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-1689-0908-04

PRODUCT MODEL NO.: RCM71UW
TYPE NAME: BlackBerry® smartphone
FCC ID: L6ARCM70UW
IC: 2503A-RCM70UW

DATE: September 09, 2009

Statement of Performance:

The BlackBerry® smartphone, model RCM71UW, part number CER-23758-001 Rev. 4 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:

Michael Cino
Regulatory Compliance Intern
Date: 09 September, 2009

Reviewed by:

Masud S. Attayi, P.Eng.
Manager, Regulatory Compliance
Date: 11 September, 2009

Approved by:

Paul G. Cardinal, Ph.D.
Director
Date: 13 September, 2009

Table of Contents

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 01, 2008 Class B Digital Devices, Unintentional Radiators
- IC ICES-003 Issue 4, February 2004, Class B Digital Devices, Unintentional Radiators

B. Associated Document

1. HW_Declaration_CER-23758-001 Rev 3

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
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 July 14 to August 11 and September 09, 2009.

The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN
1	RCM71UW	CER-23758-001 Rev. 2	210BA9E8
2	RCM71UW	CER-23758-001 Rev. 2	210BAA2E
3	RCM71UW	CER-23758-001 Rev. 2	210BAA24
4	RCM71UW	CER-23758-001 Rev. 3	211A6FEB

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

To view the differences between CER-23758-001 Rev. 2 and CER-23758-001 Rev. 3, see document HW_Declaration_CER-23758-001 Rev 3.

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

BlackBerry® smartphone Accessories Tested

1) Folding Blade Charger, part number HDW-17955-001 with an output voltage of 5.0 volts dc, 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) Fixed Blade Charger, part number HDW-25966-001, with an output voltage of 5.0 volts dc.
4) LadyBug Charger, part number HDW-24480-001, with an output voltage of 5.0 volts dc.
5) Bluetooth Headset, part number HDW-23439-001.
6) M-S1 Series External Battery Charger, (EBC), part number HDW-16222-001.
7) BlackBerry® Remote Stereo Gateway, part number HDW-16007-001.
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 Stereo Headset, part number HDW-15766-005, 1.3 metres long.
11) USB Data Cable, part number HDW-06610-013, 0.30 metres long.
12) USB Data Cable, part number HDW-06610-009, 1.00 metre long.
13) USB Data Cable, part number HDW-06610-005, 1.50 metres long.
14) Charging POD, part number HDW-24476-001.
15) Visor Mount, part number HDW-23438-001.

D. Support Equipment Used for the Testing of the EUT

1) IBM Thinkpad Lenovo T60p laptop, type 8742, 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

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 was in battery charging mode. The input voltage was 120 V, 60 Hz.

The following test configurations were measured:

1. The BlackBerry® smartphone, PIN 210BAA2E in PCS idle mode with the Premium Stereo Headset attached was connected to the Captive Cable Charger.
2. The BlackBerry® smartphone, PIN 210BA9E8 in UMTS850 idle mode and communicating with the Visor Mount, was connected to the Captive Cable Charger.
3. The BlackBerry® smartphone, PIN 210BAA2E in GSM850 idle mode on the Charging Pod with the Stereo Headset attached was connected to the Folding Blade Charger.
4. The BlackBerry® smartphone, PIN 210BAA2E in GSM850 idle mode and communicating with the Bluetooth Headset on the Charging Pod was connected to the Folding Blade Charger.
5. The BlackBerry® smartphone, PIN 210BA9E8 in UMTS1900 idle mode and communicating with the Visor Mount, was connected to the LadyBug Charger via the 1.5 metre USB Cable.
6. The BlackBerry® smartphone, PIN 210BA9E8 in UMTS Band 5 idle mode and Continuous Audio Playback mode, on the Charging Pod was connected to the Folding Blade Charger. The BlackBerry® Remote Stereo Gateway attached to the Stereo Headset was connected to the Laptop via 1.5 metre USB Data Cable, and communicated with the BlackBerry® smartphone.

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 3.92 dB below the QP limit at 2.400 MHz using the quasi-peak detector for the Folding Blade Charger, test configuration 4.

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 210BAA24 in Bluetooth Tx mode with the Stereo Headset attached, was connected to the LadyBug Charger via the 1.5 metre USB cable.
2. The BlackBerry® smartphone, PIN 210BAA24 in GSM850 idle mode and placed in the Charging Pod, was connected to the Laptop in High Speed USB mode via the 1.5 metre USB Cable.
3. The BlackBerry® smartphone, PIN 210BAA24 in PCS Idle mode was connected to the Laptop in High Speed USB mode via the 1.5 metre USB Cable.
4. The BlackBerry® smartphone, PIN 210BAA24 in PCS Idle mode with the Premium Stereo Headset attached was connected to the Fixed Blade Charger via the 1.5 metre USB Cable.
5. The BlackBerry® smartphone, PIN 210BAA24 in PCS idle mode and communicating with the Visor Mount, was connected to the LadyBug Charger via the 1.5m USB Cable.

6. The BlackBerry® smartphone, PIN 210BAA24 in UMTS1900 idle mode was connected to the Laptop in High Speed USB mode via the 1.0 metre USB Cable.
7. The BlackBerry® smartphone, PIN 210BAA24 in UMTS850 idle mode and communicating with the Bluetooth Headset, was connected to the Folding Blade Charger.
8. The BlackBerry® smartphone, PIN 211A6FEB in 802.11b Tx mode with the Stereo Headset attached, was connected in parallel to the External Battery Charger via the USB Y-Cable. The USB Y-Cable was connected to the Captive Cable Charger.
9. The BlackBerry® smartphone, PIN 211A6FEB in GSM850 idle mode was connected to the Folding Blade Charger, HDW-17955-001. The BlackBerry® Remote Stereo Gateway was connected to the Laptop via the 1.0 metre USB Data 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 6.10 dB at 216.000 MHz using test configuration 3.

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.

F. 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
EMC Analyzer	Agilent	E7405A	US40240226	09-11-17	Radiated Emissions
Digital Multimeter	Hewlett Packard	34401A	US36042324	09-10-03	Conducted/Radiated Emissions
Environment Monitor	Control Company	1870	230355190	10-01-30	Radiated Emissions
Environment Monitor	Control Company	1870	80117164	10-01-08	Conducted/Radiated Emissions
L.I.S.N.	Rohde & Schwarz	ENV216	100060	10-04-21	Conducted Emissions
Hybrid Log Antenna	EMC Automation	HLP-3003C	017401	10-09-26	Radiated Emissions
Horn Antenna	EMC Automation	HRN-0118	030101	10-07-22	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	09-12-08	Radiated/Conducted Emissions
EMI Test Receiver	Rohde & Schwarz	ESIB 40	100255	09-12-03	Radiated/Conducted Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100368	09-12-09	Radiated Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100370	09-12-09	Radiated/Conducted 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 210BAA2E was tested on July 14, 2009.

The environmental test conditions were: Temperature: 26 ºC
Pressure: 1017 mb
Relative Humidity: 21 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.182	L1	43.96	9.78	53.74	64.42	54.42	-10.68
0.182	N	31.91	10.04	41.95	64.42	54.42	-22.47
0.267	L1	38.49	9.85	48.34	61.21	51.21	-12.87
0.326	L1	32.09	9.80	41.89	59.57	49.57	-17.68
0.420	N	32.18	9.87	42.05	57.45	47.45	-15.40
0.434	N	32.60	9.87	42.47	57.19	47.19	-14.72
0.443	L1	31.30	9.72	41.02	57.01	47.01	-16.00
0.533	L1	33.32	9.67	42.99	56.00	46.00	-13.01
0.672	N	30.84	9.79	40.63	56.00	46.00	-15.37
0.807	N	29.96	9.73	39.69	56.00	46.00	-16.31
0.929	N	30.08	9.68	39.76	56.00	46.00	-16.24
0.933	L1	30.71	9.53	40.24	56.00	46.00	-15.76
1.734	N	33.21	9.60	42.81	56.00	46.00	-13.19
1.779	L1	34.85	9.51	44.36	56.00	46.00	-11.64
2.774	N	30.49	9.61	40.10	56.00	46.00	-15.90
2.792	L1	34.28	9.58	43.85	56.00	46.00	-12.15
4.259	N	33.28	9.59	42.87	56.00	46.00	-13.13
4.385	L1	32.31	9.64	41.94	56.00	46.00	-14.06
7.985	L1	33.06	9.75	42.81	60.00	50.00	-17.19
8.898	N	32.65	9.65	42.30	60.00	50.00	-17.70
10.496	L1	31.33	9.84	41.17	60.00	50.00	-18.83
10.500	N	33.65	9.68	43.33	60.00	50.00	-16.67

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

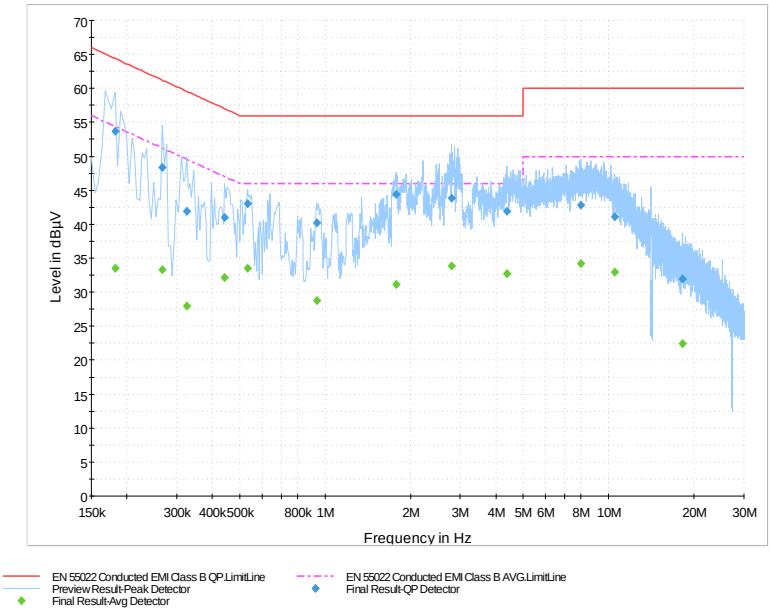
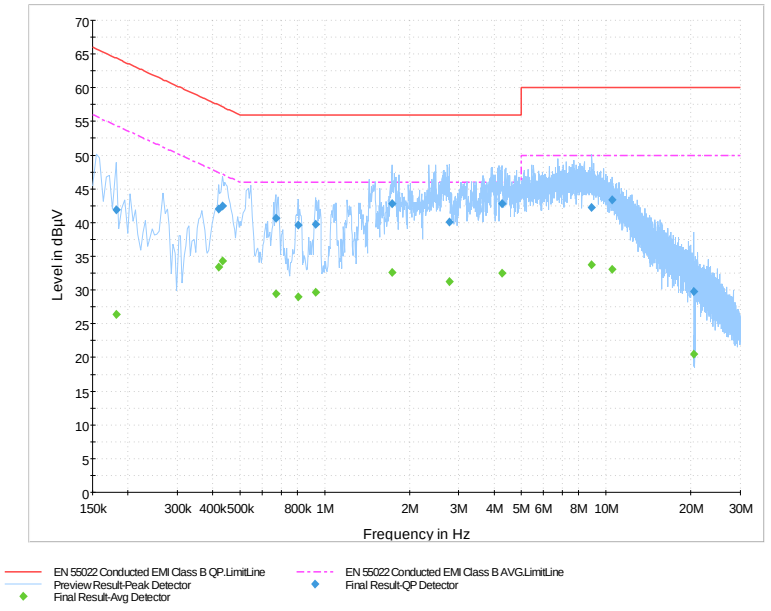


Figure 1-2: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 2

The BlackBerry® smartphone PIN 210BA9E8 was tested on July 14, 2009.

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1018 mb
Relative Humidity: 24 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.186	L1	38.92	9.81	48.73	64.21	54.21	-15.49
0.263	L1	33.96	9.85	43.81	61.35	51.35	-17.54
0.267	N	28.40	9.81	38.21	61.21	51.21	-23.00
0.362	L1	25.91	9.78	35.69	58.69	48.69	-23.00
0.533	N	28.36	9.89	38.25	56.00	46.00	-17.76
0.537	L1	32.29	9.67	41.96	56.00	46.00	-14.04
0.794	N	25.91	9.74	35.65	56.00	46.00	-20.35
0.929	L1	27.88	9.53	37.41	56.00	46.00	-18.59
1.073	N	25.11	9.64	34.74	56.00	46.00	-21.26
1.784	L1	31.22	9.51	40.73	56.00	46.00	-15.27
2.643	N	26.90	9.61	36.51	56.00	46.00	-19.49
2.733	L1	36.10	9.57	45.67	56.00	46.00	-10.33
4.128	N	26.03	9.60	35.63	56.00	46.00	-20.37

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 Graphs

Test Configuration 2

Figure 1-3: L1 lines

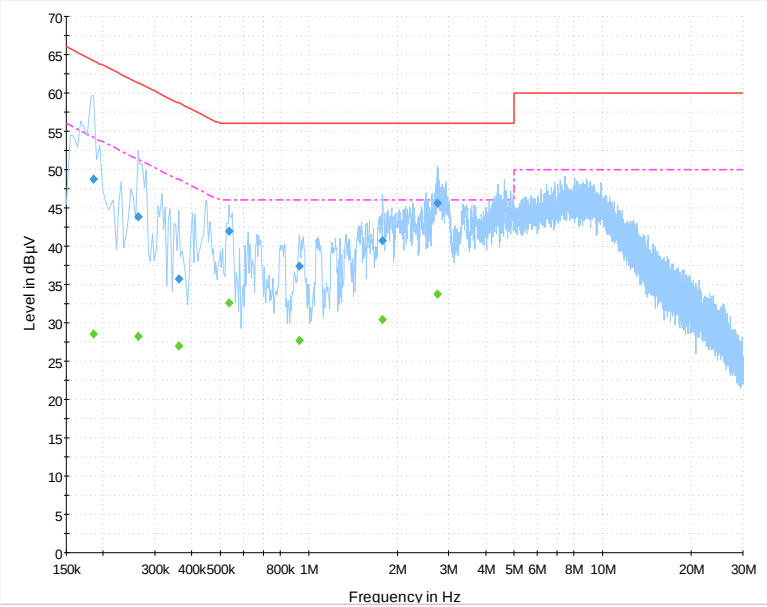
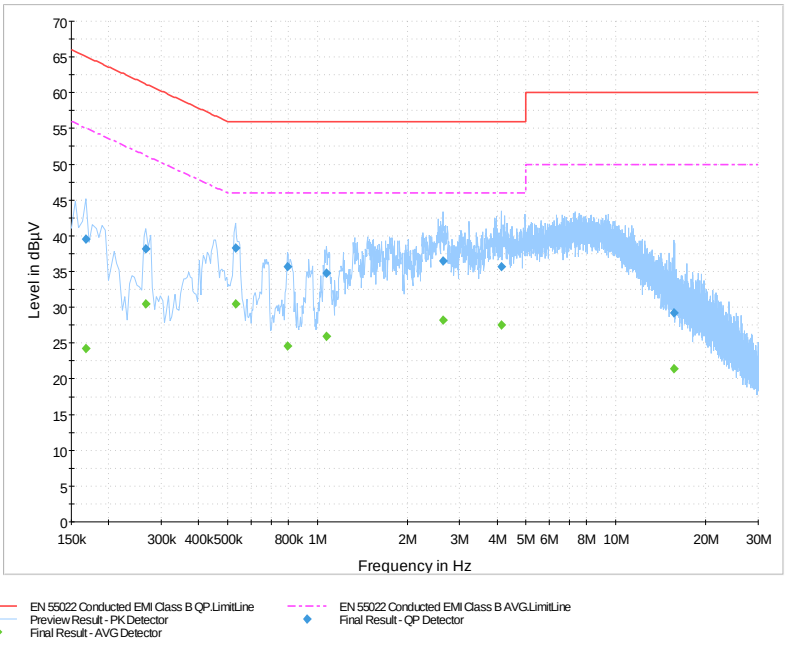


Figure 1-4: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 3

The BlackBerry® smartphone PIN 210BAA2E was tested on July 14, 2009.

The environmental test conditions were: Temperature: 26 ºC
Pressure: 1017 mb
Relative Humidity: 21 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.182	L1	31.04	9.78	40.82	64.42	54.42	-23.60
0.402	L1	31.10	9.75	40.85	57.81	47.81	-16.96
0.402	N	31.03	9.86	40.90	57.81	47.81	-16.92
0.636	N	31.00	9.82	40.82	56.00	46.00	-15.18
0.641	L1	31.15	9.62	40.77	56.00	46.00	-15.23
1.221	L1	34.17	9.51	43.67	56.00	46.00	-12.33
1.248	N	34.52	9.61	44.13	56.00	46.00	-11.87
2.081	L1	35.18	9.54	44.73	56.00	46.00	-11.27
2.112	N	36.29	9.63	45.91	56.00	46.00	-10.09
2.324	L1	42.10	9.55	51.65	56.00	46.00	-4.35
2.472	N	40.66	9.60	50.26	56.00	46.00	-5.74
3.809	N	30.97	9.61	40.57	56.00	46.00	-15.43
4.101	L1	30.12	9.64	39.76	56.00	46.00	-16.24
4.529	L1	27.97	9.64	37.61	56.00	46.00	-18.39
9.033	L1	29.50	9.79	39.30	60.00	50.00	-20.70
9.254	N	29.48	9.65	39.13	60.00	50.00	-20.87
10.446	L1	27.58	9.84	37.42	60.00	50.00	-22.58
10.536	N	27.28	9.68	36.97	60.00	50.00	-23.04
10.752	L1	26.89	9.84	36.73	60.00	50.00	-23.27

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.

AC Conducted Emissions Test Graphs

Test Configuration 3

Figure 1-5: L1 lines

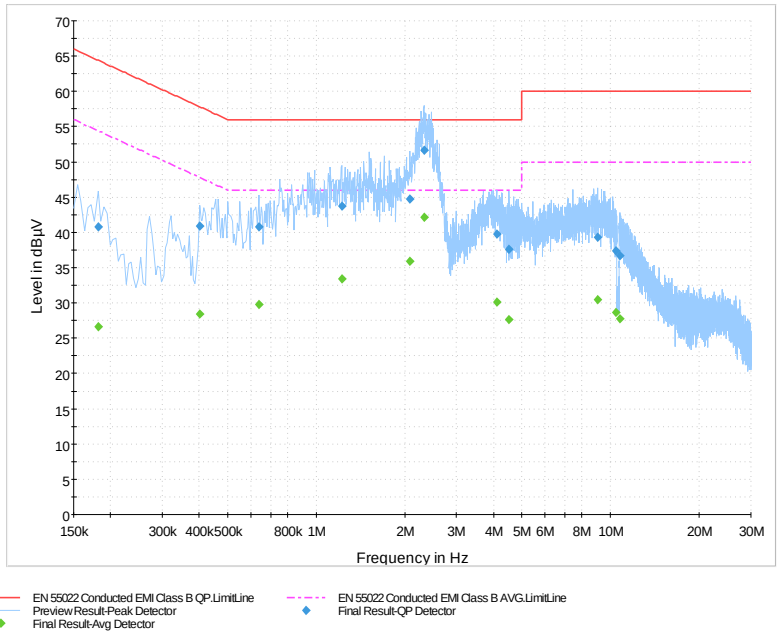
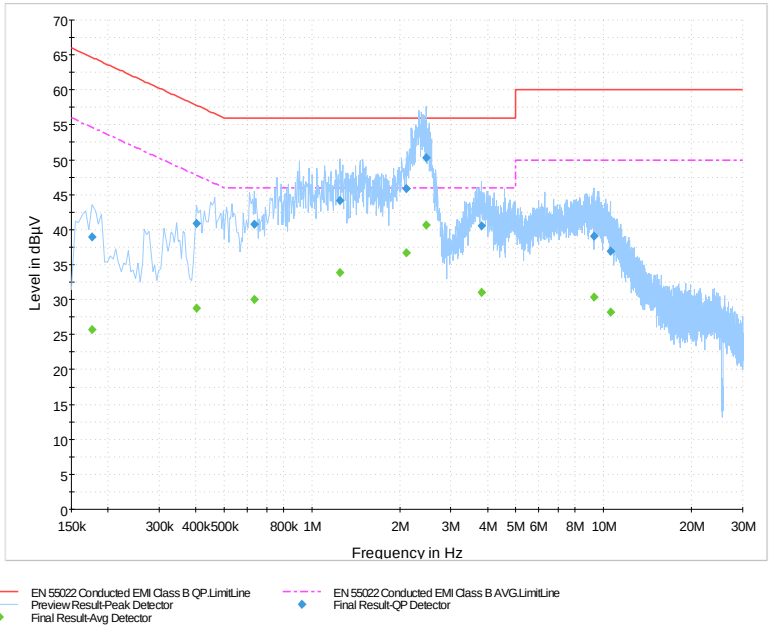


Figure 1-6: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 4

The BlackBerry® smartphone PIN 210BAA2E was tested on July 14, 2009.

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1018 mb
Relative Humidity: 24 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dB)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.186	L1	33.33	9.81	43.14	64.21	54.21	-21.07
0.416	N	26.99	9.86	36.85	57.54	47.54	-20.69
0.452	N	22.93	9.88	32.82	56.85	46.85	-24.03
0.668	L1	29.29	9.61	38.90	56.00	46.00	-17.10
1.235	L1	34.26	9.50	43.76	56.00	46.00	-12.24
1.244	N	30.41	9.61	40.03	56.00	46.00	-15.97
1.608	L1	33.72	9.50	43.22	56.00	46.00	-12.78
2.306	N	36.23	9.61	45.84	56.00	46.00	-10.16
2.400	L1	42.53	9.54	52.08	56.00	46.00	**-3.92**
3.795	N	23.95	9.61	33.56	56.00	46.00	-22.44
3.980	L1	30.91	9.64	40.55	56.00	46.00	-15.45

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

AC Conducted Emissions Test Graphs

Test Configuration 4

Figure 1-7: L1 lines

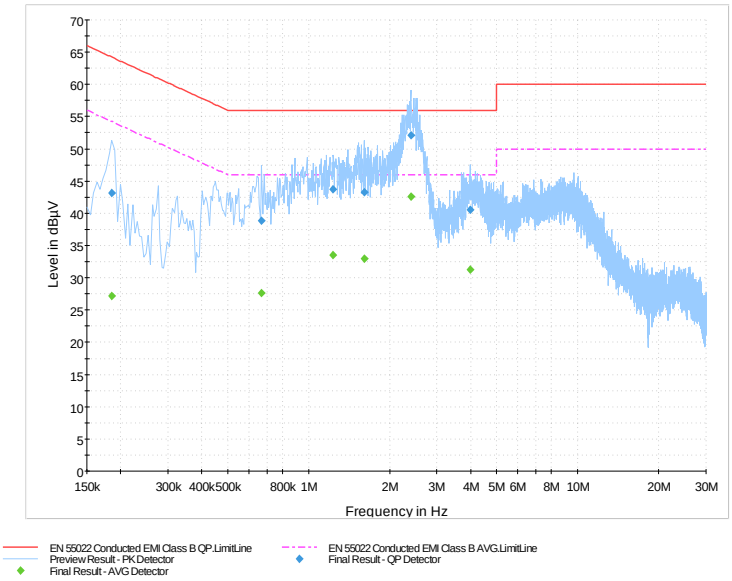
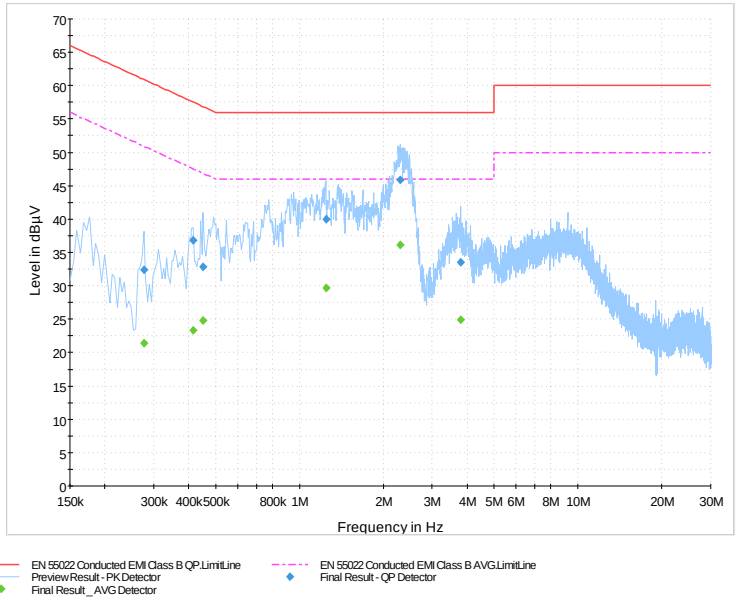


Figure 1-8: N Lines



AC Conducted Emissions Test Results cont'd

Test Configuration 5

The BlackBerry® smartphone PIN 210BA9E8 was tested on July 14, 2009.

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1018 mb
Relative Humidity: 24 %

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	39.38	9.95	49.34	66.00	56.00	-16.66
0.155	N	34.47	9.85	44.32	65.75	55.75	-21.44
0.303	L1	31.14	9.82	40.96	60.16	50.16	-19.20
0.303	N	26.35	9.82	36.18	60.16	50.16	-23.98
0.470	L1	25.95	9.70	35.64	56.52	46.52	-20.88
0.596	L1	24.89	9.64	34.52	56.00	46.00	-21.48
0.749	L1	28.71	9.58	38.30	56.00	46.00	-17.71
1.055	L1	26.79	9.51	36.30	56.00	46.00	-19.70
1.644	L1	22.34	9.50	31.84	56.00	46.00	-24.16

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

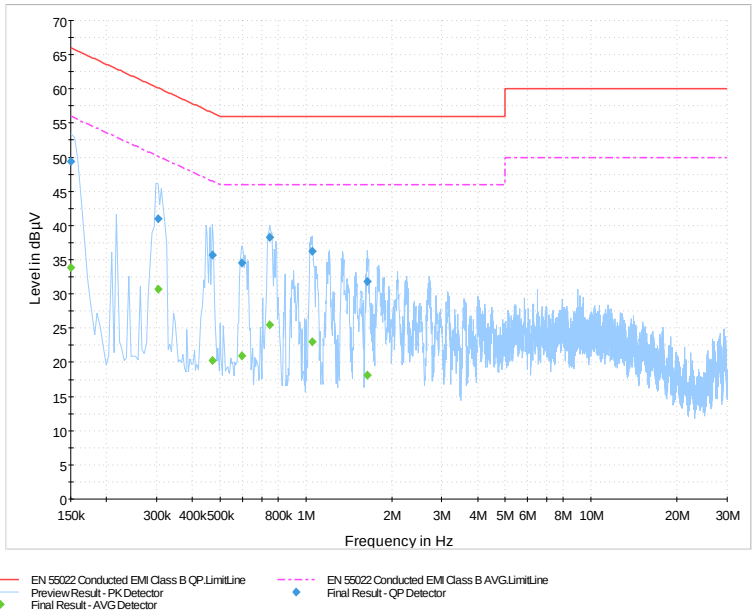
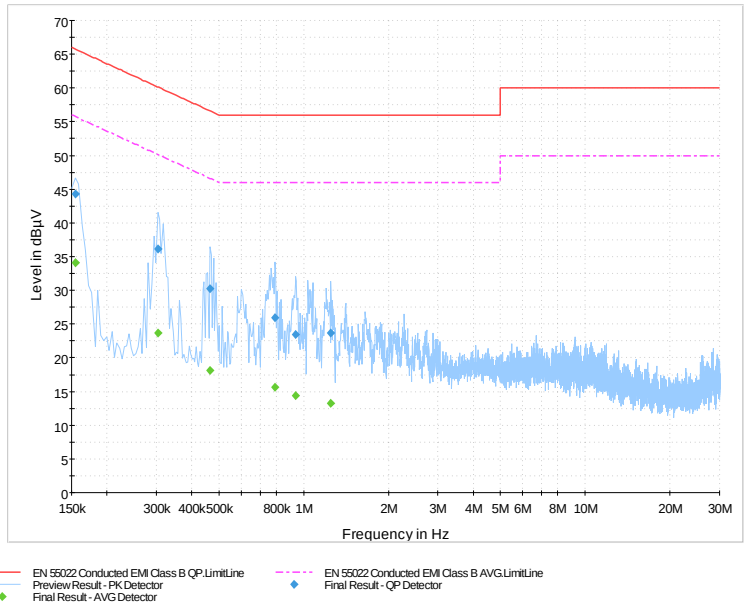


Figure 1-10: N Lines



Test Configuration 6

The BlackBerry® smartphone PIN 210BA9E8 was tested on September 09, 2009.

The environmental test conditions were: Temperature: 26 ºC
Pressure: 1017 mb
Relative Humidity: 21 %

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	N	37.98	9.69	47.68	66.00	56.00	-18.32
0.159	N	37.94	9.96	47.90	65.52	55.52	-17.62
0.173	L1	35.34	9.88	45.22	64.84	54.84	-19.62
0.182	N	36.16	10.04	46.20	64.42	54.42	-18.22
0.227	N	31.37	9.80	41.17	62.58	52.58	-21.41
0.249	N	29.21	9.81	39.02	61.79	51.79	-22.77
0.258	L1	30.44	9.85	40.29	61.50	51.50	-21.20
0.267	L1	31.98	9.85	41.83	61.21	51.21	-19.38
0.276	N	28.34	9.81	38.15	60.94	50.94	-22.78
0.686	L1	31.25	9.61	40.86	56.00	46.00	-15.14
0.821	L1	30.66	9.56	40.22	56.00	46.00	-15.78
1.104	N	23.05	9.63	32.69	56.00	46.00	-23.32
1.905	L1	30.75	9.53	40.29	56.00	46.00	-15.72
1.923	N	24.17	9.62	33.79	56.00	46.00	-22.21
2.081	L1	31.94	9.54	41.48	56.00	46.00	-14.52
2.157	L1	29.53	9.56	39.09	56.00	46.00	-16.91

All other emission levels had a test margin of greater than 25 dB.
Measurements were done with the quasi-peak detector.
See figure 1-11 and figure 1-12 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

AC Conducted Emissions Test Graphs

Test Configuration 6

Figure 1-11: L1 lines

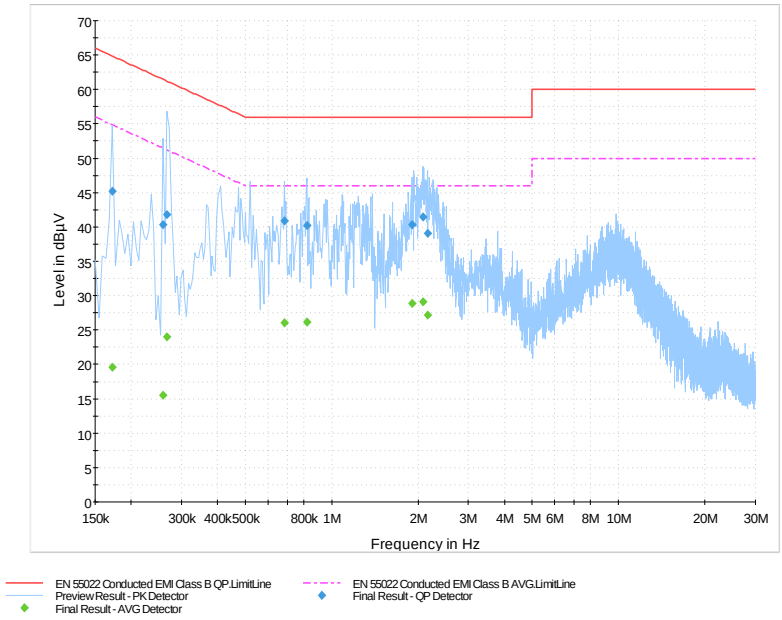
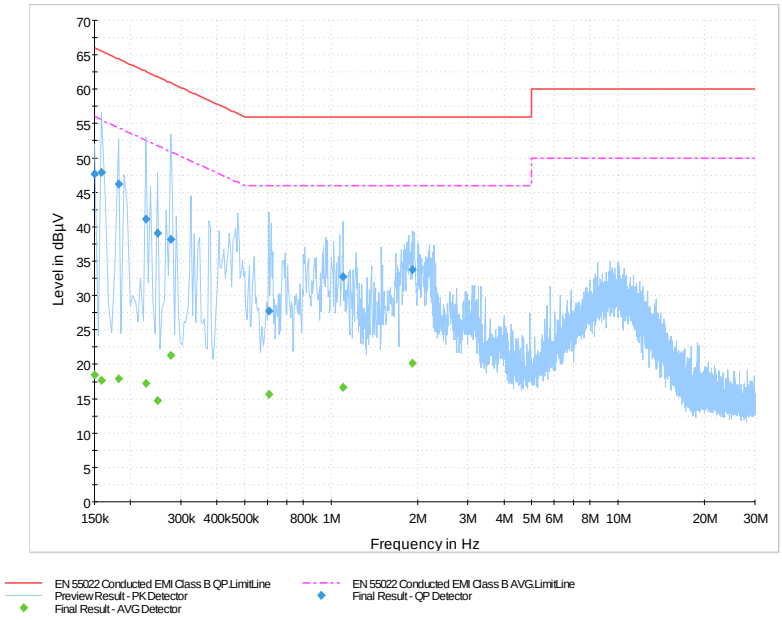


Figure 1-12: N Lines



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: 24 ºC
Pressure: 1007 mb
Relative Humidity: 31 %

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 23, 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)
38.350	V	1.40	353.00	Q.P.	40.81	-19.31	21.50	40.00	-18.50
51.700	V	2.76	353.00	Q.P.	39.73	-21.46	18.27	40.00	-21.73
115.900	V	1.46	17.00	Q.P.	39.99	-16.93	23.06	43.50	-20.44
236.200	H	1.20	270.00	Q.P.	36.56	-15.45	21.11	46.00	-24.89

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: 23 ºC
Pressure: 1016 mb
Relative Humidity: 30 %

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 14, 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)
70.500	V	1.48	280.00	Q.P.	37.67	-20.76	16.91	40.00	-23.09
182.950	H	2.08	262.00	Q.P.	46.19	-16.54	29.65	43.50	-13.85
216.050	H	1.48	77.00	Q.P.	52.19	-14.57	37.62	46.00	-8.38
243.400	V	1.97	353.00	Q.P.	44.90	-15.37	29.53	46.00	-16.47
244.850	H	1.53	82.00	Q.P.	48.17	-15.35	32.82	46.00	-13.18
299.400	H	2.30	166.00	Q.P.	33.18	-12.92	20.26	46.00	-25.74
365.000	H	2.69	122.00	Q.P.	42.46	-11.08	31.38	46.00	-14.62
366.050	V	2.57	32.00	Q.P.	38.58	-11.06	27.52	46.00	-18.48
426.950	V	2.31	61.00	Q.P.	41.26	-8.88	32.38	46.00	-13.62
428.700	H	2.17	87.00	Q.P.	46.01	-8.86	37.15	46.00	-8.85
720.050	V	1.98	31.00	Q.P.	36.87	-2.31	34.56	46.00	-11.44

All 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: 24ºC
Pressure: 1006 mb
Relative Humidity: 32%

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 14, 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)
47.600	V	1.93	92.00	Q.P.	49.54	-21.06	28.48	40.00	-11.52
48.250	V	1.50	66.00	Q.P.	49.70	-21.18	28.52	40.00	-11.48
114.550	H	3.02	76.00	Q.P.	46.37	-16.94	29.43	43.50	-14.07
120.000	H	2.98	72.00	Q.P.	49.19	-16.98	32.21	43.50	-11.29
120.050	V	1.53	144.00	Q.P.	47.33	-16.98	30.35	43.50	-13.15
216.000	H	1.90	82.00	Q.P.	51.97	-14.57	37.40	43.50	**-6.10**
426.050	H	2.26	85.00	Q.P.	46.40	-8.89	37.51	46.00	-8.49
426.050	V	2.50	52.00	Q.P.	44.89	-8.89	36.00	46.00	-10.00
428.950	H	2.24	100.00	Q.P.	45.17	-8.85	36.32	46.00	-9.68

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: 1006 mb
Relative Humidity: 32%

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 14, 2009.
Test Distance was 3.0 metres.

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

Test Configuration 5

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1007 mb
Relative Humidity: 31 %

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 23, 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)			
(MHz)	(V/H)	(metres)	(Deg.)				(dBµV/m)	(dBµV/m)	(dB)
55.500	V	1.49	320.00	Q.P.	45.48	-21.49	23.99	40.00	-16.01
95.150	H	3.17	204.00	Q.P.	44.22	-18.44	25.78	43.50	-17.72
95.150	V	1.47	48.00	Q.P.	41.84	-18.44	23.40	43.50	-20.10

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: 24ºC
Pressure: 1006 mb
Relative Humidity: 32%

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 14, 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)
183.400	H	1.76	260.00	Q.P.	47.07	-16.53	30.54	43.50	-12.96
216.050	H	1.95	279.00	Q.P.	50.50	-14.57	35.93	46.00	-10.07
243.750	H	1.40	72.00	Q.P.	48.43	-15.37	33.06	46.00	-12.94
336.050	H	1.00	182.00	Q.P.	39.14	-9.60	29.54	46.00	-16.46
365.050	V	2.34	353.00	Q.P.	42.71	-11.08	31.63	46.00	-14.37
428.900	H	2.10	85.00	Q.P.	47.08	-8.85	38.23	46.00	-7.77
499.200	H	2.03	276.00	Q.P.	36.13	-7.28	28.85	46.00	-17.15
528.000	H	1.91	249.00	Q.P.	40.00	-6.62	33.38	46.00	-12.62
624.000	H	2.95	87.00	Q.P.	34.52	-4.44	30.08	46.00	-15.92
720.050	V	1.78	186.00	Q.P.	38.25	-2.31	35.94	46.00	-10.06

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: 24 ºC
Pressure: 1007 mb
Relative Humidity: 31 %

The BlackBerry® smartphone, PIN 210BAA24 was tested on July 23, 2009.

Test Distance was 3.0 metres.

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

Test Configuration 8

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1009 mb
Relative Humidity: 32 %

The BlackBerry® smartphone, PIN 211A6FEB was tested on August 11, 2009.

Test Distance was 3.0 metres.

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

Test Configuration 9

The following measurement was performed by Fahd Faisal.

The environmental test conditions were: Temperature: 24 ºC
Pressure: 1019 mb
Relative Humidity: 32 %

The BlackBerry® smartphone, PIN 211A6FEB was tested on September 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)			
(MHz)	(V/H)	(metres)	(Deg.)				(dBµV/m)	(dBµV/m)	(dB)
55.200	V	1.39	289.00	Q.P.	48.87	-21.49	27.38	40.00	-12.62
182.600	H	1.30	236.00	Q.P.	48.59	-16.55	32.04	43.50	-11.46
243.500	H	1.12	105.00	Q.P.	48.96	-15.37	33.59	46.00	-12.41
320.000	H	1.00	226.00	Q.P.	44.91	-11.03	33.88	46.00	-12.12
429.000	H	2.13	104.00	Q.P.	45.55	-8.85	36.70	46.00	-9.30
528.000	H	1.63	234.00	Q.P.	42.70	-6.62	36.08	46.00	-9.92
720.000	V	1.60	181.00	Q.P.	37.47	-2.31	35.16	46.00	-10.84

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