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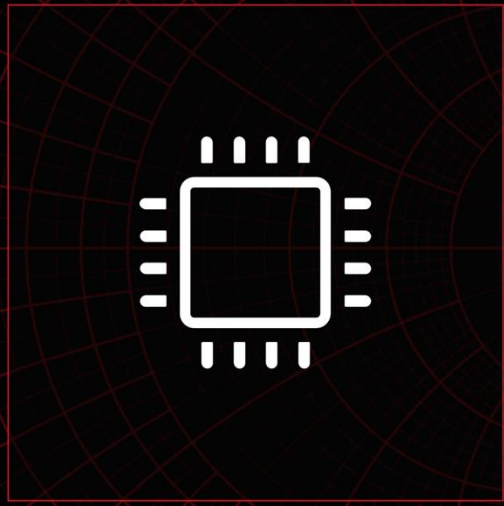
2026 tech talks
WEBINAR SERIES

Untapped Potential of Wireless SoCs



WIRELESS
COMPUTE

From Connectivity to System Consolidation

April, 7 2026

SPEAKERS

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Agenda

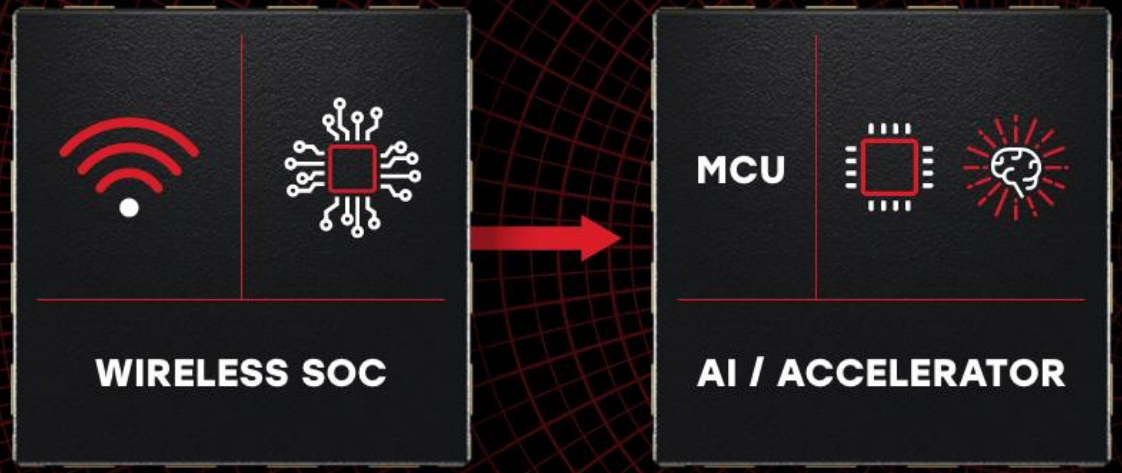
01 MCUs Today

02 The Shift in Architecture

03 Unlocking the Potential of Wireless SoCs

04 Demo

05 Q&A



Wireless SoCs Are Treated as Radios

Used for connectivity, not system control

- Often operates as a co-processor rather than system controller
- Offloads PHY/MAC stack from host MCU

External MCU handles control + application

- Provides flexibility for scaling compute and memory
- Manages peripherals, sensors, and user interface along with RTOS.

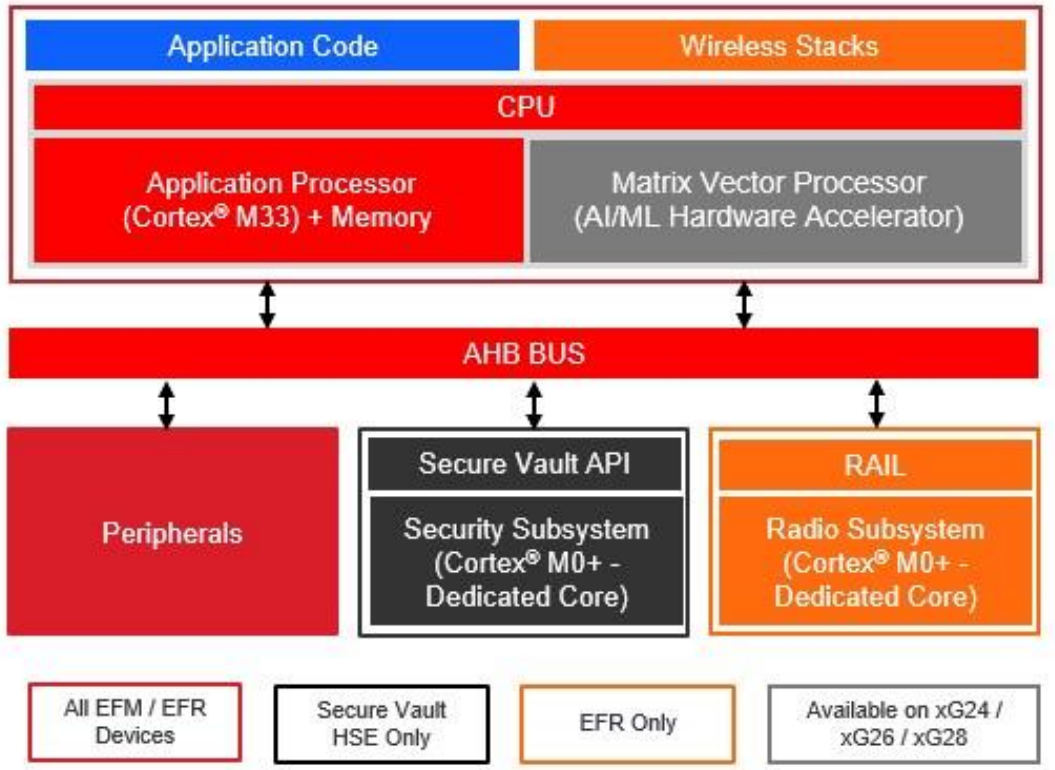
Adds complexity, power, and integration overhead

- Requires additional interfaces, memory, and software integration
- Increases system power and coordination between multiple processors.

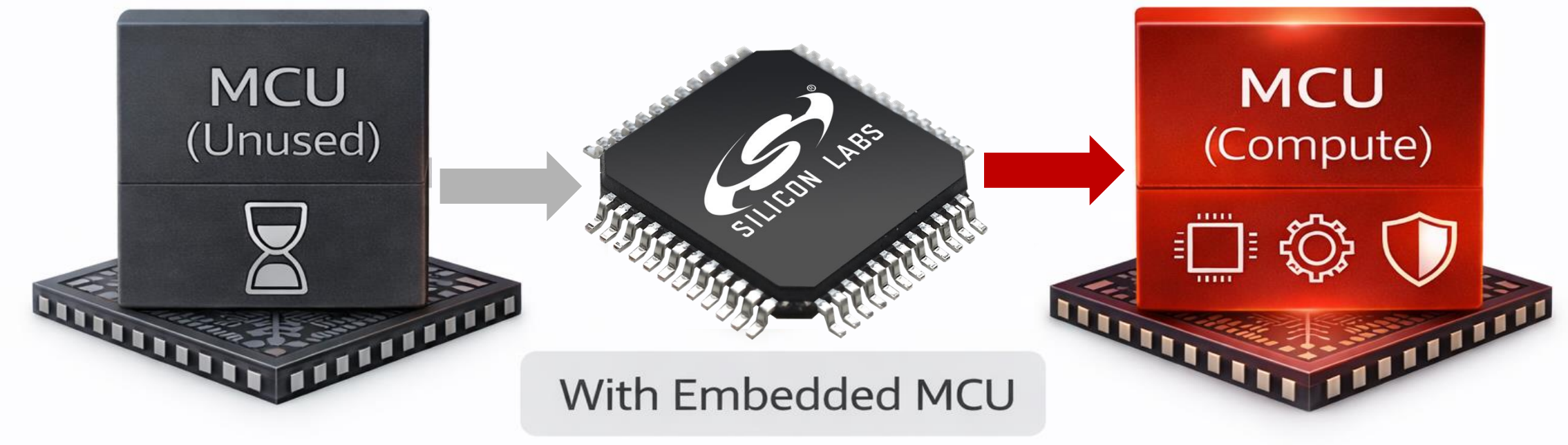
If wireless SoCs were truly constrained, we wouldn’t question this design.
But something fundamental has changed.

What Changed? The Architecture Did.

- **Multi-core architecture separates workloads by function**
  - Application processing, radio operation, and security execution are isolated, and improve performance
- **Radio and security have own cores**
  - Ensures most latency critical operations are handled locally, less interruption of application core
- **Peripherals with PRS enables variety of use cases**
  - Peripherals communicate and react without waking the application core, preserving MCU headroom
- **Event-driven design maximize usable compute and lowering power consumption**
  - Application processor runs code when needed, not servicing routine hardware events allowing it to remain asleep longer



So Why Do We Still Use An External MCU?



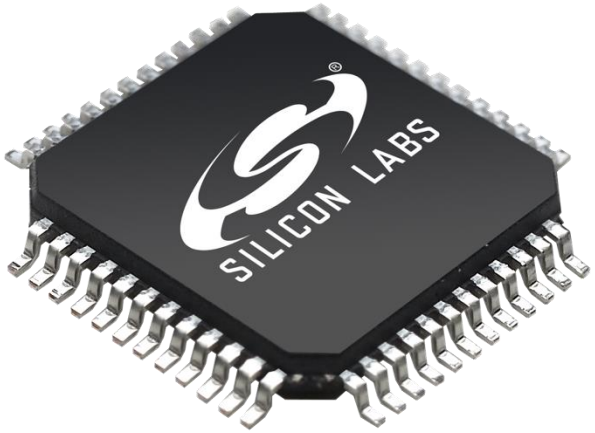
Historically Valid Reasons

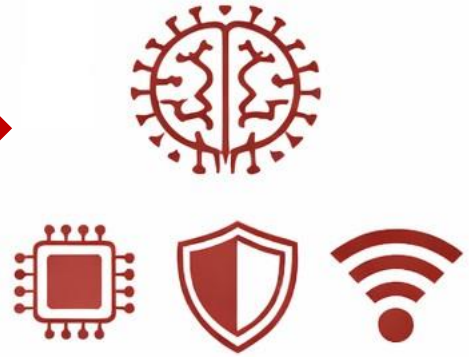
- Need higher compute performance
- Separation of concerns (radio vs application)
- Design flexibility and scalability

Do these still hold?

- Is compute really limited anymore?
- Are workloads still tightly coupled?
- Does integration now offer better efficiency?

If We Remove The External MCU… What Becomes Possible?



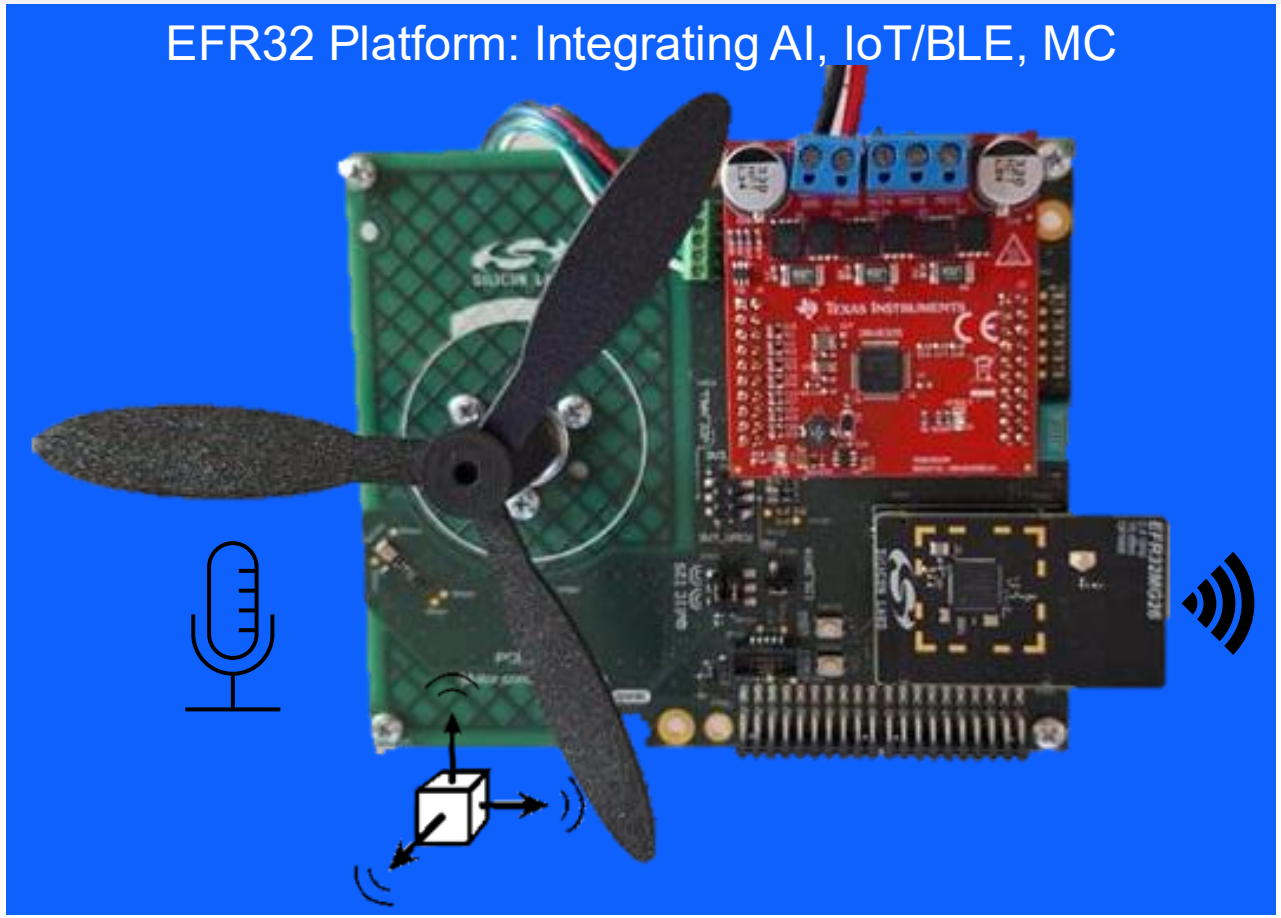


Single platform for:

- **Control**
  System and application management
- **Connectivity**
  Integrated wireless communication
- **Intelligence**
  On-device processing and AI

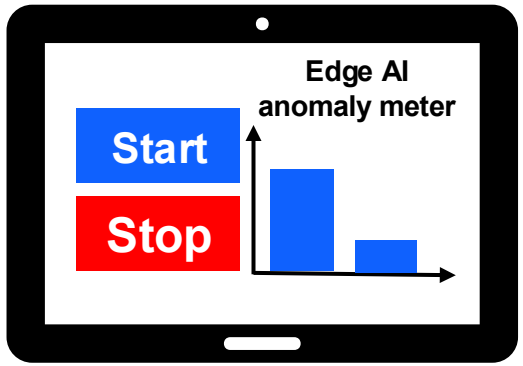
Let’s look at a real example built on a single wireless SoC.

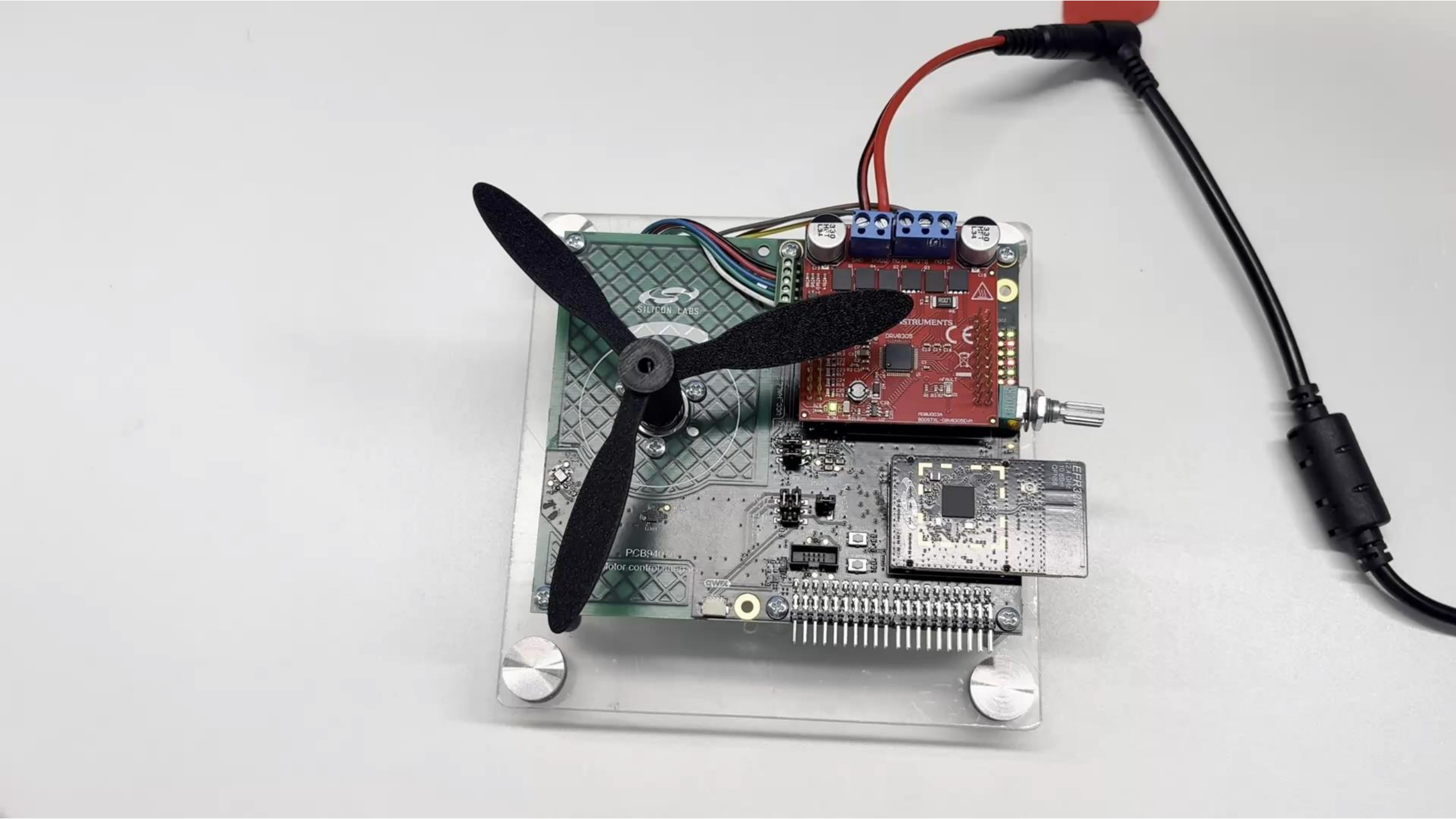
FAN Demo Overview



Start fan slow

User Interface

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The Next-Generation IoT Node

- **Industry Shift**
  - **Discrete → Integrated architectures**
    - Multiple components consolidated into a single SoC
    - Tighter hardware-software coupling
  - **From sensing & sending → sensing & deciding**
    - Intelligence moves from cloud to the edge
    - Faster response, lower latency
  - **Peak performance → performance per watt**
    - Optimization shifts to performance per watt
    - Smarter use of available compute