

# NXP unveils UCODE I<sup>2</sup>C RFID chip

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NXP Semiconductors today unveiled its groundbreaking UCODE I<sup>2</sup>C chip, which features an integrated I<sup>2</sup>C interface and a large 3,328-bit user memory. The UCODE I<sup>2</sup>C IC brings the power of Gen2 UHF to embedded systems, enabling bidirectional communication between a wireless reader and a microprocessor via an I<sup>2</sup>C bus. Using UCODE I<sup>2</sup>C, electronic devices can be configured and customized remotely, enabling wireless data exchange and product provisioning even while the device is powered down. NXP will showcase UCODE I<sup>2</sup>C at RFID Journal LIVE! next week in Orlando, Florida.

“The UCODE I<sup>2</sup>C chip brings together our unparalleled expertise in both RFID and I<sup>2</sup>C. NXP invented the I<sup>2</sup>C bus over 30 years ago and is now the world’s No. 1 supplier of I<sup>2</sup>C solutions, as well as the No. 1 supplier of RFID solutions,” said Chris Feige, general manager, tagging and

authentication product line, [NXP Semiconductors](#). “With UCODE I<sup>2</sup>C, we’re making it possible for manufacturers and retailers to offer a seamless customer experience when it comes to configuring, updating and servicing electronic devices – wirelessly and remotely – even when the device is powered down. The pervasiveness of the I<sup>2</sup>C bus across so many different types of peripherals also means that the UCODE I<sup>2</sup>C IC has the potential to enable and transform a whole new world of multi-applications.”

Manufacturers, distributors and retailers of consumer electronic devices such as smartphones, tablets, music players and game systems can take advantage of UCODE I<sup>2</sup>C functionality in a number of different ways. As an anti-theft measure, a pallet of [electronic devices](#) moving through supply chain can remain disabled until they have been provisioned remotely through the I<sup>2</sup>C bus, and each device can be tracked through a unique tag ID (TID). When a consumer purchases an electronic device, the UCODE I<sup>2</sup>C chip enables the retailer to pre-configure and customize it without opening the box, pre-loading customer account information and eliminating the headache that customers typically face when setting up a new device. In addition, UCODE I<sup>2</sup>C makes it straightforward for manufacturers or retailers to remotely deliver minor upgrades or enable optional features purchased by the customer. In the event of any problems, UCODE I<sup>2</sup>C makes it possible to quickly identify the serial number as well as the error logs internal to the device without opening it, resulting in a significant reduction in the time it takes to resolve issues and repair the device as needed.

The UCODE I<sup>2</sup>C IC features a high [memory](#) capacity – 3,328 bits of EEPROM memory – which can be used to upload updates to the embedded [microprocessor](#) upon power up. The high-performance passive UHF interface includes two independent front-ends, each of which can be enabled or disabled independently, as well as an RF or I<sup>2</sup>C interface which can also be disabled independently.

Other target applications include RFID data loggers and sensors for products such as perishable foods and pharmaceuticals. By passing sensor information through the I<sup>2</sup>C bus, the UCODE I<sup>2</sup>C IC can track, monitor and record information such as temperature, humidity, pressure and shock as the products move through the supply chain. UCODE I<sup>2</sup>C could be used in other wireless sensor applications such as “smart shelves,” by making it easy to monitor and manage electronic shelf displays by updating pricing and discounts dynamically through the I<sup>2</sup>C interface.

Provided by NXP

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