ALIEN®

LEXAR GETS CLEAR SNAPSHOT OF
WAREHOUSE INVENTORY
WITH ALIEN RFID

Lexar™

Company: Lexar
http://www.lexar.com/

Application: Asset and inventory tracking

Area of Use: shipping dock

Status: Production

Tag and Reader Supplier: Alien Technology

Frequency: 915 UHF MHz

Range: 8 to 10 feet

System Integrator: KeyTone Technologies

Challenge
- Use RFID to efficiently track digital memory products as they move from manufacturing at Lexar to Wal-Mart
- Replace bar code inventory tracking system at Lexar with an automated RFID solution

Solution
- Lexar worked with KeyTone Technologies, to develop an RFID-based asset tracking application
- Toolset includes:
  - Alien ALR-9800 series readers
  - Alien Gen 2 Squiggle tags
  - Middleware to interface Alien readers with Lexar's SAP system

Benefits
- Compliance with Wal-Mart RFID-based inventory system
- Verifiable inventory asset tracking in warehouse
- Faster product distribution: As short as 96-hour turnaround from manufacturer to retail store shelves
- Increased traceability of orders sent to Wal-Mart

Tracking retail products from the manufacturer's warehouse to the distribution center to the retail store shelves can be an inefficient process of counting, boxing, shipping, verifying and reverifying quantities and shipments. To streamline distribution and gain efficiencies, large retailers, including Wal-Mart, have implemented electronic product code (EPC) initiatives with their major suppliers. The Wal-Mart EPC initiative, launched in 2005, uses RFID solutions to track items from manufacturer to distribution centers to its stores.

The benefit to Wal-Mart is multifaceted: Its retail stores can replenish tagged out-of-stock items up to three times faster than non-tagged items, according to independent research on Wal-Mart's EPC initiative. Tagging also helps ensure promotional products are delivered and correctly tagged and displayed for sales on an advertised date. And better inventory management systems help store managers avoid stockpiling excess inventory at the store.

For the manufacturer, product tagging shortens the amount of time it takes for new items to make it through the distribution channel and onto store shelves. More specifically, RFID tagging aids in proof of delivery and purchase order reconciliation, as products—even ones packed deep inside boxed pallets—can be tracked and counted at every critical point in the manufacturer's distribution process.

CHALLENGE

One of the key participants in Wal-Mart's EPC initiative is Lexar, a subsidiary of Micron Technology, Inc. Based in Fremont, CA, Lexar is a leading marketer and manufacturer of NAND flash memory products including memory cards, USB flash drives, card readers and ATA controller technology for the digital photography, consumer electronics, industrial and communications markets.

Lexar also sells memory cards under the Kodak brand, and it manufactures the popular co-branded Disney my*style USB flash drives and SD cards that showcase favorite Disney television and movie characters.

As a participant in Wal-Mart's EPC distribution program, Lexar implemented an RFID asset tracking solution at its Duncan, SC warehouse. For help with installation and testing, Lexar enlisted KeyTone Technologies, a Santa Clara, CA-based systems integrator that specializes in RFID solutions for clients in manufacturing, distribution, and transportation and logistics.

WAREHOUSE INVENTORY

Lexar warehouse operators needed an automated way to efficiently track shipments to the Wal-Mart distribution centers and also be compliant with the RFID systems at Wal-Mart.

The Lexar inventory tracking system has to handle several hundred orders a day headed to Wal-Mart's distribution centers. Orders fluctuate in size, with the largest being the shipments destined for store shelves by Thanksgiving's Black Friday, one of the busiest shopping days of the year for retailers. Those large shipments may contain as many as 1.5 million different Lexar products that have to move through the warehouse very quickly—in two to four days.

The key to better efficiency in tracking inventory at Lexar was RFID. "We needed to create an RFID verification portal in the warehouse where we could interrogate an entire pallet," explains Lee Mar, senior logistics analyst at Lexar. The Lexar team wanted to keep an accurate running tally of products and orders as they were boxed, loaded onto pallets, and shrink-wrapped for transport to the distribution centers at Wal-Mart.

SOLUTION

KeyTone Technologies and Lexar worked together to build an RFID inventory tracking solution in its warehouse using Gen 2 RFID products from Alien Technology®. Lexar installed 12 Alien ALR-9800 4-port readers operating at 915 MHz, 40 antennas, and 12 printers in its warehouse, creating an RFID verification portal for outgoing shipments that Lexar employees dub "the doghouse."

To track its products, Lexar uses EPC-compliant Alien Technology Gen 2 Squiggle® tags. Lexar uses about one million Alien RFID tags a year, according to Mar. The Squiggle tag is a high-performance solution that is effective for the fast-moving warehouse tracking needed during inventory boxing and shipping, and it also works with shrink-wrapped pallets.

The Squiggle tag supports global operation at 860 to 960 MHz and sets the EPC Class 1 Gen 2 price performance benchmark. The Alien

Squiggle tags and reader combination offer optimal read range and read consistency performance as the inventory moves through the Lexar warehouse.

KeyTone and Lexar also built a reader-to-ERP interface, a middleware application that works with Lexar's SAP ordering system software. Installation and testing of the Alien hardware and software in the Lexar warehouse was fast, taking the team about three weeks. "The system was very quick to test and implement," says Mar.

RESULTS

Lexar's RFID solution has exceeded expectations. With the RFID in place, Lexar can easily trace daily shipments and order quantities to Wal-Mart.

"With our old UPC system, we could not confirm quantities inside the cases," says Mar. If inventory was missing or lost, the warehouse team would have to tear apart the pallets and boxes. "Misplaced inventory that seven workers would have spent four hours tracing with a UPC system, the RFID system can find in about 45 minutes by interrogation," he adds.

With the Alien RFID system in place, Lexar benefits from faster deployment of its products from manufacturing to the retail store. Since Wal-Mart uses RFID in its stores, Mar calculated the time for inventory to leave Lexar's warehouse and arrive on Wal-Mart's store shelves; he discovered it was an extremely fast 96 hours.

NEXT STEPS

The next phase of the project at Lexar will include installation of more Alien RFID readers to create a "smart warehouse." With more RFID check stations, operators will be able to check raw, unpackaged inventory as it comes in through the back door, monitor it on the shelves in the warehouse, and trace it as it moves into packaging and shipping.

With multiple RFID checkpoints throughout the warehouse, Lexar warehouse operators can send the right products to their designated areas for packaging, final production, and shipment.

"Misplaced inventory that seven workers would have spent four hours tracing with a UPC system, the RFID system can find in about 45 minutes by interrogation."

Lee Mar,
Senior Logistics Analyst,
Lexar

ALIEN®

Alien Technology
18220 Butterfield Blvd.
Morgan Hill, CA 95037
866-RFID NOW
www.alientechnology.com