



Simplify HomeKit™
accessory
development

NXP® HomeKit Accessory Protocol SDK

The NXP HomeKit Accessory Protocol (HAP) SDK greatly simplifies the development of HomeKit accessories. The latest HAP SDK aids in saving costs and months of development and testing effort for OEM customers.

PRODUCT OVERVIEW

Along with enabling several new behaviors such as humidity sensors, the NXP HAP SDK ensures that security is at the core of its hardware, software and cloud connectivity. It starts with OTP, secure boot, encrypted key store onboard and extends to TLS through the use of mbedTLS and secure cloud communications.

The 88MW300 SoC enables these features and provides a full array of peripheral interfaces, including SSP/SPI/I²S (3x), UART (3x), I²C (2x), general-purpose timers and PWM, ADC, DAC, Analog Comparator, GPIOs, a hardware cryptographic engine, RTC and watchdog timer. The 88MW302 SoC also features a high-speed USB On-The-Go (OTG) interface to enable USB audio, video and other applications.

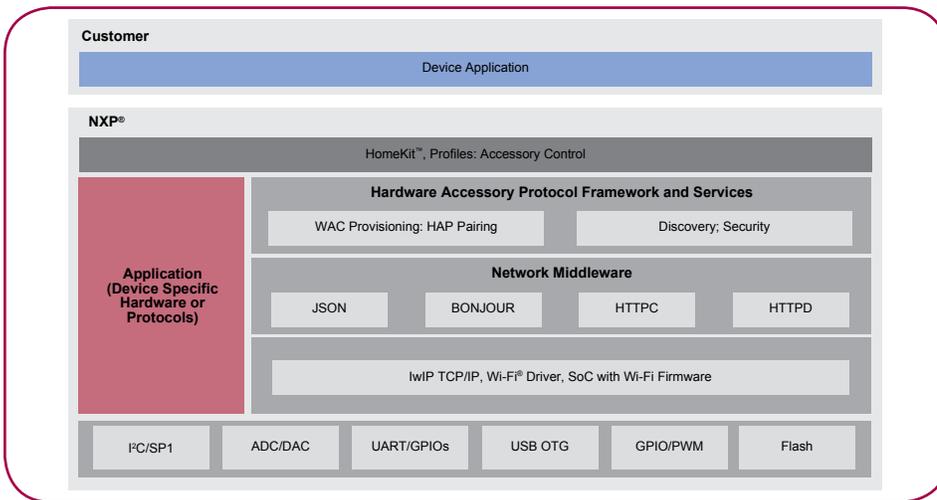
A complete set of digital and analog interfaces enable direct interfacing for I/O, avoiding the need for external chips. In addition, the application CPU can be used to support custom application development, circumventing the need for an external microcontroller or application processor.

TARGET APPLICATIONS

- ▶ Connected home accessories
- ▶ Smart appliances
- ▶ Enterprise and industrial automation
- ▶ General-purpose embedded controller



NXP 88M300/302 HOMEKIT ACCESSORY PROTOCOL SDK



KEY FEATURES AND BENEFITS

Features	Benefits
Processor	<ul style="list-style-type: none"> 32-bit Arm® Cortex®-M4F running at 200 MHz
Security	<ul style="list-style-type: none"> Secure boot OTP Encrypted signed firmware image support Secure key store Authentic OEM firmware TLS support using mbedTLS / TLS certificate Secure over-the-air (OTA) firmware updates and peer device authentication Wi-Fi provisioning Secure cloud communications JSON/HTTP APIs (with security)
Management I/O	<ul style="list-style-type: none"> 3 x I²S, 3 x SPI master/slave, 3 x I²C master/slave, 3 x UART, 1 x USB HS OTG 2.0, 1 x QSPI, Up to 50 GPIOs, 2 x wake-up pins
Memory	<ul style="list-style-type: none"> 128 KB ROM, 512 KB RAM
Flash Controller	<ul style="list-style-type: none"> Supports QSPI flash devices up to 16 MB Memory-mapped access to QSPI flash devices 32 KB SRAM flash cache for eXecute In Place (XIP) firmware
Analog	<ul style="list-style-type: none"> 2-step ADC with integrated PGA and configurable resolution/speed 12-bit/2 MHz sample(s) for fast conversion 16-bit/16 kHz samples with voice quality 8 single channel or 4 differential channels 2-channel or 1 differential channel DAC, 10-bit/500 ksp 2 Analog Comparators with programmable speed/current On-die/off-chip temperature sensing and battery monitor
WLAN Encryption	<ul style="list-style-type: none"> WEP 128-bit encryption w/ hardware TKIP (WPA) AES-CCMP 802.11i security (WPA2), CRC Enhanced AES engine performance AES-cipher based message authentication code (CMAC) 802.11w security standard
Package	<ul style="list-style-type: none"> 88MW300 – 68-pin QFN, 8 x 8 mm (35 GPIOs, 2 GPTs) 8MW302 – 88-pin QFN, 10 x 10 mm (50 GPIOs, 4 GPTs)
Temperature	<ul style="list-style-type: none"> Extended: -30 to 85 °C, Industrial: -40 to 85 °C

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