



Value through Innovation

VP3600 User Manual

IDMR-PBT93133TEB



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Revision History

Date	Rev	Changes	By
08/25/2021	M	<ul style="list-style-type: none">• Reimplemented revision history• Added VP3600 Device States diagram	CB
11/30/2021	N	<ul style="list-style-type: none">• Added VP3600 Power Timers section	CB
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09/06/2023	S	<ul style="list-style-type: none">• Updated “no fast chargers” warning in Battery Charging Instructions	CB
09/13/2023	T	<ul style="list-style-type: none">• Added more specific charging cable information to Battery Charging Instructions.	CB

Table of Contents

1. INTRODUCTION 5

2. MAJOR FEATURES OF THE VP3600 5

 2.1. Magnetic Stripe Features 6

 2.2. ICC Contact Card Features 6

 2.3. Contactless NFC Features 6

 2.4. SAM Slot 6

3. BEFORE YOU START USING THE VP3600 7

 3.1. Battery Charging Instructions 7

 3.1.1. *Charging the VP3600* 7

 3.1.2. *24-Hour Device Reboot* 7

 3.2. Battery Status When Charging the Battery 8

 3.3. LCD Display for Power Management 8

 3.4. LCD Display During Transactions and Operation 8

 3.5. Pairing a VP3600 and a Bluetooth Device 8

 3.5.1. *Before You Begin* 8

 3.5.2. *Pairing a VP3600 and an Android Device Using BLE (Bluetooth Low Energy)* 9

 3.5.3. *Testing the Connection on Android* 10

 3.5.4. *Pairing a VP3600 and an iOS device* 12

 3.5.5. *Testing the Connection on iOS* 14

4. OPERATION AND STORAGE ENVIRONMENT 16

5. TAMPER AND FAILED SELF-CHECK INDICATORS 16

6. BLUETOOTH LED STATUS INDICATORS 17

7. VP3600 DEVICE STATES 18

 7.1. VP3600 Power Timers 19

8. OTHER AGENCY APPROVALS AND COMPLIANCES 20

9. DECOMMISSIONING SRED DEVICES 20

10. FOR SOFTWARE DEVELOPERS: SOFTWARE DEVELOPMENT SUPPORT 21

 10.1. Universal SDK Demo App 21

 10.1.1. *Using the USDK Demo App* 21

11. FCC REGULATORY COMPLIANCE 23

 11.1. Cautions and Warnings 23

1. Introduction

The VP3600 is a compact mobile PIN Pad and card reader designed to allow magnetic stripe reads (MSR), ICC (chip card) reads, and contactless transactions (via NFC technology).

The VP3600's small form factor and Bluetooth interface make it ideal for mobile applications requiring magnetic stripe or smart card reading. As a mobile reader, the VP3600 works with Android and iOS phones and tablets.

The VP3600 is compatible with a wide range of third-party payment applications, and the available ID TECH Universal SDK can be used for developing applications with VP3600. See the [VP3600 product page](#) for information on how to obtain the SDK. Consult your gateway or POS provider for information about service registration, set-up, and pairing of the VP3600 to a compatible payment application and associated host devices.

2. Major Features of the VP3600



- Bluetooth BLE (Bluetooth Low Energy)
- Supports Apple iOS, Android and Windows platforms
- Rechargeable battery, no external power necessary
- MagStripe: ISO 7810/ISO 7811, Hi-Co+Lo-Co Magnetic, JIS1/JIS2
- ICC: EMV Level 1 and EMV L2 approval
- Front-facing contactless transaction support via Near Field Communication (NFC)
- SAM slot on back of device
- LED status indicator
- Audio feedback
- Micro USB (for battery charging and communication)
- Field upgradable firmware
- Bi-directional 3-track magnetic stripe reader

- Low power consumption when reader is in standby mode
- Compact and ergonomic design to integrate with a variety of mobile devices
- TDES and AES 128 encrypted MSR and ICC contact reader with DUKPT key management
- Visa Ready
- Supports most major digital wallet technologies (see listing below)
- Bluetooth range: 10 meters within line-of-sight
- LCD screen supports English and Japanese Text

2.1. Magnetic Stripe Features

- ISO 7810 / ISO 7811
- AAMVA format
- JIS I / II
- Single / Dual / Triple Track Support
- Bi-directional reading
- Samsung Pay MST

2.2. ICC Contact Card Features

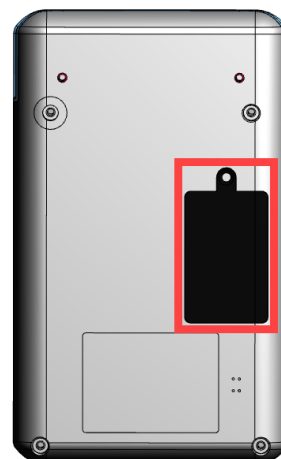
- EMVCo Contact Level 1 & 2

2.3. Contactless NFC Features

- ISO 14443 Type A&B
- ISO 18092 (P2P)
- MasterCard® MCL (Formerly PayPass)
- Visa payWave/VCPS
- Visa IRWIN
- Discover® DPAS
- American Express® ExpressPay
- MIFARE
- Apple Pay
- Samsung Pay NFC
- Android Pay
- Google Wallet / Softcard SmartTap
- Sony FeliCa

2.4. SAM Slot

The VP3600 has a SAM slot on the back of the device, highlighted in the image to the right.



3. Before You Start Using the VP3600

The VP3600 is a mobile device for reading magnetic-stripe cards and ICC ("chip") cards. The VP3600 is designed to operate in conjunction with certified third-party payment software and compatible host devices such as Bluetooth- or USB-equipped tablets and smartphones. Before connecting the VP3600 to the host device, install and activate the software application according to the instructions provided by your payment application service and software provider, then connect the VP3600 to the mobile device via Bluetooth or a micro-USB cable (included) and enjoy the convenience of mobile payment processing offered by the VP3600.

3.1. Battery Charging Instructions

Your VP3600 is powered by a lithium-ion polymer battery and delivered in a partially-charged state. Make sure to fully charge the battery before using the device for the first time. Allow four to six hours for the initial charge.

Warning: Do not use "fast chargers"¹ with VP3600 readers. Only use an approved 5V USB-to-Micro-USB charging cable.

Note: The VP3600 also uses an internal coin battery for powering security mechanisms. This battery has a lifespan longer than five years and cannot be replaced.

3.1.1. Charging the VP3600

Use a USB-to-micro-USB cable (included) to charge the VP3600.



3.1.2. 24-Hour Device Reboot

Per PCI Requirements, this device reboots every 24 hours. Please contact your device integrator if you need to check the reboot time for your unit.

¹ Do not use a charging cable delivering more than 5V and 2A.

3.2. Battery Status When Charging the Battery

The VP3600 can be connected to a host via USB-to-micro-USB cable or Bluetooth. Connecting with a cable allows the VP3600 to charge its internal battery via USB power. When connected to a power source, a battery indicator appears on the LCD screen to display the current charging status.

3.3. LCD Display for Power Management

- The LCD displays the battery status during operation.
- When the battery is low, a warning message appears on the LCD screen.

3.4. LCD Display During Transactions and Operation

- **ICC processing:** the LCD displays status during transaction. Do not remove card until the LCD display shows the transaction has been completed.
- **ICC process successful:** the LCD display shows the transaction successful. At this point, please remove card.
- **Magnetic stripe read successful:** the LCD display shows the transaction successful.
- **Magnetic stripe read failed:** the LCD display shows the transaction failed; please swipe card again.
- **Contactless read successful:** the LCD display shows the transactions successful and all four LEDs on top of the unit flash green simultaneously.

3.5. Pairing a VP3600 and a Bluetooth Device

The next two sections describe how to pair a VP3600 and an Android or iOS Bluetooth device.

Note: The pairing instructions below work for a VP3600 and ID TECH's demo program; to pair with a payment application, follow the instructions provided by your payment integrator.

3.5.1. Before You Begin

To set up a VP3600 and an Android or iOS device, you will need to download and install the NEO 2 Demo app for your device. Download the correct SDK .ZIP file from the [VP3600 home page on the ID TECH Knowledge Base](#) and load the app onto your device.

Also, note that both platforms require you to set a new password using the **Set Bluetooth Parameters** command:

3.5.1.1. Set Bluetooth Parameters (77-81)

The **Set Bluetooth Parameters** command sets a device's Bluetooth name and password.

Command Frame

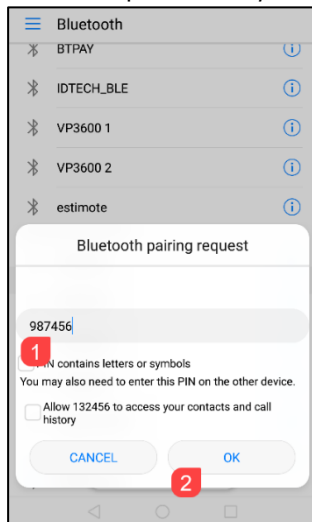
Byte 0-9	Byte 10	Byte 11	Byte 12	Byte 13	Byte 14	Byte 14+n	Byte 15+n
Header Tag & Protocol Version	Command	Sub-Command	Data Length (MSB)	Data Length (LSB)	Data	CRC (LSB)	CRC (MSB)
ViVOtech2\0	77h	81h	var		var		

Command data field

Data field	Length (bytes)	Description
Name	Var to 26	Ascii, must end with 0x00
Old password	6	Hex
New password	6	Hex

3.5.2. Pairing a VP3600 and an Android Device Using BLE (Bluetooth Low Energy)

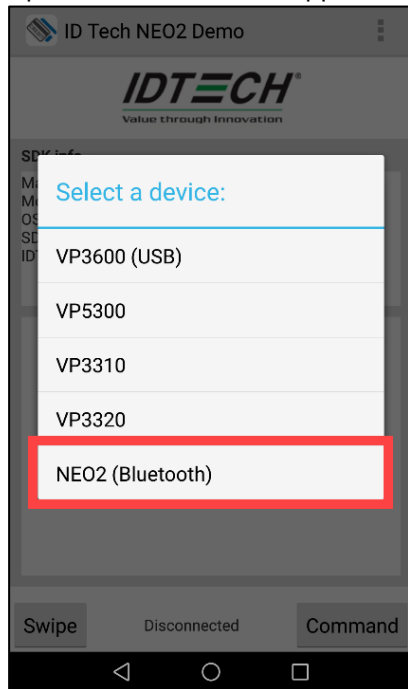
1. Download the NEO II Android SDK .ZIP file from the [VP3600 product page](#) and load the **NEO 2 Demo app** (NEO2_Demo.APK) onto your Android device.
2. Go to the Android device's Bluetooth settings and forget the VP3600.
3. Power on the VP3600.
4. Enter a new password for the device using the **Set Bluetooth Parameters (77-81)** command (the VP3600's default password is 123456).
 - a. You can send this command using either ID TECH's USDK Demo app (described below in the [Universal SDK Demo App section](#)) or your preferred firmware command method.
5. Open your Android device's settings.
6. Turn Bluetooth on.
7. Select the VP3600's Bluetooth name from the list of available devices (the default name is **IDTECH_BLE**).
8. Enter the password you set in step 4, then tap **OK** to pair the device.



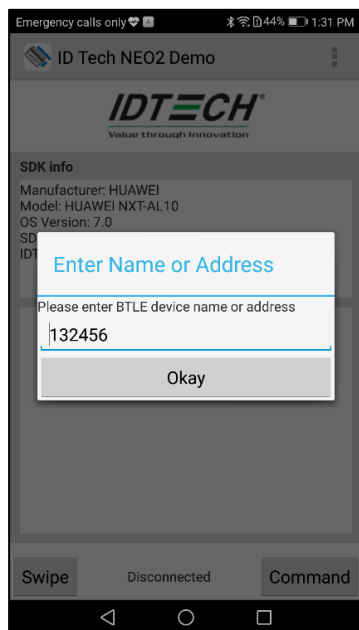
3.5.3. Testing the Connection on Android

If you have not already done so, install the NEO 2 Demo app before you continue.

1. Open the NEO 2 Demo app and select **NEO 2 (Bluetooth)**:



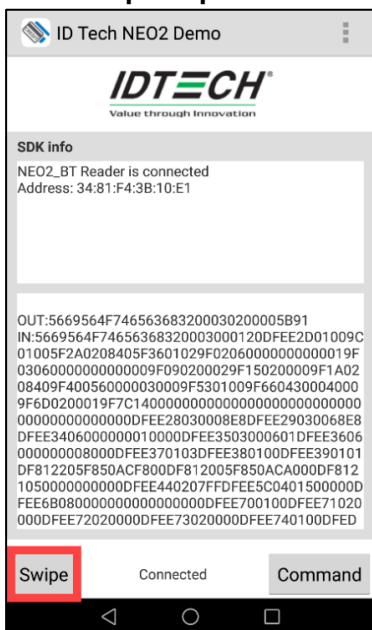
2. Enter the VP3600's Bluetooth name (the default name is **IDTECH_BLE**) and tap **Okay**:



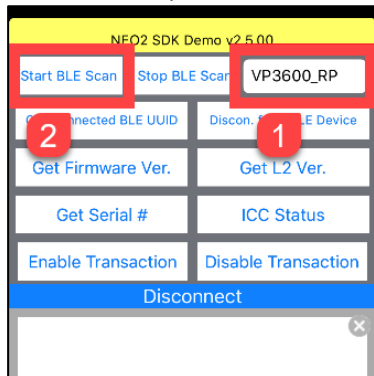
- When the VP3600 is paired successfully, the **Disconnected** text changes to **Connected** and the VP3600's LED display shows the Bluetooth icon. You can now send commands and receive responses.



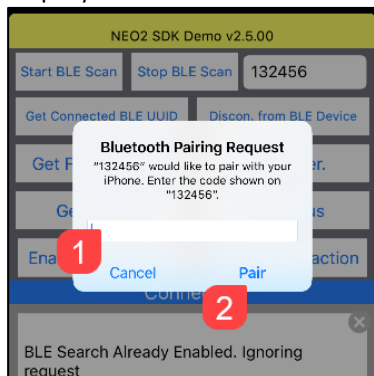
- Press **Swipe/Tap** in the lower-left corner.



- Enter the VP3600's Bluetooth name (the default name is **IDTECH_BLE**) in the upper-right corner and tap **Start BLE Scan** in the upper-left corner.

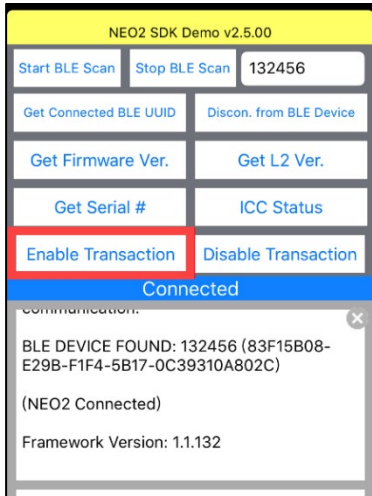


- Enter the VP3600's password, then tap **Pair** to pair the device. When the VP3600 is connected successfully, the **Disconnected** text changes to **Connected** and the VP3600's LED display shows the Bluetooth icon. You can now send commands and receive responses.

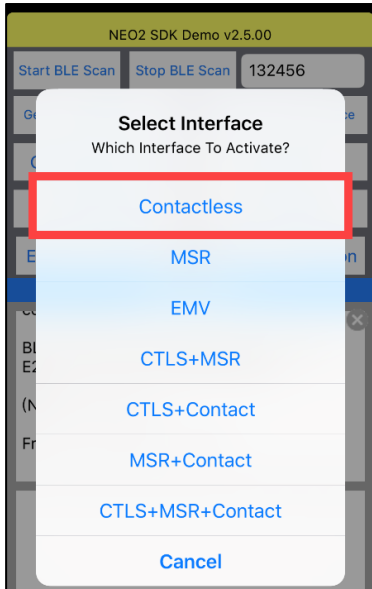


3.5.5. Testing the Connection on iOS

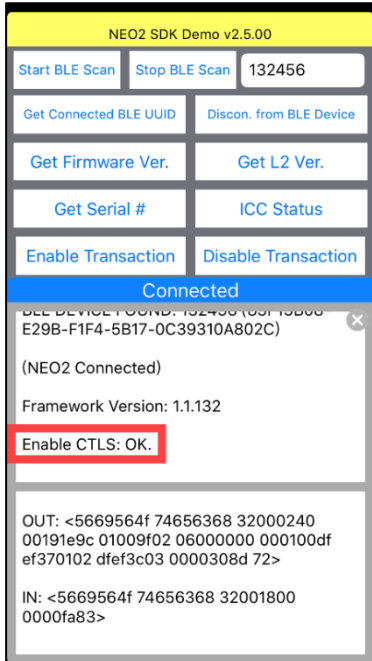
1. Tap **Enable Transaction**.



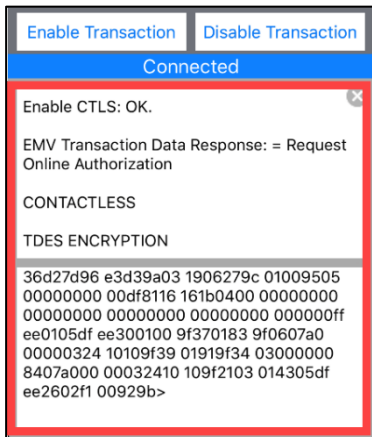
2. Tap **Contactless** in the transaction interface selection dialog.



- When connected successfully, the NEO 2 Demo displays **Enable CTLS: OK** and the VP3600's LCD displays a CTLS transaction logo.



- Tap a contactless card to the VP3600; the NEO 2 Demo displays the card data for the transaction.



4. Operation and Storage Environment

Item	Specification	Note
Operating Temperature	0 °C to 55 °C	<ul style="list-style-type: none"> Non-condensing. Product operation temperature is limited to the range for the reason of the constraint of Li-Battery specification.
Storage Temperature	-20 °C to 60 °C	<ul style="list-style-type: none"> Non-condensing. Product storage temperature is limited to the range for the reason of the constraint of Li-Battery specification.
Operating Humidity	5% to 95%	<ul style="list-style-type: none"> Non-condensing
Storage Humidity	5% to 95%	<ul style="list-style-type: none"> Non-condensing

- Changes or modifications to the VP3600 not expressly approved by ID TECH could void the user's authority to operate the VP3600.

5. Tamper and Failed Self-Check Indicators

The VP3600 displays the following indicators when it has been tampered or has any of the other following internal issues, such as an expired certificate, missing key, or similar fault discovered during a self-check.



Indicator	Tampered Status	Other Issue Status
Front Four LEDs	All LEDs off	All LEDs off
LCD Screen	TAMPERED	None
Buzzer	Alarm tone	Alarm tone

6. Bluetooth LED Status Indicators

The rightmost LED at the top of a VP3600 reader provides Bluetooth status information.

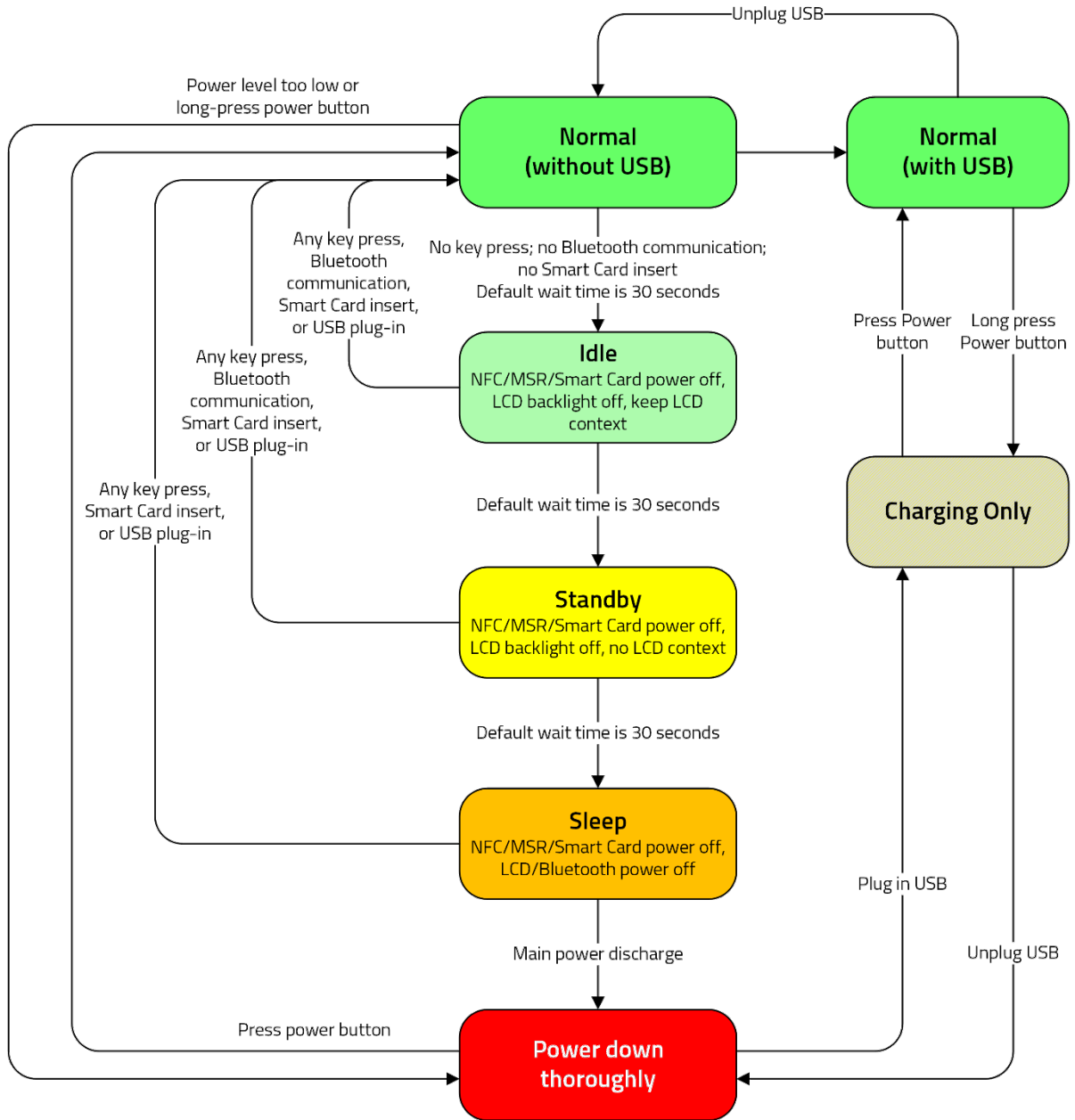


The following table illustrates VP3600 Bluetooth device states.

Device State	LED1	LED2	LED3	LED4	BT LED	BT Icon	Buzzer
Bluetooth Paired	● off	● off	● off	● off	● blinks once per three seconds	off	off
Bluetooth connected	● off	● off	● off	● off	● blinks twice per three seconds	on	one short beep
Bluetooth communicating	● off	● off	● off	● off	● blinks twice per three seconds	on	off
Bluetooth disconnected	● off	● off	● off	● off	● blinks once per three seconds	off	two short beeps
Bluetooth on standby	● off	● off	● off	● off	● slow blink	off	off

7. VP3600 Device States

The diagram below illustrates VP3600 device states.



7.1. VP3600 Power Timers

The VP3600 allows product administrators to configure the wait times between certain state transitions using the **F0-04** NEO 2 command and the Timer IDs shown in the table below:

Original State	New State	Timer ID	Timer Name
Normal (without USB)	Idle	2	Standby0
Idle	Standby	3	Standby1
Standby	Sleep	4	Sleep

For more information on using the **F0-04** command, see the *NEO 2 Interface Developer's Guide* (80139403-002) under "Set Low Power Consumption Configuration (F0-04)."

Note the following points:

- The VP3600 does not support Timer ID 1 (Low speed run)
- The maximum individual timer period supported is 3600 seconds (1 hour)

8. Other Agency Approvals and Compliances

- CE (EN55022/EN55024, Class- B)
- FCC (Part 15, Class-B)
- RoHS (DIRECTIVE 2011/65/EU)
- UL
- REACH
- PCI 5.x sRED
- EMV Contact L1&L2
- EMV Contactless L1
- TQM

9. Decommissioning SRED Devices

All PCI devices require proper decommissioning prior to device disposal in order to ensure the protection of all sensitive financial card data. For instructions on decommissioning your device, see [Decommissioning of SRED Devices](#) on the ID TECH Knowledge Base.

10. For Software Developers: Software Development Support

The VP3600 is 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 using VP3600 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 VP3600 comparatively easy while greatly facilitating debugging.

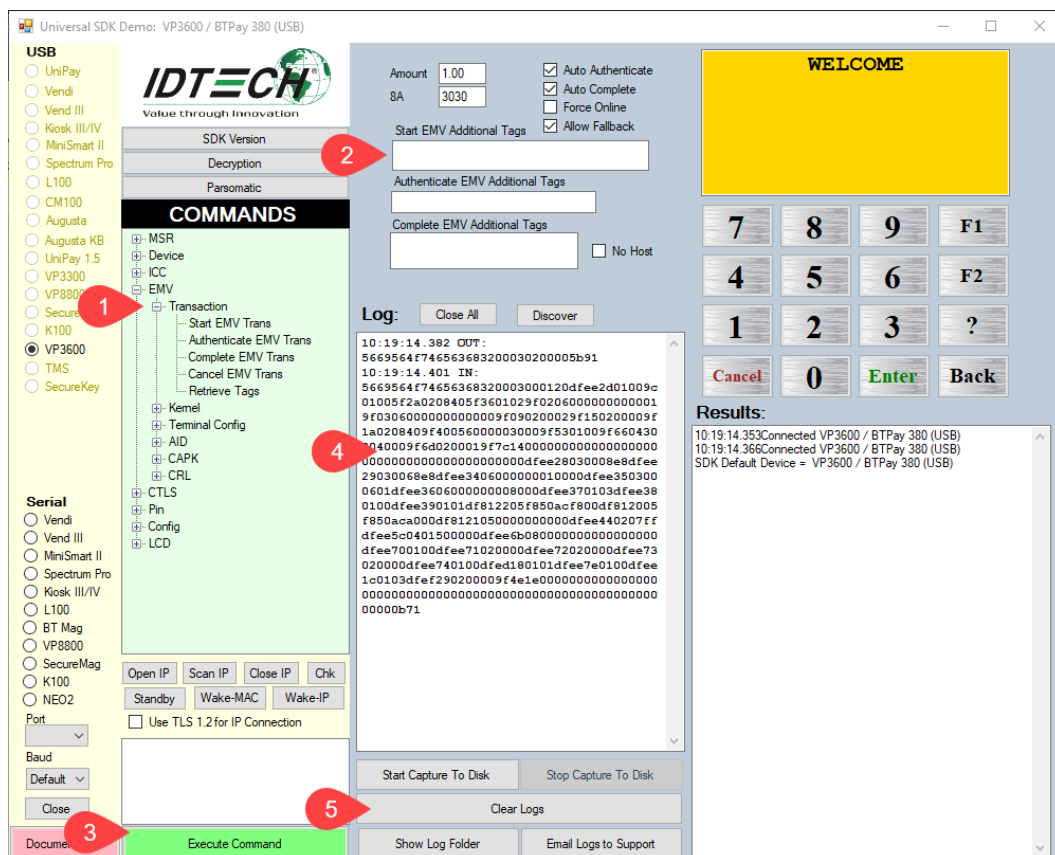
Normally, applications that take advantage of VP3600's capabilities can be developed in a high-level language like Java or C#, obviating the need to send hex-code commands directly via USB-HID. However, it is possible to communicate with the device via Bluetooth or via USB-HID using firmware commands. For a command reference for VP3600, consult the *NEO Interface Developers Guide* (IDG), P/N 80139403-001.

10.1. Universal SDK 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. Obtain these and other items at the ID TECH Knowledge Base (no registration required).

10.1.1. Using the USDK Demo App

On Windows, plug the VP3600 into the host using a USB-to-micro-USB cable (included), then double-click the **UniversalSDKDemo.exe** file and allow a few seconds for the main window to appear:



1. The Demo App displays VP3600's available commands in a command tree, as shown above.
2. Navigate to the desired command on a command to populate the center panel of the window with optional settings relevant to the command, such as the **Amount** and **Start EMV Additional Tags**. Some commands include additional text fields for custom values.
3. To execute a command, click **Execute Command**.
4. The command executes in real time and a data trace appears automatically in the center and/or right-hand panels.
5. Use the **Clear Logs** button to clear both panels.

11. FCC Regulatory Compliance

FCC warning 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.

The user manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.



Note: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user’s authority to operate the equipment.

Note: 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter and must be installed to provide a separation distance of at least 20cm from all persons.

11.1. Cautions and Warnings

	<p>Caution: Danger of Explosion if battery is incorrectly charged. Use only standard USB 5V power source.</p> <p>Device contains a lithium battery. Approved temperature range for storage: -20°C to +60°C. Disposal: Contact your local recycling center.</p>
	<p>Warning: Avoid close proximity to radio transmitters, which may reduce the capabilities of the reader.</p>