

# Navigating the RFID Patent Landscape

Speakers at a conference on RFID intellectual property differed over the impact patents could have on RFID adoption

By Mark Roberti

Oct. 13, 2004—About 70 patents lawyers, representatives of RFID vendors, and venture capitalists gathered at a hotel near San Francisco last week to discuss issues surrounding RFID intellectual property (IP). Speakers at the International RFID IP Conference differed on just how many patents are covered by EPCglobal's IP policy and what that means for vendors building products based on the EPC Gen 2 specification.

Roger Stewart, chief technology officer at [Intellex](#), a San Jose, Calif., a manufacturer of long-range, battery-assisted RFID tags, gave a presentation on RFID standards and patents. Stewart said that more than 4,000 RFID patents have been issued globally and that existing free-licensing agreements provide "only limited protection" for vendors building any RFID products, including products based on EPCglobal's Gen 2 standard, which is near finalization (see [Gen 2 Moves Closer to Approval](#)).

The issue is important to end users because it could affect the price they pay for RFID hardware. If EPCglobal's IP policy, which calls for a free-licensing program for vendors that sign the policy and agree to donate their own IP royalty-free, does not fully protect vendors, then they may have to pay royalty fees to patent holders. That cost would inevitably be passed on to consumers of the technology.

[Intermec Technologies](#) has contributed five patents to the Gen 2 spec on a royalty-free basis, but it has not agreed to make all of its protocol patents available royalty-free. This has raised concerns about the potential impact of royalties on the cost and therefore adoption of EPC technology.

But vendors may have to pay royalties even to vendors that have opted in to EPCglobal IP policy. The policy says that all vendors that sign on to the licensing program grant a royalty-free license "in its necessary claims" to all other reciprocating participants. The term "necessary claims" refers to claims that would necessarily be infringed by implementing the standard. The policy goes on to say that "a claim is necessarily infringed only when it is not possible to avoid such infringement because there is no non-infringing alternative for implementing the spec."

"If there's an alternative way of doing something, even if it costs \$5 per tag, then you have to use that option," said Stewart. "Otherwise you may be infringing someone else's patent and may have to pay royalties" to the patent holders.

Stewart also said that the free license to other HAG committee members covers only the air-interface protocol (the means by which tags and readers communicate), commands and methods of data exchange. It doesn't include chip design, the way the tag is packaged, antenna manufacturing and so on. That excludes many RFID patents from the free license agreement. If you add in patents where alternative technology is available and patents that are owned by those who have not signed EPCglobal's IP policy, many of the RFID patents are not covered, he said.

Among the patent-holding companies that have not signed the EPCglobal IP policy are 3M, Lucent, Micron, Motorola and Sarnoff. "Some of these companies are waiting to see what Intermec does and then they will come into play after that," Stewart said. "The existence of a large profitable RFID industry based on internationally recognized standards—any standard—will attract the attention of parties holding key RFID patents."

Chris Diorio, founder and chairman of [Impinj](#), a Seattle-based manufacturer of passive RFID tags, and the cochair of the HAG, agreed that a large number of patents were not covered by the EPCglobal's IP policy, but he said the situation was not as dire as the number of patents might make it seem. That is, he didn't think that hundreds of companies would start suing makers of products based on the Gen 2 standard.

"EPCglobal subscribers were required to provide an IP declaration," he said. "All but one company agreed to contribute their IP royalty-free. Those companies know what patents are out there. They put a lot of their key ideas into the Gen 2 protocol and contributed their IP claims related to that protocol royalty-free, so the IP policy covers an important subset [of the patents issued]."

The conference examined avenues for resolving patent disputes, including the possibility of creating an RFID patent pool—a system for cross-licensing patents among vendors and sharing of any revenue generated by the intellectual property contributed to the pool. Attendees and speakers agreed that a pool would be complex to set up, but there seemed to be agreement that it could provide one avenue for compensating vendors for their IP while allowing the market for low-cost RFID technology to develop.

[RFID Journal Home](#)

Copyright ©2005 RFID Journal, Inc. All Rights Reserved