



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

# ACR1011

# SIMicro (CCID)

## Smart Card and Micro SD Reader



Technical Specifications V1.05



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## 1.0. Introduction

ACR101I SIMicro (CCID) is more than just your ordinary SIM-sized smart card reader. With the combination of a smart card reader and a Micro SD card slot in a compact USB token, ACR101I SIMicro (CCID) provides you with complete support for highly secured mobile applications. Furthermore, it has an embedded MIFARE® Classic (1K) chip that allows the device to be used for contactless applications. ACR101I SIMicro (CCID) is also available in HID, bringing you the same plug-and-play convenience, which does not require any special driver installation.



### 1.1. SIM-sized Smart Card Reader

ACR101I SIMicro (CCID) is a compact and powerful reader with its reliable support for ISO 7816 microprocessor smart cards. It works with most memory cards and microprocessor cards with the T=0 and T=1 protocol.

With security as its top priority, ACR101I SIMicro (CCID) gives you the option to integrate highly secured technologies, such as PKI (Public Key Infrastructure), into your applications for maximum protection of sensitive data.

### 1.2. Memory Storage Device

Aside from being a SIM-sized smart card reader, ACR101I SIMicro (CCID) is also a storage device. With a dimension of 72.0 mm × 26.0 mm × 11.7 mm, this USB-powered device can be brought anywhere and be used without any cable. ACR101I SIMicro (CCID) is also capable of supporting up to 8 GB expandable Micro SD memory.

### 1.3. Contactless Feature

ACR101I SIMicro (CCID) has an embedded MIFARE Classic 1K chip which enables it to act as a contactless card. Its contactless attribute allows flexibility in using this powerful device in a wide array of applications, such as physical and logical access control.

### 1.4. Ease of Integration

With ACR101I SIMicro (CCID) being compliant with the Chip/Smart Card Interface Devices (CCID) and PC/SC standards, it is easier to integrate in a computer-based environment by eliminating driver installation prior to use. In addition, ACR101I SIMicro (CCID) may now be used on mobile devices running the Android™ platform with versions 3.1 and above.

With its wide array of features, ACR101I SIMicro (CCID) can be used in various application areas, such as Public Key Infrastructure, network security and GSM management.



## 2.0. Features

- USB Combo Device – Works as a smart card reader and mass storage
- USB 2.0 High-speed Interface
- Bus-powered – No need for separate power supply or battery
- Plug and Play – CCID support brings utmost mobility
- Extractable USB Connector
- Smart Card Reader:
  - Supports ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V) SIM-sized cards
  - 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)
- Flash Drive:
  - Supports Micro SD cards
  - Maximum of 8 GB memory
- Contactless Feature:
  - Embedded MIFARE Classic 1K chip
- Supports Android™ 3.1 and above<sup>1</sup>
- Compliant with the following standards:
  - EN60950/IEC 60950
  - ISO 7816
  - CE
  - FCC
  - VCCI
  - PC/SC
  - CCID
  - Microsoft® WHQL
  - RoHS 2
  - REACH

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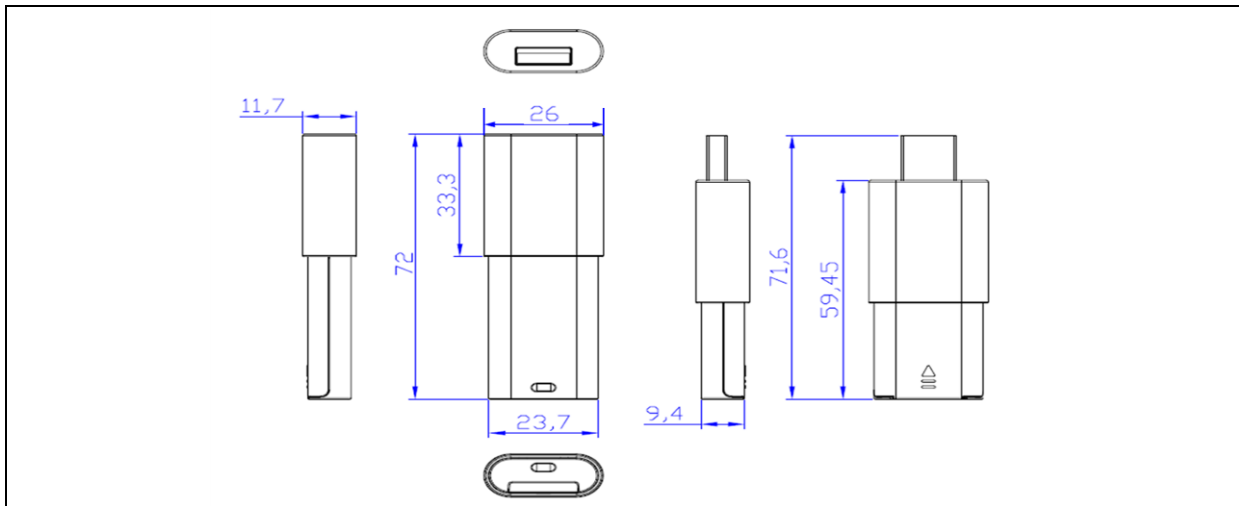
<sup>1</sup> PC/SC and CCID support are not applicable



### **3.0. Typical Applications**

- e-Government
- Banking and Payment
- Network Security
- Public Key Infrastructure
- Telecommunications
- VoIP
- Data Storage

## 4.0. Technical Specifications



### Universal Serial Bus Interface

Type ..... USB High-speed, Four Lines: +5 V, GND, D+ and D-  
Power Source..... From USB  
Speed..... Max. 480 Mbps

### Contact Smart Card Interface

Standard ..... ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V), T=0 and T=1  
Supply Current ..... Max. 50 mA  
Smart Card Read/Write Speed..... Max. 344,086 bps  
Short Circuit Protection ..... +5 V/GND on all pins  
CLK Frequency ..... 4 MHz  
Card Connector..... Contact  
Card Insertion Cycles..... Min. 2,000

### Contactless Feature

Standard ..... MIFARE Classic (embedded MIFARE chip inside the device)  
Memory Size ..... 1K

### Flash Memory Interface

Format..... Micro-SD  
Memory Size ..... Max. 8 GB  
Data Writing Speed ..... Up to 3 Mbps  
Data Reading Speed ..... Up to 14 Mbps

### Physical Specifications

Dimensions ..... 72.0 mm (L) x 26.0 mm (W) x 11.7 mm (H)  
Color ..... Green and White  
Weight..... 15 g

### Built-in Peripheral

LED ..... 2 LEDs, Green and Red

### Operating Conditions

Temperature..... 0 °C – 50 °C  
Humidity..... Max. 90% (non-condensing)  
MTBF ..... 500,000 hrs

### Application Programming Interface

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

### Certifications/Compliance

EN60950/IEC 60950, ISO 7816, CE, FCC, VCCI, PC/SC, CCID, RoHS 2, REACH  
Microsoft® WHQL for Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8,  
Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2,  
Windows® Server 2012, Windows® Server 2012 R2



**Device Driver Operating System Support**

Windows® CE, Windows® ME, Windows® 98, Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2  
Linux®, Mac OS®, Android™ 3.1 and above



## 5.0. Opening the card cover

1. Before opening the cover of the SIM-sized smart card and Micro SD slot, make sure that the USB connector cover is closed.



2. To close the cover of the USB connector, pull up the green cap.



3. Place your thumb on the cover of the SIM-sized smart card slot and push up.







4. Slightly pull up the bottom end of the cover to open the smart card slot.



5. Remove the cover to reveal the SIM-sized card and Micro SD slot.



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