

Broadcom Introduces Secure RFID Chip

The new processor combines cryptographic and RFID capabilities to secure contactless credit cards and devices used to gain access to buildings, computers or networks.

By Claire Swedberg

June 29, 2006—Semiconductor manufacturer [Broadcom](#) has released a secure chip with RFID technology that offers greater security, as well as the ability to operate at either high or low frequency. The chip, known as the Broadcom BCM5890 secure processor, is designed to secure personal authentication cards and key fobs, such as contactless credit cards, and devices used to gain access to buildings, computers or networks. Biometrics device provider [Privaris](#) will be the first to use it.

The Privaris second-generation plusID will be "smaller, faster, cheaper and more secure," says Privaris president and CEO Barry Johnson, in part because of the BCM5890 embedded in its handheld device. Privaris' plusID personal biometric authentication device has the BCM5890 embedded within it. This wireless biometric handheld fob is used for physical and logical access, as well as for contactless payments.

For Privaris and other users, the new Broadcom chip offers greater security at a lower cost than any previous security solution, says Joseph Wallace, senior director for the company's security line of business.

The embedded contactless RFID tag capability allows the device to operate at either the 13.56 MHz (using the ISO14443 or ISO15693 air interface protocol standards) or 125 kHz frequencies. In the case of 125 kHz, Johnson says his configurable interface can implement any of the common 125 KHz protocols. "However, HID, Indala, and Kantech are the ones we officially have in place," he says.

With the second generation of plusID, says Johnson, the device not only operates at high or low frequencies, but also has compatibility with Bluetooth and USB. The Broadcom processor also enabled Privaris to use a smaller rechargeable battery, reducing the size of the fob by about half. It now measures 2.6 inches by 1.25 inches by one half inch thick, weighing about .8 ounces. The Broadcom processor does the job that used to require several chips. Many products use one processor for security and an RFID chip to transmit data to a reader.

Johnson says the Broadcom processor is also more secure than previous chips. It allowed Privaris to raise the plusID's tamper rating from Federal Information Processing Standards (FIPS) level 2 (tamper-evident) to level 3 (tamper-resistant). Level 3 ensures that the processor can detect any physical or electrical tampering and be destroyed by that tampering before data can be stolen.

The processor's improved cryptographic capabilities ensure that code is encrypted in such a way that it cannot be run on any other chip. The BCM5890 also runs in a secure mode that protects information during any exchange of information between a device and the chip.

Broadcom is also partnering with [RSA Security](#) to embed the RSA SecurID within the BCM5890. Once RSA SecurID technology is fully embedded, Broadcom customers developing BCM5890-based solutions will be

able to have their products certified as RSA SecurID Ready. The plusID fob is also in the certification process to be an RSA SecurID Ready device and will be available to customers in August, Johnson says. The BCM5890 costs about \$15.00 each in 10,000-unit quantities.

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