

Banana Pi BPI-M2 Zero

- Quad Core
- 32 Bit
- 512MB DDR3
- WIFI & BT



Hardware spec

HardWare Specification of Banana pi BPI-P2 Zero VS BPI-M2 zero VS Raspberry Pi Zero W

Module	Banana Pi BPI-P2 Zero	Banana Pi BPI-M2 Zero	Raspberry Pi Zero W
CPU	H2+ Quad-core Cortex-A7 H265/HEVC 1080P	H2+ Quad-core Cortex-A7 H265/HEVC 1080P	Broadcom BCM2835 32 Bit 1 GHz ARM1176JZF-S single-core
GPU	Mali400MP2 GPU @600MHz, Supports OpenGL ES 2.0	Mali400MP2 GPU @600MHz, Supports OpenGL ES 2.0	VideoCore IV
Memory \ (SDRAM\)	512M DDR3(shared with GPU)	512M DDR3(shared with GPU)	512 MB DDR2
Onboard Storage	TF card \ (Max. 64GB\)	TF card \ (Max. 64GB\)	TF card \ (Max. 64GB\)

Onboard Network	100M LAN	NOPE (but can extension with PIN define)	NOPE
PoE power	PoE function support	NOPE	NOPE
Onboard flash	8G eMMC	NOPE	NOPE
Onboard WIFI	SDIO AP6212 (option AP6181、AP6335)	SDIO AP6212 (option AP6181、AP6335)	802.11n wireless, Bluetooth 4.1
Video decoding	1080p@60fps,H.264 Video encoding 1080p@30fps,H.264	1080p@60fps,H.264 Video encoding 1080p@30fps,H.264	1080p30 H.264/MPEG-4 AVC high-profile decoder and encoder
Video input	A CSI input connector Camera	A CSI input connector Camera	CSI camera connector
Video Outputs	mini HDMI 1.4,1080P@30fps, DHCP	mini HDMI 1.4,1080P@30fps, DHCP	Mini HDMI and USB On-The-Go ports
Audio Output	Mini HDMI	Mini HDMI	Mini HDMI
Power Source	Micro USB with 5V/2A or PoE power	Micro USB with 5V/2A	5V/2A
USB 2.0 Ports	one USB 2.0 OTG	one USB 2.0 OTG	one USB 2.0 OTG
Buttons	Power Button, Reset Button	Power Button, Reset Button	Composite video and reset headers
Low-level peripherals	40 Pins Header,compatible with Raspberry Pi 3	40 Pins Header,compatible with Raspberry Pi 3	40 PIN
uart GPIO\ (1x3\) pin	UART, ground	UART, ground	UART

LED	Power led & Status led	Power led & Status led	Power Status LED
IR	N/A	N/A	N/A
Supported OS	android linux	android linx	Linux
Product size	65mm X 52.5mm	65mm × 30mm	65mm x 30mm
Weight	30g	15g	9g

GPIO PIN define

Banana Pi BPI-M2 zero has a 40-pin GPIO header that matches that of the Model Raspberry Pi 3. Following is the Banana Pi GPIO Pinout:

40 PIN GPIO of Banana pi BPI-M2 zero			
GPIO Pin Name	Default Function	Function2 : GPIO	Function3
CON2-P01	VCC-3V3		
CON2-P02	VCC-5V		
CON2-P03	TWI0-SDA	PA12-EINT12	
CON2-P04	VCC-5V		
CON2-P05	TWI0-SCK	PA11-EINT11	
CON2-P06	GND		
CON2-P07	PWM1	PA6-EINT6	
CON2-P08	UART3-TX	PA13-EINT13	SPI1-CS

CON2-P09	GND		
CON2-P10	UART3-RX	PA14-EINT14	SPI1-CLK
CON2-P11	UART2-RX	PA1-EINT1	
CON2-P12	UART3-CTS	PA16-EINT16	SPI1-MISO
CON2-P13	UART2-TX	PA0-EINT0	
CON2-P14	GND		
CON2-P15	UART2-CTS	PA3-EINT3	
CON2-P16	UART3-RTS	PA15-EINT15	SPI1-MOSI
CON2-P17	VCC-3V3		
CON2-P18	PC4	PC4	
CON2-P19	SPI0-MOSI	PC0	
CON2-P20	GND		
CON2-P21	SPI0-MISO	PC1	
CON2-P22	UART2-RTS	PA2-EINT2	
CON2-P23	SPI0-CLK	PC2	
CON2-P24	SPI0-CS	PC3	
CON2-P25	GND		

CON2-P26	PC7	PC7	
CON2-P27	TWI1-SDA	PA19-EINT19	
CON2-P28	TWI1-SCK	PA18-EINT18	
CON2-P29	PA7-EINT7	PA7-EINT7	
CON2-P30	GND		
CON2-P31	PA8-EINT8	PA8-EINT8	
CON2-P32	PL2-S-EINT2	PL2-S-EINT2	
CON2-P33	PA9-EINT9	PA9-EINT9	
CON2-P34	GND		
CON2-P35	PA10-EINT10	PA10-EINT10	
CON2-P36	PL4-S-EINT4	PL4-S-EINT4	
CON2-P37	PA17-EINT17	PA17-EINT17	SPDIF-OUT
CON2-P38	PA21-EINT21	PA21-EINT21	
CON2-P39	GND		
CON2-P40	PA20-EINT20	PA20-EINT20	

CSI Camera Connector specification:

The CSI Camera Connector is a 24-pin FPC connector which can connect external camera module with proper signal pin mappings. The pin definitions of the CSI interface are shown as below. This is marked on the Banana Pi board as “CSI”.

24 PIN CSI Camera connector of Banana pi BPI-M2 Zero		
CSI Pin Name	Default Function	Function2 : GPIO
CN3-P01	NC	
CN3-P02	GND	
CN3-P03	CSI0-SDA	PE13
CN3-P04	CSI0-AVDD	
CN3-P05	CSI0-SCK	PE12
CN3-P06	CSI0-Reset	PE14
CN3-P07	CSI0-VSYNC	PE3
CN3-P08	CSI0-PWDN	PE15
CN3-P09	CSI0-HSYNC	PE2
CN3-P10	CSI0-DVDD	
CN3-P11	CSI0-DOVDD	
CN3-P12	CSI0-D7	PE11
CN3-P13	CSI0-MCLK	PE1

CN3-P14	CSIO-D6	PE10
CN3-P15	GND	
CN3-P16	CSIO-D5	PE9
CN3-P17	CSIO-PCLK	PE0
CN3-P18	CSIO-D4	PE8
CN3-P19	CSIO-D0	PE4
CN3-P20	CSIO-D3	PE7
CN3-P21	CSIO-D1	PE5
CN3-P22	CSIO-D2	PE6
CN3-P23	GND	
CN3-P24	CSIO-DOVDD	

UART specification:

The jumper CON3 is the UART interface. For developers of Banana Pi, this is an easy way to get the UART console output to check the system status and log message.

jumper CON3 of Banana pi BPI-M2 Zero		
CON3 Pin Name	Default Function	GPIO
CON3 P03	UART0-TXD	PA4
CON3 P02	UART0-RXD	PA5
CON3 P01	GND	