

# EDA/Libero SoC 安装与授权简明教程

Ver[2023-07-28.1500]

Upd[2023-10-30.1240]

## 0. 本文适用范围

数字逻辑与系统设计实验课程的实验箱所用 FPGA 为 Microsemi ProASIC3 系列的 A3P030/A3P060 等型号，对应需使用 Libero SoC v11.9 或之前版本方可完成完整的设计、烧录等步骤。但 Libero SoC 的较新版已不支持上述 FPGA 型号。请仔细选择 Libero SoC 版本。本文所述的安装与授权步骤在上述 Libero SoC 版本都类似。

部分下载文件较大，下载后可按以下方法校验文件一致性：

- .zip 或 .7z 等压缩文件可使用解压或文件测试功能校验。
- 若提供了 MD5 或 SHA256 哈希校验码，可用 File Hasher 等哈希校验码软件校验文件的一致性。

直至最新 Upd 时戳为止，本文所提供的链接均测试有效。

## 1. 注册并登录

请按以下步骤操作：

(1) 打开 Libero SoC 产品首页链接：

<https://www.microchip.com/en-us/products/fpgas-and-plds/fpga-and-soc-design-tools/fpga/libero-software-later-versions>

Libero 的产品页面链接、页面内容的更新较为频繁，若本文所提供的链接失效，可以通过搜索引擎输入 `Microsemi Libero SoC` 检索产品首页。本文所提供的链接仅为方便下载而列出。

(2) 注册用户（仅需提供邮箱，设定登录密码，并按提示操作）并登录。**请务必成功登录后再进行后续操作**，并在浏览器中保持打开上述页面。



All

Enter keyword, item, model or part #

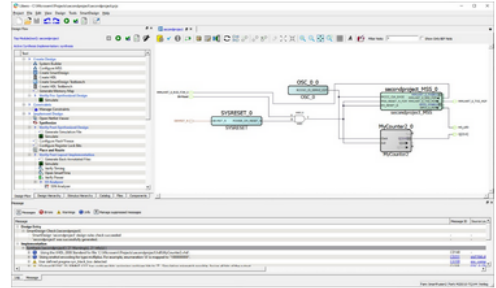


## Libero® SoC Design Suite Versions 2023.1 to 12.0

Libero® SoC Design Suite offers high productivity with its comprehensive, easy-to-learn, easy-to-adopt development tools for designing with our FPGA device families. Libero SoC Design Suite provides you with an integrated hardware tool suite incorporating RTL entry through programming, a rich IP library, complete reference designs and development kits. Benefit from:

- Best-in-class power, performance and area optimizations
- Easy block-based system design
- Fast RTL debug and integrated logic analyzer
- Rich library of IPs and integrated blocks
- Integrated structural, behavioral and back-annotated design simulation
- Secure Production Programming Solution (SPPS) to prevent overbuilding and cloning

Libero SoC Design Suite also supports our [FPGA functional safety package](#) to assist with IEC 61508 certification.



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Libero SoC Design Suite Version 2023.1 Software (04/12/2023)

## 2. 下载安装 Libero SoC

选择 2.1 或 2.2 节所述的 Libero SoC 版本之一安装。

### 2.1 Libero SoC Design Suite v11.9 for Windows (课程实验首选)

请按以下步骤操作：

(1) 直接在浏览器打开以下链接开始下载安装包

[https://ww1.microchip.com/downloads/aemdocuments/documents/fpga/media-content/FPGA/v11.9/Libero\\_SoC\\_v11.9\\_win.zip](https://ww1.microchip.com/downloads/aemdocuments/documents/fpga/media-content/FPGA/v11.9/Libero_SoC_v11.9_win.zip)

若链接失效，则先打开网页：

<<https://www.microchip.com/en-us/products/fpgas-and-plds/fpga-and-soc-design-tools/fpga/libero-software-early-versions>>

该页面在产品首页找不到的，直接打开就好。选 `Software Download->Software Archive Download`。找到 `Libero SoC Design Suite v11.9 Software (08/17/18)` 并下载安装。

# Libero<sup>®</sup> SoC Design Suite Versions 11.9 and Earlier

Libero<sup>®</sup> SoC Design Suite offers high productivity with its comprehensive, easy-to-learn, easy-to-adopt development tools for designing with PolarFire<sup>®</sup> SoC, PolarFire, IGLOO<sup>®</sup> 2, SmartFusion<sup>®</sup> 2, RTG4<sup>™</sup>, SmartFusion, IGLOO, ProASIC<sup>®</sup> 3 and Fusion families of FPGAs. The suite integrates industry standard Synopsys Synplify Pro<sup>®</sup> synthesis and Siemens ModelSim<sup>®</sup> simulation with best-in-class constraints management, programming and debug tool capabilities and Secure Production Programming (SPP) support.

Libero SoC Design Suite version 11.9 and its service packs will continue to support IGLOO 2, SmartFusion 2, RTG4, SmartFusion, IGLOO, ProASIC 3 and Fusion families, as well as IGLOO 2, SmartFusion 2, and RTG4 (both classic and enhanced constraint flows). However, the Libero SoC Design Suite version 11.9 software branch is in maintenance mode and we will only make critical bug fixes going forward.

Starting with Libero SoC Design Suite version 12.0, we are supporting PolarFire SoC, PolarFire, RTG4, SmartFusion 2 and IGLOO 2 FPGA families. Libero SoC Design Suite supports enhanced constraints flow only and does not support classic constraints flow. If you developed your designs using these FPGA families in Libero SoC Design Suite versions 11.9 SP2 or earlier and would like to migrate your designs to Libero SoC Design Suite version 12.0, please read the instructions given in the "Migrating Designs to Libero SoC v12.0" section in the Libero SoC Design Suite v12.0 release notes.

With an intuitive design flow and GUI wizards to guide you through the design process, Libero software is easy to learn. The software also offers single-click flow from synthesis to programming, a rich IP library of DirectCores and CompanionCores, complete reference designs and development kits. It also integrates easily with industry-standard third-party tools.

## Download Software

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### Libero SoC Design Suite v11.9 Software (08/17/18)

Please refer the release notes for information on SmartFusion 2, IGLOO 2 and RTG4 FPGA enhancements and known issues.

- [Libero SoC Design Suite v11.9 Release Notes](#)
- [Download Libero SoC Design Suite v11.9 for Windows](#)
- [Download Libero SoC Design Suite v11.9 for Linux](#)

#### Important Note:

- For users working offline with Libero SoC Design Suite v11.9, **Mega Vault v11.9** has to be installed

(2) 若要离线使用 Libero Soc Design Suite v11.9, 则需下载并安装 Mega Vault v11.9  
[https://ww1.microchip.com/downloads/aemdocuments/documents/fpga/media-content/FPGA/v11.9/LiberoSoCv11.9\\_MegaVault.zip](https://ww1.microchip.com/downloads/aemdocuments/documents/fpga/media-content/FPGA/v11.9/LiberoSoCv11.9_MegaVault.zip)

(3) 下载并安装补丁包 Service Pack 6 (可选)  
<https://ww1.microchip.com/downloads/aemdocuments/documents/fpga/media->

[content/FPGA/v11.9/Libero\\_SoC\\_v11.9\\_SP6\\_Win.exe](#)

> 注意：补丁包为 Libero SoC 的增量包，是不能单独安装运行的，必须先安装好 Libero SoC。

## 2.2 Libero SoC Design Suite v2023.2 for Windows

在产品首页找到 [Download Software -> Latest Software](#) , 选择在线或离线方式安装。

- Libero SoC Design Suite v2023.2 for **Windows Web Installer**  
[https://ww1.microchip.com/downloads/secure/aemdocuments/documents/fpga/media-content/fpga/v2023-2/Libero\\_SoC\\_v2023.2\\_Web\\_win.exe](https://ww1.microchip.com/downloads/secure/aemdocuments/documents/fpga/media-content/fpga/v2023-2/Libero_SoC_v2023.2_Web_win.exe)
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- Libero SoC Design Suite v2023.2 for **Windows Full Installer**  
[https://ww1.microchip.com/downloads/secure/aemdocuments/documents/fpga/media-content/fpga/v2023-2/Libero\\_SoC\\_v2023.2\\_win.zip](https://ww1.microchip.com/downloads/secure/aemdocuments/documents/fpga/media-content/fpga/v2023-2/Libero_SoC_v2023.2_win.zip)
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  - SHA256: 5ff322617a5c007be74470ceaff80cfce29b8807a0e998c9ca5c934a647d2548

## 3. 申请许可证/授权/License

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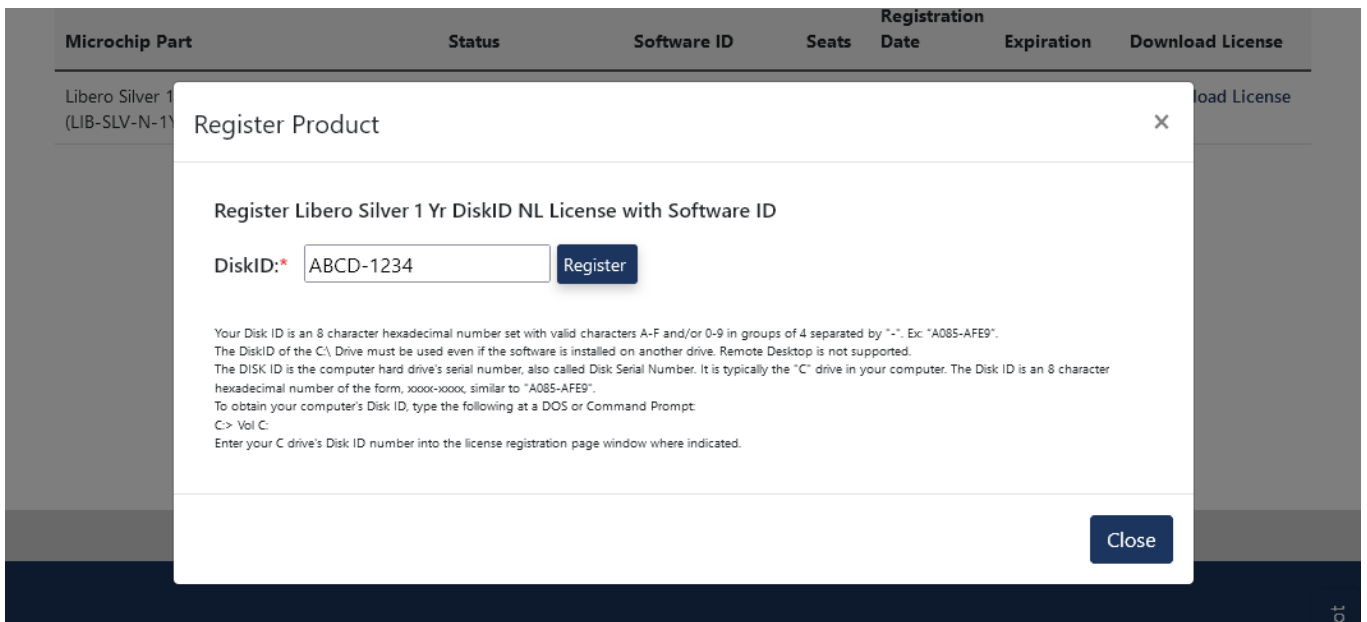
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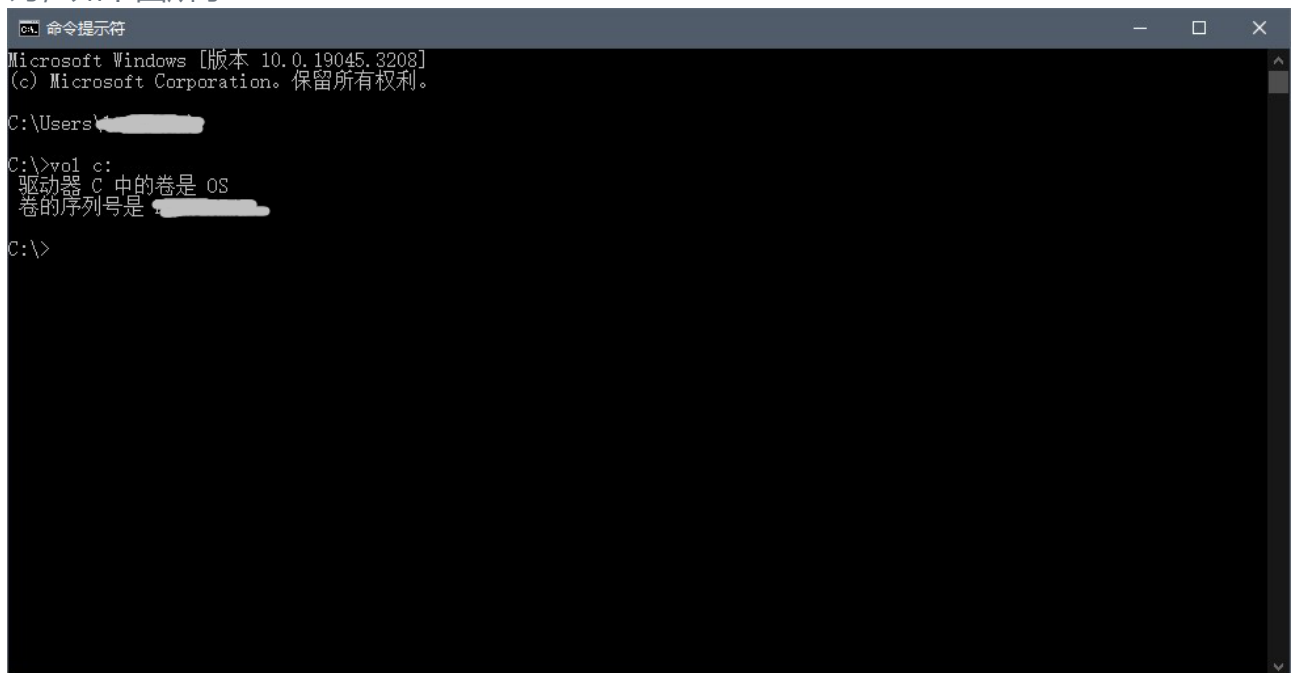
[ACCEPT](#)

在弹出的 Register Product 窗口中输入你的电脑 C: 盘的 Disk ID, 并单击 Register。



**注意：**即使你的 Libero 并非安装在 C: 盘，本步都必需使用 C: 盘的磁盘 ID。由于许可证绑定了特定磁盘 ID，因此只能用于对应的电脑。

**Disk ID (磁盘 ID)：** Disk ID 是一个 8 个字符的十六进制数字，格式为 xxxx-xxxx，如“A085-AFE9”。要获取 C: 盘的磁盘 ID，请在 DOS 或命令提示符窗口里键入命令 `vol C:` 查询，如下图所示：

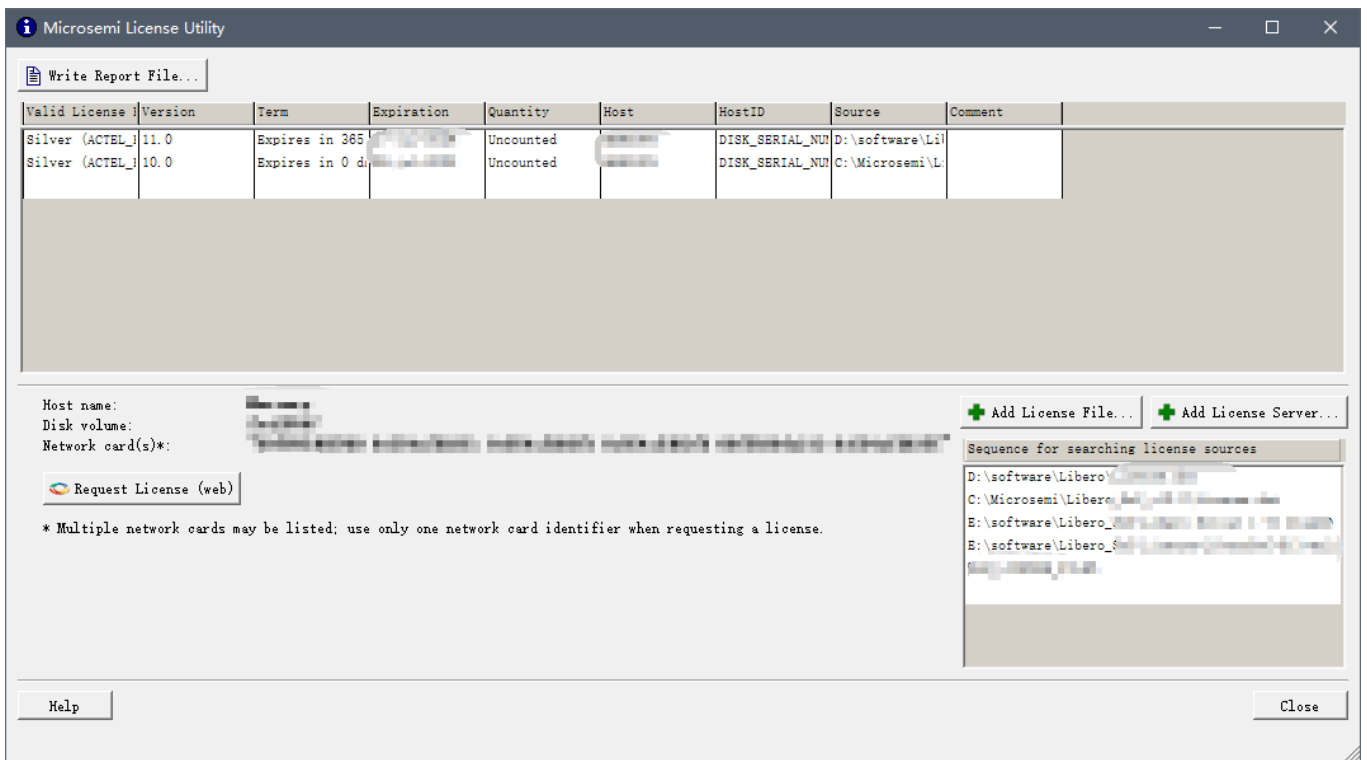


若一切顺利，则软件许可证文件 (license.dat) 将在45分钟内在申请授权页面提供下载链接，或通过电子邮件送达。

## 4. 导入许可证

在系统开始菜单的 `Microsemi Libero` 程序组中运行 `Microsemi License Utility`。

导入许可证文件 license.dat。详细步骤略 :-P

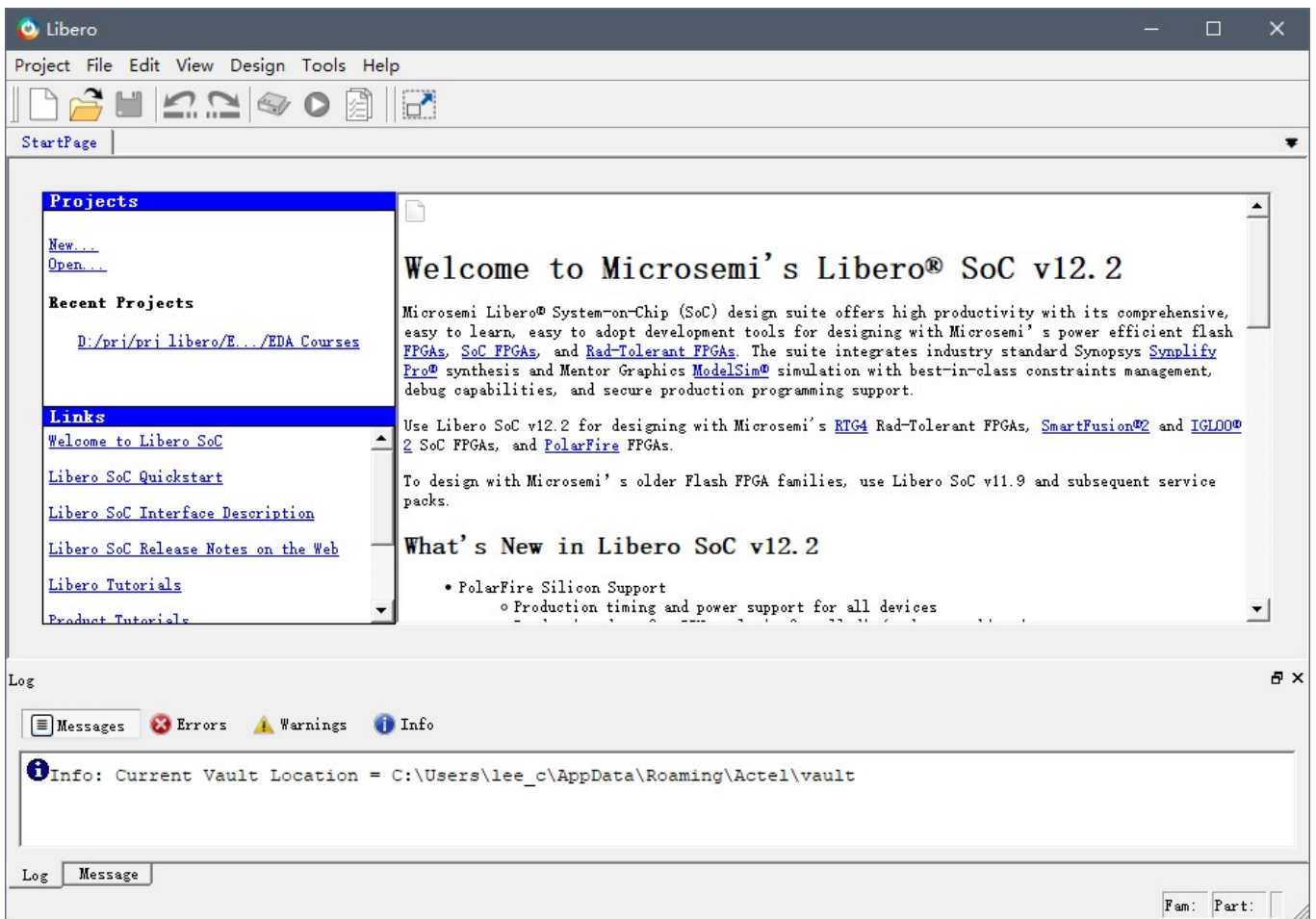


若一切顺利，会显示一年有效期。到期后重新申请即可。

## 5. 运行 Libero SoC

在系统开始菜单的 `Microsemi Libero` 程序组中运行 `Libero SoC v1x.x`。

哒嗒~~



上图为 Libero SoC v12.2 的开始界面。

## 6. 结语

Libero SoC 是比较大型、复杂的软件。由于各人电脑的软硬件规格各异、操作系统版本不一、网络连接不稳定等原因，上述安装与授权过程可能会冒出一些意外。这时参考以下经验也许有所裨益：

- 使用正版操作系统，打好最新补丁，且确保安全无毒。
- 找人少网速快的时间段下载 Libero 安装包，然后就可以大家本地分享了。但申请许可证还须各人独立申请。
- 仔细阅读上述说明、耐心分析原因并逐步排错是解决良方。
- 当旁人遇到困难时，乐于施以援手。“赠人玫瑰，手有余香。”

祝顺！

李峥

数字逻辑与系统设计课程组

广东工业大学 计算机学院

2023年10月