

		Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report			Page 1(13)
Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25 , 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW	

APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

		Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report			Page 2(13)
Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25, 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW	

Date/Time: 1/9/2012 1:07:59 PM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_01_09_12_Amb_Tem_24.0_Liq_Tem_22.4C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.886 \text{ mho/m}$; $\epsilon_r = 41.722$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(6.59, 6.59, 6.59); Calibrated: 3/9/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 2.7, 32.7$
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 9.829 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 110.8 V/m ; Power Drift = -0.0045 dB

Peak SAR (extrapolated) = 13.0850

SAR(1 g) = 9.18 mW/g ; SAR(10 g) = 6.05 mW/g

Maximum value of SAR (measured) = 9.938 mW/g

Author Data

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Dates of Test

December 25, 2011 – January 25, 2012

Test Report No

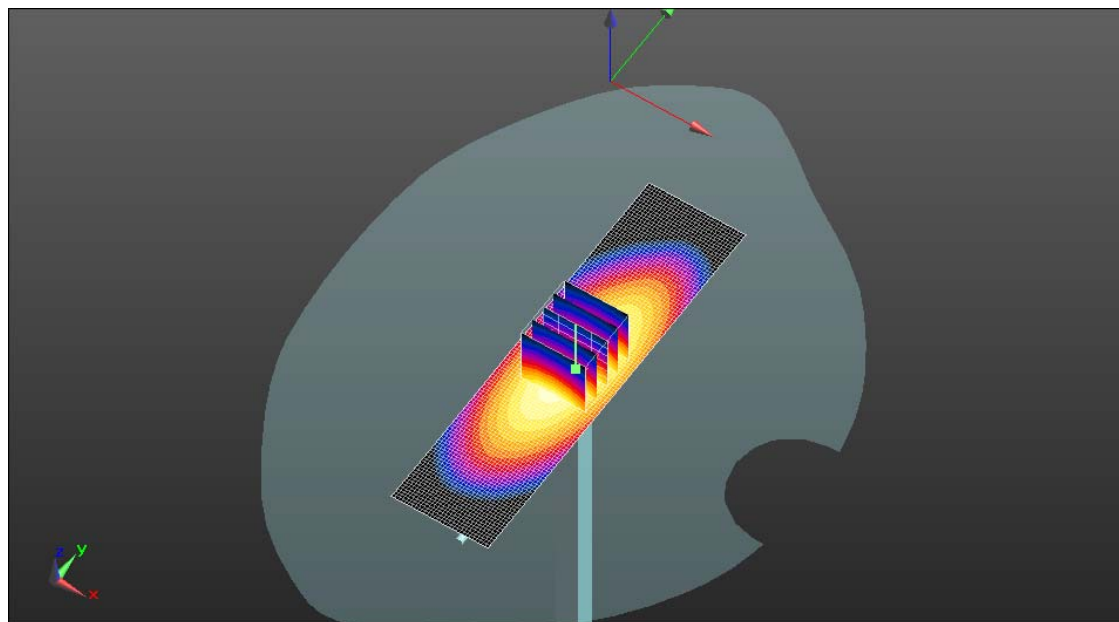
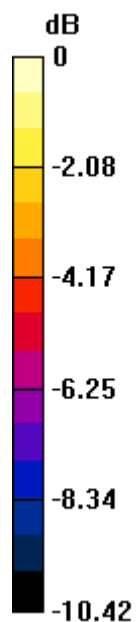
RTS-5955-1201-37

FCC ID:

L6AREQ70UW

IC ID

2503A-REQ70UW



0 dB = 9.940mW/g = 19.95 dB mW/g

		Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report		Page 4(13)
Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25, 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW

Date/Time: 1/12/2012 11:09:50 AM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_01_12_12_Amb_Tem_23.9_Liq_Tem_22.0C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.405$ mho/m; $\epsilon_r = 40.689$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(5.15, 5.15, 5.15); Calibrated: 3/9/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 2.7, 32.7$
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement

grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 42.956 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube

0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 181.3 V/m; Power Drift = -0.0031 dB

Peak SAR (extrapolated) = 64.6580

SAR(1 g) = 37.4 mW/g; SAR(10 g) = 19.8 mW/g

Maximum value of SAR (measured) = 42.035 mW/g

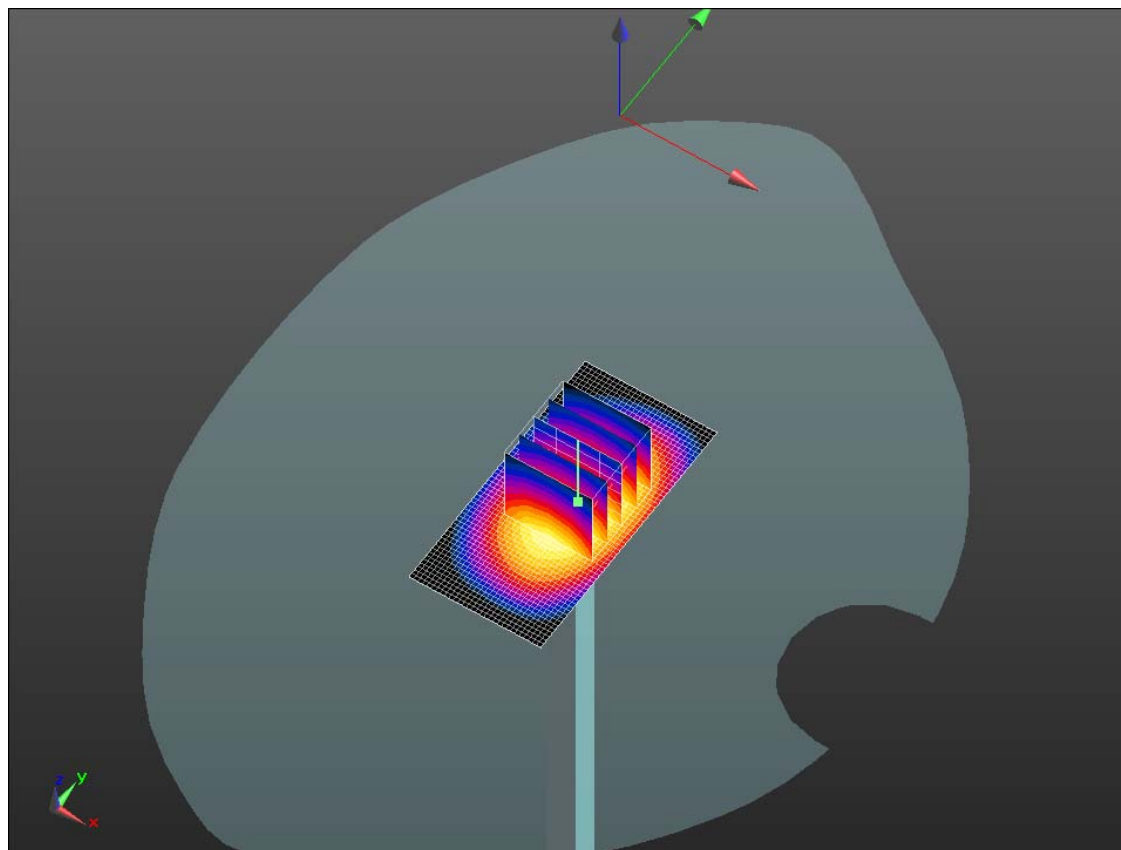
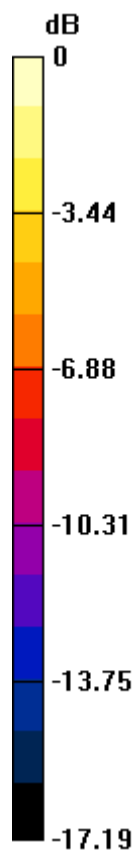
Author Data
Andrew Becker

Dates of Test
December 25, 2011 – January 25, 2012

Test Report No
RTS-5955-1201-37

FCC ID:
L6AREQ70UW

IC ID
2503A-REQ70UW



0 dB = 42.040mW/g = 32.47 dB mW/g

		Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report			Page 6(13)
Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25, 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW	

Date/Time: 1/23/2012 4:18:19 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_01_23_12_Amb_Tem_23.4_Liq_Tem_20.1C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.429$ mho/m; $\epsilon_r = 39.982$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(5.15, 5.15, 5.15); Calibrated: 3/9/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 2.7, 32.7$
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement

grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 43.826 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube

0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 165.0 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 67.3020

SAR(1 g) = 37.8 mW/g; SAR(10 g) = 19.8 mW/g

Maximum value of SAR (measured) = 42.389 mW/g

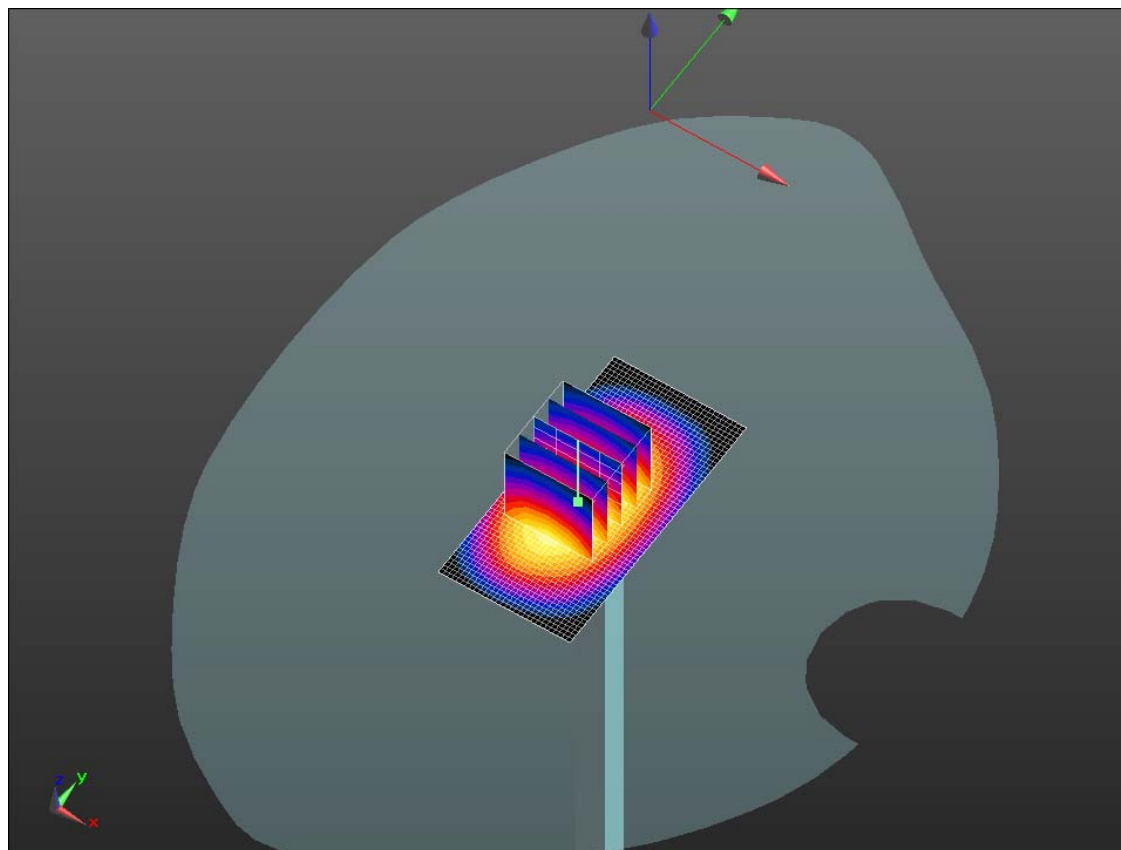
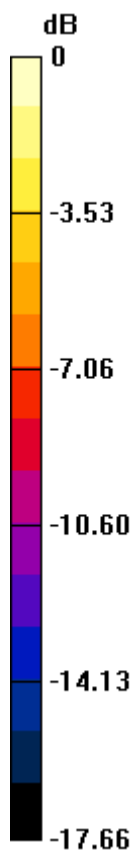
Author Data
Andrew Becker

Dates of Test
December 25, 2011 – January 25, 2012

Test Report No
RTS-5955-1201-37

FCC ID:
L6AREQ70UW

IC ID
2503A-REQ70UW



0 dB = 42.390mW/g = 32.55 dB mW/g

	Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report				Page 8(13)
	Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25 , 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW

Date/Time: 12/5/2011 9:30:12 PM, Date/Time: 12/5/2011 9:32:00 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_12_05_11_Amb_Tem_23.1_Liq_Tem_22.5C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.863 \text{ mho/m}$; $\epsilon_r = 38.583$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.6, 4.6, 4.6); Calibrated: 1/13/2011
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 72.011 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube

0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 202.8 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 116.4 W/kg

SAR(1 g) = 54.7 mW/g; SAR(10 g) = 25.2 mW/g

Maximum value of SAR (measured) = 61.877 mW/g

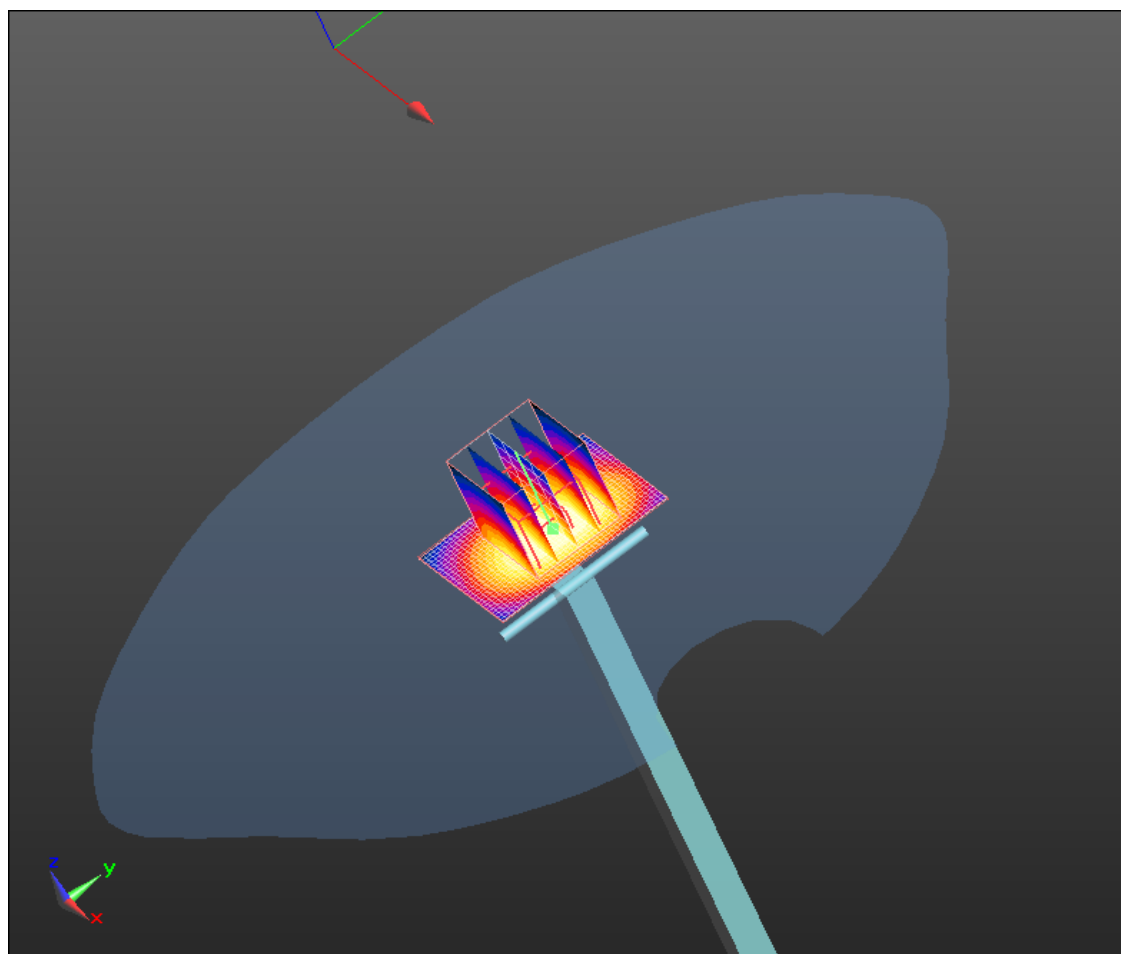
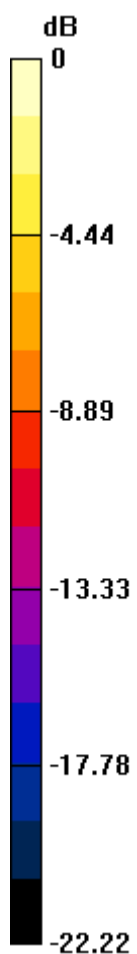
Author Data
Andrew Becker

Dates of Test
December 25, 2011 – January 25, 2012

Test Report No
RTS-5955-1201-37

FCC ID:
L6AREQ70UW

IC ID
2503A-REQ70UW



0 dB = 61.880mW/g

	Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report				Page 10(13)
	Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25, 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW

Date/Time: 12/7/2011 9:31:43 PM, Date/Time: 12/7/2011 9:35:41 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_12_07_11_Amb_Tem_23.5_Liq_Tem_22.0C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.803$ mho/m; $\epsilon_r = 37.718$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.6, 4.6, 4.6); Calibrated: 1/13/2011
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 70.139 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube

0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 203.4 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 111.8 W/kg

SAR(1 g) = 53.3 mW/g; SAR(10 g) = 24.6 mW/g

Maximum value of SAR (measured) = 60.711 mW/g

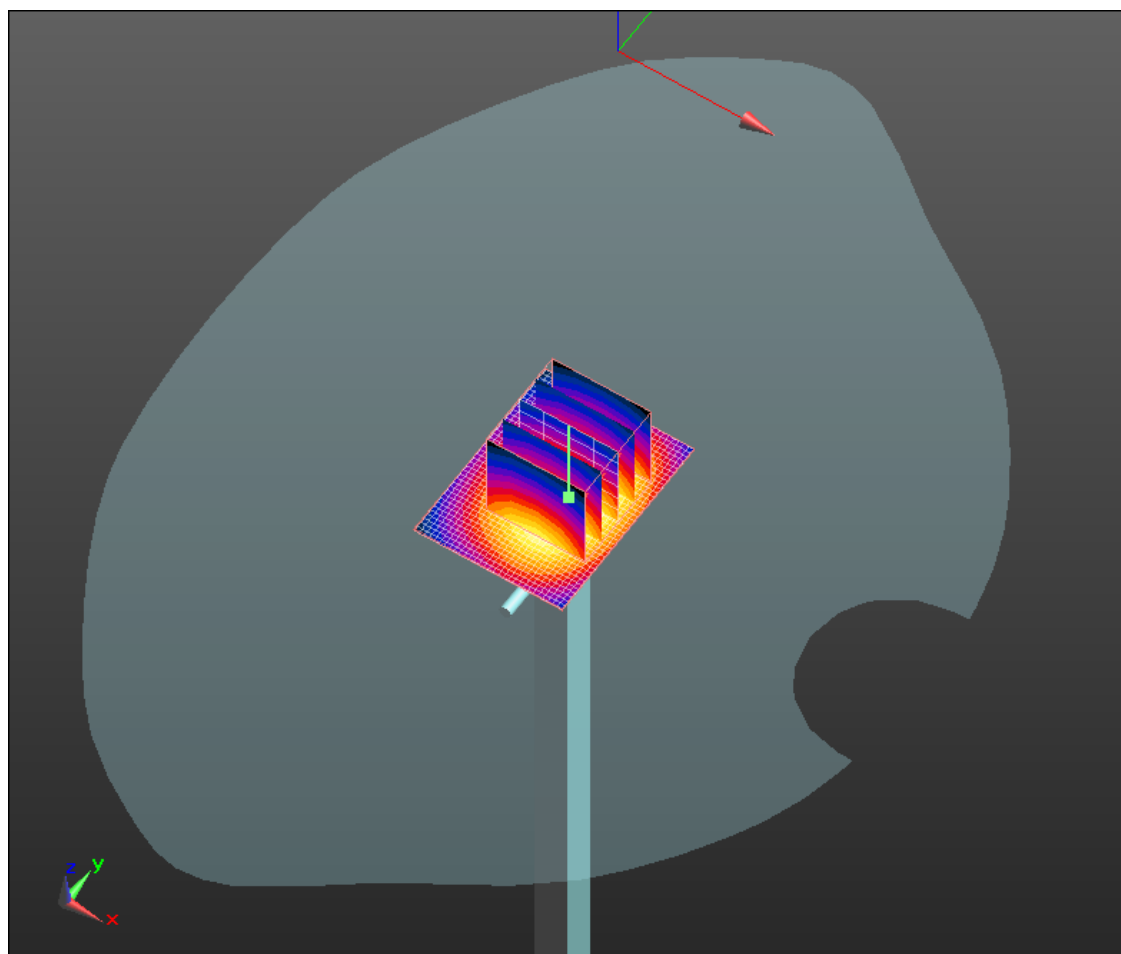
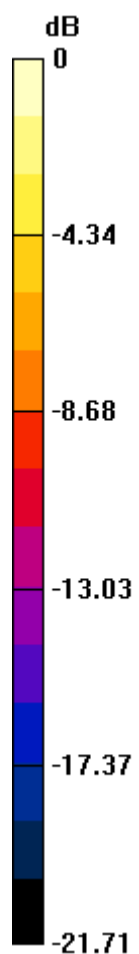
Author Data
Andrew Becker

Dates of Test
December 25, 2011 – January 25, 2012

Test Report No
RTS-5955-1201-37

FCC ID:
L6AREQ70UW

IC ID
2503A-REQ70UW



0 dB = 60.710mW/g

		Document Appendix A for the BlackBerry® Smartphone Model REQ71UW Mobile Hot Spot SAR Report			Page 12(13)
Author Data Andrew Becker	Dates of Test December 25, 2011 – January 25, 2012	Test Report No RTS-5955-1201-37	FCC ID: L6AREQ70UW	IC ID 2503A-REQ70UW	

Date/Time: 1/25/2012 11:27:24 AM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_01_25_12_Amb_Tem_22.2_Liq_Tem_21.2C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.893$ mho/m; $\epsilon_r = 40.721$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1644; ConvF(4.34, 4.34, 4.34); Calibrated: 11/15/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 2.7, 32.7$
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement

grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 68.877 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (7x7x7)/Cube

0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 190.2 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 135.00

SAR(1 g) = 59.1 mW/g; SAR(10 g) = 26.9 mW/g

Maximum value of SAR (measured) = 66.114 mW/g

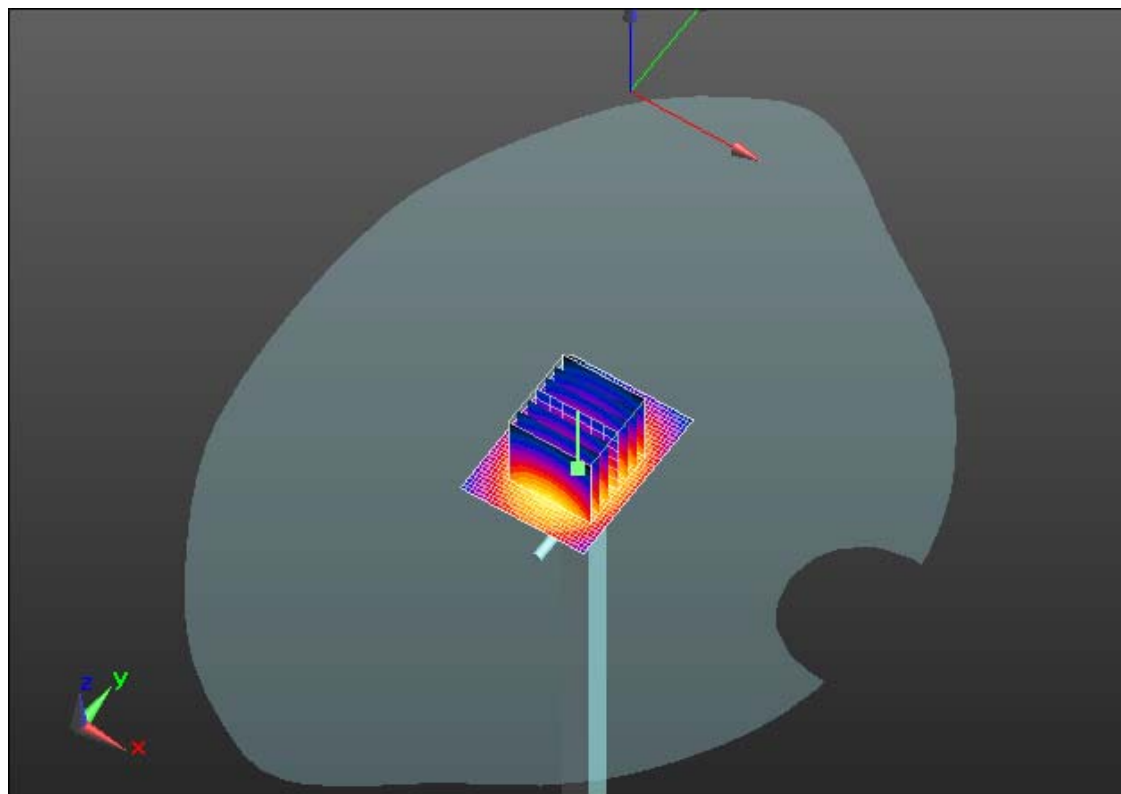
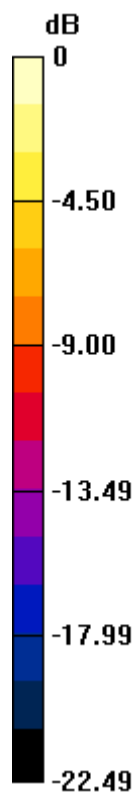
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Dates of Test
December 25, 2011 – January 25, 2012

Test Report No
RTS-5955-1201-37

FCC ID:
L6AREQ70UW

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2503A-REQ70UW



0 dB = 66.110mW/g = 36.41 dB mW/g