

All-In-One, IEEE 802.15.4/ZigBee SoC Solution

Chipcon unveils the CC2430 as part of its low-power, low-data-rate RF IC offerings. This device offers the wireless market a leading-edge System-on-Chip (SoC) solution, combining the unique features of the CC2420 with the technology of the 8051 MCU, 128 kB of FLASH memory, 8 kB of RAM, plus other powerful features.



Chipcon reveals launch plans for the CC2430, the industry's first all-in-one IEEE 802.15.4 and ZigBee System-On-Chip solution.

All-In-One Solution

The CC2430 is targeted for use in a wide range of applications, including building automation, industrial monitoring and control systems, and wireless sensor networks. This new device will enable OEMs to seamlessly develop complex wireless network products using the CC2430 as the only active device in the system, thus reducing both time to market and production cost to the minimum. Being able to offer an all-in-one solution creates a significant design edge compared in the current field of solutions. The CC2430 can also be used as a general 2.4 GHz direct sequence spread spectrum device for a number of proprietary solutions not using IEEE 802.15.4 or ZigBee.

ZigBee is a wireless network technology providing low node cost and long battery lifetime. and has the potential to become widely successful within a huge number of wireless applications.

High Performance, Low Power

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The solid radio performance of the CC2420, such as very low power consumption, high sensitivity and high immunity against noise and interferers is maintained in the CC2430. The MCU used is a powerful 8051 8-bit single-cycle microcontroller core (which has typically 8 times the performance of a standard 8051). It supports up to 128 kB of FLASH memory and 8 kB of RAM. This configuration is considered that shall be sufficient for virtually all kinds of ZigBee or ZigBee-like wireless network nodes, including both coordinators, routers and end devices.

Full-Featured System-On- Chip

The devices also offer a number of other features that are typically required in a complex wireless network technology like ADC, multiple timers, AES-128 co-processor, USARTs, watchdog timer, sleep-mode timer with 32 kHz crystal oscillator, power-on-reset, brown-out-detection, and 21 programmable I/O pins. During receive and transmit, the current consumption of this all-in-one device is as low as 27 mA, which is as low or lower than of competing chipset solutions. Furthermore, due to the CC2430's sleep modes, it is an ideal solution for applications that require very long battery lifetimes.

The CC2430 is based on Chipcon's SmartRF⁰³ technology in 0.18 μ m CMOS. It will be available in a 7 \times 7 mm QLP 48 package. Development kits and samples are targeted to be available in Q2, 2005. In million piece quantities, the pricing for the device is expected USD \$4.00 or less. The long-term target for the BOM for a ZigBee solution is expected to be USD \$3.00.

Chipcon

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