

# Vendors Back New EPC Protocol

Six vendors line up behind a proposal for a second-generation UHF Electronic Product Code protocol.

May 13, 2004—Six RFID vendors calling themselves the Performance Team have lined up behind a proposal for a second-generation UHF (868 to 956 MHz) Electronic Product Code (EPC) air-interface protocol, which determines how tags and readers communicate. The six companies are [Atmel](#), [BTG International](#), [EM Microelectronic Marin](#), [Matrics](#), [Nanopower Technologies](#) and RFIP Solutions.

"The protocol originated with the GTAG program [an RFID initiative once sponsored by UCC-EAN], which formed the basis for the ISO 18000-6A proposed standard," says Chris Turner, chief technical officer of RFIP Solutions, a British company focused on UHF RFID systems. "It's based on tried and proven technology. It is not a PowerPoint invention or something put together by committee to satisfy requirements."

Turner says the protocol meets all of the end user requirements spelled out by EPCglobal and that it has been designed for use in more restrictive regulatory environments, such as Europe and Asia. In Europe, for instance, readers are required to emit less power, which reduces performance, and in both Asia and Europe, readers must operate in a narrower band of the radio spectrum. Turner says the Performance Team enhanced the protocol so that it performs as well in more liberal regulatory environments, such as in North America, as other protocols.

"The read rate of our protocol in the United States is comparable to other protocols," says Turner. "But we can read twice as fast as anything else in Europe environment. Users are asking for the ability to read 500 tags per second. We believe we can read 500 tags per second in Europe."

"The Gen 2 spec should be truly global," says Girish Rishi, senior VP of marketing at Matrics. "This truly represents a global team. It has strong European participation. That's a very attractive aspect of this proposal."

Another important aspect of the proposal, according to the backers, is that all of the six vendors' intellectual property that went into developing the specification for the protocol will be made available on a royalty-free basis, instead of a reasonable and nondiscriminatory basis.

One goal of [EPCglobal](#), the nonprofit organization commercializing EPC technology, is to make the final EPC standard an official global standard. Turner says that if the Performance Team's submission is accepted by EPCglobal, the International Organization for Standardization (ISO) could amend the ISO 18000-6A proposed standard to bring it into line with what is required by EPCglobal. Then, ISO and EPCglobal standards at UHF would be the same, and end users could implement one protocol globally.

EPCglobal received three other submissions for a UHF Gen 2 protocol before the deadline for submissions expired on Apr. 14. One, the Flexwork protocol backed by Atmel and Matrics, has been merged with the Performance Team's protocol. Another is backed by the Unified Group ([13 Vendors Submit EPC Proposal](#)). The fourth proposal was submitted by [Alien Technology](#), which now provides Class 1 EPC tags, and several of Alien's partners. Alien declined to comment on its submission, citing EPCglobal confidentiality rules.

The UHF Gen2 Protocol Working Group (known as UHF Gen 2) has been working within the Standards Track of the EPCglobal Standards Development Process. EPCglobal subscribers can comment until May 14 on the three proposals that remain after the merger of the Flexwork and Performance protocols. Members of EPCglobal's Gen 2 working group will meet in Anaheim, Calif., later this month to listen to the backers of each proposal explain why theirs should be chosen as the final UHF specification. If by May 28 there is a consensus among working group members on which protocol is best, or if the three submissions can be merged into one, that one would become the "Last Call Working Draft of the UHF Generation 2 Air Interface Protocol."

If no consensus is reached and the three submissions cannot be merged, the UHF Gen 2 working group will submit each of the proposed protocols for a technical "bake-off"—a set of engineering tests and evaluations conducted by the Auto-ID Labs and an independent testing group to determine which protocol best meets the performance requirements determined by the end user community. This bake-off, if needed, will be completed by June 28.

If there is still no clear winner from the bake-off, the protocols will be voted on by the UHF Gen 2 Working Group one last time. The protocol that gets two thirds of the votes will become the Last Call Working Draft. Comments on the draft will be gathered from EPCglobal subscribers until Aug. 12. The working group will have a prototype RFID tag tested by either the Auto-ID Labs or outside experts, and then the EPCglobal board is due to ratify the draft on Oct. 6 and submit it to ISO for ratification as an international standard.

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