Advanced Card Systems Ltd.
Card & Reader Technologies

Contact & Contactless Reader

ACR1581U

DualBoost III USB Dual Interface Reader

The ACR1581U DualBoost III is a highly advanced smart card reader that can work with both contact and contactless smart cards following ISO standards. Its high-speed communication capability of up to 848 kbps and built-in SAM slot provide added security and reliability for demanding smart card applications. The DualBoost III also has intelligent support for keyboard emulation and card emulation, making it versatile and useful for a broad range of smart card applications. Additionally, it has intelligent support for hybrid and combi cards, which can detect when a contactless card has been incorrectly placed in the contact card slot. The device also has USB firmware upgradability, contact memory card support, and extended APDU support, making it flexible and cost-effective for various smart card applications. It is compliant with PC/SC standards, ensuring compatibility with a wide range of smart card systems and applications.

The DualBoost III is a powerful and flexible smart card reader suitable for use in various industries, including finance, healthcare, and government. Its advanced features and versatility make it an ideal choice for demanding smart card applications that require high levels of security and reliability.

KEY FEATURES

☑ Support various type of card type
- o Contact Card:
  - ▪ ISO 7816 Class A, B and C (5V, 3V and 1.8V)
  - ▪ Memory Card, Microprocessor Card (T=0 or 1)
- o Contactless Card:
  - ▪ ISO 14443 Type A & B (T=CL)
  - ▪ ISO 15693
  - ▪ MIFARE® (T=CL), FeliCa, NFC Tags
  - ▪ SRI/SRIX, CTS, Innovatron, Picopass, Topaz Card

☑ Performance
- o Read/Write ISO 14443A & B speed of up to 848 kbps
- o Read/Write ISO 15693 speed of up to 26 kbps

☑ Security
- o 1 x ISO 7816 Standard SAM slot for improved security

☑ Support keyboard emulation and card emulation
- o Implement without the need of additional application

☑ Support USB Firmware Upgrade

☑ Reliable
- o Certified for international regulations
- o Mean time between failures (MTBF) up to 500k Hours
- o Short Circuit Protection

☑ Compatibility
- o Support for all major operating systems

Common Applications

e-Government

e-Banking and e-Payment

e-Healthcare

Transportation

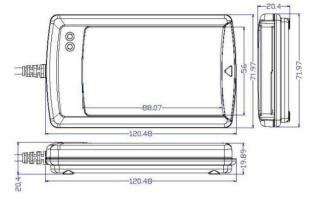Network Security

Access Control

Loyalty Program

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TECHNICAL SPECIFICATION

Contact Smart Card Interface	
Number of Slot(s)	1 Full-sized Card Slot
Supported Card Types	ISO 7816 Class A, B, C (5V, 3V, 1.8V), Memory Cards, Microprocessor Cards (T=0, T=1)
Supply Current	Max. 60 mA
Read/Write Speed	13.4 – 1,250 kbps
Clock Frequency	5 MHz, up to 10 MHz (upon request)
Card Connector	ICC Slot: Landing
Card Insertion Cycles	500,000

Contactless Smart Card Interface	
Supported Card Types	ISO 14443 Type A & B Parts 1-4, ISO 15693, MIFARE®, FeliCa, NFC Tags, SRI/SRIX, CTS, Innovatron, Picopass, Topaz Card
Operating Frequency	13.56 MHz
Reading Distance	Up to 70 mm (Depending on tag type)
Read/Write Speed	106/212/424/848 kbps (ISO14443) 26 kbps (ISO15693)
Other NFC features	Keyboard Emulation, Card Emulation

SAM Card Interface	
Standard	1 x ISO 7816 Class A (5V) Standard SIM size slot
Read/Write Speed	13.4 kbps – 1,250 kbps
Clock Frequency	5 MHz, up to 10 MHz (upon request)
Protocol	T=0, T=1

Host Interface	
Protocol	USB CCID
Connector Type	USB Type-A
Speed	USB 2.0 Full Speed (12 Mbps) compatible with USB 3.0
Supply Voltage	5VDC
Current Consumption	Max. 300mA
USB Firmware Upgrade	Supported

Physical Characteristics	
Dimension (L x W x H)	Main Body: 120.5 x 72.0 x 20.4 mm Antenna size: 63 x 54 mm
Weight	143 g
Available Colour	Matte White
USB Cable Length	2 m (Non-detachable)

Peripherals	
Buzzer	1 x Programmable Buzzer (Mono-tone)
LED	2 x Programmable LED (Blue & Green)

Operating Condition	
Temperature	0 - 60°C
Humidity	90% (Non-condensing)
MTBF	500,000 Hours

Certifications & Compliances	
Certifications	EN 62368, CE, UKCA, FCC, RoHS, REACH, Microsoft® WHQL
Compliances	USB CCID, PC/SC

Libraries & Tools	
Libraries	CT-API
Tools	Software Development Kit

Support	
Supported OS	Windows®, Linux®, macOS, Android™
Warranty	1 Year

Model/Part Number	
USB Type-A	ACR1581U-C1
USB Type-C	ACR1581U-CF (upon request)

MECHANICAL SPECIFICAITON

Unit: mm

About ACS

Advanced Card Systems Ltd. (ACS), founded in 1995, is Asia Pacific's top supplier and one of the world's top 3 suppliers of PC-linked smart card readers. ACS is the winner of the Product Quality Leadership Award for Smart Card Readers from Frost & Sullivan. In 2010, 2014 and 2015, ACS was listed in Forbes Asia's "Best Under a Billion" list, an inter-industry list comprised of 200 top-performing publicly listed companies in the Asia-Pacific, with sales between US$5 million and US$1 billion. ACS develops a wide range of high-quality smart card reading/writing devices, smart cards and related products and distributes them to over 100 countries worldwide.

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