RTS RIM Testing Services	Appendix for the BlackBerry SAR Report	y® Smartphone Model	RBT71UW	Page 1(19)
Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

APPENDIX D1: PROBE & DIPOLE CALIBRATION DATA

RIM Testing Services Appendix for the BlackBerry® Smartphone Model RBT71UW SAR Report Author Data Shahriar Ninad Dates of Test Mar 06- Apr 22, 2008 Mar 06- Apr 22, 2008 Mar 06- Apr 22, 2008 Page 2(19) Page 2(19) Page 2(19) Page 2(19)

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





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Multilateral Agreement for the recognition of calibration certificates

Client

RIM

Certificate No: ET3-1644 Nov07

Accreditation No.: SCS 108

Object	ET3DV6 - SN:1	644	
Calibration procedure(s)	QA CAL-01.v6 Calibration proc	redure for dosimetric E-field probes	
Calibration date:	November 12, 2	2007	
Condition of the calibrated item	In Tolerance		
All calibrations have been conduc	cted in the closed laborate	ory facility: environment temperature (22 ± 3)°C and	d humidity < 70%.
Calibration Equipment used (M&T	TE critical for calibration)		
	TE critical for calibration)	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
rimary Standards	T.	Cal Date (Calibrated by, Certificate No.) 29-Mar-07 (METAS, No. 217-00670)	Scheduled Calibration Mar-08
rimary Standards ower meter E4419B ower sensor E4412A	ID# GB41293874 MY41495277	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670)	Mar-08 Mar-08
rimary Standards ower meter E4419B ower sensor E4412A ower sensor E4412A	ID # GB41293874 MY41495277 MY41498087	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670)	Mar-08 Mar-08 Mar-08
rimary Standards ower meter E4419B ower sensor E4412A ower sensor E4412A eference 3 dB Attenuator	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c)	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719)	Mar-08 Mar-08 Mar-08 Aug-08
rimary Standards ower meter E4419B ower sensor E4412A ower sensor E4412A eference 3 dB Attenuator eference 20 dB Attenuator	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b)	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b)	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference B of B Attenuator Reference Probe ES3DV2	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: 3013	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08 Jan-08
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference B of B Attenuator Reference Probe ES3DV2	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b)	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08
ower meter E4419B ower sensor E4412A ower sensor E4412A eference 3 dB Attenuator eference 20 dB Attenuator eference 30 dB Attenuator eference Probe ES3DV2 AE4	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: 3013 SN: 654	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-0071) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. ES3-3013_Jan07) 20-Apr-07 (SPEAG, No. DAE4-654_Apr07)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08 Jan-08 Apr-08
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 PAE4	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: 3013 SN: 654	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. E33-3013_Jan07) 20-Apr-07 (SPEAG, No. DAE4-854_Apr07) Check Date (in house)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08 Jan-08 Apr-08 Scheduled Check
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference B0 dB Attenuator Reference Probe ES3DV2 DAE4 Recondary Standards RF generator HP 8648C	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: 3013 SN: 654	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-0071) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. ES3-3013_Jan07) 20-Apr-07 (SPEAG, No. DAE4-654_Apr07)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08 Jan-08 Apr-08
Calibration Equipment used (M&T Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8648C Retwork Analyzer HP 8753E	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: 3013 SN: 654 ID # US3642U01700	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. ES3-3013_Jan07) 20-Apr-07 (SPEAG, No. DAE4-654_Apr07) Check Date (in house) 4-Aug-99 (SPEAG, in house check Oct-07)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Aug-08 Jan-08 Apr-08 Scheduled Check In house check: Oct-09
Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference B0 dB Attenuator Reference Probe ES3DV2 PAE4 Recondary Standards RF generator HP 8648C	ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5086 (20b) SN: S5129 (30b) SN: S5129 (30b) SN: 654 ID # US3642U01700 US37390585	29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 29-Mar-07 (METAS, No. 217-00670) 8-Aug-07 (METAS, No. 217-00719) 29-Mar-07 (METAS, No. 217-00671) 8-Aug-07 (METAS, No. 217-00720) 4-Jan-07 (SPEAG, No. ES3-3013_Jan07) 20-Apr-07 (SPEAG, No. DAE4-654_Apr07) Check Date (in house) 4-Aug-99 (SPEAG, in house check Oct-07) 18-Oct-01 (SPEAG, in house check Oct-07)	Mar-08 Mar-08 Mar-08 Aug-08 Mar-08 Jan-08 Apr-08 Scheduled Check In house check: Oct-09 In house check: Oct-08

Certificate No: ET3-1644_Nov07

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Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

Calibration Laboratory of

Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurlch, Switzerland





Schweizerischer Kalibrierdienst

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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 NORMx,y,z ConF tissue simulating liquid sensitivity in free space sensitivity in TSL / NORMx,y,z diode compression point

DCP Polarization φ

φ 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
- EC 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 E²-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.

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RTS RIM Testing Services	Appendix for the BlackBerry SAR Report	y® Smartphone Model	RBT71UW	Page 4(19)
Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

November 12, 2007

Probe ET3DV6

SN:1644

Manufactured: November 7, 2001 Last calibrated: November 16, 2006 Recalibrated: November 12, 2007

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

Certificate No: ET3-1644_Nov07

RTS RIM Testing Services	Appendix for the BlackBerr SAR Report	y® Smartphone Model	RBT71UW	Page 5(19)
Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

November 12, 2007

DASY - Parameters of Probe: ET3DV6 SN:1644

Sensitivity in Free Space ^A			Diode C	ompression ⁸
NormX	1.82 ± 10.1%	$\mu V/(V/m)^2$	DCP X	93 mV
NormY	1.92 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	92 mV
NormZ	1.88 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	95 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Selis	itivity iii 1158	ue Siiii	diating Elquid (Conversion	acion	3)
Please	see Page 8.				
Boun	dary Effect				
TSL	90	0 MHz	Typical SAR gradient: 5 % per m	ım	
	Sensor Center	to Phantor	m Surface Distance	3.7 mm	4.7 mm
	SAR _{be} [%]	Without	Correction Algorithm	7.1	3.7
	SAR _{be} [%]	With Co	rrection Algorithm	0.1	0.4
TSL	181	MHz	Typical SAR gradient: 10 % per	mm	
	Sensor Center	to Phantor	m Surface Distance	3.7 mm	4.7 mm
	SAR _{be} [%]	Without	Correction Algorithm	13.3	9.0
	SAR _{be} [%]	With Co	rrection Algorithm	0.5	1.6
Sens	or 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%.

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^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

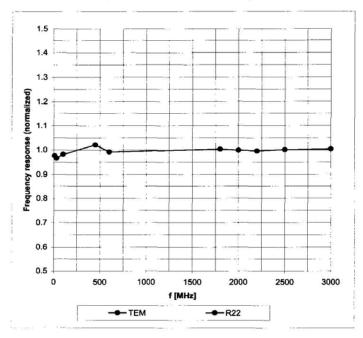
^B Numerical linearization parameter: uncertainty not required.

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November 12, 2007

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



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

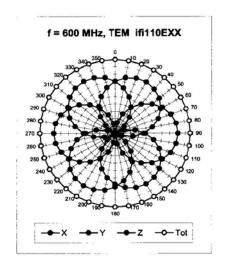
Certificate No: ET3-1644_Nov07

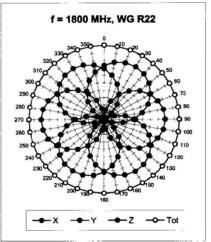
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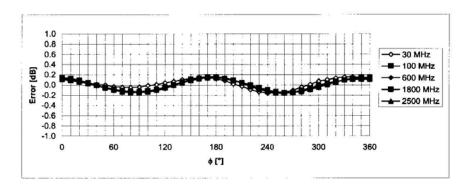
RTS RIM Testing Services	Appendix for the BlackBer SAR Report	ry® Smartphone Model	RBT71UW	Page 7(19)
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Shahriar Ninad	Mar 06- Apr 22, 2008 RTS-0552-0804-11 L6ARBT70			UW

November 12, 2007

Receiving Pattern (ϕ), ϑ = 0°







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

Certificate No: ET3-1644_Nov07

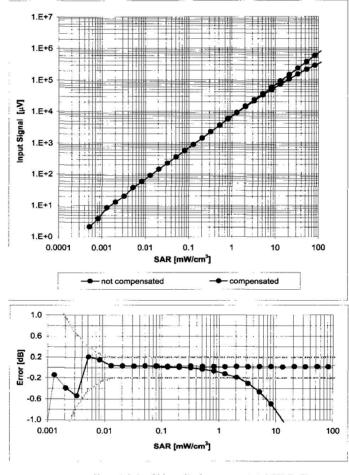
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November 12, 2007

Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)



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

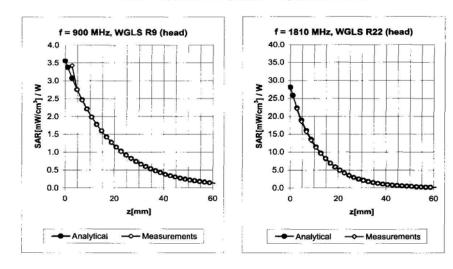
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November 12, 2007

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.21	4.04	6.41 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	$40.0 \pm 5\%$	1.40 ± 5%	0.71	2.01	5.24 ± 11.0% (k=2)
900	± 50 / ± 100	Body	$55.0 \pm 5\%$	$1.05 \pm 5\%$	0.32	2.97	5.97 ± 11.0% (k=2)
1810	$\pm 50 / \pm 100$	Body	53.3 ± 5%	1.52 ± 5%	0.73	2.27	4.75 ± 11.0% (k=2)

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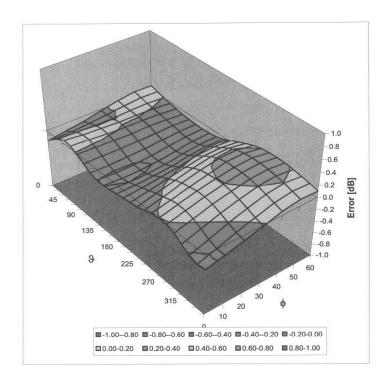
^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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Shahriar Ninad	Mar 06- Apr 22, 2008 RTS-0552-0804-11 L6ARBT70U		UW	

November 12, 2007

Deviation from Isotropy in HSL

Error (ϕ, ϑ) , f = 900 MHz



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

Certificate No: ET3-1644_Nov07

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RTS RIM Testing Services	Appendix for the BlackBe SAR Report	rry® Smartphone Model	RBT71UW	Page 11(19)
Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstresse 43, 8404 Zurich, Switzerland





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Accreditation No.: SCS 108

ent RIM Certificate No: ET3-1543_Mar08

CALIBRATION CERTIFICATE Object ET3DV6 - SN:1643 Calibration procedure(s) QA CAL-01.v6 Calibration procedure for dosimetric E-field probes March 11, 2008 Calibration date: In Toloranco This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%. Calibration Equipment used (M&TE critical for calibration) Primary Standards Call Date (Calibrated by, Certificate No.) Scheduled Calibration Power meter E4419B GB41293874 29-Mar-07 (METAS, No. 217-00670) Mar-08 29-Mar-07 (METAS, No. 217-00670) Power sensor E4412A MY41495277 Mar 08 Power sensor E4412A MY41498087 29-Mar-07 (METAS, No. 217-00670) Mar 08 Reference 3 dB Attenuator SN: S5054 (3c) 8-Aug-07 (METAS, No. 217-00719) Aug-08 Reference 20 dB Attenuator SN: S5086 (20b) 29-Mar-07 (METAS, No. 217-00671) Mar-08 Reference 30 dB Attenuator SN: S5129 (30b) 8-Aug-07 (METAS, No. 217-00720) Aug-08 Reference Probe ES3D/2 SN: 3013 2-Jan-08 (SPEAG, No. ES3-3013 Jan08) Jan-09 20-Apr-07 (SPEAG, No. DAE4-654_Apr07) SN: 654 Apr-08 Secondary Standards ID# Check Date (in house) Scheduled Check US3642U01700 RF generator HP 8648C 4-Aug-99 (SPEAG, in house check Oct-07) In house check: Oct-09 Network Analyzer HP 8753E US37390585 18-Oct-01 (SPEAG, in house check Oct-07) In house check: Oct-08 Name Function Signature Technical Manager Calibrated by: Katja Pokovic Approved by: Niels Kuster Quality Manager Issued: March 12, 2008 This calibration cartificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: ET3-1643_Mar08

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RTS RIM Testing Services	Appendix for the BlackBe SAR Report	erry® Smartphone Mode	I RBT71UW	Page 12(19)
Author Data	Dates of Test	Test Report No	FCC ID:	
Shahriar Ninad	Mar 06- Apr 22, 2008	RTS-0552-0804-11	L6ARBT70	UW

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





S Schwizzerischer Kalibrierdienst
Service suisse d'étalonnage
Servizio svizzero di taratura

S Swiss Calibration Service

Accreditation No.: SCS 108

According by the Owiss Accreditation Cernice (CAS).

The Swiss Accreditation Service is one of the signalories 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

tissue simulating liquid
sensitivity in TSL / NORMx,y,z
diode compression point
or rotation around probe axis

Polarization ϕ ϕ rotation around probe axis

Polarization 9 9 rotation around an axis that is in the

arization 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:

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- EC 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:

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- NORM(f)x,y,z = NORMx,y,z * irequency_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.

Certificate No: ET3-1643 Mar08

RTS RIM Testing Services	Appendix for the BlackBerry® Smartphone Model RBT71UW SAR Report			Page 13(19)
Author Data Shahriar Ninad	Dates of Test			

March 11, 2008

Probe ET3DV6

SN:1643

Manufactured:

November 7, 2001

Last cal brated: Recalibrated: March 9, 2007 March 11, 2008

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

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DASY - Parameters of Probe: ET3DV6 SN:1643

Sensitivity in Fre	e Space ^A		Diode C	ompression ^B
NormX	1.72 ± 10.1%	$\mu V/(V/m)^2$	DCP X	94 mV
NormY	1.97 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	93 mV
NornZ	1.76 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	92 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	r to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{te} [%]	Without Correction Algorithm	9.2	5.3
SAR _{to} [%]	With Correction Algorithm	0.7	0.5

TSL 1810 MHz Typical SAR gradient: 10 % per mm

Sensor Cente	r to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _b [%]	Without Correction Algorithm	12.2	7.0
SAR ₀ [%]	With Correction Algorithm	8.0	0.7

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%.

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A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL [see Page 8].

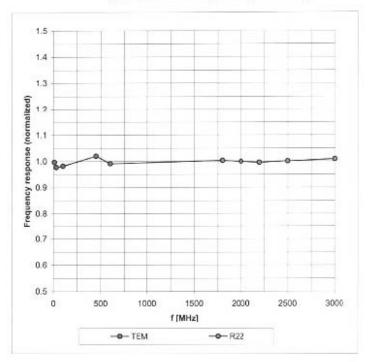
⁸ Numerical linearzation parameter: uncertainty not required.

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Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)

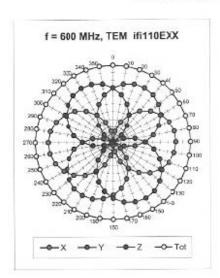


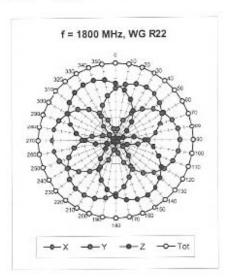
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

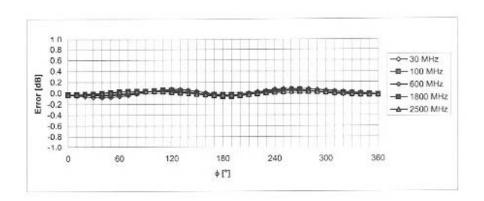
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Receiving Pattern (♦), 9 = 0°







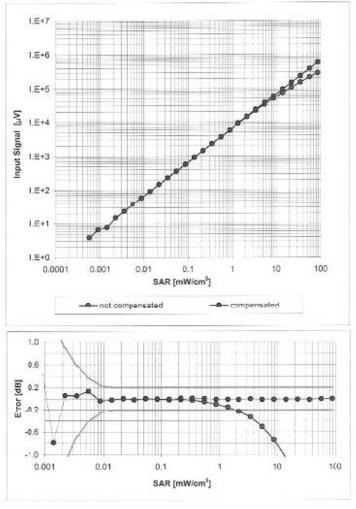
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)

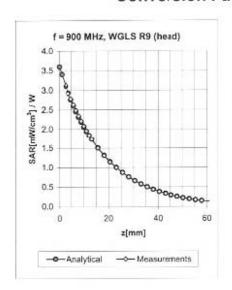


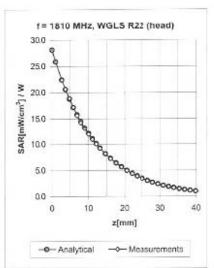
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

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Conversion Factor Assessment





f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.93	1.57	6.23 ± 11.0% (k=2)
1810	+ 50 / + 100	Head	40.0 ± 5%	1.40 ± 5%	0.58	2.14	5.19 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.60	2.00	4.90 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.90	1.73	5.85 ± 11.0% (k=2)
1810	± 50 (± 100	Body	53.3 ± 5%	1.52 ± 5%	0.60	2.06	5.00 ± 11.0% (k=2)
1960	± 60 / ± 100	Body	63.3 ± 5%	1.52 ± 5%	0.70	1.85	4.80 ± 11.0% (k=2)

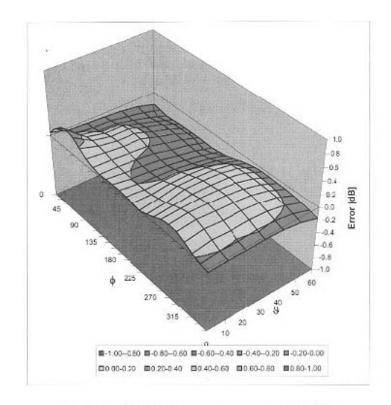
⁶ The validity of z 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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Deviation from Isotropy in HSL

Error (6, 3), f = 900 MHz



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