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-2474-1002-46

PRODUCT MODEL NO.: RCX71UW
TYPE NAME: BlackBerry® smartphone
FCC ID: L6ARCX70UW
IC: 2503A-RCX70UW

DATE: March 22, 2010

Statement of Performance:

The BlackBerry® smartphone, model RCX71UW, part number CER-25285-001 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:

Kevin Rose
Regulatory Compliance Specialist
Date: 22 March 2010

Reviewed by:

Fahd Faisal
Regulatory Compliance Associate
Date: 23 March 2010

Reviewed and Approved by:

Masud S. Attayi, P.Eng.
Manager, Regulatory Compliance
Date: 26 March 2010

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, 2009 Class B Digital Devices, Unintentional Radiators
- IC ICES-003 Issue 4, February 2004, Class B Digital Devices, Unintentional Radiators

B. Associated Documents

1) HW_Declaration_CER-25285_Rev2

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 from February 1 to March 04, 2010.

The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN
1	RCX71UW	CER-25285-001 Rev 1	21BE03E5
2	RCX71UW	CER-25285-001 Rev 1	21BE0489
3	RCX71UW	CER-25285-001 Rev 2	21D06B49

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

To view the differences between CER-25285-001 Rev1 and CER-25285-001 Rev2 see the document HW_Declaration_CER_25285_Rev2. Only the characteristics that may be impacted by the changes were re-measured.

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, with an output voltage of 5.0 volts dc.
4) Alternate Fixed Blade Charger, part number HDW-24481-001, model number PSM04A-050Q, with an output voltage of 5.0 volts dc.
5) BlackBerry® Remote Stereo Gateway, part number HDW-16007-001.
6) USB Y-Cable, part number HDW-19137-002, lead lengths of 26 cm and 11 cm.
7) Alternate Stereo Headset, part number HDW-24529-001, with a lead length of 1.1 metres
8) Stereo Headset, part number HDW-14322-003 with a lead length of 1.3 metres.
9) Premium Stereo Headset, part number HDW-15766-005, 1.3 metres long.
10) USB Data Cable, part number HDW-06610-013, 0.30 metres long.
11) USB Data Cable, part number HDW-06610-009, 1.00 metre long.
12) USB Data Cable, part number HDW-06610-005, 1.50 metres long.
13) Alternate USB Cable, part number HDW-06610-009, model number AWM 2725, 1.00 metre long.
14) Bluetooth Headset, part number HDW-23439-001,

D. Support Equipment Used for the Testing of the EUT

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

E. Summary of Results

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

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:

1. The BlackBerry® smartphone is in GSM850 idle mode and Audio play mode with Wired Stereo Headset attached and was connected to Folding Blade Charger.
2. The BlackBerry® smartphone is in 802.11b idle mode with Wired Stereo Headset attached and was connected to Folding Blade Charger.
3. The BlackBerry® smartphone is in PCS 1900 idle mode with Prem St Headset attached and was connected to Fixed Blade Charger via 1.0m USB Cable
4. The BlackBerry® smartphone is in UMTS Band 4 idle mode and Audio play mode with a ALT Fixed Blade Charger connected via a 1.5m USB Cable, and was also paired up with a Visor Mount
5. The BlackBerry® smartphone is in GSM850 Tx mode and Audio play mode, connected to Fixed Blade Charger via 1.5m USB Cable, with BT Headset attached and was paired up with Stereo Gateway, which is connected to a speaker via 0.3m USB Cable and Audio Cable
6. The BlackBerry® smartphone is in PCS 1900 idle mode with Prem St Headset attached and was connected to Fixed Blade Charger via 1.0m ALT USB 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 8.1 dB below the QP limit at 1.964 MHz using the quasi-peak detector, test configuration 1.

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, in GSM850 idle mode with the Folding Blade Charger and Stereo Headset.
2. The BlackBerry® smartphone, in GSM 850 idle mode with the Premium Stereo Headset attached, was connected to the Laptop in High Speed USB mode via the1.0m USB Cable.
3. The BlackBerry® smartphone, in PCS1900 idle mode with the Premium Stereo Headset attached, was connected to the Laptop in High Speed USB mode via the1.0m USB Cable.
4. The BlackBerry® smartphone, in UMTS band 4 with Audio Playback idle mode with the Fixed Blade Charger using the 1.5meter high speed USB cable and the Visor mount.
5. The BlackBerry® smartphone, in PCS1900 idle mode with the Laptop 1 metre cable Bluetooth Stereo Gateway with the Y cable.
6. The BlackBerry® smartphone, in Bluetooth TX mode with the Captive Cable Charger and Stereo Headset.
7. The BlackBerry® smartphone, in UMTS band 4 idle mode with the ALT Fixed Blade charger and 1.5 meter cable with the ALT Stereo Headset.
8. The BlackBerry® smartphone is in GSM850 idle mode with the Laptop connected via the ALT 1.0m 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 7.74 dB at 56.35 MHz using test configuration 4.

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	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	10-04-21	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	10-04-22	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

AC Conducted Emissions Test Results

Test configuration: 1
The following test were performed by Steve Wang
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	Line	Reading (QP)	Correction Factor	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP) Limits
(MHz)		(dBµV)	(dB)	(dB)	(dBµV)	(dBµV)	(dB)
1.964	L1	38.03	9.82	47.86	56.00	46.00	**8.10**
0.155	L1	43.60	11.17	54.78	65.75	55.75	10.95
0.956	N	34.78	9.81	44.60	56.00	46.00	11.40
0.200	L1	39.89	10.86	50.75	63.63	53.63	12.83
2.112	N	32.93	9.83	42.76	56.00	46.00	13.20
1.199	N	32.71	9.80	42.51	56.00	46.00	13.50
1.100	N	32.36	9.81	42.17	56.00	46.00	13.80
0.672	N	32.27	9.85	42.11	56.00	46.00	13.90
0.965	L1	32.24	9.81	42.05	56.00	46.00	14.00
0.245	L1	37.33	10.55	47.88	61.94	51.94	14.04
1.352	L1	30.36	9.80	40.16	56.00	46.00	15.80
2.270	L1	27.80	9.84	37.63	56.00	46.00	18.40
0.389	L1	29.08	10.03	39.11	58.10	48.10	19.00
0.195	N	33.29	10.92	44.20	63.82	53.82	19.62
3.503	N	25.76	9.89	35.66	56.00	46.00	20.30
0.249	N	29.86	10.54	40.40	61.79	51.79	21.39
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

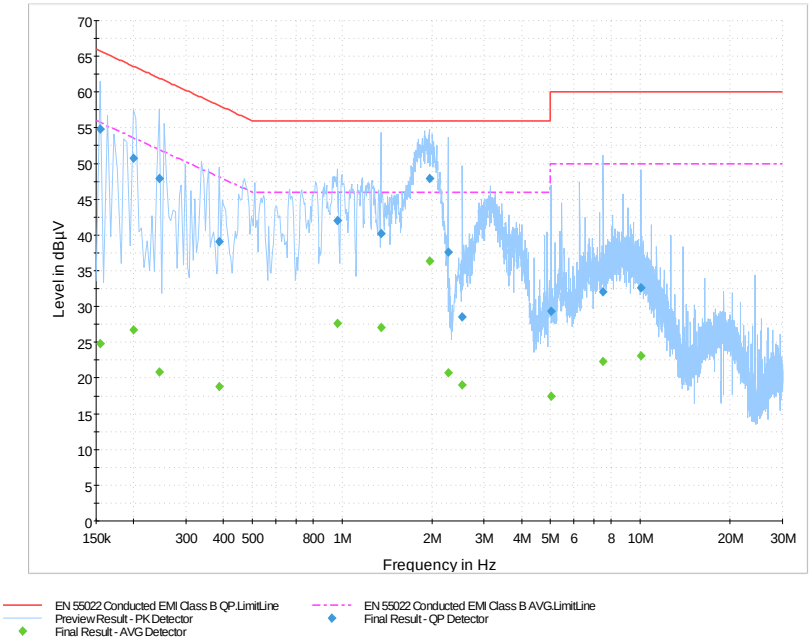
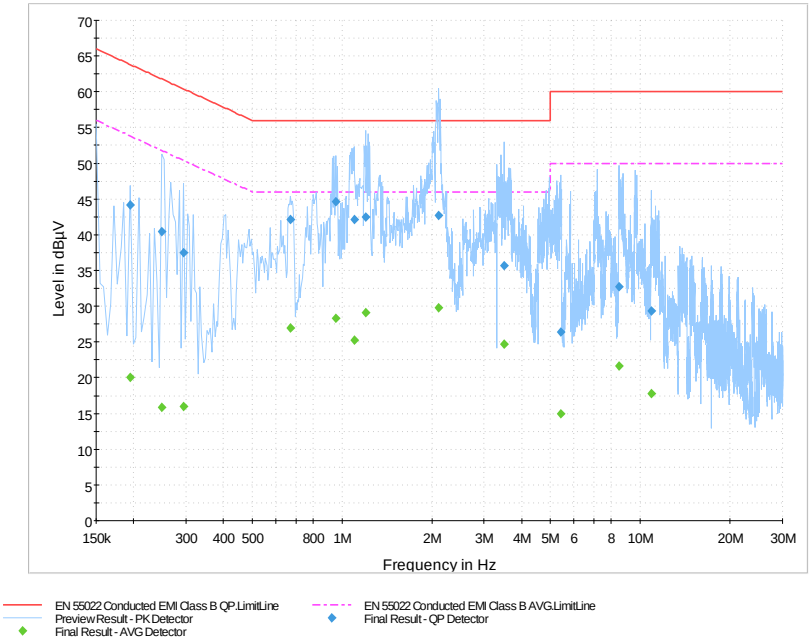


Figure 1-2: N Lines



AC Conducted Emissions Test Results cont'd

Test configuration: 2
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	Line	Reading (QP)	Correction Factor	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
							Limits
(MHz)		(dBµV)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)
2.126	L1	36.80	9.83	46.63	56.00	46.00	9.40
1.235	L1	33.27	9.80	43.07	56.00	46.00	12.90
0.677	L1	32.90	9.84	42.74	56.00	46.00	13.30
1.001	L1	32.59	9.80	42.39	56.00	46.00	13.60
1.856	N	32.52	9.82	42.35	56.00	46.00	13.70
0.474	L1	32.67	9.92	42.59	56.44	46.44	13.84
0.398	L1	32.13	10.01	42.14	57.91	47.91	15.81
1.068	N	30.19	9.81	40.00	56.00	46.00	16.00
1.230	N	30.16	9.80	39.96	56.00	46.00	16.00
0.681	N	29.17	9.84	39.01	56.00	46.00	17.00
1.428	L1	28.87	9.80	38.67	56.00	46.00	17.30
1.338	N	28.61	9.81	38.42	56.00	46.00	17.60
3.395	L1	27.95	9.89	37.83	56.00	46.00	18.20
4.043	L1	26.58	9.90	36.48	56.00	46.00	19.50
0.159	N	33.74	11.17	44.91	65.52	55.52	20.62
0.155	L1	33.02	11.17	44.19	65.75	55.75	21.55
3.044	N	23.95	9.88	33.83	56.00	46.00	22.20
0.416	N	24.48	10.00	34.48	57.54	47.54	23.04
3.651	N	21.23	9.90	31.12	56.00	46.00	24.90

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

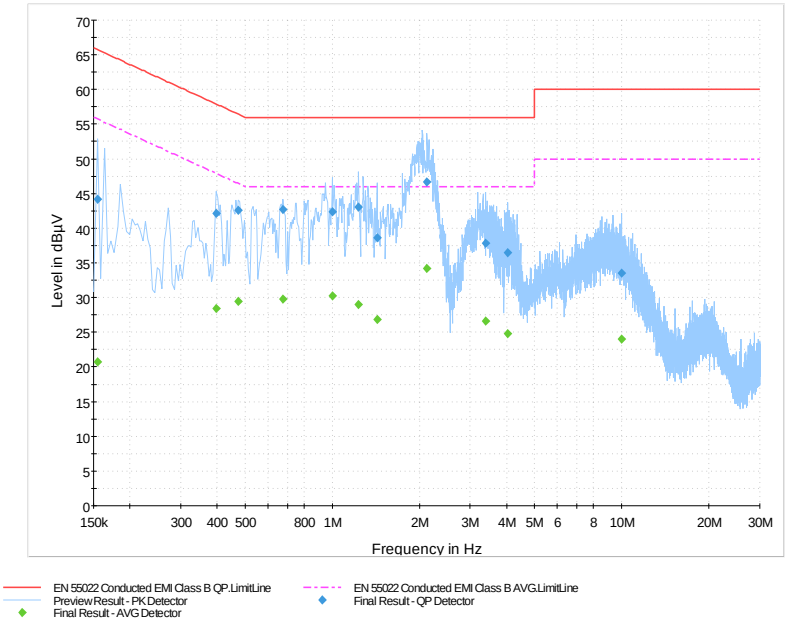
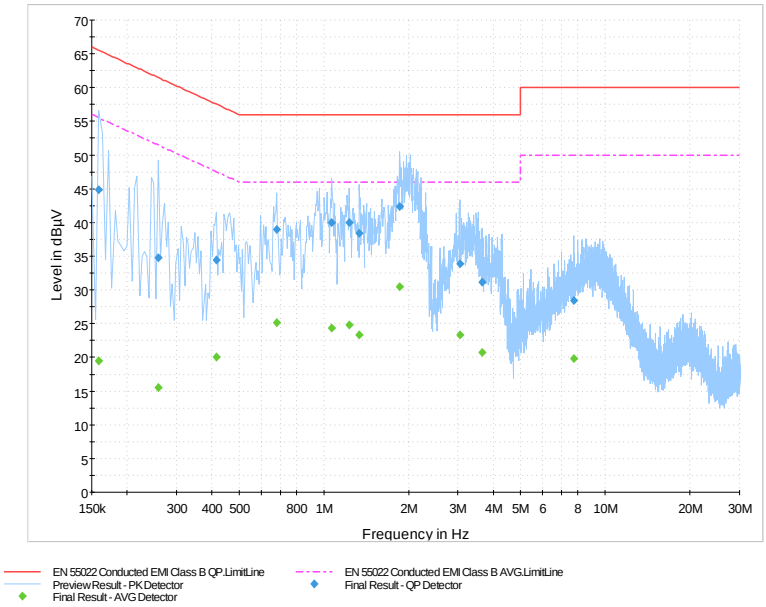


Figure 1-4: N Lines



AC Conducted Emissions Test Results cont'd

Test configuration: 3
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	Line	Reading (QP)	Correction Factor	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
							Limits
(MHz)		(dBµV)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)
0.155	L1	42.76	11.17	53.93	65.75	55.75	11.85
0.177	L1	38.21	11.02	49.23	64.63	54.63	15.43
0.150	N	38.05	11.23	49.29	66.00	56.00	16.70
0.195	L1	35.67	10.89	46.56	63.82	53.82	17.22
4.637	N	26.57	9.91	36.48	56.00	46.00	19.50
5.127	L1	30.03	9.91	39.93	60.00	50.00	20.10
0.425	L1	27.05	9.97	37.02	57.36	47.36	20.36
0.353	L1	28.33	10.08	38.42	58.90	48.90	20.50
0.245	L1	30.19	10.55	40.73	61.94	51.94	21.24
3.872	N	24.18	9.90	34.09	56.00	46.00	21.90
0.204	N	30.50	10.85	41.36	63.45	53.45	22.05
6.792	L1	27.82	9.94	37.77	60.00	50.00	22.20
3.575	N	23.18	9.90	33.08	56.00	46.00	22.90

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

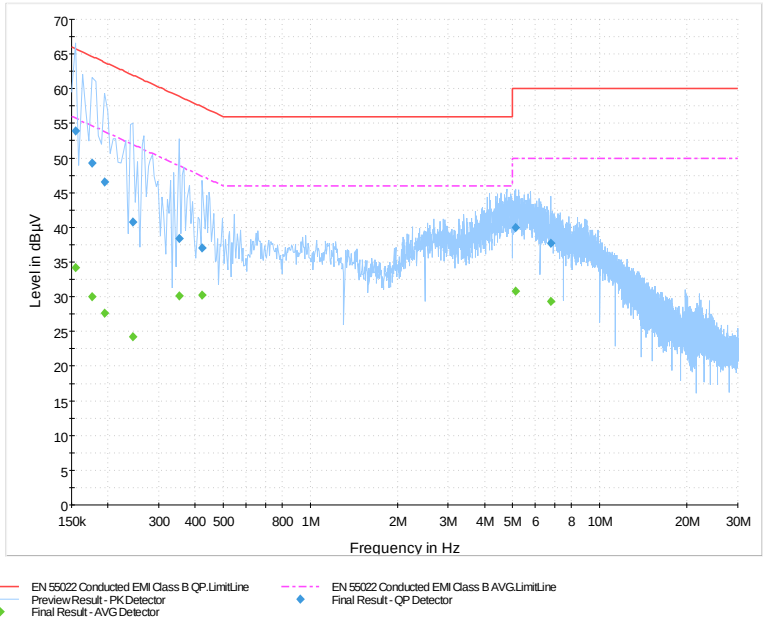
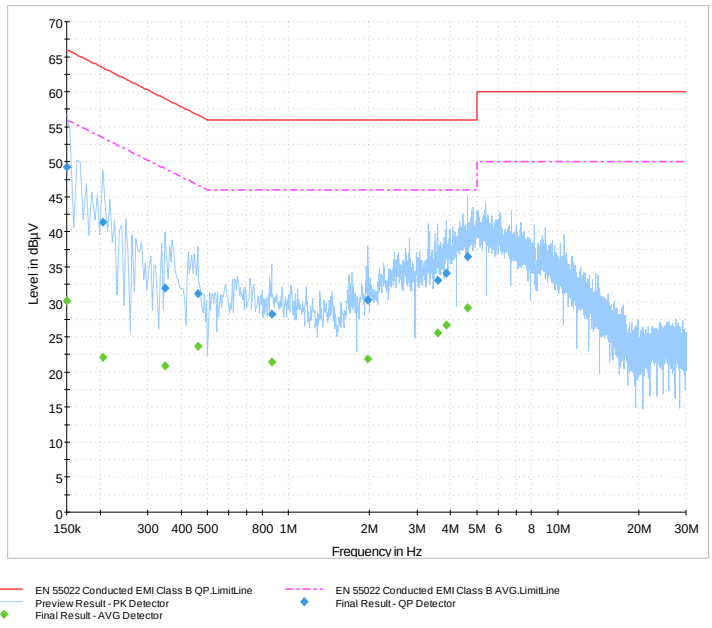


Figure 1-6: N Lines



AC Conducted Emissions Test Results cont'd

Test configuration: 4
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	Line	Reading (QP)	Correction Factor	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
							Limits
(MHz)		(dBµV)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)
0.150	N	46.55	11.23	57.79	66.00	56.00	8.20
0.164	N	45.22	11.14	56.36	65.28	55.28	8.88
0.177	N	44.36	11.05	55.40	64.63	54.63	9.23
0.186	N	43.84	10.98	54.82	64.21	54.21	9.41
0.195	N	42.67	10.92	53.59	63.82	53.82	10.22
0.155	L1	43.00	11.17	54.17	65.75	55.75	11.55
0.168	L1	41.79	11.08	52.87	65.06	55.06	12.16
0.177	L1	40.73	11.02	51.75	64.63	54.63	12.93
0.209	L1	39.25	10.80	50.05	63.26	53.26	13.26
0.303	N	36.66	10.17	46.83	60.16	50.16	13.36
0.240	L1	37.13	10.58	47.70	62.10	52.10	14.40
0.254	L1	36.64	10.48	47.12	61.64	51.64	14.54
0.294	L1	33.73	10.20	43.93	60.41	50.41	16.51
0.501	N	28.40	9.92	38.32	56.00	46.00	17.70
0.348	L1	31.20	10.09	41.29	59.01	49.01	17.71
0.515	L1	24.16	9.90	34.07	56.00	46.00	21.90
0.609	L1	22.58	9.85	32.44	56.00	46.00	23.60
9.771	L1	25.43	9.97	35.40	60.00	50.00	24.60

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

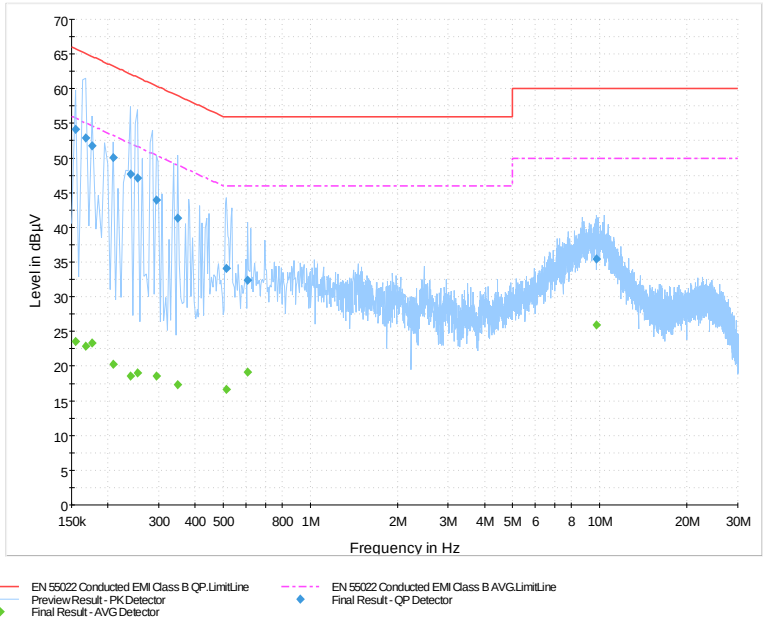
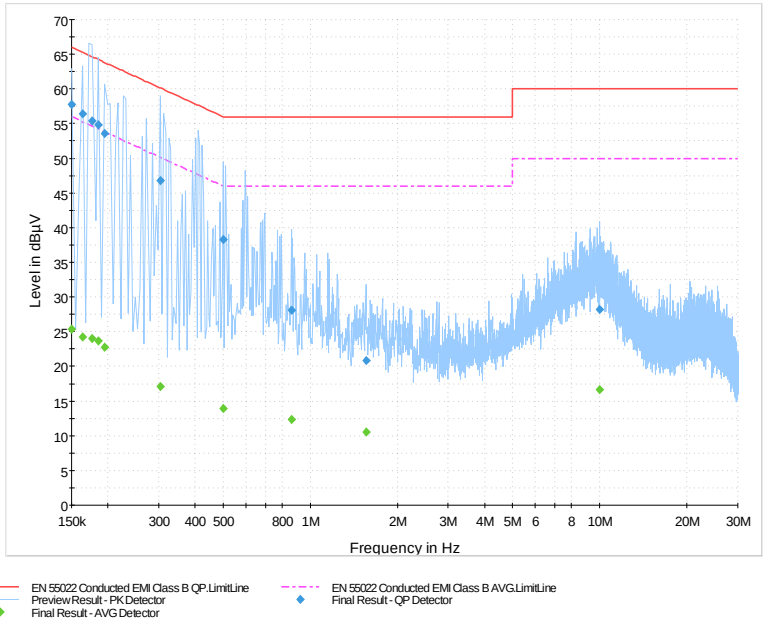


Figure 1-8: N Lines



AC Conducted Emissions Test Results cont'd

Test configuration: 5
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	Line	Reading (QP)	Correction Factor	Corrected Reading (QP)	Limit (QP)	Limit (AV)	Margin (QP)
							Limits
(MHz)		(dBµV)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)
0.150	N	40.97	11.23	52.21	66.00	56.00	13.80
0.177	L1	38.86	11.02	49.88	64.63	54.63	14.73
0.173	N	38.79	11.08	49.87	64.84	54.84	14.94
0.168	L1	38.44	11.08	49.52	65.06	55.06	15.56
0.186	N	37.40	10.98	48.39	64.21	54.21	15.81
0.744	L1	29.89	9.83	39.72	56.00	46.00	16.30
0.209	L1	36.13	10.80	46.92	63.26	53.26	16.36
0.218	N	35.53	10.76	46.29	62.91	52.91	16.61
0.227	N	35.01	10.69	45.71	62.58	52.58	16.88
0.218	L1	35.20	10.73	45.93	62.91	52.91	17.01
0.240	N	33.63	10.60	44.23	62.10	52.10	17.90
0.416	L1	27.61	9.99	37.59	57.54	47.54	19.94
0.330	L1	29.00	10.12	39.12	59.45	49.45	20.35
1.842	L1	25.54	9.82	35.36	56.00	46.00	20.60
0.942	N	24.95	9.81	34.76	56.00	46.00	21.20
0.326	N	28.00	10.14	38.14	59.57	49.57	21.47
0.672	N	24.65	9.85	34.49	56.00	46.00	21.50
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

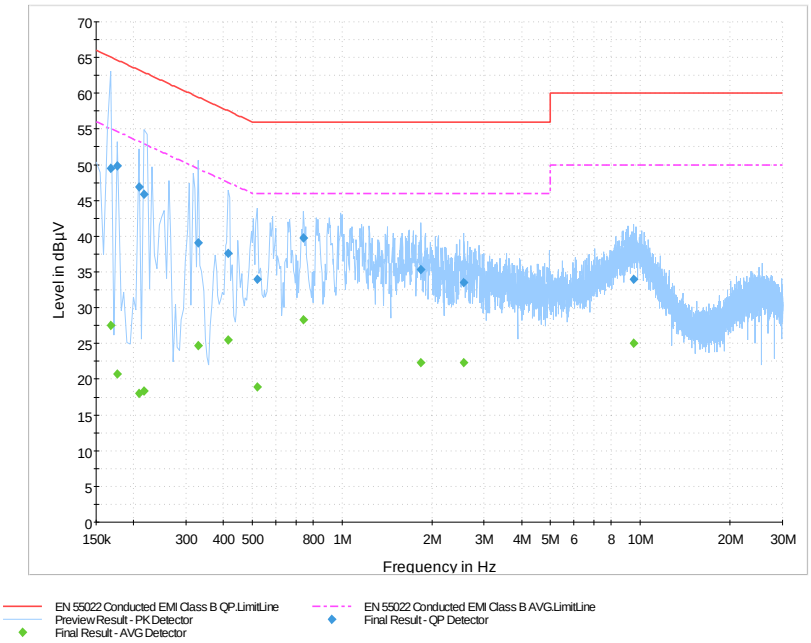
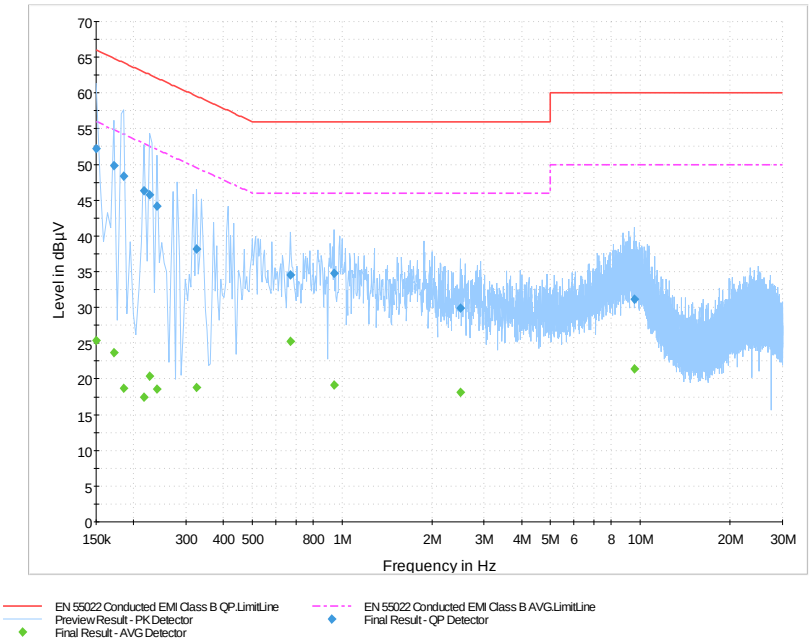


Figure 1-10: N Lines



AC Conducted Emissions Test Results cont'd

Test configuration: 6
Date of the test: March 03, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1023mB
Humidity: 24%

Frequency	**Line**	**Reading (QP)**	**Correction Factor**	**Corrected Reading (QP)**	**Limit (QP)**	**Limit (AV)**	**Margin (QP)**
							Limits
(MHz)		**(dBµV)**	**(dB)**	**(dBµV)**	**(dBµV)**	**(dBµV)**	**(dB)**
4.799	L1	28.36	9.90	38.27	56.00	46.00	17.70
0.420	L1	29.08	9.98	39.06	57.45	47.45	18.35
0.155	L1	33.76	11.17	44.93	65.75	55.75	20.85
3.575	L1	24.70	9.89	34.59	56.00	46.00	21.40
4.907	N	22.81	9.91	32.73	56.00	46.00	23.30
0.623	L1	22.00	9.85	31.85	56.00	46.00	24.10
0.150	N	30.67	11.23	41.90	66.00	56.00	24.10
0.857	L1	21.75	9.81	31.56	56.00	46.00	24.40
6.554	L1	25.56	9.93	35.49	60.00	50.00	24.50
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

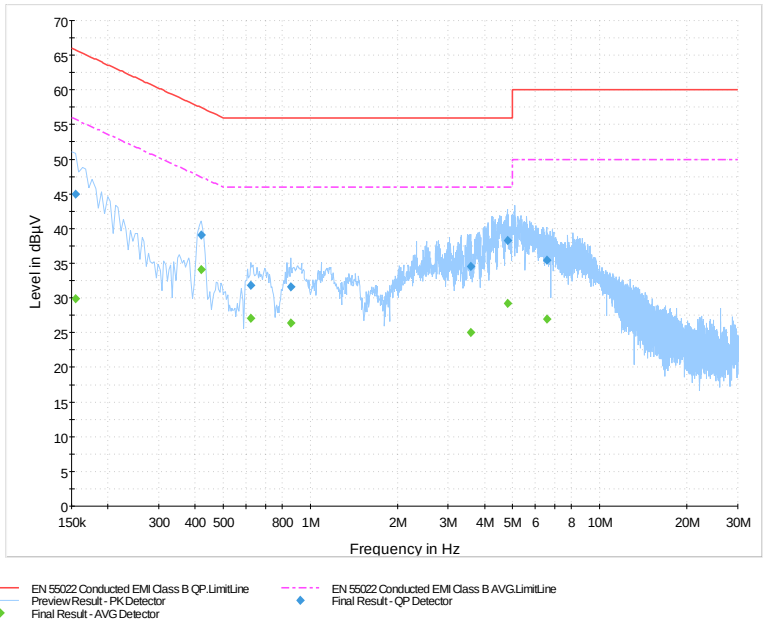
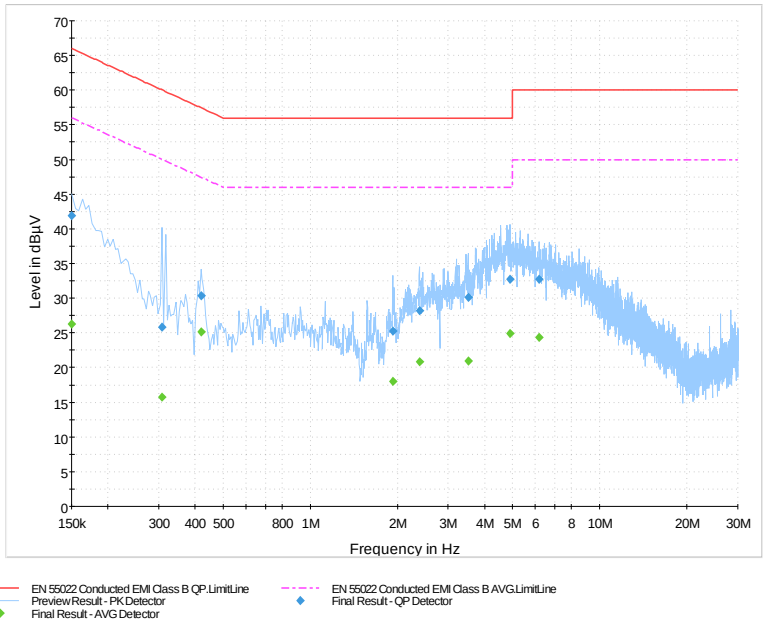


Figure 1-12: N Lines



APPENDIX 2 - RADIATED EMISSIONS TEST DATA

Radiated Emissions Test Results

Test Configuration: 1
The following test were performed by Kevin Rose
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 999mB
Humidity: 21%

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)
325.300	H	2.46	340.00	Q.P.	37.91	-12.91	25.00	46.00	-21.00
345.000	H	2.46	145.00	Q.P.	33.17	-10.24	22.93	46.00	-23.07
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 2
The following test were performed by Fahd Faisal
Date of the test: February 01, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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)
51.650	V	1.79	303.00	Q.P.	50.08	-23.00	27.08	40.00	-12.92
144.150	H	1.78	15.00	Q.P.	44.19	-19.16	25.03	43.50	-18.47
165.750	H	1.82	244.00	Q.P.	39.93	-19.01	20.92	43.50	-22.58
199.600	H	1.90	240.00	Q.P.	42.88	-15.92	26.96	43.50	-16.54
243.450	H	1.53	305.00	Q.P.	50.87	-17.11	33.76	46.00	-12.24
243.500	V	1.67	354.00	Q.P.	50.61	-17.12	33.49	46.00	-12.51
272.100	H	1.24	300.00	Q.P.	49.68	-16.45	33.23	46.00	-12.77
324.850	H	1.06	221.00	Q.P.	34.60	-12.94	21.66	46.00	-24.34
376.900	V	1.45	62.00	Q.P.	47.13	-12.70	34.43	46.00	-11.57
377.000	H	2.35	91.00	Q.P.	46.48	-12.70	33.78	46.00	-12.22
565.150	H	1.23	91.00	Q.P.	34.12	-8.34	25.78	46.00	-20.22
566.400	V	1.92	205.00	Q.P.	33.03	-8.36	24.67	46.00	-21.33
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 3
Date of the test: February 02, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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)
243.450	H	1.24	122.00	Q.P.	52.21	-17.11	35.10	46.00	-10.90
837.000	H	2.02	284.00	Q.P.	37.82	-3.17	34.65	46.00	-11.35
376.800	H	1.02	247.00	Q.P.	45.64	-12.71	32.93	46.00	-13.07
377.100	V	1.43	67.00	Q.P.	45.11	-12.70	32.41	46.00	-13.59
62.000	V	2.44	23.00	Q.P.	49.18	-22.92	26.26	40.00	-13.74
379.300	H	2.92	106.00	Q.P.	43.80	-12.59	31.21	46.00	-14.79
378.950	V	3.58	17.00	Q.P.	41.64	-12.59	29.05	46.00	-16.95
567.600	V	1.62	187.00	Q.P.	33.83	-8.36	25.47	46.00	-20.53
870.700	H	1.66	152.00	Q.P.	26.97	-1.71	25.26	46.00	-20.74
232.550	H	1.39	257.00	Q.P.	42.21	-17.15	25.06	46.00	-20.94
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 4
Date of the test: February 02, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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)
56.350	V	1.42	86.00	Q.P.	55.39	-23.13	32.26	40.00	**-7.74**
51.850	V	1.60	125.00	Q.P.	50.98	-23.04	27.94	40.00	-12.06
75.750	V	1.43	285.00	Q.P.	45.84	-21.66	24.18	40.00	-15.82
324.550	H	1.45	11.00	Q.P.	35.46	-12.96	22.50	46.00	-23.50
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 5
Date of the test: February 03, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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)
69.000	H	2.67	224.00	Q.P.	52.45	-22.34	30.11	40.00	-9.89
379.350	H	2.92	67.00	Q.P.	45.79	-12.59	33.20	46.00	-12.80
243.450	H	1.02	115.00	Q.P.	49.47	-17.11	32.36	46.00	-13.64
139.000	H	1.97	204.00	Q.P.	46.03	-19.18	26.85	43.50	-16.65
134.250	V	1.54	252.00	Q.P.	45.31	-19.12	26.19	43.50	-17.31
287.950	H	1.05	353.00	Q.P.	43.55	-16.05	27.50	46.00	-18.50
601.400	H	1.75	14.00	Q.P.	30.19	-6.84	23.35	46.00	-22.65
497.850	H	2.11	352.00	Q.P.	30.57	-9.27	21.30	46.00	-24.70
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 6
Date of the test: February 03, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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

Radiated Emissions Test Results cont'd

Test Configuration: 7
Date of the test: February 03, 2010
The environmental conditions were: Temperature: 26 C
Pressure: 1017mB
Humidity: 20%

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)
50.450	V	1.40	354.00	Q.P.	51.25	-22.91	28.34	40.00	-11.66
32.000	V	3.56	228.00	Q.P.	43.95	-19.00	24.95	40.00	-15.05
All other emission levels had a test margin greater than 25 dB.									

Radiated Emissions Test Results cont'd

Test Configuration: 8
Date of the test: March 04, 2010
The environmental conditions were: Temperature: 23 C
Pressure: 1017mB
Humidity: 22%

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)
243.450	H	1.09	97.00	Q.P.	54.34	-17.05	37.29	46.00	-8.71
376.750	H	3.00	106.00	Q.P.	49.04	-12.63	36.41	46.00	-9.59
72.000	H	1.94	249.00	Q.P.	50.60	-21.96	28.64	40.00	-11.36
166.250	H	1.78	221.00	Q.P.	43.60	-18.95	24.65	43.50	-18.85
299.000	H	1.00	96.00	Q.P.	39.17	-14.78	24.39	46.00	-21.61
All other emission levels had a test margin greater than 25 dB.									