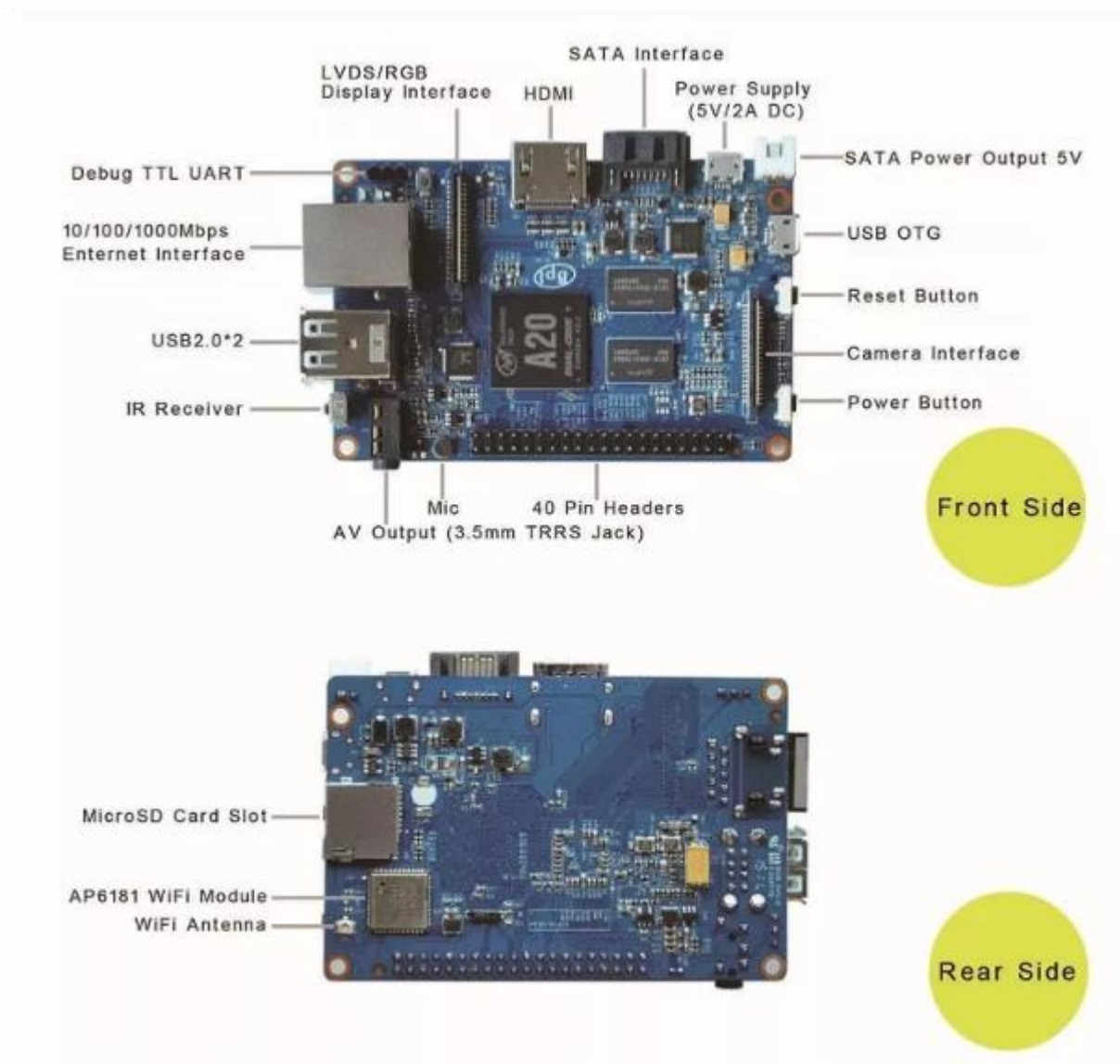


## Banana PI BPI-M1+



## Hardware spec

Banana Pi BPI-M1+	
CPU	A20 ARM Cortex -A7 Dual-Core
GPU	ARM Mali400MP2Complies with OpenGL ES 2.0/1.1
Memory	1GB DDR3
Network	10/100/1000 Ethernet
wifi&BT	Wifi support onboard

Video Input	A CSI input connector allows for the connection of a designed camera module
Video Outputs	HDMI, CVBS, LVDS/RGB
Audio Outputs	3.5mm jack and HDMI
Power Source	5V/2A via Micro USB (DC in only) and / or Micro USB OTG
USB 2.0 ports	2(direct from Allwinner A20 chip)
GPIO	GPIO, UART, I2C BUS, SPI BUS, WITH TWO CHIP SELECTS, <a href="#">CAN bus</a> , ADC, PWM, +3.3V, +5V, GND
LED	Power Key & 8P8C
Storage	SATA 2.0
OS	Android 4.4, Android 4.2, Raspbian, Lubuntu, Open Suse, Debian

## GPIO PIN define

Banana Pi BPI-M1+ has a 40-pin GPIO header . Following is the Banana Pi GPIO Pinout:

40 PIN GPIO of Banana pi BPI-M1+		
GPIO Pin Name	Default Function	Function2 : GPIO
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
CON3-P24	SPI0\CS0	PI10
CON3-P25	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
CON3-P36	UART7\_RX	PI21
CON3-P37	IR0\_TX	PB3

CON3-P38	UART7\_TX	PI20
CON3-P39	GND	
CON3-P40	SPDIF\_DO	PB13

**CSI Camera Connector specification:**

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 PIN of Banana pi BPI-M1+		
CSI Pin Name	Default Function Pin name	Function2 : GPIO
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	AP-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".

LVDS PIN of Banana pi BPI-M1+			
LVDS Pin	Default Function	Function2	Function3 : GPIO
CON2 P01	IPSOUT(5V output)		
CON2 P02	TWI3-SDA		PI1

CON2 P03	IPSOUT(5V output)		
CON2 P04	TWI3-SCK		PI0
CON2 P05	GND		
CON2 P06	LCD0-IO0		PH7
CON2 P07	LCDIO-03		PH12
CON2 P08	LCD0-IO1		PH8
CON2 P09	LCD0-D0	LVDS0-VP0	PD0
CON2 P10	PWM0		PB2
CON2 P11	LCD0-D1	LVDS0-VN0	PD1
CON2 P12	LCD0-IO2		
CON2 P13	LCD0-D2	LVDS0-VP1	PD2
CON2 P14	LCD0-DE		PD25
CON2 P15	LCD0-D3	LVDS0-VN1	PD3
CON2 P16	LCD0-VSYNC		PD27
CON2 P17	LCD0-D4	LVDS0-VP2	PD4
CON2 P18	LCD0-HSYNC		PD26
CON2 P19	LCD0-D5	LVDS0-VN2	PD5



CON2 P20	LCD0-CS		
CON2 P21	LCD0-D6	LVDS0-VPC	PD6
CON2 P22	LCD0-CLK		PD24
CON2 P23	LCD0-D7	LVDS0-VNC	PD7
CON2 P24	GND		
CON2 P25	LCD0-D8	LVDS0-VP3	PD8
CON2 P26	LCD0-D23		PD23
CON2 P27	LCD0-D9	LVDS0-VN3	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

**UART specification:**

The jumper J11 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 debug PIN of Banana pi BPI-M1+**

Pin Name	Default Function	GPIO
CON4 P03	UART0-TXD	PB22
CON4 P02	UART0-RXD	PB23
CON4 P01	GND	