

Microcontrollers

- AVR 8- and 32-bit MCUs
- SMART ARM-based MCUs
 - SAMA5 MPUs
 - SAM C MCUs
 - SAM D MCUs
 - SAM E MCUs
 - SAM G MCUs
 - SAM L MCUs
 - SAM S MCUs
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 - SAM3N MCUs
 - SAM3S MCUs
 - SAM4L MCUs
 - SAM4E MCUs
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 - SAM4S MCUs
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 - SAM3A MCUs
 - SAM3X MCUs
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 - SAM7X/XC MCUs
 - SAM9XE MCUs
 - SAM9N/CN MPUs
 - SAM9R MPUs
 - SAM9G MPUs
 - SAM9X MPUs
 - SAM9M MPUs
- Legacy Products

Touch Solutions

Automotive

Wireless Connectivity

Smart Energy

Memory

Drivers and Sensors

Security ICs

Programmable Logic

Analog

Rad Hard

Digital Broadcast

Microcontroller Selector

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Wireless Thermostat with SAM4LC Reference Design

Overview

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Related Tools



Get Started

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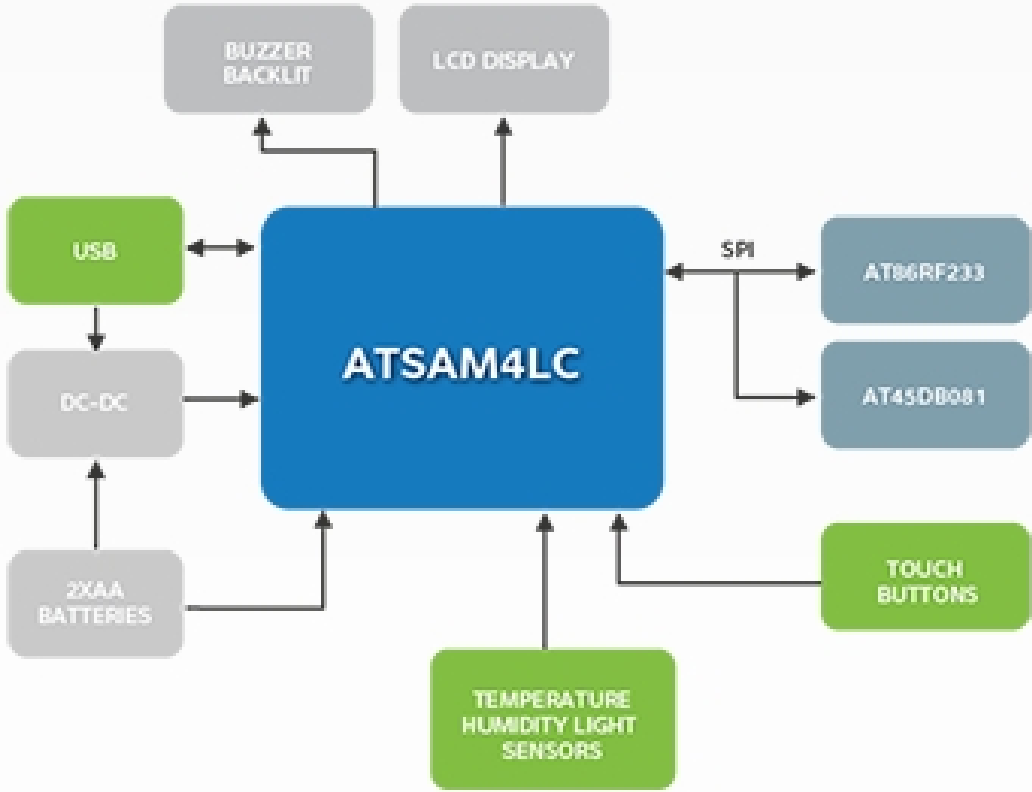
Introduction

This reference design is a complete wireless thermostat using Atmel® ATSAM4LC microcontroller and AT86RF233 2.4GHz transceiver. The user interface consists of 6 touch buttons and a custom segment LCD with backlight. Users can change the thermostat settings for every day of the week, with a granularity of 6 hours. Communication with the HVAC system is done by Atmel Lightweight Mesh stack.

Key Features

- Temperature/Humidity/Ambient light sense capabilities
- FreeRTOS™ tickless implementation
- 6 capacitive touch buttons (Atmel QTouch Library)
- Atmel Lightweight Mesh proprietary software stack
- Atmel AT86RF233 2.4GHz RF transceiver
- Ten-month life time with two AA alkaline batteries

Block Diagram



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Applications

- Automotive
- Building Automation
- Home Appliances
- Home Entertainment
- Industrial Automation
- Lighting
- Internet of Things (IoT)
- Smart Energy
- Mobile Electronics
- PC Peripherals
- Wearables

Technologies

- Low Power
- High Performance
- Touch
- Wireless
- CPU Core
- Secure Technology

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