Advanced Card Systems Ltd.
Card & Reader Technologies

ACR1251T USB Token NFC Reader II

Technical Specifications V1.01

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1.0. Introduction

The ACR1251T is the token version of the ACR1251U PC-linked NFC smart card reader, which was developed based on the 13.56 MHz contactless technology. Following the ACR122T, the token version of the ACR122U, the world's first CCID-compliant contactless reader, the ACR1251T offers more and advanced features. It is designed to support not only ISO 14443 Type A and B cards, but also MIFARE®, FeliCa and all four types of NFC tags and devices.

The ACR1251T is ideal for implementing contactless applications with added security functions in the system. It is suitable for any contactless smart card application such as personal identity verification, network login, online banking, and micropayment. With enhanced NFC features, the ACR1251T is also ideal for non-conventional NFC applications like Smart Posters for advertising and marketing purposes.

Furthermore, the ACR1251T is PC/SC-compliant that allows interoperability across different applications and platforms. The ACR1251T also supports post-deployment firmware update through remote firmware upgrade, which eliminates the need for additional hardware modification. With its compact size, portability and rich features, the ACR1251T lets you fully enjoy the convenience of using NFC applications.

2.0. Features

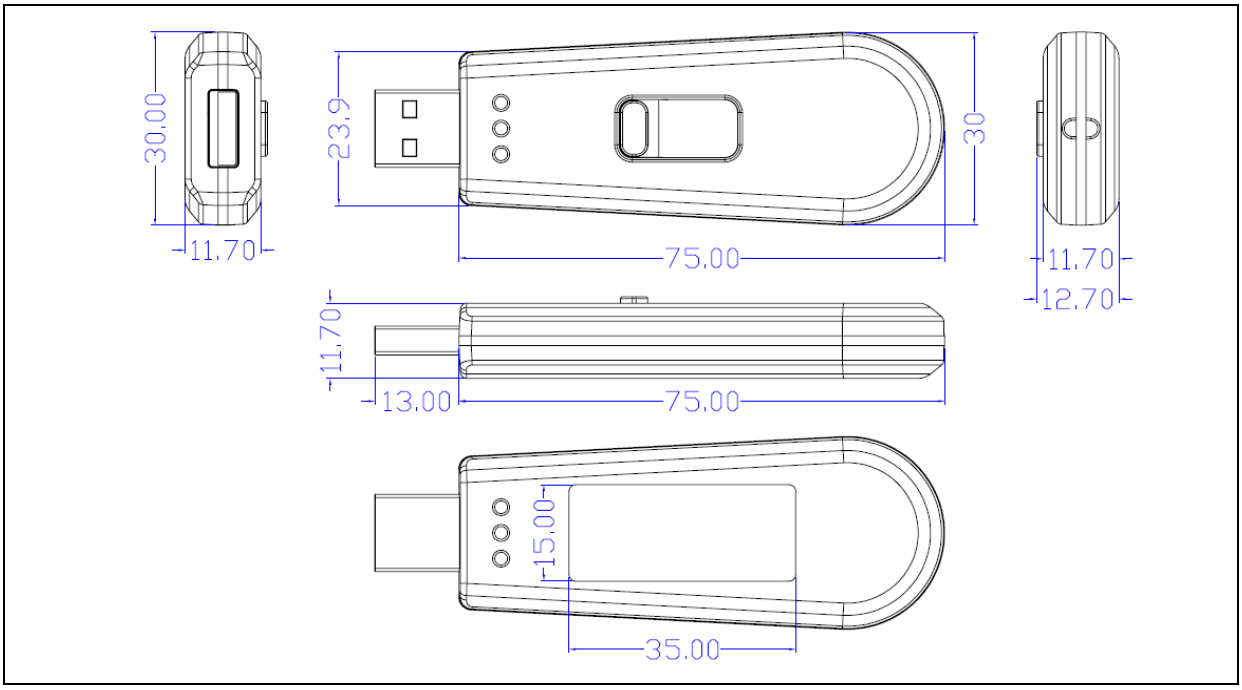
- USB Full Speed Interface
- CCID-compliant
- Smart Card Reader:
  - Contactless Interface:
    - Read/Write speed of up to 424 Kbps
    - Built-in antenna for contactless tag access, with card reading distance of up to 30 mm (depending on tag type)
    - Supports ISO 14443 Part 4 Type A and B cards, 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)
    - NFC Support:
      - Card Reader/Writer mode
- Built-in Peripherals:
  - User-controllable Bi-color LED
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- USB Firmware Upgradeability
- Supports Android™ 3.1 and later[1]
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 14443
  - ISO 18092
  - PC/SC
  - CCID
  - CE
  - FCC
  - RoHS
  - REACH
  - VCCI (Japan)
  - MIC (Japan)
  - 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
- Smart Poster/URL Marketing

4.0. Technical Specifications



Physical Characteristics	
Dimensions	75.0 mm (L) × 30.0 mm (W) × 12.7 mm (H)
Weight	15.8 g
Color	Black Grey
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, 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 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 Peripherals	
LED	1 Bi-color: Green and Red
Other Feature	
Firmware Upgrade	Supported
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	500,000 hrs
Certifications/Compliance	
EN 60960/IEC 60950, ISO 14443, ISO 18092, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS, REACH, VCCI (Japan), MIC (Japan), Microsoft® WHQL	

Device Driver Operating System Support

Windows® CE 5.0, Windows® CE 6.0, Windows® Embedded Compact 7, 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, Windows® Server 2016
Linux®, Mac OS®, Solaris, Android™ 3.1 and later