



Savi Announces E-Seal Licensees; Access Reveals Development Plans

August 15, 2007

Six companies have licensed the IP behind the ISO 18185 air-interface standard. Axxess will use its Enterprise Dot platform to develop an e-seal tag.

RFID hardware and systems provider Savi Technology has announced the first six companies that have agreed to license its intellectual property (IP) for electronic cargo seals (e-seals) complying with the ISO 18185 standard. E-seals combine mechanical locks with battery-powered RFID tags that wirelessly communicate security alerts when doors of e-sealed freight containers are forcibly or improperly opened. In mid-April, the International Standards Organization (ISO) approved the standard, addressing the technical and application aspects for e-seals. Savi first offered the IP in May in its QuickStart program (see Savi Technology Announces IP Licensing for Cargo E-seals).

A number of cargo carriers and logistics companies are testing and deploying electronic seals to help secure cargo shipped in large containers, which accounts for 90 percent of world trade. According to Savi, approximately 200 million containers move through the world's ports each year. The SAFE Port Act of 2006 calls for the U.S. Department of Homeland Security (DHS) to define the voluntary use of container security devices in accordance with international standards—specifically, those established by the ISO—to potentially achieve faster clearance through U.S. Customs and Border Protection.

The ISO 18185 protocol requires that e-seals be able to communicate at both 433 MHz and 2.45 GHz. Savi, owned by defense giant Lockheed Martin, does not presently sell an e-seal using the ISO 18185 protocol. However, it began licensing the technology behind it in May of this year.

The six licensees are Axxess International, a provider of asset-tracking systems; Evigia Systems, which manufactures RFID tags with integrated sensors; Envotech, a Malaysian developer of protective gear, such as bulletproof vests, and training services for defense, law enforcement and civilian organizations; Identec Solutions, which makes active tags and readers used for asset tracking and real-time location systems; KPC, a South Korean maker of active RFID systems; and SAVR Communications, a provider of RFID technology for supply-chain and logistics applications.

By licensing the IP, these companies will receive the rights to seven patents that Savi has held for a number of years. Three of the patents are related to the air-interface protocol between tags and readers and define anticollision algorithms to enable reading multiple tags at once. The remaining four patents involve the use of low-frequency signals to ping (awaken) tags from a standby mode.

By the end of the year, Axxess expects to finish developing an ISO 18185-compliant inlay. At that point, it will partner with a manufacturer of mechanical locks to produce a complete e-seal. According to Allen Griebenow, the company's president and CEO, Axxess will use its Enterprise Dot system-on-a-chip product, a collection of application-specific integrated circuits combined onto a chipset, to build the inlay. The Enterprise Dot chipset has a unique feature—a dual active-passive capability enabling an RFID tag to switch between passive and active communications and also provides a variety of options for data storage and sensor input (see New Axxess Chip Can Be Active or Operate as Passive Gen 2).

Using its Enterprise Dot technology, Griebenow says, enables the company's e-seal to function as a passive EPC Gen 2 or Gen 1 tag operating at 860 to 960 MHz, as well as an active tag

communicating at 433 MHz or 2.45 GHz. Whether Access will add those passive-tag capabilities to the initial ISO 18185 inlays it produces will depend on whether it identifies customers interested in using the e-seals for EPC applications.

The U.S. SAFE Port Act of 2006 calls for the Department of Homeland Security to define the voluntary use of container security devices in accordance with international standards. The DHS considers ISO 18185, which enables interoperability of products from multiple vendors, an applicable container security standard.

Griebenow says that if the federal government were to require shippers to use e-seals, that would help the e-seal market move forward on standardized offerings. "The cargo service suppliers clearly are having a difficult time providing [e-seal] solutions in a vacuum," he says. "Voluntary compliance in a technologically heterogeneous environment makes it hard for any one shipper, or group of shippers, to comply with the government's e-seal request." The emergence of ISO 18185-compliant products, he adds, can help demonstrate to the federal government that e-seals have the potential to improve cargo security on a large scale.