

32 位微控制器

XH-LINK 调试器

用户手册

Rev1.01 2024 01

适用对象

产品系列	产品型号
小华半导体 Cortex-M 全系列 MCU	Cortex-M MCU

产品系列	产品型号	产品系列	产品型号
HC32F120	HC32F120F6TA HC32F120F8TA HC32F120H6TA HC32F120H8TA	HC32M120	HC32M120F6TB HC32M120J6TB

声 明

“XHSC”

/

XHSC

XHSC

XHSC

XHSC

XHSC

“®” “™”

XHSC

XHSC

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1 简介

XH-LINK Cortex-M MCU Cortex-
M MCU MCU

1.1 概览

XH-LINK 1-1 XH-LINK Communication Device Class,
CDC XH-LINK USB PC PC IDE IAR MDK GCC
XH-LINK XH-LINK XH-LINK SWD

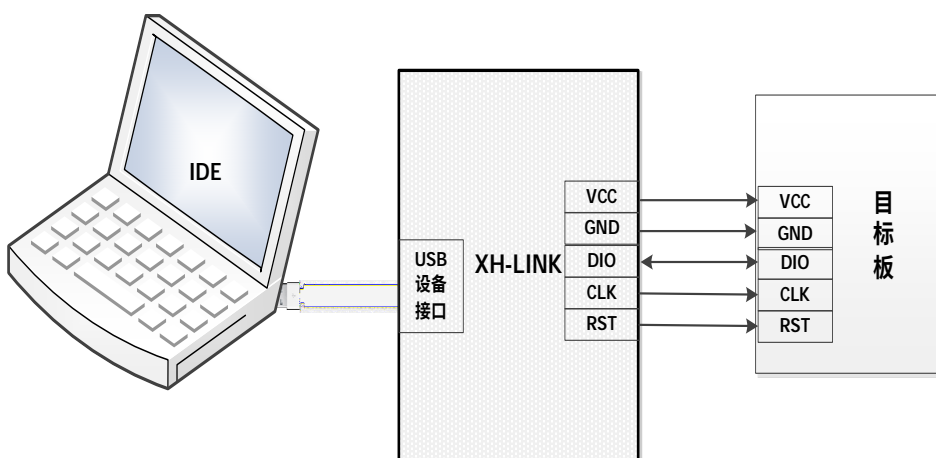


图 1-1 XH-LINK SWD 连接框图

1.2 特性

- XH-LINK 1.0
- 1) 3.3V 5V
- Keil IAR Embedded Workbench Integrated Development
Environment, IDE
- Serial Wire Debug, SWD
- 2) USB
- USB CDC
- USB
- USB
- 3) ISP

4)

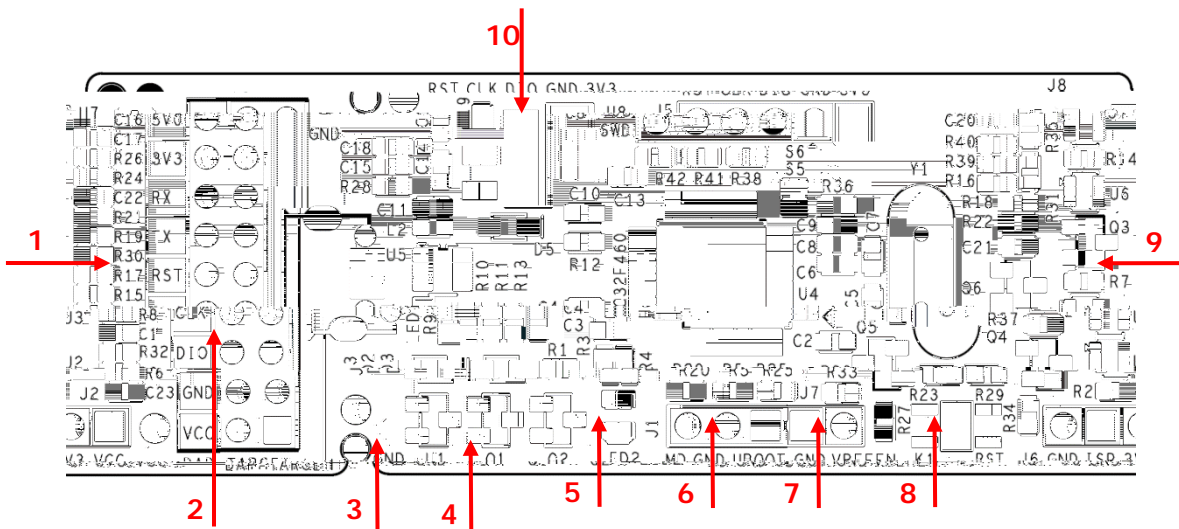
U

5)

6) LED

1.3 板载硬件与接口

1.3.1 板载硬件说明



1	Micro-USB	2	USB VBUS
3	XH-LINK	4	XH-LINK
5	Level shifter	6	XH-LINK
7	ISP	8	Target 3V3
9	Target /	10	XH-LINK

XH-LINK

MCU

XH-LINK

DAP

LED

1) XH-LINK

VBUS

LED1

LED2

2) USB

VBUS

3) XH-LINK

- 1) XH-LINK J8 5V0 3V3
- 2) XH-LINK 5PIN SWD J8 VCC GND CLK DIO RST
- Target J2 XH-LINK 3.3V XH-LINK
- USB VBUS 5V VCC
- 5V0

1.3.2 接口说明

XH-LINK J8 1-1

表 1-1 接口说明

编程仿真接口 引脚标号	功能	备注
5V0	5.0V	5.0V MCU
3V3	3.3V	3.3V MCU
RX	UART	MCU UART
TX	UART	MCU UART
RST	MCU	MCU
CLK	SWD	MCU SWD
DIO	SWD	SWD /
GND		MCU

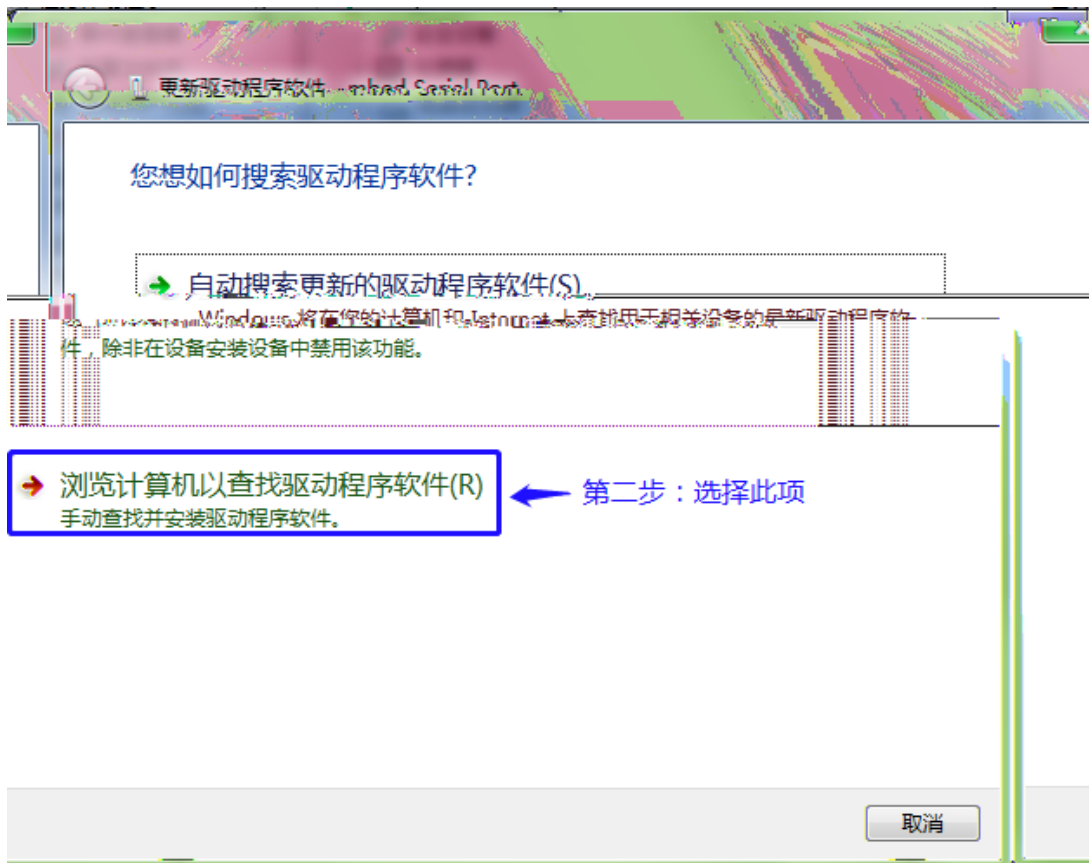
1.4 串口驱动安装

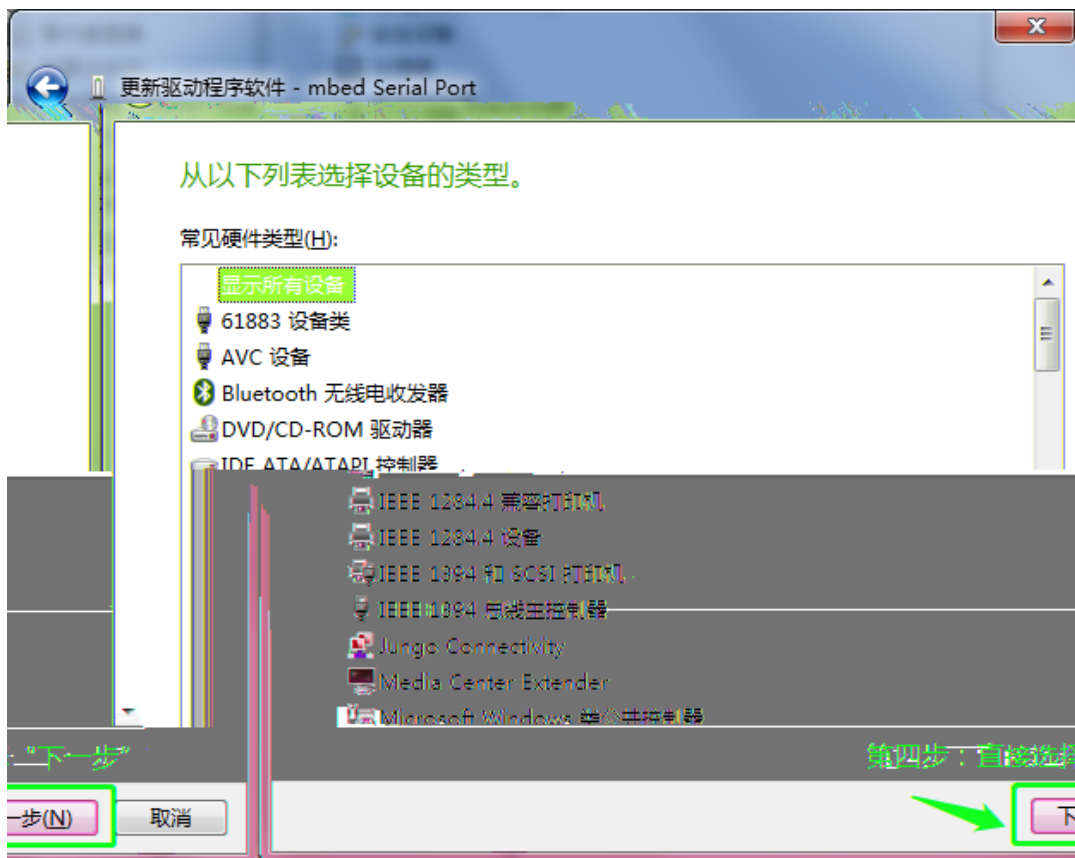
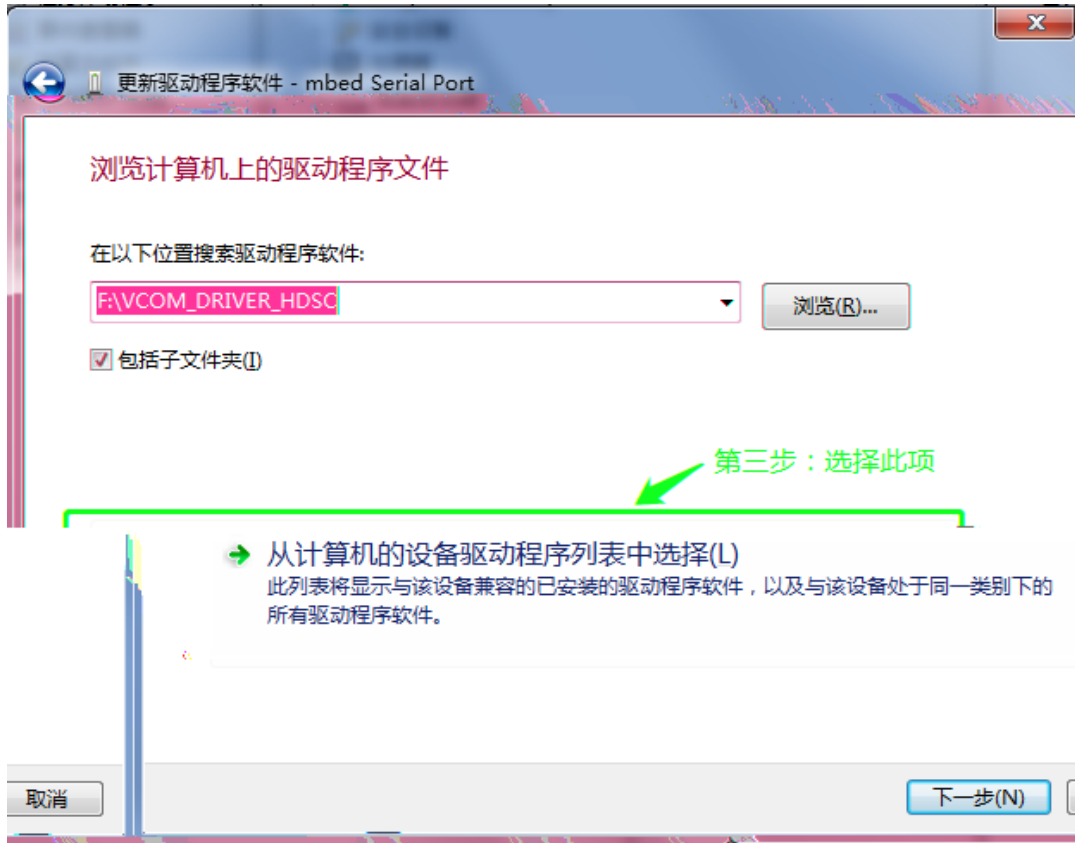
XH-LINK

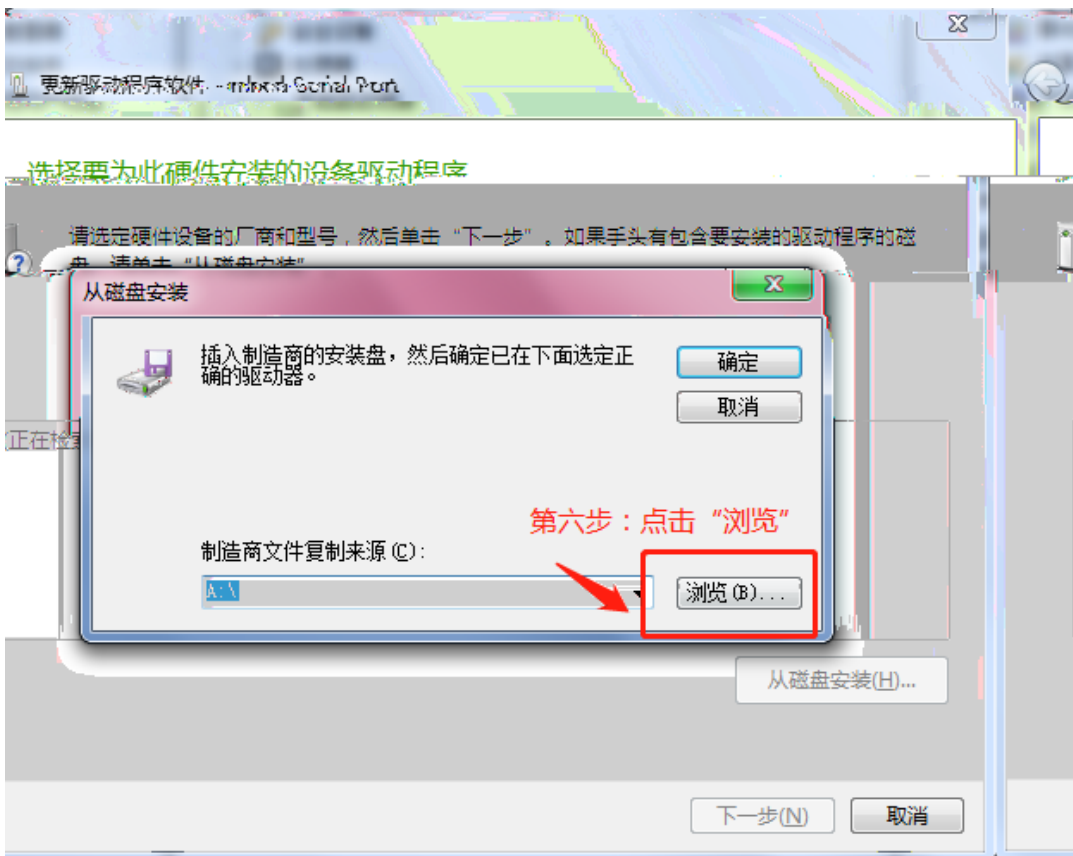
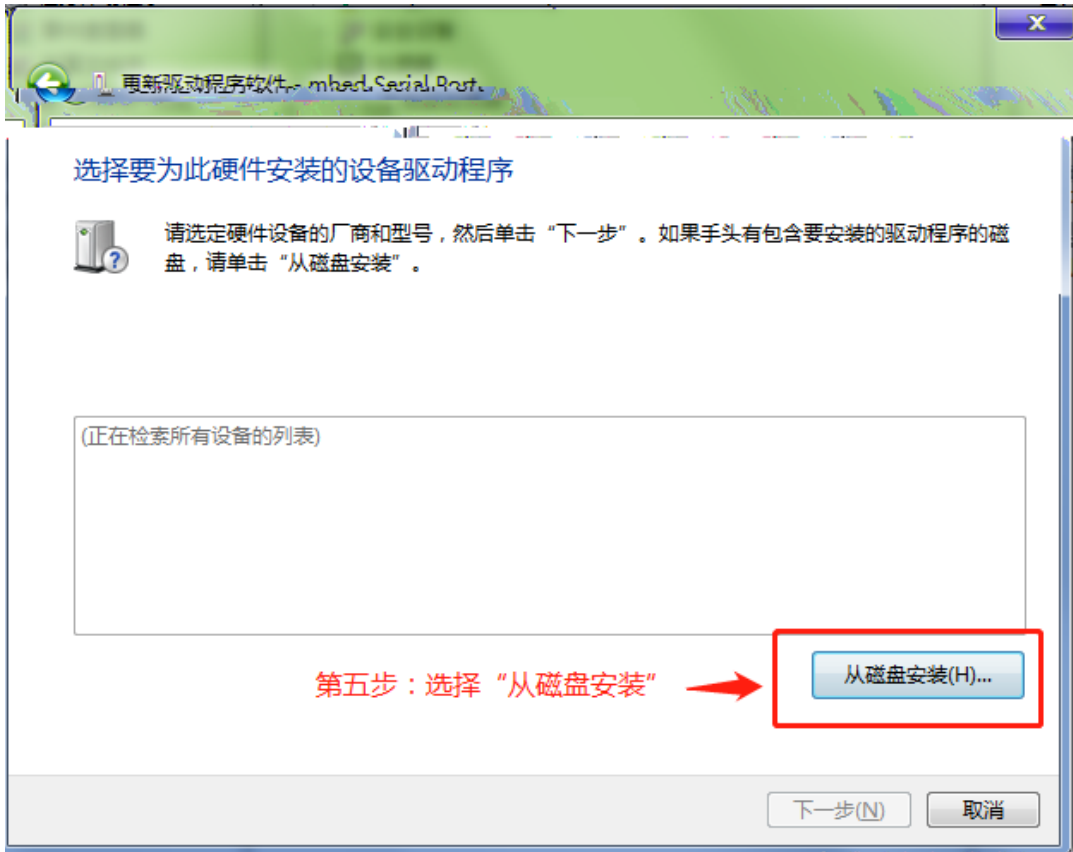
Win7

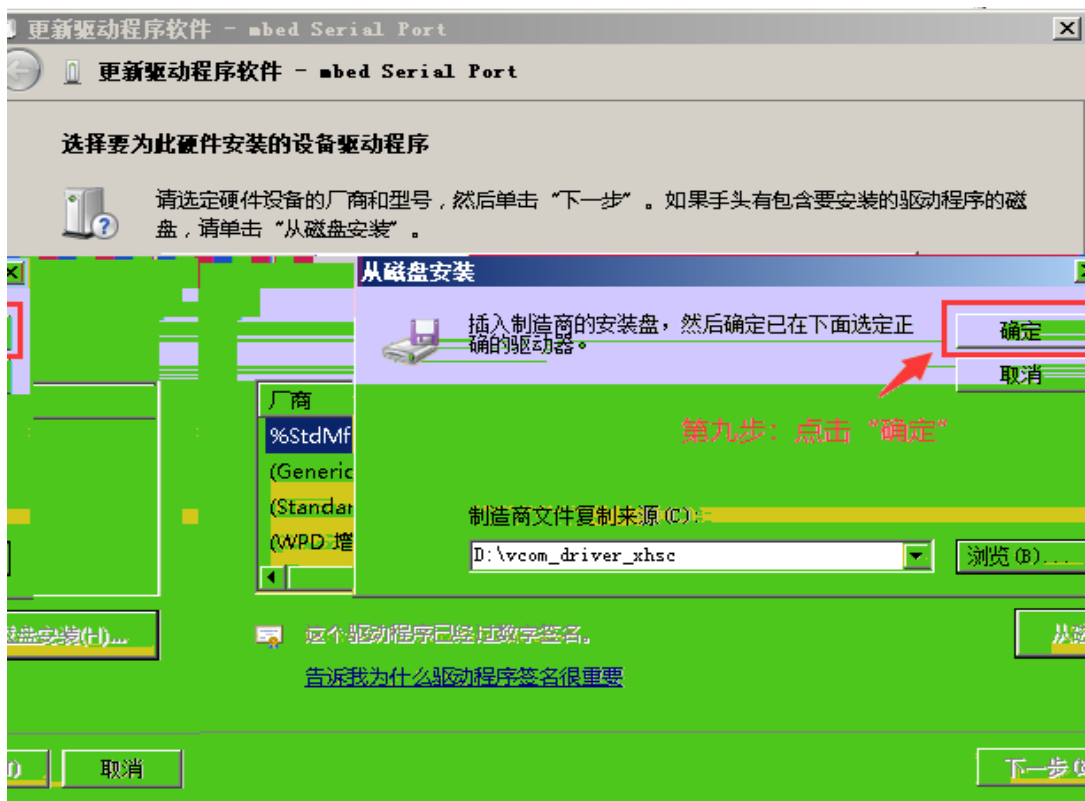
Win10

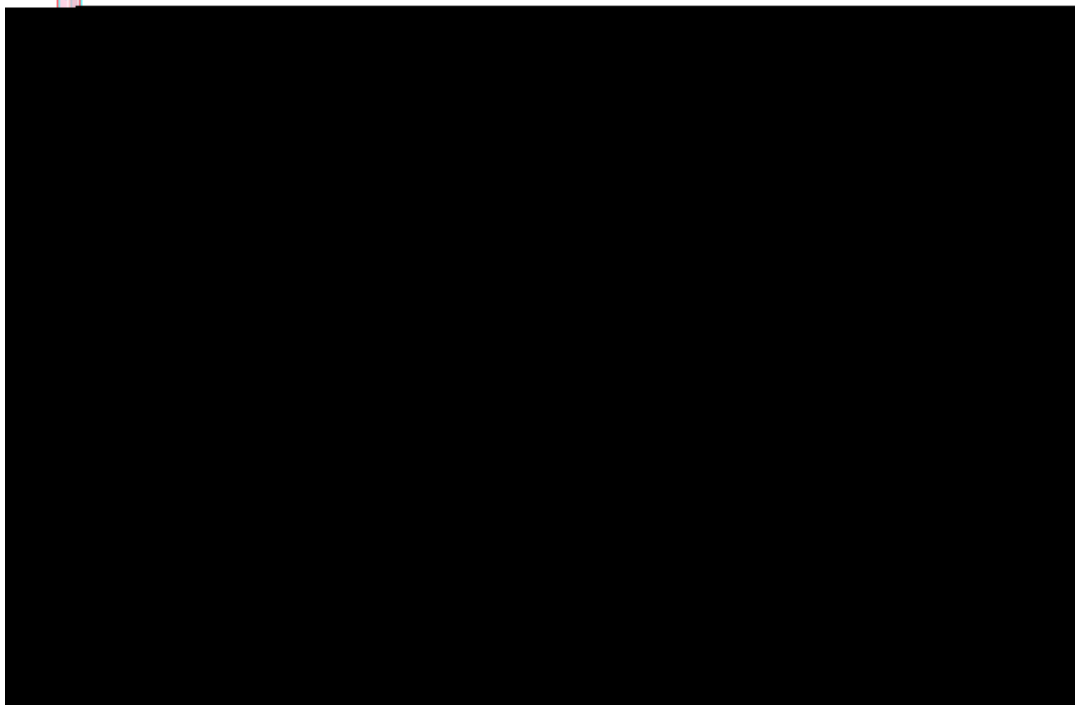
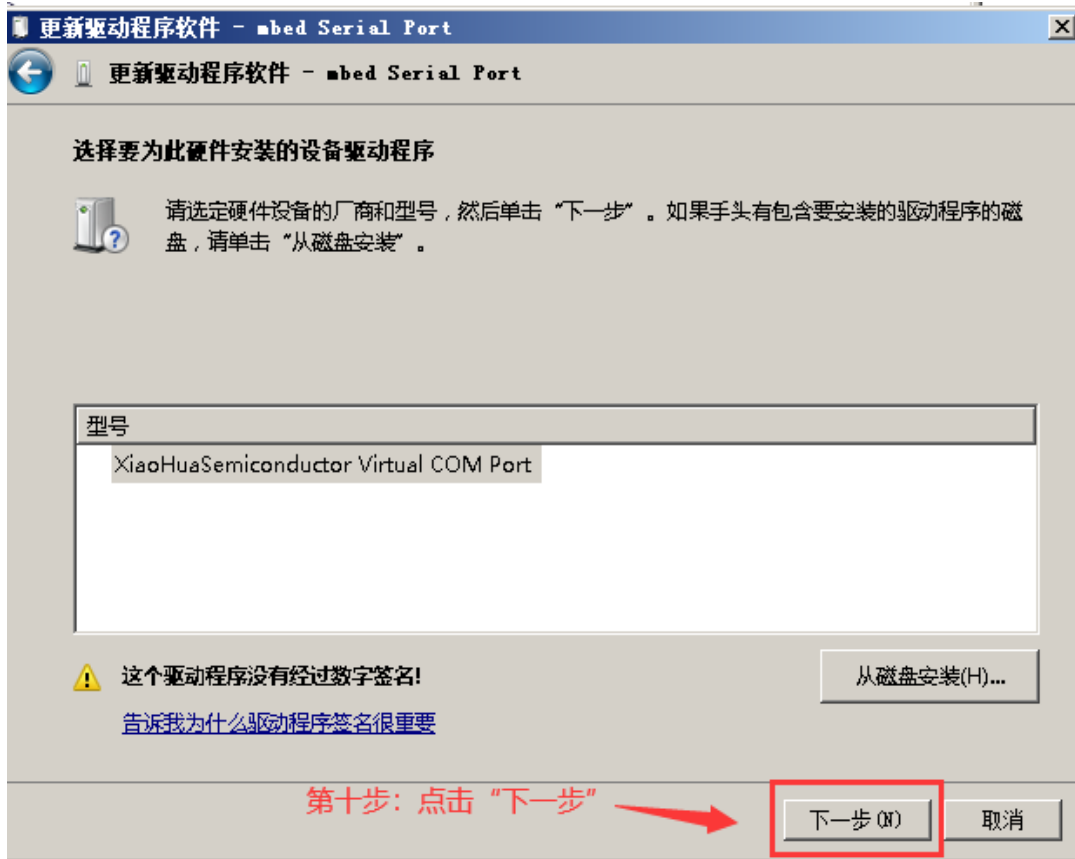
vcom_driver_xhsc













2 功能介绍

2.1 CMSIS-DAP 调试

2.1.1 接口连接

SWD

2-1

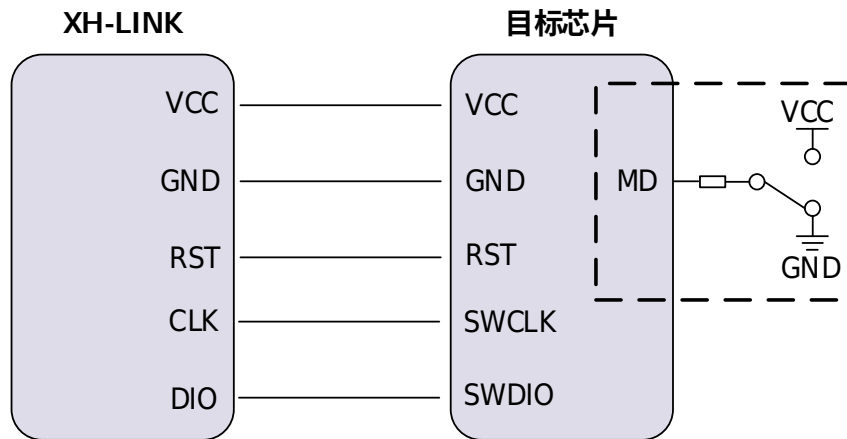


图 2-1 调试连接图

2.1.2 应用样例

XH-LINK

IAR Embedded Workbench

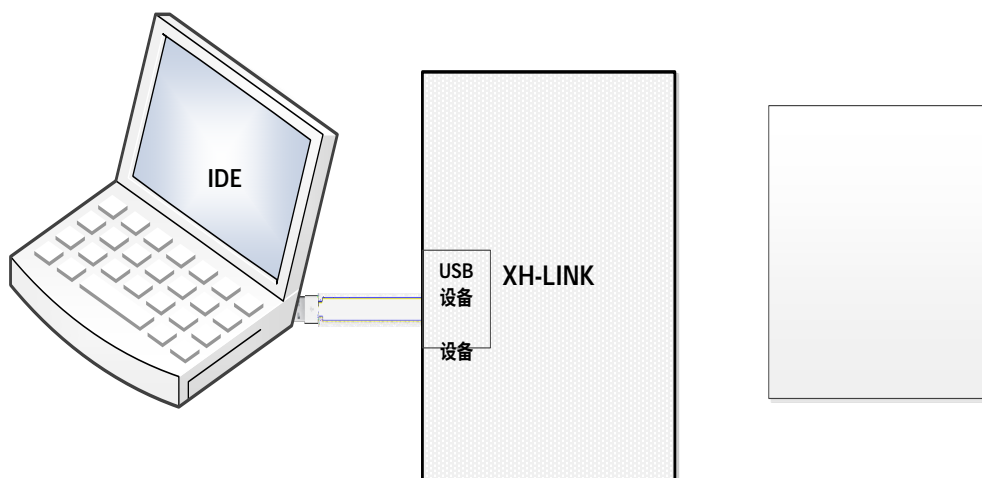
1. MCU HC32F460PETB EV_F460_LQ100_Rev2.0

2-2

XH-LINK

J2 3V3 VCC

XH-LINK



2-3

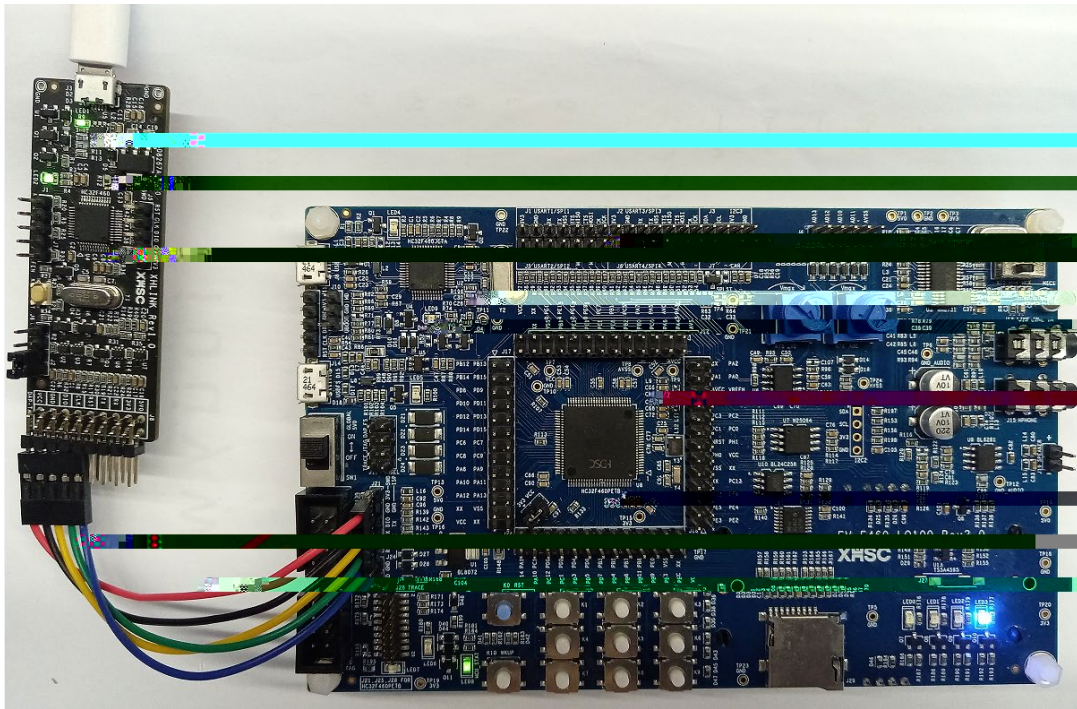
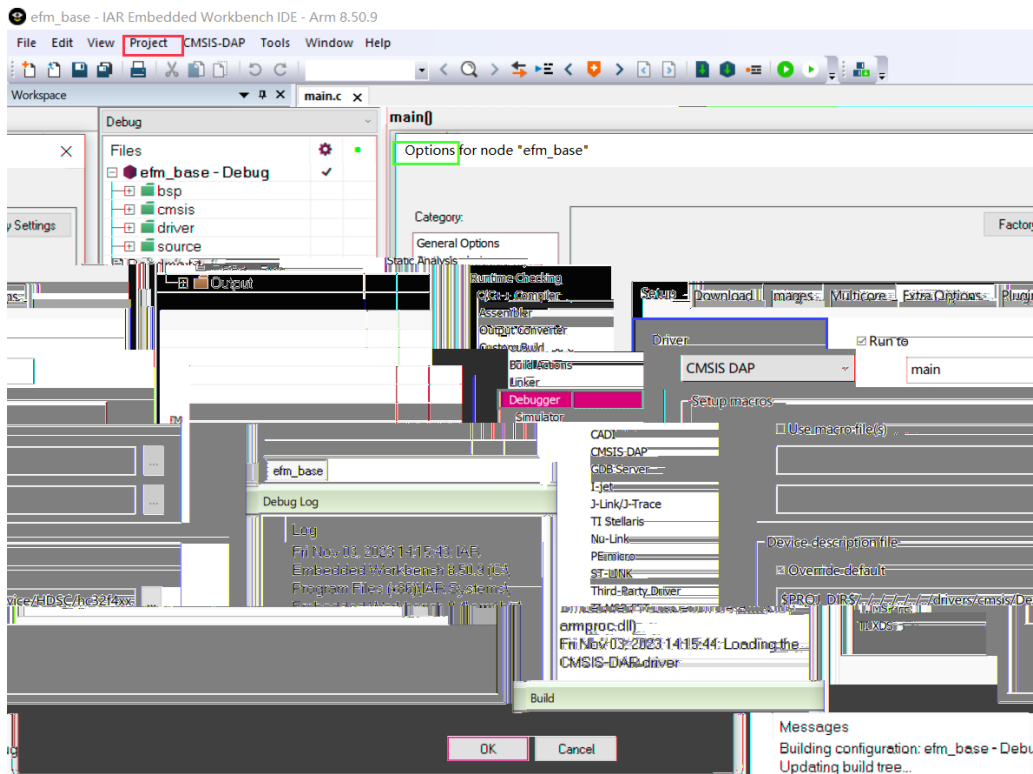
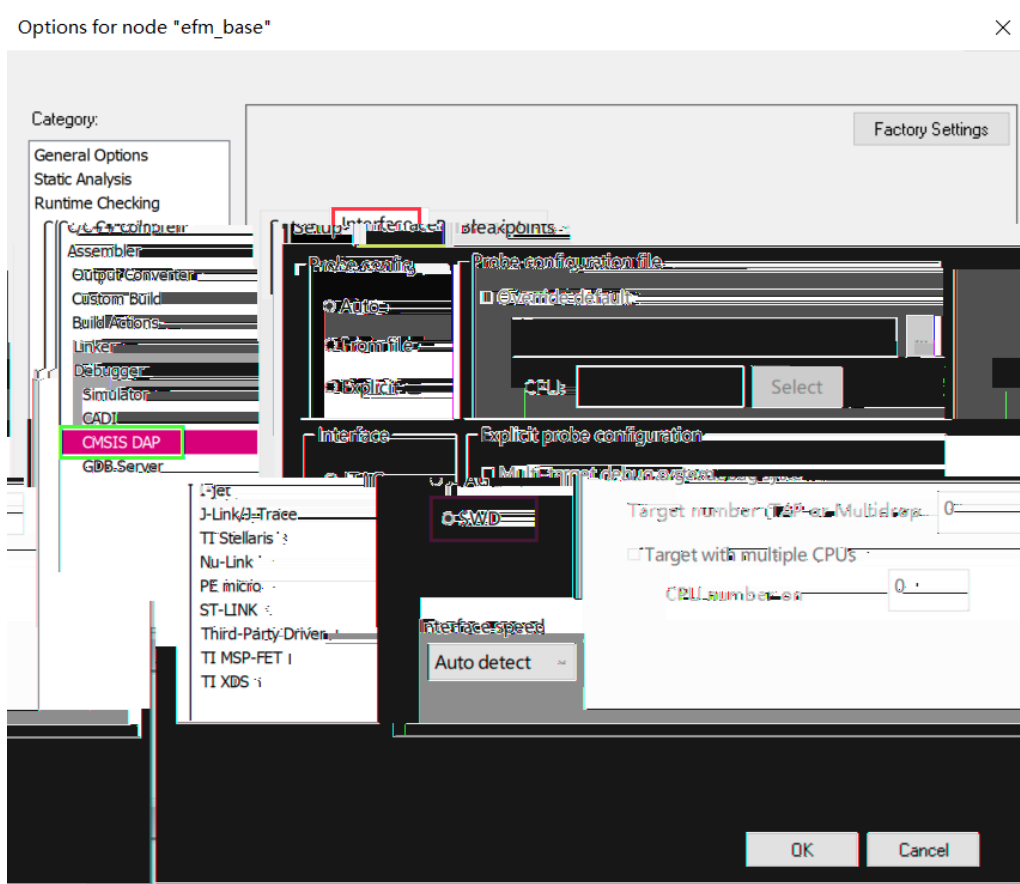


图 2-3 实物连接图

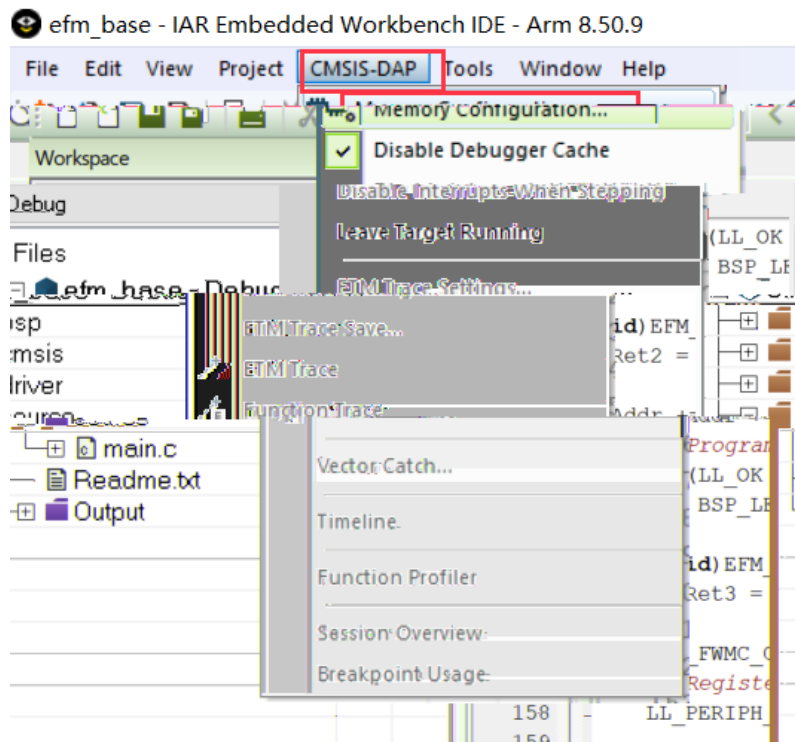
2. IDE IAR IAR Embedded Workbench IDE “Project” -> “Options” -> “Debugger” -> “Setup” “Driver” CMSIS DAP



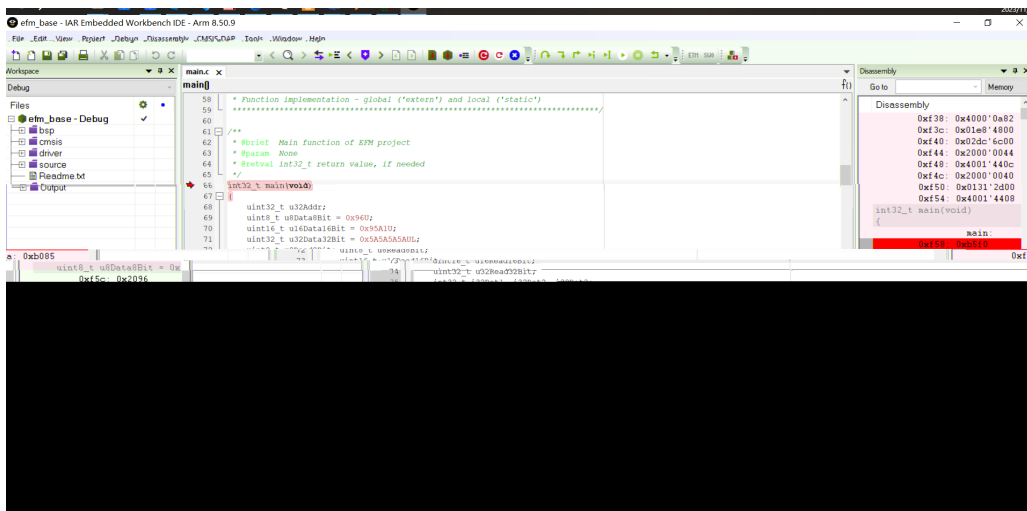
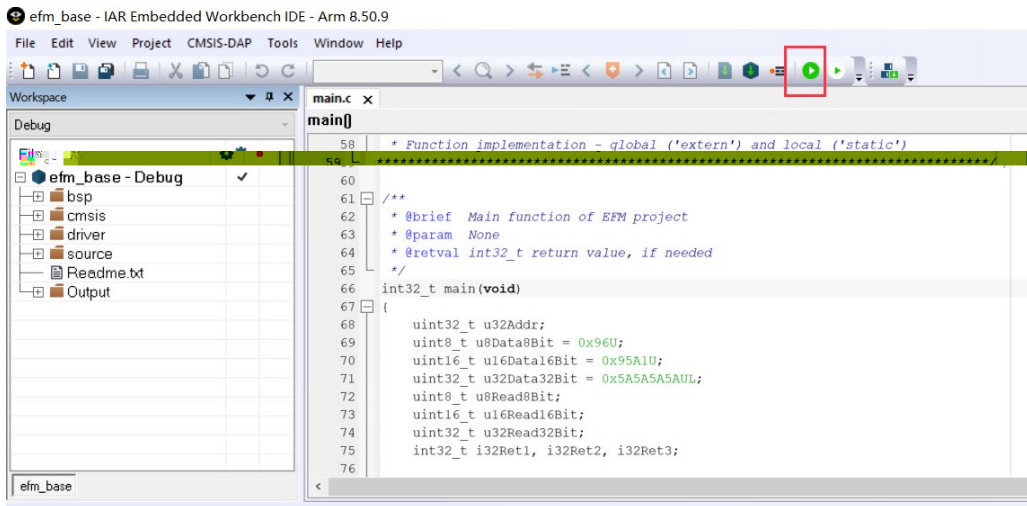
3. "CMSIS DAP" -> "Interface" Interface SWD



4. "CMSIS DAP"->"Memory Configuration..." MCU "Memory Configuratin..."



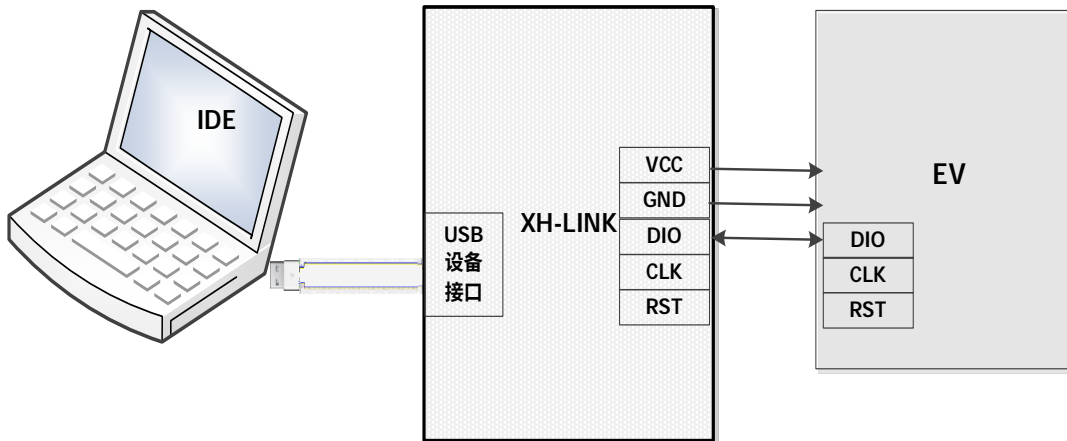
5. "Download and debug"



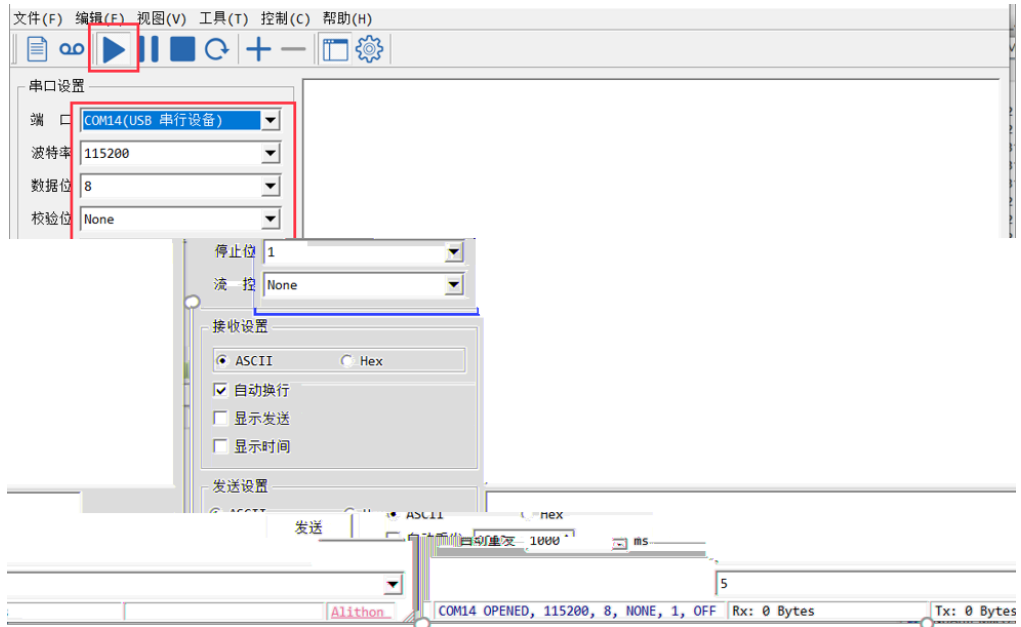
2.2 串口通信

	XH-LINK	RX TX	USART	TX RX	MCU HC32F460PETB
EV_F460_LQ100_Rev2.0			adc_base		USART4 AD

2-4 XH-LINK

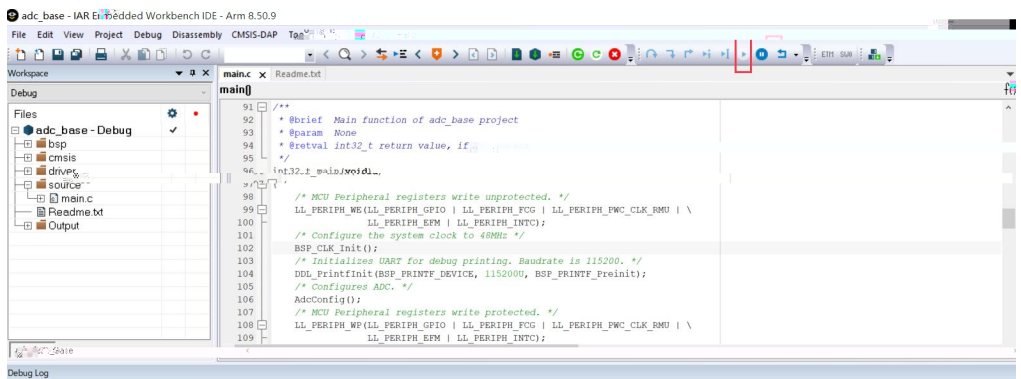


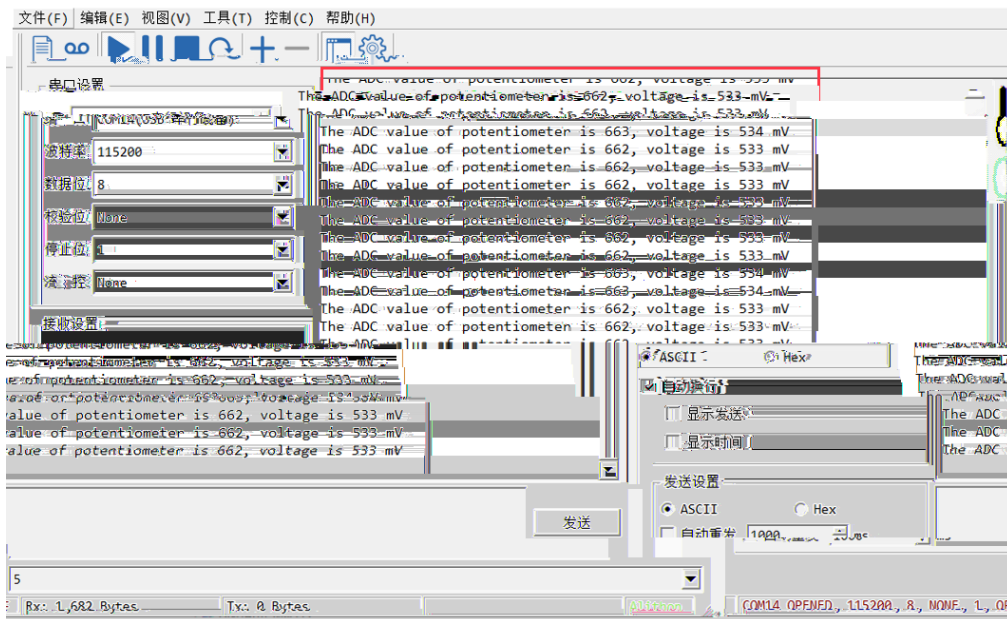
1.



2.

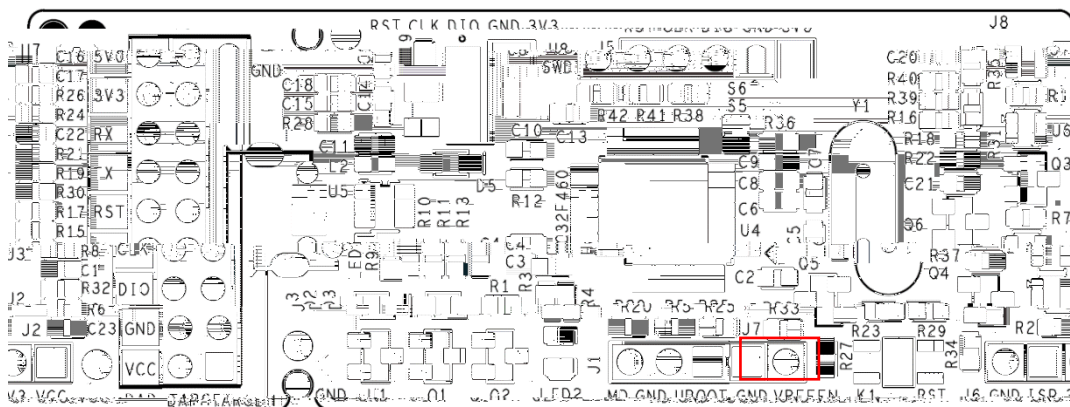
IDE





2.3 ISP 在线编程

XH-LINK USB CM ISP HC32F120 HC32M120
XH-LINK J6



HC32F120 MCU 2-6

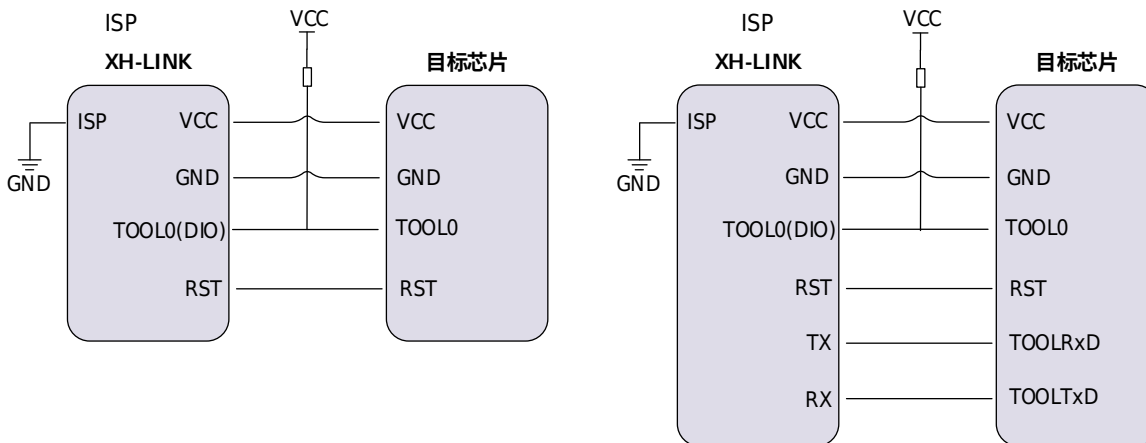


图 2-6 HC32F120 系列连接图

HC32M120 MCU 2-7

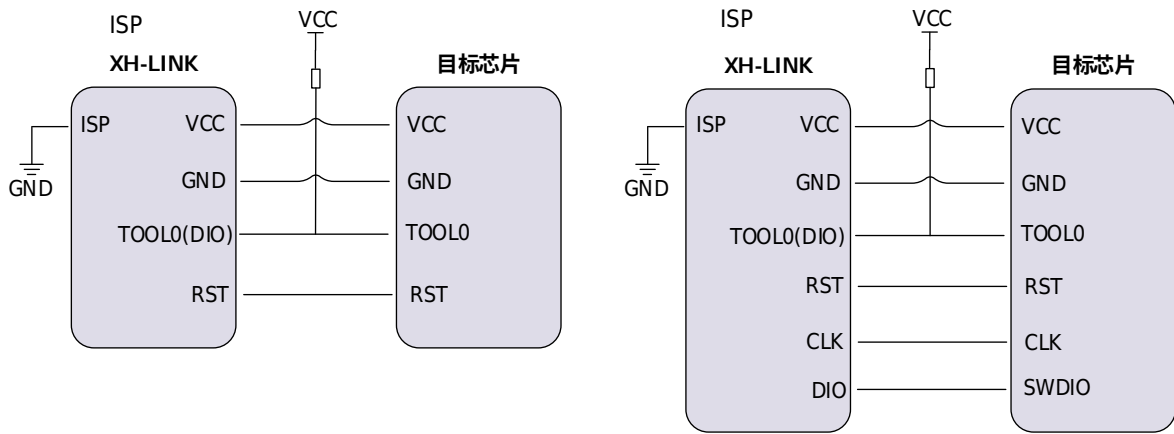


图 2-7 HC32M120 连接图

Cortex-M

3 XH-LINK 调试器固件升级

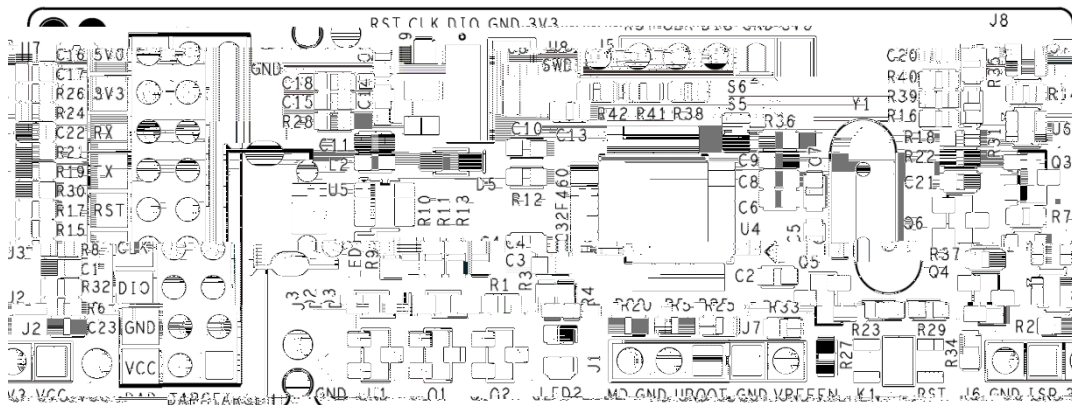
PC USB XH-LINK U

XH-LINK

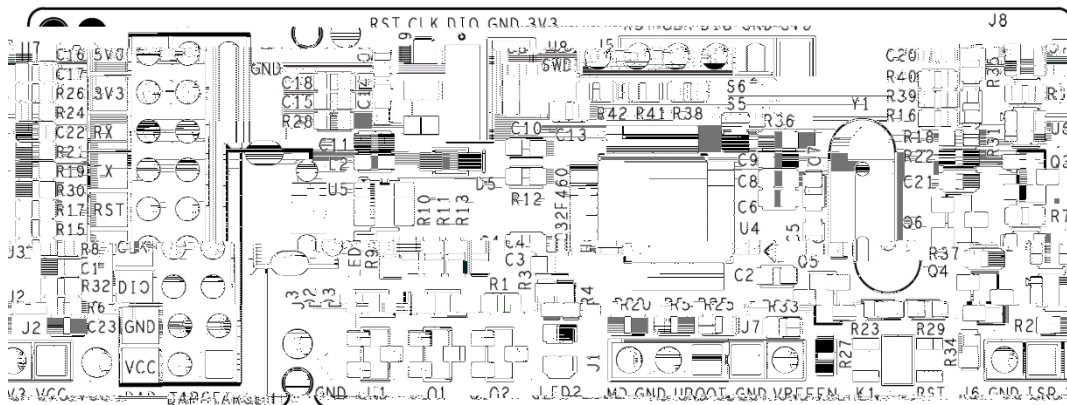
3.1 固件拖拽方式升级

USB

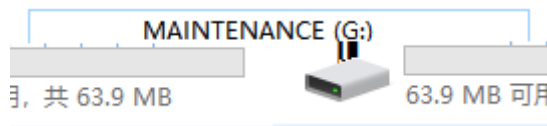
1. J1 GND UBOOT



2. XH-LINK USB PC LED2



3. PC U



4. J1 LED2

3. 2 USB XH-LINK PC

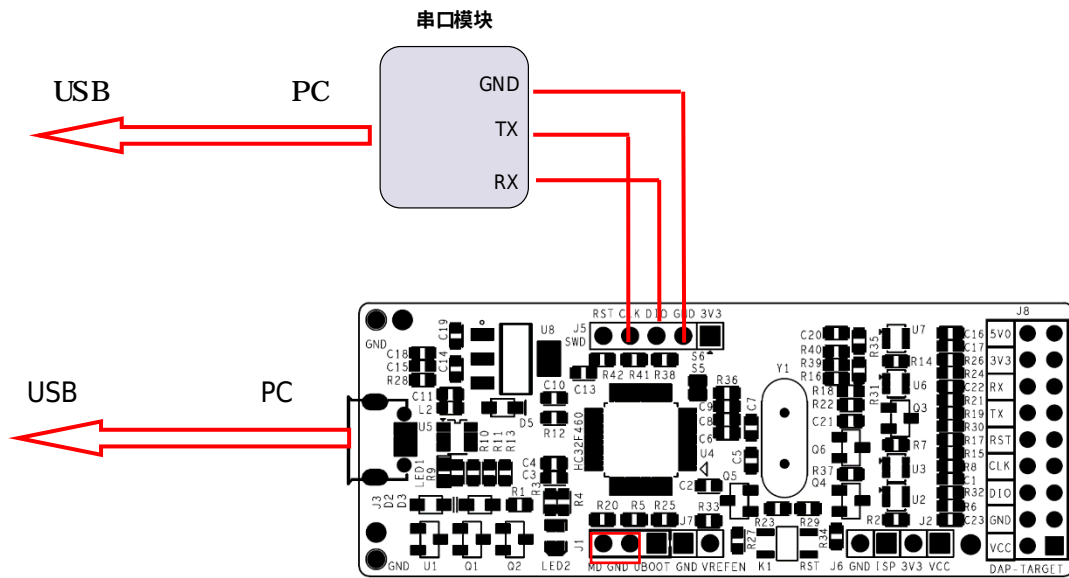
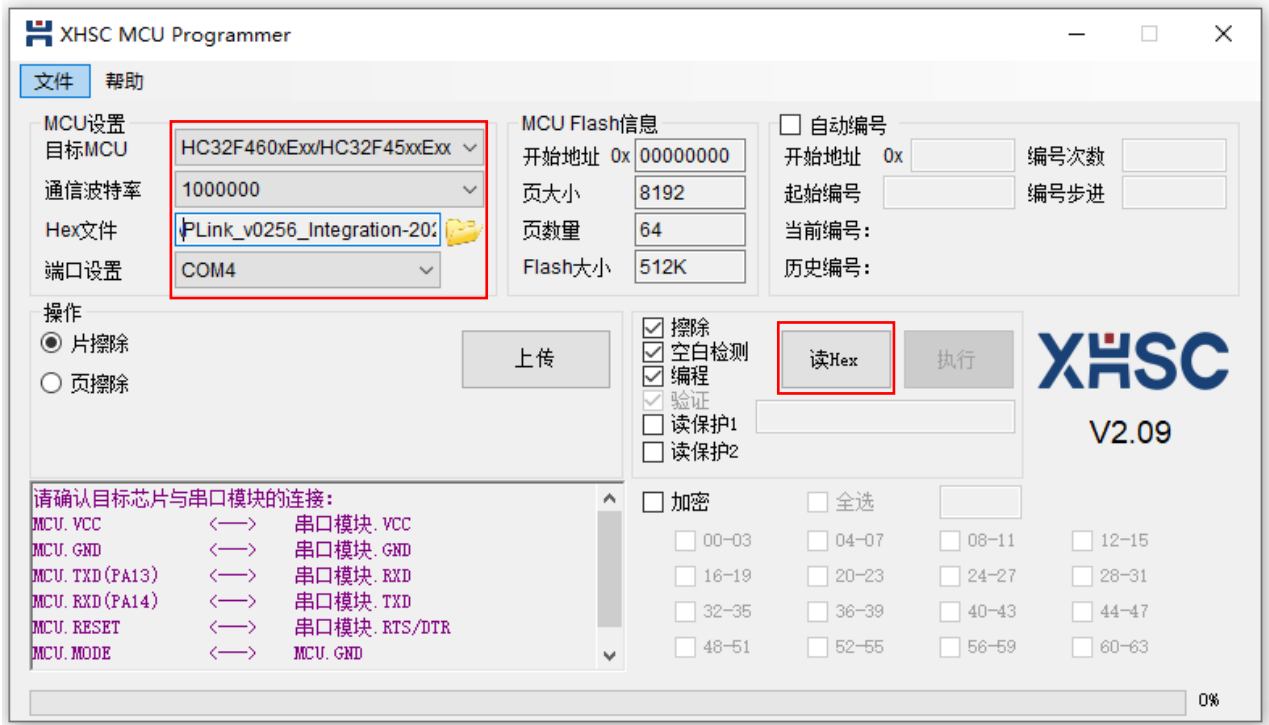


图 3-2 整体连接框图

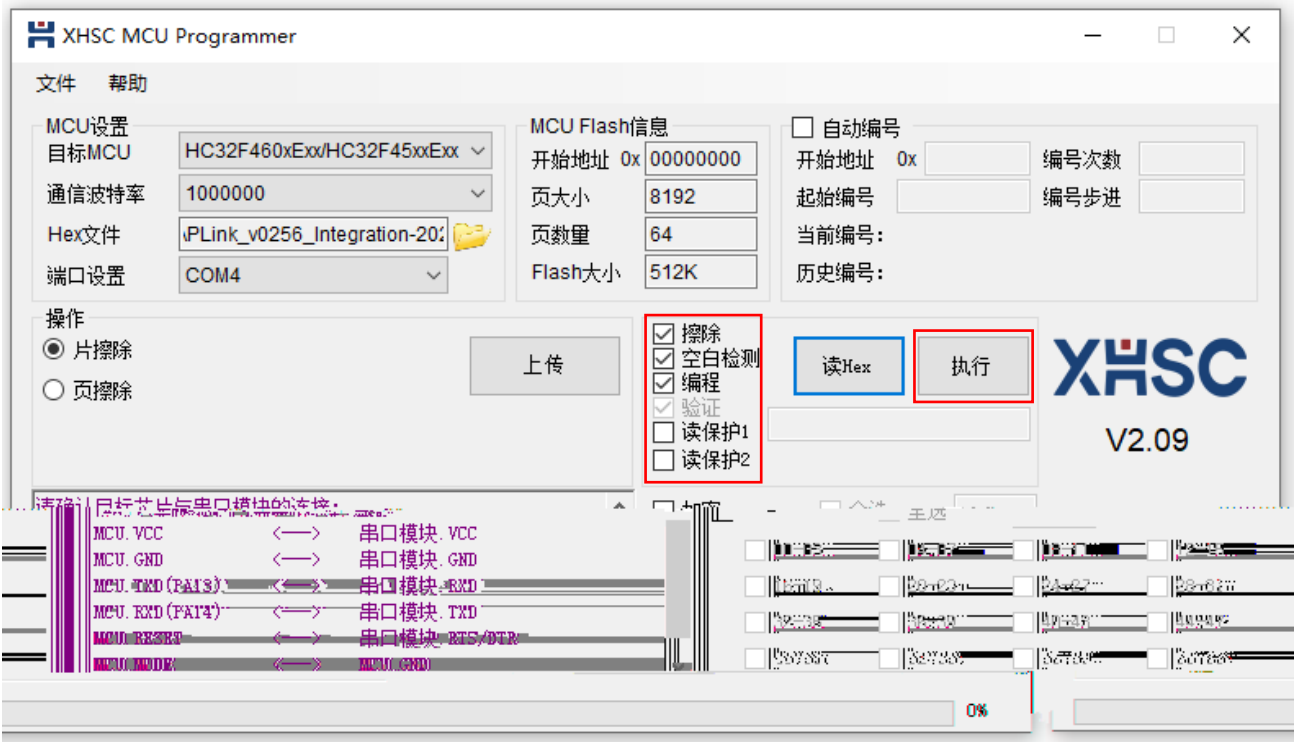
3.2.3 烧写过程

hex DAPLink_v0256_Integration-20221014.hex

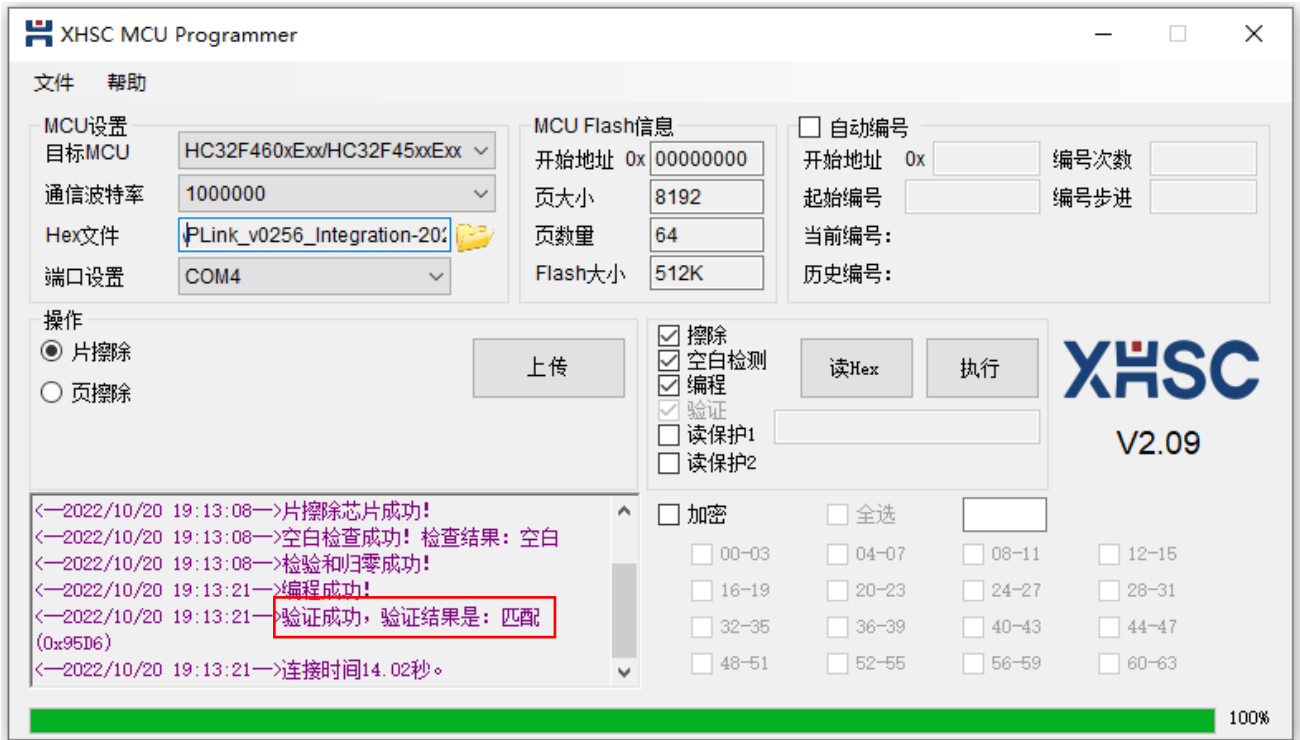
1. XH-LINK xhsc.exe
 - MCU - HC32F460xExx/ HC32F45xxExx
 - 1000000
 - Hex - DAPLink_v0256_Integration-20211014.hex
 - USB UART COM " hex"



2. “ ” “ ” “ ” “ ” “ ” “ ” “ ”



3. “ ”



4. XH-LINK J1 WIN10“ ”
XH-LINK PC



版本修订记录

版本号	修订日期	修订内容
Rev1.0	2023/11/24	
Rev1.01	2024/01/24	XHLINK XLINK XH-LINK