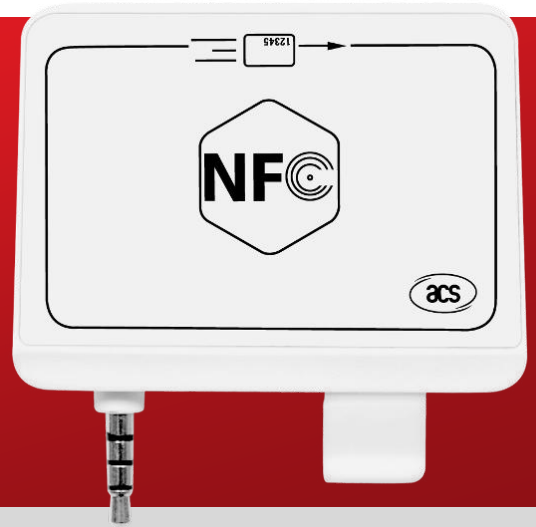




Advanced Card Systems Ltd.
Card & Reader Technologies

ACR35 NFC MobileMate



Technical Specifications V1.02



Table of Contents

1.0.	Introduction	3
1.1.	Secure Card Reader.....	3
1.2.	Ingenious Design	3
1.3.	Ease of Integration.....	3
2.0.	Features	4
3.0.	Typical Applications.....	5
4.0.	Technical Specifications.....	6



1.0. Introduction

ACR35 NFC MobileMate Card Reader is the perfect tool you can use with your mobile device. With the combination of two card technologies into one, it provides you the flexibility to use magnetic stripe cards and smart cards without additional cost. ACR35 NFC MobileMate seamlessly unites card reader functionality with mobility which allows you to access secure applications anytime, anywhere.

1.1. Secure Card Reader

ACR35 NFC MobileMate is a reliable card reader that uses AES-128 encryption algorithm and DUKPT Key Management System for a secure transaction. It is capable of reading both high-coercivity and low-coercivity magnetic cards that conform to ISO 7810 and ISO 7811 standards. Also, it supports ISO 14443 Type A and B cards, MIFARE®, FeliCa, and most NFC tags and devices compliant to ISO 18092 standard, which makes it an ideal device for a broad range of solutions such as e-Banking and e-Payment.



1.2. Ingenious Design

ACR35 NFC MobileMate is specifically designed to be brought anytime, anywhere. With its rechargeable Lithium-ion battery as its power supply and standard 3.5 mm audio jack interface, it allows ACR35 NFC MobileMate to be integrated impeccably with most smartphones and tablets available in the market.

1.3. Ease of Integration

ACR35 NFC MobileMate can be easily integrated with any mobile device running the Android™ platform with versions 2.0 and later, and iOS platform with versions 5.0 and later.



2.0. Features

- 3.5 mm Audio Jack Interface
- Power Source:
 - Powered by a Lithium-ion battery (rechargeable through USB cable)
- Smart Card Reader:
 - Built-in antenna for contactless tag access, with reading distance of up to 30 mm (depending on tag type)
 - Supports ISO 14443 Part 4 Type A and B cards, MIFARE, FeliCa, and all 4 types of NFC (ISO/IEC 18092) tags¹
 - Built-in anti-collision feature (only one tag is accessed at any time)
 - NFC Support:
 - Card reader/writer mode
- Magnetic Stripe Card Reader:
 - Reads up to two tracks of card data
 - Capable of bi-directional reading
 - Supports AES-128 encryption algorithm
 - Supports DUKPT Key Management System
 - Supports ISO 7810/7811 magnetic cards
 - Supports Hi-coercivity and Low-coercivity magnetic cards
 - Supports JIS1 and JIS2
- Supports Android™ 2.0 and later²
- Supports iOS 5.0 and later³
- Compliant with the following standards:
 - EN 60950/IEC 60950
 - ISO 14443
 - ISO 18092
 - ISO 7811
 - CE
 - FCC
 - RoHS 2
 - REACH
 - VCCI (Japan)

¹ Topaz tag is excluded. Please contact ACS for more details.

² Uses an ACS-defined Android Library

³ Uses an ACS-defined iOS Library

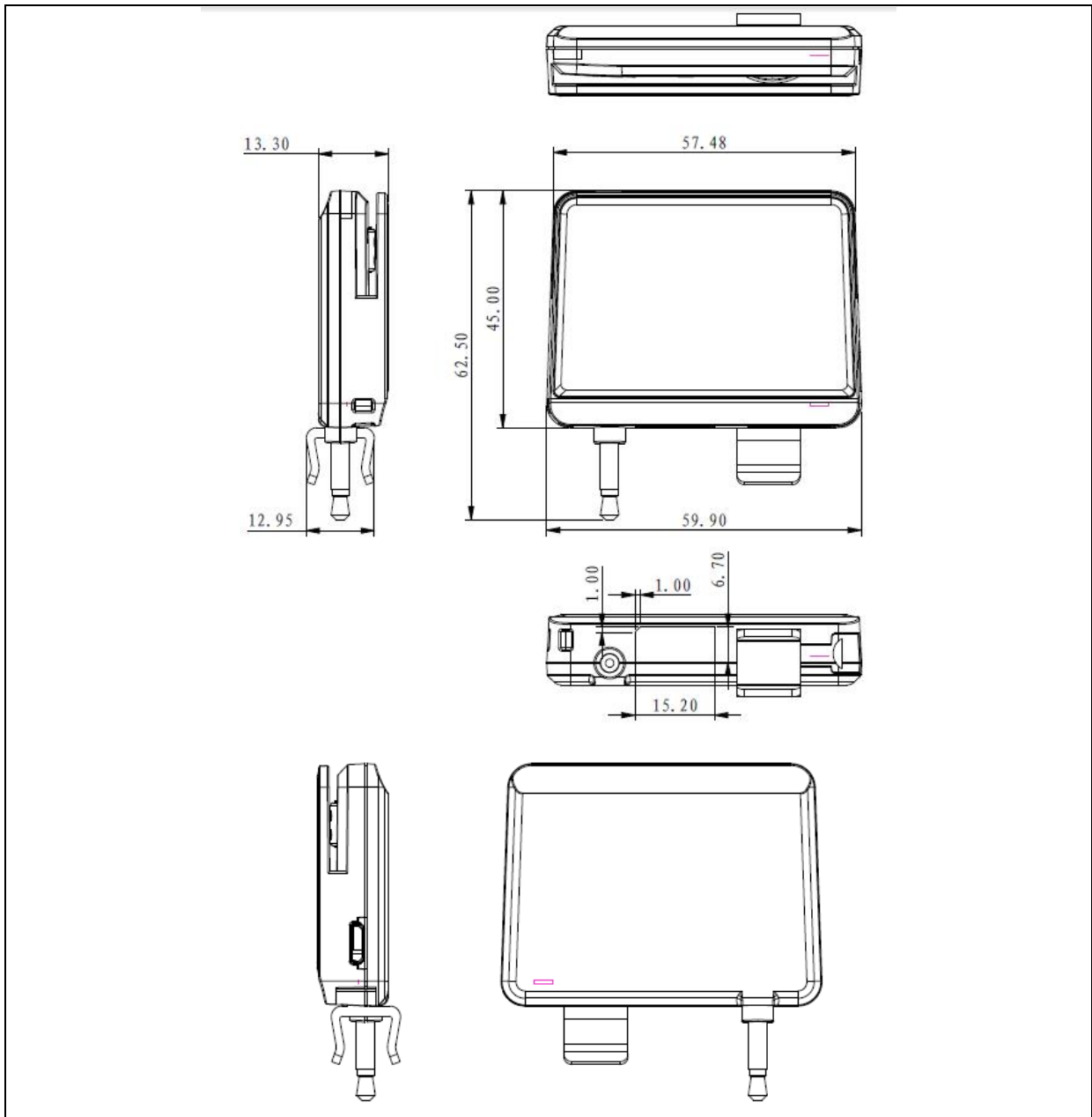
Note: Visit www.acs.com.hk for the list of supported devices.



3.0. Typical Applications

- e-Healthcare
- e-Purse and Loyalty Program
- Mobile Banking and Payment
- Transportation

4.0. Technical Specifications



Physical Characteristics

Dimensions 60.0 mm (L) x 45.0 mm (W) x 13.3 mm (H)
 Weight 29 g (with battery)
 Color White

Audio Jack Communication Interface

Protocol Bi-directional Audio Jack Interface
 Connector 3.5 mm 4-pole Audio Jack
 Speed Max. 2.6 Kbps
 Power Source Rechargeable Lithium-ion Battery (charging through USB)

USB Host Interface

Connector Type Micro-USB
 Power Source From USB port
 Supply Voltage 5 V
 Cable Length 1 m, Detachable



Contactless Smart Card Interface

Standard	ISO/IEC 18092 NFC, ISO 14443 Type A and 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

Magnetic Card Interface

Standard	ISO 7810/7811 Hi-Co and Low-Co Magnetic Cards
.....	JIS1 and JIS2
Card Swipe Speed	Max. 10 in/s
Card Swipe Cycles.....	Min. 500,000

Operating Conditions

Temperature.....	0 °C – 50 °C
Humidity	Max. 90% (non-condensing)
MTBF	300,000 hrs

Certifications/Compliance

EN 60950/IEC 60950, ISO 14443, ISO 18092, ISO 7811, CE, FCC, RoHS 2, REACH, VCCI (Japan)

Device Driver Operating System Support

Android™ 2.0 and later, iOS 5.0 and later



Android is a trademark of Google Inc.
MIFARE and MIFARE Classic are registered trademarks of NXP B.V. and are used under license.