

EMI Test Report

Tested in accordance with
Federal Communications Commission (FCC)
Personal Communications Services
CFR 47, Parts 15, Subpart B
&
Industry Canada (IC), ICES-003



A division of Research In Motion Limited

REPORT NO.: RTS-3640-1103-07B

PRODUCT MODEL NO.: RDM71UW, REN71UW

TYPE NAME: BlackBerry® smartphone

FCC ID: L6ARDM70UW, L6AREN70UW

IC: 2503A-RDM70UW, 2503A-REN70UW

DATE: July 29, 2011

	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW		
Test Report No. RTS-3640-1103-07B	Date of Test February 25 to April 11, 2011	FCC ID: L6ARDM70UW FCC ID: L6AREN70UW	IC : 2503A-RDM70UW IC : 2503A-REN70UW

Statement of Performance:

The BlackBerry® smartphone, model RDM71UW, part number CER-33224-001 Rev. 1 and accessories when configured and operated per RIM's operation instructions, and performs within the requirements of the test standards.

The BlackBerry® smartphone, model REN71UW, part number CER-44593-001 Rev. 1 and accessories when configured and operated per RIM's operation instructions, and performs within the requirements of the test standards.

Declaration:

We hereby certify that:

The test data reported herein is an accurate record of the performance of the sample(s) tested.

The test results are valid for the tested unit (s) only.

The test equipment used was suitable for the tests performed and within manufacturer's published specifications and operating parameters.

The test methods were consistent with the methods described in the relevant standards.

Documented by:



Shuo Wang
Regulatory Compliance Specialist
Date: July 29, 2011

Reviewed by:



Heng Lin
Regulatory Compliance Specialist
Date: July 29, 2011

Reviewed and Approved by:



Masud S. Attayi, P.Eng.
Manager, Regulatory Compliance
Date: August 02, 2011

	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW		
Test Report No. RTS-3640-1103-07B	Date of Test February 25 to April 11, 2011	FCC ID: L6ARDM70UW FCC ID: L6AREN70UW	IC : 2503A-RDM70UW IC : 2503A-REN70UW

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A. Scope

This report details the results of compliance tests that were performed in accordance with the requirements of:

- FCC CFR 47 Part 15, Subpart B, October, 2010 Class B Digital Devices, Unintentional Radiators
- IC ICES-003 Issue 4, February 2004, Class B Digital Devices, Unintentional Radiators

B. Associated Documents

1. MultiSourceDeclaration_RDM71UW_b260
2. MultiSourceDeclaration_RDM71UW_b421
3. RDM71UW_HW_Declaration_CER-33224_Rev3
4. BlackBerrySystemSimilarity_RDM71UW_REN71UW

C. Product Identification

Manufactured by Research In Motion Limited whose headquarters is located at:
 295 Phillip Street
 Waterloo, Ontario
 Canada, N2L 3W8
 Phone: 519 888 7465
 Fax: 519 888 6906

The equipment under test (EUT) was tested at the following locations:

RIM Testing Services EMI test facilities

305 Phillip Street	440 Phillip Street
Waterloo, Ontario	Waterloo, Ontario
Canada, N2L 3W8	Canada, N2L 5R9
Phone: 519 888 7465	Phone: 519 888 7465
Fax: 519 888 6906	Fax: 519 888 6906

The testing was performed from February 25 to April 11, 2011.



EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW

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FCC ID: L6AREN70UW **IC :** 2503A-REN70UW

The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN	Software
1a	RDM71UW	CER-33224-001 Rev 2	2696796A	V6.1.0.16 Bundle 157
1b	RDM71UW	CER-33224-001 Rev 2	2696796A	V6.1.0.28 Bundle 260
2a	RDM71UW	CER-33224-001 Rev 2	269676F9	V6.1.0.16 Bundle 157
2b	RDM71UW	CER-33224-001 Rev 2	269676F9	V6.1.0.28 Bundle 260
3	RDM71UW	CER-33224-001 Rev 3	2720B794	V6.1.0.46 Bundle 421

AC conducted testing was performed on sample 1a and 1b.

Radiated Emissions testing was performed on sample 2a, 2b, 3 and 4.

To view the differences between bundle 157 and 260, see document number MultiSourceDeclaration_RDM71UW_b260. To view the differences between bundle 260 and 421, see document number MultiSourceDeclaration_RDM71UW_b421.

To view the differences between CER-33224-001 Rev. 2 and CER-33224-001 Rev. 3, see document HW_Declaration_CER-33224-001 Rev 3.

Only the characteristics that may have been affected by the changes from Rev 2 to Rev 3 have been re-tested.

Only the characteristics that may have been affected by the changes from model RDM71UW to REN71UW were re-tested. For more information, see BlackBerrySystemSimilarity_RDM71UW_REN71UW.

BlackBerry® smartphone Accessories Tested

- 1) Fix Blade Charger, part number HDW-24481-001 (model number PSM04A-050QRIM-R), with an output voltage of 5.0 volts dc.
- 2) Alt. Fixed Blade Charger, part number HDW-24481-001 (model number RIM-C-4ADUUS-001 with an output voltage of 5.0 volts dc.
- 3) Captive Cable Charger, part number HDW-17957-003 with an output voltage of 5.0 volts dc, 750 mA and attached USB cable with a lead length of 1.80 metres.
- 4) Premium Stereo Headset, part number HDW-15766-005, 1.3 metres long.
- 5) Stereo Headset, part number HDW-14322-003 with a lead length of 1.3 metres.
- 6) Alt. 1 Stereo Headset, part number HDW-24529-001, with a lead length of 1.1 metres
- 7) Alt. 2 Stereo Headset part number HDW-24529-001, with a lead length of 1.1 metres
- 8) Bluetooth Headset part number HDW-23439-001

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- 9) USB Data Cable, part number HDW-06610-005, 1.5 metres long.
- 10) USB Data Cable, part number HDW-06610-013, 0.3 metre long.
- 11) USB Data Cable, part number HDW-29108-003, 1.2 metre long.
- 12) Alt. USB Data Cable, part number HDW-28109-001, 0.3 metres long.
- 13) USB Y-Cable, part number HDW-19137-002, lead lengths of 26 cm and 11 cm.
- 14) Visor Mount, part number HDW-23438-001
- 15) Sync Pod, part number HDW-14396-013
- 16) External Battery Charger, part number HDW-34812-001

D. Support Equipment Used for the Testing of the EUT

- 1) IBM Thinkpad Lenovo T60p laptop, type 8742-C2U, product ID 8742C2U

E. Summary of Results

SPECIFICATION		TEST TYPE	Meets Requirement	Test Data APPENDIX
FCC CFR 47	IC			
Part 15, Subpart B	ICES-003	Conducted AC Line Emission	Yes	1
Part 15, Subpart B	ICES-003	Radiated Unintentional Spurious Emissions	Yes	2

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a) AC CONDUCTED EMISSIONS

The conducted emissions were measured using the test procedure outlined in CISPR Recommendation 22 through a 50 Ohm Line Impedance Stabilization Network (LISN), which was inserted in the power line to the equipment to provide the specified impedance for measurements. The EUT was placed on a nonconductive wooden table, 80 cm high that was positioned 40 cm from a vertical ground plane. The RF output of the network was connected to an EMI receiver system with characteristics that duplicate those of the receiver specified in CISPR Publication 16. BlackBerry® smartphone was in battery charging mode. The input voltage was 120 V, 60 Hz.

The following test configurations were measured for model RDM71UW:

Test Configuration	Operating Mode(s)	Charger + Accessories
1	GSM 850 Idle, Audio Playback	Alt. Fixed Blade Charger Premium Stereo Headset 1.5USB cable Sync Pod
2	GSM1900 Idle, Video Playback	Fixed Blade Charger Stereo Headset 0.3m USB Cable
3	802.11b Tx	Alt. Fixed Blade Charger Alt. 2 Stereo Headset Alt. 0.3 USB Cable
4	BT Tx	Captive Cable Charger Alt. 1 Stereo Headset Sync Pod
5	UMTS Band 2 Idle, Audio Playback	Fixed Blade Charger Bluetooth Headset USB Y-Cable Sync Pod External Battery Charger

The sample EUT's conducted emissions were compared with respect to the FCC CFR 47 Part 15, Subpart B, and IC ICES-003, Class B limit. The sample EUT had a worse case test margin of 8.66 dB below the Average limit at 0.204 MHz using the quasi-peak detector in Test Configuration 4.

Measurement Uncertainty ± 3.0 dB

To view the test data/plots, see APPENDIX 1.

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b) RADIATED EMISSIONS

The radiated emissions from the EUT were measured using the methods outlined in CISPR Recommendation 22. The EUT was placed on a nonconductive styrofoam table, 80 cm high that was positioned on a remote controlled turntable. The test distance used between the EUT and the receiving antenna was three metres. The turntable was rotated to determine the azimuth of the peak emissions. Then the emissions were maximized by elevating the antenna in the range of 1 to 4 metres. The maximum emission level was recorded. The frequency range measured was from 30 MHz to 5.0 GHz. Both the horizontal and vertical polarizations of the emissions were measured.

The measurements were done in a semi-anechoic chamber. The FCC registration number is **778487** and the Industry Canada(IC) file number is **2503B-1**. The EUT was configured and operated to produce the maximum radiated emissions while still keeping within RIM's specifications.

The BlackBerry® smartphone was in battery charging mode for all configurations. The ac input voltage was 120V, 60Hz.

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The following test configurations were measured for model RDM71UW:

Test Configuration	Operating Mode(s)	Charger + Accessories
1	PCS 1900 Idle Video Playback	Fixed Blade Charger Alt 1 Stereo Headset Alt. 0.3m USB Cable
2	UMTS Band 5 Idle	0.3m USB Cable Laptop
3	GSM 850 Idle Audio playback	Alt. Fixed Blade Charger 1.2m USB Cable Alt. 2 Stereo Headset
4	UMTS Band 2 Idle	Fixed Blade Charger 1.5m USB Cable Stereo Headset
5	PCS 1900 Idle	Laptop 0.3m USB Cable USB Y-Cable Sync Pod External Battery Charger
6	Bluetooth Tx	Captive Cable Charger Premium Stereo Headset
7	802.11b Tx	Fixed Blade Charger 1.5m USB Cable USB Y-Cable Sync Pod External Battery Charger
8	PCS 1900 Idle Audio playback	Captive Cable Charger Visor Mount
9	PCS 1900 Idle Video Playback	Fixed Blade Charger Alt 1 Stereo Headset Alt. 0.3m USB Cable
10	GSM 850 Idle Audio playback	Alt. Fixed Blade Charger 1.2m USB Cable Alt. 2 Stereo Headset

The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15, Subpart B, and IC ICES-003, Class B limit.

The system met the requirements with a worse case emission test margin of 9.87 dB at 215.95 MHz using Test Configuration 5.

To view the test data see APPENDIX 2.

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Sample Calculation:

Field Strength (dB μ V/m) is calculated as follows:

FS = Measured Level (dB μ V) + A.F. (dB/m) + Cable Loss (dB) - Preamp (dB) + Filter Loss (dB)

Measurement Uncertainty \pm 4.6 dB

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F. Compliance Test Equipment Used

<u>UNIT</u>	<u>MANUFACTURER</u>	<u>MODEL</u>	<u>SERIAL NUMBER</u>	<u>CAL DUE DATE (YY MM DD)</u>	<u>USE</u>
Preamplifier	Sonoma	310N/11909A	185831	11-11-14	Radiated Emissions
Preamplifier system	TDK RF Solutions	PA-02	080010	11-09-13	Radiated Emissions
EMC Analyzer	Rohde & Schwarz	ESIB 40	3942A00517	11-11-28	Radiated Emissions
Digital Multimeter	Hewlett Packard	34401A	US36042324	11-10-28	Conducted/Radiated Emissions
T/RH Meter	OMEGA	iTHX-SD	0380561	11-10-13	Radiated Emission
T/RH Meter	OMEGA	iTHX-SD	0380567	11-10-13	Radiated Emission
L.I.S.N.	Rohde & Schwarz	ENV216	100060	11-12-10	Conducted Emissions
Hybrid Log Antenna	EMC Automation	HLP-3003C	017401	12-01-14	Radiated Emissions
Horn Antenna	EMC Automation	HRN-0118	030101	12-07-20	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	837493/073	11-09-23	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	112394	11-11-29	Radiated/Conducted Emissions
EMI Test Receiver	Rohde & Schwarz	ESU 40	100162	11-10-30	Radiated/Conducted Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100368	11-11-27	Radiated Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100370	11-11-29	Radiated/Conducted Emissions

	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW APPENDIX 1		
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APPENDIX 1 - AC CONDUCTED EMISSIONS TEST DATA



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FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Results

The following test configurations were measured for model RDM71UW.

The following tests were performed by Heng Lin.

Test Configuration 1

Date of the test: March 02, 2011

The environmental conditions were: Temperature: 24.5 °C
Humidity: 35.7 %

Frequency (MHz)	Line	Reading (QP) (dB μ V)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dB μ V)	Limit (AV) (dB μ V)	Margin (QP) Limits (dB)
4.304	L1	34.08	9.90	43.98	56.00	46.00	-12.02
3.575	L1	33.41	9.89	43.31	56.00	46.00	-12.69
3.741	L1	33.38	9.89	43.28	56.00	46.00	-12.73
4.358	L1	33.20	9.90	43.10	56.00	46.00	-12.90
4.173	N	31.15	9.91	41.06	56.00	46.00	-14.94
4.641	N	31.06	9.91	40.97	56.00	46.00	-15.03
4.187	L1	31.01	9.90	40.91	56.00	46.00	-15.09
4.524	L1	30.55	9.90	40.45	56.00	46.00	-15.55
4.533	N	30.43	9.91	40.34	56.00	46.00	-15.66
4.061	N	29.37	9.90	39.28	56.00	46.00	-16.72
4.889	N	29.06	9.91	38.97	56.00	46.00	-17.03
3.903	L1	28.91	9.90	38.81	56.00	46.00	-17.19
4.110	N	28.80	9.91	38.71	56.00	46.00	-17.29
0.164	L1	36.46	11.11	47.57	65.30	55.30	-17.73
4.574	L1	26.56	9.90	36.46	56.00	46.00	-19.54
0.240	N	31.51	10.60	42.11	62.10	52.10	-19.99
4.443	L1	25.43	9.90	35.34	56.00	46.00	-20.67
0.204	L1	30.68	10.83	41.51	63.40	53.40	-21.89
0.164	L1	20.89	11.11	32.00	55.30	45.30	-23.30

All other emission levels had a test margin of greater than 25 dB.

Measurements were done with the quasi-peak detector. See figure 1-1 and figure 1-2 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

AC Conducted Emissions Test Graphs

Test Configuration 1

Figure 1-1: L1 lines

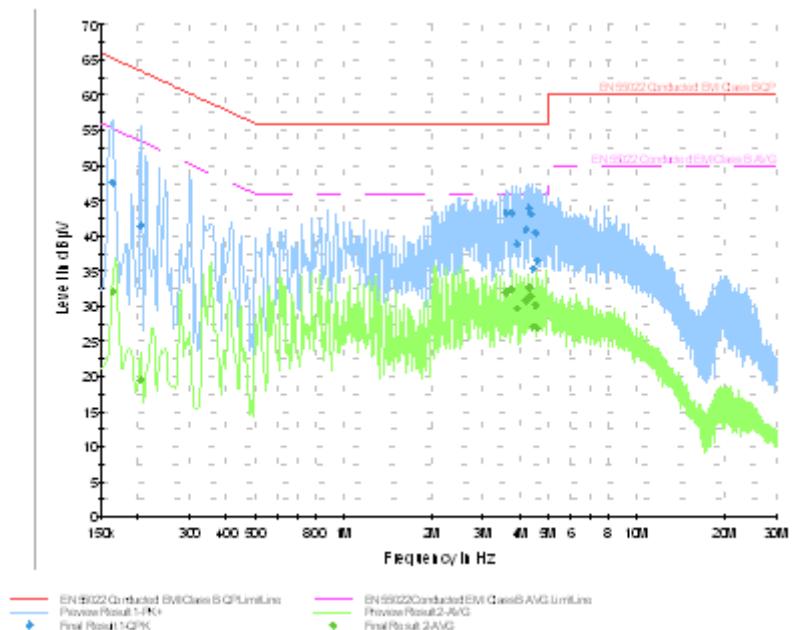
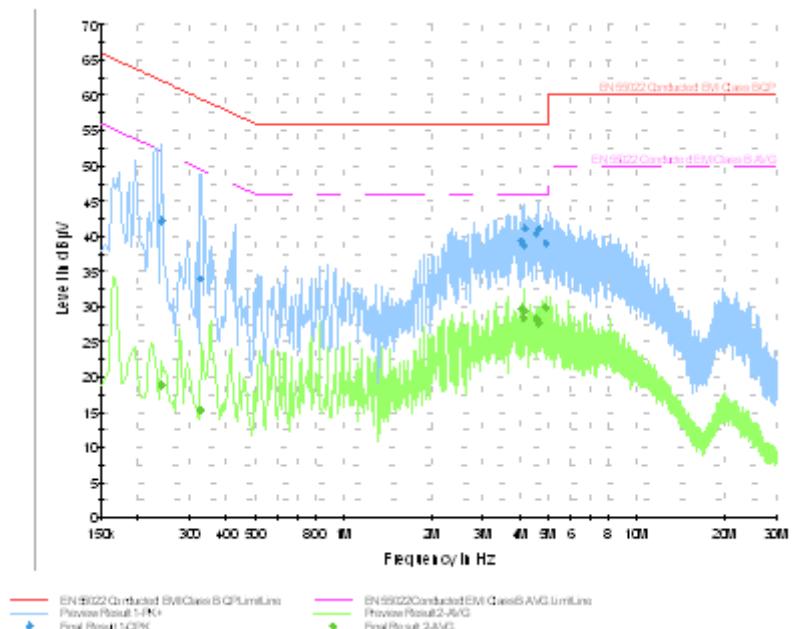


Figure 1-2: N Lines





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FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Results cont'd

The following tests were performed by Adam Rusinek.

Test Configuration 2

Date of the test: March 03, 2011

The environmental conditions were: Temperature: 24.4 °C
Humidity: 35.4%

Frequency (MHz)	Line	Reading (QP) (dB μ V)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dB μ V)	Limit (AV) (dB μ V)	Margin (QP) Limits (dB)
0.528	N	37.40	9.90	47.31	56.00	46.00	-8.69
0.524	L1	36.31	9.90	46.21	56.00	46.00	-9.79
0.263	L1	40.35	10.42	50.77	61.40	51.40	-10.64
0.402	N	35.31	10.02	45.33	57.80	47.80	-12.47
0.191	L1	39.96	10.92	50.88	64.00	54.00	-13.12
0.204	N	38.89	10.85	49.74	63.40	53.40	-13.66
0.272	L1	36.71	10.36	47.07	61.10	51.10	-14.03
0.182	N	38.53	11.01	49.54	64.40	54.40	-14.86
0.249	N	34.08	10.54	44.62	61.80	51.80	-17.18
0.231	L1	33.41	10.64	44.05	62.40	52.40	-18.35
0.227	N	33.12	10.69	43.81	62.60	52.60	-18.79
11.706	L1	31.12	10.01	41.13	60.00	50.00	-18.88
11.405	N	27.21	10.01	37.21	60.00	50.00	-22.79
11.400	N	26.90	10.01	36.91	60.00	50.00	-23.09



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AC Conducted Emissions Test Results cont'd

Test Configuration 2

Frequency (MHz)	Line	Reading (AV) (dB μ V)	Correction Factor (dB)	Corrected Reading (AV) (dB)	Limit (AV) (dB μ V)	Margin (AV) Limits (dB)
0.528	N	23.29	9.90	33.19	46.00	-12.81
0.524	L1	20.50	9.90	30.39	46.00	-15.61
11.706	L1	20.52	10.01	30.53	50.00	-19.47
0.263	L1	20.64	10.42	31.06	51.40	-20.34
0.402	N	16.30	10.02	26.32	47.80	-21.49
0.204	N	18.40	10.85	29.25	53.40	-24.15
11.405	N	15.15	10.01	25.16	50.00	-24.84
11.400	N	15.08	10.01	25.08	50.00	-24.92

All other emission levels had a test margin of greater than 25 dB.

Measurements were done with the quasi-peak and the average detector.

See figure 1-3 and figure 1-4 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

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AC Conducted Emissions Test Graphs

Test Configuration 2

Figure 1-3: L1 lines

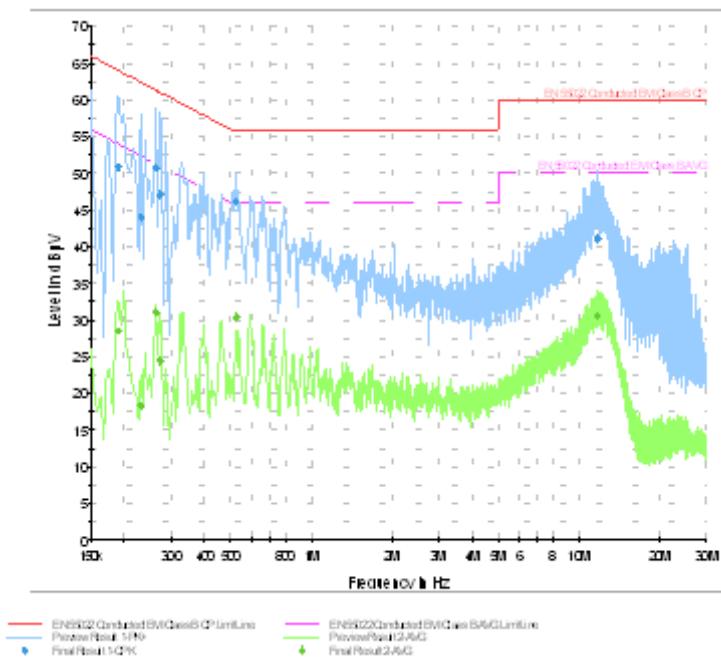
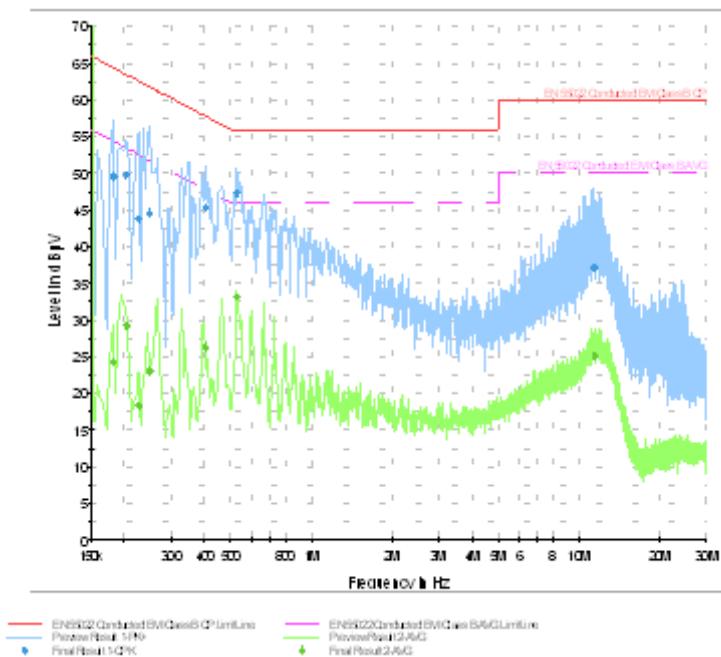


Figure 1-4: N Lines



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AC Conducted Emissions Test Results cont'd

The following tests were performed by Adam Rusinek.

Test Configuration 3

Date of the test: March 03, 2011

The environmental conditions were: Temperature: 24.5 °C
Humidity: 35.9%

Frequency (MHz)	Line	Reading (QP) (dB μ V)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dB μ V)	Limit (AV) (dB μ V)	Margin (QP) Limits (dB)
0.159	N	38.79	11.17	49.96	65.50	55.50	-15.54
0.159	L1	38.66	11.14	49.80	65.50	55.50	-15.70
4.596	N	29.80	9.91	39.71	56.00	46.00	-16.29
0.173	L1	36.92	11.05	47.97	64.80	54.80	-16.83
0.182	L1	36.54	10.99	47.53	64.40	54.40	-16.88
4.191	L1	28.29	9.90	38.19	56.00	46.00	-17.81
0.213	N	33.68	10.79	44.47	63.10	53.10	-18.63
0.218	N	32.11	10.76	42.87	62.90	52.90	-20.03
0.240	L1	30.78	10.58	41.36	62.10	52.10	-20.74
0.249	N	29.97	10.54	40.51	61.80	51.80	-21.29
0.326	L1	24.96	10.12	35.09	59.60	49.60	-24.52

All other emission levels had a test margin of greater than 25 dB.

Measurements were done with the quasi-peak detector.

See figure 1-5 and figure 1-6 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

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AC Conducted Emissions Test Graphs

Test Configuration 3

Figure 1-5: L1 lines

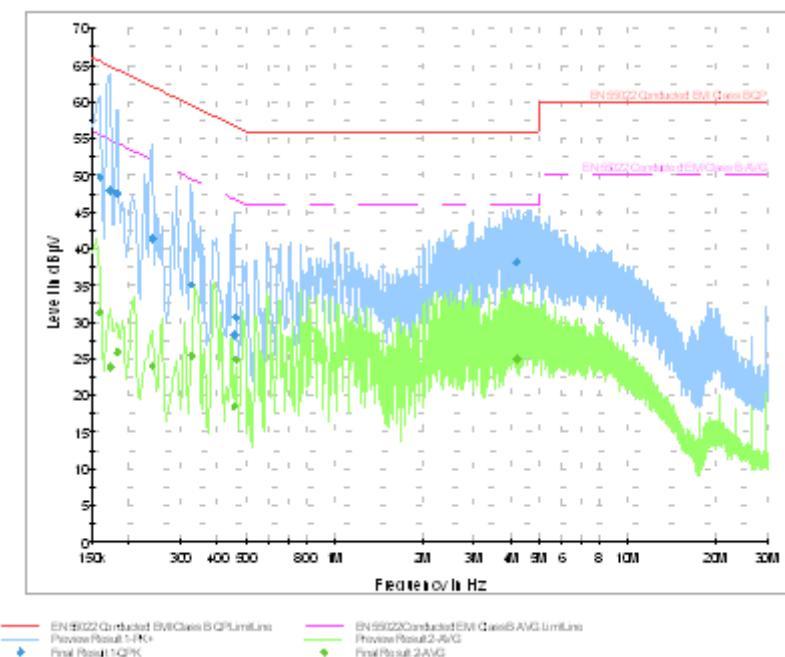
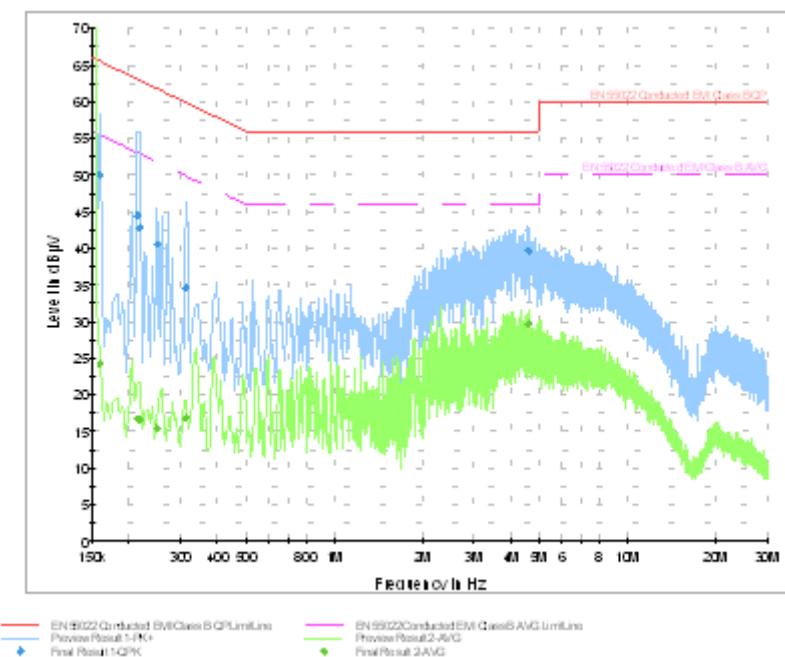


Figure 1-6: N Lines



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FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Results cont'd

Test Configuration 4

Date of the test: March 03, 2011

The environmental conditions were: Temperature: 24.4 °C
Humidity: 35.4 %

Frequency (MHz)	Line	Reading (QP) (dB μ V)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dB μ V)	Limit (AV) (dB μ V)	Margin (QP) Limits (dB)
0.204	N	43.89	10.85	54.74	63.40	53.40	-8.66
0.159	N	45.54	11.17	56.71	65.50	55.50	-8.79
0.200	L1	40.70	10.86	51.56	63.60	53.60	-12.04
0.164	L1	39.30	11.11	50.41	65.30	55.30	-14.89
0.402	L1	32.70	10.01	42.71	57.80	47.80	-15.09
0.254	L1	34.28	10.48	44.76	61.60	51.60	-16.84
0.249	L1	34.23	10.51	44.75	61.80	51.80	-17.06
0.249	N	32.05	10.54	42.59	61.80	51.80	-19.21
0.303	L1	29.66	10.16	39.82	60.20	50.20	-20.38
0.303	N	29.62	10.17	39.79	60.20	50.20	-20.41
0.177	N	32.66	11.05	43.71	64.60	54.60	-20.89
11.792	L1	27.52	10.01	37.53	60.00	50.00	-22.47
0.447	N	23.51	9.95	33.46	56.90	46.90	-23.44
10.973	N	25.41	9.99	35.40	60.00	50.00	-24.60
10.977	N	25.35	9.99	35.34	60.00	50.00	-24.66



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Results cont'd

Test Configuration 4

Frequency (MHz)	Line	Reading (AV) (dB μ V)	Correction Factor (dB)	Corrected Reading (AV) (dB)	Limit (AV) (dB μ V)	Margin (AV) Limits (dB)
0.402	L1	22.06	10.01	32.06	47.80	-15.74
0.159	N	23.27	11.17	34.44	55.50	-21.06
0.200	L1	21.53	10.86	32.39	53.60	-21.21
0.204	N	20.65	10.85	31.51	53.40	-21.90
0.254	L1	19.03	10.48	29.51	51.60	-22.09
0.303	L1	17.54	10.16	27.70	50.20	-22.50
0.249	L1	18.70	10.51	29.21	51.80	-22.59
11.792	L1	16.94	10.01	26.95	50.00	-23.05
0.303	N	15.84	10.17	26.02	50.20	-24.18

All other emission levels had a test margin of greater than 25 dB.
Measurements were done with the quasi-peak and the average detector.
See figure 1-7 and figure 1-8 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

Test Report No.
 RTS-3640-1103-07B

Date of Test
 February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Graphs

Test Configuration 4

Figure 1-7: L1 lines

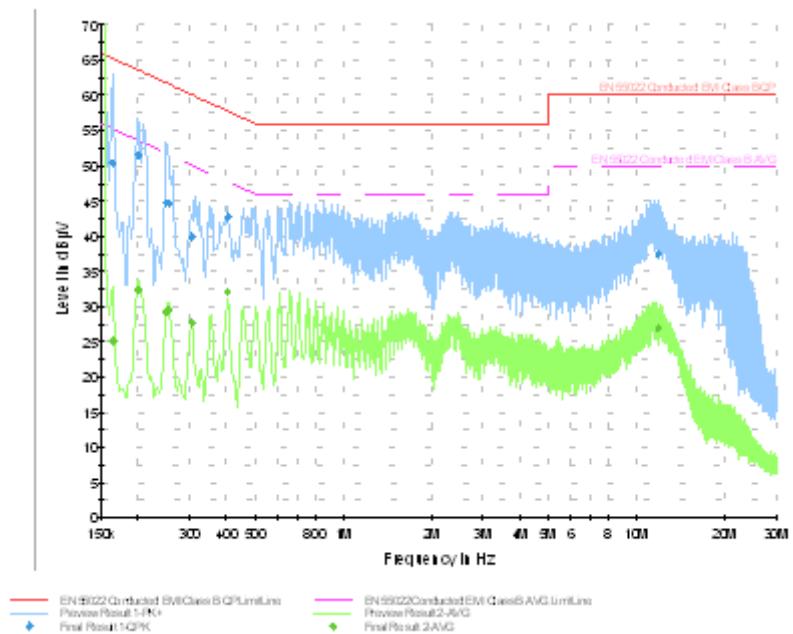
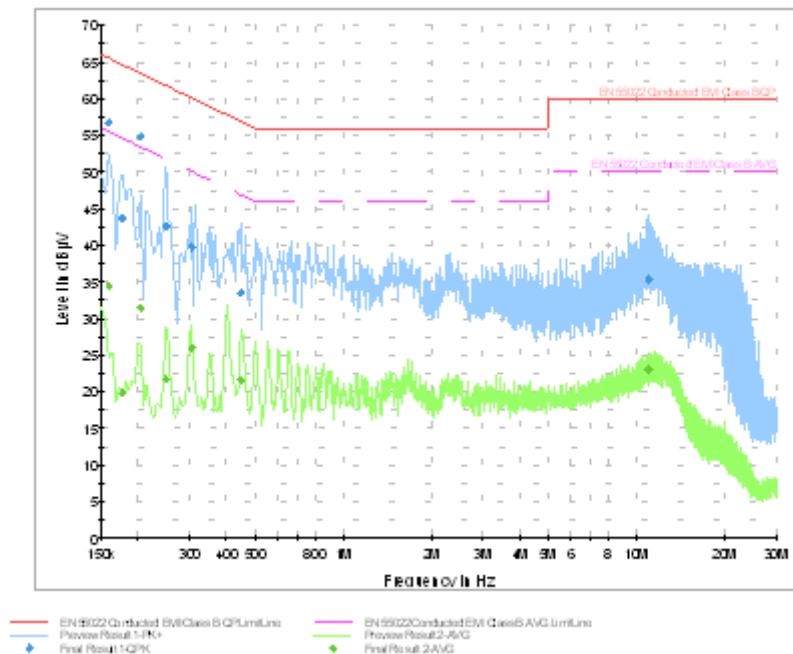


Figure 1-8: N Lines



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Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

AC Conducted Emissions Test Results cont'd

Test Configuration 5

Date of the test: March 08, 2011

The environmental conditions were: Temperature: 25.6 °C
Humidity: 36.4 %

Frequency (MHz)	Line	Reading (QP) (dB μ V)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dB μ V)	Limit (AV) (dB μ V)	Margin (QP) Limits (dB)
0.470	N	37.35	9.93	47.28	56.50	46.50	-9.22
0.537	N	36.90	9.90	46.80	56.00	46.00	-9.20
0.542	N	36.55	9.89	46.45	56.00	46.00	-9.55
0.668	N	33.39	9.85	43.24	56.00	46.00	-12.76
0.267	N	37.79	10.41	48.19	61.20	51.20	-13.01
0.335	N	36.26	10.12	46.38	59.30	49.30	-12.92
0.600	N	33.07	9.86	42.93	56.00	46.00	-13.07
0.735	N	32.74	9.83	42.57	56.00	46.00	-13.43
0.542	L1	22.26	9.89	32.15	46.00	36.00	-13.85
0.200	N	38.68	10.89	49.56	63.60	53.60	-14.04
0.330	N	35.27	10.13	45.40	59.50	49.50	-14.10
0.528	L1	19.43	9.89	29.32	46.00	36.00	-16.68
0.339	L1	20.86	10.10	30.97	49.20	39.20	-18.24
11.697	L1	20.73	10.01	30.73	50.00	40.00	-19.27
0.267	L1	20.70	10.39	31.08	51.20	41.20	-20.12
0.204	L1	22.14	10.83	32.97	53.40	43.40	-20.43
0.344	L1	16.43	10.10	26.53	49.10	39.10	-22.57
9.663	N	25.82	9.98	35.80	60.00	50.00	-24.20

**Test Report No.**
RTS-3640-1103-07B**Date of Test**
February 25 to April 11, 2011**FCC ID:** L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UWAC Conducted Emissions Test Results cont'dTest Configuration 5

Frequency (MHz)	Line	Reading (AV) (dB μ V)	Correction Factor (dB)	Corrected Reading (AV) (dB)	Limit (AV) (dB μ V)	Margin (AV) Limits (dB)
0.542	L1	36.52	9.89	46.41	56.00	-9.59
0.528	L1	35.69	9.89	45.59	56.00	-10.41
0.339	L1	37.08	10.10	47.18	59.20	-12.02
0.537	N	24.10	9.90	34.00	46.00	-12.00
0.470	N	24.41	9.93	34.34	46.50	-12.16
0.204	L1	40.11	10.83	50.94	63.40	-12.46
0.267	L1	37.66	10.39	48.04	61.20	-13.16
0.344	L1	35.68	10.10	45.78	59.10	-13.32
0.542	N	21.89	9.89	31.79	46.00	-14.21
0.600	N	20.65	9.86	30.52	46.00	-15.49
0.155	L1	37.45	11.17	48.62	65.80	-17.18
0.267	N	23.03	10.41	33.43	51.20	-17.77
0.735	N	17.92	9.83	27.75	46.00	-18.25
0.668	N	17.40	9.85	27.25	46.00	-18.75
11.697	L1	31.18	10.01	41.19	60.00	-18.81
0.335	N	19.78	10.12	29.90	49.30	-19.40
0.200	N	23.16	10.89	34.04	53.60	-19.56
0.650	L1	26.10	9.85	35.94	56.00	-20.06
0.645	L1	24.85	9.85	34.70	56.00	-21.30
0.330	N	17.08	10.13	27.21	49.50	-22.29

All other emission levels had a test margin of greater than 25 dB.

Measurements were done with the Quasi-Peak and Average detector.

See figure 1-9 and figure 1-10 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

AC Conducted Emissions Test Graphs

Test Configuration 5

Figure 1-9: L1 lines

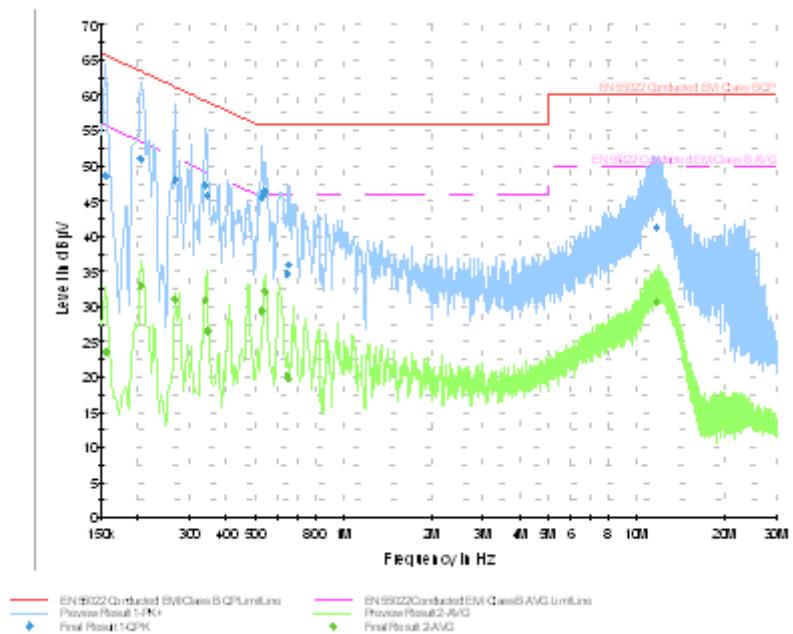
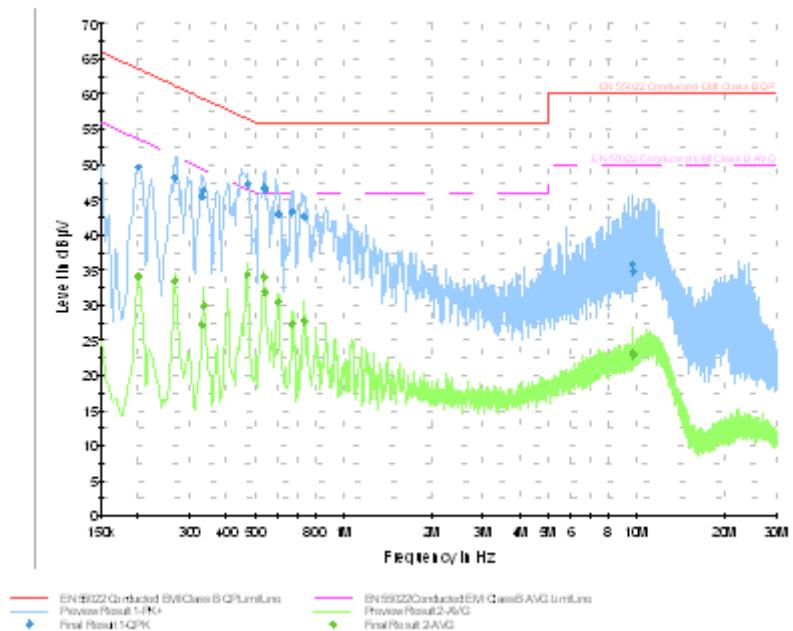


Figure 1-10: N Lines



	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW APPENDIX 2		
Test Report No. RTS-3640-1103-07B	Date of Test February 25 to April 11, 2011	FCC ID: L6ARDM70UW FCC ID: L6AREN70UW	IC : 2503A-RDM70UW IC : 2503A-REN70UW

APPENDIX 2 - RADIATED EMISSIONS TEST DATA (RDM71UW)



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

Radiated Emissions Test Results

The following test configurations were measured for model RDM71UW.

The following tests were performed by Kevin Rose

Test Configuration 1

Date of the test: February 24, 2011

The environmental conditions were: Temperature: 23.5 °C
Humidity: 16.2 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading +corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
68.050	V	1.76	152	Q.P.	36.73	-16.64	20.09	40.00	-19.91
41.350	V	1.40	106	Q.P.	32.29	-15.91	16.38	40.00	-23.62

All other emission levels had a test margin greater than 25 dB.



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration 2

Date of the test: February 24, 2011

The environmental conditions were: Temperature: 23.4 °C
Humidity: 22.6 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading +corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
216.050	H	1.48	100	Q.P.	43.43	-9.23	34.20	46.00	-11.80
432.000	V	1.44	86	Q.P.	36.37	-3.56	32.81	46.00	-13.19
432.000	H	1.84	227	Q.P.	35.26	-3.56	31.70	46.00	-14.30
528.000	H	2.08	246	Q.P.	31.62	-1.21	30.41	46.00	-15.59
528.100	H	2.23	249	Q.P.	31.57	-1.21	30.36	46.00	-15.64
216.050	V	2.04	166	Q.P.	39.41	-9.23	30.18	46.00	-15.82
528.100	V	2.05	239	Q.P.	30.97	-1.21	29.76	46.00	-16.24
272.100	H	1.16	67	Q.P.	38.10	-9.35	28.75	46.00	-17.25
272.100	V	1.61	195	Q.P.	36.68	-9.35	27.33	46.00	-18.67
120.150	H	3.13	354	Q.P.	36.56	-12.15	24.41	43.50	-19.09
336.100	V	1.58	177	Q.P.	31.45	-4.55	26.90	46.00	-19.10
166.250	H	1.73	115	Q.P.	36.28	-12.05	24.23	43.50	-19.27
299.250	H	1.12	58	Q.P.	33.54	-7.62	25.92	46.00	-20.08
130.250	H	1.58	354	Q.P.	34.80	-12.64	22.16	43.50	-21.34
38.800	V	1.71	225	Q.P.	33.87	-15.30	18.57	40.00	-21.43
30.900	V	3.63	300	Q.P.	31.42	-13.15	18.27	40.00	-21.73
299.300	V	1.72	237	Q.P.	31.24	-7.61	23.63	46.00	-22.37
52.100	V	1.51	191	Q.P.	34.41	-17.34	17.07	40.00	-22.93
593.750	V	3.97	262	Q.P.	21.93	0.47	22.40	46.00	-23.60
336.100	H	3.27	232	Q.P.	26.74	-4.55	22.19	46.00	-23.81
30.150	H	3.69	253	Q.P.	28.70	-12.80	15.90	40.00	-24.10

All other emission levels had a test margin greater than 25 dB.

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**Test Report No.**
RTS-3640-1103-07B**Date of Test**
February 25 to April 11, 2011**FCC ID:** L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UWRadiated Emissions Test Results cont'dTest Configuration 3

Date of the test: February 25, 2011

The environmental conditions were: Temperature: 24.5 °C
Humidity: 15.4 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
72.450	V	2.14	81	Q.P.	41.02	-15.93	25.09	40.00	-14.91
50.800	V	1.52	95	Q.P.	41.34	-17.25	24.09	40.00	-15.91
36.650	V	1.43	215	Q.P.	34.11	-14.77	19.34	40.00	-20.66
72.550	H	2.35	58	Q.P.	33.71	-15.91	17.80	40.00	-22.20

All other emission levels had a test margin greater than 25 dB.



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration 4

Date of the test: February 25, 2011

The environmental conditions were: Temperature: 24.1 °C
Humidity: 15.5 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
52.250	V	1.50	166	Q.P.	40.85	-17.33	23.52	40.00	-16.48
861.600	H	3.25	233	Q.P.	22.29	6.40	28.69	46.00	-17.31
67.400	V	1.96	120	Q.P.	36.04	-16.61	19.43	40.00	-20.57

All other emission levels had a test margin greater than 25 dB.



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration 5

Date of the test: February 25, 2011

The environmental conditions were: Temperature: 23.7 °C
Humidity: 15.4 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+c orr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
215.950	H	1.80	144	Q.P.	42.85	-9.22	33.63	43.50	-9.87
215.950	V	2.12	205	Q.P.	41.06	-9.22	31.84	43.50	-11.66
239.950	H	1.63	100	Q.P.	43.64	-10.09	33.55	46.00	-12.45
239.900	V	1.70	194	Q.P.	43.23	-10.09	33.14	46.00	-12.86
168.000	H	1.74	135	Q.P.	40.86	-12.05	28.81	43.50	-14.69
167.750	V	2.24	213	Q.P.	38.53	-12.05	26.48	43.50	-17.02
336.150	V	2.10	97	Q.P.	32.68	-4.55	28.13	46.00	-17.87
366.250	H	2.03	243	Q.P.	33.59	-5.77	27.82	46.00	-18.18
272.050	H	1.22	62	Q.P.	37.11	-9.35	27.76	46.00	-18.24
30.050	V	1.44	262	Q.P.	34.31	-12.75	21.56	40.00	-18.44
366.100	H	2.23	228	Q.P.	33.14	-5.78	27.36	46.00	-18.64
299.450	H	1.05	69	Q.P.	34.86	-7.59	27.27	46.00	-18.73
272.050	V	1.98	182	Q.P.	35.10	-9.35	25.75	46.00	-20.25
144.100	H	2.20	217	Q.P.	34.95	-12.59	22.36	43.50	-21.14
299.450	V	1.66	227	Q.P.	31.67	-7.59	24.08	46.00	-21.92
90.750	H	2.54	151	Q.P.	34.29	-14.06	20.23	43.50	-23.27
52.850	V	1.47	194	Q.P.	34.02	-17.32	16.70	40.00	-23.30
499.450	H	2.51	41	Q.P.	24.12	-1.77	22.35	46.00	-23.65
99.650	H	2.16	166	Q.P.	33.17	-13.51	19.66	43.50	-23.84
30.050	H	3.86	286	Q.P.	28.47	-12.75	15.72	40.00	-24.28

All other emission levels had a test margin greater than 25 dB.

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**Test Report No.**
RTS-3640-1103-07B**Date of Test**
February 25 to April 11, 2011**FCC ID:** L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UWRadiated Emissions Test Results cont'dTest Configuration 6

Date of the test: February 25, 2011

The environmental conditions were: Temperature: 23.7 °C
Humidity: 15.4 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
50.800	V	1.44	123	Q.P.	40.05	-17.25	22.80	40.00	-17.20
38.200	V	1.84	215	Q.P.	33.58	-15.12	18.46	40.00	-21.54
451.050	V	1.44	288	Q.P.	24.18	-2.60	21.58	46.00	-24.42

All emission levels had a test margin greater than 25 dB.

	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW APPENDIX 2		
Test Report No. RTS-3640-1103-07B	Date of Test February 25 to April 11, 2011	FCC ID: L6ARDM70UW FCC ID: L6AREN70UW	IC : 2503A-RDM70UW IC : 2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration 7

Date of the test: March 01, 2011

The environmental conditions were: Temperature: 23.5 °C
Humidity: 10.1 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
52.050	V	1.52	15	Q.P.	43.74	-17.34	26.40	40.00	-13.60
37.650	V	1.42	246	Q.P.	37.24	-15.01	22.23	40.00	-17.77
69.200	V	2.09	67	Q.P.	38.08	-16.33	21.75	40.00	-18.25
51.000	H	3.98	196	Q.P.	35.69	-17.25	18.44	40.00	-21.56
91.750	H	2.40	347	Q.P.	33.47	-13.90	19.57	43.50	-23.93

All other emission levels had a test margin greater than 25 dB.



Test Report No.
RTS-3640-1103-07B

Date of Test
February 25 to April 11, 2011

FCC ID: L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration: 8

Date of the test: March 08, 2011

The environmental conditions were: Temperature: 23.5 °C
Humidity: 15.1 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
54.050	V	1.44	21	Q.P.	40.47	-17.49	22.98	40.00	-17.02
281.450	H	1.52	186	Q.P.	30.92	-9.20	21.72	46.00	-24.28

All other emission levels had a test margin greater than 25 dB.

**Test Report No.**
RTS-3640-1103-07B**Date of Test**
February 25 to April 11, 2011**FCC ID:** L6ARDM70UW **IC :**2503A-RDM70UW
FCC ID: L6AREN70UW **IC :**2503A-REN70UWRadiated Emissions Test Results cont'dTest Configuration: 9

Date of the test: April 11, 2011

The environmental conditions were: Temperature: 24.2°C
Humidity: 35.6 %

Frequency (MHz)	Antenna		Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dB μ V)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dB μ V/m)	Limit @ 3.0 m (dB μ V/m)	Test Margin (dB)
	Pol. (V/H)	Height (metres)							
57.750	V	1.61	167.00	Q.P.	37.41	-17.43	19.98	40.00	-20.02
63.450	H	1.18	35.00	Q.P.	32.37	-16.96	15.41	40.00	-24.59
65.700	V	1.58	142.00	Q.P.	35.20	-16.79	18.41	40.00	-21.59

All other emission levels had a test margin greater than 25 dB.

	EMI Test Report for the BlackBerry® smartphone Model RDM71UW, REN71UW APPENDIX 2		
Test Report No. RTS-3640-1103-07B	Date of Test February 25 to April 11, 2011	FCC ID: L6ARDM70UW FCC ID: L6AREN70UW	IC : 2503A-RDM70UW IC : 2503A-REN70UW

Radiated Emissions Test Results cont'd

Test Configuration: 10

Date of the test: April 11, 2011

The environmental conditions were: Temperature: 24.2°C
Humidity: 35.6 %

All emission levels had a test margin greater than 25 dB.