Advanced Card Systems Ltd.
Card & Reader Technologies

ACR122T
USB Token
NFC Reader

Technical Specifications V2.07

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1.0. Introduction

The ACR122T is the token version of the ACR122U, the world's first NFC card reader compliant with the CCID standard. It is developed based on the 13.56 MHz RFID technology and the ISO/IEC 18092 NFC standard. It supports not only MIFARE® and ISO 14443 Type A and B cards but also FeliCa and NFC tags.

Because of its compact size and great portability, you can bring the ACR122T and conveniently use it in public areas such as a coffee shop or use it at home to securely log in to your notebook, load your e-Purse, check your balance, and pay for a product or service you ordered.

2.0. Features

- USB Full Speed Interface
- Smart Card Reader:
  - Contactless Interface:
    - Read/Write speed of up to 424 Kbps
    - Built-in antenna for contactless tag access, with card reading distance of up to 30 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 Peripheral:
  - User controllable bi-color LED
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and later[1]
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 14443
  - ISO 18092
  - USB Full Speed
  - PC/SC
  - CCID
  - CE
  - FCC
  - RoHS 2
  - VCCI (Japan)
  - KC (Korea)
  - Microsoft® WHQL
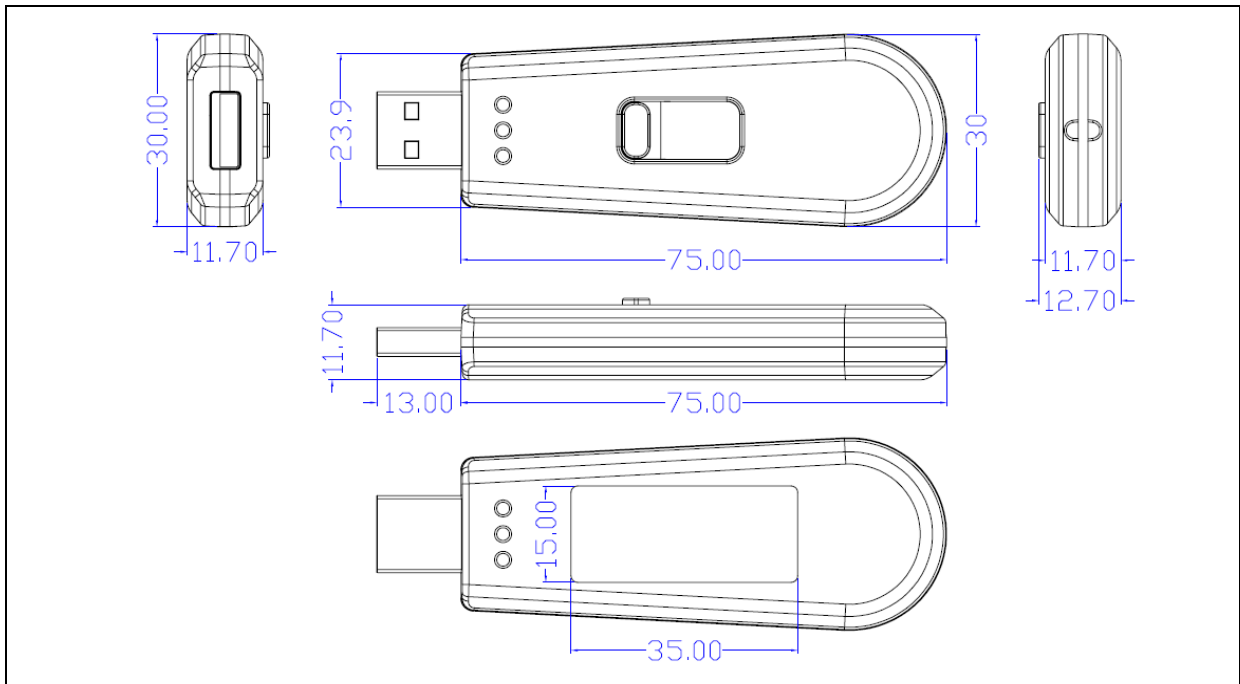
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[1] Uses an ACS-defined Android Library

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	75.0 mm (L) × 30.0 mm (W) × 12.7 mm (H)
Weight	15 g
Color	Pearl White
Casing	Extractable USB plug

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

Contactless Smart Card Interface	
Standard	ISO/IEC 18092 NFC, ISO 14443 Type A & B, MIFARE and FeliCa
Protocol	ISO 14443 T=CL for ISO 14443-4 compliant cards
	T=CL Emulation for MIFARE Classic, ISO18092, FeliCa and NFC Tags
Operating Frequency	13.56 MHz
Operating Distance	Up to 30 mm (depending on tag type)
Smart Card Read/Write Speed	106 Kbps, 212 Kbps, 424 Kbps
Antenna Size	20 mm × 20 mm

Built-in Peripheral	
LED	1 bi-color, Red and Green

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

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

Certifications/Compliance	

EN 60950/IEC 60950, ISO 14443, ISO 18092, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS 2
VCCI (Japan), KC (Korea), Microsoft® WHQL

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Device Driver Operating System Support

Windows® CE 5.0, Windows® CE 6.0, Windows® Embedded Compact 7, Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10

Windows® Server 2003, Windows® Server 2003 R2, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2

Linux®, Mac OS®, Android™ 3.1 and later

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