



# USB Device Stack 1.2.2.0 GA

## May 2, 2024

---

USB is commonly viewed as an interface for computer peripherals, but its flexibility and plug-and-play design have led to its adoption in many IoT applications. Silicon Labs' USB device stack, which leverages an efficient, multi-task architecture, is perfect for developers with IoT projects requiring USB connectivity. With an intuitive API and implementations of several popular classes, the stack is capable of supporting a variety of use cases, including USB communication between a network co-processor (NCP) and host.

The USB stack complies with the "Universal Serial Bus specification revision 2.0" and implements the "Interface Association Descriptor Engineering Change Notice (ECN)".

It also supports Control, Bulk and Interrupt endpoints and provide ready-to-use support for the following USB classes:

- Communication Device Class (CDC)
- Abstract Control Model (ACM)
- Human Interface Device (HID)
- Mass Storage Class (MSC)
- Vendor-specific class framework

Other features include:

- Scalable to include only required features to minimize memory footprint
- Supports Full-speed (12 Mbit/s)
- Supports composite (multi-function) devices
- Supports multi-configuration devices
- Supports USB power-saving functionalities (device suspend and resume)
- Complete integration of Mass Storage Class into Micrium OS File System module
- Developed with CMSIS-RTOS2 abstraction layer so that it can work with different OSes. Silicon Labs GSDK comes with FreeRTOS and Micrium OS ports.

This document covers the following stack versions:

- 1.2.2.0 released May 2, 2024
- 1.2.1.0 released April 10, 2024
- 1.2.0.0 released December 13, 2023

### KEY FEATURES

---

- Targeted quality improvements and bug fixes

---

# Contents

- 1 New Items ..... 3
- 2 Improvements..... 4
- 3 Fixed Issues ..... 5
- 4 Known Issues in the Current Release ..... 6
- 5 Deprecated Items ..... 7
- 6 Removed Items ..... 8

## 1 New Items

### **General Notice**

This release of the Gecko SDK (GSDK) will be the last with combined support for all EFM and EFR devices, except for patches to this version as needed. Starting in mid-2024 we will introduce separate SDKs:

- The existing Gecko SDK will continue with support for Series 0 and 1 devices.
- A new SDK will cater specifically to Series 2 and 3 devices.

The Gecko SDK will continue to support all Series 0 and 1 devices with no change to the long-term support, maintenance, quality, and responsiveness provided under our software policy.

The new SDK will branch from Gecko SDK and begin to offer new features that help developers take advantage of the advanced capabilities of our Series 2 and 3 products.

This decision aligns with customer feedback, reflecting our commitment to elevate quality, ensure stability, and enhance performance for an exceptional user experience across our software SDKs.

## 2 Improvements

### Changed in release 1.2.1.0

ID #	Description
1198820	Improved USB Driver performance.

### Changed in release 1.2.0.0

ID #	Description
1118080	Add non-blocking read/write functions to the SL-USB CDC ACM class driver.
1064770	Added vendor class API <code>sl_usbd_core_abort_endpoint</code> to handle endpoint abort.

### 3 Fixed Issues

None

#### 4 Known Issues in the Current Release

None

## 5 Deprecated Items

None

## 6 Removed Items

None



# Simplicity Studio

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



**IoT Portfolio**  
[www.silabs.com/IoT](http://www.silabs.com/IoT)



**SW/HW**  
[www.silabs.com/simplicity](http://www.silabs.com/simplicity)



**Quality**  
[www.silabs.com/quality](http://www.silabs.com/quality)



**Support & Community**  
[www.silabs.com/community](http://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.

**Note: This content may contain offensive terminology that is now obsolete. Silicon Labs is replacing these terms with inclusive language wherever possible. For more information, visit [www.silabs.com/about-us/inclusive-lexicon-project](http://www.silabs.com/about-us/inclusive-lexicon-project)**

## Trademark Information

Silicon Laboratories Inc.<sup>®</sup>, Silicon Laboratories<sup>®</sup>, Silicon Labs<sup>®</sup>, SiLabs<sup>®</sup> and the Silicon Labs logo<sup>®</sup>, Bluegiga<sup>®</sup>, Bluegiga Logo<sup>®</sup>, EFM<sup>®</sup>, EFM32<sup>®</sup>, EFR, Ember<sup>®</sup>, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Redpine Signals<sup>®</sup>, WiSeConnect, n-Link, ThreadArch<sup>®</sup>, EZLink<sup>®</sup>, EZRadio<sup>®</sup>, EZRadioPRO<sup>®</sup>, Gecko<sup>®</sup>, Gecko OS, Gecko OS Studio, Precision32<sup>®</sup>, Simplicity Studio<sup>®</sup>, Telegesis, the Telegesis Logo<sup>®</sup>, USBXpress<sup>®</sup>, Zentri, the Zentri logo and Zentri DMS, Z-Wave<sup>®</sup>, 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](http://www.silabs.com)