NXP Unveils Industry's First Multi-Protocol Wireless Microcontroller Solution

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Secure and connected single-chip Kinetis MCU with increased memory, dedicated cryptography and low-power features make today's IoT solutions possible

SANTA CLARA, Calif., Oct. 18, 2016 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ:NXPI), announced today the availability of the industry's first true single-chip multi-protocol wireless MCU with comprehensive enablement – the Kinetis KW41Z MCU family. While supporting concurrent operation of Bluetooth® low energy (BLE) v4.2 and IEEE® 802.15.4 based Thread protocols, this MCU family comes packed with enough memory (up to 512 KB Flash and 128 KB SRAM) to also run full applications. Powered by the ARM® Cortex®-M0+ core, the Kinetis KW41Z MCU family offers certified BLE and pre-certified Thread stacks, and is designed to simplify development challenges in creating a seamless connected network of smart devices. The multi-protocol capabilities of Kinetis KW41Z MCU will be showcased at ARM TechCon in Santa Clara, CA, on October 25-27 in NXP booth #500.

With the growing requirement for IoT devices to reliably communicate with one another, Thread offers a robust IP based mesh networking technology for a dedicated secure, scalable and reliable network. At the same time, there is also a growing demand for these connected devices to include BLE protocols, so that they can be controlled and monitored directly using a smart device - such as a smart phone or a tablet – and participate in a Thread network for indirect control and monitoring in the home and through the cloud. In addition, BLE provides an easy way to securely commission an IoT device into the Thread network. The Kinetis KW41Z MCU with multi-protocol capability is a cost-effective solution that addresses these requirements and also reduces the design cost and complexity, while achieving an overall smaller form factor.

"With the Kinetis KW41Z MCU from NXP and its multi-protocol capabilities, we are able to establish a mesh network consisting of a large number of devices using Thread, and point-to-point communication using BLE. This gives our customers the ultimate in flexibility and ease-of-use in controlling their aquarium LED lighting and pumps," said Chris Clough, President, C2 Development, Inc.

"Delivering easy-to-use seamless connectivity is critical to the IoT evolution," said Emmanuel Sambuis, Vice President, MCU and Connectivity products at NXP. "By being the first in the industry to offer a truly complete solution for creating market-ready Thread and BLE based products, we're enabling developers to shape and contribute to that evolution."

Ecosystem partners and developers, such as Rigado, are leveraging the Kinetis KW41Z MCU to offer regulatory certified and ready-to-implement modules, which come with hardware and firmware tools, engineering design support, and customization services that significantly speed development and time-to-market.

"Thanks to the unique combination of Thread and BLE on the Kinetis KW41Z MCU, our new R41Z module offers IoT developers a future-proof solution that reduces time-to-market while ensuring the foundation of their connected product is secure and scalable," said Kevin Tate, Rigado's Chief Marketing Officer.

Kinetis KW41Z Wireless MCU Family– New feature highlights

- Complete software enablement package, including:
  - Certified BLE v4.2, BLE mesh, Thread, IPv6 over BLE, Generic FSK, 802.15.4 MAC and SMAC software stacks
  - Software security protocols
  - User-friendly development tools including Kinetis SDK 2.0, Kinetis Design Studio and IAR IDEs
  - Experienced ecosystem providing a multitude of options for development kits, wireless modules, gateways, software, tools and services
- Single-chip solution enabling concurrent Thread and BLE v4.2 wireless connectivity ideal for all components of an IoT solution – end nodes, routers and gateways
  - Multi-protocol radio with on-chip balun for simpler RF designs, smaller form factor and lower BOM costs
  - Optimized low-power MCU and radio for extended battery life
  - Expanded memory configuration with up to 512 KB Flash and 128 KB SRAM to support multiple connectivity stacks and application code in a single chip
  - AES-128 accelerator and true random number generator for data protection
  - Pin compatible options for BLE only (Kinetis KW31Z MCU) and 802.15.4 only (Kinetis KW21Z MCU) to address various use cases with the same platform, providing designers re-use capabilities
- Comprehensive hardware development kit which includes a set of RF certified Freedom boards (FRDM-KW41Z) with the Kinetis KW41Z MCU, printed antenna and connector for an external antenna or test equipment, I/O access and several sensors to provide quick prototyping and development of networked IoT devices, and an RF certified USB dongle (USB-KW41Z) for use as a protocol sniffer

- Small form-factor WLCSP package for space-constrained applications and AEC-Q100 qualified versions to address emerging interest for BLE in automotive are in development now

Pricing and Availability
The Kinetis KW41Z, KW31Z and KW21Z wireless MCUs as well as tools, including the Freedom development platform (FRDM-KW41Z) and a USB dongle (USB-KW41Z) for sniffer and other applications, are now available. For pricing or additional information, please contact a local NXP sales office.

For more information about NXP's wireless MCU portfolio, please visit: www.nxp.com/Kinetis/Wseries.

About NXP
NXP Semiconductors N.V. (NASDAQ:NXPI) enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 44,000 employees in more than 35 countries and posted revenue of $6.1 billion in 2015. Find out more at www.nxp.com.

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