EMC Test Report

Tested in accordance with
Federal Communications Commission (FCC)
Personal Communications Services
CFR 47, Parts 15.107, 15.109
&
Industry Canada (IC), ICES-003

(This report is generated for model RHC161LW (STR100-2))



REPORT NO.: RTS-6063-1502-15

PRODUCT MODEL NO.: RHC161LW (STR100-2) **TYPE NAME**: BlackBerry[®] smartphone

FCC ID: L6ARHC160LW IC: 2503A-RHC160LW

DATE: February 27, 2015

RTS is accredited according to EN ISO/IEC 17025 by:



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Statement of Performance:

The BlackBerry® smartphone, model RHC161LW (STR100-2), part number DVT Rev3-01 and accessories when configured and operated per BlackBerry'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: | Reviewed by: | |
|--|-------------------------|--|
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| | | |
| Savtej S. Sandhu | Kevin Guo | |
| Compliance Specialist I | Compliance Specialist I | |
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| ntornous directions by: | | |
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| | | |
| Masud S. Attayi, P.Eng. | | |
| Manager, Regulatory Certification & Comp | liance | |

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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, 2014 Class B Digital Devices, **Unintentional Radiators**
- IC ICES-003 Issue 5, August 2012, Information Technology Equipment (ITE) Limits and methods of measurement

B. Associated Documents

None

C. Product Identification

Manufactured by Wistron Mobile Solutions located at:

2550 W. Golf Rd Suite 400 Rolling Meadows, IL USA, 60008

Phone: +1 (847) 258-2611

The equipment under test (EUT) was tested at the following locations:

BlackBerry RTS EMC 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 519 888 6906 Fax: Fax: 519 888 6906

The testing was performed from February 23 to 27, 2015.

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The sample EUT included:

| SAMPLE | MODEL | HARDWARE | PIN | Software |
|--------|------------------------|-------------|----------|--|
| 1 | RHC161LW (STR100-2) | DVT Rev3-01 | 2FFE7803 | OS Version: 10.3.1.2174 Radio Version: 10.3.1.2175 SW Release Version: 10.3.1.1518 |
| 2 | RHC161LW (STR100-2) | DVT Rev3-01 | 2FFE7804 | OS Version: 10.3.1.2174 Radio Version: 10.3.1.2175 SW Release Version: 10.3.1.1518 |
| 3 | RHC161LW (STR100-2) | DVT Rev3-01 | 2FFE780A | OS Version: 10.3.1.2174 Radio Version: 10.3.1.2175 SW Release Version: 10.3.1.1518 |
| 4 | RHC161LW (STR100-2) | DVT Rev3-01 | 2FFE7801 | OS Version: 10.3.1.2174 Radio Version: 10.3.1.2175 SW Release Version: 10.3.1.1518 |

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

BlackBerry® smartphone Accessories Tested

- 1) Fixed Blade Charger, part number HDW-46445-00x with an output voltage of 5.0 volts dc, 850mA
- 2) Alt. Fixed Blade Charger, part number HDW-58920-00x with an output voltage of 5.0 volts dc, 1300mA
- 3) Headset, part number HDW-49299-00x, with a lead length of 1.1 metres
- 4) Alt. Headset, part number HDW-44306-00x, with a lead length of 1.1 metres
- 5) USB Data Cable, part number HDW-50071-00x, 1.2 metres long
- 6) Alt. USB Data Cable, part number HDW-51800-00x, 1.2 metres long

D. Support Equipment Used for the Testing of the EUT

1) Lenovo Thinkpad laptop, type 4236-D84, S/N PB-HX502 12/02, product ID 4236D84

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E. Summary of Results

| SPECIFICATION | | TEST TYPE | Meets | Test Data |
|---------------|--------------|---|-------------|-----------|
| FCC CFR 47 | IC | TEST TIPE | Requirement | APPENDIX |
| Part 15.107 | ICES-003,6.1 | AC Powerline Conducted Emission | Yes | 1 |
| Part 15.109 | ICES-003,6.2 | Radiated Unintentional Spurious Emissions | Yes | 2 |

a) AC POWERLINE CONDUCTED EMISSIONS

The AC Powerline 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.

| Test Configuration | Operating Mode(s) | Charger + Accessories |
|-----------------------|---|--|
| 1 | PCS 1900, Idle, Charging and Video Playback | Fixed Blade Charger + Headset + USB Cable |
| 2 | LTE FDD 2, Idle, Charging and Audio Playback | Alt. Headset + Alt. USB Cable + Laptop |
| 3 | UMTS FDD II HSDPA+, Idle, Charging and Audio Playback | Alt. Fixed Blade Charger + Alt. Headset + Alt. USB Cable |
| 4 | UMTS FDD IV DC HSDPA, Idle, Charging and Video Playback | Fixed Blade Charger + Alt. Headset + USB Cable |
| 5 | FM, Idle, Charging and Audio Playback | Alt. Fixed Blade Charger + Headset + Alt. USB Cable |

The sample EUT's AC Powerline conducted emissions were compared with respect to the FCC CFR 47 Part 15.107, Class B Limit, and IC ICES-003, 6.1. The sample

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| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) | |
|------------------------|--|---------------------|
| Test Report No. | Date of Test | FCC ID: L6ARHC160LW |
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EUT had a worst case test margin of 11.13 dB below the QP limit at 0.483 MHz using the QP detector in Test Configuration 3.

Measurement Uncertainty ±3.2 dB

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

b) RADIATED UNINTENTIONAL SPURIOUS EMISSIONS

The radiated unintentional spurious 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 radiated emissions were measured up to the fifth harmonic of the highest frequency of the band tested. Both the horizontal and vertical polarizations of the emissions were measured.

The measurements were done in a semi-anechoic chamber (SAC) below 1 GHz and a modified semi-anechoic chamber (modified SAC) with floor absorbers above 1 GHz. The SAC's FCC registration number is **778487** and the Industry Canada (IC) file number is **2503B-1**. The modified SAC's FCC registration number is **959115** and the IC file number is **2503C-1**.

The EUT was configured and operated to produce the maximum radiated emissions while still keeping within BlackBerry's specifications.

The BlackBerry[®] smartphone was in battery charging mode for all configurations. The ac input voltage was 120V, 60Hz.

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| Test Configuration | Operating Mode(s) | Charger + Accessories |
|--------------------|--|--|
| 1 | PCS 1900, Idle, Charging and Video Playback | Fixed Blade Charger + Headset + USB Cable |
| 2 | LTE FDD 2, Idle, Charging and Audio Playback | Alt. Headset + Alt. USB Cable + Laptop |
| 3 | UMTS FDD II HSDPA+, Idle, Charging and Audio Playback | Alt. Fixed Blade Charger + Alt. Headset + Alt. USB Cable |
| 4 | UMTS FDD IV DC HSDPA, Idle, Charging and Video Playback | Fixed Blade Charger + Alt. Headset + USB Cable |
| 5 | FM, Idle, Charging and Audio Playback | Alt. Fixed Blade Charger + Headset + Alt. USB Cable |
| 6 | Bluetooth, Tx, Charging and Video Playback | Fixed Blade Charger + Alt. Headset + Alt. USB Cable |
| 7 | 802.11b, Tx, Charging and Audio Playback | Alt. Fixed Blade Charger + Headset + USB Cable |

The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15.109, Class B limit and IC ICES-003, 6.2.

The system met the requirements with a worst case emission test margin of 10.88 dB below the QP limit at 237.95 MHz using QP detector in Test Configuration 2.

To view the test data see APPENDIX 2.

Sample Calculation:

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

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

Measurement Uncertainty ±4.2 dB

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F. Compliance Test Equipment Used

| <u>UNIT</u> | MANUFACTUR ER | MODEL | <u>SERIAL</u> <u>NUMBER</u> | CAL DUE DATE (YY MM DD) | <u>USE</u> |
|--|---------------------|-------------|--------------------------------|-------------------------|---|
| Preamplifier | Sonoma | 310N/11909A | 185831 | 15-10-22 | Radiated Emissions |
| Preamplifier system | TDK RF Solutions | PA-02 | 080010 | 15-10-22 | Radiated Emissions |
| EMI Receiver | Rohde & Schwarz | ESIB 40 | 100255 | 15-12-05 | Radiated Emissions |
| Environment Monitor | OMEGA | iTHX-SD | 0380561 | 16-11-15 | Radiated Emission |
| Environment Monitor | OMEGA | iTHX-SD | 0380567 | 16-11-15 | Radiated Emission |
| L.I.S.N. | Rohde & Schwarz | ENV216 | 100060 | 15-10-08 | AC Powerline Conducted Emissions |
| Hybrid Log Antenna | EMC Automation | HLP-3003C | 017401 | 16-02-03 | Radiated Emissions |
| Horn Antenna | EMC Automation | HRN-0118 | 030101 | 16-08-14 | Radiated Emissions |
| Preamplifier | Rohde & Schwarz | TS-ANA-SP | 001 | 15-09-10 | Radiated Emissions |
| Universal Radio Communication Tester | Rohde & Schwarz | CMU 200 | 837493/073 | 15-12-09 | Radiated Emissions |
| Universal Radio Communication Tester | Rohde & Schwarz | CMU 200 | 112394 | 15-12-05 | Radiated/AC Powerline Conducted Emission |
| Universal Radio Communication Tester | Rohde & Schwarz | CMW500 | 101469 | 16-11-27 | Radiated Emissions |
| Universal Radio Communication Tester | Rohde & Schwarz | CMW500 | 109949 | 16-11-27 | Radiated /RF Conducted Emission |
| EMI Test Receiver | Rohde & Schwarz | ESU 40 | 100162 | 15-12-10 | Radiated/AC Powerline Conducted Emission |
| Bluetooth Tester | Rohde & Schwarz | СВТ | 100368 | 15-11-25 | Radiated Emissions |
| Bluetooth Tester | Rohde & Schwarz | CBT | 100737 | 15-11-25 | Radiated/AC Powerline Conducted Emission |

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G. Test Software Used

| <u>SOFTWARE</u> | COMPANY | <u>VERSION</u> | <u>USE</u> |
|----------------------------|------------------|----------------|--------------------|
| EMC32 | Rohde & Schwarz | 8.52.0 | Radiated Emissions |
| TDK Standard Emission Test | TDK RF Solutions | 8.53.1.62 | Radiated Emissions |

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| APPENDIX 1 - AC POWERLINE CONDUCTED EMISSIONS TEST DA |
|---|
|---|

| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | |
|------------------------|--|---------------------|--|--|
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AC Powerline Conducted Emissions Test Results

The following tests were performed by Winston Vernon.

Test Configuration 1

Date of the test: February 25, 2015

The environmental conditions were: Temperature: 24.5 °C

Humidity: 14.4 %

| Frequency (MHz) | Line | Reading (QP) (dBµV) | Correction Factor (dB) | Corrected Reading (QP) (dBµV) | Limit (QP) (dBµV) | Limit (AV) (dBµV) | Margin (QP) Limits (dB) |
|--------------------|------|---------------------------|------------------------------|--|-------------------------|-------------------------|----------------------------------|
| 0.209 | N | 27.67 | 10.82 | 38.49 | 63.30 | 53.30 | -24.81 |
| 0.470 | N | 28.99 | 9.93 | 38.92 | 56.50 | 46.50 | -17.58 |
| 0.636 | L1 | 28.18 | 9.85 | 38.03 | 56.00 | 46.00 | -17.97 |
| 1.019 | L1 | 31.25 | 9.80 | 41.06 | 56.00 | 46.00 | -14.94 |
| 1.199 | N | 27.74 | 9.80 | 37.54 | 56.00 | 46.00 | -18.46 |
| 1.379 | L1 | 32.00 | 9.80 | 41.81 | 56.00 | 46.00 | -14.20 |
| 2.090 | N | 27.06 | 9.83 | 36.89 | 56.00 | 46.00 | -19.11 |
| 2.382 | L1 | 33.67 | 9.84 | 43.51 | 56.00 | 46.00 | -12.49 |
| 3.696 | N | 24.01 | 9.90 | 33.90 | 56.00 | 46.00 | -22.10 |
| 3.872 | L1 | 28.63 | 9.90 | 38.53 | 56.00 | 46.00 | -17.47 |

All other emissions are at least 25 dB below the limit.

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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| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | |
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AC Powerline Conducted Emissions Test Graphs

Test Configuration 1

Figure 1-1: L1 lines

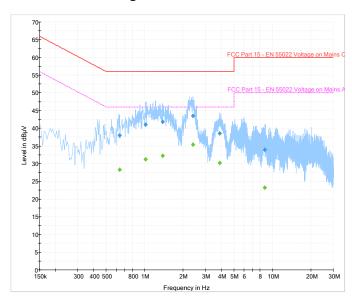
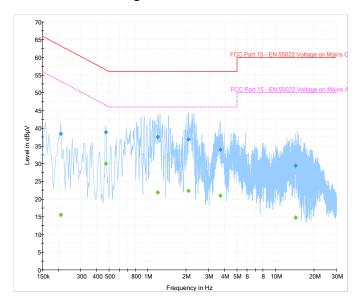


Figure 1-2: N Lines



| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | |
|------------------------|--|---------------------|--|--|
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AC Powerline Conducted Emissions Test Results cont'd

Test Configuration 2

Date of the test: February 27, 2015

The environmental conditions were: Temperature: 24.5 °C Humidity: 14.4 %

| Frequency (MHz) | Line | Reading (QP) (dBµV) | Correction Factor (dB) | Corrected Reading (QP) (dBµV) | Limit (QP) (dBµV) | Limit (AV) (dBµV) | Margin (QP) Limits (dB) |
|--------------------|------|---------------------------|------------------------------|--|-------------------------|-------------------------|----------------------------------|
| 0.168 | Ν | 29.67 | 11.11 | 40.78 | 65.10 | 55.10 | -24.32 |
| 0.483 | L1 | 25.26 | 9.92 | 35.18 | 56.30 | 46.30 | -21.12 |
| 0.578 | L1 | 28.10 | 9.87 | 37.97 | 56.00 | 46.00 | -18.03 |
| 1.842 | Ν | 22.35 | 9.82 | 32.17 | 56.00 | 46.00 | -23.83 |
| 2.877 | L1 | 24.38 | 9.87 | 34.25 | 56.00 | 46.00 | -21.75 |
| 3.377 | L1 | 23.75 | 9.89 | 33.63 | 56.00 | 46.00 | -22.37 |
| 3.741 | N | 33.98 | 9.90 | 43.87 | 56.00 | 46.00 | -12.13 |
| 4.038 | L1 | 29.98 | 9.90 | 39.89 | 56.00 | 46.00 | -16.12 |
| 4.254 | N | 33.19 | 9.91 | 43.10 | 56.00 | 46.00 | -12.90 |

All other emissions are at least 25 dB below the limit.

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 Powerline Conducted Emissions Test Graphs

Test Configuration 2

Figure 1-3: L1 lines

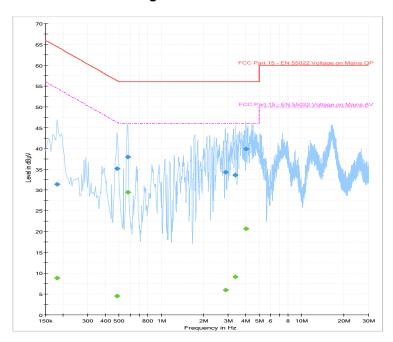
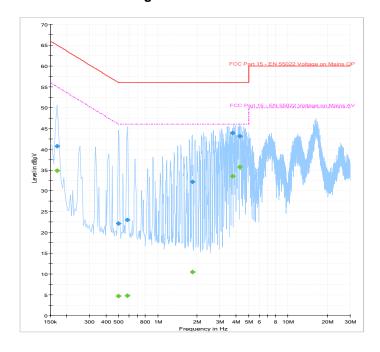


Figure 1-4: N Lines



| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | | |
|------------------------|--|---------------------|--|--|--|
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AC Powerline Conducted Emissions Test Results cont'd

Test Configuration 3

Date of the test: February 26, 2015

The environmental conditions were: Temperature: 24.5 °C

Humidity: 14.4 %

| Frequency (MHz) | Line | Reading (QP) (dBµV) | Correction Factor (dB) | Corrected Reading (QP) (dBµV) | Limit (QP) (dBµV) | Limit (AV) (dBµV) | Margin (QP) Limits (dB) |
|--------------------|------|---------------------------|------------------------------|--|-------------------------|-------------------------|----------------------------------|
| 0.218 | N | 29.01 | 10.76 | 39.76 | 62.90 | 52.90 | -23.14 |
| 0.254 | L1 | 29.10 | 10.48 | 39.59 | 61.60 | 51.60 | -22.01 |
| 0.326 | L1 | 27.82 | 10.12 | 37.95 | 59.60 | 49.60 | -21.66 |
| 0.483 | L1 | 35.25 | 9.92 | 45.17 | 56.30 | 46.30 | -11.13 |
| 0.483 | N | 33.69 | 9.93 | 43.62 | 56.30 | 46.30 | -12.68 |
| 1.113 | L1 | 31.34 | 9.80 | 41.14 | 56.00 | 46.00 | -14.86 |
| 1.127 | N | 26.82 | 9.80 | 36.63 | 56.00 | 46.00 | -19.37 |
| 1.716 | N | 24.73 | 9.82 | 34.55 | 56.00 | 46.00 | -21.45 |
| 1.977 | L1 | 25.45 | 9.82 | 35.27 | 56.00 | 46.00 | -20.73 |
| 4.952 | L1 | 22.87 | 9.91 | 32.78 | 56.00 | 46.00 | -23.23 |
| 15.941 | N | 27.81 | 10.10 | 37.91 | 60.00 | 50.00 | -22.09 |
| 16.571 | L1 | 28.82 | 10.15 | 38.97 | 60.00 | 50.00 | -21.03 |

All other emissions are at least 25 dB below the limit.

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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AC Powerline Conducted Emissions Test Graphs

Test Configuration 3

Figure 1-5: L1 lines

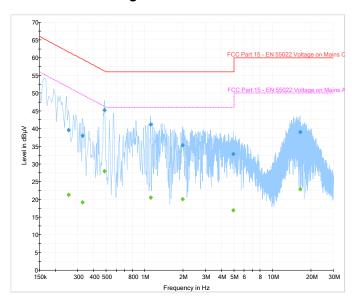
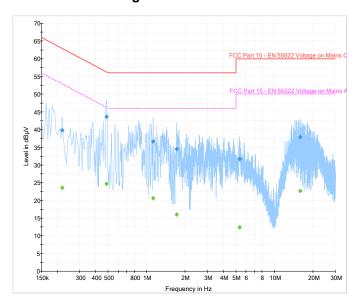


Figure 1-6: N Lines



| ## BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | |
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AC Powerline Conducted Emissions Test Results cont'd

Test Configuration 4

Date of the test: February 25, 2015

The environmental conditions were: Temperature: 24.5 °C

Humidity: 14.4 %

| Frequency (MHz) | Line | Reading (QP) (dBµV) | Correction Factor (dB) | Corrected Reading (QP) (dBµV) | Limit (QP) (dBµV) | Limit (AV) (dBµV) | Margin (QP) Limits (dB) |
|--------------------|------|---------------------------|------------------------------|--|-------------------------|-------------------------|----------------------------------|
| 0.470 | N | 27.98 | 9.93 | 37.91 | 56.50 | 46.50 | -18.59 |
| 0.771 | L1 | 21.38 | 9.82 | 31.21 | 56.00 | 46.00 | -24.80 |
| 0.906 | N | 25.61 | 9.81 | 35.42 | 56.00 | 46.00 | -20.58 |
| 1.442 | L1 | 21.68 | 9.80 | 31.48 | 56.00 | 46.00 | -24.52 |
| 2.243 | N | 26.38 | 9.84 | 36.22 | 56.00 | 46.00 | -19.78 |
| 3.341 | N | 22.50 | 9.89 | 32.39 | 56.00 | 46.00 | -23.61 |

All other emissions are at least 25 dB below the limit.

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.

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AC Powerline Conducted Emissions Test Graphs

Test Configuration 4

Figure 1-7: L1 lines

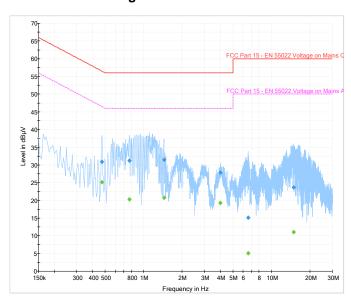
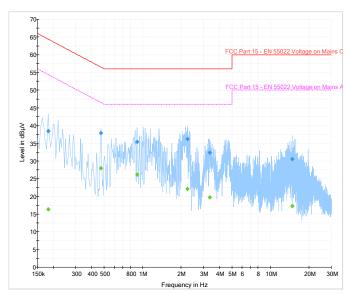


Figure 1-8: N Lines



| ## BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 1 | | | |
|------------------------|--|---------------------|--|--|
| Test Report No. | Date of Test | FCC ID: L6ARHC160LW | | |
| RTS-6063-1502-15 | February 23 to 27, 2015 | IC: 2503A-RHC160LW | | |

AC Powerline Conducted Emissions Test Results cont'd

Test Configuration 5

Date of the test: February 26, 2015

The environmental conditions were: Temperature: 24.5 °C

Humidity: 14.4 %

| Frequency (MHz) | Line | Reading (QP) (dBµV) | Correction Factor (dB) | Corrected Reading (QP) (dBµV) | Limit (QP) (dBµV) | Limit (AV) (dBµV) | Margin (QP) Limits (dB) |
|--------------------|------|---------------------------|------------------------------|--|-------------------------|-------------------------|----------------------------------|
| 0.218 | L1 | 29.82 | 10.73 | 40.55 | 62.90 | 52.90 | -22.35 |
| 0.227 | N | 28.81 | 10.69 | 39.51 | 62.60 | 52.60 | -23.09 |
| 0.479 | N | 32.64 | 9.93 | 42.57 | 56.40 | 46.40 | -13.83 |
| 0.483 | L1 | 34.20 | 9.92 | 44.12 | 56.30 | 46.30 | -12.18 |
| 1.343 | L1 | 26.57 | 9.80 | 36.38 | 56.00 | 46.00 | -19.62 |
| 1.451 | Ν | 25.71 | 9.81 | 35.52 | 56.00 | 46.00 | -20.48 |
| 2.697 | Ν | 24.36 | 9.87 | 34.22 | 56.00 | 46.00 | -21.78 |
| 2.706 | L1 | 24.08 | 9.86 | 33.94 | 56.00 | 46.00 | -22.06 |
| 4.673 | N | 22.18 | 9.91 | 32.09 | 56.00 | 46.00 | -23.91 |
| 15.617 | L1 | 27.59 | 10.07 | 37.67 | 60.00 | 50.00 | -22.33 |
| 16.517 | N | 28.92 | 10.16 | 39.08 | 60.00 | 50.00 | -20.92 |

All other emissions are at least 25 dB below the limit.

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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| ≅ BlackBerry. | smartphone Model RHC161LW (STR100-2) Appendix 1 | | |
|-------------------------------------|--|--|--|
| Test Report No. RTS-6063-1502-15 | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW | | |

AC Powerline Conducted Emissions Test Graphs

Test Configuration 5

Figure 1-9: L1 lines

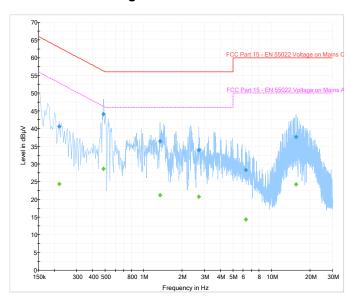
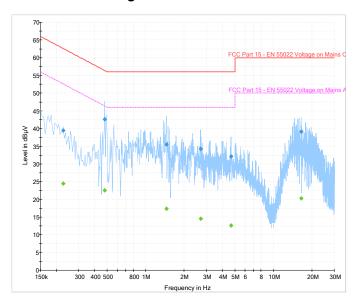


Figure 1-10: N Lines



| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 2 | | | | |
|-------------------------------------|--|--|--|--|--|
| Test Report No. RTS-6063-1502-15 | | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW | | | |

| APPENIDIX 2 - | RADIATED | UNINTENTIONAL | SPURIOUS EM | IISSIONS TES | T DATA |
|---------------|----------|---------------|-------------|--------------|--------|
| AFFFINIA / - | RADIATED | | つていたいいつ ヒド | แองเบเซอ + 🗀 |) |

| ## BlackBerry. | | martphone Model RHC161LW (STR100-2) Appendix 2 |
|------------------------|-------------------------|--|
| Test Report No. | Date of Test | FCC ID: L6ARHC160LW |
| RTS-6063-1502-15 | February 23 to 27, 2015 | IC: 2503A-RHC160LW |

The following tests were performed by Savtej Sandhu and Kevin Guo.

Test Configuration 1

Date of the test: February 23 and 24, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | Ant Pol. | enna Height | Test Angle | Detector (Q.P. or | Measured Level (dBµV) | Correction Factor for preamp/antenna / cables/ filter (dB/m) | Field Strength Level (reading +corr) | Limit @ 3.0 m | Test Margin |
|-----------|-------------|----------------|---------------|-------------------|-----------------------------|--|--------------------------------------|------------------|----------------|
| (MHz) | (V/H) | (metres) | (Deg.) | Peak) | | , , | (dBµV/m) | (dBµV/m) | (dB) |
| 30.400 | V | 1.62 | 354.00 | Q.P. | 38.67 | -11.17 | 27.50 | 40.00 | -12.50 |
| 46.500 | V | 1.63 | 278.00 | Q.P. | 37.16 | -14.69 | 22.47 | 40.00 | -17.53 |
| 72.350 | V | 1.58 | 354.00 | Q.P. | 32.76 | -14.29 | 18.47 | 40.00 | -21.53 |

| ∷ BlackBerry. | | martphone Model RHC161LW (STR100-2) Appendix 2 |
|--|---|--|
| Test Report No. RTS-6063-1502-15 | Date of Test February 23 to 27, 2015 | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW |

Test Configuration 2

Date of the test: February 23 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | Ant Pol. | enna Height | Test Angle | Detector (Q.P. or | Measured Level (dBµV) | Correction Factor for preamp/antenna / cables/ filter (dB/m) | Field Strength Level (reading +corr) | Limit @ 3.0 m | Test Margin |
|-----------|-------------|----------------|---------------|----------------------|-----------------------------|--|--------------------------------------|------------------|----------------|
| (MHz) | (V/H) | (metres) | (Deg.) | Peak) | · · · | , | (dBµV/m) | (dBµV/m) | (dB) |
| 33.750 | ٧ | 1.41 | 19.00 | Q.P. | 40.71 | -12.09 | 28.62 | 40.00 | -11.38 |
| 39.950 | V | 2.31 | 354.00 | Q.P. | 38.81 | -13.86 | 24.95 | 40.00 | -15.05 |
| 59.400 | V | 1.66 | 307.00 | Q.P. | 43.23 | -15.41 | 27.82 | 40.00 | -12.18 |
| 93.550 | V | 2.53 | 120.00 | Q.P. | 40.54 | -12.68 | 27.86 | 43.50 | -15.64 |
| 159.650 | Ι | 1.41 | 186.00 | Q.P. | 36.04 | -10.95 | 25.09 | 43.50 | -18.41 |
| 237.950 | Н | 1.02 | 134.00 | Q.P. | 43.81 | -8.69 | 35.12 | 46.00 | -10.88 |

| ≅ BlackBerry. | martphone Model RHC161LW (STR100-2) Appendix 2 |
|--|---|
| Test Report No. RTS-6063-1502-15 | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW |

Test Configuration 3

Date of the test: February 23 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | Ar Pol. | itenna Height | Test Angle | Detect or (Q.P. | Measured Level (dBµV) | Correction Factor for preamp/antenna / cables/ filter (dB/m) | Field Strength Level (reading+c orr) | Limit @ 3.0 m | Test Margin |
|-----------|------------|------------------|---------------|-----------------------|-----------------------------|--|--|------------------|----------------|
| (MHz) | (V/H) | (metres) | (Deg.) | or Peak) | (αυμν) | (ub/iii) | (dBµV/m) | (dBµV/m) | (dB) |
| 30.100 | V | 1.67 | 187.00 | Q.P. | 36.94 | -11.10 | 25.84 | 40.00 | -14.16 |
| 47.450 | V | 1.63 | 297.00 | Q.P. | 37.58 | -14.90 | 22.68 | 40.00 | -17.32 |
| 64.150 | V | 1.47 | 193.00 | Q.P. | 34.91 | -15.05 | 19.86 | 40.00 | -20.14 |

| ≅ BlackBerry. | | martphone Model RHC161LW (STR100-2) Appendix 2 |
|------------------------|-------------------------|--|
| Test Report No. | Date of Test | FCC ID: L6ARHC160LW |
| RTS-6063-1502-15 | February 23 to 27, 2015 | IC: 2503A-RHC160LW |

Test Configuration 4

Date of the test: February 23 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | An Pol. | itenna Height | Test Angle | Detect or (Q.P. | Measured Level (dBµV) | Correction Factor for preamp/antenna / cables/ filter (dB/m) | Field Strength Level (reading+c orr) | Limit @ 3.0 m | Test Margin |
|-----------|------------|------------------|---------------|-----------------------|-----------------------------|--|--|------------------|----------------|
| (MHz) | (V/H) | (metres) | (Deg.) | or Peak) | (αυμν) | (dD/III) | (dBµV/m) | (dBµV/m) | (dB) |
| 48.050 | V | 1.44 | 88.00 | Q.P. | 43.96 | -14.99 | 28.97 | 40.00 | -11.03 |
| 58.550 | V | 1.47 | 293.00 | Q.P. | 40.56 | -15.39 | 25.17 | 40.00 | -14.83 |
| 83.150 | V | 1.45 | 90.00 | Q.P. | 29.99 | -13.45 | 16.54 | 40.00 | -23.46 |

| ∷ BlackBerry. | | martphone Model RHC161LW (STR100-2) Appendix 2 |
|--|---|--|
| Test Report No. RTS-6063-1502-15 | Date of Test February 23 to 27, 2015 | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW |

Test Configuration 5

Date of the test: February 23 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | An Pol. | tenna Height | Test Angle | Detector (Q.P. or | Measured Level (dBµV) | Correction Factor for preamp/antenna / cables/ filter (dB/m) | Field Strength Level (reading+c orr) | Limit @ 3.0 m | Test Margin |
|-----------|------------|-----------------|---------------|-------------------|-----------------------------|--|--|------------------|----------------|
| (MHz) | (V/H) | (metres) | (Deg.) | Peak) | • | | (dBµV/m) | (dBµV/m) | (dB) |
| 30.550 | V | 2.00 | 126.00 | Q.P. | 35.40 | -11.22 | 24.18 | 40.00 | -15.82 |
| 46.450 | V | 1.47 | 201.00 | Q.P. | 35.14 | -14.68 | 20.46 | 40.00 | -19.54 |
| 62.500 | V | 1.44 | 115.00 | Q.P. | 35.28 | -15.19 | 20.09 | 40.00 | -19.91 |

| ∷ BlackBerry. | | martphone Model RHC161LW (STR100-2) Appendix 2 | |
|--|---|--|--|
| Test Report No. RTS-6063-1502-15 | Date of Test February 23 to 27, 2015 | FCC ID: L6ARHC160LW IC: 2503A-RHC160LW | |

Test Configuration 6

Date of the test: February 24 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %

| Frequency | An | itenna | Test | Detector | Measured Level | Correction Factor for preamp/antenna / | Field Strength Level | Limit @ | Test |
|-----------|------|-----------------|--------------|-------------------|-------------------|--|--------------------------------|-------------------|----------------|
| (MHz) | Pol. | Height (metres) | Angle (Deg.) | (Q.P. or Peak) | (dBµV) | cables/ filter (dB/m) | (reading+c orr) (dBµV/m) | 3.0 m (dBµV/m) | Margin (dB) |
| , , | , , | | | | | | · 1 / | , , , | . , |
| 46.800 | V | 1.51 | 179.00 | Q.P. | 42.25 | -14.77 | 27.48 | 40.00 | -12.52 |
| 57.650 | V | 1.56 | 302.00 | Q.P. | 42.47 | -15.35 | 27.12 | 40.00 | -12.88 |

| ≅ BlackBerry. | EMC Test Report for the BlackBerry® smartphone Model RHC161LW (STR100-2) Appendix 2 | |
|------------------------|--|---------------------|
| Test Report No. | Date of Test | FCC ID: L6ARHC160LW |
| RTS-6063-1502-15 | February 23 to 27, 2015 | IC: 2503A-RHC160LW |

Test Configuration 7

Date of the test: February 24 and 25, 2015

The environmental conditions were: Temperature: 24.7 °C

Humidity: 14.5 %