



Advanced Card Systems Ltd.
Card & Reader Technologies



ACOS6S-B Secure Access Module Card (SAM)

A Product Presentation



Rundown

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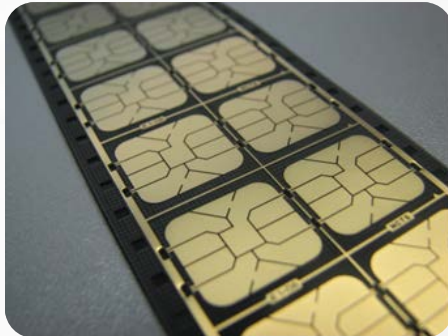


Product Overview

Product Overview

ACOS6S-B(32KB EEPROM)

Secure Access Module [SAM] Card



Module



Full-Sized Card



SIM-Sized Card

For further detail about ACOS6, please visit:

<http://www.acs.com.hk/index.php?pid=product&id=ACOS6>



Product Features

What are the Key Features of ACOS6S-B?

Time-to-market

Flash chip can be developed and updated from time to time

Unrivalled Security

Complies with ISO standards

Supports various Client cards

Supports ACOS3, ACOS6, SLE5542, SLE5528, **Ultralight-C, DESFire and DESFire EV1 cards**, etc.

High Portability

Applicable for different machines without compromising your security

High-speed card

- High Baud rate up to 223K bps
- Cryptographic processor

Security Enhancement

- Pairing up with ACOS3/ ACOS6 or other client cards for session key generation
- Supports MAC for ACOS3/ ACOS6
- Supports MAC and CMAC for **Ultralight-C/ DESFire/ DESFire EV1 cards**





Comparison Chart



Comparison Chart

Category		ACOS3	ACOS3 Combi*	ACOS5/ CryptoMate	ACOS6	ACOS6-SAM
Product Code		ACOS3-B/D	ACOS3-G	ACOS5-B/ ACOS5T-A	ACOS6-C	ACOS6S-B
Modules						
ISO 7816 compliant 8-contact module		✓	✓	✓	✓	✓
Communication Speed						
Contact	9,600 bps (default)	✓	✓	✓	✓	✓
	14,400 bps	✓	✓		✓	✓
	28,800 bps	✓	✓		✓	✓
	115,200 bps	✓	✓	✓	✓	✓
	223,200 bps	✓	✓		✓	✓
Contactless	106kbps/ 212kbps/ 424kbps/848kbps		✓			
EEPROM Size						
User Memory (byte)		32/72K	8K	32K	64K	32K

Comparison Chart

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Product Code		ACOS3-B/D	ACOS3-G	ACOS5-B/ ACOS5T-A	ACOS6-C	ACOS6S-B
Protocol						
Contact	T = 0	✓	✓	✓	✓	✓
Contactless	T = CL		✓			
ISO standards						
Contact	ISO 7816 – 1/2/3	✓	✓	✓	✓	✓
	ISO 7816 – 4			✓	✓	✓
	ISO 7816 – 8/9			✓		
Contactless	ISO 14443-1/2/3/4		✓			
	ISO 14443 Type A		✓			



Remark: ACOS3 Contactless card has the same contactless features of ACOS3 Combi card

Comparison Chart

Category	ACOS3	ACOS3 Combi*	ACOS5/ CryptoMate	ACOS6	ACOS6-SAM
Product Code	ACOS3-B/D	ACOS3-G	ACOS5-B/ ACOS5T-A	ACOS6-C	ACOS6S-B
File Systems					
Directory File			✓	✓	✓
Transparent (Binary File)	✓	✓	✓	✓	✓
Linear Fixed Record	✓	✓	✓	✓	✓
Linear Variable Record			✓	✓	✓
Cyclic File			✓	✓	✓
Security Keys					
User, Admin & Application Specified PIN Support	✓	✓	✓		
DES/ 3DES	✓	✓	✓	✓	✓
3KDES					✓
Customizable PIN & Key Codes				✓	✓



Remark: ACOS3 Contactless card has the same contactless features of ACOS3 Combi card

Comparison Chart

Category		ACOS3	ACOS3 Combi*	ACOS5/ CryptoMate	ACOS6	ACOS6-SAM
Product Code		ACOS3-B/D	ACOS3-G	ACOS5-B/ ACOS5T-A	ACOS6-C	ACOS6S-B
Cryptographic Capabilities						
DES/ 3DES		✓	✓	✓	✓	✓
3KDES					✓	
AES-128 bits				✓		✓
RSA-512, 1024, 2048 bits				✓		
SHA – 1,256, 512				✓		
Secure Messaging		✓	✓	✓	✓	✓
FIPS140-2 compliant Random Number Generator					✓	✓
Authentication (MAC)	With Terminal	✓	✓	✓	✓	✓
	With ACOS3/ACOS6				✓	✓
	With Mifare Ultralight C/ DESFire/ DESFire EV1					✓
EEPROM Endurance						
100,000 write/erase cycles		✓			✓	✓
500,000 write/erase cycles			✓	✓		

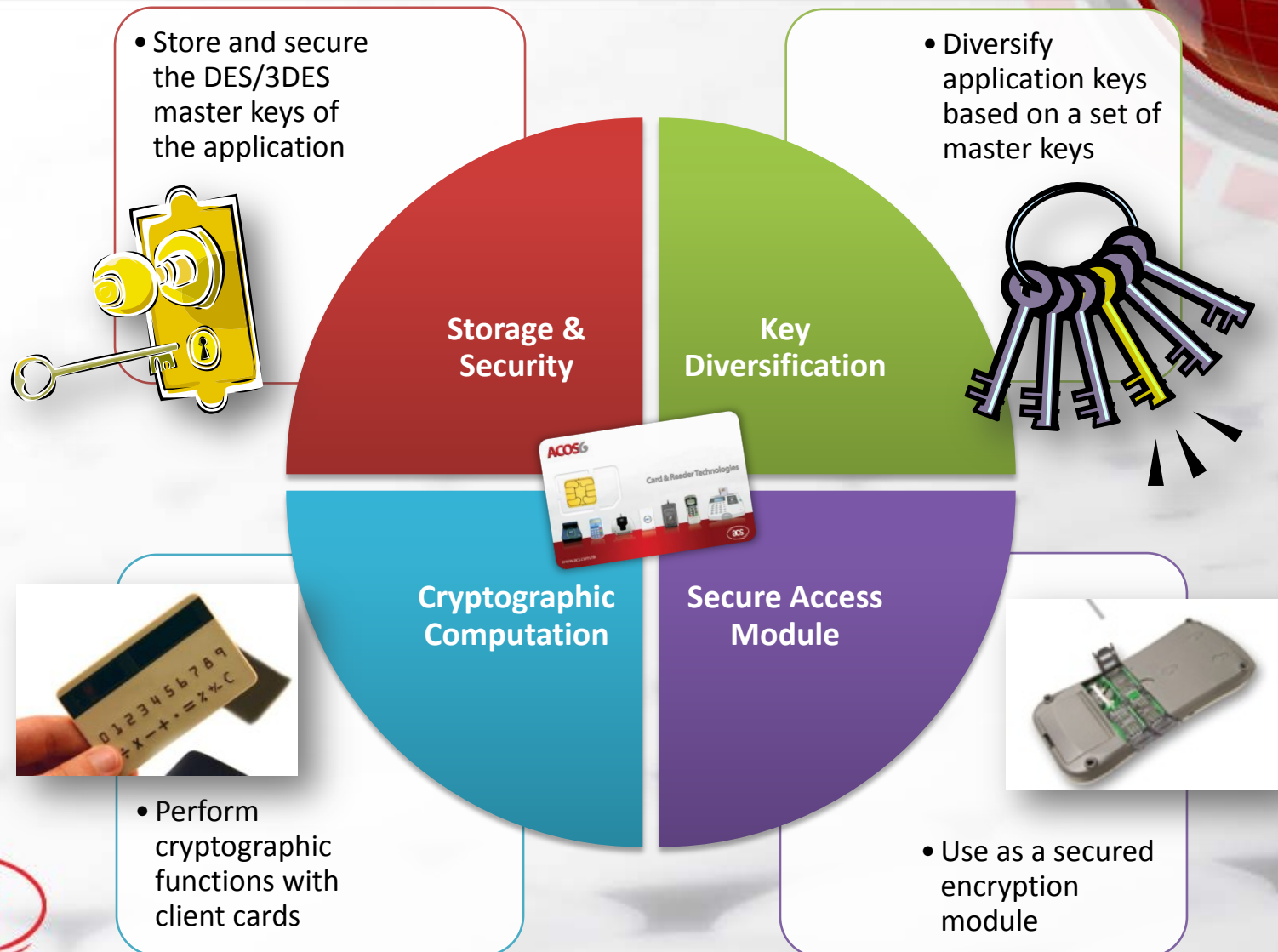
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Category	ACOS3	ACOS3 Combi*	ACOS5/ CryptoMate	ACOS6	ACOS6-SAM
Product Code	ACOS3-B/D	ACOS3-G	ACOS5-B/ ACOS5T-A	ACOS6-C	ACOS6S-B
Applications					
E-government E.g. National ID, Health Card, etc.			PKI Application, Multilevel secured access hierarchy	Multi-Purse in one application, Multilevel secured access hierarchy	
Logical & Physical Access Control E. g. Enterprise Security, Time attendance, etc.	Corporate Security/ Identification, Microsoft Windows Logon	Corporate Security/ Identification, Microsoft Windows Logon	Corporate Security/ Identification, Microsoft Windows Logon	Corporate Security/ Identification, Microsoft Windows Logon	Security Access Module (SAM)
Banking and Financial E.g. Online banking, insurance, stock trading, etc.	Network Security, Secure Messaging	Network Security, Secure Messaging	PKI Application, Network Security, Secure Messaging		Security Access Module (SAM), Secure Messaging
Loyalty and Retail E.g. Cashless retail payment, customer loyalty, etc.	E-Payment, Customer Loyalty	E-Payment, Customer Loyalty	E-Payment, Customer Loyalty	E-Payment, Customer Loyalty	Security Access Module (SAM)
Transportation E.g. Automatics fare collection, etc.					Security Access Module (SAM)

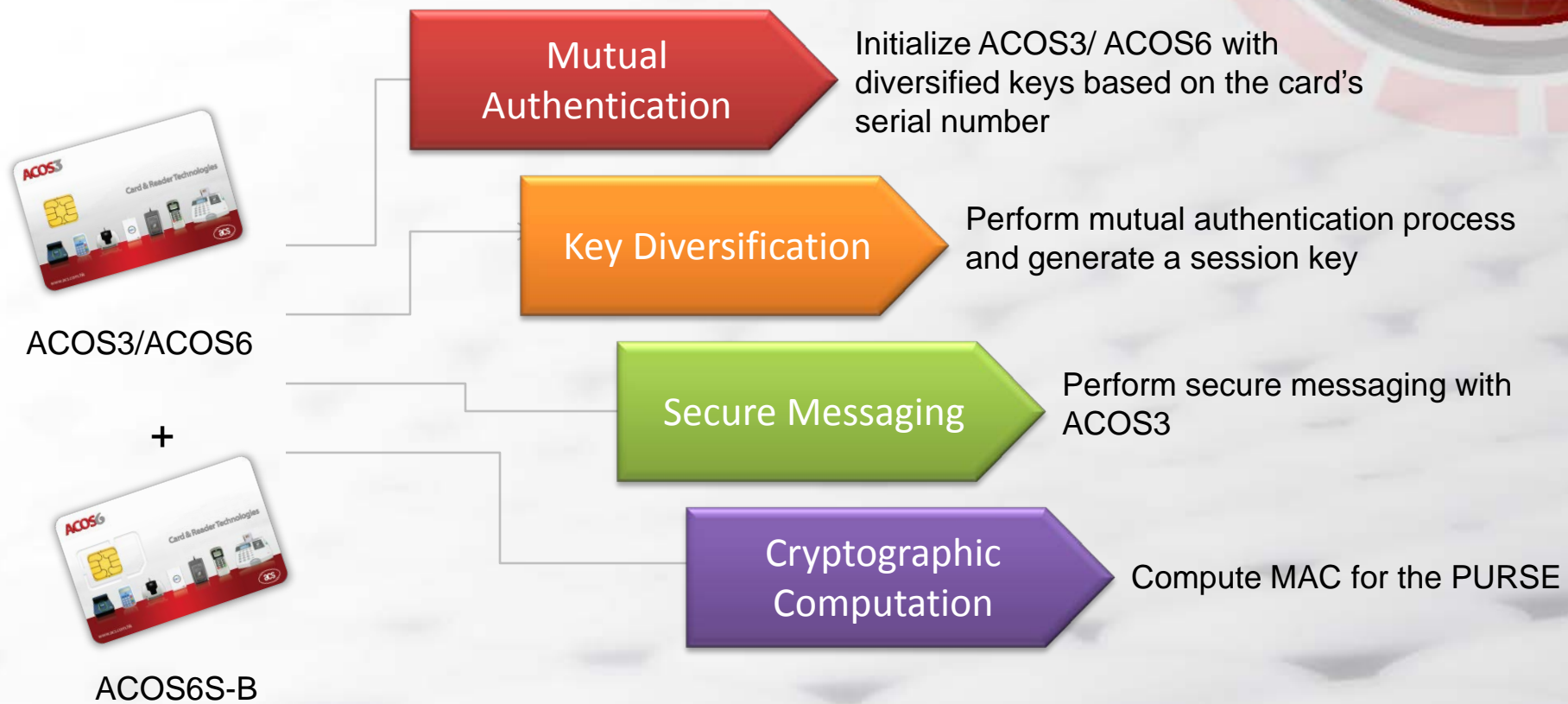


Product Applications

In what areas can we apply ACOS6S-B in client cards?



In What areas can we apply ACOS6S-B in ACOS3/ ACOS6 cards?





ACOS6S-B Secured Transaction Application sample

Without ACOS6S-B

Information stored
E.g.:
1.) Personal Info
2.) Prepaid value



ACOS3/ACOS6/
Other client cards

In supermarket



Smart Card Reader



Loyalty

In Cinema



Smart Card Reader



Season ticket



Loyalty



ACOS6 Secured Transaction Application sample

With ACOS6S-B

Information stored

E.g.:

- 1.) Personal Info
- 2.) Prepaid value



ACOS3/ACOS6/
Other client cards

- Secure messaging
- Mutual authentication
- Generate session key

ACOS6S-B

- Store master keys
- Generate Diversity Key
- Perform cryptographic functions

In supermarket



Smart Card Reader



Loyalty

In Cinema



Smart Card Reader

2009 SEASON TICKETS

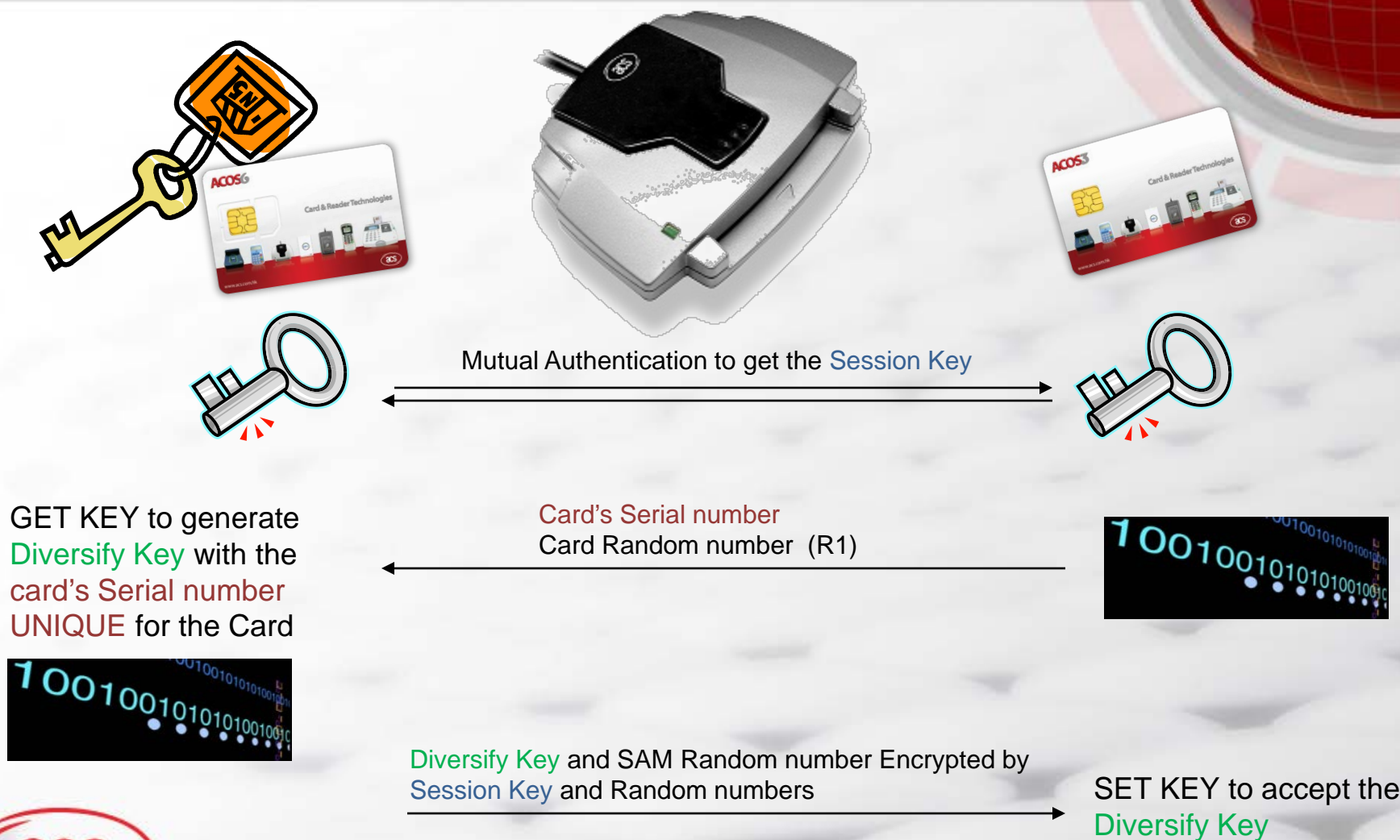
Season ticket
+



Loyalty

acs

ACOS6 / ACOS6-SAM Key Diversification



GET KEY to generate
Diversify Key with the
card's Serial number
UNIQUE for the Card

Card's Serial number
Card Random number (R1)

Diversify Key and SAM Random number Encrypted by
Session Key and Random numbers

SET KEY to accept the
Diversify Key



Related Products

ACOS6S-B Related Product

ACOS6 Software Development Kit (SDK)

- Develop your own Multi-Application & Purse applications yourself



For Developers

To develop multi-application and purse applications in:

- ACOS3 Smart card
- ACOS6 Smart Card
- ACOS6 SAM card

For further details about the SDK, please visit:

ACOS6 SDK: <http://www.acs.com.hk/index.php?pid=product&id=ACOS6-SDK>



Ordering Information

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Products	Description
ACOS6-C1AACSA3060	Multi-Purse cards with 64KB EEPROM, glossy, PVC
ACOS6-C2AACSA3060	Multi-Purse cards with 64KB EEPROM, plunge SIM size, glossy, PVC
ACOS6S-B2AACSA4080	Micro-processor based secure access module cards with 32KB EEPROM, plunge SIM size, glossy
SDK-ACOS6/02	ACOS6 Software Development Kit Including tools and manuals

New code vs. old code:

ACOS6-C1AACSA3060: ACOS6-64-GP/3060

ACOS5-C2AACSA3060: ACOS6-64-SIM/3060

SDK-ACOS6/02: SDK-ACOS6



Thank You!!!

More information on:

<http://www.acs.com.hk/index.php?pid=product&id=ACOS6-SAM>

