SoC - Blinky

This sample application is the "Hello World" of Bluetooth Low Energy (BLE). It allows a BLE central device to control the LED on the kit and receive button press notifications.

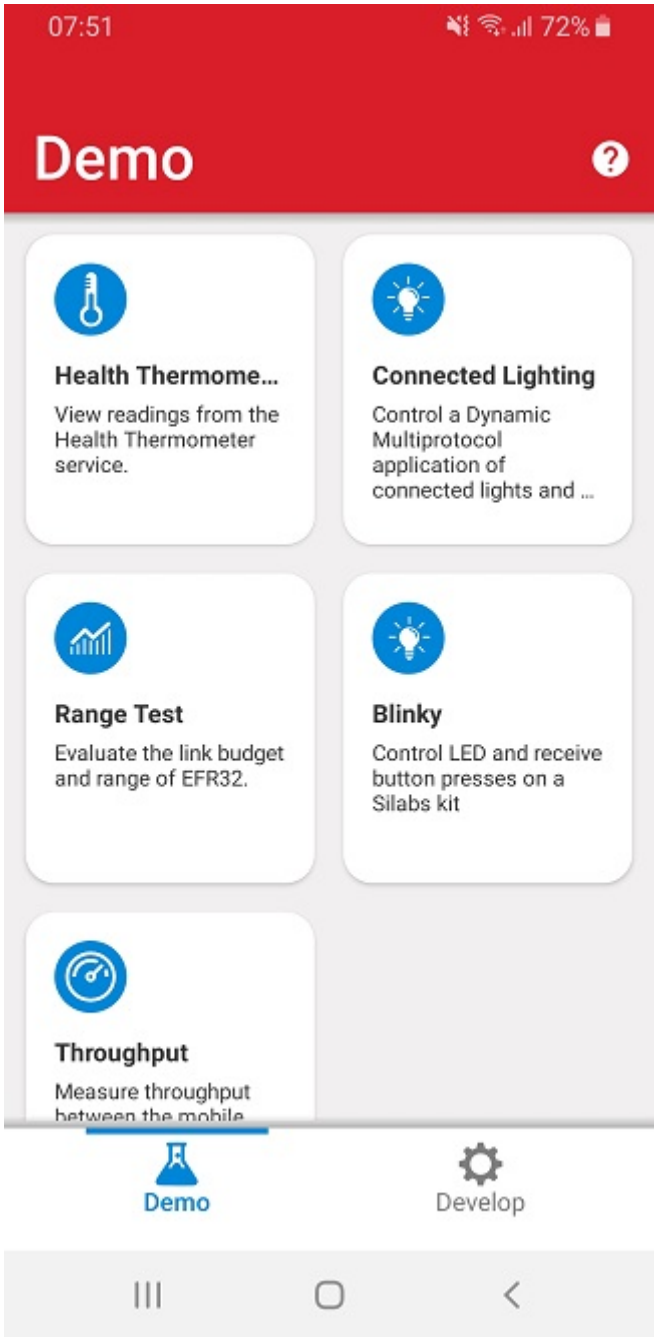
Getting started

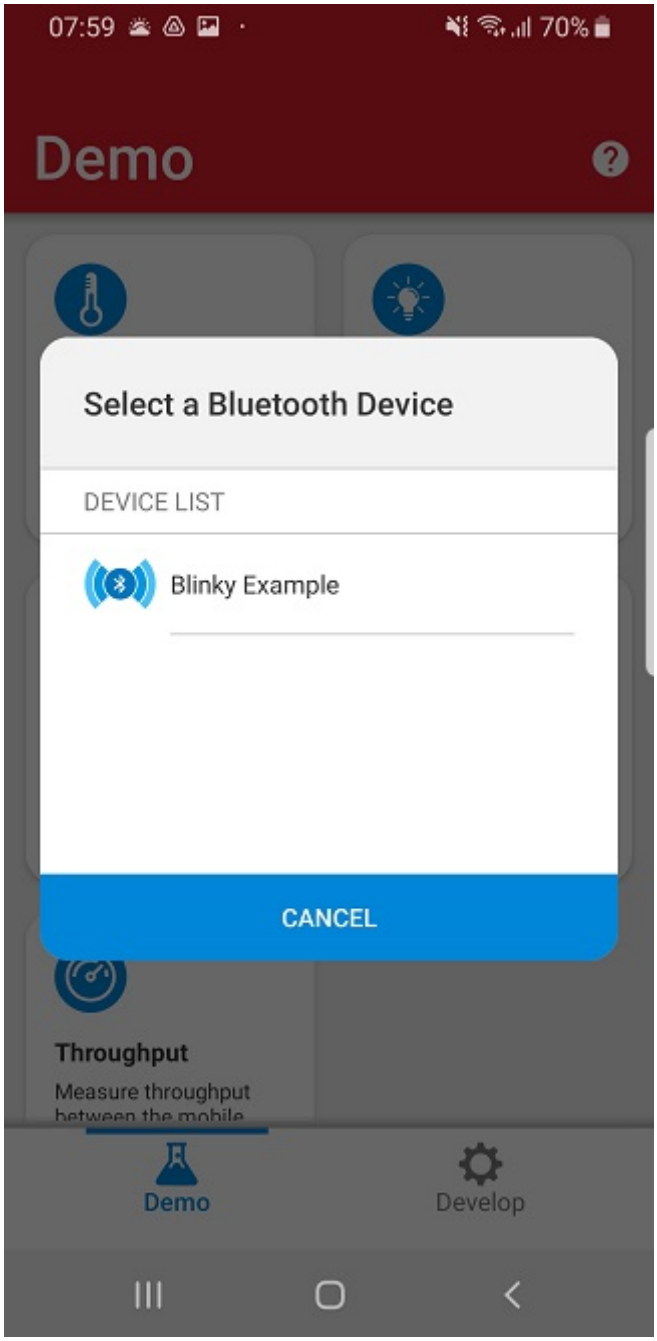
To get started with Bluetooth and Simplicity Studio, please refer to QSG169: Bluetooth® SDK v3.x Quick Start Guide.

This example implements a simple custom GATT service with two characteristics. One characteristic controls the state of the LED (ON/OFF) via write operations from a GATT client, and the second characteristic will send notifications to subscribed clients when the button state changes (pressed or released).

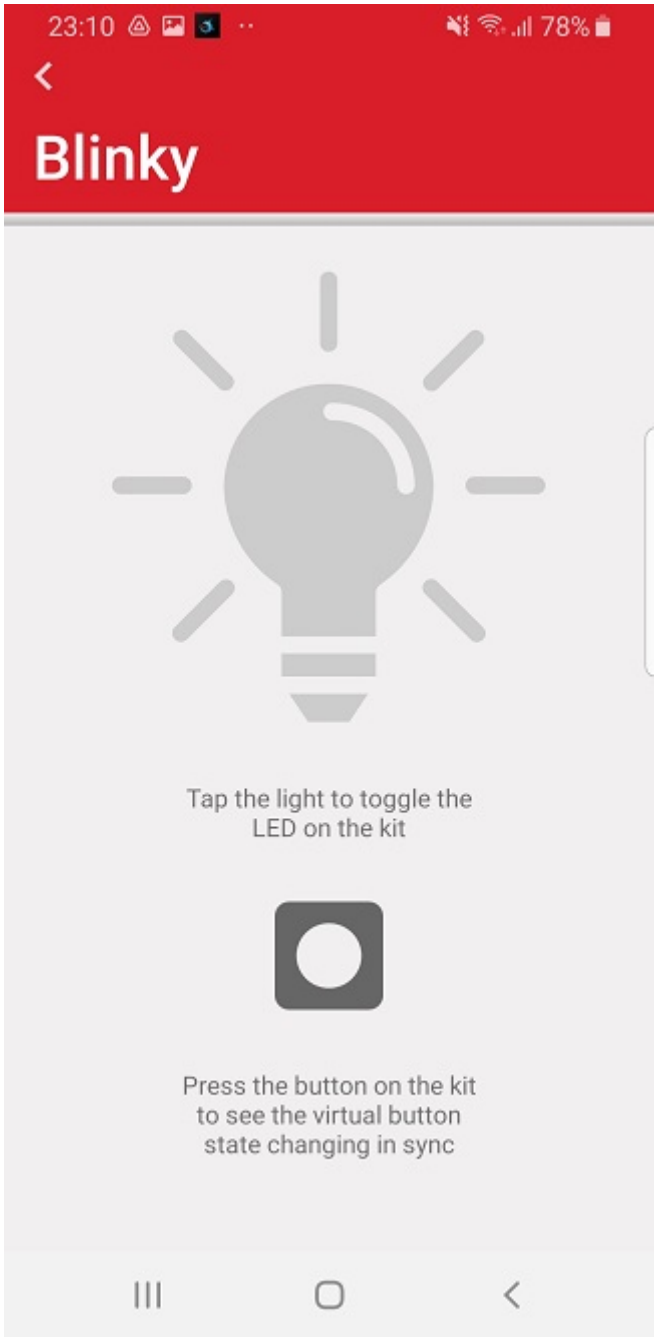
To test this demo install EFR Connect for Android or iOS. Source code for the mobile app is available on Github.

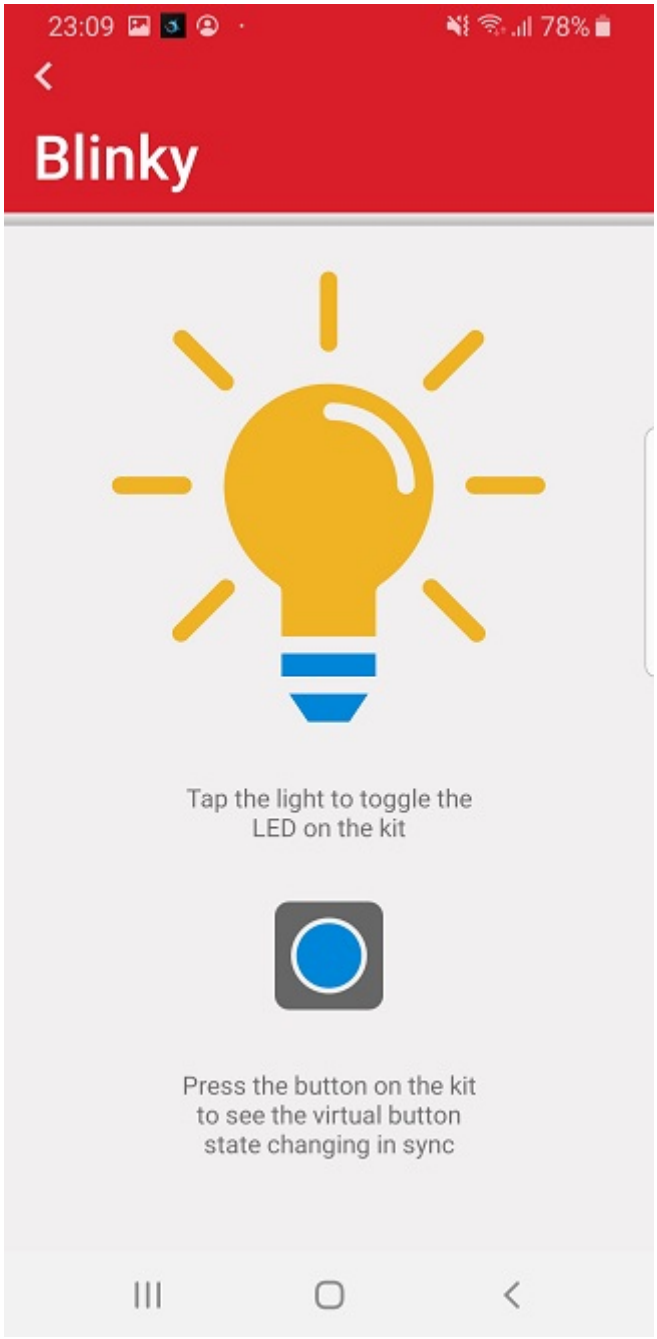
After launching the app go to the demo view and select the Blinky demo. A pop-up will show all the devices around you which are running the SoC-Blinky firmware. Tap on the device to go into the demo view.


07:51
72%
Demo
Health Thermome...
View readings from the Health Thermometer service.
Connected Lighting
Control a Dynamic Multiprotocol application of connected lights and ...
Range Test
Evaluate the link budget and range of EFR32.
Blinky
Control LED and receive button presses on a Silabs kit
Throughput
Measure throughput
Demo
Develop

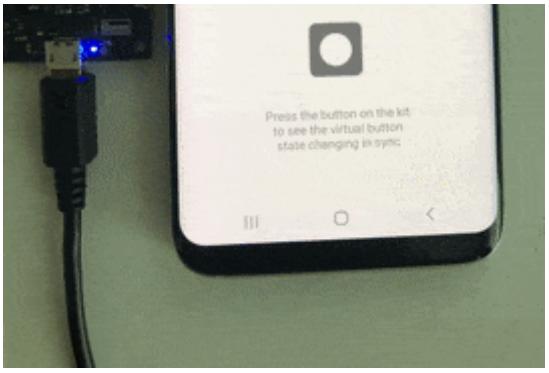


Tap the light on the mobile app to toggle the LED on the kit, and when you press/release the button on the kit the state will change for the virtual button on the app as well.


23:10
78%
Blinky
Tap the light to toggle the LED on the kit
Press the button on the kit to see the virtual button state changing in sync



The animation below showcases the demo running on a BGM220 Explorer Kit (BGM220-EK4314A) with the mobile app running on an Android device.



Troubleshooting

Note that **NO** Bootloader is included in any Software Example projects, but they are configured so, that they expect a bootloader to be present on the device. To get your application work, you should either

- flash a bootloader to the device or
- uninstall the **OTA DFU** and **Bootloader Application Interface** software components.

To flash a bootloader, you should either create a bootloader project or run a precompiled **Demo** on your device from the Launcher view. Precompiled Demos flash both bootloader and application images to your device.

- To flash an OTA DFU capable bootloader to your device, *SoC-Thermometer* demo can be flashed before your application to load the bootloader.
- To flash a UART DFU capable bootloader to your device, *NCP-Empty* demo can be flashed before your application to load the bootloader.
- For your custom application, create your own bootloader project and flash it to your device before flashing your application.
- When you flash your application image to the device, use the *.hex* or *.s37* output file. Flashing *.bin* files may overwrite (erase) the bootloader.
- On Series 1 devices (EFR32xG1x), both first stage and second stage bootloaders have to be flashed. This can be done at once by flashing the **-combined.s37* file found in your bootloader project after building the project.
- For more information, see *UG103: Bootloading fundamentals* and *UG266: Silicon Labs Gecko Bootloader User's Guide*.

Before programming the radio board mounted on the WSTK, make sure the power supply switch the AEM position (right side) as shown below.

Resources

Bluetooth Documentation

UG103.14: Bluetooth® LE Fundamentals

QSG169: Bluetooth® SDK v3.x Quick Start Guide

UG434: Silicon Labs Bluetooth ® C Application Developer's Guide for SDK v3.x

Bluetooth Training

Report Bugs & Get Support

You are always encouraged and welcome to report any issues you found to us via Silicon Labs Community.