

STM32 系列芯片解锁操作步骤





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一、芯片被锁的现象

1.1 报错显现

使用 ST-Link 连接芯片并烧写程序,如果首先出现图 1 所示的两个情况,紧 接着出现图 2 所示,这说明出现了芯片被锁的情况,请按照下面步骤进行解锁。

| | 16 17 17 18 17 18 17 18 17 18 17 18 17 18 17 18 18 18 18 18 18 18 18 18 18 | ************************************** | ****** |
|--|--|--|--------|
| | | 确定 | |
| EProject Sooks O Functions U ₄ lemplates | | | |
| Build Output | | | |
| Contents mismatch at: 0800010FH (F: Contents mismatch at: 08000110H (F: Contents mismatch at: 08000111H (F: Contents mismatch at: 08000112H (F: Contents mismatch at: 08000113H (F: Contents mismatch at: 08000113H (F: Too many errors to display ! Error: Flash Download failed - "Cd Flash Load finished at 16:36:32 Load "project\project.axf" Erros: Flash Download failed - "Cd Flash Load finished at 16:40:24 Load "project\project.axf" | <pre>lash=08H Required=E7H) ! lash=08H Required=E7H) ! lash=01H Required=FEH) ! lash=00H Required=FEH) ! lash=08H Required=E7H) ! ortex-M3"</pre> | | |
| | | | |
| End In Files M Browser | | | |
| Erase: 08000000H | | | |



二、软件下载

2.1 安装软件

软件下载地址 <u>https://www.st.com/en/development-tools/stsw-link004.html</u>,按照程序默认步骤安装即可。

2.2 打开程序

如果程序是默认路径安装的,则程序位置应该为

C:\Program Files (x86)\STMicroelectronics\STM32 ST-LINK Utility\ST-LINK

<u>Utility</u>

打开程序操作步骤为:

1、打开电脑文件,在搜索框输入地址 <u>C:\Program Files (x86)\STMicroelectronics\STM32 ST-LINK</u> <u>Utility\ST-LINK Utility</u>,回车进入此文件夹,如图 3 所示。双击"STM32 ST-LINK Utility.exe"程序,进入程序页面,入图 4 所示。

| <mark></mark> | s (x86) > STMicroelectro | onics → STM32 ST-L | INK Utility > ST-LINK Utility > |
|--|--------------------------|--------------------|---------------------------------|
| 名称 ^ | 修改日期 | 类型 | 大小 |
| | 2024/9/3 15:13 | 文件夹 | |
| | 2024/9/3 15:13 | 文件夹 | |
| 📓 advapi32.dll | 2020/9/23 12:36 | 应用程序扩展 | 603 KB |
| 🗟 comctl32.dll | 2020/9/23 12:36 | 应用程序扩展 | 603 KB |
| ST-LINK_CLI.exe | 2020/9/23 12:37 | 应用程序 | 406 KB |
| 📣 ST-LinkUpgrade.exe | 2020/9/23 12:37 | 应用程序 | 979 KB |
| STLinkUSBDriver.dll | 2020/9/23 12:37 | 应用程序扩展 | 100 KB |
| 📟 STM32 ST-LINK Utility.exe | 2020/9/23 12:37 | 应用程序 | 864 KB |
| 🔍 Windows 8 Compatibility Resolver.bat | 2020/9/23 12:37 | Windows 批处理 | 1 KB |



三、解锁步骤

3.1 详细步骤

在软件中依次按下如图 5 所示操作,先点击步骤 1,然后点击步骤 2。

进入之后是如图 6 所示页面,步骤 1 显示的是单片机的信息,确保这能够正常显示,步骤 2 把"Enabled"改成"Disabled",然后按照步骤 3,点击"Apply"。 最后出现如图 7 所示,表示解锁成功,然后再烧录进行就可以正常烧录。

| EI STM32 ST-LINK | Jtility arget ST-LINK External Loader Help | | - 🗆 X |
|---|---|--|------------|
| Memory display Address: 0x0800 Device Memory Bir Device Memory | Connect Disconnect CTRL+D Erase Chip CTRL+E Erase Bank1 Erase Bank2 Erase Sectors | bevice bevice ID tevision ID flash size | LiveUpdate |
| | Program Program & Verify CTRL+P Blank Check Memory Checksum Target memory compare with file | | |
| 2 | Option Bytes CTRL+B MCU Core Automatic Mode Settings | | |
| | | | |
| Disconnected | Device ID : | Core State : No Memory Loade | ed |



| 🖳 STM32 ST-LIN | IK Utility | | | | | | - | | × |
|--|---|----------------------------------|----------------------|------------|-----------|-------------|-----------------------------------|--|-------|
| <u>File Edit View</u> | <u>T</u> arget ST-I | LINK Externa | al Loader <u>H</u> e | lp | | | | | |
| 🖴 🖥 🛛 🖕 < | Ç 🤣 💱 | 🧼 駴 | | | | | | | |
| Memory display | | | | | | Device | STM32F10xx Medium-density | | |
| Address: 0x08000000 V Size: 0x1000 Data Width: 32 hits V | | | | | Device ID | 0x410 | | | |
| | | | | | | Revision ID | Rev X | | |
| Device Memory @ 0 | x08000000 : Bit | nary File | | | | Flash size | Unknown | | ndate |
| Target memory, Addr | ess range: [0x08 | 8000000 0x0800 | 1000] | | | | | | puate |
| Address | 0 | 4 | 8 | C | ASCII | | | | ^ |
| 0x08000000 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000010 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000020 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000030 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000040 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000050 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000060 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | |
| 0x08000070 | FFFFFFF | FFFFFFF | FFFFFFF | FFFFFFF | | | | | ~ |
| < | | | | | | | | | > |
| 17:22:13 : ST-LINK S 17:22:13 : V2J37S7 17:22:13 : Connecte 17:22:13 : SWD Free 17:22:13 : Connectio 17:22:13 : Debug in 17:22:13 : Debug in 17:22:13 : Device ID | SN: 16004A0029: d via SWD. Juency = 4,0 MHz on mode : Normal Low Power mode :0x410 | 33353739303541 z. enabled. | | | | | | | |
| 17:28:27 : Option by | rtes updated succ | essfully. | J | | | | | | |
| Debug in Low Power mode enabled. | | | Device ID:0x41 | e ID:0x410 | | | Core State : Live Update Disabled | | |