



Atmel's SAM3U Evaluation Kit and Extensive Software Ecosystem Jump-Start Cortex M3-based Application Development

Ready-to-Use Development Board plus Tools, Operating Systems and Protocol Stacks Accelerate Programming of SAM3U ARM Cortex-M3 Based Flash MCU

Atmel® Corporation announced the availability of the SAM3U-EK Evaluation Kit for rapid application development on the industry's first ARM® Cortex® -M3 based Flash microcontroller with high-speed 480 Mbps USB + Phy. In addition to a plug-and-play socket for the high-speed USB device it features a high speed SDIO/SDCard/MMC slot, two UART connectors, a ZigBee® radio header, two analog inputs, audio in- and outputs and a JTAG-ICE debug port. For application development purposes, the SAM3U-EK board contains a 240 x 320 TFT color LCD display with resistive touch-panel and backlight, 3D accelerometer and temperature sensor, potentiometer, on-board 512K x 16-bit PSRAM and 2G-bit x8 or x16 NAND Flash Memories, 12MHz and 32KHz clock sources and a backup battery.

On power-up, the SAM3U-EK runs an interactive demonstration that takes advantage of its touch screen capability. This enables the user to experience some of the outstanding features of the SAM3U and the Evaluation Kit. This demonstration includes a facility that enables the SAM3U-EK to be connected to the high-speed USB port of a PC, where it is viewed as a USB key. Product documentation, sound and image samples and demonstration software may be downloaded from it and viewed on the display.

For application development, the SAM3U-EK plugs directly into a PC where it is supported by a wide range of tools, debuggers, operating systems and protocol stacks from industry-leading third party suppliers, including the following:

- **IAR Development Toolchain**
Anders Flodin, Director of Business Development, IAR Systems® AB, commented, "IAR offers the unique toolchain for all Atmel microcontroller families. Supporting the SAM3U is a manifestation of our long term relationship with Atmel giving customers the tightest level of integration. We provide fully tested implementations and world-wide support with the IAR Embedded Workbench® development toolchain, IAR PowerPac™ RTOS and middleware products. The IAR Systems software implementation, including the High Speed USB device stack and SDCard drivers, utilizes the DMA and distributed memory architecture to sustain the 100+ Mbps data rates." More information about IAR products and services can be found at <http://www.iar.com>.
- **Micrium uC/OS-II Operating System and Protocol Stacks**
According to Jean Labrosse, President and CEO of Micrium, "Use of Micrium's RTOS with the SAM3U highlights our strength and expertise in the Cortex-M3 space. Involved throughout Cortex-M3 development, Micrium's uC/OS-II and uC/USB Device are naturals to be used with the SAM3U-EK Evaluation Kit. In addition, sample projects and demos of Micrium's uC/FS File System and uC/GUI are also available for download from the Micrium Web site at <http://www.micrium.com/atmel>.
- "Micrium's RTOS code, documentation, and support result in substantial time-to-market advantages required by most embedded designs today. Micrium currently supports all Atmel microcontroller families, and we are excited to be a part of the SAM3U effort," Labrosse added.
- **Keil Development Toolchain**
"The Keil Microcontroller Development Kit (MDK-ARM) supports the full range of Atmel 32-bit ARM technology-based microcontrollers; the current version includes peripheral simulation and device-specific views for the SAM3U series," said Reinhard Keil, director MCU tools, ARM. "Our tools provide trace capabilities with logic analyzer and event viewers that utilize the extended debug features of the Cortex-M3 processor. Additionally, the Keil Real-Time Library (RL-ARM) delivers a comprehensive set of middleware components with template projects for the unique SAM3U peripherals." For more information about Keil's products, visit <http://www.keil.com>.
- **SEGGER Development Toolchain**
"As a result of the close partnership between Atmel and SEGGER, our middleware, debugging and production tools are readily available for the new SAM3U. SEGGER's complete portfolio including the market-leading J-Link already fully supports the new SAM3U-EK evaluation kit. Our middleware makes optimum use of both the Cortex-M3 core as well as the sophisticated peripherals of the device," said Rolf Segger, Chief Technology Officer of SEGGER Microcontroller. A trial version of SEGGER software for the SAM3U evaluation kit is available for download from: <http://www.segger.com>.



- **FreeRTOS Operating System**

FreeRTOS® founder Richard Barry said, "FreeRTOS is supporting Atmel customers by providing a completely free real time kernel download that includes a pre-configured project for the new SAM3U microcontrollers - just open the project, compile, download then run."

Mr. Barry continued, "FreeRTOS is a very widely used commercial grade open source real time kernel that can be used in commercial applications. Free support is provided by a wide user community (FreeRTOS was downloaded nearly 80,000 times during 2008). Standard commercial licensing, support and middleware options are also available. This provides Atmel customers with a choice of licensing models and complete peace of mind." FreeRTOS can be downloaded from <http://www.FreeRTOS.org>.

Availability

The SAM3U-EK Evaluation Kit is available now, order code AT91SAM3U-EK