



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 later¹
- 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

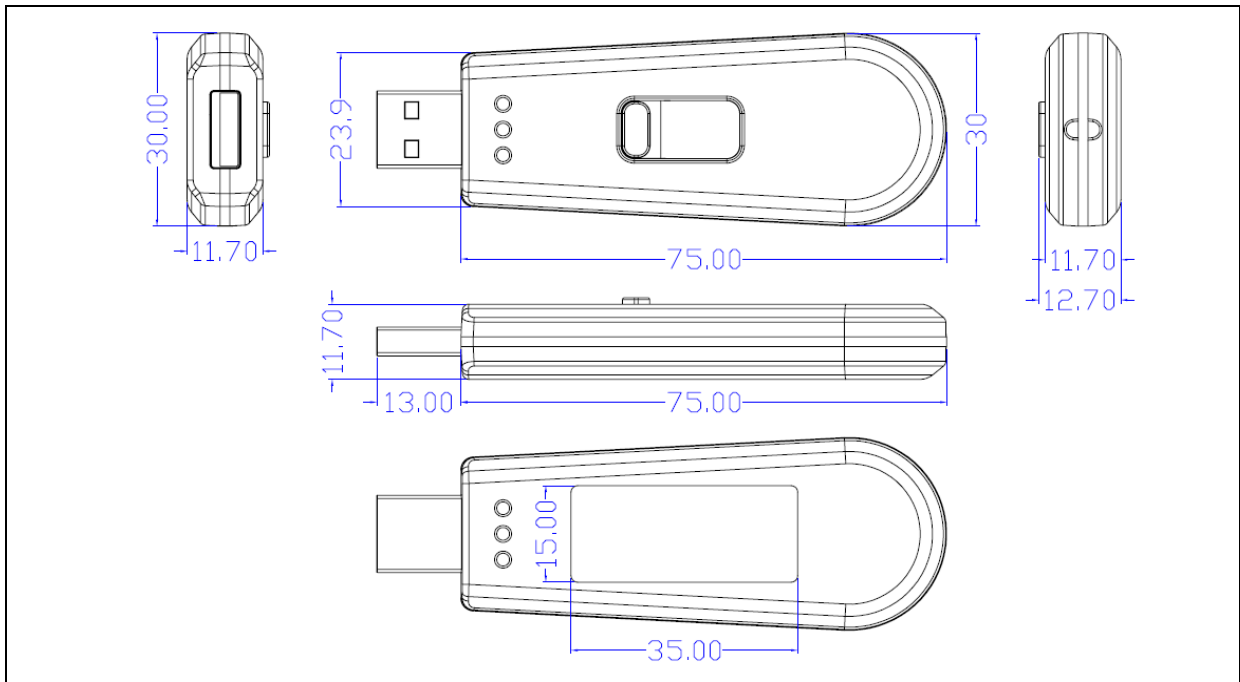
¹ Uses an ACS-defined Android Library



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) x 30.0 mm (W) x 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 x 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

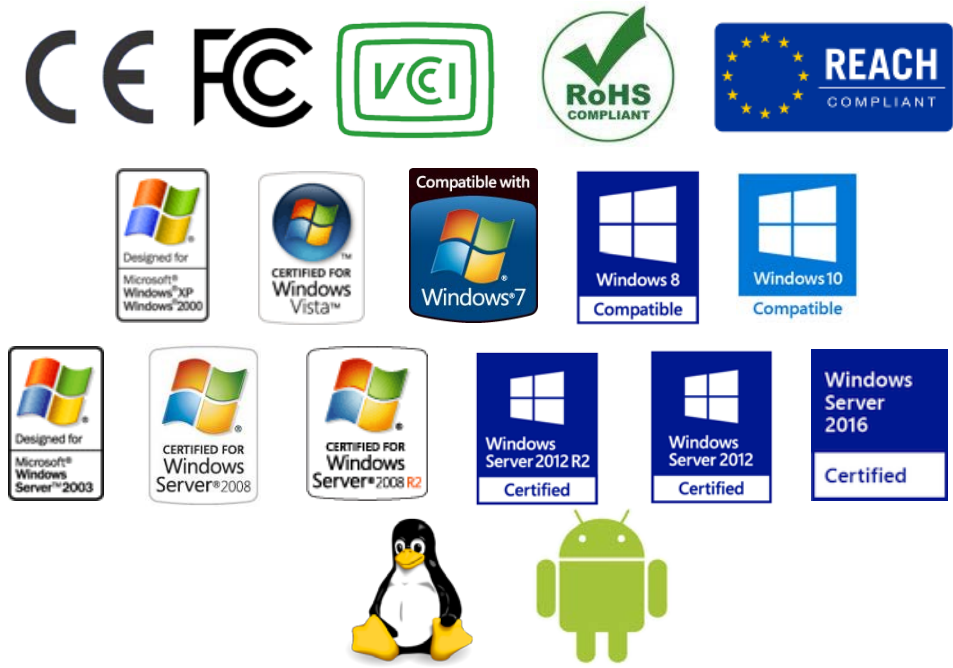
Certifications/Compliance

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



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