

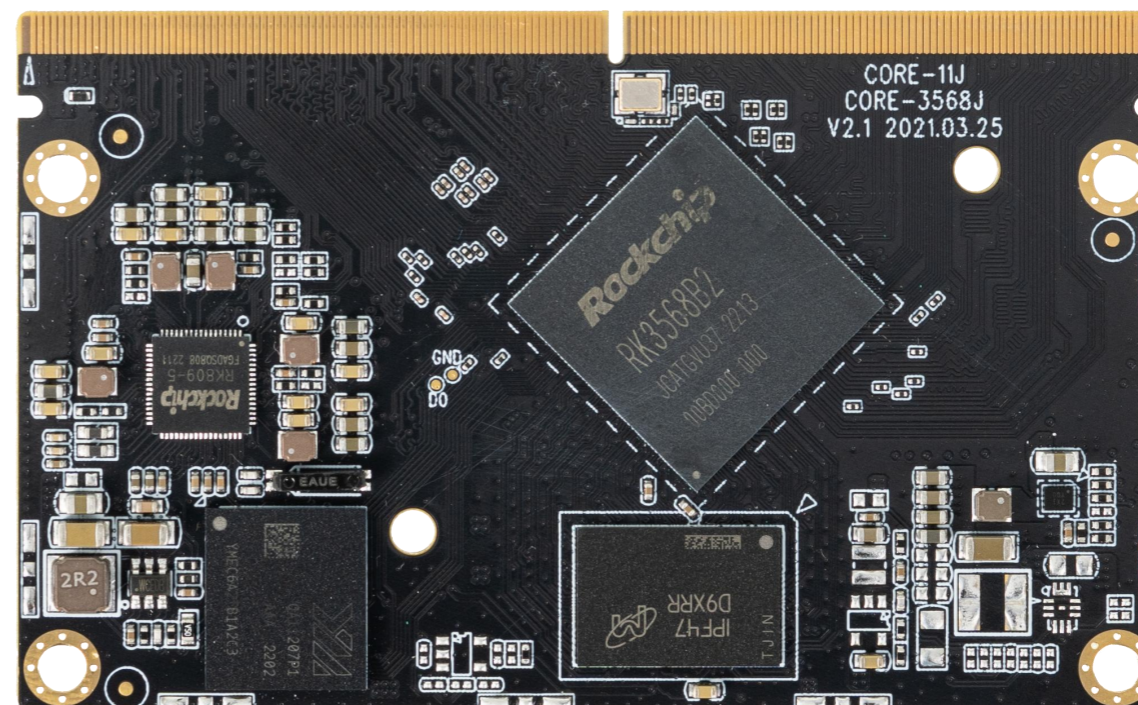


Core-3568J

四核高性能 AI 核心板

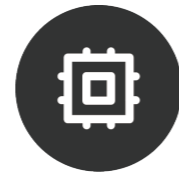
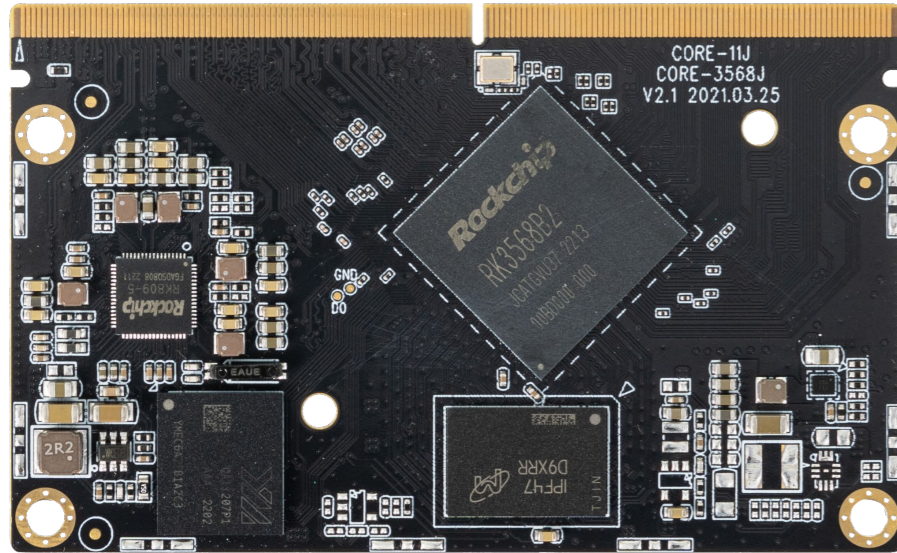
天启智能科技

V2.1





产品特点 Product features



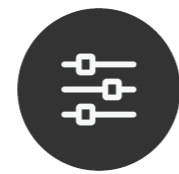
四核64位处理器

四核64位Cortex-A55 处理器RK3568
采用22nm先进工艺
主频高达2.0GHz，低功耗高性能



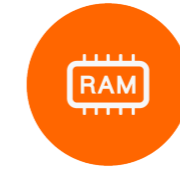
4K HDR H.265视频解码

OpenGL ES3.2/2.0, Vulkan1.1
4K@60fps H.265/VP9视频解码
1080P@100fps H.265视频编码
1TOPs算力NPU



高效二次开发自主定制

314P MXM3.0 标准接口，提供完整
技术资料 and 参考设计，用户能高效进行
二次开发，快速打造自主可控产品



8GB LPDDR4大内存

最高可配8GB LPDDR4内存
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



支持多种操作系统

支持Android、Ubuntu等操作系统，
运行稳定可靠，为产品研发提供安全
稳定的系统环境



广泛的应用领域

广泛适用于智能NVR、云终端、物联
网网关、工业控制、边缘计算、人脸
闸机、NAS、车载中控等场景



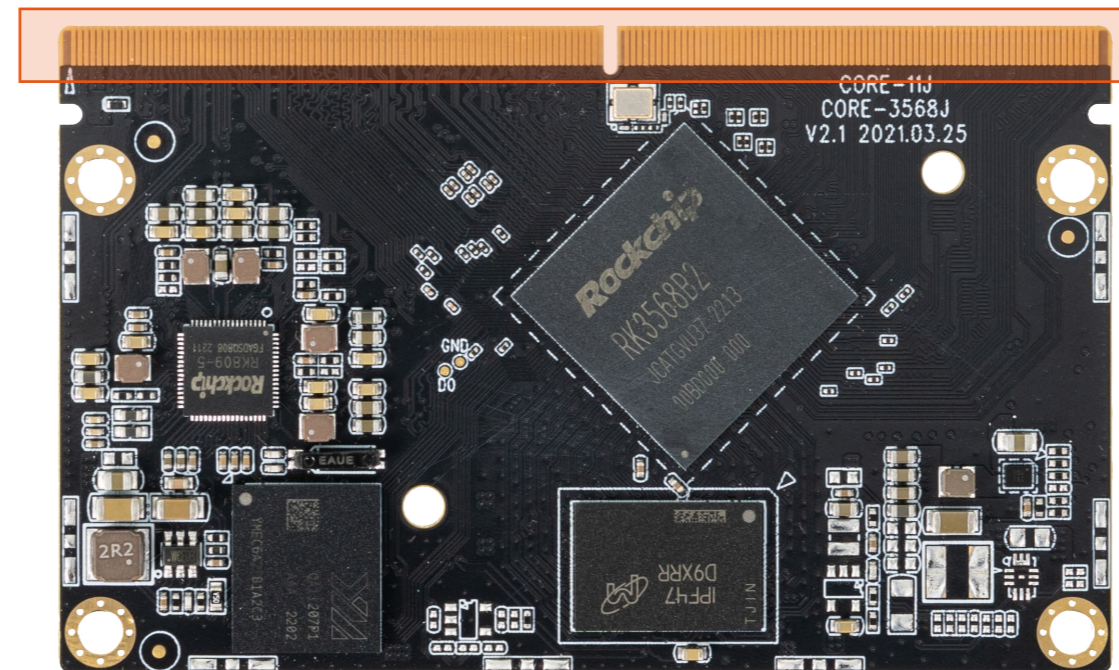
规格参数 Specifications

类 型	主要参数
SOC	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图形处理器, 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@INT8RKNN NPU AI 加速器, 支持 Caffe/TensorFlow/TFLite/ONNX/PyTorch/Keras/Darknet架构模型一键转换
编解码	4K@60fps H.265/H.264/VP9视频解码, 1080P@60fps H.265/H.264视频编码
运行内存	2GB/4GB/8GB LPDDR4
机身存储	16GB/32GB/64GB/128GB eMMC
以太网	集成 GMAC 以太网控制器, 可实现2 * 1000Mbps 以太网
无线网	通过 SDIO 接口可扩展“WiFi+蓝牙”模块 (2.4GHz/5GHz 双频 WiFi6, Bluetooth 5.0), 支持扩展 5G / 4G LTE 无线通讯
视频输出	1 * HDMI2.0 (4K@60fps)、2 * MIPI DSI (1920*1080@60fps 输出) 或 1 * MIPI DSI (双通道 2560*1440@60fps)、1 * eDP1.3 (2560x1600@60fps) * 最多可支持三屏异显输出
摄像头	1 * MIPI CSI (4 Lanes) 或 2 * MIPI CSI (2 Lanes)
PCIe	1 * PCIe 3.0 (2Lanes)、1 * PCIe 2.1 (1Lane)
SATA	3 * SATA3.0
USB	2 * USB3.0、2 * USB2.0
其他接口	3 * SDMMC、3 * SPI、10 * UART、6 * I2C、2 * I2S/PCM(2ch)/TDM(8ch)、16 * PWM、7 * ADC、3 * CAN、130 * GPIO
电源	5V (电压误差 ±5%)
系统	Android、Ubuntu
散热	散热片安装孔距: 45 mm, 推荐配套散热片 (D型散热片) (点击查看)
尺寸	82 mm * 50.5 mm
功耗	待机功耗: 0.015W (5V/3mA)、典型功耗: 2.75W (5V/550mA)、最大功耗: 5.55W (5V/1110mA)
环境	工作温度: -20°C ~ 60°C, 存储温度: -20°C ~ 70°C, 存储湿度: 10% ~ 90%RH (无凝露)

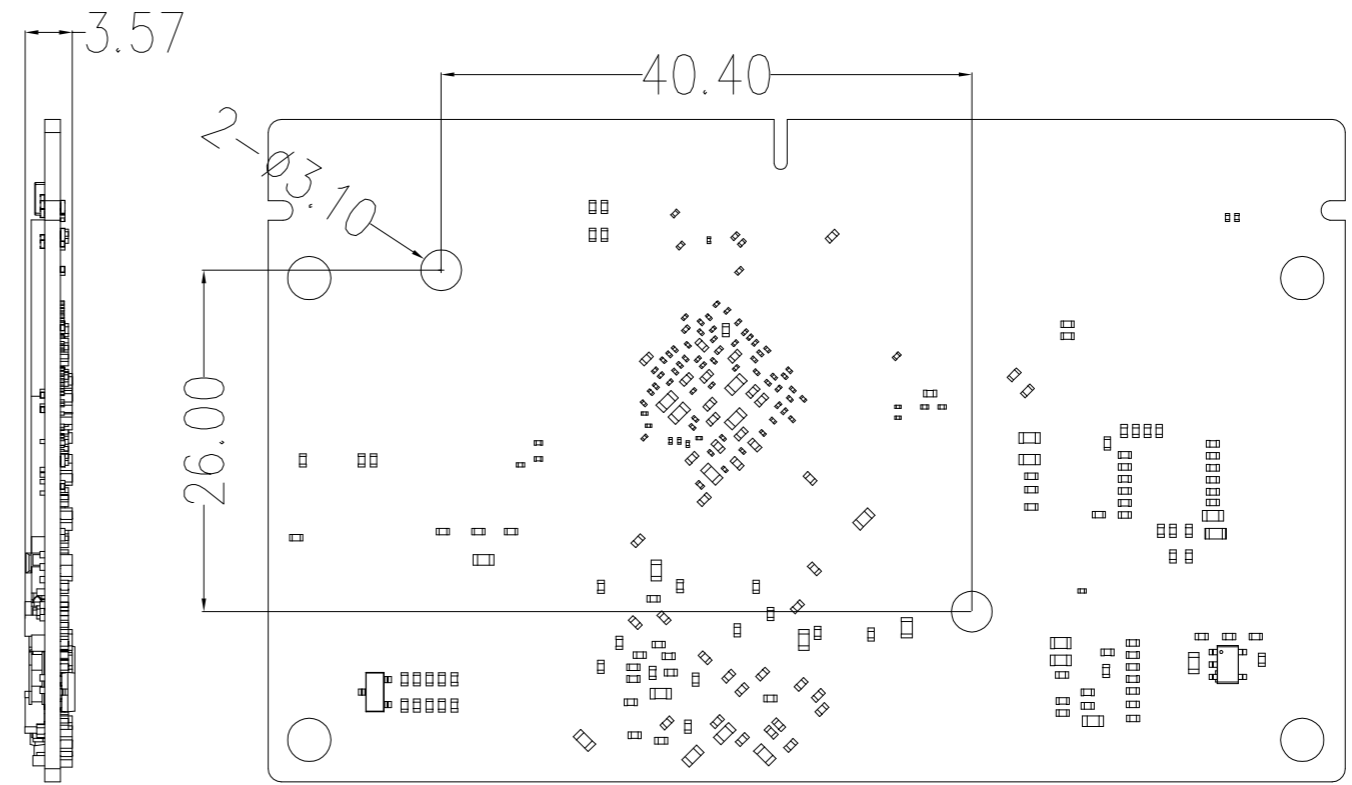
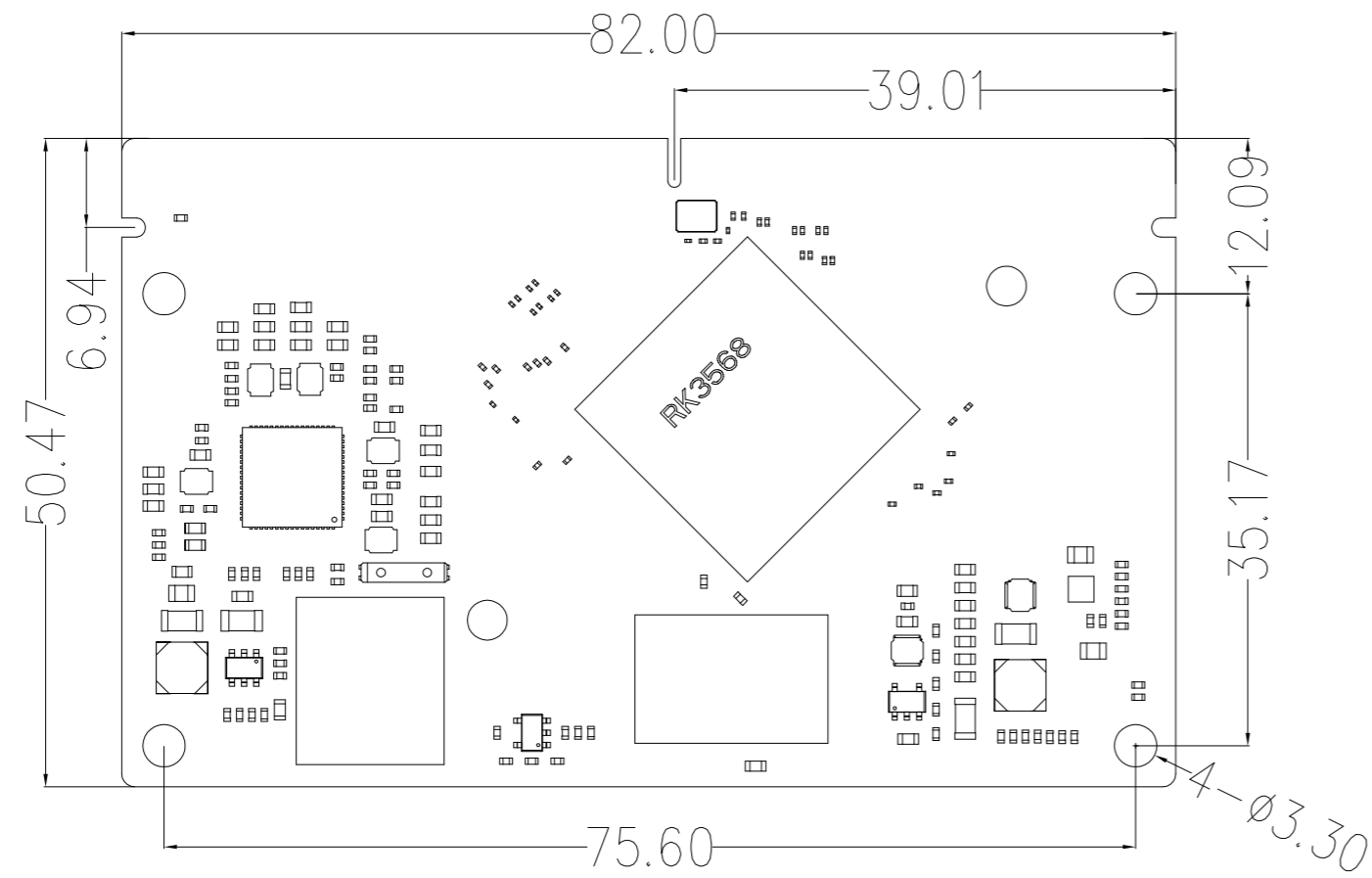
接口描述 Interface description



314Pin MXM3.0标准接口



产品尺寸 Dimension





接口定义 Interface definition

① : Pad types: I = input, O = output, I/O = input/output (bidirectional) , G= Ground , P = power supply , DOWN = Internal pull down , UP = Internal pull UP L = Low Level H = High level							
PIN	CORE-RK3568J Core board pin definition	Pad type	IO Pull	Function for Mainboard (MB-JM3-RK3568)	Defual function description	IO Power domain	RK3568 Pin Number
1	VCC5V0_SYS	P		VCC_SYS	Input Voltage 5.0V +/-5% Normal:1.25W (5.0V/250mA) Max: 6W (5.0V/1200mA) Min: (not done deep sleep) power supply suggest: 5.0V/1.5A	5.0V	
3	VCC5V0_SYS	P		VCC_SYS		5.0V	
5	VCC5V0_SYS	P		VCC_SYS		5.0V	
7	GND	G		GND		GND	GND
9	GND	G		GND	GND		
11	GND	G		GND	GND		
13	VCC_1V8	P		VCC_1V8	1.8V Output , Pin13/14 Total Max:500mA	1.8V	
15	VCC3V3_SD	P		VCC3V3_SD	3.3V Output TF Card Power , Pin15/16 Total Max:100mA	3.3V	
17	VCCIO_ACODEC	P		VCCIO_ACODEC	3.3V Output For codec, Pin17/18 Total Max:200mA	3.3V	
19	NC			NC		NC	
21	NC			NC		NC	
23	VCC_3V3	P		VCC_3V3	3.3V Output , Pin23/24 Total Max:800mA	3.3V	
25	VCCIO_WL (M board must input 1.8V or 3.3V)	P		VCCIO_WL	WIFI/GMAC1 VCCIO Input to RK3568_VCCIO6, 1.8V or 3.3V option(Pin25/26 same net) Default:1.8V Input	1.8V/3.3V	
27	GND	G		GND		GND	
29	I2C3_SDA_M0/UART3_RX_M0/CAN1_RX_M0/AUDIOPWM_LOUT_P/GPIO1_A0_U	I/O	UP	I2C3_SDA_M0	I2C3_SDA_M0 Core board Pull up resistance 2.2K to VCCIO_ACODEC	3.3V	D18
31	I2C3_SCL_M0/UART3_TX_M0/CAN1_TX_M0/AUDIOPWM_LOUT_N/GPIO1_A1_U	I/O	UP	I2C3_SCL_M0	I2C3_SCL_M0 Core board Pull up resistance 2.2K to VCCIO_ACODEC	3.3V	E18
33	EMMC_RSTN/FSPI_D2/FLASH_WPN/GPIO1_C7_D	I/O	DOWN	EMMC_RSTN/FSPI_D2/FLASH_WPN	FSPI_D2/FLASH_WPN	1.8V	F20
35	I2S1_SCLK_RX_M0/PDM_CLK1_M0_CON/SPDIF_TX_M0/GPIO1_A4_D	I/O	DOWN	EDP_BL_EN	EDP Backlight EN, Active H	3.3V	F18
37	I2S1_SDO2_M0/I2S1_SDI2_M0/PDM_SDI2_M0_CON/GPIO1_B1_D	I/O	DOWN	EDP_VCC_EN	EDP Power EN, Active H	3.3V	E20



39	I2S1_SDO1_M0/I2S1_SDI3_M0/PDM_SDI3_M0_CON/GPIO1_B0_D	I/O	DOWN	EAR_CTL	Headphone output control, Active H	3.3V	D20
41	I2S1_SDO3_M0/I2S1_SDI1_M0/PDM_SDI1_M0_CON/GPIO1_B2_D	I/O	DOWN	GPIO1_B2_D	MIPI DSI1 BL_EN,Active H	3.3V	A21
43	PWRON_KEY	I	DOWN	PWRON_KEY	PMIC PWRON_KEY Input, Active L Core board series resistance 100R	3.3V	
45	NC			NC			
47	EXT_EN	O		EXT_EN	PMIC POWER_EN Output, Active H	3.3V	
49	nPOR_u	I	UP	RESET_KEY	System reset input Reset key , Active L Core board Pull up resistance 10K ,series resistance 22R	3.3V	AH27
51	FSPI_CLK/FLASH_ALE/GPIO1_D0_D	I/O	DOWN	FSPI_CLK/FLASH_ALE	FSPI_CLK Core board series resistance 22R	1.8V	A22
53	FSPI_CS0N/FLASH_CS0N/GPIO1_D3_U	I/O	UP	FSPI_CS0N/FLASH_CS0N	FSPI_CS0N	1.8V	C23
55	FSPI_D1/FLASH_RDN/GPIO1_D2_U	I/O	UP	FSPI_D1/FLASH_RDN	FSPI_D1	1.8V	D23
57	FSPI_D0/FLASH_RDY/GPIO1_D1_u	I/O	UP	FSPI_D0/FLASH_RDY	FSPI_D0	1.8V	C24
59	GND	I/O					
61	SARADC_VIN2	I/O	UP	SARADC_VIN2	ADC2 Input; M board need add Pull up resistance	1.8V	D24
63	SARADC_VIN3	I/O	UP	SARADC_VIN3_EVB_HW_ID	ADC3 Input; M board need add Pull up resistance	1.8V	E23
65	GND	G		GND	GND		
67	SDMMC1_DET/I2C4_SCL_M1/UART8_CTSn_M0/CAN2_TX_M1/GPIO2_B2_u	I/O	UP	UART8_CTSN_M0	UART8_CTSN_M0 For BT	1.8V	E25
69	CLK32K_OUT1/UART8_RX_M0/SPI1_CS1_M0/GPIO2_C6_d	I/O	DOWN	UART8_RX_M0	UART8_RX_M0 For BT	1.8V	E26
71	SDMMC1_PWREN/I2C4_SDA_M1/UART8_RTSn_M0/CAN2_RX_M1/GPIO2_B1_d	I/O	DOWN	UART8_RTSN_M0	UART8_RTSN_M0 For BT	1.8V	D26
73	I2S2_SDI_M0/GMAC0_RXER/UART8_TX_M0/SPI2_CS1_M0/GPIO2_C5_d	I/O	DOWN	UART8_TX_M0	UART8_TX_M0 For BT	1.8V	F26
75	GND	G		GND	GND		
77	ETH0_REFCLK_25M/I2S2_MCLK_M0/UART7_RTSn_M0/SPI2_CLK_M0/GPIO2_C1_d	I/O	DOWN	ETH0_REFCLKO_25M	ETH0_REF CLOCK OUTPUT_25MHz, CPU to PHY, Default NC ;series resistance 22R	1.8V	G23
79	GND	G		GND	GND		
81	GMAC0_MCLKINOUT/I2S2_SCLK_TX_M0/UART7_CTSn_M0/SPI2_MISO_M0/GPIO2_C2_d	I/O	DOWN	GMAC0_MCLKINOUT	GMAC0_MCLK_IN/OUT PUT Default: Input--(PHY use external crystal)	1.8V	F25
83	GND	G		GND	GND		
85	GMAC0_RXDV_CRS/I2S2_LRCK_RX_M0/UART6_CTSn_M0/SPI1_CS0_M0/GPIO2_C0_d	I/O	DOWN	GMAC0_RXDV_CRS	GMAC RX data valid signal	1.8V	F24
87	GMAC0_MDIO/I2S2_SDO_M0/UART9_CTSn_M0/SPI2_CS0_M0/GPIO2_C4_d	I/O	DOWN	GMAC0_MDIO	GMAC management interface data	1.8V	H23
89	GMAC0_MDC/I2S2_LRCK_TX_M0/UART9_RTSn_M0/SPI2_MOSI_M0/GPIO2_C3_d	I/O	DOWN	GMAC0_MDC	GMAC management interface clock	1.8V	H24
91	GMAC0_RXD1/I2S2_SCLK_RX_M0/UART6_RTSn_M0/SPI1_MOSI_M0/GPIO2_B7_d	I/O	DOWN	GMAC0_RXD1	GMAC RX data	1.8V	H25



93	GND	G		GND	GND		
95	SDMMC0_D2/ARMJTAG_TCK/UART5_CTSn_M0/GPIO1_D7_u	I/O	UP	SDMMC0_D2	SDMMC0_D2 for TF Card	VCCIO_SD *Note2	H26
97	SDMMC0_D1/UART2_RX_M1/UART6_RX_M1/PWM9_M1/GPIO1_D6_u	I/O	UP	SDMMC0_D1	SDMMC0_D1 for TF Card		J24
99	SDMMC0_D0/UART2_TX_M1/UART6_TX_M1/PWM8_M1/GPIO1_D5_u	I/O	UP	SDMMC0_D0	SDMMC0_D0 for TF Card		J25
101	SDMMC0_D3/ARMJTAG_TMS/UART5_RTsn_M0/GPIO2_A0_u	I/O	UP	SDMMC0_D3	SDMMC0_D3 for TF Card		J23
103	SDMMC0_DET_L/SATA_CP_DET/PCIE30X1_CLKREQn_M0/GPIO0_A4_u	I/O	UP	SDMMC0_DET_L	SDMMC0_DET Input, Active L	3.3V	Y22
105	GND	G		GND	GND		
107	EDP_TX_AUXN	O		EDP_TX_AUXN	eDP CH-AUX negative differential output		M25
109	EDP_TX_AUXP	O		EDP_TX_AUXP	eDP CH-AUX positive differential output		L25
111	GND	G		GND	GND		
113	USB3_HOST1_DP	I/O		USB3_HOST1_DP	USB3_HOST1_DP		P24
115	USB3_HOST1_DM	I/O		USB3_HOST1_DM	USB3_HOST1_DM		P25
117	GND	G		GND	GND		
119	MULTI_PHY0_REFCLKP	O		NC	NC		R24
121	MULTI_PHY0_REFCLKN	O		NC	NC		R25
123	MULTI_PHY1_REFCLKN	O		NC	NC		U24
125	MULTI_PHY1_REFCLKP	O		NC	NC		U25
127	GND	G		GND	GND		
129	USB3_OTG0_ID	I		USB3_OTG0_ID	OTG0 DET,Active L Default NC	1.8V	L23
131	USB3_OTG0_VBUSDET	I		USB3_OTG0_VBUSDET	USB plug-in DET,Active H	3.3V	M24
133	EDP_HPDI_M0/SPDIF_TX_M2/SATA2_ACT_LED/PCIE30X2_PERSTn_M2/I2S3_LRC K_M1/GPIO4_C4_d	I/O	DOWN	SATA2_ACT_LED	SATA2_ACT_LED EN,Active H	3.3V	AH7
135	LCDC_D4/VOP_BT656_D4_M0/SPI2_CS1_M1/PCIE30X2_CLKREQn_M1/I2S1_SDI1_M 2/GPIO2_D4_d	I/O	DOWN	PCIE30X2_CLKREQN_M1	PCIE30X2_CLKREQN	3.3V	AF5
137	LCDC_D5/VOP_BT656_D5_M0/SPI2_CS0_M1/PCIE30X2_WAKEn_M1/I2S1_SDI2_M2/ GPIO2_D5_d	I/O	DOWN	PCIE30X2_WAKEN_M1	PCIE30X2_WAKEN	3.3V	AF6
139	GND	G		GND	GND		
141	PCIE20_REFCLKP	O		PCIE20_REFCLKP	PCIE20_REF CLKP OUTPUT		V24
143	PCIE20_REFCLKN	O		PCIE20_REFCLKN	PCIE20_REF CLKN OUTPUT		V25
145	PCIE30_REFCLKP_IN	I		PCIE30_REFCLKP_IN	PCIE30_REF CLKP_INPUT		Y25
147	PCIE30_REFCLKN_IN	I		PCIE30_REFCLKN_IN	PCIE30_REF CLKN_INPUT		AA25



149	GND	G		GND	GND		
151	GPIO0_D4_d	I/O	DOWN	PCIE_PWREN_H_GPIO0_D4	PCIE Power enable ,Active H	1.8V	AB23
153	GPIO0_D6_d	I/O	DOWN	USB30_HOST_PWREN_H	USB30_HOST Power enable ,Active H	1.8V	AC24
155	I2C0_SDA (I2C for PMIC)	I/O	UP	NC	NC, Core board Pull up resistance 2.2K	3.3V	AB21
157	I2C0_SCL (I2C for PMIC)	I/O	UP	NC	NC, Core board Pull up resistance 2.2K	3.3V	AF24
159	I2C2_SDA_M0/SPI0_MOSI_M0/PCIE20_PERSTn_M0/PWM2_M1/GPIO0_B6_U	I/O	UP	TP_RST_L_GPIO0_B6	MIPI DSI0 TP_Reset ,Active L	3.3V	AA20
161	GPIO0_D5_d	I/O	DOWN	USB20_HOST0_PWREN	USB20_HOST0_PWR_EN ,Active H	1.8V	AD25
163	GPIO0_D3_d	I/O	DOWN	RTCIC_INT_L_GPIO0_D3	RTC IC_INT ,Active L	1.8V	AE26
165	GND	G		GND	GND		
167	GND	G		GND	GND		
169	USB_HOST_PWREN_H/GPU_PWREN/SATA_CP_POD/PCIE30X2_CLKREQn_M/GPIO0_A6_d	I/O	DOWN	WK2124_INT	WK2124 interrupt input ,Active L	3.3V	AE24
171	PWM4/VOP_PWM_M0/PCIE30X1_PERSTn_M0/MCU_JTAG_TRSTn/GPIO0_C3_d	I/O	DOWN	LCD0_BL_PWM4	PWM4 Output	3.3V	AE23
173	PWM2_M0/NPUAVS/UART0_TX/MCU_JTAG_TDI/GPIO0_C1_d	I/O	DOWN	LCD1_TP_INT_GPIO0_C1	MIPI DSI1 TP interrupt input ,Active L	3.3V	AF23
175	I2C2_SCL_M0/SPI0_CLK_M0/PCIE20_WAKEn_M0/PWM1_M1/GPIO0_B5_u	I/O	UP	TP_INT_L_GPIO0_B5	MIPI DSI0 TP interrupt input ,Active L	3.3V	AC22
177	PWM1_M0/GPUAVS/UART0_RX/GPIO0_C0_d	I/O	DOWN	WORK_LED	LED EN, active H	3.3V	AD22
179	I2C1_SDA/CAN0_RX_M0/PCIE20_BUTTONRSTn/MCU_JTAG_TCK/GPIO0_B4_u	I/O	UP	I2C1_SDA_TP	I2C1 SDA for TP Core board Pull up resistance 2.2K	3.3V	AB20
181	I2C1_SCL/CAN0_TX_M0/PCIE30X1_BUTTONRSTn/MCU_JTAG_TDO/GPIO0_B3_u	I/O	UP	I2C1_SCL_TP	I2C1 SCL for TP Core board Pull up resistance 2.2K	3.3V	AG24
183	PWM5/SPI0_CS1_M0/UART0_RTSn/GPIO0_C4_d	I/O	DOWN	LCD1_BL_PWM5	LCD1_BL_PWM5	3.3V	AD21
185	PWM7_IR/SPI0_CS0_M0/PCIE30X2_PERSTn_M0/GPIO0_C6_d	I/O	DOWN	PWM7_IR	PWM7_IR Input	3.3V	AD20
187	PWM6/SPI0_MISO_M0/PCIE30X2_WAKEn_M0/GPIO0_C5_d	I/O	DOWN	LCD0_RST_L_GPIO0_C5	MIPI DS0_Reset Active L	3.3V	AC21
189	HDMITX_SDA/I2C5_SDA_M1/GPIO4_D0_u	I/O	UP	HDMITX_SDA	I2C SDA for HDMI	3.3V	AG7
191	HDMITX_SCL/I2C5_SCL_M1/GPIO4_C7_u	I/O	UP	HDMITX_SCL	I2C SCL for HDMI	3.3V	AG8
193	HDMITX_CEC_M0/SPI3_CS1_M1/GPIO4_D1_u	I/O	UP	HDMITX_CEC_M0	HDMITX_CEC_M0	3.3V	AH6
195	HDMI_TX_HPDIN	I		HDMI_TX_HPDIN	HDMI Hot Plug Detection interrupt with 5V tolerance ,Active H	1.8V~5V	AB18
197	GND	G		GND	GND		
199	MIPI_DSI_TX1_D0N	O		MIPI_DSI_TX1_D0N	MIPI_DSI_TX1_D0N		AE18
201	MIPI_DSI_TX1_D0P	O		MIPI_DSI_TX1_D0P	MIPI_DSI_TX1_D0P		AD18



203	MIPI_DSI_TX1_D1N	O		MIPI_DSI_TX1_D1N	MIPI_DSI_TX1_D1N		AC17
205	MIPI_DSI_TX1_D1P	O		MIPI_DSI_TX1_D1P	MIPI_DSI_TX1_D1P		AD17
207	GND	G		GND	GND		
209	MIPI_DSI_TX1_CLKN	O		MIPI_DSI_TX1_CLKN	MIPI_DSI_TX1_CLKN		AE15
211	MIPI_DSI_TX1_CLKP	O		MIPI_DSI_TX1_CLKP	MIPI_DSI_TX1_CLKP		AD15
213	MIPI_DSI_TX1_D2N	O		MIPI_DSI_TX1_D2N	MIPI_DSI_TX1_D2N		AC14
215	MIPI_DSI_TX1_D2P	O		MIPI_DSI_TX1_D2P	MIPI_DSI_TX1_D2P		AD14
217	MIPI_DSI_TX1_D3N	O		MIPI_DSI_TX1_D3N	MIPI_DSI_TX1_D3N		AE12
219	MIPI_DSI_TX1_D3P	O		MIPI_DSI_TX1_D3P	MIPI_DSI_TX1_D3P		AD12
221	MIPI_CSI_RX_D2N	I		MIPI_CSI_RX_D2N	MIPI_CSI_RX_D2N		AD11
223	MIPI_CSI_RX_D2P	I		MIPI_CSI_RX_D2P	MIPI_CSI_RX_D2P		AE11
225	MIPI_CSI_RX_D3N	I		MIPI_CSI_RX_D3N	MIPI_CSI_RX_D3N		AE9
227	MIPI_CSI_RX_D3P	I		MIPI_CSI_RX_D3P	MIPI_CSI_RX_D3P		AD9
229	GND	G		GND	GND		
231	PWM12_M1/SPI3_MISO_M1/SATA1_ACT_LED/UART9_TX_M1/I2S3_SDO_M1/GPIO4_C5_d	I/O	DOWN	BL_EN0	MIPI DSI0 BL_EN, Active H	3.3V	AD8
233	PWM13_M1/SPI3_CS0_M1/SATA0_ACT_LED/UART9_RX_M1/I2S3_SDI_M1/GPIO4_C6_d	I/O	DOWN	LCD1_RST_L	MIPI DSI1 Reset, Active L	3.3V	AE8
235	PWM14_M1/SPI3_CLK_M1/CAN1_RX_M1/PCIE30X2_CLKREQn_M2/I2S3_MCLK_M1/GPIO4_C2_d	I/O	DOWN	CAN1_RX_M1	CAN1_RX_M1	3.3V	AF8
237	PWM15_IR_M1/SPI3_MOSI_M1/CAN1_TX_M1/PCIE30X2_WAKEn_M2/I2S3_SCLK_M1/GPIO4_C3_d	I/O	DOWN	CAN1_TX_M1	CAN1_TX_M1	3.3V	AA11
239	LCDC_D2/VOP_BT656_D2_M0/SPI0_CS0_M1/PCIE30X1_CLKREQn_M1/I2S1_LRCK_TX_M2/GPIO2_D2_d	I/O	DOWN	GMAC0_INT/PMEB_GPIO2_D2	GMAC0_INT/PMEB	3.3V	AC8
241	LCDC_D8/VOP_BT1120_D0/SPI1_CS0_M1/PCIE30X1_PERSTn_M1/SDMMC2_D0_M1/GPIO3_A1_d	I/O	DOWN	SPI1_CS0_M1	SPI1_CS0_M1	3.3V	AB8
243	LCDC_D1/VOP_BT656_D1_M0/SPI0_MOSI_M1/PCIE20_WAKEn_M1/I2S1_SCLK_TX_M2/GPIO2_D1_d	I/O	DOWN	GMAC1_RSTN_GPIO2_D1	GMAC1_Reset, Active L	3.3V	AD7
245	LCDC_D6/VOP_BT656_D6_M0/SPI2_MOSI_M1/PCIE30X2_PERSTn_M1/I2S1_SDI3_M2/GPIO2_D6_d	I/O	DOWN	PCIE30X2_PERSTN_M1	PCIE Reset, Active L	3.3V	AD6
247	LCDC_D9/VOP_BT1120_D1/GMAC1_TXD2_M0/I2S3_MCLK_M0/SDMMC2_D1_M1/GPIO3_A2_d	I/O	DOWN	HUB_USB1_PWREN_H	HOST_USB2.0 POWER Output EN, Active H	3.3V	AE5



249	LCDC_D22/PWM12_M0/GMAC1_TXEN_M0/UART3_TX_M1/PDM_SDI2_M2/GPIO3_B7_d	I/O	DOWN	UART3_TX_M1	UART3_TX_M1	3.3V	AD4
251	LCDC_D23/PWM13_M0/GMAC1_MCLKINOUT_M0/UART3_RX_M1/PDM_SDI3_M2/GPIO3_C0_d	I/O	DOWN	UART3_RX_M1	UART3_RX_M1	3.3V	AD2
253	LCDC_D11/VOP_BT1120_D3/GMAC1_RXD2_M0/I2S3_LRCK_M0/SDMMC2_D3_M1/GPIO3_A4_d	I/O	DOWN	I2S3_LRCK_M0	I2S3_LRCK_M0	3.3V	AF4
255	LCDC_D3/VOP_BT656_D3_M0/SPI0_CLK_M1/PCIE30X1_WAKEn_M1/I2S1_SDI0_M2/GPIO2_D3_d	I/O	DOWN	GMAC0_RSTN_GPIO2_D3	GMAC0_Reset, Active L	3.3V	AC7
257	LCDC_DEN/VOP_BT1120_D15/SPI1_CLK_M1/UART5_RX_M1/I2S1_SCLK_RX_M2/GPIO3_C3_d	I/O	DOWN	SPI1_CLK_M1	SPI1_CLK_M1 out	3.3V	AC4
259	PWM14_M0/VOP_PWM_M1/GMAC1_MDC_M0/UART7_TX_M1/PDM_CLK1_M2/GPIO3_C4_d	I/O	DOWN	EDP_BL_PWM14_M0	EDP_BL_PWM14_M0	3.3V	AC3
261	GPIO4_D2_d	I/O	DOWN	GSENSOR_INT_L_GPIO4_D2	GSENSOR_INT Input, Active L	3.3V	AB9
263	LCDC_VSYNC/VOP_BT1120_D14/SPI1_MISO_M1/UART5_TX_M1/I2S1_SDO3_M2/GPIO3_C2_d	I/O	DOWN	SPI1_MISO_M1	SPI1_MISO_M1	3.3V	AA7
265	I2C2_SDA_M1/EBC_GDSP/CAN2_RX_M0/ISP_FLASH_TRIGIN/VOP_BT656_CLK_M1/GPIO4_B4_d	I/O	DOWN	CAN2_RX_M0	CAN2_RX_M0	VCCIO_WL *Note1	V6
267	I2C2_SCL_M1/EBC_SDSHR/CAN2_TX_M0/I2S1_SDO3_M1/GPIO4_B5_d	I/O	DOWN	CAN2_TX_M0	CAN2_TX_M0		V5
269	LCDC_D20/VOP_BT1120_D11/GMAC1_TXD0_M0/I2C3_SCL_M1/PWM10_M0/GPIO3_B5_d	I/O	DOWN	HOST_WAKE_BT_H_GPIO3_B5	HOST WAKE BT, Active H	3.3V	AE2
271	GND	G		GND	GND		
273	CLK32K_IN/CLK32K_OUT/GPIO0_B0_u	I/O	UP	4G_PWR_EN	4G/5G Power_EN , Active H	3.3V	AD23
275	RK809_32KOUT_WIFI	O		RK809_32KOUT_WIFI	PMIC RK809 32.768KHz clock output for WIFI Core board Pull up resistance 10K	VCCIO_WL *Note1	
277	GND	G		GND	GND		
279	CIF_D0/EBC_SDDO0/SDMMC2_D0_M0/I2S1_MCLK_M1/VOP_BT656_D0_M1/GPIO3_C6_d	I/O	DOWN	SDMMC2_D0_M0	SDMMC2_D0_M0 To WIFI	VCCIO_WL *Note1	AC5
281	CIF_D1/EBC_SDDO1/SDMMC2_D1_M0/I2S1_SCLK_TX_M1/VOP_BT656_D1_M1/GPIO3_C7_d	I/O	DOWN	SDMMC2_D1_M0	SDMMC2_D1_M0 To WIFI		AA6
283	CIF_D4/EBC_SDDO4/SDMMC2_CMD_M0/I2S1_SDI0_M1/VOP_BT656_D4_M1/GPIO3_D2_d	I/O	DOWN	SDMMC2_CMD_M0	SDMMC2_CMD_M To WIFI		Y7
285	CIF_D7/EBC_SDDO7/SDMMC2_PWREN_M0/I2S1_SDI3_M1/VOP_BT656_D7_M1/GPIO3_	I/O	DOWN	WIFI_REG_ON_H	WIFI EN , Active H		AA5
287	GND	G		GND	GND		



289	CIF_D10/EBC_SDDO10/GMAC1_TXCLK_M1/PDM_CLK1_M1/GPIO4_A0_d	I/O	DOWN	GMAC1_TXCLK_M1	GMAC1_TXCLK_M1, core board series resistance 22R	VCCIO_WL *Note1	AA3
291	CIF_D13/EBC_SDDO13/GMAC1_RXCLK_M1/UART7_RX_M2/PDM_SDI3_M1/GPIO4_A3_d	I/O	DOWN	GMAC1_RXCLK_M1	GMAC1_RXCLK_M1		Y3
293	CIF_D12/EBC_SDDO12/GMAC1_RXD3_M1/UART7_TX_M2/PDM_SDI2_M1/GPIO4_A2_d	I/O	DOWN	GMAC1_RXD3_M1	GMAC1_RXD3_M1		Y4
295	CIF_D9/EBC_SDDO9/GMAC1_TXD3_M1/UART1_RX_M1/PDM_SDI0_M1/GPIO3_D7_d	I/O	DOWN	GMAC1_TXD3_M1	GMAC1_TXD3_M1, core board series resistance 22R		Y5
297	CIF_D8/EBC_SDDO8/GMAC1_TXD2_M1/UART1_TX_M1/PDM_CLK0_M1/GPIO3_D6_d	I/O	DOWN	GMAC1_TXD2_M1	GMAC1_TXD2_M1, core board series resistance 22R		Y6
299	CAM_CLKOUT1/EBC_SDCE2/GMAC1_RXD1_M1/SPI3_MISO_M0/I2S1_SDO1_M1/GPIO4_B0_d	I/O	DOWN	GMAC1_RXD1_M1	GMAC1_RXD1_M1		V7
301	GND	G		GND	GND		
303	CIF_CLKOUT/EBC_GDCLK/PWM11_IR_M1/GPIO4_C0_d	I/O	DOWN	CIF_CLKOUT	CIF_CLK OUT For MIPI Camera	VCCIO_WL *Note1	U3
305	GND	G		GND	GND		
307	CIF_VSYNC/EBC_SDOE/GMAC1_MDIO_M1/I2S2_SCLK_TX_M1/GPIO4_B7_d	I/O	DOWN	GMAC1_MDIO_M1	GMAC1_MDIO_M1	VCCIO_WL *Note1	U4
309	CIF_HREF/EBC_SDLE/GMAC1_MDC_M1/UART1_RTsn_M1/I2S2_MCLK_M1/GPIO4_B6_d	I/O	DOWN	GMAC1_MDC_M1	GMAC1_MDC_M1		U5
311	GND	G		GND	GND		
313	I2C4_SCL_M0/EBC_GDOE/ETH1_REFCLKO_25M_M1/SPI3_CLK_M0/I2S2_SDO_M1/GPIO4_B3_d	I/O	DOWN	I2C4_SCL_M0	I2C4_SCL_M0 core board series resistance 22R Core board Pull up resistance 2.2K to VCCIO_WL	VCCIO_WL *Note1	V1
314	I2C4_SDA_M0/EBC_VCOM/GMAC1_RXER_M1/SPI3_MOSI_M0/I2S2_SDI_M1/GPIO4_B2_d	I/O	DOWN	I2C4_SDA_M0	I2C4_SDA_M0 Core board Pull up resistance 2.2K to VCCIO_WL		V4

Note1: VCCIO_WL =1.8V or 3.3V INPUT Option (Default: 1.8V), 注意: 改成3.3V的话, 软件需要改该电源域电压配置, 否则有烧IO口的风险

PIN	CORE-RK3568J Core board pin definition	Pad type	IO Pull	Function for Mainboard (MB-JM3-RK3568)	Defual function description	IO Power domain	RK3568 Pin Number
2	VCC5V0_SYS	P		VCC_SYS	Input Voltage 5.0V +/-5% , Normal:1.25W (5.0V/250mA) , Max: 6W (5.0V/1200mA) , Min: (not done deep sleep) power supply suggest: 5.0V/1.5A	5.0V	
4	VCC5V0_SYS	P		VCC_SYS		5.0V	
6	VCC5V0_SYS	P		VCC_SYS		5.0V	
8	GND	G		GND	GND		
10	GND	G		GND			



12	GND	G		GND			
14	VCC_1V8	P		VCC_1V8	1.8V Output , Pin13/14 Total Max:500mA	1.8V	
16	VCC3V3_SD	P		VCC3V3_SD	3.3V Output TF Card Power , Pin15/16 Total Max:100mA	3.3V	
18	VCCIO_ACODEC	P		VCCIO_ACODEC	3.3V Output For codec, Pin17/18 Total Max:200mA	3.3V	
20	NC			NC			
22	NC			NC			
24	VCC_3V3	P		VCC_3V3	3.3V Output , Pin23/24 Total Max:800mA	3.3V	
26	VCCIO_WL	P		VCCIO_WL	WIFI/GMAC1 VCCIO Input, 1.8V or 3.3V option(Pin25/26 same net) Defalt:1.8V Input	1.8V/3.3V	
28	VCCA_1V8	P		VCCA_1V8	Output: 1.8V , Max:200mA	1.8V	
30	GND	G		GND	GND		
32	SPKP_OUT	O		SPKP_OUT	PMIC RK809 Speaker Out+ (1.3W @ 8Ω, BTL)	5.0V	
34	SPKN_OUT	O		SPKN_OUT	PMIC RK809 Speaker Out- (1.3W @ 8Ω, BTL)	5.0V	
36	GND	G		GND	GND		
38	MIC1_INN	I		MIC1_INN	(RK809)MIC1_INPUT- core board series capacitance 0.1uF	3.3V	
40	MIC1_INP	I		MIC1_INP	(RK809)MIC1_INPUT+ core board series capacitance 0.1uF	3.3V	
42	GND	G		GND	GND		
44	HPL_OUT	O		HPL_OUT	(RK809)HeadPhone_OUT L (0.5Vrms/32Ω; 0.8Vrms/300Ω)	3.3V	
46	HP_SNS	G		HP_SNS	(RK809)HeadPhone_GND		



48	HPR_OUT	O		HPR_OUT	(RK809)HeadPhone_OUT R (0.5Vrms/32Ω; 0.8Vrms/300Ω)	3.3V	
50	GND	G		GND	GND		
52	FSPI_D3/FLASH_CS1N/GPIO1_D4_u	I/O	UP	FSPI_D3/FLASH_CS1N	FSPI_D3/FLASH_CS1N	1.8V	A27
54	SARADC_VIN6	I		SARADC_VIN6	ADC6 Input; M board need add Pull up resistance	1.8V	G20
56	SARADC_VIN7	I		SARADC_VIN7	ADC7 Input; M board need add Pull up resistance	1.8V	F21
58	SARADC_VIN4	I		SARADC_VIN4	ADC4 Input; M board need add Pull up resistance	1.8V	G21
60	SARADC_VIN5	I		SARADC_VIN5	ADC5 Input; M board need add Pull up resistance	1.8V	F22
62	SARADC_VIN0	I		SARADC_VIN0_KEY/RECOVERY	ADC0_RECOVERY Input (M Board must pullup to 1.8V)	1.8V	B27
64	GND	G		GND	GND		
66	GMAC0_RXCLK/SDMMC1_D2/UART7_RX_M0/GPIO2_A5_u	I/O	UP	GMAC0_RXCLK	GMAC0_RXCLK	1.8V	B28
68	GMAC0_TXD2/SDMMC1_D3/UART7_TX_M0/GPIO2_A6_u	I/O	UP	GMAC0_TXD2	GMAC0_TXD2 core board series resistance 22R	1.8V	C27
70	GMAC0_TXD3/SDMMC1_CMD/UART9_RX_M0/GPIO2_A7_u	I/O	UP	GMAC0_TXD3	GMAC0_TXD3 core board series resistance 22R	1.8V	C28
72	GMAC0_TXCLK/SDMMC1_CLK/UART9_TX_M0/GPIO2_B0_d	I/O	DOWN	GMAC0_TXCLK	GMAC0_TXCLK core board series resistance 22R	1.8V	D27
74	GND	G		GND	GND		
76	GMAC0_RXD2/SDMMC1_D0/UART6_RX_M0/GPIO2_A3_u	I/O	UP	GMAC0_RXD2	GMAC0_RXD2	1.8V	E27
78	GMAC0_RXD3/SDMMC1_D1/UART6_TX_M0/GPIO2_A4_u	I/O	UP	GMAC0_RXD3	GMAC0_RXD3	1.8V	E28
80	GMAC0_RXD0/UART1_CTSn_M0/SPI1_MISO_M0/GPIO2_B6_u	I/O	UP	GMAC0_RXD0	GMAC0_RXD0	1.8V	F27
82	GMAC0_TXD0/UART1_RX_M0/GPIO2_B3_u	I/O	UP	GMAC0_TXD0	GMAC0_TXD0 core board series resistance 22R	1.8V	F28
84	GMAC0_TXD1/UART1_TX_M0/GPIO2_B4_u	I/O	UP	GMAC0_TXD1	GMAC0_TXD1 core board series resistance 22R	1.8V	G27
86	GMAC0_TXEN/UART1_RTsn_M0/SPI1_CLK_M0/GPIO2_B5_u	I/O	UP	GMAC0_TXEN	GMAC0_TXEN core board series resistance 22R	1.8V	G28
88	GND	G		GND	GND		



90	SDMMC0_CMD/PWM10_M1/UART5_RX_M0/CAN0_TX_M1/GPIO2_A1_u	I/O	UP	SDMMC0_CMD	SDMMC0_CMD to TF Card	VCCIO_SD *Note2	H27
92	SDMMC0_CLK/TEST_CLKOUT/UART5_TX_M0/CAN0_RX_M1/GPIO2_A2_d	I/O	DOWN	SDMMC0_CLK	SDMMC0_CLK to TF Card core board series resistance 22R		H28
94	GND	G		GND	GND		
Note 2: VCCIO_SD=1.8V(SDIO 3.0) or 3.3V(SDIO 2.0) ;Default: 3.3V							
96	EDP_TX_D0P	O		EDP_TX_D0P	EDP_TX_D0+ core board series capacitance 0.1uF		J28
98	EDP_TX_D0N	O		EDP_TX_D0N	EDP_TX_D0- core board series capacitance 0.1uF		K27
100	EDP_TX_D1P	O		EDP_TX_D1P	EDP_TX_D1+ core board series capacitance 0.1uF		K28
102	EDP_TX_D1N	O		EDP_TX_D1N	EDP_TX_D1- core board series capacitance 0.1uF		L27
104	EDP_TX_D2P	O		EDP_TX_D2P	EDP_TX_D2+ core board series capacitance 0.1uF		L28
106	EDP_TX_D2N	O		EDP_TX_D2N	EDP_TX_D2- core board series capacitance 0.1uF		M27
108	EDP_TX_D3P	O		EDP_TX_D3P	EDP_TX_D3+ core board series capacitance 0.1uF		M28
110	EDP_TX_D3N	O		EDP_TX_D3N	EDP_TX_D3- core board series capacitance 0.1uF		N27
112	GND	G		GND	GND		
114	USB3_OTG0_DP	I/O		USB3_OTG0_DP	USB3_OTG0_DP		P27
116	USB3_OTG0_DM	I/O		USB3_OTG0_DM	USB3_OTG0_DM		P28
118	GND	G		GND	GND		
120	USB3_OTG0_SSRXN/SATA0_RXN	I/O		USB3_OTG0_SSRXN	USB3_OTG0_SSRXN		R27
122	USB3_OTG0_SSRXP/SATA0_RXP	I/O		USB3_OTG0_SSRXP	USB3_OTG0_SSRXP		R28
124	USB3_OTG0_SSTXN/SATA0_TXN	I/O		USB3_OTG0_SSTXN	USB3_OTG0_SSTXN		T27
126	USB3_OTG0_SSTXP/SATA0_TXP	I/O		USB3_OTG0_SSTXP	USB3_OTG0_SSTXP		T28
128	GND	G		GND	GND		
130	USB3_HOST1_SSRXN/SATA1_RXN/QSGMII_RXN_M0	I/O		USB3_HOST1_SSRXN	USB3_HOST1_SSRXN		U27
132	USB3_HOST1_SSRXP/SATA1_RXP/QSGMII_RXP_M0	I/O		USB3_HOST1_SSRXP	USB3_HOST1_SSRXP		U28



134	USB3_HOST1_SSTXN/SATA1_TXN/QSGMII_TXN_M0	I/O		USB3_HOST1_SSTXN	USB3_HOST1_SSTXN		V27
136	USB3_HOST1_SSTXP/SATA1_TXP/QSGMII_TXP_M0	I/O		USB3_HOST1_SSTXP	USB3_HOST1_SSTXP		V28
138	GND	G		GND	GND		
140	PCIE20_TXP/SATA2_TXP/QSGMII_TXP_M1	O		SATA2_TXP	SATA2_TXP		W27
142	PCIE20_TXN/SATA2_TXN/QSGMII_TXN_M1	O		SATA2_TXN	SATA2_TXN		W28
144	PCIE20_RXP/SATA2_RXP/QSGMII_RXP_M1	I		SATA2_RXP	SATA2_RXP		Y27
146	PCIE20_RXN/SATA2_RXN/QSGMII_RXN_M1	I		SATA2_RXN	SATA2_RXN		Y28
148	GND	G		GND	GND		
150	PCIE30_TX0P	O		PCIE30_TX0P	PCIE30_TX0P		AA28
152	PCIE30_TX0N	O		PCIE30_TX0N	PCIE30_TX0N		AA27
154	PCIE30_TX1P	O		PCIE30_TX1P	PCIE30_TX1P		AB28
156	PCIE30_TX1N	O		PCIE30_TX1N	PCIE30_TX1N		AB27
158	PCIE30_RX0P	I		PCIE30_RX0P	PCIE30_RX0P		AC28
160	PCIE30_RX0N	I		PCIE30_RX0N	PCIE30_RX0N		AC27
162	PCIE30_RX1P	I		PCIE30_RX1P	PCIE30_RX1P		AD28
164	PCIE30_RX1N	I		PCIE30_RX1N	PCIE30_RX1N		AD27
166	GND	G		GND	GND		
168	GND	G		GND	GND		
170	REFCLK_OUT_CAM/GPIO0_A0_d	I/O	DOWN	REFCLK_OUT_CAM	Clock output for camera core board series resistance 22R	3.3V	AG27
172	GND	G		GND	GND		
174	SDMMC0_PWREN/SATA_MP_SWITCH/PCIE20_CLKREQn_M0/GPIO0_A5_d	I/O	DOWN	USB_OTG_PWREN_H	USB_OTG Power EN ,Active H	3.3V	AF25
176	PWM0_M0/CPUAVS/GPIO0_B7_d	I/O	DOWN	NC	NC	3.3V	AH26
178	HDMITX_CEC_M1/PWM0_M1/UART0_CTSn/GPIO0_C7_d	I/O	DOWN	LCD0_PWR_EN	MIPI DSI0 Power EN ,Active H	3.3V	AH25
180	UART2_TX_M0/GPIO0_D1_u	I/O	UP	UART2_TX_M0_DEBUG	UART2_TX_M0 for DEBUG	3.3V	AH24
182	UART2_RX_M0/GPIO0_D0_u	I/O	UP	UART2_RX_M0_DEBUG	UART2_RX_M0 for DEBUG	3.3V	AC20
184	PWM3_IR/EDP_HPDIN_M1/PCIE30X1_WAKEn_M0/MCU_JTAG_TMS/GPIO0_C2_d	I	DOWN	EDP_HPD	EDP_HPD det Input,Active H	3.3V	AG23
186	GND	G		GND	GND		
188	HDMI_TX2P	O		HDMI_TX2P_PORT	HDMI_TX2P_Output, core board series resistance 2.2R		AG22



190	HDMI_TX2N	O		HDMI_TX2N_PORT	HDMI_TX2N_Output, core board series resistance 2.2R		AH22
192	HDMI_TX1P	O		HDMI_TX1P_PORT	HDMI_TX1P_Output,core board series resistance 2.2R		AG21
194	HDMI_TX1N	O		HDMI_TX1N_PORT	HDMI_TX1N_Output, core board series resistance 2.2R		AH21
196	HDMI_TX0P	O		HDMI_TX0P_PORT	HDMI_TX0P_Output, core board series resistance 2.2R		AG20
198	HDMI_TX0N	O		HDMI_TX0N_PORT	HDMI_TX0N_Output, core board series resistance 2.2R		AH20
200	HDMI_TXCLKP	O		HDMI_TXCLKP_PORT	HDMI_TXCLKP_Output, core board series resistance 2.2R		AH19
202	HDMI_TXCLKN	O		HDMI_TXCLKN_PORT	HDMI_TXCLKN_Output, core board series resistance 2.2R		AG19
204	GND	G		GND	GND		
206	MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	O		MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	MIPI_DSI_TX0_D0N/LVDS_TX0_D0N_Output		AG17
208	MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	O		MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	MIPI_DSI_TX0_D0P/LVDS_TX0_D0P_Output		AH17
210	MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	O		MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	MIPI_DSI_TX0_D1N/LVDS_TX0_D1N_Output		AG16
212	MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	O		MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	MIPI_DSI_TX0_D1P/LVDS_TX0_D1P_Output		AH16
214	GND	G		GND	GND		
216	MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	O		MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN_Output		AG15
218	MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	O		MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP_Output		AH15
220	MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	O		MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	MIPI_DSI_TX0_D2N/LVDS_TX0_D2N_Output		AG14
222	MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	O		MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	MIPI_DSI_TX0_D2P/LVDS_TX0_D2P_Output		AH14
224	MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	O		MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	MIPI_DSI_TX0_D3N/LVDS_TX0_D3N_Output		AG13



226	MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	O		MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	MIPI_DSI_TX0_D3P/LVDS_TX0_D3P_Output		AH13
228	MIPI_CSI_RX_D0N	I		MIPI_CSI_RX_D0N	MIPI_CSI_RX_D0N_Intput		AH12
230	MIPI_CSI_RX_D0P	I		MIPI_CSI_RX_D0P	MIPI_CSI_RX_D0P_Intput		AG12
232	MIPI_CSI_RX_D1N	I		MIPI_CSI_RX_D1N	MIPI_CSI_RX_D1N_Intput		AH11
234	MIPI_CSI_RX_D1P	I		MIPI_CSI_RX_D1P	MIPI_CSI_RX_D1P_Intput		AG11
236	MIPI_CSI_RX_CLK0N	I		MIPI_CSI_RX_CLK0N	MIPI_CSI_RX_CLK0N_Intput		AH10
238	MIPI_CSI_RX_CLK0P	I		MIPI_CSI_RX_CLK0P	MIPI_CSI_RX_CLK0P_Intput		AG10
240	MIPI_CSI_RX_CLK1N	I		MIPI_CSI_RX_CLK1N	MIPI_CSI_RX_CLK1N_Intput		AH9
242	MIPI_CSI_RX_CLK1P	I		MIPI_CSI_RX_CLK1P	MIPI_CSI_RX_CLK1P_Intput		AG9
244	GND	G		GND	GND		
246	LCDC_D0/VOP_BT656_D0_M0/SPI0_MISO_M1/PCIE20_CLKREqn_M1/I2S1_MCLK_M2/GPIO2_D0_d	I/O	DOWN	GMAC1_INT/PMEB	GMAC1_INT/PMEB	3.3V	AG6
248	LCDC_D7/VOP_BT656_D7_M0/SPI2_MISO_M1/UART8_TX_M1/I2S1_SDO0_M2/GPIO2_D7_d	I/O	DOWN	BT_WAKE_HOST_H	BT_WAKE_HOST,Active H	3.3V	AH5
250	LCDC_CLK/VOP_BT656_CLK_M0/SPI2_CLK_M1/UART8_RX_M1/I2S1_SDO1_M2/GPIO3_A0_d	I/O	DOWN	BT_REG_ON_H	BT_EN ,Active H	3.3V	AH4
252	LCDC_D10/VOP_BT1120_D2/GMAC1_TXD3_M0/I2S3_SCLK_M0/SDMMC2_D2_M1/GPIO3_A3_d	I/O	DOWN	I2S3_SCLK_M0	I2S3_SCLK_M0	3.3V	AG4
254	LCDC_D12/VOP_BT1120_D4/GMAC1_RXD3_M0/I2S3_SDO_M0/SDMMC2_CMD_M1/GPIO3_A5_d	I/O	DOWN	I2S3_SDO_M0	I2S3_SDO_M0	3.3V	AH3
256	LCDC_D13/VOP_BT1120_CLK/GMAC1_TXCLK_M0/I2S3_SDI_M0/SDMMC2_CLK_M1/GPIO3_A6_d	I/O	DOWN	I2S3_SDI_M0	I2S3_SDI_M0	3.3V	AG3
258	LCDC_D14/VOP_BT1120_D5/GMAC1_RXCLK_M0/SDMMC2_DET_M1/GPIO3_A7_d	I/O	DOWN	PCIECLKIC_OE_H	PCIE CLOCK IC_EN ,Active H	3.3V	AH2
260	GND	G		GND	GND		
262	LCDC_D15/VOP_BT1120_D6/ETH1_REFCLKO_25M_M0/SDMMC2_PWREN_M1/GPIO3_B0_d	I/O	DOWN	ETH1_REFCLKO_25M_M0	ETH1_REF CLOCK OUTPUT_25MHz (CPU to PHY,Default NC)	3.3V	AG2
264	LCDC_D17/VOP_BT1120_D8/GMAC1_RXD1_M0/UART4_TX_M1/PWM9_M0/GPIO3_B2_d	I/O	DOWN	UART4_TX_M1	UART4_TX_M1	3.3V	AF2
266	LCDC_D16/VOP_BT1120_D7/GMAC1_RXD0_M0/UART4_RX_M1/PWM8_M0/GPIO3_B1_d	I/O	DOWN	UART4_RX_M1	UART4_RX_M1	3.3V	AG1



268	LCDC_D21/VOP_BT1120_D12/GMAC1_TXD1_M0/I2C3_SDA_M1/PWM11_IR_M0/GPIO3_B6_d	I/O	DOWN	BAT_ALERT	BAT_ALERT, Default NC	3.3V	AE3
270	LCDC_D18/VOP_BT1120_D9/GMAC1_RXDV_CRS_M0/I2C5_SCL_M0/PDM_SDI0_M2/GPIO3_B3_d	I/O	DOWN	I2C5_SCL_M0	I2C5_SCL_M0 Core board Pull up resistance 2.2K	3.3V	AF1
272	LCDC_D19/VOP_BT1120_D10/GMAC1_RXER_M0/I2C5_SDA_M0/PDM_SDI1_M2/GPIO3_B4_d	I/O	DOWN	I2C5_SDA_M0	I2C5_SDA_M0 Core board Pull up resistance 2.2K	3.3V	AE1
274	LCDC_HSYNC/VOP_BT1120_D13/SPI1_MOSI_M1/PCIE20_PERSTn_M1/I2S1_SDO2_M2/GPIO3_C1_d	I/O	DOWN	SPI1_MOSI_M1	SPI1_MOSI_M1	3.3V	AD1
276	PWM15_IR_M0/SPDIF_TX_M1/GMAC1_MDIO_M0/UART7_RX_M1/I2S1_LRCK_RX_M2/GPIO3_C5_d	I/O	DOWN	SPK_CTL_H	SPK_EN ,Active H	3.3V	AC2
278	GND	G		GND	GND		
280	CIF_D5/EBC_SDDO5/SDMMC2_CLK_M0/I2S1_SDI1_M1/VOP_BT656_D5_M1/GPIO3_D3_d	I/O	DOWN	SDMMC2_CLK_M0	SDMMC2_CLK_M0 To WIFI core board series resistance 22R	VCCIO_WL *Note1	AC1
282	CIF_D2/EBC_SDDO2/SDMMC2_D2_M0/I2S1_LRCK_TX_M1/VOP_BT656_D2_M1/GPIO3_D0_d	I/O	DOWN	SDMMC2_D2_M0	SDMMC2_D2_M0 To WIFI		AB5
284	CIF_D3/EBC_SDDO3/SDMMC2_D3_M0/I2S1_SDO0_M1/VOP_BT656_D3_M1/GPIO3_D1_d	I/O	DOWN	SDMMC2_D3_M0	SDMMC2_D3_M0 To WIFI		AB1
286	GND	G		GND	GND		
288	CIF_D11/EBC_SDDO11/GMAC1_RXD2_M1/PDM_SDI1_M1/GPIO4_A1_d	I/O	DOWN	GMAC1_RXD2_M1	GMAC1_RXD2_M1	VCCIO_WL *Note1	AA2
290	CIF_D6/EBC_SDDO6/SDMMC2_DET_M0/I2S1_SDI2_M1/VOP_BT656_D6_M1/GPIO3_D4_d	I/O	DOWN	WIFI_WAKE_HOST_H_GPIO3_D4	WIFI_WAKE_HOST Active H		AA1
292	CIF_D14/EBC_SDDO14/GMAC1_TXD0_M1/UART9_TX_M2/I2S2_LRCK_TX_M1/GPIO4_A4_d	I/O	DOWN	GMAC1_TXD0_M1	GMAC1_TXD0_M1 core board series resistance 22R		Y2
294	CIF_D15/EBC_SDDO15/GMAC1_TXD1_M1/UART9_RX_M2/I2S2_LRCK_RX_M1/GPIO4_A5_d	I/O	DOWN	GMAC1_TXD1_M1	GMAC1_TXD1_M1 core board series resistance 22R		Y1
296	ISP_FLASHTRIGOUT/EBC_SDCE0/GMAC1_TXEN_M1/SPI3_CS0_M0/I2S1_SCLK_RX_M1/GPIO4_A6_d	I/O	DOWN	GMAC1_TXEN_M1	GMAC1_TXEN_M1 core board series resistance 22R		W2
298	CAM_CLKOUT0/EBC_SDCE1/GMAC1_RXD0_M1/SPI3_CS1_M0/I2S1_LRCK_RX_M1/GPIO4_A7_d	I/O	DOWN	GMAC1_RXD0_M1	GMAC1_RXD0_M1		W1
300	ISP_PRELIGHT_TRIG/EBC_SDCE3/GMAC1_RXDV_CRS_M1/I2S1_SDO2_M1/GPIO4_B1_d	I/O	DOWN	GMAC1_RXDV_CRS_M1	GMAC1_RXDV_CRS_M1		V2
302	CIF_CLKIN/EBC_SDCLK/GMAC1_MCLKINOUT_M1/UART1_CTSn_M1/I2S2_SCLK_RX_M1/GPIO4_C1_d	I/O	DOWN	GMAC1_MCLKINOUT_M1	GMAC1_MCLK_IN/OUT PUT default:not use MCLK---Internal Clock Mode		U2



304	GND	G		GND	GND		
306	USB2_HOST3_DP	I/O		USB2_HOST3_DP	USB2_HOST3_DP		T2
308	USB2_HOST3_DM	I/O		USB2_HOST3_DM	USB2_HOST3_DM		T1
310	USB2_HOST2_DM	I/O		USB2_HOST2_DM	USB2_HOST2_DM		R2
312	USB2_HOST2_DM	I/O		USB2_HOST2_DM	USB2_HOST2_DM		R1



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