Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3				
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

APPENDIX D: PROBE & DIPOLE CALIBRATION DATA

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3

2(49)

Author Data **Andrew Becker** Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

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





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RTS (RIM Testing Services)

Accreditation No.: SCS 108

S

Certificate No: ES3-3225_Jan13

CALIBRATION CERTIFICATE

Object

ES3DV3 - SN:3225

Calibration procedure(s)

QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4 Calibration procedure for dosimetric E-field probes

Calibration date:

January 10, 2013

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%.

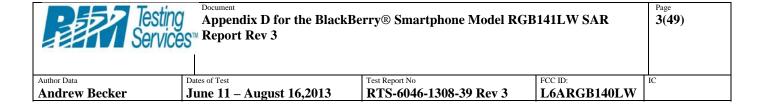
Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power mater E4419B	GB41293874	29-Mar-12 (No. 217-01509)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: 95054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20h)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013 Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID.	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	U537390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Function Signature Laboratory Technician Calibrated by Jeton Kastrati Technical Manager Katia Pokovic Approved by: Issued: January 14, 2013 This calibration curtificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: ES3-3225_Jan13

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Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

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Glossary:

NORMx.y.z ConvF

DCP

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

CF A, B, C, D

crest factor (1/duty_cycle) of the RF signal modulation dependent linearization parameters

Potarization o

φ rotation around probe axis

Polarization 5

3 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 8 = 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 affect 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 with CW signal (no uncertainty required). DCP does not depend on frequency nor media
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax.y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z; A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode
- 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
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensar Offset. The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Certificate No: ES3-3225_Jan13

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ES3DV3 - SN:3225

January 10, 2013

Probe ES3DV3

SN:3225

Manufactured: Calibrated: September 1, 2009 January 10, 2013

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

Certificate No: E53-3225_Jan13

Page 3 of 11

Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR S™ Report Rev 3			Page 5(49)
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

ES3DV3~ SN:3225 January 10, 2013

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3225

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m) ²) ^A	1.29	1,19	1.31	± 10.1 %
DCP (mV) ⁸	100.5	101.5	99.9	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dBõV	С	dB D	VR mV	Unc ^c (k=2)
0 C	CW	X	0.0	0.0	1.0	0.00	157.5	±2.7 %
		Y	0.0	0.0	1.0		158.4	
		Z	0.0	0.0	1.0		165.9	

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%.

Certificate No: E53-3225_Jan13

<sup>The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

Numerical linearization parameter: uncertainty not required.

Uncertainty is determined using the max, deviation from linear response applying rectangular distribution and is expressed for the square of the field value.</sup>

ES3DV3-SN:3225

January 10, 2013

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3225

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^f	Conductivity (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.56	8.58	8.56	0.42	1.54	± 12.0 %
900	41.5	0.97	6.19	6.19	6.19	0.43	1.52	± 12.0 %
1810	40.0	1.40	5.35	5.35	5.35	0.63	1.39	± 12.0 %
1950	40.0	1,40	5.09	5.09	5.09	0.80	1.23	± 12.0 %
2450	39.2	1.80	4.65	4,65	4.65	0.61	1.63	± 12.0 %
2600	39.0	1.96	4.43	4.43	4.43	0.80	1,32	± 12.0 %

Certificate No: ES3-3225_Jan13

Page 5 of 11

Efrequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), rise it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency bend.

At requencies below 3 GHz, the validity of tissue parameters (a and a) can be relaxed to ± 10% if liquid compensation formula is applied to measured 5AR values. At frequencies above 3 GHz, the validity of tissue parameters (a and a) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Testin Service	Appendix D for the BlackF Report Rev 3	Page 7(49)		
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

E93DV3- SN:3225

January 10, 2013

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3225

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.27	6.27	6.27	0.48	1.51	± 12.0 %
900	55.0	1.05	6.12	6.12	6.12	0.73	1.25	± 12.0 %
1810	53.3	1.52	5.04	5.04	5.04	0.57	1,47	± 12.0 %
1950	53.3	1.52	4.94	4.94	4.94	0.58	1.50	± 12.0 %
2450	52.7	1.95	4.35	4.35	4.35	0.70	1.16	± 12.0 %
2600	52.5	2.16	4.11	4.11	4.11	0.67	0.99	± 12.0 %

Certificate No: ES3-3225_Jan13

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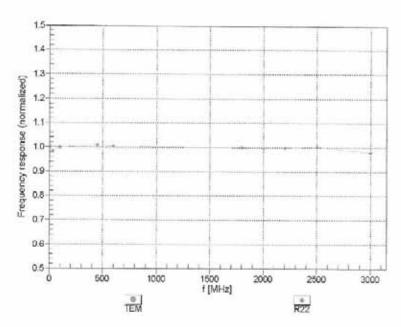
Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

At frequencies below 3 GHz, the validity of tissue parameters (it and it) can be reliased to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (it and it) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target fissue parameters.

Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR			Page 8(49)
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

ES3DV3- SN:3225 January 10, 2013

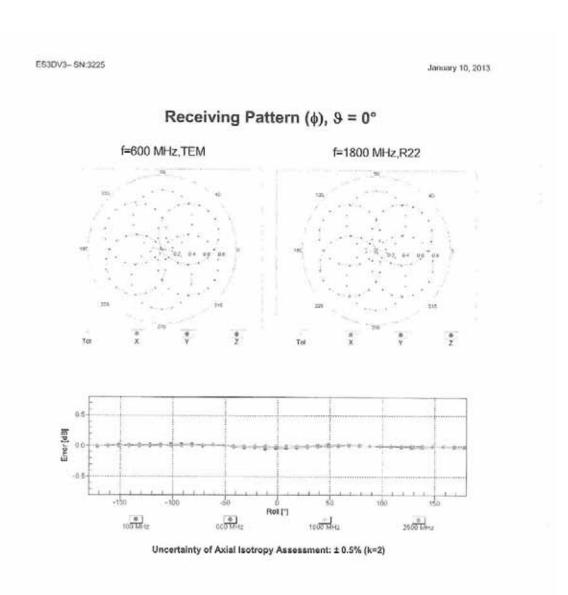
Frequency Response of E-Field (TEM-Cell:Ifi110 EXX, Waveguide: R22)



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

Certificate No: ES3-3225_Jan13

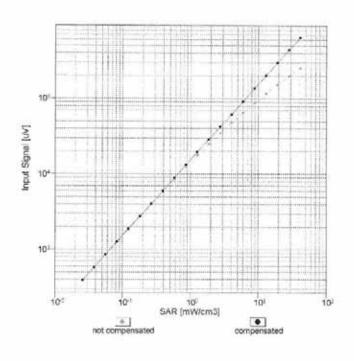
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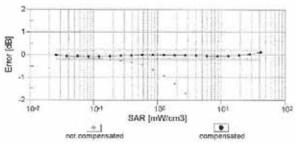


ES3DV3-SN:3225

January 10, 2013

Dynamic Range f(SAR_{head}) (TEM cell , f = 900 MHz)



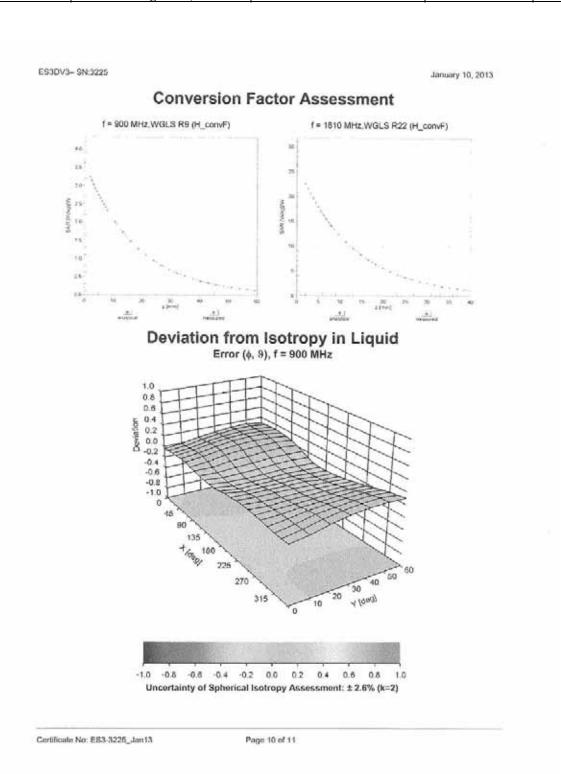


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Certificate No: ES3-3225_Jan13

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Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3			Page 11(49)
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	



Testing Services	Appendix D for the BlackBe Report Rev 3	rry® Smartphone Model RGB	141LW SAR	Page 12(49)
	Dates of Test June 11 – August 16,2013	Test Report No RTS-6046-1308-39 Rev 3	FCC ID: L6ARGB140LW	IC

ES3DV3- SN:3225

January 10, 2013

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3225

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (*)	8.3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

Certificate No: ES3-3225_Jan13

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Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR [™] Report Rev 3

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Author Data Andrew Becker Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

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



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Client

RTS (RIM Testing Services)

Certificate No: EX3-3548_Jan13

Accreditation No.: SCS 108

CALIBRATION CERTIFICATE

Object

EX3DV4 - SN:3548

Calibration procedure(s)

QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4

Calibration procedure for dosimetric E-field probes

Calibration date:

January 15, 2013

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	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E44198	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Function Signature Name Calibrated by: Jeton Kastrati Laboratory Technician Technical Manager Approved by: Katja Pokovic Issued: January 15, 2013

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

Certificate No: EX3-3548_Jan13

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Author Data Andrew Becker Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Page 14(49) Test Report No RCC ID: IC Author Data Andrew Becker Author Data Andrew Becker Author Data Andrew Becker Author Data Andrew Becker Author Data Author Data Andrew Becker Author Data Author Data Author Data Author Data Author Data Andrew Becker Author Data Author Data Andrew Becker Author Data Author Data Author Data Andrew Becker Author Data Author Data Author Data Andrew Becker Author Data Author Data Author Data Author Data Andrew Becker Author Data Author Data Andrew Becker Author Data Author Data Andrew Becker Author Data Author Data Author Data Author Data Andrew Becker

Calibration Laboratory of

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





S Schweizerischer Kallbrierdienst
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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 tissue simulating liquid
NORMx,y,z sensitivity in free space
Com/F sensitivity in TSL / NORMx,y,z
DCP diode compression point

CF crest factor (1/duty_cycle) of the RF signal A, B, C, D modulation dependent linearization parameters

Polarization 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:

- 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
- 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 8 = 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 affect 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 with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- 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: EX3-3548_Jan13 Page 2 of 11

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Services™ Report Rev 3						
Author Data	Dates of Test	Test Report No	FCC ID:	IC		
Andrew Becker	June 11 – August 16,2		L6ARGB140LW	ic .		

EX3DV4 - SN:3548 January 15, 2013

Probe EX3DV4

SN:3548

Manufactured: Calibrated:

November 16, 2004 January 15, 2013

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

Certificate No: EX3-3548_Jan13

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Testing Service	Testing Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC		
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW			

EX3DV4- SN:3548 January 15, 2013

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3548

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m) ²) ^A	0.36	0.44	0.43	± 10.1 %
DCP (mV) ⁶	103.2	98.0	98.7	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	С	D dB	VR mV	Unc [±] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	181.3	±3.3 %
		Y	0.0	0.0	1.0		149.2	
		Z	0.0	0.0	1.0		198.9	

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%.

⁶ The uncertainties of NormX, Y, Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

Numerical linearization parameter: uncertainty not required.

^{*} Uncertainty is determined using the max, deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC		
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW			

EX3DV4-SN:3548 January 15, 2013

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3548

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
2600	39.0	1.96	7.15	7.15	7.15	0.47	0.86	± 12.0 %
5200	36.0	4.66	5.13	5.13	5.13	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.79	4.79	4.79	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.61	4.61	4.61	0.45	1.80	± 13.1 %

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⁰ Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the Com/F uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

⁷ At frequencies below 3 GHz, the validity of tissue parameters (s and o) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (s and o) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC	
Andrew Becker	June 11 – August 16,2	013 RTS-6046-1308-39 Rev 3	L6ARGB140LW		

EX3DV4-SN:3548 January 15, 2013

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3548

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity F	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
2600	52.5	2.16	7.08	7.08	7.08	0.80	0.50	± 12.0 %
5200	49.0	5.30	4.68	4.68	4.68	0.52	1.90	± 13.1 %
5500	48.6	5.65	4.15	4.15	4.15	0.52	1.90	± 13.1 %
5800	48.2	6.00	4.19	4.19	4.19	0.60	1.90	± 13.1 %

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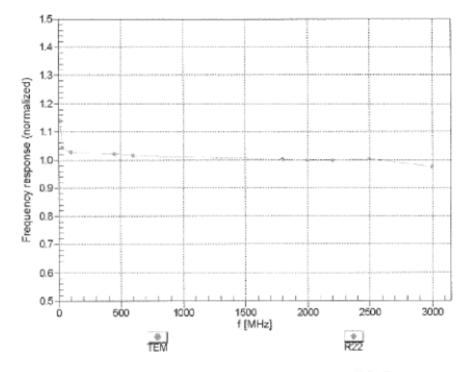
^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be released to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated treat tissue parameters (ε and σ). the ConvF uncertainty for indicated target tissue parameters.

Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC		
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW			

January 15, 2013 EX3DV4-SN:3548

Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

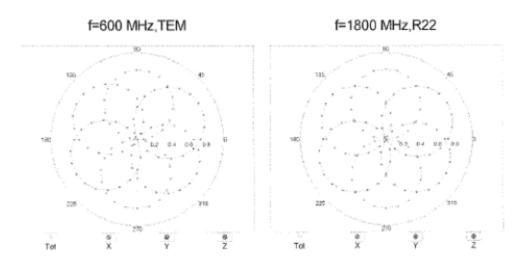


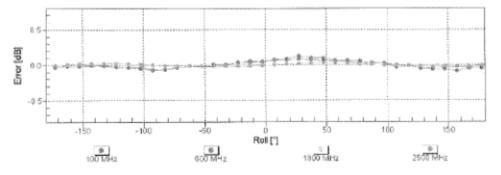
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC	
Andrew Becker	June 11 – August 16,2	013 RTS-6046-1308-39 Rev 3	L6ARGB140LW		

EX3DV4- SN:3548 January 15, 2013

Receiving Pattern (\$\phi\$), \$\partial = 0°

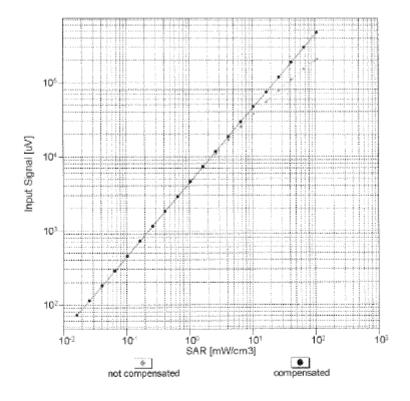


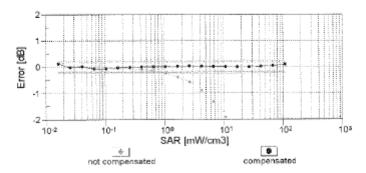


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

EX3DV4- SN:3548 January 15, 2013

Dynamic Range f(SAR_{head}) (TEM cell , f = 900 MHz)

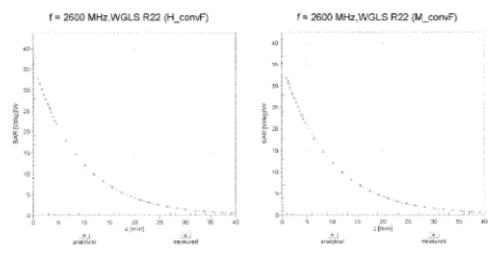




Uncertainty of Linearity Assessment: ± 0.6% (k=2)

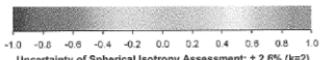
EX3DV4-- SN:3548 January 15, 2013

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (¢, 9), f = 900 MHz

1.0 0.8 0.6 0.4 0.2 0.0 -0.2 -0.4-0.6 -0.8 -1.0 0 45 90 135 180 315



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

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3					
Author Data	Dates of Test	Test Report No	FCC ID:	IC	
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW		

EX3DV4- SN:3548 January 15, 2013

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3548

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-72.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3

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Author Data Andrew Becker Dates of Test

June 11 - August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

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





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

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RTS (RIM Testing Services)

Accreditation No.: SCS 108

Certificate No: D835V2-446_Jan13

CALIBRATION CERTIFICATE Object D835V2 - SN: 446 QA CAL-05.v9 Calibration procedure(s) Calibration procedure for dipole validation kits above 700 MHz Calibration date: January 07, 2013 This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (St). 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) Cal Date (Certificate No.) Scheduled Calibration Primary Standards ID # Power meter EPM-442A GB37480704 01-Nov-12 (No. 217-01640) Oct-13 01-Nov-12 (No. 217-01640) Oct-13 Power sensor HP 8481A US37292783 Reference 20 dB Attenuator SN: 5058 (20k) 27-Mnr-12 (No. 217-01530) Apr-13 SN: 5047.3 / 06327 27-Mar-12 (No. 217-01533) Apr-13 Type-N mismatch combination SN: 3205 28-Dec-12 (No. ES3-3205 Dec12) Reference Probe ES30V3 Dec-13 DAE4 SN: 601 27-Jun-12 (No. DAE4-601_Jun12) Jun-13 10 # Secondary Standards Check Date (in house) Scheduled Check MY41092317 In house check: Oct-13 Power sensor HP 8481A 18-Oct-02 (in house check Oct-11). RF generator R&S SMT-06 100005 04-Aug-99 (in house check Oct-11) In house check: Oct-13 Network Analyzer HP 6753E US37390585 S4206 18-Oct-01 (in house check Oct-12) In house check: Oct-13 Function Calibrated by: Leif Klysner Laboratory Technician Katja Pokovic Technical Manager Approved by: Issued: January 8, 2013 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D835V2-446_Jan13

Page 1 of 6

Author Data

Andrew Becker

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR

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Report Rev 3

Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

Calibration Laboratory of

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





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

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

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Glossarv:

TSL

tissue simulating liquid

ConvF N/A

sensitivity in TSL / NORM x,y,z 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
- 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
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Certificate No: D835V2-446_Jan13

Page 2 of 6

Measurement Conditions

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

DASY Version	DASY5	V52.8.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
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	42.0 ± 6 %	0.92 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	****	

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.39 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.13 W/kg ± 16.5 % (k=2)

Certificate No: D835V2-446_Jan13

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.1 Ω + 6.5 jΩ
Return Loss	- 23.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.385 ns
The state of the s	

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. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

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_Jan13

Page 4 of 6

Author Data

Andrew Becker

Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID: L6ARGB140LW

DASY5 Validation Report for Head TSL

Date: 07.01.2013

Test Laboratory: SPEAG, Zurich, Switzerland

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: f = 835 MHz; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 42$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(6.05, 6.05, 6.05); Calibrated: 28.12.2012;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

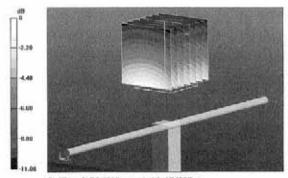
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.650 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.61 W/kg

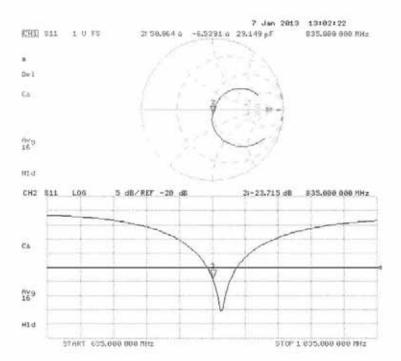
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.55 W/kg

Maximum value of SAR (measured) = 2.79 W/kg



0 dB = 2.79 W/kg = 4.46 dBW/kg

Impedance Measurement Plot for Head TSL



Certificate No: D835V2-446_Jan13

Page 6 of 6

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR © Report Rev 3

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Author Data
Andrew Becker

Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

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





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lient RTS (RIM Testing Services)

Accreditation No.: SCS 108

Certificate No: D1900V2-545_Jan13

CALIBRATION CERTIFICATE

Object

D1900V2 - SN: 545

Calibration procedure(s)

QA CAL-05.v9

Calibration procedure for dipole validation kits above 700 MHz

Calibration date:

January 09, 2013

This collibration certificate documents the fuscability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the tollowing 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	1D #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	28-Dec-12 (No. ES3-3205_Dec12)	Dec-13
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13
Herman Analysis (11 97556	000100000000000000000000000000000000000		
		2.30	

Calibrated by:

Israe El-Naoug

Function Laboratory Technician Signature

Approved by:

Katja Pokovic

Technical Manager

Issued: January 9, 2013

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

Certificate No: D1900V2-545_Jan13

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Author Data Andrew Becker Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Page 31(49) Test Report No RTS-6046-1308-39 Rev 3 Page 31(49) Test Report No RTS-6046-1308-39 Rev 3

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





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S Swiss Calibration Service

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

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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
- 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
- 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.

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%.

Certificate No: D1900V2-545_Jan13

Page 2 of 6

Measurement Conditions

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

DASY Version	DASY5	V52.8.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
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	39.4 ± 6 %	1.38 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	****	(Peer)

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	40.2 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ² (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.26 W/kg
SAR for nominal Head TSL parameters.	normalized to 1W	21.1 W/kg ± 16.5 % (k=2)

Certificate No: D1900V2-545_Jan13

Page 3 of 6

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.0 Ω + 1.7 jΩ	
Return Loss	- 34.3 dB	

General Antenna Parameters and Design

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

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

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DG-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

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	

Certificate No: D1900V2-545_Jan13

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Document

Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3

Page **34(49)**

AR

Author Data
Andrew Becker

Dates of Test

June 11 – August 16,2013

Test Report No **RTS-6046-1308-39 Rev 3**

FCC ID:

L6ARGB140LW

DASY5 Validation Report for Head TSL

Date: 09.01.2013

Test Laboratory: SPEAG, Zurich, Switzerland

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

Communication System; CW; Frequency: 1900 MHz

Medium parameters used: f = 1900 MHz; $\sigma = 1.38 \text{ S/m}$; $\epsilon_r = 39.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

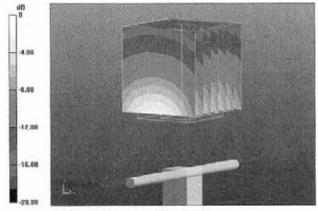
DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(4.98, 4.98, 4.98); Calibrated: 28.12.2012;
- · Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 95.493 V/m; Power Drift = 0.05 dB Peak SAR (extrapolated) = 18.1 W/kg SAR(1 g) = 10 W/kg; SAR(10 g) = 5.26 W/kg

Maximum value of SAR (measured) = 12.2 W/kg

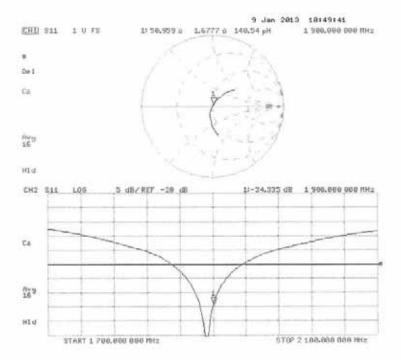


0 dB = 12.2 W/kg = 10.86 dBW/kg

Certificate No: D1900V2-545_Jan13

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Impedance Measurement Plot for Head TSL



Author Data **Andrew Becker** Dates of Test

June 11 – August 16,2013

Test Report No

RTS-6046-1308-39 Rev 3

FCC ID:

L6ARGB140LW

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





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Client

RTS (RIM Testing Services)

Accreditation No.: SCS 108

Certificate No: D2450V2-747_Nov11

CALIBRATION (CERTIFICATE			
Dbject	D2450V2 - SN: 747			
Calibration procedure(s)	QA CAL-05.v8 Calibration proce	dure for dipole validation kits abo	ve 700 MHz	
Calibration date:	November 09, 2011			
The measurements and the unce	ertainties with confidence p	ional standards, which realize the physical un robability are given on the following pages an ry facility: environment temperature $(22 \pm 3)^{\circ}$	d are part of the certificate.	
rimary Standards	ID#	Cal Date (Certificate No.)	Scheduled Calibration	
ower meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12	
ower sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12	
eference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12	
ype-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12	
eference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12	
AE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12	
econdary Standards	ID#	Check Date (in house)	Scheduled Check	
ower sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13	
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13	
letwork Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12	
	Name	Function	Signature	
Calibrated by:	Jeton Kastrati	Laboratory Technician	-0-	
Approved by:	Katja Pokovic	Technical Manager	SELL.	
			Issued: November 9, 2011	

Certificate No: D2450V2-747_Nov11

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Author Data Andrew Becker Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Page 37(49) Test Report No RTS-6046-1308-39 Rev 3 FCC ID: L6ARGB140LW IC

Calibration Laboratory of

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





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S 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) 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) DASY4/5 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.

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Certificate No: D2450V2-747_Nov11 Page 2 of 6

Measurement Conditions

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

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
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

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	37.7 ± 6 %	1.84 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.8 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	54.1 mW /g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.39 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	25.3 mW /g ± 16.5 % (k=2)

Certificate No: D2450V2-747_Nov11

Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3			Page 39(49)
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Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.5 \Omega + 1.3 j\Omega$
Return Loss	- 31.2 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.161 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		

Certificate No: D2450V2-747_Nov11

DASY5 Validation Report for Head TSL

Date: 09.11.2011

Test Laboratory: SPEAG, Zurich, Switzerland

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: f = 2450 MHz; $\sigma = 1.84 \text{ mho/m}$; $\varepsilon_r = 37.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY52 Configuration:

Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 29.04.2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn601; Calibrated: 04.07.2011

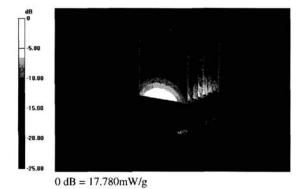
Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001

DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

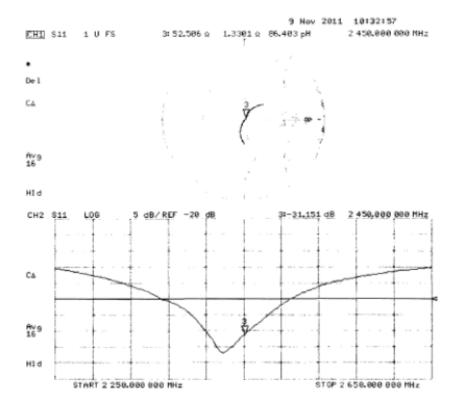
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 102.1 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 28.853 W/kg SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.39 mW/g

Maximum value of SAR (measured) = 17.782 mW/g



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Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

Impedance Measurement Plot for Head TSL



Author Data Andrew Becker Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Author Data Author Data Andrew Becker Dates of Test June 11 − August 16,2013 Test Report No RTS-6046-1308-39 Rev 3 RTS-6046-1308-39 Rev 3

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





S Schweizerischer Kallbrierdienst
C Service suisse d'étalonnage
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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

Client RTS (RIM Testing Services)

Certificate No: D5GHzV2-1033_Nov11

Accreditation No.: SCS 108

	ERTIFICATE		
Dibject	D5GHzV2 - SN: 1	1033	での問題を受けません。
Calibration procedure(s)	Total Control of the	DUTTE TO SELECTION OF THE PARTY	tween 3-6 GHz
	AND THE PROPERTY OF THE PARTY O	dure for dipole validation kits bet	original and the second
Calibration date:		A control of the second	
		onal standards, which realize the physical ur robability are given on the following pages ar	
		y facility: environment temperature (22 ± 3)°	
Calibration Equipment used (M&T	E critical for calibration)		
	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power meter EPM-442A Power sensor HP 8481A	GB37480704 US37292783	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451)	
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator	GB37480704 US37292783 SN: 5086 (20g)	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368)	Oct-12 Oct-12 Apr-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371)	Oct-12 Oct-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11)	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371)	Oct-12 Oct-12 Apr-12 Apr-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11)	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11) 04-Jul-11 (No. DAE4-601_Jul11)	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12 Jul-12
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power sensor HP 8481A	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11) 04-Jul-11 (No. DAE4-601_Jul11) Check Date (in house)	Oct-12 Oct-12 Apr-12 Apr-12 Apr-12 Mar-12 Jul-12 Scheduled Check
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer HP 8753E	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11) 04-Jul-11 (No. DAE4-601_Jul11) Check Date (in house)	Oct-12 Oct-12 Apr-12 Apr-12 Apr-12 Jul-12 Scheduled Check In house check: Oct-13
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601 ID # MY41092317 100005	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01371) 04-Mar-11 (No. EX3-3503_Mar11) 04-Jul-11 (No. DAE4-601_Jul11) Check Date (in house) 18-Oct-02 (in house check Oct-11)	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12 Jul-12 Scheduled Check In house check: Oct-13 In house check: Oct-13
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601 ID # MY41092317 100005 US37390685 S4206	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. EX3-3503_Mar11) 04-Mar-11 (No. DAE4-601_Jul11) 04-Jul-11 (No. DAE4-601_Jul11) Check Date (in house) 18-Oct-02 (in house check Oct-11) 04-Aug-99 (in house check Oct-11) 18-Oct-01 (in house check Oct-11)	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12 Jul-12 Scheduled Check In house check: Oct-13 In house check: Oct-13 In house check: Oct-13
Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer HP 8753E	GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3503 SN: 601 ID # MY41092317 100005 US37390585 S4206 Name Direct flex	05-Oct-11 (No. 217-01451) 05-Oct-11 (No. 217-01451) 29-Mar-11 (No. 217-01368) 29-Mar-11 (No. 217-01368) 04-Mar-11 (No. EX3-3503_Mar11) 04-Jul-11 (No. DAE4-601_Jul11) Check Date (in house) 18-Oct-02 (in house check Oct-11) 04-Aug-99 (in house check Oct-11) 18-Oct-01 (in house check Oct-11) Function Laboratory Technician	Oct-12 Oct-12 Apr-12 Apr-12 Mar-12 Jul-12 Scheduled Check In house check: Oct-13 In house check: Oct-13 In house check: Oct-13

Certificate No: D5GHzV2-1033_Nov11

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Calibration Laboratory of

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





S Schweizerischer Kalibrierdienst
Service suisse d'étaionnage
Servizio svizzero di teratura
S 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:

- 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
- 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) DASY4/5 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.

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Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

Measurement Conditions

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

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5500 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

-	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.6 ± 6 %	4.46 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.16 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	80.8 mW /g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition		
SAR measured	100 mW input power	2.33 mW / g	
SAR for nominal Head TSL parameters	normalized to 1W	23.0 mW /g ± 16.5 % (k=2)	

Head TSL parameters at 5500 MHz
The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mha/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.2 ± 6 %	4.75 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.82 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	87.3 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.50 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.7 mW / g ± 16.5 % (k=2)

Certificate No: D5GHzV2-1033_Nov11

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Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.7 ± 6 %	5.03 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.03 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	79.4 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2,28 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.5 mW / g ± 16.5 % (k=2)

Certificate No: D5GHzV2-1033_Nov11

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Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	51.1 Ω - 8.7 jΩ	
Return Loss	- 21.2 dB	

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	52.3 Ω - 2.7 jΩ
Return Loss	- 29.2 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	56.7 Ω - 4.3 jΩ	
Return Loss	- 22.6 dB	

General Antenna Parameters and Design

Electrical Delay (one direction)	1.202 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	July 09, 2004	

Certificate No: D5GHzV2-1033_Nov11

DASY5 Validation Report for Head TSL

Date: 15.11.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1033

Communication System: CW; Frequency: 5200 MHz, Frequency: 5500 MHz, Frequency: 5800 MHz Medium parameters used: f = 5200 MHz; $\sigma = 4.46$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m 3 , Medium parameters used: f = 5500 MHz; $\sigma = 4.75$ mho/m; $\epsilon_r = 34.2$; $\rho = 1000$ kg/m 3 , Medium parameters used: f = 5800 MHz; $\sigma = 5.03$ mho/m; $\epsilon_r = 33.7$; $\rho = 1000$ kg/m 3

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 SN3503; ConvF(5.41, 5.41, 5.41), ConvF(4.91, 4.91, 4.91), ConvF(4.81, 4.81, 4.81); Calibrated: 04.03.2011
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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Reference Value = 65.595 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 30.134 W/kg

SAR(1 g) = 8.16 mW/g; SAR(10 g) = 2.33 mW/gMaximum value of SAR (measured) = 18.725 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.819 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 35.056 W/kg

SAR(1 g) = 8.82 mW/g; SAR(10 g) = 2.5 mW/g

Maximum value of SAR (measured) = 21.019 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 62.220 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 33.743 W/kg

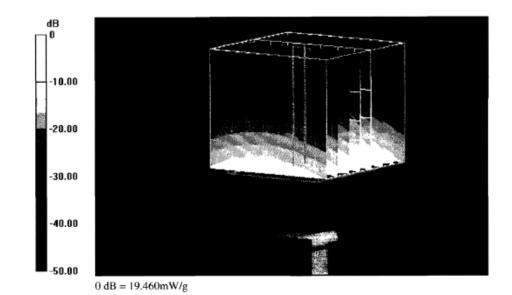
SAR(1 g) = 8.03 mW/g; SAR(10 g) = 2.28 mW/g

Maximum value of SAR (measured) = 19.463 mW/g

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Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16.2	2013 RTS-6046-1308-39 Rev 3	L6ARGB140LW	



Testing Service	Appendix D for the BlackBerry® Smartphone Model RGB141LW SAR Report Rev 3			
Author Data	Dates of Test	Test Report No	FCC ID:	IC
Andrew Becker	June 11 – August 16,2013	RTS-6046-1308-39 Rev 3	L6ARGB140LW	

Impedance Measurement Plot for Head TSL

