circle CIR315C Contactless Smart Card Reader User Manual

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Contents

Driver installation Procedure

* Driver signed by Microsoft and WHQL, user can install the driver with Window Update. In case that cannot install via Window Update, please process the below steps to Manual installation

Hardware requires:

- CIR315C
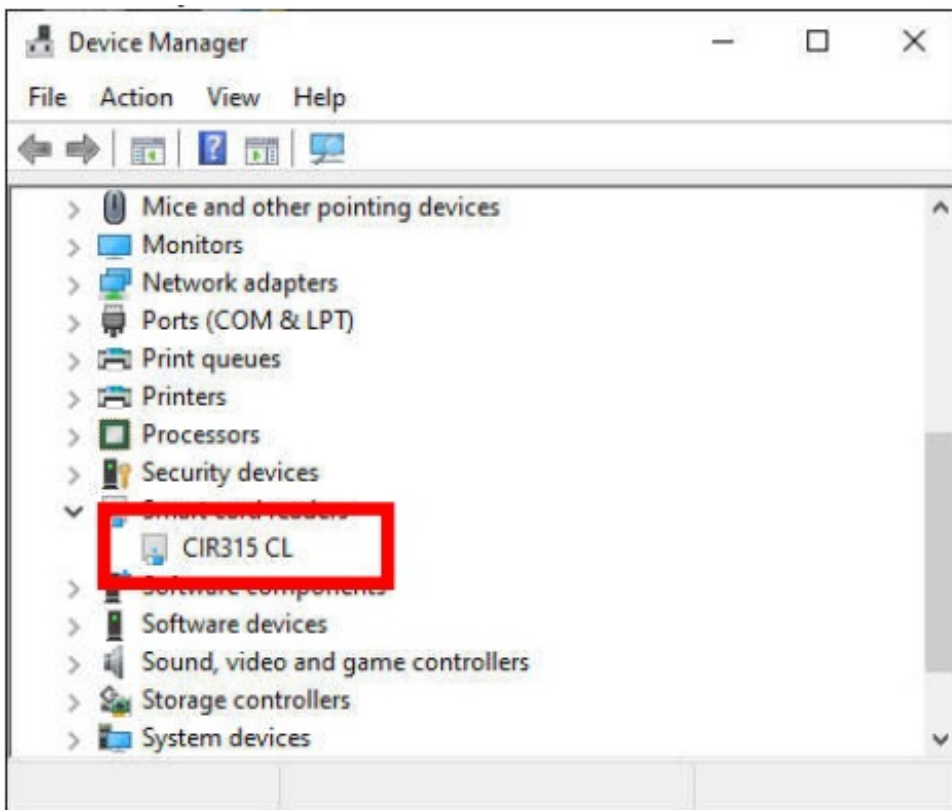- PC with OS windows 7 or above

Software requires:

- CIR315 Driver Package

Steps:

1. Install driver by running Setup.exe

2. Follow the on-screen instructions to install the driver to the system.
3. Connect CIR315C to PC
4. If the device name under Device manager is "CIR315 CL", it shows the driver is correctly installed.
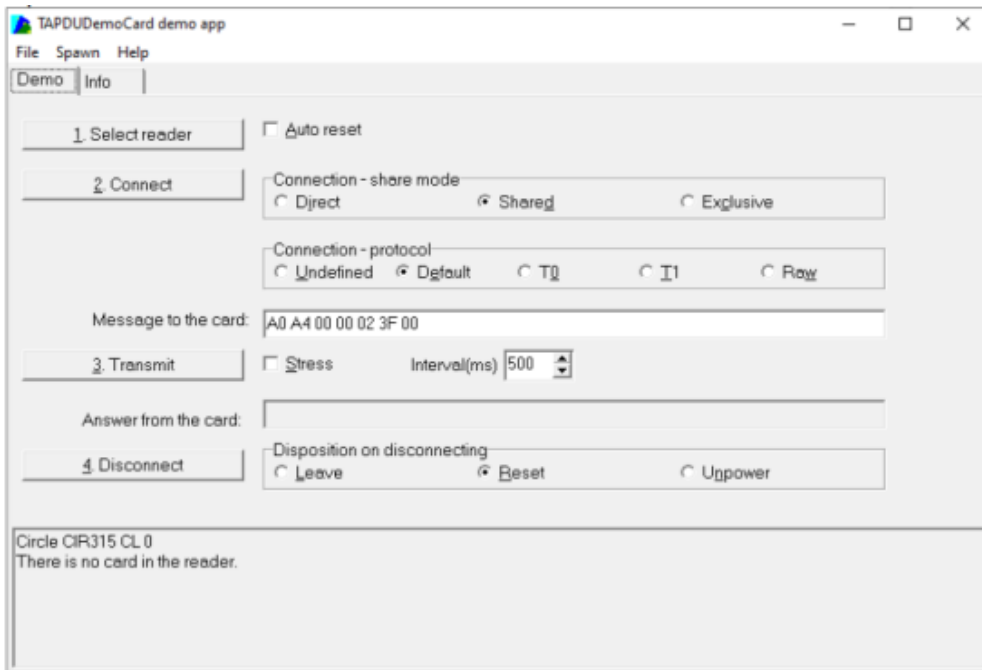
Operation Example

Hardware requires:

- CIR315C
- PC with OS windows 7 or above
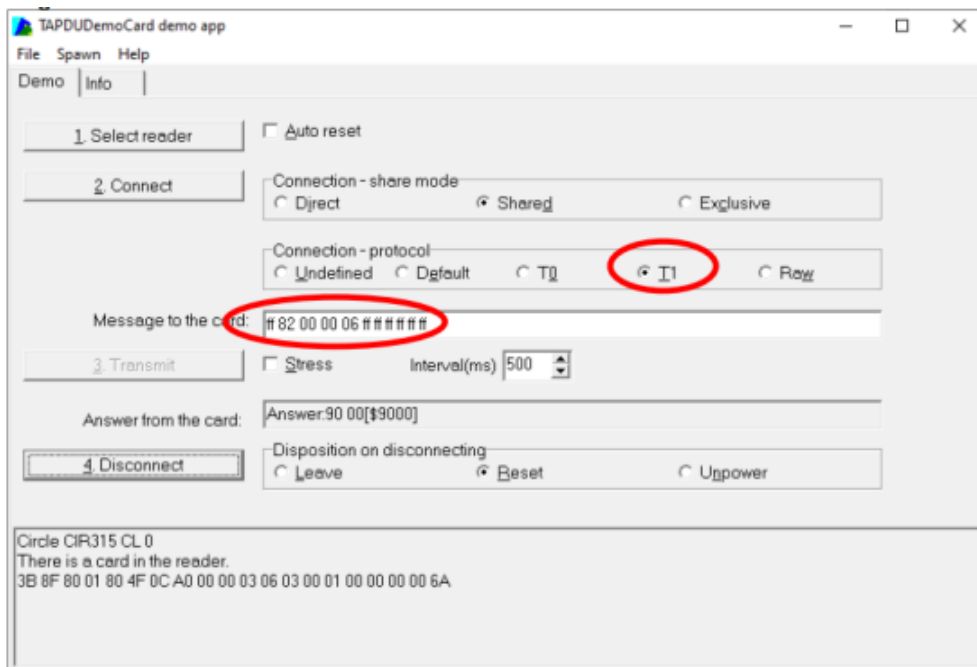- Mifare 1k Test Card

Software requires:

- Any PCSC Application (e.g. APDU.exe)

Steps:

1. Plug in the reader into the PC
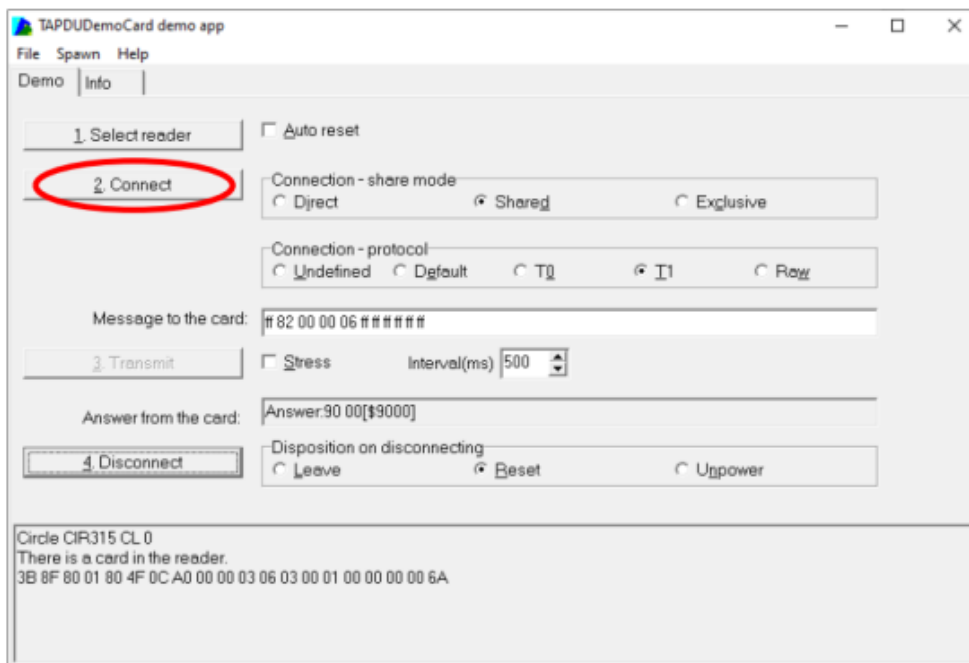2. Open "APDU.exe"

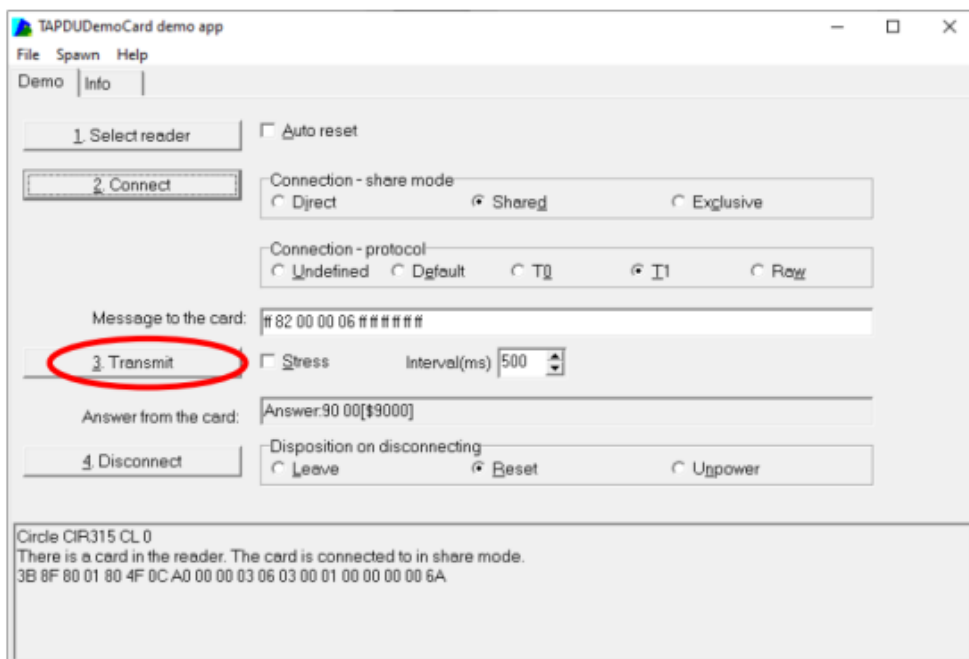3. Tag Test card on CIR315C

Select "T1", Message = "ff 82 00 00 06 ff ff ff ff ff ff"

4. Press "2. Connect"

5. Press "3. Transmit"

6. Result will be shown on the "Answer from the card:"

TAPDUDemoCard demo app

File Spawn Help

Demo | Info

| 1. Select reader | ☐ Auto reset |

2. Connect

Connection - share mode
○ Direct   ◉ Shared   ○ Exclusive

Connection - protocol
○ Undefined ○ Default ○ T0 ◉ T1 ○ Raw

Message to the card: ff 82 00 00 06 ff ff ff ff ff ff

3. Transmit   ☐ Stress   Interval(ms) 500

Answer from the card: Answer:90 00[$9000]

4. Disconnect

Disposition on disconnecting
○ Leave   ◉ Reset   ○ Unpower

Circle CIR315 CL 0
There is a card in the reader. The card is connected to in share mode.
3B 8F 80 01 80 4F 0C A0 00 00 03 06 03 00 01 00 00 00 00 6A

Parameter Sheet

72.0

24.0

12.3
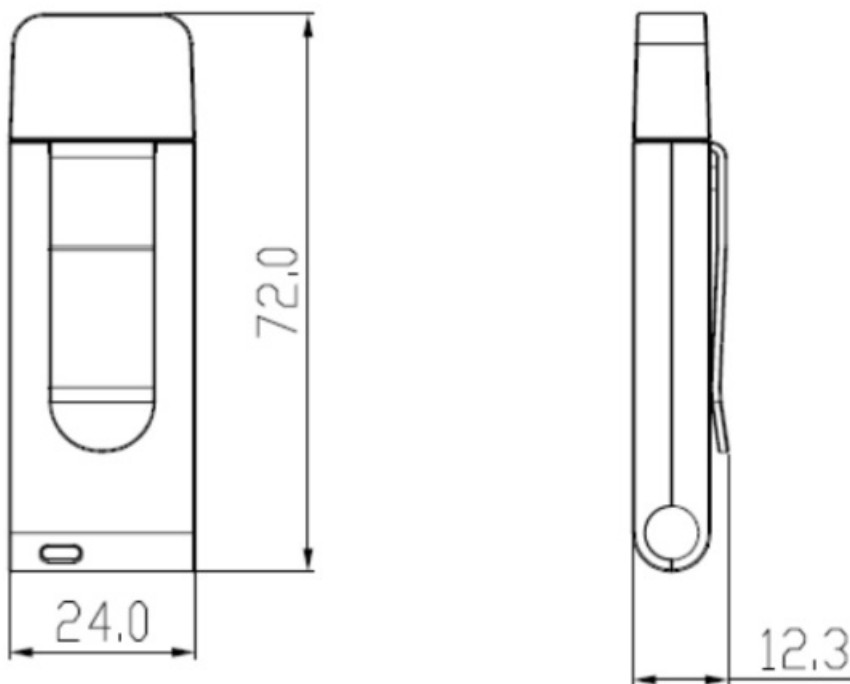
Device	
AB Circle's CIR315C	
Contactless Smart Card Interface	
Standard	ISO/IEC 14443 Type A & B, ISO/IEC 18092, ISO/IEC 15693

Protocol	T=CL (translated to T=1 for PC/SC compliance)
Operating Frequency	13.56 Mhz
Supported Card Types	ISO/IEC14443-4 A & 4B Cards, ISO/IEC15693-3 Cards, MIFARE series: Classic/ PLUS/ Ultralight/ Ultralight C/ DESFire/ DESFire EV1/ DESFire EV2, etc FeliCa (Standard/ Lite/ Plug), Calypso, J-LIS Cards, NFC Forum Tag type 1/2/3/4/5
Speed	106/ 212/ 424/ 848kbps (Default: 106kps)
Reading Distance	Up to 50 mm (depending on tag type)
Extended APDU	Support
Physical Characteristics	
Dimensions	24.0 x 72.0 x 10.0 mm (no clip)
Weight	13.0g (± 5 g)
Casing	White ABS
Host Interface	
Power Supply	USB Bus-powered
Current Consumption	
USB Standard	USB 2.0 Full Speed (12 Mbps)
USB Connector Type	Default: Type A, Optional: Type C
Human Interface	

LED	1 LED: Blue (Operation Status)

Software and Driver

Firmware Upgradeable	Support, via USB
Driver	CCID
Application Programming Interface (API)	PC/SC

Operating Conditions

Operating Temperature	-10 °C – 55 °C
Operating Humidity	Max. 95% (non-condensing)
Storage Temperature	-20 °C – 70 °C
Meantime Between Failure (MTBF)	600,000 hours

Compliance/ Certifications

Standards/ Systems	ISO/IEC14443, ISO/IEC18092, ISO/IEC15693, ISO/IEC7816 (SAM slot), USB 2.0 Full Speed, CCID, Microsoft® WHQL
Regulatory/ Environmental	EN62368, CE, FCC, VCCI, MIC, RoHS3, REACH

Operational Environment

Supported Operating Systems	Windows® 7 and above, Linux®, Mac OS® 10.12 and above, Android™ 6.0 and above

Ordering Information

Produce Code	CIR315C-01: USB Type A Connector, CIR315C-02: USB Type C Connector (Optional)

Warning:

- Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

NOTE: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
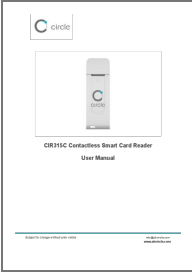
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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www.abcircle.com

Documents / Resources

circle CIR315C Contactless Smart Card Reader [pdf] User Manual
CIR315C-01, CIR315C01, 2AUVM-CIR315C-01, 2AUVMCIR315C01, CIR315C-02, CIR315C02, 2AUVM-CIR315C-02, 2AUVMCIR315C02, CIR315C Contactless Smart Card Reader, CIR315 C, Contactless Smart Card Reader

References

- **AB Circle Limited - Finest IoT and smart card readers**