Bluetooth® Real-Time Locating Library 8.2.0.0 GA
Simplicity SDK Suite 2024.6.2
September 18, 2024

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 Channel Sounding based distance estimation, 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.

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

Bluetooth

KEY FEATURES

- Channel Sounding based distance estimation support
- Removed support for Series 0/1

Real-Time Locating Library 8.2.0.0 in Bluetooth SDK 8.2.0.0 released on September 18, 2024.
Real-Time Locating Library 8.1.0.0 in Bluetooth SDK 8.1.0.0 released on July 24, 2024.
Real-Time Locating Library 8.0.0.0 in Bluetooth SDK 8.0.0.0 released on June 5, 2024.

Contents

1 New Items

Simplicity SDK is an embedded software development platform for building IoT products based on our Series 2 and Series 3 wireless and MCU devices. It integrates wireless protocol stacks, middleware, peripheral drivers, a bootloader, and application examples – a solid framework for building power-optimized and secure IoT devices.

The Simplicity SDK offers powerful features such as ultra-low power consumption, strong network reliability, support for a large number of nodes, and abstraction of complex requirements like multiprotocol and pre-certification. Additionally, Silicon Labs provides over-the-air (OTA) software and security updates to remotely update devices, minimize maintenance costs, and enhance the end-user product experience.

Simplicity SDK is a follow-on from our popular Gecko SDK, which will continue to be available providing long-term support for our Series 0 and Series 1 devices. For additional information on the Series 0 and Series 1 devices please reference: Series 0 and Series 1 EFM32/EZR32/EFR32 device (silabs.com).

1.1 New Features

Added in release 8.1.0.0

Channel Sounding based distance estimation support

RTL library now supports distance estimation based on Channel Sounding. This feature is accessible through RTL library API, identified by the prefix sl_rtl_cs.

Added in release 8.0.0.0

None.

2 Improvements

Changed in release 8.2.0.0

The distance accuracy performance of algorithm mode SL_RTL_CS_ALGO_MODE_STATIC_HIGH_ACCURACY for SL_RTL_CS_MODE_PBR in line-of-sight cases has been improved.

Changed in release 8.1.0.0

The location and names of RTL library artifacts in Simplicity SDK have been updated. The artifacts are now located under *util/silicon-labs/rtl* folder tree and the artifacts are named *librtl_static.a*.

Changed in release 8.0.0.0

None.

3 Fixed Issues

Fixed in release 8.0.0.0

None.

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
1296960	RSSI based distance estimation sometimes produces extremely incorrect high values.	None
1327378	SL_RTL_CS_ALGO_MODE_STATIC_HIGH_ACCURACY is not supported for SL_RTL_CS_MODE_RTT.	None
1322998	Large fluctuation observed in distance estimate likeliness for SL_RTL_CS_MODE_RTT in conducted test setup.	None

5 Deprecated Items

Deprecated in release 8.0.0.0

None.

6 Removed Items

Removed in release 8.0.0.0

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.

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