

VNPAY SofPOS Documentation

VNPAY SoftPOS Services User Manual

Version	1.01
Date	31 July 2024
Company	VNPAY (VIET NAM PAYMENT SOLUTION JOINT STOCK COMPANY)
Solution	VNPAY SoftPOS Project

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Revision Log – Version 1.01

Date	Version	Description
2024, 31 Jul	1.01	Owner(s)/author(s): <ul style="list-style-type: none">- Nguyen Minh Hanh (Product Owner - POS Product Development Dept.) Added Section 2.4 – Security Report
2024, Feb 20	1.00	Owner(s)/author(s): <ul style="list-style-type: none">- Nguyen Minh Hanh (Product Owner - POS Product Development Dept.) Create the document

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1 Introduction

1.1 Audience

This document is a user manual for:

- Merchants who use VNPAY SoftPOS service.
- Service operation who is responsible for user support.

1.2 Scope

This document describes the interface and process of how to implement and perform contactless sale payments on VNPAY SoftPOS services on the VNPAY Merchant Application version 1.0.

1.3 Glossary

This section provides a glossary of the main technical terms used in this document.

Table 1-1 – Glossary

Term	Description
MID	Merchant ID created by acquiring bank
TID	Terminal ID created by acquiring bank
POS	Point of Sale

1.4 Disseminate policy

The detailed user manual will be disseminated to merchant after merchant has signed service contract with merchant acquirers.

1.5 Document review policy

VNPAY is responsible for conducting a comprehensive review of this User manual every 6 months or, in any case, at least every year. The reviewed documents are determined to be:

- Acceptable as is – The document does not require any updates, and the Periodic Review Date is reset to X years in the future.
- Revised – the document requires one or more updates. The document must be modified and then complete the review and approval cycle. Upon release of the updated revision, the Periodic Review date is reset to 6 months or at least 1 year in the future.

- Obsoleted – the document is no longer needed and can be obsoleted.

Responsible personal for review: Pham Thu Hien - Head of POS Product Development Department

Next PRD: 31st January 2025.

1.6 Security responsibilities of Merchant

- Merchant shall only install VNPAY SoftPOS Application from trusted sources: via Google Play store or URL in emails from VNPAY.
- Merchant shall have to make sure each Merchant's employee would not share the SoftPOS Application account password to other people/parties, even VNPAY. VNPAY would never ask Merchant to provide account password.
- Merchant is responsible for the security of operation of SoftPOS Application at the point-of-sale.
- Merchant must notify VNPAY in case Merchant knows or suspects that Device is (i) interfered, (ii) installed with data theft device, (iii) installed with malware, and/or (iv) used for fraudulent, cheating purposes.
- Merchant shall have to make VNPAY SoftPOS POS Transaction on Device in accordance with VNPAY's guidelines.
- Merchant may not store, buy, sell, provide or share information about Card/Cardholder/Transaction in any manner without the prior written consent of VNPAY or competent Government authorities. The information includes but is not limited to:
 - o Card number, Card validity period, Cardholder Identification Number (PIN), Card validation value (eg. CVV, CAVV, CVV2, iCVV).
 - o All information on the magnetic stripe and/or in the chip.
 - o The information of Card and transaction of Cardholder.

2 User Manual

2.1 Login

2.1.1 First – time login

- **Actor:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Back-end System
- **Pre-condition:**
 - o User’s device successfully connected to Internet since contactless transactions are only accepted and processed when there is online connectivity.
- User installed Merchant application (include VNPAY SoftPOS SDK) successfully.
 - o User received username and password via email.
 - o User has not logged in the first time on a new device.
- **Expected results:**
 - o User logged in and activate the device successfully
- **Flow:**

Table 2-1 - Steps and Screenshots in First – time login flow

Step No	Describe Steps	Screenshot
---------	----------------	------------

1

Open Merchant application. Login screen will be shown.

Input:

- Phone Number registered to use Merchant service.
- ➔ Tap **Continue**

4:10 82%



Please enter phone number to continue

Enter phone number

Enter phone number

Continue

2:33 76%



Please enter phone number to continue

Enter phone number

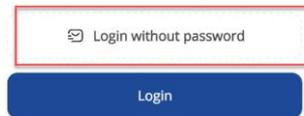
0369148965

Continue

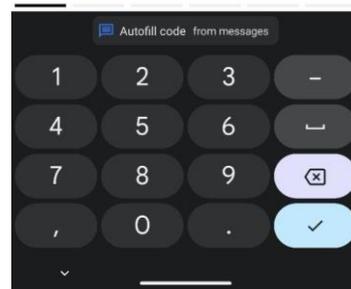
<p>2</p>	<p>Password required screen will be displayed. To continue process, User can:</p> <ul style="list-style-type: none"> - Press Login without password. - Or press Login 	 <p>The screenshot shows a mobile app interface for logging in. At the top, the status bar shows the time as 4:10 and battery at 82%. The main heading is 'Enter login password'. Below it, a message says 'Please enter password, or login without password with OTP code'. There is a text input field labeled 'Login password' with the placeholder 'Enter password' and a 'Forgot password' link to its right. At the bottom, there are two buttons: 'Login without password' (with a dashed border) and 'Login' (solid blue).</p>
<p>3</p>	<p>By button Login, Fill password and press login</p>	 <p>This screenshot is identical to the previous one, but the 'Login password' input field is now filled with asterisks (*****), indicating that a password has been entered.</p>

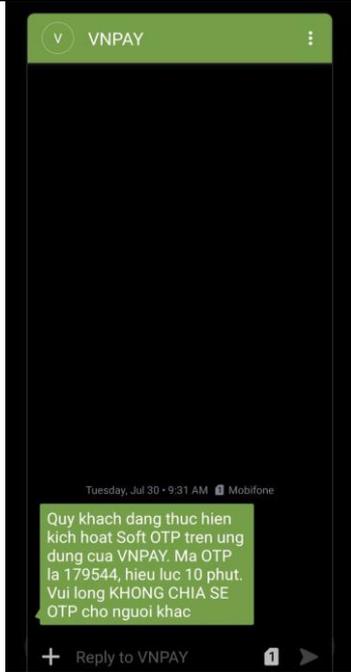
4

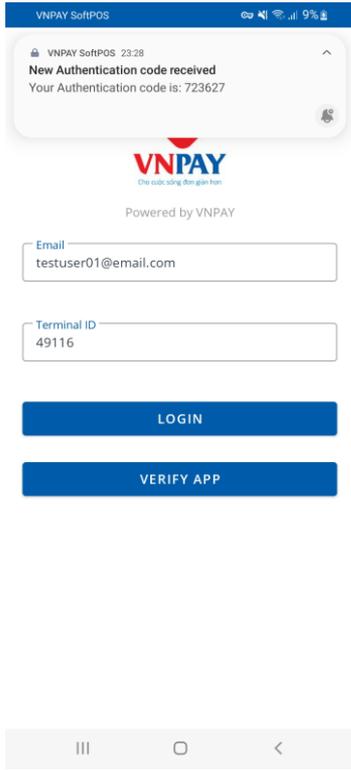
With **Login without password**, entering the OTP sent to user's phone number.

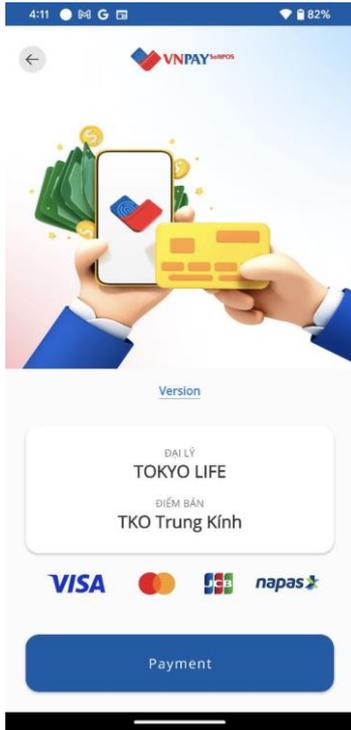


Enter OTP authentication code



		
5	At the Home screen, Choose SoftPOS.	

<p>6</p>	<p>SoftPOS Login screen will be shown.</p> <p>Input:</p> <ul style="list-style-type: none"> - Email user. - Point Of Sale Code (TerminalID) to User SoftPOS service - Tap Sign-in. 	 <p>The screenshot shows the VNPay SoftPOS login interface. At the top, there is a notification: 'New Authentication code received. Your Authentication code is: 723627'. Below the notification is the VNPay logo and the text 'Powered by VNPAY'. There are two input fields: 'Email' with the value 'testuser01@email.com' and 'Terminal ID' with the value '49116'. At the bottom, there are two blue buttons: 'LOGIN' and 'VERIFY APP'.</p>
<p>7</p>	<p>The required Enroll screen will be displayed.</p> <ul style="list-style-type: none"> - Press Enroll Device to accept pair Device – Point of Sale and move to the next step. 	 <p>The screenshot shows the 'Thanh toán VNPay SoftPos' screen. It features an 'Enroll' icon of a smartphone. Below the icon, there is a message: 'The device has been enrolled with the merchant Merchant Con Gấu 2. Please confirm to complete the device activation process.' At the bottom, there is a blue button labeled 'ENROLL DEVICE' which is highlighted with a red border.</p>

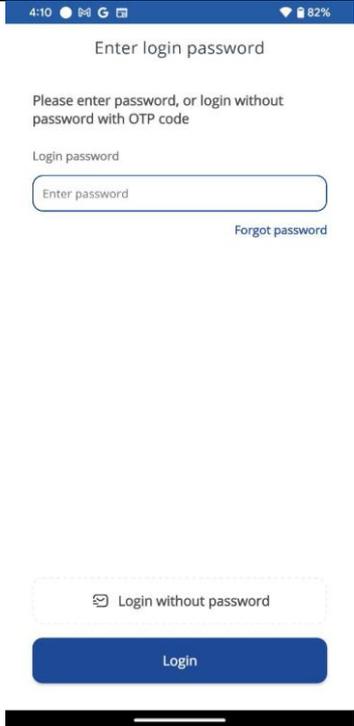
8	View Payment Screen	 <p>The screenshot shows the VNPAY SoftPOS interface. At the top, there's a status bar with the time 4:11 and battery level 82%. Below that is the VNPAY logo and a back arrow. The main content area features an illustration of hands holding a smartphone and a yellow card. Below the illustration, the text reads 'ĐẠI LÝ TOKYO LIFE' and 'ĐIỂM BÁN TKO Trung Kính'. There are logos for VISA, Mastercard, JCB, and napas. At the bottom, there is a blue button labeled 'Payment'.</p>
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2.1.2 Regular login

- **Actor:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Back-end System.
- **Pre-condition:**
 - o User installed Merchant application (include VNPAY SoftPOS SDK) successfully
 - o Device has paired with Point of Sale
- **Expected results:**
 - o User log in successfully.
- **Flow:**

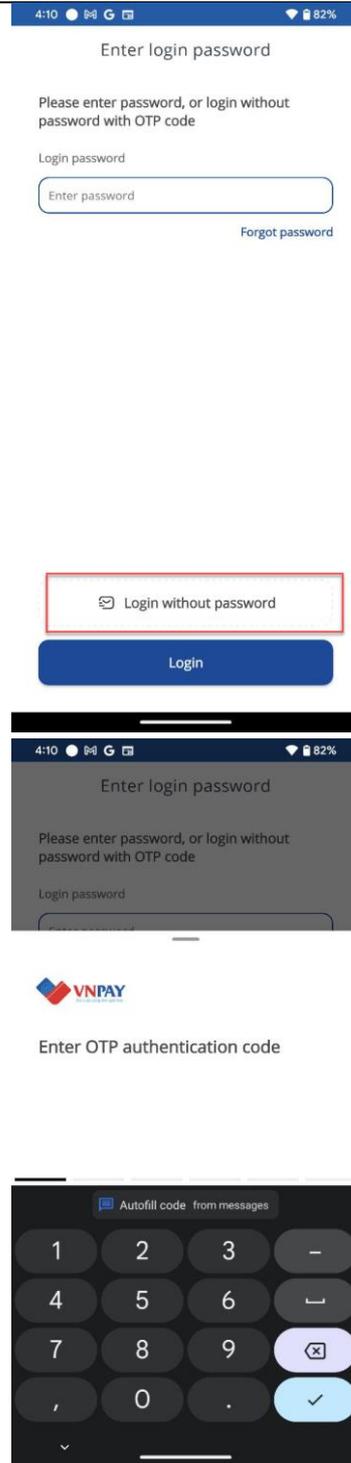
Table 2-2 – Steps and Screenshots in Regular login flow

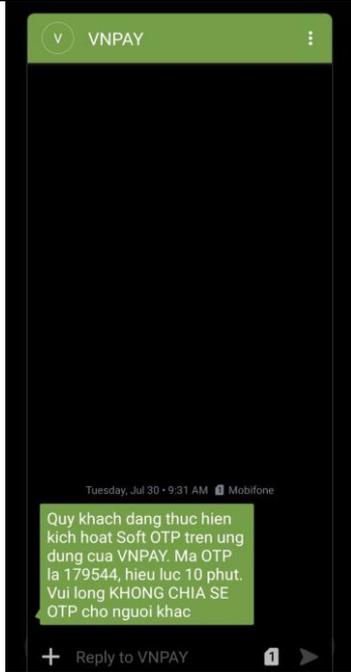
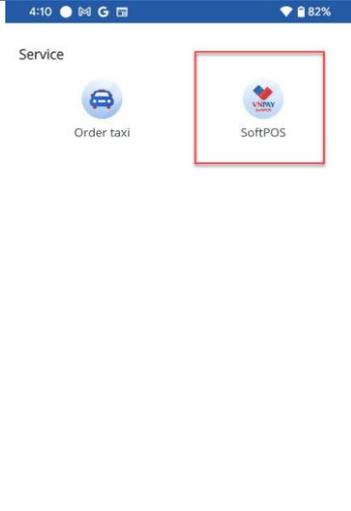
Step No	Describe Steps	Screenshot
1	<p>Open Merchant application. Login screen will be shown.</p> <p>Input:</p> <ul style="list-style-type: none"> - Phone Number registered to use Merchant service. <p>➔ Tap Continue</p>	

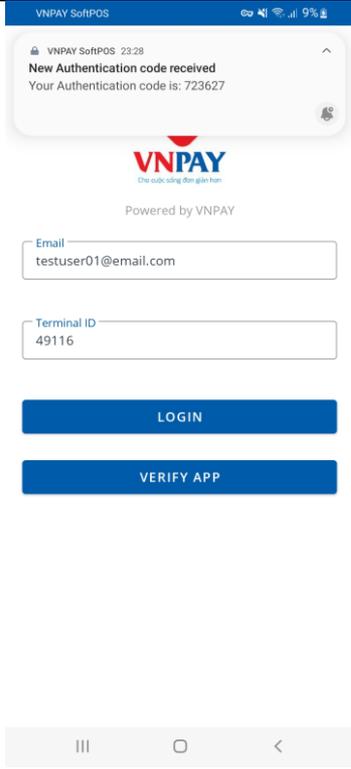
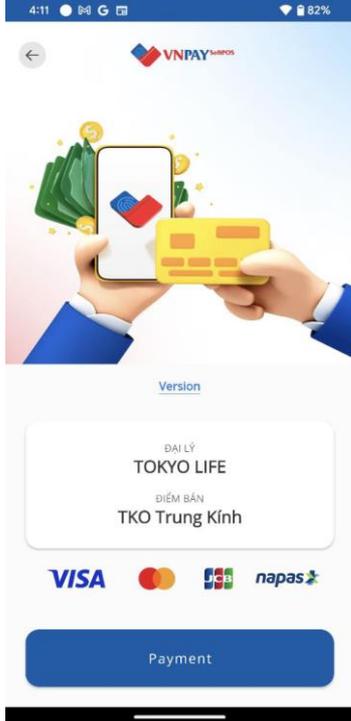
<p>2</p>	<p>Password required screen will be displayed.</p> <ul style="list-style-type: none">- Press Login without password.- Or press Login	
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3

With **Login without password**, entering the OTP sent to user's phone number.



		
<p>4</p>	<p>At the Home screen, Choose SoftPOS.</p>	

<p>5</p>	<p>SoftPOS Login screen will be shown.</p> <p>Input:</p> <ul style="list-style-type: none"> - Email user. - Point Of Sale Code (TerminalID) to User SoftPOS service - Tap Sign-in. 	
<p>6</p>	<p>View Payment Screen</p>	

2.1.3 Login on another device

- **Actor:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Back-end System.
- **Pre-condition:**
 - o User installed Merchant application (include VNPAY SoftPOS SDK) successfully
 - o User used to login on one device and tried to login on a new device
 - o User contacted VNPAY to unenroll Point of Sale from the old device
- **Expected results:**
 - o User log-in and activate the new device successfully.
- **Flow:**

Table 2-3 – Steps and Screenshots in Login on another device flow

Step No	Describe Steps	Screenshot
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1

Open Merchant application. Login screen will be shown.

Input:

- Phone Number registered to use Merchant service.
- ➔ Tap **Continue**

4:10 82%



Please enter phone number to continue

Enter phone number

Enter phone number

Continue

2:33 76%



Please enter phone number to continue

Enter phone number

0369148965

Continue

2

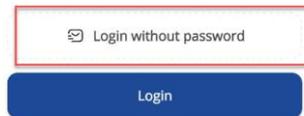
Password required screen will be displayed.

- Press **Login without password.**
- Or press **Login**

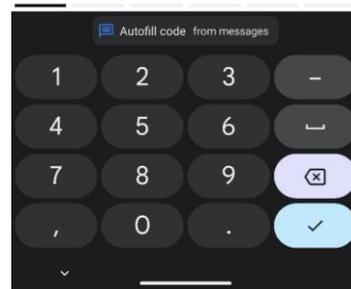


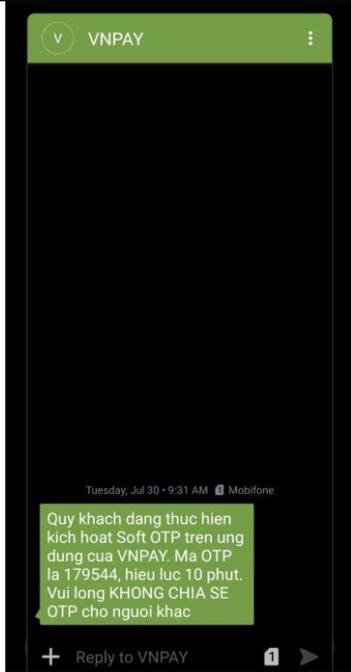
3

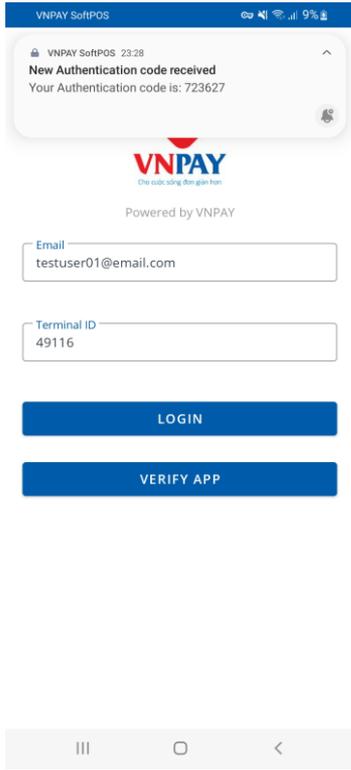
With **Login without password**, entering the OTP sent to user's phone number.



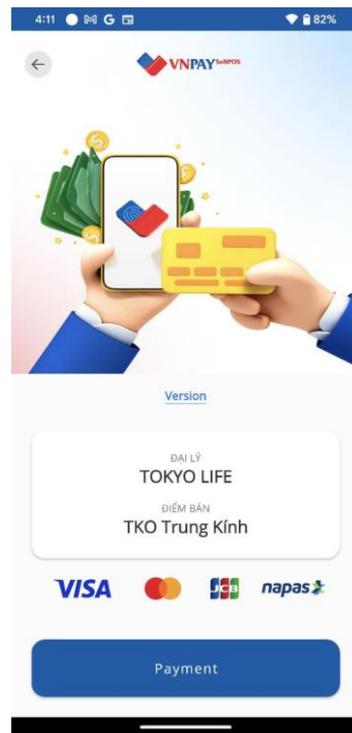
Enter OTP authentication code



		
4	At the Home screen, Choose SoftPOS.	

<p>5</p>	<p>SoftPOS Login screen will be shown.</p> <p>Input:</p> <ul style="list-style-type: none"> - Email user. - Point Of Sale Code (TerminalID) to User SoftPOS service - Tap Sign-in. 	
<p>6</p>	<p>The required Enroll screen will be displayed.</p> <ul style="list-style-type: none"> - Press Enroll Device to accept pair Device – Point of Sale and move to the next step. 	

7 View Payment Screen

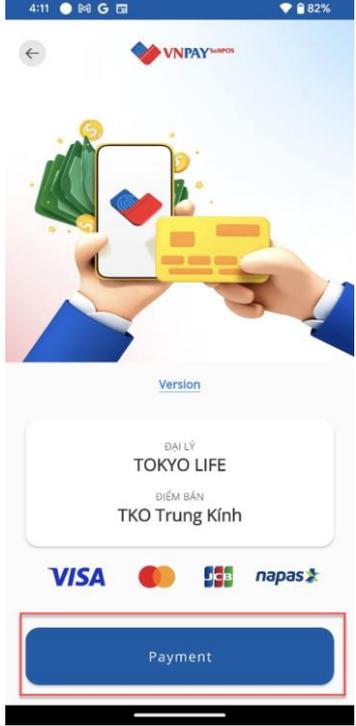


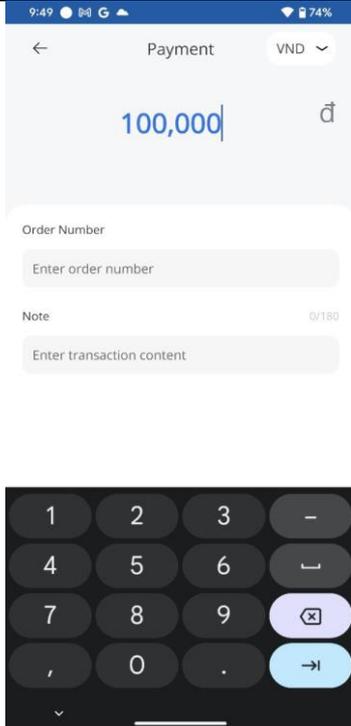
2.2 Contactless Payment

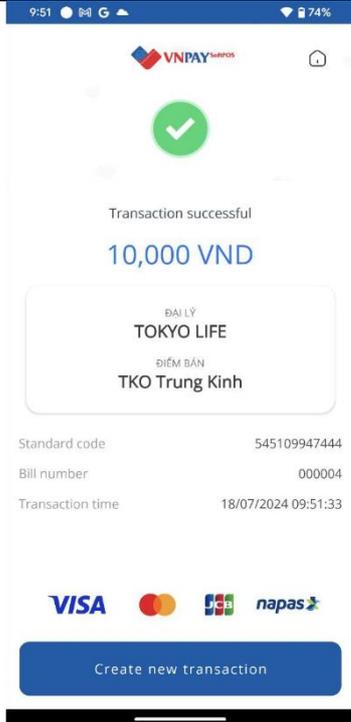
2.2.1 Payment

- **Actors:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Back-end System
- **Precondition:**
 - o Users have successfully logged in
- **Expected result:**
 - o Users can view and use all functions at Payment Screen

Table 2-4 – Steps and Screenshots in Contactless sale transaction flow

Step No	Describe Steps	Screenshot
1	Press Payment button on Payment screen to start the contactless sale transaction flow	

<p>2</p>	<p>Contactless Payment screen will be shown.</p> <p>User to:</p> <ul style="list-style-type: none"> - Enter the transaction amount. - Input the description of the transaction (maximum 180 characters) - Press Continue. User is navigated to Reading Contactless Card Screen. 	
<p>3</p>	<p>On the Reading Contactless Card Screen, user taps the card/mobile device integrated with contactless technology on the NFC area (the back of the phone).</p> <p>If the card/mobile device is not integrated with contactless technology or if the card/mobile device is not correctly tapped. The payment will be failed.</p>	

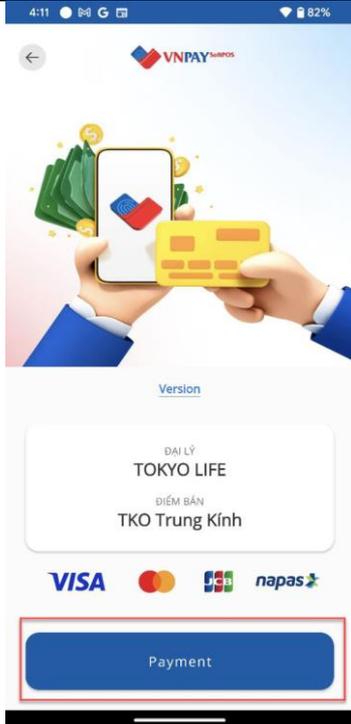
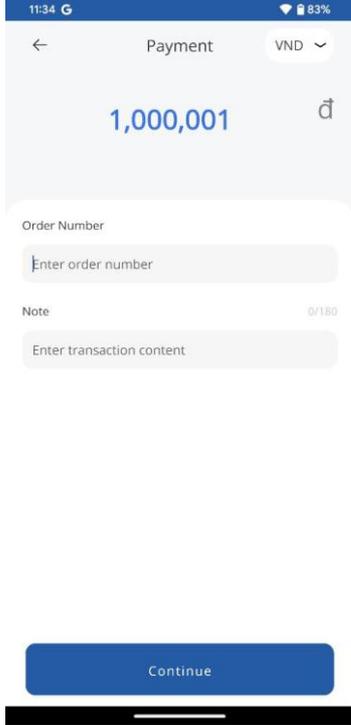
4	<p>Reading card successful.</p> <p>The successful transaction screen display:</p> <ul style="list-style-type: none"> - Transaction amount. - Authorization code. - Receipt number. - Transaction time. - Button Create new transaction allows user back to Payment screen. 	
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2.2.2 Payment with PIN

- **Actors:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Back-end System
- **Precondition:**
 - o Users have successfully logged in
- **Expected result:**
 - o Users can view and use all functions at Payment Screen

Table 2-5 – Steps and Screenshots in Contactless sale transaction with PIN flow

Step No	Describe Steps	Screenshot
---------	----------------	------------

<p>5</p>	<p>Press Payment button on Payment screen to start the contactless sale transaction flow</p>	
<p>6</p>	<p>Contactless Payment screen will be shown.</p> <p>User to:</p> <ul style="list-style-type: none"> - Enter the transaction amount. - Input the description of the transaction (maximum 180 characters) - Press Continue. User is navigated to Reading Contactless Card Screen. 	

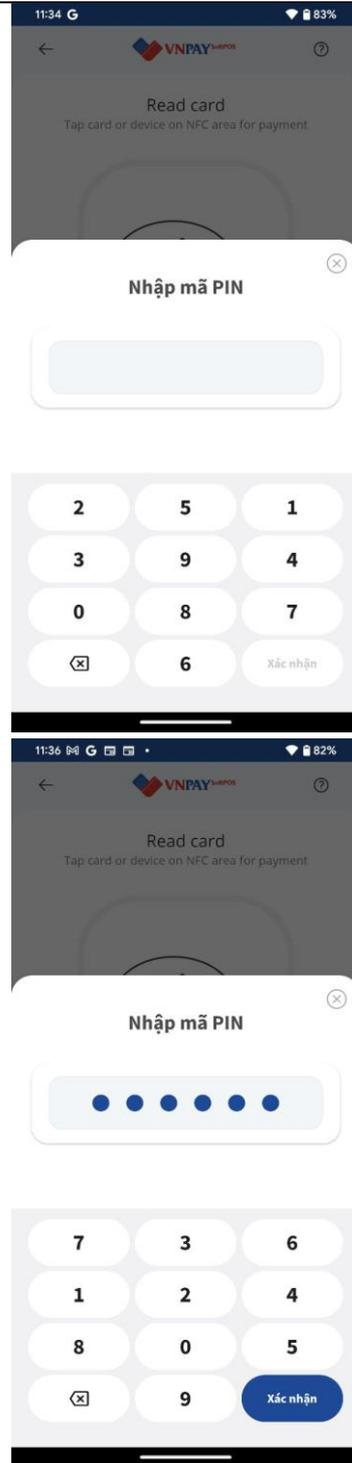
7

On the **Reading Contactless Card Screen**, user taps the card/mobile device integrated with contactless technology on the NFC area (the back of the phone).
If the card/mobile device is not integrated with contactless technology or if the card/mobile device is not correctly tapped. The payment will be failed.



8

Reading card successfully
If the Transaction amount reaches PIN
required amount, User needs to supply
a PIN to complete the transaction



9	<p>The successful transaction screen display:</p> <ul style="list-style-type: none"> - Transaction amount. - Authorization code. - Receipt number. - Transaction time. - Button Create new transaction allows user back to Payment screen. 	
---	--	--

2.3 Application Verification

- **Actors:** User, Merchant Application, VNPAY SoftPOS SDK, VNPAY SoftPOS Portal, VNPAY SoftPOS Back-end System
- **Precondition:**
 - o User's device successfully connected to Internet since contactless transactions are only accepted and processed when there is online connectivity.
 - o User installed Merchant application (include SoftPOS SDK) successfully
- **Expected result:**
 - o Users can view and use all functions at Payment Screen
 - o Users can receive OTP via message
 - o Users can view application authenticity information in web browser

Table 2-6 – Steps and Screenshots in Application Verification flow

Step No	Describe Steps	Screenshot
---------	----------------	------------

9

Open Merchant application. Login screen will be shown.

Input:

- Phone Number registered to use Merchant service.
- ➔ Tap **Continue**

4:10 82%



Please enter phone number to continue

Enter phone number

Enter phone number

Continue

2:33 76%



Please enter phone number to continue

Enter phone number

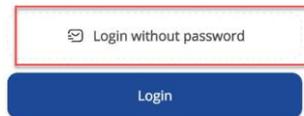
0369148965

Continue

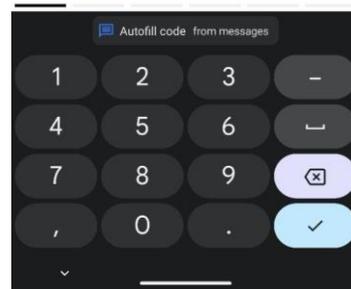
<p>10</p>	<p>Password required screen will be displayed. To continue process, User can:</p> <ul style="list-style-type: none"> - Press Login without password. - Or press Login 	 <p>The screenshot shows a mobile app interface for logging in. At the top, the status bar shows the time as 4:10 and battery at 82%. The main heading is 'Enter login password'. Below it, a message says 'Please enter password, or login without password with OTP code'. There is a 'Login password' label above a text input field containing 'Enter password'. To the right of the input field is a 'Forgot password' link. At the bottom, there are two buttons: 'Login without password' (with a dashed border) and 'Login' (solid blue).</p>
<p>11</p>	<p>By button Login, Fill password and press login</p>	 <p>The screenshot shows the same login screen as above, but the 'Login' button is now highlighted with a dashed border. The status bar shows the time as 2:34 and battery at 76%. The text input field now contains a series of asterisks '*****'.</p>

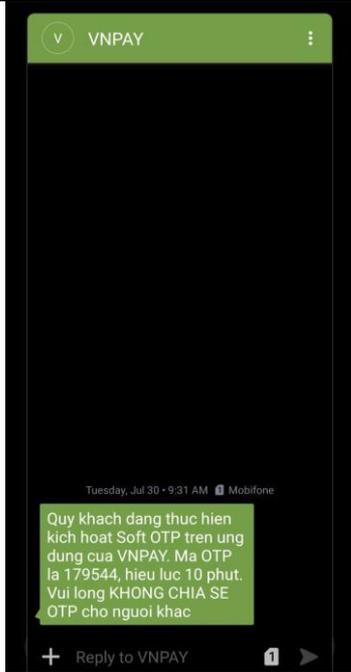
12

With **Login without password**, entering the OTP sent to user's phone number.



Enter OTP authentication code

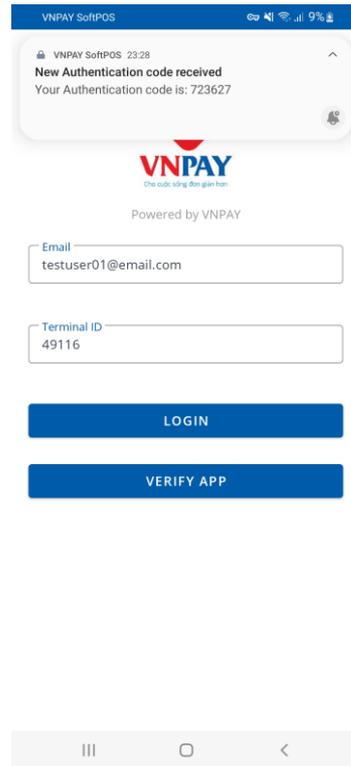


		
13	At the Home screen, Choose SoftPOS.	

14

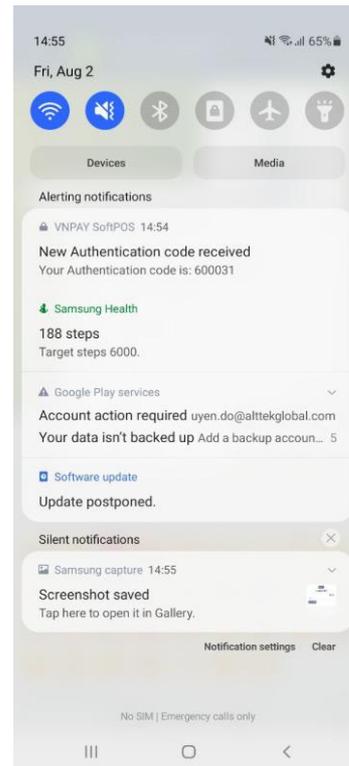
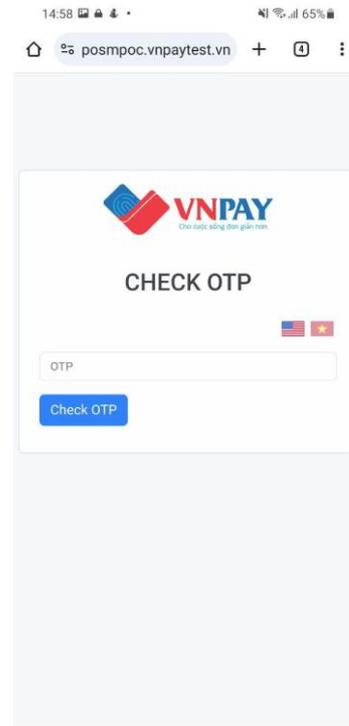
At the SoftPOS Login screen will be shown:

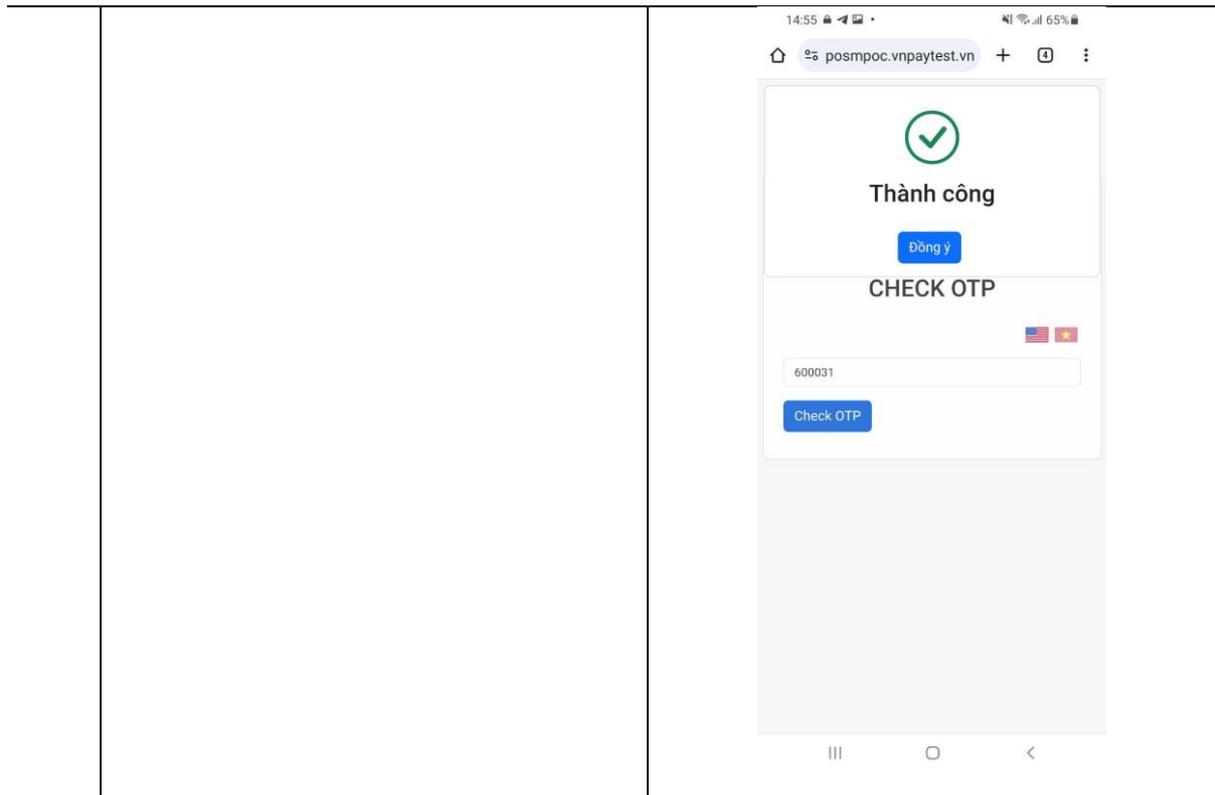
- Tap **Verify App** to view application authenticity information



15

Open web browser with Application authenticity URL, entering the OTP that received at notifications





2.4 Security Report

Merchants can find VNPAY's publicly accessible information about the vulnerability reporting program on this [Portal](#) by clicking the button "Security Report".

Note: There is no need to login to access the "Security Report" instructions.

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