



NXP Releases Wireless Microcontrollers for Thread and Zigbee with Built-in NFC

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NXP Semiconductors today announced it has released the new JN5189 and JN5188 IEEE 802.15.4 wireless microcontrollers (MCUs) that deliver ultra-low power connected intelligence for Zigbee 3.0 and Thread applications. As the latest members of NXP's JN series of devices, the JN5189 and JN5188 are NXP's first to provide an integrated NFC NTAG while supporting a wide operating temperature range (-40 °C to +125 °C). They also include MCU peripherals making them ideal for smart home, building automation, sensor network, smart lighting and numerous other battery-powered applications.

The JN5188 and JN5189 devices are powered by an Arm® Cortex®-M4 running at 48MHz and include up to 640KB of onboard flash and 152KB SRAM, providing storage space and flexibility for complex applications and software over-the-air (OTA) updates. The optional NFC NTAG provides standardized out-of-band communications to dramatically simplify the pairing process. Users tap a JN5189T/JN5188T-based Internet-of-Things (IoT) device to an NFC reader for quick connection to a Zigbee and/or Thread network. The integrated NFC NTAG also allows for powerless access to devices for system diagnostics and device commissioning.

Additionally, NXP provides pin-to-pin compatible solutions for Bluetooth® Low Energy and multiprotocol radio frequency devices. These new JN wireless MCUs come with complete enablement for diverse IoT applications delivering connected intelligence while delivering fast time-to-market and development time.

Robust features of the JN5189/88 MCUs:

- Low-power: Innovative 4.3mA Rx, 7.4mA @ +0dBm low-power solution with numerous low-power modes
- Standardized connectivity: 802.15.4 System-on-a-Chip (SoC) with Zigbee 3.0 and Thread 1.1 certification
- MCU intelligence: Rich set of MCU capabilities, including a digital MIC interface with wake up on audio event and Quad SPI NOR flash memory controller for high density data storage or code execution
- Advanced integration: Robust peripherals including NFC NTAG reduces system board footprint and cost of manufacturing with digital and analog integration.
- Robust RF: Integrated power amplifiers with exceptionally high transmit power (up to +11 dBm) for long distance transmission.
- Secure connections: Onboard hardware AES Engine (AES128, AES256) for data encryption protected by hardware keys
- Broad portfolio: NXP also offers pin-to-pin compatible solutions for Bluetooth LE and Multiprotocol RF devices.

NXP offers comprehensive enablement to speed time-to-market

NXP's MCUXpresso software development kit (SDK) for the JN portfolio is compatible with the latest toolchains from IAR and NXP's MCUXpresso IDE. The full MCUXpresso suite of software and tools provides a seamless software experience across all NXP devices as well as a fast path to add Zigbee 3.0 and Thread capabilities to an existing design on other NXP devices. The NXP Internet-of-Things (IoT) Toolbox smart device application is available, along with the NXP connectivity tool and test Tool – both are designed to help developers evaluate RF performance and test more efficiently.

Product availability and support

The JN5189 and JN5188 wireless microcontrollers are available now from NXP and its distribution partners. Learn more at www.nxp.com/JN5189.

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