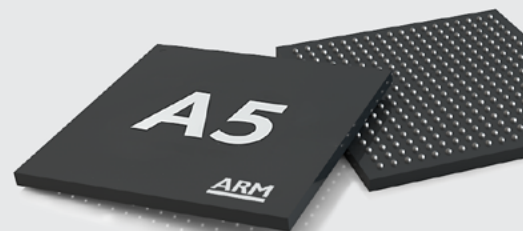# Atmel | SMART SAMA5D3 Xplained
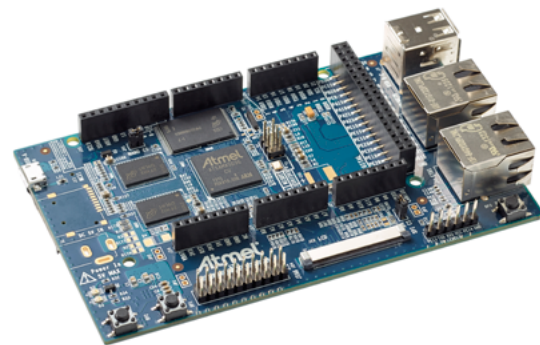## For Prototyping and Evaluating MPUs

Introducing the Atmel | SMART SAMA5D3 Xplained

This evaluation kit is a fast prototyping and low cost evaluation platform for the Atmel® | SMART SAMA5D3 ARM® Cortex®-A5 processor-based microprocessor (MPU) design. It comes with a free of charge Linux distribution, including Linux Kernel 3.10 (LTS), Linux Mainline and Yocto 1.5.1 support. Bare metal developers benefit from a complete C software package, including many examples to get started fast. The board is also a perfect development platform for headless Android.

The board comes with a rich set of ready-to-use connectivity and storage peripherals and expansion headers for easy customization. A USB device connector can be used to power the board as well as for programming and debugging it.
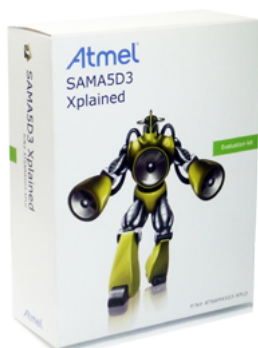
SAMA5D3 Processor

Atmel® ARM Cortex-A5 processor-based MPUs deliver that balance in a rich set of devices that meets your every industrial design need. The SAMA5D3 series is also ideal for wearable computing and mobile applications where low power and a small footprint are critical. By designing with the new SAMA5D3 series, you alleviate any trade-offs in performance, power and ease of use.

www.linux4sam.org provides an easy starting point to open source Linux distributions for Atmel ARM-based MPUs. The site contains reference sources and build instructions to set up a Linux system for Atmel ARM926™ and Cortex-A5 based MPU products, including for the SAMA5D3 Xplained.

To learn more or order one, please visit: http://www.atmel.com/tools/SAMA5D3-XPLD

SAMA5D3 Xplained Key Features

- Atmel SAMA5D36 Cortex-A5 Microprocessor
- 256MBytes DDR2
- 256MBytes NAND Flash
- LCD connectors
- Dual Ethernet (GMAC + EMAC) with PHY and connectors
- Three USB connectors (2 Host + 1 Device)
- 1x SD/eMMC and 1x MicroSD slots
- Expansions headers, Arduino R3 Shield compatible
- Power measurement straps

SAMA5D3 Series Key Features

Features	SAMA5D31	SAMA5D33	SAMA5D34	SAMA5D35	SAMA5D36
LCD controller	✓	✓	✓	--	✓
10/100 EMAC	✓	--	--	✓	✓
10/100/1000 EMAC	--	✓	✓	✓	✓
DUAL CAN	--	--	✓	✓	✓
ISI	✓	✓	✓	✓	✓
USB	✓	✓	✓	✓	✓
Secure Boot	✓	✓	✓	✓	✓
Crypto	✓	✓	✓	✓	✓
-40° to +105° C	--	--	--	✓	✓
12x12 BGA	✓	--	--	--	--

Operating at 850DMIPS at under 150mW, the Atmel SAMA5D3 MPU is ideal for any high-performance, low-power and cost-sensitive industrial application. Think control panels, smart grid devices and bar code scanners—anything that needs high levels of connectivity, enhanced user interfaces, robust security or is battery powered.

High Performance
Designed to complement the power of the ARM Cortex-A5 core, the SAMA5D3 delivers 850DMIPS while consuming less than 150mW.

Low Power Consumption
The SAMA5D3 uses innovative techniques to push down power consumption in all modes.

Connectivity
The SAMA5D3 series embeds a wide range of advanced communication peripherals, making it ideal for bridges or gateways.

Enhanced User Interfaces
With the SAMA5D3, you can create the sleek and smooth user interfaces required by today's applications.

Security
The SAMA5D3 includes features to prevent cloning of your application as well as to secure communications and data storage.

Safety
The SAMA5D3 includes functions which ease the implementation of safety standards like IEC61508.

Low System Cost
With its high level of system integration, the SAMA5D3 provides maximum flexibility, while minimizing the need for expensive additional components.

Atmel | Enabling Unlimited Possibilities®