

QM-SOM3568J-V1 (邮票孔) 核心板规格书



QM-SOM3568J-V1

(邮票孔) 核心板规格书

深圳触觉智能科技有限公司

www.industio.cn

1. 产品概述

1.1 QM-SOM3568J-V1 适用范围

QM-SOM3568J-V1 适用于工业主机，边缘计算网关、嵌入式智能设备等多个领域。

1.2 QM-SOM3568J-V1 产品概述

QM-SOM3568J-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、工业检测、工控盒、智慧城市、云终端等行业定制市场。丰富的外部接口支持，RK3568 SoC 内部组成：

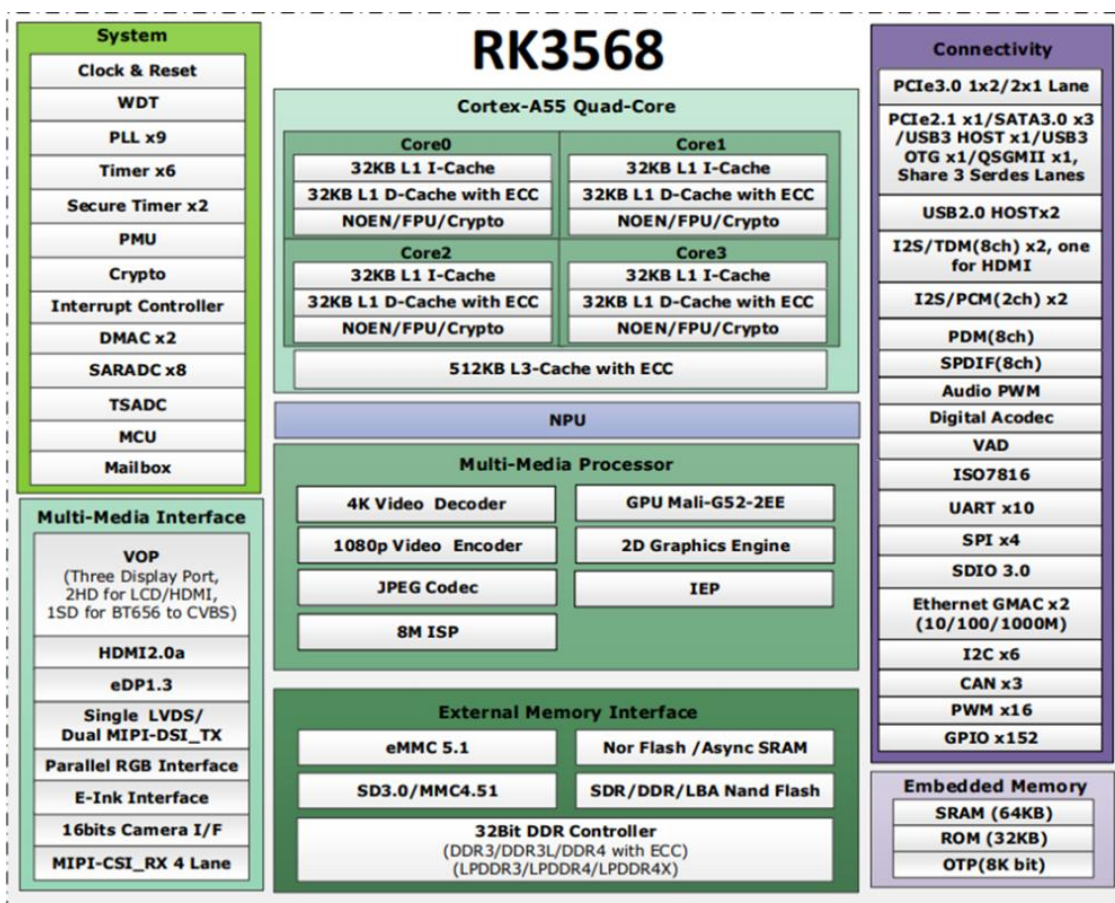


图 1. RK3568 SoC 框图

1.3 QM-SOM3568J-V1 产品特点

- 4.1*5.7CM 超小尺寸邮票孔 LGG 封装 140Pin，8 层板沉金工艺。
- 独特的叠层设计，优异的 EMC 性能和稳定性。
- 丰富的系统支持，Ubuntu , Debian 全面支持。

1.4 QM-SOM3568J-V1 产品图片

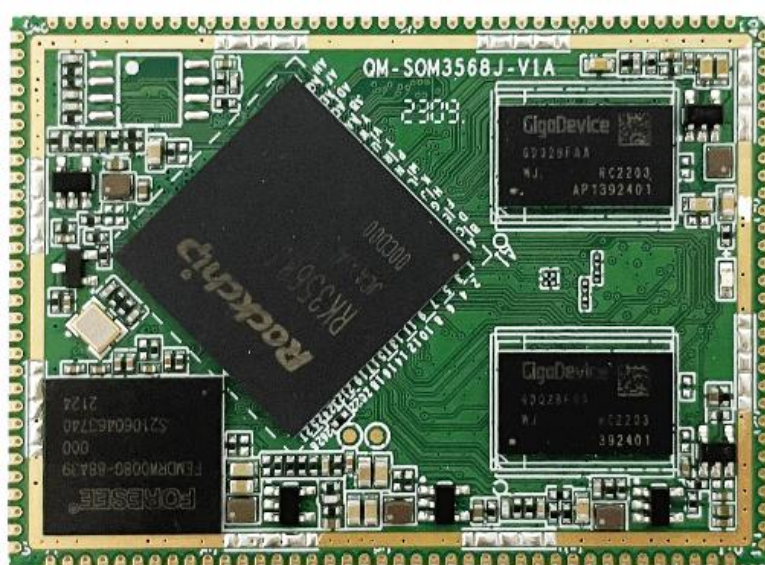


图 2. QM-SOM3568J-V1 核心板正面



图 3. QM-SOM3568J-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 RK3568J
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
内存	1GB DDR4
存储	8GB 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）
USB	1 × USB2.0 OTG 2 × USB 2.0 HOST
扩展接口	4 × UART

	4 × SPI
	2 × CAN
	5 × I2C
	2 × I2S
	3 × PWM
	7 × ADC
	111 × GPIO
其他	
主板尺寸	57mm × 41mm
接口类型	140Pin 间距 1.3mm 邮票孔
PCB 规格	板厚 1.6mm , 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	-40~85°C (工业级)
工作湿度	5%~90% RH 非冷凝
存储温度	-40°C~85°C

2.3 系统支持

序号	操作系统	支持	说明
----	------	----	----

1	Debian10	•	
2	Ubuntu20	•	
3	Buildroot	•	

3. PCB 尺寸和电气参数

3.1 PCB 尺寸

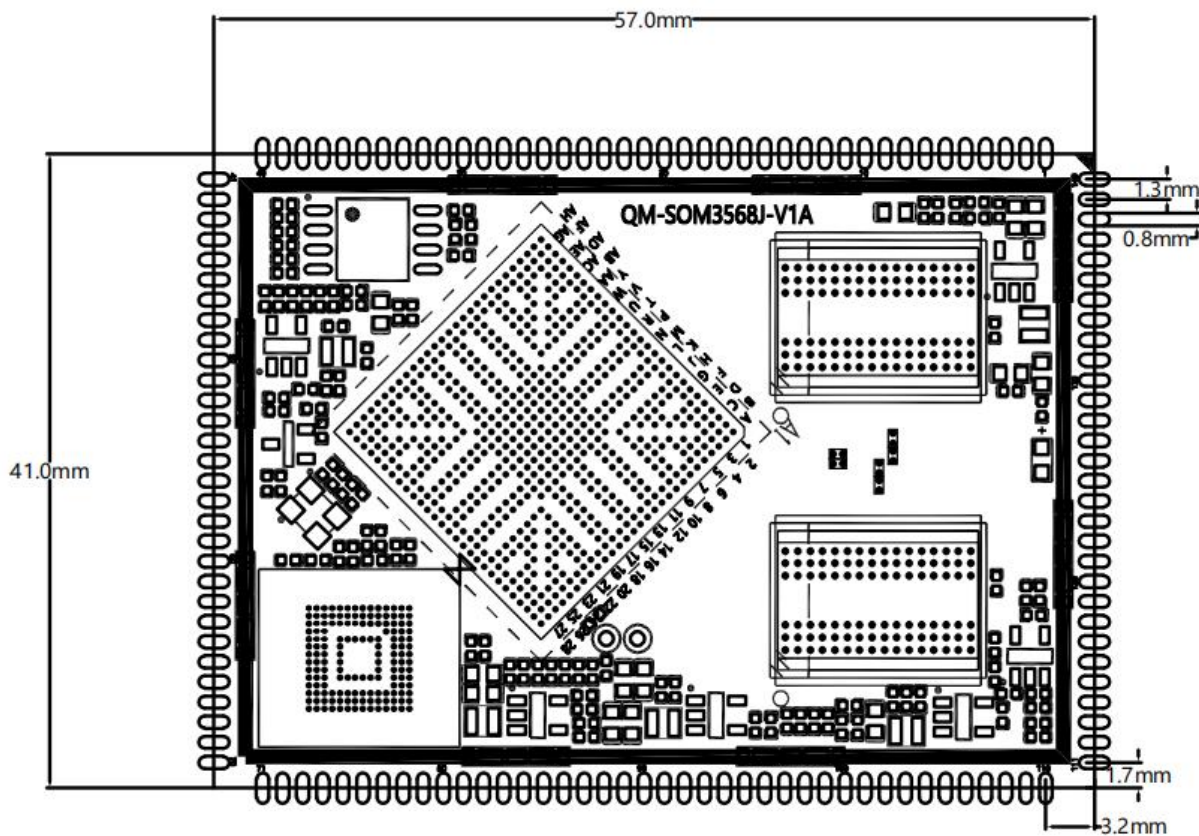


图 4. QM-SOM3568J-V1 核心板正面尺寸

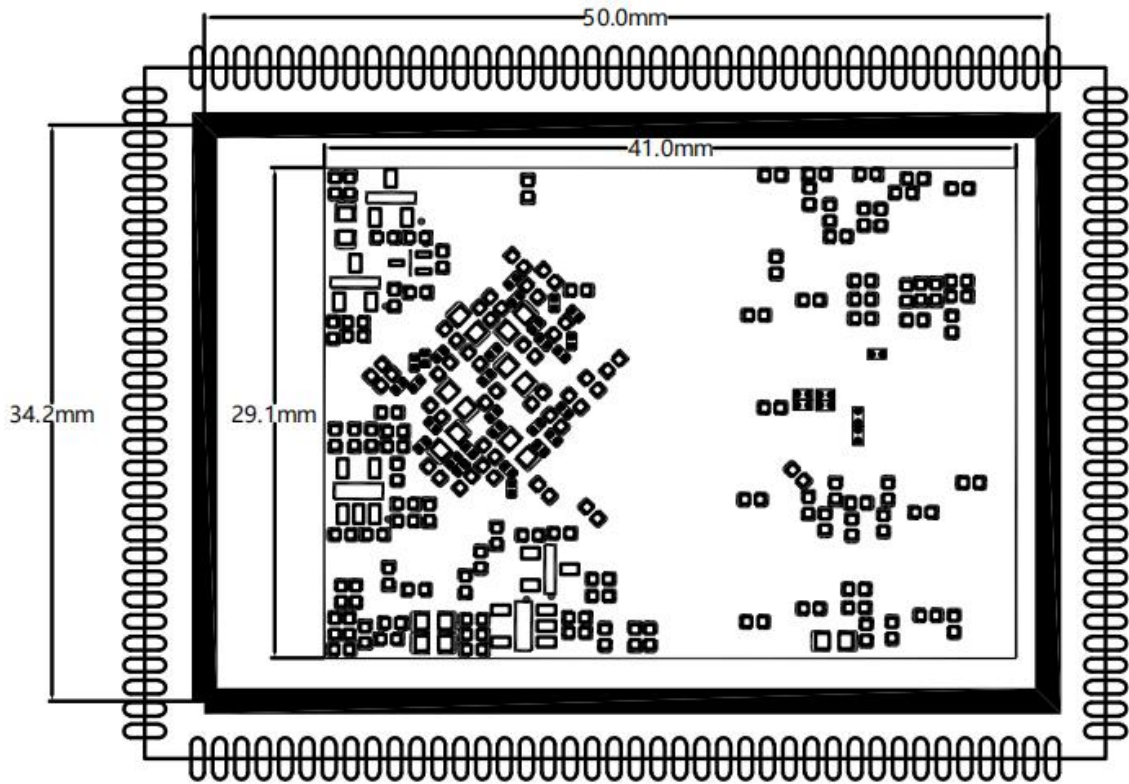


图 5. QM-SOM3568J-V1 核心板背面尺寸

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)	/	/

4. 采购型号

采购型号	DDR4	eMMC	标称工作温度
QM-SOM3568J-V1-D1E8	1GB	8GB	-40~85°C

5. 引脚定义说明

序号	引脚名称	复用功能	电源域	说明
1	GND	GND	GND	
2	SPI2_CS0_M1	LCDC_D5	3.3V	
		VOP_BT656_D5_M0		
		SPI2_CS0_M1		
		PCIE30X2_WAKEn_M1		
		I2S1_SDI2_M2		
GPI02_D5_d				
3	SPI2_MISO_M1	LCDC_D7	3.3V	
		VOP_BT656_D7_M0		
		SPI2_MISO_M1		
		UART8_TX_M1		
		I2S1_SD00_M2		
GPI02_D7_d				
4	PI2_MOSI_M1	LCDC_D6	3.3V	
		VOP_BT656_D6_M0		

		SPI2_MOSI_M1 PCIE30X2_PERSTn_M1 I2S1_SDI3_M2 GPIO2_D6_d		
5	SPI2_CLK_M1	LCDC_CLK VOP_BT656_CLK_M0 SPI2_CLK_M1 UART8_RX_M1 I2S1_SDO1_M2 GPIO3_A0_d	3.3V	
6	UART9_TX_M1	PWM12_M1 SPI3_MISO_M1 SATA1_ACT_LED UART9_TX_M1 I2S3_SDO_M1 GPIO4_C5_d	3.3V	
7	UART9_RX_M1	PWM13_M1 SPI3_CS0_M	3.3V	

		SATA0_ACT_LED		
		UART9_RX_M1		
		I2S3_SDI_M1		
		GPI04_C6_d		
8	UART1_TX_M1	CIF_D8	3.3V	
		EBC_SDD08		
		GMAC1_TXD2_M1		
		UART1_TX_M1		
		PDM_CLK0_M1		
		GPI03_D6_d		
9	UART1_RX_M1	CIF_D9	3.3V	
		EBC_SDD09		
		GMAC1_TXD3_M1		
		UART1_RX_M1		
		DM_SDIO_M1		
		GPI03_D7_d		
10	GPI04_B6_d	CIF_HREF	3.3V	
		EBC_SDLE		

		GMAC1_MDC_M1		
		UART1_RTSn_M1		
		I2S2_MCLK_M1		
		GPI04_B6_d		
11	GPI04_C1_d	CIF_CLKIN	3.3V	
		EBC_SDCLK		
		GMAC1_MCLKINOUT_M1		
		UART1_CTSn_M1		
		I2S2_SCLK_RX_M1		
		GPI04_C1_d		
12	GND	GND	GND	
13	UART6_TX_M1	SDMMC0_D0	3.3V	
		UART2_TX_M1		
		UART6_TX_M1		
		PWM8_M1		
		GPI01_D5_u		
14	UART6_RX_M1	SDMMC0_D1	3.3V	
		UART2_RX_M1		

		UART6_RX_M1		
		PWM9_M1		
		GPI01_D6_u		
15	UART5_TX_M0	SDMMC0_CLK	3.3V	
		TEST_CLKOUT		
		UART5_TX_M0		
		CAN0_RX_M1		
		GPI02_A2_d		
16	UART5_RX_M0	SDMMC0_CMD	3.3V	
		PWM10_M1		
		UART5_RX_M0		
		CAN0_TX_M1		
		GPI02_A1_u		
17	I2C1_SCL	I2C1_SCL	3.3V	
		CAN0_TX_M0		
		PCIE30X1_BUTTONRSTn		
		MCU_JTAG_TDO		
		GPI00_B3_u		

18	I2C1_SDA	I2C1_SDA	3.3V	
		CAN0_RX_M0		
		PCIE20_BUTTONRSTn		
		MCU_JTAG_TCK		
		GPIO0_B4_u		
19	GND	GND	GND	
20	I2S1_MCLK_M0	I2S1_MCLK_M0	3.3V	
		UART3_RSTn		
		SCR_CLK		
		PCIE30X1_PERSTn		
		_M2		
21	I2S1_SCLK_TX_M0	I2S1_SCLK_TX_M0	3.3V	
		UART3_CSTn		
		SCR_IO		
		PCIE30X1_WAKEn		
		_M2		

		GPI01_A3_d		
22	I2S1_SD00_M0	PWM4	3.3V	
		UART4_CSTn		
		SCR_DET		
		AUDIOPEM_ROUT_P		
		ACODEC_DAC_DATA1		
		GPI01_A7_d		
23	I2S1_SDIO_M0	I2S1_SDIO_M0	3.3V	
		PDM_SDIO_M0		
		GPI01_B3_d		
24	I2S1_LCLK_TX_M0	I2S1_LCLK_TX_M0	3.3V	
		UART4_RSTn		
		SCR_RST		
		PCIE30X1_CLKREQn		
		_M2		
		ACODEC_DAC_SYNC		
GPI01_A5_d				

25	GMAC1_TXD3_M0	LCDC_D10	3.3V	
		VOP_BT1120_D2		
		GMAC1_TXD3_M0		
		I2S3_SCLK_M0		
		SDMMC2_D2_M1		
		GPI03_A3_d		
26	GMAC1_TXD2_M0	LCDC_D9	3.3V	
		VOP_BT1120_D1		
		GMAC1_TXD2_M0		
		I2S3_MCLK_M0		
		SDMMC2_D1_M1		
		GPI03_A2_d		
27	GMAC1_TXD1_M0	LCDC_D21	3.3V	
		VOP_BT1120_D12		
		GMAC1_TXD1_M0		
		I2C3_SDA_M1		
		PWM11_IR_M0		
		GPI03_B6_d		

28	GMAC1_TXD0_M0	LCDC_D20	3.3V	
		VOP_BT1120_D11		
		GMAC1_TXD0_M0		
		I2C3_SCL_M1		
		PWM10_M0		
		GPI03_B5_d		
29	GMAC1_TXEN_M0	LCDC_D22	3.3V	
		PWM12_M0		
		GMAC1_TXEN_M0		
		UART3_TX_M1		
		PDM_SDI2_M2		
		GPI03_B7_d		
30	GPI04_C2_d	PWM14_M1	3.3V	
		SPI3_CLK_M1		
		CAN1_RX_M1		
		PCIE30X2_CLKREQn_M2		
		I2S3_MCLK_M1		
		GPI04_C2_d		

31	SPI3_CS0_M1	PWM13_M1	3.3V	
		SPI3_CS0_M		
		SATA0_ACT_LED		
		UART9_RX_M1		
		I2S3_SDI_M1		
		GPI04_C6_d		
32	GMAC1_RXD3_M0	LCDC_D12	3.3V	
		VOP_BT1120_D4		
		GMAC1_RXD3_M0		
		I2S3_SDO_M0		
		SDMMC2_CMD_M1		
		GPI03_A5_d		
33	GND	GND	GND	
34	GMAC1_RXD2_M0	LCDC_D11	3.3V	
		VOP_BT1120_D3		
		GMAC1_RXD2_M0		
		I2S3_LRCK_M0		

		SDMMC2_D3_M1		
		GPI03_A4_d		
35	GMAC1_RXD1_M0	LCDC_D17	3.3V	
		VOP_BT1120_D8		
		GMAC1_RXD1_M0		
		UART4_TX_M1		
		PWM9_M0		
		GPI03_B2_d		
36	GMAC1_RXD0_M0	LCDC_D16	3.3V	
		VOP_BT1120_D7		
		GMAC1_RXD0_M0		
		UART4_RX_M1		
		PWM8_M0		
		GPI03_B1_d		
37	GMAC1_RXCLK_M0	LCDC_D14	3.3V	
		VOP_BT1120_D5		
		GMAC1_RXCLK_M0		
		SDMMC2_DET_M1		

		GPI03_A7_d		
38	GMAC1_RXER_M0	LCDC_D19	3.3V	
		VOP_BT1120_D10		
		GMAC1_RXER_M0		
		I2C5_SDA_M0		
		PDM_SDI1_M2		
		GPI03_B4_d		
39	GMAC1_RXDV_CRS_M0	LCDC_D18	3.3V	
		VOP_BT1120_D9		
		GMAC1_RXDV_CRS_M0		
		I2C5_SCL_M0		
		PDM_SDI0_M2		
		GPI03_B3_d		
40	GMAC1_MDC_M0	PWM14_M0	3.3V	
		VOP_PWM_M1		
		GMAC1_MDC_M0		
		UART7_TX_M1		
		PDM_CLK1_M2		

		GPI03_C4_d		
41	GMAC1_MDIO_M0	PWM15_IR_M0	3.3V	
		SPDIF_TX_M1		
		GMAC1_MDIO_M0		
		UART7_RX_M1		
		I2S1_LRCK_RX_M2		
		GPI03_C5_d		
42	ETH1_REFCLKO_25M_M0	LCDC_D15	3.3V	
		VOP_BT1120_D6		
		ETH1_REFCLKO_25M_M0		
		SDMMC2_PWREN_M1		
		GPI03_B0_d		
43	GPI04_C3_d	PWM15_IR_M1	3.3V	
		SPI3_MOSI_M1		
		CAN1_TX_M1		
		PCIE30X2_WAKEn_M2		
		I2S3_SCLK_M1		
		GPI04_C3_d		

44	GND	GND	GND	
45	GPIO0_B0_u	CLK32K_IN	3.3V	
		CLK32K_OUT0		
		PCIE30X2_BUTTONRSTn		
		GPIO0_B0_u		
46	GPIO0_A0_d	REFCLK_OUT	3.3V	
		GPIO0_A0_d		
47	GPIO2_C6_d	CLK32K_OUT1	3.3V	
		UART8_RX_M0		
		SPI1_CS1_M0		
		GPIO2_C6_d		
48	GPIO2_A0_u	SDMMC0_D3	3.3V	
		ARMJTAG_TMS		
		UART5_RTSn_M0		
		GPIO2_A0_u		
49	GPIO1_D7_u	SDMMC0_D2	3.3V	
		ARMJTAG_TCK		
		UART5_CTSn_M0		

		GPI01_D7_u		
50	GND	GND	GND	
51	UART2_TX_M0	UART2_TX_M0	3.3V	
		GPI00_D1_u		
52	UART2_RX_M0	UART2_RX_M0	3.3V	
		GPI00_D0_u		
53	GPI00_A5_d	SDMMC0_PWREN	3.3V	
		SATA_MP_SWITCH		
		PCIE20_CLKREQn_M0		
		GPI00_A5_d		
54	GMAC1_MCLKINOUT_M0	LCDC_D23	3.3V	
		PWM13_M0		
		GMAC1_MCLKINOUT_M0		
		UART3_RX_M1		
		PDM_SDI3_M2		
		GPI03_C0_d		
55	PWM4	PWM4	3.3V	
		VOP_PWM_M0		

		PCIE30X1_PERSTn_M0		
		MCU_JTAG_TRSTn		
		GPI00_C3_d		
56	GPI02_B1	SDMMC1_PWREN	3.3V	
		I2C4_SDA_M1		
		UART8_RTSn_M0		
		CAN2_RX_M1		
		GPI02_B1_d		
57	SARADC_VINO_KEY/RECOVERY	SARADC_VINO_KEY/RECOVERY	1.8V	
58	SARADC_VIN2	SARADC_VIN2	1.8V	
59	GND	GND	GND	
60	SARADC_VIN3	SARADC_VIN3	1.8V	
61	SARADC_VIN4	SARADC_VIN4	1.8V	
62	GPI04_D0	HDMITX_SDA	1.8V	
		I2C5_SDA_M1		
		GPI04_D0_u		
63	GPI01_A0	I2C3_SDA_M0	3.3V	

		UART3_RX_M0 CAN1_RX_M0 AUDIOPWM_LOUT_P ACODEC_ADC_DATA GPIO1_A0_u		
64	GPIO2_B2	SDMMC1_DET I2C4_SCL_M1 UART8_CTSn_M0 CAN2_TX_M1 GPIO2_B2_u	3.3V	
65	GPIO0_C2	PWM3_IR EDP_HPDI_M1 PCIE30X1_WAKEn_M0 MCU_JTAG_TMS GPIO0_C2_d	3.3V	
66	GMACO_TXD3	SDMMC1_CMD GMACO_TXD3 UART9_RX_M0	3.3V	

		GPI02_A7_u		
67	GMACO_TXD2	SDMMC1_D3	3.3V	
		GMACO_TXD2		
		UART7_TX_M0		
		GPI02_A6_u		
68	GMACO_TXD1	GMACO_TXD1	3.3V	
		UART1_TX_M0		
		GPI02_B4_u		
69	GMACO_TXD0	GMACO_TXD0	3.3V	
		UART1_RX_M0		
		GPI02_B3_u		
70	GMACO_TXEN	GMACO_TXEN	3.3V	
		UART1_RTSn_M0		
		SPI1_CLK_M0		
		GPI02_B5_u		
71	GMACO_MCLKINOUT	I2S2_SCLK_TX_M0	3.3V	
		GMACO_MCLKINOUT		
		UART7_CTSn_M0		

		SPI2_MISO_M0		
		GPI02_C2_d		
72	GMACO_TXCLK	SDMMC1_CLK	3.3V	
		GMACO_TXCLK		
		UART9_TX_M0		
		GPI02_B0_d		
73	GMACO_RXD3	SDMMC1_D1	3.3V	
		GMACO_RXD3		
		UART6_TX_M0		
		GPI02_A4_u		
74	GND	GND	GND	
75	GMACO_RXD2	SDMMC1_D0	3.3V	
		GMACO_RXD2		
		UART6_RX_M0		
		GPI02_A3_u		
76	GMACO_RXD1	I2S2_SCLK_RX_M0	3.3V	
		GMACO_RXD1		
		UART6_RTSn_M0		

		SPI1_MOSI_M0		
		GPI02_B7_u		
77	GMACO_RXD0	GMACO_RXD0	3.3V	
		UART1_CTSn_M0		
		SPI1_MISO_M0		
		GPI02_B6_u		
		I2S2_SDI_M1		
		GPI04_B2_d		
78	GMACO_RXCLK	SDMMC1_D2	3.3V	
		GMACO_RXCLK		
		UART7_RX_M0		
		GPI02_A5_u		
79	GMACO_RXER	I2S2_SDI_M0	3.3V	
		GMACO_RXER		
		UART8_TX_M0		
		SPI2_CS1_M0		
		GPI02_C5_d		

80	GMACO_RXDV_CRS	I2S2_LRCK_RX_M0	3.3V	
		GMACO_RXDV_CRS		
		UART6_CTSn_M0		
		SPI1_CS0_M0		
		GPI02_C0_d		
81	IGMACO_MDC	I2S2_LRCK_TX_M0	3.3V	
		GMACO_MDC		
		UART9_RTSn_M0		
		SPI2_MOSI_M0		
		GPI02_C3_d		
82	GMACO_MDIO	I2S2_SDO_M0	3.3V	
		GMACO_MDIO		
		UART9_CTSn_M0		
		SPI2_CS0_M0		
		GPI02_C4_d		
83	GMAC1_TXDO_M1	I2S2_MCLK_M0	3.3V	
		ETH0_REFCLKO_25M		
		UART7_RTSn_M0		

		SPI2_CLK_M0		
		GPI02_C1_d		
84	GPIO1_A1	I2C3_SCL_M0	3.3V	
		UART3_TX_M0		
		CAN1_TX_M0		
		AUDIOPWM_LOUT_N		
		ACODEC_ADC_CLK		
		GPIO1_A1_u		
85	USB2_HOST2_DP	USB2_HOST2_DP	/	
86	USB2_HOST2_DM	USB2_HOST2_DM	/	
87	USB2_HOST3_DP	USB2_HOST3_DP	/	
88	USB2_HOST3_DM	USB2_HOST3_DM	/	
89	GMAC1_TXD2_M1	I2S1_SD02_M0	3.3V	
		I2S1_SDI2_M0		
		PDM_SDI2_M0		
		PCIE20_WAKEn_M2		
		ACODEC_ADC_SYNC		

		PDM_SDI2_M0		
		GPI01_B1_d		
90	GND	GND	GND	
91	GPI04_C7	HDMITX_SCL	3.3V	
		I2C5_SCL_M1		
		GPI04_C7_u		
92	GPI01_A6	I2S1_LRCK_RX_M0	3.3V	
		UART4_TX_M0		
		PDM_CLK_M0		
		AUDIOPWM_ROUT_P		
		GPI01_A6_d		
93	GPI01_A4	I2S1_SCLK_RX_M0	3.3V	
		UART4_RX_M0		
		PDM_CLK1_M0		
		SPDIF_TX_M0		
		GPI01_A4_d		
94	GPI02_D3	LCDC_D3	3.3V	

		VOP_BT656_D3_M0		
		SPIO_CLK_M1		
		PCIE30X1_WAKEn_M1		
		I2S1_SDIO_M2		
		GPI02_D3_d		
95	GPI02_D2	LCDC_D2	3.3V	
		VOP_BT656_D2_M0		
		SPIO_CS0_M1		
		PCIE30X1_CLKREqn_M1		
		I2S1_LRCK_TX_M2		
		GPI02_D2_d		
96	GPI04_A2	CIF_D12	3.3V	
		EBC_SDD012		
		GMAC1_RXD3_M1		
		UART7_TX_M2		
		PDM_SDI2_M1		
		GPI04_A2_d		
97	GPI04_A3	CIF_D13	3.3V	

		EBC_SDD013		
		GMAC1_RXCLK_M1		
		UART7_RX_M2		
		PDM_SDI3_M1		
		GPI04_A3_d		
98	SARADC_VIN5	SARADC_VIN5	1.8V	
99	SARADC_VIN6	SARADC_VIN6	1.8V	
100	SARADC_VIN7	SARADC_VIN7	1.8V	
101	GPI03_C1	LCDC_HSYNC	3.3V	
		VOP_BT1120_D13		
		SPI1_MOSI_M1		
		PCIE20_PERSTn_M1		
		I2S1_SD02_M2		
		GPI03_C1_d		
102	GPI03_C2	LCDC_VSYNC	3.3V	
		VOP_BT1120_D14		
		SPI1_MISO_M1		

		UART5_TX_M1		
		I2S1_SD03_M2		
		GPI03_C2_d		
103	GPI03_A1	LCDC_D8	3.3V	
		VOP_BT1120_D0		
		SPI1_CS0_M1		
		PCIE30X1_PERSTn_M1		
		SDMMC2_D0_M1		
		GPI03_A1_d		
104	GPI03_C3	LCDC_DEN	3.3V	
		VOP_BT1120_D15		
		SPI1_CLK_M1		
		UART5_RX_M1		
		I2S1_SCLK_RX_M2		
		GPI03_C3_d		
105	GPI03_C6	CIF_D0	3.3V	
		EBC_SDD00		
		SDMMC2_D0_M0		

		I2S1_MCLK_M1		
		VOP_BT656_DO_M1		
		GPI03_C6_d		
106	GPI03_C7	CIF_D1	3.3V	
		EBC_SDD01		
		SDMMC2_D1_M0		
		I2S1_SCLK_TX_M1		
		VOP_BT656_D1_M1		
		GPI03_C7_d		
107	GPI03_D0	CIF_D2	3.3V	
		EBC_SDD02		
		SDMMC2_D2_M0		
		I2S1_LRCK_TX_M1		
		VOP_BT656_D2_M1		
		GPI03_D0_d		
108	GPI03_D1	CIF_D3	3.3V	
		EBC_SDD03		
		SDMMC2_D3_M0		

		I2S1_SD00_M1		
		VOP_BT656_D3_M1		
		GPI03_D1_d		
109	GPI03_D2	CIF_D4	3.3V	
		EBC_SDD04		
		SDMMC2_CMD_M0		
		I2S1_SDI0_M1		
		VOP_BT656_D4_M1		
		GPI03_D2_d		
110	GPI03_D3	CIF_D5	3.3V	
		EBC_SDD05		
		SDMMC2_CLK_M0		
		I2S1_SDI1_M1		
		VOP_BT656_D5_M1		
		GPI03_D3_d		
111	GPI03_D4	CIF_D6	3.3V	
		EBC_SDD06		
		SDMMC2_DET_M0		

		I2S1_SDI2_M1		
		VOP_BT656_D6_M1		
		GPI03_D4_d		
112	GPI03_D5	CIF_D7	3.3V	
		EBC_SDD07		
		SDMMC2_PWREN_M0		
		I2S1_SDI3_M1		
		VOP_BT656_D7_M1		
		GPI03_D5_d		
113	GPI02_D0	LCDC_D0	3.3V	
		VOP_BT656_D0_M0		
		SPI0_MISO_M1		
		/PCIE20_CLKREQn_M1		
		I2S1_MCLK_M2		
		GPI02_D0_d		
114	GPI04_A0	CIF_D10	3.3V	
		EBC_SDD010		
		GMAC1_TXCLK_M1		

		PDM_CLK1_M1		
		GPI04_A0_d		
115	GPI04_A1	CIF_D11	3.3V	
		EBC_SDD011		
		GMAC1_RXD2_M1		
		PDM_SDI1_M1		
		GPI04_A1_d		
116	GND	GND	GND	
117	GPI00_A4	SDMMC0_DET	3.3V	
		SATA_CP_DET		
		PCIE30X1_CLKREQn_M0		
		GPI00_A4_u		
118	GPI00_A6	GPU_PWREN	3.3V	
		SATA_CP_POD		
		PCIE30X2_CLKREQn_M0		
		GPI00_A6_d		
119	GPI04_A4	CIF_D14	3.3V	
		EBC_SDD014		

		GMAC1_TXD0_M1		
		UART9_TX_M2		
		I2S2_LRCK_TX_M1		
		GPIO4_A4_d		
120	GPIO4_A5	CIF_D15	3.3V	
		EBC_SDD015		
		GMAC1_TXD1_M1		
		UART9_RX_M2		
		I2S2_LRCK_RX_M1		
		GPIO4_A5_d		
121	GPIO4_A6	ISP_FLASHTRIGOUT	3.3V	
		EBC_SDCE0		
		GMAC1_TXEN_M1		
		SPI3_CS0_M0		
		I2S1_SCLK_RX_M1		
		GPIO4_A6_d		
122	GPIO4_A7	CAM_CLKOUT0	3.3V	
		EBC_SDCE1		

		GMAC1_RXD0_M1		
		SPI3_CS1_M0		
		I2S1_LRCK_RX_M1		
		GPIO4_A7_d		
123	GPIO4_B0	CAM_CLKOUT1	3.3V	
		EBC_SDCE2		
		SPI3_MISO_M0		
		I2S1_SD01_M1		
		GPIO4_B0_d		
124	GPIO4_B1	ISP_PRELIGHT_TRIG	3.3V	
		EBC_SDCE3		
		GMAC1_RXDV_CRS_M1		
		I2S1_SD02_M1		
		GPIO4_B1_d		
125	GPIO4_B2	I2C4_SDA_M0	3.3V	
		EBC_VCOM		
		SPI3_MOSI_M0		
		I2S2_SDI_M1		

		GPI04_B2_d		
126	GPI02_D1	LCDC_D1	3.3V	
		VOP_BT656_D1_M0		
		SPI0_MOSI_M1		
		PCIE20_WAKEn_M1		
		I2S1_SCLK_TX_M2		
		GPI02_D1_d		
127	GPI04_B4	I2C2_SDA_M1	3.3V	
		EBC_GDSP		
		CAN2_RX_M0		
		ISP_FLASH_TRIGIN		
		VOP_BT656_CLK_M1		
		GPI04_B4_d		
128	GPI04_B5	I2C2_SCL_M1	3.3V	
		EBC_SDSHR		
		CAN2_TX_M0		
		I2S1_SD03_M1		
		GPI04_B5_d		

129	GPIO0_C4	PWM5	3.3V	
		SPI0_CS1_M0		
		UART0_RTSh		
		GPIO0_C4_d		
130	GPIO4_B3	I2S1_SCLK_RX_M0	3.3V	
		EBC_GDOE		
		ETH1_REFCLKO_25M_M1		
		I2S2_SDO_M1		
131	GPIO0_C7	HDMITX_CEC_M1	3.3V	
		PWM0_M1		
		UART0_CTSn		
		GPIO0_C7_d		
132	GPIO4_B7	CIF_VSYNC	3.3V	
		EBC_SDOE		
		GMAC1_MDIO_M1		
		I2S2_SCLK_TX_M1		
		GPIO4_B7_d		

133	GPIO4_CO	CIF_CLKOUT	3.3V	
		EBC_GDCLK		
		PWM11_IR_M1		
		GPIO4_CO_d		
134	GND	GND	GND	
135	USB3_OTGO_DP	USB3_OTGO_DP	/	
136	USB3_OTGO_DM	USB3_OTGO_DM	/	
137	GND	GND	GND	
138	VCC5V0_SYS	VCC5V0_SYS/Main_power	5V/2A/INPUT	
139	VCC5V0_SYS	VCC5V0_SYS	VCC5V0_SYS	
140	VCC5V0_SYS	VCC5V0_SYS	VCC5V0_SYS	