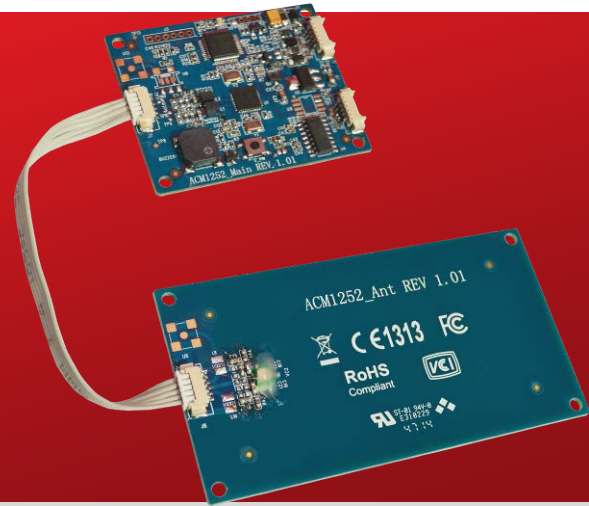




Advanced Card Systems Ltd.
Card & Reader Technologies

ACM1252U-Y3

USB NFC Reader Module with Detachable Antenna Board



Technical Specifications V1.00

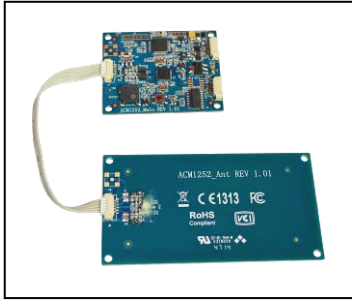


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1.0. Introduction



The ACM1252U-Y3 USB NFC Reader Module with Detachable Antenna Board is developed based on the 13.56 MHz contactless technology. Like its predecessor, the ACR1252U-A1 NFC Forum–Certified Reader, ACM1252U-Y3 supports all three NFC modes (card reader/writer, card emulation, and peer-to-peer communication). This Smart Card Reader Module is designed for fast and easy integration to embedded systems.

The ACM1252U-Y3 supports ISO 14443 Type A and B cards, and MIFARE®, FeliCa, and ISO 18092–compliant NFC tags. It also supports other NFC devices with an access speed of up to 424 Kbps and proximity operating distance of up to 50 mm (depending on tag type used). Post-deployment firmware upgrade is also supported, eliminating the need for additional hardware modification.

The ACM1252U-Y3 comes with a detachable antenna and an optional USB cable making it the perfect front-end interface module to enable NFC transactions for applications involving vending machine payment systems, kiosks, gaming machines and other integrated systems.



2.0. Features

- USB 2.0 Full Speed (12 Mbps)
- 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 50 mm (depending on tag type)
 - Support for ISO 14443 Part 4 Type A and B Cards, MIFARE® Classic, MIFARE® Mini, MIFARE® Ultralight®, FeliCa, Topaz, and all four types of NFC (ISO/IEC 18092 tags)
 - Built-in anti-collision feature (only one tag is accessed at a time)
 - NFC Support
 - Card reader/writer mode
 - Peer-to-Peer mode
 - Card emulation mode
 - SAM Interface (upon request)
 - One SAM Slot (upon request)
 - Support for ISO 7816 MCU Card (Class A)
- 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
- USB Firmware Upgradability
- Supports Android™ 3.1 and above
- Compliant with the following standards:
 - EN60950/IEC 60950
 - ISO 18092 (NFCIP-1)
 - ISO 14443 Parts 1-4
 - CE
 - FCC
 - VCCI
 - PC/SC
 - CCID
 - Microsoft® WHQL
 - RoHS 2
 - REACH

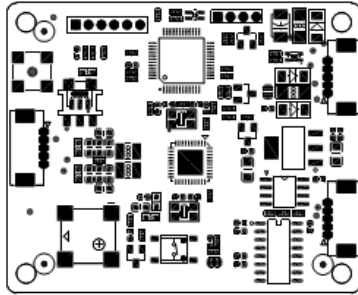


3.0. Typical Applications

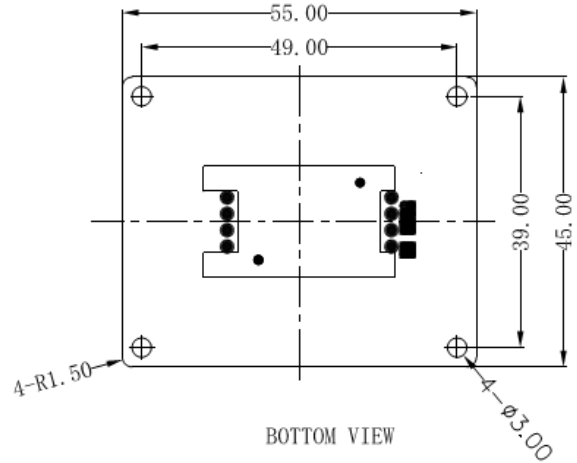
- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Transportation
- Network Security
- Access Control
- Loyalty Program

4.0. Technical Specifications

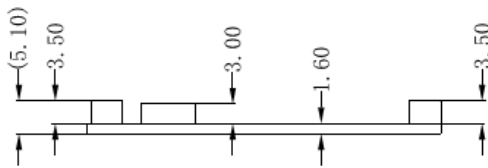
MAIN Board:



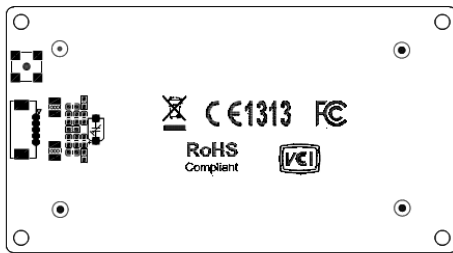
TOP VIEW



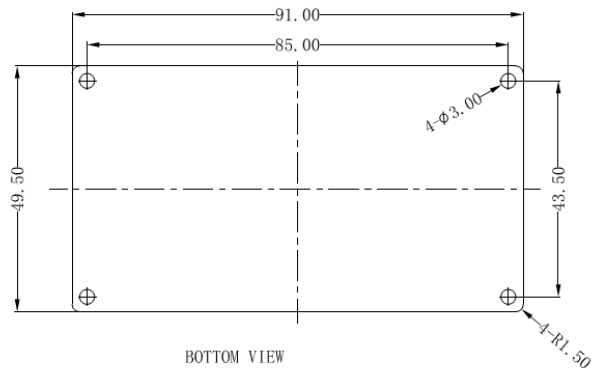
BOTTOM VIEW



Antenna Board:



TOP VIEW



BOTTOM VIEW



Universal Serial Bus Interface

Power Source..... From USB
Speed..... 12 Mbps (Full Speed)
Supply Voltage..... Regulated 5 V DC
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 and T=CL Emulation for MIFARE 1K/4K, ISO 18092, FeliCa and NFC tags
Smart Card Read/Write Speed..... 106 Kbps, 212 Kbps, 424 Kbps
Operating Frequency 13.56 MHz
Operating Distance Up to 50 mm (depending on card type)
Detachable Antenna Distance..... Max. 10 cm



SAM Card Interface (Optional)

Standard ISO 7816
Protocol..... T=0 and T=1 protocol

Built-in Peripherals

Bi-Color LED Red and Green
Buzzer Monotone

Physical Specifications

Dimensions Main Board: 55.0 mm (L) x 45.0 mm (W) x 5.1 mm (H)
..... Antenna Board: 91.0 mm (L) x 49.5 mm (W) x 5.1 mm (H)
Cable Length..... 1.0 m (USB)

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 14443, ISO 18092, ISO 7816 (upon request), CE, FCC, VCCI, PC/SC, CCID, RoHS 2, REACH, USB Full Speed

Microsoft® WHQL for Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2

Device Driver Operating System Support

Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2
Linux®, Mac OS®, Android™ 3.1 and above



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