Tech Talks Schedule – Presentation will begin shortly

tech talks

Tuesday, May 3	**Developing with Matter on the MG24**
Tuesday, May 17	AI/ML: Bringing Intelligence to the Edge on the MG24
Tuesday, May 31	Matter: Securing your IoT devices
Tuesday, June 14	Wi-Fi: Coexistence with RS9116

We will begin in: 0:00

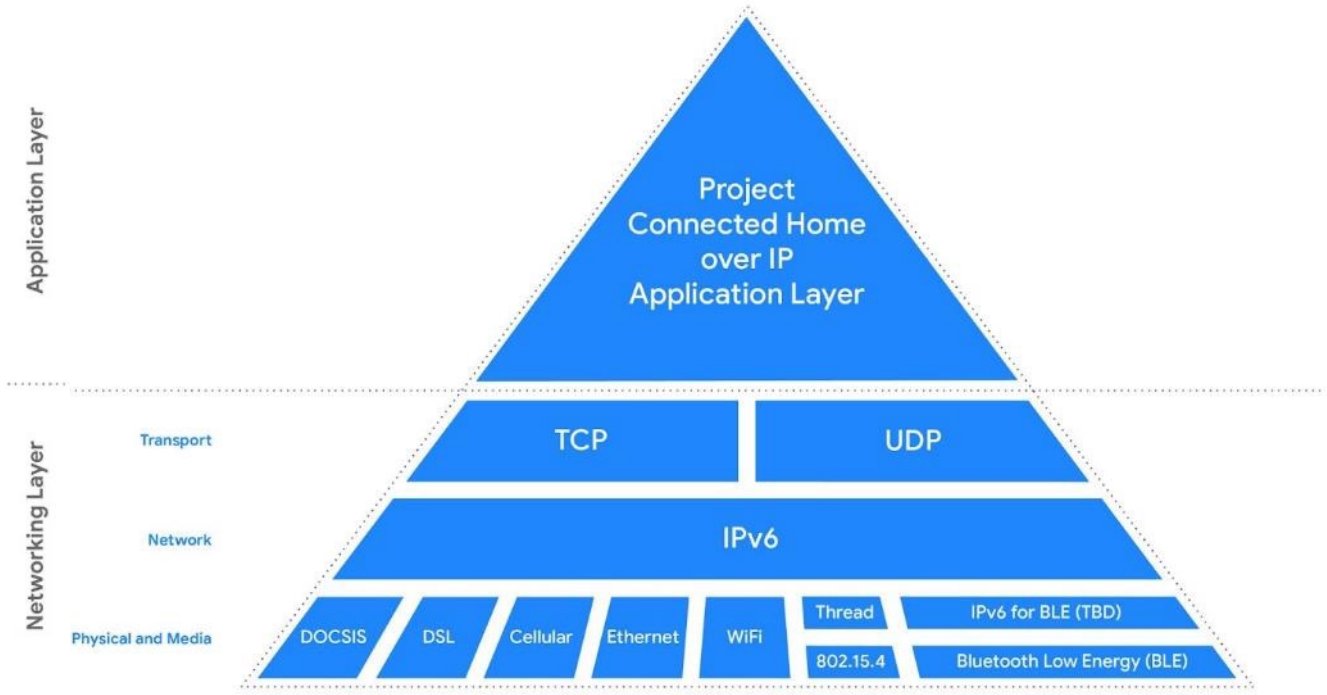
SILICON LABS | tech talks

Welcome

Developing with Matter on the MG24

Paul Benford

New to Matter?



zigbee Zigbee Cluster Library

WEAVE Google Weave

Apple HomeKit

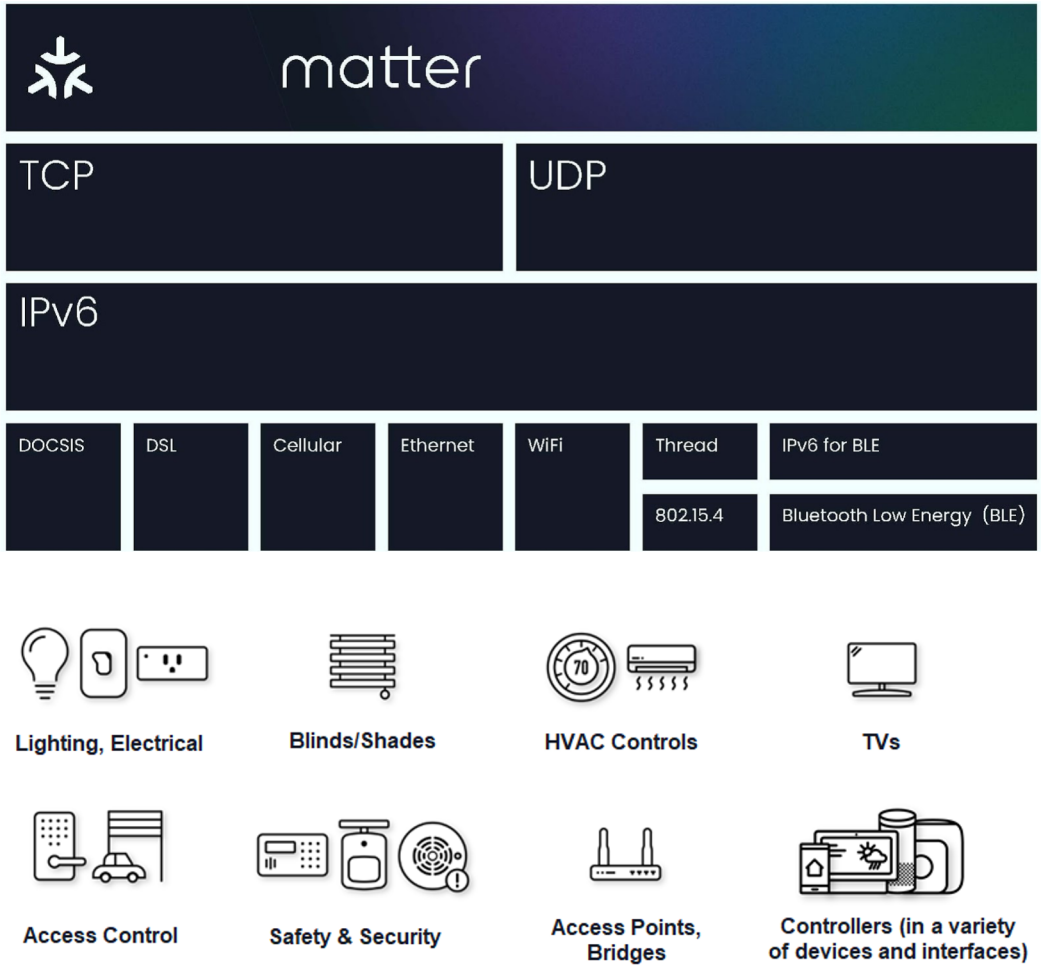
Amazon Alexa's Smart Home

https://github.com/project-chip/connectedhomeip

- **Consumers**
  - **Smooth user experience**
    - Control devices with an app or smart speaker of any vendor
  - **Buy devices with confidence**
    - It will work in any ecosystem
- **Device Makers**
  - **Join the worlds biggest ecosystems**
    - Increase revenue with one SKU
  - **Reduce R&D costs & Time to market**
    - One SDK, codebase and maintenance scheme
- **Ecosystem providers**
  - **Better user-experience**
    - Grow user base, increase revenue

amazon · Google · zigbee alliance · NXP · resideo · SmartThings · Schneider Electric · IKEA · legrand · LEEDARSON · MMB NETWORKS · signify · SILICON LABS · somfy · Wulian

How Matter Stacks Up



Common application layer + data model
Interoperability, simplified setup & control

IP-based
Convergence layer across all compatible networks

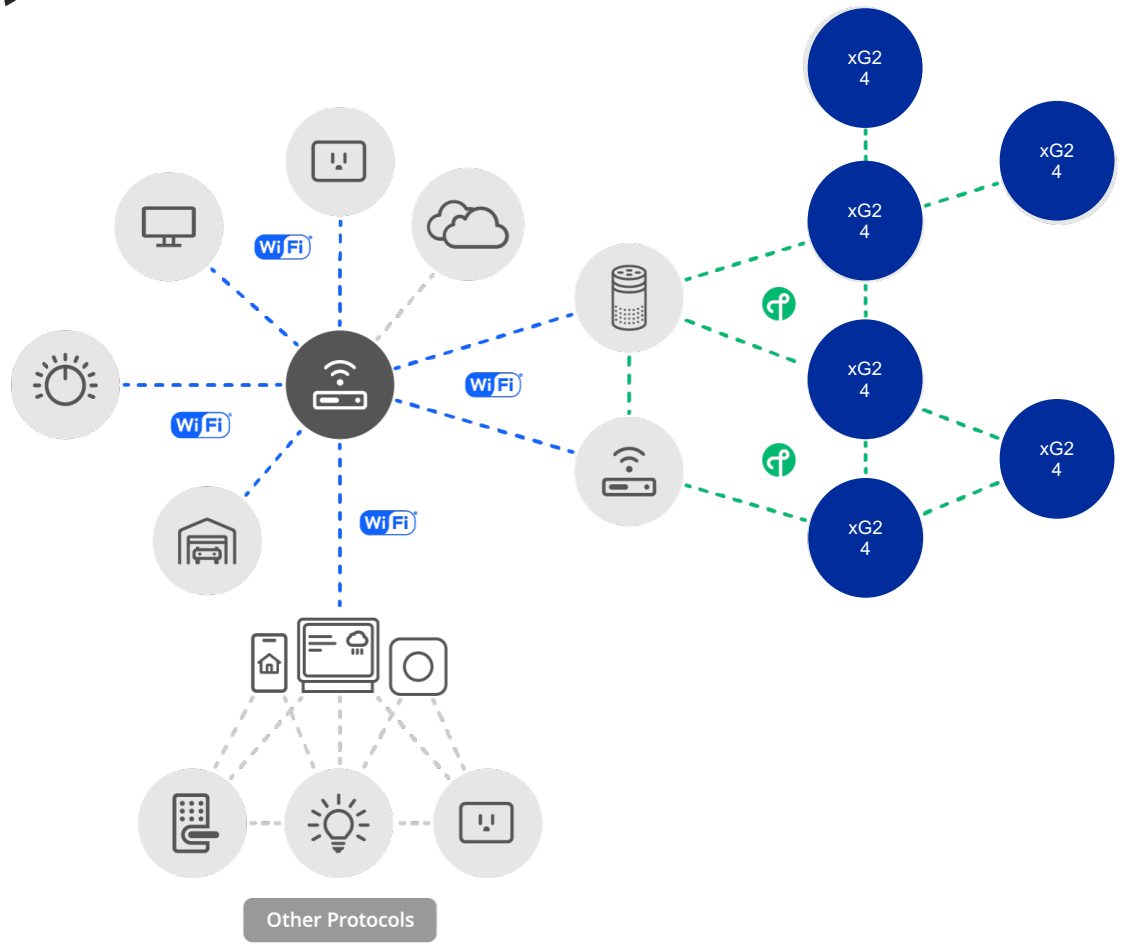
Secure
AES-128-CCM encryption with 128-bit AES-CBC

Open-source development approach
Based on market-proven technologies

Common protocol across device and mobile
Extendible to cloud

Matter Network Topology

matter



- Devices are commissioned onto a Matter network via Bluetooth
- Matter devices connect to the network over Wi-Fi or Thread
- Thread devices connect to other IP networks through Border Routers
- Bridges can link to other protocols like Zigbee and Z-Wave

Introducing the EFR32xG24

- 2.4GHz wireless SoC with Matter, Zigbee, OpenThread, Bluetooth and Multiprotocol
- AI/ML hardware accelerator to allow 2x to 4x faster inferencing at the edge
- Secure Vault™ protects data and device; PSA Certification Level 3
- 20-bit ADC for advanced sensing
- High performance RF for robust and reliable communication
- 1.5 MB Flash and 256 kB RAM for Matter and other future requirements
- Low active current for longer battery life

Industry's *Only* Wireless SoC with Matter, AI/ML, Higher Memory and Higher Security for *IoT Edge Devices*

MG24: Optimized for Battery Powered IoT Mesh Devices

- **Target Markets**
  - Smart Home
  - Gateways / Hubs
  - Building Automation
  - Lighting
  - Portable Medical Devices
  - AI/ML

- **High Performance Radio**
  - Up to +19.5 dBm TX
  - -97.6 dBm RX @ BLE 1 Mbps
  - -105.7 dBm RX @ BLE 125 kbps
  - **-105.4 dBm RX @ 15.4**
  - Wi-Fi Coexistence
  - RX Antenna Diversity
- **ARM® Cortex®-M33**
  - 78 MHz (FPU and DSP)
  - TrustZone®
  - **Up to 1536kB of Flash**
  - **Up to 256kB of RAM**
- **Low Power**
  - 5.0 mA TX @ 0 dBm
  - 19.1 mA TX @ +10 dBm
  - 4.4 mA RX (BLE 1 Mbps)
  - **5.1 mA RX (250 kbps 802.15.4)**
  - 33.4 µA/MHz
  - 1.3 µA EM2 with 16 kB RAM
- **Dedicated Security Core**
  - **Secure Vault™ - Mid / High**

- **AI/ML**
  - AI/ML Hardware Accelerator
- **Low-power Peripherals**
  - EUSART, USART, I2C
  - 20-bit ADC, 12-bit VDAC, ACMP
  - Temperature sensor +/- 1.5°C
  - 32kHz, 500ppm PLFRCO
- **World Class Software**
  - **Matter**
  - **Thread**
  - Zigbee
  - **Bluetooth (1M/2M/LR)**
  - Bluetooth mesh
  - Dynamic multiprotocol[1]
  - Proprietary
- **SoCs and Modules**
  - 5x5 QFN40 (26 GPIO) +125ºC
  - 6x6 QFN48 (28/32 GPIO) +125ºC
  - 12.9x15.0 PCB Module (Q3 2022)
  - 7x7 SiP Module (Q4 2022)

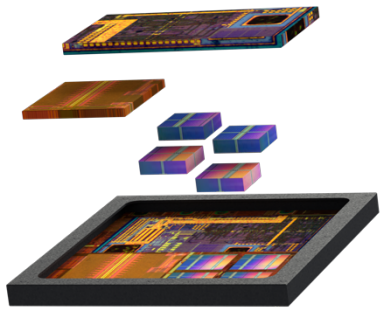
[1]Requires MG24

Silicon Labs Matter Solution

THREAD

Bluetooth®

Wi Fi®



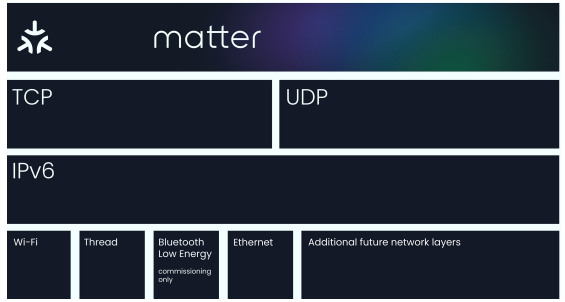
HARDWARE

Field Proven SoCs & Modules

Thread, Bluetooth & Wi-Fi

Certified Thread PHYs

matter



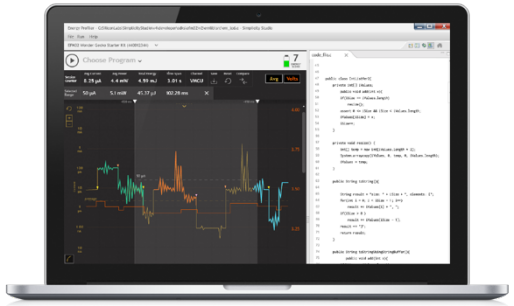
SOFTWARE

One-stop-shop for all software

Full featured Matter solution

Built on top of IP stacks

Simplicity Studio 5



TOOLS

Reference Applications

Command Line Interface support

LCD to display QR code

CERTIFICATION

+50,000 Wi-Fi & 802.15.4 end products deployed

Support for end-product certification

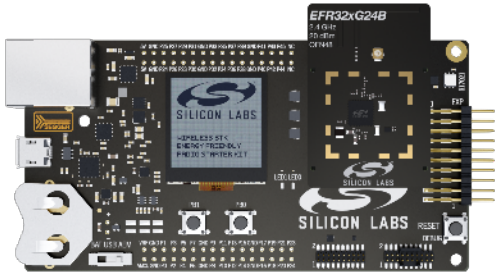
Matter certification at mid of 2022

Getting Started with EFR32MG24 SoCs

- **Dev Board**
  - Low-cost development board
  - On-board debugger
  - Signal breakouts
  - On-board sensors
  - 20-bit ADC
  - AI/ML hardware accelerator
- **Contents**
  - 1x dev board

Part Number	Description
xG24-DK2601B	EFR32xG24 2.4 GHz +10 dev board

- **Pro kits**
  - Modular development platform
  - Advanced development
  - RF measurements
  - Energy profiling
  - External device debug
  - Ethernet for large network test
- **Contents**
  - 1 x WSTK main board
  - 1 x radio board



Part Number	Description
xG24-PK6009A	EFR32xG24 2.4 GHz +10 dBm Pro Kit
xG24-PK6010A	EFR32xG24 2.4 GHz +20 dBm Pro Kit

- **Radio Board kits**
  - Uses existing WSTK boards
  - Uses existing software tools
- **Contents**
  - 1x radio board

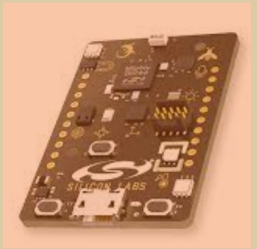
Part Number	Description
xG24-RB4186C	EFR32xG24 2.4 GHz +10 dBm Radio Board
xG24-RB4187C	EFR32xG24 2.4 GHz +20 dBm Radio Board
xG24-RB4188A	EFR32xG24 +20 dBm Antenna Diversity Board

Demo setup

Matter

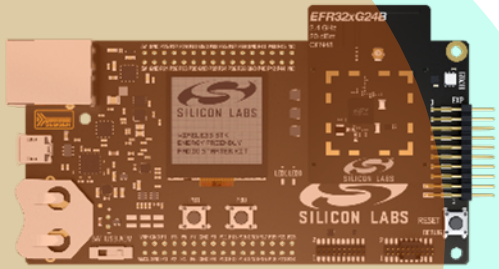
Wi-Fi

Raspberry Pi 4 running host applications from connectedhomeip repository



Raspberry Pi 4 configured as an Open Thread Border router using the TBS2 as the RCP Open Thread radio

Thread



Wireless Starter kit with radio board BRD4186C EFR32xG24 10dBm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Thank You


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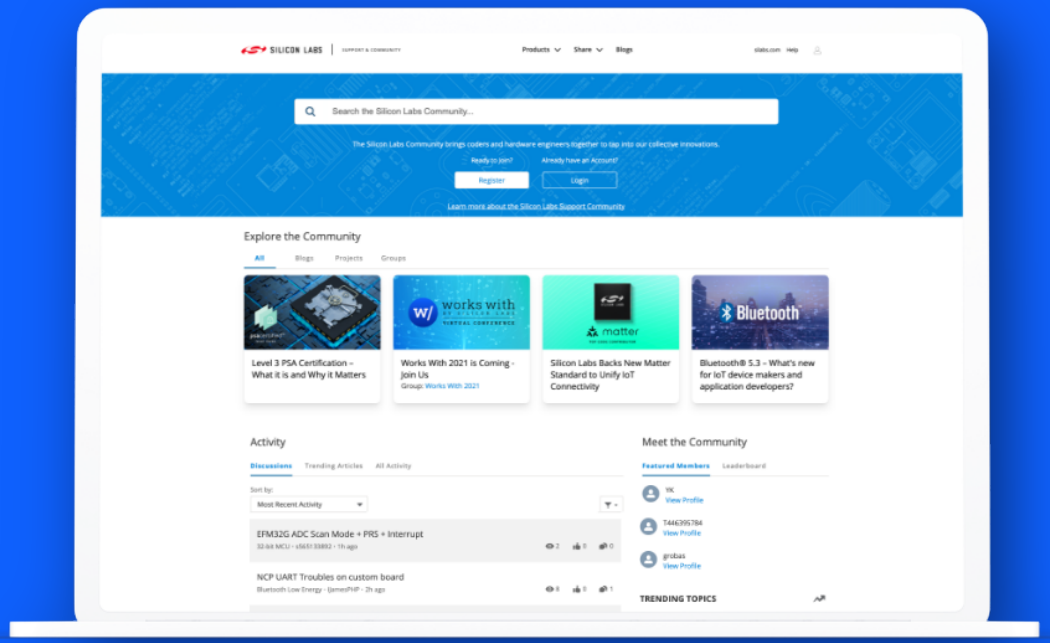
Q&A

Continue Discussion in Our Community!



How to Navigate:

- “Products” to troubleshooting forums
- “Applications” to discuss IoT
- “Share” to view example projects and existing groups
- “Blogs” to view and discuss thoughts from our specialists

community.silabs.com

tech talks

WEBINAR

AI/ML: Bringing Intelligence to the Edge on the MG24

MAY 17 | 10AM CDT

New Hands-on Workshop

- **(1) Free MG24 development kit**
- 4-Part workshop series consisting of:
  - Hands-on Lab & Technical Training
  - 1:1 Troubleshooting Support
  - Live Q&A
- **Register Today at silabs.com/mg24-techlab**

Topic	Date – 10AM CST / 10:00 CET
Unboxing the MG24 and AI/ML Foundations	May 19, 2022
Accelerate AI/ML at the Edge with xG24 and SensiML	May 26, 2022
Accelerate AI/ML at the Edge with xG24 and Edge Impulse	June 2, 2022
How to Use Peripherals and Sensors to Gather and Report Data	June 9, 2022