Value = 16.1 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 1.64 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Touch%20left%20high%20chan-2.h... 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			Page 10(10)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

Page 1 of 1

Date/Time: 09/24/03 14:43:17

Test Laboratory: Research In Motion Limited

Ambient Temperature: 23.9 (°C); Liquid Temperature: 23.4 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Tilted left side of head

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 ($\sigma = 1.46$ mho/m, $\epsilon_r = 39.92$, $\rho = 1000$ kg/m³)

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.4, 5.4, 5.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 14.4 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.38 mW/g

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

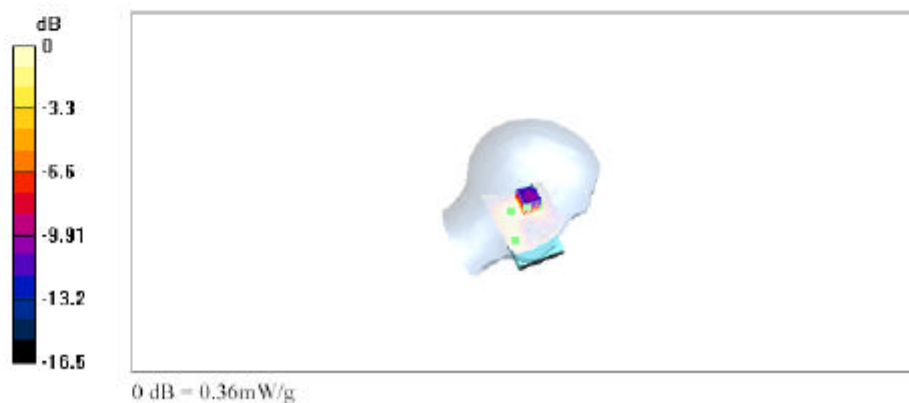
Peak SAR (extrapolated) = 0.544 W/kg

SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.192 mW/g

Reference Value = 14.4 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.36 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Tilt%20left%20mid%20chan-5.htm 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			11(11)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/24/03 18:08:43

Test Laboratory: Research In Motion Limited

Ambient Temperature: 23.1 (°C); Liquid Temperature: 22.8 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Touch right side of head

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 ($\sigma = 1.46$ mho/m, $\epsilon_r = 39.92$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.4, 5.4, 5.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 9.8 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.916 mW/g

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

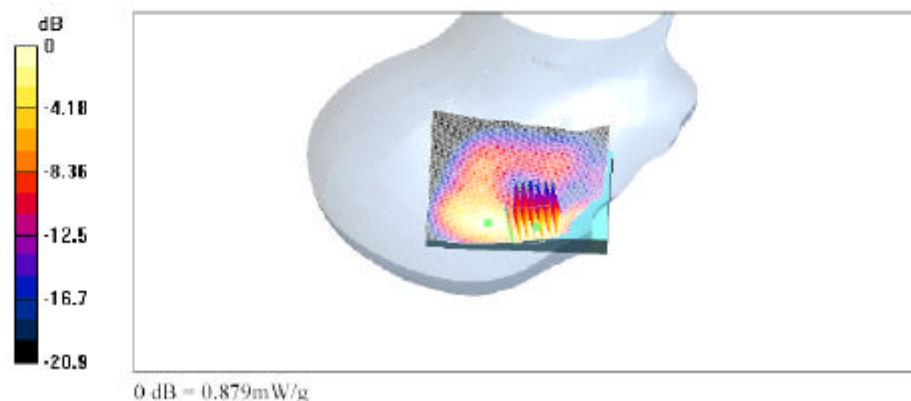
Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.78 mW/g; SAR(10 g) = 0.385 mW/g

Reference Value = 9.8 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.879 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Touch%20right%20mid%20chan-6... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			12(12)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/24/03 15:56:45

Test Laboratory: Research In Motion Limited

Ambient Temperature: 23.1 (°C); Liquid Temperature: 22.8 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Tilted right side of head

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900 ($\sigma = 1.46$ mho/m, $\epsilon_r = 39.92$, $\rho = 1000$ kg/m³)

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.4, 5.4, 5.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 11.6 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.557 mW/g

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

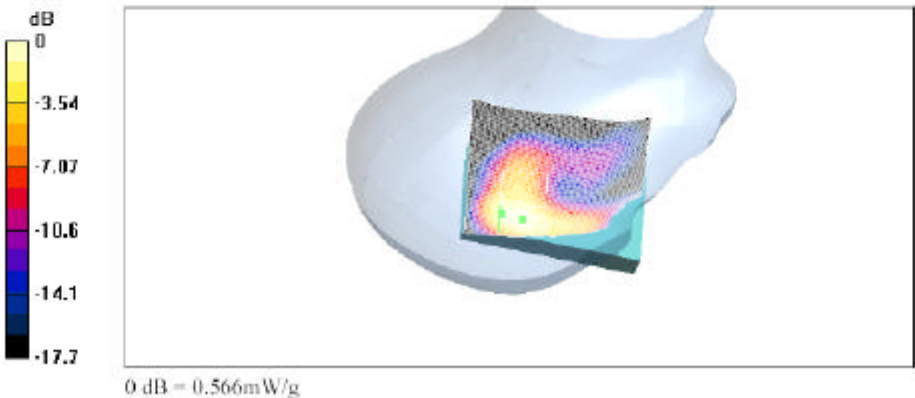
Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.283 mW/g

Reference Value = 11.6 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.566 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Tilt%20right%20mid%20chan-5.htm 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 13(13)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

APPENDIX C: SAR DISTRIBUTION PLOTS FOR BODY-WORN CONFIGURATION

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			14(14)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/30/03 10:56:56

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.6 (°C); Liquid Temperature: 22.1 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with holster

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3
Medium: M 835 ($\sigma = 0.97$ mho/m, $\epsilon_r = 53.15$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.4, 6.4, 6.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 19.4 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.373 mW/g

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

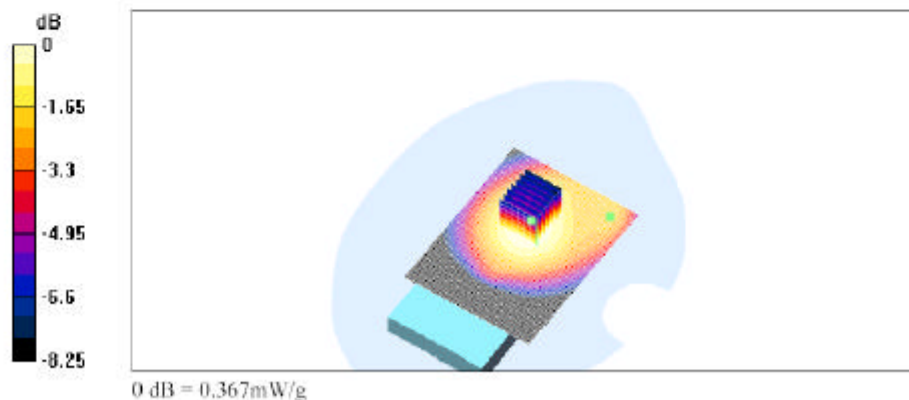
Peak SAR (extrapolated) = 0.44 W/kg

SAR(1 g) = 0.352 mW/g; SAR(10 g) = 0.264 mW/g

Reference Value = 19.4 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.367 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body%20worn%20wih%20holster-1... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			15(15)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/30/03 12:10:00

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.5 (°C); Liquid Temperature: 22.2 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with leather swivel holster

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3
Medium: M 835 ($\sigma = 0.97$ mho/m, $\epsilon_r = 53.15$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.4, 6.4, 6.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 19.5 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.341 mW/g

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

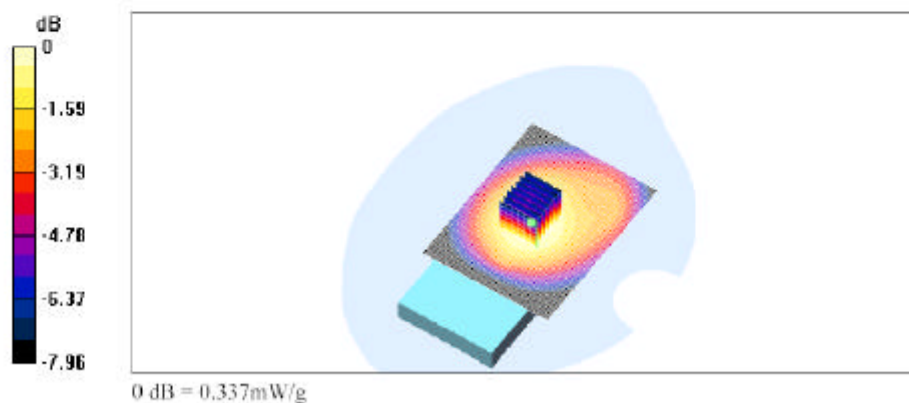
Peak SAR (extrapolated) = 0.398 W/kg

SAR(1 g) = 0.321 mW/g; SAR(10 g) = 0.24 mW/g

Reference Value = 19.5 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.337 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body%20worn%20wih%20leather%... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			16(16)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/30/03 13:50:58

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.6 (°C); Liquid Temperature: 21.9 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with folding leather case

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3
Medium: M 835 ($\sigma = 0.97 \text{ mho/m}$, $\epsilon_r = 53.15$, $\rho = 1000 \text{ kg/m}^3$)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.4, 6.4, 6.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 21.9 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 0.498 mW/g

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

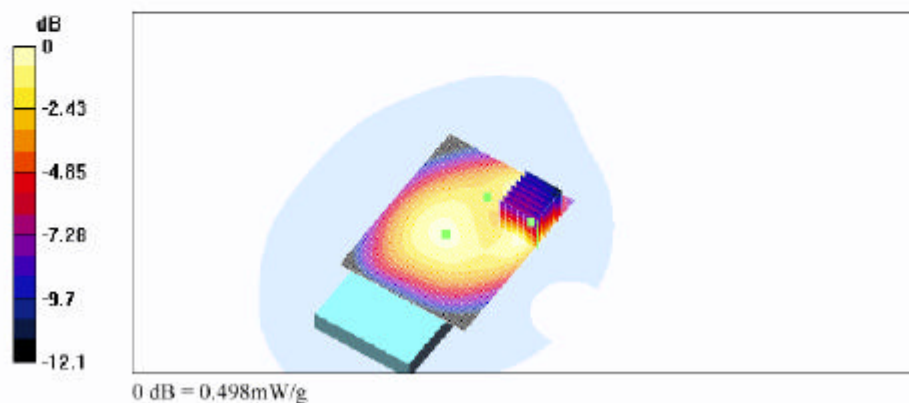
Peak SAR (extrapolated) = 0.678 W/kg

SAR(1 g) = 0.46 mW/g; SAR(10 g) = 0.299 mW/g

Reference Value = 21.9 V/m

Power Drift = -0.04 dB

Maximum value of SAR = 0.498 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body%20worn%20wih%20leather%... 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 17(17)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

Page 1 of 1

Date/Time: 09/30/03 15:36:00

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.8 (°C); Liquid Temperature: 22.0 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with folding leather case (back side)

Communication System: GSM 850; Frequency: 836.8 MHz; Duty Cycle: 1:8.3
Medium: M 835 ($\sigma = 0.97$ mho/m, $\epsilon_r = 53.15$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(6.4, 6.4, 6.4); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1); Measurement grid: dx=10mm, dy=10mm

Reference Value = 25.8 V/m

Power Drift = 0.02 dB

Maximum value of SAR = 0.715 mW/g

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

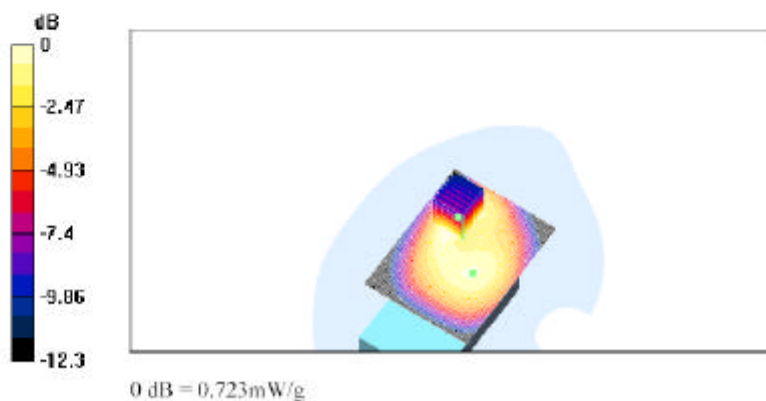
Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.664 mW/g; SAR(10 g) = 0.418 mW/g

Reference Value = 25.8 V/m

Power Drift = 0.02 dB

Maximum value of SAR = 0.723 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body%20worn%20wih%20leather%... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			18(18)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/25/03 13:42:54

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.2 (°C); Liquid Temperature: 22.0 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with holster

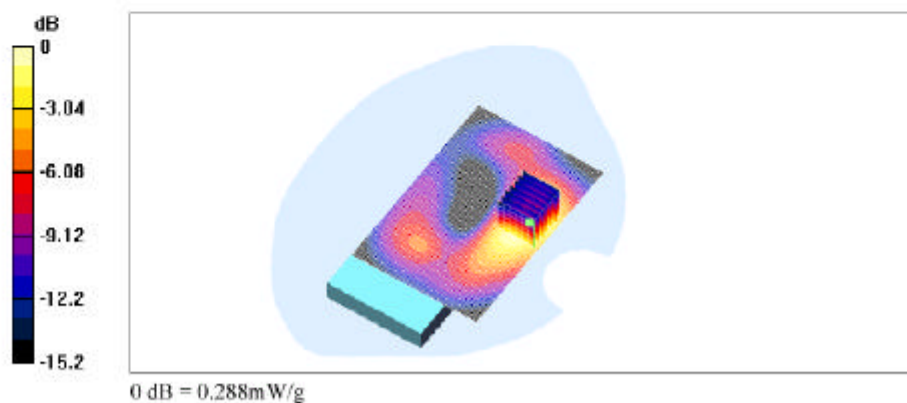
Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: M1900 ($\sigma = 1.53$ mho/m, $\epsilon_r = 51.02$, $\rho = 1000$ kg/m³)
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.1, 5.1, 5.1); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x151x1): Measurement grid: dx=10mm, dy=10mm
Reference Value = 2.4 V/m
Power Drift = -0.09 dB
Maximum value of SAR = 0.301 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.429 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.157 mW/g
Reference Value = 2.4 V/m
Power Drift = -0.09 dB
Maximum value of SAR = 0.288 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body-worn%20with%20holster%20... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			19(19)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/25/03 17:43:56

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.2 (°C); Liquid Temperature: 22.0 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with leather swivel holster

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: M1900 ($\sigma = 1.53$ mho/m, $\epsilon_r = 51.02$, $\rho = 1000$ kg/m³)
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.1, 5.1, 5.1); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.84 V/m

Power Drift = -0.08 dB

Maximum value of SAR = 0.237 mW/g

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

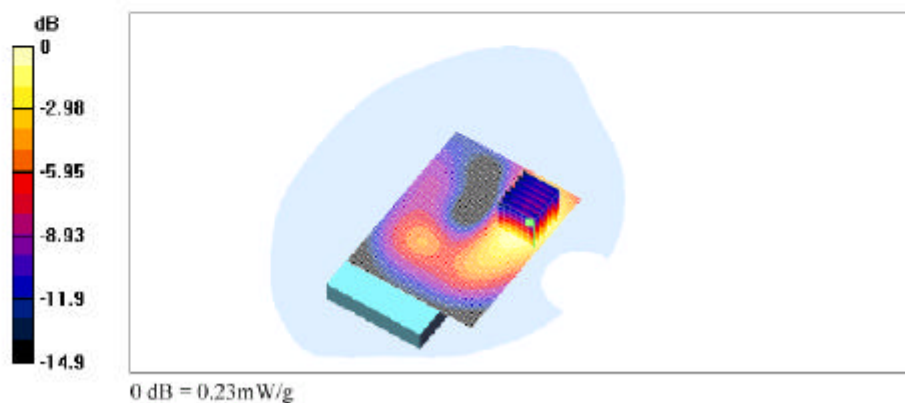
Peak SAR (extrapolated) = 0.344 W/kg

SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.128 mW/g

Reference Value = 2.84 V/m

Power Drift = -0.08 dB

Maximum value of SAR = 0.23 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body-worn%20with%20leather%20... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			20(20)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/26/03 10:51:08

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.6 (°C); Liquid Temperature: 23.2 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

Configuration: Body worn with folding leather case

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: M1900 ($\sigma = 1.53$ mho/m, $\epsilon_r = 51.02$, $\rho = 1000$ kg/m³)
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.1, 5.1, 5.1); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.67 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.707 mW/g

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

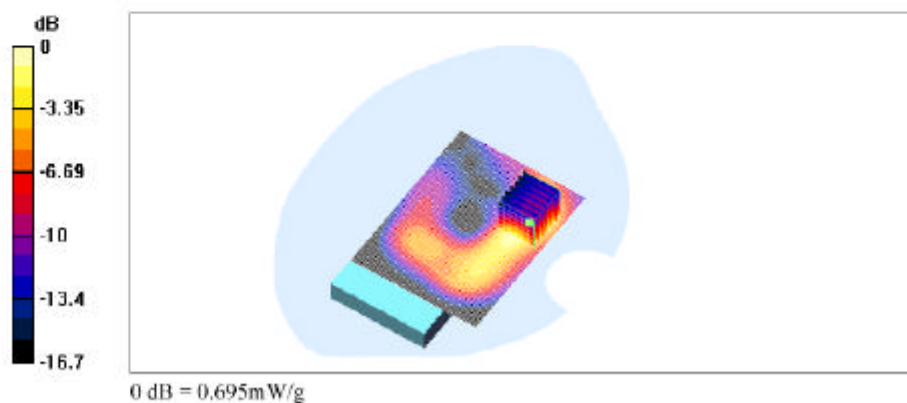
Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.334 mW/g

Reference Value = 3.67 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.695 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body-worn%20with%20leather%20... 30/09/2003

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			21(21)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1

Date/Time: 09/26/03 12:45:01

Test Laboratory: Research In Motion Limited
Ambient Temperature: 24.5 (°C); Liquid Temperature: 23.0 (°C)

DUT: BlackBerry Wireless Handheld Model R6030GN; Type: Sample ; Serial: 205NA-303X6

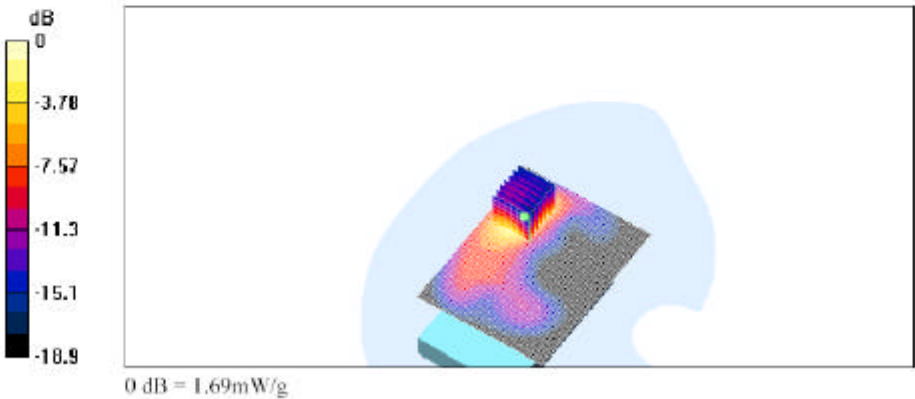
Configuration: Body worn with folding leather case (back side)

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium: M1900 ($\sigma = 1.53 \text{ mho/m}$, $\epsilon_r = 51.02$, $\rho = 1000 \text{ kg/m}^3$)
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1644; ConvF(5.1, 5.1, 5.1); Calibrated: 21/10/2002
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 19/08/2003
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Unnamed procedure/Area Scan (101x131x1): Measurement grid: dx=10mm, dy=10mm
Reference Value = 4.07 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.71 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 2.89 W/kg
SAR(1 g) = 1.51 mW/g; SAR(10 g) = 0.743 mW/g
Reference Value = 4.07 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.69 mW/g



file://C:\Program%20Files\DASY4\Print_Templates\Body-worn%20with%20leather%20... 30/09/2003

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 22(22)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

APPENDIX D: PROBE & DIPOLE CALIBRATION DATA

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			23(23)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

Dosimetric E-Field Probe

Type:

ET3DV6

Serial Number:

1644

Place of Calibration:

Zurich

Date of Calibration:

October 21, 2002

Calibration Interval:

12 months

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:

D. Vetter

Approved by:

Daoud Attayi

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			24(24)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

**Schmid & Partner
Engineering AG**

Zeughausstrasse 43, 8004 Zurich, Switzerland, Telephone +41 1 245 97 00, Fax +41 1 245 97 79

Probe ET3DV6

SN:1644

Manufactured: November 7, 2001
Last calibration: November 26, 2001
Recalibrated: October 21, 2002

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			25(25)
	Author Data	Dates of Test	Test Report No	FCC ID
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

ET3DV6 SN:1644

October 21, 2002

DASY - Parameters of Probe: ET3DV6 SN:1644

Sensitivity in Free Space

Diode Compression

NormX	1.73 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	95	mV
NormY	1.88 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	95	mV
NormZ	1.83 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	95	mV

Sensitivity in Tissue Simulating Liquid

Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
ConvF X	6.6 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	6.6 $\pm 9.5\%$ (k=2)	Alpha	0.32
ConvF Z	6.6 $\pm 9.5\%$ (k=2)	Depth	2.91
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
ConvF X	5.4 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	5.4 $\pm 9.5\%$ (k=2)	Alpha	0.49
ConvF Z	5.4 $\pm 9.5\%$ (k=2)	Depth	2.47

Boundary Effect

Head	900 MHz	Typical SAR gradient: 5 % per mm	
Probe Tip to Boundary		1 mm	2 mm
SAR _{be} [%] Without Correction Algorithm		10.4	6.1
SAR _{be} [%] With Correction Algorithm		0.5	0.6
Head	1800 MHz	Typical SAR gradient: 10 % per mm	
Probe Tip to Boundary		1 mm	2 mm
SAR _{be} [%] Without Correction Algorithm		12.2	8.0
SAR _{be} [%] With Correction Algorithm		0.1	0.1

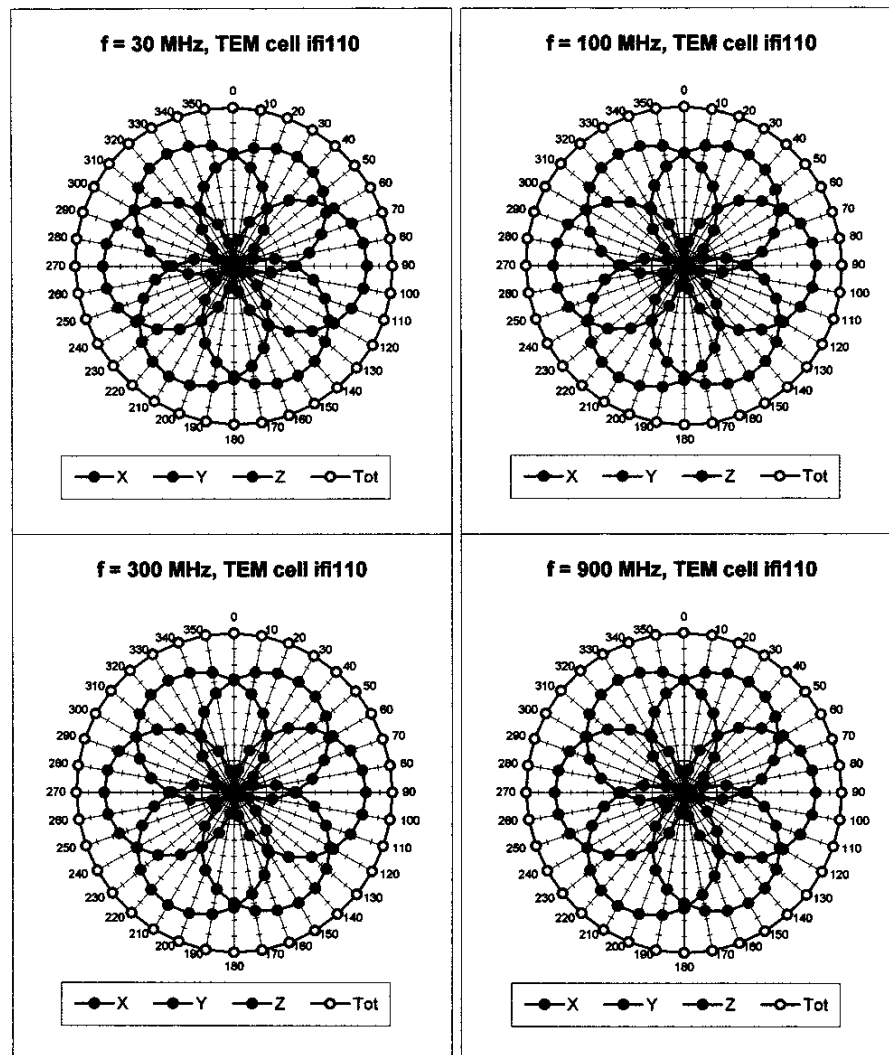
Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.4 $\pm$ 0.2	mm

ET3DV6 SN:1644

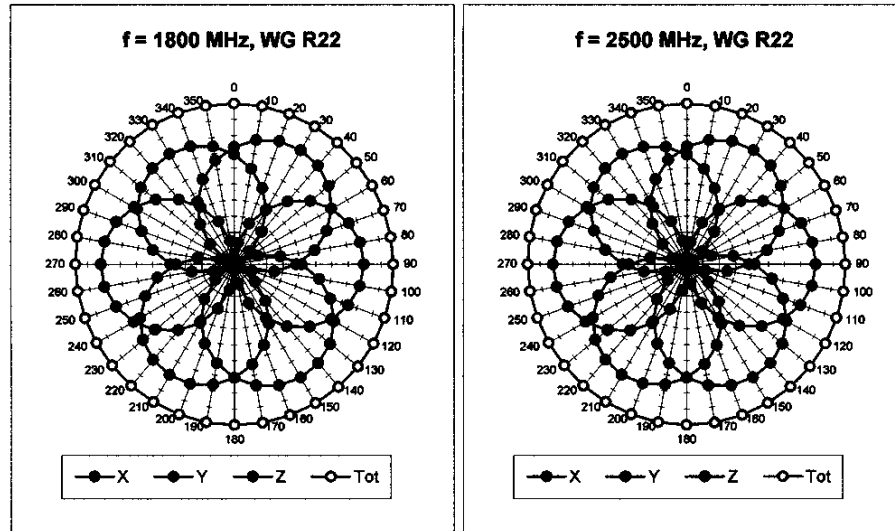
October 21, 2002

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

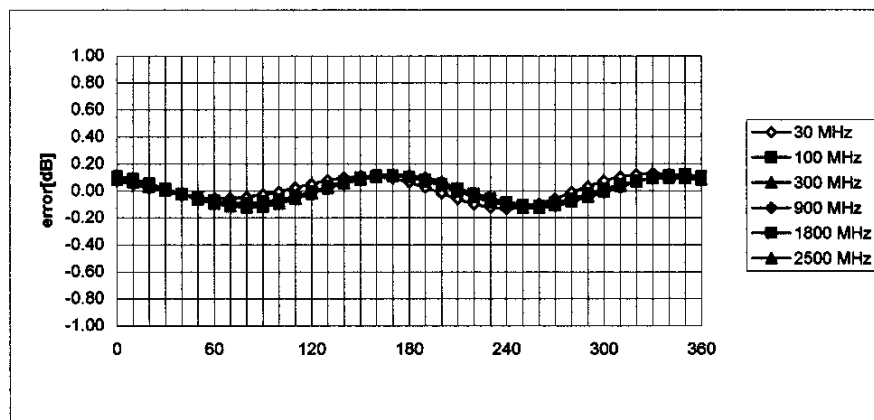


ET3DV6 SN:1644

October 21, 2002



Isotropy Error (ϕ), $\theta = 0^\circ$



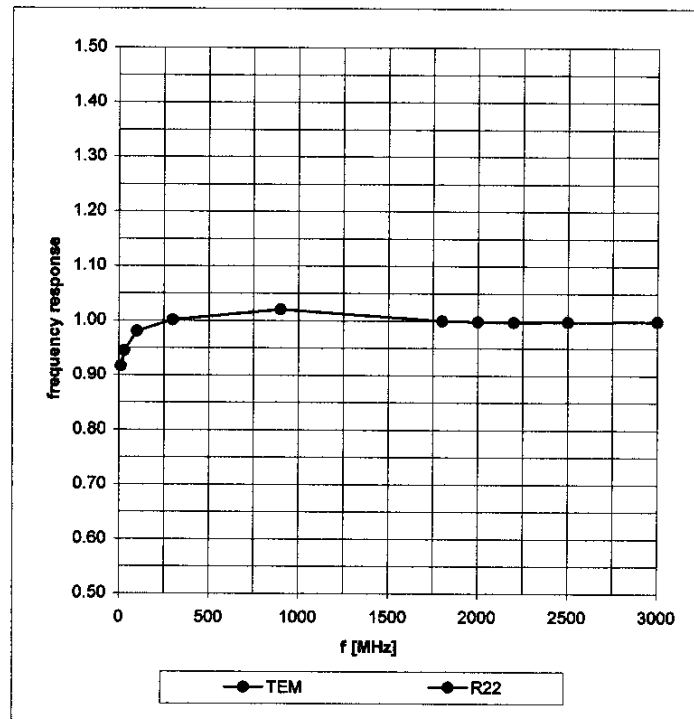
	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			28(28)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

ET3DV6 SN:1644

October 21, 2002

Frequency Response of E-Field

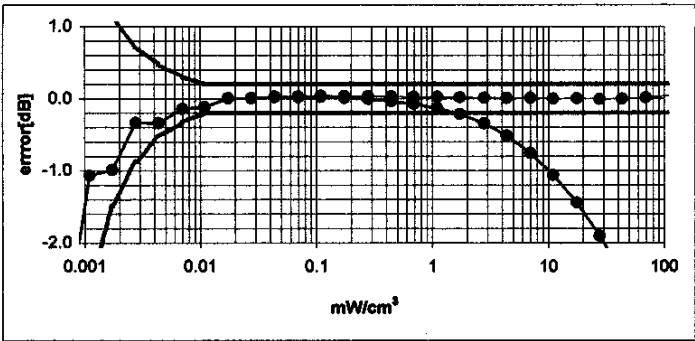
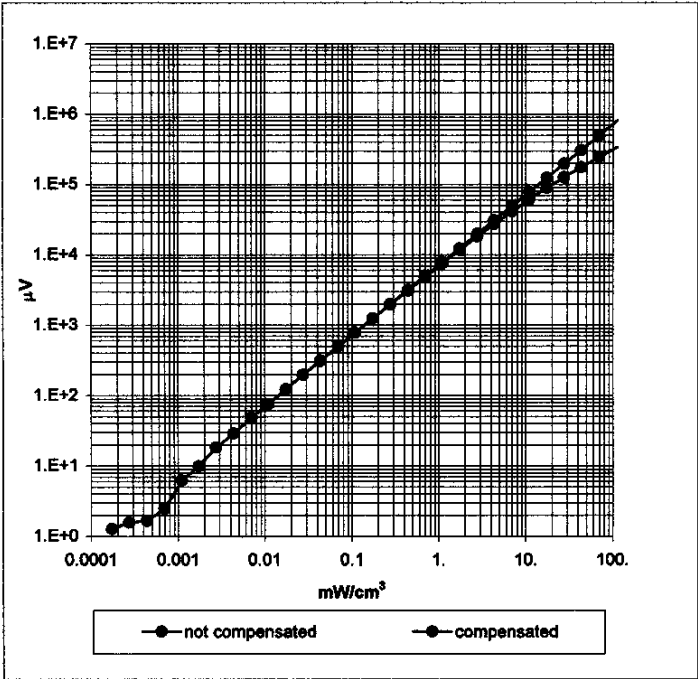
(TEM-Cell:ifi110, Waveguide R22)



ET3DV6 SN:1644

October 21, 2002

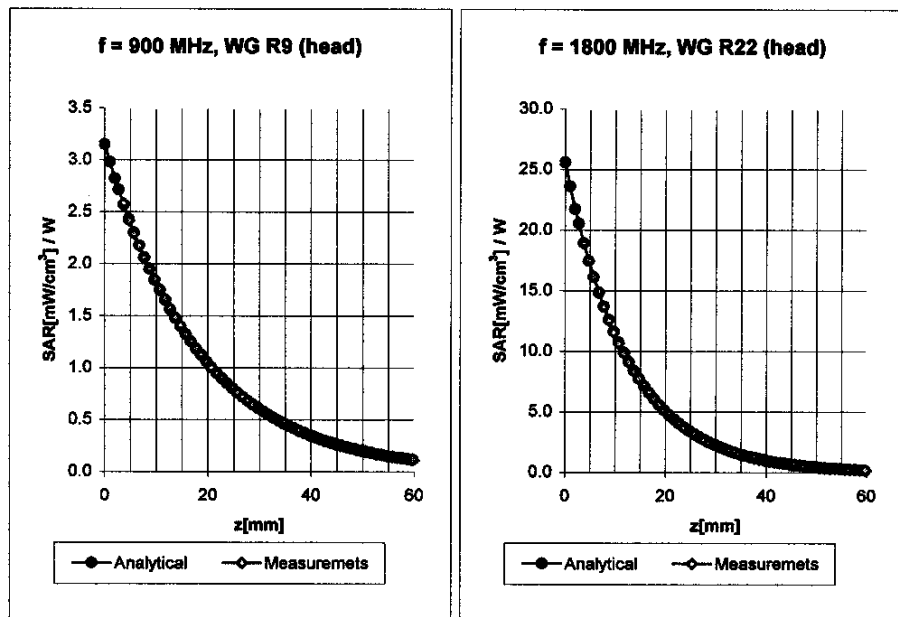
Dynamic Range $f(\text{SAR}_{\text{brain}})$ (Waveguide R22)



ET3DV6 SN:1644

October 21, 2002

Conversion Factor Assessment

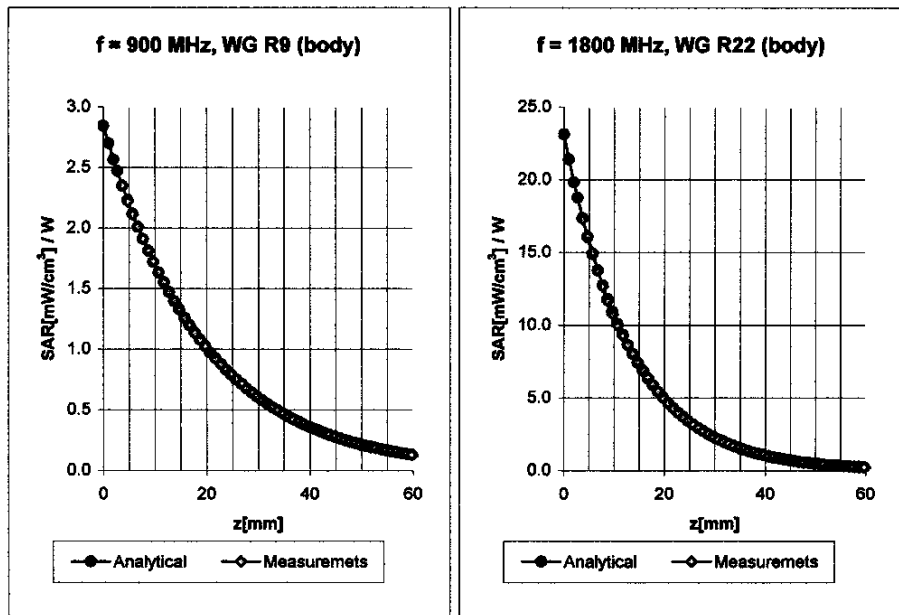


Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
	ConvF X	$6.6 \pm 9.5\% (k=2)$	Boundary effect:
	ConvF Y	$6.6 \pm 9.5\% (k=2)$	Alpha 0.32
	ConvF Z	$6.6 \pm 9.5\% (k=2)$	Depth 2.91
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
	ConvF X	$5.4 \pm 9.5\% (k=2)$	Boundary effect:
	ConvF Y	$5.4 \pm 9.5\% (k=2)$	Alpha 0.49
	ConvF Z	$5.4 \pm 9.5\% (k=2)$	Depth 2.47

ET3DV6 SN:1644

October 21, 2002

Conversion Factor Assessment



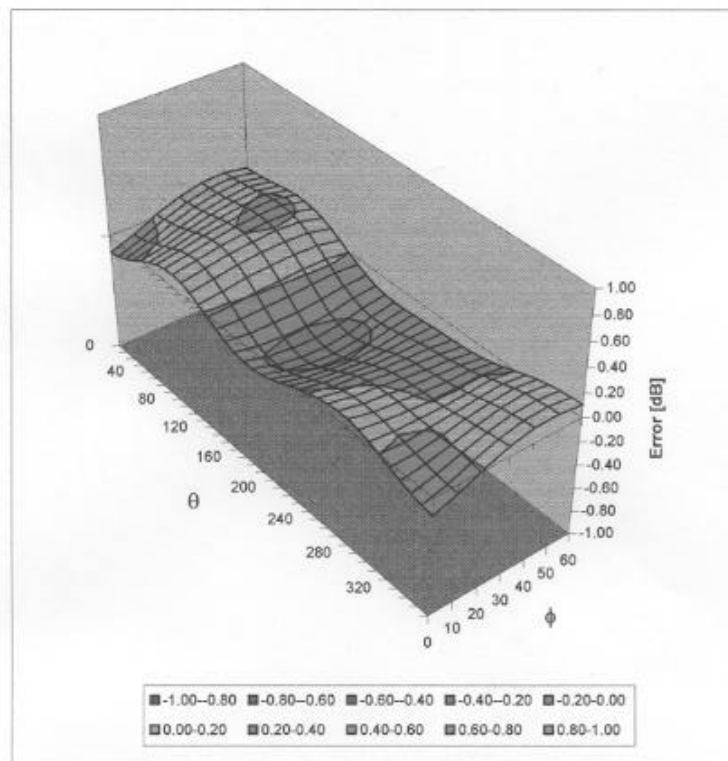
Body	900 MHz	$\epsilon_r = 55.0 \pm 5\%$	$\sigma = 1.05 \pm 5\% \text{ mho/m}$
Body	835 MHz	$\epsilon_r = 55.2 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
	ConvF X	$6.4 \pm 9.5\% (k=2)$	Boundary effect:
	ConvF Y	$6.4 \pm 9.5\% (k=2)$	Alpha 0.39
	ConvF Z	$6.4 \pm 9.5\% (k=2)$	Depth 2.56
Body	1800 MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
Body	1900 MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
	ConvF X	$5.1 \pm 9.5\% (k=2)$	Boundary effect:
	ConvF Y	$5.1 \pm 9.5\% (k=2)$	Alpha 0.61
	ConvF Z	$5.1 \pm 9.5\% (k=2)$	Depth 2.35

ET3DV6 SN:1644

October 21, 2002

Deviation from Isotropy in HSL

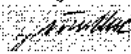
Error (θ, ϕ), $f = 900$ MHz



 RESEARCH IN MOTION	Document		Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		33(33)
Author Data	Dates of Test	Test Report No	FCC ID
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN

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

Client **RIM**

CALIBRATION CERTIFICATE																											
Object(s)	D835V2 - SN.446																										
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits																										
Calibration date:	August 21, 2003																										
Condition of the calibrated item	In Tolerance (according to the specific calibration document)																										
This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard. All calibrations have been conducted in the closed laboratory facility; environment temperature 22 +/- 2 degrees Celsius and humidity < 75%. Calibration Equipment used (M&TE critical for calibration) <table border="1"> <thead> <tr> <th>Model Type</th> <th>ID #</th> <th>Cal Date (Calibrated by, Certificate No.)</th> <th>Scheduled Calibration</th> </tr> </thead> <tbody> <tr> <td>RF generator R&S SML-93</td> <td>100698</td> <td>27-Mar-2002 (R&S, No. 20-92389)</td> <td>In house check: Mar-05</td> </tr> <tr> <td>Power sensor HP 8481A</td> <td>MY41092317</td> <td>18-Oct-02 (Agilent, No. 20021018)</td> <td>Oct-04</td> </tr> <tr> <td>Power sensor HP 8481A</td> <td>US37292783</td> <td>30-Oct-02 (METAS, No. 252-0236)</td> <td>Oct-03</td> </tr> <tr> <td>Power meter EPM E442</td> <td>GB37480704</td> <td>30-Oct-02 (METAS, No. 252-0236)</td> <td>Oct-03</td> </tr> <tr> <td>Network Analyzer HP 8753E</td> <td>US37390585</td> <td>18-Oct-01 (Agilent, No. 24BR1033101)</td> <td>In house check: Oct 03</td> </tr> </tbody> </table>				Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration	RF generator R&S SML-93	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05	Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04	Power sensor HP 8481A	US37292783	30-Oct-02 (METAS, No. 252-0236)	Oct-03	Power meter EPM E442	GB37480704	30-Oct-02 (METAS, No. 252-0236)	Oct-03	Network Analyzer HP 8753E	US37390585	18-Oct-01 (Agilent, No. 24BR1033101)	In house check: Oct 03
Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration																								
RF generator R&S SML-93	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05																								
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04																								
Power sensor HP 8481A	US37292783	30-Oct-02 (METAS, No. 252-0236)	Oct-03																								
Power meter EPM E442	GB37480704	30-Oct-02 (METAS, No. 252-0236)	Oct-03																								
Network Analyzer HP 8753E	US37390585	18-Oct-01 (Agilent, No. 24BR1033101)	In house check: Oct 03																								
Calibrated by:	Name Judith Mueller	Function Technician	Signature 																								
Approved by:	Name Katja Pokovic	Function Laboratory Director	Signature 																								
Date issued: August 22, 2003																											
This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed																											

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			34(34)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, <http://www.speag.com>

DASY

Dipole Validation Kit

Type: D835V2

Serial: 446

Manufactured: October 24, 2001
Calibrated: August 21, 2003

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			35(35)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 835 MHz:

Relative Dielectricity	43.3	$\pm 5\%$
Conductivity	0.91 mho/m	$\pm 5\%$

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.7 at 835 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.

The dipole input power (forward power) was 250 mW $\pm 3\%$. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm ³ (1 g) of tissue:	9.60 mW/g $\pm 16.8\%$ (k=2)¹
averaged over 10 cm ³ (10 g) of tissue:	6.24 mW/g $\pm 16.2\%$ (k=2)¹

¹ validation uncertainty

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			37(37)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Page 1 of 1
Date/Time: 08/21/03 10:03:51

Test Laboratory: SPEAG, Zurich, Switzerland
File Name: SN446_SN1507_HSL835_210803.da4

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN446
Program: Dipole Calibration

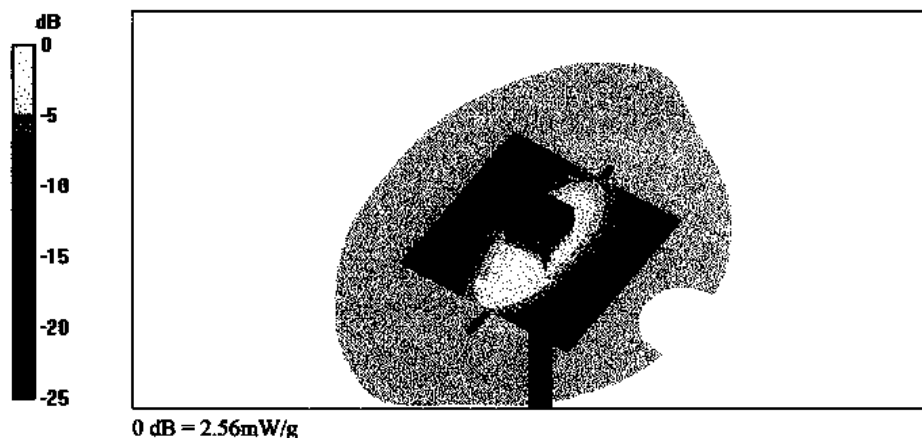
Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL 835 MHz ($\sigma = 0.91 \text{ mho/m}$, $\epsilon_r = 43.28$, $\rho = 1000 \text{ kg/m}^3$)
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.7, 6.7, 6.7); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

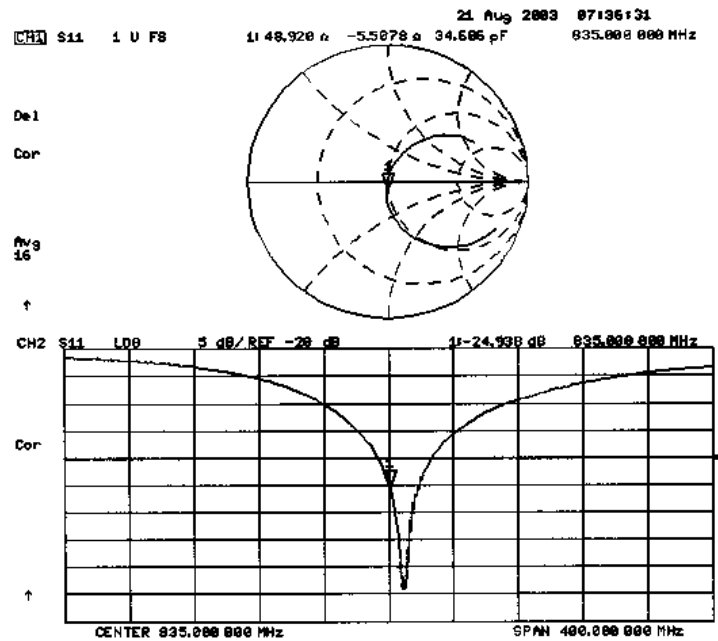
$P_{\text{in}} = 250 \text{ mW}$; $d = 15 \text{ mm}$ /Area Scan (81x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Reference Value = 55.3 V/m
Power Drift = -0.02 dB
Maximum value of SAR = 2.55 mW/g

$P_{\text{in}} = 250 \text{ mW}$; $d = 15 \text{ mm}$ /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Peak SAR (extrapolated) = 3.52 W/kg
SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.56 mW/g
Reference Value = 55.3 V/m
Power Drift = -0.02 dB
Maximum value of SAR = 2.56 mW/g



	Document		Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		38(38)
Author Data	Dates of Test	Test Report No	FCC ID
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN

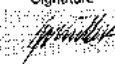
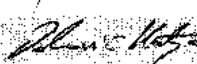
446



 RESEARCH IN MOTION	Document		Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		39(39)
Author Data	Dates of Test	Test Report No	FCC ID
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN

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

Client **RIM** Research In Motion

CALIBRATION CERTIFICATE																											
Object(s)	D1900V2 - SN:545																										
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits																										
Calibration date:	August 22, 2003																										
Condition of the calibrated item	In Tolerance (according to the specific calibration document)																										
This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard. All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%. Calibration Equipment used (M&TE critical for calibration) <table border="1"> <thead> <tr> <th>Model Type</th> <th>ID #</th> <th>Cal Date (Calibrated by, Certificate No.)</th> <th>Scheduled Calibration</th> </tr> </thead> <tbody> <tr> <td>RF generator R&S SML-03</td> <td>100698</td> <td>27-Mar-2002 (R&S, No. 20-92389)</td> <td>In house check: Mar-05</td> </tr> <tr> <td>Power sensor HP 8481A</td> <td>MY41092317</td> <td>18-Oct-02 (Agilent, No. 28021018)</td> <td>Oct-04</td> </tr> <tr> <td>Power sensor HP 8481A</td> <td>US37292783</td> <td>30-Oct-02 (METAS, No. 252-0236)</td> <td>Oct-03</td> </tr> <tr> <td>Power meter EPM E442</td> <td>GB37480704</td> <td>30-Oct-02 (METAS, No. 252-0236)</td> <td>Oct-03</td> </tr> <tr> <td>Network Analyzer HP 8753E</td> <td>US37390585</td> <td>18-Oct-01 (Agilent, No. 24BR1033101)</td> <td>In house check: Oct 03</td> </tr> </tbody> </table>				Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration	RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05	Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 28021018)	Oct-04	Power sensor HP 8481A	US37292783	30-Oct-02 (METAS, No. 252-0236)	Oct-03	Power meter EPM E442	GB37480704	30-Oct-02 (METAS, No. 252-0236)	Oct-03	Network Analyzer HP 8753E	US37390585	18-Oct-01 (Agilent, No. 24BR1033101)	In house check: Oct 03
Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration																								
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05																								
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 28021018)	Oct-04																								
Power sensor HP 8481A	US37292783	30-Oct-02 (METAS, No. 252-0236)	Oct-03																								
Power meter EPM E442	GB37480704	30-Oct-02 (METAS, No. 252-0236)	Oct-03																								
Network Analyzer HP 8753E	US37390585	18-Oct-01 (Agilent, No. 24BR1033101)	In house check: Oct 03																								
Calibrated by:	Name Luith Mueller	Function Technician	Signature 																								
Approved by:	Name Katja Pokovic	Function Laboratory Director	Signature 																								
Date issued: August 24, 2003																											
This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.																											

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			40(40)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

Schmid & Partner Engineering AG

s p e e g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, <http://www.speag.com>

DASY

Dipole Validation Kit

Type: D1900V2

Serial: 545

Manufactured: November 15, 2001
Calibrated: August 22, 2003

 RESEARCH IN MOTION	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			41(41)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with head simulating solution of the following electrical parameters at 1900 MHz:

Relative Dielectricity	40.2	± 5%
Conductivity	1.46 mho/m	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 5.2 at 1900 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.

The dipole input power (forward power) was 250 mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm ³ (1 g) of tissue:	41.2 mW/g ± 16.8 % (k=2)¹
averaged over 10 cm ³ (10 g) of tissue:	21.3 mW/g ± 16.2 % (k=2)¹

¹ validation uncertainty

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 43(43)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

Page 1 of 1
Date/Time: 08/22/03 15:40:53

Test Laboratory: SPEAG, Zurich, Switzerland
File Name: SNS45_SN1507_HSL1900_220803.daa

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN545
Program: Dipole Calibration

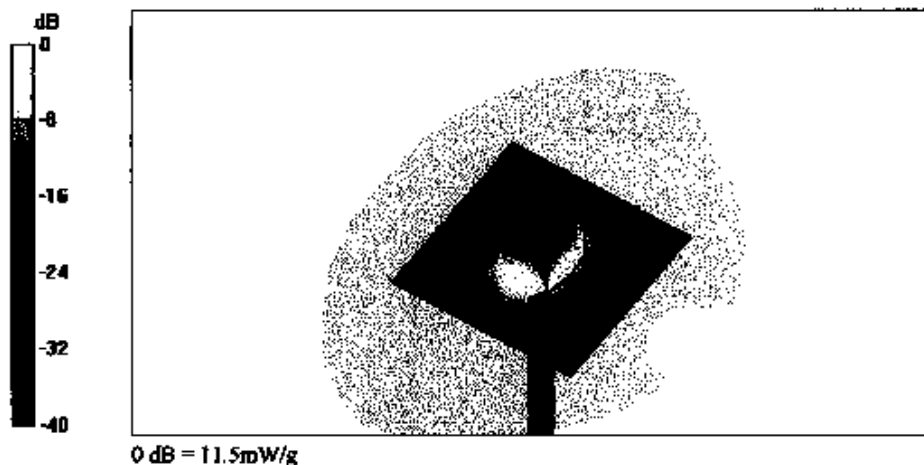
Communication System: CW-1900; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL 1900 MHz ($\sigma = 1.46 \text{ mho/m}$, $\epsilon_r = 40.17$, $\rho = 1000 \text{ kg/m}^3$)
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.2, 5.2, 5.2); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

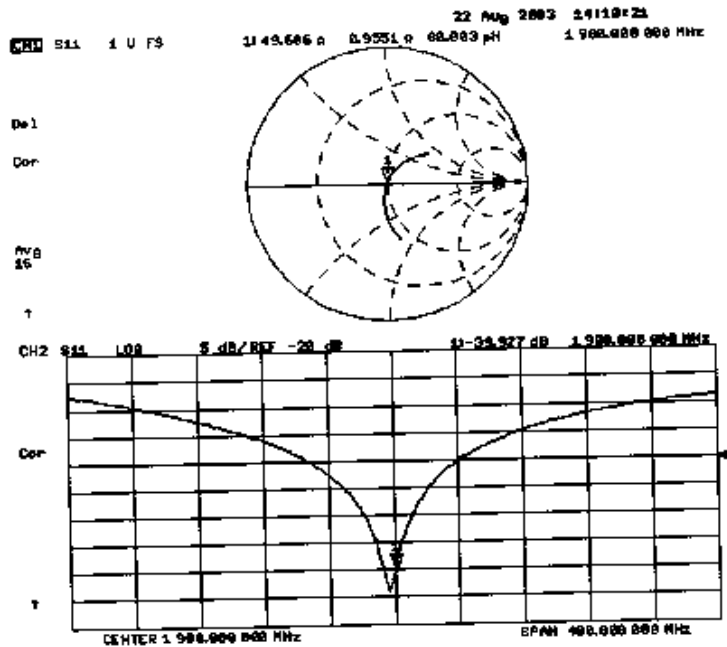
$P_{in} = 250 \text{ mW}$; $d = 10 \text{ mm}$ /Area Scan (81x81x1); Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Reference Value = 93.6 V/m
Power Drift = 0.05 dB
Maximum value of SAR = 11.5 mW/g

$P_{in} = 250 \text{ mW}$; $d = 10 \text{ mm}$ /Zoom Scan (7x7x7)/Cube 0; Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.32 mW/g
Reference Value = 93.6 V/m
Power Drift = 0.05 dB
Maximum value of SAR = 11.5 mW/g



	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			44(44)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	

545



 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN		Page 45(45)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN

APPENDIX E: SAR SET UP PHOTOS

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			Page 46(46)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

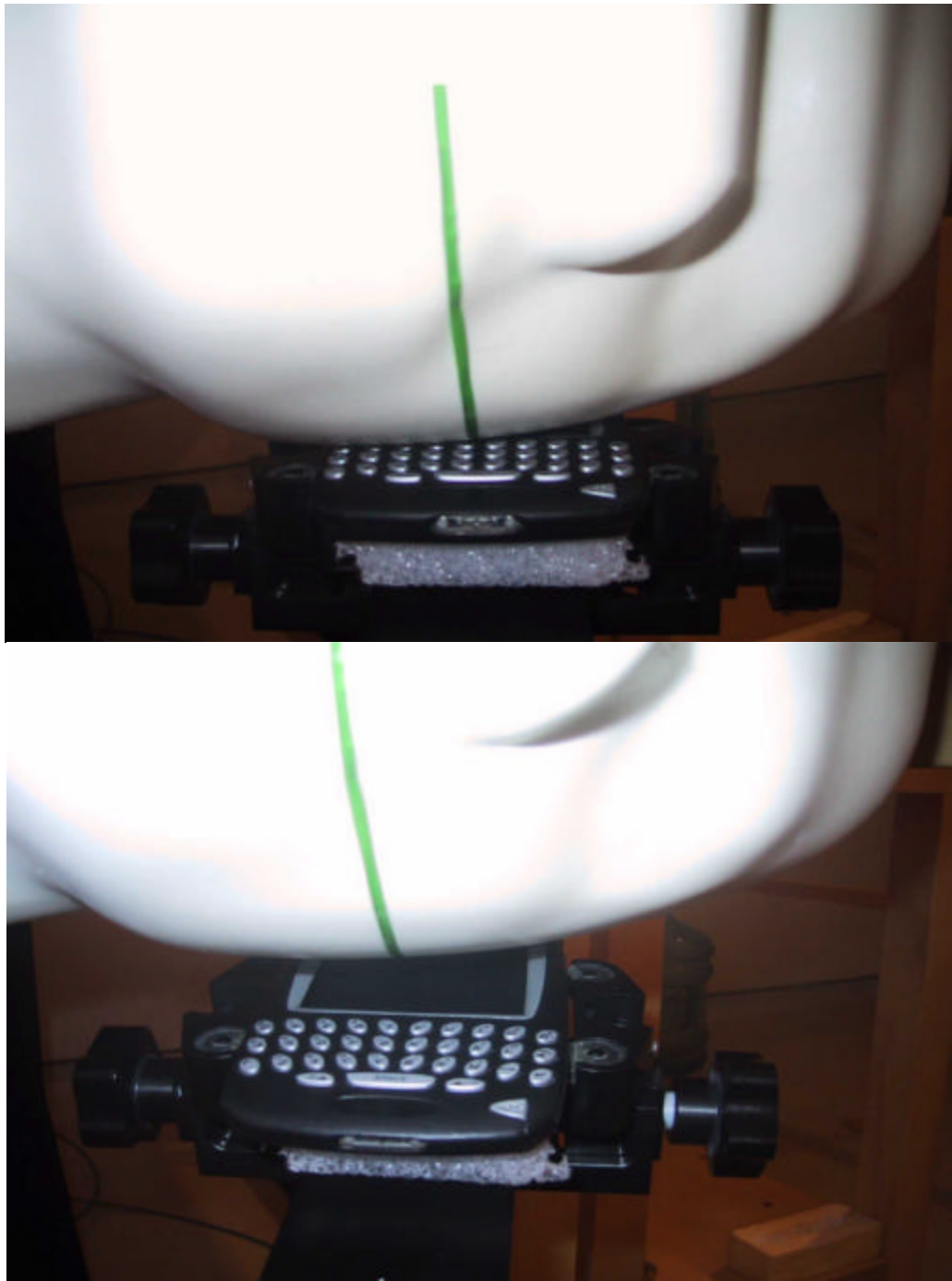


Figure E1. Left ear configuration

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			Page 47(47)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	

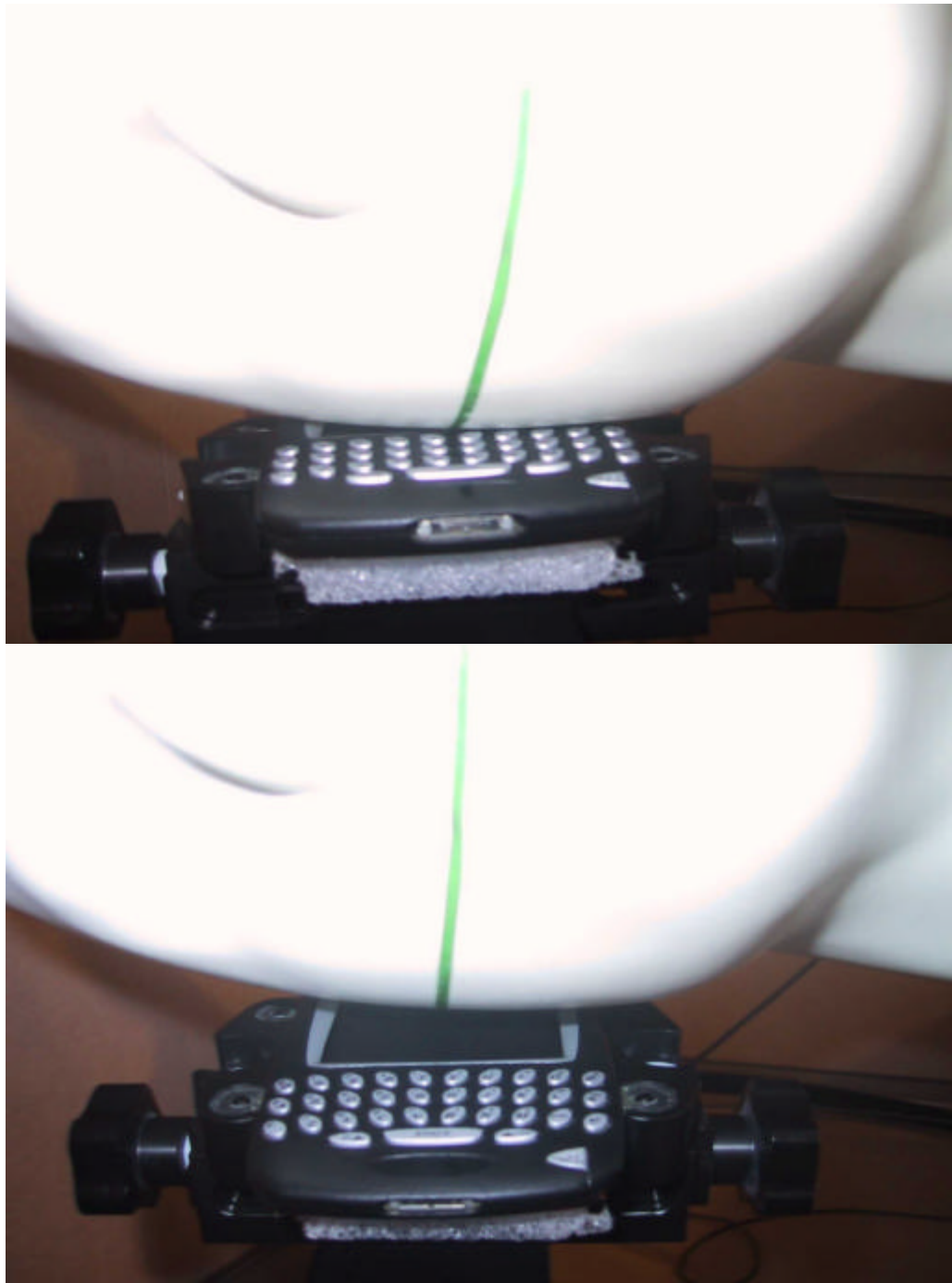


Figure E2. Right ear configuration

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			Page 48(48)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	



Figure E3. Body worn configuration with Plastic Holster ASY-0399-001 and headset

 RESEARCH IN MOTION	Document Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			Page 49(49)
Author Data Daoud Attayi	Dates of Test Sep. 23 - 30, 2003	Test Report No RIM-0054-0309-07	FCC ID L6AR6030GN	



Figure E4. Body worn configuration with Leather Swivel Holster HDW-04890-001 and headset

	Document			Page
	Appendices - SAR Compliance Test Report for BlackBerry Wireless Handheld Model No. R6030GN			50(50)
Author Data	Dates of Test	Test Report No	FCC ID	
Daoud Attayi	Sep. 23 - 30, 2003	RIM-0054-0309-07	L6AR6030GN	



Figure E5. Body worn with Folding Leather Case HDW-04889-001 for inside a shirt pocket configuration front and back side