



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR100I

SIMFlash II (CCID)

SIMFlash with Embedded MIFARE®



Technical Specifications V1.04



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1.0. Introduction

ACR100I SIMFlash II (CCID) is not an average smart card reader. Its memory storage comes with NAND flash memory for your high capacity data storage needs. This can be partitioned to up to three sections as desired by the user. The ACR100I SIMFlash II (CCID) also has an embedded MIFARE® Classic (1K) 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, the ACR100I SIMFlash II (CCID) is a powerful reader. It works with most memory cards and microprocessor cards with the T=0 and T=1 protocol.

1.2. Memory Storage Device

Aside from its smart card reading ability, the ACR100I SIMFlash II (CCID) is also a storage device. Users can now store personal files in a secured way with the NAND flash onboard the ACR100I. Various options for partitioning the flash drive are also available: Private/Security, Public and CD-ROM/Autorun, and hidden areas are all accessible in the same device.

1.3. Contactless Feature

ACR100I SIMFlash II (CCID)'s embedded MIFARE Classic (1K) chip allows the reader to be used in contactless applications – allowing flexibility in using the device in various functions.

1.4. Ease of Integration

With ACR100I SIMFlash II (CCID) being compliant with the CCID (Chip/Smart Card Interface Devices) 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, ACR100I SIMFlash II (CCID) may now be used on mobile devices running the Android™ platform with versions 3.1 and later.

With its wide array of features, ACR100I SIMFlash II (CCID) can be used in various application areas, such as PKI (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
- 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:
 - Built-in NAND flash memory
 - Maximum of built-in 8 GB flash memory
 - Division of up to three partitions (Private/Security, Public and CD-ROM/Autorun, and Hidden)
- Supports Android™ 3.1 and later¹
- Compliant with the following standards:
 - EN 60950/IEC 60950
 - ISO 7816
 - PC/SC
 - CCID
 - CE
 - FCC
 - RoHS 2
 - REACH
 - VCCI (Japan)
 - Microsoft® WHQL

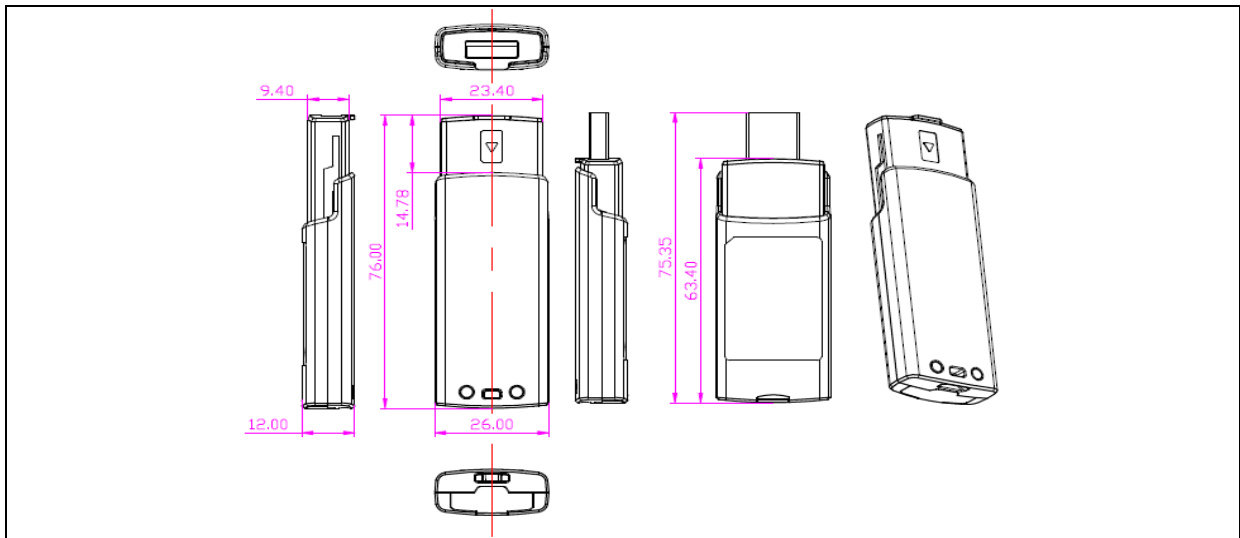
¹ Uses an ACS Defined Android Library



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 76 mm (L) x 26 mm (W) x 12 mm (H)
Weight 20 g
Color Gray 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. 10,000

Flash Memory

Memory Size Built-in 2 GB; Max. 8 GB
Supply Voltage 2.7 V - 3.6 V
Supply Current Max. 70 mA
Endurance 10,000 program/erase cycles
Data Retention 10 years
Data Write Speed Up to 3 Mbps (Faster speed available upon request)
Data Read Speed Up to 9 Mbps (Faster speed available upon request)
Disk Partitioning Options Up to 3 partitions (Private, Public and CD-ROM/Autorun, Hidden)

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



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