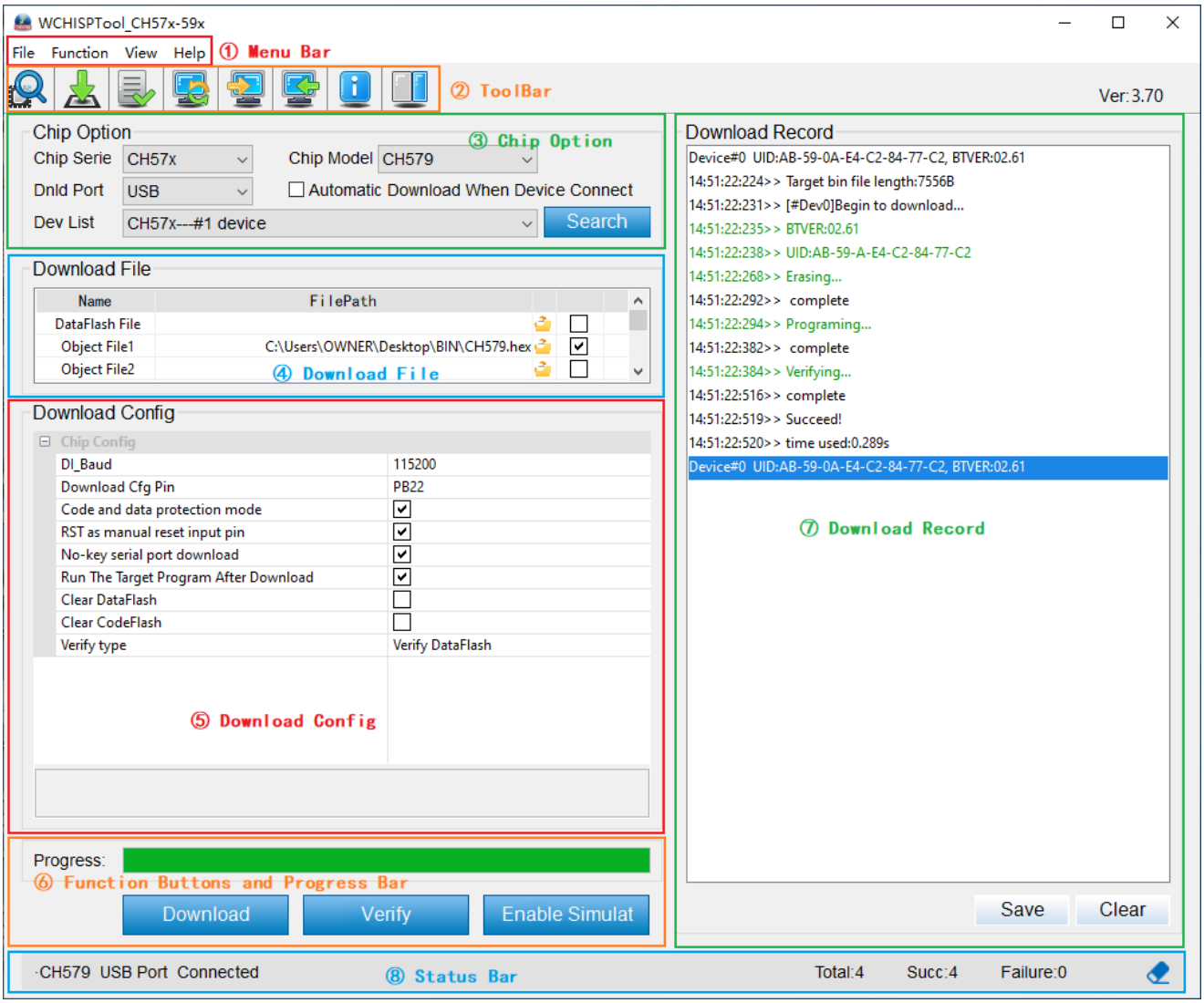
# WCHISPTool_CH57x-59x Instruction

## 1. Detailed explanation of software features

### 1.1 Software interface distribution




The software contains functional areas are as shown above:

① Menu bar : List of software menus.

② Toolbar : Icon software toolbar.

③ Select chip : Chip information selection and display.

④ The file of download : The area of target program file and DataFlash file ,and the software can automatically concatenate 1 to 5 hex file.

⑤ The configuration about download : The information of chip configuration,you can change the configuration as required.

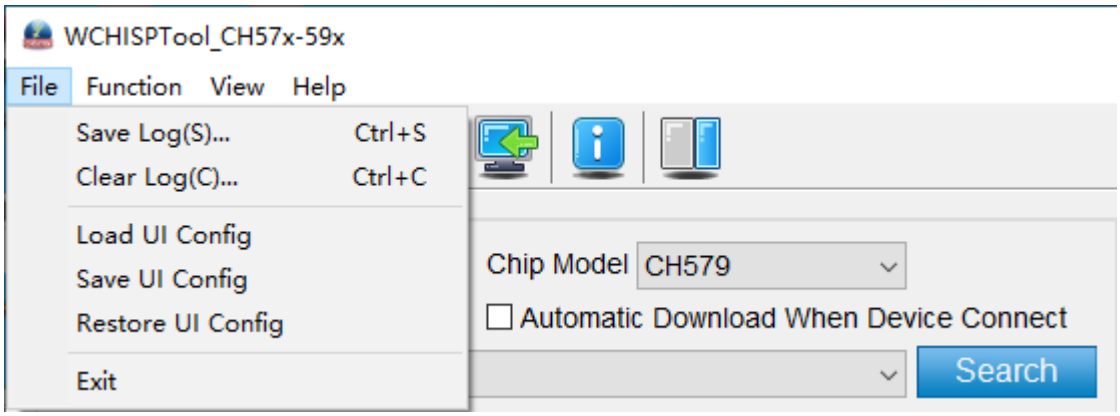
⑥ Function buttons and progress bars : The area that display function buttons and progress completed.

⑦ The record of download : Display the information of download or verification ,which can be saved or cleared.

⑧ Status bar : Display the information of device connection and the counting information of download.

## 1.2 Menu bar function

The menu bar has four items: File, View, Functions, and Help. The sub-menu bar functions of each item are as follows.



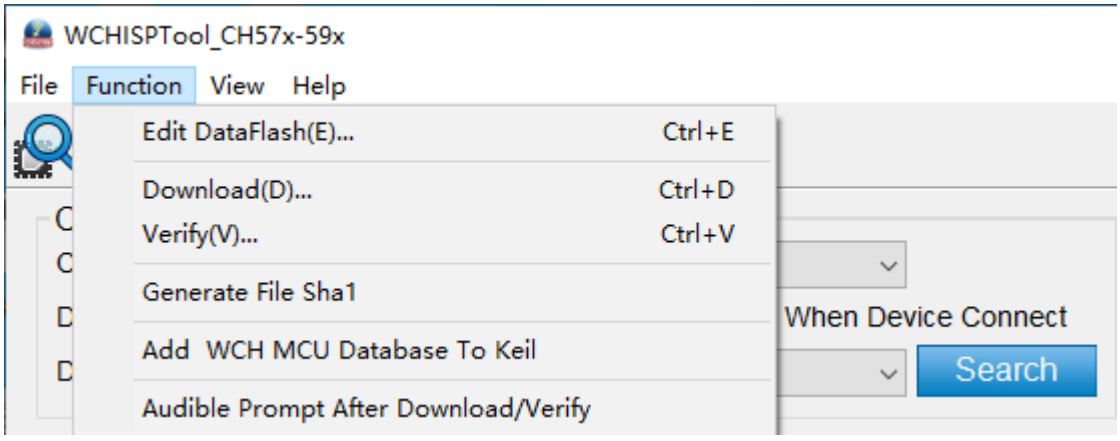

File——>Save Log.Save the log information generated during the download or verification operation, whose function is consistent with the save button Save in ⑦.

File ——>Clear Log.Clear the log information generated during the download or verification operation, whose function is consistent with the clear button Clear in ⑦.

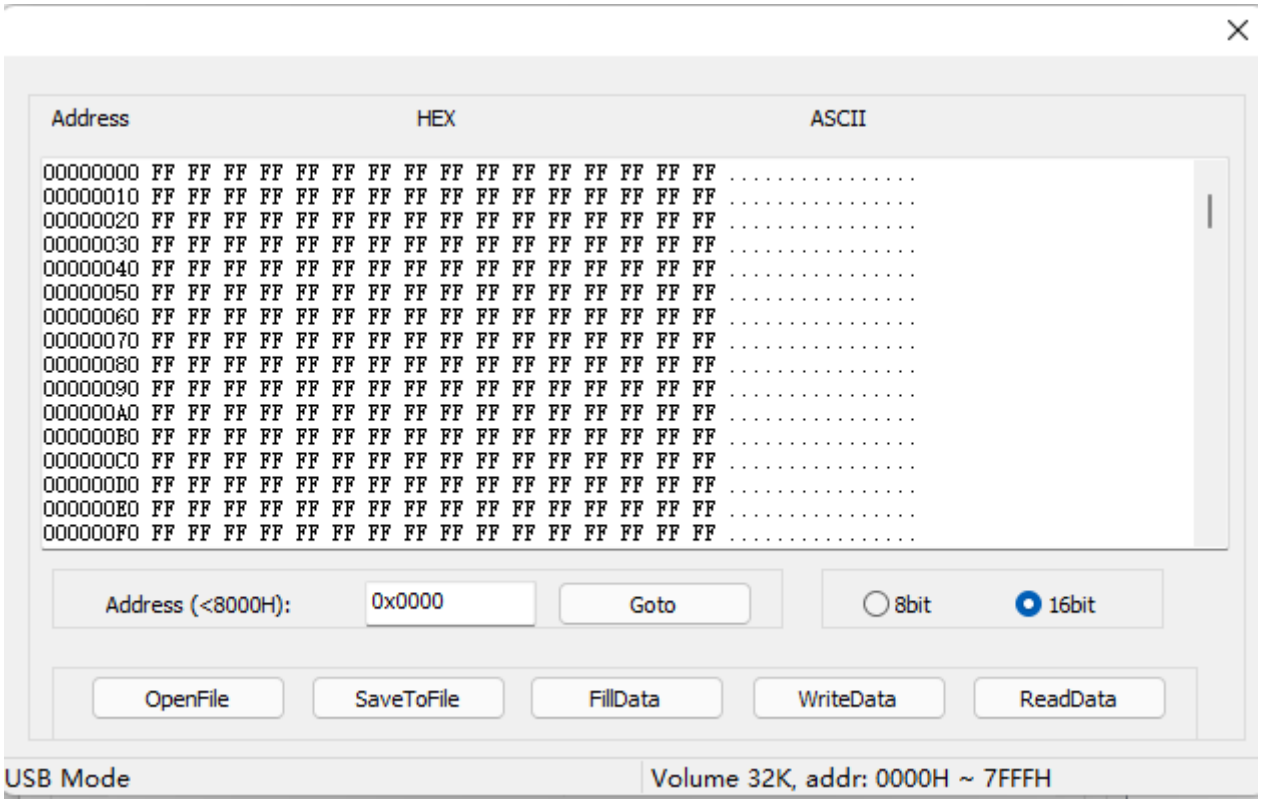
File ——>Load UI Config. After importing the configuration information of the fixed model, selecting the configuration file and importing the configuration, the software will automatically switches to the model in the configuration file and its corresponding configuration information, including the download interface, file selection, download configuration, etc, whose function is consistent with the import interface configuration in ②.

File ——>Save UI Config.Save the current interface model and its corresponding configuration information, including download interface, file selection, download configuration, etc, whose function is consistent with the export interface configuration in ②.

File ——>Restore UI Config.Restore all configurations of the interface to the initialized state, whose function is consistent with the restore default configuration in ②.




Function ——>Edit DataFlash.The interface for editing DataFlash is shown below.




Function ——>Download.Download the selected file to the device, whose function is consistent with the download button  in ② and download buttor  in ⑥.



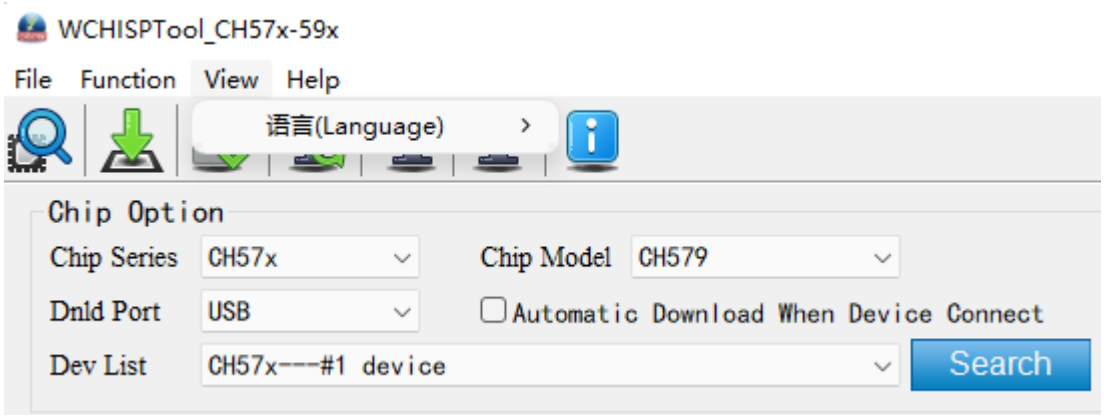
Function ——>Verify.Verify that the selected file matches what was downloaded on the device , whose function is consistent with the download button  in ② and download button  in ⑥.



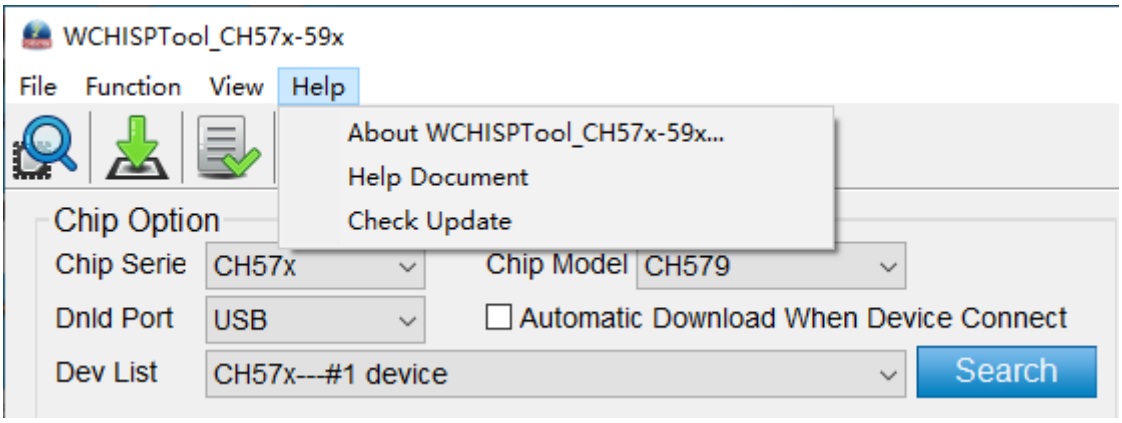
Function ——>Generate File Sha1.Generate the file SHA1 code.

Function ——>Add WCH MCU Database To Keil.

Function ——>Audible Prompt After Download/verify.




View ——>Language.Switch between Chinese and English.




Help ——>About WCHISPTool_CH57x-59x.Displays the version number and copyright.

Help ——>Help Document.Click to jump to the help documentation for the chip series.

Help ——>Check Update.

### 1.3 Main interface function

In addition to the functions mentioned above, the main interface has the following function buttons:

Search device  in ② - After selecting the download interface, you can click the search device to search, and the searched device can be viewed in the device list, whose function is consistent with the the search function button  in ③.

Show or hide MCU Series Selection Window  in ②-Use it in WCHISPStudio. By clicking this button, you can show or hide the MCU series selection interface on the right.

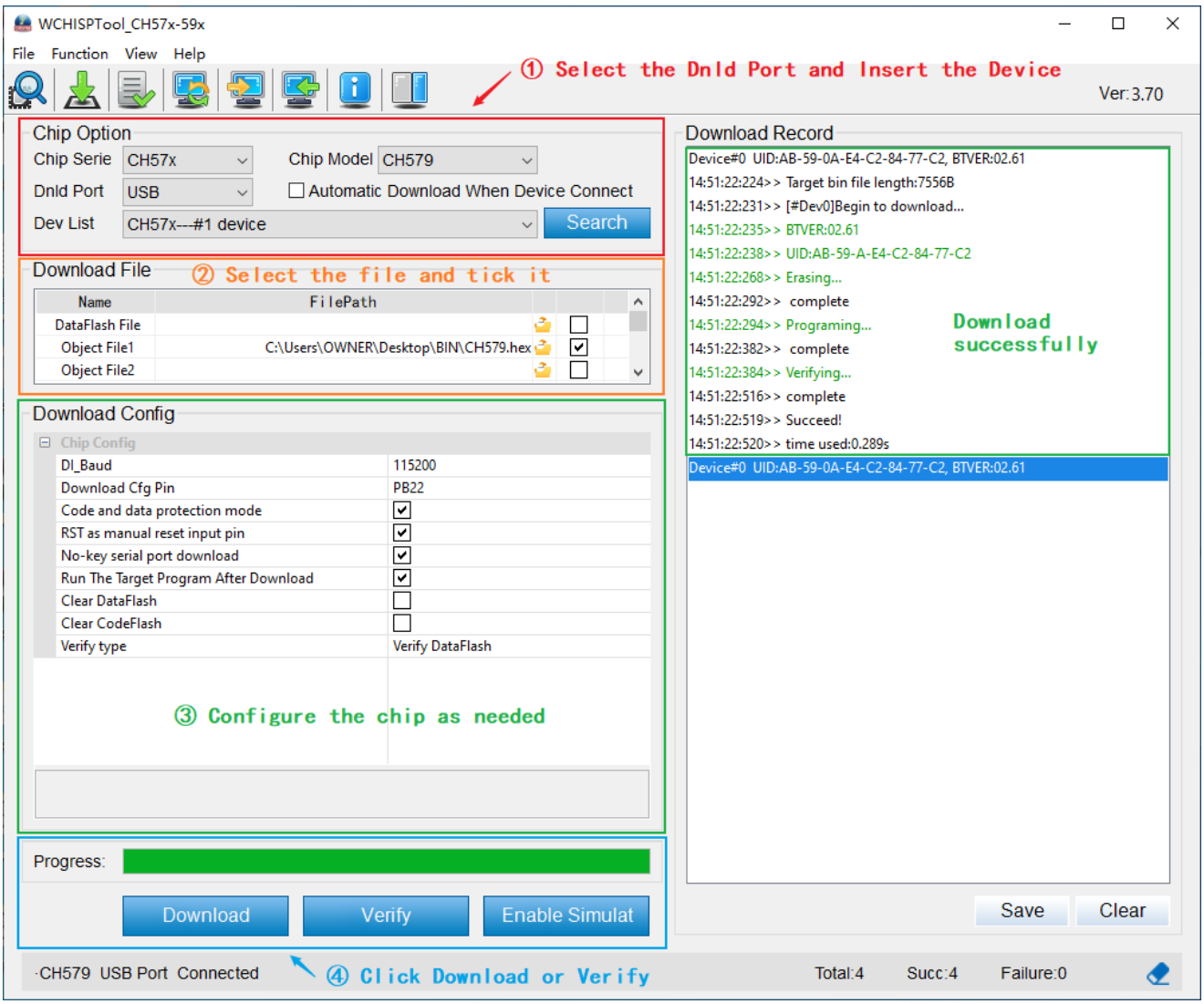
Open two-wire emulation interface  in ⑥ - open two-wire emulation debugging interface.

The clear button  in ⑧ - clear the download count information in the status bar.

## 2. Instructions for the steps

### 2.1 Interface download and verify

The procedure is shown below (Select USB as the download interface).




**Note:** The user program file can choose bin file or hex file, hex file can choose 5 for splicing, bin file can only choose 1, can not select hex file and bin file at the same time.

## 2.2 Download or verify by command line

### 2.2.1 Instruction parameter description

| Command headers and instructions | Parameters and descriptions |
|---|---|
| **-p** Target serial port | **COM1,COM2,COM10…** Letters need to be capitalized |
| **-b** Download baud | **115200/1M/2M** Letters need to be capitalized |
| **-c** The full path name of the configure file | **xxx.ini** Full path name |
| **-o** The type of operation | **download/verify/en-simulat** Download/Verify/Enable the simulat |
| **-f** The full path name of the target program file | **xxx.hex/xxx.bin** Full path name |

The sample of download parameter :

```
-p COM1 -c "D:\Temp\cfg1.ini" -o download -f D:\Temp\data.bin
```

The sample of verify parameter :

```
-p COM1 -c "D:\Temp\cfg1.ini" -o verify -f D:\Temp\data.bin
```

**Notes:**

① All command headers and parameters must appear in pairs in the format "-x xxx".

② If there is a space in the parameter,the double quotation mark must be added when calling.

③ Download or verify by serial port is required to pass in -p,-c,-o,-f instructions.

④ Download or verify by serial port is required to pass in -p,-c,-o,-f instructions.

### 2.2.2 Fault code and fault cause

| Fault code | Fault cause |
|---|---|
| 0 | Execute successfully |
| 1 | Invalid input parameter |
| 2 | Failed to get parameters from the configuration file |
| 3 | Failed to set ISP parameters |
| 4 | The specified serial port name is invalid |
| 5 | Not enumerated to device |
| 6 | The specified chip type is not consistent with the actual chip type |
| 7 | Failed to get the device information |
| 8 | Invalid Flash file path |
| 9 | Invalid Flash file length |
| 10 | Failed to read the Flash file |
| 11 | The Flash file HEX to BIN failed |
| 12 | Failed to disable read protection |
| 13 | Failed to download |
| 14 | Failed to verify |
| 100 | Unknown error |

### 2.2.3 Configuration file

The configuration file to use this software "save configuration" on the surface of the generating function, a detailed operation: double-click to open the software, select the chip, the download configuration interface and according to the need to change the configuration items, click on the main menu "File - > Save UI Config", or the button"Export Interface Configuration" in toolbar, and then select the configuration file name and save the path. The configuration file format is as follows. You can change the parameter values as required:

```
[Public]
MCUName=CH579
bMCULine=3
bMCUType=121
DataFlashFile=.
swzUserFile1=D:\TEMP\CH579.hex
swzUserFile2=.
swzUserFile3=.
swzUserFile4=.
swzUserFile5=.
DataFlashFileSel=0
IsUserFile1Sel=1
IsUserFile2Sel=0
IsUserFile3Sel=0
IsUserFile4Sel=0
IsUserFile5Sel=0
[CH57x-59xUICfg]
bDnInterType=0
Baud=115200
DwnldCfgPin=PB22
BootPinNum=1
WProtectAddr=.
IsCodeProtect=1
IsRSTAsInputPin=1
IsSerialNoBtnDwnld=1
IsClearDataFlash=0
IsClearCodeFlash=0
IsAfterDownRest=0
bVerifyType=1
```

### 2.2.4 Download process

The successful download and the failed download are shown below.

**Download successfully**

```
E:\ISPTOOL\WCHISPTool_New20230406\WCHISPTool_CH57x-59x>WCHISPTool_CH57x-59x.exe -p COM14 -c D:\Config\CH579.INI -f D:\TEM
P\CH579.hex -o download

E:\ISPTOOL\WCHISPTool_New20230406\WCHISPTool_CH57x-59x>
====WchIspCH57x-59x====

SERIAL PORT:   COM14

CFG FILE PATH:    D:\Config\CH579.INI

FLASH FILE PATH:  D:\TEMP\CH579.hex

{"Device":"CH579","Status":"Ready"}
{"Device":"CH579","Status":"Programming","Progress":0%}
{"Device":"CH579","Status":"Programming","Progress":10%}
{"Device":"CH579","Status":"Programming","Progress":20%}
{"Device":"CH579","Status":"Programming","Progress":30%}
{"Device":"CH579","Status":"Programming","Progress":40%}
{"Device":"CH579","Status":"Programming","Progress":50%}
{"Device":"CH579","Status":"Programming","Progress":60%}
{"Device":"CH579","Status":"Programming","Progress":70%}
{"Device":"CH579","Status":"Programming","Progress":80%}
{"Device":"CH579","Status":"Programming","Progress":90%}
{"Device":"CH579","Status":"Programming","Progress":92%}
{"Device":"CH579","Status":"Programming","Progress":94%}
{"Device":"CH579","Status":"Programming","Progress":96%}
{"Device":"CH579","Status":"Programming","Progress":98%}
{"Device":"CH579","Status":"Programming","Progress":99%}
{"Device":"CH579","Status":"Programming","Progress":100%}
```

**Download failed**

```
E:\ISPTOOL\WCHISPTool_New20230406\WCHISPTool_CH57x-59x>WCHISPTool_CH57x-59x.exe -p COM14 -c D:\Config\CH579.INI -f D:\TEM
P\CH579.hex -o download

E:\ISPTOOL\WCHISPTool_New20230406\WCHISPTool_CH57x-59x>
====WchIspCH57x-59x====

SERIAL PORT:   COM14

CFG FILE PATH:    D:\Config\CH579.INI

FLASH FILE PATH:  D:\TEMP\CH579.hex

{"Device":"CH579","Status":"Fail","Code":7,"Message":"Fail to get device info"}
```

### 2.2.5 Runtime

Win7/Win8/Win10/Win11 x86/x64

### 2.2.6 Technical support

If you need technical support and other need for CPU based Windows versions, please send an email to:tech@wch.cn