MT7981 SDK Quick Start

Version: 1.0
Release date: 2022-4-26

1 Prebuild Requirement

1. Use ubuntu 18.04
2. Install below tarball..

#OpenWRT

RUN apt-get install -y uuid-dev

#toolchain

RUN apt-get install -y gcc-aarch64-linux-gnu

RUN apt-get install -y clang-6.0

2 Build BL2/FIP image

Build Uboot

tar -Jxvf uboot-2022.04_0421_formal.tar.xz
cd uboot-mtk-20220412-sb/

#for spim-nand :
make mt7981_spim_nand_rfb_defconfig

#for spim-nor
make mt7981_spim_nor_rfb_defconfig

make CROSS_COMPILE=/usr/bin/aarch64-linux-gnu-

Uboot's output bin for FIP image

➔ ./u-boot.bin

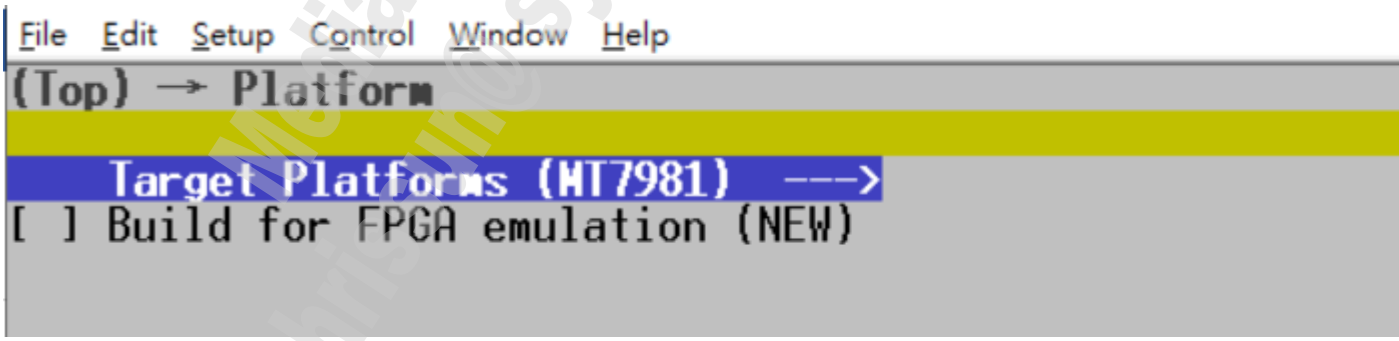
Build ATF

tar -Jxvf atf-2.6-20220421-d0152f6db.tar.xz

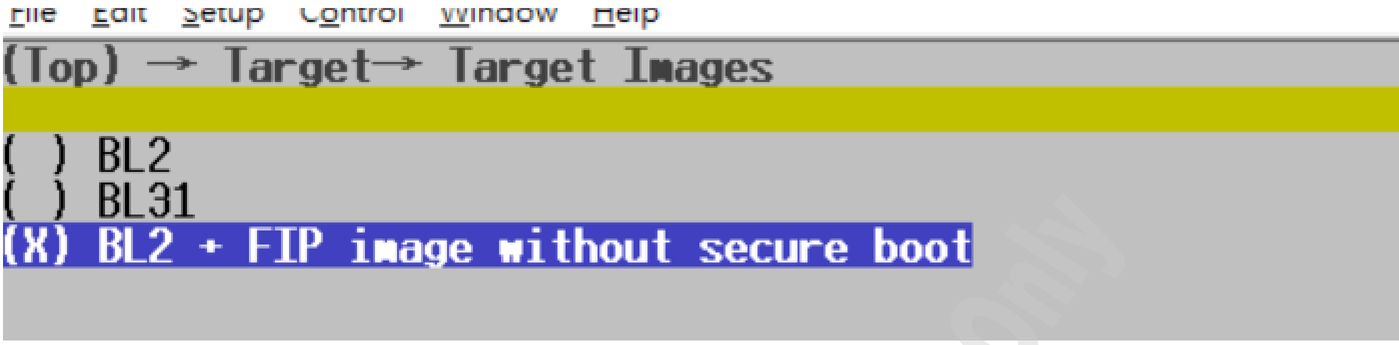
cd atf-2.6-20220421-d0152f6db

make menuconfig

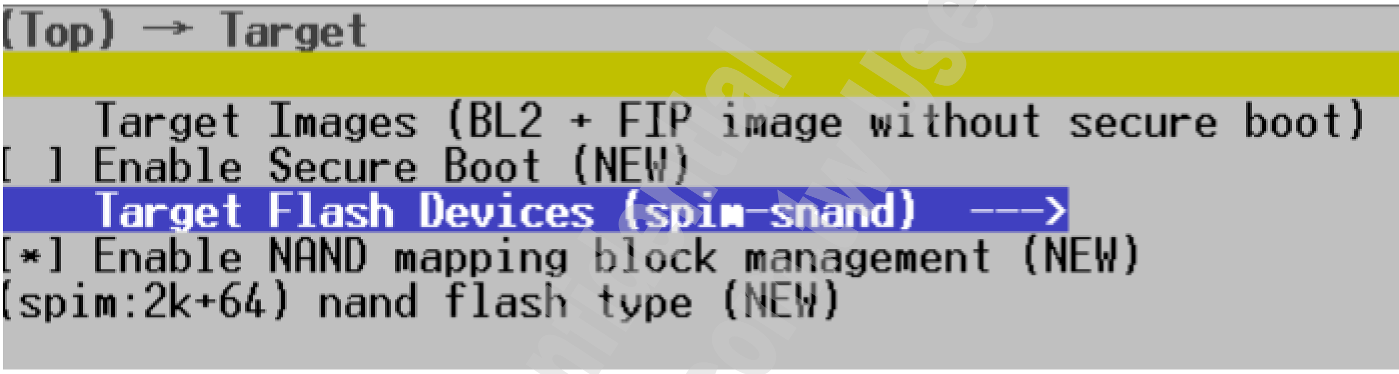
select "MT7981" Platform



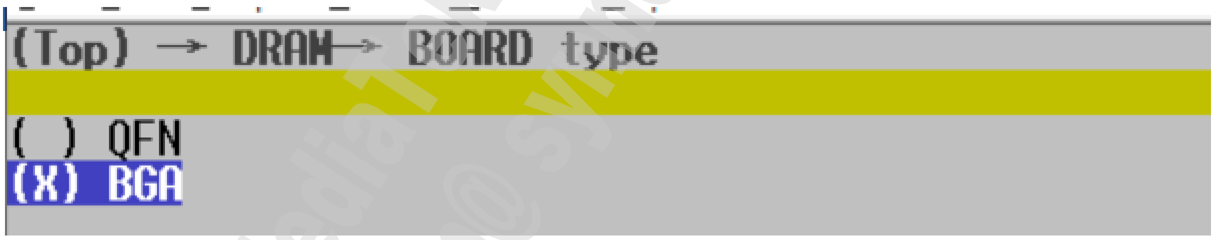
Select "BL2 + FIP image without secure boot" for Target Image

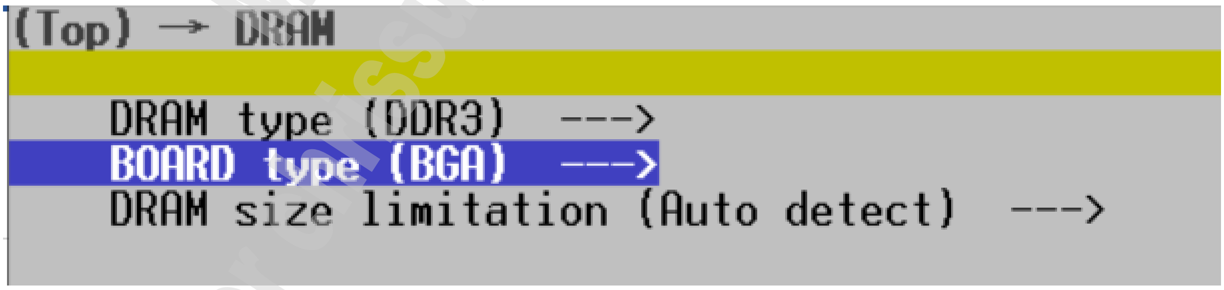


Select “spim-nand” or “spim-nor” for your Target flash devices.

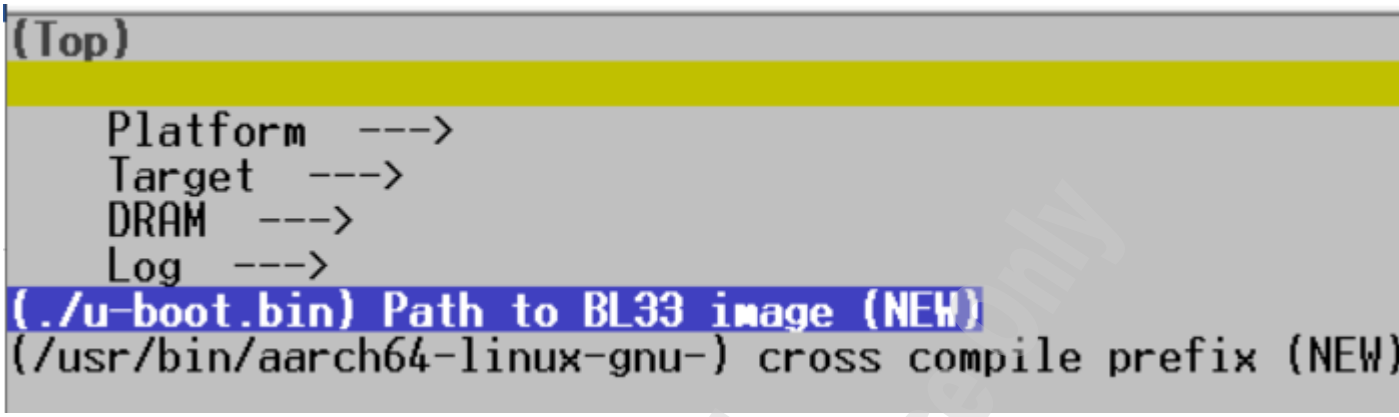


DRAM options，select “BGA”(for mt7981B) / “DDR3”/ “Auto detect”





Input your u-boot.bin image path (build from uboot-mtk) //把 u-boot.bin 拷到 atf 根目录下



Save & exit

make

BL2 image is locatd in atf-20211202-d53ec3ae1/build/mt7981/release//bl2.img

FIP image is locatd in atf-20211202-d53ec3ae1/build/mt7981/release//fip.bin

3 Build OpenWRT

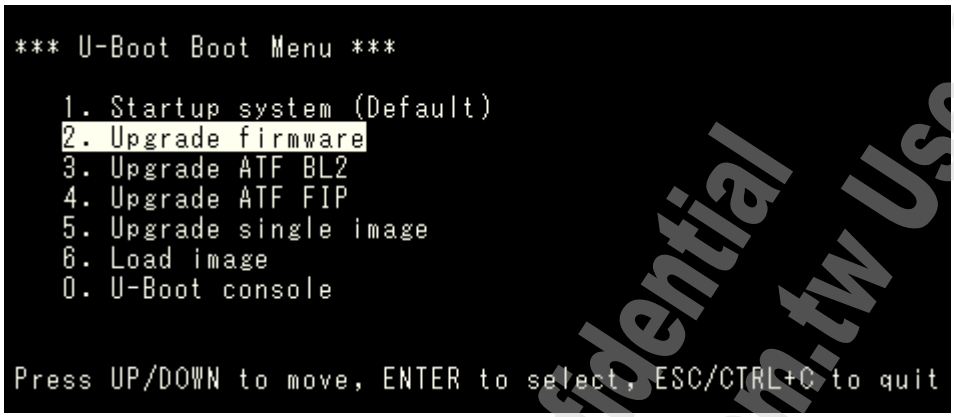
1. Get Openwrt 21.02 source code from Git server
   CMD:~/#> git clone --branch openwrt-21.02 https://git.openwrt.org/openwrt/openwrt.git
2. Untar WiFi driver, and import WiFi packages into SDK
   2.1. CMD:~/#> tar -Jxvf mtk-wifi-mt7981-20220426.tar.xz
   2.2. CMD:~/#> cp -rf mtk-wifi-mt7981/* openwrt/
3. Change to openwrt folder
   CMD:~/#> cd openwrt/
4. Add MTK feed
   CMD:~/openwrt#> echo "src-git mtk_openwrt_feed https://git01.mediatek.com/openwrt/feeds/mtk-openwrt-feeds" >> feeds.conf.default
5. Run AX3000 auto build script (1st time build)
   CMD:~/openwrt#> ./autobuild/mt7981-AX3000/lede-branch-build-sanity.sh (for >= 256M DRAM)
   CMD:~/openwrt#> ./autobuild/mt7981-AX3000-128M/lede-branch-build-sanity.sh (for 128M DRAM)

Note: you can only run "lede-branch-build-sanity.sh" once, if you want to re-compile, please use "make V=s" instead of running the script again.

Update image

You can use u-boot command line to upgrade images, include bl2/fip/kernel image,
In u-boot command line, you can enter “bootmenu” to bring up u-boot menu

```
MT7986> bootmenu
```



You can choose
“2” to upgrade Kernel image
“3” to upgrade BL2 image
“4” to upgrade FIP image,

Below picture shows an example using Uboot menu to upgrade kernel image.