



Silicon Labs OpenThread SDK 1.0.1.0 GA

Gecko SDK Suite 3.0

September 9, 2020


Thread is a secure, reliable, scalable, and upgradeable wireless IPv6 mesh networking protocol. It provides low-cost bridging to other IP networks while optimized for low-power / battery-backed operation. The Thread stack is designed specifically for Connected Home applications where IP-based networking is desired and a variety of application layers may be required.

OpenThread released by Google is an open-source implementation of Thread. Google has released OpenThread in order to accelerate the development of products for the connected home and commercial buildings. With a narrow platform abstraction layer and a small memory footprint, OpenThread is highly portable. It supports system-on-chip (SoC), network co-processor (NCP), and radio co-processor (RCP) designs.

Silicon Labs has developed an OpenThread-based SDK tailored to work with Silicon Labs hardware. The Silicon Labs OpenThread SDK is a fully tested snapshot of the GitHub source. It supports a broader range of hardware than does the GitHub version, and includes documentation and example applications not available on GitHub.

These release notes cover SDK version(s):

- 1.0.1.0 released on September 9, 2020
- 1.0.0.2 released on July 29, 2020



KEY FEATURES

- First release of OpenThread in the Gecko SDK Suite
- Dynamic multiprotocol OpenThread + BLE functionality
- Network co-processor (NCP) and radio co-processor (RCP) support
- Added EFR32 module support
- Network Analyzer support for OpenThread

Compatibility and Use Notices

If you are new to the Silicon Labs OpenThread SDK, see [Using This Release](#).

Compatible Compilers:

GCC (The GNU Compiler Collection) version 7.2.x, provided with Simplicity Studio.

Border Router Code Compatibility:

When following OpenThread border router build instructions in [AN1256: Using the Silicon Labs RCP with the OpenThread Border Router](#) or the OpenThread website, use the OpenThread border router only with the ot-br-posix repository checked out at git commit f93719a08c9. While updating the environment to a later version is supported on the OpenThread website, it may make it incompatible with the OpenThread RCP stack in the SDK.

Contents

- 1 New Items2
- 2 Improvements..... 3
- 3 Fixed Issues 4
- 4 Known Issues in the Current Release 5
- 5 Deprecated Items 6
- 6 Removed Items 7
- 7 Using This Release..... 8
 - 7.1 Installation and Use..... 8
 - 7.2 Support..... 8
- 8 Legal..... 9
 - 8.1 Disclaimer..... 9
 - 8.2 Trademark Information 9

1 New Items

Added in release 1.0.1.0

Added support for the following boards and modules:

- BRD4308C
- BRD4308D
- BRD4309B
- MGM210PB22JIA2
- MGM210PB32JIA2
- MGM210LA22JIF2

Added in release 1.0.0.2

First release of Silicon Labs OpenThread SDK v 1.0.0.

The Silicon Labs OpenThread SDK includes a complete copy of the OpenThread GitHub repository (<https://github.com/openthread/openthread>) at commit f411a412bee. This copy can be found in the following Simplicity Studio 5 location: `developer/sdks/gecko_sdk_suite/<version>/util/third_party/openthread`. Also, although not copied into the Silicon Labs OpenThread SDK, extensive testing has been performed with the OpenThread Border Router GitHub repository (<https://github.com/openthread/ot-br-posix>) at commit f93719a08c9 with this version the OpenThread stack.

2 Improvements

Changed in release 1.0.0.2

Not applicable to first release.

3 Fixed Issues

Fixed in release 1.0.1.0

ID #	Description
491280	NVM3 will now "disable execution" on the flash area used for data storage if the mpu component is included in the project. This is done to prevent unintentional program execution from a data area.
495580	During execution, the nvm3_repack function will do either nothing, copy data or erase a page. To limit the execution time, the copy part may now be split into several calls, where each call will never copy more than max-object-size number of bytes. This is done to limit the time when interrupts are disabled if the default locking functions are used.
623776	Add Simplicity Studio part and board filtering for the OpenThread SDK.

Fixed in release 1.0.0.2

Not applicable to first release.

4 Known Issues in the Current Release

Issues in bold were added since the previous release. If you have missed a release, recent release notes are available on <https://www.silabs.com/products/software>.

ID #	Description	Workaround
482915 495241	There is a known limitation with the UART driver that can cause characters to be lost on CLI input or output. This can happen during particularly long critical sections that may disable interrupts, so it can be alleviated by repeating the CLI or waiting long enough for state changes.	No known workaround
495060	When following OpenThread border router build instructions in "AN1256 - Using the Silicon Labs RCP with the OpenThread Border Router" or the OpenThread website, please make sure to use the OpenThread border router with ot-br-posix repository checked out at git commit f93719a08c9. Updating the environment to a later version is supported on the OpenThread website, but it might make it incompatible with the OpenThread RCP stack in the GSDK.	Use ot-br-posix commit hash f93719a08c9.

5 Deprecated Items

Deprecated in release 1.0.0.2

None

6 Removed Items

Removed in release 1.0.0.2

None

7 Using This Release

This release contains the following

- Silicon Labs OpenThread stack
- Silicon Labs OpenThread sample applications

For more information about the OpenThread SDK see [QSG170: Silicon Labs OpenThread QuickStart Guide](#). If you are new to Thread see [UG103.11: Thread Fundamentals](#).

7.1 Installation and Use

A registered account at Silicon Labs is required in order to download the Silicon Labs OpenThread SDK. You can register at https://siliconlabs.force.com/apex/SL_CommunitiesSelfReg?form=short.

Stack installation instructions are covered in the [Simplicity Studio 5 online User's Guide](#).

Use the OpenThread SDK v1.x with the Silicon Labs Simplicity Studio 5 development platform only. The SDK is not compatible with Simplicity Studio 4.

Documentation specific to the SDK version is installed with the SDK. API references and other information about this release is available on <https://docs.silabs.com/openthread/1.0/>.

7.2 Support

Development Kit customers are eligible for training and technical support. Use the [Silicon Laboratories Thread web page](#) to obtain information about all Silicon Labs OpenThread products and services, and to sign up for product support.

You can contact Silicon Laboratories support at <http://www.silabs.com/support>.

8 Legal

8.1 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. 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.

8.2 Trademark Information

Silicon Laboratories Inc.®, Silicon Laboratories®, Silicon Labs®, SiLabs® and the Silicon Labs logo®, Bluegiga®, Bluegiga Logo®, Clockbuilder®, CMEMS®, DSPLL®, EFM®, EFM32®, EFR, Ember®, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Ember®, EZLink®, EZRadio®, EZRadioPRO®, Gecko®, ISOModem®, Micrium, Precision32®, ProSLIC®, Simplicity Studio®, SiPHY®, Telegesis, the Telegesis Logo®, USBXpress®, Zentri, Z-Wave and others are trademarks or registered trademarks of Silicon Labs.

ARM, CORTEX, Cortex-M0+, Cortex-M3, Cortex-M33, Cortex-M4, TrustZone, Keil and Thumb are trademarks or registered trademarks of ARM Holdings.

Zigbee® and the Zigbee logo® are registered trademarks of the Zigbee Alliance.

Bluetooth® and the Bluetooth logo® are registered trademarks of Bluetooth SIG Inc.

Apple and HomeKit are registered trademarks of Apple Inc.

All other products or brand names mentioned herein are trademarks of their respective holders.