

IDO-SOM3588-V1 核心板规格书



IDO-SOM3588-V1 核心板规格书

深圳触觉智能科技有限公司

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文档修订历史

版本	修订内容	修订	审核	日期
V1.0	创建文档			2022/09/6
V1.1	B TO B连接器封装优化，PCB版本号更新为IDO-SOM3588-V1B			2023/05/25
V1.2	增加核心板重量			2026/07/08

1. 产品概述

1.1 IDO-SOM3588-V1适用范围

IDO-SOM3588-1适用于工业主机，边缘计算网关、嵌入式智能设备、人机交互、广告一体机、互动自助终端，教学实验平台、显示控制等多个领域。

1.2 IDO-SOM3588-V1产品概述

IDO-SOM3588-V1采用瑞芯微最新旗舰SOC芯片RK3588。RK3588是一款采用ARM架构的通用型SoC，集成了四核Cortex-A76和四核Cortex-A55 CPU，G610 MP4 GPU，以及6 TOPs算力的NPU。内置多种功能强大的嵌入式硬件引擎，支持8K@60fps的H.265和VP9解码器、8K@30fps的H.264解码器和4K@60fps的AV1解码器；支持8K@30fps的H.264和H.265编码器，高质量的JPEG编码器/解码器，专门的图像预处理器和后处理器。RK3588还引入了新一代完全基于硬件的最大4800万像素ISP（图像信号处理器），实现了许多算法加速器，如HDR、3A、LSC、3DNR、2DNR、锐化、dehaze、鱼眼校正、伽马校正等，在图形后期处理方面拥有广泛应用。RK3588集成了瑞芯微自研的第三代NPU处理器，可支持INT4/INT8/INT16/FP16混合运算，其强大的兼容性，可以轻松转换基于TensorFlow / MXNet/PyTorch/Caffe等一系列框架的网络模型。RK3588拥有SATA/PCIE/USB3.0/双千兆等各类型接口，支持多种视频输入输出接口，可应用于物联网网关、智能NVR、工控平板、工业检测、工控盒、智慧城市、云终端、车载中控等行业定制市场。丰富的外部接口支持，RK3588 SoC内部组成：

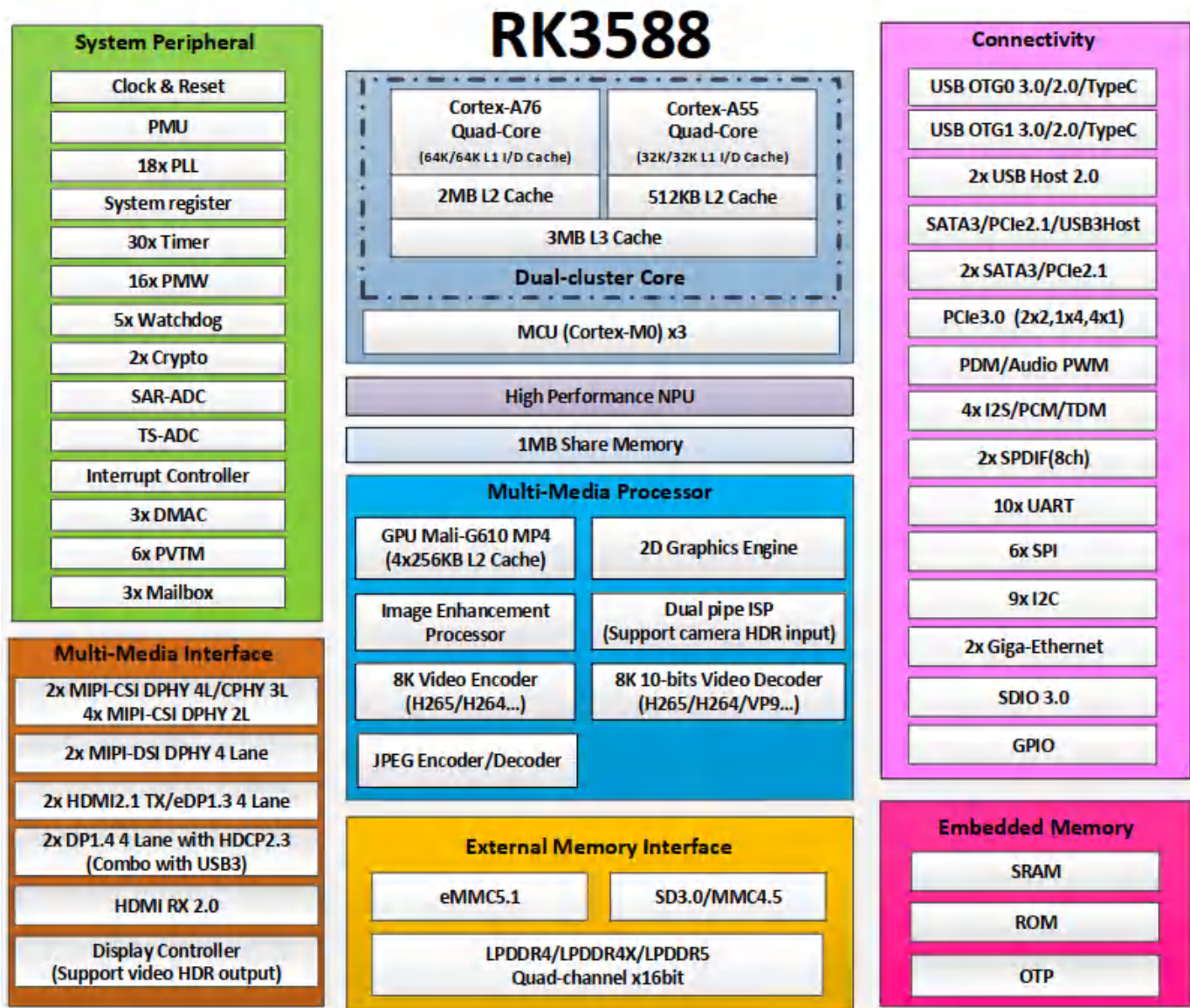


图1. RK3588 SoC框图

IDO-SOM3588-V1核心板进行了严格的电源完整性和信号完整性仿真设计，通过各项电磁兼容、温度冲击、高温高湿老化、长时间存储压力等测试，稳定可靠，批量供货。用户仅需设计外围电路即可快速实现项目的稳定量产。

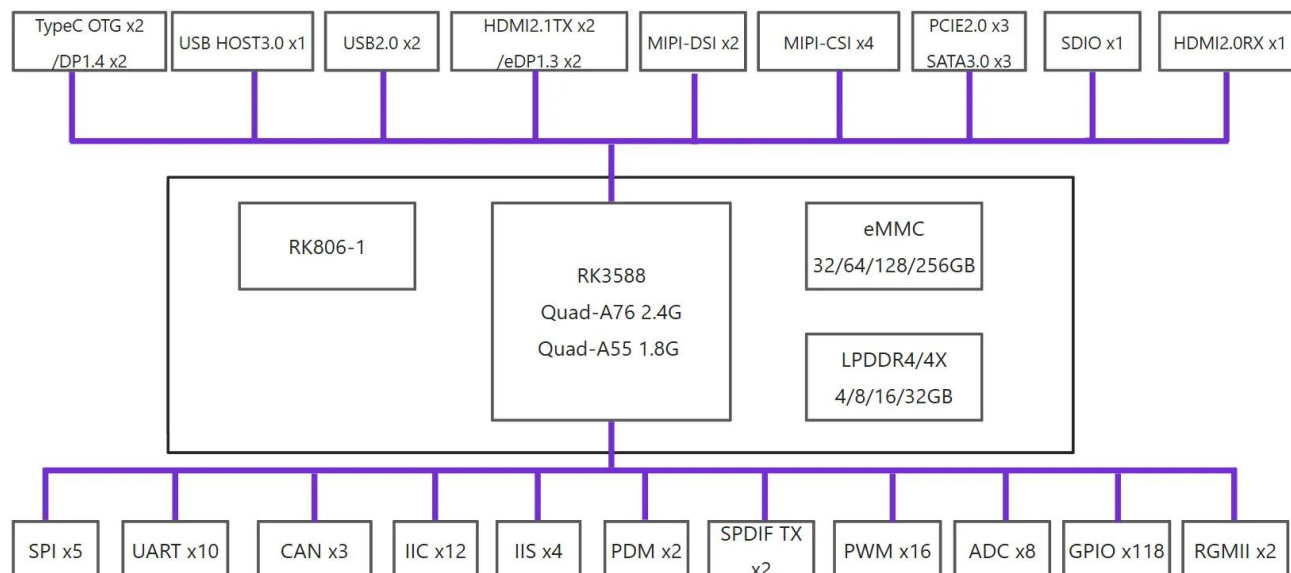


图2. IDO-SOM3588-V1模块逻辑框图

1.3 IDO-SOM3588-V1产品特点

- 搭载RK3588高性能SOC，集成了四核Cortex-A76和四核Cortex-A55 CPU，主频高达2.4G；
- NPU算力高达6Tops，支持INT4/INT8/INT16/FP16混合运算，满足大多数人工智能模型的算力需求；
- 强大的编解码能力，最高支持8K@60fps；
- 5*6cm超小尺寸B to B接口，便于交付使用；
- 丰富的系统支持， Android 12, Ubuntu , Debian 全面支持。

1.4 IDO-SOM3588-V1产品图片

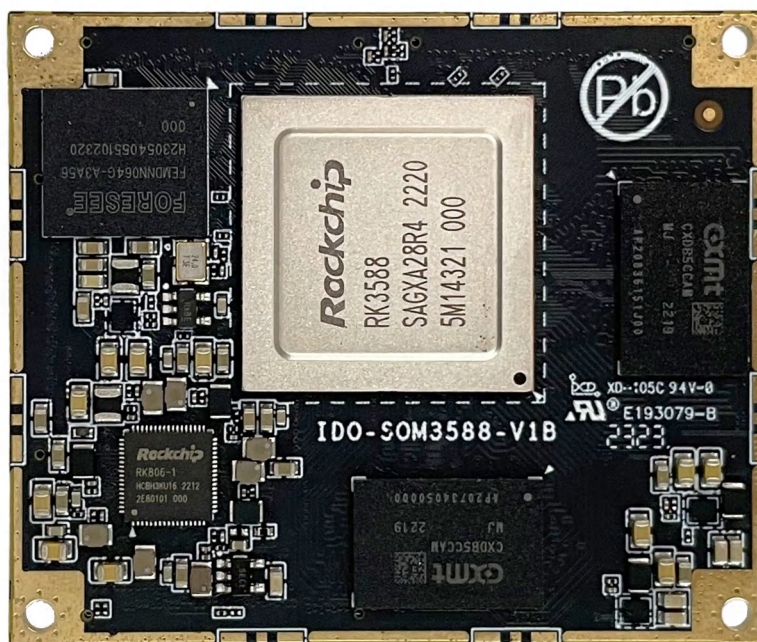


图3. IDO-SOM3588-V1核心板正面

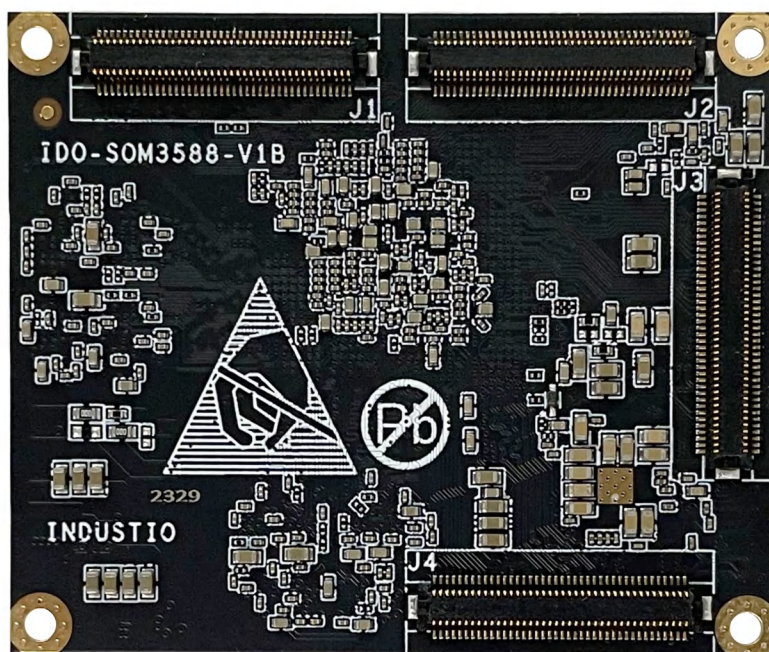


图4. IDO-SOM3588-V1核心板背面

2. 硬件参数规格

2.1 基本参数

基本参数	
SOC系统芯片	RockChip RK3588
CPU中央处理器	Quad-core Cortex-A76 and quad-core Cortex-A55, 主频高达2.4GHz
GPU图形处理器	• Mali-G610 GPU • 支持OpenGL ES 3.2, OpenCL 2.2, Vulkan 1.1 • 内嵌高性能2D、3D加速硬件
NPU嵌入式神经网络处理器	支持6.0T算力, 支持INT4/INT8/INT16/FP16运算
VPU视频处理单元	视频解码 • H.265/AVS2/VP9, 8bits/10bits, 8K@60fps • H.264/AV1, 8bits/10bits, 8K@30fps • Multi-channel decoder in parallel for less resolution (4K/1080p/720p etc.) 视频编码 • H.265/H.264, 8K@30fps • Multi-channel encoder in parallel for less resolution (1080p/720p etc.) Muti-format 视频解码 • H.265/H.264, 8K@30fps • 1080P@60fps video decoder for VP8/AVS1/AVS1+/MPEG-4
内存	4GB/8GB/16GB/32GB LPDDR4/4x
存储	32GB/64GB/128GB eMMC
硬件参数	
网络	两路GMAC, 可扩展两个千兆以太网

显示	视频输出： • 1x HDMI2.1接口，支持（8K/60fps或4K/120fps）输出 • 1x HDMI2.0接口，支持4K/60fps输出 • 2x MIPI DSI接口，支持4k@60fps输出 • 2x eDP接口，支持4K@60fps输出 • 2x DP接口，支持8k@30fp输出 视频输入： • 1x HDMI-IN，支持（4K/60fps，HDCP2.3） • 2x MIPI CSI（4Lane）或者4x MIPI CSI（2Lane） • 2x MIPI DC（4通道DPHY v2.0或者3通道CPHY v1.1） • 1x DVP（最高150MHz输入） 最多可支持4屏异显输出
音频	2 × 8 通道I2C 2 × 8 通道I2S 2 × SPDIF 2 × 8 通道PDM
USB	2 × USB3.0 OTG 1 × USB3.0 HOST 2 × USB2.0 HOST
PCIe/SATA	1 × PCIe3.0（1×4lanes，4×1lanes，2×2lanes） 3 × PCIe2.0（1lanes） 3 × SATA3.0
扩展接口	10 × UART 5 × SPI 3 × CAN 9 × I2C 3 × SDMMC 16 × PWM 4 × ADC 118 × GPIO
其他	
主板尺寸	50mm X 60mm X 6.6mm

接口类型	320Pin 间距0.5 B to B连接器
PCB规格	板厚 1.6mm , 10层板 高Tg材质, 沉金工艺
重量	19.7g

2.2 工作环境

工作环境	
工作温度	0~70℃[商规型号]； -40~85℃ [工规型号]
存储温度	-40℃~85℃
存储湿度	10%~80%

2.3 系统支持

序号	操作系统	支持	说明
1	Android12	✓	
2	Debian10	✓	
3	Ubuntu20	✓	
4	Buildroot	✓	
5	麒麟OS	✓	
6	鸿蒙OpenHamoney	✓	

3. PCB 尺寸和电气参数

3.1 PCB尺寸

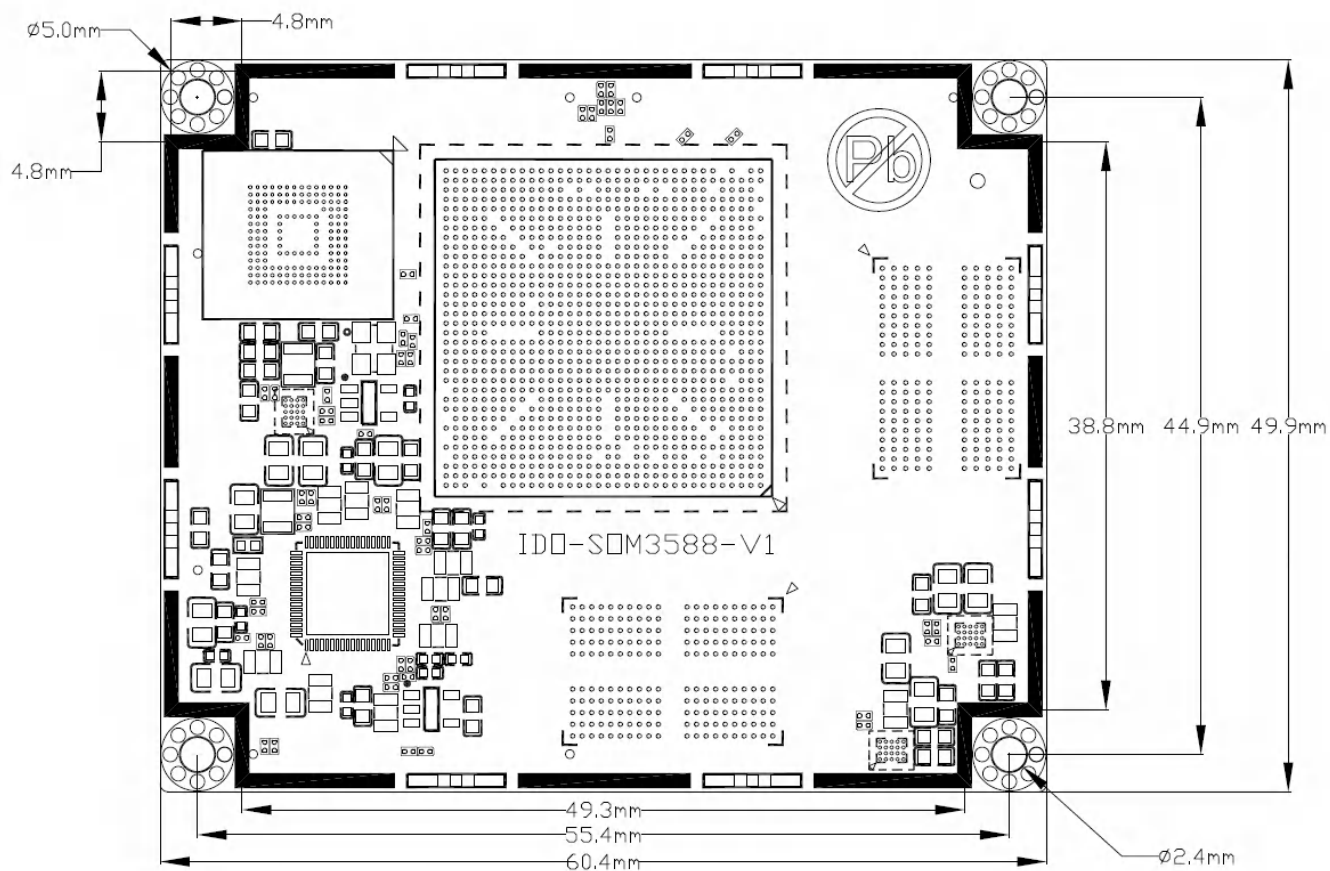


图5. IDO-SOM3588-V1核心板正面尺寸

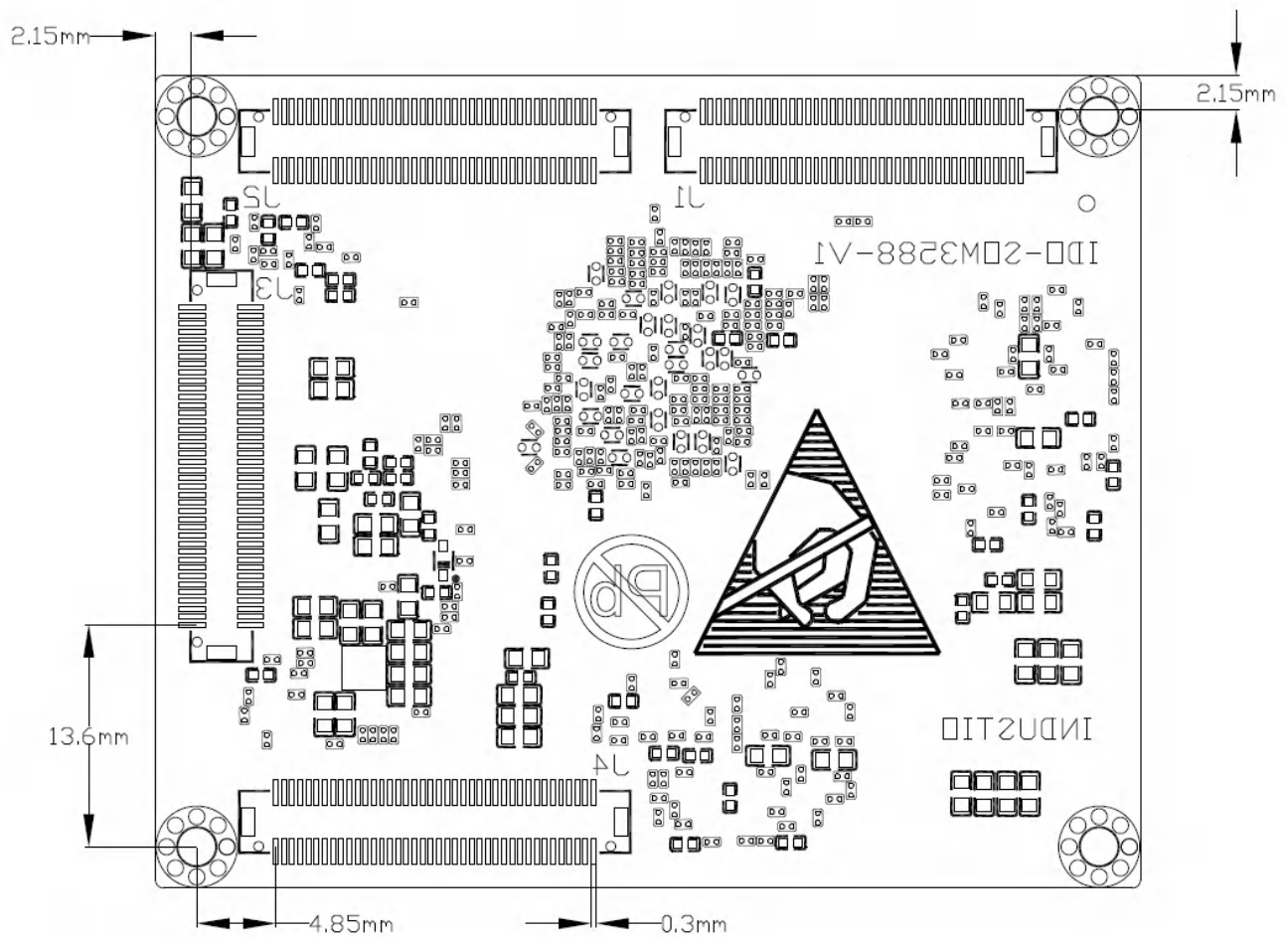


图6. IDO-SOM3588-V1核心板背面尺寸

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
VCC4V0_S YS	3.6V	4.0V	5.0V	4.0V/4000 mA	4V/18mA	

3.2.2 电源输出

电源名称	最小电压	标称值	最大电压	限制电流
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VCC_1V8_S3	1.75V	1.8V	1.85V	300mA
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4. 采购型号

采购型号	LPDDR4/4x	eMMC	标称工作温度
IDO-SOM3588-V1-D4E32	4GB	32GB	0~+70℃
IDO-SOM3588-V1-D4E64	4GB	64GB	0~+70℃
IDO-SOM3588-V1-D8E64	8GB	64GB	0~+70℃
IDO-SOM3588-V1-D8E128	8GB	128GB	0~+70℃
IDO-SOM3588J-V1-D4E64	4GB	64GB	-40~+85℃
IDO-SOM3588J-V1-D8E64	8GB	64GB	-40~+85℃
IDO-SOM3588J-V1-D8E128	8GB	128GB	-40~+85℃

5. 引脚定义说明（Connector）

IDO-SOM3588-V1核心板可适配如下两个品牌型号连接器：

广瀚（HRS）：

核心板连接器采用HRS的连接器 **DF12NA(3.0)-80DS-0.5V(51)**

[DF12NA\(3.0\)-80DS-0.5V\(51\).pdf](#)

底板对应采用HRS的连接器 **DF12NA(3.0)-80DP-0.5V(51)** [DF12NA\(3.0\)-80DP-0.5V\(51\).pdf](#)

维峰（WCON）：

核心板连接器采用WCON的连接器 **3622-S080-022G1R-02** [3622-S080-022G1R-02.pdf](#)

底板对应采用WCON的连接器 **3622-P080-023G1R-02** [3622-P080-023G1R-02.pdf](#)

注意：

广瀚和维峰两个品牌的连接器不能混用，标准出货的连接器型号均采用广瀚型号；需要采用维峰座子的模组需要定制生产，核心板和底板必须同时采用维峰的连接器。

5.1 核心板引脚示意图

TOP VIEW

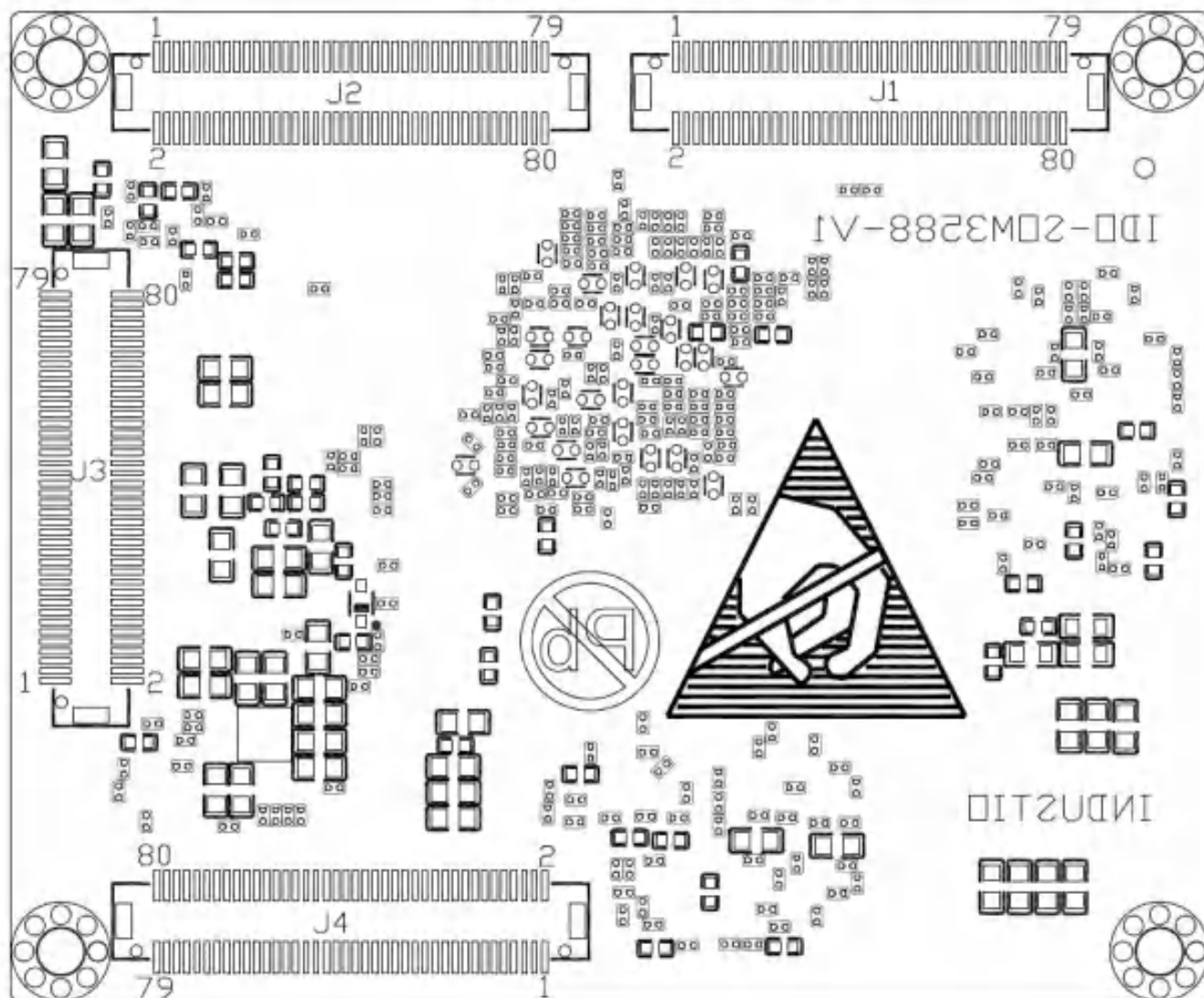


图7. IDO-SOM3588-V1核心板BTB连接器TOP VIEW

J1A

PMUIO1	PMUIO1_GPIO0_B2_u	A2
1.8V	SDMMC_DET/PMUIO1_GPIO0_A4_u	A4
SARADC	SARADC_VIN3_HP_HOOK	A6
1.8V	SARADC_VIN2	A8
12-bit 1MS/s	SARADC_VIN1_KEY/RECOVERY	A10
	BOOT_SARADC_IN0	A12
USB3.0 OTG/DP1.4 Alt of TYPEC0	GND_A1	A1
USB:U3/Gen1----Controller0	TYPEC0_SSTX2N/DP0_TX3N	A3
DP:RBR/HBR/HSR2/HSR3	TYPEC0_SSTX2P/DP0_TX3P	A5
	TYPEC0_SSRX2P/DP0_TX2P	A7
	TYPEC0_SSRX2N/DP0_TX2N	A9
	TYPEC0_SSTX1N/DP0_TX1N	A11
	TYPEC0_SSTX1P/DP0_TX1P	A13
	TYPEC0_SSRX1P/DP0_TX0P	A15
	TYPEC0_SSRX1N/DP0_TX0N	A17
USB2.0 of TYPEC0 (OTG/HOST/DEVICE)	TYPEC0_SBU2/DP0_AUXN	A16
HS/FS/LS	TYPEC0_SBU1/DP0_AUXP	A18
	TYPEC0_OTG_DP	A20
	TYPEC0_OTG_DM	A22
Download Port	GND_A2	A14
	TYPEC0_USB20_VBUSDET	A24
	TYPEC0_USB20_OTG_ID	A26
	GND_A3	A28
USB3.0 OTG/DP1.4 Alt of TYPEC1	TYPEC1_SSTX2N/DP1_TX3N	A19
USB:U3/Gen1----Controller1	TYPEC1_SSTX2P/DP1_TX3P	A21
DP:RBR/HBR/HSR2/HSR3	TYPEC1_SSRX2P/DP1_TX2P	A23
	TYPEC1_SSRX2N/DP1_TX2N	A25
	TYPEC1_SSTX1N/DP1_TX1N	A27
	TYPEC1_SSTX1P/DP1_TX1P	A29
	TYPEC1_SSRX1P/DP1_TX0P	A31
	TYPEC1_SSRX1N/DP1_TX0N	A33
USB2.0 of TYPEC1 (OTG/HOST/DEVICE)	TYPEC1_SBU2/DP1_AUXN	A30
HS/FS/LS	TYPEC1_SBU1/DP1_AUXP	A32
	TYPEC1_OTG_DP	A34
	TYPEC1_OTG_DM	A36
	TYPEC1_USB20_VBUSDET	A38
	TYPEC1_USB20_OTG_ID	A40
USB2.0 HOST	USB20_HOST1_DM	A42
HS/FS/LS	USB20_HOST1_DP	A44
	USB20_HOST0_DM	A46
	USB20_HOST0_DP	A48
HDMI TX/eDP MUX Port1	GND_A4	A35
HDMI:V2.1 12Gbps	HDMI1_TX2P_PORT/eDP1_TX_D2P	A37
eDP: V1.3 5.4Gbps	HDMI1_TX2N_PORT/eDP1_TX_D2N	A39
	HDMI1_TX1P_PORT/eDP1_TX_D1P	A41
	HDMI1_TX1N_PORT/eDP1_TX_D1N	A43
	HDMI1_TX0P_PORT/eDP1_TX_D0P	A45
	HDMI1_TX0N_PORT/eDP1_TX_D0N	A47
	HDMI1_TX3P_PORT/eDP1_TX_D3P	A49
	HDMI1_TX3N_PORT/eDP1_TX_D3N	A51
	HDMI1_TX_SBDP/eDP1_TX_AUXP	A53
	HDMI1_TX_SBDN/eDP1_TX_AUXN	A55
HDMI TX/eDP MUX Port0	GND_A5	A57
HDMI:V2.1 12Gbps	HDMI0_TX2P_PORT/eDP0_TX_D2P	A59
eDP: V1.3 5.4Gbps	HDMI0_TX2N_PORT/eDP0_TX_D2N	A61
	HDMI0_TX1P_PORT/eDP0_TX_D1P	A63
	HDMI0_TX1N_PORT/eDP0_TX_D1N	A65
	HDMI0_TX0P_PORT/eDP0_TX_D0P	A67
	HDMI0_TX0N_PORT/eDP0_TX_D0N	A69
	HDMI0_TX3P_PORT/eDP0_TX_D3P	A71
	HDMI0_TX3N_PORT/eDP0_TX_D3N	A73
	HDMI0_TX_SBDP/eDP0_TX_AUXP	A75
	HDMI0_TX_SBDN/eDP0_TX_AUXN	A77
	GND_A8	A79
HDMI_RX	GND_A5	A50
HDMI:V2.0	HDMI_RX_D2P	A52
	HDMI_RX_D2N	A54
	HDMI_RX_D1P	A56
	HDMI_RX_D1N	A58
	HDMI_RX_D0P	A60
	HDMI_RX_D0N	A62
	HDMI_RX_CLKP	A64
	HDMI_RX_CLKN	A66
	GND_A7	A68
VCCIO2 Domain	I2C8_SCL_M0/PDM1_SDI1_M0/JTAG_TCK_M0/UART5_CTSN_M0/SDMMC0_D2/GPIO4_D2	A70
VCCIO_SD_S0	PWM10_M1/I2C8_SDA_M0/PDM1_SDI0_M0/JTAG_TMS_M0/UART5_RTSN_M0/SDMMC0_D3/GPIO4_D3	A72
PLDO5	PWM7_IR_M1/CAN0_TX_M1/PDM1_CLK0_M0/MCU_JTAG_TCK_M0/UART5_RX_M0/SDMMC0_CMD/GPIO4_D4	A74
	TEST_CLKOUT_M0/CAN0_RX_M1/PDM1_CLK0_M0/MCU_JTAG_TMS_M0/UART5_TX_M0/SDMMC0_CLK/GPIO4_D5	A76
	PWM8_M1/I2C3_SCL_M4/PDM1_SDI3_M0/JTAG_TCK_M1/UART2_TX_M1/SDMMC0_D0/GPIO4_D0	A78
	PWM9_M1/I2C3_SDA_M4/PDM1_SDI2_M0/JTAG_TMS_M1/UART2_RX_M1/SDMMC0_D1/GPIO4_D1	A80
	PAD_A1	A81
	PAD_A2	A82
	NTH_A1	A83
	NTH_A2	A84

ILSONM3588-320P

图8. IDO-SOM3588-V1核心板J1连接器引脚定义图

VCCIO6 Domain 3.3V	SATA2_ACT_LED_M0/SPDIF1_TX_M1/SPI0_CS1_M1/UART8_RX_M0/I2C6_SCL_M3/I2S1_SDO0_M0/PCIE30X1_0_BUTTON_RSTN/MIPI_CAMERA0_CLK_M0/GPIO4_B1	B1
	SPI2_CS1_M1/UART8_TX_M0/I2C6_SDA_M3/I2S1_SDI3_M0/PCIE30X2_PERSTN_M1/BT1120_CLKOUT/CIF_CLKIN/GPIO4_B0	B2
	SPI2_CS0_M1/I2C5_SDA_M2/I2S1_SDI2_M0/PCIE30X2_WAKEN_M1/BT1120_D7/CIF_D7/GPIO4_A7	B3
	CAN1_RX_M1/PWM14_M1/SPI0_CS0_M1/UART8_RTSN_M0/I2C7_SCL_M3/I2S1_SDO1_M0/PCIE30X1_1_BUTTON_RSTN/BT1120_D8/CIF_HREF/GPIO4_B2	B4
	SPI2_CLK_M1/UART3_RX_M2/I2C5_SCL_M2/I2S1_SDI1_M0/PCIE30X2_CLKREQN_M1/BT1120_D5/CIF_D6/GPIO4_A6	B5
	SPI0_CLK_M1/I2S1_LRCK_M0/PCIE30X1_1_PERSTN_M1/BT1120_D2/CIF_D2/GPIO4_A2	B6
	SPI2_MOSI_M1/UART3_TX_M2/I2C3_SDA_M2/I2S1_SDI0_M0/PCIE30X1_0_PERSTN_M1/BT1120_D5/CIF_D5/GPIO4_A5	B7
	SPI0_MOSI_M1/UART9_CTSN_M1/I2S1_SCLK_M0/PCIE30X1_1_WAKEN_M1/BT1120_D1/CIF_D1/GPIO4_A1	B8
	SPI2_MISO_M1/UART0_RX_M2/I2C3_SCL_M2/PCIE30X1_0_WAKEN_M1/BT1120_D4/CIF_D4/GPIO4_A4	B9
	SPI0_MISO_M1/UART9_RTSN_M1/I2S1_MCLK_M0/PCIE30X1_1_CLKREQN_M1/BT1120_D0/CIF_D0/GPIO4_A0	B10
MIPI_CSI0_RX MIPI V1.2/2.5Gbps	GND_B1	B11
	MIPI_CSI0_RX_D0N	B13
	MIPI_CSI0_RX_D0P	B15
	MIPI_CSI0_RX_D1N	B17
	MIPI_CSI0_RX_D1P	B19
	MIPI_CSI0_RX_CLK0N	B21
	MIPI_CSI0_RX_CLK0P	B23
	MIPI_CSI0_RX_D2N	B25
	MIPI_CSI0_RX_D2P	B27
	MIPI_CSI0_RX_D3N	B29
MIPI_CSI1_RX MIPI V1.2/2.5Gbps	MIPI_CSI0_RX_D3P	B31
	MIPI_CSI0_RX_CLK1N	B33
	MIPI_CSI0_RX_CLK1P	B35
	GND_B2	B12
	MIPI_CSI1_RX_D0P	B14
	MIPI_CSI1_RX_D0N	B16
	MIPI_CSI1_RX_D1P	B18
	MIPI_CSI1_RX_D1N	B20
	MIPI_CSI1_RX_CLK0P	B22
	MIPI_CSI1_RX_CLK0N	B24
MIPI D/C-PHY DSI_TX Port0 D-PHY:V2.0 4.5Gbps/Lane C-PHY:V1.1 5.7Gbps/Trio	MIPI_CSI1_RX_D2P	B26
	MIPI_CSI1_RX_D2N	B28
	MIPI_CSI1_RX_D3P	B30
	MIPI_CSI1_RX_D3N	B32
	MIPI_CSI1_RX_CLK1P	B34
	MIPI_CSI1_RX_CLK1N	B36
	GND_B4	B38
	GND_B3	B37
	MIPI_DPHY0_TX_D3P/NO_USE	B39
	MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C	B41
MIPI D/C-PHY DSI_TX Port1 D-PHY:V2.0 4.5Gbps/Lane C-PHY:V1.1 5.7Gbps/Trio	MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B	B43
	MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A	B45
	MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C	B47
	MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B	B49
	MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A	B51
	MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C	B53
	MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B	B55
	MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A	B57
	GND_B5	B59
	MIPI_DPHY1_TX_D3P/NO_USE	B61
MIPI D/C-PHY CSI_RX Port0 D-PHY:V2.0 4.5Gbps/Lane C-PHY:V1.1 5.7Gbps/Trio	MIPI_DPHY1_TX_D3N/MIPI_CPHY1_TX_TRIO2_C	B63
	MIPI_DPHY1_TX_D2P/MIPI_CPHY1_TX_TRIO2_B	B65
	MIPI_DPHY1_TX_D2N/MIPI_CPHY1_TX_TRIO2_A	B67
	MIPI_DPHY1_TX_CLKP/MIPI_CPHY1_TX_TRIO1_C	B69
	MIPI_DPHY1_TX_CLKN/MIPI_CPHY1_TX_TRIO1_B	B71
	MIPI_DPHY1_TX_D1P/MIPI_CPHY1_TX_TRIO1_A	B73
	MIPI_DPHY1_TX_D1N/MIPI_CPHY1_TX_TRIO0_C	B75
	MIPI_DPHY1_TX_D0P/MIPI_CPHY1_TX_TRIO0_B	B77
	MIPI_DPHY1_TX_D0N/MIPI_CPHY1_TX_TRIO0_A	B79
	GND_B6	B80
MIPI D/C-PHY CSI_RX Port1 D-PHY:V2.0 4.5Gbps/Lane C-PHY:V1.1 5.7Gbps/Trio	MIPI_DPHY0_RX_D3P/NO_USE	B40
	MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C	B42
	MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B	B44
	MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_TRIO2_A	B46
	MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C	B48
	MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B	B50
	MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A	B52
	MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C	B54
	MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B	B56
	MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A	B58
MIPI D/C-PHY CSI_RX Port1 D-PHY:V2.0 4.5Gbps/Lane C-PHY:V1.1 5.7Gbps/Trio	GND_B6	B60
	MIPI_DPHY1_RX_D3P/NO_USE	B62
	MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	B64
	MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B	B66
	MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A	B68
	MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C	B70
	MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B	B72
	MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A	B74
	MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C	B76
	MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B	B78
PAD_B1 PAD_B2 NTH_B1 NTH_B2	MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A	B80
	PAD_B1	B81
	PAD_B2	B82
	NTH_B1	B83
	NTH_B2	B84

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图9. ID0-SOM3588-V1核心板J1连接器引脚定义图

	VCC4V0_SY51	C2
	VCC4V0_SY52	C4
	VCC4V0_SY53	C6
	VCC4V0_SY54	C8
	VCC4V0_SY55	C10
	GND_C1	C1
	GND_C2	C3
	GND_C3	C5
	GND_C4	C7
		C9
PMUIO2 Domain 3.3V	UART2_TX_M0_DEBUG/2S1_MCLK_M1/PCIE30X1_1_CLKREQN_M0/I2C1_SCL_M0/JTAG_TCK_M2/GPIO0_B5	C11
	UART2_RX_M0_DEBUG/2S1_SCLK_M1/PCIE30X1_1_WAKEN_M0/I2C1_SDA_M0/JTAG_TMS_M2/GPIO0_B6	C13
	PWM4_M0/UART0_TX_M0/DP1_HPDIN_M1/I2S1_SDI0_M1/PCIE30X1_0_PERSTN_M0/I2C4_SCL_M2/GPU_AVS/GPIO0_C5	C15
	UART0_RX_M0/DP0_HPDIN_M1/PDM0_CLK1_M1/PCIE30X1_0_WAKEN_M0/I2C4_SDA_M2/PWM2_M0/GPIO0_C4	C17
	CAN0_TX_M0/I2S1_LRCK_M1/PCIE30X1_1_PERSTN_M0/SPI0_CS1_M0/I2C2_SCL_M0/PWM0_M0/GPIO0_B7	C19
	CAN0_RX_M0/PDM0_CLK0_M1/PCIE30X1_0_CLKREQN_M0/SPI0_MOSI_M0/I2C2_SDA_M0/PWM1_M0/GPIO0_C0	C21
	PDM0_SDI0_M1/I2S1_SDI2_M1/PCIE30X4_WAKEN_M0/SPI0_MISO_M0/I2C6_SDA_M0/PWM6_M0/GPIO0_C7	C23
	PDM0_SDI1_M1/I2S1_SDI3_M1/PCIE30X4_PERSTN_M0/SPI3_MISO_M2/I2C6_SCL_M0/PWM7_IR_M0/GPIO0_D0	C25
	GND_C5	C27
	I2C4_SDA_M1/UART7_RX_M0/FSPI_CS0N_M1/HDMI_TX1_SDA_M0/GMAC0_PTP_REFCLK/GPIO2_B4	C29
	I2C7_SDA_M1/UART9_RTSN_M0/SPI3_MISO_M0/PWM5_M2/GMAC0_TXEN/GPIO0_B6	C31
	I2C0_SCL_M1/UART9_CTSN_M0/SPI3_MOSI_M0/PWM6_M2/GMAC0_MDIO/GPIO4_C5	C33
	I2C4_SCL_M1/UART7_TX_M0/FSPI_CS1N_M1/HDMI_TX1_SCL_M0/GMAC0_PPSTRIG/GPIO2_B5	C35
	TEST_CLKOUT_M1/UART9_RX_M0/SPI1_CS1_M0/HDMI_TX1_CEC_M0/GMAC0_PPCLK/GPIO2_C4	C37
	I2C8_SCL_M2/SPI1_CS0_M0/I2S2_SDI_M0/ETH0_REFCLK0_25M/GPIO2_C3	C39
	I2C2_SDA_M1/UART1_RTSN_M0/SPI1_CLK_M0/I2S2_LRCK_M0/GMAC0_TXEN/GPIO2_C0	C41
	I2C6_SDA_M4/UART1_TX_M0/I2S2_SCLK_M0/GMAC0_TX1/GPIO2_B7	C43
	I2C0_SDA_M1/UART7_CTSN_M0/SPI3_CLK_M0/PWM7_IR_M3/GMAC0_TXER/GPIO4_C6	C45
	I2C7_SCL_M1/PWM4_M1/SPI3_CS1_M0/I2S2_SDO_M0/GMAC0_MCLKINOUT/GPIO4_C3	C47
	I2C5_SCL_M4/UART1_RX_M0/I2S2_MCLK_M0/GMAC0_TXD/GPIO2_B6	C49
	I2C2_SCL_M1/UART1_CTSN_M0/SPI1_MISO_M0/GMAC0_RXD/GPIO2_C1	C51
	I2C6_SDA_M2/UART9_TX_M0/SPI1_MOSI_M0/GMAC0_RX1/GPIO2_C2	C53
	UART7_RTSN_M0/SPI3_CS0_M0/PWM2_M2/GMAC0_RXDV_CRS/GPIO4_C2	C55
	CLK32K_OUT1/GPIO2_C5	C57
	GND_C7	C59
	I2C3_SDA_M3/FSPI_CLK_M1/SDIO_CLK_M0/GMAC0_TXCLK/GPIO2_B3	C61
	I2C3_SCL_M3/SDIO_CMD_M0/GMAC0_TXD3/GPIO2_B2	C63
	I2C6_SDA_M1/UART6_CTSN_M0/FSPI_D3_M1/SDIO_D3_M0/GMAC0_TXD2/GPIO2_B1	C65
	I2C8_SCL_M1/UART6_RTSN_M0/FSPI_D2_M1/SDIO_D2_M0/GMAC0_RXCLK/GPIO2_B0	C67
	UART8_TX_M0/FSPI_D1_M1/SDIO_D1_M0/GMAC0_RXD3/GPIO2_A7	C69
	UART6_RX_M0/FSPI_D0_M1/SDIO_D0_M0/GMAC0_RXD2/GPIO2_A6	C71
		C73
	PWM10_M0/SPI4_MISO_M1/I2C6_SDA_M4/FSPI_D0_M2/I2S3_MCLK/SDIO_D0_M1/GMAC1_TXD2/GPIO3_A0	C14
	AUDDSM_LN/SPI4_MOSI_M1/PWM11_IR_M0/I2C6_SCL_M4/FSPI_D1_M2/I2S3_SCLK/SDIO_D1_M1/GMAC1_TXD3/GPIO3_A1	C16
	AUDDSM_LP/SPI4_CLK_M1/UART8_TX_M1/FSPI_D2_M2/I2S3_LRCK/SDIO_D2_M1/GMAC1_RXD2/GPIO3_A2	C18
	AUDDSM_RN/SPI4_CS0_M1/UART8_RX_M1/FSPI_D3_M2/I2S3_SDO/SDIO_D3_M1/GMAC1_RXD3/GPIO3_A3	C20
	AUDDSM_RP/SPI4_CS1_M1/UART8_RTSN_M1/I2S3_SDI/SDIO_CMD_M1/GMAC1_TXCLK/GPIO3_A4	C22
	PWM8_M0/MIPI_CAMERA2_CLK_M1/GMAC1_RXD0/GPIO3_A7	C24
	PWM9_M0/MIPI_CAMERA3_CLK_M1/GMAC1_RXD1/GPIO3_B0	C26
	MIPI_CAMERA0_CLK_M1/UART8_CTSN_M1/I2C4_SDA_M0/FSPI_CLK_M2/SDIO_CLK_M1/GMAC1_RXCLK/GPIO3_A5	C28
	PWM2_M1/MIPI_CAMERA4_CLK_M1/UART2_TX_M2/GMAC1_RXDV_CRS/GPIO3_B1	C30
	MIPI_CAMERA1_CLK_M1/I2C4_SCL_M0/ETH1_REFCLK0_25M/GPIO3_A8	C32
	PWM3_IR_M1/UART2_RX_M2/I2S2_SDI_M1/GMAC1_TXER/GPIO3_B2	C34
	UART2_RTSN/I2S2_SDO_M1/GMAC1_TXD0/GPIO3_B3	C36
	UART2_CTSN/I2S2_MCLK_M1/GMAC1_TXD1/GPIO3_B4	C38
	PWM12_M0/CAN1_RX_M0/UART3_TX_M1/I2S2_SCLK_M1/GMAC1_TXEN/GPIO3_B5	C40
	PWM13_M0/CAN1_TX_M0/UART3_RX_M1/I2S2_LRCK_M1/GMAC1_MCLKINOUT/GPIO3_B6	C42
	GND_C8	C44
	PCIE30X2_PERSTN_M2/UART9_RX_M2/SPI0_CS0_M3/HDMI_RX_HPDOUT_M1/HDMI_TX0_HPD_M1/MCU_JTAG_TCK_M1/GPIO3_D4	C46
	PCIE30X2_BUTTON_RSTN/UART7_RX_M1/SPI1_CLK_M1/GMAC1_PPCLK/GPIO3_C1	C48
	UART7_TX_M1/I2C3_SDA_M1/SPI1_MISO_M1/GMAC1_PPSTRIG/GPIO3_C0	C50
	PWM15_IR_M0/UART7_CTSN_M1/I2C8_SDA_M4/SPI1_CS1_M1/MIPI_TE1/GMAC1_MDIO/GPIO3_C3	C52
	I2C3_SCL_M1/SPI1_MOSI_M1/HDMI_TX1_HPD_M1/GMAC1_PTP_REF_CLK/GPIO3_B7	C54
	PWM14_M0/UART7_RTSN_M1/I2C8_SCL_M4/SPI1_CS0_M1/MIPI_TED/GMAC1_MDC/GPIO3_C2	C56
	PWM10_M2/PCIE30X2_WAKEN_M2/UART9_CTSN_M2/I2C7_SDA_M2/SPI0_CLK_M3/HDMI_RX_SDA_M1/CIF_D15/GPIO3_D3	C58
	PCIE30X2_CLKREQN_M2/UART9_RTSN_M2/I2C7_SCL_M2/SPI0_MOSI_M3/HDMI_RX_SCL_M1/CIF_D14/GPIO3_D2	C60
	PCIE30X4_PERSTN_M2/SPI3_MISO_M3/HDMITX1_SCL_M1/CIF_D10/GPIO3_C6	C62
	CAN2_RX_M0/PCIE30X4_CLKREQN_M2/UART5_TX_M1/FSPI_CS0N_M2/SPI3_CS0_M3/HDMITX1_CEC_M2/CIF_D8/GPIO3_C4	C64
	CAN2_TX_M0/PCIE30X4_WAKEN_M2/UART5_RX_M1/FSPI_CS1N_M2/SPI3_CS1_M3/HDMITX1_SDA_M1/CIF_D9/GPIO3_C5	C66
	PWM9_M2/PCIE20X1_2_PERSTN_M0/UART4_TX_M1/SPI0_MISO_M3/HDMI_RX_CEC_M1/CIF_D13/GPIO3_D1	C68
	PWM8_M2/PCIE20X1_2_WAKEN_M0/UART4_RX_M1/I2C5_SDA_M0/SPI3_CLK_M3/HDMI_TX0_SDA_M2/CIF_D12/GPIO3_D0	C70
	PCIE20X1_2_CLKREQN_M0/I2C5_SCL_M0/SPI3_MOSI_M3/HDMI_TX0_SCL_M2/CIF_D11/GPIO3_C7	C72
	GND_C9	C74
	PWM11_IR_M3/PCIE30X4_BUTTON_RSTN/UART9_TX_M2/SPI0_CS1_M3/DP1_HPDIN_M0/MCU_JTAG_TMS_M1/GPIO3_D6	C76
		C78
	SATA0_ACT_LED_M0/PWM13_M1/SPI3_MOSI_M1/I2C5_SCL_M1/HDMI_RX_HPDOUT_M0/PCIE30X4_PERSTN_M1/BT1120_D12/GPIO4_B6	C80
	SATA1_ACT_LED_M0/PWM12_M1/SPI3_MISO_M1/UART9_RX_M1/HDMI_RX_CEC_M0/PCIE30X4_WAKEN_M1/BT1120_D11/GPIO4_B5	C82
	SPDIF0_TX_M1/PWM11_IR_M1/DP0_HPDIN_M0/UART9_TX_M1/I2S1_SDO3_M0/PCIE30X4_CLKREQN_M1/BT1120_D10/CIF_CLKOUT/GPIO4_B4	C84
	SPDIF1_TX_M2/PWM6_M1/SPI3_CS1_M1/I2C8_SDA_M3/HDMITX0_CEC_M0/PCIE20X1_2_PERSTN_M1/BT1120_D15/GPIO4_C1	C86
	CAN1_TX_M1/PWM15_IR_M1/UART8_CTSN_M0/I2C7_SDA_M3/I2S1_SDO2_M0/PCIE20X1_2_BUTTON_RSTN/BT1120_D9/CIF_VSYNC/GPIO4_B3	C88
	SPI3_CLK_M1/I2C5_SDA_M1/HDMITX0_SCL_M0/PCIE20X1_2_CLKREQN_M1/BT1120_D13/GPIO4_B7	C90
	UART0_TX_M2/PCIE30X1_0_CLKREQN_M1/BT1120_D3/CIF_D3/GPIO4_A3	C92
	SPI3_CS0_M1/I2C8_SCL_M3/HDMITX0_SDA_M0/PCIE20X1_2_WAKEN_M1/BT1120_D14/GPIO4_C0	C94
VCCIO6 Domain 3.3V		C96

图10. ID0-SOM3588-V1核心板J3连接器引脚定义图

VCCIO4 Domain 3.3V		SPI2_CLK_M0/HDMI_TX1_HPD_M0/GPIO1_A6_0	D1
		GND_D1	D2
		PWM3_IR_M3/SPI2_CS0_M0/PCIE30X1_1_PERSTN_M2/PDM1_SDIO_M1/GPIO1_A7_0	D3
		SPI0_CS0_M2/PCIE30X1_0_PERSTN_M2/PDM1_CLK0_M1/UART7_RX_M2/GPIO1_B4_0	D4
		PWM0_M2/SPI4_CLK_M2/VOP_POST_EMPTY/I2C4_SDA_M3/UART6_RTSN_M1/GPIO1_A2_0	D5
		UART6_RTSN_M1/PCIE30X4_WAKEN_M3/PDM1_SDIO_M1/GPIO1_B1_0	D6
		SPI4_MISO_M2/PCIE30X1_1_CLKREQN_M2/DP0_HPDIN_M2/I2C2_SDA_M4/UART6_RX_M1/GPIO1_A0_0	D7
		SPI0_MOSI_M2/PCIE30X4_PERSTN_M3/PDM1_SDIO_M1/UART4_RX_M2/GPIO1_B2_0	D8
		SPI2_MISO_M0/HDMI_TX1_SCL_M2/GPIO1_A4_0	D9
		SPI0_CS1_M2/PCIE30X1_0_CLKREQN_M2/UART7_TX_M2/GPIO1_B5_0	D10
		SATA1_ACT_LED_M1/SPI4_MOSI_M2/PCIE30X1_1_WAKEN_M2/DP1_HPDIN_M2/I2C2_SCL_M4/UART6_TX_M1/GPIO1_A1_0	D11
		HDMI_RX_HPDOUT_M2/SPDIF0_TX_M0/PCIE30X2_WAKEN_M3/MIPI_CAM1_CLKOUT_M0/I2C5_SCL_M3/UART1_TX_M1/GPIO1_B6_0	D12
		SPI2_MOSI_M0/HDMI_TX0_HPD_M0/GPIO1_A5_0	D13
		HDMI_RX_SCL_M2/PWM14_M2/MIPI_CAM3_CLKOUT_M0/I2C8_SCL_M2/UART1_RTSN_M1/GPIO1_D6_0	D14
		PWM1_M2/SPI4_CS0_M2/HDMI_TX1_SDA_M2/I2C4_SCL_M3/UART5_CTSN_M1/GPIO1_A3_0	D15
		HDMI_RX_SDA_M2/PWM15_IR_M3/PCIE30X2_CLKREQN_M3/MIPI_CAM4_CLKOUT_M0/I2C8_SDA_M2/UART1_CTSN_M1/GPIO1_D7_0	D16
		SPI2_CS1_M0/PCIE30X4_CLKREQN_M3/PDM1_SDIO_M1/GPIO1_B0_0	D17
		SATA2_ACT_LED_M1/HDMI_RX_CEC_M2/PWM13_M2/SPDIF1_TX_M0/PCIE30X2_PERSTN_M3/MIPI_CAM2_CLKOUT_M0/I2C5_SDA_M3/UART1_RX_M1/GPIO1_B7_0	D18
		SATA0_ACT_LED_M1/SPI0_CLK_M2/PCIE30X1_0_WAKEN_M2/PDM1_CLK1_M1/UART4_TX_M2/GPIO1_B3_0	D20
VCCIO1 Domain 1.8V		PWM15_IR_M2/I2C4_SDA_M4/PDM0_CLK0_M0/GPIO1_C6_0	D19
		UART4_RTSN/I2C2_SCL_M3/I2S0_LRCK/GPIO1_C5_0	D21
		SPI1_MISO_M2/UART6_TX_M2/I2C7_SCL_M0/I2S0_SDIO1/GPIO1_D0_0	D22
		UART4_CTSN/I2C4_SCL_M4/I2S0_SDIO0/GPIO1_C7_0	D23
		SPI1_MOSI_M2/UART6_RX_M2/I2C7_SDA_M0/PDM0_SDIO1_M0/I2S0_SDIO3/GPIO1_D1_0	D24
		SPI4_CS0_M0/UART3_CTSN/PWM7_IR_M2/I2C6_SCL_M1/I2S0_SCLK/GPIO1_C3_0	D25
		SPI1_CLK_M2/UART4_TX_M0/PWM0_M1/I2C1_SCL_M4/PDM0_SDIO2_M0/I2S0_SDIO3/GPIO1_D2_0	D26
		SPI4_CS1_M0/PWM11_IR_M2/I2C2_SDA_M3/PDM0_CLK1_M0/GPIO1_C4_0	D27
		SPI1_CS0_M2/UART4_RX_M0/PWM1_M1/I2C1_SDA_M4/PDM0_SDIO3_M0/I2S0_SDIO1/GPIO1_D3_0	D28
		SPI4_CLK_M0/UART3_RTSN/PWM3_IR_M2/I2C6_SDA_M1/I2S0_MCLK/GPIO1_C2_0	D29
		I2S0_SDIO0/GPIO1_D4_0	D30
		SPI4_MISO_M0/UART3_RX_M0/I2C3_SDA_M0/GPIO1_C0_0	D31
		SPI4_MOSI_M0/UART3_TX_M0/I2C3_SCL_M0/GPIO1_C1_0	D33
		SPI1_CS1_M2/PDM0_SDIO_M0/GPIO1_D5_0	D35
PCIE30X4	PCIE30 PORT0	GND_D3	D37
		PCIE30_PORT0_TX1N	D39
		PCIE30_PORT0_TX1P	D41
		PCIE30_PORT0_TX0N	D43
		PCIE30_PORT0_TX0P	D45
		PCIE30_PORT0_REFCLKIN	D47
		PCIE30_PORT0_REFCLKIN	D49
		PCIE30_PORT0_RX1N	D51
		PCIE30_PORT0_RX1P	D53
		PCIE30_PORT0_RX0N	D55
	PCIE30 PORT1	PCIE30_PORT0_RX0P	D57
		GND_D5	D59
		GND_D2	D32
		PCIE30_PORT1_REFCLKIN	D34
		PCIE30_PORT1_REFCLKIN	D36
		PCIE30_PORT1_TX3N	D38
		PCIE30_PORT1_TX3P	D40
		PCIE30_PORT1_TX2N	D42
		PCIE30_PORT1_TX2P	D44
		PCIE30_PORT1_RX3N	D46
PCIE20/SATA30 Mux0 PCIE20:Gen1/Gen2 SATA30:Gen1/Gen2/Gen3		PCIE20_0_REFCLKP	D61
		PCIE20_0_REFCLKN	D63
		PCIE20_0_TXP/SATA30_0_TXP	D65
		PCIE20_0_TXN/SATA30_0_TXN	D67
		PCIE20_0_RXP/SATA30_0_RXP	D69
PCIE20/SATA30 Mux1 PCIE20:Gen1/Gen2 SATA30:Gen1/Gen2/Gen3		PCIE20_0_RXN/SATA30_0_RXN	D71
		PCIE20_1_REFCLKP	D68
		PCIE20_1_REFCLKN	D70
		PCIE20_1_TXP/SATA30_1_TXP	D72
		PCIE20_1_TXN/SATA30_1_TXN	D74
PCIE20/SATA30/USB30 HOST Mux2 PCIE20:Gen1/Gen2 USB 30:Gen1 SATA30:Gen1/Gen2/Gen3		PCIE20_1_RXP/SATA30_1_RXP	D76
		PCIE20_1_RXN/SATA30_1_RXN	D78
		PCIE20_2_REFCLKP	D56
		PCIE20_2_REFCLKN	D58
		PCIE20_2_TXP/SATA30_2_TXP/USB30_2_SSTXP	D60
PMIC		PCIE20_2_TXN/SATA30_2_TXN/USB30_2_SSTXN	D62
		PCIE20_2_RXP/SATA30_2_RXP/USB30_2_SSRXP	D64
		PCIE20_2_RXN/SATA30_2_RXN/USB30_2_SSRXN	D66
		RESET_L	D73
		VCC_IV8_S3	D75
PMUIO1 Domain 1.8V		PMIC_EXT_EN_OUT	D77
		PWRON_L	D79
		REFCLK_OUT/PMUIO1_GPIO0_A0_0	D80
		PAD_D1	D81
		PAD_D2	D82

图11. IDO-SOM3588-V1核心板J4连接器引脚定义图

5.2 核心板引脚列表

5.2.1 J1连接器引脚定义

J1 DF12NA(3.0)–80DS–0.5V(51)

Num	Pin Name	Signal Name	Power Rail
2	SDMMC_PWREN_GP IO0_B2	PMUIO1_GPIO0_B2_u	1.8V
4	SDMMC_DET_L_GPI O0_A4	SDMMC_DET PMUIO1_GPIO0_A4_u	1.8V
6	SARADC_VIN3_HP_H OOK	SARADC_VIN3	1.8V
8		SARADC_VIN2	1.8V
10	SARADC_VIN1_KEY/ RECOVERY	SARADC_VIN1_RECO VERY	1.8V
12	BOOT_SARADC_IN0	SARADC_IN0_BOOT	1.8V
1	GND	GND	GND
3	TYPEC0_SSTX2N	TYPEC0_SSTX2N DP0_TX3N	
5	TYPEC0_SSTX2P	TYPEC0_SSTX2P DP0_TX3P	
7	TYPEC0_SSRX2P	TYPEC0_SSRX2P DP0_TX2P	
9	TYPEC0_SSRX2N	TYPEC0_SSRX2N DP0_TX2N	
11	TYPEC0_SSTX1N	TYPEC0_SSTX1N DP0_TX1N	
13	TYPEC0_SSTX1P	TYPEC0_SSTX1P DP0_TX1P	
15	TYPEC0_SSRX1P	TYPEC0_SSRX1P	

		DP0_TX0P	
17	TYPEC0_SSRX1N	TYPEC0_SSRX1N	
		DP0_TX0N	
16	TYPEC0_SBU2	TYPEC0_SBU2	
		DP0_AUXN	
18	TYPEC0_SBU1	TYPEC0_SBU1	
		DP0_AUXP	
20	TYPEC0_OTG_DP	TYPEC0_OTG_DP	
22	TYPEC0_OTG_DM	TYPEC0_OTG_DM	
14	GND	GND	GND
24	TYPEC0_USB20_VB USDET	TYPEC0_USB20_VB USDET	3.3V
26	TYPEC0_USB20_OT G_ID	TYPEC0_USB20_OT G_ID	1.8V
28	GND	GND	GND
19	TYPEC1_SSTX2N	TYPEC1_SSTX2N	
		DP1_TX3N	
21	TYPEC1_SSTX2P	TYPEC1_SSTX2P	
		DP1_TX3P	
23	TYPEC1_SSRX2P	TYPEC1_SSRX2P	
		DP1_TX2P	
25	TYPEC1_SSRX2N	TYPEC1_SSRX2N	
		DP1_TX2N	
27	TYPEC1_SSTX1N	TYPEC1_SSTX1N	
		DP1_TX1N	
29	TYPEC1_SSTX1P	TYPEC1_SSTX1P	

		DP1_TX1P	
31	TYPEC1_SSRX1P	TYPEC1_SSRX1P	
		DP1_TX0P	
33	TYPEC1_SSRX1N	TYPEC1_SSRX1N	
		DP1_TX0N	
30	TYPEC1_SBU2	TYPEC1_SBU2	
		DP1_AUXN	
32	TYPEC1_SBU1	TYPEC1_SBU1	
		DP1_AUXP	
34	TYPEC1_OTG_DP	TYPEC1_OTG_DP	
36	TYPEC1_OTG_DM	TYPEC1_OTG_DM	
38	TYPEC1_USB20_VBUSDET	TYPEC1_USB20_VBUSDET	3.3V
40	TYPEC1_USB20_OTG_ID	TYPEC1_USB20_OTG_ID	1.8V
42	USB20_HOST1_DM	USB20_HOST1_DM	
44	USB20_HOST1_DP	USB20_HOST1_DP	
46	USB20_HOST0_DM	USB20_HOST0_DM	
48	USB20_HOST0_DP	USB20_HOST0_DP	
35	GND	GND	GND
37	HDMI1_TX2P_PORT	HDMI1_TX2P_PORT	
		eDP1_TX_D2P	
39	HDMI1_TX2N_PORT	HDMI1_TX2N_PORT	
		eDP1_TX_D2N	
41	HDMI1_TX1P_PORT	HDMI1_TX1P_PORT	
		eDP1_TX_D1P	

43	HDMI1_TX1N_PORT	HDMI1_TX1N_PORT	
		eDP1_TX_D1N	
45	HDMI1_TX0P_PORT	HDMI1_TX0P_PORT	
		eDP1_TX_D0P	
47	HDMI1_TX0P_PORT	HDMI1_TX0N_PORT	
		eDP1_TX_D0N	
49	HDMI1_TX3P_PORT	HDMI1_TX3P_PORT	
		eDP1_TX_D3P	
51	HDMI1_TX3N_PORT	HDMI1_TX3N_PORT	
		eDP1_TX_D3N	
53	HDMI1_TX_SBDP	HDMI1_TX_SBDP	
		eDP1_TX_AUXP	
55	HDMI1_TX_SBDN	HDMI1_TX_SBDN	
		eDP1_TX_AUXN	
57	GND	GND	GND
59	HDMI0_TX2P_PORT	HDMI0_TX2P_PORT	
		eDP0_TX_D2P	
61	HDMI0_TX2N_PORT	HDMI0_TX2N_PORT	
		eDP0_TX_D2N	
63	HDMI0_TX1P_PORT	HDMI0_TX1P_PORT	
		eDP0_TX_D1P	
65	HDMI0_TX1N_PORT	HDMI0_TX1N_PORT	
		eDP0_TX_D1N	
67	HDMI0_TX0P_PORT	HDMI0_TX0P_PORT	
		eDP0_TX_D0P	

69	HDMI0_TX0N_PORT	HDMI0_TX0N_PORT	
		eDP0_TX_D0N	
71	HDMI0_TX3P_PORT	HDMI0_TX3P_PORT	
		eDP0_TX_D3P	
73	HDMI0_TX3N_PORT	HDMI0_TX3N_PORT	
		eDP0_TX_D3N	
75	HDMI0_TX_SBDP	HDMI0_TX_SBDP	
		eDP0_TX_AUXP	
77	HDMI0_TX_SBDN	HDMI0_TX_SBDN	
		eDP0_TX_AUXN	
79	GND	GND	GND
50	GND	GND	GND
52	HDMI_RX_D2P	HDMI_RX_D2P	
54	HDMI_RX_D2N	HDMI_RX_D2N	
56	HDMI_RX_D1P	HDMI_RX_D1P	
58	HDMI_RX_D1N	HDMI_RX_D1N	
60	HDMI_RX_D1P	HDMI_RX_D1P	
62	HDMI_RX_D1N	HDMI_RX_D1N	
64	HDMI_RX_CLKP	HDMI_RX_CLKP	
66	HDMI_RX_CLKN	HDMI_RX_CLKN	
68	GND	GND	GND
70	SDMMC0_D2	I2C8_SCL_M0	3.3V
		PDM1_SDI1_M0	
		JTAG_TCK_M0	
		UART5_CTSN_M0	

		SDMMC0_D2	
		GPIO4_D2_u	
72	SDMMC0_D3	PWM10_M1	3.3V
		I2C8_SDA_M0	
		PDM1_SDI0_M0	
		JTAG_TMS_M0	
		UART5_RTSN_M0	
		SDMMC0_D3	
		GPIO4_D3_u	
74	SDMMC0_CMD	PWM7_IR_M1	3.3V
		CAN0_TX_M1	
		PDM1_CLK1_M0	
		MCU_JTAG_TCK_M0	
		UART5_RX_M0	
		SDMMC0_CMD	
		GPIO4_D4_u	
76	SDMMC0_CLK	TEST_CLKOUT_M0	3.3V
		CAN0_RX_M1	
		PDM1_CLK0_M0	
		MCU_JTAG_TMS_M0	
		UART5_TX_M0	
		SDMMC0_CLK	
		GPIO4_D5_d	
78	SDMMC0_D0	PWM8_M1	3.3V
		I2C3_SCL_M4	

		PDM1_SDI3_M0	
		JTAG_TCK_M1	
		UART2_TX_M1	
		SDMMC0_D0	
		GPIO4_D0_u	
80	SDMMC0_D1	PWM9_M1	3.3V
		I2C3_SDA_M4	
		PDM1_SDI2_M0	
		JTAG_TMS_M1	
		UART2_RX_M1	
		SDMMC0_D1	
		GPIO4_D1_u	

5.2.2 J2连接器引脚定义

J2 DF12NA(3.0)–80DS–0.5V(51)			
Num	Pin Name	Signal Name	Power Rail
1	HDMI0_TX_ON_H_GP IO4_B1	SATA2_ACT_LED_M0	3.3V
		SPDIF1_TX_M1	
		SPI0_CS1_M1	
		UART8_RX_M0	
		I2C6_SCL_M3	
		I2S1_SDO0_M0	
		PCIE30X1_0_BUTTON_RSTN	

		MIPI_CAMERA0_CLK_M0	
		GPIO4_B1_u	
2	HDMI1_TX_ON_H_GPIO4_B0	SPI2_CS1_M1	3.3V
		UART8_TX_M0	
		I2C6_SDA_M3	
		I2S1_SDI3_M0	
		PCIE30X2_PERSTN_M1	
		BT1120_CLKOUT	
		CIF_CLKIN	
		GPIO4_B0_d	
3	GMAC1_RSTn_GPIO4_A7	SPI2_CS0_M1	3.3V
		I2C5_SDA_M2	
		I2S1_SDI2_M0	
		PCIE30X2_WAKEN_M1	
		BT1120_D7	
		CIF_D7	
		GPIO4_A7_d	
4	TYPEC0_SBU2_DC	CAN1_RX_M1	3.3V
		PWM14_M1	
		SPI0_CS0_M1	
		UART8_RTSN_M0	
		I2C7_SCL_M3	
		I2S1_SDO1_M0	

		PCIE30X1_1_BUTTON_RSTN	
		BT1120_D8	
		CIF_HREF	
		GPIO4_B2_u	
5	SYS_LED_GPIO4_A6	SPI2_CLK_M1	3.3V
		UART3_RX_M2	
		I2C5_SCL_M2	
		I2S1_SDI1_M0	
		PCIE30X2_CLKREQN_M1	
		BT1120_D6	
		CIF_D6	
		GPIO4_A6_d	
6	PCIEX1_1_PERSTn_M1_L	SPI0_CLK_M1	3.3V
		I2S1_LRCK_M0	
		PCIE30X1_1_PERSTN_M1	
		BT1120_D2	
		CIF_D2	
		GPIO4_A2_d	
7	WDT_EN_GPIO4_A5	SPI2_MOSI_M1	3.3V
		UART3_TX_M2	
		I2C3_SDA_M2	
		I2S1_SDI0_M0	
		PCIE30X1_0_PERSTN_M1	

		BT1120_D5	
		CIF_D5	
		GPIO4_A5_d	
8	PCIEX1_1_WAKEn_M1_L	SPI0_MOSI_M1	3.3V
		UART9_CTSN_M1	
		I2S1_SCLK_M0	
		PCIE30X1_1_WAKEN_M1	
		BT1120_D1	
		CIF_D1	
		GPIO4_A1_d	
9	TYPEC1_SBU2_DC	SPI2_MISO_M1	3.3V
		UART0_RX_M2	
		I2C3_SCL_M2	
		PCIE30X1_0_WAKEN_M1	
		BT1120_D4	
		CIF_D4	
		GPIO4_A4_d	
10	PCIEX1_1_CLKREQn_M1_L	SPI0_MISO_M1	3.3V
		UART9_RTSN_M1	
		I2S1_MCLK_M0	
		PCIE30X1_1_CLKREQN_M1	
		BT1120_D0	
		CIF_D0	

		GPIO4_A0_d	
11	GND	GND	GND
13	MIPI_CSI0_RX_D0N	MIPI_CSI0_RX_D0N	
15	MIPI_CSI0_RX_D0P	MIPI_CSI0_RX_D0P	
17	MIPI_CSI0_RX_D1N	MIPI_CSI0_RX_D1N	
19	MIPI_CSI0_RX_D1P	MIPI_CSI0_RX_D1P	
21	MIPI_CSI0_RX_CLK0 N	MIPI_CSI0_RX_CLK0 N	
23	MIPI_CSI0_RX_CLK0 P	MIPI_CSI0_RX_CLK0 P	
25	MIPI_CSI0_RX_D2N	MIPI_CSI0_RX_D2N	
27	MIPI_CSI0_RX_D2P	MIPI_CSI0_RX_D2P	
29	MIPI_CSI0_RX_D3N	MIPI_CSI0_RX_D3N	
31	MIPI_CSI0_RX_D3P	MIPI_CSI0_RX_D3P	
33	MIPI_CSI0_RX_CLK1 N	MIPI_CSI0_RX_CLK1 N	
35	MIPI_CSI0_RX_CLK1 P	MIPI_CSI0_RX_CLK1 P	
12	GND	GND	GND
14	MIPI_CSI1_RX_D0P	MIPI_CSI1_RX_D0P	
16	MIPI_CSI1_RX_D0N	MIPI_CSI1_RX_D0N	
18	MIPI_CSI1_RX_D1P	MIPI_CSI1_RX_D1P	
20	MIPI_CSI1_RX_D1N	MIPI_CSI1_RX_D1N	
22	MIPI_CSI1_RX_CLK0 P	MIPI_CSI1_RX_CLK0 P	
24	MIPI_CSI1_RX_CLK0 N	MIPI_CSI1_RX_CLK0 N	

26	MIPI_CSI1_RX_D2P	MIPI_CSI1_RX_D2P	
28	MIPI_CSI1_RX_D2N	MIPI_CSI1_RX_D2N	
30	MIPI_CSI1_RX_D3P	MIPI_CSI1_RX_D3P	
32	MIPI_CSI1_RX_D3N	MIPI_CSI1_RX_D3N	
34	MIPI_CSI1_RX_CLK1P	MIPI_CSI1_RX_CLK1P	
36	MIPI_CSI1_RX_CLK1N	MIPI_CSI1_RX_CLK1N	
38	GND	GND	GND
37	GND	GND	GND
39	MIPI_DPHY0_TX_D3 P	MIPI_DPHY0_TX_D3 P	
41	MIPI_DPHY0_TX_D3 N	MIPI_DPHY0_TX_D3 N	
		MIPI_CPHY0_TX_TRI O2_C	
43	MIPI_DPHY0_TX_D2 P	MIPI_DPHY0_TX_D2 P	
		MIPI_CPHY0_TX_TRI O2_B	
45	MIPI_DPHY0_TX_D2 N	MIPI_DPHY0_TX_D2 N	
		MIPI_CPHY0_TX_TRI O2_A	
47	MIPI_DPHY0_TX_CL KP	MIPI_DPHY0_TX_CL KP	
		MIPI_CPHY0_TX_TRI O1_C	
49	MIPI_DPHY0_TX_CL KN	MIPI_DPHY0_TX_CL KN	

		MIPI_CPHY0_TX_TRI O1_B	
51	MIPI_DPHY0_TX_D1P	MIPI_DPHY0_TX_D1P MIPI_CPHY0_TX_TRI O1_A	
53	MIPI_DPHY0_TX_D1N	MIPI_DPHY0_TX_D1N MIPI_CPHY0_TX_TRI O0_C	
55	MIPI_DPHY0_TX_D0 P	MIPI_DPHY0_TX_D0 P MIPI_CPHY0_TX_TRI O0_B	
57	MIPI_DPHY0_TX_D0 N	MIPI_DPHY0_TX_D0 N MIPI_CPHY0_TX_TRI O0_A	
59	GND	GND	GND
61	MIPI_DPHY1_TX_D3P	MIPI_DPHY1_TX_D3P	
63	MIPI_DPHY1_TX_D3N	MIPI_DPHY1_TX_D3N MIPI_CPHY1_TX_TRI O2_C	
65	MIPI_DPHY1_TX_D2P	MIPI_DPHY1_TX_D2P MIPI_CPHY1_TX_TRI O2_B	
67	MIPI_DPHY1_TX_D2N	MIPI_DPHY1_TX_D2N MIPI_CPHY1_TX_TRI O2_A	
69	MIPI_DPHY1_TX_CLK P	MIPI_DPHY1_TX_CLK P	

		MIPI_CPHY1_TX_TRI O1_C	
71	MIPI_DPHY1_TX_CLK N	MIPI_DPHY1_TX_CLK N	
		MIPI_CPHY1_TX_TRI O1_B	
73	MIPI_DPHY1_TX_D1P	MIPI_DPHY1_TX_D1P	
		MIPI_CPHY1_TX_TRI O1_A	
75	MIPI_DPHY1_TX_D1N	MIPI_DPHY1_TX_D1N	
		MIPI_CPHY1_TX_TRI O0_C	
77	MIPI_DPHY1_TX_D0P	MIPI_DPHY1_TX_D0P	
		MIPI_CPHY1_TX_TRI O0_B	
79	MIPI_DPHY1_TX_D0N	MIPI_DPHY1_TX_D0N	
		MIPI_CPHY1_TX_TRI O0_A	
40	MIPI_DPHY0_RX_D3 P	MIPI_DPHY0_RX_D3 P	
42	MIPI_DPHY0_RX_D3 N	MIPI_DPHY0_RX_D3 N	
		MIPI_CPHY0_RX_TRI O2_C	
44	MIPI_DPHY0_RX_D2 P	MIPI_DPHY0_RX_D2 P	
		MIPI_CPHY0_RX_TRI O2_B	

46	MIPI_DPHY0_RX_D2N	MIPI_DPHY0_RX_D2N	
		MIPI_CPHY0_RX_TRI02_A	
48	MIPI_DPHY0_RX_CLKP	MIPI_DPHY0_RX_CLKP	
		MIPI_CPHY0_RX_TRI01_C	
50	MIPI_DPHY0_RX_CLKN	MIPI_DPHY0_RX_CLKN	
		MIPI_CPHY0_RX_TRI01_B	
52	MIPI_DPHY0_RX_D1P	MIPI_DPHY0_RX_D1P	
		MIPI_CPHY0_RX_TRI01_A	
54	MIPI_DPHY0_RX_D1N	MIPI_DPHY0_RX_D1N	
		MIPI_CPHY0_RX_TRI00_C	
56	MIPI_DPHY0_RX_D0P	MIPI_DPHY0_RX_D0P	
		MIPI_CPHY0_RX_TRI00_B	
58	MIPI_DPHY0_RX_D0N	MIPI_DPHY0_RX_D0N	
		MIPI_CPHY0_RX_TRI00_A	
60	GND	GND	GND
62	MIPI_DPHY1_RX_D3P	MIPI_DPHY1_RX_D3P	
64	MIPI_DPHY1_RX_D3N	MIPI_DPHY1_RX_D3N	

		MIPI_CPHY1_RX_TRI O2_C	
66	MIPI_DPHY1_RX_D2P	MIPI_DPHY1_RX_D2P MIPI_CPHY1_RX_TRI O2_B	
68	MIPI_DPHY1_RX_D2N	MIPI_DPHY1_RX_D2N MIPI_CPHY1_RX_TRI O2_A	
70	MIPI_DPHY1_RX_CLK P	MIPI_DPHY1_RX_CLK P MIPI_CPHY1_RX_TRI O1_C	
72	MIPI_DPHY1_RX_CLK N	MIPI_DPHY1_RX_CLK N MIPI_CPHY1_RX_TRI O1_B	
74	MIPI_DPHY1_RX_D1P	MIPI_DPHY1_RX_D1P MIPI_CPHY1_RX_TRI O1_A	
76	MIPI_DPHY1_RX_D1N	MIPI_DPHY1_RX_D1N MIPI_CPHY1_RX_TRI O0_C	
78	MIPI_DPHY1_RX_D0P	MIPI_DPHY1_RX_D0P MIPI_CPHY1_RX_TRI O0_B	
80	MIPI_DPHY1_RX_D0N	MIPI_DPHY1_RX_D0N MIPI_CPHY1_RX_TRI O0_A	

5.2.3 J3连接器引脚定义

J3 DF12NA(3.0)–80DS–0.5V(51)			
Num	Pin Name	Signal Name	Power Rail
2	VCC4V0_SYS	VCC4V0_SYS	4.0V/input
4	VCC4V0_SYS	VCC4V0_SYS	
6	VCC4V0_SYS	VCC4V0_SYS	
8	VCC4V0_SYS	VCC4V0_SYS	
10	VCC4V0_SYS	VCC4V0_SYS	
1	GND	GND	GND
3	GND	GND	
5	GND	GND	
7	GND	GND	
9	UART2_TX_M0_DEB UG	UART2_TX_M0_DEB UG	3.3V
		I2S1_MCLK_M1	
		PCIE30X1_1_CLKREQ N_M0	
		I2C1_SCL_M0	
		JTAG_TCK_M2	
		GPIO0_B5_d	
11	UART2_RX_M0_DEB UG	UART2_RX_M0_DEB UG	3.3V
		I2S1_SCLK_M1	
		PCIE30X1_1_WAKEN _M0	

		I2C1_SDA_M0	
		JTAG_TMS_M2	
		GPIO0_B6_d	
13	I2C4_SCL_M2	PWM4_M0	3.3V
		UART0_TX_M0	
		DP1_HPDIN_M1	
		I2S1_SDIO_M1	
		PCIE30X1_0_PERSTN_M0	
		I2C4_SCL_M2	
		GPU_AVS	
		GPIO0_C5_u	
15	I2C4_SDA_M2	UART0_RX_M0	3.3V
		DP0_HPDIN_M1	
		PDM0_CLK1_M1	
		PCIE30X1_0_WAKEN_M0	
		I2C4_SDA_M2	
		PWM2_M0	
		GPIO0_C4_d	
17	I2C2_SCL_M0	CAN0_TX_M0	3.3V
		I2S1_LRCK_M1	
		PCIE30X1_1_PERSTN_M0	
		SPI0_CS1_M0	
		I2C2_SCL_M0	

		PWM0_M0	
		GPIO0_B7_d	
19	I2C2_SDA_M0	CAN0_RX_M0	3.3V
		PDM0_CLK0_M1	
		PCIE30X1_0_CLKRE QN_M0	
		SPI0_MOSI_M0	
		I2C2_SDA_M0	
		PWM1_M0	
		GPIO0_C0_d	
21	PWM6_M0	PDM0_SDI0_M1	3.3V
		I2S1_SDI2_M1	
		PCIE30X4_WAKEN_ M0	
		SPI0_MISO_M0	
		I2C6_SDA_M0	
		PWM6_M0	
		GPIO0_C7_d	
23	PWM7_IR_M0	PDM0_SDI1_M1	3.3V
		I2S1_SDI3_M1	
		PCIE30X4_PERSTN_ M0	
		SPI3_MISO_M2	
		I2C6_SCL_M0	
		PWM7_IR_M0	
		GPIO0_D0_d	

25	GND	GND	GND
27	WIFI_REG_ON_H_GPIO2_B4	I2C4_SDA_M1	1.8V
		UART7_RX_M0	
		FSPI_CS0N_M1	
		HDMI_TX1_SDA_M0	
		GMAC0_PTP_REFCLK	
		GPIO2_B4_u	
29	UART9_RTSn_M0_BT	I2C7_SDA_M1	1.8V
		UART9_RTsn_M0	
		SPI3_MISO_M0	
		PWM5_M2	
		GMAC0_MDC	
		GPIO4_C4_d	
31	UART9_CTsn_M0_BT	I2C0_SCL_M1	1.8V
		UART9_CTsn_M0	
		SPI3_MOSI_M0	
		PWM6_M2	
		GMAC0_MDIO	
		GPIO4_C5_d	
33	BT_REG_ON_H_GPIO2_B5	I2C4_SCL_M1	1.8V
		UART7_TX_M0	
		FSPI_CS1N_M1	
		HDMI_TX1_SCL_M0	
		GMAC0_PPSTRIG	
		GPIO2_B5_u	

35	UART9_RX_M0_BT	TEST_CLKOUT_M1	1.8V
		UART9_RX_M0	
		SPI1_CS1_M0	
		HDMI_TX1_CEC_M0	
		GMAC0_PPSCLK	
		GPIO2_C4_d	
37	TYPEC1_CC_INT_L_ GPIO2_C3	I2C6_SCL_M2	1.8V
		SPI1_CS0_M0	
		I2S2_SDI_M0	
		ETH0_REFCLKO_25 M	
		GPIO2_C3_d	
39	TYPEC0_CC_INT_L_ GPIO2_C0	I2C2_SDA_M1	1.8V
		UART1_RTSN_M0	
		SPI1_CLK_M0	
		I2S2_LRCK_M0	
		GMAC0_TXEN	
		GPIO2_C0_d	
41	TYPEC0_5V_PWREN _H_GPIO2_B7	I2C5_SDA_M4	1.8V
		UART1_TX_M0	
		I2S2_SCLK_M0	
		GMAC0_TX1	
		GPIO2_B7_d	
43	PCA9539PW_RESET _L_GPIO4_C6	I2C0_SDA_M1	1.8V
		UART7_CTSN_M0	
		SPI3_CLK_M0	

		PWM7_IR_M3	
		GMAC0_TXER	
		GPIO4_C6_d	
45	WIFI_WAKE_HOST_H _GPIO4_C3	I2C7_SCL_M1	1.8V
		PWM4_M1	
		SPI3_CS1_M0	
		I2S2_SDO_M0	
		GMAC0_MCLKINOUT	
		GPIO4_C3_d	
47	HOST_WAKE_BT_H_ GPIO2_B6	I2C5_SCL_M4	1.8V
		UART1_RX_M0	
		I2S2_MCLK_M0	
		GMAC0_TX0	
		GPIO2_B6_d	
49	BT_WAKE_HOST_H_ GPIO2_C1	I2C2_SCL_M1	1.8V
		UART1_CTSN_M0	
		SPI1_MISO_M0	
		GMAC0_RX0	
		GPIO2_C1_d	
51	UART9_TX_M0_BT	I2C6_SDA_M2	1.8V
		UART9_TX_M0	
		SPI1_MOSI_M0	
		GMAC0_RX1	
		GPIO2_C2_d	
53	PCA9539_INT_L_GPI	UART7_RTSN_M0	1.8V

	O4_C2	SPI3_CS0_M0	
		PWM2_M2	
		GMAC0_RXDV_CRD	
		GPIO4_C2_d	
55	SOC_CLK32K_OUT1	CLK32K_OUT1	1.8V
		GPIO2_C5_d	
57	GND	GND	GND
59	SDIO_CLK_M0_WIFI	I2C3_SDA_M3	1.8V
		FSPI_CLK_M1	
		SDIO_CLK_M0	
		GMAC0_TXCLK	
		GPIO2_B3_d	
61	SDIO_CMD_M0_WIFI	I2C3_SCL_M3	1.8V
		SDIO_CMD_M0	
		GMAC0_TXD3	
		GPIO2_B2_u	
63	SDIO_D3_M0_WIFI	I2C8_SDA_M1	1.8V
		UART6_CTSN_M0	
		FSPI_D3_M1	
		SDIO_D3_M0	
		GMAC0_TXD2	
		GPIO2_B1_u	
65	SDIO_D2_M0_WIFI	I2C8_SCL_M1	1.8V
		UART6_RTSN_M0	
		FSPI_D2_M1	

		SDIO_D2_M0	
		GMAC0_RXCLK	
		GPIO2_B0_u	
67	SDIO_D1_M0_WIFI	UART6_TX_M0	1.8V
		FSPI_D1_M1	
		SDIO_D1_M0	
		GMAC0_RXD3	
		GPIO2_A7_u	
69	SDIO_D0_M0_WIFI	UART6_RX_M0	1.8V
		FSPI_D0_M1	
		SDIO_D0_M0	
		GMAC0_RXD2	
		GPIO2_A6_u	
12	GMAC1_TXD2	PWM10_M0	1.8V
		SPI4_MISO_M1	
		I2C6_SDA_M4	
		FSPI_D0_M2	
		I2S3_MCLK	
		SDIO_D0_M1	
		GMAC1_TXD2	
		GPIO3_A0_u	
14	GMAC1_TXD3	AUDDSM_LN	1.8V
		SPI4_MOSI_M1	
		PWM11_IR_M0	
		I2C6_SCL_M4	

		FSPI_D1_M2	
		I2S3_SCLK	
		SDIO_D1_M1	
		GMAC1_TXD3	
		GPIO3_A1_u	
16	GMAC1_RXD2	AUDDSM_LP	1.8V
		SPI4_CLK_M1	
		UART8_TX_M1	
		FSPI_D2_M2	
		I2S3_LRCK	
		SDIO_D2_M1	
		GMAC1_RXD2	
18	GMAC1_RXD3	GPIO3_A2_u	1.8V
		AUDDSM_RN	
		SPI4_CS0_M1	
		UART8_RX_M1	
		FSPI_D3_M2	
		I2S3_SDO	
		SDIO_D3_M1	
		GMAC1_RXD3	
20	GMAC1_TXCLK	GPIO3_A3_u	1.8V
		AUDDSM_RP	
		SPI4_CS1_M1	
		UART8_RTSN_M1	
		I2S3_SDI	

		SDIO_CMD_M1	
		GMAC1_TXCLK	
		GPIO3_A4_d	
22	GMAC1_RXD0	PWM8_M0	1.8V
		MIPI_CAMERA2_CLK_M1	
		GMAC1_RXD0	
		GPIO3_A7_u	
24	GMAC1_RXD1	PWM9_M0	1.8V
		MIPI_CAMERA3_CLK_M1	
		GMAC1_RXD1	
		GPIO3_B0_u	
26	GMAC1_RXCLK	MIPI_CAMERA0_CLK_M1	1.8V
		UART8_CTSN_M1	
		I2C4_SDA_M0	
		FSPI_CLK_M2	
		SDIO_CLK_M1	
		GMAC1_RXCLK	
		GPIO3_A5_d	
28	GMAC1_RXDV_CRS	PWM2_M1	1.8V
		MIPI_CAMERA4_CLK_M1	
		UART2_TX_M2	
		GMAC1_RXDV_CRS	
		GPIO3_B1_d	

30	MIPI_CAM1_PDN_L_ GPIO2_B4	MIPI_CAMERA1_CLK_M1	1.8V
		I2C4_SCL_M0	
		ETH1_REFCLKO_25M	
		GPIO3_A6_d	
32	MIPI_CAM1_RESET_L_ _GPIO4_C6	PWM3_IR_M1	1.8V
		UART2_RX_M2	
		I2S2_SDI_M1	
		GMAC1_TXER	
		GPIO3_B2_d	
34	GMAC1_TXD0	UART2_RTSN	1.8V
		I2S2_SDO_M1	
		GMAC1_TXD0	
		GPIO3_B3_u	
36	GMAC1_TXD1	UART2_CTSN	1.8V
		I2S2_MCLK_M1	
		GMAC1_TXD1	
		GPIO3_B4_u	
38	GMAC1_TXEN	PWM12_M0	1.8V
		CAN1_RX_M0	
		UART3_TX_M1	
		I2S2_SCLK_M1	
		GMAC1_TXEN	
		GPIO3_B5_u	
40	GMAC1_MCLKINOUT	PWM13_M0	1.8V

		CAN1_TX_M0	
		UART3_RX_M1	
		I2S2_LRCK_M1	
		GMAC1_MCLKINOUT	
		GPIO3_B6_d	
42	GND	GND	GND
44	HDMI_RX_HPDOUT_M1	PCIE30X2_PERSTN_M2	1.8V
		UART9_RX_M2	
		SPI0_CS0_M3	
		HDMI_RX_HPDOUT_M1	
		HDMI_TX0_HPD_M1	
		MCU_JTAG_TCK_M1	
46	MIPI_CAM2_PDN_L_GPIO2_B5	GPIO3_D4_d	1.8V
		PCIE30X2_BUTTON_RSTN	
		UART7_RX_M1	
		SPI1_CLK_M1	
		GMAC1_PPSCCLK	
48	MIPI_CAM2_RESET_L_GPIO2_B6	GPIO3_C1_d	1.8V
		UART7_TX_M1	
		I2C3_SDA_M1	
		SPI1_MISO_M1	
		GMAC1_PPSTRIG	
		GPIO3_C0_d	

50	GMAC1_MDIO	PWM15_IR_M0	1.8V
		UART7_CTSN_M1	
		I2C8_SDA_M4	
		SPI1_CS1_M1	
		MIPI_TE1	
		GMAC1_MDIO	
		GPIO3_C3_d	
52	HDMITX1_HPDIN_M1	I2C3_SCL_M1	1.8V
		SPI1_MOSI_M1	
		HDMI_TX1_HPD_M1	
		GMAC1_PTP_REF_C LK	
		GPIO3_B7_d	
54	GMAC1_MDC	PWM14_M0	1.8V
		UART7_RTSN_M1	
		I2C8_SCL_M4	
		SPI1_CS0_M1	
		MIPI_TE0	
		GMAC1_MDC	
		GPIO3_C2_d	
56	HDMI_RX_SDA_M1	PWM10_M2	1.8V
		PCIE30X2_WAKEN_ M2	
		UART9_CTSN_M2	
		I2C7_SDA_M2	
		SPI0_CLK_M3	

		HDMI_RX_SDA_M1	
		CIF_D15	
		GPIO3_D3_d	
58	HDMI_RX_SCL_M1	PCIE30X2_CLKREQN_M2	1.8V
		UART9_RTSN_M2	
		I2C7_SCL_M2	
		SPI0_MOSI_M3	
		HDMI_RX_SCL_M1	
		CIF_D14	
		GPIO3_D2_d	
60	HDMITX1_SCL_M1	PCIE30X4_PERSTN_M2	1.8V
		SPI3_MISO_M3	
		HDMITX1_SCL_M1	
		CIF_D10	
		GPIO3_C6_u	
62	HDMITX1_CEC_M2	CAN2_RX_M0	1.8V
		PCIE30X4_CLKREQN_M2	
		UART5_TX_M1	
		FSPI_CS0N_M2	
		SPI3_CS0_M3	
		HDMITX1_CEC_M2	
		CIF_D8	
		GPIO3_C4_u	

64	HDMITX1_SDA_M1	CAN2_TX_M0	1.8V
		PCIE30X4_WAKEN_M2	
		UART5_RX_M1	
		FSPI_CS1N_M2	
		SPI3_CS1_M3	
		HDMITX1_SDA_M1	
		CIF_D9	
		GPIO3_C5_u	
66	HDMI_RX_CEC_M1	PWM9_M2	1.8V
		PCIE20X1_2_PERST_N_M0	
		UART4_TX_M1	
		SPI0_MISO_M3	
		HDMI_RX_CEC_M1	
		CIF_D13	
68	SPK_CTL_H_GPIO3_D0	GPIO3_D1_d	1.8V
		PWM8_M2	
		PCIE20X1_2_WAKEN_M0	
		UART4_RX_M1	
		I2C5_SDA_M0	
		SPI3_CLK_M3	
		HDMI_TX0_SDA_M2	
		CIF_D12	
		GPIO3_D0_u	

70	SPK_MUTE_H_GPIO3_C7	PCIE20X1_2_CLKREQN_M0	1.8V
		I2C5_SCL_M0	
		SPI3_MOSI_M3	
		HDMI_TX0_SCL_M2	
		CIF_D11	
		GPIO3_C7_u	
72	GND	GND	GND
74	SENSOR_INT_L_GPIO3_D5	PWM11_IR_M3	1.8V
		PCIE30X4_BUTTON_RSTN	
		UART9_TX_M2	
		SPI0_CS1_M3	
		DP1_HPDIN_M0	
		MCU_JTAG_TMS_M1	
71	PCIE30X4_PERSTn_M1_L_GPIO4_B6	GPIO3_D5_d	3.3V
		SATA0_ACT_LED_M0	
		PWM13_M1	
		SPI3_MOSI_M1	
		I2C5_SCL_M1	
		HDMI_RX_HPDOUT_M0	
		PCIE30X4_PERSTN_M1	
		BT1120_D12	
		GPIO4_B6_d	

73	PCIE30X4_WAKEn_ M1_L_GPIO4_B5	SATA1_ACT_LED_M0	3.3V
		PWM12_M1	
		SPI3_MISO_M1	
		UART9_RX_M1	
		HDMI_RX_CEC_M0	
		PCIE30X4_WAKEN_ M1	
		BT1120_D11	
		GPIO4_B5_d	
75	PCIE30X4_CLKREQn_ M1_L_GPIO4_B4	SPDIF0_TX_M1	3.3V
		PWM11_IR_M1	
		DP0_HPDIN_M0	
		UART9_TX_M1	
		I2S1_SDO3_M0	
		PCIE30X4_CLKREQN_ M1	
		BT1120_D10	
		CIF_CLKOUT	
76	HDMITX0_CEC_M0	GPIO4_B4_u	3.3V
		SPDIF1_TX_M2	
		PWM6_M1	
		SPI3_CS1_M1	
		I2C8_SDA_M3	
		HDMITX0_CEC_M0	
		PCIE20X1_2_PERST N_M1	

		BT1120_D15	
		GPIO4_C1_d	
77	TYPECO_SBU1_DC	CAN1_TX_M1	3.3V
		PWM15_IR_M1	
		UART8_CTSN_M0	
		I2C7_SDA_M3	
		I2S1_SDO2_M0	
		PCIE20X1_2_BUTTON_RSTN	
		BT1120_D9	
		CIF_VSYNC	
		GPIO4_B3_u	
78	HDMITX0_SCL_M0	SPI3_CLK_M1	3.3V
		I2C5_SDA_M1	
		HDMITX0_SCL_M0	
		PCIE20X1_2_CLKREQN_M1	
		BT1120_D13	
		GPIO4_B7_u	
79	TYPEC1_SBU1_DC	UART0_TX_M2	3.3V
		PCIE30X1_0_CLKREQN_M1	
		BT1120_D3	
		CIF_D3	
		GPIO4_A3_d	
80	HDMITX0_SDA_M0	SPI3_CS0_M1	3.3V

		I2C8_SCL_M3	
		HDMITX0_SDA_M0	
		PCIE20X1_2_WAKEN_M1	
		BT1120_D14	
		GPIO4_C0_u	

5.2.4 J4连接器引脚定义

J4 DF12NA(3.0)–80DS–0.5V(51)			
Num	Pin Name	Signal Name	Power Rail
1	MIPI_DPHY_TX1_RST_GPIO1_A6	SPI2_CLK_M0	3.3V
		HDMI_TX1_HPD_M0	
		GPIO1_A6_d	
2	GND	GND	GND
3	LVDS_ON_H_GPIO1_A7	PWM3_IR_M3	3.3V
		SPI2_CS0_M0	
		PCIE30X1_1_PERSTN_M2	
		PDM1_SDI0_M1	
		GPIO1_A7_u	
4	UART7_RX_M2	SPI0_CS0_M2	3.3V
		PCIE30X1_0_PERSTN_M2	
		PDM1_CLK0_M1	
		UART7_RX_M2	

		GPIO1_B4_u	
5	PWM0_M2	PWM0_M2	3.3V
		SPI4_CLK_M2	
		VOP_POST_EMPTY	
		I2C4_SDA_M3	
		UART6_RTSN_M1	
		GPIO1_A2_d	
6	TP_RST_L_GPIO1_B1	UART6_RTSN_M1	3.3V
		PCIE30X4_WAKEN_M3	
		PDM1_SDI2_M1	
		GPIO1_B1_d	
7	UART6_RX_M1	SPI4_MISO_M2	3.3V
		PCIE30X1_1_CLKREQ_N_M2	
		DP0_HPDIN_M2	
		I2C2_SDA_M4	
		UART6_RX_M1	
		GPIO1_A0_d	
8	UART4_RX_M2	SPI0_MOSI_M2	3.3V
		PCIE30X4_PERSTN_M3	
		PDM1_SDI3_M1	
		UART4_RX_M2	
		GPIO1_B2_d	
9	RS485_DIR4_GPIO1_A4	SPI2_MISO_M0	3.3V

		HDMI_TX1_SCL_M2	
		GPIO1_A4_d	
10	UART7_TX_M2	SPI0_CS1_M2	3.3V
		PCIE30X1_0_CLKRE QN_M2	
		UART7_TX_M2	
		GPIO1_B5_u	
11	UART6_TX_M1	SATA1_ACT_LED_M1	3.3V
		SPI4_MOSI_M2	
		PCIE30X1_1_WAKEN _M2	
		DP1_HPDIN_M2	
		I2C2_SCL_M4	
		UART6_TX_M1	
		GPIO1_A1_d	
12	MIPI_CAM1_CLKOUT _M0	HDMI_RX_HPDOUT_ M2	3.3V
		SPDIF0_TX_M0	
		PCIE30X2_WAKEN_ M3	
		MIPI_CAM1_CLKOUT _M0	
		I2C5_SCL_M3	
		UART1_TX_M1	
		GPIO1_B6_u	
13	HDMITX0_HPDIN_M0	SPI2_MOSI_M0	3.3V
		HDMI_TX0_HPD_M0	

		GPIO1_A5_d	
14	I2C8_SCL_M2	HDMI_RX_SCL_M2	3.3V
		PWM14_M2	
		MIPI_CAM3_CLKOUT_M0	
		I2C8_SCL_M2	
		UART1_RTSN_M1	
		GPIO1_D6_u	
15	PWM1_M2	PWM1_M2	3.3V
		SPI4_CS0_M2	
		HDMI_TX1_SDA_M2	
		I2C4_SCL_M3	
		UART6_CTSN_M1	
		GPIO1_A3_d	
16	I2C8_SDA_M2	HDMI_RX_SDA_M2	3.3V
		PWM15_IR_M3	
		PCIE30X2_CLKREQN_M3	
		MIPI_CAM4_CLKOUT_M0	
		I2C8_SDA_M2	
		UART1_CTSN_M1	
		GPIO1_D7_u	
17	TP_INT_L_GPIO1_B0	SPI2_CS1_M0	3.3V
		PCIE30X4_CLKREQN_M3	
		PDM1_SDI1_M1	

		GPIO1_B0_u	
18	MIPI_CAM2_CLKOUT_M0	SATA2_ACT_LED_M1	3.3V
		HDMI_RX_CEC_M2	
		PWM13_M2	
		SPDIF1_TX_M0	
		PCIE30X2_PERSTN_M3	
		MIPI_CAM2_CLKOUT_M0	
		I2C5_SDA_M3	
		UART1_RX_M1	
		GPIO1_B7_u	
20	UART4_TX_M2	SATA0_ACT_LED_M1	3.3V
		SPI0_CLK_M2	
		PCIE30X1_0_WAKEN_M2	
		PDM1_CLK1_M1	
		UART4_TX_M2	
		GPIO1_B3_d	
19	4G_PERSTn_H_GPIO1_C6	PWM15_IR_M2	1.8V
		I2C4_SDA_M4	
		PDM0_CLK0_M0	
		GPIO1_C6_d	
21	I2S0_LRCK	UART4_RTSN	1.8V
		I2C2_SCL_M3	
		I2S0_LRCK	

		GPIO1_C5_d	
22	I2C7_SCL_M0_CODE C	SPI1_MISO_M2	1.8V
		UART6_TX_M2	
		I2C7_SCL_M0	
		I2S0_SDO1	
		GPIO1_D0_d	
23	I2S0_SDO0	UART4_CTSN	1.8V
		I2C4_SCL_M4	
		I2S0_SDO0	
		GPIO1_C7_d	
24	I2C7_SDA_M0_CODE C	SPI1_MOSI_M2	1.8V
		UART6_RX_M2	
		I2C7_SDA_M0	
		PDM0_SDI1_M0	
		I2S0_SDO2	
		I2S0_SDI3	
		GPIO1_D1_d	
25	I2S0_SCLK	SPI4_CS0_M0	1.8V
		UART3_CTSN	
		PWM7_IR_M2	
		I2C6_SCL_M1	
		I2S0_SCLK	
		GPIO1_C3_d	
26	I2C1_SCL_M4_MIPI	SPI1_CLK_M2	1.8V
		UART4_TX_M0	

		PWM0_M1	
		I2C1_SCL_M4	
		PDM0_SDI2_M0	
		I2S0_SDO3	
		I2S0_SDI2	
		GPIO1_D2_d	
27	LCM_VIO_EN_H_GPIO1_C4	SPI4_CS1_M0	1.8V
		PWM11_IR_M2	
		I2C2_SDA_M3	
		PDM0_CLK1_M0	
		GPIO1_C4_d	
28	I2C1_SDA_M4_MIP1	SPI1_CS0_M2	1.8V
		UART4_RX_M0	
		PWM1_M1	
		I2C1_SDA_M4	
		PDM0_SDI3_M0	
		I2S0_SDI1	
		GPIO1_D3_d	
29	I2S0_MCLK	SPI4_CLK_M0	1.8V
		UART3_RTSEN	
		PWM3_IR_M2	
		I2C6_SDA_M1	
		I2S0_MCLK	
		GPIO1_C2_d	
30	I2S0_SDI0	I2S0_SDI0	1.8V

		GPIO1_D4_d	
31	I2C3_SDA_M0_MIPI	SPI4_MISO_M0	1.8V
		UART3_RX_M0	
		I2C3_SDA_M0	
		GPIO1_C0_z	
33	I2C3_SCL_M0_MIPI	SPI4_MOSI_M0	1.8V
		UART3_TX_M0	
		I2C3_SCL_M0	
		GPIO1_C1_z	
35	HDMIIRX_DET_L_GPIO1_D5	SPI1_CS1_M2	1.8V
		PDM0_SDI0_M0	
		GPIO1_D5_d	
37	GND	GND	GND
39	PCIE30_PORT0_TX1N	PCIE30_PORT0_TX1N	
41	PCIE30_PORT0_TX1P	PCIE30_PORT0_TX1P	
43	PCIE30_PORT0_TX0N	PCIE30_PORT0_TX0N	
45	PCIE30_PORT0_TX0P	PCIE30_PORT0_TX0P	
47	PCIE30_PORT0_REFCLKN_IN	PCIE30_PORT0_REFCLKN_IN	
49	PCIE30_PORT0_REFCLKP_IN	PCIE30_PORT0_REFCLKP_IN	
51	PCIE30_PORT0_RX1N	PCIE30_PORT0_RX1N	

53	PCIE30_PORT0_RX1 P	PCIE30_PORT0_RX1 P	
55	PCIE30_PORT0_RX0 N	PCIE30_PORT0_RX0 N	
57	PCIE30_PORT0_RX0 P	PCIE30_PORT0_RX0 P	
59	GND	GND	GND
32	GND	GND	GND
34	PCIE30_PORT1_REF CLKP_IN	PCIE30_PORT1_REF CLKP_IN	
36	PCIE30_PORT1_REF CLKN_IN	PCIE30_PORT1_REF CLKN_IN	
38	PCIE30_PORT1_TX3 N	PCIE30_PORT1_TX3 N	
40	PCIE30_PORT1_TX3 P	PCIE30_PORT1_TX3 P	
42	PCIE30_PORT1_TX2 N	PCIE30_PORT1_TX2 N	
44	PCIE30_PORT1_TX2 P	PCIE30_PORT1_TX2 P	
46	PCIE30_PORT1_RX3 N	PCIE30_PORT1_RX3 N	
48	PCIE30_PORT1_RX3 P	PCIE30_PORT1_RX3 P	
50	PCIE30_PORT1_RX2 N	PCIE30_PORT1_RX2 N	
52	PCIE30_PORT1_RX2 P	PCIE30_PORT1_RX2 P	
54	GND	GND	GND

61	PCIE20_0_REFCLKP	PCIE20_0_REFCLKP	
63	PCIE20_0_REFCLKN	PCIE20_0_REFCLKN	
65	PCIE20_0_TXP	PCIE20_0_TXP	
		SATA30_0_TXP	
67	PCIE20_0_TXN	PCIE20_0_TXN	
		SATA30_0_TXN	
69	PCIE20_0_RXP	PCIE20_0_RXP	
		SATA30_0_RXP	
71	PCIE20_0_RXN	PCIE20_0_RXN	
		SATA30_0_RXN	
68	PCIE20_1_REFCLKP	PCIE20_1_REFCLKP	
70	PCIE20_1_REFCLKN	PCIE20_1_REFCLKN	
72	PCIE20_1_TXP	PCIE20_1_TXP	
		SATA30_1_TXP	
74	PCIE20_1_TXN	PCIE20_1_TXN	
		SATA30_1_TXN	
76	PCIE20_1_RXP	PCIE20_1_RXP	
		SATA30_1_RXP	
78	PCIE20_1_RXN	PCIE20_1_RXN	
		SATA30_1_RXN	
56	PCIE20_2_REFCLKP	PCIE20_2_REFCLKP	
58	PCIE20_2_REFCLKN	PCIE20_2_REFCLKN	
60	USB30_2_SSTXP	PCIE20_2_TXP	
		SATA30_2_TXP	
		USB30_2_SSTXP	

62	USB30_2_SSTXN	PCIE20_2_TXN	
		SATA30_2_TXN	
		USB30_2_SSTXN	
64	USB30_2_SSRXP	PCIE20_2_RXP	
		SATA30_2_RXP	
		USB30_2_SSRXP	
66	USB30_2_SSRXN	PCIE20_2_RXN	
		SATA30_2_RXN	
		USB30_2_SSRXN	
73	RESET_L	RESET_L	1.8V
75	VCC_1V8_S3	VCC_1V8_S3	1.8V/output
77	PMIC_EXT_EN_OUT	PMIC_EXT_EN_OUT	4.0V
79	PWRON_L	PWRON_L	4.0V
80	LED_GPIO0_A0	REFCLK_OUT	1.8V
		PMUIO1_GPIO0_A0_d	