

SECURITY SOFTWARE – CERTIFIED AND MADE IN GERMANY.

**MASKTECH IS THE LEADING INDEPENDENT SUPPLIER OF OPERATING SYSTEMS FOR
SMARTCARD ICS USED IN IDENTIFICATION APPLICATIONS AND TRAVEL DOCUMENTS.**



MaskTech GmbH • Germany • Headquarters
Nordostpark 45 • 90411 Nuernberg • Germany
Phone +49 911-955149-0 • Fax +49 911-955149-7
info@masktech.de

MaskTech GmbH • Germany • Support
Bahnhofstrasse 13 • 87435 Kempten • Germany
Phone +49 911 955149-0 • Fax +49 831 5121077-1
support@masktech.de

Visit us: www.masktech.com

MTCOS® FLEX-ID

Short Form Specification



Electronic
National ID



Health Card



Electronic
Driving License



Electronic
Payment

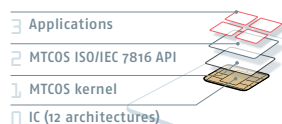
Performance and security for smart cards with limited memory and processing capabilities. MTCOS® FLEX-ID powers Flash and ROM based Common Criteria EAL5+ certified high security chips used in eID documents, authentication and social security solutions. The OS supports all essential features for cost-efficient electronic identification and is based on the latest security standards. All applications are built-in and can be activated by the personalizer on demand. MTCOS® secures over 65 eID projects worldwide.

MTCOS® FLEX-ID

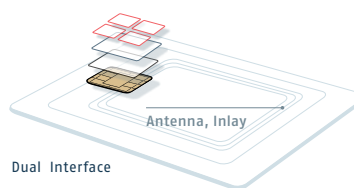
SHORT FORM SPECIFICATION

TECHNOLOGY

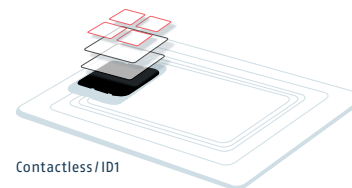
MTCOS® supports cryptographic smartcards with contact based, dual and contactless interface.



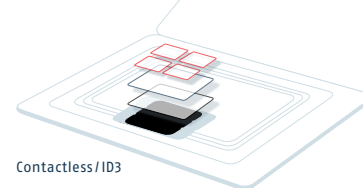
Contact



Dual Interface



Contactless/ID1



Contactless/ID3

APPLICATIONS	MTCOS® eID	MTCOS® eHEALTH	MTCOS® eDRIVING LICENSE	MTCOS® ePAYMENT	CUSTOMIZED APPLICATIONS
DESCRIPTION	ICAO application complemented by signature, certificates and strong PKI authentication for eGovernment usage. Features available for all applications installed in the OS. Pre- and post issuance personalization of additional applications.	Secure storage of personal patient data in the IC secure memory offers a maximum of data privacy in modern health infrastructures. Strong protection against cloning of the health card.	Support of the international standard ISO/IEC 18013 and the latest EU regulations. Individual configuration of the ISO/IEC 18013 security protocols. Support of various cryptographic protocols and keylengths.	Simple to use one command payment transaction. Short transaction times for contactless applications. Reduced overall product complexity.	Secure pre- and post issuance of customized applications by the card issuer or delegatee. New applications can reuse all functions embedded in MTCOS®. No code development required. Optional: application development by MaskTech security specialists.
APPLICATION FEATURES	• DOC9303 and BSI TR03110 (PA, BAC, AA, SAC) • Signatures and certificates • PKI and SKI authentication • PIN (user) authentication • ISO/IEC Multi-application (pre- and post issuance) Optional: • MINEX II / Match-on-Card	• Trusted Medic • Signatures and certificates • Copy protection • Emergency data • ISO/IEC 21549 Control (SAC) / PACE	• ISO/IEC 18013-2,3,4 • Support of all DGs • Passive Authentication • Basic Access Protection • Active Authentication • Supplemental Access Control (SAC) / PACE	• Single command transaction • Full SAM support • Transaction counters for the ePurse and SAM • Transaction receipt • Two certificate keys • Key derivation with the SAM • Increase / decrease limits • AES and 3DES support	• ISO/IEC 7816 multi-application architecture • Global Platform • PlugIns using MTCOS® sandbox technology
CHIP TECHNOLOGY	• Infineon SLE77 Flash Series • NXP P60D042 (ROM) • Samsung S3 Flash Series	• 100...256k¹ Flash • up to 20 years EEPROM data retention¹	• DES, AES¹, PKI¹ crypto engines • DPA, SPA, EPA, UV, IR resistance¹ • True random number generator	• Active shield, V, F, T, C sensors¹ • CC EAL 6+ or EAL5+ certified¹ • MIFARE Classic or DESFIRE emulation¹	• ISO/IEC 7816-3 contact¹ • ISO/IEC 14443 contactless¹ • Unique chip ID

COMMON FEATURES

COMMUNICATION

- ISO/IEC 7816 contact based
- ISO/IEC 14443 contactless
- Extended APDUs
- Secure messaging (CEN 14890)

OS CHARACTERISTICS

- Highest performance through direct code processing
- CC security design

DATA HANDLING

- ISO/IEC 7816-4...9, 15
- Transactions
- File sizes up to 64KB
- Individual file access rights
- Global Platform

LIFE CYCLES

- 4-stage life cycle manager
- ISO/IEC 7816 file life cycles

SECURITY

- PIN, Trusted PIN
- Various authentication schemes
- Signature (CEN 14890, CEN 15480, PKCS#15)
- Random numbers
- Random UID / PUP1
- Strong resistance against DPA, DFA, SPA, EPA, UV, IR attacks
- RSA and EC key generation
- Anti-skimming feature¹

CRYPTOGRAPHY

- DES & 3DES
- AES
- SHA 1 & 2¹
- RSA up to 3072 Bit¹
- Elliptic Curve up to 512 Bit

USER MEMORY

- 8k... 64k Bytes¹

DELIVERY TYPES

- Wafer
- Contactless module
- Contact module
- Dual interface module

TOOLS

- Smart Platform scripting & file system tool
- MTCOS® MANAGER

¹ depends on semiconductor