Real-world Applications for World’s Most Energy-friendly Microcontrollers

One of the application examples that will be demonstrated on the Energy Micro booth: the Scubapro Meridian dive computer features a 32-bit energy efficient EFM32 Gecko Microcontroller

Energy Micro will display a range of real-world applications for its EFM32 Gecko families of ARM-based microcontrollers (MCUs) at Electronica 2012. The company will demonstrate how its low-power devices greatly extend battery life of a variety of portable electronic products.

The products on show will include two for mobile health applications. The first is a hand-held heart pacemaker monitor in which the MCU manages the communications protocol, monitors the sensors and controls the user interface. The second is a sensor powered that attaches to a person’s temple. Here, it monitors their temperature and sounds an alarm if they are in danger of heat exhaustion, which is a potential problem for fire-fighters, outdoor workers and sportspeople. In this application, the operating life of a single CR1616 coin-cell battery is several months.

Energy Micro will also demonstrate energy management applications for its MCUs, including one for battery-powered and energy harvesting products in which the

EFM32 Tiny Gecko controls EnOcean's radio position switch in a wireless module. The same MCU is also used in a range of modules that allow utility meter readings to be collected via a wireless connection, reducing operating expenditure for utility companies and increasing billing accuracy for consumers.

Other innovative applications for Energy Micro's energy-saving MCUs, which will be on display at the show, include the Scubapro-Uwatec Meridian dive computer. This is the world's first 32-bit watch-dive computer with an integrated heart rate monitor that provides comprehensive dive information. Dive profiles can be downloaded, edited and reviewed on a personal computer. The company will also demonstrate a novel electric window remote control that uses a smartphone-like user interface controlled by an EFM32 MCU.

Relative to microcontrollers of comparable processing power, EFM32 Gecko devices achieve up to 4-times longer operation in battery-powered applications, primarily through a combination of low active power consumption, low standby current and autonomous peripheral operation. They feature a peripheral reflex system that enables peripherals to communicate with each other without using the CPU and offer a combination of fast processing and very fast wake-up times from a choice of energy saving modes.

www.energymicro.com [1]

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