



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

# ACR1011

## SIMicro (CCID)

### Smart Card and Micro SD Reader



Technical Specifications V1.06



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## 1.0. Introduction

ACR1011 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, ACR1011 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. ACR1011 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

ACR1011 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, ACR1011 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, ACR1011 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. ACR1011 SIMicro (CCID) is also capable of supporting up to 8 GB expandable Micro SD memory.

### 1.3. Contactless Feature

ACR1011 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 ACR1011 SIMicro (CCID) being compliant with the Chip/Smart Card Interface Devices (CCID) and PC/SC (Personal Computer/Smart Card) standards, it is easier to integrate in a computer-based environment by eliminating driver installation prior to use. In addition, ACR1011 SIMicro (CCID) may now be used on mobile devices running the Android™ platform with versions 3.1 and later.

With its wide array of features, ACR1011 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 Hi-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:
  - Contact Interface:
    - 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
  - Contactless Interface:
    - Embedded MIFARE Classic (1K) chip
- 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 later<sup>1</sup>
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 7816
  - PC/SC
  - CCID
  - CE
  - FCC
  - RoHS 2
  - REACH
  - VCCI (Japan)
  - Microsoft® WHQL

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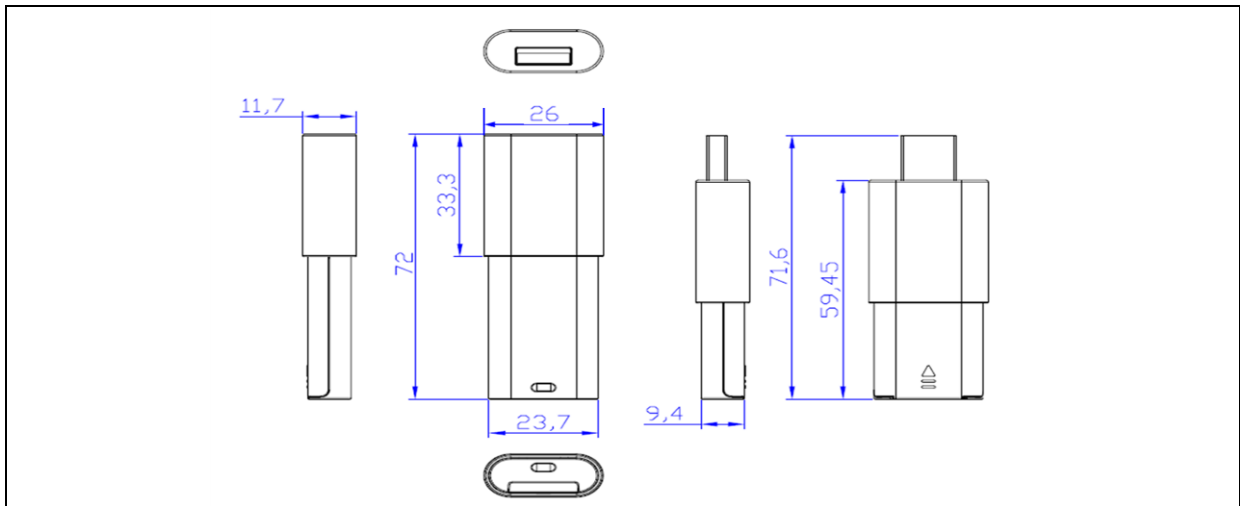
<sup>1</sup> Uses an ACS Defined Android Library



### **3.0. Typical Applications**

- e-Government
- Banking and Payment
- Network Security
- Public Key Infrastructure
- Telecommunications
- VoIP (Voice over IP)
- Data Storage

## 4.0. Technical Specifications



### Physical Characteristics

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

### USB Host Interface

Protocol ..... USB 2.0 Hi-Speed  
Type ..... Four Lines: +5 V, GND, D+ and D-  
Connector Type ..... Standard Type A  
Power Source ..... From USB port  
Speed ..... USB Hi-Speed (Max. 480 Mbps)  
Supply Voltage ..... 2.7 V - 3.6 V  
Supply Current ..... Max. 50 mA

### Contact Smart Card Interface

Number of Slots ..... 1 SIM-sized Card Slot  
Standard ..... ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V)  
Protocol ..... T=0 and T=1; Memory Card Support  
Supply Current ..... Max. 50 mA  
Smart Card Read/Write Speed ..... 9.6 Kbps - 344 Kbps  
Short Circuit Protection ..... (+5) V/GND on all pins  
Clock Frequency ..... 4 MHz  
Card Connector Type ..... Contact  
Card Insertion Cycles ..... Min. 2,000

### Memory Expansion

Micro-SD Card Slot ..... Supports up to 8 GB  
Data Writing Speed ..... Up to 3 Mbps  
Data Reading Speed ..... Up to 14 Mbps

### Built-in Peripheral

LED ..... 1 bi-color: Green and Red  
Contactless Feature ..... Embedded Mifare 1K Chip

### Application Programming Interface

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

### Operating Conditions

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

### Certifications/Compliance

EN 60950/IEC 60950, ISO 7816, USB 2.0 Hi-Speed, PC/SC, CCID, CE, FCC, RoHS 2, REACH, VCCI (Japan), Microsoft® WHQL



**Device Driver Operating System Support**

Windows® CE 5.0, Windows® CE 6.0, Windows® Embedded Compact 7, Windows® 2000, Windows® XP, Windows Vista®, 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  
Linux®, Mac OS®, Android™ 3.1 and later



## 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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