

Enabling Smarter Thermostats with SimpleLink™ Wi-Fi® Wireless MCUs



Smart Thermostats are becoming more popular as energy consumption and costs for heating and cooling increase, propelling the need for smarter ways to keep energy consumption down. Thermostats are leading the way to help improve efficiency as they have evolved from fixed versions of the past to programmable and now smart thermostats. These revolutionary devices utilize wireless connectivity and environmental sensors to monitor the room, learn the occupancy patterns of its occupants, adjust comfort settings and reduce consumption.

Creating a [low-power, connected MCU](#)-based Smart Thermostat that links a variety of sensors [securely](#) to the Cloud that enables remote monitoring and control is the goal of most smart thermostat designers

Simplify your Smart Thermostat designs by utilizing the SimpleLink™ Wi-Fi®-CERTIFIED devices that enable best-in-class [low power](#) and interoperability, [enhanced IoT security](#) and readily available [resources](#) that will help get to market even faster.

Features	Benefits
Low power	<ul style="list-style-type: none"> Best-in-class low power consumption reduces load on 24VAC line-powered devices or extends 2x AA battery life over 1 year in always-connected mode and up to 3 years in intermittently connected modes. Tested utilizing TI's proprietary network learning algorithm that ensures a robust, consistent low-power performance when tested with >210 access points.
Integration	<ul style="list-style-type: none"> Dual-core connected wireless MCU technology provides two separate execution environments. <ul style="list-style-type: none"> One Wi-Fi-CERTIFIED network processor handles all Wi-Fi and Internet-level protocols One customer-dedicated ARM®-M4 offering 256-KB RAM with optional 1-MB XIP Flash, flexibility and ease in development with available 12-bit ADC, 2x UARTs, I²S and multiple GPIOs to support a variety of sensors, relays and systems-level needs Supports SimpleLink MCU Platform with common SDK core that makes platform (BLE, Sub 1GHz and MCUs) expansions easier.
Security	<ul style="list-style-type: none"> Embedded enhancements assist in protecting against theft and hostile takeover of identity, keys, data and code without the need for any other external components.
Certified & robust	<ul style="list-style-type: none"> Wi-Fi-CERTIFIED ICs and regulatory Certified Modules drastically reduce complexity, time, resources and thousands of dollars in costs associated with the certification process.
Cloud integration	<ul style="list-style-type: none"> Get to market faster with the right Tools and easy-to-integrate certified IoT cloud agents (HomeKit, AWS, Azure, IBM, etc.) that reduce development complexity, costs and enable faster implementation times.

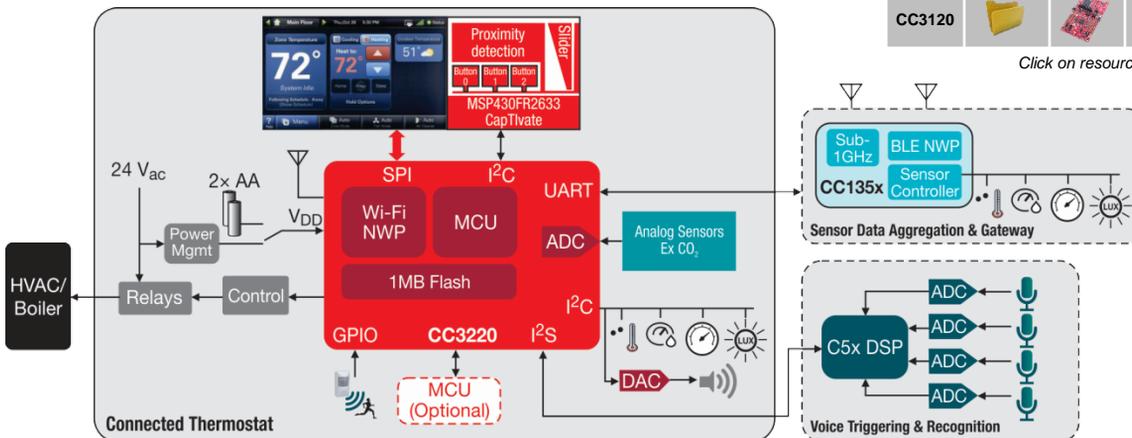
Learn more at TI [Thermostat Reference Design](#)

[Thermostat Blog](#)

[Thermostat Video](#)

Device	Product Folder	Tools Folder	Users Guide	Data sheet
CC3220				
CC3120				

Click on resource icon to learn more



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