ZigBee Smart Energy 2.0 SoC Integrates ARM Cortex-M3, Memory

Texas Instruments Incorporated announced a demonstration of a radio frequency (RF) system-on-chip (SoC) that integrates an IEEE 802.15.4 (2.4 GHz) radio, an ARM Cortex-M3 processor, dedicated Smart Energy (SE) 2.0 hardware security acceleration, and enough flash and RAM to run the ZigBee IP stack and SE2.0 profile. A true single-chip solution, the CC2538 ZigBee SE2.0 SoC removes the need for an additional microprocessor and will enable simplified, cost-effective development of SE2.0 compliant Smart Grid and remote sensor connectivity applications such as electricity, gas or water smart meters and in-home displays.

The CC2538 will support TI's Z-Stack ZigBee protocol stack, which features full SE1.1 functionality. The SE2.0 profile is architected to interface with multiple TI PHYs, allowing the design of SE2.0 products that can run across ZigBee, Wi-Fi or power line networks including TI's ZigBee processors (CC253x) and WiLink 6.0 solutions (WL127x). As the SE2.0 market expands this will enable customers to use ZigBee or Wi-Fi to connect to existing and new infrastructure or use Wi-Fi as a bridge for ZigBee to connect to the Internet.

Also being demonstrated at DistribuTECH 2012 is TI's high performance CC1200 RF transceiver. The CC1200, an evolution of the CC1120 sub-1 GHz RF performance line, supports the full bandwidth of the 802.15.4g standard for wireless smart utility networks in the sub-1 GHz bands. The CC1120, CC1200 and CC2538 will be demonstrated at DistribuTECH 2012 in the TI booth #4735, January 24-26, 2012 in the Henry B. Gonzales Convention Center in San Antonio, Texas. For more information on the CC2538 or CC1200, contact TI on smartenergy@list.ti.com.

"We are proud to deliver a complete SE2.0 platform for early adopters to quickly develop SE2.0 compliant devices without the added cost of a microcontroller or external memory," said Oyvind Birkenes, general manager, low-power RF, TI. "Our team has been instrumental in the development and technical editing of the SE2.0 IP stack and profile within the ZigBee Alliance and we are excited to see the market evolve with new products based on TI's CC2538 SE2.0 SoC and CC1200 for sub-1 GHz solutions."

Availability and price

A CC2538 development platform is sampling to early adopters through the low power RF developer network now. Volume production and sale through authorized distributors is expected in 4Q 2012. The CC1200 will start sampling in late 1Q 2012 with volume production expected in 4Q 2012.

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