

# **VHBR Dual interface Reader – vR504**

V1.1

**Feitian technologies Co., Ltd.**

Website: [www.ftsafe.com.cn](http://www.ftsafe.com.cn)

Contents

1.1 Title..... 1

1.2 Introduction ..... 1

1.3 Feature..... 2

1.4 Specification ..... 3

1.5 Product overview ..... **Error! Bookmark not defined.**

## 1.1 Title

VHBR Dual interface Reader

## 1.2 Introduction

### **The Best Performance VHBR Reader going to start appearing on the scene**

Today, FEITIAN announced the product availability of smart card reader able to support the world's fastest electronic passports (ePassports), which implements the state-of-the-art VHBR (Very High Bit Rates) contactless technology required in ICAO (International Civil Aviation Organization) LDS 2.0 Standard. Driving a new technology requires early availability and FEITIAN has been dedicated in supplying high-performance and high-quality smart card reader portfolio to promote outstanding high-speed communication in both Reader-to-Card and Card-to-Reader direction

### **The Fastest Processing Speed perfect match for next-generation ePassport generations**

The VHBR protocol improves the stability of contactless communication between the electronic passport and the corresponding reader. To be able to process immigration security checks as efficiently as possible despite the increased amount of data, the VHBR contactless technology enables eight times faster contactless processing speed by electronic readers. To the benefit of both travelers and airport operators, passport data can be read at fastest speed by contactless readers at electronic checkpoints in airports.

### **The Industry's First VHBR CCID reader offering maximum compatibility and flexibility**

The USB CCID class driver reduces the need for hardware vendors to create a device-specific driver for smart card readers. Eliminating the need for a device-specific driver will potentially reduce the driver development cost, improve driver and system stability, reduce time to market, and lead to a simplified plug and play experience for customers using devices compliant with the USB Chip/Smart Card Interface Devices (CCID) Specification.

## 1.3 Feature

- Full speed USB 2.0 standard
- Power supply by USB, the usb interface must be provided 120mA current when insert card
- The maximum current less than 100mA (no smartcard insert)
- Accordance with CCID standard to do develop
- Contact card:
  - ◆ Support 1x full size card
  - ◆ Support T0 and T1, in accordance with ISO 7816
  - ◆ The card clock frequency 4MHz
  - ◆ Support Class A, B, C, AB, BC, ABC
  - ◆ Smart card communication speed: 10753bps – 344086bps
  - ◆ Card slot: ISO/IEC standard using 8 contacts, 100,000 plug time
  - ◆ Support 1x GSM11.11 standard SIM card
- Contactless card:
  - ◆ Build-in antenna
  - ◆ Accordance with ISO/IEC 14443 (A and B) standard
  - ◆ Support Mifare S50/S70/Ultralight C cards
  - ◆ Support Bit rate, PCD to PICC up to 6.8M (fc/2), PICC to PCD up to 3.4M (fc/4)
  - ◆ Operating distance (0-30mm), Mifare card(0-45mm), it depends on cards
  - ◆ Card clock Frequency: 13.56MHz
  - ◆ Automatically adjust communication rate speed between card reader and card to highest speed which card supported
  - ◆ Smart card communication speed: 106kbps
- Open UID(User ID) function
- Support upgrade firmware (encrypted)
- OS:
  - Windows 2000/XP/2003/Vista/2008/7/8
  - Linux Kernel 2.6+ (FC14 X64, ubuntu9.10, ubuntu10.04, ubuntu11.10, openSUSE11.3 X64)
  - Mac OS X

## 1.4 Specification

Communication protocol		CCID 1.1
Interface		USB Type A
Power supply		USB port on PC
Working current		<100mA (no card insert)
Working temperature		0~+60°C
Storage temperature		- 20°C~85°C
Humidity		≤90 %( No condensation)
Card slot		100,000 plug times
Contactless communication distance		VHBR Card, Type A/B card(0-30mm), Mifare card(0-45mm), it depends on card
Physical Security		Card circuit protection
Card parameters	Contact card	Under-pressure deck
		1x full size card support
		Support T0/T1/Class A,B,C card
		Support GSM11.11 standard SAM slot
		Card communication rate: 10753~344086bps
		The card clock frequency 4MHz
	Contactless	Build-in antenna
		Support ISO 14443 standard (Type A and B)
		Support Mifare contactless card
		Card communication rate: 106kbps
		VHBR(very high bit rates) protocol, 1024 Bytes Frame size 106 / 212 / 424 / 848 kbps 1.7 / 3.4 (fc/2) / 6.8 (fc/4) Mbps
Certificate		CE FCC RoHS EMV 2000 level 1
Cases		C9,C10
Dimension		120*80*25.6mm
Weight		136g
Standard		ISO/IEC 14443 TYPE A/B, ISO/IEC 7816 T0 and T1 ISO/IEC 7816 CLASSA、CLASSB and CLASSAB MIFARE standard MIFARE S50、MIFARE S70、MIFARE Ultralight C GSM 11.11
OS		Windows 2000/XP/2003/Vista/2008/7/8 Linux(FC14x64,ubuntu9.10,ubuntu10.04,ubuntu11.10,openSUSE11.3 X64) MAC OS X