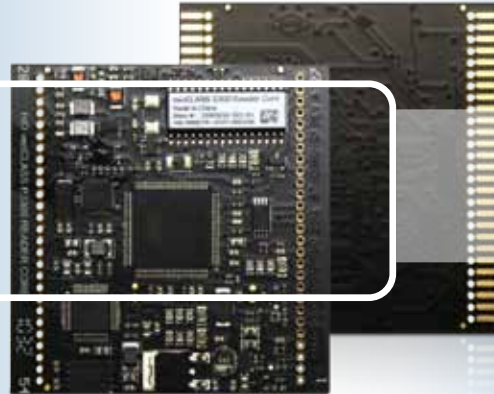


veriCLASS™
Payment and Ticketing
Embedded Reader Platform



veriCLASS Developer Tool Kit

INNOVATIVE PLATFORM FOR OPEN- AND CLOSED-LOOP PAYMENT SCHEMES

- **Exceptional Flexibility** – configurable for multiple contactless smart card technologies, payment protocols and both open- and closed-loop payment schemes, providing access to a wide range of applications
- **Future-proof Contactless** – scalable platform readily supports current contactless technologies, and will accommodate tomorrow’s payment technologies and functionality requirements
- **Faster-to-Market** – global certifications secured by HID Global accelerate development cycles; reducing design, implementation and testing phases, and shortening time to revenue

veriCLASS Highlights:

- Supports multiple contactless technologies and credentials: FeliCa™, iCLASS®, MIFARE®, DESFire®, NFC, ISO 14443 A/B, and ISO 15693
- Supports multiple contactless payment communication protocols: Calypso®, MasterCard® PayPass™, Visa® payWave, American Express® expresspay™
- Supports both open- and closed-loop payment schemes
- Pre-certified to both FCC modular and CE standards
- Complete line includes reader modules, boards, integration tools and support
- Comprehensive Developer Tool Kit accelerates design-in cycles and speeds products to market
- Embedded Device Manager enables remote service, diagnostics and upgrades, facilitating life cycle management

veriCLASS™ is a complete line of interoperable contactless reader boards and modules, augmented with extensive integration tools and support. The flexible veriCLASS embedded reader platform will accommodate universal and multiple applications. It can be configured to support nearly every contactless payment technology and credential, as well as open- and closed-loop payment schemes at the same time, making veriCLASS the ideal solution to integrate both existing and emerging technologies.

HID Global has uniquely prepared the veriCLASS platform to help developers significantly reduce development time and expense. veriCLASS embedded boards and modules have FCC and CE approvals

important for global installations, and EMVCo approvals that facilitate integration into contactless systems using MasterCard and Visa communication protocols. Even after installation, integrators can remotely service veriCLASS readers and update firmware via the Embedded Device Manager and other mass deployment mechanisms.

Compact design allows boards and modules to fit easily into equipment such as handheld and point-of-sale (POS) payment terminals used in transit and retail applications.

veriCLASS is the ideal contactless platform for automatic fare collection and ticketing, as well as POS, ATM, vending, kiosk and loyalty solutions.

SPECIFICATIONS



veriCLASS Reader Core



veriCLASS Reader Board

Base Part Numbers	VP3300A00	VP3500A00
Dimensions	2.17" x 2.24" x 0.17" 55 mm x 57 mm x 4.2 mm	3.5" x 3.5" x 0.36" 90 mm x 90 mm x 9.2 mm
Weight	0.52 oz / 15 g	1.34 oz / 38g
Operating Temperature	-25° to 85° C	
Storage Temperature	-40° to 120° C	-40 to 85° C
Operating Humidity	0 - 90% non-condensing	
Power Supply	3 V to 5 VDC +/- 10% regulated	
Current Requirements	200 mA (typical) @ 5 VDC	370 mA (typical) @ 5 VDC
HOST INTERFACE		
Communication Interface	USB 2.0 CCID & Serial (TTL)	
Transmission Speed	12 Mbps (USB 2.0 full speed)	
CONTACT SMART CARD INTERFACE		
Standards	ISO 7816	
Protocols	T=0, T=1	
Interface	Up to 4 External	2 x Integrated ID000 Sockets
Supported Card Types	5 V, 3 V and 1.8 V Smart Cards, ISO 7816 Class A, B and C	
Power to Smart Card	Up to 60 mA	
Smart Card Detection	Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection	
CONTACTLESS SMART CARD INTERFACE		
RF Transmit Frequency	13.56 MHz	
Smart Card Technologies	ISO14443 A/B & B', ISO/IEC15693, FeliCa™ ¹ , NFC reader mode, CEPAS	
Protocols	EMVCo, Calypso	
Transmission Rate	Up to 848 Kb/s (depending on IC & OS)	
Supported Credentials & ICs	NXP: MIFARE®, MIFARE Plus®, MIFARE DESFire® 0.6, MIFARE DESFire® EV1, MIFARE Ultralight®, MIFARE Ultralight® C, SMART-MX; HID: iCLASS™ ² ; PIV II, Secure Identity Object™ (SIO) support on request	
Antenna Support	External antenna x 2	Integrated antenna x 1
GENERAL FEATURES		
S/W Driver	USB version PC/SC driver: Windows® 2000 (32bit), 2003 Server, 2008 Server, Windows® XP (32 / 64bit), Windows® Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Fedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture)	
I/O	4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector	
Microprocessor	ARM Controller, AT91SAM7X512	
Firmware Upgrade	Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability	
Connectors	Gold plated contacts for direct embedding on application PCB	USB mini type B RS232/UART I/O Connector
Embedded Device Manager	Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser	
Industry Approvals	EMVCo V2.0 ³ , EMV2000, Microsoft® WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	
Global Certification	CE, FCC 47 Part 15 modular approval, RoHS, WEEE	

¹ FeliCa IDm only

² Includes iCLASS® Elite and iCLASS High Security Support

³ Reader Board is EMVCo Level 1 certified to EMVCo version 2.x standard, Reader Core is EMVCo Level 1 compliant with EMVCo version 2.x standard

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