



# **Bluetooth<sup>®</sup> Real-Time Locating Library 8.3.0.0 GA**

## **Simplicity SDK Suite 2024.6.3**

### **April 23, 2025**

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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):

Real-Time Locating Library 8.3.0.0 in Bluetooth SDK 8.2.0.0 released on April 23, 2025. (Underlying platform changes only)

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.



#### **KEY FEATURES**

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

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## 1 New Items

### 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.

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## 6 Removed Items

### Removed in release 8.0.0.0

None.



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## 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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