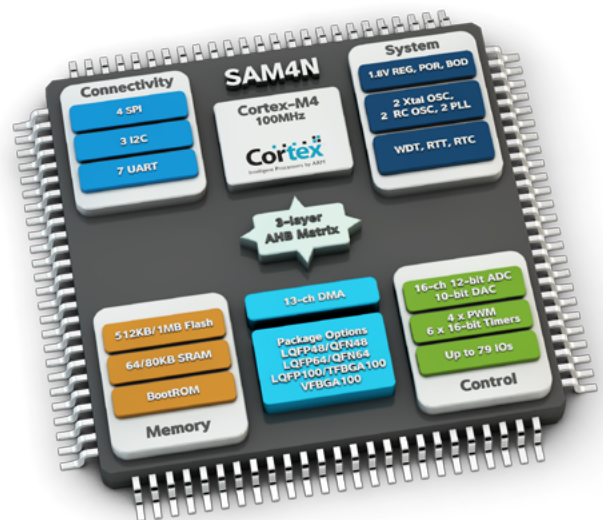


## Atmel | SMART SAM4N

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

The Atmel® | SMART 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 | SMART 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<sup>2</sup>Cs. 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 integrated development environment (IDE) 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)

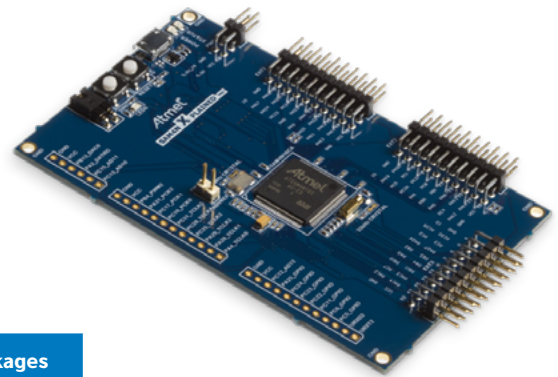
### Design Tools and Ecosystem

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 Integrated Development Environment (IDE) 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

