

# ACR1255U-J1 Bluetooth® NFC Reader

User Manual V1.00





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## **1.0.Introduction**

ACR1255U-J1 Bluetooth® NFC Reader combines the latest technology in the world of smart card readers with Bluetooth connectivity. This compact and wireless smart card reader brings together sophisticated technology with fresh design to meet different requirements in various smart card-based applications using Bluetooth-enabled devices, such as smart phones and tablets.

This document contains step-by-step procedures in installing and using the demo application included in the Android<sup>™</sup> and iOS library of the ACR1255U-J1 Bluetooth NFC Reader.

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## 2.0. For iOS

## 2.1. Installing the application

- 1. Download the device library from ACS website under ACR1255U-J1 category.
- 2. Using the XCode application, open the BTDemo.xcodeproj file.

000		🚞 BTDer	no		R <sub>M</sub>
		• * • 🖻	) <b>a</b>		
FAVORITES					
AirDrop Applications	ACSBluetooth	BTDemo	BTDemo.xcodeproj	BTDemoTests	
Documents					
DEVICES					
Remote Disc					
hkoesx(SMB)					
TAGS Red					
Orange					

3. Transfer the **BTDemo.xcodeproj** to your mobile device by choosing your mobile device and then clicking the play button.

Additional generation (Linet)
There: Rady : Solid will be addition (Linet)
There: Rady : Solid will be addit to the addition (Linet)
There: Rady : Solid will be addit

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

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## 2.2. Using the application

This section provides a simple step-by-step procedure on how to use the ACR1255U-J1 Bluetooth NFC Reader using the BT Demo application.

#### 2.2.1. Connecting the reader

- 1. Turn on the Bluetooth of your iOS device by going to Settings | Bluetooth.
- 2. Turn on the Bluetooth of the ACR1255U-J1 reader by switching the toggle on top to Bluetooth mode.
- 3. Open the **BT Demo application**.
- 4. Tap Select.

••••• Globe 🗢	10:58 AM	@ ◀ ∦	100% 🗩
Clear	BT Demo		Select

5. To pair your iOS device with the ACR1225U-J1 reader, tap the ACR1255U-J1 reader, and then tap **Done**.

iPad	10:48 AM	۵ 🐇 🐿 🖿
Cancel	Reader	Done
ACR12550	J-J1-000904	

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6. A bluetooth pairing request message will be displayed. Type in *000000*, and then tap **Pair** to continue.



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7. You will be prompted that the pairing was successful. Tap **OK**.



## 2.2.2. Getting the device information

To get the reader's information, tap **Device Information**.

iPad	12:47 PM	۰ 🕸 📾
K BT Demo Dev	vice Infor	mation
System ID	D8 CA	A 9F 39 CD 20
Model Number	ACR12	55U-J1-000
Serial Number		
Firmware Revis	ion	FWV 1.14.01
Hardware Revis	sion	HWV 1.03
Manufacturer		ACS

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## 2.2.3. Getting the battery level

To get the battery level:

1. Tap Get Battery Level.

iPad	3:25 PM	۰ 🕸 🕸 🕑
Clear	BT Demo	Select
ACR1255U-J1		
Use Default	Key	
Get Battery I	Level	
Enable Pollir	ng	
Disable Polli	ng	
Tx Power		-23 dBm >
Authenticate	Reader	
Power On Ca	ard	
Power Off Ca	ard	

2. The battery level will be displayed.



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## 2.2.4. Getting the ATR (Answer to reset)

To get the ATR of the card:

- 1. Place the contactless smart card on to the ACR1255U-J1 reader.
- 2. Tap Use Default Key to load the default keys of the device to the application.

iPad	3:25 PM	۰ 🕈 86% 🔳
Clear	BT Demo	Select
ACR1255U-J1		
Use Default	Key	
Get Battery	Level	
Enable Polling		
Disable Polli	ng	
Tx Power		-23 dBm >
Authenticate	Reader	
Power On C	ard	
Power Off C	ard	

3. Tap Authenticate Reader to validate device.



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4. You will be prompted that the authentication was successful. Tap **OK**.



5. Tap Enable Polling to start polling for the contactless card.



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6. Tap Power On Card.



7. The card's ATR will be displayed.



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8. Tap Power Off Card.



9. Tap **Disable Polling** to end polling for the contactless card.



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## 2.2.5. Transmitting APDU commands

To transmit APDU command:

- 1. Insert the smart card into the contact card slot of the ACR1255U-J1 reader.
- 2. Tap Use Default Key to load the default keys of the device to the application.

iPad	3:25 PM	@ 🖇 86% 🔳	
Clear	BT Demo	Select	
ACR1255U-J1			
Use Default	Key		
Get Battery	Level		
Enable Polling			
Disable Poll	ing		
Tx Power		-23 dBm >	
Authenticate	e Reader		
Power On Card			
Power Off Card			

3. Tap Authenticate Reader to validate device.



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4. Tap Transmit APDU.



5. The Response APDU will be displayed.



Note: You can edit the APDU command by tapping Command APDU.

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## 2.2.6. Executing escape command

To execute an escape command:

- 1. Insert the smart card into the contact card slot of the ACR1255U-J1 reader.
- 2. Tap Use Default Key to load the default keys of the device to the application.

iPad	3:25 PM	@ 🖇 86% 🔳	
Clear	BT Demo	Select	
ACR1255U-J1			
Use Default	t Key		
Get Battery	Level		
Enable Polling			
Disable Pol	ling		
Tx Power		-23 dBm >	
Authenticat	e Reader		
Power On Card Power Off Card			

3. Tap Authenticate Reader to validate device.



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4. Tap Transmit Escape Command.



5. The Escape Response will be displayed.



Note: You can edit the Escape command by tapping Escape APDU.

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## 3.0. For Android

## 3.1. Installing the application

1. Connect your mobile device to the computer.



2. In the internal storage of your device, create a folder where the ACR1255U-J1 BTdemo will be placed.



- 3. Download the device library from ACS website under ACR1255U-J1 category.
- 4. Copy the **BTDemo.apk** file from the downloaded ACR1255U-J1 Android library into the previously created folder.



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5. Disconnect your mobile device from the computer, and then locate the **BTDemo.apk** using a file manager application.



6. Tap the **BTDemo.apk** file to start the installation process.



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7. Complete the action using the **Package Installer**.



- 8. You will be prompted for hardware control access. Tap Install to proceed.
- 9. Once the installation is complete, open the BT Demo application.



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## 3.2. Using the application

#### 3.2.1. Connecting the reader

- 1. Turn on the Bluetooth of your Android device by going to Settings | Bluetooth.
- 2. Turn on the Bluetooth of the ACR1255U-J1 reader by switching the toggle on top to Bluetooth mode.
- 3. Open the ACS BT Demo application.
- 4. To pair your Android device with the ACR1255U-J1, tap the ACR1255U-J1 reader.



5. The application will automatically try to connect with the ACR1255U-J1. A Bluetooth pairing request will appear. Tap **Pair**.



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6. You will be prompted for a pairing code. Type in *000000* and then tap **OK**.



#### 3.2.2. Getting the device information

To get the reader's information, scroll down and then tap **Get Device Info**. Scroll up again to view the Device information displayed.



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## 3.2.3. Getting the battery level

To get the battery status, tap Get Battery Level. Scroll up again to view the battery level.



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## 3.2.4. Getting the ATR (Answer to reset)

To get the ATR of the card:

- 1. Insert the smart card into the contact card slot of the ACR1255U-J1 reader.
- 2. Tap Authenticate to validate device.



3. Scroll up to see the Authentication Success message.





## 4. Tap Start Polling.

< 💼 ACR1255	DISCONNECT	:
Authentic	cate	
Start Pol	ling	
Stop Poll	ling	
Power On	Card	
Power Off	Card	

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5. Tap Power On Card.

< 💼 ACR1255	DISCONNECT
Authent	icate
Start Po	olling
Stop Pc	olling
Power Or	n Card
Power Of	f Card

6. Scroll up to see the ATR of the contactless card.



7. Tap Power Off Card.



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## 8. Tap on Stop Polling.

< 💼 ACR1255	DISCONNECT
Authent	ticate
Start Po	olling
Stop Po	olling
Power O	n Card
Power O	ff Card

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## 3.2.5. Transmitting APDU commands

To transmit APDU command:

- 1. Tap the contactless smart card on the ACR1255U-J1 reader.
- 2. Tap Authenticate to validate device.



3. Scroll up to see the Authentication Success message.



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#### 4. Tap on Start Polling.

< 💼 ACR1255	DISCONNECT	:
Authenticate		
Start Poll	ling	
Stop Poll	ing	
Power On	Card	
Power Off	Card	
Transmit A	PDU	

5. Tap Power On Card.



6. Tap Transmit APDU.



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7. The Response APDU will be displayed.



Note: You can edit the APDU command by tapping below the APDU command.

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## 3.2.6. Executing escape command

To execute an escape command:

- 1. Insert the smart card into the contact card slot of the ACR1255U-J1 reader.
- 2. Tap Authenticate to validate device.



3. Scroll up to see the Authentication Success message.



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4. Tap Transmit Escape Command.

< 💼 ACR1255	DISCONNECT
Authenticate	
Start Po	olling
Stop Polling	
Power O	n Card
Power Off Card	
Transmit	APDU
Transmit Escap	be Command

5. The Escape Response will be displayed.



Note: You can edit the Escape command by tapping below the Escape command.

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#### 3.2.7. **Changing the Bluetooth Transmission Power**

Tap Set Tx Power. Choose from the four available transmissions power for ACR1255U-J1.

🕷 🗭 🛂 4:44 PM		
C ACR1255 DISCONNECT		
Authenticate		
Start Polling		
Stop Polling		
Set Tx Power		
-23 dBm		
-6 dBm		
0 dBm		
4 dBm		
Get Battery Level		
Get Battery Status		
Get Card Status		
Set Tx Power		

The following are the range of operating distances for the modes above:

- -23 dBm: 3m 5m •
- -6 dBm: 7m 9m
- 0 dBm: 10m -15m •
- 4 dBm: 30m 40m •

Note: The operating distance could be shorter when there is interference such as, metal, door, wall, or other radio emitting devices.

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