
Application Note : Telink Cmd_Download_Tool User Guide

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Brief:

This document is the user guide for Telink
Cmd_download_tool.



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Version	Major Changes	Date	Author
1.0.0	Initial release	2018/10	LJW, Cynthia
1.0.1	Support Multi-device .etc	2019/1	LJW
1.1.1	Added Multi-device Added Timestamp	2019/8	LJW, JF

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1 Brief Introduction

Telink “**Cmd_download_tool**” applies to all engineers who want to develop applications based on Telink SoCs including 8267, 8266, 8232, 8233, 8366, 8368 and 8258.

This document presents the guide on how to use “**Cmd_download_tool**” by **command line**.

1.1 Function Overview

During SDK development, by using “**Cmd_download_tool**”, firmware can be directly downloaded into the target board (e.g. development board) via USB mode or “**Burning EVK**” (abbreviated as EVK) mode.

Its main functions include “Erase flash sector”, “Download firmware”, “Activate MCU when communication failed”, “Access memory space including FLASH /CORE /ANALOG /OTP”, “Read/Write variable” and “View USB log”.

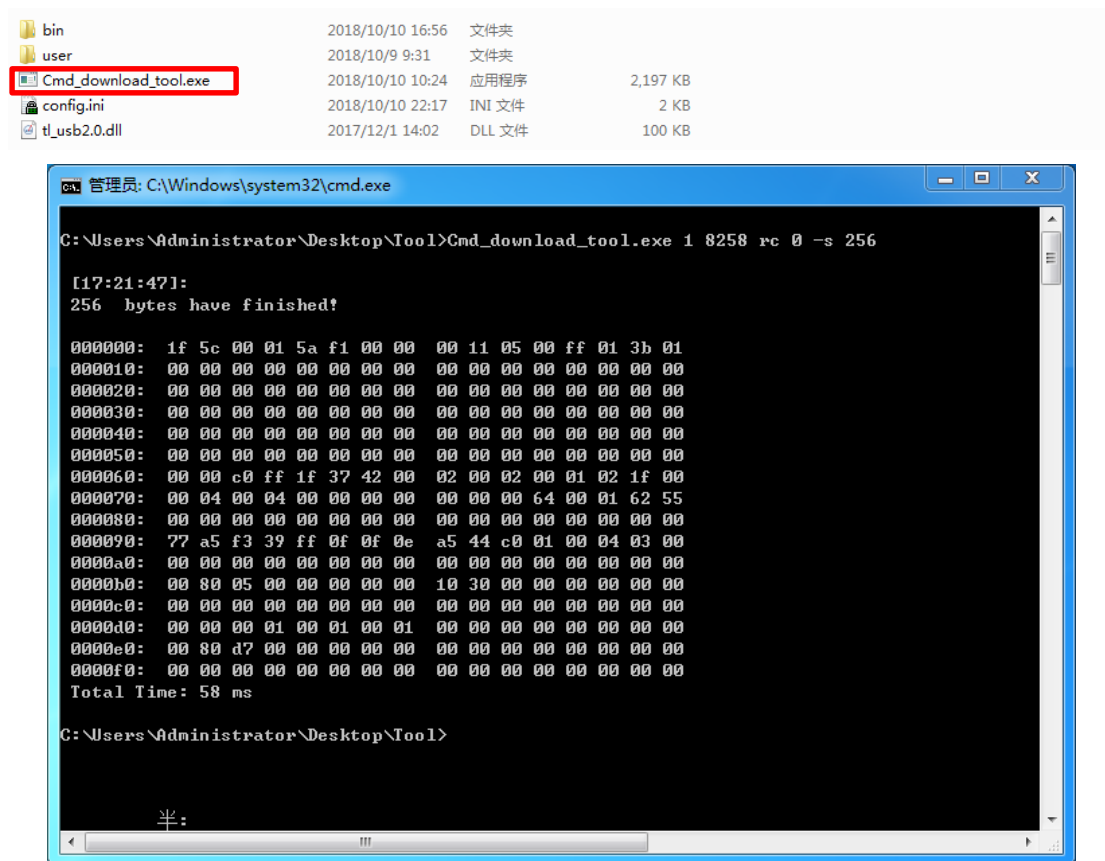


Figure 1-1 Cmd_download_tool interface

2 Operation Guide

2.1 Download firmware

2.1.1 Connect hardware

Before using “**Cmd_download_tool**”, it’s needed to connect the target board with PC.

There are two methods to connect the target board with PC, as shown below.

Method 1: Directly connect the target board with PC via USB method.

This method only applies to target board with USB interface and MCU supporting USB function, e.g. a dongle board.

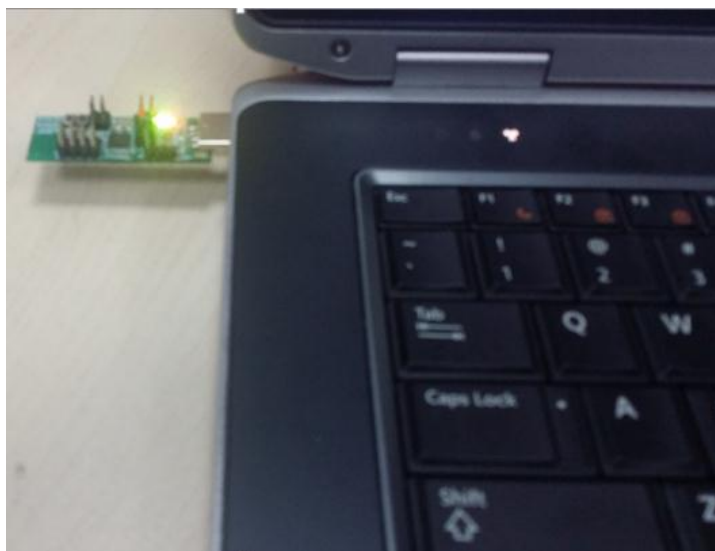


Figure 2-1 Directly connect target board with PC

Method 2: Connect the target board with PC via Telink “**Burning EVK**” TLSR8266BR56.

- 1) Connect the “**Burning EVK**” with PC via an USB cable. Observe the indicating lights of the “**Burning EVK**”: The indicating lights will blink once to indicate that the “**Burning EVK**” and its connection with PC is OK.



Figure 2-2 Connect “**Burning EVK**” with PC

2) Connect target board with “**Burning EVK**”.

There are two methods to connect the target board with the “**Burning EVK**”.

- a) Connect the target board with the “**Burning EVK**” via USB interface directly, as shown below. This connection method only applies to target board with USB interface and MCU supporting USB function, e.g. a dongle board.



Figure 2-3 Connect target board with “**Burning EVK**” via USB

- b) Connect the target board with the “**Burning EVK**” via Swire (Single wire) interface, as shown below.



Figure 2-4 Connect target board with “**Burning EVK**” via Swire

Please refer to Telink document “**AN_18010500_User Guide for Telink Burning EVK TLSR8266BR56**” for the detailed guide of TLSR8266BR56.

After connecting the target board to PC via USB method or “**Burning EVK**” method, there are two methods to download firmware into the target board, which respectively correspond to the two hardware connection methods above.

2.1.2 Download FW into “FLASH” via “USB” mode

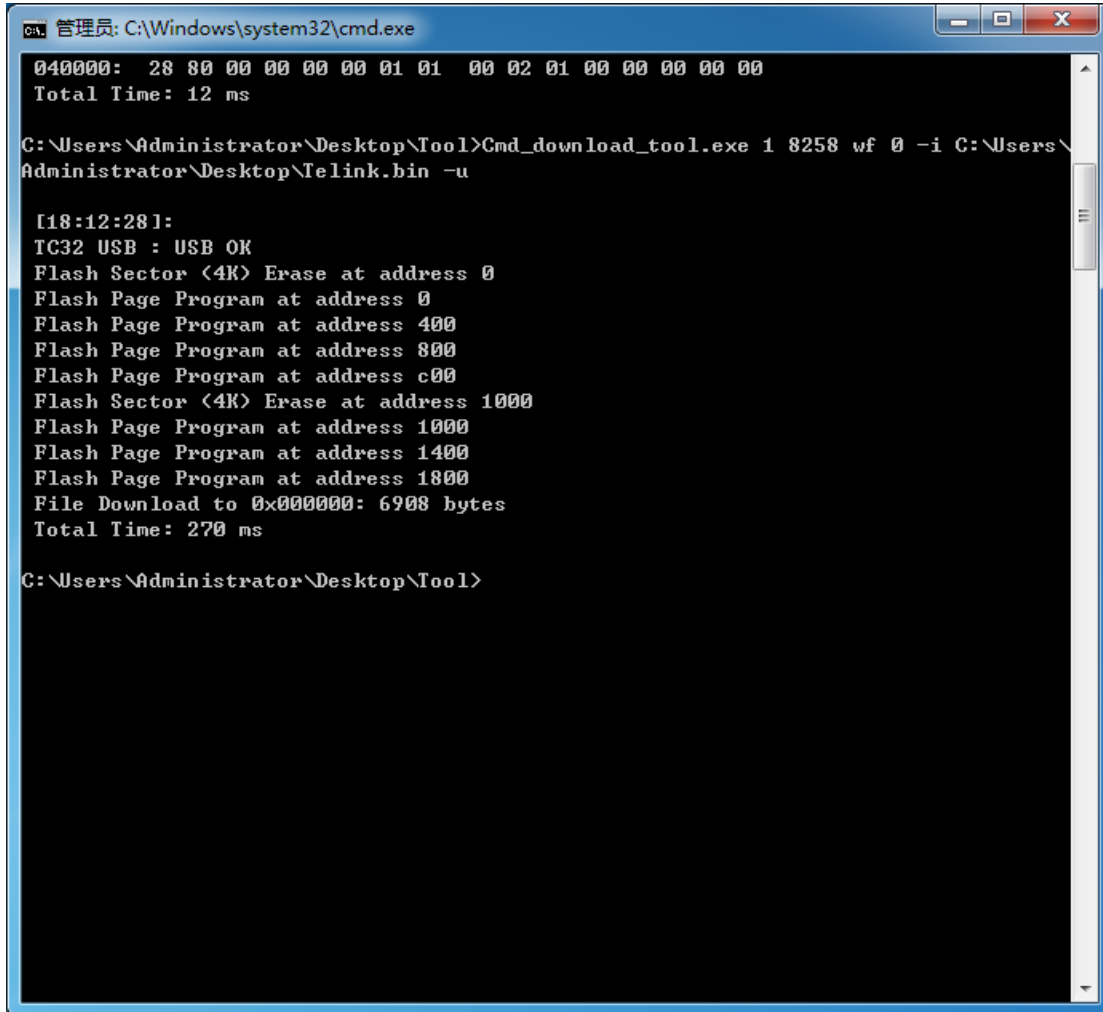
Before using “USB” mode to download or debug MCU, please ensure that the specified MCU supports USB function and its USB function is available. Refer to section **3 Function Support List** for details. To download firmware into specific flash space of the target board via “USB” mode, user can enter the corresponding command.

Command line example:

```
./Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\Administrator\Desktop\Telink.bin  
-u
```

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “wf” (write flash)
- ✧ **Para4:** the starting address to store target firmware to be downloaded – “0”
- ✧ **Para5:** optional command – “-i” (along with the path of firmware)
- ✧ **Para6:** the path of firmware – “C:\Users\Administrator\Desktop\Telink.bin”
- ✧ **Para7:** optional command – “-u” (Communication mode with target board: “USB” mode)



```

管理员: C:\Windows\system32\cmd.exe
040000: 28 80 00 00 00 01 01 00 02 01 00 00 00 00
Total Time: 12 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\
Administrator\Desktop\Telink.bin -u

[18:12:28]:
TC32 USB : USB OK
Flash Sector (4K) Erase at address 0
Flash Page Program at address 0
Flash Page Program at address 400
Flash Page Program at address 800
Flash Page Program at address c00
Flash Sector (4K) Erase at address 1000
Flash Page Program at address 1000
Flash Page Program at address 1400
Flash Page Program at address 1800
File Download to 0x000000: 6908 bytes
Total Time: 270 ms

C:\Users\Administrator\Desktop\Tool>

```

Figure 2-5 Download FW in “USB” mode

After downloading firmware into the target board, user can enter the corresponding command line, so as to directly “reset” MCU without the need to power cycle the target board.

Command line example:

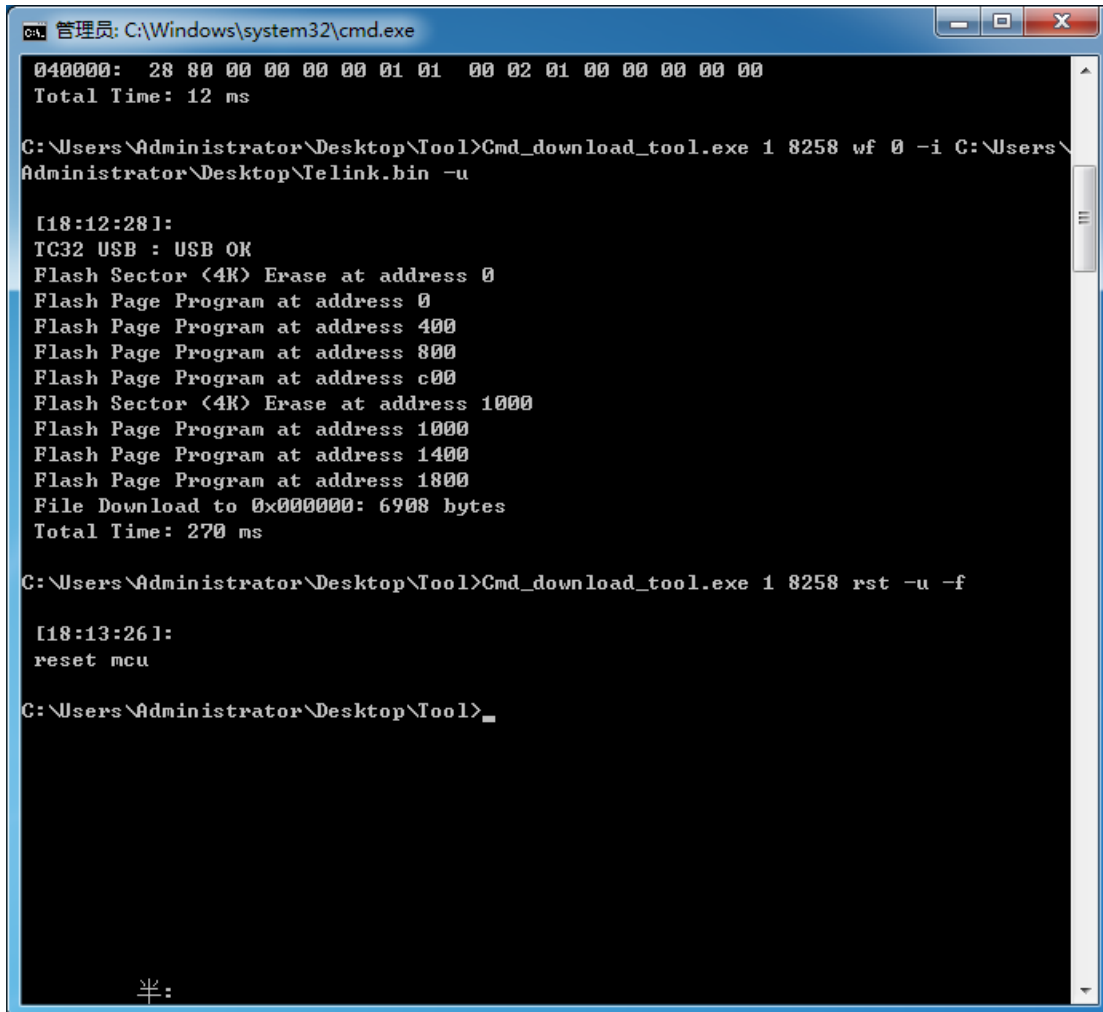
`./Cmd_download_tool.exe 1 8258 rst -u -f`

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “rst” (reset)
- ✧ **Para4:** optional command – “-u”(Communication mode with target board: “USB” mode)
- ✧ **Para5:** optional command – “-f” (Flash, “-c”: CORE)

If downloading firmware to Flash, “-f” should be selected herein to reset MCU.

If downloading firmware to SRAM, “-c” should be selected instead to reset MCU.



```

管理员: C:\Windows\system32\cmd.exe
040000: 28 80 00 00 00 00 01 01 00 02 01 00 00 00 00
Total Time: 12 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\
Administrator\Desktop\Telink.bin -u

[18:12:28]:
TC32 USB : USB OK
Flash Sector <4K> Erase at address 0
Flash Page Program at address 0
Flash Page Program at address 400
Flash Page Program at address 800
Flash Page Program at address c00
Flash Sector <4K> Erase at address 1000
Flash Page Program at address 1000
Flash Page Program at address 1400
Flash Page Program at address 1800
File Download to 0x000000: 6908 bytes
Total Time: 270 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 rst -u -f

[18:13:26]:
reset mcu

C:\Users\Administrator\Desktop\Tool>

```

Figure 2-6 Reset MCU

2.1.3 Download FW into “FLASH” via “EVK” mode

Before using “EVK” mode to download firmware, please ensure that target board is connected to PC via “Burning EVK” method and the single wire communication of target board is available. To download firmware into specific flash space of the target board via “Burning EVK” mode, user can enter the corresponding command line.

Command line example:

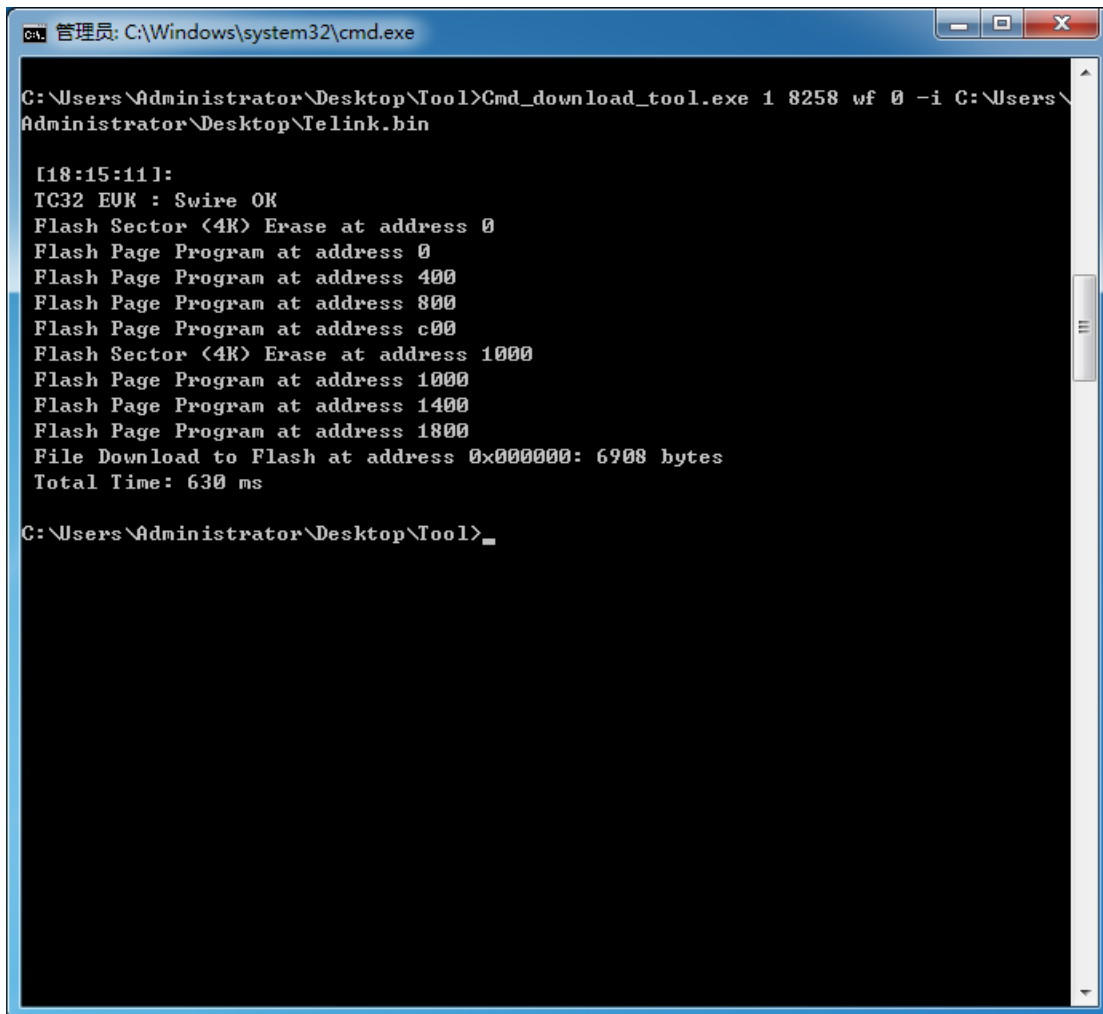
`./Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\Administrator\Desktop\Telink.bin`

Parameters:

✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)

- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “wf” (write flash)
- ✧ **Para4:** the starting address to store target firmware to be downloaded – “0”
- ✧ **Para5:** optional command – “-i” (along with the path of firmware)
- ✧ **Para6:** the path of firmware – “C:\Users\Administrator\Desktop\Telink.bin”

Since the command line does not contain the optional command “-u”, “EVK” communication mode with the target board is selected.



```

管理员: C:\Windows\system32\cmd.exe

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\
Administrator\Desktop\Telink.bin

[18:15:11]:
TC32 EVK : Swire OK
Flash Sector (4K) Erase at address 0
Flash Page Program at address 0
Flash Page Program at address 400
Flash Page Program at address 800
Flash Page Program at address c00
Flash Sector (4K) Erase at address 1000
Flash Page Program at address 1000
Flash Page Program at address 1400
Flash Page Program at address 1800
File Download to Flash at address 0x000000: 6908 bytes
Total Time: 630 ms

C:\Users\Administrator\Desktop\Tool>_
  
```

Figure 2-7 Download FW in “EVK” mode

After downloading firmware into target board, user can enter the corresponding command line, so as to directly “reset” MCU without the need to power cycle the target board.

Command line example:

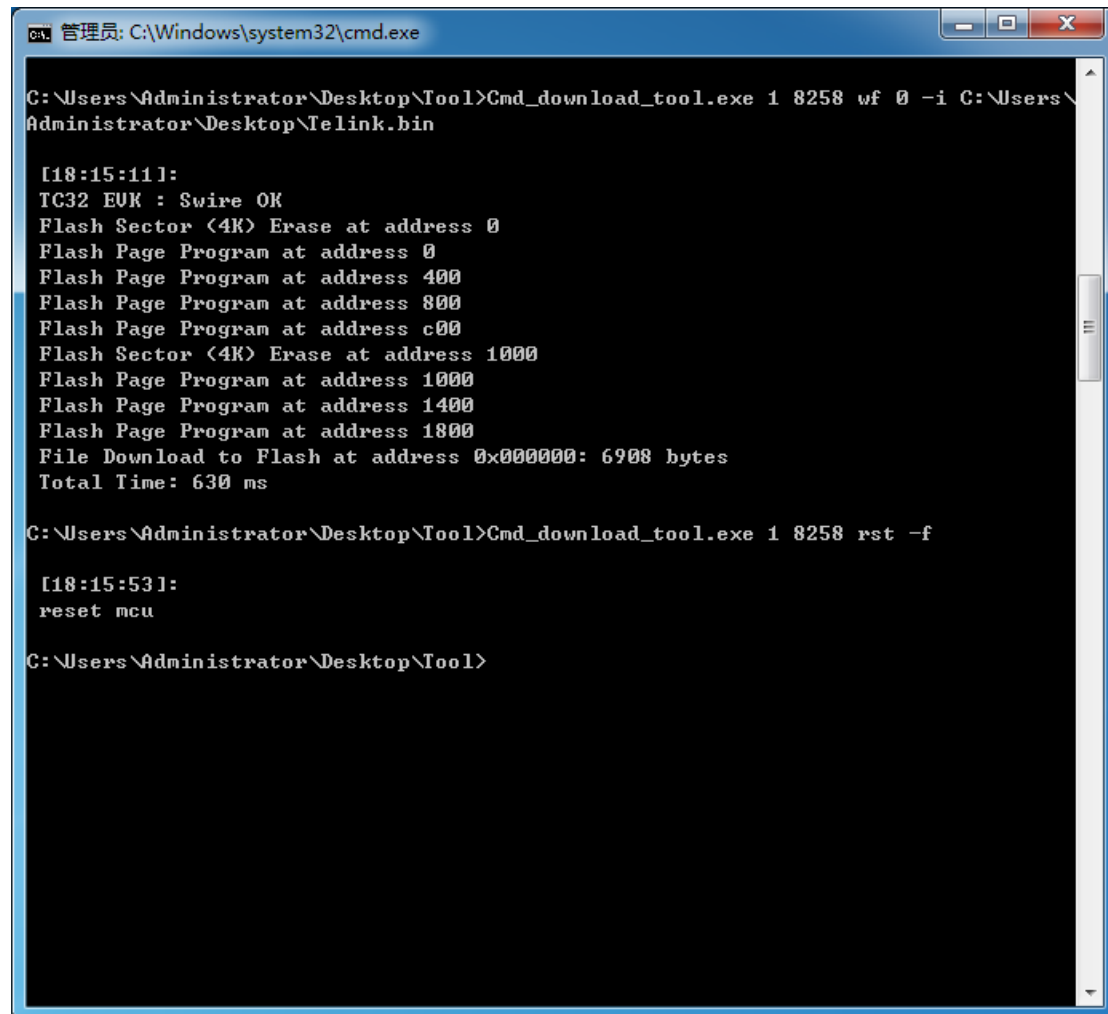
`./Cmd_download_tool.exe 1 8258 rst -f`

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “rst” (reset)
- ✧ **Para4:** optional command – “-f” (Flash, “-c”: CORE)

If downloading firmware to Flash, “-f” should be selected herein to reset MCU.

If downloading firmware to SRAM, “-c” should be selected instead to reset MCU.



```

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wf 0 -i C:\Users\Administrator\Desktop\Telink.bin

[18:15:11]:
TC32 EUK : Swire OK
Flash Sector (4K) Erase at address 0
Flash Page Program at address 0
Flash Page Program at address 400
Flash Page Program at address 800
Flash Page Program at address c00
Flash Sector (4K) Erase at address 1000
Flash Page Program at address 1000
Flash Page Program at address 1400
Flash Page Program at address 1800
File Download to Flash at address 0x000000: 6908 bytes
Total Time: 630 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 rst -f

[18:15:53]:
reset mcu

C:\Users\Administrator\Desktop\Tool>
  
```

Figure 2-8 Reset MCU for Downloading Firmware

2.1.4 Download FW into “SRAM” or “OTP”

User can download firmware to “SRAM”/“OTP” instead of Flash. To download FW into specific “SRAM” or “OTP” space of the target board via “USB” mode, user can enter the corresponding command line. Before using this method to download FW, user should know the starting address of “SRAM” for specific MCU. e.g. 8258: 0x40000.

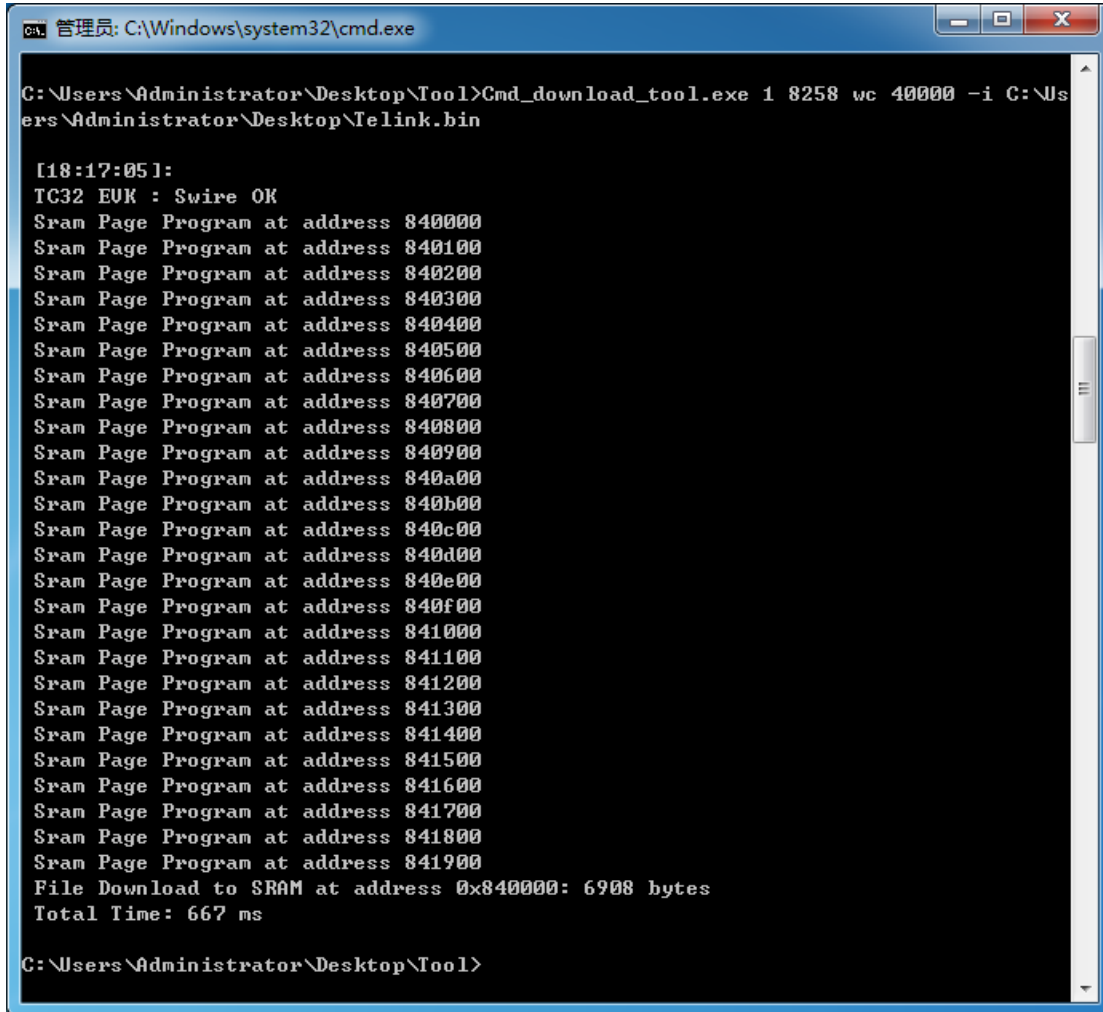
Command line example to download FW into SRAM:

```
./Cmd_download_tool.exe 1 8258 wc 40000 -i C:\Users\Administrator\Desktop\Telink.  
bin
```

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “wc” (write CORE including digital register and SRAM)
- ✧ **Para4:** the starting address to store target firmware to be downloaded – “40000”
- ✧ **Para5:** optional command – “-i” (along with the path of firmware)
- ✧ **Para6:** the path of firmware – “C:\Users\Administrator\Desktop\Telink.bin”

Since the command line does not contain the optional command “-u”, “EVK” communication mode with the target board is selected.



```

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wc 40000 -i C:\Users\Administrator\Desktop\Telink.bin

[18:17:05]:
TC32 EVK : Swire OK
Sram Page Program at address 840000
Sram Page Program at address 840100
Sram Page Program at address 840200
Sram Page Program at address 840300
Sram Page Program at address 840400
Sram Page Program at address 840500
Sram Page Program at address 840600
Sram Page Program at address 840700
Sram Page Program at address 840800
Sram Page Program at address 840900
Sram Page Program at address 840a00
Sram Page Program at address 840b00
Sram Page Program at address 840c00
Sram Page Program at address 840d00
Sram Page Program at address 840e00
Sram Page Program at address 840f00
Sram Page Program at address 841000
Sram Page Program at address 841100
Sram Page Program at address 841200
Sram Page Program at address 841300
Sram Page Program at address 841400
Sram Page Program at address 841500
Sram Page Program at address 841600
Sram Page Program at address 841700
Sram Page Program at address 841800
Sram Page Program at address 841900
File Download to SRAM at address 0x840000: 6908 bytes
Total Time: 667 ms

C:\Users\Administrator\Desktop\Tool>

```

Figure 2-9 Download FW into “SRAM” via “EVK” mode

Command line to download FW into OTP (if target board supports OTP):

`./Cmd_download_tool.exe 8368 1 wo 0 -i C:\Users\Administrator\Desktop\Telink.bin`

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8368
- ✧ **Para3:** operation command (see **2.8 Command list**) – “wo” (write OTP)
- ✧ **Para4:** the starting address to store target firmware to be downloaded – “0”
- ✧ **Para5:** optional command – “-i” (along with the path of firmware)
- ✧ **Para6:** the path of firmware – “C:\Users\Administrator\Desktop\Telink.bin”

Since the command line does not contain the optional command “-u”, “EVK” communication mode with the target board is selected.

2.2 Reset MCU

After downloading firmware to target board, user can reset MCU to make the newly-downloaded program run without the need to power cycle the target board.

Command line to reset MCU:

`./Cmd_download_tool.exe 1 8258 rst -f`

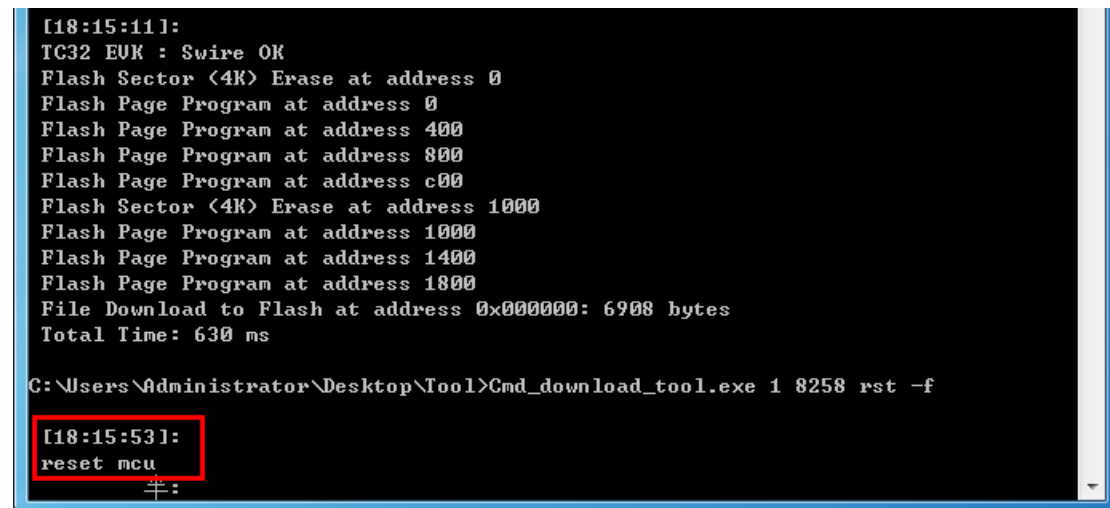
Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “rst”
- ✧ **Para4:** optional command – “-f”

After downloading firmware to the flash or OTP of target board, user should use the optional command “-f” to reset MCU.

After downloading firmware to the SRAM of target board, user should use the optional command “-c” instead to reset MCU.

Since the command line does not contain the optional command “-u”, “EVK” communication mode with the target board is selected.



```
[18:15:11]:
TC32 EUK : Swire OK
Flash Sector <4K> Erase at address 0
Flash Page Program at address 0
Flash Page Program at address 400
Flash Page Program at address 800
Flash Page Program at address c00
Flash Sector <4K> Erase at address 1000
Flash Page Program at address 1000
Flash Page Program at address 1400
Flash Page Program at address 1800
File Download to Flash at address 0x000000: 6908 bytes
Total Time: 630 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 rst -f

[18:15:53]:
reset mcu

```

Figure 2-10 Reset MCU

2.3 Flash sector erase

The “Flash sector erase” function is used to erase specific flash space starting from specific address in the unit of sector (4kB).

For example, to erase 64kB flash space of TLSR8258 starting from address 0x004000, user can enter the command line below.

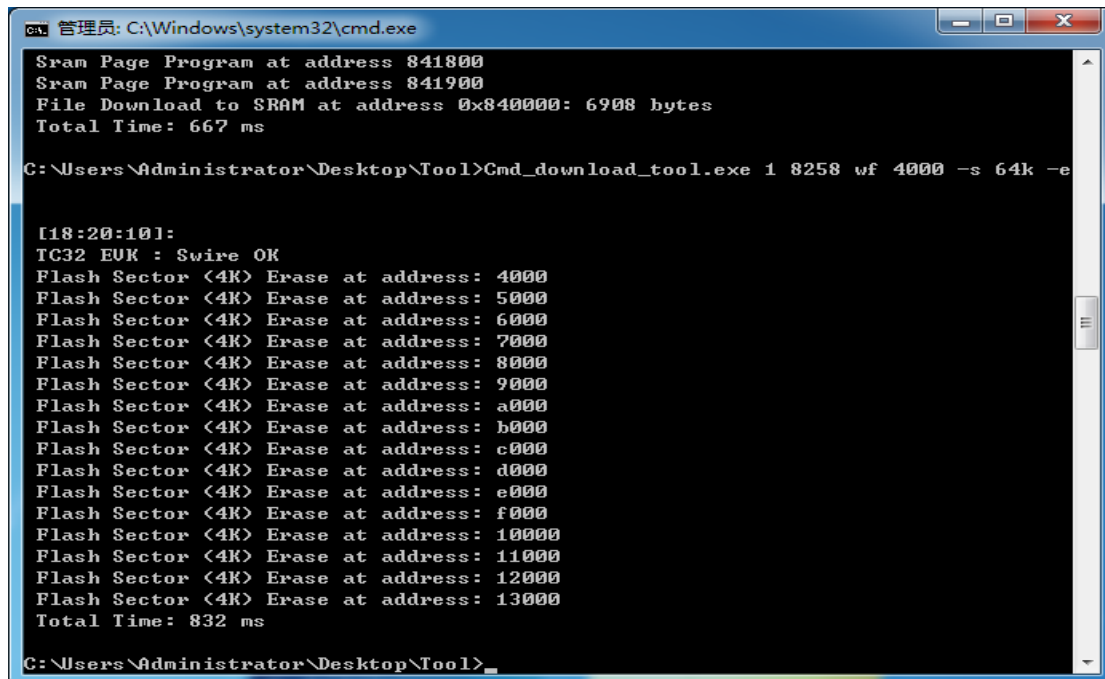
Command line example:

```
./Cmd_download_tool.exe 1 8258 wf 4000 -s 64k -e
```

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “wf” (write flash)
- ✧ **Para4:** the starting address of space to be erased – “4000”
- ✧ **Para5:** optional command – “-s” (along with the size of sectors to be erased)
- ✧ **Para6:** the size of sectors to be erased – “64k”
- ✧ **Para7:** optional command – “-e” (erase flash)

Since the command line does not contain the optional command “-u”, “EVK” communication mode with the target board is selected.



```

C:\Windows\system32\cmd.exe
Sram Page Program at address 841800
Sram Page Program at address 841900
File Download to SRAM at address 0x840000: 6908 bytes
Total Time: 667 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wf 4000 -s 64k -e

[18:20:10]:
TC32 EVK : Swire OK
Flash Sector <4K> Erase at address: 4000
Flash Sector <4K> Erase at address: 5000
Flash Sector <4K> Erase at address: 6000
Flash Sector <4K> Erase at address: 7000
Flash Sector <4K> Erase at address: 8000
Flash Sector <4K> Erase at address: 9000
Flash Sector <4K> Erase at address: a000
Flash Sector <4K> Erase at address: b000
Flash Sector <4K> Erase at address: c000
Flash Sector <4K> Erase at address: d000
Flash Sector <4K> Erase at address: e000
Flash Sector <4K> Erase at address: f000
Flash Sector <4K> Erase at address: 10000
Flash Sector <4K> Erase at address: 11000
Flash Sector <4K> Erase at address: 12000
Flash Sector <4K> Erase at address: 13000
Total Time: 832 ms

C:\Users\Administrator\Desktop\Tool>

```

Figure 2-11 Erase flash space via “EVK” mode

2.4 Activate MCU

The function of “Activate MCU when communication with target board failed” only applies to Swire connection between “**Burning EVK**” and target board in “**EVK**” mode, i.e. it does not support “**USB**” mode or USB connection between “**Burning EVK**” and target board in “**EVK**” mode.

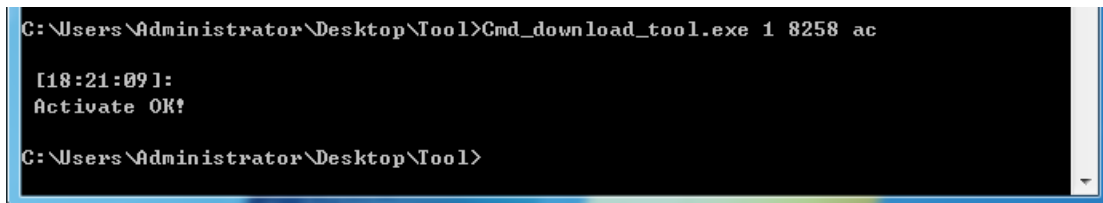
When firmware burning fails, please ensure the target board is connected with “**Burning EVK**” via Swire. User can enter the corresponding command line to enable this function to activate the MCU.

Command line example:

```
./Cmd_download_tool.exe 1 8258 ac
```

Parameters:

- ✧ **Para1:** Device ID ([Click here for detail](#)) – 1 (only one device)
- ✧ **Para2:** MCU Type – 8258
- ✧ **Para3:** operation command (see **2.8 Command list**) – “ac” (Activate MCU)



```
C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 ac  
  
[18:21:09]:  
Activate OK!  
  
C:\Users\Administrator\Desktop\Tool>
```

Figure 2-12 Activate MCU

2.5 Debug

After MCU starts running, user can access memory space (FLASH/CORE/ANALOG/OTP) by using this tool.

2.5.1 Read data

To read data from specific memory space (FLASH/CORE/ANALOG/OTP), user can enter the corresponding command line.

Command line examples:

- ✧ Read flash: `./Cmd_download_tool.exe 1 8258 rf 0 -s 16`
- ✧ Read core(digital register/SRAM): `./Cmd_download_tool.exe 1 8258 rc 0 -s 16`
- ✧ Read analog register : `./Cmd_download_tool.exe 1 8258 ra 0 -s 16`
- ✧ Read OTP: `./Cmd_download_tool.exe 1 8258 ro 0 -s 16`

Note that the maximum operation size is **1MB**. Refer to **2.8 Command list** for details.

When reading memory space larger than 1024 bytes, the data will be saved to a file with default name of “/user/read.bin”. The command line below can be used to customize the file name.

Command line example: `./Cmd_download_tool.exe 1 8258 rc 40000 -s 8k -o C:\Users\Administrator\Desktop\Telink_read.bin -u`

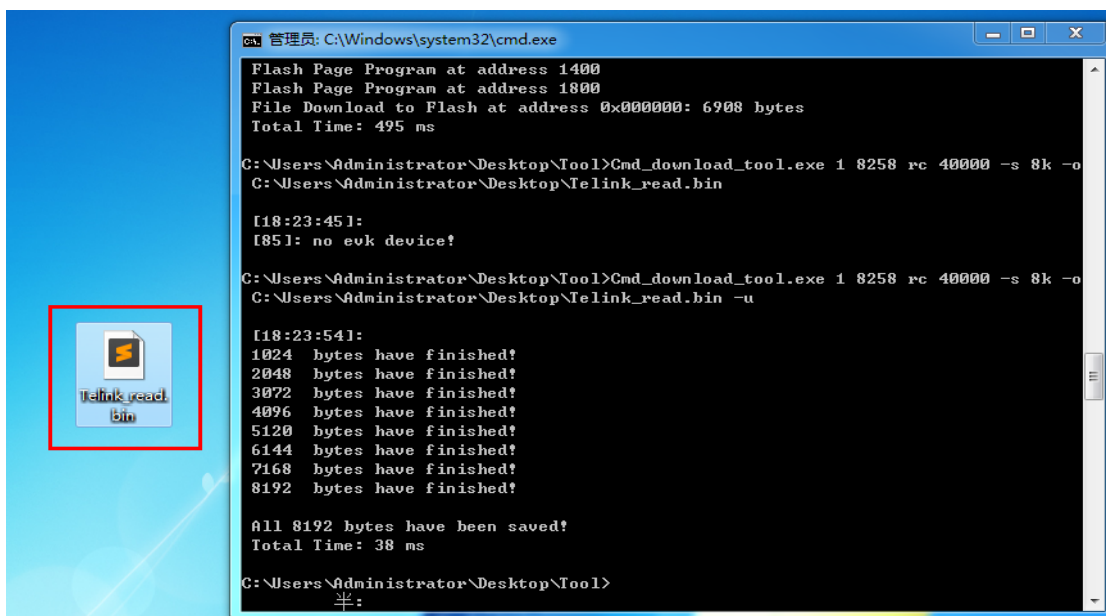


Figure 2-13 Read Data

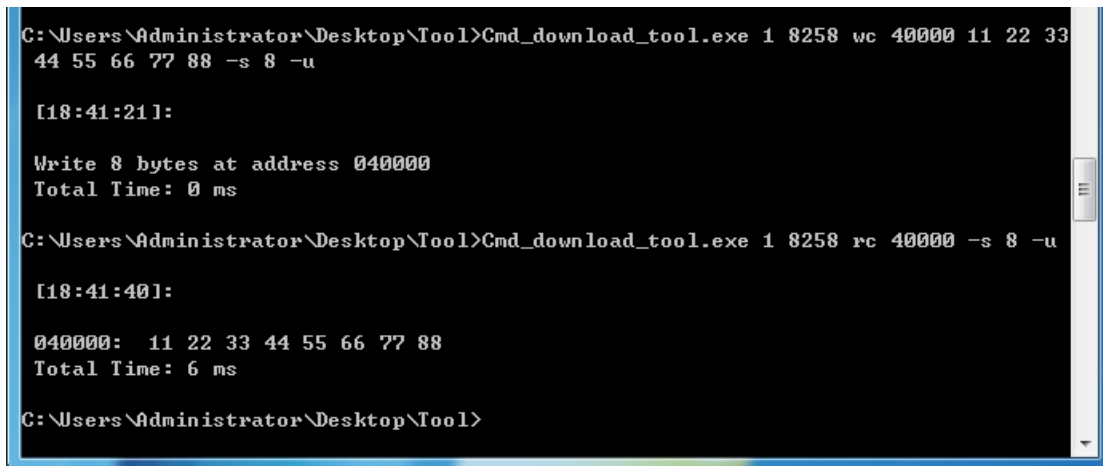
2.5.2 Write data

To write data into specific memory space, user can enter the corresponding command line.

Command line examples:

- ✧ write flash: `./Cmd_download_tool.exe 1 8258 wf 0 11 22 33 44 -s 4`
- ✧ write core(digital register/sram): `./Cmd_download_tool.exe 1 8258 wc 40000 11 22 33 44 -s 4`
- ✧ write analog register : `./Cmd_download_tool.exe 1 8258 wa 34 11 22 33 44 -s 4`
- ✧ write otp: `./Cmd_download_tool.exe 1 8258 wo 0 11 22 33 44 -s 4`

Note that the maximum operation size is **256 bytes**. Refer to **2.8 Command list** for details.



```

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 wc 40000 11 22 33 44 55 66 77 88 -s 8 -u

[18:41:21]:

Write 8 bytes at address 040000
Total Time: 0 ms

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 rc 40000 -s 8 -u

[18:41:40]:

040000:  11 22 33 44 55 66 77 88
Total Time: 6 ms

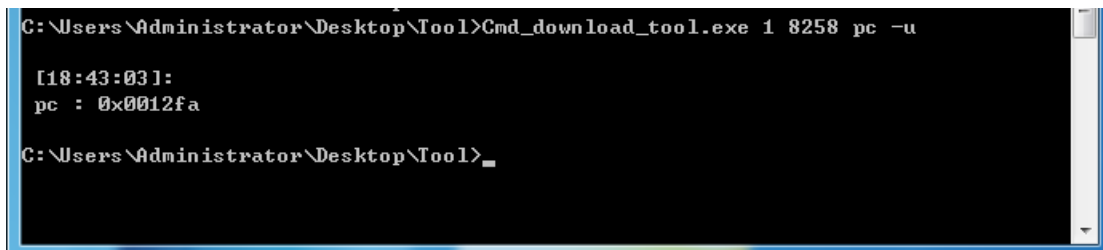
C:\Users\Administrator\Desktop\Tool>
  
```

Figure 2-14 Write Data

2.5.3 Trace PC

User can enter the corresponding command line to read “PC”.

Command line example: `./Cmd_download_tool.exe 1 8258 pc -u`



```

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 pc -u

[18:43:03]:
pc : 0x0012fa

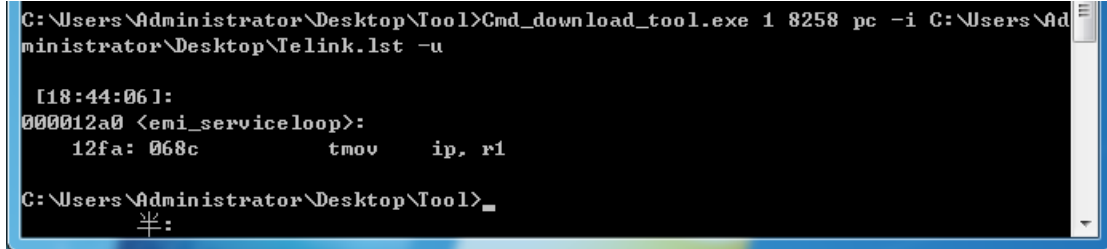
C:\Users\Administrator\Desktop\Tool>_
  
```

Figure 2-15 Trace PC

To get more details, you need to offer “.lst” file that can match with firmware.

Command line example:

`./Cmd_download_tool.exe 1 8258 pc -i C:\Users\Administrator\Desktop\Telink.lst -u`



```
C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 pc -i C:\Users\Administrator\Desktop\Telink.lst -u

[18:44:06]:
000012a0 <emi_serviceloop>:
    12fa: 068c      tmov    ip, r1

C:\Users\Administrator\Desktop\Tool>
```

Figure 2-16 Trace PC with “.lst” file

2.6 Single-wire synchronization

Before setting Single wire synchronization speed, please ensure the following items:

- 1) Power supply is normal;
- 2) MCU IS NOT in “**Low Power**” mode;
- 3) Single wire function of MCU is available;
- 4) System clock is normal.

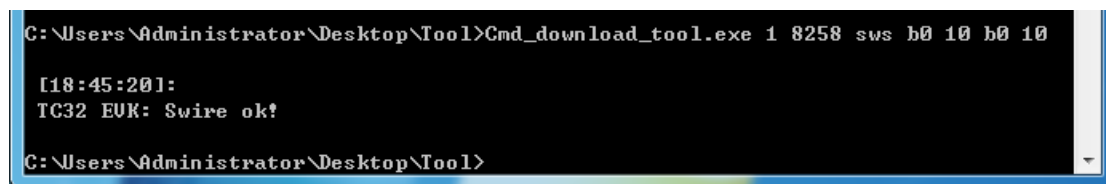
When connection fails to be established between “**Burning EVK**” and the target board, user can try to set Swire (single wire) synchronization speed to improve communication by entering the corresponding command line.

*Note: Swire register address may vary with different chip types.

Command line example:

```
./Cmd_download_tool.exe 1 8258 sws b0 10 b0 10
```

- ✧ Swire command: sws
- ✧ base address of Master device: 0xb0
- ✧ the speed of Master device: 0x10
- ✧ base address of Slave device: 0xb0
- ✧ the speed of Slave device: 0x10



```
C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 sws b0 10 b0 10  
[18:45:20]:  
TC32 EVK: Swire ok!  
C:\Users\Administrator\Desktop\Tool>
```

Figure 2-17 Set Swire synchronization speed

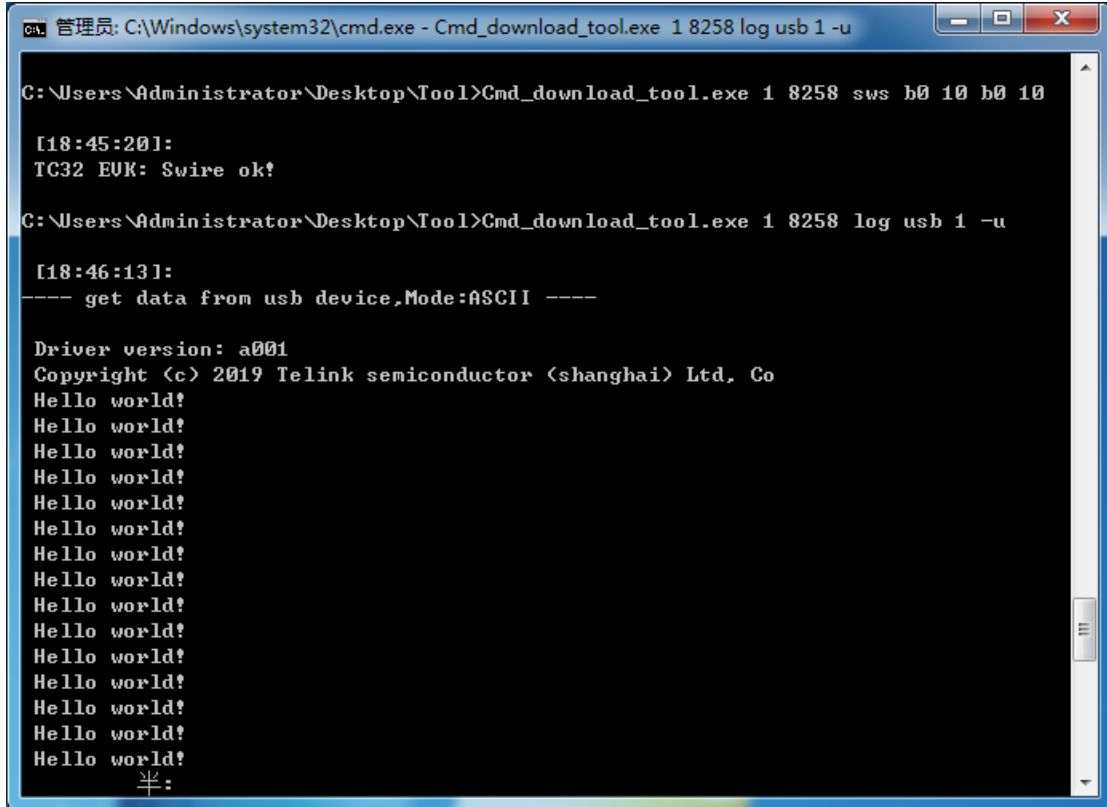
Before downloading firmware to target board or debugging MCU, It is suggested that every time on MCU power on, user should implement one Swire synchronization to check whether communication with target board is OK.

If the status of communication with target board is wrong, user can solve the problem according to the methods mentioned at the beginning.

2.7 Log windows

This tool supports USB print function, so MCUs with USB function can use USB print function to output information in log windows on PC side.

Command line example: `./Cmd_download_tool.exe 1 8258 log usb 1 -u`



```

管理员: C:\Windows\system32\cmd.exe - Cmd_download_tool.exe 1 8258 log usb 1 -u

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 sws b0 10 b0 10

[18:45:20]:
TC32 EUK: Swire ok!

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe 1 8258 log usb 1 -u

[18:46:13]:
---- get data from usb device,Mode:ASCII ----

Driver version: a001
Copyright (c) 2019 Telink semiconductor (shanghai) Ltd, Co
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
Hello world!
半:

```

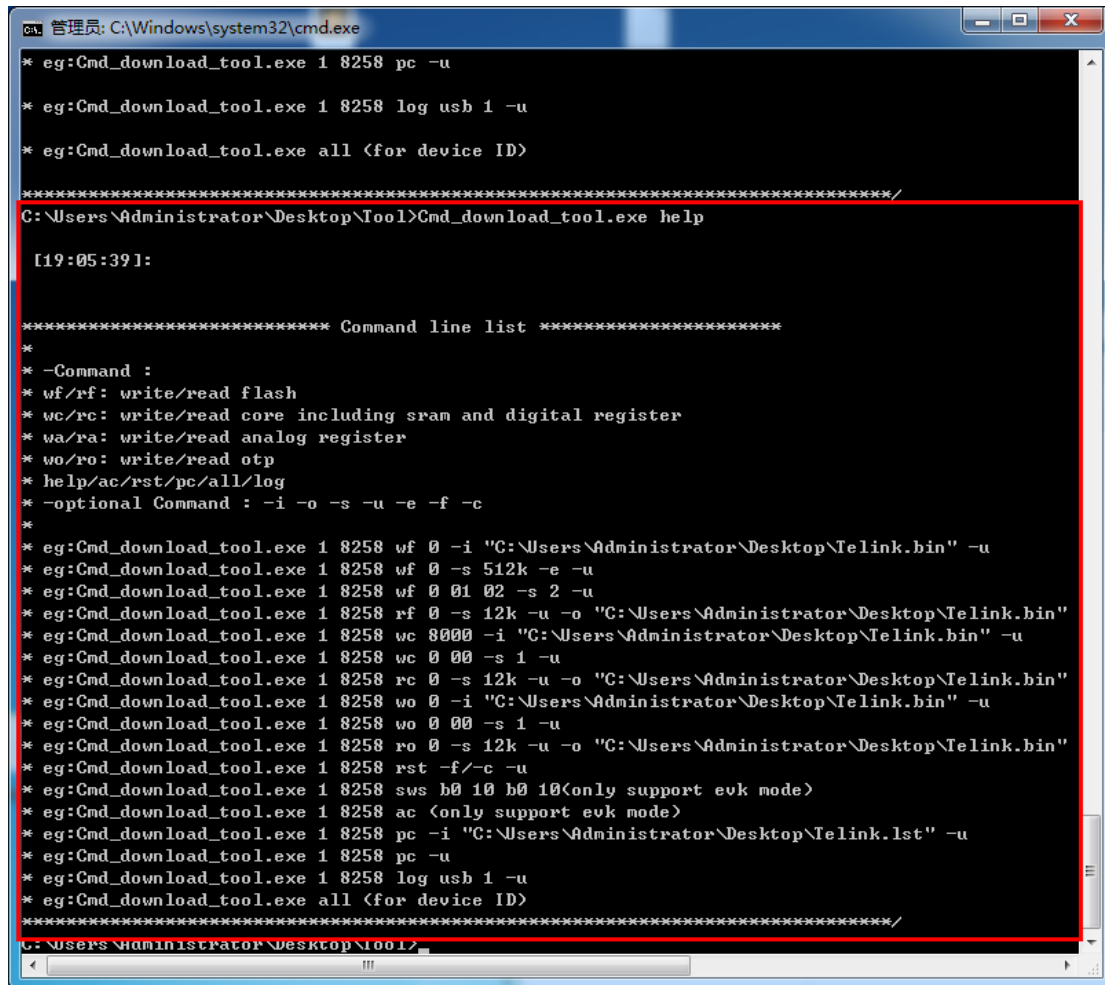
Figure 2-18 usb log windows

Press “**Esc**” to exit the log windows.

2.8 Command list

A list will be available to show all supported command lines by entering the command line below.

Command line to show command list: `./Cmd_download_tool.exe help`



```

C:\Users\Administrator\Desktop\Tool>Cmd_download_tool.exe help

[19:05:39]:

***** Command line list *****
*
* -Command :
* wf/rf: write/read flash
* wc/rc: write/read core including sram and digital register
* wa/ra: write/read analog register
* wo/ro: write/read otp
* help/ac/rst/pc/all/log
* -optional Command : -i -o -s -u -e -f -c
*
* eg:Cmd_download_tool.exe 1 8258 wf 0 -i "C:\Users\Administrator\Desktop\Telink.bin" -u
* eg:Cmd_download_tool.exe 1 8258 wf 0 -s 512k -e -u
* eg:Cmd_download_tool.exe 1 8258 wf 0 01 02 -s 2 -u
* eg:Cmd_download_tool.exe 1 8258 rf 0 -s 12k -u -o "C:\Users\Administrator\Desktop\Telink.bin"
* eg:Cmd_download_tool.exe 1 8258 wc 8000 -i "C:\Users\Administrator\Desktop\Telink.bin" -u
* eg:Cmd_download_tool.exe 1 8258 wc 0 00 -s 1 -u
* eg:Cmd_download_tool.exe 1 8258 rc 0 -s 12k -u -o "C:\Users\Administrator\Desktop\Telink.bin"
* eg:Cmd_download_tool.exe 1 8258 wo 0 -i "C:\Users\Administrator\Desktop\Telink.bin" -u
* eg:Cmd_download_tool.exe 1 8258 wo 0 00 -s 1 -u
* eg:Cmd_download_tool.exe 1 8258 ro 0 -s 12k -u -o "C:\Users\Administrator\Desktop\Telink.bin"
* eg:Cmd_download_tool.exe 1 8258 rst -f/-c -u
* eg:Cmd_download_tool.exe 1 8258 sws b0 10 b0 10<only support evk mode>
* eg:Cmd_download_tool.exe 1 8258 ac <only support evk mode>
* eg:Cmd_download_tool.exe 1 8258 pc -i "C:\Users\Administrator\Desktop\Telink.lst" -u
* eg:Cmd_download_tool.exe 1 8258 pc -u
* eg:Cmd_download_tool.exe 1 8258 log usb 1 -u
* eg:Cmd_download_tool.exe all <for device ID>
*****/
C:\Users\Administrator\Desktop\Tool>
  
```

Figure 2-19 Command line - help

2.9 Support multi-device

A device list will show all available USB devices by entering the command line below. User can select device ID based on self's requirement and access the specified device.

Command line to show command list: `./Cmd_download_tool.exe all`

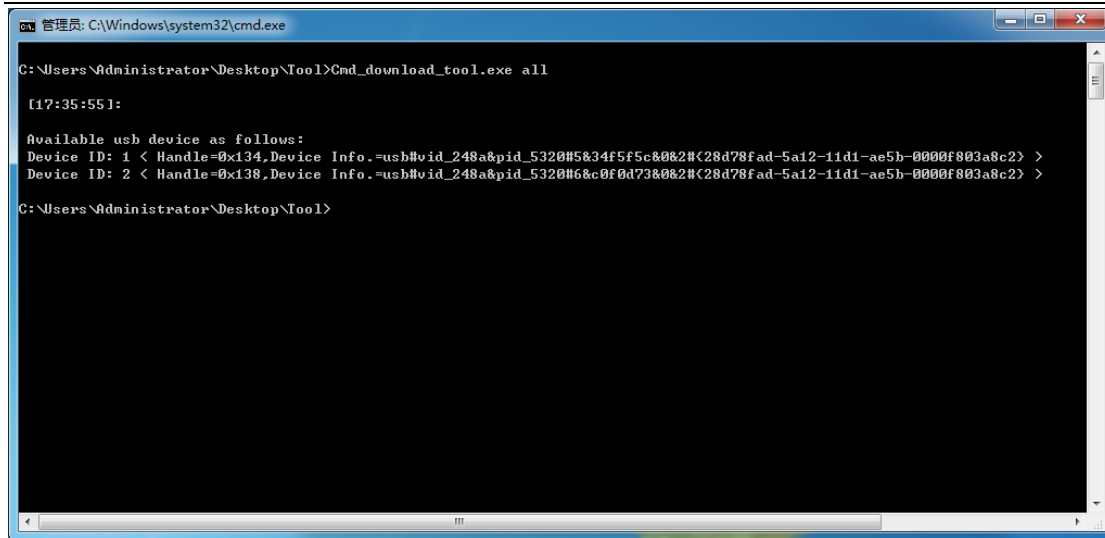


Figure 2-20 Device ID

User can access different device by device ID as follows.

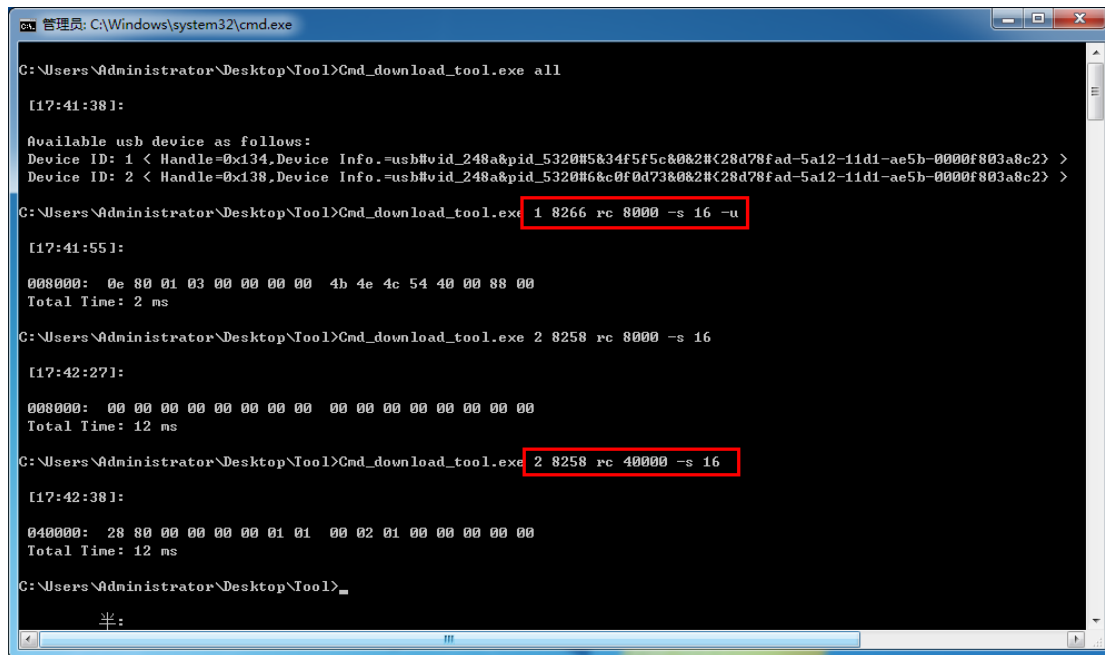


Figure 2-21 Access Different Device

2.10 Default configuration

Open the folder “config” in the root directory of this tool as follows.

名称	修改日期	类型	大小
bin	2018/10/9 15:17	文件夹	
user	2018/10/9 9:31	文件夹	
Cmd_download_tool.exe	2018/10/10 10:24	应用程序	2,197 KB
config.ini	2018/10/9 18:07	INI 文件	3 KB
tl_usb2.0.dll	2017/12/1 14:02	DLL 文件	100 KB

All default configurations in this tool can be changed by modifying the “config.ini”

file. Following shows detailed explanations.

```
[MCU]
TYPE 1 0x01 = 8368 \bin\dut_8368_flash_v0244.bin 8000 b010b010 \bin\dut_8366_otp_v0005.bin \bin\dut_8366_otp_normal_v0002.bin End
TYPE 1 0x02 = 8368 \bin\dut_8368_flash_v0246.bin 8000 b010b010 \bin\dut_8368_otp_v0005.bin \bin\dut_8368_otp_normal_v0002.bin End
TYPE 2 0x03 = 8232 \bin\dut_8232_flash_v0002.bin 8000 b010b010 End
TYPE 2 0x04 = 8233 \bin\dut_8233_flash_v0002.bin 8000 b010b010 End
TYPE 2 0x05 = 8266 \bin\dut_8266_flash_v0244.bin 8000 b010b010 End
TYPE 2 0x06 = 8267 \bin\dut_8267_flash_v0002.bin 8000 b010b010 End
TYPE 3 0x07 = 8255 \bin\dut_8255_flash_v0002.bin 40000 b010b010 End
TYPE 3 0x08 = 8258 \bin\dut_8258_flash_v0003.bin 40000 b010b010 End
default = 8258 End
```

① MCU Type:8368

② The path of the firmware: \bin\dut_8368_flash_v0246.bin

This firmware is used to operate flash, e.g. download the specified firmware into flash, read/write flash, erase sectors of flash and check flash data when downloading firmware to flash or erase some sector of flash

③ SRAM Starting Address: 0x8000, e.g.8258:0x40000;

④ Single wire communication:

- 1) Swire register base address of master device:0xb0
- 2) Swire clock of master device:0x10
- 3) Swire register base address of slave device:0xb0
- 4) Swire clock of slave device:0x10

⑤ The path of the firmware:

Firmware1: \bin\dut_8368_otp_v0005.bin, which is used to operate OTP, e.g. download firmware to OTP, read/write OTP, check OTP data during writing data to OTP or downloading firmware to OTP or write data to OTP

Firmware2: \bin\dut_8368_otp_normal_v0002.bin,which is used to check OTP data during downloading firmware to OTP or write date to OTP

⑥ default: 8258

```
[MODE]
MODE 0x01 = USB End
MODE 0x04 = EVK End
default = EVK End
```

① Mode of Communication: USB

② default: EVK(Burning EVK)

```
[OBJ]
OBJ 0x01 = FLASH End
OBJ 0x02 = CORE End
OBJ 0x03 = ANALOG End
OBJ 0x04 = OTP End
default = CORE End
```

① Access Objection: FLASH

② default: CORE

```
[SIZE]
SIZE 0x01 = 1 End
SIZE 0x02 = 2 End
SIZE 0x03 = 1 End
SIZE 0x04 = 8 End
SIZE 0x05 = 16 End
default = 2 End
```

① Size of Read / Write data: 2

② default: 1

```
[DOWNLOAD_ADDR]
DOWNLOAD 0x01 = 0 End
DOWNLOAD 0x02 = 20000 End
DOWNLOAD 0x03 = 40000 End
default = 20000 End
```

① Download address: 0x20000

② default: 0

```
[ERASE_ADDR]
ERASE 0x01 = 0 End
ERASE 0x02 = 20000 End
ERASE 0x03 = 0 End
default = 0 End
```

① Erase address: 0x20000

② default: 0

```
[PAGE_DISPLAY]
PAGE 0x01 = 1 Download End
PAGE 0x02 = 1 Tdebug End
PAGE 0x03 = 2 Log windows End
default = 0 End
```

① Page Display: 1 - Tdebug

② default: 0 - Download

```
[BUTTON]
Button 1 = example1 external_exe E:\1_wtcd\tcdb.exe uart -1 -u End
Button 2 = example2 internal_exe 8266 wf 34 -e 48k ;8266 rc 00 -s 10 -u; End
Button 3 = example3 external_file E:\1_wtcd\prj\kite\doc\TS5565_AFEpin_description_v1.0.xlsx End
/But 4 End
/Buttons 5 End
/Buttons 6 End
/Buttons 7 End
/Buttons 8 End
/Buttons 9 End
/Buttons 10 End
/Buttons 11 End
/Buttons 12 End
/Buttons 13 End
/Buttons 14 End
```

① The Name of Button1: example1

② The property of Button1: external executable application

③ The Path of external executable application: E:\1_wtcd\tcdb.exe uart -1 -u

④ undefined Button: Button4

The property of Button include three types:

1) external_exe: external executable application

2) internal_exe: internal executable application, which means this tool.

3) external_file: open any external file by default

```
[PATH]
PATH 0x01 = C:\Users\Administrator\Desktop\Telink.bin End
default = 0 End
```

① The Path of firmware: "C:\Users\Administrator\Desktop\Telink.bin"

Download this firmware to target board to update firmware. When there're too many file paths, you can directly delete these. However, the first path can't be deleted.

② default file path: "C:\Users\Administrator\Desktop\Telink.bin"

3 Function Support List

Not all MCU types support all functions of this tool. Please refer to the table below.

Table 3-1 Function Support List

MCU Type ITEMS	8266			8267/8269			8366/8368			8232/8233	8258		
	USB	SWIRE	SWIRE2USB	USB	SWIRE	SWIRE2USB	USB	SWIRE	SWIRE2USB	SWIRE	USB	SWIRE	SWIRE2USB
Download(Flash/SRAM)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Download(OTP)	×	×	×	×	×	×	✓	✓	✓	×	×	×	×
Erase FLASH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Activate	×	✓	×	×	✓	×	×	✓	×	✓	×	✓	×
PC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Run/pause/step	×	×	×	✓	✓	✓	×	×	×	✓	✓	✓	✓
Memory access (OTP)	×	×	×	×	×	×	✓	✓	✓	×	×	×	×
Memory access (FLASH/CORE/ANALOG)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓