Silicon Labs CP210x USB-to-UART Setup Guide

Version 1.2

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Revision History

Version	Description	Date
1.0	Initial release for Windows XP/Vista/7	2/23/11
1.1	Updated links, verified with IDS 13.2 and Windows 7	9/6/11
1.2	Updated to include CP2104 and screenshots from Win7	8/5/13

Overview

Many of the Avnet evaluation boards are equipped with the Silicon Labs CP2102 or CP2104 USB-to-UART Bridge ICs. This connects a PC's USB port to the evaluation board and looks like a UART to the PC. A virtual COM port will be created on the PC by means of a Silicon Labs CP210x USB-to-UART bridge driver.

To install the Silicon Labs drivers follow the instructions listed below.

Procedure 1: Download and Install the required software

1. Browse to the Silicon Labs website:

    http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx

2. Download the "VCP Driver" for your PC's operating system.

Figure 1 – Select the VCP Driver Kit to download (Example shown for WinXP/7/8)

3. Extract the .zip archive from the download.

4. Install the driver-kit by running one of the **.EXE** programs included in the archive. For example, for Windows 64-bit, the file is: `CP210xVCPInstaller_x64.exe`

5. Step through the guided installer. Accept the license agreement and install the software on your PC. Click **FINISH** when completed.
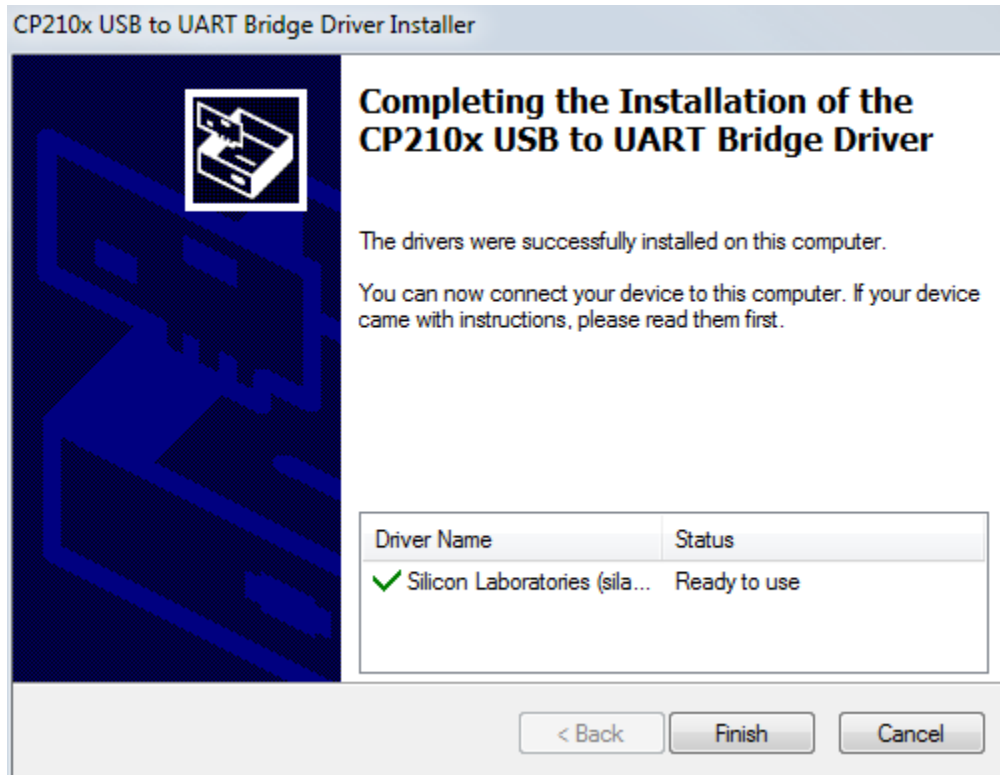

Figure 2 – Installation of the CP210x driver software

Now you can connect the evaluation board's USB-to-UART port to one of the USB ports on your PC. The new hardware detection will pop up and enumeration of the driver will be started.

Once finished a virtual COMx port is created and you are ready to setup a connection using a terminal emulator. On Windows 7, Tera Term has been successfully verified.

To determine the COMx port assigned to the USB-to-UART bridge, follow these instructions:

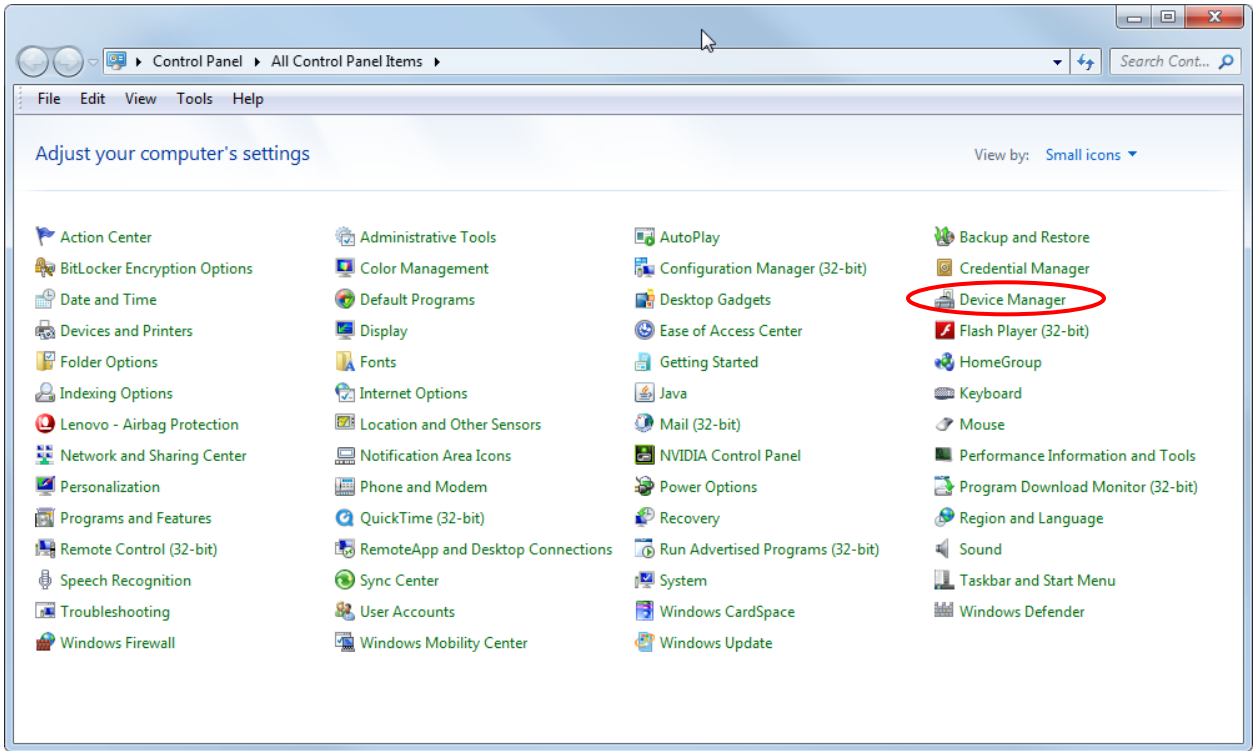6. Open the Windows Device Manager. Open Windows **Control Panel**, then click on **Device Manager**.

Figure 3 – Opening Device Manager

7. In the Device Manager, scroll down to Ports and expand the list. You will see the **Silicon Labs CP210x USB to UART Bridge** and its assigned COM port. In the example below, it is COM9.
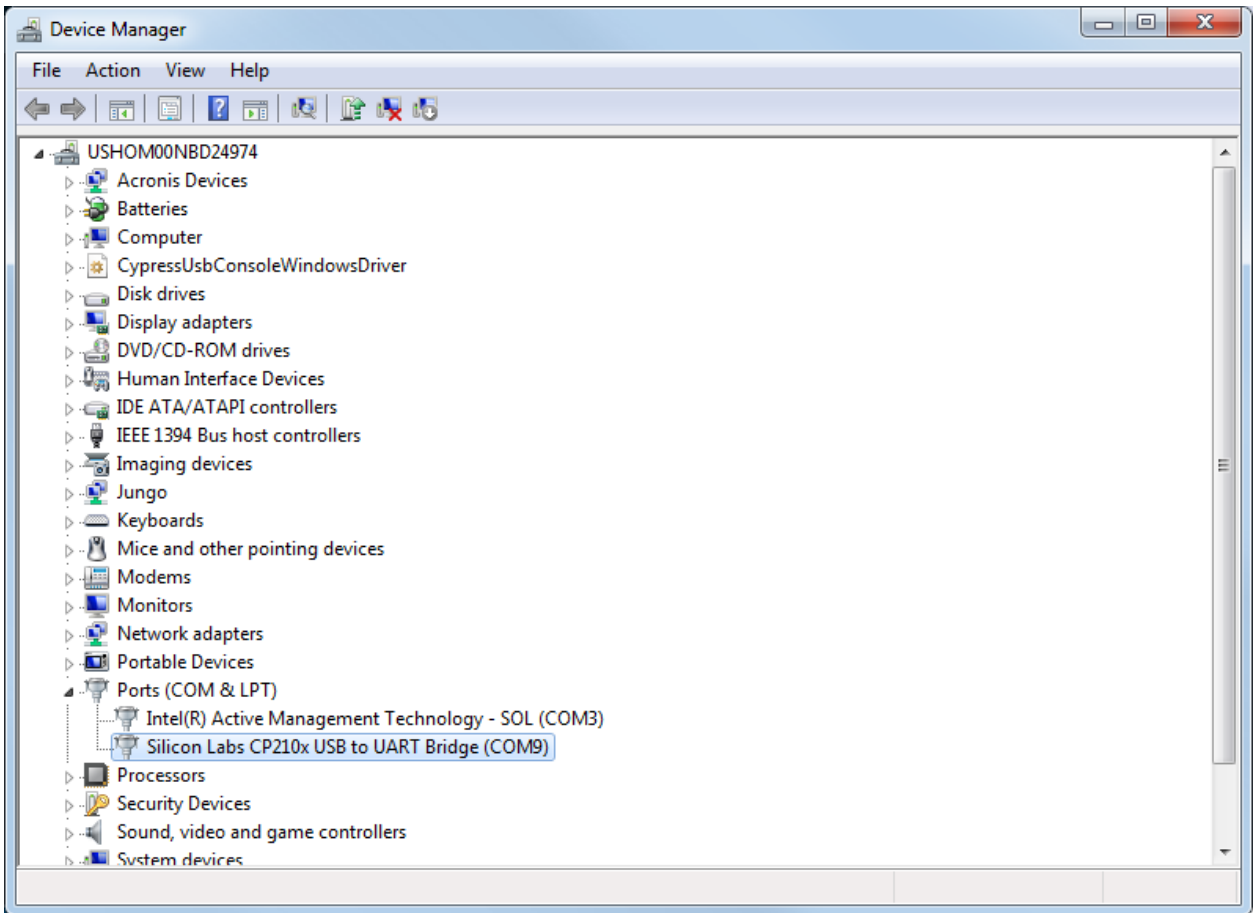

Figure 4 – Identifying COM Port Address

The UART configuration is dictated by your design. For many preprogrammed evaluation kits, the default setup is 115,200 Baud, 8 bits data and no parity. An example is shown using Tera Term in Windows 7.

8. Open Tera Term by **Start → All Programs → Tera Term → Tera Term.** Tera Term may attempt to open a default COM port and fail, resulting in a message as shown below. click **OK** to clear the error.
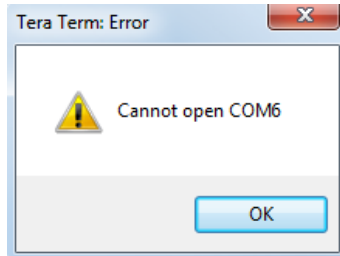

Figure 5 – Failed to Open Default COM Port

9. Select **Setup → Serial port…** Select the COMx port that you previously discovered in the Device Manager. Fill in the settings to match the UART interface in your design. The example below shows 115200/8/n/1/n.
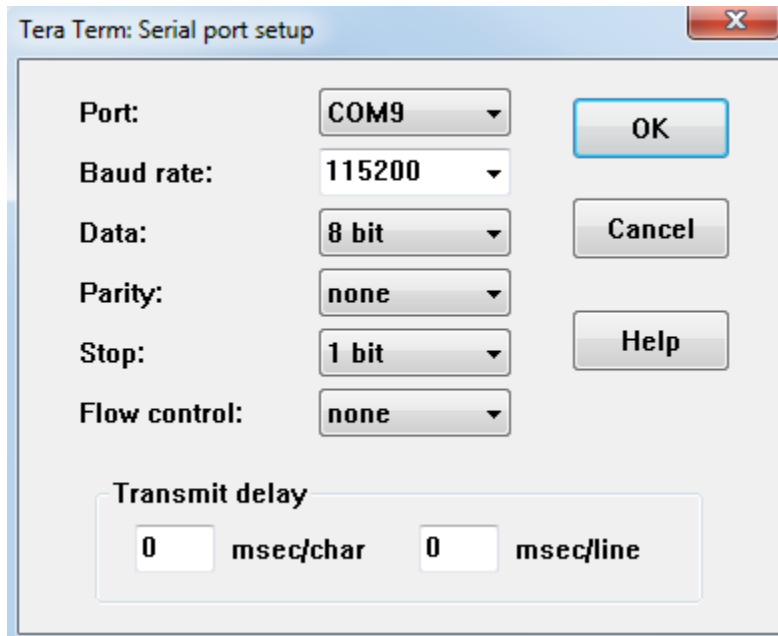

Figure 6 – Connect Tera Term to the proper COMx port

Tera Term is now connected to the evaluation board and ready to be used. This completes the setup of the Silicon Labs CP210x USB-to-UART Bridge interface.

For more information on Silicon Labs, please visit their website at:
http://www.silabs.com

For more information on Avnet evaluation boards please visit our Design Resource Center at:
http://www.em.avnet.com/drc.