

Intellex Offers Pilot-Development Kit

The California firm says it wants to add value to supply chain tracking through its semi-passive RFID products.

By Mary Catherine O'Connor

Feb. 28, 2005—Intellex, a San Jose, Calif.-based developer of radio frequency identification products, has announced it is selling an RFID pilot-development kit designed for asset tracking and supply chain applications. The kit includes Intellex's I-Beam UHF reader, four antennas, 10 Intellex InfoStructure UHF semi-passive tags and bundled proprietary software to enable a company to begin informal testing of RFID or to launch a small pilot project. The kits are available now, but the company would not disclose pricing information.

Ashish Asthana, Intellex vice president of marketing and product strategy, says Intellex is developing its suite of RFID readers and battery-assisted tags with an eye toward the future landscape of RFID applications. "We think there is a next wave of RFID that will go beyond identification, and to achieve this, there is a need to have long read-range capabilities, the need to have tags with improved memory capability and the need to have a security framework. We think the development kit is a first step to intro these new and enabling features."

The battery-assisted InfoStructure tag has a read/write range that is greater than 100 meters across open space free of interference and has shown more than 99 percent readability in real-world environments that contain materials, surfaces or other RF transmissions that could cause RF interference, according to Intellex. The battery in the InfoStructure tag amplifies the signal that the tag transmits, allowing for greater read and write range than a passive tag, which does not contain a battery and must use the power of a reader to transmit its signal. The I-Beam reader can read and write to an InfoStructure tag, as well as to other tags compatible with the proposed EPCglobal Class 3 semi-passive protocol. It can also read and write to EPC Class 2 tags (passive tags with increased memory capabilities and the commonly used EPC Class 1 UHF tags, but because Class 1 and Class 2 are passive tags, the range in which the I-Beam can read them or write to them is significantly shorter.

Asthana says the company is targeting companies interested in RFID for asset tracking, for which the use of battery-powered or battery-assisted tags are common. But Intellex is also targeting companies in the supply chain by publicizing the ways that the Intellex products can add value to RFID systems developed around passive RFID technology.

One example of a supply chain application, he says, is to affix an InfoStructure tag to a pallet and then use an I-Beam reader to write a complete manifest consisting of the EPCs of all tagged cases on the pallet to the InfoStructure tag. Each InfoStructure tag has 64 kilobits of user-defined memory, which means that users could record up to 1,000 64-bit EPC numbers on a single tag. If the pallet is brought to a distribution center and the pallet is broken down and reconfigured (a case of soap is removed and three cases of toilet paper are added, for example), the I-Beam reader could be used to aggregate the new tagged cases on the pallet and overwrite the manifest on the InfoStructure tag with the new manifest.

Because InfoStructure tags have a significantly longer read range than passive pallet tags, an I-Beam reader mounted on forklift could read rows of pallets with InfoStructure tags sitting in a warehouse, for example, from a significantly greater distance than it could pallets with Class 1 tags. This could reduce the amount of time needed to perform inventory checks.

Asthana says Intellex is working on a new version of the InfoStructure semi-passive tag that will be compliant with the EPCglobal Class 1 Gen 2 protocol. The company aims to release that tag by the end of 2005. The I-Beam reader is upgradeable to Gen 2 through firmware, which Intellex says will be available during the late spring or summer of 2005.

The company is also developing security functionality for its tags and readers that will be an important part of the company's next wave of RFID technology. This functionality would require that a user enter a password before accessing InfoStructure tag data. Depending on the level of security associated with that password, users might have read and write access to the tags or might have read-only access.

Intellex plans to test the security function in a pilot project soon. Asthana says that if the tests go well, the company might present the application to EPCglobal's Hardware Action Group for consideration as a standard security protocol.

Last August, Intellex received \$11.3 million in funding from Alloy Ventures, Selby Ventures and Woodside Fund. The company used the funding to accelerate product development.

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