IDO-SOM3568-V1
(邮票孔)核心板规格书

文档修订历史

版本	修订内容	修订	审核	日期
V1.0	创建文档			2022/03/18

1. 产品概述

1.1 IDO-SOM3568-V1适用范围

IDO-SOM3568-1适用于工业主机，边缘计算网关、嵌入式智能设备、人机交互、 广告一体机、互动自助终端，教学实验平台、显示控制等多个领域 。

1.2 IDO-SOM3568-V1产品概述

IDO-SOM3568-V1采用 Rockchip 新一代 64 位处理器 RK3568（Quad-core ARM Cortex-A55, Neon and FPU，主频最高 2.0GHz, 22nm 工艺），集成双核心架构 GPU 以及高效能 NPU；最大支持 8GB 内存；内置独立的 NPU，可用于轻量级人工智能应用。RK3568 拥有 SATA/PCIE/USB3.0/双千兆等各类型接口，支持多种视频输入输出接口，可应用于物联网网关、智能 NVR、 工控平板、工业检测、工控盒、智慧城市、云终端、车载中控等行业定制市场。丰富的外部接口支持，RK3568 SoC 内部组成：

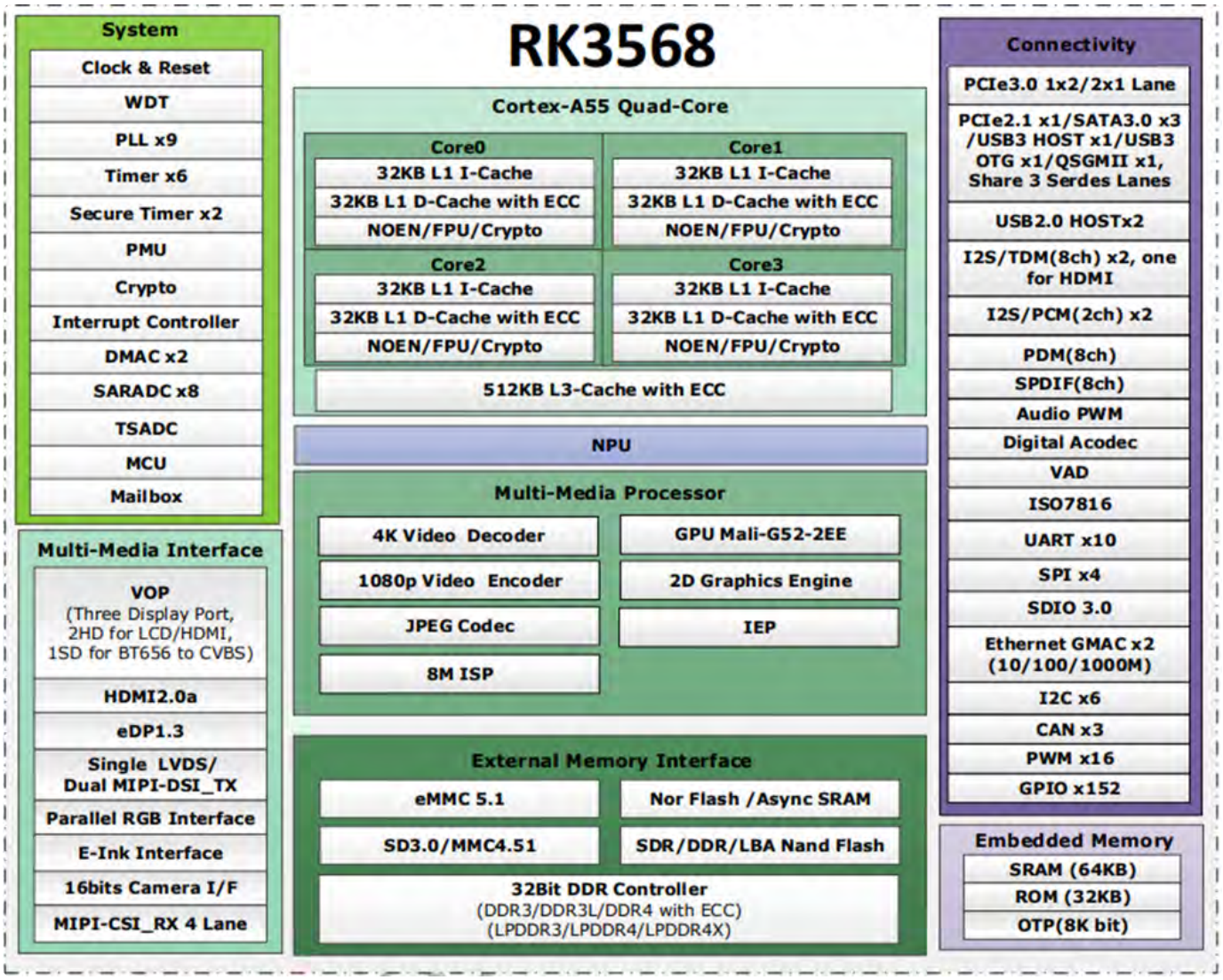

图1. RK3568 SoC框图

IDO-SOM3568-V1核心板进行了严格的电源 完整性和信号完整性仿真设计，通过各项电磁兼容、温度冲击、高温高湿老化、长时间存储压力等测试， 稳定可靠，批量供货。用户仅需设计外围电路即可快速实现项目的稳定量产。

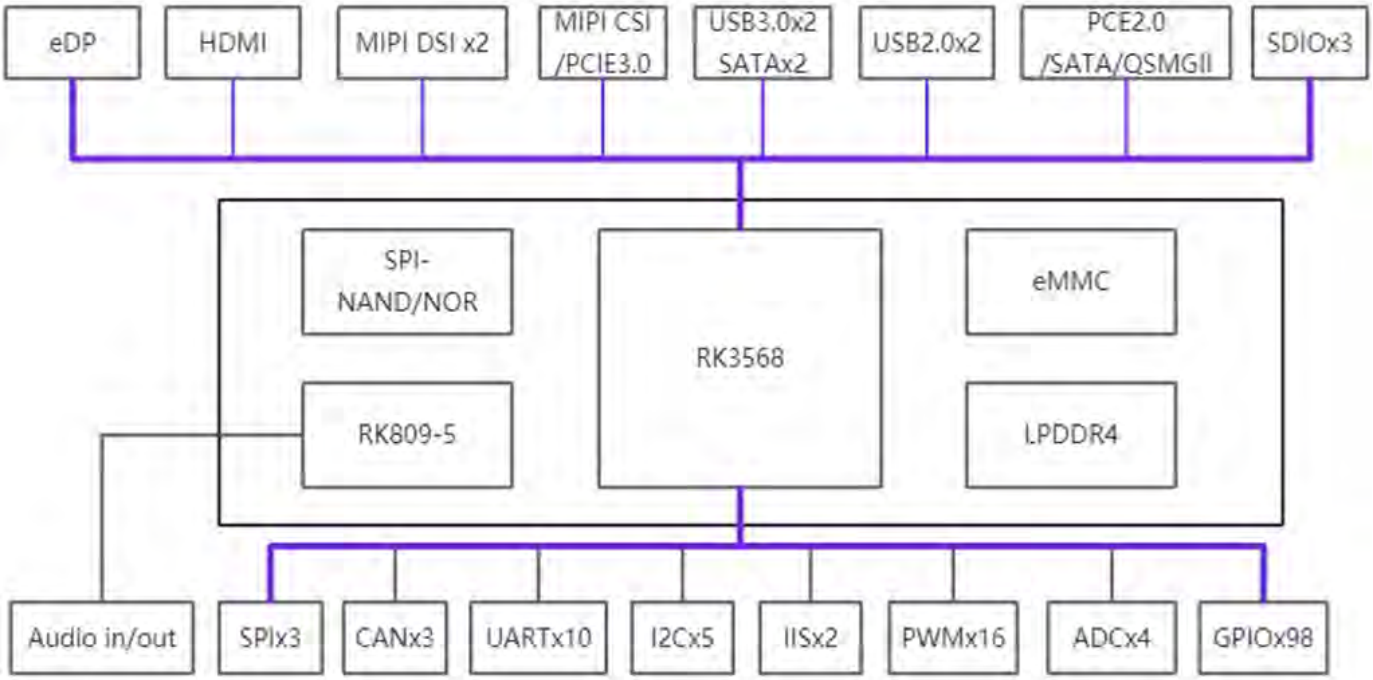

图2. IDO-SOM3568-V1模块逻辑框图

1.3 IDO-SOM3568-V1产品特点

- 32Bit位宽LPDDR4/LPDDR4x，频率最高可达1600MHz，支持全链路ECC
- 4.6*6CM超小尺寸邮票孔LGG封装204Pin，8层板沉金工艺。
- 独特的叠层设计，PCB背面完整平面无走线，优异的EMC性能和稳定性。
- 丰富的系统支持， Android 11，Ubuntu , Debian 全面支持。

1.4 IDO-SOM3568-V1产品图片

图3. IDO–SOM3568–V1核心板正面

图4. IDO-SOM3568-V1核心板背面

2. 硬件参数规格

2.1 基本参数

基本参数	
SOC	RockChip RK3568
CPU	四核 64 位Cortex-A55 处理器，22nm 先进工艺，主频最高2.0GHz
GPU	ARM G52 2EE 支持 OpenGL ES 1.1/2.0/3.2，OpenCL 2.0，Vulkan 1.1 内嵌高性能2D 加速硬件
NPU	1Tops@INT8/INT16 性能，集成高效能AI 加速器RKNN NPU 支持Caffe/TensorFlow/TFLite/ONNX/PyTorch/Keras/Darknet 主流架构模

	型的一键转换
VPU	支持 4K 60fps H.265/H.264/VP9 视频解码 支持 1080P 100fps H.265/H.264 视频编码 支持 8M ISP，支持HDR
内存	2GB / 4GB / 8GB LPDDR4 32Bit 位宽，频率高达1600MHz，支持全链路ECC
存储	16GB / 32GB / 64GB / 128GB eMMC
硬件参数	
以太网	集成双GMAC 以太网控制器，支持双千兆以太网（1000 M bps）
显示接口	1 × HDMI2.0，支持4K@60fps 输出 2 × MIPI DSI，支持1920*1080@60fps 输出（或双通道1 × MIPI DSI 2560*1440@60fps） 1 × eDP1.3 ，支持 2560*1600@60fps 输出 最多可支持三屏异显输出
摄像头	1 x MIPI–CSI 摄像头接口（1x 4–Lane可支持13M 或 2x 2–Lane可支持2x5M）
音频接口	1 × HDMI 音频输出 1 × HPR/L，双声道耳机输出 1 × MIC输入
USB	1 × USB3.0 OTG 1 × USB3.0 HOST 2 × USB 2.0 HOST
PCIe/SATA	1 × PCIe2.0 1 × PCIe3.0（选配,与MIPI–CSI 二选一） 3 × SATA3.0
扩展接口	10 × UART 4 × SPI 3 × CAN 5 × I2C 2 × I2S 3 × SDIO3.0 16 × PWM 4 × ADC

	98 × GPIO
其他	
主板尺寸	61mm × 46mm
接口类型	204Pin 间距1.0mm邮票孔
PCB规格	板厚 1.2mm , 8 层板 高Tg材质，沉金工艺

2.2 工作环境

工作环境	
工作温度	0~70℃（商业级）
工作湿度	5%~90% RH 非冷凝
存储温度	–40℃～85℃

2.3 系统支持

序号	操作系统	支持	说明
1	Android11	✅	
2	Debian10	✅	
3	Ubuntu20	✅	
4	Buildroot	✅	
5	麒麟OS	✅	
6	鸿蒙OpenHamoney	✅	

3. PCB 尺寸和电气参数

3.1 PCB尺寸

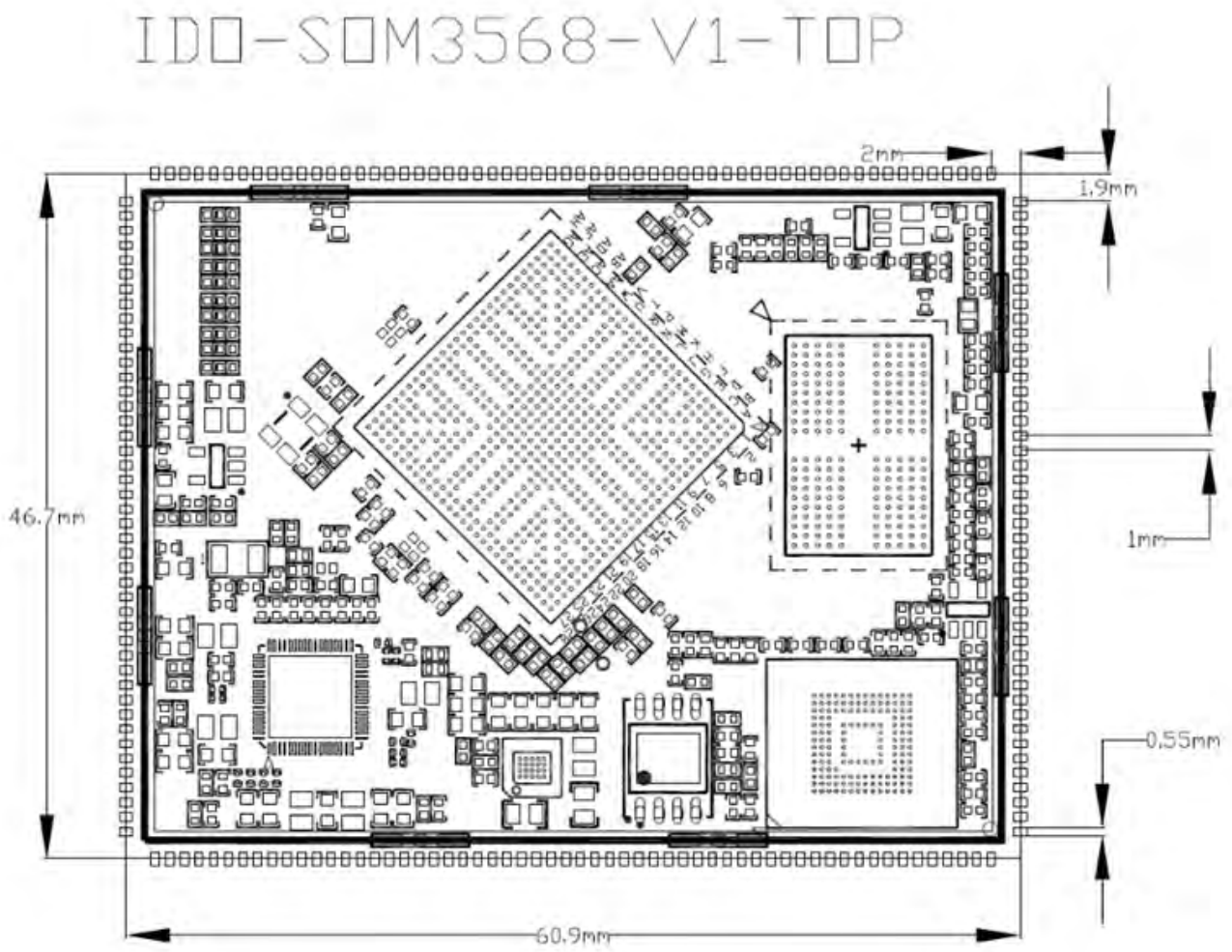

图5. IDO–SOM3568–V1核心板正面尺寸

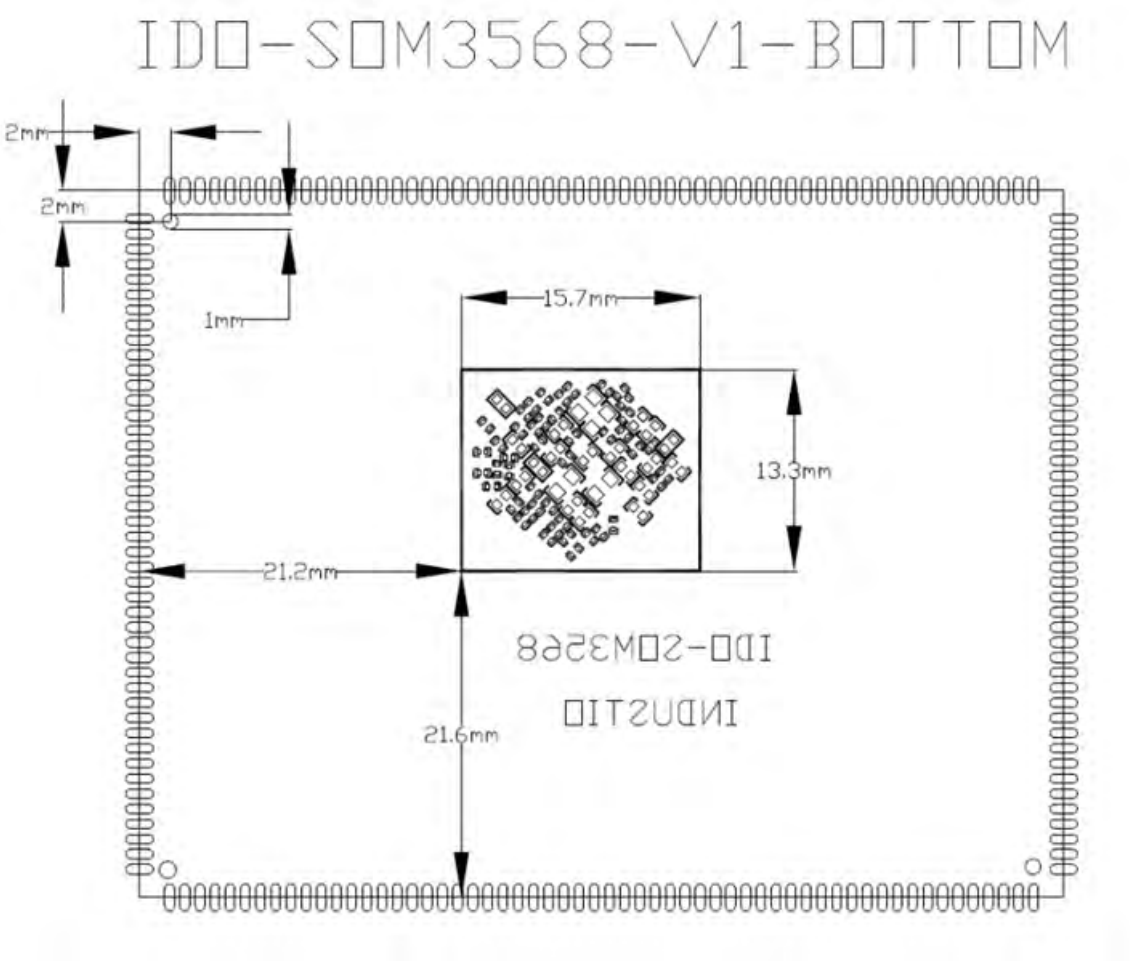

图6. IDO–SOM3568–V1核心板背面尺寸

3.2 电气参数

3.2.1 电源输入

电源名称	最小电压	标称值	最大电压	峰值电流	待机电流	关机电流
VCC5V0_SYS	3.6V	5.0V	5.5V	0.7A（不考虑输出电压）	7mA	1mA
VCC_RTC	3.6V	5.0V	5.5V	50mA	2mA	2mA

3.2.2 电源输出

电源名称	最小电压	标称值	最大电压	限制电流
VCC_1V8	1.75V	1.8V	1.85V	300mA
VCC_3V3	2.95V	3.3V	3.4V	300mA
VCC_3V3_SD	3.0V	3.0V	3.3V	300mA

4. 采购型号

采购型号	LPDDR4	eMMC	PCIE3.0或MIPI-CSI	标称工作温度
IDO-SOM3568-V1-D2E16-M-C	2GB	16GB	MIPI-CSI	0~70 ℃
IDO-SOM3568-V1-D2E32-M-C	2GB	32GB	MIPI-CSI	0~70 ℃
IDO-SOM3568-V1-D4E32-M-C	4GB	32GB	MIPI-CSI	0~70 ℃
IDO-SOM3568-V1-D2E16-P-C	2GB	16GB	PCIE3.0	0~70 ℃
IDO-SOM3568-V1-D2E32-P-C	2GB	32GB	PCIE3.0	0~70 ℃
IDO-SOM3568-V1-D4E32-P-C	4GB	32GB	PCIE3.0	0~70 ℃

5. 引脚定义说明

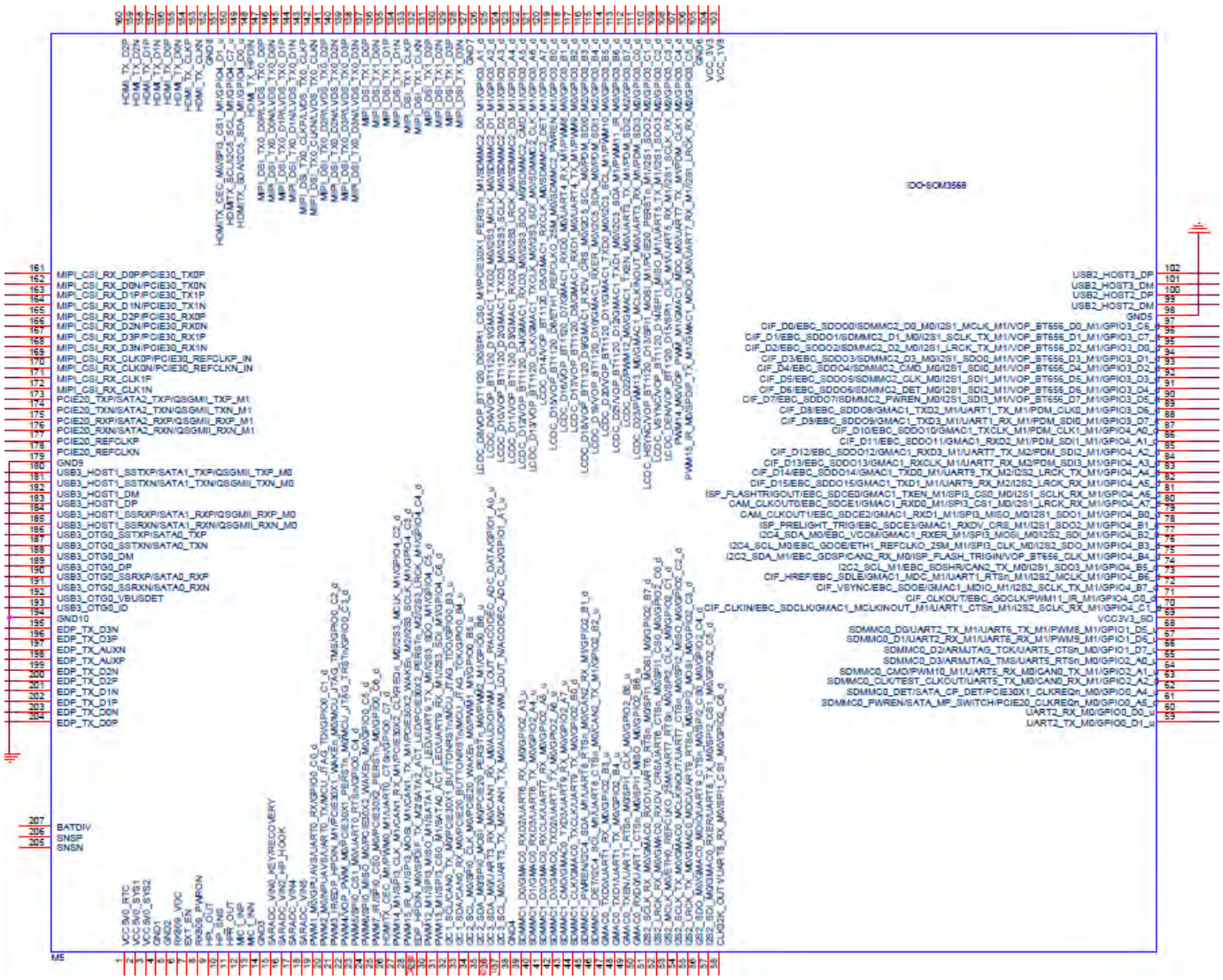

图7. IDO-SOM3568-V1核心板引脚示意图

附录 IDO-SOM3568-V1邮票孔核心板引脚列表

序号	引脚名称	复用功能	电源域	说明
1	VCC5V0_RTC	VCC5V0_RTC	5V/100mA/INPUT	
2	VCC5V0_SYS	VCC5V0_SYS/Main_power	5V/2A/INPUT	
3	VCC5V0_SYS	VCC5V0_SYS/Main_power	5V/2A/INPUT	

4	GND	GND	GND	
5	GND	GND	GND	
6	RK809_VDC	RK809_VDC	5V	RK809-5
7	EXT_EN	EXT_EN	5V	RK809-5
8	RK809_PWRON	RK809_PWRON	5V	RK809-5
9	HPL_OUT	HPL_OUT	/	RK809-5
10	HP_SNS	HP_SNS	/	RK809-5
11	HPR_OUT	HPR_OUT	/	RK809-5
12	MIC1_INP	MIC1_INP	/	RK809-5
13	MIC1_INN	MIC1_INN	/	RK809-5
14	GND	GND	GND	
15	SARADC_VIN0_KEY/RECOVERY	SARADC_VIN0_KEY/RECOVERY	1.8V	
16	SARADC_VIN2_HP_HOOK	SARADC_VIN2_HP_HOOK	1.8V	
17	SARADC_VIN4	SARADC_VIN4	1.8V	
18	SARADC_VIN5	SARADC_VIN5	1.8V	
19	UART0_RX	PWM1_M0	3.3V	
		GPUAVS		
		UART0_RX		
		GPIO0_C0_d		
20	UART0_TX	PWM2_M0	3.3V	
		NPUAVS		
		UART0_TX		
		MCU_JTAG_TD		

		I		
		GPIO0_C1_d		
21	PWM3_IR	PWM3_IR	3.3V	
		EDP_HPDIN_M1		
		PCIE30X1_WAKEn_M0		
		MCU_JTAG_TMS		
		GPIO0_C2_d		
22	PWM4	PWM4	3.3V	
		VOP_PWM_M0		
		PCIE30X1_PERSTn_M0		
		MCU_JTAG_TRSTn		
		GPIO0_C3_d		
23	UART0_RTSn	PWM5	3.3V	
		SPI0_CS1_M0		
		UART0_RTSn		
		GPIO0_C4_d		
24	GPIO0_C5_d	PWM6	3.3V	
		SPI0_MISO_M0		
		PCIE30X2_WAKEn_M0		
		GPIO0_C5_d		
25	GPIO0_C6_d	PWM7_IR	3.3V	

		SPI0_CS0_M0		
		PCIE30X2_PERSTn_M0		
		GPIO0_C6_d		
26	UART0_CTSn	HDMITX_CEC_M1	3.3V	
		PWM0_M1		
		UART0_CTSn		
		GPIO0_C7_d		
27	SPI3_CLK_M1	PWM14_M1	3.3V	
		SPI3_CLK_M1		
		CAN1_RX_M1		
		PCIE30X2_CLKREQn_M2		
		I2S3_MCLK_M1		
		GPIO4_C2_d		
28	SPI3_MOSI_M1	PWM15_IR_M1	3.3V	
		SPI3_MOSI_M1		
		CAN1_TX_M1		
		PCIE30X2_WAKEn_M2		
		I2S3_SCLK_M1		
		GPIO4_C3_d		
29	GPIO4_C4_d	EDP_HPDIN_M0	3.3V	
		SPDIF_TX_M2		

		SATA2_ACT_LED		
		PCIE30X2_PERSTn_M2		
		I2S3_LRCK_M1		
		GPIO4_C4_d		
30	SPI3_MISO_M1	PWM12_M1	3.3V	
		SPI3_MISO_M1		
		SATA1_ACT_LED		
		UART9_TX_M1		
		I2S3_SDO_M1		
		GPIO4_C5_d		
31	SPI3_CS0_M1	PWM13_M1	3.3V	
		SPI3_CS0_M		
		SATA0_ACT_LED		
		UART9_RX_M1		
		I2S3_SDI_M1		
		GPIO4_C6_d		
32	I2C1_SCL	I2C1_SCL	3.3V	
		CAN0_TX_M0		
		PCIE30X1_BUTTONRSTn		
		MCU_JTAG_TDO		
		GPIO0_B3_u		

33	I2C1_SDA	I2C1_SDA	3.3V	
		CAN0_RX_M0		
		PCIE20_BUTTONRSTn		
		MCU_JTAG_TCK		
		GPIO0_B4_u		
34	I2C2_SCL_M0	I2C2_SCL_M0	3.3V	
		SPI0_CLK_M0		
		PCIE20_WAKEn_M0		
		PWM1_M1		
		GPIO0_B5_u		
35	I2C2_SDA_M0	I2C2_SDA_M0	3.3V	
		SPI0_MOSI_M0		
		PCIE20_PERSTn_M0		
		PWM2_M1		
		GPIO0_B6_u		
36	I2C3_SDA_M0	I2C3_SDA_M0	3.3V	
		UART3_RX_M0		
		CAN1_RX_M0		
		AUDIOPWM_LOUT_P		
		ACODEC_ADC_DATA		
		GPIO1_A0_u		

37	I2C3_SCL_M0	I2C3_SCL_M0	3.3V	
		UART3_TX_M0		
		CAN1_TX_M0		
		AUDIOPWM_LOUT_N		
		ACODEC_ADC_CLK		
		GPIO1_A1_u		
38	GND	GND	GND	
39	SDMMC1_D0	SDMMC1_D0	1.8V	
		GMAC0_RXD2		
		UART6_RX_M0		
		GPIO2_A3_u		
40	SDMMC1_D1	SDMMC1_D1	1.8V	
		GMAC0_RXD3		
		UART6_TX_M0		
		GPIO2_A4_u		
41	SDMMC1_D2	SDMMC1_D2	1.8V	
		GMAC0_RXCLK		
		UART7_RX_M0		
		GPIO2_A5_u		
42	SDMMC1_D3	SDMMC1_D3	1.8V	
		GMAC0_TXD2		
		UART7_TX_M0		
		GPIO2_A6_u		
43	SDMMC1_CMD	SDMMC1_CMD	1.8V	

43	SDMMC1_CMD	SDMMC1_CMD	1.8V	
		GMAC0_TXD3		
		UART9_RX_M0		
		GPIO2_A7_u		
44	SDMMC1_CLK	SDMMC1_CLK	1.8V	
		GMAC0_TXCLK		
		UART9_TX_M0		
		GPIO2_B0_d		
45	WIFI_REG_ON_H_GPIO2_B1	SDMMC1_PWREN	1.8V	
		I2C4_SDA_M1		
		UART8_RTSn_M0		
		CAN2_RX_M1		
		GPIO2_B1_d		
46	WIFI_WAKE_HOST_H_GPIO2_B2	SDMMC1_DET	1.8V	
		I2C4_SCL_M1		
		UART8_CTSn_M0		
		CAN2_TX_M1		
		GPIO2_B2_u		
47	UART1_RX_M0	GMAC0_TXD0	1.8V	
		UART1_RX_M0		
		GPIO2_B3_u		
48	UART1_TX_M0	GMAC0_TXD1	1.8V	
		UART1_TX_M0		

		GPIO2_B4_u		
49	UART1_RTSn_M0	GMAC0_TXEN	1.8V	
		UART1_RTSn_M0		
		SPI1_CLK_M0		
		GPIO2_B5_u		
50	UART1_CTSn_M0	GMAC0_RXD0	1.8V	
		UART1_CTSn_M0		
		SPI1_MISO_M0		
		GPIO2_B6_u		
51	BT_REG_ON_H_GPIO2_B7	I2S2_SCLK_RX_M0	1.8V	
		GMAC0_RXD1		
		UART6_RTSn_M0		
		SPI1_MOSI_M0		
		GPIO2_B7_d		
52	BT_WAKE_HOST_H_GPIO2_C0	I2S2_LRCK_RX_M0	1.8V	
		GMAC0_RXDV_CRS		
		UART6_CTSn_M0		
		SPI1_CS0_M0		
		GPIO2_C0_d		
53	HOST_WAKE_BT_H_GPIO2_C	I2S2_MCLK_M0	1.8V	

	BT_H_GPIO2_C1	0		
		ETH0_REFCLKO_25M		
		UART7_RTSn_M0		
		SPI2_CLK_M0		
		GPIO2_C1_d		
54	SOC_PCM_CLK	I2S2_SCLK_TX_M0	1.8V	
		GMAC0_MCLKINOUT		
		UART7_CTSn_M0		
		SPI2_MISO_M0		
		GPIO2_C2_d		
55	SOC_PCM_SYNC	I2S2_LRCK_TX_M0	1.8V	
		GMAC0_MDC		
		UART9_RTSn_M0		
		SPI2_MOSI_M0		
		GPIO2_C3_d		
56	SOC_PCM_OUT	I2S2_SDO_M0	1.8V	
		GMAC0_MDIO		
		UART9_CTSn_M0		
		SPI2_CS0_M0		
		GPIO2_C4_d		

57	SOC_PCM_IN	I2S2_SDI_M0	1.8V	
		GMAC0_RXER		
		UART8_TX_M0		
		SPI2_CS1_M0		
		GPIO2_C5_d		
58	CLK32K_OUT1	CLK32K_OUT1	1.8V	
		UART8_RX_M0		
		SPI1_CS1_M0		
		GPIO2_C6_d		
59	UART2_TX_M0	UART2_TX_M0	3.3V	
		GPIO0_D1_u		
60	UART2_RX_M0	UART2_RX_M0	3.3V	
		GPIO0_D0_u		
61	SDMMC0_PWREN	SDMMC0_PWREN	Default:3.3V1.8V/3.3V	
		SATA_MP_SWITCH		
		PCIE20_CLKREQn_M0		
		GPIO0_A5_d		
62	SDMMC0_DET	SDMMC0_DET	Default:3.3V1.8V/3.3V	
		SATA_CP_DET		
		PCIE30X1_CLKREQn_M0		
		GPIO0_A4_u		
63	SDMMC0_CLK	SDMMC0_CLK	Default:3.3V1.8V/3.3V	
		TEST_CLKOUT		

		TEST_CLKOUT		
		UART5_TX_M0		
		CAN0_RX_M1		
		GPIO2_A2_d		
64	SDMMC0_CMD	SDMMC0_CMD	Default:3.3V1.8V/3.3V	
		PWM10_M1		
		UART5_RX_M0		
		CAN0_TX_M1		
		GPIO2_A1_u		
65	SDMMC0_D3	SDMMC0_D3	Default:3.3V1.8V/3.3V	
		ARMJTAG_TMS		
		UART5_RTSn_M0		
		GPIO2_A0_u		
66	SDMMC0_D2	SDMMC0_D2	Default:3.3V1.8V/3.3V	
		ARMJTAG_TCK		
		UART5_CTSn_M0		
		GPIO1_D7_u		
67	SDMMC0_D1	SDMMC0_D1	Default:3.3V1.8V/3.3V	
		UART2_RX_M1		
		UART6_RX_M1		
		PWM9_M1		
		GPIO1_D6_u		
68	SDMMC0_D0	SDMMC0_D0	Default:3.3V1.8V/3.3V	
		UART2_TX_M1		

		UART6_TX_M1		
		PWM8_M1		
		GPIO1_D5_u		
69	VCC3V3_SD	VCC3V3_SD for tf_card	3.3V/400mA OUTPUT	
70	GMAC1_MCLKINOUT_M1	CIF_CLKIN	1.8V	
		EBC_SDCLK		
		GMAC1_MCLKINOUT_M1		
		UART1_CTSn_M1		
		I2S2_SCLK_RX_M1		
		GPIO4_C1_d		
71	CIF_CLKOUT	CIF_CLKOUT	1.8V	
		EBC_GDCLK		
		PWM11_IR_M1		
		GPIO4_C0_d		
72	GMAC1_MDIO_M1	CIF_VSYNC	1.8V	
		EBC_SDOE		
		GMAC1_MDIO_M1		
		I2S2_SCLK_TX_M1		
		GPIO4_B7_d		
73	GMAC1_MDC_M1	CIF_HREF	1.8V	
		EBC_SDLE		

		[illegible]		
		GMAC1_MDC_M1		
		UART1_RTSn_M1		
		I2S2_MCLK_M1		
		GPIO4_B6_d		
74	I2C2_SCL_M1	I2C2_SCL_M1	1.8V	
		EBC_SDSHR		
		CAN2_TX_M0		
		I2S1_SDO3_M1		
		GPIO4_B5_d		
75	I2C2_SDA_M1	I2C2_SDA_M1	1.8V	
		EBC_GDSP		
		CAN2_RX_M0		
		ISP_FLASH_TRIGIN		
		VOP_BT656_CLK_M1		
		GPIO4_B4_d		
76	ETH1_REFCLKO_25M_M1	I2C4_SCL_M0	1.8V	
		EBC_GDOE		
		ETH1_REFCLKO_25M_M1		
		SPI3_CLK_M0		
		I2S2_SDO_M1		
		GPIO4_B3_d		

		[illegible]		
77	GMAC1_RXER_M1	I2C4_SDA_M0	1.8V	
		EBC_VCOM		
		GMAC1_RXER_M1		
		SPI3_MOSI_M0		
		I2S2_SDI_M1		
		GPIO4_B2_d		
78	GMAC1_RXDV_CRS_M1	ISP_PRELIGHT_TRIG	1.8V	
		EBC_SDCE3		
		GMAC1_RXDV_CRS_M1		
		I2S1_SDO2_M1		
		GPIO4_B1_d		
79	GMAC1_RXD1_M1	CAM_CLKOUT1	1.8V	
		EBC_SDCE2		
		GMAC1_RXD1_M1		
		SPI3_MISO_M0		
		I2S1_SDO1_M1		
		GPIO4_B0_d		
80	GMAC1_RXD0_M1	CAM_CLKOUT0	1.8V	
		EBC_SDCE1		
		GMAC1_RXD0_M1		

		SPI3_CS1_M0		
		I2S1_LRCK_RX_M1		
		GPIO4_A7_d		
81	GMAC1_TXEN_M1	ISP_FLASHTRIGOUT	1.8V	
		EBC_SDCE0		
		GMAC1_TXEN_M1		
		SPI3_CS0_M0		
		I2S1_SCLK_RX_M1		
		GPIO4_A6_d		
82	GMAC1_TXD1_M1	CIF_D15	1.8V	
		EBC_SDDO15		
		GMAC1_TXD1_M1		
		UART9_RX_M2		
		I2S2_LRCK_RX_M1		
		GPIO4_A5_d		
83	GMAC1_TXD0_M1	CIF_D14	1.8V	
		EBC_SDDO14		
		GMAC1_TXD0_M1		
		UART9_TX_M2		
		I2S2_LRCK_TX_M1		

		_M1		
		GPIO4_A4_d		
84	GMAC1_RXCLK_M1	CIF_D13	1.8V	
		EBC_SDDO13		
		GMAC1_RXCLK_M1		
		UART7_RX_M2		
		PDM_SDI3_M1		
		GPIO4_A3_d		
85	GMAC1_RXD3_M1	CIF_D12	1.8V	
		EBC_SDDO12		
		GMAC1_RXD3_M1		
		UART7_TX_M2		
		PDM_SDI2_M1		
		GPIO4_A2_d		
86	GMAC1_RXD2_M1	CIF_D11	1.8V	
		EBC_SDDO11		
		GMAC1_RXD2_M1		
		PDM_SDI1_M1		
		GPIO4_A1_d		
87	GMAC1_TXCLK_M1	CIF_D10	1.8V	
		EBC_SDDO10		
		GMAC1_TXCLK_M1		
		PDM_CLK1_M1		

		GPIO4_A0_d		
88	GMAC1_TXD3_M1	CIF_D9	1.8V	
		EBC_SDDO9		
		GMAC1_TXD3_M1		
		UART1_RX_M1		
		DM_SDI0_M1		
		GPIO3_D7_d		
89	GMAC1_TXD2_M1	CIF_D8	1.8V	
		EBC_SDDO8		
		GMAC1_TXD2_M1		
		UART1_TX_M1		
		PDM_CLK0_M1		
		GPIO3_D6_d		
90	GPIO3_D5_d	CIF_D7	1.8V	
		EBC_SDDO7		
		SDMMC2_PWREN_M0		
		I2S1_SDI3_M1		
		VOP_BT656_D7_M1		
		GPIO3_D5_d		
91	GPIO3_D4_d	CIF_D6	1.8V	
		EBC_SDDO6		
		SDMMC2_DET_M0		

		_M0		
		I2S1_SDI2_M1		
		VOP_BT656_D6_M1		
		GPIO3_D4_d		
92	GPIO3_D3_d	CIF_D5	1.8V	
		EBC_SDDO5		
		SDMMC2_CLK_M0		
		I2S1_SDI1_M1		
		VOP_BT656_D5_M1		
		GPIO3_D3_d		
93	GPIO3_D2_d	CIF_D4	1.8V	
		EBC_SDDO4		
		SDMMC2_CMD_M0		
		I2S1_SDI0_M1		
		VOP_BT656_D4_M1		
		GPIO3_D2_d		
94	GPIO3_D1_d	CIF_D3	1.8V	
		EBC_SDDO3		
		SDMMC2_D3_M0		
		I2S1_SDO0_M1		
		VOP_BT656_D3_M1		

		GPIO3_D1_d		
95	GPIO3_D0_d	CIF_D2	1.8V	
		EBC_SDDO2		
		SDMMC2_D2_M0		
		I2S1_LRCK_TX_M1		
		VOP_BT656_D2_M1		
		GPIO3_D0_d		
96	GPIO3_C7_d	CIF_D1	1.8V	
		EBC_SDDO1		
		SDMMC2_D1_M0		
		I2S1_SCLK_TX_M1		
		VOP_BT656_D1_M1		
		GPIO3_C7_d		
97	GPIO3_C6_d	CIF_D0	1.8V	
		EBC_SDDO0		
		SDMMC2_D0_M0		
		I2S1_MCLK_M1		
		VOP_BT656_D0_M1		
		GPIO3_C6_d		

98	GND	GND	GND	
99	USB2_HOST2_DM	USB2_HOST2_DM	/	
100	USB2_HOST2_DP	USB2_HOST2_DP	/	
101	USB2_HOST3_DM	USB2_HOST3_DM	/	
102	USB2_HOST3_DP	USB2_HOST3_DP	/	
103	VCC_1V8	VCC_1V8	1.8V/400mA OUTPUT	
104	VCC_3V3	VCC_3V3	3.3V/400mA OUTPUT	
105	GND	GND	GND	
106	UART7_RX_M1	PWM15_IR_M0	3.3V	
		SPDIF_TX_M1		
		GMAC1_MDIO_M0		
		UART7_RX_M1		
		I2S1_LRCK_RX_M2		
		GPIO3_C5_d		
107	UART7_TX_M1	PWM14_M0	3.3V	
		VOP_PWM_M1		
		GMAC1_MDC_M0		
		UART7_TX_M1		
		PDM_CLK1_M2		

		[illegible]		
		GPIO3_C4_d		
108	UART5_RX_M1	LCDC_DEN	3.3V	
		VOP_BT1120_D15		
		SPI1_CLK_M1		
		UART5_RX_M1		
		I2S1_SCLK_RX_M2		
		GPIO3_C3_d		
109	UART5_TX_M1	LCDC_VSYNC	3.3V	
		VOP_BT1120_D14		
		SPI1_MISO_M1		
		UART5_TX_M1		
		I2S1_SDO3_M2		
		GPIO3_C2_d		
110	GPIO3_C1_d	LCDC_HSYNC	3.3V	
		VOP_BT1120_D13		
		SPI1_MOSI_M1		
		PCIE20_PERSTn_M1		
		I2S1_SDO2_M2		
		GPIO3_C1_d		
111	UART3_RX_M1	LCDC_D23	3.3V	
		PWM13_M0		
		[illegible]		

		GMAC1_MCLKINOUT_M0		
		UART3_RX_M1		
		PDM_SDI3_M2		
		GPIO3_C0_d		
112	UART3_TX_M1	LCDC_D22	3.3V	
		PWM12_M0		
		GMAC1_TXEN_M0		
		UART3_TX_M1		
		PDM_SDI2_M2		
		GPIO3_B7_d		
113	GPIO3_B6_d	LCDC_D21	3.3V	
		VOP_BT1120_D12		
		GMAC1_TXD1_M0		
		I2C3_SDA_M1		
		PWM11_IR_M0		
		GPIO3_B6_d		
114	GPIO3_B5_d	LCDC_D20	3.3V	
		VOP_BT1120_D11		
		GMAC1_TXD0_M0		
		I2C3_SCL_M1		
		PWM10_M0		

		GPIO3_B5_d		
115	I2C5_SDA_M0	LCDC_D19	3.3V	
		VOP_BT1120_D10		
		GMAC1_RXER_M0		
		I2C5_SDA_M0		
		PDM_SDI1_M2		
		GPIO3_B4_d		
116	I2C5_SCL_M0	LCDC_D18	3.3V	
		VOP_BT1120_D9		
		GMAC1_RXDV_CRS_M0		
		I2C5_SCL_M0		
		PDM_SDI0_M2		
		GPIO3_B3_d		
117	UART4_TX_M1	LCDC_D17	3.3V	
		VOP_BT1120_D8		
		GMAC1_RXD1_M0		
		UART4_TX_M1		
		PWM9_M0		
		GPIO3_B2_d		
118	UART4_RX_M1	LCDC_D16	3.3V	
		VOP_BT1120_D7		

		GMAC1_RXD0_M0		
		UART4_RX_M1		
		PWM8_M0		
		GPIO3_B1_d		
119	GPIO3_B0_d	LCDC_D15	3.3V	
		VOP_BT1120_D6		
		ETH1_REFCLKO_25M_M0		
		SDMMC2_PWREN_M1		
		GPIO3_B0_d		
120	GPIO3_A7_d	LCDC_D14	3.3V	
		VOP_BT1120_D5		
		GMAC1_RXCLK_M0		
		SDMMC2_DET_M1		
		GPIO3_A7_d		
121	I2S3_SDI_M0	LCDC_D13	3.3V	
		VOP_BT1120_CLK		
		GMAC1_TXCLK_M0		
		I2S3_SDI_M0		
		SDMMC2_CLK		

		SDMMC2_CLK_M1		
		GPIO3_A6_d		
122	I2S3_SDO_M0	LCDC_D12	3.3V	
		VOP_BT1120_D4		
		GMAC1_RXD3_M0		
		I2S3_SDO_M0		
		SDMMC2_CMD_M1		
		GPIO3_A5_d		
123	I2S3_LRCK_M0	LCDC_D11	3.3V	
		VOP_BT1120_D3		
		GMAC1_RXD2_M0		
		I2S3_LRCK_M0		
		SDMMC2_D3_M1		
		GPIO3_A4_d		
124	I2S3_SCLK_M0	LCDC_D10	3.3V	
		VOP_BT1120_D2		
		GMAC1_TXD3_M0		
		I2S3_SCLK_M0		
		SDMMC2_D2_M1		

		GPIO3_A3_d		
125	I2S3_MCLK_M0	LCDC_D9	3.3V	
		VOP_BT1120_D1		
		GMAC1_TXD2_M0		
		I2S3_MCLK_M0		
		SDMMC2_D1_M1		
		GPIO3_A2_d		
126	GPIO3_A1_d	LCDC_D8	3.3V	
		VOP_BT1120_D0		
		SPI1_CS0_M1		
		PCIE30X1_PERSTn_M1		
		SDMMC2_D0_M1		
		GPIO3_A1_d		
127	GND	GND	GND	
128	MIPI_DSI_TX1_D3N	MIPI_DSI_TX1_D3N	/	
129	MIPI_DSI_TX1_D3P	MIPI_DSI_TX1_D3P	/	
130	MIPI_DSI_TX1_D2N	MIPI_DSI_TX1_D2N	/	
131	MIPI_DSI_TX1_	MIPI_DSI_TX1_	/	

	D2P	D2P		
132	MIPI_DSI_TX1_CLKN	MIPI_DSI_TX1_CLKN	/	
133	MIPI_DSI_TX1_CLKP	MIPI_DSI_TX1_CLKP	/	
134	MIPI_DSI_TX1_D1N	MIPI_DSI_TX1_D1N	/	
135	MIPI_DSI_TX1_D1P	MIPI_DSI_TX1_D1P	/	
136	MIPI_DSI_TX1_D0N	MIPI_DSI_TX1_D0N	/	
137	MIPI_DSI_TX1_D0P	MIPI_DSI_TX1_D0P	/	
138	MIPI_DSI_TX0_D3N	MIPI_DSI_TX0_D3N	/	
		LVDS_TX0_D3N		
139	MIPI_DSI_TX0_D3P	MIPI_DSI_TX0_D3P	/	
		LVDS_TX0_D3P		
140	MIPI_DSI_TX0_D2N	MIPI_DSI_TX0_D2N	/	
		LVDS_TX0_D2N		
141	MIPI_DSI_TX0_D2P	MIPI_DSI_TX0_D2P	/	
		LVDS_TX0_D2P		
142	MIPI_DSI_TX0	MIPI_DSI_TX0	/	

142	MIPI_DSI_TX0_CLKN	MIPI_DSI_TX0_CLKN	/	
		LVDS_TX0_CLKN		
143	MIPI_DSI_TX0_CLKP	MIPI_DSI_TX0_CLKP	/	
		LVDS_TX0_CLKP		
144	MIPI_DSI_TX0_D1N	MIPI_DSI_TX0_D1N	/	
		LVDS_TX0_D1N		
145	MIPI_DSI_TX0_D1P	MIPI_DSI_TX0_D1P	/	
		LVDS_TX0_D1P		
146	MIPI_DSI_TX0_D0N	MIPI_DSI_TX0_D0N	/	
		LVDS_TX0_D0N		
147	MIPI_DSI_TX0_D0P	MIPI_DSI_TX0_D0P	/	
		LVDS_TX0_D0P		
148	HDMI_TX_HPDIN	HDMI_TX_HPDIN	/	
149	HDMITX_SDA	HDMITX_SDA	3.3V	
		I2C5_SDA_M1		
		GPIO4_D0_u		
150	HDMITX_SCL	HDMITX_SCL	3.3V	

150	HDMITX_SCL	HDMITX_SCL	3.3V	
		I2C5_SCL_M1		
		GPIO4_C7_u		
151	HDMITX_CEC_M0	HDMITX_CEC_M0	3.3V	
		SPI3_CS1_M1		
		GPIO4_D1_u		
152	GND	GND	GND	
153	HDMI_TX_CLKN	HDMI_TX_CLKN	/	
154	HDMI_TX_CLKP	HDMI_TX_CLKP	/	
155	HDMI_TX_D0N	HDMI_TX_D0N	/	
156	HDMI_TX_D0P	HDMI_TX_D0P	/	
157	HDMI_TX_D1N	HDMI_TX_D1N	/	
158	HDMI_TX_D1P	HDMI_TX_D1P	/	
159	HDMI_TX_D2N	HDMI_TX_D2N	/	
160	HDMI_TX_D2P	HDMI_TX_D2P	/	
161	MIPI_CSI_RX_D0P	MIPI_CSI_RX_D0P	/	
		PCIE30_TX0P		
162	MIPI_CSI_RX_D0N	MIPI_CSI_RX_D0N	/	
		PCIE30_TX0N		
163	MIPI_CSI_RX_D1P	MIPI_CSI_RX_D1P	/	
		PCIE30_TX1P		
164	MIPI_CSI_RX_D	MIPI_CSI_RX_D	/	

164	MIPI_CSI_RX_D1N	MIPI_CSI_RX_D1N	/	
		PCIE30_TX1N		
165	MIPI_CSI_RX_D2P	MIPI_CSI_RX_D2P	/	
		PCIE30_RX0P		
166	MIPI_CSI_RX_D2N	MIPI_CSI_RX_D2N	/	
		PCIE30_RX0N		
167	MIPI_CSI_RX_D3P	MIPI_CSI_RX_D3P	/	
		PCIE30_RX1P		
168	MIPI_CSI_RX_D3N	MIPI_CSI_RX_D3N	/	
		PCIE30_RX1N		
169	MIPI_CSI_RX_CLK0P	MIPI_CSI_RX_CLK0P	/	
		PCIE30_REFCLKP_IN		
170	MIPI_CSI_RX_CLK0N	MIPI_CSI_RX_CLK0N	/	
		PCIE30_REFCLKN_IN		
171	MIPI_CSI_RX_CLK1P	MIPI_CSI_RX_CLK1P	/	
172	MIPI_CSI_RX_CLK1N	MIPI_CSI_RX_CLK1N	/	
173	PCIE20_TXP	PCIE20_TXP	/	
		SATA2_TXP		

		QSGMII_TXP_M1		
174	PCIE20_TXN	PCIE20_TXN	/	
		SATA2_TXN		
		QSGMII_TXN_M1		
175	PCIE20_RXP	PCIE20_RXP	/	
		SATA2_RXP		
		QSGMII_RXP_M1		
176	PCIE20_RXN	PCIE20_RXN	/	
		SATA2_RXN		
		QSGMII_RXN_M1		
177	PCIE20_REFCLKP	PCIE20_REFCLKP	/	
178	PCIE20_REFCLKN	PCIE20_REFCLKN	/	
179	GND	GND	GND	
180	USB3_HOST1_SSTXP	USB3_HOST1_SSTXP	/	
		SATA1_TXP		
		QSGMII_TXP_M0		
181	USB3_HOST1_SSTXN	USB3_HOST1_SSTXN	/	
		SATA1_TXN		
		QSGMII_TXN_		

		M0		
182	USB3_HOST1_DM	USB3_HOST1_DM	/	
183	USB3_HOST1_DP	USB3_HOST1_DP	/	
184	USB3_HOST1_SSRXP	USB3_HOST1_SSRXP	/	
		SATA1_RXP		
		QSGMII_RXP_M0		
185	USB3_HOST1_SSRXN	USB3_HOST1_SSRXN	/	
		SATA1_RXN		
		QSGMII_RXN_M0		
186	USB3_OTG0_SSTXP	USB3_OTG0_SSTXP	/	
		SATA0_TXP		
187	USB3_OTG0_SSTXN	USB3_OTG0_SSTXN	/	
		SATA0_TXN		
188	USB3_OTG0_DM	USB3_OTG0_DM	/	
189	USB3_OTG0_DP	USB3_OTG0_DP	/	
190	USB3_OTG0_SSRXP	USB3_OTG0_SSRXP	/	
		SATA0_RXP		
191	USB3_OTG0_S	USB3_OTG0_S	/	

191	USB3_OTG0_SSRXN	USB3_OTG0_SSRXN	/	
		SATA0_RXN		
192	USB3_OTG0_VBUSDET	USB3_OTG0_VBUSDET	3.3V	
193	USB3_OTG0_ID	USB3_OTG0_ID	3.3V	
194	GND	GND	GND	
195	EDP_TX_D3N	EDP_TX_D3N	/	
196	EDP_TX_D3P	EDP_TX_D3P	/	
197	EDP_TX_AUXN	EDP_TX_AUXN	/	
198	EDP_TX_AUXP	EDP_TX_AUXP	/	
199	EDP_TX_D2N	EDP_TX_D2N	/	
200	EDP_TX_D2P	EDP_TX_D2P	/	
201	EDP_TX_D1N	EDP_TX_D1N	/	
202	EDP_TX_D1P	EDP_TX_D1P	/	
203	EDP_TX_D0N	EDP_TX_D0N	/	
204	EDP_TX_D0P	EDP_TX_D0P	/	
205	BATDIV	Bat charing	/	RK809-5 预留引脚，暂时不用
206	SNSP		/	
207	SNSN		/	