

Motorola offers new reader with antenna port options; Ekahau releases Wi-Fi RTLS personnel badge; PowerID ships battery-assisted EPC Gen 2 RFID tag; Secura Shield announces RFID-enabled e-seals for tracking containers; Thin Battery Technologies unveils two new printed batteries; USDA providing 1.5 million RFID tags to track cattle.

April 24, 2008—The following are news announcements made during the past week.

Motorola Offers New Reader With Antenna Port Options

[Motorola](#) has released a new RFID interrogator, model XR450, with mono- and bi-static antenna ports. Customers employing the XR450 reader can use either four bistatic ports, each requiring two antennas (one for transmitting signals, the other for receiving them), or four monostatic ports, each necessitating only one antenna (for both transmitting and receiving). The monostatic antenna, the company says, is designed for use in reading item-level tags at close range where multiple antennas might get in the way, in typical warehouse environments as well as in retail stores. The bistatic antenna port is built to provide improved read range in other supply chain applications. The XR450 RFID reader is certified to run on [Microsoft's Biz Talk Server 2006 R2](#) and [IBM's Premises WebSphere 6.0 and 6.1](#), according to Chris Schaefer, Motorola's marketing director. It also supports Microsoft's .NET Compact Framework 2.0, he says, enabling it to host a user's applications on the interrogator itself. Motorola expects to begin shipping the new reader in July of this year.

Ekahau Releases Wi-Fi RTLS Personnel Badge

[Ekahau](#), a provider of Wi-Fi-enabled real-time location systems (RTLS), has released its T301-B personnel badge. According to Antti Korhonen, Ekahau's CEO, the badge is designed for use in tracking individuals in health-care facilities, chemical plants, mines, power plants and other areas in which security is a concern. The credit-card-size badge is a scaled-down version of Ekahau's T301-A asset RFID tag, which employs Wi-Fi standard 802.11. The badge includes a motion sensor and, as with the T301-A tag, a pull switch for activating alarms. Emergency alerts can be sent by pulling the switch, by pressing any of three buttons, or simply through inactivity (which, for instance, might indicate a patient has fallen down and is unconscious). The badge also has an LCD display for transmitting and receiving short text messages so users can, for example, send a message to badge wearers that they must leave a specific area. In addition, the badge can send an alert to the server if a wearer enters an unauthorized area.

PowerID Ships Battery-Assisted EPC Gen 2 RFID Tag

[PowerID](#), an Israeli maker of battery-assisted passive (BAP) RFID technology, has released a BAP Gen 2 RFID tag that is currently commercially available in limited numbers and is expected to be available in larger volume in the third quarter of 2008. The tag combines the passive EPC Gen 2 standard with the longer read ranges typical of active tags, thanks to added power from a built-in battery, according to Erez Kahani, PowerID's CEO. The tag is designed for users requiring a long read range or the ability to transmit in an environment more hostile to RFID technologies, such as one with metals, which can interfere with RF waves. Many users already utilizing EPC Gen 2 tags, Kahani says, prefer to stick with the standard but require better performance. Power ID has begun several dozen pilots with companies

in logistics and transportation, he adds, as well as the paper industry, all of which deal with challenging environments where standard passive Gen 2 tag have not historically worked well. He estimates that PowerID's BAP Gen 2 RFID tags provide read ranges of 40 to 70 meters (131 to 230 feet), compared with typical passive EPC Gen 2 tags, which can transmit up to five meters (16 feet).

Secura Shield Announces RFID-enabled E-Seals for Tracking Containers

Australian RFID manufacturer [Secure Shield](#), located in Sydney, Australia, has introduced a new EPC Gen 2 e-Seal designed to improve supply chain security and visibility. The e-Seal, an intermodal container lock that can be used for containers on ships, trucks and railway wagons, combines an ISO 17712 high-security mechanical bolt with a tamper-evident passive EPC Gen 2 RFID tag. The e-Seal can be implemented in a closed-loop or Electronic Product Code Information Services (EPCIS)-compliant environment. EPCIS, as defined by [EPCglobal](#), is designed to help companies securely exchange RFID and related product data with business partners in real time. According to Secura Shield, the new e-Seal operates in the ultrahigh-frequency (UHF) 860-960 MHz band, has a read range of 7 to 10 meters (23 to 33 feet) and adheres to all [U.S. Department of Homeland Security](#) initiatives (C-TPAT, OSC, CSI and 24 Rule). The e-Seal was recently tested by a logistics provider and an Asian customs authority, and Secura Shield says it will begin demonstrations across the United States, Europe and Asia in the coming months.

Thin Battery Technologies Unveils Two New Printed Batteries

[Thin Battery Technologies](#) (TBT), a Westlake, Ohio, maker of flexible disposable batteries for use in such applications as RFID tags, transdermal drug delivery patches, data loggers, sensors and displays, has announced two new battery designs that it says are slimmer and more powerful than previous versions. The TBT UT (ultra-thin) Series Batteries are slimmer (by approximately 30 percent) than Thin Battery's existing printed battery designs. The lower laminate profile (as thin as 500 microns, or 0.020 inches) makes the batteries suitable for a variety of thin form factors, the company says, including transit tickets, loyalty cards, smart cards and RFID smart labels. The batteries are available in a variety of shapes and sizes, with typical standard form factors able to deliver 12 milliampere-hours at 1.5 volts. The TBT HD (high-drain) Series Batteries offer about five times greater peak drain current than TBT's existing products, the firm claims, providing an extra boost of power in applications. According to TBT, peak current delivery can typically be 8 milliamperes and beyond, depending on an individual application's circuit requirements. Batteries are available in a variety of shapes and sizes. All Thin Battery carbon-zinc printed batteries offer a significantly thinner profile than standard button or coin batteries, TBT reports, and are "green" and disposable, fully meeting the European Union's RoHS (Restrictions on Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment) directives for eco-friendly manufacturing and disposability. Carbon-zinc printed batteries have an operating range of -30 to 50 degrees Celsius (-22 to 122 degrees Fahrenheit)—wider than current printed and semi-printed batteries made of manganese dioxide and zinc, according to a recent report by RFID research and analysis firm [IDTechEx](#). This, IDTechEx says, opens up many possibilities in active RFID, which is primarily based on coin cell batteries at present. For instance, [Sealed Air's Cryovac Food Packaging Division](#) has selected the TBT battery for its new RFID temperature-monitoring system, the TurboTag, a featured technology in its Cold Chain Solutions business segment, where temperature

control assurance and product integrity are critical. TBT launched and demonstrated its two new battery designs at last week's [RFID Journal LIVE! 2008](#) conference in Las Vegas.

USDA Providing 1.5 Million RFID Tags to Track Cattle

As part of a new business plan for the [National Animal Identification System \(NAIS\)](#) program, the [U.S. Department of Agriculture's \(USDA\)](#) Animal and Plant Health Inspection Service (APHIS) has announced that it is providing "840" RFID ear tags to animal health officials for use in bovine tuberculosis (TB) control. The tags are being provided free of charge. NAIS-compliant "840" tags provide for individual identification of livestock through a 15-digit number beginning with the U.S. country code. The voluntary NAIS program is an information system developed by the USDA to protect the health of U.S. livestock by tracking animals as they pass through various locations, and, in the event of an emergency, by making that data available to the producers involved, as well as the appropriate animal health officials. The USDA first published a draft business plan—with the goal of making it possible to trace back an animal's history to its point of origin within 48 hours—in December 2007 (see [USDA Pushes Plan to Move NAIS Forward](#)). The public was given until April 15 to review the seven-point draft plan, and to respond to recommendations. The USDA has purchased a total of 1.5 million "840" RF animal identification tags to support animal disease control programs, including the bovine TB and brucellosis programs. Recently, the USDA shipped 28,000 tags to California to support bovine TB testing as part of an ongoing investigation. To date, the USDA reports, a total of 6,600 cattle in two California herds have been tagged with "840" devices. The goal is to link the cattle to their premises of origin, so that in the event of a future outbreak, the infected animals' movements can be quickly traced. Bovine tuberculosis investigations are currently underway in several states. Since 2002, bovine TB detections in six states have required the destruction of more than 25,000 cattle. The USDA has tested over 787,000 animals in response to TB outbreaks since 2004. Currently, there are five USDA-approved manufacturers that produce eight RFID tags for official NAIS use—seven in the form of ear tags, the other an injectable transponder for use in horses and other farm animals not intended to enter the food production chain.