What is BPi-M1+

BPi-M1+ is an updated version of BPi-M1. It has 40 Pin GPIO headers and WiFi module on board, other interfaces are the same as BPi-M1. So it is also compatible with many Linux-based operating system and has many distributions specially developed for Bpi-M1 Hardware. Some of these distributions include Lubuntu, Android, Debian, Bananian, Berryboot, OpenSuse, Scratch, Fedora, Gentoo, Open MediaVault.

Hardware Specification of BPi-M1+	
Soc	Allwinner® A20(sun 7i)

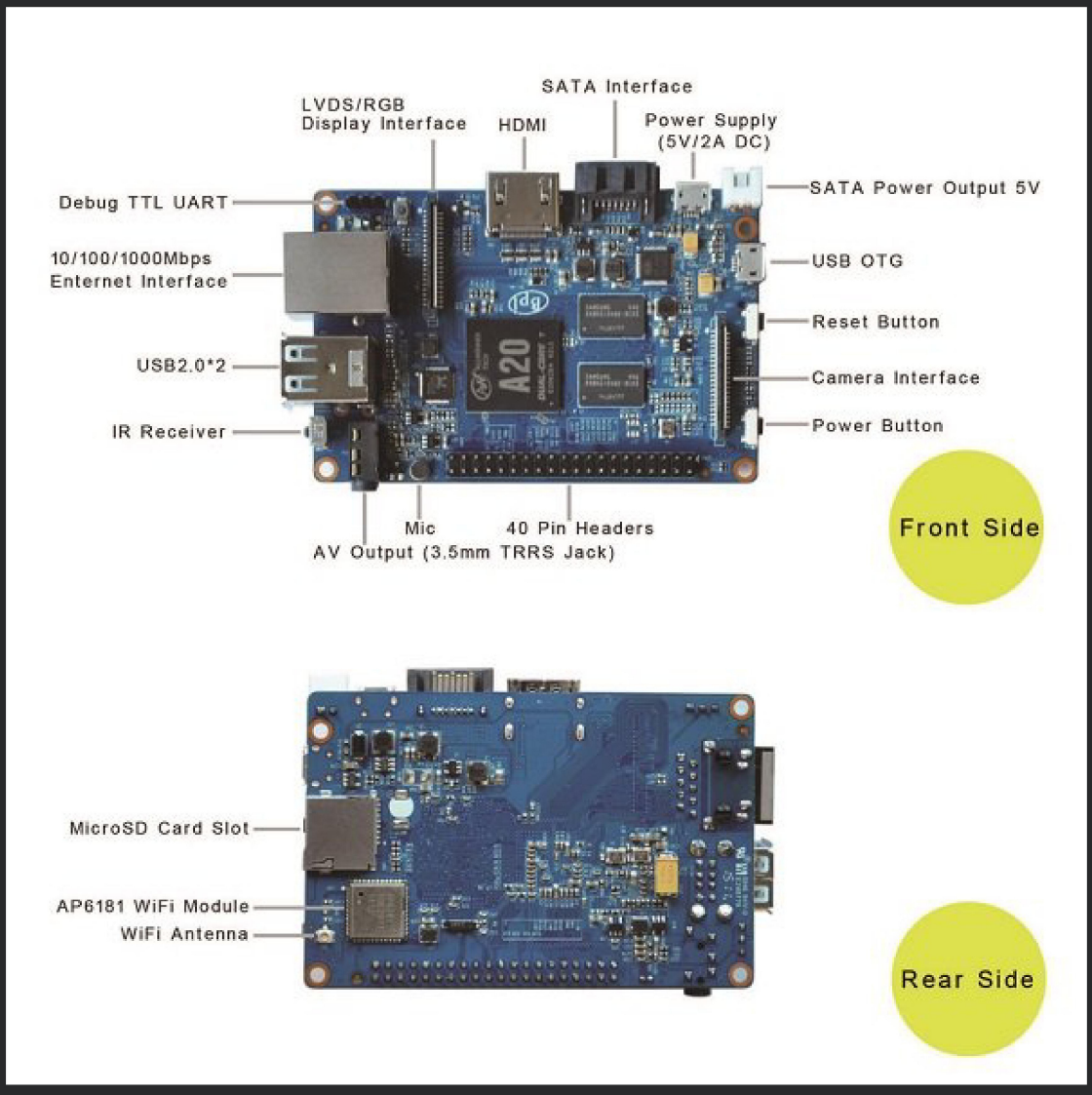
CPU	ARM® Cortex™-A7 Dual-Core1GHz (ARM v7 instruction set)
GPU	Mali400MP2 Complies with OpenGL ES 2.0/1.1 (hardware acceleration support)
SDRAM	1GB DDR3 (shared with GPU)
Power	5V @ 2A via MicroUSB (DC in Only) and/or MicroUSB (OTG)
PMU	AXP209

Features

Low-level perpherials	40 Pins Header, 28×GPIO, some of which can be used for specific functions including UART, I2C, SPI, PWM, CAN, I2S, SPDIF, LRADC, ADC, LINE-IN,FM-IN,HP-IN.
On board Network	10/100/1000Mbps ethernet (Realtek RTL8211E/D)
Wifi Module	WiFi 802.11 b/g/n
Bluetooth	Optional
On board Storage	SDcard□SATA 2.0
Display	Supports multi-channel HD display: HDMI 1.4 (Type A - full) LVDS/RGB/CPU display interface (DSI) for raw LCD panels Composite video (PAL and NTSC) (via 3.5 mm TRRS jack shared with audio out) 11 HDMI resolutions from 640×480 to 1920×1080 plus various PAL and NTSC standards
Video	HD H.264 2160p video decoding Mutil-format FHD video decoding, including Mpeg1/2, Mpeg4, H.263, H.264, etc H.264 high profile 1080p@30fps or 720p@60fps encoding
Audio outputs	HDMI,analog audio (via 3.5 mm TRRS jack shared with composite video out),I2S audio (also potentially for audio input)
Camera	Parallel 8-bit camera interface
Audio input	On board micphone
USB	2 USB 2.0 host, 1 USB 2.0 OTG (all direct from A20 chip)
Buttons	Reset button Power button U-boot button
Leds	Power status led (red) User defined led1 (green) User defined led2 (blue)

Other	IR reciever
Interface definition	
Sizes	92 mm × 60mm
Weight	45g

Interface



GPIO specification

Banana Pi has a 40-pin GPIO header that matches that of the Model B+ Raspberry Pi. Following is the Banana Pi GPIO Pinout:

Pin on Board	Pin Definition	IO on A20
CON3-P01	VCC-3V3	
CON3-P02	VCC-DC	
CON3-P03	TWI2-SDA	PB21
CON3-P04	VCC-DC	
CON3-P05	TWI2-SCK	PB20
CON3-P06	GND	
CON3-P07	PWM1	PI3

CON3-P08	UART3_TX	PH0
CON3-P09	GND	
CON3-P10	UART3_RX	PH1
CON3-P11	UART2_RX	PI19
CON3-P12	PH2	PH2
CON3-P13	UART2_TX	PI18
CON3-P14	GND	
CON3-P15	UART2_CTS	PI17
CON3-P16	CAN_TX	PH20
CON3-P17	VCC-3V3	
CON3-P18	CAN_RX	PH21
CON3-P19	SPI0_MOSI	PI12
CON3-P20	GND	
CON3-P21	SPI0_MISO	PI13
CON3-P22	UART2_RTS	PI16
CON3-P23	SPI0_CLK	PI11
e	SPI0_CS0	PI10
e	GND	
CON3-P26	SPI0_CS1	PI14
CON3-P27	TWI3-SDA	PI1
CON3-P28	TWI3-SCK	PI0
CON3-P29	I2S_MCLK	PB5
CON3-P30	GND	
CON3-P31	I2S_BCLK	PB6
CON3-P32	I2S_DI	PB12
CON3-P33	I2S_LRCK	PB7
CON3-P34	GND	
CON3-P35	I2S_DO0	PB8
e	UART7_RX	PI21
CON3-P37	IR0_TX	PB3
CON3-P38	UART7_TX	PI20
CON3-P39	GND	
CON3-P40	SPDIF_DO	PB13

The CSI Camera Connector is a 40-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 “CON1”. CSI Camera Connector

Pin on Board	Pin Definition	IO on A20
CON1-P01	LINEINL	
CON1-P02	LINEINR	
CON1-P03	VCC-CSI	
CON1-P04	ADC_X1	
CON1-P05	GND	
CON1-P06	ADC_X2	
CON1-P07	FMINL	
CON1-P08	ADC_Y1	
CON1-P09	FMINR	
CON1-P10	ADC_Y2	
CON1-P11	GND	
CON1-P12	CSI-FLASH	PH17
CON1-P13	LRADC0	
CON1-P14	TWI1-SDA	PB19
CON1-P15	LRADC1	
CON1-P16	TWI1-SCK	PB18
CON1-P17	CSI-D0	PE4
CON1-P18	CSI0-STBY-EN	PH19
CON1-P19	CSI0-D1	PE5
CON1-P20	CSI-PCLK	PE0
CON1-P21	CSI-D2	PE6
CON1-P22	CSI0-PWR-EN	PH16
CON1-P23	CSI-D3	PE7
CON1-P24	CSI0-MCLK	PE1
CON1-P25	CSI-D4	PE8
CON1-P26	CSI0-RESET	PH14
CON1-P27	CSI-D5	PE9
CON1-P28	CSI-VSYNC	PE3
CON1-P29	CSI-D6	PE10
CON1-P30	CSI-HSYNC	PE2
CON1-P31	CSI-D7	PE11
CON1-P32	CSI1-STBY-EN	PH18
CON1-P33	RESET	
CON1-P34	CSI1-RESET	PH13
CON1-P35	CSI-IO0	PH11
CON1-P36	HPR	
CON1-P37	HPL	
CON1-P38	IPSOUT	
CON1-P39	GND	
CON1-P40	IPSOUT	

LVDS (LCD display interface)

The LVDS Connector is a 40-pin FPC connector which can connect external LCD panel (LVDS) and touch screen (I2C) module as well. The pin definitions of this connector are shown as below. This is marked on the Banana Pi board as “CON2”.

Pin on Board	Pin Definition	IO on A20
CON2-P01	IPSOUT	
CON2-P02	TWI3-SDA	PI1
CON2-P03	IPSOUT	
CON2-P04	TWI3-SC	PI0

CON2-P05	GND	
CON2-P06	LCD0-IO0	PH7
CON2-P07	LCDIO-03	PH12
CON2-P08	LCD0-IO1	PH8
CON2-P09	LCD0-D0	PD0
CON2-P10	PWM0	PB2
CON2-P11	LCD0-D1	PD1
CON2-P12	LCD0-IO2	PH9
CON2-P13	LCD0-D2	PD2
CON2-P14	LCD0-DE	PD25
CON2-P15	LCD0-D3	PD3
CON2-P16	LCD0-VSYNC	PD27
CON2-P17	LCD0-D4	PD4
CON2-P18	LCD0-HSYNC	PD26
CON2-P19	LCD0-D5	PD5
CON2-P20	LCD0-CS	PH6
CON2-P21	LCD0-D6	PD6
CON2-P22	LCD0-CLK	PD24
CON2-P23	LCD0-D7	PD7
CON2-P24	GND	
CON2-P25	LCD0-D8	PD8
CON2-P26	LCD0-D23	PD23
CON2-P27	LCD0-D9	PD9
CON2-P28	LCD0-D22	PD22
CON2-P29	LCD0-D10	PD10
CON2-P30	LCD0-D21	PD21
CON2-P31	LCD0-D11	PD11
CON2-P32	LCD0-D20	PD20
CON2-P33	LCD0-D12	PD12
CON2-P34	LCD0-D19	PD19
CON2-P35	LCD0-D13	PD13
CON2-P36	LCD0-D18	PD18
CON2-P37	LCD0-D14	PD14
CON2-P38	LCD0-D17	PD17
CON2-P39	LCD0-D15	PD15
CON2-P40	LCD0-D16	PD16

The header CON4 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.UART specification:

CON4 Pin Name	Default Function	GPIO
CON4 PO3	UART0-TXD	PB22
CON4 PO2	UART0-RXD	PB23
CON4 PO1	GND	