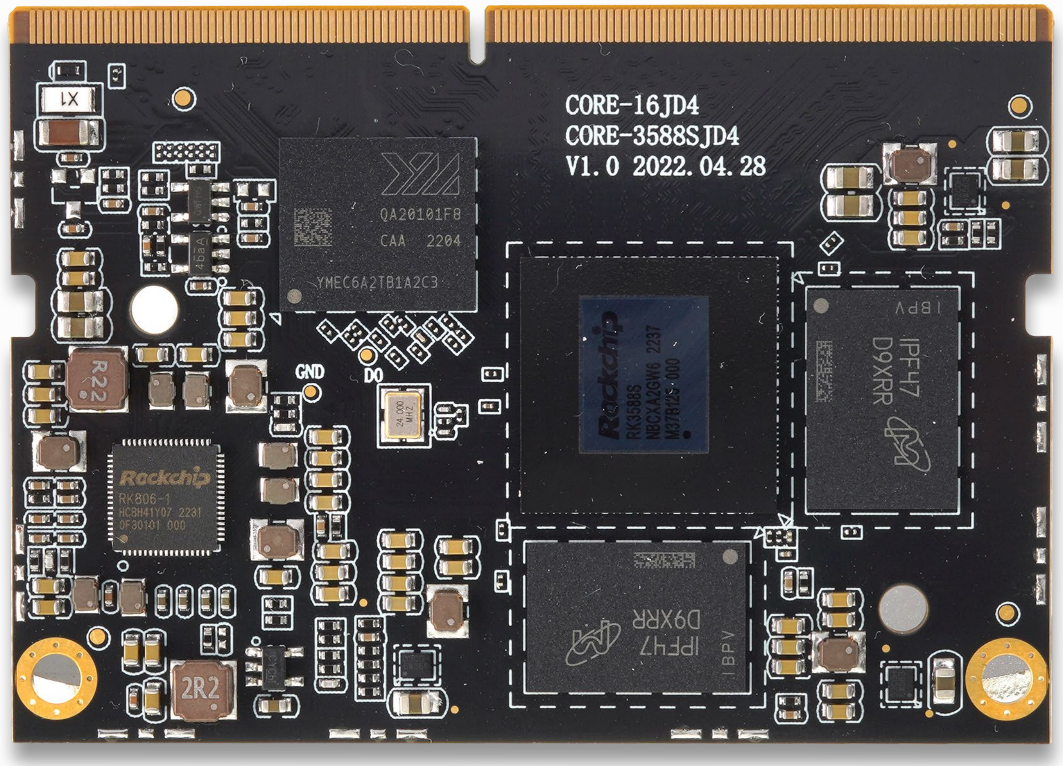
Core-3588SJD4

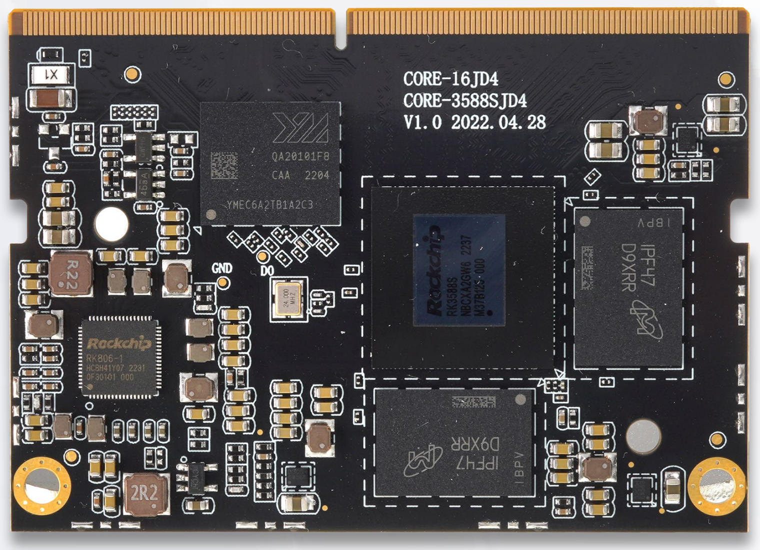
八核8K人工智能核心板



V1.0　2025-3-12

天启智能科技

产品特点 Product features



新 一 代 高 端 处 理 器

八核64位A76+A55处理器RK3588S
采用8nm先进工艺
主频高达2.4GHz，低功耗高性能

可 配 3 2 G B 大 内 存

最高可配32GB超大运行内存，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

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

多路视频输入输出/多屏异显

支持8K HDMI2.1、8K DP1.4 输出
双MIPI-DSI输出，最高可实现四屏异显
多路MIPI-CSI摄像头输入

支 持 多 种 操 作 系 统

支持Android 12.0、Ubuntu桌面版和Server版等操作系统，为产品研产提供安全稳定的系统环境

260Pin标准SODIMM接口

尺寸小巧，与底板组合可构成完整的高性能行业主板，可直接应用到各种智能产品中，加速产品落地

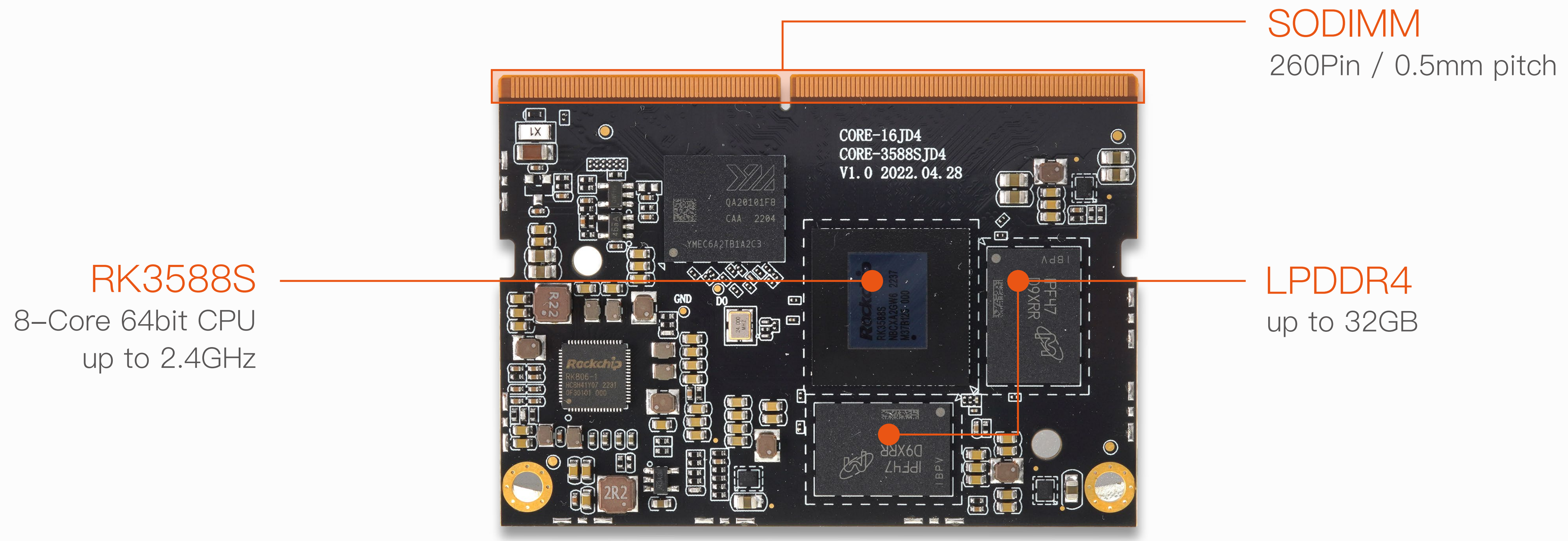
规格参数 Specifications

基本参数	
SOC	RK3588S
CPU	八核64位（4×Cortex-A76 + 4×Cortex-A55），8nm先进工艺，主频高达2.4GHz
GPU	ARM Mali-G610 MP4四核GPU，支持 OpenGL ES3.2 / OpenCL 2.2 / Vulkan1.1，450 GFLOPS
NPU	6 TOPS，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
编解码	视频解码：8K@60fps H.265/VP9/AVS2、8K@30fps H.264 AVC/MVC、4K@60fps AV1、1080P@60fps MPEG-2/-1/VC-1/VP8 视频编码：8K@30fps H.265/H.264
内存	4GB/8GB/16GB/32GB 64-bit LPDDR4/LPDDR4x
存储	16GB/32GB/64GB/128GB eMMC
电源	核心板供电电压 4V（电压误差±5%）
系统	Android：Android 12.0 Linux： Ubuntu桌面版、Ubuntu Server版、Debian11、Buildroot、RTLinux 国产系统：麒麟Linux、统信UOS等 * 支持UEFI启动方式
尺寸	69.60mm × 49.32mm × 4.05mm
接口类型	SODIMM（260 PIN，0.5mm 间距）
散热	一体散热风扇 (点击查看)
功耗	典型功耗：约 1.6W(4.0V/400mA)，最大功耗：约 12W(4.0V/3A)
重量	约 50g
环境	工作温度：-20℃ ~ 60℃　存储温度：-20℃ ~ 70℃　工作湿度: 10% ~ 90%RH（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1路千兆以太网、WiFi6/蓝牙，5G/4G LTE
视频输入	2 × MIPI DC PHY	MIPI DPHY V2.0 (4lanes, 4.5Gbps/lane)；MIPI CPHY V1.1 (3lanes, 2.5Gsps/lane)
	1 × MIPI CSI	1 × MIPI CSI (4 Lanes) 或 2 × MIPI CSI (2 Lanes)
	1 × DVP 接口	8/10/12/16-bit 标准 DVP 接口，最高 150MHz 数据输入；支持 BT.601/BT.656 和 BT.1120 VI 接口
视频输出	1 × HDMI2.1/ eDP1.3	HDMI2.1，最高8K@60Hz，支持 HDCP2.3；支持eDP1.3，4K@60Hz，支持HDCP1.3；HDMI 和 eDP 不能同时工作
	2 × MIPI-DSI	支持 2 个 MIPI DPHY 2.0 或 CPHY 1.1，分辨率可达 4K@60Hz；支持左右双 MIPI 显示，支持 RGB/YUV 格式 (最高 10bit)
	1 × DP1.4	支持 DP TX 1.4a，与 USB3.1 Gen1 复用，支持1,2,4 lanes；分辨率可达 7680 × 4320@30Hz；支持 HDCP2.3，HDCP 1.3
	1 × BT.1120	支持 RGB 格式 (最高 8bit)，数据速率可达 150MHz，分辨率可达 1920 × 1080@60Hz
	多屏异显	最高可以实现四屏异显（1 × HDMI + 2 × MIPI DSI + 1 × DP）
音频	2 × I2S（8ch）	支持 TX 和 RX，音频分辨率 16~32 位，采样率达 192KHz
	2 × I2S（2ch）	支持 TX 和 RX，音频分辨率 16~32 位，采样率达 192KHz
	2 × SPDIF	支持 2×16bit 音频数据存储，支持双相立体声输出
	2 × PDM（8ch）	最高 8 通道，音频分辨率 16 ~24 位，采样率达 192KHz，支持 PDM 主接收模式，支持多 MIC 阵列
SATA	2 × SATA3.0	2 × SATA3.0（与PCIe2.1复用）
PCIe	2 × PCIe2.1	2 × PCIe2.1（与SATA3.0复用）
USB	2 × USB3.1(Gen1)	1 × USB3.1(Gen1) OTG、1 × USB3.1(Gen1) HOST
	2 × USB2.0 HOST	2 × USB2.0 HOST
	1 × USB2.0 OTG	1 × USB2.0 OTG
I2C	9 × 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	5 × SPI	每个控制器支持 2 路片选输出；支持串行主、串行从模式，软件可配置
UART	10 × UART	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； 10路 UART 均支持自动流控模式
CAN	3 × CAN 2.0B	支持 CAN 标准帧和扩展帧收发
PWM	16 × PWM	最高支持 16 个片上 PWM，支持捕获模式
ADC	12 × ADC	12bit 单端输入 SAR-ADC，采样率高达 1MS/s
GPIO	GPIOs	所有的 GPIOs 都可以用来产生中断

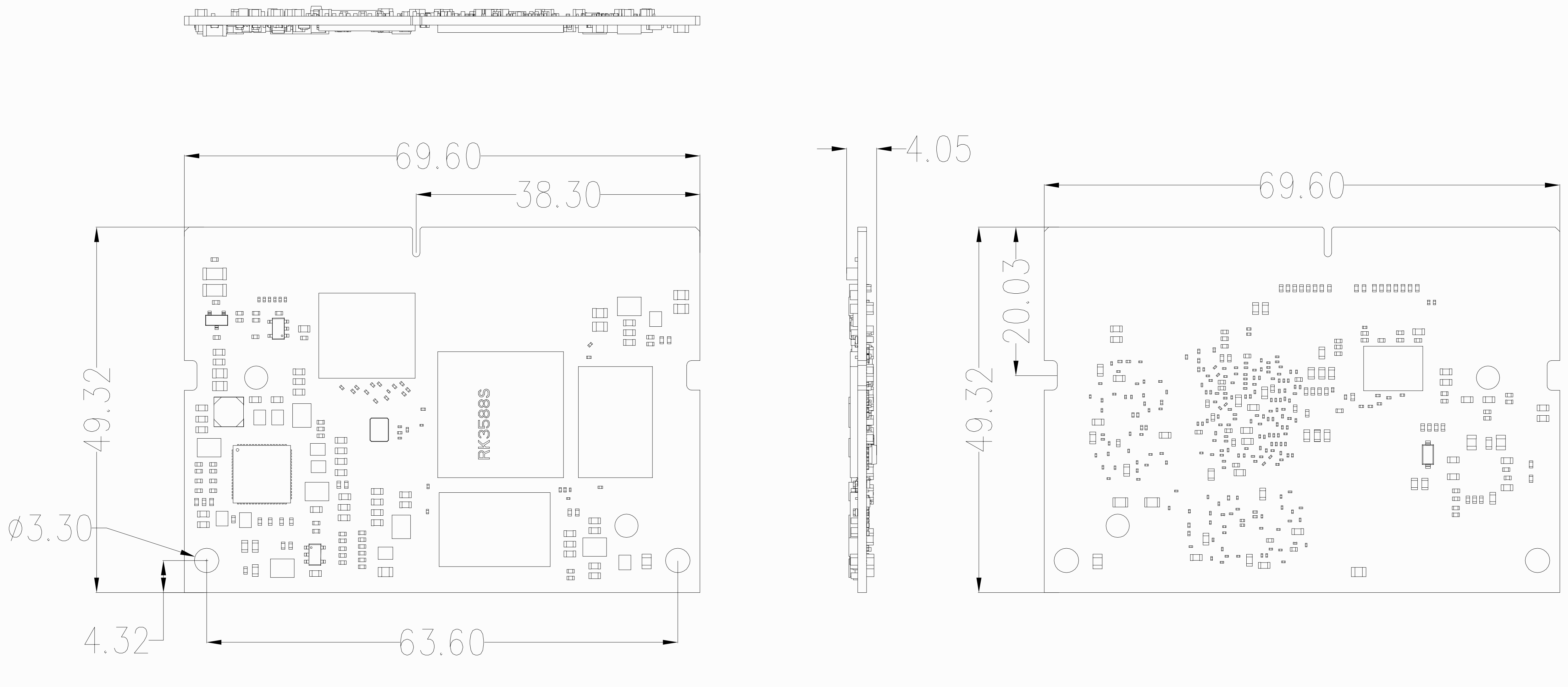
核心板接口 Core board Interface description



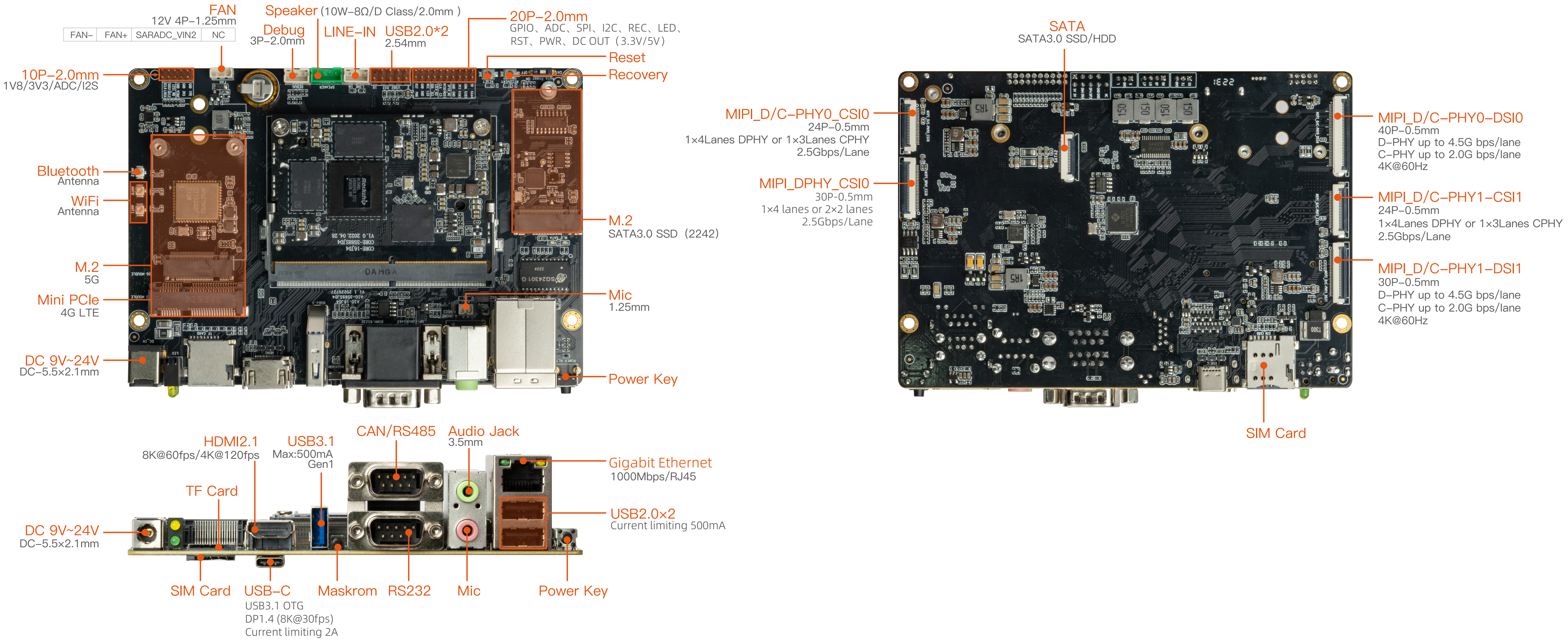
Main Interface

Network	Video input	Video output	Audio	PCIe/SATA/USB	Others
GMAC(RGMII/RMII) WIFI 6/5 (PCIe/SDIO) 5G/4G (PCIe/USB3.0)	1 * MIPI CSI (4 Lane) 2 * MIPI D/C PHY 1 * DVP	1 * HDMI2.1 TX/eDP 1.3 1 * DP 1.4a 2 * MIPI DSI 1 * BT.1120	2 * I2S (8-channel) 2 * I2S (2-channel) 2 * PDM (8-channel) 2 * SPDIF	2 * SATA3.0 2 * PCIe2.1 3 * USB3.0 2 * USB2.0 Host 1 * USB2.0 OTG	1 * SDIO3.0 9 * I2C 5 * SPI 3 * CAN 2.0B 10 * UART 16 * PWM

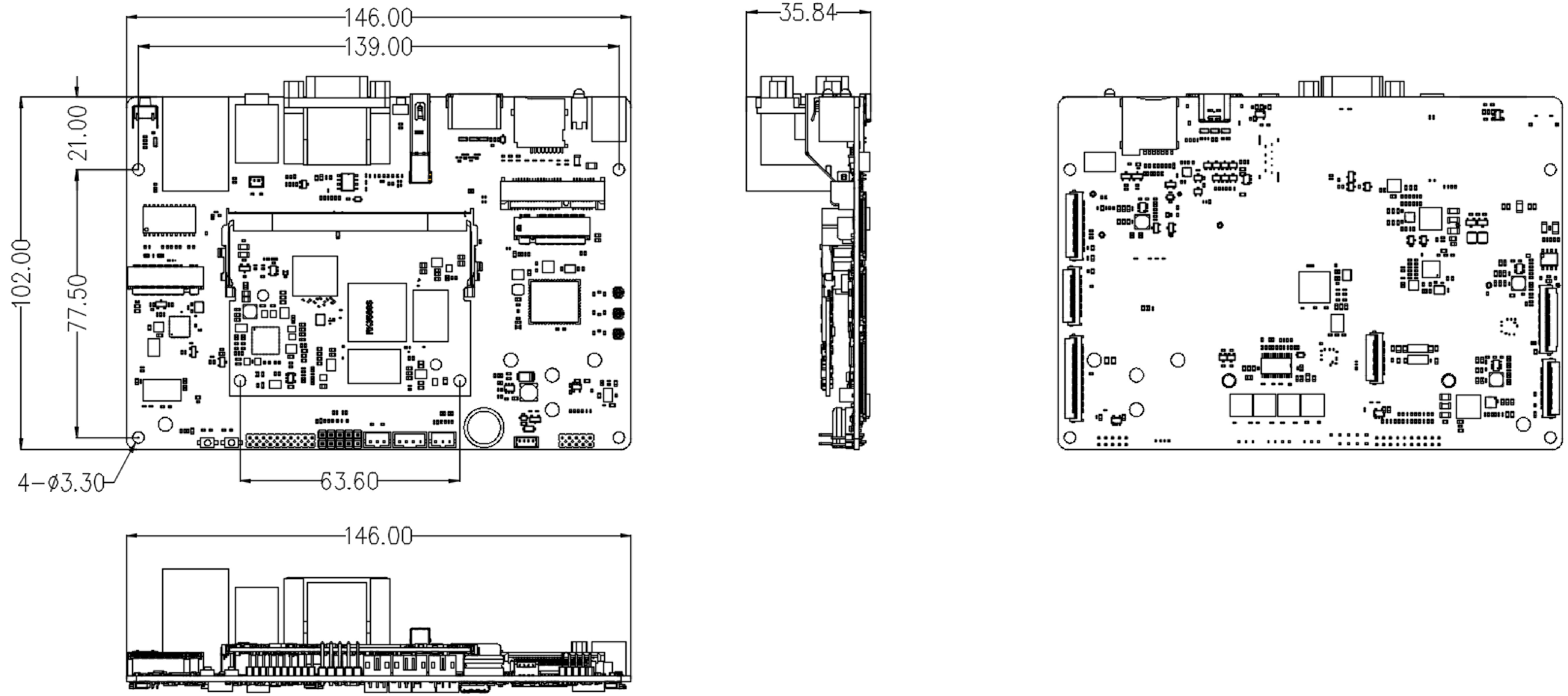
核心板尺寸 Core board Dimension



主板接口 Mainboard Interface description



主板尺寸 Mainboard Dimension



接口定义 Interface definition

Pad types: I = input, O = output, I/O = input/output (bidirectional); AI/O=Analog Input/Output; G= Ground ,
P = power supply , DOWN = Internal pull down , UP = Internal pull UP L = Lowe Level H = High level"

PIN	CORE-3588SJD4 pin definition	RK3588S Pin NO.	Pad type	IO Pull	Function for Main BOARD(MB-JD4-RK3588S)	Defual function description	IO Power domain
1	GND			G	GND	GND	GND
3	CIF_D3/BT1120_D3/I2S1_SCLK_M0/DDRPHY_CH0_DTB_3/UART0_TX_M2/GPIO4_A3_d	AY19	DWON	I/O	UART0_TX_M2	UART0_TX_M2	3.3V
5	CIF_CLKOUT/BT1120_D10/I2S1_SDO3_M0/DP0_HPDIN_M0/SPDIF0_TX_M1/DDRPHY_CH3_DTB0/UART9_TX_M1/PWM11_IR_M1/GPIO4_B4_u	AV27	UP	I/O	I2S1_SDO3_M0	I2S1_SDO3_M0	3.3V
7	GND			G	GND	GND	GND
9	USB20_HOST0_DM	AV6		AI/O	USB20_HOST0_DM	USB20_HOST0_DM	-
11	USB20_HOST0_DP	AW6		AI/O	USB20_HOST0_DP	USB20_HOST0_DP	-
13	USB20_HOST1_DM	AW7		AI/O	USB20_HOST1_DM	USB20_HOST1_DM	-
15	USB20_HOST1_DP	AV7		AI/O	USB20_HOST1_DP	USB20_HOST1_DP	-
17	TYPEC1_USB20_OTG_DM	AY10		AI/O	TYPEC0_OTG_DM	TYPEC0_OTG_DM (System update)	-
19	TYPEC0_USB20_OTG_DP	AY11		AI/O	TYPEC0_OTG_DP	TYPEC0_OTG_DP (System update)	-
21	GND			G	GND	GND	GND
23	HDMI_TX0_SBDN/EDP_TX0_AUXN	AY1		I	HDMI0_TX_SBDN	HDMI0_TX_SBDN	-
25	HDMI_TX0_SBDP/EDP_TX0_AUXP	BA1		I	HDMI0_TX_SBDP	HDMI0_TX_SBDP	-
27	HDMI_TX0_D3N/EDP_TX0_D3N	BB2		O	HDMI0_TX3N	HDMI0_TX3N	-
29	HDMI_TX0_D3P/EDP_TX0_D3P	BA2		O	HDMI0_TX3P	HDMI0_TX3P	-
31	HDMI_TX0_D0N/EDP_TX0_D0N	BA4		O	HDMI0_TX0N	HDMI0_TX0N	-
33	HDMI_TX0_D0P/EDP_TX0_D0P	BB4		O	HDMI0_TX0P	HDMI0_TX0P	-
35	HDMI_TX0_D1N/EDP_TX0_D1N	BB5		O	HDMI0_TX1N	HDMI0_TX1N	-
37	HDMI_TX0_D1P/EDP_TX0_D1P	BA5		O	HDMI0_TX1P	HDMI0_TX1P	-
39	HDMI_TX0_D2N/EDP_TX0_D2N	BA7		O	HDMI0_TX2N	HDMI0_TX2N	-
41	HDMI_TX0_D2P/EDP_TX0_D2P	BB7		O	HDMI0_TX2P	HDMI0_TX2P	-
43	GND			G	GND	GND	GND
45	TYPEC0_SSRX1N/DP0_TX0N	BA10		AI/O	TYPEC0_SSRX1N	TYPEC0_SSRX1N	-
47	TYPEC0_SSRX1P/DP0_TX0P	BB10		AI/O	TYPEC0_SSRX1P	TYPEC0_SSRX1P	-

49	TYPEC0_SSTX1P/DP0_TX1P	BB11		AI/O	TYPEC0_SSTX1P	TYPEC0_SSTX1P	-
51	TYPEC0_SSTX1N/DP0_TX1N	BA11		AI/O	TYPEC0_SSTX1N	TYPEC0_SSTX1N	-
53	TYPEC0_SSRX2N/DP0_TX2N	BA13		AI/O	TYPEC0_SSRX2N	TYPEC0_SSRX2N	-
55	TYPEC0_SSRX2P/DP0_TX2P	BB13		AI/O	TYPEC0_SSRX2P	TYPEC0_SSRX2P	-
57	TYPEC0_SSTX2P/DP0_TX3P	BB14		AI/O	TYPEC0_SSTX2P	TYPEC0_SSTX2P	-
59	TYPEC0_SSTX2N/DP0_TX3N	BA14		AI/O	TYPEC0_SSTX2N	TYPEC0_SSTX2N	-
61	GND			G	GND	GND	GND
63	MIPI_DPHY1_TX_D0N/MIPI_CPHY1_TX_TRIO0_A	BA16		O	MIPI_DPHY1_TX_D0N	MIPI_DPHY1_TX_D0N	-
65	MIPI_DPHY1_TX_D0P/MIPI_CPHY1_TX_TRIO0_B	BB16		O	MIPI_DPHY1_TX_D0P	MIPI_DPHY1_TX_D0P	-
67	MIPI_DPHY1_TX_D1N/MIPI_CPHY1_TX_TRIO0_C	BB17		O	MIPI_DPHY1_TX_D1N	MIPI_DPHY1_TX_D1N	-
69	MIPI_DPHY1_TX_D1P/MIPI_CPHY1_TX_TRIO1_A	BA17		O	MIPI_DPHY1_TX_D1P	MIPI_DPHY1_TX_D1P	-
71	MIPI_DPHY1_TX_CLKN/MIPI_CPHY1_TX_TRIO1_B	BA19		O	MIPI_DPHY1_TX_CLKN	MIPI_DPHY1_TX_CLKN	-
73	MIPI_DPHY1_TX_CLKP/MIPI_CPHY1_TX_TRIO1_C	BB19		O	MIPI_DPHY1_TX_CLKP	MIPI_DPHY1_TX_CLKP	-
75	MIPI_DPHY1_TX_D2N/MIPI_CPHY1_TX_TRIO2_A	BB20		O	MIPI_DPHY1_TX_D2N	MIPI_DPHY1_TX_D2N	-
77	MIPI_DPHY1_TX_D2P/MIPI_CPHY1_TX_TRIO2_B	BA20		O	MIPI_DPHY1_TX_D2P	MIPI_DPHY1_TX_D2P	-
79	MIPI_DPHY1_TX_D3N/MIPI_CPHY1_TX_TRIO2_C	BA22		O	MIPI_DPHY1_TX_D3N	MIPI_DPHY1_TX_D3N	-
81	MIPI_DPHY1_TX_D3P/NO_USE	BB22		O	MIPI_DPHY1_TX_D3P	MIPI_DPHY1_TX_D3P	-
83	MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A	BB23		O	MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A	MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A	-
85	MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B	BA23		O	MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B	MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B	-
87	MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C	BA25		O	MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C	MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C	-
89	MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A	BB25		O	MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A	MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A	-
91	MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B	BB26		O	MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B	MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B	-
93	MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C	BA26		O	MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C	MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C	-
95	MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A	BA28		O	MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A	MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A	-
97	MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B	BB28		O	MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B	MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B	-

99	MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	BB29		O	MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	-
101	MIPI_DPHY1_RX_D3P/NO_USE	BA29		O	MIPI_DPHY1_RX_D3P	MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	-
103	GND			G	GND	GND	GND
105	MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A	BA31		O	MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A	MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A	-
107	MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B	BB31		O	MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B	MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B	-
109	MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C	BB32		O	MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C	MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C	-
111	MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A	BA32		O	MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A	MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A	-
113	MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B	BA34		O	MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B	MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B	-
115	MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C	BB34		O	MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C	MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C	-
117	MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A	BB35		O	MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A	MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A	-
119	MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B	BA35		O	MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B	MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B	-
121	MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C	BA37		O	MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C	MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C	-
123	MIPI_DPHY0_TX_D3P/NO_USE	BB37		O	MIPI_DPHY0_TX_D3P	MIPI_DPHY0_TX_D3P	-
125	MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A	BB38		I	MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A	MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A	-
127	MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B	BA38		I	MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B	MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B	-
129	MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C	AY40		I	MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C	MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C	-
131	MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A	BA40		I	MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A	MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A	-
133	MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B	BA41		I	MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B	MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B	-
135	MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C	BB41		I	MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C	MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C	-

137	MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_Trio2_A	BA42		I	MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_TRIO2_A	MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_TRIO2_A	-
139	MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B	AY42		I	MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B	MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B	-
141	MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C	AW42		I	MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C	MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C	-
143	MIPI_DPHY0_RX_D3P/NO_USE	AW41		I	MIPI_DPHY0_RX_D3P	MIPI_DPHY0_RX_D3P	-
145	TYPEC0_USB20_VBUSDET	AV10		I	TYPEC0_OTG_VBUSDET	TYPEC0_OTG_VBUSDET, Active H	3.3V
147	MIPI_CSI0_CLK1P	AU41		I	MIPI_CSI0_RX_CLK1P	MIPI_CSI0_RX_CLK1P	-
149	MIPI_CSI0_CLK1N	AU42		I	MIPI_CSI0_RX_CLK1N	MIPI_CSI0_RX_CLK1N	-
151	MIPI_CSI0_D2N	AT42		I	MIPI_CSI0_RX_D2N	MIPI_CSI0_RX_D2N	-
153	MIPI_CSI0_D2P	AT41		I	MIPI_CSI0_RX_D2P	MIPI_CSI0_RX_D2P	-
155	MIPI_CSI0_D3N	AP41		I	MIPI_CSI0_RX_D3N	MIPI_CSI0_RX_D3N	-
157	MIPI_CSI0_D3P	AP42		I	MIPI_CSI0_RX_D3P	MIPI_CSI0_RX_D3P	-
159	MIPI_CSI0_CLK0P	AN42		I	MIPI_CSI0_RX_CLK0P	MIPI_CSI0_RX_CLK0P	-
161	MIPI_CSI0_CLK0N	AN41		I	MIPI_CSI0_RX_CLK0N	MIPI_CSI0_RX_CLK0N	-
163	MIPI_CSI0_D0N	AL41		I	MIPI_CSI0_RX_D0N	MIPI_CSI0_RX_D0N	-
165	MIPI_CSI0_D0P	AL42		I	MIPI_CSI0_RX_D0P	MIPI_CSI0_RX_D0P	-
167	MIPI_CSI0_D1N	AK42		I	MIPI_CSI0_RX_D1N	MIPI_CSI0_RX_D1N	-
169	MIPI_CSI0_D1P	AK41		I	MIPI_CSI0_RX_D1P	MIPI_CSI0_RX_D1P	-
171	GND			G	GND	GND	GND
173	PCIE20_0_RXP/SATA30_0_RXP	J42		I	PCIE20_0_RXP	PCIE20_0_RXP	-
175	PCIE20_0_RXN/SATA30_0_RXN	J41		I	PCIE20_0_RXN	PCIE20_0_RXN	-
177	PCIE20_0_TXP/SATA30_0_TXP	H41		O	PCIE20_0_TXP	PCIE20_0_TXP	-
179	PCIE20_0_TXN/SATA30_0_TXN	H42		O	PCIE20_0_TXN	PCIE20_0_TXN	-
181	PCIE20_0_REFCLKN	K41		AI/O	PCIE20_0_REFCLKN	PCIE20_0_REFCLKN	-
183	PCIE20_0_REFCLKP	L42		AI/O	PCIE20_0_REFCLKP	PCIE20_0_REFCLKP	-
185	GND			G	GND	GND	GND
187	MIPI_CAMERA1_CLK_M0/SPDIF0_TX_M0/I2C5_SCL_M3/UART1_TX_M1/GPIO1_B6_u	L38	UP	I/O	I2C5_SCL_M3_CAM	I2C5_SCL_M3_CAM	1.8V
189	MIPI_CAMERA2_CLK_M0/SPDIF1_TX_M0/SATA2_ACT_LED_M1/I2C5_SDA_M3/UART1_RX_M1/PWM13_M2/GPIO1_B7_u	F37	UP	I/O	I2C5_SDA_M3_CAM	I2C5_SDA_M3_CAM	1.8V

191	GND			G	GND	GND	GND
193	PDM1_CLK0_M1/UART7_RX_M2/SPI0_CS0_M2/GPIO1_B4_u	M39	UP	I/O	SPI0_CS0_M2	SPI0_CS0_M2	1.8V
195	MIPI_CAMERA3_CLK_M0/I2C8_SCL_M2/UART1_RTSN_M1/PWM14_M2/GPIO1_D6_u	L37	UP	I/O	MIPI_CAM_MCLK3	MIPI_CAM_MCLK3 Output	1.8V
197	MIPI_CAMERA4_CLK_M0/I2C8_SDA_M2/UART1_CTSN_M1/PWM15_IR_M3/GPIO1_D7_u	G38	UP	I/O	MIPI_CAM_MCLK4	MIPI_CAM_MCLK4 Output	1.8V
199	PDM1_SDI0_M1/PCIE20X1_1_PERSTN_M2/PWM3_IR_M3/SPI2_CS0_M0/GPIO1_A7_u	H38	UP	I/O	MIPI_PDN1_CAM	MIPI_PDN1_CAM	1.8V
201	PDM1_SDI1_M1/SPI2_CS1_M0/GPIO1_B0_u	H39	UP	I/O	GPIO1_B0_u	GPIO1_B0_u	1.8V
203	PDM1_SDI2_M1/SPI0_MISO_M2/GPIO1_B1_d	G39	DWON	I/O	SPI0_MISO_M2	SPI0_MISO_M2	1.8V
205	GND			G	GND	GND	GND
207	PCIE20_2_REFCLKP	F41		AI/O	NC	NC (PCIE20_2_REFCLKP)	-
209	PCIE20_2_REFCLKN	F42		AI/O	NC	NC (PCIE20_2_REFCLKN)	-
211	PCIE20_2_TXP/SATA30_2_TXP/USB30_2_SSTXP	E41		O	USB30_2_SSTXP	USB30_2_SSTXP	-
213	PCIE20_2_TXN/SATA30_2_TXN/USB30_2_SSTXN	D41		O	USB30_2_SSTXN	USB30_2_SSTXN	-
215	PCIE20_2_RXP/SATA30_2_RXP/USB30_2_SSRXP	D42		I	USB30_2_SSRXP	USB30_2_SSRXP	-
217	PCIE20_2_RXN/SATA30_2_RXN/USB30_2_SSRXN	C42		I	USB30_2_SSRXN	USB30_2_SSRXN	-
219	GND				GND	GND	GND
221	POWER_ON				PWRON_L	Power Key Input,Acive L	5.0V
223	VDC				VDC	PMIC Power_EN Input, Active H--Power-on and power-on signal input, NC can be used without this function	1V~4.0V
225	VCC_3V3_S3				VCC_3V3_S3	3.3V Output (Pin224/225/226/227 Total Max:500mA)	3.3V
227	VCC_3V3_S3				VCC_3V3_S3		3.3V
229	VCC_1V8_S3				VCC_1V8_S3	1.8V Output (Pin228/229 Total Max:500mA)	1.8V
231	VCCA_1V8_S0				VCCA_1V8_S0	1.8V Output (Pin230/231 Total Max:100mA)	1.8V
233	VCCA（TO RK806-1）				VCCA	Power supply of PMIC Power on circuit	5.0V
235	VCCA_3V3_S0				VCCA_3V3_S0	3.3V Output (Pin234/235 Total Max:100mA)	3.3V
237	CORE-ID				NC	NC	3.3V

239	VCCIO5_CTL				NC	VCCIO5_CTL Input: NC (default) or L : VCCIO5=1.8V, H:VCCIO5=3.3V	3.3V
241	GND		G				GND
243	GND		G				GND
245	GND		G		GND	GND	GND
247	GND		G				GND
249	GND		G				GND
251	VCC4V0		P				4.0V
253	VCC4V0		P				4.0V
255	VCC4V0		P		VCC4V0_SYS Input	Input Voltage 4.0V +/-5% Min: 0.04W(4.0V/10mA) Normal: 1.6W(4.0V/400mA) Max: 12W(4.0V/3000mA) Recommended Power Supply: 4.0V/3.5A	4.0V
257	VCC4V0		P				4.0V
259	VCC4V0		P				4.0V
PIN	**CORE-3588SJD4 pin definition**	**RK3588S Pin NO.**	**Pad type**	**IO Pull**	**Function for Main BOARD(MB-JD4-RK3588S)**	**Defual function description**	**IO Power domain**
2	GND			G	GND	GND	GND
4	SDMMC_D1/PDM1_SDI2_M0/JTAG_TMS_M1/I2C3_SDA_M4/UART2_RX_M1/PWM9_M1/GPIO4_D1_u	AR2	UP	I/O	SDMMC_D1	SDMMC_D1 to TF Card,	
6	SDMMC_CLK/PDM1_CLK0_M0/TEST_CLKOUT_M0/MCU_JTAG_TMS_M0/CAN0_RX_M1/UART5_TX_M0/GPIO4_D5_d	AR1	DWON	I/O	SDMMC_CLK	SDMMC_CLK to TF Card,	
8	SDMMC_D3/PDM1_SDI0_M0/JTAG_TMS_M0/I2C8_SDA_M0/UART5_RTSN_M0/PWM10_M1/GPIO4_D3_u	AT1	UP	I/O	SDMMC_D3	SDMMC_D3 to TF Card,	3.3V/1.8V Auto
10	SDMMC_CMD/PDM1_CLK1_M0/MCU_JTAG_TCK_M0/CAN0_TX_M1/UART5_RX_M0/PWM7_IR_M1/GPIO4_D4_u	AU1	UP	I/O	SDMMC_CMD	SDMMC_CMD to TF Card,	
12	SDMMC_D2/PDM1_SDI1_M0/JTAG_TCK_M0/I2C8_SCL_M0/UART5_CTSN_M0/GPIO4_D2_u	AV1	UP	I/O	SDMMC_D2	SDMMC_D2 to TF Card,	
14	SDMMC_D0/PDM1_SDI3_M0/JTAG_TCK_M1/I2C3_SCL_M4/UART2_TX_M1/PWM8_M1/GPIO4_D0_u	AV2	UP	I/O	SDMMC_D0	SDMMC_D0 to TF Card,	
16	SDMMC_DET/GPIO0_A4_u	AC38	UP	I/O	SDMMC_DET_L	SDMMC0_DET Input, Active L	1.8V
18	GND			G	GND	GND	GND
20	TYPEC0_USB20_OTG_ID	AW10		I	NC	NC (TYPEC0_USB20_OTG_ID, Active L)	3.3V
22	CIF_CLKIN/BT1120_CLKOUT/I2S1_SDI3_M0/DDRPHY_CH2_DTB0/I2C6_SDA_M3/UART8_TX_M0/SPI2_CS1_M1/GPIO4_B0_d	AW27	DWON	I/O	I2C6_SDA_M3	I2C6_SDA_M3	3.3V

24	MIPI_CAMERA0_CLK_M0/SPDIF1_TX_M1/I2S1_SDO0_M0/SATA2_ACT_LED_M0/DDRPHY_CH2_DTB1/I2C6_SCL_M3/UART8_RX_M0/SPI0_CS1_M1/GPIO4_B1_u	AU22	UP	I/O	I2C6_SCL_M3	I2C6_SCL_M3	3.3V
26	TYPEC0_SBU2/DP0_AUXN	BB8		AI/O	TYPEC0_SBU2	TYPEC0_SBU2	-
28	TYPEC0_SBU1/DP0_AUXP	BA8		AI/O	TYPEC0_SBU1	TYPEC0_SBU1	-
30	CIF_D4/BT1120_D4/DDRPHY_CH1_DTB_0/I2C3_SCL_M2/UART0_RX_M2/SPI2_MISO_M1/GPIO4_A4_d	AW19	DWON	I/O	UART0_RX_M2	UART0_RX_M2	3.3V
32	CIF_D1/BT1120_D1/I2S1_SCLK_M0/PCIE20X1_1_WAKEN_M1/DDRPHY_CH0_DTB_1/UART9_CTSN_M1/SPI0_MOSI_M1/GPIO4_A1_d	AW18	DWON	I/O	I2S1_SCLK_M0	I2S1_SCLK_M0 output	3.3V
34	CIF_D0/BT1120_D0/I2S1_MCLK_M0/PCIE20X1_1_CLKREQN_M1/DDRPHY_CH0_DTB0/UART9_RTSN_M1/SPI0_MISO_M1/GPIO4_A0_d	AV19	DWON	I/O	SPK_CTL	Seaker_EN ,Active H	3.3V
36	BT1120_D13/PCIE20X1_2_CLKREQN_M1/HDMI_TX0_SCL_M0/DDRPHY_CH3_DTB3/I2C5_SDA_M1/SPI3_CLK_M1/GPIO4_B7_u	AV22	UP	I/O	HDMI_TX0_SCL_M0	HDMI_TX0_SCL_M0	3.3V
38	BT1120_D14/PCIE20X1_2_WAKEN_M1/HDMI_TX0_SDA_M0/I2C8_SCL_M3/SPI3_CS0_M1/GPIO4_C0_u	AW23	UP	I/O	HDMI_TX0_SDA_M0	HDMI_TX0_SDA_M0	3.3V
40	HDMI_TX0_HPD_M0/SPI2_MOSI_M0/GPIO1_A5_d	M40	DWON	I/O	HDMI_TX0_HPD_M0	HDMITX0_HPD Input, Active H	1.8V
42	BT1120_D15/SPDIF1_TX_M2/PCIE20X1_2_PERSTN_M1/HDMI_TX0_CEC_M0/I2C8_SDA_M3/PWM6_M1/SPI3_CS1_M1/GPIO4_C1_d	AY26	DWON	I/O	HDMI_TX0_CEC_M0	HDMI_TX0_CEC_M0	3.3V
44	BT1120_D12/SATA0_ACT_LED_M0/DDRPHY_CH3_DTB2/I2C5_SCL_M1/PWM13_M1/SPI3_MOSI_M1/GPIO4_B6_d	AW22	DWON	I/O	HDMI0_TX_ON_H	HDMI0_TX_ON_H	3.3V
46	BT1120_D11/DDRPHY_CH3_DTB1/UART9_RX_M1/PWM12_M1/SPI3_MISO_M1/GPIO4_B5_d	AU23	DWON	I/O	LCD_BL_PWM	LCD_BL_PWM Output	3.3V
48	CIF_HREF/BT1120_D8/I2S1_SDO1_M0/PCIE20X1_1_BUTTON_RSTN/DDRPHY_CH2_DTB2/I2C7_SCL_M3/UART8_RTSN_M0/PWM14_M1/SPI0_CS0_M1/CAN1_RX_M1/GPIO4_B2_u	AT15	UP	I/O	TP1_INT	TP1_INT Input ,Active L	3.3V
50	CIF_VSYNC/BT1120_D9/I2S1_SDO2_M0/PCIE20X1_2_BUTTON_RSTN/DDRPHY_CH2_DTB3/I2C7_SDA_M3/UART8_CTSN_M0/PWM15_IR_M1/CAN1_TX_M1/GPIO4_B3_u	AV23	UP	I/O	LCD_RESET_L	Mipi DSI0 Reset Output ,Active L	3.3V
52	CIF_D11/PCIE20X1_2_CLKREQN_M0/HDMI_TX0_SCL_M2/I2C5_SCL_M0/SPI3_MOSI_M3/GPIO3_C7_u	AU30	UP	I/O	PCIE20X1_2_CLKREQN_M0	PCIE20X1_2_CLKREQN_M0	VCCIO5
54	CIF_D10/SPI3_MISO_M3/GPIO3_C6_u	AV30	UP	I/O	SDMMC_PWREN	TF Card Power EN, Active H	VCCIO5
56	CIF_D12/PCIE20X1_2_WAKEN_M0/HDMI_TX0_SDA_M2/I2C5_SDA_M0/UART4_RX_M1/PWM8_M2/SPI3_CLK_M3/GPIO3_D0_u	AW31	UP	I/O	PCIE20X1_2_WAKEN_M0	PCIE20X1_2_WAKEN_M0	VCCIO5
58	CIF_D7/BT1120_D7/I2S1_SDI2_M0/DDRPHY_CH1_DTB3/I2C5_SDA_M2/SPI2_CS0_M1/GPIO4_A7_d	AW26	DWON	I/O	I2S1_SDI2_M0	I2S1_SDI2_M0	3.3V
60	CIF_D13/PCIE20X1_2_PERSTN_M0/UART4_TX_M1/PWM9_M2/SPI0_MISO_M3/GPIO3_D1_d	AY27	DWON	I/O	PCIE20X1_2_PERSTN_M0	PCIE20X1_2_PERSTN_M0	VCCIO5
62	CIF_D6/BT1120_D6/I2S1_SDI1_M0/DDRPHY_CH1_DTB2/I2C5_SCL_M2/UART3_RX_M2/SPI2_CLK_M1/GPIO4_A6_d	AV18	DWON	I/O	UART3_RX_M2	UART3_RX_M2	3.3V
64	I2S1_SDO3_M1/CPU_BIG1_AVS/I2C1_SDA_M2/CAN2_TX_M1/HDMI_TX0_SCL_M1/SPI3_CS1_M2/SATA_MP_SWITCH/GPIO0_D5_u	AM39	UP	I/O	CAN2_TX_M1	CAN2_TX_M1	1.8V

66	I2S1_SDI3_M1/PDM0_SDI1_M1/I2C6_SCL_M0/UART1_CTSN_M2/PWM7_IR_M0/SPI3_MISO_M2/GPIO0_D0_d	AG39	DWON	I/O	BT_REG_ON_H	BT EN, Active H	1.8V
68	CIF_D14/I2C7_SCL_M2/UART9_RTSN_M2/SPI0_MOSI_M3/GPIO3_D2_d	AY30	DWON	I/O	UART9_RTSN_M2_BT	UART9_RTSN_M2_BT	VCCIO5
70	CIF_D15/I2C7_SDA_M2/UART9_CTSN_M2/PWM10_M2/SPI0_CLK_M3/GPIO3_D3_d	AY31	DWON	I/O	UART9_CTSN_M2_BT	UART9_CTSN_M2_BT	VCCIO5
72	MCU_JTAG_TMS_M1/UART9_TX_M2/PWM11_IR_M3/SPI0_CS1_M3/GPIO3_D5_d	AW30	DWON	I/O	UART9_TX_M2_BT	UART9_TX_M2_BT	VCCIO5
74	HDMI_TX0_HPD_M1/MCU_JTAG_TCK_M1/UART9_RX_M2/SPI0_CS0_M3/GPIO3_D4_d	AV31	DWON	I/O	UART9_RX_M2_BT	UART9_RX_M2_BT	VCCIO5
76	I2C0_SDA_M2 (VDD_CPU_BIG0/BIG1)	AG41		I/O	I2C0_SDA_M2	I2C0_SDA_M2 (core board pull up resistance 2.2K)	1.8V
78	I2C0_SCL_M2 (VDD_CPU_BIG0/BIG1)	AH41		I/O	I2C0_SCL_M2	I2C0_SCL_M2 (core board pull up resistance 2.2K)	1.8V
80	PDM0_CLK1_M1/PWM2_M0/UART0_RX_M0/I2C4_SDA_M2/DP0_HPDIN_M1/GPIO0_C4_d	AL38	DWON	I/O	CC_INT0_L	Type-C insert INT ,Active L	1.8V
82	CIF_D8/FSPI_CS0N_M2/CAN2_RX_M0/UART5_TX_M1/SPI3_CS0_M3/GPIO3_C4_u	AU34	UP	I/O	FAN_CTL	Fan EN, Active H	VCCIO5
84	CIF_D9/FSPI_CS1N_M2/CAN2_TX_M0/UART5_RX_M1/SPI3_CS1_M3/GPIO3_C5_u	AV34	UP	I/O	PCA9555_INT	PCA9555_INT Input ,Active L	VCCIO5
86	CIF_D5/BT1120_D5/I2S1_SDI0_M0/DDRPHY_CH1_DTB_1/I2C3_SDA_M2/UART3_TX_M2/SPI2_MOSI_M1/GPIO4_A5_d	AU15	DWON	I/O	UART3_TX_M2	UART3_TX_M2	3.3V
88	CIF_D2/BT1120_D2/I2S1_LRCK_M0/PCIE20X1_1_PERSTN_M1/DDRPHY_CH0_DTB2/SPI0_CLK_M1/GPIO4_A2_d	AV26	DWON	I/O	I2S1_LRCK_M0	I2S1_LRCK_M0	3.3V
90	I2C2_SDA_M0 (VDD_NPU)	AM40		I/O	I2C2_SDA_M0	I2C2_SDA_M0 (core board pull up resistance 2.2K)	1.8V
92	I2C2_SCL_M0 (VDD_NPU)	AK39		I/O	I2C2_SCL_M0	I2C2_SCL_M0 (core board pull up resistance 2.2K)	1.8V
94	I2S1_SDI2_M1/PDM0_SDI0_M1/I2C6_SDA_M0/UART1_RTSN_M2/PWM6_M0/SPI0_MISO_M0/GPIO0_C7_d	AL40	DWON	I/O	WIFI_REG_ON_H	WIFI EN, Active H	1.8V
96	I2C1_SCL_M2/CAN2_RX_M1/HDMI_TX0_SDA_M1/SPI3_CS0_M2/SATA_CPDET/GPIO0_D4_u	AL39	UP	I/O	CAN2_RX_M1	CAN2_RX_M1	1.8V
98	I2S1_SDI1_M1/NPU_AVS/UART0_RTSN/PWM5_M1/SPI0_CLK_M0/SATA_CP_POD/GPIO0_C6_u	AH42	UP	I/O	HOST_WAKE_BT_H	Host wake BT, Active H	1.8V
100	I2S1_SCLK_M1/JTAG_TMS_M2/I2C1_SDA_M0/UART2_RX_M0/PCIE20X1_1_WAKEN_M0/GPIO0_B6_d	AH40	DWON	I/O	UART2_RX_M0	**UART2_RX_M0 for system Debug**	1.8V
102	I2S1_MCLK_M1/JTAG_TCK_M2/I2C1_SCL_M0/UART2_TX_M0/PCIE20X1_1_CLKREQN_M0/GPIO0_B5_d	AH39	DWON	I/O	UART2_TX_M0	**UART2_TX_M0 for system Debug**	1.8V
104	I2S1_SDI0_M1/GPU_AVS/UART0_TX_M0/I2C4_SCL_M2/PWM4_M0/GPIO0_C5_u	AG38	UP	I/O	BT_WAKE_HOST_H	BT WAKE Host, Active H	1.8V
106	GMAC1_PPSCLK/UART7_RX_M1/SPI1_CLK_M1/GPIO3_C1_d	AW38	DWON	I/O	LCD_PWREN	MIPI DSI0 Power EN, Active H	VCCIO5

108	LITCPU_AVS/SPI3_CLK_M2/GPIO0_D3_u	AG37	UP	I/O	GPIO0_D3_u	GPIO0_D3_u	1.8V
110	GMAC1_PPSTRIG/I2C3_SDA_M1/UART7_TX_M1/SPI1_MISO_M1/GPIO3_C0_d	AR36	DWON	I/O	PHONE_CTL	Earphone EN, Active H	VCCIO5
112	SPI2_CS1_M2/I2C1_SCL_M1/UART0_RX_M1/GPIO0_B0_z	AC37	Tri-State	I/O	RTC_INT_L	RTC_INT Input ,Active L	1.8V
114	REFCLK_OUT/GPIO0_A0_d	W38	DWON	I/O	WIFI_WAKE_HOST_H	WIFI WAKE HOST, Active H	1.8V
116	I2S0_SDO2/I2S0_SDI3/PDM0_SDI1_M0/I2C7_SDA_M0/UART6_RX_M2/SPI1_MOSI_M2/GPIO1_D1_d	U38	DWON	I/O	I2C7_SDA_M0_CODEC	I2C7_SDA_M0	1.8V
118	I2S0_SDO1/I2C7_SCL_M0/UART6_TX_M2/SPI1_MISO_M2/GPIO1_D0_d	U37	DWON	I/O	I2C7_SCL_M0_CODEC	I2C7_SCL_M0	1.8V
120	GND			G	GND	GND	GND
122	CLK32K_IN/CLK32K_OUT0/GPIO0_B2_u	AD38	UP	I/O	RTC_32K_IN	RTC Clock 32.768KHz Input (to 3588S)	1.8V
124	GND			G	GND	GND	GND
126	I2S0_MCLK/I2C6_SDA_M1/UART3_RTSN/PWM3_IR_M2/SPI4_CLK_M0/GPIO1_C2_d	U36	DWON	I/O	I2S0_MCLK	I2S0_MCLK Output	1.8V
128	I2S0_LRCK/I2C2_SCL_M3/UART4_RTSN/GPIO1_C5_d	P39	DWON	I/O	I2S0_LRCK_TX	I2S0_LRCK_ Output	1.8V
130	I2S0_SDO0/I2C4_SCL_M4/UART4_CTSN/GPIO1_C7_d	P41	DWON	I/O	I2S0_SDO0	I2S0_SDO0 (Data Out)	1.8V
132	I2S0_SDI0/GPIO1_D4_d	N42	DWON	I/O	I2S0_SDI0	I2S0_SDI0 (Data In)	1.8V
134	I2S0_SCLK/I2C6_SCL_M1/UART3_CTSN/PWM7_IR_M2/SPI4_CS0_M0/GPIO1_C3_d	M42	DWON	I/O	I2S0_SCLK_TX	I2S0_SCLK_ Output	1.8V
136	I2S0_SDO3/I2S0_SDI2/PDM0_SDI2_M0/I2C1_SCL_M4/UART4_TX_M0/PWM0_M1/SPI1_CLK_M2/GPIO1_D2_d	P40	DWON	I/O	WORK_LED	WORK_LED EN, Active H	1.8V
138	PDM0_SDI0_M0/SPI1_CS1_M2/GPIO1_D5_d	P38	DWON	I/O	DIY_LED	DIY_LED EN, Active H	1.8V
140	PDM0_CLK1_M0/I2C2_SDA_M3/PWM11_IR_M2/SPI4_CS1_M0/GPIO1_C4_d	U35	DWON	I/O	MIPI_CAM_PDN2	MIPI_CAM_PDN2 Output	1.8V
142	PDM0_CLK0_M0/I2C4_SDA_M4/PWM15_IR_M2/GPIO1_C6_d	M41	DWON	I/O	MIPI_CAM_RESET2	MIPI_CAM_RESET2 Output , Active L	1.8V
144	GND			G	GND	GND	GND
146	I2S0_SDI1/PDM0_SDI3_M0/I2C1_SDA_M4/UART4_RX_M0/PWM1_M1/SPI1_CS0_M2/GPIO1_D3_d	R39	DWON	I/O	MIPI_CAM_RESET1	MIPI_CAM_RESET1 Output , Active L	1.8V
148	GND			G	GND	GND	GND
150	SARADC_IN2	AV11		I	SARADC_VIN2	ADC2 Input (core board pull up resistance 10K)	1.8V
152	SARADC_IN0_BOOT	AW15		I	SARADC_VIN0_BOOT	ADC0 Input (BOOT Mode)(core board pull up resistance 100K)	1.8V
154	SARADC_IN3	AV13		I	SARADC_VIN3	ADC3 Input (core board pull up resistance 10K)	1.8V
156	SARADC_IN4	AY15		I	SARADC_VIN4_HP_HOOK	ADC4 Input (HP_HOOK)(core board pull up resistance 10K)	1.8V

158	SARADC_IN1	AY13		I	SARADC_VIN1_KEY/RECOVERY	ADC1 Input (RECOVERY Key)(core board pull up resistance 10K)	1.8V
160	I2C3_SCL_M0/UART3_TX_M0/SPI4_MOSI_M0/GPIO1_C1_z	N41	Tri-State	I/O	MIPI_CAM_PDN1	MIPI_CAM_PDN1 Output	1.8V
162	I2C3_SDA_M0/UART3_RX_M0/SPI4_MISO_M0/GPIO1_C0_z	R38	Tri-State	I/O	HP_DET_L	Phone detect ,Active L	1.8V
164	PDM1_CLK1_M1/SATA0_ACT_LED_M1/UART4_TX_M2/SPI0_CLK_M2/GPIO1_B3_d	M37	DWON	I/O	SPI0_CLK_M2	SPI0_CLK_M2 Output	1.8V
166	PDM1_SDI3_M1/UART4_RX_M2/SPI0_MOSI_M2/GPIO1_B2_d	M38	DWON	I/O	SPI0_MOSI_M2	SPI0_MOSI_M2 (Data Out)	1.8V
168	PCIE20X1_1_WAKEN_M2/I2C2_SCL_M4/UART6_TX_M1/SPI4_MOSI_M2/GPIO1_A1_d	L40	DWON	I/O	MIPI_RESET1_CAM	MIPI_RESET1_CAM ,Active L	1.8V
170	PCIE20X1_1_CLKREQN_M2/DP0_HPDIN_M2/I2C2_SDA_M4/UART6_RX_M1/SPI4_MISO_M2/GPIO1_A0_d	G40	DWON	I/O	MIPI_RESET0_CAM	MIPI_RESET0_CAM ,Active L	1.8V
172	I2C4_SCL_M3/UART6_CTSN_M1/PWM1_M2/SPI4_CS0_M2/GPIO1_A3_d	L39	DWON	I/O	I2C4_SCL_M3	I2C4_SCL_M3	1.8V
174	VOP_POST_EMPTY/I2C4_SDA_M3/UART6_RTSN_M1/PWM0_M2/SPI4_CLK_M2/GPIO1_A2_d	D38	DWON	I/O	I2C4_SDA_M3	I2C4_SDA_M3	1.8V
176	GND			G	GND	GND	GND
178	ETH1_REFCLKO_25M/MIPI_CAMERA1_CLK_M1/I2C4_SCL_M0/GPIO3_A6_d	AV37	DWON	I/O	MIPI_CAMERA1_CLK_M1	MIPI_CAMERA1_CLK_M1 Output	VCCIO5
180	GND			G	GND	GND	GND
182	GMAC1_MDIO/MIPI_TE1/I2C8_SDA_M4/UART7_CTSN_M1/PWM15_IR_M0/SPI1_CS1_M1/GPIO3_C3_d	AW39	DWON	I/O	GMAC1_MDIO	GMAC1_MDIO	VCCIO5
184	GMAC1_MDC/MIPI_TE0/I2C8_SCL_M4/UART7_RTSN_M1/PWM14_M0/SPI1_CS0_M1/GPIO3_C2_d	AV40	DWON	I/O	GMAC1_MDC	GMAC1_MDC	VCCIO5
186	GMAC1_TXCLK/SDIO_CMD_M1/I2S3_SDI/AUDDSM_RP/UART8_RTSN_M1/SPI4_CS1_M1/GPIO3_A4_d	AT39	DWON	I/O	GMAC1_TXCLK	GMAC1_TXCLK	VCCIO5
188	GMAC1_RXCLK/SDIO_CLK_M1/MIPI_CAMERA0_CLK_M1/FSPI_CLK_M2/I2C4_SDA_M0/UART8_CTSN_M1/GPIO3_A5_d	AV38	DWON	I/O	GMAC1_RXCLK	GMAC1_RXCLK	VCCIO5
190	GND			G	GND	GND	GND
192	GMAC1_MCLKINOUT/I2S2_LRCK_M1/CAN1_TX_M0/UART3_RX_M1/PWM13_M0/GPIO3_B6_d	AW37	DWON	I/O	GMAC1_MCLKINOUT	GMAC1_MCLK Input/Output	VCCIO5
194	GMAC1_RXD1/MIPI_CAMERA3_CLK_M1/PWM9_M0/GPIO3_B0_u	AR39	UP	I/O	GMAC1_RXD1	GMAC1_RXD1	VCCIO5
196	GMAC1_RXD3/SDIO_D3_M1/I2S3_SDO/AUDDSM_RN/FSPI_D3_M2/UART8_RX_M1/SPI4_CS0_M1/GPIO3_A3_u	AT40	UP	I/O	GMAC1_RXD3	GMAC1_RXD3	VCCIO5
198	GMAC1_RXD0/MIPI_CAMERA2_CLK_M1/PWM8_M0/GPIO3_A7_u	AT37	UP	I/O	GMAC1_RXD0	GMAC1_RXD0	VCCIO5
200	GMAC1_RXD2/SDIO_D2_M1/I2S3_LRCK/AUDDSM_LP/FSPI_D2_M2/UART8_TX_M1/SPI4_CLK_M1/GPIO3_A2_u	AT38	UP	I/O	GMAC1_RXD2	GMAC1_RXD2	VCCIO5
202	GMAC1_RXDV_CRS/MIPI_CAMERA4_CLK_M1/UART2_TX_M2/PWM2_M1/GPIO3_B1_d	AV39	DWON	I/O	GMAC1_RXDV_CRS	GMAC1_RXDV_CRS	VCCIO5
204	GMAC1_TXD0/I2S2_SDO_M1/UART2_RTSN/GPIO3_B3_u	AW35	UP	I/O	GMAC1_TXD0	GMAC1_TXD0	VCCIO5

206	GMAC1_TXD2/SDIO_D0_M1/I2S3_MCLK/FSPI_D0_M2/I2C6_SDA_M4/PWM10_M0/SPI4_MISO_M1/GPIO3_A0_u	AR38	UP	I/O	GMAC1_TXD2	GMAC1_TXD2	VCCIO5
208	GMAC1_TXD3/SDIO_D1_M1/I2S3_SCLK/AUDDSM_LN/FSPI_D2_M2/I2C6_SCL_M4/PWM11_IR_M0/SPI4_MOSI_M1/GPIO3_A1_u	AR37	UP	I/O	GMAC1_TXD3	GMAC1_TXD3	VCCIO5
210	GMAC1_TXD1/I2S2_MCLK_M1/UART2_CTSN/GPIO3_B4_u	AV35	UP	I/O	GMAC1_TXD1	GMAC1_TXD1	VCCIO5
212	GMAC1_TXEN/I2S2_SCLK_M1/CAN1_RX_M0/UART3_TX_M1/PWM12_M0/GPIO3_B5_u	AY35	UP	I/O	GMAC1_TXEN	GMAC1_TXEN	VCCIO5
214	GMAC1_TXER/I2S2_SDI_M1/UART2_RX_M2/PWM3_IR_M1/GPIO3_B2_d	AW34	DWON	I/O	LCD1_BL_PWM	PWM for lcd Backlight Output	VCCIO5
216	GMAC1_PTP_REF_CLK/I2C3_SCL_M1/SPI1_MOSI_M1/GPIO3_B7_d	AY34	DWON	I/O	GMAC1_RSTN_L	GMAC1_Reset Output ,Active L	VCCIO5
218	NPOR	V42	UP	I	RESET_L	System Reset Input, Active L	1.8V
220	PMIC_EXT_EN_OUT			I	PMIC_EXT_EN_OUT	PMIC_EXT_EN_Output Active H	5.0V
222	GND				GND	GND	GND
224	VCC_3V3_S3			G	VCC_3V3_S3	3.3V Output (Pin224/225/226/227 Total Max:500mA)	3.3V
226	VCC_3V3_S3				VCC_3V3_S3		3.3V
228	VCC_1V8_S3				VCC_1V8_S3	1.8V Output (Pin228/229 Total Max:500mA)	1.8V
230	VCCA_1V8_S0				VCCA_1V8_S0	1.8V Output (Pin230/231 Total Max:100mA)	1.8V
232	NC				NC		
234	VCCA_3V3_S0				VCCA_3V3_S0	3.3V Output (Pin234/235 Total Max:100mA)	3.3V
236	SPI2_MISO_M0/GPIO1_A4_d	G37	DWON	I/O	GPIO1_A4_d	GPIO1_A4	1.8V
238	SPI2_CLK_M0/GPIO1_A6_d	D39	DWON	I/O	MIPI_PDN0_CAM	MIPI_Camera_PDN0	1.8V
240	UART7_TX_M2/SPI0_CS1_M2/GPIO1_B5_u	D40	UP	I/O	TP_INT_L	TP_INT Input ,Active L	1.8V
242	GND		G		GND	GND	GND
244	GND		G				GND
246	GND		G				GND
248	GND		G				GND
250	GND		G				GND

252	VCC4V0		P		VCC4V0_SYS	Input Voltage 4.0V +/-5%; Min: 0.04W(4.0V/10mA) Normal: 1.6W(4.0V/400mA) Max: 12W(4.0V/3000mA) Recommended Power Supply: 4.0V/3.5A	4.0V
254	VCC4V0		P				4.0V
256	VCC4V0		P				4.0V
258	VCC4V0		P				4.0V
260	VCC4V0		P				4.0V
	VCCIO5_CTL is Hight: VCCIO5=3.3V; VCCIO5_CTL is Low(Or NC): VCCIO5=1.8V---Default						

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