



# ACOS6S-C

## Secure Access Module Card (SAM)



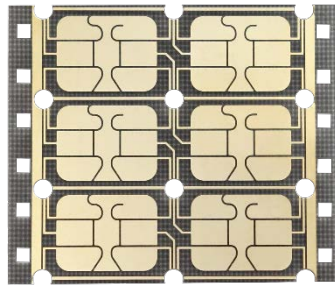
**Advanced Card Systems Ltd.**  
Card & Reader Technologies

Units 2010-2013, 20th Floor  
Chevalier Commercial Centre  
8 Wang Hoi Road, Kowloon Bay, HK  
Tel: +852-27967873 Fax: +852-27961286  
[info@acs.com.hk](mailto:info@acs.com.hk) [www.acs.com.hk](http://www.acs.com.hk)

1. Product Overview
2. Product Features
3. Comparison Chart
4. Product Applications
5. Related Product

## ACOS6S-C (64 KB EEPROM)

Secure Access Module (SAM) Card



**Module**



**SIM-sized Card**

## Supports Various Client Cards

- ACOS3, ACOS6, ACOS7, ACOS10
- MIFARE Classic®, MIFARE Ultralight C®, MIFARE® DESFire® EV1, and MIFARE Plus® cards

## Security Features

- DES/Triple DES capability
- 3KDES
- Supports AES-128/AES-192
- Hardware-based random number generator compliant to FIPS 140-2
- Mutual authentication with session key generation
- Multilevel secured access hierarchy

## Compliance to Standards

- ISO 7816 Parts 1, 2, 3, 4
- ISO 7816 Part 4 File Structures: Transparent, Linear-Fixed, Linear-Variable, Cyclic

## Storage and other Features

- 64 KB EEPROM Size
- High Baud rate of up to 223 Kbps
- Anti-tearing capability

# Comparison Chart

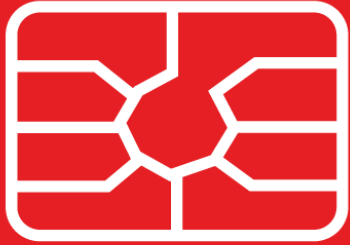


Category		ACOS6	ACOS6-SAM
Product Code		ACOS6-C	ACOS6S-C
<b>Communication Speed</b>			
Contact	9,600 bps – 223,200 bps	✓	✓
<b>User EEPROM Memory</b>			
User Memory		64 KB	64 KB
<b>ISO Standards</b>			
Contact	ISO 7816 – 1/2/3	✓	✓
	ISO 7816 – 4	✓	✓
<b>Protocol</b>			
Contact	T = 0	✓	✓
<b>File Systems</b>			
Directory File		✓	✓
Transparent (Binary File)		✓	✓
Linear-Fixed Record		✓	✓
Linear-Variable Record		✓	✓
Cyclic File		✓	✓

# Comparison Chart



Category	ACOS6	ACOS6-SAM
Product Code	ACOS6-C	ACOS6S-C
<b>EEPROM Endurance</b>		
100,000 write/erase cycles	✓	✓
<b>Cryptographic Capabilities</b>		
DES/3DES	✓	✓
3KDES		✓
AES-128/AES-192		✓
Secure Messaging	✓	✓
Mutual Authentication	✓	✓
<b>Applications</b>		
<b>e-Government and e-Healthcare</b> (e.g., Identification, Healthcare ID, etc.)	Identification, Healthcare ID,	Identification, Healthcare ID,
<b>Banking and Financial</b> (e.g., Online banking, Insurance, Stock trading, etc.)	Network Security	Network Security
<b>Loyalty and Retail</b> (e.g., Cashless retail payment, Customer loyalty, etc.)	e-Purse, Customer Loyalty, Online Top-up	e-Purse, Customer Loyalty, Online Top-up



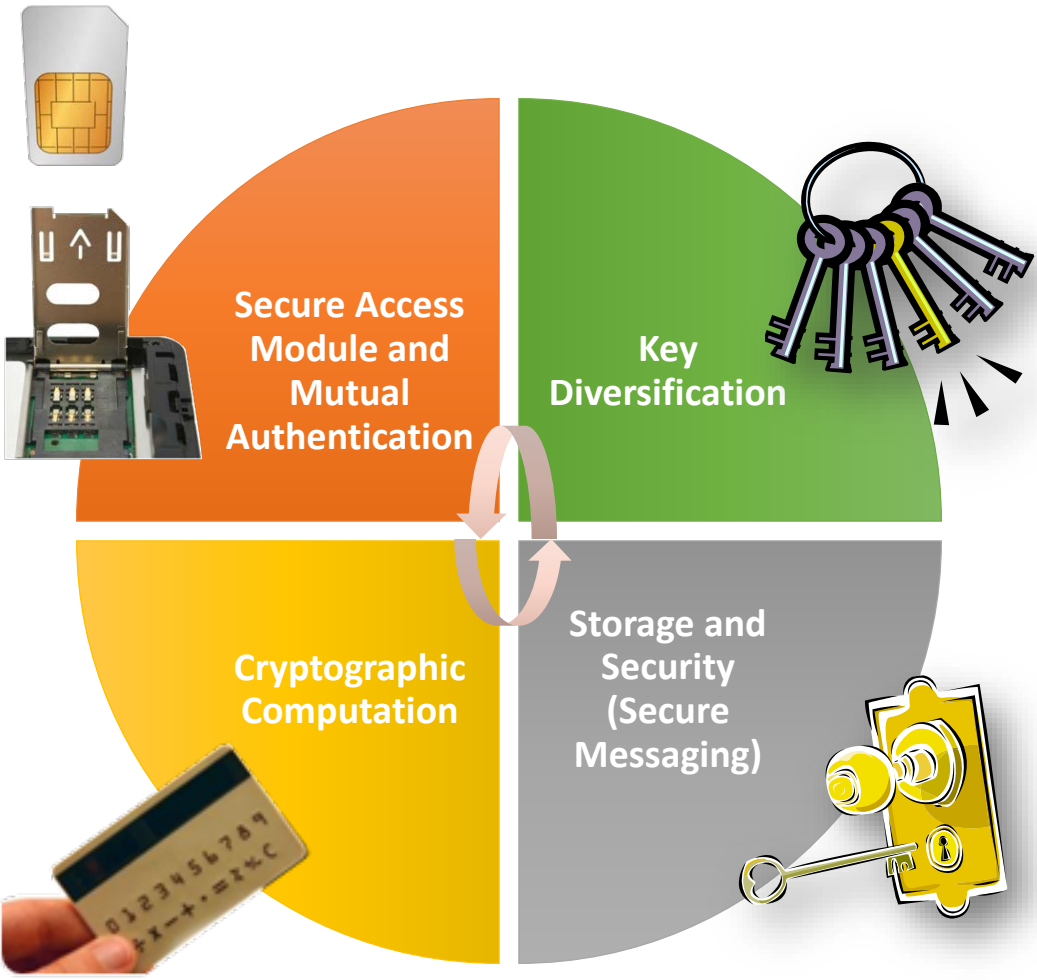
# Product Applications



**Advanced Card Systems Ltd.**

Card & Reader Technologies

# In what areas can we apply ACOS6S-C?





# How to use ACOS6S (SAM) with Client Cards?



ACOS6S-C  
+  
Client Card



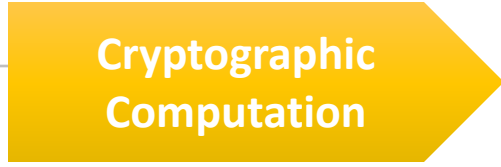
Perform mutual authentication process and generate a session key



Initialize client card (e.g., ACOS3/ACOS6) with diversified keys based on the card's serial number



Perform secure messaging with client card (e.g., ACOS3/ACOS6)

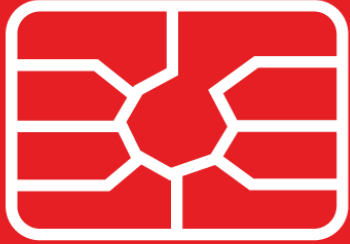


Compute MAC for the PURSE

## Card Issuance

### e-Purse Application for a Merchant

1. During Card Issuance Stage, ACOS6-SAM is used to store Diversified Keys when initializing client cards (ACOS3/ACOS6) for Payment/e-Purse Application.
2. Customer receives the card, and tops up the card in a kiosk (can be an ACR890 device). The client card (ACOS3/ACOS6) is authenticated by the terminal and vice versa. This process is called mutual authentication, made possible by the ACOS6-SAM card inside the terminal.
3. Customer purchases items using the card.
4. Mutual Authentication is once again performed and a session key is also generated as proof of the transaction. This is possible because of the ACOS6-SAM stored in the PIN-pad terminal.



**Related Product**



**Advanced Card Systems Ltd.**

Card & Reader Technologies

## ACOS6 Software Development Kit (SDK)

Develop your own Multi-Application and Purse Applications



### For Developers

To develop multi-application and purse applications in:

- ACOS6 SAM card
- ACOS6 Smart Card
- ACOS3 Smart Card \*

*\*You may also use the ACOS3 card as a client card when using the ACOS6-SAM.*

For further details about the SDK, please visit:

ACOS6 SDK: <http://www.acs.com.hk/en/products/117/acos6-multi-application-purse-smart-card-software-development-kit/>



# Thank You!

info@acs.com.hk

www.acs.com.hk



<http://twitter.com/SmartCardReader>



<http://www.facebook.com/AdvancedCardSystems>



<http://gplus.to/advancedcardsystems>



<http://www.youtube.com/user/AdvancedCardSystems>



**Advanced Card Systems Ltd.**

Card & Reader Technologies