



*The Contactless Solution
for Payments and ID*

CONTACTLESS

MULTOS and MULTOS step/one

Easy-to-use contactless technology

MULTOS, the world's leading platform for EMV, identity and data security, is now available in a range of contactless and dual-interface options. Multos International has combined the renowned security and flexibility of MULTOS with the speed and convenience of contactless — creating opportunities for even more value-added applications. Choose contactless-only (for access control or e-Passport deployments) or dual-interface configurations (for existing EMV deployments), and a range of memory options including 8K, 12K, 36K and 80K. The product meets the MULTOS and MULTOS step/one specification, while including the latest EMV payment applications pre-loaded in ROM memory. These new additions to the family show the benefits of the MULTOS platform — a truly complete range of smartcard options to suit the needs of the issuer.

The MULTOS contactless and dual-interface range is particularly suited to payments, including MasterCard® *PayPass*™, and secure ID.

Who We Are

Multos International is a leading implementer of MULTOS technology. We offer a myriad of contact, contactless and dual-interface products, over a broad range of EEPROM sizes. Applications spanning the Banking, Govt/ID and Transit market sectors have been introduced on our products. Furthermore, any application, be it existing or proposed, can be developed for the MULTOS or MULTOS step/one platforms.

Our products have been used in numerous security sensitive projects, in a broad mix of issuing environments and supply chain configurations. With Operations personnel and Technical Support staff located around the world, we are fully capable of providing MULTOS products and ancillary services that form the basis of a successful smartcard-based solution. Contact us at info@multosinternational.com to see if MULTOS or MULTOS step/one fits your needs.

PayPass™ M/Chip™

MasterCard's contactless payment application, *PayPass*, is a solution ideal for speeding up payments and a great enhancement to any EMV payment card. Targeted at environments that usually handle cash such as quick-serve restaurants, petrol stations and movie theatres, MasterCard *PayPass* offers the benefits of M/Chip for the contactless interface.

Multos International's dual-interface MULTOS and MULTOS step/one products are capable of supporting the MasterCard M/Chip4 EMV payment application in contact mode and now the *PayPass* M/Chip product for contactless payments.

Multos International now offers the first MULTOS and MULTOS step/one products that support both regular contact and contactless interfaces, and MiFare® capability. This allows issuers who want to support M/Chip, *PayPass* and MiFare to do so using a single chip, saving on both card and card manufacturing costs.

Product Options

- 8K SDA. Includes MICA (*PayPass*, M/Chip4 & CAP), VSDC, XLS
- 36K DDA. Includes MICA (*PayPass*, M/Chip4 & CAP), MODS, VSDC, XLS, Precise Match-on-card
- 80K DDA. Targeted at e-Passport projects
- 12K DDA Dual Interface



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Features

Family Compatibility with MULTOS Version 4.2

Features from MULTOS, the industry's leading smartcard platform for functionality, flexibility and security, remain standard.

- Memory firewalls for applications and data
- Secure application management (even post-issuance)
- Compliant with latest MULTOS personalisation equipment (dual-interface product)

Applications

- Multos International has included a selection of popular applications pre-loaded in the ROM memory. This saves valuable EEPROM memory and reduces personalisation time and cost.
- Use existing MULTOS applications or develop new ones using the same development tools (applications can be developed in low-level MEL, or industry-standard 'C' or Java)
- Use the dual-interface configuration in existing EMV deployment accessing the latest in EMV compliant applications pre-loaded in ROM

Contactless Interface

- Contactless operation using industry standard ISO14443 – choose Type A or Type B
- MiFare® Classic 1-Kbyte Emulation
- Applications can execute on either the standard ISO7816 contact or the contactless interface.

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Technical Specifications

CPU

Implemented on Infineon 66 family of secure controllers:
SLE66CL80PEM/SLE66CLX 360PEM/SLE66CLX800PEM

Anti-snooping mechanisms in hardware: active shields, true random number generator, counter measures against SEMA/DEMA SPA/DPA DFA and timing attacks

Memory

Total EEPROM: 8K/36K/80K

Applications

APIs supported: MEL V4.2

Input/Output - Contact

Protocols: T=0, T=1; PPS

Speed: Up to 223kbit/s

Input/Output - Contactless

Protocol: Choice of ISO14443 Type A or Type B

Data Rate: 106kbps (Type A); 106, 212, 424kbps (Type B)

MiFare® Classic 1-Kbyte Emulation (optional)

Applications in ROM

MasterCard approved EMV applications supporting:
M/Chip4, PayPass M/Chip and M/Chip Select 2.0.5

MODS (MasterCard)

VSDC VIS1.4.0 - EMV compliant application for Visa

XLS (Welcome Real-Time)

Precise Biometrics Match-on-cardTM

Multos International PKI

Target Market Application

Contactless payments: (e.g., MasterCard PayPass)

Contactless Identity: (e.g., ICAO e-Passport)

Access Control

Contactless Transit

Notes: Specifications and functionality may change