




Bluetooth[®] Real-Time Locating Library 3.2.8.0 GA

Gecko SDK Suite 3.2

July 13, 2023

Silicon Labs is a leading vendor in Bluetooth hardware and software technologies, used in products such as sports and fitness, consumer electronics, beacons, and smart home applications.

The Real-Time Locating (RTL) library contains features for Angle of Arrival estimation and spatial positioning. The software library comes with a C-programming language API for Windows (x86_64) and Linux (ARM Cortex A, x86_64) hosts.

Bluetooth

KEY FEATURES

- General quality improvements

The RTL Library is released with the Bluetooth SDK. These release notes cover the following version(s):

- Real-Time Locating Library 3.2.8.0 in Bluetooth SDK 3.2.8.0 released on July 13, 2023 (underlying Bluetooth changes only)
- Real-Time Locating Library 3.2.6.0 in Bluetooth SDK 3.2.6.0 released on March 29, 2023 (underlying Bluetooth changes only)
- Real-Time Locating Library 3.2.5.0 in Bluetooth SDK 3.2.5.0 released on January 11, 2023 (underlying Bluetooth changes only)
- Real-Time Locating Library 3.2.4.0 in Bluetooth SDK 3.2.4.0 released on October 13, 2021 (underlying Bluetooth changes only)
- Real-Time Locating Library 3.2.3.0 in Bluetooth SDK 3.2.3.0 released on September 24 2021 (Bluetooth SDK update only)
- Real-Time Locating Library 3.2.2.0 in Bluetooth SDK 3.2.2.0 released on September 8, 2021
- Real-Time Locating Library 3.2.1.0 in Bluetooth SDK 3.2.1.0 released on July 21, 2021
- Real-Time Locating Library 3.2.0.0 in Bluetooth SDK 3.2.0.0 released on June 16, 2021

Contents

- 1 New Items2
- 2 Improvements.....3
- 3 Fixed Issues4
- 4 Known Issues in the Current Release5
- 5 Deprecated Items6
- 6 Removed Items7
- 7 Using This Release8
 - 7.1 Installation and Use.....8
 - 7.2 Support.....8

1 New Items

Added in release 3.2.0.0

Dual-Polarized antenna support for CoreHW PCB4 and PCB8 boards. The board package files need to be requested through Silicon Labs support.

2 Improvements

Changed in release 3.2.0.0

The Angle Feedback mechanism in the multi-locator algorithm is improved.

3 Fixed Issues

Fixed in release 3.2.2.0

ID #	Description
720870	Add API for locator position and orientation update
715289	Split Link Layer CTE component into two subcomponents for TX and RX. Application can only include necessary capabilities to save memory

Fixed in release 3.2.1.0

ID #	Description
712526	Fixed an issue with CTE (AoA/AoD) where device may enter into hardfault if connectionless CTE or Silicon Labs CTE was enabled before connection creation

Fixed in release 3.1.0.0

ID #	Description
653321	In certain environments, the elevation reading might get fixed to 89 degrees
653422	Visualization script in aoa_multilocator_gui is missing implementation for showing visualization lines for angles from locators
653412	Visualization script aoa_multilocator_gui may occasionally fail with "RunTimeError: dictionary changed size during iteration"
706445	AOA host app cannot be built on windows
658208	Fix REAL_TIME modes to also handle angle data between 179 and 180 degrees.

4 Known Issues in the Current Release

Issues in bold were added since the previous release.

ID #	Description	Workaround
375152	In heavy multipath conditions, the line-of-sight signal is not always detected correctly. In some cases this may mean large errors in both azimuth and elevation readings.	None

5 Deprecated Items

None

6 Removed Items

None

7 Using This Release

7.1 Installation and Use

For instructions on developing with the RTL library, see *AN1296: Application Development with Silicon Labs' RTL Library* and the API reference included with the documentation installed through Simplicity Studio in the Bluetooth SDK.

7.2 Support

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

Contact Silicon Laboratories support at <http://www.silabs.com/support> or through links on the Simplicity Studio Welcome page.

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



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.

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

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, ThreadArch[®], 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