



Bluetooth[®] Real-Time Locating Library 9.1.0.0 GA

Simplicity SDK Suite 2024.12.2

April 1, 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

- Channel Sounding sparse channel map support
- Channel Sounding antenna switching support

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

Real-Time Locating Library 9.1.0.0 in Bluetooth SDK 9.1.0.0 released on April 1, 2025 (Underlying platforms changes only)
Real-Time Locating Library 9.0.1.0 in Bluetooth SDK 9.0.1.0 released on February 5, 2025 (Underlying platforms changes only)
Real-Time Locating Library 9.0.0.0 in Bluetooth SDK 9.0.0.0 released on December 16, 2024

Contents

- 1 New Items 3
 - 1.1 New Features 3
- 2 Improvements 4
- 3 Fixed Issues 5
- 4 Known Issues in the Current Release 6
- 5 Deprecated Items 7
- 6 Removed Items 8
- 7 Using This Release 9
 - 7.1 Installation and Use 9
 - 7.2 Support 9
 - 7.3 SDK Release and Maintenance Policy 9

1 New Items

1.1 New Features

Added in release 9.0.0.0

Channel Sounding sparse channel map support

Support for different channel maps used for Channel Sounding is added. This enables the use of different channel spacing and channel count to be used to balance between accuracy performance and range, versus computation time and power consumption.

Channel Sounding antenna switching support

Support for different number of antenna paths used during Channel Sounding. This enables use of number antenna paths greater than 1 to improve accuracy performance.

2 Improvements

Changed in release 9.0.0.0

None.

3 Fixed Issues

Fixed in release 9.0.0.0

ID #	Description
1296960	Added proper handling of special value indicating that the RSSI measurement is not available. This prevents large errors in RSSI based distance estimate.

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
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 likelihood for SL_RTL_CS_MODE_RTT in conducted test setup.	None
1381042	Interference together with low RSSI may lead to large outliers in distance estimates.	None

5 Deprecated Items

Deprecated in release 9.0.0.0

None.

6 Removed Items

Removed in release 9.0.0.0

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.

7.3 SDK Release and Maintenance Policy

For details, see [SDK Release and Maintenance Policy](#).

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

www.silabs.com