Testing Services™	Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page 1(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

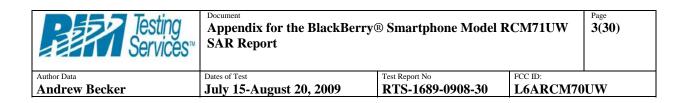
## APPENDIX D: PROBE & DIPOLE CALIBRATION DATA

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services Copyright 2005-2009, RIM Testing Services, a division of Research In Motion Limited

Testing Services™	<b>Appendix for the BlackBerry</b> <b>SAR Report</b>	v® Smartphone Model I	RCM71UW	Page 2(30)
Author Data Andrew Becker	Dates of Test July 15-August 20, 2009	Test Report No RTS-1689-0908-30	FCC ID: L6ARCM70	
Calibration Lab	oratory of	willso a Schwalzarisc	her Kalibrierdienst	
Calibration Lab Schmid & Partne Engineering A Zeughausstrasse 43, 8	G 004 Zurich, Switzerland	C Service suiss C Servizio svizz S Swiss Calibra		
Schmid & Partne Engineering A Zeughausstrasse 43, 8 Accredited by the Swiss The Swiss Accreditatio	G Ilac-MRA	(C C Service suissi	e d'étalonnage ero di taratura tion Service	
Schmid & Partne Engineering Al Zeughausstrasse 43, 8 Accredited by the Swiss The Swiss Accreditatic Multilateral Agreement	Accreditation Service (SAS)	C Service suiss C Servizio svizz S Swiss Calibra	e d'étalonnage ero di taratura tion Service 38	

		642			
Calibration procedure(s)	QA CAL-01.v6 and QA CAL-23.v3 Calibration procedure for dosimetric E-field probes				
Calibration date:	January 12, 200	9			
Condition of the calibrated item	In Tolerance				
The measurements and the unco	ertainties with confidence	tional standards, which realize the physical uni probability are given on the following pages an ory facility: environment temperature $(22 \pm 3)$ °C	d are part of the certificate.		
Calibration Equipment used (Mo	ID #	Cal Date (Certificate No.)	Scheduled Calibration		
Power meter E4419B	GB41293874	1-Apr-08 (No. 217-00788)	Apr-09		
Power sensor E4412A	MY41495277	1-Apr-08 (No. 217-00788)	Apr-09		
ower sensor E4412A	MY41498087	1-Apr-08 (No. 217-00788)	Apr-09		
	SN: 85054 (3c)	1-Jul-08 (No. 217-00865)	Jul-09		
Reference 3 dB Attenuator					
	SN: \$5086 (20b)	31-Mar-08 (No. 217-00787)	Apr-09		
Reference 20 dB Attenuator	SN: \$5086 (20b) SN: \$5129 (30b)	31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00866)	Apr-09 Jul-09		
Reference 20 dB Attenuator Reference 30 dB Attenuator					
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2	SN: S5129 (30b)	1-Jul-08 (No. 217-00866)	Jul-09		
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4	SN: S5129 (30b) SN: 3013	1-Jul-08 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09)	Jul-09 Jan-10		
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards	SN: 85129 (306) SN: 3013 SN: 660	1-Jul-08 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09) 9-Sep-08 (No. DAE4-660_Sep08)	Jul-09 Jan-10 Sep-09 Scheduled Check In house check: Ocl-09		
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8646C	SN: 85129 (306) SN: 3013 SN: 660	1-Jul-08 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09) 9-Sep-08 (No. DAE4-660_Sep08) Check Date (in house)	Jul-09 Jan-10 Sep-09 Scheduled Check		
Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8646C Network Analyzer HP 8753E	SN: S5129 (306) SN: 3013 SN: 660 ID # US3642U01700	1-Jul-06 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09) 9-Sep-08 (No. DAE4-660_Sep08) Check Date (in house) 4-Aug-99 (in house check Oct-07)	Jul-09 Jan-10 Sep-09 Scheduled Check In house check: Ocl-09		
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator MP 8646C	SN: S5129 (30b) SN: 3013 SN: 680 ID # US3642U01700 US37390585	1-Jul-06 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09) 9-Sep-08 (No. DAE4-660_Sep08) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-08)	Jul-09 Jan-10 Sep-09 Scheduled Check In house check: Oct-09 In house check: Oct-09		
Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 6646C Network Analyzer HP 8753E	SN: 85129 (30b) SN: 3013 SN: 660 ID # US3642U01700 US37390585 Name	1-Jul-08 (No. 217-00866) 2-Jan-09 (No. ES3-3013_Jan09) 9-Sep-08 (No. DAE4-660_Sep08) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-08) Function	Jul-09 Jan-10 Sep-09 Scheduled Check In house check: Oct-09 In house check: Oct-09		

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services Copyright 2005-2009, RIM Testing Services, a division of Research In Motion Limited



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



S Schweizerischer Kalibrierdienst

C Service suisse d'étalonnage

Servizio svizzero di taratura Servizio Calibration Sancica

Accreditation No.: SCS 108

S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

#### Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
Polarization $\phi$	o rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., 9 = 0 is normal to probe axis

#### 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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

#### Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 9 = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)x,y,z = NORMx,y,z \* 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.
- DCPx, y, z: 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 ≤ 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 NORMx,y,z \* 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 ± 50 MHz to ± 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.

Testing Services™	Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page <b>4(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	UW		

January 12, 2009

# Probe ET3DV6

# SN:1642

Manufactured: Last calibrated: Recalibrated: November 7, 2001 January 18, 2008 January 12, 2009

Calibrated for DASY Systems (Note: non-compatible with DASY2 system!)

Certificate No: ET3-1642\_Jan09

Page 3 of 9

January 12, 2009

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

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

Diode Compression<sup>B</sup>

NormX	1.68 ± 10.1%	$\mu V/(V/m)^2$	DCP X	91 mV
NormY	1.88 ± 10.1%	μV/(V/m) <sup>2</sup>	DCP Y	93 mV
NormZ	1.66 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	93 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

#### Please see Page 8.

**Boundary Effect** 

TSL

	900 MHz	Typical SAR gradient: 5 %	‰ per mm		
Sensor Cente	er to Phanto	om Surface Distance	3.7 mm	4.7 mm	
SAR <sub>be</sub> [%]	Withou	t Correction Algorithm	- 10.1	5.8	
SAR <sub>be</sub> [%]	With C	orrection Algorithm	0.9	0.5	

TSL

Typical SAR gradient: 10 % per mm

Sensor Cente	r to Phantom Surface Distance	3.7 mm	4.7 mm
SAR <sub>te</sub> [%]	Without Correction Algorithm	12.6	8.1
SAR <sub>be</sub> [%]	With Correction Algorithm	0.9	0.6

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%.

\* The uncertainties of NormX,Y,Z do not affect the  $E^2$ -field uncertainty inside TSL (see Page 8).

\* Numerical linearization parameter: uncertainty not required,

1810 MHz

Testing Services <sup>™</sup>	Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page 6(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

0.6

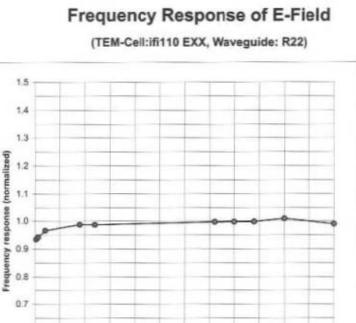
0.5 0

500

1000

-O-TEM

January 12, 2009



2000

-0-R22

2500

3000

1500

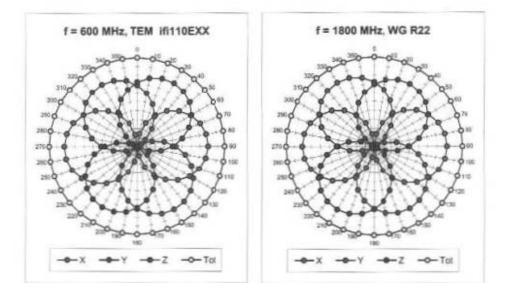
f [MHz]

Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

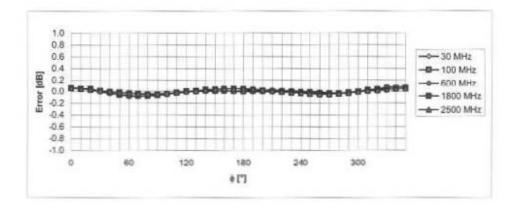
.

Testing Services™	Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page <b>7(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009 RTS-1689-0908-30 L6ARCM70			UW

January 12, 2009



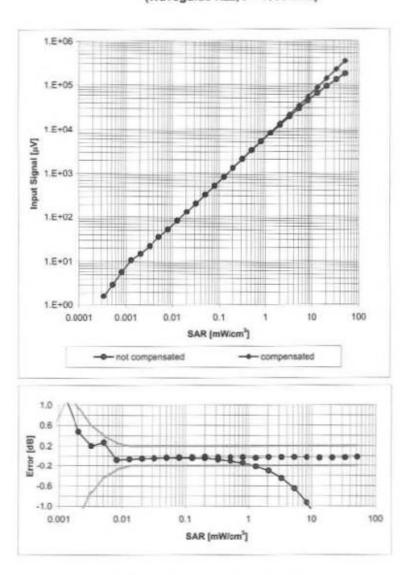
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$



Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Testing	Appendix for the BlackBerry® Smartphone Model RCM71UW			Page
Services™	SAR Report			8(30)
Author Data Andrew Becker	Dates of Test July 15-August 20, 2009	Test Report No <b>RTS-1689-0908-30</b>	FCC ID: L6ARCM70	UW

January 12, 2009

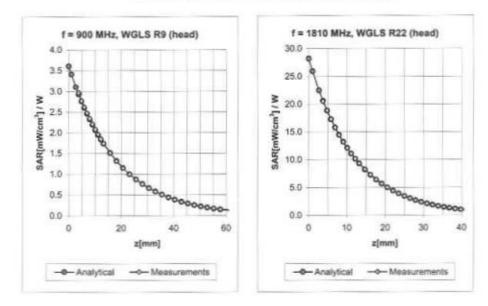


Dynamic Range f(SAR<sub>head</sub>) (Waveguide R22, f = 1800 MHz)

Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Testing Services™	Document Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page 9(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

#### January 12, 2009



## **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%	0.40	2.33	6.06 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	$1.40 \pm 5\%$	0.54	2.62	5.14 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	$1.40 \pm 5\%$	0.67	2.35	4.88 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.90	1.74	4.54 ± 11.0% (k=2)
900	±50/±100	Body	55.0 ± 5%	1.05 ± 5%	0.37	2.77	5.99 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.85	2.33	4.71 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.60	2.30	4.61 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.90	1.89	4.02 ± 11.0% (k=2)

<sup>C</sup> The validity of ± 100 MHz only applies for DASY v4.4 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.

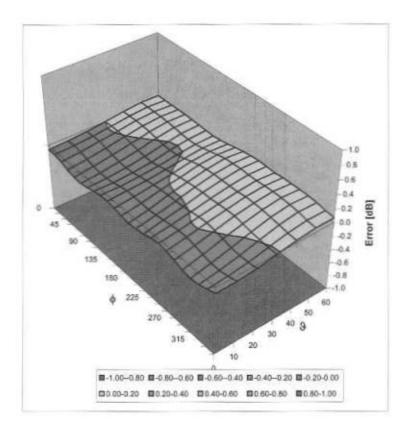
.

Testing Services <sup>™</sup>	Appendix for the BlackBerr SAR Report	y® Smartphone Model 1	RCM71UW	Page 10(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

January 12, 2009

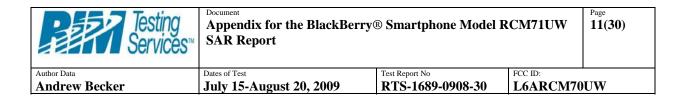
# **Deviation from Isotropy in HSL**

Error (¢, 3), f = 900 MHz

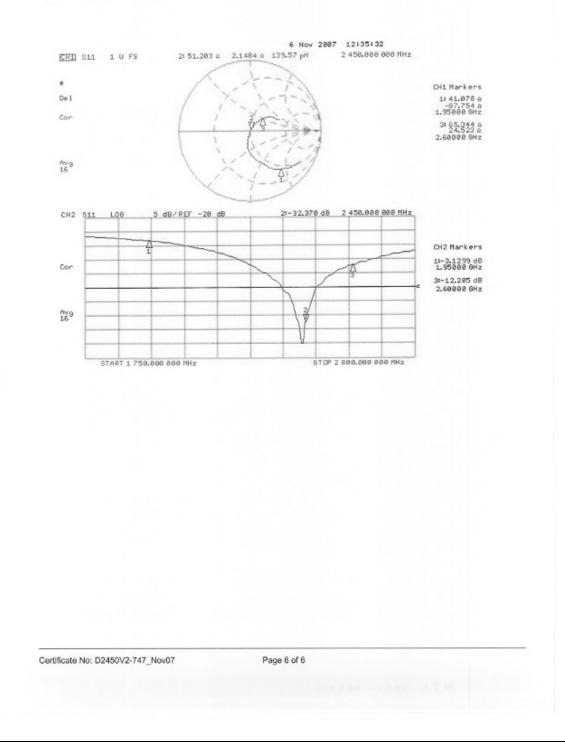


Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

.



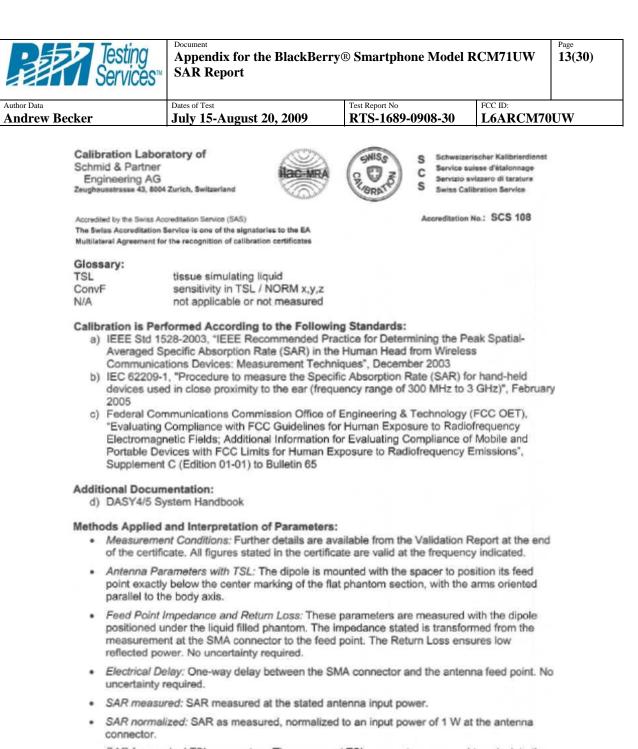
#### Impedance Measurement Plot for Head TSL



This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services Copyright 2005-2009, RIM Testing Services, a division of Research In Motion Limited

Servicĕs™	Appendix for the	e BlackBerry® S	martphone Model	RCM71UW	Page 12(30
1	Dates of Test		t Report No	FCC ID:	
w Becker	July 15-August	20, 2009 R	ГЅ-1689-0908-30	L6ARCM7	OUW
Calibration Laborat Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zu			S Schweizerisch C Service suiss S Servizio svizz S Swiss Calibrat	ero di taratura	
Accredited by the Swiss Acc The Swiss Accreditation Sen Multilateral Agreement for th	vice is one of the signatorie		Accreditation No.: SCS 10	8	
-	esting Services)		Certificate No: D835V2-44	46_Jan09	
CALIBRATION	CERTIFICATE				
Object	D835V2 - SN: 44	16			
Calibration procedure(s)	QA CAL-05.v7 Calibration proce	dure for dipole validat	ion kits		
Calibration date:	January 05, 200	9			
Condition of the calibrated iter	In Tolerance				
The measurements and the us	ncertainties with confidence p ducted in the closed laborato	robability are given on the folio	the physical units of measurement wing pages and are part of the o ature (22 ± 3)*C and humidity < 7 Schedulee	ertificate.	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A	About the closed laborato and the closed laborato and the closed laborato and the closed laboration)           ID #           QB37480704	cobability are given on the folio ry facility: environment temper Cal Date (Certificate No.) 06-Oct-06 (No. 217-00896)	wing pages and are part of the o ature (22 ± 3)°C and humidity < 7 Scheduled Oct-09	ertificate.	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards	noentainties with confidence p ducted in the closed laborato A&TE critical for calibration)	robability are given on the folio ry facility: environment temper Cal Date (Certificate No.)	wing pages and are part of the o ature (22 ± 3)°C and humidity < 7 Scheduled Oct-09	ertificate.	
The measurements and the us All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination	ABTE officient for calibration) ID # OB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327	Cal Date (Certificate No.) 06-Oct-06 (No. 217-00898) 06-Oct-06 (No. 217-00898) 01-Jul-08 (No. 217-00896) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867)	wing pages and are part of the c ature (22 ± 3)*C and humidity < 7 Schedulec Oct-09 Oct-09 Jul-09 Jul-09 Jul-09	ertificate.	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2	About the closed intervence of the closed in the closed intervence of t	Cal Date (Certificate No.) 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00898) 01-Jul-08 (No. 217-00897) 28-Apr-08 (No. ES3-3025_/	wing pages and are part of the c ature (22 ± 3)°C and humidity < 7 Schedulec Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr08) Apr-09	ertificate.	
The measurements and the us All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination	ABTE officient for calibration) ID # OB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327	Cal Date (Certificate No.) 06-Oct-06 (No. 217-00898) 06-Oct-06 (No. 217-00898) 01-Jul-08 (No. 217-00896) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867)	wing pages and are part of the c ature (22 ± 3)°C and humidity < 7 Schedulec Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr08) Apr-09	ertificate.	
The measurements and the us All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combinator Reference Probe ES3DV2 DAE4 Secondary Standards	Abertainties with confidence p ducted in the closed laborato AbTE critical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3025 SN: 601 ID #	Cal Date (Certificate No.) 08-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_/ 14-Mar-06 (No. DAE4-601_ Check Date (in house)	wing pages and are part of the c ature (22 ± 3)°C and humidity < 7 Scheduler Ocl-09 Ocl-09 Ocl-09 Jul-09 Jul-09 Jul-09 Mar-09 Scheduler	ertificate. 10%. 9 Calibration 1 Check	
The measurements and the un All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 8481A	ABTE officies with confidence p ducted in the closed laborato ABTE officies for calibration) ID # (0837480704 US37292783 SN: 5085 (20g) SN: 5085 (20g) SN: 5087 (20g) SN: 5	Cal Date (Certificate No.) 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_1 14-Mar-06 (No. DAE4-001_ Check Date (in house) 18-Oct-02 (in house check	wing pages and are part of the o ature (22 ± 3)*C and humidity < 7 Scheduler Oct-09 Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Jul-09 Mar-09 Scheduler Oct-07 In house o	ertificate. 10%. 1 Calibration 1 Check heck: Oct-09	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06	ABTE official for calibration) ID # OB37460704 US37282783 SN: 5086 (20g) SN: 5087 2 / 06327 SN: 3025 SN: 3025 SN: 001 ID # MY41092317 100005	Cal Date (Certificate No.) 08-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_/ 14-Mar-06 (No. DAE4-601_ Check Date (in house)	swing pages and are part of the c           ature (22 ± 3)*C and humidity < 7	ertificate. 10%. 9 Calibration 1 Check	
The measurements and the un All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 8481A	ABTE officies with confidence p ducted in the closed laborato ABTE officies for calibration) ID # (0837480704 US37292783 SN: 5085 (20g) SN: 5085 (20g) SN: 5087 (20g) SN: 5	Cal Date (Certificate No.) 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00897) 01-Jul-08 (No. 217-00897) 28-Apr-08 (No. 253-3025_1 14-Mar-08 (No. DAE4-601_ Check Date (in house) 16-Oct-02 (in house check 4-Aug-99 (in house check	swing pages and are part of the c           ature (22 ± 3)*C and humidity < 7	entificate. 10%: 1 Calibration 1 Check Ned: Oct-09 heck: Oct-09	
The measurements and the un All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combinator Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 6481A RF generator R&S SMT-06 Network Analyzer HP 8753E	ID #         Object           00100         0037480704         0037480704         0037480704         0037480704         0037292783         SN: 5086 (20g)         SN: 5086 (20g)         SN: 5086 (20g)         SN: 5087.2 / 06327         SN: 3025         SN: 3025         SN: 601         ID #         MY41092317         100005         US37390585 \$4206         Name	Cal Date (Certificate No.) 08-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 128-Apr-08 (No. DAE4-001] Check Date (in house) 18-Oct-02 (in house check of 18-Oct-01 (in house check of 18-Oct-01 (in house check of Function	wing pages and are part of the o ature (22 ± 3)°C and humidity < 7 Scheduler Oct-09 Oct-09 Jul-09 Jul-09 Mar-09 Mar-09 Scheduler Oct-07) In house o Dct-08) In house o Signature	t Check heck: Oct-09 heck: Oct-09	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06	ID #         Observation           ID #         OB37480704           US37282783         SN: 5086 (20g)           SN: 5087 (20g)         SN: 5047.2 / 06327           SN: 5047.2 / 06327         SN: 601           ID #         ID #           US37390585 S4206         US37390585 S4206	Cal Date (Certificate No.)           08-0ct-06 (No. 217-00898)           08-0ct-06 (No. 217-00898)           08-0ct-06 (No. 217-00898)           01-Jul-08 (No. 217-00898)           01-Jul-08 (No. 217-00897)           28-Apr-08 (No. 218-0012)           Check Date (in house)           18-Oct-02 (in house check (C)           18-Oct-01 (in house check (C)	wing pages and are part of the o ature (22 ± 3)°C and humidity < 7 Scheduler Oct-09 Oct-09 Jul-09 Jul-09 Mar-09 Mar-09 Scheduler Oct-07) In house o Dct-08) In house o Signature	t Check heck: Oct-09 heck: Oct-09	
The measurements and the un All calibrations have been con Calibration Equipment used (M Primary Standards Power meter EPM-442A Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combinator Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 6481A RF generator R&S SMT-06 Network Analyzer HP 8753E	ID #         Object           00100         0037480704         0037480704         0037480704         0037480704         0037292783         SN: 5086 (20g)         SN: 5086 (20g)         SN: 5086 (20g)         SN: 5087.2 / 06327         SN: 3025         SN: 3025         SN: 601         ID #         MY41092317         100005         US37390585 \$4206         Name	Cal Date (Certificate No.) 08-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 06-Oct-06 (No. 217-00896) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 128-Apr-08 (No. DAE4-001] Check Date (in house) 18-Oct-02 (in house check of 18-Oct-01 (in house check of 18-Oct-01 (in house check of Function	wing pages and are part of the o ature (22 ± 3)°C and humidity < 7 Scheduled Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Mar08) Mar-09 Scheduled Oct-07) In house o Oct-08) In house o Signature hmisian	t Check heck: Oct-09 heck: Oct-09	
The measurements and the un All calibrations have been con Calibration Equipment used (N Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer HP 8753E Calibrated by:	ABTE official for calibration)  ID #  OB37460704 US37292783 SN: 5086 (20g) SN: 5086 (20g) SN: 5086 (20g) SN: 5087 2 / 06327 SN: 3025 SN: 601  ID #  MY41092317 100005 US37390585 S4206 Name Jaton Kastrati  Katja Pokovic	cobability are given on the fold ty facility: environment temper Cal Date (Certificate No.) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_1 14-Mar-08 (No. DAE4-401_ Check Date (in house) 18-Oct-02 (in house check 4-Aug-99 (in house check 4-Aug-99 (in house check 18-Oct-01 (in house check Function Laboratory Tec	wing pages and are part of the or ature (22 ± 3)°C and humidity < 7 Scheduled Oct-09 Oct-09 Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Mar-08) Mar-09 Schedules Oct-07) In house of Schedules S	t Check heck: Oct-09 heck: Oct-09	

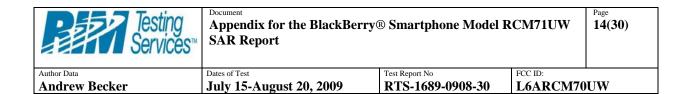
This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services Copyright 2005-2009, RIM Testing Services, a division of Research In Motion Limited



 SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Certificate No: D835V2-446\_Jan09

Page 2 of 6



#### Measurement Conditions

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

#### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.3±6%	0.91 mho/m ± 6 %
Head TSL temperature during test	(21.5±0.2) *C		-

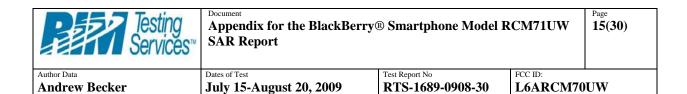
#### SAR result with Head TSL

SAR averaged over 1 cm <sup>2</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.40 mW / g
SAR normalized	normalized to 1W	9.60 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	9.50 mW/g ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.58 mW / g
SAR normalized	normalized to 1W	6.32 mW / g
SPIK IIUIIIdii200		

1 Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Certificate No: D835V2-446\_Jan09

Page 3 of 6



#### Appendix

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.8 Ω - 6.9 jΩ
Return Loss	- 23.3 dB

#### General Antenna Parameters and Design

Electrical Delay (one direction)	1.365 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	

Certificate No: D835V2-446\_Jan09

Page 4 of 6

Testing Services™	Document Appendix for the BlackBerry SAR Report	® Smartphone Model R	RCM71UW	Page 16(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

DASY5 Validation Report for Head TSL

Date/Time: 05.01.2009 10:38:06

Test Laboratory: SPEAG, Zurich, Switzerland

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

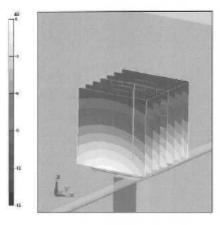
Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1 Medium: HSL 900 MHz Medium parameters used: f = 835 MHz;  $\sigma = 0.91$  mbo/m;  $e_c = 41.1$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

# Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

```
Reference Value = 55.7 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.7 mW/g
```



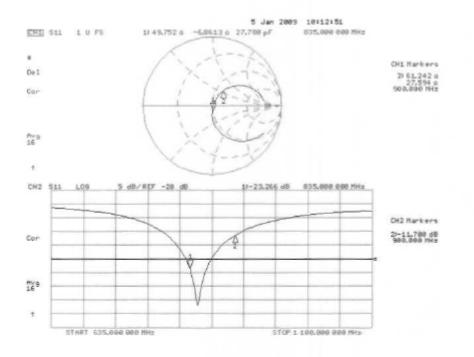
0 dB = 2.7 mW/g

Certificate No: D835V2-448\_Jan09

Page 5 of 6

Testing Services™	Appendix for the BlackBerry SAR Report	® Smartphone Model R	CM71UW	Page 17(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

#### Impedance Measurement Plot for Head TSL



Certificate No: D835V2-446\_Jan09

Page 6 of 6

		of Test	Test Report No	0000 20	FCC ID:	T 1577
v Becker	Jul	y 15-August 20, 20	09 RTS-1689	-0908-30	L6ARCM70	UW
Schmid Engin	ation Laborat & Partner heering AG strasse 43, 8004 20		ACHEA CR. OR		chweizerischer Kalibri Irvice suisse d'étalone Irvizio svizzero di tara wiss Calibration Servie	nage tura
The Swiss	s Accreditation Ser	reditation Service (SAS) vice is one of the signatorie recognition of calibration	s to the EA	Accreditation No.	: SCS 108	
Client	RTS (RIM Te	sting Services)	C. TRANSPORT	Certificate No: D	1900V2-545-Jan	09
CALI	BRATION	CERTIFICATE			S. K. S. T.	0.04
Object		D1900V2 - SN: 5	45	Malao Ing		8
Calibratio	n procedure(s)	QA CAL-05.v7 Calibration proce	dure for dipole validation	on kits		
		the second s	CONTRACTOR OF A	and the second se	and the second se	
Calibratio	n date:	January 06, 2009				
	n date: of the calibrated ite					
Condition This calibr The meas All calibra Calibratio	of the calibrated its ration certificate doo surements and the u stions have been cor n Equipment used (	m In Tolerance uments the traceability to nation noertainties with confidence p educted in the closed laborator M&TE critical for calibration)	onal standards, which realize th robability are given on the follow y faolity: environment temperat	ving pages and are	e part of the certificate. 1 humidity < 70%.	
Condition This calib The meas All calibra Calibratio Primary S Power me	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards ster EPM-442A	m In Tolerance uments the traceability to nail incertainties with confidence p iducted in the closed laboration M&TE critical for calibration) ID # G837480704	onal standards, which realize th robability are given on the follow y faolity: environment temperat Cal Date (Calibrated by, Cent 08-Oct-08 (No. 217-00898)	ving pages and are ure (22 ± 3)*C and sificate No.)	e part of the certificate. d humidity < 70%. Scheduled Calibratio Oct-09	
Condition This calibr The meas All calibra Calibratio Primary S Power me Power ser	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A	m In Tolerance uments the traceability to nail incertainties with confidence p iducted in the closed laboration M&TE critical for calibration) ID # G837480704 US37292783	onal standards, which realize th robability are given on the follow y faoility: environment temperat Cal Date (Calibrated by, Cen 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898)	ving pages and are ure (22 ± 3)*C and sificate No.)	e part of the certificate. 1 humidity < 70%. Scheduled Calibratio Oct-09 Oct-09	n
Condition This calibr The mass All calibra Calibratio Primary S Power me Power ser Reference	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A e 20 dB Attenuator	m In Tolerance uments the tracesbility to nation noertainties with confidence p ducted in the closed laboration M&TE critical for calibration) ID # G837480704 US37292783 SN: 5085 (20g)	onal standards, which realize th robability are given on the follow y faoility: environment temperat Cal Date (Calibrated by, Cen 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864)	ving pages and are ure (22 ± 3)*C and sificate No.)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09	
Condition This calibr The meas All calibratio Calibratio Primary S Power me Power see Reference Type-N m	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A	m In Tolerance uments the tracesbility to nation noertainties with confidence p ducted in the closed laboration M&TE critical for calibration) ID # G837480704 US37292783 SN: 5085 (20g)	onal standards, which realize th robability are given on the follow y faoility: environment temperat Cal Date (Calibrated by, Cen 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898)	ving pages and are ure (22 ± 3)*C and officate No.)	e part of the certificate. 1 humidity < 70%. Scheduled Calibratio Oct-09 Oct-09	9
Condition This calibr The meas All calibratio Calibratio Primary S Power me Power ser Reference Type-N m	of the calibrated its ration certificate doo surements and the u dions have been cor in Equipment used ( itandards ater EPM-442A nsor HP 8481A e 20 dB Attenuator ismatch combinatio	m In Tolerance uments the tracesbility to nation noertainties with confidence p ducted in the closed laboration M&TE critical for calibration) ID # G837480704 US37292783 SN: 5088 (20g) SN: 5087.2 / 06327	onal standards, which realize th robability are given on the follow y faolity: environment temperat Cal Date (Calibrated by, Cert 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867)	ring pages and are ure (22 ± 3)*C and lificate No.)	e part of the certificate. d humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09	n
Condition This calib The meas All calibra Calibratio Primary S Power me Power ser Reference Type-N m Reference DAE4	of the calibrated its ration certificate doo surements and the u dions have been cor in Equipment used ( itandards ater EPM-442A nsor HP 8481A e 20 dB Attenuator ismatch combinatio	m In Tolerance uments the traceability to nationate the traceability to nationate the confidence provide the confi	onal standards, which realize th robability are given on the follow y faolity: environment temperat Cal Date (Calibrated by, Cent 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_Ag	ring pages and are ure (22 ± 3)*C and lificate No.)	e part of the certificate. d humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09	n
Condition This calibr The meas All calibratio Calibratio Primary S Power me Power ser Reference DAE4 Secondary Power ser	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards riter EPM-442A nsor HP 8481A e 20 dB Attenuator isamatch combination a Probe ES3DV2 y Standards nsor HP 8481A	m In Tolerance	onal standards, which realize th robability are given on the follow y faolity: environment temperat OB-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_Ag 14-Mer-08 (No. ES3-3025_Ag 14-Mer-08 (No. DAE4-601_M Check Date (in house)	ving pages and are une (22 ± 3)*C and oficate No.) pr08) tar08) ct-07)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct-	09
Condition This calibr The meass All calibratio Calibratio Primary S Power me Power ser Reference DAE4 Secondar Power ser RF genera	of the calibrated its ration certificate doc surements and the u stors have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A e 20 dB Attenuator isimstch combination a Probe ES3DV2 y Standards nsor HP 8481A ator R&S SMT-06	m In Tolerance	onal standards, which realize th robability are given on the follow y faolity: environment temperat 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. 217-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 18-Oct-02 (in house check Oc 4-Aug-99 (in house check Oc	ving pages and are une (22 ± 3)*C and officate No.) pr08) ter08) ct-07) s-07)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct- In house check: Oct- In house check: Oct-	09
Condition This calibr The meass All calibratio Calibratio Primary S Power me Power ser Reference DAE4 Secondar Power ser RF genera	of the calibrated its ration certificate doo surements and the u stions have been cor in Equipment used ( itandards riter EPM-442A nsor HP 8481A e 20 dB Attenuator isamatch combination a Probe ES3DV2 y Standards nsor HP 8481A	m In Tolerance uments the traceability to na% incertainties with confidence p iducted in the closed laboration) ID # GB37480704 US37292783 SN: 50847.2 / 06327 SN: 3025 SN: 50847.2 / 06327 SN: 3025 SN: 601 ID # MY41092317	onal standards, which realize th robability are given on the follow y faolity: environment temperat OB-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00867) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. ES3-3025_Ag 14-Mer-08 (No. ES3-3025_Ag 14-Mer-08 (No. DAE4-601_M Check Date (in house)	ving pages and are une (22 ± 3)*C and officate No.) pr08) ter08) ct-07) s-07)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct-	09
Condition This calibr The meass All calibratio Calibratio Primary S Power me Power ser Reference DAE4 Secondar Power ser RF genera	of the calibrated its ration certificate doc surements and the u stors have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A e 20 dB Attenuator isimstch combination a Probe ES3DV2 y Standards nsor HP 8481A ator R&S SMT-06	m In Tolerance	onal standards, which realize th robability are given on the follow y faolity: environment temperat 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. 217-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 28-Apr-08 (No. 247-00867) 18-Oct-02 (in house check Oc 4-Aug-99 (in house check Oc	ving pages and are une (22 ± 3)*C and officate No.) pr08) ter08) ct-07) s-07)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct- In house check: Oct- In house check: Oct-	09
Condition This calibr The meas All calibra Calibratio Primary S Power me Power ser Reference DAE4 Secondar Power ser RF genera	of the calibrated its ration certificate doc surements and the u stions have been cor in Equipment used ( itandards ster EPM-442A nsor HP 8481A e 20 dB Attenuator ismatch combination e Probe ES30V2 y Standards nsor HP 8481A ator R&S SMT-06 Inalyzer HP 8753E	m In Tolerance	onal standards, which realize th robability are given on the follow y faoility: environment temperat OB-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. 217-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 237-00867) 28-Apr-08 (No. 247-00867) 18-Oct-02 (in house check Oc 18-Oct-02 (in house check Oc 18-Oct-01 (in house check Oc	ving pages and are une (22 ± 3)*C and bificate No.) or08) tar08) tar08) ct-07) ct-07) cd-08)	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct- in house check: Oct-	09
Condition This calibr The mass All calibra Calibratio Primary S Power me Power ser Reference DAE4 Secondar Power ser Reference DAE4	of the calibrated its ration certificate doo surements and the u tions have been cor in Equipment used ( itandards ster EPM-442A nspr HP 8481A e 20 dB Attenuator ismatch combination e Probe ES3DV2 y Standards nspr HP 8481A ator R&S SMT-06 knalyzer HP 8753E it by:	m In Tolerance	onal standards, which realize th robability are given on the follow y faoility: environment temperat OB-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. 217-00867) 28-Apr-08 (No. 217-00867) 18-Oct-01 (In house check Oc 18-Oct-01 (In house check Oc 18-Oct-01 (In house check Oc	ring pages and are une (22 ± 3)*C and bificate No.) pr08) tar08) tar08) ct-07) ct-08) nician	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct- in house check: Oct-	09
Condition This calib The meas All calibratio Primary S Power me Power ser Reference DAE4 Secondary Power ser REference DAE4 Calibrated	of the calibrated its ration certificate doo surements and the u tions have been cor in Equipment used ( itandards ster EPM-442A nspr HP 8481A e 20 dB Attenuator ismatch combination e Probe ES3DV2 y Standards nspr HP 8481A ator R&S SMT-06 knalyzer HP 8753E it by:	m In Tolerance	onal standards, which realize the robability are given on the follow y faolity: environment temperat 08-Oct-08 (No. 217-00898) 08-Oct-08 (No. 217-00898) 01-Jul-08 (No. 217-00864) 01-Jul-08 (No. DAE4-601_N Check Date (in house) 18-Oct-02 (in house check Oc 18-Oct-01 (in house check Oc 18-Oct-01 (in house check Oc 18-Oct-01 (in house check Oc	ring pages and are une (22 ± 3)*C and bificate No.) pr08) tar08) tar08) ct-07) ct-08) nician	e part of the certificate. I humidity < 70%. Scheduled Calibratio Oct-09 Oct-09 Jul-09 Jul-09 Jul-09 Apr-09 Mar-09 Scheduled Check In house check: Oct- in house check: Oct-	09

-

Testing Services™	Document Appendix for the BlackBerry SAR Report	® Smartphone Model F	RCM71UW	Page 19(30)
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

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



SHISS S CRUB NO S

Schweizerischer Kalibrierdienst

Service suisse d'étalonnage Servizio svizzero di taratura

Swiss Calibration Service

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

#### 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) DASY4/5 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.

Testing Services™	Document Appendix for the BlackBerry SAR Report	® Smartphone Model F	CM71UW	Page <b>20(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

#### Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.2 ± 6 %	1.47 mho/m ± 8 %
Head TSL temperature during test	(21.0 ± 0.2) °C	-	

#### SAR result with Head TSL

SAR averaged over 1 cm <sup>2</sup> (1 g) of Head TSL	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 1	normalized to 1W	39.5 mW/g±17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.29 mW / g
SAR normalized	normalized to 1W	21.2 mW/g
SAR for nominal Head TSL parameters 1	normalized to 1W	20.8 mW / g ± 16.5 % (k=2)

Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Certificate No: D1900V2-545\_Jan09

Testing Services™	Appendix for the BlackBerry SAR Report	® Smartphone Model R	CM71UW	Page <b>21(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

#### Appendix

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.9 Ω + 1.9 jΩ	
Return Loss	- 34.4 dB	

#### General Antenna Parameters and Design

Electrical Delay (one direction)	1.197 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

#### **DASY5 Validation Report for Head TSL**

Date/Time: 06.01.2009 13:17:58

Test Laboratory: SPEAG, Zurich, Switzerland

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

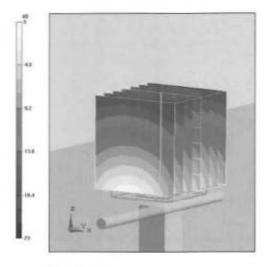
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1 Medium: HSL U10 BB Medium parameters used: f = 1900 MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

#### Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg)

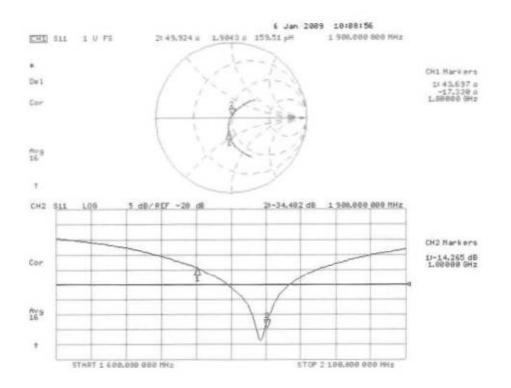
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 92.5 V/m; Power Drift = 0.037 dB Peak SAR (extrapolated) = 19 W/kg SAR(1 g) - 10.2 mW/g; SAR(10 g) - 5.29 mW/g Maximum value of SAR (measured) = 12 mW/g



0 dB = 12 mW/g

Testing Services™	Appendix for the BlackBerry SAR Report	® Smartphone Model R	CM71UW	Page <b>23(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

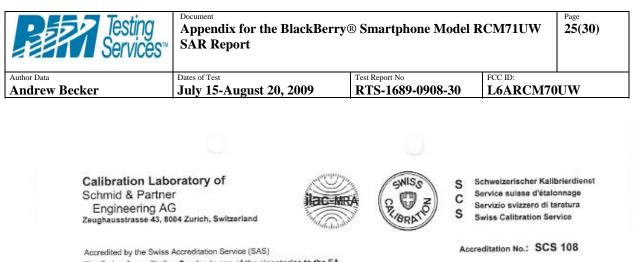
#### Impedance Measurement Plot for Head TSL



.

r Data Irew Becker	Dates of <b>July</b>	7 <b>15-August 20</b>		est Report No <b>RTS-1689-09</b>	08-30	FCC ID: L6ARCM7	0UW
Calibration La Schmid & Parte Engineering J Zeughausstrasse 43,	ner AG			SHISS CRUBRATO S	Service su Servizio sv	ischer Kalibrierdienst isse d'étalonnage vizzero di taratura bration Service	
	ation Service i	on Service (SAS) is one of the signatorie cognition of calibration		Accreditation	n No.: SCS	108	
Client RIM	ART OF			Certificate N	o: D2450V	2-747_Nov07	
CALIBRAT	FION C	ERTIFICATE					
Object		D2450V2 - SN: 7	41		10000		
Calibration procedure	e(s)	QA CAL-05.v6 Calibration proce	dure for dipole va	lidation kits			
Calibration date:		November 06, 20	007				
Calibration date: Condition of the calib	brated Item	November 06, 20 In Tolerance	007				
Condition of the calib This calibration certif The measurements a All calibrations have	ficate documen and the uncerti been conducte		ional standards, which re robability are given on th	e following pages an	nd are part of t	he certificate.	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmen Primary Standards	ficate documen and the uncertu been conducte nt used (M&TE	In Tolerance	ional standards, which re robability are given on th ry facility: environment to Cal Date (Calibrated	emperature (22 ± 3)*( by, Certificate No.)	nd are part of t C and humidity Sched	he certificate. / < 70%. uled Calibration	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipment	ficate document and the uncertuined been conducte nt used (M&TE 42A 42A 42A 42A 42A 42A 42A 42A 42A 42A	In Tolerance the traceability to nati- einties with confidence pr ed in the closed laborator contical for calibration)	ional standards, which re robability are given on th ry facility: environment to	te following pages ar emperature (22 ± 3)*/ by, Certificate No.) 40, 217-00736) 40, 217-00736) No 217-00718) No 217-00718) 40, ES3-3025_Oct07	C and humidity C and humidity Oct-04 Oct-04 Aug-0 Aug-0 Aug-0 ) Oct-04	he certificate. v < 70%. uled Calibration s s s s s	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmen Primary Standards Power meter EPM-44 Power sensor HP 84 Reference 10 dB Atto Reference 10 dB Atto Reference Probe ES DAE4	ficate documen and the uncertu- been conducte nt used (M&TE 42A 42A 481A enuator enuator i3DV2	In Tolerance Its the traceability to nati- ainties with confidence pr ed in the closed laborator critical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN: 3025 SN: 601	ional standards, which re robability are given on th ry facility: environment to Cal Date (Calibrated 04-Oct-07 (METAS, 1 04-Oct-07 (METAS, 1 07-Aug-07 (METAS, 1 26-Oct-07 (SPEAG, 1 30-Jan-07 (SPEAG, 1	te following pages ar emperature (22 ± 3)*/ by, Certificate No.) 40. 217-00736) No 217-00736) No 217-00718) No 217-00718) No 217-00718) No ES3-3025_Oct07 No, DAE4-601_Jan07	C and humidity Sched Oct-08 Aug-0 Aug-0 ) Oct-08 7) Jan-06	he certificate, y < 70%, uled Calibration 8 8 8 8 8 8 8 8 8	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmer Primary Standards Power motor EPM-44 Power sensor HP 84 Reference 20 dB Atte Reference 10 dB Atte Reference Probe ES	ficate document and the uncertuined been conducte nt used (M&TE 42A 481A enuator enuator 3DV2 8	In Tolerance the the traceability to nati- einties with confidence pr ed in the closed laborator critical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN: 3025	Cal Date (Calibrated 04-Oct-07 (METAS, 1 07-Aug-07 (METAS, 1 0 07-Aug-07 (METAS, 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	te following pages ar emperature (22 ± 3)*/ by, Certificate No.) 40. 217-00736) No 217-00736) No 217-00718) No 217-00718) No 217-00718) No ES3-3025_Oct07 No, DAE4-601_Jan07	C and humidity Sched Oct-08 Aug-0 Aug-0 7) Oct-08 7) Jan-08	he certificate. v < 70%. uled Calibration s s s s s	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmer Primary Standards Power sensor HP 84 Reference 20 dB Attw Reference 10 dB Attw Reference Probe ES DAE4	ficate documer and the uncertu- been conducte nt used (M&TE 42A 42A 42A enuator enuator 3DV2 8 8 8 18 14 8 14	In Tolerance Its the traceability to nati- ainties with confidence pr ed in the closed laborator critical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN: 3025 SN: 601 ID #	ional standards, which re robability are given on th ry facility: environment to O4-Oct-07 (METAS, 1 04-Oct-07 (METAS, 1 07-Aug-07 (METAS, 1 26-Oct-07 (SPEAG, 1 30-Jan-07 (SPEAG, 1 30-Jan-07 (SPEAG, 1 Check Data (in house	te following pages ar emperature (22 ± 3)*/ to: 217-00736) to: 217-00736) to: 217-00736) to: 217-00718) to: 217-00718) to: 217-00718) to: 213-00718) to: 213-007180 to: 213	C and humidity C and humidity Sched Oct-08 Oct-08 Aug-0 Aug-0 () Oct-08 Aug-0 () Oct-08 () () () () () () () () () ()	he certificate. y < 70%. uled Calibration 3 8 8 8 8 3 uled Check	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmer Primary Standards Power mater EPM-44 Power sensor HP 84 Reference 20 dB Atte Reference 10 dB Atte Reference Probe ES DAE4 Secondary Standard Power sensor HP 84 RF generator R&S S	ficate documer and the uncertu- been conducte nt used (M&TE 42A 42A 42A enuator enuator 3DV2 8 8 8 18 14 8 14	In Tolerance Its the traceability to nati- einties with confidence pr ed in the closed laborator contical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN: 3025 SN: 601 ID # MY41082317 100005	ional standards, which re robability are given on the ry facility: environment to Cal Date (Calibrated 04-Oct-07 (METAS, 1) 04-Oct-07 (METAS, 1) 07-Aug-07 (METAS, 1) 07-Aug-07 (METAS, 1) 07-Aug-07 (METAS, 1) 07-Aug-07 (METAS, 1) 07-Aug-07 (SPEAG, 1) 30-Jan-07 (SPEAG, 1) 18-Oct-02 (SPEAG, 1) 18-Oct-01 (SPEAG, 1) 18-Oct-01 (SPEAG, 1)	te following pages ar emperature (22 ± 3)*/ to: 217-00736) to: 217-00736) to: 217-00736) to: 217-00718) to: 217-00718) to: 217-00718) to: 213-00718) to: 213-007180 to: 213	C and humidity C and humidity Sched Oct-08 Oct-08 Aug-0 Aug-0 () Oct-08 Aug-0 () Oct-08 () () () () () () () () () ()	he certificate. y < 70%. uled Calibration 3 8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	
Condition of the calib This calibration certif The measurements a All calibrations have Calibration Equipmen Primary Standards Power meter EPM-4 Power sensor HP 84- Reference 10 dB Atte Reference Probe ES DAE4 Secondary Standard Power sensor HP 84- RF generator R&S S Network Analyzer HP	ficate documer and the uncertu- been conducte nt used (M&TE 42A 42A 42A enuator enuator 3DV2 8 8 8 18 14 8 14	In Tolerance Its the traceability to nati- ainties with confidence pr ed in the closed laborator contical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN: 3025 SN: 601 ID # MY41082317 100005 US37390585 S4206 Name	ional standards, which re robability are given on the ry facility: environment to Cal Date (Calibrated 04-Oct-07 (METAS, 1) 04-Oct-07 (METAS, 1) 07-Aug-07 (METAS, 1) 04-Oct-07 (SPEAG, 1) 18-Oct-02 (SPEAG, 1) 18-Oct-01 (SPEAG, 1) 18-Oct-01 (SPEAG, 1) 18-Oct-01 (SPEAG, 1) 18-Oct-01 (SPEAG, 1)	er following pages ar emperature (22 ± 3)*/ by, Certificate No.) to. 217-00736) No 217-00736) No 217-00718) No 217-00718) No 217-00718) No 217-00718) No 217-00718) No 217-00718) No 217-00718) no Lass Check Oct-07 house check Oct-07 house check Oct-07	C and humidity Sched Oct-08 Oct-08 Aug-0 Aug-0 () Oct-08 Aug-0 () C and humidity () C and humidity () () C and humidity () () () () () () () () () ()	he certificate. y < 70%. uled Calibration 3 8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services Copyright 2005-2009, RIM Testing Services, a division of Research In Motion Limited



The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

#### 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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- 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.

Certificate No: D2450V2-747\_Nov07

Page 2 of 6

Testing Services™	Appendix for the BlackBerry SAR Report	® Smartphone Model R	CM71UW	Page <b>26(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

	Dates of Test July 15-Augu
IIIII CW DECKEI	July 15-Augu

I NO	FUU ID:
689-0908-30	L6AR

#### Measurement Conditions

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

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.4±6%	1.85 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C		

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	condition	
SAR measured	250 mW input power	13.6 mW / g
SAR normalized	normalized to 1W	54.4 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	53.2 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.27 mW / g
SAR normalized	normalized to 1W	25.1 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	24.8 mW / g ± 16.5 % (k=2)

1 Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Certificate No: D2450V2-747\_Nov07

Page 3 of 6

Testing Services™	Appendix for the BlackBerry SAR Report	® Smartphone Model R	CM71UW	Page <b>27(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

------

#### Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.2 Ω + 2.1 jΩ
Return Loss	– 32.4 dB

#### General Antenna Parameters and Design

Electrical Delay (one direction)	1.160 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	December 01, 2003	

Testing Services™	Document Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	IIW

#### DASY4 Validation Report for Head TSL

Date/Time: 06.11.2007 15:01:41

Test Laboratory: SPEAG, Zurich, Switzerland

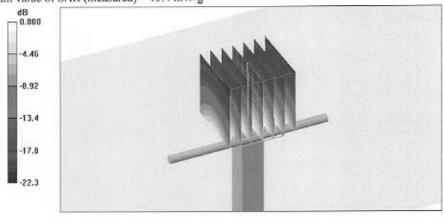
### DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN747

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1 Medium: HSL U10 BB; Medium parameters used: f = 2450 MHz;  $\sigma$  = 1.79 mho/m;  $\epsilon_r$  = 38;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

- Probe: ES3DV2 SN3025 (HF); ConvF(4.41, 4.41, 4.41); Calibrated: 26.10.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 93.4 V/m; Power Drift = 0.016 dB Peak SAR (extrapolated) = 29.4 W/kg SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.27 mW/g Maximum value of SAR (measured) = 15.4 mW/g



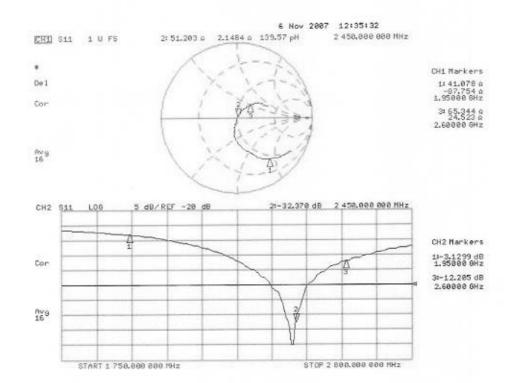
0 dB = 15.4 mW/g

Certificate No: D2450V2-747\_Nov07

Page 5 of 6

Testing Services™	Document Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page <b>29(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW

### Impedance Measurement Plot for Head TSL



Page 6 of 6

Testing Services™	Document Appendix for the BlackBerry® Smartphone Model RCM71UW SAR Report			Page <b>30(30)</b>
Author Data	Dates of Test	Test Report No	FCC ID:	
Andrew Becker	July 15-August 20, 2009	RTS-1689-0908-30	L6ARCM70	UW