Silicon Labs Launches Industry's Smallest Energy-Friendly Touch Sensing Microcontroller

-- EFM8SB1 Sleepy Bee MCUs Offer Ultra-Low Power, Capacitive Sensing and Tiny Chip-Scale Package for Space-Constrained IoT Applications --

AUSTIN, Texas – August 19, 2015 –Silicon Labs (NASDAQ: SLAB), a leading provider of energy-friendly microcontroller (MCU) solutions for the Internet of Things (IoT), today introduced the latest member of its EFM8 8-bit MCU portfolio designed for ultra-low-power, small-footprint IoT applications with capacitive touch sensing requirements. The new EFM8SB1 Sleepy Bee MCUs, available in a 1.78 mm x 1.66 mm wafer-level chip-scale package (WLCSP), are the industry's smallest MCUs – one-fourth the size of 8-bit MCUs in conventional QFN packages. These tiny MCUs are ideal for touch-based, battery-powered and space-constrained IoT and industrial applications requiring long battery lifetimes and energy-efficient human interfaces. Target applications include wearables, remote controls, Bluetooth accessories and eReaders, as well as industrial automation, home automation and office equipment.

The EFM8SB1 Sleepy Bee MCUs are Silicon Labs' most energy-friendly 8-bit devices offering industry-leading sleep mode power (50 nA with full memory retention and brown-out detection) and an ultra-fast 2 µs wake-up time. Core speeds scale up to 25 MHz, and flash sizes range from 2 kB to 8 kB. The MCUs also integrate a best-in-class capacitive sense controller offering an ultra-low-power < 1 µA wake-on-touch capability and 12 robust capacitive touch channels, eliminating the need for on/off switches in many space-sensitive products such as wearables.

In addition to providing advanced on-chip capacitive sensing technology, Silicon Labs supports touch-sense interface design with its best-in-class Capacitive Sense Library available within the Simplicity Studio™ development platform, offering all of the features and algorithms required to add capacitive sensing interfaces to IoT products. Simplicity Studio provides firmware designers with production-ready firmware, from scanning buttons to filtering noise. In addition, by using the Simplicity Studio Capacitive Sense Profiler to visualize real-time data and the noise levels of cap-sense buttons, developers can easily customize touch and no-touch thresholds and noise filtering settings, greatly simplifying the addition of capacitive touch to IoT applications.

The EFM8SB1 MCUs offer a rich mix of analog and digital peripherals including a high-resolution capacitance-to-digital converter (CDC), a 12-bit analog-to-digital converter (ADC), high-performance timers, and enhanced SPI, I2C and UART serial ports. These and other analog/mixed-signal peripherals are all easily configurable and accessible to developers through Silicon Labs' patented crossbar technology.

"By combining exceptional energy efficiency, capacitive touch capabilities, a rich peripheral set and a best-in-class development environment with the world's smallest MCU footprint, the EFM8SB1 Sleepy Bee family embodies our 'MCUs without compromise' design philosophy," said Tom Pannell, marketing director for microcontroller products at Silicon Labs. "If you need a tiny, ultra-low-power cap-touch MCU for applications with flash memory requirements below 8 kB, our EFM8SB1 MCUs are a perfect for your IoT design."

EFM8SB1 Sleepy Bee MCU Highlights

- Up to 25 MHz single-cycle 8051 processor core
- Available in a 1.78 mm x 1.66 mm wafer-level chip-scale package (WLCSP)
- Dedicated, on-chip 12-channel capacitive touch sense controller
- 50 nA sleep mode with full memory retention and brown out detector (BOD) enabled
- 300 nA sleep mode with internal low-frequency oscillator (LFO)
- 150 µA/MHz operation
- Less than 1 µA wake on touch
- Fast 2 µs wake-up time
- Flexible clocking architecture to optimize for system and power requirements
- Patented crossbar technology for analog and digital peripherals
- Supported by Simplicity Studio tools such as the Capacitive Sense Profiler and Library

Pricing and Availability

Samples and production quantities of Silicon Labs' EFM8SB1 Sleepy Bee MCUs are available now in a WLCSP package. The WLCSP EFM8SB1 MCUs in 10,000-unit quantities are priced at $0.47 (USD). The EFM8SB Sleepy Bee starter kit is priced at $29 (USD MSRP). For more information about the EFM8SB1 MCUs in chip-scale packages and to order MCU product samples and development kits, please visit www.silabs.com/EFM8.

Silicon Labs

Silicon Labs (NASDAQ: SLAB) is a leading provider of silicon, software and system solutions for the Internet of Things, Internet infrastructure, industrial automation, consumer and automotive markets. We solve the electronics industry's toughest problems, providing customers with significant advantages in performance, energy savings, connectivity and design simplicity. Backed by our world-class engineering teams with unsurpassed software and mixed-signal design expertise, Silicon Labs empowers developers with the tools and technologies they need to advance quickly and easily from initial idea to final product. www.silabs.com

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