ACR1255U-J1
Bluetooth®
NFC Reader
Technical Specifications V1.01
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1.0. Introduction

ACR1255U-J1 Bluetooth® NFC Reader combines the latest 13.56 MHz contactless technology with Bluetooth® Smart connectivity for on-the-go smart card and NFC applications.

1.1. Smart Card Reader

ACR1255U-J1 supports ISO 14443 Type A and B smart cards, MIFARE®, FeliCa®, and most NFC tags and devices compliant with ISO 18092 standard. This makes it the ideal device for a broad range of solutions, such as hands-free verification for physical and logical access control, and inventory tracking. ACR1255U-J1 has both Bluetooth 4.0 interface for pairing with mobile devices and USB Full Speed for PC-linked operation. Additionally, it can read/write at speed of up to 424 Kbps for contactless smart card and NFC device access.

1.2. Compact Design

With a compact design and a rechargeable Lithium-ion battery for power, ACR1255U-J1 is extremely portable and convenient for use anytime, anywhere with most Bluetooth-enabled smartphones and tablets in the market.

1.3. Firmware Upgradeable Feature

To save valuable cost and time, the firmware of ACR1255U-J1 could conveniently be upgraded in-field to allow users to cope up with the fast-changing technology for their applications in order to suit different scenarios.

1.4. Bluetooth Connectivity

With Bluetooth Smart technology, ACR1255U-J1 can connect wirelessly with ease to any device running on Android™ 4.3 and above, iOS 5.0 and above, Windows® operating system and Mac OS®.

1.5. Ease of Integration

ACR1255U-J1 could easily be installed for use with any personal computer running on Windows® operating system because it is PC/SC and CCID compliant. Its drivers are also compatible with Linux® and Mac OS®.

With its numerous features, the ACR1255U-J1 is the perfect reader for your smart card solution.
2.0. Features

- USB 2.0 Full Speed Interface
- Bluetooth Smart Interface
- Plug and Play – CCID support brings utmost mobility
- USB Firmware Upgradeability¹
- Smart Card Reader:
  - Built-in antenna for contactless tag access, with reading distance of up to 60 mm (depending on tag type)
  - Supports ISO 14443 Part 4 Type A and B cards
  - Supports MIFARE® and MIFARE® DESFire®
  - Supports FeliCa®
  - Supports ISO 18092 Tags (NFC Tags)
  - Built-in anti-collision feature (only one tag is accessed at any time)
  - NFC Support:
    - Card reader/writer mode
    - Card emulation mode
  - Supports AES-128 encryption algorithm
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 4.3 and above²
- Supports iOS 5.0 and above³
- Built-in Peripherals:
  - Two user-controllable bi-color LEDs
  - User-controllable buzzer
- Compliant with the following standards:
  - EN60950/IEC 60950
  - ISO 18092
  - ISO 14443
  - CE
  - FCC
  - VCCI
  - PC/SC
  - CCID
  - Bluetooth® Smart
  - Microsoft® WHQL
  - RoHS 2
  - REACH

¹ Applicable under PC-linked mode
² PC/SC and CCID support are not applicable.
³ Same as above
3.0. Typical Applications

- Mobile Banking & Payment
- e-Government
- e-Healthcare
- Network Security
- Access Control
- e-Purse & Loyalty
- Public Key Infrastructure
4.0. Technical Specifications

**Universal Serial Bus Interface**
- **Type**: USB Full Speed, four lines: +5 V, GND, D+ and D-
- **Power Source**: From USB
- **Speed**: 12 Mbps
- **Firmware**: Upgradeable through USB interface

**Bluetooth Interface**
- **Type**: Bluetooth Smart
- **Power Source**: From battery or from USB
- **Speed**: 1 Mbps (on-air data rate)

**Contactless Smart Card Interface**
- **Standard**: ISO/IEC 18092 NFC, ISO 14443 Type A & B, MIFARE, DESFire, FeliCa
- **Protocol**: ISO 14443 T=CL for ISO 14443-4 compliant cards and T=CL Emulation for MIFARE Classic 1K/4K, ISO 18092, FeliCa and NFC tags
- **Operating Frequency**: 13.56 MHz
- **Operating Distance**: Up to 60 mm (depending on tag type)
- **Smart Card Read/Write Speed**: 106 Kbps, 212 Kbps, 424 Kbps

**Physical Specifications**
- **Dimensions**: 85 mm (L) × 54 mm (W) × 10 mm (H)
- **Color**: White
- **Weight**: 37.5 g (74.1 g with cable ± 5 g allowance for cable)
- **Cable length, cord, connector**: 1 m, Fixed (detachable), USB A
- **Antenna size**: 45.60 mm × 42.00 mm

**Built-In Peripheral**
- **LED**: 2, Bi-color (Red and Blue, 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
EN60950/IEC 60950, ISO 18092, ISO 14443, NFC Forum, CE, FCC, VCCI, PC/SC, CCID, RoHS 2, REACH, USB Full Speed, Bluetooth® Smart

Device Driver Operating System Support
Linux®, Mac OS®, Android™ 1, iOS²

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.
Microsoft, Windows and Windows Vista are either registered trademarks or trademarks of the Microsoft Corporation in the United States and/or other countries.
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1 4.3 or above Android version is required for Bluetooth 4.0.
2 5.0 and above iOS version is required.