TI Embraces Prox Card Standard

Texas Instrument's ISO 14443 payment platform promises faster data transfer rates and more security.

March 6, 2003 - If there's one company that knows the value of contactless RFID payment systems, it's Texas Instruments RFid Systems. The unit of Dallas-based Texas Instruments makes the transponders in Exxon Mobile's Speedpass, arguably the most successful RFID payment system in the world.

Speedpass is based on older, proprietary technology. TI is now preparing for broader acceptance of RFID payments systems by developing tags and readers based on ISO 14443 Type B, an international standard for proximity cards operating at 13.56-MHz.
This week, TI-RFid unveiled a Multi-Function Reader Module, which reads ISO 14443 and ISO 15693 standards-compliant RFID transponders used for contactless payment applications. It also supports low-frequency Speedpass technology. TI-RFid says it is shipping samples of the new reader module to key customers, and samples of ISO 14443-compliant microchips will be available early in the second quarter.

One key reason for adopting the ISO 14443 standard is it provides increased security. Because the standard provides for faster data transmission, more information can be stored on the microchip and transmitted to the reader.

American Express, MasterCard and Visa have endorsed the ISO 14443 standard for contactless payment applications. "In essence, banks want to put a credit card's mag stripe data onto an RF chip," says Andy Richardson, TI-RFid's strategy manager for wireless commerce.

Prior to the establishment of the ISO 14443 standard, credit card issuers had been generally reluctant to do this. That's because the data transmission rate was too slow to handle relatively large amounts of encrypted financial data.

Speedpass, for example, uses a 134-KHz RFID platform made by Texas Instruments. The data transmission speed is around 10 to 15 kilobits per second, according to Richardson. That's not a problem for the Speedpass system, because the system is designed to transmit only a unique ID and some security data. The customer's credit card information is stored on the network.

"The data rates that come with the low-frequency technology used by Speedpass can't support the sort of data exchange that the likes of Visa and MasterCard are looking for," says Richardson. "The platform we developed for ISO 14443, which supports a data exchange rate of about 106 kilobits per second, was developed specifically for the payments industry."

TI-RFid says new 14443 platform will feature a chip with a flexible and configurable memory architecture, a file system that supports multiple applications, and dynamic encryption capability. Texas Instruments can package the chip into various forms, including ISO 7810 cards and key fobs.

Other companies are also beginning to introduce ISO 14443-compliant readers. One is LEGIC Identsystems,

based in Wetzikon, Switzerland. This month LEGIC will launch its Advant 13.56-MHz contactless smart card platform, which, the company says, is ISO 14443-compliant.

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