



**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# AMR220-C1

## ACS Secure

### Bluetooth<sup>®</sup> mPOS Reader



User Manual V1.05



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## 1.0. Introduction

Mobile devices have easy and intuitive interfaces that enable fast and convenient access to different applications, and provide myriad opportunities to shop, network, and explore. Leveraging on this, ACS introduces the AMR220-C1 ACS Secure Bluetooth® mPOS reader, which can support EMV® chip-enabled contact cards, contactless cards, and most mobile NFC devices.

This document provides general procedures for installation of drivers and applications when using AMR220-C1 ACS Secure Bluetooth mPOS Reader.

Topics covered in this user manual are as follows:

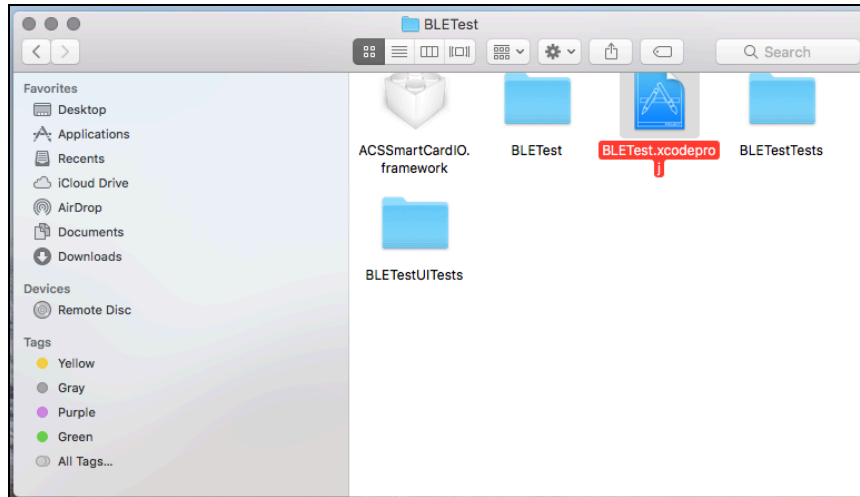
- **Section 2.0 : For iOS (Bluetooth Interface)** – provides procedures on how to install and use Bluetooth LE (BLE) Test demo application with AMR220-C1 using iOS device and library
- **Section 3.0 : For iOS (Bluetooth Interface – EMV)** – provides procedures on how to install and use Bluetooth EMV demo application with AMR220-C1 using iOS device and library
- **Section 4.0 : For Android™ (Bluetooth Interface)** – provides procedures on how to install and use Bluetooth LE (BLE) Test demo application with AMR220-C1 using Android™ device and library
- **Section 5.0 : For Android™ (Bluetooth Interface – EMV)** – provides procedures on how to install and use Bluetooth EMV demo application with AMR220-C1 using Android™ device and library
- **Section 6.0 : For Windows (Bluetooth Interface)** – provides procedures on how to install ACS Bluetooth Driver and connect AMR220-C1 on a Windows PC
- **Section 7.0 : For Windows (USB Interface – EMV)** – provides procedures on how to use USB EMV demo application with AMR220-C1 through a Windows PC

## 2.0. For iOS (Bluetooth Interface)

### 2.1. Installing the Bluetooth demo application

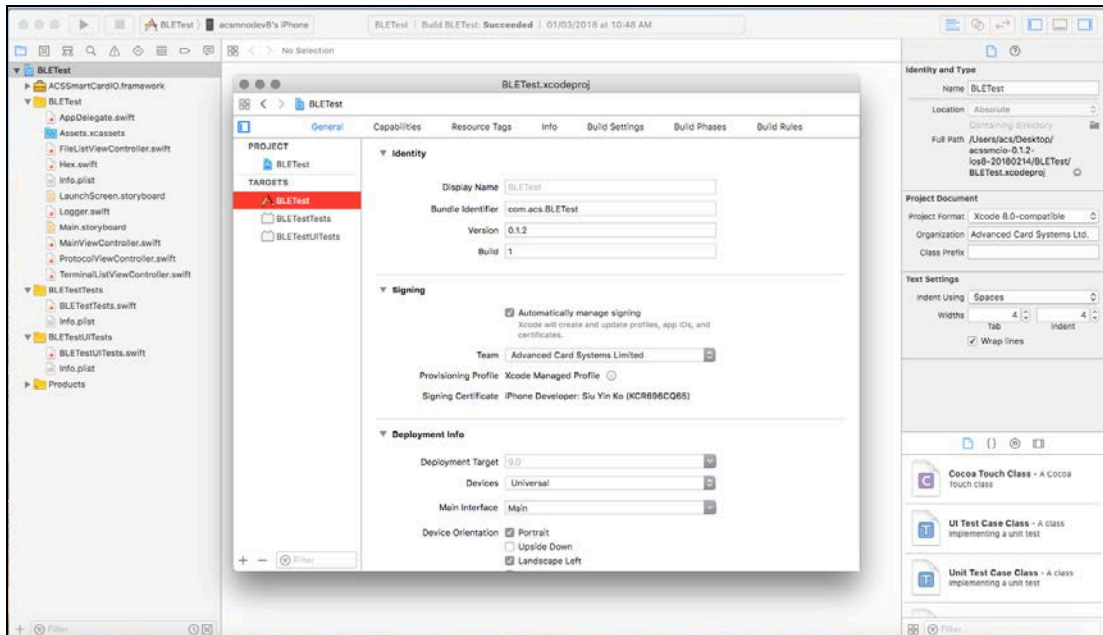
To install the Bluetooth demo application:

1. Download the **iOS BLE EVK** from the ACS website to access the device library.
2. In the iOS library, find the **BLETest.xcodeproj** file in the BLETest Folder.
3. Using the XCode application, open **BLETest.xcodeproj**.



4. Transfer **BLETest.xcodeproj** to your mobile device. Select your mobile device, and then click **Play**.

**Note:** Make sure that your mobile device is connected to your computer.



## 2.2. Using the ACS Bluetooth demo application

This section provides a simple step-by-step procedure on how to use the AMR220-C1 using the BLE Test demo application.

### 2.2.1. Connecting a device to the reader

To connect a device:

1. Turn on the reader by pushing the **power button** (found at the **left side** of the reader when it is facing front) for 3 seconds.



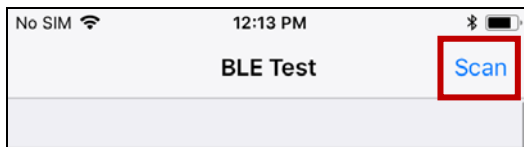
2. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.



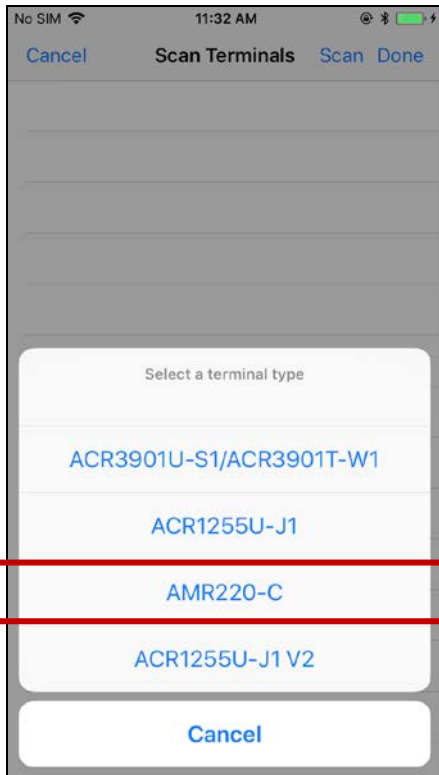
3. On your device, turn on Bluetooth by going to **Settings | Bluetooth**.
4. Open the **BLE Test Demo application**.



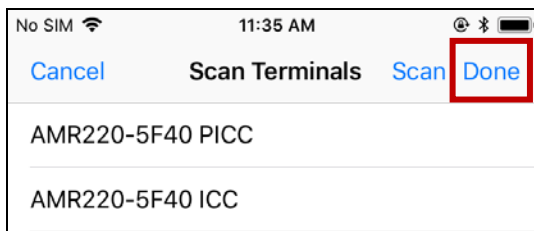
5. Tap **Scan**.



6. Select the terminal type **AMR220-C**.

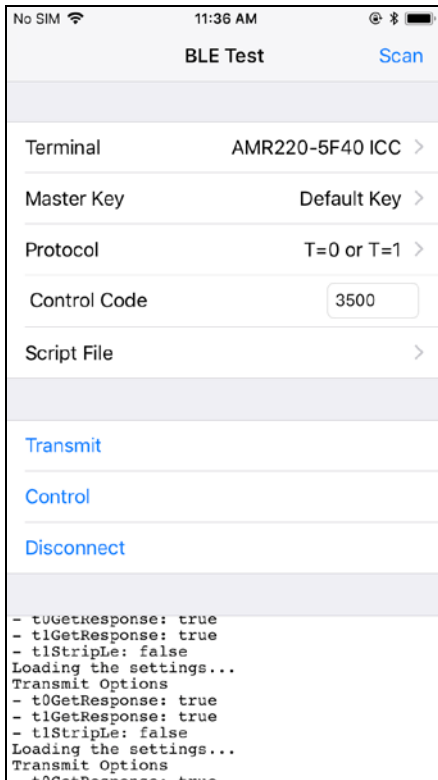


7. Choose the reader to connect your iOS device with, and then tap **Done**.





- When the connection is successful, the home page with the connected reader will be displayed.



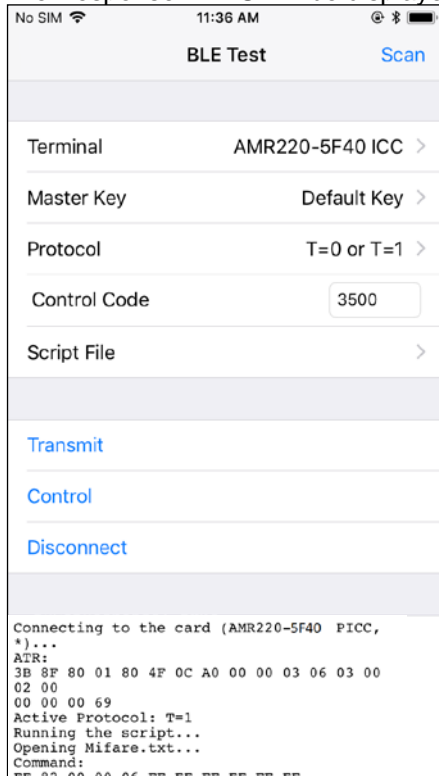
### 2.2.2. Transmitting APDU commands

To transmit APDU commands:

1. Connect the mobile device to iTunes and locate File Sharing tab.
2. Under Apps section, click on **BLETest app** and add a text file (.txt) containing the APDU commands.



3. Tap the contactless smart card or insert a contact smart card in to AMR220-C1 reader.
4. In the demo application on the mobile device, tap **Script File**, and then locate the .txt file to run.
5. Tap **Transmit** button.
6. The Response APDU will be displayed.



**Note:** The application is designed to get the ATR of the card before sending the APDU commands.

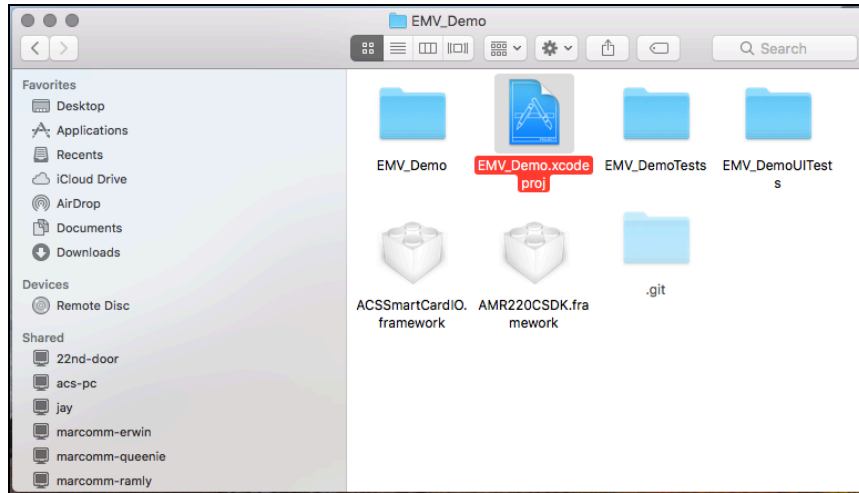


### 3.0. For iOS (Bluetooth Interface – EMV)

#### 3.1. Installing the Bluetooth EMV demo application

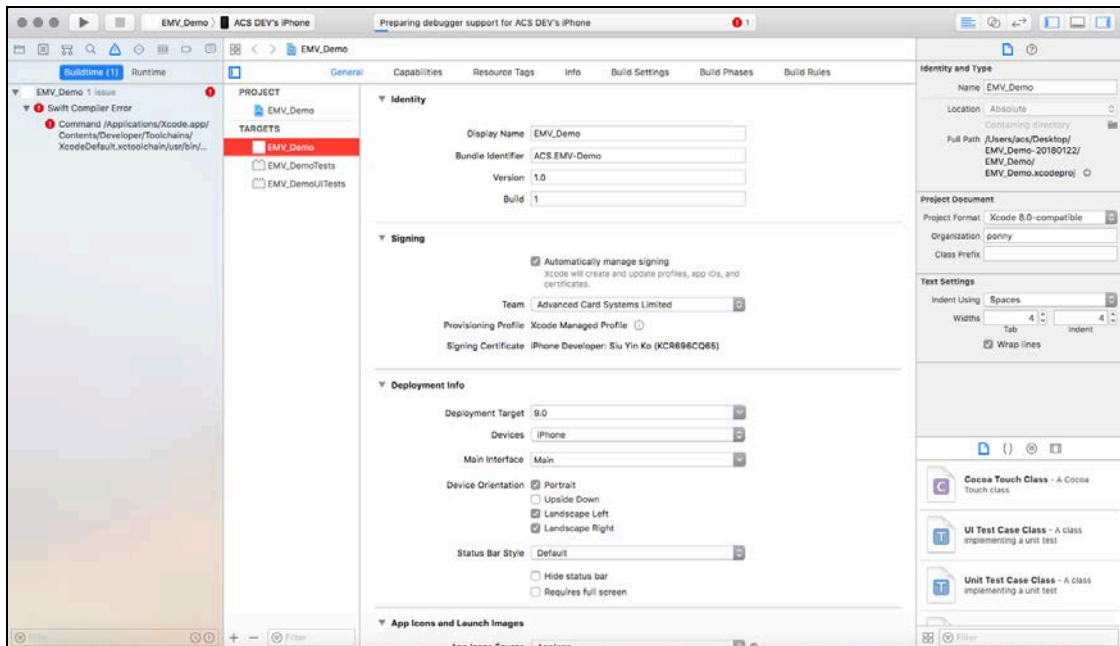
To install the Bluetooth EMV demo application:

1. Download the **iOS BLE EMV EVK** from the ACS website to access the device library.
2. In the iOS library, find the **EMV\_Demo.xcodeproj** file in the EMV Demo Folder.
3. Using the XCode application, open **EMV\_Demo.xcodeproj**.



4. Transfer **EMV\_Demo.xcodeproj** to your mobile device. Select your mobile device, and then click **Play**.

**Note:** Make sure that your mobile device is connected to your computer.



### 3.2. Using the ACS Bluetooth EMV demo application

This section provides a simple step-by-step procedure on how to use the AMR220-C1 using the EMV demo application.

#### 3.2.1. Connecting device to the reader

To connect a device:

1. Turn on the reader by pushing the **power button** (found at the **left side** of the reader when it is facing front) for 3 seconds.

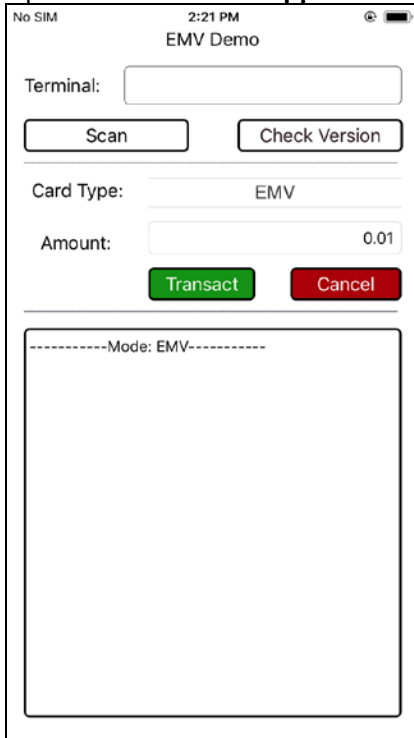


2. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.



3. On your device, turn on Bluetooth by going to **Settings | Bluetooth**.

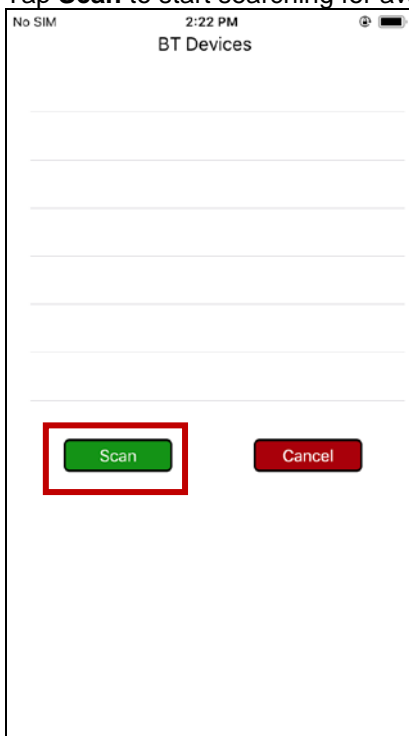
4. Open the **EMV Demo application**.



5. Tap **Scan** to show the list of available readers



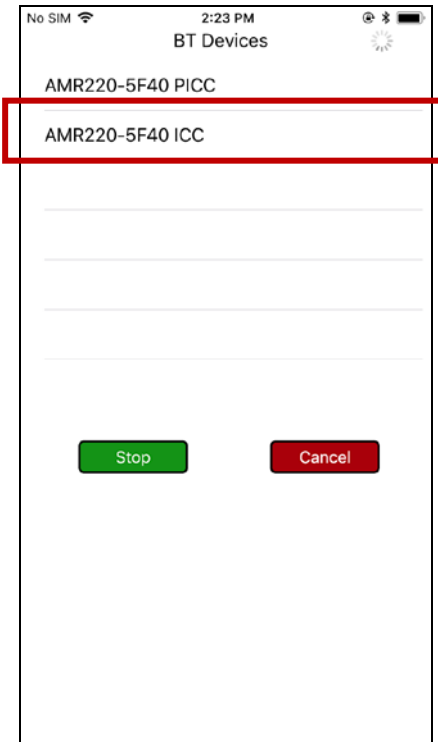
6. Tap **Scan** to start searching for available readers



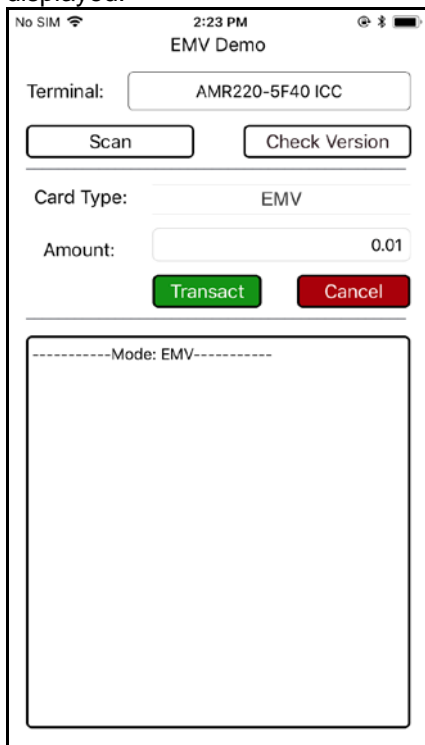


7. Choose the reader to connect your iOS device with. Match the reader's interface to the test card.

**Note:** Select PICC for Contactless Cards and ICC for Contact Cards



8. When the connecting is successful, the home page with the connected reader will be displayed.

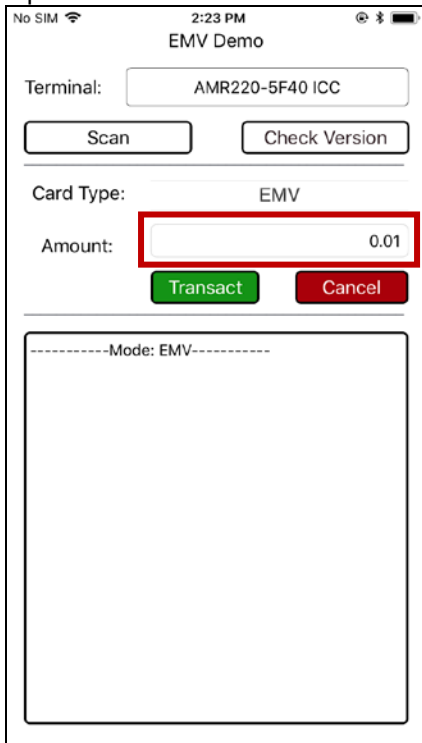


### 3.2.2. Performing a transaction

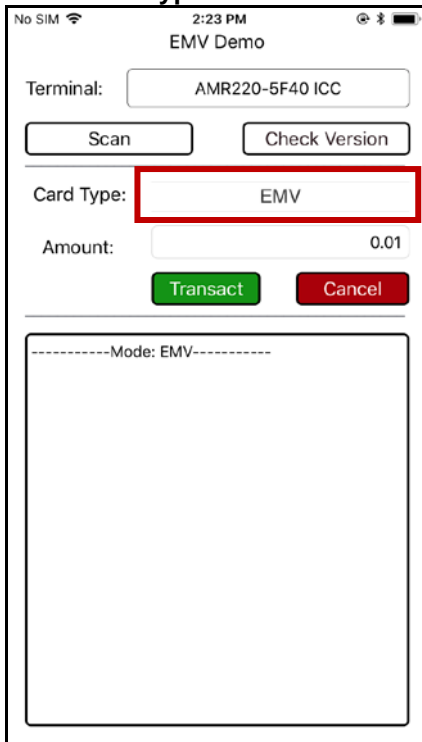
Below are the general steps in performing transactions. On the following sections are specific instructions, depending on card type used.

To perform a transaction:

1. Input the desired **amount**.



2. Select **card type**.





3. Depending on card type:
  - For EMV cards (contact interface): Insert card on the AMR220-C1 reader's contact interface, or
  - For PayPass or payWave cards (contactless interface): Tap card on the AMR220-C1 reader's contactless interface
4. Tap **Transaction**.
5. Depending on the card type chosen, more steps may be required. See the following sections for more details:
  - **Performing a transaction using an EMV Card (contact interface)**
    - **Performing an OFFLINE signature-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)**
  - **Performing a transaction using a PayPass card (contactless interface)**
  - **Performing a transaction using a payWave card (contactless interface)**

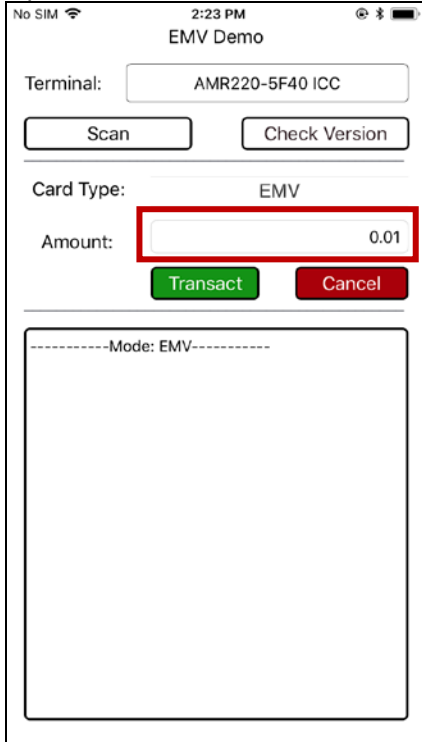


### 3.2.2.1. Performing a transaction using an EMV Card (contact interface)

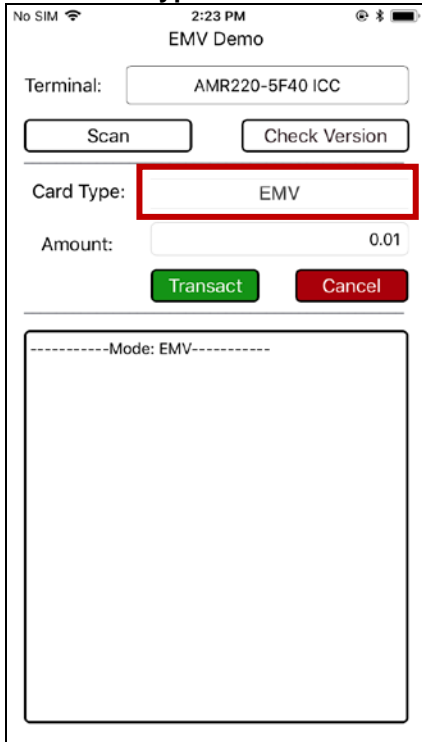
#### 3.2.2.1.1. Performing an OFFLINE signature-based transaction (EMV – contact interface)

To perform an OFFLINE signature-based transaction using an EMV Card – Contact Interface:

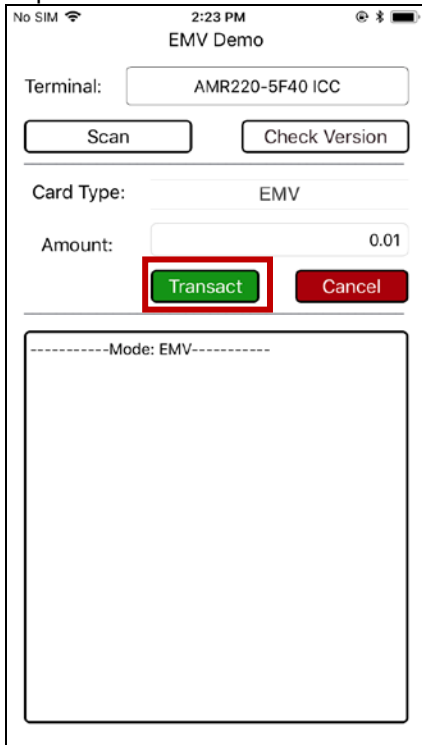
1. Input the desired **amount**.



2. Select **card type**.



3. Insert card on the AMR220-C1 reader's **contact interface**.
4. **Tap Transact.**



5. A prompt to sign will be shown. **Sign** on the area for signature.



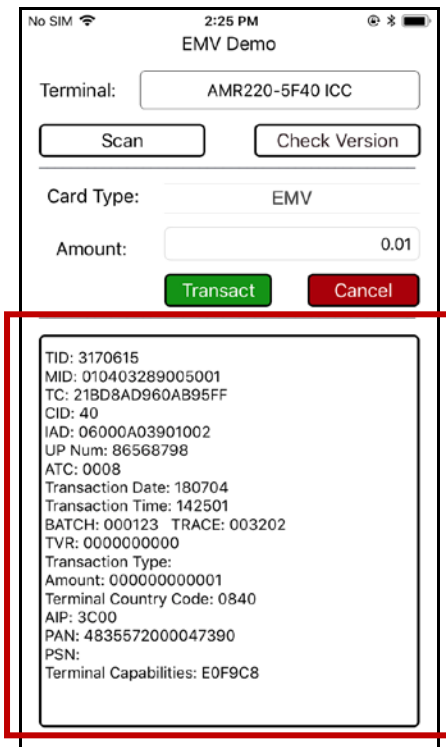




5. Tap **Continue**.



6. The transaction details will be displayed.

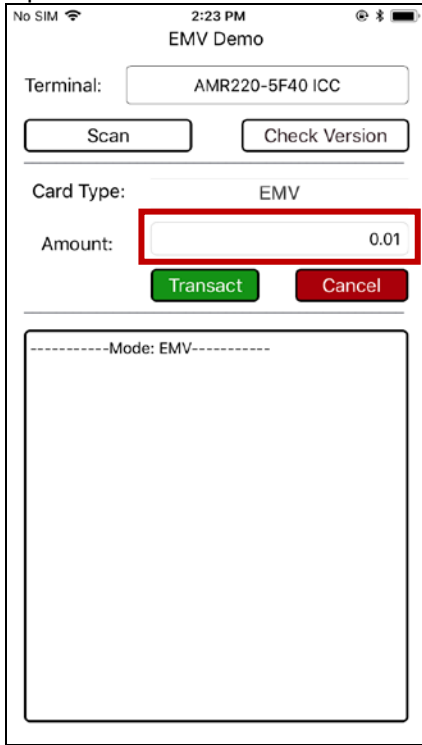




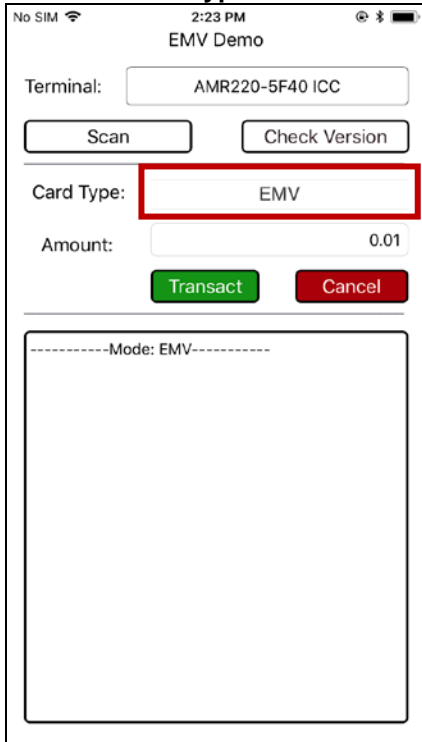
### 3.2.2.1.2. Performing an OFFLINE PIN-based transaction (EMV – contact interface)

To perform an OFFLINE PIN-based transaction using an EMV card – contact interface:

1. Input the desired **amount**.

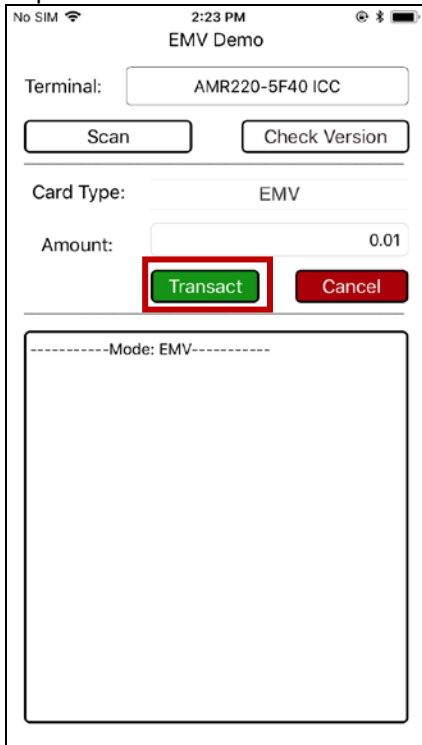


2. Select the **card type**.

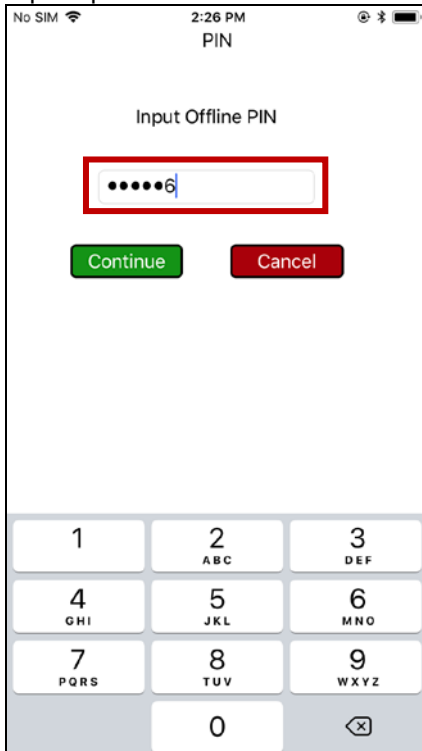




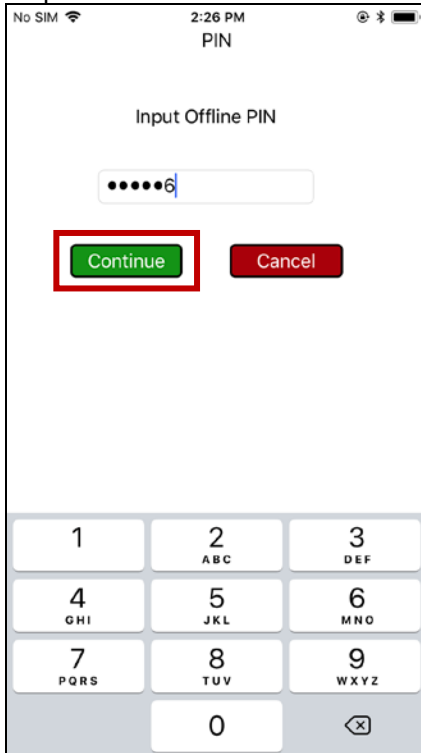
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. **Tap Transact.**



5. A prompt to enter the PIN will be shown. Enter **PIN**.

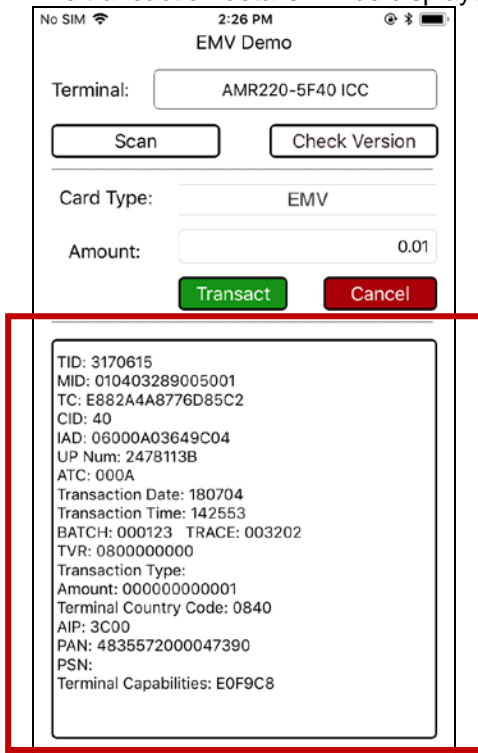


6. Tap **Continue**.



- Tap **Cancel** to cancel transaction.

7. The transaction details will be displayed.

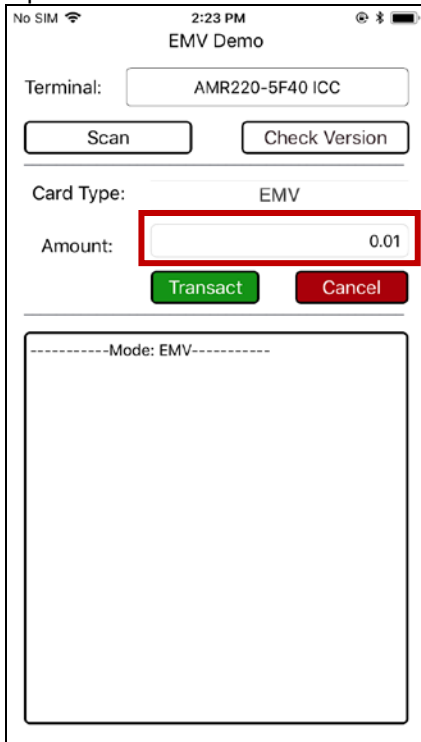




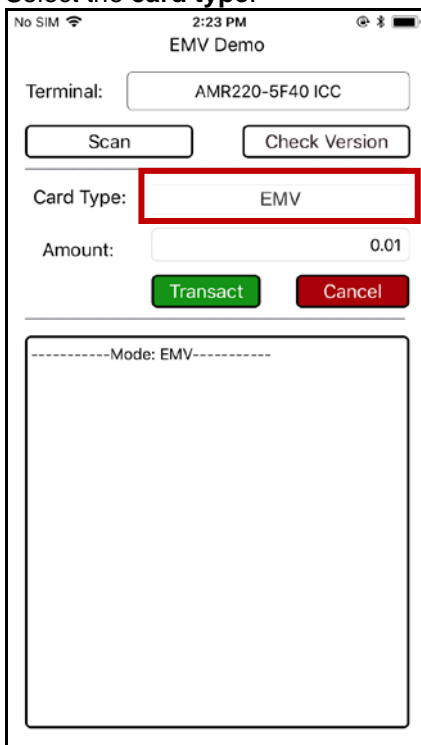
### 3.2.2.1.3. Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)

To perform an OFFLINE PIN-based transaction with ONLINE approval using an EMV card – contact interface:

1. Input the desired **amount**.

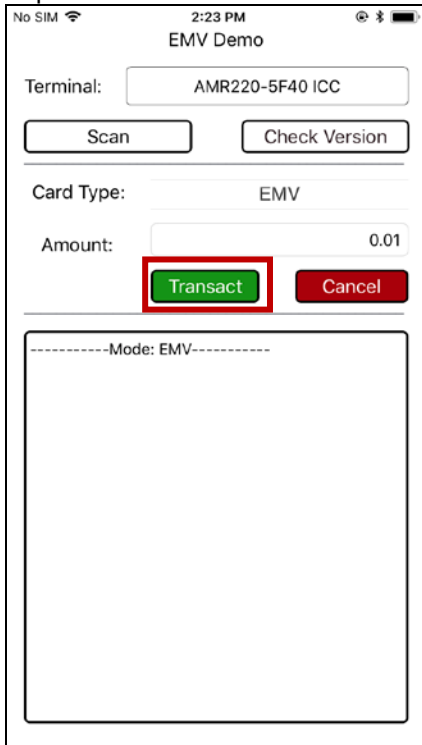


2. Select the **card type**.

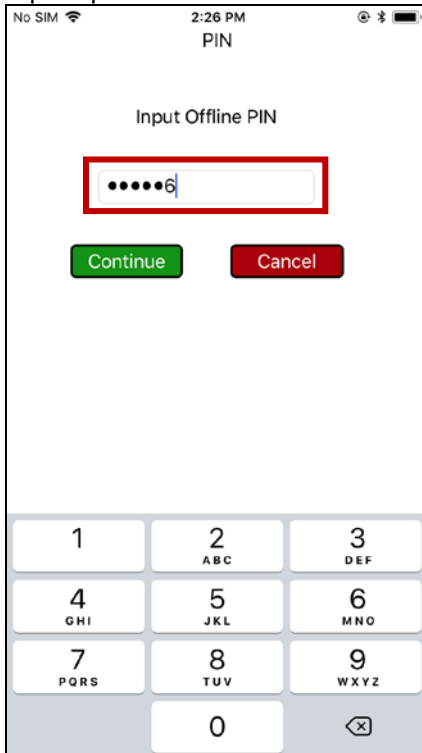




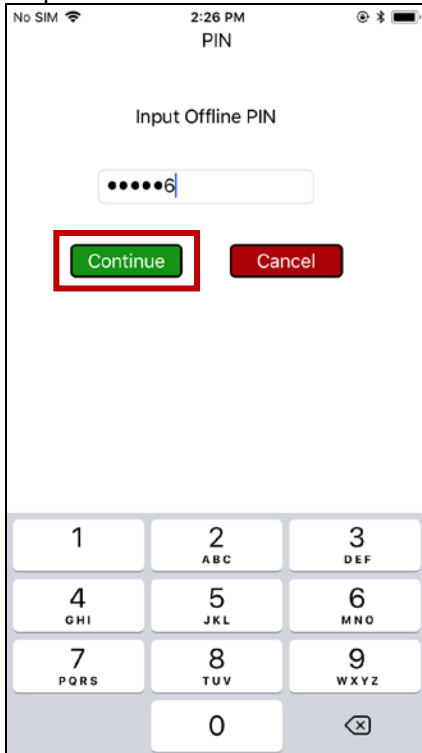
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. **Tap Transact.**



5. A prompt to enter the PIN will be shown. Enter **PIN**.

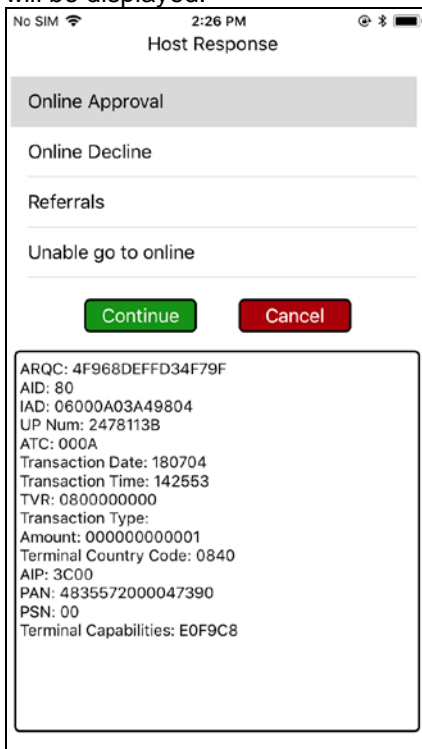


6. Tap **Continue**.



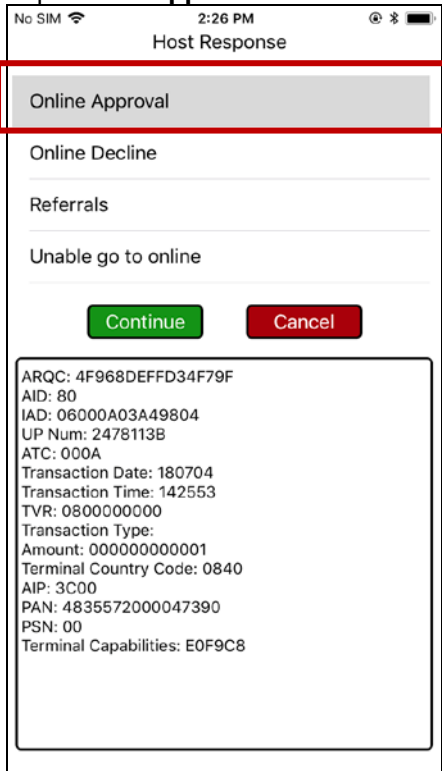
- Tap **Cancel** to cancel transaction.

7. The transaction details with additional options emulating the host response for online approval will be displayed.

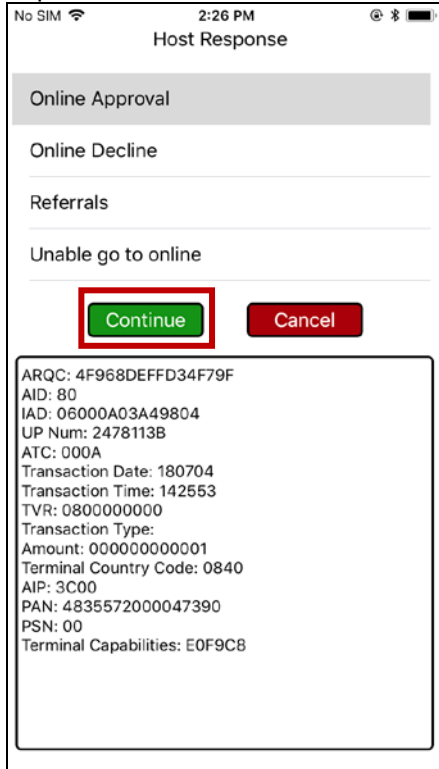


### 3.2.2.1.3.1. Host Response – Online Approval

1. Tap **Online Approval**.



2. Tap **Continue**.







3. The transaction details will be displayed.

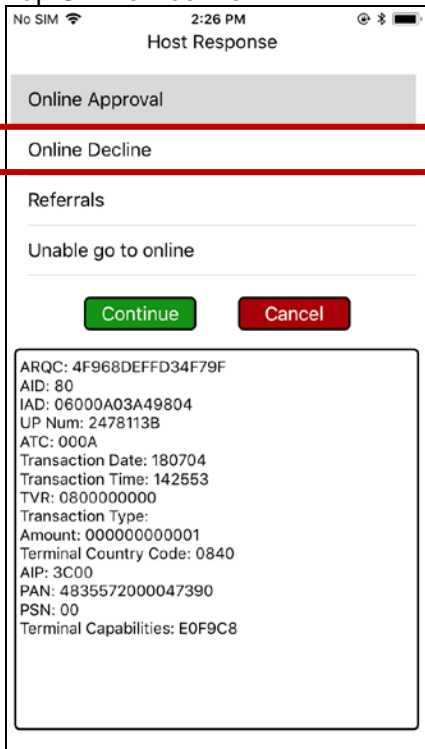
The screenshot shows a mobile application interface titled "EMV Demo". At the top, it displays "No SIM", signal strength, Wi-Fi, and battery icons, along with the time "2:26 PM". Below the title, the "Terminal:" field shows "AMR220-5F40 ICC". There are two buttons: "Scan" and "Check Version". The "Card Type:" field shows "EMV". The "Amount:" field shows "0.01". At the bottom of this section are two buttons: a green "Transact" button and a red "Cancel" button. A red rectangular box highlights a section below containing transaction details:

```
TID: 3170615
MID: 010403289005001
TC: E882A4A8776D85C2
CID: 40
IAD: 06000A03649C04
UP Num: 2478113B
ATC: 000A
Transaction Date: 180704
Transaction Time: 142553
BATCH: 000123 TRACE: 003202
TVR: 0800000000
Transaction Type:
Amount: 000000000001
Terminal Country Code: 0840
AIP: 3C00
PAN: 4835572000047390
PSN:
Terminal Capabilities: E0F9C8
```

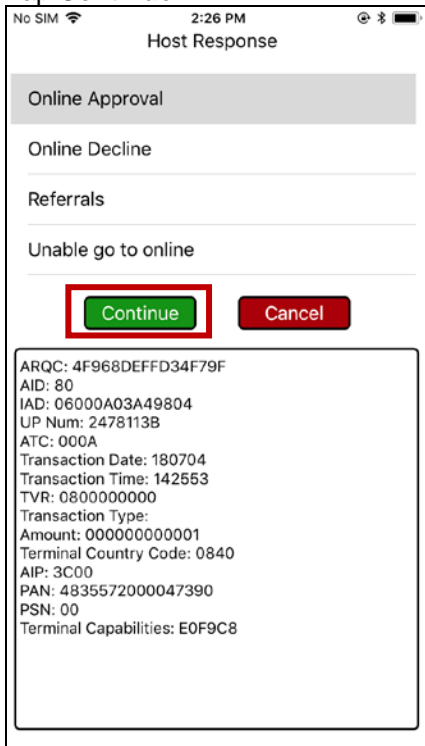


### 3.2.2.1.3.2. Host Response – Online Decline

1. Tap **Online Decline**.

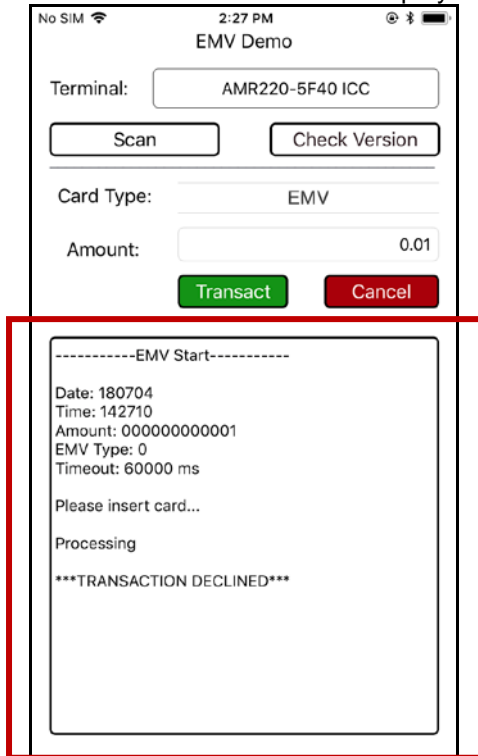


2. Tap **Continue**.



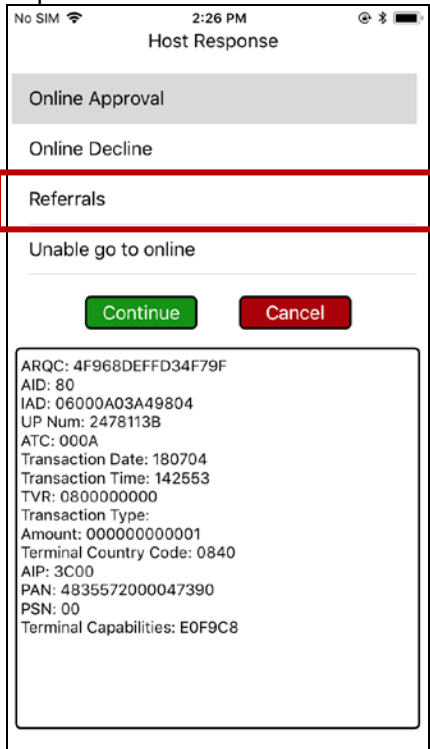


3. Transaction Declined will be displayed.

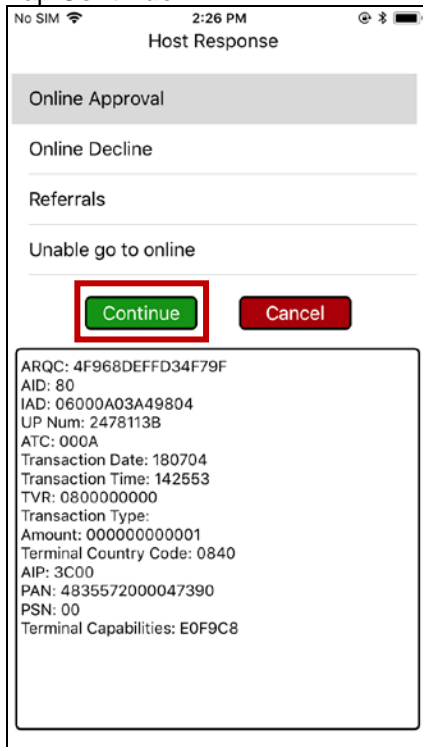


### 3.2.2.1.3.3. Host Response – Referrals

#### 1. Tap Referrals.

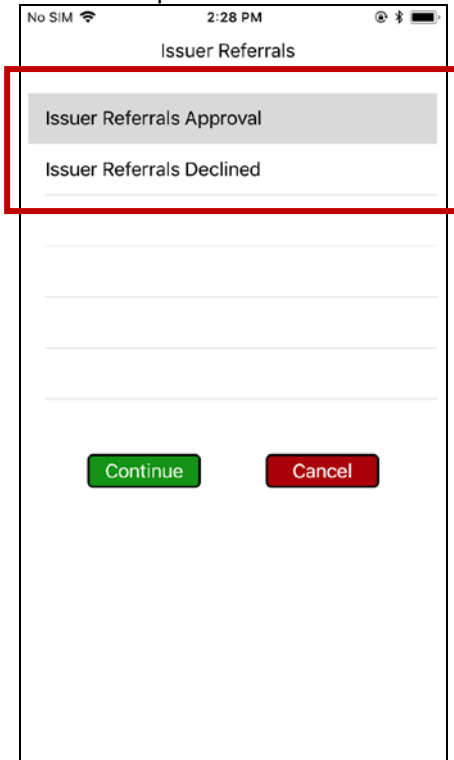


#### 2. Tap Continue.



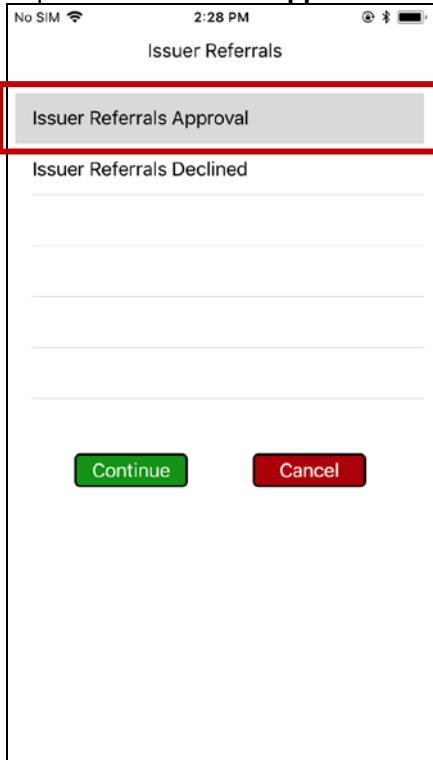


3. Additional options for Issuer Referrals will be displayed.

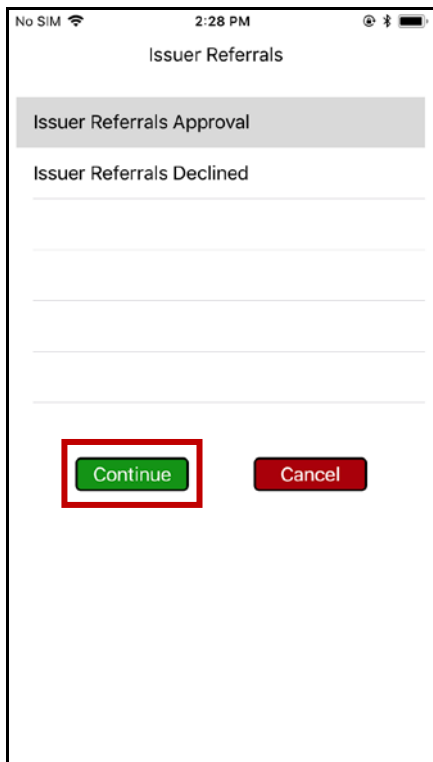


### 3.2.2.1.3.3.1. Issuer Referrals – Approval

1. Tap **Issuer Referrals Approval**.

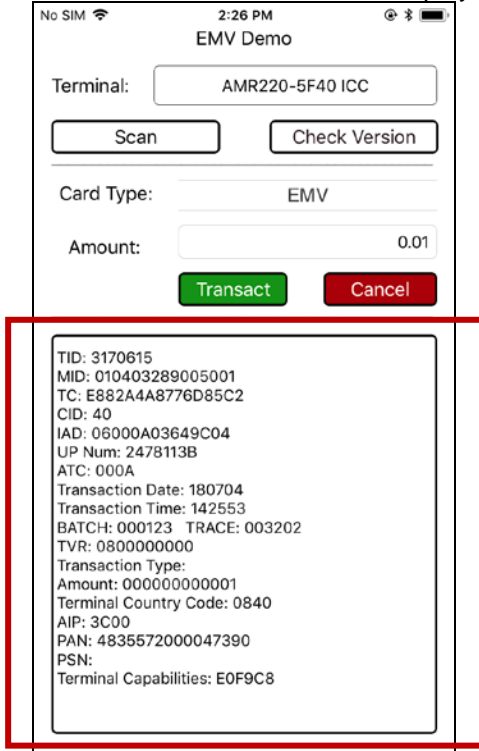


2. Tap **Continue**.





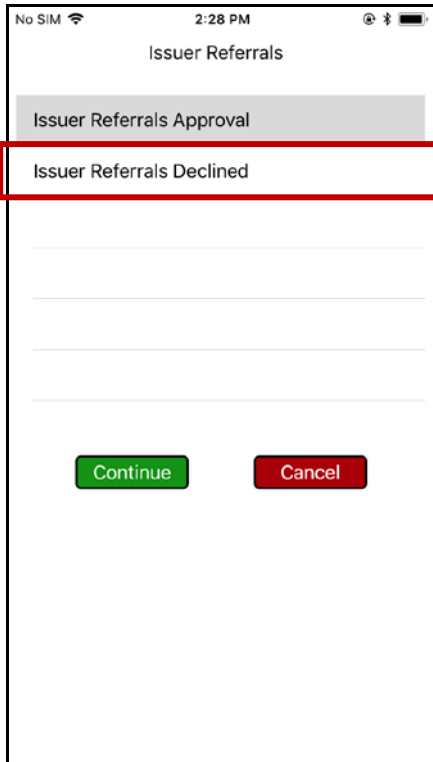
3. The transaction details will be displayed.



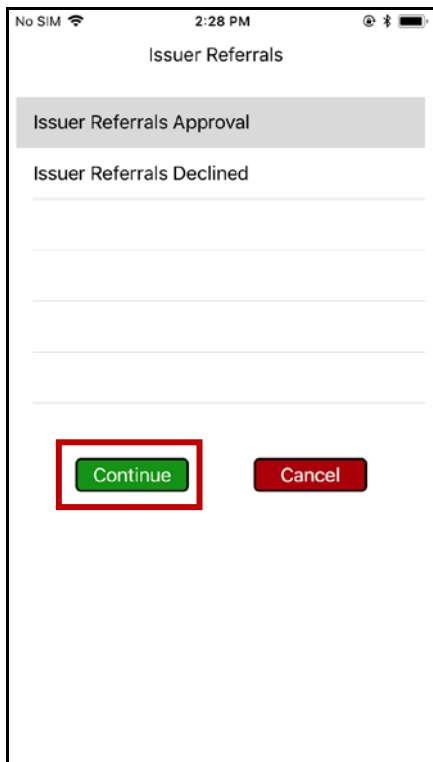


### 3.2.2.1.3.3.2. Issuer Referrals – Declined

1. Tap **Issuer Referrals Declined**.



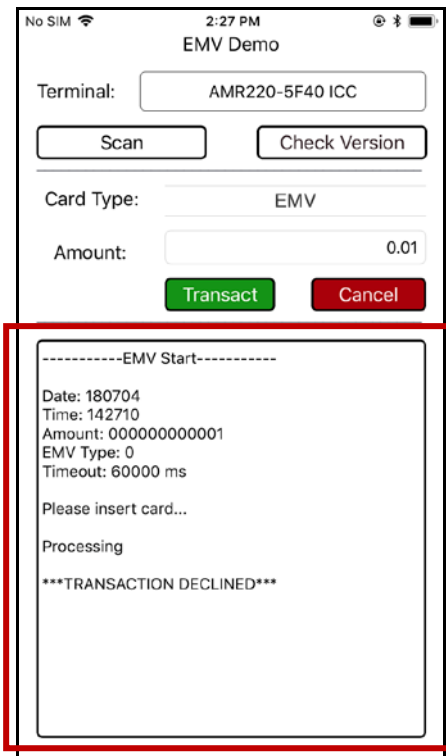
2. Tap **Continue**.





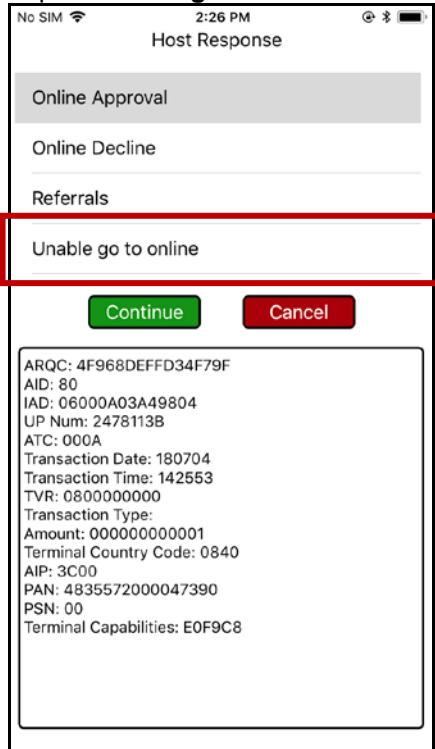


- 4. Transaction Declined will be displayed.

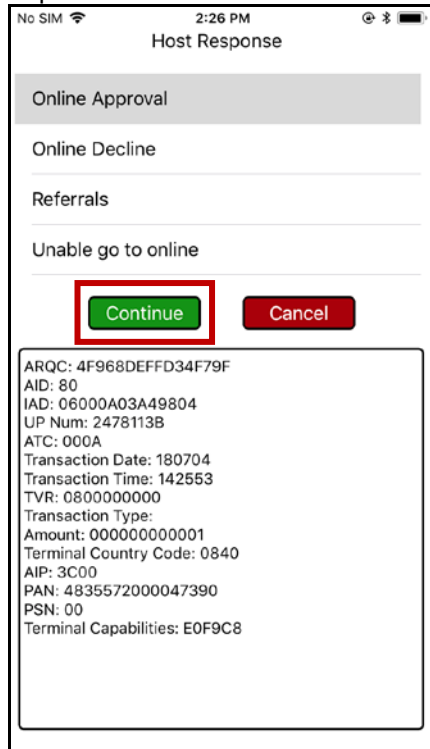


### 3.2.2.1.3.4. Host Response – Unable to go online

1. Tap **Unable to go online**.

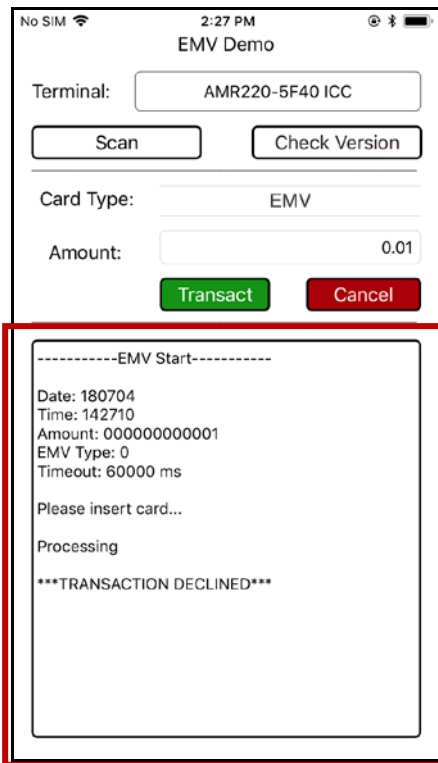


2. Tap **Continue**.





- 3. Transaction Declined will be displayed.

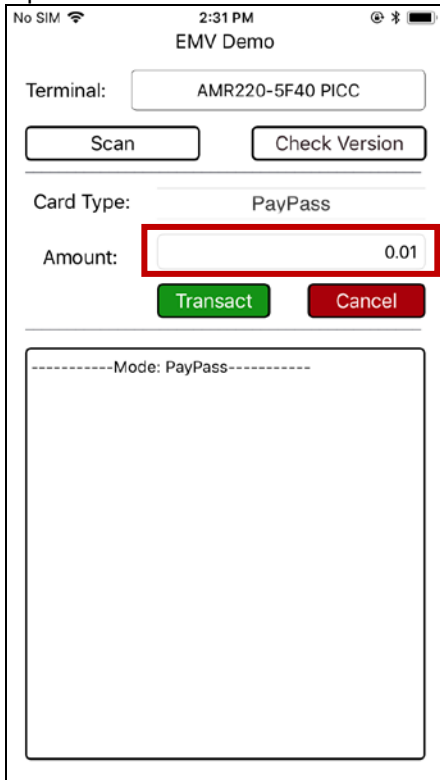




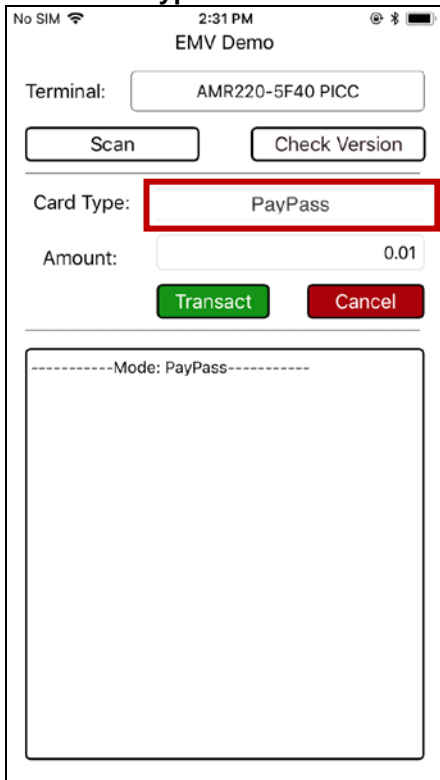
### 3.2.2.2. Performing a transaction using a PayPass card (contactless interface)

To perform a transaction using a PayPass card (contactless interface):

1. Input the desired **amount**.

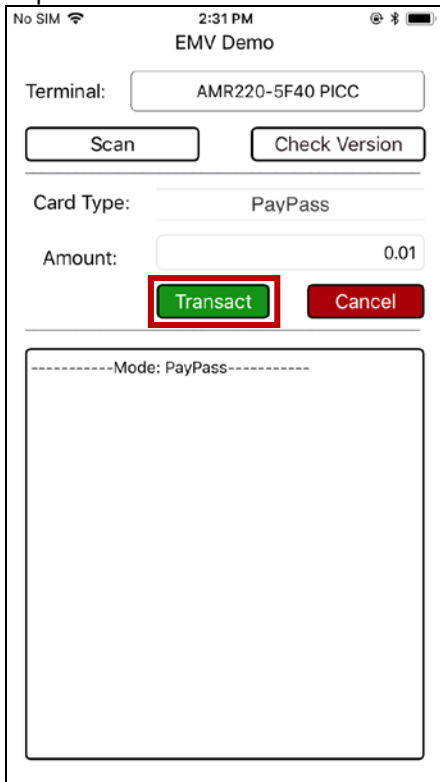


2. Select **card type**.

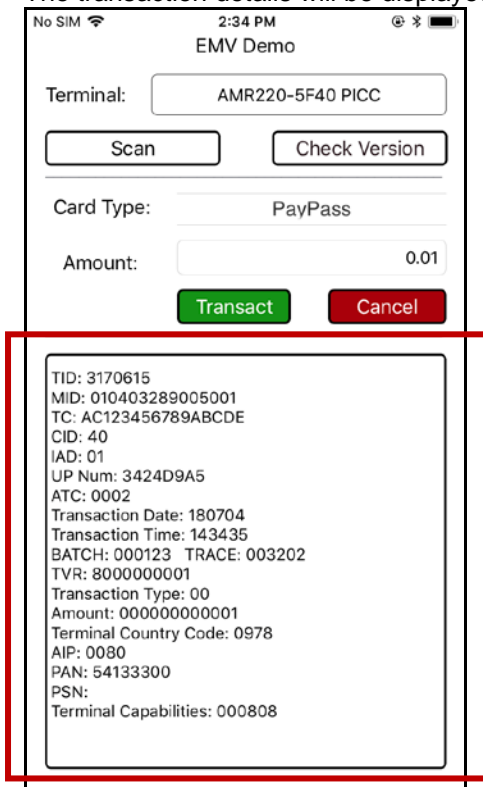




- 3. Tap card on the AMR220-C1 reader's **contactless interface**.
- 4. **Tap Transact.**



- 5. The transaction details will be displayed.

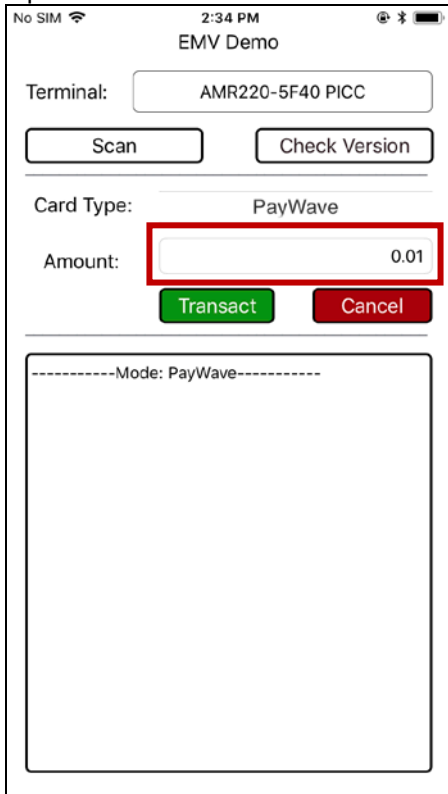




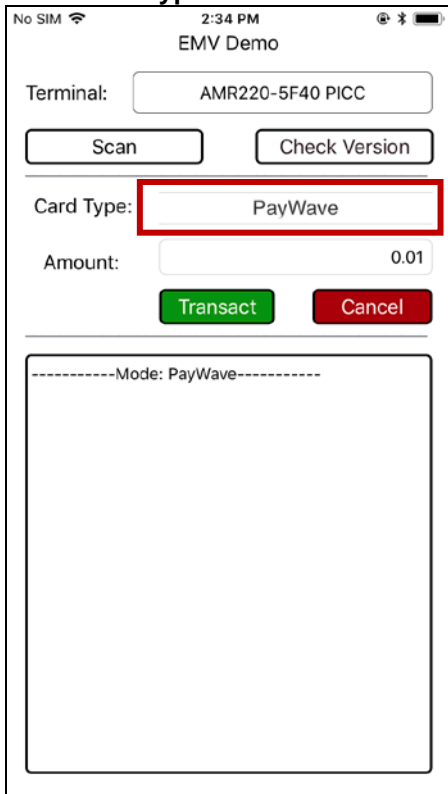
### 3.2.2.3. Performing a transaction using a payWave card (contactless interface)

To perform a transaction using a payWave card:

1. Input the desired **amount**.

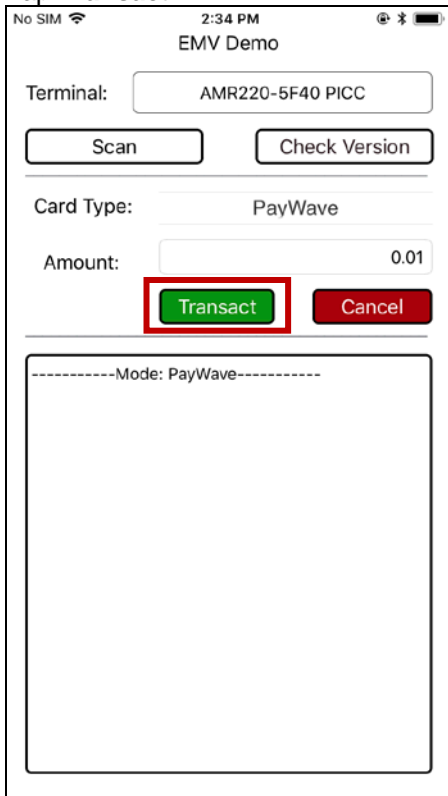


2. Select **card type**.

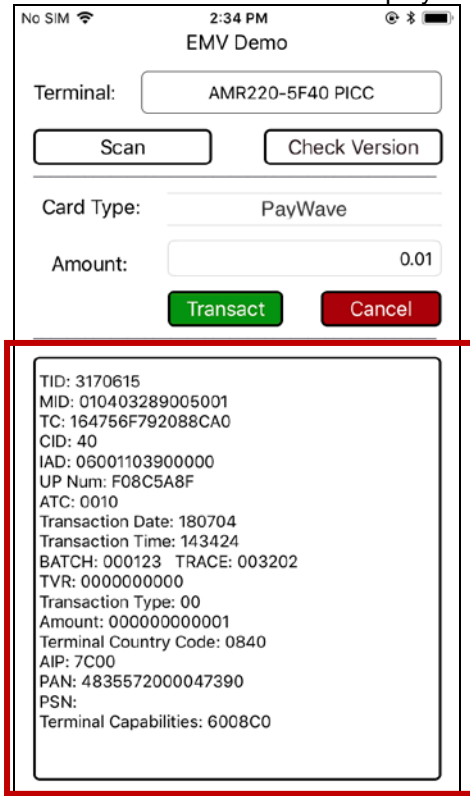




3. Tap card on the AMR220-C1 reader's contactless interface
4. Tap **Transact**.



5. The transaction details will be displayed.

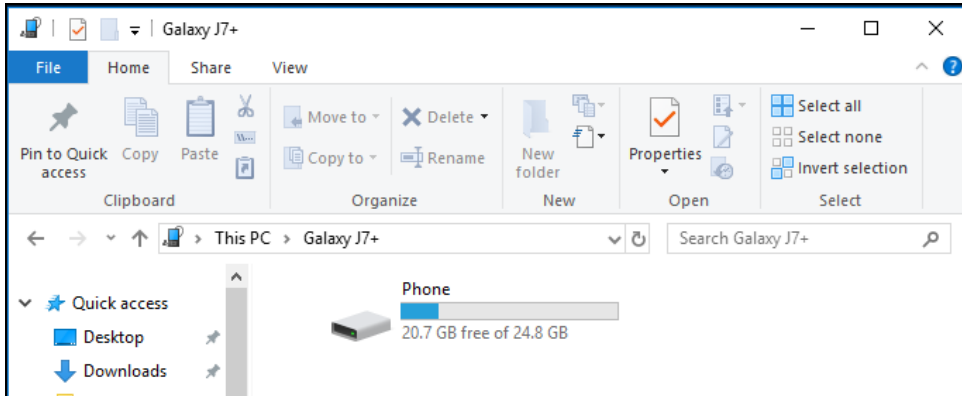


## 4.0. For Android™ (Bluetooth Interface)

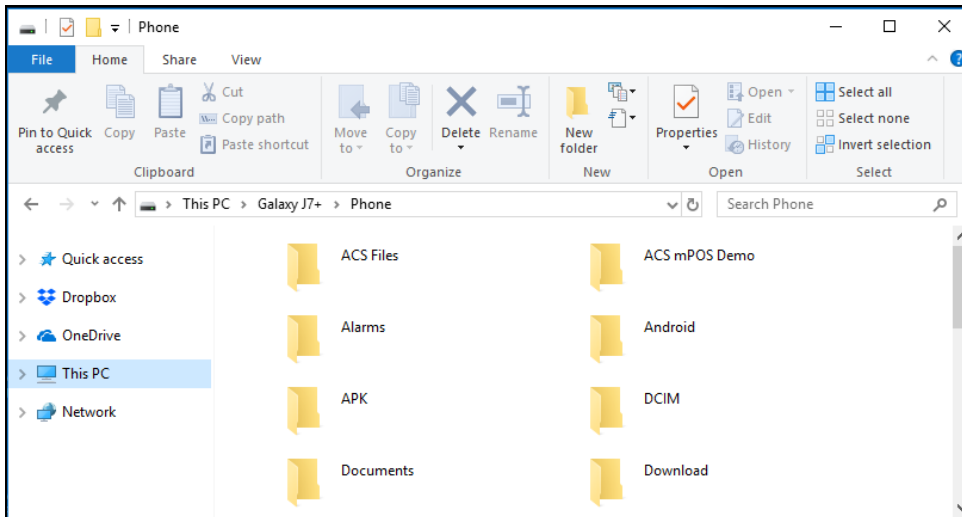
### 4.1. Installing the Bluetooth demo application

To install the Bluetooth demo application:

1. Connect your mobile device to the computer.



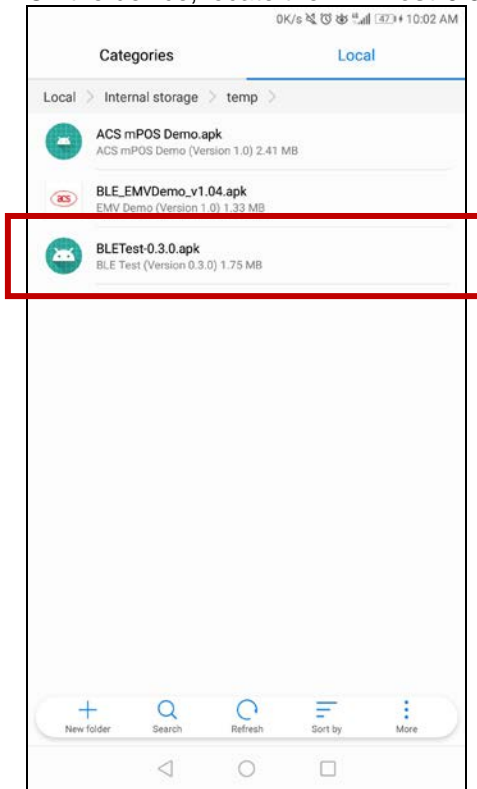
2. In the internal storage of your device, create a folder where the AMR220-C1 BLE Test Demo will be placed.



3. Download the **Android BLE EVK** from the ACS website to access the device library.
4. In the Android library, find **BLETest-0.3.0.apk** file.
5. From the Android library, copy the **BLETest-0.3.0.apk** file to the folder you created in the internal storage of the device.



6. Disconnect the mobile device from the computer.
7. On the device, locate the **BLETest-0.3.0.apk** using a file manager application.

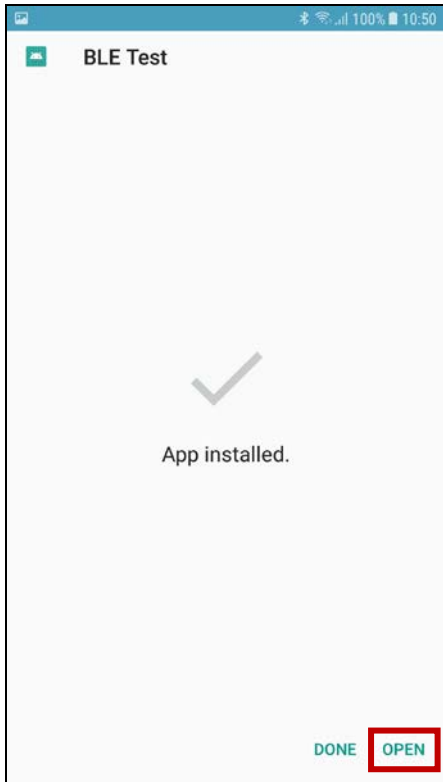


8. Tap the **BLETest-0.3.0.apk** file to start installation.
9. Complete the action using the **Package Installer**.
10. A prompt will ask for hardware control access. Tap **Install** to proceed.





11. Once the installation is complete, tap **Open** to start using the BLE Test application.



## 4.2. Using the ACS Bluetooth demo application

### 4.2.1. Connecting device to the reader

To connect a device:

9. Turn on the reader by pushing the **power button** (found at the **left side** when the reader is facing front) for 3 seconds.

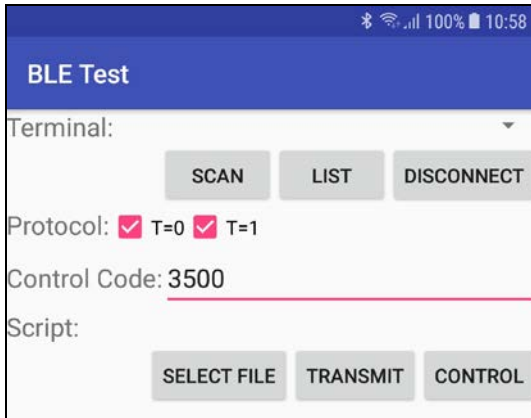


10. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.

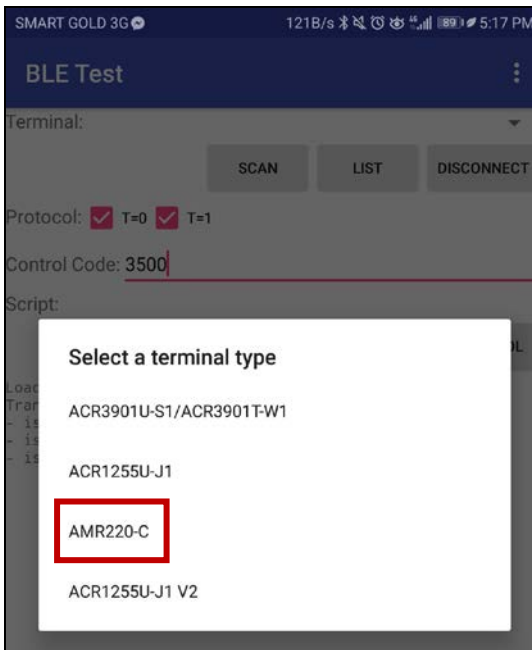


11. On your device, turn on Bluetooth by going to **Settings | Bluetooth**.

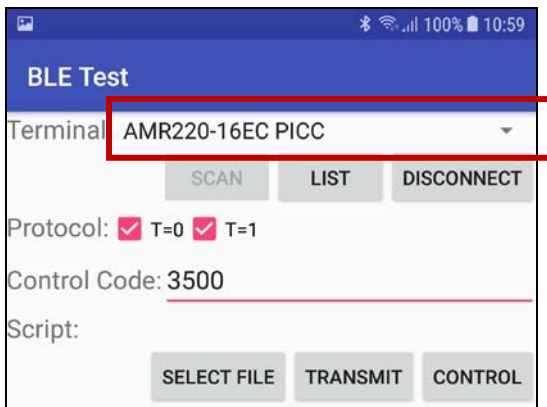
12. Open the **BLE Test Demo** application.



13. Tap **Scan**. Select the terminal type **AMR220-C**.

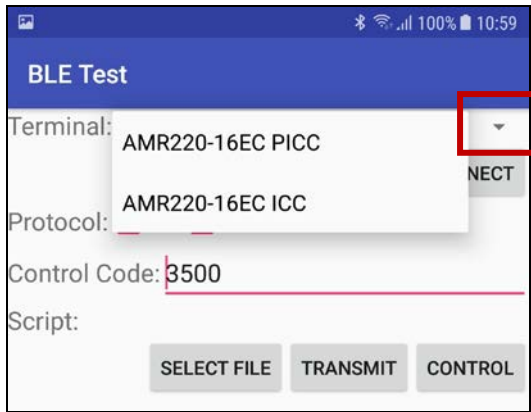


14. The list of readers available will appear





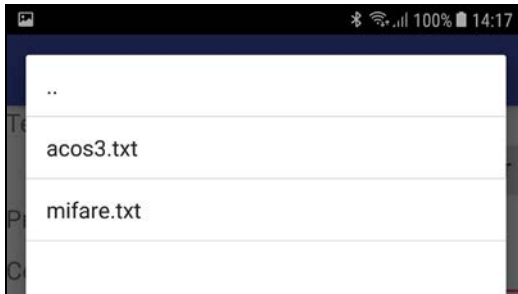
15. Tap the drop down list to show all available readers nearby. You may choose the reader to connect your Android™ device with.



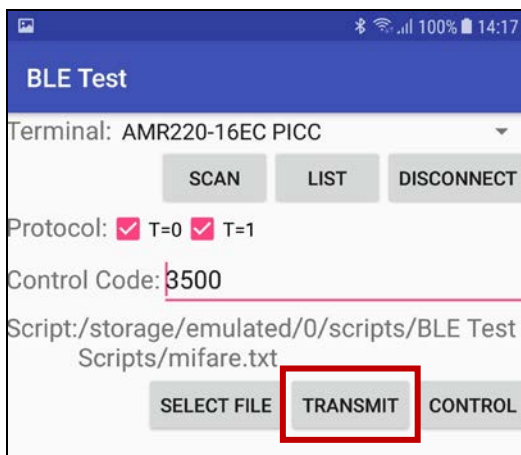
### 4.2.2. Transmitting APDU commands

To transmit APDU commands:

1. Connect the mobile device to the PC.
2. In the internal storage of your device, create a folder where the test scripts containing APDU commands will be placed.
3. Tap the contactless smart card or insert a contact smart card in to AMR220-C1 reader.
4. In the demo application on the mobile device, tap **Select File**, and then locate the .txt file to run.



5. Tap **Transmit** button.





6. The Response APDU will be displayed.



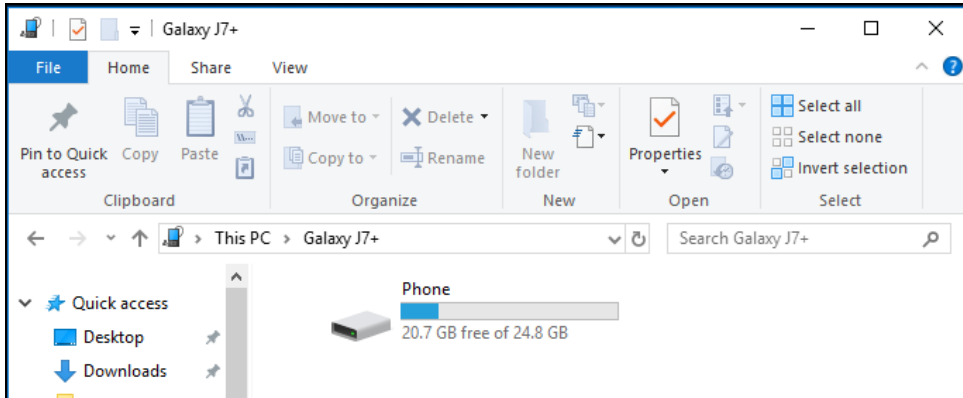
**Note:** The application is designed to get the ATR of the card before sending the APDU commands.

## 5.0. For Android™ (Bluetooth Interface – EMV)

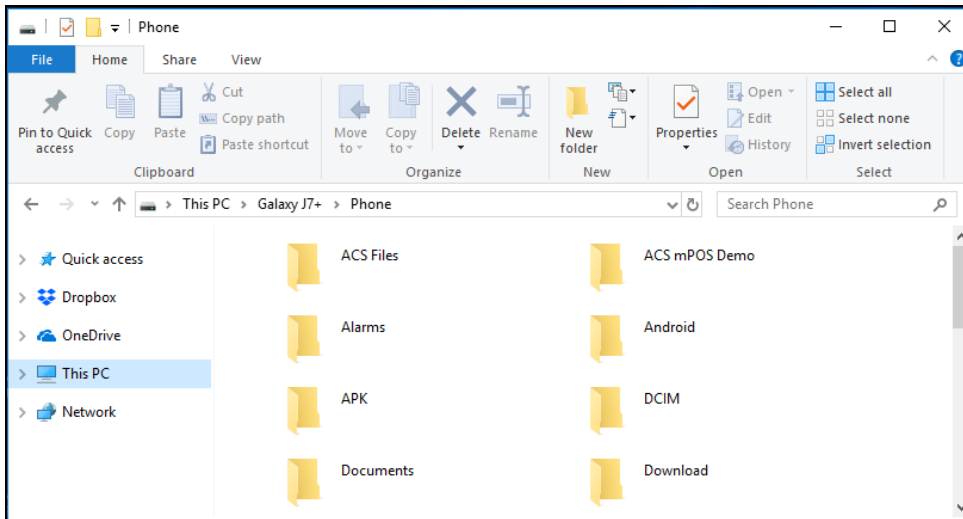
### 5.1. Installing the Bluetooth EMV demo application

To install the Bluetooth EMV demo application:

1. Connect your mobile device to the computer.



2. In the internal storage of your device, create a folder where the AMR220-C1 EMV Demo will be placed.

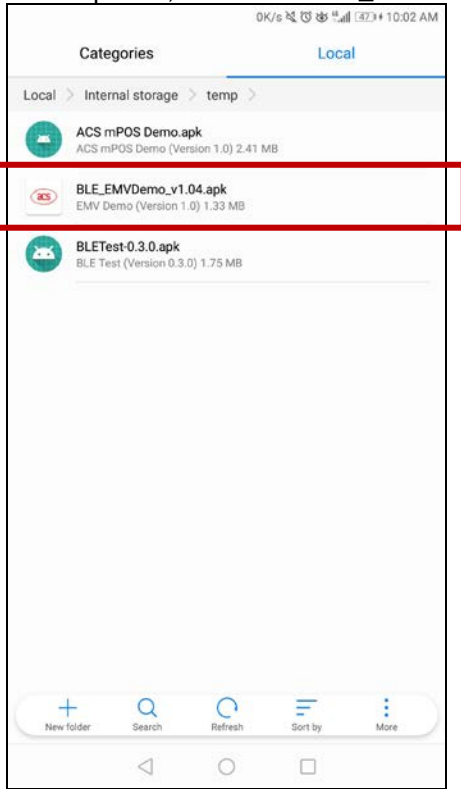


3. Download the **Android BLE EMV EVK** from the ACS website to access the device library.
4. In the Android library, find **BLE\_EMVDemo\_v1.04.apk** file.
5. In the Android library, copy the **BLE\_EMVDemo\_v1.04.apk** file to the folder you created in the internal storage of the device.

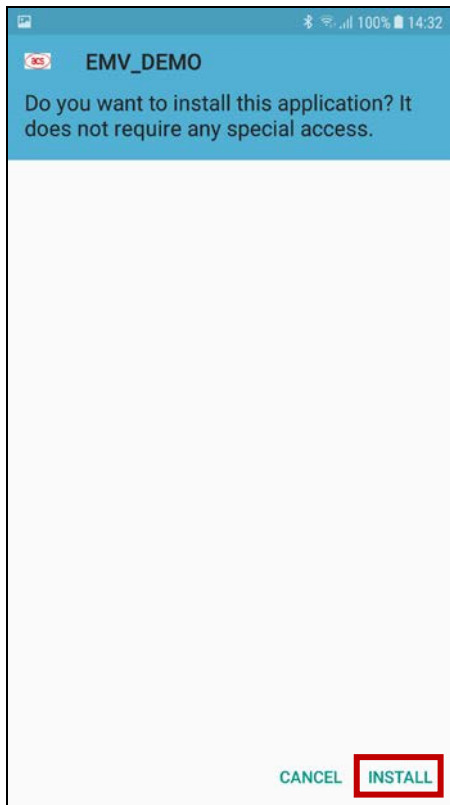




6. Disconnect your mobile device from the computer.
7. On the phone, locate the **BLE\_EMVDemo\_v1.04.apk** using a file manager application.

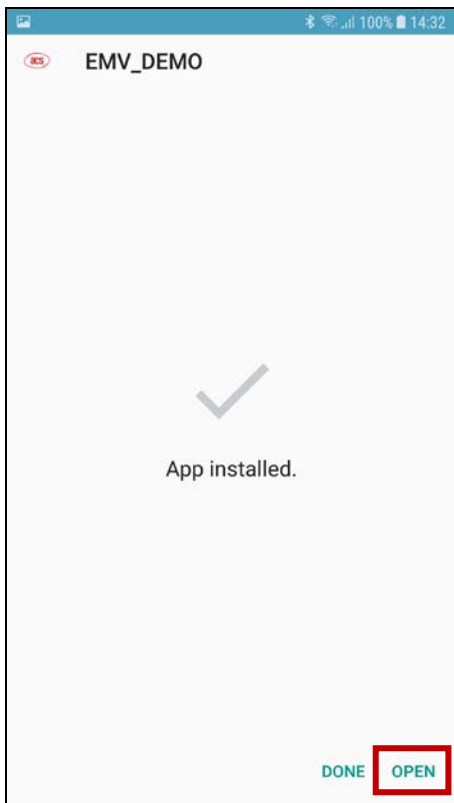


7. Tap the **BLE\_EMVDemo\_v1.04.apk** file to start the installation.
8. Complete the action using the **Package Installer**.
9. A prompt will ask for hardware control access. Tap **Install** to proceed.





10. Once the installation is complete, tap **Open** to start using the EMV Demo application.



## 5.2. Using the ACS Bluetooth EMV demo application

This section provides a simple step-by-step procedure on how to use the AMR220-C1 using the EMV demo application.

### 5.2.1. Connecting a device to the reader

To connect a device:

1. Turn on the reader by pushing the **power button** (found at the **left side** when the reader is facing front) for 3 seconds.

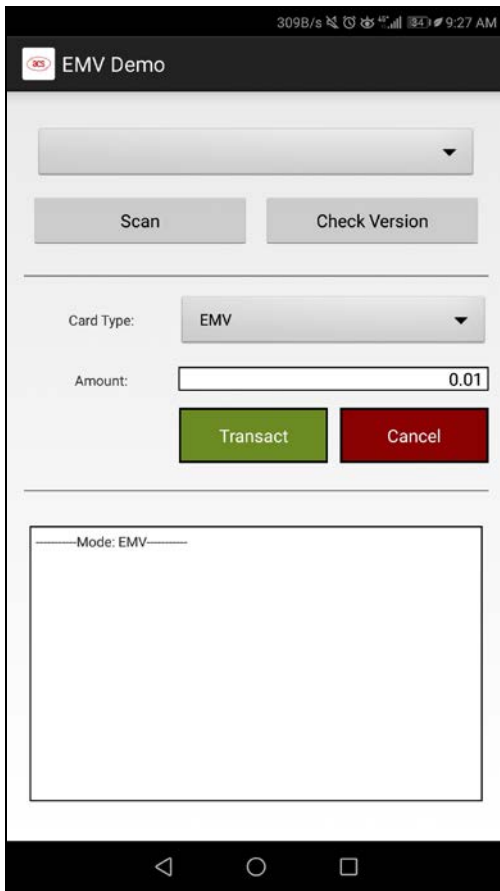


2. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.

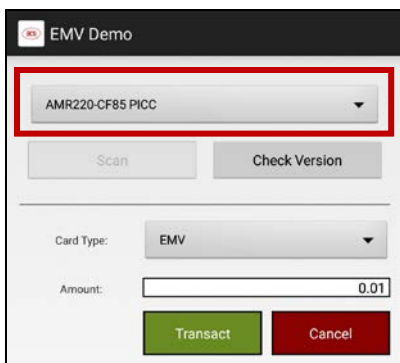
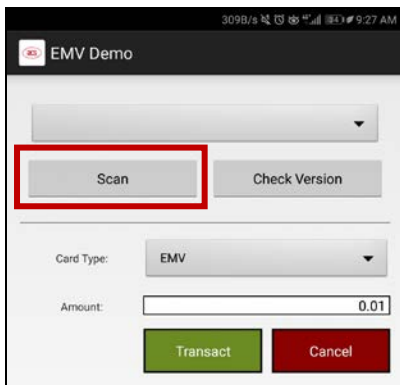


3. On your device, turn on Bluetooth by going to **Settings | Bluetooth**.

4. Open **EMV Demo** application.

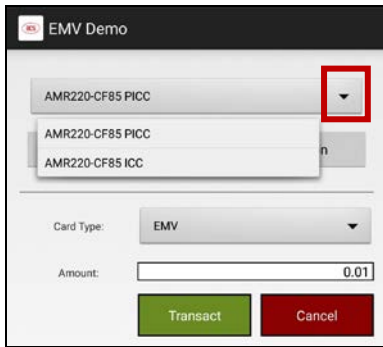


5. Tap **Scan**. The list of readers available will appear.





6. Tap the drop down list to show all available readers nearby. You may choose the reader to connect your Android™ device with.

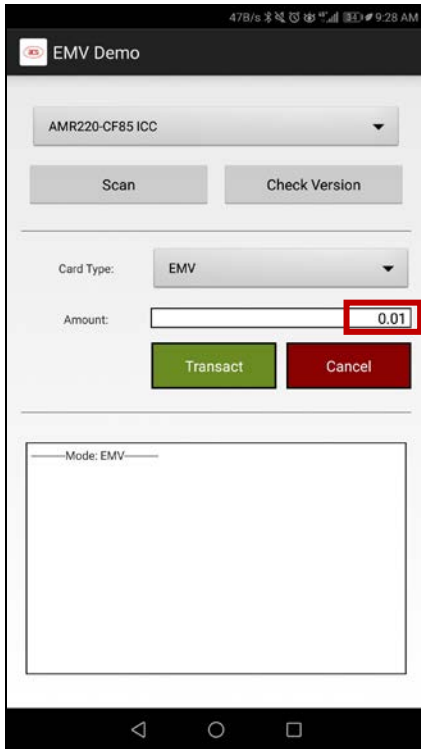


### 5.2.2. Performing a transaction

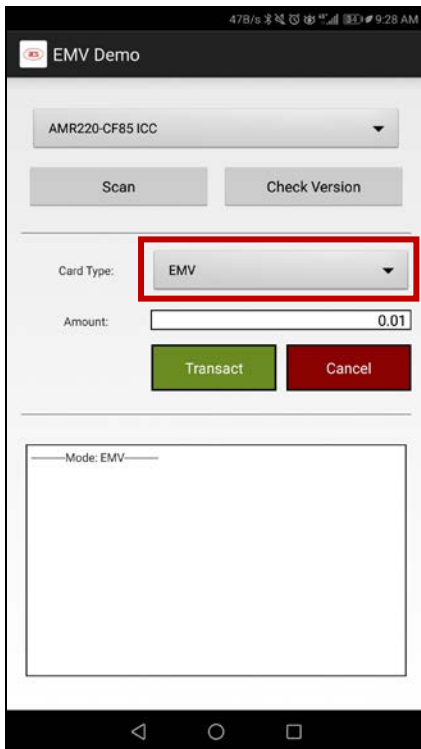
Below are the general steps in performing transactions. On the following sections are specific instructions, depending on card type used.

To perform a transaction:

1. Input the desired **amount**.



2. Depending on card to be used, select **EMV, PayPass, or PayWave** as card type.





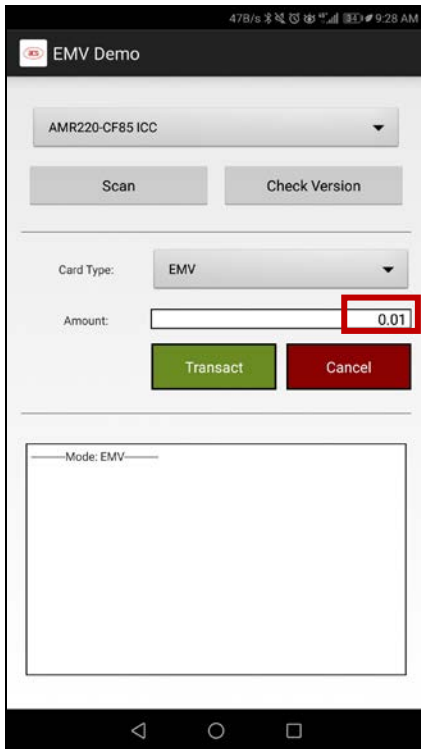
3. Depending on card type:
  - For **EMV** cards (contact interface): Insert card on the AMR220-C1 reader's contact interface, or
  - For **PayPass** or **payWave** cards (contactless interface): Tap card on the AMR220-C1 reader's contactless interface
4. Tap **Transact**.
5. Depending on the card type chosen, more steps may be required. See the following sections for more details:
  - **Performing a transaction using an EMV Card (contact interface)**
    - **Performing an OFFLINE signature-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)**
  - **Performing a transaction using a PayPass card (contactless interface)**
  - **Performing a transaction using a payWave card (contactless interface)**

### 5.2.2.1. Performing a transaction using an EMV Card (contact interface)

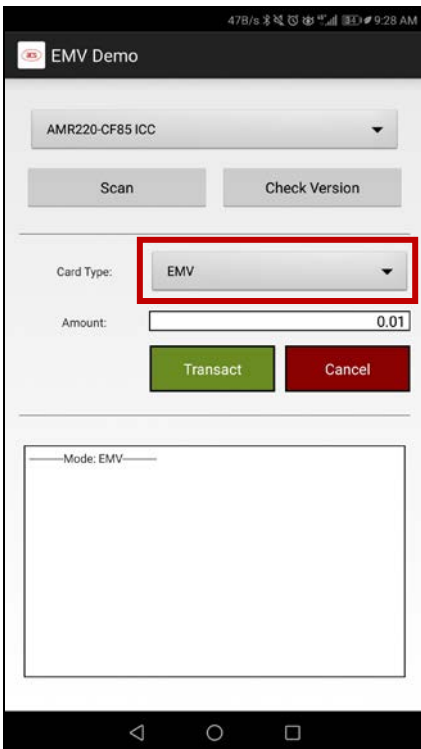
#### 5.2.2.1.1. Performing an OFFLINE signature-based transaction (EMV – contact interface)

To perform a signature-based transaction using an EMV Card – Contact Interface:

1. Input the desired **amount**.

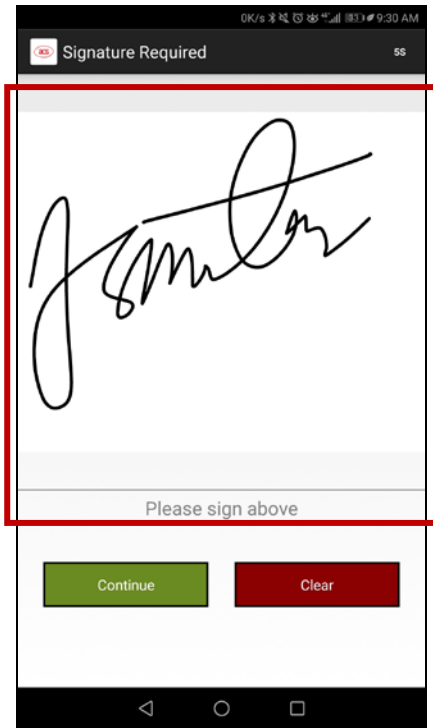


2. Select **EMV** as card type.

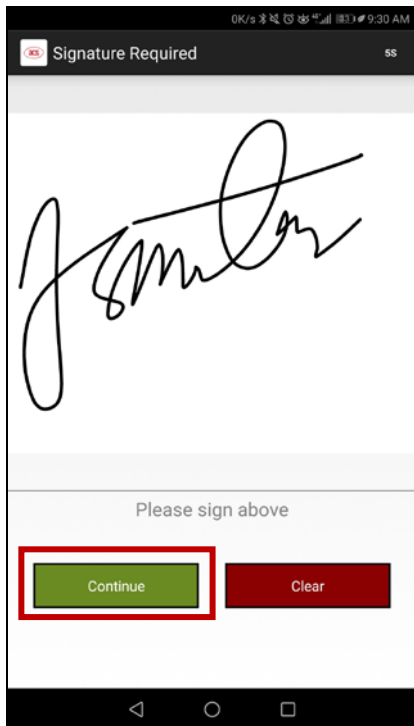




3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Tap **Transact**.
5. A prompt to sign will be shown. **Sign** on the area for signature.

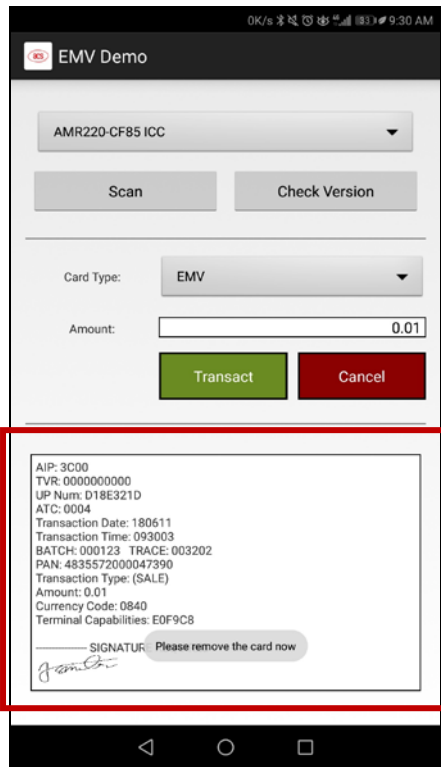


6. Tap **Continue**.





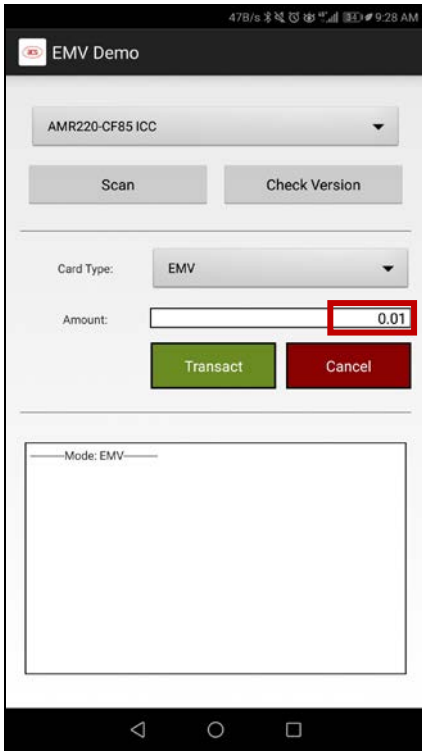
- 7. The transaction details will be displayed.



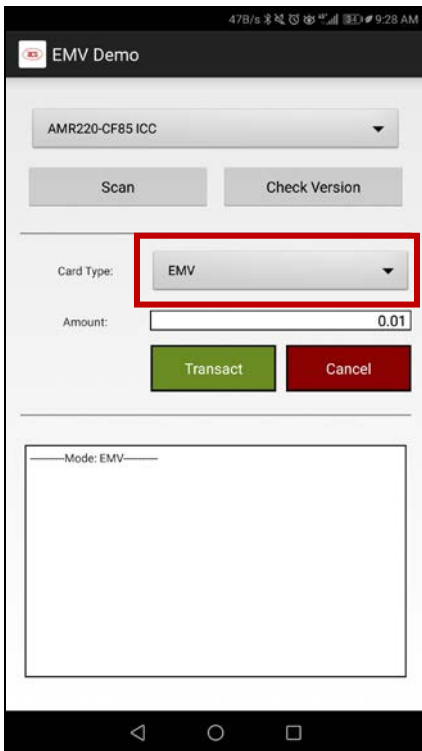
### 5.2.2.1.2. Performing an OFFLINE PIN-based transaction (EMV – contact interface)

To perform a PIN-based transaction using an EMV card – contact interface:

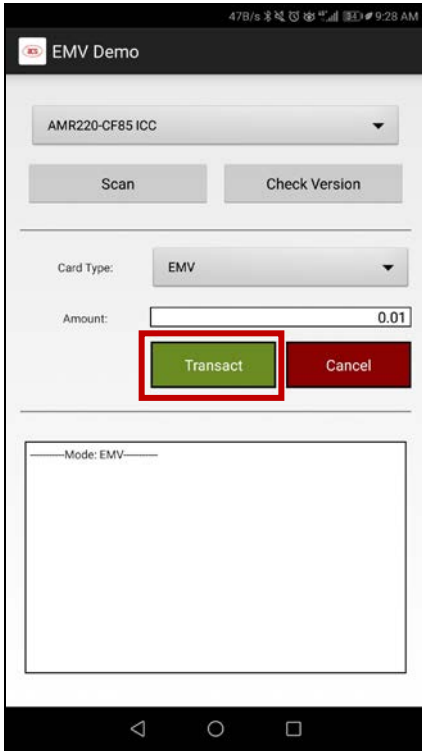
1. Input the desired **amount**.



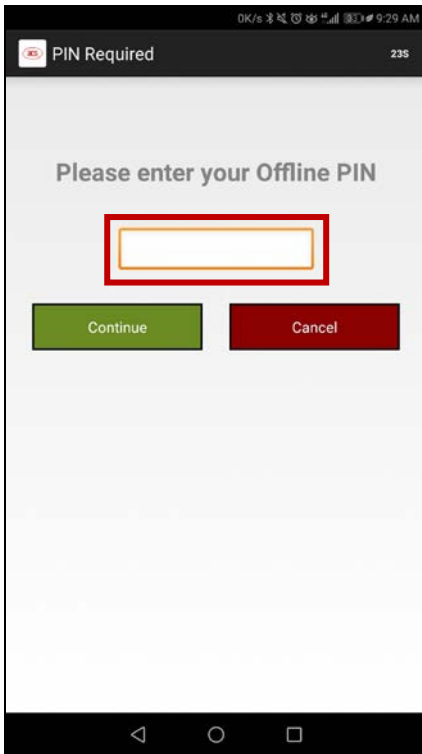
2. Select **EMV** as card type.



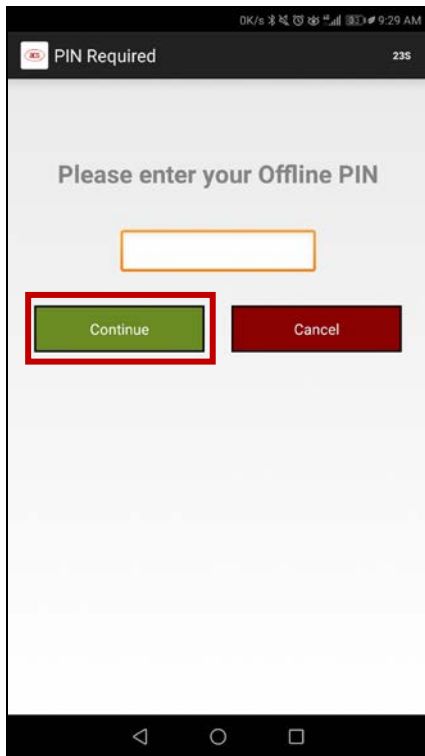
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Tap **Transact**.



5. A prompt to enter the PIN will be shown. Enter **PIN**.

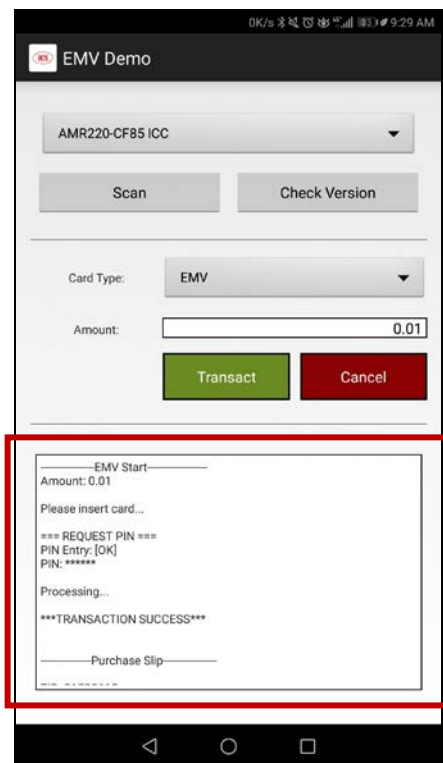


6. Tap **Continue** to proceed with transaction.



- Tap **Cancel** to cancel transaction.

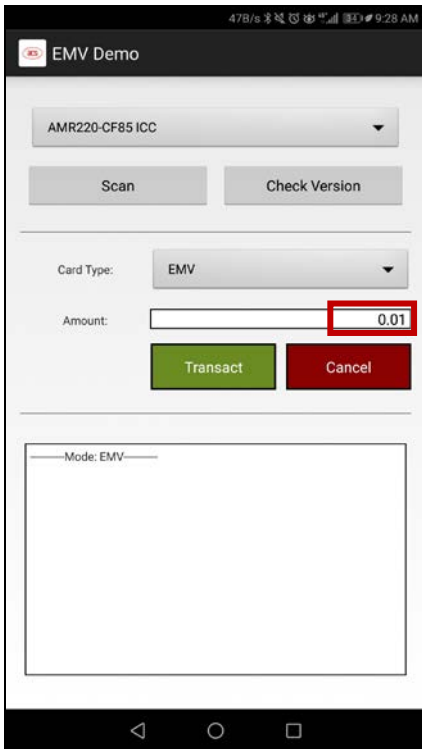
7. The transaction details will be displayed.



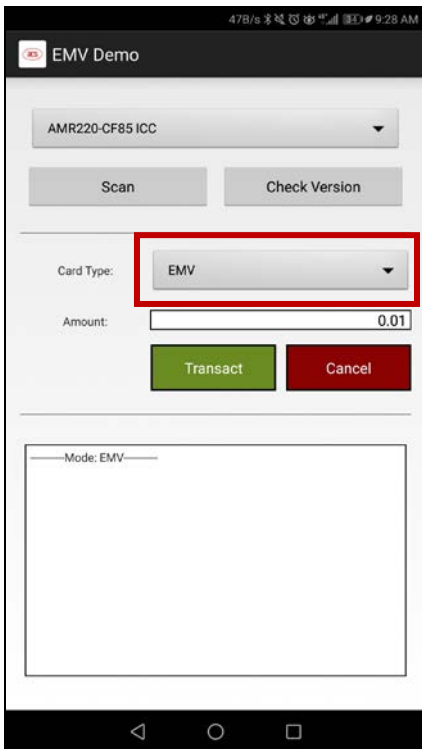
### 5.2.2.1.3. Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)

To perform an OFFLINE PIN-based transaction with ONLINE approval using an EMV card – contact interface:

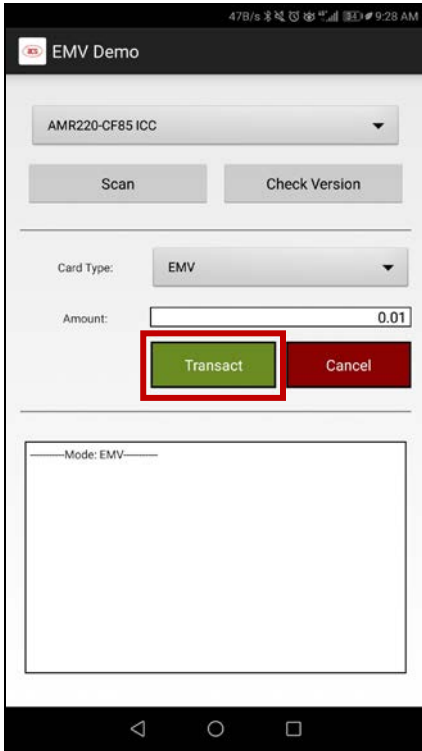
1. Input the desired **amount**.



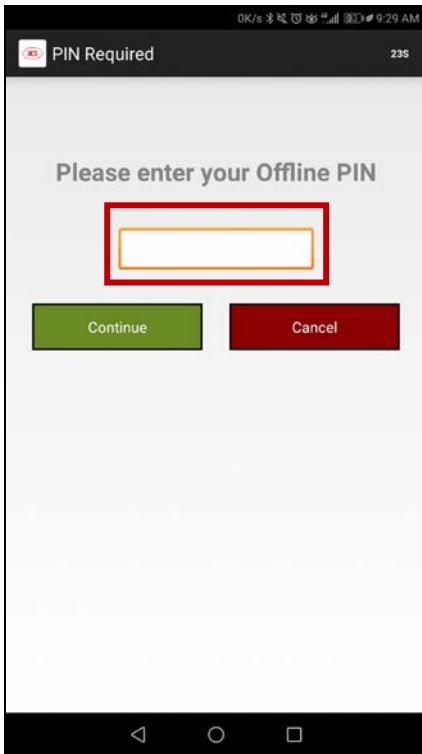
2. Select **EMV** as card type.



3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Tap **Transact**.

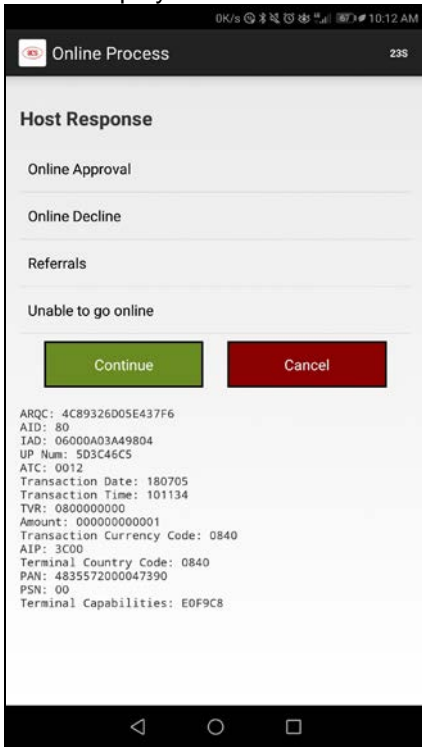


5. A prompt to enter the PIN will be shown. Enter **PIN**.





- 6. The transaction details with additional options emulating the host response for online approval will be displayed.

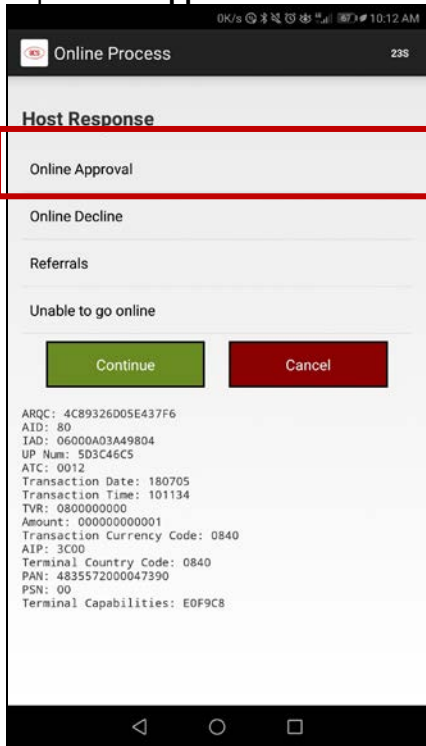




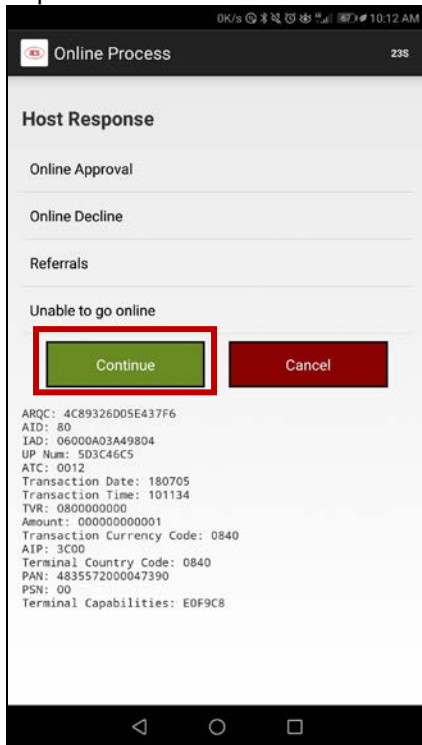


### 5.2.2.1.3.1. Host Response – Online Approval

1. Tap Online Approval.

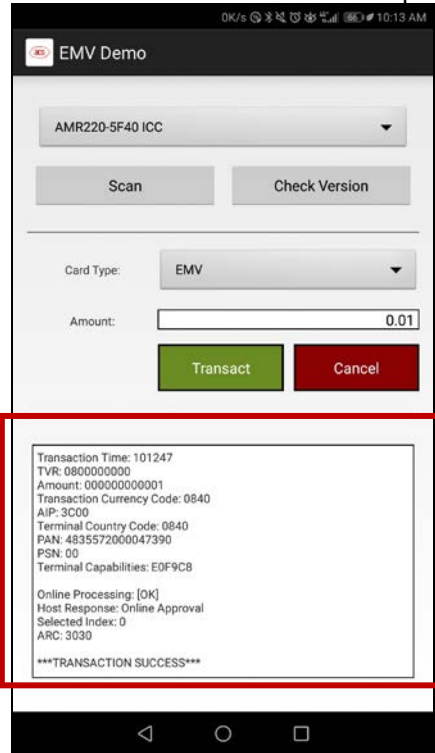


2. Tap Continue.





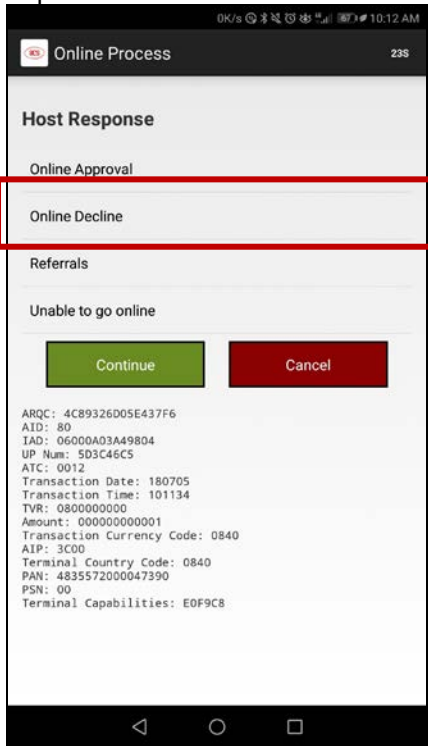
3. The transaction details will be displayed.



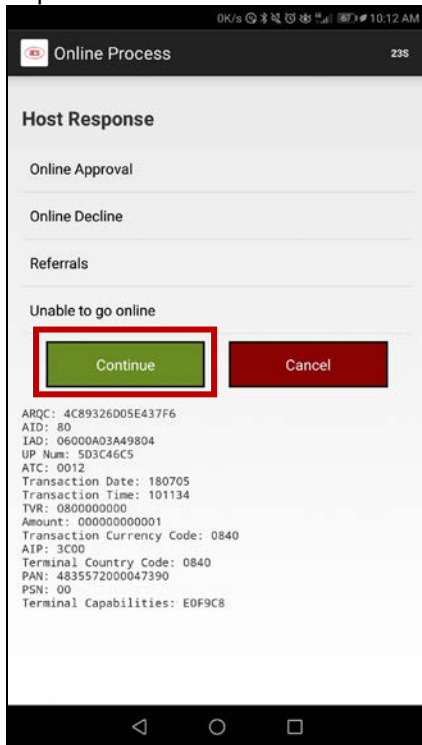


### 5.2.2.1.3.2. Host Response – Online Decline

1. Tap **Online Decline**.

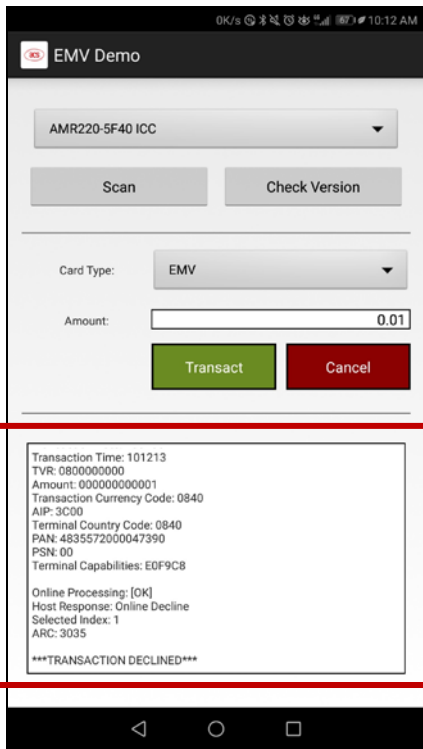


2. Tap **Continue**.





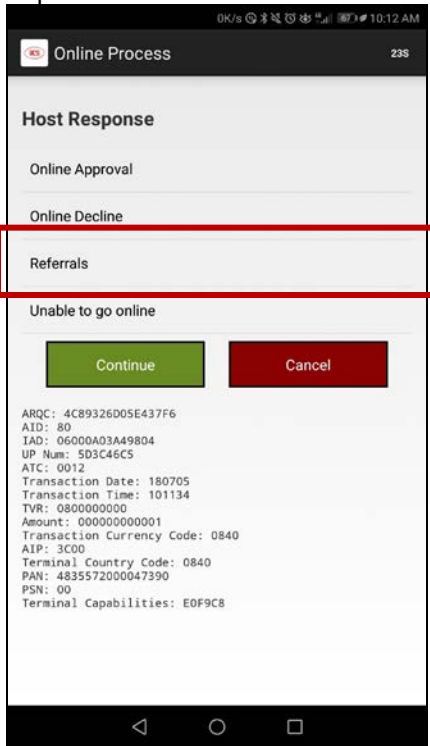
- Transaction Declined will be displayed.



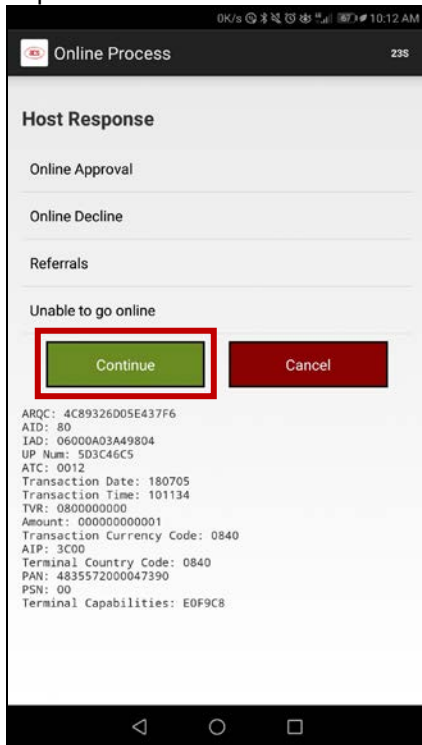


### 5.2.2.1.3.3. Host Response – Referrals

#### 1. Tap Referrals.

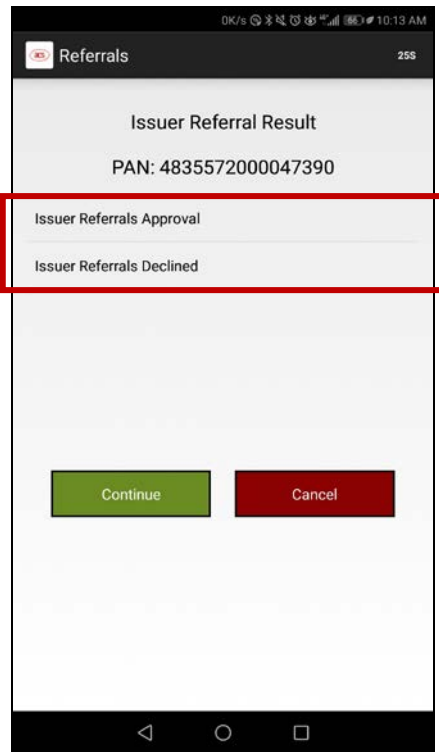


#### 2. Tap Continue.



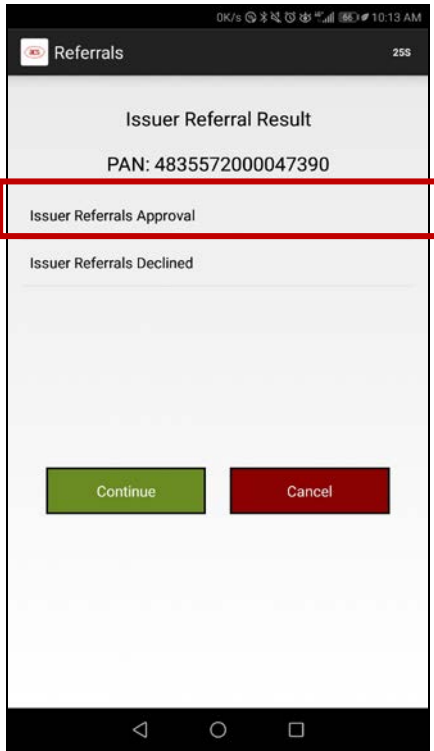


3. Additional options for Issuer Referrals will be displayed.

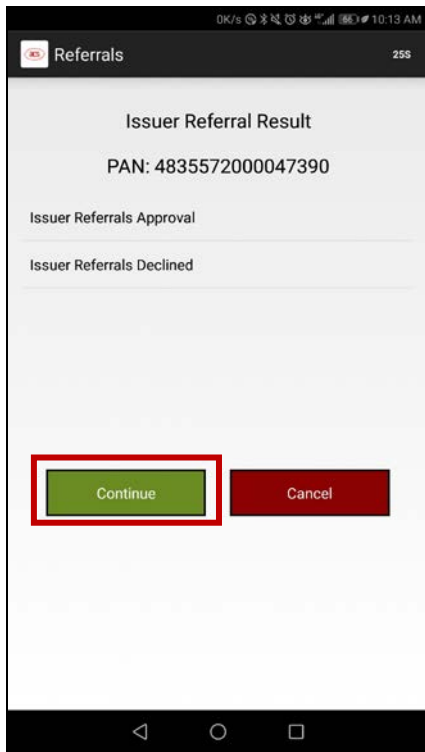


### 5.2.2.1.3.3.1. Issuer Referrals – Approval

1. Tap **Issuer Referrals Approval**.

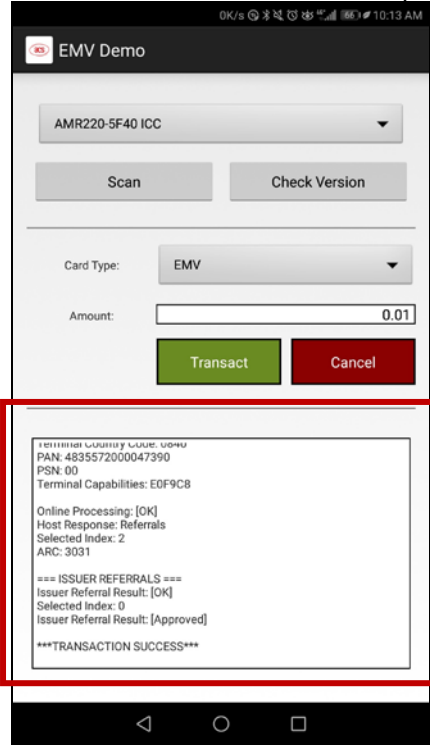


2. Tap **Continue**.





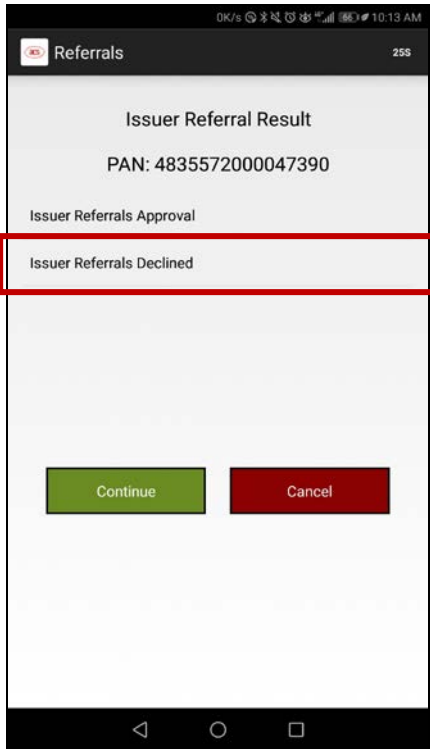
3. The transaction details will be displayed.



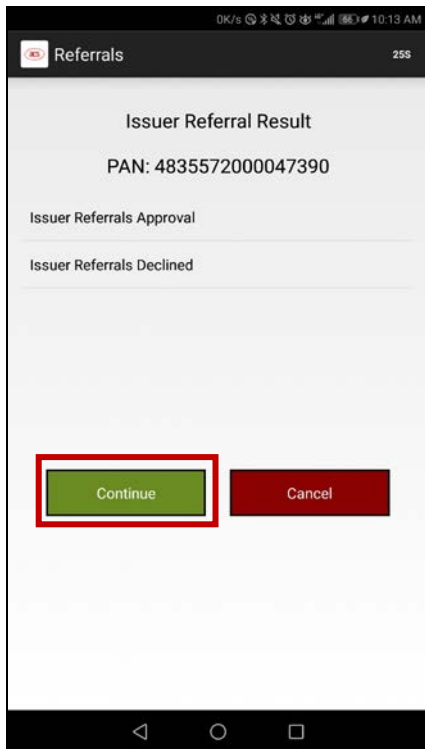


### 5.2.2.1.3.3.2. Issuer Referrals – Declined

1. Tap **Issuer Referrals Declined**.

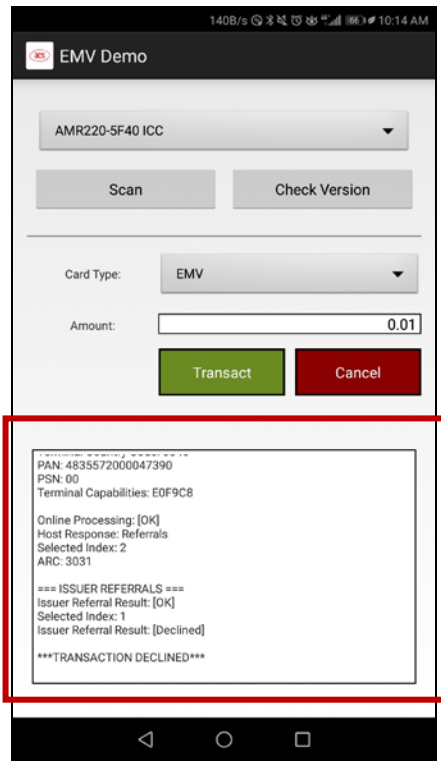


2. Tap **Continue**.





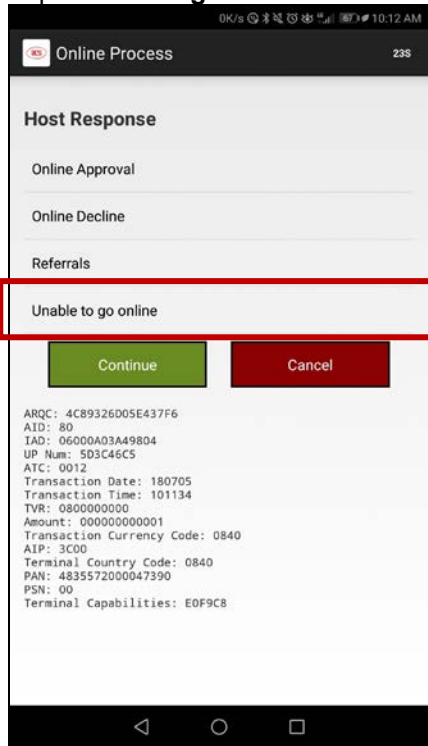
- Transaction Declined will be displayed.



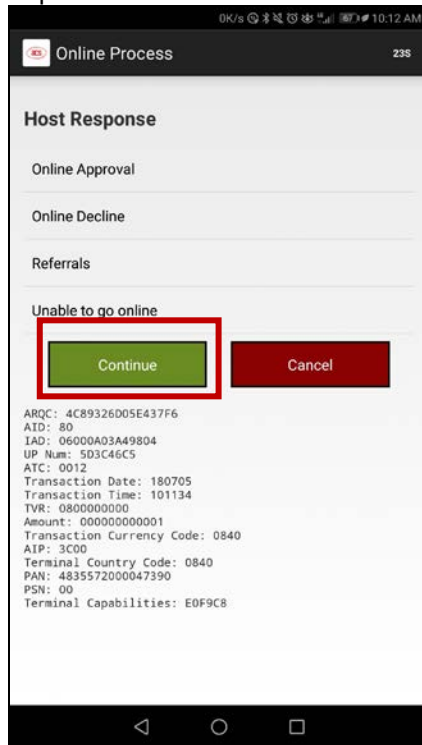


### 5.2.2.1.3.4. Host Response – Unable to go online

1. Tap **Unable to go online**.

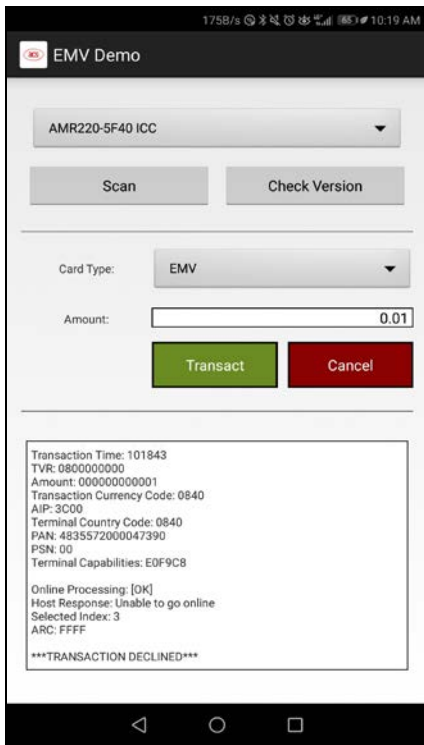


2. Tap **Continue**.





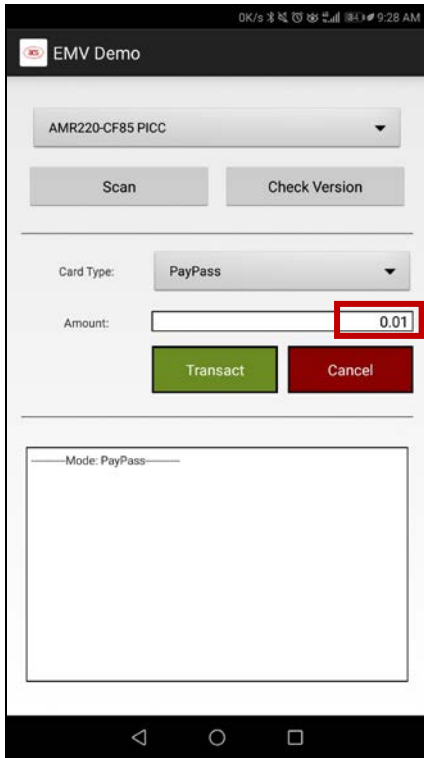
3. Transaction Declined will be displayed.



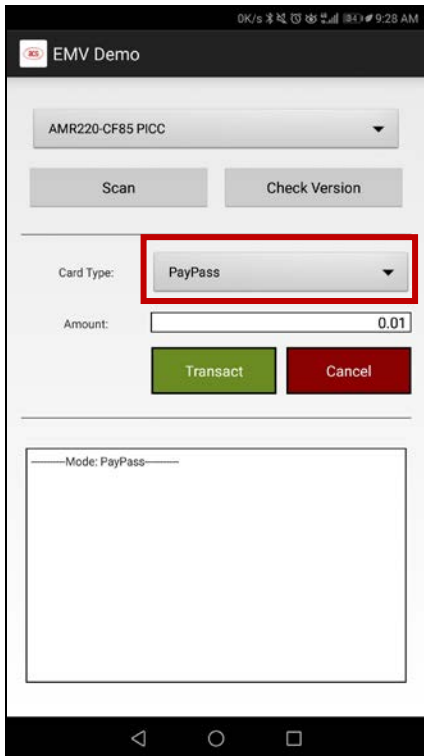
### 5.2.2.2. Performing a transaction using a PayPass card (contactless interface)

To perform a transaction using a PayPass card (contactless interface):

1. Input the desired **amount**.

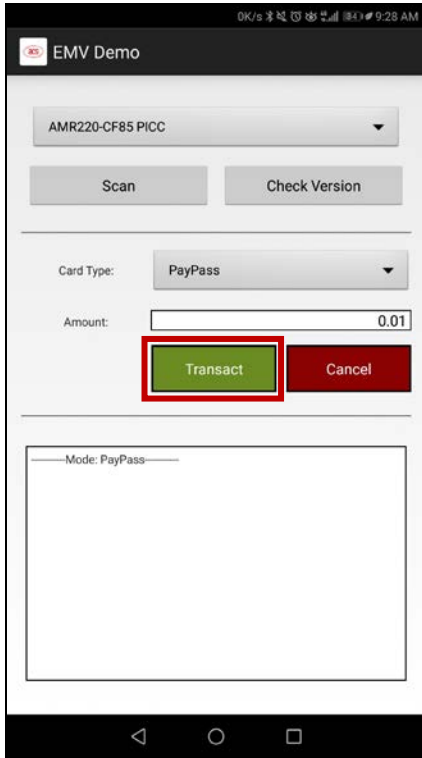


2. Select **PayPass** as card type.

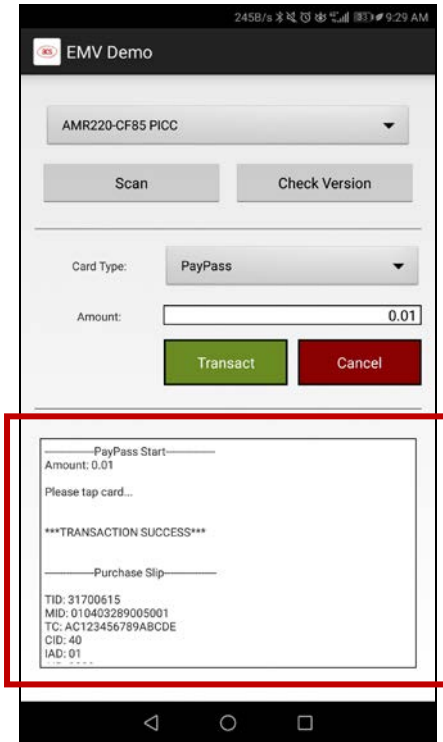




3. Tap card on the AMR220-C1 reader's **contactless interface**.
4. Tap **Transact**



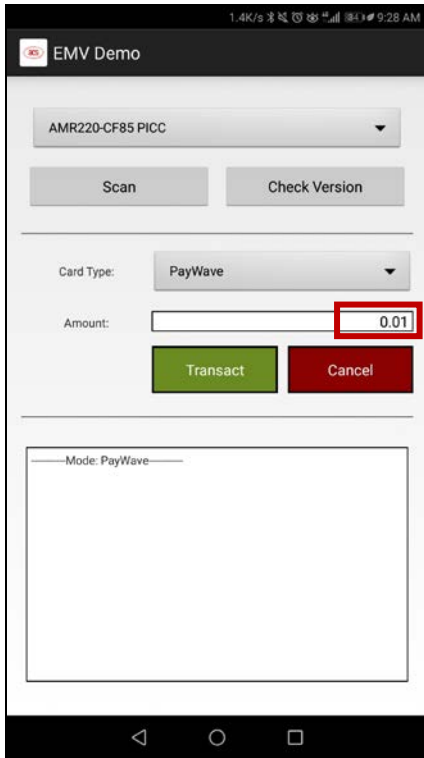
5. The transaction details will be displayed.



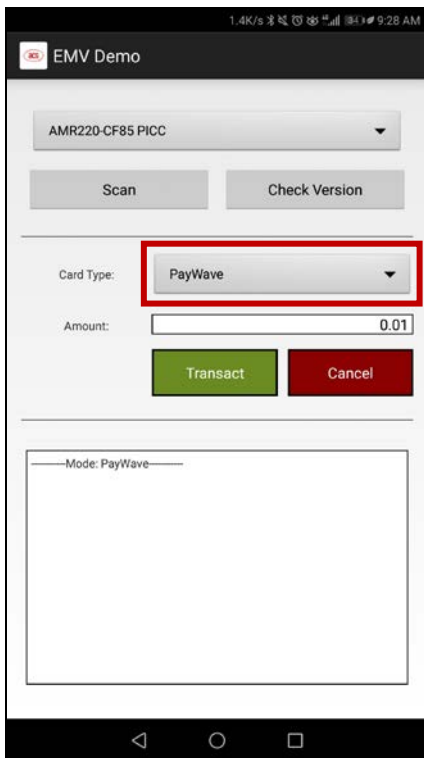
### 5.2.2.3. Performing a transaction using a payWave card (contactless interface)

To perform a transaction using a payWave card:

1. Input the desired **amount**.

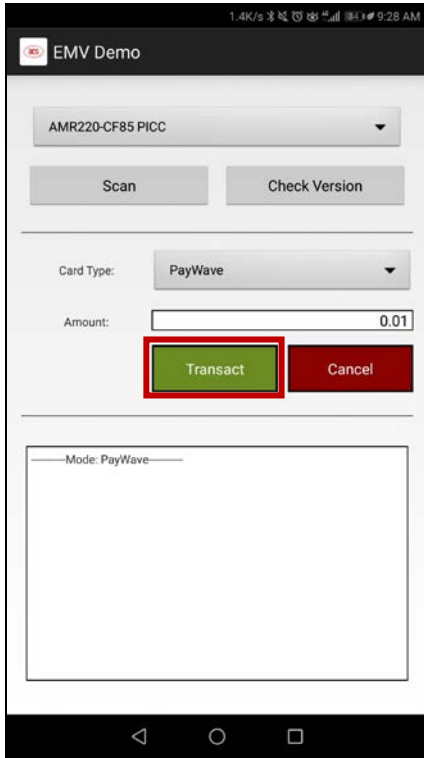


2. Select **PayWave** as card type.

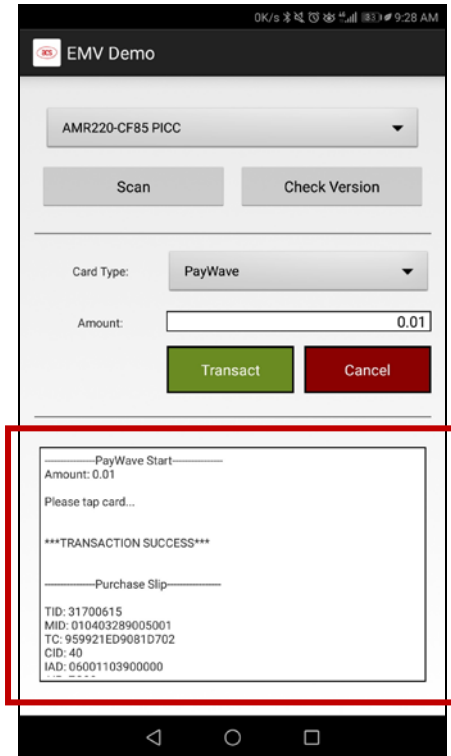




3. Tap card on the AMR220-C1 reader's contactless interface
4. Tap **Transact**.



5. The transaction details will be displayed.



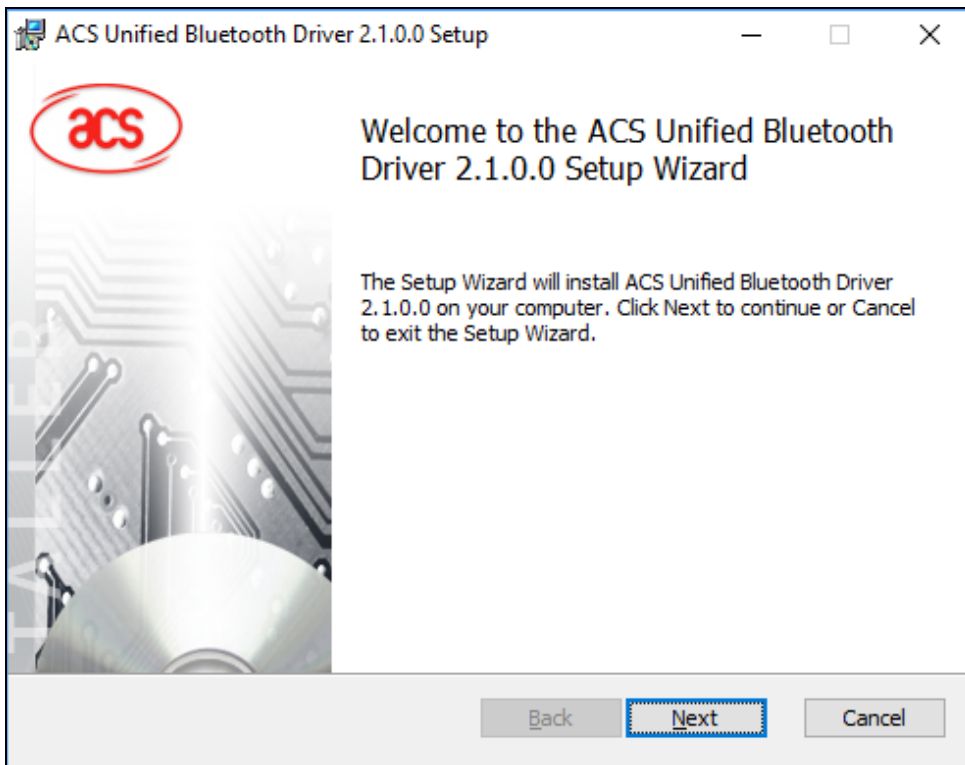
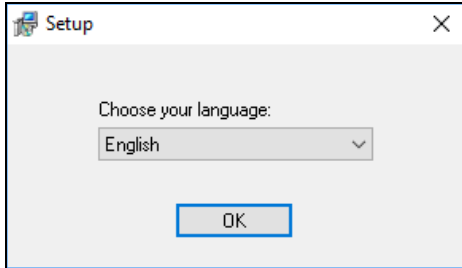


## 6.0. For Windows (Bluetooth Interface)

### 6.1. Install ACS Unified Bluetooth driver

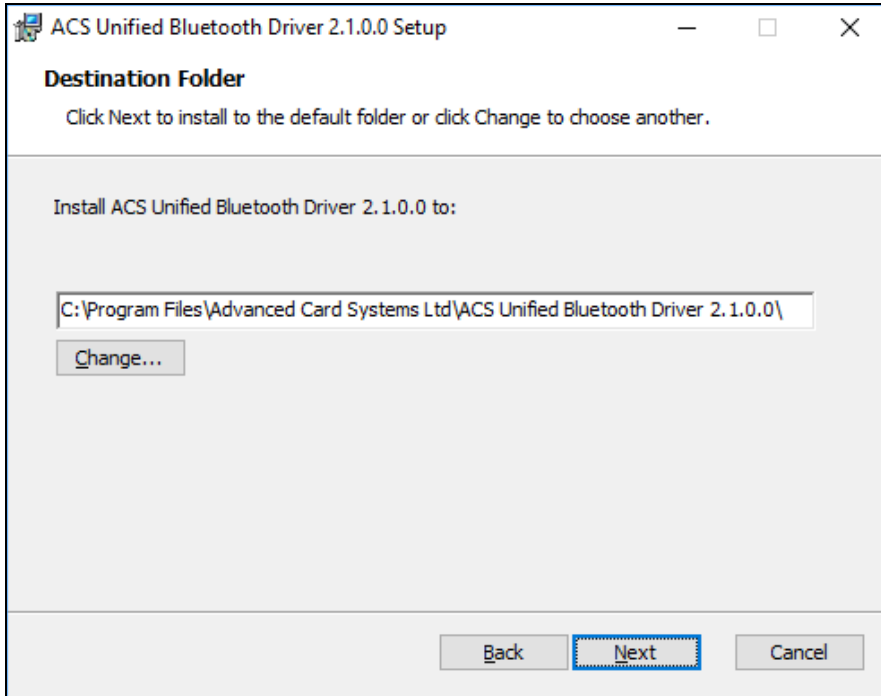
To install the driver:

1. Run the **ACS Unified Bluetooth Driver**.
2. The Setup Wizard will show. To start the installation, click **OK** then **Next**.

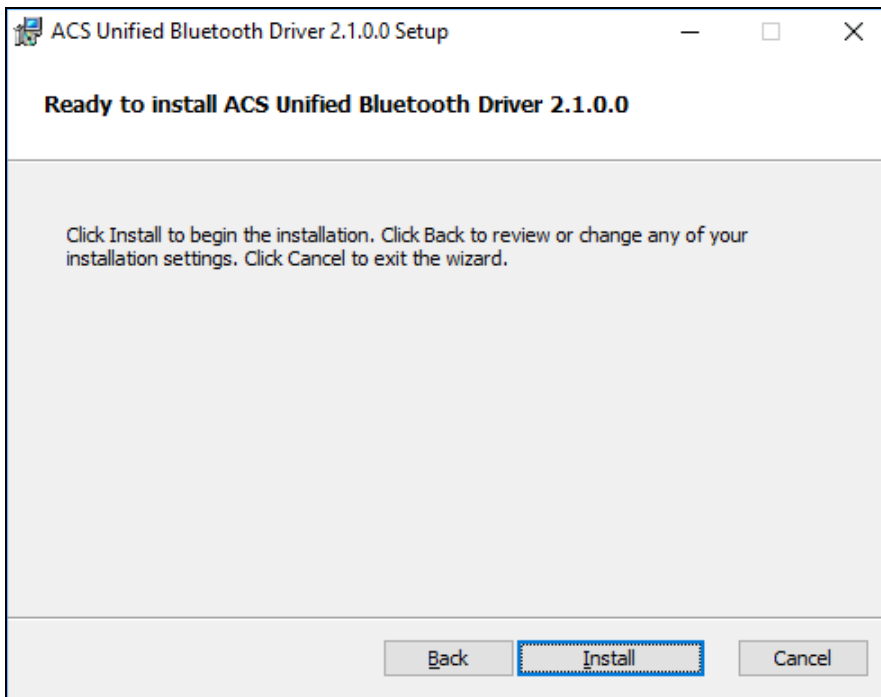




- Click **Next** to install the driver to the default destination, located at **X:\Program Files\Advanced Card Systems Ltd\ACS Unified Bluetooth Driver 2.1.0.0\**, with **X** as your local Windows drive.

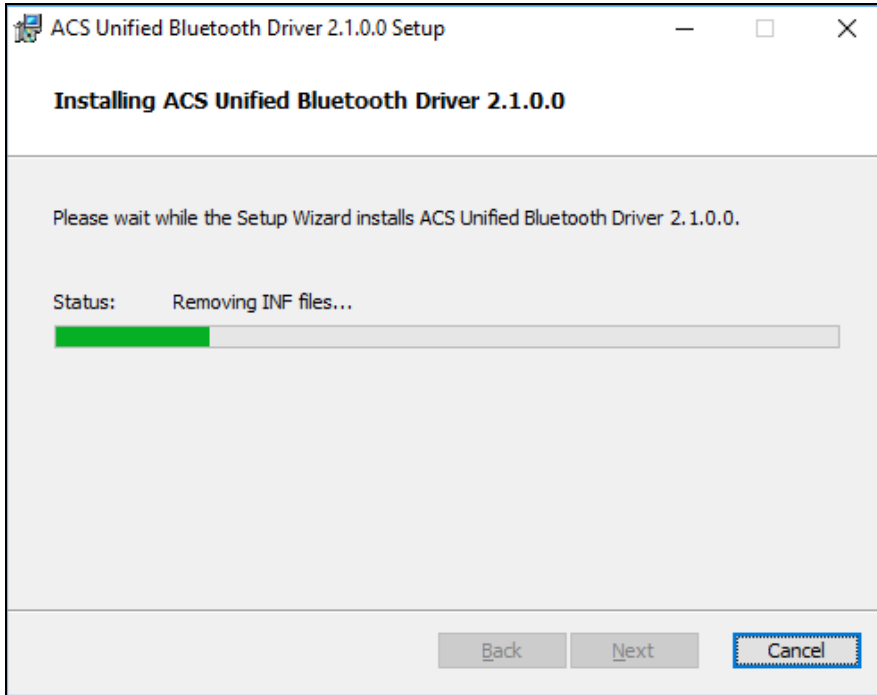


- Click **Install**.

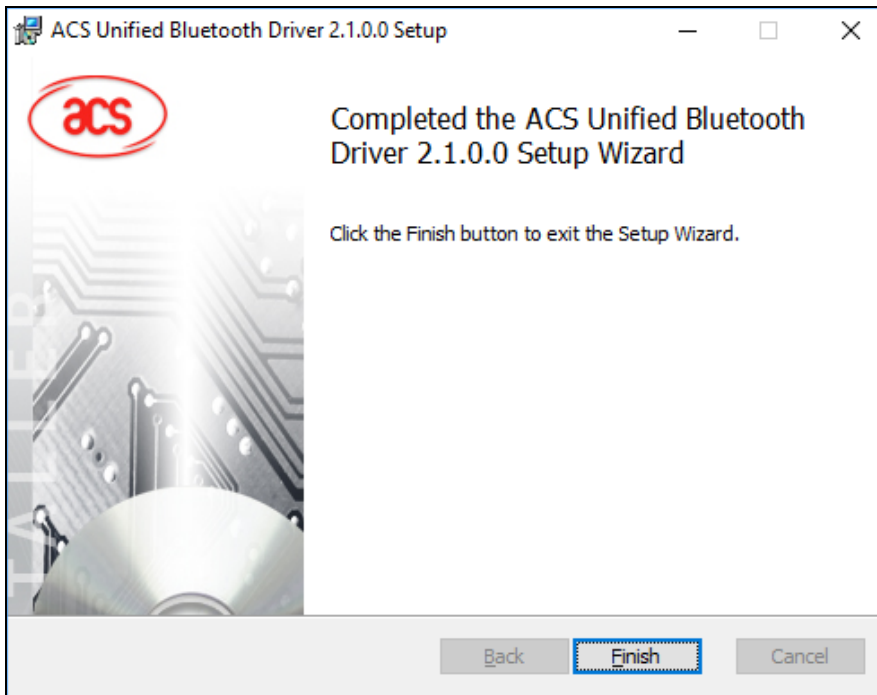




5. Please wait while the driver installs.



6. Once the installation is complete, click **Finish**.



## 6.2. Set up device pairing with built-in Bluetooth adapter

*Note: This procedure only applies to Windows 8 and later. Windows 7 does not support devices using Bluetooth 4.0/Bluetooth Low Energy interface.*

To pair using this setup:

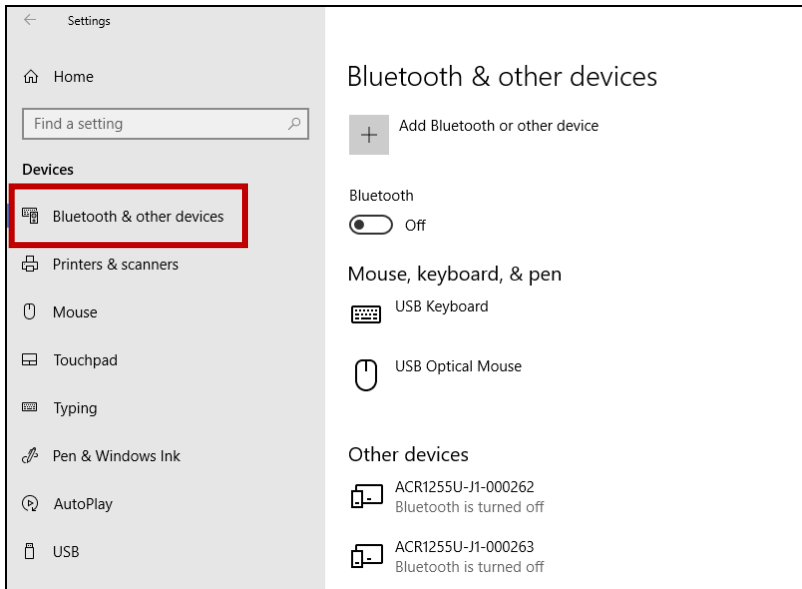
1. Turn on the reader by pushing the **power button** (found at the **left side** when the reader is facing front) for 3 seconds.



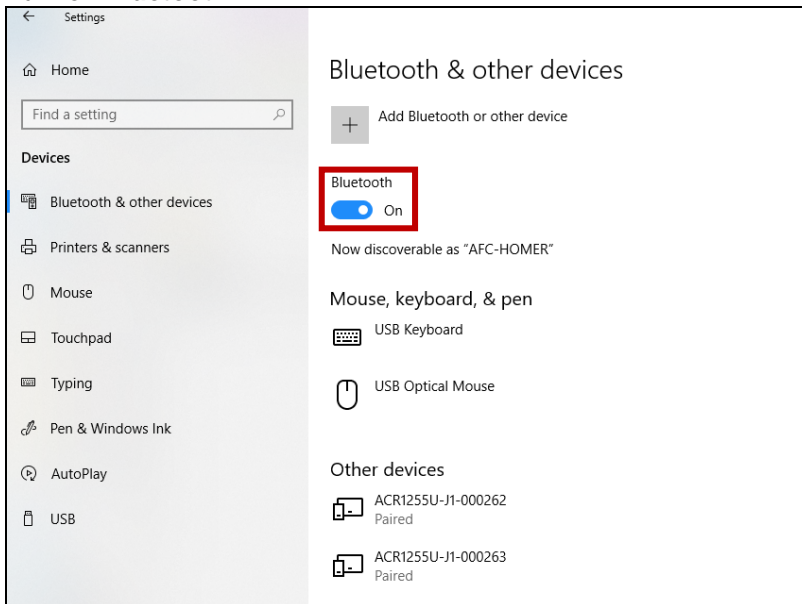
2. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.



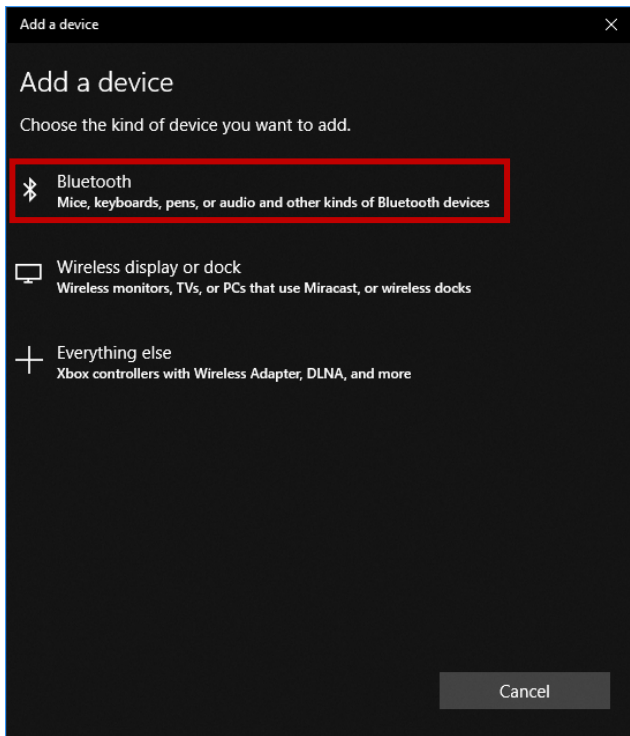
3. Go to **Windows Settings** , choose **Devices**, and then locate **Bluetooth & other devices**.



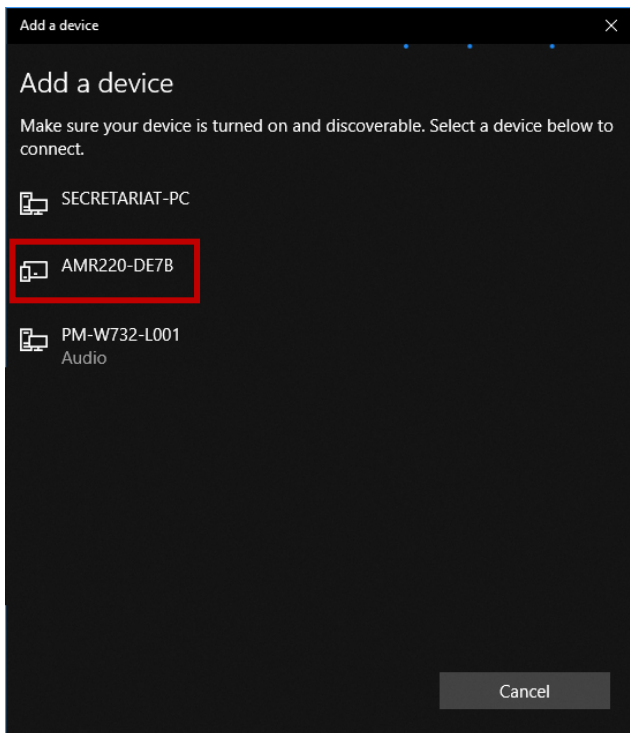
4. Turn on **Bluetooth**.



5. Click **Add Bluetooth or other device** then **Bluetooth**.

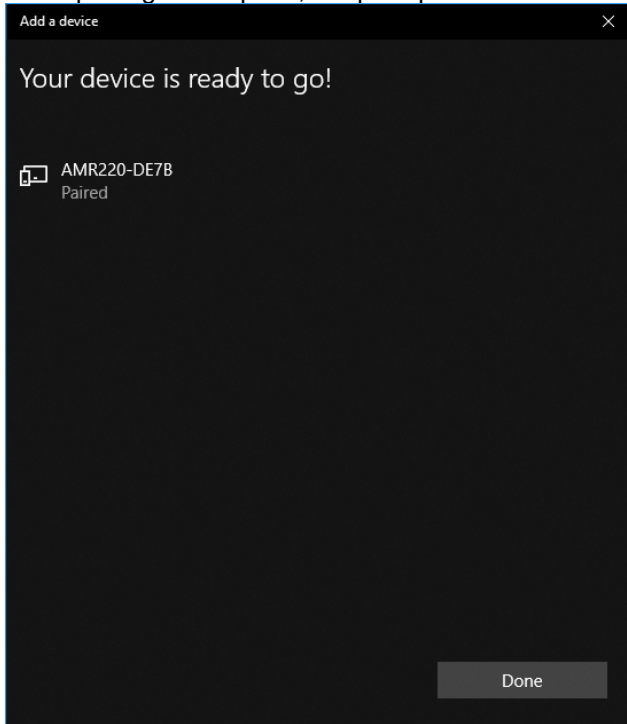


6. Select and connect the reader after scanning is complete.





7. Once pairing is complete, the prompt will be shown.



8. To complete the installation of the Bluetooth card reader, go to **ACS Bluetooth Device Management Tool**.



### 6.3. Set up device pairing with Bluetooth USB dongle

**Note:** This procedure will use the TI USB dongle as the Bluetooth adapter. Make sure that you have installed the ACS Bluetooth driver before performing this procedure (see ***Install ACS Unified Bluetooth driver***).

To pair using this set up:

1. Plug in the TI Bluetooth USB dongle to your computer.
2. Windows will automatically install the device driver, indicated by the tooltip notification.
3. Wait while the device driver installs.
4. When it is ready to use, you can open the **ACS Bluetooth Device Management Tool**. It automatically pairs the dongle to your system.



## 6.4. Using the ACS Bluetooth Device Management Tool

ACS Bluetooth Device Management Tool is an application that enables you to easily manage device pairings between ACS Bluetooth card readers and computers.

### 6.4.1. Install a device

To establish full connection, you must install the Bluetooth card reader in the ACS Bluetooth Device Management Tool.

**Note:** *The TI USB dongle allows multiple reader installations, but can only work on a one-to-one communication with an installed ACS Bluetooth card reader.*

To begin:

1. Turn on the reader by pushing the **power button** (found at the **left side** when the reader is facing front) for 3 seconds.

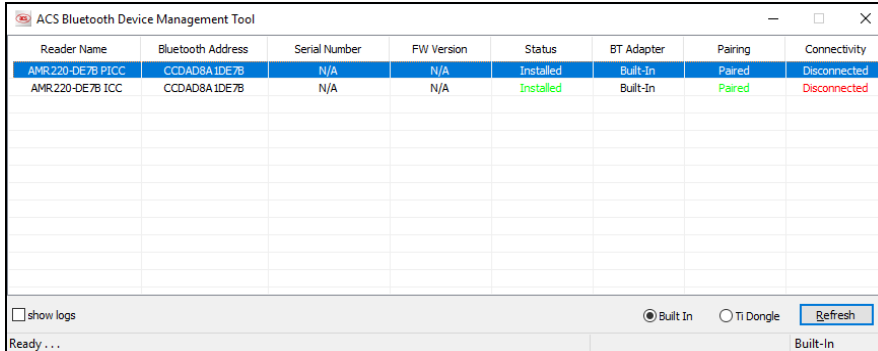


2. Push the **Bluetooth button** (found at the **right side**) to turn on the Bluetooth mode to make the reader discoverable.

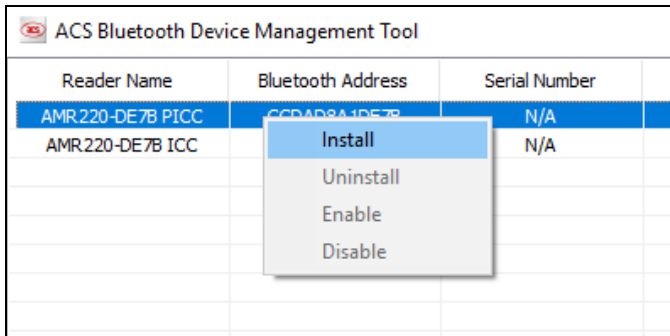




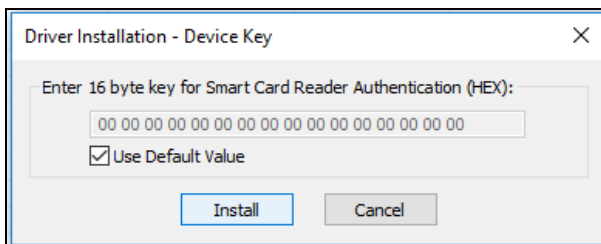
3. Run the **ACS Bluetooth Device Management Tool**.
4. Wait while the tool scans for Bluetooth devices within range.  
*Note: If the device is not immediately discovered, click **Refresh**.*
5. Once the tool discovers AMR220-C1, it will show in the list.



6. Do a right-click on the device, and then click **Install**.

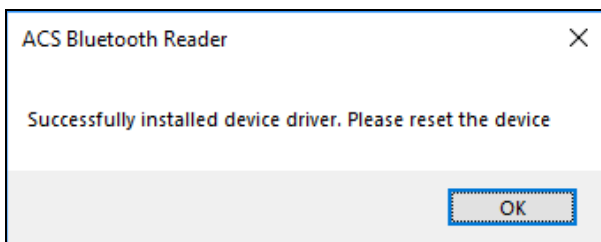


7. Type in a 16-byte hexadecimal key for authentication, or use the default value. Click **Install**.

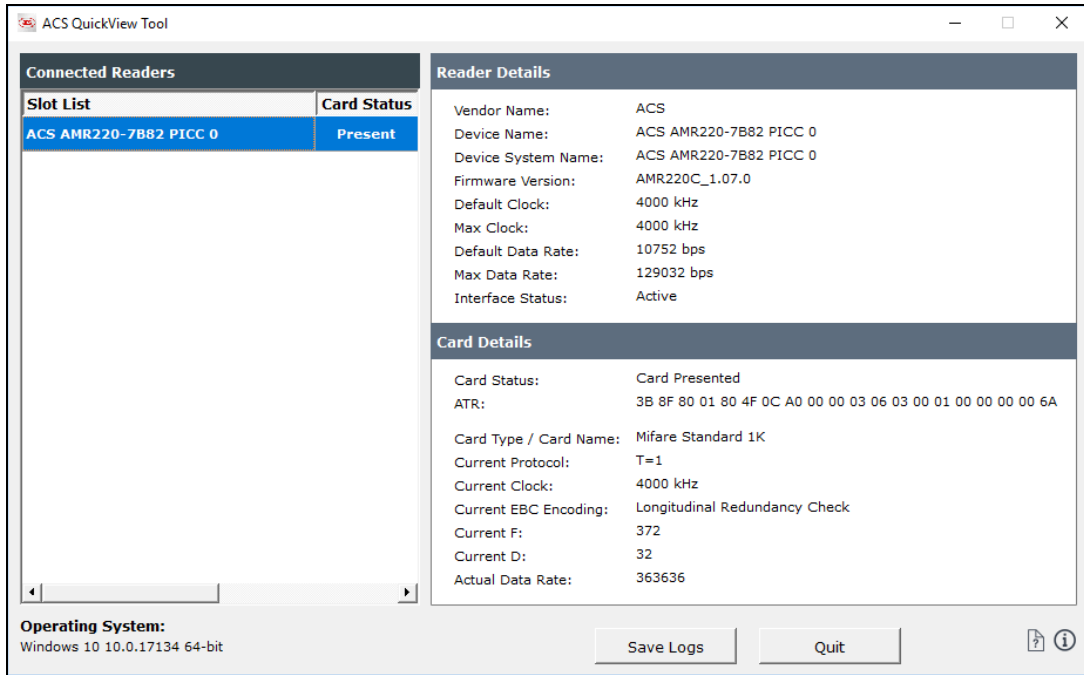


**Note:** The default authentication key is 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00.

8. Wait while the application installs the driver.
9. A message will appear confirming a successful installation. Click **OK**, and then restart your computer.



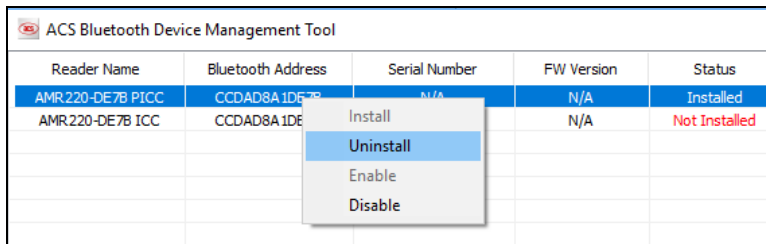
10. After a successful driver installation, you can now use AMR220-C1 with various smart card applications. Below is a sample of AMR220-C1 connected in **QuickView**.



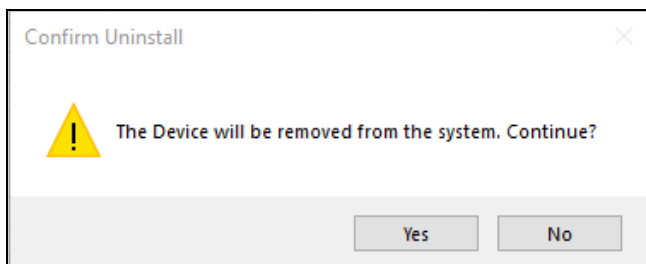
### 6.4.2. Uninstall a device

To uninstall a device:

1. Right-click on the device, and then click **Uninstall**.



2. Click **Yes** to confirm uninstallation.

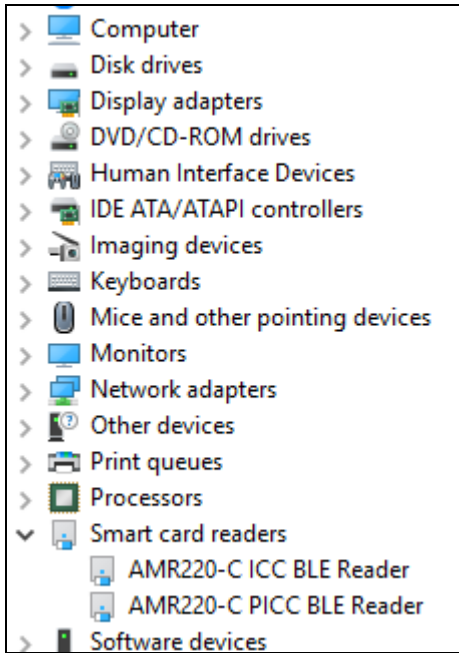


3. The device will be removed from the reader list.

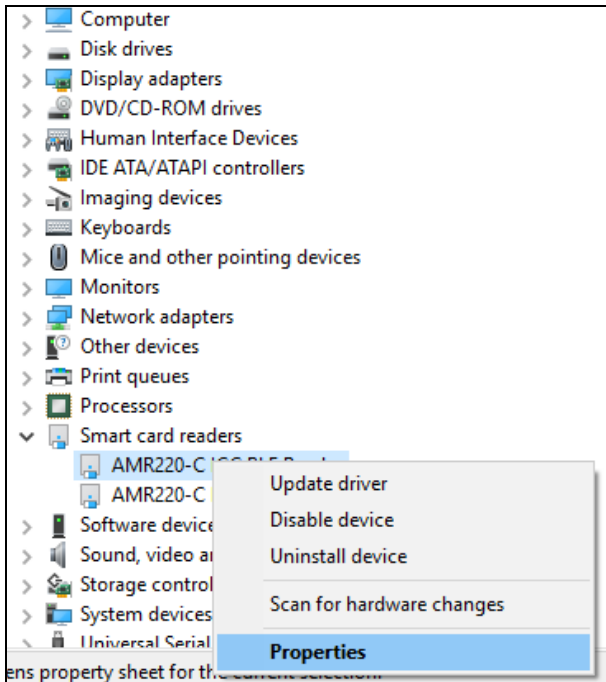
**Note:** The TI USB dongle can only work on a one-to-one communication with a Bluetooth card reader.

## 6.5. Check if Bluetooth card reader is installed correctly

1. Go to the Device **Manager**.
2. Under **Smart card readers**, the AMR220-C1 reader should show as **AMR220-C ICC BLE Reader** and **AMR220-C PICC BLE Reader** (if both interfaces are installed).



3. Right-click on the device, and then click **Properties**.



4. The Bluetooth reader and driver are installed correctly if the device status shows *“This device is working properly”*.

## 7.0. For Windows (USB Interface – EMV)

### 7.1. Using the ACS USB EMV demo application

This section provides a simple step-by-step procedure on how to use the AMR220-C1 using the EMV demo application. The executable file can be found in: ACS\_USB\_EMV\_EVK\_Windows-1.02 > Windows(USB) > Exe > AMR220-C\_L2\_Demo

#### 7.1.1. Connecting a device to the reader

To connect a device:

1. Connect the reader to the PC through the micro-USB port.

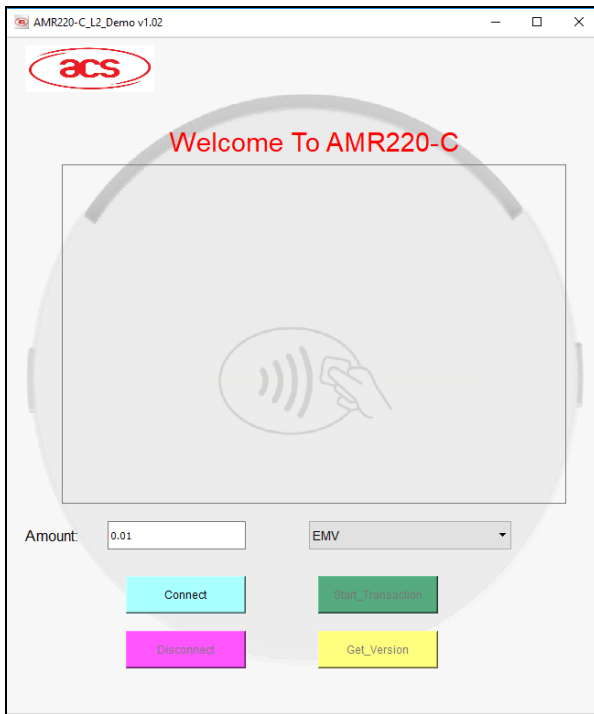


2. Turn on the reader by pushing the **power button** (found at the **left side** when the reader is facing front) for 3 seconds.

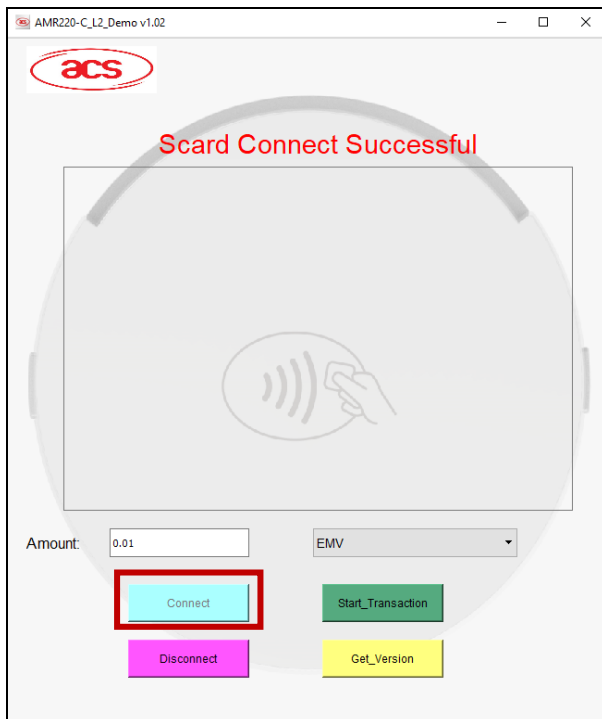




3. Run **EMV Demo** application.



4. Click **Connect**.



### 7.1.2. Performing a transaction

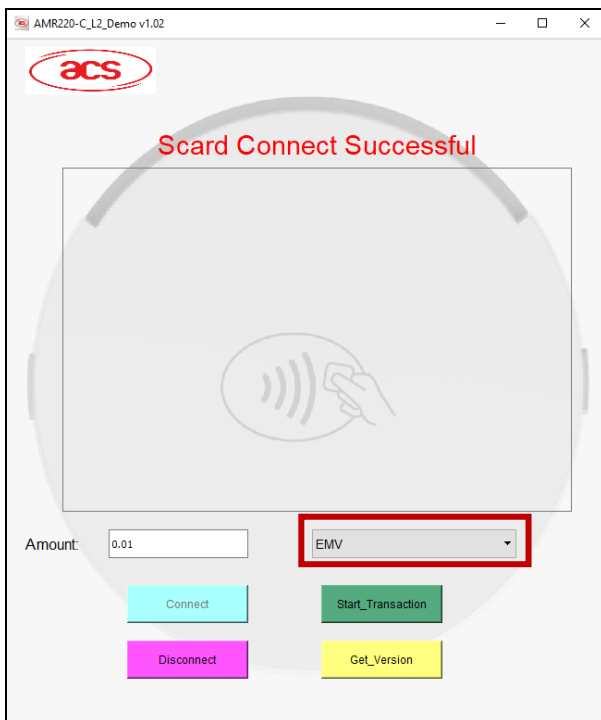
Below are the general steps in performing transactions. On the following sections are specific instructions, depending on card type used.

To perform a transaction:

1. Input the desired **amount**.



2. Depending on card to be used, select **EMV**, **PayPass**, or **PayWave** as **card type**.





3. Depending on card type:
  - For **EMV** cards (contact interface): Insert card on the AMR220-C1 reader's contact interface, or
  - For **PayPass** or **payWave** cards (contactless interface): Tap card on the AMR220-C1 reader's contactless interface
4. Click **Start\_Transaction**.
5. Depending on the card type chosen, more steps may be required. See the following sections for more details:
  - **Performing a transaction using an EMV Card (contact interface)**
    - **Performing an OFFLINE signature-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction (EMV – contact interface)**
    - **Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)**
  - **Performing a transaction using a PayPass card (contactless interface)**
  - **Performing a transaction using a payWave card (contactless interface)**

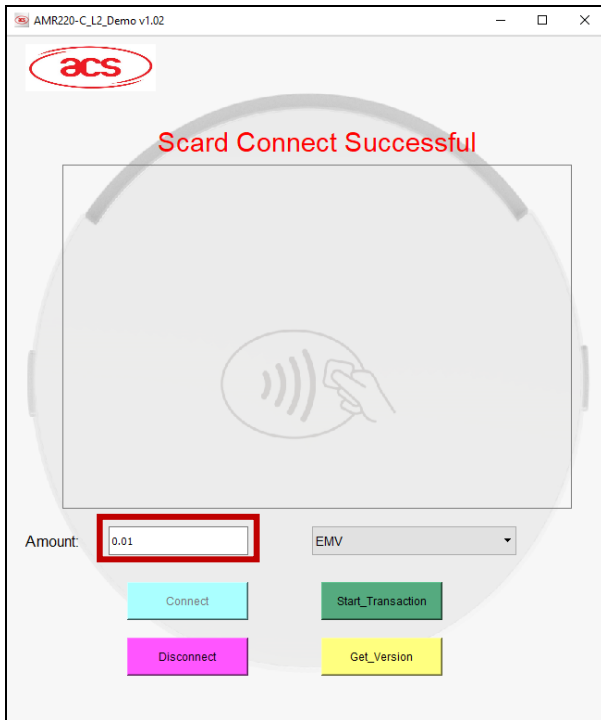


### 7.1.2.1. Performing a transaction using an EMV Card (contact interface)

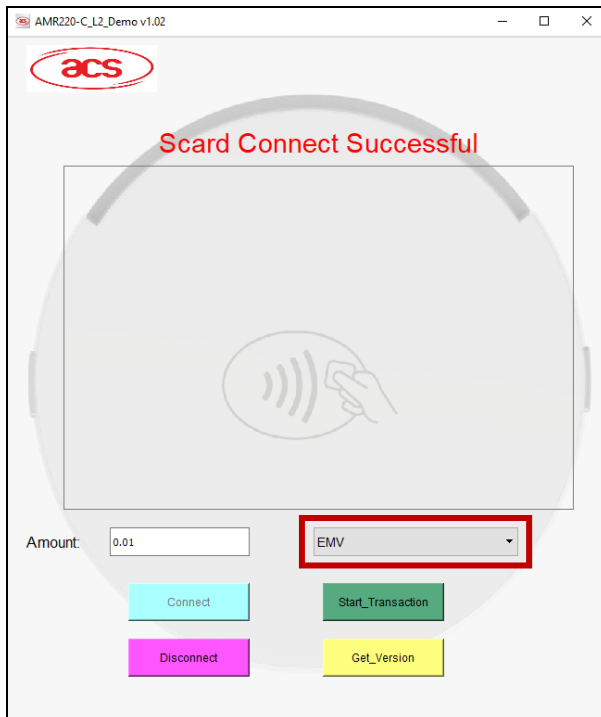
#### 7.1.2.1.1. Performing an OFFLINE signature-based transaction (EMV – contact interface)

To perform a signature-based transaction using an EMV Card – Contact Interface:

1. Input the desired **amount**.

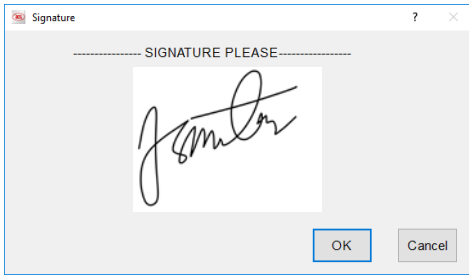


2. Select **EMV** as card type.

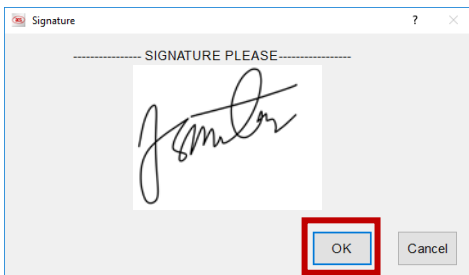




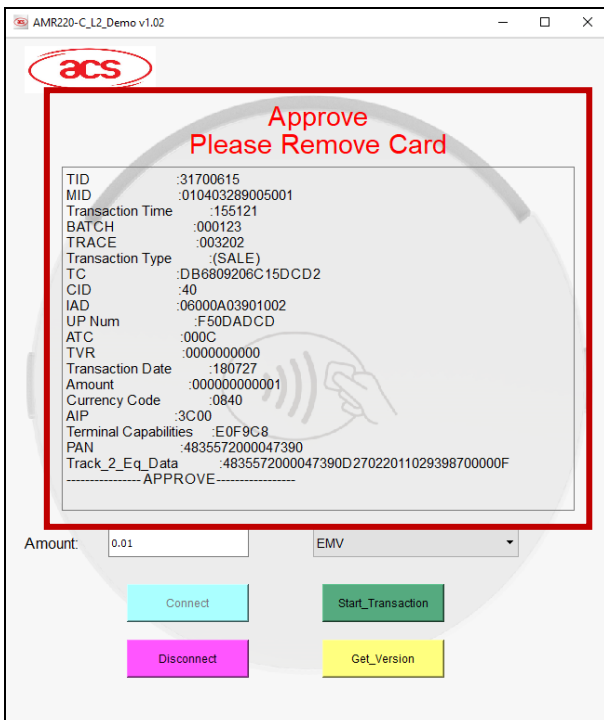
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Click **Start\_Transction**.
5. A prompt to sign will be shown. **Sign** on the area for signature.



6. Click **OK**.



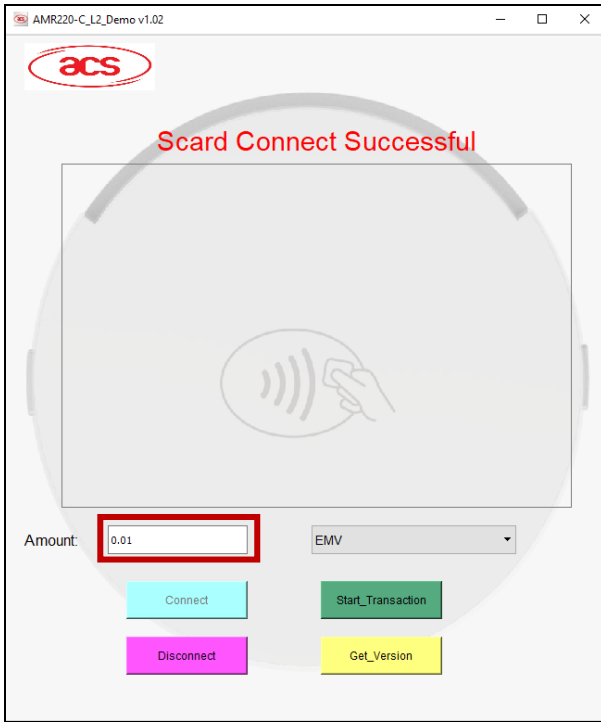
7. The transaction details will be displayed.



### 7.1.2.1.2. Performing an OFFLINE PIN-based transaction (EMV – contact interface)

To perform a PIN-based transaction using an EMV card – contact interface:

1. Input the desired **amount**.



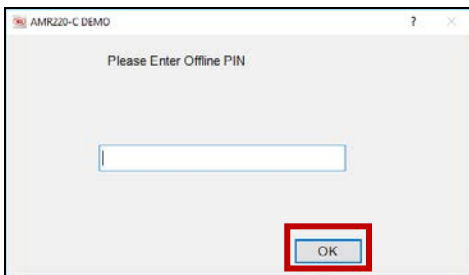
2. Select **EMV** as card type.



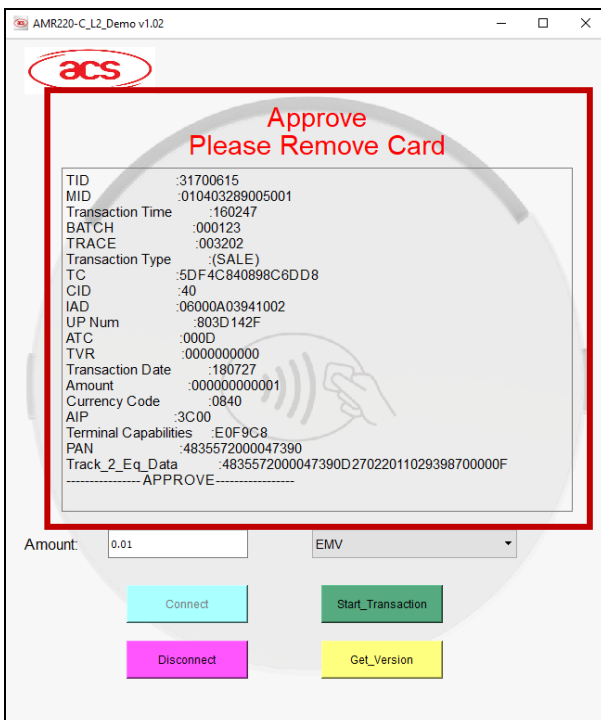
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Click **Start\_Transaction**.
5. A prompt to enter the PIN will be shown. Enter **PIN**.



6. Click **OK**.



5. The transaction details will be displayed.



### 7.1.2.1.3. Performing an OFFLINE PIN-based transaction with ONLINE approval (EMV – contact interface)

To perform an OFFLINE PIN-based transaction with ONLINE approval using an EMV card – contact interface:

1. Input the desired **amount**.



2. Select **EMV** as card type.

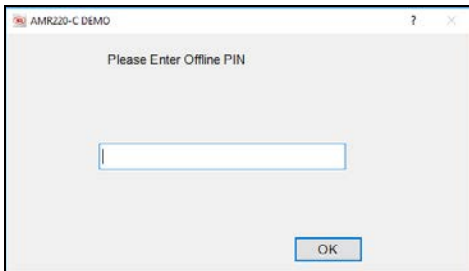




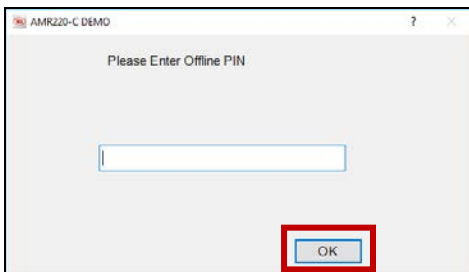
3. Insert card on the AMR220-C1 reader's **contact interface**.
4. Click **Start\_Transaction**.



5. A prompt to enter the PIN will be shown. Enter **PIN**.

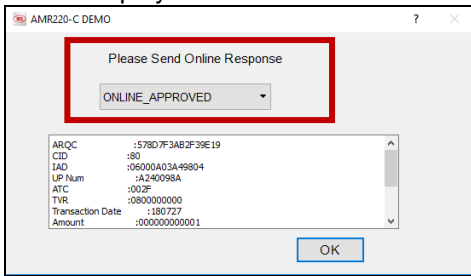


6. Click **OK**.



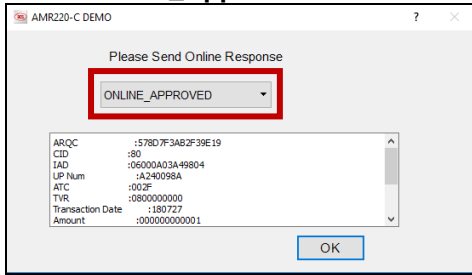


7. The transaction details with additional options emulating the host response for online approval will be displayed.

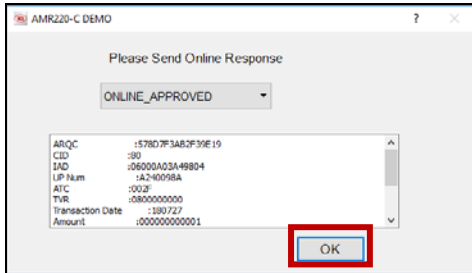


### 7.1.2.1.3.1. Host Response – Online Approval

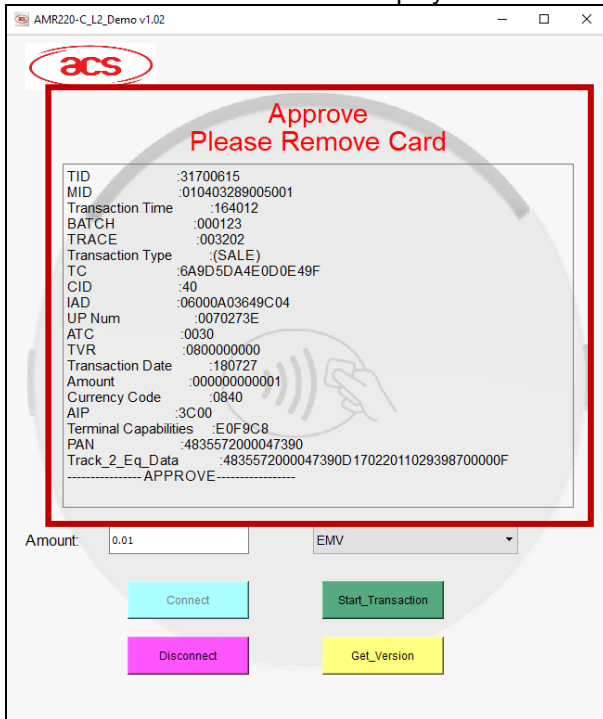
1. Select **Online\_Approved**.



2. Click **OK**.



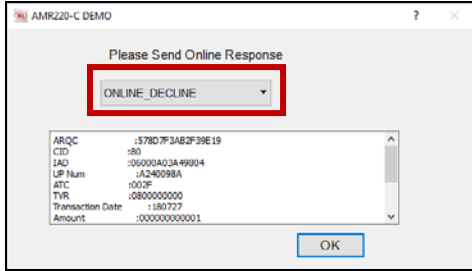
3. The transaction details will be displayed.



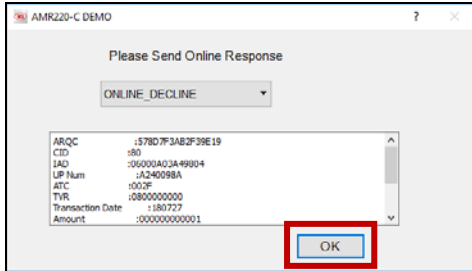


### 7.1.2.1.3.2. Host Response – Online Decline

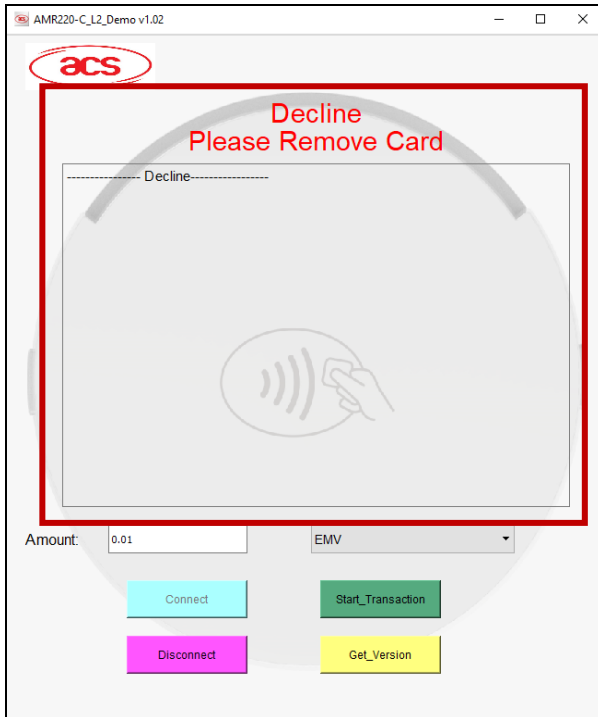
1. Select **Online\_Decline**.



2. Click **OK**.

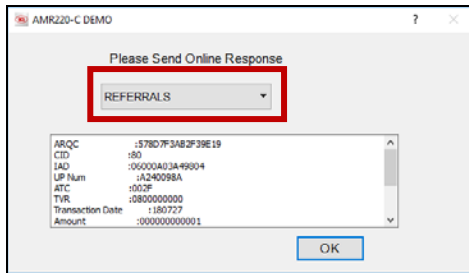


3. Transaction Declined will be displayed.

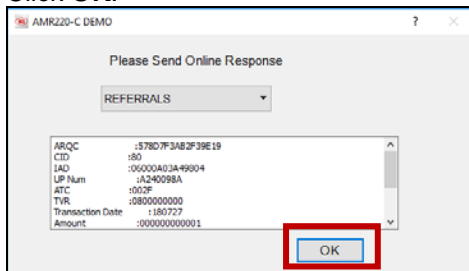


### 7.1.2.1.3.3. Host Response – Referrals

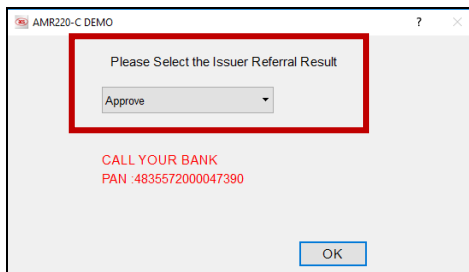
1. Select Referrals.



2. Click OK.



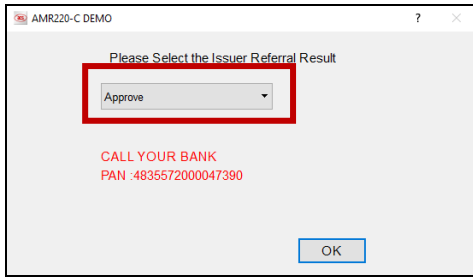
3. Additional options for Issuer Referrals will be displayed.



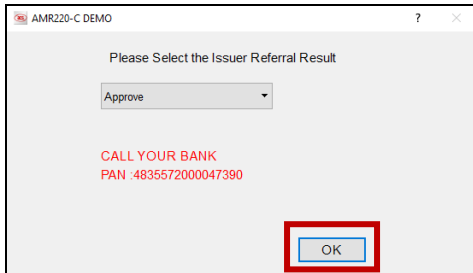


### 7.1.2.1.3.3.1. Issuer Referrals – Approval

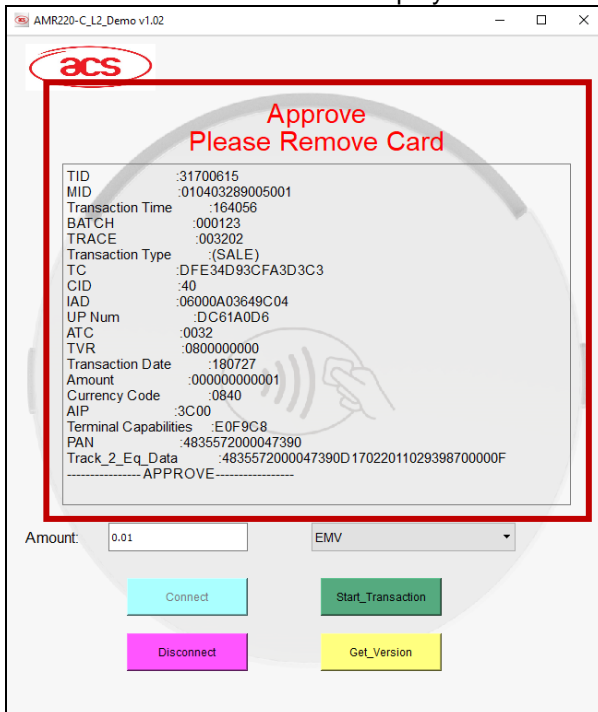
1. Select **Approve**.



2. Click **OK**.

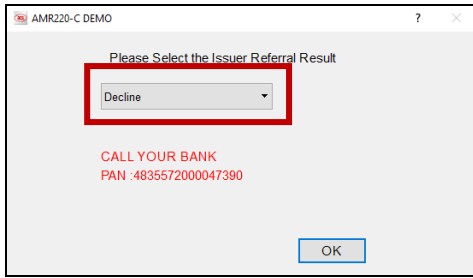


3. The transaction details will be displayed.

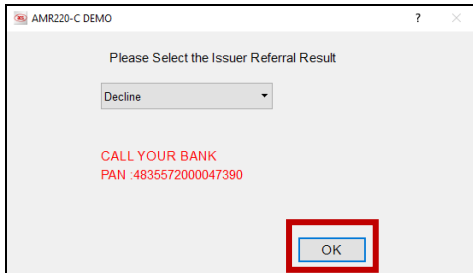


### 7.1.2.1.3.3.2. Issuer Referrals – Declined

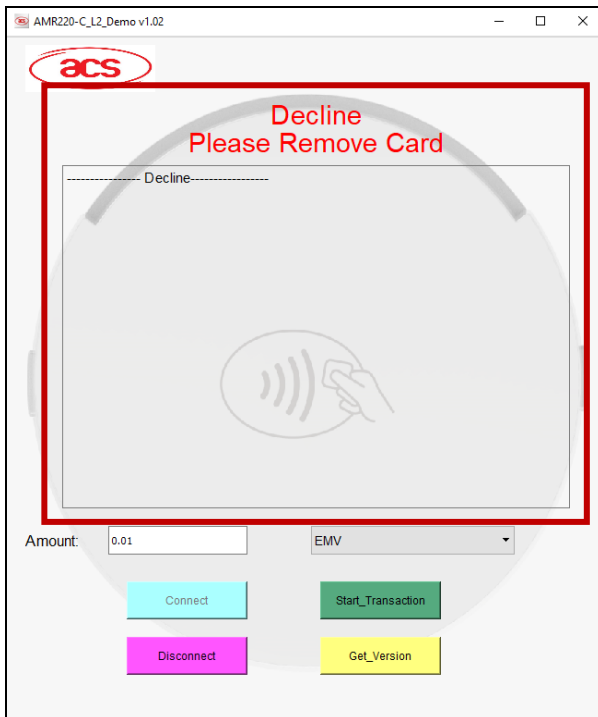
1. Select **Decline**.



2. Click **OK**.

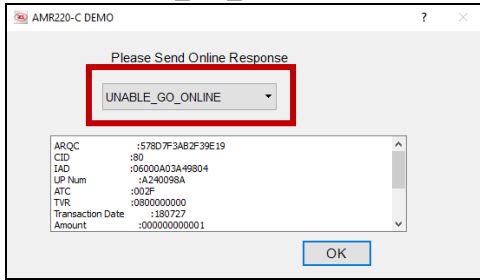


4. Transaction Declined will be displayed.

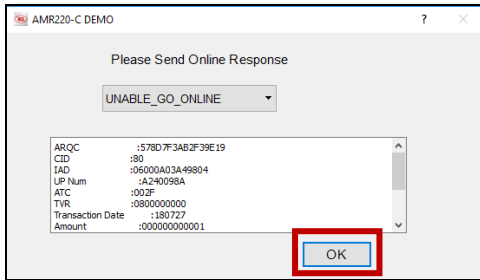


### 7.1.2.1.3.4. Host Response – Unable to go online

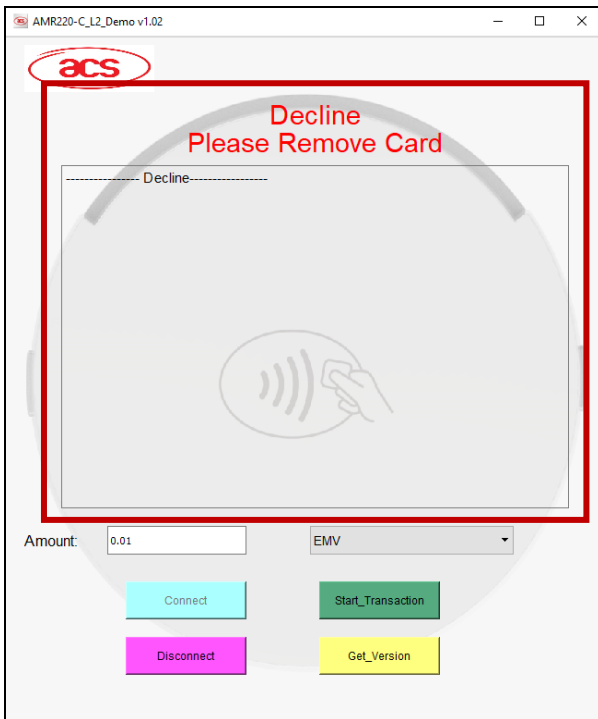
1. Select **Unable\_Go\_Online**.



2. Click **OK**.



3. Transaction Declined will be displayed.



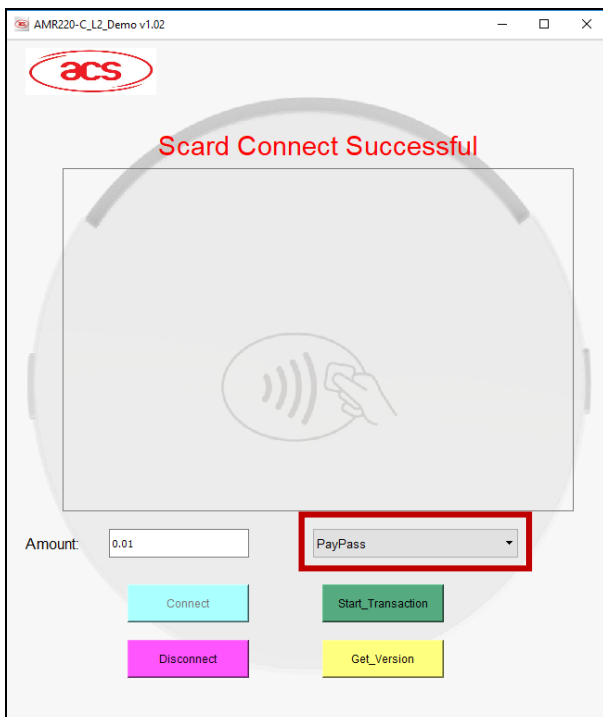
### 7.1.2.2. Performing a transaction using a PayPass card (contactless interface)

To perform a transaction using a PayPass card (contactless interface):

1. Input the desired **amount**.



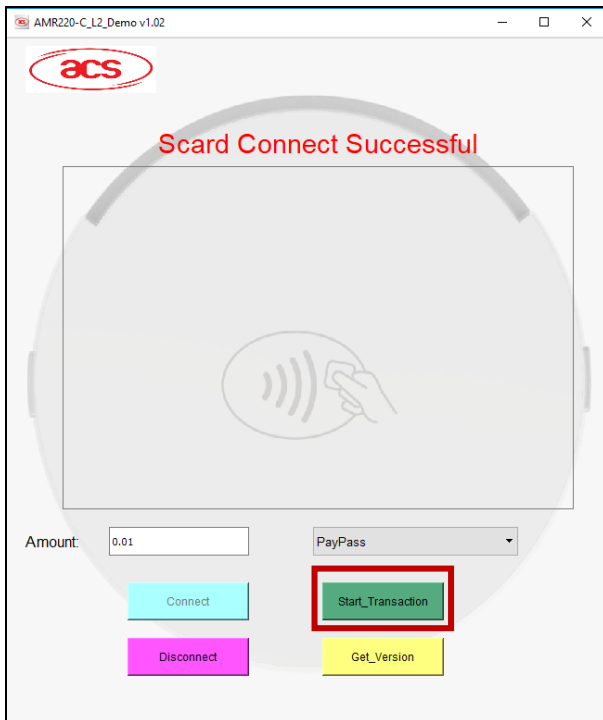
2. Select **PayPass** as card type.



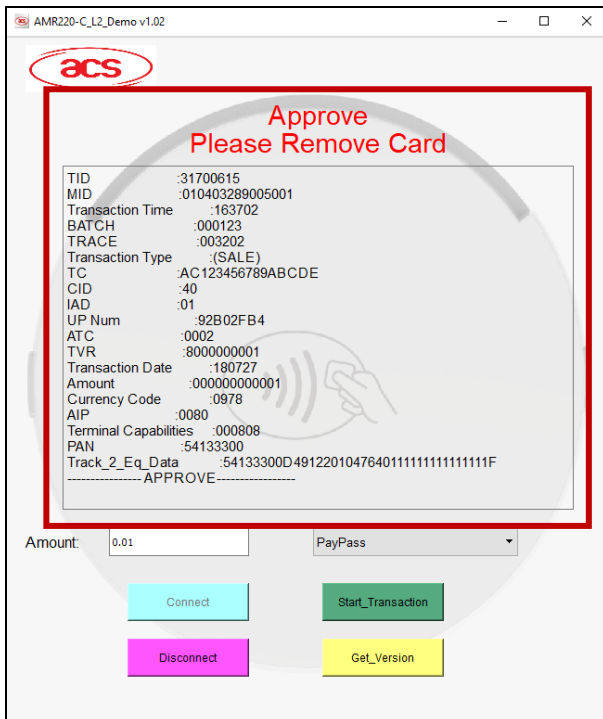
3. Tap card on the AMR220-C1 reader's **contactless interface**.



4. Click **Start\_Transaction**.



5. The transaction details will be displayed.



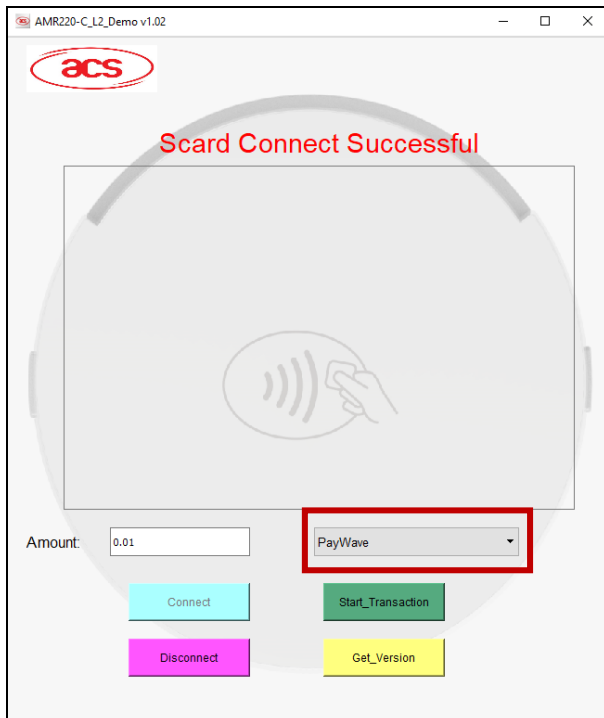
### 7.1.2.3. Performing a transaction using a payWave card (contactless interface)

To perform a transaction using a payWave card:

1. Input the desired **amount**.



2. Select **PayWave** as card type.

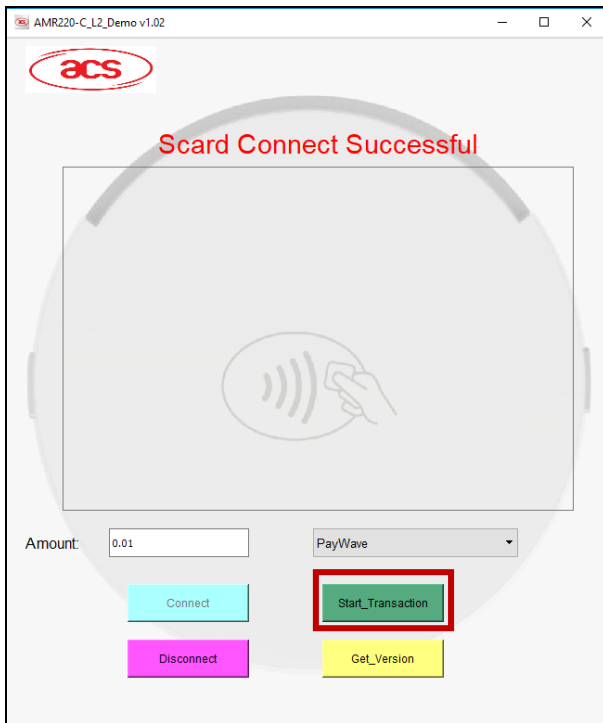


3. Tap card on the AMR220-C1 reader's contactless interface

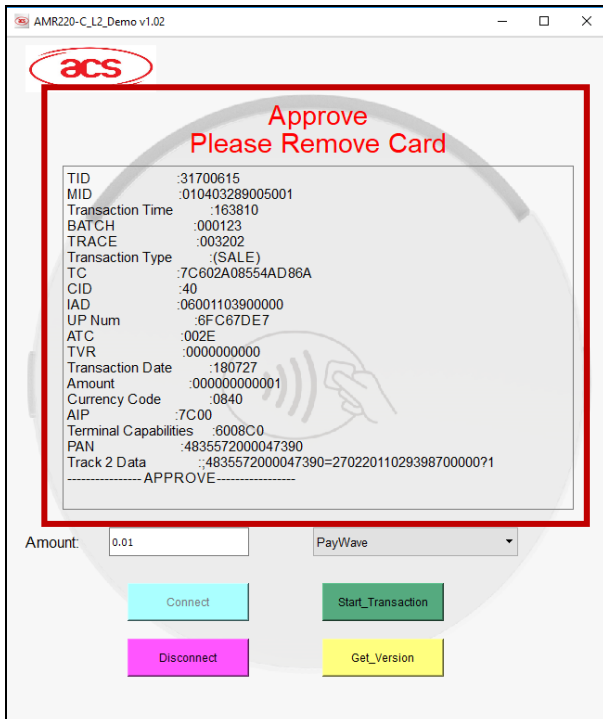




4. Click **Start\_Transaction**.



5. The transaction details will be displayed.



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