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 HID compliance, reducing driver installation issues. HID support for the ACR100 SIMFlash brings the same plug and play convenience as when you use a mouse or a keyboard that do not require any special driver for most operating systems.

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 – HID 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 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
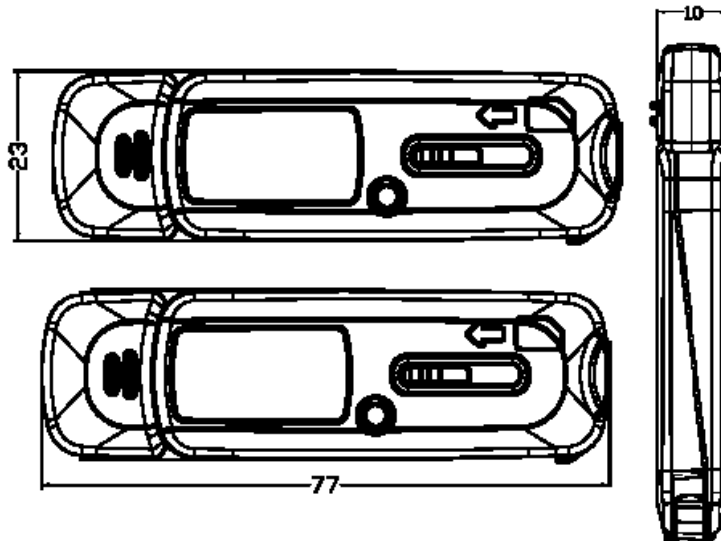- Computer/Network Access Control

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, HID, FCC, CE and RoHS

OS
Windows 2000, XP and Vista