Smart Home Reference Designs from Silicon Labs Accelerate Development of IoT Connected Devices

Pre-Certified Occupancy Sensor and Smart Outlet Solutions Leverage Silicon Labs' Multiprotocol Wireless Gecko Technology and ZigBee® Mesh Stack

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AUSTIN, Texas--(BUSINESS WIRE)--Silicon Labs (NASDAQ: SLAB) has launched two new wireless occupancy sensor and smart outlet reference designs for the home automation market, providing IoT connected device solutions that help make our homes safer, more convenient and energy efficient. The FCC and UL pre-certified reference designs include all of the hardware, firmware and software tools required to create feature-rich, future-proofed connected home products based on Silicon Labs' robust ZigBee® "Golden Unit" Home Automation (HA 1.2) software stack and multiprotocol Wireless Gecko system-on-chip (SoC) portfolio.

Silicon Labs' occupancy sensor and smart outlet reference designs help home automation device makers and developers accelerate time to market and reduce system cost and complexity with best-in-class ZigBee mesh networking technology. By leveraging these new, turnkey reference designs, developers can quickly advance from design concept to final product with pre-certified wireless technology, open-source hardware design files and industry-standard software stacks while also taking advantage of proven test setups and manufacturing methods.

"Successful home and building automation products must be standards-based, cost-effective, easy to deploy by end users, and designed to work in real-world environments and solve specific problems with minimal design complexity," said Daniel Cooley, Senior Vice President and General Manager of Silicon Labs' IoT products. "We're helping connected home developers achieve these market-critical objectives with pre-certified reference designs based on our breakthrough multiprotocol wireless and sensing technologies."

The occupancy sensor reference design is a compact, pre-certified ZigBee HA 1.2 solution featuring a wirelessly connected passive infrared sensor along with ambient light and temperature/relative humidity sensors from Silicon Labs. Occupancy sensors are key components for residential and commercial security systems, as well as other home/building automation systems that use occupancy detection to automate tasks such as turning lights off and on. The occupancy sensor's small, battery-powered design (the size of two AAA batteries) is so energy efficient it can operate for up to five years before battery replacement. The sensor's detection range extends up to 12 meters (nearly 40 feet) with a 90 degree viewing window.

The smart outlet reference design is a complete, pre-certified solution for a wirelessly controlled outlet plug that can be used to power and control a wide range of home and building automation products. Powered by an ac main-voltage line, the smart outlet communicates wirelessly to ZigBee mesh networks. The smart outlet design includes the following features:

- Built-in diagnostics and metering with a user-friendly web interface for wireless control and current/voltage monitoring, easily accessible from mobile devices
- A wide ac voltage range (110-240 V) for global use along with a robust 15 A load current
- Integrated high-accuracy sensors: ambient light and temperature/humidity
- Compact design: 6.5 cm x 6.5 cm x 4.0 cm

Both reference designs include Silicon Labs' EFR32MG Mighty Gecko SoC, providing industry-leading multiprotocol wireless connectivity for home and building automation. The Mighty Gecko SoC's energy-efficient architecture combines a high-performance ARM® Cortex®-M4 processor with a 2.4 GHz transceiver featuring an integrated power amplifier and balun and capable of +19.5 dBm output power for exceptional low-power wireless range.

Mighty Gecko SoCs run Silicon Labs' robust Golden Unit ZigBee PRO-certified software stack and ZigBee HA 1.2-certified applications, enabling connected devices to reliably join, interoperate and leave a mesh network, as well as scale from a few to hundreds of nodes on the same network without costly rewiring of existing systems.

Since both reference designs use Silicon Labs' multiprotocol Wireless Gecko technology, developers can future-proof their home automation designs to support ZigBee today and IP-based Thread networks tomorrow. The Thread-ready reference designs easily accommodate over-the-air ZigBee updates as well as future-proofing upgrades to Silicon Labs' Thread stack.

The reference designs require Silicon Labs' ZigBee gateway or an HA 1.2-compliant gateway. System configuration, debugging, low-energy optimization and software application modifications are supported by Silicon Labs' Simplicity Studio development tools, which developers can download free of charge.

Pricing and Availability

Silicon Labs' occupancy sensor and smart outlet reference designs, including complete schematics, layout and bill of materials (BOM), are available today. The RD-0078-0201 occupancy sensor reference design is priced at $49, and the RD-0051-0201 smart outlet reference design is priced at $119. (All prices USD MSRP.) For more information and to order the reference designs, please visit www.silabs.com/connectedhome.

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Silicon Labs

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