: BlackBerry

Appendix C for the BlackBerry® Smartphone Model RHT181LW (STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

RTS-6066-1511-01

Test Report No

FCC ID: L6ARHT180LW

APPENDIX C: PROBE & DIPOLE CALIBRATION DATA PART 2 OF 2

Note: Model RHM181LW was tested using the external lab CETECOM ICT Services GmbH. Information regarding the SAR test results and procedures for model: RHM181LW were taken from the CETECOM SAR test report for model RHM181LW, report number 1-0042/15-01-15-A

Author Data
Andrew Becker

Document
Appendix C for the BlackBerry® Smartphone Model RHT181LW
(STV100-2) SAR Report Part 2/2

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Calibration Files for Model RHM181LW

Author Data
Andrew Becker

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Probe 1554



Author Data

Andrew Becker

Appendix C for the BlackBerry® Smartphone Model RHT181LW

(STV100-2) SAR Report Part 2/2

S Schweizerischer Kaltzrientierst

Dates of Test Oct 06 - Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



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Calibration report "Probe ET3DV6"

Calibration Laboratory of

Client Cetecom		Certificate No	ET3-1554_May15
CALIBRATION	CERTIFICAT		
Object	ET3DV6 - SN:15	54	700
Calibration procedure(ts)		QA CAL-23.v5, QA CAL-25.v6 idure for dosimetric E-field probes	
Californion date.	May 19, 2015		
	vertainties with confidence provided in the closed television	y facility anveyorment temperature (32 s 3FG	and humidity < 70%.
Air collisiones have been con- Calibration Equipment used (N	sucted in the closed taborator ISTE critical for calibration)	y facility, amongoment temperature (22 ± 3)°C	and humiday 4 70%.
N collinations have been con- Calibration Equipment asset (N Primary Standards	fucted in the closed laborator ISTE critical for calibration)	y facility, servinorment temperature (22 ± 3)°C Call Date (Certificate No.)	Schedulet Calibration
il coltrations have been con- abbration Equipment asset (b Primary Standards Power moder E 44 (bit)	Noted in the closed laborator NSTE critical for calibration)	y facility, an incorrect temperature (22 ± 3)°C Call Date (Certificate No.) 01-Apr-15 No. 217-02128	Scheduled Calibration Mail 16
of collaboris have been con- abbretion Equipment used (N Primary Standards Power moor E 44198 Power moor E 6412A	Note of the closed bloostor STE official for calibration; ID 0841090874 MY41488087	y facility, servicement temperature (22 ± 3)°C Cell Date (Certificate No.) 01-Apr-15 (No. 217-02128) 01-Apr-15 (No. 217-02128)	Scheduled Calibration Main 16 Main 16
a coltrations have been con- affiliation Equipment used (III Inmany Standards Invest moder E44 fbB) Tower sension E44 fbB Tower sension E44 fbB Reference 2 48 fbBm eater	Noted in the closed laborator NSTE critical for calibration)	y facility, servincement temperature (22 ± 3)°C (24 Date (Certificate No.) 01-Apr-15 (No. 217-02128) 01-Apr-15 (No. 217-02128) 01-Apr-15 (No. 217-02128) 01-Apr-15 (No. 217-02128)	Schetuel Calbration Main 16 Mar-16 Mar-16
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All collaborations have been con- cationation Equipment used (M Primary Standards Private motor E44198 Private sensor C4412A Petersonic 3 off Attenuator Reference 30 off	STE critical for calibration) ID IDBA 1999874 MY41485987 SNL 89054 (Ibc) SNL 89277 (Ibb) SNL 89277 (Ibb) SNL 89279 (Ibb) SNL 89279 (Ibb) SNL 8900 ID US387300566	y facility, servicement temperature (22 ± 3)°C. Call Date (Certificate No.) 01-8pr-15 (No. 217-02128) 01-8pr-15 (No. 217-02128) 01-8pr-15 (No. 217-02129) 01-8pr-15 (No. 217-02129) 01-8pr-15 (No. 217-02129) 01-8pr-15 (No. 217-02133) 30-Cen-14 (No. ESS-0813, Doc14) 14-John 15 (No. Date Aller, Jen-13) Chack Date (In house) 4-Aug 99 (In house check Apr-13) 18-Oct-01 (In house check Oct-14)	Scheduler Calibration Main 16 Main 16 Main 16 Main 16 Main 16 Disc 15 Jan 18 Scheduler Check In Notes shock Age 16 In Notes thick Out 15
All collaborations have been con- Cathration Equipment used (b) Proson Standards Proson E44198 Proso	STE critical for calebratory ID IDBA1090874 MY41485087 SN 89004 (3c) SN 89377 (3c) EN 89109	y facility, servicement temperature (22 ± 3)°C. Call Date (Certificate Na.) 01-8pr-15 (No. 217-02128) 01-8pr-15 (No. 217-02128) 01-8pr-15 (No. 217-02128) 01-8pr-15 (No. 217-02128) 101-8pr-15 (No. 217-02128) 101-8pr-15 (No. 217-02123) 101-8pr-15 (No. 217-02133) 105-0en-14 (No. 253-0013, Dec14) 14-3pr-15 (No. 264-680, Jen15) Check Date (in house check Apr-13) 4-Aug-99 (in house check Apr-13)	Scheduled Calibration Main 16 Main 16 Main 16 Main 16 Main 16 Dop 15 Jan 18 Scheduled Chess In house shack Apr 16 In house shack Cap 16 In house shack Cap 16 Expression
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Author Data

Andrew Becker

Dates of Test Oct 06 – Nov 02, 2015 Test Report No

RTS-6066-1511-01

FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



Calibration Laboratory of Schmid & Partner

Engineering AG regheastrasse 43, 8004 Zurich, Switzerland





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Accresination No.: SCS 0108

liked by the Neess Accorditation Service (SAS) The liwins Accorditation Service is one of the signaturies to the EA Multilateral Agreement for the recog

Glossary:

TSL NORMx,y,z ConvF

sensitivity in free space sensitivity in TSL / NORMx y z dode compression point crest factor (1/duty, cycle) of the RF signal modulation dependent linearization parameters A, B, C, D Polarization of

e rotation around probe axis

Polarization II 3 rotation around an exis that is in the plane normal to probe axis (at measurement center). i.e., 9 = 0 is normal to probe axis information used in DASY system to align probe sensor X to the robot coordinate system Connector Angle

Calibration is Performed According to the Following Standards:

- ii) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spalial-Averaged Specific Absorption Ratie (SAR) in the Human Head from Wireless Communications Devices, Measurement, Tochniques," June 2015
 ii) IEC 62208-1, "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 B = 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 finearization is referrented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx.y.r. 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
- Axy,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 diods.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for fix 800 MHz; and involve waveguide using analytical field distributions based on power measurements for fix 800 MHz; The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncontainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The semantivity in TSL corresponds to NORMx,y,z *Corref whereby the uncertainty corresponds to that given for Corve? A frequency dependent Corve? 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
- . Connector Angle: The angle is assessed using the information-gained by determining the NORMs (no uncertainty required).

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ET3DWI + SN: 1554

May 19, 2015

Probe ET3DV6

SN:1554

Calibrated:

Manufactured: October 16, 2000 May 19, 2015

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

Certificate No. ET3-1554_Mey15

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Annex D to Test report no.: 1-0042/15-01-15-A



ET30V6-SN:1354

May 19, 2015

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1554

	Bensor X	Sensor Y	Sensor Z	Unc (k#2)
Norm (uVi(Vim) ²) ^a	1.41	1.68	1.34	±10.1%
DCP (mV) ^b	102.3	102.2	105.1	

LIID	Communication System Name		A dB	B dB√ ₀ V	c	dB	VR mV	Unc* (k=2)
0	CW	×	0.0	0.0	1.0	0.00	244.3	1333
		Y	0.0	0.0	1.0		297.5	
		2	0.0	0.0	1.0		249.6	

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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The uncertainties of NormiCV2 do not affect the E^{*}-field incertainty knobs TSL take Pages 5 and 6. Numerical Instruction parameter uncertainty not required.

Uncertainty is determined using the max, deviation from Ineas reciprove applying rectangular destination and is expressed for the accuracy of the field value.



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Author Data **Andrew Becker** Dates of Test

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L6ARHT180LW

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ET30VII- SN:1554

May 19, 2015

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1554

Calibration Parameter Determined in Head Tissue Simulating Media

r (MHz) °	Relative Permittivity	Conductivity (Sim)	ConvF X	ConvF Y	ConvF Z	Alpha [®]	Depth " (mm)	Unet. (k=2)
750	41.9	0.89	7.09	7.09	7.09	0.23	3.00	± 12.0 %
835	41.5	0.90	6.86	6,65	6.86	0.24	3.00	± 12.0 %
900	41,5	0.97	8.54	6.54	6.54	0.28	3.00	±,12.0%
1750	40,1	1.37	5.37	5.37	5.37	0.49	2.53	± 12.0 %
1900	40.0	1.40	5.12	5.12	5.12	0.88	2.19	± 12.0 %
2450	39.2	1.80	4.30	4.30	4,30	0.80	1.68	± 12.0 %

If heapsening variable above 300 MHz of ± 105 MHz only applies for DASY 44.4 and higher class Plage 30, while it is nestricted to ± 50 MHz. The uncertainty is the 1925 of the ConeT popularity at assistances research and the uncertainty for the industrial traducting space. I requiredly before 300 MHz is ± 10, 25, 40, 10 and 10 MHz for ConeT assessments at 30, 64, 100, 150 and 200 MHz respectively. Above 50 MHz the popularity value of the properties of the 10 MHz. The validity of the popularity can be set of the popularity of the 10 mHz for an electrical transportation of the ConeT uncertainty at the 1955 of the ConeT uncertainty at miscassical straint integral straints of the 10 MHz. All the popularity of the 10 MHz for the

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ET30V6-SN:1554

May 19: 2015

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1554

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^E	Relative Permittivity	Conductivity (8/m)	ConvF X	ConvF Y	ConvF Z	Alpha*	Depth 11 (mm)	Unet. (k=2)
750	55.5	0.96	6.77	8.77	6.77	0.25	3.00	#12.09
835	55.2	0.97	6.65	6.65	6.65	0.29	3.00	± 12.0 %
900	55.0	1.05	5.29	6.29	6.29	0.27	3.00	± 12.0 %
1750	53.4	1,49	4.81	4.81	4.61	0.75	2.58	± 12.0 %
1900	53.3	1.52	4.58	4.58	4.58	0.80	2.39	± 12.0 %
2450	52.7	1.95	3.92	3.92	3.92	0.78	1.37	± 12.0 %

Frequency validity above 300 MHz of a 100 MHz only applies for DASY 44 and higher (see Page 2), since it is restricted to a 50 MHz only applies for DASY 44 and higher (see Page 2), since it is restricted to a 50 MHz. The uncertainty is the RSB of the Connet uncertainty of callbrather because you and the uncertainty for the implacety band. Frequency existing testing 20 MHz is 23.44, so and 17 MHz is connet assessment at 26.64.108.150 and 270 MHz is respectively. Above 3 DHz throughout you will be connected to 25 MHz is respectively. Above 3 DHz throughout you will be set of the connected to the connected above 3 DHz, the validity of beautiful parameters in one to 10 MHz is passed to the connected above 3 DHz. The uncertainty is the RSB of the Connected to set of the connected above 3 DHz and set of the Connected to the connected to the Connected to 5 MHz. The uncertainty is the RSB of the Connected to 5 MHz the uncertainty is the RSB of the Connected to 5 MHz the uncertainty at the RSB of the Connected to 5 MHz and passed to 5 MHz and 5 MHz

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Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW 10(95)

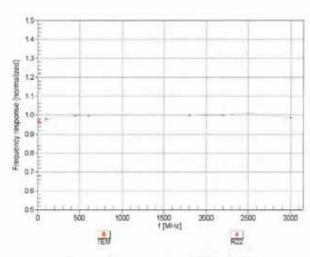
Annex D to Test report no.: 1-0042/15-01-15-A



ET30V6- SN:1554

May 19, 2015

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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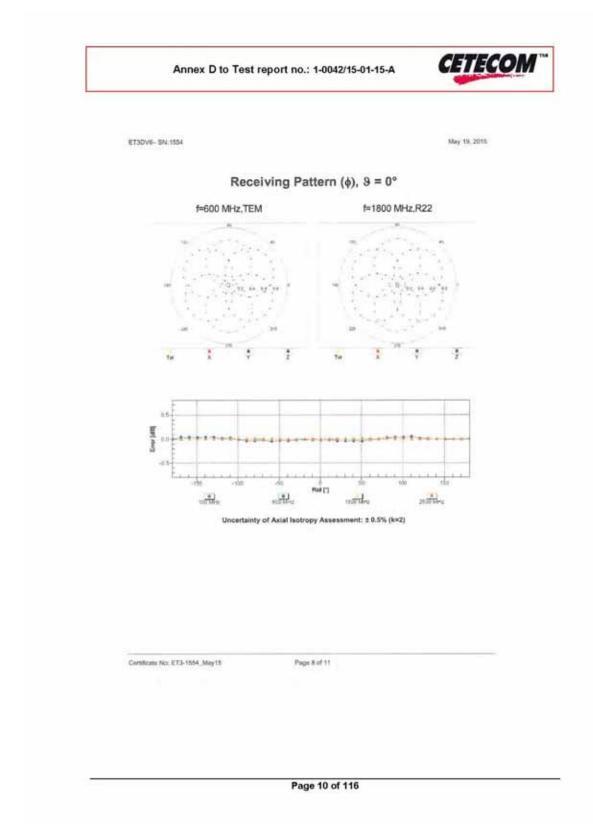


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Author Data
Andrew Becker

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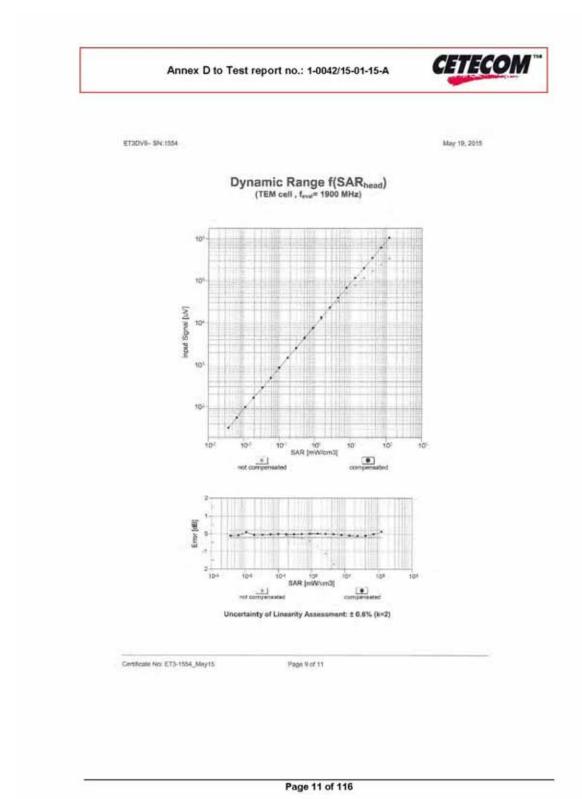


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Author Data
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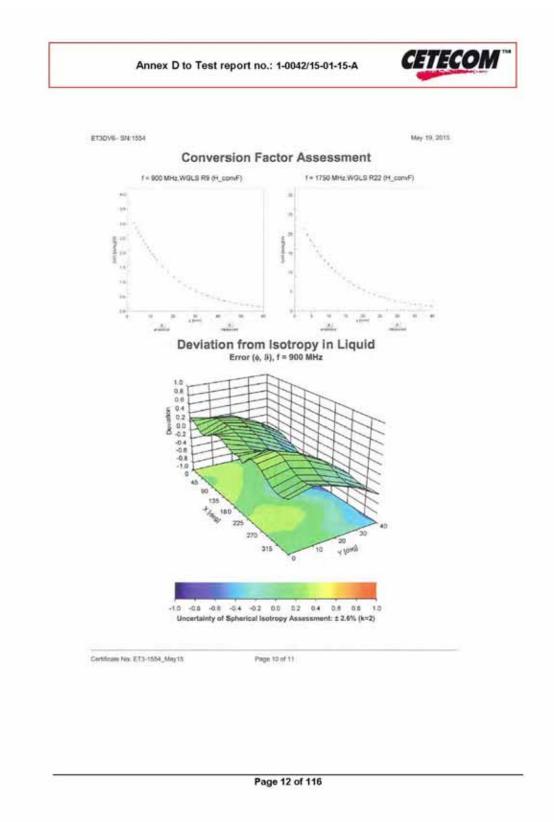


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Andrew Becker

Dates of Test
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Andrew Becker

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ET30V6- BN:1554

May 19, 2013

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1554

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (*)	40.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	enabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	6.8 mm
Probe Tip to Sensor X Calibration Point	2.7 mm
Probe Tip to Sensor Y Calibration Point	2.7 mm
Probe Tip to Sensor Z Calibration Point	2.7 mm
Recommended Measurement Distance from Surface	4 mm

Gertificate Nor ET3-1584_May15

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Probe 3320



(STV100-2) SAR Report Part 2/2

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Author Data **Andrew Becker** Dates of Test Oct 06 - Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

CETECOM Annex D to Test report no.: 1-0042/15-01-15-A Calibration report "Probe ES3DV3" Calibration Laboratory of S Schweizerfacher Asso-C Service suisse d'étainmage C Service suisse d'étainmage C Service suisse d'étainmage Schmid & Partner Engineering AG aughturetrasse 43, 8004 Zurich, Beltzerland Arzentration No.: SCS 0108 The Series Accreditation Service to lone of the eignaturies to the EA Mutilinteral Agreement for the recognition of spillnerion certification Clark Cetecom Ceretizate No. ES3-3320, Feb15 **CALIBRATION CERTIFICATE** ES3DV3 - SN:3320 QA CAL-01.19, QA CAL-12.19, QA CAL-23.16, QA CAL-25.16 Calibration procedure for dosimetric E-field probe February 25, 2015 The measurements and the organizations will confidence probability are given on the following pages and are part of the confidence All collarations have laken conducted in the closed beboneous hardey environment temperature (72 x 3/12 and humbly < 2/05. Californion Equipment used (M&TE coloral for nationalism) Prevary Standards Cut Dans (Certificate No.) Power meter E4419E Power sensor E4412A G841299874 23-Apr-18 (No. 217-01911) 83-Apr-18 (No. 217-01911) Apr:15 SN: 95004 (31) SN: 95277 (20) 53-Apr-14 (No. 217-01916) 53-Apr-14 (No. 217-01916) Flaterence 3 old Alternative Apr-10 Notembro 30 (ISI Alternative SN: 85129 (IGN) SN: 3013. 30-Dec-14 (No. 217-01920) 30-Dec-14 (No. 630-3013, Dec14) Diec-15 SN:460 14-Jan-15 (No. DAEA-951, Jan-15) dan-16 Swomlay Standards RF panentur HP 86480 4 Aug-96 (nt house shack Apr 13) To house check: Apr-18 Network Amelyzor 19th 8753K USS7200080 18-Out-01 (in Youse chark Do: 14) In Name of each Oct. (S. Lationary Testreum Approved by: loased, February 25, 2010. This collection conflictly shall not be reproduced except in full without written accrows of the witcostory Certificate No: EBS-3320, Feb 15. Flags 5 of 11

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Author Data

Andrew Becker

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Calibration Laboratory of Schmid & Partner Engineering AG rephassement 41, 1994 Zarich, Beltserland





Service suisse d'étalermage Servicie sytuers di tersions C Swiss Calibration Service

Accreditation No.: SCS 0108

According to the lives Accordingly Service (SAS).

The Series Accordingly Service is one of the algorithms to the EA. Muttilatural Agreement for the recognition of cultivation zons

Glossary:

TSL Issues servicing liquid NORMAKYX Sensitivity in thes pauce ComvF sensitivity in the space ComvF diode compression point of F cree factor (fiduly, cycle) A. B. C. D modulation dependent in sensitivity in free space sensitivity in TSL / NORMx.y.z.

crest factor (1/duty_cycle) of the RF signal modulation dependent linear/tration parameters is rotation second probe sons

Polarization a

if rotation abound an axis, that is in the plans normal to probe sais (at measurement cercer), i.e., a = 0 is normal to probe axis.

Connector Arigin information used in DASY system to sligh probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Sid 1528-2013, "IEEE Recommended Proclams to the Pollowing Standards:
 IEEE Sid 1528-2013, "IEEE Recommended Proclams for the Pollowing Standards:
 Absorbtion Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement. Techniques", June 2013
 IEC 52009-1, "Procedure to impassing the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (Nequency range of 300 MHz to 3 GHz)", Fatrusary 2006

Methods Applied and Interpretation of Parameters:

- NORMs, y.r. Ascessed for E field polarization 5 = 0 (f s 500 MHz; in TEM-cell; f > 1000 MHz; F22 'exerguide). NORMs, y.r. are only intermediate values. (j.e., the uncertainties of NORMs, y.z. does not affect the E⁴-field. uncertainty maide TSL (see below ConvF).
- NORM(5x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chard. 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 runnersal trearization 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 Rulto that is not calibrated but determined based on the signal
- Asyz; Bz,yz; Cx,yz; Dx,yz; VRx,yz; A, R, C, D are nutrierical linearization parameters essented based on the data of power aways for specific modulation signal. The parameters do not depend on finouency nor modia. VW is the maximum calibration range expressed in RMS intege ecross the diode.
- ConvF and Boundary Effect Pleterrelets: Assessed in Net phantom using E-field (or Temperature Transfer Standard for F is 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 the sources of the compensation solved, or the source sources are used in december of the sources of the solved of MHz.
- Spherical sotropy (3D deviation from accropy); in a field of low gradients resilized using a flat pharation
- Second Offset. The sensor offset corresponds to the offset of virtual measurement persent from the probe significance reguland.
- Connector Angle. The angle is essessed using the information gained by determining the NORMs (no uncertainty required).

Certificate No. ESS-0320, Fub15

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(STV100-2) SAR Report Part 2/2

Page **18(95)**

Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A

E530v3 - 5v 8320

February 25, 2015

Probe ES3DV3

SN:3320

Manufactured:

January 10, 2012

Repaired: Calibrated: February 23, 2015 February 25, 2015

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

Certificate No: ES3-3320_Feb15

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(STV100-2) SAR Report Part 2/2

19(95)

Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



ES30V3-SN:3320

February 25, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3320

Burlo Callbrotion Commeters

	Sensor X	Sensor Y	Sensor Z	Une (1/42)
Norm (wV/(V/m)*)*	1.26	1.07	1.16	± 10.1 %
DCP (mV)*	101,9	105.3	107.3	11.

Modulation Calibration Parameters

UID	Communication System Name		A d0	B dB√j/V	c	qS D	VR mV	Unc* (k=2)
0	OW	X	0.0	0.0	1.0	0.00	184.5	23.8 %
		Y	0.0	0.0	1.0		196.7	
	1 - 23.5	1.2	0.0	0.0	1.0		173.4	1,0000

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: ESS-3320_Feb15

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the uncertwenters of NormX.Y.2, do not office the E¹ field uncertainty inside TSE, (see Pages 5 and 6), unrestool intradications per present; uncertainty not required, incontainty is determined using the street, deviation from times response applying rechangular distribution and is expressed for the aguiter of the incoming times.



(STV100-2) SAR Report Part 2/2

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Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



ES3DV3-5N:3320

February 25, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3320

Calibration Parameter Determined in Head Tissue Simulating Media

r(MHz) ^e	Relative Permittivity*	Conductivity (S/m)	ConvF X	ConvF Y	CoevF Z	Alpha ^g	Depth*	Unot. (k=2)
450	43.5	0.87	6.75	8,75	6.75	0.22	2.55	± 13.3 %
750	41.9	0.89	6.32	6.32	6.32	6.26	2.18	± 12.0 %
835	41.5	0.90	6.14	6.14	6.14	0.29	2.01	± 12.0 %
900	41.5	0.97	6.04	6.04	6.04	0.45	1.55	± 12.0 %
1450	40.5	1.20	5.52	5.52	5.52	0.45	1.56	±12.05
1640	40.3	1.29	5.25	5.25	5.25	0.64	1.25	± 12.0 %
1750	40.1	1.37	5.19	5.19	5.19	0.60	1.19	± 12.0 %
1900	40.0	1,40	5.04	5,04	5.04	0.45	1,91	± 12.0 %
2450	39.2	1.80	4.51	4,51	4.51	0.71	1,35	± 12.0 %

⁶ Focusing violating above 300 MHz of n 100 MHz, only applies for DAST viril and higher (see Page 2), else it is restricted to ± 50 MHz. The undertaking is the RSS of the ConvEurcement at calibration frequency and the uncertaking for the indicated frequency band. Programmy validity below 300 MHz is ± 10, 25, 40, 50 and 10 MHz for CouvEurcement at 100, 64, 100, 100 and 200 MHz respectively. Above is Gift frequency validity and the elementation is and of contributed to ± 10% if flexible compressations in 10 MHz.

*At the parameter below 3 GHz, the validity of flasture parameters (it and of) can be referred to ± 10% if flexible compressations have been parameters.

*At the parameter below 3 GHz, the validity of flasture parameters (it and of) is restricted to ± 5%. The expectaking is the RSS of the ConvEurcement and other parameters.

*Application is an observation of during calibrations. SPEAX was retained to the parameters of the convEurcement is the RSS of the ConvEurcement is the RSS of the ConvEurcement in the SEE Act is any distance larger than hell the probe its cales and the boundary.

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Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



ES30V3-8N/3320

February 25, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3320

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^c	Relative Primittivity	Conductivity (S/m)	CowF X	ConvFY	ConvF Z	Alpha ^G	Depth ⁰ (mm)	Unct. (h=2)
450	56.7	0.94	7,00	7,00	7.00	0.15	1.80	± 13.3 %
750	56.5	0.00	6.09	6.09	6.09	0.31	1.96	±12.0%
835	55.2	0.97	5.11	6.11	6.11	0.80	1.20	± 12,0 %
900	55.0	1.05	5.95	5,95	5.96	0.71	1,31	± 12.0 %
1450	54.0	1.30	5.29	5.29	5.29	0.48	1,87	±12.0 %
1640	53.8	1,40	5.14	5.14	5.14	08.0	1.28	± 12.0 %
1750	53.4	1,49	4.73	4.73	4.73	0.80	1.25	±12.0%
1900	53.3	1.52	4.54	4.54	4.54	0.71	1.38	±12.0 %
2150	53.1	1.66	4.48	4,46	4.46	0.72	1.26	±12.0 %
2490	52.7	1.95	4.16	4.16	4,18	0.80	1.02	± 12.0 %

Energonicy validity above 300 MHz of a 100 MHz only applies for CASY V4.4 and Righer (see Page 2), site it is resoluted to a 50 MHz. The uncestainty is the RISS of the Convit validation bequired and the uncestainty is the RISS of the Convit validation bequired and the uncestainty for the indicated bequired your Frequency validity below 300 MHz is a 10, 25, 40, 40 and 10 MHz for Don't elementariate (30, 04, 128, 160 and 200 MHz expectation). Above 5 GHz bequired validity can be entiredad to a 10 MHz for the second of the second o

Certificate No: ES3-3320_Feb15

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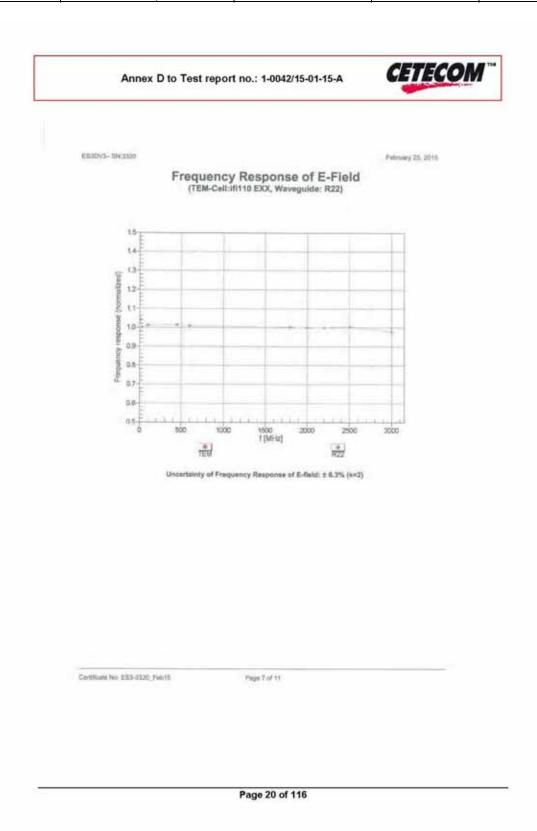
Page **22(95)**

Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**



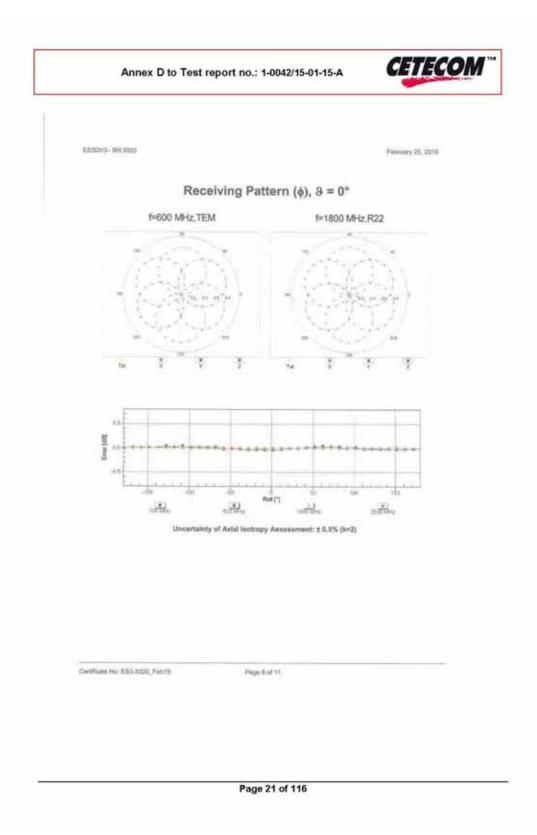


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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**





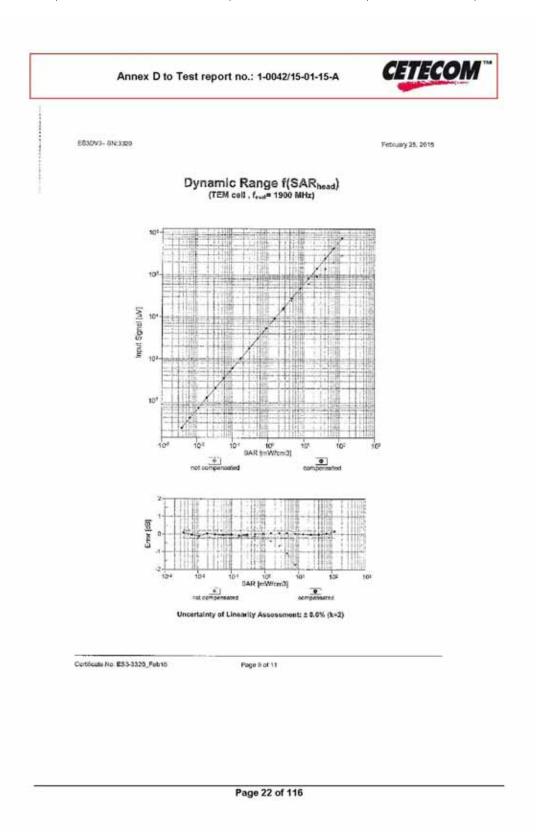
(STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**



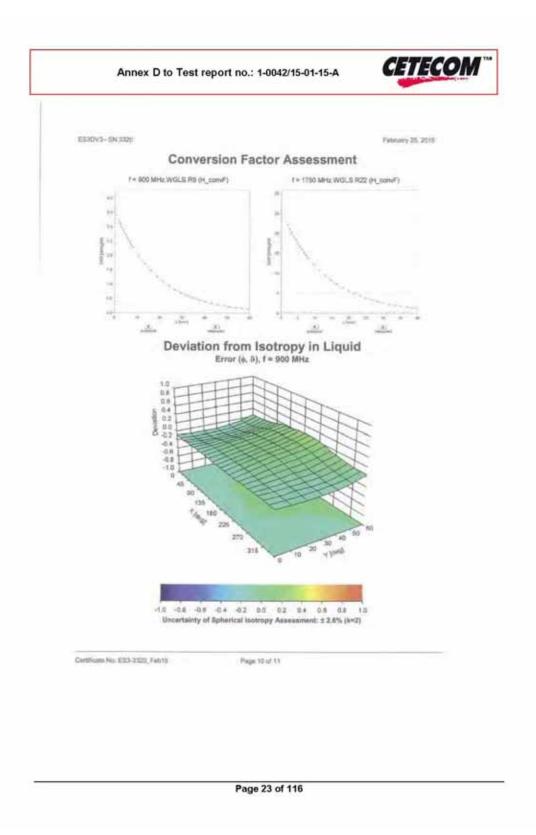


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Author Data
Andrew Becker

Dates of Test
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Test Report No **RTS-6066-1511-01**





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Dates of Test

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FCC ID:

Oct 06 – Nov 02, 2015 RTS-6066-1511-01

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



ES30V3- SN:3320

February 25, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3320

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (*)	-108.1
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 crem
Probe Tio to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 (141)

Cortificate No: ES3-3320_Feb15

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Author Data
Andrew Becker

Document
Appendix C for the BlackBerry® Smartphone Model RHT181LW
(STV100-2) SAR Report Part 2/2

Test Report No
RTS-6066-1511-01
RTS-6066-1511-01
RTS-6066-1511-01
RTS-6066-1511-01

Probe 3326



(STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



Calibration report "Probe ES3DV3" Calibration Laboratory of S Schweizerischer Kalibrierdienst Schmid & Partner Service suisse d'étalonnage Engineering AG eughausstrasse 43, 8004 Zurich, Switzerland Servizio svizzero di taratura S Accreditation No.: SCS 108 The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates Client Cetecom Certificate No: ES3-3326_Aug14 **CALIBRATION CERTIFICATE** ES3DV3 - SN:3326 QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes Calibration date: August 18, 2014 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 cartifical 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 GB41293874 Scheduled Calibration Power meter E4419B Apr-15 Apr-16 03-Apr-14 (No. 217-01911) Power sensor E4412A MY41498087 03-Apr-14 (No. 217-01911) Reference 3 dB Attenuator SN: S6054 (3c) 03-Apr-14 (No. 217-01915) Apr-15 Reference 20 dB Attenuator SN: 95277 (20x) 03-Apr-14 (No. 217-01919) SN: 55129 (30b) 03-Apr-14 (No. 217-01920) Apr-15 Reference Probe ES3DV2 30-Dec-13 (No. ES3-3013, Dec13) 13-Dec-13 (No. DAE4-660, Dec13) DAE4 Dec-14 Secondary Standards Check Date (in house) Scheduled Check RF generator HP 8648C US3642U01700 4-Aug-99 (in house check Apr-13) 18-Oct-01 (in house check Oct-13) Network Analyzer HP 8753E U837390585 In house check: Oct-14 Jeton Kastrati Calibrated by: Laboratory Technicien Issued: August 18, 2014 This calibration certificate shall not be reproduced except in full without written approval of the laboratory Certificate No: ES3-3326_Aug14 Page 1 of 11

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Author Data

Andrew Becker

Dates of Test

Oct 06 – Nov 02, 2015

Test Report No

RTS-6066-1511-01

FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



Calibration Laboratory of Schmid & Partne Engineering AG





Service suisso d'étalonnage C **Beiss Calibration Service**

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signs

Multilateral Agreement for the recognition of calibration certif

Glossary:

NORMx,y,z

A.B.C.D

tissue simulating liquid sensitivity in free space

sensitivity in free space sensitivity in TSL / NORMx.y.z diode compression point crest factor (1/duty, cycle) of the R9F signal modulation dependent linearization parameters e rotation around probe axis

Polarization B S rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., 0 = 0 is normal to probe axis

Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

- Calibration is Performed According to the Following Standards:

 a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement
 - Tachniques", June 2013.

 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,x: Assessed for E-field polarization 5 = 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
 - 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.
 - Const and Bounday Effect Parameters: Assessed in flat by inton using E-field (or Temperature Transfer. Standard for f.s. 809 MHz) and inside waveguide using analytical field distributions based on power measurements for f.s. 809 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 NORMLy, 2* Conv* whereby the uncertainty corresponds to that given for Conv*. A frequency dependent Conv* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
 - Spherical lastropy (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.
 - Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

Certificate No: El53-3326_Aug14

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Author Data
Andrew Becker

Dates of Test
Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A

CETECON™

ES30V3 – SN:3326

August 18, 2014

Probe ES3DV3

SN:3326

Manufactured: Calibrated: January 10, 2012 August 18, 2014

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

Certificate No: ES3-3326_Aug14

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(STV100-2) SAR Report Part 2/2

31(95)

Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



ES3DV3-SN:3326

August 18, 2014

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

The section of the section of the	Sensor X	Sensor Y	Sensor Z	Unc (k+2)
Norm (µV/(V/m) ²) ^A	1.18	0.93	0.92	± 10.1 %
DCP (m/V)®	102.0	103.0	97.0	1000

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dBõV	C	D dB	VR mV	Unc* (k=2)
0	CW	X	0.0	0.0	1.0	0.00	203.7	13.8 %
		Y	0.0	0.0	1.0		208.6	
		Z	0.0	0.0	1.0		205.4	

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: ES3-3326_Aug14

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the uncertainties of NormX,Y,Z, do not affect the E⁵-field uncertainty leside TSL (see Pages 5 and 6).

Limerical Investration parameter: uncertainty not required.

Incertainty is determined using the max, deviation from linear response applying rectangular distribution and is expressed for the square of the

other.



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Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



ES30V3- SN:3326

August 18, 2014

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ⁶	Relative Permittivity*	Conductivity (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ⁰	Depth ** (mm)	Unct. (k=2)
750	41.9	0.89	6.54	6,54	6.54	0.56	1.34	± 12.0 %
835	41.5	0.90	6,32	6.32	6.32	0.34	1.84	± 12.0 %
900	41.5	0.97	6,20	6.20	8.20	0.49	1.46	± 12.0 %
1750	40.1	1.37	5,26	5.26	5.26	0.69	1.27	± 12.0 %
1900	40.0	1.40	5.10	5.10	5.10	0.80	1.24	± 12.0 %
2450	39.2	1.80	4.55	4.55	4.55	0.79	1.30	± 12.0 %

^{*} Proposing validity above 300 MHz of ± 100 MHz only applies for DASY 4.4 and higher [see Plage 2], size 8 is restricted to ± 50 MHz. The innortainty is the RS3 of the CornP uncertainty is the RS3 of the CornP uncertainty is the RS3 of the CornP uncertainty at calibration becoming and the uncertainty for the indicated frequency band. Prequency validity below 300 MHz is ± 10, 25, 45, 50 and 10 MHz for the suitable of the suitable is the suitable of the suitab

Certificate No: ES3-3326_Aug14

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(STV100-2) SAR Report Part 2/2

33(95)

Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



ES3DV3-SN:3326

August 18, 2014

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [©]	Relative Permittivity	Conductivity (B/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^{ti}	Depth ^{ti} (mm)	Unct. (k=2)
750	55.5	0.96	6.22	6.22	6.22	0.80	1.18	± 12.0 %
835	55.2	0.97	6.26	6.26	6.26	0.40	1.45	± 12.0 %
900	55.0	1.05	6.06	6.06	6.06	0.80	1,13	± 12.0 %
1750	53.4	1,49	4,88	4.88	4.88	0.80	1,23	± 12.0 %
1900	53.3	1.52	4.66	4.66	4.66	0.47	1.66	± 12.0 %
2450	52.7	1,95	4.28	4.28	4.28	0.80	1,10	± 12.0 %

E-Prequency validity above 300 MHz of ± 100 MHz only applies for DASY vLA and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RGS of the Connel uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Prequency validity below 300 MHz is ± 10, 25, 46, 30 and 70 MHz for Connel assessments at 30, 64, 128, 150 and 200 MHz is respectively. Above 5 GHz frequency validity can be estimated to ± 110 MHz.

All frequencies below 5 GHz, the validity of issues parameters (a and o) can be released to ± 10% if ligat compensation harmlers expected to the second or the second o

Certificate No: ES3-3326_Aug14

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Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

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5 Calibration report "Probe ES3DV3"

	ice is one of the signatoric recognition of calibration	es to the EA	creditation No.: SCS 0108				
Client Cetecom		Certificate No.	ES3-3326_Aug15				
CALIBRATION	CERTIFICAT	Employee					
Object	ES3DV3 - SN:33	326					
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes						
Calibration date:	August 12, 2015						
wateration case.	August 12, 2015						
		onal standards, which realize the physical units robability are given on the following pages and					
All delibrations have been cond	lucted in the closed laborator	ry 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 motor E4419B	G841293874	01-Apr-15 (No. 217-02128)	Mar-16				
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16				
Reference 3 dB Attenuator	SN S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16				
Reference 20 dB Attenuator	SN: SS277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16				
Reference 30 dB Attenuator	SN: 55129 (30h)	81-Apr-15 (No. 217-02133)	Mar-16				
Reference Probe ES30V2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15				
DAE4	SN: 680	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16				
Secondary Standards	(0)	Check Date (in house)	Scheduled Check				
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	in house check. Apr-16				
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15				
	Name	Function	Signature				
	Leif Klysner	Laboratory Technician	Eif Myn				
Calibrated by							
	Katja Pokovic	Technical Manager	All H				
Calibrated by:	Katja Pokovic	Technical Manager	Issuelt August 13, 2015				



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Author Data Andrew Becker Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



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





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

Accreditation No.: SCS 0108

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 certific

Glossary:

tissue simulating liquid NORMx,y,z sensitivity in free space sensitivity in TSL / NORMx,y,z ConvF DCP diade compression point

crest factor (1/duty_cycle) of the RF signal modulation dependent linearization parameters CF A, B, C, D Polarization a ϕ rotation around probe axis

Polarization a 8 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 information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement
- Absorption Hate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

 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) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010

 d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz."

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 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
- 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.

 Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

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(STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

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L6ARHT180LW

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ES3DV3 - SN:3326

August 12, 2015

Probe ES3DV3

SN:3326

Manufactured: Calibrated: January 10, 2012 August 12, 2015

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

Certificate No: ES3-3326_Aug15

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Author Data **Andrew Becker** Dates of Test

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L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-16-A



ES3DV3-SN-3326

August 12, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m)2)A	1.18	0.93	0.92	± 10.1 %
DCP (mV) ⁸	104.0	107.9	101.5	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	С	D dB	VR mV	Unc ^t (k=2)
0	CW	X	0.0	0.0	1.0	0.00	203.5	±3.3 %
		Y	0.0	0.0	1.0	11110	206.2	
		2	0.0	0.0	1.0		203.4	

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

Numerical freenzation parameter uncertainty not required.

Uncertainty is determined using the max, devation from linear response applying rectangular distribution and is expressed for the square of the field value.



(STV100-2) SAR Report Part 2/2

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Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

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ES3DV3-SN:3326

August 12, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity F	Conductivity (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ⁶ (mm)	Unc (k=2)
750	41.9	0.89	6.41	6.41	6.41	0.58	1.34	± 12.0 %
835	41.5	0.90	6.18	6.18	6.18	0.22	2.53	± 12.0 9
900	41.5	0.97	6.10	6.10	6.10	0.57	1.39	± 12.0 %
1750	40.1	1.37	5.18	5.18	5.18	0.59	1.30	± 12.0 %
1900	40.0	1.40	5.00	5.00	5.00	0.74	1,20	± 12.0 %
2450	39.2	1.80	4.42	4.42	4.42	0.77	1.29	± 12.0 %

Frequency validity above 300 MHz of ± 100 MHz only applies for DASY w4.4 and higher (see Page 2), size it is instituted to ± 50 MHz. The uncertainty is the RSS of the ConvF-uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF-assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz Requency validity can be extended to ± 10 MHz.

All frequences blow 3 GHz, he witistly of issue parameters (a and in) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. All requencies above 3 GHz, the validity of issue parameters (a and in) is restricted to ± 5%. The uncertainty is indicated target issue parameters.

Application of the convF uncertainty for indicated target issue parameters.

Application and the second of the convF uncertainty or indicated target issue parameters.

Application and 11% for frequencies below 3 GHz and below is 2% for frequencies between 3-6 GHz at any distance larger than half the probe op diameter from the boundary.

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Author Data **Andrew Becker** Dates of Test

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L6ARHT180LW

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ES3DV3- SN 3326

August 12, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) °	Relative Permittivity	Conductivity (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^q	Depth ^C (mm)	Unc (k=2)
750	55.5	0.96	6.33	6.33	6.33	0.80	1.15	± 12.0 %
835	55.2	0.97	6.24	6.24	6.24	0.35	1.87	± 12.0 %
900	55.0	1.05	6,18	6.18	6.18	0.63	1.36	± 12,0 %
1750	53.4	1.49	4.85	4.85	4.85	0.55	1.50	± 12.0 %
1900	53.3	1.52	4,67	4.67	4.67	0.74	1.31	± 12.0 %
2450	52.7	1.95	4.27	4.27	4.27	0.80	1.09	± 12.0 %

Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 7), else ill is restricted to ± 50 MHz. The uncertainty is the RSS of the Dovi-F uncertainty at cashratron frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 20, 40, 50 and 10 MHz for Convir assessments at 30, 64, 128, 150 and 200 MHz respectively. Above 5 GHz frequency validity can be extended to ± 100 MHz.

At frequencies below 3 GHz the validity of feasue parameters (a and n) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of lissue parameters (a and n) is instricted to ± 5%. The uncertainty is inflated target tissue parameters.

Apha/Dapta are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect, after compensation is always less than a 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-8 GHz at any distance larger than half the probe tip dismeter from the boundary.

Certificate No: ES3-3326_Aug15

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(STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

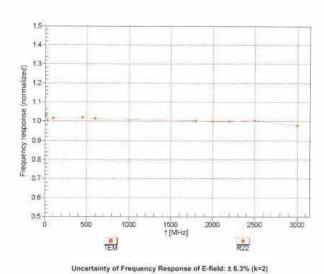
Annex D to Test report no.: 1-0042/15-01-16-A



ES3DV3- SN:3326

August 12, 2015

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



oncertainty of Frequency Response of E-lieut, 1 0.3 % (K-2)

Certificate No. ES3-3326_Aug15

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Author Data **Andrew Becker** Dates of Test Oct 06 - Nov 02, 2015

ES3DV3- SN:3326

Certificate No. ES3-3326_Aug15

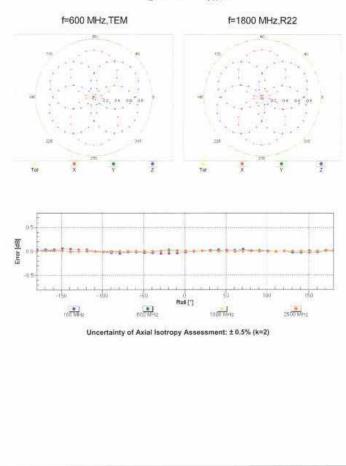
Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

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August 12, 2015

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



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cument

Appendix C for the BlackBerry® Smartphone Model RHT181LW (STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

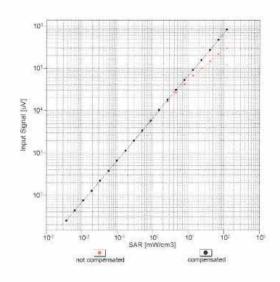
FCC ID: L6ARHT180LW

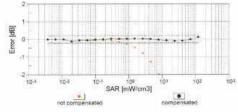
Annex D to Test report no.: 1-0042/15-01-16-A



ES3DV3- SN:3326 August 12, 2015

Dynamic Range f(SAR_{head}) (TEM cell , f_{eval}= 1900 MHz)





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

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Author Data
Andrew Becker

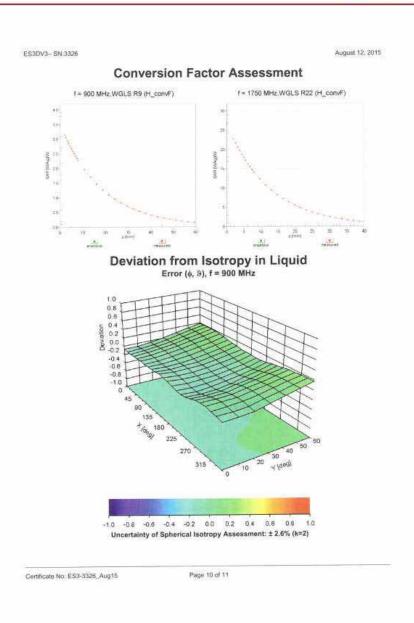
Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

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Document

Appendix C for the BlackBerry® Smartphone Model RHT181LW (STV100-2) SAR Report Part 2/2

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FCC ID: L6ARHT180LW

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ES3DV3- SN:3326

August 12, 2015

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3326

Other Probe Parameters

Triangular
130.9
enabled
disabled
337 mm
10 mm
10 mm
4 mm
2 mm
2 mm
2 mm
3 mm

Certificate No: ES3-3326_Aug15

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*** BlackBerry	Y	Appendix C for the I (STV100-2) SAR Rep	BlackBerry® Smartpho port Part 2/2	ne Model RHT181LV	V	Page 45(95)
Author Data	Dates of Te	est	Test Report No	FCC ID:		
Andrew Becker	Oct 06	6 – Nov 02, 2015	RTS-6066-1511-01	L6ARHT180LW		

Probe 3944



46(95)

Author Data Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No

FCC ID:

L6ARHT180LW RTS-6066-1511-01

	"Probe EX3	DV4"	
and the second	. Trope Exe		
Calibration Laborate Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Ze		RACINEA (Q C) 6	Schweizerscher Kalbrierdienst Service seines d'ébblonnage Service vizers of services Janes Calbration Service
Accredited by the Swiss Accredit The Swiss Accreditation Servi Multilateral Agreement for the	ce is one of the signatorie	AS ed to the EA	o.: SCS 108
Cited Cetecom		Certificate No.	EX3-3944_Aug14
CALIBRATION	CERTIFICAT	E	
Otean	EX3DV4 + 5N:39	144	
Calibration procedura(s)	QA CAL-01.v9, 0	QA CAL-14.v4, QA CAL-23.v5, QA dure for dostinetric E-field probes	CAL-25.v6
Calibration date:	August 19, 2014		
Card Scott State	Lindow 101 Ke La		
The measurements and the un	certainties with confidence p	oner standards, which melics the physical setts requestily are given on the following pages and o	we part of the continues.
The measurements and the un	certainties with confidence p		we part of the continues.
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Document

Appendix C for the BlackBerry® Smartphone Model RHT181LW (STV100-2) SAR Report Part 2/2

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Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No

FCC ID:

RTS-6066-1511-01 L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



Calibration Laboratory of Schmid & Partner Engineering AG Zeight, satisface C, 8004 Zeich, Switzerland





S Schweizerlacher Kallbründenst Dervice autom d'étatomage Servicie svicatro di tensiona Swiss Calibration Service

Accredited by the Dwiss Accreditation Service (EAS) Accreditation No.: SCS 108

The Swiss Accreditation Service is one of the algorithmics to the EA Multilateral Agreement for the recognition of collection certificates

Glossary:

CF A, B, C, D

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

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

Polarization # u retation around probe axis

Polarization 8 S rotation around an axis that is in the plane rionnal to probe axis (at measurement center),

ke., 3 = 0 is normal to probe axis

Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

 IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques," June 2015.

Techniques*, June 2015
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 2006

Methods Applied and interpretation of Parameters:

- NORMit,y,z: Assessed for E-field potentiation 3 ± 0 (f ≤ 900 MHz in TEM-cell, f > 1800 MHz: R22 waveguide).
 NORMit,y,z are only intermediate values, i.e., the uncertainties of NORMit,y,z does not affect the E²-field uncertainty inside TSL (see below CorwF).
- NORIA(hx,y,z * NORIAx,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,r: 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 signel 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 aweep 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 s 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 TSE corresponds
 to NORMX,y,z * ConvF whereby the uncertainty corresponds to their 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 pheniom 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.
- Connector Angle: The angle is assessed using the information gained by determining the NORMs (no uncertainty required).

Certificate No: EX3-3944_Aug 14

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(STV100-2) SAR Report Part 2/2

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Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



EX30V4 - SN 3644

August 19, 2014

Probe EX3DV4

SN:3944

Manufactured: May 2, 2013 Calibrated:

August 19, 2014

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

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L6ARHT180LW

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EX30V4- SN/3944

August 19, 2014

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Racis Calibration Daysmaters

7/1-	Sensor X	Sensor Y	Sensor Z	Una (kr2)
Norm (µV/(V/m) ²) ^a	0.56	0.63	0.43	±10.1%
DCF (mV)*	99.7	96.2	101.5	

Modulation Calibration Parameters

UID	Communication System Name		A dE	8 dBõV	0	dBi	VR mV	Unc* (k=2)
0	DW.	X	0.0	0.0	1.0	1 0.00	151.1	133 %
2 4	The same	Y	0.0	0.0	1.0	1.00	155.3	E COLOR
		1 2	0.0	0.0	1.0		147.3	

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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The smortainties of Numb(YZ do not affect the E⁴-fold uncertainty inside TSL (poe Pages 5 and 6).
*Numerical invasitation parameter, uncertainty not elepting.
*Uncertainty is determined using the inset, deviation from lives response applying rectangular distribution and is expressed for the square of inside value.



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Author Data **Andrew Becker** Dates of Test

Oct 06 – Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID:

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EX30V4-SN:3044

August 19, 2014

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^c	Relative Permittivity	Conductivity (5/m)	ConvF X	ConvF Y	ConvF Z	Alpha ⁶	Depth " (mm)	Unct. (k=2)
750	41.9	0.89	10.41	10.41	10.41	0.48	0.79	± 12.0 %
835	41.5	0.90	9.95	9.95	9.95	0.28	1.06	±12.0%
900	41.5	0.97	9,79	9.79	9.79	0.78	0.60	± 12.0 %
1750	40,1	1,37	8,42	6.42	8.42	0.76	0.58	± 12.0 %
1900	40.0	1,40	8.24	6.24	8.24	0.45	0.71	± 12.0 %
2450	39.2	1.80	7.52	7.52	7.52	0.49	0.69	± 12.0 %
2600	39.0	1.96	7.33	7.33	7.33	0.41	0.82	± 12.0 %
3500	37.9	2.91	7.24	7.24	7.24	0.62	0.83	±13.1%
5200	35.0	4.86	5,28	5.28	5.26	0.35	1.80	± 13.1 %
5300	35.9	4.76	5.08	5.08	5.08	0.35	1,80	± 13.1 %
5500	35.6	4.96	4.87	4.87	4,87	0.40	1.80	± 13.1 %
5600	35.5	6.07	4.76	4,76	4.76	0.40	1.80	±13.1%
5800	35.3	5.27	4.76	4.78	4.76	0.40	1.50	±13,1%

^{*} Procursory valuity above 300 MHz of a 100 MHz orly applies for DASY 4.4 and higher (see Page 2), else it is nest intent to a 30 MHz. The uncortainty is the 1605 of the Covin Uncortainty at continuous integenity and the uncertainty for the indicated frequency band. Frequency whilely below 300 MHz is ± 10, 26, 40, 50 and 70 MHz for Covin Inspective 30, 64, 176, 150 and 220 MHz inspective). Above 5 CHz, Expancy widthy can be excluded for a 100 MHz.

*At beguneries ballow 3 CHz, the validity of tissue parameters (siled or proceedings to 1005 at least componential formula is applied to measured 5AF values. At frequencies appreciate 5CHz, the validity of finance parameters (siled or proceedings of the 1005 at 100

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Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



EXGDV4- SN:3944

August 19, 2014

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^c	Relative Permittivity	Conductivity (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha [©]	Depth (mm)	Unct. (k=2)
750	55.5	0.96	9.92	9.92	9.92	0.48	0.77	± 12.0 %
835	55.2	0.97	9.82	9.62	9.62	0.38	0.89	±12.09
900	55.0	1.05	9.54	9,54	9.54	0.60	0.71	± 12.0 %
1750	63.4	1.49	8,09	8.09	8.06	0.49	0.76	± 12.0 9
1900	53.3	1.52	7.85	7.85	7.85	0.34	0.95	±12.09
2450	52.7	1.95	7,43	7,43	7.43	0.75	0.69	±12.09
2600	52.5	216	7.26	7.26	7.26	0.80	0.60	±12.03
3500	51.3	3.31	6.72	6.72	6.72	0.32	1.30	±13.13
5200	49.0	5.30	4.66	4.56	4.56	0.40	1.90	± 13,1 9
5300	48.9	5.42	4,40	4.40	4,40	0.40	1,90	± 13.1 9
5500	48.6	5.65	4,15	4.15	4.15	0.45	1,90	±13,19
6600	48.5	5,77	4.06	4.05	4.06	0.46	1,90	±13.19
5800	48.2	8.00	4,02	4.02	4.02	0.50	1.90	±13.19

Fireguency validate above 300 MHz of a 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is instituted to a 50 MHz. The supertainty is the RGS of the Donn's uncertainty at cellbraine frequency and the uncertainty for the adjected frequency based. Fireguency validity below 300 MHz is a 10, 25, 46, 50 and 70 MHz for Comit seasonances at 30, 64, 125, 150 and 200 MHz is expectively. Above 5 GHz frequency validity can be entertained to a 150 MHz, frequency validity can be entertained to a 150 MHz, frequency if all the properties better 3 GHz, the validity of flasses parameters (it and of) case for entertained to a 10% if lead compensation formula is applied to measured 55MHz frequency and the COMM condensary for indicated target issue parameters.

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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

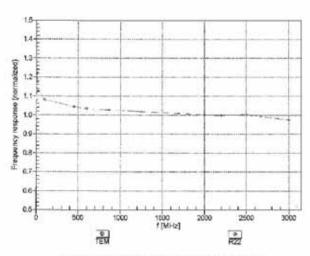
Annex D to Test report no.: 1-0042/15-01-15-A



EX3DV4-5803944

August 19, 2014

Frequency Response of E-Field (TEM-Cell:Hi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ± 8.3% (k=2)

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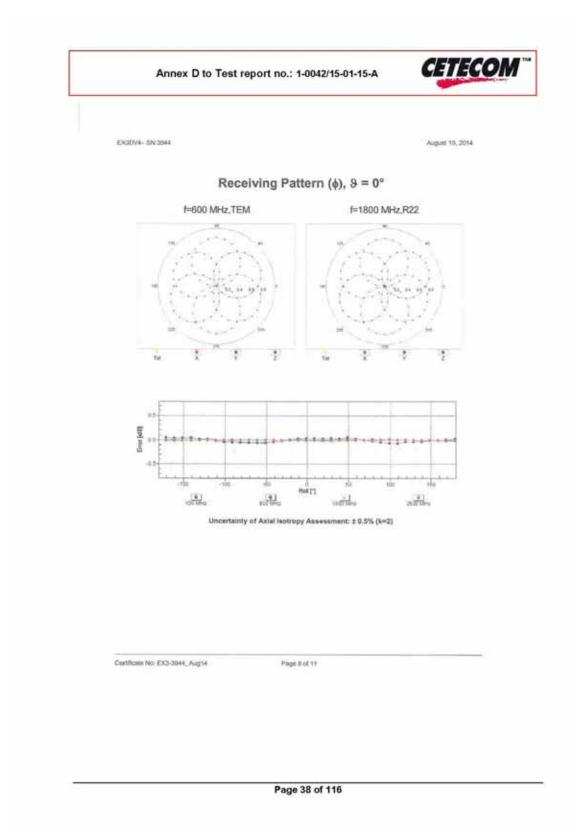
Fage **53(95)**

Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**



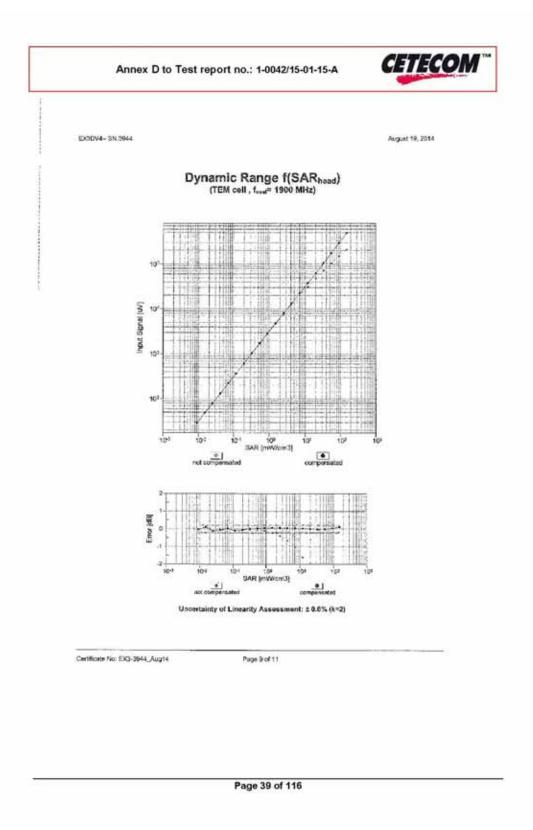


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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**



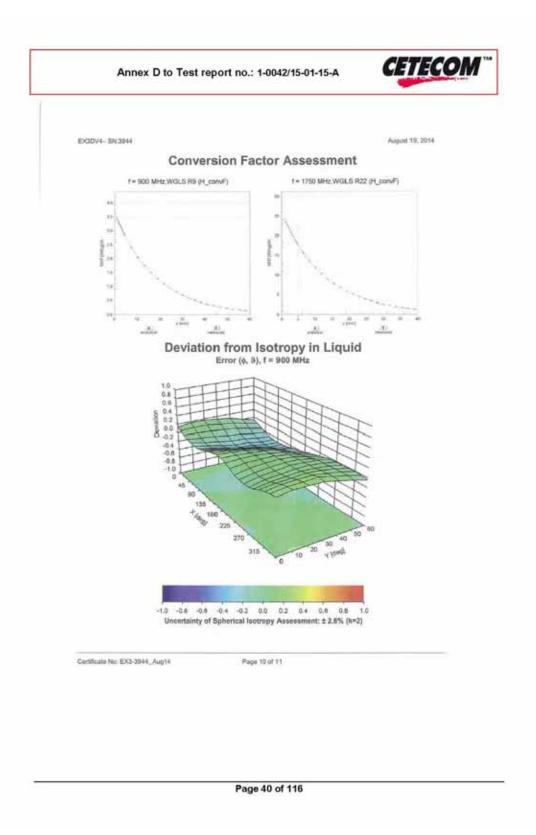


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Author Data
Andrew Becker

Dates of Test
Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**





(STV100-2) SAR Report Part 2/2

Page **56(95)**

Author Data
Andrew Becker

Dates of Test

Oct 06 - Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

CETECOM Annex D to Test report no.: 1-0042/15-01-15-A August 19, 2014 EX30V4- \$N:3044 DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944 Other Probe Parameters Sensor Arrangement Triangular Connector Angle (*) -1.3 Mechanical Surface Detection Mode enabled Optical Surface Detection Mode disabled Probe-Overall Length 337 nm 10 mm Probe Body Diameter 9 mm Tip Length 2.5 mm Tip Diameter Probe Tip to Sensor X Calibration Point 1 mm Probe Tip to Sensor Y Calibration Point Probe Tip to Sensor Z Calibration Point 1 mm Recommended Measurement Distance from Surface 1.4 mm

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Author Data **Andrew Becker** Dates of Test

Oct 06 - Nov 02, 2015

Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



Calibration report "Probe EX3DV4"

The Swiss Accorditation Sen Multilateral Agreement for the Client Cetecom	vice is one of the signature recognition of calibration	es to the EA	creditation No.: SCS 0108
	m recognition of calibration	i curtificates.	
Contract Con			
Getecom:		Certificate No.	EX3-3944_Aug15
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CALIBRATION	CERTIFICAT	E	
	25/7-		
Otive	EX3DV4 - SN:3	944	
Calibration procedure(s)	QA CAL-01.v9.	QA CAL-14.v4, QA CAL-23.v5, QA	CAL-25 v6
		edure for dosimetric E-field probes	
	CONTROL SCANOR	Color and description in Color In Color	
Calibration data:	August 14, 2015		
	Committee and the		
This calibration certificate discu	ments the transmission to our	ional standards. Which realize the physical units	A STATE OF THE STA
The measurements and the un-	contamins with confidence in	notability are given on the following pages and	not and of the could have
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THE RESIDENCE PROPERTY CONTRACTOR			
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Author Data Andrew Becker Dates of Test

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Annex D to Test report no.: 1-0042/15-01-15-A



Calibration Laboratory of Schmid & Partner Engineering AG rughausstrasse 43, 8864 Zurich, Switzerland





S Service suisse d'étalonnage Servicio avizzaro di taratura C Switch Californium Service

Accreditation No.: SCS 0108

The Swiss Accreditation Service is one of the signatories to the EA

teral Agreement for the recognition of calibration certificates

Glossary:

tistue simulating liquid. NORMx,y,z sensitivity in free space sensitivity in TSL / NORMx,y,z dode compression point crest factor (1/duty_cycle) of the RF signal DOP

A, B, C, D modulation dependent linearization parameters

Potarization e e rotation around probe axis

Polarization 3 3 rotation around an axis that is in the plane normal to probe axis (at measurement center) a round mouth an early to the second to probe axis.

Information used in DASY system to align probe sensor X to the robot coordinate system.

Connector Angle

Calibration is Performed According to the Following Standards:

JEEE Sld 1528-2013, "IEEE Recommended Practice for Determining the Plats Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
 JEC 82209-1, "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

If IEC 62209-2, Procedure to determine the Specific Absurption Ratio (SAR) for wireless communication devices used in close proximity to the runnal body (frequency range of 30 MHz to 6 GHz)", March 2010

KDB 855864, "SAR Mississment Requirements for 100 MHz to 6 GHz)", March 2010

Methods Applied and Interpretation of Parameters:

- $NORM_{X,Y,Z}$ Assessed for E-field polarization B=0 (f < 900 MHz in TEM-call f > 1800 MHz R22 wavegunoRMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E-field
- 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 Convt.
 DCPx,y,z DCP are numerical linearization parameters assessed based on the tibits 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
- Axy.r. Bxy.r. Cxy.r. Dxy.r. VRxy.r. A. B. C. D are numerical linearization parameters assessed based on
- 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 RM S voltage across the diode.

 Contré and Boundary Effect Parameters: Assessed in Rist phantom using E-field (or Temperature Transfer Standard for 1 < 800 MHz.) and inside wavegoide using analytical field distributions based on power measurements for t > 800 MHz. The same settins are used for assessment of the parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to MORMx, z.* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY4 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 sising a flat phantom
- exposed by a patch entenna.

 Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe lip. (on probe exist). No tolerance required.

 Connector Angle: The angle is assessed using the information gained by determining the NORM's (pp.
- uncertainty required).

Certificate No: EX3-3944_Aug15



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Author Data **Andrew Becker** Dates of Test

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EX30V4 - SN 3944

/ugust 14, 2015

Probe EX3DV4

SN:3944

Manufactured: May 2, 2013 Calibrated:

August 14, 2015

Calibrated for DASY/EASY Systems

Certificate No: EXX-3944, Aug 15

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EXXXV4-5N3944

August 14, 2015

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m)*)*	0.56	0.63	0.43	+ 10.1%
DCP (mV)*	98.5	98.5	105.7	10000

Modulation Calibration Parameters

Certificate No: EX3-2944, Aug 15

UID	Communication System Name		A IIIS	B dB√ _e V	c	D dB	VR mV	Unc* (k=2)
0	CW	Ж.	0.0	0.0	1.0	0.00	150.9	±3.5 %
		Y.	0.0	0.0	1.0		153.4	-
		2	0.0	0.0	1.0		147.0	

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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is undertainties of Norm X,Y,Z on not effect the E²-Anti-orumnanty made TSL (see Pages 5 and 6) intercal invarianties parameter: unlocating not required. confacting a determined using the max. Amendion from Inver-response equipping reptainguist distribution, and is represent for the equies of the Value.



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Author Data **Andrew Becker** Dates of Test

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L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



EXIDV4-SN:8644

August 14, 2015

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^E	Relative Permittivity	Conductivity (5/m)	Convf X	ConvF Y	ConvF Z	Alpha*	Depth ** (mm)	Una (k=2)
750	41.9	0.89	10.22	10.22	10.22	0.24	1.33	±12.05
835	41.5	0.90	9.96	9.96	9.96	0.22	1,40	±12.0 %
900	41.5	0.97	9.74	9.74	9.74	0.22	1.38	±12.05
1750	40.1	1.37	8.42	8.42	B.42	0.33	0.89	±1209
1900	40.0	1.40	8.19	8.19	8.19	0.37	0.80	± 12.0 5
2450	39.2	1.60	7.28	7.28	7.28	0.36	0.80	± 12.0 %
2600	39.0	1.08	7.15	7.15	7.15	0.30	0.95	# 12.0 %
3500	37.9	2.91	7.12	7.12	7.12	0.48	0.89	± 13.1 %
5200	36.0	4.66	5.36	5.36	5.36	0.35	1.80	±13.1%
5300	35.9	4.76	5.08	5.06	5.08	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.92	4.92	4.92	0.40	1.60	± 13.1 %
5605	35.5	5.07	4.80	4.80	4.80	0.40	1.80	± 18.1 %
5800	35.3	527	4.77	4.77	4.77	0.40	1.80	+ 13.1%

Fraguency variable above 300 MHz of a 100 MHz rarry applies for DASY v4.4 and haples (see Flage II), whe if is isostituted to a 00 MHz. The isostituted in Indian American Section 1 and the including for the indicated fraguency seeds on 300 MHz is a 10, 25, 45, 50 and 20 MHz in the indian 300 MHz is a 10, 25, 45, 50 and 20 MHz in Indian Indian

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Author Data **Andrew Becker** Dates of Test Oct 06 – Nov 02, 2015 Test Report No

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EX30V4-59/3944

August 14, 2016

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Calibration Parameter Determined in Body Tissue Simulating Media

r (MHz) ⁰	Relative Permittivity	Conductivity (Sim)	ComF X	ConsF Y	ConvFZ	Alpha [©]	(mm)	Unc (k=2)
750	55.5	0.96	9.98	9.98	9.56	0.28	1,18	±12.0%
835	55.2	0.97	9.91	9.91	9.91	0.36	0.94	11201
900	55.0	1.05	9.72	9.72	9.72	0.49	0.81	± 12.0 %
1750	53.4	1.49	6.13	8.13	6.13	0.45	0.80	± 12.0 %
1900	53.3	1.52	7.91	7.91	7.91	0.46	0.80	± 12.0 1
2450	52.7	1.96	7,53	7.53	7.53	0.33	0.90	± 12.0 1
2600	52.5	2.16	7.37	7.37	7.37	0.30	0.95	± 12.0 1
3500	51.3	331	6.81	0.61	6.81	0.31	1.33	±13.15
5200	49.0	5.30	4.58	4.68	4.68	0.40	1,90	2 13.13
5300	46.9	5.42	4.48	4.48	4.48	0.40	1.90	±13.11
5500	48.6	5.65	4.16	4.16	4.16	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.02	4.02	4.02	0.50	1.90	± 13.1 %
5800	482	6.00	4.11	4.11	4.11	0.50	1.90	± 13.1 %

Frequency validity above 300 AMs at £ 100 MMs only applies for DASY V4.4 and higher (bear Page 2), after 8 or restricted to ± 80 MMs. The procedurity is the HSS of the Confe uncertainty of calibration frequency and for uncertainty for the indicated frequency should. Frequency variety procedure 30 MMs or ±10.25. 40, 50 and 210 MMs. The Confe assessments at 20.54. 20.50 and 220 MMs respectively. Above 5 GHz frequency should be a 10.25. 40, 50 and 210 MMs. The should be assessment at 20.54. 20.50 and 220 MMs respectively. Above 5 GHz frequency should be a 10 MMs. The should be assessment at 20.54. 20.50 and 220 MMs respectively. Above 5 GHz frequency before 3 GHz, the subdity of fiscal parameters for the respectively. Above 5 GHz frequency before 3 GHz, the subdity of fiscal parameters for a restriction of a seasonable to ±35. The uncertainty as the MSS of the Confe seasonable frequency for advantage of the Confe seasonable for the subdity of fiscal parameters for the state of the subdity of the Confe seasonable for the subdity of the South seasonable for the subdity of the Southers and the subdity of the subdity of

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Author Data
Andrew Becker

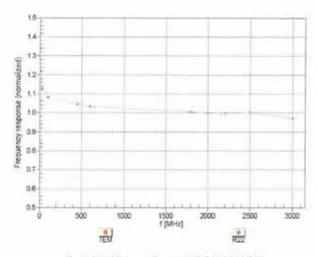
Dates of Test

Oct 06 – Nov 02, 2015

Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A EX3DV#- 5N:39#4 August 14, 2015 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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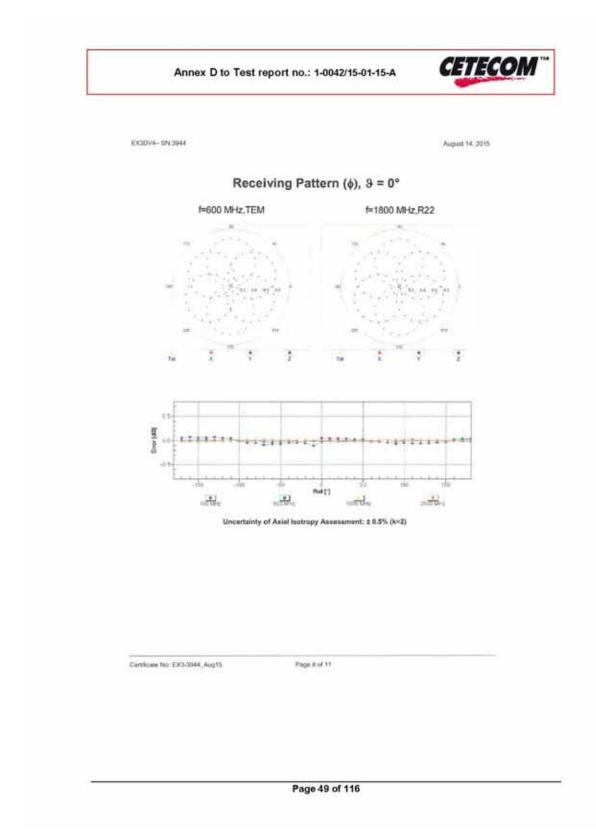


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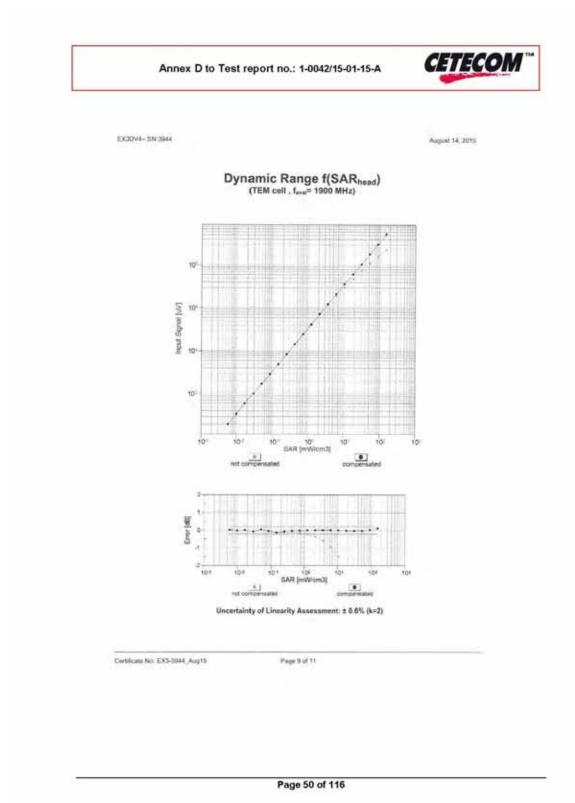
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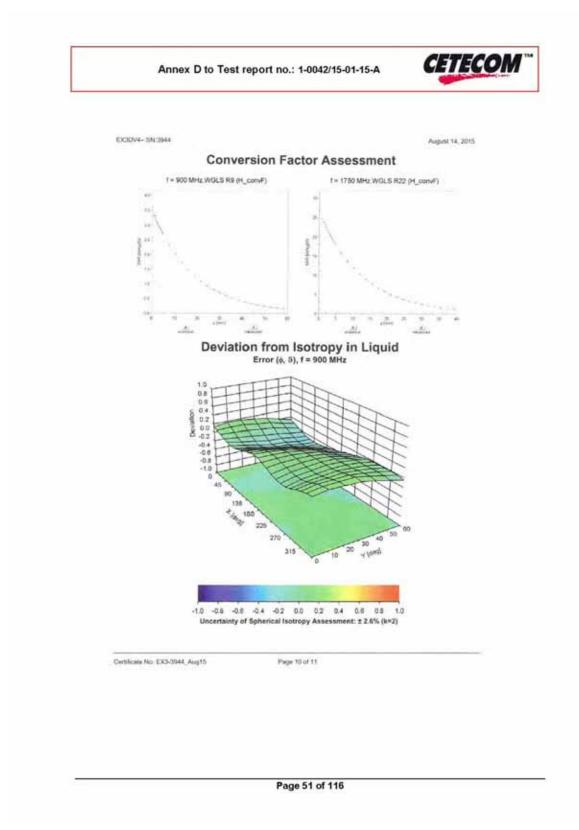


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EX3DV4- SN3944

August 14, 2015

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3944

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (*)	-0.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	5 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 nom
Recommended Measurement Distance from Surface	1.4 mm

Certificate No: EX3:3144_Aug15:

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Author Data
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Document
Appendix C for the BlackBerry® Smartphone Model RHT181LW
(STV100-2) SAR Report Part 2/2

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1750 Dipole



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Author Data **Andrew Becker** Dates of Test Oct 06 - Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

Annex D to Test report no.: 1-0042/15-01-15-A



Calibration report "1750 MHz System validation dipole"

Engineering AG Zeughausstranse 43, 8004 Zur	ory of ich, Seitzerland	flac HISA	S Schweizerischer Kulibrierdienal C Service suisse d'étalennage Servizio svitzero di taratura S Simisa Calibration Service
Accredited by the Swiss Accred The Swiss Accreditation Servi Multilateral Agreement for the	ice is one of the signator	ins to the EA n certificates	Accreditation No.: SCS 0108
Client Catecom		Certifica	No: D1750V2-1093_May15
CALIBRATION	CERTIFICAT	E	
Object	D1750V2 - SN:	1093	
Calibration (societure(s)	QA CAL-05.v9 Calibration process	edure for dipole validation kits	above 700 MHz
Calibration daile	May 13, 2015		
The measurements and the uno	ertainles with confidence p	formi standards, which realize the physics probability are given on the tollowing page by tackly: environment temperature (22 x	s and are part of the certificate.
An calibrations have been conducted in the calculation of the calculat	entanties with confidence ; oted in the sloced laborate TE orifical for calification)	probability are given on the televening page by tackly: environment temperature (22 a	s and are peri of the certificate.
The measurements and the uno All calibrations have been condu- Calibration Equipment user (MS Primary Standards	otted in the closed laborate TE critical for celtification)	probability are given on the tollowing page by facility: environment temperature (22 x Call Date (Certificate No.)	s and are part of the certificate. 3) 'G and biaredity < 20%. Scheduled Galibration
Pre-measurements and the uno All calibrations have been condu- Calibration Equipment used (MS Primary Standards Power moter EPM-442A	entanties with confidence ; oted in the sloced laborate TE orifical for calification)	probability are given on the inflowing page by facility: environment temperature (22 x Chil Date (Certificate No.) 07-Oct-14 (No. 217-00003)	8 and are part of the certificate. 3)*C and humidity < 20%. Scheduled Celibration Oct-15:
The insequence and the uno AR calibration have been condu- Calibration Equipment used (M6 Primary Blandards Power moder EPM-442A Power woods HP 8481A	ofted in the closed laborate TE critical for calibration) 10 in CB37480704	probability are given on the tollowing page by facility: environment temperature (22 x Cell Date (Certificate No.) 07-Oct-14 (No. 217-02003) 07-Oct-14 (No. 217-02003)	s end are part of the certificate. 3)*C and hursidity < 20%. Scheckland Calibration Och 15. Oct 15.
The insusurements and the uno AR calibration Equipment used (MA Primary Standards Power review EPM-442A Power sensor HP 8481A Power sensor HP 8481A	ectanties with confidence p coted in the closed faborate TE critical for calibration) (ID # DBST480704 (IBST480793)	probability are given on the tollowing page by facility: environment temperature (22 x Call Date (Certificate No.) 07-Och-14 (No. 217-00000) 07-Och-14 (No. 217-00001) 07-Och-14 (No. 217-00001)	8 and are part of the certificate. 3)*G and hierarchy < 20%. Scheduled Galibration Oct-15. Oct-15. Oct-15. Oct-15
The insusurements and the uno AR calibrations have been condu- Calibration Equipment used (M6 Primary Standards Primary Standards Primary motor EPIA-442A, Primary service HP 8481A Primary service HP 8481A Peterence 20 dB Attenuation Type-14 membratich combination	entanties with confidence p soled in the closed teborate TE critical for catterwising ID # GBSF/480704 URSI7292793 MY41082317	probability are given on the tollowing page by facility: environment temperature (22 x Cell Date (Certificate No.) 07-Oct-14 (No. 217-02003) 07-Oct-14 (No. 217-02003)	s end are part of the certificate. 3)'C and hursidity < 20%. Scheckled Calibration Och 15. Oct 16.
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The Insecurements and the uno AR calibration Equipment used (MA Primary Standards Power moder EP9A-442A, Power spoor HP 8481A Power service HP 8481A Power service HP 8481A Peterence 20 dB Attenuator Type-14 mismatch combination Saference Probe ESSOVS 3AE4	ortaines with confidence; goted in the continuous. TE critical for collambian. ID # GB87480704 US37292793 MY41042317 SR: 5008 (20) SN: 5012 / 06327 SN: 3255 FR: 501	probability are given on the tollowing page by facility: environment temperature (22 x Chil Diete (Certificate No.) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00001) 07-Oct-14 (No. 217-00001) 01-Apr-15 (No. 217-0011) 01-Apr-15 (No. 217-0113) 00-Oct-14 (No. 283-000), Oct-14) 18-Aug-14 (No. DAE4-001, Aug14)	8 and are part of the certificate. 3)*C and hiersidity < 20%. Biotechaled Calibration Oct-15. Oct-16. Oct-16. Man-16 Dec-15. Aug-15.
The insusurements and the uno AR calibration Equipment user (MA Primary Standards Power motor EPM-4-42A, Power search HP 8481A, Power search HP 8481A, Retrence 20 dB Attenuator Type-14 resemant, combination Reference 20 dB Attenuator Type-14 resemant, combination GAE4	ortaines with confidence; good in the cicent laborate in the calibration; ICLE critical for calibration; ICLE CRITISTOPO USX17292793 MY41082317 Site 5056 (20s) Site 5057 2 / 06327 Site 5057 2 / 06327 Site 5057 2 / 06327 Site 5057 ICLE CRITISTOPO ICL	Chair Date (Certificate No.) Chair Date (Certificate No.) O'-Out-14 (No. 217-00000) O'-Out-14 (No. 217-00000) O'-Out-14 (No. 217-00000) O'-Out-14 (No. 217-00001) O'-Out-14 (No. 217-00001) O'-Out-14 (No. 217-00001) O'-Out-14 (No. 217-00104)	Send are part of the certificate. SirCland biarsidity < 20%. Scheduled Calibration Oct-15 Oct-15 Oct-15 Mar-16 Mar-16 Occ-15 Aug-15 Scheduled Check
The Insusurements and the uno All califorations have been condu Califoration Equipment used (M6 Primary Standards Power select EPM-4-QA Power sensor HP 8481A Power sensor HP 8481A Reference 20 68 Altenuates Type-14 mismatch combination Reference Phobe ESSOVO DAE4 Recondary Standards RF generator 1955 SMT-06	ortaines with confidence; goted in the continuous. TE critical for collambian. ID # GB87480704 US37292793 MY41042317 SR: 5008 (20) SN: 5012 / 06327 SN: 3255 FR: 501	probability are given on the tollowing page by facility: environment temperature (22 x Chil Diete (Certificate No.) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00001) 07-Oct-14 (No. 217-00001) 01-Apr-15 (No. 217-0011) 01-Apr-15 (No. 217-0113) 00-Oct-14 (No. 283-000), Oct-14) 18-Aug-14 (No. DAE4-001, Aug14)	8 and are part of the certificate. 3)*C and hiersidity < 20%. Biotechaled Calibration Oct-15. Oct-16. Oct-16. Man-16 Dec-15. Aug-15.
All calibrations have been condu- All calibration Equipment used (M6 Primary Standards Secondary Standards Be generator (9.5.5 SMT-06 Network Analyzar (19° 87536)	orted in the confidence of the	probability are given on the inflowing page by facility: environment temperature (22 x Call Date (Certificate No.) 07-Oct-14 (No. 217-02000) 07-Oct-14 (No. 217-02000) 07-Oct-14 (No. 217-02001) 07-Oct-14 (No. 217-02011) 01-April 16x 217-02111) 01-April 16x 217-02111 01-April 16x 217-02113 01-Oct-14 (No. 217-02113) 01-Oct-14 (No. 217-02113) 01-April 16x 217-02113 01-April 16x 217-02113 01-April 16x 217-02113 01-April 16x 217-02113 01-April 16x 217-02113 01-April 16x 217-02113 01-April 16x 217-02113	Send are part of the certificate. 3)*C and hursidity < 20%. Scheduled Calibration Oct-15 Oct-16 Oct-15 Mar-16 Mar-16 Occ-15 Aug-15 Scheduled Check In house chack: Oct-16
All calibrations have been condu- Calibration Equipment used (MS Primary Standards Power reder EPNA-4CA, Power sensor HP 8481A Power sensor HP 8481A Reference 20 68 Altenuator Type-14 mismatch combination Reference 4 hobe ESSOVO DAE4 Recondery Standards RF generator 19SS SMT-06	orted in the confidence of the	probability are given on the inflowing page by facility: environment temperature (22 x Cell Date (Certificate No.) 07-Oct-14 (No. 217-02000) 07-Oct-14 (No. 217-02000) 07-Oct-14 (No. 217-02001) 07-Oct-14 (No. 217-02011) 01-April 16x. 217-02111) 01-April 16x. 217-02111 01-April 16x. 217-021131 01-April 16x. 217-021131 00-Oct-14 (No. 217-021131) 01-April 16x. 217-021131 01-April 16x. 217-02131 01-April 16x. 217-02131 01-A	Send are part of the certificate. 3)*C and humidity < 20%. Scheduled Calibration Oct-15 Oct-16 Oct-15 Mar-16 Mar-16 Occ-15 Aug-15 Scheduled Check In house check: Oct-16
The Insusurements and the uno AR calibrations have been condu- Calibration Equipment used (M6 Primary Standards Reference 20 dB Attenuator Type-14 mismatch combination Reference Probe ESSOV3 DAE4 Recondery Standards Ref generator 198.S SMT-06 Reducck Analyzae 197 8753E	### Confidence ### Co	probability are given on the inflowing page by facility: environment temperature (22 x Child Date (Certificate No.) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00000) 07-Oct-14 (No. 217-00001) 07-Oct-14 (No. 217-00001) 01-Apr-15 (No. 217-0011) 09-Doct-14 (No. 283-3005, Dec14) 19-Aug-14 (No. 283-3005, Dec14) 19-Aug-14 (No. 283-3005, Dec14) 06-Aug-99 (in house check Oct-12) 18-Oct-01 (in house check Oct-14)	Send are part of the certificate. 3)*C and humidity < 20%. Scheduled Calibration Oct-15 Oct-16 Oct-15 Mar-16 Mar-16 Occ-15 Aug-15 Scheduled Check In house check: Oct-16

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Author Data Andrew Becker Dates of Test

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Annex D to Test report no.: 1-0042/15-01-15-A



Calibration Laboratory of Schmid & Partner

Engineering AG rughtusetrasse 43, 8004 Zurich, Switzerland





Schweizenscher Kalibrierdie Service suisse d'étalennage C Servizio svizzero di teraturo

Accreditation No.: SCS 0108

The Swiss Accreditation Service is one of the signatories to the EA Shulfillateral Agraement for the recognition of calibration certificates

Glossary:

TSL ConvF

tissue simulating liquid

sensitivity in TSL / NORM x.y.z. not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques*, June 2013
- 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) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz."

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 probability of approximately 95%.	distribution corresponds	to a coverage

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Measurement Conditions

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

DASY Version	DASYS	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied:

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 inho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.0 ± 6 %	1.37 mho/m ± 6.%
Head TSL temperature change during test	<0.5°C		

SAR result with Head TSL

SAR averaged over 1 cm ² (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.37 W/kg
SAR for nominal Head TSL parameters	normalized to tW	37.2 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ² (10 g) of Head TSL.	condition	
SAR measured	250 mW input power	4.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	19.9 W/kg ± 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied

CONTRACTOR OF THE PROPERTY OF THE PARTY OF T	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.5 ± 6%	1,49 mho/m ± 6 %
Body TSL temperature change during test	<0.5°C	-	

SAR result with Body TSL

SAR averaged over 1 cm3 (1 g) of Body TSL.	Condition	
SAR measured	250 mW input power	9:46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	37.5 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.09 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.3 W/kg ± 15.5 % (k=2)

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.6 Q - 0.3 gQ	
Return Loss	~ 46.8 dB	

Antenna Parameters with Body TSL

Impodence, transformed to feed point	45.8 (1 - 0,4 (2)
Return Losa	-27.2 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.213 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 seminigid 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 leaded 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 dopole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG	
Manufactured on	November 07, 2012	

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Appendix C for the BlackBerry® Smartphone Model RHT181LW (STV100-2) SAR Report Part 2/2

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Date: 13.05.2015

DASY5 Validation Report for Head TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1093

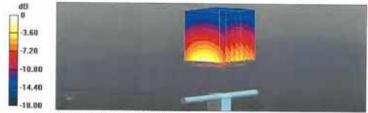
Communication System: UID 0 - CW; Frequency: 1750 MHz. Medium parameters used: f = 1750 MHz; $\sigma = 1.37$ S/m; $z_r = 39$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(5.2, 5.2, 5.2); Calibrated; 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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 = 96.43 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 16.8 W/kg SAR(1 g) = 9.37 W/kg; SAR(10 g) = 4.99 W/kg Maximum value of SAR (measured) = 11.9 W/kg



0 dB = 11.9 W/kg = 10.76 dBW/kg

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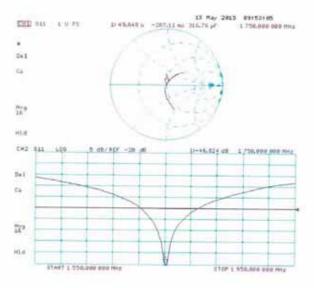
Test Report No **RTS-6066-1511-01**

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Impedance Measurement Plot for Head TSL



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Date: 13.05.2015

DASY5 Validation Report for Body TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1093

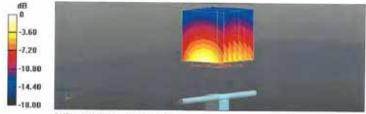
Communication System: UID 0 - CW; Frequency: 1750 MHz. Medium parameters used: f = 1750 MHz; $\sigma = 1.49 \text{ S/m}$; $\epsilon_i = 51.5$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(4.88, 4.88, 4.88); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (buck); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 93.08 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 16.2 W/kg SAR(1 g) = 9.46 W/kg; SAR(10 g) = 5.09 W/kgMaximum value of SAR (measured) = 11.9 W/kg



0 dB = 11.9 W/kg = 10.76 dBW/kg

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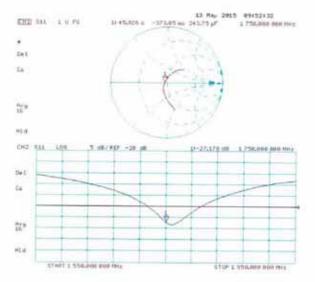
Test Report No **RTS-6066-1511-01**

FCC ID: L6ARHT180LW

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Impedance Measurement Plot for Body TSL



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1900 Dipole



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10 Calibration report "1900 MHz System validation dipole"

Calibration Laboratory of S Schmid & Partner Service suisse d'étalonnage Engineering AG sughausstrasse 43, 8004 Zurich, Switzerland C Servizio svizzero di taratura S **Swiss Calibration Service** Accreditation No.: SCS 0108 The Swiss Accreditation Service is one of the aignatories to the EA Mutilateral Agreement for the recognition of culibration cortificates Cetecom Certificate No: D1900V2-5d009_May15 CALIBRATION CERTIFICATE Object D1900V2 - SN:5d009 Calibration procedura(s) QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz May 13, 2015 This calibration certificate documents the inacuability to national standards, which reside the physical units of mea-The measurements and the uncertainties with confidence probability are given on the following pages and are piet of the certificate All cultivations have been conducted in the closed laboratory facility: environment temperature (22 x 3)°C and humidity < 70%. Calibration Equipment used (METE entical by calibration) Cal Date (Certificate No.) Scheduled Calibration Power meter EPM 442A G837480704 97-Oct-14 (No. 217-92020) 97-Oct-14 (No. 217-92020) Power sensor HP 8481A US37292783 Oa-15 Power sensor HP 8481A MY41092317 87-Oct-14 (No. 217-02021) Reference 20 dB Attenuator Type-N mismatch combination SN: 8058 (20k) 01-Apr 15 (No. 217-02101) Mar-16. SN: 5047-2 / 06327 01-Apr-15 (No. 217-02134) 30-Dec-14 (No. ES3-029), Dec14) Mar-16 Dec-15 Fisherence Probe ES3DV3 SN: 3005 SN: 601 18-Aug-14 (No. DAE4-601 Aug14) Aug-15 Secondary Stand Chack Date (in house) Scheduled Check RF generator R&S SMT-06 Nedwork Analyzar HP 8753E 04-Aug-99 (in house sheck Oct-13) In house sheek: Oct-16 US37390585 54206 16-Oct-01 (in house check Oct-14) In house check: Clct-15 Catibrated by: Laboratory Technician Approved by: Kaga Pokovic Technical Manager This calibration certificate shall not be reproduced except in full without written approval of the luboratory Certificate No: D1900V2-5d009_May15 Page 1 of 8

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FCC ID: L6ARHT180LW

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Calibration Laboratory of

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





S Schweizerischer Kaltbristellenst Gervice seisse d'étalonnage Servizio svizzero di taratura S Swiss Calibration Service

Accreditation No.: SCS 0108

According by the Swiss Accordington Service (SAS)
The Swiss Accordington Service is one of the sine

The Swiss Accreditation Service is one of the signatures to the EA Multilatural Agreement for the recognition of culibration 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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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%.	

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FCC ID:

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Measurement Conditions

DASY system configuration, as far as not given on page 1. **DASY Version** DASYS V52.8.8 Extrapolation Advanced Extrapolation Modular Flat Phantom Distance Dipole Center - TSL 10 mm with Spacer Zoom Scan Resolution dx, dy, dz = 5 mmFrequency

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	38.9±6%	1.37 mho/m ± 8.%
Head TSL temperature change during fest	<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	10.2 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	41.1 W/kg = 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.4 W/kg ± 16.5 % (k=2)

Body TSL parameters

he following parameters and calculations were applied Temperature Permittivity Conductivity Nominal Body TSL parameters 22.0 °C 53.3 1,52 mho/m Measured Body TSL parameters (22.0 ± 0.2) °C 52.7±6% 1.51 mho/m ± 6 % Body TSL temperature change during test < 0.5 °C

SAR result with Body TSL

SAR averaged over 1 cm ¹ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	40.5 W/kg = 17.0 % (k=2)

SAR averaged over 10 cm* (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.38 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.5 W/kg ± 16.5 % (k=2)

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.1 0 + 2.6 (2)	
Return Loss	- 31.1 dB	

Antenna Parameters with Body TSL

Impedance: transformed to feed point	47.2 \(\Omega + 3.2 \) [G	
Return Loss	-272.dB	

General Antenna Parameters and Design

Electrical Detay (one direction)	1,188 ms

After iting 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 sumirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-directly for DC-signats. On some of the dipoles, small end caps are added to the clippie 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 dameged.

Additional EUT Data

Manufactured by	SPEAG		
Manufactured on	February 22, 2002		

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DASY5 Validation Report for Head TSL

Date: 13.05.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d009

Communication System: UID 0 • CW; Frequency: 1900 MHz Medium parameters used: f = 1900 MHz; $\alpha = 1.37$ S/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

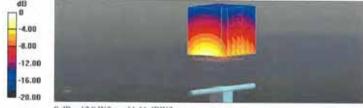
DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(5, 5, 5); Calibrated: 30.12.2014;
- · Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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 = 99.61 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 18.6 W/kg SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.32 W/kg

Maximum value of SAR (measured) = 12.9 W/kg



0 dB = 12.9 W/kg = 11.11 dBW/kg

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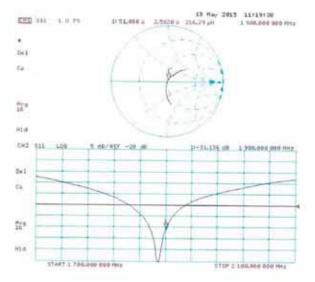
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Impedance Measurement Plot for Head TSL



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Date: 13.05.2015

DASY5 Validation Report for Body TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d009

Communication System: UID 0 - CW; Frequency: 1900 MHz. Medium parameters used: f = 1900 MHz; $\alpha = 1.51$ S/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

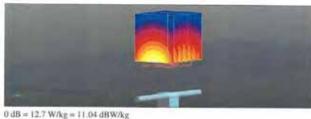
DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2014;
- · Sensor-Surface: 3mm (Mechanical Surface Detection)
- · Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002.
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 96.34 V/m; Power Drift = 0.00 dB Peuk SAR (extrapolated) = 17.1 W/kg SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.38 W/kg Maximum value of SAR (measured) = 12.7 W/kg





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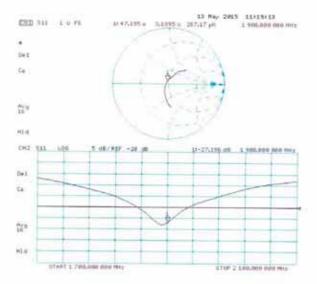
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Impedance Measurement Plot for Body TSL



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2600 Dipole



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12 Calibration report "2600 MHz System validation dipole"

Calibration Laboratory of S Schweizerischer Kallbrierdier Schmid & Partner Service suisse d'étalonnage C Engineering AG suphausstrasse 43, 8004 Zurich, Switzerland Servizio svizzero di taratura Swiss Calibration Service S Accredited by the Switz Accreditation Service (SAS) Accreditation No.: SCS 0108 The Swiss Accreditation Service is one of the signaturies to the EA Multilateral Agreement for the recognition of calibration certificates Cetecom Certificate No: D2600V2-1040_Aug15 CALIBRATION CERTIFICATE D2600V2 - SN: 1040 Calibration procedure(s) QA CAL-05.V9 Calibration procedure for dipole validation kits above 700 MHz Calibration date: August 11, 2015 This calibration continues encuments the transability to redistruit standards, which release the physical units of managements (Sr). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the cent All calibrations have liken conducted in the closed laboratory facility: environment temperature (22 a 3)°C and humidity = 70%. Calibration Equipment used (MATE critical for naibration) Primary Stand Cel Dete (Certificate No.) 07-Oct-14 (No. 217-02001) Scheduled Calibration Power meter EPM-442A Power sensor HP 8481A U\$37292793 97-Oct-14 (No. 217-02000) Oth 15 Power sensor HP 8481A 07-Oct-14 (No. 217-02001) Op-15 Mar-16 Refurence 20 of: Attenuator 01-Apr-15 (No. 217-02131) 01-Apr-15 (No. 217-02134) 5% 5058 (20k) Type N mism SN: 5047.2 / 06327 Mai-16 werker Proto ES3DV3 581: 3205 30-Dec-14 (No. E83-0205, Dec14) DAE4 BN: 501 18-Aug-14 (No. DAE4-601, Aug 14) Aug-15 Secondary Standar Scheduled Check Fiff generator RNS SMT-00 In house check: Clot-16 vork Analyzar HIP IIPSDE Castroned by: Michael Weber Laboratory Technican Katia Fokove Technical Manager This calibration contribute shall not be reproduced except in full without written approval of the lateralizing Controlle No: D2600V2-1040, Aug15

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Calibration Laboratory of Schmid & Partner

Engineering AG restrance 43, 8004 Zurich, Switzerland





S Service suisse d'étalomage C Servizio svizzeno di tarat

Accreditation No.: SCS 0108

edted by the Swiss Accreditation Senter (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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques*, June 2013
 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) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)*, March 2010
 - d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) 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%.

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Measurement Conditions

SASY system configuration, as far as not	given on page 1	
DASY Version	DASYS	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Plat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	da, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and o

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.6 ± 6 %	2.04 mho/m ± 6 %
Head TSL temperature change during test	<05°C	and the same	-

SAR result with Head TSL

SAR averaged over 1 cm² (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.6 Why
SAR for nominal Head TSL parameters	normalized to 1W	56.9 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ² (10 g) of Head TSL	condition	
SAR measured	250 mW Input power	6.57 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	25.9 W/kg a 16.5 % (k=2)

Body TSL parameters

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0±0.2)°C	50.1 ± 6 %	2.21 mho/m ± 6 %
Body TSL temperature channe during teat	×0.510	Calle	

SAR result with Body TSL

SAR averaged over 1 cm ² (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	14.5 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	56.8 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm ¹ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.55 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	25.9 W/kg ± 16.5 % (k×2)

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.6 12 - 8.0 12
Return Loss	-24.4.69

Antenna Parameters with Body TSL

Impedance, transformed to feed point	472 H - 45 H	
Return Loss	- 25.3 dB	

General Antenna Parameters and Design

Electrical Delay (one direction)	1.153 ns

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

The dipole is made of standard sensigid poaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The entenna is therefore short-circuited for DC-signals. On some of the dipoles, amail and caps are added to the dipole arms in order to improve metching 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:	May 24, 2011
	The state of the s

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DASY5 Validation Report for Head TSL

Date: 11.08.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1040

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used: f = 2600 MHz; $\sigma = 2.04 \text{ S/m}$; $c_r = 37.6$; $p = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

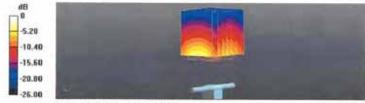
DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(4.49, 4.49, 4.49); Calibrated: 30.12.2014;
- · Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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 = 101.9 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 30.1 W/kg SAR(1 g) = 14.6 W/kg; SAR(10 g) = 6.57 W/kg

Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.88 dBW/kg

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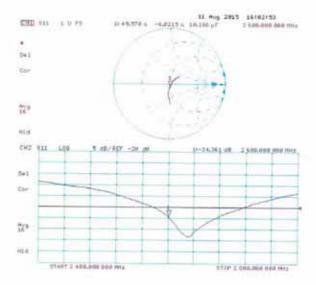
Author Data **Andrew Becker** Dates of Test Oct 06 - Nov 02, 2015 Test Report No RTS-6066-1511-01 FCC ID: L6ARHT180LW

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Impedance Measurement Plot for Head TSL



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FCC ID:

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Date: 11.08.2015

DASY5 Validation Report for Body TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1040

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used: I = 2600 MHz; $\sigma = 2.21 \text{ S/m}$; $c_c = 50.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 SN3205; ConvF(4.13, 4.13, 4.13); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002.
- DASY52 52:8.8(1222); SEMCAD X 14.6.10(7331)

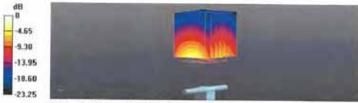
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 97.57 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.55 W/kg

Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 19.1 W/kg = 12.81 dBW/kg

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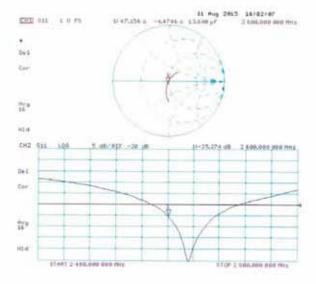
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Impedance Measurement Plot for Body TSL



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