Silicon Labs OpenThread SDK 1.0.2.0 GA
Gecko SDK Suite 3.0
October 14, 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):

1.0.2.0 released on October 14, 2020
1.0.1.0 released on September 30, 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 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 Open-Thread 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

<u>Fixed in release 1.0.2.0</u>

ID #	Description
628192	SL_BT_DISABLE_EVENT_TASK is no longer defined by default in the ot-ble-dmp.slcp project file. Bluetooth events were not being serviced correctly when it was defined.

<u>Fixed in release 1.0.1.0</u>

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.

<u>Fixed in release 1.0.0.2</u>

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.si-labs.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://sili-conlabs.force.com/apex/SL_CommunitiesSelfReg?form=short.

Stack installation instruction 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

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