

Loading and Running Applications with UwTerminalX BL654

Application Note

v1.1

1 INTRODUCTION

Laird's *smartBASIC* 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 several condensed, purpose-built functions, dramatically reducing time to market for a wireless design.

Laird's *smartBASIC* 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-BL654 to your PC
- Establish communications with the DVK-BL654 via UwTerminalX
- Compile, load, and run a sample application to the DVK-BL654 via UwTerminalX

2 REQUIREMENTS

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

- DVK-BL654 development board
- USB-A to USB-micro cable (included with development board)
- UwTerminalX (v1.10a or later recommended), available at <https://github.com/LairdCP/UwTerminalX/releases>
- BL654 *smartBASIC* sample applications, available at <https://github.com/LairdCP/BL654-Applications>

3 HARDWARE AND TERMINAL SETUP

To begin, you must physically connect the DVK-BL654 to your PC and connect to it via UwTerminalX. To do so, complete the following:

1. Connect the BL654 development board (USB 1) 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 BL654.
5. From the Config tab in the Device drop-down menu, select **BL65x**.
6. If BL65x is not a selectable device, set the following:
 - Baudrate: 115200
 - Parity: None
 - Stop Bits: 1
 - Data Bits: 8
 - Handshaking: CTS/RTS
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.

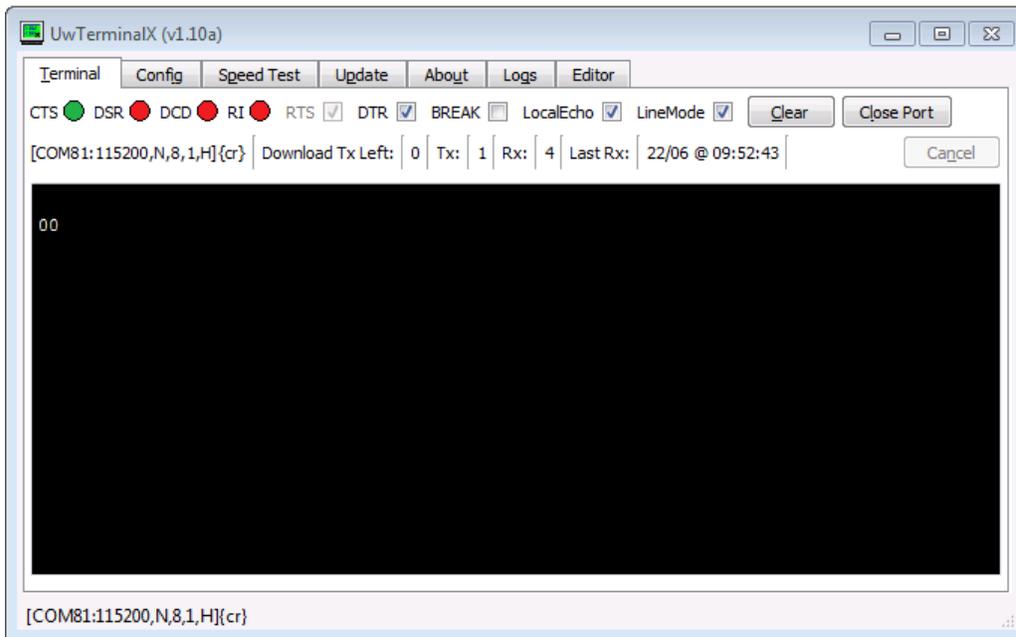


Figure 1: Terminal returns *00* if connected successfully

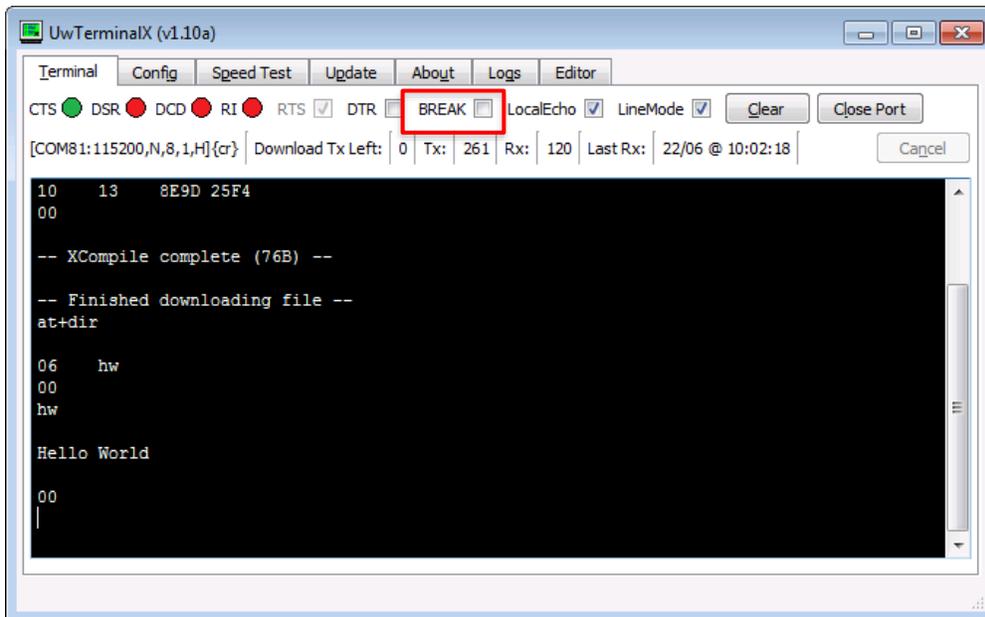
4 COMPILING, LOADING, AND RUNNING AN APPLICATION

Once you are successfully connected to the DVK-BL654 over UwTerminalX, you may compile, load, and run applications on the BL654 module.

Note: For cross-compiling *smartBASIC* 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 BL654 sample applications library. To compile, load, and run this application on your DVK-BL654, complete the following steps:

1. Download the *hw.hello.world.sb* application from the BL654 sample applications library (<https://github.com/LairdCP/BL654-Applications/Applications>) to a directory on your PC.
2. Right-click in the terminal window and, in the context menu, click **XCompile + Load**.
3. In the file selector window, select *hw.hello.world.sb* and click **Open**.
4. When the terminal has finished successfully, the following message is displayed – *Finished downloading file* –.
5. Type `at+dir` and press **Enter**. You should see *hw* in the file list.
6. To run the script, type *hw* and press **Enter**.
7. Now that the application is running, the phrase *Hello World* is echoed to the terminal.



- 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**.

5 CONCLUSION

Laird's library of sample *smartBASIC* applications is made available for you to use in your design, accelerating your development and simplifying your development of wireless applications. UwTerminalX, the BL654 applications, and more are available at <http://www.github.com/lairdCP>.

6 REVISION HISTORY

Version	Date	Notes	Contributor(s)	Approver
1.0	22 June 2018	Initial Release	Youssif Saeed	Jonathan Kaye
1.1	06 Aug 2018	Fixed a broken link	Youssif Saeed	Jonathan Kaye

© Copyright 2016 Laird. All Rights Reserved. Patent pending. Any information furnished by Laird and its agents is believed to be accurate and reliable. All specifications are subject to change without notice. Responsibility for the use and application of Laird materials or products rests with the end user since Laird and its agents cannot be aware of all potential uses. Laird makes no warranties as to non-infringement nor as to the fitness, merchantability, or sustainability of any Laird materials or products for any specific or general uses. Laird, Laird Technologies, Inc., or any of its affiliates or agents shall not be liable for incidental or consequential damages of any kind. All Laird products are sold pursuant to the Laird Terms and Conditions of Sale in effect from time to time, a copy of which will be furnished upon request. When used as a tradename herein, *Laird* means Laird PLC or one or more subsidiaries of Laird PLC. Laird™, Laird Technologies™, corresponding logos, and other marks are trademarks or registered trademarks of Laird. Other marks may be the property of third parties. Nothing herein provides a license under any Laird or any third party intellectual property right.