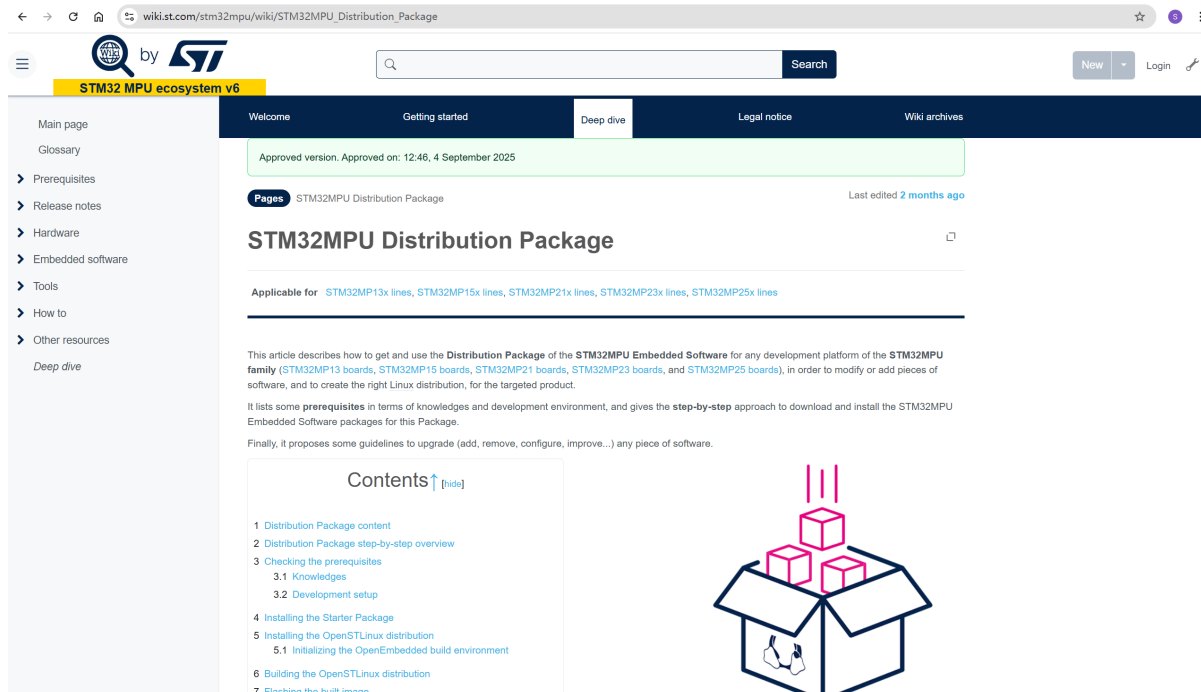


Yocto构建教程

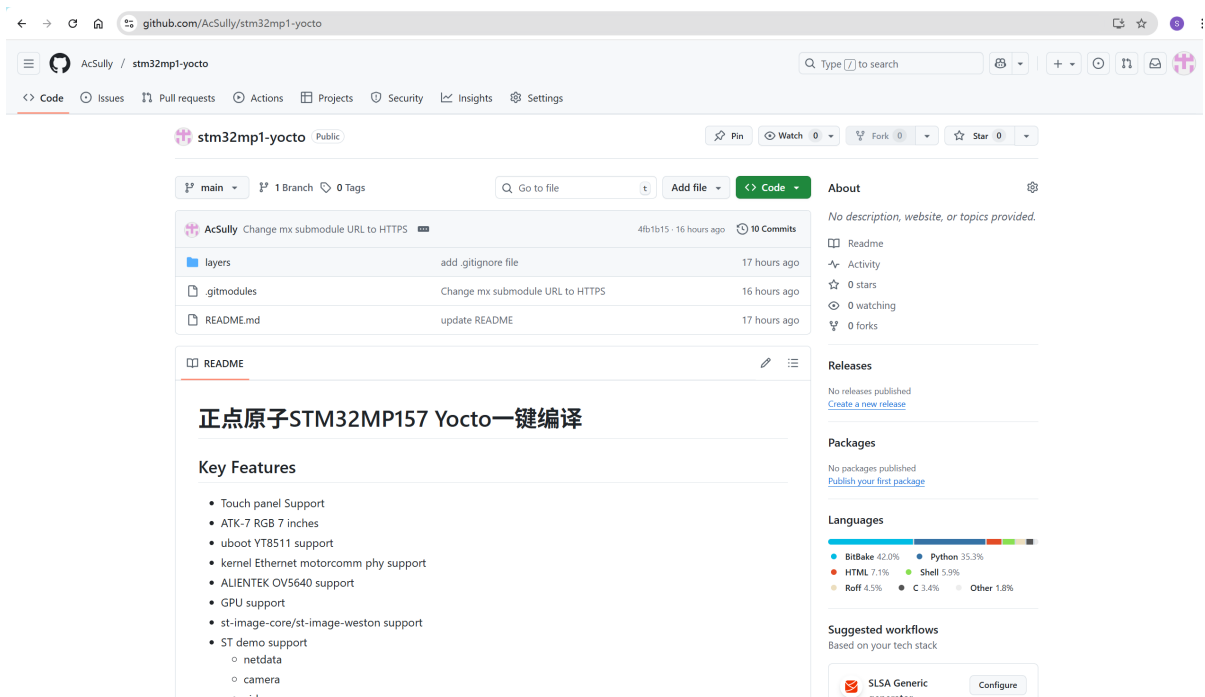
官方wiki文档，强烈推荐！！！里面的内容几乎能解决任何问题！



The screenshot shows the official STM32MPU Distribution Package wiki page. The page is titled "STM32MPU Distribution Package" and is part of the "STM32 MPU ecosystem v6". It includes a navigation menu on the left with links to "Main page", "Glossary", "Prerequisites", "Release notes", "Hardware", "Embedded software", "Tools", "How to", and "Other resources". The main content area features a "Contents" table of contents with links to various sections, including "Distribution Package content", "Distribution Package step-by-step overview", "Checking the prerequisites", "Installing the Starter Package", "Installing the OpenSTLinux distribution", "Building the OpenSTLinux distribution", and "Flashing the built image". A green banner at the top indicates the "Approved version" and the "Last edited" date. A search bar and a "Search" button are located at the top right. A small illustration of a box with cubes is visible on the right side of the page.

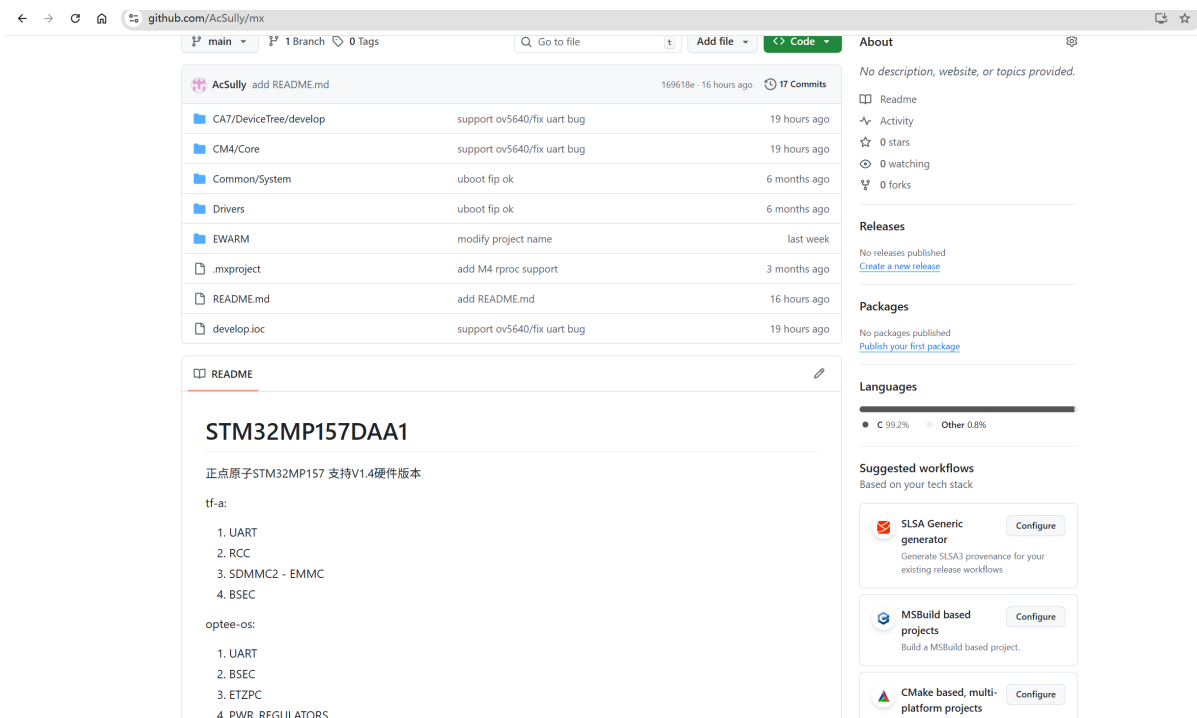
将官方repo仓库更新成github仓库(官方仓库需要访问google)

- 新增meta-st-develop
 - 增加u-boot补丁(meta-st-develop/meta-st-stm32mp-addons/recipes-extended/uboot/u-boot-stm32mp/0001-support-panel-eth-phy.patch)
 - 增加kernel补丁和外部kernel配置(meta-st-develop/recipes-kernel/linux/ patch和external kernel config)
 - 增加mx仓库，完全兼容STM32CUBEMX工具



mx项目目录

- 设备树
 - tf-a
 - optee
 - u-boot
 - kernel
- TODO
 - audio
 - beep
 - adc
 - RS232/RS485
 - FD CAN
 - 6 AIXS SENSOR
 - ALS&PS SENSOR
 - TF Card
 - HDMI
 - USB OTG - 待测试
 - SDIO WIFI&BT
 - TEMP&HUMI SENSOR



下载github代码

```
git clone --recurse-submodules https://github.com/AcSully/stm32mp1-yocto.git
cd stm32mp1-yocto
git submodule update --remote
```

下载Yocto下载包(里面包含需要联网下载的源码)

链接: https://pan.baidu.com/s/15_UaWHm3nBICPwpJyYhACw 提取码: 48h4

下载完成后解压, 记住解压后的目录, 我的放在/home/niuke/Downloads/STM32MP1, 需要实际解压目录

```
7z x STM32MP1_Yocto.zip.001
```

```
/home/niuke/Downloads/temp/STM32MP1_Yocto
```

```
Everything is OK

Folders: 2375
Files: 5622
Size: 9006655167
Compressed: 8865681895
niuke@zzhisome:~/Downloads/git$ ls
STM32MP1_Yocto STM32MP1_Yocto.zip.002 STM32MP1_Yocto.zip.005 STM32MP1_Yocto.zip.008
STM32MP1_Yocto.tgz STM32MP1_Yocto.zip.003 STM32MP1_Yocto.zip.006 STM32MP1_Yocto.zip.009
STM32MP1_Yocto.zip.001 STM32MP1_Yocto.zip.004 STM32MP1_Yocto.zip.007
~/.Downloads/git$ 7z x STM32MP1_Yocto.zip.001
```

声明环境变量

```
DISTRO=openstlinux-weston MACHINE=stm32mp1-develop source layers/meta-st-
develop/scripts/envsetup.sh build-stm32mp1-custom
```

两个都选择接受

EULA management

The BSP for stm32mp1-develop depends on packages and firmware which are covered by an End User License Agreement (EULA). To have the right to use these binaries in your images, you need to read and accept the following...

<Read the EULA>

<EXIT>

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<Accept EULA>

<EXIT>

```
DISTRO      : openstlinux=weston
DISTRO_CODENAME : scarthgap
MACHINE     : stm32mp1-develop
BB_NUMBER_THREADS : <no-custom-config-set>
PARALLEL_MAKE : <no-custom-config-set>
```

```
BUILDDIR    : build-stm32mp1-custom
DOWNLOAD_DIR : <disable>
SSTATE_DIR  : <disable>
```

```
SOURCE_MIRROR_URL : <no-custom-config-set>
SSTATE_MIRRORS     : <disable>
```

```
WITH_EULA_ACCEPTED: YES
```

=====

available images for OpenSTLinux layers are:

- Official OpenSTLinux images:
 - st-image-weston - OpenSTLinux weston image with basic Wayland support (if enable in distro)
- Other OpenSTLinux images:
 - Supported images:
 - st-image-core - OpenSTLinux core image

You can now run 'bitbake <image>'

vi conf/local.conf

找到DL_DIR, 修改路径为刚才解压的路径(STM32MP1_Yocto.zip.001), 保存

```
# connection is slow. These are all stored in DL_DIR. When wiping and rebuilding yo
# can preserve this directory to speed up this part of subsequent builds. This dire
# is safe to share between multiple builds on the same machine too.
#
# The default is a downloads directory under TOPDIR which is the build directory.
#
#DL_DIR ?= "${TOPDIR}/downloads"
DL_DIR ?= "/home/niuke/Downloads/STM32MP1"

#
# Where to place shared-state files
#
# BitBake has the capability to accelerate builds based on previously built output.
# This is done using "shared state" files which can be thought of as cache objects
# and this option determines where those files are placed.
#
# You can wipe out TMPDIR leaving this directory intact and the build would regener
```

编译镜像

```
bitbake st-image-weston
```

```
niuke@zzhisome:~/develop/github/stm32mp1-yocto/build-stm32mp1-custom$ bitbake st-image-weston
NOTE: Started PRServer with DBfile: /home/niuke/develop/github/stm32mp1-yocto/build-stm32mp1-custom/cache/prserv.sqlite3, Address: 127.0.0.1:37411,
PID: 1213260
Loading cache: 100% | ETA: --:--:--
Loaded 0 entries from dependency cache.
Parsing recipes: 1% |## ETA: 0:02:03

/usr/lib/pipewire-0.3/libpipewire-module-netjack2-manager.so uses 32-bit api 'setsockopt'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-netjack2-driver.so uses 32-bit api 'setsockopt'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-pipe-tunnel.so uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-protocol-pulse.so uses 32-bit api 'fstat64'
/usr/lib/pipewire-0.3/libpipewire-module-protocol-pulse.so uses 32-bit api 'gettimeofday'
/usr/lib/pipewire-0.3/libpipewire-module-protocol-pulse.so uses 32-bit api 'setsockopt'
/usr/lib/pipewire-0.3/libpipewire-module-protocol-pulse.so uses 32-bit api 'stat64'
/usr/lib/pipewire-0.3/libpipewire-module-protocol-pulse.so uses 32-bit api 'setsockopt'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-vban-send.so uses 32-bit api 'setsockopt'
/usr/lib/pipewire-0.3/libpipewire-module-vban-send.so uses 32-bit api 'sendmsg'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-rtp-sink.so uses 32-bit api 'setsockopt'
/usr/lib/pipewire-0.3/libpipewire-module-rtp-sink.so uses 32-bit api 'sendmsg'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-access.so uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-client-node.so uses 32-bit api 'clock_gettime'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/pipewire-0.3/libpipewire-module-protocol-simple.so uses 32-bit api 'setsockopt'
Suppress with INSANE_SKIP = "32bit-time"
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'fcntl64'
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'clock_gettime'
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'prctl'
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'fstat64'
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'stat64'
/usr/lib/libpipewire-0.3.so.0.1203.0 uses 32-bit api 'pthread_cond_timedwait'
Suppress with INSANE_SKIP = "32bit-time"
/usr/bin/pw-cat uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time"
/usr/bin/pw-mididump uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time"
/usr/bin/spa-json-dump uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time"
/usr/bin/pw-dot uses 32-bit api 'fstat64'
Suppress with INSANE_SKIP = "32bit-time" [32bit-time]
WARNING: netdata-1.44.3-r0 do_package_qa: QA Issue: File /usr/sbin/netdata in package netdata contains reference to TMPDIR [buildpaths]
NOTE: Tasks Summary: Attempted 10846 tasks of which 0 didn't need to be rerun and all succeeded.
NOTE: Writing buildhistory
NOTE: Writing buildhistory took: 45 seconds

Summary: There were 5 WARNING messages.
```

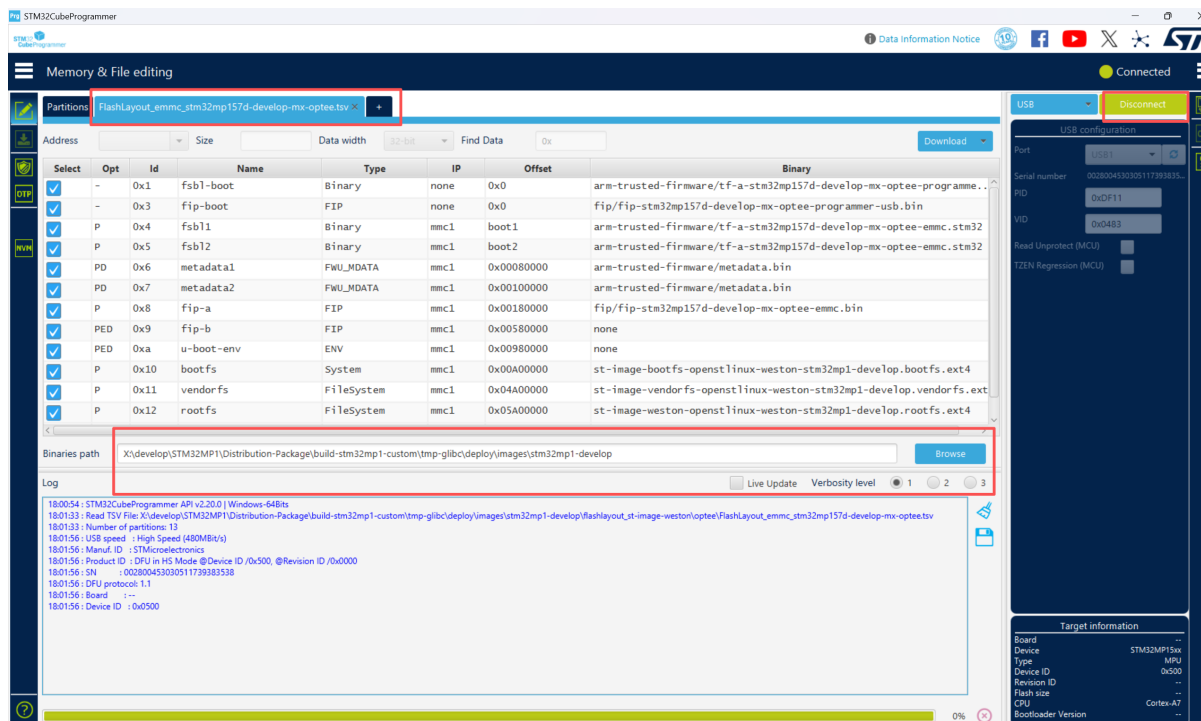
烧录镜像到开发板

镜像位置在build-stm32mp1-custom\tmp-glibc\deploy\images\stm32mp1-develop

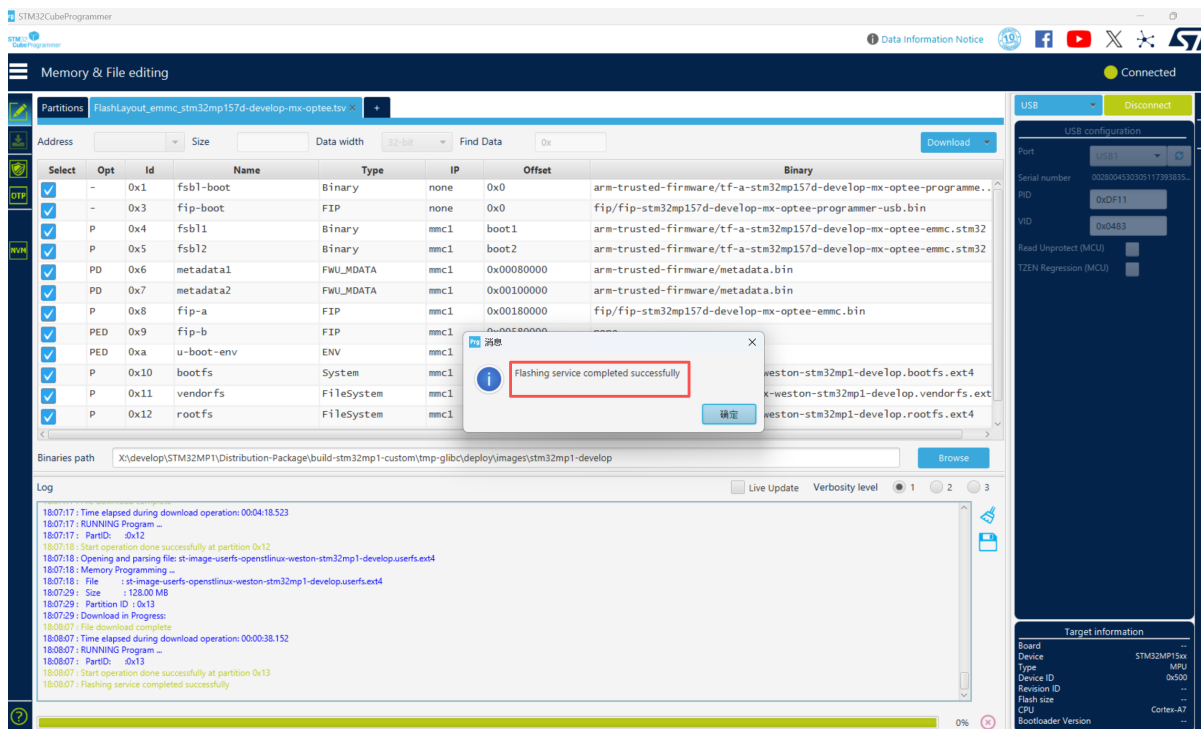
打开烧录软件

打开build-stm32mp1-custom\tmp-glibc\deploy\images\stm32mp1-develop\flashlayout_st-image-weston\optee\FlashLayout_emmc_stm32mp157d-develop-mx-optee.tsv

将拨码开关调整000到烧录模式，烧录器选择USB，connect，Download

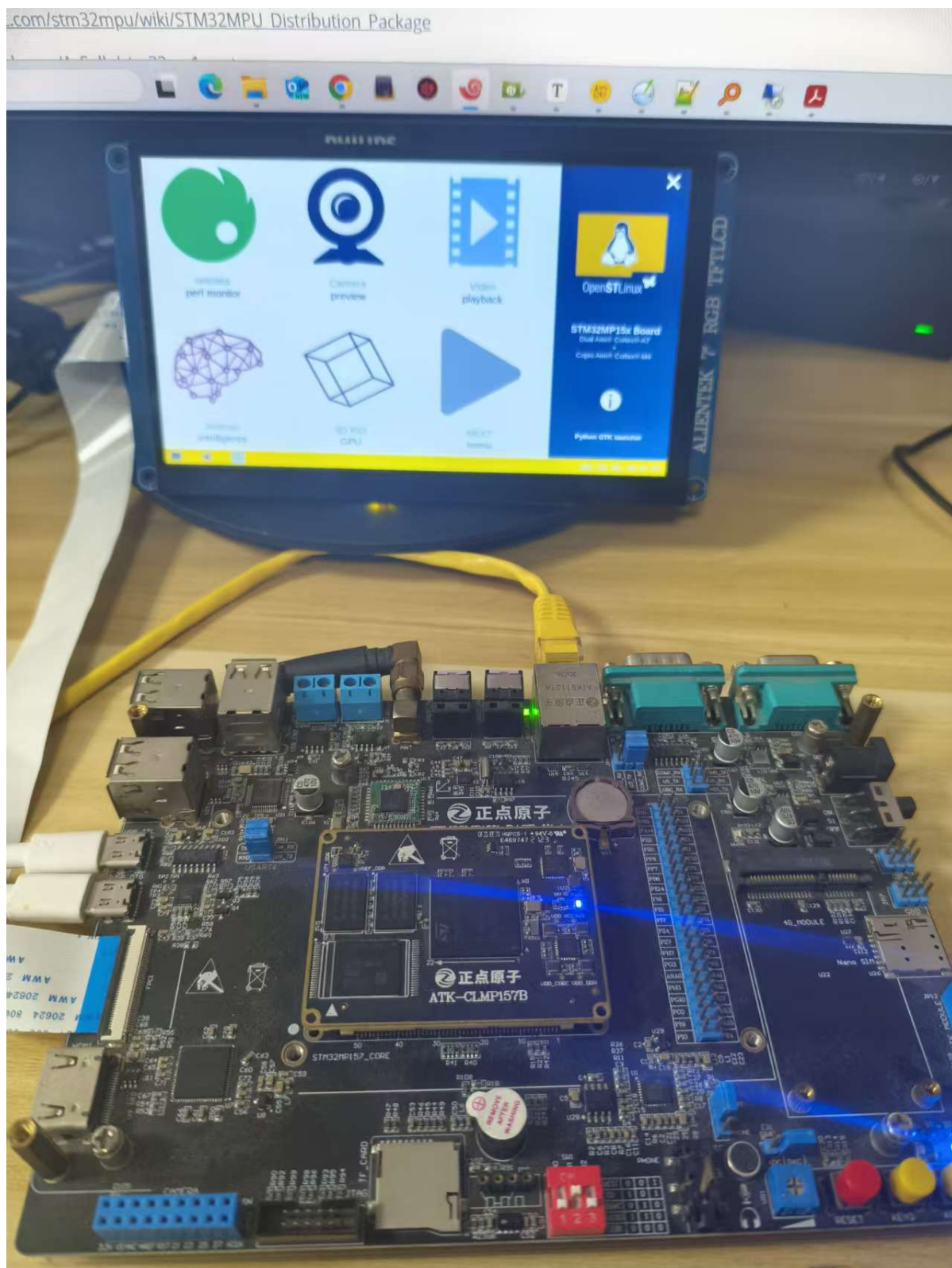


出现"Flashing service completed successfully", 则烧录成功



开发板验证

将启动模式修改成EMMC启动，按RESET键，完美！！



参考地址

https://wiki.st.com/stm32mpu/wiki/STM32MPU_Distribution_Package

<https://github.com/AcSully/stm32mp1-yocto>

<https://github.com/AcSully/mx>