

Silicon Labs Introduces Highest Performance, Lowest Power Sub-GHz Wireless ICs

Next-Generation Si446x EZRadioPRO Transceivers Maximize Range, Extend Battery Life for Broad Array of Wireless Applications

“Silicon Labs’ Si446x family takes sub-GHz wireless technology to a new level of narrowband performance and power efficiency”

AUSTIN, Texas--([BUSINESS WIRE](#))--[Silicon Laboratories Inc.](#) (NASDAQ: SLAB), a leader in high-performance, analog-intensive, mixed-signal ICs, today introduced the industry’s highest performance, lowest power sub-GHz transceivers designed to maximize range and battery life for wireless systems. The new Si446x EZRadioPRO® transceiver family’s combination of superior RF performance and ultra-low power consumption makes it an ideal solution for a broad range of wireless applications including smart meters, security and home automation systems, industrial control systems, sensor networks and electronic shelf labels.

The new EZRadioPRO Si446x transceiver family offers industry-leading RF performance resulting in extended wireless range and compliance with the industry’s most stringent narrowband regulatory standards while delivering a superior cost-performance solution for designers. The transceivers provide extended range for wireless applications by leveraging best-in-class performance specifications in transmit output power (+20 dBm), sensitivity (-126 dBm), link budget (146 dB) and RX adjacent channel selectivity (58 dB). The Si446x transceivers also feature a patented antenna diversity algorithm developed to counteract the effects of multipath and fading, effectively doubling the wireless range in a multipath/fading environment.

Designed with continuous frequency coverage from 119 to 1050 MHz, the new Si446x transceivers support a number of advanced modulation techniques including 4GFSK, (G) FSK, GMSK and OOK with support for maximum data rates up to 1 Mbps (4GFSK). The transceivers comply with the 802.15.4 d/g specification and the Wireless M-Bus protocol for smart utility networks. The Si446x transceivers also feature exceptional phase noise, selectivity and blocking specifications, making them an optimal enabling solution for emerging narrowband applications requiring compliance with FCC Part 90 Mask D, ARIB STD-T96/T67 and ETSI EN 300. The Si446x products are the first transceivers to provide extended frequency coverage for new and emerging narrowband applications such as 151 MHz multi-use radio service (MURS band) in the United States, as well as the alternative 138 MHz and 169 MHz bands for the European market.

The Si446x family’s industry-leading power efficiency maximizes battery life for power-sensitive wireless applications, resulting in fewer battery replacements and/or reduced battery size with the same lifetime cost savings. The Si446x transceivers achieve a 50 nA sleep/standby current with register retention, consuming 75 percent less current in sleep mode than competing solutions. The Si446x family also offers unmatched levels of low power consumption in TX and RX modes. Transmit current specifications as low as 17 mA at +10 dBm can be achieved for coin cell battery applications and 85 mA at +20 dBm for higher performance applications. The transceivers feature ultra-low receive current specifications in a high-performance receive mode (13 mA) and in a low-current receive mode (10 mA), outperforming most competing devices in low-power operation.

“Silicon Labs’ Si446x family takes sub-GHz wireless technology to a new level of narrowband performance and power efficiency,” said Mark Thompson, vice president and general manager of Silicon Labs’ Embedded Mixed-Signal products. “We’ve set a new milestone in ultra-low-power operation for wireless transceivers, achieving 50 nA in sleep mode for the first time, making the Si446x transceivers an ideal solution for battery-powered and green energy applications.”

Rich Wireless Development Environment

Silicon Labs’ comprehensive development environment for the Si446x family includes a wireless development kit based on the company’s modular [Unified Development Platform](#) (UDP). Featuring two base boards and two RF test cards, the UDP provides a standalone evaluation and software development platform for EZRadioPRO devices. Silicon Labs’ [Wireless Development Suite](#) (WDS) software enables developers to quickly and easily create and deploy efficient, robust and cost-effective wireless applications with little or no specific RF design and measurement experience. Silicon Labs also offers [EZMac](#) embedded media access control software to help developers create cost-effective mesh networks with less than 128 nodes.

Silicon Labs has developed strategic relationships with key suppliers to the global smart meter market. Silicon Labs and many of its [wireless development partners](#) have developed joint reference designs and test cards for smart meters, enabling designers to support applications requiring output power of up to +30 dBm while reducing development costs and speeding time to market.

Pricing and Availability

Samples of the Si446x EZRadioPRO transceivers are available now. Pricing for the Si446x family starts at \$1.57 (USD) in 10,000-unit quantities. The Si4463-915-DK and Si4461-868-DK evaluation kits are available for \$799 (USD MSRP). For additional product information and to purchase samples and development tools, please visit www.silabs.com/pr/EZRadioPRO.

Silicon Laboratories Inc.

Silicon Laboratories is an industry leader in the innovation of high-performance, analog-intensive, mixed-signal ICs. Developed by a world-class engineering team with unsurpassed expertise in mixed-signal design, Silicon Labs' diverse portfolio of patented semiconductor solutions offers customers significant advantages in performance, size and power consumption. For more information about Silicon Labs, please visit www.silabs.com.

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