SimpleLink™ Ultra-Low Power Wireless Microcontroller Platform

The industry's **only multi-standard family** with code- and pin-compatibility across:

- *Bluetooth*® low energy (Bluetooth Smart)
- 6LoWPAN
- Sub-1 GHz
- ZigBee®
- RF4CE™ and
- Proprietary modes

Key benefits

- **The lowest power:**
  - Go battery-less with energy harvesting
  - Use a coin cell battery for multi-year, always-on operation
  - Integrated ultra-low power sensor controller
- **Industry's only multi-standard platform:**
  - Code- and pin-compatibility across Bluetooth Smart, 6LoWPAN, ZigBee, Sub-1 GHz and RF4CE
- **Easiest to design with:**
  - ARM® Cortex®-M3 based MCU
  - TI-RTOS
  - Simplest RF and antenna design
  - Built-in robust security
  - Ready-to-use protocol stacks
  - Tools and reference designs

Overview

The SimpleLink™ ultra-low power wireless microcontroller (MCU) platform is the broadest, lowest power and easiest to use wireless connectivity offering in the industry for Internet of Things (IoT) connected devices. With the capability to leverage multiple standards, customers have flexibility in design and TI makes it easy by providing tools and software, reference designs, community support and more.

What standard fits your design?

- **Bluetooth Smart:** Control ultra-low power wireless solutions with a smartphone or tablet
- **6LoWPAN:** Complete solution to the cloud in a wide-area mesh network using open IP standards
- **Sub-1 GHz:** Provides long range and reliable communication at ultra-low power
- **ZigBee:** Standardized stacks, protocols and application profiles for robust, low-power mesh networks
- **RF4CE:** Two-way communication standard designed for ultra-low power input devices such as remote controls

Available products

- **SimpleLink 2.4-GHz multi-standard CC2650 wireless MCU:** The CC2650 supports multiple 2.4 GHz standards allowing customers to leverage code compatibility across 2.4 GHz standards by downloading the corresponding protocol stack.
- **SimpleLink Bluetooth Smart CC2640 wireless MCU:** The CC2640 is the lowest power Flash-based Bluetooth 4.1 solution with multi-year operation on smaller coin cells.
- **SimpleLink 6LoWPAN/ZigBee CC2630 wireless MCU:** The CC2630 supports large networks connecting 1,000s of nodes in homes, buildings and cities. Take advantage of easy IP and cloud connectivity through 6LowPAN operation where each device has an IPv6 address.
- TI is also launching the **SimpleLink Sub-1 GHz CC1310 wireless MCU** and the **SimpleLink ZigBee RF4CE CC2620 wireless MCU** in 2015.

Getting started

To simplify development, TI provides a broad range of tools and software that offer flexibility between technologies. All kits for 2.4-GHz operation are based on the multi-standard CC2650 wireless MCU. The CC2650DK includes two SmartRF06 evaluation boards, two CC2650 evaluation modules and can be customized with the appropriate software stacks for Bluetooth Smart, 6LoWPAN or ZigBee operation. The CC2650STK SimpleLink SensorTag is a rapid prototyping and development tool designed to shorten the design time for CC26xx development from months to hours.

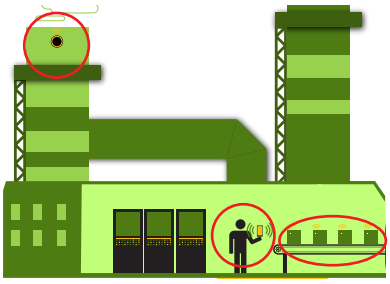
Application areas

The SimpleLink ultra-low power wireless MCU platform is designed for use in multiple applications including:

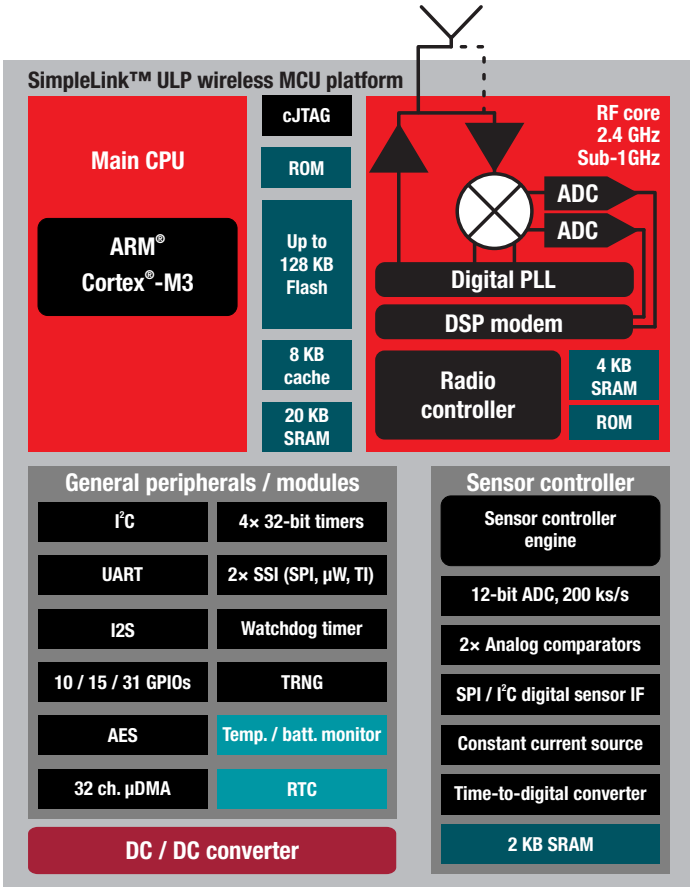
Health and Fitness

Home and Building Automation

Industrial



Block diagram



Hardware

CC2650DK $299	CC2650EMK $99	CC2650STK $29
Complete 2.4-GHz hardware, software and RF development platform for Bluetooth Smart, ZigBee and 6LoWPAN	Two optimized plug-in boards to easily test RF performance with more nodes in a CC2650DK network The EMK comes in 4×4-mm, 5×5-mm and 7×7-mm options	**Low-power development kit for IoT applications** Start sensor development in the cloud in three minutes. Expandable with debugger and DevPacks to customized your IoT application. Powered by the CC2650 wireless MCU and 10 low-power sensors

Software

SmartRF Studio 7	Sensor Controller Studio	SmartRF Flash Programmer 2	CCS Uniflash
PC application that helps designers of radio systems easily evaluate the RF-IC at an early stage in the design process	Development environment to implement sensor controller task algorithms and rapid development	PC application for programming CC26xx devices	Flash programmer with Windows® and Linux™ support

For more information on the SimpleLink ultra-low power wireless MCU platform, please visit **www.ti.com/simplelinkulp**

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