RFID: What Does Congress Need to Know?

Cutting through the press coverage hype of any "new" technology such as Radio Frequency Identification (RFID) is challenging. Congress and other outside interested observers should understand that the "RFID application opportunity" as a whole, is much broader than placing passive RFID tags on items, cartons and pallets of goods in the supply chain. Further, if history is any predictor, blending RFID seamlessly into a modern supply chain will take many more years. For example, we've been perfecting a much simpler technology, bar coding, for over 25 years.

For the past several years, virtually all supply chain oriented RFID testing and development involved only "passive" RFID tags. There are two primary forms of RFID tags: **active** and passive. **Active RFID tags** have an internal battery providing a robust, long-range transmission signal. Passive tags acquire their transmission energy by "borrowing" or scavenging from the wake-up signal enough energy to generate a transmission. This ultra-low signal strength output from passive tags helps explain poor results when testing passive tagged goods in the supply chain. Further, since the presence of metal or fluids tends to attenuate or weaken any RF transmission signal, items made or packaged with metal surfaces or containing fluids cannot be reliably tagged with passive RFID.

This fundamental power source difference between passive and **active RFID** brings into focus applications uniquely suited to **active RFID**. Requirements for hands-free wireless tracking of vehicles, personnel, and assets into and out of controlled access areas are applications that can only be done properly with **active RFID**. In fact, any high value item can be successfully and economically tagged and tracked using **active RFID**.

Active RFID only, not passive, can be used to provide real-time sensor alerts as well. Such sensors as temperature, humidity, radiation, and motion as well as various gas and chemical leak detections are all application sets that require on-board power combined with wireless transmission to provide acceptable results. **Active tags** also can be equipped with tamper detection capability to provide real-time notification whenever the tag itself has been compromised. In addition, **active tags** can be programmed to independently transmit at any required duty cycle from every minute to once a year. This "beaconing" feature likewise requires an **active RFID** tag's on-board power supply.

The message, therefore, is to match the application to the correct form of RFID, not assume that only one type of RFID will get the job done. **Active RFID** offers cost effective, superior performance in many applications in and out of the supply chain. **Active RFID tags** can be purchased for under $10 each today providing proven superior performance and flexibility.

Contact: Jim Ferguson, Vice President Strategic Sales, Axcess International, Inc,
Office: 972-250-5973, jimf@axcessinc.com , www.axcessinc.com, March, 2005