Espressif HomeKit SDK

OVERVIEW

Apple HomeKit technology provides an easy, secure way to control your home's lights, doors, thermostats, and more from your iPhone, iPad, or Apple Watch. The Espressif HomeKit SDK offers a complete solution for OEMs to build products that comply with this. It is fully certifiable against the latest HomeKit specifications. The Espressif HomeKit SDK is supported on Espressif's flagship chip ESP32, which is currently one of the most popular chips in the industry. The SDK design ensures ease-of-development as well as flexibility while creating HomeKit accessories.

Security and privacy have been important considerations in the design of the HomeKit protocol. It offers an end-to-end encryption and authentication between all HomeKit-enabled accessories and iOS devices. The Espressif HomeKit SDK ensures this desired security for the solution by means of hardware and software features of the Espressif platform. The high performance of the ESP32 as well as hardware acceleration for cryptography ensures the responsiveness in the products.

The Espressif HomeKit SDK API has been designed such that it provides the HomeKit functionality independent of the transport (Wi-Fi/BLE/Ethernet). The sample accessory implementations provide a good starting point for developing HomeKit accessories with standard as well as custom features. It also enables customers with commonly required features such as firmware upgrades, Android support and support for custom cloud agents.

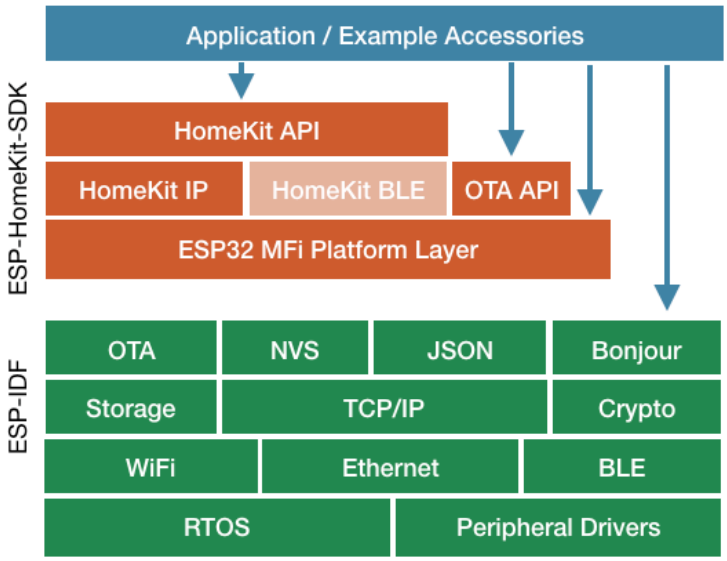
We at Espressif understand the importance of the support, not only for building the products but also ensuring maintenance for protocol specification changes and security updates. We provide complete support through the development, certification, manufacturing and maintenance of HomeKit accessories to our customers.

The Espressif HomeKit SDK is exclusively provided to valid MFi licensees. To ensure compliance with this prerequisite, all necessary checks will be conducted prior to delivery.

ESP32 SoC

- Dual core Xtensa LX6 CPU with 240 MHz clock speed
- 2.4 GHz Wi-Fi and Bluetooth combo SoC
- 520 KB SRAM and 448 KB ROM, external SPI flash supported
- Security in the design
- TSMC low-power 40 nm technology
- Robust, versatile and reliable — –40°C to +125°C operating temperature
- Excellent power/RF performance

SDK BLOCK DIAGRAM



FEATURES

- HomeKit specifications conformant implementation
- Transport-independent APIs for the accessory implementation
- Support for standard and custom services and characteristics
- Support for firmware updates
- Example accessories that can be used as a good starting point for the development
- Debug support with console and debugger
- Planned support for HAP-BLE
- Technical support from development to certification and manufacturing

THE COMPLETE ESP32 PLATFORM

	Ordering Code	Core	Embedded Flash	Connection	Package
SoCs	ESP32-D0WDQ6	Dual core	None	Wi-Fi + BT/BLE	QFN 6*6
	ESP32-D0WD	Dual core	None	Wi-Fi + BT/BLE	QFN 5*5
	ESP32-D2WD	Dual core	16-Mbit	Wi-Fi + BT/BLE	QFN 5*5
	ESP32-S0WD	Single core	None	Wi-Fi + BT/BLE	QFN 5*5
	Ordering Code	**Core**	**Flash & PSRAM**	**Antenna**	**Development Board**
Modules & Development Boards	ESP-WROOM-32	Dual core	4-MB flash	PCB antenna	ESP32-DevKitC
	ESP32-WROOM-32D	Dual core	4-MB flash	PCB antenna	N/A
	ESP32-WROOM-32U	Dual core	4-MB flash	IPEX antenna	N/A
	ESP32-WROVER	Dual core	4-MB flash & 4-MB PSRAM	PCB antenna	ESP-WROVER-KIT ESP32-DevKitC
	ESP32-WROVER-I	Dual core	4-MB flash & 4-MB PSRAM	IPEX antenna	ESP32-DevKitC
	ESP32-PICO-D4	Dual core	4-MB flash	PCB antenna	ESP32-PICO-KIT

CONTACT US

- To get the Espressif HomeKit SDK, please:
  - Contact homekit_sdk@espressif.com
  - Provide:
    - Your company's name and MFi license number for verification purposes
    - Your email address for creating a GitLab account

    You will receive:
    - Espressif HomeKit SDK
    - Documentation and certification guides
    - Technical support
- For enquiries or purchases please contact us here (please use "HomeKit" in the Subject field).

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