



2.0. Features

- USB 2.0 Full Speed Interface
- CCID Compliance
- Smart Card Reader:
 - o Contactless Smart Card Reader:
 - Read/Write speed of up to 848 Kbps
 - Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
 - Supports ISO 14443 Part 4 Type A and B cards and MIFARE® Classic series
 - Built-in anti-collision feature (only one tag is accessed at any time)
 - Supports extended APDU (max. 64 KB)
 - o Contact Smart Card Reader:
 - Supports ISO 7816 Class A, B, and C (5 V, 3 V and 1.8 V)
 - Supports CAC (Common Access Card)
 - Supports PIV (Personal Identity Verification Card)
 - Supports microprocessor cards with T=0 or T=1 protocol
 - Supports memory cards
 - o SAM Interface:
 - One SAM slot
 - ISO 7816 compliant SAM slot (Class A)
- Application Programming Interface:
 - o Supports PC/SC
 - o Supports CT-API (through wrapper on top of PC/SC)
- Built-in Peripherals:
 - o Two user-controllable LEDs
 - o User-controllable buzzer
- USB Firmware Upgradability
- Supports Android™ 3.1 and above¹
- Compliant with the following standards:
 - o ISO 14443
 - o ISO 7816
 - o PC/SC
 - o CCID
 - o CE
 - o FCC
 - o RoHS 2
 - o REACH
 - o FIPS 201 (USA)
 - o Microsoft® WHQL

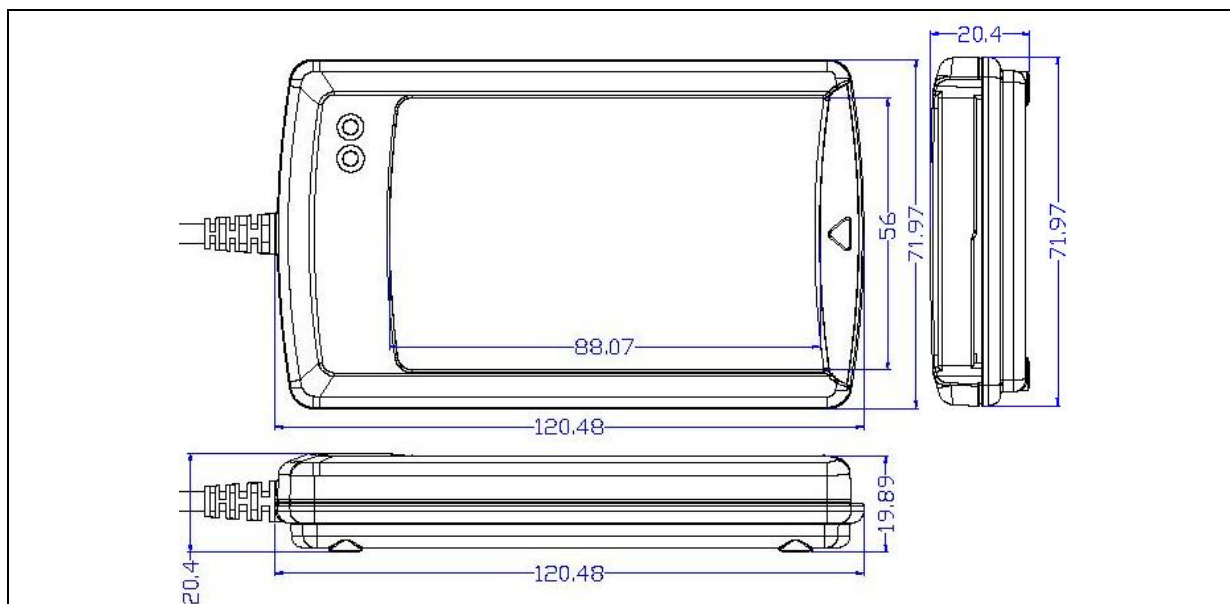
¹ Uses an ACS-defined Android Library



3.0. Typical Applications

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

4.0. Technical Specifications



Physical Characteristics

Dimensions 120.5 mm (L) × 72.0 mm (W) × 20.4 mm (H)
Weight 140 g
Color Black

USB Host Interface

Protocol USB CCID
Type Four Lines: +5V, GND, D+ and D-
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
Cable Length 2.0 m fixed cable

Contactless Smart Card Interface

Standard ISO 14443 A and B Parts 1-4
Protocol ISO 14443 T=CL for ISO 14443-4 compliant cards
..... MIFARE Classic Card Protocol, T=CL
Operating Frequency 13.56 MHz
Operating Distance Up to 50 mm (depending on card type)
Smart Card Read/Write Speed 106 Kbps, 212 Kbps, 424 Kbps, 848 Kbps
Antenna Size 65 mm × 60 mm

Contact Smart Card Interface

Number of Slots 1 Full-sized Card Slot
Standard ISO 7816 Parts 1-3, Class A, B, C (5 V, 3 V, 1.8 V)
Protocol T=0; T=1
Supply Current Max. 60 mA
Smart Card Read/Write Speed 9.6 Kbps – 420 Kbps
Short Circuit Protection (+5) V/GND on all pins
Clock Frequency 4.80 MHz
Card Connector Landing
Card Insertion Cycles Min. 200,000

SAM Card Interface

Number of Slots 1 Standard SIM-sized
Standard ISO 7816, Class A (5 V)
Protocol T=0; T=1
Card Connector Type Contact

Built-in Peripherals

LED 2 single-color: 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-linked mode..... PC/SC
..... CT-API (through wrapper on top of PC/SC)

Certifications/Compliance

ISO 14443, ISO 7816, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS 2, REACH
FIPS 201 (USA), Microsoft® WHQL

Device Driver Operating System Support

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™



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