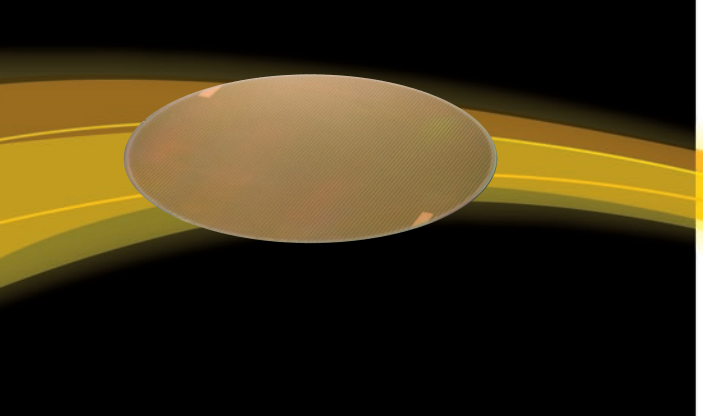

micropass® Suite

Multi-standard 13.56MHz contactless microcontroller chip

Architecture

- 16-bit proprietary RISC architecture
- Multi-application architecture with a dynamic MMU

EEPROM

- Power Guard™ anti-tearing function
- 1 to 32 16-bit word programmed in parallel
- 1.5 ms erase, 1.5 ms write
- 500,000 erase/write cycles
- 10-year data retention warranty

Operating features

- Distance, 4cm
- Temperature –20°C to 70°C

Security

- Tamper proof design
- Countermeasures against SPA and DPA attacks
- ROM Code encrypted,
- Frequency sensor
- Shielding

Applications

- Contactless smart card payment (Visa MSD, Mastercard PayPass)
- ID documents
- Transit Fare collection

micropass® is a new-generation microcontroller platform. Its unique 16-bit reduced instruction set (RISC) architecture was designed from the ground up for contactless smart card payment applications. It offers high speed, cost-effectiveness, reliability and delivers impressive all-round, low-power performance.

Fast

micropass® boasts the fastest processing power currently available on the contactless smart card market. Its single clock cycle instruction set delivers a speed of 1MIPS/MHz.

That translates into data exchange times of 150ms, and checkout times of 13 seconds at contactless-enabled POS.

High execution speeds do not come at the expense of shorter communication distances. A special low power mode reduces internal power consumption to less than 50µA in order to perform longer-distance operations.

Cost effectiveness

The size of the micropass® core silicon chip is kept to a minimum to keep its cost to a minimum. One-third the size of generic 8051 or 6805 chips, the microcontroller's dedicated, ground-up architecture is designed with only 5,000 gates and offers a maximized ratio of innovative functionalities.

Reliable

micropass® offers unrivalled low power consumption. Powered by its antenna, the simplified microcontroller platform requires one-half the energy of general-purpose chips and delivers five times the speed!

In real-life contactless payment applications, the low power consumption performance allows end-users to present their smart cards to a reader at any angle in the landing zone. Transactions are successful – and fast – at the first attempt.

Secure

micropass® implements state-of-the-art smart card industry security features. It combines them with contactless security measures. Up-to-date countermeasures provide a high level of resistance against SPA and DPA attacks.

Operating Flexibility

With the micropass® platform, INSIDE Contactless delivers hardware and the software to run it.

It comes bundled with a dedicated, optimized operating system and software that meets the demands of contactless payment applications.

By integrating all the lower-level operating technology the package saves card-issuers time and money.

At the same the platform's design incorporates the flexibility that allows customers to develop their own applications like,

- Retailer incentive schemes
- Crossover with other contactless infrastructure like transit and access.

make the move

INSIDE CONTACTLESS

micropass®

micropass® Adoption Services

INSIDE Contactless provides professional services related to the integration and adoption of micropass® Product Suite.

micropass® services include:

Application Development

INSIDE is available to work with customers and partners to provide the following services with additional applications on micropass® EEPROM:

1. Specify
2. Design
3. Implement
4. Test

Alternative Packaging

INSIDE is available to provide our card manufacturer partners with alternative packaging of micropass® to include alternative modules and inlay forms suitable to:

1. Full size antennas for ID-1 cards
2. Half-size antennas for ID-1 cards (supporting 4 line embossing)
3. Designs with transparent & translucent cards
4. Mini cards
5. 2D and 3D Fobs
6. Other alternative and unique form factors.

Pre-Personalization & Personalization Support

INSIDE is available to provide sheet-reader systems for:

1. Pre-personalization ready for integration within a card manufacturing operation
2. pre-personalization script development for micropass®
3. personalization support services.

System Integration Support

INSIDE is available to provide system architecture and design support services related to adoption of micropass® with customer/partner applications within an overall system context. This includes support related to terminal and backend system design.

micropass® Suite Offer with O.S and Applications

micropass® Suite is a family of intelligent hardware products consisting of core microprocessor chip, native Operating System, and applications

Name	micropass® L4 - Visa MSD	micropass® L4 - PayPass Magstripe	micropass® D8 - CEPAS
Protocol:	ISO 14443-B	ISO 14443-B	ISO 14443-B
O.S. Type:	ISO 7816-4	ISO 7816-4	ISO 7816-4
Application:	VISA "MSD with dCVV"	Mastercard PayPass™ with Magstripe Profile	CEPAS: Contactless e-Purse Application Specification
Type approval:	Visa certification for: • Mini cards, • Full embossing ID-1 cards • Keyfob	MasterCard certification for: • Full embossing ID-1 cards • Keyfob	N/A
Hardware DES	No	No	Yes
EEPROM size available for additional application	1.4K	Ok	6.5K

make the move

inside CONTACTLESS