

Banana Pi Compute Module 4

A Banana Pi for deeply embedded applica

Colophon

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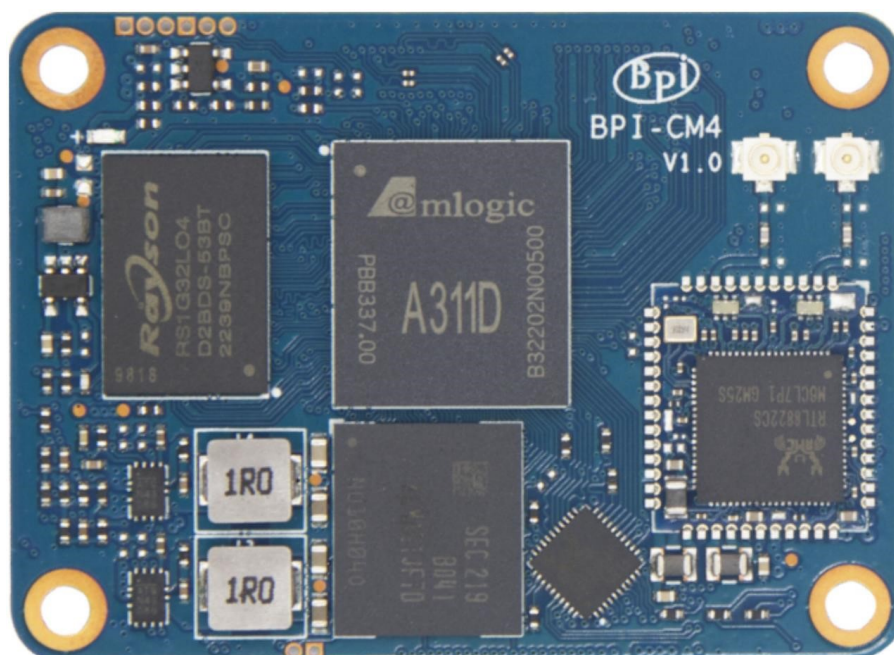
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Chapter 1. Introduction

1.1 Introduction



The Banana Pi Compute Module 4(CM4) is a System on Module(SoM) containing processor, DRAM, eMMC Flash and supporting power circuitry. These modules allow a designer to use the Banana Pi hardware and software stack in their own custom systems and form factors. And, these modules offer additional IO interfaces beyond what is provided on Banana Pi boards, providing designers with more options.

The design of the CM4 is loosely based on the Amlogic A311D, Quad core ARM Cortex-A73 and dual core ARM Cortex-A53 CPU, ARM G52MP4(6EE) GPU, NPU for AI at 5.0 TOPS, support Camera and MIPI-CSI interface, HDMI output, 2 Gigabit port, 4G RAM and 16 GB eMMC flash.

For A311D chip, pin limited. Just support 1 HDMI, 1 CSI and 1 DSI. Raspberry Pi supports 2 HDMI, 2 CSI and 2 DSI. Other is Pin2Pin. You can use Raspberry Pi CM4 baseboard.



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1.2 Key Feature

Key feature of the BPI-CM4 are as follows:

- Amlogic A311D Quad core ARM Cortex-A73 and dual core ARM Cortex-A53,ARM G52 MP4(6EE) GPU
- NPU for AI Next generation, deep-neural-network applications, at 5.0 TOPS
- OpenGL ES 3.2, Vulkan 1.1 and OpenCL 2.0 support
- 4GB LPDDR4 RAM
- 16GB eMMC flash (Max 128G)
- MIPI DSI :
 - 1x4-Lane MIPI DSI Display Interface
- MIPI CSI :
 - 1x4-Lane MIPI CSI Camera Interface
- PCIe Interface:
 - 1xPCIe 1-Lane Host,Gen 2(5Gbps)
- HDMI Interface:
 - 1xHDMI 2.1 Output Interface(up tp 4Kx2K@60)
- Gigabit Ethernet PHY supporting
- 26 PIN GPIO:
 - 1x PCM
 - 1x IIC
 - 1x UART
 - 1x PWM
- Single +5V PSU Input
- Support Android and Linux system
- Size: 55x40mm

Chapter 2. Interfaces

Wireless

The BPI-CM4 supports an onboard wireless module based on Realtek RTL8822CS, supports both

- 2.4GHz & 5GHz IEEE 802.11 a/b/g/n/ac 2x2 MIMO wireless
- Bluetooth 5.0 BR/EDR/LE

These wireless interfaces can be individually enabled or disabled as required via CPU GPIO. In the case of many application environments, a service engineer can enable wireless operation and then disable it when done.

The CPU can also turn on the wireless by itself for data communication, and turn off the wireless after completion to reduce power consumption.

The BPI-CM4 has two standard IPEX-1G connector on the module, If you want to use 2x2 MIMO, need to connect 2x 2.4G&5G antenna.

Banana Pi Ltd has an antenna kit which is certified to be used with the BPI-CM4. If a different antenna is used then separate certification will be required.

Build

This page was built by the following command:

```
$ mvn
```

Attributes

Built-in

asciidoctor-version

2.0.20

safe-mode-name

unsafe

docdir

/home/qubot/cm5io/asciidoctor-pdf-with-theme-example/src/docs/asciidoc

docfile

/home/qubot/cm5io/asciidoctor-pdf-with-theme-example/src/docs/asciidoc/example-manual.adoc

imagesdir

images

Custom

sourcedir

/home/qubot/cm5io/asciidoctor-pdf-with-theme-example/src/main/java

Includes



Includes can be tricky!