# QSG115: CPT112S SLEXP8008A Kit Quick-Start Guide

The CPT112S SLEXP8008A kit is designed to showcase the various touch features of the CPT112S I2C Capacitive Sense devices.

The device features capacitive sensing input engine with 12 inputs, buzzer feedback, mutually exclusive touch qualifier, capacitive proximity sensing input and other features, making it ideal for many capacitive touch applications.

KIT CONTENTS

- CPT112S Capacitive Sense Evaluation Board
- 1 x mini USB cable
- 1 x acrylic overlay
- Getting Started card
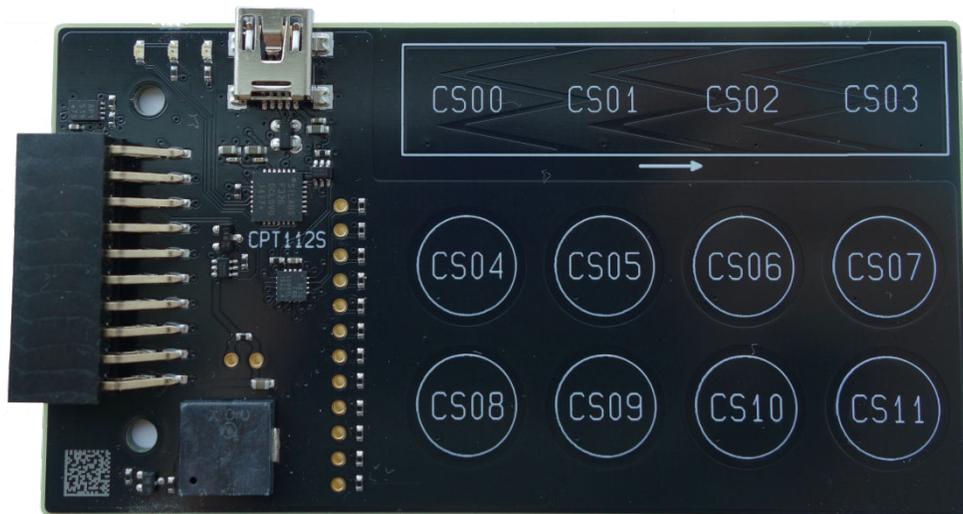
1. Getting Started

Install Simplicity Studio

Simplicity Studio is a free software suite needed to start developing your application. The various features of the device can be visualized using some of the inbuilt tools provided by the software. Download the latest version of Simplicity Studio from the Silicon Labs website:

http://www.silabs.com/simplicity-studio
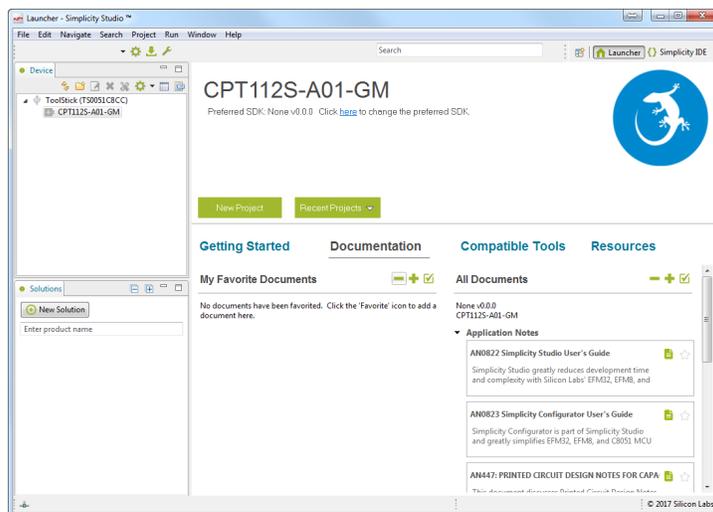
Note: The board comes pre-loaded with a default configuration that provides buzzer feedback when the capacitive sensing buttons are pressed.

Set Up Your Kit

1. Provide power to the board by connecting the DBG 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.
2. Place the acrylic overlay on the board over the capacitive sense pads.
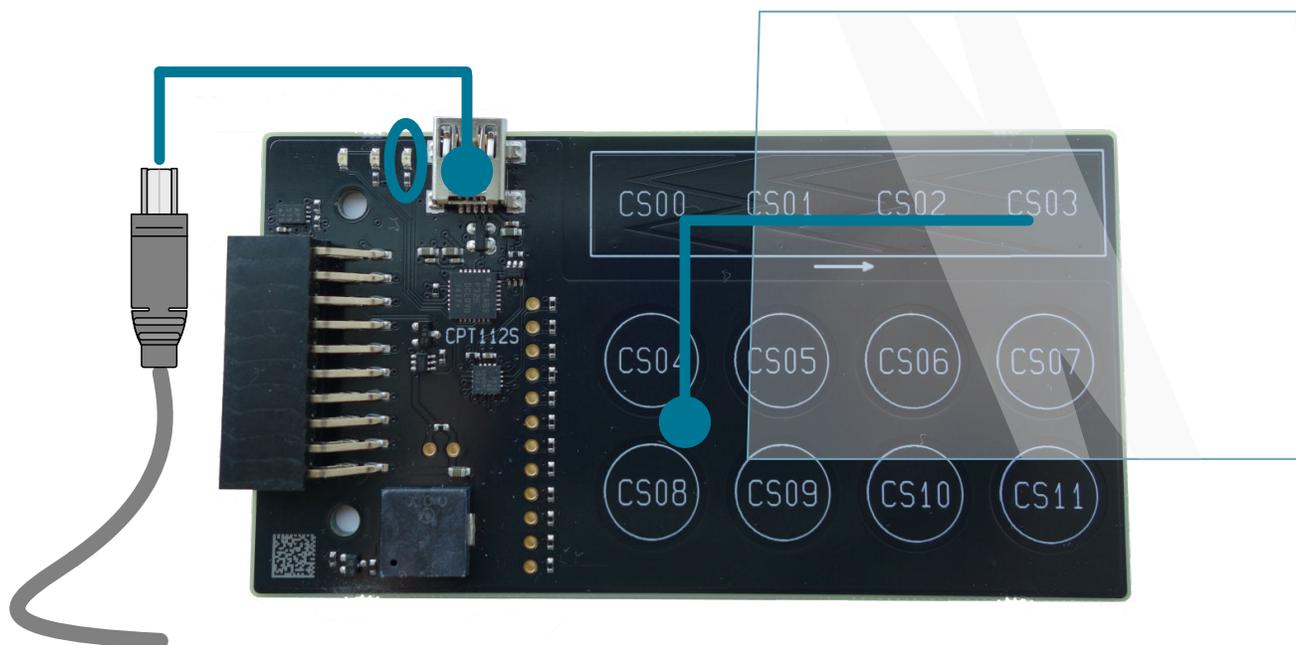
Use the Capacitive Sensing Buttons

1. Slide a finger along the capacitive sensing slider.
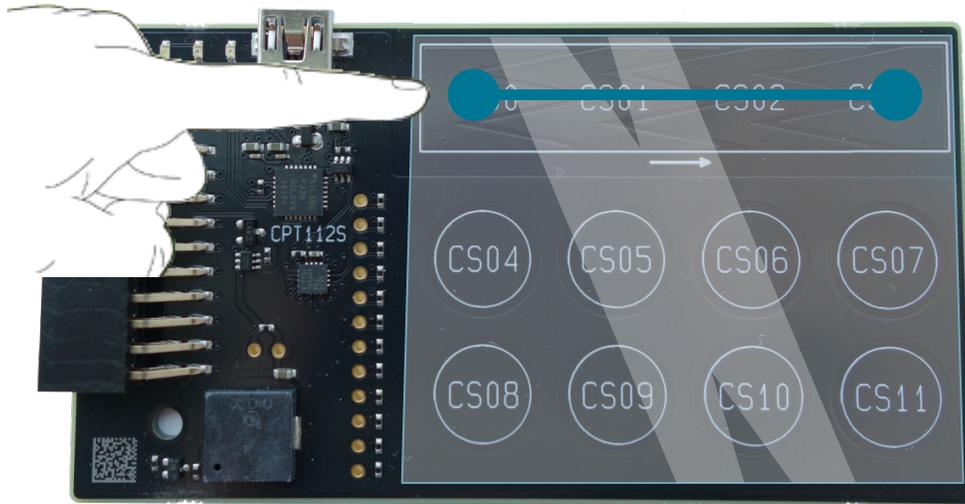

2. Place a finger on any one of the buttons: CS04, CS05, ... , CS10.
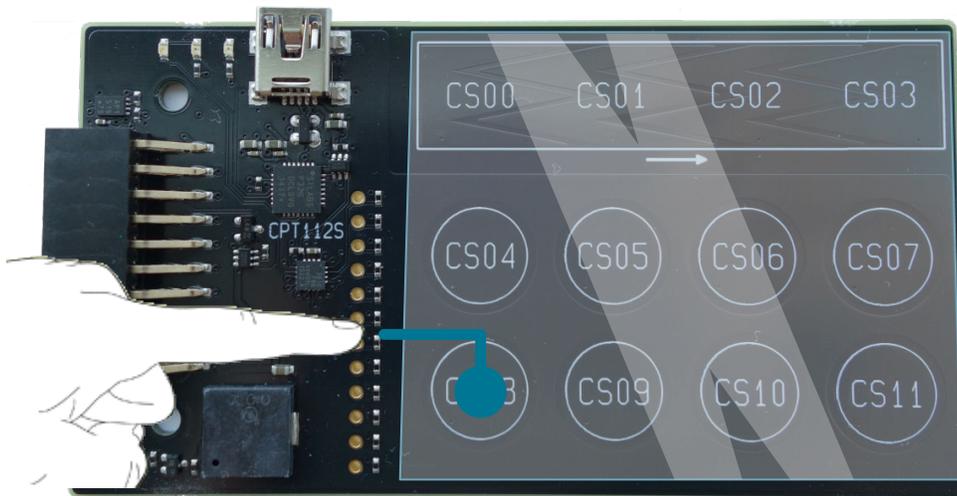
3. The CS11 button is disabled in the default configuration of the board to enable the buzzer.
4. The buzzer activates each time any of the capacitive buttons (CS04, CS05, ... , CS10) are pressed.

Detect Your Device

1. Click the [**Refresh**] button in the [**Device**] area. The board may take some time to appear due to driver installations for the debug adapter.

2. Click the [**CPT112S**]. This will verify that the installation was successful, identify the TouchXpress device on the hardware, and automatically configure the software tools for use with your device.
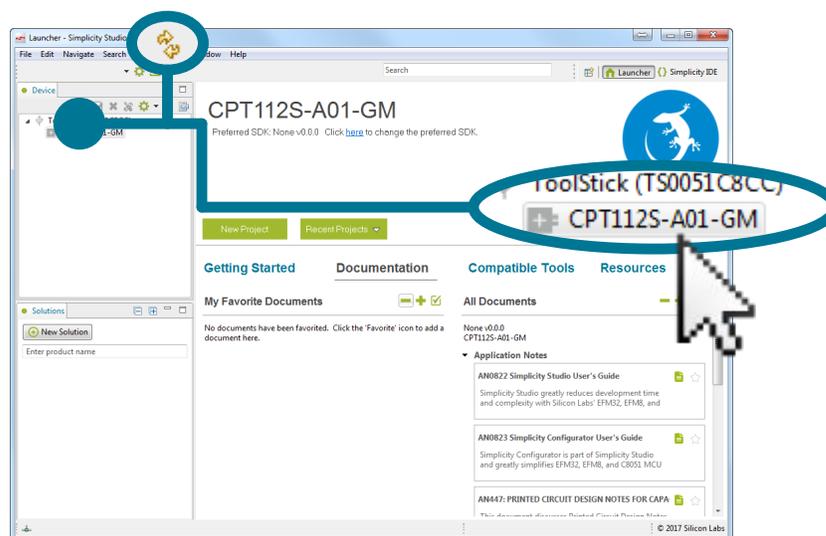
View the Capacitive Sensing Data

1. Click [**Capacitive Sense Profiler**] under [**Compatible Tools**] in Simplicity Studio.
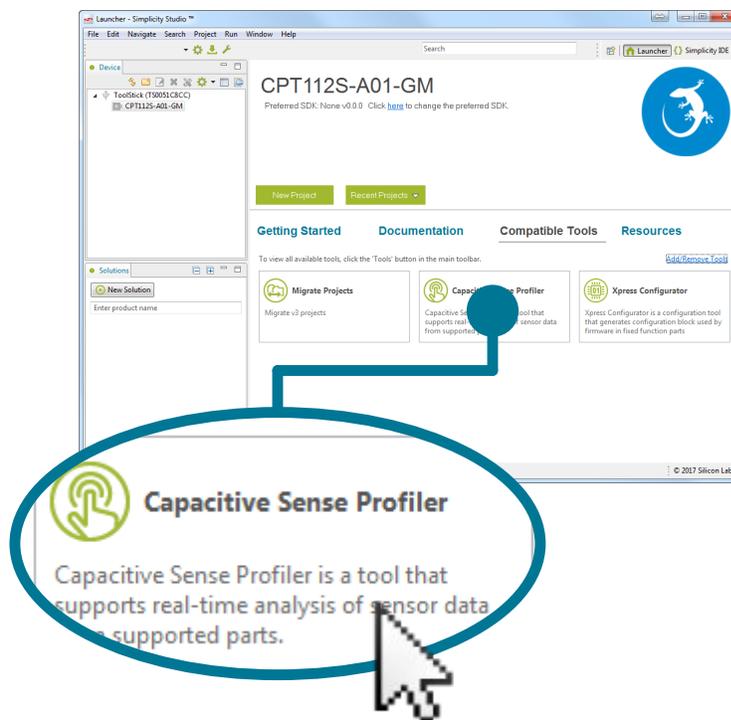
Note: The User Guide for the CPT112S SLEXP8008A board contains more information about interfacing the device with other MCUs, using the [**Xpress Configurator**] for simple configurations, and other features.

Touch and Visualize

The [**Capacitive Sense Profiler**] indicates touches, raw and processed data, and noise information in a simple-to-use GUI.

1. Touch and release any of the capacitive sensing buttons on the board. The profiler will display the measured raw data, touch detection points, and baseline.
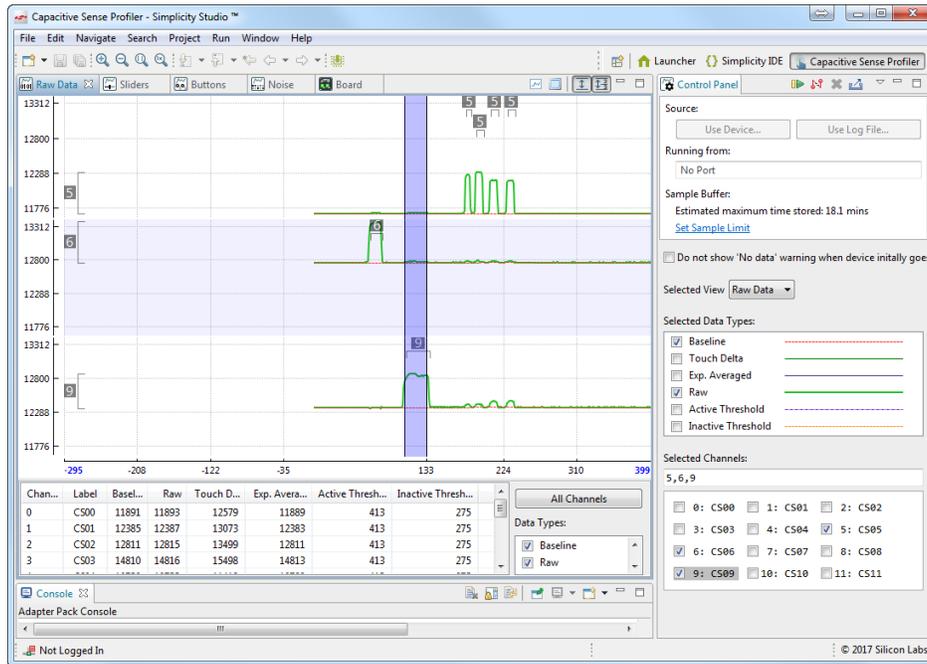
Change the Device Configuration

Based on the performance of the device in [**Capacitive Sense Profiler**], change the capacitive sense input configuration using [**Xpress Configurator**] in the [**Compatible Tools**] area.
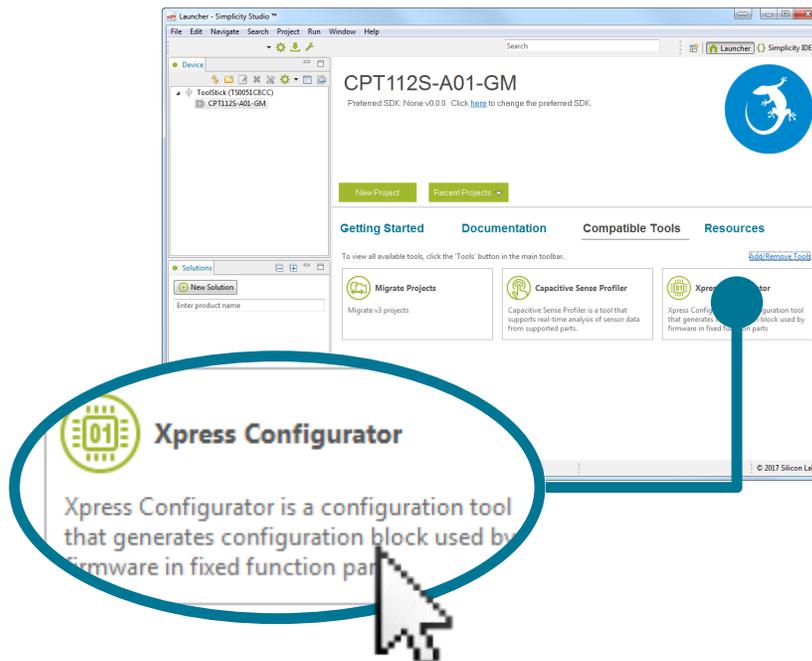
Utilize the Available Resources

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

2. Resources

Xpress Configurator

The capacitive sense inputs can be configured for different thresholds, debounce counter values, scan periods, gain, scanning methods, touch time-outs, and touch exclusiveness by using [**Xpress Configurator**] in the [**Compatible Tools**] area.
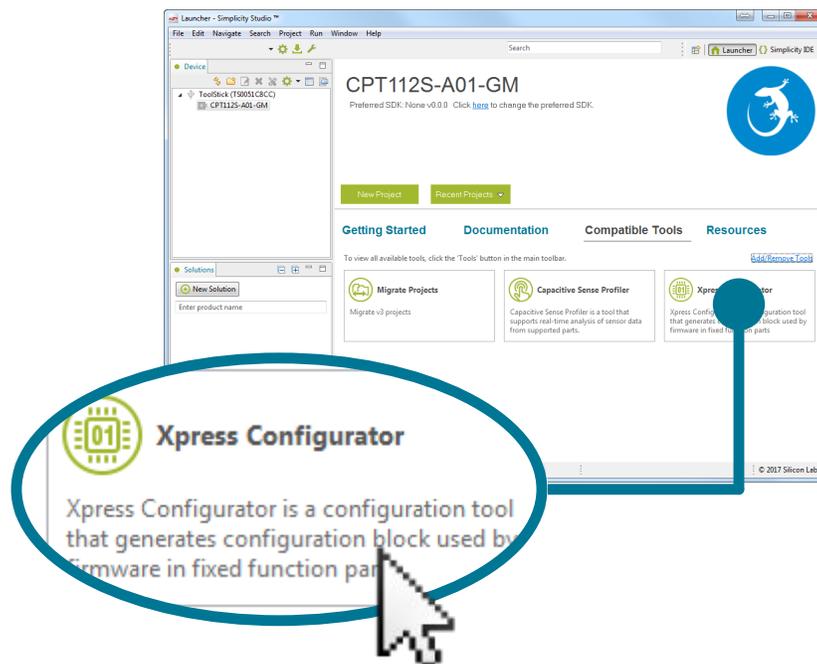

Capacitive Sense Profiler

View touch data from the device and analyze the capacitive sensing system using [**Capacitive Sense Profiler**] in the [**Compatible Tools**] area.
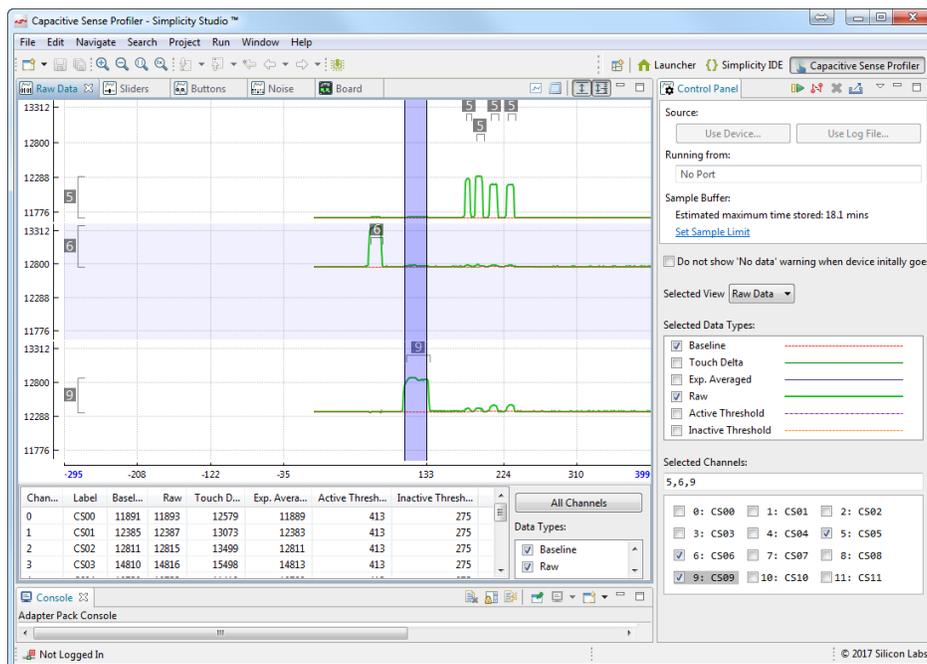
Documentation

All documents related to the device can be found in the [**Documentation**] area, including device data sheets, kit user guides, and application notes. The User's Guide will be a valuable document to reference while using the device.
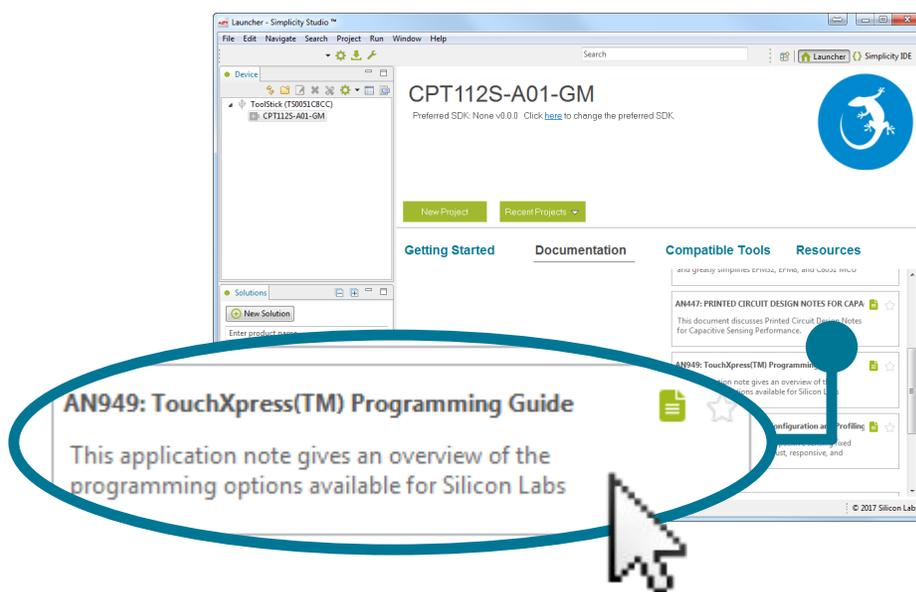
Community and Support

Have a question? Visit the community by clicking the [**Community**] link in the [**Resources**] area.
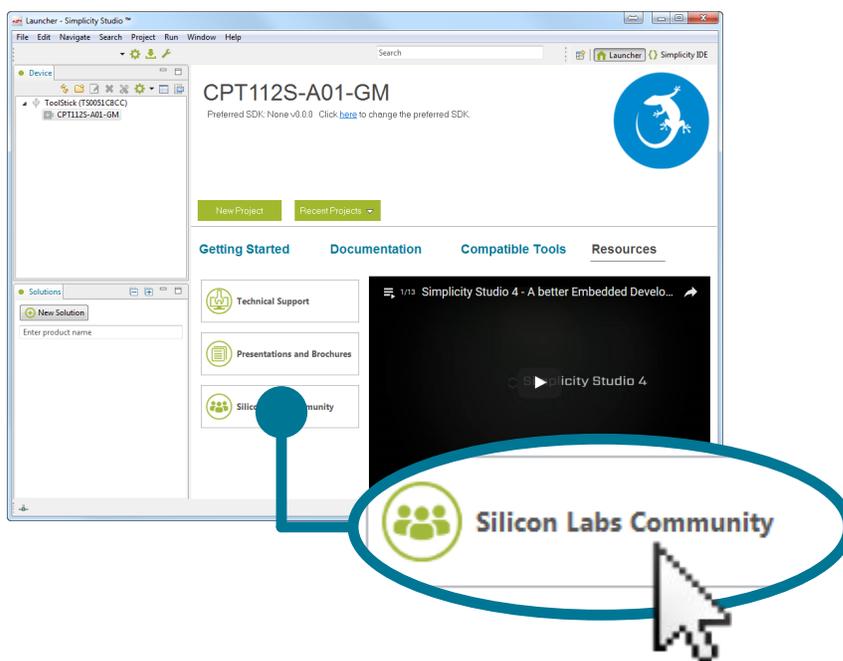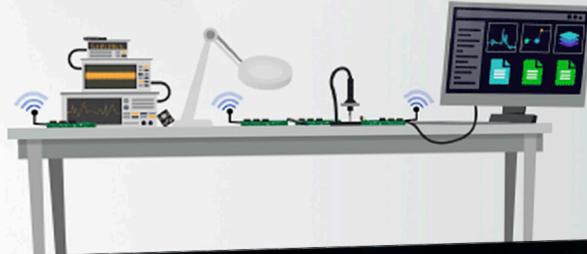
Simplicity Studio

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

IoT Portfolio	**SW/HW**	**Quality**	**Support and Community**
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