Meet the SimpleLink™ Sensor Controller

Create smart sensor solutions that run for years on a coin cell battery

Sensor Controller (SC) quick facts
SC is an Ultra-low power, 16-bit CPU core
SC runs independently of the rest of the system (Arm Cortex-M4F and RF core)
SC can read and process sensor data while the rest of the system sleeps
SC is user-programmable and executes code from a dedicated 4KB of RAM
SC has access to analog and digital peripherals (see fig. 1)
SC can read / write values to dedicated memory (4KB SRAM) and notify the main MCU to read the data on wake-up.
SC can perform advanced tasks like capacitive touch and inductive sensing

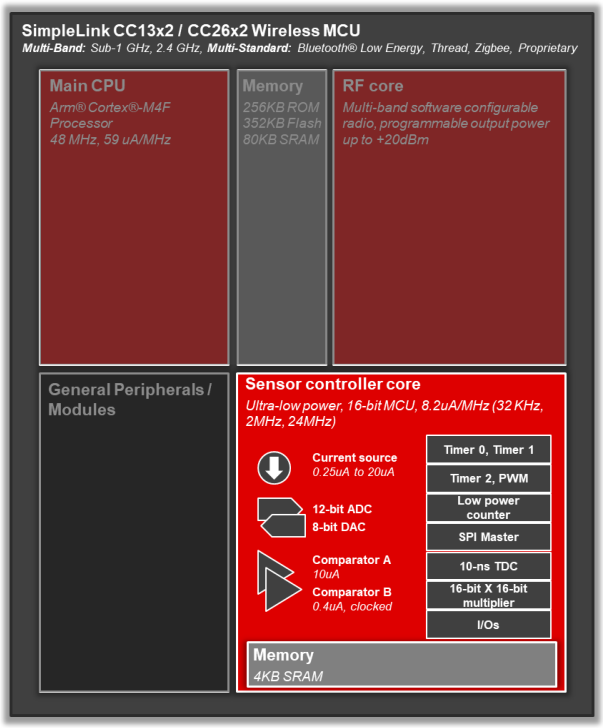

Figure 1: *SimpleLink CC13x2 / CC26x2 block diagram showcasing Sensor Controller peripherals*

The Sensor Controller was specifically designed with low power applications in mind – giving developers the ability to create smart sensors that run for years on a coin cell battery. It is programmable and allows users to read and process data to make low level decisions while the rest of the system sleeps. The Sensor Controller can then wake up the system to perform more computationally-intensive tasks or transmit a message with the radio. Here are some examples of the power numbers achieved for certain applications and basic functions:

- **1-Hz ADC sampling:** *1 uA*
- **SPI (20 reads / second):** *1.4 uA*
- **100-Hz comparator reading:** *1.5 uA*
- **Inductive sensing for flow meter (16-Hz):** *1.7uA*
- **Capacitive touch (two buttons @33-Hz):** *9uA*

Key resources

Getting started	Development	Tools
Tech note: *Ultra-Low Power Designs With the CC13x2 and CC26x2 Sensor Controller*	**App note:** *Getting Started With the CC13xx and CC26xx Sensor Controller*	**Software IDE:** *Sensor Controller Studio*
Video: *Connect: What is the sensor controller?*	**App note:** *Integrating Sensor Controller Studio Examples Into ProjectZero*	**Development hardware:** *SimpleLink Multi-Band CC1352R LaunchPad*
Blog: *Your microcontroller deserves a nap – designing "sleepy" wireless applications*	**App note:** *Sensor Sequencing Using the CC13x2 and CC26x2 Sensor Controller*	**Sensor hardware:** *SimpleLink Ultra-low power sense BoosterPack*
Training		
SimpleLink Academy training: *Learn how to develop, test, and debug code for the Sensor Controller using Sensor Controller Studio*		

Get started now with examples, documentation, and development using *Sensor Controller Studio*

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