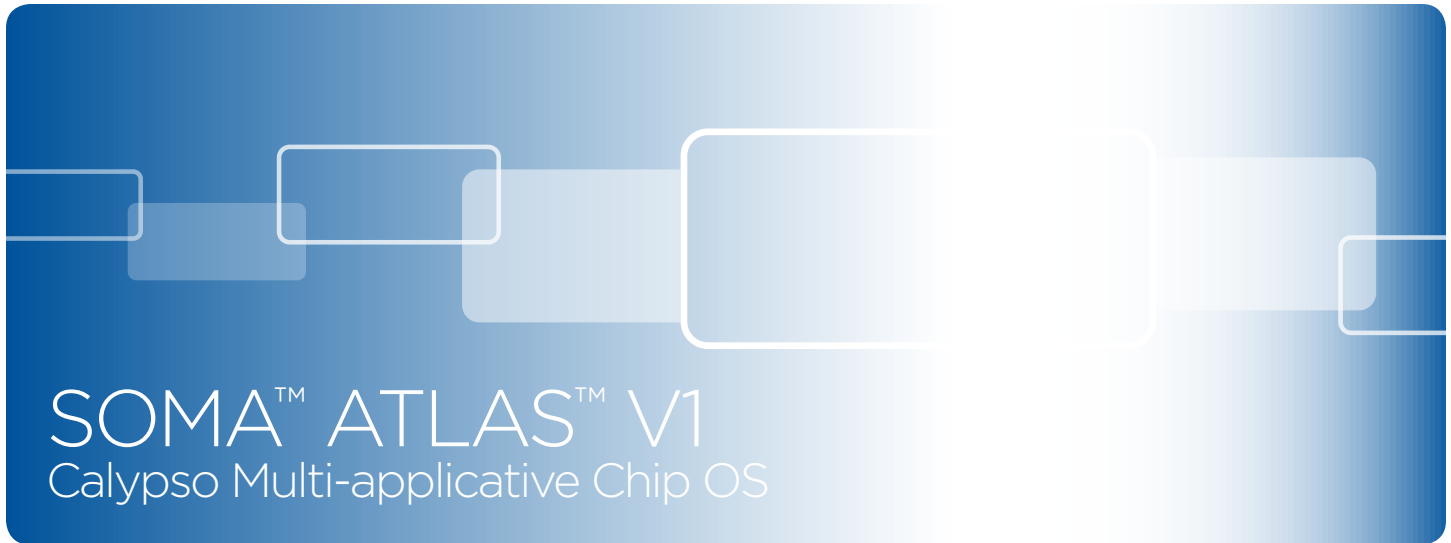




## TICKETING & TRANSPORT MULTI-APPLICATION SOLUTIONS



**TYPICAL APPLICATIONS**

- Transportation
- Loyalty
- Access Control
- Multi-application

### FAST, VERSATILE & SECURE

HID Global has over 10 years of comprehensive experience in transportation chip operating system (COS). SOMA ATLAS™ is built on this solid foundation. The full compliance to Calypso Specification for Ticketing – Card Application Rev. 3 and the availability of KIAT™ functionalities make it the ideal choice for transportation and secure multi-application smart cards.

#### MAIN FEATURES

- Calypso Rev. 3.1 certified
- KIAT™ functionalities
- ISO 7816-4 compliant data structure
- e-Purse
- Active authentication / PIN
- Transaction Management
- Secure Messaging
- Roll back functionality

#### COMMUNICATION PROTOCOLS

- Contact ISO 7816 up to 192 kbps (T=0, T=1)
- Contactless ISO 14443 type A & B up to 848kbps

#### CALYPSO SECURITY MECHANISMS

- Session MAC (SMAC)
- Stored Value MAC (SV-MAC)
- Signed Encryption (SMAC)
- PIN Encryption for presentation

#### AVAILABLE PRODUCTS

- Contactless micro-modules: 0.340 & 0.260 mm thickness
- Contact modules: ISO 6 or 8 contacts
- Dual-interface modules: ISO 6 or 8 contacts
- Polycarbonate, PVC & PET contactless inlays for cards
- White and pre-printed smart cards (PVC, PET, PC)

- Other form factors

#### COS CRYPTOGRAPHIC ALGORITHMS

- Cipher: DES (TDES, DESX) ECB-CBC
- Signature: DES MAC8
- MAC: ISO 9797, ISO 10118
- Checksum: CRC16/CRC32
- Random number: Secure random
- Message digest: SHA-1, SHA-256
- DES Key sizes: up to 120-bit

#### SECURE MICRO-CONTROLLER

- 16-bit CPU with 6KB of RAM
- Flexible secure NVM size to choose from
- Symmetric cryptographic engine (DES, AES)
- Asymmetric cryptographic engine (RSA, ECC)
- Side channel attacks resistant
- Memory management & protection (MMU)
- Unique chip identification
- Environment sensors
- EAL5+ Common Criteria certification
- EMVCo certification



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\*Complete product specifications upon request only.