

ODIN Benchmarks RFID Readers

In a new report, the systems integrator tests the performance of four leading EPC readers.

June 21, 2004—ODIN Technologies, a Reston, Va.-based RFID systems integrator, has released a report on its benchmark analysis of four UHF readers designed to read tags based on the Class 1 Electronic Product Code specification. There was no clear-cut winner among the readers from Alien Technology, AWID, Matrics and SAMSys, according to ODIN's president and CEO, Patrick J. Sweeney, but all could do a capable job on products that don't have a lot water or metal in them.

"For pure distance, Alien's new Nanoscanner was the best," says Sweeney. "But the results change dramatically when you incorporate cases of liquid or metal items, or when you try to read tags on a conveyor moving at 600 feet per minute."

The goal of the testing was to provide objective, scientific test results to companies looking to purchase readers. ODIN analyzed the readers for four different criteria: performance (which includes read distance, read rates and performance on a variety of products and in real-world conditions), connectivity (how easy it is to add the reader to an RFID network), control (the ability to tune antennas, sequence the antennas and control the power output) and total cost of ownership.

ODIN analyzed the RF properties of cases of bottled water, canned foods and paper towels involved in the benchmark tests. The company then tested the ability to read tags in different locations on the cases and chose the location that delivered the best results.

All of the readers, except AWID's, which has an internal antenna, were set up with an external circular polarized antenna. The tests were done using Alien Class 1 tags. Read distances were measured using stationary products. Alien's reader was able to read the tags at 13 feet, which was the longest of any of the four readers, according to the report.

The tagged cases were put on conveyors running at speeds from 400 to 1,200 feet per minute. All the readers were able to read some tags as the pallets came through a dock door and some tags on cases moving at 600 feet per minute. ODIN's director of professional services, Chris Fennig, who has a background in experimental physics, oversaw the testing process.

All the readers will meet the read requirements of major retailers mandating the use of EPC tags when the tagged cases contain RF-friendly materials, says Sweeney. The best solution for many companies will likely be a mix of readers from several different vendors because each has its strengths and weaknesses. So a company might use Alien readers where read range is critical and a different reader when the ability to control the sequencing of antennas is critical.

The *RFID Reader Benchmark* report can be purchased for \$250 for one copy of the report, \$500 for five copies and \$1,000 for an enterprise license, which allows everyone within a company to have access to the report. The report can be purchased through ODIN's Web site (www.odintechnologies.com). ODIN plans to test the newly released Mercury IV reader from ThingMagic and a new reader model from AWID. The results will be available as an addendum to the main report for an extra \$50 per copy.

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