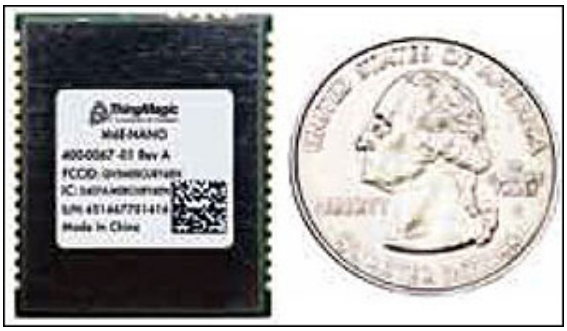
RFID News Roundup

The following are news announcements made during the past week by the following organizations:
Trimble;
Vendini;
Juniper Research;
TexTrace, RAIN RFID Alliance; and
Transcends.

Trimble Shrinks UHF RFID Reader Module

Trimble's ThingMagic division has introduced the ThingMagic Nano, an embeddable ultrahigh-frequency (UHF) RFID module the size of a postage stamp.



ThingMagic Nano

The Nano, which measures just 22 millimeters by 26 millimeters by 3.0 millimeters (0.866 inch by 1.024 inch by 0.118 inch), is the smallest reader that ThingMagic makes. According to Trimble, its very low-power consumption and wide RF output range (0 dBm to +27 dBm) make it suitable for the read-write requirements for battery-operated RFID-enabled printers, tag commissioning stations, product authentication and access-control readers. The Nano, the company reports, can read tags from up to 10 feet away, at a rate of up to 200 tags per second. The module features a surface-mount package designed for the efficiency of surface-mount technology (SMT) manufacturing—which, according to Trimble, drives down the total cost for embedding RFID in volume applications, including handheld devices, consumables authentication, device configuration and access control.

Keonn Technologies, a manufacturer of RFID-based systems and components for a broad range of industries, including retail, health care, libraries and logistics, is using the ThingMagic Nano in its products. "The performance for such a small form factor is ideal," said Ramir De Porrata-Doria, Keonn Technologies' CEO, in a prepared statement, "and we love the flexibility of the solution. Because we have designed other products with ThingMagic's M6e series modules, the transition

to build in this new, smaller module was seamless and enables us to expand our portfolio to include smaller readers."

With the addition of the Nano, Trimble reports, ThingMagic offers reader modules in several configurations, allowing customers to develop a variety of applications, ranging from high performance to small form factor, depending on their specific needs. In addition, the company says, customers who have already developed a solution using a module in the M6e series can take advantage of ThingMagic's universal application programming interface (API) when developing a new reader with the ThingMagic Nano.

In addition to the Nano, ThingMagic's embedded reader series includes the M6e, the Micro and the Micro-LTE. The M6e, which has four antenna ports, is designed to meet the requirements of the most demanding fixed-position multi-antenna reader applications, the company indicates; it transmits up to +31.5 dBm and can read more than 750 tags per second. The two-port Micro and Micro-LTE are designed for portable or handheld applications; the Micro reads more than 750 tags per second, while the Micro-LTE is optimized for applications with small tag populations that require a read rate of no more than 50 tags per second. Both have an RF power output range of -5 to +30 dBm. In addition, the adjustable power consumption settings of the Micro and Micro-LTE models provide extended battery life for handheld readers and other mobile devices, according to Trimble.

Development tools available with all ThingMagic RFID modules include the ThingMagic Universal Reader Assistant utility, used to initialize readers and perform common tasks such as selecting application-specific performance settings; the Mercury API Software Development Kit (SDK), with sample applications and source code to help developers get started demonstrating and developing functionality; and a full hardware development kit for rapid prototyping. Also available is the Mercury xPRESS Sensor Hub, a flexible development

platform designed to enable customers to rapidly create cost-effective finished reader products (see RFID News Roundup: Trimble Adds Greater Functionality to ThingMagic Mercury xPRESS Sensor Hub).

ThingMagic Nano is expected to be made available during the second quarter of 2015.

SweetWater 420 Fest Employs Vendini's RFID System for Ticketing and Access Control

The Sweetwater 420 Festival, taking place on Apr. 17-19, 2015, in Atlanta, and featuring more than 45 music acts, will leverage an RFID-based solution to manage ticketing and access control. The solution, provided by San Francisco-based Vendini, employs high-frequency (HF) 13.56 MHz passive RFID tags built into wristbands that will be worn by everyone at the venue, whether staff members, volunteers, audience members or performers.

The wristbands for the three-day festival, presented by SweetWater Brewing Co. and produced by Happy Ending Productions, will be used for ticketing, access control and security, according to Paul Chalker, a spokesperson for Vendini. The wristbands leverage NXP Semiconductors' Mifare chips compliant with the ISO 14443A specification. The bracelets are being mailed to patrons who have elected to receive their passes prior to the festival, shipped in customized, commemorative SweetWater 420 Fest boxes that also include images and information about the event. The bands will also be available for purchase at the box office, located near the main gate.

Each patron will be able to register his or her wristband, so that if it were lost or stolen, the bracelet could be remotely deactivated and that person would be able to obtain a replacement. Patrons with VIP tickets can get five electronic drink vouchers loaded onto their wristbands that they can then

use in select VIP areas.

There will be approximately 45 proprietary Vendini custom-designed and -manufactured RFID portals situated throughout the festival grounds, at main gates, at VIP entrances and back-stage. In addition, there will be about 40 to 50 Linea Pro 5 peripheral readers, provided by Infinite Peripherals, that can be attached to Apple iOS devices for security, management and additional entry purposes.

Vendini supplied a similar RFID-enabled system to the Bristol Rhythm & Roots Reunion, a three-day music festival held in the twin cities of Bristol, Va., and Bristol, Tenn., in September 2014 (see Bristol Rhythm & Roots Reunion Music Festival Opts for RFID).

Mobile Delivery of Airline Boarding Passes on the Rise, Delaying the Transition to NFC, Study Finds

More than 1.5 billion airline boarding passes will be delivered via mobile devices by 2019, compared with about 745 million this year, according to Juniper Research. That growth, the research and analytical services firm reports, is delaying the transition to Near Field Communication (NFC) ticketing.

The new research, titled "Mobile & Online Ticketing: Transport, Events & NFC 2015-2019," found that the majority of airlines have implemented boarding passes via smartphone apps, and that the industry is witnessing rapid adoption in markets such as the United States, the Far East and Europe. By 2019, the research indicates, mobile boarding passes—which are displayed in the form of a bar code on a handset's screen—will represent one in three boarding passes issued by airlines. Some of the early adopting airlines are recording double-digit growth for boarding passes delivered via mobile.

According to SITA, an information technology and services provider for the air-transport industry, 53 percent of

airlines have already implemented mobile boarding passes via smartphone apps. That figure, Juniper Research reports, is expected to rise to 91 percent by 2017.

However, Juniper Research notes, the success of mobile bar-code boarding pass adoption has meant that the transition to NFC will be delayed.

“The ultimate position that NFC can reach in the airline industry is ‘the extinction of the boarding pass’ whereby boarding pass, baggage tickets and identity information can be stored on the phone and simply accessed using NFC readers,” said research author Nitin Bhas in a prepared statement. “However, this transition will not only be delayed by the success of barcode but there is the need to gain agreement and investment from airlines and airports around the world.”

Additionally, the research found that the metro (subway) and bus sectors will dominate mobile ticketing transaction volumes, due to the relative frequency of consumer purchase. Moreover, as gating infrastructure is upgraded, metro and bus NFC-ticketing is expected to gain traction in the medium term in such critical markets as Europe and Asia.

TexTrace Joins Global RAIN RFID Alliance to Advance RFID in Retail

TexTrace, a technology provider for the apparel industry, has announced that it has joined the RAIN RFID Alliance, the industry alliance for ultrahigh-frequency (UHF) radio frequency identification technology complying with the EPC Gen 2 and ISO 18000-63 standards. The group is focused on advancing passive UHF RFID technologies that enable businesses and consumers to identify, locate and authenticate items in everyday life.

RAIN, founded by Impinj, Smartrac, Intel and Google, was announced in April 2014 (see Technology Companies Create Rain

to Promote EPC UHF RFID Adoption). The alliance now has 68 members.

As part of the alliance, TexTrace will work with colleagues, suppliers and customers to help promote RAIN RFID technology for brand-protection and inventory-management applications in the retail industry, the company reports. According to the company, TexTrace discreetly incorporates passive UHF RFID tags into a woven RFID brand label for accurate inventory tracking, seamless security and authentication.

“Authentication starts with the origin and history of each tagged item, such as individual items of apparel carrying the TexTrace woven RFID brand label,” said Sybille Korrodi, TexTrace’s head of marketing, in a prepared statement. “TexTrace has used RAIN RFID technology in the retail industry, and we look forward to contributing our unique expertise to the RAIN Alliance.”

Steve Halliday, RAIN RFID’s president, added in the statement that the “TexTrace woven RFID brand label is an exemplary application of RFID technology in the retail industry.”

Transcends Releases New Version of Open-Source RFID Middleware

Transcends has announced the release of a new version of its open-source RFID middleware for developing and deploying radio frequency identification business solutions. According to Transcends, the new version—known as RIFIDI 3.2—is designed to help facilitate the connection between the Internet of Things (IoT) and individuals. The release was made possible through client implementations, the RIFIDI open-source community feedback, surveys, forums and Transcend’s global engineering team, the company explains.

The key features of the new release are performance improvements with the REST application programming interface

(API), extended RIFIDI API commands via REST for sensor and application management, platform upgrade and additions for developers and architects (Restlet 2.3.1 – Restful services); updates regarding the ability to encode a tag's user memory, Electronic Product Code (EPC) and passwords; Low-Level Reader Protocol (LLRP) updates; RESTful performance enhancements; an optimized RIFIDI RSSI service in the software developer's kit (SDK); backward-compatibility with RIFIDI 1.3 and 2.x , 3.x applications and solutions; and a few bug fixes.

According to Transcends, candidate features for the next release of the open-source middleware (based on clients, community, projects, forums, collaboration and partnerships) include such things as a floor plan/Google Map sensor-management dashboard; integration with visualizations, dashboards or analytic tools; a RIFIDI application designer interface; and a RIFIDI apps marketplace.

Transcend's RIFIDI product line includes the RIFIDI Edge Server software; the RIFIDI Box Appliance, which comes with hardware and an embedded version of the RIFIDI software, and is designed for a wide variety of enterprise applications; and the RIFIDI PI Appliance, which includes a credit-card-sized Linux single-board computer known as Raspberry Pi, as well as an embedded version of the RIFIDI software, and is designed for kiosks, smart shelves and point-of-sale end caps. In addition, the lineup includes the Smart Sensor UHF Gen 2 RFID reader module, which supports the EPC Gen 2 specification.

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