



## TECHNICAL SPECIFICATIONS

### ACR100 SIMFlash





### 1.0 Introduction



More than just a smart card reader, the ACR100 SIMFlash also has a built-in 1-GB flash memory. Designed both to access plug-in (SIM-sized) smart cards and for data or application storage, it is ideal for GSM solutions such as GSM management software and VoIP applications, electronic payment systems, e-commerce, home banking, transportation, and computer and network access.

#### i) Serves as a Plug-In (SIM-Sized) Card Reader:

The ACR100 SIMFlash is a reliable and cost-effective smart card reader for security-related applications. It is a USB full-speed plug-in card reader that, with the paired mass storage, enables you to do more than simply back up and manage your SIM card information on the PC. It supports most memory cards, MCU cards with T=0 and T=1 protocols, and GSM cards conforming to Spec 11.11.

#### ii) Serves as a Mass Storage Device:

Furthermore, the ACR100 SIMFlash is also a mass storage device. Being highly portable – with a dimension of 77 mm x 23 mm x 10 mm – makes it a perfect companion wherever you go. There is no need for additional cable and power supply as well since the device is bus-powered. Various options for partitioning the flash drive are also available – CD-ROM, boot disk and public, and lock and hidden areas can all be realized in the same device.

#### iii) Plug and Play Feature:

More than being Mass Storage Device Class compatible, its smart card reader component has CCID compliance, reducing driver installation issues. CCID defines the standard communication protocol between USB smart card readers and computers, leading to a simplified plug and play experience for customers.

### 2.0 Features

- USB combo device – works as smart card reader and mass storage
- USB 2.0 Hi-Speed interface for flash and USB 1.1 Full-Speed interface for smart card reader
- Bus-powered – no need for separate power supply or battery
- Plug and play – CCID support brings utmost mobility
- With protective USB cap and keychain loop
- 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
  - Read and write all microprocessor cards with T=0, T=1 protocols
  - Supports SLE 4418/28/32, SLE 5542 memory cards
  - Supports most common memory-based smart cards, including I2C bus protocol cards (from 1k bits up to 1024k bits) and secure memory cards (Atmel AT88SC153 and AT88SC1608)
  - Supports Spec 11.11-compliant GSM cards
  - Supports PPS (Protocol and Parameters Selection)
  - Short circuit protection
- Flash drive:
  - Mass Storage Device Class compatible
  - Built-in 1 GB flash memory (Other memory sizes from 128 MB to 4 GB are available upon request)
  - Up to three partitions (private/security, public and CD-ROM/auto-run, and hidden)
- Compliant with the following international standards: ISO 7816, PC/SC, Microsoft WHQL, FCC, CE and RoHS

### 3.0 Typical Applications

- GSM Management
- Data Storage
- Home Banking
- Electronic Commerce
- Digital Signature
- Identification
- Ticketing
- Parking and Toll Collection
- Online Gaming
- Computer/Network Access Control



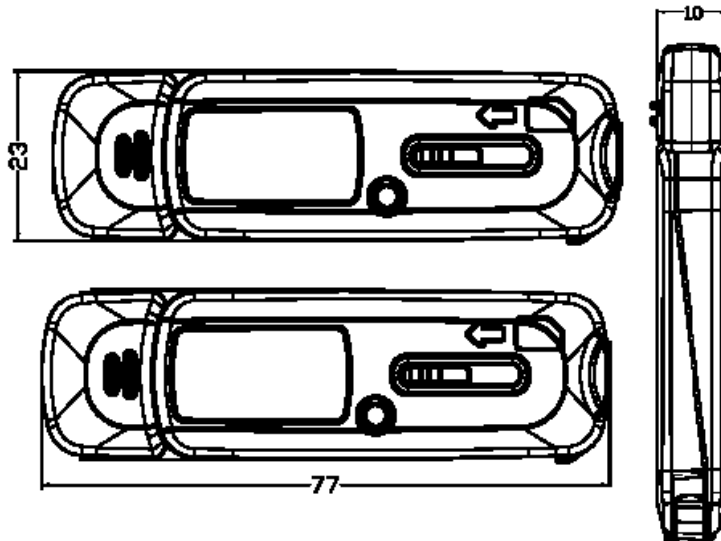
### 4.0 OEM Opportunity

The ACR100 SIMFlash is available for custom branding. OEM customizations can be the following:

- Casing color
- Logo
- Size of flash memory (128 MB to 4 GB)
- Other modifications according to your requirements



### 5.0 Technical Specifications



#### Power supply

Supply voltage ..... Regulated 5 V DC  
 Supply current..... < 310 mA (Without smart card)

#### Universal Serial Bus Interface

Type ..... USB, four lines: +5V, GND, D+ and D-  
 Connector ..... Supplied together with the reader  
 USB protocol ..... USB 2.0 (Max. of 480 Mbps) for flash and USB 1.1 (Max. of 12 Mbps) for smart card reader

#### 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 - 250,000 bps  
 Short circuit protection ..... +5V / GND on all pins  
 CLK frequency ..... 4 MHz  
 Card connector ..... Sliding contacts (8 contacts)  
 Card insertion cycles..... Min. 100,000  
 Communication Speed..... Max. data rate of 12 Mbps

#### Flash Memory Interface

Memory size ..... 1 GB (Other memory sizes from 128 MB to 4 GB are available upon request)  
 Voltage supply ..... 2.7 V ~ 3.6 V  
 Supply current..... Max. 70 mA  
 Endurance ..... 100K program/erase cycles  
 Data retention ..... 10 Years  
 Data Writing Speed..... Up to 3 Mbps (Faster speed available upon request)  
 Data Reading Speed..... Up to 9 Mbps (Faster speed available upon request)

Bicolor LED shows the status of smart card and flash memory

#### Case

Dimensions..... 77 mm (L) x 23 mm (W) x 10 mm (H)  
 Color ..... Black  
 Weight ..... 20 g

#### Operating Conditions

Temperature ..... 0 - 50° C

#### Standards/Certifications

ISO-7816 Class A, B and C (5 V, 3 V, 1.8 V) cards, PC/SC, CCID, Microsoft WHQL, FCC, CE and RoHS

#### OS

Windows 2000, XP and Vista

