Silicon Labs Newsroom

Feature-Rich Giant Gecko Microcontrollers Help Developers Tackle Complex IoT Applications

-- Silicon Labs' New EFM32GG11 Gecko Family Offers the Most Advanced Capabilities and Largest Memory Footprint in the Low-Power MCU Market --

AUSTIN, Texas, July 24, 2017 /PRNewswire/ -- Silicon Labs (NASDAQ: SLAB) has expanded its energy-friendly EFM32® Gecko portfolio with industrial-strength microcontrollers (MCUs) delivering higher performance, more features and lower power. The new EFM32GG11 Giant Gecko MCU family offers the most advanced feature set available in the low-power MCU market, targeting smart metering, asset tracking, industrial/building automation, wearables and personal medical applications. Giant Gecko MCUs combine peak 72 MHz processing performance, large memory options, peripherals and hardware accelerators, and comprehensive software tools including the industry-leading Micrium® OS.

Internet of Things (IoT) applications are growing increasingly complex, driving the need for multiple sensors, sophisticated end-user displays, advanced algorithms and wireless stacks. As power budgets shrink, MCUs must excel at sleep mode to maximize battery life. Giant Gecko MCUs address these challenges by pushing the boundaries of integration, performance and energy efficiency.

"Giant Gecko MCUs provide a no-compromise user experience previously available only on more power-hungry MCUs," said Tom Pannell, Senior Marketing Director for IoT products at Silicon Labs. "The culmination of ten years of Gecko evolution, the Giant Gecko family gives developers a tremendous leap forward in performance, features and design capabilities."

The Giant Gecko family offers the following features:

- ARM® Cortex®-M4 processor core supporting performance-intensive applications
- Largest internal memory footprint in its MCU class (up to 2 MB flash and 512 KB RAM) to accommodate more code, debugging capabilities, over the air (OTA) updates, data logging and rich graphics
- SD/MMC and Octal/Quad-SPI memory interfaces to support additional memory expansion capabilities for memory-intensive applications
- Fast wake-up/sleep transitions and a low-energy fabric allowing autonomous access to sensor inputs and enabling low-power peripherals to operate autonomously
- Ultra-low power consumption: 77 µA/MHz in active mode and 1.6 µA in deep sleep mode

Giant Gecko MCUs integrate a wealth of communication interfaces and controllers:

- 10/100 Ethernet media access control (MAC) for IP-based industrial control
- Secure digital input output (SDIO) Wi-Fi interface for IP-based wireless cloud connectivity
- Single or dual CAN bus controllers for industrial applications
- Crystal-free USB controller for cost-effective, ultra-low-energy universal connectivity
- Thin film transistor (TFT) display hardware acceleration with per-pixel alpha blending and ultra-low-energy segment LCD driver, enabling richer user interfaces
- Current-based capacitive sense engine providing robust touch input and ultra-low power wake-on-touch, simplifying the development of cap-sense applications

The Giant Gecko family provides a safe, secure platform for building applications with best-in-class cryptography. The MCUs feature an energy-efficient security accelerator that runs advanced algorithms with higher performance and lower power than conventional software methods, a security management unit (SMU) supporting fine-grained security for peripheral access, and a NIST-certified true random number generator (TRNG) for higher security randomization.

Giant Gecko MCUs are available in a wide range of QFN, QFP and BGA package options with up to 192 pins, including many packages that are footprint-compatible with existing EFM32 MCUs. Software compatibility across the entire EFM32 MCU and EFR32 Wireless Gecko SoC portfolio enables broad software reuse and reduced design time and cost for developers.

Silicon Labs' Simplicity Studio development tools support the Gecko MCUs, giving developers one-click access to everything needed to complete projects in a unified Eclipse-based environment. Simplicity Studio includes graphical configuration, advanced energy monitoring, network analysis and capacitive touch configuration tools, as well as software examples and documentation. Giant Gecko MCUs natively support Micrium OS, and developers have easy access to Micrium tools through Simplicity Studio.

Pricing and Availability

Engineering samples of the EFM32GG11 Giant Gecko MCUs are available today, and production quantities are planned for Q1 2018. Pricing for EFM32GG11 MCUs in 10,000-unit quantities begins at $5.66 (USD). The SLSTK3701A Giant Gecko Starter Kit is available now and priced at $99.99 (USD MSRP). To order EFM32GG11 engineering samples and starter kits, visit www.silabs.com/giantgecko.

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Connect with Silicon Labs
Silicon Labs PR Contact: Dale Weisman +1-512-532-5871, dale.weisman@silabs.com
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