Silicon Labs Simplifies IoT Connectivity with New 32-bit sub-GHz Wireless MCUs

EZR32 Family Provides Industry-Leading Power Efficiency, RF Performance, Integration and Multi-Protocol Support in a Single-Chip Solution

“The sub-GHz connectivity market is evolving rapidly to meet the power, size and cost constraints of today’s IoT applications”

NUREMBERG, Germany--(BUSINESS WIRE)--Silicon Labs (NASDAQ: SLAB), a leading provider of wireless connectivity solutions for the Internet of Things (IoT), today introduced a new family of 32-bit wireless microcontrollers (MCUs) designed to simplify a wide range of IoT connectivity applications. The new EZR32 wireless MCUs deliver best-in-class power efficiency and sub-GHz RF performance and enable any application requiring longer battery life, increased wireless range, small form factor, and the flexibility to support proprietary and industry-standard wireless protocols with a single-chip device. Target applications for the EZR32 family include smart metering, wireless sensor networks, home and building automation, security systems, remote monitoring, and asset tracking.

Combining an EFM32™ MCU core with EZRadio/EZRadioPRO sub-GHz transceivers, EZR32 wireless MCUs offer developers significant advantages over conventional system designs that pair discrete MCUs with RF devices. Seamless “MCU+RF” integration frees developers from the challenge of making complex interconnections between the MCU and the radio, resulting in an easier design process and simpler board designs with less susceptibility to interference. Developers can begin their wireless designs secure in the knowledge that they are getting a fully tested, field-proven, single-chip wireless MCU solution that helps reduce component count and board size for space-constrained applications.

The EZR32 family leads the industry in ultra-low-power, high-performance sub-GHz connectivity. The wireless MCUs provide RF coverage over a wide frequency band for all geographic regions, +20 dBm Tx power output for longer range, and industry-leading receive sensitivity, selectivity and blocking. The low standby, transmit and receive power consumption of the EZRadio and EZRadioPRO transceivers, combined with the ultra-low-power operating modes and fast wake-up times of the EFM32 MCUs, results in an ideal solution for battery-powered wireless applications – without any compromises in RF performance. The multi-protocol EZR32 devices support wireless applications based on IEEE 802.15.4/4g, Wireless M-Bus, Wi-SUN, and a broad range of proprietary radio protocols.

The EZR32 family provides developers with the ultimate flexibility and scalability across applications with little to no redesign. The family includes two pin-compatible product lines: EZR32LG devices based on an ARM Cortex-M3 core and EZR32WG devices based on an ARM Cortex-M4 core with floating point and digital signal processing capabilities. Flash memory options scale from 64 to 256 kB. Both product lines support 32 kB of RAM and a rich peripheral set including timers and counters, multiple communication interfaces, ADC and DAC, the low-energy sensor interface (LESENSE), USB, and a 128-bit AES accelerator for advanced security and data protection.

The EZR32LG and EZR32WG devices are available with a choice of EZRadio and EZRadioPRO transceivers to accommodate an array of RF performance requirements. The EZRadio versions meet the needs of most simple and cost-sensitive "button-press" wireless designs such as remote controls, garage door openers and other point-to-point network configurations. The EZRadioPRO versions target applications requiring cutting-edge radio features and higher RF performance to support ultra-long-range narrowband connectivity and complex packet formats and network protocols. The powerful EZRadioPRO transceiver architecture supports advanced packet processing and modem functionality such as automatic frequency compensation (AFC), preamble detection and automatic gain control (AGC) as well as frequency hopping.

"The sub-GHz connectivity market is evolving rapidly to meet the power, size and cost constraints of today's IoT applications," said Daniel Cooley, vice president and general manager of MCU and wireless products at Silicon Labs. "Successful connected device designs require three things: high integration, low energy and simplicity. To meet these customer needs, we engineered the EZR32 family to deliver seamless MCU/RF integration and best-in-class energy efficiency backed by the industry's best development environment with software stacks to greatly simplify the process of adding sub-GHz connectivity to battery-powered IoT designs."

Simplifying Wireless Development

The enhanced Simplicity Studio development environment, now supporting concurrent MCU and wireless design, provides a comprehensive, easy-to-use platform for developing wireless applications based on the EZR32 family. Simplicity Studio supports the new Silicon Labs Connect software stack, a fully tested connectivity solution for point-to-point and star network topologies. Silicon Labs Connect abstracts the lower-level details of sub-GHz protocols and configuration, freeing designers to focus on application development. Silicon Labs also offers a choice of cost-effective EZR32 Wireless Starter Kits, providing all of the hardware and software tools developers need to evaluate and develop sub-GHz wireless applications. Hardware tools include an on-board debugger, advanced energy monitoring and integrated packet trace. Simplicity Studio, including all documentation and sample applications, is available for download at no charge at www.silabs.com/simplicity-studio.

Pricing and Availability

Samples and production quantities of the EZR32LG and EZR32WG wireless MCUs are available now in a space-saving 9 mm x 9 mm 64-pin QFN package. EZR32LG pricing begins at $2.71, and EZR32WG pricing begins at $2.98, both in 10,000-unit quantities (all prices in USD). The SLWSTK62xxA starter kits, supporting various MCU and radio configurations, are priced at $299.00 (USD MSRP). For more information about Silicon Labs' EZR32 wireless MCUs and to purchase samples and development tools, please visit www.silabs.com/EZR32.

Silicon Labs

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