

TI Extends Fingerprint-based Security Products to Make Assessing Multiple Sensors and Evaluation Algorithms a Snap

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To enhance the range of easy-to-use, affordable development tools for fingerprint-based security products, Texas Instruments Incorporated (TI) announced the availability of three new, smaller sensors from Atmel, AuthenTec and Fingerprint Cards. With the digital signal processor (DSP)-based Fingerprint Authentication Development Tool (FADT) platform, developers can choose from a range of TI's DSP Starter Kits to create a complete development environment in order to quickly and easily evaluate different fingerprint sensors and verification algorithms on the same platform.

DSP-based systems improve image enhancement, leading to greater accuracy and processing speeds. These systems are helping to drive the mass market adoption of fingerprint biometric technology. According to the International Biometric Group (IBG), a consulting, integration and research firm focused on biometrics, the biometrics industry is expected to grow to \$1.5 billion by 2008 (excluding large-scale AFIS systems), according to Samir Nanavati, partner, IBG.

Flexibility to Evaluate and Develop Different Products on Same Platform

TI is the only company with a flexible and open platform that is sensor-agnostic. This approach allows developers to compare completely different sensor technologies and evaluate verification software from

industry leaders like Bioscrypt and Fingerprint Cards on the same platform. By supporting a wide range of TI DSPs, developers also can leverage their design across multiple applications, from portable, battery-powered devices to high-end identification networks. The powerful, affordable and easy-to-use FADT allows even entry-level developers to begin evaluation minutes after opening the box.

Using TI's development tools, original equipment manufacturers (OEMs), who may be unfamiliar with DSP technology, can get key fingerprint applications to market quickly and inexpensively. The DSP-based fingerprint systems can be used for 1:1 and 1:N verification. While 1:1 verification matches a person to a primary fingerprint for personal access to equipments, 1:N identification matches a person within a database of fingerprints for physical or network access.

The Atmel FingerChip™ sensor is the industry's first and only thermal sensing fingerprint technology with active measuring area of 0.4 x 14 mm and a 500 dpi resolution. The FingerLoc® AFS8600 is AuthenTec's newest low-power, small form factor touch fingerprint sensor which utilizes TruePrint® technology and features an active measuring area of 9.75 x 9.75 mm and an image resolution of 250 dpi. The Fingerprint Cards FPC1031 sensor is the first capacitive swipe sensor with an active measuring area of 2.24 x 10.64 mm and a 363 dpi resolution. With the Atmel FingerChip and Fingerprint Cards FPC1031, TI introduces the first swipe sensor technology on the DSP-based FADT platform.

TI supports the FADT with its TMS320C55x™ and TMS320C67x™ DSP generation DSPs. The C55x™ DSP generation is ideal for low power, portable devices used for personal biometrics, such as automobiles, gun safes, handheld scanners and PDAs. The C67x™ DSP generation features a parallel floating-point architecture with the industry's most efficient compiler, which can fetch eight 32-bit instructions simultaneously. This generation offers a higher level of

performance best suited for identification applications that require large databases of more than 500 prints, such as those used in physical access and time and attendance units. Both generations offer dedicated signal processing instructions and compute units that are specialized for the processing needs of biometric applications.

Software Optimizes Sensor Performance

The daughter cards are backed by award-winning, pattern-matching-based verification software from Bioscrypt and distinct area detection software from Fingerprints Cards. In a recent independent evaluation of fingerprint verification software at the 2004 Third International Fingerprint Verification Competition, Bioscrypt's core software placed first in the open category with an average of 0.08 seconds for enrollment and 1.48 seconds for a match across four databases. Bioscrypt's core algorithm also includes image enhancement functions that significantly improve recognition accuracy. Bioscrypt's software is now available for C67x DSPs, and support for C55x DSPs will be available in the third quarter of 2004. Fingerprint Cards' high-speed biometric software is also available for the C55x DSPs, supporting both the FPC1031 swipe sensor and the larger FPC1011 area sensor.

"With its extensive line of DSPs, TI enables us to provide the accuracy and speed demanded by end users of biometric technologies for a wide range of applications," said Israel Ben-Ishai, vice president, engineering, Bioscrypt. "Together, we can offer developers a low-cost development platform that allows them to quickly and more easily design incredibly accurate biometric products that are more convenient to users and offer superior security."

Pricing and Availability

The new Atmel (TMDSFDCATM31), AuthenTec (TMDSFDCAFS86) and Fingerprint Cards (TMDSFDCFPC31) sensor-based FADT kits are priced at \$245 each, as is the previously released Fingerprint Card sensor FADT kit (TMDSFDCFPC10). Each kit includes evaluation fingerprint software, image capture drivers and technical documentation. DSP Starter Kits for C55x and C67x DSPs are \$395 and provide everything a developer needs to begin evaluation immediately. All kits are available today through TI distributors and the TI e-Store. Additional sensors for the FADT platform are scheduled for release later this year.

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