



Silicon Labs OpenThread SDK 2.3.3.0 GA

Gecko SDK Suite 4.3

March 13, 2024


Thread is a secure, reliable, scalable, and upgradeable wireless IPv6 mesh networking protocol. It provides low-cost bridging to other IP networks while optimized for low-power / battery-backed operation. The Thread stack is designed specifically for Connected Home applications where IP-based networking is desired and a variety of application layers may be required.

OpenThread released by Google is an open-source implementation of Thread. Google has released OpenThread in order to accelerate the development of products for the connected home and commercial buildings. With a narrow platform abstraction layer and a small memory footprint, OpenThread is highly portable. It supports system-on-chip (SoC), network co-processor (NCP), and radio co-processor (RCP) designs.

Silicon Labs has developed an OpenThread-based SDK tailored to work with Silicon Labs hardware. The Silicon Labs OpenThread SDK is a fully tested enhanced version of the GitHub source. It supports a broader range of hardware than does the GitHub version, and includes documentation and example applications not available on GitHub.

These release notes cover SDK version(s):

- 2.3.3.0 GA released on March 13 2024
- 2.3.2.0 GA released on October 9, 2023
- 2.3.1.0 GA released on July 26, 2023
- 2.3.0.0 GA released on June 7, 2023



KEY FEATURES

OpenThread

- Thread 1.3.1 (experimental)
 - IPv4/v6 public internet connectivity: NAT64 improvements, optimization of published routes and prefixes in network data
 - DNS enhancements for OTBR
 - Thread over Infrastructure (TREL)
- Network Diagnostics (experimental)
 - Child supervision by parent
 - Additional link quality information in child table
 - Uptime for routers

Multiprotocol

- Zigbee/OpenThread Concurrent Multiprotocol SoC sample app
- CPC GPIO expander module
- Zigbeed enhancements

Compatibility and Use Notices

For information about security updates and notices, see the Security chapter of the Gecko Platform Release notes installed with this SDK or on the TECH DOCS tab on <https://www.silabs.com/developers/thread> . Silicon Labs also strongly recommends that you subscribe to Security Advisories for up-to-date information. For instructions, or if you are new to the Silicon Labs OpenThread SDK, see [Using This Release](#).

Compatible Compilers:

GCC (The GNU Compiler Collection) version 10.3-2021.10, provided with Simplicity Studio.

Contents

1	New Items	3
1.1	New Components	3
1.2	New Features	3
1.3	New APIs	3
1.4	New Radio Board Support	4
2	Improvements	5
3	Fixed Issues	6
4	Known Issues in the Current Release	8
5	Deprecated Items	9
6	Removed Items	10
7	Multiprotocol Gateway and RCP	11
7.1	New Items	11
7.2	Improvements	11
7.3	Fixed Issues	12
7.4	Known Issues in the Current Release	13
7.5	Deprecated Items	13
7.6	Removed Items	13
8	Using This Release	14
8.1	Installation and Use	14
8.2	OpenThread GitHub Repository	14
8.3	OpenThread Border Router GitHub Repository	14
8.4	Using the Border Router	14
8.5	NCP/RCP Support	15
8.6	Security Information	15
8.7	Support	16

1 New Items

1.1 New Components

Added in release 2.3.2.0

- `ot_platform_ext` – This component extends access to platform-specific extension APIs and optional CLI commands.

Added in release 2.3.1.0

- `ot_ncp_vendor_extension` – This component extends the behavior of the OpenThread NCP controller to allow the processing and handling of vendor-defined Spinel attributes.

1.2 New Features

Added in release 2.3.0.0

- The versions of OpenThread and the OpenThread Border Router have been updated. See sections 8.2 and 8.3.
- Thread 1.3.1 (experimental)
 - IPv4/v6 public internet connectivity: NAT64 improvements, optimization of published routes and prefixes in network data
 - DNS enhancements for OTBR
 - Thread over Infrastructure (TREL)
- Network Diagnostics Improvements (experimental)
 - Child supervision by parent
 - Additional link quality information in child table
 - Uptime for routers
- Support for the `ot-cli` sample application with CPC on Android Host
 - The `ot-cli` sample application can now be used with CPC on an Android host. To build, download the Android NDK toolchain, define the environment variable "NDK" to point to the toolchain, and run the `script/cmake-build-android` script instead of `script/cmake-build`.

1.3 New APIs

Added in release 2.3.2.0

- `otPlatDiagGpioSet` - Set the gpio value.
- `otPlatDiagGpioGet` - Get the gpio value.
- `otPlatDiagGpioSetMode` - Set the gpio mode.
- `otPlatDiagGpioGetMode` - Get the gpio mode.
- `otPlatRadioExtensionGetRadioCounters` – Get RAIL debug counter values.
- `otPlatRadioExtensionClearRadioCounters` - Clear RAIL debug counter values.

Added in release 2.3.1.0

- `otPlatRadioExtensionGetTxAntennaMode` - Get the antenna diversity transmit antenna mode.
- `otPlatRadioExtensionSetTxAntennaMode` - Set the antenna diversity transmit antenna mode.
- `otPlatRadioExtensionGetRxAntennaMode` - Get the antenna diversity receive antenna mode.
- `otPlatRadioExtensionSetRxAntennaMode` - Set the antenna diversity receive antenna mode.
- `otPlatRadioExtensionGetActivePhy` - Get the antenna diversity active phy state.
- `otPlatRadioExtensionGetDpState` - Get the coexistence directional priority state and pulse width.
- `otPlatRadioExtensionSetDpState` - Set the coexistence directional priority state and pulse width.

- `otPlatRadioExtensionGetGpioInputOverride` - Get the override input value of a GPIO.
- `otPlatRadioExtensionSetGpioInputOverride` - Set the override input value of a GPIO.
- `otPlatRadioExtensionGetActiveRadio` - Get the coexistence active phy state.
- `otPlatRadioExtensionGetPhySelectTimeout` - Get the coexistence phy select state and timeout.
- `otPlatRadioExtensionSetPhySelectTimeout` - Set the coexistence phy select state and timeout.
- `otPlatRadioExtensionGetCoexOptions` - Get the coexistence bitmask of features.
- `otPlatRadioExtensionSetCoexOptions` - Set the coexistence bitmask of features.
- `otPlatRadioExtensionGetCoexConstantOptions` - Get the coexistence bitmask of constant PTA features that can not be modified using public APIs.
- `otPlatRadioExtensionIsCoexEnabled` - Get the coexistence enabled status.
- `otPlatRadioExtensionSetCoexEnable` - Set the coexistence enabled status.
- `otPlatRadioExtensionGetRequestPwmArgs` - Get the coexistence PWM configuration.
- `otPlatRadioExtensionSetRequestPwmArgs` - Set the coexistence PWM configuration.
- `otPlatRadioExtensionClearCoexCounters` - Clear the coexistence counters.
- `otPlatRadioExtensionGetCoexCounters` - Get the coexistence counters.
- `otPlatRadioExtensionSetRadioHoldoff` - Set the coexistence radio holdoff status.

1.4 New Radio Board Support

Added in release 2.3.1.0

Support has been added for the following radio boards:

- BRD4186Z - EFR32xG24

Added in release 2.3.0.0

Support has been added for the following radio boards:

- BRD4196B - EFR32xG21B
- BRD2704A - Sparkfun Thing Plus MGM240P

2 Improvements

Changed in release 2.3.2.0

- Added support for “diag gpio” CLI command.
 - diag gpio get <gpio> - Get the gpio value.
 - diag gpio set <gpio> <value> - Set the gpio value.
 - diag gpio mode <gpio> - Get the gpio mode.
 - diag gpio mode <gpio> in - Set the given gpio to the input mode without pull resistor.
 - diag gpio mode <gpio> out - Set the given gpio to the output mode.

Note: The 32-bit <gpio> value is encoded with the 16 most significant bits used for the port and the 16 least significant bits used for the pin. For example, the PB1 gpio would be encoded into 0x10001, 65537 decimal, where port A starts from value 0.
- Updated Coordinated Sampled Listening (CSL).
 - otPlatRadioGetCslAccuracy now depends on platform generated values SL_DEVICE_INIT_HFXO_PRECISION and SL_DEVICE_INIT_LFXO_PRECISION, depending on the board configuration. Review these values before testing CSL on your boards.
 - otPlatRadioGetCslUncertainty depends on SL_OPENTHREAD_CSL_TX_UNCERTAINTY, which can be set by the user, but has been optimized by Silicon Labs for optimal receive window size on SSEDs. Increasing this value may improve the reliability of CSL, but will increase receive window sizes on SSEDs, therefore increasing power usage.
- Added support for “radio counters” CLI command.
 - efr32 counters radio - Display the values of the platform radio debug counter fields.
 - efr32 counters radio reset - Reset the values of the platform radio debug counter fields to 0.

Changed in release 2.3.1.0

With regard to the OpenThread border router, radio_url can now take a list of IIDs. This is to control IIDs a host can accept spinel frames from other than its own IID. RCP uses IID zero for the received broadcast packet to deliver a spinel frame to all the connected hosts/end-points. An example of the new radio_url is 'spinel+cpc://cpcd_0?iid=1&iid-list=0'.

Changed in release 2.3.0.0

- Support for “diag cw” and “diag stream”
 - diag cw start - Start transmitting continuous carrier wave
 - diag cw stop - Stop transmitting continuous carrier wave
 - diag stream start - Start transmitting a stream of characters.
 - diag stream stop - Stop transmitting a stream of characters.
- Bootloader support for sample applications
 - The bootloader_interface component has been added to the Thread sample apps. The component introduces support for bootloaders and also results in the creation of GBL files when building.
- Reduction to code size of Certified OpenThread Libraries
 - The pre-built certification libraries no longer include JOINER functionality.

3 Fixed Issues

Fixed in release 2.3.3.0

ID #	Description
1124161, 1203191	High traffic environments will no longer cause buffers containing received packet payloads to be overwritten before being processed.
1235923	Fixed a wrapping bug in calls to <code>otPlatAlarmMilliStartAt</code> and <code>otPlatAlarmMicroStartAt</code> which would cause MTDs to stop trying to re-attach after the 10th attempt.
1238120	Addressed a race condition which would result in an RCP assert in <code>otPlatRadioTransmit</code> when simultaneously attempting to transmit packets from two protocols in a multiprotocol environment.
1243597	Removed extra <code>ot-ble-dmp-no-buttons</code> sample apps from demos folder.
1249346	OTBR no longer crashes due to parse error in <code>handleTransmitDone()</code> . This was caused due to RCP not dequeuing the pending transmit commands correctly, which caused it to send invalid information via <code>transmit done</code>
1249492	The <code>dBus FactoryReset</code> command no longer causes the openthread border router to terminate.
1255247	Fix the OTBR assertion in <code>datapollHandler::HandleSentFrame()</code> . This was caused due to RCP not dequeuing the pending transmit commands correctly, which caused it to send invalid information via <code>transmit done</code> callback by the RCP.
1255595	Fix a type promotion issue when handling large values in <code>otPlatAlarm</code> APIs.

Fixed in release 2.3.2.0

ID #	Description
1169011 1196719	The <code>ot-ble-dmp</code> sample application running on an MG24 no longer faults while being commissioned on to the thread network.
1193331	Added openthread diag gpio CLI support. The 32-bit <code><gpio></code> value is encoded with the 16 most significant bits used for the port and the 16 least significant bits used for the pin. For example, the PB1 gpio would be encoded into 0x10001, 65537 decimal, where port A starts from value 0.
1193726	Simplicity Studio no longer shows SoC projects when the MR21 part is chosen.
1194843	The “diag repeat” and “diag send” commands no longer cause RCP TX failures.
1171933, 1194875	Increased timer task priority for BLE DMP sample apps to avoid memory corruption in a BLE task.
1196827	Addressed issue in key importation.

Fixed in release 2.3.1.0

ID #	Description
754514	Fixed an issue where a double ping reply was observed for OTBR ALOC address.
1041112	Fixed an issue where the OTBR / EFR32 RCP can miss forwarding packets from a CSL child if it configures an alternate channel for CSL communication.
1085737	Fixed an issue where a Matter SSED over Thread is unreachable with CSL.
1132004	Fixed an issue where the RCP can become unresponsive when receiving excessive beacon requests.
1156792	Fixed a bug that caused SSED devices to lose buffer during long runs.

Fixed in release 2.3.0.0

ID #	Description
1023725	Fixed an issue where detached MTDs on the Thread network hit an assert while re-attaching to the OTBR after the OTBR is rebooted.
1079667	Fixed an issue where devices can no longer communicate after reporting transient out-of-buffers condition.

ID #	Description
1084368	Fixed failing HomeKit HCA test when using board 4186c and the DMP application.
1095059	Added openthread 'diag stream' and 'diag cw' CLI commands. See Improvements section for additional details.
1113046	Radio PAL now maintains max channel power table.
1126570	Addressed a memory leak associated with PSA keys which occurs when otInstanceFinalise() is called without power cycling.
1133240	Fixed a bug in setting link parameters in the meshcop forwarding layer.
1139318	Request to Reduce Codesize of Certified OpenThread Library. See Improvements section for additional details.
1139449	Fixed an issue where devices stopped receiving during Tx storm.
1142231	Radio SPINEL no longer asserts when no entries are available in source match table.

4 Known Issues in the Current Release

Issues in bold were added since the previous release. If you have missed a release, recent release notes are available on <https://www.silabs.com/developers/thread> in the Tech Docs tab.

ID #	Description	Workaround
482915 495241	A known limitation with the UART driver can cause characters to be lost on CLI input or output. This can happen during particularly long critical sections that may disable interrupts, so it can be alleviated by repeating the CLI or waiting long enough for state changes.	No known workaround
815275	Ability to modify the Radio CCA Modes at compile-time using a configuration option in Simplicity Studio is currently not supported.	Use the SL_OPENTHREAD_RADIO_CCA_MODE configuration option defined in openthread-core-efr32-config.h header file included with your project.
1064242	OpenThread prefix commands sometimes fail to add prefix for OTBR over CPC.	No known workaround
1177718	MG24 Hangs when otInstanceErasePersistentInfo() is run in app_init()	No known workaround
1185623	When Matter hub is down, MADs lose routing of unicast messages (bindings)	No known workaround

5 Deprecated Items

None.

6 Removed Items

Removed in release 2.3.0.0

- The ot-remote-cli component has been removed. There is no replacement for this component because the functionality provided by the component is no longer required.
- The Silicon Labs HomeKit extension is no longer included with this release.

7 Multiprotocol Gateway and RCP

7.1 New Items

Added in release 2.3.0.0

Added a new application `z3-light_ot-ftd_soc` that demonstrates Zigbee and OpenThread Concurrent Multiprotocol functionality. It features a router on the Zigbee side and a Full Thread Device (FTD) on the OpenThread side. See the project description or `app/framework/scenarios/z3/z3-light_ot-ftd_soc/readme.html` for details.

First GA-quality release of CPC GPIO Expander module. The Co-Processor Communication (CPC) General Purpose Input/Output (GPIO) Expander is a software component designed to enable a Host device to utilize a Secondary device's GPIOs as if they were its own. With the CPC GPIO Expander, the Host device can seamlessly integrate with the Secondary device and make use of its GPIO capabilities. See <https://github.com/SiliconLabs/cpc-gpio-expander/README.md> for documentation.

Added antenna diversity and coex EZSP command support to Zigbeed.

Added better assert reporting to Zigbeed.

Added `bt_host_empty` application (option: `-B` for the `run.sh` script) to the multiprotocol docker container.

Zigbeed now includes an implementation of `emberGetRestoredEui64()` which loads the `CREATOR_STACK_RESTORED_EUI64` token from the `host_token.nvm` file.

The multiprotocol container now sets the size of syslog to 100 MB by default. Users are able to change the size by modifying the `"/etc/logrotate.d/rsyslog"` and `"/etc/rsyslog.d/50-default.conf"` files and restarting the rsyslog service inside the container.

7.2 Improvements

Changed in release 2.3.1.0

`Radio_url` can now take a list of IIDs. This is to control IIDs a host can accept spinel frames from other than its own IID. RCP uses IID zero for the received broadcast packet to deliver a spinel frame to all the connected hosts/endpoints. An example of the new `radio_url` is `'spinel+cpc://cpcd_0?iid=1&iid-list=0'`.

CLI commands used by `z3-light_ot-ftd_soc` sample application have been moved from the project into a new component called `ot_up_cli`.

Changed in release 2.3.0.0

Reduced CPC Tx and Rx queue sizes to fit the DMP NCP on the MG13 family.

Configured options on the multiprotocol RCP projects to provide ~3.3k in RAM savings, particularly for the MG1 part. This was accomplished by

- Reducing
 - The number of user CPC endpoints to 0
 - Tx CPC queue size to 15 from 20
 - Rx buffer count to 15
- Disabling OpenThread RTT logs

For further savings, customers can look into reducing the Tx and Rx queue sizes further. Note that the downside to this change would be a reduction in message throughput due to added retries. Also, customers can look into reducing the NVM cache size based on need. As a last resort, customers may also choose to disable CPC security on both the RCP and the host. We do not recommend the last option.

Changed `zigbee_ble_event_handler` to print scan responses from legacy advertisements in the `DMPLight(Sed)` app.

The `rcp-xxx-802154` apps now by default support 192 μ sec turnaround time for non-enhanced acks while still using 256 μ sec turnaround time for enhanced acks required by CSL.

7.3 Fixed Issues

Fixed in release 2.3.3.0

ID #	Description
1155676	Fixed issue where the 802.15.4 RCP will discard all received unicast packets (after MAC acking) if multiple 15.4 interfaces happen to share the same 16-bit node ID.
1173178	Fixed issue where host falsely reported hundreds of packets received with mfglib in the Host-RCP setup.
1199706	Fixed an issue where data polls from forgotten end device children weren't properly setting a pending frame on the RCP to queue a Leave & Rejoin command to the former child.
1207967	Fixed an issue that the "mfglib send random" command was sending out extra packets on zigbeed.
1213058	Fixed a Zigbeed segmentation fault that could occur under heavy traffic conditions.
1213701	Fixed an issue caused by a missed MAC ack that can lead to application layer transactions between the child and some other device (including its parent) failing due to lack of APS Ack or app-layer response, most notably the disruption and unexpected termination of ZCL OTA Upgrades targeting the child device.
1214359	Fixed another Zigbeed segmentation fault that could occur under heavy traffic conditions.
1216470	Fixed an issue that after relaying a broadcast for address mask 0xFFFF, a Zigbee RCP acting as a parent device would leave the pending data flag set for each child, resulting in each child staying awake expecting data after each poll, requiring some other pending data transaction to each end device to eventually clear this state.
1231021	Avoid an assert by recovering the RCP rather than passing unhandled transmit errors to the sub mac.
1244459	Fixed issue where MAC-retried Indirect transmissions via RCP can result in source match table entry for child being removed despite messages pending.
1256028	Fixed an issue where concurrent listening feature was not properly disabled in previous patch releases, resulting in crashes on xG24 and xG21.

Fixed in release 2.3.2.0

ID #	Description
1090921	An issue has been fixed that caused Z3GatewayCpc not being able to form the zigbee network in a noisy environment.
1190859	An EZSP issue when sending mfglib packets CMP RCP setup has been fixed.

Fixed in release 2.3.1.0

ID #	Description
1113498 1135805	Resolved several issues that caused intermittent failures in zigbeed when attempting to join 100 or more Zigbee devices to the network.
1153055	An issue has been fixed that caused failure on the host if a communication error occurred when reading the NCP version.
1171451	An argument parsing issue has been fixed in the CLI command ping_ipaddr of the ot_up_cli component.

Fixed in release 2.3.0.0

ID #	Description
1078323	Resolved issue where Z3GatewayCPC asserts when there is a communication failure with the NCP during address table initialization. We will now try to reconnect to the NCP upon failure.
1080517	Z3GatewayCPC now automatically handles a reset of the NCP (CPC secondary).
1117789	Fixed an issue where modifying OPENTHREAD_CONFIG_PLATFORM_RADIO_SPINEL_RX_FRAME_BUFFER_SIZE caused a linker error when building Zigbeed.

ID #	Description
1118077	In the CMP RCP, Spinel messages were being dropped under heavy traffic load due to CPC not keeping up with the incoming packets. Fixed this by bundling all Spinel messages ready to be sent over CPC into one payload on the RCP and unbundling them on the host. This dramatically improves the efficiency of CPC so that it can keep up with the incoming radio traffic.
1129821	Fixed null pointer dereference in Zigbeed in an out-of-buffer scenario while receiving packets.
1139990	Fixed an assert in the OpenThread Spinel code that could be triggered when joining many Zigbee devices simultaneously.
1144268	Fixed an issue where excessive radio traffic can cause the Zigbee-BLE NCP to get into a state where it continually executes the NCP and CPC initialization.
1147517	Fixed an issue with Z3GatewayCPC on startup that could cause the reset handling of the secondary to not work correctly.

7.4 Known Issues in the Current Release

Issues in bold were added since the previous release. If you have missed a release, recent release notes are available on <https://www.silabs.com/developers/gecko-software-development-kit>.

ID #	Description	Workaround
811732	Custom token support is not available when using Zigbeed.	Support is planned in a future release.
937562	Bluetoothctl 'advertise on' command fails with rcp-uart-802154-blehci app on Raspberry Pi OS 11.	Use btmgmt app instead of bluetoothctl.
1022972	Coex not working on ZB NCP + OT RCP.	Fixed in GSDK 4.4.2.
1074205	The CMP RCP does not support two networks on the same PAN id.	Use different PAN ids for each network. Support is planned in a future release.
1122723	In a busy environment the CLI can become unresponsive in the z3-light_ot-ftd_soc app.	This app is released as experimental quality and the issue will be fixed in a future release.
1124140	z3-light_ot-ftd_soc sample app is not able to form the Zigbee network if the OT network is up already.	Start the Zigbee network first and the OT network after.
1129032	Experimental concurrent listening feature on xG24 devices is disabled in this release.	The feature is supported in GSDK 4.4.0.
1143857	Antenna Diversity is not available on the CMP RCP for xG21 and xG24 parts, since the antenna diversity hardware is used for concurrent listening.	Intended behavior.
1221299	RSSI readings are less sensitive for RCP firmware when compared to the NCP setup.	Will be addressed in a future release.

7.5 Deprecated Items

None

7.6 Removed Items

None

8 Using This Release

This release contains the following

- Silicon Labs OpenThread stack
- Silicon Labs OpenThread sample applications
- Silicon Labs OpenThread border router

For more information about the OpenThread SDK see [QSG170: Silicon Labs OpenThread QuickStart Guide](#). If you are new to Thread see [UG103.11: Thread Fundamentals](#).

8.1 Installation and Use

The OpenThread SDK is part of the Gecko SDK (GSDK), the suite of Silicon Labs SDKs. To quickly get started with OpenThread and the GSDK, start by installing [Simplicity Studio 5](#), which will set up your development environment and walk you through GSDK installation. Simplicity Studio 5 includes everything needed for IoT product development with Silicon Labs devices, including a resource and project launcher, software configuration tools, full IDE with GNU toolchain, and analysis tools. Installation instructions are provided in the online [Simplicity Studio 5 User's Guide](#).

Alternatively, Gecko SDK may be installed manually by downloading or cloning the latest from GitHub. See https://github.com/SiliconLabs/gecko_sdk for more information.

The GSDK default installation location has changed beginning with Simplicity Studio 5.3.

- Windows: C:\Users\- MacOS: /Users/<NAME>/SimplicityStudio/SDKs/gecko_sdk

Documentation specific to the SDK version is installed with the SDK. API references and other information about this release are available on <https://docs.silabs.com/openthread/2.1/>.

8.2 OpenThread GitHub Repository

The Silicon Labs OpenThread SDK includes all changes from the OpenThread GitHub repo (<https://github.com/openthread/openthread>) up to and including commit [e6df00dd6](#). An enhanced version of the OpenThread repo can be found in the following Simplicity Studio 5 GSDK location:

```
<GSDK Installation Location>\util\third_party\openthread
```

8.3 OpenThread Border Router GitHub Repository

The Silicon Labs OpenThread SDK includes all changes from the OpenThread border router GitHub repo (<https://github.com/openthread/ot-br-posix>) up to and including commit [bb565ca01](#). An enhanced version of the OpenThread border router repo can be found in the following Simplicity Studio 5 GSDK location:

```
<GSDK Installation Location>\util\third_party\ot-br-posix
```

8.4 Using the Border Router

For ease of use, Silicon Labs recommends the use of a Docker container for your OpenThread border router. Refer to [AN1256: Using the Silicon Labs RCP with the OpenThread Border Router](#) for details on how to set up the correct version of OpenThread border router Docker container. It is available at <https://hub.docker.com/r/siliconlabsinc/openthread-border-router>.

If you are manually installing a border router, using the copies provided with the Silicon Labs OpenThread SDK, refer to [AN1256: Using the Silicon Labs RCP with the OpenThread Border Router](#) for more details.

Although updating the border router environment to a later GitHub version is supported on the OpenThread website, it may make the border router incompatible with the OpenThread RCP stack in the SDK.

8.5 NCP/RCP Support

The OpenThread NCP support is included with OpenThread SDK but any use of this support should be considered experimental. The OpenThread RCP is fully implemented and supported.

8.6 Security Information

Secure Vault Integration

When deployed to Secure Vault High devices, sensitive keys are protected using the Secure Vault Key Management functionality. The following table shows the protected keys and their storage protection characteristics.

Wrapped Key	Exportable / Non-Exportable	Notes
Thread Master Key	Exportable	Must be exportable to form the TLVs
PSKc	Exportable	Must be exportable to form the TLVs
Key Encryption Key	Exportable	Must be exportable to form the TLVs
MLE Key	Non-Exportable	
Temporary MLE Key	Non-Exportable	
MAC Previous Key	Non-Exportable	
MAC Current Key	Non-Exportable	
MAC Next Key	Non-Exportable	

Wrapped keys that are marked as “Non-Exportable” can be used but cannot be viewed or shared at runtime.

Wrapped keys that are marked as “Exportable” can be used or shared at runtime but remain encrypted while stored in flash.

For more information on Secure Vault Key Management functionality, see [AN1271: Secure Key Storage](#).

Security Advisories

To subscribe to Security Advisories, log in to the Silicon Labs customer portal, then select **Account Home**. Click **HOME** to go to the portal home page and then click the **Manage Notifications** tile. Make sure that ‘Software/Security Advisory Notices & Product Change Notices (PCNs)’ is checked, and that you are subscribed at minimum for your platform and protocol. Click **Save** to save any changes.

Update Preference

WHAT EMAILS WOULD YOU LIKE TO RECEIVE?

Newsletters

- Community Monthly Newsletter
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- Micrium Newsletter

Product Specific Notifications

- Product Information and Newsletter
- Software/Security Advisory Notices & Product Change Notices (PCNs)
- Technical Document Updates (Release Notes, Data Sheets, etc.)

SELECT THE PRODUCTS TO RECEIVE UPDATES FOR

Select/Unselect All

<input type="checkbox"/> Audio and Radio	<input type="checkbox"/> Power over Ethernet
<input type="checkbox"/> Interface	<input type="checkbox"/> Sensors
<input type="checkbox"/> Isolation	<input type="checkbox"/> TV and Video
<input type="checkbox"/> Modems and DAAs	<input type="checkbox"/> Voice
<input checked="" type="checkbox"/> Microcontrollers	<input type="checkbox"/> Wireless
<input type="checkbox"/> 8-bit MCUs <input checked="" type="checkbox"/> 32-bit MCUs	<input type="checkbox"/> Bluetooth Classic <input type="checkbox"/> Bluetooth Low Energy <input checked="" type="checkbox"/> Proprietary
<input type="checkbox"/> Timing	<input type="checkbox"/> Wi-Fi
<input type="checkbox"/> Clocks	<input type="checkbox"/> ZigBee and Thread
<input type="checkbox"/> Buffers	<input type="checkbox"/> Z-Wave
<input type="checkbox"/> Oscillators	
<input type="checkbox"/> CDR and PHY	

8.7 Support

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

You can contact Silicon Laboratories support at <http://www.silabs.com/support>.

Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!



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Quality
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