Testing Services™	Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW			Page 1(13)
Author Data	Dates of Test	Report No	FCC ID	
Daoud Attayi	Mar. 22-23, June 22-23, 2011	RTS-2604-1107-07	L6ARDR60C	$^{2}\mathbf{W}$

Annex B: Probe and dipole descriptions and calibration certificates

B.2 Dipole calibration certificate



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

2(13)

Author Data **Daoud Attayi** Dates of Test

Mar. 22-23, June 22-23, 2011

Report No RTS-2604-1107-07

L6ARDR60CW

FCC ID

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





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

Accreditation No.: SCS 108

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

RTS (RIM Testing Services)

Cartificate No: CD835V3-1011_Nov09

CALIBRATION CERTIFICATE CD835V3 - SN: 1011 Object QA CAL-20.v4 Calibration procedure(s) Calibration procedure for dipoles in air Calibration date: November 17, 2009 This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70% Calibration Equipment used (M&TE critical for calibration) Primary Standards ID# Cal Date (Certificate No.) Scheduled Calibration Power meter EPM-442A GB37480704 06-Oct-09 (No. 217-01086) Oct-10 Power sensor HP 8481A US37292783 06-Oct-09 (No. 217-01066) Oct-10 Probe ER3DV6 SN: 2336 22-Dec-08 (No. ER3-2336_Dec08) Dec-09 Probe H3DV6 SN: 6065 22-Dec-08 (No. H3-6065 -Dec08) Dec-09 DAE4 SN: 781 20-Feb-09 (No. DAE4-781_Feb09) Feb-10 Secondary Standards ID# Check Date (in house) Scheduled Check SN: GB42420191 Power meter Agilent 4419B 09-Oct-09 (in house check Oct-09) In house check: Oct-10 Power sensor HP 8482H SN: 3318A09450 09-Oct-09 (in house check Oct-09) In house check: Oct-10 Power sensor HP 8482A SN: US37295597 09-Oct-09 (in house check Oct-09) In house check: Oct-10 Network Analyzer HP 8753E US37390585 18-Oct-01 (in house check Oct-09) In house check: Oct-10 RF generator E4433B MY 41000675 03-Nov-04 (in house check Oct-09) In house check: Oct-11 Name **Function** Calibrated by: Approved by: Issued: November 19, 2009 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: CD835V3-1011_Nov09

Page 1 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

3(13)

Author Data

Dates of Test

Report No

FCC ID

Daoud Attayi

Mar. 22-23, June 22-23, 2011

RTS-2604-1107-07

L6ARDR60CW

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





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

Accreditation No.: SCS 108

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

References

[1] ANSI-C63.19-2006

American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

[2] ANSI-C63.19-2007

American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- Coordinate System: y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna
 (mounted on the table) towards its feed point between the two dipole arms, x-axis is normal to the other
 axes. In coincidence with the standards [1, 2], the measurement planes (probe sensor center) are
 selected to be at a distance of 10 mm above the top edge of the dipole arms.
- Measurement Conditions: Further details are available from the hardcopies at the end of the certificate.
 All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- Antenna Positioning: The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASYS Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- Feed Point Impedance and Return Loss: These parameters are measured using a HP 8753E Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- E- field distribution: E field is measured in the x-y-plane with an isotropic ER3D-field probe with 100 mW forward power to the antenna feed point. In accordance with [1, 2], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 10 mm (in z) above the top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, 10mm above the dipole surface.
- H-field distribution: H-field is measured with an isotropic H-field probe with 100mW forward power to the
 antenna feed point, in the x-y-plane. The scan area and sensor distance is equivalent to the E-field
 scan. The maximum of the field is available at the center (subgrid 5) above the feed point. The H-field
 value stated as calibration value represents the maximum of the interpolated H-field, 10mm above the
 dipole surface at the feed point.

Certificate No: CD835V3-1011_Nov09 Page 2 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

4(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011 R

Report No **RTS-2604-1107-07**

L6ARDR60CW

FCC ID

1 Measurement Conditions

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

AST System configuration, as lar as i	iot given on page 1.	
DASY Version	DASY5	V5.2 B157
DASY PP Version	SEMCAD X	V14.0 B57
Phantom	HAC Test Arch	SD HAC P01 BA, #1070
Distance Dipole Top - Probe Center	10 mm	
Scan resolution	dx, dy = 5 mm	area = 20 x 180 mm
Frequency	835 MHz ± 1 MHz	
Forward power at dipole connector	20.0 dBm = 100mW	
Input power drift	< 0.05 dB	

2 Maximum Field values

H-field 10 mm above dipole surface	condition	interpolated maximum
Maximum measured	100 mW forward power	0.464 A/m

Uncertainty for H-field measurement: 8.2% (k=2)

E-field 10 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end-	100 mW forward power	168.6 V/m
Maximum measured above low end	100 mW forward power	157.4 V/m
Averaged maximum above arm	100 mW forward power	163.0 V/m

Uncertainty for E-field measurement: 12.8% (k=2)

3 Appendix

3.1 Antenna Parameters

Frequency	Return Loss	Impedance
800 MHz	15.7 dB	(44.8 – j14.9) Ohm
835 MHz	31.8 dB	(48.5 + j2.0) Ohm
900 MHz	17.7 dB	(54.3 - j12.9) Ohm
950 MHz	20.5 dB	(44.7 + j7.2) Ohm
960 MHz	16.3 dB	(51.0 + j15.7) Ohm

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

Certificate No: CD835V3-1011_Nov09



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

5(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011

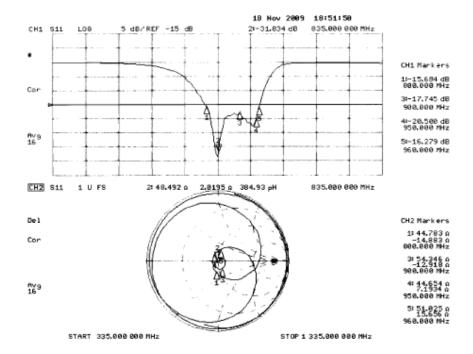
Report No **RTS-2604-1107-07**

FCC ID

L6ARDR60CW

3.3 Measurement Sheets

3.3.1 Return Loss and Smith Chart





Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

6(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011

Report No RTS-2604-1107-07

FCC ID

L6ARDR60CW

3.3.2 DASY4 H-field Result

Date/Time: 17.11.2009 15:02:26

Test Laboratory: SPEAG Lab2

HAC RF_CD835_1011_091117_H_MM

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011 Communication System: CW; Frequency: 835 MHz Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: RF Section

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

DASY5 Configuration:

Probe: H3DV6 - SN6065; ; Calibrated: 22.12.2008

Sensor-Surface: (Fix Surface)

Electronics: DAE4 Sn781; Calibrated: 20.02.2009

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
 Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Dipole H-Field measurement @ 835MHz/H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 0.464 A/m

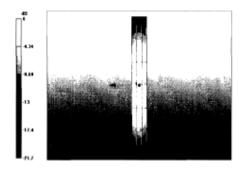
Probe Modulation Factor = 1

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.494 A/m; Power Drift = -0.00467 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.384	0.405	0.386
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.441	0.464	0.439
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.390	0.409	0.382
M4	M4	M4



0 dB = 0.464 A/m

Certificate No: CD835V3-1011_Nov09



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

7(13)

Author Data

Daoud Attayi

Dates of Test

Report No

FCC ID

Mar. 22-23, June 22-23, 2011

RTS-2604-1107-07

L6ARDR60CW

3.3.3 DASY4 E-field Result

Date/Time: 17.11.2009 11:56:37

Test Laboratory: SPEAG Lab2

HAC RF_CD835_1011_091117_E_MM

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: RF Section

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

DASY5 Configuration:

- Probe: ER3DV6 SN2336; ConvF(1, 1, 1); Calibrated: 22.12.2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 20.02.2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Dipole E-Field measurement @ 835MHz/E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 168.6 V/m

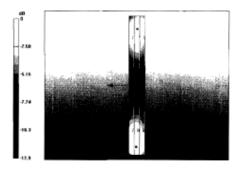
Probe Modulation Factor = 1

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 109.2 V/m; Power Drift = -0.023 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid I	Grid 2	Grid 3
152.1	157.4	154.5
M4	M4	M4
Grid 4	Grid 5	Grid 6
84.1	86.8	84.5
M4	M4	M4
Grid 7	Grid 8	Grid 9
165.5	168.6	158.2
M4	M4	M4



0 dB = 168.6 V/m

Certificate No: CD835V3-1011_Nov09



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

8(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011

Report No **RTS-2604-1107-07**

FCC ID

L6ARDR60CW

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





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

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

Client RTS (RIM Testing Services)

Certificate No: CD1880V3-1008_Nov09

Accreditation No.: SCS 108

	recommittee contract to the second	and Theorem (1999)	
CALIBRATION (CERTIFICAT		
Doject	CD1880V3 - SN	:1008	San
Calibration procedure(s)	QA CAL-20.v4 Calibration proc	edure for dipoles in air	
Calibration date:	November 18, 2	009	
	acted in the closed laborate	ational standards, which realize the physical upon facility: environment temperature (22 \pm 3) $^{\circ}$	
rimary Standards	ID#	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Probe ER3DV6	SN: 2336	22-Dec-08 (No. ER3-2336_Dec08)	Dec-09
Probe H3DV6	SN: 6065	22-Dec-08 (No. H3-6065Dec08)	Dec-09
DAE4	SN: 781	20-Feb-09 (No. DAE4-781_Feb09)	Feb-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter Agilent 4419B	SN: GB42420191	09-Oct-09 (in house check Oct-09)	In house check: Oct-10
ower sensor HP 8482H	SN: 3318A09450	09-Oct-09 (in house check Oct-09)	In house check: Oct-10
ower sensor HP 8482A	SN: US37295597	09-Oct-09 (in house check Oct-09)	In house check: Oct-10
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct-10
RF generator E4433B	MY 41000675	03-Nov-04 (in house check Oct-09)	In house check: Oct-11
	Name	Function	Signature .
Calibrated by:	Claudio Leubler	Laboratory Technician	ldh
Approved by:	Fin Bomholt	Technical Director	F. Bornhall
			Issued: November 19, 2009

Certificate No: CD1880V3-1008_Nov09

Page 1 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Report No

Page

9(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011

RTS-2604-1107-07

L6ARDR60CW

FCC ID

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





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

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

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

Multilateral Agreement for the recognition of calibration certificates

References

[1] ANSI-C63.19-2006

American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

[2] ANSI-C63.19-2007

American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- Coordinate System: y-axis is in the direction of the dipole arms, z-axis is from the basis of the antenna
 (mounted on the table) towards its feed point between the two dipole arms, x-axis is normal to the other
 axes. In coincidence with the standards [1, 2], the measurement planes (probe sensor center) are
 selected to be at a distance of 10 mm above the top edge of the dipole arms.
- Measurement Conditions: Further details are available from the hardcopies at the end of the certificate.
 All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- Antenna Positioning: The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- Feed Point Impedance and Return Loss: These parameters are measured using a HP 8753E Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- E- field distribution: E field is measured in the x-y-plane with an isotropic ER3D-field probe with 100 mW forward power to the antenna feed point. In accordance with [1, 2], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 10 mm (in z) above the top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, 10mm above the dipole surface.
- H-field distribution: H-field is measured with an isotropic H-field probe with 100mW forward power to the
 antenna feed point, in the x-y-plane. The scan area and sensor distance is equivalent to the E-field
 scan. The maximum of the field is available at the center (subgrid 5) above the feed point. The H-field
 value stated as calibration value represents the maximum of the interpolated H-field, 10mm above the
 dipole surface at the feed point.

Certificate No: CD1880V3-1008_Nov09 Page 2 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

10(13)

Author Data **Daoud Attayi** Dates of Test

Report No Mar. 22-23, June 22-23, 2011

RTS-2604-1107-07

L6ARDR60CW

FCC ID

1. Measurement Conditions

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

DASY Version	DASY5	V5.2 B157
DASY PP Version	SEMCAD X	V14.0 B57
Phantom	HAC Test Arch	SD HAC P01 BA, #1070
Distance Dipole Top - Probe Center	10 mm	
Scan resolution	dx, dy = 5 mm	area = 20 x 90 mm
Frequency	1880 MHz ± 1 MHz	
Forward power at dipole connector	20.0 dBm = 100mW	
Input power drift	< 0.05 dB	

2. Maximum Field values

H-field 10 mm above dipole surface	condition	Interpolated maximum
Maximum measured	100 mW forward power	0.471 A/m

Uncertainty for H-field measurement: 8.2% (k=2)

E-field 10 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW forward power	136.2 V/m
Maximum measured above low end	100 mW forward power	132.1 V/m
Averaged maximum above arm	100 mW forward power	134.2 V/m

Uncertainty for E-field measurement: 12.8% (k=2)

3. Appendix

3.1 Antenna Parameters

Frequency	Return Loss	Impedance
1710 MHz	22.8 dB	(52.2 + j7.1) Ohm
1880 MHz	20.0 dB	(50.5 + j10.1) Ohm
1900 MHz	20.9 dB	(53.2 + j8.8) Ohm
1950 MHz	29.5 dB	(52.3 + j2.6) Ohm
2000 MHz	18.7 dB	(43.2 + j8.4) Ohm

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

Certificate No: CD1880V3-1008_Nov09 Page 3 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

11(13)

Author Data

Daoud Attayi

Dates of Test

Mar. 22-23, June 22-23, 2011

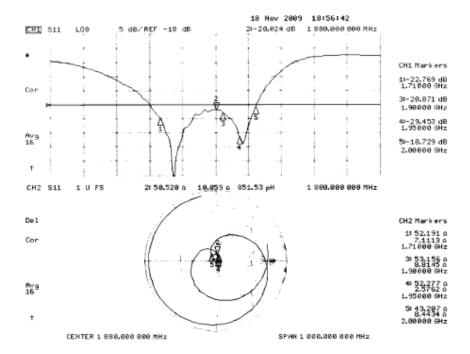
Report No **RTS-2604-1107-07**

FCC ID

L6ARDR60CW

3.3 Measurement Sheets

3.3.1 Return Loss and Smith Chart





Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

12(13)

Author Data **Daoud Attayi**

Dates of Test

Mar. 22-23, June 22-23, 2011

Report No **RTS-2604-1107-07**

FCC ID

L6ARDR60CW

3.3.2 DASY4 H-Field Result

Date/Time: 18.11.2009 12:32:23

Test Laboratory: SPEAG Lab2

HAC RF CD1880 1008 091118 H CL

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008

Communication System: CW; Frequency: 1880 MHz Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: RF Section

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

DASY5 Configuration:

Probe: H3DV6 - SN6065; ; Calibrated: 22.12.2008

Sensor-Surface: (Fix Surface)

Electronics: DAE4 Sn781; Calibrated: 20.02.2009

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
 Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Versjon 14.0 Build 57

Dipole H-Field measurement @ 1880 MHz/H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1):

Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.471 A/m

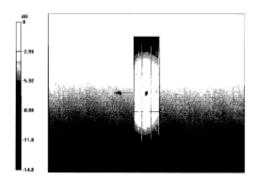
Probe Modulation Factor = 1

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.499 A/m; Power Drift = 0.00498 dB Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid I	Grid 2	Grid 3
0.408	0.423	0.398
M2	M2	M2
Grid 4	Grid 5	Grid 6
0.456	0.471	0.439
M2	M2	M2
Grid 7	Grid 8	Grid 9
0.420	0.435	0.400
M2	M2	M2



0 dB = 0.471 A/m

Certificate No: CD1880V3-1008_Nov09 Page 5 of 6



Annex B to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDR61CW

Page

13(13)

Author Data

Dates of Test

Report No

FCC ID

Daoud Attayi

Mar. 22-23, June 22-23, 2011

RTS-2604-1107-07

L6ARDR60CW

3.3.3 DASY4 E-Field Result

Date/Time: 18.11.2009 17:16:43

Test Laboratory: SPEAG Lab2

HAC RF CD1880 1008 091118 E CL

DUT: HAC Dipole 1880 MHz; Type; CD1880V3; Serial: 1008

Communication System: CW; Frequency: 1880 MHz

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: RF Section

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

DASY5 Configuration:

- Probe: ER3DV6 SN2336; ConvF(1, 1, 1); Calibrated: 22.12.2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 20.02.2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Dipole E-Field measurement @ 1880MHz/E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of peak Total field = 136.2 V/m

Probe Modulation Factor = 1

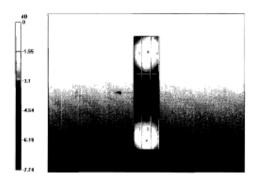
Device Reference Point: 0, 0, -6.3 mm

Certificate No: CD1880V3-1008_Nov09

Reference Value = 152.3 V/m; Power Drift = -0.00386 dB Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid I	Grid 2	Grid 3
124.7	132.1	131.1
M2	M2	M2
Grid 4	Grid 5	Grid 6
86.6	90.1	87.7
M3	M3	M3
Grid 7	Grid 8	Grid 9
130.7	136.2	132.2
M2	M2	M2



0 dB = 136.2 V/m

Page 6 of 6