Silicon Labs Unveils World's First Secure Sub-GHz SoCs With 1+ Mile Wireless Range And 10+ Year Battery Life

-- Series 2 Platform Expansion Enables Amazon Sidewalk, mioty, Wireless M-Bus and Z-Wave --

AUSTIN, Texas, Sept. 14, 2021 /PRNewswire/ -- Silicon Labs (NASDAQ: SLAB) today announces new sub-1-GHz (sub-GHz) SoCs, delivering the world's first sub-GHz wireless solutions that combine long-range RF and energy efficiency with certified Arm PSA Level 3 security to meet the global demand for high-performance, battery-powered IoT products. Expanding the company's award-winning Series 2 platform, EFR32FG23 (FG23) and EFR32ZG23 (ZG23) system-on-chip (SoC) solutions provide developers with flexible, multiprotocol sub-GHz connectivity options supporting a wide range of modulation schemes and advanced wireless technologies, including Amazon Sidewalk, mioty, Wireless M-Bus, Z-Wave and proprietary IoT networks.

"This new evolution of our Series 2 platform is answering the ever-increasing demands for highly-integrated, long range wireless connectivity to enable cities, industries and homes to operate more efficiently and sustainably," said Matt Johnson, president of Silicon Labs. "Silicon Labs' new secure, ultra-low-power sub-GHz solutions extend wireless communication beyond one-mile, thus expanding the boundaries for developers who need scalable high-performance wireless to drive the transformative potential of the IoT."

Unlocking Efficiencies with IoT

According to the U.S. Energy Information Administration, 60% of the world's energy usage comes from industrial and commercial applications, and residential energy consumption accounts for 21%.
Smart grid technology, building and home automation IoT systems can positively impact global sustainability and drastically reduce energy consumption. Silicon Labs designed the FG23 and ZG23 SoCs to enable the next generation of secure IoT products to accelerate sustainability and energy efficiency initiatives.

Low Power, Long Range and Secure

The new FG23 and ZG23 wireless SoC solutions offer an optimized combination of ultra-low transmit and receive radio power (13.2 mA TX at 10 dBm, 4.2 mA RX at 920 MHz) and best-in-class RF (+20 dBm output power and -125.3 dBm RX at 868 MHz, 2.4 kbps GFSK), making it possible for IoT end nodes to achieve 1+ mile wireless range while operating on a coin cell battery for 10+ years. These SoCs also leverage Secure Vault™, certified PSA Level 3, enabling developers to safeguard IoT products against software and hardware attacks which can compromise intellectual property, ecosystems and brand trust. FG23 and ZG23 SoCs enable developers to create IoT products that enhance the efficiency and performance of a wide range of applications including smart infrastructure, metering, environmental monitoring, connected lighting, industrial controls, electronic shelf labels (ESL), building and home automation

Additional SoC Highlights:

- Simplified single ended RF match delivers 40% lower BoM than existing solutions
- Broad frequency (110-727 MHz & 742-970 MHz) and modulation support (FSK, GFSK, OQPSK DSSS, MSK, GMSK and OOK)
- Advanced peripheral features for LCDs, push buttons and low power sensors

FG23

FG23 targets Amazon Sidewalk, industrial IoT (IIoT), smart city, building and home automation markets that often require battery-powered end nodes with extended wireless communication range capabilities. The FG23 wireless SoC solution provides a flexible antenna diversity feature to enable best-in-class wireless link budget (-111.2 dBm RX @ 920 MHz, 50 kbps GFSK). Advanced wireless, coupled with FG23's low active current (26 µA/MHz) and sleep mode (1.2 µA) make it an ideal solution for battery-powered field area network nodes, wireless sensors and connected devices in difficult to reach locations.

ZG23

ZG23 enhances Z-Wave Wireless by adding Secure Vault™ and offers the same industry-leading RF and power performance as FG23. Supporting Z-Wave Long Range and Mesh, these are the first SoCs to be optimized for both end devices and gateways and can also support all FG23 protocols. The ZG23 wireless solution targets smart home, hotel and multi-dwelling unit (MDU) markets. Ultra-compact ZG23-based SiP modules (ZGM230S), supporting Z-Wave only, will also be made available to simplify development and speed-time-to-market.

Pricing and Availability
FR32FG23 SoCs in 5 mm x 5 mm QFN40 and 6 mm x 6 mm QFN48 packages are shipping today,Sept. 14, 2021, and officially launching at the Silicon Labs Works With IoT developer conference.
FG23 development kits are also shipping today, with kit pricing starting at $39.99 (USD MSRP).
EFR32ZG23 SoCs, ZGM230S modules and accompanying kits will be available to the public in Q4 2021. For additional information, visit www.silabs.com/wireless/fg23-zg23.

About Silicon Labs
Silicon Labs (NASDAQ: SLAB) is a leader in secure, intelligent wireless technology for a more connected world. Our integrated hardware and software platform, intuitive development tools, unmatched ecosystem and robust support make us the ideal long-term partner in building advanced industrial, commercial, home and life applications. We make it easy for developers to solve complex wireless challenges throughout the product lifecycle and get to market quickly with innovative solutions that transform industries, grow economies and improve lives. Silabs.com

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