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

RIM Testing Services (RTS)

A division of Research In Motion Limited

REPORT NO.: RTS-1528-0904-02

PRODUCT MODEL NO.: RCF71CW
TYPE NAME: BlackBerry® smartphone
FCC ID: L6ARCF70CW
IC: 2503A-RCF70CW

DATE: 04 May, 2009

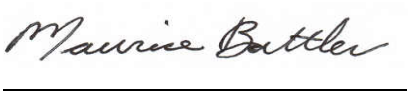
Statement of Performance:

The BlackBerry® smartphone, model RCF71CW, part number CER-24239-001 Rev. 3, and accessories when configured and operated per RIM's operation instructions, 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:



Maurice Battler
Compliance Specialist
Date: 04 May, 2009

Reviewed by:

Masud S. Attayi, P.Eng.
Team Lead, Regulatory Compliance
Date: 04 May, 2009

Approved by:

Paul G. Cardinal, Ph.D.
Director
Date: 04 May, 2009

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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, July 10, 2008 Class B Digital Devices, Unintentional Radiators
- IC ICES-003 Issue 4, February 2004, Class B Digital Devices, Unintentional Radiators

B. Associated Document

1. Document number RTS-01528-RCF71CW-01

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 (RTS) EMI test facilities

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

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

The testing was performed on March 09 to May 04, 2009.

The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN
1	RCF71CW	CER-24239-001 Rev. 2	306F59C7
2	RCF71CW	CER-24239-001 Rev. 2	306F5A0B
3	RCF71CW	CER-24239-001 Rev. 2	306FB2A7
4	RCF71CW	CER-24239-001 Rev. 3	30870667

AC conducted testing was performed on sample 1.
Radiated Emissions testing was performed on samples 2, 3, and 4.

To view the differences between CER-24239-001 Rev. 2 and CER-24239-001 Rev. 3, see document number RTS-01528-RCF71CW-01.

Only the measurements that may have been impacted by the changes from Rev 2 to Rev 3 were re-measured.

BlackBerry® smartphone Accessories Tested

1) Folding Blade Charger part number HDW-17955-001 with an output voltage of 5.0 volts, 700 mA and attached USB cable with a lead length of 1.80 metres.
2) Captive Cable Charger part number HDW-17957-003 with an output voltage of 5.0 volts dc, 700 mA and attached USB cable with a lead length of 1.80 metres.
3) Non-Folding Blade Charger, part number HDW-24480-001, Rev 1 with an output voltage of 5.0 volts, 550 mA.
4) BlackBerry® Charging Pod, part number HDW-22385-001.
5) External Battery Charger, (EBC), part number HDW-19137-001
6) BlackBerry® Remote Stereo Gateway, part number ASY-16007-001
7) Bluetooth Headset, part number HDW-12747-002
8) USB Y-Cable, part number HDW-19137-002, lead lengths of 26 cm and 11 cm
9) Stereo Headset, part number HDW-14322-003 with a lead length of 1.3 metres.
10) Premium Single Button Stereo Headset, part number HDW-15766-005, 1.3 meters long.
11) Premium Multi-Button Stereo Headset, part number HDW-15765-001, 1.3 meters long.
12) USB Data Cable, part number HDW-06610-013, 0.30 metres long.
13) USB Data Cable, part number HDW-06610-009, 1.00 metre long.
14) USB Data Cable, part number HDW-06610-005, 1.50 metres long

D. Support Equipment Used for the Testing of the EUT

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

E. Modifications to EUT

No modifications were required on the EUT.

F. 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

a) CONDUCTED AC LINE 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 PIN 306F59C7 was in battery charging mode. The input voltage was 120 V, 60 Hz.
The following test configuration was measured:

1. The BlackBerry® smartphone with the Stereo Headset connected was sitting in the Charging Pod which was connected to the Folding Blade Charger.
2. The BlackBerry® smartphone with the Premium Single Button Stereo Headset connected was sitting in the Charging Pod which was connected to the Captive Cable Charger.
3. The BlackBerry® smartphone with the Premium Multi-Button Stereo Headset connected was sitting in the Charging Pod which was connected to the Non-Folding Blade Charger via the 1.5 metre USB Data Cable.

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 3.00 dB below the QP limit at 0.150 MHz using the quasi-peak detector and 10.40 dB below the limit using the AV detector for the Alternative Charger, test configuration 3.

Measurement Uncertainty ±3.0 dB

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

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.

The following test configurations were measured:
1. The BlackBerry® smartphone, PIN 306F5A0B in Bluetooth Tx mode with the Stereo Headset was connected to the Folding Blade Charger.
2. The BlackBerry® smartphone, PIN 306F5A0B in PCS1900 idle mode with the Premium Multi-Button Stereo Headset attached was connected to the Folding Blade Charger.
3. The BlackBerry® smartphone, PIN 306F5A0B in CDMA Cellular idle mode and Bluetooth Tx mode was connected to the Folding Blade Charger. The BlackBerry® Remote Stereo Gateway was connected to the Laptop via the 0.30 metre USB Data Cable.
4. The BlackBerry® smartphone, PIN 306FB2A7 in PCS1900 idle mode with the Premium Multi-Button Stereo Headset attached was connected to the Non-Folding Blade Charger. The External Battery Charger was connected to the Non-Folding Blade Charger via the USB Y-Cable.
5. The BlackBerry® smartphone, PIN 306F5A0B in CDMA PCS1900 idle mode was connected to the Laptop via the 1.0 metre USB Cable.
6. The BlackBerry® smartphone, PIN 306FB2A7 in GSM850 idle mode and communicating with the Bluetooth Headset was connected to the Laptop via the 1.0 metre USB Data cable.
7. The BlackBerry® smartphone, PIN 306FB2A7 in GSM850 idle mode was connected to the Laptop via the 1.0 metre high speed USB Cable.
8. The BlackBerry® smartphone, PIN 30870667 in GSM850 idle mode was connected to the Laptop via the 1.5 metre high speed USB Cable.

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 2.91 dB at 96.061 MHz using test configuration 5.

Sample Calculation:

Field Strength (dBµV/m) is calculated as follows:
FS = Measured Level (dBµV) + A.F. (dB/m) + Cable Loss (dB) - Preamp (dB) + Filter Loss (dB)

Measurement Uncertainty ±4.6 dB

To view the test data see APPENDIX 2.

G. Compliance Test Equipment Used

UNIT	MANUFACTURER	MODEL	SERIAL NUMBER	CAL DUE DATE (YY MM DD)	USE
Preamplifier	Sonoma	310N/11909A	185831	09-11-07	Radiated Emissions
Preamplifier system	TDK RF Solutions	PA-02	080010	09-11-07	Radiated Emissions
Preamplifier	Rohde & Schwarz	TS-ANA4-SP	001	09-06-03	Radiated Emissions
Preamplifier	Rohde & Schwarz	TS-ANA-SP	001	10-03-31	Radiated Emissions
EMC Analyzer	Agilent	E7405A	US40240226	09-11-17	Radiated Emissions
Digital Multimeter	Hewlett Packard	34401A	US36042324	09-10-01	Conducted/Radiated Emissions
Environment Monitor	Control Company	1870	230355190	10-02-12	Radiated Emissions
Environment Monitor	Control Company	1870	80117164	10-01-08	Conducted/Radiated Emissions
L.I.S.N.	Rohde & Schwarz	ENV216	100060	10-04-08	Conducted Emissions
Hybrid Log Antenna	TDK	HLP-3003C	017301	11-02-02	Radiated Emissions
Hybrid Log Antenna	TDK	HLP-3003C	017201	09-10-24	Radiated Emissions
Horn Antenna	TDK	HRN-0118	030201	11-03-12	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	837493/073	09-12-08	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	112394	09-12-07	Radiated/Conducted Emissions
EMI Test Receiver	Rohde & Schwarz	ESIB 40	100255	09-12-02	Conducted/Radiated Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100370	09-12-08	Radiated Emissions

APPENDIX 1 - AC LINE CONDUCTED EMISSIONS TEST DATA

AC Conducted Emissions Test Results

The measurements were performed by Heng Lin.

Test Configuration 1

The BlackBerry® smartphone PIN 306F59C7 was tested on March 09, 2009.

The environmental test conditions were: Temperature: 24ºC
Pressure: 1020 mb
Relative Humidity: 33%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.150	L1	36.85	9.95	46.80	66.00	56.00	-19.20
0.155	N	35.38	9.85	45.20	65.75	55.75	-20.50
0.164	N	34.90	10.00	44.90	65.28	55.28	-20.38
0.209	N	29.21	9.79	39.00	63.26	53.26	-24.26
0.222	L1	30.41	9.89	40.30	62.74	52.74	-22.44
0.231	L1	29.82	9.88	39.70	62.41	52.41	-22.71
0.258	N	29.19	9.81	39.00	61.50	51.50	-22.50
0.312	N	28.78	9.82	38.60	59.92	49.92	-21.32
0.335	L1	31.39	9.81	41.20	59.34	49.34	-18.14
0.393	N	34.64	9.86	44.50	58.00	48.00	-13.50
0.470	L1	26.10	9.70	35.80	56.52	46.52	-20.72
0.479	N	27.42	9.88	37.30	56.37	46.37	-19.07
0.632	L1	27.98	9.62	37.60	56.00	46.00	-18.40
0.933	L1	25.37	9.53	34.90	56.00	46.00	-21.10
1.028	N	23.36	9.64	33.00	56.00	46.00	-23.00
1.946	N	23.48	9.62	33.10	56.00	46.00	-22.90
2.081	L1	26.26	9.54	35.80	56.00	46.00	-20.20
3.251	N	22.99	9.61	32.60	56.00	46.00	-23.40
3.377	L1	25.80	9.60	35.40	56.00	46.00	-20.60
4.524	N	23.62	9.58	33.20	56.00	46.00	-22.80
4.830	L1	27.03	9.67	36.70	56.00	46.00	-19.30
8.183	L1	28.05	9.75	37.80	60.00	50.00	-22.20
10.604	L1	27.06	9.84	36.90	60.00	50.00	-23.10

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

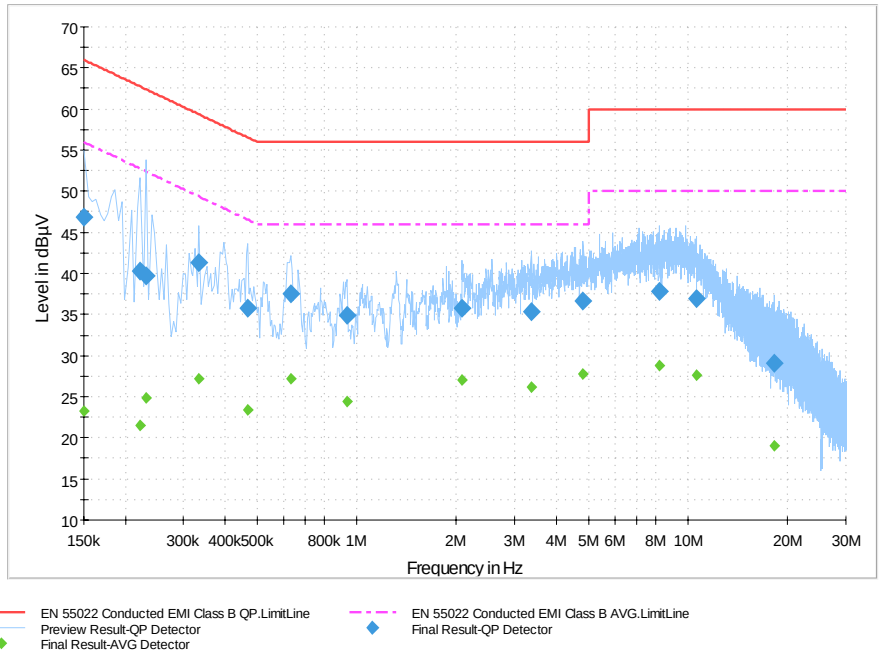
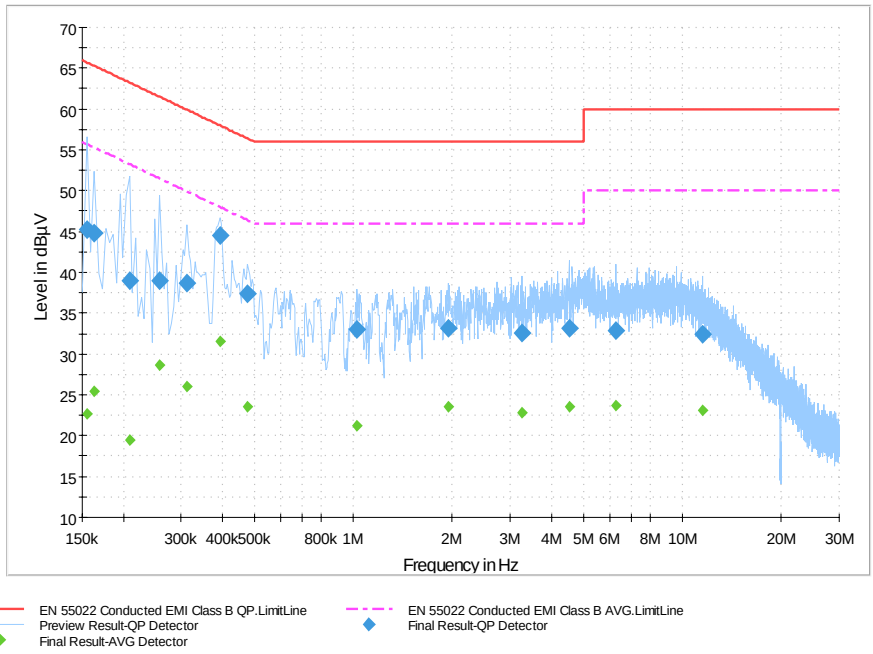


Figure 1-2: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 2

The BlackBerry® smartphone PIN 306F59C7 was tested on March 09, 2009.

The environmental test conditions were: Temperature: 24ºC
Pressure: 1020 mb
Relative Humidity: 33%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factors for Impulse Limiter, LISN, Cable (dB)	Level (QP) (reading + Corr.Factor) (dB)	Limit (QP) (dBµV)	Margin (QP) Limits (dB)
0.632	L1	27.58	9.62	37.20	56.00	-18.80
0.920	N	23.32	9.68	33.00	56.00	-23.00
1.239	L1	31.60	9.50	41.10	56.00	-14.90
1.257	L1	31.09	9.51	40.60	56.00	-15.40
2.049	N	26.18	9.62	35.80	56.00	-20.20
2.121	L1	33.54	9.56	43.10	56.00	-12.90
2.400	L1	37.26	9.54	46.80	56.00	-9.20
2.427	N	30.50	9.60	40.10	56.00	-15.90
3.710	N	25.08	9.62	34.70	56.00	-21.31
3.719	L1	30.57	9.63	40.20	56.00	-15.80
7.643	L1	29.85	9.75	39.60	60.00	-20.40
7.841	N	25.88	9.62	35.50	60.00	-24.50
10.910	L1	28.25	9.85	38.10	60.00	-21.90

Measurements were done with the quasi-peak detector.

All other emission levels had a test margin of greater than 25 dB.
Measurements were done with the quasi-peak 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.

AC Conducted Emissions Test Results cont'd

Test Configuration 2

The BlackBerry® smartphone PIN 306F59C7 was tested on March 09, 2009.

The environmental test conditions were: Temperature: 24ºC
Pressure: 1020 mb
Relative Humidity: 33%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

Frequency (MHz)	Line	Reading (AVE.) (dBµV)	Correction Factors for Impulse Limiter, LISN, Cable (dB)	Level (AVE.) (reading + Corr.Factor) (dB)	Limit (AVE.) (dBµV)	Margin (AVE.) Limits (dB)
0.632	L1	16.68	9.62	26.30	46.00	-19.70
0.920	N	12.02	9.68	21.70	46.00	-24.30
1.239	L1	19.40	9.50	28.90	46.00	-17.10
1.257	L1	18.89	9.51	28.40	46.00	-17.60
2.121	L1	22.44	9.56	32.00	46.00	-14.00
2.400	L1	25.56	9.54	35.10	46.00	-10.90
2.409	N	16.08	9.62	25.70	46.00	-20.30
2.427	N	20.50	9.60	30.10	46.00	-15.90
3.710	N	15.78	9.62	25.40	46.00	-20.60
3.719	L1	19.37	9.63	29.00	46.00	-17.00
7.643	L1	21.05	9.75	30.80	50.00	-19.20
7.841	N	16.88	9.62	26.50	50.00	-23.50
10.770	N	16.31	9.69	26.00	50.00	-24.00
10.910	L1	19.45	9.85	29.30	50.00	-20.70

Measurements were done with the average detector.
All other emission levels had a test margin of greater than 25 dB.
See figure 1-3 and figure 1-4 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

AC Conducted Emissions Test Graphs

Test Configuration 2

Figure 1-3: L1 lines

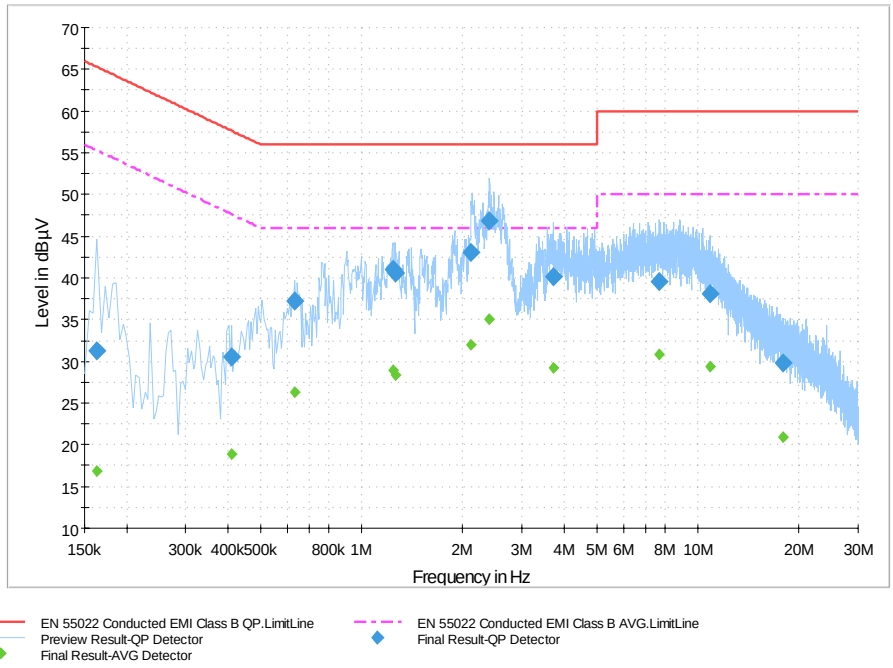
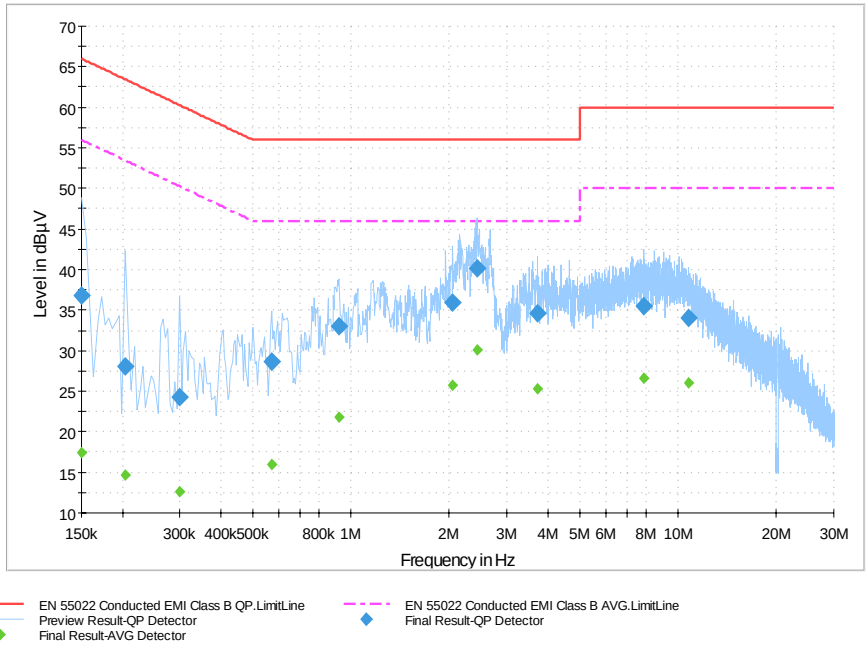


Figure 1-4: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 3

The BlackBerry® smartphone PIN 306F59C7 was tested on April 06, 2009.

The environmental test conditions were: Temperature: 25ºC
Pressure: 992 mb
Relative Humidity: 32%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factors for Impulse Limiter, LISN, Cable (dB)	Level (QP) (reading + Corr.Factor) (dB)	Limit (QP) (dBµV)	Margin (QP) Limits (dB)
0.150	L1	53.05	9.95	63.00	66.00	**-3.00**
0.150	N	50.91	9.69	60.60	66.00	-5.40
0.285	N	44.19	9.81	54.00	60.67	-6.67
0.290	L1	45.77	9.83	55.60	60.54	-4.94
0.452	L1	39.99	9.71	49.70	56.85	-7.15
0.452	N	37.82	9.88	47.70	56.85	-9.15
0.605	L1	32.46	9.63	42.10	56.00	-13.90
0.605	N	30.47	9.83	40.30	56.00	-15.70
0.708	N	24.92	9.78	34.70	56.00	-21.30
0.857	L1	29.85	9.55	39.40	56.00	-16.60
0.857	N	26.26	9.71	36.00	56.00	-20.00
0.884	L1	26.55	9.55	36.10	56.00	-19.90
1.428	L1	29.20	9.50	38.70	56.00	-17.30
1.514	N	24.03	9.60	33.60	56.00	-22.40
2.301	L1	25.95	9.55	35.50	56.00	-20.50

Measurements were done with the quasi-peak detector.

All other emission levels had a test margin of greater than 25 dB.
Measurements were done with the quasi-peak 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.

AC Conducted Emissions Test Results cont'd

Test Configuration 3

The BlackBerry® smartphone PIN 306F59C7 was tested on April 06, 2009.

The environmental test conditions were: Temperature: 25ºC
Pressure: 992 mb
Relative Humidity: 32%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

Frequency (MHz)	Line	Reading (AVE.) (dBµV)	Correction Factors for Impulse Limiter, LISN, Cable (dB)	Level (AVE.) (reading + Corr.Factor) (dB)	Limit (AVE.) (dBµV)	Margin (AVE.) Limits (dB)
0.150	L1	35.65	9.95	45.60	56.00	**-10.40**
0.150	N	34.71	9.69	44.40	56.00	-11.60
0.285	N	21.39	9.81	31.20	50.67	-19.47
0.290	L1	26.97	9.83	36.80	50.54	-13.74
0.452	L1	20.09	9.71	29.80	46.85	-17.05
0.452	N	20.52	9.88	30.40	46.85	-16.45
0.605	N	13.67	9.83	23.50	46.00	-22.50
0.857	L1	13.55	9.55	23.10	46.00	22.90

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

AC Conducted Emissions Test Graphs

Test Configuration 3

Figure 1-7: L1 lines

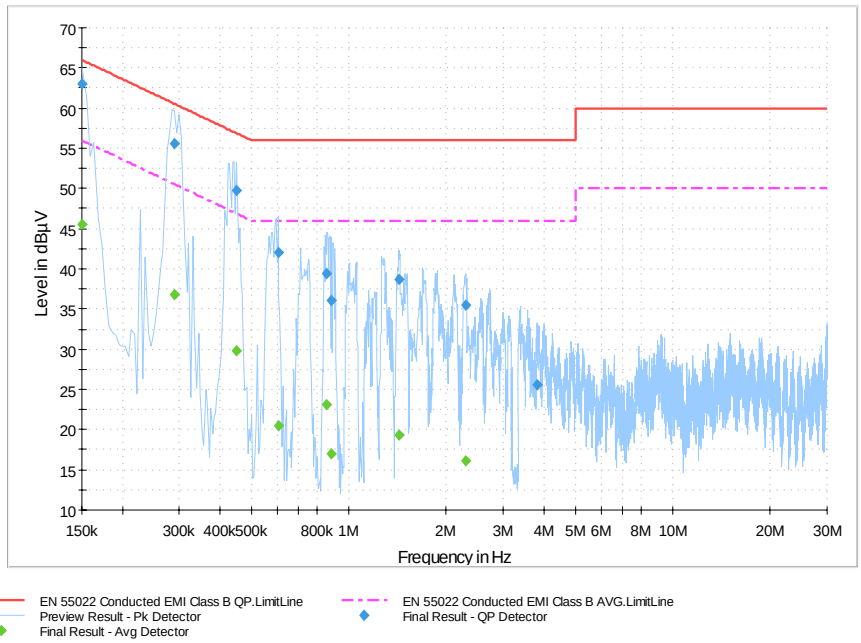
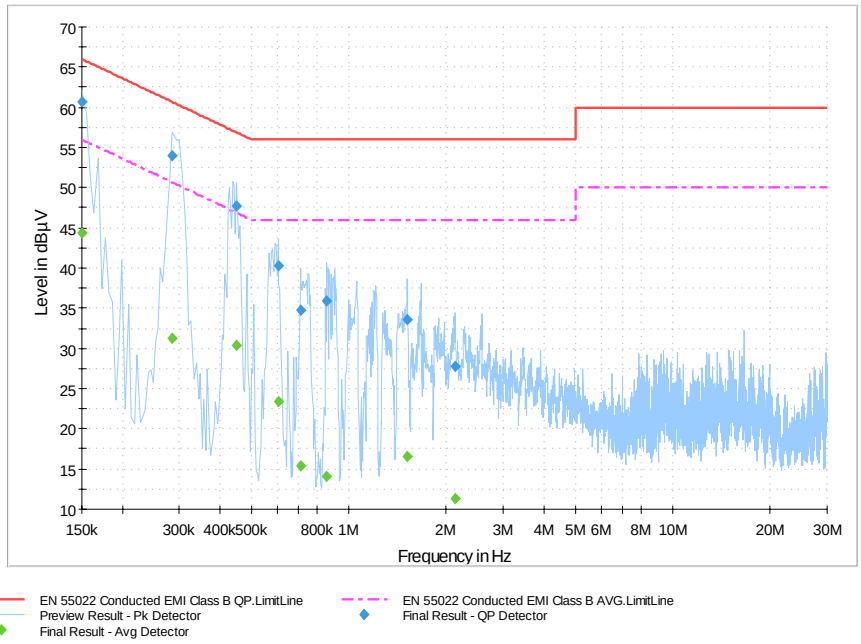


Figure 1-8: N Lines



APPENDIX 2 - RADIATED EMISSIONS TEST DATA

Radiated Emissions Test Results

The measurements were performed by Andrew Fleming.

Test Configuration 1

The environmental test conditions were: Temperature: 23ºC
Pressure: 1004 mb
Relative Humidity: 23%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306F5A0B was tested on March 09, 2009.

Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
37.034	V	2.54	208	Q.P.	40.04	-18.65	21.38	40.00	-18.62
50.112	V	3.94	22	Q.P.	38.47	-21.19	17.27	40.00	-22.73
62.455	V	2.91	181	Q.P.	44.37	-21.10	23.27	40.00	-16.73
64.107	V	2.56	215	Q.P.	42.73	-21.05	21.69	40.00	-18.31

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

Radiated Emissions Test Results cont'd

Test Configuration 2

The environmental test conditions were: Temperature: 22ºC
Pressure: 1016 mb
Relative Humidity: 24%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306F5A0B was tested on March 10, 2009.

Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
36.326	V	3.05	309	Q.P.	38.55	-18.50	-19.96	40.00	-18.50
54.180	V	1.49	204	Q.P.	45.17	-21.24	-16.07	40.00	-21.24
256.011	V	1.54	12	Q.P.	38.95	-14.26	-21.31	46.00	-14.26

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

Radiated Emissions Test Results cont'd

Test Configuration 3

The environmental test conditions were: Temperature: 25ºC
Pressure: 1008 mb
Relative Humidity: 23%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306F5A0B was tested on March 10, 2009.

Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
30.401	V	3.47	347	Q.P.	37.55	-16.68	20.88	40.00	-19.12
40.550	V	1.59	159	Q.P.	44.75	-19.58	25.17	40.00	-14.83
54.782	V	1.53	153	Q.P.	48.90	-21.24	27.66	40.00	-12.34
96.044	H	1.95	195	Q.P.	57.70	-18.10	39.60	43.50	-3.90
216.022	H	1.16	116	Q.P.	47.75	-14.19	33.57	43.50	-9.93
239.993	H	1.29	129	Q.P.	49.22	-15.02	34.20	46.00	-11.80
288.151	H	1.04	104	Q.P.	51.25	-13.78	37.48	46.00	-8.52
336.003	H	1.00	100	Q.P.	44.56	-9.36	35.20	46.00	-10.80
426.106	V	2.35	235	Q.P.	41.08	-8.54	32.54	46.00	-13.46
477.690	H	3.35	335	Q.P.	31.61	-7.34	24.28	46.00	-21.72

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

Radiated Emissions Test Results cont'd

Test Configuration 4

The environmental test conditions were: Temperature: 24ºC
Pressure: 1016 mb
Relative Humidity: 22%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306FB2A7 was tested on April 03, 2009.

Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
50.440	V	1.42	239	Q.P.	45.93	-21.20	24.73	40.00	-15.29
842.05	V	2.94	62	Q.P.	21.72	0.27	21.99	46.00	-24.01

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

Radiated Emissions Test Results cont'd

Test Configuration 5

The environmental test conditions were: Temperature: 24ºC
Pressure: 1019 mb
Relative Humidity: 22%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306F5A0B was tested on March 09, 2009.

Test Distance was 3.0 metres.

Frequency	Antenna		Test Angle	Detector	Measured Level	Correction Factor for preamp/antenna / cables/ filter	Field Strength Level (reading+corr)	Limit @ 3.0 m	Test Margin
	Pol.	Height		(Q.P. or Peak)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)
(MHz)	(V/H)	(metres)	(Deg.)						
42.629	V	1.40	22	Q.P.	56.12	-19.95	36.17	40.00	-3.83
96.061	H	2.39	137	Q.P.	58.68	-18.10	40.59	43.50	**-2.91**
96.047	V	2.95	201	Q.P.	57.74	-18.10	39.65	43.50	-3.85
144.017	H	2.13	251	Q.P.	48.99	-16.99	32.00	43.50	-11.50
216.019	H	1.53	278	Q.P.	50.56	-14.19	36.37	46.00	-9.63
299.833	H	1.00	122	Q.P.	38.57	-12.50	26.06	46.00	-19.94
431.386	V	1.98	302	Q.P.	29.85	-8.47	21.38	46.00	-24.62
480.033	H	1.81	188	Q.P.	42.34	-7.46	34.88	46.00	-11.12

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

Radiated Emissions Test Results cont'd

Test Configuration 6

The environmental test conditions were: Temperature: 23ºC
Pressure: 1009 mb
Relative Humidity: 22%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306FB2A7 was tested on March 25, 2009.

Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
48.024	V	1.69	102	Q.P.	52.14	-20.88	31.26	40.00	-8.74
96.036	H	2.43	187	Q.P.	48.09	-18.10	30.00	43.50	-13.50
118.942	H	3.92	186	Q.P.	40.61	-16.77	23.83	43.50	-19.67
144.064	H	2.35	317	Q.P.	47.53	-16.98	30.55	43.50	-12.95
182.622	H	1.70	253	Q.P.	46.13	-16.22	29.91	43.50	-13.59
215.992	H	1.05	92	Q.P.	50.41	-14.19	36.22	46.00	-9.78
239.995	H	1.33	344	Q.P.	52.68	-15.02	37.66	46.00	-8.34
288.129	H	1.13	311	Q.P.	47.09	-13.78	33.32	46.00	-12.68
299.816	H	1.03	87	Q.P.	45.04	-12.47	32.56	46.00	-13.44
365.278	H	2.06	191	Q.P.	36.27	-10.56	25.71	46.00	-20.29
426.115	H	2.20	97	Q.P.	47.32	-8.54	38.78	46.00	-7.22
426.032	V	2.17	62	Q.P.	46.59	-8.54	38.05	46.00	-7.95
428.905	H	2.12	102	Q.P.	46.92	-8.48	38.44	46.00	-7.56
428.898	V	2.10	58	Q.P.	46.70	-8.48	38.22	46.00	-7.78
458.190	H	2.06	267	Q.P.	39.07	-7.40	31.68	46.00	-14.32
486.818	H	1.87	270	Q.P.	37.70	-7.27	30.42	46.00	-15.58
528.017	H	1.94	270	Q.P.	35.79	-6.10	29.70	46.00	-16.30

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

Radiated Emissions Test Results cont'd

Test Configuration 7

The environmental test conditions were: Temperature: 24ºC
Pressure: 1016 mb
Relative Humidity: 22%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 306FB2A7 was tested on March 24, 2009.
Test Distance was 3.0 metres.

Frequency (MHz)	Antenna Pol. (V/H)	Antenna Height (metres)	Test Angle (Deg.)	Detector (Q.P. or Peak)	Measured Level (dBµV)	Correction Factor for preamp/antenna / cables/ filter (dB/m)	Field Strength Level (reading+corr) (dBµV/m)	Limit @ 3.0 m (dBµV/m)	Test Margin (dB)
36.060	V	1.49	185	Q.P.	37.22	-18.46	18.76	40.00	-21.24
46.085	V	1.60	18	Q.P.	52.32	-20.56	31.75	40.00	-8.25
56.636	V	2.68	67	Q.P.	39.46	-21.22	18.24	40.00	-21.76
96.044	H	2.47	42	Q.P.	43.38	-18.10	25.28	43.50	-18.22
116.288	H	2.48	206	Q.P.	38.52	-16.75	21.77	43.50	-21.73
119.588	H	3.12	177	Q.P.	42.68	-16.78	25.89	43.50	-17.61
144.057	H	2.18	315	Q.P.	50.18	-16.98	33.20	43.50	-10.30
216.014	H	1.43	235	Q.P.	49.60	-14.19	35.41	46.00	-10.59
240.002	H	1.02	330	Q.P.	50.24	-15.02	35.22	46.00	-10.78
298.701	H	1.06	231	Q.P.	42.06	-12.66	29.40	46.00	-16.60
299.792	V	1.54	64	Q.P.	40.90	-12.47	28.42	46.00	-17.58
365.098	V	1.63	354	Q.P.	39.30	-10.56	28.74	46.00	-17.26
365.589	H	1.11	180	Q.P.	36.86	-10.56	26.30	46.00	-19.70
426.082	H	1.00	93	Q.P.	43.82	-8.54	35.28	46.00	-10.72
426.059	V	1.91	57	Q.P.	45.78	-8.54	37.24	46.00	-8.76
528.001	V	2.38	346	Q.P.	41.51	-6.10	35.42	46.00	-10.58
818.937	V	2.30	351	Q.P.	23.88	-0.14	23.74	46.00	-22.26
956.198	V	1.86	27	Q.P.	22.89	2.39	25.28	46.00	-20.72
998.282	V	2.68	23	Q.P.	26.27	3.03	29.30	54.00	-24.70

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

Radiated Emissions Test Results cont'd

Test Configuration 8

The environmental test conditions were: Temperature: 24ºC
Pressure: 1016 mb
Relative Humidity: 22%

FCC CFR 47 Part 15, Subpart B and IC ICES-003, Class B

The BlackBerry® smartphone, PIN 30870667 was tested on May 04, 2009.

Test Distance was 3.0 metres.

Frequency	Antenna		Test Angle	Detector	Measured Level	Correction Factor for preamp/antenna / cables/ filter	Field Strength Level (reading+corr)	Limit @ 3.0 m	Test Margin
	Pol.	Height		(Q.P. or Peak)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)
(MHz)	(V/H)	(metres)	(Deg.)						
48.049	V	1.43	121	Q.P.	49.54	-21.14	28.40	40.00	-11.60
96.112	H	3.83	181	Q.P.	55.78	-18.39	37.39	40.00	-6.11
245.446	H	1.57	287	Q.P.	42.86	-15.31	27.55	43.50	-18.45
427.407	H	2.12	97	Q.P.	45.30	-8.87	36.43	46.00	-9.57
479.992	H	2.70	354	Q.P.	34.60	-8.00	26.60	46.00	-19.40
1327.050	V	1.76	183	PK	54.05	1.23	55.28	74.00	-18.72
1331.430	V	1.96	181	PK	51.08	1.27	52.35	74.00	-21.65

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