



VP3300 OEM User Manual

NFC Card reader

ID-80149016



80149510-004 Rev. A

Copyright

Copyright© 2016, ID TECH. All rights reserved.

ID TECH
10721 Walker Street
Cypress, CA 90630
USA

This document, as well as the software and hardware described in it, is furnished under license and may be used or copied online in accordance with the terms of such license. The content of this document is furnished for information use only, is subject to change without notice, and should not be construed as a commitment by ID TECH. While every effort has been made to ensure the accuracy of the information provided, ID TECH assumes no responsibility or liability for any unintentional errors or inaccuracies that may appear in this document. Except as permitted by such license, no part of this publication may be reproduced or transmitted by electronic, mechanical, recording, or otherwise, or translated into any language form without the express written consent of ID TECH.

ID TECH and ViVOpay are trademarks or registered trademarks of ID TECH.

Warranty Disclaimer

The services and hardware are provided "as is" and "as-available" and the use of the services and hardware are at its own risk. ID TECH does not make, and hereby disclaims, any and all other express or implied warranties, including, but not limited to, warranties of merchantability, fitness for a particular purpose, title, and any warranties arising from a course of dealing, usage, or trade practice. ID TECH does not warrant that the services or hardware will be uninterrupted, error-free, or completely secure.

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications to the VP3300 OEM not expressly approved by ID TECH could void the user's authority to operate the device.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Industry Canada statement:

This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement:

The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Déclaration d'exposition aux radiations:

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.

Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

Introduction

VP3300 OEM is ID TECH's ultra-compact, EMV L1/L2-certified 2-way (contact EMV, and contactless) card reader, based on the VP3300-series design, but with card-reader componentry externalized to allow custom placement of card slots within a customer-designed chassis.

The VP3300 OEM is built for low cost, high reliability, and maximum compatibility with existing contactless payment technologies (including Apple Pay, Android Pay, and Samsung Pay).

The VP3300 OEM incorporates the proven EMV L2 kernel of ID TECH's popular UniPay III card reader. Developers can integrate VP3300 OEM into terminal systems with minimal effort using ID TECH's Universal SDK, available for Windows, Android, or iOS.

Major Features of VP3300 OEM EXT

- Micro-USB port for communications and power.
- ICC support: EMV Level 1 and EMV L2 approvals. All L1 & L2 on the device.
- Contactless transaction support via Near Field Communication (NFC).
- LED status indicator.
- Audio feedback.
- Field upgradable firmware.
- Standby mode for low power consumption.
- Compact and ergonomic design to integrate with a variety of devices.
- Available with a sturdy stand, for tabletop use.
- TDES and AES 128 encryption support.
- DUKPT key management.
- Software Development Kits for Windows, Android, iOS.
- One-year manufacturer's warranty.

ICC Contact Card Features

- EMVCo Contact Level 1 & 2 compliant

Contactless (NFC) Features

- Poll on Demand Mode:
 - EMV CTLS L1
 - Visa
 - Mastercard
 - AMEX
 - Discover
 - Apple Pay
 - Apple VAS
 - Google Pay
 - Google Pay Smart Tap 2.1
 - Samsung Pay
 - Interact
- Pass-thru Mode:
 - ISO 14443 Type A&B
 - ISO 18092 (including P2P)
 - MIFARE Classic 1K/4K
 - MIFARE Ultra light & MIFARE Ultra light EV1
 - MIFARE Ultra light C

- MIFARE DESFire
- MIFARE DESFire EV1 4K
- MIFARE Plus
- FeliCa™
- Smallest EMV certified Antenna

Before You Start Using VP3300 OEM EXT

The VP3300 OEM is designed to operate in conjunction with certified third-party payment software and compatible hosts, such as USB-equipped tablets, PCs, and smartphones. Before you connect VP3300 to a host, install and activate the host software application according to the instructions provided by your payment application service or software provider, then connect the VP3300 OEM (or device containing the VP3300 OEM) to the host through a micro-USB cable.

LED Status and Audible Beeper During Transactions and Operation

Device Status	4 LED's	Audible Beeper
Run Mode	Left LED Flash 300ms on/5s off	
Contactless Read Successful	All 4 LEDs flash Once	1 longer beep
Contactless Read Failed		2 short beeps
ICC is being Processed	Left LED flashes: 500ms on/off, DO NOT remove card	

How to use ID-80149016.

Select the interface you want to use to connect PC and Reader.

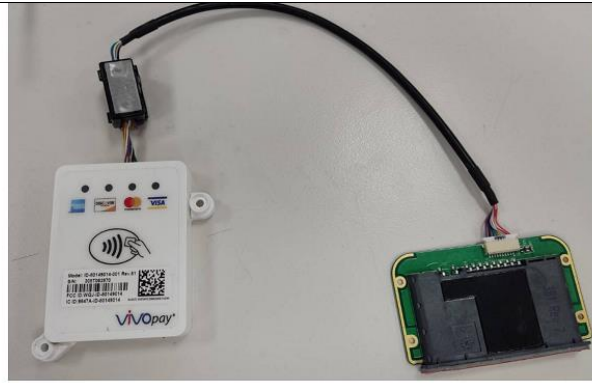


USB



RS-232

Select the desired transaction



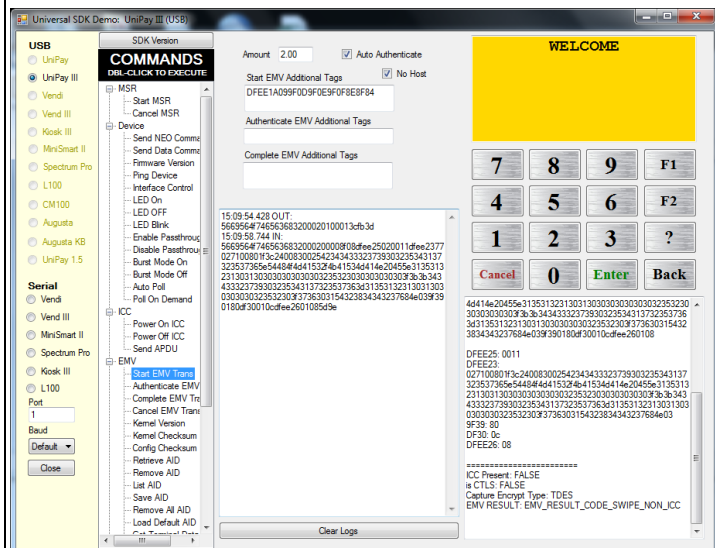
Contactless transaction



EMV transaction



Users can find the corresponding commands from DemoApp and Consult the *NEO Interface Developers Guide* (IDG).



Physical Specifications

Item	Specification
Physical Dimensions (Antenna Enclosure)	64mm x 64mm x 12mm (L x W x H) (ICC module size is no included)
Structure Material	Plastic, PC Sabic 945
Texture	MT11010
Weight	66g (Including Cable)

Operation and Storage Environment

Item	Specification	Note
Operating Temperature	-40 °C to 85 °C	Non-condensing
Storage Temperature	-40 °C to 85 °C	Non-condensing
Operating Humidity	Up to 95%	Non-condensing
Storage Humidity	Up to 95%	Non-condensing

NFC Transceiver:

A dedicated transceiver chip is used to drive the NFC and contactless communication.

RF Frequency: 13.56MHz

Main feature of the NFC transceiver is listed below:

ISO18092(NFCIP-1) Active P2P

ISO14443 A, B

FeliCa™

Power Consumption

No	Item	Specification	Note
1	Power Input: Vin	DC +5V	Normal operating input range
2	Power Consumption	RUN <500mA (Max)	Contactless operating status
		RUN < 90mA (Max)	Only ICC operating status

Other Agency Approvals and Compliances

- CE (EN55022/EN55024, Class- B)
- FCC (Part 15, Class-B)
- RoHS (DIRECTIVE 2011/65/EU)
- IC
- REACH
- EMV Contact L1&L2
- EMV Contactless L1
- TQM

For Software Developers: Software Development Support

VP3300 devices, including the VP3300 OEM, are designed to be compatible with a wide range of third-party payment applications. ID TECH offers a Universal SDK (available for iOS, Android, or Windows) to enable rapid application development with any model of VP3300

as the target device. The languages supported include Objective C (on iOS), Java (on Android), and C# (on Windows). The Universal SDK includes rich, powerful libraries that make communication with VP3300 OEM comparatively easy while greatly facilitating debugging.

Normally, development of applications that take advantage of VP3300 OEM capabilities can be done in a high-level language like Java or C# (using convenience objects and data structures), obviating the need to send hex-code commands directly via USB-HID.

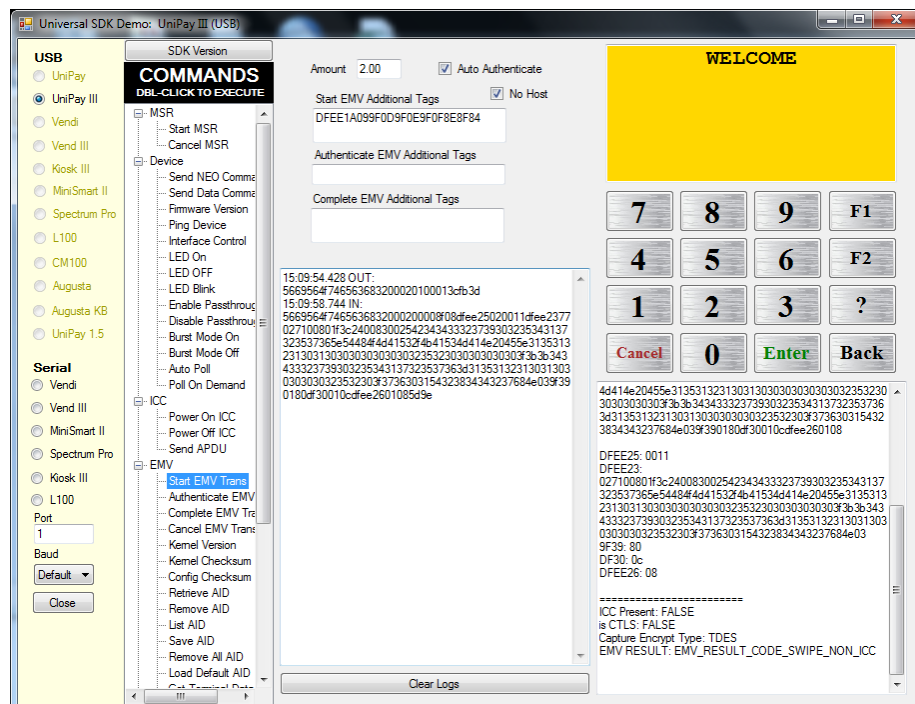
Nevertheless, if you need to communicate with the device via RS-232 or via USB-HID, it is possible to do so. For a command reference for VP3300-series products, consult the *NEO Interface Developers Guide* (IDG), P/N 80139403-001.

Demo App

The Universal SDK comes with a rich, fully featured demo app. complete source code for the demo app is included with the SDK.

To use the demo app: On Windows, plug your VP3300 OEM into the host using a USB-to-micro-USB cable (not included), then double-click the *UniversalSDKDemo.exe* file and allow a few seconds for the main window to appear (see illustration below).

The Demo App displays available commands in a command tree, as shown above. Single-click on a command to populate the center panel of the window with optional settings relevant to the command (e.g., "Amount" and "Start EMV Additional Tags" above). In some cases, text fields will appear, allowing you to enter custom values. When you are ready to execute the command in question, double-click it in the command tree. The command executes in real time and a data trace appears automatically in the center and/or right-hand panels. (Use the Clear Logs button to clear both panels.)



support@idtechproducts.com

Revision History

Revision	Date	Description of Changes	By
A	05/04/2023	Initial release	