

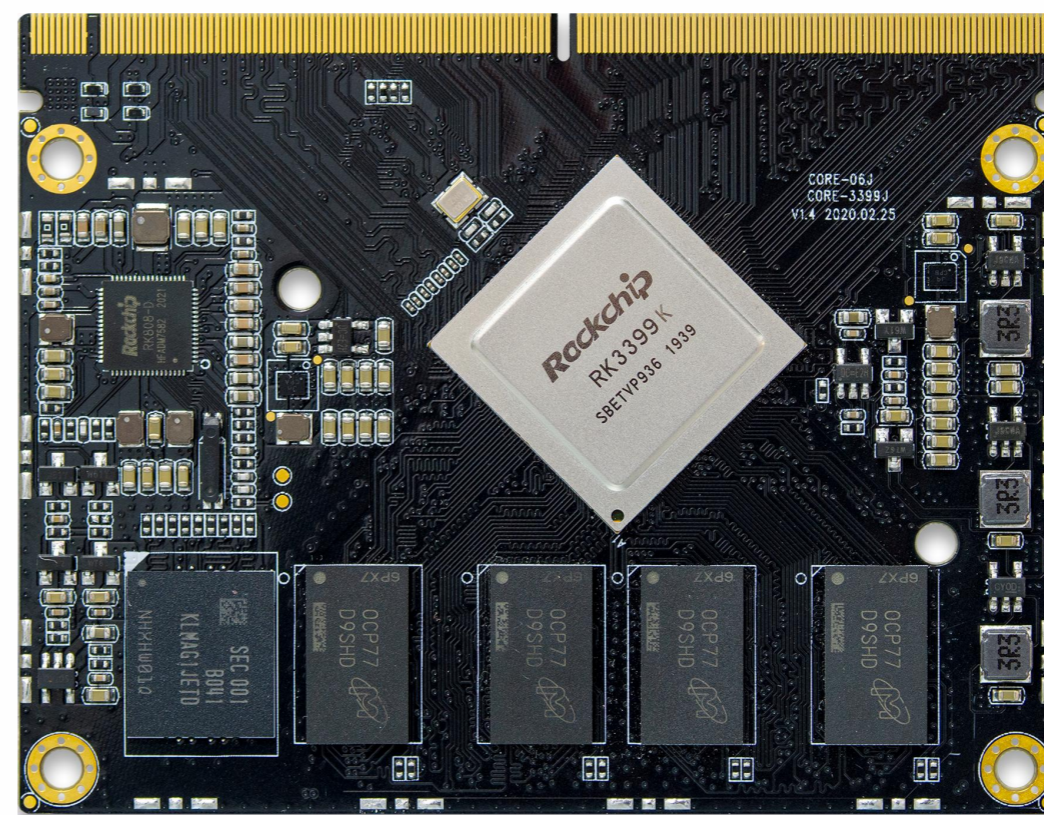


Core-3399KJ

六核64位工业级核心板

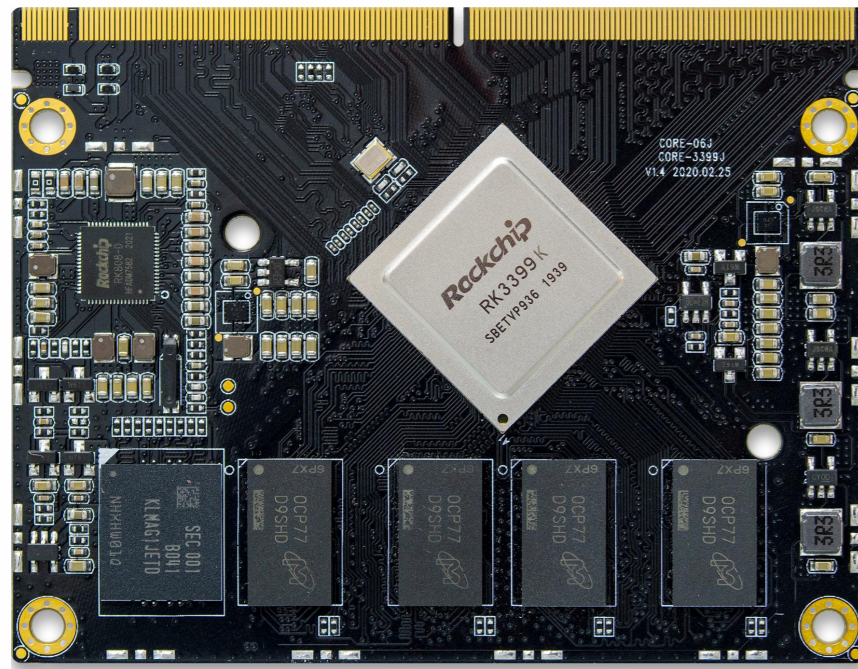
天启智能科技

V1.0





产品特点 Product features



六核64位处理器RK3399K

六核64位处理器 RK3399K
Cortex-A72 * 2 + Cortex-A53*4
主频高达 2.0G Hz



单13M/双8M 双硬件ISP

双硬件ISP，最高支持单13MPix/s或双8MPix/s，支持双路摄像头数据输入，为图像识别应用加速



支持多种操作系统

支持 Android 和 Linux OS 系统提供配套的 SDK 源代码、底板参考设计，高效进行二次开发



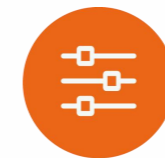
4K H.265/VP9视频解码

4K@60fps H265/VP9 视频解码
1080P VC-1/VP8 视频解码
1080P H.264/VP8 视频编码



多种显示接口/双屏异显

HDMI 2.0、MIPI-DSI、eDP 1.3
DP 1.2，最大分辨率达4K
支持双屏同显、双屏异显



MXM3.0-314P沉金接口

核心板采用MXM3.0-314P沉金接口引出了芯片全部接口，广泛应用于各种智能产品中，加速产品落地



规格参数 Specifications

基本参数

SOC	RK3399K
CPU	六核 64 位 (Cortex- A72×2 + Cortex- A53×4) 处理器, 主频高达 2.0GHz
GPU	Mali-T860 MP4 四核 GPU, 支持 OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11, 支持AFBC (帧缓冲压缩)
ISP	内置双硬件 ISP, 最高支持单13M pixel 或双 8M pixel
VPU/编解码	硬解码: 4K@60fps H265/H264/VP9 视频解码、1080P 多格式视频解码 (VC-1, MPEG-1/2/4, VP8) 硬编码: 1080P H.264/AVC/VP8 视频编码 视频后期处理器: 反交错、去噪、边缘/细节/色彩优化
内存	双通道 64bit DDR3 (2GB/4GB 可选)
存储	eMMC (16GB/32GB/64GB/128GB 可选)
电源	核心板供电电压 5V (电压误差±5%)
系统	Android 和 Linux OS
尺寸	82 mm * 63 mm
接口类型	金手指 MXM3.0 (314 Pin, 0.5mm 间距), 沉金工艺
PCB 层数	8 层 PCB 板设计
重量	约 30 克
环境	工作温度: -20℃ ~ 70℃ 存储温度: -20℃ ~ 85℃ 工作湿度: 10% ~ 90% (无凝露)

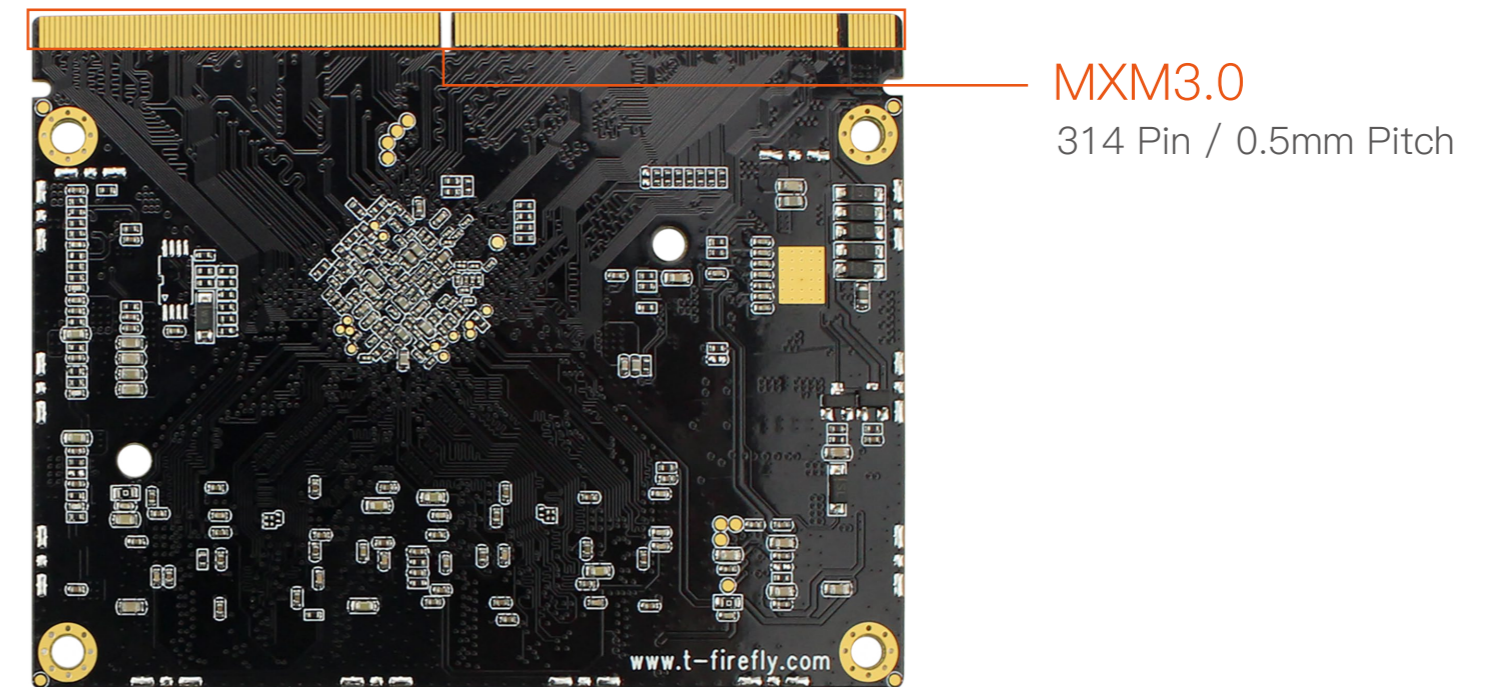
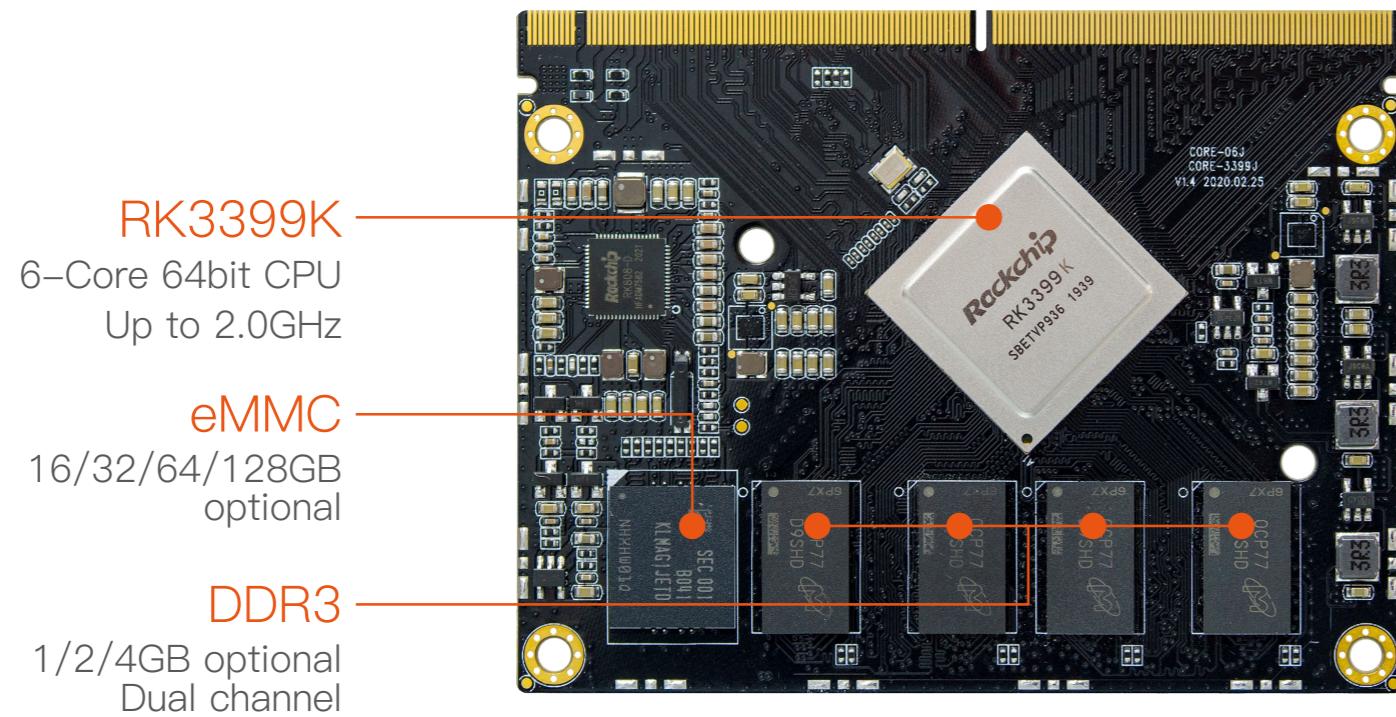
规格参数 Specifications



接口参数		
网络	以太网 / 无线网	集成 GMAC/SDIO3.0/USB3.0 接口, 可扩展千兆以太网、2.4G Hz/5G Hz 双频WiFi/蓝牙, 3G/4G LTE
视频输出	双 VOP	双显示引擎高达 4096 * 2160 及 2560 * 1600 分辨率, 从以下接口输出:
	1 * HDMI 2.0	高达18Gbps聚合带宽, 高达1080p@120Hz、4Kx2K@60Hz、QXGA@120Hz分辨率, 支持HDCP 1.4/2.2
	1 * eDP 1.3	支持4条数据通道, 每通道2.7/1.62 Gbps、支持 RGB 6/8/10bit 视频格式、支持面板自动刷新(PSR)
	2 * MIPI-DSI	CPU内部具有3个MIPI PHY,其中: MIPI0 (MIPI-DSI), MIPI1(MIPI-DSI/CSI), MIPI2(MIPI_CSI) 每个MIPI DSI 端口有4条数据通道, 提供高达1.5 Gbps / Lane的数据速率, 每个 MIPI DSI 端口最高支持1080p@60fps输出 MIPI0 和 MIPI1组成双通道可支持2560*1600@60fps输出
	1 * DP 1.2	最高支持4K*2K@60Hz分辨率输出 (可以从Type-C接口输出)
	双屏显示	支持双屏同显、双屏异显
视频输入	2 * MIPI-CSI	4Lanes, 1.5 Gbps / Lane的数据速率, 支持1个摄像头1300万像素或2个800万像素
	1 * DVP	最高支持 5M pixel
音频	3 * I2S/PCM	I2S0/I2S2 支持8通道TX/RX. I2S1支持2通道TX/RX。I2S2在内部连接到HDMI和DisplayPort。I2S0和I2S1用于外设 音频分辨率从16位到32位, 采样率高达192KHz
	1 * SPDIF	支持16,20,24位音频数据传输 (线性PCM模式)、支持非线性PCM传输
PCIe	1 * PCIe2.1	4全双工通道, 每通道每方向支持2.5GT/s串行数据传输速率, 双操作模式: Root Complex(RC)和 End Point(EP)
USB	2 * USB2.0	USB 2.0 Host * 2 (独立接口, 不与USB 3.0复用), 支持高速(480Mbps)、全速(12Mbps)和低速(1.5Mbps)模式
	2 * USB OTG 3.0	USB OTG 3.0 * 2 (包含USB OTG 2.0 * 2), 兼容规范: USB 3.0、USB 2.0、USB Host 1.1, USB 3.0全双工模式下,最高达 8Gbps 带宽
	2 * USB Type-C	支持 USB3.0 Type-C 和 DP 1.2 USB3.0 的数据率为 5Gbps, DP1.2 的数据速率高达 5.4Gbps(HBR2), 可以支持1/2/4通道模式, DisplayPort 支持 AUX 通道
SD/MMC	2 * SD/MMC	可以配置为SD/MMC或SDIO, 兼容SDIO 3.0协议, 4位数据总线宽度
I2C	9 * I2C	多主机I2C, 支持 7 位和 10 位地址模式, 标准模式数据传输速率可达 100k bits/s, 在快速模式下高达 400k bits/s)
SPI	6 * SPI	支持串行主从模式, 软件可配置、基于DMA或基于中断的操作, TX和RX分别为32*16位FIFO
UART	5 * UART	基于DMA或基于中断的操作、内置 2 路 64 bit FIFO, 可分别用于 TX 和 RX; 支持 5 位、6 位、7 位、8 位串行数据收发, 波特率高达 4Mbps; UART0、UART3 支持自动流控模式
PWM	4 * PWM	基于中断操作, 32-bit 定时器/计数器, 支持捕获模式, 支持连续模式或一次性模式
ADC	6 * ADC	6通道逐次逼近型ADC, 10位, 转换速度范围可达 1MS/s 采样率
GPIO	GPIOs	所有的GPIOs都可以用来产生中断



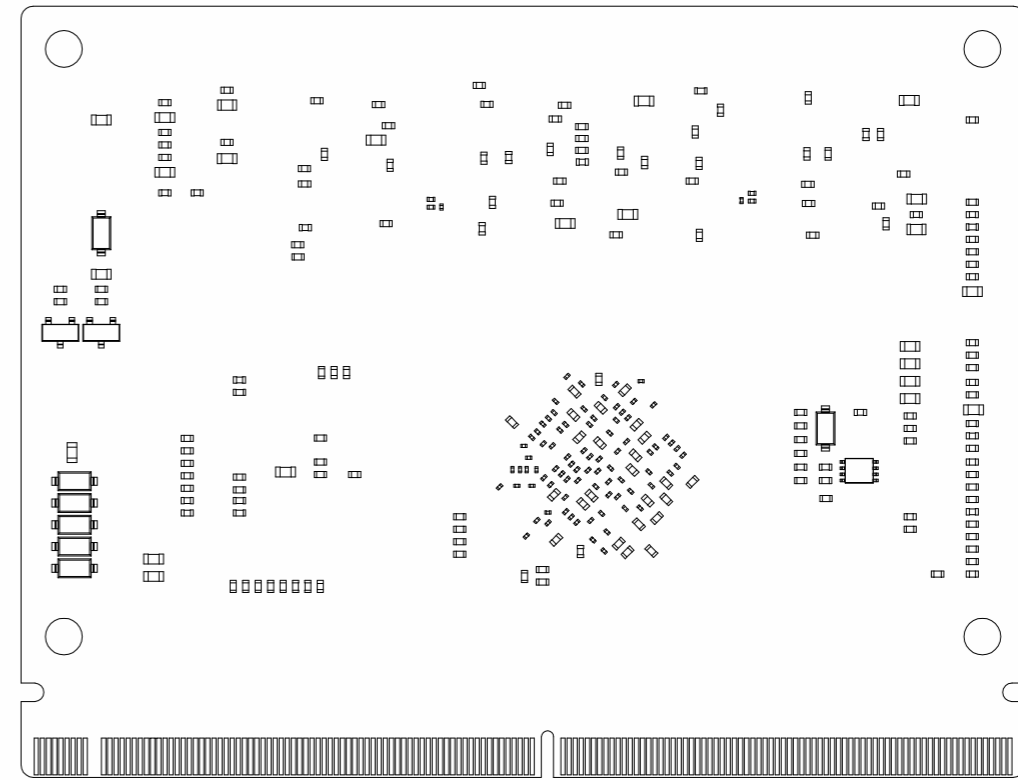
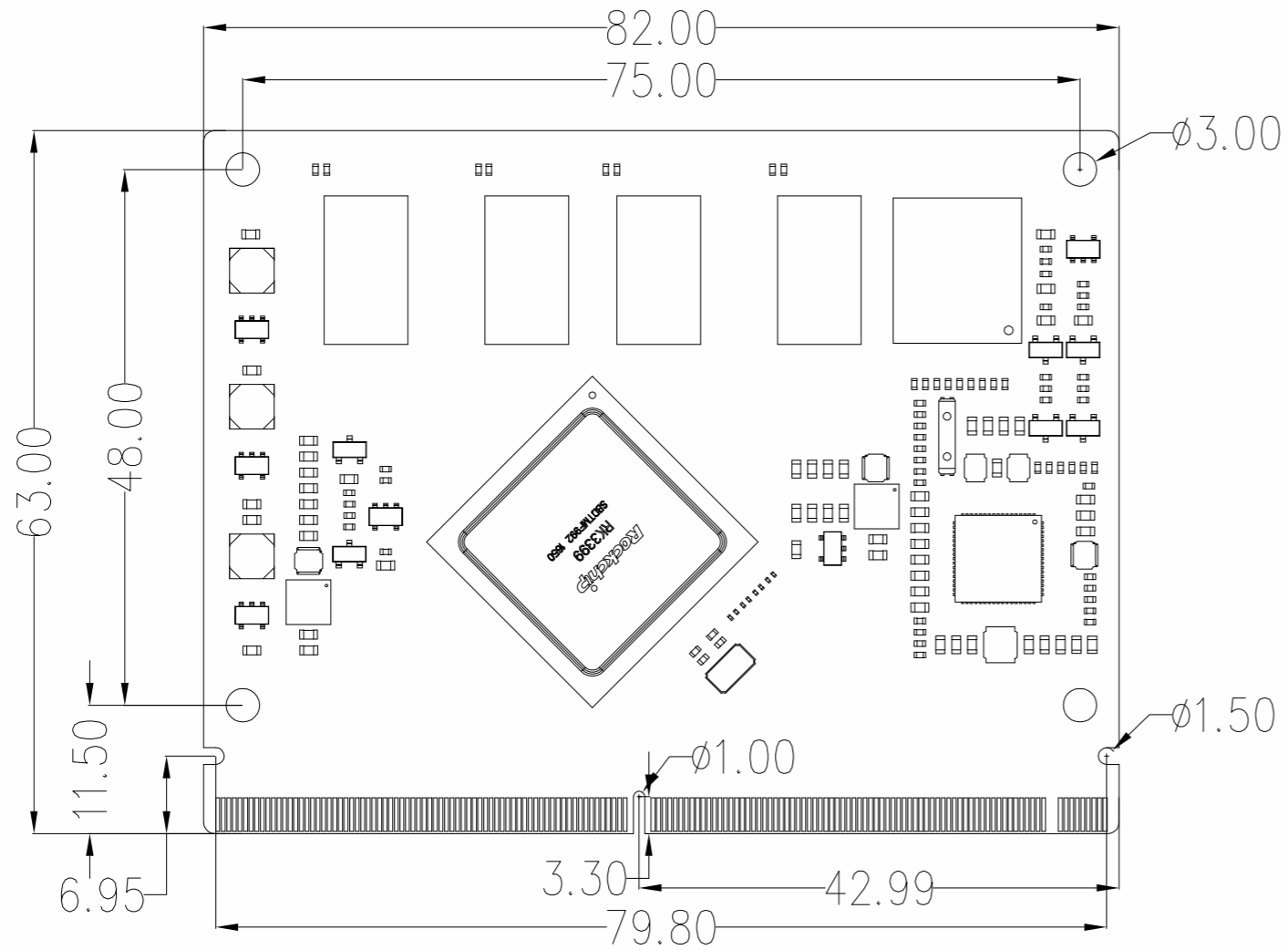
接口描述 Interface description



Main Interface

Network	Video input	Video output	Audio	PCIe/SATA/USB	Others
1 * GMAC(RGMII/RMII) Dual-band WIFI (SDIO) 3G/4G LTE (PCIe/USB3.0)	2 * MIPI CSI 1 * HDMI RX 1 * DVP	1 * HDMI2.0 TX 1 * eDP1.3 1 * DP1.2 2 * MIPI DSI	3 * I2S/PCM 1 * SPDIF	1 * PCIe2.1(4Lanes) 2 * USB2.0 2 * USB OTG 3.0 2 * USB Type-C	2 * SD/MMC 9 * I2C 6 * SPI 5 * UART 4 * PWM 5 * ADC

产品尺寸 Dimension





接口定义 Interface definition

Notes1: 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 0 = Low Level 1 = High level								
Part A	PIN	Core-3399J pin definition	RK3399 Pin Number	Pad type	IO Pull	Function for Floor(MB-JM3-RK3399)	Defual function description	IO Power domain
	1	VCC_SYS		P		VCC_SYS Input	Input Voltage 5.0V +/-5% rated power: Normal:2.25W(5V/450mA) Max: 9W(5V/1800mA)	5.0V
	3	VCC_SYS		P				5.0V
	5	VCC_SYS		P				5.0V
	7	VCC_SYS		P				5.0V
	9	VCC_SYS		P				5.0V
	11	VCC_SYS		P				5.0V
	13	VCC_SYS		P				5.0V
	15	VCC_SYS		P				5.0V
	17	VCC_SYS		P				5.0V
	19	NC				NC	NC	
	21	NC				NC	NC	
	23	GND		G		GND	GND	
	25	GPIO3_B3/MAC_CLK/I2C5_SCL_U	G24	I/O	UP	MAC_CLK	MAC_CLK	3.3V
	27	GPIO3_B7/MAC_CRIS/CIF_CLKOUTB/UART3_TX_U	B27	I/O	UP	PHY_RST	PHY_RESET Output, Active L	3.3V
	29	GPIO0_A1/DDRIO_PWROFF/TCPD_CCDB_EN_U	R29	I/O	UP	PHY_PMEB	PHY_PMEB	1.8V
	31	GPIO3_B5/MAC_MDIO/UART1_TX_U	G26	I/O	UP	MAC_MDIO	MAC_MDIO	3.3V
	33	GPIO3_B0/MAC_MDC/SPI0_CSN1_U	E29	I/O	UP	MAC_MDC	MAC_MDC	3.3V
	35	GPIO3_B2/MAC_RXER/I2C5_SDA_U	F23	I/O	UP	PHY_INT	PHY_INT input,Active L Core board internal series resistance 0R	3.3V
	37	GND		G		GND	GND	



39	GPIO3_B4/MAC_TXEN/UART1_RX_U	H22	I/O	UP	PHY_TXEN	PHY_TXEN Core board internal series resistance 22R	3.3V
41	GPIO3_A1/MAC_TXD3/SPI4_TXD_D	H23	I/O	DOWN	PHY_TXD3	PHY_TXD3 , Core board internal series resistance 22R	3.3V
43	GPIO3_A0/MAC_TXD2/SPI4_RXD_D	F24	I/O	DOWN	PHY_TXD2	PHY_TXD2 , Core board internal series resistance 22R	3.3V
45	GPIO3_A5/MAC_TXD1/SPI0_TXD_D	G23	I/O	DOWN	PHY_TXD1	PHY_TXD1 , Core board internal series resistance 22R	3.3V
47	GPIO3_A4/MAC_TXD0/SPI0_RXD_D	D26	I/O	DOWN	PHY_TXD0	PHY_TXD0 , Core board internal series resistance 22R	3.3V
49	GPIO3_C1/MAC_TXCLK/UART3_RTSN_U	E28	I/O	UP	PHY_TXCLK	PHY_TXCLK, Core board internal series resistance 22R	3.3V
51	GND		G		GND	GND	
53	GPIO3_B1/MAC_RXDV_D	C27	I/O	DOWN	MAC_RXDV	MAC_RXDV	3.3V
55	GPIO3_A6/MAC_RXD0/SPI0_CLK_U	E26	I/O	UP	MAC_RXD0	MAC_RXD0	3.3V
57	GPIO3_A7/MAC_RXD1/SPI0_CSN0_U	F27	I/O	UP	MAC_RXD1	MAC_RXD1	3.3V
59	GPIO3_A2/MAC_RXD2/SPI4_CLK_U	E30	I/O	UP	MAC_RXD2	MAC_RXD2	3.3V
61	GPIO3_A3/MAC_RXD3/SPI4_CSN0_U	E25	I/O	UP	MAC_RXD3	MAC_RXD3	3.3V
63	GPIO3_B6/MAC_RXCLK/UART3_RX_U	F25	I/O	UP	MAC_RXCLK	MAC_RXCLK	3.3V
65	GND		G		GND	GND	
67	GPIO2_B4/SPI2_CSN0_U	F31	I/O	UP	GPIO2_B4/SPI2_CSn0	GPIO2_B4/SPI2_CSn0	1.8V
69	GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA_U	G31	I/O	UP	AT18_RST	Reset the encryption chip (Default NC)	1.8V
71	GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL_U	H25	I/O	UP	GPIO2_A1/DVP_PDN1_H	Camera1 power down control output	1.8V
73	GPIO2_A2/VOP_D2/CIF_D2_D	H30	I/O	DOWN	GPIO2_A2/DIY_LED	DIY_LED EN, Active H	1.8V
75	GPIO2_A3/VOP_D3/CIF_D3_D	F28	I/O	DOWN	GPIO2_A3/HDMIIN_PWR_EN	HDMIIN Power EN, Active H	1.8V
77	GPIO2_A4/VOP_D4/CIF_D4_D	H29	I/O	DOWN	GPIO2_A4/UART_PWR_EN	UART Power EN, Active H	1.8V
79	GPIO2_A5/VOP_D5/CIF_D5_D	F29	I/O	DOWN	GPIO2_A5/CIF_D5	LCD hot swap detection	1.8V



81	GPIO2_A6/VOP_D6/CIF_D6_D	H27	I/O	DOWN	GPIO2_A6/3G_PWR_EN	3G/4G Power_EN, Active H	1.8V
83	GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA_U	G30	I/O	UP	GPIO2_A7/WORK_LED	System working LED EN	1.8V
85	GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA_U	F30	I/O	UP	GPIO2_B1/SPI2_RXD	GPIO2_B1/SPI2_RXD	1.8V
87	GPIO2_B0/VOP_CLK/CIF_VSYNC	H28	I/O	UP	GPIO2_B0/DVP_PDN0_H	Camera0 power down control output	1.8V
89	GND		G		GND	GND	
91	GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL_U	H24	I/O	UP	GPIO2_B2/SPI2_TXD	GPIO2_B2/SPI2_TXD	1.8V
93	GPIO2_B3/SPI2_CLK/VOP_DEN/CIF_CLKOUTA_U	H31	I/O	UP	GPIO2_B3/SPI2_CLK	GPIO2_B3/SPI2_CLK	1.8V
95	GND		G		GND	GND	
97	VCC1V8_DVP		P		VCC1V8_DVP	1.8V Output, MAX current 150mA	1.8V
99	VCC2V8_DVP		P		VCC2V8_DVP	2.8V Output, MAX current 150mA	2.8V
101	VCCA(3V-5V)		P		NC	NC	5.0V
103	GPIO1_A7/SPI1_RXD/UART4_RX_U	P27	I/O	UP	SPI1_RXD/UART4_RX	SPI1_RX	3.0V
105	GPIO1_B0/SPI1_TXD/UART4_TX_U	R31	I/O	UP	SPI1_TXD/UART4_TX	SPI1_TX	3.0V
107	GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK_U	P28	I/O	UP	SPI1_CLK/GPIO1_B1_U	SPI1_CLK	3.0V
109	GPIO1_B2/SPI1_CSN0/PMCU_JTAG_TMS_U	P29	I/O	UP	SPI1_CSn0/GPIO1_B2_U	SPI1_CSn0	3.0V
111	GND		G		GND	GND	
113	PCIE_RCLK_100M_P	AD31	O		PCIE_REF_CLKP	PCIE_REF_CLKP	
115	PCIE_RCLK_100M_N	AD30	O		PCIE_REF_CLKN	PCIE_REF_CLKN	
117	GND		G		GND	GND	
119	PCIE_TX0_N	AE31	O		PCIE_TX0N	PCIE_TX0N	
121	PCIE_TX0_P	AE30	O		PCIE_TX0P	PCIE_TX0P	
123	GND		G		GND	GND	
125	PCIE_RX0_N	AF31	I		PCIE_RX0_N	PCIE_RX0_N	
127	PCIE_RX0_P	AF30	I		PCIE_RX0_P	PCIE_RX0_P	
129	GND		G		GND	GND	



131	PCIE_TX1_N	AG31	O		PCIE_TX1N	PCIE_TX1N	
133	PCIE_TX1_P	AG30	O		PCIE_TX1P	PCIE_TX1P	
135	GND		G		GND	GND	
137	PCIE_RX1_N	AH31	I		PCIE_RX1_N	PCIE_RX1_N	
139	PCIE_RX1_P	AH30	I		PCIE_RX1_P	PCIE_RX1_P	
141	GND		G		GND	GND	
143	PCIE_TX2_N	AA28	O		PCIE_TX2N	PCIE_TX2N	
145	PCIE_TX2_P	AA27	O		PCIE_TX2P	PCIE_TX2P	
147	GND		G		GND	GND	
149	PCIE_RX2_N	AC28	I		PCIE_RX2_N	PCIE_RX2_N	
151	PCIE_RX2_P	AC27	I		PCIE_RX2_P	PCIE_RX2_P	
153	GND		G		GND	GND	
155	PCIE_TX3_N	AD28	O		PCIE_TX3N	PCIE_TX3N	
157	PCIE_TX3_P	AD27	O		PCIE_TX3P	PCIE_TX3P	
159	GND		G		GND	GND	
161	PCIE_RX3_N	AF28	I		PCIE_RX3_N	PCIE_RX3_N	
163	PCIE_RX3_P	AF27	I		PCIE_RX3_P	PCIE_RX3_P	
165	GND		G		GND	GND	
167	GPIO1_C1/SPI3_CLK_D	M27	I/O	DOWN	WK2124_RST	WK2124 Reset Output, Active L	3.0V
169	GPIO1_C4/I2C8_SDA_U	M29	I/O	UP	SDPWR_EN	TF Card Power_EN, Active H	3.0V
171	GPIO1_B3/I2C4_SDA_U	P31	I/O	UP	I2C4_SDA	I2C4_SDA , Core board interiorl pull up Resistor 2.2K	3.0V
173	GPIO1_B4/I2C4_SCL_U	P30	I/O	UP	I2C4_SCL	I2C4_SCL , Core board interiorl pull up Resistor 2.2K	3.0V
175	VDC		I		PWR_EN	Automatic power-on Input , Active H	3.0V
177	POWER_ON		I		POWER_ON	Power key Input, Active L	5.0V



179	GPIO1_D0/TCPD_VBUS_SOURCE2_D	L26	I/O	DOWN	CPU_DET	Power off output to MCU, active L	3.0V
181	GPIO0_A6/PWM3A_IR_D	P25	I/O	DOWN	IR_INT	IR receiver input	1.8V
183	GPIO0_B5/TCPD_VBUS_FDIS/TCPD_VBUS_SOURCE3_D	P24	I/O	DOWN	GPIO0_B5/PCIE_PWR_EN	PCIE Power_EN , Active H	1.8V
185	NPOR_U	T30	I		RESET_L	System reset input (Reset key)	1.8V
187	GPIO0_A2/WIFI_26MHZ_D	N24	I/O	DOWN	GPIO0_A2_D/HDMIIN_RST	HDMI_in IC reset output, Active L	1.8V
189	GPIO0_B0/SDMMC0_WRPT/TEST_CLKOUT2_U	U28	I/O	UP	MIPI_RST	Mipi CAMERA reset output, Active L	1.8V
191	GPIO0_A5/EMMC_PWRON_U	V27	I/O	UP	PWR_KEY_L	Power button press down detect Input, active L	1.8V
193	GPIO2_D3/SDIO0_PWREN_D	AD9	I/O	DOWN	GPIO2_D3/RESX	Mipi to lvds IC reset output, Active L	1.8V
195	GPIO4_C7/HDMI_CECINOUT/EDP_HOTPLUG_U	AD7	I/O	UP	HDMI_CEC	HDMI CEC communication	3.0V
197	HDMI_HPD	AE15	A		PORT_HPD	HDMI Hot Plug Detection input with 5V tolerance (Core board series resistor 1K)	5.0V
199	GPIO4_C1/I2C3_SCL/UART2B_TX_U	AL2	I/O	UP	I2C3_SCL_HDMI	I2C3_SCL,for HDMI, need external pull-up	3.0V
201	GPIO4_C0/I2C3_SDA/UART2B_RX_U	AG6	I/O	UP	I2C3_SDA_HDMI	I2C3_SDA,for HDMI, need external pull-up	3.0V
203	GPIO1_A2/ISP0_FLASHTRIGIN/ISP1_FLASHTRIGIN/TCPD_CC1_VCONN_EN_D	R26	I/O	DOWN	WK2124_INT	WK2124 interrupt input	3.0V
205	RTC_CLK_OUT	U31	I/O	UP	RTC_CLK_OUT	RTC Clock output	1.8V
207	GND		G		GND	GND	
209	GPIO0_A4/SDIO0_INTN_D	AA25	I/O	DOWN	BT_HOST_WAKE_L	BT module wake up AP	1.8V
211	GPIO2_D2/SDIO0_DET/PCIE_CLKREQN_U	AL4	I/O	UP	BT_WAKE_L	AP wake up BT module	1.8V
213	GPIO2_C3/UART0_RTSN_U	AL5	I/O	UP	UART0_RTS	UART0_RTS	1.8V
215	GPIO2_C2/UART0_CTSN_U	AG8	I/O	UP	UART0_CTS	UART0_CTS	1.8V
217	GPIO2_C1/UART0_TX_U	AH8	I/O	UP	UART0_TXD	UART0_TXD	1.8V
219	GPIO2_C0/UART0_RX_U	AE9	I/O	UP	UART0_RXD	UART0_RXD	1.8V
221	GPIO0_B1/PMUIO2_VOLSEL_D	V30	I/O	DOWN	BT_REG_ON_H	BT module power enable, Active H Core board interior pull up Resistor 10K	1.8V
223	GPIO2_C5/SDIO0_D1/SPI5_TXD_U	AK5	I/O	UP	SDIO0_D1	SDIO0_D1	1.8V
225	GPIO2_C4/SDIO0_D0/SPI5_RXD_U	AD8	I/O	UP	SDIO0_D0	SDIO0_D0	1.8V



227	GPIO2_C6/SDIO0_D2/SPI5_CLK_U	AG7	I/O	UP	SDIO0_D2	SDIO0_D2	1.8V
229	GPIO2_C7/SDIO0_D3/SPI5_CSN0_U	AE8	I/O	UP	SDIO0_D3	SDIO0_D3	1.8V
231	GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1_U	AF7	I/O	UP	SDIO0_CLK	SDIO0_CLK	1.8V
233	GPIO2_D0/SDIO0_CMD_U	AH6	I/O	UP	SDIO0_CMD	SDIO0_CMD	1.8V
235	GPIO0_A3/SDIO0_WRPT_D	V31	I/O	DOWN	WIFI_HOST_WAKE_L	WIFI module wake up AP	1.8V
237	GPIO0_B2_D	W31	I/O	DOWN	WIFI_REG_ON_H	WIFI module power enable 1:Enable 0:Disable	1.8V
239	GND		G		GND	GND	
241	RTC_CLKO_WIFI		O		RTC_CLKO_WIFI	32.768K clock output to WIFI , Core board interior pull up Resistor 10K	1.8V
243	EXT_EN		O		EXT_EN	External Power_EN output,, active H	5V
245	OTP_RST		I		OTP_RST	Over temperature protection reset Input, Active L	5V
247	TYPEC1_ID	AE26			NC	TYPEC1_ID (no used)	
249	TYPEC0_ID	AL30			NC	TYPEC0_ID (no used)	
251	GPIO4_D4_D	AH5	I/O	DOWN	TP_INT1	MIPI TP_INT input, Active L	3.0V
253	GPIO4_D5_D	AJ3	I/O	DOWN	LCD_RST	MIPI reset Output, Active L	3.0V
255	GPIO4_C4/UART2C_TX_U	AJ4	I/O	UP	UART2DBG_TX	UART2_TX for system debug	3.0V
257	GPIO4_C3/UART2C_RX_U	AK2	I/O	UP	UART2DBG_RX	UART2_RX for system debug	3.0V
259	GPIO4_D3_D	AK3	I/O	DOWN	TP_INT	EDP TP_INT input, Active L	3.0V
261	GPIO4_D0/PCIE_CLKREQNB_U	AE6	I/O	UP	PCIE_CLKREQ	PCIE_CLKREQ	3.0V
263	GPIO4_D1/DP_HOTPLUG_D	AK4	I/O	DOWN	PCIE_RST	PCIE_Reset Output , Active L.	3.0V
265	GPIO4_D2_D	AH3	I/O	DOWN	PCIE_WAKE	AP wake up PCIE	3.0V
267	GPIO4_C6/PWM1_D	AL3	I/O	DOWN	LCD_BL_PWM1	PWM1:MIPI_panel backlight brightness control output	3.0V
269	GPIO4_C2/PWM0/VOP0_PWM/VOP1_PWM_D	AF5	I/O	DOWN	LCD_BL_PWM0	PWM0:EDP_panel backlight brightness control output	3.0V
271	VCCA3V0_CODEC		P		VCCA3V0_CODEC	3.3V Output , Max output current 300mA	3.3V
273	VCCA3V0_CODEC		P		VCCA3V0_CODEC		3.3V



275	VCCA1V8_CODEC		P		VCCA1V8_CODEC	1.8V Output , Max output current 300mA	1.8V	
277	VCCA1V8_CODEC		P		VCCA1V8_CODEC		1.8V	
279	GND		G		GND	GND		
281	GPIO3_D0/I2S0_SCLK_D	AG3	I/O	DOWN	I2S0_SCLK	I2S0_SCLK	1.8V	
283	GPIO3_D1/I2S0_LRCK_RX_D	AF4	I/O	DOWN	I2S0_LRCK_RX	I2S0_LRCK_RX	1.8V	
285	GPIO3_D2/I2S0_LRCK_TX_D	AJ2	I/O	DOWN	I2S0_LRCK_TX	I2S0_LRCK_TX	1.8V	
287	GPIO3_D3/I2S0_SDI0_D	Y7	I/O	DOWN	I2S0_SDI0	I2S0_SDI0	1.8V	
289	GPIO3_D4/I2S0_SDI1SDO3_D	AE5	I/O	DOWN	I2S0_SDO3	I2S0_SDO3	1.8V	
291	GPIO3_D5/I2S0_SDI2SDO2_D	AA6	I/O	DOWN	I2S0_SDO2	I2S0_SDO2	1.8V	
293	GPIO3_D6/I2S0_SDI3SDO1_D	AH2	I/O	DOWN	I2S0_SDO1	I2S0_SDO1	1.8V	
295	GPIO3_D7/I2S0_SDO0_D	AH1	I/O	DOWN	I2S0_SDO0	I2S0_SDO0	1.8V	
297	GPIO4_A0/I2S_CLK_D	AC7	I/O	DOWN	I2S_CLK	I2S_CLK	1.8V	
299	GPIO4_A3/I2S1_SCLK_D	AF3	I/O	DOWN	I2S1_SCLK	I2S1_SCLK	1.8V	
301	GPIO4_A4/I2S1_LRCK_RX_D	AA7	I/O	DOWN	I2S1_LRCK_RX	I2S1_LRCK_RX	1.8V	
303	GPIO4_A5/I2S1_LRCK_TX_D	AJ1	I/O	DOWN	I2S1_LRCK_TX	I2S1_LRCK_TX	1.8V	
305	GPIO4_A6/I2S1_SDI0_D	AD6	I/O	DOWN	I2S1_SDI0	I2S1_SDI0	1.8V	
307	GPIO4_A7/I2S1_SDO0_D	AC6	I/O	DOWN	I2S1_SDO0	I2S1_SDO0	1.8V	
309	GND		G		GND	GND		
311	GPIO4_A1/I2C1_SDA_U	AG1	I/O	UP	I2C1_SDA	I2C1_SDA, Core board interior pull up Resistor 2.2K	1.8V	
313	GPIO4_A2/I2C1_SCL_U	Y6	I/O	UP	I2C1_SCL	I2C1_SCL, Core board interior pull up Resistor 2.2K	1.8V	
314	GPIO4_C5/SPDIF_TX_D	AK1	I/O	DOWN	EAR_CTL	Headphone EN, Active H	3.0V	
Part B	PIN	Core-3399J pin definition	RK3399 Pin Number	Pad type	IO Pull	Function for Floor(MB-JM3-RK3399)	Defual function description	IO Power domain
	2	GND		G		GND		



4	GND		G		GND		
6	GND		G		GND		
8	GND		G		GND		
10	GND		G		GND	Power ground	
12	GND		G		GND		
14	GND		G		GND		
16	GND		G		GND		
18	GND		G		GND		
20	NC				NC	NC	
22	NC				NC	NC	
24	VCC3V3_SYS		P		VCC3V3_SYS	3.3V Output ,Max output current 500mA	3.3V
26	VCC3V3_SYS		P		VCC3V3_SYS		3.3V
28	VCC3V3_SYS		P		VCC3V3_SYS		3.3V
30	VCC3V3_S3		P		VCC3V3_S3	3.3V Output Max output current 150mA	3.3V
32	VCC3V3_S3		P		VCC3V3_S3		3.3V
34	VCC3V3_S3		P		VCC3V3_S3		3.3V
36	GND		P		GND	GND	GND
38	VCC_3V0		P		VCC_3V0	3.0V Output , Max output current 150mA	3.0V
40	VCC_3V0		P		VCC_3V0		3.0V
42	VCC_1V8		P		VCC_1V8	1.8V Output , Max output current 1A	1.8V
44	VCC_1V8		P		VCC_1V8		1.8V
46	VCC_RTC		P		VCC_RTC	RTC Power supply Input: 3.0V-5.0V	3.0~5.0V
48	VCCA1V8_S3		P		VCCA1V8_S3	1.8V Output , Max output current 100mA	1.8V
50	GND		G		GND	GND	
52	EDP_AUXN	A28	I/O		EDP_AUXN	EDP_AUXN	



54	EDP_AUXP	B28	I/O		EDP_AUXP	EDP_AUXP	
56	GND		G		GND	GND	
58	EDP_TX0N	A29	O		EDP_TX0N	EDP_TX0N (Core board internal series capacitor 100nF)	
60	EDP_TX0P	B29	O		EDP_TX0P	EDP_TX0P (Core board internal series capacitor 100nF)	
62	GND		G		GND	GND	
64	EDP_TX1N	A30	O		EDP_TX1N	EDP_TX1N (Core board internal series capacitor 100nF)	
66	EDP_TX1P	B30	O		EDP_TX1P	EDP_TX1P (Core board internal series capacitor 100nF)	
68	GND		G		GND	GND	
70	EDP_TX2N	C31	O		EDP_TX2N	EDP_TX2N (Core board internal series capacitor 100nF)	
72	EDP_TX2P	C30	O		EDP_TX2P	EDP_TX2P (Core board internal series capacitor 100nF)	
74	GND		G		GND	GND	
76	EDP_TX3N	D31	O		EDP_TX3N	EDP_TX3N (Core board internal series capacitor 100nF)	
78	EDP_TX3P	D30	O		EDP_TX3P	EDP_TX3P (Core board internal series capacitor 100nF)	
80	GND		G		GND	GND	
82	GPIO3_C0/MAC_COL/UART3_CTSN/SPDIF_TX_U	D27	I/O	UP	MIPI_PWR_EN	MIPI_Power_EN, Active H	3.3V
84	GND		G		GND	GND	
86	GPIO0_B4/TCPD_VBUS_BDIS_D	V26	I/O	DOWN	TP_RST_1.8V	EDP TP reset output,Active L	1.8V
88	GPIO0_A7/SDMMC0_DET_U	V28	I/O	UP	SDMMC0_DET_L	TF card detect input ,Active L	1.8V
90	GPIO4_B2/SDMMC0_D2/APJTAG_TCK_U & 3.0V	Y28	I/O	UP	SDMMC0_D2	SDMMC0_D2	VCC_SDIO 1.8V/3.3V
92	GPIO4_B3/SDMMC0_D3/APJTAG_TMS_U & 3.0V	U27	I/O	UP	SDMMC0_D3	SDMMC0_D3	
94	GPIO4_B5/SDMMC0_CMD/MCUJTAG_TMS_U & 3.0V	V25	I/O	UP	SDMMC0_CMD	SDMMC0_CMD	
96	GPIO4_B4/SDMMC0_CLKOUT/MUCJTAG_TCK_D & 3.0V	V29	I/O	DOWN	SDMMC0_CLK	SDMMC0_CLK	
98	GPIO4_B0/SDMMC0_D0/UART2A_RX_U & 3.0V	Y27	I/O	UP	SDMMC0_D0	SDMMC0_D0	
100	GPIO4_B1/SDMMC0_D1/UART2A_TX_U & 3.0V	Y26	I/O	UP	SDMMC0_D1	SDMMC0_D1	
VCC_SDIO: Default is 3.3V; 1.8V(SDIO3.0) /3.3V(SDIO2.0) auto select.							



102	GPIO1_A1/ISP0_SHUTTER_TRIG/ISP1_SHUTTER_TRIG/TCPD_CC0_VCONN_EN_D	T31	I/O	DOWN	BL_EN	BL_EN, Active H Core board internal series resistance 33R	3.0V
104	GPIO1_A4/ISP0_PRELIGHT_TRIG/ISP1_PRELIGHT_TRIG_D	R28	I/O	DOWN	LCD_EN	LCD_EN, Active H Core board internal series resistance 33R	3.0V
106	GPIO1_A3/ISP0_FLASHTRIGOUT/ISP1_FLASHTRIGOUT_D	R27	I/O	DOWN	VCC5V0_TYPEC0_EN	VCC5V0_TYPEC0_EN, Active H Core board internal series resistance 33R	3.0V
108	GPIO1_A0/ISP0_SHUTTER_EN/ISP1_SHUTTER_EN/TCPD_VBUS_SINK_EN_D	R25	I/O	DOWN	VCC5V0_HOST_EN	VCC5V0_HOST_EN, Active H Core board internal series resistance 33R	3.0V
110	TYPEC0_U2VBUSDET	AK30	I		TYPEC0_U2VBUSDET	VBUS_TYPEC0 detect, Active H	3.3V
112	TYPEC1_U2VBUSDET	AK31	I		NC	VBUS_TYPEC1 detect, Active H (default NC)	3.3V
114	GPIO1_C6/TCPD_VBUS_SOURCE0_D	L25	I/O	DOWN	CIF_PWR	Camera Power_EN0, Active H	3.0V
116	GPIO1_C7/TCPD_VBUS_SOURCE1_D	M31	I/O	DOWN	DVP_PWR	Camera Power_EN1, Active H	3.0V
118	GPIO2_D4/SDIO0_BKPWR_D	AF8	I/O	DOWN	HDMIIN_INT	HDMIIN_INT Input, Active L	1.8V
120	ADC_IN4	AH27	I		HP_DET (need pull up Resistor)	ADC4 input: Headphone det Input, Active H	1.8V
122	ADC_IN3	AG28	I		FAN_INT (need pull up Resistor)	ADC3 input	1.8V
124	ADC_IN0	AG26	I		ADC_IN0 (need pull up Resistor)	ADC0 input	1.8V
126	ADC_IN1	AH26	I		RECOVER (need pull up Resistor)	ADC1 input: RECOVER_KEY input, Active L	1.8V
128	ADC_IN2	AG25	I		LINE_IN_DET (need pull up Resistor)	LINE_IN_DET input, Active H	1.8V
130	GND		G		GND	GND	
132	HOST1_DM	AA31			HOST1_DM	HOST1_DM	
134	HOST1_DP	AA30			HOST1_DP	HOST1_DP	
136	GND		G		GND	GND	
138	HOST0_DM	AB31			HOST0_DM	HOST0_DM	
140	HOST0_DP	AB30			HOST0_DP	HOST0_DP	
142	GND		G		GND	GND	
144	TYPEC1_AUXP	AK29			NC	TYPEC1_SBU1.(no used)	
146	TYPEC1_AUXM	AL29			NC	TYPEC1_SBU2.(no used)	



148	GND		G		GND	GND
150	TYPEC1_TX2M	AK28			NC	TYPEC1_TX2N.(no used)
152	TYPEC1_TX2P	AL28			NC	TYPEC1_TX2P(no used)
154	GND		G		GND	GND
156	TYPEC1_RX2P	AK27			NC	TYPEC1_RX2P(no used)
158	TYPEC1_RX2M	AL27			NC	TYPEC1_RX2N(no used)
160	GND		G		GND	GND
162	TYPEC1_AUXP_PD_PU	AE24			NC	TYPEC1_SBU1_DC(no used)
164	TYPEC1_AUXM_PU_PD	AF25			NC	TYPEC1_SBU2_DC(no used)
166	TYPEC1_TX1M	AK26			USB3_SSTXN	USB3_SSTXN
168	TYPEC1_TX1P	AL26			USB3_SSTXP	USB3_SSTXP
170	TYPEC1_RX1P	AK25			USB3_SSRXP	USB3_SSRXP
172	TYPEC1_RX1M	AL25			USB3_SSRXN	USB3_SSRXN
174	TYPEC1_DP	AG24			USB3_DP	USB3_DP
176	TYPEC1_DM	AH24			USB3_DM	USB3_DM
178	TYPEC0_TX2M	AK24			TYPEC0_TX2N	TYPEC0_TX2N
180	TYPEC0_TX2P	AL24			TYPEC0_TX2P	TYPEC0_TX2P
182	TYPEC0_RX2P	AK23			TYPEC0_RX2P	TYPEC0_RX2P
184	TYPEC0_RX2M	AL23			TYPEC0_RX2N	TYPEC0_RX2N
186	TYPEC0_DM	AH23			TYPEC0_DM	TYPEC0_DM
188	TYPEC0_DP	AG23			TYPEC0_DP	TYPEC0_DP
190	TYPEC0_TX1M	AK22			TYPEC0_TX1N	TYPEC0_TX1N
192	TYPEC0_TX1P	AL22			TYPEC0_TX1P	TYPEC0_TX1P
194	TYPEC0_RX1P	AK21			TYPEC0_RX1P	TYPEC0_RX1P
196	TYPEC0_RX1M	AL21			TYPEC0_RX1N	TYPEC0_RX1N



198	TYPECO_AUXP	AK20			TYPECO_SBU1	TYPECO_SBU1
200	TYPECO_AUXM	AL20			TYPECO_SBU2	TYPECO_SBU2
202	TYPECO_AUXM_PU_PD	AG17			TYPECO_SBU2_DC	TYPECO_SBU2_DC
204	TYPECO_AUXP_PD_PU	AH17			TYPECO_SBU1_DC	TYPECO_SBU1_DC
206	GND		G		GND	GND
208	HDMI_TX2P	AK19	O		HDMI_TX_2P	HDMI_TX_2P Output
210	HDMI_TX2N	AL19	O		HDMI_TX_2N	HDMI_TX_2N Output
212	HDMI_TX1P	AK18	O		HDMI_TX_1P	HDMI_TX_1P Output
214	HDMI_TX1N	AL18	O		HDMI_TX_1N	HDMI_TX_1N Output
216	HDMI_TX0P	AK17	O		HDMI_TX_0P	HDMI_TX_0P Output
218	HDMI_TX0N	AL17	O		HDMI_TX_0N	HDMI_TX_0N Output
220	HDMI_TCP	AK16	O		HDMI_TX_CP	HDMI_TX_CP Output
222	HDMI_TCN	AL16	O		HDMI_TX_CN	HDMI_TX_CN Output
224	GND		G		GND	GND
226	MIPI_TX0_D0P	AG15	O		MIPI_TX0_D0P	MIPI_TX0_D0P Output
228	MIPI_TX0_D0N	AH15	O		MIPI_TX0_D0N	MIPI_TX0_D0N Output



230	GND		G		GND	GND
232	MIPI_TX0_D1P	AG14	O		MIPI_TX0_D1P	MIPI_TX0_D1P Output
234	MIPI_TX0_D1N	AH14	O		MIPI_TX0_D1N	MIPI_TX0_D1N Output
236	GND		G		GND	GND
238	MIPI_TX0_CLKP	AG12	O		MIPI_TX0_CLKP	MIPI_TX0_CLKP Output
240	MIPI_TX0_CLKN	AH12	O		MIPI_TX0_CLKN	MIPI_TX0_CLKN Output
242	GND		G		GND	GND
244	MIPI_TX0_D2P	AG11	O		MIPI_TX0_D2P	MIPI_TX0_D2P Output
246	MIPI_TX0_D2N	AH11	O		MIPI_TX0_D2N	MIPI_TX0_D2N Output
248	GND		G		GND	GND
250	MIPI_TX0_D3P	AG9	O		MIPI_TX0_D3P	MIPI_TX0_D3P Output
252	MIPI_TX0_D3N	AH9	O		MIPI_TX0_D3N	MIPI_TX0_D3N Output
254	GND		G		GND	GND
256	MIPI_RX0_D0P	AK15	I		MIPI_RX0_D0P	MIPI_RX0_D0P Input
258	MIPI_RX0_D0N	AL15	I		MIPI_RX0_D0N	MIPI_RX0_D0N Input
260	GND		G		GND	GND
262	MIPI_RX0_D1P	AK14	I		MIPI_RX0_D1P	MIPI_RX0_D1P Input
264	MIPI_RX0_D1N	AL14	I		MIPI_RX0_D1N	MIPI_RX0_D1N Input
266	GND		G		GND	GND
268	MIPI_RX0_CLKP	AK13	I		MIPI_RX0_CLKP	MIPI_RX0_CLKP Input
270	MIPI_RX0_CLKN	AL13	I		MIPI_RX0_CLKN	MIPI_RX0_CLKN Input
272	GND		G		GND	GND
274	MIPI_RX0_D2P	AK12	I		MIPI_RX0_D2P	MIPI_RX0_D2P Input
276	MIPI_RX0_D2N	AL12	I		MIPI_RX0_D2N	MIPI_RX0_D2N Input
278	GND		G		GND	GND



280	MIPI_RX0_D3P	AK11	I		MIPI_RX0_D3P	MIPI_RX0_D3P Input	
282	MIPI_RX0_D3N	AL11	I		MIPI_RX0_D3N	MIPI_RX0_D3N Input	
284	GND		G		GND	GND	
286	MIPI_TX1/RX1_D3P	AK10	I/O		MIPI_TX1/RX1_D3P	MIPI_TX1/RX1_D3P Output/Input	
288	MIPI_TX1/RX1_D3N	AL10	I/O		MIPI_TX1/RX1_D3N	MIPI_TX1/RX1_D3N Output/Input	
290	GND		G		GND	GND	
292	MIPI_TX1/RX1_D2P	AK9	I/O		MIPI_TX1/RX1_D2P	MIPI_TX1/RX1_D2P Output/Input	
294	MIPI_TX1/RX1_D2N	AL9	I/O		MIPI_TX1/RX1_D2N	MIPI_TX1/RX1_D2N Output/Input	
296	GND		G		GND	GND	
298	MIPI_TX1/RX1_CLKP	AK8	I/O		MIPI_TX1/RX1_CLKP	MIPI_TX1/RX1_CLKP Output/Input	
300	MIPI_TX1/RX1_CLKN	AL8	I/O		MIPI_TX1/RX1_CLKN	MIPI_TX1/RX1_CLKN Output/Input	
302	GND		G		GND	GND	
304	MIPI_TX1/RX1_D1P	AK7	I/O		MIPI_TX1/RX1_D1P	MIPI_TX1/RX1_D1P Output/Input	
306	MIPI_TX1/RX1_D1N	AL7	I/O		MIPI_TX1/RX1_D1N	MIPI_TX1/RX1_D1N Output/Input	
308	GND		G		GND	GND	
310	MIPI_TX1/RX1_D0P	AK6	I/O		MIPI_TX1/RX1_D0P	MIPI_TX1/RX1_D0P Output/Input	
312	MIPI_TX1/RX1_D0N	AL6	I/O		MIPI_TX1/RX1_D0N	MIPI_TX1/RX1_D0N Output/Input	



中山市天启智能科技有限公司

 联系方式
400-151-1533

 官方网址
www.t-firefly.com

 公司地址
广东省中山市东区中山四路57号宏宇大厦1座2101