

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-1689-1007-16

PRODUCT MODEL NO.: RCM72UW
TYPE NAME: BlackBerry® smartphone
FCC ID: L6ARCM70UW
IC: 2503A-RCM70UW

DATE: July 8, 2010

	EMI Test Report for the BlackBerry® smartphone Model RCM72UW	
Test Report No. RTS-1689-1007-16	Dates of Test June 17 to July 01, 2010	FCC ID: L6ARCM70UW IC: 2503A-RCM70UW

Statement of Performance:

The BlackBerry® smartphone, model RCM72UW, part number CER-33221-001 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:



Adam Rusinek
Regulatory Compliance Associate
Date: July 21, 2010

Reviewed by:



Michael Cino
Regulatory Compliance Associate
Date: July 22, 2010

Reviewed and Approved by:



Masud S. Attayi, P.Eng.
Manager, Regulatory Compliance
Date: July 30, 2010



	EMI Test Report for the BlackBerry® smartphone Model RCM72UW	
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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 01, 2009 Class B Digital Devices, Unintentional Radiators
- IC ICES-003 Issue 4, February 2004, Class B Digital Devices, Unintentional Radiators

B. Associated Documents

1. 9700-9780 Differences
2. RTS-1689-0908-04

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 June 17 to July 01, 2010.

The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN	Software
1	RCM72UW	CER-33221-001 Rev 1	226DCF5F	V6.0.0.68 (Platform 6.5.0.6) Bundle 142
2	RCM72UW	CER-33221-001 Rev 1	226DCF62	V6.0.0.68(Platform 6.5.0.6) Bundle 142

AC Conducted Testing was preformed on sample 1.
Radiated Emissions Testing were performed on sample 2.

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Only the characteristics that may have been affected by the change from model RCM71UW to model RCM72UW were re-tested. For more information see 9700-9780 Differences.

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-24481-001 (Model Number: RIM-C-0004ADUUS-001), with an output voltage of 5.0 volts dc.
- 4) Alternate Fixed Blade Charger, part number HDW-24481-001 (Model Number: PSM04A-050QRIM), with an output voltage of 5.0 volts dc.
- 5) Charging POD HDW-24476-001 (Model Number: VP-09500102)
- 6) BlackBerry® Visor Mount(NA), part number HDW-23438-001.
- 7) Stereo Headset, part number HDW-14322-003 with a lead length of 1.3 metres.
- 8) Alternate Stereo Headset, part number HDW-24529-001, with a lead length of 1.1m.
- 9) Premium Stereo Headset, part number HDW-15766-005, 1.3 metres long.
- 10) USB Data Cable, part number HDW-28109-003, 1.30 metres long.
- 11) USB Data Cable, part number HDW-06610-005, 1.50 metres long.
- 12) Bluetooth Headset, part number HDW-23439-001.
- 13) USB Y-Cable, part number HDW-19137-002.
- 14) Micro-to-Mini Adapter, part number HDW-26160-002.
- 15) External Battery Charger, part number HDW-16222-001.

D. Support Equipment Used for the Testing of the EUT

None. See section *F. Compliance Test Equipment Used.*

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:

Test Configuration	Operating Mode(s)	Charger + Accessories
1	GSM 850 Idle, Audio Playback	Folding Blade Charger + POD + Stereo Headset
2	GSM1900 Idle, Video Playback	Fixed Blade Charger + 1.5m USB Cable+ POD + Premium Stereo Headset
3	BT TX, Audio Playback	Alternate Fixed Blade Charger + POD + 1.5m USB Cable + BT Headset
4	802.11b	Fixed Blade Charger +1.3m USB Cable +POD + Premium Stereo Headset
5	UMTS II Idle, Video Playback	Captive Cable Charger + POD + Stereo Headset
6	UMTS V	Folding Blade Charger + USB Y-cable + Mini-To-Micro Adaptor + EBC + POD + Alternate Stereo HS

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 emission level of 52.27 dBµV, margin of 3.73 dB below the QP limit at 2.387 MHz using the quasi-peak detector, in test configuration 1.

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.

The following test configurations were measured:

Test Configuration	Operating Mode(s)	Charger + Accessories
1	GSM 850 Idle	Alternate Fixed Blade Charger + 1.5m USB + ST HS
2	GSM 850 Idle	Fixed Blade Charger + 1.5m USB + Premium ST HS

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 worst case emission level of 35.09 dBµV/m, or 4.91 dB margin below the limit, at 31.150 MHz in Test Configuration 1.

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Sample Calculation:

Field Strength (dBµV/m) is calculated as follows:

$$FS = \text{Measured Level (dB}\mu\text{V)} + \text{A.F. (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp (dB)} + \text{Filter Loss (dB)}$$


Measurement Uncertainty ±4.6 dB

To view the test data see APPENDIX 2.

F. Compliance Test Equipment Used

<u>UNIT</u>	<u>MANUFACTURER</u>	<u>MODEL</u>	<u>SERIAL NUMBER</u>	<u>CAL DUE DATE</u> (YY MM DD)	<u>USE</u>
Preamplifier	Sonoma	310N/11909A	185831	10-11-14	Radiated Emissions
Preamplifier system	TDK RF Solutions	PA-02	080010	10-11-06	Radiated Emissions
EMC Analyzer	Rohde & Schwarz	ESIB 40	3942A00517	10-11-30	Radiated Emissions
Digital Multimeter	Hewlett Packard	34401A	US36042324	10-10-08	Conducted/Radiated Emissions
Environment Monitor	Control Company	1870	230355190	11-01-08	Radiated Emissions
Environment Monitor	Control Company	1870	80117164	11-01-08	Conducted/Radiated Emissions
L.I.S.N.	Rohde & Schwarz	ENV216	100060	10-12-11	Conducted Emissions
Hybrid Log Antenna	EMC Automation	HLP-3003C	017401	10-09-11	Radiated Emissions
Horn Antenna	EMC Automation	HRN-0118	030101	10-07-22	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	837493/073	10-11-30	Radiated Emissions
Universal Radio Communication Tester	Rohde & Schwarz	CMU 200	112394	10-11-30	Radiated/Conducted Emissions
EMI Test Receiver	Rohde & Schwarz	ESU 40	100162	10-11-29	Radiated/Conducted Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100368	10-11-26	Radiated Emissions
Bluetooth Tester	Rohde & Schwarz	CBT	100370	10-11-30	Radiated/Conducted Emissions

APPENDIX 1 - AC CONDUCTED EMISSIONS TEST DATA

	EMI Test Report for the BlackBerry® smartphone Model RCM72UW APPENDIX 1	
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AC Conducted Emissions Test Results

The following tests were performed by Savtej Sandhu

Test Configuration 1

Date of the test: July 01, 2010


The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dBµV)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.173	N	32.35	11.08	43.43	64.84	54.84	-21.41
0.186	L1	44.86	10.95	55.81	64.21	54.21	-8.40
0.231	L1	29.13	10.64	39.77	62.41	52.41	-22.65
0.281	L1	34.48	10.29	44.77	60.80	50.80	-16.03
0.321	L1	33.98	10.13	44.11	59.68	49.68	-15.57
0.416	N	31.50	10.00	41.50	57.54	47.54	-16.04
0.470	L1	35.10	9.93	45.02	56.52	46.52	-11.50
0.659	N	30.81	9.85	40.66	56.00	46.00	-15.34
0.969	N	33.94	9.81	43.75	56.00	46.00	-12.25
1.248	L1	37.38	9.80	47.18	56.00	46.00	-8.82
2.112	L1	37.64	9.83	47.47	56.00	46.00	-8.53
2.117	N	36.86	9.83	46.69	56.00	46.00	-9.31
2.382	N	40.63	9.85	50.48	56.00	46.00	-5.52

All other emission levels had test margins 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.

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Test Configuration 1 cont'd

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dBµV)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
2.387	L1	42.43	9.84	52.27	56.00	46.00	-3.73
3.957	N	30.57	9.90	40.48	56.00	46.00	-15.53
4.124	N	29.61	9.91	39.52	56.00	46.00	-16.49
4.443	L1	29.38	9.90	39.29	56.00	46.00	-16.72
4.704	N	27.82	9.91	37.73	56.00	46.00	-18.27
4.929	N	27.66	9.91	37.57	56.00	46.00	-18.44
7.391	L1	28.32	9.97	38.29	60.00	50.00	-21.71
8.453	N	28.78	9.99	38.77	60.00	50.00	-21.23
9.101	L1	29.48	9.98	39.46	60.00	50.00	-20.54
10.518	N	26.31	9.98	36.29	60.00	50.00	-23.71
10.748	L1	26.62	9.97	36.59	60.00	50.00	-23.41
All other emission levels had test margins 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.							

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AC Conducted Emissions Test Graphs

Test Configuration 1

Figure 1-1: L1 lines

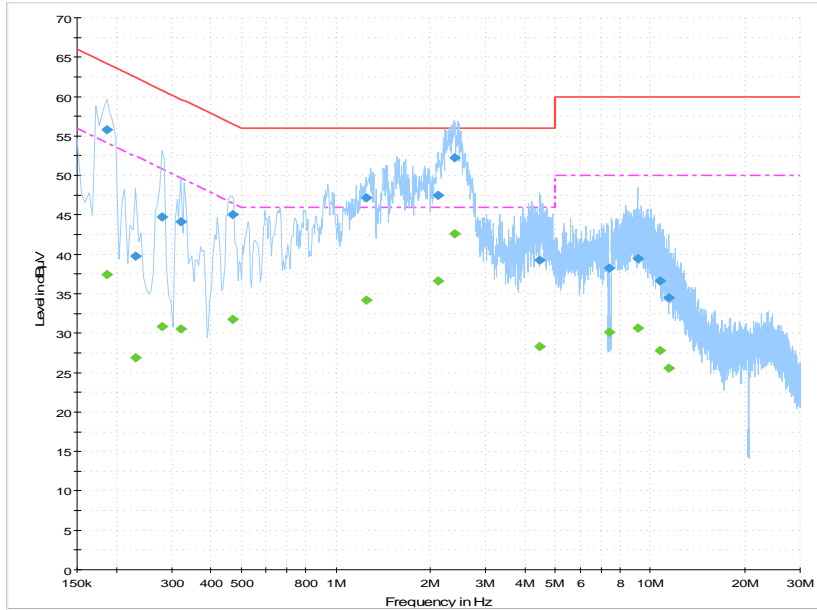
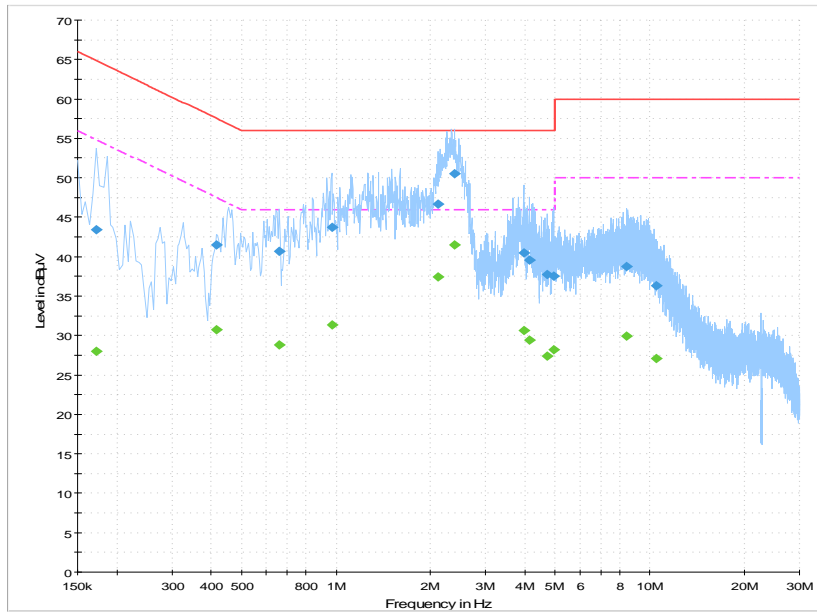



Figure 1-2: N Lines



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AC Conducted Emissions Test Results cont'd

Test Configuration 2

Date of the test: July 01, 2010


The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25 %

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dBµV)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.173	N	31.43	11.08	42.51	64.84	54.84	-22.33
0.348	L1	28.42	10.09	38.51	59.01	49.01	-20.50
0.357	N	25.72	10.09	35.81	58.80	48.80	-22.99
0.515	L1	27.71	9.90	37.61	56.00	46.00	-18.39
0.573	N	21.85	9.88	31.73	56.00	46.00	-24.27
0.749	L1	24.03	9.83	33.86	56.00	46.00	-22.14
0.857	N	21.69	9.82	31.51	56.00	46.00	-24.49
2.117	N	27.03	9.83	36.87	56.00	46.00	-19.14
3.269	N	26.70	9.89	36.59	56.00	46.00	-19.41
3.377	N	29.59	9.89	39.48	56.00	46.00	-16.52
3.494	N	28.03	9.89	37.92	56.00	46.00	-18.08
3.552	N	29.59	9.90	39.49	56.00	46.00	-16.52
3.570	L1	25.07	9.89	34.97	56.00	46.00	-21.03
3.611	N	29.68	9.90	39.58	56.00	46.00	-16.42
3.858	L1	22.75	9.90	32.65	56.00	46.00	-23.35
3.953	N	30.34	9.90	40.24	56.00	46.00	-15.76
4.029	L1	24.62	9.90	34.52	56.00	46.00	-21.48

All other emission levels had test margins 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.

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Test Configuration 2 cont'd

Frequency (MHz)	Line	Reading (QP)	Correction Factor (dB)	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
		(dBµV)		(dBµV)	(dBµV)	(dBµV)	Limits (dB)
4.088	L1	24.99	9.90	34.89	56.00	46.00	-21.11
4.146	L1	25.87	9.90	35.77	56.00	46.00	-20.24
4.236	N	29.78	9.91	39.69	56.00	46.00	-16.31
4.259	L1	23.88	9.90	33.79	56.00	46.00	-22.21
4.317	L1	25.64	9.90	35.55	56.00	46.00	-20.45
4.376	L1	23.81	9.90	33.72	56.00	46.00	-22.28
4.493	L1	24.74	9.90	34.65	56.00	46.00	-21.35
4.605	L1	25.61	9.90	35.51	56.00	46.00	-20.49
4.722	L1	23.62	9.90	33.52	56.00	46.00	-22.48
7.499	N	25.28	9.98	35.26	60.00	50.00	-24.74
10.415	L1	25.92	9.97	35.89	60.00	50.00	-24.11
All other emission levels had test margins 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.							

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AC Conducted Emissions Test Graphs

Test Configuration 2

Figure 1-3: L1 lines

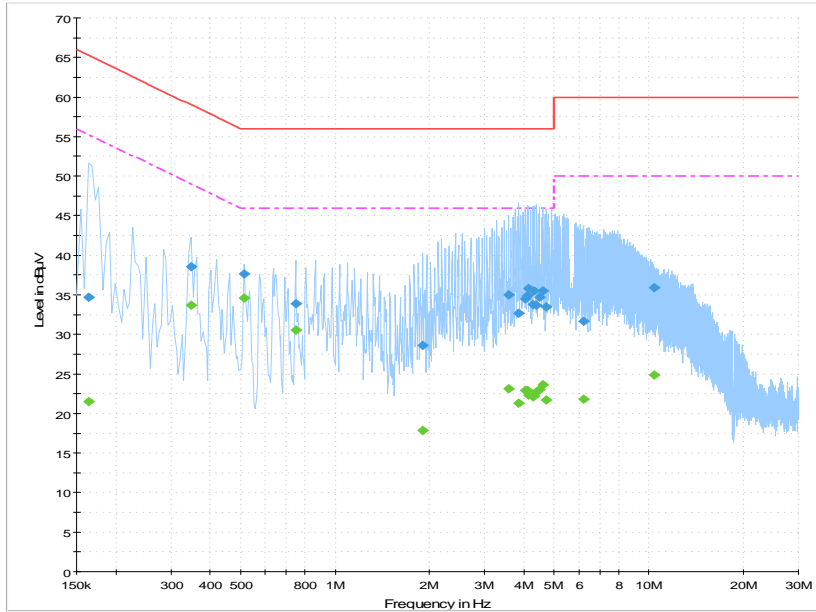
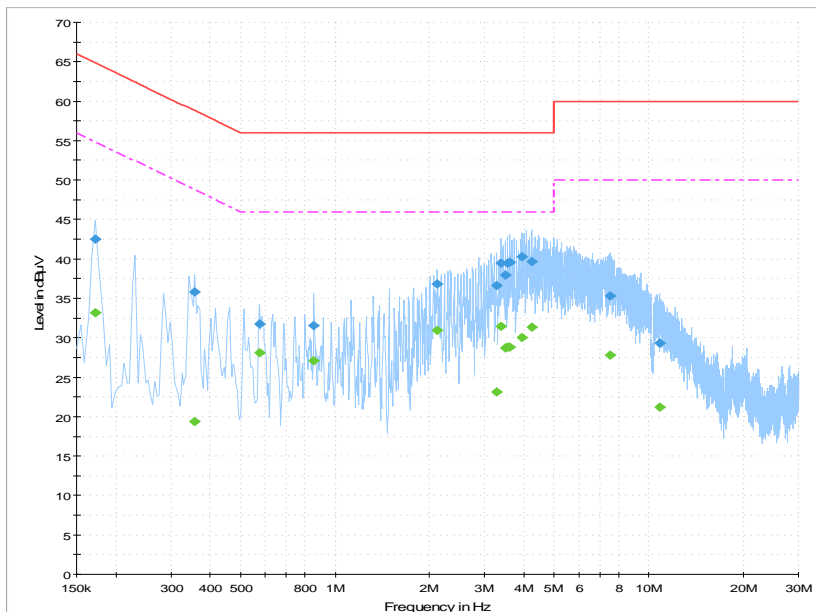



Figure 1-4: N Lines



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AC Conducted Emissions Test Results cont'd

Test Configuration 3

Date of the test: July 01, 2010


The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25 %

Frequency (MHz)	Line	Reading	Correction Factor	Corrected Reading (QP)	Limit	Limit	Margin
		(QP)			(QP)	(AV)	(QP)
		(dBµV)	(dB)	(dBµV)	(dBµV)	(dBµV)	Limits (dB)
0.155	L1	47.20	11.17	58.37	65.75	55.75	-7.38
0.159	N	45.25	11.17	56.42	65.52	55.52	-9.09
0.164	L1	45.47	11.11	56.58	65.28	55.28	-8.71
0.173	L1	44.86	11.05	55.91	64.84	54.84	-8.93
0.173	N	44.56	11.08	55.64	64.84	54.84	-9.20
0.209	L1	43.74	10.80	54.53	63.26	53.26	-8.73
0.218	L1	43.09	10.73	53.82	62.91	52.91	-9.09
0.240	L1	41.03	10.58	51.61	62.10	52.10	-10.48
0.249	L1	41.42	10.51	51.94	61.79	51.79	-9.85
0.249	N	40.62	10.54	51.15	61.79	51.79	-10.64
0.258	N	40.52	10.47	51.00	61.50	51.50	-10.50
0.263	L1	40.52	10.42	50.94	61.35	51.35	-10.41
0.303	L1	37.02	10.16	47.18	60.16	50.16	-12.98
0.317	L1	36.55	10.14	46.69	59.80	49.80	-13.11
0.339	L1	35.86	10.10	45.96	59.23	49.23	-13.27
0.348	L1	35.89	10.09	45.98	59.01	49.01	-13.03

All other emission levels had test margins 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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Test Configuration 3 cont'd

Frequency (MHz)	Line	Reading (QP)	Correction Factor (dB)	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
		(dBµV)		(dBµV)	(dBµV)	(dBµV)	Limits (dB)
0.348	N	32.73	10.10	42.83	59.01	49.01	-16.18
0.357	L1	34.30	10.08	44.38	58.80	48.80	-14.42
0.357	N	33.13	10.09	43.22	58.80	48.80	-15.58
0.393	L1	32.56	10.02	42.58	58.00	48.00	-15.42
0.434	L1	32.17	9.96	42.13	57.19	47.19	-15.06
0.447	N	29.60	9.95	39.55	56.93	46.93	-17.38
0.479	L1	28.47	9.92	38.39	56.37	46.37	-17.97
0.546	N	27.53	9.89	37.42	56.00	46.00	-18.58
0.578	L1	26.58	9.87	36.45	56.00	46.00	-19.55
0.587	L1	28.18	9.86	38.04	56.00	46.00	-17.96
12.705	N	27.16	10.06	37.22	60.00	50.00	-22.78
12.917	L1	29.13	10.06	39.19	60.00	50.00	-20.81

All other emission levels had test margins 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

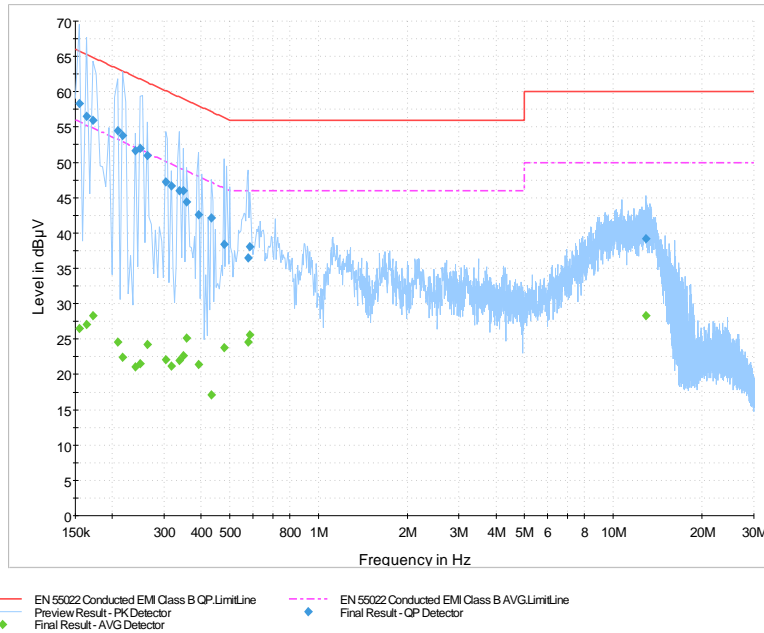
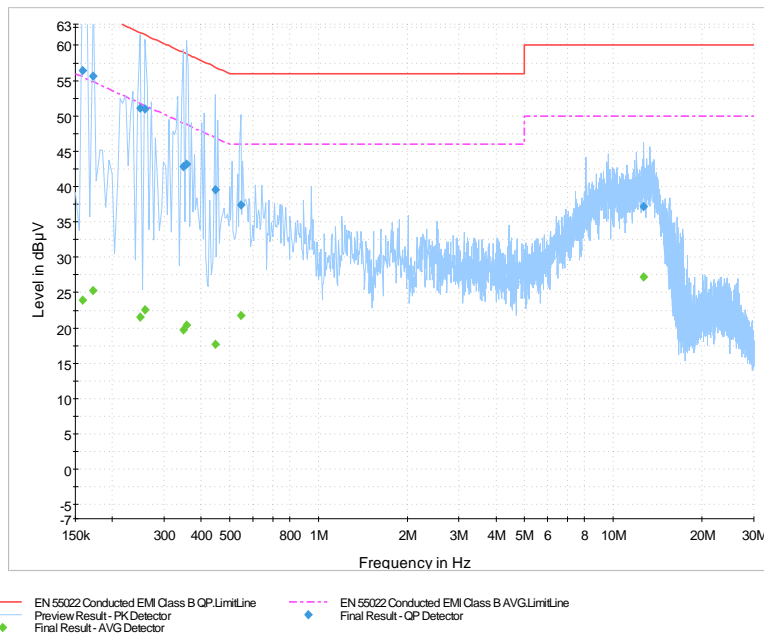



Figure 1-6: N Lines



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AC Conducted Emissions Test Results cont'd

Test Configuration 4

Date of the test: July 01, 2010

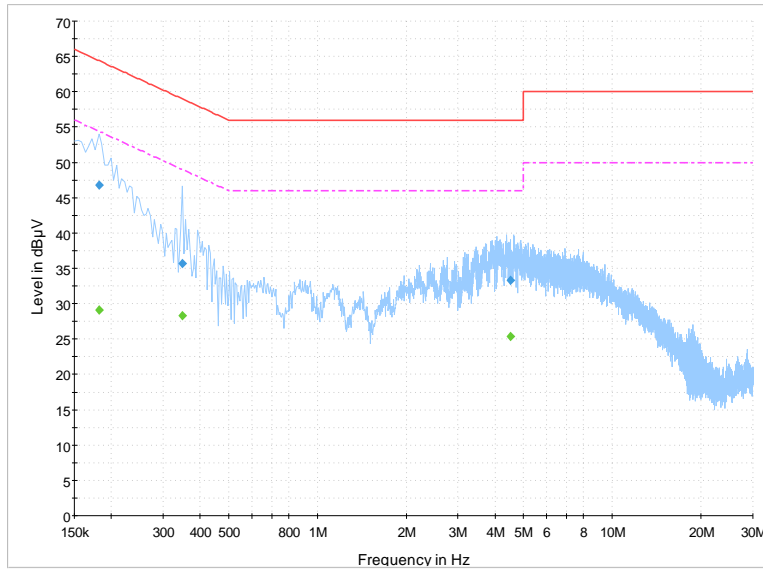
The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25 %

Frequency (MHz)	Line	Reading (QP)	Correction Factor (dB)	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
		(dBµV)		(dBµV)	(dBµV)	(dBµV)	Limits (dB)
0.177	N	31.54	11.05	42.58	64.63	54.63	-22.04
0.182	L1	35.75	10.99	46.74	64.42	54.42	-17.68
0.348	L1	25.64	10.09	35.73	59.01	49.01	-23.28
0.362	N	25.09	10.08	35.18	58.69	48.69	-23.52
3.494	N	23.22	9.89	33.12	56.00	46.00	-22.89
4.254	N	23.91	9.91	33.82	56.00	46.00	-22.18
4.520	L1	23.43	9.90	33.34	56.00	46.00	-22.66
All other emission levels had test margins 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

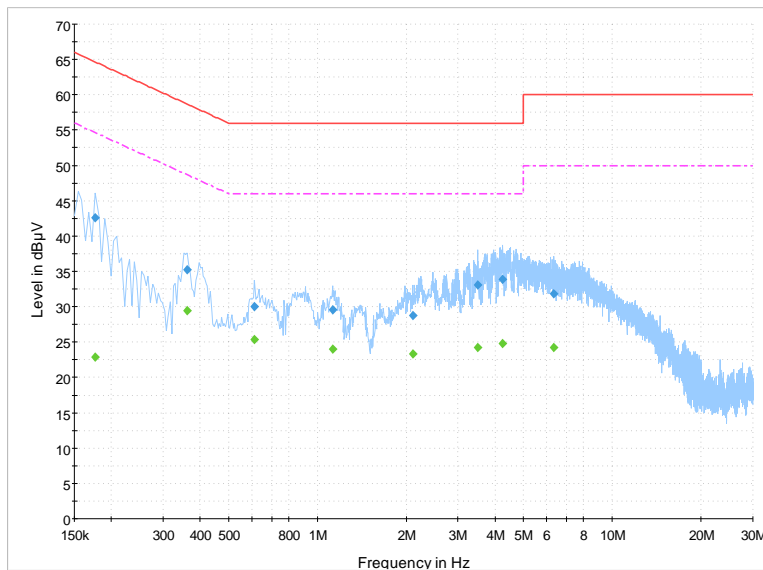
Test Configuration 4

Figure 1-7: L1 lines




— EN 55022 Conducted EMI Class B QP Limit Line - - - EN 55022 Conducted EMI Class B AVG Limit Line
 — Preview Result - PK Detector ◆ Final Result - QP Detector
 ◆ Final Result - AVG Detector

Figure 1-8: N Lines



— EN 55022 Conducted EMI Class B QP Limit Line - - - EN 55022 Conducted EMI Class B AVG Limit Line
 — Preview Result - AVG Detector ◆ Final Result - QP Detector
 ◆ Final Result - AVG Detector

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AC Conducted Emissions Test Results cont'd

Test Configuration 5

Date of the test: July 01, 2010


The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25%

Frequency (MHz)	Line	Reading (QP)	Correction Factor (dB)	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
		(dBµV)		(dBµV)	(dBµV)	(dBµV)	Limits (dB)
0.276	L1	26.38	10.33	36.71	60.94	50.94	-24.23
0.416	N	26.23	10.00	36.22	57.54	47.54	-21.31
0.420	L1	28.64	9.98	38.62	57.45	47.45	-18.83
0.447	N	26.18	9.95	36.13	56.93	46.93	-20.80
0.456	L1	29.77	9.93	39.71	56.77	46.77	-17.06
0.537	L1	30.04	9.89	39.93	56.00	46.00	-16.08
0.911	N	24.60	9.81	34.42	56.00	46.00	-21.58
1.199	N	27.14	9.80	36.94	56.00	46.00	-19.06
1.230	L1	30.74	9.80	40.54	56.00	46.00	-15.46
1.500	N	29.91	9.81	39.72	56.00	46.00	-16.28
1.905	N	26.05	9.83	35.88	56.00	46.00	-20.12
2.040	L1	33.31	9.83	43.13	56.00	46.00	-12.87
2.445	N	27.97	9.85	37.82	56.00	46.00	-18.18
2.544	L1	38.41	9.85	48.26	56.00	46.00	-7.74
3.957	N	29.24	9.90	39.15	56.00	46.00	-16.85
4.241	L1	34.54	9.90	44.44	56.00	46.00	-11.56
4.466	L1	33.54	9.90	43.45	56.00	46.00	-12.55
9.272	L1	31.49	9.97	41.46	60.00	50.00	-18.54
9.375	N	29.64	9.98	39.63	60.00	50.00	-20.38
9.672	L1	31.16	9.97	41.13	60.00	50.00	-18.87
10.707	L1	30.27	9.97	40.24	60.00	50.00	-19.76
11.598	N	26.24	10.01	36.25	60.00	50.00	-23.75

All other emission levels had test margins 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.

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AC Conducted Emissions Test Graphs

Test Configuration 5

Figure 1-9: L1 lines

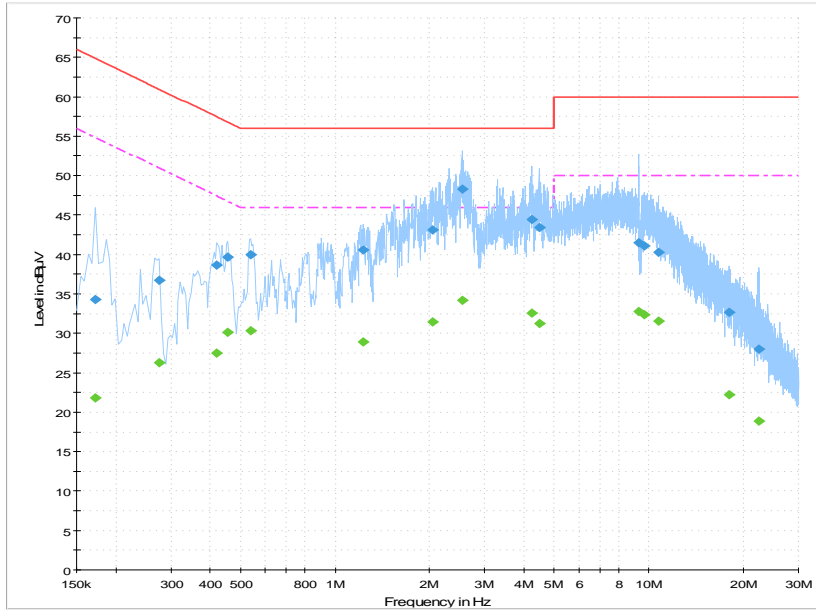



Figure 1-10: N Lines



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AC Conducted Emissions Test Results cont'd

Test Configuration 6

Date of the test: July 01, 2010

The environmental conditions were: Temperature: 23 °C
 Pressure: 1028 mb
 Humidity: 25%


Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dBµV)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.177	L1	35.28	11.02	46.30	64.63	54.63	-18.33
0.191	N	43.53	10.95	54.48	64.01	54.01	-9.53
0.281	L1	30.93	10.29	41.22	60.80	50.80	-19.58
0.285	N	34.03	10.28	44.31	60.67	50.67	-16.36
0.330	L1	31.12	10.12	41.23	59.45	49.45	-18.22
0.330	N	30.21	10.13	40.34	59.45	49.45	-19.11
0.420	L1	32.11	9.98	42.09	57.45	47.45	-15.36
0.470	L1	34.01	9.93	43.94	56.52	46.52	-12.58
0.501	N	27.23	9.92	37.15	56.00	46.00	-18.86
1.235	N	32.97	9.80	42.77	56.00	46.00	-13.23
1.244	L1	37.42	9.80	47.22	56.00	46.00	-8.78
2.094	N	35.90	9.83	45.73	56.00	46.00	-10.27
2.103	L1	37.46	9.83	47.29	56.00	46.00	-8.71
2.243	N	39.44	9.84	49.28	56.00	46.00	-6.72
2.306	L1	42.38	9.84	52.22	56.00	46.00	-3.78
4.155	L1	30.31	9.90	40.21	56.00	46.00	-15.79
4.308	L1	29.82	9.90	39.73	56.00	46.00	-16.27
4.412	L1	28.89	9.91	38.79	56.00	46.00	-17.21
4.461	N	26.79	9.91	36.70	56.00	46.00	-19.30
9.389	L1	28.72	9.97	38.69	60.00	50.00	-21.31
9.456	N	26.64	9.98	36.62	60.00	50.00	-23.38
10.514	L1	26.46	9.97	36.43	60.00	50.00	-23.57

All other emission levels had test margins 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.

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AC Conducted Emissions Test Graphs

Test Configuration 6

Figure 1-11: L1 lines

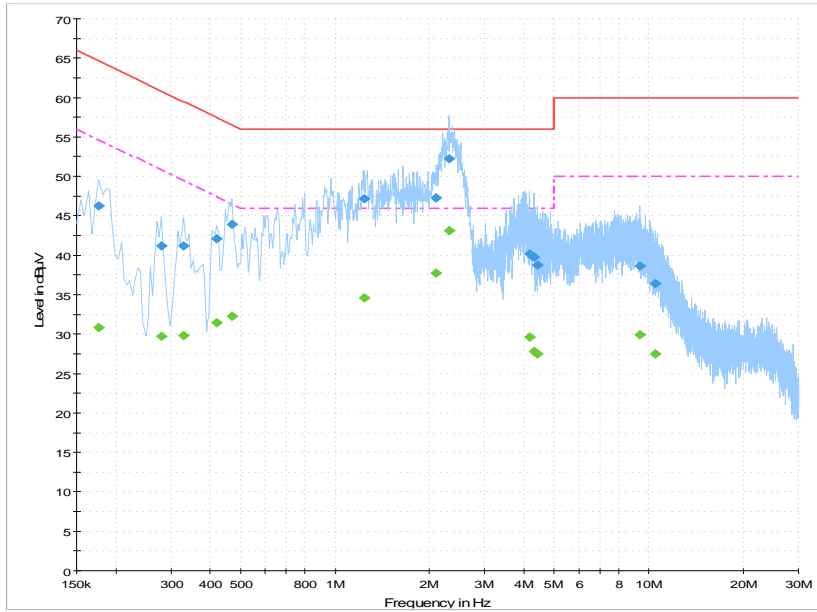
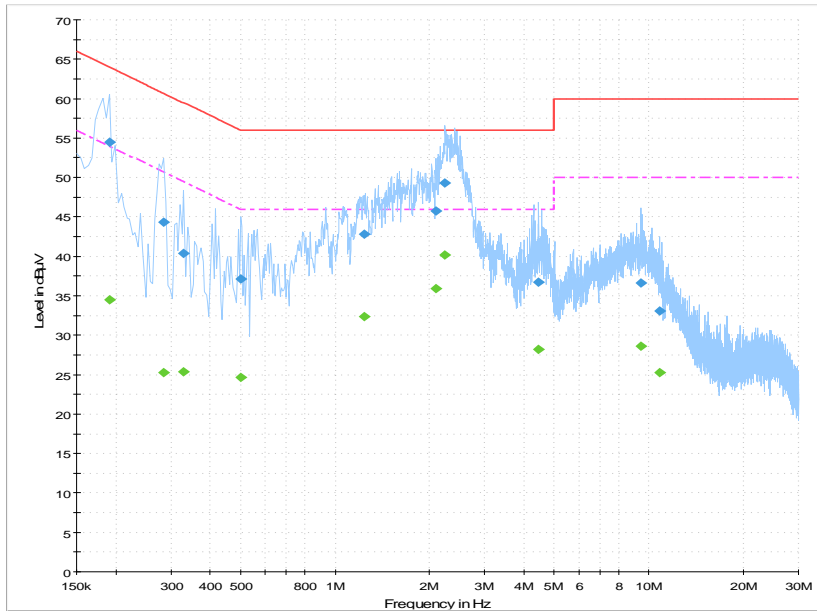


Figure 1-12: N Lines



APPENDIX 2 - RADIATED EMISSIONS TEST DATA

