Bluetooth® **Real-Time Locating Library 5.2.0.0 GA**
Gecko SDK Suite 4.2
January 15, 2025

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.

KEY FEATURES

- Targeted quality improvements and bug fixes.

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

Real-Time Locating Library 5.2.0.0 in Bluetooth SDK 5.2.0.0 released on January 15, 2025 (underlying code changes only)
Real-Time Locating Library 5.1.4.1 in Bluetooth SDK 5.1.4.1 released on July 3, 2024 (underlying code changes only)
Real-Time Locating Library 5.1.4.0 in Bluetooth SDK 5.1.4.0 released on January 24, 2024 (underlying code changes only)
Real-Time Locating Library 5.1.3.0 in Bluetooth SDK 5.1.3.0 released on August 16, 2023 (underlying code changes only)
Real-Time Locating Library 5.1.2.0 in Bluetooth SDK 5.1.2.0 released on May 3, 2023 (underlying code changes only)
Real-Time Locating Library 5.1.1.0 in Bluetooth SDK 5.1.1.0 released on March 8, 2023 (underlying code changes only)
Real-Time Locating Library 5.1.0.0 in Bluetooth SDK 5.1.0.0 released on February 1, 2023 (underlying code changes only)
Real-Time Locating Library 5.0.0.0 in Bluetooth SDK 5.0.0.0 released on December 14, 2022

Contents

1 New Items

None.

2 Improvements

None.

3 Fixed Issues

Fixed in release 5.1.4.0

ID #	Description
1151846	Fixed the API documentation of function sl_rtl_util_rssi2distance by removing an extra line referring to a library item, which the function does not have as an input parameter.

Fixed in release 5.0.0.0

ID #	Description
845889	Fixed an issue where elevation estimate could get stuck at 0-20 degrees and also high elevations above 80 degrees when using radiation pattern compensation on BRD4191A.
1070610	CoreHW Gen3 4x4 URA antenna had one setting swapped between two elements in the RTL library, which caused slightly less accurate angle estimates. This is now fixed.
1068579	Polarization estimate for BRD4191A antenna board was not working correctly. The estimation is used for antenna radiation pattern compensation and therefore it was not using the intended values for compensation. This is now fixed.
1058501	When using a BRD4191A dual polarized antenna board and specifying a custom antenna switching pattern for it, the RTL library's IQ sample QA was not using the whole available data for its analysis but a subset of it. It is now fixed.

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

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

www.silabs.com