

Employ Reference Boards

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Introduction

Raspberry Pi series are low cost credit card sized single board computers. The Raspberry Pi models feature a Broadcom SoC that includes an ARM CPU and an on chip graphics-processing unit (GPU). Raspberry Pi uses SD card that facilitates users to swap out different versions of the operating system or software updates, hence, speeding the development and testing process. This is a great way to develop new applications/software and show these to customers in remote locations or at trade shows.

Required Hardware

The equipment listed below is required for complete functionality of the standalone environment. The only devices that are tested to work properly in this solution are the specific brands and models listed below. Support for other types of equipment is not available at this time.

1. Raspberry Pi 3 b or Raspberry Pi 3 b+ device
2. Standard USB keyboard
3. Television set/monitor with HDMI input.
4. Ethernet cables
5. USB-Ethernet Adapter
6. SD Card (Preferably 8GB or more)
7. Tp-link dongles
8. USB to Serial Debugging Adaptor (Needed only for serial debugging)

[blocked URL](#)

RPI 3B

[blocked URL](#)

RPI 3B+

Build Instructions

Repo setup

For Repo setup refer below link.

[How to Build#SettinguptheHostEnvironment](#)

Yocto Build Steps

To build, follow below instructions

Build Steps

Build Steps

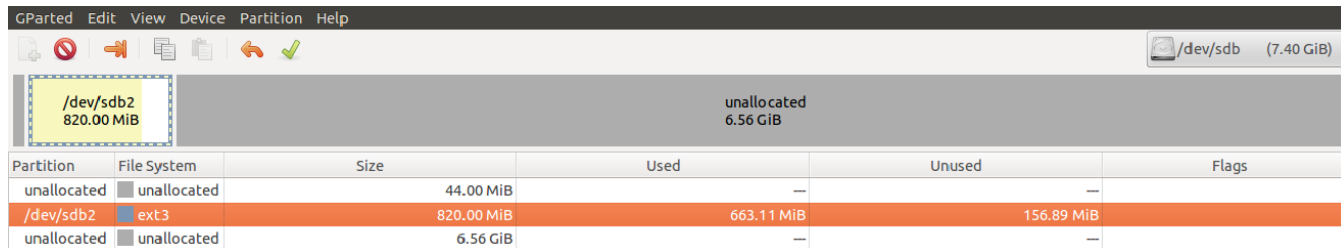
```
$ mkdir <workspace dir>
$ cd <workspace dir>
$ repo init -u https://code.rdkcentral.com/r/manifests -b rdk-next -m manifest.xml
$ repo sync -j4 --no-clone-bundle
$ source meta-cmf-raspberrypi/setup-environment (Select option raspberrypi-rdk-broadband.conf)
$ bitbake <image>
```

Note : RPI-3 B and B+ have same Build instructions and testing procedure

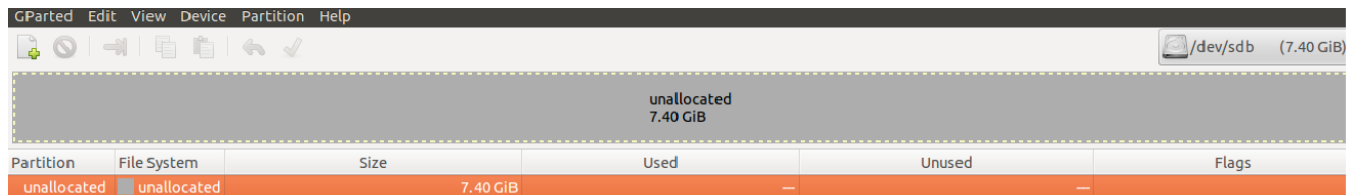
Flashing Procedure

GPARTED Partition Editor to increase flash size:

- Install “GPARTED Partition Editor” tool on Linux PC from Ubuntu Software Center.
- Insert a SD card through a card reader to a Linux PC. Format the SD card using “GPARTED Partition Editor” tool so that a single "unallocated" chunk of memory is created on the SD card following the below steps:
 - Open “GPARTED Partition Editor” tool and select sdcards(/dev/sdb) from top right corner
 - Unmount and delete all existing sdcards partitions (Select the partition->Right click -> Unmount/Delete)



Click on the green colour tick icon in the “GPARTED Partition Editor” tool to apply all the operations. After applying, the tool will display a single unallocated partition as below



Flashing the RPI image to sd card:

Following command can be used to flash the RPI image to sd card using linux machine . dd tool should be available in linux

Flash command

```
sudo dd if=<path to ImageName.rpi-sdimg> of=<path to SD card space> bs=4M
Example:
$ sudo dd if=rdk-generic-broadband-image-raspberrypi-rdk-broadband.rpi-sdimg of=/dev/sdb bs=4M
```

<https://www.balena.io/etcher/> can be used to flash RPI image in sd card using windows

Steps to boot Raspberry Pi with RDK image:

1. Insert the micro SD card with the flashed RDK-B image in the SD card slot of Raspberry Pi board
2. Connect a keyboard to one of the USB port of Raspberry Pi board
3. Using HDMI cable connect the Raspberry Pi board to TV/monitor
4. Connect an Ethernet cable to Raspberry Pi board
5. Plug in the power cable to boot up the Raspberry Pi device
6. After booting, you will be prompted with a login.
7. Type “root” when the login prompt is displayed.