ACM1281U-C7
USB Contactless Reader Module with SAM Slot

Technical Specifications V1.00
Table of Contents

1.0. Introduction ............................................................................................................. 3
2.0. Features ................................................................................................................... 4
3.0. Typical Applications ............................................................................................... 5
4.0. Technical Specifications ......................................................................................... 6
1.0. Introduction

The ACM1281U-C7 USB Contactless Reader Module with SAM Slot, running on the 13.56 MHz frequency, was designed for fast and easy integration to embedded systems. It supports ISO 14443 Parts 1-4 Type A and B cards, and MIFARE® Classic series.

The ACM1281U-C7 has an integrated (on-board) antenna and comes with an optional USB cable and has additional features like firmware upgradability and extended APDU support. It also has an ISO 7816 Compliant built-in SAM (Secure Access Module) slot which can be used together with a SAM card for enhanced security.

With a maximum of 848 Kbps high-speed communication ability for contactless cards, making it suitable for highly demanding smart card applications like vending machine payment systems, kiosks, gaming machines and other integrated systems.
2.0. Features

- USB 2.0 Full Speed Interface
- Smart Card Reader:
  - Contactless Interface:
    - Read/Write speed of up to 848 Kbps
    - Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
    - Supports ISO 14443 Part 4 Type A and B cards and MIFARE® Classic series
    - Built-in anti-collision feature (only one tag is accessed at any time)
    - Supports extended APDU (max. 64 KB)
  - SAM Interface:
    - One SAM slot
    - Supports ISO 7816 MCU Card (Class A)
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Built-in Peripherals:
  - Two user-controllable LEDs
  - User-controllable buzzer
- USB Firmware Upgradability
- Supports Android™ 3.1 and above
- Compliant with the following standards:
  - ISO 14443
  - ISO 7816
  - CE
  - FCC
  - PC/SC
  - CCID
  - Microsoft® WHQL
  - RoHS 2
  - REACH
3.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Transportation
- Network Security
- Access Control
- Loyalty Program
4.0. Technical Specifications

Universal Serial Bus Interface
- Power Source: From USB
- Speed: 12 Mbps (Full Speed)
- Supply Voltage: Regulated 5 V DC
- Supply Current: 200 mA

Contactless Smart Card Interface
- Standard: ISO 14443 A and B Parts 1-4
- Protocol: ISO 14443 T=CL for ISO 14443-4 compliant cards and T=CL Emulation for MIFARE series
- Smart Card Read/Write Speed: 106 Kbps, 212 Kbps, 424 Kbps, 848 Kbps
- Operating Frequency: 13.56 MHz
- Operating Distance: Up to 50 mm (depending on card type)
- Antenna Size: 65 mm x 60 mm

SAM Card Interface
- Standard: ISO 7816, Class A (5 V)
- Protocol: T=0 and T=1 protocol

Built-in Peripherals
- LEDs: Red and Green
- Buzzer: Monotone

Physical Specifications
- Dimensions: 106.6 mm (L) x 67.0 mm (W) x 16.0 mm (H)
- Weight: 20.8 g

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

Application Programming Interface
- PC/SC
- CT-API (through wrapper on top of PC/SC)

Certifications/Compliance
- ISO 14443, ISO 7816, PC/SC, CCID, CE, FCC, RoHS 2, REACH, USB Full Speed
Device Driver Operating System Support
Linux®, Android™ 3.1 and above

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