Tech Talks LIVE Schedule – Presentation will begin shortly

Tuesday, November 9	Walk through Silicon Labs' new support for Apple HomeKit
Tuesday, November 23	New Bluetooth Mesh Light & Sensor Models
Tuesday, December 7	Learn more about Matter Development for the Holidays
Tuesday, December 21	Secure IoT Products with Custom Part Manufacturing Service (CPMS)

Respond to the poll to enter to win a Thunderboard Sense 2

Recording and slides will be posted to: www.silabs.com/training

We will begin in: 0:00

WELCOME

Walk through Silicon Labs' new support for Apple HomeKit

Andrew Krenz

Agenda

- What is HomeKit
- New Features & Capabilities
- Why use HomeKit?
- Silicon Labs HomeKit Support
- HomeKit Light Example
- Q&A

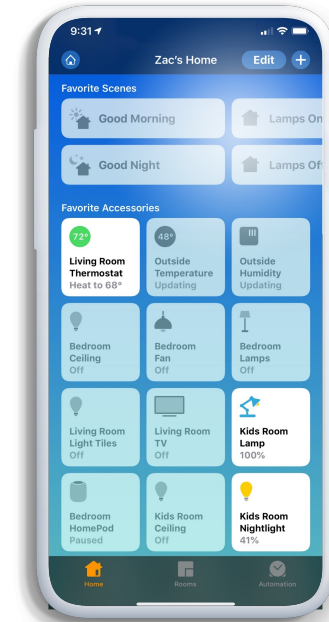SILICON LABS

The Key Driver: Smart Home Ecosystem

Stand Alone

Confusion and Fragmentation

Ecosystem

Unification and Clarity

Simplified App with One User Experience

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HomeKit – Apple's Smart Home Ecosystem

HomeKit enables you to communicate with, configure, and control home automation accessories from multiple vendors to present a coherent, user-focused interface

Learn more >

w/ works with | SILICON LABS

The World of HomeKit Accessories

>30 DEVICE TYPES CAN BE BUILT WITH HOMEKIT TODAY

Sensors
Temperature, Humidity, Smoke, Presence, CO_2

Gateways & Bridges
These connect other accessories and controls with applications

Controls
Light, door locks, thermostats, garage door openers

Sensors

Routers

Bridges

Faucets

Cameras

Fans

Humidifiers

Air Purifiers

Garage Doors

TVs

Doorbells

Sprinklers

Air Conditioners

Thermostats

Switches

Receivers

Lights

Outlets

Windows

Speakers

Locks

Security

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Why Develop with HomeKit?

Powerful Ecosystem

Many consumer trusted devices

Thread & BLE

Matter via HomeKit

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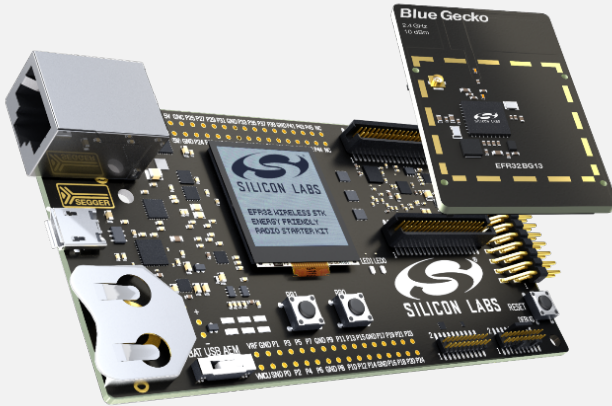# What's New? - HomeKit over Thread
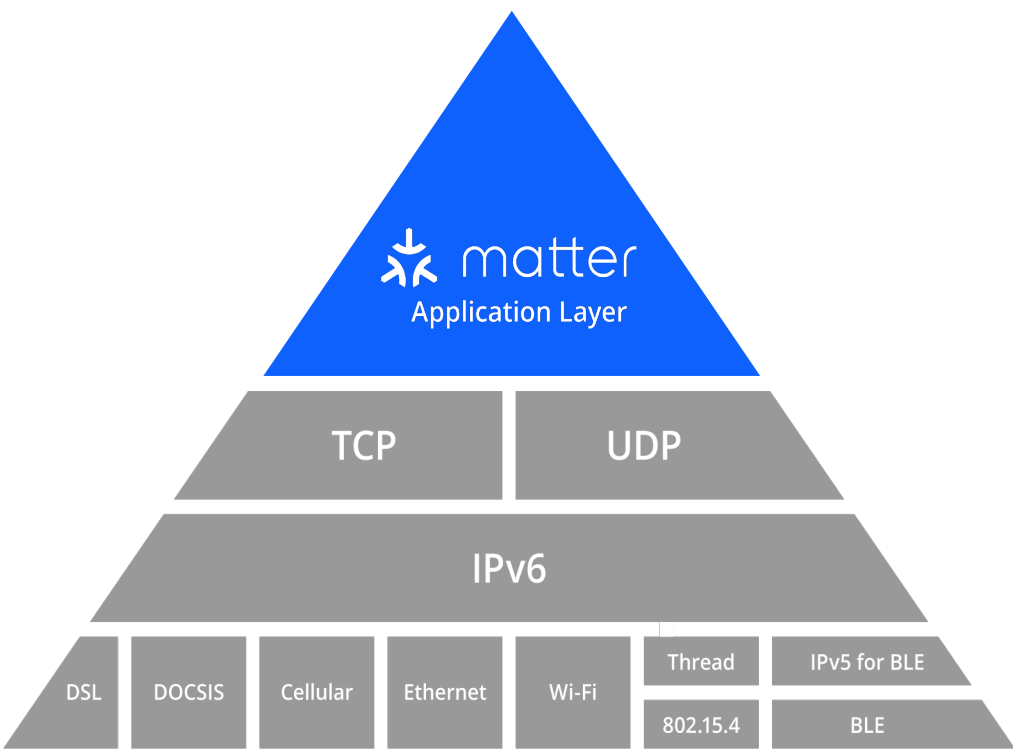
Silicon Labs Solutions for Apple HomeKit

MULTIPROTOCOL SOCS AND MODULES

STACKS AND SDKS

- Lightbulb Accessory
- HomeKit Accessory Protocol (HAP)
- Platform Abstraction Layer(PAL)
- OpenThread & Bluetooth LE
- Gecko SDK Platform
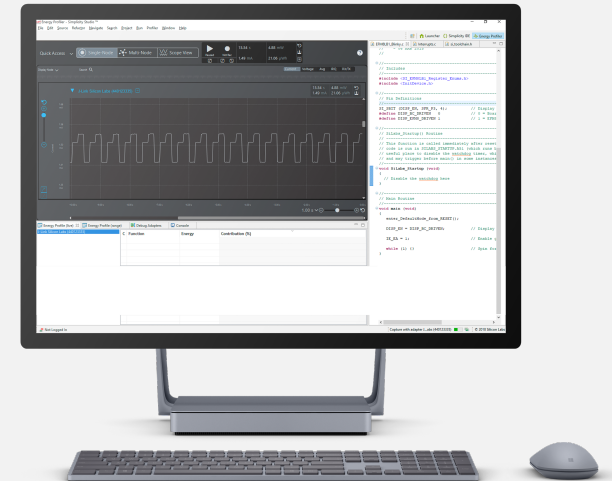
DEVELOPMENT TOOLS

A platform of multiprotocol SoC and modules with different price and feature points

Easy migration within the portfolio

Robust stacks and Gecko SDK integration
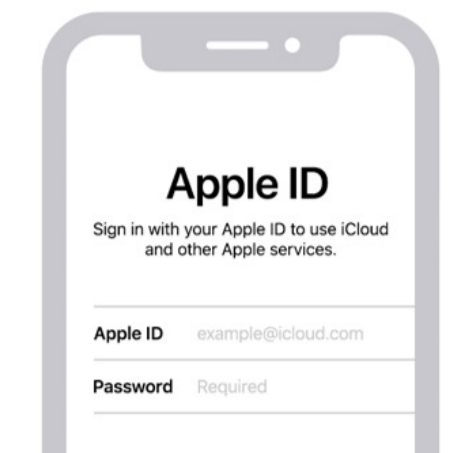
SDK and tools for operating systems and toolchains

Free-of-charge development and protocol analysis tools to boost productivity

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Getting Started on Accessory Development

Apple ID

Sign in with your Apple ID to use iCloud and other Apple services.

Apple ID   example@icloud.com

Password   Required

Non-Commercial Version

Requires Apple ID & signing up

support.apple.com/en-us/HT204316

Access to

HomeKit Accessory Protocol Specification

HomeKit Open Source ADK

Works with Apple HomeKit
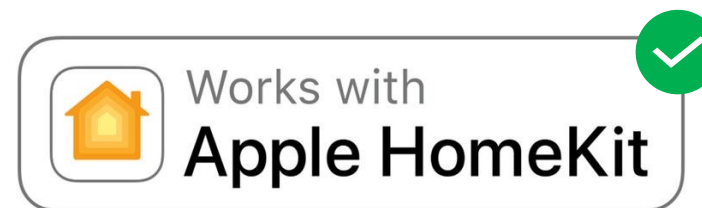
Must enroll in MFi Program

https://mfi.apple.com/

HomeKit Accessory Protocol Specification

Commercial version

Third-party SDKs for commercial development

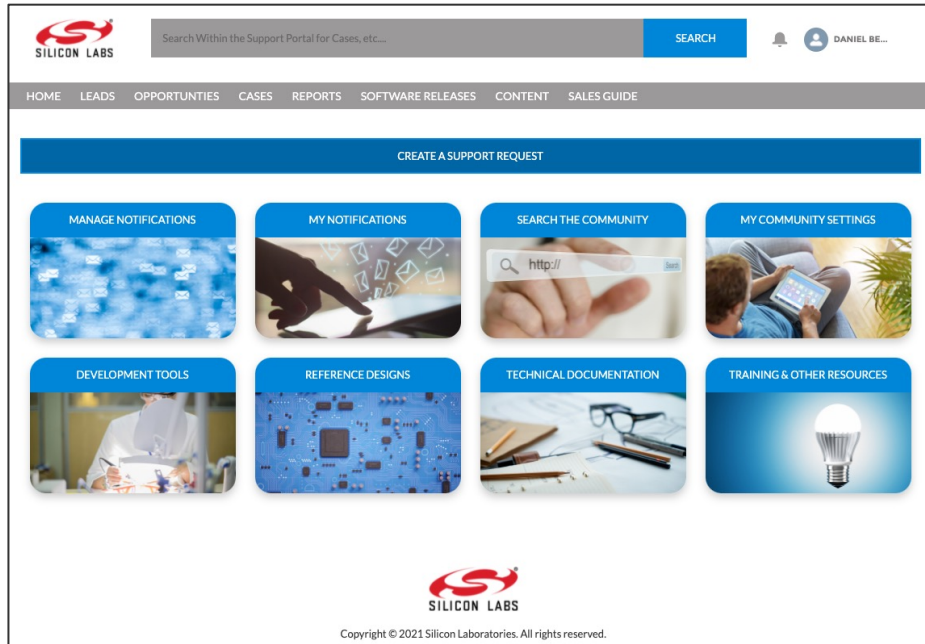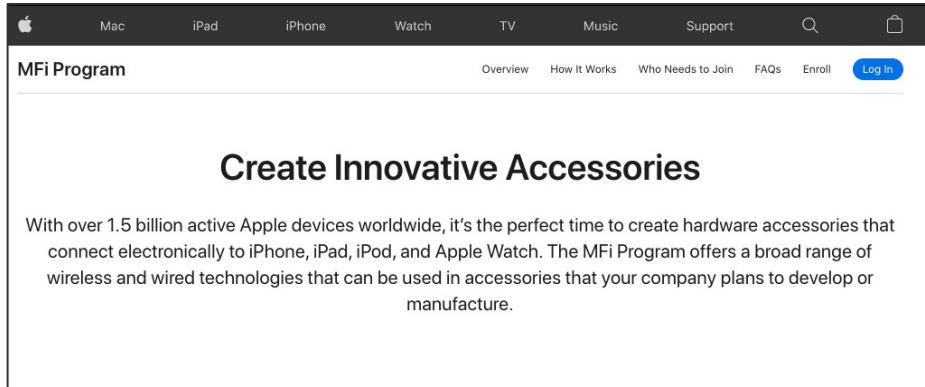Silicon Labs is a popular provider of HomeKit SDK

Works with Apple HomeKit Certification and tools

HomeKit Accessory Tester

HomeKit Certification Assistant

HomeKit Accessory Simulator

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Silicon Labs HomeKit SDK Access Requirements

- Silicon Labs HomeKit SDK access in Simplicity Studio is restricted to **MFi Licensee registered** and **verified** members.

- In order to **register** and gain HomeKit SDK access, customers should take the following steps**:**

  1. Obtain a MFi (Made for iPhone) account and agree to the MFi license. Visit mfi.apple.com/ to get started.

  2. Obtain a silabs.com registered account. Visit silabs.com to register if you don't already have an account setup.

- To **verify**, customers should create a support ticket on siliconlabs.force.com portal.

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Using Simplicity Studio to Generate a Sample Application
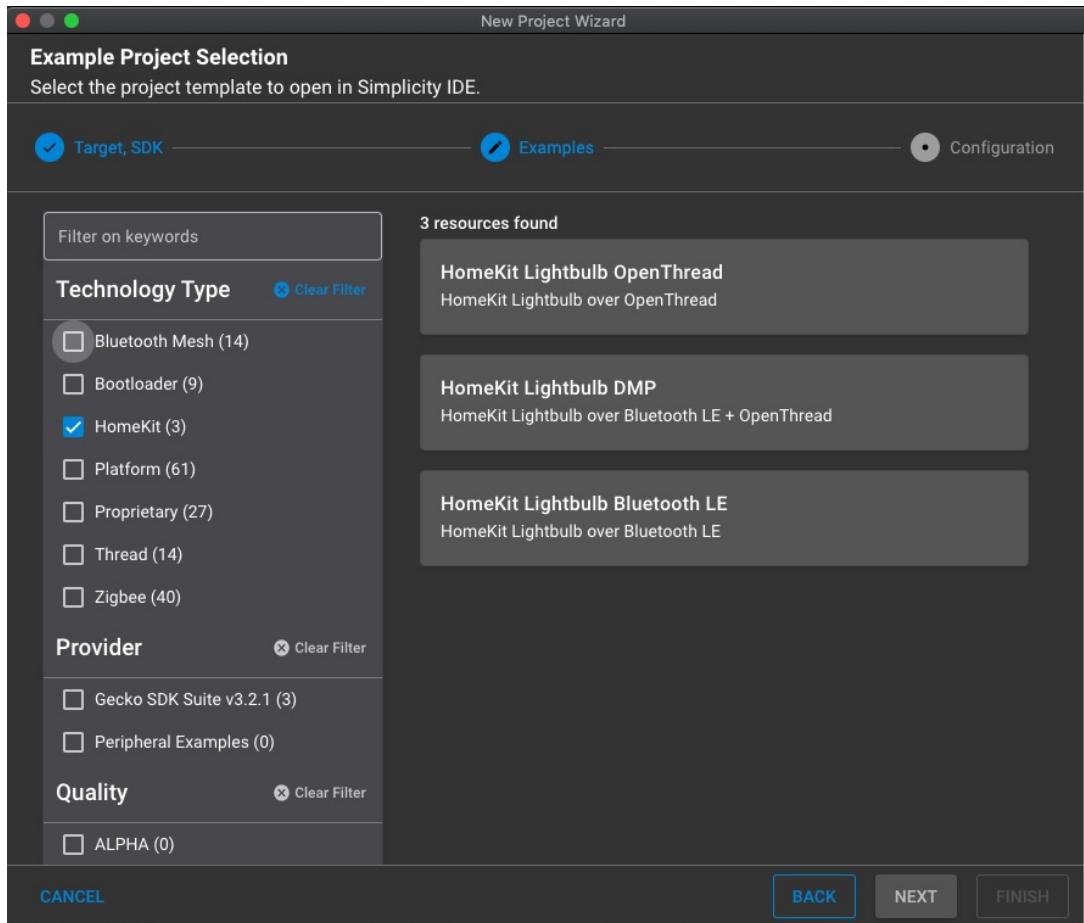
- **After downloading the SDK and required dependencies, use the project wizard from File -> New Project to select your board, and desired sample application from the following:**
  - **HomeKit Lightbulb OpenThread -** This is a lightbulb app only for HomeKit over OpenThread testing purposes. Not intended for production, HomeKit spec requires DMP.
  - **HomeKit Lightbulb DMP -** This is a lightbulb app using HomeKit over Bluetooth LE and OpenThread.
  - **HomeKit Lightbulb BLE -** This is a lightbulb app using HomeKit over only Bluetooth LE.
- **After finishing this wizard, your project will be automatically generated.**

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Apple HomeKit Product Compliance
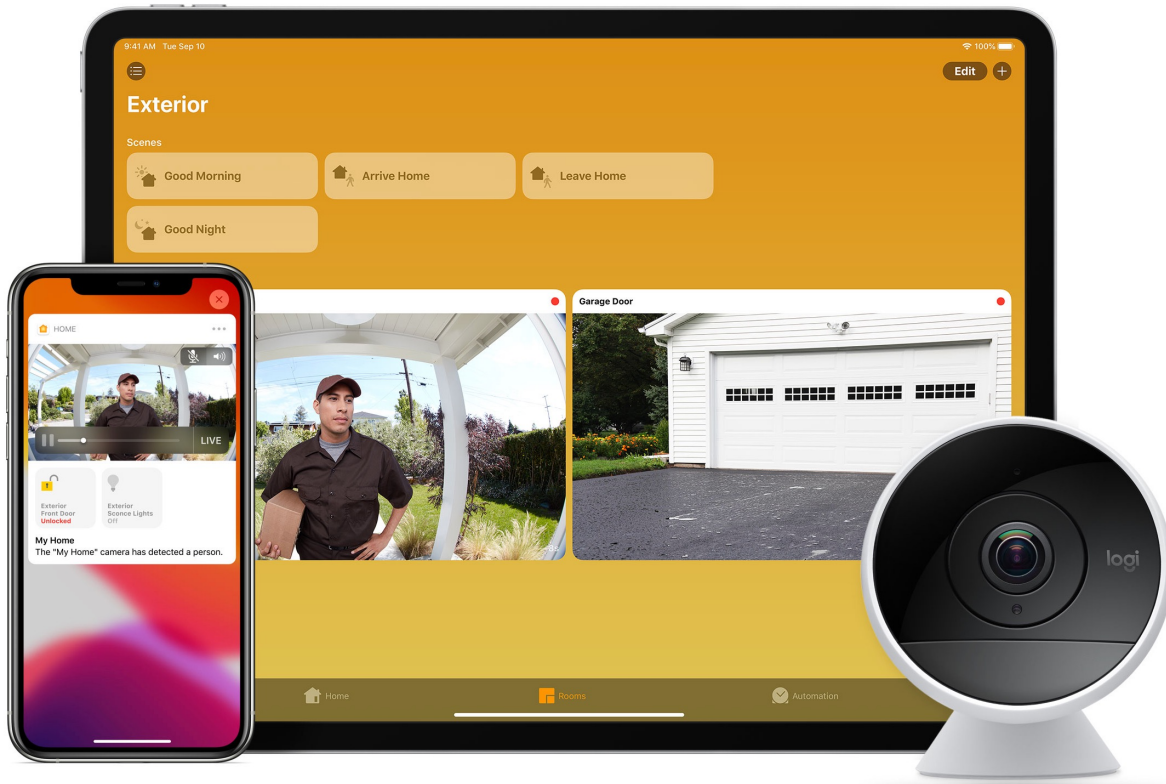

Works with Apple HomeKit

Photo: Apple Inc.

- **Final HomeKit products must be approved by Apple**
- **Official Silicon Labs Apple HomeKit compliant software releases have:**
  - Been tested against the HomeKit Accessory Tester (HAT)
  - Been tested against HomeKit Certification Assistant (HCA)
  - Passed the HomeKit Self-Certification Test cases
  - A Bluetooth QDID
  - Gone through the Apple Adjunct review
- **This simplifies and speeds up the approval process of the final end product**
- **Contact your MFI representative via MFI portal for details about HomeKit product compliance**

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EFR32 Silicon Supporting Apple HomeKit

	EFR32xG12	EFR32xG13	EFR32xG21
Freq. Bands	2.4 GHz, Sub-GHz, Dual Band	2.4 GHz, Sub-GHz, Dual Band	2.4 GHz
Core	Cortex-M4 (38.4 MHz)	Cortex-M4 (38.4 MHz)	Cortex-M33 (80 MHz)
Max Flash	1024 kB	512 kB	1024 kB
Max RAM	256 kB	64 kB	96 kB
Security	Hardware Crypto (AES 128/256, SHA and ECC), TRNG	Hardware Crypto (AES 128/256, SHA and ECC), TRNG	Enhanced Crypto, Debug Access Control, Secure Element
RX Sensitivity (802.15.4)	-102.7 dBm	-102.7 dBm	-104.5 dBm
RX Sensitivity (BLE 1 Mbps)	-94.8 dBm	-94.8 dBm	-97.5 dBm
RX Sensitivity (38.4 kbps GFSK 868 MHz)	-109.5 dBm	-109.5 dBm	N/A
Active Current	88 µA/MHz	87 µA/MHz	63.8 µA/MHz
Sleep Current (EM2, 16 kB ret)	1.5 µA	1.3 µA	4.5 µA
TX Current @ +0 dBm (2.4 GHz)	9.5 mA	9.5 mA	9.3 mA
TX Current @ +10 dBm (2.4 GHz)	34 mA	34 mA	33.8 mA
TX Current @ +20 dBm (2.4 GHz)	131 mA	131 mA	185 mA
TX Current @ +20 dBm (868 MHz)	79.7 mA	79.7 mA	N/A
RX Current (802.15.4)	11 mA	10.3 mA	9.4 mA
RX Current (BLE 1 Mbps)	10.0 mA	9.5 mA	8.8 mA
RX Current (38.4 kbps GFSK 868 MHz)	8.6 mA	8.6 mA	N/A
Operating Voltage	1.8 V to 3.8 V	1.8 V to 3.8 V	1.71 V to 3.8 V
GPIO	31, 46, 65	16, 31	20
Package	7x7 QFN48 7x7 BGA125 8x8 QFN68	5x5 QFN32 7x7 QFN48	4x4 QFN32

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Controlling the HomeKit DMP Application
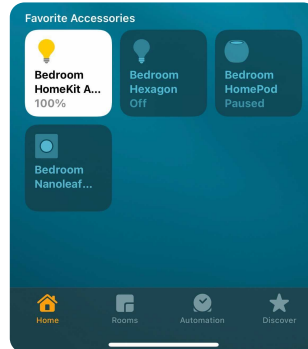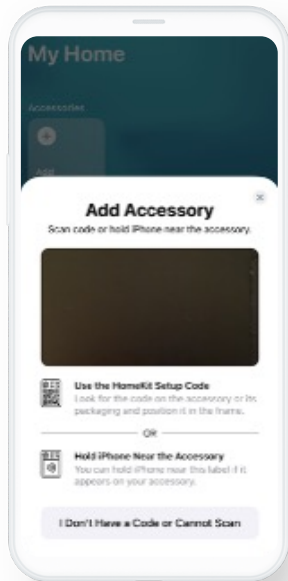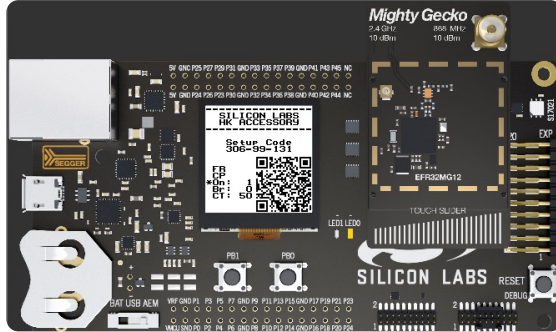
- **After building and flashing your HomeKit Lightbulb Application, a QR code will appear on the display.**
- **Scan this using your iOS device.**
  - **Your iOS device will pair with the Lightbulb using HomeKit over BLE.**
- **If you have set up a HomePod Mini, it will then automatically send the Thread network credentials to the device and it will join the HomePod's Thread network.**
  - **You can now control the Lightbulb using HomeKit over Thread via your HomePod Mini.**

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DEMO

Quick Links

Introduction to Silicon Labs Solution for Apple HomeKit. Request access for HomeKit SDK also from here.	www.silabs.com/products/development-tools/software/bluetooth-software-for-apple-homekit
HomeKit Deep Dive	www.developer.apple.com/videos/play/wwdc2018/231/
Matter Support in smart home apps	https://developer.apple.com/videos/play/wwdc2021/10298/
Signing up for MFi Progam	www.developer.apple.com/programs/mfi/
Signing up for Apple ID	www.support.apple.com/en-us/HT204316
HomeKit Accessory Protocol Specification Non Commercial Version	www.developer.apple.com/homekit/specification
HomeKit Open Source ADK Non Commercial version	www.github.com/apple/HomeKitADK
HomeKit enabled products' list	www.apple.com/shop/accessories/all-accessories/homekit
HomeKit developer guide	www.developer.apple.com/documentation/homekit
Set up and use the Home app	www.support.apple.com/en-us/HT204893

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Q&A

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THANK YOU