RFID News Roundup

Moteiv's new, smaller mote; National Envelope Corp. markets RF-blocking security sleeve; vendors partner on RFID center for apparel; San Antonio library deploying 3M RFID tracking system; Impinj adds Chinese RFID technology firm to VAR network; EM Microelectronic announces new LF tag chips; Mikoh announces first Smart&Secure manufacturing partner.

The following are news announcements made during the week of May 7.

Moteiv Announces New, Smaller Mote
Moteiv Corp., a San Francisco-based provider of wireless sensor network solutions, has announced its most compact wireless sensor network node, or mote. The Tmote Mini supports the ZigBee air-interface specification for wireless sensor networks and is packaged in an industry-standard miniSDIO form factor. This allows users to insert it into any cell phone, PDA or other digital device that includes a standard SD port. Tmote Mini combines a Texas Instruments MSP430 microcontroller with a TI/Chipcon CC2420 low-power 2.4 GHz radio. The device is available in two configurations: The Standard module has 0 dBm (1mW) output power, while the Plus module's output power is +20 dBm (100mW). Both versions are compliant with the IEEE 802.15.4 Wireless Personal Area Network standard, and both can be used in networks already deployed with Moteiv's earlier Tmote Sky module. (The Chicago Fire Department is among the organizations that have used the Tmote Sky module; see Chicago Fire Dept. Tests ZigBee-based RFID System.) Moteiv says the Mini Standard's size—20 by 25.4 by 2 millimeters—makes it easy to integrate it into a variety of sensor products. The Mini Plus is slightly longer at 32 millimeters, while still compatible with the miniSDIO specification. Moteiv is selling a development kit that incorporates two Tmote Mini Standard and two Tmote Mini Plus motes, two development boards with Tmote Mini mote-cores built in (one Mini Standard and one Mini Plus) and one programming fixture allowing users to load specialized applications to the Mini hardware. It also comes with Moteiv software that includes an operating system, libraries and mesh networking software optimized for use on Moteiv's Tmote platforms. The kit costs $1,995. Additional Tmote Mini Standard and Mini Plus units can be purchased in quantities of 50 or more, though pricing for these units has not yet been released.

National Envelope Corp. Markets RF-Blocking Security Sleeve
Envelope manufacturer National Envelope Corp. has developed a new product line called Smart Card Guard. The RF-blocking sleeves are designed to hold cards or other media containing high-frequency (13.56 MHz) RFID inlays, when mailed or carried inside an individual's purse, wallet or pocket. The company is initially targeting sales to financial services companies and government agencies around the world. All major credit cards in the United States are now available with RFID inlays for making RFID-based (contactless) payments. Newly issued U.S. passports contain RFID inlays designed to hold data related to the passport holder. The U.S. State Department expects to send 17 million of these passports to citizens this year alone. The Smart Card Guard sleeves contain a thin layer of metallic material preventing the penetration of radio frequency signals directed toward the envelope, thereby making the RFID inlay unreadable. The company says the Smart Card Guard material has undergone extensive testing by InfoGard Laboratories, located in San Luis Obispo, Calif. The InfoGard tests showed that the material successfully prevented RF communications between RFID interrogators and the RFID-enabled cards inside the sleeve, National Envelope says, even when placed right against the reader's antenna. The company notes that some researchers have found a means

of accessing data encoded to RFID inlays in payment and identity cards, despite the use of data encryption to secure the data.

Vendors Partner on RFID Center for Apparel
RFID systems provider ADT, Finnish logistics company Salpomec and RFID tag maker UPM Raflatac have opened an Apparel Radio Frequency Identification (RFID) Solution Center in Lahti, Finland. At the facility, companies interested in deploying RFID technology to enhance supply chain management, fight counterfeiting or improve in-store retail operations, or for other applications, can watch demonstrations of numerous RFID solutions. These include source tagging, automated goods receipt, an RFID-based sorting system, replenishment and store inventory management and point-of-sale analytics and security. During the center's first year of operation, the facility's founding companies expect to provide tours to 100 garment manufacturers, brand owners, retailers and logistics providers. Visits can be arranged by e-mailing ADT, Salpomec or UPM Raflatac.

San Antonio Library School Deploying 3M RFID Tracking System
3M Library Systems says the San Antonio Public Library, in Texas, will install a range of 3M RFID products at its main facility, as well as in all 23 branch locations. The installation will include 3M's SelfCheck systems, enabling patrons to check out, return and renew RFID-tagged loaned media, as well as to pay fines and other fees, without the aid of library staff. The library serves a growing population of more than 1.25 million citizens and will become one of the largest municipal library systems in the United States to utilize RFID technology to facilitate faster and more efficient circulation and inventory procedures. According to 3M Library Systems, the installation of the RFID readers and software—which will be used for such applications as inventory control and automated checkout—is scheduled to begin this summer, after 3M RFID tags have been affixed to all print and electronic circulation items. The library expects RFID technology to help increase staff productivity, says Aubrey George, assistant director for support services, as the library system expands its services in tandem with a remodeling and construction program now underway. A total of 60 3M SelfCheck System units will be installed, in three phases. In the first phase, the Central Library and the Cody, Cortez, Great Northwest, Igo, McCreless, San Pedro, Semmes and Westfall branches will all receive the units. The project is scheduled for completion sometime in 2008.

Impinj Adds Chinese RFID technology Firm to VAR Network
Chinese RFID technology provider Yeon Technologies has joined RFID chip and reader provider Impinj's value-added reseller program and will resell the latter's Speedway UHF Gen 2 RFID reader in Taiwan. Impinj hopes its relationship with Yeon Technologies will support the growth of Chinese RFID product manufacturers and distributors, while helping ramp up RFID end-user adoption in Taiwan. Production quantities of the Speedway reader are available today from Yeon Technologies and Impinj's other VAR and original equipment manufacturer (OEM) partners worldwide. The reader is certified to operate under Taiwan's National Communications Commission (NCC) regulations. The reader also carries both EPCglobal's Gen 2 compliance and interoperability certification marks. Yeon Technologies was founded in the fall of 2006 by YFY Group, a conglomerate of Chinese businesses that includes packaging material manufacturer Yuen Foong Yu Paper. The company is developing a means for RFID-enabling corrugate material used for product packaging by embedding EPC Gen 2 inlays into it (see RFID-Enabled Boxes Inch Closer to Production).

EM Microelectronic Announces New LF Tag Chips
EM Microelectronic, a semiconductor company in Marin, Switzerland, has introduced two new integrated circuits designed for low-frequency (125 kHz) RFID tags used in animal identification, waste management, industrial logistics and access control applications. The EM4205 and EM4305 chips comply with the ISO 11784 and 11785 RFID standards, developed for transponders that meet livestock tracking requirements. The ICs can be encoded to meet to the EN14803 waste management standard, EM Microelectronic reports, and they can also be used in tags for physical access control. The chips are manufactured using a process that protects them from UV damage, which can lead to memory loss. Additional user memory can be secured

through a password. The chips also have fraud-prevention features, including a 32-bit unique identifier that enables traceability, e-pedigree and product authentication applications. The EM4305 chip is functionally equivalent to the EM4205 but comes with enlarged pads and gold bumps. These allow transponder manufacturers to directly connect the antenna wires to the chip, without the need of a PCB. This, the company explains, can help lower manufacturing costs and transponder size. Both chips are available now and are backward-compliant with the EM4569 chip.

Mikoh Announces First Smart&Secure Manufacturing Partner

Early last month, Mikoh Corp., an Australian provider of tamper-proof seals and other security solutions, announced plans to introduce tamper-proof RFID inlays to the marketplace, which would be branded Smart&Secure Retail Tags (see New Tag Aims to Protect Consumer Privacy). Mikoh has also revealed its first contract manufacturer that will help the company bring the tags to market. The security solutions provider is teaming up with Twinlinx, a French chip maker, to manufacture 13.56 MHz chips compliant with the ISO 15693 and 14443 air-interface standards. It will use these chips to create 13.56 MHz Smart&Secure Retail Tags. MIKOH expects to receive the first 13.56 MHz chip samples in Q3 2007, with production quantities available by the end of the year.