Testing Services™	Annex B to Hearing Report for the Blac	Page 1(23)			
Author Data	Dates of Test	Report No	FCC ID		
Daoud Attayi	Aug 10-21, 2009	······································			

Annex B: Probe and dipole description and calibration certificates

B.1 Probe, measurement chain description, specification and calibration certificate

Testing Services™	Annex B to Hearing Report for the Blac	Page 2(23)		
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	CW

DASY Dosimetric Assessment System by Schmid & Partner Engineering AG



Applications	ER3DV6 ISOTROPIC E-FIELD PROBE FOR GENERAL NEAR-FIELD MEASUREMENTS				
Support & Downloads Products DASY4 Packages	Download Produc	<u>ct Flyer</u> (PDF, 192kB)			
EASV4 Probes ET3DV6 - Isotropic Dos-Probe ES3DV6 - Isotropic Dos-Probe EVDV14 - Victoria Dos-Probe	Construction	One dipole parallel, two dipoles normal to probe axis Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)			
EX3DV4 - Isotropic Dos-Probe ET1DV3 - D-Probe	Calibration	In air from 100 MHz to 3.0 GHz (absolute accuracy $\pm 6.0\%,k{=}2)$			
EUV3 - Universal Vector E-Probe H3DV6 - Isotropic H-Probe HUV4 - Universal Vector H-Probe T1V3 - Temp-Probe	Frequency Directivity	100 MHz to > 6 GHz; Linearity: ± 0.2 dB (100 MHz to 3 GHz) ± 0.2 dB in air (rotation around probe axis) ± 0.4 dB in air (rotation normal to probe axis)			
DP1 - Dummy-Probe • Data Acquisition System	Dynamic Range	2 V/m to > 1000 V/m; Linearity: ± 0.2 dB			
• Software • Phantoms • Robots	Dimensions	Overall length: 330 mm (Tip: 16 mm) Tip diameter: 8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.5 mm			
 Validation Kits & Calibration Dipoles Hearing Aid Compatibility (HAC) Ext Tissue Simulating Liquids 	Application	General near-field measurements up to 6 GHz Field component measurements Fast automatic scanning in phantoms			
SPEAG Home					

http://www.dasy4.com/er3.htm

Testing Services™	Annex B to Hearing Report for the Black	Page 3(23)		
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

DASY Dosimetric Assessment System by Schmid & Partner Engineering AG

DASY Schmid & Partner Engineering AG News Sales Contact		
Applications	H3DV6 3-DIMENSIO APPLICATIONS	NAL H-FIELD PROBE FOR SMALL BAND
Support & Downloads	-	
Products	Download Product Fl	<u>ver</u> (PDF, 192kB)
• DASY4 Packages		
EASY4 Probes ET3DV6 - Isotropic Dos-Probe ES3DV3 - Isotropic Dos-Probe EX3DV4 - Isotropic Dos-Probe	Construction	Three concentric loop sensors with 3.8 mm loop diameters Resistively loaded detector diodes for linear response Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
ET1DV3 - D-Probe ER3DV6 - Isotropic E-Probe	Frequency	200 MHz to 3 GHz (absolute accuracy ± 6.0%, k=2); Output linearized
EUV3 - Universal Vector E-Probe	Directivity	± 0.25 dB (spherical isotropy error)
HUV4 - Universal Vector H-Probe	Dynamic Range	10 mA/m to 2 A/m at 1 GHz
T1V3 - Temp-Probe DP1 - Dummy-Probe	E-Field Interference	< 10% at 3 GHz (for plane wave)
Data Acquisition System Software	Dimensions	Overall length: 330 mm (Tip: 40 mm) Tip diameter: 6 mm (Body: 12 mm) Distance from probe tip to dipole centers: 3 mm
Phantoms Robots Validation Kits & Calibration Dipoles Hearing Aid Compatibility (HAC) Ext	Application	General magnetic near-field measurements up to 3 GHz Field component measurements Surface current measurements Measurements in air or liquids Low interaction with the measured field
• Tissue Simulating Liquids		
SPEAG Home		

http://www.dasy4.com/h3d.htm

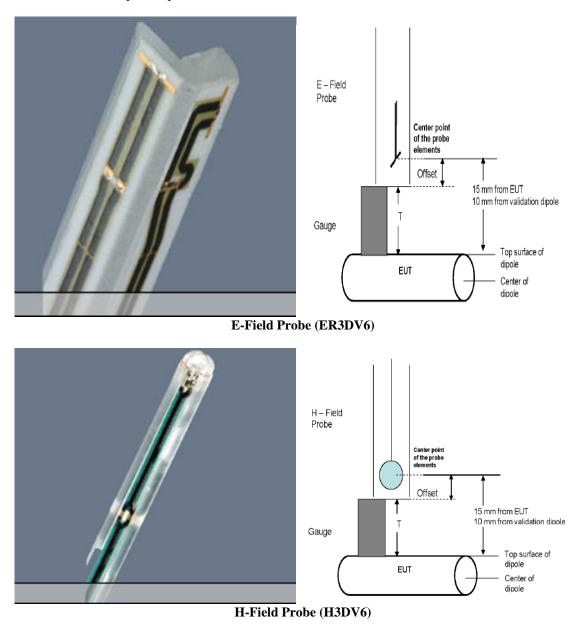
Testing Services™		Document Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW				
Author Data	Dates of Test Report No FCC ID					
Daoud Attayi	Aug 10-21, 2009 RTS-1765-0908-16 L6ARCK70CW					

All measurements were performed to the nearest element point as per the C63.19 standard. Offset distances were entered in the DASY4 software so that the measurement was to the nearest element.

Figures 1 and 2, provided by the manufacturer, illustrate detail of the probe tip and its dimensions.

ER3DV6 E-Field probe: The distances from the probe tip to the closest points on the dipole sensors are 1.45mm for X and Y and 1.25mm for Z. From the probe tip to the center of the sensors is 2.5mm.

H3DV6 H-Field probe: The distance from the probe tip to the closest point of the X, Y and Z loop sensors is 1.1mm. From the probe tip to the center of the sensor is 3.00mm.



Testing Services™		Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW				
Author Data	Dates of Test Report No FCC ID					
Daoud Attayi	Aug 10-21, 2009 RTS-1765-0908-16 L6ARCK70CW					

The following information is from the system manufacturer user manual describing the process chain:

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$
(20.1)

with	V_i	= compensated signal of channel i	(i = x, y, z)
	U_i	= input signal of channel i	(i = x, y, z)
	cf	= crest factor of exciting field	(DASY parameter)
	dcp_i	= diode compression point	(DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

	$\mathrm{E-field probes}$:	$E_i = \sqrt{\frac{V_i}{Norm_i \cdot Co}}$	mvF
	$\mathbf{H}-\mathbf{fieldprobes}$:	$H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1}f}{f}$	$+ a_{i2}f^2$
with	= compensated signal of α = sensor sensitivity of cha $\mu V/(V/m)^2$ for E-field = sensitivity enhancement = sensor sensitivity factor = carrier frequency [GHz] = electric field strength of = magnetic field strength	nnel i 1 Probes t in solution rs for H-field probes f channel i in V/m	$\begin{array}{l} (i=x,y,z) \\ (i=x,y,z) \end{array}$

The RSS value of the field components gives the total field strength (Hermitian magnitude):

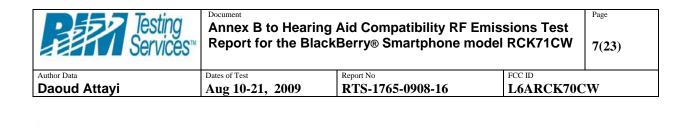
$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$
(20.2)

The measurement / integration time per point is > 500 ms, as per the system manufacturer:

The time response of the field probes has been assessed by exposing the probe to a well-controlled field producing signals larger than HAC E- and H-fields of class M4. The signal response time is evaluated as the time required by the system to reach 90% of the expected final value after an on/off switch of the power source with an integration time of 500 ms and a probe response time of <5 ms. In the current implementation, DASY4 waits longer than 100 ms after having reached the grid point before starting a measurement, i.e., the response time uncertainty is negligible.

If the device under test does not emit a CW signal, the integration time applied to measure the electric field at a specific point may introduce additional uncertainties due to the discretization. The tolerances for the different systems had the worst-case of 2.6%.

Attayi	Dates of Test	Report No	765-0908-16	FCC ID L6ARCK700	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Aug 10-21, 2	N09 K15-17	05-0906-10	LUARCE/U	
Calibration Laboratory	y of	SWIS	• 1 •	r Kalibrierdienst	
Schmid & Partner Engineering AG		HAC MEA (C	Z C Service suisse Servizio svizzer		
Zeughausstrasse 43, 8004 Zurich	, Switzerland	Con Con	S Swiss Calibratio	on Service	
Accredited by the Swiss Accreditat The Swiss Accreditation Service			Accreditation No.: SCS 108		
Multilateral Agreement for the re					
Client RTS (RIM Testin	ng Services)	C	Certificate No: ER3-2286_	Jan09	
CALIBRATION C	ERTIFICAT	E			
on Libra thomas					
Object	ER3DV6 - SN:2	286	A STATE OF A		
Calibration procedure(s)	QA CAL-02.v5		and		
	evaluations in ai	edure for E-field probes	opumized for close near	neio	
Calibration date:	January 8, 2009		STOL STOL STOL	10000	
Condition of the calibrated item	In Tolerance				
		the second s			
This calibration certificate docume The measurements and the uncer				Second Second	
The measurements and the uncer	tainties with confidence p	robability are given on the follow	ring pages and are part of the cor	tificate.	
	tainties with confidence p	robability are given on the follow	ring pages and are part of the cor	tificate.	
The measurements and the uncer	tainties with confidence p ted in the closed laborato	robability are given on the follow	ring pages and are part of the cor	tificate.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T	tainties with confidence p ted in the closed laborato E critical for calibration)	robability are given on the follow ny facility: environment temperatu	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70'	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419B	tainties with confidence p ted in the closed laborato	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00765)	ring pages and are part of the cor	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419B Power sensor E4412A	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41253874 MY41495277	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00765) 1-Apr-05 (No. 217-00765)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70 Scheduled (Apr-09 Apr-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419D Power sensor E4412A Power sensor E4412A	tainties with confidence p led in the closed laborato E critical for calibration) ID # GD41293874 MY41495277 MY41438087	Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-06 (No. 217-00786) 1-Apr-06 (No. 217-00788)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70' Scheduled (Apr-09 Apr-09 Apr-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419B Power sensor E4412A	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41253874 MY41495277	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00765) 1-Apr-05 (No. 217-00765)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70 Scheduled (Apr-09 Apr-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E44190 Power sensor E4412A Power sensor E4412A Reference 3 dB Attanuator	tainties with confidence p led in the closed laborato E critical for calibration) ID # GD41253874 MY41495277 MY41495087 SN: S5054 (3c)	Call Date (Certificate No.) 1-Apr-06 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00788)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70' Scheduled (Apr-06 Apr-09 Apr-09 Jul-09 Jul-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 d B Attenuator Reference 20 dB Attenuator	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41293874 MY41495277 MY41495087 SN: 55054 (3c) SN: 55056 (20b)	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-06 (No. 217-00788) 1-Apr-05 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007866) 1-Oct-08 (No. ER3-2328_Oct	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 06) Oct-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power renter E4419D Power sensor E4412A Power sensor E4412A Reference 3 08 Attenuator Reference 30 dB Attenuator	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41293874 MY41495277 MY4149807 SN: 55054 (3c) SN: 55026 (20b) SN: 55129 (30b)	robability are given on the follow ry facility: environment temperatu Cal Date (Certificate No.) 1-Apr-06 (No. 217-00765) 1-Apr-08 (No. 217-00785) 1-Aur-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00787)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 06) Oct-09	tificato. %.	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power sensor E44190 Power sensor E4412A Reference 30 dB Attenuator Reference 30 dB Attenuator Reference 90 dB Attenuator Reference Probe ER3DV6 DAE4 Secondary Standards	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41293874 MY41495277 MY41495087 SN: 55054 (3c) SN: 55054 (3c)	robability are given on the follow ry facility: environment temperatu Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 1-Oct-08 (No. 217-00866) 1-Oct-08 (No. ER3-2328_Oct 19-Dec-08 (No. DAE4-789_D Check Date (in house)	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-06 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 GB) Oct-09 eco8) Dec-09 Scheduled (tificate. %. Calibration	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E44190 Power sensor E4412A Reference 3 dB Attanuator Reference 20 dB Attanuator Reference 30 dB Attanuator Reference Probe ER3DV6 DAE4	tainties with confidence p led in the closed laborato E critical for calibration) ID # GD41253874 MY41495277 MY41495077 SN: S5054 (3c) SN: S5054 (3c) SN: S5054 (3c) SN: S5056 (20b) SN: S5129 (30b) SN: 2328 SN: 789	Cal Date (Certificate No.) 1-Apr-06 (No. 217-00785) 1-Apr-05 (No. 217-00785) 1-Apr-05 (No. 217-00785) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007865) 1-Oct-08 (No. ER3-2328_Oct 19-Dec-08 (No. DAE4-789_D	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70' Scheduled (Apr-09 Apr-09 Apr-09 Jul-09 08) Oct-09 B() Oct-09 Scheduled (Scheduled (Scheduled (10) 000 000 Scheduled	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419D Power sensor E4412A Reference 30 dB Attenuator Reference 30 dB Attenuator Reference 30 dB Attenuator Reference Probe ER3DV6 DAE4 Secondary Standards RF generator HP 8648C	tainties with confidence ; led in the closed laborato E critical for calibration) ID # GB41253874 MY41495277 MY41495087 SN: 55054 (3c) SN: 55054 (3c) SN: 55056 (20b) SN: 55129 (30b) SN: 55129 (30b) SN: 259 ID # US3642U01700 US37390585	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00785) 1-Apr-08 (No. 217-00785) 1-Apr-08 (No. 217-00785) 1-Jul-08 (No. 217-00785) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00855) 19-Dec-08 (No. DAE4-769_D Check Date (in house) 4-Aug-99 (in house check Oct 18-Oct-01 (in house check Oct	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-06 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Apr-09 Jul-09 CB) Oct-09 CB) Oct-09 Scheduled (t-07) In house chi ct-08) In house chi	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E4419D Power sensor E4412A Reference 30 dB Attenuator Reference 30 dB Attenuator Reference 30 dB Attenuator Reference Probe ER3DV6 DAE4 Secondary Standards RF generator HP 8648C	tainties with confidence p ted in the closed laborato E critical for calibration) ID # GD41293874 MY41495277 MY41495277 MY41495277 MY41495087 SN: 55054 (3c) SN: 55129 (30b) SN: 55129 (30b) SN: 2328 SN: 789 ID # US3642U01700	robability are given on the follow ry facility: environment temperatu Cell Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-08 (No. 217-00788) 1-Aur-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00866) 1-Oct-08 (No. ER3-2328_Oct 19-Dec-08 (No. ER3-2	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 D8) Oct-09 Jul-09 D8) Oct-09 Ecc08) Dec-09 Scheduled (ct-08) In house chi Signature	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ER3DW6 DAE4 Secondary Standards RF gunarator HP 8648C Network Analyzer HP 8753E	tainties with confidence ; led in the closed laborato E critical for calibration) ID # GD41253874 MY41495087 SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 55129 (30b) SN: 789 ID # US3642U01700 US37390585 Name	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-08 (No. 217-00785) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007865) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007865) 1-Oct-08 (No. DAE4-769_D Check Date (in house) 4-Aug-99 (in house check Oct 18-Oct-01 (in house check Oct Function	ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 D8) Oct-09 Jul-09 D8) Oct-09 Ecc08) Dec-09 Scheduled (ct-08) In house chi Signature	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ER3DW6 DAE4 Secondary Standards RF gunarator HP 8648C Network Analyzer HP 8753E	tainties with confidence ; led in the closed laborato E critical for calibration) ID # GD41253874 MY41495087 SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 55129 (30b) SN: 789 ID # US3642U01700 US37390585 Name	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-08 (No. 217-00785) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007865) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-007865) 1-Oct-08 (No. DAE4-769_D Check Date (in house) 4-Aug-99 (in house check Oct 18-Oct-01 (in house check Oct Function	Ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-06 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Scheduled (Cot-09 E05) Dec-09 Scheduled (1-05) In house che Signature Ref	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power sensor E44190 Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ER3DV6 DAE4 Secondary Standards RF generator HP 6646C Network Analyzer HP 8753E Calibrated by:	tainties with confidence p led in the closed laborato E critical for calibration) ID # GD412539874 MY41495277 MY41495277 MY41495277 SN: 55054 (3c) SN: 55054 (3c) SN: 55026 (20b) SN: 55129 (30b) SN: 55129 (30b) SN: 2528 SN: 789 ID # US3642U01700 US37390585 Name Katja Pokovic	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00786) 31-Mar-08 (No. 217-00786) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Dec-08 (No. DA24-769_D Check Date (in house) 4-Aug-99 (in house check Oct 18-Oct-01 (in house check Oct Function Technical Manag	Ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-06 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Scheduled (Cot-09 E05) Dec-09 Scheduled (1-05) In house che Signature Ref	Check eck: Oct-09	
The measurements and the uncer All calibrations have been conduct Calibration Equipment used (M&T Primary Standards Power sensor E44190 Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ER3DV6 DAE4 Secondary Standards RF generator HP 6646C Network Analyzer HP 8753E Calibrated by:	tainties with confidence p led in the closed laborato E critical for calibration) ID # GD4 1253074 MY41495277 MY41495277 MY41495277 SN: 55054 (3c) SN: 55054 (3c) SN: 55056 (20b) SN: 55129 (20b) SN: 2523 SN: 789 ID # US3642U01700 US3642U01700 US37390585 Name Katja Pokovic Niels Kuster	robability are given on the follow ry facility: environment temperatu Call Date (Certificate No.) 1-Apr-06 (No. 217-00786) 1-Apr-06 (No. 217-00785) 1-Au-08 (No. 217-00785) 1-Jul-08 (No. 217-00785) 1-Jul-08 (No. 217-00865) 1-Oct-08 (No. ER3-2328 Oct 19-Dec-08 (No. DAE4-769_D Check Date (in house) 4-Aug-99 (in house check Oct 18-Oct-01 (in house check Oct 0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	Ing pages and are part of the cor ure (22 ± 3)°C and humidity < 70° Scheduled (Apr-09 Apr-09 Apr-09 Jul-09 08) Oct-09 eco8) Dec-09 Scheduled (1-07) In house che Signature per	Check eck: Oct-09	



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



Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura

S

C

S

Servizio svizzero di taratura Świss Calibration Service

Accreditation No.: SCS 108

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

Glossary:

NORMx,y,z	sensitivity in free space
DCP	diode compression point
Polarization ϕ	φ rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., 9 = 0 is normal to probe axis
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 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005.

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 9 = 0 for XY sensors and 9 = 90 for Z sensor (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide).
- NORM(f)x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chart).
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency.
- Spherical isotropy (3D deviation from isotropy): in a locally homogeneous field realized using an open waveguide setup.
- 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).

Page 2 of 9

Testing Services™	Annex B to Hearing Report for the Black	Page 8(23)		
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009

Probe ER3DV6

SN:2286

Manufactured: Last calibrated: Recalibrated: September 19, 2002 January 21, 2008 January 8, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

Certificate No: ER3-2286_Jan09

Page 3 of 9

Testing Services™		Aid Compatibility RF Emis Berry® Smartphone model		Page 9(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009

DASY - Parameters of Probe: ER3DV6 SN:2286

Sensitivity in Free	Sensitivity in Free Space $[\mu V/(V/m)^2]$		ompression ^A
NormX	2.24 ± 10.1 % (k=2)	DCP X	95 mV
NormY	1.47 ± 10.1 % (k=2)	DCP Y	94 mV
NormZ	1.54 ± 10.1 % (k=2)	DCP Z	96 mV

Frequency Correction

x	0.0
Y	0.0
Z	0.0
Sensor Offset	(Probe Tip to Sensor Center)
х	2.5 mm
Y	2.5 mm
Z	2.5 mm
Connector Angle	-10 °

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%.

A numerical linearization parameter: uncertainty not required

Certificate No: ER3-2286_Jan09

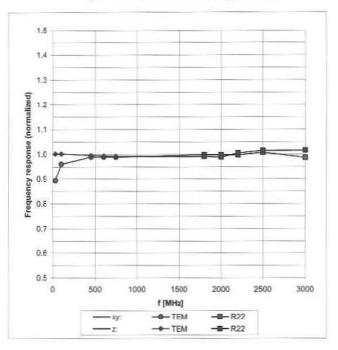
Page 4 of 9

Testing Services™		Aid Compatibility RF Emis Berry® Smartphone model		Page 10(23)
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide R22)



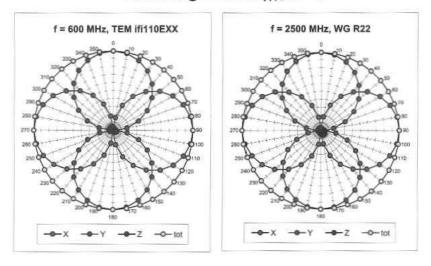
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Certificate No: ER3-2286_Jan09

Page 5 of 9

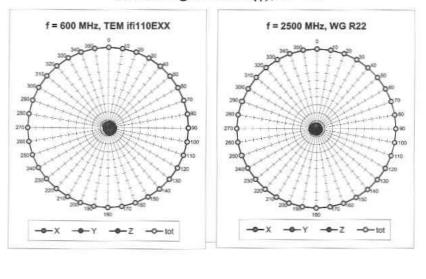
Testing Services™		Aid Compatibility RF Emis Berry® Smartphone model		Page 11(23)
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009



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

Receiving Pattern (ϕ), ϑ = 90°



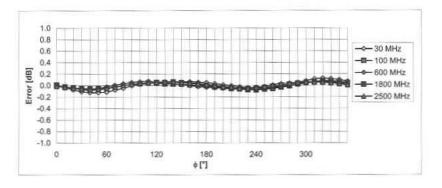
Certificate No: ER3-2286_Jan09

Page 6 of 9

Testing Services™		Aid Compatibility RF Emis Berry® Smartphone model		Page 12(23)
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

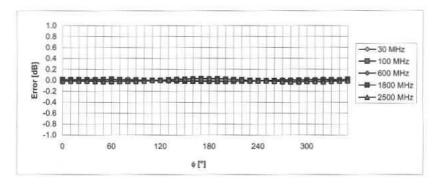
January 8, 2009

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



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

Receiving Pattern (ϕ), ϑ = 90°



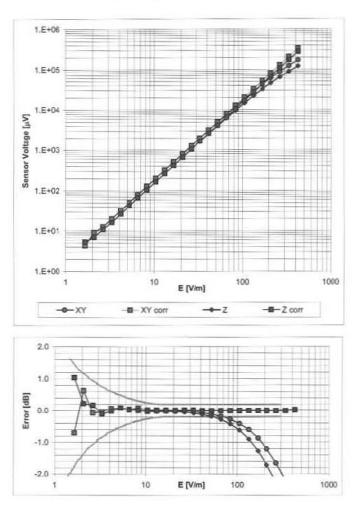
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Certificate No: ER3-2286_Jan09

Page 7 of 9

Testing Services™	Annex B to Hearing Report for the Black	Page 13(23)		
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009



Dynamic Range f(E-field)

(Waveguide R22, f = 1800 MHz)

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

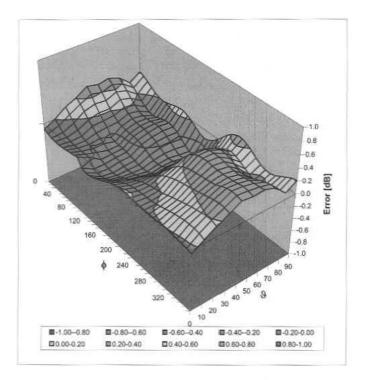
Certificate No: ER3-2286_Jan09

Page 8 of 9

Testing Services [™]	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

January 8, 2009

Deviation from Isotropy in Air Error (φ, θ), f = 900 MHz



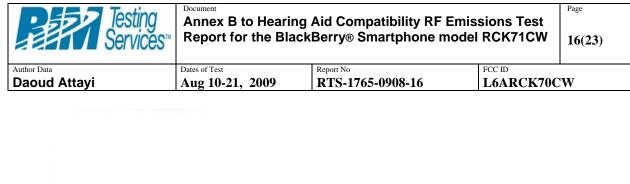
Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Certificate No: ER3-2286_Jan09

Page 9 of 9

Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	CW

consulted by the Swiss Accredita			n No.: SCS 108
he Swiss Accreditation Servic fultilateral Agreement for the n			
			110 0400 14-00
RTS (RIM Test	ing Services)	Certificate N	o: H3-6168_Mar09
CALIBRATION	CERTIFICAT	E	
	UDDUR ON CH		press advantation of the second s
Object	H3DV6 - SN:61	68	
Calibration procedure(s)	QA CAL-03.v5		
	TEAD OF STREET AND ADDREED	edure for H-field probes optimized	for close near field
	evaluations in a	and the second	
	M		
Calibration date:	March 3, 2009		
Condition of the calibrated item	In Tolerance		
	CALCULATION OF A DESCRIPTION OF A DESCRI	tional standards, which realize the physical un	
	CV. COMPOSITION CONTRACTOR	tional standards, which realize the physical un probability are given on the following pages an	
The measurements and the unce	rtainties with confidence	probability are given on the following pages an	d are part of the certificate.
The measurements and the unce	rtainties with confidence		d are part of the certificate.
The measurements and the unce All calibrations have been condu	rtainties with confidence	probability are given on the following pages an	d are part of the certificate.
The measurements and the unce All calibrations have been condu	rtainties with confidence	probability are given on the following pages an	d are part of the certificate.
The measurements and the unce All calibrations have been condui Calibration Equipment used (M&	rtainties with confidence	probability are given on the following pages an	d are part of the certificate.
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards	rtainties with confidence cted in the closed laborat TE critical for calibration)	probability are given on the following pages an ony facility: environment temperature (22 \pm 3)°(d are part of the certificate. C and humidity < 70%.
The measurements and the unce All celibrations have been conduin Calibration Equipment used (M& Primary Standards Power meter E44198	rtainties with confidence cted in the closed laborat TE critical for calibration) ID #	probability are given on the following pages an ory facility: environment temperature (22 ± 3)* Cal Date (Certificate No.)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration
The measurements and the unce All celibrations have been condui Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A	International action of the constant of the closed laborat TE critical for calibration) ID # GB41293874	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09
The measurements and the unce All calibrations have been conduin Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A	ID # GB41293874 MY41495277	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator	ID # GB41293874 MY41495277 MY4149587 SN: \$5054 (3c) SN: \$5086 (20b)	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*(<u>Cal Date (Certificate No.)</u> 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-06 Apr-09 Apr-09 Jul-09 Apr-09 Apr-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator	International and the confidence of the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41488087 SN: S5054 (3c)	probability are given on the following pages an ony facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00788)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Jul-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attanuator Reference 30 dB Attenuator Reference 30 dB Attenuator	ID # GB41293874 MY41495277 MY4149587 SN: \$5054 (3c) SN: \$5086 (20b)	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*(<u>Cal Date (Certificate No.)</u> 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-08 Apr-09 Apr-09 Jul-09 Apr-09 Apr-09
The measurements and the unce All calibrations have been conduin Calibration Equipment used (M& Primary Standards Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 3 Probe H3DV8	ID # GB41293874 MY41495277 MY4149507 SN: \$5054 (3c) SN: \$5086 (20b) SN: \$5129 (30b)	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00786)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jul-09
The measurements and the unce	rtainties with confidence cted in the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41488087 SN: S5086 (20b) SN: S5129 (30b) SN: S129 (30b) SN: S129 (30b)	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*0 Cel Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00966) 1-Oct-08 (No. 13-6182_Oct08)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Jul-09 Oct-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 90 dB Attenuator Reference 90 dB Attenuator Reference 91 dB Attenuator	ID # GB41293674 MY41495277 MY41495087 SN: 55054 (3c) SN: 55056 (20b) SN: 55129 (30b) SN: 6162 SN: 789	probability are given on the following pages an ory facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 1-Apr-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00686) 1-Oct-08 (No. 217-00686) 1-Oct-08 (No. H3-6182_Oct08) 19-Dec-08 (No. H3-6182_Oct08) 19-Dec-08 (No. DAE4-789_Dec08) Check Date (in house)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Dec-09
The measurements and the unce All celibrations have been condui Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator	rtainties with confidence cted in the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41496277 MY41496277 SN: \$5054 (3c) SN: \$5056 (20b) SN: \$5129 (30b) SN: \$5129 (30b) SN: 6182 SN: 789 ID #	probability are given on the following pages an ony facility: environment temperature (22 ± 3)*(Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00985) 31-Mar-08 (No. 217-00986) 1-Oct-08 (No. 217-00986) 1-Oct-08 (No. H3-6182_Oct08) 19-Dec-08 (No. DAE4-789_Dec08)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Dec-09 Dec-09 Scheduled Check
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 30 dB Attenuator Reference 90 dB Attenuator Reference 90 dB Attenuator Reference Probe H3D1/6 DAE4	rtainties with confidence cted in the closed laborat TE critical for calibration) ID ≢ GB41293874 MY41498087 SN: S5054 (3c) SN: S5029 (30b) SN: S5129 (30b) SN: S129	cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00787) 1-Jul-08 (No. 217-00985) 31-Mar-08 (No. 217-00986) 1-Oct-08 (No. 217-00986) 10-Oct-08 (No. 217-00986) 10-Oct-08 (No. 217-00787) 10-Oct-01 (in house check Oct-07) 18-Oct-01 (in house check Oct-05) Function	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 70 bB Atten	rtainties with confidence cted in the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5054 (3c) SN: S5056 (20b) SN: S5129 (30b) SN: S129 (30b) SN: 6162 SN: 789 ID # US3642U01700 US37390585	probability are given on the following pages an ony facility: environment temperature (22 ± 3)*0 Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 1-Oct-06 (No. H3-6182_Oct08) 19-Dec-08 (No. DAE4-789_Dec08) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-05)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09 In house check: Oct-09
The measurements and the unce All celibrations have been condui Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator	rtainties with confidence cted in the closed laborat TE critical for calibration) ID # GB41293674 MY41498277 MY41498087 SN: 55054 (3c) SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 5129 (30b) SN: 6162 SN: 789 ID # US3642U01700 US37390585 Name	cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00787) 1-Jul-08 (No. 217-00985) 31-Mar-08 (No. 217-00986) 1-Oct-08 (No. 217-00986) 19-Dec-08 (No. 217-00787) 1-Jul-08 (No. 217-00986) 19-Dec-08 (No. 217-00787) 13-Oct-01 (in house (No. 217-00787) 14-Oct-01 (in house check Oct-07) 18-Oct-01 (in house check Oct-05)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09 In house check: Oct-09
The measurements and the unce All celibrations have been condui Calibration Equipment used (M& Primary Standards Power sensor E4412A Power sensor E4412A Reference 30 dB Attenuator Reference 30 dB Attenuator Ref	Internities with confidence cted in the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41496287 SN: 55054 (3c) SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 5152 SN: 789 ID # ID # ID # ID # ID # ID # ID # Marcel Fefr	probability are given on the following pages an ony facility: environment temperature (22 ± 3)*0 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 10-Dct-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 10-Dct-08 (No. DAE4-789_Dec08) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-08) Function Laboratory Technician	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09 In house check: Oct-09
The measurements and the unce All celibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter E44198 Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 90 dB Attenuator Reference 910 dB Attenuator Refere	rtainties with confidence cted in the closed laborat TE critical for calibration) ID # GB41293674 MY41498277 MY41498087 SN: 55054 (3c) SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 5129 (30b) SN: 6162 SN: 789 ID # US3642U01700 US37390585 Name	cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00787) 1-Jul-08 (No. 217-00985) 31-Mar-08 (No. 217-00986) 1-Oct-08 (No. 217-00986) 19-Dec-08 (No. 217-00787) 1-Jul-08 (No. 217-00986) 19-Dec-08 (No. 217-00787) 13-Oct-01 (in house (No. 217-00787) 14-Oct-01 (in house check Oct-07) 18-Oct-01 (in house check Oct-05)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09 In house check: Oct-09
The measurements and the unce All calibrations have been conduin Calibration Equipment used (M& Primary Standards Power sensor E4412A Power sensor E4412A Reference 30 dB Attenuator Reference 40 dB Attenuator Re	Internities with confidence cted in the closed laborat TE critical for calibration) ID # GB41293874 MY41495277 MY41496287 SN: 55054 (3c) SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 5152 SN: 789 ID # ID # ID # ID # ID # ID # ID # Marcel Fefr	probability are given on the following pages an ony facility: environment temperature (22 ± 3)*0 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 10-Dct-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 10-Dct-08 (No. DAE4-789_Dec08) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-08) Function Laboratory Technician	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Oct-09 Dec-09 Scheduled Check In house check: Oct-09 In house check: Oct-09



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



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

Accreditation No.: SCS 108

S

С

s

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

Glossary:

Glossary.	
NORMx,y,z	sensitivity in free space
DCP	diode compression point
Polarization ϕ	φ rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., 9 = 0 is normal to probe axis
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 1309-2005, * IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005.

Methods Applied and Interpretation of Parameters:

- X, Y, Z_a0a1a2: Assessed for E-field polarization θ = 90 for XY sensors and θ = 0 for Z sensor (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide).
- X, Y, Z(f)_a0a1a2= X, Y, Z_a0a1a2* frequency_response (see Frequency Response Chart).
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency.
- Spherical isotropy (3D deviation from isotropy): in a locally homogeneous field realized using an open waveguide setup.
- 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 X a0a1a2 (no uncertainty required).

Certificate No: H3-6168_Mar09

Page 2 of 9

Testing Services™		ng Aid Compatibility RF Ei ckBerry® Smartphone mo		Page 17(23)
Author Data	Dates of Test			
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK700	CW

March 3, 2009

Probe H3DV6

SN:6168

Manufactured: Last calibrated: Recalibrated: July 9, 2003 March 7, 2008 March 3, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

Certificate No: H3-6168_Mar09

Page 3 of 9

Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 18(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

March 3, 2009

DASY - Parameters of Probe: H3DV6 SN:6168

Sensitivity in I	Free Space	[A/m / √(µ\	()]
	a0	a1	a2
×	2.751E-03	-1.544E-4	-2.207E-5 ± 5.1 % (k=2)
Y	2.647E-03	-1.290E-4	-3.117E-5 ± 5.1 % (k=2)
Z	3.184E-03	-2.570E-4	3.903E-5 ± 5.1 % (k=2)
Diode Compre	ession ¹		
DCP X	90 mV		
DCP Y	82 mV		
DCP Z	83 mV		
Sensor Offsel	ŧ.	(Probe Tip t	o Sensor Center)
х		3.0	mm
Y		3.0	mm
Z		3.0	mm
Connector An	gle	-234	.e

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%.

1 numerical linearization parameter: uncertainty not required

Certificate No: H3-6168_Mar09

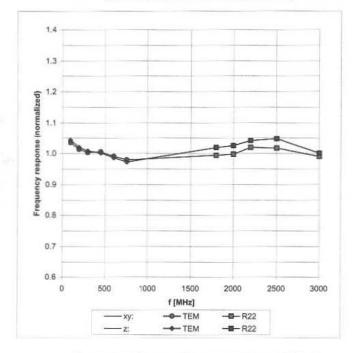
Page 4 of 9

Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 19(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

March 3, 2009

Frequency Response of H-Field

(TEM-Cell:ifi110 EXX, Waveguide R22)



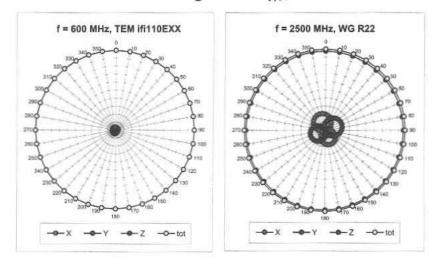
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Certificate No: H3-6168_Mar09

Page 5 of 9

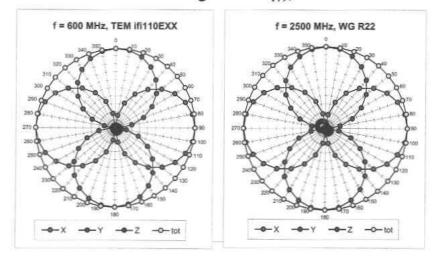
Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 20(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK700	CW

March 3, 2009



Receiving Pattern (ϕ), ϑ = 90°

Receiving Pattern (ϕ), ϑ = 0°



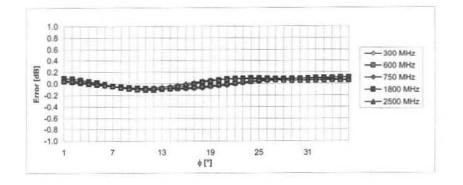
Certificate No: H3-6168_Mar09

Page 6 of 9

Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 21(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

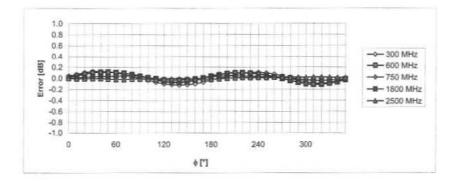
March 3, 2009

Receiving Pattern (6), 9 = 90°



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

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



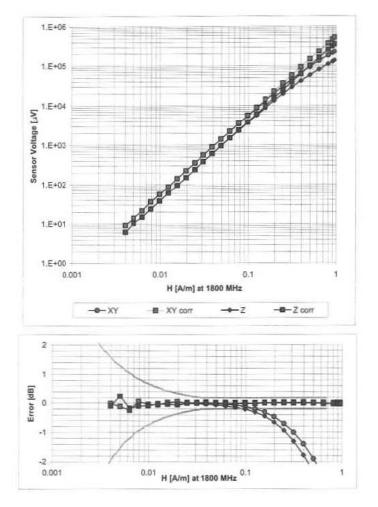
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Certificate No: H3-6168_Mar09

Page 7 of 9

Testing Services [™]	Document Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 22(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	CW

March 3, 2009



Dynamic Range f(H-field) (Waveguide R22, f = 1800 MHz)

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

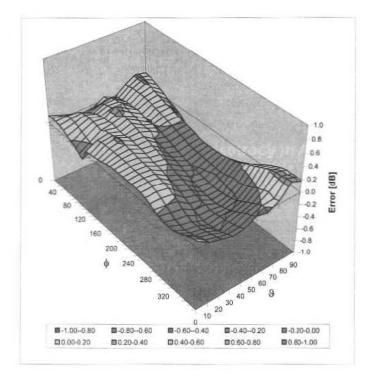
Certificate No: H3-6168_Mar09

Page 8 of 9

Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCK71CW			Page 23(23)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Aug 10-21, 2009	RTS-1765-0908-16	L6ARCK70C	W

March 3, 2009

Deviation from Isotropy in Air Error (ϕ , ϑ), f = 900 MHz



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

Certificate No: H3-6168_Mar09

Page 9 of 9