

SECURITY SOFTWARE – CERTIFIED AND MADE IN GERMANY.

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



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# MTCOS® MANAGER

Short Form Specification



Electronic  
Passport



Electronic  
Driving License



Electronic  
Residence Permit



Electronic  
ID

MTCOS® MANAGER – the SDK for secure handling and personalization of MTCOS® based chipsets. Supported applications are electronic passport according to ICAO DOC 9303 and BSI-Tr03110, electronic national ID with signature features, eDriver's license according to ISO/IEC 18013 and eResidence permit according to the relevant EU regulations.

# MASKTECH MTCOS® MANAGER

Software development kit for secure handling and personalization of MTCOS® based chipsets and it's built-in applications

## TECHNOLOGY

The MTCOS® MANAGER is a dynamic link library (DLL) to integrate MTCOS® into personalization infrastructures. The DLL is compatible with C/C++ development tools for Microsoft Windows operating systems.

| APPLICATIONS                   |  ePASSPORT                                                                                                                                                                                                                                                                                                                                                              |  eID                                                                                                                                                                                                                                                           |  eDRIVING LICENSE                                                                                                                                                                                                                                                                                  |  eRESIDENCE PERMIT                                                                                                                                                                                                                                                                                                           |  CUSTOMIZED                                                      |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION                    | Personalization and life cycle API for the MTCOS® built-in ePassport application with support of all relevant security mechanisms, access control, crypto protocols and data formats defined in ICAO DOC 9303 and BSI Tr03110 standards.                                                                                                                                                                                                                 | API for a secure personalization of a PKCS#15 file system with multiple PINs, keys and certificates. All other MTCOS® applications may be added and personalized using MTCOS® and the SDKs feature set.                                                                                                                                         | Personalization and life cycle API for MTCOS® built-in eDriving License application with support of the ISO/IEC 18013 and EU standards.                                                                                                                                                                                                                                               | Personalization and life cycle API for the MTCOS® built-in eResidencePermit application. The library supports all relevant security mechanisms, access control, crypto protocols and data formats defined in the relevant EU regulations for the eRP.                                                                                                                                                           | The SDK will on request be extended to meet new personalization systems requirements and/or new functions, applications and cryptographic features. |
| FEATURES                       | <ul style="list-style-type: none"><li>• Image converter</li><li>• ICAO converter</li><li>• DOC9303/Passive Authentication, Active Authentication, Basic Access Control</li><li>• BSI Tr03110 – Extended Access Control</li><li>• BSI Tr03110 – Supplemental Access Control/PACE<sup>1</sup></li><li>• 4-stage life cycle process</li><li>• Common Criteria mode</li><li>• 7816-4, chip writer functions</li><li>• ISO/IEC 14443, 7816-3, PC/SC</li></ul> | <ul style="list-style-type: none"><li>• ISO/IEC 7816-15</li><li>• CEN 15480</li><li>• CEN 14890</li><li>• ISO/IEC 7816 multiapplication (e.g. ICAO + eSign) pre- and post issuance</li><li>• 4-stage life cycle process</li><li>• Common Criteria mode</li><li>• 7816-4, chip writer functions</li><li>• ISO/IEC 14443, 7816-3, PC/SC</li></ul> | <ul style="list-style-type: none"><li>• ISO/IEC 18013 converter</li><li>• ISO/IEC 18013/Passive Authentication, Basic Access Protection, Active Authentication, Extended Access Protection / Extended Access Control Supplemental Access Control/PACE 1</li><li>• 4-stage life cycle process</li><li>• 7816-4, chip writer functions</li><li>• ISO/IEC 14443, 7816-3, PC/SC</li></ul> | <ul style="list-style-type: none"><li>• Image converter</li><li>• ICAO converter</li><li>• DOC9303/Passive Authentication, Active Authentication, Basic Access Control</li><li>• BSI Tr03110/Extended Access Control, Supplemental Access Control1</li><li>• 4-stage life cycle process</li><li>• Common Criteria mode</li><li>• 7816-4, chip writer functions</li><li>• ISO/IEC 14443, 7816-3, PC/SC</li></ul> | Based on customer requirements and infrastructure.                                                                                                  |
| OS VERSION AND CHIP TECHNOLOGY | All MTCOS® versions V2.1 and higher                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                     |

## COMMON FEATURES

### IMAGE CONVERTER

- BMP2JPEG, BMP2JPEG2k, BMP2WSQ
- JPEG2JPEG, JPEG2JPEG2k, JPEG2WSQ
- Auto-compression to specified size
- Easy exchange of input and output image formats

### ISO/IEC 18013 CONVERTER

- ISO/IEC 18013-2,3
- BAP keyfile assembly from textfield / barcode / 1-line MRZ
- EAP/EAC

### PASSIVE AUTHENTICATION (PA)

- Hash and signature generation with SHA 1&2 / RSA 1024 ... 4096 Bit
- Import of DSCA and CSCA certificates
- Generation of DSCA and CSCA certificates
- EF.SOD assembly

### EXTENDED ACCESS CONTROL (EAC) & EXTENDED ACCESS PROTECTION (EAP)

- Generate asymmetric public-private keypair supporting RSA 1024...2048 Bit and Elliptic Curve up to 512 Bit
- EF.DG14 assembly

### OTHER TOOLS

- Smart Platform scripiter, file system tool

### ICAO CONVERTER

- ISO/IEC 19794 and ISO/IEC 7816-11
- ICAO TrLDS data group formatting
- BAC keyfile assembly from MRZ

### SECURE PERSONALIZATION

- 4-stage life cycle manager
- Transport key protection
- SAM

### ACTIVE AUTHENTICATION (AA)

- Generation of asymmetric public-private key pair / RSA and ECC
- EF.DG15 (ePass) and EF.DG13 (eDL) assembly

### SUPPLEMENTAL ACCESS CONTROL (SAC)

- Key derivation from MRZ/CAN
- Assembly of EF.CARDACCESS and DG14

<sup>1</sup> requires MTCOS V2.2 and higher