

New Tag Aims to Protect Consumer Privacy

Mikoh says both consumers and retailers will benefit from its new product tag designs.

By Mary Catherine O'Connor

April 2, 2007—Mikoh Corp., an Australian provider of tamper-proof seals and other security solutions, has developed the Smart&Secure Retail Tag, an RFID-enabled product-identification tag that, according to the company, is designed to address consumer concerns that data encoded to tags on the items they purchase could be surreptitiously read by a third party. The tag does this by allowing customers to decrease the read distance of a tag after purchasing the item to which it is attached. If a customer returns or exchanges a product bearing a Mikoh tag, the retailer could restore the Mikoh tag's read range before reintroducing it into its inventory.

Peter Atherton, the firm's CTO, says Mikoh is currently working on two designs for the tag. One design is at the prototype stage, he says, but he cannot yet discuss the other publicly because not all patents linked to it have been filed.

The first design, for which Mikoh has filed its patents, uses an RFID inlay with an antenna printed directly onto the tag's plastic or cardboard substrate, Atherton explains. When the tag is applied to a product, the substrate is folded. In the folded position, the electrically conductive line formed by the antenna is significantly longer than when the substrate is unfolded. Thus, a product's purchaser who wants to reduce the tag's read range would unfold the substrate by pulling up on the folded edge (held in place by an adhesive), thereby reducing the antenna's range without fully disabling the tag. To restore the range to its original distance, the retailer could refold the tag by pressing it back against the adhesive (which stays in place and does not tear the substrate).

According to Atherton, either Smart&Secure Retail Tag design could be used for both UHF and HF tags. If the tag contained an EPC Gen 2 UHF inlay, the read range would be upwards of 10 feet when folded, and about 6 inches unfolded. The read range of an HF tag would likely be only a few inches when folded, and just a centimeter or so unfolded.

To attach the tag to a product, both tag designs depend on an adhesive so strong it would cause the antenna to tear if a customer were to try to remove the tag. With its antenna torn, the tag would be unreadable, precluding the possibility of consumers trying to return counterfeit or lower-value items by removing the tag from a legitimate product and placing it on another.

Atherton says retailers want to discourage consumers from returning or exchanging goods that no longer have their original tags attached (though many retailers would likely accept goods back if the tags were removed, as a service to customers). The tamper-evident element to the tag, he says, is a means of enforcing that guideline.

Both tag designs, Atherton explains, are appropriate only for attaching directly onto packaging such as cardboard boxes or hard plastic shells used for consumer electronics and other products. The designs would not make sense for hangtags used in apparel applications, because the entire hangtag could be removed and

placed on another item without triggering the anti-tampering feature. However, he says, Mikoh is working on future versions of the Smart&Secure Retail Tag that could be adhered directly to apparel fabric or care-instruction labels.

Atherton says Mikoh would like to launch pilot tests of the first tag design within the next three to six months, and that the company timed the announcement of the Smart&Secure Retail Tag concept last week to generate interest among manufacturers and retailers that might wish to participate in the pilot.

RELATED_ARTICLES Presently, Mikoh is still optimizing the manufacturing processes it will use to produce the initial Smart&Secure Retail Tag. As such, Atherton says he cannot yet forecast a price. "Whatever [price] I quote you today would likely be too high in the future, because we are still working on ways to efficiently produce the tag," he notes. "But the markets we are addressing with this product are price-sensitive, and we have reason to believe we can be competitive [with other product tags]."

Last year, IBM introduced a passive RFID tag allowing consumers to tear off most of a tag's antenna on a purchased item, thereby reducing the tag's read range from 20 feet to just a few inches (see Marnlen Makes Privacy-Friendly Tags for Retail Items). But with IBM's design, as well as with other similar solutions, the tag's reduction in the read range is irreversible.

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