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TI taps embedded FRAM for e-passports

By George Leopold

Eyeing the potentially huge global demand for contactless chips, Texas Instruments last week revealed plans to enter the secure-government-ID market with products built around ferroelectric memory and microcontroller technologies.

Dallas-based TI is targeting next-generation government-ID programs such as electronic passports, claiming its FRAM technology will enable much faster read and write times and increased memory capacity. The chip maker said its approach could speed the process of creating and processing IDs containing personal information. The types of personal data that could be stored on e-passports and other secure IDs could also be expanded to include biometric and other data.

"For this particular application, [FRAM] is an extremely good fit," said V.C. Kumar, manager of TI's government identification unit. Kumar claimed FRAM's high density and small cell size could help fill the gap between secure-ID market requirements and the capabilities of existing storage technologies such as E^2PROM and flash—a gap that he said is "increasing over time."

The FRAM push could also usher in such applications as electronic stamps in passports and "write on the fly" mobile applications, Kumar said.

TI's embedded FRAM technology is the product of joint development work with partner Ramtron International Corp. (Colorado Springs, Colo.), which licensed its nonvolatile FRAM technology to Texas Instruments in 2001. In March, the partners announced an agreement under which TI would manufacture Ramtron's FRAM devices using 130-nm process technology.

With new e-passport and national ID programs planned in more than 50 countries in Europe and Asia along with a U.S. initiative, the transponder segment of the security chip market could reach $970 million by 2012, market researcher ABI Research estimates. The overall security market, including transponders, card readers, software and services, could hit $1.5 billion over the same period, according to the firm.

ABI analyst Jonathan Collins said growing volumes in the security chip market likely prompted TI to jump into a sector that already includes rival chip makers NXP and Infineon. TI's emphasis on speed and storage capacity are among the "high notes" in terms of what the market needs, Collins said.

Backlogs in issuing new U.S. passports have been growing, and experts say new security requirements could further slow the process of adding personal data to ID chips.

The key issue for border security officials, TI's Kumar said, is how to "speed things up" without "compromising security." ■