Banana pi BPI-M2 Magic board ,design with allwinner R16 and A33 chip

sinovoip (bpi team) 1 February 23, 2017, 5:36am

Banana pi BPI-M2 Magic board ,design with allwinner R16 and A33 chip
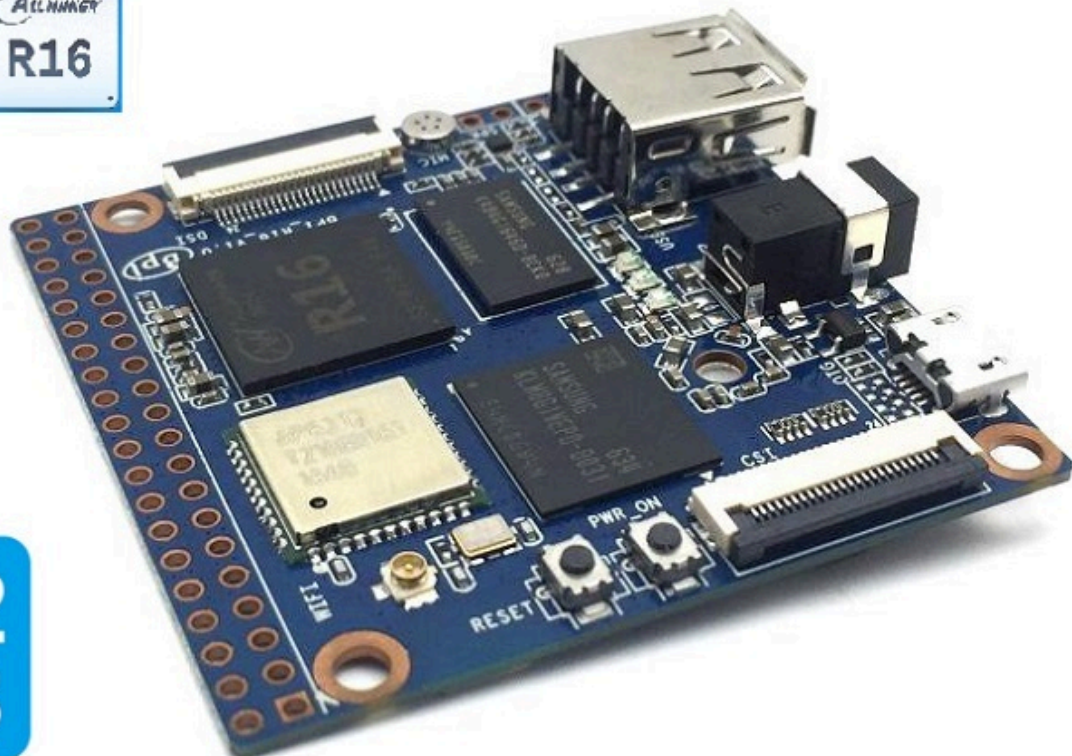

Banana PI BPI-M2 Magic (BPi-M2M) is an efficient quad core solution designed for internet-of-things applications,Use allwinner R16 chip design ,also can use Allwinner A33 chip on board, which outperforms competitors in terms of its system performance, scalability, and energy-efficiency; it can be used for home entertainment, home automation, and high wireless performance and so on.
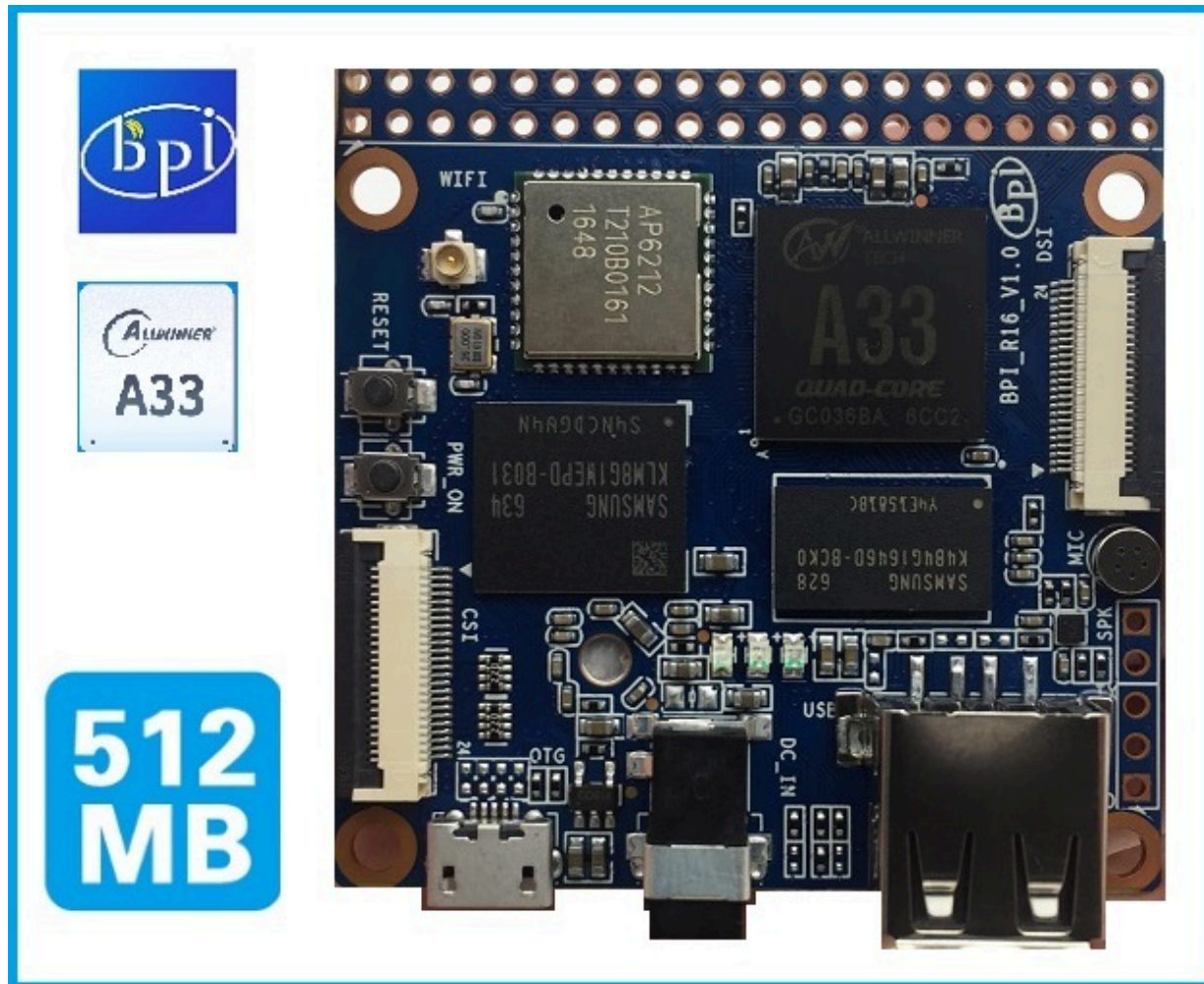
BPI-M2 Magic integrate four ARM Cortex-A7 CPU cores and Mali400MP2 graphics architecture, It also includes a variety of peripherals, BPI-M2 Magic with 512M DDR3，including 4 lane-MIPI DSI, LVDS, USB2.0 OTG/HOST,802.11 b/g/n wifi & BT4.0 onboard.
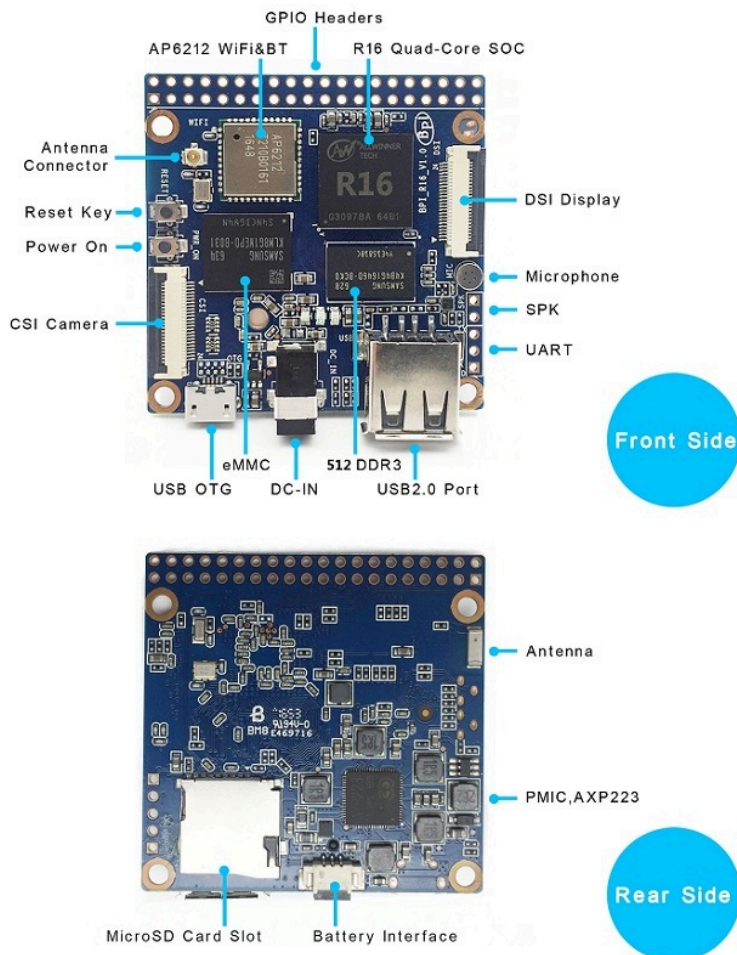
Note: 1,BPI-M2 Magic not HDMI interface. 2,Not support RJ45 interface

BPI-M2 Magic can run with Android smoothly, it also can run Debian, Ubuntu linux, Raspberry Pi image and others OS. It can easily run with the game it support 1080P high definition video output, the GPIO compatible with Raspberry Pi B+ and can run the ROM Image

allwinner R16 chip and A33 chip is PIN to PIN compatibility, so BPI-M2 Magic just replace R16 ,A33 chip onboard, easy to DIY new product.

hardware interface:

GPIO Headers

AP6212 WiFi&BT   R16 Quad-Core SOC

Antenna Connector

Reset Key

Power On

CSI Camera

DSI Display

Microphone

SPK

UART

USB OTG   eMMC   DC-IN   512 DDR3   USB2.0 Port

Front Side

Antenna

PMIC,AXP223

MicroSD Card Slot   Battery Interface

Rear Side

hareware spec:

Soc	Allwinner R16,Quad-code ARM Cortex-A7，also support A33 design
GPU	Mali 400 MP2
SDRAM	512MB DDR3 (shared with GPU)
Power	5V @ 2A via DC power
Low-level peripherals	40 Pins Header, 28×GPIO, some of which can be used for specific functions including UART, I2C, SPI, PWM.
Wifi	Wifi 802.11 b/g/n 2.4GHz (AP6212)
Bluetooth	BT4.0 BLE
On board Storage	MicroSD (TF) card, eMMC 8G on board (option：16/32/64G)
Display	MIPI Display Serial Interface (DSI) interface(4 data lanes)
Camera	A CSI input connector Camera:Supports 8-bit YUV422 CMOS sensor interface,Supports CCIR656 protocol for NTSC and PAL,Supports 5M pixel camera sensor ,Supports video capture solution up to 1080p@30fps
Video decoder	Multi-format FHD video decoding, including Mpeg1/2, Mpeg4, H.263, H.264, etc H.264 high profile 1080p@60fps
Video encoder	H.264 encoder: high profile 1080p@60fps
Audio input	On board microphone
USB	1x USB 2.0 host, 1x USB 2.0 OTG
Buttons	Reset button, Power button
Leds	Red, Green, Blue
battery	3.7V lithium battery power support
Sizes	51 mm × 51mm
Weight	40g

more ,please see online wiki document:

http://wiki.banana-pi.org/Banana_Pi_BPI-M2M

easy to buy sample :
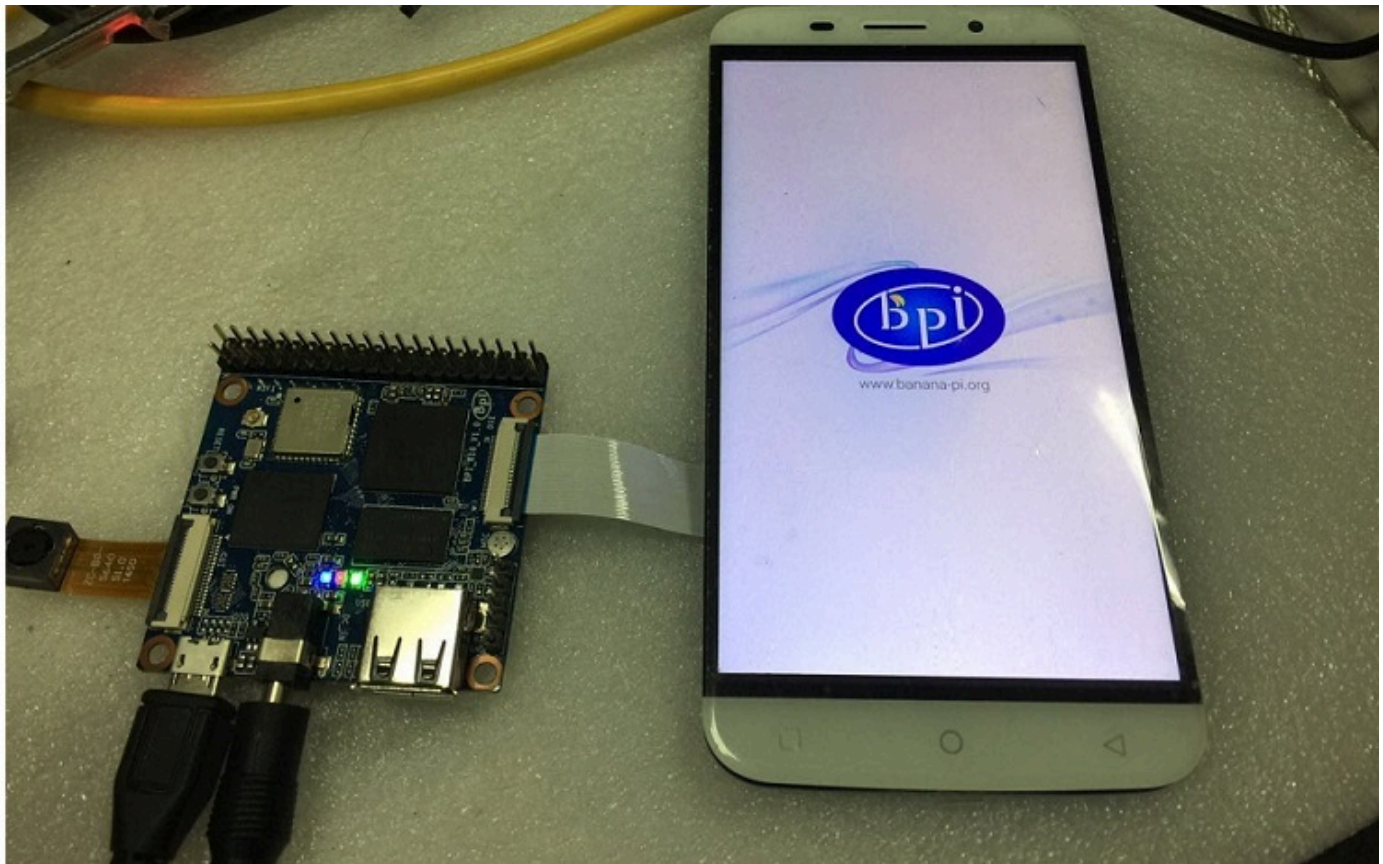
sinovoip (bpi team) 3 March 23, 2017, 9:30am

BPI-M2 Magic with MIPI pannel, run android

sinovoip (bpi team) 4 April 6, 2017, 6:43am

BPI-M2 Magic with MIPI pannel, run ubuntu linux

Very nice lcd panel! Does it work on M64 or only M2 Magic?

Is it available now? What about price?

this LCD just not support M1,M1+, R1 , others all can support.

hi, there.

i got a img named:2017-05-12-ubuntu-16.04-mate-desktop-preview3-bpi-m2m-sd-emmc.img I try to burn it to sdcard and boot on my R16 board. But it stuck before loading the kernel. how should i port this img to my board?

Thank you!

avaf 8   June 20, 2017, 1:16pm

This image works. Get a new SD CARD, Avoid using Win32DiskImager.exe, use **dd** or better yet use **etcher**.

anti 9   June 27, 2017, 3:03am

thanks!

it seems something wrong with the bootloader part. when i replaced the boot0 and uboot, it worked.

sinovoip (bpi team) 10   October 19, 2017, 8:57am

SCH download:

> **BPI-M2 Magic schematic diagram public**
>
> BPI-M2 Magic schematic diagram public **[image]** google drive link:
> **https://drive.google.com/file/d/0B4PAo2nW2KfndHY1VF9UWXl2Rm8/view?usp=sharing**

DXF file download:

> **BPI-M2 Magic DXF file public**
>
> BPI-M2 Magic DXF file public **https://drive.google.com/file/d/0B4PAo2nW2KfnalhDRG5EclU1dHM/view?usp=sharing**

sinovoip (bpi team) 11   October 23, 2017, 5:25am

Banana pi BPI-M2 Magic GPIO test accessories

Steen 12   October 24, 2017, 9:24am

Hi, Could you please inform me on which specific LCD panel this is? I have been looking for a while for a matching LCD, and this seems to be it.

1 Like

sinovoip (bpi team) 13   October 25, 2017, 12:29am

this is our 5`0 LCD TP, just sample ready now.

harish (harish) 14 November 13, 2017, 12:55pm

hai i have BPI-M2M board … i dont have a display, but i have mipi lcd (NT35596 and NT35532) lcd panel dose the os support this LCD panel

how to get the 5" LCD TP

Joe_Culler (Joe Culler) 15 December 18, 2017, 5:50am

Hi,

I'm running the 2017-10-23-ubuntu-16.04-mate-desktop-beta3-bpi-m2m-sd-emmc.img image on the BPI-M2M (Allwinner A33) via USB serial, I got garbage output when booting kernel, but u-boot looks ok:

HELLO! BOOT0 is starting!

```
boot0 version : 4.2.0
boot0 commit : fae52dead0d2defbfc9d2beed2f8e422c81ecd79
fel_flag = 0x00000000
rtc[0] value = 0x00000000
rtc[1] value = 0x00000000
rtc[2] value = 0x00000000
rtc[3] value = 0x00000000
DRAM DRIVE INFO: V1.8
DRAM Type =3 (2:DDR2,3:DDR3,6:LPDDR2,7:LPDDR3)
DRAM zq value: 00003bbbDRAM CLK =600 MHZ
ID CHECK VERSION: V0.1
ic use default id
USE PLL DDR1
USE PLL NORMAL
PLL FREQUENCE = 1200 MHZ
DRAM PLL DDR1 frequency extend open !
DRAM master priority setting ok.
Auto calculate timing parameter!
para_dram_tpr0 = 0047a14f
para_dram_tpr1 = 01c2294c
para_dram_tpr2 = 00069049
tcl = 6,tcwl = 4
DRAM TIMING PARA0 = 0b0f180c
```

Is there something wrong? Thanks.

Flex (Flex) 16 August 24, 2018, 12:52am

Hi @sinovoip ,

I have been looking for a suitable display for my BPI-M2 Magic for days and I cannot find one anywhere, you only have the 7-inch one available on your store and that doesn't seem to work with this board as its only the 40 pin connector.

Do you know when this 5-inch version will be available? I would really like the 5-inch one, if not do you know if there are any other boards which work with the M2 Magic?

Thanks 🙂

1 Like

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shaddow501 (shaddow501) 17 February 28, 2019, 9:52pm

Searching in Aliexpress for MIPI LCD panels give a lot of results, but cable types are different so it is useless information.

can anyone say which exact **available** models can fit this module? I see in the picture above that the module uses a mobile phone LCD, is it too hard to share which is it?
"this is our 5`0 LCD TP," no it isnt, do you manufacture phone screens? which type is it of which mobile phone?? Please provide answers. Update: The LCD that is being used in the picture is the LCD of the Meetuu G7 mobile phone.

Duane_Perry (Duane Perry) 18 December 3, 2019, 9:41pm

I am looking for a linux distro for this board. Is there a boot and linux kernel somewhere that would let me get my board at least up and running?

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sinovoip (bpi team) 19 December 4, 2019, 12:29am

you can see here :

> **Mainline linux uboot 2019.07 for banana pi on github**
>
> mainline linux uboot 2019.07 for banana pi on github, it have add grub support **[uboot%202019-7]**.

RecklessElectronics (Aaron) 20 January 31, 2023, 3:29pm

Can I get access to these files?