Z-Wave and Z-Wave Long Range 800
SDK 7.22.0 GA
Simplicity SDK Suite 2024.6.0
June 5, 2024

Z-Wave and Z-Wave Long Range 800 is designed to meet the demands of the future smart home, where increasing needs for more sensors and battery-operated devices require both long range and low power. Context-aware environments are the next evolution in the smart home market, and they require technologies that have been optimized specifically for these applications.

**100% Interoperable:** Every product in the Z-Wave ecosystem works with every other product, regardless of type, brand, manufacturer or version. No other smart home/IoT protocol can make this claim.

**Best-In-Class Security:** Z-Wave’s Security 2 (S2) framework provides end-to-end encryption and the most advanced security for smart home devices and controllers. Homes with S2 Z-Wave devices are virtually un-hackable.

**SmartStart Easy Installation:** SmartStart radically simplifies the installation of smart devices by using QR code scans for uniform, trouble-free setup. Devices and systems can be pre-configured dramatically easing deployments.

**Backwards-Compatible:** Z-Wave certification mandates backward-compatibility. The first Z-Wave devices on the market, more than ten years old, still perform as intended in networks with the latest Z-Wave technologies.

For more information about the certification status of Z-Wave and Z-Wave Long Range 800 SDK v7.22.0.0 GA, see section 11 Product Life Cycle and Certification.

These release notes cover SDK version(s):

7.22.0 GA released June 5, 2024

**Compatibility and Use Notices**

For more information about security updates and notices, see the Security chapter of the Platform Release notes installed with this SDK or on the Silicon Labs Release Notes page. 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 Z-Wave 800 SDK, see section 10 Using This Release.

**Compatible Compilers:**

GCC (The GNU Compiler Collection) version 12.2.1, provided with Simplicity Studio.
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1 Supported Radio Boards

This section describes the radio boards supported by the certified and pre-certified applications for the 800 Series, respectively.

Table 1-1. Supported Radio Boards

<table>
<thead>
<tr>
<th>Series</th>
<th>Radio Board</th>
<th>Description</th>
<th>Z-Wave Long Range</th>
<th>Tx Power</th>
<th>Secure Vault</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>BRD2603A</td>
<td>ZGM230SB: SiP</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD2705A</td>
<td>EFR32ZG28B: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204A</td>
<td>EFR32ZG23A: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>Mid</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204B</td>
<td>EFR32ZG23A: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>Mid</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204C</td>
<td>EFR32ZG23B: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204D</td>
<td>EFR32ZG23B: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4205A</td>
<td>ZGM230SA: SiP</td>
<td>yes</td>
<td>14 dBm</td>
<td>Mid</td>
</tr>
<tr>
<td>800</td>
<td>BRD4205B</td>
<td>ZGM230SB: SiP</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4210A</td>
<td>EFR32ZG23B: SoC</td>
<td>yes</td>
<td>20 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4400B</td>
<td>EFR32ZG28B: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4400C</td>
<td>EFR32ZG28B: SoC</td>
<td>yes</td>
<td>14 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4401B</td>
<td>EFR32ZG28B: SoC</td>
<td>yes</td>
<td>20 dBm</td>
<td>High</td>
</tr>
<tr>
<td>800</td>
<td>BRD4401C</td>
<td>EFR32ZG28B: SoC</td>
<td>yes</td>
<td>20 dBm</td>
<td>High</td>
</tr>
</tbody>
</table>

The applications in the above table need a radio board in combination with BRD4002A – Wireless Starter Kit Mainboard (WSTK) and BRD8029A – Buttons and LEDs Expansion Board. Notice that BRD4002A is compatible with the old BRD4001A mainboard that is going to be deprecated. The Serial APIs in the above table only need a radio board and a BRD4002A – Wireless Starter Kit Mainboard (WSTK). Refer to INS14278: How to Use Certified Apps and INS14816: How to Use Pre-Certified Apps, for details.

ZW-LR indicates that the radio board supports both Z-Wave and Z-Wave Long Range. 14/20 dBm indicates the transmit power of the radio board. Secure Vault is an industry-leading suite of state-of-the-art security features that address escalating Internet of Things (IoT) threats.

Table 1-2. Radio Boards versus OPNs.

<table>
<thead>
<tr>
<th>Series</th>
<th>Radio Board</th>
<th>OPN Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>BRD2603A</td>
<td>ZGM230SB27HGN3</td>
</tr>
<tr>
<td>800</td>
<td>BRD2705A</td>
<td>EFR32ZG28B312F1024IM48-A</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204A</td>
<td>EFR32ZG23A010F512GM48</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204B</td>
<td>EFR32ZG23A010F512GM48</td>
</tr>
<tr>
<td>800</td>
<td>BRD4204C</td>
<td>EFR32ZG28B010F512IM48</td>
</tr>
<tr>
<td>800</td>
<td>BRD4205A</td>
<td>ZGM230SA27HNN0</td>
</tr>
<tr>
<td>800</td>
<td>BRD4205B</td>
<td>ZGM230SB27HGN2</td>
</tr>
<tr>
<td>800</td>
<td>BRD4210A</td>
<td>EFR32ZG23B020F512IM48</td>
</tr>
<tr>
<td>800</td>
<td>BRD4400B</td>
<td>ZGM230SB27HGN3</td>
</tr>
<tr>
<td>800</td>
<td>BRD4400C</td>
<td>EFR32ZG28B312F1024IM68-A</td>
</tr>
<tr>
<td>800</td>
<td>BRD4401B</td>
<td>EFR32ZG28B322F1024IM68-A</td>
</tr>
</tbody>
</table>

The table above shows the Radio Boards and OPN relation. This table can be used to clarify the compatibility of the prebuilt binaries offered in the Simplicity SDK. The prebuilt binaries are built targeting boards and not OPNs. More OPNs are available than the ones listed above. For those OPNs the prebuilt binaries will not work. The desired application must be built targeting the specific OPN instead.
2 SDK Changes

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).
3 Z-Wave Protocol

Be aware that 800 products based on SDK v7.17.x do not support upgrade of Secure Element firmware over the air (OTA). However, a migration path exists to upgrade both main bootloader and Secure Element firmware to enable support of this feature. See INS14895: Instruction for How to Use Tiny App regarding the upgrade path. The 800-based SDK v7.18.x supports upgrade of Secure Element firmware over the air (OTA).

The 8 kB reduction of the Z-Wave protocol NVM3 file system has an impact when making OTA firmware update on 800-based applications deployed on version 7.17.2 and earlier. To make an OTA firmware update from 7.17.2 to 7.18.1/2 requires that 7.18.1/2 is modified to keep the same NVM3 protocol size as 7.17.2. This can be configured by the define NVM3_DEFAULT_NVM_SIZE when building 7.18.1/2.

Note that due to the introduction of Secure Key Storage on the 800 series, having externally supplied key pairs is no longer supported. To ensure that security is not compromised, keys are generated internally on first boot and the private key kept only in secure storage. The public key and the QR code can be read out in production.

3.1 New Items

- The Z-Wave stack supports the Z-Wave Long-Range Europe region in Alpha quality.
- A new Serial API command is available to backup and restore the information in NVM (Non-Volatile Memory).
- Simplicity SDK requires that all sections are placed in the linkerscript. If using software components, they are contributed by the Z-Wave software components. For developers not using the software component mechanism, they should contribute the following sections to their linker file.

  Contributed by the zw_core.slcc software component:
  - zw_protocol_cmd_handlers_lr
  - zw_protocol_cmd_handlers

  Contributed by the zw_apputilities.slcc software component:
  - zw_cc_handlers_v3
  - zw_zaf_cc_config

  Contributed by the zaf_event_distributor_soc.slcc software component:
  - zw_zaf_event_distributor_cc_event_handler

  Contributed by the zwave_ncp_serial_api_controller.slcp software component:
  - zw_cmd_handlers

3.2 Improvements

Improved in release 7.22.0 GA

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1246332</td>
<td>There is now a single ZPAL library per device family.</td>
</tr>
<tr>
<td>1271456</td>
<td>Merged radio board RF configuration files (cf. zw_config_rf.h).</td>
</tr>
<tr>
<td>1242395</td>
<td>ZAF_BUILD_NO, SDK_VERSION_[MAJOR][MINOR][PATCH], ZAF_VERSION_[MAJOR][MINOR][PATCH] are no longer available in Applications. They have been replaced by several accessor functions defined in &quot;ZAF_version.h&quot;.</td>
</tr>
<tr>
<td>1196450</td>
<td>zpal_reset_reason_t replaces EResetReason_t enum.</td>
</tr>
</tbody>
</table>

3.3 Fixed Issues

Fixed in release 7.22.0 GA

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1062482</td>
<td>An issue was fixed that affected the OTA, where it would get stuck when a Timer interrupt was triggered.</td>
</tr>
<tr>
<td>1266899</td>
<td>Fixed a controller migration issue impacting the migration process from 7.17 to newer NCP Serial API Controller.</td>
</tr>
<tr>
<td>1271456</td>
<td>The BRD4401C radio board (EFR32ZG28 + 20 dBm output power) was misconfigured resulting in a low TX output power. This issue has been addressed.</td>
</tr>
</tbody>
</table>
3.4 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 Silicon Labs Release Notes page.

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>1227385</td>
<td>While the controller stability has been greatly improved in Z-Wave Classic, the workaround implementation is still recommended on the host side.</td>
<td>This low occurrence issue can be mitigated by the host. When the controller is locked replying with the status, TRANSMIT_COMPLETE_FAIL, the host should reset the controller.</td>
</tr>
<tr>
<td>1302749</td>
<td>The controller configured in Z-Wave Long-Range mode can enter a state where the CRCs associated with TX packets are erroneous. The issue is triggered in noisy environments, including FLIRS devices.</td>
<td>No workaround.</td>
</tr>
</tbody>
</table>
| 1247775 | The RTOS tick can stop when the application requires frequent interruptions. The RTOS tick is then not incremented and stops the Z-Wave stack and other tasks. | In the sli_schedule_wakeup_timer_expire_handler() function, replace
/* Increment the RTOS tick. */
while ((current_tick_count - last_update_lftick) >
lfticks_per_os_ticks) {
  sched |= xTaskIncrementTick();
  last_update_lftick+= lfticks_per_os_ticks;
} | By
/* Increment the RTOS tick. */
while ((current_tick_count - last_update_lftick) >= lfticks_per_os_ticks) {
  sched |= xTaskIncrementTick();
  last_update_lftick+= lfticks_per_os_ticks;
} |
| 1300414 | End-Device acknowledges packet after exclusion.                             | No workaround. |
| 1295158 | The emulated end-device inclusion fails when used with the CTT agent.       | It is recommended testers use another version of the emulated end-device. |
| 753756  | Network Wide Inclusion (NWI) of 500-based apps doesn’t work through 700/800 repeaters. | NWI works at second attempt. |

3.5 Deprecated Items

As of the 7.22.0 stack release, the 700 platform is not supported by the Simplicity SDK. The 700 platform will be maintained through the 7.21.x release stream.

3.6 Removed Items

Removed in release 7.22.0 GA

None.
4  Z-Wave Plus V2 Application Framework

4.1  New Items

Added User Credential Command Class beta implementation. Please note that more updates are expected in this command class specification in the upcoming 2024A Z-Wave specification, and this early implementation does not implement all of these changes. The command class will be adjusted to the 2024A specs in the future patch releases.

New variant of the Door Lock Key Pad sample application is added: “Door Lock Key Pad with U3C Beta”, which supports the User Credential Command Class.

CLI support is added for the sample apps. In case of FL and NL applications, the CLI is disabled by default because it prevents the apps from entering sleep mode. The instructions to enable the CLI for these sleeping apps can be found in the apps’ readme files.

4.2  Improvements

For a detailed description of application development using the Z-Wave Plus V2 Framework, refer to INS14259: Z-Wave Plus V2 Application Framework GSDK.

A porting guide is also available for customers who want to migrate to the 800 platform. The guide contains a detailed example of how to port a non-component/700-based Switch On/Off App (7.16.3) to a component/800-based Switch On/Off App (7.17.0). See APL14836: Application Note for Porting Z-Wave Appl. SW from 700 to 800 hardware.

4.3  Fixed Issues

Fixed in release 7.22.0 GA

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1243767</td>
<td>ZG28 OTA and OTW demo bootloaders are missing in Simplicity Studio.</td>
</tr>
</tbody>
</table>

4.4  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 the Silicon Labs Release Notes page

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>369430</td>
<td>All S2 multicast frames are sent using verified delivery S2_TXOPTION_VERIFY_DELIVERY whether or not a response is expected.</td>
<td>Change source code depending on the frame sent.</td>
</tr>
<tr>
<td>1080416</td>
<td>The ASSERT macro does not print the file and line when it is used in the ApplicationTask function.</td>
<td>Prints after disabling all interrupts.</td>
</tr>
<tr>
<td>1172849</td>
<td>On series 800, sleep will no longer take advantage of EM1P current savings.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1301405</td>
<td>Z-Wave Version Config SLC component's input fields are set to 1.0.0 by default, but 0 is outside of the allowed range. The version is not set properly in zw_version_config.h in case of 0 input fields.</td>
<td>Inside the project, open config/zw_version_config.h and change the values of the defines starting with USER_APP_ to 0 manually.</td>
</tr>
<tr>
<td>1257690</td>
<td>sl_storage_config.h does not handle custom OTA slot size.</td>
<td>Currently not available.</td>
</tr>
</tbody>
</table>

4.5  Deprecated Items

None.
4.6 Removed Items

Removed in release 7.22.0 GA

None.
5 Sample Applications

The Door Lock Key Pad, Power Strip, Sensor PIR and Wall Controller applications based on v7.22.0 will be formally certified by a certification house. However, at the time of the release, these applications are self-certified on certification tests using CTT v3.

5.1 Door Lock Key Pad

5.1.1 New Items
None.

5.1.2 Improvements
None.

5.1.3 Fixed Issues
None.

5.1.4 Known Issues in the Current Release

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303548</td>
<td>set_new_user_code CLI command takes only the first 4 digits of the pin code.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1303546</td>
<td>enter_user_code CLI command does not open the door.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1245554</td>
<td>DoorLock app does not work with UserID over 163.</td>
<td>Currently not available.</td>
</tr>
</tbody>
</table>

5.1.5 Deprecated Items
None.

5.1.6 Removed Items
None.

5.2 Door Lock Key Pad with U3C Beta

This is a new variant of the Door Lock Key Pad sample application which supports the User Credential Command Class, and is a Beta version. Because it has not been self-certified yet, the application contains known issues and will be adjusted according to changes expected in the 2024A Z-Wave specification.

5.2.1 New Items
None.

5.2.2 Improvements
None.

5.2.3 Fixed Issues
None.
5.2.4 Known Issues in the Current Release

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>1297891</td>
<td>User Credential Association Reports only arrive in case of a successful Credential Association.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297831</td>
<td>Credential Learn not working with BTN2.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297667</td>
<td>Credential Set Error contains wrong data.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297614</td>
<td>User Credentials not deleted after user deletion.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297611</td>
<td>Next Credential value doesn't keep ascending order.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297370</td>
<td>Multiple Credential delete not working.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297352</td>
<td>Pin code should only store numbers instead of any character.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1297175</td>
<td>Credential max length is wrong in Credential Capabilities Report.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1296879</td>
<td>User deletion does not guarantee deletion of all associated Credentials.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1296863</td>
<td>Unsupported User Types can be added.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1296859</td>
<td>USER_NOTIFICATION_REPORT commands are missing.</td>
<td>Currently not available.</td>
</tr>
<tr>
<td>1296854</td>
<td>USER_SET_ERROR_REPORT commands are missing.</td>
<td>Currently not available.</td>
</tr>
</tbody>
</table>

5.2.5 Deprecated Items

None.

5.2.6 Removed Items

None.

5.3 Power Strip

5.3.1 New Items

None.

5.3.2 Improvements

None.

5.3.3 Fixed Issues

None.

5.3.4 Known Issues in the Current Release

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>1303550</td>
<td>dim_endpoint 100 CLI command does not work.</td>
<td>Currently not available.</td>
</tr>
</tbody>
</table>

5.3.5 Deprecated Items

None.
5.3.6 Removed Items
None.

5.4 Sensor PIR

5.4.1 New Items
None.

5.4.2 Improvements
None.

5.4.3 Fixed Issues
None.

5.4.4 Known Issues in the Current Release

<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>1274235</td>
<td>Sensor PIR enabling User Task ends up in Hard Fault. Enabling the User Task in Sensor PIR sample app (by setting the CREATE_USER_TASK macro from 0 to 1 in app.c) leads to Hard Fault.</td>
<td>Add 500 ms delay to the beginning of the SensorPIR_DataAcquisitionTask function.</td>
</tr>
<tr>
<td>1256505</td>
<td>Sensor PIR does not wake up on BTN0 and BTN1 button pressing on an expansion board using BRD4400C and BRD4401C radio boards due to these GPIOs not supporting wakeup from EM4.</td>
<td>Remap the buttons to GPIOs that support wakeup from EM4.</td>
</tr>
<tr>
<td>1231755</td>
<td>Sensor PIR On to Off movement alarm notification is missing.</td>
<td>Currently not available.</td>
</tr>
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</table>

5.4.5 Deprecated Items
None.

5.4.6 Removed Items
None.

5.5 Switch On/Off

5.5.1 New Items
None.

5.5.2 Improvements
None.

5.5.3 Fixed Issues
None.
5.5.4 Known Issues in the Current Release
None.

5.5.5 Deprecated Items
None.

5.5.6 Removed Items
None.

5.6 Wall Controller

5.6.1 New Items
None.

5.6.2 Improvements
None.

5.6.3 Fixed Issues
None.

5.6.4 Known Issues in the Current Release
None.

5.6.5 Deprecated Items
None.

5.6.6 Removed Items
None.

5.7 Multilevel Sensor
This application is not certifiable due to missing features for passing the certification tests.

5.7.1 New Items
None.

5.7.2 Improvements
None.

5.7.3 Fixed Issues
None.
5.7.4 Known Issues in the Current Release
None.

5.7.5 Deprecated Items
None.

5.7.6 Removed Items
None.

5.8 LED Bulb

5.8.1 New Items
None.

5.8.2 Improvements
None.

5.8.3 Fixed Issues
None.

5.8.4 Known Issues in the Current Release
None.

5.8.5 Deprecated Items
None.

5.8.6 Removed Items
None.
6 Serial API Applications

Beginning with version 7.16, when backing up and restoring a Serial API end node via the FUNC_ID_NVM_BACKUP_RESTORE, the Serial API end node will automatically upgrade the protocol non-volatile memory (NVM) to the latest version. Any backup made of a 7.16 or later Serial API end node can be restored to its original version or to a later version of the Serial API end node without any manual upgrade of the protocol NVM being necessary.

The serial interface is unchanged in version 8.

As of SDK version 7.18.x, Serial API end node is available as source code as well as binary. This opens the possibility for building customized versions of Serial API end node with different pin configuration or additional hardware utilization. A use case might be to use SPI instead of UART for serial communication.

No application using Serial API End Device is available in the Simplicity SDK.

6.1 Serial API Controller

6.1.1 New Items
None.

6.1.2 Improvements
None.

6.1.3 Fixed Issues
None.

6.1.4 Known Issues in the Current Release
None.

6.1.5 Deprecated Items
None.

6.1.6 Removed Items
None.
7 800 SDK

7.1 BRD2603

800 SDK improvements:

- MultilevelSensor App improved by supporting ambient light sensor and motion sensor. The periodic timer for sensor data reports is configurable.
- Supported new apps on 800 DevKit: SensorPIR, WallController, PowerStrip, Zniffer
- Improved the usage of the 800 DevKit demo with the Unify Portable Environment by adding the ability to identify the application firmware on the boards. This makes preparation of the Dev Kit for the demo simpler and faster.

7.2 BRD2705

Support new applications for BRD2705A:

- SerialAPI Controller
- ZnifferPTI
- SwitchOnOff
- SensorPIR
- WallController
- PowerStrip
- MultilevelSensor
- LEDBulb
8 Important Changes

Starting in version 7.19, API-breaking changes have been documented in "Important_changes.md" available in the Simplicity SDK. Check it for a detailed description of changes introduced in the latest release.

HTML documentation has been added to the Simplicity SDK and can be found on https://docs.silabs.com/z-wave/7.22.0/zwave-api/ and in Simplicity Studio, Documentation section, under "Z-Wave zipped doxygen documentation". Location of this document is <SDK>/protocol/z-wave/docs_public/z-wave-html-docs.zip.
9 Open Source Software

Z-Wave is using FreeRTOS as the underlying OS, and it is based on FreeRTOS Kernel V10.4.3.
10 Using This Release

This release contains the following:

- Z-Wave Plus V2 Application Framework
- Z-Wave Certified Applications for a broad range of smart home applications
- Z-Wave Protocol and Serial API Applications

If you are a first-time user, Z-Wave documentation is installed with the SDK. See [INS14280: Z-Wave Getting Started for End Devices](https://example.com/INS14280), [INS14278: How to Use Certified Apps in Z-Wave](https://example.com/INS14278), and [INS14281: Z-Wave Getting Started for Controller Devices](https://example.com/INS14281) for instructions.

This SDK depends on a Simplicity SDK Platform. The Simplicity SDK Platform code provides functionality that supports protocol plugins and APIs in the form of drivers and other lower layer features that interact directly with Silicon Labs chips and modules. Gecko Platform components include EMLIB, EMDRV, RAIL Library, NVM3, PSA, and mbedTLS. Gecko Platform release notes are available through Simplicity Studio’s Launcher Perspective.

10.1 Installation and Use

Order a Z-Wave Wireless Starter kit. The kit offers the easiest and fastest way to start evaluation and development of your own Z-Wave mesh application. It provides a single world-wide development kit for both end devices and gateways with multiple radio boards, with which developers can create a mesh network and evaluate the Z-Wave module.

The Z-Wave and Z-Wave Long Range 800 SDK is provided as part of the Simplicity SDK, the suite of Silicon Labs SDKs. To quickly get started with the Simplicity SDK, install [Simplicity Studio 5](https://example.com/Simplicity Studio 5), which will set up your development environment and walk you through Simplicity SDK 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](https://example.com/Simplicity Studio 5 User’s Guide).

Alternatively, Simplicity SDK may be installed manually by downloading or cloning the latest from GitHub. See [https://github.com/SiliconLabs/simplicity_sdk](https://github.com/SiliconLabs/simplicity_sdk) for more information.

Simplicity Studio installs the SDK by default in:

- (Windows): C:Users\<NAME>\SimplicityStudio\SDKs\simplicity_sdk
- (MacOS): /Users/<NAME>/SimplicityStudio/SDKs/simplicity_sdk

To implement a specific application, Silicon Labs recommends starting with one of the existing self-certified apps with the desired Role Type.

10.2 Security Information

Secure Vault Integration

This version of the stack is using secure vault interface for key management of asymmetric keys (ECC Curve 25519) and Symmetric keys (AES).

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.

### 10.3 Support

Development Kit customers are eligible for training and technical support.

See support resources and contact Silicon Laboratories support at [https://www.silabs.com/support](https://www.silabs.com/support).
11 Product Life Cycle and Certification

Silicon Labs will add new features based on market requirements and continuously improve the Z-Wave Protocol to position the Z-Wave Ecosystem. The Z-Wave Protocol Life Cycle is a process to provide rapid innovation, new features and robust matured protocol release to Z-Wave Partners. The Z-Wave Protocol Life Cycle defines the maturation process of Z-Wave Protocol generations and consist of three phases divided in five Life Cycle stages. A change in the Z-Wave SDK utilized for a specific device does require recertification; however, the type of certification required, the amount of testing needed, and the associated fees depend on the scope of the change. Refer to Z-Wave Alliance home page https://z-wavealliance.org/ for details.

Table 11-1. Z-Wave SDK Release History

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<td>20-SEP-2019</td>
</tr>
</tbody>
</table>
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

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