

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.



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MTCOS® FLEX-ID

Short Form Specification



Electronic
National ID



Health Card



Electronic
Driving License



Electronic
Payment

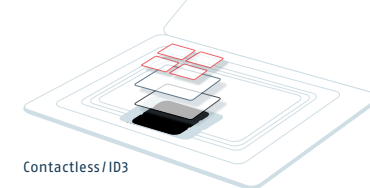
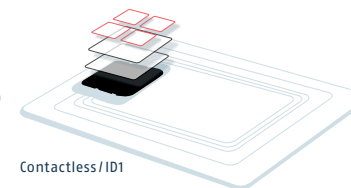
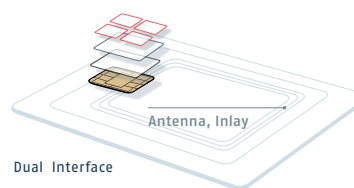
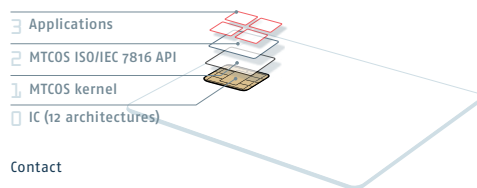
Performance and security for smart cards with limited memory and processing capabilities. MTCOS® FLEX-ID powers Flash and ROM based Common Criteria EAL5+ certified high security chips used in eID documents, authentication and social security solutions. The OS supports all essential features for cost-efficient 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.



APPLICATIONS	MTCOS® eID	MTCOS® eHEALTH	MTCOS® eDRIVING LICENSE	MTCOS® ePAYMENT	CUSTOMIZED APPLICATIONS
DESCRIPTION	<p>ICAO application complemented by signature, certificates and strong PKI authentication for eGovernment usage.</p> <p>Features available for all applications installed in the OS.</p> <p>Pre- and post issuance personalization of additional applications.</p>	<p>Secure storage of personal patient data in the IC secure memory offers a maximum of data privacy in modern health infrastructures.</p> <p>Strong protection against cloning of the health card.</p>	<p>Support of the international standard ISO/IEC 18013 and the latest EU regulations.</p> <p>Individual configuration of the ISO/IEC 18013 security protocols.</p> <p>Support of various cryptographic protocols and keylengths.</p>	<p>Simple to use one command payment transaction.</p> <p>Short transaction times for contactless applications.</p> <p>Reduced overall product complexity.</p>	<p>Secure pre- and post issuance of customized applications by the card issuer or delegatee.</p> <p>New applications can reuse all functions embedded in MTCOS®. No code development required.</p> <p>Optional: application development by MaskTech security specialists.</p>
APPLICATION FEATURES	<ul style="list-style-type: none"> • 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) <p>Optional:</p> <ul style="list-style-type: none"> • MINEX II / Match-on-Card 	<ul style="list-style-type: none"> • Trusted Medic • Signatures and certificates • Copy protection • Emergency data • ISO/IEC 21549 Control (SAC) / PACE 	<ul style="list-style-type: none"> • ISO/IEC 18013-2,3,4 • Support of all DGs • Passive Authentication • Basic Access Protection • Active Authentication • Supplemental Access Control (SAC) / PACE 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • ISO/IEC 7816 multi-application architecture • Global Platform • PlugIns using MTCOS® sandbox technology
CHIP TECHNOLOGY	<ul style="list-style-type: none"> • Infineon SLE77 Flash Series • NXP P60D042 (ROM) • Samsung S3 Flash Series 	<ul style="list-style-type: none"> • 100...256k¹ Flash • up to 20 years EEPROM data retention¹ 	<ul style="list-style-type: none"> • DES, AES¹, PKI¹ crypto engines • DPA, SPA, EPA, UV, IR resistance¹ • True random number generator 	<ul style="list-style-type: none"> • Active shield, V, F, T, C sensors¹ • CC EAL 6+ or EAL5+ certified¹ • MIFARE Classic or DESFIRE emulation¹ 	<ul style="list-style-type: none"> • 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 / PUI
- 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