

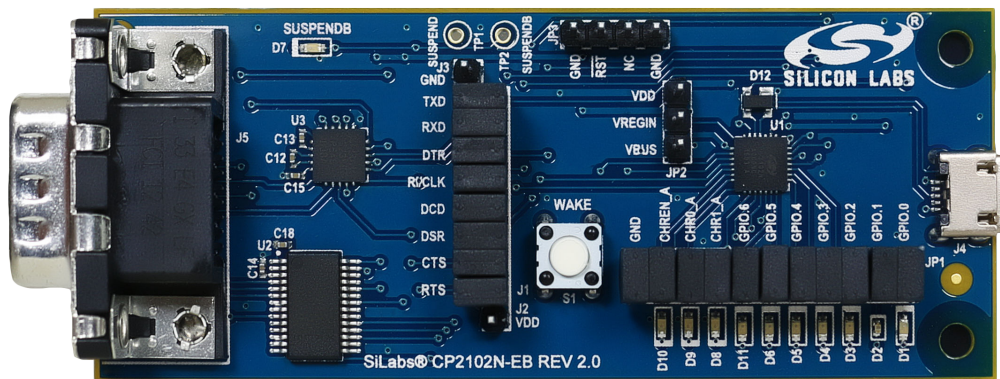
# QSG123: CP2102N Evaluation Kit Quick-Start Guide

The CP2102N-EK kit is designed to showcase the various features of the CP2102N USBXpress® devices.

These highly-integrated USB-to-UART bridge controllers provide a simple solution for updating RS-232 designs to USB using a minimum of components and PCB space. By eliminating the need for complex firmware and driver development, the CP2102N devices enable quick USB connectivity with minimal development effort.

## KIT CONTENTS

- CP2102N USB-to-UART Bridge Evaluation Board
- 1 x micro USB cable
- 1 x serial cable
- Getting Started card



## 1. Getting Started

### 1. Download and Install the Latest Virtual COM Port (VCP) Drivers.

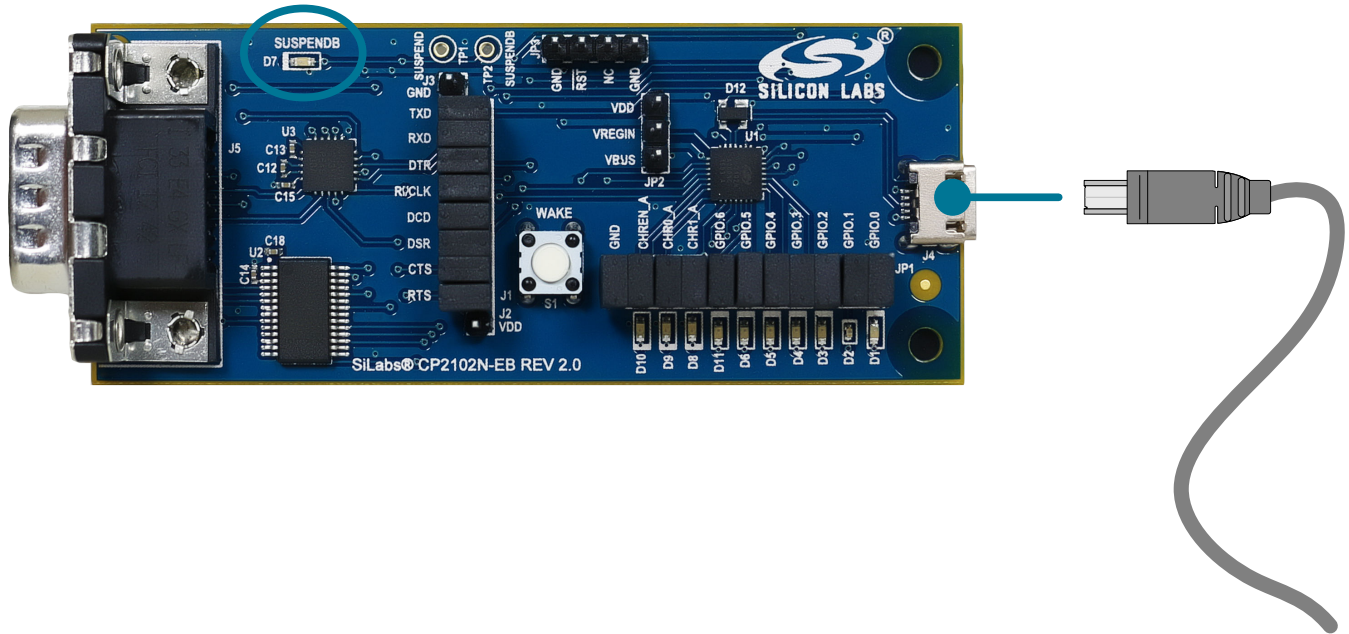
The Virtual COM Port (VCP) drivers enable the CP2102N to appear as a standard COM port. Download the latest version of drivers from the Silicon Labs website:

<http://www.silabs.com/vcpdrivers>

In most cases, select the default option without serial enumeration.

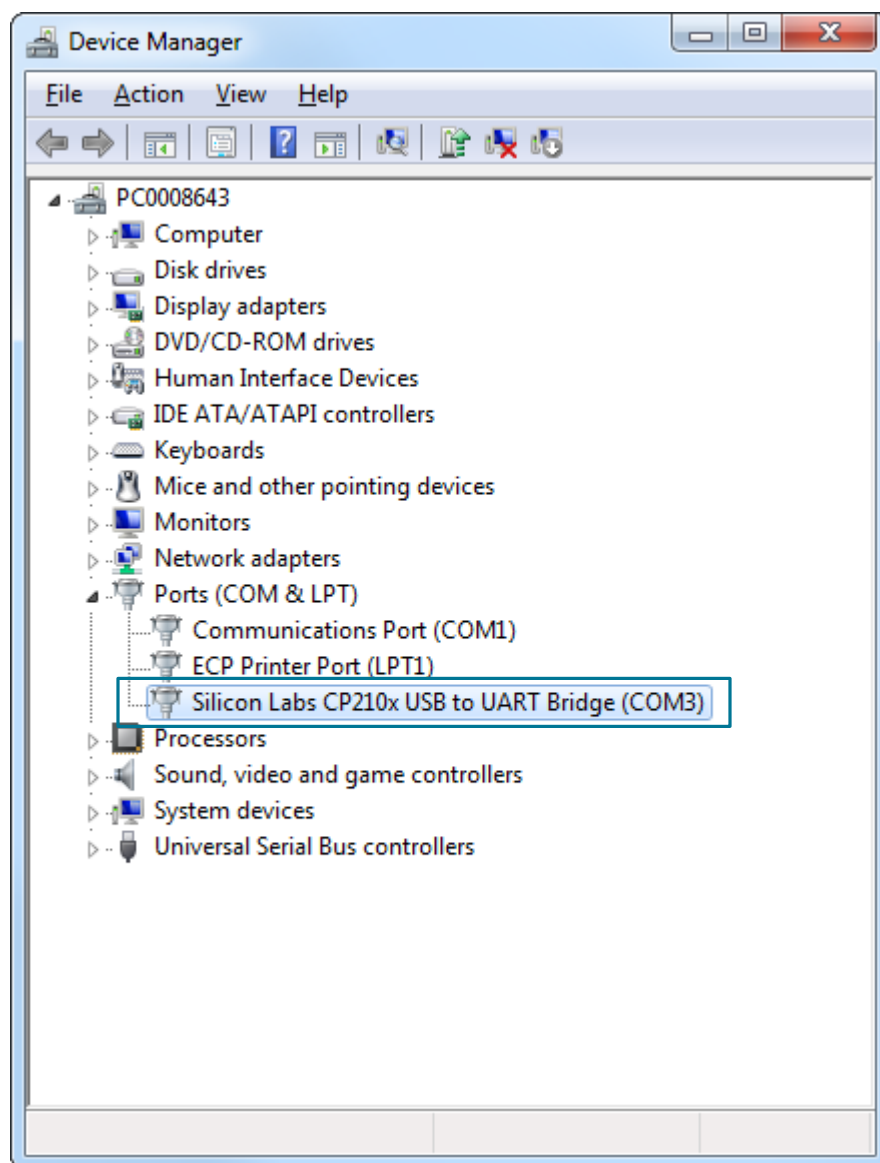
### 2. Set Up Your Kit.

- Provide power to the board by connecting the USB connector to the PC using the provided USB cable. When a connection has been established successfully, the LED (marked in the picture) lights up.
- Connect the serial cable to an external device or use the J1 header to jumper UART signals to the external device.



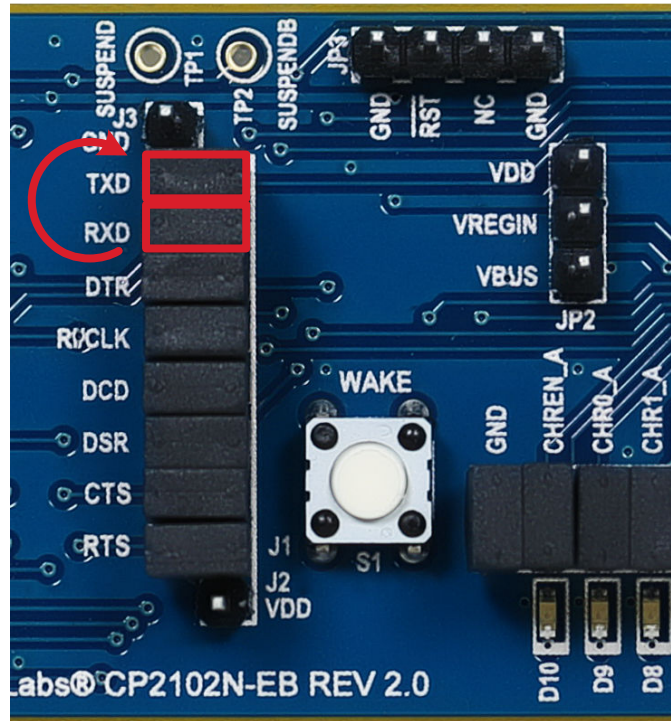
### 3. Detect Your Device.

The CP2102N device will appear as a COM port in Device Manager in Windows. As a virtual COM port, the CP210x functions identically to a real COM port from the reference point of both the host application and the serial device, and it can support serial device control requests defined in the Microsoft Win32® Communications API.



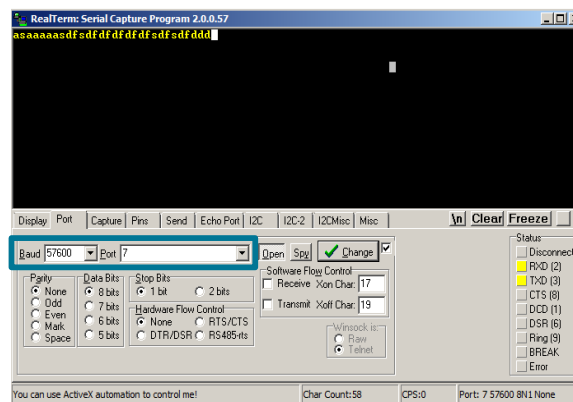
#### 4. Set up a Loop-Back Test.

Rotate the jumpers on the CP210x 7 RX and TX pins to tie RX and TX together and perform a loop back test.



## 5. Send and Receive Some Data

- In Windows, open a serial terminal program (downloaded separately, RealTerm pictured) to verify the CP2102N UART functionality.
- Set the baud rate and select the COM port from Device Manager.
- Type in the transmit area. The characters should echo back after looping through the CP2102N TXD and RXD pins.



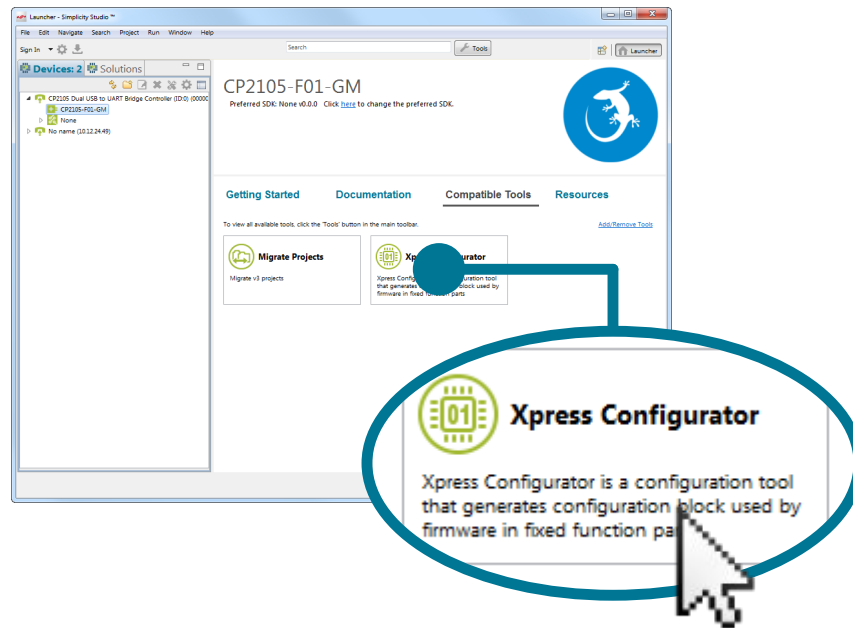
## 6. Utilize the Available Resources

The next section includes additional resources available for the device, including documentation and application notes.

## 2. Resources

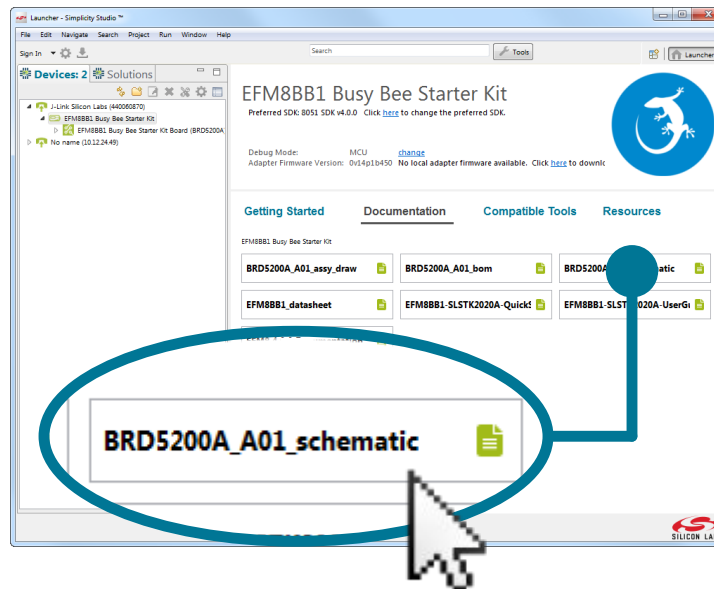
### Xpress Configurator

The various GPIO and other features of the CP2102N can be configured using the **Xpress Configurator** tool within Simplicity Studio (<http://www.silabs.com/simplicity-studio>). Documentation for Xpress Configurator can be found in *AN721: CP210x Device Customization Guide*, which can be found on the Silicon Labs website ([www.silabs.com/interface-appnotes](http://www.silabs.com/interface-appnotes)) or within Simplicity Studio using the **[Getting Started]>[Application Notes]** area of the launcher.



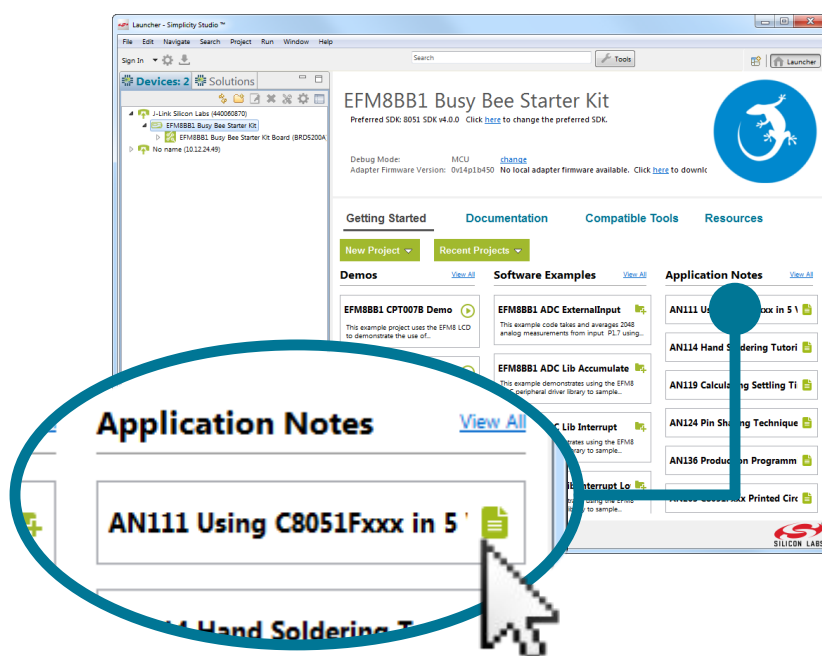
### Kit Documentation and User's Guide

Kit documentation like the schematic and detailed board description can be found using the **[Documentation]** area of the launcher. The User's Guide will be a valuable document to reference while using the device.



## CP2102 to CP2102N Migration Guide

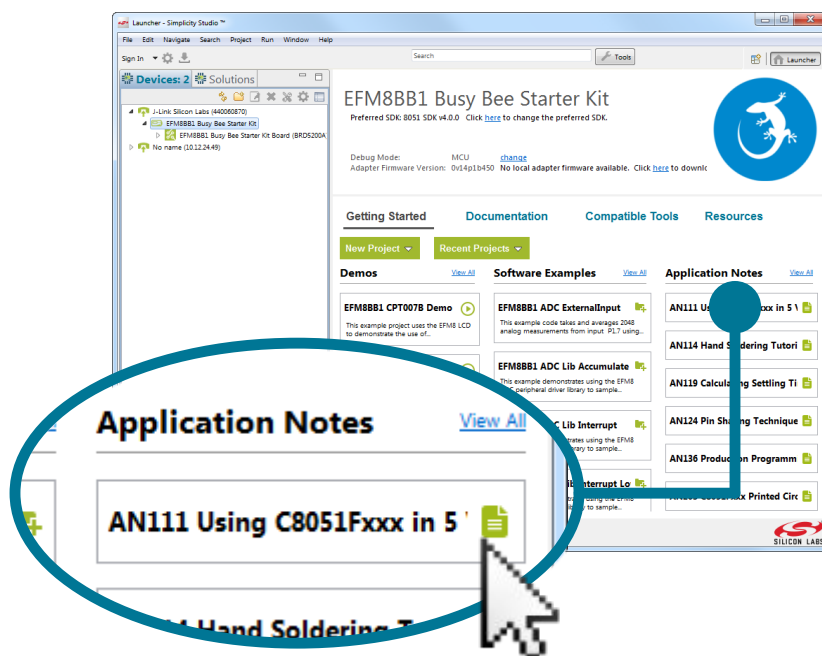
Migrating a product from the CP2102 to the CP2102N? View *AN976: Migrating from a CP2102 to a CP2102N* for more information on differences and similarities between these products. This document can be found on the Silicon Labs website ([www.silabs.com/interface-appnotes](http://www.silabs.com/interface-appnotes)) or within Simplicity Studio using the [Getting Started]>[Application Notes] area of the launcher.



## Other Application Notes

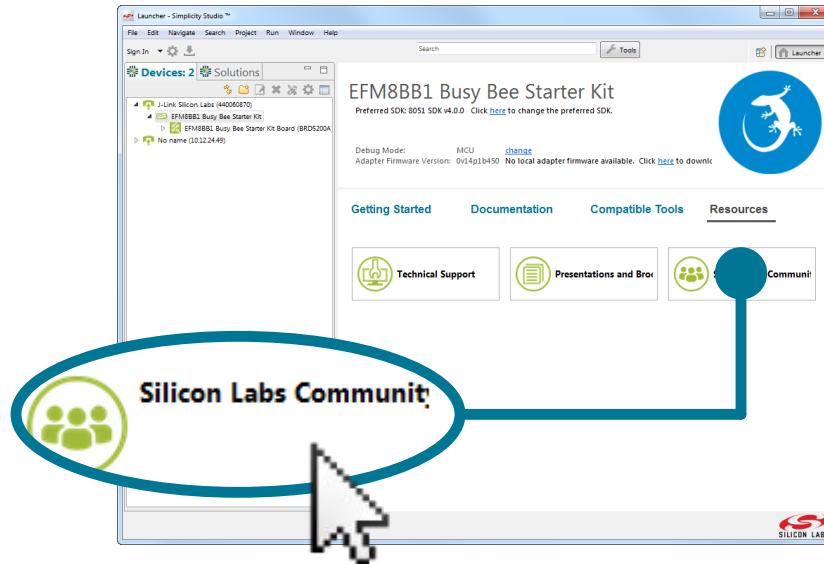
Application Notes can be accessed on the Silicon Labs website ([www.silabs.com/interface-appnotes](http://www.silabs.com/interface-appnotes)) or within Simplicity Studio using the [Getting Started]>[Application Notes] area of the launcher. Some application notes that are available are as follows:

- *AN721: CP210x Device Customization Guide*—This application note guides developers through the configuration process of USBXpress devices using Simplicity Studio [Xpress Configurator].
- *AN220: USB Driver Customization*—This document and accompanying software enable the customization of the CP210x Virtual COM Port (VCP) and USBXpress drivers.
- *AN197: Serial Communications Guide for CP210x*—This document describes recommendations for communicating with USBXpress CP210x devices using the Virtual COM Port (VCP) driver.

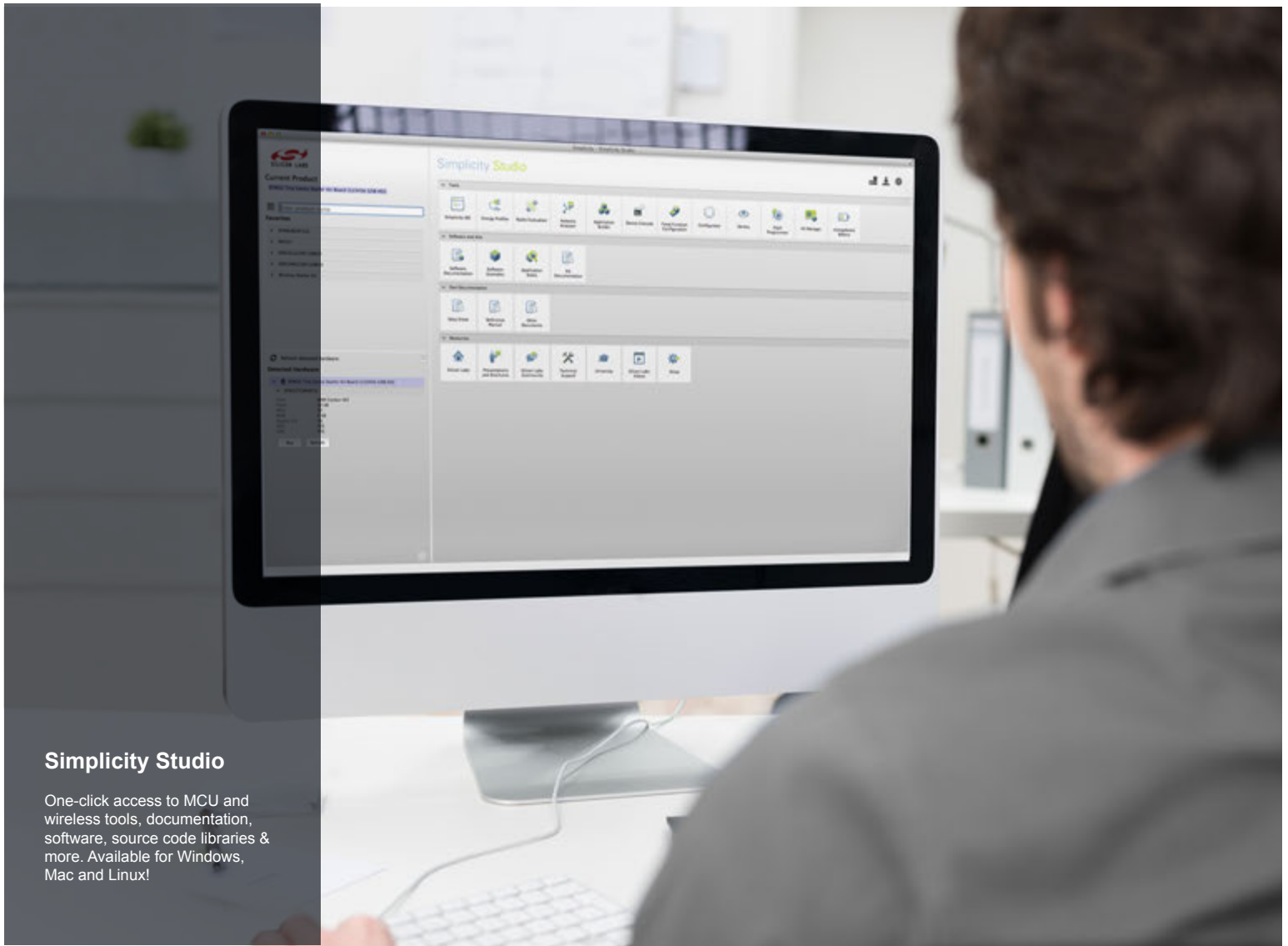


## Community and Support

Have a question? Visit the community by clicking the **[Resources]>[Silicon Labs Community]** area of the launcher.







## Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!



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**SW/HW**  
[www.silabs.com/simplicity](http://www.silabs.com/simplicity)



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