



## Silicon Labs Secures IoT Nodes with New EFM32 Jade and Pearl Gecko Microcontrollers

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*Next-Generation Gecko MCUs Combine State-of-the-Art Hardware Cryptography with Advanced Energy Management Features*

AUSTIN, Texas--(BUSINESS WIRE)-- Delivering the next generation of Gecko technology for the Internet of Things (IoT), [Silicon Labs](#) (NASDAQ: SLAB) has introduced two new EFM32™ Gecko microcontroller (MCU) families that provide advancements in security and energy management technologies. The new Jade Gecko and Pearl Gecko MCUs combine a state-of-the-art hardware cryptography engine, flexible low-energy modes, an on-chip dc-dc converter and scalable memory options backed by Silicon Labs' developer-friendly [Simplicity Studio](#)™ tools. EFM32 Jade and Pearl Gecko MCUs target an array of energy-sensitive and battery-powered devices including wearable health and fitness trackers, smart door locks, point-of-sale devices, security sensors and other IoT node applications.

This Smart News Release features multimedia. View the full release here: <http://www.businesswire.com/news/home/20151214005228/en/>

Get all the details about the new EFM32JG Jade Gecko and EFM32PG Pearl Gecko MCUs including pricing and availability, development kits and data sheets at [www.silabs.com/EFM32](http://www.silabs.com/EFM32).

### Securing IoT Nodes

Jade and Pearl Gecko MCUs address the growing need to equip IoT-connected devices with the latest security technologies to thwart hackers. The new MCUs feature a hardware cryptography engine providing fast, energy-efficient, autonomous encryption and decryption for Internet security protocols such as TLS/SSL with minimal CPU intervention—and without sacrificing battery life. The on-chip crypto-accelerator supports advanced algorithms such as AES with 128- or 256-bit keys, elliptical curve cryptography (ECC), SHA-1 and SHA-224/256. Hardware cryptography enables developers to meet evolving IoT security requirements more efficiently than with conventional software-only techniques often required by competing MCUs.

### Minimizing Energy Consumption

Based respectively on ARM® Cortex®-M3 and M4 cores, Jade and Pearl Gecko MCUs provide ample performance for connected devices while enabling developers to optimize battery life or use smaller batteries for space-constrained designs. The new MCUs feature an enhanced peripheral reflex system (PRS) that lets low-power peripherals operate autonomously while the MCU core sleeps, allowing connected devices to sleep longer, thus extending battery life. Energy-saving low active-mode current (63 µA/MHz) enables computationally intensive tasks to execute faster. Low sleep-mode current (1.4 µA down to 30 nA) and ultra-fast wake-up/sleep transitions further minimize energy consumption.

Jade and Pearl Gecko MCUs also integrate a high-efficiency dc-dc buck converter. Offering a total current capacity of 200 mA, the on-chip converter can provide a power rail for other system components in addition to powering the MCU. This power management innovation reduces bill-of-materials (BOM) cost and board area by eliminating the need for an external dc-dc converter.

"IoT developers are seeking not only advanced power management architectures to extend the battery life of connected devices but also next-generation cryptography technologies to help secure IoT node applications," said Daniel Cooley, vice president of marketing for IoT products at Silicon Labs. "With connected devices facing ever-increasing security threats, developers must safeguard their IoT products with leading-edge hardware cryptography. We designed our Pearl and Jade Gecko MCU families from the ground up to address these two critical IoT application requirements - energy efficiency and security."

### Jade Gecko and Pearl Gecko MCU Highlights

- Choice of 32-bit ARM Cortex-M3 and M4 cores scaling up to 40 MHz
- On-chip hardware encryption/decryption accelerator supporting random number generator, AES, ECC and SHA technologies
- Flexible energy management system with a wide range of low-energy modes
- 12-channel peripheral reflex system (PRS) supporting autonomous interaction between peripherals down to deep sleep mode, as well as configurable logic functions
- 12-bit, 1 Msps analog-to-digital converter (ADC) capable of sampling and performing autonomous comparisons down to stop mode
- Integrated dc-dc buck converter providing a power rail for other system components
- Scalable memory options (up to 256 kB flash with 32 kB RAM)
- Independent I/O rail supporting 1.8V to 5V components
- Software-compatible with existing portfolio of 240+ EFM32 Gecko MCUs

### Simplifying EFM32 Gecko Development

EFM32 Jade and Pearl Gecko system design is powered by Silicon Labs' comprehensive [Simplicity Studio development platform](#). Simplicity Studio streamlines the process of creating IoT applications by providing developers with one-click access to everything they need to complete their projects, from initial concept to final product, in a unified software environment. Simplicity Studio includes an Eclipse-based integrated development environment (IDE), graphical configuration tools, energy profiling tools, wireless network analysis tools, demos, software examples, documentation, technical support and community forums.

## Pricing and Availability

Engineering samples of EFM32JG Jade Gecko and EFM32PG Pearl Gecko MCUs are available now in 5 mm x 5 mm QFN32 and 7 mm x 7 mm QFN48 packages; production quantities are planned for Q2 2016. Jade Gecko pricing begins at \$1.24 (USD) in 10,000-unit quantities, and Pearl Gecko 10K pricing begins at \$1.65 (USD). The SLSTK3401A EFM32PG Pearl Gecko Starter Kit, priced at \$29.99 (USD MSRP), enables developers to jumpstart evaluation and development of Gecko-based applications. To order samples and starter kits, visit [www.silabs.com/EFM32](http://www.silabs.com/EFM32).

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