



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



# AET65

**Smart Card Reader with Fingerprint Sensor**

## Product Presentation





# Rundown

1. Product Overview
2. Product Features
3. Product Value
4. Product Application





# Product Overview



# Product Overview

## AET65

- Belongs to the Smart Card-Fingerprint Readers product line
- Contact smart card-based reader with fingerprint sensor that can easily be integrated into a simple yet secure biometric system





# Product Overview

## AET65



ACR38-SAM PC-Linked  
Smart Card Reader

Swipe Fingerprint  
Sensor

### Secure Authentication

AET65 combines a silicon swipe fingerprint sensor and a contact smart card reader for highly secure authentication.



### High-level Security

The default algorithm of AET65 performs template extraction & matching within the device itself – not in the PC that is vulnerable to security attacks.

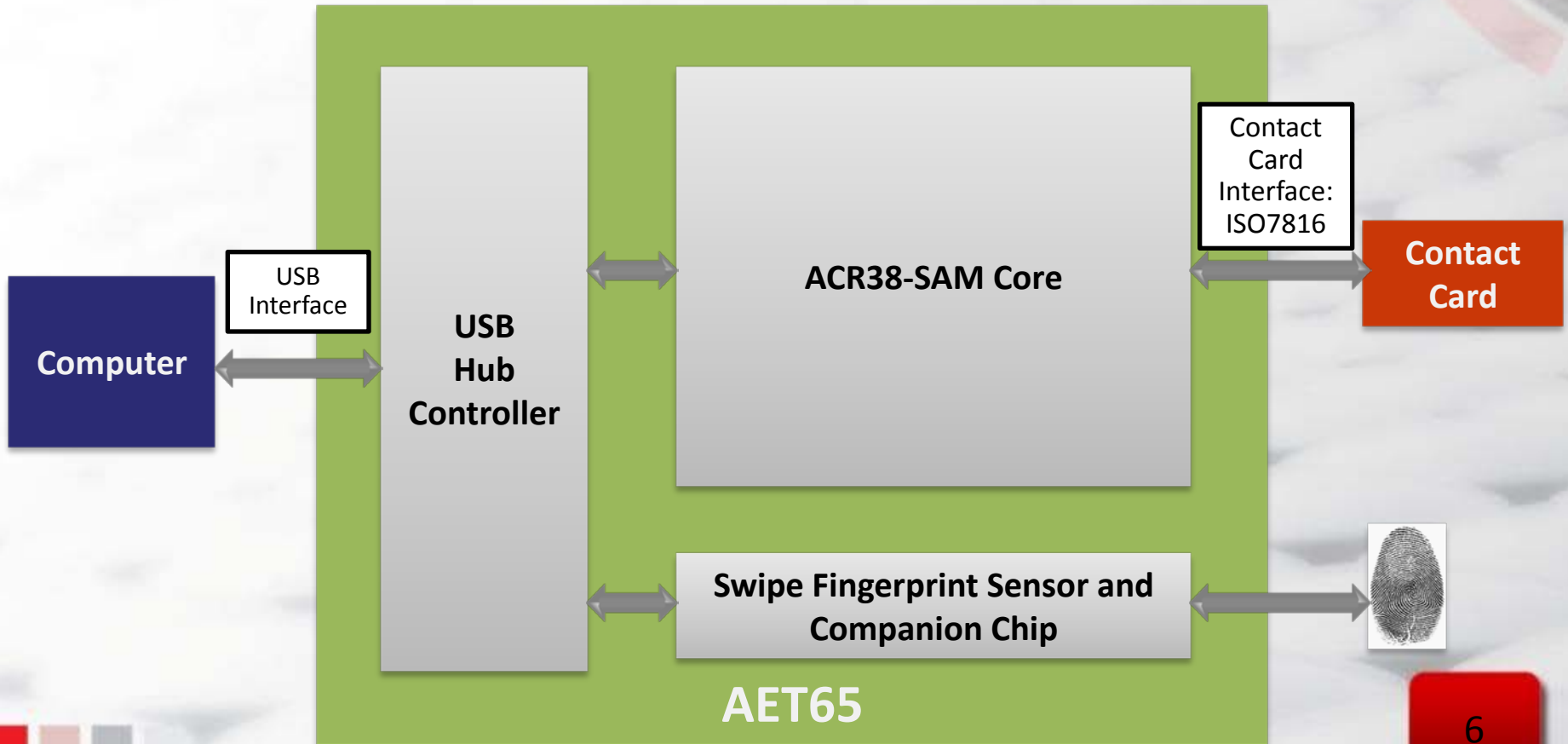






# Product Overview

## AET65 System Block Diagram





# Product Features





# What are the Key Features of AET65?



## Fingerprint Image Accuracy

- UPEK's TouchStrip TCS4 Sensor with 508 dpi image resolution

## 3<sup>rd</sup> Party Fingerprint Algorithm Support

(e.g. Precise Biometrics)

## Enhanced Security

- Match-on device authentication using default algorithm
- Encrypted fingerprint template stored in smart card
  - Built-in SAM slot

## Ease of Application Development

- Compliant with BioAPI and Windows Biometric Framework
- Possible independent use of Smart Card Reader and Fingerprint Sensor

## Supported Card Types

- All MCU cards with T=0, T=1 protocols
- ISO 7816 Class A, B and C

## Certifications/Compliance

- ISO 7816
- PC/SC
- BioAPI 1.1
- Windows Biometric Framework
  - CE, FCC, RoHS, & WHQL

## Supported OS

- Windows XP, Vista & 7
- Windows Server 2003, Server 2008 & Server 2008 R2



# Product Features

## UPEK TCS4 Sensor

- Active sensor size: 9.6 x 0.2 mm
- Array size: 192 x 4 pixels
- Image resolution: 508 DPI high-resolution imaging
- Patented TouchStrip CMOS active-pixel technology:
  - Ability to capture wider range of fingerprints according to different environmental conditions and skin types
  - Ability to capture the best-quality fingerprint image



## Match-On Device Authentication

- Using the default algorithm, all biometric algorithm processes (e.g. fingerprint template extraction & matching) happens within the device through the TouchStrip chipset (which is a combination of a swipe sensor and its companion chip).





# Product Features

## Ease of Application Development

- Designers can integrate fingerprint authentication into smart card-based applications without an in-depth knowledge of biometrics
- Compliance with the BioAPI Specification provides interoperability between different software applications and biometric technologies developed by different vendors
- Compliance with Windows Biometric Framework enables designers to manage different biometric devices in Windows and provides software developers with a common platform and interface

- Applications can be programmed to accept either 1 or both of the 2 inputs of AET65: smart card and/or fingerprint
- Easy adoption / expansion of existing systems utilizing 3<sup>rd</sup> party fingerprint algorithms (e.g. Precise Biometrics) is supported by AET65





# Product Value



# What are the Key Benefits of AET65?

## High-Level Security

- Swipe sensors are immune to anti-security threats posed by the reactivation of latent image (e.g. fabrication of false fingerprints by breathing or dusting on the sensor surface)
- AET65 is more secure than smart card-alone or fingerprint-alone readers as it provides 3-factor authentication that verifies:
  - Something “you have” (smart card)
  - Something “you know” (PIN/password)
  - Something “you are” (fingerprint)



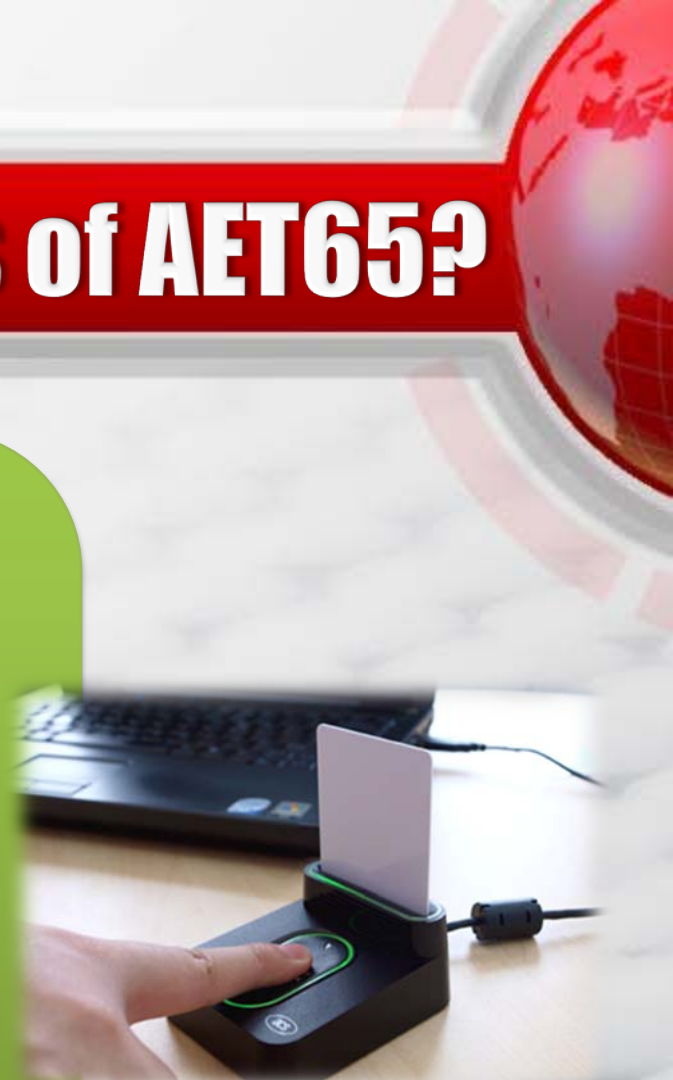




# What are the Key Benefits of AET65?

## More Efficient & Cost-Effective than Conventional Fingerprint Scanners

- By storing fingerprint templates in smart cards, matching involves checking the live fingerprint against the stored template, eliminating the need for a complex back-end system
- Users carry fingerprint templates with them & fingerprint verification authenticates only the smart card owner, eliminating privacy & security concerns posed by lost or stolen cards & dummy fingerprints.





# What are the Key Benefits of AET65?

## Simple Fingerprint System

- Only AET65, a PC & contact smart cards (e.g. ACOS cards) are needed
- No need for external hardware & software
- No need for super-server, mega-database & complicated software
- Readily deployable in both new & existing, large & small, online & offline projects
- Undemanding system administration & maintenance





# Product Application



# How does AET65 work?



The user enrolls a fingerprint template in the smart card.

AET65 performs matching between the two templates.



Results sent to PC

A PC Application allows the verified user to perform any transaction .  
(e.g. e-Banking)



Live Fingerprint Template



# In what areas can we apply AET65?



e-Commerce



e-Banking



File Encryption



e-Healthcare



e-Government



Logical/Physical Access







# Thank You!!!



*More information on:*

***[http://acs.com.hk/index.php?pid=product&prod\\_sections=0&id=AET65](http://acs.com.hk/index.php?pid=product&prod_sections=0&id=AET65)***

***<http://www.aet65.com>***