Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW			Page 1 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

#### Annex A: Measurement data and plots

A.1 Spectrum analyser plots: CDMA, CW, 80%AM, signals



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

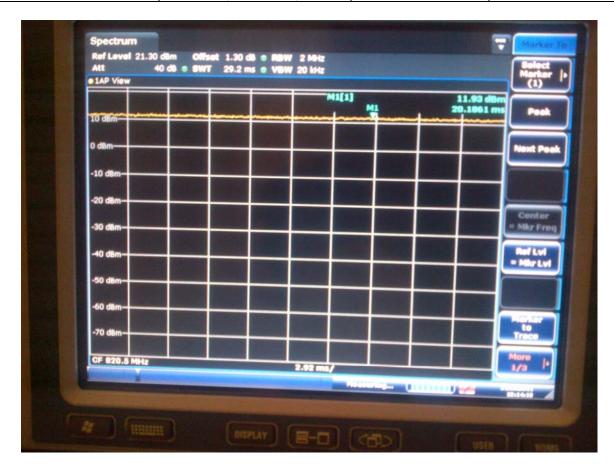
2 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11



CDMA BC10 800 MHz



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

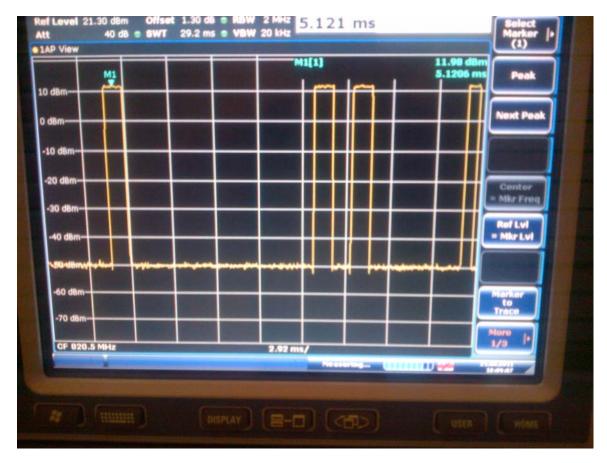
3 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11



CDMA BC10 800 MHz 1/8th



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

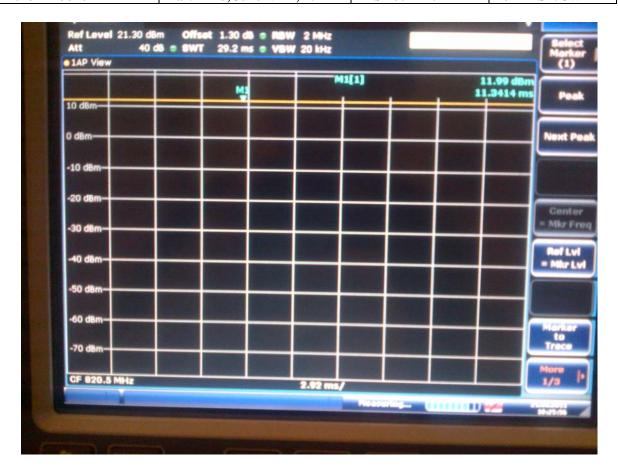
4 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11



**CW 800 MHz** 



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

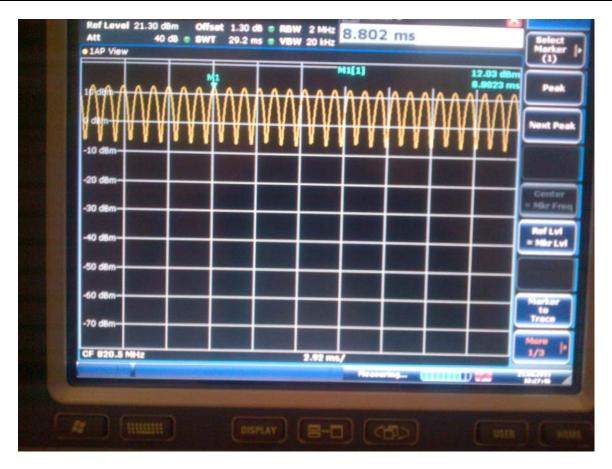
5 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11



AM 80% 800 MHz



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

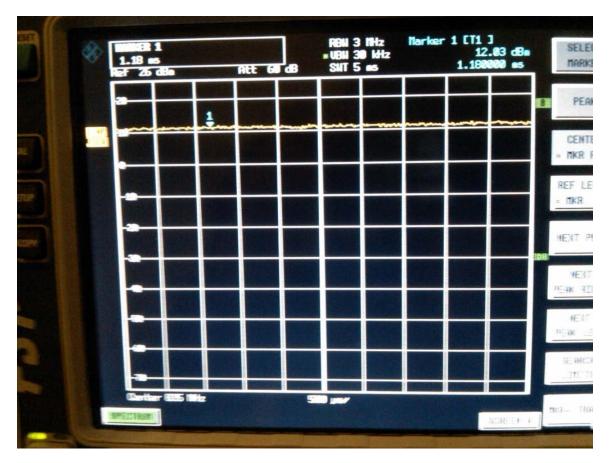
6 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11



CDMA Cell 835 MHz



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

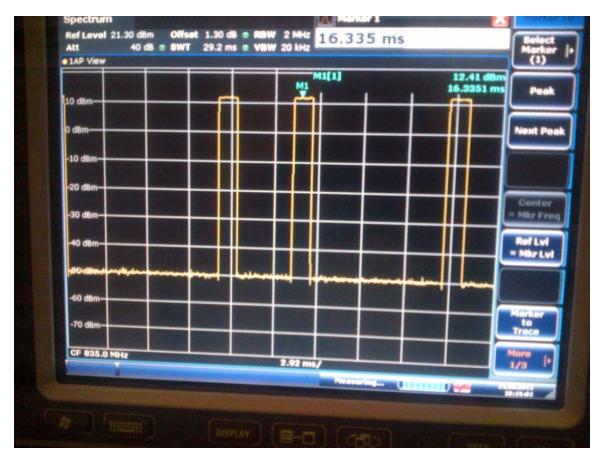
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Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11



CDMA Cell 835 MHz 1/8th



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

8 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

FCC ID

L6ARDS40CW



**CW 835 MHz** 



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

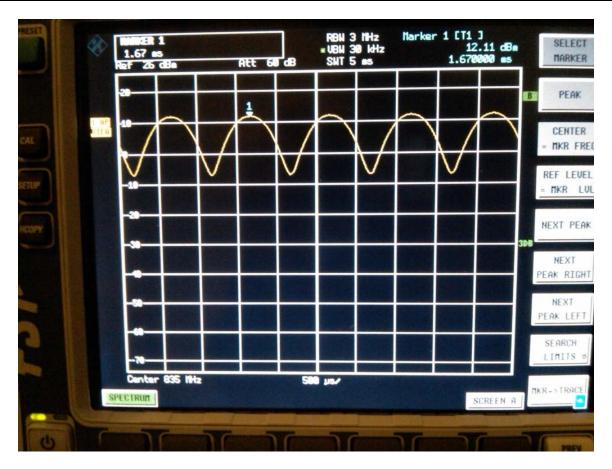
9 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11



AM 80% 835 MHz



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

10 (106)

Author Data
Andrew Becker

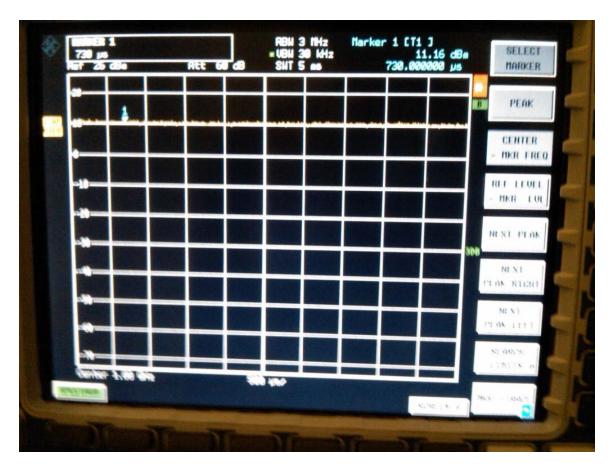
Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

FCC ID

L6ARDS40CW



**CDMA 1880 MHz** 



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

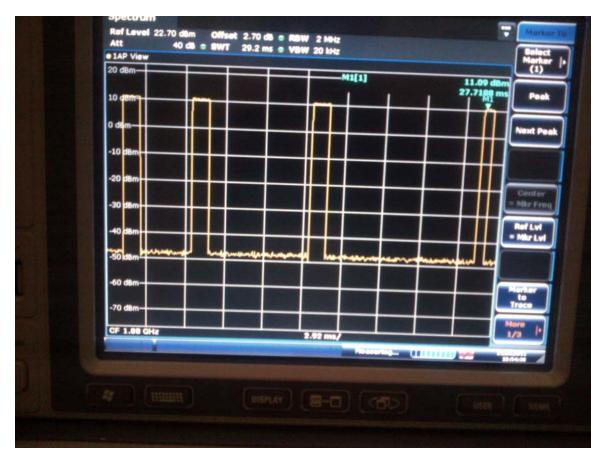
11 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11



CDMA 1880 MHz 1/8 th



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

12 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11

FCC ID

L6ARDS40CW



**CW 1880 MHz** 



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

13 (106)

Author Data
Andrew Becker

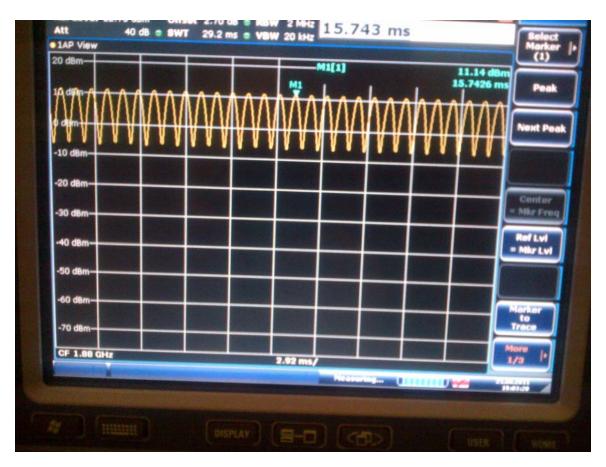
Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

FCC ID

L6ARDS40CW



AM 80 % 1880 MHz

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 14 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

#### A.2 Dipole validation and probe modulation factor plots



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

15 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 6/21/2011 3:33:41 PM, Date/Time: 6/21/2011 4:08:39 PM,

Date/Time: 6/21/2011 4:16:17 PM, Date/Time: 6/21/2011 5:03:30 PM,

Date/Time: 6/21/2011 4:36:36 PM, Date/Time: 6/21/2011 4:42:31 PM,

Date/Time: 6/21/2011 5:10:27 PM

Test Laboratory: RIM Testing Services

HAC RF E-Field validation PMF 835 MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 32E4DBBB

Communication System: CW, Communication System: CDMA 850,

Communication System: CDMA 800; Communication System Band: D835 (835.0

MHz), Communication System Band: CDMA 2000 Cellular, Communication

System Band: CDMA 2000 BC 10; Frequency: 835 MHz, Frequency: 820.5

MHz; Communication System PAR: 0, Communication System PAR: 9.19 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011

Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn472; Calibrated: 3/7/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

age

16 (106)

Author Data
Andrew Becker
Dates of Test
Mar. 22

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11

L6ARDS40CW

# Dipole E-Field measurement/E Scan \_CW\_20dB\_Validation - 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 = 157.1 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 120.5 V/m; Power Drift = 0.01 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
150.7	157.1	154.2
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
84.223	87.459	85.298
M4	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
151.8	155.1	152.4
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 157.1 V/m E Category: M4

Location: -0.5, -79, 4.7 mm



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

17 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

# Dipole E-Field measurement/E Scan \_CW\_CDMA835\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 60.020 V/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 45.311 V/m; Power Drift = -0.13 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)

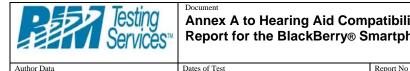
#### Peak E-field in V/m

Grid 1	Grid 2	Grid 3
58.156	60.020	58.370
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
31.911	32.721	32.052
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
57.400	58.565	57.669
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 60.020 V/m E Category: M4

Location: 0, -79, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

18 (106)

L6ARDS40CW

**Andrew Becker** Mar. 22-23, June 19-22, 2011 RTS-2604-1107-11

Dipole E-Field measurement/E Scan \_AM80%\_CDMA835 \_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2/Hearing Aid Compatibility Test

(41x361x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 37.844 V/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 28.705 V/m; Power Drift = -0.04 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak E-field in V/m

Grid 1	Grid 2	Grid 3
36.315	37.844	37.101
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
20.380	21.197	20.358
M4	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
36.696	37.645	36.579
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 37.844 V/mE Category: M4

Location: -0.5, -79, 4.7 mm



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

19 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

# Dipole E-Field measurement/E Scan \_CDMA835\_1\_8th\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2 2/Hearing Aid Compatibility Test

**(41x361x1):** Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 23.083 V/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 16.053 V/m; Power Drift = 0.10 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
21.961	22.888	21.653
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
11.102	11.571	11.296
M4	M4	M4
Grid 7	Grid 8	Grid 9
22.471	23.083	21.920
M4	M4	M4

#### **Cursor:**

Total = 23.083 V/m E Category: M4

Location: 0, 74.5, 4.7 mm



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

20 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

# Dipole E-Field measurement/E Scan \_CW\_CDMA820\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2/Hearing Aid Compatibility Test

**(41x361x1):** Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 55.263 V/m Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm Reference Value = 42.373 V/m; Power Drift = -0.17 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak E-field in V/m

Grid 1	Grid 2	Grid 3
53.183	55.263	54.275
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
29.910	30.477	30.376
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
51.934	52.767	52.285
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 55.263 V/m E Category: M4

Location: -0.5, -79, 4.7 mm



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

21 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

FCC ID

# Dipole E-Field measurement/E Scan \_AM80%\_CDMA820\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2 2/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm,

dy=5mm

Maximum value of peak Total field = 35.058 V/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 26.483 V/m; Power Drift = -0.09 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
33.822	35.058	34.273
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
18.915	19.532	19.355
M4	M4	M4
Grid 7	Grid 8	Grid 9
33.019	33.776	33.009
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 35.058 V/m E Category: M4

Location: -0.5, -79, 4.7 mm



# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

22 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

# Dipole E-Field measurement/E Scan \_CDMA820\_1\_8th\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2 2 2/Hearing Aid Compatibility Test

**(41x361x1):** Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 23.238 V/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 15.381 V/m; Power Drift = -0.19 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

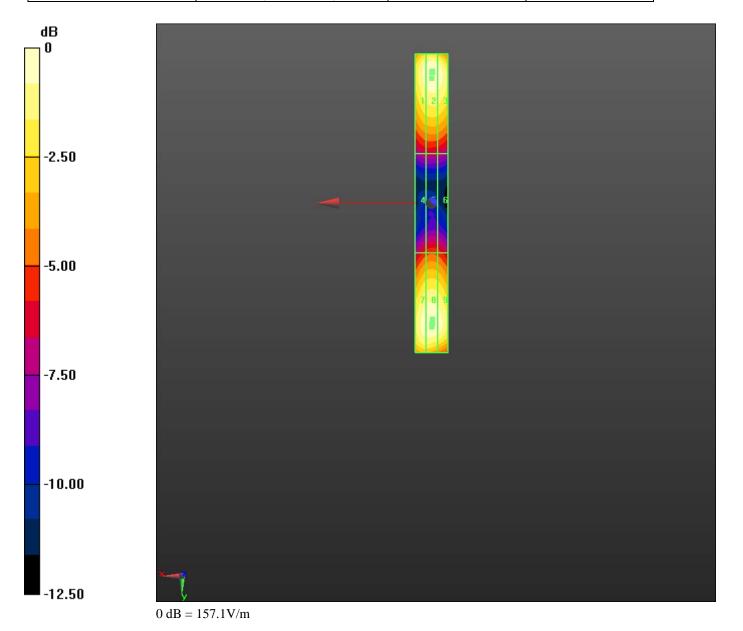
Grid 1	Grid 2	Grid 3
21.017	23.238	22.443
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
12.305	12.231	11.028
M4	M4	M4
Grid 7	Grid 8	Grid 9
19.779	21.952	21.211
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 23.239 V/m E Category: M4

Location: -0.5, -79.5, 4.7 mm

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 23 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	540CW





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

24 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

FCC ID

Date/Time: 3/22/2011 2:51:34 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_PMF\_CDMA\_835 MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: Exported

from older format (data unavailable - please correct).; Frequency: 835

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn881; Calibrated: 4/19/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

# Dipole E-Field measurement/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 = 63.653 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 45.492 V/m; Power Drift = 0.04 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Com Report for the BlackBerry® S			Page 25 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

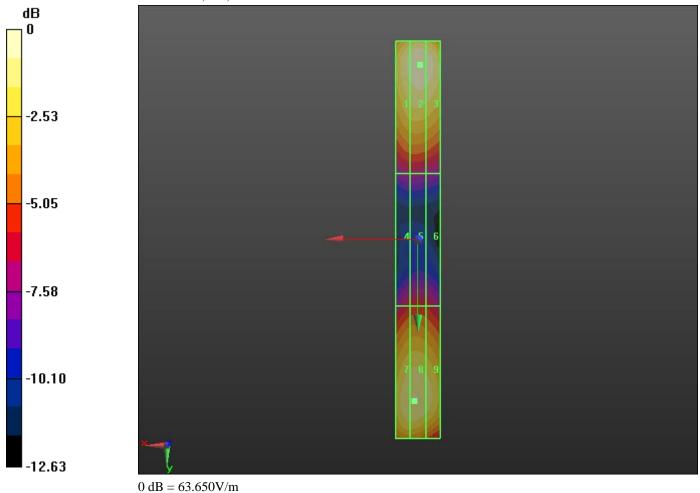
Peak E-field in V/m

Grid 1	Grid 2	Grid 3
60.457	63.653	62.702
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
32.119	32.806	32.009
M4	M4	M4
Grid 7	Grid 8	Grid 9
57.694	58.081	56.094
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 63.653 V/m E Category: M4

Location: -1, -79, 4.7 mm





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

rage

26 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

Date/Time: 6/21/2011 5:35:48 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_validation\_PMF\_835 MHz\_CDMA820

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: CDMA 2000

BC 10; Frequency: 820.5 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011

• Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn472; Calibrated: 3/7/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Dipole E-Field measurement/E Scan \_CDMA820\_PMF - measurement distance from the probe sensor center to CD835 Dipole = 10mm 2 2 2 2 2/Hearing Aid Compatibility Test (41x361x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 57.535 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 42.235 V/m; Power Drift = -0.03 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

# | Document | Annex A to Hearing Aid Compatibility RF Emissions Test | Report for the BlackBerry® Smartphone model RDS41CW | 27 (106) | | Author Data | Dates of Test | Mar. 22-23, June 19-22, 2011 | RTS-2604-1107-11 | L6ARDS40CW |

#### Peak E-field in V/m

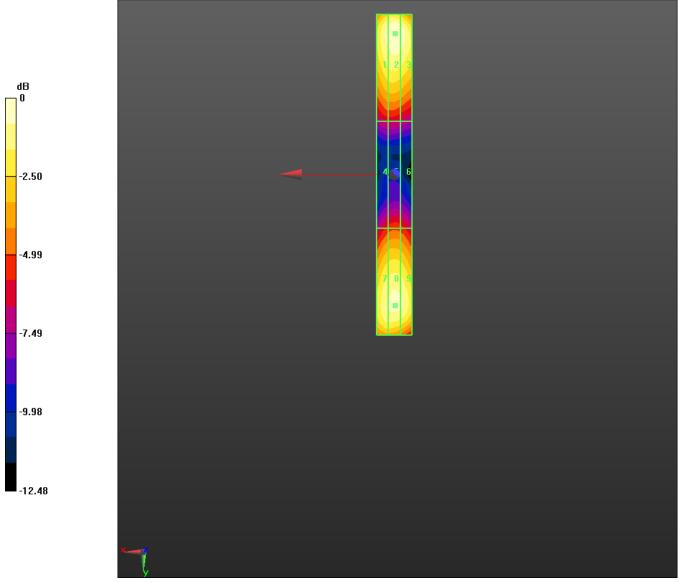
Grid 1	Grid 2	Grid 3
54.607	57.535	56.112
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
30.566	31.704	30.908
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
52.593	53.613	53.191
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 57.535 V/m E Category: M4

Location: -0.5, -79, 4.7 mm

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW			Page 28 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011   RTS-2604-1107-11   L6ARDS		540CW	





# Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

29 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

FCC ID

Date/Time: 6/21/2011 5:50:59 PM, Date/Time: 6/21/2011 6:15:20 PM, Date/Time: 6/21/2011 6:18:51 PM, Date/Time: 6/21/2011 6:28:10 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_validation\_PMF\_1880 MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 32E4DBBB

Communication System: CW, Communication System: CDMA 1900;

Communication System Band: D1900 (1900.0 MHz), Communication System

Band: CDMA 2000 PCS; Frequency: 1880 MHz; Communication System PAR: 0,

Communication System PAR: 9.19 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

30 (106)

Author Data
Andrew Becker
Dates of Test
Mar. 22

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

# Dipole E-Field measurement/E Scan - 1880\_validation\_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 = 133.7 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 122.4 V/m; Power Drift = 0.04 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
128.8	133.7	127.5
M2	<b>M2</b>	<b>M2</b>
Grid 4	Grid 5	Grid 6
82.667	87.106	86.101
M3	M3	M3
Grid 7	Grid 8	Grid 9
120.7	123.8	121.9
M2	<b>M2</b>	<b>M2</b>

#### **Cursor:**

Total = 133.7 V/m E Category: M2

Location: 0, -38, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

31 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

# Dipole E-Field measurement/E Scan - CW\_CDMA1900\_measurement distance from the probe sensor center to CD1880 Dipole = 10mm 2/Hearing Aid

Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 36.285 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 33.617 V/m; Power Drift = 0.04 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak E-field in V/m

Grid 1	Grid 2	Grid 3
34.758	36.285	34.848
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
22.360	23.679	23.521
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
32.897	33.681	33.221
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 36.285 V/m E Category: M4

Location: 0, -38.5, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

32 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

### Dipole E-Field measurement/E Scan -

# AM80%\_CDMA1900\_measurement distance from the probe sensor center to CD1880 Dipole = 10mm 2 2/Hearing Aid

Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 23.269 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 21.624 V/m; Power Drift = -0.02 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak E-field in V/m

Grid 1	Grid 2	Grid 3
22.379	23.269	22.386
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
14.427	15.311	15.198
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
21.091	21.728	21.374
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 23.269 V/m E Category: M4

Location: 0, -38.5, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

33 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Dipole E-Field measurement/E Scan -**

# CDMA1900\_1\_8th\_measurement distance from the probe sensor center to CD1880 Dipole = 10mm 2 2 2/Hearing Aid

Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 14.129 V/m

Probe Modulation  $\overline{Factor} = 1.000$ 

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 13.323 V/m; Power Drift = -0.93 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak E-field in V/m

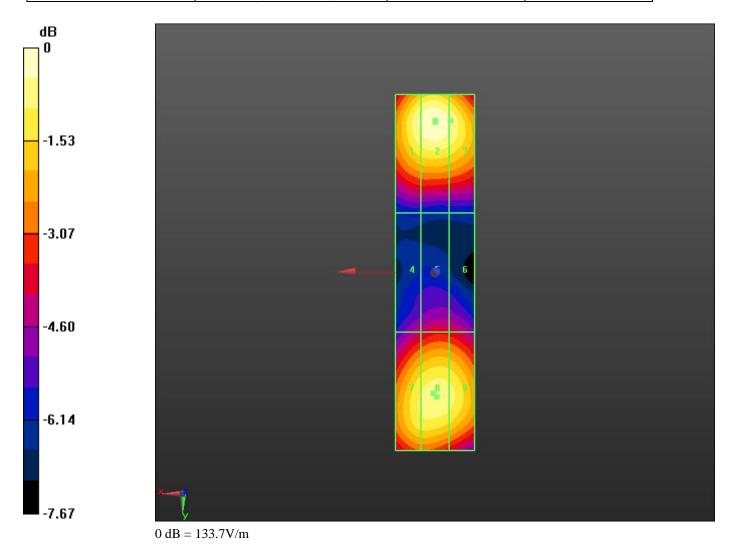
Grid 1	Grid 2	Grid 3
12.459	14.120	14.129
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
8.084	8.555	8.489
M4	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
13.250	13.548	12.104
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 14.129 V/m E Category: M4

Location: -4, -38.5, 4.7 mm

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 34 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW





#### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

35 (106)

**Andrew Becker** 

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11

L6ARDS40CW

Date/Time: 3/22/2011 3:54:49 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_PMF\_CDMA\_1880 MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 32E4DBBB

Communication System: WCDMA FDD II; Communication System Band:

Exported from older format (data unavailable - please correct).; Frequency: 1880

MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn881; Calibrated: 4/19/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

### Dipole E-Field measurement/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 = 43.150 V/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 40.108 V/m; Power Drift = -0.01 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW			Page 36 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

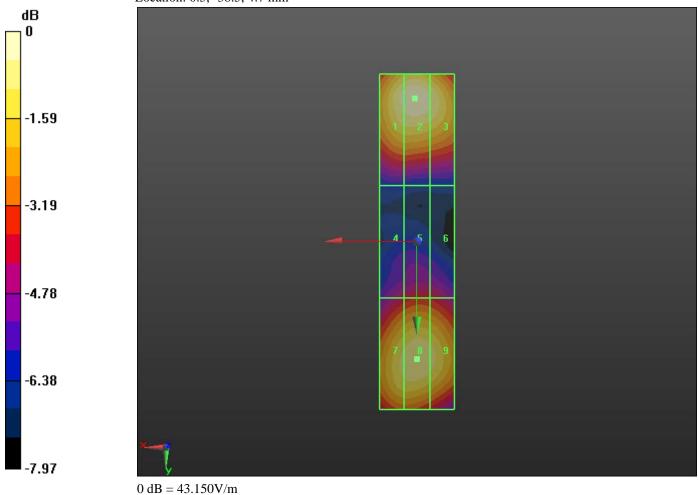
Peak E-field in V/m

Grid 1	Grid 2	Grid 3
41.912	43.150	40.971
M4	M4	M4
Grid 4	Grid 5	Grid 6
26.905	28.223	27.711
M4	M4	M4
Grid 7	Grid 8	Grid 9
39.111	40.205	39.292
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 43.150 V/m E Category: M4

Location: 0.5, -38.5, 4.7 mm





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

37 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 6/21/2011 7:48:33 PM, Date/Time: 6/21/2011 8:22:00 PM,

Date/Time: 6/21/2011 8:16:49 PM, Date/Time: 6/21/2011 8:33:50 PM,

Date/Time: 6/21/2011 8:40:52 PM, Date/Time: 6/21/2011 9:18:56 PM,

Date/Time: 6/21/2011 9:00:35 PM, Date/Time: 6/21/2011 9:07:05 PM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_validation\_PMF\_835 MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 32E4DBBB

Communication System: CW, Communication System: CDMA 800,

Communication System: CDMA 850; Communication System Band: D835 (835.0

MHz), Communication System Band: CDMA 2000 BC 10, Communication

System Band: CDMA 2000 Cellular; Frequency: 835 MHz, Frequency: 820.5

MHz, Frequency: 836.52 MHz; Communication System PAR: 0, Communication

System PAR: 9.19 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn472; Calibrated: 3/7/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

age

38 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/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 = 0.479 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.509 A/m; Power Drift = -0.07 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

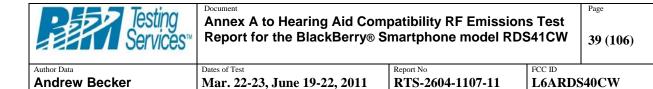
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.393	0.406	0.381
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.459	0.479	0.450
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.419	0.435	0.399
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 0.479 A/m H Category: M4

Location: 0.5, 1.5, 4.7 mm



Dipole H-Field meausrement with H3DV6 probe/H Scan - CW\_CDMA820\_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 = 0.168 A/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.174 A/m; Power Drift = -0.13 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.140	0.145	0.135
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.160	0.168	0.156
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.142	0.148	0.134
M4	M4	M4

#### **Cursor:**

Total = 0.168 A/m H Category: M4

Location: 0.5, 4, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

'age

40 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/H Scan - AM80%\_CDMA820\_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 = 0.104 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.116 A/m; Power Drift = -0.34 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

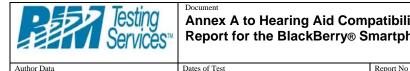
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.087	0.090	0.086
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.100	0.104	0.099
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.090	0.093	0.085
M4	M4	M4

#### **Cursor:**

Total = 0.104 A/m H Category: M4

Location: 0.5, 3.5, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

41 (106)

L6ARDS40CW

Mar. 22-23, June 19-22, 2011 RTS-2604-1107-11

Dipole H-Field meausrement with H3DV6 probe/H Scan -CDMA820\_1\_8th\_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 = 0.059 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.064 A/m; Power Drift = -0.03 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.048	0.050	0.048
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.056	0.059	0.056
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.050	0.051	0.048
M4	M4	M4

#### **Cursor:**

**Andrew Becker** 

Total = 0.059 A/mH Category: M4 Location: 0, 0, 4.7 mm



Dipole H-Field meausrement with H3DV6 probe/H Scan - CDMA820\_FR\_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 = 0.170 A/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.178 A/m; Power Drift = 0.17 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.140	0.146	0.140
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.161	0.170	0.161
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.143	0.148	0.138
M4	M4	M4

#### **Cursor:**

Total = 0.170 A/m H Category: M4 Location: 0, 4, 4.7 mm



**Andrew Becker** 

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

43 (106)

Report No Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### Dipole H-Field meausrement with H3DV6 probe/H Scan -CDMA835\_1\_8th\_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 = 0.064 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.067 A/m; Power Drift = -0.08 dB

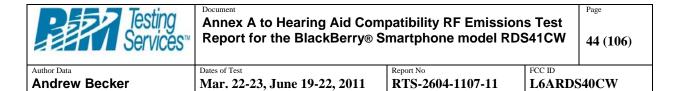
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.052	0.055	0.052
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.060	0.064	0.060
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.055	0.056	0.052
M4	M4	M4

#### **Cursor:**

Total = 0.064 A/mH Category: M4 Location: 0, 1, 4.7 mm



## Dipole H-Field meausrement with H3DV6 probe/H Scan - CW\_CDMA835\_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 = 0.177 A/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.191 A/m; Power Drift = 0.0078 dB

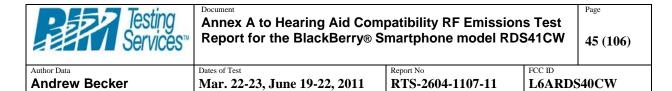
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.145	0.151	0.144
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.169	0.177	0.167
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.154	0.159	0.146
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 0.177 A/m H Category: M4 Location: 0, 6, 4.7 mm



## Dipole H-Field meausrement with H3DV6 probe/H Scan - AM80%\_CDMA835\_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 = 0.114 A/m

Probe Modulation Factor = 1.000 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.120 A/m; Power Drift = 0.10 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

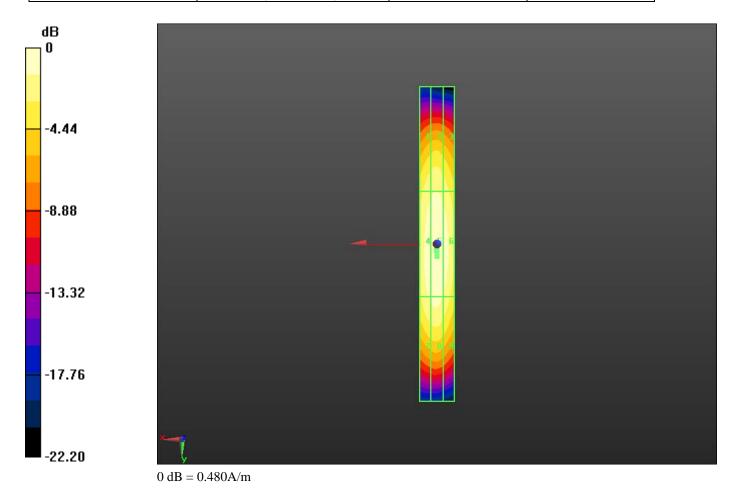
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.093	0.097	0.092
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.109	0.114	0.108
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.100	0.103	0.095
M4	M4	M4

#### **Cursor:**

Total = 0.114 A/m H Category: M4 Location: 0, 7, 4.7 mm

Testing Services™			Page 46 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

47 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

Date/Time: 3/23/2011 3:11:51 PM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_PMF\_CDMA\_835 MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: Exported

from older format (data unavailable - please correct).; Frequency: 835

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

• Electronics: DAE4 Sn881; Calibrated: 4/19/2010

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Dipole H-Field meausrement with H3DV6 probe/H Scan - measurement distance from the probe sensor center to CD835 Dipole =

10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.183 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Testing Services	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 48 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011   RTS-2604-1107-11   L6ARDS			S40CW

Reference Value = 0.196 A/m; Power Drift = 0.01 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

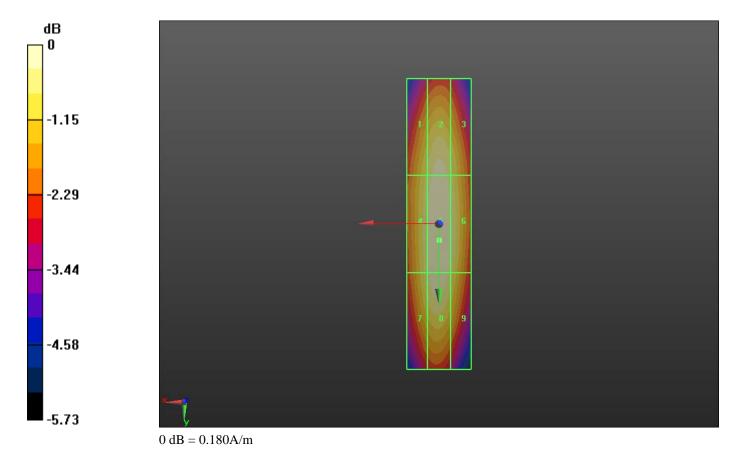
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.168	0.176	0.169
M4	<b>M4</b>	M4
Grid 4	Grid 5	Grid 6
0.173	0.183	0.175
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.171	0.180	0.169
M4	<b>M4</b>	M4

#### **Cursor:**

Total = 0.183 A/m H Category: M4 Location: 0, 5, 4.7 mm

Testing Services™			Page 49 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011   RTS-2604-1107-11   L6ARDS400		S40CW	





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

50 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 6/21/2011 7:14:02 PM, Date/Time: 6/21/2011 7:19:36 PM, Date/Time: 6/21/2011 7:30:34 PM, Date/Time: 6/21/2011 7:37:59 PM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_validation\_PMF\_1880 MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 32E4DBBB

Communication System: CW; Communication System Band: D1900 (1900.0

MHz); Frequency: 1880 MHz; Communication System PAR: 0, Communication

System PAR: 9.19 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

Electronics: DAE3 Sn472; Calibrated: 3/7/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

51 (106)

Author Data

Andrew Becker

Mar

Dates of Test

Mar. 22-23, June 19-22, 2011 RTS-2604-1107-11

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L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/H Scan - measurement distance from the probe sensor center to CD1880 Dipole =

10mm/Hearing Aid Compatibility Test (41x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.466 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.494 A/m; Power Drift = -0.06 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.429	0.449	0.431
M2	M2	M2
Grid 4	Grid 5	Grid 6
0.443	0.466	0.445
M2	M2	M2
Grid 7	Grid 8	Grid 9
0.434	0.457	0.433
M2	M2	M2

#### **Cursor:**

Total = 0.466 A/m H Category: M2

Location: 0, 0.5, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

--6-

52 (106)

Author Data
Andrew Becker
Dates of Test
Mar. 22

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/H Scan - CW\_CDMA1900\_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 = 0.126 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.135 A/m; Power Drift = -0.02 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.109	0.113	0.108
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.121	0.126	0.120
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.110	0.116	0.109
M4	M4	M4

#### **Cursor:**

Total = 0.126 A/m H Category: M4

Location: 0, 2.5, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

53 (106)

FCC ID

Andrew Becker Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

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L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/H Scan - AM80%\_CDMA1900\_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 = 0.081 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.086 A/m; Power Drift = -0.0042 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.070	0.073	0.070
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.077	0.081	0.077
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.070	0.074	0.069
M4	M4	M4

#### **Cursor:**

Total = 0.081 A/m H Category: M4 Location: 0, 3, 4.7 mm



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

54 (106)

Author Data
Andrew Becker
Dates of Test
Mar. 22

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

## Dipole H-Field meausrement with H3DV6 probe/H Scan - CDMA1900\_1\_8th\_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 = 0.051 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.050 A/m; Power Drift = -0.17 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

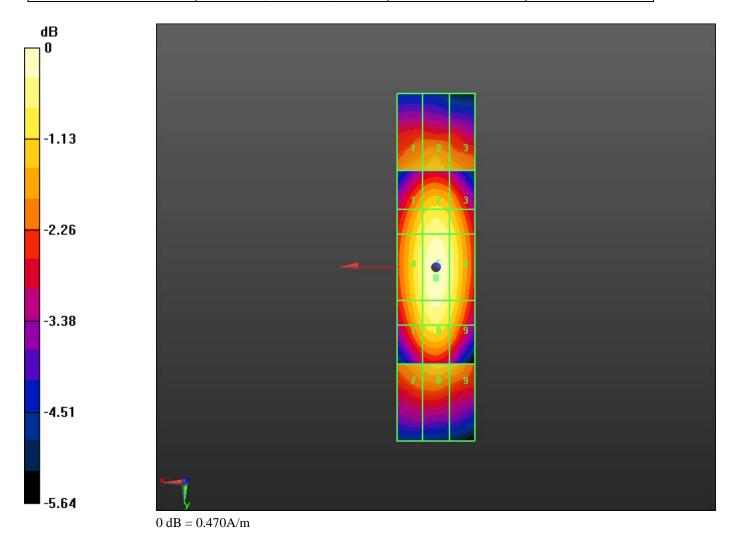
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.040	0.041	0.038
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.047	0.051	0.048
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.040	0.042	0.040
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 0.051 A/m H Category: M4 Location: 0, 0, 4.7 mm

Testing Services™	Annex A to Hearing Aid Com Report for the BlackBerry® S			Page 55 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	540CW





#### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

56 (106)

**Andrew Becker** 

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No RTS-2604-1107-11

L6ARDS40CW

Date/Time: 3/23/2011 1:10:44 PM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_PMF\_CDMA\_1880 MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 32E4DBBB

Communication System: CDMA 1900; Communication System Band: Exported

from older format (data unavailable - please correct).; Frequency: 1880

MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

Sensor-Surface: (Fix Surface)

Electronics: DAE4 Sn881; Calibrated: 4/19/2010

Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

### Dipole H-Field meausrement with H3DV6 probe/H Scan - measurement distance from the probe sensor center to CD1880 Dipole =

10mm/Hearing Aid Compatibility Test (41x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.154 A/m

Probe Modulation Factor = 1.000

Device Reference Point: 0, 0, -6.3 mm

Testing Services Services	Annex A to Hearing Aid Cor Report for the BlackBerry®			Page 57 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Reference Value = 0.165 A/m; Power Drift = -0.02 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

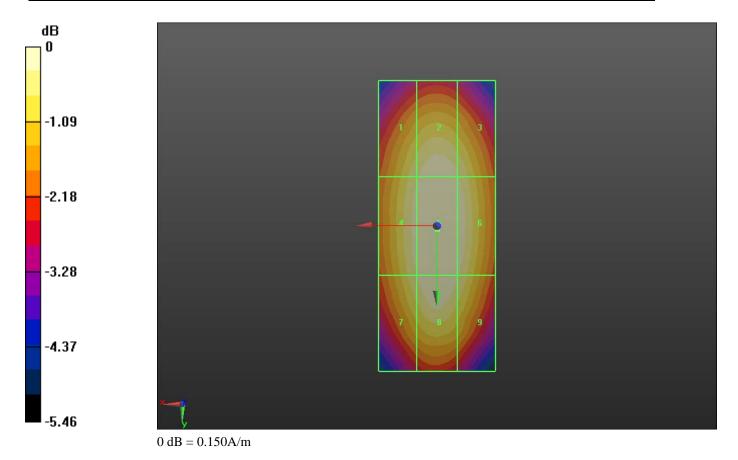
Grid 1	Grid 2	Grid 3
0.143	0.150	0.145
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.147	0.154	0.149
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.144	0.152	0.145
M4	<b>M4</b>	M4

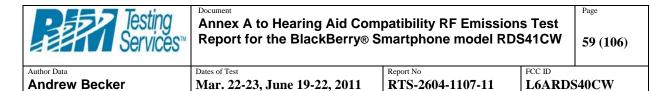
#### **Cursor:**

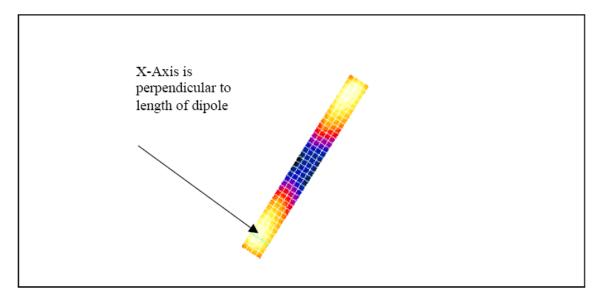
Total = 0.154 A/m H Category: M4

Location: 0, 0.5, 4.7 mm

Testing Services™	Annex A to Hearing Aid Com Report for the BlackBerry® S			Page 58 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW







The green line in this figure shows the axis along which the points lie.

#### Comparison of 5mm and 2mm step sizes

An additional set of measurements was taken: dipole validations were performed using 5mm and 2mm step sizes. The delta between the two readings is insignificant for both field types (< 0.4% for E and 0% for H), demonstrating that 5mm is sufficient. The plots follow.

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

60 (106)

Author Data

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

FCC ID L6ARDS40CW

Date/Time: 14/07/2005 11:35:24 AM

Page 1 of 2

Date/Time: 14/07/2005 11:35:24 AM

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz\_E-Field 07\_14\_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System; CW; Frequency: 1880 MHz;Duty Cycle: 1:1 Medium; Air Medium parameters used:  $\sigma$  = 0 mho/m,  $\epsilon_r$  = 1;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: H Device Section

#### DASY4 Configuration:

- Probe: ER3DV6 SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

#### E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):

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

Maximum value of Total (measured) = 134.8 V/m

#### E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of Total field (slot averaged) = 131.0 V/m

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

E in V/m (Time averaged) E in V/m (Slot averaged)

		Grid 3
123.2	138.1	138.4
Grid 4	Grid 5	Grid 6
80.9	92.3	92.2
	Grid 8	
119.8	131.0	130.7

Grid 1	Grid 2	Grid 3
123.2	138.1	138.4
Grid 4	Grid 5	Grid 6
00.0		
80.9	92.3	92.2
	Grid 8	Grid 9

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
М3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

61 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

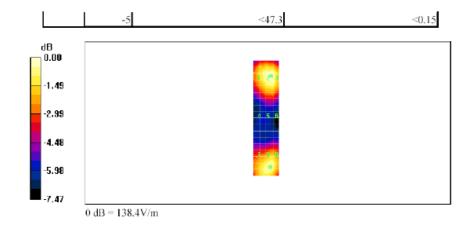
RTS-2604-1107-11

FCC ID

L6ARDS40CW

Date/Time: 14/07/2005 11:35:24 AM

Page 2 of 2



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

62 (106)

Author Data

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

Report No

FCC ID L6ARDS40CW

Date/Time: 14/07/2005 11:44:51 AM

Page 1 of 2

Date/Time: 14/07/2005 11:44:51 AM

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz\_2mm step\_E-Field 07\_14\_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System; CW; Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\varepsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: H Device Section

#### DASY4 Configuration:

- Probe: ER3DV6 SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

#### E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total (measured) = 138.0 V/m

#### E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total field (slot averaged) = 131.2 V/m

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

E in V/m (Time averaged) E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3
123.1	138.6	138.6
Grid 4	Grid 5	Grid 6
81.4	92.1	91.6
Grid 7	Grid 8	Grid 9

Grid 1	Grid 2	Grid 3
123.1	138.6	138.6
Grid 4	Grid 5	Grid 6
81.4	92.1	91.6
Grid 7	Grid 8	Grid 9
		131.0

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

63 (106)

Author Data
Andrew Becker

Dates of Test

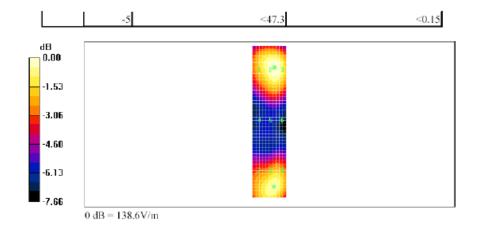
Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

Date/Time: 14/07/2005 11:44:51 AM

Page 2 of 2



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### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

64 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

FCC ID L6ARDS40CW

Date/Time: 14/07/2005 12:43:02 PM

Page 1 of 2

Date/Time: 14/07/2005 12:43:02 PM

Lab: RIM Testing Services (RTS)

HAC\_H\_Dipole\_CW 1880\_5 mm step\_07\_14\_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\varepsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>

Phantom section: H Dipole Section

#### DASY4 Configuration:

- Probe: H3DV6 SN6105; ; Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

#### H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):

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

Maximum value of Total (measured) = 0.406 A/m

#### H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of Total field (slot averaged) = 0.406 A/m

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

H in A/m (Time averaged) H in A/m (Slot averaged)

I	Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
l	0.342	0.359	0.344	0.342	0.359	0.344
			Grid 6	Grid 4		
l	0.389	0.406	0.389	0.389	0.406	0.389
			Grid 9	Grid 7	Grid 8	Grid 9
l	0.363	0.378	0.363	0.363	0.378	0.363

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112,2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
М3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

65 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

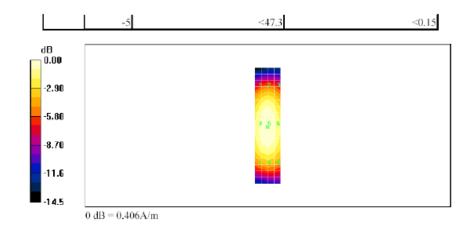
Report No RTS-2604-1107-11

L6ARDS40CW

FCC ID

Date/Time: 14/07/2005 12:43:02 PM

Page 2 of 2



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

66 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

Date/Time: 14/07/2005 12:53:40 PM

FCC ID L6ARDS40CW

Date/Time: 14/07/2005 12:53:40 PM

Page 1 of 2

Lab: RIM Testing Services (RTS)

HAC\_H\_Dipole\_CW 1880\_2 mm step\_07\_14\_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\varepsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>

Phantom section: H Dipole Section

#### DASY4 Configuration:

- Probe: H3DV6 SN6105; ; Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

#### H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total (measured) = 0.406 A/m

#### H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total field (slot averaged) = 0.406 A/m

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

H in A/m (Time averaged) H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3	
0.347	0.361	0.348	
Grid 4	Grid 5	Grid 6	
0.394	0.406	0.391	
Grid 7			
0.367	0.380	0.365	

	Grid 2	
0.347	0.361	0.348
	Grid 5	
0.394	0.406	0.391
	Grid 8	
0.367	0.380	0.365

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

67 (106)

Author Data
Andrew Becker

Dates of Test

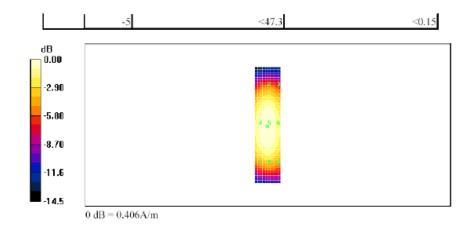
Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 14/07/2005 12:53:40 PM

Page 2 of 2



Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 68 (106)	
Author Data	Dates of Test Report No FCC ID			
Andrew Becker	Mar. 22-23, June 19-22, 2011 RTS-2604-1107-11 L6ARDS40CW			S40CW

### A.3 RF emissions plots



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

rage

69 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/19/2011 10:44:51 PM, Date/Time: 5/19/2011 10:48:10 PM, Date/Time: 5/19/2011 10:52:14 PM, Date/Time: 5/19/2011 11:16:30 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_CDMA800

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: CDMA 2000

BC 10; Frequency: 817.9 MHz, Frequency: 820.5 MHz, Frequency: 823.1

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011

• Sensor-Surface: (Fix Surface)

Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test

(101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 69.695 V/m

Probe Modulation Factor = 0.960

Device Reference Point: 0, 0, -6.3 mm

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

70 (106)

Author Data

Andrew Becker

Dates of Test

Mar. 22

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

Reference Value = 88.782 V/m; Power Drift = 0.03 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
59.367	67.296	67.209
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
61.544	69.686	69.604
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
62.587	69.695	69.648
M4	M4	M4

#### **Cursor:**

Total = 69.695 V/m E Category: M4

Location: -7.5, 9, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.237 V/m

Probe Modulation Factor = 0.960

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 91.762 V/m; Power Drift = -0.08 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
61.120	68.288	68.203
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
63.914	71.499	71.152
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
65.842	72.237	71.518
M4	<b>M4</b>	<b>M4</b>



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

71 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Cursor:**

Total = 72.237 V/m E Category: M4

Location: -4.5, 14.5, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dy=5mn

Maximum value of peak Total field = 68.427 V/m

Probe Modulation Factor = 0.960 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 87.886 V/m; Power Drift = 0.0027 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
59.025	64.686	64.440
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
61.757	68.148	67.915
M4	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
63.211	68.427	68.071
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 68.427 V/m E Category: M4

Location: -4.5, 18.5, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_1/8/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dy=5mm

Maximum value of peak Total field = 62.084 V/m

Probe Modulation Factor = 2.380

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 31.151 V/m; Power Drift = 0.04 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

# | Document | Annex A to Hearing Aid Compatibility RF Emissions Test | Report for the BlackBerry® Smartphone model RDS41CW | 72 (106) | Author Data | Dates of Test | Mar. 22-23, June 19-22, 2011 | RTS-2604-1107-11 | L6ARDS40CW | Compatibility RF Emissions Test | 72 (106) | 72 (106) | 73 (106) | 74 (106) | 74 (106) | 74 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) | 75 (106) |

#### Peak E-field in V/m

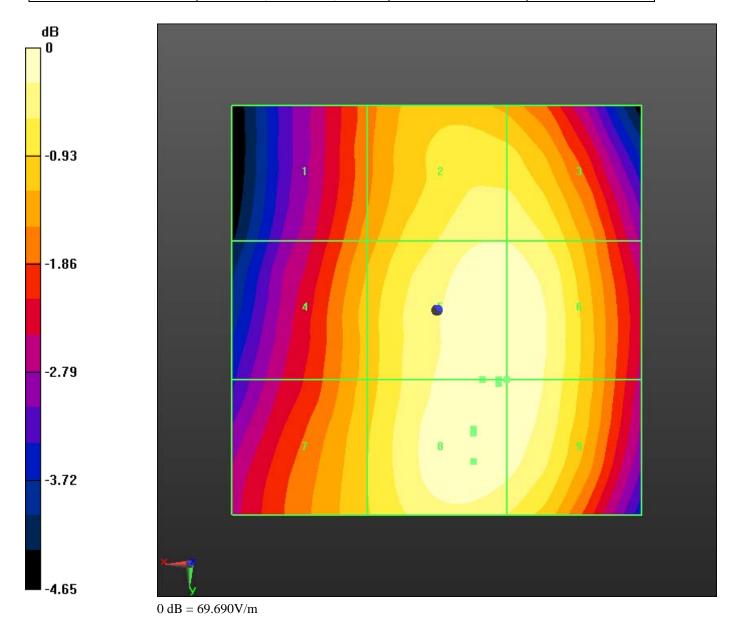
Grid 1	Grid 2	Grid 3
52.780	59.313	59.101
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
55.344	61.550	61.550
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
56.639	62.084	61.650
M4	M4	M4

#### **Cursor:**

Total = 62.084 V/m E Category: M4

Location: -4.5, 15, 8.7 mm

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 73 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

74 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/19/2011 11:20:37 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_CDMA800\_telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: CDMA 2000

BC 10; Frequency: 820.5 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/21/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_telecoil/Hearing Aid Compatibility

Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.109 V/m

Probe Modulation Factor = 0.960

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 91.130 V/m; Power Drift = 0.06 dB

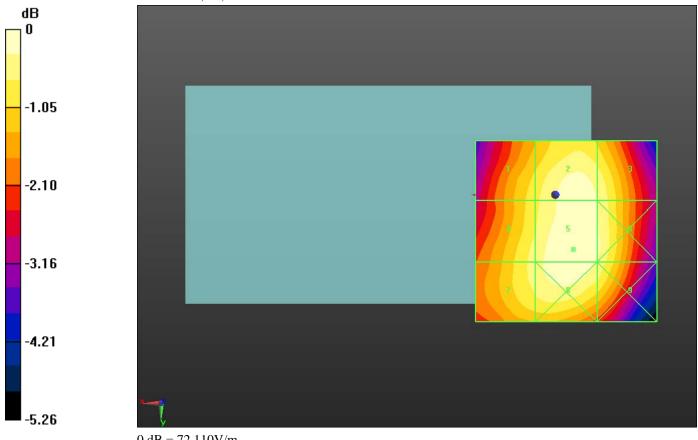
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 75 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
65.858	70.933	69.246
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
67.959	72.109	70.024
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
67.979	71.898	68.979
M4	<b>M4</b>	<b>M4</b>

Total = 72.109 V/mE Category: M4 Location: -5, 15, 8.7 mm





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

76 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/19/2011 11:28:08 PM, Date/Time: 5/19/2011 11:38:13 PM, Date/Time: 5/19/2011 11:42:45 PM, Date/Time: 5/19/2011 11:46:35 PM

Test Laboratory: RIM Testing Services

HAC RF E-Field CDMA850

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 850; Communication System Band: CDMA 2000

Cellular; Frequency: 824.7 MHz, Frequency: 836.52 MHz, Frequency: 848.52

MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011

• Sensor-Surface: (Fix Surface)

Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test

(101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 64.182 V/m

Probe Modulation Factor = 0.940

Device Reference Point: 0, 0, -6.3 mm

### Testing Services™

Document

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

77 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Reference Value = 84.454 V/m; Power Drift = -0.05 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
55.442	61.401	60.961
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
57.624	63.997	63.307
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
58.766	64.182	63.349
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 64.182 V/m E Category: M4

Location: -4.5, 13.5, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 70.469 V/m

Probe Modulation Factor = 0.940 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 87.913 V/m; Power Drift = 0.13 dB

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
55.938	66.866	66.866
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
59.553	70.469	70.469
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
61.805	70.854	70.849
M4	<b>M4</b>	<b>M4</b>



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

78 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Cursor:**

Total = 70.854 V/m E Category: M4

Location: -8, 15, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dv=5mn

Maximum value of peak Total field = 70.528 V/m

Probe Modulation Factor = 0.940 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 88.235 V/m; Power Drift = 0.07 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
56.878	67.418	67.316
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
59.661	70.528	70.528
M4	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
61.323	70.928	70.851
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 70.928 V/m E Category: M4

Location: -7, 14, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_1/8/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dy=5mm

Maximum value of peak Total field = 68.744 V/m

Probe Modulation Factor = 2.600

Device Reference Point: 0, 0, -6.3 mm

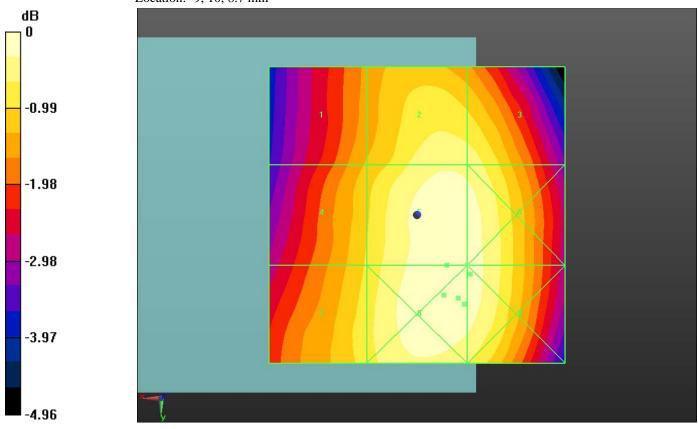
Reference Value = 31.958 V/m; Power Drift = -0.20 dB

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page <b>79</b> (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>54.687</b>	<b>64.654</b>	<b>64.627</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 4 57.183 M4	Grid 5 68.744 M4	Grid 6 68.824 M4
Grid 7	Grid 8	Grid 9
<b>59.099</b>	<b>68.888</b>	<b>68.979</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>

Total = 68.979 V/m E Category: M4 Location: -9, 10, 8.7 mm





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

80 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/19/2011 11:54:47 PM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_CDMA850\_telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 850; Communication System Band: CDMA 2000

Cellular; Frequency: 848.52 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/21/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_telecoil/Hearing Aid Compatibility

Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.339 V/m

Probe Modulation Factor = 0.940

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 92.569 V/m; Power Drift = -0.09 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

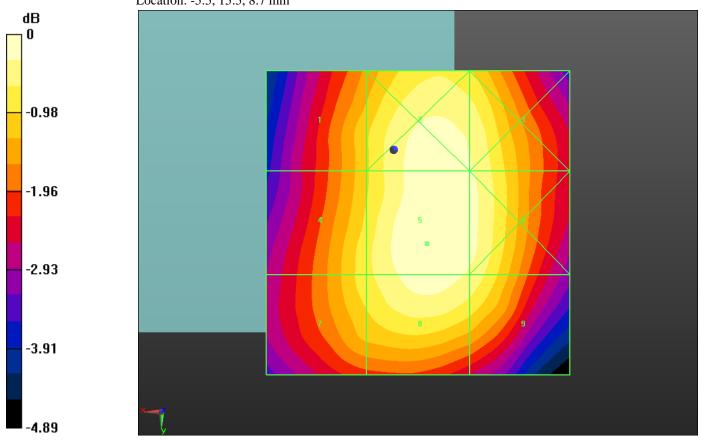
Peak E-field in V/m

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page <b>81</b> (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011 RTS-2604-1107-11 L6ARDS40CW			

Grid 1	Grid 2	Grid 3
64.373	71.373	70.073
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
66.357	72.339	70.721
M4	M4	M4
Grid 7	Grid 8	Grid 9
66.280	71.288	69.255
M4	<b>M4</b>	<b>M4</b>

Total = 72.339 V/m E Category: M4

Location: -5.5, 15.5, 8.7 mm



0 dB = 72.340 V/m



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

82 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 12:04:47 AM, Date/Time: 5/20/2011 12:13:12 AM, Date/Time: 5/20/2011 12:17:29 AM, Date/Time: 5/20/2011 12:22:54 AM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_CDMA1900

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 1900; Communication System Band: CDMA

2000 PCS; Frequency: 1851.25 MHz, Frequency: 1880 MHz, Frequency: 1908.5

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test

(101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 25.641 V/m

Probe Modulation Factor = 0.840

Device Reference Point: 0, 0, -6.3 mm

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

83 (106)

Author Data Dates of Test
Andrew Becker Mar. 22

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Reference Value = 9.350 V/m; Power Drift = -0.29 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 31.045 M4	Grid 2 <b>32.529</b> <b>M4</b>	Grid 3 <b>29.760</b> <b>M4</b>
Grid 4 <b>12.400</b> <b>M4</b>	Grid 5 14.622 M4	Grid 6 <b>14.745</b> <b>M4</b>
Grid 7 22.606 M4	Grid 8 <b>25.641</b> <b>M4</b>	Grid 9 <b>24.781</b> <b>M4</b>

#### **Cursor:**

Total = 32.528 V/m E Category: M4

Location: 1.5, -25, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 26.080 V/m

Probe Modulation Factor = 0.840

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 11.511 V/m; Power Drift = 0.09 dB

Peak E-field in V/m

Grid 1 28.505 M4	Grid 2 30.344 M4	Grid 3 <b>29.415 M4</b>
Grid 4 <b>12.969</b> <b>M4</b>	Grid 5 <b>16.006</b> <b>M4</b>	Grid 6 <b>16.084</b> <b>M4</b>
Grid 7 23.569 M4	Grid 8 <b>26.080</b> <b>M4</b>	Grid 9 <b>25.249</b> <b>M4</b>



Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

84 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Cursor:**

Total = 30.344 V/m E Category: M4

Location: -0.5, -25, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dv=5mn

Maximum value of peak Total field = 23.303 V/m

Probe Modulation Factor = 0.840 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 8.584 V/m; Power Drift = 0.11 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
29.001	31.611	30.284
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
10.160	13.773	14.386
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
20.385	23.303	22.696
M4	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 31.611 V/m E Category: M4

Location: -1, -25, 8.7 mm

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_1/8/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm,

dy=5mm

Maximum value of peak Total field = 28.271 V/m

Probe Modulation Factor = 2.570

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 3.489 V/m; Power Drift = -1.01 dB

# | Document | Annex A to Hearing Aid Compatibility RF Emissions Test | Report for the BlackBerry® Smartphone model RDS41CW | 85 (106) | Author Data | Andrew Becker | Document | Annex A to Hearing Aid Compatibility RF Emissions Test | 85 (106) | Report No | Report No | RTS-2604-1107-11 | L6ARDS40CW | RTS-2604-1107-11 | RTS-2604-1107-

#### Peak E-field in V/m

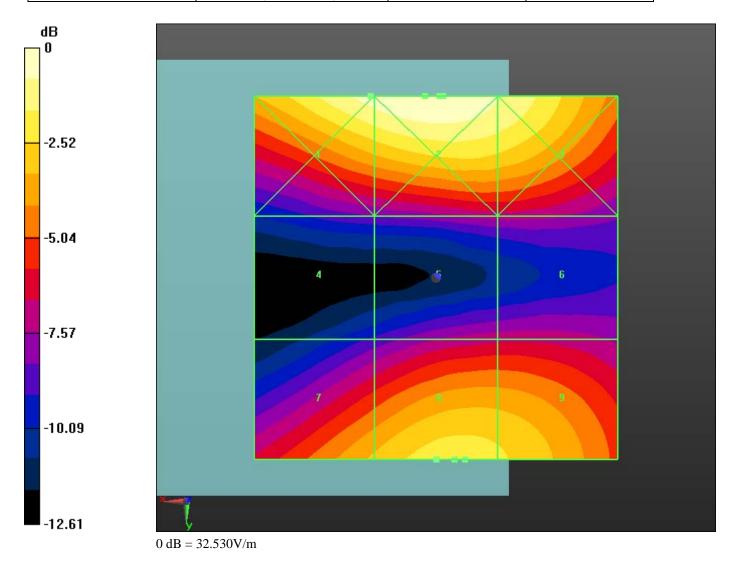
Grid 1	Grid 2	Grid 3
33.539	33.453	29.051
M4	M4	M4
Grid 4	Grid 5	Grid 6
12.454	14.652	14.932
M4	M4	M4
Grid 7	Grid 8	Grid 9
22.829	28.271	23.759
M4	M4	<b>M4</b>

#### **Cursor:**

Total = 33.540 V/m E Category: M4

Location: 9, -25, 8.7 mm

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 86 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

age

87 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

Date/Time: 5/20/2011 12:27:29 AM

Test Laboratory: RIM Testing Services

HAC RF\_E-Field\_CDMA1900\_telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 1900; Communication System Band: CDMA

2000 PCS; Frequency: 1851.25 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: ER3DV6 SN2286; ConvF(1, 1, 1); Calibrated: 1/14/2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

## Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_telecoil/Hearing Aid Compatibility

Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 24.474 V/m

Probe Modulation Factor = 0.840

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 8.472 V/m; Power Drift = 0.09 dB

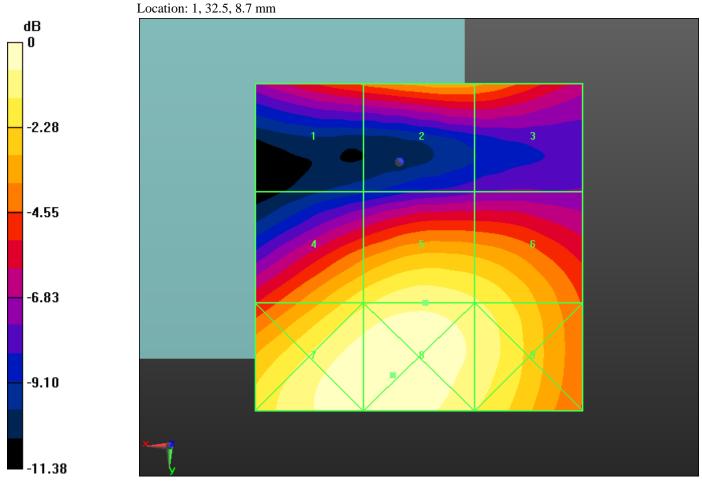
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 88 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
16.694	18.764	18.314
M4	<b>M4</b>	M4
Grid 4	Grid 5	Grid 6
22.486	24.474	23.331
M4	M4	M4
Grid 7	Grid 8	Grid 9
27.028	27.385	24.788
M4	<b>M4</b>	<b>M4</b>

Total = 27.385 V/m E Category: M4





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

89 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 1:31:14 AM, Date/Time: 5/20/2011 1:34:48 AM, Date/Time: 5/20/2011 1:38:34 AM, Date/Time: 5/20/2011 1:42:59 AM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_CDMA800

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: CDMA 2000

BC 10; Frequency: 817.9 MHz, Frequency: 820.5 MHz, Frequency: 823.1

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

#### 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.160 A/m

Probe Modulation Factor = 0.990

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.095 A/m; Power Drift = 0.11 dB

### Testing Services™

Document

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

90 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

11 1

Report No RTS-2604-1107-11

L6ARDS40CW

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.160	0.116	0.075
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.148	0.110	0.073
<b>M4</b>	M4	M4
Grid 7	Grid 8	Grid 9
0.157	0.118	0.078
M4	M4	M4

#### **Cursor:**

Total = 0.160 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.168 A/m

Probe Modulation Factor = 0.990 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.103 A/m; Power Drift = -0.12 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Grid 1	Grid 2	Grid 3
0.168	0.120	0.079
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.154	0.115	0.077
<b>M4</b>	M4	M4
Grid 7	Grid 8	Grid 9
0.164	0.122	0.081
<b>M4</b>	<b>M4</b>	M4

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

91 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Cursor:**

Total = 0.168 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.162 A/m

Probe Modulation Factor = 0.990 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.097 A/m; Power Drift = -0.09 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.162	0.114	0.075
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.148	0.106	0.070
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.153	0.112	0.070
M4	M4	M4

#### **Cursor:**

Total = 0.162 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 1/8/Hearing Aid Compatibility Test (101x101x1): Measurement

grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.169 A/m

Probe Modulation Factor = 2.850 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.036 A/m; Power Drift = 0.12 dB

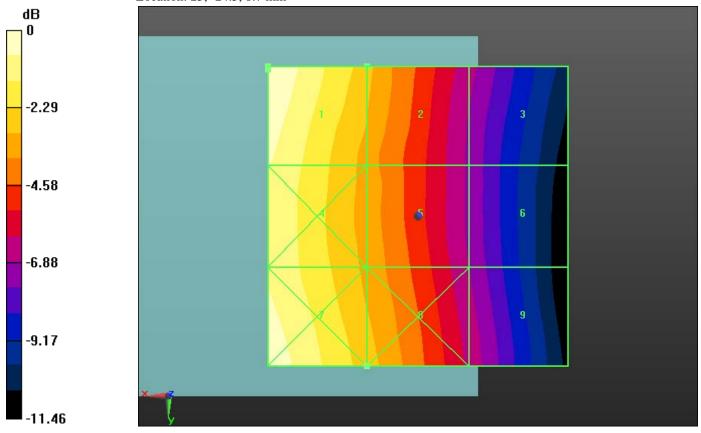
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 92 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
0.169	0.126	0.081
M4	M4	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.157	0.119	0.080
<b>M4</b>	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.168	0.128	0.084
M4	<b>M4</b>	M4

Total = 0.169 A/m H Category: M4

Location: 25, -24.5, 8.7 mm





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

93 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 1:49:19 AM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_CDMA800\_telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 800; Communication System Band: CDMA 2000

BC 10; Frequency: 820.5 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

2007: 15 mm from Probe Center to the Device Telecoil/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.151 A/m

Probe Modulation Factor = 0.990

Device Reference Point: 0, 0, -6.3 mm

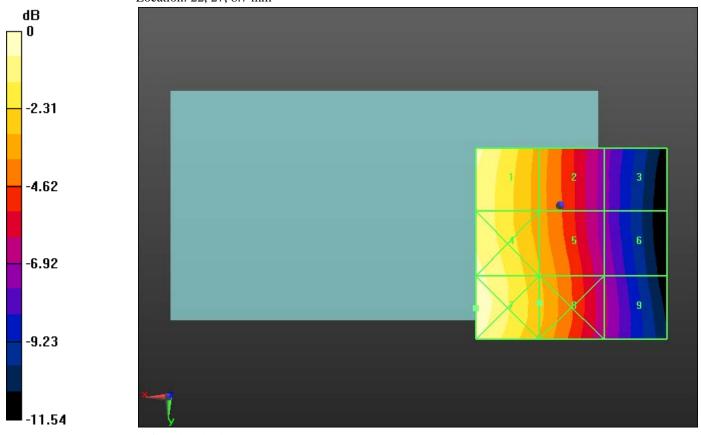
Reference Value = 0.103 A/m; Power Drift = -0.07 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 94 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
0.151	0.109	0.070
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.151	0.114	0.073
<b>M4</b>	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.156	0.116	0.075
M4	<b>M</b> 4	M4

Total = 0.156 A/m H Category: M4 Location: 22, 27, 8.7 mm





Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

95 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 1:07:17 AM, Date/Time: 5/20/2011 1:11:24 AM, Date/Time: 5/20/2011 1:15:24 AM, Date/Time: 5/20/2011 1:20:06 AM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_CDMA850

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 850; Communication System Band: CDMA 2000

Cellular; Frequency: 824.7 MHz, Frequency: 836.52 MHz, Frequency: 848.52

MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

#### 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.159 A/m

Probe Modulation Factor = 0.970

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.093 A/m; Power Drift = -0.38 dB

### Testing Services™

Document

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

96 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.159	0.109	0.069
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.144	0.100	0.063
<b>M4</b>	M4	M4
Grid 7	Grid 8	Grid 9
0.144	0.105	0.065
M4	M4	M4

#### **Cursor:**

Total = 0.159 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.168 A/m

Probe Modulation Factor = 0.970 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.112 A/m; Power Drift = 0.03 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Grid 1	Grid 2	Grid 3
0.168	0.124	0.084
M4	M4	M4
Grid 4	Grid 5	Grid 6
0.154	0.119	0.080
<b>M4</b>	M4	M4
Grid 7	Grid 8	Grid 9
0.165	0.126	0.082
<b>M4</b>	<b>M4</b>	M4

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

97 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### **Cursor:**

Total = 0.168 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.171 A/m

Probe Modulation Factor = 0.970 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.122 A/m; Power Drift = 0.09 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.171	0.128	0.085
M4	<b>M4</b>	M4
Grid 4	Grid 5	Grid 6
0.169	0.135	0.095
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.185	0.148	0.102
<b>M4</b>	<b>M4</b>	M4

#### **Cursor:**

Total = 0.185 A/m H Category: M4

Location: 25, 25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 1/8/Hearing Aid Compatibility Test (101x101x1): Measurement

grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.178 A/m

Probe Modulation Factor = 2.760 Device Reference Point: 0, 0, -6.3 mm

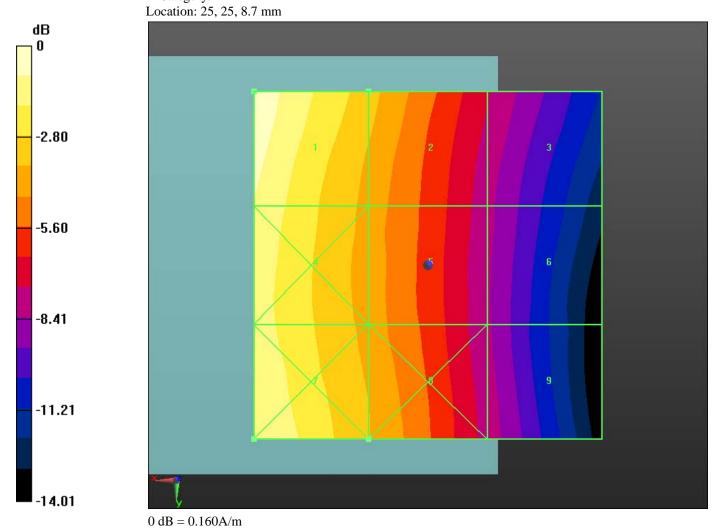
Reference Value = 0.044 A/m; Power Drift = 0.01 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 98 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
0.178	0.128	0.086
M4	<b>M4</b>	M4
Grid 4	Grid 5	Grid 6
0.172	0.135	0.095
<b>M4</b>	M4	M4
Grid 7	Grid 8	Grid 9
0.187	0.149	0.103
M4	M4	M4

Total = 0.187 A/m H Category: M4





### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

99 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 1:24:23 AM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_CDMA850\_Telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 850; Communication System Band: CDMA 2000

Cellular; Frequency: 848.52 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

• Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

2007: 15 mm from Probe Center to the Device Telecoil/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.178 A/m

Probe Modulation Factor = 0.970

Device Reference Point: 0, 0, -6.3 mm

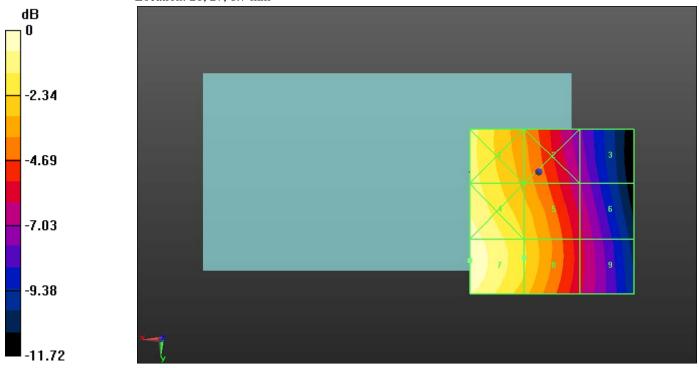
Reference Value = 0.124 A/m; Power Drift = 0.02 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Testing Services™	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW		Page 100 (106)	
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	S40CW

Grid 1	Grid 2	Grid 3
0.158	0.123	0.081
M4	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.173	0.138	0.091
M4	M4	<b>M4</b>
Grid 7	Grid 8	Grid 9
0.178	0.140	0.092
M4	M4	M4

Total = 0.178 A/m H Category: M4 Location: 21, 27, 8.7 mm



0 dB = 0.180 A/m



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

age

101 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 12:38:10 AM, Date/Time: 5/20/2011 12:41:43 AM, Date/Time: 5/20/2011 12:45:21 AM, Date/Time: 5/20/2011 12:50:35 AM

Test Laboratory: RIM Testing Services

HAC RF\_H-Field\_CDMA1900

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 1900; Communication System Band: CDMA

2000 PCS; Frequency: 1851.25 MHz, Frequency: 1880 MHz, Frequency: 1908.5

MHz;Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

• Probe: H3DV6 - SN6105; ; Calibrated: 11/18/2010

• Sensor-Surface: (Fix Surface)

Electronics: DAE3 Sn473; Calibrated: 1/21/2011

• Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;

• Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

#### 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.069 A/m

Probe Modulation Factor = 0.820

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.094 A/m; Power Drift = 0.11 dB

### Testing Services™

Document

### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

102 (106)

Author Data
Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.093 M4	0.071 M4	0.069 M4
Grid 4	Grid 5	Grid 6
0.056	0.069	0.069
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.058	0.057	0.057
M4	M4	M4

#### **Cursor:**

Total = 0.093 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.067 A/m

Probe Modulation Factor = 0.820 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.088 A/m; Power Drift = 0.07 dB

#### Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Grid 1	Grid 2	Grid 3
0.093	0.074	0.064
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
0.056	0.067	0.064
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.060	0.054	0.054
M4	M4	M4



### Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Page

103 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

Report No **RTS-2604-1107-11** 

L6ARDS40CW

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.069 A/m

Probe Modulation Factor = 0.820 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.095 A/m; Power Drift = -0.05 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

#### Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.092</b>	<b>0.074</b>	<b>0.066</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
<b>0.058</b>	<b>0.069</b>	<b>0.066</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
<b>0.056</b>	<b>0.053</b>	<b>0.052</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 0.092 A/m H Category: M4

Location: 25, -25, 8.7 mm

## Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device 1/8/Hearing Aid Compatibility Test (101x101x1): Measurement

grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.069 A/m

Probe Modulation Factor = 2.470 Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.034 A/m; Power Drift = -0.12 dB

## Testing Services Document Annex A to Report for Author Data Dates of Test

Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

Page

104 (106)

Andrew Becker

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

FCC ID

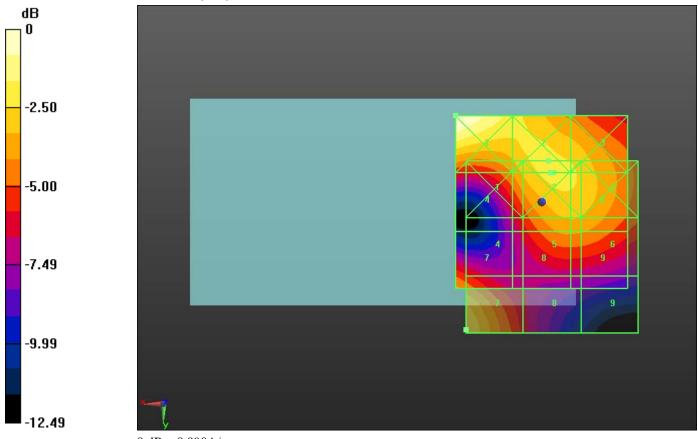
Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.070</b>	<b>0.075</b>	<b>0.070</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 4	Grid 5	Grid 6
<b>0.051</b>	<b>0.065</b>	<b>0.064</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>
Grid 7	Grid 8	Grid 9
<b>0.069</b>	<b>0.045</b>	<b>0.042</b>
<b>M4</b>	<b>M4</b>	<b>M4</b>

#### **Cursor:**

Total = 0.075 A/m H Category: M4

Location: -2, -12, 8.7 mm





Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RDS41CW

Report No

uge

105 (106)

Andrew Becker

Dates of Test

Mar. 22-23, June 19-22, 2011

RTS-2604-1107-11

L6ARDS40CW

Date/Time: 5/20/2011 12:55:10 AM

Test Laboratory: RIM Testing Services HAC RF\_H-Field\_CDMA1900\_Telecoil

DUT: BlackBerry Smartphone; Type: Sample; Serial: 32E4DBBB

Communication System: CDMA 1900; Communication System Band: CDMA

2000 PCS; Frequency: 1851.25 MHz; Communication System PAR: 0 dB

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

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

#### DASY5 Configuration:

- Probe: H3DV6 SN6105; ; Calibrated: 11/18/2010
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/21/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.4 (2829)

#### Device H-Field meausrement with H3DV6 probe/H Scan - H3DV6 -

#### 2007: 15 mm from Probe Center to the Device Telecoil/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.070 A/m

Probe Modulation Factor = 0.820

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.095 A/m; Power Drift = -0.03 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

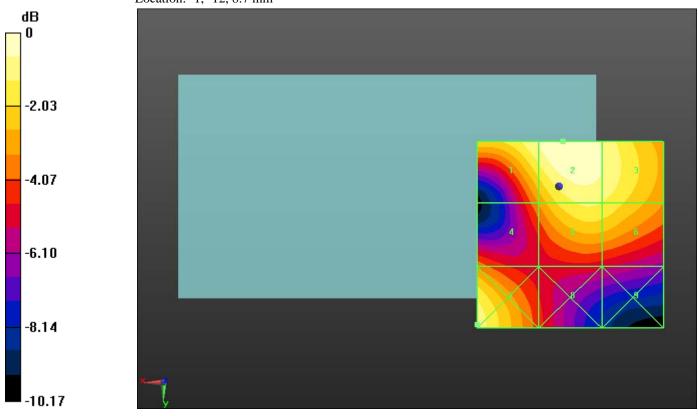
Grid 1 Grid 2	Grid 3
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Testing Services™	Annex A to Hearing Aid Com Report for the BlackBerry® S			Page 106 (106)
Author Data	Dates of Test	Report No	FCC ID	
Andrew Becker	Mar. 22-23, June 19-22, 2011	RTS-2604-1107-11	L6ARDS	540CW

0.066	0.070	0.065
M4	<b>M4</b>	M4
Grid 4	Grid 5	Grid 6
0.048	0.061	0.060
M4	M4	M4
Grid 7	Grid 8	Grid 9
0.064	0.042	0.038
M4	<b>M4</b>	<b>M4</b>

Total = 0.070 A/m H Category: M4

Location: -1, -12, 8.7 mm



 $0\ dB=0.070A/m$