

# Stressing Tests

The RFID Alliance Lab tests will provide a wealth of data that will enable companies to make smart decisions about which products are right for their needs.

By Mark Roberti

Nov. 8, 2004—Back in September, *RFID Journal* announced that it was providing financial support to establish the [RFID Alliance Lab](#) at the University of Kansas. The purpose was to facilitate the testing of RFID products so that each end user company could avoid having to do the same performance tests over and over and instead base its decision about which products to buy on reliable, unbiased reports. I'm pleased to say that those reports are going to be even more valuable than I had originally thought.

Last week, I visited the [Information and Telecommunication Technology Center](#) (ITTC) at KU, where the Alliance Lab is based. I spoke at length with Dan Deavours, the research director, about the first report on tags, which will be out soon. Dan and his team of researchers were incredibly scrupulous in conducting the tests, repeating many of them dozens of times to ensure that the results were fair and accurate.

The Alliance Lab took a two-pronged approach. First the tags were tested under scientifically controlled conditions, so that the tests were repeatable and the lab could make apple-to-apple comparisons. Tags were tested in free air, on metal and on a container of water. External factors, such as ambient electromagnetic energy, were eliminated or controlled so that they did not skew the results.

Companies will not get precisely the same performance from each of the 10 tags tested, because their environments will have unique factors that affect the way tags are read. But they will be able to use the Alliance Lab's test data to judge the relative benefit of one tag over another for a specific type of product (for example, those with high water content or sold in metal cans).

The second part of the testing was conducted in an operational warehouse, to provide a comparison of tags under real-world conditions. Again, an end user's environment will differ, but the goal here was to compare the relative benefits of using one tag over another and to see if the performance found under controlled conditions was matched by performance in the real world. The Alliance Lab will use the same two-pronged approach on all RFID products that it tests.

The objective of the Alliance Lab is not to declare winners and losers. For the first report, it is to give companies the information they need to figure out which one or two tags are likely to perform best on the types of products they are tagging. The results of the tests are intriguing. For example, Dan's team found that two similar tags from the same vendor performed very differently depending on whether they were half a centimeter or one centimeter from a sheet of metal. So companies will need to buy different tags based on the thickness of the corrugated boxes used to ship canned goods.

Dan, Toby Rush, president of [Rush Tracking Systems](#), which also helped create the Alliance Lab, and I met to discuss the next two reports. For the second report, due out early next year, the lab plans to test the performance of tags when there are dozens of tags in the read field. And the lab's third report, to be released next spring, will cover how heat, cold, humidity, electrostatic discharge and other environmental conditions

affect the durability of tags after they are applied to cases. Early adopters tell me this would save them a lot of time and money, because they have to do this testing themselves to ensure they meet Wal-Mart's requirement for 100 percent read rates.

The RFID Alliance Lab's reports will be sold through the *RFID Journal* Web site initially and later through the lab's own site. Each report will cost \$995, or readers can purchase a yearly subscription (four reports plus updates) for \$3,495. *RFID Journal* subscribers will get a 10 percent discount on the reports.

The Alliance Lab is a not-for-profit venture. The money from the reports will be used to fund its operations and purchase test equipment. (After the operational costs are covered, *RFID Journal* will receive some compensation for promoting the reports.) Our goal in helping to finance the lab is to provide good information to help end users deploy RFID technologies successfully. I encourage readers who purchase the reports to e-mail me with suggestions for how we can make them better or the kinds of tests they would find useful ([mroberti@rfidjournal.com](mailto:mroberti@rfidjournal.com)).

*Mark Roberti is the founder and editor of RFID Journal. If you would like to comment on this article, click on the link below.*

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