# Silicon Labs Expands Ember ZigBee Portfolio for the Internet of Things

### New ARM®-Based EM358x SoC Family Provides Larger Memory Options for Advanced Smart Energy and Home Automation Applications

*“Ember ZigBee SoCs provide a key enabling wireless technology for the Internet of Things with numerous applications in smart energy, home automation, connected lighting and security”*

AUSTIN, Texas--(BUSINESS WIRE)--Silicon Labs (NASDAQ: SLAB), a leader in high-performance, analog-intensive, mixed-signal ICs, today announced a major expansion to its industry-leading ARM®-based Ember® ZigBee® system-on-chip (SoC) portfolio delivering unmatched wireless performance, energy efficiency and reliability for the Internet of Things (IoT). Silicon Labs’ new EM358x SoC family provides additional flash and RAM memory options to meet the needs of larger, more complex smart energy and home automation designs. The Ember ZigBee family also offers USB connectivity and a local storage bootloader to help developers reduce bill of material (BOM) cost and system complexity.

The EM358x SoC family provides an ideal mesh networking platform for feature-rich, next-generation ZigBee applications for the IoT, which today often incorporate multiple processors. The EM358x family includes six SoC products that combine a 2.4 GHz IEEE 802.15.4 RF transceiver, an ARM Cortex®-M3 processor, 256 kB or 512 kB of flash memory, and 32 kB or 64 kB of RAM with powerful hardware-supported network-level debugging features. The additional memory minimizes the need for a separate system processor, enabling developers to collapse some or all of their multi-processor designs into a single ZigBee SoC to reduce BOM cost and the size of the final product. By offering larger flash and RAM memory options, the EM358x SoC family enables developers to future-proof smart energy applications such as smart meters, which often require more code space to store new firmware and additional RAM enabling product lifespans of up to 20 years.

The EM358x SoC family offers an on-chip USB peripheral to simplify system programming and eliminate the need for an external USB controller, further reducing system cost. Many ZigBee-enabled devices require a USB connection to provide an easy-to-use serial application interface or a service port to the device. The USB port can also be used to download new firmware images onto the device, reducing maintenance cost.

The EM358x SoC family features a local storage bootloader that eases application development and enables the embedded software to be field-upgraded after the Ember ZigBee-enabled product leaves the factory. The new bootloader capability eliminates the need for external flash memory to support over-the-air upgrade images by using the SoC’s on-chip flash to store firmware images for bootloading, reducing the component count, cost and size of the product. Products such as smart meters or security sensors based on EM358x SoCs can be easily field-upgraded as new platform features are deployed, avoiding costly truck rolls.

The EM358x SoCs deliver outstanding wireless performance with a configurable total link budget up to 110 dB. The devices’ 8 dBm transmit power eliminates the need for an external power amplifier (PA) in many applications, especially in Europe and Asia, where regulatory limits do not allow much higher transmit power. Because radio systems must operate in the presence of many types of interference, the EM358x SoCs are designed to deliver exceptional immunity and reliable co-existence with other 2.4 GHz devices.

“Ember ZigBee SoCs provide a key enabling wireless technology for the Internet of Things with numerous applications in smart energy, home automation, connected lighting and security,” said Geir Førre, senior vice president and general manager of Silicon Labs’ microcontroller and wireless products. “By offering more memory and connectivity options, our EM358x SoCs make it easier and more cost-effective to deploy ZigBee in a wide range of home automation and smart energy applications.”

The EM358x SoCs provide pin- and software-compatible drop-in replacements for Silicon Labs’ widely used EM351 and EM357 ZigBee SoCs. Compatible cross-platform software libraries and tools allow easy migration from EM351/7 to the EM358x SoC family. The Ember ZigBee mesh networking platform also complements Silicon Labs’ portfolio of EZRadio® and EZRadioPRO® sub-GHz transceivers and Si10xx wireless MCUs, which provide high-performance, ultra-low-power solutions for point-to-point and star networking applications.

EM358x SoCs are tightly integrated with the field-proven EmberZNet PRO protocol stack, which sets the bar for

ZigBee PRO stack reliability. Deployed in more wireless mesh networking products than any other ZigBee PRO stack, EmberZNet PRO software provides enhancements for robustness, scalability and ease-of-use even in larger networks and more challenging environments. The software stack is complemented by the proven Ember Desktop development environment, which reduces design time by providing sophisticated visualization and debugging tools and application templates for the ZigBee Smart Energy, ZigBee Home Automation and ZigBee Light Link profiles.

**Pricing and Availability**

Samples of the EM358x Ember ZigBee SoCs are available now in a 48-pin 7 mm x 7 mm package, and production quantities are planned for Q2 2014. For product pricing, please contact your local Silicon Labs sales representative or an authorized distributor. For additional product information and samples, visit www.silabs.com/zigbee. For more details about ZigBee technology and the ZigBee Alliance, visit www.ZigBee.org.

**Silicon Labs**

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