



CryptoMate EVO

(ACOS5-EVO Cryptographic USB Token)



Advanced Card Systems Ltd.

Card & Reader Technologies

Outline

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Product Information



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ACOS5-EVO Series



**PN: ACOS5-K1A
ACOS5-EVO
(Contact)**



**PN: ACOS5-K1K
ACOS5-EVO
(Combi)**



**PN: ACOS5-K1L
ACOS5-EVO
(Contactless)**



**PN: ACOS5T2-B1E1
CryptoMate EVO**



Product Overview

CRYPTOMATE EVO

ACOS5-EVO Cryptographic USB Token



The CryptoMate EVO is the latest addition to the CryptoMate Token Series.

It contains the ACOS5-EVO module, which supports ECC and RSA Keys.



Product Overview

What is CryptoMate EVO?



Smart Card Reader

+



ACOS5-EVO PKI Smart
Card

=



CryptoMate EVO



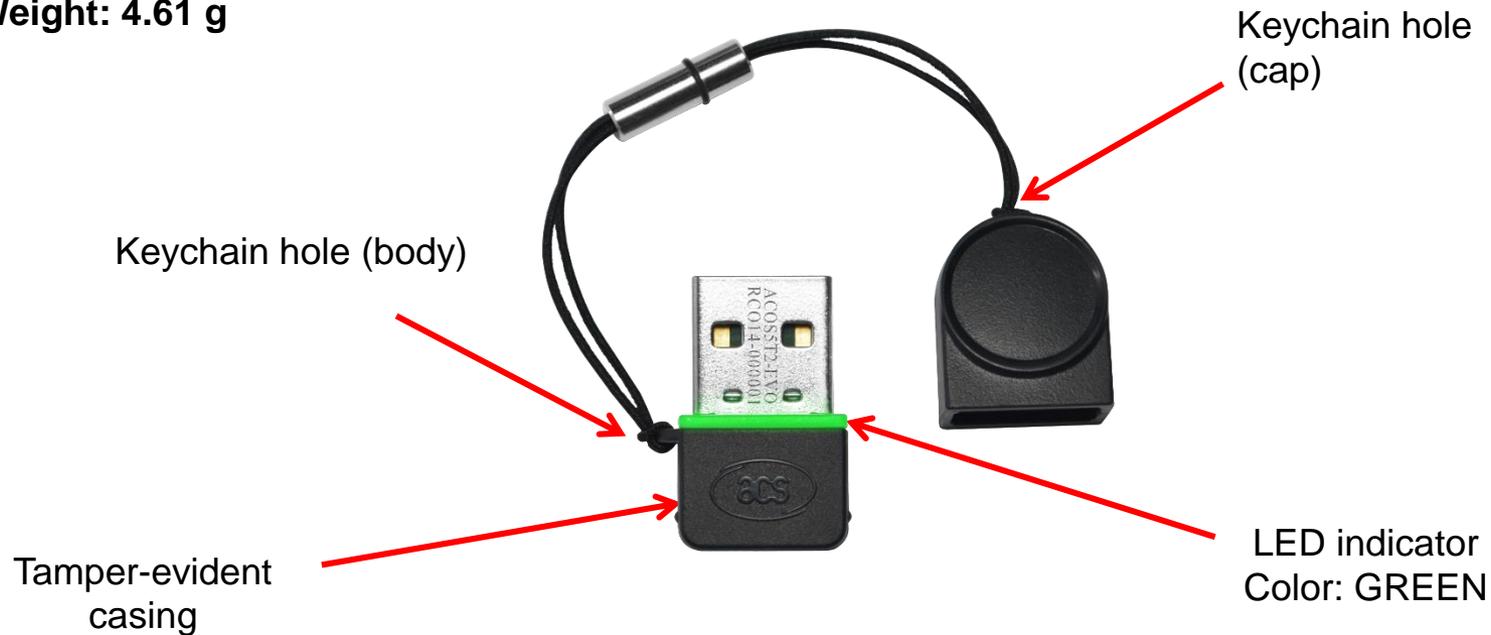
Product Overview

Physical Characteristics

Dimension:

29.25 mm (L) × 14.80 mm (W) × 10.28 mm (H)

Weight: 4.61 g



CryptoMate EVO



Key Features of CryptoMate EVO

Smart Card Chip Features

- ACOS5-EVO Chip with 192 KB Memory
- T=0, T=1 (default)
- Configurable ATR
- Anti-tearing

Certifications and Compliance

- Common Criteria EAL5+ (Chip Level)
- ISO 7816 Parts 1, 2, 3, 4, 8, and 9
- FIPS 140-2 Level 3 Compliant
- CE, FCC
- RoHS, REACH
- Microsoft WHQL

Cryptographic Algorithms

- ECC: Curves P-224/P-256/P-384/P-521
- RSA: up to 4096 bits
- AES: 128/192/256-bits (ECB, CBC)
- DES/3DES: 56/112/168-bits (ECB, CBC)
- Hash: SHA1, SHA224, SHA256, SHA384, SHA512
- MAC: CBC-MAC (DES/3DES, AES), CMAC (3DES, AES)
- Random Number Generator



Technical Specifications

Category		CryptoMate EVO
Product Code		ACOS5T2-B1E1ACSA03
User EEPROM Memory		
User Memory		192 KB
Endurance (<i>write/erase cycle</i>)		500,000
Compliance to ISO Standards		
Contact	ISO 7816 – 1/2/3	✓
	ISO 7816 – 4	✓
	ISO 7816 – 8/9	✓
Communication Speed and Protocol: Contact Interface		
Protocol	T=0	✓
	T=1	✓ (Default)
Speed	9,600 bps – 446,400 bps	✓ TA = 96 (223,200 bps) Default
Operating Conditions		
Temperature		0 °C – 50 °C
Humidity		Max. 90% (non-condensing)

Technical Specifications

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Cryptographic Capabilities	
ECC	P-224/P-256/P-384/P-521
RSA	up to 4096 bits
DES/3DES	56/112/168-bits (ECB, CBC)
AES	128/192/256 bits (ECB, CBC)
Hash	SHA1, SHA224, SHA256, SHA384, SHA512
MAC	CBC-MAC (DES/3DES, AES), CMAC (3DES, AES)
Secure Messaging	✓
Mutual Authentication	✓



Certifications/Compliance



Product Applications



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In what areas can we apply ACOS5-EVO?



In what areas can CryptoMate EVO be used?

Citizens go to Registration Authorities to apply for a Digital Certificate



Certificate Authority provides the citizen with the digital certificate



Citizen logs in to a secured website and submits the digitally signed and encrypted document to the government agency



Citizen digitally signs and encrypts his Income Tax Statement using the digital certificate stored in the card



In what areas can CryptoMate EVO be used?

Company provides their employees with a token



Employees request for a digital certificate via the company website



Employee inserts the CryptoMate EVO into their computer



Employee uses his/her digital certificate to sign and encrypt the email



Employees stores the digital certificate in the token



Administrator checks the credentials and provides the employee with the link to download and store the certificate in the ID



Related Software Products



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ACOS5-EVO PKI KIT

ACS offers the **ACOS5-EVO PKI KIT** to Certificate Authorities and other organizations who are interested in deploying **PKI Solutions with ECC Support.**

With the ACOS5-EVO/CryptoMate EVO PKI Kit, the following are supported:

- Secure Online Certificate Generation
- Microsoft® Outlook and Mozilla® Thunderbird® mail signing and encryption (S/MIME)
- Windows® Smart Card Logon
- Microsoft® Office
- Adobe® Reader®

Contact your ACS sales representative, visit our website at <http://www.acs.com.hk> or email us at info@acs.com.hk for more information.



ACOS5 Minidriver

For clients who want to use the ACOS5-EVO and CryptoMate EVO in Windows Environment only, ACS also provides the ACOS5 Minidriver.

The following Windows applications are supported:

- Windows® Smart Card Logon
- Microsoft® Office
- Microsoft® Outlook mail signing and encryption (S/MIME)

Once the token has been initialized with the ACOS5 Minidriver, it can only be used with Windows OS and will not be compatible with other ACS middleware.

Contact your ACS sales representative, visit our website at <http://www.acs.com.hk> or email us at info@acs.com.hk for more information.



