**TICKETING & TRANSPORT MULTI-APPLICATION SOLUTIONS**

**SOMA™ ATLAS™ V1**
Calypso Multi-applicative Chip OS

**NORMAL APPLICATIONS**
- Transportation
- Loyalty
- Access Control
- Multi-application

**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-CONTROLER**
- 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

**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.

**TYPICAL APPLICATIONS**
- Transportation
- Loyalty
- Access Control
- Multi-application

**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-CONTROLER**
- 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

*Complete product specifications upon request only.*

hidglobal.com

© 2018 HID Global Corporation/ASSA ABLOY AB. All rights reserved. HID, HID Global, the HID Blue Brick logo, the Chain Design and SOMA are trademarks or registered trademarks of HID Global or its licensor(s)/supplier(s) in the US and other countries and may not be used without permission. All other trademarks, service marks, and product or service names are trademarks or registered trademarks of their respective owners.

2018-03-07-hid-soma-atlas-v1-en ~ PLT-03861

North America: +1 512 776 9000
Toll Free: 1 800 237 7769
Europe, Middle East, Africa: +44 1440 714 850
Asia Pacific: +852 3160 9800
Latin America: +52 55 5081 1650

An ASSA ABLOY Group brand