北京中安未来科技有限公司
SINESECU TECHNOLOGY CO., LTD.

EPRDemo User Manual

Revision：V1.0.2

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SinosecuTechnology Co., Ltd.
6th Floor, CETC TaiJi Information Industrial Park Tower B, No.7 Rongda Rd. Chaoyang
Beijing, China
Beijing, 100012
China
[T]: +86 10 62800056
www.sinosecu.com.cn

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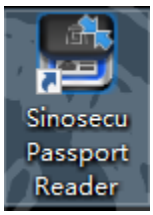
Tel: 86-10-62800056
Website:www.sinosecu.com.cn

1 EPRDemo introduction

Before using EPRDemo, make sure that the security identification system is installed on the computer.

Double-click the shortcut on the desktop, the shortcut icon is shown in the following figure



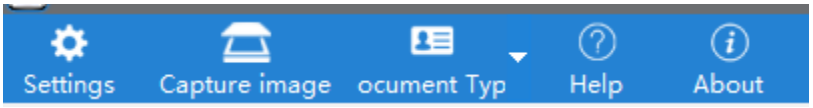
1.1 Update history

Version	Content	Date
V1.0.1	First version	2018.6
V1.0.2	1. Increase the continuous identification of the front and back of the document 2. Add copy and UV fiber detection in safety feature detection 3. Add the fingerprint reading settings of the China Resident Identity Card	2019.3

2 Toolbar

When connecting different devices, the icon on the toolbar will follow the change; likewise, the icon on the toolbar will also change with the settings。

Toolbar withauto-trigger



Toolbar without auto-trigger

- Settings, popup settings window, see Chapter 5
- Collecting images, which are generally used to collect document samples. After selecting this icon, the software only collects the images without recognition (the default is not displayed).

- The custom button is only applicable to devices that support automatic triggering. It is used to specify a certificate type for identification (it is not displayed by default).
- The certificate type is only applicable to devices that do not support automatic triggering. It is used to specify a certificate for single recognition.
- Help, open this document
- About, obtain the software version, SDK version, and hardware related version number

2.1 Acquire images

When EPRDemo is connected to a device that supports automatic triggering, you can select this button and then enter the batch capture image mode. At this time, as long as the certificate is placed, the image will be automatically captured.
When EPRDemo is connected to a device that does not support auto-triggering, this button needs to be clicked for a single image acquisition.

2.2 Custom buttons

The buttons in the custom button settings are displayed in the toolbar only if the device supports automatic triggering.

2.3 Documents

When EPRDemo is connected to a device that does not support auto-triggering, a list of documents is displayed in the toolbar,

2.4 About

About the interface As shown in the following figure, it is used to display software and hardware-related information, such as the SDK version currently used.
In this interface you can also check if there is a new version of the software.

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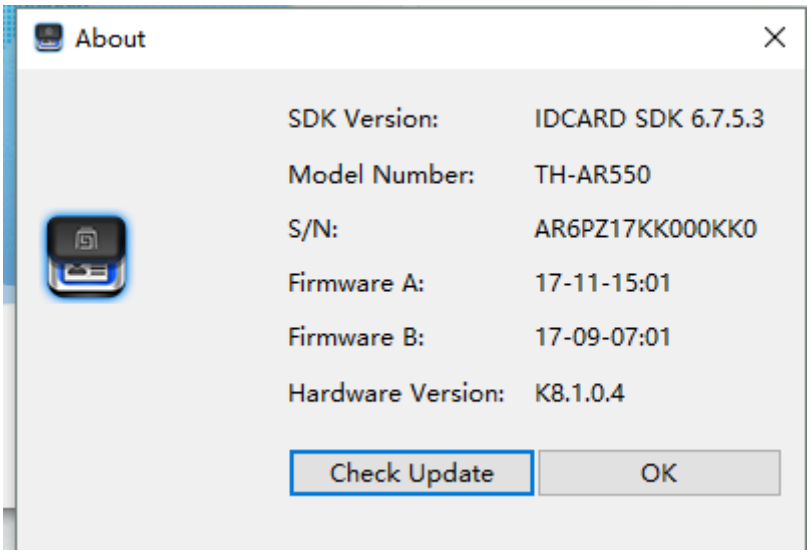

3 Main window

The main window is divided into four areas, which are the image display area, information display area, certificate information, and RFID information, as shown in the following figure.

3.1 Images zone

The image display area is used not only to display the captured image but also to display some prompt information. When not connected to the device, the image display area will display the "not connected to the device" image; when connected to the device, the dynamic picture placed in the passport will be displayed.。

3.1.1 Not connected to the device

When EPRDemo is not able to connect to the device, the entire interface is grayed out, and "Unconnected to device" is displayed in the lower right corner.

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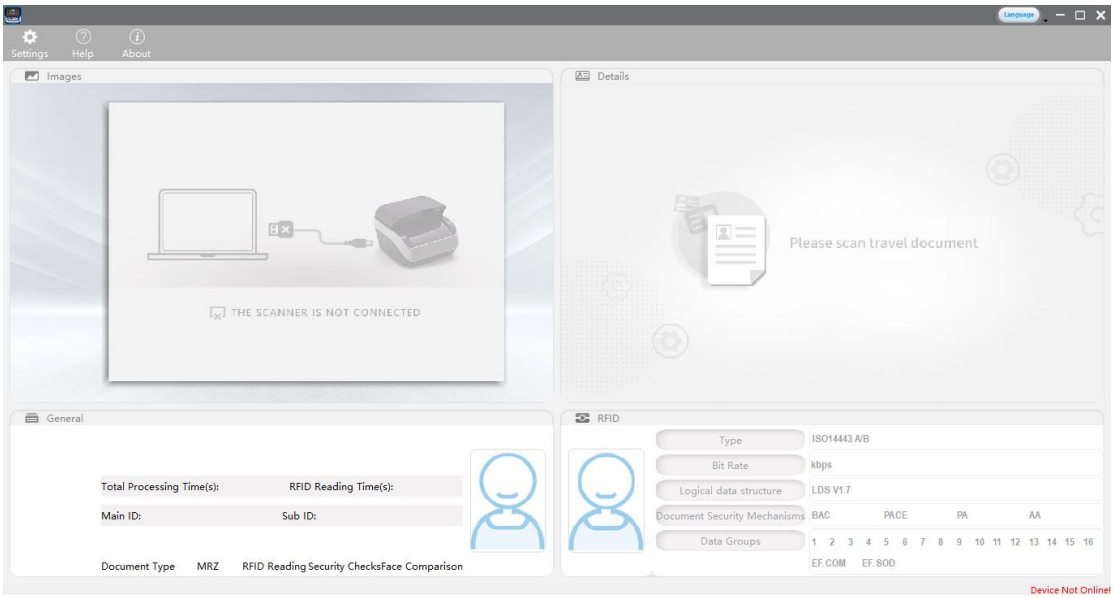
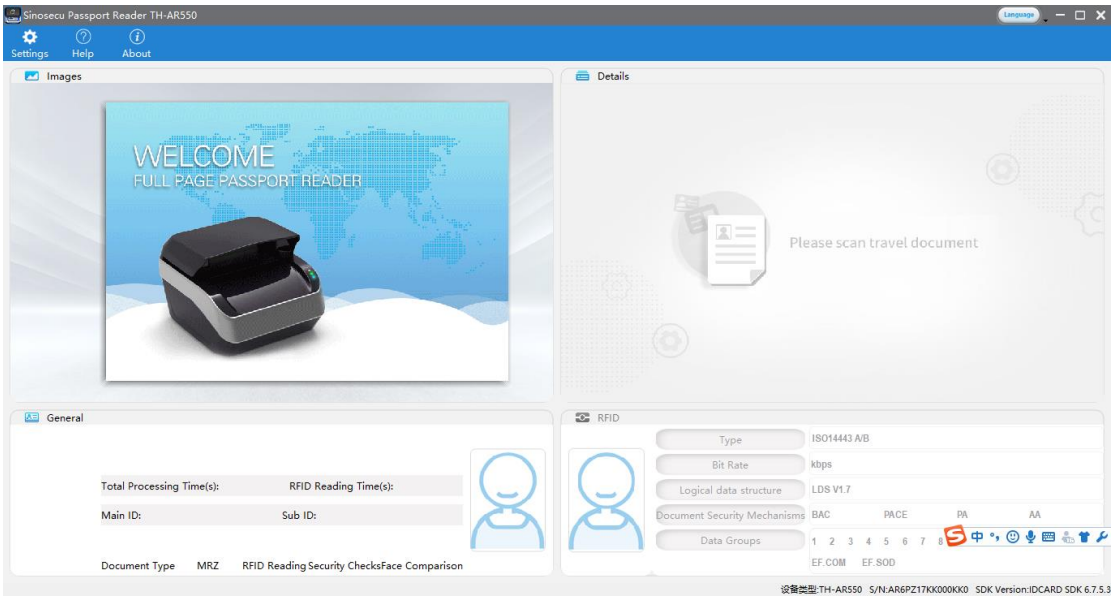


3.1.2 Connected to the device



3.1.3 Operational gif

When the EPRDemo is connected to the passport reader for the first time or when the passport reader is connected to the software, the picture display area will play the gif picture placed on the certificate.

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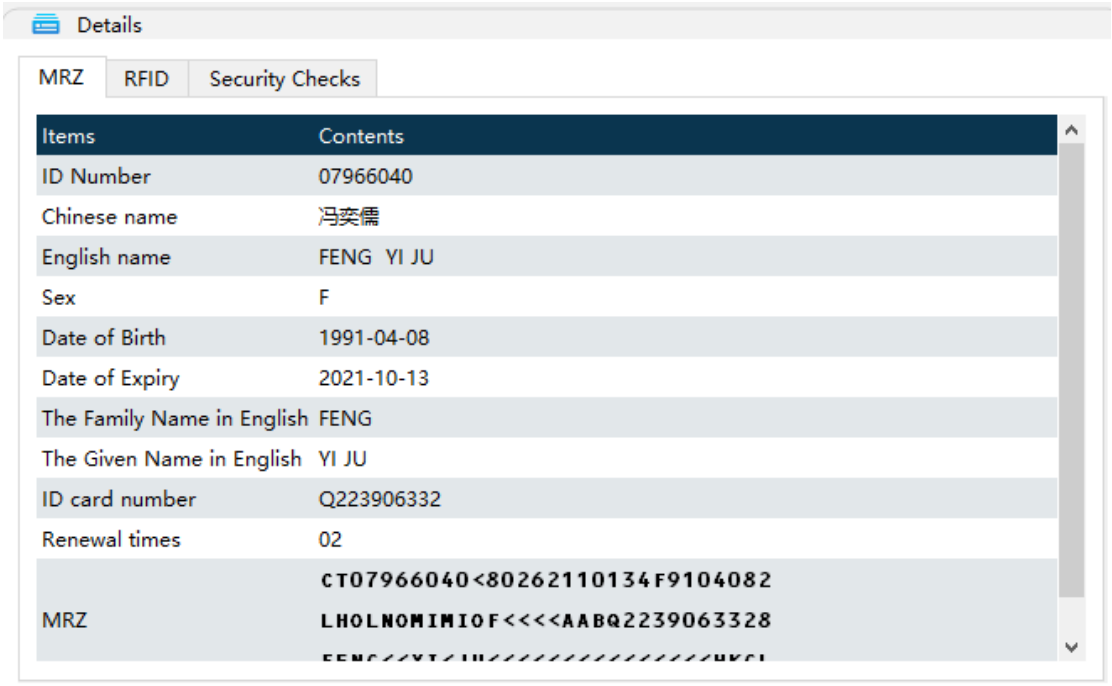
3.2 Details zone

The information display area is displayed according to different functions and is mainly divided into MRZ, RFID, barcode, and security feature areas.

3.2.1 MRZ

The MRZ interface is used to display the identified MRZ codes and the content parsed from the MRZ codes, such as the common date of birth, the issuing country code, passport number, name, etc.。



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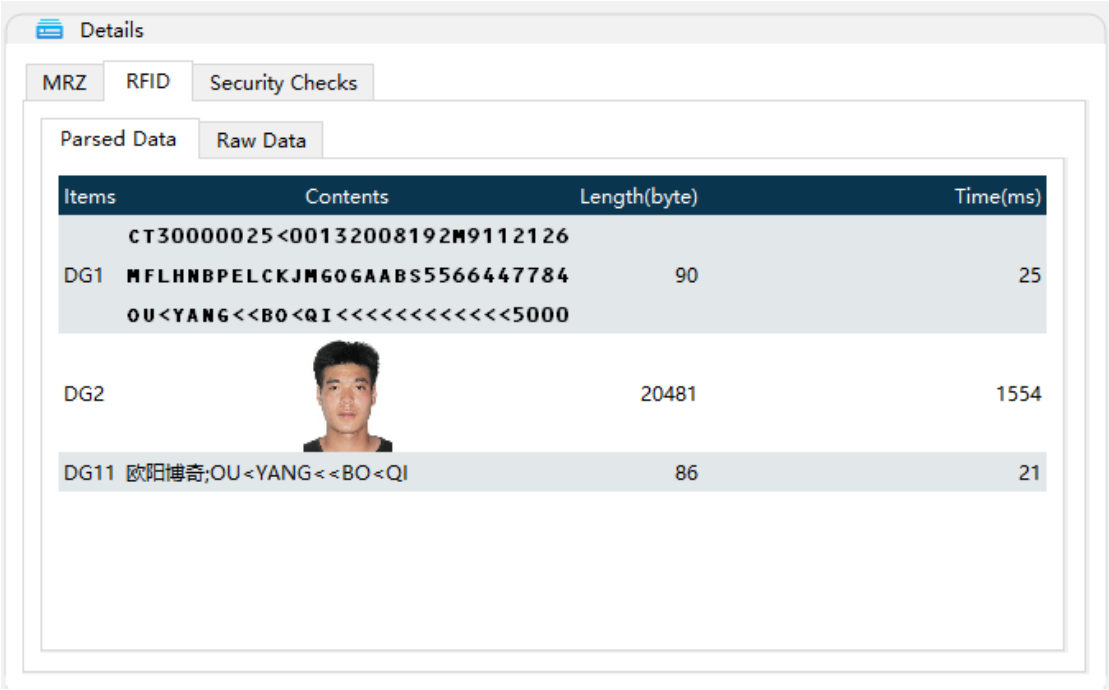
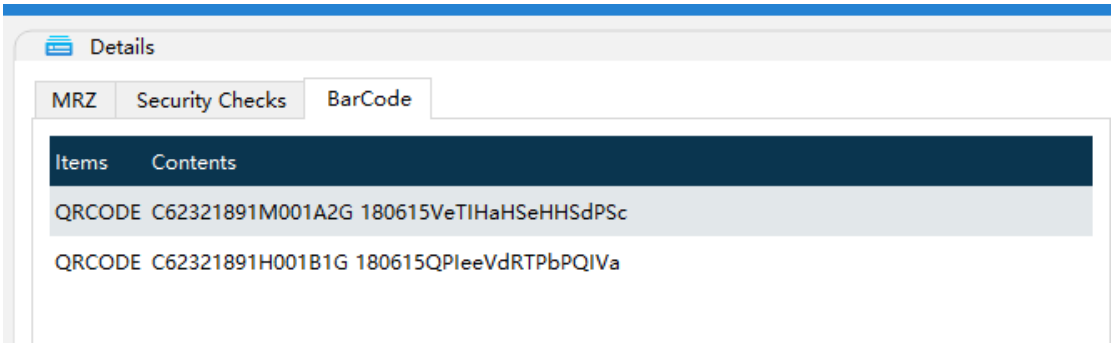
3.2.2 RFID

The information displayed by the RDID information comes from the chip in the certificate and is divided into parsed data and original hexadecimal data.



3.2.3 barcode

This screen shows the identified barcode type and what the barcode contains. The ordering of barcodes is based on the order of recognition, regardless of sequence.



3.2.4 Security checks

After the security feature is turned on for detection, the interface will be displayed in the information display area.

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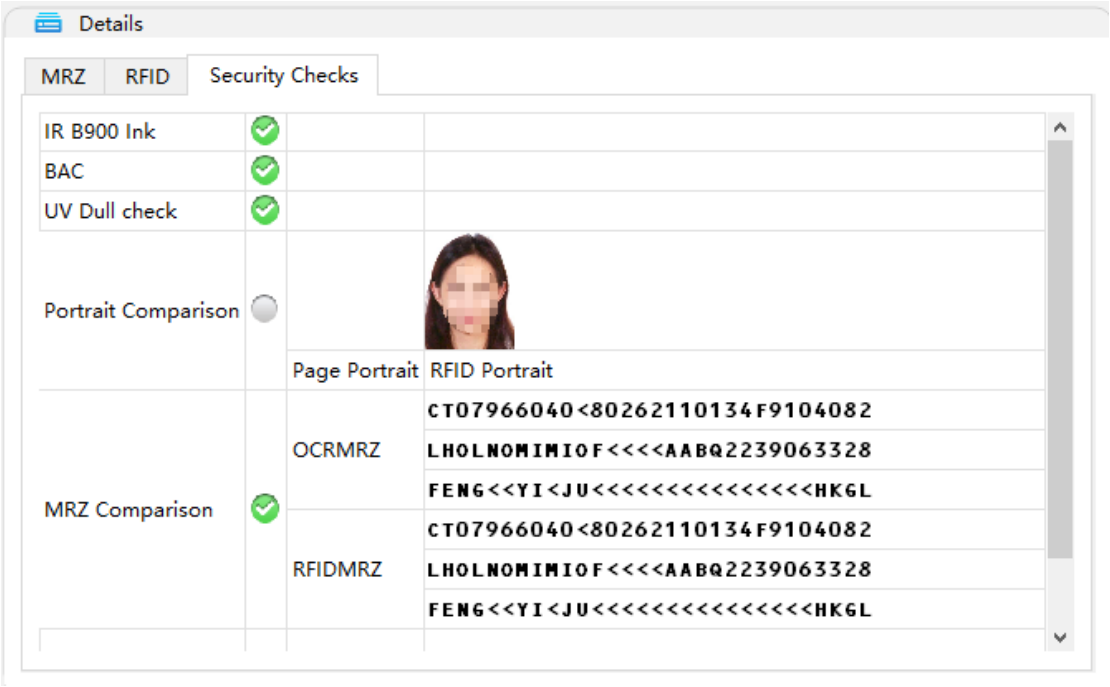
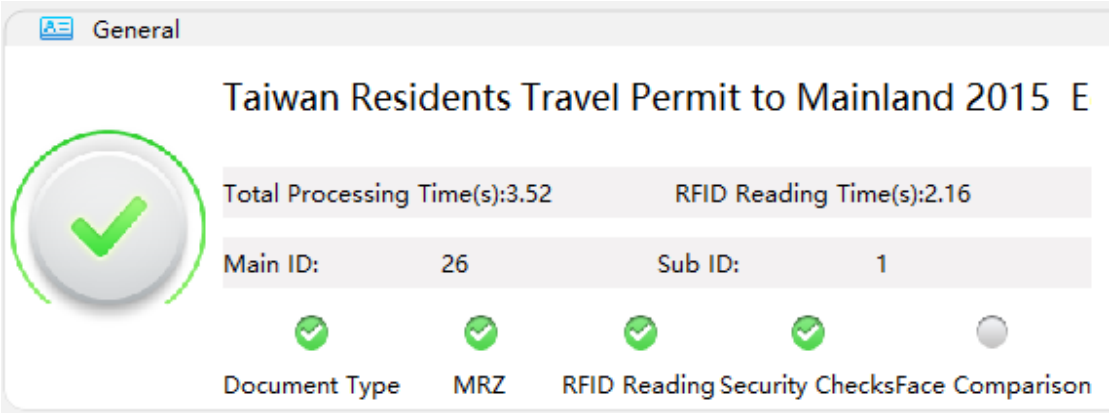


3.3 General

The certificate information area will display the name of the certificate, the type of the certificate and its subtypes (see the SDK development documentation), the total processing time, and the RFID reader time and status.



3.3.1 Status

Status is divided into total status, valid certificate type, machine reading code, RFID reader, security feature detection and face recognition.

During the process of image acquisition and recognition, the overall status will show a progress bar indicating that it is being processed. When the progress bar stops cycling, it indicates that all operations of this time have been completed. At this point, you can remove the document.

- Valid ID Types:
  - Red:Indicates that the card is not currently supported
  - Green: Indicates that this document is supported
- Machine reading code

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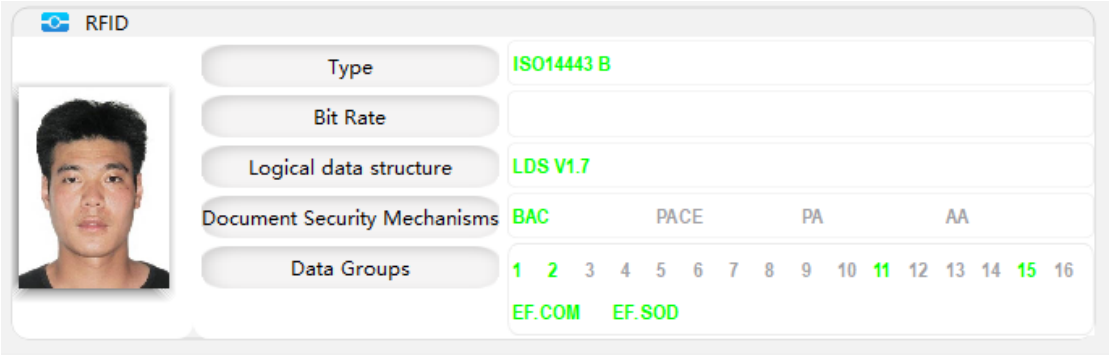
- Green: means that the document detected organic reading code
- Red: indicates a problem with the recognized machine reading code
- Gray: means no machine reading code

- RFID reading：
- Green represents the success of the RFID reader; red represents the failure of the RFID reader; gray represents no such item
- The security feature is detected. The green color indicates that the security feature is detected. Red indicates that the security feature fails. Gray indicates that the security feature is not available.
  - Currently supports infrared B900 detection
  - UV dull check
  - Avatar Matching
  - Machine reading code comparison

3.4 RFID

When the device does not have an RFID reader function, the RFID information area will turn gray to indicate that this function is not available.



RFID information is divided into 6 parts as shown below

- Chip head portrait, portraits stored in the ID chip
- Chip information: In accordance with international standards, non-contact chip quantification ISO14443 A or ISO14443 B, if the device can not distinguish the chip type, it shows ISO14443A/B
- Transmission rate: The maximum transmission rate supported by the chip during the reading of the chip. The maximum transmission rate is 848 kbps.
- Logic data structure: shows the version of the logical data structure, supports 1.7 and 1.8
- Document security mechanism: BAC, PACE, active AA, and passive PA. Green indicates that the authentication is supported, and gray indicates that the authentication is not supported
- DGs： According to the ICAO 9303 standard, there are 18 data areas in the ID chip, namely DG1-16, EF.COM and EF.SOD. See ICAO documents for details. Green represents data in the data area of the chip; gray represents data in the data area

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4 Status bar

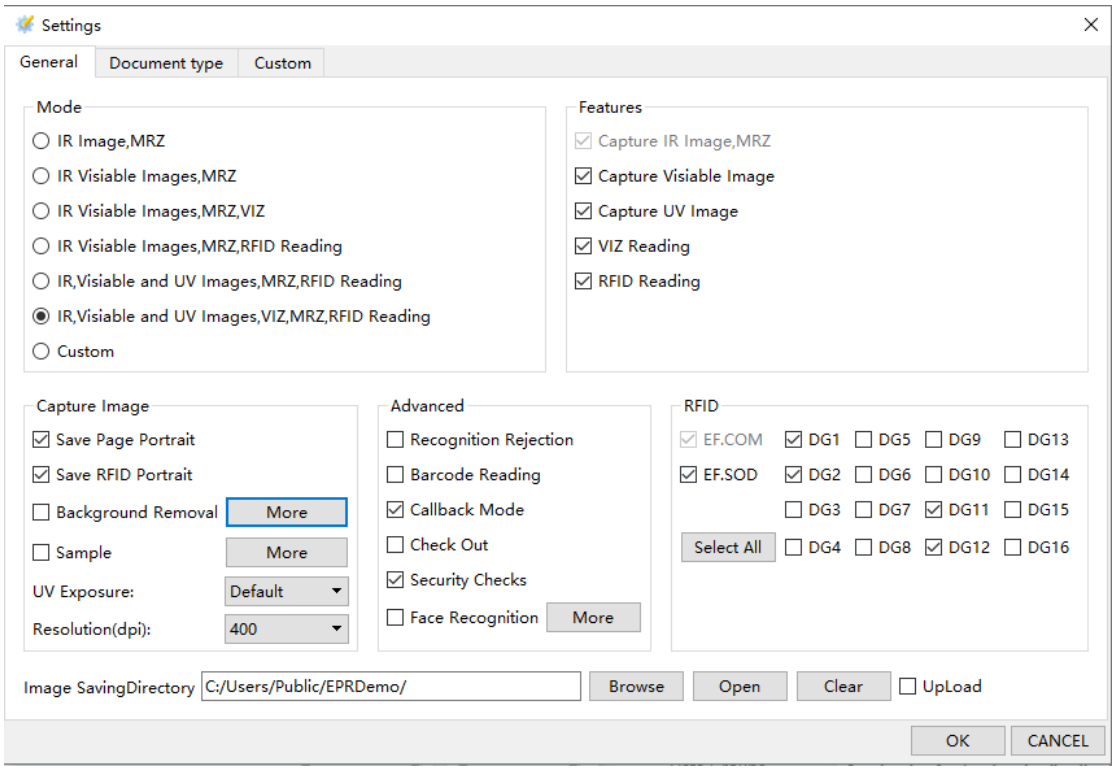
The status bar is used to show whether the device is currently connected to the device. If connected to the device, the model, serial number, and SDK version number of the currently connected device will be displayed. If the device is not connected, it will prompt that the device is not connected.

Connected to device

Not connected to device

5 Settings

After clicking the setting button, the main interface will pop up the setting interface. The setup interface is divided into 3 parts, system settings, certificate type settings, and custom button settings.



5.1 General

5.1.1 Reading Process and Document Reading Process Setting

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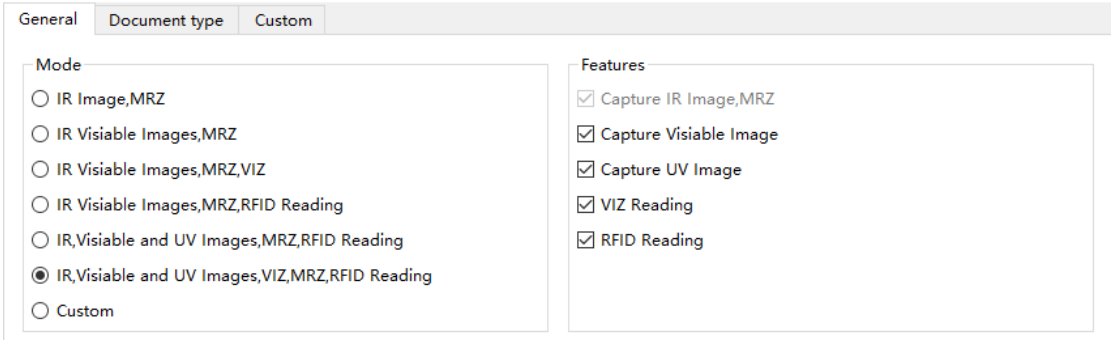
This is the core function point of the certificate identification system. In combination with the customer's usage scenario, the software is divided into six fixed reading modes and one custom mode; the identification process of document reading is a key function in the certificate identification system.



Recognition mode interpretation:

Infrared image acquisition, MRZ recognition (fast)

Only one infrared image will be saved in this mode, and only the MRZ code will be recognized. This mode can identify the machine reading code of passports, home return cards and other documents. In this mode, the machine reading code can be parsed in the fastest 1s.

For documents without a machine-readable code, MRZ recognition will be skipped and the entire document will be OCR-recognized.

Capture infrared, white light images, MRZ recognition

Infrared and white light maps are saved in this mode, and then MRZ recognition

Capture infrared, white light images, MRZ recognition, VIZ recognition

In this mode, infrared and white light images are saved, and MRZ recognition and VIZ recognition are performed.

Capture infrared, white light images, MRZ recognition, RFID readers

In this mode, infrared and white light images are stored, and MRZ code recognition and RFID reading are performed.

For documents without MRZ and chips, these two steps will be skipped.

Collect infrared, white light, ultraviolet image, MRZ recognition, RFID reader

In this mode, infrared and white light images are stored, and MRZ code recognition and RFID reading are performed.

For documents without MRZ and chips, skip these two steps

Collect infrared, white light, ultraviolet image, MRZ identification, VIZ identification, RFID reader

In this mode, infrared and white light images are stored, and MRZ code recognition and RFID reading are performed.

For documents without MRZ and chips, these two points will be skipped.

5.1.2 Capture image

The setting options of the image acquisition setting area are shown in the figure below.

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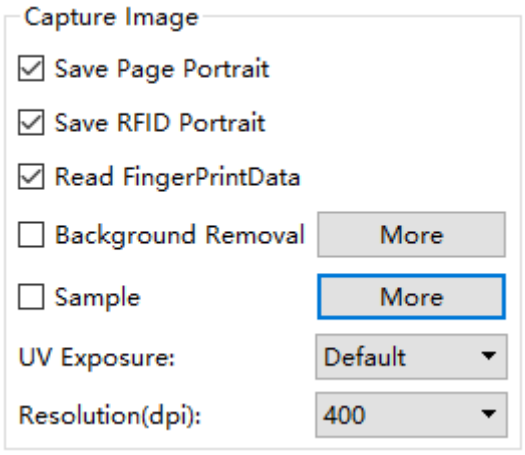


Save Page Portrait

This is related to the reading mode and reading flow settings. If no white light image is selected, then it is not possible to save the photo headshot.

Save RFID Portrait

If you choose to read the chip and select DG2 in the RFID settings, then after successfully reading the electronic credential chip, the chip's avatar will be displayed on the interface.

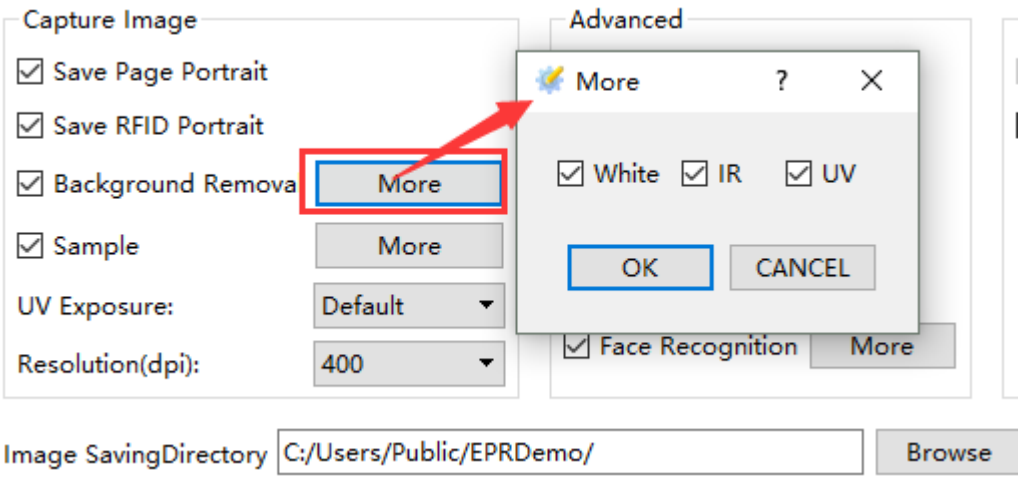
Read FingerPirntData

Only applicable to the China Resident Identity Card, determine whether there is fingerprint data in the card

Remove background

When there is a spotlight, a fluorescent lamp, or a strong external light above the device, a background function can be added, which can effectively reduce the influence of external light on the recognition.

After checking the background removal, click the Advanced button to further set which images need to be removed.



Sample

When the recognition effect of certain documents is not good or we need to customize and develop a document, we can quickly collect samples by setting the sampling function. EPRDemo automatically saves samples in the image save path when it is placed in the

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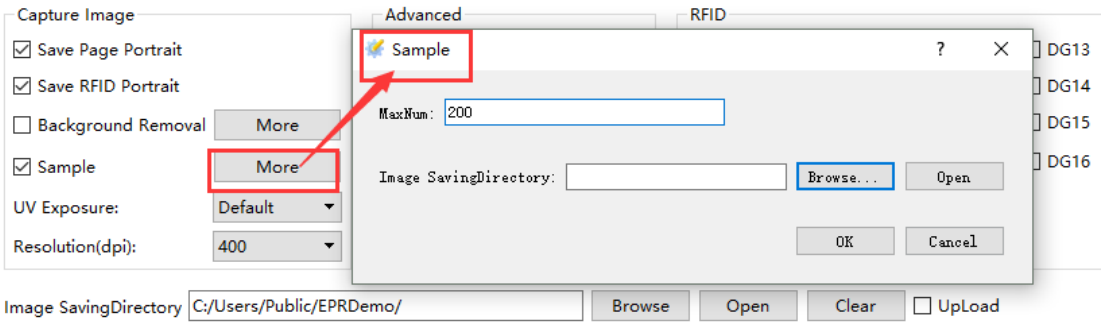
badge for recognition.

The maximum number in the following figure is the maximum number of sample images that can be stored in the save path. If this number is exceeded, forward overwrite (overwrite the oldest saved image) will be used.



UV exposure

Currently supports setting UV exposure level, which can be set according to your needs. The default is the factory setting.

The exposure level is divided into:

- Factory setting
- Manual setting
  - Strong
  - Medium
  - weak

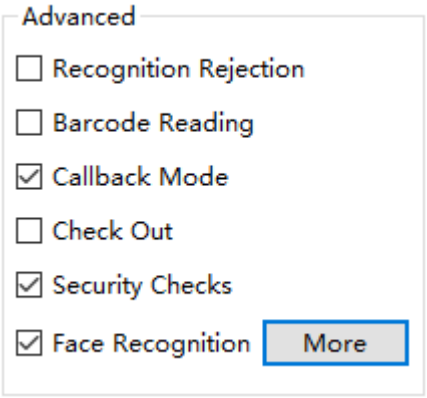
Resolution setting

For devices with 400dpi resolution, only 400dpi can be selected.

Resolution 500dpi device, the resolution can be set 400dpi and 500dpi, the default is 400dpi. After 500dpi is selected, the recognition time will be longer.

5.1.3 Advanced settings

There are six items in the advanced settings, namely, the enable reject function, enable barcode recognition, enable callback mode, detect certificate out, start security feature detection, and enable face recognition.



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Rejection

After the rejection is enabled, the result will not be output if the recognized result is larger than the result of the certificate.

Enable barcode recognition

After checking this setting, the software will try to find the bar code on the certificate. If the bar code is found and recognized, a bar code interface for displaying bar code type and bar code content will be displayed in the information display area, otherwise the bar code interface will not be displayed in the information display area.

Enable certificate out

This function is used to detect whether the certificate is removed. After the certificate is enabled, if the certificate is removed, EPRDemo will clear the display and switch to the default interface. This setting is not activated. After the badge is removed, EPRDemo displays the last recognized badge image and recognition result.

Enable callback mode

After the callback mode is enabled, when the image is acquired and the certificate information is obtained, it will be synchronized to the software immediately; when the callback mode is not enabled, the software will display the image and the recognition result after the recognition is completed.

Enable security feature detection

Currently supported security feature detection includes:

- IR B900 Ink: Determine if there is any visible text under infrared light
- BAC: For ICAO 9303 standard electronic documents, determine whether the certificate supports BAC certification
- Violet dullness: detecting the presence of violet light
- Avatar comparison: compare the chip avatar and layout avatar to determine whether it is the same person
- MRZ match: compare MRZ code on chip and certificateEnable
- face recognition

Need to cooperate with demonstration software of China Security Face Recognition System to enable this function. Face recognition has two functions, which are live detection and face matching.

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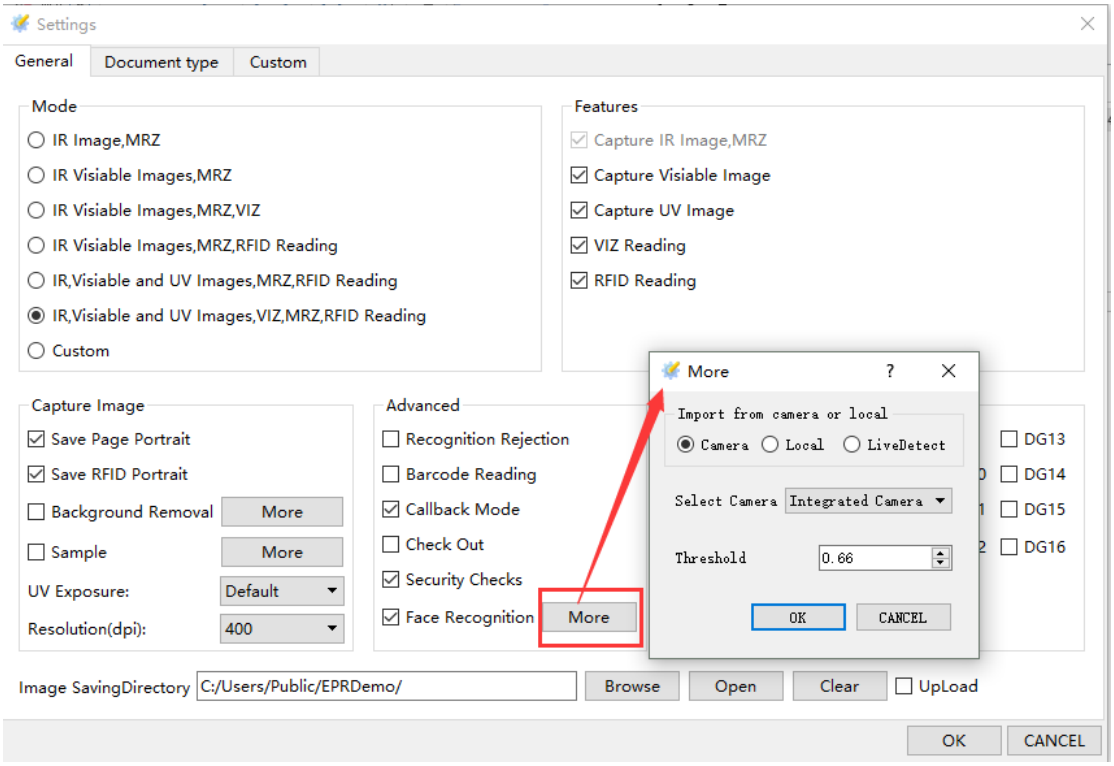
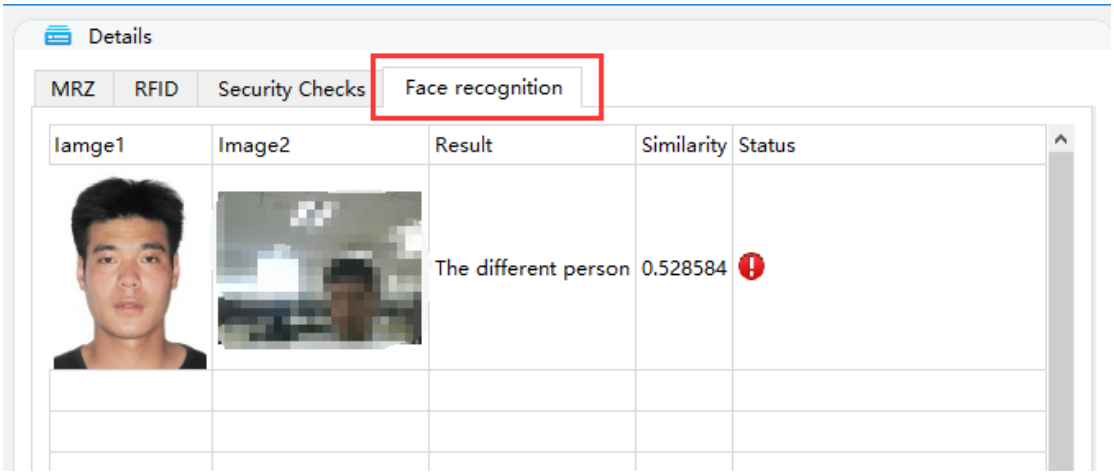


Face matching supports capturing images from the camera or acquiring images locally, and then comparing them with the avatar acquired from the device. The comparison results are shown in the face recognition field of the information display area. In addition, the pass rate can be controlled by adjusting the threshold.



Live detection is divided into coordinated live detection (shaking head, blinking, smiling), and non-combined live detection (only face in front of the camera, need to cooperate with the Sinosecu binocular live camera).

5.1.4 RFID settings

The RFID reader setup is an electronic document only for the ICAO 9303 standard, and has nothing to do with the second generation card reader. The DG2 is associated with the

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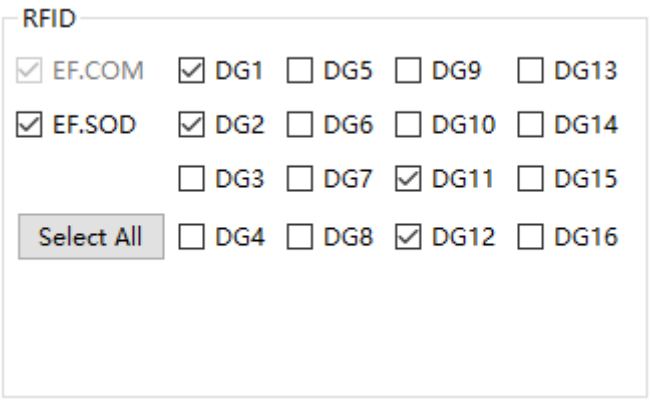
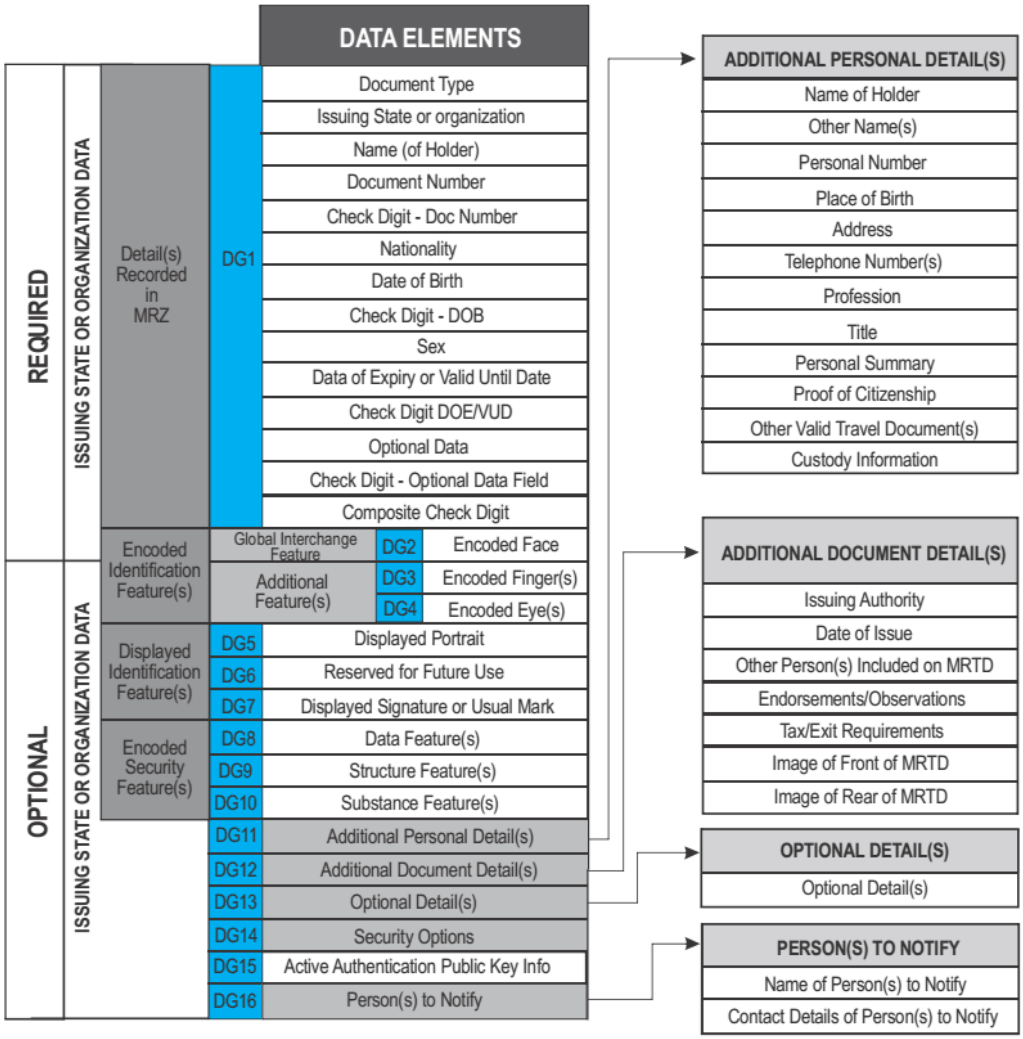
saved chip head in the image acquisition setup.



See the figure below for the explanation of DG



5.1.5 Image saving setting

The software will automatically save the image on the computer during the recognition process. The default path is C:\Users\Public\EPRDemo (different operating systems and computer paths are different). Users can click the “Browse” button to set the image saving

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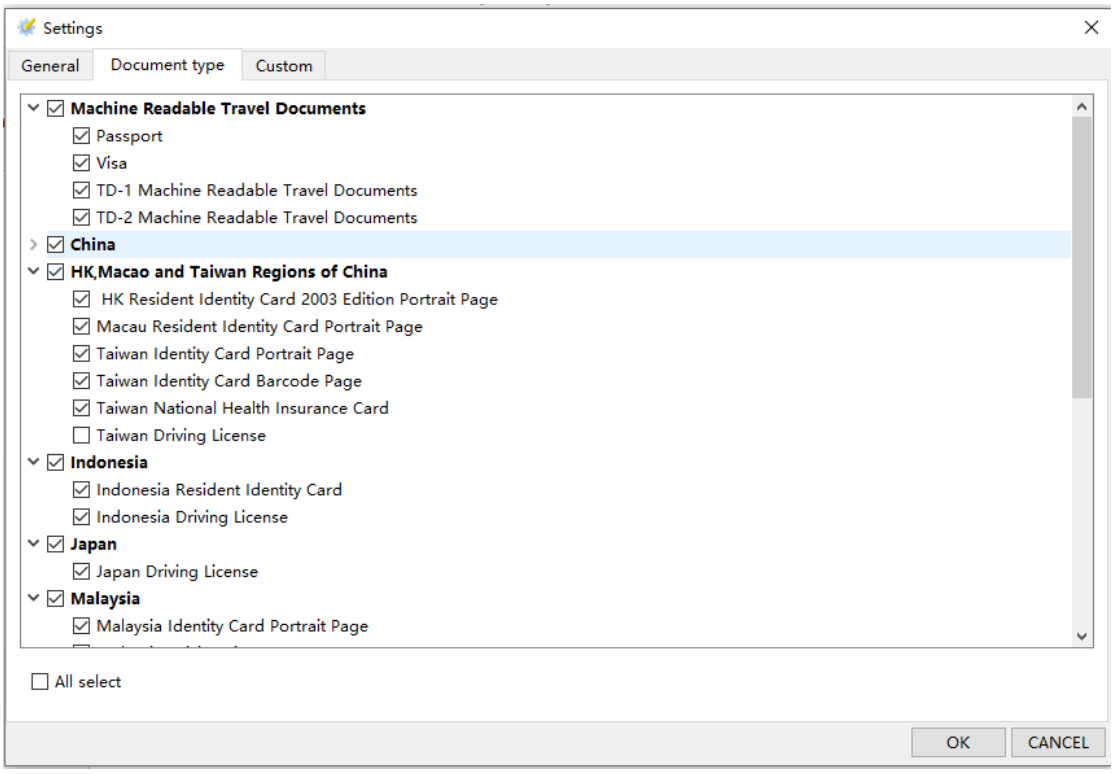
path.

Open folder and empty folder: It is a shortcut to quickly find the captured image and cleared the image. If the number of pictures in the folder is very large, it will take a certain time to empty the folder.

Upload: Upload the captured image to our server.

5.2 Document type

The document type setting shows all the documents that support automatic classification in the current document identification system. Except for common machine-readable documents, Chinese mainland documents, Hong Kong, Macao and Taiwan documents, other documents are sorted by the English name of nationality.



5.3 Custom button settings

The custom button settings are divided into two parts, Acquisition Image Settings and Custom Button Settings.

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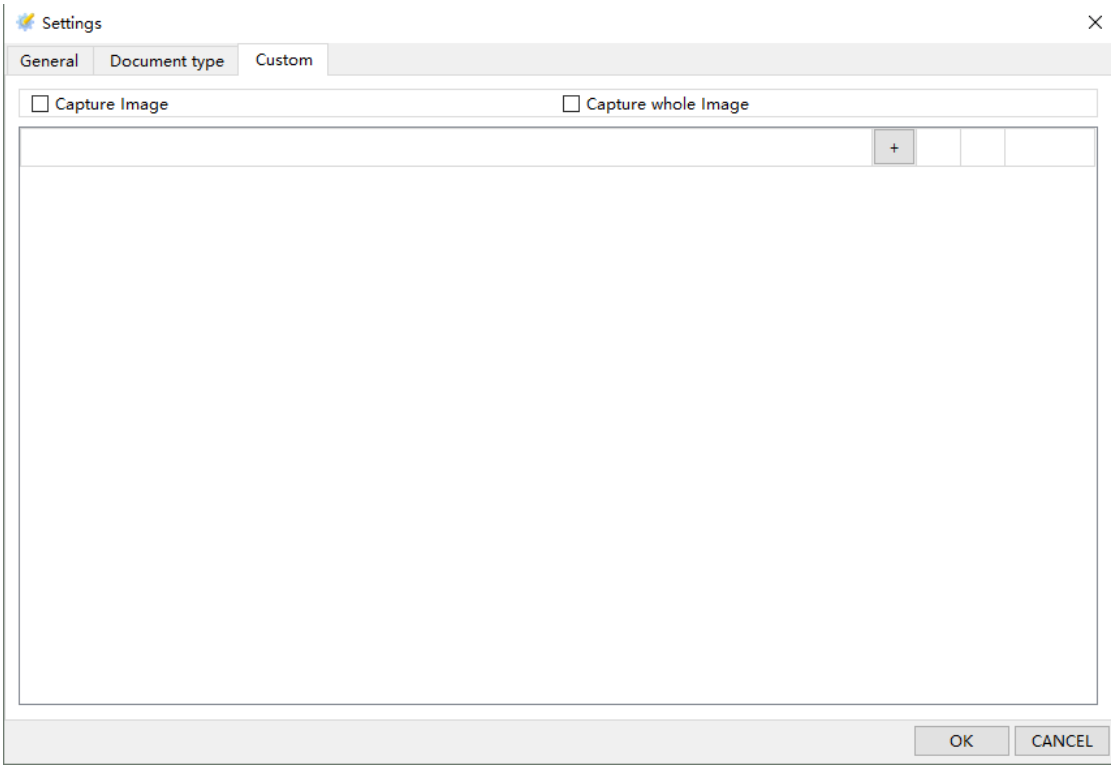

5.3.1 Capture image settings

After you select the captured image, a button for capturing the image will appear on the toolbar. You can select and deselect the selected image. The full image and the acquired image are used together. When the full image is not selected, the image and document image are acquired in the captured image mode. Consistent (minimum image is ID1 type); When the full image is selected, the size of the image captured in the captured image mode is determined by the currently connected device, which is the maximum effective image range currently collected by the connected device and is approximately equal to the size of the capture window.

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Not selected to capture full image

Full image

5.3.2 Custom buttons

It supports up to 10 custom buttons in EPRDemo

-: delete

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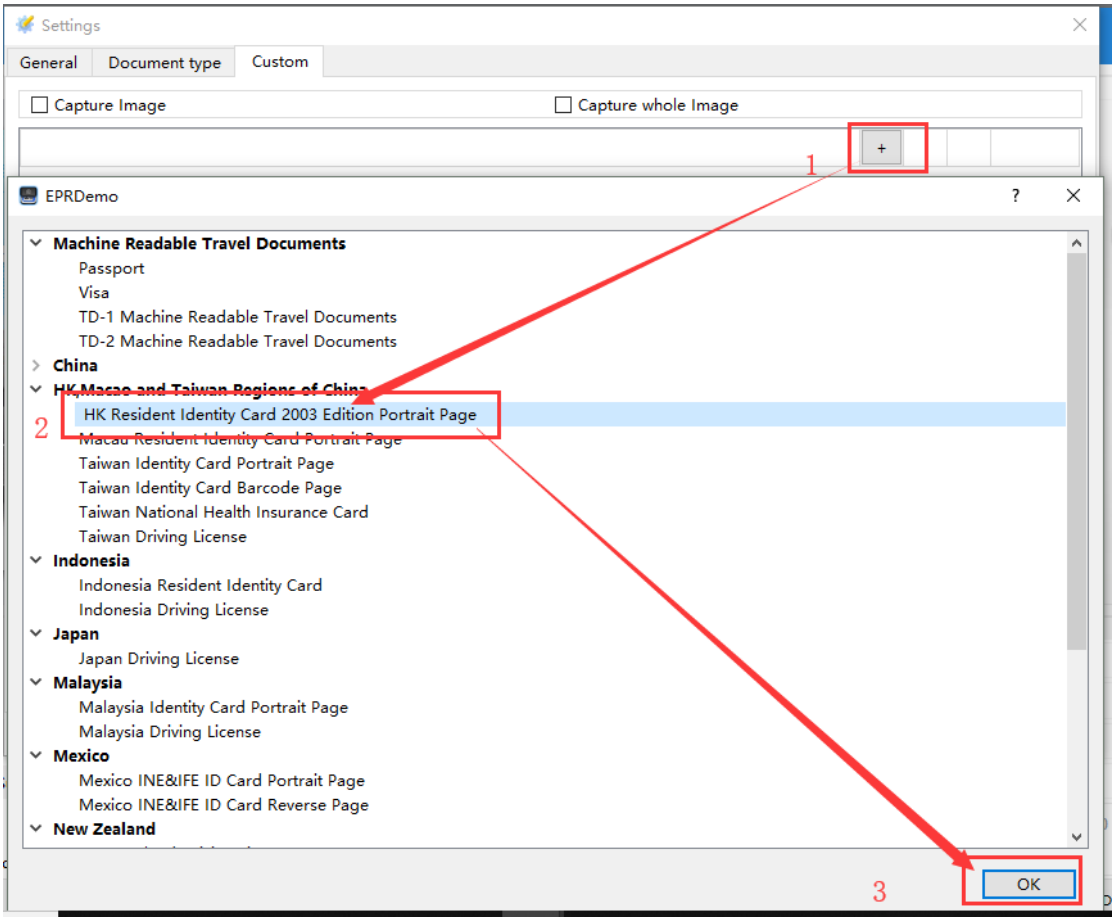
↑: move up

↓: move down

+: add

Add a custom button as shown below



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