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 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 for NFC tag access and full USB speed of up to 12 Mbps, 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 2.0 Full Speed Interface
- CCID Compliance
- 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)
  - Support for ISO 14443 Part 4 Type A and B cards, MIFARE, FeliCa, and all four types of NFC (ISO/IEC 18092 tags)
  - Built-in anti-collision feature (only one tag is accessed at any time)
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Built-in Peripherals:
  - User-controllable bi-color LED
  - User-controllable buzzer
- Supports Android™ 3.1 and above
- Compliant with the following standards:
  - ISO 18092
  - ISO 14443
  - CE
  - FCC
  - KC
  - VCCI
  - PC/SC
  - CCID
  - Microsoft® WHQL
  - RoHS 2
  - IEC/EN 60950
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 (maximum); 50 mA (standby); 100 mA (normal)

**Contactless Smart Card Interface**
- **Standard**: ISO/IEC 18092 NFC, ISO 14443 Type A & B, MIFARE, FeliCa
- **Protocol**: FeliCa protocol, T=CL protocol
- **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

**Physical Specifications**
- **Dimensions**: 98.0 mm (L) x 65.0 mm (W) x 12.8 mm (H)
- **Weight**: 70.0 g
- **Material**: Polycarbonate (PC)
- **Color**: Pearl White
- **Antenna Size**: 50.0 mm x 40.0 mm
- **Cable Length**: 1.0 m (USB)

**Built-in Peripherals**
- **LED**: Bi-color (Red and Green)
- **Buzzer**: Monotone

**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 18092, ISO 14443, CE, FCC, KC, VCCI, PC/SC, CCID, RoHS 2, IEC/EN 60950, USB Full Speed
Device Driver Operating System Support
Linux®, Mac OS®, Android™ 3.1 and above

Android is a trademark of Google Inc.
Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.
Mac OS® is a trademark of Apple Inc.
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