iTOP-RK3588 核心板

iTOP-RK3588 是一款低功耗、高性能的处理器，适用于基于 ARM 的 PC 和 Edge 计算设备、个人移动互联网设备等数字多媒体应用，采用 8nm 结构，将四核 Cortex-A76 和四核 Cortex-A55 分别与 NEON 集成在一起。RK3588 支持 8K、60fps 解码，拥有高质量的 JPEG 编码器/解码器，专业的图像预处理器，内置 GPU 可以完全兼容 OpenGLES 1.1、2.0 和 3.2。RK3588 引入了新一代完全基于硬件的最大 4800 万像素 ISP，内置 NPU，支持 INT4/INT8/INT16/FP16 混合运算能力，支持安卓 12 和 linux 系统。

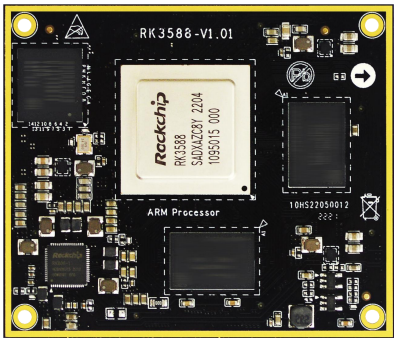
iTOP-RK3588 采用了 A55 和 A76 架构，都是高性能、低功耗、高速缓存的应用处理器，并内置 G610 图形处理器，让产品性不断地提升。RK3588 的 DDR 颗粒兼容性十分优秀，支持 LPDDR4/LPDDR4X/LPDDR5 等类型，共 32GB 地址空间。RK3588 拥有丰富的功能拓展接口，可有效提高行业定制的拓展性。

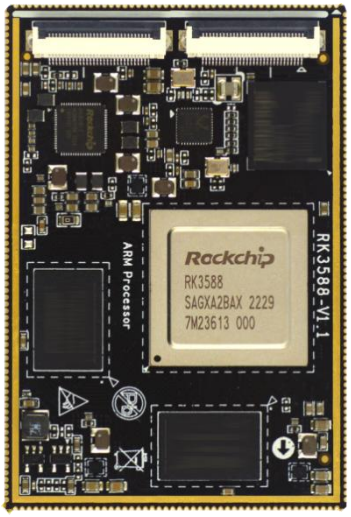
iTOP-RK3588 支持 PCIE3.0(2x2,1x4,4x1)，同时支持 PCIE2.1，满足了 4G/5G、wifi6、多网口、NPU 等扩展需求。RK3588 支持 3x SATA3.0，多路 SATA 避免了通过 USB 扩展 SATA 各种不稳定问题，支持 5 路 USB 口，主要包括 2xUSB2.0HOST +USB3.0HOST+ 2xUSB3.1 OTG/USB2.0 OTG/ TypeC。支持双路千兆以太网，满足工控及物联网网关等的多网口需求。

iTOP-RK3588 核心板通过了电磁兼容性检测、电磁辐射标准检测、安规检测、高低温坏境检测。7*24 小时长期稳定运行，批量无忧。广泛用于 PC、边缘计算设备、云服务器、智慧大屏、安防、NVR、虚拟/增强现实、个人移动互联网设备和其它数字多媒体应用等，可满足不同行业的产品需求。

产品描述：

CPU：ROCKCHIPRK3588 八核 A76+A55
主频：2.0GHZ
连接器核心板尺寸：70mmx60mm
邮票孔核心板尺寸：50mmx75mm
内存：8G/16G 可选(最高可支持 32GB)
存储：32G/64G 可选
工作电压：4V
运行温度：商业级 0℃到 70℃、工业级-40° C 到+85° C
系统：Android13/Android12、Debian11、Buildroot、Ubuntu20.04/22 版本
银河麒麟（付费）、开放麒麟、OpenEuler24.03 等系统





产品特点：

四核心架构 GPU

集成 Mali G610 MP4 四核 GPU、支持 OpenGLES 1.1、2.0、3.2OpenCL 2.2 和 Vulkan1.2 带有 MMU 的特殊 2D 硬件引擎将最大限度地提高显示性能，并提供非常平稳的操作。

内置独立 NPU

RK3588 集成了瑞芯微第四代具有完全自主知识产权的人工智能运算引擎，在 MAC 运算单元的利用率及带宽的消耗上提升了 30%。6TOPs 的 NPU 算力，赋能各类 AI 场景。

强大的视频编解码

8K 编码+8K 解码，多路视频源同时解码。支持 8K@60fpsH.265/H.264/P9/AV1 视频解码和 8K@30fps H265/H264 视频编码

核心板

连接器版本核心板支持商业级、工业级、国产化版本，兼容同一底板，核心板引脚 320PIN 全部引出，满足用户扩展需求。
邮票孔版本商业级核心板 242 PIN 引脚。

连接器版本：

参数	CPU	内存	存储	运行温度
LPDDR5 商业级 8G+32G	RK3588	8GB	32G EMMC	0C~+70° C
商业级 4G+64G	RK3588	4GB	64G EMMC	0C~+70° C
商业级 8G+64G	RK3588	8GB	64G EMMC	0C~+70° C
商业级 16G+128G	RK3588	16GB	128G EMMC	0C~+70° C
LPDDR5 商业级 16G+64G	RK3588	16GB	64G EMMC	0C~+70° C
国产化商业级 16G+64G	RK3588	16GB	64G EMMC	0C~+70° C
工业级 8G+32G	RK3588J	8GB	32G EMMC	-40C~+85° C
国产化工业级 8G+32G	RK3588J	8GB	32G EMMC	-40C~+85° C

邮票孔版本：

参数	CPU	内存	存储	运行温度
商业级 8G+32G	RK3588	8GB	32G EMMC	0C~+70° C
工业级 8G+32G	RK3588J	8GB	32G EMMC	-40C~+85° C

核心板主要参数：

CPU	ROCKCHIPRK3588 八核 A76+A55
主频	八核处理器，A76 四核+A55 四核，主频 2.0GHZ
内存	8/16GB 可选，最高可支持 32GB
存储器	32GB/64GB
电源管理芯片	使用 RK806-1，支持动态调频等
连接器型号	80pin AXK5F80347YG AXK6F80347YG 0.5mm
连接器高度	1.5mm
核心板尺寸	连接器版本：70mmx60mm，邮票孔版本：50mmx75mm
电源管理芯片	使用 RK806_1
GPU	集成 MaliG6103D 四核 GPU
	支持 OpenGLES1.1、2.0、32，OpenCL 2.2、Vulkan1.2 至少支持 2 路 4KUI，流畅运行复杂的图形处理及游戏
NPU	支持 INT4/INT8/INT16/FP16 混合运算，运算能力高达 6TOPS
	支持基于 TensorFlow/MXNet/PyTorch/Caffe 等一系列的框架的网络模型
多媒体	视频解码: 8K@60fpsH265/H264/VP9/AV1 视频解码 8K@30fpsH264AVC/MVC 4K@60fps AV1 1080P@60fpsMPEG-2/-1/VC-1/VP8
	视频编码: 8K@30fpsH265/H264 可实现 32 路 1080P@30fps 编码和 16 路 1080@30fps 编码

ISP	4800 万像素 ISP(图像信号处理器)

核心板基本参数：

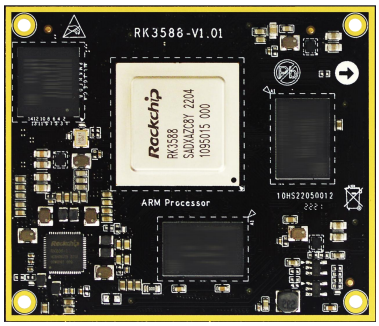
核心板尺寸	连接器版本：70mm*60mm，邮票孔版本：50mm*75mm
核心板高度	连同连接器在内 0.26cm
连接器型号	80pinAXK5F80347YGAXK6F80347YG0.5mm
连接器高度	1.5mm
商业级工作温度	0° C 到+70° C
工业级工作温度	-40° C 到+85° C
工作电压	4V
引脚扩展	连接器核心板 320 PIN 引脚，邮票孔核心板 242 PIN 引脚

核心板接口资源：

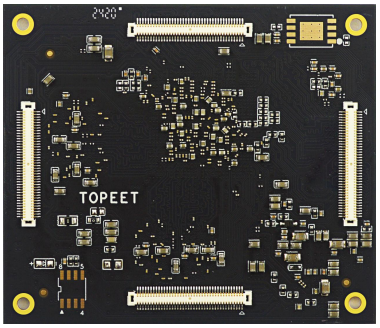
功能	数量	参数
USB2.0	2	USB2.0 Host 独立端口，与 USB3.0 不复用。
USB3.0	1	1 路 USB 3.0 Host
USB3.1	2	2 路 USB3.1OTG，与 USB2.0OTG/TypeC 复用
SATA	≤3	SATA 3.0，最高速率 6.0Gb/s，支持 eSATA
pcie2.0	≤3	与 SATA/USB3 复用，每 PCIe2.0 接口支持 1lane,速率可达 5.0Gbps
pcie3.0	≤4	支持 EP 和 RC, 支持拆分，成 1 路 x4、2 路 x2、 4 路 x1 和 1 路 x2+2 路 x1 每 Lane 速率 8.0Gbps。
SPI	≤6	可配置主从模式
I2C	≤9	支持 7bits 和 10bits 地址模式，最高速率可达 400K bits/s。
UART	≤10	支持的最大波特率为 4Mbp
CAN	≤3	支持 CAN2.0 B
Audio	≤8	4x I2S/PCM/TDM，2x SPDIF(8ch)，8ch PDM
PWM	≤16	最多支持 16 通道 PWM， 32bits 定时器/计数器
TSADC	≤7	支持 7 通道。-40~125 度
SARADC	≤8	8 个单端输入通道
MIPI_DSI	2	提供 2 个 4-lane MIPI 显示串行接口，支持 MIPI V1.2 版本
MIPI_CSI	6	提供 2 个 4-lane MIPI-CSI DPHY 和 2 个 3-lane MIPI-CSI CPHY， 4 个 2-lane MIPI-CSI DPHY
eDP	1	提供一个 4-lane eDP 显示接口，支持 eDP V1.3 版本，最大分辨率 4K@60Hz
HDMI	2	支持 HDMI 2.0 RX 和 HDMI2.1 TX，分辨率可达 7680x4320@60Hz
Ethernet	≤2	支持 2 路 Giga-Etherne
SDIO		SD0，4-bit，支持 1.8/3.3V 模式切换，可用于系统烧写；

		SD2，4-bit，仅支持 1.8V 模式
camera	3	支持 2 路 MIPIDCPHY+4 路 MIPICSIDPHY(2lanes) 2 路 MIPIDCPHY+1 路 MIPICSIDPHY(4lanes)+2 路 MIPICSIDPHY(2lanes) 2 路 MIPIDCPHY+2 路 MIPI CSI DPHY(4lanes)

连接器核心板图片：

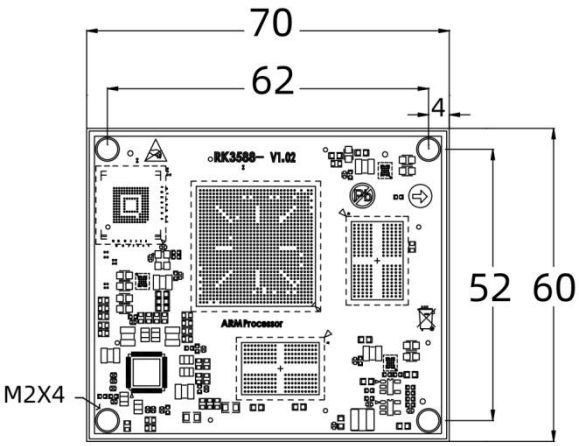


核心板正面图



核心板背面图

连接器核心板尺寸图：

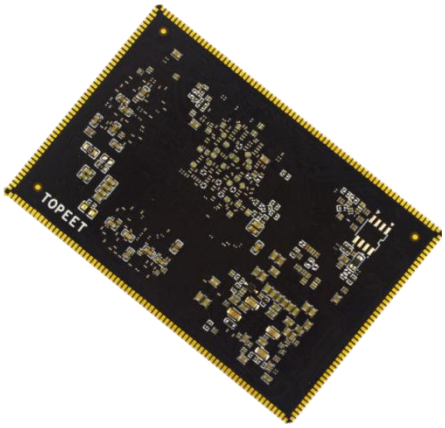


单位（MM）

邮票孔核心板图片：

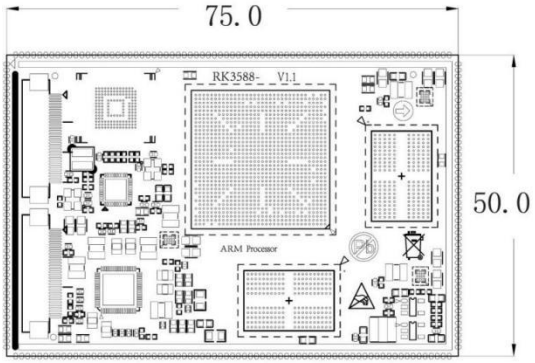


核心板正面图



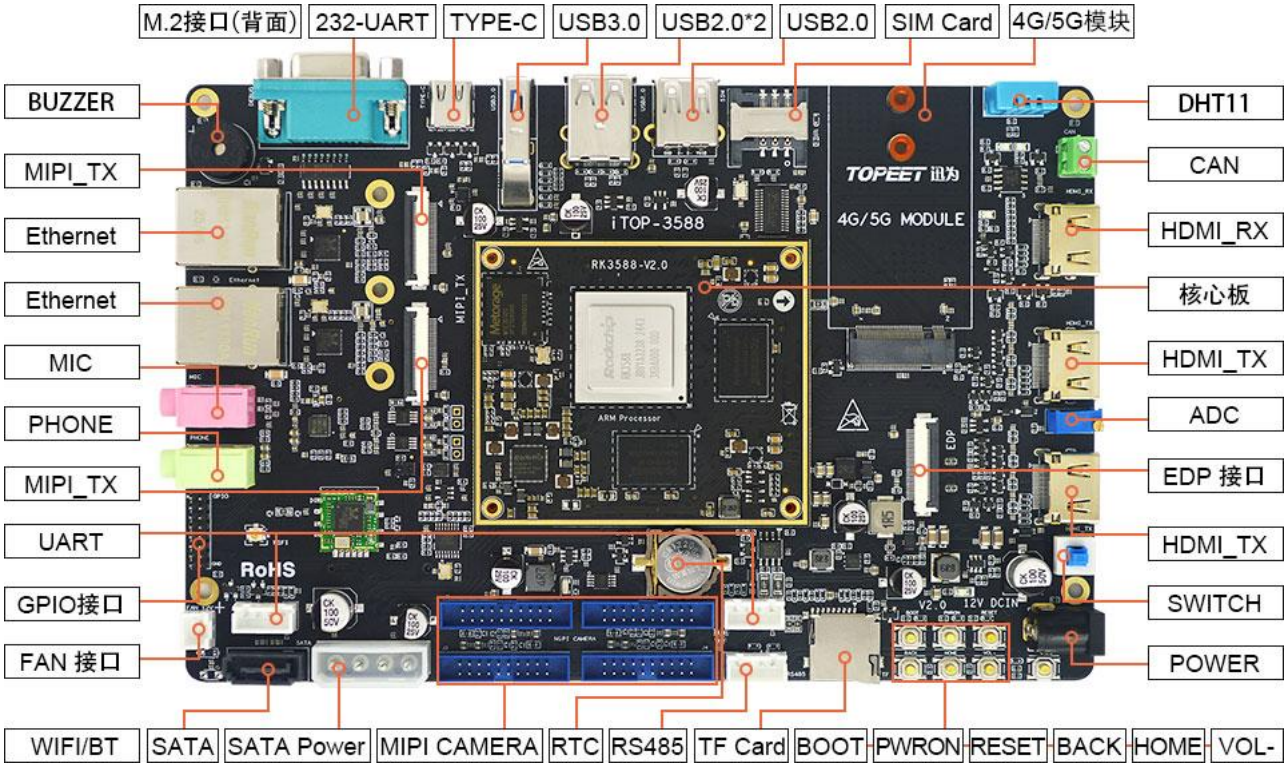
核心板背面图

邮票孔核心板尺寸图：

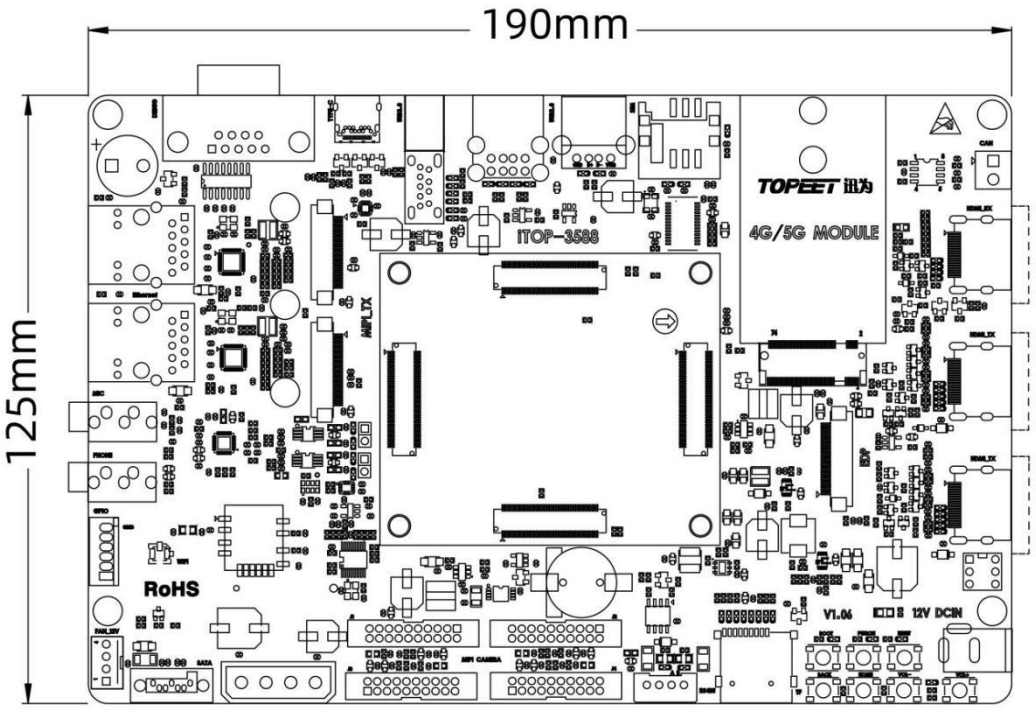


单位（MM）

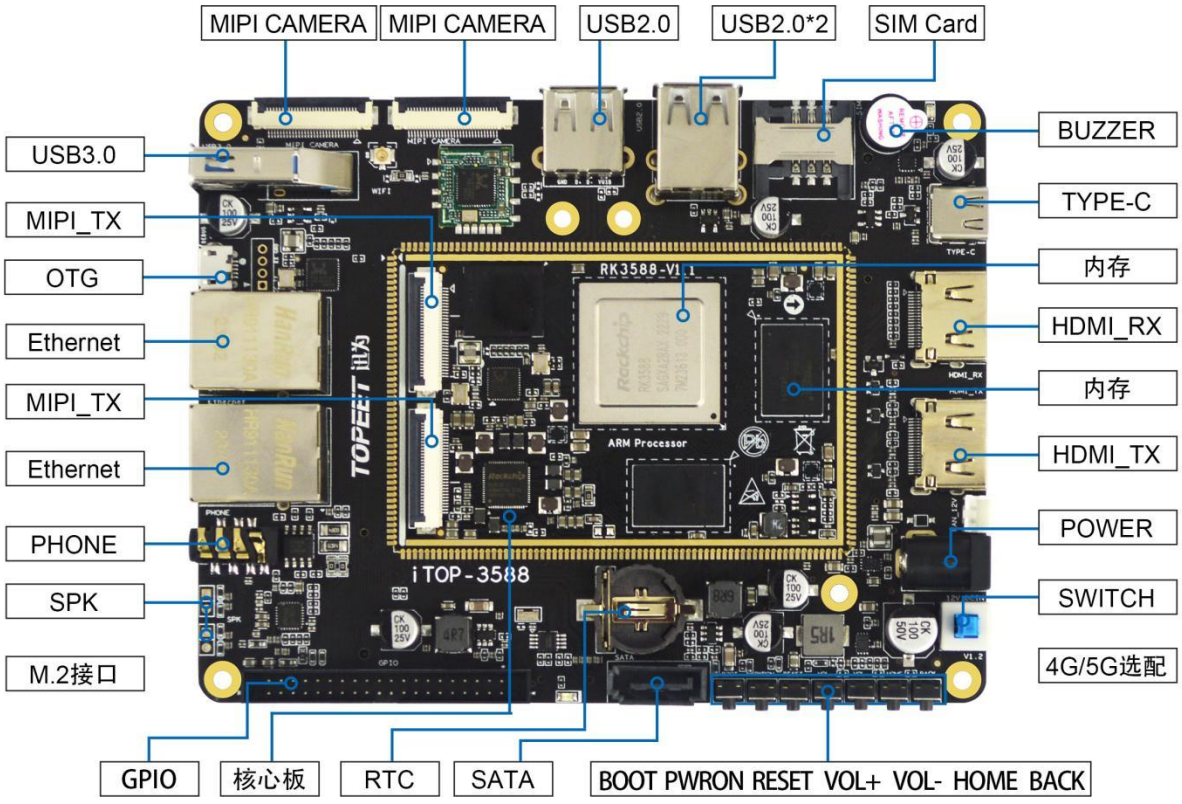
iTOP-RK3588 开发板（连接器版本）



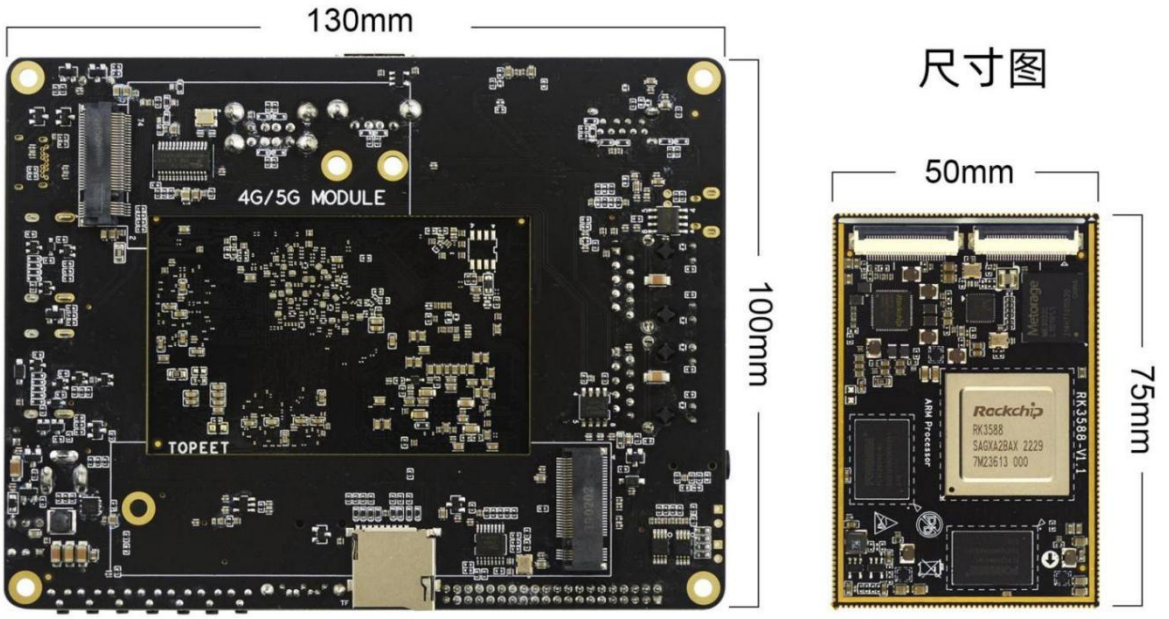
开发板尺寸图：



iTOP-RK3588 开发板（邮票孔版本）



开发板尺寸图：



底板参数：

尺寸	连接器版本 190mm*125mm，邮票孔版本 130mm*100mm
POWER	电直流电源输入接口，12V/2A 电源输入
SWITCH	电源开关
HDMI	2 路 HDMITX 高清输出接口， 1 路 HDMLRX 高清输入
MIPI_TX	2 路
EDP	1
4G/5G 模块	支持 4G 模块和 5G 模块
PCIE3.0 接口	1 个 M.2 接口可用于 PCIE 接口设备扩展
SIM 卡槽	1 个
USB2.0	3 路
USB3.0	1
TYPE-C	1
串口	1 路 RS232 调试串口
网口	2 路 1000Mbps 以太网，R45 接口
NPU	电直流电源输入接口，12V/2A 电源输入
WIFI 蓝牙	支持
SATA3.0 接口	1 个

SATA 电源接口	SATA 电源接口
MIPI CAMERA	4 路 MIPI-CSI 接口
MIC	支持 MIC 输入
PHONE	支持耳机输出
CAN	1
RS485	1
BUZZER	1 个蜂鸣器
FAN 接口	1
GPIO 接口	1
TF 卡	1 路
按键	7 个
RTC	实时时钟
DHT11	DHT11 温湿度传感器
ADC	1 个

软件参数：

内核版本	5.10 版本
Uboot 版本	2017.09 版本
系统支持	Android13 和 12、Debian11、Buildroot、Ubuntu20 与 22 银河麒麟(付费)、开放麒麟、openEuler24.03 系统。

功耗：

RK3588(12V)		
测试系统	buildroot（稳定）	安卓 12（稳定）
正常不带屏	0.223A	0.204A
正常带屏（7 寸 MIPI）	0.304A	0.295A
启动峰值电流	0.432A	0.642A
休眠		0.116A
带屏压力测试（7 寸 MIPI）		1.1A

【连接器核心板版本】引脚定义复用关系：

注意事项：

1、PIN 的复用同时只能选用一个功能使用

2、PIN 脚需要注意两种电平 1.8V 和 3.3V ，IO 电平要与对接外设芯片/器件的 IO 电平保持一致。

3、GPIOx_xx_u 其中_u 表示这个 IO 复位默认状态为内部上拉

GPIOx_xx_d 其中_d 表示这个 IO 复位默认状态为内部下拉

GPIOx_xx_z 其中_z 表示这个 IO 复位默认状态为高阻

4、各功能 name 后缀有加_M0 或 M1 或_M2 代表同一个功能复用到不同 IO 上，同时只能选择其中一个， 比 如选择 UART2 功 能时，必 须选 择 UART2_TX_M0 和 UART2_RX_M0 组 合，不支 持 UART2_TX_M0 和 UART2_RX_M1 组合，对所有功能有不同 IOMUX 的都是这样的约束。 另外 UART2 表示只有一个 UART2 控制器，不能既使用 UART2_M0 又使用 UART2_M1。

核心板 pin 脚复用关系：

1.1 up con

PIN NUMBER	引脚名称	Function 1	Function 2	Function 3	Function 4	Function 5	Function 6	Function 7	Function 8	Function 9	电平标准
1	MIPI_DPHY0_TX_D3N	MIPI_CPHY0_TX_TRIO2_C									
2	GND										
3	MIPI_DPHY0_TX_D3P										
4	MIPI_DPHY0_RX_CLKP	MIPI_CPHY0_RX_TRIO1_C									
5	MIPI_DPHY0_TX_D2N	MIPI_CPHY0_TX_TRIO2_A									
6	MIPI_DPHY0_RX_CLKN	MIPI_CPHY0_RX_TRIO1_B									
7	MIPI_DPHY0_TX_D2P	MIPI_CPHY0_TX_TRIO2_B									
8	MIPI_DPHY0_RX_D0P	MIPI_CPHY0_RX_TRIO0_B									
9	MIPI_DPHY0_TX_CLKN	MIPI_CPHY0_TX_TRIO1_B									
10	MIPI_DPHY0_RX_D0N	MIPI_CPHY0_RX_TRIO0_A									
11	MIPI_DPHY0_TX_CLKP	MIPI_CPHY0_TX_TRIO1_C									
12	MIPI_DPHY0_RX_D1P	MIPI_CPHY0_RX_TRIO1_A									
13	MIPI_DPHY0_TX_D1N	MIPI_CPHY0_TX_TRIO0_C									

14	MIPI_DPHY0_RX_D1N	/MIPI_CPHY0_RX_TRIO0_C									
15	MIPI_DPHY0_TX_D1P	MIPI_CPHY0_TX_TRIO1_A									
16	MIPI_DPHY0_RX_D2P	MIPI_CPHY0_RX_TRIO2_B									
17	MIPI_DPHY0_TX_D0N	MIPI_CPHY0_TX_TRIO0_A									
18	MIPI_DPHY0_RX_D2N	MIPI_CPHY0_RX_TRIO2_A									
19	MIPI_DPHY0_TX_D0P	MIPI_CPHY0_TX_TRIO0_B									
20	MIPI_DPHY0_RX_D3P	-									
21	GND	-									
22	MIPI_DPHY0_RX_D3N	/MIPI_CPHY0_RX_TRIO2_C									
23	LCD_BL_PWM1	PDM0_CLK0_M1	PWM1_M0	I2C2_SDA_M0	CAN0_RX_M0	SPI0_MOSI_M0	/PCIE30X1_0_CLKREQN_M0	GPIO0_C0_d			3.3V
24	GND										
25	MIPI_CAM1/2_RESET_L	HDMI_TX1_SDA_M2	I2C4_SCL_M3	UART6_CTSN_M1	PWM1_M2	SPI4_CS0_M2	GPIO1_A3_d				3.3V
26	MIPI_DPHY1_TX_D0P	MIPI_DPHY1_TX_D0P	MIPI_CPHY1_TX_TRIO0_B								
27	MIPI_CAM1_PDN_L	VOP_POST_EMPTY	I2C4_SDA_M3	UART6_RTSN_M1	PWM0_M2	SPI4_CLK_M2	GPIO1_A2_d				1.8V
28	MIPI_DPHY1_TX_D0N	MIPI_DPHY1_TX_D0N	MIPI_CPHY1_TX_TRIO0_A								

29	MIPI_CAM1_PWREN_H	I2S0_SDO3	/I2S0_SDI2	/PDM0_SDI2_M0	I2C1_SCL_M4	UART4_TX_M0	PWM0_M1	SPI1_CLK_M2	GPIO1_D2_d		1.8V
30	MIPI_DPHY1_TX_D1P	MIPI_DPHY1_TX_D1P	MIPI_CPHY1_TX_TRIO1_A								
31	I2C5_SDA_M0_TP	CIF_D12	PCIE20X1_2_WAKEN_M0	HDMI_TX0_SDA_M2	I2C5_SDA_M0	UART4_RX_M1	/PWM8_M2	/SPI3_CLK_M3	GPIO3_D0_		3.3V
32	MIPI_DPHY1_TX_D1N	MIPI_DPHY1_TX_D1N	MIPI_CPHY1_TX_TRIO0_C								
33	I2C5_SCL_M0_TP	PCIF_D11	PCIE20X1_2_CLKREQN_M0	HDMI_TX0_SCL_M2	I2C5_SCL_M0	SPI3_MOSI_M3	GPIO3_C7_u				3.3V
34	MIPI_DPHY1_TX_CLKP	MIPI_DPHY1_TX_CLKP	MIPI_CPHY1_TX_TRIO1_C								
35	TP_RST_L	GMAC1_PPSCLK	PCIE30X2_BUTTON_RSTN	UART7_RX_M1	SPI1_CLK_M1	GPIO3_C1_d					3.3V
36	MIPI_DPHY1_TX_CLKN	MIPI_DPHY1_TX_CLKN/	MIPI_CPHY1_TX_TRIO1_B								
37	TP_INT_L	GMAC1_PPSTRIG	I2C3_SDA_M1	/UART7_TX_M1	/SPI1_MISO_M1	GPIO3_C0_d					3.3V
38	MIPI_DPHY1_TX_D2P	MIPI_DPHY1_TX_D2P	MIPI_CPHY1_TX_TRIO2_B								
39	GND										
40	MIPI_DPHY1_TX_D2N	MIPI_DPHY1_TX_D2N	MIPI_CPHY1_TX_TRIO2_A								
41	MIPI_DPHY1_RX_D3P	MIPI_DPHY1_RX_D3P									
42	MIPI_DPHY1_TX_D3P	MIPI_DPHY1_TX_D3P									
43	MIPI_DPHY1_RX_D3N	MIPI_DPHY1_RX_D3N	MIPI_CPHY1_RX_TRIO2_C								

44	MIPI_DPHY1_TX_D3N	MIPI_DPHY1_TX_D3N	MIPI_CPHY1_TX_TRIO2_C								
45	MIPI_DPHY1_RX_D2P	MIPI_DPHY1_RX_D2P	MIPI_CPHY1_RX_TRIO2_B								
46	GND										
47	MIPI_DPHY1_RX_D2N	MIPI_DPHY1_RX_D2N	MIPI_CPHY1_RX_TRIO2_A								
48	CC_INT_L	LITCPU_AVS	SPI3_CLK_M2	/GPIO0_D3_u							3.3V
49	MIPI_DPHY1_RX_CLKP	MIPI_DPHY1_RX_CLKP	MIPI_CPHY1_RX_TRIO1_C								
50	TYPEC0_SBU1	TYPEC0_SBU1	DP0_AUXP								
51	MIPI_DPHY1_RX_CLKN	MIPI_DPHY1_RX_CLKN	MIPI_CPHY1_RX_TRIO1_B								
52	TYPEC0_SBU2	TYPEC0_SBU2	DP0_AUXN								
53	GND										
54	TYPEC0_USB20_VBUSDET	TYPEC0_USB20_VBUSDET									
55	MIPI_DPHY1_RX_D1P	MIPI_DPHY1_RX_D1P	MIPI_CPHY1_RX_TRIO1_A								
56	TYPEC0_SSTX2P	TYPEC0_SSTX2P	DP0_TX3P								
57	MIPI_DPHY1_RX_D1N	MIPI_DPHY1_RX_D1N	MIPI_CPHY1_RX_TRIO0_C								
58	TYPEC0_SSTX2N	TYPEC0_SSTX2N	DP0_TX3N								
59	MIPI_DPHY1_RX_D0P	MIPI_DPHY1_RX_D0P	MIPI_CPHY1_RX_TRIO0_B								

60	TYPEC0_SSRX2P	TYPEC0_SSRX2P	DP0_TX2P								
61	MIPI_DPHY1_RX_D0N	MIPI_DPHY1_RX_D0N	MIPI_CPHY1_RX_TRIO0_A								
62	TYPEC0_SSRX2N	TYPEC0_SSRX2N	DP0_TX2N								
63	TYPEC0_USB20_OTG_ID	TYPEC0_USB20_OTG_ID									
64	GND										
65	GND										
66	TYPEC0_SSRX1P	TYPEC0_SSRX1P	DP0_TX0P								
67	PCIEX1_1_CLKREQn_M1_L	CIF_D0	BT1120_D0	/I2S1_MCLK_M0	PCIE30X1_1_CLKREQN_M1/	UART9_RTSN_M1	SPI0_MISO_M1	GPIO4_A0_d			3.3V
68	TYPEC0_SSRX1N	TYPEC0_SSRX1N	DP0_TX0N								
69	PCIEX1_1_WAKEn_M1_L/GPIO4_A1	CIF_D1	BT1120_D1	/I2S1_SCLK_M0	/PCIE30X1_1_WAKEN_M1	UART9_CTSN_M1	SPI0_MOSI_M1	GPIO4_A1_d			3.3V
70	TYPEC0_SSTX1P	TYPEC0_SSTX1P	DP0_TX1P								
71	UART0_RX_M2	CIF_D4	BT1120_D4	PCIE30X1_0_WAKEN_M1	/I2C3_SCL_M2	UART0_RX_M2/	SPI2_MISO_M1	GPIO4_A4_d			3.3V
72	TYPEC0_SSTX1N	TYPEC0_SSTX1N	DP0_TX1N								
73	PCIE30X4_PRSNT_L/GPIO4_B3	CIF_VSYNC	BT1120_D9	I2S1_SDO2_M0	PCIE20X1_2_BUTTON_RSTN	I2C7_SDA_M3	UART8_CTSN_M0	/PWM15_IR_M1	CAN1_TX_M1	GPIO4_B3_u	3.3V
74	TYPEC0_SBU1_DC	CIF_D6	BT1120_D6	/I2S1_SDI1_M0	PCIE30X2_CLKREQN_M1	I2C5_SCL_M2	UART3_RX_M2	SPI2_CLK_M1	GPIO4_A6_d		3.3V

75	PCIE30X4_WAKEn_M1_L/GPIO4_B5	BT1120_D11	PCIE30X4_WAKEN_M1	/HDMI_RX_CEC_M0	SATA1_ACT_LED_M0	UART9_RX_M1	PWM12_M1	SPI3_MISO_M1	GPIO4_B5_d		3.3V
76	TYPEC0_SBU2_DC	CIF_D7	BT1120_D7	I2S1_SDI2_M0	PCIE30X2_WAKEN_M1	I2C5_SDA_M2	/SPI2_CS0_M1	GPIO4_A7_d			3.3V
77	PCIE30X4_CLKREQn_M1_L	CIF_CLKOUT	BT1120_D10/	I2S1_SDO3_M0	/PCIE30X4_CLKREQN_M1	/DP0_HPDIN_M0	/SPDIF0_TX_M1	/UART9_TX_M1	PWM11_IR_M1	GPIO4_B4_u	3.3V
78	TYPEC0_OTG_DP	TYPEC0_OTG_DP									
79	PCIE30X4_PERSTn_M1_L	BT1120_D12	PCIE30X4_PERSTN_M1	HDMI_RX_HPDIN_M0	SATA0_ACT_D_M0	/I2C5_SCL_M1	PWM13_M1	SPI3_MOSI_M1	GPIO4_B6_d		3.3V
80	TYPEC0_OTG_DM	TYPEC0_OTG_DM									

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PIN NUMBER	引脚名称	Function1	Function2	Function3	Function4	Function5	Function6	Function7	Function8	电平标准
1	GND									
2	PCIE20_1_REFCLKP	PCIE20_1_REFCLKP								
3	PCIE30_PORT0_RX1N	PCIE30_PORT0_RX1N								
4	PCIE20_1_REFCLKN	PCIE20_1_REFCLKN								
5	PCIE30_PORT0_RX1P	PCIE30_PORT0_RX1P								
6	GND									
7	PCIE30_PORT0_TX1N	PCIE30_PORT0_TX1N								
8	PCIE20_1_TXP/SATA30_1_TXP	PCIE20_1_TXP/SATA30_1_TXP								

9	PCIE30_PORT0_TX1P	PCIE30_PORT0_TX1P								
10	PCIE20_1_TXN/SATA30_1_TXN	PCIE20_1_TXN/SATA30_1_TXN								
11	PCIE30_PORT0_RXON	PCIE30_PORT0_RXON								
12	PCIE20_1_RXP/SATA30_1_RXP	PCIE20_1_RXP/SATA30_1_RXP								
13	PCIE30_PORT0_RXOP									
14	PCIE20_1_RXN/SATA30_1_RXN	PCIE20_1_RXN/SATA30_1_RXN								
15	PCIE30_PORT0_TXON	PCIE30_PORT0_TXON								
16	MIPI_CAM1_CLKOUT	MIPI_CAMERA1_CLK_M0	SPDIF0_TX_M0	PCIE30X2_WAKEN_M3	HDMI_RX_HPDIN_M2	/I2C5_SCL_M3	UART1_TX_M1	GPIO1_B6_u		1.8V
17	PCIE30_PORT0_TXOP	PCIE30_PORT0_TXOP								
18	I2S0_MCLK	I2S0_MCLK	I2C6_SDA_M1	UART3_RTSN	PWM3_IR_M2	SPI4_CLK_M0	GPIO1_C2__d			1.8V
19	PCIE30_PORT0_REFCLKN_IN	PCIE30_PORT0_REFCLKN_IN								
20	HP_DET_L	PDM0_CLK1_M0	/I2C2_SDA_M3	PWM11_IR_M2	SPI4_CS1_M0	GPIO1_C4_d				1.8V
21	PCIE30_PORT0_REFCLKP_IN	PCIE30_PORT0_REFCLKP_IN								
22	I2S0_SCLK_TX	I2S0_SCLK	I2C6_SCL_M1	/UART3_CTSN	/PWM7_IR_M2	SPI4_CS0_M0	GPIO1_C3_d			1.8V
23	GND									
24	I2S0_LRCK_TX	I2S0_LRCK	/I2C2_SCL_M3	/UART4_RTSN	GPIO1_C5_d					1.8V

25	PCIE30_PORT1_RX3N	PCIE30_PORT1_RX3N								
26	I2S0_SDO0	I2S0_SDO0	/I2C4_SCL_M4	/UART4_CTSN	GPIO1_C7_d					1.8V
27	PCIE30_PORT1_RX3P	PCIE30_PORT1_RX3P								
28	I2S0_SDI0	I2S0_SDI0	GPIO1_D4_d							1.8V
29	PCIE30_PORT1_TX3N	PCIE30_PORT1_TX3N								
30	GND									
31	PCIE30_PORT1_TX3P	PCIE30_PORT1_TX3P								
32	PWM15_M2	PDM0_CLK0_M0	/I2C4_SDA_M4	/PWM15_IR_M2	GPIO1_C6_d					1.8V
33	PCIE30_PORT1_RX2N	PCIE30_PORT1_RX2N								
34	PCIEx1_0_WAKEn_M1_L/GPIO1_B3	PDM1_CLK1_M1	PCIE30X1_0_WAKEN_M2	SATA0_ACT_LED_M1	UART4_TX_M2	SPI0_CLK_M2	GPIO1_B3_d			1.8V
35	PCIE30_PORT1_RX2P	PCIE30_PORT1_RX2P								
36	MIPI_CAM4_PDN_L	PDM1_SDI1_M1	PCIE30X4_CLKREQN_M3/	/SPI2_CS1_M0	GPIO1_B0_u					1.8V
37	PCIE30_PORT1_TX2N	PCIE30_PORT1_TX2N								
38	MIPI_CAM3_PWREN_H	PDM1_SDI3_M1	PCIE30X4_PERSTN_M3/	UART4_RX_M2	SPI0_MOSI_M2	GPIO1_B2_d				1.8V
39	PCIE30_PORT1_TX2P	PCIE30_PORT1_TX2P								
40	I2C7_SDA_M0_CODEC	I2S0_SDO2/	I2S0_SDI3	/PDM0_SDI1_M0	I2C7_SDA_M0	UART6_RX_M2	/SPI1_MOSI_M2	GPIO1_D1_d		1.8V
41	PCIE30_PORT1_REFCLKN_I	PCIE30_PORT1_REFCLKN_I								

	N	N								
42	I2C7_SCL_M0_CODEC	I2S0_SDO1	I2C7_SCL_M0	/UART6_TX_M2	/SPI1_MISO_M2	GPIO1_D0_d				1.8V
43	PCIE30_PORT1_REFCLKP_IN	PCIE30_PORT1_REFCLKP_IN								
44	MIPI_CAM4_CLKOUT	MIPI_CAMERA4_CLK_M0	PCIE30X2_CLKREQN_M3	HDMI_RX_SDA_M2	I2C8_SDA_M2	UART1_CTSN_M1	PWM15_IR_M3	GPIO1_D7_u		1.8V
45	GND									
46	MIPI_CAM4_PWREN_H	PDM1_SDI2_M1/	PCIE30X4_WAKEN_M3	SPI0_MISO_M2	GPIO1_B1_d					1.8V
47	PCIE20_2_REFCLKP	PCIE20_2_REFCLKP								
48	MIPI_CAM3_PDN_L	PDM1_SDI0_M1	/PCIE30X1_1_PERSTN_M2/	PWM3_IR_M3	SPI2_CS0_M0	GPIO1_A7_u				1.8V
49	PCIE20_2_REFCLKN	PCIE20_2_REFCLKN								
50	PCIEx1_0_CLKREQn_M1_L	PCIE30X1_0_CLKREQN_M2	UART7_TX_M2	SPI0_CS1_M2	GPIO1_B5_u					1.8V
51	PCIE20_2_TXP/SATA30_2_TXP	PCIE20_2_TXP/SATA30_2_TXP	USB30_2_SSTXP							
52	PCIEx1_0_PERSTn_M1_L	PDM1_CLK0_M1	PCIE30X1_0_PERSTN_M2	UART7_RX_M2/	SPI0_CS0_M2	GPIO1_B4_u				1.8V
53	PCIE20_2_TXN/SATA30_2_TXN	PCIE20_2_TXN/SATA30_2_TXN	USB30_2_SSTXN							
54	GND									
55	PCIE20_2_RXP/SATA30_2_RXP	PCIE20_2_RXP/SATA30_2_RXP	USB30_2_SSRXP							
56	MIPI_CAM3_CLKOUT	MIPI_CAMERA3_CLK_M0	HDMI_RX_SCL_M2	I2C8_SCL_M2/	UART1_RTSN_M1/	PWM14_M2	GPIO1_D6_u			1.8V

57	PCIE20_2_RXN/SATA30_2_RXN	PCIE20_2_RXN/SATA30_2_RXN	USB30_2_SSRXN							
58	MIPI_CAM2_PDN_L	HDMI_TX1_SCL_M2	SPI2_MISO_M0/	GPIO1_A4_d						1.8V
59	WIFI_REG_ON_H	PDM0_CLK1_M1	PWM2_M0	UART0_RX_M0	I2C4_SDA_M2	/DP0_HPDIN_M1	PCIE30X1_0_WAKEN_M0	GPIO0_C4_d		3.3V
60	HOST_WAKE_BT_H	I2S1_SDI0_M1	GPU_AVS/	UART0_TX_M0	I2C4_SCL_M2	DP1_HPDIN_M1	/PWM4_M0	/PCIE30X1_0_PERSTN_M0	GPIO0_C5_u	3.3V
61	BT_REG_ON_H	I2S1_SDI1_M1	NPU_AVS	UART0_RTSN	PWM5_M1	SPI0_CLK_M0	PCIE30X4_CLKREQN_M0	/SATA_CP_POD	GPIO0_C6_u	3.3V
62	SDMMC_PWREN	I2S1_LRCK_M1	PWM0_M0	I2C2_SCL_M0	CAN0_TX_M0	SPI0_CS1_M0	PCIE30X1_1_PERSTN_M0	GPIO0_B7_d		3.3V
63	GND									
64	I2C2_SDA_M4	PCIE30X1_1_CLKREQN_M2	DP0_HPDIN_M2	I2C2_SDA_M4	UART6_RX_M1	SPI4_MISO_M2	GPIO1_A0_d			1.8V
65	GND									
66	I2C2_SCL_M4	PCIE30X1_1_WAKEN_M2	/DP1_HPDIN_M2	SATA1_ACT_LED_M1	/I2C2_SCL_M4	UART6_TX_M1	SPI4_MOSI_M2	/GPIO1_A1_d		1.8V
67	GND									
68	RESET_L	RESET_L								
69	GND									
70	PWRON_L	PWRON_L								
71	VCC4V0_SYS									
72	RTC_INT_L	SPI2_CS1_M2	/I2C1_SCL_M1	UART0_RX_M1	GPIO0_B0_z					1.8V

73	VCC4V0_SYS									
74	I2C6_SDA_M0	I2C6_SDA_M0	UART1_RTSN_M2							
75	VCC4V0_SYS									
76	I2C6_SCL_M0	I2S1_SDI3_M1	/PDM0_SDI1_M1	I2C6_SCL_M0	UART1_CTSN_M2	PWM7_IR_M0	SPI3_MISO_M2	PCIE30X4_PERSTN_M0	/GPIO0_D0_d	3.3V
77	VCC4V0_SYS									
78	UART0_TX_M2	CIF_D3	BT1120_D3	/PCIE30X1_0_CLKREQN_M1	UART0_TX_M2	GPIO4_A3_d				3.3V
79	VCC4V0_SYS									
80	GND									

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PIN NUMBER	引脚名称	Function 1	Function 2	Function 3	Function 4	Function 5	Function 6	Function 7	Function 8	Function 9	电平
1	GND										
2	MIPI_CSI0_RX_CLK0P	MIPI_CSI0_RX_CLK0P									
3	UART9_RX_M0_BT	GMAC0_PPSCLK	TEST_CLKOUT_M1	HDMI_TX1_CEC_M0	/UART9_RX_M0	/SPI1_CS1_M0	GPIO2_C4_d				1.8V
4	MIPI_CSI0_RX_CLK0N	MIPI_CSI0_RX_CLK0N									
5	I2S2_SDI_M0_BT	ETH0_REFCLKO_25M	/I2S2_SDI_M0	I2C6_SCL_M2	/SPI1_CS0_M0	GPIO2_C3_d					1.8V
6	MIPI_CSI0_RX_D0P	MIPI_CSI0_RX_D0P									
7	I2S2_SDO_M0_BT	GMAC0_MCLKINOUT	/I2S2_SDO_M0	/I2C7_SCL_M1	PWM4_M1	SPI3_CS1_M0	GPIO4_C3_d				1.8V

8	MIPI_CSI0_RX_DON	MIPI_CSI0_RX_DON									
9	UART9_CTSn_M0_BT	GMAC0_MDIO	/I2C0_SCL_M1	/UART9_CTSN_M0	PWM6_M2	SPI3_MOSI_M0	GPIO4_C5_d				1.8V
10	GND										
11	UART9_RTSn_M0_BT	GMAC0_MDC	/I2C7_SDA_M1	UART9_RTSN_M0	/PWM5_M2	SPI3_MISO_M0	GPIO4_C4_d				1.8V
12	MIPI_CSI0_RX_D1P	MIPI_CSI0_RX_D1P									
13	GND										
14	MIPI_CSI0_RX_D1N	MIPI_CSI0_RX_D1N									
15	I2C4_SCL_M1_SENSOR	GMAC0_PPSTRING	FSPI_CS1N_M1	HDMI_TX1_SCL_M0	I2C4_SCL_M1/	UART7_TX_M0	GPIO2_B5_u				1.8V
16	MIPI_CSI0_RX_D2P	MIPI_CSI0_RX_D2P									
17	I2C4_SDA_M1_SENSOR	GMAC0_PTP_REFCLK	/FSPI_CSON_M1	HDMI_TX1_SDA_M0	I2C4_SDA_M1	UART7_RX_M0	GPIO2_B4_u				1.8V
18	MIPI_CSI0_RX_D2N	MIPI_CSI0_RX_D2N									
19	I2S2_LRCK_M0_BT	GMAC0_TXEN	I2S2_LRCK_M0	/I2C2_SDA_M1	/UART1_RTSN_M0	SPI1_CLK_M0	GPIO2_C0_d				1.8V
20	MIPI_CSI0_RX_D3P	MIPI_CSI0_RX_D3P									
21	SDIO_CMD_M0_WIFI	GMAC0_TXD3	SDIO_CMD_M0	/I2C3_SCL_M3	GPIO2_B2_u						1.8V
22	MIPI_CSI0_RX_D3N	MIPI_CSI0_RX_D3N									
23	SDIO_D3_M0_WIFI	GMAC0_TXD2	/SDIO_D3_M0	/FSPI_D3_M1	/I2C8_SDA_M1	UART6_CTSN_M0	GPIO2_B1_u				1.8V

24	GND										
25	I2S2_SCLK_M0_BT	GMAC0_TXD1	/I2S2_SCLK_M0	I2C5_SDA_M4/	/UART1_TX_M0	GPIO2_B7_d					1.8V
26	MIPI_CSI1_RX_CLK0P	MIPI_CSI1_RX_CLK0P									
27	GMAC0_TXD0	GMAC0_TXD0	/I2S2_MCLK_M0	/I2C5_SCL_M4	UART1_RX_M0	/GPIO2_B6_d					1.8V
28	MIPI_CSI1_RX_CLK0N	MIPI_CSI1_RX_CLK0N									
29	SDIO_CLK_M0_WIFI	GMAC0_TXCLK	/SDIO_CLK_M0	/FSPI_CLK_M1/	/I2C3_SDA_M3	GPIO2_B3_d					1.8V
30	MIPI_CSI1_RX_D0P	MIPI_CSI1_RX_D0P									
31	GMAC0_RXDV_CRS	GMAC0_RXDV_CRS	/UART7_RTSN_M0	/PWM2_M2	SPI3_CS0_M0	GPIO4_C2_d					1.8V
32	MIPI_CSI1_RX_D0N	MIPI_CSI1_RX_D0N									
33	SDIO_D2_M0_WIFI	GMAC0_RXCLK	/SDIO_D2_M0/	FSPI_D2_M1/	I2C8_SCL_M1	UART6_RTSN_M0	GPIO2_B0_u				1.8V
34	MIPI_CSI1_RX_D1P	MIPI_CSI1_RX_D1P									
35	SDIO_D1_M0_WIFI	GMAC0_RXD3	/SDIO_D1_M0	FSPI_D1_M1	UART6_TX_M0	GPIO2_A7_u					1.8V
36	MIPI_CSI1_RX_D1N	MIPI_CSI1_RX_D1N									
37	SDIO_D0_M0_WIFI	GMAC0_RXD2	SDIO_D0_M0	FSPI_D0_M1	UART6_RX_M0	GPIO2_A6_u					1.8V
38	MIPI_CSI1_RX_D2P	MIPI_CSI1_RX_D2P									
39	UART9_TX_M0_BT	GMAC0_RXD1	I2C6_SDA_M2	/UART9_TX_M0/	SPI1_MOSI_M0	GPIO2_C2_d					1.8V

40	MIPI_CSI1_RX_D2N	MIPI_CSI1_RX_D2N									
41	GMAC0_RXD0	GMAC0_RXD0	I2C2_SCL_M1	UART1_CTSN_M0/	SPI1_MISO_M0	GPIO2_C1_d					1.8V
42	MIPI_CSI1_RX_D3P	MIPI_CSI1_RX_D3P									
43	GND										
44	MIPI_CSI1_RX_D3N	MIPI_CSI1_RX_D3N									
45	ETH1_REFCLKO_25M	ETH1_REFCLKO_25M	MIPI_CAMERA1_CLK_M1	I2C4_SCL_M0	GPIO3_A6_d						3.3V
46	GND										
47	GMAC1_MCLKINOUT	GMAC1_MCLKINOUT	/I2S2_LRCK_M1	CAN1_TX_M0	UART3_RX_M1	PWM13_M0/	GPIO3_B6_d				3.3V
48	I2C3_SDA_M0	I2C3_SDA_M0	UART3_RX_M0	SPI4_MISO_M0	GPIO1_C0_z						1.8V
49	GMAC1_MDIO	GMAC1_MDIO	/MIPI_TE1	I2C8_SDA_M4	/UART7_CTSN_M1	/PWM15_IR_M0	SPI1_CS1_M1	GPIO3_C3_d			3.3V
50	I2C3_SCL_M0	I2C3_SCL_M0	/UART3_TX_M0/	SPI4_MOSI_M0	/GPIO1_C1_z						1.8V
51	GMAC1_MDC	GMAC1_MDC	MIPI_TE0	/I2C8_SCL_M4	UART7_RTSN_M1	PWM14_M0	SPI1_CS0_M1	/GPIO3_C2_d			3.3V
52	PCIE20_0_TXP/SATA30_0_TXP	PCIE20_0_TXP/SATA30_0_TXP									
53	GMAC1_RSTn_L	GMAC1_PTP_REF_CLK	/HDMI_TX1_HPD_M1	I2C3_SCL_M1/	SPI1_MOSI_M1	GPIO3_B7_d					3.3V
54	PCIE20_0_TXN/SATA30_0_TXN	PCIE20_0_TXN/SATA30_0_TXN									

55	GMAC1_TXEN	GMAC1_TXEN	/I2S2_SCLK_M1	CAN1_RX_M0	UART3_TX_M1	PWM12_M0	GPIO3_B5_u				3.3V
56	PCIE20_0_RXP/SATA30_0_RXP	PCIE20_0_RXP/SATA30_0_RXP									
57	GMAC1_TXD3	GMAC1_TXD3	/SDIO_D1_M1/	I2S3_SCLK/	AUDDSM_LN	FSPI_D1_M2/	/I2C6_SCL_M4	PWM11_IR_M0	SPI4_MOSI_M1	GPIO3_A1_u	3.3V
58	PCIE20_0_RXN/SATA30_0_RXN	PCIE20_0_RXN/SATA30_0_RXN									
59	GMAC1_TXD2	GMAC1_TXD2	SDIO_D0_M1	/I2S3_MCLK	/FSPI_D0_M2	I2C6_SDA_M4	/PWM10_M0/	SPI4_MISO_M1	GPIO3_A0_u		3.3V
60	GND										
61	GMAC1_TXD1	GMAC1_TXD1	I2S2_MCLK_M1	UART2_CTSN	/GPIO3_B4_u						3.3V
62	UART2_RX_M0_DEBUG	I2S1_SCLK_M1	/JTAG_TMS_M2/	/I2C1_SDA_M0	/UART2_RX_M0	/PCIE30X1_1_WAKEN_M0	GPIO0_B6_d				3.3V
63	GMAC1_TXD0	GMAC1_TXD0/	I2S2_SDO_M1/	UART2_RTSN/	PIO3_B3_u						3.3V
64	UART2_TX_M0_DEBUG	I2S1_MCLK_M1	JTAG_TCK_M2	/I2C1_SCL_M0/	UART2_TX_M0	/PCIE30X1_1_CLKREQN_M0	GPIO0_B5_d				3.3V
65	GMAC1_TXCLK	GMAC1_TXCLK	SDIO_CMD_M1	I2S3_SDI	/AUDDSM_RP	UART8_RTSN_M1/	SPI4_CS1_M1	GPIO3_A4_d			3.3V
66	BT_WAKE_HOST_H	REFCLK_OUT	GPIO0_A0_d								1.8V
67	GND										
68	SDMMC_DET_L	GPIO0_A4_u									3.3V
69	GMAC1_RXDV_CRS	GMAC1_RXDV_CRS	MIPI_CAMERA4_CLK_M1/	UART2_TX_M2	/PWM2_M1	GPIO3_B1_d					3.3V

70	GSENSOR_INT_L	GMAC0_RXDV_CRS	UART7_RTSN_M0	PWM2_M2/	SPI3_CS0_M0	GPIO4_C2_d					1.8V
71	GMAC1_RXCLK	GMAC1_RXCLK/	SDIO_CLK_M1	MIPI_CAMERA0_CLK_M1	FSPI_CLK_M2	I2C4_SDA_M0	UART8_CTSN_M1	GPIO3_A5_d			3.3V
72	MIPI_CAM2_CLKOUT	MIPI_CAMERA2_CLK_M0	SPDIF1_TX_M0/	PCIE30X2_PERSTN_M3	HDMI_RX_CEC_M2	/SATA2_ACT_LED_M1	I2C5_SDA_M3	UART1_RX_M1	/PWM13_M2	GPIO1_B7_u	1.8V
73	GMAC1_RXD3	GMAC1_RXD3/	SDIO_D3_M1	I2S3_SDO	AUDDSM_RN	FSPI_D3_M2	UART8_RX_M1	/SPI4_CS0_M1	GPIO3_A3_u		3.3V
74	MIPI_CAM3/4_RESET_L	GMAC0_TXD0	/I2S2_MCLK_M0	/I2C5_SCL_M4/	/UART1_RX_M0/	GPIO2_B6_d					1.8V
75	GMAC1_RXD2	GMAC1_RXD2/	SDIO_D2_M1	/I2S3_LRCK	/AUDDSM_LP	/FSPI_D2_M2	UART8_TX_M1	SPI4_CLK_M1	GPIO3_A2_u		3.3V
76	SPK_CTL_H	CIF_D3/	BT1120_D3	/PCIE30X1_0_CLKREQN_M	/UART0_TX_M2/	GPIO4_A3_d					1.8V
77	GMAC1_RXD1	GMAC1_RXD1/	/MIPI_CAMERA3_CLK_M1	PWM9_M0	/GPIO3_B0_u						3.3V
78	PCIE_PWREN_H	CLK32K_OUT1	GPIO2_C5_d								1.8V
79	GMAC1_RXD0	PWM8_M0	MIPI_CAMERA2_CLK_M1	GPIO3_A7_u							3.3V
80	ALPS_INT_L	GMAC0_TXER	I2C0_SDA_M1	UART7_CTSN_M0	PWM7_IR_M3	SPI3_CLK_M0	GPIO4_C6_d				1.8V

1.4 right con

PIN NUMBER	引脚名称	Function1	Function2	Function3	Function4	Function5	Function6	Function7	Function8	Function9	Function10	电平标准
1	HDMITX1_HPDIN_M0	SPI2_CLK_M0	HDMI_TX1_HPD_M0	GPIO1_A6_d								1.8V
2	HDMI1_TX_ON_H	CIF_HREF	/BT1120_D8	/I2S1_SDO1_M0	PCIE30X1_1_BUTTON_RSTN	/I2C7_SCL_M3	UART8_RTSN_M0	PWM14_M1	SPI0_CS0_M1	CAN1_RX_M1	GPIO4_B2_u	3.3V

3	HDMITX1_CEC_M2	CIF_D8	/FSPI_CSON_M2	/PCIE30X4_CLKREQN_M2	/HDMI_TX1_CEC_M2/	CAN2_RX_M0	/UART5_TX_M1	/SPI3_CSO_M3/	GPIO3_C4_u			3.3V
4	HDMITX1_SDA_M1	CIF_D9	FSPI_CS1N_M2	PCIE30X4_WAKEN_M2	HDMI_TX1_SDA_M1	/CAN2_TX_M0	UART5_RX_M1/	SPI3_CS1_M3	GPIO3_C5_u			3.3V
5	USB_HOST_PWREN_H	CIF_CLKIN	BT1120_CLKOUT	/I2S1_SDI3_M0/	/PCIE30X2_PERSTN_M1/	/I2C6_SDA_M3	UART8_TX_M0	SPI2_CS1_M1	GPIO4_B0_d			3.3V
6	HDMITX1_SCL_M1	CIF_D10	PCIE30X4_PERSTN_M2	/HDMI_TX1_SCL_M1	SPI3_MISO_M3	GPIO3_C6_u						3.3V
7	USB20_HOST1_DP	USB20_HOST1_DP										
8	GND											
9	USB20_HOST1_DM	USB20_HOST1_DM										
10	HDMI1_TX3P_PORT/eDP1_TX_D3P	HDMI1_TX3P_PORT/eDP1_TX_D3P										
11	USB20_HOST0_DP											
12	HDMI1_TX3N_PORT/eDP1_TX_D3N	HDMI1_TX3N_PORT/eDP1_TX_D3N										
13	USB20_HOST0_DM	USB20_HOST0_DM										
14	HDMI1_TX2P_PORT/eDP1_TX_D2P	HDMI1_TX2P_PORT/eDP1_TX_D2P										
15	GND											
16	HDMI1_TX2N_PORT/eDP1_TX_D2N	HDMI1_TX2N_PORT/eDP1_TX_D2N										

17	HDMI_RX_D2P	HDMI_RX_D2P										
18	HDMI1_TX_SBDP/eDP1_TX_AUXP	HDMI1_TX_SBDP/eDP1_TX_AUXP										
19	HDMI_RX_D2N	HDMI_RX_D2N										
20	HDMI1_TX_SBDN/eDP1_TX_AUXN	HDMI1_TX_SBDN/eDP1_TX_AUXN										
21	HDMI_RX_D1P	HDMI_RX_D1P										
22	HDMI1_TX1P_POR T/eDP1_TX_D1P	HDMI1_TX1P_POR T/eDP1_TX_D1P										
23	HDMI_RX_D1N	HDMI_RX_D1N										
24	HDMI1_TX1N_POR T/eDP1_TX_D1N	HDMI1_TX1N_POR T/eDP1_TX_D1N										
25	HDMI_RX_D0P	HDMI_RX_D0P										
26	HDMI1_TX0P_POR T/eDP1_TX_D0P	HDMI1_TX0P_POR T/eDP1_TX_D0P										
27	HDMI_RX_D0N	HDMI_RX_D0N										
28	HDMI1_TX0N_POR T/eDP1_TX_D0N	HDMI1_TX0N_POR T/eDP1_TX_D0N										
29	GND											

30	GND											
31	HDMI_RX_CLKP	HDMI_RX_CLKP										
32	HDMITX0_HPDIN_M0	HDMI_TX0_HPD_M0/	/SPI2_MOSI_M0/	GPIO1_A5_d								
33	HDMI_RX_CLKN	HDMI_RX_CLKN										
34	HDMITX0_SDA_M0	BT1120_D14	PCIE20X1_2_WAKEN_M1	HDMI_TX0_SDA_M0	/I2C8_SCL_M3/	/SPI3_CS0_M1	GPIO4_C0_u					3.3V
35	HDMI_RX_CEC	CIF_D13	PCIE20X1_2_PERSTN_M0/	HDMI_RX_CEC_M1	UART4_TX_M1	/PWM9_M2	SPI0_MISO_M3	GPIO4_B5_d				3.3V
36	HDMITX0_SCL_M0	BT1120_D13	/PCIE20X1_2_CLKREQN_M1	HDMI_TX0_SCL_M0	I2C5_SDA_M1	SPI3_CLK_M1	GPIO4_B7_u					3.3V
37	HDMI_RX_SCL_M1	CIF_D14/	PCIE30X2_CLKREQN_M2	HDMI_RX_SCL_M1	I2C7_SCL_M2	/UART9_RTSN_M2	/SPI0_MOSI_M3	GPIO3_D2_d				3.3V
38	HDMITX0_CEC_M0	BT1120_D15	/SPDIF1_TX_M2	/PCIE20X1_2_PERSTN_M1/	HDMI_TX0_CEC_M0	/I2C8_SDA_M3	/PWM6_M1/	SPI3_CS1_M1	GPIO4_C1_d			3.3V
39	HDMI_RX_SDA_M1	CIF_D15	PCIE30X2_WAKEN_M2	/HDMI_RX_SDA_M1	I2C7_SDA_M2/	UART9_CTSN_M2/	PWM10_M2	/SPI0_CLK_M3	GPIO3_D3_d			3.3V
40	HDMI0_TX_ON_H	MIPI_CAMERA0_CLK_M0	SPDIF1_TX_M1	/I2S1_SDO0_M0/	PCIE30X1_0_BUTTON_RSTN	/SATA2_ACT_LED_M0/	I2C6_SCL_M3	UART8_RX_M0	/SPI0_CS1_M1	GPIO4_B1_u		3.3V
41	HDMIIRX_HPDOUT_H	HDMI_TX0_HPD_M1	/PCIE30X2_PERSTN_M2	HDMI_RX_HPDIN_M1	MCU_JTAG_TCK_M1	/UART9_RX_M2	/SPI0_CS0_M3	GPIO3_D4_d				3.3V
42	HDMI0_TX3P_PORT/eDP0_TX_D3P	HDMI0_TX3P_PORT/eDP0_TX_D3P										
43	HDMIIRX_DET_L	PDM0_SDIO_M0	SPI1_CS1_M2	GPIO1_D5_d								1.8V

44	HDMI0_TX3N_PORT/eDP0_TX_D3N	HDMI0_TX3N_PORT/eDP0_TX_D3N										
45	GND											
46	HDMI0_TX2P_PORT/eDP0_TX_D2P	HDMI0_TX2P_PORT/eDP0_TX_D2P										
47	TYPEC1_OTG_DP	TYPEC1_OTG_DP										
48	HDMI0_TX2N_PORT/eDP0_TX_D2N	HDMI0_TX2N_PORT/eDP0_TX_D2N										
49	TYPEC1_OTG_DM	TYPEC1_OTG_DM										
50	GND											
51	TYPEC1_SSRX1P	DP1_TX0P										
52	HDMI0_TX_SBDP/eDP0_TX_AUXP	HDMI0_TX_SBDP/eDP0_TX_AUXP										
53	TYPEC1_SSRX1N	TYPEC1_SSRX1N	DP1_TX0N									
54	HDMI0_TX_SBDN/eDP0_TX_AUXN	HDMI0_TX_SBDN/eDP0_TX_AUXN										
55	TYPEC1_SSTX1P	TYPEC1_SSTX1P	DP1_TX1P									
56	HDMI0_TX1P_PORT/eDP0_TX_D1P	HDMI0_TX1P_PORT/eDP0_TX_D1P										

57	TYPEC1_SSTX1N	TYPEC1_SSTX1N	DP1_TX1N									
58	HDMI0_TX1N_PORT/eDP0_TX_D1N	HDMI0_TX1N_PORT/eDP0_TX_D1N										
59	TYPEC1_SSRX2P	TYPEC1_SSRX2P	DP1_TX2P									
60	HDMI0_TXOP_PORT/eDP0_TX_D0P	HDMI0_TXOP_PORT/eDP0_TX_D0P										
61	TYPEC1_SSRX2N	TYPEC1_SSRX2N	DP1_TX2N									
62	HDMI0_TXON_PORT/eDP0_TX_D0N	HDMI0_TXON_PORT/eDP0_TX_D0N										
63	TYPEC1_SSTX2P	TYPEC1_SSTX2P	DP1_TX3P									
64	GND											
65	TYPEC1_SSTX2N	TYPEC1_SSTX2N	DP1_TX3N									
66	SDMMC0_D0	SDMMC_D0	PDM1_SDI3_M0	/JTAG_TCK_M1/	I2C3_SCL_M4/	UART2_TX_M1/	PWM8_M1	GPIO4_D0_u				3.3V
67	DP1_AUXP	DP1_AUXP	TYPEC1_SBU1									
68	SDMMC0_D1	SDMMC_D1	/PDM1_SDI2_M0	/JTAG_TMS_M1/	/I2C3_SDA_M4	/UART2_RX_M1	/PWM9_M1/	GPIO4_D1_u				3.3V
69	DP1_AUXN	DP1_AUXN	TYPEC1_SBU2									
70	SDMMC0_D2	SDMMC_D2	PDM1_SDI1_M0	/JTAG_TCK_M0	I2C8_SCL_M0	UART5_CTSN_M0	GPIO4_D2_u					3.3V

71	5G_RESET	PCIE30X4_BUTTON_RSTN	DP1_HPDIN_M0	MCU_JTAG_TMS_M1	UART9_TX_M2	PWM11_IR_M3	/SPI0_CS1_M3/	GPIO3_D5_d				3.3V
72	SDMMC0_D3	SDMMC_D3	PDM1_SDIO_M0	/JTAG_TMS_M0	/I2C8_SDA_M0	UART5_RTSN_M0	/PWM10_M1	GPIO4_D3_u				3.3V
73	5G_ON_OFF	CIF_D5	/BT1120_D5	/I2S1_SDIO_M0/	/PCIE30X1_0_PERSTN_M1/	I2C3_SDA_M2	UART3_TX_M2/	SPI2_MOSI_M1	GPIO4_A5_d			3.3V
74	SDMMC0_CMD	SDMMC_CMD	/PDM1_CLK1_M0/	/MCU_JTAG_TCK_M0	/CAN0_TX_M1	/UART5_RX_M0	PWM7_IR_M1	GPIO4_D4_u				3.3V
75	SARADC_VIN4	SARADC_VIN4										
76	SD_CLK	SDMMC_CLK/	PDM1_CLKO_M0/	TEST_CLKOUT_M0	MCU_JTAG_TMS_M0	/CAN0_RX_M1/	UART5_TX_M0	GPIO4_D5_d				3.3V
77	SARADC_VIN3_HP_HOOK	SARADC_VIN3_HP_HOOK										
78	BOOT_SARADC_IN0	BOOT_SARADC_IN0										
79	SARADC_VIN1_KEY/RECOVERY	SARADC_VIN1_KEY/RECOVERY										
80	PCIEX1_1_PERSTn_M1_L	CIF_D2	BT1120_D2	I2S1_LRCK_M0	PCIE30X1_1_PERSTN_M1	/SPI0_CLK_M1	GPIO4_A2_d					3.3V

【邮票孔核心板版本】引脚定义复用关系：

注意事项：

1. PIN 的复用同一时刻只能选用一个功能使用。以引脚编号 1 为例，功能 GMAC0_RXCLK、SDIO_D2_M0、FSPI_D2_M1、UART6_RTSN_M0 和功能 I2C8_SCL_M1 复用在 GPIO2_B0_U 上面，分配时只能选择其中一个功能使用。

2. 在 RK3588 中，PIN 脚需要注意两种电平 1.8V 和 3.3V，IO 电平要与对接外设芯片/器件的 IO 电平保持一致。

3. 除了引导相关的 GPIO，剩下的 IO 复位默认为输入；

GPIOx_xx_U 其中_U 表示这个 IO 复位默认状态为内部上拉；

GPIOx_xx_D 其中_D 表示这个 IO 复位默认状态为内部下拉；

GPIOx_xx_Z 其中_Z 表示这个 IO 复位默认状态为高阻。

4. 各功能 name 后缀有加_M0 或_M1 或_M2 代表同一个功能复用到不同 IO 上，同时只能选择其中一个，比如选择 UART2 功能时，必须选择 UART2_TX_M0 和 UART2_RX_M0 组合，不支持 UART2_TX_M0 和 UART2_RX_M1 组合，对所有功能有不同 IOMUX 的都是这样的约束。

引脚编号	引脚名称	第一复用	第二复用	第三复用	第四复用	第五复用	第六复用	第七复用	第八复用	第九复用	第十复用	电平标准
1	SDIO_D2_M0_WIFI	GPIO2_B0_U	GMAC0_RXCLK	SDIO_D2_M0	FSPI_D2_M1	UART6_RTSN_M0	I2C8_SCL_M1					1.8V
2	GSENSOR_INT_L	GPIO4_C2_D	GMAC0_RXDV_CRS	PWM2_M2	SPI3_CS0_M0	UART7_RTSN_M0						1.8V
3	LCD_BL_EN_H	GPIO2_C1_D	GMAC0_RXD0	SPI1_MISO_M0	UART1_CTSN_M0	I2C2_SCL_M1						1.8V
4	UART9_TX_M0_BT	GPIO2_C2_D	GMAC0_RXD1	SPI1_MOSI_M0	UART9_TX_M0	I2C6_SDA_M2						1.8V
5	SDIO_D0_M0_WIFI	GPIO2_A6_U	GMAC0_RXD2	SDIO_D0_M0	FSPI_D0_M1	UART6_RX_M0						1.8V
6	SDIO_D1_M0_WIFI	GPIO2_A7_U	GMAC0_RXD3	SDIO_D1_M0	FSPI_D1_M1	UART6_TX_M0						1.8V
7	SDIO_CLK_M0_WIFI	GPIO2_B3_D	GMAC0_TXCLK	SDIO_CLK_M0	FSPI_CLK_M1	I2C3_SDA_M3						1.8V
8	I2S2_LRCK_M0_BT	GPIO2_C0_D	GMAC0_TXEN	I2S2_LRCK_M0	SPI1_CLK_M0	UART1_RTSN_M0	I2C2_SDA_M1					1.8V
9	MIPI_CAM3/4_RESET_L	GPIO2_B6_D	GMAC0_TXD0	I2S2_MCLK_M0	UART1_RX_M0	I2C5_SCL_M4						1.8V
10	I2S2_SCLK_M0_BT	GPIO2_B7_D	GMAC0_TXD1	I2S2_SCLK_M0	UART1_TX_M0	I2C5_SDA_M4						1.8V
11	SDIO_D3_M0_WIFI	GPIO2_B1_U	GMAC0_TXD2	SDIO_D3_M0	FSPI_D3_M1	UART6_CTSN_M0	I2C8_SDA_M1					1.8V
12	SDIO_CMD_M0_WIFI	GPIO2_B2_U	GMAC0_TXD3	SDIO_CMD_M0	I2C3_SCL_M3							1.8V
13	UART9_CTSN_M0_BT	GPIO4_C5_D	GMAC0_MDIO	PWM6_M2	SPI3_MOSI_M0	UART9_CTSN_M0	I2C0_SCL_M1					1.8V
14	UART9_RTSN_M0_BT	GPIO4_C4_D	GMAC0_MDC	PWM5_M2	SPI3_MISO_M0	UART9_RTSN_M0	I2C7_SDA_M1					1.8V

15	PCIE30X4_CLKREQN_M1_L	GPIO4_B4_U	CIF_CLKOUT	BT1120_D10	PCIE30X4_CLKREQN_M1	I2S1_SDO3_M0	UART9_TX_M1	DP0_HPDIN_M0	PWM11_IR_M1	SPDIF0_TX_M1		3.3V
16	PWM13_M1	GPIO4_B6_D	BT1120_D12	PCIE30X4_PERSTN_M1	HDMI_RX_HPDOUT_M0	I2C5_SCL_M1	SPI3_MOSI_M1	PWM13_M1	SATA0_ACT_LED_M0			3.3V
17	UART2_TX_M0_DEBUG	GPIO0_B5_D	JTAG_TCK_M2	I2C1_SCL_M0	PCIE30X1_1_CLKREQN_M0	I2S1_MCLK_M1	UART2_TX_M0					3.3V
18	UART2_RX_M0_DEBUG	GPIO0_B6_D	JTAG_TMS_M2	I2C1_SDA_M0	PCIE30X1_1_WAKEN_M0	I2S1_SCLK_M1	UART2_RX_M0					3.3V
19	CC_INT_L	GPIO0_D3_U	LITCPU_AVS	SPI3_CLK_M2								3.3V
20	GND											
21	VCC5V0_SYS											
22	PHY1_LED1/CFG_LDO0											
23	PHY1_LED2/CFG_LDO1											
24	RGMII_TRXP0											
25	RGMII_TRXN0											
26	RGMII_TRXP1											
27	RGMII_TRXN1											
28	RGMII_TRXP2											
29	RGMII_TRXN2											

30	RGMII_TRXP3											
31	RGMII_TRXN3											
32	GND											
33	I2C5_SCL_M0_TP	GPIO3_C7_U	CIF_D11	HDMI_TX0_SCL_M2	SPI3_MOSI_M3	I2C5_SCL_M0	PCIE20X1_2_CLKREQN_M0					1.8/3.3V
34	I2C5_SDA_M0_TP	GPIO3_D0_U	CIF_D12	HDMI_TX0_SDA_M2	SPI3_CLK_M3	I2C5_SDA_M0	UART4_RX_M1	PCIE20X1_2_WAKEN_M0	PWM8_M2			1.8/3.3V
35	GPIO2_C4_D	GPIO2_C4_D	GMAC0_PPSCLK	HDMI_TX1_CEC_M0	SPI1_CS1_M0	UART9_RX_M0	TEST_CLKOUT_M1					1.8V
36	PWM4_M1	GPIO4_C3_D	GMAC0_MCLKINOUT	I2S2_SDO_M0	SPI3_CS1_M0	PWM4_M1	I2C7_SCL_M1					1.8V
37	I2C4_SCL_M1	GPIO2_B5_U	GMAC0_PPSTRIG	HDMI_TX1_SCL_M0	FSPI_CS1N_M1	UART7_TX_M0	I2C4_SCL_M1					1.8V
38	I2C4_SDA_M1	GPIO2_B4_U	GMAC0_PTP_REFCLK	HDMI_TX1_SDA_M0	FSPI_CS0N_M1	UART7_RX_M0	I2C4_SDA_M1					1.8V
39	MIPI_CSI0_RX_CLK1N											
40	MIPI_CSI0_RX_CLK1P											
41	MIPI_CSI1_RX_CLK1N											
42	MIPI_CSI1_RX_CLK1P											
43	GPIO4_A0_D	GPIO4_A0_D	CIF_D0	BT1120_D0	PCIE30X1_1_CLKREQN_M1	I2S1_MCLK_M0	UART9_RTSN_M1	SPI0_MISO_M1				3.3V
44	GPIO3_A6_D	GPIO3_A6_D	ETH1_REFCLKO_25M	I2C4_SCL_M0	MIPI_CAMERA1_CLK_M1							1.8/3.3V

45	GPIO2_C5_D	GPIO2_C5_D	CLK32K_OUT1									1.8V
46	GPIO2_C3_D	GPIO2_C3_D	ETH0_REFCLKO_25M	I2S2_SDI_M0	SPI1_CS0_M0	I2C6_SCL_M2						1.8V
47	I2C6_SDA_M0	GPIO0_C7_D	PWM6_M0	I2C6_SDA_M0	SPI0_MISO_M0	PCIE30X4_WAKEN_M0	I2S1_SDI2_M1	PDM0_SDI0_M1	UART1_RTSN_M2			3.3V
48	GND											
49	I2C6_SCL_M0	GPIO0_D0_D	PWM7_IR_M0	I2C6_SCL_M0	SPI3_MISO_M2	PCIE30X4_PERSTN_M0	I2S1_SDI3_M1	PDM0_SDI1_M1	UART1_CTSN_M2			3.3V
50	SDMMC_PWREN	GPIO0_B7_D	PWM0_M0	I2C2_SCL_M0	SPI0_CS1_M0	PCIE30X1_1_PERSTN_M0	I2S1_LRCK_M1	CAN0_TX_M0				3.3V
51	PWM5_M1	GPIO0_C6_U	NPU_AVS	SPI0_CLK_M0	PCIE30X4_CLKREQN_M0	I2S1_SDI1_M1	SATA_CP_POD	UART0_RTSN	PWM5_M1			3.3V
52	I2C4_SCL_M2	GPIO0_C5_U	GPU_AVS	I2C4_SCL_M2	PCIE30X1_0_PERSTN_M0	I2S1_SDIO_M1	DP1_HPDIN_M1	UART0_TX_M0	PWM4_M0			3.3V
53	I2C4_SDA_M2	GPIO0_C4_D	PWM2_M0	I2C4_SDA_M2	PCIE30X1_0_WAKEN_M0	PDM0_CLK1_M1	DP0_HPDIN_M1	UART0_RX_M0				3.3V
54	PCIE20_0_TXP/SATA30_0_TXP	PCIE20_0_TXP	SATA30_0_TXP									
55	PCIE20_0_TXN/SATA30_0_TXN	PCIE20_0_TXN	SATA30_0_TXN									
56	PCIE20_0_RXP/SATA30_0_RXP	PCIE20_0_RXP	SATA30_0_RXP									
57	PCIE20_0_RXN/SATA30_0_RXN	PCIE20_0_RXN	SATA30_0_RXN									
58	PWRON_L											

59	BT_WAKE_HOST_H	GPIO0_A0_D	REFCLK_OUT									1.8V
60	SDMMC_DET_L	GPIO0_A4_U	SDMMC_DET									1.8V
61	RESET_L											
62	RTC_INT_L	GPIO0_B0_Z	SPI2_CS1_M2	I2C1_SCL_M1	UART0_RX_M1							1.8V
63	GPIO0_A1_Z	GPIO0_A1_Z	TSADC_SHUT_ORG	TSADC_SHUT								1.8V
64	GND											
65	PCIE20_2_RXP/SATA30_2_RXP	PCIE20_2_RXP	SATA30_2_RXP	USB30_2_SSRXP								
66	PCIE20_2_RXN/SATA30_2_RXN	PCIE20_2_RXN	SATA30_2_RXN	USB30_2_SSRXN								
67	PCIE20_2_REFCLKP	PCIE20_2_REFCLKP										
68	PCIE20_2_REFCLKN	PCIE20_2_REFCLKN										
69	PCIE20_2_TXP/SATA30_2_TXP	PCIE20_2_TXP	SATA30_2_TXP	USB30_2_SSTXP								
70	PCIE20_2_TXN/SATA30_2_TXN	PCIE20_2_TXN	SATA30_2_TXN	USB30_2_SSTXN								
71	I2C8_SCL_M2	GPIO1_D6_U	UART1_RTSN_M1	I2C8_SCL_M2	MIPI_CAMERA3_CLK_M0	PWM14_M2	HDMI_RX_SCL_M2					1.8V
72	I2C8_SDA_M2	GPIO1_D7_U	UART1_CTSN_M1	I2C8_SDA_M2	MIPI_CAMERA4_CLK_M0	PCIE30X2_CLKREQN_M3	PWM15_IR_M3	HDMI_RX_SDA_M2				1.8V

73	PCIEX1_0_WAKEN_M1_L/GPIO1_B3	GPIO1_B3_D	UART4_TX_M2	PDM1_CLK1_M1	PCIE30X1_0_WAKEN_M2	SPI0_CLK_M2	SATA0_ACT_LED_M1					1.8V
74	PCIE30_PORT0_RX1N	PCIE30_PORT0_RX1N										
75	PCIE30_PORT0_RX1P	PCIE30_PORT0_RX1P										
76	PCIE30_PORT0_TX1N	PCIE30_PORT0_TX1N										
77	PCIE30_PORT0_TX1P	PCIE30_PORT0_TX1P										
78	PCIE30_PORT0_RX0N	PCIE30_PORT0_RX0N										
79	PCIE30_PORT0_RX0P	PCIE30_PORT0_RX0P										
80	PCIE30_PORT0_TX0N	PCIE30_PORT0_TX0N										
81	PCIE30_PORT0_TX0P	PCIE30_PORT0_TX0P										
82	PCIE30_PORT0_REFCLKN_IN	PCIE30_PORT0_REF_CLKN										
83	PCIE30_PORT0_REFCLKP_IN	PCIE30_PORT0_REF_CLKP										
84	GND											
85	GPIO0_B2_U	GPIO0_B2_U	CLK32K_IN	CLK32K_OUT0								1.8V
86	I2C3_SDA_M0	GPIO1_C0_Z	I2C3_SDA_M0	UART3_RX_M0	SPI4_MISO_M0							1.8V

87	I2C3_SCL_M0	GPIO1_C1_Z	I2C3_SCL_M0	UART3_TX_M0	SPI4_MOSI_M0							1.8V
88	HP_DET_L	GPIO1_C4_D	PDM0_CLK1_M0	I2C2_SDA_M3	PWM11_IR_M2	SPI4_CS1_M0						1.8V
89	I2S0_MCLK	GPIO1_C2_D	I2S0_MCLK	I2C6_SDA_M1	PWM3_IR_M2	UART3_RTSN	SPI4_CLK_M0					1.8V
90	I2S0_SCLK_TX	GPIO1_C3_D	I2S0_SCLK	I2C6_SCL_M1	PWM7_IR_M2	UART3_CTSN	SPI4_CS0_M0					1.8V
91	I2S0_LRCK_TX	GPIO1_C5_D	I2S0_LRCK	I2C2_SCL_M3	UART4_RTSN							1.8V
92	PWM0_M1	GPIO1_D2_D	I2S0_SDO3	I2S0_SDI2	PDM0_SDI2_M0	I2C1_SCL_M4	PWM0_M1	UART4_TX_M0	SPI1_CLK_M2			1.8V
93	GPIO1_B2_D	GPIO1_B2_D	UART4_RX_M2	PDM1_SDI3_M1	PCIE30X4_PERSTN_M3	SPI0_MOSI_M2						1.8V
94	SPI4_MISO_M2	GPIO1_A0_D	UART6_RX_M1	I2C2_SDA_M4	DP0_HPDIN_M2	PCIE30X1_1_CLKREQN_M2	SPI4_MISO_M2					1.8V
95	SPI4_MOSI_M2	GPIO1_A1_D	UART6_TX_M1	I2C2_SCL_M4	DP1_HPDIN_M2	PCIE30X1_1_WAKEN_M2	SPI4_MOSI_M2	SATA1_ACT_LED_M1				1.8V
96	SPI4_CS0_M2	GPIO1_A3_D	UART6_CTSN_M1	I2C4_SCL_M3	HDMI_TX1_SDA_M2	SPI4_CS0_M2	PWM1_M2					1.8V
97	SPI4_CLK_M2	GPIO1_A2_D	UART6_RTSN_M1	I2C4_SDA_M3	VOP_POST_EMPTY	SPI4_CLK_M2	PWM0_M2					1.8V
98	I2S0_SDO0	GPIO1_C7_D	I2S0_SDO0	I2C4_SCL_M4	UART4_CTSN							1.8V
99	MIPI_CAM2_PWREN_H	GPIO1_D3_D	I2S0_SDI1	PDM0_SDI3_M0	I2C1_SDA_M4	PWM1_M1	UART4_RX_M0	SPI1_CS0_M2				1.8V
100	PWM15_M2	GPIO1_C6_D	PDM0_CLK0_M0	I2C4_SDA_M4	PWM15_IR_M2							1.8V
101	I2S0_SDI0	GPIO1_D4_D	I2S0_SDI0									1.8V

102	MIPI_CAM2_CLKOUT	GPIO1_B7_U	UART1_RX_M1	I2C5_SDA_M3	MIPI_CAMERA2_CLK_M0	PCIE30X2_PERSTN_M3	SPDIF1_TX_M0	PWM13_M2	HDMI_RX_CEC_M2	SATA2_ACT_LED_M1		1.8V
103	I2C7_SDA_M0_CODEC	GPIO1_D1_D	I2S0_SD02	I2S0_SDI3	PDM0_SDI1_M0	I2C7_SDA_M0	UART6_RX_M2	SPI1_MOSI_M2				1.8V
104	I2C7_SCL_M0_CODEC	GPIO1_D0_D	I2S0_SD01	I2C7_SCL_M0	UART6_TX_M2	SPI1_MISO_M2						1.8V
105	GPIO1_B1_D	GPIO1_B1_D	PDM1_SDI2_M1	PCIE30X4_WAKEN_M3	SPI0_MISO_M2							1.8V
106	UART7_TX_M2	GPIO1_B5_U	UART7_TX_M2	PCIE30X1_0_CLKREQN_M2	SPI0_CS1_M2							1.8V
107	UART7_RX_M2	GPIO1_B4_U	UART7_RX_M2	PDM1_CLK0_M1	PCIE30X1_0_PERSTN_M2	SPI0_CS0_M2						1.8V
108	HDMITX0_HPDIN_M0	GPIO1_A5_D	HDMI_TX0_HPD_M0	SPI2_MOSI_M0								1.8V
109	MIPI_CAM2_PDN_L	GPIO1_B0_U	PDM1_SDI1_M1	PCIE30X4_CLKREQN_M3	SPI2_CS1_M0							1.8V
110	MIPI_CAM1_CLKOUT	GPIO1_B6_U	UART1_TX_M1	I2C5_SCL_M3	MIPI_CAMERA1_CLK_M0	PCIE30X2_WAKEN_M3	SPDIF0_TX_M0	HDMI_RX_HPDOUT_M2				1.8V
111	MIPI_CAM1_PDN_L	GPIO1_A7_U	PDM1_SDIO_M1	PCIE30X1_1_PERSTN_M2	SPI2_CS0_M0	PWM3_IR_M3						1.8V
112	GPIO1_A4_D	GPIO1_A4_D	HDMI_TX1_SCL_M2	SPI2_MISO_M0								1.8V
113	GND											
114	GND											
115	GND											
116	VCC4V0_SYS											

117	VCC4V0_SYS											
118	VCC4V0_SYS											
119	VCC4V0_SYS											
120	VCC4V0_SYS											
121	GND											
122	GPIO1_A6_D	GPIO1_A6_D	HDMI_TX1_HPD_M0	SPI2_CLK_M0								1.8V
123	HDMIIRX_DET_L	GPIO1_D5_D	PDM0_SDIO_M0	SPI1_CS1_M2								1.8V
124	SARADC_VIN1_KEY/RECOVERY	SARADC_IN1										
125	BOOT_SARADC_IN0	SARADC_IN0_BOOT										
126	SDMMC0_D0	GPIO4_D0_U	SDMMC_D0	UART2_TX_M1	JTAG_TCK_M1	PDM1_SDI3_M0	I2C3_SCL_M4	PWM8_M1				3.3V
127	SDMMC0_D1	GPIO4_D1_U	SDMMC_D1	UART2_RX_M1	JTAG_TMS_M1	PDM1_SDI2_M0	I2C3_SDA_M4	PWM9_M1				3.3V
128	SDMMC0_D2	GPIO4_D2_D	SDMMC_D2	UART5_CTSN_M0	JTAG_TCK_M0	PDM1_SDI1_M0	I2C8_SCL_M0					3.3V
129	SDMMC0_D3	GPIO4_D3_U	SDMMC_D3	UART5_RTSN_M0	JTAG_TMS_M0	PDM1_SDI0_M0	I2C8_SDA_M0	PWM10_M1				3.3V
130	SDMMC0_CMD	GPIO4_D4_U	SDMMC_CMD	UART5_RX_M0	MCU_JTAG_TCK_M0	PDM1_CLK1_M0	CAN0_TX_M1	PWM7_IR_M1				3.3V
131	SD_CLK	GPIO4_D5_D	SDMMC_CLK	UART5_TX_M0	MCU_JTAG_TMS_M0	PDM1_CLK0_M0	CAN0_RX_M1	TEST_CLKOUT_M0				3.3V

132	HDMI0_TX0N_PORT/EDP0_TX_D0N	HDMI_TX0_D0N	EDP_TX0_D0N									
133	HDMI0_TX0P_PORT/EDP0_TX_D0P	HDMI_TX0_D0P	EDP_TX0_D0P									
134	HDMI0_TX1N_PORT/EDP0_TX_D1N	HDMI_TX0_D1N	EDP_TX0_D1N									
135	HDMI0_TX1P_PORT/EDP0_TX_D1P	HDMI_TX0_D1P	EDP_TX0_D1P									
136	HDMI0_TX_SBDN/EDP0_TX_AUXN	HDMI_TX0_SBDN	EDP_TX0_AUXN									
137	HDMI0_TX_SBDP/EDP0_TX_AUXP	HDMI_TX0_SBDP	EDP_TX0_AUXP									
138	HDMI0_TX2N_PORT/EDP0_TX_D2N	HDMI_TX0_D2N	EDP_TX0_D2N									
139	HDMI0_TX2P_PORT/EDP0_TX_D2P	HDMI_TX0_D2P	EDP_TX0_D2P									
140	HDMI0_TX3N_PORT/EDP0_TX_D3N	HDMI_TX0_D3N	EDP_TX0_D3N									
141	HDMI0_TX3P_PORT/EDP0_TX_D3P	HDMI_TX0_D3P	EDP_TX0_D3P									
142	GND											
143	HDMI1_TX0N_PORT/EDP1_	HDMI_TX1_D0N	EDP_TX1_D0N									

	TX_D0N											
144	HDMI1_TX0P_PORT/EDP1_TX_D0P	HDMI_TX1_D0P	EDP_TX1_D0P									
145	HDMI1_TX1N_PORT/EDP1_TX_D1N	HDMI_TX1_D1N	EDP_TX1_D1N									
146	HDMI1_TX1P_PORT/EDP1_TX_D1P	HDMI_TX1_D1P	EDP_TX1_D1P									
147	HDMI1_TX_SBDN/EDP1_TX_AUXN	HDMI_TX1_SBDN	EDP_TX1_AUXN									
148	HDMI1_TX_SBDP/EDP1_TX_AUXP	HDMI_TX1_SBDP	EDP_TX1_AUXP									
149	HDMI1_TX2N_PORT/EDP1_TX_D2N	HDMI_TX1_D2N	EDP_TX1_D2N									
150	HDMI1_TX2P_PORT/EDP1_TX_D2P	HDMI_TX1_D2P	EDP_TX1_D2P									
151	HDMI1_TX3N_PORT/EDP1_TX_D3N	HDMI_TX1_D3N	EDP_TX1_D3N									
152	HDMI1_TX3P_PORT/EDP1_TX_D3P	HDMI_TX1_D3P	EDP_TX1_D3P									
153	HDMI_RX_CLKN	HDMI_RX_CLKN										
154	HDMI_RX_CLKP	HDMI_RX_CLKP										

155	HDMI_RX_DON	HDMI_RX_DON										
156	HDMI_RX_DOP	HDMI_RX_DOP										
157	HDMI_RX_D1N	HDMI_RX_D1N										
158	HDMI_RX_D1P	HDMI_RX_D1P										
159	HDMI_RX_D2N	HDMI_RX_D2N										
160	HDMI_RX_D2P	HDMI_RX_D2P										
161	HDMIIRX_HPDOUT_H	GPIO3_D4_D	MCU_JTAG_TCK_M1	HDMI_TX0_HPD_M1	HDMI_RX_HPDOUT_M1	SPI0_CS0_M3	UART9_RX_M2	PCIE30X2_PERSTN_M2				1.8/3.3V
162	PCIE30X4_WAKEN_M1_L/GPIO4_B5	GPIO4_B5_D	BT1120_D11	PCIE30X4_WAKEN_M1	HDMI_RX_CEC_M0	UART9_RX_M1	SPI3_MISO_M1	PWM12_M1	SATA1_ACT_LED_M0			3.3V
163	UART5_TX_M1	GPIO3_C4_U	CIF_D8	HDMI_TX1_CEC_M2	SPI3_CS0_M3	FSPI_CS0N_M2	UART5_TX_M1	PCIE30X4_CLKREQN_M2	CAN2_RX_M0			1.8/3.3V
164	HDMI_RX_SCL_M1	GPIO3_D2_D	CIF_D14	HDMI_RX_SCL_M1	SPI0_MOSI_M3	I2C7_SCL_M2	UART9_RTSN_M2	PCIE30X2_CLKREQN_M2				1.8/3.3V
165	HDMI_RX_SDA_M1	GPIO3_D3_D	CIF_D15	HDMI_RX_SDA_M1	SPI0_CLK_M3	I2C7_SDA_M2	UART9_CTSN_M2	PCIE30X2_WAKEN_M2	PWM10_M2			1.8/3.3V
166	HDMI_RX_CEC	GPIO3_D1_D	CIF_D13	HDMI_RX_CEC_M1	SPI0_MISO_M3	UART4_TX_M1	PCIE20X1_2_PERSTN_M0	PWM9_M2				1.8/3.3V
167	GPIO3_C6_U	GPIO3_C6_U	CIF_D10	HDMI_TX1_SCL_M1	SPI3_MISO_M3	PCIE30X4_PERSTN_M2						1.8/3.3V
168	UART5_RX_M1	GPIO3_C5_U	CIF_D9	HDMI_TX1_SDA_M1	SPI3_CS1_M3	FSPI_CS1N_M2	UART5_RX_M1	PCIE30X4_WAKEN_M2	CAN2_TX_M0			1.8/3.3V
169	GND											

170	HDMI0_TX_ON_H	GPIO4_B1_U	MIPI_CAMERA0_CLK_M0	PCIE30X1_0_BUTTON_RSTN	I2S1_SDO0_M0	I2C6_SCL_M3	UART8_RX_M0	SPI0_CS1_M1	SPDIF1_TX_M1	SATA2_ACT_LED_M0		3.3V
171	HDMITX0_SDA_M0	GPIO4_C0_U	BT1120_D14	PCIE20X1_2_WAKEN_M1	HDMI_TX0_SDA_M0	I2C8_SCL_M3	SPI3_CS0_M1					3.3V
172	HDMITX0_SCL_M0	GPIO4_B7_U	BT1120_D13	PCIE20X1_2_CLKREQN_M1	HDMI_TX0_SCL_M0	I2C5_SDA_M1	SPI3_CLK_M1					3.3V
173	HDMITX0_CEC_M0	GPIO4_C1_D	BT1120_D15	PCIE20X1_2_PERSTN_M1	HDMI_TX0_CEC_M0	I2C8_SDA_M3	SPI3_CS1_M1	PWM6_M1	SPDIF1_TX_M2			3.3V
174	PCIE30X4_PRSNT_L/GPIO4_B3	GPIO4_B3_U	CIF_VSYNC	BT1120_D9	PCIE20X1_2_BUTTON_RSTN	I2S1_SDO2_M0	I2C7_SDA_M3	UART8_CTSN_M0	PWM15_IR_M1	CAN1_TX_M1		3.3V
175	HDMI1_TX_ON_H	GPIO4_B2_U	CIF_HREF	BT1120_D8	PCIE30X1_1_BUTTON_RSTN	I2S1_SDO1_M0	I2C7_SCL_M3	UART8_RTSN_M0	SPI0_CS0_M1	PWM14_M1	CAN1_RX_M1	3.3V
176	USB_HOST_PWREN_H	GPIO4_B0_D	CIF_CLKIN	BT1120_CLKOUT	PCIE30X2_PERSTN_M1	I2S1_SDI3_M0	I2C6_SDA_M3	UART8_TX_M0	SPI2_CS1_M1			3.3V
177	USB20_HOST0_DP	USB20_HOST0_DP										
178	USB20_HOST0_DM	USB20_HOST0_DM										
179	USB20_HOST1_DP	USB20_HOST1_DP										
180	USB20_HOST1_DM	USB20_HOST1_DM										
181	DP1_AUXP	TYPEC1_SBU1	DP1_AUXP									
182	DP1_AUXN	TYPEC1_SBU2	DP1_AUXN									
183	DP1_TX0P	TYPEC1_SSRX1P	DP1_TX0P									

184	DP1_TX0N	TYPEC1_SSRX1N	DP1_TX0N									
185	DP1_TX1P	TYPEC1_SSTX1P	DP1_TX1P									
186	DP1_TX1N	TYPEC1_SSTX1N	DP1_TX1N									
187	DP1_TX2P	TYPEC1_SSRX2P	DP1_TX2P									
188	DP1_TX2N	TYPEC1_SSRX2N	DP1_TX2N									
189	DP1_TX3P	TYPEC1_SSTX2P	DP1_TX3P									
190	DP1_TX3N	TYPEC1_SSTX2N	DP1_TX3N									
191	GND											
192	TYPEC1_OTG_DP	TYPEC1_USB20_OTG_DP										
193	TYPEC1_OTG_DM	TYPEC1_USB20_OTG_DM										
194	TYPEC0_OTG_DM	TYPEC0_USB20_OTG_DM										
195	TYPEC0_OTG_DP	TYPEC0_USB20_OTG_DP										
196	TYPEC0_SBU2_DC	GPIO4_A7_D	CIF_D7	BT1120_D7	PCIE30X2_WAKEN_M1	I2S1_SDI2_M0	I2C5_SDA_M2	SPI2_CS0_M1				3.3V
197	TYPEC0_SBU1_DC	GPIO4_A6_D	CIF_D6	BT1120_D6	PCIE30X2_CLKREQN_M1	I2S1_SDI1_M0	I2C5_SCL_M2	UART3_RX_M2	SPI2_CLK_M1			3.3V
198	TYPEC0_SSTX1N	TYPEC0_SSTX1N	DP0_TX1N									

199	TYPEC0_SSTX1P	TYPEC0_SSTX1P	DP0_TX1P									
200	TYPEC0_SSRX1N	TYPEC0_SSRX1N	DP0_TX0N									
201	TYPEC0_SSRX1P	TYPEC0_SSRX1P	DP0_TX0P									
202	TYPEC0_SSRX2N	TYPEC0_SSRX2N	DP0_TX2N									
203	TYPEC0_SSRX2P	TYPEC0_SSRX2P	DP0_TX2P									
204	TYPEC0_SSTX2N	TYPEC0_SSTX2N	DP0_TX3N									
205	TYPEC0_SSTX2P	TYPEC0_SSTX2P	DP0_TX3P									
206	TYPEC0_USB20_VBUSDET	TYPEC0_USB20_VBUSDET										
207	TYPEC0_SBU2	TYPEC0_SBU2	DP0_AUXN									
208	TYPEC0_SBU1	TYPEC0_SBU1	DP0_AUXP									
209	TYPEC0_USB20_OTG_ID	TYPEC0_USB20_OTG_ID										
210	MIPI_DPHY1_RX_D0N	MIPI_DPHY1_RX_D0N	MIPI_CPHY1_RX_TRIO0_A									
211	MIPI_DPHY1_RX_D0P	MIPI_DPHY1_RX_D0P	MIPI_CPHY1_RX_TRIO0_B									
212	MIPI_DPHY1_RX_D1N	MIPI_DPHY1_RX_D1N	MIPI_CPHY1_RX_TRIO0_C									
213	MIPI_DPHY1_RX_D1P	MIPI_DPHY1_RX_D1P	MIPI_CPHY1_RX_TRIO1_A									

214	MIPI_DP HY1_RX_ CLKN	MIPI_DP HY1_RX_ CLKN	MIPI_CP HY1_RX_ TRIO1_B									
215	MIPI_DP HY1_RX_ CLKP	MIPI_DP HY1_RX_ CLKP	MIPI_CP HY1_RX_ TRIO1_C									
216	GND											
217	MIPI_DP HY1_RX_ D2N	MIPI_DP HY1_RX_ D2N	MIPI_CP HY1_RX_ TRIO2_A									
218	MIPI_DP HY1_RX_ D2P	MIPI_DP HY1_RX_ D2P	MIPI_CP HY1_RX_ TRIO2_B									
219	MIPI_DP HY1_RX_ D3N	MIPI_DP HY1_RX_ D3N	MIPI_CP HY1_RX_ TRIO2_C									
220	MIPI_DP HY1_RX_ D3P	MIPI_DP HY1_RX_ D3P	NO_USE									
221	MIPI_DP HY0_RX_ D3N	MIPI_DP HY0_RX_ D3N	MIPI_CP HY0_RX_ TRIO2_C									
222	MIPI_DP HY0_RX_ D3P	MIPI_DP HY0_RX_ D3P	NO_USE									
223	MIPI_DP HY0_RX_ D2N	MIPI_DP HY0_RX_ D2N	MIPI_CP HY0_RX_ TRIO2_A									
224	MIPI_DP HY0_RX_ D2P	MIPI_DP HY0_RX_ D2P	MIPI_CP HY0_RX_ TRIO2_B									
225	MIPI_DP HY0_RX_ D1N	MIPI_DP HY0_RX_ D1N	MIPI_CP HY0_RX_ TRIO0_C									
226	MIPI_DP HY0_RX_ D1P	MIPI_DP HY0_RX_ D1P	MIPI_CP HY0_RX_ TRIO1_A									
227	MIPI_DP HY0_RX_ D0N	MIPI_DP HY0_RX_ D0N	MIPI_CP HY0_RX_ TRIO0_A									
228	MIPI_DP HY0_RX_ D0P	MIPI_DP HY0_RX_ D0P	MIPI_CP HY0_RX_ TRIO0_B									

229	MIPI_DPHY0_RX_CLKN	MIPI_DPHY0_RX_CLKN	MIPI_CPHY0_RX_TRIO1_B									
230	MIPI_DPHY0_RX_CLKP	MIPI_DPHY0_RX_CLKP	MIPI_CPHY0_RX_TRIO1_C									
231	VGA_HPDIN_L	GPIO4_A5_D	CIF_D5	BT1120_D5	PCIE30X1_0_PERSTN_M1	I2S1_SDIO_M0	I2C3_SDA_M2	UART3_TX_M2	SPI2_MOSI_M1			3.3V
232	GPIO4_A2_D	GPIO4_A2_D	CIF_D2	BT1120_D2	PCIE30X1_1_PERSTN_M1	I2S1_LRCK_M0	SPI0_CLK_M1					3.3V
233	PHONE_CTL	GPIO4_A4_D	CIF_D4	BT1120_D4	PCIE30X1_0_WAKEN_M1	I2C3_SCL_M2	UART0_RX_M2	SPI2_MISO_M1				3.3V
234	SPK_CTL_H	GPIO4_A3_D	CIF_D3	BT1120_D3	PCIE30X1_0_CLKREQN_M1	UART0_TX_M2						3.3V
235	PCIEX1_1_WAKEN_M1_L/GPIO4_A1	GPIO4_A1_D	CIF_D1	BT1120_D1	PCIE30X1_1_WAKEN_M1	I2S1_SCLK_M0	UART9_CTSN_M1	SPI0_MOSI_M1				3.3V
236	DP1_HPDIN_M0	GPIO3_D5_D	MCU_JTAG_TMS_M1	DP1_HPDIN_M0	SPI0_CS1_M3	UART9_TX_M2	PCIE30X4_BUTTON_RSTN	PWM11_IR_M3				1.8/3.3V
237	USB_HUB_RESET	GPIO3_B2_D	GMAC1_TXER	I2S2_SDI_M1	UART2_RX_M2	PWM3_IR_M1						1.8/3.3V
238	LCD_BL_PWM1	GPIO0_C0_D	PWM1_M0	I2C2_SDA_M0	SPI0_MOSI_M0	PCIE30X1_0_CLKREQN_M0	PDM0_CLK0_M1	CAN0_RX_M0				3.3V
239	PWM7_IR_M3	GPIO4_C6_D	GMAC0_TXER	PWM7_IR_M3	SPI3_CLK_M0	UART7_CTSN_M0	I2C0_SDA_M1					1.8V
240	TP_RST_L	GPIO3_C1_D	GMAC1_PPSCLK	SPI1_CLK_M1	UART7_RX_M1	PCIE30X2_BUTTON_RSTN						1.8/3.3V
241	TP_INT_L	GPIO3_C0_D	GMAC1_PPSTRIG	SPI1_MISO_M1	I2C3_SDA_M1	UART7_TX_M1						1.8/3.3V
242	GND											