

# EMI Test Report

Tested in accordance with  
Federal Communications Commission (FCC)  
Personal Communications Services  
CFR 47, Part 15 Subpart C  
&  
Industry Canada (IC) RSS-210, RSS-GEN



**A division of Research In Motion Limited**

**REPORT NO.:** RTS-2605-1105-03

**PRODUCT MODEL NO.:** RDH71CW  
**TYPE NAME:** BlackBerry® smartphone  
**FCC ID:** L6ARDH70CW  
**IC:** 2503A-RDH70CW

**DATE:** May 09, 2011

|                                                                                   |                                                              |                                                       |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011        | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

**Statement of Performance:**

The BlackBerry® smartphone, model RDH71CW, part number CER-30956-001 Rev. 2, and its accessories perform within the requirements of the test standards when configured and operated under RIM's operation instructions.

**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:



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Regulatory Compliance Specialist  
Date: May 10, 2011

Reviewed by:



Heng Lin  
Regulatory Compliance Specialist  
Date: May 11, 2011

Reviewed and Approved by:



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Manager, Regulatory Compliance  
Date: May 16, 2011

|                                                                                   |                                                              |                                                       |
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## A. Scope

This report details the results of compliance tests which were performed in accordance to the requirements of:

- o FCC CFR 47 Part 15, Subpart C, October, 2010
- o Industry Canada, RSS-210, Issue 8, December 2010, Licence-exempt Radio Apparatus
- o Industry Canada, RSS-GEN, Issue 3, December 2010, General Requirements and Information for the Certification of Radio Apparatus

## B. Associated Documents

1. R008\_RDH71CW\_HW\_Declaration\_CER-30956-001\_Rev 2

## 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 February 14 to April 19, 2011.

|                                                                                   |                                                              |                                                       |
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The sample EUT included:

| SAMPLE | MODEL   | CER NUMBER           | PIN      | SOFTWARE                                     |
|--------|---------|----------------------|----------|----------------------------------------------|
| 1      | RDH71CW | CER-30956-001 Rev. 1 | 329F4819 | MFI Bundle                                   |
| 2      | RDH71CW | CER-30956-001 Rev. 2 | 32DF5EB5 | V6.1.0.46 (Platform:5.0.0.123)<br>Bundle 421 |
| 3      | RDH71CW | CER-30956-001 Rev. 2 | 32DF5EB6 | V6.1.0.46 (Platform:5.0.0.123)<br>Bundle 421 |
| 4      | RDH71CW | CER-30956-001 Rev. 2 | 32DF5ED6 | V6.1.0.46 (Platform:5.0.0.123)<br>Bundle 421 |

AC Line Conducted Emissions testing was performed on sample 3.

Radiated Emissions testing was performed on samples 3 and 4.

Conducted Emissions testing was performed on Sample 1 and 2.

Only the characteristics that may have been affected by the changes from model RDH71CW Rev 1 to RDH71CW Rev 2 were re-tested. For more information, see R008\_RDH71CW\_HW\_Declaration\_CER-30956-001\_Rev 2.

#### BlackBerry® smartphone Accessories Tested

- 1) Alt. Fixed Blade Charger, part number HDW-24481-001 (model number RIM-C-4ADUUS-001 with an output voltage of 5.0 volts dc.
- 2) Captive Cable Charger, part number HDW-17957-003, with an output voltage of 5.0 volts DC, 750 mA.
- 3) Alt. 1 Stereo Headset, part number HDW-24529-001, with a lead length of 1.1 metres
- 4) Alt. 2 Stereo Headset, part number HDW-24529-001, with a lead length of 1.1 metres
- 5) USB Data Cable, part number HDW-28109-003, 1.20 metres long.

#### **D. Support Equipment Used for the Testing of the EUT**

No support equipment used. See section *G. Compliance Test Equipment Used*.

|                                                                                   |                                                       |                                                              |  |
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## E. Test Results Chart

| SPECIFICATION              |                    | TEST TYPE                                          | Meets Requirements | TEST DATA |
|----------------------------|--------------------|----------------------------------------------------|--------------------|-----------|
| FCC CFR 47                 | IC                 |                                                    |                    | APPENDIX  |
| Part 15.207                | RSS-210<br>RSS-GEN | Conducted AC Line Emission                         | Pass               | 1         |
| Part 15.209<br>Part 15.247 | RSS-210<br>RSS-GEN | BT Radiated Spurious Emissions                     | Pass               | 2         |
| Part 15.209<br>Part 15.247 | RSS-210<br>RSS-GEN | BT Radiated Band Edge Compliance                   | Pass               | 2         |
| Part 15.209<br>Part 15.247 | RSS-210<br>RSS-GEN | 802.11 b/g/n Radiated Spurious Emissions           | Pass               | 2         |
| Part 15.209<br>Part 15.247 | RSS-210<br>RSS-GEN | 802.11 b/g/n Radiated Band Edge Compliance         | Pass               | 2         |
| Part 15.247(a)             | RSS-210            | BT, 20 dB Bandwidth                                | Pass               | 3         |
| Part 15.247(a)             | RSS-210            | BT, Carrier Frequency Separation                   | Pass               | 3         |
| Part 15.247(a)             | RSS-210            | BT, Number of Hopping Frequencies                  | Pass               | 3         |
| Part 15.247(a)             | RSS-210            | BT, Time of Occupancy (Dwell Time)                 | Pass               | 3         |
| Part 15.247(b)             | RSS-210            | BT, Maximum Peak Conducted Output Power            | Pass               | 3         |
| Part 15.247(c)             | RSS-210            | BT, Band-Edge Compliance of RF Conducted Emissions | Pass               | 3         |
| Part 15.247(c)             | RSS-210            | BT, Spurious RF Conducted Emissions                | Pass               | 3         |
| Part 15.247(b)             | RSS-210            | 802.11b/g/n, 6 dB Bandwidth                        | Pass               | 4         |
| Part 15.247(b)             | RSS-210            | 802.11b/g/n, Maximum Conducted Output Power        | Pass               | 4         |
| Part 15.247(b)             | RSS-210            | 802.11b/g/n, Band-Edge                             | Pass               | 4         |
| Part 15.247(b)             | RSS-210            | 802.11b/g/n, Peak Power Spectral Density           | Pass               | 4         |
| Part 15.247(b)             | RSS-210            | 802.11b/g/n, Spurious RF Conducted Emissions       | Pass               | 4         |

|                                                                                   |                                                              |                                                       |
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## F. Summary of Results

### 1) AC LINE 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                  | Bluetooth Tx      | Captive Cable Charger +<br>Alt. 2 Stereo Headset                        |
| 2                  | 802.11b Tx        | Alt. Fixed Blade Charger +<br>Alt. 1 Stereo Headset +<br>USB Cable 1.2m |

The sample EUT's conducted emissions were compared with respect to the FCC CFR 47 Part 15, Subpart C and IC RSS-210 limits. The sample EUT had a worst case test margin of 8.75 dB below the quasi-peak limit at 0.150 MHz using the quasi-peak detector with the Alt. Fixed Blade Charger in Test Configuration 2.

See APPENDIX 1 for the test data.

**Measurement Uncertainty  $\pm 3.0$  dB**

|                                                                                   |                                                              |                                         |
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## 2) RADIATED EMISSIONS

### a) Radiated Spurious and Harmonic Emissions

The EUT was placed on a nonconductive styrofoam table, 80 cm high that was positioned on a remotely 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 25.0 GHz. 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 semi-anechoic chamber (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 SAC with floor absorber'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 RIM's specifications.

The BlackBerry® smartphone was measured in standalone configuration with Bluetooth transmitting in single frequency mode at low channel (0), middle channel (39) and high channel (78) for packet type "DH5", "2-DH5" and "3-DH5". The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15, Subpart C, 15.247 and RSS-210.

The BlackBerry® smartphone was measured in standalone configuration transmitting on channels 1, 6 & 11 at 1 Mbps for 802.11b mode, on channel 6 at 6 Mbps for 802.11g mode, and on channel 6 at MCS 0 and MCS 7 for 802.11n mode. The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15 Subpart C, 15.247 and RSS-210.

The Bluetooth harmonics were investigated up to the 10th harmonic. The worst case test margin was 9.97 dB below the accepted limit at 19214.684 MHz.

The 802.11b/g/n harmonics were investigated up to the 10th harmonic. The sample EUT emissions were in the noise floor (NF).  
See APPENDIX 2 for the test data.

### b) Band-Edge Compliance of RF Radiated Emissions

The BlackBerry® smartphone met the requirements for band-edge compliance of RF radiated emissions for Bluetooth and 802.11b/g/n as per the requirements of 15.247, 15.209, and RSS-210/RSS-GEN.  
See APPENDIX 2 for the test data

## Measurement Uncertainty $\pm 4.6$ dB



|                                                                                   |                                                              |                                                       |
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### 3) BLUETOOTH RF CONDUCTED EMISSIONS

The Bluetooth conducted RF emissions from the BlackBerry® smartphone were measured using the methods outlined in FCC CFR 47 Part 15, Subpart C.

a) 20 dB Bandwidth

The BlackBerry® smartphone met the requirements of the 20 dB bandwidth as per 47 CFR 15.247(a) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured. The result includes both normal data rate and EDR. The worst case 20 dB Bandwidth was 0.937 MHz for channel 39 in normal data rate mode and 1.290 MHz for channel 0 in EDR mode.

See APPENDIX 3 for the test data.

b) Carrier Frequency Separation

The BlackBerry® smartphone met the requirements of the carrier frequency separation as per 47 CFR 15.247(a) and RSS-210. Channel 38 to 39 was measured. The result includes both normal data rate and EDR.

See APPENDIX 3 for the test data.

c) Number of Hopping Frequencies

The BlackBerry® smartphone met the requirements of the number of hopping frequencies as per 47 CFR 15.247(a) and RSS-210. The number of hopping channels measured was 79.

See APPENDIX 3 for the test data.

d) Time of Occupancy (Dwell Time)

The EUT met the requirements of the dwell time as per 47 CFR 15.247(a) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured in DH1, DH3 and DH5 modes. Bluetooth was operating in frequency hopping (Euro/US) mode during the measurements.

See APPENDIX 3 for the test data.

e) Maximum Peak Conducted Output Power

The BlackBerry® smartphone met the requirements of the maximum peak conducted output power as per 47 CFR 15.247(b) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured. The result includes both normal data rate and EDR. The worst case Conducted Output Power level was 7.33 dBm (0.00541 W) for Channel 0 in normal data rate mode and 7.33 dBm (0.00541 W) for channel 0 in EDR mode.

See APPENDIX 3 for the test data.

|                                                                                   |                                                              |                                                       |
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- f) **Band-Edge Compliance of RF Conducted Emissions**  
The BlackBerry® smartphone met the requirements of the band-edge compliance of RF conducted emissions as per 47 CFR 15.247(c) and RSS-210. Channels 0 and 78 were measured in frequency hopping (Euro/US) mode and single frequency mode. The result includes both normal data rate and EDR. See APPENDIX 3 for the test data.

- g) **Spurious RF Conducted Emissions**  
The BlackBerry® smartphone met the requirements of the spurious RF conducted emissions as per 47 CFR 15.247(c) and RSS-210. The frequency range measured was 10 MHz to 26 GHz. Low channel (0), middle channel (39) and high channel (78) were measured in single frequency mode and frequency hopping (Euro/US) mode. The result includes both normal data rate and EDR. See APPENDIX 3 for the test data.

#### 4) 802.11b/g/n RF CONDUCTED EMISSIONS

The 802.11b/g/n conducted RF emissions from the BlackBerry® smartphone were measured using the methods outlined in FCC CFR 47 Part 15, Subpart C.

- a) **6dB Bandwidth**  
The EUT met the requirements of the 6 dB bandwidth as per 47 CFR 15.247(b) and RSS-210. Low channel (1), middle channel (6) and high channel (11) were measured. The worst case 6 dB Bandwidth was 11.23 MHz for channel 6 in 802.11b mode, 16.63 MHz for channel 6 in 802.11g mode, and 17.87 MHz for channel 11 in 802.11n mode. See APPENDIX 4 for the test data.
- b) **Maximum Conducted Output Power**  
The EUT met the requirements of the maximum conducted output power as per 47 CFR 15.247(b) and RSS-210. Low channel (1), middle channel (6) and high channel (11) were measured. The worst case Conducted Output Power level was 18.54 dBm (71.45 mW) for channel 11 in 802.11b mode, 17.32 dBm (53.95 mW) for channel 11 in 802.11g mode, and 17.15 dBm (51.88 mW) for channel 11 in 802.11n mode. See APPENDIX 4 for the test data.
- c) **Band-Edge Compliance of RF Conducted Emissions**  
The EUT met the requirements of band-edge compliance of RF conducted emissions as per 47 CFR 15.247(b) and RSS-210. Low channel (1) and high channel (11) were measured. See APPENDIX 4 for the test data.

|                                                                                   |                                                              |                                                       |
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d) Peak Power Spectral Density

The EUT met the requirements of peak power spectral density as per 47 CFR 15.247(b) and RSS-210. Low channel (1), middle channel (6) and high channel (11) were measured.

See APPENDIX 4 for the test data.

e) Spurious RF Conducted Emissions

The EUT met the requirements of the spurious RF conducted emissions as per 47 CFR 15.247(c) and RSS-210. The frequency range measured was 30 MHz to 26 GHz. Low channel (1), middle channel (6) and high channel (11) were measured.

See APPENDIX 4 for the test data.

|                                                                                   |                                                       |                                                              |  |
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## G. Compliance Test Equipment Used

| <u>UNIT</u>           | <u>MANUFACTURER</u> | <u>MODEL</u> | <u>SERIAL<br/>NUMBER</u> | <u>CAL DUE<br/>DATE<br/>(YY MM DD)</u> | <u>USE</u>                         |
|-----------------------|---------------------|--------------|--------------------------|----------------------------------------|------------------------------------|
| EMI Test Receiver     | Rohde & Schwarz     | ESIB 40      | 100255                   | 11-11-28                               | Conducted/Radiated Emissions       |
| EMI Test Receiver     | Rohde & Schwarz     | ESU 40       | 100162                   | 11-11-29                               | Conducted/Radiated Emissions       |
| Hybrid Log Antenna    | EMC Automation      | HLP-3003C    | 017401                   | 12-01-13                               | Radiated Emissions                 |
| Horn Antenna          | CMT                 | LHA 0180     | R52734-001               | 12-01-21                               | Radiated Emissions                 |
| Horn Antenna          | ETS-Lindgren        | 3117         | 47563                    | 11-07-15                               | Radiated Emissions                 |
| Preamplifier          | Rohde & Schwarz     | TS-ANA4-SP   | 001                      | 11-12-01                               | Radiated Emissions                 |
| Preamplifier          | Sonoma              | 310N/11909A  | 185831                   | 11-11-14                               | Radiated Emissions                 |
| Preamplifier          | Rohde & Schwarz     | TS-ANA-SP    | 001                      | 11-12-01                               | Radiated Emissions                 |
| L.I.S.N.              | Rohde & Schwarz     | ENV216       | 100060                   | 11-12-10                               | Conducted Emissions                |
| Environment Monitor   | Omega               | iTHX-SD      | 0380561                  | 11-10-13                               | Radiated Emissions                 |
| EMC Analyzer          | Agilent             | E7405A       | US40240226               | 11-12-10                               | Radiated Emissions                 |
| Spectrum Analyzer     | HP                  | 8563E        | 3745A08112               | 11-09-30                               | RF Conducted Emissions             |
| DC Power Supply       | HP                  | 6632B        | US37472178               | 11-08-30                               | RF Conducted Emissions             |
| Environment Monitor   | Omega               | iTHX-SD      | 0340060                  | 11-10-13                               | RF Conducted Emissions             |
| Temperature Probe     | Control Company     | 15-077-21    | 51129471                 | 11-04-29                               | Frequency Stability                |
| Environmental Chamber | Test Equity         | 107          | 0900246                  | N/R                                    | Frequency Stability                |
| Bluetooth Tester      | Rohde & Schwarz     | CBT          | 119549                   | 11-12-08                               | RF Conducted Emissions             |
| Bluetooth Tester      | Rohde & Schwarz     | CBT35        | 100368                   | 11-11-27                               | Radiated Emissions                 |
| Bluetooth Tester      | Rohde & Schwarz     | CBT35        | 100370                   | 11-11-29                               | Radiated Emissions                 |
| Power Meter           | Agilent             | N1911A       | MY45100905               | 11-05-01                               | RF Conducted / Frequency Stability |
| Power Sensor          | Agilent             | N1921A       | SG45240281               | 11-05-22                               | RF Conducted / Frequency Stability |
| Digital Multimeter    | Hewlett Packard     | 34401A       | US36042324               | 11-10-28                               | Conducted/Radiated Emissions       |
| Environment Monitor   | Omega               | iTHX-SD      | 0380567                  | 11-10-13                               | Radiated Emissions                 |

|                                                                                   |                                                                                   |                                                       |
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|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
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## APPENDIX 1 – AC CONDUCTED EMISSIONS TEST DATA/PLOTS

|                                                                                   |                                                                                   |                                                       |
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|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
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### AC Conducted Emission Test Results

The following tests were performed by Savtej Sandhu.

#### Test Configuration 1

The BlackBerry® smartphone was tested on April 18, 2011.

The environmental test conditions were: Temperature: 25 °C

Relative Humidity: 34 %

| Frequency<br>(MHz) | Line | Reading<br>(QP)<br>(dBμV) | Correction<br>Factor<br>(dB) | Corrected<br>Reading<br>(QP)<br>(dB) | Limit<br>(QP)<br>(dBμV) | Limit<br>(AV)<br>(dBμV) | Margin<br>(QP)<br>Limits<br>(dB) |
|--------------------|------|---------------------------|------------------------------|--------------------------------------|-------------------------|-------------------------|----------------------------------|
| 0.150              | L1   | 44.11                     | 11.20                        | 55.31                                | 66.00                   | 56.00                   | -10.69                           |
| 0.150              | N    | 37.80                     | 11.23                        | 49.04                                | 66.00                   | 56.00                   | -16.96                           |
| 0.200              | L1   | 37.23                     | 10.86                        | 48.09                                | 63.60                   | 53.60                   | -15.51                           |
| 0.209              | L1   | 36.35                     | 10.80                        | 47.15                                | 63.30                   | 53.30                   | -16.15                           |
| 0.222              | L1   | 32.30                     | 10.70                        | 43.00                                | 62.70                   | 52.70                   | -19.70                           |
| 0.407              | L1   | 35.40                     | 10.00                        | 45.40                                | 57.70                   | 47.70                   | -12.30                           |
| 0.407              | N    | 28.75                     | 10.01                        | 38.76                                | 57.70                   | 47.70                   | -18.94                           |
| 0.506              | L1   | 34.90                     | 9.91                         | 44.81                                | 56.00                   | 46.00                   | -11.19                           |
| 0.605              | N    | 27.43                     | 9.86                         | 37.29                                | 56.00                   | 46.00                   | -18.71                           |
| 0.672              | L1   | 34.65                     | 9.84                         | 44.49                                | 56.00                   | 46.00                   | -11.51                           |
| 0.722              | N    | 28.02                     | 9.83                         | 37.85                                | 56.00                   | 46.00                   | -18.15                           |
| 0.735              | L1   | 31.17                     | 9.83                         | 41.00                                | 56.00                   | 46.00                   | -15.01                           |
| 0.785              | L1   | 33.88                     | 9.82                         | 43.70                                | 56.00                   | 46.00                   | -12.30                           |
| 0.861              | N    | 27.13                     | 9.82                         | 36.95                                | 56.00                   | 46.00                   | -19.05                           |
| 0.906              | N    | 27.52                     | 9.81                         | 37.33                                | 56.00                   | 46.00                   | -18.67                           |
| 1.023              | N    | 27.15                     | 9.81                         | 36.96                                | 56.00                   | 46.00                   | -19.04                           |
| 1.365              | N    | 26.26                     | 9.81                         | 36.07                                | 56.00                   | 46.00                   | -19.93                           |
| 1.415              | N    | 26.97                     | 9.81                         | 36.78                                | 56.00                   | 46.00                   | -19.23                           |
| 1.487              | N    | 25.55                     | 9.81                         | 35.36                                | 56.00                   | 46.00                   | -20.64                           |
| 1.514              | L1   | 32.53                     | 9.80                         | 42.34                                | 56.00                   | 46.00                   | -13.66                           |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## AC Conducted Emissions Test Results cont'd

### Test Configuration 1

| Frequency<br>(MHz) | Line | Reading<br>(QP)<br>(dBμV) | Correction<br>Factor<br>(dB) | Corrected<br>Reading<br>(QP)<br>(dB) | Limit<br>(QP)<br>(dBμV) | Limit<br>(AV)<br>(dBμV) | Margin<br>(QP)<br>Limits<br>(dB) |
|--------------------|------|---------------------------|------------------------------|--------------------------------------|-------------------------|-------------------------|----------------------------------|
| 1.707              | N    | 24.57                     | 9.82                         | 34.39                                | 56.00                   | 46.00                   | -21.61                           |
| 2.148              | N    | 24.25                     | 9.83                         | 34.09                                | 56.00                   | 46.00                   | -21.91                           |
| 2.162              | L1   | 28.64                     | 9.83                         | 38.47                                | 56.00                   | 46.00                   | -17.53                           |
| 3.750              | L1   | 27.75                     | 9.89                         | 37.65                                | 56.00                   | 46.00                   | -18.35                           |
| 3.899              | N    | 22.55                     | 9.90                         | 32.45                                | 56.00                   | 46.00                   | -23.55                           |
| 10.379             | L1   | 26.46                     | 9.97                         | 36.43                                | 60.00                   | 50.00                   | -23.57                           |
| 11.400             | L1   | 27.67                     | 9.99                         | 37.67                                | 60.00                   | 50.00                   | -22.33                           |

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.

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## AC Conducted Emissions Test Graphs

### Test Configuration 1

Figure 1-1: L1 lines

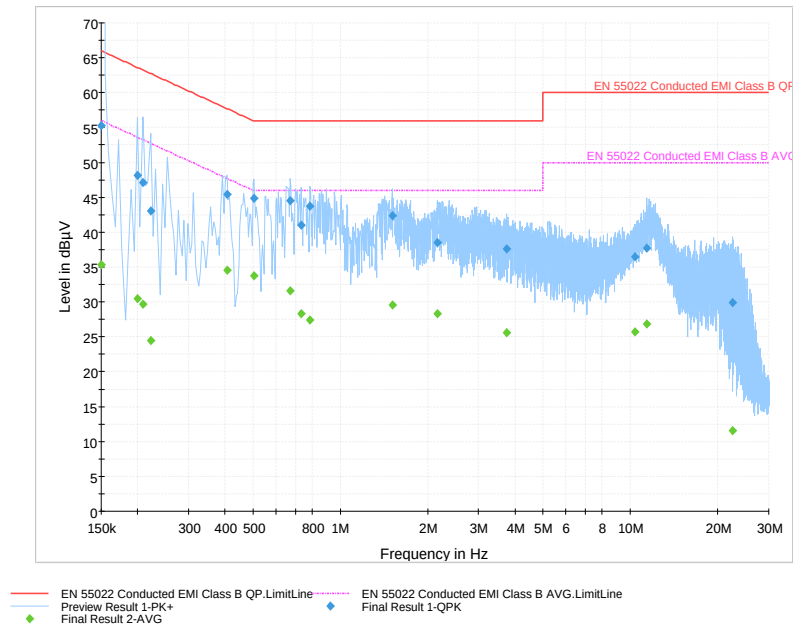
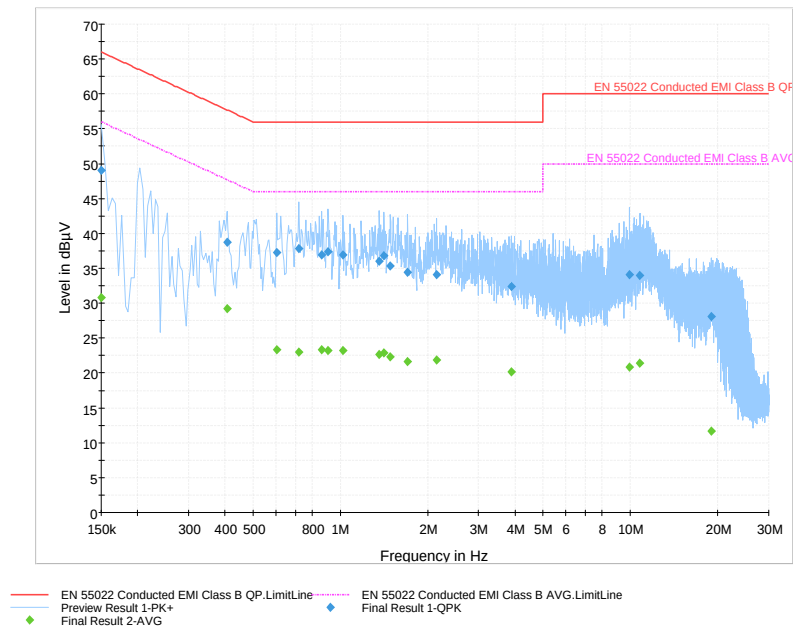


Figure 1-2: N Lines





|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## AC Conducted Emission Test Results

### Test Configuration 2

The BlackBerry® smartphone was tested on April 18, 2011.

The environmental test conditions were: Temperature: 25 °C  
Relative Humidity: 34 %

| Frequency<br>(MHz) | Line | Reading<br>(QP)<br>(dBμV) | Correction<br>Factor<br>(dB) | Corrected<br>Reading<br>(QP)<br>(dB) | Limit<br>(QP)<br>(dBμV) | Limit<br>(AV)<br>(dBμV) | Margin<br>(QP)<br>Limits<br>(dB) |
|--------------------|------|---------------------------|------------------------------|--------------------------------------|-------------------------|-------------------------|----------------------------------|
| 0.150              | L1   | 46.05                     | 11.20                        | 57.25                                | 66.00                   | 56.00                   | -8.75                            |
| 0.150              | N    | 45.42                     | 11.23                        | 56.65                                | 66.00                   | 56.00                   | -9.35                            |
| 0.164              | N    | 44.37                     | 11.14                        | 55.51                                | 65.30                   | 55.30                   | -9.79                            |
| 0.168              | L1   | 43.88                     | 11.08                        | 54.96                                | 65.10                   | 55.10                   | -10.14                           |
| 0.177              | N    | 43.08                     | 11.05                        | 54.12                                | 64.60                   | 54.60                   | -10.48                           |
| 0.191              | L1   | 42.57                     | 10.92                        | 53.50                                | 64.00                   | 54.00                   | -10.51                           |
| 0.200              | L1   | 42.22                     | 10.86                        | 53.08                                | 63.60                   | 53.60                   | -10.52                           |
| 0.200              | N    | 41.27                     | 10.89                        | 52.15                                | 63.60                   | 53.60                   | -11.45                           |
| 0.209              | N    | 40.79                     | 10.82                        | 51.61                                | 63.30                   | 53.30                   | -11.69                           |
| 0.213              | L1   | 42.42                     | 10.77                        | 53.19                                | 63.10                   | 53.10                   | -9.92                            |
| 0.222              | L1   | 40.28                     | 10.70                        | 50.98                                | 62.70                   | 52.70                   | -11.72                           |
| 0.245              | N    | 38.62                     | 10.57                        | 49.19                                | 61.90                   | 51.90                   | -12.71                           |
| 0.254              | L1   | 38.63                     | 10.48                        | 49.12                                | 61.60                   | 51.60                   | -12.48                           |
| 0.254              | N    | 38.08                     | 10.50                        | 48.58                                | 61.60                   | 51.60                   | -13.02                           |
| 0.267              | N    | 36.95                     | 10.41                        | 47.36                                | 61.20                   | 51.20                   | -13.84                           |
| 0.308              | N    | 33.75                     | 10.17                        | 43.92                                | 60.00                   | 50.00                   | -16.08                           |
| 0.339              | N    | 31.86                     | 10.12                        | 41.98                                | 59.20                   | 49.20                   | -17.22                           |
| 0.344              | L1   | 33.78                     | 10.10                        | 43.88                                | 59.10                   | 49.10                   | -15.22                           |
| 0.353              | L1   | 33.24                     | 10.08                        | 43.32                                | 58.90                   | 48.90                   | -15.58                           |
| 0.438              | N    | 26.30                     | 9.96                         | 36.26                                | 57.10                   | 47.10                   | -20.84                           |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### AC Conducted Emissions Test Results cont'd

#### Test Configuration 2

| Frequency<br>(MHz) | Line | Reading<br>(QP)<br>(dBμV) | Correction<br>Factor<br>(dB) | Corrected<br>Reading<br>(QP)<br>(dB) | Limit<br>(QP)<br>(dBμV) | Limit<br>(AV)<br>(dBμV) | Margin<br>(QP)<br>Limits<br>(dB) |
|--------------------|------|---------------------------|------------------------------|--------------------------------------|-------------------------|-------------------------|----------------------------------|
| 0.452              | L1   | 27.55                     | 9.94                         | 37.49                                | 56.80                   | 46.80                   | -19.31                           |
| 0.942              | N    | 26.17                     | 9.81                         | 35.98                                | 56.00                   | 46.00                   | -20.02                           |
| 0.996              | L1   | 32.59                     | 9.80                         | 42.39                                | 56.00                   | 46.00                   | -13.61                           |
| 2.045              | L1   | 31.89                     | 9.83                         | 41.72                                | 56.00                   | 46.00                   | -14.28                           |
| 2.103              | N    | 26.10                     | 9.83                         | 35.94                                | 56.00                   | 46.00                   | -20.07                           |
| 2.378              | L1   | 31.67                     | 9.84                         | 41.52                                | 56.00                   | 46.00                   | -14.49                           |
| 3.597              | N    | 28.72                     | 9.90                         | 38.61                                | 56.00                   | 46.00                   | -17.39                           |
| 4.110              | N    | 28.87                     | 9.91                         | 38.78                                | 56.00                   | 46.00                   | -17.23                           |
| 4.146              | L1   | 30.30                     | 9.90                         | 40.20                                | 56.00                   | 46.00                   | -15.80                           |

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

Measurements were done with the quasi-peak detector.

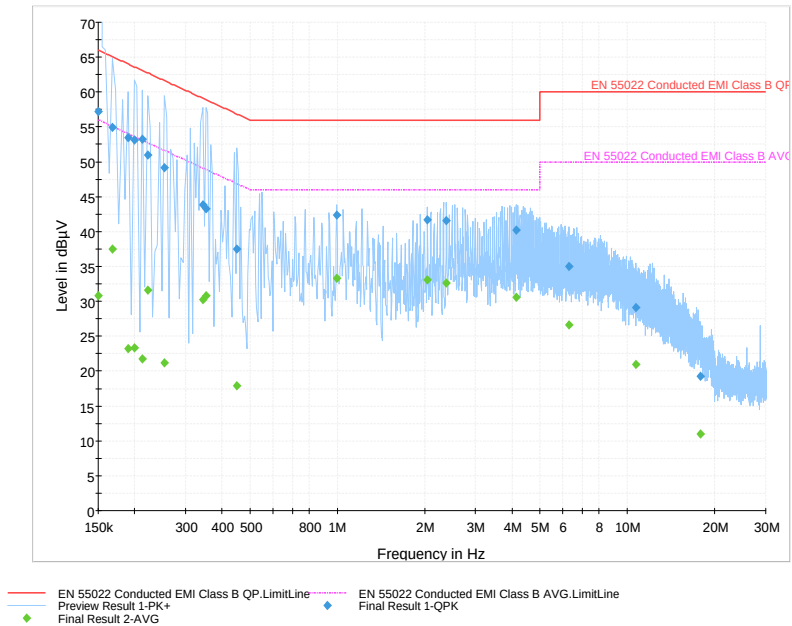
See figure 1-3 and figure 1-4 for the measurement plot of the L1 and N lines of AC power line conducted emissions.

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 1</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

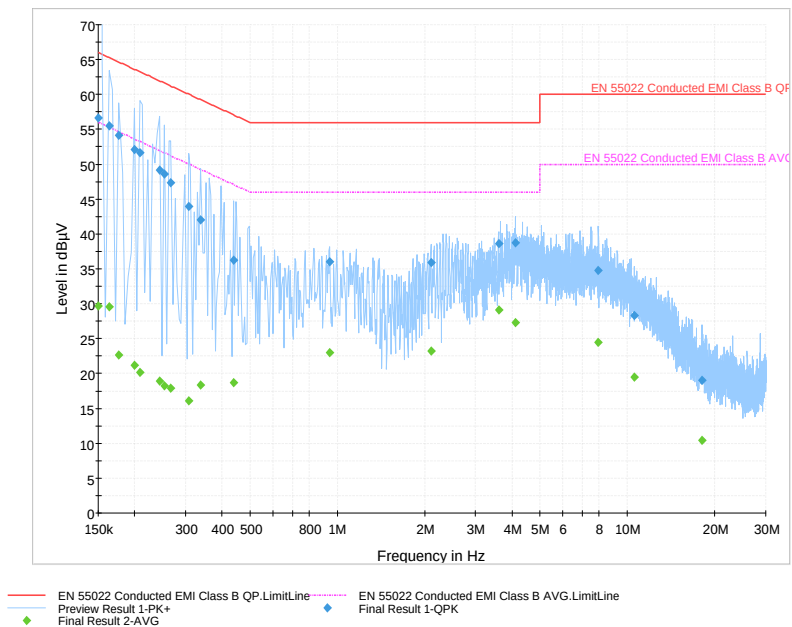
## AC Conducted Emissions Test Graphs

### Test Configuration 2

**Figure 1-3: L1 lines**



**Figure 1-4: N Lines**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## APPENDIX 2 – BLUETOOTH AND 802.11b/g/n RADIATED EMISSIONS TEST DATA

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

Radiated Emissions Test Results  
Bluetooth Band

Date of Test: March 02, 2011  
Measurements were performed by Kevin Rose.

The environmental test conditions were: Temperature: 24 °C  
Relative Humidity: 9 %

The test distance was 3.0 metres with a EUT height of 0.8 metres, and sweep frequency of 30 MHz to 1 GHz.

The BlackBerry® smartphone in Bluetooth Tx mode was in USB up position.

The frequency sweep measurements were performed in single frequency mode on channels 0, 39 and 78 using packet types “DH5”, “2-DH5” and “3-DH5”.

All emissions had a test margin of greater than 25.0 dB.

Date of Test: March 31 to April 07, 2011  
Measurements were performed by Adam Rusinek.

The environmental test conditions were: Temperature: 24 - 26 °C  
Relative Humidity: 35 - 44 %

The test distance was 3.0 metres with a EUT height of 0.8 metres, and sweep frequency of 1GHz to 25GHz.

The BlackBerry® smartphone in Bluetooth Tx mode was in USB up position.

The frequency sweep measurements were performed in single frequency mode on channels 0, 39 and 78 using packet types “DH5”, “2-DH5” and “3-DH5”.

|                                                                                   |                                                |                                                                                   |                                         |
|-----------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------|
|  |                                                | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                         |
| Test Report No.<br>RTS-2605-1105-03                                               | Dates of Test<br>February 14 to April 19, 2011 |                                                                                   | FCC ID: L6ARDH70CW<br>IC: 2503A-RDH70CW |

Radiated Emissions Test Results cont'd  
Bluetooth Band cont'd

| Frequency<br>(MHz) | Channel | Packet<br>Type | Antenna       |                    | Test<br>Angle<br>(Deg.) | RBW /<br>VBW  | Measured<br>Level<br>(dBμV) | Correction Factor<br>for<br>preamp/antenna/<br>cables/ filter<br>(dB/m) | Field Strength<br>Level<br>(reading+corr)<br>(dBμV/m) | Limit @<br>3.0 m<br>(dBμV/m) | Test<br>Margin<br>(dB) |
|--------------------|---------|----------------|---------------|--------------------|-------------------------|---------------|-----------------------------|-------------------------------------------------------------------------|-------------------------------------------------------|------------------------------|------------------------|
|                    |         |                | Pol.<br>(V/H) | Height<br>(metres) |                         |               |                             |                                                                         |                                                       |                              |                        |
| 12012.544          | 0       | DH5            | V             | 2.35               | 120.00                  | 1MHz/<br>3MHz | 29.13                       | 23.68                                                                   | 52.81                                                 | 74.00                        | -21.19                 |
| 12012.544          | 0       | DH5            | V             | 2.35               | 120.00                  | 1MHz/<br>10Hz | 20.36                       | 23.64                                                                   | 44.00                                                 | 54.00                        | -10.00                 |
| 19214.684          | 0       | DH5            | H             | 2.00               | 272.00                  | 1MHz/<br>3MHz | 42.56                       | 14.73                                                                   | 57.29                                                 | 74.00                        | -16.71                 |
| 19214.684          | 0       | DH5            | H             | 2.00               | 272.00                  | 1MHz/<br>10Hz | 29.30                       | 14.73                                                                   | 44.03                                                 | 54.00                        | <b>-9.97</b>           |
| 12012.544          | 0       | 2DH5           | V             | 2.35               | 120.00                  | 1MHz/<br>3MHz | 29.13                       | 23.68                                                                   | 52.81                                                 | 74.00                        | -21.19                 |
| 12012.544          | 0       | 2DH5           | V             | 2.35               | 120.00                  | 1MHz/<br>10Hz | 20.36                       | 23.64                                                                   | 44.00                                                 | 54.00                        | -10.00                 |
| 19217.456          | 0       | 2DH5           | H             | 2.00               | 270.00                  | 1MHz/<br>3MHz | 42.08                       | 14.73                                                                   | 56.81                                                 | 74.00                        | -17.19                 |
| 19217.456          | 0       | 2DH5           | H             | 2.00               | 270.00                  | 1MHz/<br>10Hz | 25.21                       | 14.73                                                                   | 39.94                                                 | 54.00                        | -14.06                 |
| 19215.936          | 0       | 3DH5           | H             | 1.76               | 268.00                  | 1MHz/<br>3MHz | 42.79                       | 14.73                                                                   | 57.52                                                 | 74.00                        | -16.48                 |
| 19215.936          | 0       | 3DH5           | H             | 1.76               | 268.00                  | 1MHz/<br>10Hz | 26.63                       | 14.73                                                                   | 41.36                                                 | 54.00                        | -12.64                 |
| 19526.818          | 39      | DH5            | H             | 1.70               | 267.00                  | 1MHz/<br>3MHz | 37.22                       | 15.29                                                                   | 52.51                                                 | 74.00                        | -21.49                 |
| 19526.818          | 39      | DH5            | H             | 1.70               | 267.00                  | 1MHz/<br>10Hz | 24.38                       | 15.29                                                                   | 39.67                                                 | 54.00                        | -14.33                 |
| 19526.306          | 39      | 2DH5           | H             | 1.69               | 261.00                  | 1MHz/<br>3MHz | 37.16                       | 15.29                                                                   | 52.45                                                 | 74.00                        | -21.55                 |
| 19526.306          | 39      | 2DH5           | H             | 1.69               | 261.00                  | 1MHz/<br>10Hz | 24.35                       | 15.29                                                                   | 39.64                                                 | 54.00                        | -14.36                 |
| 19528.008          | 39      | 3DH5           | H             | 1.64               | 263.00                  | 1MHz/<br>3MHz | 38.39                       | 15.29                                                                   | 53.68                                                 | 74.00                        | -20.32                 |
| 19528.008          | 39      | 3DH5           | H             | 1.64               | 263.00                  | 1MHz/<br>10Hz | 24.03                       | 15.29                                                                   | 39.32                                                 | 54.00                        | -14.68                 |

|                                                                                   |                                                       |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  |                                                       | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011 |                                                                                   | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

Radiated Emissions Test Results cont'd  
Bluetooth Band cont'd

| Frequency<br>(MHz) | Channel | Packet<br>Type | Antenna       |                    | Test<br>Angle<br>(Deg.) | RBW /<br>VBW  | Measured<br>Level<br>(dBμV) | Correction Factor<br>for<br>preamp/antenna/<br>cables/ filter<br>(dB/m) | Field Strength<br>Level<br>(reading+corr)<br>(dBμV/m) | Limit @<br>3.0 m<br>(dBμV/m) | Test<br>Margin<br>(dB) |
|--------------------|---------|----------------|---------------|--------------------|-------------------------|---------------|-----------------------------|-------------------------------------------------------------------------|-------------------------------------------------------|------------------------------|------------------------|
|                    |         |                | Pol.<br>(V/H) | Height<br>(metres) |                         |               |                             |                                                                         |                                                       |                              |                        |
| 19838.766          | 78      | DH5            | H             | 2.06               | 266.00                  | 1MHz/<br>3MHz | 40.34                       | 15.65                                                                   | 55.99                                                 | 74.00                        | -18.01                 |
| 19838.766          | 78      | DH5            | H             | 2.06               | 266.00                  | 1MHz/<br>10Hz | 26.93                       | 15.65                                                                   | 42.58                                                 | 54.00                        | -11.42                 |
| 19839.082          | 78      | 2DH5           | H             | 3.57               | 12.00                   | 1MHz/<br>3MHz | 36.81                       | 15.65                                                                   | 52.46                                                 | 74.00                        | -21.54                 |
| 19839.082          | 78      | 2DH5           | H             | 3.57               | 12.00                   | 1MHz/<br>10Hz | 24.11                       | 15.65                                                                   | 39.76                                                 | 54.00                        | -14.24                 |
| 19838.724          | 78      | 3DH5           | V             | 2.57               | 1.00                    | 1MHz/<br>3MHz | 37.03                       | 15.65                                                                   | 52.68                                                 | 74.00                        | -21.32                 |
| 19838.724          | 78      | 3DH5           | V             | 2.57               | 1.00                    | 1MHz/<br>10Hz | 24.06                       | 15.65                                                                   | 39.71                                                 | 54.00                        | -14.29                 |

All other emissions had a test margin of greater than 25.0 dB.

|                                                                                   |                                                |                                                                                   |                                         |
|-----------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------|
|  |                                                | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                         |
| Test Report No.<br>RTS-2605-1105-03                                               | Dates of Test<br>February 14 to April 19, 2011 |                                                                                   | FCC ID: L6ARDH70CW<br>IC: 2503A-RDH70CW |

**Band-Edge Compliance of RF Radiated Emissions Test Results**  
**Bluetooth Band**

Date of test: April 19, 2011

Measurements were performed by Kevin Rose.

The environmental test conditions were: Temperature: 23 ° C  
Relative Humidity: 18 %

The BlackBerry® smartphone was in standalone, vertical position and pattern type "Static PBRs" in "DH5", "2-DH5" and "3-DH5" modulation during the measurements.

The test distance was 3.0 metres.

| Channel                         | Freq.<br>(MHz) | Rx Antenna |      | Detector   | VBW   | Corrected<br>Reading | Delta<br>Marker | Corrected<br>Band edge | Limit    | Diff. To<br>Limit |
|---------------------------------|----------------|------------|------|------------|-------|----------------------|-----------------|------------------------|----------|-------------------|
|                                 |                | Type       | POL. | (PK, AVE.) | (MHz) | (dBuV/m)             | (dB)            | (dBuV/m)               | (dBuV/m) | (dB)              |
| Low Channel, Packet Type DH5    |                |            |      |            |       |                      |                 |                        |          |                   |
| 0                               | 2402           | Horn       | V    | PK         | 1 MHz | 97.37                | 46.19           | 51.18                  | 74       | -22.82            |
| 0                               | 2402           | Horn       | H    | PK         | 1 MHz | 97.50                | 50.21           | 47.29                  | 74       | -26.71            |
| 0                               | 2402           | Horn       | V    | AVE.       | 10 Hz | 66.77                | 46.19           | 20.58                  | 54       | -33.42            |
| 0                               | 2402           | Horn       | H    | AVE.       | 10 Hz | 66.82                | 50.21           | 16.61                  | 54       | -37.39            |
| High Channel, Packet Type DH5   |                |            |      |            |       |                      |                 |                        |          |                   |
| 78                              | 2480           | Horn       | V    | PK         | 1 MHz | 94.14                | 53.90           | 40.24                  | 74       | -33.76            |
| 78                              | 2480           | Horn       | H    | PK         | 1 MHz | 93.07                | 52.02           | 41.05                  | 74       | -32.95            |
| 78                              | 2480           | Horn       | V    | AVE.       | 10 Hz | 64.18                | 53.90           | 10.28                  | 54       | -43.72            |
| 78                              | 2480           | Horn       | H    | AVE.       | 10 Hz | 63.27                | 52.02           | 11.25                  | 54       | -42.75            |
| Low Channel, Packet Type 2-DH5  |                |            |      |            |       |                      |                 |                        |          |                   |
| 0                               | 2402           | Horn       | V    | PK         | 1 MHz | 95.91                | 43.91           | 52.00                  | 74       | -22.00            |
| 0                               | 2402           | Horn       | H    | PK         | 1 MHz | 96.75                | 44.54           | 52.21                  | 74       | -21.79            |
| 0                               | 2402           | Horn       | V    | AVE.       | 10 Hz | 65.52                | 43.91           | 21.61                  | 54       | -32.39            |
| 0                               | 2402           | Horn       | H    | AVE.       | 10 Hz | 65.56                | 44.54           | 21.02                  | 54       | -32.98            |
| High Channel, Packet Type 2-DH5 |                |            |      |            |       |                      |                 |                        |          |                   |
| 78                              | 2480           | Horn       | V    | PK         | 1 MHz | 92.45                | 51.13           | 41.32                  | 74       | -32.68            |
| 78                              | 2480           | Horn       | H    | PK         | 1 MHz | 91.65                | 49.67           | 41.98                  | 74       | -32.02            |
| 78                              | 2480           | Horn       | V    | AVE.       | 10 Hz | 62.95                | 51.13           | 11.82                  | 54       | -42.18            |
| 78                              | 2480           | Horn       | H    | AVE.       | 10 Hz | 62.25                | 49.67           | 12.58                  | 54       | -41.42            |



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

**Band-Edge Compliance of RF Radiated Emissions Test Results cont'd**  
**Bluetooth Band**

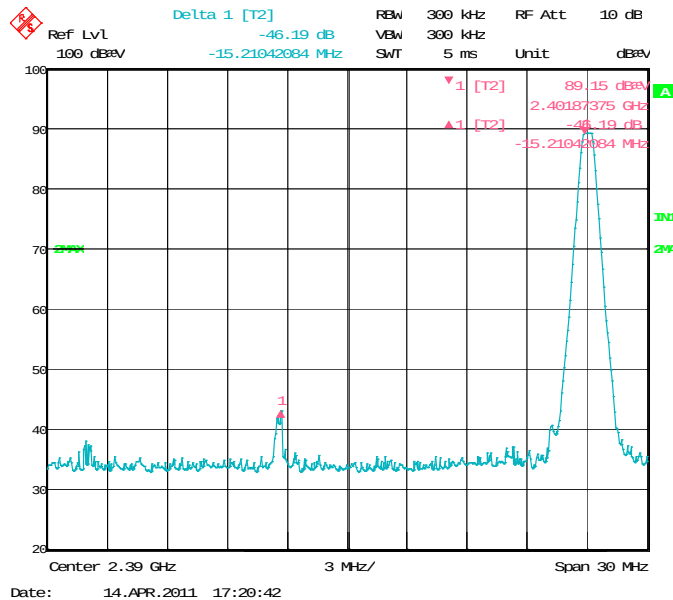
| Channel                         | Freq.<br>(MHz) | Rx Antenna |      | Detector   | VBW   | Corrected<br>Reading | Delta<br>Marker | Corrected<br>Band edge | Limit    | Diff. To<br>Limit |
|---------------------------------|----------------|------------|------|------------|-------|----------------------|-----------------|------------------------|----------|-------------------|
|                                 |                | Type       | POL. | (PK, AVE.) | (MHz) | (dBuV/m)             | (dB)            | (dBuV/m)               | (dBuV/m) | (dB)              |
| Low Channel, Packet Type 3-DH5  |                |            |      |            |       |                      |                 |                        |          |                   |
| 0                               | 2402           | Horn       | V    | PK         | 1 MHz | 95.03                | 43.51           | 51.52                  | 74       | -22.48            |
| 0                               | 2402           | Horn       | H    | PK         | 1 MHz | 96.35                | 45.75           | 50.60                  | 74       | -23.40            |
| 0                               | 2402           | Horn       | V    | AVE.       | 10 Hz | 64.31                | 43.51           | 20.80                  | 54       | -33.20            |
| 0                               | 2402           | Horn       | H    | AVE.       | 10 Hz | 64.46                | 45.75           | 18.71                  | 54       | -35.29            |
| High Channel, Packet Type 3-DH5 |                |            |      |            |       |                      |                 |                        |          |                   |
| 78                              | 2480           | Horn       | V    | PK         | 1 MHz | 92.33                | 47.84           | 44.49                  | 74       | -29.51            |
| 78                              | 2480           | Horn       | H    | PK         | 1 MHz | 91.07                | 47.89           | 43.18                  | 74       | -30.82            |
| 78                              | 2480           | Horn       | V    | AVE.       | 10 Hz | 61.45                | 47.84           | 13.61                  | 54       | -40.39            |
| 78                              | 2480           | Horn       | H    | AVE.       | 10 Hz | 57.98                | 47.89           | 10.09                  | 54       | -43.91            |

See figures 2-1 to 2-12 for the plots of the Bluetooth band-edge compliance.

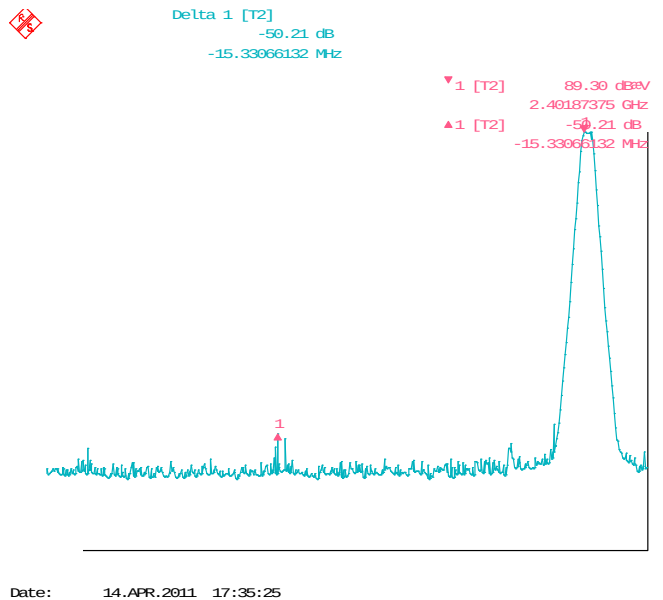
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|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

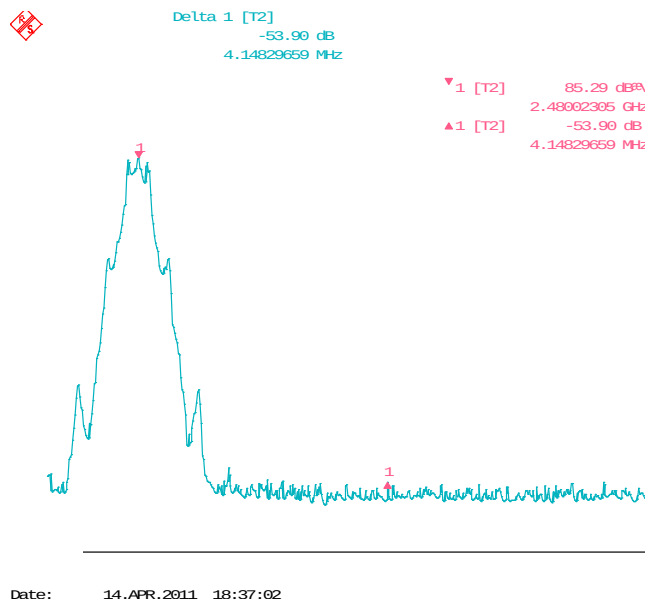
**Figure 2-1: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRs,  
DH5, Channel 0, Pol: V, Detector: PK



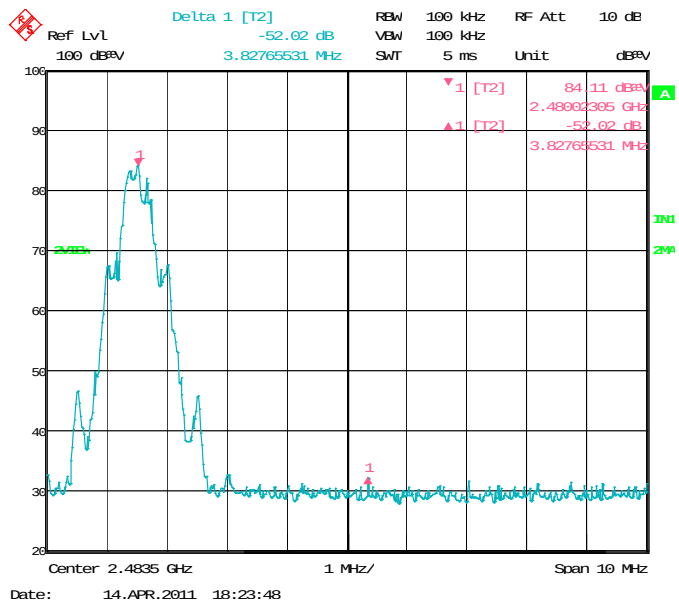
**Figure 2-2: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRs,  
DH5, Channel 0, Pol: H, Detector: PK



**Figure 2-3: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRs,  
DH5, Channel 78, Pol: V, Detector: PK



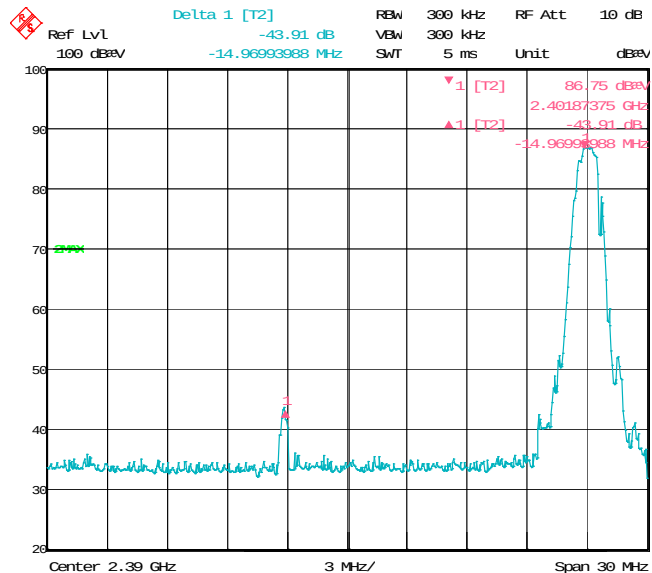
**Figure 2-4: Band-Edge Compliance of RF Rad. Emissions**  
Bluetooth, Single freq., Static PBRs,  
DH5, Channel 78, Pol: H, Detector: PK



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

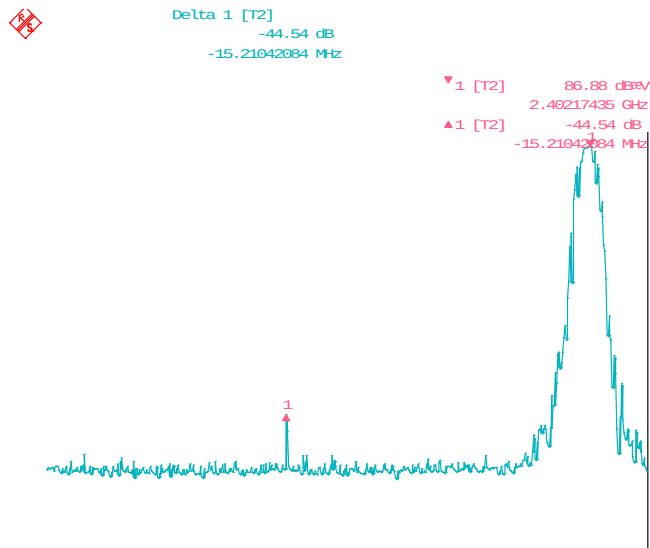
## Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

**Figure 2-5: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
2-DH5, Channel 0, Pol: V, Detector: PK



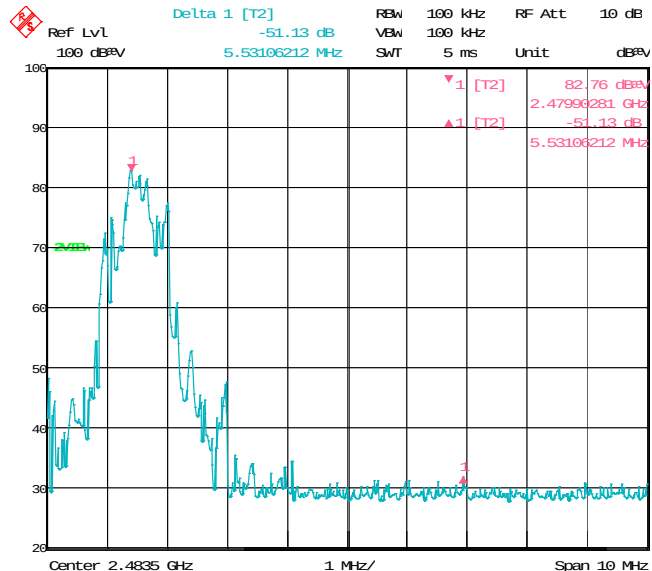
Date: 14.APR.2011 17:22:05

**Figure 2-6: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
2-DH5, Channel 0, Pol: H, Detector: PK



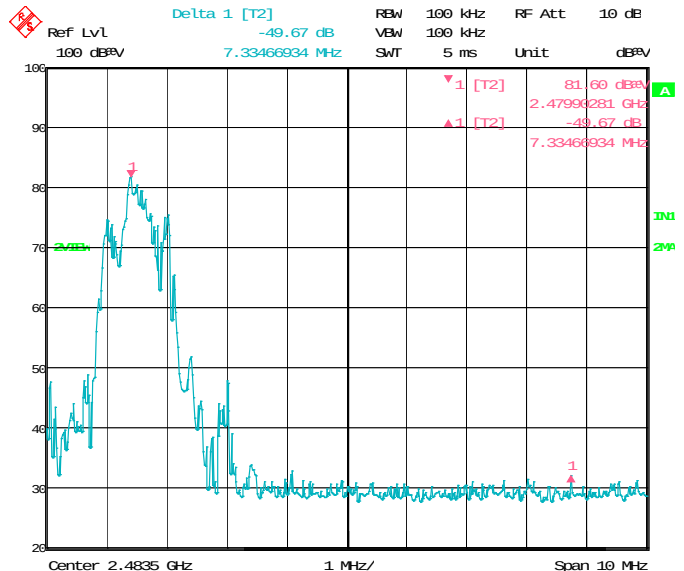
Date: 14.APR.2011 17:33:55

**Figure 2-7: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
2-DH5, Channel 78, Pol: V, Detector: PK



Date: 14.APR.2011 18:35:18

**Figure 2-8: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
2-DH5, Channel 78, Pol: H, Detector: PK

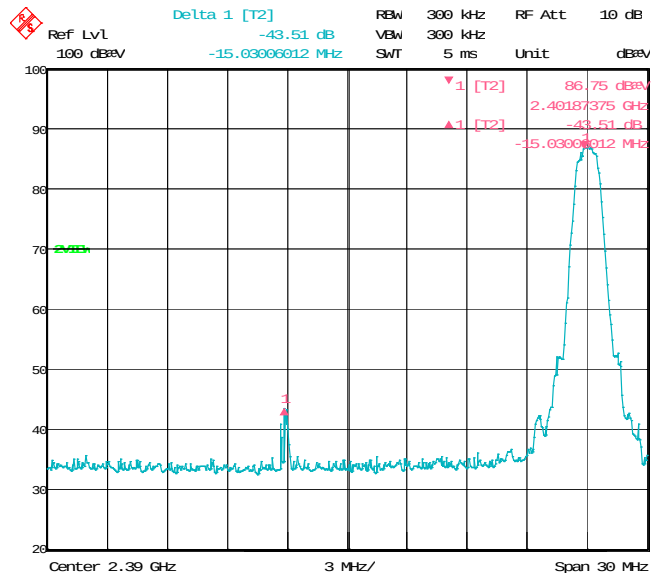


Date: 14.APR.2011 18:25:19

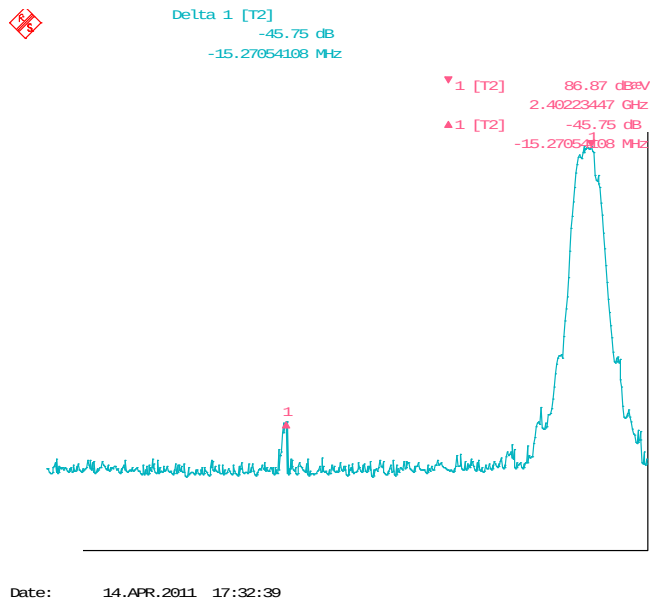
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

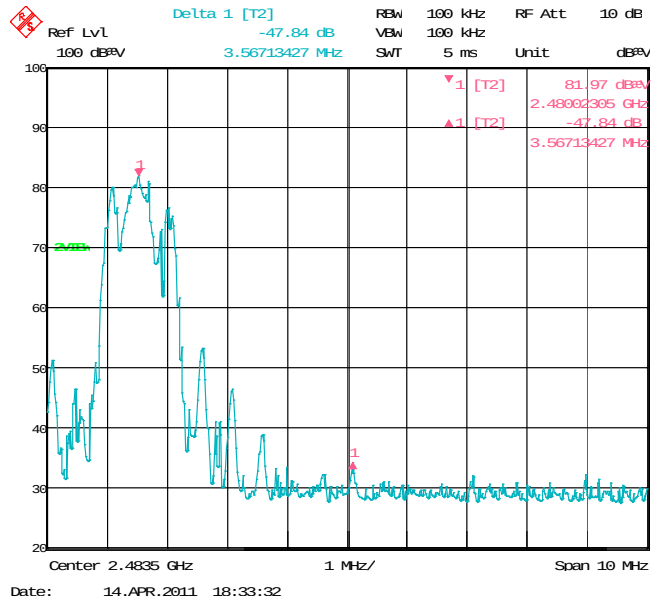
**Figure 2-9: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
3-DH5, Channel 0, Pol: V, Detector: PK



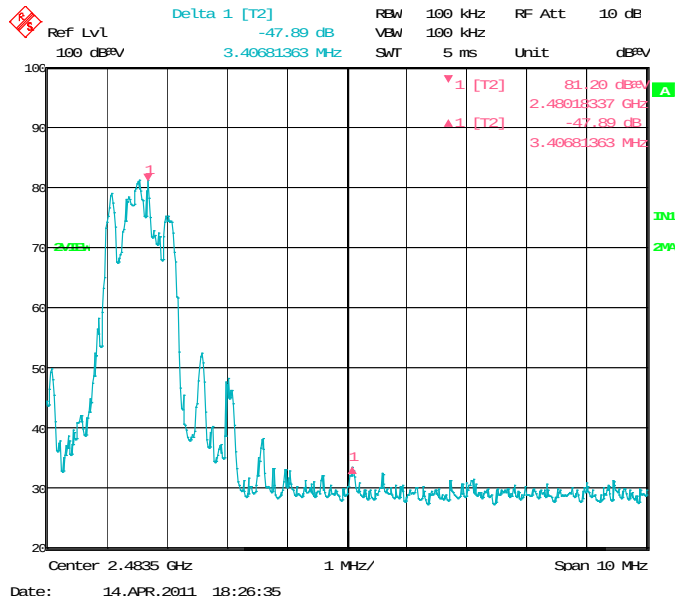
**Figure 2-10: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
3-DH5, Channel 0, Pol: H, Detector: PK



**Figure 2-11: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
3-DH5, Channel 78, Pol: V, Detector: PK



**Figure 2-12: Band-Edge Compliance of RF Rad. Emissions.**  
Bluetooth, Single freq., Static PBRS,  
3-DH5, Channel 78, Pol: H, Detector: PK



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

Radiated Emissions Test Results cont'd  
802.11b/g/n Band

Date of Test: March 11, 2011

The environmental test conditions were: Temperature: 24 °C  
Relative Humidity: 10 %

The test distance was 3.0 metres with a EUT height of 0.8 metres, and sweep frequency of 30 MHz to 1 GHz.

The BlackBerry® smartphone was in horizontal down position.

The frequency sweep measurements were performed in 802.11b Tx mode at 1 Mbps on channels 1, 6 and 11, in 802.11g Tx mode at 6 Mbps on channel 6, and in 802.11n Tx mode at MCS 0 and MCS7 on channels 6.

All emissions had a test margin of greater than 25.0 dB.

Date of Test: April 07 and 08, 2011

The environmental test conditions were: Temperature: 24 - 25 °C  
Relative Humidity: 35 - 38 %

The test distance was 3.0 metres with a EUT height of 0.8 metres, and sweep frequency of 1GHz to 25GHz.

The BlackBerry® smartphone was in horizontal down position.

The frequency sweep measurements were performed in 802.11b Tx mode at 1 Mbps on channels 1, 6 and 11, in 802.11g Tx mode at 6 Mbps on channel 6, and in 802.11n Tx mode at MCS 0 and MCS7 on channel 6.

All emissions had a test margin of greater than 25.0 dB.

|                                                                                   |  |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  |  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        |  | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n Band-Edge Compliance of RF Radiated Emissions

Date of Tests: April 19, 2011

Measurements performed by Kevin Rose.

The environmental test conditions were: Temperature: 23 °C  
Relative Humidity: 18 %

#### 802.11b Band

The measurements were performed on BlackBerry® smartphone in standalone, vertical configuration on channels 1 and 11 for 802.11b mode at 1 Mbps.

The test distance was 3 metres.

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 1       | 2412.00        | Horn       | V    | PK                | 1 MHz                       | 98.93                                    | 46.66                   | 52.27                              | 74.00             | -21.73                    |
| 1       | 2412.00        | Horn       | H    | PK                | 1 MHz                       | 104.30                                   | 47.68                   | 56.62                              | 74.00             | -17.38                    |
| 1       | 2412.00        | Horn       | V    | AV                | 10 Hz                       | 91.25                                    | 46.66                   | 44.59                              | 54.00             | -9.41                     |
| 1       | 2412.00        | Horn       | H    | AV                | 10 Hz                       | 96.67                                    | 47.68                   | 48.99                              | 54.00             | -5.01                     |

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 11      | 2480.00        | Horn       | V    | PK                | 1 MHz                       | 97.28                                    | 49.10                   | 48.18                              | 74.00             | -25.82                    |
| 11      | 2480.00        | Horn       | H    | PK                | 1 MHz                       | 107.08                                   | 51.86                   | 55.22                              | 74.00             | -18.78                    |
| 11      | 2480.00        | Horn       | V    | AV                | 10 Hz                       | 90.09                                    | 49.10                   | 40.99                              | 54.00             | -13.01                    |
| 11      | 2480.00        | Horn       | H    | AV                | 10 Hz                       | 99.54                                    | 51.86                   | 47.68                              | 54.00             | -6.32                     |

|                                                                                   |  |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  |  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        |  | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11g Band

The measurements were performed on the BlackBerry® smartphone in standalone, vertical configuration on channels 1 and 11 for 802.11g mode at 6 Mbps.

The test distance was 3 metres.

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 1       | 2412.00        | Horn       | V    | PK                | 1 MHz                       | 99.78                                    | 33.45                   | 66.33                              | 74.00             | -7.67                     |
| 1       | 2412.00        | Horn       | H    | PK                | 1 MHz                       | 105.40                                   | 37.72                   | 67.68                              | 74.00             | -6.32                     |
| 1       | 2412.00        | Horn       | V    | AV                | 10 Hz                       | 73.07                                    | 33.45                   | 39.62                              | 54.00             | -14.38                    |
| 1       | 2412.00        | Horn       | H    | AV                | 10 Hz                       | 76.81                                    | 37.72                   | 39.09                              | 54.00             | -14.91                    |

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 11      | 2480.00        | Horn       | V    | PK                | 1 MHz                       | 98.22                                    | 38.98                   | 59.24                              | 74.00             | -14.76                    |
| 11      | 2480.00        | Horn       | H    | PK                | 1 MHz                       | 107.70                                   | 37.88                   | 69.82                              | 74.00             | -4.18                     |
| 11      | 2480.00        | Horn       | V    | AV                | 10 Hz                       | 71.92                                    | 38.98                   | 32.94                              | 54.00             | -21.06                    |
| 11      | 2480.00        | Horn       | H    | AV                | 10 Hz                       | 78.52                                    | 37.88                   | 40.64                              | 54.00             | -13.36                    |

|                                                                                   |  |                                                                                   |                                                       |
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| <b>Test Report No.</b><br>RTS-2605-1105-03                                        |  | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11n Band

The measurements were performed on the BlackBerry® smartphone in standalone, vertical configuration on channels 1 and 11 for 802.11n mode at MCS 0.

The test distance was 3 metres.

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 1       | 2412.00        | Horn       | V    | PK                | 1 MHz                       | 100.27                                   | 31.99                   | 68.28                              | 74.00             | -5.72                     |
| 1       | 2412.00        | Horn       | H    | PK                | 1 MHz                       | 103.96                                   | 34.41                   | 69.55                              | 74.00             | -4.45                     |
| 1       | 2412.00        | Horn       | V    | AV                | 10 Hz                       | 72.55                                    | 31.99                   | 40.56                              | 54.00             | -13.44                    |
| 1       | 2412.00        | Horn       | H    | AV                | 10 Hz                       | 75.75                                    | 34.41                   | 41.34                              | 54.00             | -12.66                    |

| Channel | Freq.<br>(MHz) | Rx Antenna |      | Detector<br>(MHz) | VBW<br>For Peak<br>(dBuV/m) | Peak<br>Corrected<br>Reading<br>(dBuV/m) | Delta<br>Marker<br>(dB) | Corrected<br>Band edge<br>(dBuV/m) | Limit<br>(dBuV/m) | Diff. To<br>Limit<br>(dB) |
|---------|----------------|------------|------|-------------------|-----------------------------|------------------------------------------|-------------------------|------------------------------------|-------------------|---------------------------|
|         |                | Type       | POL. |                   |                             |                                          |                         |                                    |                   |                           |
| 11      | 2480.00        | Horn       | V    | PK                | 1 MHz                       | 98.15                                    | 33.53                   | 64.62                              | 74.00             | -9.38                     |
| 11      | 2480.00        | Horn       | H    | PK                | 1 MHz                       | 107.16                                   | 35.69                   | 71.47                              | 74.00             | -2.53                     |
| 11      | 2480.00        | Horn       | V    | AV                | 10 Hz                       | 71.76                                    | 33.53                   | 38.23                              | 54.00             | -15.77                    |
| 11      | 2480.00        | Horn       | H    | AV                | 10 Hz                       | 78.09                                    | 35.69                   | 42.40                              | 54.00             | -11.60                    |

See figures 2-13 to 2-16 for the plots of the 802.11b band-edge compliance.

See figures 2-17 to 2-20 for the plots of the 802.11g band-edge compliance.

See figures 2-21 to 2-24 for the plots of the 802.11n band-edge compliance.



|                                                                                   |                                                                                   |                                                       |
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## 802.11b/g/n Band-Edge Compliance of RF Radiated Emissions cont'd

Figure 2-13: Band-Edge Compliance of RF Radiated Emission  
802.11b, Channel 1, 2412 MHz, Max Pol: V,  
Detector: PK

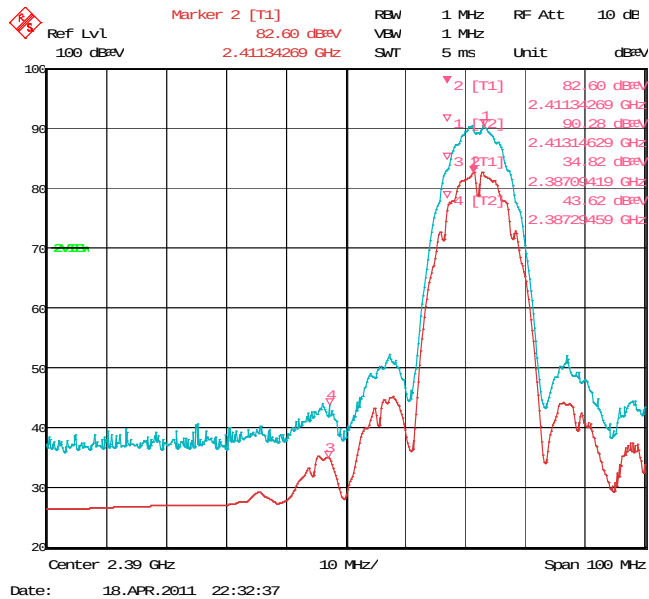


Figure 2-14: Band-Edge Compliance of RF Radiated Emission  
802.11b, Channel 1, 2412 MHz, Max Pol: H,  
Detector: PK

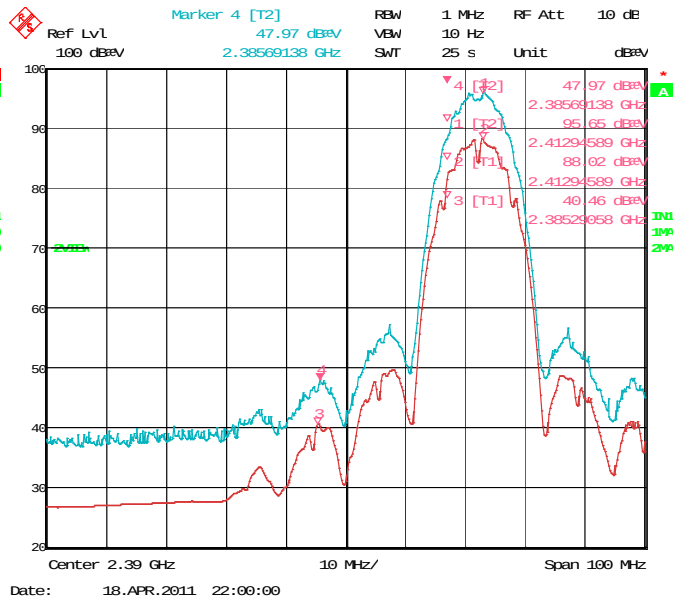


Figure 2-15: Band-Edge Compliance of RF Radiated Emission  
802.11b, Channel 11, 2462 MHz, Max Pol: V,  
Detector: PK

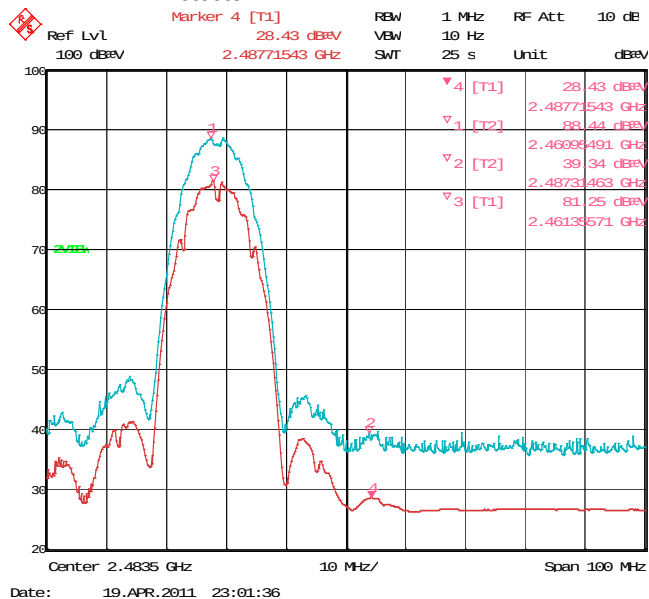
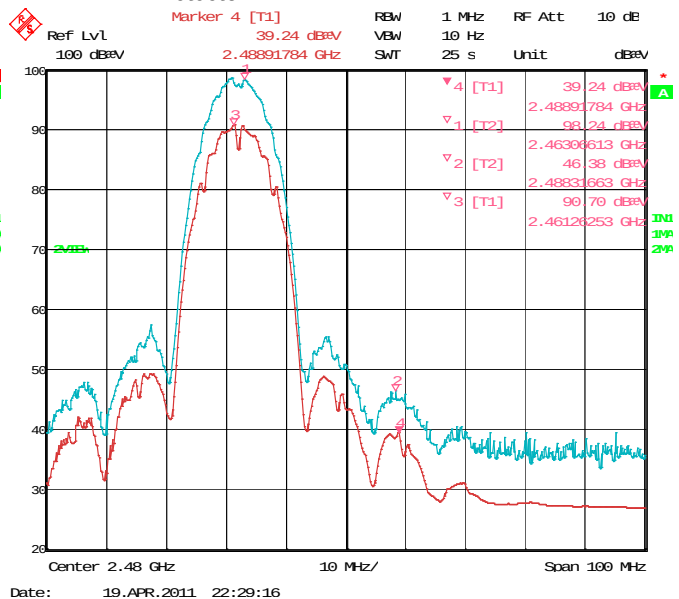


Figure 2-16: Band-Edge Compliance of RF Radiated Emission  
802.11b, Channel 11, 2462 MHz, Max Pol: H,  
Detector: PK



|                                                                                   |                                                                                   |                                                       |
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Figure 2-17: Band-Edge Compliance of RF Radiated Emission  
802.11g, Channel 1, 2412 MHz, Max Pol: V,  
Detector: PK

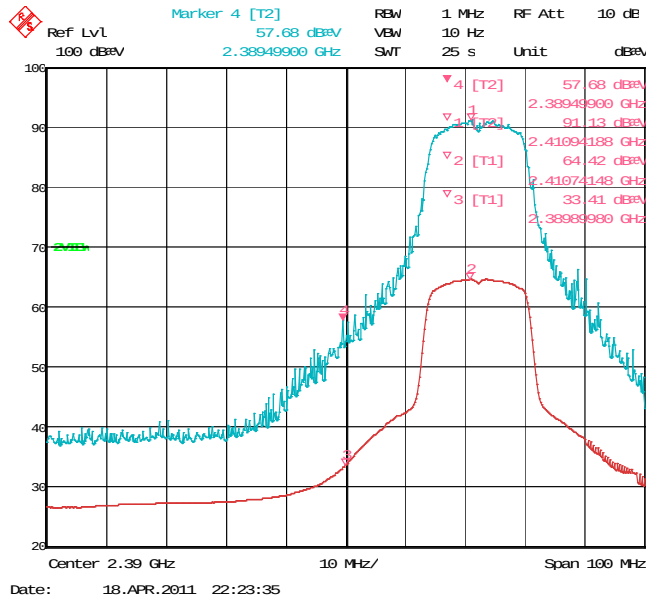


Figure 2-18: Band-Edge Compliance of RF Radiated Emission  
802.11g, Channel 1, 2412 MHz, Max Pol: H,  
Detector: PK

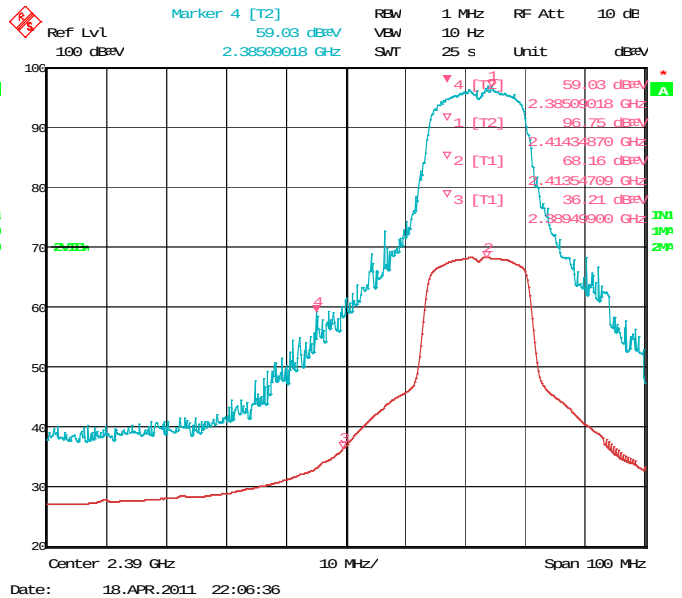


Figure 2-19: Band-Edge Compliance of RF Radiated Emission  
802.11g, Channel 11, 2462 MHz, Max Pol: V,  
Detector: PK

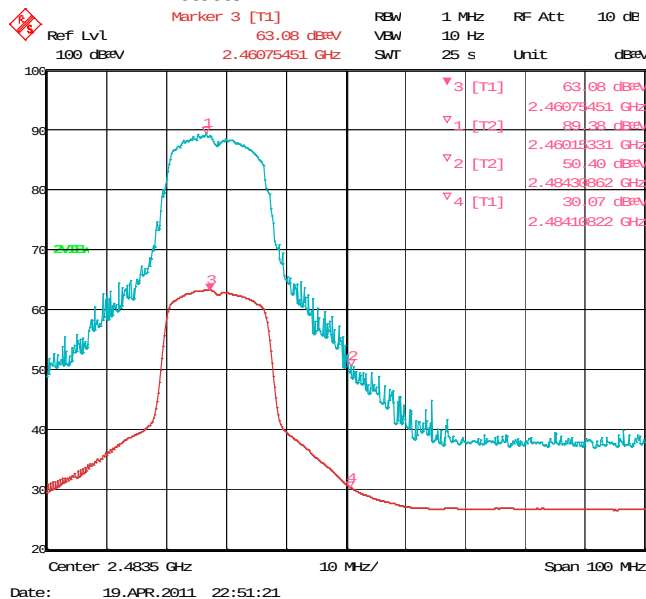
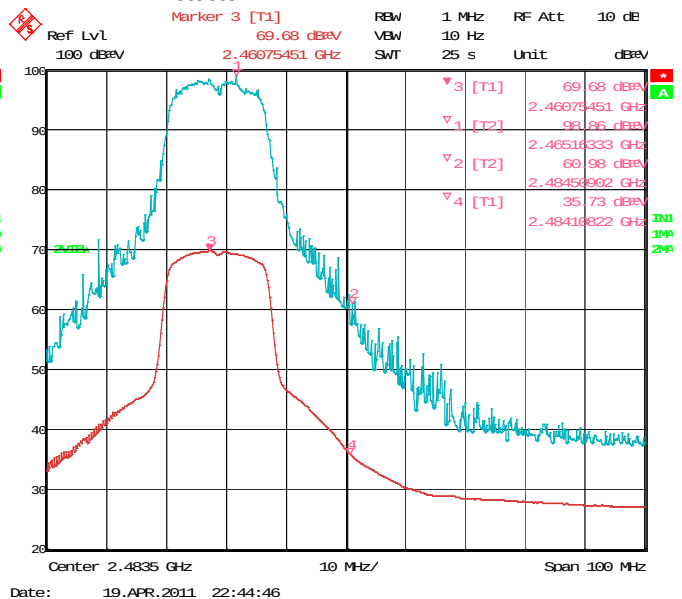


Figure 2-20: Band-Edge Compliance of RF Radiated Emission  
802.11g, Channel 11, 2462 MHz, Max Pol: H,  
Detector: PK



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 2</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

Figure 2-21: Band-Edge Compliance of RF Radiated Emission  
802.11n, Channel 1, 2412 MHz, Max Pol: V,  
Detector: PK

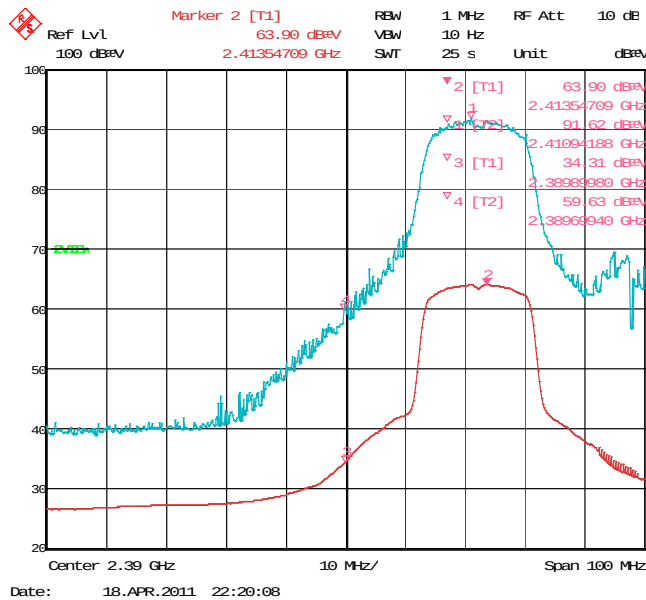


Figure 2-22: Band-Edge Compliance of RF Radiated Emission  
802.11n, Channel 1, 2412 MHz, Max Pol: H,  
Detector: PK

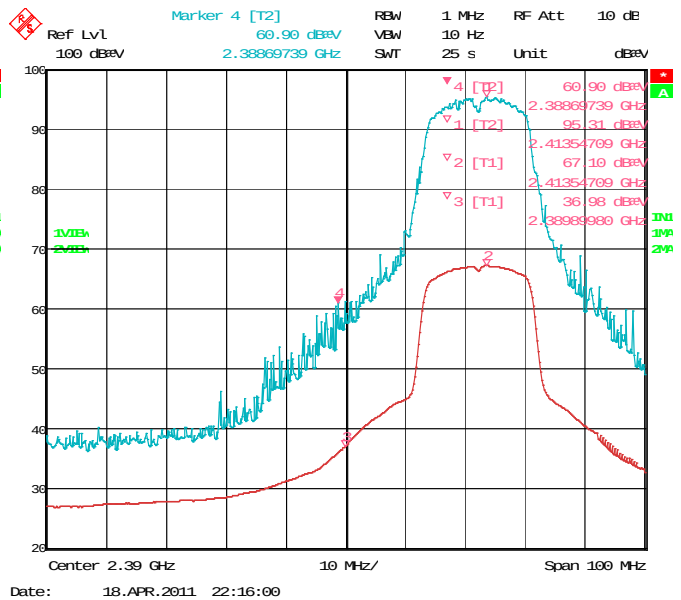


Figure 2-23: Band-Edge Compliance of RF Radiated Emission  
802.11n, Channel 11, 2462 MHz, Max Pol: V,  
Detector: PK

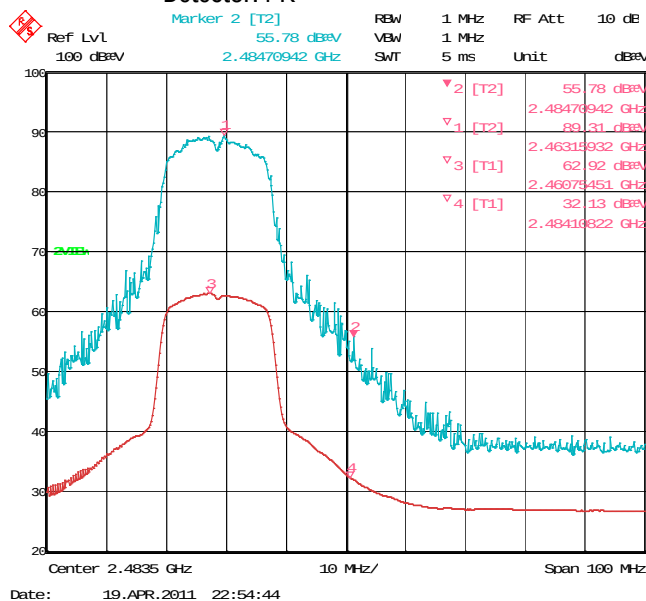
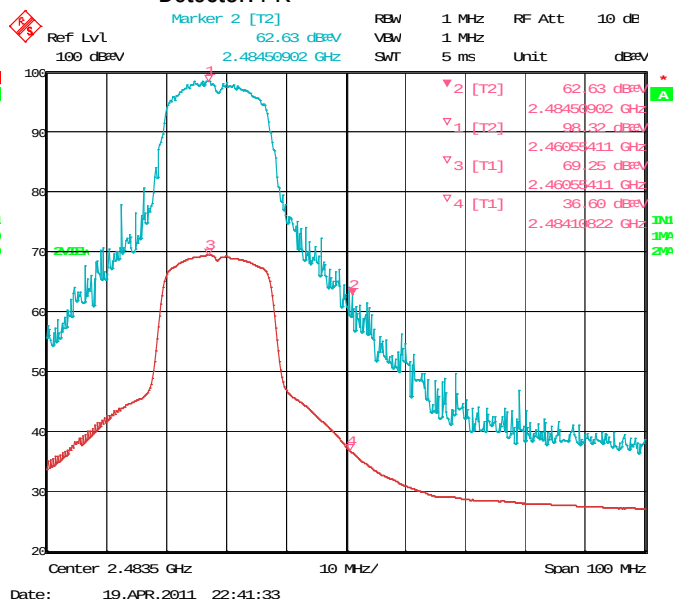


Figure 2-24: Band-Edge Compliance of RF Radiated Emission  
802.11n, Channel 11, 2462 MHz, Max Pol: H,  
Detector: PK



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## APPENDIX 3 – BLUETOOTH CONDUCTED EMISSIONS TEST DATA/PLOTS

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

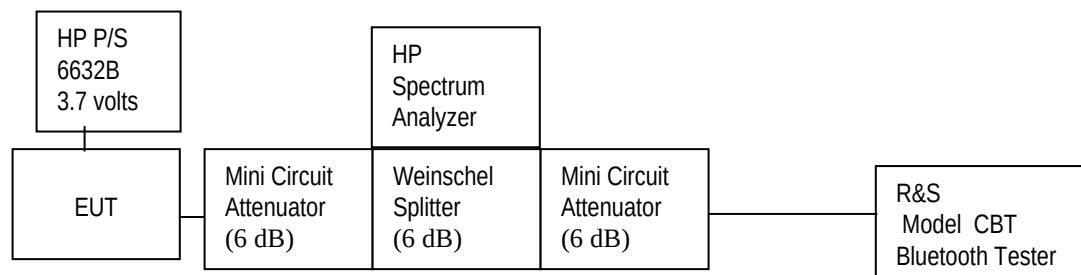
### Bluetooth RF Conducted Emission Test Results

Bluetooth power output from BlackBerry® smartphone was at maximum for all the recorded measurements shown below.

The measurements were performed by Maurice Battler.

Date of test: April 11, 2011

#### Test Setup Diagram



A reference offset of 12.4 dB was applied to the spectrum analyzer reference level for the attenuators and coaxial cable loss in the test circuit.

The environmental test conditions were: Temperature: 23 °C  
Relative Humidity: 47 %

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### 20 dB Bandwidth

The EUT met the requirements of the 20 dB bandwidth as per 47 CFR 15.247(a) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured. Bluetooth was operating in single frequency mode.

Using pattern type "Static PBRS" and packet type "DH5" during the measurements.

| Bluetooth Channel | Limit (MHz) | Measured Level (MHz) |
|-------------------|-------------|----------------------|
| 0                 | ≤1.0        | 0.927                |
| 39                | ≤1.0        | 0.937                |
| 78                | ≤1.0        | 0.930                |

See figures 3-1 to 3-3 for the plots of the 20 dB bandwidth measurements.

Figure 3-1: 20 dB Bandwidth

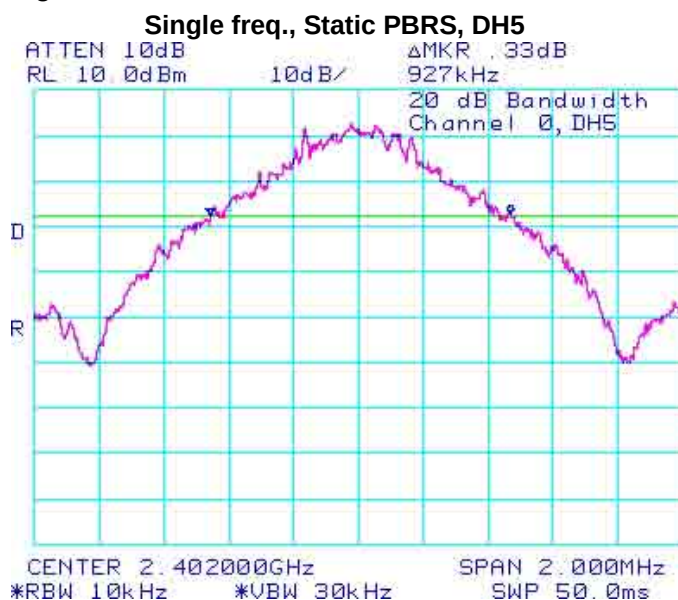
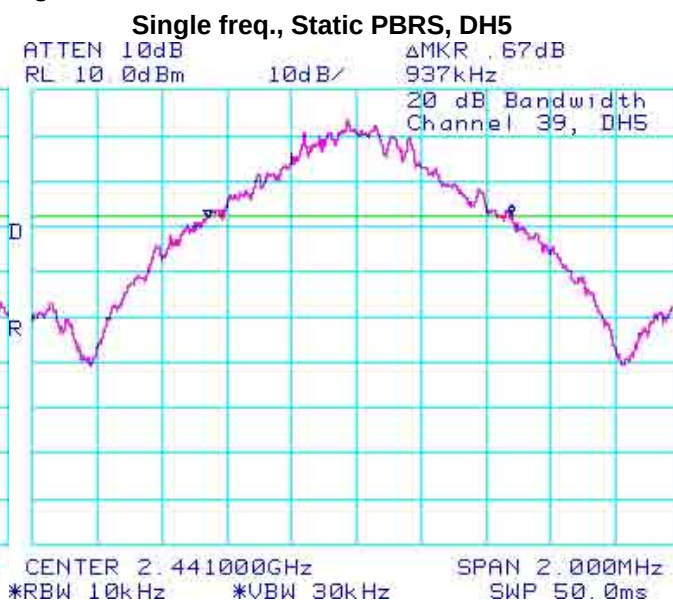


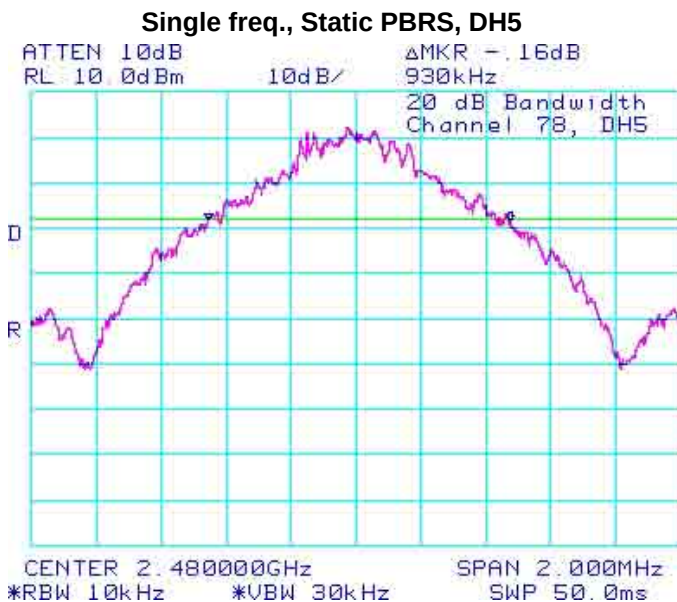
Figure 3-2: 20 dB Bandwidth



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-3: 20 dB Bandwidth**



Using Pattern type “Static PBRS” and packet type “3-DH5” during the measurements.

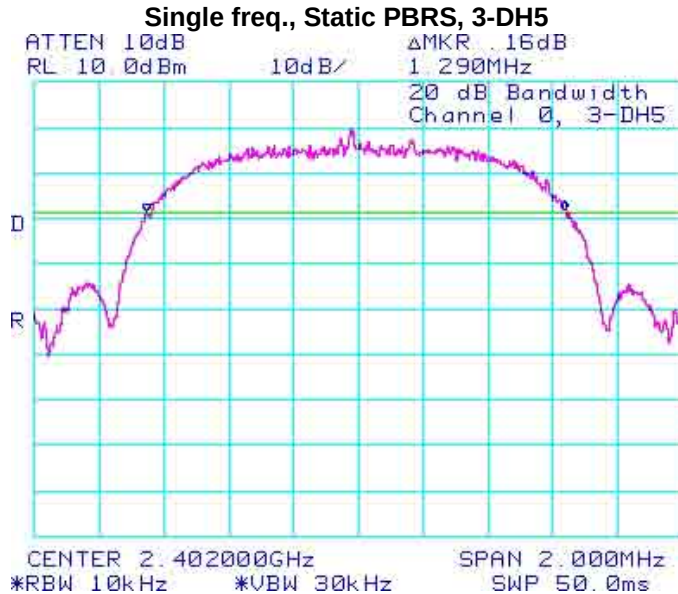
| Bluetooth Channel | Limit (MHz) | Measured Level (MHz) |
|-------------------|-------------|----------------------|
| 0                 | ≤1.5        | 1.290                |
| 39                | ≤1.5        | 1.283                |
| 78                | ≤1.5        | 1.227                |

See figures 3-4 to 3-6 for the plots of the 20 dB bandwidth measurements.

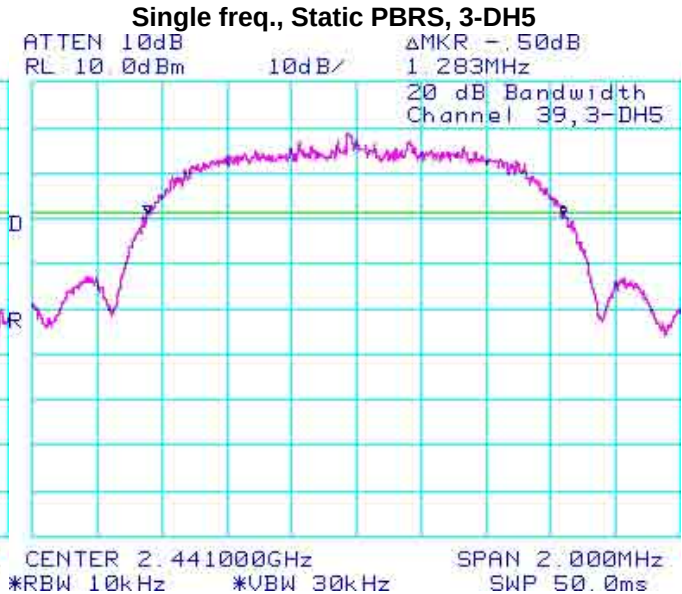
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

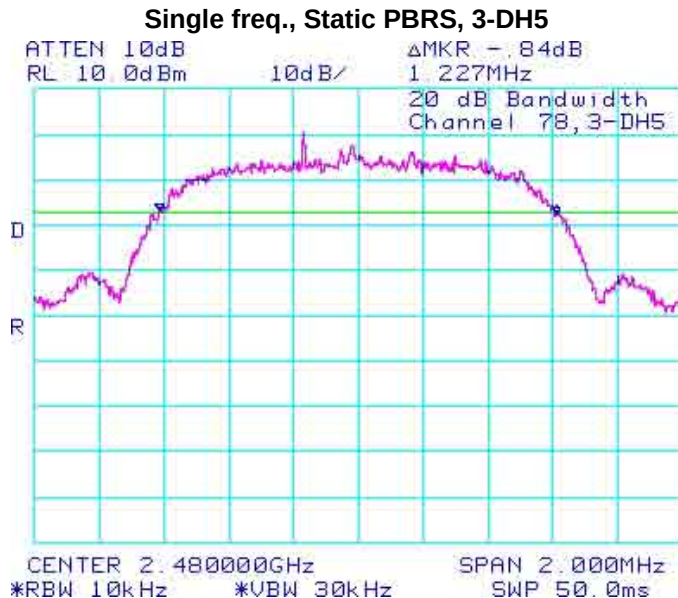
**Figure 3-4: 20 dB Bandwidth**



**Figure 3-5: 20 dB Bandwidth**



**Figure 3-6: 20 dB Bandwidth**





|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### **Carrier Frequency Separation**

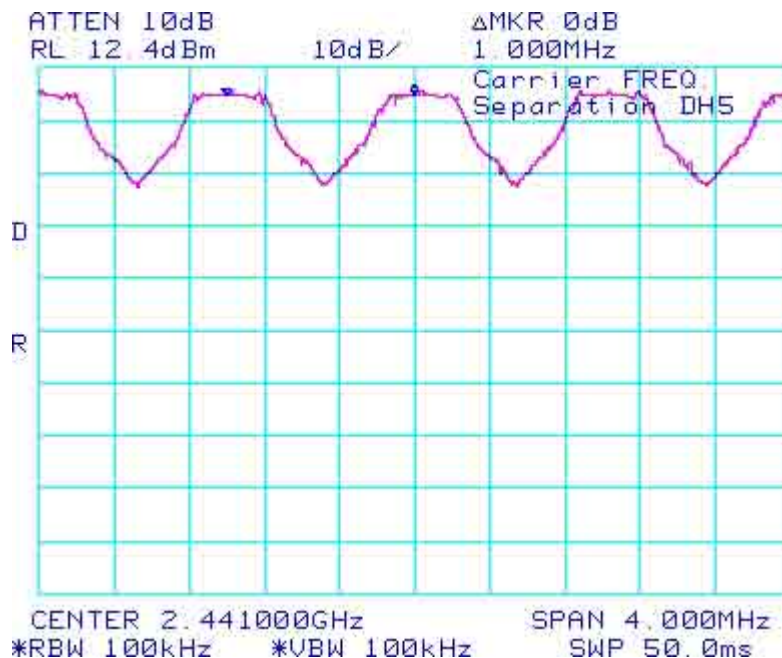
The EUT met the requirements of the Carrier Frequency Separation as per 47 CFR 15.247(a) and RSS-210. Channel 38 to 39 was measured. Bluetooth was operating in frequency hopping (Euro/US) mode.

Using pattern type "Static PBRS" and packet type "DH5" during the measurements.

| Bluetooth Channels | Limit (MHz)                | Measured Level (MHz) |
|--------------------|----------------------------|----------------------|
| 38 to 39           | ≥ 0.025 or 20 dB bandwidth | 1.000                |

See figure 3-7 for the plot of the Carrier Frequency Separation measurement.

**Figure 3-7: Carrier Frequency Separation, Freq. Hopping, Static PBRS, DH5, Channels 38 to 39**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

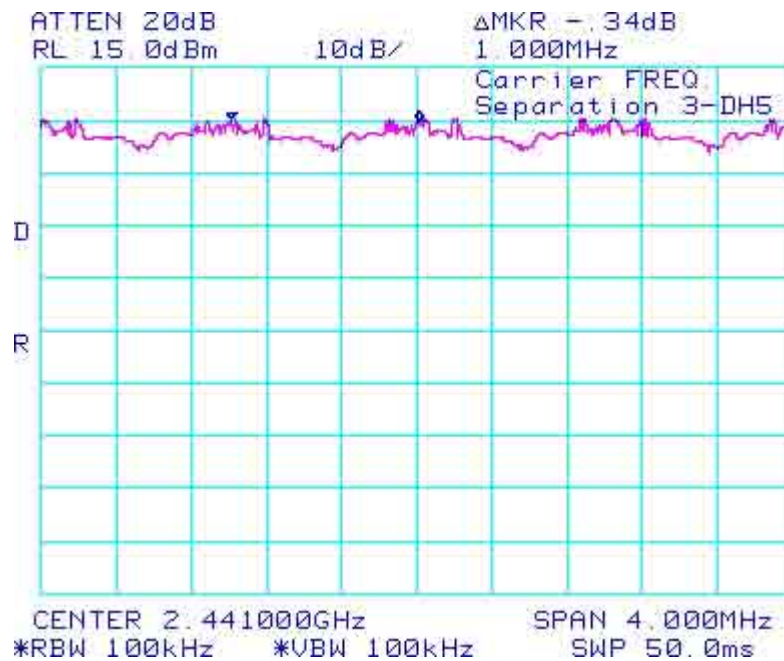
### Bluetooth RF Conducted Emission Test Results cont'd

Using Pattern type "Static PBRS" and packet type "3-DH5" during the measurements.

| Bluetooth Channels | Limit (MHz)                | Measured Level (MHz) |
|--------------------|----------------------------|----------------------|
| 38 to 39           | ≥ 0.025 or 20 dB bandwidth | 1.000                |

See figure 3-8 for the plot of the Carrier Frequency Separation measurement.

**Figure 3-8: Carrier Frequency Separation, Freq. Hopping, Static PBRS, 3-DH5, Channels 38 to 39**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### Number of Hopping Frequencies

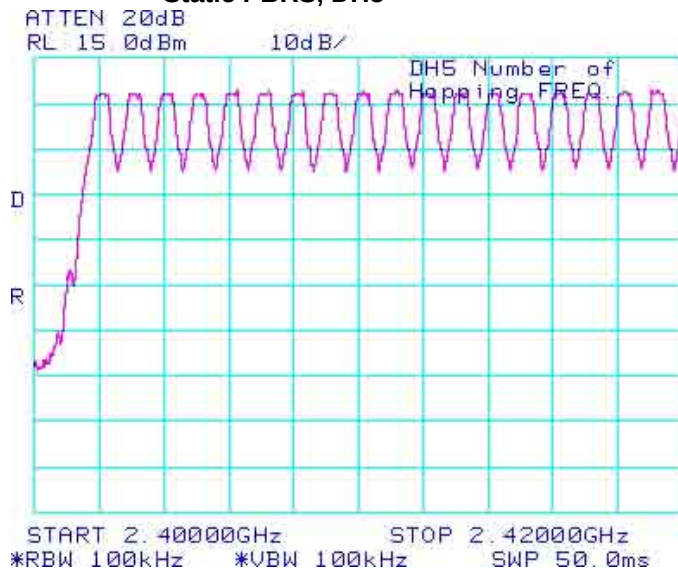
The EUT met the requirements of the number of hopping frequencies as per 47 CFR 15.247(a) and RSS-210. Bluetooth was operating in frequency hopping (Euro/US) mode.

Using pattern type "Static PBRS" and packet type "DH5" during the measurements.

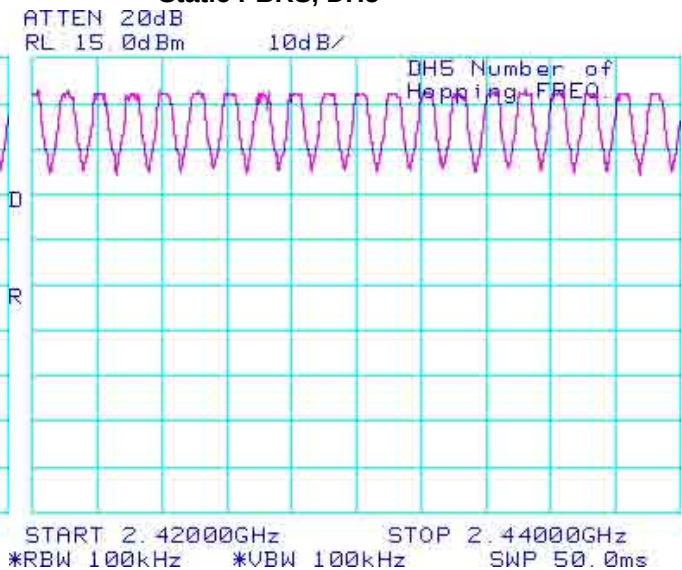
| Limit<br>(CH) | Number of Hopping Frequencies<br>(CH) |
|---------------|---------------------------------------|
| ≥75           | 79                                    |

See figures 3-9 to 3-12 for the plots of the number of hopping frequencies.

**Figure 3-9: Number of Hopping Frequencies**  
Static PBRS, DH5



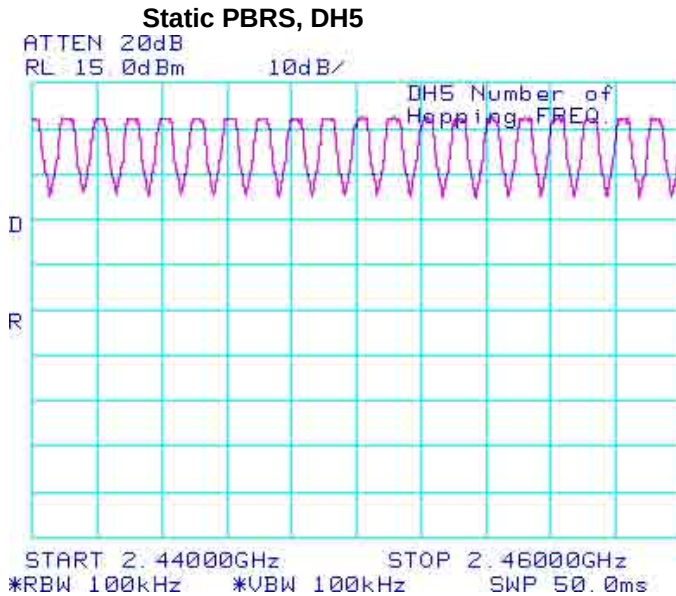
**Figure 3-10: Number of Hopping Frequencies**  
Static PBRS, DH5



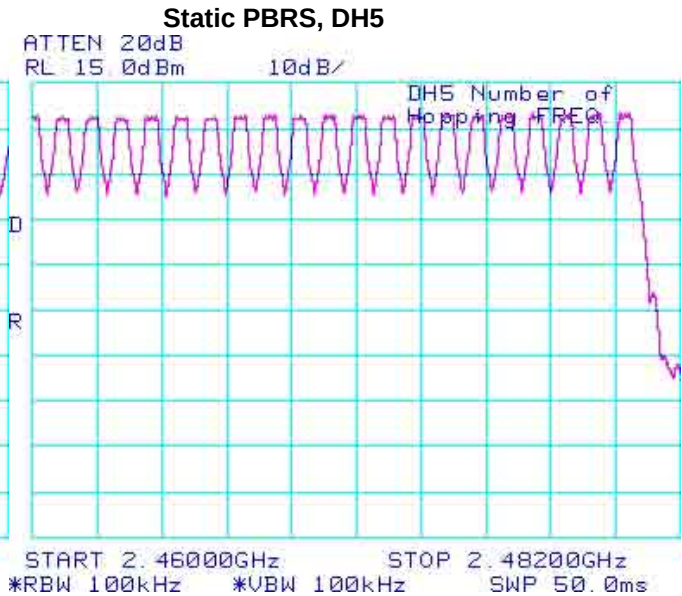
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-11: Number of Hopping Frequencies**



**Figure 3-12: Number of Hopping Frequencies**



### **Time of Occupancy (Dwell Time)**

The EUT met the requirements of the time of occupancy (dwell time) as per 47 CFR 15.247(a) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured in packet types DH1, DH3 and DH5. Bluetooth was operating in frequency hopping (Euro/US) mode during the measurements. The frequency hopping is 1600 hops per second for a dwell time of 625 µsec for 79 channels.

A DH1 packet needs one time slot for transmitting and one time slot for receiving. The frequency hopping is 800 hops per second with 79 channels which is 10.127 times per second. As per 15.247(a) (iii) "The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed". Therefore for 31.6 seconds (79x0.4) there are 320.0 times of appearance.

A DH3 packet needs one time slot for transmitting and one time slot for receiving. The frequency hopping is 400 hops per second with 79 channels which is 5.06 times per second. Therefore for 31.6 seconds there are 159.9 times of appearance.

A DH5 packet needs one time slot for transmitting and one time slot for receiving. The frequency hopping is 266.7 hops per second with 79 channels which is 3.38 times per second. Therefore for 31.6 seconds there are 106.8 times of appearance.

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

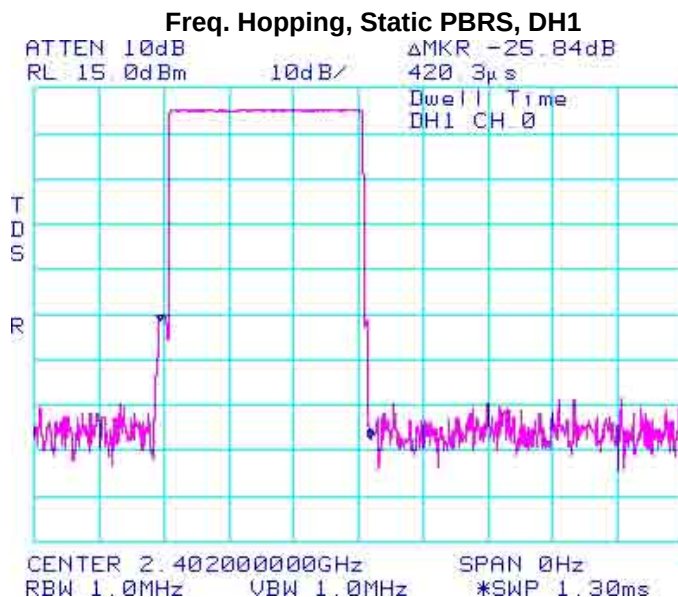
### Bluetooth RF Conducted Emission Test Results cont'd

| Bluetooth Channel | Mode | Tx Time (ms) | Dwell Time/31.6 sec. (msec.)   | Limit (msec.) | Margin (msec.) |
|-------------------|------|--------------|--------------------------------|---------------|----------------|
| 0                 | DH1  | 0.4203       | $0.4203 \times 320.0 = 134.50$ | 400           | 265.50         |
| 39                | DH1  | 0.4182       | $0.4182 \times 320.0 = 133.82$ | 400           | 266.18         |
| 78                | DH1  | 0.4203       | $0.4203 \times 320.0 = 134.50$ | 400           | 265.50         |
| 0                 | DH3  | 1.6750       | $1.6750 \times 159.9 = 267.83$ | 400           | 132.17         |
| 39                | DH3  | 1.6800       | $1.6800 \times 159.9 = 268.63$ | 400           | 131.37         |
| 78                | DH3  | 1.6800       | $1.6800 \times 159.9 = 268.63$ | 400           | 131.37         |
| 0                 | DH5  | 2.9300       | $2.9300 \times 106.8 = 312.92$ | 400           | 87.08          |
| 39                | DH5  | 2.9155       | $2.9155 \times 106.8 = 311.38$ | 400           | 88.62          |
| 78                | DH5  | 2.9254       | $2.9254 \times 106.8 = 312.43$ | 400           | 87.57          |

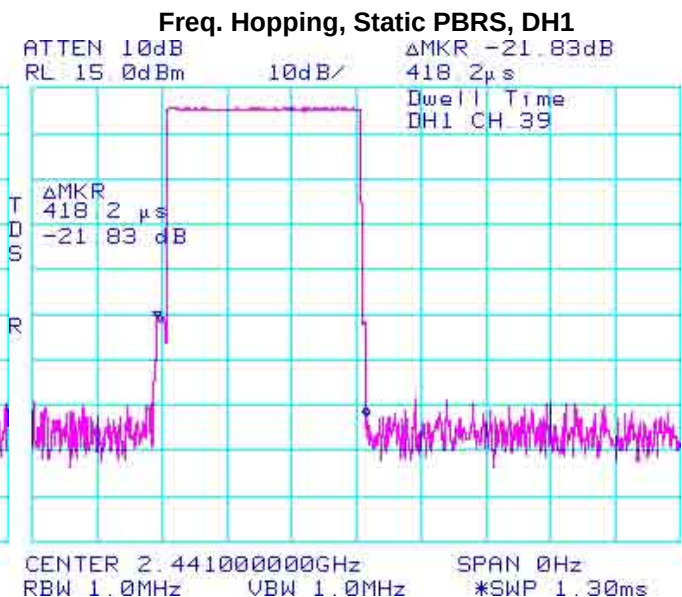
See figures 3-13 to 3-21 for the plots of the dwell time.

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-13: Time of Occupancy (Dwell Time)**



**Figure 3-14: Time of Occupancy (Dwell Time)**

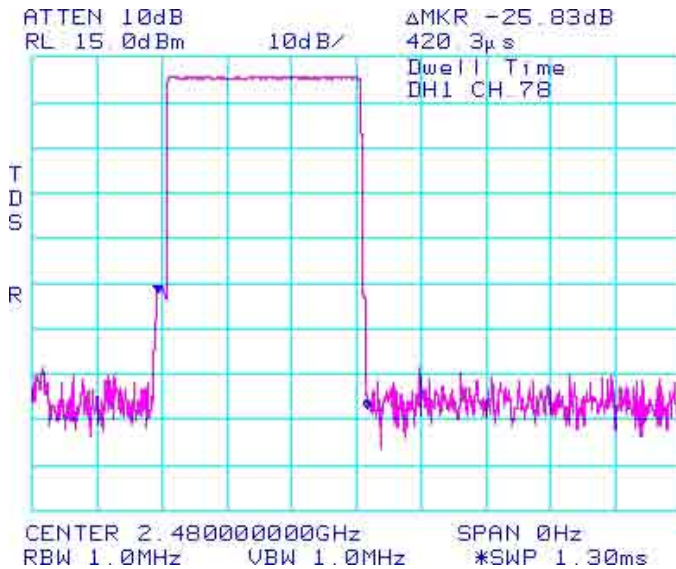




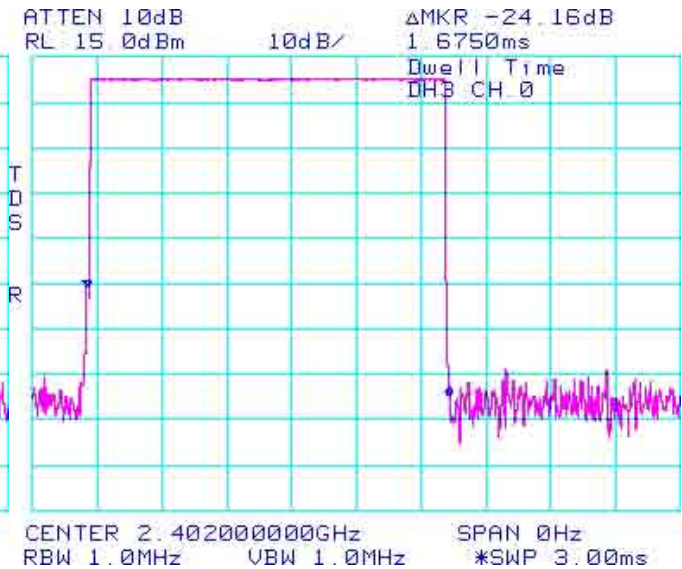
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

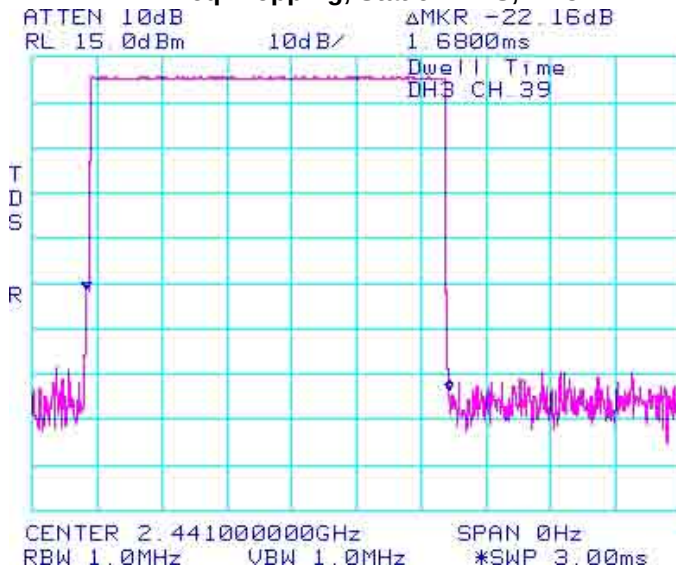
**Figure 3-15: Time of Occupancy (Dwell Time)**  
**Freq. Hopping, Static PBRS, DH1**



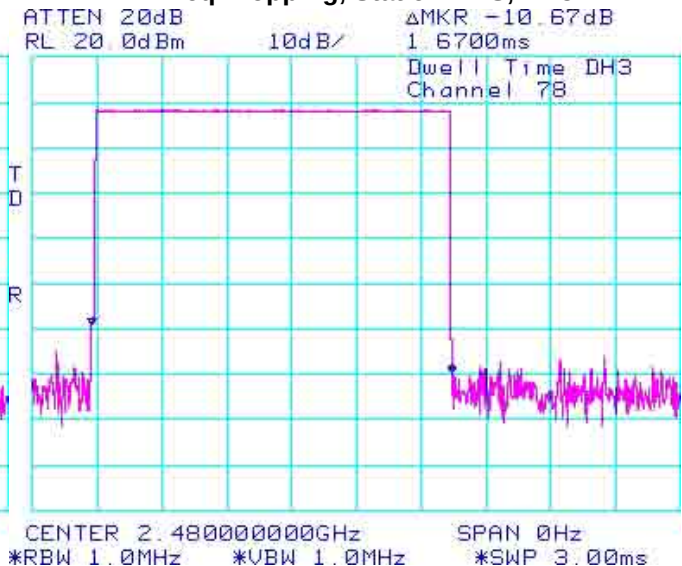
**Figure 3-16: Time of Occupancy (Dwell Time)**  
**Freq. Hopping, Static PBRS, DH3**



**Figure 3-17: Time of Occupancy (Dwell Time)**  
**Freq. Hopping, Static PBRS, DH3**



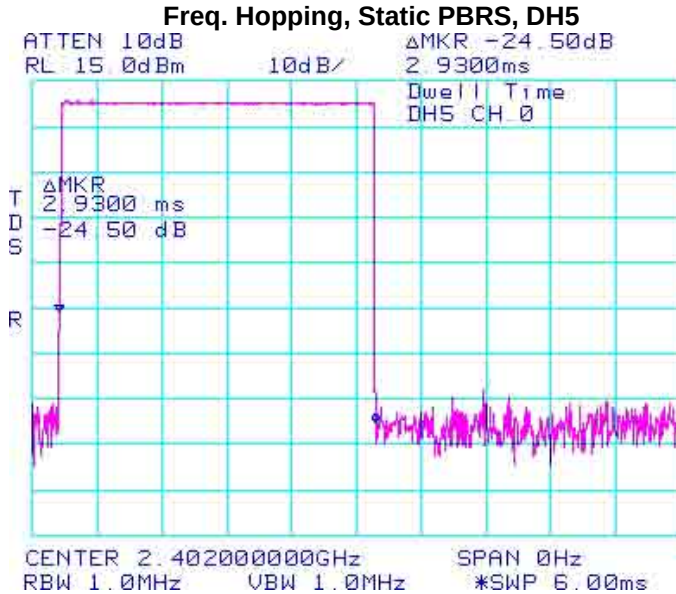
**Figure 3-18 : Time of Occupancy (Dwell Time)**  
**Freq. Hopping, Static PBRS, DH3**



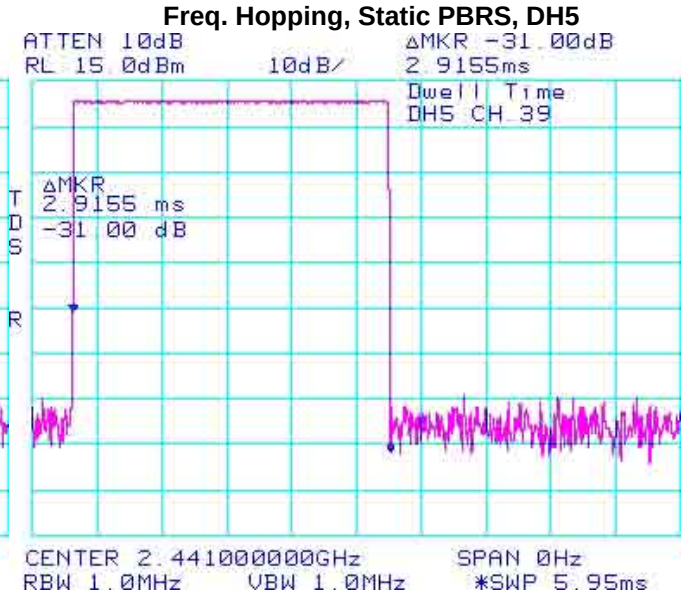
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

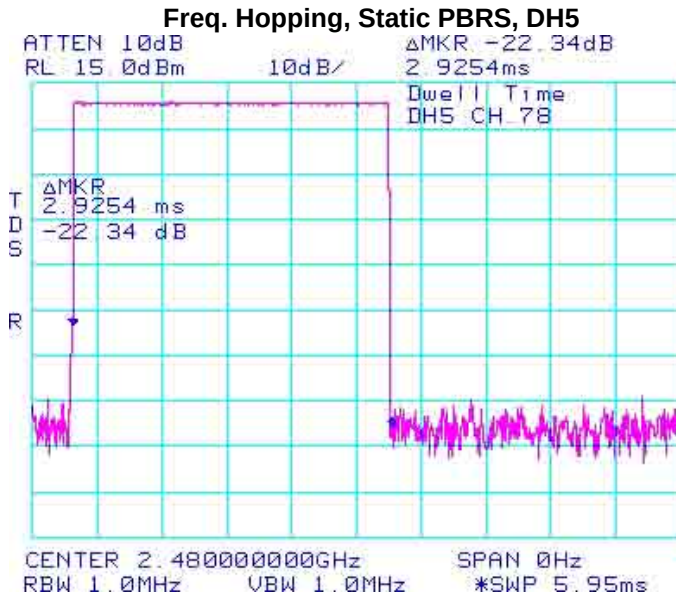
**Figure 3-19: Time of Occupancy (Dwell Time)**



**Figure 3-20: Time of Occupancy (Dwell Time)**



**Figure 3-21: Time of Occupancy (Dwell Time)**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### Maximum Peak Conducted Output Power

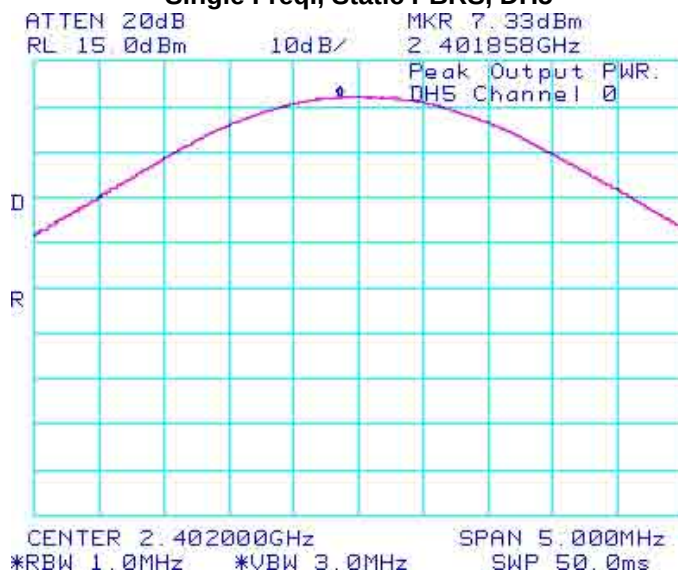
The EUT met the requirements of the maximum peak conducted output power of class 1 as per 47 CFR 15.247(b) and RSS-210. Low channel (0), middle channel (39) and high channel (78) were measured. Bluetooth was operating in single frequency mode during the measurements. A reference offset of 12.4 dB was applied to the spectrum analyzer reference level for the coaxial cable loss and attenuators in the test circuit.

Using pattern type "Static PBRs" and packet type "DH5" during the measurements.

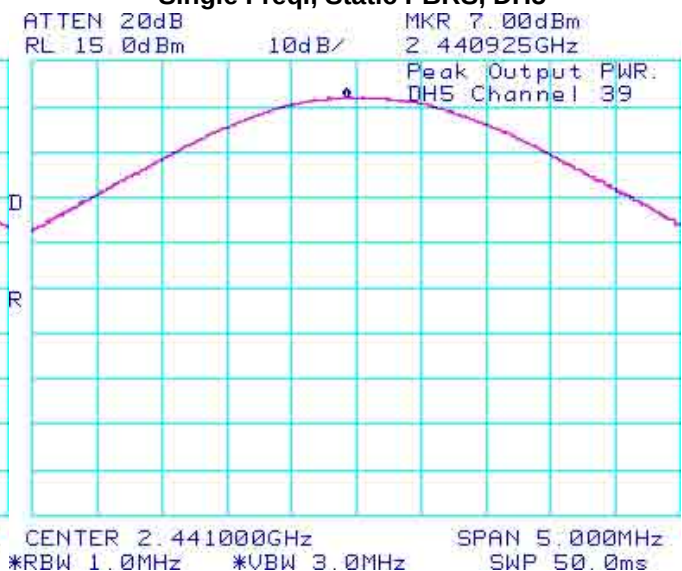
| Bluetooth Channel | Measured Level (dBm) | Measured Level (W) | Class 1 Limit (dBm) |
|-------------------|----------------------|--------------------|---------------------|
| 0                 | 7.33                 | 0.00541            | 0.0 to 20.0         |
| 39                | 7.00                 | 0.00501            | 0.0 to 20.0         |
| 78                | 6.67                 | 0.00465            | 0.0 to 20.0         |

See figures 3-22 to 3-24 for the plots of the maximum peak conducted output power.

**Figure 3-22: Max. Peak Conducted Output Power**  
Single Freq., Static PBRs, DH5



**Figure 3-23: Max. Peak Conducted Output Power**  
Single Freq., Static PBRs, DH5

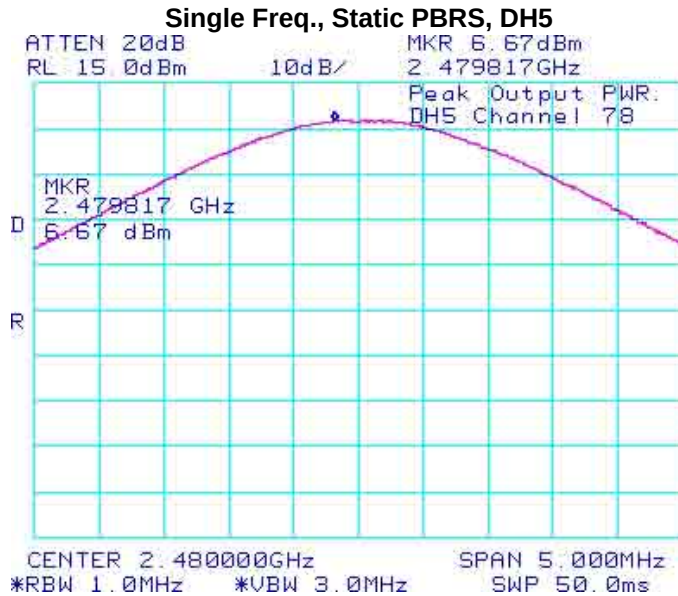




|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-24: Max. Peak Conducted Output Power**



Using Pattern type “Static PBRs” and packet type “3-DH5” during the measurements.

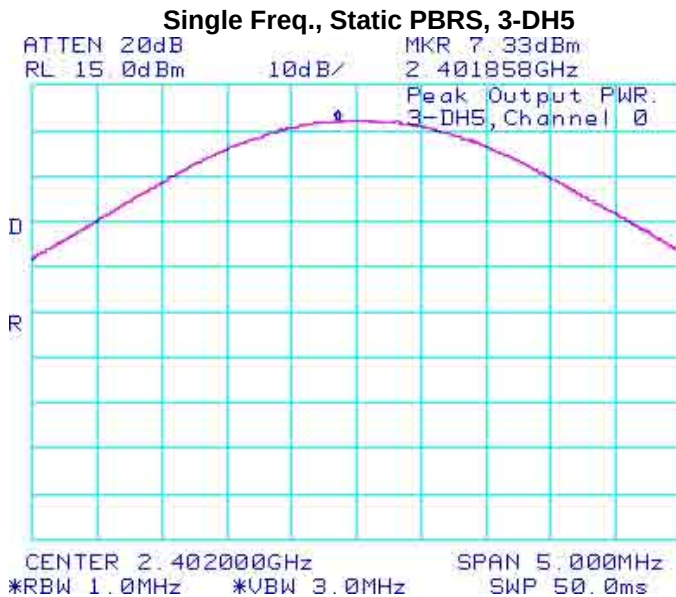
| Bluetooth Channel | Measured Level (dBm) | Measured Level (W) | Class 1 Limit (dBm) |
|-------------------|----------------------|--------------------|---------------------|
| 0                 | 7.33                 | 0.00541            | 0.0 to 20.0         |
| 39                | 7.00                 | 0.00501            | 0.0 to 20.0         |
| 78                | 6.67                 | 0.00465            | 0.0 to 20.0         |

See figures 3-25 to 3-27 for the plots of the maximum peak conducted output power.

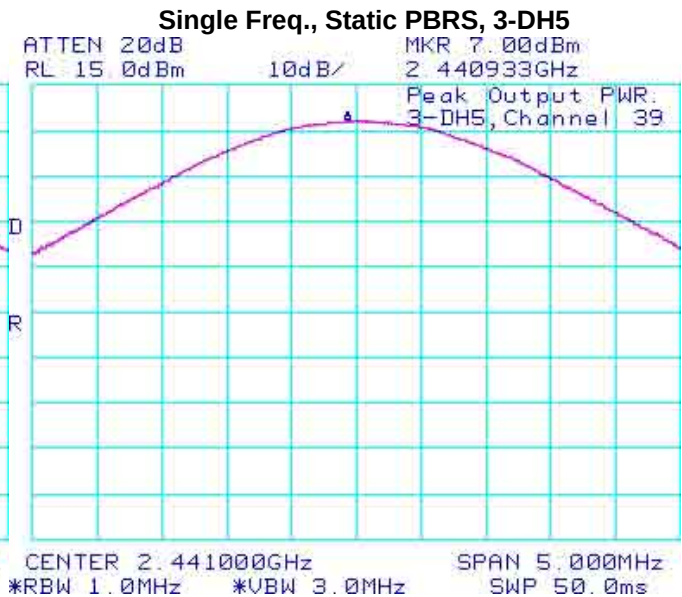
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

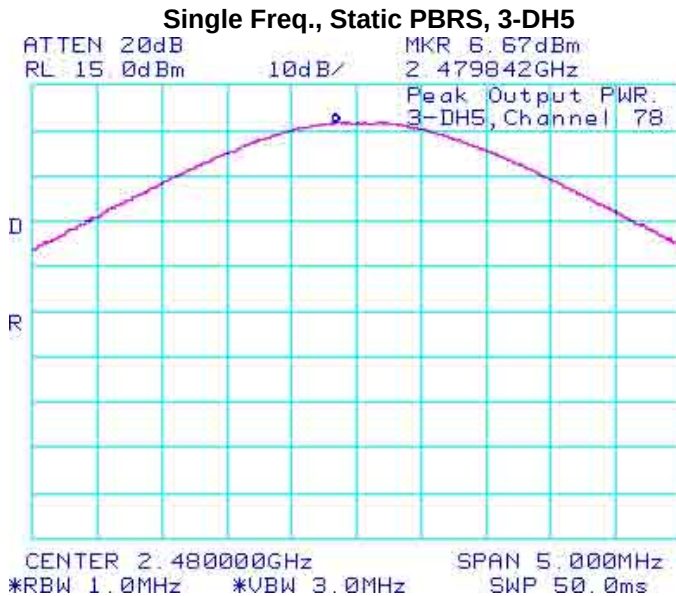
**Figure 3-25: Max. Peak Conducted Output Power**



**Figure 3-26: Max. Peak Conducted Output Power**



**Figure 3-27: Max. Peak Conducted Output Power**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### **Band Edge Compliance**

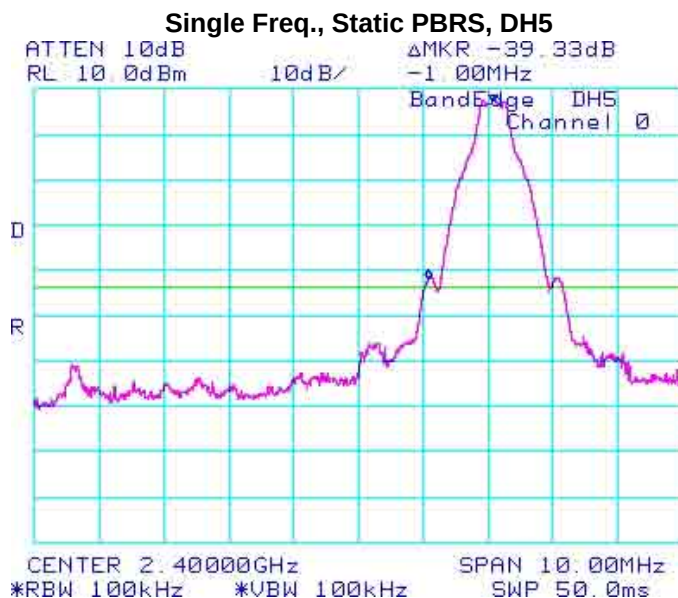
The EUT met the requirements of the band edge compliance as per 47 CFR 15.247(c) and RSS-210. Low channel (0) and high channel (78) were measured. Bluetooth was operating in single frequency and hopping mode.

Using pattern type "Static PBRS" and packet type "DH5" during the measurements.

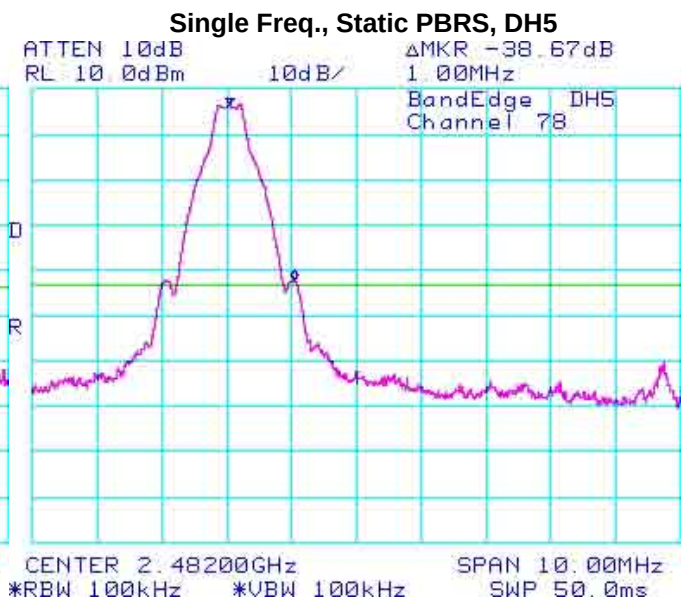
| Bluetooth Channel | Operating Mode   | Measured Level (dBc) | Limit (dBc) | Margin (dB) |
|-------------------|------------------|----------------------|-------------|-------------|
| 0                 | Single Frequency | -39.33               | -20         | -19.33      |
| 78                | Single Frequency | -38.67               | -20         | -18.67      |
| 0                 | Hopping          | -41.34               | -20         | -21.34      |
| 78                | Hopping          | -39.34               | -20         | -19.34      |

See figures 3-28 to 3-31 for the plots of the band edge compliance measurements.

**Figure 3-28: Band Edge Compliance**



**Figure 3-29: Band Edge Compliance**



|                                                                                   |                                                |                                                              |  |
|-----------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------|--|
|  |                                                | EMI Test Report for the BlackBerry® smartphone Model RDH71CW |  |
|                                                                                   |                                                | <b>APPENDIX 3</b>                                            |  |
| Test Report No.<br>RTS-2605-1105-03                                               | Dates of Test<br>February 14 to April 19, 2011 | FCC ID: L6ARDH70CW<br>IC: 2503A-RDH70CW                      |  |

### Bluetooth RF Conducted Emission Test Results cont'd

Figure 3-30: Band Edge Compliance

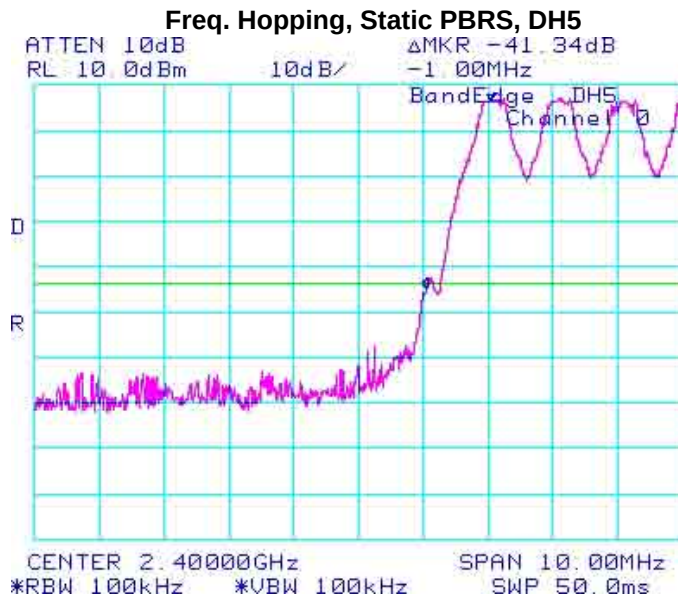
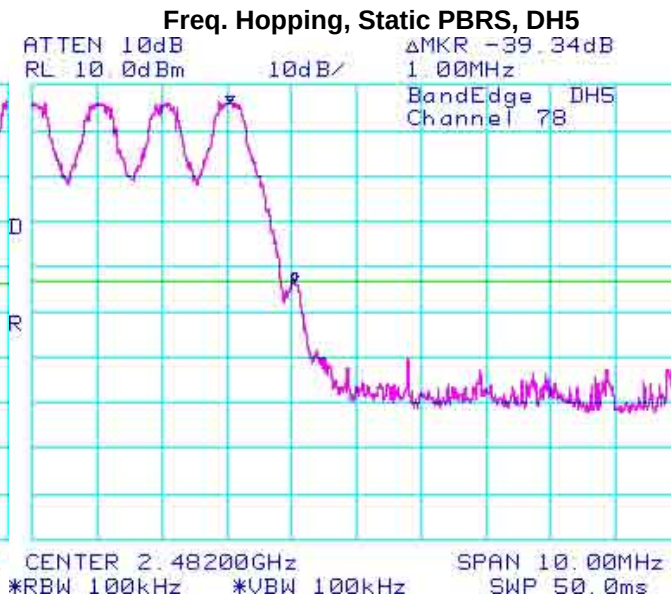


Figure 3-31: Band Edge Compliance



Using pattern type "Static PBRS" and packet type "3-DH5" during the measurements.

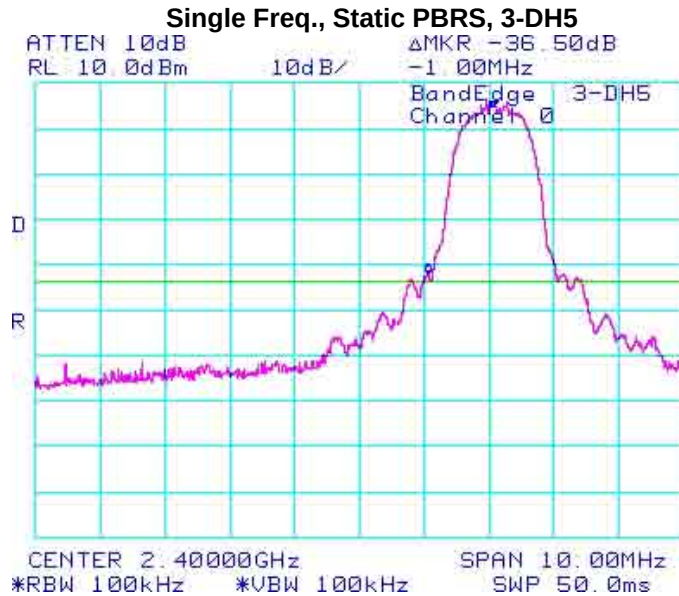
| Bluetooth Channel | Operating Mode   | Measured Level (dBc) | Limit (dBc) | Margin (dB) |
|-------------------|------------------|----------------------|-------------|-------------|
| 0                 | Single Frequency | -36.50               | -20         | -16.50      |
| 78                | Single Frequency | -28.33               | -20         | -8.33       |
| 0                 | Hopping          | -34.50               | -20         | -14.50      |
| 78                | Hopping          | -29.16               | -20         | -9.16       |

See figures 3-32 to 3-35 for the plots of the band edge compliance measurements.

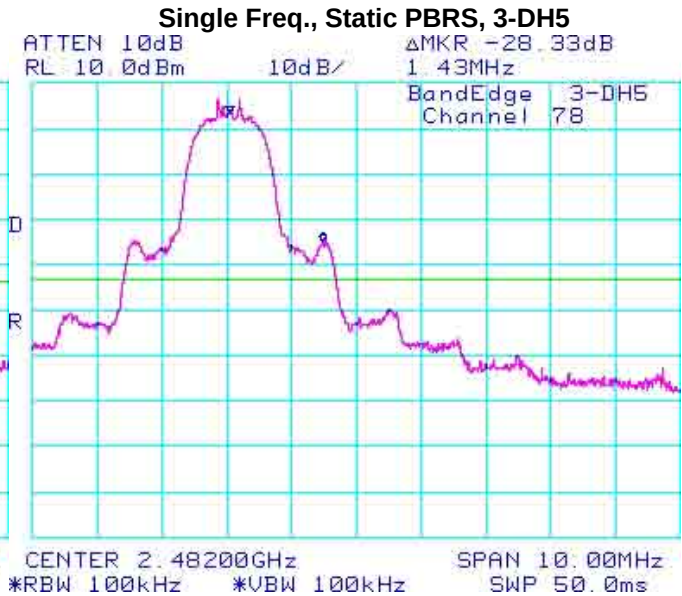
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

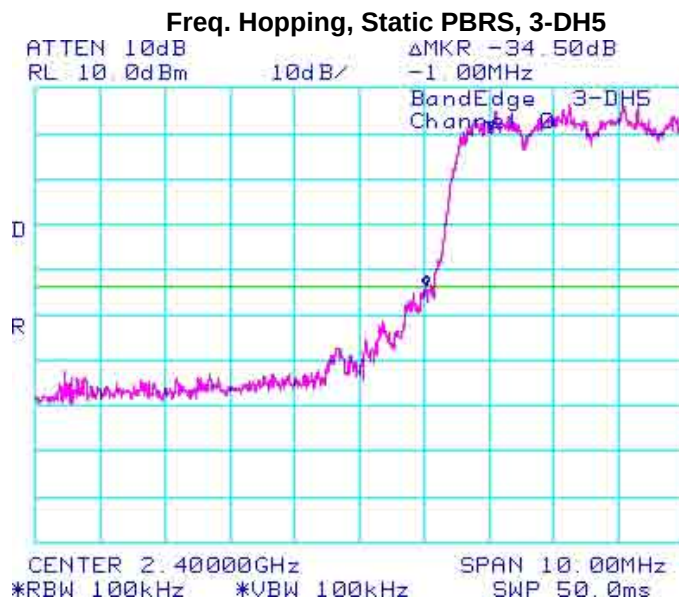
**Figure 3-32: Band Edge Compliance**



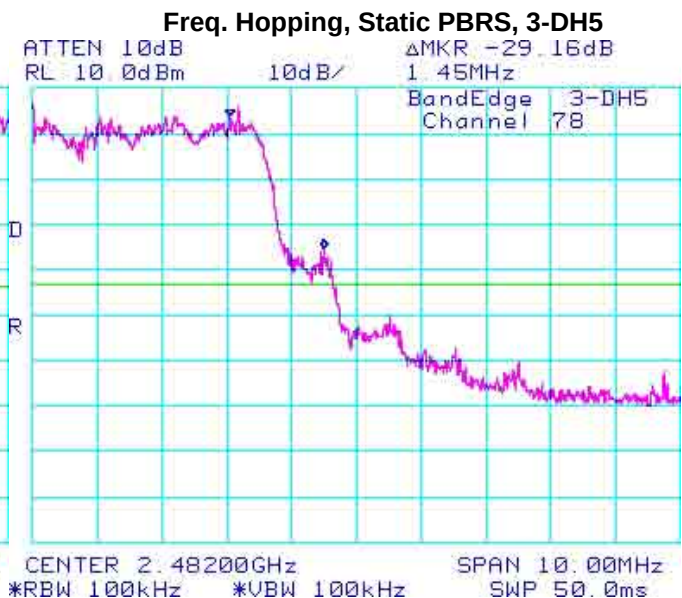
**Figure 3-33: Band Edge Compliance**



**Figure 3-34: Band Edge Compliance**



**Figure 3-35: Band Edge Compliance**





|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

#### **Spurious RF Conducted Emissions**

The EUT met the requirements of the spurious RF conducted emissions as per 47 CFR 15.247(c) and RSS-210. Low channel (0), mid channel (39) and high channel (78) were measured. Bluetooth was operating in single frequency and hopping mode. A reference offset of 12.4 dB was applied to the spectrum analyzer reference level for the attenuators and coaxial cable loss in the test circuit.

Using pattern type "Static PBRS" and packet type "DH5" during the measurements.

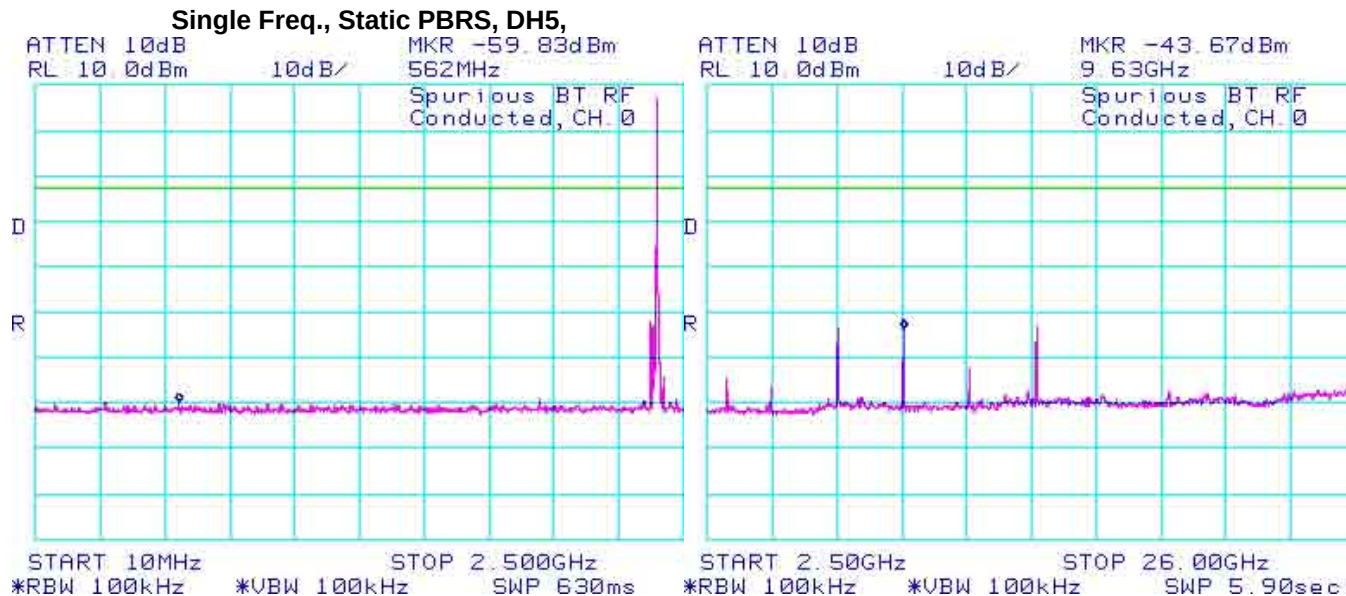
| Bluetooth Channel | Channel Power (dBm) | Max. Measured Level (dBm) | Max. Measured Level from carrier (dBc) | Limit (dBc) |
|-------------------|---------------------|---------------------------|----------------------------------------|-------------|
| 0                 | 7.33                | -43.67                    | -51.00                                 | -20         |
| 39                | 7.00                | -41.83                    | -48.83                                 | -20         |
| 78                | 6.67                | -40.00                    | -46.67                                 | -20         |
| Hopping mode      | 6.67                | -40.33                    | -47.00                                 | -20         |

See figures 3-36 to 3-39 for the plots of the spurious RF conducted emissions.

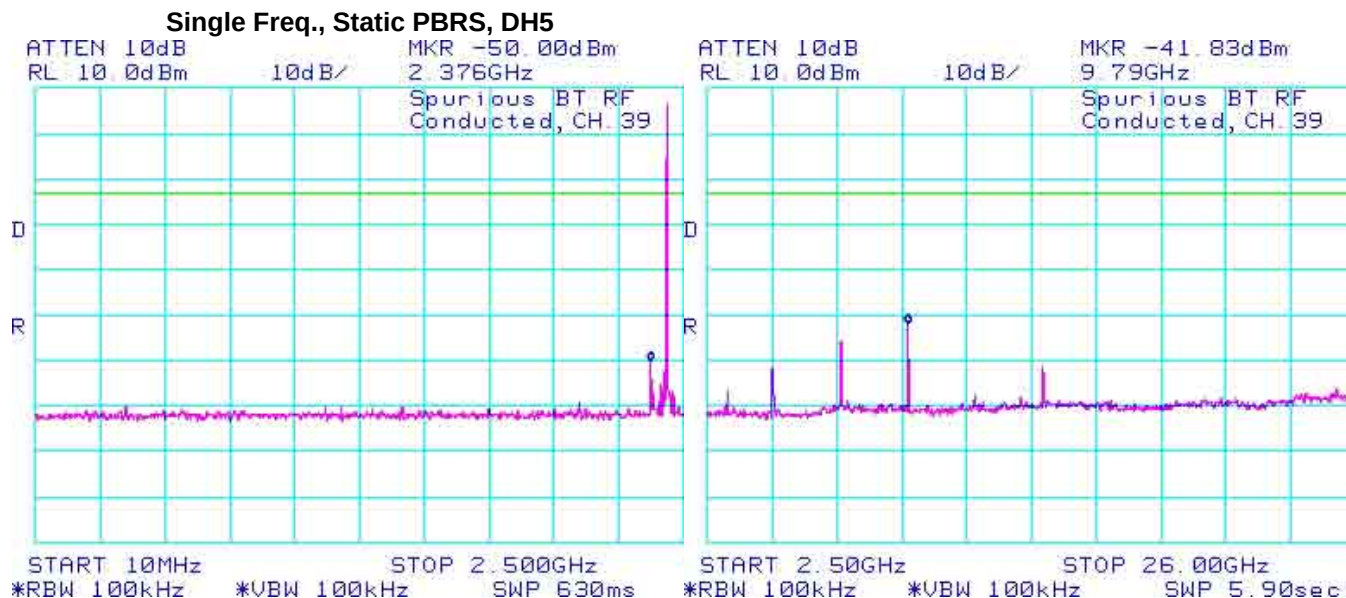
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-36: Spurious RF Conducted Emissions**



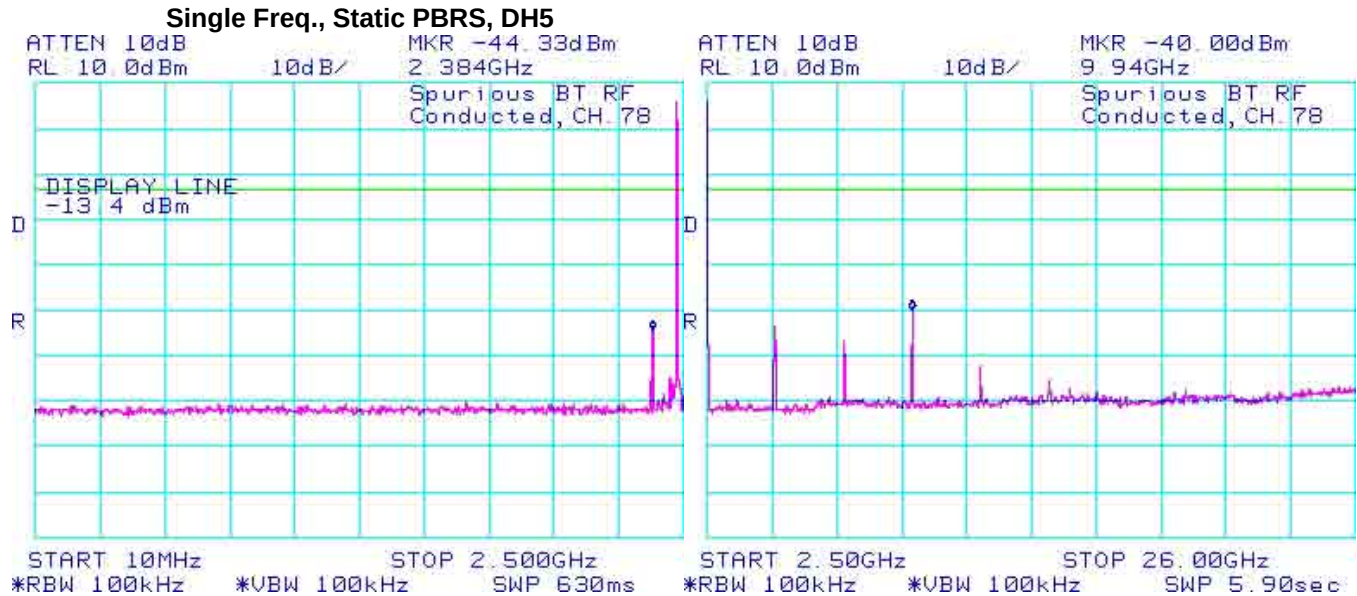
**Figure 3-37: Spurious RF Conducted Emissions**



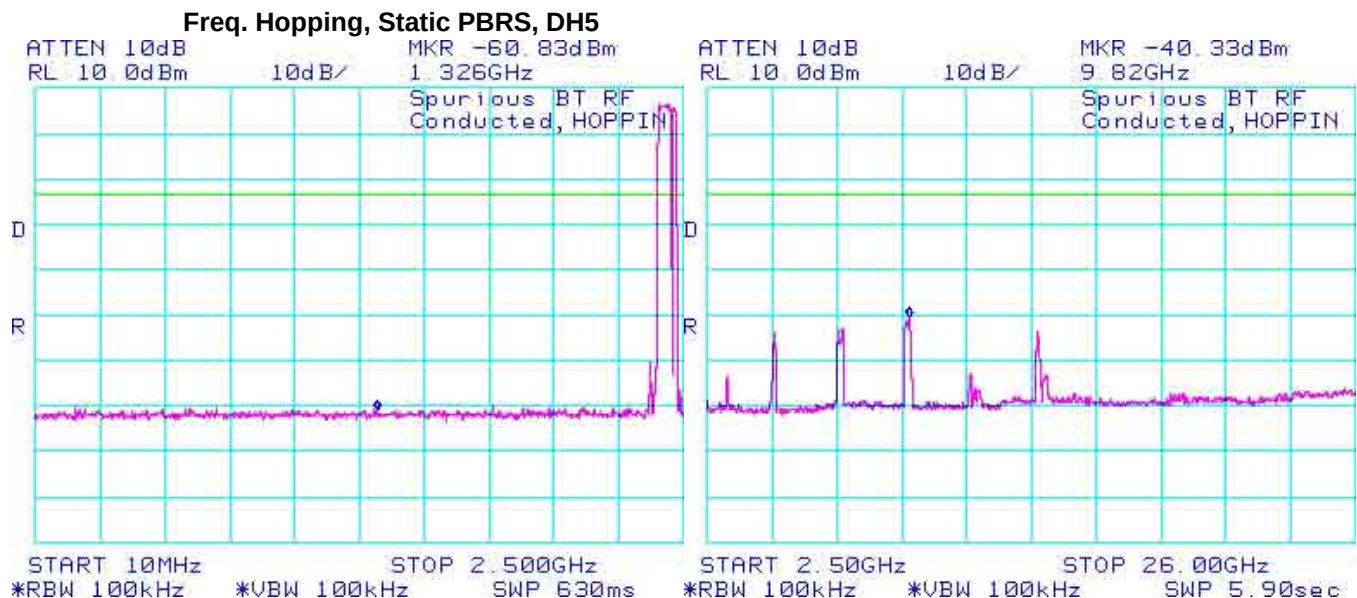
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-38: Spurious RF Conducted Emissions**



**Figure 3-39: Spurious RF Conducted Emissions**





|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

Using pattern type "Static PBRS" and packet type "3-DH5" during the measurements.

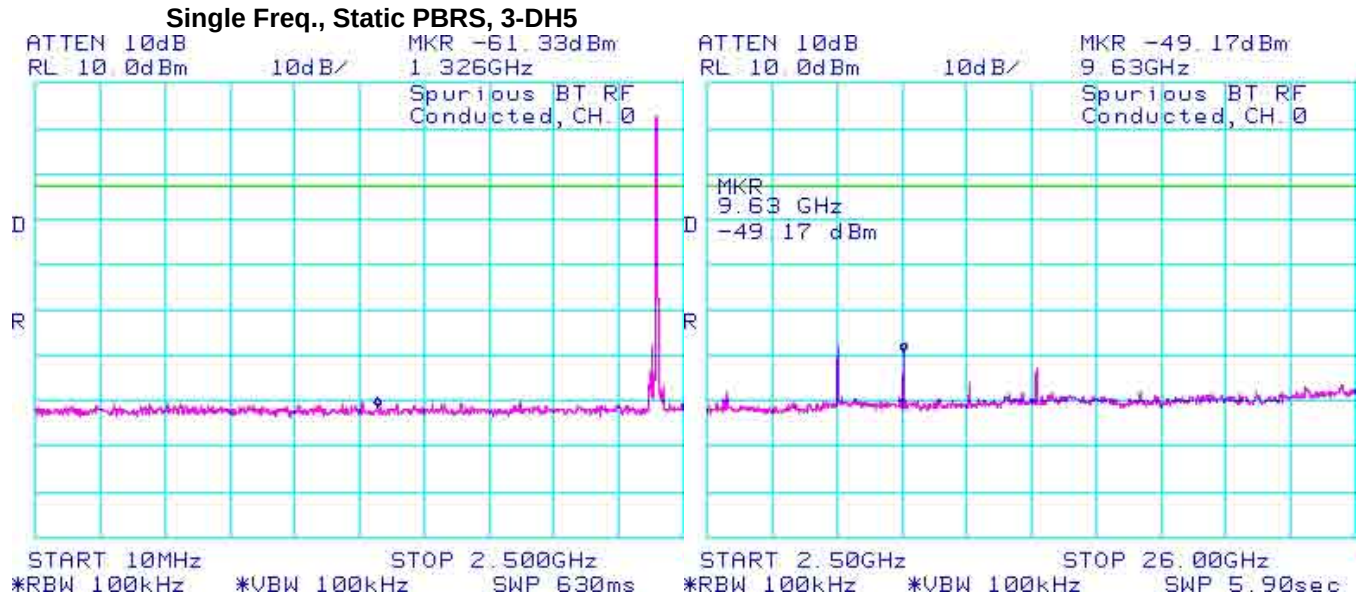
| Bluetooth Channel | Channel Power (dBm) | Max. Measured Level (dBm) | Max. Measured Level from carrier (dBc) | Limit (dBc) |
|-------------------|---------------------|---------------------------|----------------------------------------|-------------|
| 0                 | 7.33                | -49.17                    | -56.50                                 | -20         |
| 39                | 7.00                | -45.50                    | -52.50                                 | -20         |
| 78                | 6.67                | -45.17                    | -51.84                                 | -20         |
| Hopping mode      | 6.67                | -48.83                    | -55.50                                 | -20         |

See figures 3-40 to 3-43 for the plots of the spurious RF conducted emissions.

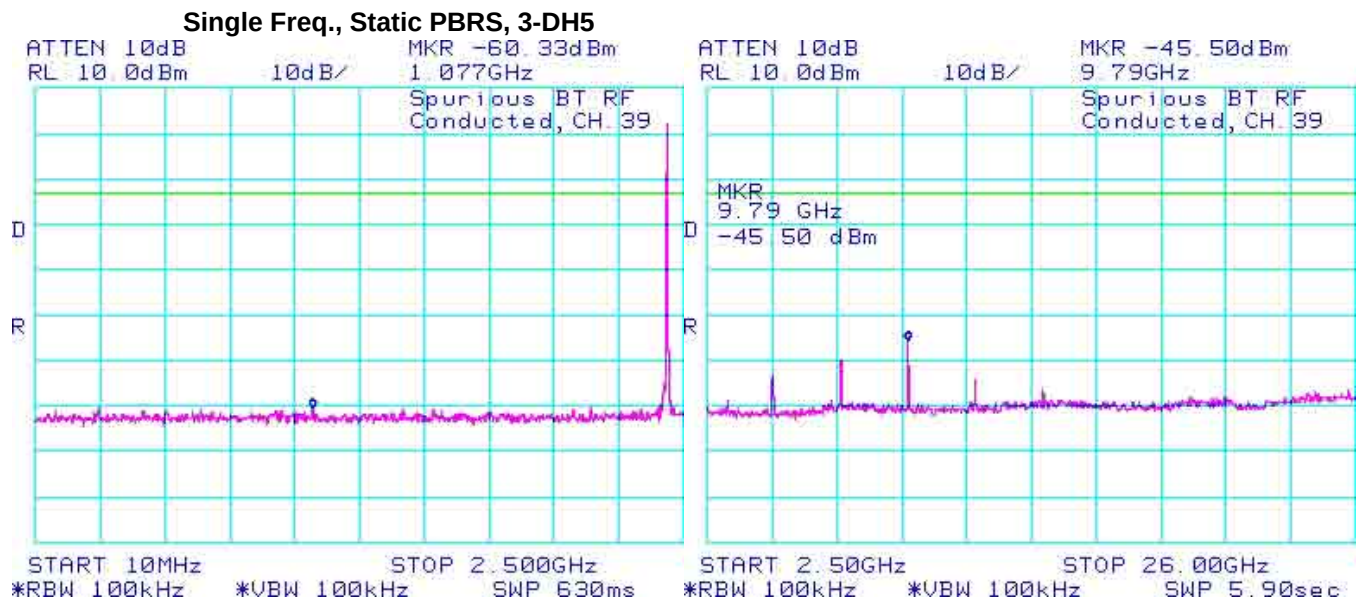
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-40 : Spurious RF Conducted Emissions**



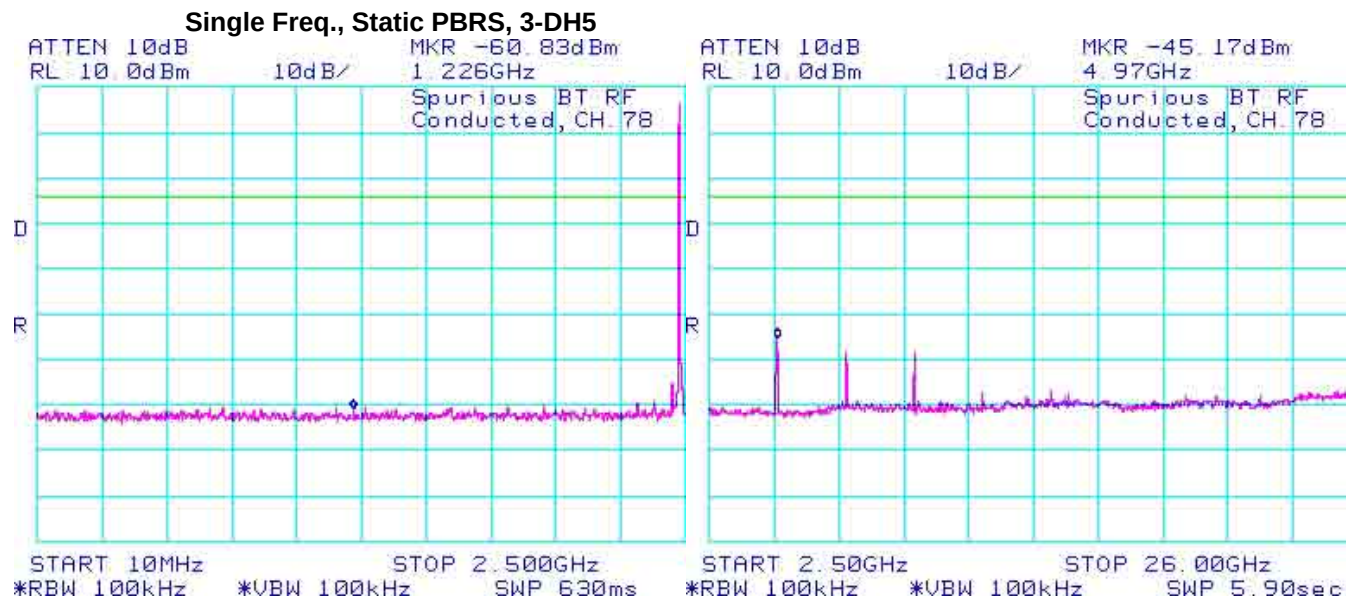
**Figure 3-41: Spurious RF Conducted Emissions**



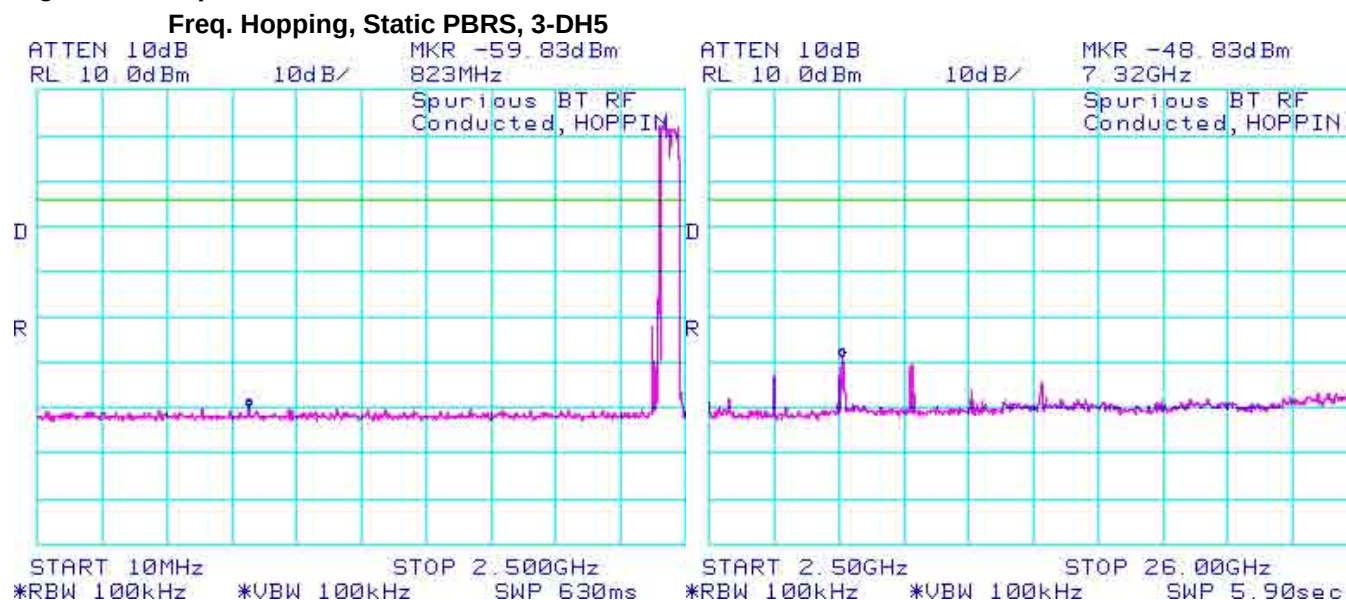
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 3</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### Bluetooth RF Conducted Emission Test Results cont'd

**Figure 3-42: Spurious RF Conducted Emissions**



**Figure 3-43 : Spurious RF Conducted Emissions**



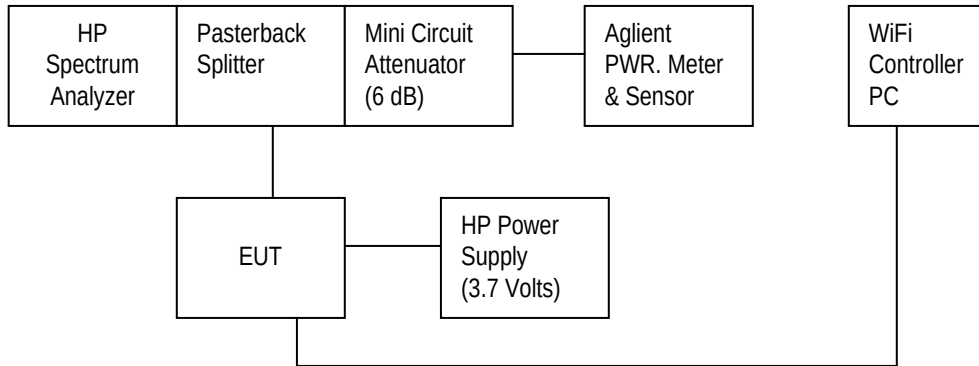
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## APPENDIX 4 – 802.11b/g/n CONDUCTED EMISSIONS TEST DATA/PLOTS

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### **802.11b/g/n RF Conducted Emission Test Results**

#### **Test Setup Diagram**



A reference offset of 20.4 dB was applied to the spectrum analyzer and 6.6 dB was applied to the Power Meter reference level for the attenuators and coaxial cable loss in the test circuit.

Date of test: February 14, 2011

The measurements on the BlackBerry® smartphone were performed by Maurice Battler.

The environmental test conditions were:      Temperature:      24 °C  
                                                                  Relative Humidity:      32 %

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

### 6 dB Bandwidth

The EUT met the requirements of the 6 dB bandwidth as per 47 CFR 15.247(a)(2) and RSS-210. Channels 1, 6 and 11 were measured at 1 Mbps, 5.5 Mbps, and 11Mbps each for 802.11b mode, 6 Mbps, 24 Mbps, and 54 Mbps each for 802.11g mode, and MCS 0, 4, and 7 for 802.11n mode.

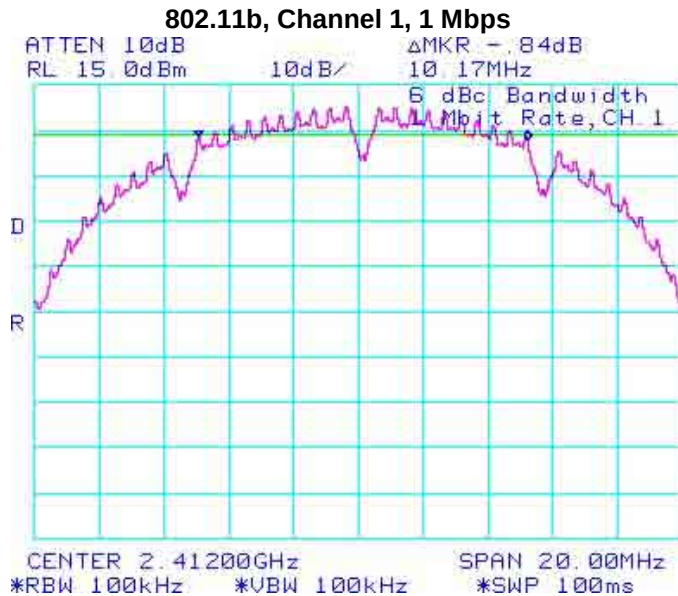
| Channel | Data Rate | Limit (kHz) | Measured Level (MHz) |
|---------|-----------|-------------|----------------------|
| 1       | 1 Mbps    | ≥ 500       | 10.17                |
|         | 5.5 Mbps  | ≥ 500       | 10.27                |
|         | 11 Mbps   | ≥ 500       | 10.77                |
|         | 6 Mbps    | ≥ 500       | 16.17                |
|         | 24 Mbps   | ≥ 500       | 16.60                |
|         | 54 Mbps   | ≥ 500       | 16.57                |
|         | MCS 0     | ≥ 500       | 17.03                |
|         | MCS 4     | ≥ 500       | 17.73                |
|         | MCS 7     | ≥ 500       | 17.73                |
| 6       | 1 Mbps    | ≥ 500       | 10.10                |
|         | 5.5 Mbps  | ≥ 500       | 11.17                |
|         | 11 Mbps   | ≥ 500       | 11.23                |
|         | 6 Mbps    | ≥ 500       | 16.43                |
|         | 24 Mbps   | ≥ 500       | 16.60                |
|         | 54 Mbps   | ≥ 500       | 16.63                |
|         | MCS 0     | ≥ 500       | 17.07                |
|         | MCS 4     | ≥ 500       | 17.83                |
|         | MCS 7     | ≥ 500       | 17.80                |
| 11      | 1 Mbps    | ≥ 500       | 10.13                |
|         | 5.5 Mbps  | ≥ 500       | 11.20                |
|         | 11 Mbps   | ≥ 500       | 11.17                |
|         | 6 Mbps    | ≥ 500       | 16.47                |
|         | 24 Mbps   | ≥ 500       | 16.60                |
|         | 54 Mbps   | ≥ 500       | 16.60                |
|         | MCS 0     | ≥ 500       | 17.17                |
|         | MCS 4     | ≥ 500       | 17.80                |
|         | MCS 7     | ≥ 500       | 17.87                |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

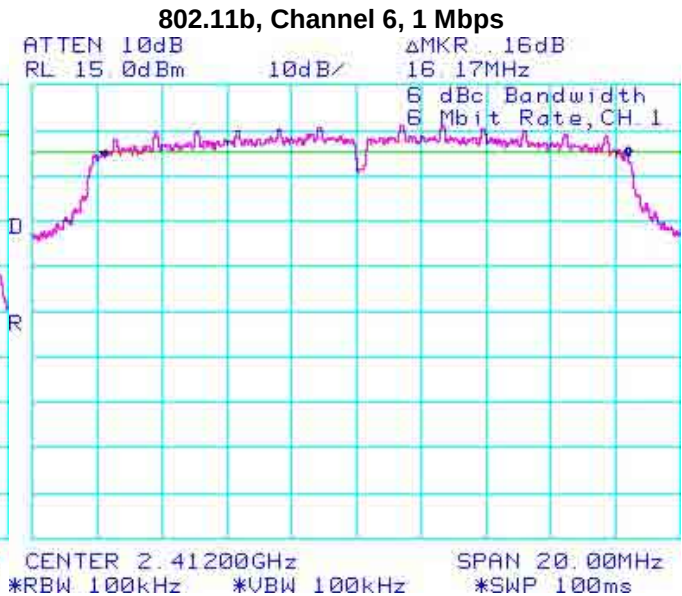
## 802.11b/g/n RF Conducted Emission Test Results cont'd

See figures 4-1 to 4-9 for the plots of the 6 dB bandwidth measurements for Channels 1, 6, and 11, at 1 Mbps each for 802.11b mode, 6 Mbps each for 802.11g mode, and MCS 0 each for 802.11n mode.

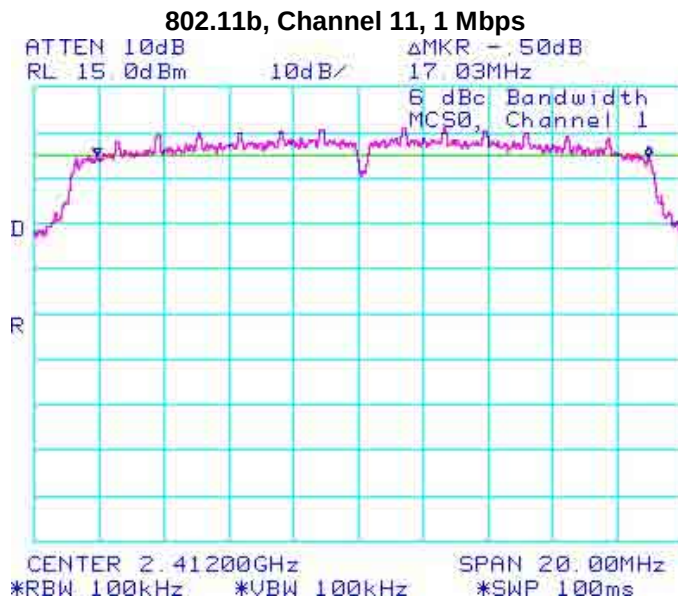
**Figure 4-1: 6 dB Bandwidth**



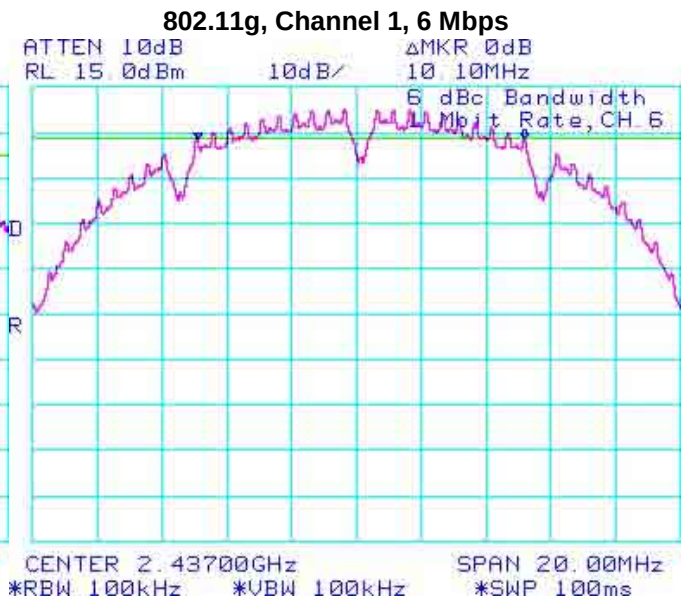
**Figure 4-2: 6 dB Bandwidth**



**Figure 4-3: 6 dB Bandwidth**



**Figure 4-4: 6 dB Bandwidth**

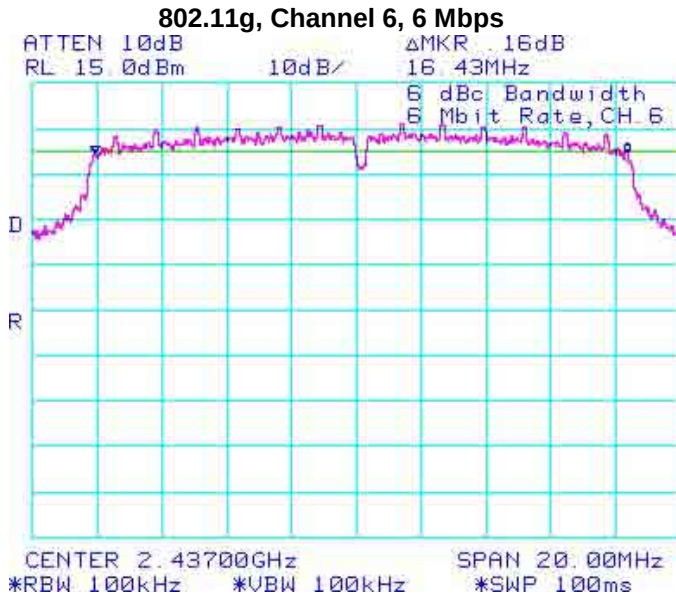




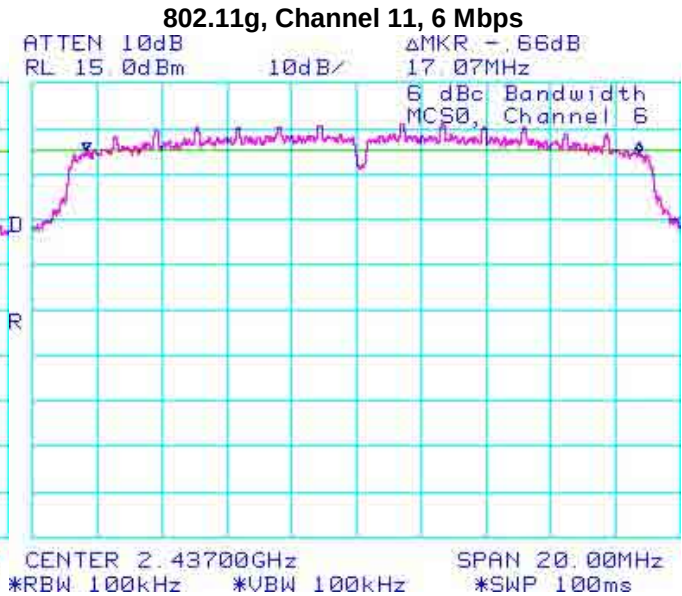
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

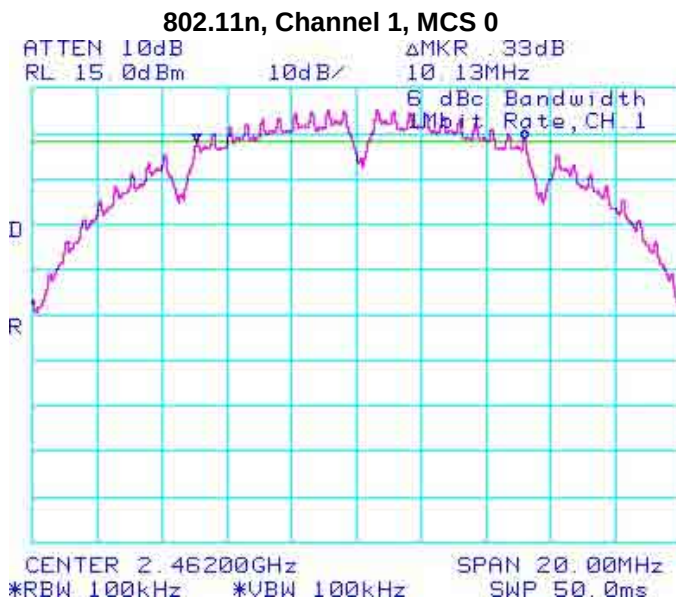
**Figure 4-5: 6 dB Bandwidth**



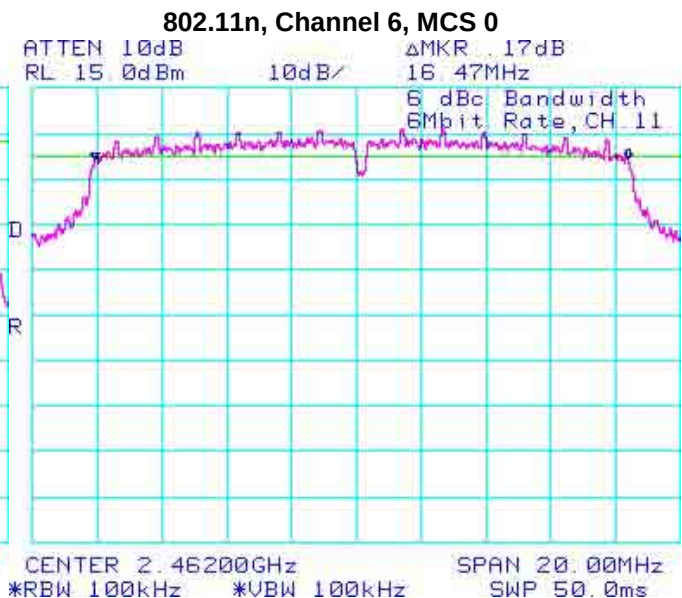
**Figure 4-6: 6 dB Bandwidth**



**Figure 4-7: 6 dB Bandwidth**

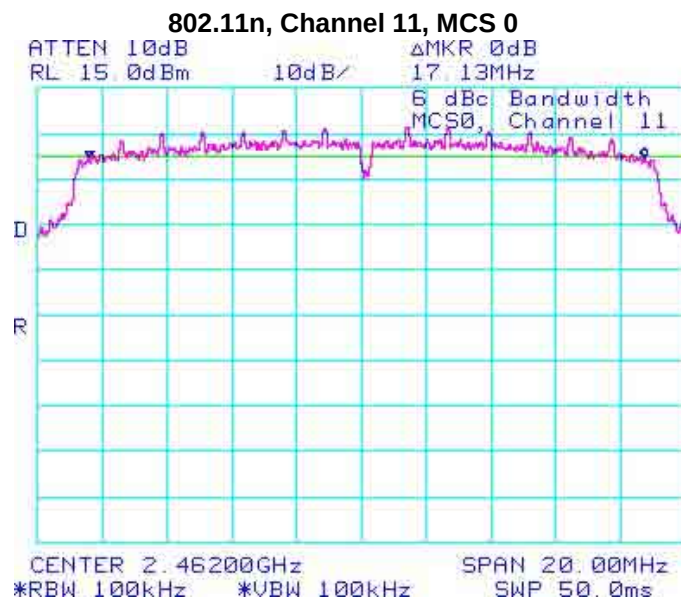


**Figure 4-8: 6 dB Bandwidth**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

**Figure 4-9: 6 dB Bandwidth**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

#### **Maximum Conducted Output Power**

The EUT met the requirements of the maximum conducted output power of class 1 as per 47 CFR 15.247(b)(3) and RSS-210. Channels 1, 6 and 11 were measured at 1 Mbps, 5.5 Mbps, and 11 Mbps each for 802.11b mode, 6 Mbps, 24 Mbps, and 54 Mbps each for 802.11g mode, and MCS 0, 4 and 7 for 802.11n mode using an Agilent power meter, model N1911A with model N1921A power sensor. A reference offset of 18.4 dB was applied to the power meter reference level for the coaxial cable loss and attenuators in the test circuit.

| Channel | Data Rate | Class 2 Limit (W) | Measured Level (dBm) | Measured Level (mW) |
|---------|-----------|-------------------|----------------------|---------------------|
| 1       | 1 Mbps    | < 1.00            | 17.92                | 61.94               |
|         | 5.5 Mbps  | < 1.00            | 17.83                | 60.67               |
|         | 11 Mbps   | < 1.00            | 17.83                | 60.67               |
|         | 6 Mbps    | < 1.00            | 16.60                | 45.71               |
|         | 24 Mbps   | < 1.00            | 15.16                | 32.81               |
|         | 54 Mbps   | < 1.00            | 15.19                | 33.04               |
|         | MCS 0     | < 1.00            | 16.59                | 45.60               |
|         | MCS 4     | < 1.00            | 15.08                | 32.21               |
|         | MCS 7     | < 1.00            | 14.82                | 30.34               |
| 6       | 1 Mbps    | < 1.00            | 18.15                | 65.31               |
|         | 5.5 Mbps  | < 1.00            | 18.17                | 65.61               |
|         | 11 Mbps   | < 1.00            | 18.10                | 64.57               |
|         | 6 Mbps    | < 1.00            | 16.99                | 50.00               |
|         | 24 Mbps   | < 1.00            | 15.42                | 34.83               |
|         | 54 Mbps   | < 1.00            | 15.28                | 33.73               |
|         | MCS 0     | < 1.00            | 16.80                | 47.86               |
|         | MCS 4     | < 1.00            | 15.44                | 34.99               |
|         | MCS 7     | < 1.00            | 15.05                | 31.99               |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

802.11b/g/n RF Conducted Emission Test Results cont'd

| Channel | Data Rate | Class 2<br>Limit (W) | Measured Level<br>(dBm) | Measured Level<br>(mW) |
|---------|-----------|----------------------|-------------------------|------------------------|
| 11      | 1 Mbps    | < 1.00               | 18.51                   | 70.96                  |
|         | 5.5 Mbps  | < 1.00               | 18.52                   | 71.12                  |
|         | 11 Mbps   | < 1.00               | 18.54                   | 71.45                  |
|         | 6 Mbps    | < 1.00               | 17.32                   | 53.95                  |
|         | 24 Mbps   | < 1.00               | 15.80                   | 38.02                  |
|         | 54 Mbps   | < 1.00               | 15.77                   | 37.76                  |
|         | MCS 0     | < 1.00               | 17.15                   | 51.88                  |
|         | MCS 4     | < 1.00               | 15.68                   | 36.98                  |
|         | MCS 7     | < 1.00               | 15.30                   | 33.88                  |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

#### **Band Edge Compliance**

The EUT met the requirements of the band edge compliance as per 47 CFR 15.247(c) and RSS-210. Channels 1 and 11 were measured at 1 Mbps, 5.5 Mbps, and 11 Mbps each for 802.11b mode, 6 Mbps, 24 Mbps, and 54 Mbps each for 802.11g mode, and MCS 0, 4 and 7 for 802.11n mode.

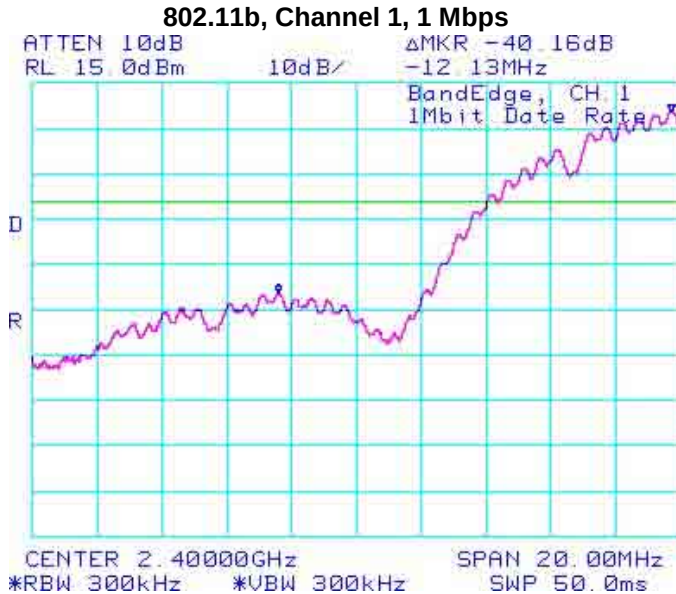
| Channel | Data Rate | Limit (dBc) | Measured Level (dBc) | Margin (dBc) |
|---------|-----------|-------------|----------------------|--------------|
| 1       | 1 Mbps    | < -20       | -40.16               | -20.16       |
|         | 5.5 Mbps  | < -20       | -42.00               | -22.00       |
|         | 11 Mbps   | < -20       | -41.00               | -21.00       |
|         | 6 Mbps    | < -20       | -25.33               | -5.33        |
|         | 24 Mbps   | < -20       | -28.00               | -8.00        |
|         | 54 Mbps   | < -20       | -28.01               | -8.01        |
|         | MCS 0     | < -20       | -24.17               | -4.17        |
|         | MCS 4     | < -20       | -26.67               | -6.67        |
|         | MCS 7     | < -20       | -28.16               | -8.16        |
| 11      | 1 Mbps    | < -20       | -43.33               | -23.33       |
|         | 5.5 Mbps  | < -20       | -48.50               | -28.50       |
|         | 11 Mbps   | < -20       | -48.00               | -28.00       |
|         | 6 Mbps    | < -20       | -31.66               | -11.66       |
|         | 24 Mbps   | < -20       | -37.16               | -17.16       |
|         | 54 Mbps   | < -20       | -39.00               | -19.00       |
|         | MCS 0     | < -20       | -30.84               | -10.84       |
|         | MCS 4     | < -20       | -37.33               | -17.33       |
|         | MCS 7     | < -20       | -38.83               | -18.83       |

See figures 4-10 to 4-15 for the plots of the band edge compliance measurements for Channels 1 and 11, at 1 Mbps each for 802.11b mode, 6 Mbps each for 802.11g mode, and MCS 0 each for 802.11n mode.

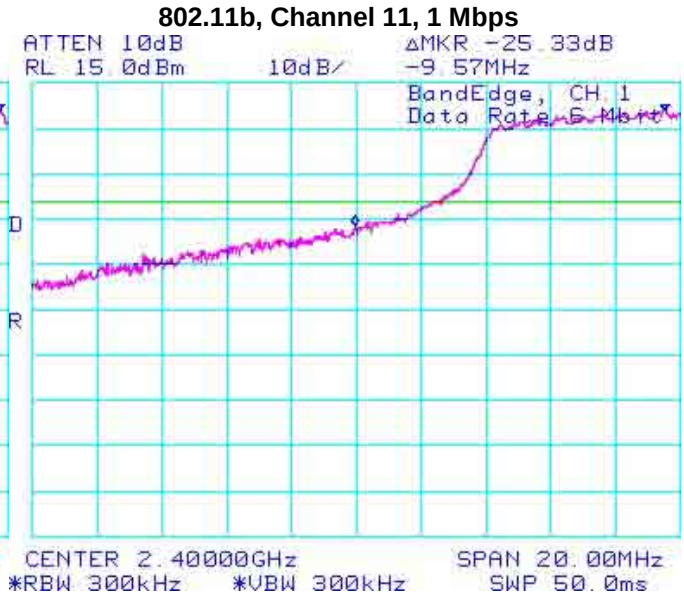
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

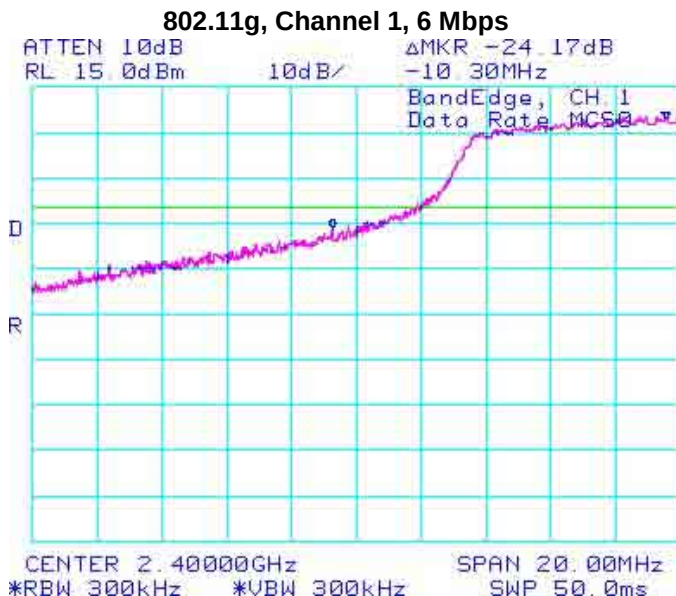
**Figure 4-10: Band Edge Compliance**



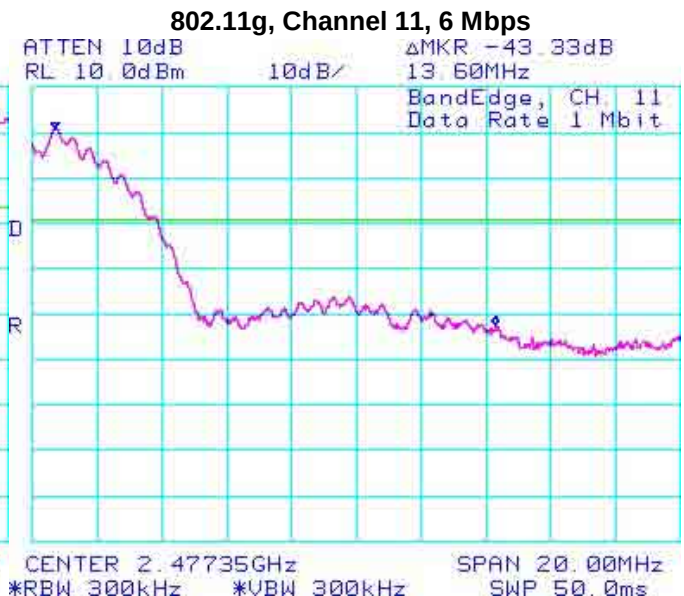
**Figure 4-11: Band Edge Compliance**



**Figure 4-12: Band Edge Compliance**



**Figure 4-13: Band Edge Compliance**

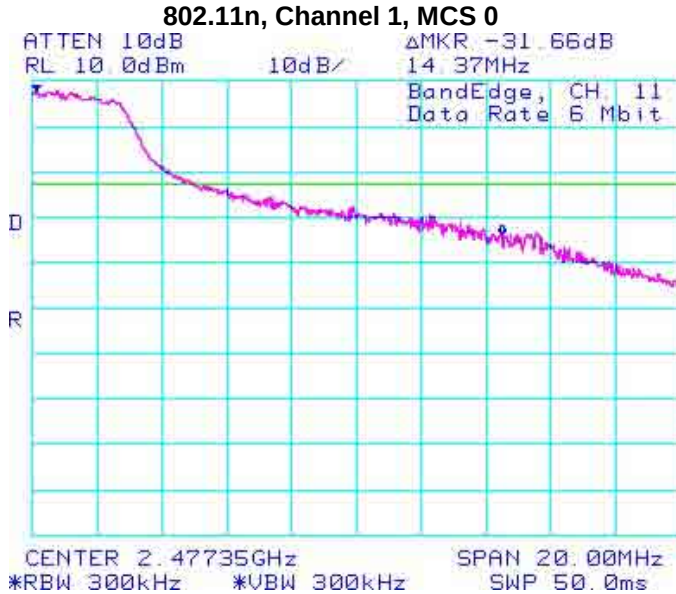




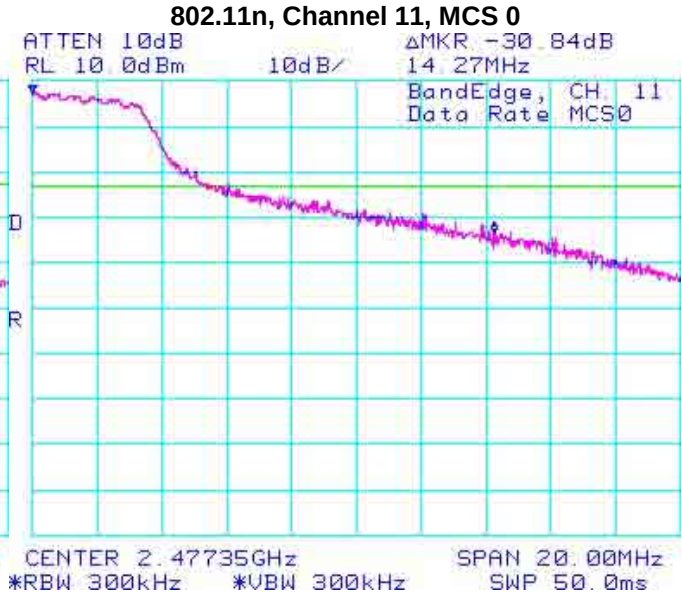
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-14: Band Edge Compliance**



**Figure 4-15: Band Edge Compliance**





|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

#### Peak Power Spectral Density

The EUT met the requirements of the peak power spectral density as per 47 CFR 15.247(d) and RSS-210. Channels 1, 6 and 11 were measured at 1 Mbps, 5.5 Mbps, and 11 Mbps each for 802.11b mode, 6 Mbps, 24 Mbps, and 54 Mbps each for 802.11g mode, and MCS 0, 4, and 7 for 802.11n mode.

| Channel | Data Rate | Limit (dBm) | Measured Level (dBm) | Margin (dBm) |
|---------|-----------|-------------|----------------------|--------------|
| 1       | 1 Mbps    | < 8.00      | -2.00                | -10.00       |
|         | 5.5 Mbps  | < 8.00      | -3.83                | -11.83       |
|         | 11 Mbps   | < 8.00      | -3.00                | -11.00       |
|         | 6 Mbps    | < 8.00      | -6.83                | -14.83       |
|         | 24 Mbps   | < 8.00      | -7.83                | -15.83       |
|         | 54 Mbps   | < 8.00      | -8.33                | -16.33       |
|         | MCS 0     | < 8.00      | -6.17                | -14.17       |
|         | MCS 4     | < 8.00      | -8.17                | -16.17       |
|         | MCS 7     | < 8.00      | -9.17                | -17.17       |
| 6       | 1 Mbps    | < 8.00      | -2.33                | -10.33       |
|         | 5.5 Mbps  | < 8.00      | -4.50                | -12.50       |
|         | 11 Mbps   | < 8.00      | -3.17                | -11.17       |
|         | 6 Mbps    | < 8.00      | -6.67                | -14.67       |
|         | 24 Mbps   | < 8.00      | -7.67                | -15.67       |
|         | 54 Mbps   | < 8.00      | -8.00                | -16.00       |
|         | MCS 0     | < 8.00      | -6.17                | -14.17       |
|         | MCS 4     | < 8.00      | -8.17                | -16.17       |
|         | MCS 7     | < 8.00      | -8.67                | -16.67       |
| 11      | 1 Mbps    | < 8.00      | -2.00                | -10.00       |
|         | 5.5 Mbps  | < 8.00      | -3.50                | -11.50       |
|         | 11 Mbps   | < 8.00      | -2.67                | -10.67       |
|         | 6 Mbps    | < 8.00      | -6.50                | -14.50       |
|         | 24 Mbps   | < 8.00      | -7.50                | -15.50       |
|         | 54 Mbps   | < 8.00      | -8.00                | -16.00       |
|         | MCS 0     | < 8.00      | -5.83                | -13.83       |
|         | MCS 4     | < 8.00      | -8.17                | -16.17       |
|         | MCS 7     | < 8.00      | -8.50                | -16.50       |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

See figures 4-16 to 4-24 for the plots of the peak power spectral density for Channels 1, 6 and 11, at 1 Mbps each for 802.11b mode, 6 Mbps each for 802.11g mode, and MCS 0 for 802.11n mode.

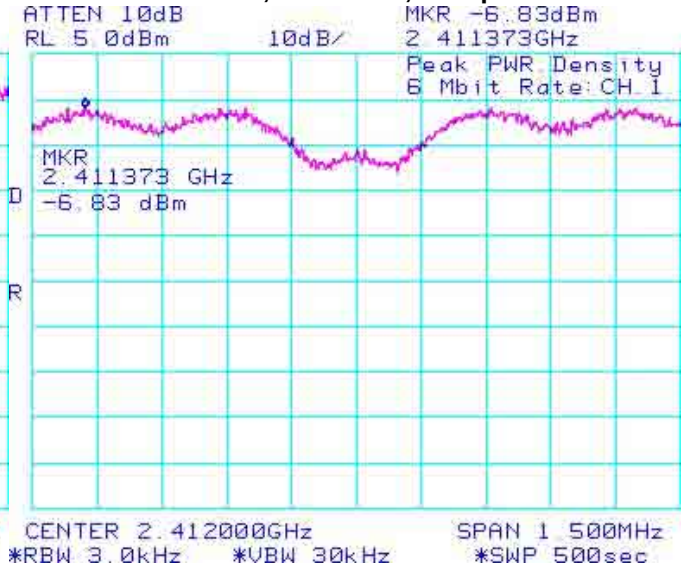
**Figure 4-16: Peak Power Spectral Density**

**802.11b, Channel 1, 1 Mbps**



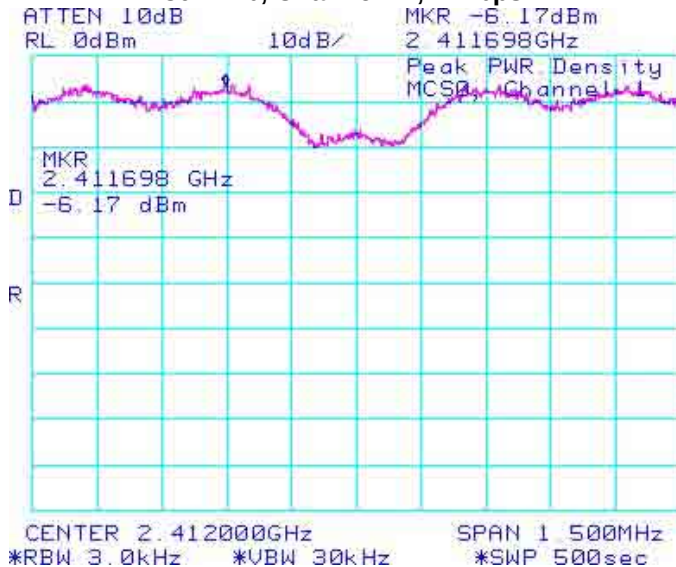
**Figure 4-17: Peak Power Spectral Density**

**802.11b, Channel 6, 1 Mbps**



**Figure 4-18: Peak Power Spectral Density**

**802.11b, Channel 11, 1 Mbps**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

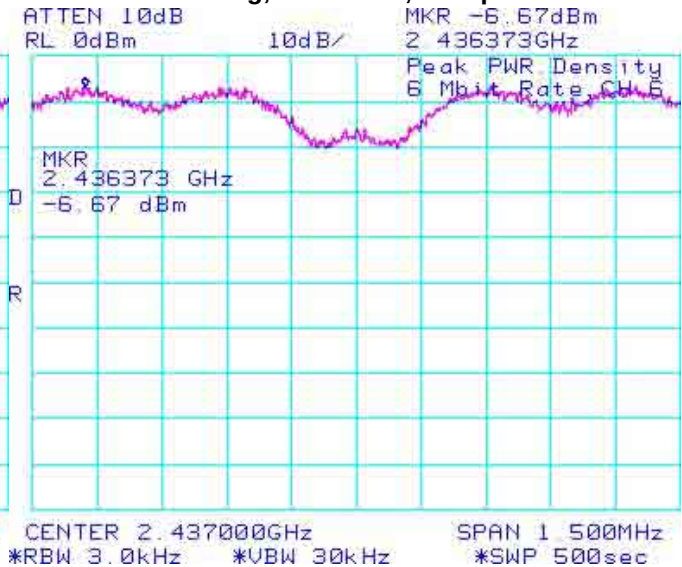
**Figure 4-19: Peak Power Spectral Density**

**802.11g, Channel 1, 6 Mbps**



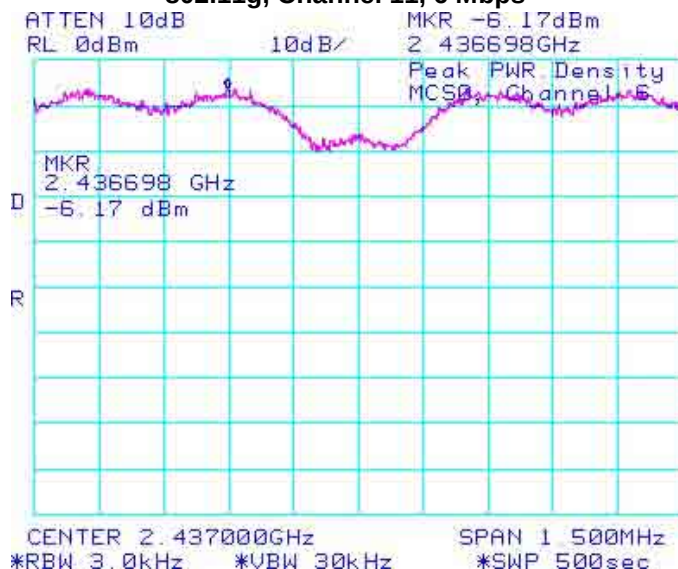
**Figure 4-20: Peak Power Spectral Density**

**802.11g, Channel 6, 6 Mbps**



**Figure 4-21: Peak Power Spectral Density**

**802.11g, Channel 11, 6 Mbps**

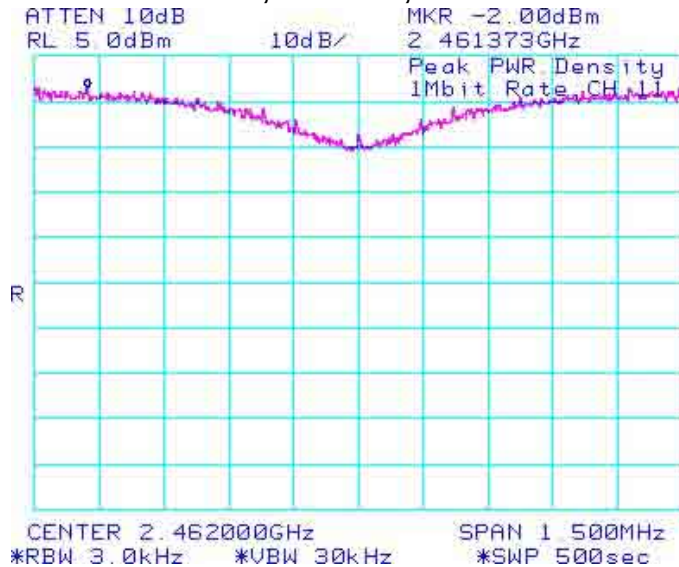


|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

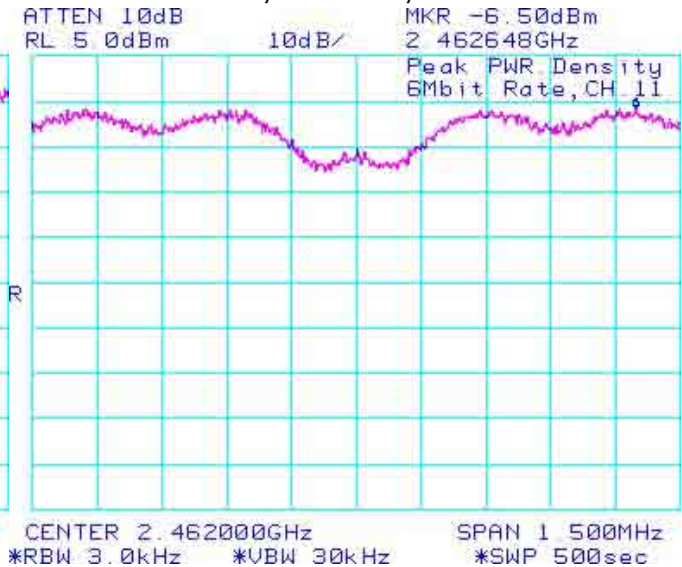
**Figure 4-22: Peak Power Spectral Density**

**802.11n, Channel 1, MCS 0**



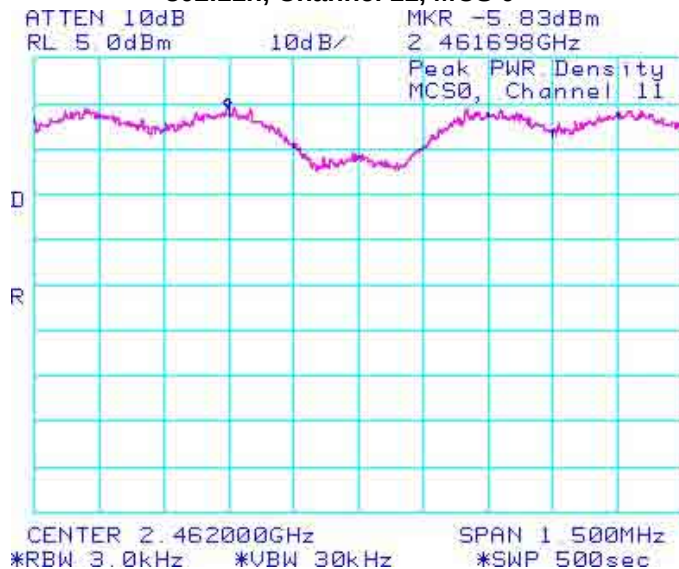
**Figure 4-23: Peak Power Spectral Density**

**802.11n, Channel 6, MCS 0**



**Figure 4-24: Peak Power Spectral Density**

**802.11n, Channel 11, MCS 0**



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

#### **Spurious RF Conducted Emissions**

The EUT met the requirements of the spurious RF conducted emissions as per 47 CFR 15.247(c) and RSS-210. Channels 1, 6 and 11 were measured at 1 Mbps, 5.5 Mbps, and 11 Mbps each for 802.11b mode, 6 Mbps, 24 Mbps, and 54 Mbps each for 802.11g mode, and MCS 0, 4, and 7 for 802.11n mode. Peak power was measured using an Agilent power meter, model N1911A with model N1921A power sensor. A reference offset of 18.4 dB was applied to the power meter reference level for the coaxial cable loss and attenuators in the test circuit.

| Channel | Data Rate | Power (dBm) | Max. Measured Level (dBm) | Max. Measured Level from Carrier (dBc) | Limit (dBc) |
|---------|-----------|-------------|---------------------------|----------------------------------------|-------------|
| 1       | 1 Mbps    | 17.92       | -50.5                     | -68.42                                 | -20         |
|         | 5.5 Mbps  | 17.83       | -50.67                    | -68.50                                 | -20         |
|         | 11 Mbps   | 17.83       | -46.50                    | -64.33                                 | -20         |
|         | 6 Mbps    | 16.60       | -45.83                    | -62.43                                 | -20         |
|         | 24 Mbps   | 15.16       | -50.60                    | -65.76                                 | -20         |
|         | 54 Mbps   | 15.19       | -49.17                    | -64.36                                 | -20         |
|         | MCS 0     | 16.59       | -49.17                    | -65.76                                 | -20         |
|         | MCS 4     | 15.08       | -49.17                    | -64.25                                 | -20         |
|         | MCS 7     | 14.82       | -47.17                    | -61.99                                 | -20         |
| 6       | 1 Mbps    | 18.15       | -50.50                    | -68.65                                 | -20         |
|         | 5.5 Mbps  | 18.17       | -47.67                    | -65.84                                 | -20         |
|         | 11 Mbps   | 18.10       | -49.83                    | -67.93                                 | -20         |
|         | 6 Mbps    | 16.99       | -49.17                    | -66.16                                 | -20         |
|         | 24 Mbps   | 15.42       | -50.17                    | -65.59                                 | -20         |
|         | 54 Mbps   | 15.28       | -50.17                    | -65.45                                 | -20         |
|         | MCS 0     | 16.80       | 48.00                     | 31.20                                  | -20         |
|         | MCS 4     | 15.44       | -50.00                    | -65.44                                 | -20         |
|         | MCS 7     | 15.05       | -50.00                    | -65.05                                 | -20         |

|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

### 802.11b/g/n RF Conducted Emission Test Results cont'd

| Channel | Data Rate | Power (dBm) | Max. Measured Level (dBm) | Max. Measured Level from Carrier (dBc) | Limit (dBc) |
|---------|-----------|-------------|---------------------------|----------------------------------------|-------------|
| 11      | 1 Mbps    | 18.51       | -48.67                    | -67.18                                 | -20         |
|         | 5.5 Mbps  | 18.52       | -46.83                    | -65.35                                 | -20         |
|         | 11 Mbps   | 18.54       | -45.83                    | -64.37                                 | -20         |
|         | 6 Mbps    | 17.32       | -50.67                    | -67.99                                 | -20         |
|         | 24 Mbps   | 15.80       | -49.83                    | -65.63                                 | -20         |
|         | 54 Mbps   | 15.77       | -50.33                    | -66.10                                 | -20         |
|         | MCS 0     | 17.15       | -49.33                    | -66.48                                 | -20         |
|         | MCS 4     | 15.68       | -50.00                    | -65.68                                 | -20         |
|         | MCS 7     | 15.30       | -47.83                    | -63.13                                 | -20         |

The emissions were in the NF.

See figures 4-25 to 4-33 for the plots of the spurious RF conducted emissions for Channels 1, 6 and 11, at 1 Mbps each for 802.11b mode, 6 Mbps each for 802.11g mode, and MCS 0 each for 802.11n mode.



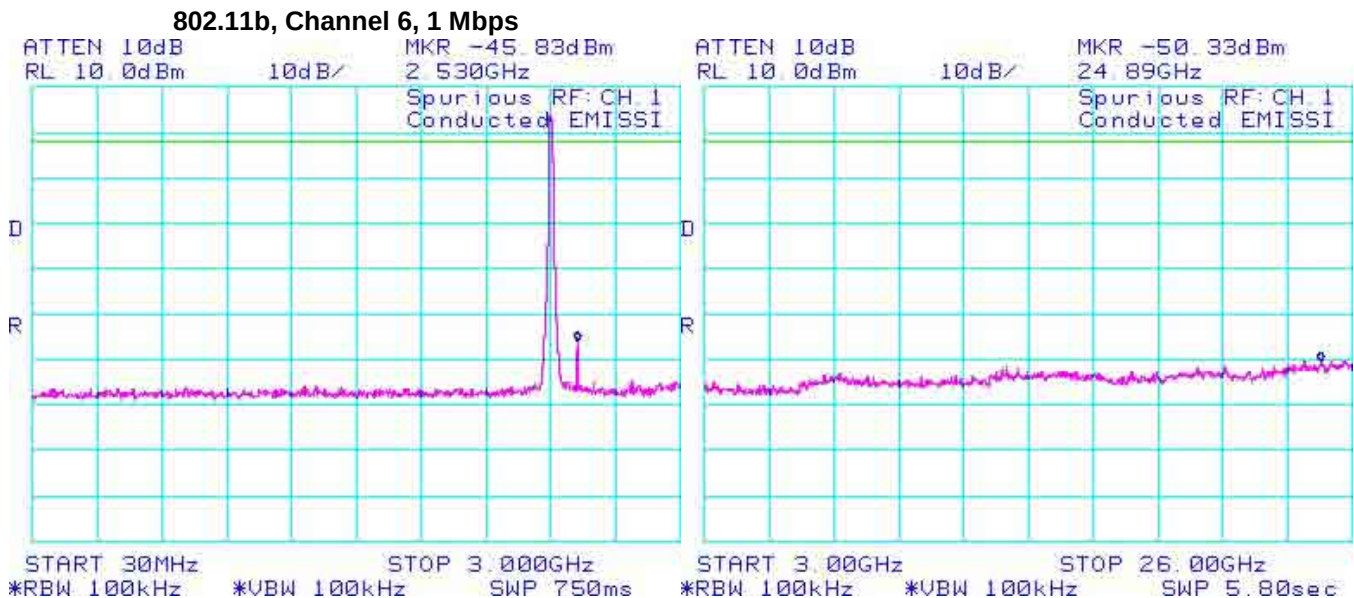
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-25: Spurious Conducted RF Emissions**



**Figure 4-26 : Spurious Conducted RF Emissions**

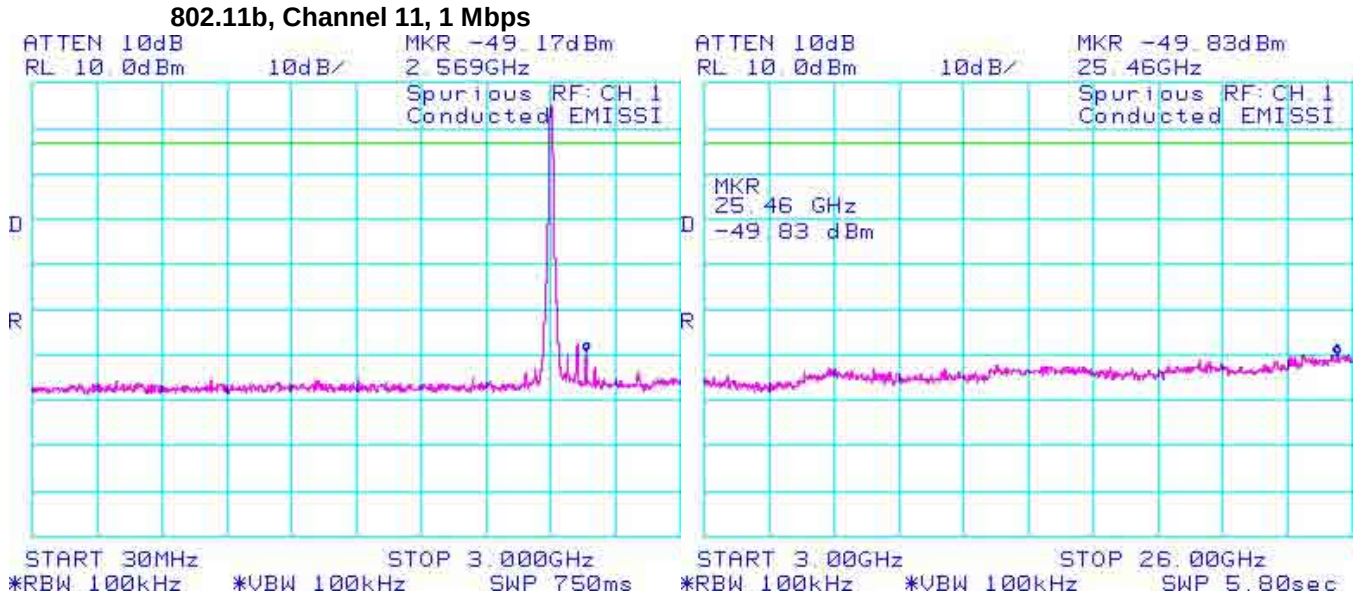




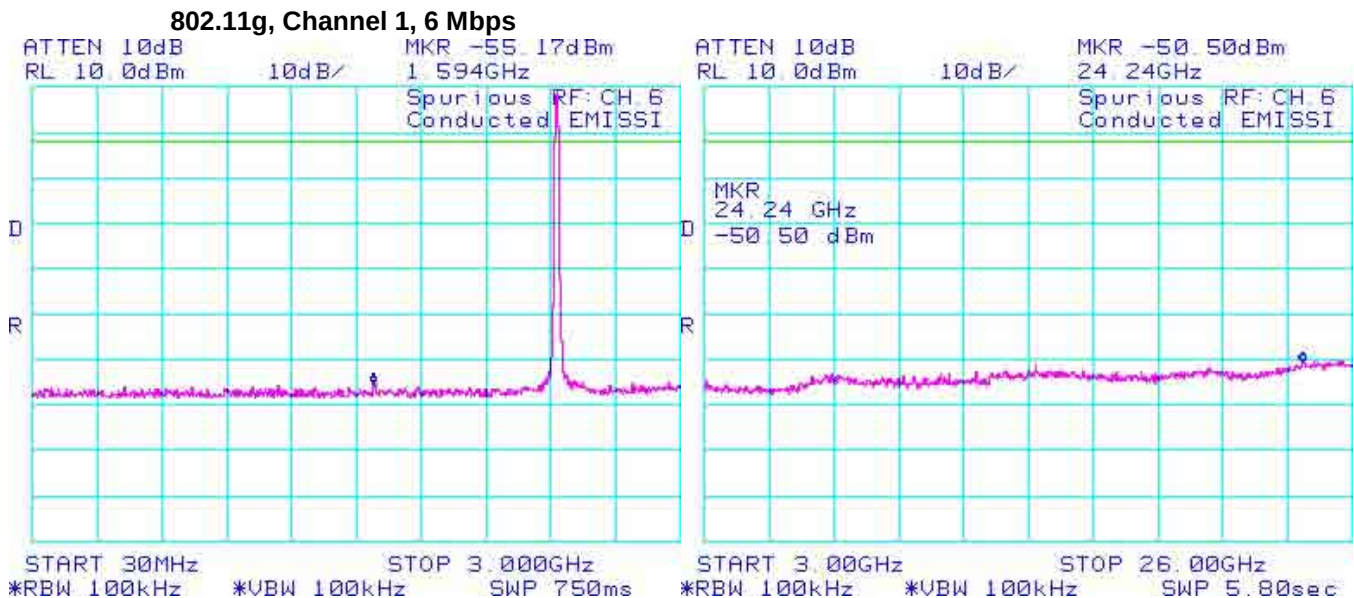
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-27: Spurious Conducted RF Emissions**



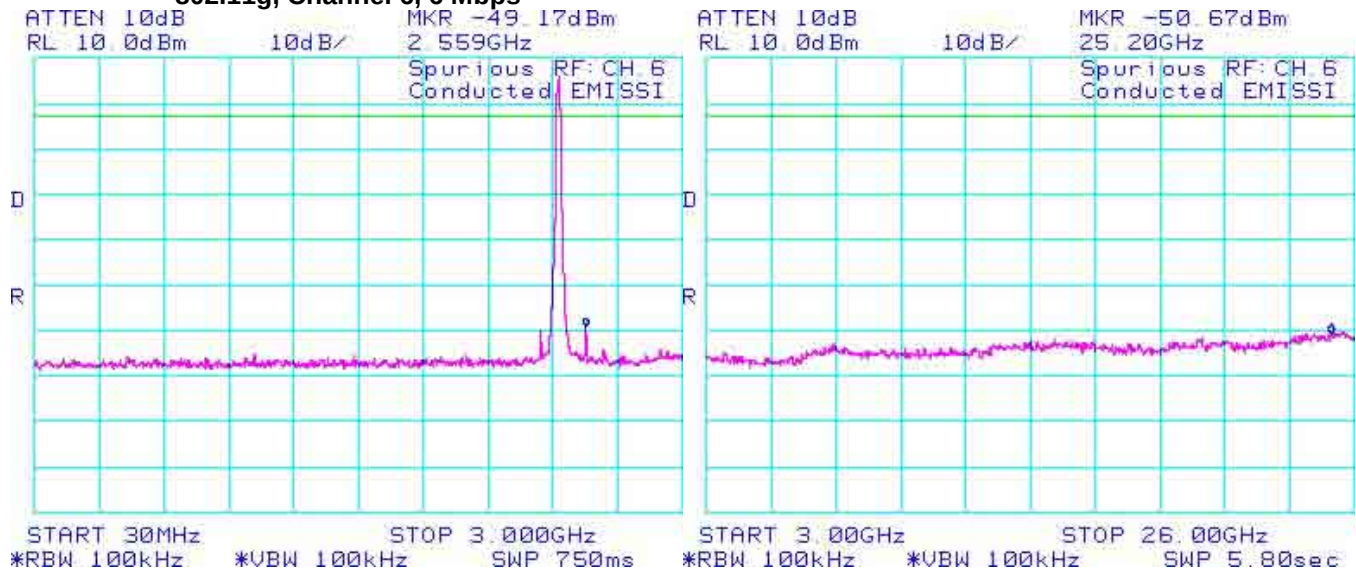
**Figure 4-28: Spurious Conducted RF Emissions**



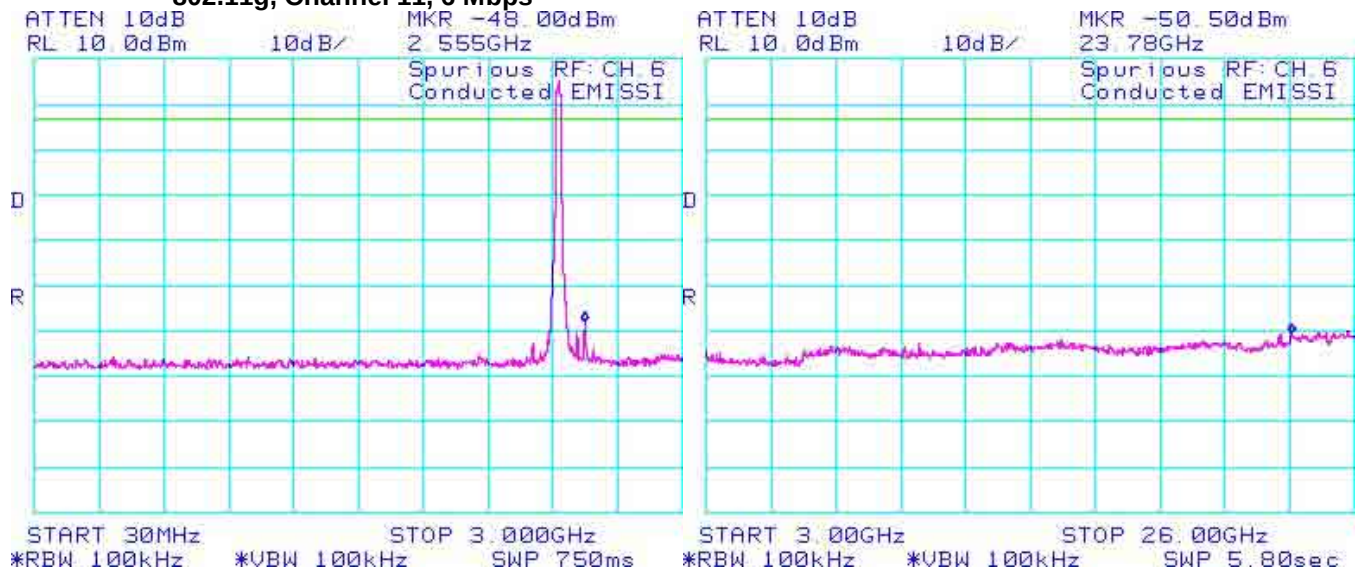
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-29: Spurious Conducted RF Emissions**  
802.11g, Channel 6, 6 Mbps



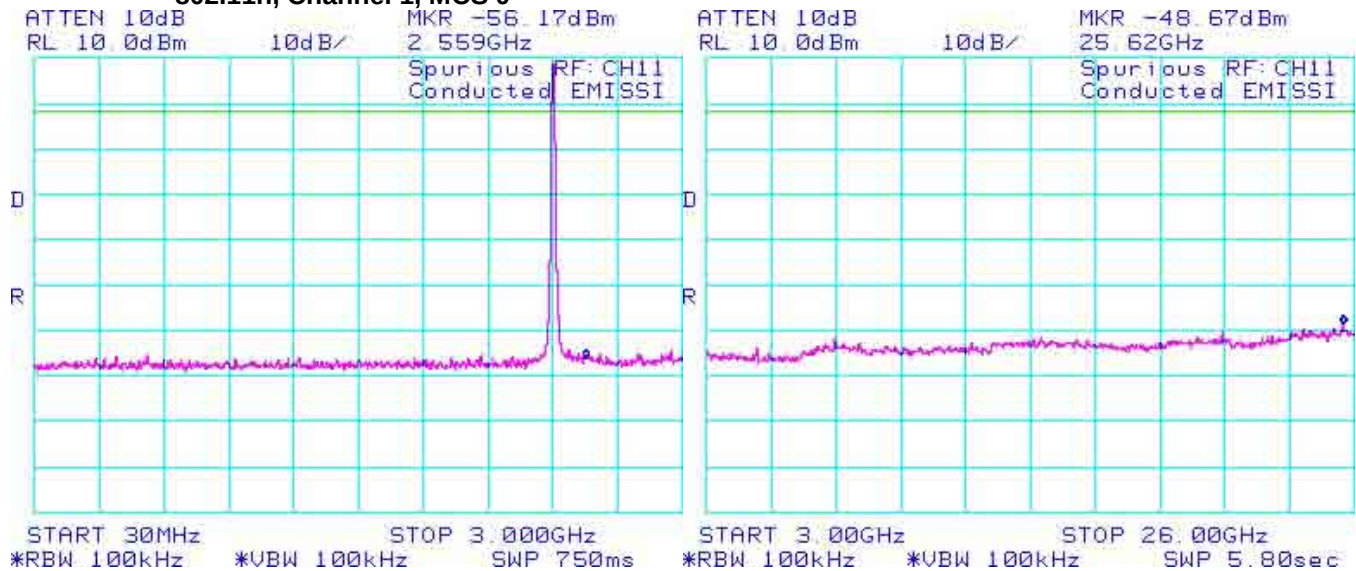
**Figure 4-30: Spurious Conducted RF Emissions**  
802.11g, Channel 11, 6 Mbps



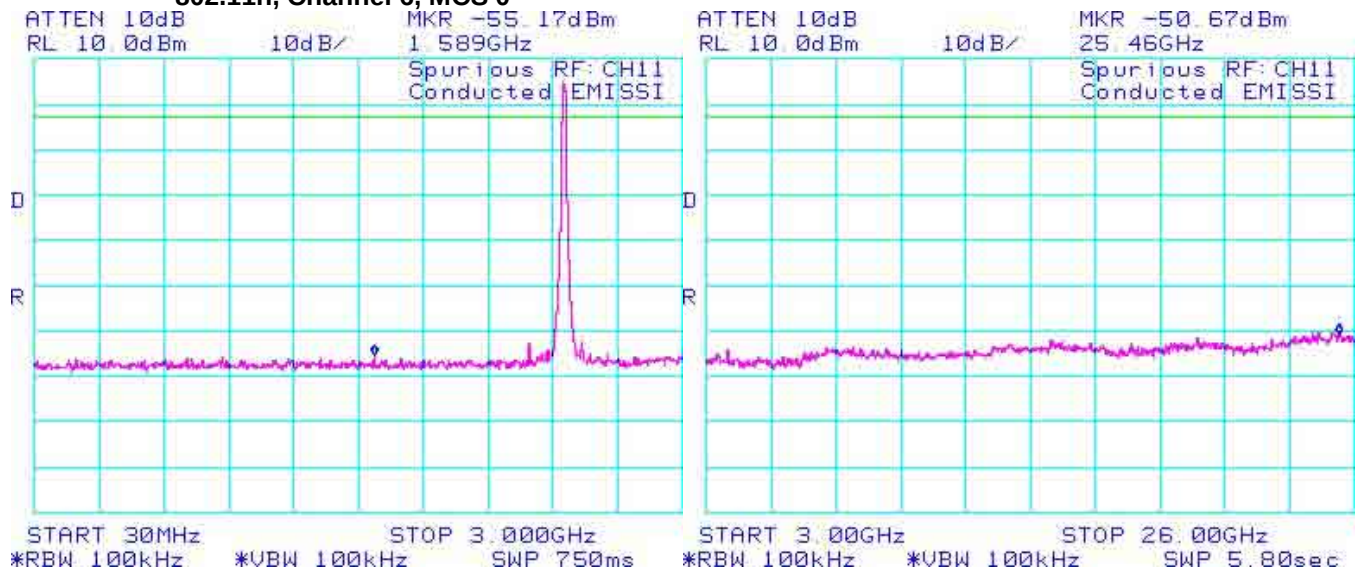
|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-31: Spurious Conducted RF Emissions**  
802.11n, Channel 1, MCS 0



**Figure 4-32: Spurious Conducted RF Emissions**  
802.11n, Channel 6, MCS 0



|                                                                                   |                                                                                   |                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|  | EMI Test Report for the BlackBerry® smartphone Model RDH71CW<br><b>APPENDIX 4</b> |                                                       |
| <b>Test Report No.</b><br>RTS-2605-1105-03                                        | <b>Dates of Test</b><br>February 14 to April 19, 2011                             | <b>FCC ID:</b> L6ARDH70CW<br><b>IC:</b> 2503A-RDH70CW |

## 802.11b/g/n RF Conducted Emission Test Results cont'd

**Figure 4-33: Spurious Conducted RF Emissions**  
**802.11n, Channel 11, MCS 0**

