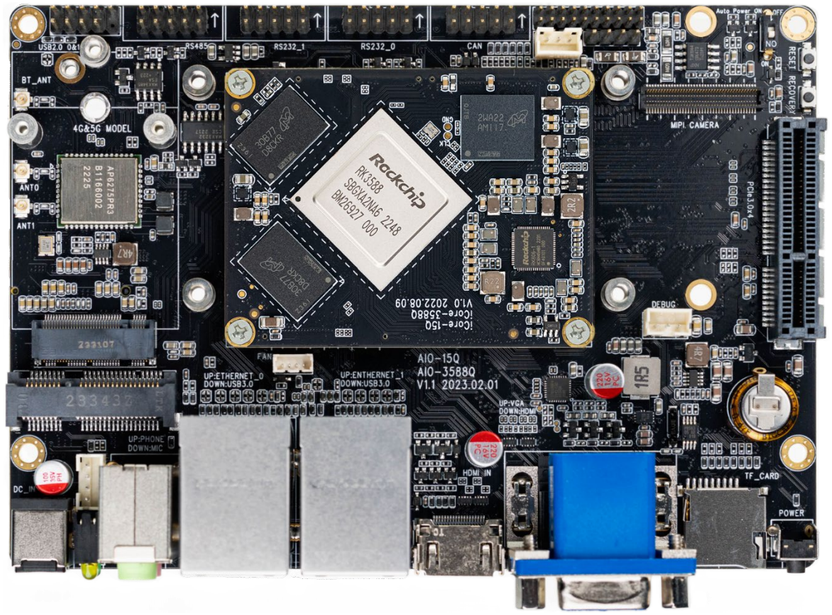
8K人工智能主板

- AIO-3588Q（商规级）
- AIO-3588JQ（工规级）
- AIO-3588MQ（车规级）



V1.1　2025-4-23

天 启 智 能 科 技

产品特点 Product features

新一代AIoT芯片RK3588

八核64位 A76+A55 处理器RK3588
主频高达2.4GHz
采用8nm先进工艺，低功耗高性能

32GB大内存

最高可配32GB内存容量
响应速度更快，可满足对内存要求高
存储容量大的产品应用需求

8K编解码/6TOPS NPU

8K@60fps H.265/VP9视频解码
8K@30fps H.265/H.264视频编码
6TOPS算力NPU

强大的网络通讯功能

2路1000Mbps千兆以太网（RJ45）
2.4G/5G双频WiFi6，蓝牙5.0
可扩展5G/4G LTE

支持多种操作系统

Android 12.0、Ubuntu桌面版和
Server版、Debian11、Buildroot
支持RTLinux 内核

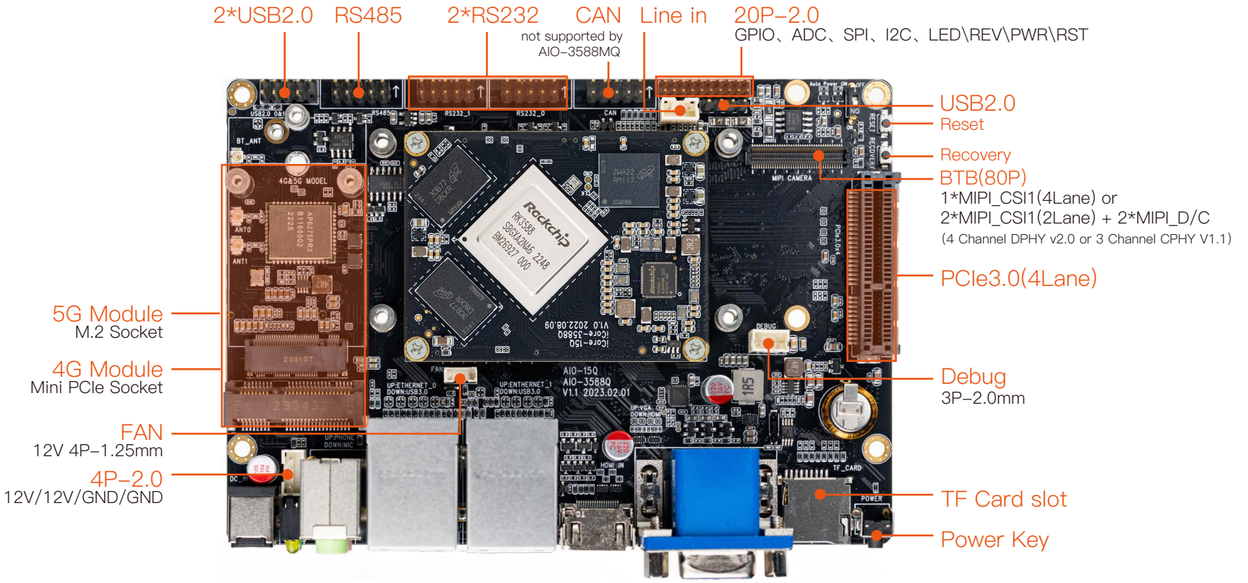
丰富的扩展接口

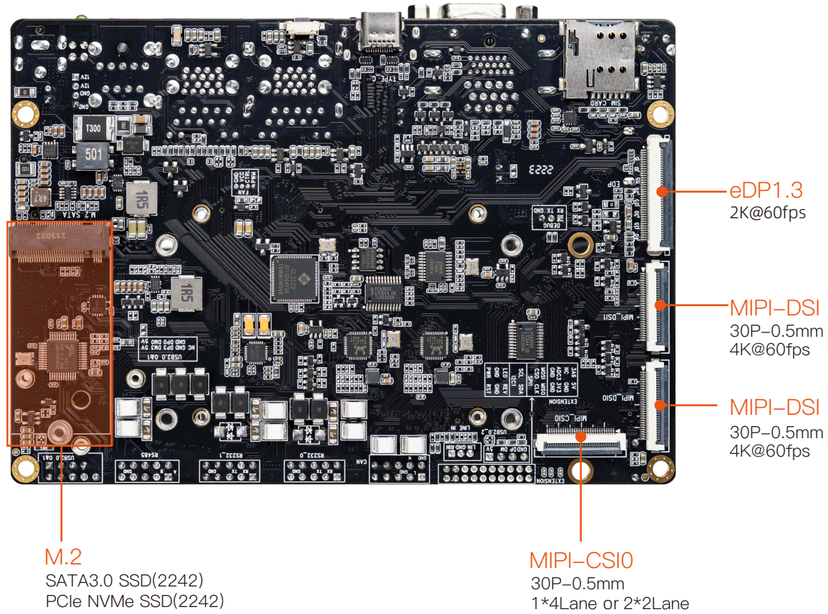
拥有 PCIe3.0、SATA3.0、RS485、
RS232、CAN、MIPI-CSI、MIPI-DSI、
USB3.0、USB2.0 等扩展接口

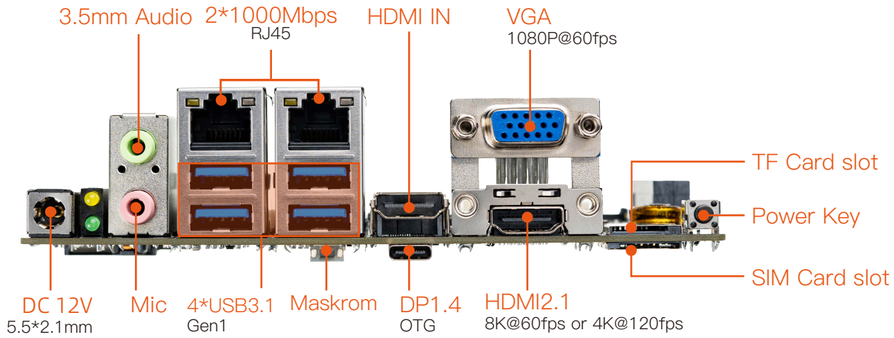
规格参数 Specifications

		AIO-3588Q（商规级）	AIO-3588JQ（工规级）	AIO-3588MQ（车规级）
基本参数	CPU	RK3588 八核64位（4×Cortex-A76+4×Cortex-A55） 主频高达 2.4GHz	RK3588J 八核64位（4×Cortex-A76+4×Cortex-A55） 主频高达 1.6GHz	RK3588M 八核64位（4×Cortex-A76+4×Cortex-A55） 主频高达 2.0GHz
	GPU	ARM Mali-G610 MP4四核GPU，支持 OpenGL ES3.2/OpenCL 2.2/Vulkan1.1, 450 GFLOPS		
	NPU	算力高达6TOPS (INT8)，支持INT4/INT8/INT16混合运算，可实现基于TensorFlow/MXNet/PyTorch/Caffe等系列框架的网络模型转换		
	ISP	集成48MP ISP，支持HDR和3DNR		
	VPU/编解码	硬解码：8K@60fps H.265/VP9/AVS2、8K@30fps H.264 AVC/MVC、4K@60fps AV1、1080P@60fps MPEG-2/-1/VC-1/VP8 硬编码：8K@30fps H.265/H.264		
	内存	LPDDR4/LPDDR4x (4GB/8GB/16GB/32GB 可选)	LPDDR4/LPDDR4x（工业级） (4GB/8GB/16GB/32GB 可选)	LPDDR4/LPDDR4x (4GB/8GB/16GB/32GB 可选)
	存储	eMMC（16GB/32GB/64GB/128GB 可选）		
	扩展存储	1 × M.2 SATA3.0 SSD（2242）、1 × TF Card		
	电源	DC 12V（5.5mm×2.1mm，电压误差 ± 5%）		
	功耗	待机功耗：≈ 0.78W(12.0V/65mA) 典型功耗：≈ 2.3W(12.0V/190mA) 最大功耗：≈ 14.4W(12.0V/1200mA)	待机功耗：≈ 0.78W(12.0V/65mA) 典型功耗：≈ 2.3W(12.0V/190mA) 最大功耗：≈ 9.6W(12.0V/800mA)	待机功耗：≈ 0.78W(12.0V/65mA) 典型功耗：≈ 2.4W(12.0V/200mA) 最大功耗：≈ 12W(12.0V/1000mA)
	系统	支持Android、Linux OS、国产操作系统 支持KVM虚拟机和Docker容器技术，支持Android、Ubuntu、Debian、Linux等多个操作系统同时运行，并能实现“一屏一系统”显示，加速智能汽车的跨域融合		
	尺寸	146.0mm × 102.0mm × 37.5mm		
	重量	净重：184g，带包装总重：710g		
	环境	工作温度：-20℃ ~ 60℃ 工作湿度: 10% ~ 90%RH（无凝露）	工作温度：-40℃ ~ 85℃ 工作湿度: 10% ~ 90%RH（无凝露）	工作温度：-40℃ ~ 85℃ 工作湿度: 10% ~ 90%RH（无凝露）
接口参数	以太网	2 × 1000Mbps以太网（RJ45）		
	无线网	2.4GHz/5GHz双频WiFi6（802.11a/b/g/n/ac/ax）、蓝牙5.0、可扩展5G/4G LTE		
	视频输入	1 × HDMI-IN（4K@60fps），支持 HDCP 2.3 1 × MIPI_CSI0（1×4Lanes 或 2×2Lanes，30P-0.5mm） 1 × BTB座（1×MIPI_CSI1(4Lanes) 或2×MIPI_CSI1(2Lanes) + 2×MIPI_D/C（4通道DPHY v2.0或3通道 CPHY V1.1））		
	视频输出	1 × HDMI2.1（8K@60fps或4K@120fps）、1 × DP1.4（8K@30fps，通过USB-C输出）、1 × VGA（1080P@60fps）、1 × eDP1.3（2K@60Hz）、2 × MIPI-DSI（4K@60fps），支持六屏异显		
	USB	4 × USB3.1(Gen1)、3 × USB2.0（通过排针引出）、1 × USB-C（OTG/DP1.4）		
	PCIe	1 × PCIe3.0（4Lanes）		
	SATA	1 × M.2 SATA3.0		
	其它接口	2 × RS232、1 × RS485、1 × Debug、1 × 20P-2.0排针（GPIO、ADC、SPI、I2C、LED\REV\PWR\RST）、1 × CAN（AIO-3588MQ不支持）		

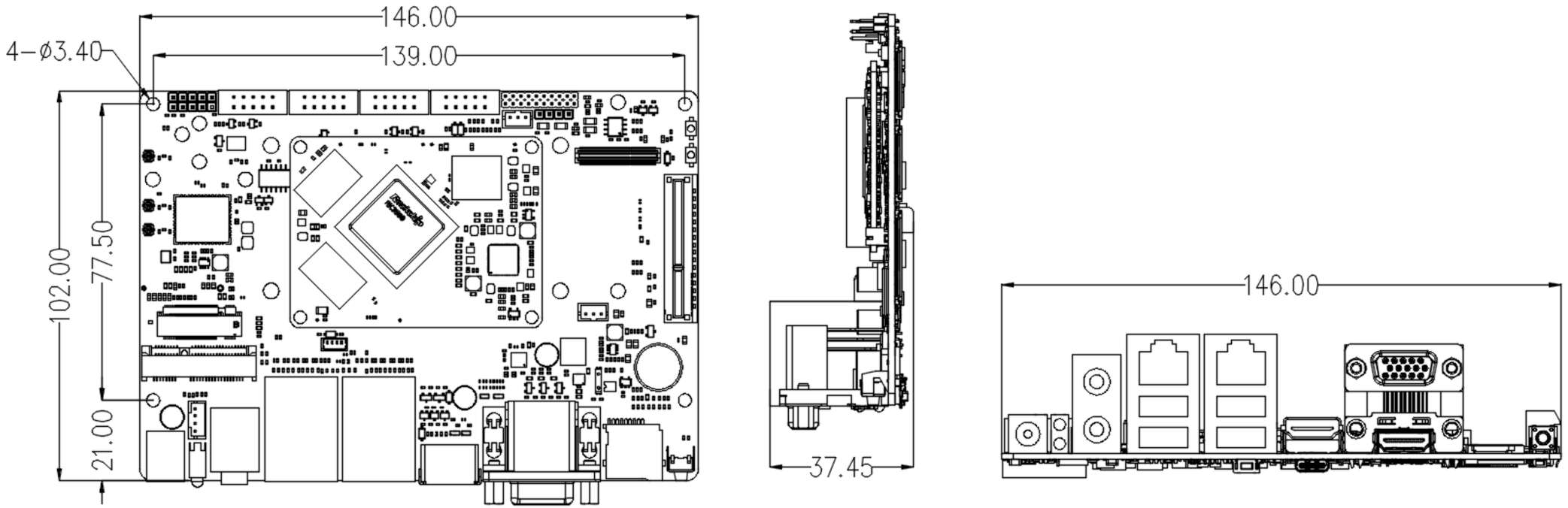
接口描述 Interface description





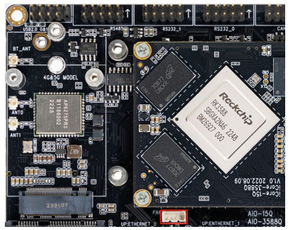


产品尺寸 Dimension



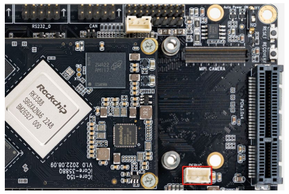
接口定义 Interface Definition

1. (J13)FAN　4PIN 1.25mm 间距 wafer 座（WHITE)



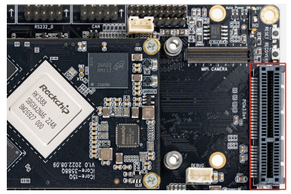
序号	定义	电平/V	序号	定义	电平/V
1	GND		3	SARADC_IN6　(pull up resistor 10K)	1.8V
2	VCC_FAN(12V Output)	12V	4	PWM1_CONN　(pull up resistor 10K)	3.3V

2. (J5)DEBUG　3PIN 2.0mm 间距 wafer 座（WHITE)



序号	定义	电平/V	序号	定义	电平/V
1	DEBUG_RXD（pull up resistor 10K)	3.3V	3	GND	
2	DEBUG_TXD（pull up resistor 10K)	3.3V			

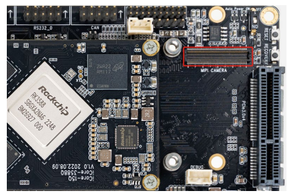
3. (J100)PCIe3.0x4　64PIN



序号	定义	电平/V	序号	定义	电平/V
B1	VCC12V_PCIE30 (12V Output)	12V	A1	GND	
B2	VCC12V_PCIE30 (12V Output)	12V	A2	VCC12V_PCIE30 (12V Output)	12V
B3	VCC12V_PCIE30 (12V Output)	12V	A3	VCC12V_PCIE30 (12V Output)	12V
B4	GND		A4	GND	
B5	NC		A5	NC	
B6	NC		A6	NC	
B7	GND		A7	NC	
B8	VCC3V3_PCIE30 (3.3V Output)	3.3V	A8	NC	
B9	NC		A9	VCC3V3_PCIE30 (3.3V Output)	3.3V
B10	VCC3V3_PCIE30 (3.3V Output)	3.3V	A10	VCC3V3_PCIE30 (3.3V Output)	3.3V
B11	PCIE30X4_WAKEn (GPIO4_B5_d)	3.3V	A11	PCIE30X4_PERSTn(GPIO4_B6_d)	3.3V
B12	PCIE30X4_CLKREQn (GPIO4_B4_u)	3.3V	A12	GND	
B13	GND		A13	PCIE30_REFCLKP_SLOT	-
B14	PCIE30_PORT0_TX0P	-	A14	PCIE30_REFCLKN_SLOT	-
B15	PCIE30_PORT0_TX0N	-	A15	GND	
B16	GND		A16	PCIE30_PORT0_RX0P	-
B17	PCIE30X4_PRSNT_L (From PCA9555)[pull down resistor 10K]	3.3V	A17	PCIE30_PORT0_RX0N	-
B18	GND		A18	GND	
B19	PCIE30_PORT0_TX1P	-	A19	NC	
B20	PCIE30_PORT0_TX1N	-	A20	GND	
B21	GND		A21	PCIE30_PORT0_RX1P	-

B22	GND		A22	PCIE30_PORT0_RX1N	-
B23	PCIE30_PORT1_TX2P	-	A23	GND	
B24	PCIE30_PORT1_TX2N	-	A24	GND	
B25	GND		A25	PCIE30_PORT1_RX2P	-
B26	GND		A26	PCIE30_PORT1_RX2N	-
B27	PCIE30_PORT1_TX3P	-	A27	GND	
B28	PCIE30_PORT1_TX3N	-	A28	GND	
B29	GND		A29	PCIE30_PORT1_RX3P	-
B30	NC		A30	PCIE30_PORT1_RX3N	-
B31	PCIE30X4_PRSNT_L (From PCA9555) [pull down resistor 10K]	3.3V	A31	GND	
B32	GND		A32	NC	

4. (U22)MIPI CAMERA　80PIN ---此接口仅预留扩展，未调试

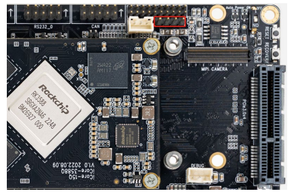


序号	定义	电平/V	序号	定义	电平/V
1	GND		2	VCC5V0_SYS (5V Output)	5.0V
3	GND		4	VCC5V0_SYS (5V Output)	5.0V
5	GND		6	VCC5V0_SYS (5V Output)	5.0V
7	GND		8	VCC5V0_SYS (5V Output)	5.0V
9	GND		10	VCC3V3_SYS (3.3V Output)	3.3V
11	GND		12	VCC3V3_SYS (3.3V Output)	3.3V
13	GND		14	VCC3V3_SYS (3.3V Output)	3.3V
15	MIPI_DPHY1_RX_D3N	-	16	VCC3V3_SYS (3.3V Output)	3.3V

17	MIPI_DPHY1_RX_D3P	-	18	GND	
19	GND		20	I2C6_SDA_M0 (GPIO0_C7_d) [pull up resistor 2.2K]	1.8V
21	MIPI_DPHY1_RX_D2N	-	22	I2C6_SCL_M0 (GPIO0_D0_d) [pull up resistor 2.2K]	1.8V
23	MIPI_DPHY1_RX_D2P	-	24	I2C3_SDA_M0_MIPI (GPIO1_C0_z) [pull up resistor 2.2K]	1.8V
25	GND		26	I2C3_SCL_M0_MIPI (GPIO1_C1_z) [pull up resistor 2.2K]	1.8V
27	MIPI_DPHY1_RX_CLKN	-	28	MIPI_CAM1_Power_EN (From PCA9555)	3.3V
29	MIPI_DPHY1_RX_CLKP	-	30	MIPI_CAM2_ Power_EN (From PCA9555)	3.3V
31	GND		32	MIPI_CAM3_ Power_EN (From PCA9555)	3.3V
33	MIPI_DPHY1_RX_D1N	-	34	MIPI_RESET1 (From PCA9555)	3.3V
35	MIPI_DPHY1_RX_D1P	-	36	MIPI_RESET2 (From PCA9555)	3.3V
37	GND		38	MIPI_RESET3 (From PCA9555)	3.3V
39	MIPI_DPHY1_RX_D0N	-	40	GND	
41	MIPI_DPHY1_RX_D0P	-	42	MIPI_CAM4_CLKOUT [GPIO1_D7_u]	1.8V
43	GND		44	GPIO1(From PCA9555)	3.3V
45	MIPI_CSI1_RX_D0N	-	46	GPIO2(From PCA9555)	3.3V
47	MIPI_CSI1_RX_D0P	-	48	GPIO2_C4 [GPIO2_C4_d]	1.8V
49	GND		50	GND	
51	MIPI_CSI1_RX_D1N	-	52	MIPI_DPHY0_RX_D3P	-
53	MIPI_CSI1_RX_D1P	-	54	MIPI_DPHY0_RX_D3N	-
55	GND		56	GND	
57	MIPI_CSI1_RX_CLK0N	-	58	MIPI_DPHY0_RX_D2P	-
59	MIPI_CSI1_RX_CLK0P	-	60	MIPI_DPHY0_RX_D2N	-
61	GND		62	GND	
63	MIPI_CSI1_RX_D2N	-	64	MIPI_DPHY0_RX_CLKP	-
65	MIPI_CSI1_RX_D2P	-	66	MIPI_DPHY0_RX_CLKN	-
67	GND		68	GND	
69	MIPI_CSI1_RX_D3N	-	70	MIPI_DPHY0_RX_D1P	-
71	MIPI_CSI1_RX_D3P	-	72	MIPI_DPHY0_RX_D1N	-
73	GND		74	GND	

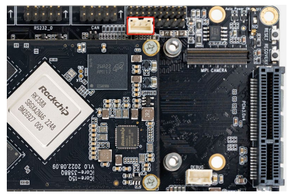
75	MIPI_CSI1_RX_CLK1N	-	76	MIPI_DPHY0_RX_D0P	-
77	MIPI_CSI1_RX_CLK1P	-	78	MIPI_DPHY0_RX_D0N	-
79	GND		80	GND	

5. (JUSB2)USB2.0_2　4PIN 2.0mm 间距



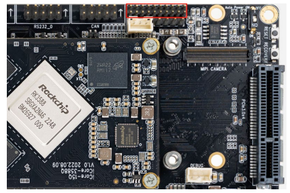
序号	定义	电平/V	序号	定义	电平/V
1	VCC5V0_USB20_HOST2(5V Output)	5V	3	DP2	-
2	DM2	-	4	GND	

6. (J17)LINE_IN　3PIN 2.0mm 间距 wafer 座 (WHITE)



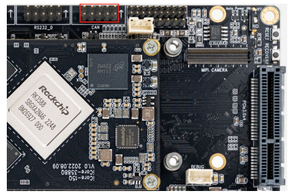
序号	定义	电平/V	序号	定义	电平/V
1	Line_in1_R	3.3V	3	Line_in1_L	3.3V
2	GND				

7. (J10)EXTENSION　20PIN 2.0mm 间距



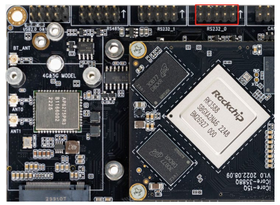
序号	定义	电平/V	序号	定义	电平/V
1	VCC5V0_SYS (5V Output)	5.0V	2	GPIO3_A6_EXT (GPIO3_A6_d)	1.8V
3	GND		4	NC	
5	VCC3V3_SYS (3.3V Output)	3.3V	6	ADC3 Input [pull up resistor 10K]	1.8V
7	GND		8	GND	
9	SPI1_MISO_M2　(GPIO1_D0_d) /UART6_TX_M2/I2C7_SCL_M0	1.8V	10	SPI1_MOSI_M2 (GPIO1_D1_d) /UART6_RX_M2/I2C7_SDA_M0	1.8V
11	SPI1_CLK_M2 (GPIO1_D2_d) /UART4_TX_M0/I2C1_SCL_M4	1.8V	12	SPI1_CS0_M2 (GPIO1_D3_d) /UART4_RX_M0/I2C1_SDA_M4	1.8V
13	I2C1_SDA_M2 [pull up resistor 2.2K]	3.3V	14	I2C1_SCL_M2 [pull up resistor 2.2K]	3.3V
15	RECOVERY_KEY [pull up resistor 10K]	1.8V	16	SATA0_LED_M1 (GPIO1_B3_d)	1.8V
17	GND		18	GND	
19	RESET_KEY	1.8V	20	PWRON_KEY	5.0V

8. (J7)CAN 10PIN 2.5mm 间距



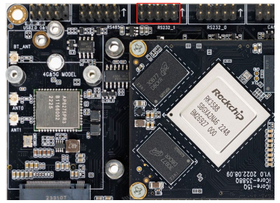
序号	定义	电平/V	序号	定义	电平/V
1	NC		6	CAN_VSS_1	5.0V
2	CANL1	5.0V	7	CANH1	5.0V
3	CAN_VSS_1	5.0V	8	NC	
4	NC		9	NC	
5	NC		10	NC	

9. (J31)RS232_0 10PIN 2.5mm 间距



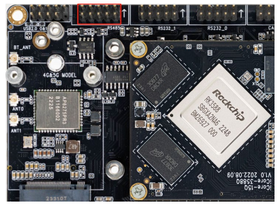
序号	定义	电平/V	序号	定义	电平/V
1	NC		6	NC	
2	RS232_RXD0　(GPIO4_A4_d)	+/-10V	7	NC	
3	RS232_TXD0　(GPIO4_A3_d)	+/-10V	8	NC	
4	NC		9	NC	
5	GND		10	NC	

10. (J15)RS232_1 10PIN 2.5mm 间距



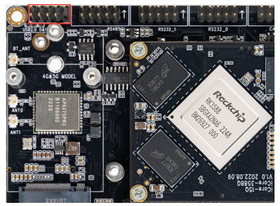
序号	定义	电平/V	序号	定义	电平/V
1	NC		6	NC	
2	RS232_RXD1 [pull up resistor 10K]	+/-10V	7	NC	
3	RS232_TXD1 [pull up resistor 10K]	+/-10V	8	NC	
4	NC		9	NC	
5	GND		10	NC	

11. (J32)RS485 10PIN 2.5mm 间距



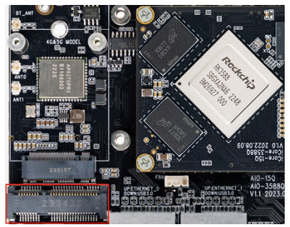
序号	定义	电平/V	序号	定义	电平/V
1	RS485_A	3.3V	6	NC	
2	RS485_B	3.3V	7	NC	
3	NC		8	NC	
4	NC		9	NC	
5	GND		10	NC	

12. (JUSB1)USB2.0 0&1 10 PIN 2.5mm 间距



序号	定义	电平/V	序号	定义	电平/V
1	VCC5V0_USB20_HOST1 (5V Output)	5V	2	VCC5V0_USB20_HOST1 (5V Output)	5V
3	USB20_HOST0_DM	-	4	HUB_HOST20_DM3	-
5	USB20_HOST0_DP	-	6	HUB_HOST20_DP3	-
7	GND		8	GND	
			10	NC	

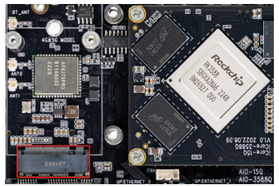
13. (U38)MINI_PCIE_52P_9H (4G MOUDEL)　52PIN



序号	定义	电平/V	序号	定义	电平/V
1	NC		2	VCC3V8_4G	3.8V
3	NC		4	GND	
5	NC		6	NC	
7	NC		8	UIM_PWR	1.8V/3.0V
9	GND		10	UIM_DAT	1.8V/3.0V
11	NC		12	UIM_CLK	1.8V/3.0V

13	NC		14	UIM_RST	1.8V/3.0V
15	GND		16	NC	
17	NC		18	GND	
19	NC		20	NC	
21	GND		22	4G_RESET[pull up resistor10K]	3.8V
23	NC		24	NC	
25	NC		26	GND	
27	GND		28	NC	
29	GND		30	NC	
31	NC		32	NC	
33	NC		34	GND	
35	GND		36	HUB_HOST20_DM4	-
37	GND		38	HUB_HOST20_DP4	-
39	VCC3V8_4G	3.8V	40	GND	
41	VCC3V8_4G	3.8V	42	NC	
43	GND		44	SIM_DET	1.8 V
45	NC		46	NC	
47	NC		48	NC	
49	NC		50	GND	
51	NC		52	VCC3V8_4G	3.8V

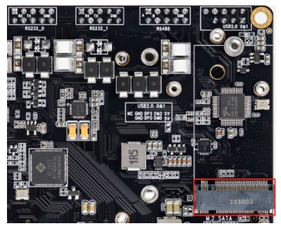
14. (U37)M2_NGFF-4G/5G（5G MOUDEL） 75PIN



序号	定义	电平/V	序号	定义	电平/V
1	NC		2	VCC3V8_4G	3.8V
3	GND		4	VCC3V8_4G	3.8V
5	GND		6	FULL_CARD/Power_OFF#	3.8V
7	HUB_HOST20_DP4	-	8	NC	
9	HUB_HOST20_DM4	-	10	NC	
11	GND		20	NC	
21	NC		22	NC	
23	NC		24	NC	
25	NC		26	NC	
27	GND		28	NC	
29	USB30_2_SSRXN PCIE20_2_RXN/SATA30_2_RXN	-	30	UIM_RST	1.8V/3.0V
31	USB30_2_SSRXP PCIE20_2_RXP/SATA30_2_RXP	-	32	UIM_CLK	1.8V/3.0V
33	GND		34	UIM_DAT	1.8V/3.0V
35	USB30_2_SSTXN PCIE20_2_TXN/SATA30_2_TXN	-	36	UIM_PWR	1.8V/3.0V
37	USB30_2_SSTXP PCIE20_2_TXP/SATA30_2_TXP	-	38	NC	
39	GND		40	NC	
41	NC		42	NC	
43	NC		44	NC	
45	GND		46	NC	
47	NC		48	NC	

49	NC		50	NC	
51	GND		52	NC	
53	NC		54	NC	
55	NC		56	NC	
57	GND		58	NC	
59	NC		60	NC	
61	NC		62	NC	
63	NC		64	NC	
65	NC		66	SIM_DET	1.8V
67	4G_RESET	3.8V	68	NC	
69	NC		70	VCC3V8_4G	3.8V
71	GND		72	VCC3V8_4G	3.8V
73	GND		74	VCC3V8_4G	3.8V
75	NC				

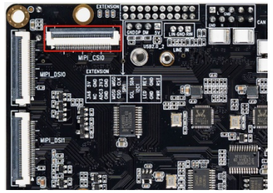
15. (U2)M.2 SATA　75PIN



序号	定义	电平/V	序号	定义	电平/V
1	GND		2	VCC3V3_SATA (3.3V Output)	3.3V
3	GND		4	VCC3V3_SATA (3.3V Output)	3.3V
5	NC		6	NC	
7	NC		8	NC	
9	GND		10	DAS/DSS [pull up resistor10K]	3.3V

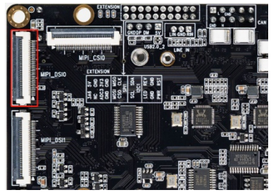
11	NC		12	VCC3V3_SATA (3.3V Output)	3.3V
13	NC		14	VCC3V3_SATA (3.3V Output)	3.3V
15	NC		16	VCC3V3_SATA (3.3V Output)	3.3V
17	NC		18	VCC3V3_SATA (3.3V Output)	3.3V
19	NC		20	NC	
21	GND		22	NC	
23	NC		24	NC	
25	NC		26	NC	
27	GND		28	NC	
29	NC		30	NC	
31	NC		32	NC	
33	GND		34	NC	
35	NC		36	NC	
37	NC		38	SATA_DEVSLP (From PCA9555) [pull up resistor10K]	3.3V
39	GND		40	NC	
41	PCIE20_0_RXP/SATA30_0_RXP	-	42	NC	
43	PCIE20_0_RXN/SATA30_0_RXN	-	44	NC	
45	GND		46	NC	
47	PCIE20_0_TXN/SATA30_0_TXN	-	48	NC	
49	PCIE20_0_TXP/SATA30_0_TXP	-	50	PCIE30X2_PERSTn_M1 (From PCA9555)	3.3V
51	GND		52	PCIE30X2_CLKREQN_M1 (GPIO4_A6_d)	3.3V
53	PCIE20_0_TXN	-	54	PCIE30X2_WAKEN_M1 (GPIO4_A7_d)	3.3V
55	PCIE20_0_TXP	-	56	NC	
57	GND		58	NC	
67	NC		68	NC	
69	GND		70	VCC3V3_SATA (3.3V Output)	3.3V
71	GND		72	VCC3V3_SATA (3.3V Output)	3.3V
73	GND		74	VCC3V3_SATA (3.3V Output)	3.3V
75	GND				

16. (J8)MIPI_CSI0 30PIN



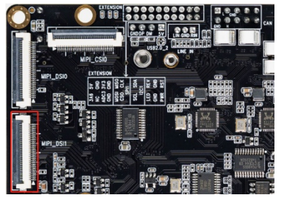
序号	定义	电平/V	序号	定义	电平/V
1	I2C3_SDA_M0_MIPI (GPIO1_C0_z) [pull up resistor 2.2K]	1.8V	16	GND	
2	I2C3_SCL_M0_MIPI (GPIO1_C1_z) [pull up resistor 2.2K]	1.8V	17	MIPI_CSI0_RX_CLK0P	-
3	MIPI_CAM3_PDN_L (GPIO1_A6_d)	1.8V	18	MIPI_CSI0_RX_CLK0N	-
4	RESET0_CAM　(GPIO1_B0_u)	1.8V	19	GND	
5	GND		20	MIPI_CSI0_RX_D2P	-
6	MIPI_CAM3_CLKOUT　(GPIO1_D6_u)	1.8V	21	MIPI_CSI0_RX_D2N	-
7	MIPI_CAM4_PWREN_H (GPIO1_B1_d)	1.8V	22	GND	
8	MIPI_CAM3_PWREN_H (GPIO1_B2_d)	1.8V	23	MIPI_CSI0_RX_D3P	-
9	MIPI_CAM3_CLKOUT (GPIO1_D6_u)	1.8V	24	MIPI_CSI0_RX_D3N	-
10	GND		25	GND	
11	MIPI_CSI0_RX_D0P	-	26	MIPI_CSI0_RX_CLK1P	-
12	MIPI_CSI0_RX_D0N	-	27	MIPI_CSI0_RX_CLK1N	-
13	GND		28	GND	
14	MIPI_CSI0_RX_D1P	-	29	VCC5V0_SYS (5V Output)	5.0V
15	MIPI_CSI0_RX_D1N	-	30	VCC5V0_SYS (5V Output)	5.0V

17. (J16)MIPI_DSI0 30PIN



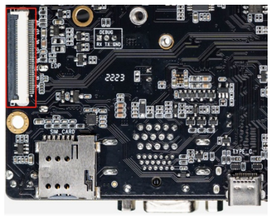
序号	定义	电平/V	序号	定义	电平/V
1	VCC5V0_SYS (5V Output)	5.0V	16	MIPI_DPHY0_TX_D0P	-
2	VCC5V0_SYS (5V Output)	5.0V	17	MIPI_DPHY0_TX_D0N	-
3	VCC5V0_SYS (5V Output)	5.0V	18	GND	
4	GND		19	MIPI_DPHY0_TX_D1P	-
5	I2C_ID1	3.3V	20	MIPI_DPHY0_TX_D1N	-
6	VCC3V3_SYS (3.3V Output)	3.3V	21	GND	
7	I2C1_SDA_M2 [pull up resistor 2.2K]	3.3V	22	MIPI_DPHY0_TX_CLKP	-
8	I2C1_SCL_M2 [pull up resistor 2.2K]	3.3V	23	MIPI_DPHY0_TX_CLKN	-
9	LCD0_PWR_EN (From PCA9555)	3.3V	24	GND	
10	TP0_INT [pull up resistor 10K]	3.3V	25	MIPI_DPHY0_TX_D2P	-
11	LCD0_BL_EN [pull up resistor 10K]	1.8V	26	MIPI_DPHY0_TX_D2N	-
12	PWM12_M1 (GPIO4_B5_d)	3.3V	27	GND	
13	LCD0_RESET [pull up resistor 10K]	3.3V	28	MIPI_DPHY0_TX_D3P	-
14	TP0_RST [pull up resistor 10K]	3.3V	29	MIPI_DPHY0_TX_D3N	-
15	GND		30	GND	

18. (J9)MIPI_DSI1 30PIN



序号	定义	电平/V	序号	定义	电平/V
1	VCC5V0_SYS (5V Output)	5V	16	MIPI_DPHY1_TX_D0P	-
2	VCC5V0_SYS (5V Output)	5V	17	MIPI_DPHY1_TX_D0N	-
3	VCC5V0_SYS (5V Output)	5V	18	GND	
4	GND		19	MIPI_DPHY1_TX_D1P	-
5	I2C_ID2 [pull down resistor 10K]	3.3V	20	MIPI_DPHY1_TX_D1N	-
6	VCC3V3_SYS (3.3V Output)	3.3V	21	GND	
7	I2C6_SDA_M0 [pull up resistor 2.2K]	3.3V	22	MIPI_DPHY1_TX_CLKP	-
8	I2C6_SCL_M0 [pull up resistor 2.2K]	3.3V	23	MIPI_DPHY1_TX_CLKN	-
9	LCD1_PWR_EN (From PCA9555)	3.3V	24	GND	
10	TP1_INT (From PCA9555)	3.3V	25	MIPI_DPHY1_TX_D2P	-
11	LCD1_BL_EN (From PCA9555)	3.3V	26	MIPI_DPHY1_TX_D2N	-
12	LCD1_BL_PWM [pull up resistor 10K]	3.3V	27	GND	
13	LCD1_RESET_L (From PCA9555)[pull up resistor 10K]	3.3V	28	MIPI_DPHY1_TX_D3P	-
14	TP1_RST_L (From PCA9555)[pull up resistor 10K]	3.3V	29	MIPI_DPHY1_TX_D3N	-
15	GND		30	GND	

19. (J25)EDP 40PIN



序号	定义	电平/V	序号	定义	电平/V
1	NC		21	GND	
2	GND		22	EDP_BL_EN_H (From PCA9555)	3.3V
3	eDP1_TX_D1N	-	23	EDP_BL_PWM [pull up resistor 10K]	3.3V
4	eDP1_TX_D1P	-	24	NC	
5	GND		25	NC	
6	eDP1_TX_D0N	-	26	VCC_EDP (12V Output)	12V
7	eDP1_TX_D0P	-	27	VCC_EDP (12V Output)	12V
8	GND		28	VCC_EDP (12V Output)	12V
9	EDP_AUXP	1.8V	29	VCC_EDP (12V Output)	12V
10	EDP_AUXN	1.8V	30	NC	
11	GND		31	HUB_HOST20_DM1	-
12	VCC3V3_EDP (3.3V Output)	3.3V	32	HUB_HOST20_DP1	-
13	VCC3V3_EDP (3.3V Output)	3.3V	33	GND	
14	NC		34	VCC3V3_EDP (3.3V Output)	3.3V
15	GND		35	VCC3V3_EDP (3.3V Output)	3.3V
16	GND		36	TP_EN_EDP (From PCA9555)	3.3V
17	EDP_HPD [pull up resistor 10K]	3.3V	37	I2C1_SCL_M2 [pull up resistor 2.2K]	3.3V
18	GND		38	I2C1_SDA_M2 [pull up resistor 2.2K]	3.3V
19	GND		39	TP_INT_EDP [pull up resistor 10K]	3.3V
20	GND		40	TP_RST_EDP (From PCA9555) [pull up resistor 10K]	3.3V

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