



# SILICON LABS CP2102N Mini Evaluation Kit User Guide

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**SILICON LABS CP2102N Mini Evaluation Kit**



The CP2102N-MINIEK 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.

J5	J2
VDD	GND
VDD	TXD
VREGIN	RXD
GPIO.0	CTS
GPIO.1	RTS
GPIO.2	VBUS
GPIO.3	SUSPENDb
RSTb	SUSPEND
CHREN	GND
CHR1	CHR0

## Getting Started

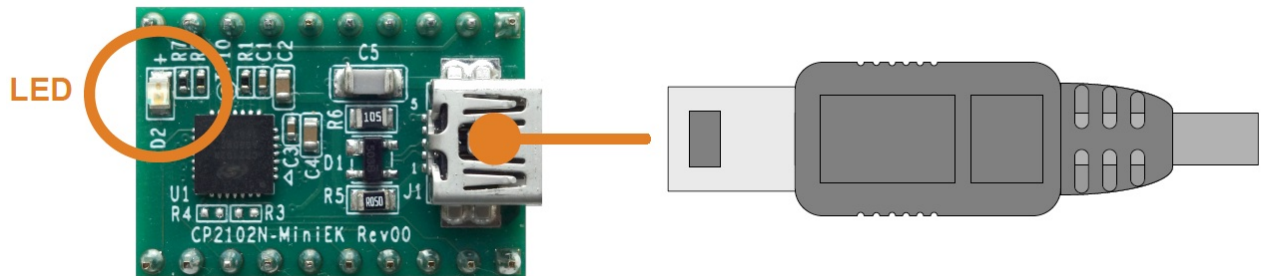
1. Download and Install the Latest Virtual COM Port (VCP) Drivers.

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.

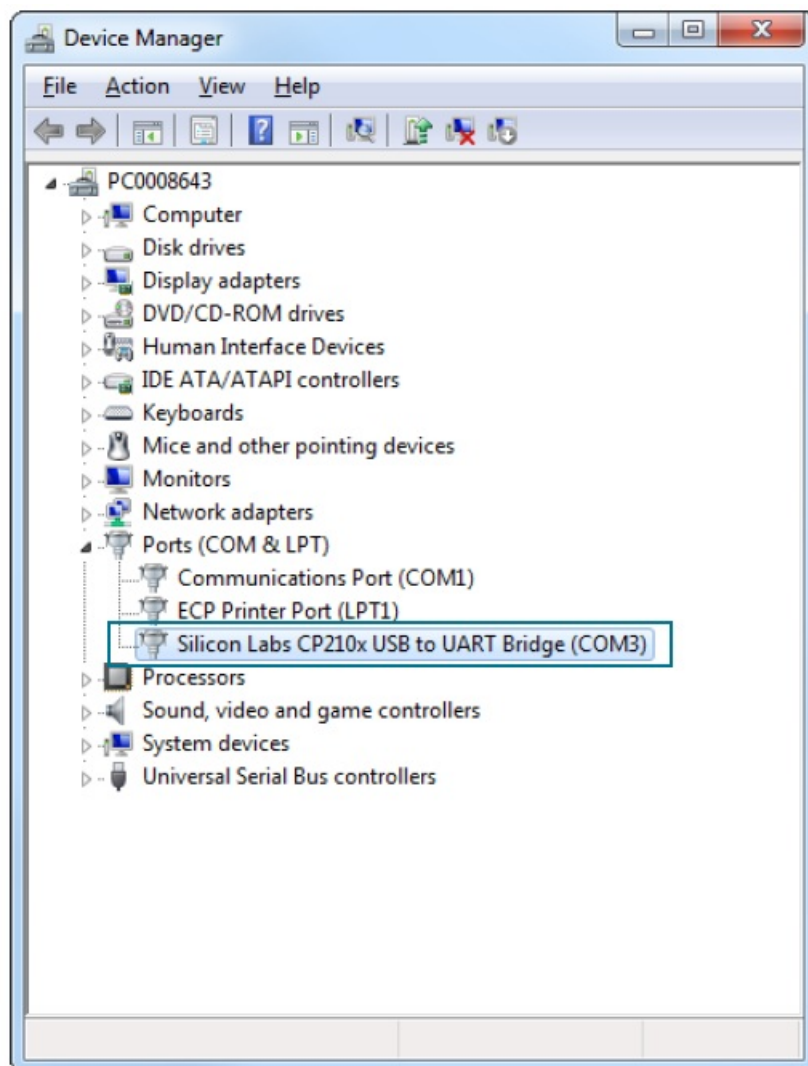
## 2. Set Up Your Kit.

- Provide power to the board by connecting the mini USB connector to the PC using a mini USB cable (not provided). When a connection has been established successfully, the LED (marked in the picture) lights up.



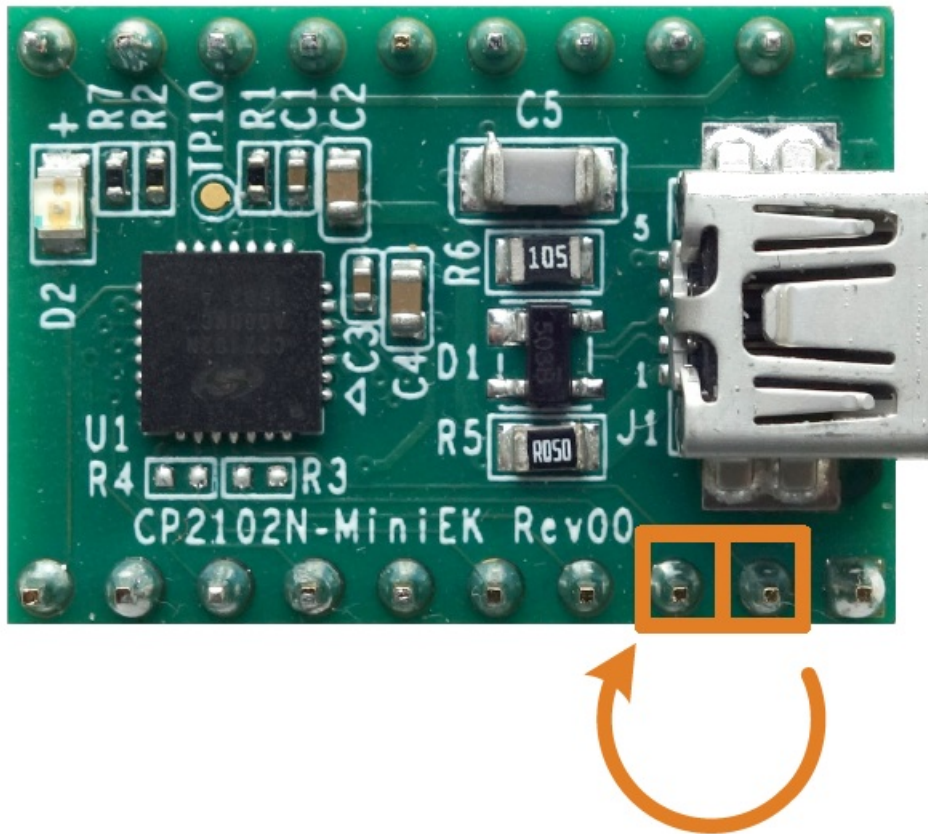
## 3. Detect Your Device.

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.



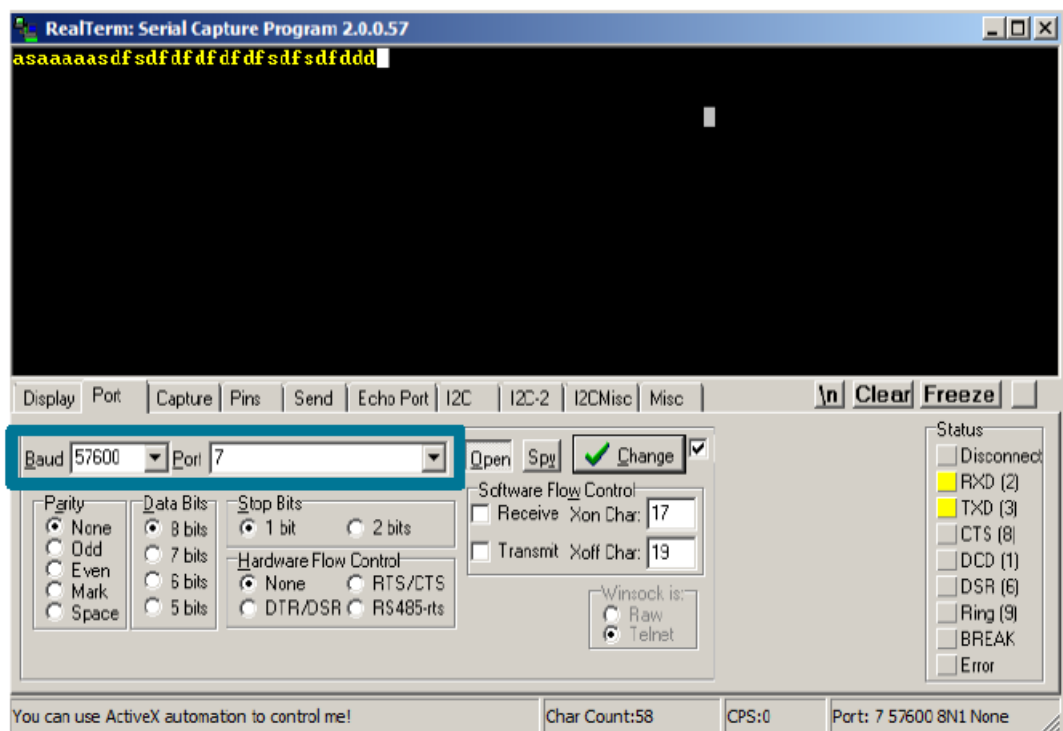
## 4. Set up a Loop-Back Test.

Short the CP210x RXD and TXD pins on header J2.



##### 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.



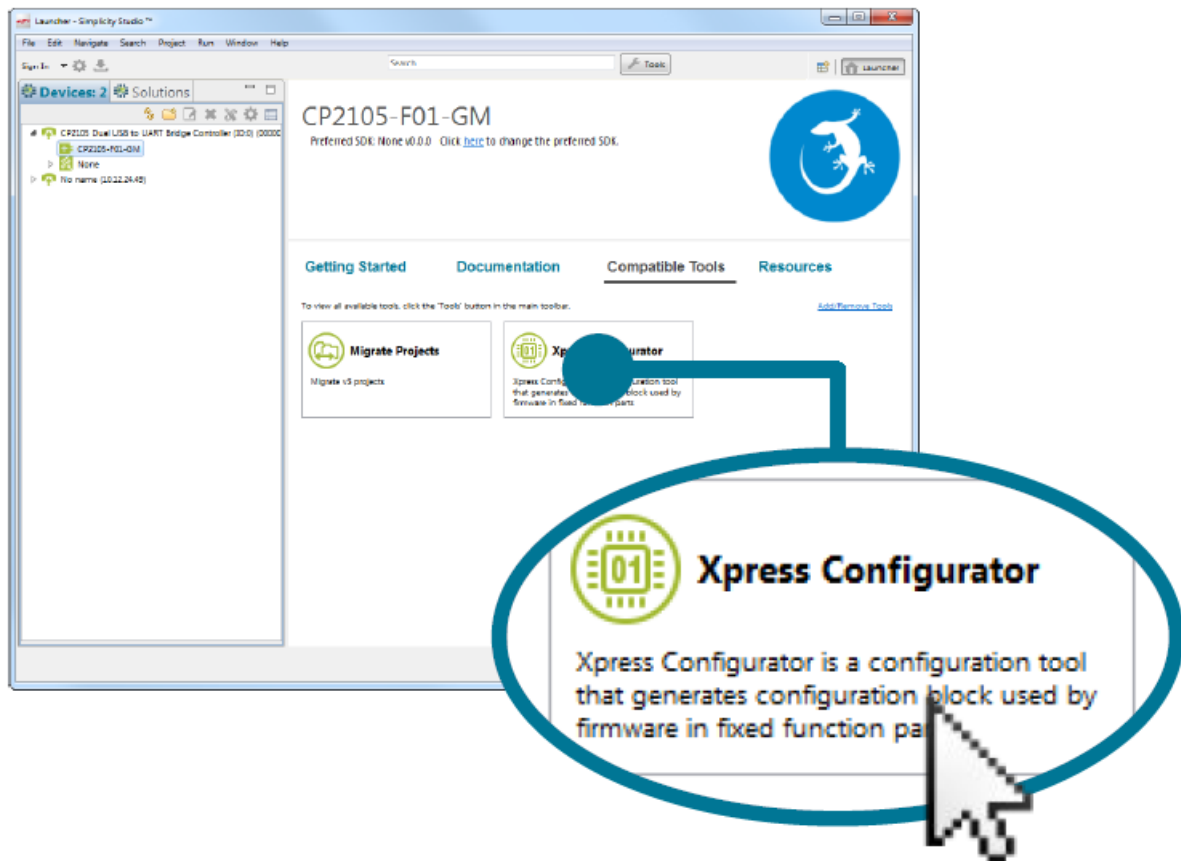
##### 6. Utilize the Available Resources

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

## Resources

### Xpress Configurator

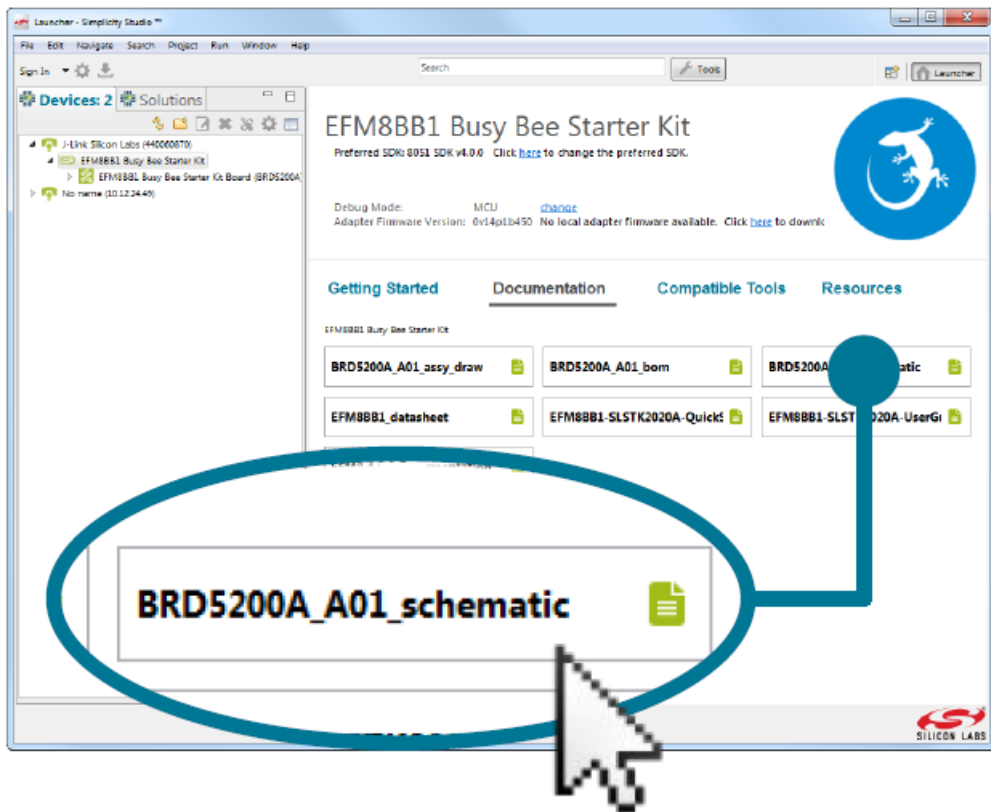
The various GPIO and other features of the CP2102N can be configured using the [Xpress Configurator] tool within Simplicity Studio (<http://www.silabs.com/simplicity-studio>). Documentation for Xpress Configurator can be found in AN721: CP210x Device Customization Guide, which can be found on the Silicon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

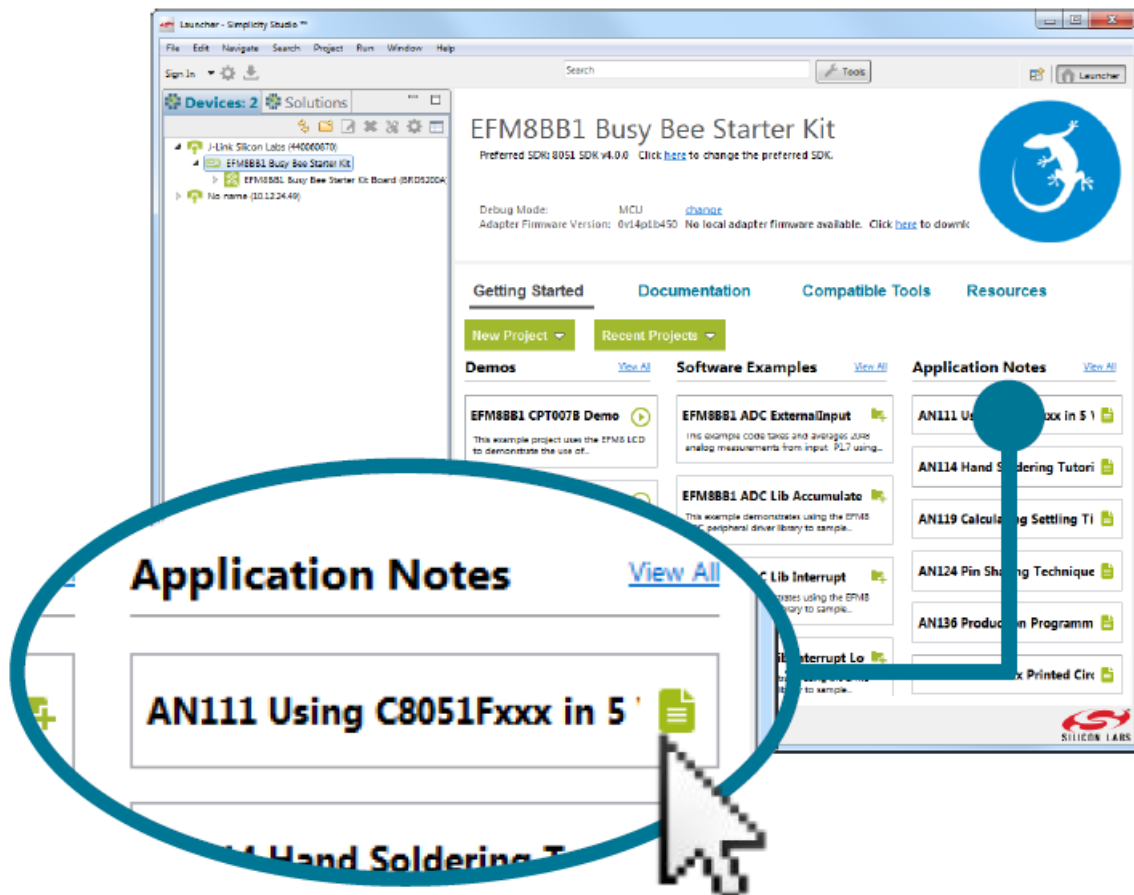
Kit documentation like the schematic and detailed board description can be found using the [Documentation] area of the launcher. The User's Guide will be a valuable document to reference while using the device.





### CP2102 to CP2102N Migration Guide

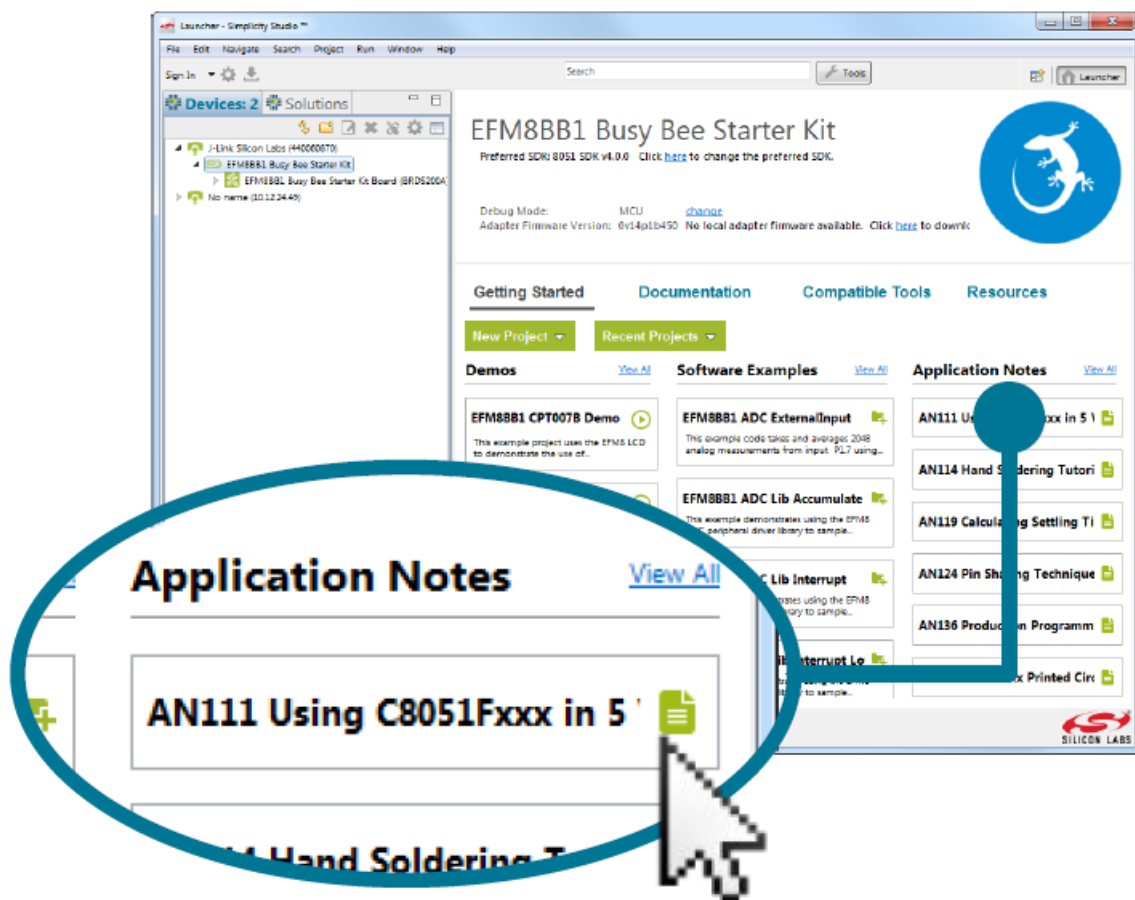
Migrating a product from the CP2102 to the CP2102N? View AN976: Migrating from a CP2102 to a CP2102N for more information on differences and similarities between these products. This document can be found on the Silicon Labs website ([www.silabs.com/interface-appnotes](http://www.silabs.com/interface-appnotes))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



## Other Application Notes

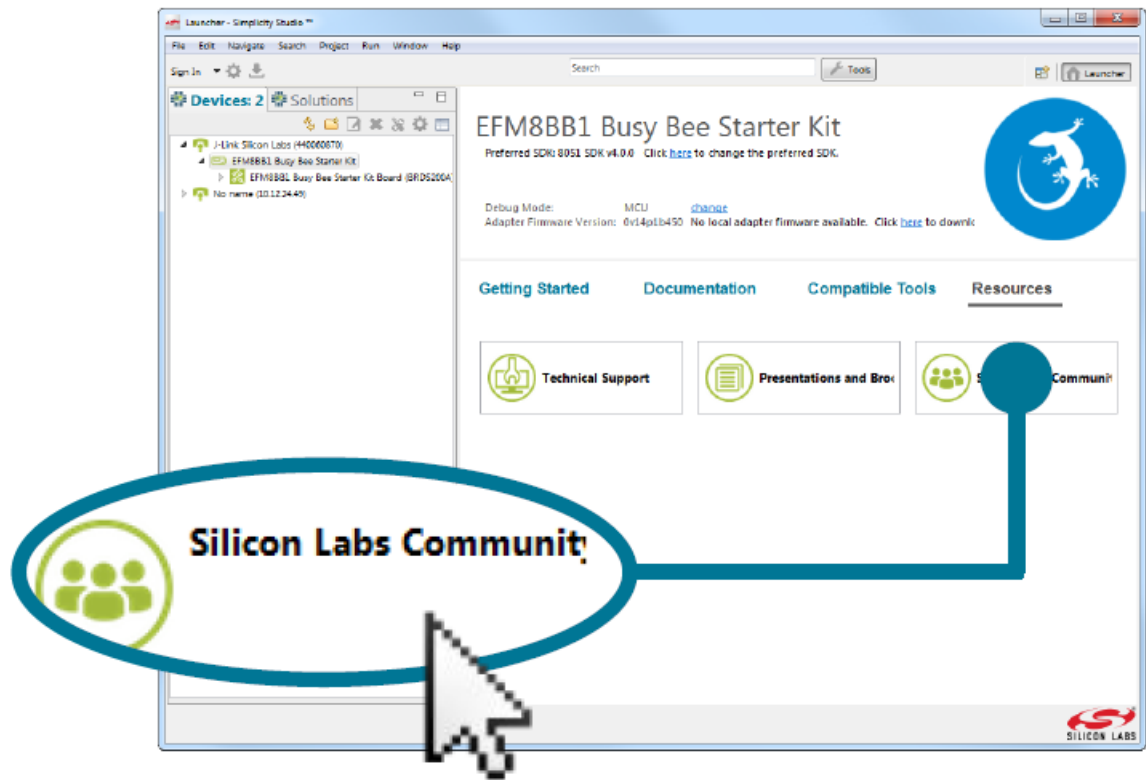
Application Notes can be accessed on the Silicon Labs website ([www.silabs.com/interface-appnotes](http://www.silabs.com/interface-appnotes)) or within Simplicity Studio using the [Getting Started]>[Application Notes] area of the launcher. Some application notes that are available are as follows:

- AN721: CP210x Device Customization Guide—This application note guides developers through the configuration process of USBX-press 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!





The advertisement features a person in a blue shirt looking at a computer monitor. The monitor displays the Silicon Labs Simplicity Studio 4 logo and an illustration of a development kit on a desk. Below the monitor, a dark grey banner contains four icons and their corresponding links: a globe for IoT Portfolio, crossed wrench and screwdriver for SW/HW, a 10-year anniversary clock for Quality, and a group of people for Support and Community.

**Simplicity Studio**

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

**IoT Portfolio**  
[www.silabs.com/iot](http://www.silabs.com/iot)

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

**Quality**  
[www.silabs.com/quality](http://www.silabs.com/quality)

**Support and Community**  
[community.silabs.com](http://community.silabs.com)

## Disclaimer

Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and “Typical” parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice and limitation to product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Silicon Labs shall have no liability for the consequences of use of the information supplied herein. This document does not imply or express copyright licenses granted hereunder to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any Life Support System without the specific written consent of Silicon Labs. A “Life Support System” is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons.


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<http://www.silabs.com>

## Documents / Resources

	<p><a href="#">SILICON LABS CP2102N Mini Evaluation Kit</a> [pdf] User Guide</p> <p>QSG136, CP2102N Mini Evaluation Kit, CP2102N Evaluation Kit, Mini Evaluation Kit, Evaluation Kit</p>
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## References

- [Silicon Labs Technical Resource Search - Silicon Labs](#)
- [Silicon Labs Simplicity Studio - Silicon Labs](#)

Manuals+.