Silicon Labs Unveils BG2B, Its Lowest-Power Bluetooth LE SoC with Industry-Leading Power Efficiency, Security, and Integration

Bluetooth® 6 SoC combines Channel Sounding, Secure Vault™ High security, and integrated CAN-FD and peripherals to enable smaller, longer-lasting IoT devices with lower system cost

AUSTIN, Texas, Aug. 4, 2026 /PRNewswire/ -- Silicon Labs (NASDAQ: SLAB), the leading innovator in low-power wireless connectivity, today announced the BG2B, its next Series 2Bluetooth® Low Energy (LE) wireless SoC designed to help developers build smaller, more secure, and longer-lasting battery-powered IoT devices by providing the industry's best combination of power efficiency, security, and integrations.

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As Bluetooth LE applications become more sophisticated, developers are challenged to add capabilities such as secure ranging, location awareness, advanced security, and richer peripheral integration while preserving battery life and compact designs expected of today's wireless IoT devices. BG2B addresses these demands with Silicon Labs' lowest-power Bluetooth architecture, a complete feature set for Bluetooth Channel Sounding, Secure Vault™ High security and integrated peripherals including CAN-FD, LED drivers and dual ADCs, in a single highly integrated platform.

Designed for applications including secure ranging, asset tracking, electronic shelf labels (ESLs), smart home, industrial monitoring, and vehicle diagnostics, BG2B helps developers extend battery life while preparing for more demanding Bluetooth LE applications.

"Bluetooth LE is moving beyond basic connectivity into secure ranging, proximity awareness, and location-aware experiences, while customers still need the low power, small form factor, and cost efficiency that made Bluetooth the foundation of battery-powered IoT," said Daniel Cooley, SVP and CTO, Silicon Labs. "BG2B brings these requirements together in a single platform, combining our lowest-power Bluetooth LE architecture to date with advanced Channel Sounding, Secure Vault™ High security, and integrated peripherals that help customers build more capable, connected products with fewer external components."

A New Standard for Ultra-Low-Power Bluetooth

Battery life remains one of the biggest challenges for battery-powered IoT devices as products continue adding more sensing, intelligence, and wireless capabilities. BG2B features a dual-output DC-DC power architecture and multi-core design that significantly improves efficiency across active, receive, and sleep modes.

BG2B is the lowest-power Bluetooth LE device in Silicon Labs' portfolio, delivering 14%-15% lower MCU active current, lower Bluetooth receive current, and 1.1 µA EM2 sleep current with RAM retention as compared to the Silicon Labs' previous lowest power Bluetooth LE SoC, enabling longer battery life for sleepy products such as wireless sensors, asset tags, smart locks, remotes, wearables, and electronic shelf labels.

Enhanced Channel Sounding with Expanded Peripherals

For developers building location-aware products today, BG2B supports advanced Bluetooth Channel Sounding capabilities including Mode 3, Normalized Attack Detector Metric (NADM), and Inline Phase Correction Term (Inline PCT). Designed to meet Apple and Google Bluetooth Channel Sounding specifications, BG2B helps developers build interoperable products across the industry's leading mobile ecosystems, supported by Silicon Labs' complete Channel Sounding development solution, including a royalty-free ranging library, software, tools, and engineering support.

Building on previous Silicon Labs Channel Sounding solutions, BG2B delivers even lower energy per ranging event through shorter Channel Sounding step timings, lower active current, and lower Bluetooth LE receive current.

In addition, BG2B integrates a broad set of peripherals that simplify system design while reducing BOM cost and PCB area.

The SoC combines Bluetooth LE with integrated CAN-FD, enabling wireless diagnostics and monitoring for commercial vehicles, fleet management, industrial equipment, and maintenance applications without requiring a separate Bluetooth bridge device.

Integrated LED boost and four-channel LED sink capabilities eliminate external LED driver circuitry, making BG2B well suited for electronic shelf labels, smart retail devices, and battery-powered products requiring RGBW LED for status indication.

Additional integrated capabilities include dual 12-bit ADCs for simultaneous analog sampling, Variable Resistive Load (VRL) for more accurate battery health estimation, to go along with expanded memory and a broad set of communication peripherals helping developers build more capable IoT devices while reducing external components.

Built for Tomorrow's Security Requirements

As connected devices face increasingly stringent cybersecurity requirements, BG2B incorporates Silicon Labs' Secure Vault™ technology to protect device identity, firmware, cryptographic keys, and sensitive data.

Designed to support PSA Level 3 compliance, BG2B helps manufacturers prepare for evolving security requirements such as the European Union Cyber Resilience Act. Combined with Silicon Labs' Custom Part Manufacturing Service (CPMS), developers can securely provision devices with unique identities, certificates, and cryptographic credentials during manufacturing.

Availability

BG2B SoCs are currently available through an early customer engagement program. Initial production hardware, including modules, are planned for 2027.

For more information about BG2B, read the post on theSilicon Labs blog.

About Silicon Labs

Silicon Labs (NASDAQ: SLAB) is the leading innovator in low-power connectivity, building embedded technology that connects devices and improves lives. Merging cutting-edge technology into the world's most highly integrated SoCs, Silicon Labs provides device makers with the solutions, support, and ecosystems needed to create advanced edge connectivity applications. Headquartered in Austin, Texas, Silicon Labs has operations in over 16 countries and is the trusted partner for innovative solutions in smart home, industrial IoT, and smart cities markets. Learn more at https://www.silabs.com.

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