Loading and Running Applications with UwTerminalX
BL652

Application Note   *v1.0*

INTRODUCTION

Laird's *smart*BASIC is a language and application environment designed for hostless, automated use cases. It abstracts what could amount to hundreds of lines of C code into a number of condensed, purpose-built functions, dramatically reducing time to market for a wireless design.

Laird's *smart*BASIC development kits interface with your PC via UwTerminalX, Laird's terminal software. UwTerminalX is a cross-platform development terminal with built-in debugging functions, preset comms values, optional online compiler, and more.

This application note explains how to perform the following:

- Connect the DVK-BL652 to your PC
- Establish communications with the DVK-BL652 via UwTerminalX
- Compile, load, and run a sample application to the DVK-BL652 via UwTerminalX

REQUIREMENTS

To perform the steps in this document, you need the following:

- DVK-BL652 development board
- USB-A to USB-micro cable (included with development board)
- UwTerminalX (v1.05 or later recommended), available at
  https://github.com/LairdCP/UwTerminalX/releases
- BL652 *smart*BASIC sample applications, available at https://github.com/LairdCP/BL652-Applications

HARDWARE AND TERMINAL SETUP

To begin, you must physically connect the DVK-BL652 to your PC and connect to it via UwTerminalX. To do so, complete the following:

1. Connect the BL652 development board to your PC via the included USB micro cable.
2. Power your development board.
3. Launch UwTerminalX.
4. From the Update tab within the UwTerminalX pane, click **Check for Updates** to ensure you're using the latest version of UwTerminalX with support for the BL652.
5. From the Config tab in the Device drop-down menu, select **BL652**.

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Note: The BL652 may not appear in the drop-down menu in UwTerminalX v1.05 and earlier. In these earlier versions, you must manually enter the correct settings (115200, N, 1, 8) as shown below:
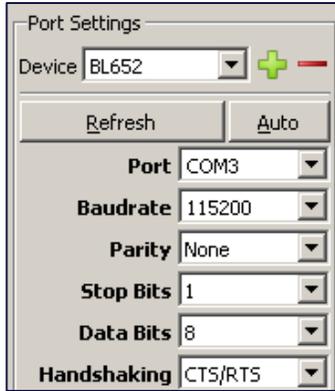
6. Select the correct port to which your development board is connected.
7. Click **OK** to advance to the Terminal tab.
8. Press **Enter** on your keyboard. If you see the return *00*, you are successfully connected.
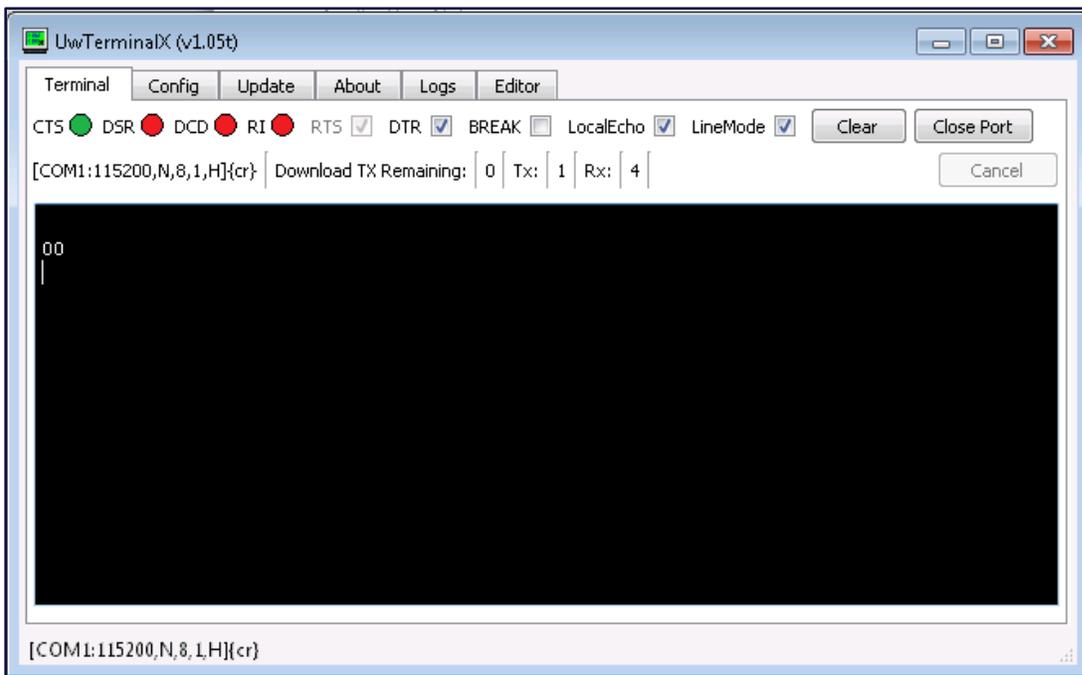
Figure 1: Terminal returns 00 if connected successfully

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COMPILING, LOADING, AND RUNNING AN APPLICATION

Once you are successfully connected to the DVK-BL652 over UwTerminalX, you may compile, load, and run applications on the BL652 module.

Note:	For cross-compiling *smart*BASIC applications, UwTerminalX must use a version-specific XCompiler that matches the firmware of your module. UwTerminalX, however, provides the option for using an online XCompiler. For supported firmware versions, this means that UwTerminalX finds the correct XCompiler over the Internet so that you don't need to maintain the XCompiler on your machine. This is enabled by default and can be disabled in the *Config* tab.

For this example, we use the *HelloWorld* application in the BL652 sample applications library. To compile, load, and run this application on your DVK-BL652, complete the following steps:

1. Download the hw.hello.world.sb application from the BL652 sample applications library (https://github.com/LairdCP/BL652-Applications/Applications) to a directory on your PC.
2. If you are not already, connect to the BL652 in UwTerminalX.
3. Right-click in the terminal window and, in the context menu, click **XCompile + Load**.
4. In the file selector window, select hw.hello.world.sb and click **Open**.
5. When the terminal displays 00, the compiler has finished successfully.
6. Type *at+dir* and press **Enter**. You should see hw in the file list.
7. To run the script, type hw and press **Enter**.
8. Now that the application is running, the phrase "Hello World" is echoed to the terminal.
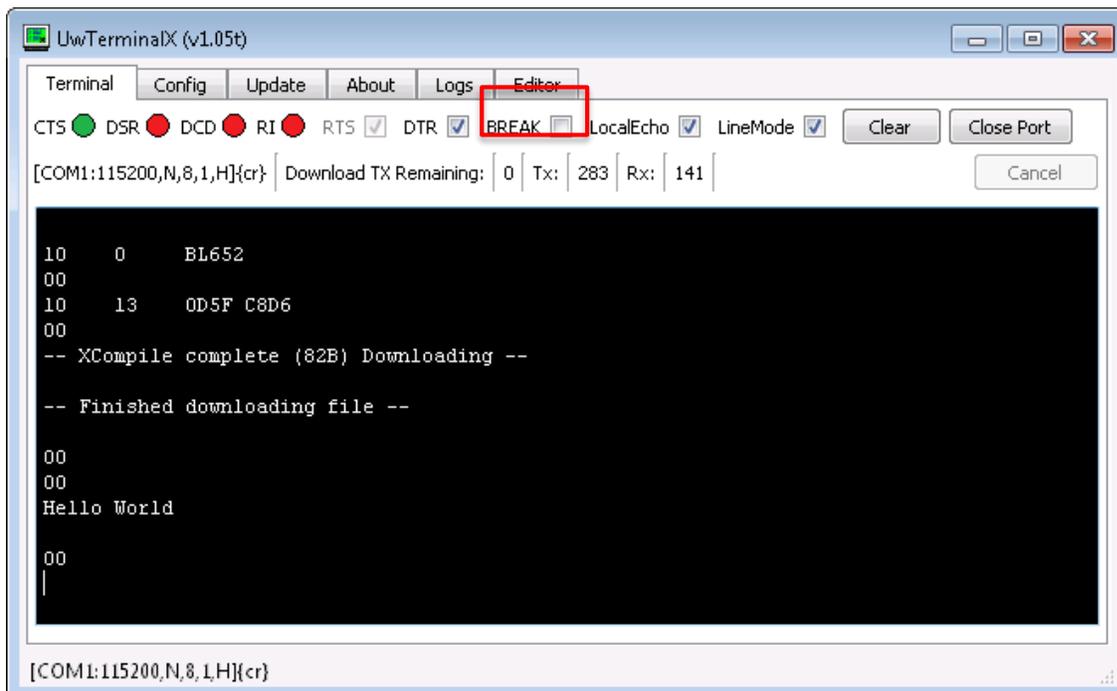
9. Press **Enter** in the terminal. If the terminal returns *00*, the module is returned successfully to interactive mode. If it doesn't, then the application might have a WAITEVENT statement. In that case, tick **Break** in the terminal for a few seconds and then untick **Break**.

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CONCLUSION

Laird's library of sample *smart*BASIC applications is made available for you to use in your design, accelerating your development and simplifying your development of wireless applications. UwTerminalX, the BL652 applications, and more are available at http://www.github.com/lairdCP.

REVISION HISTORY

Version	Date	Notes	Approver
1.0	06 Sep 2016	Initial Release	Youssif Saeed

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