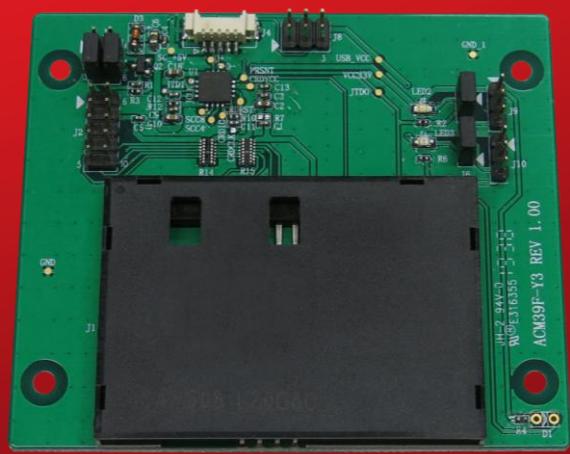




**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# ACM39U-Y3

## Smart Card Reader Module



Technical Specifications V1.02



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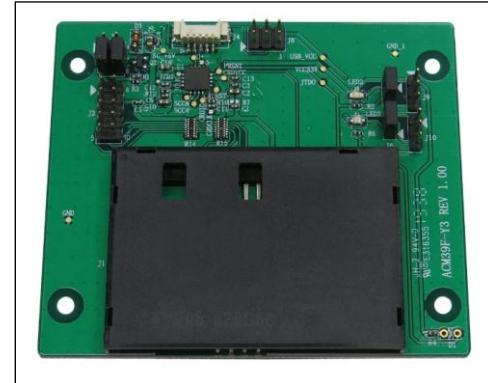


## 1.0. Introduction

The ACM39U-Y3 provides a solution for secured access control by employing the globally recognized ACR39 core. It comes in module form to enable easy implementation of smart card-based solutions in embedded systems. The ACM39U-Y3 uses the latest microchip technology, bringing you high security for your confidential files in a convenient and easy way.

### 1.1. Smart Card Reader

The ACM39U-Y3 supports ISO 7816 Class A, B, and C smart cards. It also works with memory cards and microprocessor cards with T=0 and T=1 protocol. It features a USB Full Speed interface and a smart card read/write speed of 600 Kbps. This exceptionally durable device lasts for at least 200,000 card insertion cycles.



### 1.2. Ease of Integration

The ACM39U-Y3 is easy to install and use with various environments. Being PC/SC and CCID-compliant, its drivers are compatible with operating systems such as Windows®, Linux®, and Mac OS®. In addition, the ACM39U-Y3 can also be integrated with systems running the Android™ platform with versions 3.1 and later.

With its various features, the ACM39U-Y3 is a powerful component that is ideal for Security, e-Banking, e-Payment, and e-Government applications.



## 2.0. Features

- USB 2.0 Full Speed Interface
- Plug and Play – CCID support brings utmost mobility
- Smart Card Reader:
  - Contact Interface:
    - Supports ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V) cards
    - Supports CAC (Common Access Card)
    - Supports SIPRNET Card
    - Supports J-LIS Card
    - Supports microprocessor cards with T=0 or T=1 protocol
    - Supports memory cards
    - Supports PPS (Protocol and Parameters Selection)
    - Features Short Circuit Protection
  - Application Programming Interface:
    - Supports PC/SC
    - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and later<sup>1</sup>
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 7816
  - EMV™ Level 1 (Contact)
  - PC/SC
  - CCID
  - CE
  - FCC
  - WEEE
  - RoHS
  - REACH
  - Microsoft® WHQL

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<sup>1</sup> PC/SC and CCID support are not applicable



## 3.0. Supported Card Types

### 3.1. MCU Cards

The ACM39U-Y3 works with MCU cards following either the T=0 or T=1 protocol. It also works with CAC cards, making it ideal for US PIV and PKI applications.

### 3.2. Memory-based Smart Cards

The ACM39U-Y3 works with several memory-based smart cards such as:

- Cards following the I2C bus protocol (free memory cards) with maximum 128-byte page with capability, including:
  - Atmel®: AT24C01/02/04/08/16/32/64/128/256/512/1024
  - SGS-Thomson: ST14C02C, ST14C04C
  - Gemplus: GFM1K, GFM2K, GFM4K, GFM8K
- Cards with intelligent 1-kilobyte EEPROM with write-protect function, including:
  - Infineon®: SLE4418, SLE4428, SLE5518 and SLE5528
- Cards with intelligent 256-byte EEPROM with write-protect function, including:
  - Infineon®: SLE4432, SLE4442, SLE5532 and SLE5542

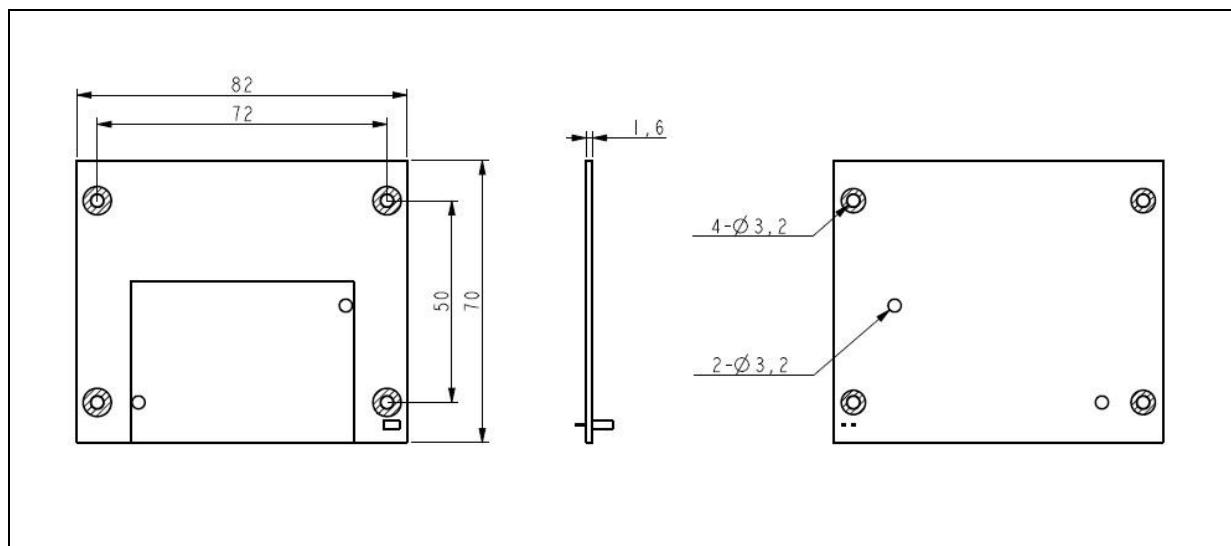


## 4.0. Typical Applications

- e-Government
- Banking and Payment
- e-Healthcare
- Public Key Infrastructure
- Network Security
- Access Control
- e-Purse and Loyalty



## 5.0. Technical Specifications



### Physical Specifications

Dimensions ..... 70 mm (L) x 82 mm (W) x 10 mm (H)  
Weight ..... 32 g

### USB Host Interface

Protocol ..... USB CCID  
Connector Type ..... 1x5 Pin Header Connector, 2x3 Pin Header Connector  
Power Source ..... From USB port  
Speed ..... USB Full Speed (12 Mbps)  
Supply Voltage ..... 5 V

### Contact Smart Card Interface

Number of Slots ..... 1 Full-sized Card Slot  
Standard ..... ISO 7816 Parts 1-4, Class A, B, C (5 V, 3 V, 1.8 V)  
Protocol ..... T=0; T=1; Memory Card Support  
Supply Current ..... Max. 50 mA  
Smart Card Read/Write Speed ..... 9.6 Kbps – 600 Kbps  
Short Circuit Protection ..... (+5) V/GND on all pins  
Clock Frequency ..... 4.80 MHz  
Card Connector ..... Landing  
Card Insertion Cycles ..... Min. 200,000

### Built-in Peripheral

LED (optional) ..... 2 single-color: Green and Red

### Operating Conditions

Temperature ..... 0 °C – 60 °C  
Humidity ..... Max. 90% (non-condensing)  
MTBF ..... 500,000 hrs

### Application Programming Interface

PC-linked mode ..... PC/SC  
..... CT-API (through wrapper on top of PC/SC)

### Certifications/Compliance

EN60950/IEC 60950, ISO 7816, USB Full Speed, EMV™ Level 1 (Contact), PC/SC, CCID, CE, FCC, WEEE, RoHS, REACH, Microsoft® WHQL



**Device Driver Operating System Support**

Windows® 7, Windows® 8, Windows® 8.1, Windows® 10

Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012,

Windows® Server 2012 R2, Windows® Server 2016

Linux®, Mac OS®, Android™ 3.1 and later



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