Silicon Labs Newsroom

New Dual-Band SoC Extends Connectivity with Amazon Sidewalk, Wi-SUN, and Proprietary Long-Range Wireless Protocols

First Built-In AI/ML Accelerator in Sub-Ghz SoC Pushes Intelligence to Edge

AUSTIN, Texas, June 8, 2023 /PRNewswire/ -- Silicon Labs (NASDAQ: SLAB), a leader in secure, intelligent wireless technology for a more connected world, today revealed the new dual-band FG28 SoC, designed for long-range networks and protocols like Amazon Sidewalk, Wi-SUN, and other proprietary protocols. A dual-band SoC, the FG28 includes radios for sub-Gigahertz (Ghz) and 2.4 Ghz Bluetooth LE, as well as a built-in AI/ML accelerator for machine learning inference, as well as Silicon Labs' industry-leading Secure Vault™ technology.

"The FG28 SoC addresses several key needs for our customers when it comes to developing and deploying low-power wide area networks," said Daniel Cooley, CTO of Silicon Labs. "By including Bluetooth, it gives users an easy way to provision and deploy new devices onto the network, while the sub-Ghz band is designed to support device communications over one mile, allowing for new edge applications in areas like smart agriculture, smart cities, and neighborhood networks like Amazon Sidewalk."

Dual-Band Capabilities Allow Support for Multiple Protocols in Single Design
As connectivity and computing power is being pushed further to the edge, new emerging applications require solutions that can provide a "Swiss army knife" of connectivity options. By providing sub-Ghz connectivity using networks like Wi-SUN, the FG28 can serve as the battery-operated end node in smart cities, for example, as a tracker on dumpsters to help locate them and check the last time they were emptied, or in irrigation systems across multi-acre commercial farming operations, or as livestock trackers and health monitors on sprawling ranches. Bluetooth connectivity not only allows for devices to easily be deployed on the network, but also allows for operators to connect to the device locally for diagnostics, data downloads, and more. The FG28 SoC has several additional features that can open new applications for sub-Ghz devices:

- **The industry's first integrated AI/ML hardware accelerator in a sub-Ghz SoC**, allowing for machine learning inference at the edge to enable predictive maintenance warnings, monitor soil conditions for key conditions like moisture and pH levels, and more.
- **1024 kB of flash storage and 256 kB of RAM**, to meet the memory needs of a wide range of protocols and technology stacks.
- **Industry-leading Secure Vault Mid and High support** to better build trust in the device and allow designers to choose the level of security they need for their applications.
- **Energy-efficient radio core** with low active and sleep currents with fast wakeup times ideal for battery-operated end nodes.
- **Up to 49 General Purpose Input/Output (GPIO) pins** for robust peripheral connectivity.

Support for Amazon Sidewalk Pushes Connectivity Beyond the Walls of the Smart Home
One of the more exciting developments in the IoT this past year was the opening of Amazon Sidewalk for developers. Amazon Sidewalk is a secure, ubiquitous, always-on community network built by the community, for the community. Using existing smart home devices like select cameras and speakers as gateways, Amazon Sidewalk offers a secure, reliable, and versatile connection that supports long-range use cases.

Developers and designers interested in developing for Amazon Sidewalk using Silicon Labs can watch the on-demand replay of the June 8 Tech Talk, "Designing Long Range Devices with Amazon Sidewalk."

Get Started Now
The FG28 is currently sampling now with general availability planned before the end of 3Q 2023. In addition, the FG28 will also be available in derivatives for optimized for Amazon Sidewalk and Z-Wave Long-Range, and as a stand alone MCU. Developers and designers should contact their Silicon Labs sales representative to learn more.

To stay ahead of the latest IoT trends and keep up with the latest tools, protocols, and more, developers and designers can also register for the Silicon Labs Wireless Training Tech Talks. With tracks focused on Wi-Fi, Bluetooth, Matter, and LPWAN, the sessions are free to watch both live and on-demand.

SOURCE Silicon Labs

For further information: CONTACT Sam Ponedal, sam.ponedal@silabs.com

Additional assets available online: Images (1)

https://news.silabs.com/2023-06-08-New-Dual-Band-SoC-Extends-Connectivity-with-Amazon-Sidewalk,-Wi-SUN,-and-Proprietary-Long-Range-Wireless-Protocols