Partial EMI Test Report

Tested in accordance with Federal Communications Commission (FCC) Personal Communications Services CFR 47 Parts 2, 22, 24 and 27

Industry Canada (IC) RSS- Gen, 132, 133 and 139



A division of Research In Motion Limited

REPORT NO: RTS-5316-1109-83A

REA71UW, REB71UW BlackBerry® smartphone PRODUCT MODEL NO:

TYPE NAME:

FCC ID: L6AREA70UW, L6AREB70UW

> IC: 2503A-REA70UW, 2503A-REB70UW

EMISSION DESIGNATOR (GSM): 244KGXW **EMISSION DESIGNATOR (EDGE):** 250KG7W **EMISSION DESIGNATOR (WCDMA):** 4M11F9W

> DATE: October 6, 2011

This report shall NOT be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited. Copyright 2005-2011 Page 1 of 15



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

Statement of Performance:

The BlackBerry[®] smartphone, model REA71UW, part number CER-41251-001 Rev2 and accessories performs within the requirements of the test standards when configured and operated per RIM's instructions.

The BlackBerry[®] smartphone, model REB71UW, part number CER-41250-001 Rev2 and accessories performs within the requirements of the test standards when configured and operated per RIM's instructions.

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:

Nielven Olis

Regulatory Compliance Associate

Date: October 13, 2011

Reviewed by:

Savtei S. Sandhu

Regulatory Compliance Specialist

Date: October 14, 2011

Reviewed and Approved by:

Masud Alta

Masud S. Attayi, P.Eng.

Manager, Regulatory Compliance

Date: October 14, 2011

Copyright 2005-2011 Page 2 of 15



Test Report No. RTS-5316-1109-83A

Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

Page 3 of 15

Table of Contents

A)	Scope	4
B)	Associated Documents	4
C)	Product Identification	5
D)	Support Equipment Used for the Testing of the EUT	6
E)	Test Voltage	6
F)	Test Results Chart	7
G)	Summary of Results	8
APPE	ENDIX 1 – GSM CONDUCTED RF OUTPUT POWER TEST DATA	0
APPE	NDIX 2 – UMTS Band 2/5 CONDUCTED RF OUTPUT POWER TEST DATA	2
APPE	ENDIX 3 – UMTS Band 4 CONDUCTED RF OUTPUT POWER TEST DATA	4

Copyright 2005-2011



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011

FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

Page 4 of 15

A) Scope

This report details the results of compliance tests which were performed in accordance to the requirements of:

- FCC CFR 47 Part 2, Oct, 2010
- FCC CFR 47 Part 22, Subpart H, Cellular Radiotelephone Services, Oct., 2010
- FCC CFR 47 Part 24 Subpart E, Broadband PCS, Oct,. 2010
- FCC CFR 47 Part 27, Subpart C, Technical Standards, Oct, 2010 (Model: REB71UW only)
- Industry Canada, RSS-132 Issue 2, September 2005, Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz.
- Industry Canada, RSS-133 Issue 5, February 2009, 2 GHz Personal Communications Services.
- Industry Canada, RSS-GEN Issue 3, December 2010, General Requirements and Information for the Certification of Radiocommunication Equipment
- Industry Canada, RSS-139 Issue 2, February 2009, Advanced Wireless Services Equipment Operating in the Bands 1710-1755 MHz and 2110-2155 MHz. (Model: REB71UW only)

B) Associated Documents

- 1. REB71UW-HW Declaration CER-41250-001-Rev2
- 2. REA71UW-HW_Declaration_CER-41251-001-Rev2
- 3. MultiSourceDeclaration REA71UW 7.0.0 b1755
- 4. BlackBerrySystemSimilarity _REA71UW_REB71UW
- 5. Test Report: 2-0023-11-1-6a
- 6. Test Report: 2-0023-11-1-6b
- 7. Test Report: 2-0023-11-1-6a-A1
- 8. Test Report: 2-0023-11-1-6b-A1

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.

Copyright 2005-2011



Test Report No. RTS-5316-1109-83A

Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

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 on September 8, 2011.

Copyright 2005-2011 Page 5 of 15



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

The sample EUT included:

Sample	Model	CER NUMBER	PIN	Software Information
1	REA71UW	CER-41251-001 Rev1	27EB7986	v7.0.0.300 Plat. 9.0.0.190
				Bundle 1482
	REA71UW	CER-41251-001 Rev2		v7.0.0.378
2			2830208A	Plat. 9.32.0.14
				Bundle 1755
				v7.0.0.378
3	REB71UW	CER-41250-001 Rev2	28306B42	Plat. 9.32.0.14
				Bundle 1755

RF Conducted Emissions testing was performed on samples 1, 2 and 3.

Only the characteristics that have been affected by the changes from Model REA71UW Rev1 to REA71UW Rev2 were retested. For more information see document: REA71UW-HW_Declaration_CER-41251-001-Rev2

Only the characteristics that have been affected by the changes from Model REA71UW to REB71UW were retested. For more information see document: BlackBerrySystemSimilarity_REA71UW_REB71UW

To view the differences between Bundle 1482 to 1755, see document: MultiSourceDeclaration_ REA71UW_b1755

D) Support Equipment Used for the Testing of the EUT

No support equipment required; for list of equipment refer to section H, Compliance Test Equipment Used.

E) Test Voltage

The ac input voltage was 120 volts, 60 Hz where applicable. This configuration was per RIM's specifications.

Copyright 2005-2011 Page 6 of 15



Test Report No. RTS-5316-1109-83A

Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

F) Test Results Chart

SPECIFICATION		TEST TVDE	DECILIT	TEST DATA
FCC CFR 47	IC	TEST TYPE	RESULT	APPENDIX
Part 2.1051 Part 22.917 Part 22.901	RSS-GEN, 4.9	GSM 850 Conducted Spurious Emissions	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.1051 Part 24.238(a)	RSS-GEN, 4.9	PCS 1900 Conducted Spurious Emissions	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.202 Part 22.917	RSS-GEN, 4.6	GSM 850 Occupied Bandwidth and Channel Mask	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.202 Part 24.238	RSS-GEN, 4.6	PCS 1900 Occupied Bandwidth and Channel Mask	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.1046(a)	RSS-133, 6.4 RSS-132, 4.4	GSM Conducted RF Output Power	Pass	1
Part 2.1055(a)(d) Part 22.917	RSS-132, 4.3	GSM 850 Frequency Stability vs. Temperature and Voltage	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.1055(a)(d) Part 24.235	RSS-132, 4.3	PCS 1900 Frequency Stability vs. Temperature and Voltage	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 22, Subpart H, Part 24, Subpart E	RSS-GEN, 4.9	GSM ERP, EIRP	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 22, Subpart H Part 24, Subpart E	RSS-GEN, 4.9	GSM Radiated Spurious/Harmonic Emissions	See test report: 2-0023-11-1-6a and 2-0023-11-1-6a-A1	-
Part 2.1051 Part 22.917 Part 22.901(d)	RSS-GEN, 4.9	UMTS Band 5 Conducted Spurious Emissions	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.1051 Part 24.238(a)	RSS-GEN, 4.9	UMTS Band 2 Conducted Spurious Emissions	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.202 Part 22.917	RSS-GEN, 4.6	UMTS Band 5 Occupied Bandwidth and Channel Mask	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.202 Part 24.238	RSS-GEN, 4.6	UMTS Band 2 Occupied Bandwidth and Channel Mask	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.1046(a)	RSS-133, 6.4 RSS-132, 4.4	UMTS Band 2 and 5 Conducted RF Output Power	Pass	2

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.

Copyright 2005-2011 Page 7 of 15



Test Report No. RTS-5316-1109-83A

Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

Test Results Chart cont'd

Part 2.1055(a)(d) Part 22.917	RSS-132, 4.3	UMTS Band 5 Frequency Stability vs. Temperature and Voltage	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.1055(a)(d) Part 24.235	RSS-GEN, 4.7	UMTS Band 2 Frequency Stability vs. Temperature and Voltage	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	1
Part 22, Subpart H	RSS-GEN, 4.9	UMTS Band 5 Radiated Spurious/Harmonic Emissions, ERP	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 24, Subpart E	RSS-GEN, 4.9	UMTS Band 2 Radiated Spurious/Harmonic Emissions, EIRP	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 27.53	RSS-139, 6.5	WCDMA UMTS Band 4 Conducted Spurious Emissions	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.202 Part 27.53	RSS-GEN, 2.3	WCDMA UMTS Band 4 Occupied Bandwidth and Channel Mask	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 2.1046(a)	RSS-139, 6.4	WCDMA UMTS Band 4 Conducted RF Output Power	Pass	3
Part 2.1055(a)(d) Part 27.54	RSS-139, 6.3	WCDMA UMTS Band 4 Frequency Stability vs. Temperature and Voltage	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 27.53	RSS-139, 6.5	WCDMA UMTS Band 4 Radiated Spurious/Harmonic Emissions	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-
Part 27.50	RSS-139, 6.4	WCDMA UMTS Band 4 EIRP	See test report: 2-0023-11-1-6b and 2-0023-11-1-6b-A1	-

G) Summary of Results

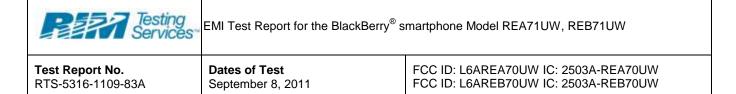
1) Conducted Emission Measurements

The following test configurations were measured for model REA71UW:

a) The BlackBerry® smartphone met the requirements of the Tx Conducted RF output Power requirements in the GSM850 as per 47 CFR 2.1046, and RSS-GEN, 4.4. The EUT was measured on the low, middle and high channels. See APPENDIX 1 for test data.

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.

Copyright 2005-2011 Page 8 of 15



The BlackBerry® smartphone met the requirements of the Tx Conducted RF output Power requirements in the PCS1900 as per 47 CFR 2.1046, and RSS-GEN, 6.4. The EUT was on the low, middle and high channels. See APPENDIX 1 for test data

b) The BlackBerry® smartphone met the requirements of the Tx Conducted RF output Power requirements in the UMTS band 5 as per 47 CFR 2.1046, and RSS-GEN, 4.4. The EUT was measured on the low, middle and high channels. See APPENDIX 2 for test data.

The BlackBerry® smartphone met the requirements of the Tx Conducted RF output Power requirements in the UMTS band 2 as per 47 CFR 2.1046, and RSS-GEN, 6.4. The EUT was on the low, middle and high channels. See APPENDIX 2 for test data

The following test configurations were measured for model REB71UW:

c) The BlackBerry® smartphone met the requirements of the Tx Conducted RF output Power requirements in the UMTS band 4 as per 47 CFR 2.1046(a), RSS-139, 6.4 and RSS-132, 4.4. The EUT was measured on the low, middle and high channels.

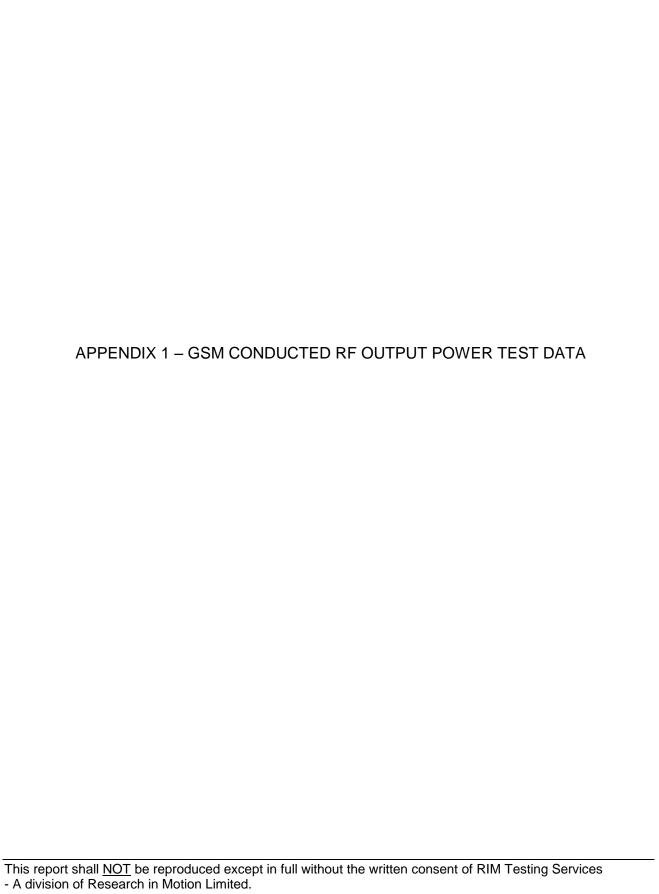
See APPENDIX 3 for test data.

H) Compliance Test Equipment Used

<u>UNIT</u>	MANUFACTURER	MODEL	<u>SERIAL</u> <u>NUMBER</u>	CAL DUE DATE (YY MM DD)	USE
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	102204	11-11-30	RF Conducted Emissions

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.

Copyright 2005-2011 Page 9 of 15



Page 10 of 15 Copyright 2005-2011



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

GSM Conducted RF Output Power Test Data

The following test configurations were measured for model REA71UW:

The conducted RF output power was measured on the BlackBerry[®] smartphone using the Communication Tester, Rohde & Schwarz, model CMU 200. The low, middle and high channels were measured at maximum output power. The insertion loss of the coaxial cable from the CMU 200 to the BlackBerry[®] smartphone was compensated for in the measurements.

Peak nominal output power is 33.0 dBm ±0.5 dB for GSM850 and 29.0 dBm ±0.5 dB for PCS.

Peak nominal output power is 31.0 dBm ±0.5 dB for GSM850 EDGE Mode (2-timeslot uplink) and 28.0 dBm ±0.5 dB for PCS EDGE Mode (2-timeslot uplink).

Date of Test: September 8, 2011

The environmental conditions were: Temperature: 22 °C

Humidity: 40 %

The measurements were performed by Daoud Attayi

Channel	Frequency (MHz)	Maximum Output Power (dBm)	Maximum Output Power (Watts)	Channel	Frequency (MHz)	Maximum Output Power (dBm)	Maximum Output Power (Watts)
	<u>GSN</u>	<u> 1850</u>			GSM85	50 Edge	
128	824.2	33.4	2.19	128	824.2	31.2	1.32
189	836.8	33.3	2.14	189	836.8	31.2	1.32
251	848.8	33.3	2.14	251	848.8	31.2	1.32
PCS PCS E					<u>Edge</u>		
512	1850.2	28.8	0.76	512	1850.2	28.2	0.66
661	1880.0	29.0	0.79	661	1880.0	28.2	0.66
810	1909.8	29.0	0.79	810	1909.8	28.1	0.65

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.

Copyright 2005-2011 Page 11 of 15



This report shall NOT be reproduced except in full without the written consent of RIM Testing Services
- A division of Research in Motion Limited.

Copyright 2005-2011

Page 12 of 15



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

UMTS Band 2/5 Conducted RF Output Power Test Data

The following test configurations were measured for model REA71UW:

The measurements were performed by Daoud Attayi.

The conducted RF output power was measured using the CDMA base station simulator. Low, middle and high channels were measured at maximum radio output power at different service options and modes.

Peak nominal output power is 24.00 dBm ±0.50 dB for Band 5 and 22.00 dBm ±0.50 dB for Band 2.

Date of Test: September 8, 2011

The environmental test conditions were: Temperature 24 °C

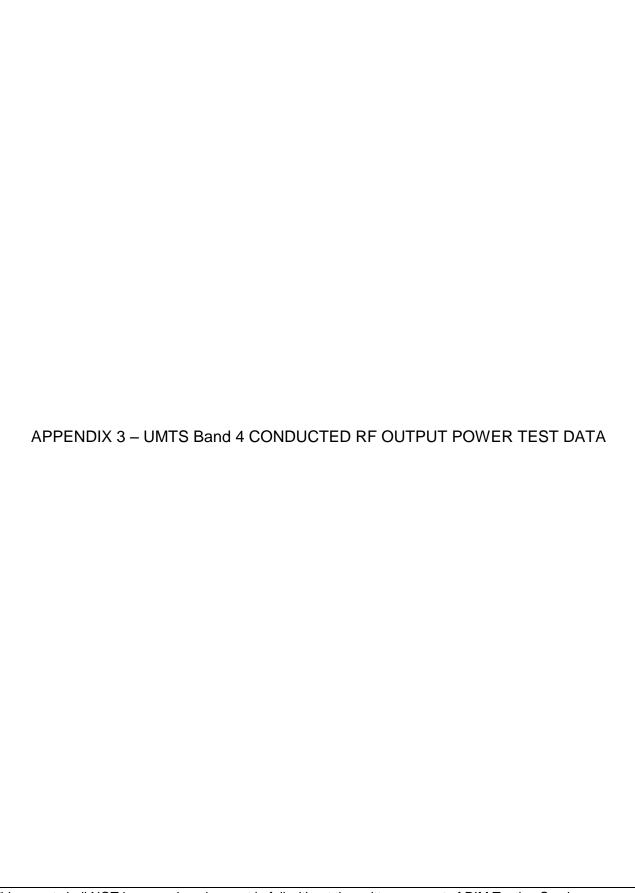
Relative Humidity 55 %

Test Results

<u>rest resuits</u>								
	Band	FDD V (850) FDD II (1900)			00)			
	Channel	4132	4182	4233	9262	9400	9538	
	Freq (MHz)	826.4	836.4	846.6	1852.4	1880.0	1907.6	
Modo	Cubtoot	Max	burst aver	aged	Max burst averaged			
Mode	Subtest	conducted power (dBm)			conducted power (dBm)			
Rel99	12.2 kbps RMC	24.07	24.06	24.17	21.78	21.76	22.11	
Rel99	12.2 kbps AMR, SRB	24.13	24.07	24.13	21.84	21.72	22.10	
Keiss	3.4 kbps							
Rel5 HSDPA	1	23.92	23.89	23.90	21.67	21.55	21.99	
Rel5 HSDPA	2	23.92	23.89	23.90	21.70	21.57	22.00	
Rel5 HSDPA	3	23.90	23.85	23.89	21.65	21.52	21.97	
Rel5 HSDPA	4	23.95	23.90	23.92	21.64	21.53	21.99	
Rel6 HSUPA	1	23.92	23.89	23.90	21.70	21.59	22.00	
Rel6 HSUPA	2	23.96	23.84	23.91	21.68	21.56	21.97	
Rel6 HSUPA	3	23.95	23.82	23.89	21.65	21.55	21.97	
Rel6 HSUPA	4	23.96	23.83	23.92	21.63	21.50	21.95	
Rel6 HSUPA	5	23.94	23.82	23.90	21.62	21.51	21.94	

Copyright 2005-2011 Page 13 of 15

This report shall <u>NOT</u> be reproduced except in full without the written consent of RIM Testing Services - A division of Research in Motion Limited.



This report shall NOT be reproduced except in full without the written consent of RIM Testing Services
- A division of Research in Motion Limited.

Copyright 2005-2011

Page 14 of 15



Test Report No. RTS-5316-1109-83A Dates of Test September 8, 2011 FCC ID: L6AREA70UW IC: 2503A-REA70UW FCC ID: L6AREB70UW IC: 2503A-REB70UW

Page 15 of 15

UMTS Band 2/5 Conducted RF Output Power Test Data

The following test configurations were measured for model REB71UW:

The measurements were performed by Daoud Attayi.

The conducted RF output power was measured using the CDMA base station simulator. Low, middle and high channels were measured at maximum radio output power at different service options and modes.

Peak nominal output power is 21.50 dBm ±0.50 dB for Band 4.

Date of Test: September 8, 2011

The environmental test conditions were: Temperature 24 °C

Relative Humidity 55 %

Test Results

Tool Hoodile							
	Band	FDD IV (1700)					
	Channel	1312	1312	1312			
	Freq (MHz)	1712.4	1712.4	1712.4			
Mode	Subtest	Max burst averaged					
Wiode	Sublest	conduc	ted power	(dBm)			
Rel99	12.2 kbps RMC	21.60	21.65	21.62			
Rel99	12.2 kbps AMR, SRB 3.4 kbps	21.62	21.69	21.66			
Rel5 HSDPA	1	21.42	21.47	21.44			
Rel5 HSDPA	2	21.45	21.50	21.47			
Rel5 HSDPA	3	21.46	21.49	21.48			
Rel5 HSDPA	4	21.41	21.45	21.42			
Rel6 HSUPA	1	21.43	21.47	21.42			
Rel6 HSUPA	2	21.40	21.42	21.41			
Rel6 HSUPA	3	21.42	21.47	21.44			
Rel6 HSUPA	4	21.46	21.49	21.48			
Rel6 HSUPA	5	21.41	21.45	21.42			

This report shall NOT be reproduced except in full without the written consent of RIM Testing Services

- A division of Research in Motion Limited.

Copyright 2005-2011