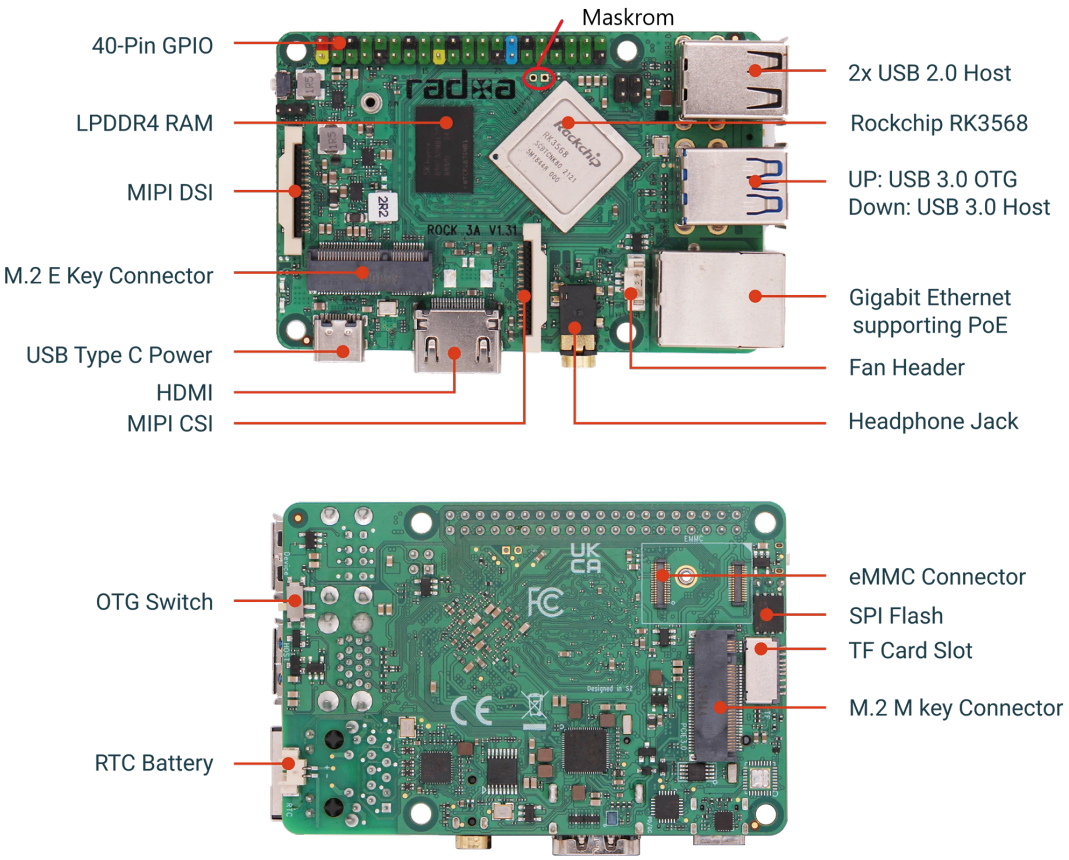
ROCK 3A

Product Description

- The ROCK 3A features a quad-core Cortex-A55 ARM processor and LPDDR4 RAM, and supports up to 4K@60 HDMI, MIPI DSI, MIPI CSI, 3.5mm headphone jack with microphone, USB port, Gigabit Ethernet, PCIe 3.0, PCIe 2.0, 40-pin GPIO docking station, RTC. The ROCK 3A also supports a 3.5mm headphone jack. In addition, the ROCK 3A supports PD and QC protocol power supply.

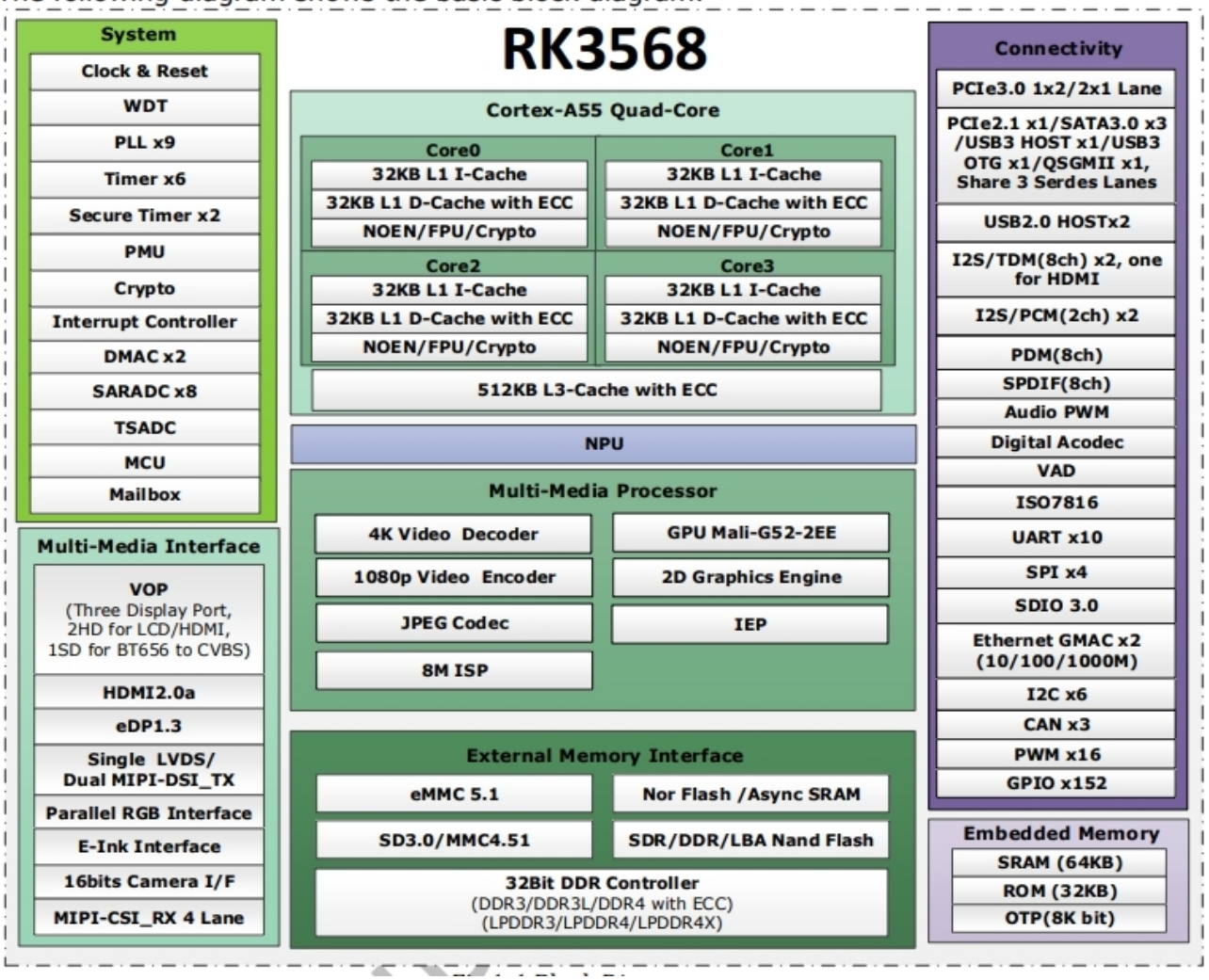
Physical Photos



Chip Block Diagram

1.3 Block Diagram

The following diagram shows the basic block diagram.

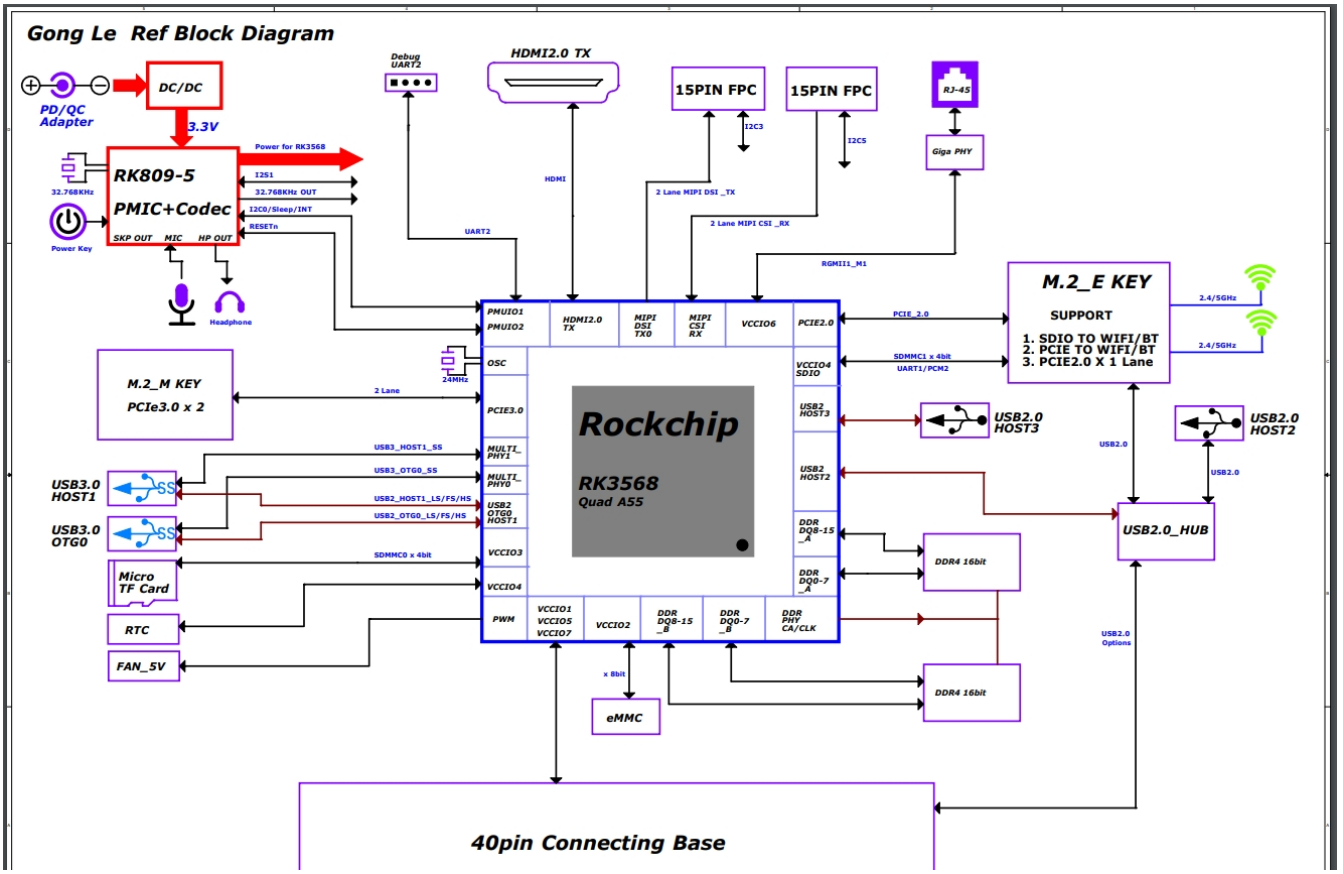


Features

Model	Radxa ROCK 3A
SoC	Rockchip rk3568
CPU	Quad-core Cortex-A55, up to 2GHz
GPU	Arm Mali™-G52-2EE, Supports Arm Mali™-G52-2EE, OpenGL® ES1.1/2.0/3.2, Vulkan® 1.1, OpenCL™ 2.0
RAM	1/2/4/8 GB LPDDR4
Storage	eMMC on Board：0/8/16/32/64 GB microSD Card

Display	Provides Micro HDMI interface: supports 4K@60fps output 1x2 lane MIPI DSI
Ethernet	Gigabit Ethernet, Supports POE PoE requires additional optional HAT
Wireless	Wi-Fi 6 (802.11 b/g/n) BT 5.0 with BLE
USB	2x USB 2.0 HOST ports 1x USB 3.0 HOST port 1x USB 3.0 OTG/HOST port
Camera	1x2 lane MIPI CSI
Others	40 Pin extends Header
Power	Requires 5V/2A adapter
Size	65mm x 30mm

System block diagram



Documentation guidelines

> **TIP**
>
> Except for the **other systems** directory below, the other contents are based on Radxa OS (Radxa's customized system based on Debian).

Getting started

By introducing system programming, system login, accessory usage, etc., let user can get started quickly.

Radxa OS

Radxa OS is an operating system customized by Radxa based on Debian OS. This chapter introduces system login, network connection, etc to let user to be familiar with the system quickly.

System Configuration

Introduces how to use tools like rsetup or command line to use devices or function.

Application Deployment

Introduces how to deploy the applications such as Samba, Docker, PVE, OMV, LAMP, Cheese, remote control panel, etc.

Application Development

Introduces upper-layer application development, such as QT, WiringX, Mraa, etc.

Hardware Development

Introduces hardware information, such as hardware interfaces, supported accessories, etc.

Lower level Development

Introduces uboot, kernel, debian os compilation and packaging, etc.

Other Systems

Introduces other systems than Radxa OS, such as Android

Accessories

Introduces supported accessory models and instructions for use.