

# ACS Mobile Card Reader Utility IiOS and Android

User Manual V1.05

Subject to change without prior notice

ACS Mobile Card Reader Utility



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# 1.0. Introduction

ACS mobile Card Reader Utility is an application that demonstrates Access Control usage for ACS Bluetooth<sup>®</sup> NFC Readers. To fully access the application's features, connect an ACS Bluetooth<sup>®</sup> NFC Reader and use with a smart card. Supported smart card reader is ACR1555U-A1 Secure Bluetooth<sup>®</sup> NFC Reader, supported smart cards types are ACOS3.



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## 2.0. For iOS

1. Download ACS Mobile Card reader Utility app from App Store, or by clicking on the following link below:

iOS

https://apps.apple.com/eg/app/mobile-card-reader-utility/id6478258371

- 2. Turn on the Bluetooth mode of your device to make it discoverable.
  - 1. For ACR1555U-A1, Press and hold the Power Button for 3 seconds to turn on the device in Bluetooth discovery mode (default setting).



- 2. For ACR1555U-A1is powered on in USB mode (Connected with USB port), Press and hold the mode button for 3 Seconds to enter Bluetooth discovery mode.
- 3. Check the Bluetooth mode LED (Blue Color); if it is blinking, then the Bluetooth is available for connection.
- 4. Open the **ACS Mobile Card reader Utility** app and tap the  $\checkmark$  button to search your ACR1555U-A1 device.



- 5. Once you see the ACR1555A-U1 box pop up on the screen. Then you can tap the box to connect the device you found. When you will see the Tick ✓ on the right corner, it means your device has been connected.
- 6. Now you can tap the U button for card reading operation or U for checking the device information including Device Name Firmware Version and Battery Level.

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#### 2.1. Reader Mode (Card Reader operation)

- 1. The card reader operation menu provides 3 function tabs: Reader Mode, NFC, and NDEF. The Reader Mode allows you to configure the device as a card reader, card writer, or HID card reader (Keyboard emulation).
  - I. **Card Reader**: Simply present your ACOS3 card to the card reader to read card information. Alternatively, you can proceed to the next step for Card Writer mode to create your own ID card.

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Mobile Card I	Reader	Utility	
Reader Mode	NFC	NDEF	APDU
Card Read	er r		
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II. **Card Writer**: Please select the Card Writer and place an empty ACOS3 card on top of the ACR1555U card reader. You can fill in the desired card information below. Afterward, click the "Create Card" button to save the information. Once you see the successful message, it means the card has been created. Now, you can go back to the **Card Reader** setting to read the card you just created.





## 2.2. NFC (NFC Emulation Mode)

- 1. The NFC menu provides 2 cards type selection for Emulation
  - I. NFC Type 2 Tag and Felica Emulation



# Please note that you need to select the Card Emulation type to activate the emulation.

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## 2.3. NDEF (NDEF Data upload)

- 1. NDEF (NFC Data Exchange Format) menu provides 4 types of settings including Text, URL, vCard and SmartPoster
  - 1. **Text**: You can write a short message to the ACR1555 Card reader for NFC emulation. The message will pop up as a notification when it is read by a mobile phone.



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2. URL: You can write a web link to the ACR1555 Card reader for NFC emulation. The web link will pop up as a notification when it is read by a mobile phone.

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Mobile Ca	rd Reader	Utility	
Reader Moo	de NFC	NDEF	APDU
NDEF To	ols		
🔵 Text 🥚		Card 🔘 :	SmartPoster
URL Prefix		http:	s://www. ≎
URL	URL		
6	C		0

3. vCard: You can write the contact information to the ACR1555 Card reader for NFC emulation. The vCard will pop up as a notification when it is read by a mobile phone.

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85 Mobile Card Reader Utility
Reader Mode NFC NDEF APDU
NDEF Tools
Given Name Given Name
Surname
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4. Smart Poster: You can write a web link to the ACR1555 Card reader for NFC emulation. The web link will pop up as a notification when it is read by a mobile phone.

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Mobile Ca	rd Rea	der l	Jtility	
Reader Mo	de Ni	≂c	NDEF	APDU
NDEF To	ols			
O Text	URL (	) vc	ard 🔴	SmartPoster
Title	Title			
URL Prefix			http	s://www. ≎
URL	URL			
Action			Do th	e Action ≎
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Reader Mo	de NFC	NDEF	APDU
		und 🦱	OmortDestor
Title	No Action ✓ Do the Act	tion	
URL Prefix	Save for L	ater	
Action	Open for E	diting Do th	 ne Action ≎
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# Please note that you need to select the Card Emulation type to activate the emulation.

#### 2.4. APDU (APDU Tools)

APDU tools is designed for advanced user to access the Bluetooth Card reader with APDU command. Please read the ACR1555U-A1 reference manual for the command detail. (please contact ACS sales for assist)

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Mobile Card Reader Utility	
Reader Mode NFC NDEF APDU	
Terminal ACR1555U-A1-000047 SAM \$	Select Card slot
Protocol T=0 🗸 T=1 🗸	
Control Code 3500	Onland Oneigh (its fam
Script File acos3.txt	send
APDU	Input your APDU command
Transmit Control	Send command
09:18:58.286: < 802007000841434F6354455354 09:18:58.586: > 0000 09:18:58.587: < 80A4000002FF02 09:18:58.467: > 0000 09:18:58.468: < 800201000400000000 09:18:58.797: > 0000 09:18:58.797: > 0000 09:18:58.575: > 000000000 09:18:58.575: > 0000000000 09:18:58.375: > 0000000000 09:18:59.37: > 0000 0000000000 000000000000 00000000	
ô <b>d</b>	

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#### 2.5. Setup Master Key

Important Notice: Before enabling the Authentication mode, please review the ACR1555U-A1 Reference Manual in detail. Follow the steps to activate the Authorization mode, which is designed for users with heightened security needs when operating the ACR1555U NFC reader.

This guide will assist you in enabling the default Master Key or entering your custom Master Key via mobile apps.

Launch the application and begin searching for nearby ACR1555U devices. Press and hold the device icon for 2 seconds to open the Set Master Key page.



To enable the default master key, toggle the switch or enter your custom 16-byte master key. Once the key is validated, the "Save" button will become active. After clicking "Save," your device will implement the key for data encryption.

	Set Master Key								
U	Use default key								
_									
	Bac	ck					Ş	Set	
	Bac	sk	r]				ç	Set	
1	Bac 2	sk 3	4	5	6	7	8	Set 9	0
1	Bac 2 /	<sup>.</sup> к З :	4	5	6)	7\$	8	Set 9 @	0
1 - #+=	Bac 2 /	× 3 :	4;	5 (	6)	7\$	8 & ,	9 @	0 "

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# 3.0. For Android

Android

1. Download link

https://play.google.com/store/apps/details?id=com.acs.mobile\_card\_reader\_utility&hl =en US

- 2. Turn on the Bluetooth mode of your device to make it discoverable.
  - 1. For ACR1555U-A1, Press and hold the Power Button for 3 seconds to turn on the device in Bluetooth discovery mode (default setting).



- 2. For ACR1555U-A1is powered on in USB mode (Connected with USB port), Press and hold the mode button for 3 Seconds to enter Bluetooth discovery mode.
- 3. Check the Bluetooth mode LED (Blue Color); if it is blinking, then the Bluetooth is available for connection.
- 4. Open the **ACS Mobile Card reader Utility** app and tap the Utility button to search your ACR1555U-A1 device.





- 5. Once you see the ACR1555A-U1 box pop up on the screen. Then you can tap the box to connect the device you found. When you will see the Tick ✓ on the right corner, it means your device has been connected.
- 6. Now you can tap the U button for card reading operation or U for checking the device information including Device Name Firmware Version and Battery Level.

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#### 3.1. Reader Mode (Card Reader operation)

- 2. The card reader operation menu provides 3 function tabs: Reader Mode, NFC, and NDEF. The Reader Mode allows you to configure the device as a card reader, card writer, or HID card reader (Keyboard emulation).
  - I. **Card Reader**: Simply present your ACOS3 card to the card reader to read card information. Alternatively, you can proceed to the next step for Card Writer mode to create your own ID card.



II. **Card Writer**: Please select the Card Writer and place an empty ACOS3 card on top of the ACR1555U card reader. You can fill in the desired card information below. Afterward, click the "Create Card" button to save the information. Once you see the successful message, it means the card has been created. Now, you can go back to the **Card Reader** setting to read the card you just created.



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## 3.2. NFC (NFC Emulation Mode)

- 2. The NFC menu provides 2 cards type selection for Emulation
  - I. NFC Type 2 Tag and Felica Emulation



# Please note that you need to select the Card Emulation type to activate the emulation.

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### 3.3. NDEF (NDEF Data upload)

- 2. NDEF (NFC Data Exchange Format) menu provides 4 types of settings including Text, URL, vCard and SmartPoster
  - 1. **Text**: You can write a short message to the ACR1555 Card reader for NFC emulation. The message will pop up as a notification when it is read by a mobile phone. (Memory size: XXX bytes)

Reader	Utility	
NFC	NDEF	APDU
ls		
JRL 🔿 v	Card 🔘	SmartPoster
lessage		
	I Reader NFC Is JRL v	I Reader Utility NFC NDEF Is JRL VCard O

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2. URL: You can write a web link to the ACR1555 Card reader for NFC emulation. The web link will pop up as a notification when it is read by a mobile phone.

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Mobile Card Reader Utility
Reader Mode NFC NDEF APDU
NDEF Tools
🔵 Text 🛑 URL 🔵 vCard 🔵 SmartPoster
URL Prefix https://www. >
URL
u 🗸 U

3. vCard: You can write the contact information to the ACR1555 Card reader for NFC emulation. The vCard will pop up as a notification when it is read by a mobile phone.

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(2023) Mobile Card Reader Utility						
Reader Mode NFC NDEF APDU						
NDEF Tools						
Given Name Given Name						
Surname						
<ul><li>Image: Control of the second sec</li></ul>						

4. Smart Poster: You can write a web link to the ACR1555 Card reader for NFC emulation. The web link will pop up as a notification when it is read by a mobile phone.

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Mobile Card Reader Utility						
Reader Mo	de NFC	NDEF	APDU			
NDEF To	ols					
O Text		) vCard 📒	SmartPoster			
Title	Title					
URL Prefix		htt	ps://www. ≎			
URL	URL					
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() Mobile Ca	rd Reader Ut	tility	
Reader Mo	de NFC M	NDEF	APDU
NDEF To	ols		
Text C	No Action ✓ Do the Acti	ion	CmartBastor
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URL	Open for E	diting	
Action		Do th	ne Action ≎
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# Please note that you need to select the Card Emulation type to activate the emulation.

#### 3.4. APDU (APDU Tools)

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Mobile Card Reader Utility						
Reader Mode NFC NDEF APDU						
Terminal ACR1555U-A1-000047 SAM ≎	Select Card slot					
Protocol T=0 🗸 T=1 🗸						
Control Code 3500 Script File acos3.txt	Select Script file for send					
APDU	Input your APDU command Send command					
09:18:58.286: < 802007000841434F5354455354 09:18:58.586: > 9000 09:18:58.587: < 80A4000002FF02 09:18:58.647: > 9000 09:18:58.648: < 80020100040000000 09:18:58.797: > 9000 09:18:55.58: < 800201000412345678 09:18:59.838: < 8082010004 09:18:59.037: > 9000 09:18:59.097: > 123456789000						
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#### 3.5. Setup master key

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To enable the default master key, toggle the switch or enter your custom 16-byte master key. Once the key is validated, the "Save" button will become active. After clicking "Save," your device will implement the key for data encryption.

Set Master Key									
Use default key									
Back					S	Set			
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1	2	3	4	5	6	7	8	9	0
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ABC 😂 space return						rn			

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