



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

# **ACR1001**

# **SIMFlash II (CCID)**

# **SIMFlash with Embedded Mifare**



Technical Specifications



## Table of Contents

<b>1.0.</b>	<b>Introduction .....</b>	<b>3</b>
1.1.	SIM-Sized Smart Card Reader .....	3
1.2.	Memory Storage Device .....	3
1.3.	Contactless Feature .....	3
1.4.	Plug-and-Play .....	3
<b>2.0.</b>	<b>Features .....</b>	<b>4</b>
<b>3.0.</b>	<b>Typical Applications.....</b>	<b>5</b>
<b>4.0.</b>	<b>Technical Specifications.....</b>	<b>6</b>



## 1.0. Introduction

ACR100I SIMFlash II (CCID) is not an ordinary smart card reader. Its memory storage comes with NAND Flash memory for high capacity data storage needs. This can be partitioned into a maximum of three sections as desired by the user. ACR100I SIMFlash II (CCID) also has an embedded Mifare chip for various contactless card functions, such as logical and physical access.



### 1.1. SIM-Sized Smart Card Reader

With its steadfast support for ISO 7816 microprocessor smart cards, ACR100I SIMFlash II (CCID) is a powerful reader. Having a reliable smart card IC as its core, ACR100I provides the user with the same dependable support for most commonly available MCU and memory cards with T=0, T=1 protocol.

### 1.2. Memory Storage Device

Aside from its smart card reading ability, ACR100I SIMFlash II (CCID) is also a storage device. Users can now store personal files in a secure way with the NAND flash onboard the ACR100I.

ACR100I is truly a portable device, measuring only 76.0 x 26.0 x 12.0 mm. It also has an extractable USB cable for added versatility.

### 1.3. Contactless Feature

ACR100I SIMFlash II (CCID)'s embedded Mifare chip allows the reader to be used in contactless applications – allowing flexibility in using the device for various functions.

### 1.4. Plug-and-Play

With ACR100I SIMFlash II (CCID) being compliant with the Chip/Smart Card Interface Devices (CCID) Standard, it requires no driver installation prior to use, making it easier to integrate into a PC environment running recent OS versions.



## 2.0. Features

- USB Combo Device – works as a smart card reader and mass storage device
- SIM-sized slot for smart card at USB 2.0 full speed
- NAND Flash support at USB 2.0 high speed
- Plug-and-Play – CCID support brings supreme compatibility and mobility
- Extractable USB
- Two color LEDs for smart card and NAND Flash status indication
- Smart card reader:
  - Supports plug in (SIM-sized) cards
  - Supports ISO 7816 Class A, B, and C (5 V, 3 V, 1.8 V) cards
  - Reads and writes onto T=0, T=1 protocol microprocessor cards
  - Supports memory cards
  - Supports Spec. 11.11 compliant GSM cards
  - Features Short circuit protection
- Flash drive:
  - Built-in NAND Flash memory
  - Up to three partitions (Private/Security, Public and CD ROM/Auto-Run, and Hidden)
- Contactless feature:
  - Embedded Mifare Chip
- Compliant with the following standards:
  - PC/SC
  - CE
  - FCC
  - VCCI
  - RoHS
  - Microsoft WHQL

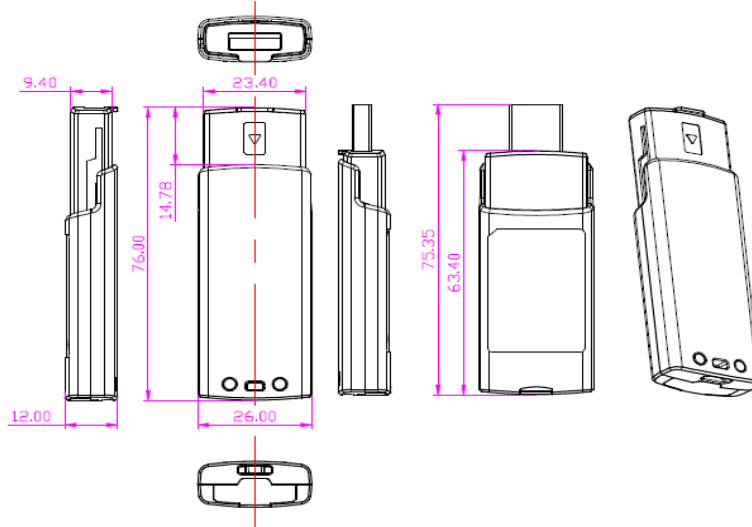


### **3.0. Typical Applications**

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



## 4.0. Technical Specifications



### Power supply

Supply voltage ..... Regulated 5 V DC  
Supply current ..... <300 mA (without smart card)

### Universal Serial Bus Interface

Type ..... USB, four line: +5V, GND, D+ and D-  
Connector ..... Supplied together with the reader  
USB Protocol ..... USB 2.0 (Max. data rate of 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 voltage ..... 5 V, 3 V, 1.8 V  
Smart card read /write speed ..... 1,743 – 344,000 bps  
Short circuit protection ..... +5 V / GND on all pins  
CLK frequency ..... 4 MHz  
Card connector ..... Contact  
Card insertion cycles ..... Min. 10,000  
Communication Speed ..... Max. data rate of 12 Mbps

### Contactless Feature

Standard ..... Mifare Classic (embedded Mifare chip inside the device)  
Memory size ..... 1K

### Flash Memory Interface

Memory size ..... Max. of 8 GB  
Voltage Supply ..... 2.7 ~ 3.6 V  
Supply Current ..... Max. 70 mA  
Endurance ..... 10K Program/erase cycles  
Data Retention ..... 10 Years  
Data Writing Speed ..... Up to 3 Mbps  
Data Reading Speed ..... Up to 9 Mbps  
Disk Partitioning Options ..... Up to 3 partitions (Private, Public and CDROM/Auto-run, Hidden)  
Bicolor LED shows the status of smart card and flash memory

### Physical Specifications

Dimensions ..... 76 mm (L) x 26 mm (W) x 12 mm (H)  
Color ..... Gray  
Weight ..... 20 g

### Operating Conditions

Temperature ..... 0 – 50°C  
MTBF ..... 500,000 hours

### Certifications/Compliance

ISO 7816, PC/SC, CCID, CE, FCC, RoHS, VCCI  
Microsoft © WHQL 2000, XP, Vista, 7

### Operating System Support

Windows © CE, 98, ME, 2000, XP, Vista, 7, Server 2003, Server 2008, Server 2008 R2  
Linux, Mac

