NXP Software Development Kit (SDK) for HomeKit

The HomeKit SDK from NXP offers support for home automation applications using Apple HomeKit™ technology, delivering exceptional performance, advanced security and Bluetooth® Smart connectivity.

OVERVIEW

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 adaption 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.

FEATURES

▸ 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

▸ 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**

HomeKit SOFTWARE DEVELOPMENT KIT (SDK) BLOCK DIAGRAM
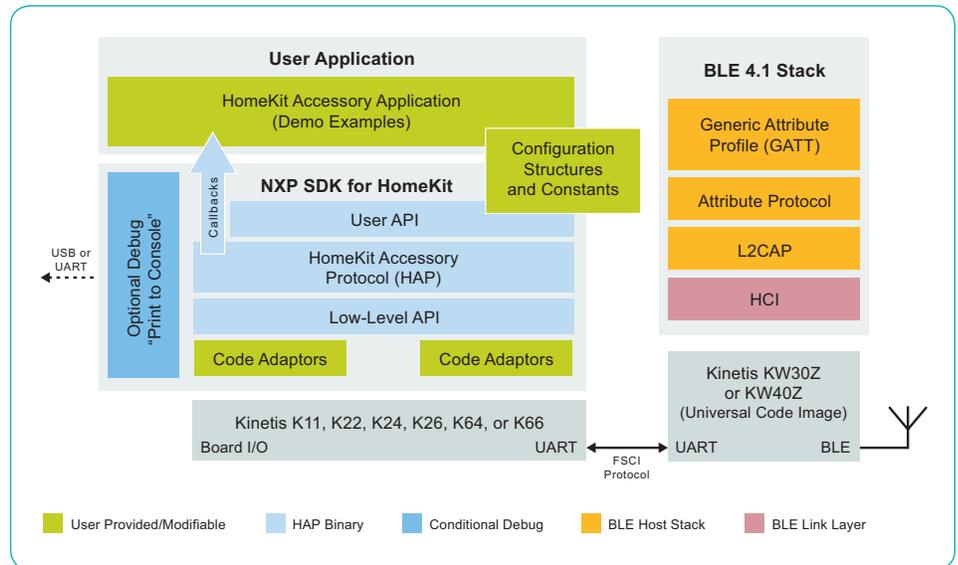
PROCESSORS SUPPORTING THE NXP SDK FOR HomeKit (IN CURRENT RELEASE)

Supported Host Processors	CPU	Memory (KB) Flash/SRAM	Dual Bank	Security	Interfaces	Packages	Development Boards
K11	50 MHz ARM® Cortex®-M4F	512/64	Yes	RNG, MMCAU, CRC, Tamper	–	LQFP, MAPBGA	
K22	120 MHz ARM Cortex-M4F	1024/128 512/128	Yes	RNG, CRC	USB FS	LQFP, MAPBGA, CSP	FRDM-K22F
K24	120 MHz ARM Cortex-M4F	1024/256	Yes	RNG, MMCAU, CRC	USB FS	LQFP, MAPBGA, CSP	FRDM-K64F
K26	180 MHz ARM Cortex-M4F	2048/256 1024/256	Yes	RNG, MMCAU, CRC	USB HS & FS, SDRAM controller	LQFP, MAPBGA, CSP	FRDM-K66F
K64	120 MHz ARM Cortex-M4F	1024/256 640/128	Yes	RNG, MMCAU, CRC	USB FS, Ethernet	LQFP, MAPBGA, CSP	FRDM-K64F
K66	180 MHz ARM Cortex-M4F	2048/256 1024/256	Yes	RNG, MMCAU, CRC	USB HS & FS, SDRAM controller, Ethernet	LQFP, MAPGBA	FRDM-K66F

Supported BLE Wireless Processors	CPU	Memory (KB) Flash/SRAM	BLE Radio	802.15.4 Radio	Development Boards
KW30Z	48 MHz ARM Cortex-M0+	160/20	Yes	No	FRDM-KW40Z
KW40Z	48 MHz ARM Cortex-M0+	160/20	Yes	Yes	FRDM-KW40Z

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