

# Cortex-M

<b>L</b>	<b>HC32L072</b>	<b>HC32L073</b>	<b>HC32L110</b>	<b>HC32L130</b>	<b>HC32L136</b>	<b>HC32L150</b>
	<b>HC32L156</b>	<b>HC32L170</b>	<b>HC32L176</b>	<b>HC32L190</b>	<b>HC32L196</b>	
<b>F</b>	<b>HC32F003</b>	<b>HC32F005</b>	<b>HC32F030</b>	<b>HC32F072</b>	<b>HC32F120</b>	<b>HC32F146</b>
	<b>HC32F170</b>	<b>HC32F176</b>	<b>HC32F190</b>	<b>HC32F196</b>	<b>HC32F460</b>	<b>HC32F4A0</b>
<b>M</b>	<b>HC32M120</b>	<b>HC32M140</b>				

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# 1.

## 1.1

CM PGM(Cortex-M Programmer)

(HDSC) Cortex-M MCU

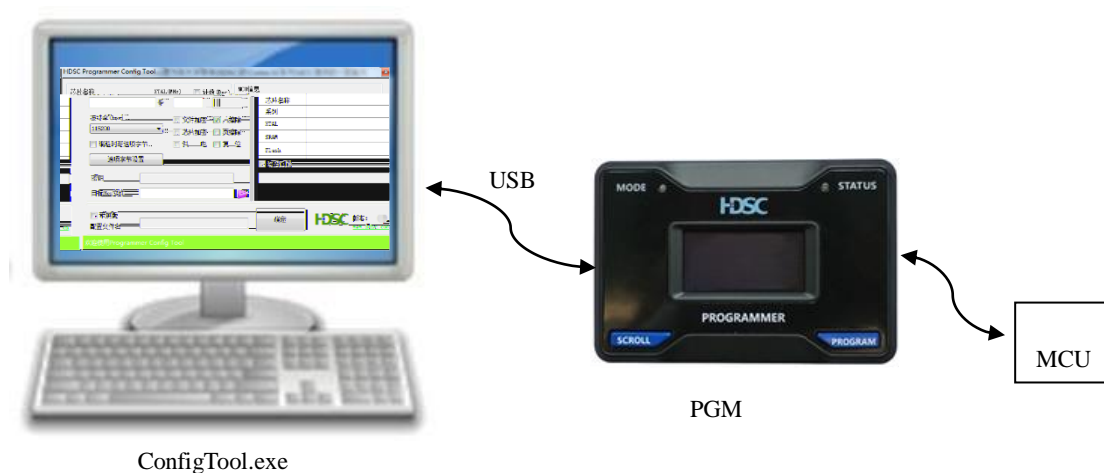
Cortex-M MCU

2

CM PGM

1

ConfigTool.exe PGM



1

ConfigTool.exe

PGM

USB

PGM

USB PGM

PGM

1) UART/SWD

2) LED OLED

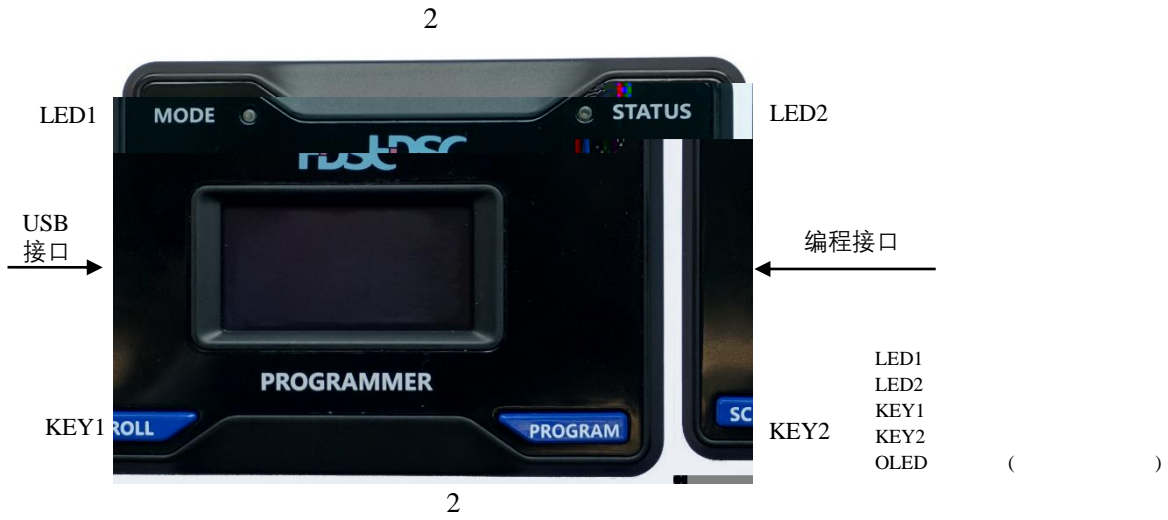
3)

/  
Flash  
USART /

- 4)
- 5)

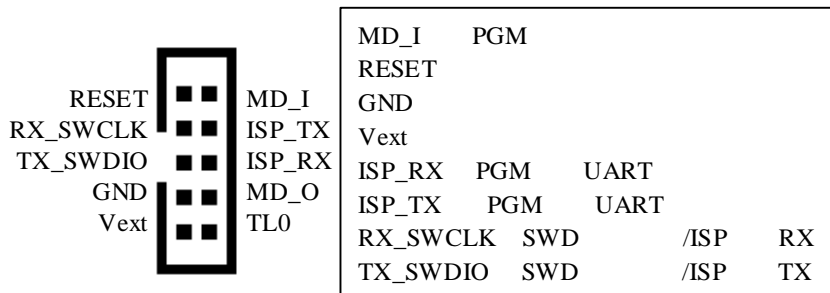
1.2

1.2.1



USB                      Type B  
                                 MCU

V21:



3

### 1.3

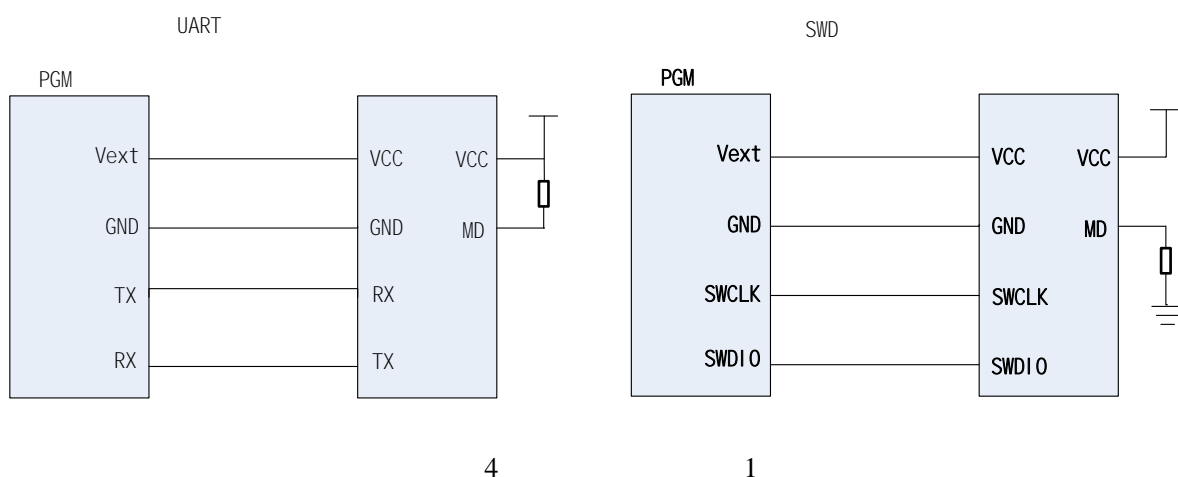
#### 1.3.1

SWD
UART
SWD
LED1

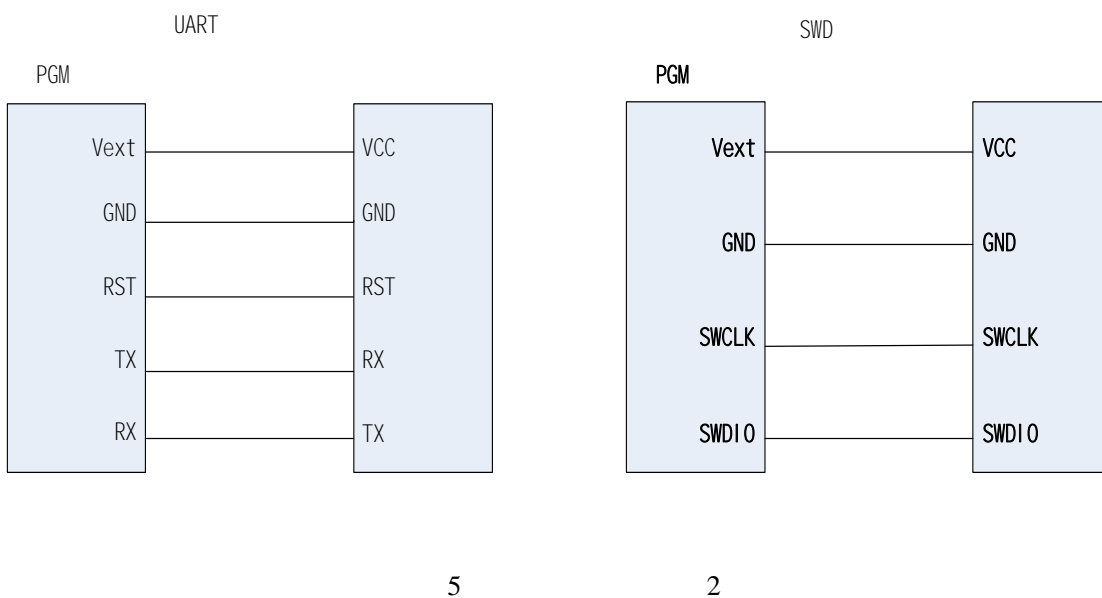
UART

1.4.2

- **HC32L15/HC32F14/HC32M14/HC32L13/HC32F03/HC32L17/HC32L19/HC32L07/HC32F07/HC32F19/HC32F17/HC32F4A0**

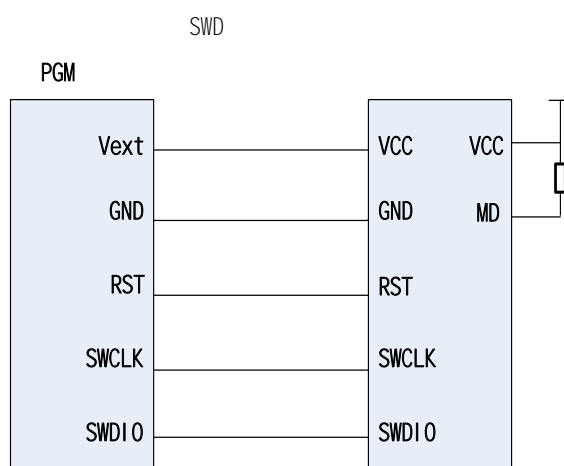
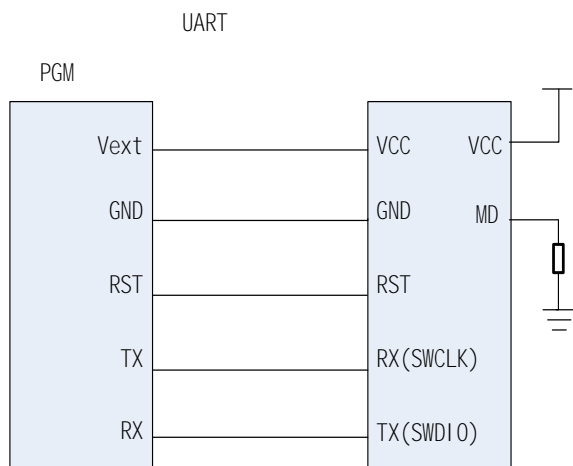


- **HC32L110/HC32F003/HC32F005**



• **HC32F460**

6

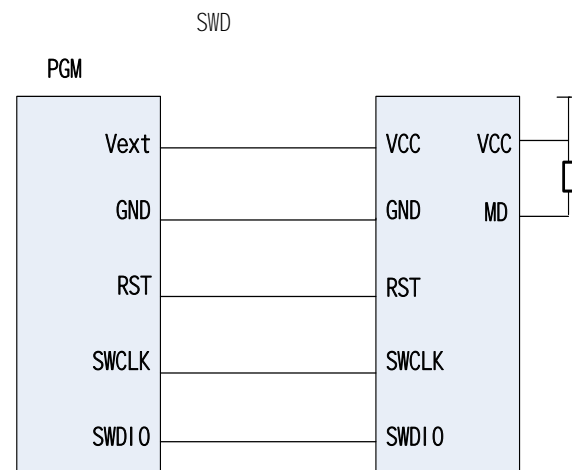
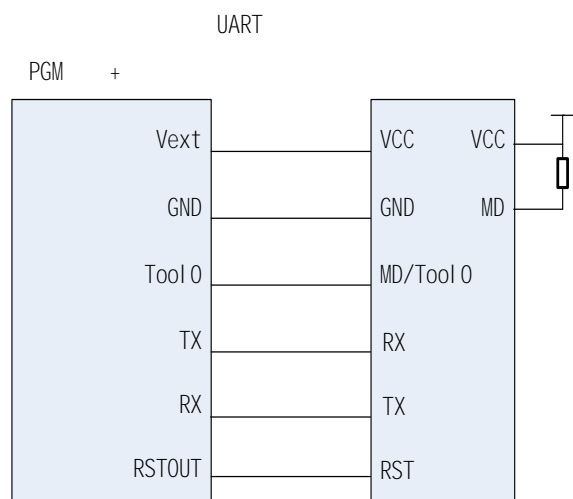


6

3

• **HC32F120/HC32M120**

7



7

4







4 XTAL

HC32L15	HC32F14 HC32M14		
0	0	0	MCU RC
4~32	4~16	NA	MCU MHz

1.3.5

MCU PGM  
 1) PGM PGM  
 PGM 3.3V 100mA

1.4.2

2)

1.3.1

Vext

1.3.6

j 4294967294

		Flash		SWD	
		Flash			Flash
4.	2	HC32F460/HC32F120/HC32M120/ HC32F4A0			
		Flash		SWD	
		Flash			
5.		HC32F460			
		Flash			
6.		HC32F4A0			
		Flash		Flash	
		HC32F4A0	2		Flash

1.4.2

1.3.8

MCU

1.4.2

UART

1.3.9

1.4.2

1.3.10 /

-

### 1.3.11 Flash

HC32L110/HC32F003/HC32F005/HC32L13/HC32F03

flash

1.3.4 1.3.11

2.3

### 1.3.12

CM PGM

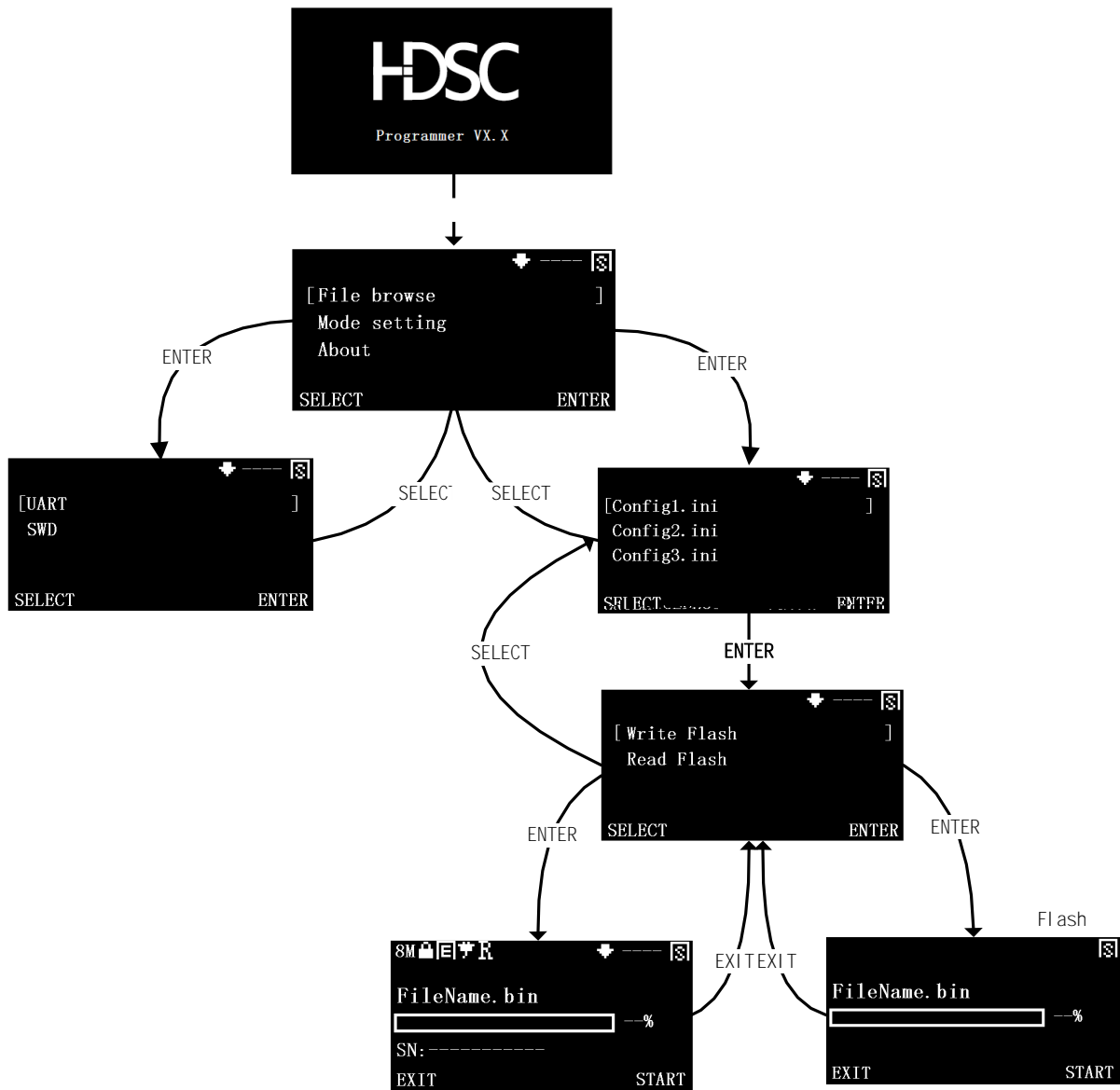
1.

2.

-

## 1.4

### 1.4.1



1.4.2

5

5

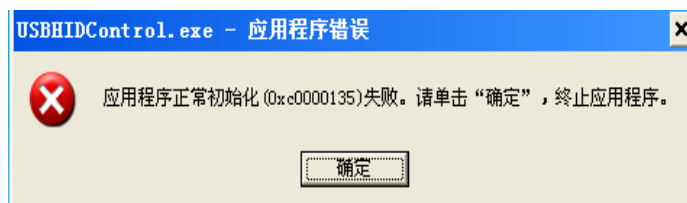


## 2.

### 2.1

Microsoft.NET Framework v3.5

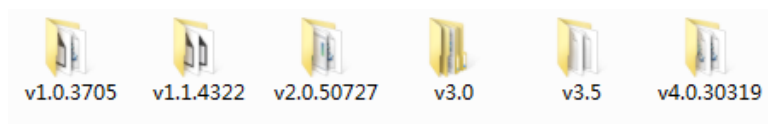
Framework 3.5



8

\\Windows\\Microsoft.NET\\

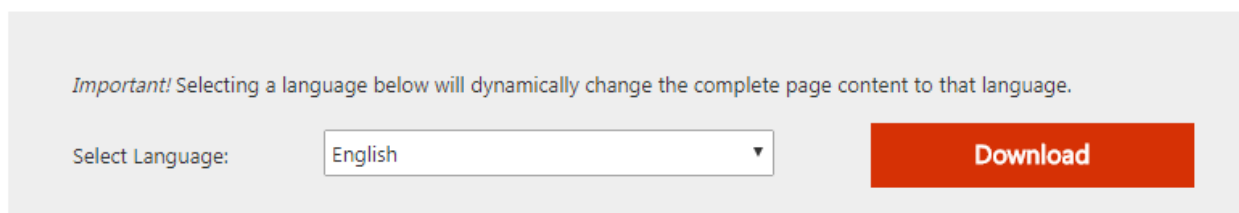
Framework 3.5



9 Framework 3.5

Microsoft

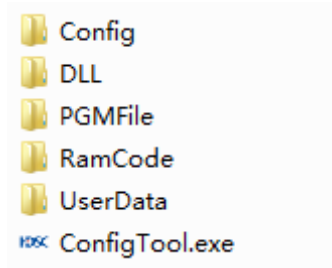
Microsoft .NET Framework 3.5



10 Framework 3.5

2.2

		(EXE)HDSC Programmer Config Tool_VX.X	11	
ConfigTool.exe		Config	PGMFile	CM
PGM	RamCode		RamCode	User Data



11

	ConfigTool.exe	User Data	7
		7	



MCU  
XTAL      MCU  
          PGM          UART

          PGM  
          /          Flash  
                    MCU  
**Hex**  
MCU                  MCU

          /                                  Flash

SWD  
:

## 2.3

2.3.1 2.3.5 2.3.15

2.3.6 2.3.14

### 2.3.1 ConfigTool.exe

### 2.3.2 MCU

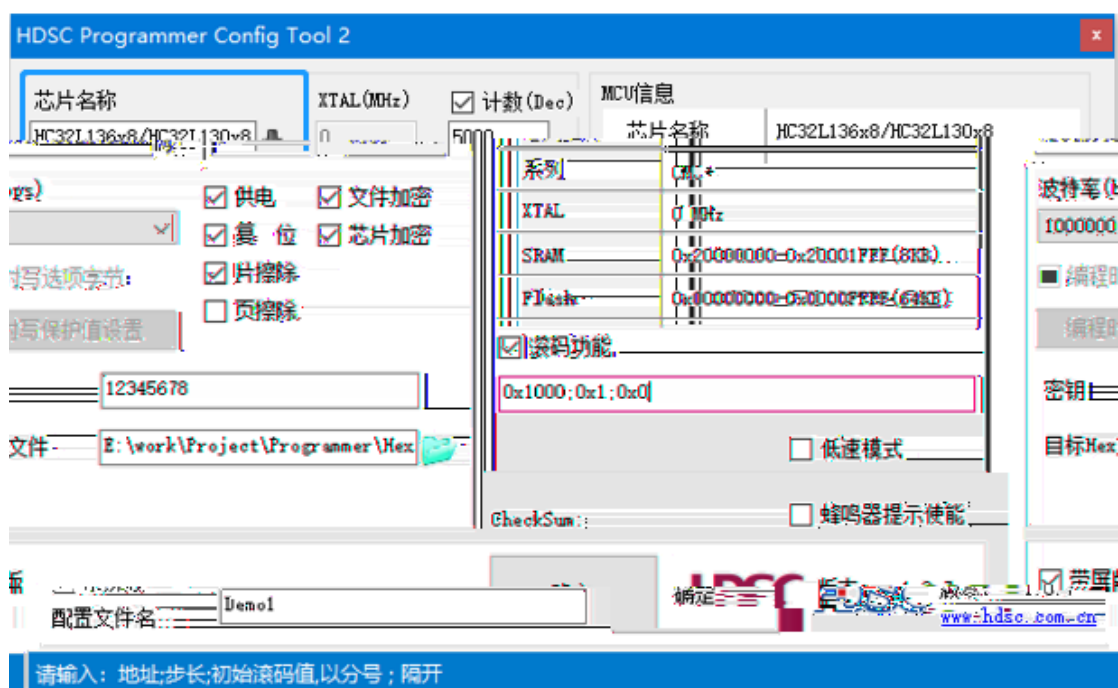
MCU

HC32L136X8/ HC32L130X8

MCU

MCU

13



13

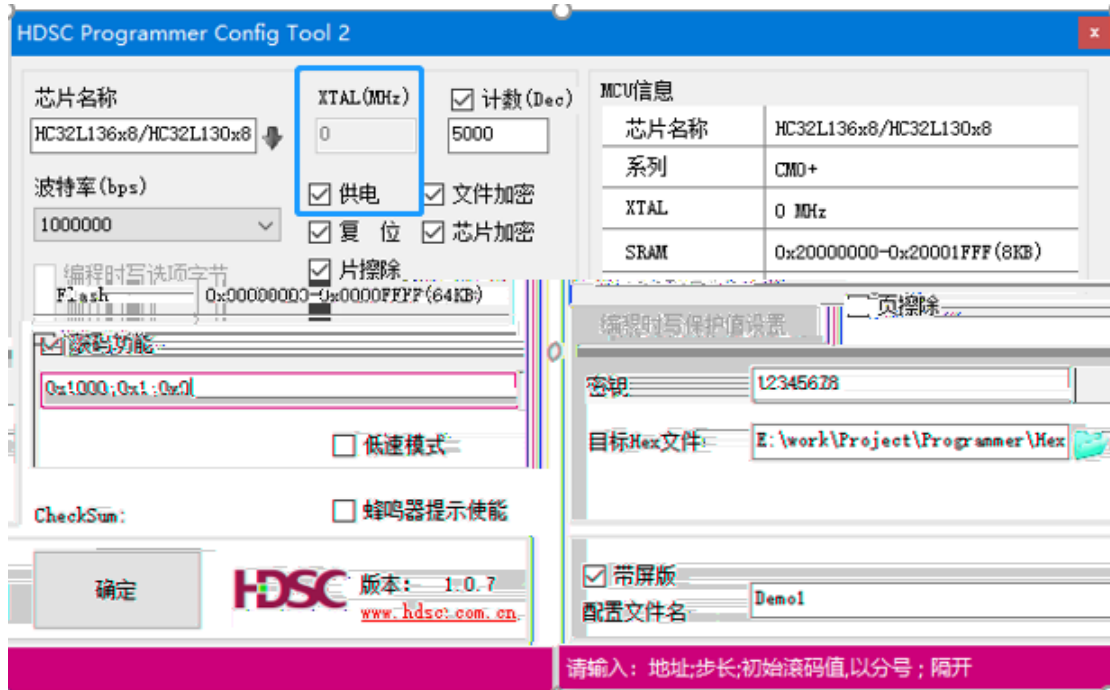
2.3.3

HC32L136X8/ HC32L130X8

XTAL 0M

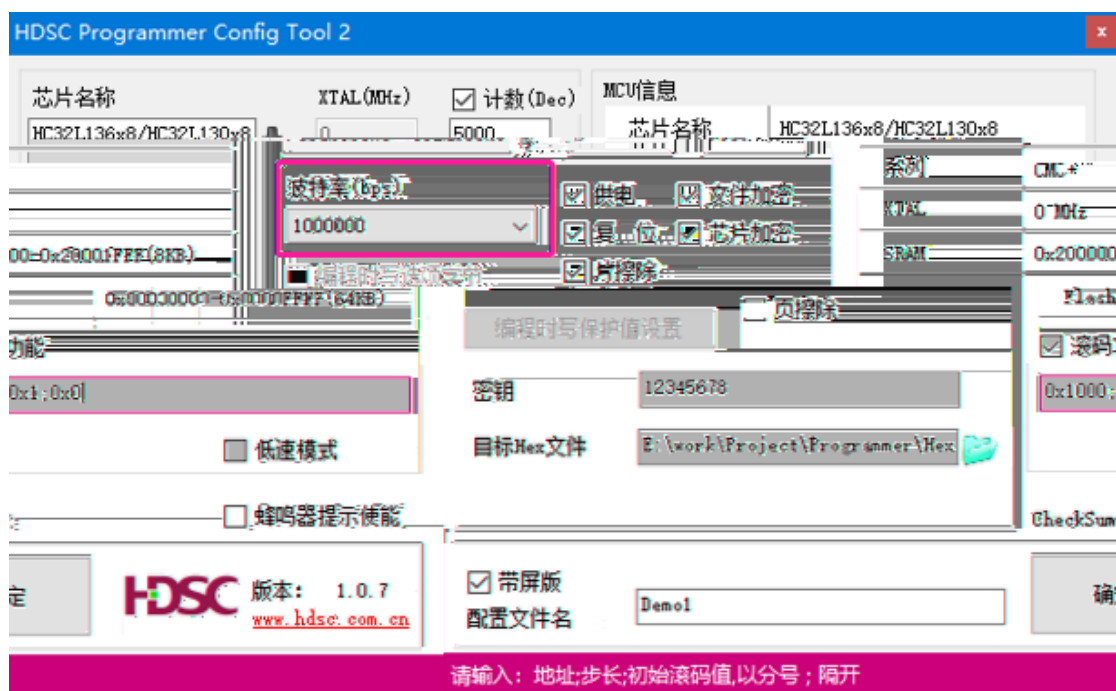
PGM

PGM



2.3.4

1000000

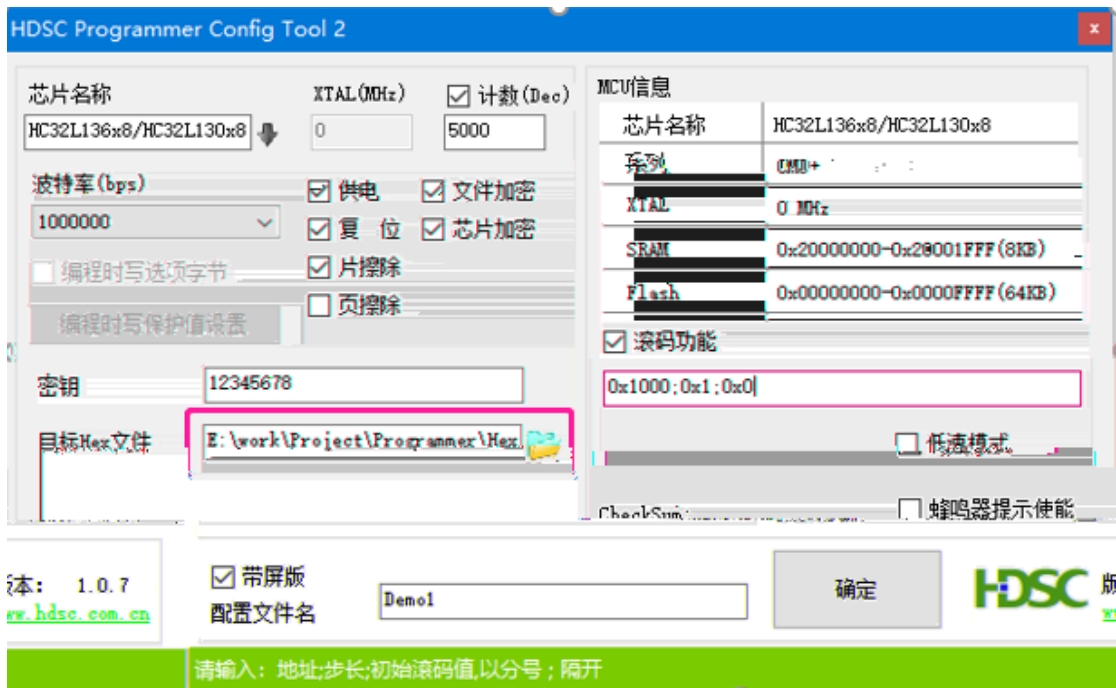


15

2.3.5

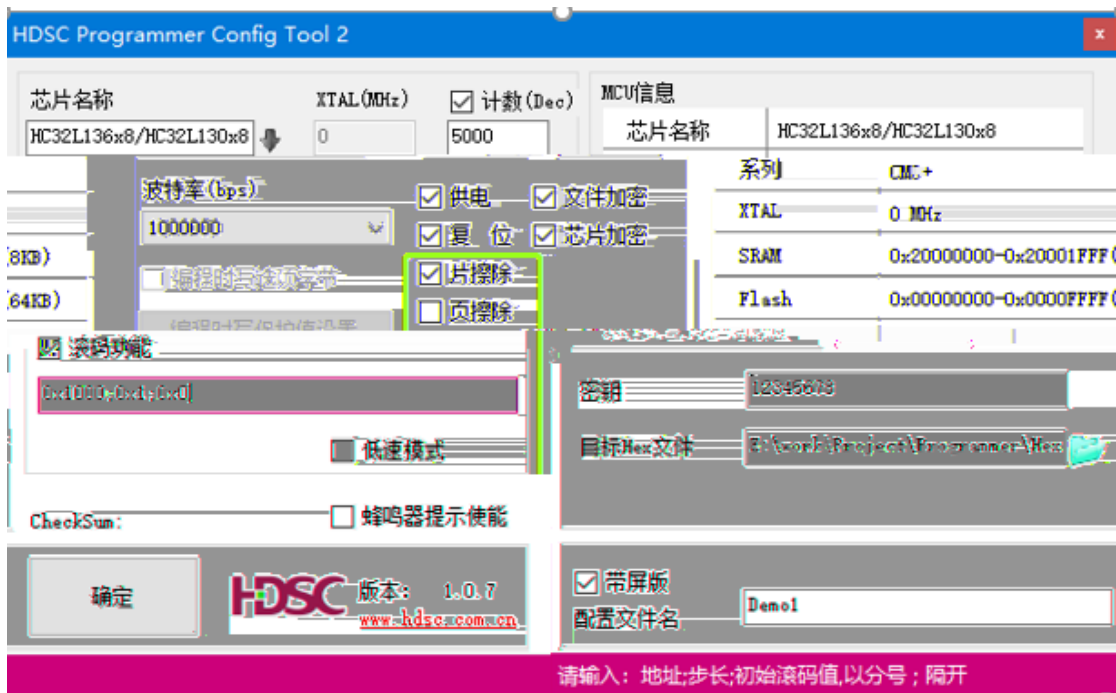
MCU

.srec hex



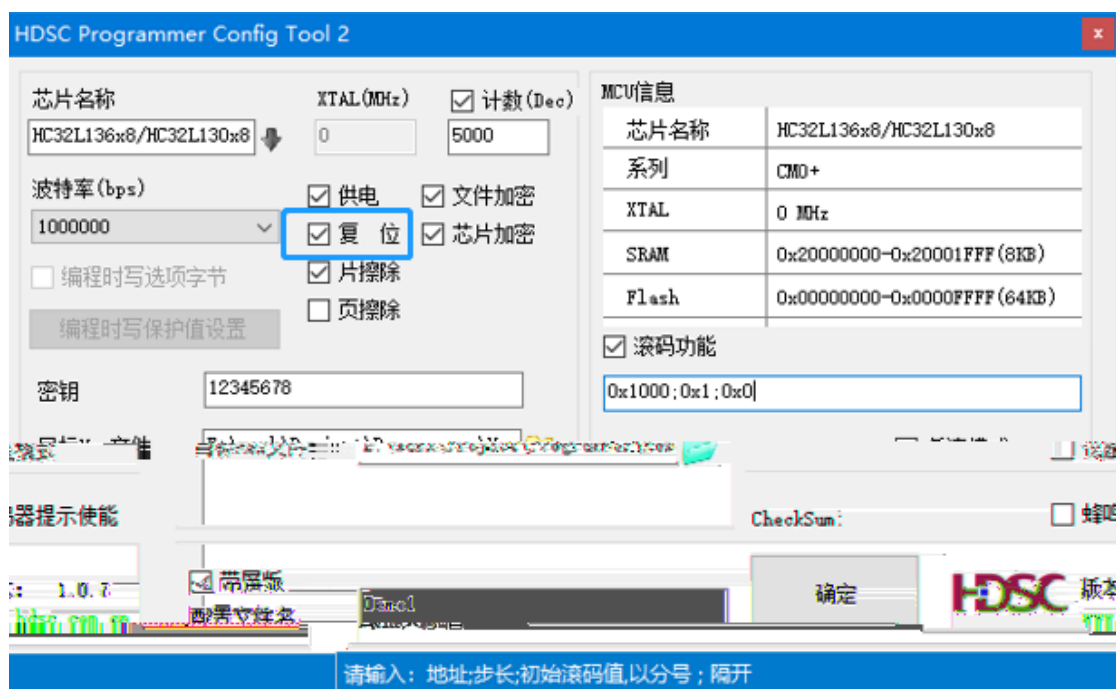
16 Hex

2.3.6



17

### 2.3.7

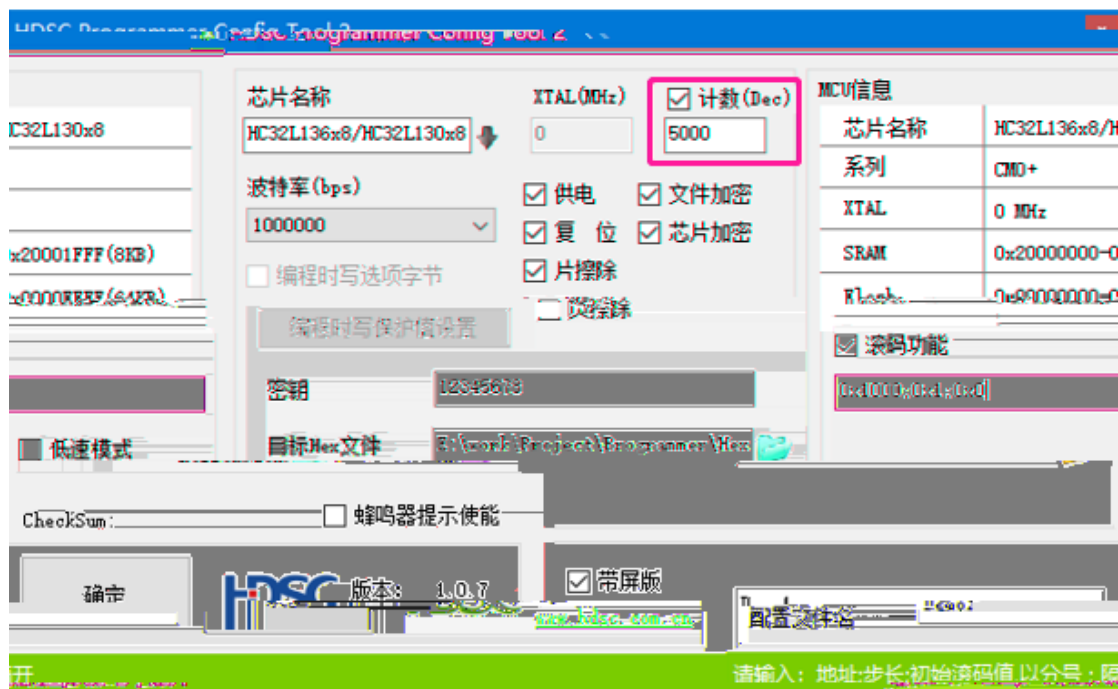


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### 2.3.8

Dec

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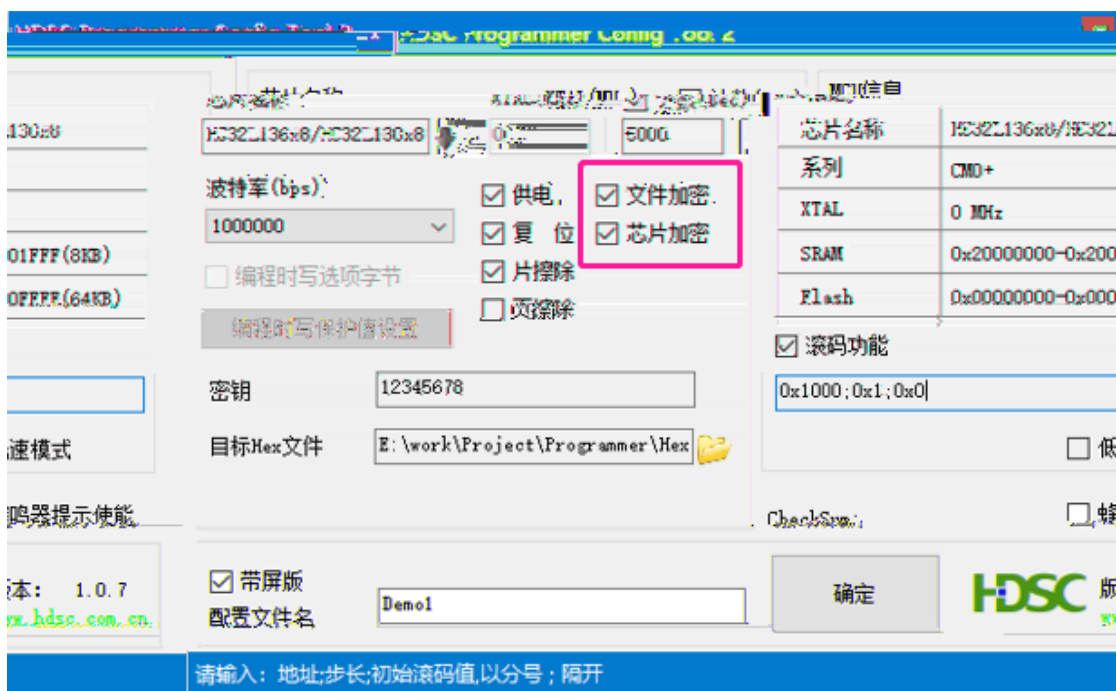


19

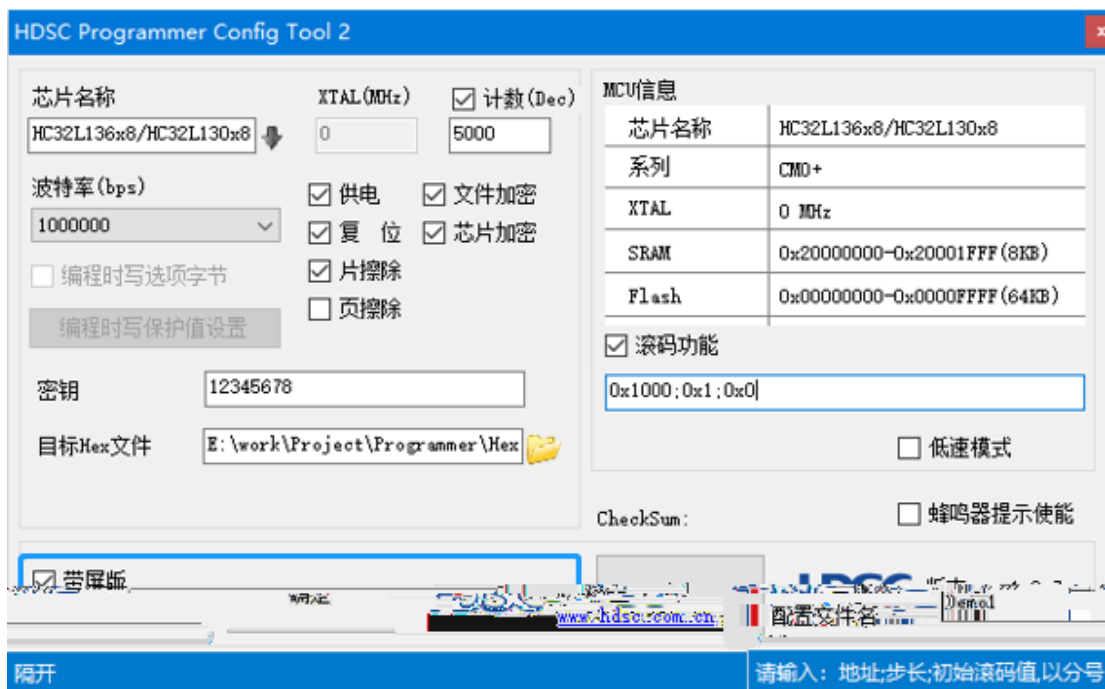
2.3.9

UART

1~16 ASCII



2.3.10



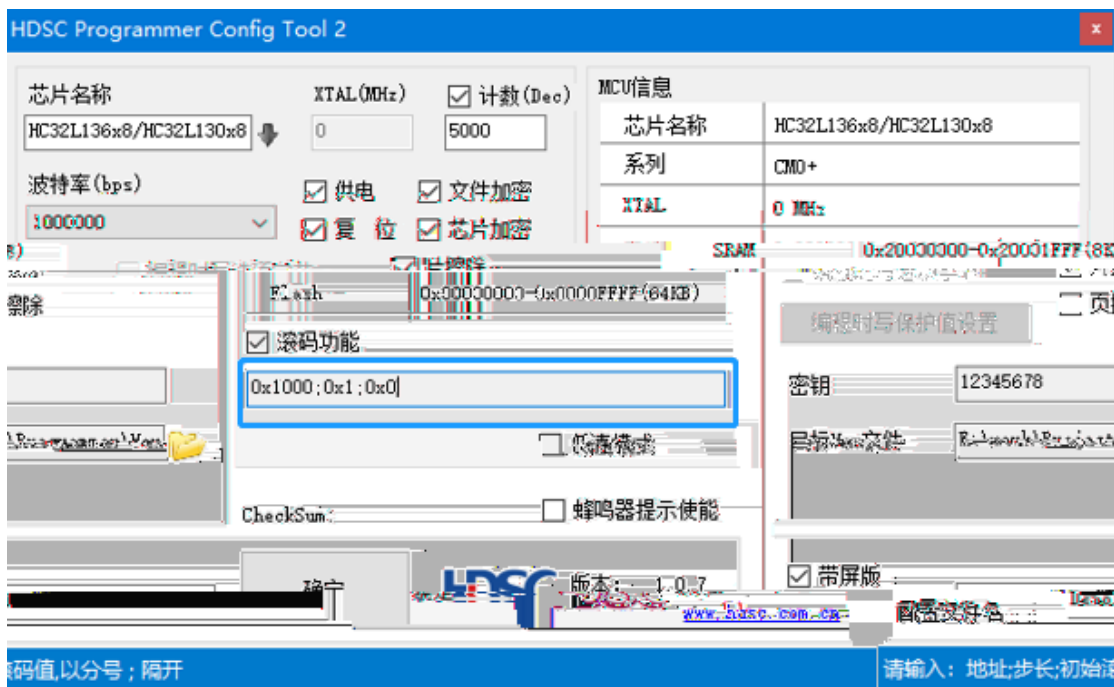


2.3.11

0x1000

1

0

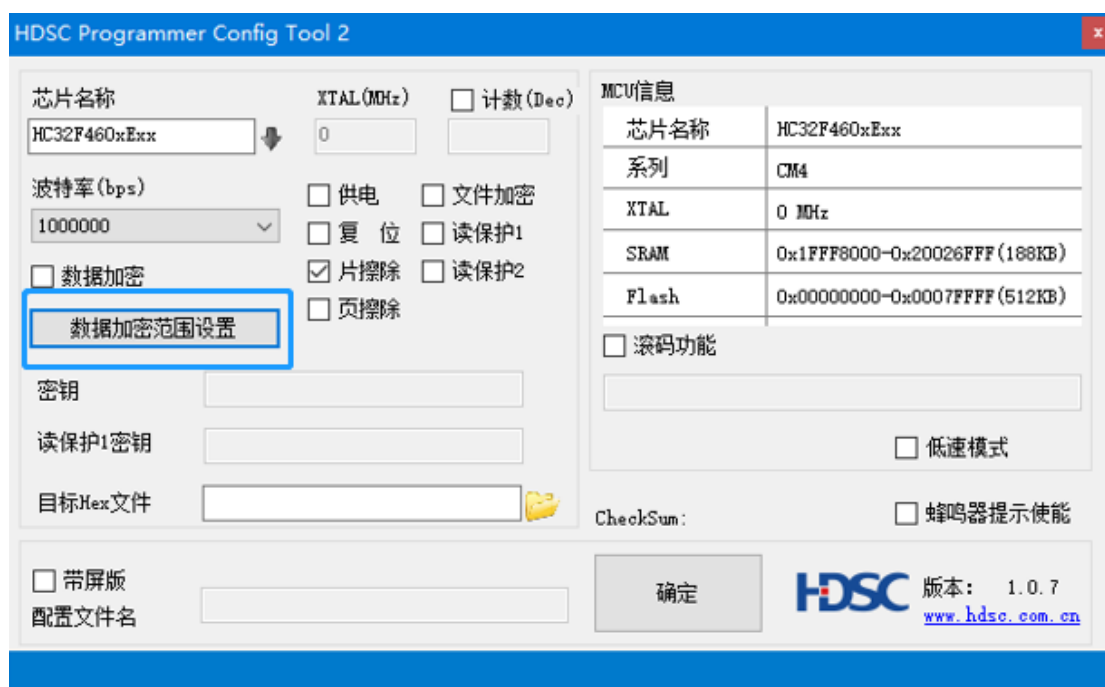


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0~4294967295

### 2.3.12

#### HC32F460



### 2.3.13 USART

HC32F120/HC32M120

USART /

USART

" USART

"

USART

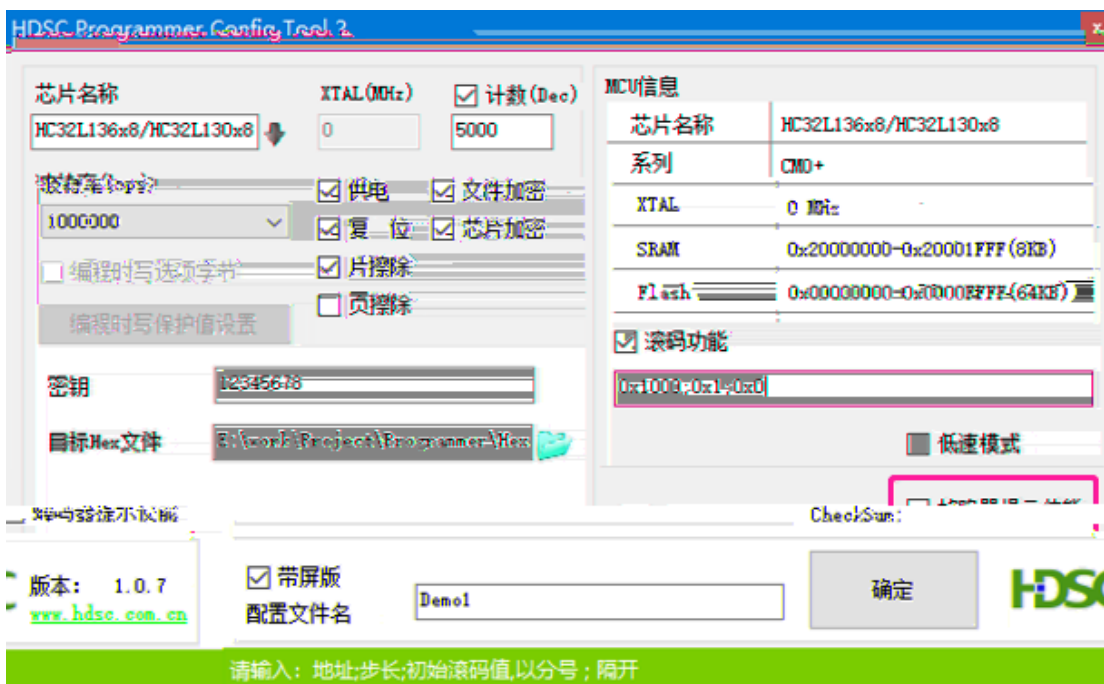
" USART

"



24 USART

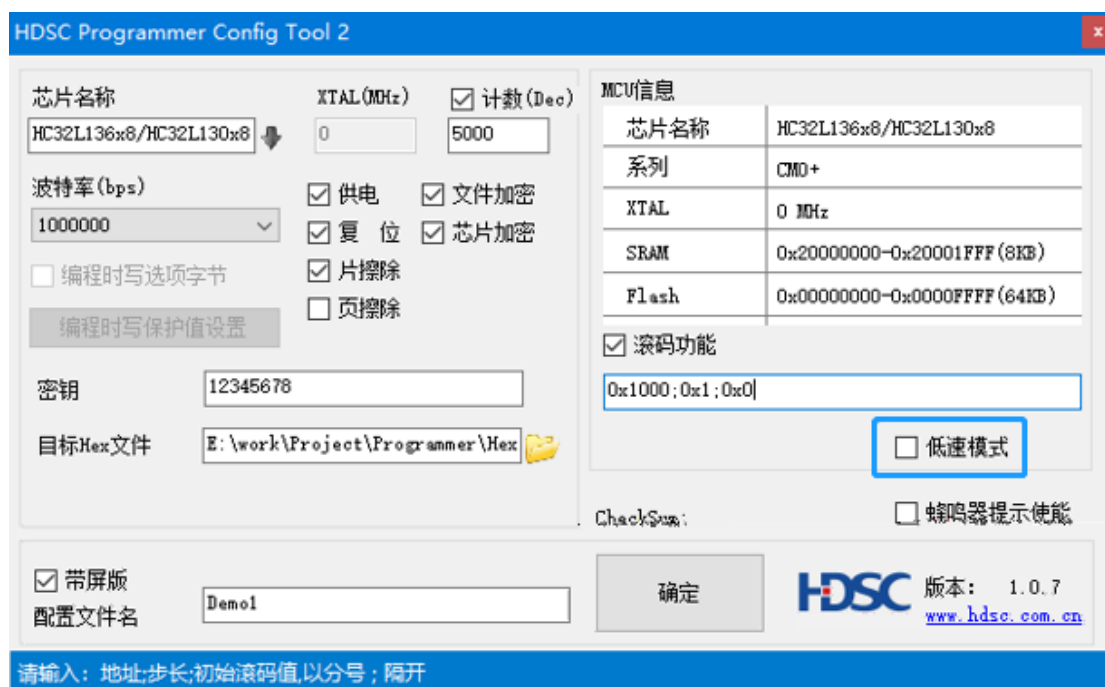
### 2.3.14



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### 2.3.15

#### SWD



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### 2.3.16

#### User Data

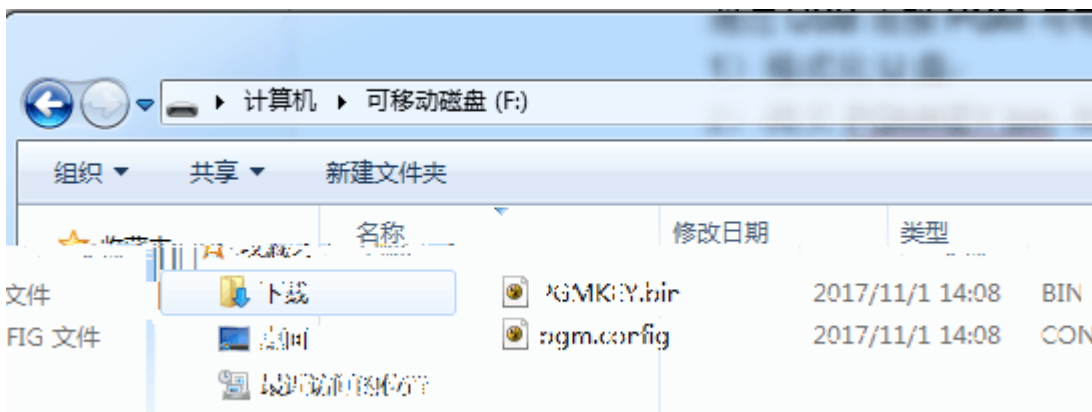
- 1)
  - : PGMKEY.bin
  - pgm.config
- 2)
  - : PGMKEY.bin
  - xxxx.config

### 3.

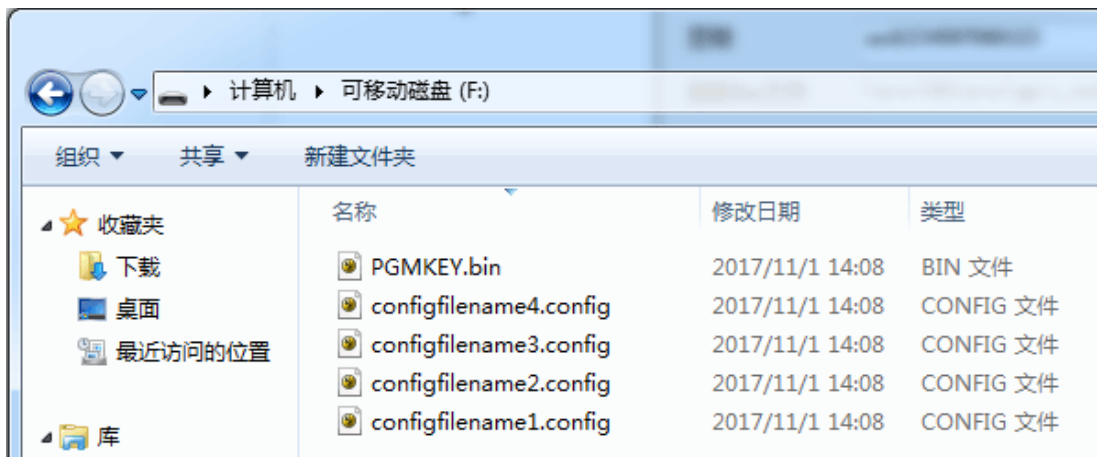
2.3 PGM  
PGM

#### 3.1

- USB PGM U
- 1) U
  - 2) PGMKEY.bin \*\*\*.config U 27  
U 28



27



28

PGM

3.2

CM PGM

8 CM PGM

1	

PGM

1 KEY1 KEY2

2 PGM LED1 LED2

29



29

1



## 4.

- |    |              |                |            |      |
|----|--------------|----------------|------------|------|
|    | HC32L15XXX   | /Flash         | CM PGM     |      |
| 1) |              | ConfigTool.exe | 2.3        | User |
|    | Data         | PGMKEY.bin     | ***.config |      |
| 2) |              |                |            |      |
|    | CM PGM       | USB            | U          | 3.2  |
|    | U            |                | PGMKEY.bin |      |
| 3) |              |                |            |      |
|    | 1.3.1        | MCU            |            |      |
| 4) |              |                |            |      |
|    | 2            |                |            |      |
| 5) | <b>Flash</b> |                |            |      |
|    |              |                | 3          |      |
|    |              |                | Flash      | 3    |
|    | Flash        | read.bin       |            | PC   |



5.

10

10

1	LED1		
2	LED1 U LED2	bootloader	
3	LED1 U LED2	PGM	3.2
4	KEY1 KEY2 U	bootloader	
5	KEY1 KEY2	pgm.config	pgm.config U
6		PGMKEY.bin PGMKEY.bin	PGMKEY.bin
7		• • • • •	• • • • • 0 config PGMKEY.bin
8			

## 6. &

2020/2/19	Rev1.0	
2020/12/10	Rev1.1	1. 2. 3. 4.



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<http://www.hdsc.com.cn/mcu.htm>

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