The SDK implements the HomeKit Accessory Protocol (HAP) for integration with the accessory application software on an ARM® Cortex®-M4-based Kinetis K host MCU, with Kinetis KW40Z or KW30Z wireless MCUs providing Bluetooth Smart 4.1 (BLE) connectivity.

NXP’s SDK for HomeKit compatible products have been architected for easy porting and adaptation to a wide range of target platforms employing the concept of code adaptors. The user API is independent of the communication transport selected, and the code adaptors enable the use of alternative connectivity modules and host processors.

The HomeKit SDK is easy to configure, and supports a range of HomeKit-defined and application custom accessory functions. Built-in firmware update support is included in the HomeKit SDK via an iOS application. Application examples that are suitable as a development starting point are included to support easy and rapid development.

A conditional “print to console” debug function further helps development and debug. It connects via USB or UART to a Mac or PC.

**OVERVIEW**

- **HomeKit Accessory Protocol (HAP)**
- **Bluetooth Smart 4.1 (BLE) wireless connectivity**
- **Easy to setup configuration**
- **User API independent of communications transport**
- **Easy porting and adaptation to target platform**
- **Support for defined and custom accessory functions**
- **Includes application examples suitable for project starting point**
- **Debug support with conditional print to console**
- **Built-in firmware update support**
- **Hardware platform:**
  - Host processor: Kinetis K ARM Cortex-M4-based MCU
  - BLE wireless connectivity MCUs: Kinetis KW30Z or KW40Z

**FEATURES**

- **Built-in firmware update support**
- **Hardware platform:**
  - Host processor: Kinetis K ARM Cortex-M4-based MCU
  - BLE wireless connectivity MCUs: Kinetis KW30Z or KW40Z

The HomeKit SDK from NXP download includes:

- Unlimited production license
- Two hours of professional support
Additional Professional Support and Services available
• Planned support for IP transport

SUPPORTED BY KINETIS MCUs

The Kinetis K Series MCUs based on ARM Cortex-M4 cores provide exceptional performance and highly efficient processing to meet HomeKit cryptography requirements. Many Kinetis MCUs also incorporate a wide array of advanced security features such as cryptographic keys storage, software and system protection options, a hardware random number generator (RNG), and optional integrated system tamper detection.

SDK DOWNLOAD

The NXP Freedom development board platform is supported with the HomeKit software for easy evaluation, development and rapid prototyping. Additional hardware details are included in the SDK documentation and release notes.

With a $499 resale price, download of the HomeKit from NXP includes all currently supported processor, transport, OS, and tool set options as well as:

• SDK software
• User Manual
• Release Notes
• Unlimited production license
• Two hours of professional support from NXP via e-mail
• Design customization and integration from Professional Engineering Services

Learn more at www.nxp.com/homekit

PROCESSORS SUPPORTING THE NXP SDK FOR HomeKit (IN CURRENT RELEASE)

<table>
<thead>
<tr>
<th>Supported Host Processors</th>
<th>CPU</th>
<th>Memory (KB)</th>
<th>Security</th>
<th>Interfaces</th>
<th>Packages</th>
<th>Development Boards</th>
</tr>
</thead>
<tbody>
<tr>
<td>K11</td>
<td>50 MHz ARM® Cortex®-M4</td>
<td>512/64</td>
<td>Yes</td>
<td>RNG, MMCAL, CRC, Tamper</td>
<td>–</td>
<td>LQFP, MAPBGA</td>
</tr>
<tr>
<td>K22</td>
<td>120 MHz ARM Cortex®-M4</td>
<td>1024/128 512/128</td>
<td>Yes</td>
<td>RNG, CRC</td>
<td>USB FS</td>
<td>LQFP, MAPBGA, CSP</td>
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<tr>
<td>K24</td>
<td>120 MHz ARM Cortex®-M4</td>
<td>1024/256</td>
<td>Yes</td>
<td>RNG, MMCAL, CRC</td>
<td>USB FS</td>
<td>LQFP, MAPBGA, CSP</td>
</tr>
<tr>
<td>K26</td>
<td>180 MHz ARM Cortex®-M4</td>
<td>2048/256 1024/256</td>
<td>Yes</td>
<td>RNG, MMCAL, CRC</td>
<td>USB HS &amp; FS, SDRAM controller</td>
<td>LQFP, MAPBGA, CSP</td>
</tr>
<tr>
<td>K64</td>
<td>120 MHz ARM Cortex®-M4</td>
<td>1024/256 640/128</td>
<td>Yes</td>
<td>RNG, MMCAL, CRC</td>
<td>USB FS, Ethernet</td>
<td>LQFP, MAPBGA, CSP</td>
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<tr>
<td>K66</td>
<td>180 MHz ARM Cortex®-M4</td>
<td>2048/256 1024/256</td>
<td>Yes</td>
<td>RNG, MMCAL, CRC</td>
<td>USB HS &amp; FS, SDRAM controller, Ethernet</td>
<td>LQFP, MAPGBA</td>
</tr>
</tbody>
</table>

Supported BLE Wireless Processors

<table>
<thead>
<tr>
<th>CPU</th>
<th>Memory (KB)</th>
<th>BLE Radio</th>
<th>802.15.4 Radio</th>
<th>Development Boards</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW30Z</td>
<td>48 MHz ARM Cortex-M0+</td>
<td>160/20</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>KW40Z</td>
<td>48 MHz ARM Cortex-M0+</td>
<td>160/20</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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