Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

# CYUSBS232

# USB-UART LP Reference Design Kit Guide

Doc. # 001-87891 Rev. **

Cypress Semiconductor
198 Champion Court
San Jose, CA 95134-1709
Phone (USA): 800.858.1810
Phone (Intnl): +1.408.943.2600
http://www.cypress.com

**Copyrights**

© Cypress Semiconductor Corporation, 2013. The information contained herein is subject to change without notice. Cypress Semiconductor Corporation assumes no responsibility for the use of any circuitry other than circuitry embodied in a Cypress product. Nor does it convey or imply any license under patent or other rights. Cypress products are not warranted nor intended to be used for medical, life support, life saving, critical control or safety applications, unless pursuant to an express written agreement with Cypress. Furthermore, Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress products in life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Any Source Code (software and/or firmware) is owned by Cypress Semiconductor Corporation (Cypress) and is protected by and subject to worldwide patent protection (United States and foreign), United States copyright laws and international treaty provisions. Cypress hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use, modify, create derivative works of, and compile the Cypress Source Code and derivative works for the sole purpose of creating custom software and or firmware in support of licensee product to be used only in conjunction with a Cypress integrated circuit as specified in the applicable agreement. Any reproduction, modification, translation, compilation, or representation of this Source Code except as specified above is prohibited without the express written permission of Cypress.

Disclaimer: CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Cypress reserves the right to make changes without further notice to the materials described herein. Cypress does not assume any liability arising out of the application or use of any product or circuit described herein. Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress' product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Use may be limited by and subject to the applicable Cypress software license agreement.

All trademarks or registered trademarks referenced herein are property of the respective corporations.

**Flash Code Protection**

Cypress products meet the specifications contained in their particular Cypress PSoC Datasheets. Cypress believes that its family of PSoC products is one of the most secure families of its kind on the market today, regardless of how they are used. There may be methods, unknown to Cypress, that can breach the code protection features. Any of these methods, to our knowledge, would be dishonest and possibly illegal. Neither Cypress nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as 'unbreakable'.

Cypress is willing to work with the customer who is concerned about the integrity of their code. Code protection is constantly evolving. We at Cypress are committed to continuously improving the code protection features of our products.

# Contents


**Safety Information** 5

Regulatory Compliance ....5
General Safety Instructions ....6
ESD Protection....6
Handling Boards....6

**1. Introduction** 7

1.1 Kit Contents ....7
1.2 Getting Started....8
1.3 Additional Resources....8
1.4 Technical Support....9
1.5 Document History ....9
1.6 Documentation Conventions ....9
1.7 Abbreviations....9

**2. Software Installation** 10

2.1 CYUSBS232 RDK Software ....10
2.2 Install Hardware....13
2.3 Uninstall Software....13

**3. Kit Operation** 14

3.1 USB-UART LP Bridge Controller Enumeration....14
3.2 USB-UART LP Bridge Controller Configuration on Windows OS....17
3.2.1 Connecting CYUSBS232 RDK to Cypress USB-Serial Configuration Utility .17
3.2.2 USB Configuration ....19
3.2.3 UART Configuration ....22
3.2.3.1 Test Procedure for CYUSBS232 RDK Configured as USB-UART .26
3.2.3.2 Throughput Determination ....27
3.2.4 CYUSBS232 RDK Restore Default Configuration Settings ....28

**4. Hardware** 31

4.1 Board Details ....31
4.2 Theory of Operation....32
4.3 Functional Description ....33
4.3.1 Features....33
4.3.2 Power-Supply System....33
4.3.3 USB Connector ....34
4.3.4 Headers....34
4.3.5 LEDs ....35

**5. Additional Information** **37**

5.1 Using the CYUSBS232 RDK on a Mac OS ....37
5.1.1 Using CYUSBS232 RDK Board in CDC Mode ....37
5.1.2 Using the CYUSBS232 RDK Board in Vendor Mode....38

**A. Appendix** **39**

A.1 Schematic ....39
A.2 CY7C65213 USB-UART LP Bridge Controller Design Guidelines ....40
A.3 Troubleshooting Guide ....41
A.4 Bill of Materials (BoM)....42

# Safety Information

## Regulatory Compliance

The CYUSBS232 USB-UART LP kit is intended for use as a development platform for hardware or software in a laboratory environment. The board is an open-system design, which does not include a shielded enclosure. This kit may cause interference to other electrical or electronic devices in close proximity. In a domestic environment, this product may cause radio interference. In such cases, take adequate preventive measures. Also, do not use this board near any medical equipment or RF devices.

Attaching additional wiring to this product or modifying the product operation from the factory default may affect its performance and cause interference with other apparatus in the immediate vicinity. If such interference is detected, suitable mitigating measures must be taken.

The CYUSBS232 contains electrostatic discharge (ESD) sensitive devices. Electrostatic charges readily accumulate on the human body and any equipment, and can discharge without detection. Permanent damage may occur on devices subjected to high-energy discharges. Cypress recommends proper ESD precautions to avoid performance degradation or loss of functionality. Store unused CYUSBS232 boards in the protective shipping package.

End-of-Life/Product Recycling

This kit has an end-of-life cycle after five years from the year of manufacturing mentioned on the back of the box. Contact your nearest recycler for discarding the kit.

# General Safety Instructions

## ESD Protection

ESD can damage boards and associated components. Cypress recommends that you perform procedures only at an ESD workstation. If an ESD workstation is not available, use appropriate ESD protection by wearing an antistatic wrist strap attached to the chassis ground (any unpainted metal surface) on the board when handling parts.

## Handling Boards

CYUSBS232 boards are sensitive to ESD. Hold the board only by its edges. After removing the board from its box, place it on a grounded, static-free surface. Use a conductive foam pad if available. Do not slide the board over any surface.

# 1. Introduction

Thank you for your interest in the CYUSBS232 USB-UART LP Reference Design Kit (RDK). This RDK is an easy-to use kit, which showcases the unique features of CY7C65213, Cypress's USB-UART LP Bridge Controller. This device is a full-speed USB-UART low-power bridge controller supporting the 8-pin UART serial interface and USB Implementers Forum (USB-IF) compliant battery charging detection (BCD) specifications. The controller features the lowest suspend-state current of 5 uA, and is offered in a 5×5, 32-pin QFN package to meet the dimensional requirements of portable devices.

## 1.1 Kit Contents

The CYUSBS232 USB-UART LP RDK includes the following items:

- CYUSBS232 RDK board
- Quick start guide
- USB standard-A to micro-B cable
- Jumper wires
- CY7C65213-32LTXI sample silicon chips

Figure 1-1. Kit Contents

## 1.2 Getting Started

This kit guide helps you get acquainted with the CYUSBS232 RDK. The Software Installation chapter on page 10 provides step-by-step instructions to install the CYUSBS232 RDK software. The Kit Operation chapter on page 14 describes how the kit operates and explains how to configure the CY7C65213 USB-UART LP using the Cypress USB-Serial Configuration Utility. The Hardware chapter on page 31 discusses the hardware operation. The Additional Information on page 37 explains how to run the CYUSBS232 RDK on a Mac OS. The Appendix on page 39 provides the schematics, layout, bill of materials (BoM), troubleshooting guidelines, and board layout design guidelines for the CY7C65213 USB-UART LP controller.

## 1.3 Additional Resources

Visit the USB-Serial webpage: www.cypress.com/go/usbserial for additional learning resources in the form of datasheets and application notes.

## 1.4 Technical Support

For assistance, go to our support web page: www.cypress.com/go/support, or contact our customer support at +1 (800) 541-4736 Ext. 8 (in the USA), or +1 (408) 943-2600 Ext. 8 (International).

## 1.5 Document History

| Revision | PDF Creation Date | Origin of Change | Description of Change |
|---|---|---|---|
| ** | 09/03/2013 | MVTA | Initial version of kit guide |

## 1.6 Documentation Conventions

Table 1-1. Document Conventions for Guides

| Convention | Usage |
|---|---|
| `Courier New` | Displays file locations, user entered text, and source code:<br>`C:\ ...cd\icc\` |
| *Italics* | Displays file names and reference documentation.<br>For example, *CYUSBS232UART.cyusb.* |
| [**Bracketed, Bold**] | Displays keyboard commands in procedures:<br>[**Enter**] or [**Ctrl**] [**C**] |
| File > Open | Represents menu paths:<br>File > Open > New Project |
| **Bold** | Displays commands, menu paths, and icon names in procedures:<br>Click the **File** icon and then click **Open**. |
| Times New Roman | Displays an equation:<br>2 + 2 = 4 |
| Text in gray boxes | Describes cautions or unique functionality of the product. |

## 1.7 Abbreviations

The following table lists the abbreviations used in this kit guide:

| Abbreviation | Definition |
|---|---|
| CDC | communications device class |
| CTS | clear to send |
| DCD | data carrier detect |
| DSR | data set ready |
| DTR | data terminal ready |
| PID | product ID |
| RDK | reference design kit |
| RI | ring indicator |
| RTS | request to send |
| UART | universal asynchronous receiver transmitter |
| USB | universal serial bus |
| VID | vendor ID |

# 2. Software Installation

## 2.1 CYUSBS232 RDK Software

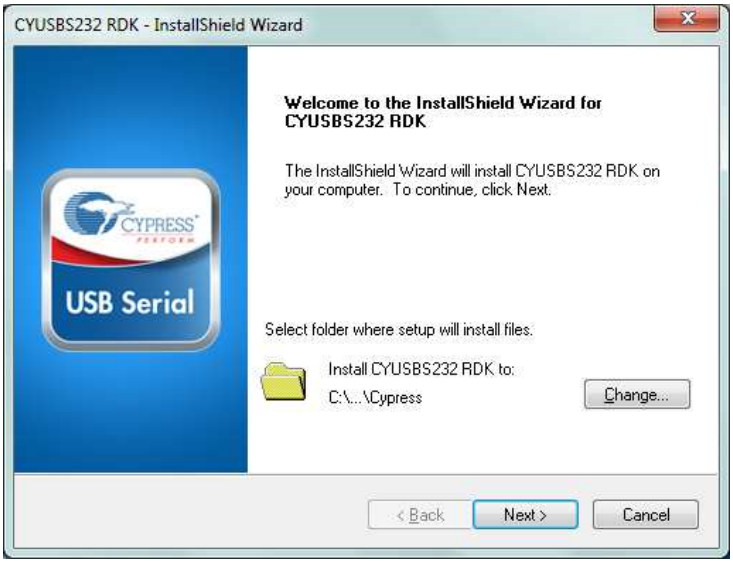
Follow these steps to install the CYUSBS232 RDK software:

1. Download and install the CYUSBS232 RDK software from www.cypress.com/go/CYUSBS232. The CYUSBS232 RDK software is available in two different formats for download:
   a. **CYUSBS232 Kit ISO:** This file is a complete package, stored in a CD-ROM image format that can be used to create a CD, or extract using ISO extraction programs, such as WinZip or WinRAR. This file includes all the required software, utilities, drivers, hardware files, and user documents.
   b. **CYUSBS232 Kit Setup:** This installation package contains the files related to the kit. It does not include the Windows installer, Microsoft .NET Framework, and Visual C++ redistributable packages. If these packages are not on your computer, the installer automatically downloads and installs them from the Internet.
2. Run ***cyautorun.exe*** to start the installation process.
3. Click **Install CYUSBS232 RDK** to start the installation, as shown in Figure 2-1.

Figure 2-1. Kit Installer Startup Screen

4. Select the folder to install the CYUSBS232 RDK-related files. Choose the directory and click **Next**.

Figure 2-2. Default Path for RDK Installation

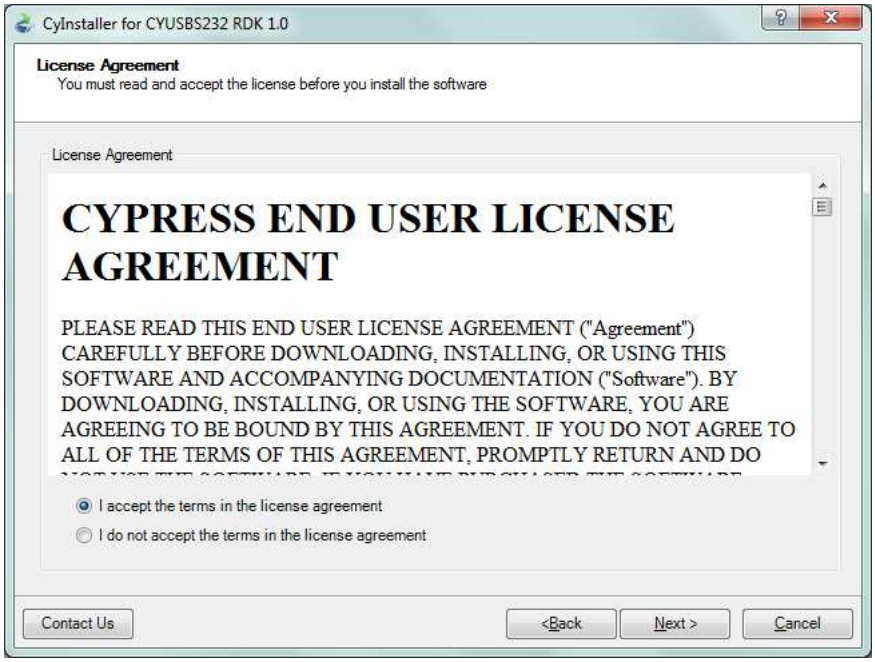



5. The CYUSBS232 Kit ISO installer automatically installs the required software, if it is not present on your computer. The CYUSBS232 Kit Setup installer directs you to download the required software from the Internet.
6. Select the installation type. The drop-down menu has two options: **Typical** (installs all the required features) and **Custom**. Click **Next** after you select the installation type.

Figure 2-3. Installation Type Options

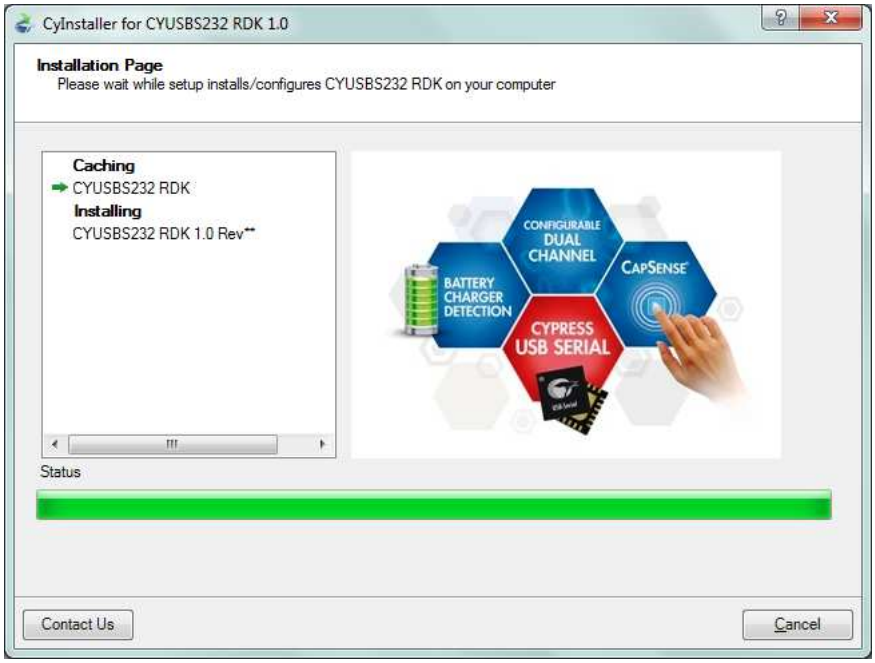
7. Read the Cypress License Agreement and make a selection based on the terms of the license agreement. Click **Next** to continue the installation.

Figure 2-4. Cypress License Agreement




8. When the installation begins, a list of packages appears on the installation page. A green check mark appears against every package after successful installation. If a message from Windows Security appears, accept the **Always trust software from Cypress Semiconductor** option and click **Install**.

Figure 2-5. Installation Page



9. Enter your contact information or select the **Continue Without Contact Information** check box. Click **Finish** to complete the CYUSBS232 RDK installation.

Figure 2-6. CYUSBS232 RDK Installation Complete

10. After the installation is complete, the kit contents are available at the following location:

```
<Install directory>\Cypress\CYUSBS232 RDK\1.0\
```

## 2.2 Install Hardware

This kit does not require any additional hardware installation.

## 2.3 Uninstall Software

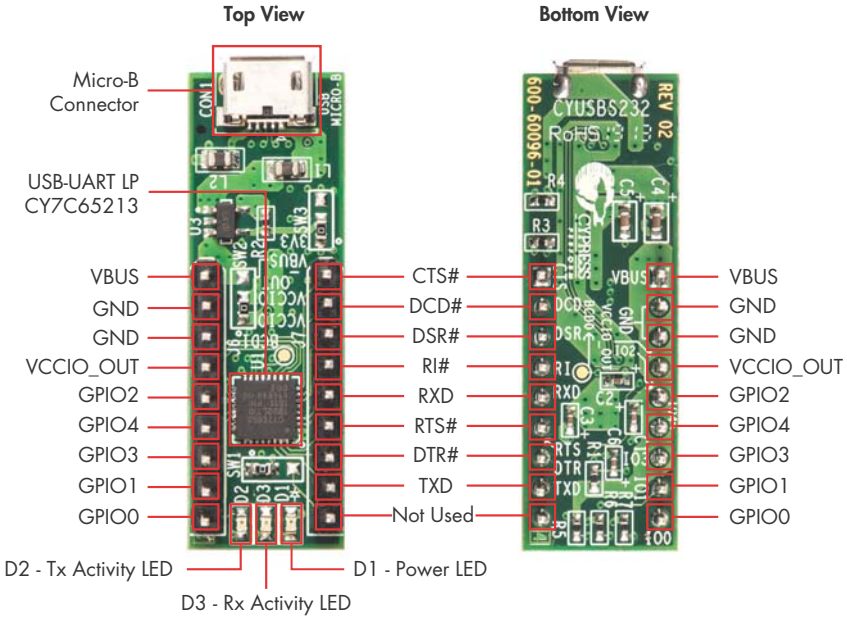
You can uninstall the CYUSBS232 RDK software using one of the following methods:

- Go to **Start** > **All Programs** > **Cypress** > **Cypress Update Manager**; click the **Uninstall** button.
- Go to **Start** > **Control Panel** > **Programs and Features**. Select the **CYUSBS232 RDK 1.0 Rev**** program from the list and click the **Uninstall/Change** button.

# 3. Kit Operation

The CYUSBS232 RDK helps you evaluate the CY7C65213 USB-UART LP bridge controller. The CYUSBS232 RDK board is designed to work in USB bus-powered mode. Figure 3-1 shows an image of the board with references to the onboard components.

Figure 3-1. CYUSBS232 RDK Board: Top and Bottom View




## 3.1 USB-UART LP Bridge Controller Enumeration

Connect the CYUSBS232 RDK board to the PC using a USB standard-A to micro-B cable. The board enumerates as a composite USB device.

Follow these steps for device enumeration:

1. Use the USB standard-A to micro-B cable to connect to the micro-B connector on the board.
2. The PC detects the board and the software driver is automatically bound to the USB device.

**Note** If the driver installation is unsuccessful, run ***setup.exe*** from the following folders with administrative privileges:

`<Install directory>\Cypress\CYUSBS232 RDK\1.0\driver\cyusb3`

`<Install directory>\Cypress\CYUSBS232 RDK\1.0\driver\cyusbserial`

For more information, refer to the Cypress USB-Serial Driver Installation Guide at the following location: `<Install directory>\Cypress\CYUSBS232 RDK\1.0\documentation\`

Figure 3-2. Install Location for cyusb3 Driver

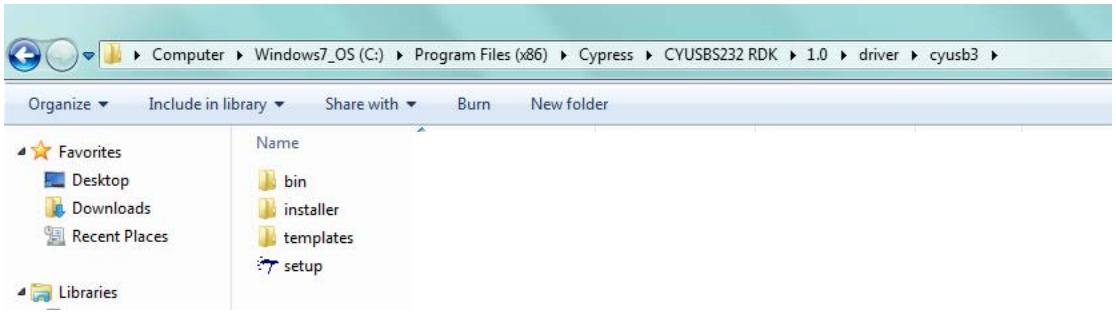
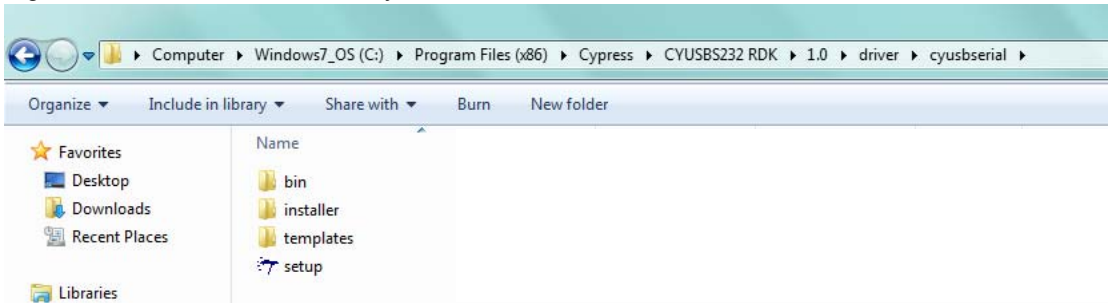


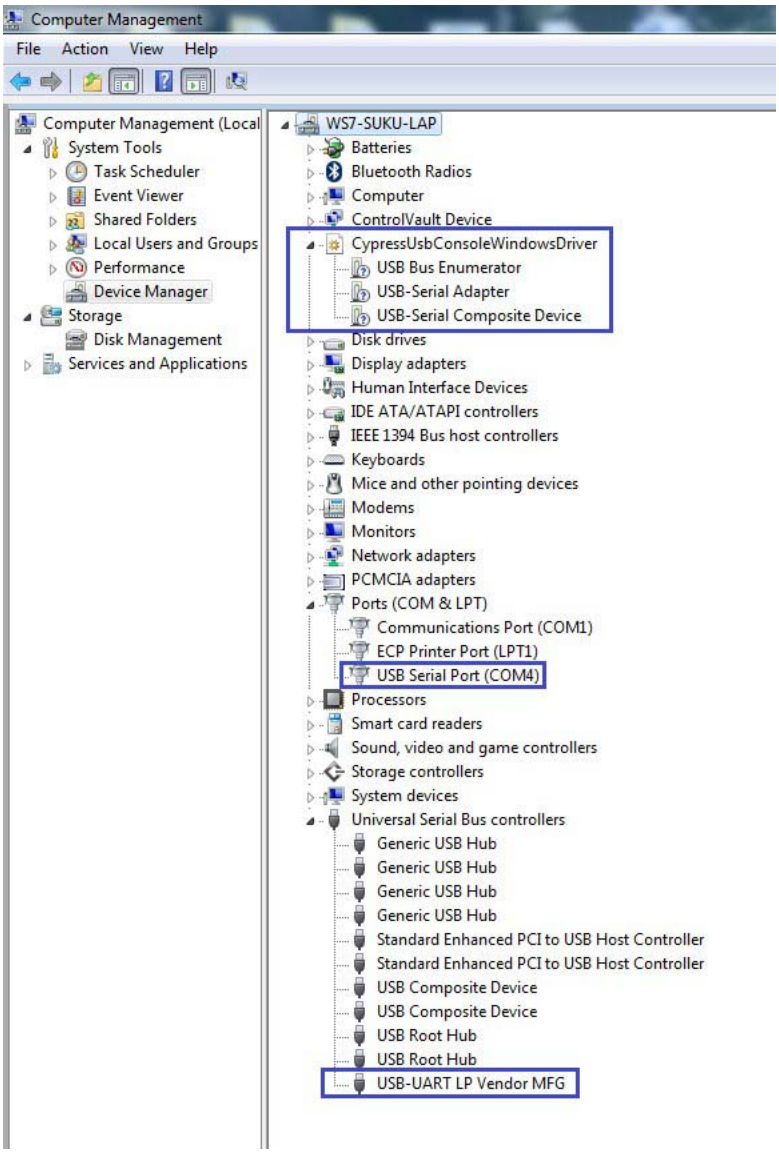

Figure 3-3. Install Location for cyusbserial Driver




**Note** If a "Welcome to the Found New Hardware Wizard" message appears, select the **Yes, this time only** option and click **Next** to continue the installation.

4. When the software drivers are successfully bound, the board enumeration is complete. The board appears as a composite device in the Windows OS device manager. (To launch the device manager in Win7, go to **Start** > **Control Panel** > **Device Manager**.), as shown in Figure 3-4.
   - USB-Serial Adapter under CypressUSBConsoleWindowsDriver
   - USB Serial Port (COM#) under Ports (COM & LPT)
   - USB-UART LP Vendor MFG under Universal Serial Bus controllers

Figure 3-4. CYUSBS232 RDK Board Enumeration as Single UART in Device Manager



## 3.2 USB-UART LP Bridge Controller Configuration on Windows OS

The CY7C65213 USB-UART LP bridge controller on the CYUSBS232 RDK board can be configured for various USB, UART, and system parameters by using the Cypress USB-Serial Configuration Utility. The following sections provide detailed descriptions of the device features and configurations.

### 3.2.1 Connecting CYUSBS232 RDK to Cypress USB-Serial Configuration Utility

Follow these steps to connect the device using the Cypress USB-Serial Configuration Utility:

1. Connect the USB standard-A to micro-B cable to your PC and the micro-B connector on the board.
2. Run the configuration utility from **Start** > **All Programs** > **Cypress** > **CYUSBS232 RDK** > **USB Serial Configuration Utility**.

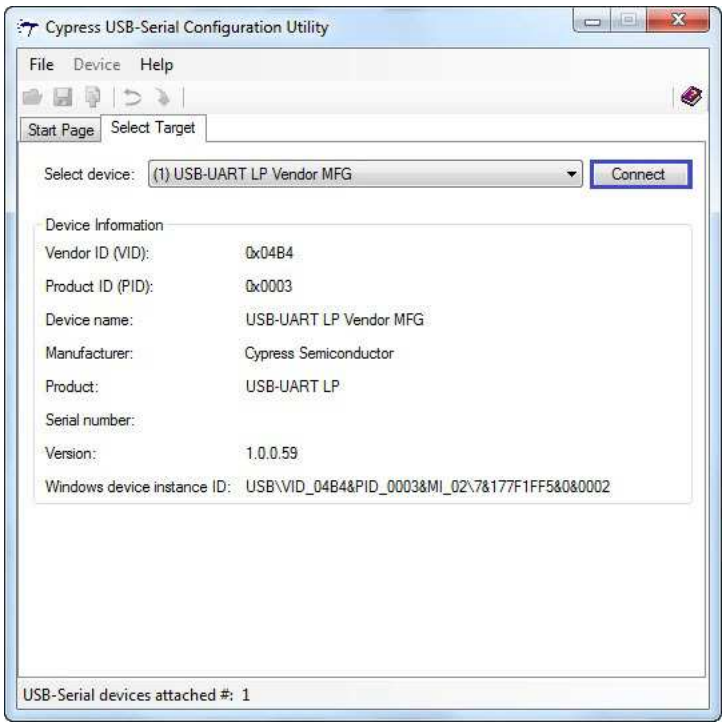
   For a detailed description about the configuration utility, refer to the *USB-Serial Configuration Utility User Guide* at the following location:

   `<Install directory>\Cypress\CYUSBS232 RDK\1.0\documentation`
3. The following figure shows the startup screen of the Cypress USB-Serial Configuration Utility.

Figure 3-5. Configuration Utility Startup Screen

4. Click the **Select Target** tab. Select the device from the drop-down menu and click **Connect**.

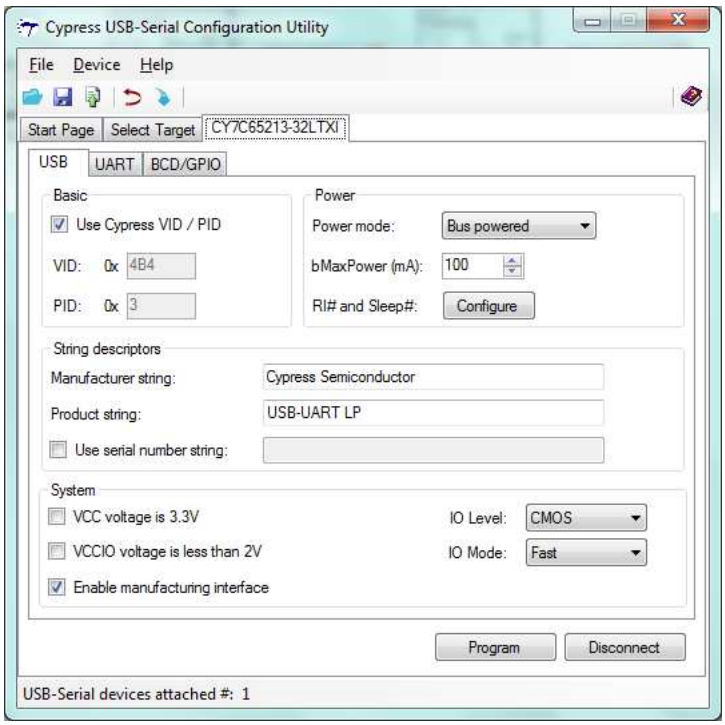
Figure 3-6. Configuration Utility **Select Target** Tab




**Note** The version number displayed in Figure 3-6 may vary depending on the latest firmware version on the USB-UART LP bridge controller.

5. A new tab with the connected device's default parameters appears (see Figure 3-7). This tab allows you to modify the device configuration settings, which you can program into the device.

Figure 3-7. Configuration Utility **USB** Tab

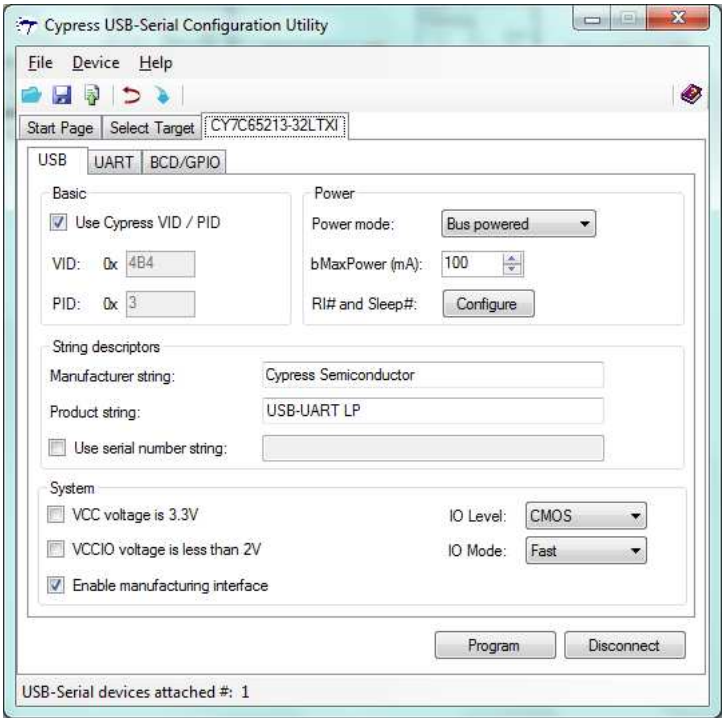


### 3.2.2 USB Configuration

The USB tab shows the default values of the board's configurable USB and system parameters. Follow these steps to view and modify the parameters for the USB configuration:

1. Follow steps 1 to 5 in section 3.2.1 Connecting CYUSBS232 RDK to Cypress USB-Serial Configuration Utility to connect the board to the Cypress USB-Serial Configuration Utility.
2. Click the **USB** tab.

Figure 3-8. USB-Serial Configuration Utility **USB** Tab




3. You can configure these USB parameters using the Cypress USB-Serial Configuration Utility:
   a. Vendor identification number (VID)
   b. Product identification number (PID)
   c. Power mode (bus powered or self powered)
   d. bMaxPower
   e. RI# and Sleep# (Remote Wake-up and Suspend)
   f. Manufacturer string
   g. Product string
   h. Serial number

- **Vendor ID (VID) and Product ID (PID)**

  Default value: 0x04B4 and 0x0003

  The 2-byte VID and PID must be set in hexadecimal format. The VID and PID fields cannot be zero or empty. The Cypress VID/PID is programmed by default; to change the VID and PID, uncheck the **Use Cypress VID/PID** option. Enter the specific VID and press the **[Tab]** or **[Enter]** key to enable the PID field.

- **Power Mode**

  Default value: Bus powered

The USB power mode can be set either to self-powered or bus-powered mode.

- **bMaxPower**

  Default Value: 100 mA

  The USB device current requirement value can be set from 1 mA to 500 mA in steps of 2 mA units in bus-powered mode and 0 mA to 500 mA in steps of 2 mA units in self-powered mode.

- **RI# and Sleep#**

  Default value for RI#: Checked

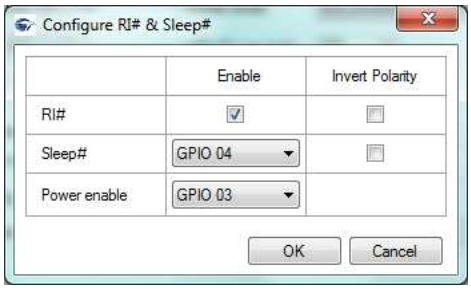
  Default value for Sleep#: GPIO 04

  Default value for Power enable: GPIO 03

  **Note** '#' indicates an active-low pin.

  Click the **Configure** button to configure RI#, Sleep#, and Power enable parameters.

  Figure 3-9. RI# and Sleep# Configuration Window




  The configurable options are:

  - RI#: Ring indicator is an input signal to the device, which is used to wake up the USB host from suspend state. This signal acts as a wake up source for the USB host. By enabling this option the device can be used to wake up the USB host from suspend. By checking the **Invert Polarity** box, the polarity of the RI# pin can be inverted. On this board, the J7.4 (GPIO header) is the RI# pin.
  - Sleep#: The Sleep function is enabled by assigning a GPIO from the drop down menu. When the USB bus enters the Suspend state, this GPIO gets asserted. For this board, the default value for the Sleep# pin is GPIO 04. By checking the **Invert Polarity** box, the polarity of the assigned GPIO pin can be inverted.
  - Power enable: The Power enable function is enabled by assigning a GPIO from the drop-down menu. When the USB-UART bridge is configured by the host, this GPIO is asserted. In bus-powered embedded systems, to meet the USB 2.0 Specification requirements during unconfigured and suspend state, this pin can be used as a notification to control the power to the system. For this board, the default value for the Power enable pin is GPIO 03.

- **Manufacturer string**

  Default value: Cypress Semiconductor

  You can enter the manufacturer string (up to 32 characters) in the text box field.

- **Product string**

  Default value: USB-UART LP

  You can enter the product string (up to 32 characters) in the text box field.

- **Serial number string**

  *Default value: NULL (No serial number string)*

You can enter the serial number string (up to 32 characters) in the text box field by checking the check box. If no serial number is required, uncheck the checkbox.

**System**

The configurable options are:

a. VCC voltage is 3.3 V
b. VCCIO voltage is less than 2 V
c. Enable manufacturing interface
d. I/O Level
e. I/O Mode
f. Program button
g. Disconnect button

- **VCC voltage is 3.3 V**

  Default status: Unchecked

  The RDK is designed only for USB bus-powered operation. This option must always be unchecked for the RDK. The CY7C65213 device supports VCC voltage range from 3.15 V to 5.25 V.

- **VCCIO voltage is less than 2 V**

  Default status: Unchecked

  The RDK is designed only for 5-V operation. This option must always be unchecked for the RDK. The CY7C65213 device supports VCCIO voltage range from 1.71 V to 5.5 V.

- **Enable manufacturing interface**

  Default status: Checked

  This option enables an additional vendor class manufacturing mode interface to reprogram the device.

- **I/O Level**

  Default value: CMOS

  You can set the GPIO logic levels of the device to either CMOS or LVTTL.

- **I/O Mode**

  Default value: Fast

  You can set the GPIO edge transitions of the device to either fast or slow for EMI considerations. Refer to the GPIO AC Specifications table in the datasheet for additional details.

- **Program button**

  After configuring all the device parameters, the updated configuration settings must be programmed to the device. To program the device, click the **Program** button.

- **Disconnect button**

  Click this button to disconnect the RDK from the Configuration utility.

4. After configuring the USB and system parameters, click the **Program** button to save the changed USB parameters onto the controller. On successful programming, the "Program Succeeded" message appears.
5. Click the **Disconnect** button to disconnect the board from the Configuration Utility.
6. Disconnect and reconnect the USB micro-B cable to the micro-B connector of the RDK to initiate a power-on-reset of the controller. The controller is reinitialized with the new parameters and the

board re-enumerates, as shown in Figure 3-4.

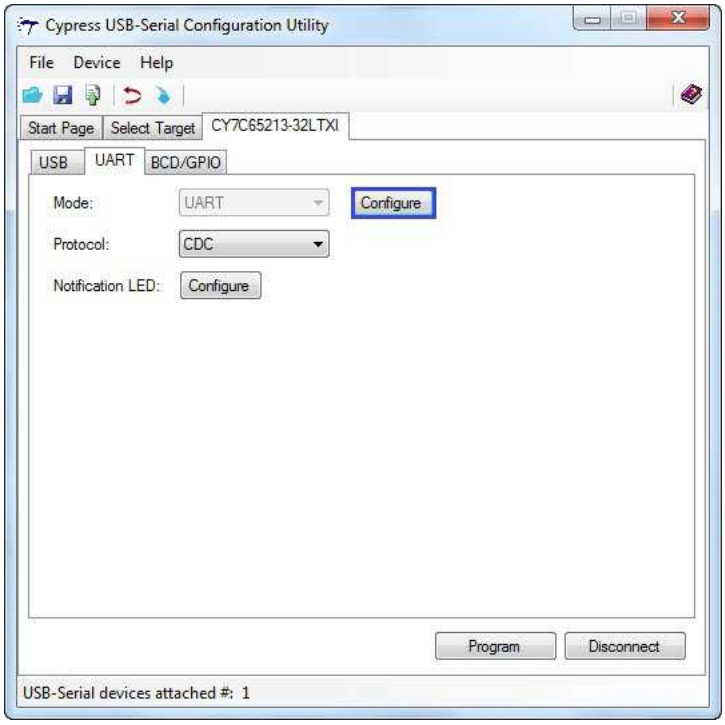
### 3.2.3 UART Configuration

The RDK board can act as a USB-UART bridge to transfer and receive data between the device and the PC via terminal communication software, such as Hyperterminal or Tera Term.

Follow these steps to view and modify the parameters for the UART configuration:

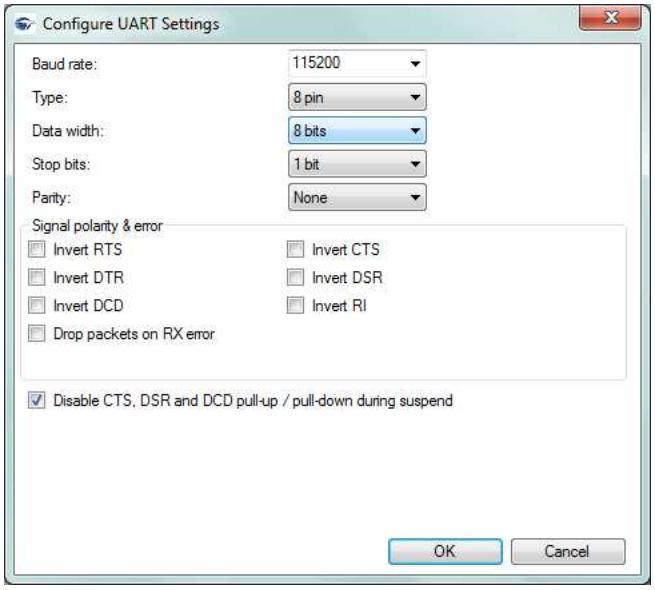
1. Follow steps 1 to 5 of section 3.2.1 Connecting CYUSBS232 RDK to Cypress USB-Serial Configuration Utility to connect the board to the Cypress USB-Serial Configuration Utility.
2. Click the **UART** tab.

Figure 3-10. Configuration Utility **UART** Configuration Tab




3. Click the **Configure** button, as shown in Figure 3-10, to configure the UART parameters.

Figure 3-11. Configuration Utility **UART** Settings




You can configure the following UART parameters by using the Cypress USB-Serial Configuration Utility:

a. Baud Rate
b. Type
c. Data Width
d. Stop Bits
e. Parity
f. Invert RTS
g. Invert CTS
h. Invert DTR
i. Invert DSR
j. Invert DCD
k. Invert RI
l. Drop packets on RX error
m. Disable CTS and DSR pull-up during suspend

- **Baud Rate**

  Default value: 115200

  You can set the baud rate for the UART in an editable drop-down combo box that lists the predefined, standard baud rates. You can also enter a specific baud rate in the combo box. The minimum and maximum baud rates supported by this board are 300 bps and 3 Mbps, respectively.

- **Type**

  Default value: 8 pin

  You can set the UART type to:

  a. 2 pin (RXD and TXD pins)
  b. 4 pin (RXD, TXD, RTS#, and CTS# pins)
  c. 6 pin (RXD, TXD, RTS#, CTS#, DSR#, and DTR# pins)

d. 8 pin (RXD, TXD, RTS#, CTS#, DSR#, DTR#, RI#, and DCD#)

- **Data Width**

  Default value: 8 bits

  You can set the UART Data width to either 7 bits or 8 bits.

- **Stop Bits**

  Default value: 1 bit

  You can set the number of UART stop bits to either 1 bit or 2 bits.

- **Parity**

  Default value: None

  You can set the parity for the UART data transfer to either None, Odd, Even, Mark, or Space.

- **Invert RTS**

  Default value: Unchecked

  By checking this option, the polarity of the RTS line can be inverted.

- **Invert CTS**

  Default value: Unchecked

  By checking this option, the polarity of the CTS line can be inverted.

- **Invert DTR**

  Default value: Unchecked

  By checking this option, the polarity of the DTR line can be inverted.

- **Invert DSR**

  Default value: Unchecked

  By checking this option, the polarity of the DSR line can be inverted.

- **Invert DCD**

  Default value: Unchecked

  By checking this option, the polarity of the DCD line can be inverted.

- **Invert RI**

  Default value: Unchecked

  By checking this option, the polarity of the RI line can be inverted.

- **Drop packets on RX error**

  Default value: Unchecked

  This parameter defines the behavior of the UART when an error is detected in the packet received (RX packet/byte). When this option is selected, the data packet/byte in the RX buffer is discarded.

- **Disable CTS and DSR pull-up during suspend**

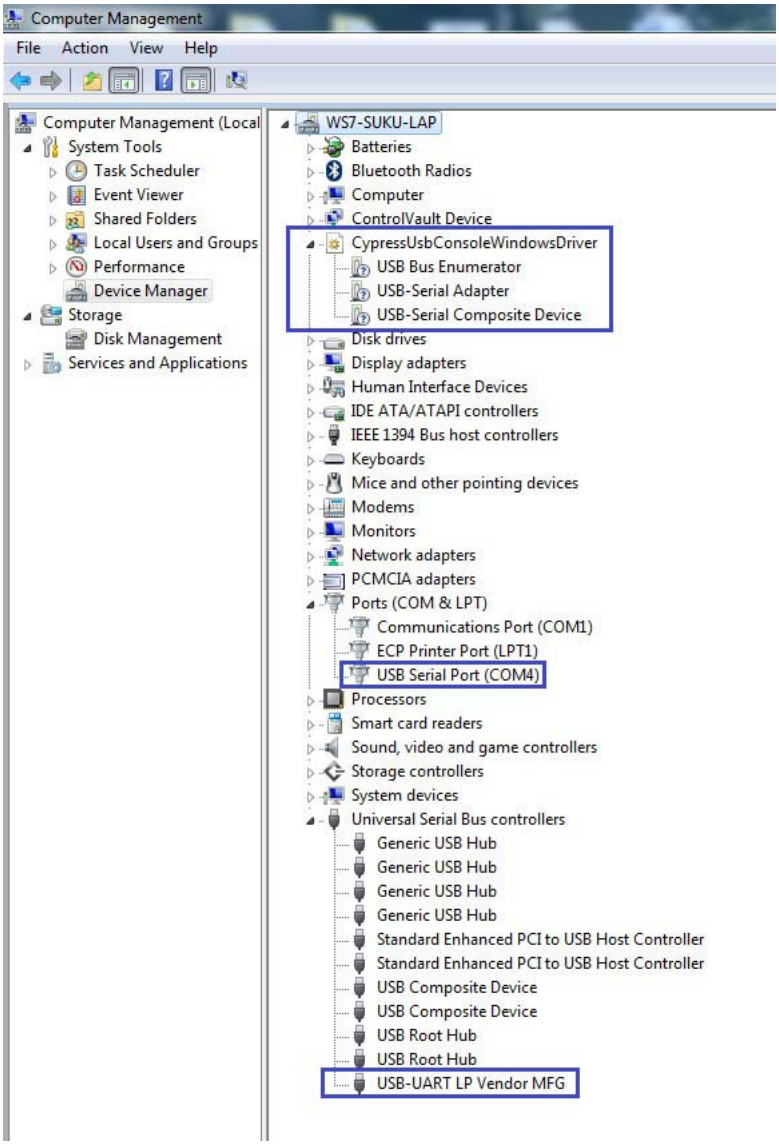
  Default value: Checked

  In an embedded system, this parameter can be checked to reduce system current consumption during Suspend state. This parameter disables the CTS and DSR pull-up resistors in the Suspend state to meet USB 2.0 Specification current requirements.

4. After the UART configuration is complete, click **OK** to close the **Configure UART Settings** window and return to the **UART** tab.
5. Select **CDC** as the protocol in the drop-down menu.

6. After configuring the UART interface, click the **Program** button to save the changed UART settings onto the controller. On successful programming, the "Program Succeeded" message appears.
7. Click the **Disconnect** button to disconnect the board from the Configuration Utility.
8. Disconnect and reconnect the USB micro-B cable to the micro-B connector on the RDK to initiate a power-on-reset of the controller. The controller is reinitialized with the new parameters and the board re-enumerates, as shown in Figure 3-12.

Figure 3-12. CYUSBS232 RDK Enumeration as USB-UART in Device Manager




9. The Cypress USB-Serial Configuration Utility is displayed, as shown in Figure 3-6.