

## Introduction

Intention of this page is to provide the developers a quick page how to build mainline buildroot with MACHIATOBin u-boot, ATF and kernel with simple root filesystem.

## Grabbing source and building instructions

Getting the sources -

```
git clone git://git.busybox.net/buildroot
cd buildroot
```

### Download

Download [this mcbin minimal buildroot](#) config file, gunzip it and place it buildroot directory as .config

Building the sources - Run -

```
make
```

An error will occur almost before building is finished. The reason is that the cloned ATF firmware doesn't include Marvell DDR interface initializations, in order to fix run the following -

```
git clone git@github.com:MarvellEmbeddedProcessors/mv-ddr-marvell.git
output/build/arm-trusted-firmware-atf-v1.2-armada-17.02/drivers/marvell/mv_ddr/
make
```

## Using the result images

output/images/flash-image.bin - U-boot with ATF wrapper which can be used for -

- Boot from SPI while placing it in the first sector of the flash
- Boot from Micro SD while placing it in the second sector of the Micro SD
- Boot from eMMC while placing it in the first sector of either the first or second boot partitions
- Boot from UART - Can be UART xmodem transmitted on a new board (or bricked). Note that if secure boot is disabled then the in-chip ROM bootrom will try to xmodem boot from UART0 before attempting the real requested boot device

output/images/Image - Kernel image with appended device tree and initramfs

output/images/armada-8040-mcbin.dtb - Kernel device tree

## Sample images

### Using

this config file

which is a config file that has much more target packages than the above, we get the following binaries -

flash-image.bin file

mcbin dtb file

Kernel with initramfs part #1

Kernel with initramfs part #2

Kernel with initramfs part #3

In order to use them, download all the files and then gunzip them. Afterwards gather them by running 'cat imagea? > Image' which is the kernel image with the initramfs (~57MByte).

In order to run it, flash flash-image.bin into the SPI and then run it with the following -

```
setenv bootargs console=ttyS0,115200; tftpboot 0x20000000 Image.8040-  
buildroot; tftpboot 0x1ff00000 armada-8040-mcbin_buildroot.dtb; booti  
0x20000000 - 0x1ff00000
```

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