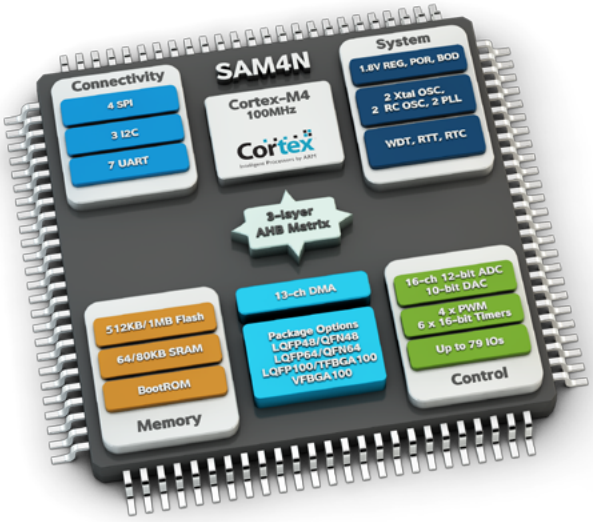
Atmel SAM4N

Entry Point to the Atmel ARM Cortex-M4-Based Flash MCU Portfolio

The Atmel® SAM4N series comprises the entry point to our portfolio of ARM® Cortex®-M4-based Flash microcontrollers (MCUs). These MCUs feature a 100MHz operating frequency and offer up to 1MB of Flash, multiple serial communication peripherals, and analog capability. This combination of features—plus low power consumption—makes the SAM4N series ideal for a wide range of applications in industrial automation, consumer and appliance, and energy metering markets.

The SAM4N series offers pin-to-pin compatibility with Atmel SAM4S, SAM3S, SAM3N and SAM7S devices, facilitating easy migration within the portfolio.



Key Features

- **High level of integration —** SAM4N devices offer fast serial communication with seven UARTs, four SPIs and three I^2Cs. Additional features include 12-bit ADC, 10-bit DAC, integrated voltage reference, multiple timers, PWM and more.
- **Low power consumption —** With its low-power architecture, the SAM4N MCU achieves power consumption levels down to 170µA/MHz in Active mode; as low as 20µA in sleep mode with full RAM retention and wake-up time down to 10µs; requiring as little as 1µA in backup mode with the RTC running.
- **Ease of use —** The ecosystem of software tools and support for the Atmel Studio 6 integrated development platform (IDP) enables an efficient design process and reduces time to market.

Key Applications

- **Industrial Automation and M2M (machine-to-machine)**
  - Process transmitters
  - RF modules
  - Asset tracking
- **Consumer and Appliance**
  - Toys and mobile accessories
- **Energy Metering**
  - Smart meters
  - Low-end data concentrators
- **Building and Home Control**
  - Sensors and actuators
  - Control panels
  - Room control units
  - Keypads
  - Low-cost gateways(WAN/HAN) (wireless- and home-area-network)

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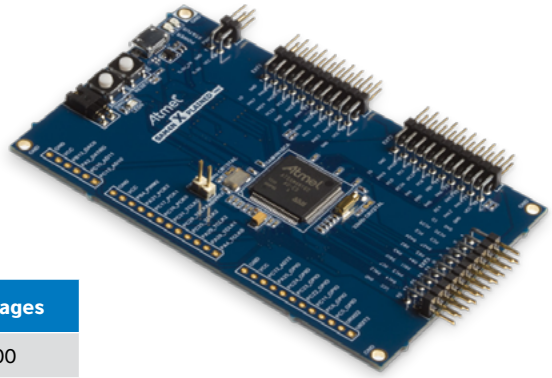
Design Tools and Ecosystem

Atmel offers a full suite of hardware tools for evaluation and prototyping with the SAM4N series. All SAM4N evaluation tools are supported by the Atmel Studio 6 IDP and integrated Atmel QTouch® library support for buttons, sliders and wheels.

They are backed by a worldwide support ecosystem of industry-leading suppliers of development tools, real-time operating systems, and middleware products to make your design process easier and reduce time-to-market.

SAM4N Xplained Pro

The Atmel Xplained Pro platform consists of a main board with multiple expansion ports plus extension boards, including OLED LCD displays, buttons, sensors and more. The board is available as a standalone kit. The extension boards can also be purchased separately.



SAM4N Ordering Information

Device Name	Flash (Kbytes)	SRAM (Kbytes)	Green Packages
ATSAM4N16CA-CFU	1024	80	VFBGA100
ATSAM4N16CA-CU	1024	80	TFBGA100
ATSAM4N16CA-AU	1024	80	LQFP100
ATSAM4N16BA-AU	1024	80	LQFP64
ATSAM4N16BA-MU	1024	80	QFN64
ATSAM4N8CA-CFU	512	64	VFBGA100
ATSAM4N8CA-CU	512	64	TFBGA100
ATSAM4N8CA-AU	512	64	LQFP100
ATSAM4N8BA-AU	512	64	LQFP64
ATSAM4N8BA-MU	512	64	QFN64
ATSAM4N8AA-AU	512	64	LQFP48
ATSAM4N8AA-MU	512	64	QFN48

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