


SILICON LABS
Connect SDK
4.0.2.0 GA
Software



SILICON LABS Connect SDK 4.0.2.0 GA Software User Guide

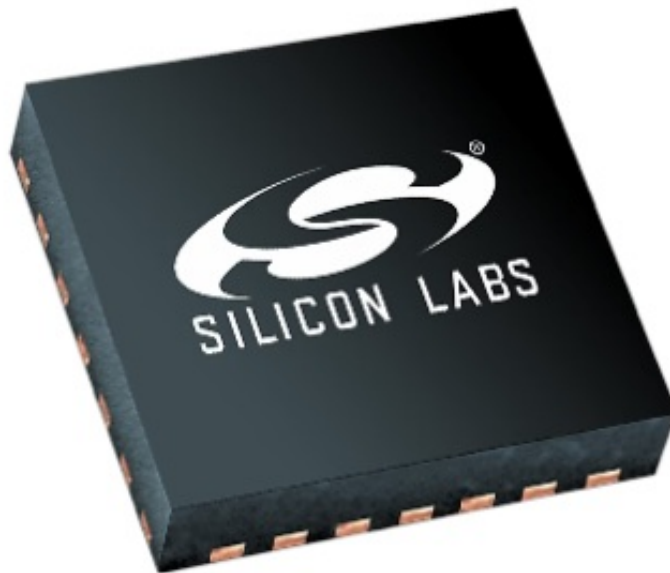
[Home](#) » [SILICON LABS](#) » SILICON LABS Connect SDK 4.0.2.0 GA Software User Guide 

Contents

- [1 SILICON LABS Connect SDK 4.0.2.0 GA Software](#)
- [2 Connect Applications](#)
- [3 Connect Stack](#)
- [4 Using This Release](#)
- [5 Documents / Resources](#)
 - [5.1 References](#)
- [6 Related Posts](#)



SILICON LABS Connect SDK 4.0.2.0 GA Software



Connect Applications

New Items

Added in release 4.0.0.0

- simplicity_sdk/app/flex is split into two:
 - simplicity_sdk/app/rail (RAIL SDK)
 - simplicity_sdk/app/connect (CONNECT SDK)

Improvements

Changed in release 4.0.0.0

None.

Fixed Issues

Fixed in release 4.0.0.0

None.

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 the TECH DOCS tab on <https://www.silabs.com/developers/flex-sdk-connect-networking-stack>

ID #	Description	Workaround
652925	EFR32XG21 is not supported for "Flex (Connect) – SoC Light Example DMP" and "Flex (Connect) – SoC Switch Example"	
1139850	DMP instabilities with XG27	

Deprecated Items

Deprecated in release 4.0.0.0

Flex SDK Flex folder is deprecated and will be removed. It has been split into Rail folder for RAIL SDK and Connect folder for Connect SDK..

Removed Items

Removed in release 4.0.0.0

None.

Connect Stack

New Items

Added in release 4.0.0.0

- The CCM* operations realized to encrypt and decrypt the stack communications, are now performed by default using PSA Crypto API. Until now, the stack used its own implementation of CCM* and only used PSA Crypto API to perform AES block calculations. Two new components, “AES Security (Library)” and “AES Security (Library) | Legacy”, have been added, allowing the selection of one or the other of the implementations. The two components are compatible and can be installed at the same time. Refer to <https://docs.silabs.com/connect-stack/4.0.0/connect-security-key-migration> for further information.

Improvements

Changed in release 4.0.0.0

None.

Fixed Issues

Fixed in release 4.0.0.0

None.

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 the TECH DOCS tab on <https://www.silabs.com/developers/gecko-software-development-kit>

ID #	Description	Workaround
	When running the RAIL Multiprotocol Library (used for example when running DMP Connect+BLE), IR Calibration is not performed because of a known issue in the RAIL Multiprotocol Library. As result, there is an RX sensitivity loss in the order of 3 or 4 dBm.	
501561	In the Legacy HAL component, the PA configuration is hard-coded regardless of the user or board settings.	Until this is changed to properly pull from the configuration header, the file ember-phy.c in the user's project will need to be modified by hand to reflect the desired PA mode, voltage, and ramp time.

Deprecated Items

Deprecated in release 4.0.0.0

None.

Removed Items

Removed in release 4.0.0.0

None.

Using This Release

This release contains the following:

- Radio Abstraction Interface Layer (RAIL) stack library
- Connect Stack Library
- RAIL and Connect Sample Applications
- RAIL and Connect Components and Application Framework

This SDK depends on the Simplicity Platform. The Simplicity Platform code provides functionality that supports protocol plugins and APIs in the form of drivers and other lower layer features that interact directly with Silicon Labs chips and modules. Simplicity Platform components include EMLIB, EMDRV, RAIL Library, NVM3, and mbedTLS. Simplicity Platform release notes are available through Simplicity Studio's Documentation tab. For more information about the Flex SDK v3.x see UG103.13: RAIL Fundamentals and UG103.12: Silicon Labs Connect Fundamentals. If you are a first time user, see QSG168: Proprietary Flex SDK v3.x Quick Start Guide.

Installation and Use

The Proprietary Flex SDK is provided as part of the Simplicity SDK, the suite of Silicon Labs SDKs. To quickly get started with the Simplicity SDK, install Simplicity Studio 5, which will set up your development environment and walk you through Simplicity SDK installation. Simplicity Studio 5 includes everything needed for IoT product development with Silicon Labs devices, including a resource and project launcher, software configuration tools, full IDE with GNU toolchain, and analysis tools. Installation instructions are provided in the online Simplicity Studio 5 User's Guide.

Alternatively, Simplicity SDK may be installed manually by downloading or cloning the latest from GitHub. See https://github.com/SiliconLabs/simplicity_sdk for more information.

Simplicity Studio installs the GSDK by default in:

- (Windows): C:\Users\<NAME>\SimplicityStudio\SDKs\simplicity_sdk
- (MacOS): /Users/<NAME>/SimplicityStudio/SDKs/simplicity_sdk

Documentation specific to the SDK version is installed with the SDK. Additional information can often be found in the knowledge base articles (KBAs). API references and other information about this and earlier releases is available on <https://docs.silabs.com>

Security Information

Secure Vault Integration

When deployed to Secure Vault High devices, sensitive keys are protected using the Secure Vault Key Management functionality. The following table shows the protected keys and their storage protection characteristics.

Wrapped Key	Exportable / Non-Exportable	Notes
Thread Master Key	Exportable	Must be exportable to form the TLVs
PSKc	Exportable	Must be exportable to form the TLVs
Key Encryption Key	Exportable	Must be exportable to form the TLVs
MLE Key	Non-Exportable	
Temporary MLE Key	Non-Exportable	
MAC Previous Key	Non-Exportable	
MAC Current Key	Non-Exportable	
MAC Next Key	Non-Exportable	

Wrapped keys that are marked as “Non-Exportable” can be used but cannot be viewed or shared at runtime. Wrapped keys that are marked as “Exportable” can be used or shared at runtime but remain encrypted while stored in flash.

For more information on Secure Vault Key Management functionality, see AN1271: Secure Key Storage.

Security Advisories

To subscribe to Security Advisories, log in to the Silicon Labs customer portal, then select Account Home. Click HOME to go to the portal home page and then click the Manage Notifications tile. Make sure that ‘Software/Security Advisory Notices & Product Change Notices (PCNs)’ is checked, and that you are subscribed at minimum for your platform and protocol. Click Save to save any changes.

The following figure is an example:

The screenshot shows the 'Update Preference' page in the Silicon Labs customer portal. The page has a header with the Silicon Labs logo, a search bar, and a user profile. Below the header is a navigation bar with 'HOME', 'CASES', and 'SOFTWARE RELEASES'. The main content area is titled 'Update Preference' and contains two sections: 'WHAT EMAILS WOULD YOU LIKE TO RECEIVE?' and 'SELECT THE PRODUCTS TO RECEIVE UPDATES FOR'.

WHAT EMAILS WOULD YOU LIKE TO RECEIVE?

- Newsletters**
 - ☐ Community Monthly Newsletter
 - ☐ Sales Newsletter
 - ☐ Micrium Newsletter
- Product Specific Notifications**
 - ☐ Product Information and Newsletter
 - ☒ Software/Security Advisory Notices & Product Change Notices (PCNs)
 - ☐ Technical Document Updates (Release Notes, Data Sheets, etc.)

SELECT THE PRODUCTS TO RECEIVE UPDATES FOR

<input type="checkbox"/> Select/Unselect All	
<input type="checkbox"/> Audio and Radio	<input type="checkbox"/> Power over Ethernet
<input type="checkbox"/> Interface	<input type="checkbox"/> Sensors
<input type="checkbox"/> Isolation	<input type="checkbox"/> TV and Video
<input type="checkbox"/> Modems and DAAs	<input type="checkbox"/> Voice
<input type="checkbox"/> Microcontrollers <ul style="list-style-type: none"><input type="checkbox"/> 8-bit MCUs<input checked="" type="checkbox"/> 32-bit MCUs	<input type="checkbox"/> Wireless <ul style="list-style-type: none"><input type="checkbox"/> Bluetooth Classic<input type="checkbox"/> Bluetooth Low Energy<input checked="" type="checkbox"/> Proprietary<input type="checkbox"/> Wi-Fi<input type="checkbox"/> ZigBee and Thread<input type="checkbox"/> Z-Wave
<input type="checkbox"/> Timing <ul style="list-style-type: none"><input type="checkbox"/> Clocks<input type="checkbox"/> Buffers<input type="checkbox"/> Oscillators<input type="checkbox"/> CDR and PHY	

Support

Development Kit customers are eligible for training and technical support. Use the Silicon Labs Flex web page to obtain information about all Silicon Labs Thread products and services, and to sign up for product support. You can contact Silicon Laboratories support at <http://www.silabs.com/support>

SDK Release and Maintenance Policy

For details, see SDK Release and Maintenance Policy.

Simplicity Studio

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

•

SILICON-LABS-Connect-SDK-4-0-2-0-GA-Software- (1)

IoT Portfolio

www.silabs.com/loT

- **SW/HW**

www.silabs.com/simplicity

- **Quality**

www.silabs.com/quality

- **Support & Community**

www.silabs.com/community

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 to the product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Without prior notification, Silicon Labs may update product firmware during the manufacturing process for security or reliability reasons. Such changes will not alter the specifications or the performance of the product. Silicon Labs shall have no liability for the consequences of use of the information supplied in this document. This document does not imply or expressly grant any license to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any FDA Class III devices, applications for which FDA premarket approval is required or Life Support Systems 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. Silicon Labs disclaims all express and implied warranties and shall not be responsible or liable for any injuries or damages related to use of a Silicon Labs product in such unauthorized applications.

Trademark Information


Silicon Laboratories Inc.®, Silicon Laboratories®, Silicon Labs®, SiLabs® and the Silicon Labs logo®, Bluegiga®, Bluegiga Logo®, EFM®, EFM32®, EFR, Ember®, Energy Micro, Energy Micro logo and combinations thereof, “the world’s most energy friendly microcontrollers”, Redpine Signals®, WiSeConnect, n-Link, EZLink®, EZRadio®, EZRadioPRO®, Gecko®, Gecko OS, Gecko OS Studio, Precision32®, Simplicity Studio®, Telegesis, the Telegesis Logo®, USBXpress®, Zentri, the Zentri logo and Zentri DMS, Z-Wave®, and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other products or brand names mentioned herein are trademarks of their respective holders.

Silicon Laboratories Inc.
400 West Cesar Chavez Austin, TX 78701

USA

www.silabs.com

Documents / Resources

	SILICON LABS Connect SDK 4.0.2.0 GA Software [pdf] User Guide 4.0.2.0, 4.0.1.0, 4.0.0.0, Connect SDK 4.0.2.0 GA Software, Connect SDK 4.0.2.0 GA, Software
---	---

References

-  [Silicon Labs](#)
-  [Silicon Labs](#)
-  [IoT – Internet of Things - Silicon Labs](#)
-  [Technical Support - Silicon Labs](#)
-  [Software Developer Docs - Silicon Labs](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.