ACR122U
USB NFC Reader

Technical Specifications V3.06
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1.0. Introduction

The ACR122U is a PC-linked contactless smart card reader/writer developed on the 13.56 MHz contactless technology. It is the world’s first CCID-compliant contactless card reader/writer that follows both ISO 14443 and ISO 18092. This device is designed to support not only MIFARE® and ISO 14443 Type A and B cards but also FeliCa and NFC tags.

By making use of up to 424 Kbps read/write speed for NFC tag access and up to 12 Mbps for USB full speed, ACR122U can efficiently read from and write to various contactless cards/tags. It is also PC/SC-compliant which allows interoperability across different applications and platforms.

You can experience the convenience in using ACR122U, with its compact size and the various features it offers, for applications such as payment, access control, time and attendance, and mass transit.
2.0. Features

- USB Full Speed Interface
- CCID-compliant

Smart Card Reader:
- Read/Write speed of up to 424 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, MIFARE Classic®, FeliCa, and all four types of NFC (ISO/IEC 18092 tags)
- Built-in anti-collision feature (only one tag is accessed at any time)

Built-in Peripherals:
- User-controllable bi-color LED
- User-controllable buzzer

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

Supports Android™ 3.1 and later¹

Compliant with the following standards:
- EN 60950/IEC 60950
- ISO 14443
- ISO 18092
- PC/SC
- CCID
- CE
- FCC
- RoHS 2
- REACH
- VCCI (Japan)
- KC (Korea)
- Microsoft® WHQL

¹ Uses an ACS-defined Android Library
3.0. Typical Applications

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

**Physical Characteristics**
- **Dimensions**: 98.0 mm (L) × 65.0 mm (W) × 12.8 mm (H)
- **Weight**: 70 g
- **Color**: Pearl White

**USB Host Interface**
- **Protocol**: USB CCID
- **Connector Type**: Standard Type A
- **Power Source**: From USB port
- **Speed**: USB Full Speed (12 Mbps)
- **Supply Voltage**: 5 V
- **Supply Current**: Max. 200 mA
- **Cable Length**: 1.0 m, Fixed

**Contactless Smart Card Interface**
- **Standard**: ISO/IEC 18092 NFC, ISO 14443 Type A & B, MIFARE, FeliCa
- **Protocol**: ISO 14443 T=CL for ISO 14443-4 compliant cards
  - T=CL Emulation for MIFARE Classic, ISO 18092, FeliCa and NFC Tags
- **Operating Frequency**: 13.56 MHz
- **Operating Distance**: Up to 50 mm (depending on tag type)
- **Smart Card Read/Write Speed**: 106 Kbps, 212 Kbps, 424 Kbps
- **Antenna Size**: 50 mm × 40 mm

**Built-in Peripherals**
- **LED**: 1 bi-color: Red and Green
- **Buzzer**: Monotone

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

**Operating Conditions**
- **Temperature**: 0 °C – 60 °C
- **Humidity**: Max. 90% (non-condensing)
- **MTBF**: 408,500 hrs

**Certifications/Compliance**
- EN 60950/IEC 60950, ISO 14443, ISO 18092, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS 2, REACH
- VCCI (Japan), KC (Korea), Microsoft® WHQL
Device Driver Operating System Support

Windows® CE 5.0, Windows® 6.0, Windows® Embedded Compact 7, Windows® XP, Windows Vista®,
Windows® 7, Windows® 8, Windows® 8.1, Windows® 10
Linux®, Mac OS®, Solaris, Android™ 3.1 and later